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Type I Data Package

Prepared for:

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

Project: Amtrak Wilmington
Groundwater and Water Samples
Collected on 04/06/18

SDG# ATH81

GROUP	SAMPLE NUMBERS
1929349	9548789-9548800

PA Cert. # 36-00037
NY Cert. # 10670
NJ Cert. # PA011
NC Cert. # 521
TX Cert. # T104704194-13-10
AZ Cert. # AZ0780

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by: Dana M Kauffman **Date: 05/07/2018**

Dana M. Kauffman
Manager

Any questions or concerns you might have regarding this data package should be directed to your client representative, Loran Carter at (717) 556-7252.

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Sample Reference List for SDG Number ATH81
with a Data Package Type of I

11289 - Stantec

Project: Amtrak Wilmington

Lab Sample Number	Client Sample ID	Collection Date	Date Received
9548789	NY-MW-55	04/06/2018 14:00	04/09/2018 14:23
9548790	NY-MW-55MS	04/06/2018 14:00	04/09/2018 14:23
9548791	NY-MW-55MSD	04/06/2018 14:00	04/09/2018 14:23
9548792	NY-MW-55DUP	04/06/2018 14:00	04/09/2018 14:23
9548793	NY-MW-55	04/06/2018 14:00	04/09/2018 14:23
9548794	NY-MW-55MS	04/06/2018 14:00	04/09/2018 14:23
9548795	NY-MW-55MSD	04/06/2018 14:00	04/09/2018 14:23
9548796	NY-MW-55DUP	04/06/2018 14:00	04/09/2018 14:23
9548797	NY-MW-55DUP	04/06/2018 14:00	04/09/2018 14:23
9548798	NY-MW-55DUP	04/06/2018 14:00	04/09/2018 14:23
9548799	EB-20180406	04/06/2018 16:00	04/09/2018 14:23
9548800	Trip Blank	04/02/2018 00:00	04/09/2018 14:23

Sample pH Log

SDG: ATH81

LLI Sample Number	Bottle Code	Actual pH	Exp. pH	pH Check Code	Adj. pH	Adjusted Date	Adjusted Time	Preservative Added	Preservative Lot #	LLI Supplied Bottle?	Sulfide Present?	Corrective Substance	CS Lot #	Res. Cl. Present?	Corrective Substance	CS Lot #	Record Date	Employee
9548789	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/9/2018 5:54:59PM	1532
9548789	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/16/2018 12:26:29PM	1327
9548790	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/9/2018 5:53:17PM	1532
9548790	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/16/2018 12:26:29PM	1327
9548791	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/9/2018 6:03:36PM	1532
9548791	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/16/2018 12:26:29PM	1327
9548793	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/9/2018 6:02:16PM	1532
9548794	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/9/2018 6:01:31PM	1532
9548795	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/9/2018 6:00:42PM	1532
9548797	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/9/2018 5:57:41PM	1532
9548797	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/16/2018 12:26:29PM	1327
9548798	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/9/2018 6:00:00PM	1532
9548799	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/9/2018 6:04:31PM	1532
9548799	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/16/2018 12:26:29PM	1327
9548800	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/16/2018 12:26:29PM	1327

Check Code Key
PK = Original container checked - pH is within the correct range. (No preservative was added)
PA = Original container checked - pH adjusted to correct range. (Preservative was added)
PV = Volatile container checked
PC = pH checked (unpreserved container)
SPK = Subsampled from an original container. Original container checked - pH is within correct range
SPA = Subsampled from an original container. Subsample container checked - pH adjusted to correct range.
SPC = Subsampled from an original container. pH checked (unpreserved container).
SUP = Subsampled from original container. Unable to be preserved due to the matrix of the sample.
UP = Unable to preserve due to matrix of the sample.
NA = Not applicable

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01163 GC/MS VOA Water Prep

An undiluted aliquot of the water sample or a dilution of the sample is purged with an inert gas and the volatiles are collected on an adsorbent trap that is subsequently desorbed onto a gas chromatographic column.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 5030B, December 1996.

10335 VOCs- 5ml Water by 8260B

The water sample is purged and the volatile compounds are collected on a sorbent trap that is subsequently desorbed onto the GC/MS system for chromatographic and mass spectral analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 8260B, December 1996

00259 Mercury

The solution resulting from the mercury digestion is analyzed by Cold Vapor AA.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 7470A, September 1994

01848 ICP-WW, 3005A (tot rec) - U3

The sample is digested with nitric acid and hydrochloric acid.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 3005A, July 1992

05713 WW SW846 Hg Digest

The sample is heated at 95 c with nitric acid, sulfuric acid, potassium persulfate, and potassium permanganate. Excess potassium permanganate is reduced with sodium chloride/hydroxylamine hydrochloride. Mercuric ions are reduced to mercury metal using stannous chloride.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 7470A, September 1994

01743 Aluminum
07044 Antimony
07035 Arsenic
07046 Barium
07047 Beryllium
07049 Cadmium
01750 Calcium
07051 Chromium
07052 Cobalt
07053 Copper
01754 Iron
07055 Lead
01757 Magnesium
07058 Manganese
07061 Nickel
01762 Potassium
07036 Selenium
07066 Silver
01767 Sodium
07022 Thallium

07071 Vanadium
07072 Zinc

The solution resulting from the metals digestion is analyzed by Trace ICP.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 6010B, December 1996.

00813 BNA Water Extraction

The sample aliquot is extracted with methylene chloride by either separatory funnel or liquid/liquid apparatus. Extraction is performed at both a pH of 11 and 2. The extract is concentrated prior to analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 3510C, Rev 3, December 1996

14240 TCL SW846 8270C MINI

The sample extract is analyzed by capillary column Gas Chromatography/Mass Spectrometry.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 8270C, December 1996

Analysis Reports / Field Chain of Custody

ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

Report Date: April 20, 2018 12:52

Project: Amtrak Wilmington

Account #: 11289
Group Number: 1929349
SDG: ATH81
PO Number: 213402048
State of Sample Origin: DE

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Stantec	Attn: Paul Miller
Electronic Copy To	Stantec	Attn: Steve Baggett

Respectfully Submitted,

Amek Carter
Specialist

(717) 556-7252

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SAMPLE INFORMATION

Client Sample Description	Sample Collection Date/Time	ELLE#
NY-MW-55 Grab Groundwater	04/06/2018 14:00	9548789
NY-MW-55MS Grab Groundwater	04/06/2018 14:00	9548790
NY-MW-55MSD Grab Groundwater	04/06/2018 14:00	9548791
NY-MW-55DUP Grab Groundwater	04/06/2018 14:00	9548792
NY-MW-55 Filtered Grab Groundwater	04/06/2018 14:00	9548793
NY-MW-55MS Filtered Grab Groundwater	04/06/2018 14:00	9548794
NY-MW-55MSD Filtered Grab Groundwater	04/06/2018 14:00	9548795
NY-MW-55DUP Filtered Grab Groundwater	04/06/2018 14:00	9548796
NY-MW-55DUP Grab Groundwater	04/06/2018 14:00	9548797
NY-MW-55DUP Filtered Grab Groundwater	04/06/2018 14:00	9548798
EB-20180406 Grab Water	04/06/2018 16:00	9548799
Trip Blank Water	04/02/2018	9548800

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

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Analysis Report

Sample Description: **NY-MW-55 Grab Groundwater Amtrak Wilmington**

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/09/2018 14:23
Collection Date/Time: 04/06/2018 14:00
SDG#: ATH81-01BKG

Stantec
ELLE Sample #: WW 9548789
ELLE Group #: 1929349
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Acetone	67-64-1	< 20	20	1
10335	Benzene	71-43-2	< 1	1	1
10335	Bromodichloromethane	75-27-4	< 1	1	1
10335	Bromoform	75-25-2	< 4	4	1
10335	Bromomethane	74-83-9	< 1	1	1
10335	2-Butanone	78-93-3	< 10	10	1
10335	Carbon Disulfide	75-15-0	< 5	5	1
10335	Carbon Tetrachloride	56-23-5	< 1	1	1
10335	Chlorobenzene	108-90-7	< 1	1	1
10335	Chloroethane	75-00-3	< 1	1	1
10335	Chloroform	67-66-3	< 1	1	1
10335	Chloromethane	74-87-3	< 1	1	1
10335	Dibromochloromethane	124-48-1	< 1	1	1
10335	1,1-Dichloroethane	75-34-3	< 1	1	1
10335	1,2-Dichloroethane	107-06-2	< 1	1	1
10335	1,1-Dichloroethene	75-35-4	< 1	1	1
10335	cis-1,2-Dichloroethene	156-59-2	< 1	1	1
10335	trans-1,2-Dichloroethene	156-60-5	< 1	1	1
10335	1,2-Dichloropropane	78-87-5	< 1	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	< 1	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	< 1	1	1
10335	Ethylbenzene	100-41-4	< 1	1	1
10335	2-Hexanone	591-78-6	< 10	10	1
10335	4-Methyl-2-pentanone	108-10-1	< 10	10	1
10335	Methylene Chloride	75-09-2	< 1	1	1
10335	Styrene	100-42-5	< 5	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	< 1	1	1
10335	Tetrachloroethene	127-18-4	< 1	1	1
10335	Toluene	108-88-3	< 1	1	1
10335	1,1,1-Trichloroethane	71-55-6	< 1	1	1
10335	1,1,2-Trichloroethane	79-00-5	< 1	1	1
10335	Trichloroethene	79-01-6	< 1	1	1
10335	Vinyl Chloride	75-01-4	< 1	1	1
10335	Xylene (Total)	1330-20-7	< 1	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
14240	Acenaphthene	83-32-9	< 0.5	0.5	1
14240	Acenaphthylene	208-96-8	< 0.5	0.5	1
14240	Anthracene	120-12-7	< 0.5	0.5	1
14240	Benzo(a)anthracene	56-55-3	< 0.5	0.5	1
14240	Benzo(a)pyrene	50-32-8	< 0.5	0.5	1
14240	Benzo(b)fluoranthene	205-99-2	< 0.5	0.5	1
14240	Benzo(g,h,i)perylene	191-24-2	< 0.5	0.5	1
14240	Benzo(k)fluoranthene	207-08-9	< 0.5	0.5	1
14240	4-Bromophenyl-phenylether	101-55-3	< 1	1	1
14240	Butylbenzylphthalate	85-68-7	< 5	5	1
14240	Di-n-butylphthalate	84-74-2	< 5	5	1
14240	Carbazole	86-74-8	< 1	1	1
14240	4-Chloro-3-methylphenol	59-50-7	< 1	1	1

Sample Description: **NY-MW-55 Grab Groundwater**
Amtrak Wilmington

Stantec
ELLE Sample #: **WW 9548789**
ELLE Group #: **1929349**
Matrix: Groundwater

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/09/2018 14:23
Collection Date/Time: 04/06/2018 14:00
SDG#: ATH81-01BKG

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
14240	4-Chloroaniline	106-47-8	< 4	4	1
14240	bis(2-Chloroethoxy)methane	111-91-1	< 1	1	1
14240	bis(2-Chloroethyl)ether	111-44-4	< 1	1	1
14240	2-Chloronaphthalene	91-58-7	< 1	1	1
14240	2-Chlorophenol	95-57-8	< 1	1	1
14240	4-Chlorophenyl-phenylether	7005-72-3	< 1	1	1
14240	2,2'-oxybis(1-Chloropropane)	108-60-1	< 1	1	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.				
14240	Chrysene	218-01-9	< 0.5	0.5	1
14240	Dibenz(a,h)anthracene	53-70-3	< 0.5	0.5	1
14240	Dibenzofuran	132-64-9	< 1	1	1
14240	1,2-Dichlorobenzene	95-50-1	< 1	1	1
14240	1,3-Dichlorobenzene	541-73-1	< 1	1	1
14240	1,4-Dichlorobenzene	106-46-7	< 1	1	1
14240	3,3'-Dichlorobenzidine	91-94-1	< 5	5	1
14240	2,4-Dichlorophenol	120-83-2	< 1	1	1
14240	Diethylphthalate	84-66-2	< 5	5	1
14240	2,4-Dimethylphenol	105-67-9	< 1	1	1
14240	Dimethylphthalate	131-11-3	< 5	5	1
14240	4,6-Dinitro-2-methylphenol	534-52-1	< 15	15	1
14240	2,4-Dinitrophenol	51-28-5	< 30	30	1
14240	2,4-Dinitrotoluene	121-14-2	< 5	5	1
14240	2,6-Dinitrotoluene	606-20-2	< 1	1	1
14240	bis(2-Ethylhexyl)phthalate	117-81-7	< 5	5	1
14240	Fluoranthene	206-44-0	< 0.5	0.5	1
14240	Fluorene	86-73-7	< 0.5	0.5	1
14240	Hexachlorobenzene	118-74-1	< 0.5	0.5	1
14240	Hexachlorobutadiene	87-68-3	< 1	1	1
14240	Hexachlorocyclopentadiene	77-47-4	< 15	15	1
14240	Hexachloroethane	67-72-1	< 5	5	1
14240	Indeno(1,2,3-cd)pyrene	193-39-5	< 0.5	0.5	1
14240	Isophorone	78-59-1	< 1	1	1
14240	2-Methylnaphthalene	91-57-6	< 0.5	0.5	1
14240	2-Methylphenol	95-48-7	< 1	1	1
14240	4-Methylphenol	106-44-5	< 1	1	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.				
14240	Naphthalene	91-20-3	< 0.5	0.5	1
14240	2-Nitroaniline	88-74-4	< 1	1	1
14240	3-Nitroaniline	99-09-2	< 1	1	1
14240	4-Nitroaniline	100-01-6	< 1	1	1
14240	Nitrobenzene	98-95-3	< 1	1	1
14240	2-Nitrophenol	88-75-5	< 1	1	1
14240	4-Nitrophenol	100-02-7	< 30	30	1
14240	N-Nitroso-di-n-propylamine	621-64-7	< 1	1	1

Sample Description: **NY-MW-55 Grab Groundwater**
Amtrak Wilmington

Stantec
ELLE Sample #: **WW 9548789**
ELLE Group #: **1929349**
Matrix: Groundwater

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/09/2018 14:23
Collection Date/Time: 04/06/2018 14:00
SDG#: ATH81-01BKG

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
14240	N-Nitrosodiphenylamine	86-30-6	< 1	1	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.				
14240	Di-n-octylphthalate	117-84-0	< 5	5	1
14240	Pentachlorophenol	87-86-5	< 5	5	1
14240	Phenanthrene	85-01-8	< 0.5	0.5	1
14240	Phenol	108-95-2	< 1	1	1
14240	Pyrene	129-00-0	< 0.5	0.5	1
14240	1,2,4-Trichlorobenzene	120-82-1	< 1	1	1
14240	2,4,5-Trichlorophenol	95-95-4	< 1	1	1
14240	2,4,6-Trichlorophenol	88-06-2	< 1	1	1
	Due to laboratory error surrogates were not spiked in the Laboratory Control Spike, the background unspiked sample, the matrix spike, the matrix spike duplicate, and the sample. The following action was taken: The sample was re-extracted outside the method required holding time and the recovery for the sample surrogate(s) is outside the QC acceptance limits. The client was contacted and the data reported.				
Metals	**SW-846 6010B**		**mg/l**	**mg/l**	
01743	Aluminum	7429-90-5	0.893	0.200	1
07044	Antimony	7440-36-0	< 0.0200	0.0200	1
07035	Arsenic	7440-38-2	< 0.0200	0.0200	1
07046	Barium	7440-39-3	0.289	0.0050	1
07047	Beryllium	7440-41-7	< 0.0050	0.0050	1
07049	Cadmium	7440-43-9	< 0.0050	0.0050	1
01750	Calcium	7440-70-2	51.1	0.200	1
07051	Chromium	7440-47-3	< 0.0150	0.0150	1
07052	Cobalt	7440-48-4	0.0057	0.0050	1
07053	Copper	7440-50-8	0.0109	0.0100	1
01754	Iron	7439-89-6	16.0	0.200	1
07055	Lead	7439-92-1	< 0.0150	0.0150	1
01757	Magnesium	7439-95-4	16.5	0.100	1
07058	Manganese	7439-96-5	1.70	0.0050	1
07061	Nickel	7440-02-0	< 0.0100	0.0100	1
01762	Potassium	7440-09-7	4.65	0.500	1
07036	Selenium	7782-49-2	< 0.0200	0.0200	1
07066	Silver	7440-22-4	< 0.0050	0.0050	1
01767	Sodium	7440-23-5	94.8	1.00	1
07022	Thallium	7440-28-0	< 0.0300	0.0300	1
07071	Vanadium	7440-62-2	0.0054	0.0050	1
07072	Zinc	7440-66-6	0.0327	0.0200	1
	SW-846 7470A		**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	< 0.00020	0.00020	1

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Lancaster Laboratories Environmental
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Analysis Report

Sample Description: **NY-MW-55 Grab Groundwater Amtrak Wilmington**

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/09/2018 14:23
Collection Date/Time: 04/06/2018 14:00
SDG#: ATH81-01BKG

Stantec
ELLE Sample #: WW 9548789
ELLE Group #: 1929349
Matrix: Groundwater

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	Y181041AA	04/14/2018 12:47	Linda C Pape	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y181041AA	04/14/2018 12:47	Linda C Pape	1
14240	TCL SW846 8270C MINI	SW-846 8270C	1	18101WAR026	04/15/2018 18:02	Brandon H Smith	1
00813	BNA Water Extraction	SW-846 3510C	1	18101WAR026	04/12/2018 09:30	Logan M Brosemer	1
01743	Aluminum	SW-846 6010B	1	181000184801	04/16/2018 04:43	Jonathan J Allen	1
07044	Antimony	SW-846 6010B	1	181000184801	04/16/2018 04:43	Jonathan J Allen	1
07035	Arsenic	SW-846 6010B	1	181000184801	04/16/2018 04:43	Jonathan J Allen	1
07046	Barium	SW-846 6010B	1	181000184801	04/16/2018 04:43	Jonathan J Allen	1
07047	Beryllium	SW-846 6010B	1	181000184801	04/16/2018 04:43	Jonathan J Allen	1
07049	Cadmium	SW-846 6010B	1	181000184801	04/16/2018 04:43	Jonathan J Allen	1
01750	Calcium	SW-846 6010B	1	181000184801	04/16/2018 04:43	Jonathan J Allen	1
07051	Chromium	SW-846 6010B	1	181000184801	04/16/2018 04:43	Jonathan J Allen	1
07052	Cobalt	SW-846 6010B	1	181000184801	04/16/2018 04:43	Jonathan J Allen	1
07053	Copper	SW-846 6010B	1	181000184801	04/17/2018 01:22	Jonathan J Allen	1
01754	Iron	SW-846 6010B	1	181000184801	04/16/2018 04:43	Jonathan J Allen	1
07055	Lead	SW-846 6010B	1	181000184801	04/16/2018 04:43	Jonathan J Allen	1
01757	Magnesium	SW-846 6010B	1	181000184801	04/16/2018 04:43	Jonathan J Allen	1
07058	Manganese	SW-846 6010B	1	181000184801	04/16/2018 04:43	Jonathan J Allen	1
07061	Nickel	SW-846 6010B	1	181000184801	04/16/2018 04:43	Jonathan J Allen	1
01762	Potassium	SW-846 6010B	1	181000184801	04/16/2018 04:43	Jonathan J Allen	1
07036	Selenium	SW-846 6010B	1	181000184801	04/16/2018 04:43	Jonathan J Allen	1
07066	Silver	SW-846 6010B	1	181000184801	04/16/2018 04:43	Jonathan J Allen	1
01767	Sodium	SW-846 6010B	1	181000184801	04/16/2018 04:43	Jonathan J Allen	1
07022	Thallium	SW-846 6010B	1	181000184801	04/16/2018 04:43	Jonathan J Allen	1
07071	Vanadium	SW-846 6010B	1	181000184801	04/16/2018 04:43	Jonathan J Allen	1
07072	Zinc	SW-846 6010B	1	181000184801	04/16/2018 04:43	Jonathan J Allen	1
00259	Mercury	SW-846 7470A	1	181010571304	04/12/2018 06:35	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	181000184801	04/11/2018 05:08	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	181010571304	04/11/2018 23:00	Annamaria Kuhns	1

Sample Description: **NY-MW-55MS Grab Groundwater**
Amtrak Wilmington

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/09/2018 14:23
Collection Date/Time: 04/06/2018 14:00
SDG#: ATH81-01MS

Stantec
ELLE Sample #: WW 9548790
ELLE Group #: 1929349
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Acetone	67-64-1	190	20	1
10335	Benzene	71-43-2	22	1	1
10335	Bromodichloromethane	75-27-4	19	1	1
10335	Bromoform	75-25-2	15	4	1
10335	Bromomethane	74-83-9	23	1	1
10335	2-Butanone	78-93-3	150	10	1
10335	Carbon Disulfide	75-15-0	20	5	1
10335	Carbon Tetrachloride	56-23-5	23	1	1
10335	Chlorobenzene	108-90-7	20	1	1
10335	Chloroethane	75-00-3	23	1	1
10335	Chloroform	67-66-3	22	1	1
10335	Chloromethane	74-87-3	20	1	1
10335	Dibromochloromethane	124-48-1	17	1	1
10335	1,1-Dichloroethane	75-34-3	22	1	1
10335	1,2-Dichloroethane	107-06-2	22	1	1
10335	1,1-Dichloroethene	75-35-4	25	1	1
10335	cis-1,2-Dichloroethene	156-59-2	21	1	1
10335	trans-1,2-Dichloroethene	156-60-5	22	1	1
10335	1,2-Dichloropropane	78-87-5	21	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	16	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	16	1	1
10335	Ethylbenzene	100-41-4	20	1	1
10335	2-Hexanone	591-78-6	100	10	1
10335	4-Methyl-2-pentanone	108-10-1	100	10	1
10335	Methylene Chloride	75-09-2	22	1	1
10335	Styrene	100-42-5	18	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	18	1	1
10335	Tetrachloroethene	127-18-4	21	1	1
10335	Toluene	108-88-3	20	1	1
10335	1,1,1-Trichloroethane	71-55-6	21	1	1
10335	1,1,2-Trichloroethane	79-00-5	19	1	1
10335	Trichloroethene	79-01-6	21	1	1
10335	Vinyl Chloride	75-01-4	21	1	1
10335	Xylene (Total)	1330-20-7	57	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
14240	Acenaphthene	83-32-9	47	0.5	1
14240	Acenaphthylene	208-96-8	49	0.5	1
14240	Anthracene	120-12-7	46	0.5	1
14240	Benzo(a)anthracene	56-55-3	42	0.5	1
14240	Benzo(a)pyrene	50-32-8	44	0.5	1
14240	Benzo(b)fluoranthene	205-99-2	43	0.5	1
14240	Benzo(g,h,i)perylene	191-24-2	43	0.5	1
14240	Benzo(k)fluoranthene	207-08-9	43	0.5	1
14240	4-Bromophenyl-phenylether	101-55-3	44	1	1
14240	Butylbenzylphthalate	85-68-7	43	5	1
14240	Di-n-butylphthalate	84-74-2	45	5	1
14240	Carbazole	86-74-8	50	1	1
14240	4-Chloro-3-methylphenol	59-50-7	19	1	1

Sample Description: **NY-MW-55MS Grab Groundwater**
Amtrak Wilmington

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/09/2018 14:23
Collection Date/Time: 04/06/2018 14:00
SDG#: ATH81-01MS

Stantec
ELLE Sample #: WW 9548790
ELLE Group #: 1929349
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
14240	4-Chloroaniline	106-47-8	33	4	1
14240	bis(2-Chloroethoxy)methane	111-91-1	45	1	1
14240	bis(2-Chloroethyl)ether	111-44-4	43	1	1
14240	2-Chloronaphthalene	91-58-7	41	1	1
14240	2-Chlorophenol	95-57-8	20	1	1
14240	4-Chlorophenyl-phenylether	7005-72-3	41	1	1
14240	2,2'-oxybis(1-Chloropropane)	108-60-1	43	1	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.				
14240	Chrysene	218-01-9	43	0.5	1
14240	Dibenz(a,h)anthracene	53-70-3	46	0.5	1
14240	Dibenzofuran	132-64-9	45	1	1
14240	1,2-Dichlorobenzene	95-50-1	40	1	1
14240	1,3-Dichlorobenzene	541-73-1	39	1	1
14240	1,4-Dichlorobenzene	106-46-7	37	1	1
14240	3,3'-Dichlorobenzidine	91-94-1	23	5	1
14240	2,4-Dichlorophenol	120-83-2	20	1	1
14240	Diethylphthalate	84-66-2	43	5	1
14240	2,4-Dimethylphenol	105-67-9	28	1	1
14240	Dimethylphthalate	131-11-3	41	5	1
14240	4,6-Dinitro-2-methylphenol	534-52-1	43	15	1
14240	2,4-Dinitrophenol	51-28-5	64	30	1
14240	2,4-Dinitrotoluene	121-14-2	44	5	1
14240	2,6-Dinitrotoluene	606-20-2	45	1	1
14240	bis(2-Ethylhexyl)phthalate	117-81-7	40	5	1
14240	Fluoranthene	206-44-0	44	0.5	1
14240	Fluorene	86-73-7	45	0.5	1
14240	Hexachlorobenzene	118-74-1	45	0.5	1
14240	Hexachlorobutadiene	87-68-3	37	1	1
14240	Hexachlorocyclopentadiene	77-47-4	87	15	1
14240	Hexachloroethane	67-72-1	37	5	1
14240	Indeno(1,2,3-cd)pyrene	193-39-5	42	0.5	1
14240	Isophorone	78-59-1	48	1	1
14240	2-Methylnaphthalene	91-57-6	42	0.5	1
14240	2-Methylphenol	95-48-7	16	1	1
14240	4-Methylphenol	106-44-5	13	1	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.				
14240	Naphthalene	91-20-3	43	0.5	1
14240	2-Nitroaniline	88-74-4	48	1	1
14240	3-Nitroaniline	99-09-2	39	1	1
14240	4-Nitroaniline	100-01-6	39	1	1
14240	Nitrobenzene	98-95-3	42	1	1
14240	2-Nitrophenol	88-75-5	43	1	1
14240	4-Nitrophenol	100-02-7	32	30	1
14240	N-Nitroso-di-n-propylamine	621-64-7	47	1	1

Sample Description: **NY-MW-55MS Grab Groundwater**
Amtrak Wilmington

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/09/2018 14:23
Collection Date/Time: 04/06/2018 14:00
SDG#: ATH81-01MS

Stantec
ELLE Sample #: WW 9548790
ELLE Group #: 1929349
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
14240	N-Nitrosodiphenylamine	86-30-6	47	1	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.				
14240	Di-n-octylphthalate	117-84-0	42	5	1
14240	Pentachlorophenol	87-86-5	34	5	1
14240	Phenanthrene	85-01-8	45	0.5	1
14240	Phenol	108-95-2	8	1	1
14240	Pyrene	129-00-0	45	0.5	1
14240	1,2,4-Trichlorobenzene	120-82-1	41	1	1
14240	2,4,5-Trichlorophenol	95-95-4	34	1	1
14240	2,4,6-Trichlorophenol	88-06-2	29	1	1
	Due to laboratory error surrogates were not spiked in the Laboratory Control Spike, the background unspiked sample, the matrix spike, and the matrix spike duplicate. Sufficient volume was not available to re-extract. The client was contacted and the data reported.				
Metals	**SW-846 6010B**		**mg/l**	**mg/l**	
01743	Aluminum	7429-90-5	2.92	0.200	1
07044	Antimony	7440-36-0	0.530	0.0200	1
07035	Arsenic	7440-38-2	0.148	0.0200	1
07046	Barium	7440-39-3	2.36	0.0050	1
07047	Beryllium	7440-41-7	0.0525	0.0050	1
07049	Cadmium	7440-43-9	0.0498	0.0050	1
01750	Calcium	7440-70-2	61.1	0.200	1
07051	Chromium	7440-47-3	0.202	0.0150	1
07052	Cobalt	7440-48-4	0.505	0.0050	1
07053	Copper	7440-50-8	0.268	0.0100	1
01754	Iron	7439-89-6	18.8	0.200	1
07055	Lead	7439-92-1	0.148	0.0150	1
01757	Magnesium	7439-95-4	19.3	0.100	1
07058	Manganese	7439-96-5	2.07	0.0050	1
07061	Nickel	7440-02-0	0.506	0.0100	1
01762	Potassium	7440-09-7	15.5	0.500	1
07036	Selenium	7782-49-2	0.149	0.0200	1
07066	Silver	7440-22-4	0.0531	0.0050	1
01767	Sodium	7440-23-5	138	1.00	1
07022	Thallium	7440-28-0	0.149	0.0300	1
07071	Vanadium	7440-62-2	0.540	0.0050	1
07072	Zinc	7440-66-6	0.504	0.0200	1
	SW-846 7470A		**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	0.00094	0.00020	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

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Analysis Report

Sample Description: **NY-MW-55MS Grab Groundwater**
Amtrak Wilmington

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/09/2018 14:23
Collection Date/Time: 04/06/2018 14:00
SDG#: ATH81-01MS

Stantec
ELLE Sample #: WW 9548790
ELLE Group #: 1929349
Matrix: Groundwater

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	Y181041AA	04/14/2018 13:09	Linda C Pape	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y181041AA	04/14/2018 13:09	Linda C Pape	1
14240	TCL SW846 8270C MINI	SW-846 8270C	1	18101WAR026	04/15/2018 18:33	Brandon H Smith	1
00813	BNA Water Extraction	SW-846 3510C	1	18101WAR026	04/12/2018 09:30	Logan M Brosemer	1
01743	Aluminum	SW-846 6010B	1	181000184801	04/16/2018 04:53	Jonathan J Allen	1
07044	Antimony	SW-846 6010B	1	181000184801	04/16/2018 04:53	Jonathan J Allen	1
07035	Arsenic	SW-846 6010B	1	181000184801	04/16/2018 04:53	Jonathan J Allen	1
07046	Barium	SW-846 6010B	1	181000184801	04/16/2018 04:53	Jonathan J Allen	1
07047	Beryllium	SW-846 6010B	1	181000184801	04/16/2018 04:53	Jonathan J Allen	1
07049	Cadmium	SW-846 6010B	1	181000184801	04/16/2018 04:53	Jonathan J Allen	1
01750	Calcium	SW-846 6010B	1	181000184801	04/16/2018 04:53	Jonathan J Allen	1
07051	Chromium	SW-846 6010B	1	181000184801	04/16/2018 04:53	Jonathan J Allen	1
07052	Cobalt	SW-846 6010B	1	181000184801	04/16/2018 04:53	Jonathan J Allen	1
07053	Copper	SW-846 6010B	1	181000184801	04/16/2018 04:53	Jonathan J Allen	1
01754	Iron	SW-846 6010B	1	181000184801	04/16/2018 04:53	Jonathan J Allen	1
07055	Lead	SW-846 6010B	1	181000184801	04/16/2018 04:53	Jonathan J Allen	1
01757	Magnesium	SW-846 6010B	1	181000184801	04/16/2018 04:53	Jonathan J Allen	1
07058	Manganese	SW-846 6010B	1	181000184801	04/16/2018 04:53	Jonathan J Allen	1
07061	Nickel	SW-846 6010B	1	181000184801	04/16/2018 04:53	Jonathan J Allen	1
01762	Potassium	SW-846 6010B	1	181000184801	04/16/2018 04:53	Jonathan J Allen	1
07036	Selenium	SW-846 6010B	1	181000184801	04/16/2018 04:53	Jonathan J Allen	1
07066	Silver	SW-846 6010B	1	181000184801	04/16/2018 04:53	Jonathan J Allen	1
01767	Sodium	SW-846 6010B	1	181000184801	04/16/2018 04:53	Jonathan J Allen	1
07022	Thallium	SW-846 6010B	1	181000184801	04/16/2018 04:53	Jonathan J Allen	1
07071	Vanadium	SW-846 6010B	1	181000184801	04/16/2018 04:53	Jonathan J Allen	1
07072	Zinc	SW-846 6010B	1	181000184801	04/16/2018 04:53	Jonathan J Allen	1
00259	Mercury	SW-846 7470A	1	181010571304	04/12/2018 06:39	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	181000184801	04/11/2018 05:08	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	181010571304	04/11/2018 23:00	Annamaria Kuhns	1

Sample Description: **NY-MW-55MSD Grab Groundwater Amtrak Wilmington**

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/09/2018 14:23
Collection Date/Time: 04/06/2018 14:00
SDG#: ATH81-01MSD

Stantec
ELLE Sample #: WW 9548791
ELLE Group #: 1929349
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Acetone	67-64-1	180	20	1
10335	Benzene	71-43-2	22	1	1
10335	Bromodichloromethane	75-27-4	19	1	1
10335	Bromoform	75-25-2	15	4	1
10335	Bromomethane	74-83-9	24	1	1
10335	2-Butanone	78-93-3	150	10	1
10335	Carbon Disulfide	75-15-0	21	5	1
10335	Carbon Tetrachloride	56-23-5	22	1	1
10335	Chlorobenzene	108-90-7	19	1	1
10335	Chloroethane	75-00-3	23	1	1
10335	Chloroform	67-66-3	21	1	1
10335	Chloromethane	74-87-3	20	1	1
10335	Dibromochloromethane	124-48-1	17	1	1
10335	1,1-Dichloroethane	75-34-3	22	1	1
10335	1,2-Dichloroethane	107-06-2	22	1	1
10335	1,1-Dichloroethene	75-35-4	25	1	1
10335	cis-1,2-Dichloroethene	156-59-2	21	1	1
10335	trans-1,2-Dichloroethene	156-60-5	22	1	1
10335	1,2-Dichloropropane	78-87-5	21	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	17	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	17	1	1
10335	Ethylbenzene	100-41-4	20	1	1
10335	2-Hexanone	591-78-6	100	10	1
10335	4-Methyl-2-pentanone	108-10-1	100	10	1
10335	Methylene Chloride	75-09-2	22	1	1
10335	Styrene	100-42-5	18	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	18	1	1
10335	Tetrachloroethene	127-18-4	22	1	1
10335	Toluene	108-88-3	20	1	1
10335	1,1,1-Trichloroethane	71-55-6	21	1	1
10335	1,1,2-Trichloroethane	79-00-5	19	1	1
10335	Trichloroethene	79-01-6	21	1	1
10335	Vinyl Chloride	75-01-4	20	1	1
10335	Xylene (Total)	1330-20-7	56	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
14240	Acenaphthene	83-32-9	48	0.5	1
14240	Acenaphthylene	208-96-8	49	0.5	1
14240	Anthracene	120-12-7	47	0.5	1
14240	Benzo(a)anthracene	56-55-3	46	0.5	1
14240	Benzo(a)pyrene	50-32-8	47	0.5	1
14240	Benzo(b)fluoranthene	205-99-2	46	0.5	1
14240	Benzo(g,h,i)perylene	191-24-2	46	0.5	1
14240	Benzo(k)fluoranthene	207-08-9	46	0.5	1
14240	4-Bromophenyl-phenylether	101-55-3	46	1	1
14240	Butylbenzylphthalate	85-68-7	48	5	1
14240	Di-n-butylphthalate	84-74-2	45	5	1
14240	Carbazole	86-74-8	50	1	1
14240	4-Chloro-3-methylphenol	59-50-7	20	1	1

Sample Description: **NY-MW-55MSD Grab Groundwater Amtrak Wilmington**

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/09/2018 14:23
Collection Date/Time: 04/06/2018 14:00
SDG#: ATH81-01MSD

Stantec
ELLE Sample #: WW 9548791
ELLE Group #: 1929349
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
14240	4-Chloroaniline	106-47-8	34	4	1
14240	bis(2-Chloroethoxy)methane	111-91-1	46	1	1
14240	bis(2-Chloroethyl)ether	111-44-4	43	1	1
14240	2-Chloronaphthalene	91-58-7	44	1	1
14240	2-Chlorophenol	95-57-8	18	1	1
14240	4-Chlorophenyl-phenylether	7005-72-3	43	1	1
14240	2,2'-oxybis(1-Chloropropane)	108-60-1	43	1	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.				
14240	Chrysene	218-01-9	47	0.5	1
14240	Dibenz(a,h)anthracene	53-70-3	48	0.5	1
14240	Dibenzofuran	132-64-9	46	1	1
14240	1,2-Dichlorobenzene	95-50-1	37	1	1
14240	1,3-Dichlorobenzene	541-73-1	34	1	1
14240	1,4-Dichlorobenzene	106-46-7	34	1	1
14240	3,3'-Dichlorobenzidine	91-94-1	26	5	1
14240	2,4-Dichlorophenol	120-83-2	20	1	1
14240	Diethylphthalate	84-66-2	43	5	1
14240	2,4-Dimethylphenol	105-67-9	30	1	1
14240	Dimethylphthalate	131-11-3	43	5	1
14240	4,6-Dinitro-2-methylphenol	534-52-1	47	15	1
14240	2,4-Dinitrophenol	51-28-5	77	30	1
14240	2,4-Dinitrotoluene	121-14-2	46	5	1
14240	2,6-Dinitrotoluene	606-20-2	46	1	1
14240	bis(2-Ethylhexyl)phthalate	117-81-7	43	5	1
14240	Fluoranthene	206-44-0	46	0.5	1
14240	Fluorene	86-73-7	46	0.5	1
14240	Hexachlorobenzene	118-74-1	46	0.5	1
14240	Hexachlorobutadiene	87-68-3	32	1	1
14240	Hexachlorocyclopentadiene	77-47-4	79	15	1
14240	Hexachloroethane	67-72-1	31	5	1
14240	Indeno(1,2,3-cd)pyrene	193-39-5	47	0.5	1
14240	Isophorone	78-59-1	50	1	1
14240	2-Methylnaphthalene	91-57-6	42	0.5	1
14240	2-Methylphenol	95-48-7	17	1	1
14240	4-Methylphenol	106-44-5	13	1	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.				
14240	Naphthalene	91-20-3	42	0.5	1
14240	2-Nitroaniline	88-74-4	49	1	1
14240	3-Nitroaniline	99-09-2	39	1	1
14240	4-Nitroaniline	100-01-6	41	1	1
14240	Nitrobenzene	98-95-3	43	1	1
14240	2-Nitrophenol	88-75-5	44	1	1
14240	4-Nitrophenol	100-02-7	32	30	1
14240	N-Nitroso-di-n-propylamine	621-64-7	47	1	1

Sample Description: **NY-MW-55MSD Grab Groundwater Amtrak Wilmington**

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/09/2018 14:23
Collection Date/Time: 04/06/2018 14:00
SDG#: ATH81-01MSD

Stantec
ELLE Sample #: WW 9548791
ELLE Group #: 1929349
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
14240	N-Nitrosodiphenylamine	86-30-6	48	1	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.				
14240	Di-n-octylphthalate	117-84-0	45	5	1
14240	Pentachlorophenol	87-86-5	38	5	1
14240	Phenanthrene	85-01-8	48	0.5	1
14240	Phenol	108-95-2	6	1	1
14240	Pyrene	129-00-0	47	0.5	1
14240	1,2,4-Trichlorobenzene	120-82-1	38	1	1
14240	2,4,5-Trichlorophenol	95-95-4	36	1	1
14240	2,4,6-Trichlorophenol	88-06-2	31	1	1
	Due to laboratory error surrogates were not spiked in the Laboratory Control Spike, the background unspiked sample, the matrix spike, and the matrix spike duplicate. Sufficient volume was not available to re-extract. The client was contacted and the data reported.				
Metals	**SW-846 6010B**		**mg/l**	**mg/l**	
01743	Aluminum	7429-90-5	2.79	0.200	1
07044	Antimony	7440-36-0	0.534	0.0200	1
07035	Arsenic	7440-38-2	0.145	0.0200	1
07046	Barium	7440-39-3	2.30	0.0050	1
07047	Beryllium	7440-41-7	0.0513	0.0050	1
07049	Cadmium	7440-43-9	0.0500	0.0050	1
01750	Calcium	7440-70-2	58.6	0.200	1
07051	Chromium	7440-47-3	0.197	0.0150	1
07052	Cobalt	7440-48-4	0.509	0.0050	1
07053	Copper	7440-50-8	0.262	0.0100	1
01754	Iron	7439-89-6	18.9	0.200	1
07055	Lead	7439-92-1	0.149	0.0150	1
01757	Magnesium	7439-95-4	18.8	0.100	1
07058	Manganese	7439-96-5	2.08	0.0050	1
07061	Nickel	7440-02-0	0.506	0.0100	1
01762	Potassium	7440-09-7	15.1	0.500	1
07036	Selenium	7782-49-2	0.145	0.0200	1
07066	Silver	7440-22-4	0.0518	0.0050	1
01767	Sodium	7440-23-5	131	1.00	1
07022	Thallium	7440-28-0	0.149	0.0300	1
07071	Vanadium	7440-62-2	0.529	0.0050	1
07072	Zinc	7440-66-6	0.505	0.0200	1
	SW-846 7470A		**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	0.00093	0.00020	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

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Analysis Report

Sample Description: **NY-MW-55MSD Grab Groundwater Amtrak Wilmington**

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/09/2018 14:23
Collection Date/Time: 04/06/2018 14:00
SDG#: ATH81-01MSD

Stantec
ELLE Sample #: WW 9548791
ELLE Group #: 1929349
Matrix: Groundwater

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	Y181041AA	04/14/2018 13:31	Linda C Pape	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y181041AA	04/14/2018 13:31	Linda C Pape	1
14240	TCL SW846 8270C MINI	SW-846 8270C	1	18101WAR026	04/15/2018 19:03	Brandon H Smith	1
00813	BNA Water Extraction	SW-846 3510C	1	18101WAR026	04/12/2018 09:30	Logan M Brosemer	1
01743	Aluminum	SW-846 6010B	1	181000184801	04/16/2018 04:56	Jonathan J Allen	1
07044	Antimony	SW-846 6010B	1	181000184801	04/16/2018 04:56	Jonathan J Allen	1
07035	Arsenic	SW-846 6010B	1	181000184801	04/16/2018 04:56	Jonathan J Allen	1
07046	Barium	SW-846 6010B	1	181000184801	04/16/2018 04:56	Jonathan J Allen	1
07047	Beryllium	SW-846 6010B	1	181000184801	04/16/2018 04:56	Jonathan J Allen	1
07049	Cadmium	SW-846 6010B	1	181000184801	04/16/2018 04:56	Jonathan J Allen	1
01750	Calcium	SW-846 6010B	1	181000184801	04/16/2018 04:56	Jonathan J Allen	1
07051	Chromium	SW-846 6010B	1	181000184801	04/16/2018 04:56	Jonathan J Allen	1
07052	Cobalt	SW-846 6010B	1	181000184801	04/16/2018 04:56	Jonathan J Allen	1
07053	Copper	SW-846 6010B	1	181000184801	04/16/2018 04:56	Jonathan J Allen	1
01754	Iron	SW-846 6010B	1	181000184801	04/16/2018 04:56	Jonathan J Allen	1
07055	Lead	SW-846 6010B	1	181000184801	04/16/2018 04:56	Jonathan J Allen	1
01757	Magnesium	SW-846 6010B	1	181000184801	04/16/2018 04:56	Jonathan J Allen	1
07058	Manganese	SW-846 6010B	1	181000184801	04/16/2018 04:56	Jonathan J Allen	1
07061	Nickel	SW-846 6010B	1	181000184801	04/16/2018 04:56	Jonathan J Allen	1
01762	Potassium	SW-846 6010B	1	181000184801	04/16/2018 04:56	Jonathan J Allen	1
07036	Selenium	SW-846 6010B	1	181000184801	04/16/2018 04:56	Jonathan J Allen	1
07066	Silver	SW-846 6010B	1	181000184801	04/16/2018 04:56	Jonathan J Allen	1
01767	Sodium	SW-846 6010B	1	181000184801	04/16/2018 04:56	Jonathan J Allen	1
07022	Thallium	SW-846 6010B	1	181000184801	04/16/2018 04:56	Jonathan J Allen	1
07071	Vanadium	SW-846 6010B	1	181000184801	04/16/2018 04:56	Jonathan J Allen	1
07072	Zinc	SW-846 6010B	1	181000184801	04/16/2018 04:56	Jonathan J Allen	1
00259	Mercury	SW-846 7470A	1	181010571304	04/12/2018 06:41	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	181000184801	04/11/2018 05:08	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	181010571304	04/11/2018 23:00	Annamaria Kuhns	1

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Analysis Report

Sample Description: **NY-MW-55DUP Grab Groundwater**
Amtrak Wilmington

Stantec
ELLE Sample #: **WW 9548792**
ELLE Group #: **1929349**
Matrix: Groundwater

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/09/2018 14:23
Collection Date/Time: 04/06/2018 14:00
SDG#: ATH81-01DUP

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
Metals		**SW-846 6010B**	**mg/l**	**mg/l**	
01743	Aluminum	7429-90-5	0.927	0.200	1
07044	Antimony	7440-36-0	< 0.0200	0.0200	1
07035	Arsenic	7440-38-2	< 0.0200	0.0200	1
07046	Barium	7440-39-3	0.296	0.0050	1
07047	Beryllium	7440-41-7	< 0.0050	0.0050	1
07049	Cadmium	7440-43-9	< 0.0050	0.0050	1
01750	Calcium	7440-70-2	53.3	0.200	1
07051	Chromium	7440-47-3	< 0.0150	0.0150	1
07052	Cobalt	7440-48-4	0.0060	0.0050	1
07053	Copper	7440-50-8	< 0.0100	0.0100	1
01754	Iron	7439-89-6	16.4	0.200	1
07055	Lead	7439-92-1	< 0.0150	0.0150	1
01757	Magnesium	7439-95-4	17.2	0.100	1
07058	Manganese	7439-96-5	1.75	0.0050	1
07061	Nickel	7440-02-0	< 0.0100	0.0100	1
01762	Potassium	7440-09-7	4.76	0.500	1
07036	Selenium	7782-49-2	< 0.0200	0.0200	1
07066	Silver	7440-22-4	< 0.0050	0.0050	1
01767	Sodium	7440-23-5	99.2	1.00	1
07022	Thallium	7440-28-0	< 0.0300	0.0300	1
07071	Vanadium	7440-62-2	< 0.0050	0.0050	1
07072	Zinc	7440-66-6	0.0324	0.0200	1
		SW-846 7470A	**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	< 0.00020	0.00020	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01743	Aluminum	SW-846 6010B	1	181000184801	04/16/2018 04:50	Jonathan J Allen	1
07044	Antimony	SW-846 6010B	1	181000184801	04/16/2018 04:50	Jonathan J Allen	1
07035	Arsenic	SW-846 6010B	1	181000184801	04/16/2018 04:50	Jonathan J Allen	1
07046	Barium	SW-846 6010B	1	181000184801	04/16/2018 04:50	Jonathan J Allen	1
07047	Beryllium	SW-846 6010B	1	181000184801	04/16/2018 04:50	Jonathan J Allen	1
07049	Cadmium	SW-846 6010B	1	181000184801	04/16/2018 04:50	Jonathan J Allen	1
01750	Calcium	SW-846 6010B	1	181000184801	04/16/2018 04:50	Jonathan J Allen	1
07051	Chromium	SW-846 6010B	1	181000184801	04/16/2018 04:50	Jonathan J Allen	1
07052	Cobalt	SW-846 6010B	1	181000184801	04/16/2018 04:50	Jonathan J Allen	1
07053	Copper	SW-846 6010B	1	181000184801	04/17/2018 01:30	Jonathan J Allen	1
01754	Iron	SW-846 6010B	1	181000184801	04/16/2018 04:50	Jonathan J Allen	1
07055	Lead	SW-846 6010B	1	181000184801	04/16/2018 04:50	Jonathan J Allen	1
01757	Magnesium	SW-846 6010B	1	181000184801	04/16/2018 04:50	Jonathan J Allen	1

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Analysis Report

Sample Description: **NY-MW-55DUP Grab Groundwater**
Amtrak Wilmington

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/09/2018 14:23
Collection Date/Time: 04/06/2018 14:00
SDG#: ATH81-01DUP

Stantec
ELLE Sample #: WW 9548792
ELLE Group #: 1929349
Matrix: Groundwater

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07058	Manganese	SW-846 6010B	1	181000184801	04/16/2018 04:50	Jonathan J Allen	1
07061	Nickel	SW-846 6010B	1	181000184801	04/16/2018 04:50	Jonathan J Allen	1
01762	Potassium	SW-846 6010B	1	181000184801	04/16/2018 04:50	Jonathan J Allen	1
07036	Selenium	SW-846 6010B	1	181000184801	04/16/2018 04:50	Jonathan J Allen	1
07066	Silver	SW-846 6010B	1	181000184801	04/16/2018 04:50	Jonathan J Allen	1
01767	Sodium	SW-846 6010B	1	181000184801	04/16/2018 04:50	Jonathan J Allen	1
07022	Thallium	SW-846 6010B	1	181000184801	04/16/2018 04:50	Jonathan J Allen	1
07071	Vanadium	SW-846 6010B	1	181000184801	04/16/2018 04:50	Jonathan J Allen	1
07072	Zinc	SW-846 6010B	1	181000184801	04/16/2018 04:50	Jonathan J Allen	1
00259	Mercury	SW-846 7470A	1	181010571304	04/12/2018 06:37	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	181000184801	04/11/2018 05:08	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	181010571304	04/11/2018 23:00	Annamaria Kuhns	1

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Analysis Report

Sample Description: **NY-MW-55 Filtered Grab Groundwater**
Amtrak Wilmington

Stantec
ELLE Sample #: WW 9548793
ELLE Group #: 1929349
Matrix: Groundwater

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/09/2018 14:23
Collection Date/Time: 04/06/2018 14:00
SDG#: ATH81-02BKG

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
Metals Dissolved		**SW-846 6010B**	**mg/l**	**mg/l**	
01743	Aluminum	7429-90-5	< 0.200	0.200	1
07044	Antimony	7440-36-0	< 0.0200	0.0200	1
07035	Arsenic	7440-38-2	< 0.0200	0.0200	1
07046	Barium	7440-39-3	0.246	0.0050	1
07047	Beryllium	7440-41-7	< 0.0050	0.0050	1
07049	Cadmium	7440-43-9	< 0.0050	0.0050	1
01750	Calcium	7440-70-2	49.7	0.200	1
07051	Chromium	7440-47-3	< 0.0150	0.0150	1
07052	Cobalt	7440-48-4	< 0.0050	0.0050	1
07053	Copper	7440-50-8	< 0.0100	0.0100	1
01754	Iron	7439-89-6	15.3	0.200	1
07055	Lead	7439-92-1	< 0.0150	0.0150	1
01757	Magnesium	7439-95-4	15.9	0.100	1
07058	Manganese	7439-96-5	1.68	0.0050	1
07061	Nickel	7440-02-0	< 0.0100	0.0100	1
01762	Potassium	7440-09-7	4.52	0.500	1
07036	Selenium	7782-49-2	< 0.0200	0.0200	1
07066	Silver	7440-22-4	< 0.0050	0.0050	1
01767	Sodium	7440-23-5	94.6	1.00	1
07022	Thallium	7440-28-0	< 0.0300	0.0300	1
07071	Vanadium	7440-62-2	< 0.0050	0.0050	1
07072	Zinc	7440-66-6	< 0.0200	0.0200	1
		SW-846 7470A	**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	< 0.00020	0.00020	1

Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01743	Aluminum	SW-846 6010B	1	181000184802	04/16/2018 00:28	Jonathan J Allen	1
07044	Antimony	SW-846 6010B	1	181000184802	04/16/2018 00:28	Jonathan J Allen	1
07035	Arsenic	SW-846 6010B	1	181000184802	04/16/2018 00:28	Jonathan J Allen	1
07046	Barium	SW-846 6010B	1	181000184802	04/17/2018 06:08	Suzanne M Will	1
07047	Beryllium	SW-846 6010B	1	181000184802	04/17/2018 06:08	Suzanne M Will	1
07049	Cadmium	SW-846 6010B	1	181000184802	04/16/2018 00:28	Jonathan J Allen	1
01750	Calcium	SW-846 6010B	1	181000184802	04/16/2018 00:28	Jonathan J Allen	1
07051	Chromium	SW-846 6010B	1	181000184802	04/16/2018 00:28	Jonathan J Allen	1
07052	Cobalt	SW-846 6010B	1	181000184802	04/16/2018 00:28	Jonathan J Allen	1
07053	Copper	SW-846 6010B	1	181000184802	04/16/2018 00:28	Jonathan J Allen	1
01754	Iron	SW-846 6010B	1	181000184802	04/16/2018 00:28	Jonathan J Allen	1

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Analysis Report

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Sample Description: **NY-MW-55 Filtered Grab Groundwater Amtrak Wilmington**

Project Name: **Amtrak Wilmington**

Stantec
ELLE Sample #: **WW 9548793**
ELLE Group #: **1929349**
Matrix: Groundwater

Submittal Date/Time: 04/09/2018 14:23
Collection Date/Time: 04/06/2018 14:00
SDG#: ATH81-02BKG

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07055	Lead	SW-846 6010B	2	181000184802	04/17/2018 06:08	Suzanne M Will	1
01757	Magnesium	SW-846 6010B	1	181000184802	04/16/2018 00:28	Jonathan J Allen	1
07058	Manganese	SW-846 6010B	1	181000184802	04/17/2018 06:08	Suzanne M Will	1
07061	Nickel	SW-846 6010B	1	181000184802	04/16/2018 00:28	Jonathan J Allen	1
01762	Potassium	SW-846 6010B	1	181000184802	04/16/2018 00:28	Jonathan J Allen	1
07036	Selenium	SW-846 6010B	1	181000184802	04/16/2018 00:28	Jonathan J Allen	1
07066	Silver	SW-846 6010B	1	181000184802	04/19/2018 12:36	Lisa J Cooke	1
01767	Sodium	SW-846 6010B	1	181000184802	04/16/2018 00:28	Jonathan J Allen	1
07022	Thallium	SW-846 6010B	1	181000184802	04/17/2018 06:08	Suzanne M Will	1
07071	Vanadium	SW-846 6010B	2	181000184802	04/17/2018 06:08	Suzanne M Will	1
07072	Zinc	SW-846 6010B	1	181000184802	04/16/2018 00:28	Jonathan J Allen	1
00259	Mercury	SW-846 7470A	1	181030571304	04/16/2018 07:34	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	181000184802	04/11/2018 05:08	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	181030571304	04/16/2018 02:10	Denise L Trimby	1

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Analysis Report

Sample Description: **NY-MW-55MS Filtered Grab Groundwater**
Amtrak Wilmington

Stantec
ELLE Sample #: WW 9548794
ELLE Group #: 1929349
Matrix: Groundwater

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/09/2018 14:23
Collection Date/Time: 04/06/2018 14:00
SDG#: ATH81-02MS

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
Metals Dissolved		**SW-846 6010B**	**mg/l**	**mg/l**	
01743	Aluminum	7429-90-5	2.17	0.200	1
07044	Antimony	7440-36-0	0.547	0.0200	1
07035	Arsenic	7440-38-2	0.151	0.0200	1
07046	Barium	7440-39-3	2.32	0.0050	1
07047	Beryllium	7440-41-7	0.0520	0.0050	1
07049	Cadmium	7440-43-9	0.0521	0.0050	1
01750	Calcium	7440-70-2	54.2	0.200	1
07051	Chromium	7440-47-3	0.208	0.0150	1
07052	Cobalt	7440-48-4	0.528	0.0050	1
07053	Copper	7440-50-8	0.274	0.0100	1
01754	Iron	7439-89-6	16.6	0.200	1
07055	Lead	7439-92-1	0.151	0.0150	1
01757	Magnesium	7439-95-4	18.1	0.100	1
07058	Manganese	7439-96-5	2.19	0.0050	1
07061	Nickel	7440-02-0	0.531	0.0100	1
01762	Potassium	7440-09-7	15.4	0.500	1
07036	Selenium	7782-49-2	0.152	0.0200	1
07066	Silver	7440-22-4	0.0541	0.0050	1
01767	Sodium	7440-23-5	106	1.00	1
07022	Thallium	7440-28-0	0.149	0.0300	1
07071	Vanadium	7440-62-2	0.528	0.0050	1
07072	Zinc	7440-66-6	0.526	0.0200	1
		SW-846 7470A	**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	0.00085	0.00020	1

Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01743	Aluminum	SW-846 6010B	1	181000184802	04/16/2018 00:38	Jonathan J Allen	1
07044	Antimony	SW-846 6010B	1	181000184802	04/16/2018 00:38	Jonathan J Allen	1
07035	Arsenic	SW-846 6010B	1	181000184802	04/16/2018 00:38	Jonathan J Allen	1
07046	Barium	SW-846 6010B	1	181000184802	04/17/2018 06:18	Suzanne M Will	1
07047	Beryllium	SW-846 6010B	1	181000184802	04/17/2018 06:18	Suzanne M Will	1
07049	Cadmium	SW-846 6010B	1	181000184802	04/16/2018 00:38	Jonathan J Allen	1
01750	Calcium	SW-846 6010B	1	181000184802	04/16/2018 00:38	Jonathan J Allen	1
07051	Chromium	SW-846 6010B	1	181000184802	04/16/2018 00:38	Jonathan J Allen	1
07052	Cobalt	SW-846 6010B	1	181000184802	04/16/2018 00:38	Jonathan J Allen	1
07053	Copper	SW-846 6010B	1	181000184802	04/16/2018 00:38	Jonathan J Allen	1
01754	Iron	SW-846 6010B	1	181000184802	04/16/2018 00:38	Jonathan J Allen	1

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Analysis Report

Sample Description: **NY-MW-55MS Filtered Grab Groundwater Amtrak Wilmington**

Project Name: **Amtrak Wilmington**

Stantec
ELLE Sample #: **WW 9548794**
ELLE Group #: **1929349**
Matrix: Groundwater

Submittal Date/Time: 04/09/2018 14:23
Collection Date/Time: 04/06/2018 14:00
SDG#: ATH81-02MS

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07055	Lead	SW-846 6010B	1	181000184802	04/17/2018 06:18	Suzanne M Will	1
01757	Magnesium	SW-846 6010B	1	181000184802	04/16/2018 00:38	Jonathan J Allen	1
07058	Manganese	SW-846 6010B	1	181000184802	04/17/2018 06:18	Suzanne M Will	1
07061	Nickel	SW-846 6010B	1	181000184802	04/16/2018 00:38	Jonathan J Allen	1
01762	Potassium	SW-846 6010B	1	181000184802	04/16/2018 00:38	Jonathan J Allen	1
07036	Selenium	SW-846 6010B	1	181000184802	04/16/2018 00:38	Jonathan J Allen	1
07066	Silver	SW-846 6010B	1	181000184802	04/17/2018 06:18	Suzanne M Will	1
01767	Sodium	SW-846 6010B	1	181000184802	04/16/2018 00:38	Jonathan J Allen	1
07022	Thallium	SW-846 6010B	1	181000184802	04/17/2018 06:18	Suzanne M Will	1
07071	Vanadium	SW-846 6010B	1	181000184802	04/17/2018 06:18	Suzanne M Will	1
07072	Zinc	SW-846 6010B	1	181000184802	04/16/2018 00:38	Jonathan J Allen	1
00259	Mercury	SW-846 7470A	1	181030571304	04/16/2018 07:38	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	181000184802	04/11/2018 05:08	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	181030571304	04/16/2018 02:10	Denise L Trimby	1

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Analysis Report

Sample Description: **NY-MW-55MSD Filtered Grab Groundwater**
Amtrak Wilmington

Stantec
ELLE Sample #: WW 9548795
ELLE Group #: 1929349
Matrix: Groundwater

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/09/2018 14:23
Collection Date/Time: 04/06/2018 14:00
SDG#: ATH81-02MSD

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
Metals Dissolved		**SW-846 6010B**	**mg/l**	**mg/l**	
01743	Aluminum	7429-90-5	2.25	0.200	1
07044	Antimony	7440-36-0	0.541	0.0200	1
07035	Arsenic	7440-38-2	0.152	0.0200	1
07046	Barium	7440-39-3	2.28	0.0050	1
07047	Beryllium	7440-41-7	0.0513	0.0050	1
07049	Cadmium	7440-43-9	0.0517	0.0050	1
01750	Calcium	7440-70-2	53.8	0.200	1
07051	Chromium	7440-47-3	0.207	0.0150	1
07052	Cobalt	7440-48-4	0.522	0.0050	1
07053	Copper	7440-50-8	0.271	0.0100	1
01754	Iron	7439-89-6	16.7	0.200	1
07055	Lead	7439-92-1	0.147	0.0150	1
01757	Magnesium	7439-95-4	18.0	0.100	1
07058	Manganese	7439-96-5	2.14	0.0050	1
07061	Nickel	7440-02-0	0.525	0.0100	1
01762	Potassium	7440-09-7	15.4	0.500	1
07036	Selenium	7782-49-2	0.154	0.0200	1
07066	Silver	7440-22-4	0.0518	0.0050	1
01767	Sodium	7440-23-5	107	1.00	1
07022	Thallium	7440-28-0	0.149	0.0300	1
07071	Vanadium	7440-62-2	0.521	0.0050	1
07072	Zinc	7440-66-6	0.521	0.0200	1
		SW-846 7470A	**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	0.00093	0.00020	1

Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01743	Aluminum	SW-846 6010B	1	181000184802	04/16/2018 00:41	Jonathan J Allen	1
07044	Antimony	SW-846 6010B	1	181000184802	04/16/2018 00:41	Jonathan J Allen	1
07035	Arsenic	SW-846 6010B	1	181000184802	04/16/2018 00:41	Jonathan J Allen	1
07046	Barium	SW-846 6010B	1	181000184802	04/17/2018 06:22	Suzanne M Will	1
07047	Beryllium	SW-846 6010B	1	181000184802	04/17/2018 06:22	Suzanne M Will	1
07049	Cadmium	SW-846 6010B	1	181000184802	04/16/2018 00:41	Jonathan J Allen	1
01750	Calcium	SW-846 6010B	1	181000184802	04/16/2018 00:41	Jonathan J Allen	1
07051	Chromium	SW-846 6010B	1	181000184802	04/16/2018 00:41	Jonathan J Allen	1
07052	Cobalt	SW-846 6010B	1	181000184802	04/16/2018 00:41	Jonathan J Allen	1
07053	Copper	SW-846 6010B	1	181000184802	04/16/2018 00:41	Jonathan J Allen	1
01754	Iron	SW-846 6010B	1	181000184802	04/16/2018 00:41	Jonathan J Allen	1

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Analysis Report

Sample Description: **NY-MW-55MSD Filtered Grab Groundwater Amtrak Wilmington**

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/09/2018 14:23
Collection Date/Time: 04/06/2018 14:00
SDG#: ATH81-02MSD

Stantec
ELLE Sample #: WW 9548795
ELLE Group #: 1929349
Matrix: Groundwater

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07055	Lead	SW-846 6010B	1	181000184802	04/17/2018 06:22	Suzanne M Will	1
01757	Magnesium	SW-846 6010B	1	181000184802	04/16/2018 00:41	Jonathan J Allen	1
07058	Manganese	SW-846 6010B	1	181000184802	04/17/2018 06:22	Suzanne M Will	1
07061	Nickel	SW-846 6010B	1	181000184802	04/16/2018 00:41	Jonathan J Allen	1
01762	Potassium	SW-846 6010B	1	181000184802	04/16/2018 00:41	Jonathan J Allen	1
07036	Selenium	SW-846 6010B	1	181000184802	04/16/2018 00:41	Jonathan J Allen	1
07066	Silver	SW-846 6010B	1	181000184802	04/17/2018 06:22	Suzanne M Will	1
01767	Sodium	SW-846 6010B	1	181000184802	04/16/2018 00:41	Jonathan J Allen	1
07022	Thallium	SW-846 6010B	1	181000184802	04/17/2018 06:22	Suzanne M Will	1
07071	Vanadium	SW-846 6010B	1	181000184802	04/17/2018 06:22	Suzanne M Will	1
07072	Zinc	SW-846 6010B	1	181000184802	04/16/2018 00:41	Jonathan J Allen	1
00259	Mercury	SW-846 7470A	1	181030571304	04/16/2018 07:40	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	181000184802	04/11/2018 05:08	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	181030571304	04/16/2018 02:10	Denise L Trimby	1

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Analysis Report

Sample Description: **NY-MW-55DUP Filtered Grab Groundwater**
Amtrak Wilmington

Stantec
ELLE Sample #: WW 9548796
ELLE Group #: 1929349
Matrix: Groundwater

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/09/2018 14:23
Collection Date/Time: 04/06/2018 14:00
SDG#: ATH81-02DUP

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
Metals Dissolved		**SW-846 6010B**	**mg/l**	**mg/l**	
01743	Aluminum	7429-90-5	< 0.200	0.200	1
07044	Antimony	7440-36-0	< 0.0200	0.0200	1
07035	Arsenic	7440-38-2	< 0.0200	0.0200	1
07046	Barium	7440-39-3	0.243	0.0050	1
07047	Beryllium	7440-41-7	< 0.0050	0.0050	1
07049	Cadmium	7440-43-9	< 0.0050	0.0050	1
01750	Calcium	7440-70-2	51.4	0.200	1
07051	Chromium	7440-47-3	< 0.0150	0.0150	1
07052	Cobalt	7440-48-4	< 0.0050	0.0050	1
07053	Copper	7440-50-8	< 0.0100	0.0100	1
01754	Iron	7439-89-6	15.6	0.200	1
07055	Lead	7439-92-1	< 0.0150	0.0150	1
01757	Magnesium	7439-95-4	16.3	0.100	1
07058	Manganese	7439-96-5	1.66	0.0050	1
07061	Nickel	7440-02-0	< 0.0100	0.0100	1
01762	Potassium	7440-09-7	4.70	0.500	1
07036	Selenium	7782-49-2	< 0.0200	0.0200	1
07066	Silver	7440-22-4	< 0.0050	0.0050	1
01767	Sodium	7440-23-5	96.6	1.00	1
07022	Thallium	7440-28-0	< 0.0300	0.0300	1
07071	Vanadium	7440-62-2	< 0.0050	0.0050	1
07072	Zinc	7440-66-6	< 0.0200	0.0200	1
		SW-846 7470A	**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	< 0.00020	0.00020	1

Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01743	Aluminum	SW-846 6010B	1	181000184802	04/16/2018 00:34	Jonathan J Allen	1
07044	Antimony	SW-846 6010B	1	181000184802	04/16/2018 00:34	Jonathan J Allen	1
07035	Arsenic	SW-846 6010B	1	181000184802	04/16/2018 00:34	Jonathan J Allen	1
07046	Barium	SW-846 6010B	1	181000184802	04/17/2018 06:15	Suzanne M Will	1
07047	Beryllium	SW-846 6010B	1	181000184802	04/17/2018 06:15	Suzanne M Will	1
07049	Cadmium	SW-846 6010B	1	181000184802	04/16/2018 00:34	Jonathan J Allen	1
01750	Calcium	SW-846 6010B	1	181000184802	04/16/2018 00:34	Jonathan J Allen	1
07051	Chromium	SW-846 6010B	1	181000184802	04/16/2018 00:34	Jonathan J Allen	1
07052	Cobalt	SW-846 6010B	1	181000184802	04/16/2018 00:34	Jonathan J Allen	1
07053	Copper	SW-846 6010B	1	181000184802	04/16/2018 00:34	Jonathan J Allen	1
01754	Iron	SW-846 6010B	1	181000184802	04/16/2018 00:34	Jonathan J Allen	1

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Analysis Report

Sample Description: **NY-MW-55DUP Filtered Grab Groundwater Amtrak Wilmington**

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/09/2018 14:23
Collection Date/Time: 04/06/2018 14:00
SDG#: ATH81-02DUP

Stantec
ELLE Sample #: WW 9548796
ELLE Group #: 1929349
Matrix: Groundwater

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07055	Lead	SW-846 6010B	2	181000184802	04/17/2018 06:15	Suzanne M Will	1
01757	Magnesium	SW-846 6010B	1	181000184802	04/16/2018 00:34	Jonathan J Allen	1
07058	Manganese	SW-846 6010B	1	181000184802	04/17/2018 06:15	Suzanne M Will	1
07061	Nickel	SW-846 6010B	1	181000184802	04/16/2018 00:34	Jonathan J Allen	1
01762	Potassium	SW-846 6010B	1	181000184802	04/16/2018 00:34	Jonathan J Allen	1
07036	Selenium	SW-846 6010B	1	181000184802	04/16/2018 00:34	Jonathan J Allen	1
07066	Silver	SW-846 6010B	1	181000184802	04/19/2018 12:43	Lisa J Cooke	1
01767	Sodium	SW-846 6010B	1	181000184802	04/16/2018 00:34	Jonathan J Allen	1
07022	Thallium	SW-846 6010B	1	181000184802	04/17/2018 06:15	Suzanne M Will	1
07071	Vanadium	SW-846 6010B	2	181000184802	04/17/2018 06:15	Suzanne M Will	1
07072	Zinc	SW-846 6010B	1	181000184802	04/16/2018 00:34	Jonathan J Allen	1
00259	Mercury	SW-846 7470A	1	181030571304	04/16/2018 07:36	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	181000184802	04/11/2018 05:08	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	181030571304	04/16/2018 02:10	Denise L Trimby	1

Sample Description: **NY-MW-55DUP Grab Groundwater**
Amtrak Wilmington

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/09/2018 14:23
Collection Date/Time: 04/06/2018 14:00
SDG#: ATH81-03FD

Stantec
ELLE Sample #: WW 9548797
ELLE Group #: 1929349
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Acetone	67-64-1	< 20	20	1
10335	Benzene	71-43-2	< 1	1	1
10335	Bromodichloromethane	75-27-4	< 1	1	1
10335	Bromoform	75-25-2	< 4	4	1
10335	Bromomethane	74-83-9	< 1	1	1
10335	2-Butanone	78-93-3	< 10	10	1
10335	Carbon Disulfide	75-15-0	< 5	5	1
10335	Carbon Tetrachloride	56-23-5	< 1	1	1
10335	Chlorobenzene	108-90-7	< 1	1	1
10335	Chloroethane	75-00-3	< 1	1	1
10335	Chloroform	67-66-3	< 1	1	1
10335	Chloromethane	74-87-3	< 1	1	1
10335	Dibromochloromethane	124-48-1	< 1	1	1
10335	1,1-Dichloroethane	75-34-3	< 1	1	1
10335	1,2-Dichloroethane	107-06-2	< 1	1	1
10335	1,1-Dichloroethene	75-35-4	< 1	1	1
10335	cis-1,2-Dichloroethene	156-59-2	< 1	1	1
10335	trans-1,2-Dichloroethene	156-60-5	< 1	1	1
10335	1,2-Dichloropropane	78-87-5	< 1	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	< 1	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	< 1	1	1
10335	Ethylbenzene	100-41-4	< 1	1	1
10335	2-Hexanone	591-78-6	< 10	10	1
10335	4-Methyl-2-pentanone	108-10-1	< 10	10	1
10335	Methylene Chloride	75-09-2	< 1	1	1
10335	Styrene	100-42-5	< 5	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	< 1	1	1
10335	Tetrachloroethene	127-18-4	< 1	1	1
10335	Toluene	108-88-3	< 1	1	1
10335	1,1,1-Trichloroethane	71-55-6	< 1	1	1
10335	1,1,2-Trichloroethane	79-00-5	< 1	1	1
10335	Trichloroethene	79-01-6	< 1	1	1
10335	Vinyl Chloride	75-01-4	< 1	1	1
10335	Xylene (Total)	1330-20-7	< 1	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
14240	Acenaphthene	83-32-9	< 0.5	0.5	1
14240	Acenaphthylene	208-96-8	< 0.5	0.5	1
14240	Anthracene	120-12-7	< 0.5	0.5	1
14240	Benzo(a)anthracene	56-55-3	< 0.5	0.5	1
14240	Benzo(a)pyrene	50-32-8	< 0.5	0.5	1
14240	Benzo(b)fluoranthene	205-99-2	< 0.5	0.5	1
14240	Benzo(g,h,i)perylene	191-24-2	< 0.5	0.5	1
14240	Benzo(k)fluoranthene	207-08-9	< 0.5	0.5	1
14240	4-Bromophenyl-phenylether	101-55-3	< 1	1	1
14240	Butylbenzylphthalate	85-68-7	< 5	5	1
14240	Di-n-butylphthalate	84-74-2	< 5	5	1
14240	Carbazole	86-74-8	< 1	1	1
14240	4-Chloro-3-methylphenol	59-50-7	< 1	1	1

Sample Description: **NY-MW-55DUP Grab Groundwater Amtrak Wilmington**

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/09/2018 14:23
Collection Date/Time: 04/06/2018 14:00
SDG#: ATH81-03FD

Stantec
ELLE Sample #: WW 9548797
ELLE Group #: 1929349
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
14240	4-Chloroaniline	106-47-8	< 4	4	1
14240	bis(2-Chloroethoxy)methane	111-91-1	< 1	1	1
14240	bis(2-Chloroethyl)ether	111-44-4	< 1	1	1
14240	2-Chloronaphthalene	91-58-7	< 1	1	1
14240	2-Chlorophenol	95-57-8	< 1	1	1
14240	4-Chlorophenyl-phenylether	7005-72-3	< 1	1	1
14240	2,2'-oxybis(1-Chloropropane)	108-60-1	< 1	1	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.				
14240	Chrysene	218-01-9	< 0.5	0.5	1
14240	Dibenz(a,h)anthracene	53-70-3	< 0.5	0.5	1
14240	Dibenzofuran	132-64-9	< 1	1	1
14240	1,2-Dichlorobenzene	95-50-1	< 1	1	1
14240	1,3-Dichlorobenzene	541-73-1	< 1	1	1
14240	1,4-Dichlorobenzene	106-46-7	< 1	1	1
14240	3,3'-Dichlorobenzidine	91-94-1	< 5	5	1
14240	2,4-Dichlorophenol	120-83-2	< 1	1	1
14240	Diethylphthalate	84-66-2	< 5	5	1
14240	2,4-Dimethylphenol	105-67-9	< 1	1	1
14240	Dimethylphthalate	131-11-3	< 5	5	1
14240	4,6-Dinitro-2-methylphenol	534-52-1	< 15	15	1
14240	2,4-Dinitrophenol	51-28-5	< 30	30	1
14240	2,4-Dinitrotoluene	121-14-2	< 5	5	1
14240	2,6-Dinitrotoluene	606-20-2	< 1	1	1
14240	bis(2-Ethylhexyl)phthalate	117-81-7	< 5	5	1
14240	Fluoranthene	206-44-0	< 0.5	0.5	1
14240	Fluorene	86-73-7	< 0.5	0.5	1
14240	Hexachlorobenzene	118-74-1	< 0.5	0.5	1
14240	Hexachlorobutadiene	87-68-3	< 1	1	1
14240	Hexachlorocyclopentadiene	77-47-4	< 15	15	1
14240	Hexachloroethane	67-72-1	< 5	5	1
14240	Indeno(1,2,3-cd)pyrene	193-39-5	< 0.5	0.5	1
14240	Isophorone	78-59-1	< 1	1	1
14240	2-Methylnaphthalene	91-57-6	< 0.5	0.5	1
14240	2-Methylphenol	95-48-7	< 1	1	1
14240	4-Methylphenol	106-44-5	< 1	1	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.				
14240	Naphthalene	91-20-3	< 0.5	0.5	1
14240	2-Nitroaniline	88-74-4	< 1	1	1
14240	3-Nitroaniline	99-09-2	< 1	1	1
14240	4-Nitroaniline	100-01-6	< 1	1	1
14240	Nitrobenzene	98-95-3	< 1	1	1
14240	2-Nitrophenol	88-75-5	< 1	1	1
14240	4-Nitrophenol	100-02-7	< 30	30	1
14240	N-Nitroso-di-n-propylamine	621-64-7	< 1	1	1

Sample Description: **NY-MW-55DUP Grab Groundwater**
Amtrak Wilmington

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/09/2018 14:23
Collection Date/Time: 04/06/2018 14:00
SDG#: ATH81-03FD

Stantec
ELLE Sample #: WW 9548797
ELLE Group #: 1929349
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
14240	N-Nitrosodiphenylamine	86-30-6	< 1	1	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.				
14240	Di-n-octylphthalate	117-84-0	< 5	5	1
14240	Pentachlorophenol	87-86-5	< 5	5	1
14240	Phenanthrene	85-01-8	< 0.5	0.5	1
14240	Phenol	108-95-2	< 1	1	1
14240	Pyrene	129-00-0	< 0.5	0.5	1
14240	1,2,4-Trichlorobenzene	120-82-1	< 1	1	1
14240	2,4,5-Trichlorophenol	95-95-4	< 1	1	1
14240	2,4,6-Trichlorophenol	88-06-2	< 1	1	1
	Due to laboratory error surrogates were not spiked in the Laboratory Control Spike, the background unspiked sample, the matrix spike, the matrix spike duplicate, and the sample. The following action was taken: The sample was re-extracted outside the method required holding time and the recovery for the sample surrogate(s) is outside the QC acceptance limits. The client was contacted and the data reported.				
Metals	**SW-846 6010B**		**mg/l**	**mg/l**	
01743	Aluminum	7429-90-5	7.10	0.200	1
07044	Antimony	7440-36-0	< 0.0200	0.0200	1
07035	Arsenic	7440-38-2	< 0.0200	0.0200	1
07046	Barium	7440-39-3	0.294	0.0050	1
07047	Beryllium	7440-41-7	< 0.0050	0.0050	1
07049	Cadmium	7440-43-9	< 0.0050	0.0050	1
01750	Calcium	7440-70-2	51.8	0.200	1
07051	Chromium	7440-47-3	< 0.0150	0.0150	1
07052	Cobalt	7440-48-4	0.0053	0.0050	1
07053	Copper	7440-50-8	< 0.0100	0.0100	1
01754	Iron	7439-89-6	20.9	0.200	1
07055	Lead	7439-92-1	< 0.0150	0.0150	1
01757	Magnesium	7439-95-4	16.9	0.100	1
07058	Manganese	7439-96-5	1.70	0.0050	1
07061	Nickel	7440-02-0	< 0.0100	0.0100	1
01762	Potassium	7440-09-7	5.16	0.500	1
07036	Selenium	7782-49-2	< 0.0200	0.0200	1
07066	Silver	7440-22-4	< 0.0050	0.0050	1
01767	Sodium	7440-23-5	103	1.00	1
07022	Thallium	7440-28-0	< 0.0300	0.0300	1
07071	Vanadium	7440-62-2	0.0092	0.0050	1
07072	Zinc	7440-66-6	0.0317	0.0200	1
	SW-846 7470A		**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	< 0.00020	0.00020	1

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Analysis Report

Sample Description: **NY-MW-55DUP Grab Groundwater**
Amtrak Wilmington

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/09/2018 14:23
Collection Date/Time: 04/06/2018 14:00
SDG#: ATH81-03FD

Stantec
ELLE Sample #: WW 9548797
ELLE Group #: 1929349
Matrix: Groundwater

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	Y181041AA	04/14/2018 13:53	Linda C Pape	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y181041AA	04/14/2018 13:53	Linda C Pape	1
14240	TCL SW846 8270C MINI	SW-846 8270C	1	18101WAR026	04/15/2018 19:33	Brandon H Smith	1
00813	BNA Water Extraction	SW-846 3510C	1	18101WAR026	04/12/2018 09:30	Logan M Brosemer	1
01743	Aluminum	SW-846 6010B	1	181000184801	04/16/2018 05:06	Jonathan J Allen	1
07044	Antimony	SW-846 6010B	1	181000184801	04/16/2018 05:06	Jonathan J Allen	1
07035	Arsenic	SW-846 6010B	1	181000184801	04/16/2018 05:06	Jonathan J Allen	1
07046	Barium	SW-846 6010B	1	181000184801	04/16/2018 05:06	Jonathan J Allen	1
07047	Beryllium	SW-846 6010B	1	181000184801	04/16/2018 05:06	Jonathan J Allen	1
07049	Cadmium	SW-846 6010B	1	181000184801	04/16/2018 05:06	Jonathan J Allen	1
01750	Calcium	SW-846 6010B	1	181000184801	04/16/2018 05:06	Jonathan J Allen	1
07051	Chromium	SW-846 6010B	1	181000184801	04/16/2018 05:06	Jonathan J Allen	1
07052	Cobalt	SW-846 6010B	1	181000184801	04/16/2018 05:06	Jonathan J Allen	1
07053	Copper	SW-846 6010B	1	181000184801	04/17/2018 01:38	Jonathan J Allen	1
01754	Iron	SW-846 6010B	1	181000184801	04/16/2018 05:06	Jonathan J Allen	1
07055	Lead	SW-846 6010B	1	181000184801	04/16/2018 05:06	Jonathan J Allen	1
01757	Magnesium	SW-846 6010B	1	181000184801	04/16/2018 05:06	Jonathan J Allen	1
07058	Manganese	SW-846 6010B	1	181000184801	04/16/2018 05:06	Jonathan J Allen	1
07061	Nickel	SW-846 6010B	1	181000184801	04/16/2018 05:06	Jonathan J Allen	1
01762	Potassium	SW-846 6010B	1	181000184801	04/16/2018 05:06	Jonathan J Allen	1
07036	Selenium	SW-846 6010B	1	181000184801	04/16/2018 05:06	Jonathan J Allen	1
07066	Silver	SW-846 6010B	1	181000184801	04/16/2018 05:06	Jonathan J Allen	1
01767	Sodium	SW-846 6010B	1	181000184801	04/16/2018 05:06	Jonathan J Allen	1
07022	Thallium	SW-846 6010B	1	181000184801	04/16/2018 05:06	Jonathan J Allen	1
07071	Vanadium	SW-846 6010B	1	181000184801	04/16/2018 05:06	Jonathan J Allen	1
07072	Zinc	SW-846 6010B	1	181000184801	04/16/2018 05:06	Jonathan J Allen	1
00259	Mercury	SW-846 7470A	1	181010571304	04/12/2018 06:43	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	181000184801	04/11/2018 05:08	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	181010571304	04/11/2018 23:00	Annamaria Kuhns	1

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Analysis Report

Sample Description: **NY-MW-55DUP Filtered Grab Groundwater**
Amtrak Wilmington

Stantec
ELLE Sample #: WW 9548798
ELLE Group #: 1929349
Matrix: Groundwater

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/09/2018 14:23
Collection Date/Time: 04/06/2018 14:00
SDG#: ATH81-04FD

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
Metals Dissolved		**SW-846 6010B**	**mg/l**	**mg/l**	
01743	Aluminum	7429-90-5	< 0.200	0.200	1
07044	Antimony	7440-36-0	< 0.0200	0.0200	1
07035	Arsenic	7440-38-2	< 0.0200	0.0200	1
07046	Barium	7440-39-3	0.244	0.0050	1
07047	Beryllium	7440-41-7	< 0.0050	0.0050	1
07049	Cadmium	7440-43-9	< 0.0050	0.0050	1
01750	Calcium	7440-70-2	50.6	0.200	1
07051	Chromium	7440-47-3	< 0.0150	0.0150	1
07052	Cobalt	7440-48-4	< 0.0050	0.0050	1
07053	Copper	7440-50-8	< 0.0100	0.0100	1
01754	Iron	7439-89-6	15.6	0.200	1
07055	Lead	7439-92-1	< 0.0150	0.0150	1
01757	Magnesium	7439-95-4	16.1	0.100	1
07058	Manganese	7439-96-5	1.67	0.0050	1
07061	Nickel	7440-02-0	< 0.0100	0.0100	1
01762	Potassium	7440-09-7	4.59	0.500	1
07036	Selenium	7782-49-2	< 0.0200	0.0200	1
07066	Silver	7440-22-4	< 0.0050	0.0050	1
01767	Sodium	7440-23-5	95.1	1.00	1
07022	Thallium	7440-28-0	< 0.0300	0.0300	1
07071	Vanadium	7440-62-2	< 0.0050	0.0050	1
07072	Zinc	7440-66-6	< 0.0200	0.0200	1
		SW-846 7470A	**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	< 0.00020	0.00020	1

Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01743	Aluminum	SW-846 6010B	1	181000184802	04/16/2018 00:48	Jonathan J Allen	1
07044	Antimony	SW-846 6010B	1	181000184802	04/16/2018 00:48	Jonathan J Allen	1
07035	Arsenic	SW-846 6010B	1	181000184802	04/16/2018 00:48	Jonathan J Allen	1
07046	Barium	SW-846 6010B	1	181000184802	04/17/2018 06:28	Suzanne M Will	1
07047	Beryllium	SW-846 6010B	1	181000184802	04/17/2018 06:28	Suzanne M Will	1
07049	Cadmium	SW-846 6010B	1	181000184802	04/16/2018 00:48	Jonathan J Allen	1
01750	Calcium	SW-846 6010B	1	181000184802	04/16/2018 00:48	Jonathan J Allen	1
07051	Chromium	SW-846 6010B	1	181000184802	04/16/2018 00:48	Jonathan J Allen	1
07052	Cobalt	SW-846 6010B	1	181000184802	04/16/2018 00:48	Jonathan J Allen	1
07053	Copper	SW-846 6010B	1	181000184802	04/16/2018 00:48	Jonathan J Allen	1
01754	Iron	SW-846 6010B	1	181000184802	04/16/2018 00:48	Jonathan J Allen	1

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Analysis Report

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Sample Description: **NY-MW-55DUP Filtered Grab Groundwater**
Amtrak Wilmington

Project Name: **Amtrak Wilmington**

Stantec
ELLE Sample #: **WW 9548798**
ELLE Group #: **1929349**
Matrix: Groundwater

Submittal Date/Time: 04/09/2018 14:23
Collection Date/Time: 04/06/2018 14:00
SDG#: ATH81-04FD

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07055	Lead	SW-846 6010B	2	181000184802	04/17/2018 06:28	Suzanne M Will	1
01757	Magnesium	SW-846 6010B	1	181000184802	04/16/2018 00:48	Jonathan J Allen	1
07058	Manganese	SW-846 6010B	1	181000184802	04/17/2018 06:28	Suzanne M Will	1
07061	Nickel	SW-846 6010B	1	181000184802	04/16/2018 00:48	Jonathan J Allen	1
01762	Potassium	SW-846 6010B	1	181000184802	04/16/2018 00:48	Jonathan J Allen	1
07036	Selenium	SW-846 6010B	1	181000184802	04/16/2018 00:48	Jonathan J Allen	1
07066	Silver	SW-846 6010B	1	181000184802	04/19/2018 12:49	Lisa J Cooke	1
01767	Sodium	SW-846 6010B	1	181000184802	04/16/2018 00:48	Jonathan J Allen	1
07022	Thallium	SW-846 6010B	1	181000184802	04/17/2018 06:28	Suzanne M Will	1
07071	Vanadium	SW-846 6010B	2	181000184802	04/17/2018 06:28	Suzanne M Will	1
07072	Zinc	SW-846 6010B	1	181000184802	04/16/2018 00:48	Jonathan J Allen	1
00259	Mercury	SW-846 7470A	1	181030571304	04/16/2018 07:42	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	181000184802	04/11/2018 05:08	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	181030571304	04/16/2018 02:10	Denise L Trimby	1

Sample Description: **EB-20180406 Grab Water Amtrak Wilmington**

Project Name: **Amtrak Wilmington**

Stantec
ELLE Sample #: **WW 9548799**
ELLE Group #: **1929349**
Matrix: Water

Submittal Date/Time: 04/09/2018 14:23
Collection Date/Time: 04/06/2018 16:00
SDG#: ATH81-05EB

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Acetone	67-64-1	< 20	20	1
10335	Benzene	71-43-2	< 1	1	1
10335	Bromodichloromethane	75-27-4	< 1	1	1
10335	Bromoform	75-25-2	< 4	4	1
10335	Bromomethane	74-83-9	< 1	1	1
10335	2-Butanone	78-93-3	< 10	10	1
10335	Carbon Disulfide	75-15-0	< 5	5	1
10335	Carbon Tetrachloride	56-23-5	< 1	1	1
10335	Chlorobenzene	108-90-7	< 1	1	1
10335	Chloroethane	75-00-3	< 1	1	1
10335	Chloroform	67-66-3	< 1	1	1
10335	Chloromethane	74-87-3	< 1	1	1
10335	Dibromochloromethane	124-48-1	< 1	1	1
10335	1,1-Dichloroethane	75-34-3	< 1	1	1
10335	1,2-Dichloroethane	107-06-2	< 1	1	1
10335	1,1-Dichloroethene	75-35-4	< 1	1	1
10335	cis-1,2-Dichloroethene	156-59-2	< 1	1	1
10335	trans-1,2-Dichloroethene	156-60-5	< 1	1	1
10335	1,2-Dichloropropane	78-87-5	< 1	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	< 1	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	< 1	1	1
10335	Ethylbenzene	100-41-4	< 1	1	1
10335	2-Hexanone	591-78-6	< 10	10	1
10335	4-Methyl-2-pentanone	108-10-1	< 10	10	1
10335	Methylene Chloride	75-09-2	< 1	1	1
10335	Styrene	100-42-5	< 5	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	< 1	1	1
10335	Tetrachloroethene	127-18-4	< 1	1	1
10335	Toluene	108-88-3	< 1	1	1
10335	1,1,1-Trichloroethane	71-55-6	< 1	1	1
10335	1,1,2-Trichloroethane	79-00-5	< 1	1	1
10335	Trichloroethene	79-01-6	< 1	1	1
10335	Vinyl Chloride	75-01-4	< 1	1	1
10335	Xylene (Total)	1330-20-7	< 1	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
14240	Acenaphthene	83-32-9	< 0.5	0.5	1
14240	Acenaphthylene	208-96-8	< 0.5	0.5	1
14240	Anthracene	120-12-7	< 0.5	0.5	1
14240	Benzo(a)anthracene	56-55-3	< 0.5	0.5	1
14240	Benzo(a)pyrene	50-32-8	< 0.5	0.5	1
14240	Benzo(b)fluoranthene	205-99-2	< 0.5	0.5	1
14240	Benzo(g,h,i)perylene	191-24-2	< 0.5	0.5	1
14240	Benzo(k)fluoranthene	207-08-9	< 0.5	0.5	1
14240	4-Bromophenyl-phenylether	101-55-3	< 1	1	1
14240	Butylbenzylphthalate	85-68-7	< 5	5	1
14240	Di-n-butylphthalate	84-74-2	< 5	5	1
14240	Carbazole	86-74-8	< 1	1	1
14240	4-Chloro-3-methylphenol	59-50-7	< 1	1	1

Sample Description: **EB-20180406 Grab Water Amtrak Wilmington**

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/09/2018 14:23
Collection Date/Time: 04/06/2018 16:00
SDG#: ATH81-05EB

Stantec
ELLE Sample #: **WW 9548799**
ELLE Group #: **1929349**
Matrix: Water

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
14240	4-Chloroaniline	106-47-8	< 4	4	1
14240	bis(2-Chloroethoxy)methane	111-91-1	< 1	1	1
14240	bis(2-Chloroethyl)ether	111-44-4	< 1	1	1
14240	2-Chloronaphthalene	91-58-7	< 1	1	1
14240	2-Chlorophenol	95-57-8	< 1	1	1
14240	4-Chlorophenyl-phenylether	7005-72-3	< 1	1	1
14240	2,2'-oxybis(1-Chloropropane)	108-60-1	< 1	1	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.				
14240	Chrysene	218-01-9	< 0.5	0.5	1
14240	Dibenz(a,h)anthracene	53-70-3	< 0.5	0.5	1
14240	Dibenzofuran	132-64-9	< 1	1	1
14240	1,2-Dichlorobenzene	95-50-1	< 1	1	1
14240	1,3-Dichlorobenzene	541-73-1	< 1	1	1
14240	1,4-Dichlorobenzene	106-46-7	< 1	1	1
14240	3,3'-Dichlorobenzidine	91-94-1	< 5	5	1
14240	2,4-Dichlorophenol	120-83-2	< 1	1	1
14240	Diethylphthalate	84-66-2	< 5	5	1
14240	2,4-Dimethylphenol	105-67-9	< 1	1	1
14240	Dimethylphthalate	131-11-3	< 5	5	1
14240	4,6-Dinitro-2-methylphenol	534-52-1	< 15	15	1
14240	2,4-Dinitrophenol	51-28-5	< 30	30	1
14240	2,4-Dinitrotoluene	121-14-2	< 5	5	1
14240	2,6-Dinitrotoluene	606-20-2	< 1	1	1
14240	bis(2-Ethylhexyl)phthalate	117-81-7	< 5	5	1
14240	Fluoranthene	206-44-0	< 0.5	0.5	1
14240	Fluorene	86-73-7	< 0.5	0.5	1
14240	Hexachlorobenzene	118-74-1	< 0.5	0.5	1
14240	Hexachlorobutadiene	87-68-3	< 1	1	1
14240	Hexachlorocyclopentadiene	77-47-4	< 15	15	1
14240	Hexachloroethane	67-72-1	< 5	5	1
14240	Indeno(1,2,3-cd)pyrene	193-39-5	< 0.5	0.5	1
14240	Isophorone	78-59-1	< 1	1	1
14240	2-Methylnaphthalene	91-57-6	< 0.5	0.5	1
14240	2-Methylphenol	95-48-7	< 1	1	1
14240	4-Methylphenol	106-44-5	< 1	1	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.				
14240	Naphthalene	91-20-3	< 0.5	0.5	1
14240	2-Nitroaniline	88-74-4	< 1	1	1
14240	3-Nitroaniline	99-09-2	< 1	1	1
14240	4-Nitroaniline	100-01-6	< 1	1	1
14240	Nitrobenzene	98-95-3	< 1	1	1
14240	2-Nitrophenol	88-75-5	< 1	1	1
14240	4-Nitrophenol	100-02-7	< 30	30	1
14240	N-Nitroso-di-n-propylamine	621-64-7	< 1	1	1

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Analysis Report

Sample Description: **EB-20180406 Grab Water Amtrak Wilmington**

Project Name: **Amtrak Wilmington**

Stantec
ELLE Sample #: **WW 9548799**
ELLE Group #: **1929349**
Matrix: Water

Submittal Date/Time: 04/09/2018 14:23
Collection Date/Time: 04/06/2018 16:00
SDG#: ATH81-05EB

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
14240	N-Nitrosodiphenylamine	86-30-6	< 1	1	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.				
14240	Di-n-octylphthalate	117-84-0	< 5	5	1
14240	Pentachlorophenol	87-86-5	< 5	5	1
14240	Phenanthrene	85-01-8	< 0.5	0.5	1
14240	Phenol	108-95-2	< 1	1	1
14240	Pyrene	129-00-0	< 0.5	0.5	1
14240	1,2,4-Trichlorobenzene	120-82-1	< 1	1	1
14240	2,4,5-Trichlorophenol	95-95-4	< 1	1	1
14240	2,4,6-Trichlorophenol	88-06-2	< 1	1	1
Metals	**SW-846 6010B**		**mg/l**	**mg/l**	
01743	Aluminum	7429-90-5	0.200	0.200	1
07044	Antimony	7440-36-0	< 0.0200	0.0200	1
07035	Arsenic	7440-38-2	< 0.0200	0.0200	1
07046	Barium	7440-39-3	< 0.0050	0.0050	1
07047	Beryllium	7440-41-7	< 0.0050	0.0050	1
07049	Cadmium	7440-43-9	< 0.0050	0.0050	1
01750	Calcium	7440-70-2	< 0.200	0.200	1
07051	Chromium	7440-47-3	< 0.0150	0.0150	1
07052	Cobalt	7440-48-4	< 0.0050	0.0050	1
07053	Copper	7440-50-8	< 0.0100	0.0100	1
01754	Iron	7439-89-6	< 0.200	0.200	1
07055	Lead	7439-92-1	< 0.0150	0.0150	1
01757	Magnesium	7439-95-4	< 0.100	0.100	1
07058	Manganese	7439-96-5	< 0.0050	0.0050	1
07061	Nickel	7440-02-0	< 0.0100	0.0100	1
01762	Potassium	7440-09-7	< 0.500	0.500	1
07036	Selenium	7782-49-2	< 0.0200	0.0200	1
07066	Silver	7440-22-4	< 0.0050	0.0050	1
01767	Sodium	7440-23-5	< 1.00	1.00	1
07022	Thallium	7440-28-0	< 0.0300	0.0300	1
07071	Vanadium	7440-62-2	< 0.0050	0.0050	1
07072	Zinc	7440-66-6	< 0.0200	0.0200	1
	SW-846 7470A		**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	< 0.00020	0.00020	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

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Analysis Report

Sample Description: **EB-20180406 Grab Water Amtrak Wilmington**

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/09/2018 14:23
Collection Date/Time: 04/06/2018 16:00
SDG#: ATH81-05EB

Stantec
ELLE Sample #: **WW 9548799**
ELLE Group #: **1929349**
Matrix: Water

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	Y181041AA	04/14/2018 10:55	Linda C Pape	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y181041AA	04/14/2018 10:55	Linda C Pape	1
14240	TCL SW846 8270C MINI	SW-846 8270C	1	18106WAE026	04/17/2018 11:05	Brandon H Smith	1
00813	BNA Water Extraction	SW-846 3510C	2	18106WAE026	04/16/2018 16:30	Osvaldo R Sanchez	1
01743	Aluminum	SW-846 6010B	1	181000184801	04/16/2018 05:16	Jonathan J Allen	1
07044	Antimony	SW-846 6010B	1	181000184801	04/16/2018 05:16	Jonathan J Allen	1
07035	Arsenic	SW-846 6010B	1	181000184801	04/16/2018 05:16	Jonathan J Allen	1
07046	Barium	SW-846 6010B	1	181000184801	04/16/2018 05:16	Jonathan J Allen	1
07047	Beryllium	SW-846 6010B	1	181000184801	04/16/2018 05:16	Jonathan J Allen	1
07049	Cadmium	SW-846 6010B	1	181000184801	04/16/2018 05:16	Jonathan J Allen	1
01750	Calcium	SW-846 6010B	1	181000184801	04/16/2018 05:16	Jonathan J Allen	1
07051	Chromium	SW-846 6010B	1	181000184801	04/16/2018 05:16	Jonathan J Allen	1
07052	Cobalt	SW-846 6010B	1	181000184801	04/16/2018 05:16	Jonathan J Allen	1
07053	Copper	SW-846 6010B	1	181000184801	04/17/2018 01:41	Jonathan J Allen	1
01754	Iron	SW-846 6010B	1	181000184801	04/16/2018 05:16	Jonathan J Allen	1
07055	Lead	SW-846 6010B	1	181000184801	04/16/2018 05:16	Jonathan J Allen	1
01757	Magnesium	SW-846 6010B	1	181000184801	04/16/2018 05:16	Jonathan J Allen	1
07058	Manganese	SW-846 6010B	1	181000184801	04/16/2018 05:16	Jonathan J Allen	1
07061	Nickel	SW-846 6010B	1	181000184801	04/16/2018 05:16	Jonathan J Allen	1
01762	Potassium	SW-846 6010B	1	181000184801	04/16/2018 05:16	Jonathan J Allen	1
07036	Selenium	SW-846 6010B	1	181000184801	04/16/2018 05:16	Jonathan J Allen	1
07066	Silver	SW-846 6010B	1	181000184801	04/16/2018 05:16	Jonathan J Allen	1
01767	Sodium	SW-846 6010B	1	181000184801	04/16/2018 05:16	Jonathan J Allen	1
07022	Thallium	SW-846 6010B	1	181000184801	04/16/2018 05:16	Jonathan J Allen	1
07071	Vanadium	SW-846 6010B	1	181000184801	04/16/2018 05:16	Jonathan J Allen	1
07072	Zinc	SW-846 6010B	1	181000184801	04/16/2018 05:16	Jonathan J Allen	1
00259	Mercury	SW-846 7470A	1	181010571304	04/12/2018 06:46	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	181000184801	04/11/2018 05:08	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	181010571304	04/11/2018 23:00	Annamaria Kuhns	1

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Analysis Report

Sample Description: **Trip Blank Water**
Amtrak Wilmington

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/09/2018 14:23
Collection Date/Time: 04/02/2018
SDG#: ATH81-06TB

Stantec
ELLE Sample #: WW 9548800
ELLE Group #: 1929349
Matrix: Water

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Acetone	67-64-1	< 20	20	1
10335	Benzene	71-43-2	< 1	1	1
10335	Bromodichloromethane	75-27-4	< 1	1	1
10335	Bromoform	75-25-2	< 4	4	1
10335	Bromomethane	74-83-9	< 1	1	1
10335	2-Butanone	78-93-3	< 10	10	1
10335	Carbon Disulfide	75-15-0	< 5	5	1
10335	Carbon Tetrachloride	56-23-5	< 1	1	1
10335	Chlorobenzene	108-90-7	< 1	1	1
10335	Chloroethane	75-00-3	< 1	1	1
10335	Chloroform	67-66-3	< 1	1	1
10335	Chloromethane	74-87-3	< 1	1	1
10335	Dibromochloromethane	124-48-1	< 1	1	1
10335	1,1-Dichloroethane	75-34-3	< 1	1	1
10335	1,2-Dichloroethane	107-06-2	< 1	1	1
10335	1,1-Dichloroethene	75-35-4	< 1	1	1
10335	cis-1,2-Dichloroethene	156-59-2	< 1	1	1
10335	trans-1,2-Dichloroethene	156-60-5	< 1	1	1
10335	1,2-Dichloropropane	78-87-5	< 1	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	< 1	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	< 1	1	1
10335	Ethylbenzene	100-41-4	< 1	1	1
10335	2-Hexanone	591-78-6	< 10	10	1
10335	4-Methyl-2-pentanone	108-10-1	< 10	10	1
10335	Methylene Chloride	75-09-2	< 1	1	1
10335	Styrene	100-42-5	< 5	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	< 1	1	1
10335	Tetrachloroethene	127-18-4	< 1	1	1
10335	Toluene	108-88-3	< 1	1	1
10335	1,1,1-Trichloroethane	71-55-6	< 1	1	1
10335	1,1,2-Trichloroethane	79-00-5	< 1	1	1
10335	Trichloroethene	79-01-6	< 1	1	1
10335	Vinyl Chloride	75-01-4	< 1	1	1
10335	Xylene (Total)	1330-20-7	< 1	1	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	Y181041AA	04/14/2018 11:17	Linda C Pape	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y181041AA	04/14/2018 11:17	Linda C Pape	1

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Quality Control Summary

Client Name: Stantec
Reported: 04/20/2018 12:52

Group Number: 1929349

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result ug/l	LOQ ug/l
Batch number: Y181041AA	Sample number(s): 9548789-9548791,9548797,9548799-9548800	
Acetone	< 20	20
Benzene	< 1	1
Bromodichloromethane	< 1	1
Bromoform	< 4	4
Bromomethane	< 1	1
2-Butanone	< 10	10
Carbon Disulfide	< 5	5
Carbon Tetrachloride	< 1	1
Chlorobenzene	< 1	1
Chloroethane	< 1	1
Chloroform	< 1	1
Chloromethane	< 1	1
Dibromochloromethane	< 1	1
1,1-Dichloroethane	< 1	1
1,2-Dichloroethane	< 1	1
1,1-Dichloroethene	< 1	1
cis-1,2-Dichloroethene	< 1	1
trans-1,2-Dichloroethene	< 1	1
1,2-Dichloropropane	< 1	1
cis-1,3-Dichloropropene	< 1	1
trans-1,3-Dichloropropene	< 1	1
Ethylbenzene	< 1	1
2-Hexanone	< 10	10
4-Methyl-2-pentanone	< 10	10
Methylene Chloride	< 1	1
Styrene	< 5	5
1,1,2,2-Tetrachloroethane	< 1	1
Tetrachloroethene	< 1	1
Toluene	< 1	1
1,1,1-Trichloroethane	< 1	1
1,1,2-Trichloroethane	< 1	1
Trichloroethene	< 1	1
Vinyl Chloride	< 1	1
Xylene (Total)	< 1	1
Batch number: 18101WAR026	Sample number(s): 9548789-9548791,9548797	
Acenaphthene	< 0.5	0.5
Acenaphthylene	< 0.5	0.5
Anthracene	< 0.5	0.5

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Stantec
Reported: 04/20/2018 12:52

Group Number: 1929349

Method Blank (continued)

Analysis Name	Result ug/l	LOQ ug/l
Benzo(a)anthracene	< 0.5	0.5
Benzo(a)pyrene	< 0.5	0.5
Benzo(b)fluoranthene	< 0.5	0.5
Benzo(g,h,i)perylene	< 0.5	0.5
Benzo(k)fluoranthene	< 0.5	0.5
4-Bromophenyl-phenylether	< 1	1
Butylbenzylphthalate	< 5	5
Di-n-butylphthalate	< 5	5
Carbazole	< 1	1
4-Chloro-3-methylphenol	< 1	1
4-Chloroaniline	< 4	4
bis(2-Chloroethoxy)methane	< 1	1
bis(2-Chloroethyl)ether	< 1	1
2-Chloronaphthalene	< 1	1
2-Chlorophenol	< 1	1
4-Chlorophenyl-phenylether	< 1	1
2,2'-oxybis(1-Chloropropane)	< 1	1
Chrysene	< 0.5	0.5
Dibenz(a,h)anthracene	< 0.5	0.5
Dibenzofuran	< 1	1
1,2-Dichlorobenzene	< 1	1
1,3-Dichlorobenzene	< 1	1
1,4-Dichlorobenzene	< 1	1
3,3'-Dichlorobenzidine	< 5	5
2,4-Dichlorophenol	< 1	1
Diethylphthalate	< 5	5
2,4-Dimethylphenol	< 1	1
Dimethylphthalate	< 5	5
4,6-Dinitro-2-methylphenol	< 15	15
2,4-Dinitrophenol	< 30	30
2,4-Dinitrotoluene	< 5	5
2,6-Dinitrotoluene	< 1	1
bis(2-Ethylhexyl)phthalate	< 5	5
Fluoranthene	< 0.5	0.5
Fluorene	< 0.5	0.5
Hexachlorobenzene	< 0.5	0.5
Hexachlorobutadiene	< 1	1
Hexachlorocyclopentadiene	< 15	15
Hexachloroethane	< 5	5
Indeno(1,2,3-cd)pyrene	< 0.5	0.5
Isophorone	< 1	1
2-Methylnaphthalene	< 0.5	0.5
2-Methylphenol	< 1	1
4-Methylphenol	< 1	1
Naphthalene	< 0.5	0.5

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Stantec
Reported: 04/20/2018 12:52

Group Number: 1929349

Method Blank (continued)

Analysis Name	Result ug/l	LOQ ug/l
2-Nitroaniline	< 1	1
3-Nitroaniline	< 1	1
4-Nitroaniline	< 1	1
Nitrobenzene	< 1	1
2-Nitrophenol	< 1	1
4-Nitrophenol	< 30	30
N-Nitroso-di-n-propylamine	< 1	1
N-Nitrosodiphenylamine	< 1	1
Di-n-octylphthalate	< 5	5
Pentachlorophenol	< 5	5
Phenanthrene	< 0.5	0.5
Phenol	< 1	1
Pyrene	< 0.5	0.5
1,2,4-Trichlorobenzene	< 1	1
2,4,5-Trichlorophenol	< 1	1
2,4,6-Trichlorophenol	< 1	1
Batch number: 18106WAE026	Sample number(s): 9548799	
Acenaphthene	< 0.5	0.5
Acenaphthylene	< 0.5	0.5
Anthracene	< 0.5	0.5
Benzo(a)anthracene	< 0.5	0.5
Benzo(a)pyrene	< 0.5	0.5
Benzo(b)fluoranthene	< 0.5	0.5
Benzo(g,h,i)perylene	< 0.5	0.5
Benzo(k)fluoranthene	< 0.5	0.5
4-Bromophenyl-phenylether	< 1	1
Butylbenzylphthalate	< 5	5
Di-n-butylphthalate	< 5	5
Carbazole	< 1	1
4-Chloro-3-methylphenol	< 1	1
4-Chloroaniline	< 4	4
bis(2-Chloroethoxy)methane	< 1	1
bis(2-Chloroethyl)ether	< 1	1
2-Chloronaphthalene	< 1	1
2-Chlorophenol	< 1	1
4-Chlorophenyl-phenylether	< 1	1
2,2'-oxybis(1-Chloropropane)	< 1	1
Chrysene	< 0.5	0.5
Dibenz(a,h)anthracene	< 0.5	0.5
Dibenzofuran	< 1	1
1,2-Dichlorobenzene	< 1	1
1,3-Dichlorobenzene	< 1	1
1,4-Dichlorobenzene	< 1	1
3,3'-Dichlorobenzidine	< 5	5

*- Outside of specification
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(2) The unspiked result was more than four times the spike added.
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Quality Control Summary

Client Name: Stantec
Reported: 04/20/2018 12:52

Group Number: 1929349

Method Blank (continued)

Analysis Name	Result	LOQ
	ug/l	ug/l
2,4-Dichlorophenol	< 1	1
Diethylphthalate	< 5	5
2,4-Dimethylphenol	< 1	1
Dimethylphthalate	< 5	5
4,6-Dinitro-2-methylphenol	< 15	15
2,4-Dinitrophenol	< 30	30
2,4-Dinitrotoluene	< 5	5
2,6-Dinitrotoluene	< 1	1
bis(2-Ethylhexyl)phthalate	< 5	5
Fluoranthene	< 0.5	0.5
Fluorene	< 0.5	0.5
Hexachlorobenzene	< 0.5	0.5
Hexachlorobutadiene	< 1	1
Hexachlorocyclopentadiene	< 15	15
Hexachloroethane	< 5	5
Indeno(1,2,3-cd)pyrene	< 0.5	0.5
Isophorone	< 1	1
2-Methylnaphthalene	< 0.5	0.5
2-Methylphenol	< 1	1
4-Methylphenol	< 1	1
Naphthalene	< 0.5	0.5
2-Nitroaniline	< 1	1
3-Nitroaniline	< 1	1
4-Nitroaniline	< 1	1
Nitrobenzene	< 1	1
2-Nitrophenol	< 1	1
4-Nitrophenol	< 30	30
N-Nitroso-di-n-propylamine	< 1	1
N-Nitrosodiphenylamine	< 1	1
Di-n-octylphthalate	< 5	5
Pentachlorophenol	< 5	5
Phenanthrene	< 0.5	0.5
Phenol	< 1	1
Pyrene	< 0.5	0.5
1,2,4-Trichlorobenzene	< 1	1
2,4,5-Trichlorophenol	< 1	1
2,4,6-Trichlorophenol	< 1	1
	mg/l	mg/l
Batch number: 181000184801	Sample number(s): 9548789-9548792,9548797,9548799	
Aluminum	< 0.200	0.200
Antimony	< 0.0200	0.0200
Arsenic	< 0.0200	0.0200
Barium	< 0.0050	0.0050
Beryllium	< 0.0050	0.0050

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Stantec
Reported: 04/20/2018 12:52

Group Number: 1929349

Method Blank (continued)

Analysis Name	Result mg/l	LOQ mg/l
Cadmium	< 0.0050	0.0050
Calcium	< 0.200	0.200
Chromium	< 0.0150	0.0150
Cobalt	< 0.0050	0.0050
Copper	< 0.0100	0.0100
Iron	< 0.200	0.200
Lead	< 0.0150	0.0150
Magnesium	< 0.100	0.100
Manganese	< 0.0050	0.0050
Nickel	< 0.0100	0.0100
Potassium	< 0.500	0.500
Selenium	< 0.0200	0.0200
Silver	< 0.0050	0.0050
Sodium	< 1.00	1.00
Thallium	< 0.0300	0.0300
Vanadium	< 0.0050	0.0050
Zinc	< 0.0200	0.0200
Batch number: 181000184802	Sample number(s): 9548793-9548796,9548798	
Aluminum	0.965	0.200
Antimony	< 0.0200	0.0200
Arsenic	< 0.0200	0.0200
Barium	< 0.0050	0.0050
Beryllium	< 0.0050	0.0050
Cadmium	< 0.0050	0.0050
Calcium	< 0.200	0.200
Chromium	< 0.0150	0.0150
Cobalt	< 0.0050	0.0050
Copper	< 0.0100	0.0100
Iron	< 0.200	0.200
Lead	< 0.0150	0.0150
Magnesium	< 0.100	0.100
Manganese	0.0068	0.0050
Nickel	< 0.0100	0.0100
Potassium	< 0.500	0.500
Selenium	< 0.0200	0.0200
Silver	< 0.0050	0.0050
Sodium	< 1.00	1.00
Thallium	< 0.0300	0.0300
Vanadium	< 0.0050	0.0050
Zinc	< 0.0200	0.0200
Batch number: 181010571304	Sample number(s): 9548789-9548792,9548797,9548799	
Mercury	< 0.00020	0.00020
Batch number: 181030571304	Sample number(s): 9548793-9548796,9548798	

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Stantec
Reported: 04/20/2018 12:52

Group Number: 1929349

Method Blank (continued)

Analysis Name	Result mg/l	LOQ mg/l
Mercury	< 0.00020	0.00020

LCS/LCSD

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: Y181041AA	Sample number(s): 9548789-9548791,9548797,9548799-9548800								
Acetone	150	181.54			121		54-157		
Benzene	20	19.98			100		80-120		
Bromodichloromethane	20	18.09			90		71-120		
Bromoform	20	14.89			74		59-120		
Bromomethane	20	22.05			110		58-130		
2-Butanone	150	149.69			100		59-135		
Carbon Disulfide	20	19.11			96		65-128		
Carbon Tetrachloride	20	20.28			101		64-134		
Chlorobenzene	20	18.13			91		80-120		
Chloroethane	20	20.62			103		61-123		
Chloroform	20	20.37			102		80-120		
Chloromethane	20	20.22			101		63-120		
Dibromochloromethane	20	16.56			83		71-120		
1,1-Dichloroethane	20	20.19			101		80-120		
1,2-Dichloroethane	20	21.11			106		73-124		
1,1-Dichloroethene	20	22.41			112		80-131		
cis-1,2-Dichloroethene	20	19.94			100		80-120		
trans-1,2-Dichloroethene	20	20.8			104		80-120		
1,2-Dichloropropane	20	19.99			100		80-120		
cis-1,3-Dichloropropene	20	16.99			85		75-120		
trans-1,3-Dichloropropene	20	16.36			82		76-120		
Ethylbenzene	20	18.24			91		80-120		
2-Hexanone	100	101.3			101		50-141		
4-Methyl-2-pentanone	100	102.61			103		62-133		
Methylene Chloride	20	20.97			105		80-120		
Styrene	20	16.75			84		80-120		
1,1,2,2-Tetrachloroethane	20	18.15			91		72-120		
Tetrachloroethene	20	19.63			98		80-120		
Toluene	20	18.36			92		80-120		
1,1,1-Trichloroethane	20	19.53			98		67-126		
1,1,2-Trichloroethane	20	18.8			94		80-120		
Trichloroethene	20	19.39			97		80-120		
Vinyl Chloride	20	18.92			95		68-120		
Xylene (Total)	60	52.34			87		80-120		

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
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P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Stantec
Reported: 04/20/2018 12:52

Group Number: 1929349

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	ug/l	ug/l	ug/l	ug/l					
Batch number: 18101WAR026	Sample number(s): 9548789-9548791,9548797								
Acenaphthene	50	47.09			94		49-123		
Acenaphthylene	50	49.73			99		67-111		
Anthracene	50	49.63			99		55-126		
Benzo(a)anthracene	50	47.03			94		63-124		
Benzo(a)pyrene	50	51			102		50-128		
Benzo(b)fluoranthene	50	48.35			97		58-127		
Benzo(g,h,i)perylene	50	50.22			100		51-124		
Benzo(k)fluoranthene	50	50.2			100		63-123		
4-Bromophenyl-phenylether	50	45.21			90		53-127		
Butylbenzylphthalate	50	45.23			90		40-131		
Di-n-butylphthalate	50	48.51			97		58-119		
Carbazole	50	53.02			106		65-123		
4-Chloro-3-methylphenol	50	44.61			89		50-130		
4-Chloroaniline	50	35.4			71		33-106		
bis(2-Chloroethoxy)methane	50	47.83			96		54-127		
bis(2-Chloroethyl)ether	50	43.6			87		48-119		
2-Chloronaphthalene	50	42.31			85		41-123		
2-Chlorophenol	50	43.47			87		47-116		
4-Chlorophenyl-phenylether	50	44.41			89		45-124		
2,2'-oxybis(1-Chloropropane)	50	43.42			87		40-117		
Chrysene	50	46.87			94		65-124		
Dibenz(a,h)anthracene	50	51.04			102		53-132		
Dibenzofuran	50	46.56			93		50-124		
1,2-Dichlorobenzene	50	41.31			83		31-116		
1,3-Dichlorobenzene	50	38.24			76		24-115		
1,4-Dichlorobenzene	50	37.58			75		30-109		
3,3'-Dichlorobenzidine	50	29.5			59		32-106		
2,4-Dichlorophenol	50	44.84			90		53-126		
Diethylphthalate	50	46.1			92		42-124		
2,4-Dimethylphenol	50	39.15			78		41-103		
Dimethylphthalate	50	42.06			84		19-119		
4,6-Dinitro-2-methylphenol	50	51.17			102		50-132		
2,4-Dinitrophenol	100	97.9			98		19-140		
2,4-Dinitrotoluene	50	48.53			97		56-128		
2,6-Dinitrotoluene	50	45.97			92		57-131		
bis(2-Ethylhexyl)phthalate	50	45.51			91		52-132		
Fluoranthene	50	49.48			99		61-123		
Fluorene	50	46.57			93		48-124		
Hexachlorobenzene	50	48.7			97		57-123		
Hexachlorobutadiene	50	39.25			78		16-119		
Hexachlorocyclopentadiene	100	82.29			82		10-104		

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Quality Control Summary

Client Name: Stantec
Reported: 04/20/2018 12:52

Group Number: 1929349

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Hexachloroethane	50	36.16			72		19-105		
Indeno(1,2,3-cd)pyrene	50	51			102		52-127		
Isophorone	50	49.7			99		49-129		
2-Methylnaphthalene	50	45.68			91		42-120		
2-Methylphenol	50	42.65			85		46-113		
4-Methylphenol	50	40.01			80		42-115		
Naphthalene	50	45.06			90		44-114		
2-Nitroaniline	50	49.17			98		54-133		
3-Nitroaniline	50	40.86			82		41-123		
4-Nitroaniline	50	42.73			85		46-114		
Nitrobenzene	50	44.86			90		43-128		
2-Nitrophenol	50	46.69			93		58-125		
4-Nitrophenol	50	33.29			67		10-96		
N-Nitroso-di-n-propylamine	50	45.55			91		48-128		
N-Nitrosodiphenylamine	50	47.97			96		55-128		
Di-n-octylphthalate	50	49.14			98		51-134		
Pentachlorophenol	50	52.34			105		50-127		
Phenanthrene	50	48.41			97		54-122		
Phenol	50	24.74			49		10-92		
Pyrene	50	48.71			97		54-123		
1,2,4-Trichlorobenzene	50	41.88			84		29-120		
2,4,5-Trichlorophenol	50	53.32			107		59-129		
2,4,6-Trichlorophenol	50	48.03			96		61-130		
Batch number: 18106WAE026	Sample number(s): 9548799								
Acenaphthene	50	40.93	50	41.71	82	83	49-123	2	30
Acenaphthylene	50	44.94	50	44.03	90	88	67-111	2	30
Anthracene	50	47.74	50	43.47	95	87	55-126	9	30
Benzo(a)anthracene	50	49.92	50	46.25	100	92	63-124	8	30
Benzo(a)pyrene	50	49.77	50	45.08	100	90	50-128	10	30
Benzo(b)fluoranthene	50	48.47	50	44.62	97	89	58-127	8	30
Benzo(g,h,i)perylene	50	46.26	50	42.38	93	85	51-124	9	30
Benzo(k)fluoranthene	50	51.94	50	47.74	104	95	63-123	8	30
4-Bromophenyl-phenylether	50	41.67	50	40.62	83	81	53-127	3	30
Butylbenzylphthalate	50	41.52	50	35.37	83	71	40-131	16	30
Di-n-butylphthalate	50	45.73	50	40.99	91	82	58-119	11	30
Carbazole	50	52.08	50	47.22	104	94	65-123	10	30
4-Chloro-3-methylphenol	50	46.75	50	43.72	93	87	50-130	7	30
4-Chloroaniline	50	37.41	50	36.25	75	72	33-106	3	30
bis(2-Chloroethoxy)methane	50	47.63	50	43.04	95	86	54-127	10	30
bis(2-Chloroethyl)ether	50	43.3	50	38.76	87	78	48-119	11	30
2-Chloronaphthalene	50	34.15	50	36.02	68	72	41-123	5	30
2-Chlorophenol	50	43.25	50	39.94	87	80	47-116	8	30
4-Chlorophenyl-phenylether	50	36.51	50	38.7	73	77	45-124	6	30

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Quality Control Summary

Client Name: Stantec
Reported: 04/20/2018 12:52

Group Number: 1929349

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
2,2'-oxybis(1-Chloropropane)	50	41.15	50	37.29	82	75	40-117	10	30
Chrysene	50	50.63	50	47.33	101	95	65-124	7	30
Dibenz(a,h)anthracene	50	48.78	50	44.6	98	89	53-132	9	30
Dibenzofuran	50	41.33	50	41.28	83	83	50-124	0	30
1,2-Dichlorobenzene	50	31.28	50	31.35	63	63	31-116	0	30
1,3-Dichlorobenzene	50	29	50	29.83	58	60	24-115	3	30
1,4-Dichlorobenzene	50	30.17	50	30.62	60	61	30-109	1	30
3,3'-Dichlorobenzidine	50	34.14	50	33.81	68	68	32-106	1	30
2,4-Dichlorophenol	50	46.97	50	44.38	94	89	53-126	6	30
Diethylphthalate	50	41.79	50	39.1	84	78	42-124	7	30
2,4-Dimethylphenol	50	42.11	50	38.59	84	77	41-103	9	30
Dimethylphthalate	50	32.02	50	28.07	64	56	19-119	13	30
4,6-Dinitro-2-methylphenol	50	57.12	50	53.7	114	107	50-132	6	30
2,4-Dinitrophenol	100	115.45	100	110.38	115	110	19-140	4	30
2,4-Dinitrotoluene	50	51.29	50	47.55	103	95	56-128	8	30
2,6-Dinitrotoluene	50	49.16	50	47.1	98	94	57-131	4	30
bis(2-Ethylhexyl)phthalate	50	47.6	50	44.94	95	90	52-132	6	30
Fluoranthene	50	50.32	50	45.83	101	92	61-123	9	30
Fluorene	50	41	50	41.2	82	82	48-124	0	30
Hexachlorobenzene	50	46.66	50	43.51	93	87	57-123	7	30
Hexachlorobutadiene	50	26.26	50	31	53	62	16-119	17	30
Hexachlorocyclopentadiene	100	32.51	100	41.06	33	41	10-104	23	30
Hexachloroethane	50	24.66	50	26.5	49	53	19-105	7	30
Indeno(1,2,3-cd)pyrene	50	46.86	50	43.08	94	86	52-127	8	30
Isophorone	50	47.65	50	43.72	95	87	49-129	9	30
2-Methylnaphthalene	50	34.85	50	35.61	70	71	42-120	2	30
2-Methylphenol	50	42.47	50	38.66	85	77	46-113	9	30
4-Methylphenol	50	39.15	50	35.82	78	72	42-115	9	30
Naphthalene	50	36.63	50	36.11	73	72	44-114	1	30
2-Nitroaniline	50	52.46	50	48	105	96	54-133	9	30
3-Nitroaniline	50	46.71	50	45.4	93	91	41-123	3	30
4-Nitroaniline	50	41.19	50	40.57	82	81	46-114	2	30
Nitrobenzene	50	43.74	50	39.81	87	80	43-128	9	30
2-Nitrophenol	50	48.34	50	45.88	97	92	58-125	5	30
4-Nitrophenol	50	26.86	50	24.98	54	50	10-96	7	30
N-Nitroso-di-n-propylamine	50	43.98	50	39.95	88	80	48-128	10	30
N-Nitrosodiphenylamine	50	49.9	50	45.6	100	91	55-128	9	30
Di-n-octylphthalate	50	45.81	50	42.36	92	85	51-134	8	30
Pentachlorophenol	50	49.92	50	46.14	100	92	50-127	8	30
Phenanthrene	50	47.69	50	43.53	95	87	54-122	9	30
Phenol	50	21.51	50	19.79	43	40	10-92	8	30
Pyrene	50	49.16	50	45.19	98	90	54-123	8	30
1,2,4-Trichlorobenzene	50	31.12	50	33.34	62	67	29-120	7	30
2,4,5-Trichlorophenol	50	50.47	50	48.3	101	97	59-129	4	30

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Quality Control Summary

Client Name: Stantec
Reported: 04/20/2018 12:52

Group Number: 1929349

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
2,4,6-Trichlorophenol	50	48.95	50	46.96	98	94	61-130	4	30
	mg/l	**mg/l**	**mg/l**	**mg/l**					
Batch number: 181000184801	Sample number(s): 9548789-9548792,9548797,9548799								
Aluminum	2.00	2.07			104		80-120		
Antimony	0.500	0.532			106		90-117		
Arsenic	0.150	0.144			96		80-120		
Barium	2.00	2.11			105		87-111		
Beryllium	0.0500	0.0517			103		86-110		
Cadmium	0.0500	0.0515			103		90-111		
Calcium	4.00	4.04			101		88-112		
Chromium	0.200	0.203			102		87-110		
Cobalt	0.500	0.522			104		90-111		
Copper	0.250	0.265			106		90-115		
Iron	1.00	0.978			98		80-114		
Lead	0.150	0.161			108		87-113		
Magnesium	2.00	2.04			102		88-114		
Manganese	0.500	0.534			107		90-112		
Nickel	0.500	0.528			106		90-114		
Potassium	10	10.08			101		88-112		
Selenium	0.150	0.148			99		80-120		
Silver	0.0500	0.0528			106		80-120		
Sodium	10	10.02			100		87-112		
Thallium	0.150	0.155			104		80-120		
Vanadium	0.500	0.531			106		89-114		
Zinc	0.500	0.503			101		89-111		
Batch number: 181000184802	Sample number(s): 9548793-9548796,9548798								
Aluminum	2.00	2.23			111		80-120		
Antimony	0.500	0.525			105		90-117		
Arsenic	0.150	0.144			96		80-120		
Barium	2.00	2.13			107		87-111		
Beryllium	0.0500	0.0516			103		86-110		
Cadmium	0.0500	0.0510			102		90-111		
Calcium	4.00	4.16			104		88-112		
Chromium	0.200	0.200			100		87-110		
Cobalt	0.500	0.517			103		90-111		
Copper	0.250	0.261			104		90-115		
Iron	1.00	0.992			99		80-114		
Lead	0.150	0.159			106		87-113		
Magnesium	2.00	2.09			104		88-114		
Manganese	0.500	0.544			109		90-112		
Nickel	0.500	0.524			105		90-114		
Potassium	10	10.28			103		88-112		

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Quality Control Summary

Client Name: Stantec
Reported: 04/20/2018 12:52

Group Number: 1929349

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/l	LCS Conc mg/l	LCSD Spike Added mg/l	LCSD Conc mg/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Selenium	0.150	0.149			100		80-120		
Silver	0.0500	0.0532			106		80-120		
Sodium	10	10.24			102		87-112		
Thallium	0.150	0.154			103		80-120		
Vanadium	0.500	0.524			105		89-114		
Zinc	0.500	0.503			101		89-111		
Batch number: 181010571304	Sample number(s): 9548789-9548792,9548797,9548799								
Mercury	0.00100	0.000922			92		80-114		
Batch number: 181030571304	Sample number(s): 9548793-9548796,9548798								
Mercury	0.00100	0.000908			91		80-114		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: Y181041AA	Sample number(s): 9548789-9548791,9548797,9548799-9548800 UNSPK: 9548789									
Acetone	< 20	150	191.84	150	182.56	128	122	54-157	5	30
Benzene	< 1	20	21.59	20	21.82	108	109	80-120	1	30
Bromodichloromethane	< 1	20	19.06	20	18.97	95	95	71-120	0	30
Bromoform	< 4	20	15.13	20	15.12	76	76	59-120	0	30
Bromomethane	< 1	20	23.2	20	24.33	116	122	58-130	5	30
2-Butanone	< 10	150	148.44	150	147.61	99	98	59-135	1	30
Carbon Disulfide	< 5	20	20.32	20	20.8	102	104	65-128	2	30
Carbon Tetrachloride	< 1	20	22.54	20	22.25	113	111	64-134	1	30
Chlorobenzene	< 1	20	19.78	20	19.48	99	97	80-120	2	30
Chloroethane	< 1	20	22.66	20	22.72	113	114	61-123	0	30
Chloroform	< 1	20	21.77	20	21.28	109	106	80-120	2	30
Chloromethane	< 1	20	20.16	20	20.14	101	101	63-120	0	30
Dibromochloromethane	< 1	20	17.19	20	17.34	86	87	71-120	1	30
1,1-Dichloroethane	< 1	20	21.68	20	21.65	108	108	80-120	0	30
1,2-Dichloroethane	< 1	20	21.84	20	22.02	109	110	73-124	1	30
1,1-Dichloroethene	< 1	20	24.56	20	24.54	123	123	80-131	0	30
cis-1,2-Dichloroethene	< 1	20	21.36	20	20.96	107	105	80-120	2	30
trans-1,2-Dichloroethene	< 1	20	22.47	20	22.15	112	111	80-120	1	30
1,2-Dichloropropane	< 1	20	21.22	20	21.17	106	106	80-120	0	30
cis-1,3-Dichloropropene	< 1	20	16.47	20	17.01	82	85	75-120	3	30
trans-1,3-Dichloropropene	< 1	20	16.43	20	16.99	82	85	76-120	3	30

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Quality Control Summary

Client Name: Stantec
Reported: 04/20/2018 12:52

Group Number: 1929349

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Ethylbenzene	< 1	20	19.72	20	19.85	99	99	80-120	1	30
2-Hexanone	< 10	100	102.03	100	102.71	102	103	50-141	1	30
4-Methyl-2-pentanone	< 10	100	102.03	100	102.3	102	102	62-133	0	30
Methylene Chloride	< 1	20	21.58	20	21.7	108	108	80-120	1	30
Styrene	< 5	20	17.9	20	17.72	90	89	80-120	1	30
1,1,2,2-Tetrachloroethane	< 1	20	17.57	20	17.68	88	88	72-120	1	30
Tetrachloroethene	< 1	20	21.2	20	21.61	106	108	80-120	2	30
Toluene	< 1	20	19.98	20	20.05	100	100	80-120	0	30
1,1,1-Trichloroethane	< 1	20	21.04	20	21.23	105	106	67-126	1	30
1,1,2-Trichloroethane	< 1	20	19.35	20	19.24	97	96	80-120	1	30
Trichloroethene	< 1	20	21.22	20	21.36	106	107	80-120	1	30
Vinyl Chloride	< 1	20	20.54	20	20.48	103	102	68-120	0	30
Xylene (Total)	< 1	60	56.52	60	56.44	94	94	80-120	0	30
	ug/l	**ug/l**	**ug/l**	**ug/l**	**ug/l**					
Batch number: 18101WAR026	Sample number(s): 9548789-9548791,9548797 UNSPK: 9548789									
Acenaphthene	< 0.5	50.2	47	50.61	47.92	94	95	49-123	2	30
Acenaphthylene	< 0.5	50.2	49.17	50.61	49.24	98	97	67-111	0	30
Anthracene	< 0.5	50.2	46.16	50.61	46.77	92	92	55-126	1	30
Benzo(a)anthracene	< 0.5	50.2	42.37	50.61	46.34	84	92	63-124	9	30
Benzo(a)pyrene	< 0.5	50.2	44.11	50.61	46.65	88	92	50-128	6	30
Benzo(b)fluoranthene	< 0.5	50.2	42.77	50.61	45.65	85	90	58-127	7	30
Benzo(g,h,i)perylene	< 0.5	50.2	42.82	50.61	46.13	85	91	51-124	7	30
Benzo(k)fluoranthene	< 0.5	50.2	42.71	50.61	46.29	85	91	63-123	8	30
4-Bromophenyl-phenylether	< 1	50.2	43.57	50.61	45.93	87	91	53-127	5	30
Butylbenzylphthalate	< 5	50.2	43.18	50.61	47.97	86	95	40-131	11	30
Di-n-butylphthalate	< 5	50.2	44.92	50.61	45.46	89	90	58-119	1	30
Carbazole	< 1	50.2	49.76	50.61	50.49	99	100	65-123	1	30
4-Chloro-3-methylphenol	< 1	50.2	18.79	50.61	20.38	37*	40*	50-130	8	30
4-Chloroaniline	< 4	50.2	32.9	50.61	33.78	66	67	33-106	3	30
bis(2-Chloroethoxy)methane	< 1	50.2	45.13	50.61	46.14	90	91	54-127	2	30
bis(2-Chloroethyl)ether	< 1	50.2	43.42	50.61	43.2	86	85	48-119	1	30
2-Chloronaphthalene	< 1	50.2	41.45	50.61	43.5	83	86	41-123	5	30
2-Chlorophenol	< 1	50.2	19.64	50.61	17.6	39*	35*	47-116	11	30
4-Chlorophenyl-phenylether	< 1	50.2	40.63	50.61	42.75	81	84	45-124	5	30
2,2'-oxybis(1-Chloropropane)	< 1	50.2	42.66	50.61	42.96	85	85	40-117	1	30
Chrysene	< 0.5	50.2	43.25	50.61	46.8	86	92	65-124	8	30
Dibenz(a,h)anthracene	< 0.5	50.2	45.55	50.61	47.86	91	95	53-132	5	30
Dibenzofuran	< 1	50.2	45.32	50.61	46.33	90	92	50-124	2	30
1,2-Dichlorobenzene	< 1	50.2	40.06	50.61	36.99	80	73	31-116	8	30
1,3-Dichlorobenzene	< 1	50.2	39.11	50.61	34.38	78	68	24-115	13	30
1,4-Dichlorobenzene	< 1	50.2	37.43	50.61	34.13	75	67	30-109	9	30
3,3'-Dichlorobenzidine	< 5	50.2	23.05	50.61	25.98	46	51	32-106	12	30

*- Outside of specification
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(2) The unspiked result was more than four times the spike added.
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Quality Control Summary

Client Name: Stantec
Reported: 04/20/2018 12:52

Group Number: 1929349

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
2,4-Dichlorophenol	< 1	50.2	20.33	50.61	20.12	40*	40*	53-126	1	30
Diethylphthalate	< 5	50.2	43.31	50.61	43.22	86	85	42-124	0	30
2,4-Dimethylphenol	< 1	50.2	28.01	50.61	30.32	56	60	41-103	8	30
Dimethylphthalate	< 5	50.2	40.69	50.61	42.72	81	84	19-119	5	30
4,6-Dinitro-2-methylphenol	< 15	50.2	43.35	50.61	47.1	86	93	50-132	8	30
2,4-Dinitrophenol	< 30	100.4	63.5	101.21	77.22	63	76	19-140	19	30
2,4-Dinitrotoluene	< 5	50.2	44.21	50.61	46.47	88	92	56-128	5	30
2,6-Dinitrotoluene	< 1	50.2	44.52	50.61	46.05	89	91	57-131	3	30
bis(2-Ethylhexyl)phthalate	< 5	50.2	40.4	50.61	43.37	80	86	52-132	7	30
Fluoranthene	< 0.5	50.2	44.08	50.61	46.35	88	92	61-123	5	30
Fluorene	< 0.5	50.2	44.51	50.61	46.25	89	91	48-124	4	30
Hexachlorobenzene	< 0.5	50.2	45.22	50.61	46.06	90	91	57-123	2	30
Hexachlorobutadiene	< 1	50.2	37.22	50.61	31.88	74	63	16-119	15	30
Hexachlorocyclopentadiene	< 15	100.4	87.39	101.21	79.4	87	78	10-104	10	30
Hexachloroethane	< 5	50.2	36.83	50.61	31.48	73	62	19-105	16	30
Indeno(1,2,3-cd)pyrene	< 0.5	50.2	42.14	50.61	46.52	84	92	52-127	10	30
Isophorone	< 1	50.2	48.49	50.61	50.08	97	99	49-129	3	30
2-Methylnaphthalene	< 0.5	50.2	42.22	50.61	42.27	84	84	42-120	0	30
2-Methylphenol	< 1	50.2	16.41	50.61	16.99	33*	34*	46-113	3	30
4-Methylphenol	< 1	50.2	13.26	50.61	13.26	26*	26*	42-115	0	30
Naphthalene	< 0.5	50.2	42.56	50.61	41.96	85	83	44-114	1	30
2-Nitroaniline	< 1	50.2	47.92	50.61	49.26	95	97	54-133	3	30
3-Nitroaniline	< 1	50.2	39.24	50.61	39.13	78	77	41-123	0	30
4-Nitroaniline	< 1	50.2	38.9	50.61	40.7	77	80	46-114	5	30
Nitrobenzene	< 1	50.2	42.2	50.61	42.85	84	85	43-128	2	30
2-Nitrophenol	< 1	50.2	43.28	50.61	43.68	86	86	58-125	1	30
4-Nitrophenol	< 30	50.2	31.52	50.61	32.05	63	63	10-96	2	30
N-Nitroso-di-n-propylamine	< 1	50.2	47.17	50.61	47.24	94	93	48-128	0	30
N-Nitrosodiphenylamine	< 1	50.2	46.7	50.61	48.13	93	95	55-128	3	30
Di-n-octylphthalate	< 5	50.2	41.79	50.61	44.79	83	89	51-134	7	30
Pentachlorophenol	< 5	50.2	33.92	50.61	38.5	68	76	50-127	13	30
Phenanthrene	< 0.5	50.2	45.41	50.61	48.2	90	95	54-122	6	30
Phenol	< 1	50.2	7.62	50.61	6.42	15	13	10-92	17	30
Pyrene	< 0.5	50.2	44.94	50.61	46.89	90	93	54-123	4	30
1,2,4-Trichlorobenzene	< 1	50.2	40.98	50.61	37.68	82	74	29-120	8	30
2,4,5-Trichlorophenol	< 1	50.2	33.98	50.61	36.22	68	72	59-129	6	30
2,4,6-Trichlorophenol	< 1	50.2	28.85	50.61	31.31	57*	62	61-130	8	30
	mg/l	**mg/l**	**mg/l**	**mg/l**	**mg/l**					
Batch number: 181000184801	Sample number(s): 9548789-9548792,9548797,9548799 UNSPK: 9548789									
Aluminum	0.893	2.00	2.92	2.00	2.79	101	95	75-125	4	20
Antimony	< 0.0200	0.500	0.530	0.500	0.534	106	107	75-125	1	20
Arsenic	< 0.0200	0.150	0.148	0.150	0.145	99	97	75-125	2	20

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Stantec
Reported: 04/20/2018 12:52

Group Number: 1929349

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/l	MS Spike Added mg/l	MS Conc mg/l	MSD Spike Added mg/l	MSD Conc mg/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Barium	0.289	2.00	2.36	2.00	2.30	104	101	75-125	3	20
Beryllium	< 0.0050	0.0500	0.0525	0.0500	0.0513	105	103	82-112	2	20
Cadmium	< 0.0050	0.0500	0.0498	0.0500	0.0500	100	100	75-125	0	20
Calcium	51.1	4.00	61.14	4.00	58.56	251 (2)	187 (2)	75-125	4	20
Chromium	0.00354	0.200	0.202	0.200	0.197	99	97	75-125	2	20
Cobalt	0.00567	0.500	0.505	0.500	0.509	100	101	80-118	1	20
Copper	0.0109	0.250	0.268	0.250	0.262	103	100	75-125	2	20
Iron	15.97	1.00	18.84	1.00	18.89	287 (2)	292 (2)	75-125	0	20
Lead	0.00606	0.150	0.148	0.150	0.149	95	95	75-125	0	20
Magnesium	16.46	2.00	19.29	2.00	18.84	142 (2)	119 (2)	75-125	2	20
Manganese	1.70	0.500	2.07	0.500	2.08	74*	76	75-125	1	20
Nickel	< 0.0100	0.500	0.506	0.500	0.506	101	101	75-125	0	20
Potassium	4.65	10	15.48	10	15.14	108	105	75-125	2	20
Selenium	< 0.0200	0.150	0.149	0.150	0.145	99	97	75-125	2	20
Silver	< 0.0050	0.0500	0.0531	0.0500	0.0518	106	104	75-125	2	20
Sodium	94.79	10	138.42	10	131.23	436 (2)	364 (2)	75-125	5	20
Thallium	< 0.0300	0.150	0.149	0.150	0.149	99	100	75-125	0	20
Vanadium	0.00540	0.500	0.540	0.500	0.529	107	105	75-125	2	20
Zinc	0.0327	0.500	0.504	0.500	0.505	94	94	75-125	0	20
Batch number: 181000184802	Sample number(s): 9548793-9548796,9548798 UNSPK: 9548793									
Aluminum	< 0.200	2.00	2.17	2.00	2.25	108	113	75-125	4	20
Antimony	< 0.0200	0.500	0.547	0.500	0.541	109	108	75-125	1	20
Arsenic	< 0.0200	0.150	0.151	0.150	0.152	101	101	75-125	0	20
Barium	0.246	2.00	2.32	2.00	2.28	104	102	75-125	2	20
Beryllium	< 0.0050	0.0500	0.0520	0.0500	0.0513	104	103	82-112	1	20
Cadmium	< 0.0050	0.0500	0.0521	0.0500	0.0517	104	103	75-125	1	20
Calcium	49.71	4.00	54.23	4.00	53.85	113 (2)	104 (2)	75-125	1	20
Chromium	< 0.0150	0.200	0.208	0.200	0.207	104	104	75-125	0	20
Cobalt	0.00325	0.500	0.528	0.500	0.522	105	104	80-118	1	20
Copper	0.00475	0.250	0.274	0.250	0.271	108	107	75-125	1	20
Iron	15.29	1.00	16.6	1.00	16.71	132 (2)	142 (2)	75-125	1	20
Lead	< 0.0150	0.150	0.151	0.150	0.147	101	98	75-125	3	20
Magnesium	15.88	2.00	18.07	2.00	18.01	109 (2)	107 (2)	75-125	0	20
Manganese	1.68	0.500	2.19	0.500	2.14	101	93	75-125	2	20
Nickel	< 0.0100	0.500	0.531	0.500	0.525	106	105	75-125	1	20
Potassium	4.52	10	15.36	10	15.38	108	109	75-125	0	20
Selenium	< 0.0200	0.150	0.152	0.150	0.154	102	102	75-125	1	20
Silver	< 0.0050	0.0500	0.0541	0.0500	0.0518	108	104	75-125	4	20
Sodium	94.56	10	105.97	10	106.59	114 (2)	120 (2)	75-125	1	20
Thallium	< 0.0300	0.150	0.149	0.150	0.149	99	99	75-125	0	20
Vanadium	< 0.0050	0.500	0.528	0.500	0.521	106	104	75-125	1	20
Zinc	0.0132	0.500	0.526	0.500	0.521	103	101	75-125	1	20

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Quality Control Summary

Client Name: Stantec
Reported: 04/20/2018 12:52

Group Number: 1929349

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/l	MS Spike Added mg/l	MS Conc mg/l	MSD Spike Added mg/l	MSD Conc mg/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 181010571304	Sample number(s): 9548789-9548792,9548797,9548799 UNSPK: 9548789									
Mercury	< 0.00020	0.00100	0.000943	0.00100	0.000930	94	93	80-120	1	20
Batch number: 181030571304	Sample number(s): 9548793-9548796,9548798 UNSPK: 9548793									
Mercury	< 0.00020	0.00100	0.000848	0.00100	0.000935	85	93	80-120	10	20

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/l	DUP Conc mg/l	DUP RPD	DUP RPD Max
Batch number: 181000184801	Sample number(s): 9548789-9548792,9548797,9548799 BKG: 9548789			
Aluminum	0.893	0.927	4 (1)	20
Antimony	< 0.0200	< 0.0200	0 (1)	20
Arsenic	< 0.0200	< 0.0200	0 (1)	20
Barium	0.289	0.296	2	20
Beryllium	< 0.0050	< 0.0050	0 (1)	20
Cadmium	< 0.0050	< 0.0050	0 (1)	20
Calcium	51.1	53.26	4	20
Chromium	0.00354	0.00380	7 (1)	20
Cobalt	0.00567	0.00599	5 (1)	20
Copper	0.0109	0.00912	18 (1)	20
Iron	15.97	16.42	3	20
Lead	0.00606	< 0.0150	200* (1)	20
Magnesium	16.46	17.17	4	20
Manganese	1.70	1.75	3	20
Nickel	< 0.0100	0.00413	200* (1)	20
Potassium	4.65	4.76	2	20
Selenium	< 0.0200	< 0.0200	0 (1)	20
Silver	< 0.0050	< 0.0050	0 (1)	20
Sodium	94.79	99.18	5	20
Thallium	< 0.0300	< 0.0300	0 (1)	20
Vanadium	0.00540	0.00475	13 (1)	20
Zinc	0.0327	0.0324	1 (1)	20
Batch number: 181000184802	Sample number(s): 9548793-9548796,9548798 BKG: 9548793			
Aluminum	< 0.200	< 0.200	0 (1)	20
Antimony	< 0.0200	< 0.0200	0 (1)	20
Arsenic	< 0.0200	< 0.0200	0 (1)	20

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Quality Control Summary

Client Name: Stantec
Reported: 04/20/2018 12:52

Group Number: 1929349

Laboratory Duplicate (continued)

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/l	DUP Conc mg/l	DUP RPD	DUP RPD Max
Barium	0.246	0.243	1	20
Beryllium	< 0.0050	< 0.0050	0 (1)	20
Cadmium	< 0.0050	< 0.0050	0 (1)	20
Calcium	49.71	51.4	3	20
Chromium	< 0.0150	< 0.0150	0 (1)	20
Cobalt	0.00325	0.00353	8 (1)	20
Copper	0.00475	< 0.0100	200* (1)	20
Iron	15.29	15.6	2	20
Lead	< 0.0150	< 0.0150	0 (1)	20
Magnesium	15.88	16.32	3	20
Manganese	1.68	1.66	1	20
Nickel	< 0.0100	< 0.0100	0 (1)	20
Potassium	4.52	4.70	4	20
Selenium	< 0.0200	< 0.0200	0 (1)	20
Silver	< 0.0050	< 0.0050	0 (1)	20
Sodium	94.56	96.57	2	20
Thallium	< 0.0300	< 0.0300	0 (1)	20
Vanadium	< 0.0050	< 0.0050	0 (1)	20
Zinc	0.0132	0.0140	6 (1)	20
Batch number: 181010571304	Sample number(s): 9548789-9548792,9548797,9548799 BKG: 9548789			
Mercury	< 0.00020	< 0.00020	0 (1)	20
Batch number: 181030571304	Sample number(s): 9548793-9548796,9548798 BKG: 9548793			
Mercury	< 0.00020	< 0.00020	0 (1)	20

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: VOCs- 5ml Water by 8260B
Batch number: Y181041AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9548789	106	102	95	88
9548790	102	98	97	97
9548791	100	97	97	97
9548797	104	101	96	91
9548799	104	104	96	89
9548800	105	102	95	89
Blank	103	102	95	89
LCS	101	99	97	98

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Quality Control Summary

Client Name: Stantec
Reported: 04/20/2018 12:52

Group Number: 1929349

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: VOCs- 5ml Water by 8260B
Batch number: Y181041AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
MS	102	98	97	97
MSD	100	97	97	97
Limits:	80-120	80-120	80-120	80-120

Analysis Name: TCL SW846 8270C MINI
Batch number: 18101WAR026

	2-Fluorophenol	Phenol-d6	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
9548789	0*	0*	0*	0*	0*	0*
9548790	0*	0*	0*	0*	0*	0*
9548791	0*	0*	0*	0*	0*	0*
9548797	0*	0*	0*	0*	0*	0*
Blank	50	39	83	78	80	94
LCS	0*	0*	0*	0*	0*	0*
MS	0*	0*	0*	0*	0*	0*
MSD	0*	0*	0*	0*	0*	0*
Limits:	10-82	10-71	21-134	30-111	39-105	27-116

Analysis Name: TCL SW846 8270C MINI
Batch number: 18106WAE026

	2-Fluorophenol	Phenol-d6	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
9548799	44	31	91	78	77	86
Blank	46	34	94	79	73	95
LCS	57	43	95	82	78	92
LCSD	53	39	94	76	74	88
Limits:	10-82	10-71	21-134	30-111	39-105	27-116

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Environmental Analysis Request/Chain of Custody

eurofins

Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 11289 Group # 1929349 Sample # 9548789-800

COC # 548425

Client Information

Client: Stantec

Acct. #:

Project Name/#: Amtrak Wilmington (213402048)

PWSID #:

Project Manager: Paul Miller

P.O. #:

Sampler: Dane Hopkins

Quote #:

State where samples were collected: Delaware

For Compliance: Yes ☐ No ☐

For Lab Use Only

FSC:

SCR#:

Sample Identification	Collected Date	Collected Time	Grab	Composite	Soil	Sediment	Tissue	Potable	Ground	Surface	Water	NPDES	Other: biantics	Total # of Containers	VOCs	SVOCs	Total TAL Metals	Filtered TAL Metals							Remarks
NY-MW-55	4/6/18	1400	X						X		X			7	X	X	X	X							
NY-MW-55MS	↓	1400	X						X		X			7	X	X	X	X							
NY-MW-55MSD	↓	1400	X						X		X			7	X	X	X	X							
NY-MW-55DUP	↓	1400	X						X		X			7	X	X	X	X							
FB-20180406	↓	1600	X										FB	6	X	X	X	[illegible]							
TRIP BLANK	4/2/18	—											TB	2	X										

Preservation Codes	
H=HCl	T=Thiosulfate
N=HNO_3	B=NaOH
S=H_2SO_4	O=Other

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: _____

E-mail address: Paul.Miller@stantec.com

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)

Type III (Reduced non-CLP) NJ DKQP TX TRRP-13

NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
Dane [signature]	4/4/18	1300	[signature]	4.9.18	1300
[signature]	4.9.18	1423			
			[signature]	4/9/18	1423

EDD Required? Yes No

If yes, format: _____

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: ✓

UPS _____ FedEx _____ Other _____

Temperature upon receipt 0.6 °C

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Sample Administration Receipt Documentation Log

Doc Log ID: 213202

Group Number(s): 1929349

Client: Stantec

Amtrack Wilmington (213402048)

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Timestamp:	04/09/2018 14:23
Number of Packages:	1	Number of Projects:	1
State/Province of Origin:	DE		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	Yes	VOA Vial Headspace ≥ 6mm:	No
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	2
Samples Intact:	No	Trip Blank Type:	HCl
Missing Samples:	No	Air Quality Samples Present:	No
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Nicole Reiff (25684) at 16:08 on 04/09/2018

Samples Chilled Details: Amtrack Wilmington (213402048)

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT146	0.6	DT	Wet	Y	Bagged	N

Samples Not Intact Details: Amtrack Wilmington (213402048)

Sample ID on Label	Bottle Code	Bottle Quantity	Container Salvageable?	Comments
NY-MW-55MSD	250 ml round amber glass - None	1	N	
NY-MW-55 Dup	40 ml glass vial (GC/MS) - HCl	1	N	

2425 New Holland Pike
Lancaster, PA 17601-5994
T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	non-detect
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Volatiles by GC/MS Data

Case Narrative/Conformance Summary

Volatiles by GC/MS

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Case Narrative/Conformance Summary

CLIENT: Stantec
SDG: ATH81

GC/MS Volatiles

Fraction: Volatiles by GC/MS

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
9548789	NY-MW-55	X		1	Unspiked
9548790	NY-MW-55MS	X		1	Matrix Spike
9548791	NY-MW-55MSD	X		1	Matrix Spike Duplicate
9548797	NY-MW-55DUP	X		1	Field Duplicate Sample
9548799	EB-20180406	X		1	Equipment Blank
9548800	Trip Blank	X		1	Trip Blank

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

All QC is within specification.

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
+MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E= out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

Quality Control and Calibration Summary Forms

Volatiles by GC/MS

Lancaster Laboratories Environmental

Quality Control Reference List
GC/MS Volatiles

CLIENT: Stantec
SDG: ATH81

Fraction: Volatiles by GC/MS

Analysis	Batch Number	Sample Number	Analysis Date
VOCs- 5ml Water by 8260B	Y181041AA	VBLKY80	04/14/2018 09:17:00
		LCSY80	04/14/2018 09:40:00
		9548789 UNSPK, MS	04/14/2018 12:47:00
		9548790 MS	04/14/2018 13:09:00
		9548791 MSD	04/14/2018 13:31:00
		9548797	04/14/2018 13:53:00
		9548799	04/14/2018 10:55:00
		9548800	04/14/2018 11:17:00

Lancaster Laboratories Environmental

Quality Control Summary
Method Blank
GC/MS Volatiles
SDG: ATH81
Matrix: LIQUID

Fraction: Volatiles by GC/MS

Y181041AA / VBLKY80 **Analyte**	**Analysis Date**	**Blank Results**	**Units**	**MDL**	**LOQ**
Chloromethane	04/14/18	N.D.	ug/l	0.5	1
Vinyl Chloride	04/14/18	N.D.	ug/l	0.5	1
Bromomethane	04/14/18	N.D.	ug/l	0.5	1
Chloroethane	04/14/18	N.D.	ug/l	0.5	1
1,1-Dichloroethene	04/14/18	N.D.	ug/l	0.5	1
Acetone	04/14/18	N.D.	ug/l	6	20
Carbon Disulfide	04/14/18	N.D.	ug/l	1	5
Methylene Chloride	04/14/18	N.D.	ug/l	0.5	1
trans-1,2-Dichloroethene	04/14/18	N.D.	ug/l	0.5	1
1,1-Dichloroethane	04/14/18	N.D.	ug/l	0.5	1
2-Butanone	04/14/18	N.D.	ug/l	3	10
cis-1,2-Dichloroethene	04/14/18	N.D.	ug/l	0.5	1
Chloroform	04/14/18	N.D.	ug/l	0.5	1
1,1,1-Trichloroethane	04/14/18	N.D.	ug/l	0.5	1
Carbon Tetrachloride	04/14/18	N.D.	ug/l	0.5	1
Benzene	04/14/18	N.D.	ug/l	0.5	1
1,2-Dichloroethane	04/14/18	N.D.	ug/l	0.5	1
Trichloroethene	04/14/18	N.D.	ug/l	0.5	1
1,2-Dichloropropane	04/14/18	N.D.	ug/l	0.5	1
Bromodichloromethane	04/14/18	N.D.	ug/l	0.5	1
cis-1,3-Dichloropropene	04/14/18	N.D.	ug/l	0.5	1
4-Methyl-2-pentanone	04/14/18	N.D.	ug/l	3	10
Toluene	04/14/18	N.D.	ug/l	0.5	1
trans-1,3-Dichloropropene	04/14/18	N.D.	ug/l	0.5	1
1,1,2-Trichloroethane	04/14/18	N.D.	ug/l	0.5	1
Tetrachloroethene	04/14/18	N.D.	ug/l	0.5	1
2-Hexanone	04/14/18	N.D.	ug/l	3	10
Dibromochloromethane	04/14/18	N.D.	ug/l	0.5	1
Chlorobenzene	04/14/18	N.D.	ug/l	0.5	1
Ethylbenzene	04/14/18	N.D.	ug/l	0.5	1
Xylene (Total)	04/14/18	N.D.	ug/l	0.5	1
Styrene	04/14/18	N.D.	ug/l	1	5
Bromoform	04/14/18	N.D.	ug/l	0.5	4
1,1,2,2-Tetrachloroethane	04/14/18	N.D.	ug/l	0.5	1

Lancaster Laboratories Environmental

Quality Control Summary
Surrogates
GC/MS Volatiles
SDG: ATH81
Matrix: LIQUID

Fraction: Volatiles by GC/MS

Y181041AA	1,2-Dichloroethane-d4		4-Bromofluorobenzene		Dibromofluoromethane		Toluene-d8	
	Spike Added	50 ug/l	Spike Added	50 ug/l	Spike Added	50 ug/l	Spike Added	50 ug/l
Sample	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
VBLKY80	102	80 - 120	89	80 - 120	103	80 - 120	95	80 - 120
LCSY80	99	80 - 120	98	80 - 120	101	80 - 120	97	80 - 120
9548789 UNSPK	102	80 - 120	88	80 - 120	106	80 - 120	95	80 - 120
9548790 MS	98	80 - 120	97	80 - 120	102	80 - 120	97	80 - 120
9548791 MSD	97	80 - 120	97	80 - 120	100	80 - 120	97	80 - 120
9548797	101	80 - 120	91	80 - 120	104	80 - 120	96	80 - 120
9548799	104	80 - 120	89	80 - 120	104	80 - 120	96	80 - 120
9548800	102	80 - 120	89	80 - 120	105	80 - 120	95	80 - 120

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Quality Control Summary
Matrix Spike/Matrix Spike Duplicate

SDG: ATH81
Matrix: LIQUID

GC/MS Volatiles
Fraction: Volatiles by GC/MS

UNSPK: 9548789 MS: 9548790 MSD: 9548791 **Analyte**	Batch: **Y181041AA** (Sample number(s): 9548789-9548791, 9548797, 9548799-9548800)								
	Spike Added ug/l	**Unspiked Conc ug/l**	**MS Conc ug/l**	**MSD Conc ug/l**	**MS %Rec**	**MSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Chloromethane	20	N.D.	20.16	20.14	101	101	63-120	0	30
Vinyl Chloride	20	N.D.	20.54	20.48	103	102	68-120	0	30
Bromomethane	20	N.D.	23.2	24.33	116	122	58-130	5	30
Chloroethane	20	N.D.	22.66	22.72	113	114	61-123	0	30
1,1-Dichloroethene	20	N.D.	24.56	24.54	123	123	80-131	0	30
Acetone	150	N.D.	191.84	182.56	128	122	54-157	5	30
Carbon Disulfide	20	N.D.	20.32	20.8	102	104	65-128	2	30
Methylene Chloride	20	N.D.	21.58	21.7	108	108	80-120	1	30
trans-1,2-Dichloroethene	20	N.D.	22.47	22.15	112	111	80-120	1	30
1,1-Dichloroethane	20	N.D.	21.68	21.65	108	108	80-120	0	30
2-Butanone	150	N.D.	148.44	147.61	99	98	59-135	1	30
cis-1,2-Dichloroethene	20	N.D.	21.36	20.96	107	105	80-120	2	30
Chloroform	20	N.D.	21.77	21.28	109	106	80-120	2	30
1,1,1-Trichloroethane	20	N.D.	21.04	21.23	105	106	67-126	1	30
Carbon Tetrachloride	20	N.D.	22.54	22.25	113	111	64-134	1	30
Benzene	20	N.D.	21.59	21.82	108	109	80-120	1	30
1,2-Dichloroethane	20	N.D.	21.84	22.02	109	110	73-124	1	30
Trichloroethene	20	N.D.	21.22	21.36	106	107	80-120	1	30
1,2-Dichloropropane	20	N.D.	21.22	21.17	106	106	80-120	0	30
Bromodichloromethane	20	N.D.	19.06	18.97	95	95	71-120	0	30
cis-1,3-Dichloropropene	20	N.D.	16.47	17.01	82	85	75-120	3	30
4-Methyl-2-pentanone	100	N.D.	102.03	102.3	102	102	62-133	0	30
Toluene	20	N.D.	19.98	20.05	100	100	80-120	0	30
trans-1,3-Dichloropropene	20	N.D.	16.43	16.99	82	85	76-120	3	30
1,1,2-Trichloroethane	20	N.D.	19.35	19.24	97	96	80-120	1	30
Tetrachloroethene	20	N.D.	21.2	21.61	106	108	80-120	2	30
2-Hexanone	100	N.D.	102.03	102.71	102	103	50-141	1	30
Dibromochloromethane	20	N.D.	17.19	17.34	86	87	71-120	1	30
Chlorobenzene	20	N.D.	19.78	19.48	99	97	80-120	2	30
Ethylbenzene	20	N.D.	19.72	19.85	99	99	80-120	1	30
Xylene (Total)	60	N.D.	56.52	56.44	94	94	80-120	0	30
Styrene	20	N.D.	17.9	17.72	90	89	80-120	1	30
Bromoform	20	N.D.	15.13	15.12	76	76	59-120	0	30
1,1,2,2-Tetrachloroethane	20	N.D.	17.57	17.68	88	88	72-120	1	30

Comments:
(2) The unspiked sample result is greater than four times the spike added.
* = Out of Specification

Results are being reported on an as received basis.

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Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate(LCSD)

SDG: ATH81
Matrix: LIQUID

GC/MS Volatiles
Fraction: Volatiles by GC/MS

LCS: LCSY80	Batch: **Y181041AA** (Sample number(s): 9548789-9548791, 9548797, 9548799-9548800)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Chloromethane	20	20.22	NA	101	NA	63-120	NA	NA
Vinyl Chloride	20	18.92	NA	95	NA	68-120	NA	NA
Bromomethane	20	22.05	NA	110	NA	58-130	NA	NA
Chloroethane	20	20.62	NA	103	NA	61-123	NA	NA
1,1-Dichloroethene	20	22.41	NA	112	NA	80-131	NA	NA
Acetone	150	181.54	NA	121	NA	54-157	NA	NA
Carbon Disulfide	20	19.11	NA	96	NA	65-128	NA	NA
Methylene Chloride	20	20.97	NA	105	NA	80-120	NA	NA
trans-1,2-Dichloroethene	20	20.8	NA	104	NA	80-120	NA	NA
1,1-Dichloroethane	20	20.19	NA	101	NA	80-120	NA	NA
2-Butanone	150	149.69	NA	100	NA	59-135	NA	NA
cis-1,2-Dichloroethene	20	19.94	NA	100	NA	80-120	NA	NA
Chloroform	20	20.37	NA	102	NA	80-120	NA	NA
1,1,1-Trichloroethane	20	19.53	NA	98	NA	67-126	NA	NA
Carbon Tetrachloride	20	20.28	NA	101	NA	64-134	NA	NA
Benzene	20	19.98	NA	100	NA	80-120	NA	NA
1,2-Dichloroethane	20	21.11	NA	106	NA	73-124	NA	NA
Trichloroethene	20	19.39	NA	97	NA	80-120	NA	NA
1,2-Dichloropropane	20	19.99	NA	100	NA	80-120	NA	NA
Bromodichloromethane	20	18.09	NA	90	NA	71-120	NA	NA
cis-1,3-Dichloropropene	20	16.99	NA	85	NA	75-120	NA	NA
4-Methyl-2-pentanone	100	102.61	NA	103	NA	62-133	NA	NA
Toluene	20	18.36	NA	92	NA	80-120	NA	NA
trans-1,3-Dichloropropene	20	16.36	NA	82	NA	76-120	NA	NA
1,1,2-Trichloroethane	20	18.8	NA	94	NA	80-120	NA	NA
Tetrachloroethene	20	19.63	NA	98	NA	80-120	NA	NA
2-Hexanone	100	101.3	NA	101	NA	50-141	NA	NA
Dibromochloromethane	20	16.56	NA	83	NA	71-120	NA	NA
Chlorobenzene	20	18.13	NA	91	NA	80-120	NA	NA
Ethylbenzene	20	18.24	NA	91	NA	80-120	NA	NA
Xylene (Total)	60	52.34	NA	87	NA	80-120	NA	NA
Styrene	20	16.75	NA	84	NA	80-120	NA	NA
Bromoform	20	14.89	NA	74	NA	59-120	NA	NA
1,1,2,2-Tetrachloroethane	20	18.15	NA	91	NA	72-120	NA	NA

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: yj15t02.d BFB Injection Date: 01/15/18

Instrument ID: HP09355 BFB Injection Time: 12:11

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.72
75	30.0 - 60.0% of mass 95	46.33
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.65
173	Less than 2.0% of mass 174	0.17 (0.21)1
174	Greater than 50.0% of mass 95	81.66
175	5.0 - 9.0% of mass 174	5.97 (7.31)1
176	Greater than 95.0%, but less than 101.0% of mass 174	78.95 (96.68)1
177	5.0 - 9.0% of mass 176	5.04 (6.38)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD300	yj15i01.d	01/15/18	12:54
02	VSTD100	yj15i02.d	01/15/18	13:16
03	VSTD50	yj15i03.d	01/15/18	13:39
04	VSTD10	yj15i05.d	01/15/18	14:25
05	VSTD4	yj15i06.d	01/15/18	14:47
06	VSTD1	yj15i07.d	01/15/18	15:09
07	VSTD20	yj15i08.d	01/15/18	15:31
08	MDL0.5 - MDL0.5	yj15m01.d	01/15/18	15:53
09	YLGICV	yj15v01.d	01/15/18	16:38

FORM V VOA

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: yj16t01.d BFB Injection Date: 01/16/18

Instrument ID: HP09355 BFB Injection Time: 17:32

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.33
75	30.0 - 60.0% of mass 95	46.17
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.64
173	Less than 2.0% of mass 174	0.15 (0.17)1
174	Greater than 50.0% of mass 95	85.74
175	5.0 - 9.0% of mass 174	6.20 (7.23)1
176	Greater than 95.0%, but less than 101.0% of mass 174	83.29 (97.14)1
177	5.0 - 9.0% of mass 176	5.28 (6.34)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD50	yj16c01.d	01/16/18	18:13
02	LCSY03	yj16s01.d	01/16/18	18:35

page 1 of 1

FORM V VOA

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_ATH81___

Lab File ID: ya14t01.d BFB Injection Date: 04/14/18

Instrument ID: HP09355 BFB Injection Time: 07:50

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.48
75	30.0 - 60.0% of mass 95	51.05
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.69
173	Less than 2.0% of mass 174	0.16 (0.18)1
174	Greater than 50.0% of mass 95	89.37
175	5.0 - 9.0% of mass 174	6.59 (7.38)1
176	Greater than 95.0%, but less than 101.0% of mass 174	85.23 (95.38)1
177	5.0 - 9.0% of mass 176	5.63 (6.60)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD150	ya14c01.d	04/14/18	08:33
02	VSTD150	ya14c02.d	04/14/18	08:55
03	VBLKY80	ya14b01.d	04/14/18	09:17
04	LCSY80	ya14s01.d	04/14/18	09:40
05	LCSY81	ya14s02.d	04/14/18	10:02
06	LCDY81	ya14s03.d	04/14/18	10:25
07	9548799	ya14s04.d	04/14/18	10:55
08	9548800	ya14s05.d	04/14/18	11:17
09	9546451	ya14s06.d	04/14/18	11:40
10	9546453	ya14s07.d	04/14/18	12:02
11	9546173	ya14s08.d	04/14/18	12:24
12	9548789	ya14s09.d	04/14/18	12:47
13	9548790MS	ya14s10.d	04/14/18	13:09
14	9548791MSD	ya14s11.d	04/14/18	13:31
15	9548797	ya14s12.d	04/14/18	13:53
16	9546447	ya14s13.d	04/14/18	14:15
17	9546449	ya14s14.d	04/14/18	14:38
18	9546169	ya14s15.d	04/14/18	15:00
19	9546170	ya14s16.d	04/14/18	15:22
20	9546171	ya14s17.d	04/14/18	15:44
21	9546167	ya14s18.d	04/14/18	16:06
22	9546167DL	ya14s19.d	04/14/18	16:29

FORM V VOA

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_ATH81___

Lab File ID: ya14t01.d BFB Injection Date: 04/14/18

Instrument ID: HP09355 BFB Injection Time: 07:50

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.48
75	30.0 - 60.0% of mass 95	51.05
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.69
173	Less than 2.0% of mass 174	0.16 (0.18)1
174	Greater than 50.0% of mass 95	89.37
175	5.0 - 9.0% of mass 174	6.59 (7.38)1
176	Greater than 95.0%, but less than 101.0% of mass 174	85.23 (95.38)1
177	5.0 - 9.0% of mass 176	5.63 (6.60)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	9546168	ya14s20.d	04/14/18	16:51
24	9546168DL	ya14s21.d	04/14/18	17:13
25	9546172	ya14s22.d	04/14/18	17:35
26	9546172DL	ya14s23.d	04/14/18	17:57
27	9546521	ya14s24.d	04/14/18	18:19
28	9546522	ya14s25.d	04/14/18	18:42
29	9546523	ya14s26.d	04/14/18	19:04
30	9546526	ya14s27.d	04/14/18	19:26

FORM V VOA

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09355 Calibration Date(s): 01/15/18 01/15/18

Heated Purge: (Y/N) Y Calibration Times: 12:54 15:31

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: Rxi-624Sil .25

LAB FILE ID: RRF 1 = yj15i07.d RRF 4 = yj15i06.d RRF 10= yj15i05.d
RRF 20= yj15i08.d RRF 50= yj15i03.d RRF100= yj15i02.d RRF300= yj15i01.d

COMPOUND	RRF 1	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	___ RRF	% RSD	CAL. METHOD
Dichlorodifluoromethane	0.2624	0.3675	0.3466	0.3666	0.3770	0.3539	0.3108	0.3407	12	AVG
Chloromethane	#0.3570	0.3814	0.3549	0.3776	0.3565	0.3537	0.3039	0.3550	7	AVG #
1,3-Butadiene	0.1898	0.2069	0.1742	0.1958	0.1836	0.1796	0.1600	0.1843	8	AVG
Vinyl Chloride	*0.3862	0.3984	0.3560	0.3814	0.3597	0.3515	0.3038	0.3624	9	AVG *
Bromomethane	0.2709	0.2609	0.2484	0.2570	0.2431	0.2373	0.2009	0.2455	9	AVG
Chloroethane	0.2073	0.2227	0.2044	0.2129	0.2004	0.1936	0.1657	0.2010	9	AVG
Dichlorofluoromethane	0.5094	0.5225	0.4386	0.4597	0.4376	0.4151	0.3914	0.4535	11	AVG
n-Pentane	0.4303	0.3475	0.2942	0.3396	0.3404	0.3318	0.3016	0.3408	13	AVG
Trichlorofluoromethane	0.3366	0.4433	0.4176	0.4418	0.4433	0.4244	0.3768	0.4120	10	AVG
Ethyl ether	0.2365	0.2454	0.2432	0.2533	0.2430	0.2506	0.2387	0.2444	2	AVG
Freon 123a	0.2584	0.3007	0.2560	0.2830	0.2692	0.2662	0.2411	0.2678	7	AVG
Acrolein	1.8377	1.7088	1.8401	1.5952	1.7873	1.7971	1.6614	1.7468	5	AVG
1,1-Dichloroethene	*0.1804	0.2124	0.1845	0.2051	0.1972	0.1974	0.1816	0.1941	6	AVG *
1,1-Dichloroethene(2)	*0.0859	0.1042	0.0876	0.1030	0.0985	0.0990	0.0903	0.0955	8	AVG *
Acetone	0.6184	0.7680	0.8662	0.7707	0.8179	0.8313	0.7657	0.7769	10	AVG
Freon 113	0.1474	0.2046	0.1719	0.2023	0.2042	0.1982	0.1822	0.1873	11	AVG
2-Propanol	0.4769	0.4188	0.5609	0.6283	0.5896	0.5886	0.5460	0.5442	13	AVG
Methyl Iodide	0.3501	0.3927	0.3545	0.3950	0.3818	0.3802	0.3500	0.3720	5	AVG
Carbon Disulfide	0.6001	0.7039	0.6133	0.6829	0.6704	0.6671	0.6126	0.6500	6	AVG
Allyl Chloride	0.4388	0.4047	0.3939	0.3784	0.3807	0.4056	0.3785	0.3972	5	AVG
Methyl Acetate	0.4589	0.3643	0.3506	0.3609	0.3446	0.3681	0.3440	0.3702	11	AVG
Methylene Chloride	0.2535	0.2624	0.2373	0.2614	0.2495	0.2470	0.2299	0.2487	5	AVG
t-Butyl alcohol	0.9509	0.8847	1.1849	1.2669	1.1868	1.1490	1.0900	1.1019	12	AVG
Acrylonitrile	0.1861	0.1893	0.2025	0.1800	0.1972	0.1974	0.1789	0.1902	5	AVG
trans-1,2-Dichloroethene	0.2229	0.2637	0.2367	0.2569	0.2465	0.2458	0.2317	0.2434	6	AVG
Methyl Tertiary Butyl Ether	0.8720	0.8895	0.8148	0.8747	0.8508	0.8519	0.7874	0.8487	4	AVG
n-Hexane	0.2949	0.3872	0.3391	0.3757	0.3916	0.3781	0.3583	0.3607	9	AVG
1,1-Dichloroethane	#0.4212	0.4724	0.4257	0.4662	0.4493	0.4467	0.4143	0.4423	5	AVG #
di-Isopropyl ether	0.8363	0.8775	0.7969	0.8547	0.8316	0.8240	0.7601	0.8259	5	AVG
2-Chloro-1,3-butadiene	0.3478	0.4168	0.3701	0.4149	0.3971	0.3966	0.3682	0.3873	7	AVG
Ethyl t-butyl ether	0.8370	0.8858	0.8069	0.8626	0.8373	0.8346	0.7672	0.8330	5	AVG
cis-1,2-Dichloroethene	0.2885	0.2977	0.2722	0.2936	0.2856	0.2855	0.2689	0.2846	4	AVG
2-Butanone	0.3404	0.3132	0.3293	0.2795	0.2931	0.2997	0.2682	0.3033	9	AVG
2,2-Dichloropropane	0.3236	0.3914	0.3476	0.3833	0.3738	0.3757	0.3463	0.3631	7	AVG
Propionitrile	0.8926	0.8645	1.1809	1.2742	1.1689	1.2097	1.1647	1.1079	15	AVG
Methacrylonitrile	0.1422	0.1407	0.1938	0.2045	0.2017	0.2005	0.1875	0.1815	15	AVG
Bromochloromethane	0.1340	0.1476	0.1444	0.1432	0.1422	0.1518	0.1455	0.1441	4	AVG
Tetrahydrofuran	1.2284	1.2257	1.4078	1.2104	1.3359	1.3049	1.2321	1.2779	6	AVG
Chloroform	*0.4614	0.4782	0.4305	0.4670	0.4468	0.4460	0.4171	0.4496	5	AVG *
1,1,1-Trichloroethane	0.4302	0.5122	0.4133	0.4487	0.4116	0.4097	0.3833	0.4298	10	AVG
Cyclohexane	0.3640	0.4537	0.3850	0.4439	0.4448	0.4315	0.3990	0.4174	8	AVG
Cyclohexane(2)	0.3516	0.3831	0.3259	0.3803	0.3770	0.3645	0.3402	0.3604	6	AVG
Cyclohexane(3)	0.1146	0.1413	0.1207	0.1393	0.1386	0.1347	0.1254	0.1306	8	AVG
1,1-Dichloropropene	0.3327	0.3981	0.3598	0.3790	0.3677	0.3663	0.3412	0.3635	6	AVG
Carbon Tetrachloride	0.2850	0.3468	0.3045	0.3399	0.3406	0.3400	0.3218	0.3255	7	AVG
Isobutyl Alcohol	0.3293	0.3194	0.4230	0.4441	0.3979	0.3899	0.3667	0.3814	12	AVG
Benzene	1.0212	1.1293	1.0232	1.1031	1.0615	1.0566	0.9770	1.0531	5	AVG
1,2-Dichloroethane	0.4316	0.4059	0.3598	0.3847	0.3679	0.3652	0.3388	0.3791	8	AVG
1,2-Dichloroethane(2)	0.0315	0.0384	0.0336	0.0362	0.0348	0.0349	0.0329	0.0346	7	AVG
t-Amyl methyl ether	0.8700	0.8909	0.7962	0.8551	0.8386	0.8370	0.7770	0.8378	5	AVG
n-Heptane	0.4027	0.4546	0.4130	0.4420	0.4454	0.4379	0.4146	0.4300	5	AVG
n-Butanol	0.2829	0.2836	0.3898	0.4130	0.3659	0.3618	0.3314	0.3469	14	AVG

Minimum RRF for SPCC(#) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %RSD for CCC(*) = 30%

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09355 Calibration Date(s): 01/15/18 01/15/18

Heated Purge: (Y/N) Y Calibration Times: 12:54 15:31

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: Rxi-624Sil .25

LAB FILE ID: RRF 1 = yj15i07.d RRF 4 = yj15i06.d RRF 10= yj15i05.d
RRF 20= yj15i08.d RRF 50= yj15i03.d RRF100= yj15i02.d RRF300= yj15i01.d

COMPOUND	RRF 1	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	___ RRF	% RSD	CAL. METHOD
Trichloroethene	0.2681	0.3038	0.2713	0.2934	0.2828	0.2828	0.2657	0.2811	5	AVG
Methylcyclohexane	0.3774	0.4845	0.4591	0.4441	0.4710	0.4979	0.4857	0.4600	9	AVG
Methylcyclohexane(2)	0.1772	0.2167	0.2072	0.1996	0.2090	0.2242	0.2189	0.2076	8	AVG
1,2-Dichloropropane	*0.2849	0.3020	0.2748	0.2901	0.2846	0.2829	0.2667	0.2837	4	AVG *
Dibromomethane	0.1892	0.1958	0.1749	0.1897	0.1869	0.1854	0.1749	0.1852	4	AVG
1,4-Dioxane	0.0532	0.0706	0.0957	0.1012	0.0887	0.0971	0.0902	0.0852	20	2NDDEG
Methyl Methacrylate	0.3375	0.3299	0.3093	0.3227	0.3185	0.3180	0.3011	0.3196	4	AVG
Bromodichloromethane	0.3476	0.3536	0.3247	0.3537	0.3541	0.3588	0.3412	0.3477	3	AVG
2-Nitropropane	0.1307	0.1252	0.1417	0.1223	0.1468	0.1469	0.1355	0.1356	7	AVG
2-Chloroethyl Vinyl Ether	0.2273	0.2346	0.2318	0.2552	0.2786	0.2567	0.2434	0.2468	7	AVG
cis-1,3-Dichloropropene	0.4367	0.4706	0.4427	0.4712	0.4743	0.4749	0.4475	0.4597	4	AVG
4-Methyl-2-pentanone	0.5622	0.5359	0.5959	0.5206	0.5683	0.5624	0.4955	0.5487	6	AVG
Toluene	*0.9015	1.0038	0.8977	0.9539	0.9241	0.9137	0.8474	0.9203	5	AVG *
trans-1,3-Dichloropropene	0.5206	0.5677	0.5343	0.5599	0.5786	0.5874	0.5531	0.5574	4	AVG
Ethyl Methacrylate	0.6733	0.6967	0.6393	0.6580	0.6606	0.6600	0.6185	0.6581	4	AVG
1,1,2-Trichloroethane	0.4085	0.4034	0.3547	0.3717	0.3637	0.3622	0.3379	0.3717	7	AVG
Tetrachloroethene	0.3787	0.4486	0.3891	0.4174	0.4068	0.4000	0.3808	0.4031	6	AVG
1,3-Dichloropropane	0.6842	0.6735	0.5988	0.6315	0.6147	0.6075	0.5608	0.6244	7	AVG
2-Hexanone	0.6061	0.5838	0.6488	0.5454	0.6126	0.5989	0.5255	0.5887	7	AVG
Dibromochloromethane	0.3640	0.3999	0.3584	0.3850	0.4003	0.4127	0.3936	0.3877	5	AVG
1,2-Dibromoethane	0.4265	0.4242	0.3898	0.4080	0.4064	0.4045	0.3796	0.4056	4	AVG
1-Chlorohexane	0.5863	0.5919	0.4980	0.5269	0.5131	0.5012	0.4796	0.5282	8	AVG
Chlorobenzene	#1.0855	1.1853	1.0557	1.0952	1.0624	1.0517	0.9702	1.0723	6	AVG #
1,1,1,2-Tetrachloroethane	0.3336	0.3698	0.3298	0.3572	0.3583	0.3621	0.3444	0.3507	4	AVG
Ethylbenzene	*1.7689	2.0001	1.7464	1.8558	1.8001	1.7700	1.6141	1.7936	7	AVG *
m+p-Xylene	0.6957	0.7870	0.6992	0.7408	0.7273	0.7158	0.6615	0.7182	6	AVG
o-Xylene	0.7045	0.7873	0.6818	0.7256	0.7113	0.7062	0.6544	0.7102	6	AVG
Styrene	1.1828	1.2868	1.1691	1.2309	1.2196	1.2189	1.1260	1.2049	4	AVG
Bromoform	#	0.3013	0.2779	0.2940	0.3179	0.3327	0.3249	0.3081	7	AVG #
Isopropylbenzene	1.7594	2.0299	1.7390	1.8486	1.8102	1.7583	1.5683	1.7877	8	AVG
Cyclohexanone	0.5117	0.5142	0.5637	0.5102	0.5352	0.5671	0.5781	0.5400	5	AVG
Bromobenzene	0.9364	0.9774	0.8637	0.8939	0.8721	0.8842	0.8691	0.8995	5	AVG
1,1,2,2-Tetrachloroethane	#1.3214	1.3518	1.1547	1.1701	1.1192	1.1182	1.0544	1.1842	9	AVG #
1,2,3-Trichloropropane	0.4520	0.4252	0.3587	0.3688	0.3605	0.3580	0.3424	0.3808	11	AVG
trans-1,4-Dichloro-2-butene		0.2558	0.3570	0.3865	0.3674	0.3666	0.3330	0.3444	14	AVG
n-Propylbenzene	3.8659	4.4453	3.8788	4.0465	3.9007	3.7960	3.3750	3.9011	8	AVG
2-Chlorotoluene	0.8290	0.8977	0.7876	0.8246	0.8000	0.7866	0.7465	0.8103	6	AVG
4-Chlorotoluene	0.8961	0.9556	0.8436	0.8792	0.8556	0.8462	0.8033	0.8685	6	AVG
1,3,5-Trimethylbenzene	2.8428	3.2235	2.8079	2.9378	2.8723	2.8122	2.5463	2.8633	7	AVG
tert-Butylbenzene	0.5885	0.6826	0.5806	0.6122	0.6116	0.5975	0.5568	0.6043	7	AVG
Pentachloroethane	0.3916	0.4391	0.4550	0.4745	0.4850	0.5273	0.5154	0.4697	10	AVG
1,2,4-Trimethylbenzene	2.9753	3.2921	2.9031	3.0156	2.9698	2.9315	2.6532	2.9629	6	AVG
sec-Butylbenzene	3.5132	4.1557	3.5873	3.7238	3.6378	3.5399	3.1061	3.6091	9	AVG
1,3-Dichlorobenzene	1.7782	1.9245	1.6734	1.7360	1.6993	1.6832	1.5805	1.7250	6	AVG
p-Isopropyltoluene	3.0381	3.5759	3.1470	3.2738	3.2348	3.2085	2.8161	3.1849	7	AVG
1,4-Dichlorobenzene	1.8815	1.9779	1.7130	1.7482	1.7196	1.7196	1.6077	1.7668	7	AVG
1,2,3-Trimethylbenzene	2.7679	3.0002	2.8984	2.8966	2.8189	2.9883	2.6667	2.8624	4	AVG
Benzyl Chloride		2.2964	2.1878	2.2817	2.4416	2.5215	2.3510	2.3467	5	AVG
1,3-Diethylbenzene	1.6730	1.9462	1.8791	1.8213	1.7980	1.9080	1.7277	1.8219	5	AVG
1,4-Diethylbenzene	1.7012	2.0233	1.9485	1.8828	1.8697	1.9967	1.8018	1.8891	6	AVG
1,2-Dichlorobenzene	1.7907	1.8575	1.5881	1.6432	1.6139	1.6040	1.4905	1.6554	8	AVG
n-Butylbenzene	1.5857	1.8468	1.5783	1.6255	1.6161	1.5956	1.4379	1.6123	7	AVG

Minimum RRF for SPCC(#) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %RSD for CCC(*) = 30%

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09355 Calibration Date(s): 01/15/18 01/15/18

Heated Purge: (Y/N) Y Calibration Times: 12:54 15:31

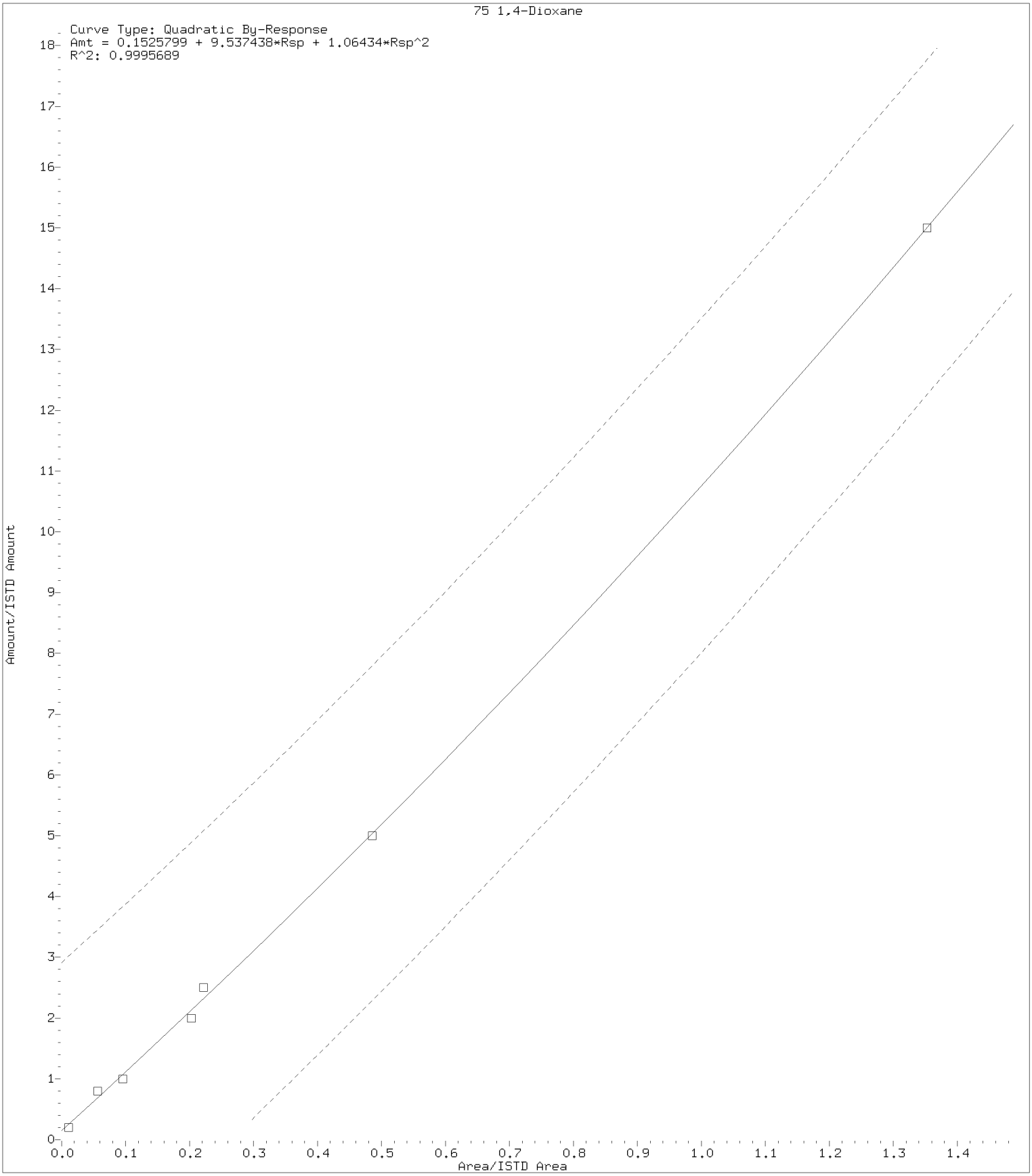
Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: Rxi-624Sil .25

LAB FILE ID: RRF 1 = yj15i07.d RRF 4 = yj15i06.d RRF 10= yj15i05.d
RRF 20= yj15i08.d RRF 50= yj15i03.d RRF100= yj15i02.d RRF300= yj15i01.d

COMPOUND	RRF 1	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	% RSD	CAL. METHOD
1,2-Diethylbenzene	1.4052	1.5915	1.5536	1.5027	1.4874	1.5835	1.4331	1.5081	5	AVG
1,2-Dibromo-3-chloropropane	0.3266	0.3377	0.2824	0.2993	0.3004	0.3049	0.2781	0.3042	7	AVG
1,3,5-Trichlorobenzene	1.3556	1.4182	1.2118	1.2377	1.2239	1.2052	1.0563	1.2441	9	AVG
1,2,4-Trichlorobenzene	1.3958	1.3719	1.1512	1.1667	1.1637	1.1405	0.9786	1.1955	12	AVG
Hexachlorobutadiene	0.6502	0.6558	0.5543	0.5367	0.5561	0.5574	0.4598	0.5672	12	AVG
Naphthalene	4.7376	4.6188	3.8329	3.9184	3.9209	3.8363	3.1679	4.0047	13	AVG
1,2,3-Trichlorobenzene	1.3352	1.2721	1.0678	1.0712	1.0732	1.0497	0.8845	1.1077	14	AVG
2-Methylnaphthalene	2.6565	2.3952	2.2284	2.1662	2.2651	2.4014	1.8248	2.2768	11	AVG
Dibromofluoromethane	0.2365	0.2369	0.2345	0.2384	0.2398	0.2391	0.2379	0.2376	1	AVG
Dibromofluoromethane(2)	0.2432	0.2421	0.2401	0.2444	0.2453	0.2450	0.2436	0.2434	1	AVG
1,2-Dichloroethane-d4	0.0611	0.0609	0.0612	0.0622	0.0621	0.0606	0.0607	0.0613	1	AVG
1,2-Dichloroethane-d4(2)	0.2968	0.2936	0.2891	0.2919	0.2884	0.2861	0.2849	0.2901	1	AVG
1,2-Dichloroethane-d4(3)	0.0390	0.0390	0.0383	0.0397	0.0390	0.0387	0.0388	0.0389	1	AVG
Toluene-d8	1.3259	1.3205	1.3130	1.3212	1.3212	1.3059	1.2917	1.3142	1	AVG
Toluene-d8(2)	0.8509	0.8512	0.8455	0.8500	0.8509	0.8473	0.8429	0.8484	0	AVG
4-Bromofluorobenzene	0.4953	0.4971	0.4922	0.4963	0.4964	0.4920	0.4828	0.4932	1	AVG
4-Bromofluorobenzene(2)	0.4140	0.4150	0.4131	0.4172	0.4177	0.4146	0.4049	0.4138	1	AVG

Average %RSD 7

Minimum RRF for SPCC(#) = 0.10
(0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %RSD for CCC(*) = 30%



Digitally signed by Kevin Kelly on 01/16/2018 at 17:09.
Target 3.5 esignature user ID: kk10002

Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem2/HP09355.i/18jan15j.b/yj15i01.d VSTD300
/chem2/HP09355.i/18jan15j.b/yj15i02.d VSTD100
/chem2/HP09355.i/18jan15j.b/yj15i03.d VSTD050
/chem2/HP09355.i/18jan15j.b/yj15i08.d VSTD020
/chem2/HP09355.i/18jan15j.b/yj15i05.d VSTD010
/chem2/HP09355.i/18jan15j.b/yj15i06.d VSTD004
/chem2/HP09355.i/18jan15j.b/yj15i07.d VSTD001

Area Summary

File ID:
==========

Internal Standard Name	yj15i01.d	yj15i02.d	yj15i03.d	yj15i08.d	yj15i05.d	yj15i06.d	yj15i07.d	Avg. Area	%RSD	In Spec
t-Butyl alcohol-d10	382893	391889	386653	375004	411273	386413	373139	386752	3	Yes
Fluorobenzene	1264454	1243906	1233984	1192534	1310876	1200683	1184626	1233009	4	Yes
Chlorobenzene-d5	981989	960735	952388	924866	1016146	923627	913073	953261	4	Yes
1,4-Dichlorobenzene-d4	528465	528674	524367	506310	551242	505886	497779	520389	4	Yes

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:
==========

Internal Standard Name	yj15i01.d	yj15i02.d	yj15i03.d	yj15i08.d	yj15i05.d	yj15i06.d	yj15i07.d	Avg. RT
t-Butyl alcohol-d10	4.282	4.288	4.288	4.276	4.276	4.288	4.270	4.282
Fluorobenzene	7.835	7.835	7.835	7.823	7.829	7.829	7.823	7.830
Chlorobenzene-d5	11.291	11.291	11.291	11.291	11.291	11.291	11.285	11.290
1,4-Dichlorobenzene-d4	13.177	13.177	13.170	13.170	13.171	13.170	13.171	13.172

* indicates the retention time is greater than 30 seconds from the average RT.

Report generated on 01/16/2018 at 17:08.

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09355 ICV Date: 01/16/18 Time: 18:35

Lab File ID: yj16s01.d Init. Calib. Date(s): 01/16/18 01/16/18

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: Rxi-624Sil .25

	COMPOUND	$\overline{RRF}$	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT	
	Dichlorodifluoromethane	0.3407	0.2582	15.16	20	-24	
#	Chloromethane	0.3550	0.3244	18.28	20	-9	#
	1,3-Butadiene	0.1843	0.2823	30.64	20	53	
*	Vinyl Chloride	0.3624	0.3175	17.52	20	-12	*
	Bromomethane	0.2455	0.2295	18.70	20	-7	
	Chloroethane	0.2010	0.1760	17.52	20	-12	
	Dichlorofluoromethane	0.4535	0.4741	20.91	20	5	
	n-Pentane	0.3408	0.3685	21.62	20	8	
	Trichlorofluoromethane	0.4120	0.3634	17.64	20	-12	
	Ethyl ether	0.2444	0.2186	17.89	20	-11	
	Freon 123a	0.2678	0.2734	20.42	20	2	
	Acrolein	1.7468	1.1925	102.41	150	-32	
*	1,1-Dichloroethene	0.1941	0.2174	22.40	20	12	*
	Acetone	0.7769	0.7229	139.58	150	-7	
	Freon 113	0.1873	0.1893	20.22	20	1	
	2-Propanol	0.5442	0.5555	153.13	150	2	
	Methyl Iodide	0.3720	0.4120	22.15	20	11	
	Carbon Disulfide	0.6500	0.7500	23.08	20	15	
	Allyl Chloride	0.3972	0.3804	19.16	20	-4	
	Methyl Acetate	0.3702	0.3474	18.77	20	-6	
	Methylene Chloride	0.2487	0.2530	20.35	20	2	
	t-Butyl alcohol	1.1019	1.1714	212.62	200	6	
	Acrylonitrile	0.1902	0.1732	91.06	100	-9	
	trans-1,2-Dichloroethene	0.2434	0.2526	20.75	20	4	
	Methyl Tertiary Butyl Ether	0.8487	0.8594	20.25	20	1	
	n-Hexane	0.3607	0.3278	18.18	20	-9	
#	1,1-Dichloroethane	0.4423	0.4362	19.73	20	-1	#
	di-Isopropyl ether	0.8259	0.8475	20.52	20	3	
	2-Chloro-1,3-butadiene	0.3873	0.3925	20.27	20	1	
	Ethyl t-butyl ether	0.8330	0.8211	19.71	20	-1	
	cis-1,2-Dichloroethene	0.2846	0.2804	19.71	20	-1	
	2-Butanone	0.3033	0.2679	132.49	150	-12	
	2,2-Dichloropropane	0.3631	0.3590	19.78	20	-1	
	Propionitrile	1.1079	1.2185	164.96	150	10	
	Methacrylonitrile	0.1815	0.1930	159.48	150	6	
	Bromochloromethane	0.1441	0.1386	19.23	20	-4	

Minimum RRF for SPCC(#)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %Drift for CCC(*)=20%

page 1 of 3 FORM VII VOA

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09355 ICV Date: 01/16/18 Time: 18:35

Lab File ID: yj16s01.d Init. Calib. Date(s): 01/16/18 01/16/18

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: Rxi-624Sil .25

COMPOUND	$\overline{RRF}$	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
Tetrahydrofuran	1.2779	1.2111	94.77	100	-5
* Chloroform	0.4496	0.4274	19.01	20	-5 *
1,1,1-Trichloroethane	0.4298	0.3918	18.23	20	-9
Cyclohexane	0.4174	0.3821	18.31	20	-8
1,1-Dichloropropene	0.3635	0.3401	18.71	20	-6
Carbon Tetrachloride	0.3255	0.3126	19.21	20	-4
Isobutyl Alcohol	0.3814	0.4075	534.20	500	7
Benzene	1.0531	1.0240	19.45	20	-3
1,2-Dichloroethane	0.3791	0.3550	18.73	20	-6
t-Amyl methyl ether	0.8378	0.8128	19.40	20	-3
n-Heptane	0.4300	0.3406	15.84	20	-21
n-Butanol	0.3469	0.3905	1125.51	1000	13
Trichloroethene	0.2811	0.2630	18.71	20	-6
Methylcyclohexane	0.4600	0.3951	17.18	20	-14
* 1,2-Dichloropropane	0.2837	0.2708	19.09	20	-5 *
Dibromomethane	0.1852	0.1755	18.94	20	-5
1,4-Dioxane	0.0852	0.0984	517.78	500	4
Methyl Methacrylate	0.3196	0.3011	18.84	20	-6
Bromodichloromethane	0.3477	0.3175	18.26	20	-9
2-Nitropropane	0.1356	0.1208	17.83	20	-11
2-Chloroethyl Vinyl Ether	0.2468	0.2218	17.98	20	-10
cis-1,3-Dichloropropene	0.4597	0.4263	18.55	20	-7
4-Methyl-2-pentanone	0.5487	0.5124	93.38	100	-7
* Toluene	0.9203	0.8771	19.06	20	-5 *
trans-1,3-Dichloropropene	0.5574	0.5126	18.39	20	-8
Ethyl Methacrylate	0.6581	0.6339	19.27	20	-4
1,1,2-Trichloroethane	0.3717	0.3499	18.83	20	-6
Tetrachloroethene	0.4031	0.3736	18.54	20	-7
1,3-Dichloropropane	0.6244	0.5746	18.41	20	-8
2-Hexanone	0.5887	0.5444	92.46	100	-8
Dibromochloromethane	0.3877	0.3604	18.59	20	-7
1,2-Dibromoethane	0.4056	0.3805	18.76	20	-6
1-Chlorohexane	0.5282	0.4617	17.48	20	-13
# Chlorobenzene	1.0723	0.9972	18.60	20	-7 #
1,1,1,2-Tetrachloroethane	0.3507	0.3229	18.41	20	-8
* Ethylbenzene	1.7936	1.6649	18.57	20	-7 *

Minimum RRF for SPCC(#)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %Drift for CCC(*)=20%

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09355 ICV Date: 01/16/18 Time: 18:35

Lab File ID: yj16s01.d Init. Calib. Date(s): 01/16/18 01/16/18

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: Rxi-624Sil .25

	COMPOUND	$\overline{RRF}$	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT	
	m+p-Xylene	0.7182	0.6729	37.48	40	-6	
	o-Xylene	0.7102	0.6511	18.34	20	-8	
	Styrene	1.2049	1.1241	18.66	20	-7	
#	Bromoform	0.3081	0.2697	17.51	20	-12	#
	Isopropylbenzene	1.7877	1.6740	18.73	20	-6	
	Cyclohexanone	0.5400	0.3773	349.38	500	-30	
	Bromobenzene	0.8995	0.8240	18.32	20	-8	
#	1,1,2,2-Tetrachloroethane	1.1842	1.0823	18.28	20	-9	#
	1,2,3-Trichloropropane	0.3808	0.3507	18.42	20	-8	
	trans-1,4-Dichloro-2-butene	0.3444	0.3871	112.39	100	12	
	n-Propylbenzene	3.9011	3.6574	18.75	20	-6	
	2-Chlorotoluene	0.8103	0.7527	18.58	20	-7	
	4-Chlorotoluene	0.8685	0.7913	18.22	20	-9	
	1,3,5-Trimethylbenzene	2.8633	2.6519	18.52	20	-7	
	tert-Butylbenzene	0.6043	0.6073	20.10	20	1	
	Pentachloroethane	0.4697	0.4510	19.20	20	-4	
	1,2,4-Trimethylbenzene	2.9629	2.7366	18.47	20	-8	
	sec-Butylbenzene	3.6091	3.3531	18.58	20	-7	
	1,3-Dichlorobenzene	1.7250	1.5508	17.98	20	-10	
	p-Isopropyltoluene	3.1849	2.9832	18.73	20	-6	
	1,4-Dichlorobenzene	1.7668	1.6143	18.27	20	-9	
	1,2,3-Trimethylbenzene	2.8624	2.8245	19.74	20	-1	
	Benzyl Chloride	2.3467	2.1577	18.39	20	-8	
	1,3-Diethylbenzene	1.8219	1.7514	19.23	20	-4	
	1,4-Diethylbenzene	1.8891	1.8458	19.54	20	-2	
	1,2-Dichlorobenzene	1.6554	1.5146	18.30	20	-9	
	n-Butylbenzene	1.6123	1.5220	18.88	20	-6	
	1,2-Diethylbenzene	1.5081	1.4571	19.32	20	-3	
	1,2-Dibromo-3-chloropropane	0.3042	0.2884	18.96	20	-5	
	1,3,5-Trichlorobenzene	1.2441	1.1420	18.36	20	-8	
	1,2,4-Trichlorobenzene	1.1955	1.0782	18.04	20	-10	
	Hexachlorobutadiene	0.5672	0.5020	17.70	20	-11	
	Naphthalene	4.0047	3.7222	18.59	20	-7	
	1,2,3-Trichlorobenzene	1.1077	1.0078	18.20	20	-9	
	2-Methylnaphthalene	2.2768	2.1338	18.74	20	-6	

Average %Drift 8

Minimum RRF for SPCC(#)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %Drift for CCC(*)=20%

page 3 of 3 FORM VII VOA

Lancaster Laboratories
Continuing Calibration Internal Standard Check

Initial Calibration Standards:

/chem2/HP09355.i/18jan15j.b/yj15i07.d
/chem2/HP09355.i/18jan15j.b/yj15i06.d
/chem2/HP09355.i/18jan15j.b/yj15i05.d
/chem2/HP09355.i/18jan15j.b/yj15i08.d
/chem2/HP09355.i/18jan15j.b/yj15i03.d
/chem2/HP09355.i/18jan15j.b/yj15i02.d
/chem2/HP09355.i/18jan15j.b/yj15i01.d

File /chem2/HP09355.i/18jan15j.b/yj15i03.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

/chem2/HP09355.i/18apr14a.b/ya14c01.d

RT Summary

Internal Standard Name	File ID: ya14c01.d	ICAL RT	In Spec
t-Butyl alcohol-d10	4.264	4.288	Yes
Fluorobenzene	7.811	7.835	Yes
Chlorobenzene-d5	11.273	11.291	Yes
1,4-Dichlorobenzene-d4	13.158	13.170	Yes

A "No" indicates the retention time is greater than 10 seconds from the referenced ICAL standard.

Area Summary

Internal Standard Name	File ID: ya14c01.d	ICAL Area	Low Limit	High Limit	In Spec
t-Butyl alcohol-d10	453538	386653	193326	773306	Yes
Fluorobenzene	1565113	1233984	616992	2467968	Yes
Chlorobenzene-d5	1292822	952388	476194	1904776	Yes
1,4-Dichlorobenzene-d4	738455	524367	262184	1048734	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

Comments: _____

report generated on 04/14/2018 at 09:03

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09355 Calibration Date: 04/14/18 Time: 08:33

Lab File ID: ya14c01.d Init. Calib. Date(s): 01/15/18 01/15/18

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: Rxi-624Sil .25

	COMPOUND	RRF	RRF150	ACTUAL CONC.	TRUE CONC.	% DRIFT	
	Dichlorodifluoromethane	0.3407	0.3349	147.44	150	-2	
#	Chloromethane	0.3550	0.3462	146.28	150	-2	#
	1,3-Butadiene	0.1843	0.3603	293.26	150	96	
*	Vinyl Chloride	0.3624	0.3393	140.42	150	-6	*
	Bromomethane	0.2455	0.2495	152.46	150	2	
	Chloroethane	0.2010	0.2007	149.76	150	0	
	n-Pentane	0.3408	0.4998	219.98	150	47	
	Trichlorofluoromethane	0.4120	0.4518	164.51	150	10	
	Ethyl ether	0.2444	0.2390	146.67	150	-2	
	Freon 123a	0.2678	0.2776	155.47	150	4	
	Acrolein	1.7468	1.7645	1515.25	1500	1	
*	1,1-Dichloroethene	0.1941	0.2040	157.65	150	5	*
*	1,1-Dichloroethene(2)	0.0955	0.1091	171.39	150	14	*
	Acetone	0.7769	0.9122	352.26	300	17	
	Freon 113	0.1873	0.2307	184.75	150	23	
	2-Propanol	0.5442	0.4659	642.09	750	-14	
	Methyl Iodide	0.3720	0.4002	161.37	150	8	
	Carbon Disulfide	0.6500	0.7072	163.18	150	9	
	Allyl Chloride	0.3972	0.3929	148.37	150	-1	
	Methyl Acetate	0.3702	0.3993	161.81	150	8	
	Methylene Chloride	0.2487	0.2440	147.13	150	-2	
	t-Butyl alcohol	1.1019	1.1261	766.49	750	2	
	Acrylonitrile	0.1902	0.1970	155.34	150	4	
	trans-1,2-Dichloroethene	0.2434	0.2475	152.50	150	2	
	Methyl Tertiary Butyl Ether	0.8487	0.8212	145.14	150	-3	
	n-Hexane	0.3607	0.4336	180.35	150	20	
#	1,1-Dichloroethane	0.4423	0.4521	153.32	150	2	#
	di-Isopropyl ether	0.8259	0.8773	159.35	150	6	
	2-Chloro-1,3-butadiene	0.3873	0.4246	164.43	150	10	
	Ethyl t-butyl ether	0.8330	0.7659	137.91	150	-8	
	cis-1,2-Dichloroethene	0.2846	0.2815	148.39	150	-1	
	2-Butanone	0.3033	0.3107	307.29	300	2	
	2,2-Dichloropropane	0.3631	0.3491	144.20	150	-4	
	Propionitrile	1.1079	1.4421	976.19	750	30	
	Methacrylonitrile	0.1815	0.2074	428.43	375	14	
	Bromochloromethane	0.1441	0.1482	154.32	150	3	

Minimum RRF for SPCC(#)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %Drift for CCC(*)=20%

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09355 Calibration Date: 04/14/18 Time: 08:33

Lab File ID: ya14c01.d Init. Calib. Date(s): 01/15/18 01/15/18

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: Rxi-624Sil .25

	COMPOUND	RRF	RRF150	ACTUAL CONC.	TRUE CONC.	% DRIFT	
	Tetrahydrofuran	1.2779	1.4170	332.65	300	11	
*	Chloroform	0.4496	0.4634	154.62	150	3	*
	1,1,1-Trichloroethane	0.4298	0.3922	136.87	150	-9	
	Cyclohexane	0.4174	0.4615	165.85	150	11	
	Cyclohexane(2)	0.3604	0.3706	154.25	150	3	
	Cyclohexane(3)	0.1306	0.1370	157.29	150	5	
	1,1-Dichloropropene	0.3635	0.3731	153.93	150	3	
	Carbon Tetrachloride	0.3255	0.3620	166.80	150	11	
	Isobutyl Alcohol	0.3814	0.4719	2319.52	1875	24	
	Benzene	1.0531	1.0592	150.87	150	1	
	1,2-Dichloroethane	0.3791	0.4015	158.84	150	6	
	1,2-Dichloroethane(2)	0.0346	0.0331	143.39	150	-4	
	t-Amyl methyl ether	0.8378	0.7321	131.07	150	-13	
	n-Heptane	0.4300	0.4981	173.75	150	16	
	n-Butanol	0.3469	0.3822	4131.37	3750	10	
	Trichloroethene	0.2811	0.2893	154.36	150	3	
	Methylcyclohexane	0.4600	0.4875	158.98	150	6	
	Methylcyclohexane(2)	0.2076	0.2163	156.32	150	4	
*	1,2-Dichloropropane	0.2837	0.2964	156.69	150	4	*
	Dibromomethane	0.1852	0.1990	161.13	150	7	
	1,4-Dioxane	0.0852	0.0941	1853.30	1875	-1	
	Methyl Methacrylate	0.3196	0.3301	154.96	150	3	
	Bromodichloromethane	0.3477	0.3650	157.46	150	5	
	2-Nitropropane	0.1356	0.1578	349.27	300	16	
	2-Chloroethyl Vinyl Ether	0.2468	0.2593	157.61	150	5	
	cis-1,3-Dichloropropene	0.4597	0.4557	148.69	150	-1	
	4-Methyl-2-pentanone	0.5487	0.6024	329.35	300	10	
*	Toluene	0.9203	0.8471	138.07	150	-8	*
	trans-1,3-Dichloropropene	0.5574	0.5384	144.89	150	-3	
	Ethyl Methacrylate	0.6581	0.6434	146.66	150	-2	
	1,1,2-Trichloroethane	0.3717	0.3431	138.47	150	-8	
	Tetrachloroethene	0.4031	0.4048	150.66	150	0	
	1,3-Dichloropropane	0.6244	0.5747	138.06	150	-8	
	2-Hexanone	0.5887	0.6157	313.74	300	5	
	Dibromochloromethane	0.3877	0.3780	146.24	150	-3	
	1,2-Dibromoethane	0.4056	0.3884	143.64	150	-4	

Minimum RRF for SPCC(#)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %Drift for CCC(*)=20%

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09355 Calibration Date: 04/14/18 Time: 08:33

Lab File ID: ya14c01.d Init. Calib. Date(s): 01/15/18 01/15/18

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: Rxi-624Sil .25

	COMPOUND	RRF	RRF150	ACTUAL CONC.	TRUE CONC.	% DRIFT	
	1-Chlorohexane	0.5282	0.4939	140.27	150	-6	
#	Chlorobenzene	1.0723	0.9903	138.54	150	-8	#
	1,1,1,2-Tetrachloroethane	0.3507	0.3673	157.06	150	5	
*	Ethylbenzene	1.7936	1.7578	147.00	150	-2	*
	m+p-Xylene	0.7182	0.7048	294.41	300	-2	
	o-Xylene	0.7102	0.6807	143.77	150	-4	
	Styrene	1.2049	1.1880	147.89	150	-1	
#	Bromoform	0.3081	0.3165	154.09	150	3	#
	Isopropylbenzene	1.7877	1.6525	138.66	150	-8	
	Cyclohexanone	0.5400	0.3352	1163.86	1875	-38	
	Bromobenzene	0.8995	0.9348	155.87	150	4	
#	1,1,2,2-Tetrachloroethane	1.1842	1.0832	137.20	150	-9	#
	1,2,3-Trichloropropane	0.3808	0.3516	138.51	150	-8	
	trans-1,4-Dichloro-2-butene	0.3444	0.3406	370.86	375	-1	
	n-Propylbenzene	3.9011	3.5477	136.41	150	-9	
	2-Chlorotoluene	0.8103	0.7317	135.45	150	-10	
	4-Chlorotoluene	0.8685	0.8077	139.49	150	-7	
	1,3,5-Trimethylbenzene	2.8633	2.5767	134.99	150	-10	
	tert-Butylbenzene	0.6043	0.5458	135.49	150	-10	
	Pentachloroethane	0.4697	0.5045	161.13	150	7	
	1,2,4-Trimethylbenzene	2.9629	2.8028	141.89	150	-5	
	sec-Butylbenzene	3.6091	3.2396	134.64	150	-10	
	1,3-Dichlorobenzene	1.7250	1.7673	153.68	150	2	
	p-Isopropyltoluene	3.1849	3.1078	146.37	150	-2	
	1,4-Dichlorobenzene	1.7668	1.7945	152.35	150	2	
	1,2,3-Trimethylbenzene	2.8624	2.8172	147.63	150	-2	
	Benzyl Chloride	2.3467	2.1370	136.60	150	-9	
	1,3-Diethylbenzene	1.8219	1.7408	143.32	150	-4	
	1,4-Diethylbenzene	1.8891	1.8533	147.15	150	-2	
	1,2-Dichlorobenzene	1.6554	1.6078	145.69	150	-3	
	n-Butylbenzene	1.6123	1.5662	145.71	150	-3	
	1,2-Diethylbenzene	1.5081	1.4656	145.77	150	-3	
	1,2-Dibromo-3-chloropropane	0.3042	0.2687	132.50	150	-12	
	1,3,5-Trichlorobenzene	1.2441	1.1890	143.35	150	-4	
	1,2,4-Trichlorobenzene	1.1955	1.0813	135.68	150	-10	
	Hexachlorobutadiene	0.5672	0.5061	133.86	150	-11	

Minimum RRF for SPCC(#)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %Drift for CCC(*)=20%

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09355 Calibration Date: 04/14/18 Time: 08:33

Lab File ID: ya14c01.d Init. Calib. Date(s): 01/15/18 01/15/18

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: Rxi-624Sil .25

COMPOUND	RRF	RRF150	ACTUAL CONC.	TRUE CONC.	% DRIFT
Naphthalene	4.0047	3.3078	123.90	150	-17
1,2,3-Trichlorobenzene	1.1077	0.9662	130.84	150	-13
2-Methylnaphthalene	2.2768	1.6642	109.64	150	-27
Dibromofluoromethane	0.2376	0.2417	50.87	50	2
Dibromofluoromethane(2)	0.2434	0.2448	50.30	50	1
1,2-Dichloroethane-d4	0.0613	0.0592	48.29	50	-3
1,2-Dichloroethane-d4(2)	0.2901	0.3215	55.41	50	11
1,2-Dichloroethane-d4(3)	0.0389	0.0373	47.93	50	-4
Toluene-d8	1.3142	1.1957	45.49	50	-9
Toluene-d8(2)	0.8484	0.7515	44.29	50	-11
4-Bromofluorobenzene	0.4932	0.4627	46.91	50	-6
4-Bromofluorobenzene(2)	0.4138	0.4178	50.49	50	1

Average %Drift 8

Minimum RRF for SPCC(#)=0.10 (0.30 for Chlorobenzene, 1,1,2,2-Tetrachloroethane)
Maximum %Drift for CCC(*)=20%

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_ATH81___

Lab File ID (Standard): ya14c01.d Date Analyzed: 04/14/18

Instrument ID: HP09355 Time Analyzed: 08:33

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1(TBA) AREA #	RT #	IS2(FBZ) AREA #	RT #	IS3(CBZ) AREA #	RT #	IS4(DCB) AREA #	RT #
12 HOUR STD	453538	4.264	1565113	7.811	1292822	11.272	738455	13.158
UPPER LIMIT	907076	4.764	3130226	8.311	2585644	11.772	1476910	13.658
LOWER LIMIT	226769	3.764	782556	7.311	646411	10.772	369228	12.658
LAB SAMPLE ID								
01 VBLKY80	381968	4.258	1348716	7.805	1047271	11.272	560506	13.158
02 LCSY80	422941	4.264	1512525	7.805	1200840	11.266	668157	13.158
03 LCSY81	422897	4.246	1475397	7.799	1145253	11.266	600692	13.158
04 LCDY81	404532	4.252	1484935	7.799	1165624	11.266	600605	13.158
05 9548799	372876	4.258	1345550	7.805	1056549	11.272	573643	13.158
06 9548800	360437	4.276	1318577	7.805	1045504	11.272	552756	13.158
07 9546451	340299	4.252	1281652	7.799	1024115	11.272	538908	13.158
08 9546453	319392	4.264	1212511	7.805	959478	11.272	509798	13.158
09 9546173	307332	4.258	1175991	7.799	916937	11.266	492688	13.158
10 9548789	309205	4.258	1214815	7.799	970287	11.266	519480	13.158
11 9548790MS	377797	4.258	1419635	7.799	1125100	11.272	637065	13.158
12 9548791MSD	407549	4.270	1517116	7.811	1200289	11.272	666327	13.158
13 9548797	363575	4.270	1335514	7.811	1036592	11.278	555076	13.164
14 9546447	356855	4.282	1289169	7.817	1014989	11.278	536120	13.164
15 9546449	339913	4.282	1222066	7.817	962492	11.278	507599	13.164
16 9546169	356172	4.276	1251110	7.817	997659	11.278	547999	13.164
17 9546170	342136	4.276	1418873	7.817	1138455	11.278	603640	13.164
18 9546171	360247	4.264	1366241	7.817	1101162	11.278	604627	13.164
19 9546167	401035	4.288	1423820	7.823	1119769	11.284	664144	13.164
20 9546167DL	418801	4.270	1479716	7.817	1142049	11.278	644479	13.164
21 9546168	419446	4.282	1522422	7.817	1220762	11.284	701860	13.164
22 9546168DL	424639	4.276	1535627	7.823	1187525	11.284	652972	13.164

IS1 (TBA)=t-Butyl alcohol-d10
IS2 (FBZ)=Fluorobenzene
IS3 (CBZ)=Chlorobenzene-d5
IS4 (DCB)=1,4-Dichlorobenzene-d4

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

FORM VIII VOA

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_ATH81___

Lab File ID (Standard): ya14c01.d Date Analyzed: 04/14/18

Instrument ID: HP09355 Time Analyzed: 08:33

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1(TBA) AREA #	RT #	IS2(FBZ) AREA #	RT #	IS3(CBZ) AREA #	RT #	IS4(DCB) AREA #	RT #
12 HOUR STD	453538	4.264	1565113	7.811	1292822	11.272	738455	13.158
UPPER LIMIT	907076	4.764	3130226	8.311	2585644	11.772	1476910	13.658
LOWER LIMIT	226769	3.764	782556	7.311	646411	10.772	369228	12.658
LAB SAMPLE ID								
23 9546172	454335	4.276	1587715	7.823	1241783	11.285	722709	13.164
24 9546172DL	466032	4.282	1621121	7.823	1248409	11.284	693766	13.170
25 9546521	444110	4.276	1530505	7.823	1192774	11.285	632242	13.170
26 9546522	412671	4.270	1498259	7.823	1173948	11.285	624612	13.170
27 9546523	417616	4.288	1434139	7.823	1126968	11.285	599741	13.170
28 9546526	393390	4.282	1423776	7.823	1127617	11.285	596700	13.170

IS1 (TBA)=t-Butyl alcohol-d10
IS2 (FBZ)=Fluorobenzene
IS3 (CBZ)=Chlorobenzene-d5
IS4 (DCB)=1,4-Dichlorobenzene-d4

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

page 2 of 2

FORM VIII VOA

Sample Data

Volatiles by GC/MS

eurofins | Lancaster Laboratories Environmental

LOQ/MDL Summary
GC/MS Volatiles

SDG: ATH81

Fraction: Volatiles by GC/MS

10335: VOCs- 5ml Water by 8260B Analyte Name	Default MDL	Default LOQ	Units
Chloromethane	0.5	1	ug/l
Vinyl Chloride	0.5	1	ug/l
Bromomethane	0.5	1	ug/l
Chloroethane	0.5	1	ug/l
1,1-Dichloroethene	0.5	1	ug/l
Acetone	6	20	ug/l
Carbon Disulfide	1	5	ug/l
Methylene Chloride	0.5	1	ug/l
trans-1,2-Dichloroethene	0.5	1	ug/l
1,1-Dichloroethane	0.5	1	ug/l
2-Butanone	3	10	ug/l
cis-1,2-Dichloroethene	0.5	1	ug/l
Chloroform	0.5	1	ug/l
1,1,1-Trichloroethane	0.5	1	ug/l
Carbon Tetrachloride	0.5	1	ug/l
Benzene	0.5	1	ug/l
1,2-Dichloroethane	0.5	1	ug/l
Trichloroethene	0.5	1	ug/l
1,2-Dichloropropane	0.5	1	ug/l
Bromodichloromethane	0.5	1	ug/l
cis-1,3-Dichloropropene	0.5	1	ug/l
4-Methyl-2-pentanone	3	10	ug/l
Toluene	0.5	1	ug/l
trans-1,3-Dichloropropene	0.5	1	ug/l
1,1,2-Trichloroethane	0.5	1	ug/l
Tetrachloroethene	0.5	1	ug/l
2-Hexanone	3	10	ug/l
Dibromochloromethane	0.5	1	ug/l
Chlorobenzene	0.5	1	ug/l
Ethylbenzene	0.5	1	ug/l
Xylene (Total)	0.5	1	ug/l
Styrene	1	5	ug/l
Bromoform	0.5	4	ug/l
1,1,2,2-Tetrachloroethane	0.5	1	ug/l

T8101 Lancaster Laboratories 9548789
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP09355.i/18apr14a.b/ya14s09.d Injection date and time: **14-APR-2018 12:47**
Data file Sample Info. Line: T8101;9548789;1;0;;ATH81;;;ya14b01; Instrument ID: **HP09355.i** Batch: **Y181041AA**
Date, time and analyst ID of latest file update: 14-Apr-2018 13:22 lcp00895

Blank Data file reference: **/chem2/HP09355.i/18apr14a.b/ya14b01.d**

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 14-APR-2018 09:38
Mid Level Daily Calibration Standard Reference: **/chem2/HP09355.i/18apr14a.b/ya14c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
29) t-Butyl alcohol-d10	4.258(0.006)	440	65	309205 (-32)	250.00	
66) Fluorobenzene	7.799(0.012)	1022	96	1214815 (-22)	50.00	
100) Chlorobenzene-d5	11.266(0.006)	1592	117	970287 (-25)	50.00	
131) 1,4-Dichlorobenzene-d4	13.158(0.000)	1903	152	519480 (-30)	50.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(2)	6.898(0.000)	113	305786	52.974	106%		80 - 120
57) 1,2-Dichloroethane-d4	(2)	7.361(0.000)	102	76196	51.195	102%		80 - 120
83) Toluene-d8	(3)	9.812(0.000)	98	1211414	47.501	95%		80 - 120
114) 4-Bromofluorobenzene	(3)	12.270(0.000)	95	420478	43.935	88%		80 - 120

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
4) Chloromethane	(2)			Not Detected					0.5	1
6) Vinyl Chloride	(2)			Not Detected					0.5	1
8) Bromomethane	(2)			Not Detected					0.5	1
9) Chloroethane	(2)			Not Detected					0.5	1
17) 1,1-Dichloroethene	(2)			Not Detected					0.5	1
18) Acetone	(1)			Not Detected					6	20
23) Carbon Disulfide	(2)			Not Detected					1	5
28) Methylene Chloride	(2)			Not Detected					0.5	1
32) trans-1,2-Dichloroethene	(2)			Not Detected					0.5	1
36) 1,1-Dichloroethane	(2)			Not Detected					0.5	1
42) cis-1,2-Dichloroethene	(2)			Not Detected					0.5	1
44) 2-Butanone	(2)			Not Detected					3	10
51) Chloroform	(2)			Not Detected					0.5	1
53) 1,1,1-Trichloroethane	(2)			Not Detected					0.5	1
56) Carbon Tetrachloride	(2)			Not Detected					0.5	1
60) Benzene	(2)			Not Detected					0.5	1
61) 1,2-Dichloroethane	(2)			Not Detected					0.5	1
71) Trichloroethene	(2)			Not Detected					0.5	1
73) 1,2-Dichloropropane	(2)			Not Detected					0.5	1
78) Bromodichloromethane	(2)			Not Detected					0.5	1
81) cis-1,3-Dichloropropene	(2)			Not Detected					0.5	1
82) 4-Methyl-2-pentanone	(2)			Not Detected					3	10
88) Toluene	(3)			Not Detected					0.5	1
89) trans-1,3-Dichloropropene	(3)			Not Detected					0.5	1
92) 1,1,2-Trichloroethane	(3)			Not Detected					0.5	1
93) Tetrachloroethene	(3)			Not Detected					0.5	1
96) 2-Hexanone	(3)			Not Detected					3	10
97) Dibromochloromethane	(3)			Not Detected					0.5	1
102) Chlorobenzene	(3)			Not Detected					0.5	1
104) Ethylbenzene	(3)			Not Detected					0.5	1
106) m+p-Xylene	(3)			Not Detected					0.5	1

Digitally signed by Linda C. Pape on 04/14/2018 at 13:22. Target 3.5 esignature user ID: lcp00895

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP09355.i/18apr14a.b/ya14s09.d
Injection date and time: **14-APR-2018 12:47**
Data file Sample Info. Line: T8101;9548789;1;0;;ATH81;;;ya14b01;
Instrument ID: **HP09355.i** Batch: **Y181041AA**
Date, time and analyst ID of latest file update: 14-Apr-2018 13:22 lcp00895

Blank Data file reference: **/chem2/HP09355.i/18apr14a.b/ya14b01.d**

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 14-APR-2018 09:38
Mid Level Daily Calibration Standard Reference: **/chem2/HP09355.i/18apr14a.b/ya14c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

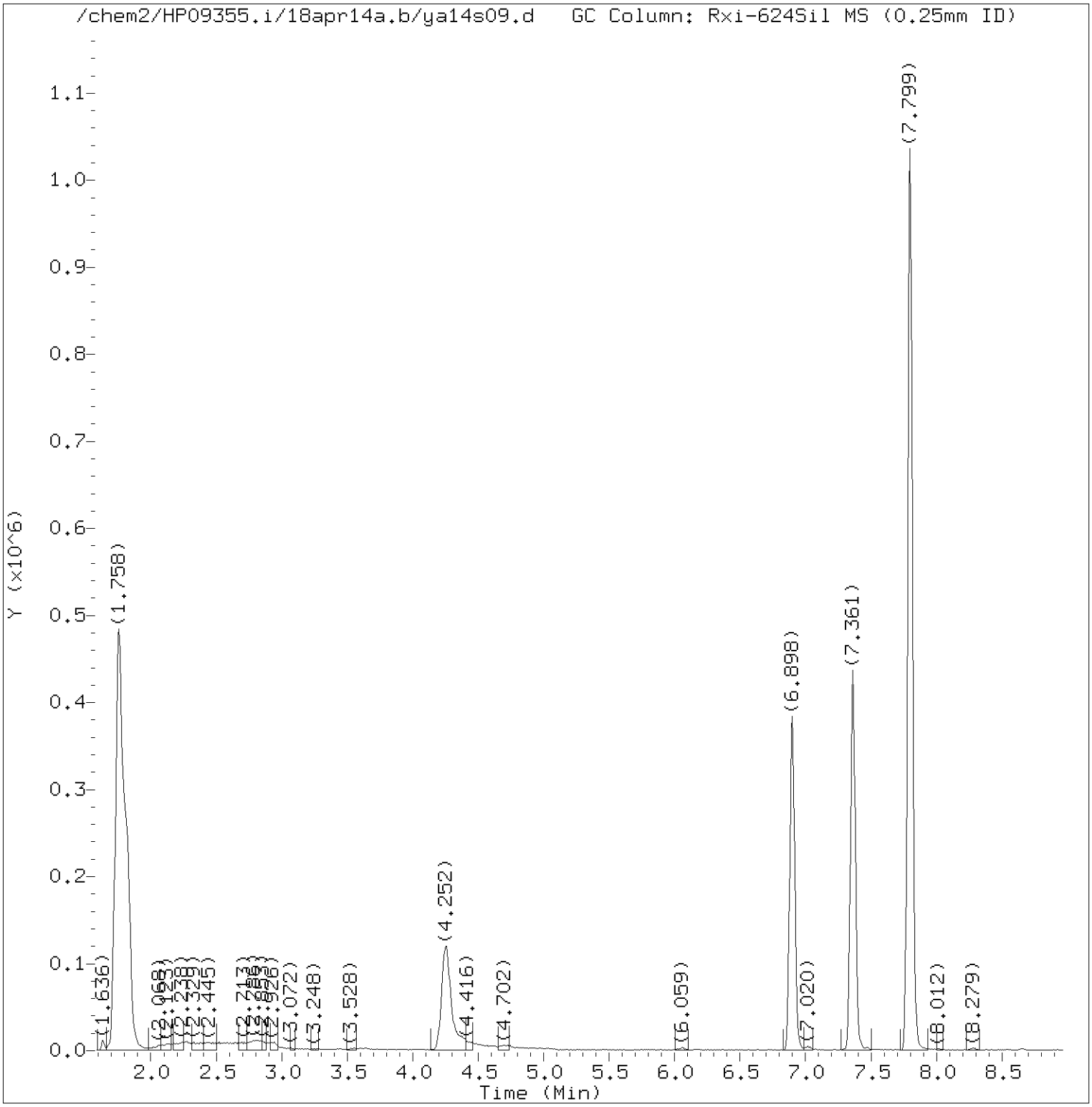
Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
107) o-Xylene	(3)			Not Detected					0.5	1
108) Xylene (Total)	(3)			Not Detected					0.5	1
109) Styrene	(3)			Not Detected					1	5
110) Bromoform	(3)			Not Detected					0.5	4
116) 1,1,2,2-Tetrachloroethane	(4)			Not Detected					0.5	1

Total number of targets = 36

Digitally signed by Linda C. Pape on 04/14/2018 at 13:22. Target 3.5 esignature user ID: lcp00895

Secondary review performed and digitally signed by Joshua E. Berrios on 04/17/2018 at 21:47. PARALLAX ID: jeb12641



Total Ion Chromatogram (TIC)

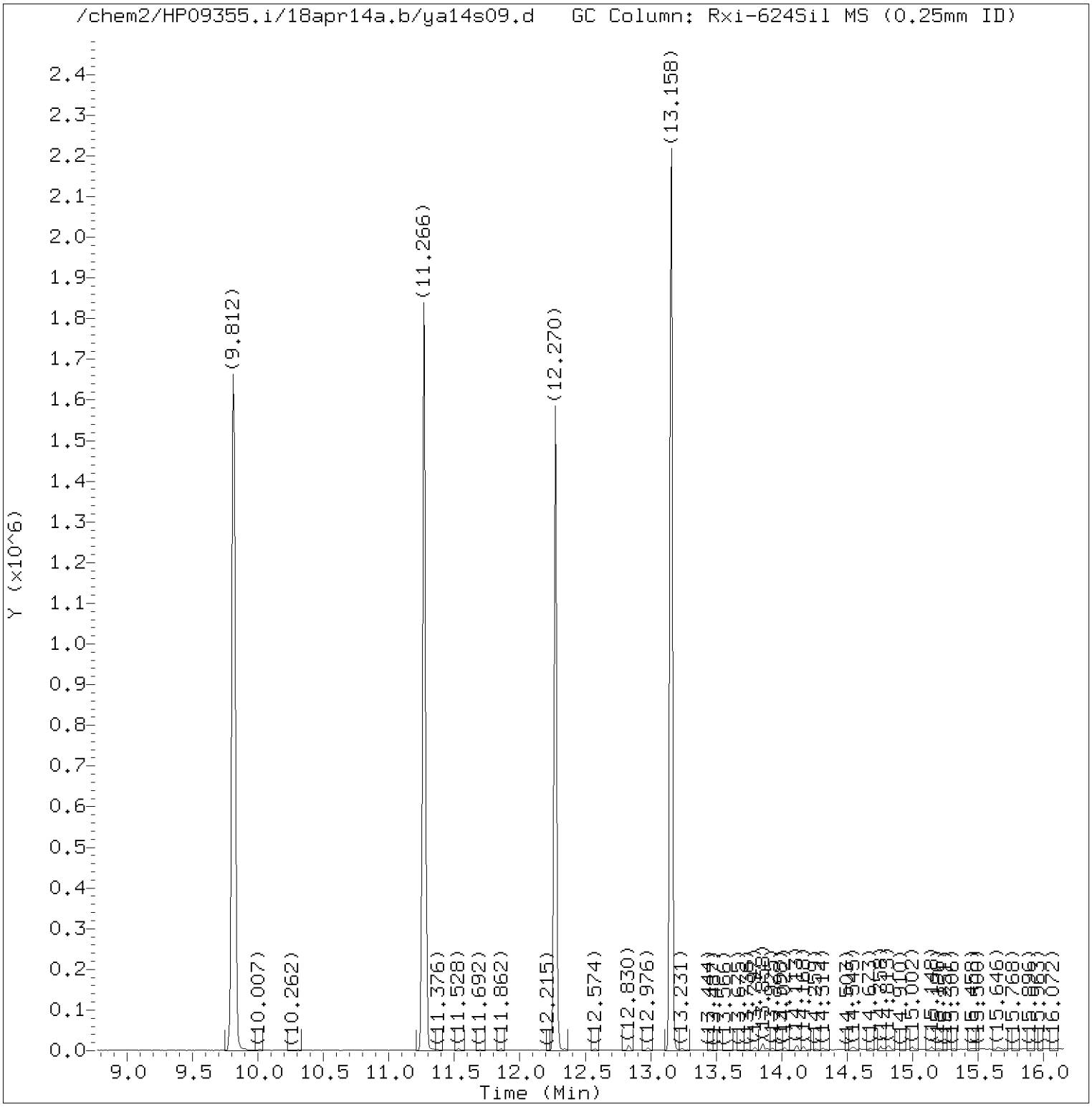
Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14s09.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 12:47 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 14-Apr-2018 13:22 lcp00895

Sample Name: T8101 Lab Sample ID: 9548789

Digitally signed by Linda C. Pape
on 04/14/2018 at 13:22.
Target 3.5 esignature user ID: lcp00895



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14s09.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 12:47 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 14-Apr-2018 13:22 lcp00895

Sample Name: T8101 Lab Sample ID: 9548789

Digitally signed by Linda C. Pape
on 04/14/2018 at 13:22.
Target 3.5 esignature user ID: lcp00895

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14s09.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 12:47 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 14-Apr-2018 13:22 lcp00895

Sample Name: T8101 Lab Sample ID: 9548789

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
29)*t-Butyl alcohol-d10	(1)	4.258	65	309205	250.000
52)$Dibromofluoromethane	(2)	6.898	113	305786	52.974
57)$1,2-Dichloroethane-d4	(2)	7.361	102	76196	51.195
66)*Fluorobenzene	(2)	7.799	96	1214815	50.000
83)$Toluene-d8	(3)	9.812	98	1211414	47.501
100)*Chlorobenzene-d5	(3)	11.266	117	970287	50.000
114)$4-Bromofluorobenzene	(3)	12.270	95	420478	43.935
131)*1,4-Dichlorobenzene-d4	(4)	13.158	152	519480	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda C. Pape
on 04/14/2018 at 13:22.
Target 3.5 esignature user ID: lcp00895

T8103 Lancaster Laboratories 9548797
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP09355.i/18apr14a.b/ya14s12.d Injection date and time: **14-APR-2018 13:53**
Data file Sample Info. Line: T8103;9548797;1;0;;ATH81;;;ya14b01; Instrument ID: **HP09355.i** Batch: **Y181041AA**
Date, time and analyst ID of latest file update: 14-Apr-2018 14:09 Automation

Blank Data file reference: **/chem2/HP09355.i/18apr14a.b/ya14b01.d**

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 14-APR-2018 09:38
Mid Level Daily Calibration Standard Reference: **/chem2/HP09355.i/18apr14a.b/ya14c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
29) t-Butyl alcohol-d10	4.270(-0.006)	442	65	363575 (-20)	250.00	
66) Fluorobenzene	7.811(0.000)	1024	96	1335514 (-15)	50.00	
100) Chlorobenzene-d5	11.279(-0.006)	1594	117	1036592 (-20)	50.00	
131) 1,4-Dichlorobenzene-d4	13.164(-0.006)	1904	152	555076 (-25)	50.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(2)	6.917(-0.001)	113	328588	51.779	104%		80 - 120
57) 1,2-Dichloroethane-d4	(2)	7.379(-0.001)	102	82765	50.583	101%		80 - 120
83) Toluene-d8	(3)	9.825(0.000)	98	1304572	47.882	96%		80 - 120
114) 4-Bromofluorobenzene	(3)	12.276(0.001)	95	462993	45.283	91%		80 - 120

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
4) Chloromethane	(2)			Not Detected					0.5	1
6) Vinyl Chloride	(2)			Not Detected					0.5	1
8) Bromomethane	(2)			Not Detected					0.5	1
9) Chloroethane	(2)			Not Detected					0.5	1
17) 1,1-Dichloroethene	(2)			Not Detected					0.5	1
18) Acetone	(1)			Not Detected					6	20
23) Carbon Disulfide	(2)			Not Detected					1	5
28) Methylene Chloride	(2)			Not Detected					0.5	1
32) trans-1,2-Dichloroethene	(2)			Not Detected					0.5	1
36) 1,1-Dichloroethane	(2)			Not Detected					0.5	1
42) cis-1,2-Dichloroethene	(2)			Not Detected					0.5	1
44) 2-Butanone	(2)			Not Detected					3	10
51) Chloroform	(2)			Not Detected					0.5	1
53) 1,1,1-Trichloroethane	(2)			Not Detected					0.5	1
56) Carbon Tetrachloride	(2)			Not Detected					0.5	1
60) Benzene	(2)			Not Detected					0.5	1
61) 1,2-Dichloroethane	(2)			Not Detected					0.5	1
71) Trichloroethene	(2)			Not Detected					0.5	1
73) 1,2-Dichloropropane	(2)			Not Detected					0.5	1
78) Bromodichloromethane	(2)			Not Detected					0.5	1
81) cis-1,3-Dichloropropene	(2)			Not Detected					0.5	1
82) 4-Methyl-2-pentanone	(2)			Not Detected					3	10
88) Toluene	(3)			Not Detected					0.5	1
89) trans-1,3-Dichloropropene	(3)			Not Detected					0.5	1
92) 1,1,2-Trichloroethane	(3)			Not Detected					0.5	1
93) Tetrachloroethene	(3)			Not Detected					0.5	1
96) 2-Hexanone	(3)			Not Detected					3	10
97) Dibromochloromethane	(3)			Not Detected					0.5	1
102) Chlorobenzene	(3)			Not Detected					0.5	1
104) Ethylbenzene	(3)			Not Detected					0.5	1
106) m+p-Xylene	(3)			Not Detected					0.5	1

Digitally signed by Nicole S. Lamoreaux on 04/16/2018 at 09:28. Target 3.5 esignature user ID: nsl01327

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP09355.i/18apr14a.b/ya14s12.d Injection date and time: **14-APR-2018 13:53**
Data file Sample Info. Line: T8103;9548797;1;0;;ATH81;;;ya14b01; Instrument ID: **HP09355.i** Batch: **Y181041AA**
Date, time and analyst ID of latest file update: 14-Apr-2018 14:09 Automation

Blank Data file reference: **/chem2/HP09355.i/18apr14a.b/ya14b01.d**

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 14-APR-2018 09:38
Mid Level Daily Calibration Standard Reference: **/chem2/HP09355.i/18apr14a.b/ya14c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

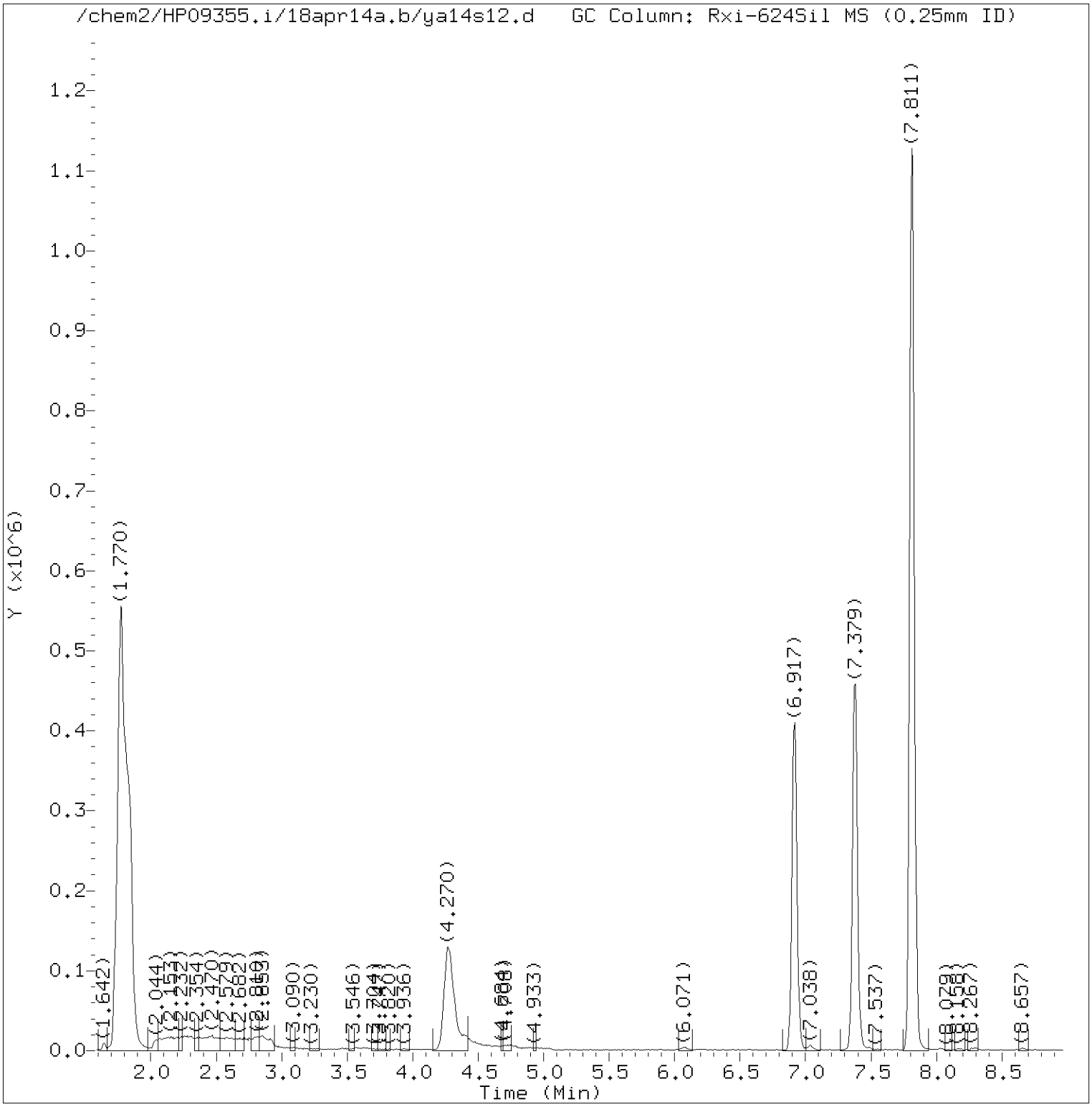
Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
107) o-Xylene	(3)			Not Detected					0.5	1
108) Xylene (Total)	(3)			Not Detected					0.5	1
109) Styrene	(3)			Not Detected					1	5
110) Bromoform	(3)			Not Detected					0.5	4
116) 1,1,2,2-Tetrachloroethane	(4)			Not Detected					0.5	1

Total number of targets = 36

Digitally signed by Nicole S. Lamoreaux on 04/16/2018 at 09:28. Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Joshua E. Berrios on 04/17/2018 at 21:47. PARALLAX ID: jeb12641



Total Ion Chromatogram (TIC)

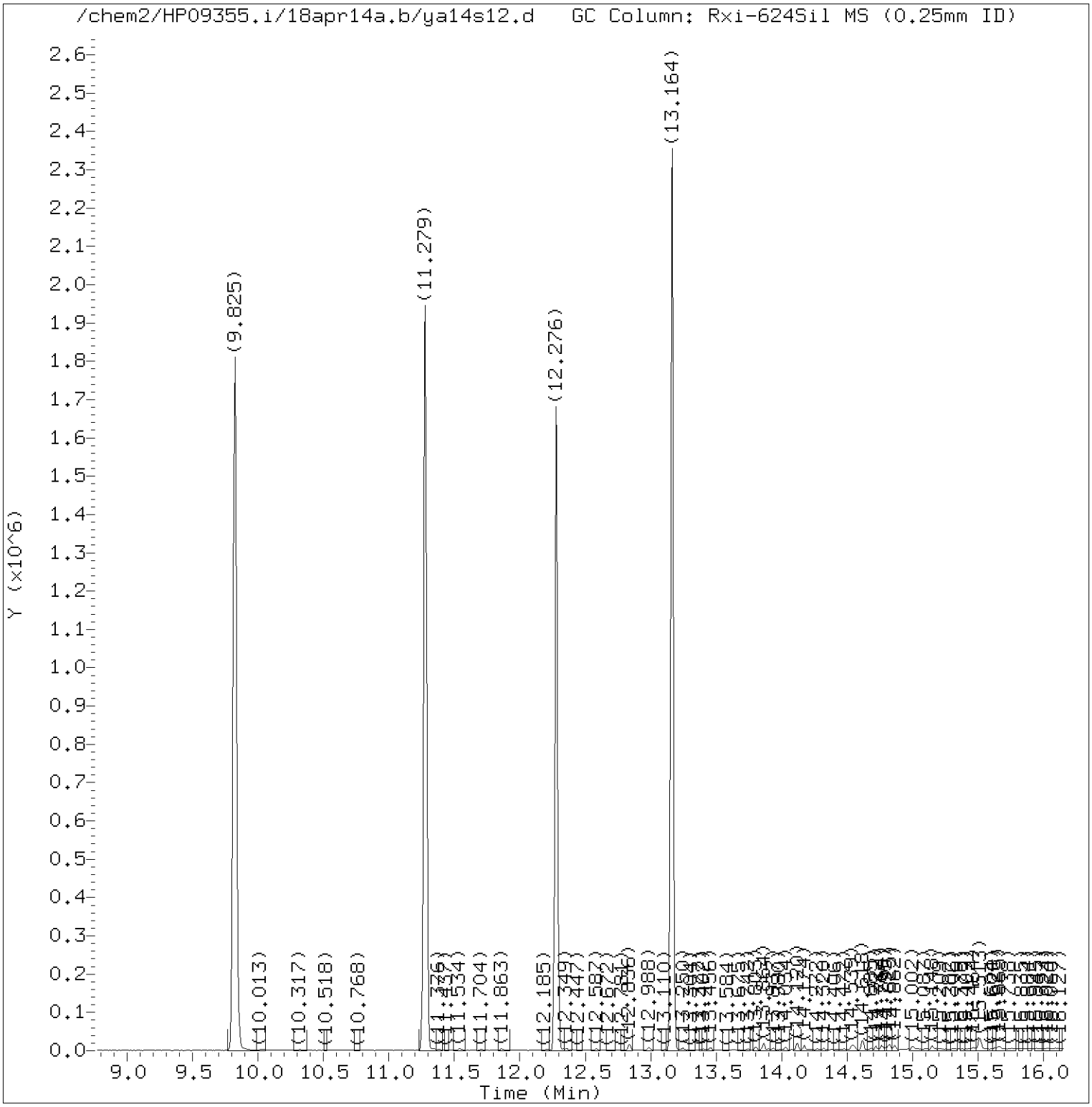
Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14s12.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 13:53 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 14-Apr-2018 14:09 Automation

Sample Name: T8103 Lab Sample ID: 9548797

Digitally signed by Nicole S. Lamoreaux
on 04/16/2018 at 09:28.
Target 3.5 esignature user ID: nsl01327



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14s12.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 13:53 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 14-Apr-2018 14:09 Automation

Sample Name: T8103 Lab Sample ID: 9548797

Digitally signed by Nicole S. Lamoreaux
on 04/16/2018 at 09:28.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14s12.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 13:53 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 14-Apr-2018 14:09 Automation

Sample Name: T8103 Lab Sample ID: 9548797

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
29)*t-Butyl alcohol-d10	(1)	4.270	65	363575	250.000
52)$Dibromofluoromethane	(2)	6.917	113	328588	51.779
57)$1,2-Dichloroethane-d4	(2)	7.379	102	82765	50.583
66)*Fluorobenzene	(2)	7.811	96	1335514	50.000
83)$Toluene-d8	(3)	9.825	98	1304572	47.882
100)*Chlorobenzene-d5	(3)	11.279	117	1036592	50.000
114)$4-Bromofluorobenzene	(3)	12.276	95	462993	45.283
131)*1,4-Dichlorobenzene-d4	(4)	13.164	152	555076	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Nicole S. Lamoreaux
on 04/16/2018 at 09:28.
Target 3.5 esignature user ID: nsl01327

T8105

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

9548799

Data file: /chem2/HP09355.i/18apr14a.b/ya14s04.d
Data file Sample Info. Line: T8105;9548799;1;0;;ATH81;;;ya14b01;
Date, time and analyst ID of latest file update: 14-Apr-2018 11:11 Automation

Injection date and time: **14-APR-2018 10:55**
Instrument ID: **HP09355.i** Batch: **Y181041AA**

Blank Data file reference: **/chem2/HP09355.i/18apr14a.b/ya14b01.d**

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 14-APR-2018 09:38
Mid Level Daily Calibration Standard Reference: **/chem2/HP09355.i/18apr14a.b/ya14c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
29) t-Butyl alcohol-d10	4.258(0.006)	440	65	372876 (-18)	250.00	
66) Fluorobenzene	7.805(0.006)	1023	96	1345550 (-14)	50.00	
100) Chlorobenzene-d5	11.272(0.000)	1593	117	1056549 (-18)	50.00	
131) 1,4-Dichlorobenzene-d4	13.158(0.000)	1903	152	573643 (-22)	50.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(2)	6.904(0.000)	113	331490	51.847	104%		80 - 120
57) 1,2-Dichloroethane-d4	(2)	7.367(0.000)	102	85461	51.841	104%		80 - 120
83) Toluene-d8	(3)	9.819(0.000)	98	1334536	48.056	96%		80 - 120
114) 4-Bromofluorobenzene	(3)	12.276(0.000)	95	464657	44.588	89%		80 - 120

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
4) Chloromethane	(2)			Not Detected					0.5	1
6) Vinyl Chloride	(2)			Not Detected					0.5	1
8) Bromomethane	(2)			Not Detected					0.5	1
9) Chloroethane	(2)			Not Detected					0.5	1
17) 1,1-Dichloroethene	(2)			Not Detected					0.5	1
18) Acetone	(1)			Not Detected					6	20
23) Carbon Disulfide	(2)			Not Detected					1	5
28) Methylene Chloride	(2)			Not Detected					0.5	1
32) trans-1,2-Dichloroethene	(2)			Not Detected					0.5	1
36) 1,1-Dichloroethane	(2)			Not Detected					0.5	1
42) cis-1,2-Dichloroethene	(2)			Not Detected					0.5	1
44) 2-Butanone	(2)			Not Detected					3	10
51) Chloroform	(2)			Not Detected					0.5	1
53) 1,1,1-Trichloroethane	(2)			Not Detected					0.5	1
56) Carbon Tetrachloride	(2)			Not Detected					0.5	1
60) Benzene	(2)			Not Detected					0.5	1
61) 1,2-Dichloroethane	(2)			Not Detected					0.5	1
71) Trichloroethene	(2)			Not Detected					0.5	1
73) 1,2-Dichloropropane	(2)			Not Detected					0.5	1
78) Bromodichloromethane	(2)			Not Detected					0.5	1
81) cis-1,3-Dichloropropene	(2)			Not Detected					0.5	1
82) 4-Methyl-2-pentanone	(2)			Not Detected					3	10
88) Toluene	(3)			Not Detected					0.5	1
89) trans-1,3-Dichloropropene	(3)			Not Detected					0.5	1
92) 1,1,2-Trichloroethane	(3)			Not Detected					0.5	1
93) Tetrachloroethene	(3)			Not Detected					0.5	1
96) 2-Hexanone	(3)			Not Detected					3	10
97) Dibromochloromethane	(3)			Not Detected					0.5	1
102) Chlorobenzene	(3)			Not Detected					0.5	1
104) Ethylbenzene	(3)			Not Detected					0.5	1
106) m+p-Xylene	(3)			Not Detected					0.5	1

Digitally signed by Linda C. Pape on 04/14/2018 at 13:06. Target 3.5 esignature user ID: lcp00895

T8105 Lancaster Laboratories 9548799
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP09355.i/18apr14a.b/ya14s04.d Injection date and time: **14-APR-2018 10:55**
Data file Sample Info. Line: T8105;9548799;1;0;;ATH81;;;ya14b01; Instrument ID: **HP09355.i** Batch: **Y181041AA**
Date, time and analyst ID of latest file update: 14-Apr-2018 11:11 Automation

Blank Data file reference: **/chem2/HP09355.i/18apr14a.b/ya14b01.d**

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 14-APR-2018 09:38
Mid Level Daily Calibration Standard Reference: **/chem2/HP09355.i/18apr14a.b/ya14c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

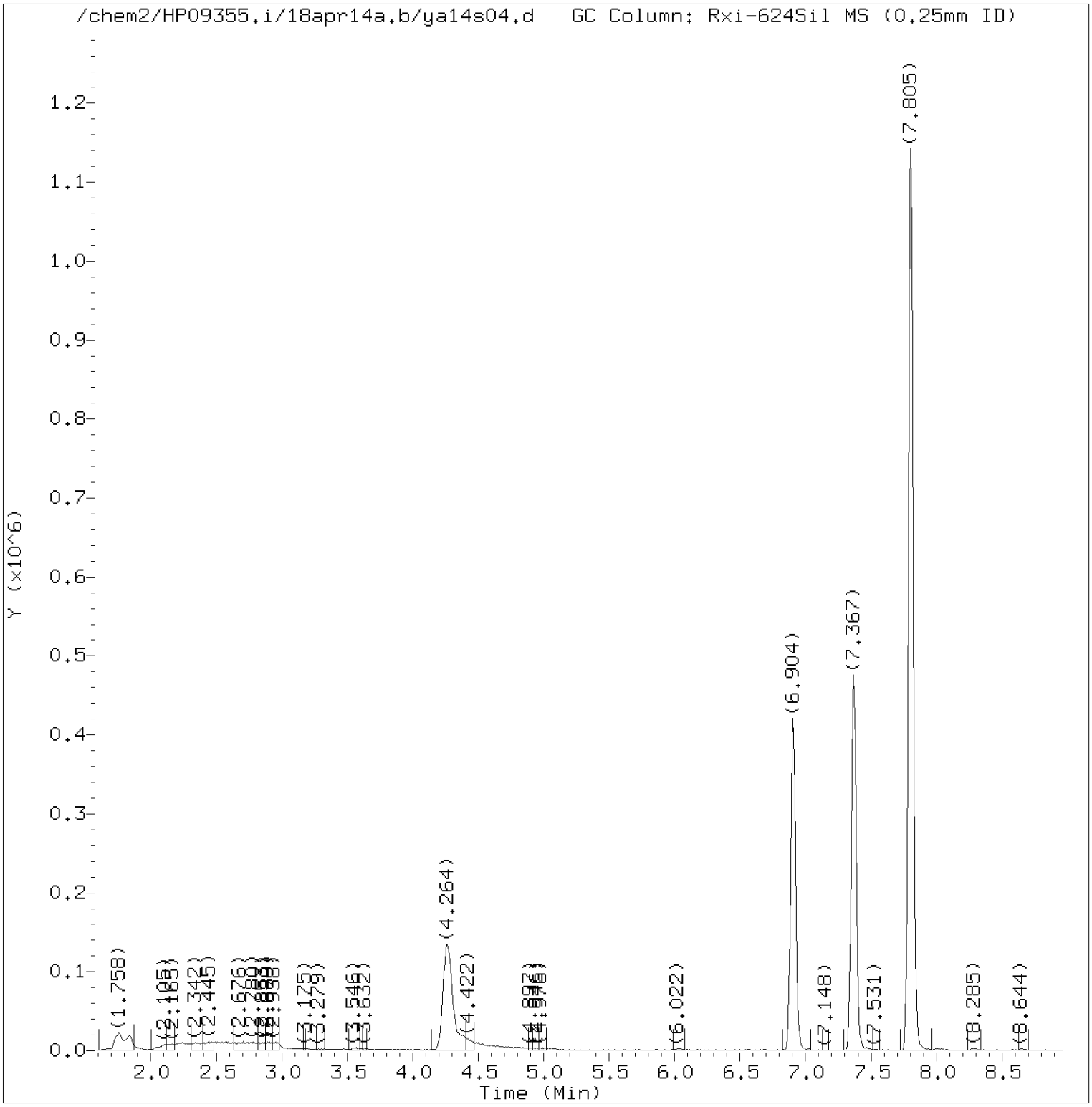
Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
107) o-Xylene	(3)			Not Detected					0.5	1
108) Xylene (Total)	(3)			Not Detected					0.5	1
109) Styrene	(3)			Not Detected					1	5
110) Bromoform	(3)			Not Detected					0.5	4
116) 1,1,2,2-Tetrachloroethane	(4)			Not Detected					0.5	1

Total number of targets = 36

Digitally signed by Linda C. Pape on 04/14/2018 at 13:06. Target 3.5 esignature user ID: lcp00895

Secondary review performed and digitally signed by Joshua E. Berrios on 04/17/2018 at 21:47. PARALLAX ID: jeb12641



Total Ion Chromatogram (TIC)

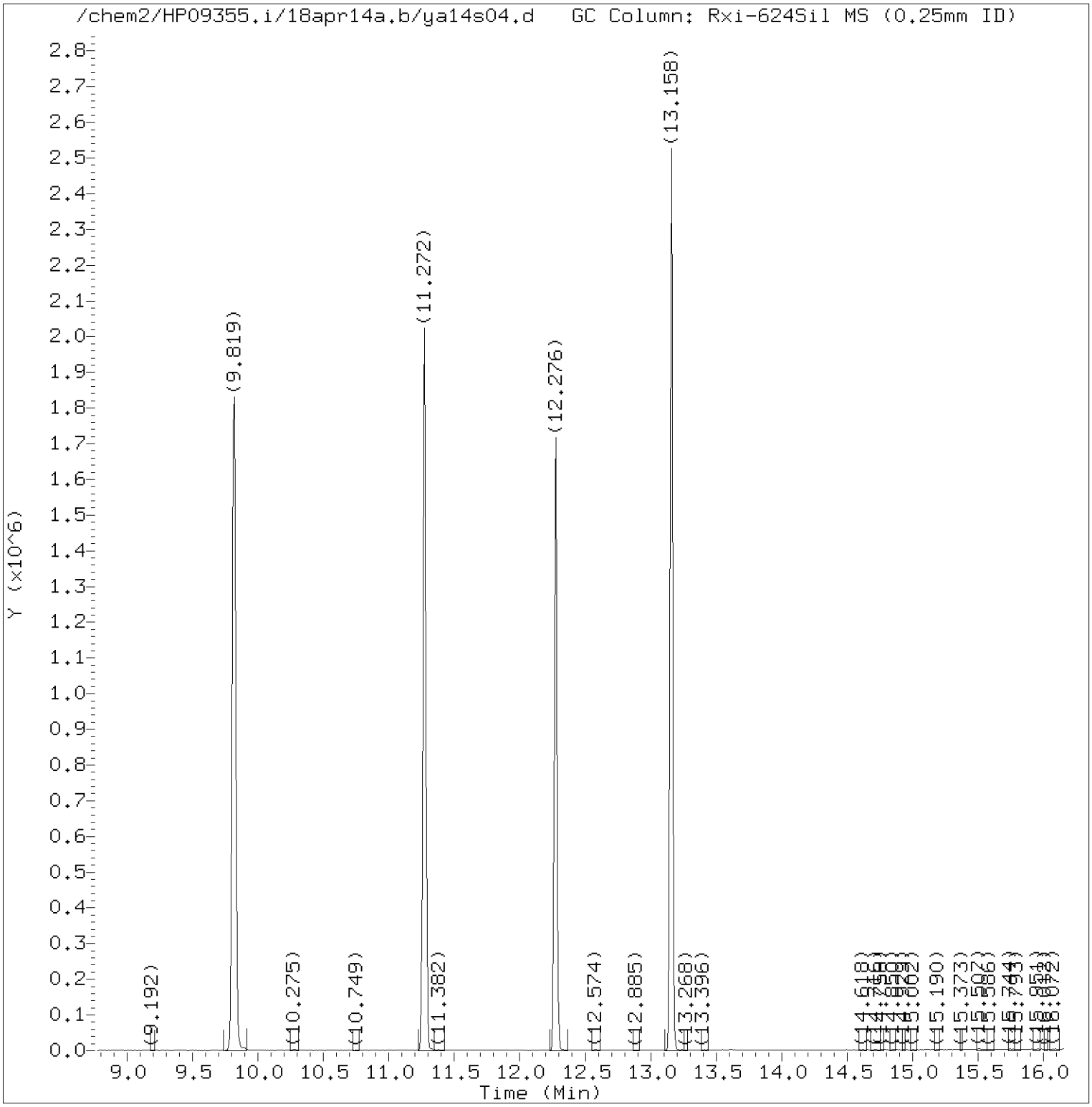
Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14s04.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 10:55 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 14-Apr-2018 11:11 Automation

Sample Name: T8105 Lab Sample ID: 9548799

Digitally signed by Linda C. Pape
on 04/14/2018 at 13:06.
Target 3.5 esignature user ID: lcp00895



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14s04.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 10:55 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 14-Apr-2018 11:11 Automation

Sample Name: T8105 Lab Sample ID: 9548799

Digitally signed by Linda C. Pape
on 04/14/2018 at 13:06.
Target 3.5 esignature user ID: lcp00895

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14s04.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 10:55 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 14-Apr-2018 11:11 Automation

Sample Name: T8105 Lab Sample ID: 9548799

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
29)*t-Butyl alcohol-d10	(1)	4.258	65	372876	250.000
52)$Dibromofluoromethane	(2)	6.904	113	331490	51.847
57)$1,2-Dichloroethane-d4	(2)	7.367	102	85461	51.841
66)*Fluorobenzene	(2)	7.805	96	1345550	50.000
83)$Toluene-d8	(3)	9.819	98	1334536	48.056
100)*Chlorobenzene-d5	(3)	11.272	117	1056549	50.000
114)$4-Bromofluorobenzene	(3)	12.276	95	464657	44.588
131)*1,4-Dichlorobenzene-d4	(4)	13.158	152	573643	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda C. Pape
on 04/14/2018 at 13:06.
Target 3.5 esignature user ID: lcp00895

T8106 Lancaster Laboratories 9548800
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP09355.i/18apr14a.b/ya14s05.d Injection date and time: **14-APR-2018 11:17**
Data file Sample Info. Line: T8106;9548800;1;0;;ATH81;;;ya14b01; Instrument ID: **HP09355.i** Batch: **Y181041AA**
Date, time and analyst ID of latest file update: 14-Apr-2018 11:33 Automation

Blank Data file reference: **/chem2/HP09355.i/18apr14a.b/ya14b01.d**

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 14-APR-2018 09:38
Mid Level Daily Calibration Standard Reference: **/chem2/HP09355.i/18apr14a.b/ya14c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
29) t-Butyl alcohol-d10	4.276(-0.012)	443	65	360437 (-21)	250.00	
66) Fluorobenzene	7.805(0.006)	1023	96	1318577 (-16)	50.00	
100) Chlorobenzene-d5	11.272(0.000)	1593	117	1045504 (-19)	50.00	
131) 1,4-Dichlorobenzene-d4	13.158(0.000)	1903	152	552756 (-25)	50.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(2)	6.911(-0.001)	113	327660	52.296	105%		80 - 120
57) 1,2-Dichloroethane-d4	(2)	7.373(-0.001)	102	82787	51.246	102%		80 - 120
83) Toluene-d8	(3)	9.818(0.000)	98	1307422	47.577	95%		80 - 120
114) 4-Bromofluorobenzene	(3)	12.276(0.000)	95	457642	44.378	89%		80 - 120

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
4) Chloromethane	(2)			Not Detected					0.5	1
6) Vinyl Chloride	(2)			Not Detected					0.5	1
8) Bromomethane	(2)			Not Detected					0.5	1
9) Chloroethane	(2)			Not Detected					0.5	1
17) 1,1-Dichloroethene	(2)			Not Detected					0.5	1
18) Acetone	(1)			Not Detected					6	20
23) Carbon Disulfide	(2)			Not Detected					1	5
28) Methylene Chloride	(2)			Not Detected					0.5	1
32) trans-1,2-Dichloroethene	(2)			Not Detected					0.5	1
36) 1,1-Dichloroethane	(2)			Not Detected					0.5	1
42) cis-1,2-Dichloroethene	(2)			Not Detected					0.5	1
44) 2-Butanone	(2)			Not Detected					3	10
51) Chloroform	(2)			Not Detected					0.5	1
53) 1,1,1-Trichloroethane	(2)			Not Detected					0.5	1
56) Carbon Tetrachloride	(2)			Not Detected					0.5	1
60) Benzene	(2)			Not Detected					0.5	1
61) 1,2-Dichloroethane	(2)			Not Detected					0.5	1
71) Trichloroethene	(2)			Not Detected					0.5	1
73) 1,2-Dichloropropane	(2)			Not Detected					0.5	1
78) Bromodichloromethane	(2)			Not Detected					0.5	1
81) cis-1,3-Dichloropropene	(2)			Not Detected					0.5	1
82) 4-Methyl-2-pentanone	(2)			Not Detected					3	10
88) Toluene	(3)	9.898(0.000)	92	15633	0.812	0.81		J	0.5	1
89) trans-1,3-Dichloropropene	(3)			Not Detected					0.5	1
92) 1,1,2-Trichloroethane	(3)			Not Detected					0.5	1
93) Tetrachloroethene	(3)			Not Detected					0.5	1
96) 2-Hexanone	(3)			Not Detected					3	10
97) Dibromochloromethane	(3)			Not Detected					0.5	1
102) Chlorobenzene	(3)			Not Detected					0.5	1
104) Ethylbenzene	(3)			Not Detected					0.5	1
106) m+p-Xylene	(3)			Not Detected					0.5	1

Digitally signed by Linda C. Pape on 04/14/2018 at 13:06. Target 3.5 esignature user ID: lcp00895

T8106 Lancaster Laboratories 9548800
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP09355.i/18apr14a.b/ya14s05.d Injection date and time: **14-APR-2018 11:17**
Data file Sample Info. Line: T8106;9548800;1;0;;ATH81;;;ya14b01; Instrument ID: **HP09355.i** Batch: **Y181041AA**
Date, time and analyst ID of latest file update: 14-Apr-2018 11:33 Automation

Blank Data file reference: **/chem2/HP09355.i/18apr14a.b/ya14b01.d**

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 14-APR-2018 09:38
Mid Level Daily Calibration Standard Reference: **/chem2/HP09355.i/18apr14a.b/ya14c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

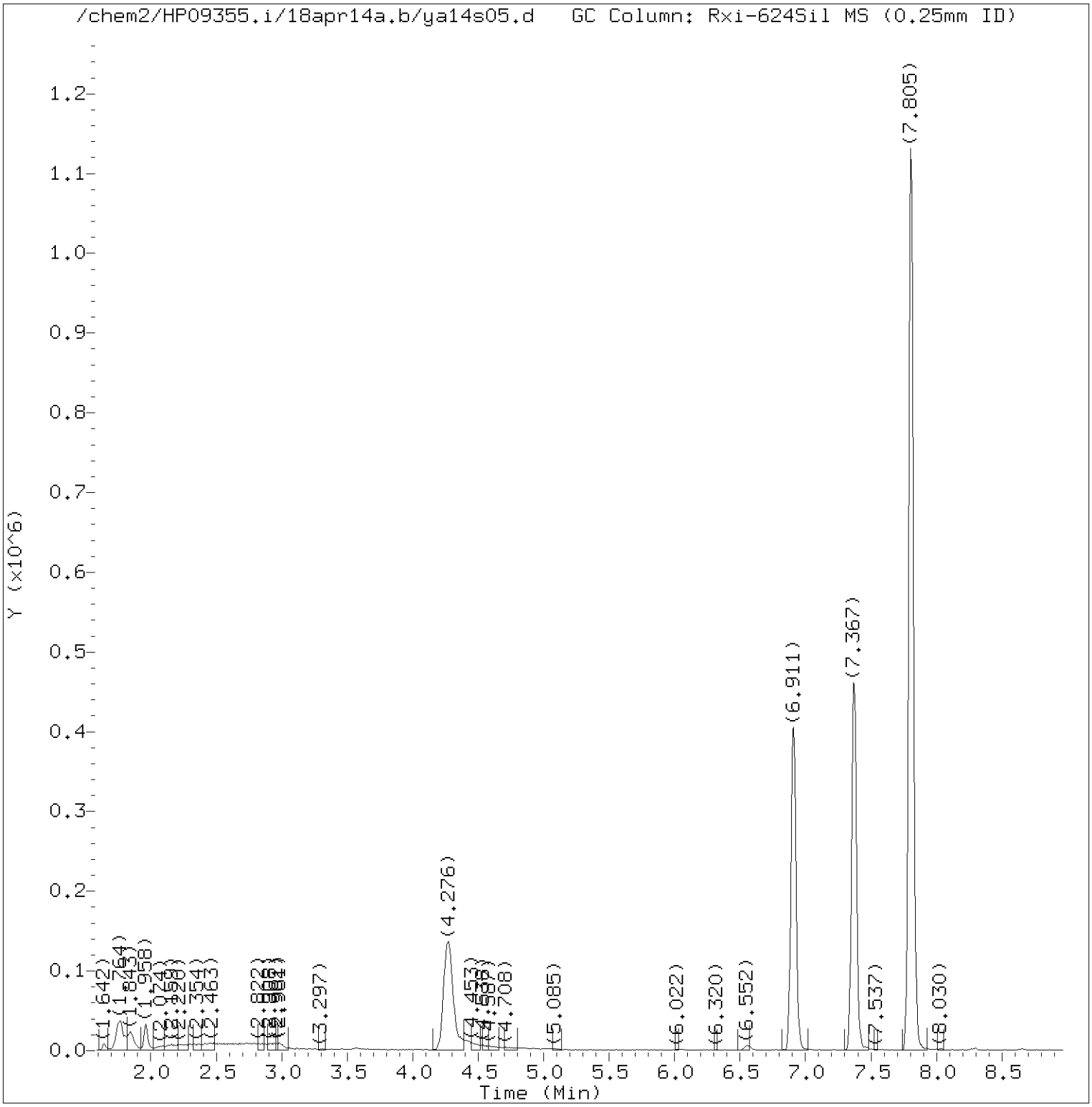
Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
107) o-Xylene	(3)			Not Detected					0.5	1
108) Xylene (Total)	(3)			Not Detected					0.5	1
109) Styrene	(3)			Not Detected					1	5
110) Bromoform	(3)			Not Detected					0.5	4
116) 1,1,2,2-Tetrachloroethane	(4)			Not Detected					0.5	1

Total number of targets = 36

Digitally signed by Linda C. Pape on 04/14/2018 at 13:06. Target 3.5 esignature user ID: lcp00895

Secondary review performed and digitally signed by Joshua E. Berrios on 04/17/2018 at 21:47. PARALLAX ID: jeb12641



Total Ion Chromatogram (TIC)

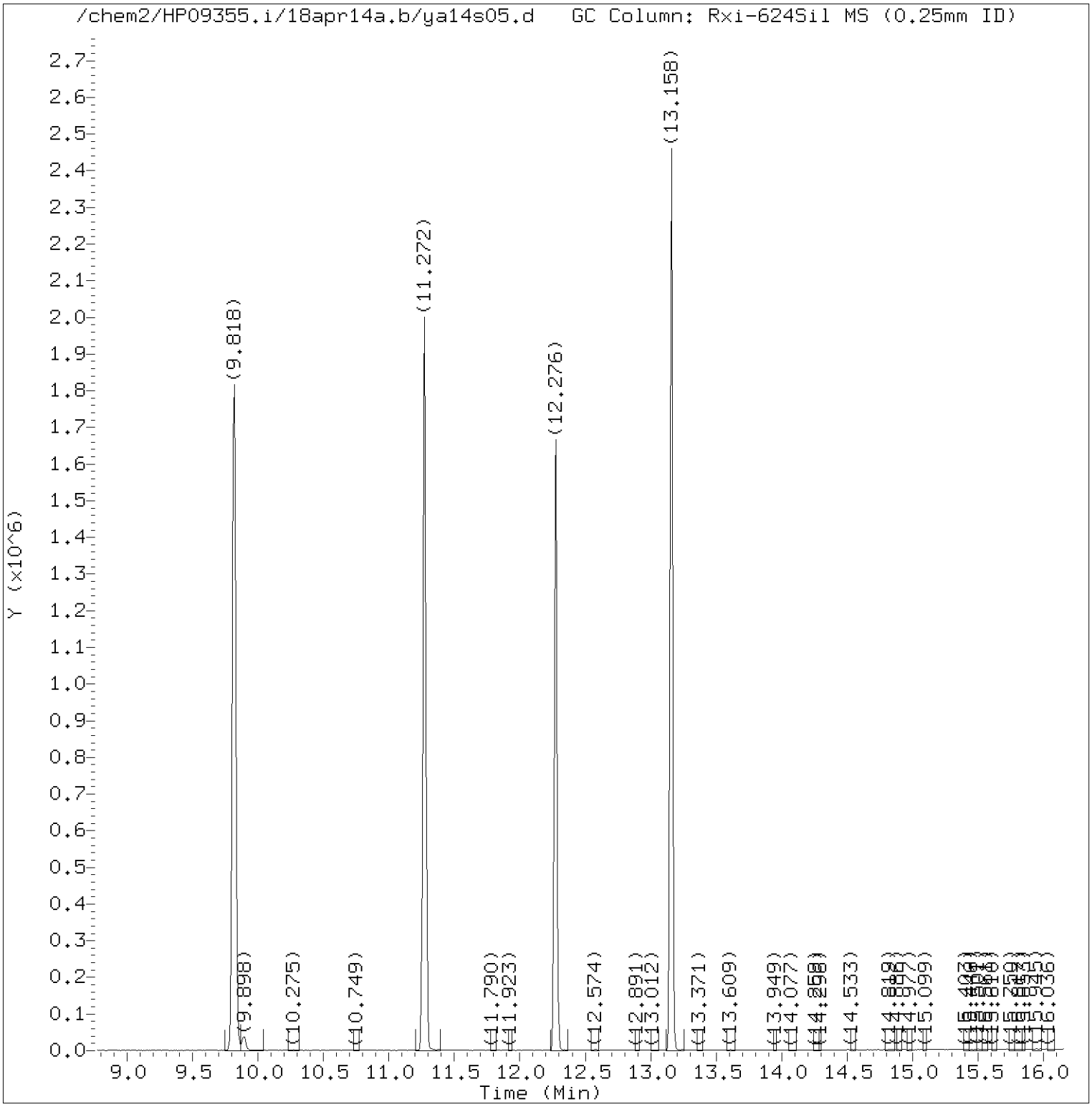
Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14s05.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 11:17 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 14-Apr-2018 11:33 Automation

Sample Name: T8106 Lab Sample ID: 9548800

Digitally signed by Linda C. Pape
on 04/14/2018 at 13:06.
Target 3.5 esignature user ID: lcp00895



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14s05.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 11:17 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 14-Apr-2018 11:33 Automation

Sample Name: T8106 Lab Sample ID: 9548800

Digitally signed by Linda C. Pape
on 04/14/2018 at 13:06.
Target 3.5 esignature user ID: lcp00895

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14s05.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 11:17 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 14-Apr-2018 11:33 Automation

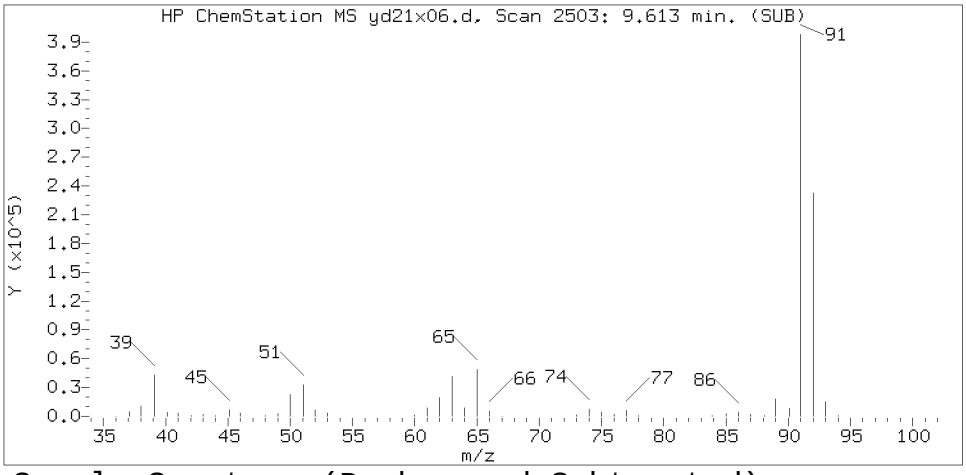
Sample Name: T8106 Lab Sample ID: 9548800

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
29)*t-Butyl alcohol-d10	(1)	4.276	65	360437	250.000
52)$Dibromofluoromethane	(2)	6.911	113	327660	52.296
57)$1,2-Dichloroethane-d4	(2)	7.373	102	82787	51.246
66)*Fluorobenzene	(2)	7.805	96	1318577	50.000
83)$Toluene-d8	(3)	9.818	98	1307422	47.577
88) Toluene	(3)	9.898	92	15633	0.812
100)*Chlorobenzene-d5	(3)	11.272	117	1045504	50.000
114)$4-Bromofluorobenzene	(3)	12.276	95	457642	44.378
131)*1,4-Dichlorobenzene-d4	(4)	13.158	152	552756	50.000

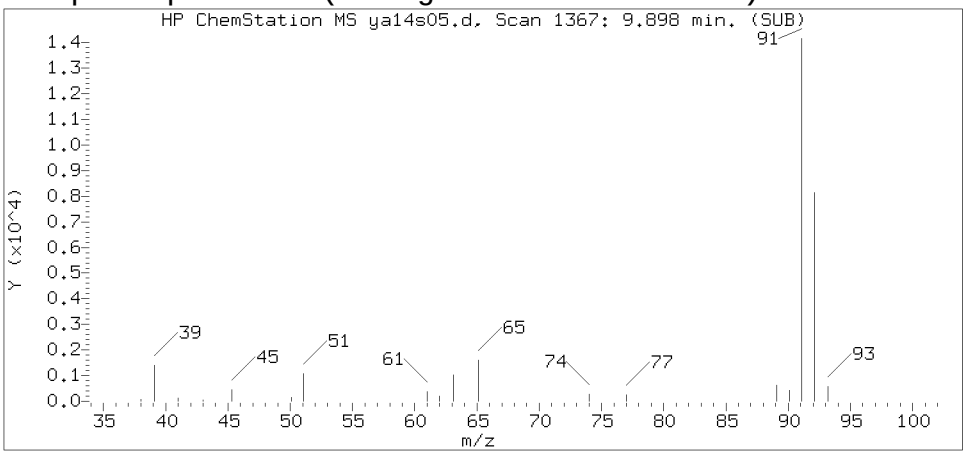
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda C. Pape
on 04/14/2018 at 13:06.
Target 3.5 esignature user ID: lcp00895

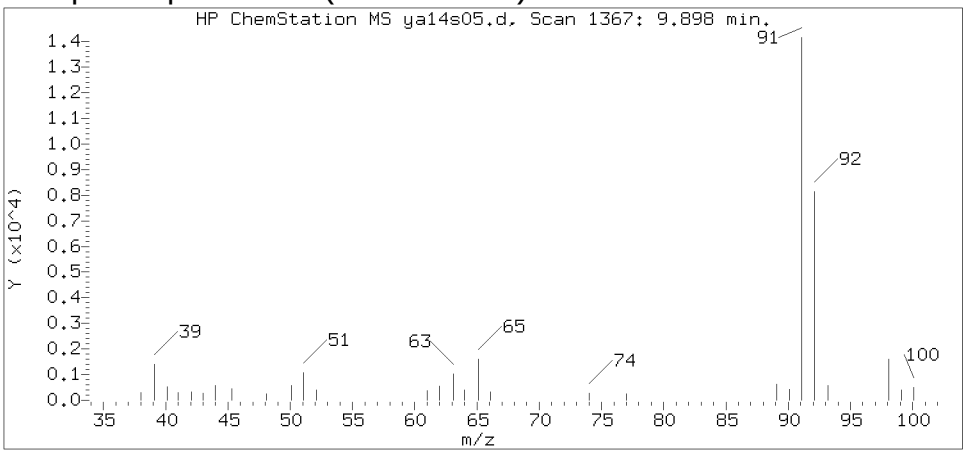
Reference Standard Spectrum for Toluene

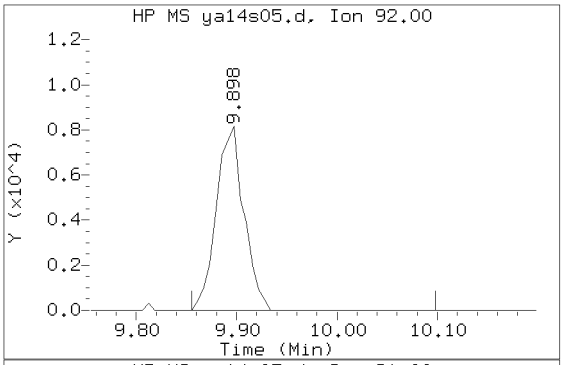


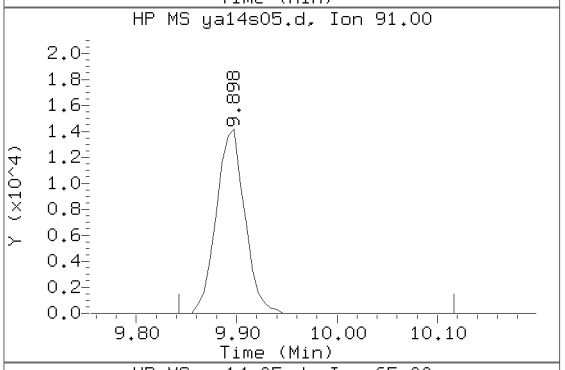
Sample Spectrum (Background Subtracted)

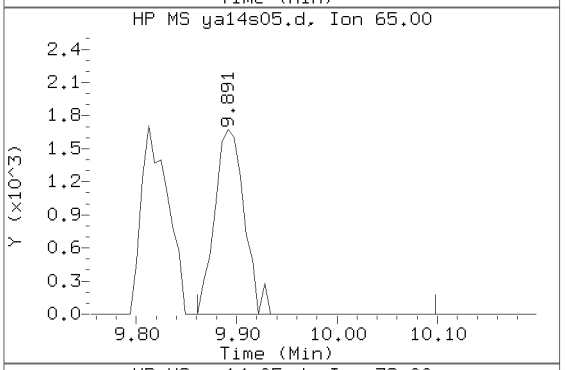


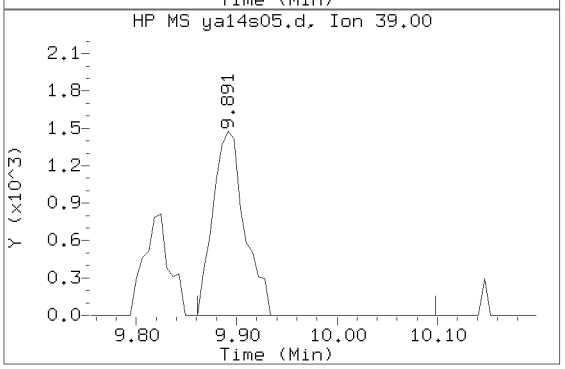
Sample Spectrum (Unaltered)











Data File: /chem2/HP09355.i/18apr14a.b/ya14s05.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 11:17 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 14-Apr-2018 11:33 Automation

Sample Name: T8106 Lab Sample ID: 9548800

Compound Number : 88
Compound Name : Toluene
Scan Number : 1367
Retention Time (minutes): 9.898
Relative Retention Time : 0.00000
Quant Ion : 92.00
Area (flag) : 15633
On-Column Amount (ng) : 0.8124

Digitally signed by Linda C. Pape on 04/14/2018 at 13:06.
Target 3.5 esignature user ID: lcp00895

Standards Data

Volatiles by GC/MS

Lancaster Laboratories
Volatiles
Runlog for Agilent GC/MS System HP09355 **HP #20**

Data Directory Path is - c:\msdchem\1\data\18jan15j\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
dhh02035	yj15t02.D	BFB50NGBFB	01/15/2018	12:11		
dhh02035	yj15x01.D	BLANK	01/15/2018	12:32		
dhh02035	yj15i01.D	VSTD300	01/15/2018	12:54		
dhh02035	yj15i02.D	VSTD100	01/15/2018	13:16		
dhh02035	yj15i03.D	VSTD050	01/15/2018	13:39		
dhh02035	yj15i04.D	VSTD020	01/15/2018	14:00		
dhh02035	yj15i05.D	VSTD010	01/15/2018	14:25		
dhh02035	yj15i06.D	VSTD004	01/15/2018	14:47		
dhh02035	yj15i07.D	VSTD001	01/15/2018	15:09		
dhh02035	yj15i08.D	VSTD020	01/15/2018	15:31		
dhh02035	yj15m01.D	MDL0.5	01/15/2018	15:53		
dhh02035	yj15x03.D	BLANK	01/15/2018	16:15		
dhh02035	yj15v01.D	YLGICV	01/15/2018	16:38		

Lancaster Laboratories
Volatiles
Runlog for Agilent GC/MS System HP09355 **HP #20**

Data Directory Path is - c:\msdchem\1\data\18JAN16A\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
kk10002	YJ16T01.D	50NGBFB	01/16/2018	17:32	Y180161AA	
kk10002	YJ16X01.D	CBLKY03	01/16/2018	17:51	Y180161AA	
kk10002	YJ16C01.D	VSTD050	01/16/2018	18:13	Y180161AA	
kk10002	YJ16S01.D	LCSY03	01/16/2018	18:35	Y180161AA	
kk10002	YJ16S02.D	LCDY03	01/16/2018	18:57	Y180161AA	
kk10002	YJ16B01.D	VBLKY03	01/16/2018	19:19	Y180161AA	
kk10002	YJ16S03.D	9405771	01/16/2018	19:52	Y180161AA	
kk10002	YJ16S04.D	9408555	01/16/2018	20:14	Y180161AA	
kk10002	YJ16S05.D	9408552	01/16/2018	20:35	Y180161AA	
kk10002	YJ16S06.D	9408553	01/16/2018	20:57	Y180161AA	
kk10002	YJ16S07.D	9408554	01/16/2018	21:19	Y180161AA	10
kk10002	YJ16S08.D	9408554DL	01/16/2018	21:41	Y180161AA	100
kk10002	YJ16S09.D	9405772	01/16/2018	22:02	Y180161AA	
kk10002	YJ16S10.D	9405773	01/16/2018	22:24	Y180161AA	
kk10002	YJ16S11.D	9405774	01/16/2018	22:47	Y180161AA	
kk10002	YJ16S12.D	9405775	01/16/2018	23:09	Y180161AA	
kk10002	YJ16S13.D	9406254	01/16/2018	23:31	Y180161AA	
kk10002	YJ16S14.D	9406255	01/16/2018	23:53	Y180161AA	
kk10002	YJ16S15.D	9406256	01/17/2018	00:14	Y180161AA	
kk10002	YJ16S16.D	9406257	01/17/2018	00:37	Y180161AA	
kk10002	YJ16S17.D	9406258	01/17/2018	00:59	Y180161AA	
kk10002	YJ16S18.D	9406259	01/17/2018	01:21	Y180161AA	
kk10002	YJ16S19.D	9406260	01/17/2018	01:43	Y180161AA	
kk10002	YJ16S20.D	9406261	01/17/2018	02:05	Y180161AA	
kk10002	YJ16S21.D	9406262	01/17/2018	02:27	Y180161AA	
kk10002	YJ16S22.D	9406263	01/17/2018	02:49	Y180161AA	
kk10002	YJ16S23.D	9406264	01/17/2018	03:11	Y180161AA	

Lancaster Laboratories
Volatiles
Runlog for Agilent GC/MS System HP09355 **HP #20**

Data Directory Path is - C:\MSDCHEM\1\DATA\18APR14A\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
LCP00895	YA14T01.D	50NGBFB	04/14/2018	07:50		
LCP00895	YA14X01.D	CBLKY80	04/14/2018	08:10	Y181041AA	
LCP00895	YA14C01.D	VSTD150	04/14/2018	08:33	Y181041AA	
LCP00895	YA14C02.D	VSTD150	04/14/2018	08:55	Y181041AA	
LCP00895	YA14B01.D	VBLKY80	04/14/2018	09:17	Y181041AA	
LCP00895	YA14S01.D	LCSY80	04/14/2018	09:40	Y181041AA	
LCP00895	YA14S02.D	LCSY81	04/14/2018	10:02	Y181041AA	
LCP00895	YA14S03.D	LCDY81	04/14/2018	10:25	Y181041AA	
LCP00895	YA14S04.D	9548799	04/14/2018	10:55	Y181041AA	
LCP00895	YA14S05.D	9548800	04/14/2018	11:17	Y181041AA	
LCP00895	YA14S06.D	9546451	04/14/2018	11:40	Y181041AA	
LCP00895	YA14S07.D	9546453	04/14/2018	12:02	Y181041AA	
LCP00895	YA14S08.D	9546173	04/14/2018	12:24	Y181041AA	
LCP00895	YA14S09.D	9548789	04/14/2018	12:47	Y181041AA	
LCP00895	YA14S10.D	9548790MS	04/14/2018	13:09	Y181041AA	
LCP00895	YA14S11.D	9548791MSD	04/14/2018	13:31	Y181041AA	
LCP00895	YA14S12.D	9548797	04/14/2018	13:53	Y181041AA	
LCP00895	YA14S13.D	9546447	04/14/2018	14:15	Y181041AA	10
LCP00895	YA14S14.D	9546449	04/14/2018	14:38	Y181041AA	10
LCP00895	YA14S15.D	9546169	04/14/2018	15:00	Y181041AA	
LCP00895	YA14S16.D	9546170	04/14/2018	15:22	Y181041AA	
LCP00895	YA14S17.D	9546171	04/14/2018	15:44	Y181041AA	
LCP00895	YA14S18.D	9546167	04/14/2018	16:06	Y181041AA	5
LCP00895	YA14S19.D	9546167DL	04/14/2018	16:29	Y181041AA	50
LCP00895	YA14S20.D	9546168	04/14/2018	16:51	Y181041AA	
LCP00895	YA14S21.D	9546168DL	04/14/2018	17:13	Y181041AA	10
LCP00895	YA14S22.D	9546172	04/14/2018	17:35	Y181041AA	5
LCP00895	YA14S23.D	9546172DL	04/14/2018	17:57	Y181041AA	50
LCP00895	YA14S24.D	9546521	04/14/2018	18:19	Y181041AA	
LCP00895	YA14S25.D	9546522	04/14/2018	18:42	Y181041AA	
LCP00895	YA14S26.D	9546523	04/14/2018	19:04	Y181041AA	
LCP00895	YA14S27.D	9546526	04/14/2018	19:26	Y181041AA	

Data File: /chem2/HP09355.i/18jan15j.b/yj15t02.d

Date : 15-JAN-2018 12:11

Client ID: bfbaug14-17

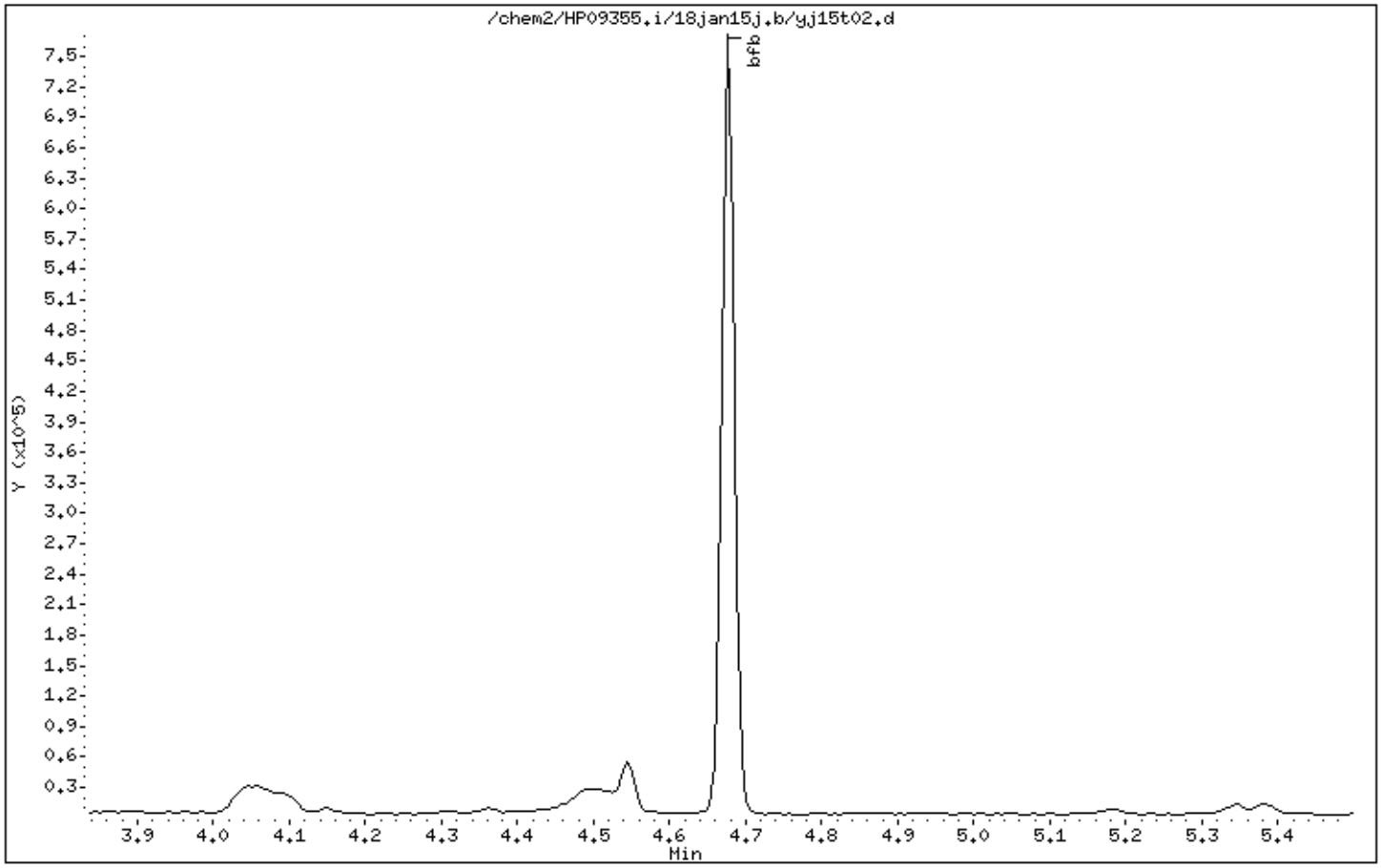
Instrument: HP09355.i

Sample Info: bfbaug14-17;BFB50NGBFB;1;3;;;;

Operator: dhh02035

Column phase: Rxi-624Sil MS

Column diameter: 0.25



Digitally signed by Daniel H. Heller on 01/15/2018 at 15:57.
Target 3.5 esignature user ID: dhh02035

Data File: /chem2/HP09355.i/18jan15j.b/yj15t02.d

Date : 15-JAN-2018 12:11

Client ID: bfbaug14-17

Instrument: HP09355.i

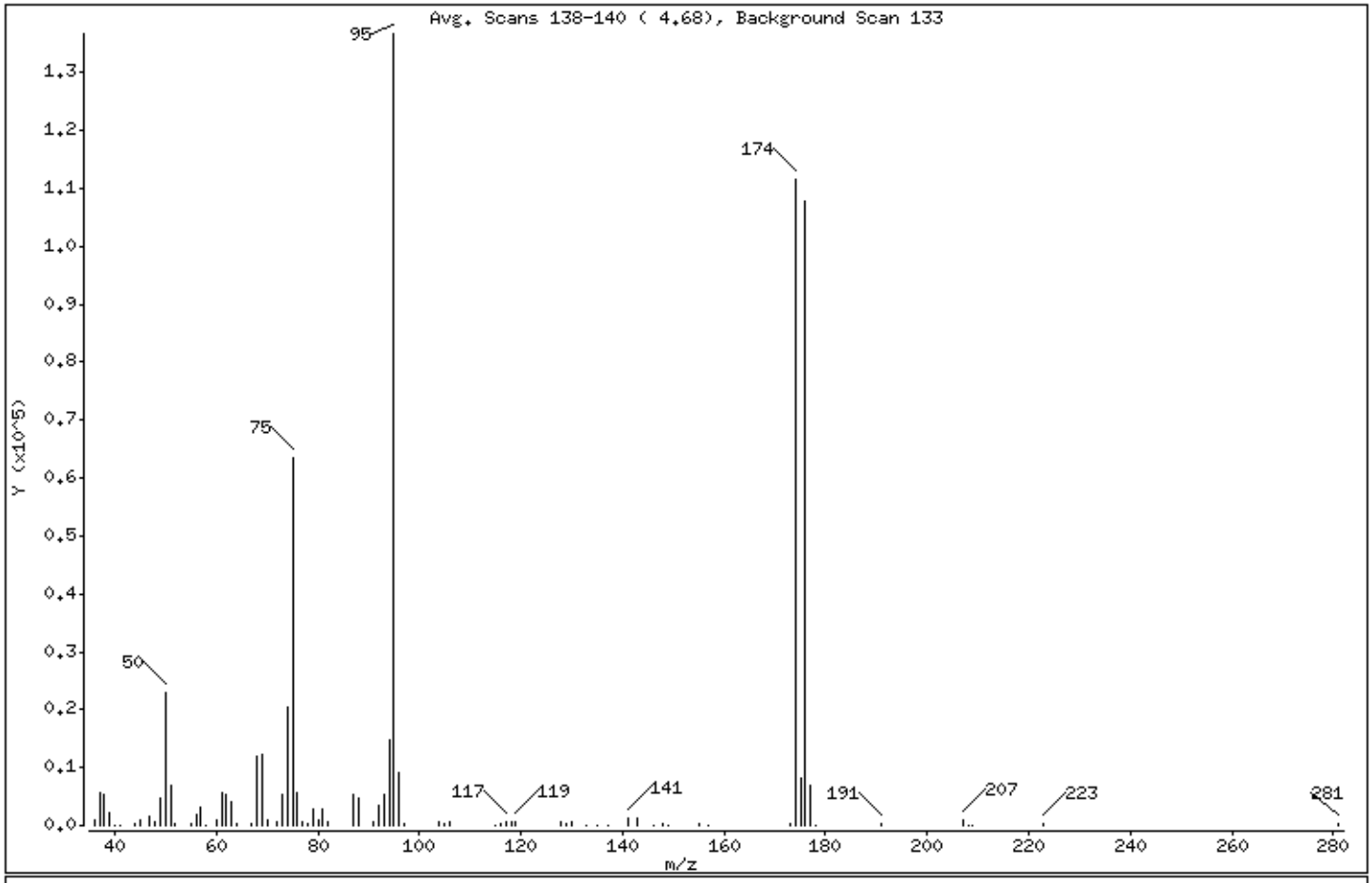
Sample Info: bfbaug14-17;BFB50NGBFB;1;3;;;;

Operator: dhh02035

Column phase: Rxi-624Sil MS

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	16.72
75	30.00 - 60.00% of mass 95	46.33
96	5.00 - 9.00% of mass 95	6.65
173	Less than 2.00% of mass 174	0.17 (0.21)
174	50.00 - 100.00% of mass 95	81.66
175	5.00 - 9.00% of mass 174	5.97 (7.31)
176	95.00 - 101.00% of mass 174	78.95 (96.68)
177	5.00 - 9.00% of mass 176	5.04 (6.38)

Digitally signed by Daniel H. Heller on 01/15/2018 at 15:57.
Target 3.5 esignature user ID: dhh02035

Data File: /chem2/HP09355.i/18jan15j.b/yj15t02.d

Date : 15-JAN-2018 12:11

Client ID: bfbaug14-17 Instrument: HP09355.i

Sample Info: bfbaug14-17;BFB50NGBFB;1;3;;;;

Operator: dhh02035

Column phase: Rxi-624Sil MS Column diameter: 0.25

Data File: yj15t02.d

Spectrum: Avg. Scans 138-140 (4.68), Background Scan 133

Location of Maximum: 95.00

Number of points: 80

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1070	63.00	4058	93.00	5244	146.00	86
37.00	5752	64.00	368	94.00	14688	148.00	194
38.00	5285	67.00	471	95.00	136704	149.00	88
39.00	2237	68.00	11929	96.00	9099	155.00	349
40.00	83	69.00	12112	97.00	212	157.00	125
41.00	12	70.00	918	104.00	533	173.00	230
44.00	210	72.00	655	105.00	323	174.00	111648
45.00	976	73.00	5306	106.00	517	175.00	8162
47.00	1461	74.00	20384	115.00	94	176.00	107944
48.00	682	75.00	63344	116.00	438	177.00	6886
49.00	4758	76.00	5527	117.00	749	178.00	83
50.00	22856	77.00	754	118.00	518	191.00	330
51.00	6880	78.00	422	119.00	692	207.00	836
52.00	244	79.00	2843	128.00	525	208.00	136
55.00	249	80.00	876	129.00	201	209.00	103
56.00	1864	81.00	2971	130.00	493	223.00	336
57.00	3006	82.00	666	133.00	122	281.00	163
58.00	96	87.00	5229	135.00	146		
60.00	834	88.00	4690	137.00	95		
61.00	5541	91.00	564	141.00	1143		
62.00	5257	92.00	3406	143.00	1116		

Digitally signed by Daniel H. Heller on 01/15/2018 at 15:57.
Target 3.5 esignature user ID: dhh02035

Data File: /chem2/HP09355.i/18jan16a.b/yj16t01.d

Date : 16-JAN-2018 17:32

Client ID: BFBAug14-17

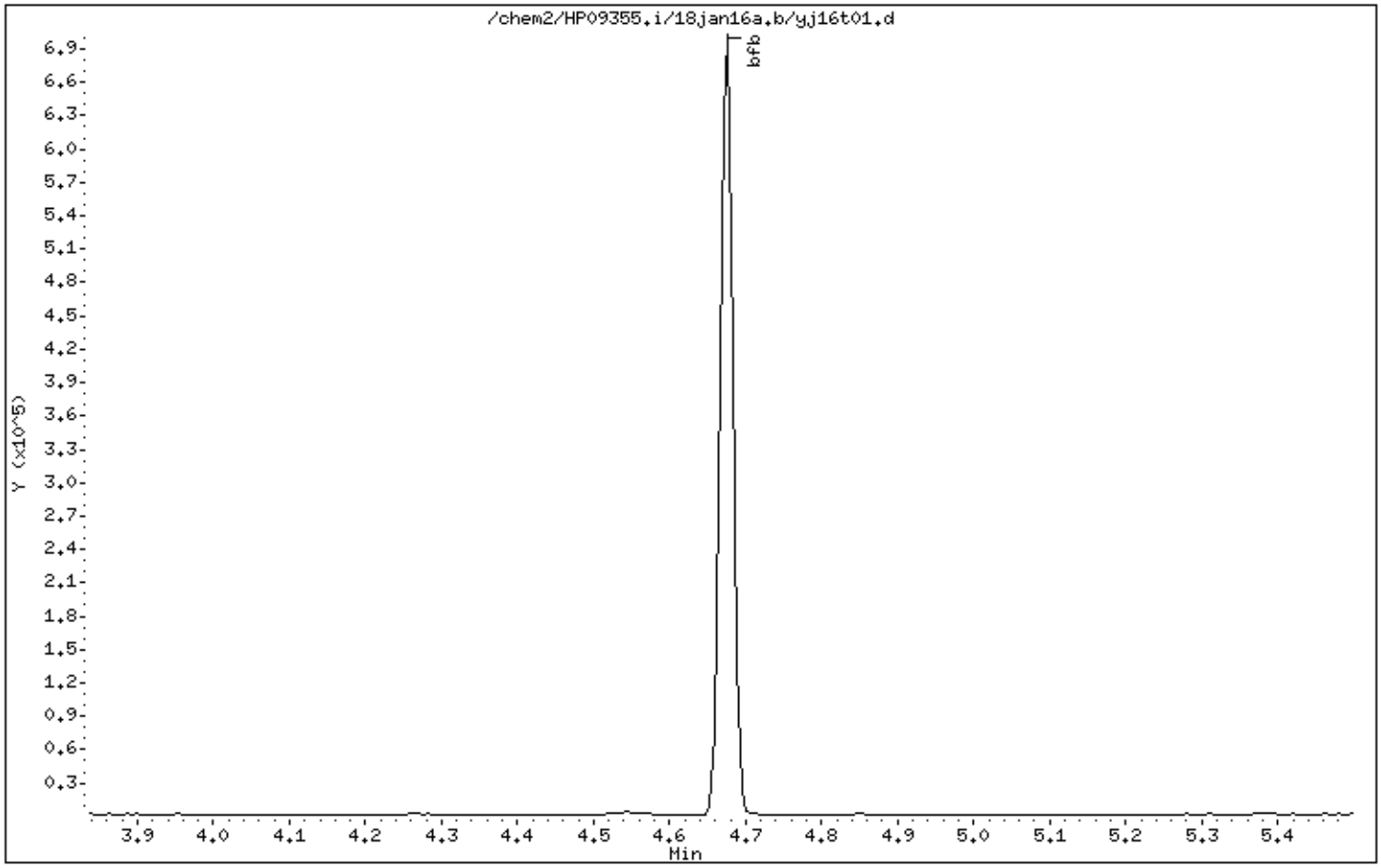
Instrument: HP09355.i

Sample Info: BFBAug14-17;50NGBFB;1;3;;;;;;

Operator: kk10002

Column phase: Rxi-624Sil MS

Column diameter: 0.25



Digitally signed by Kevin Kelly on 01/16/2018 at 18:33.
Target 3.5 esignature user ID: kk10002

Data File: /chem2/HP09355.i/18jan16a.b/yj16t01.d

Date : 16-JAN-2018 17:32

Client ID: BFBAug14-17

Instrument: HP09355.i

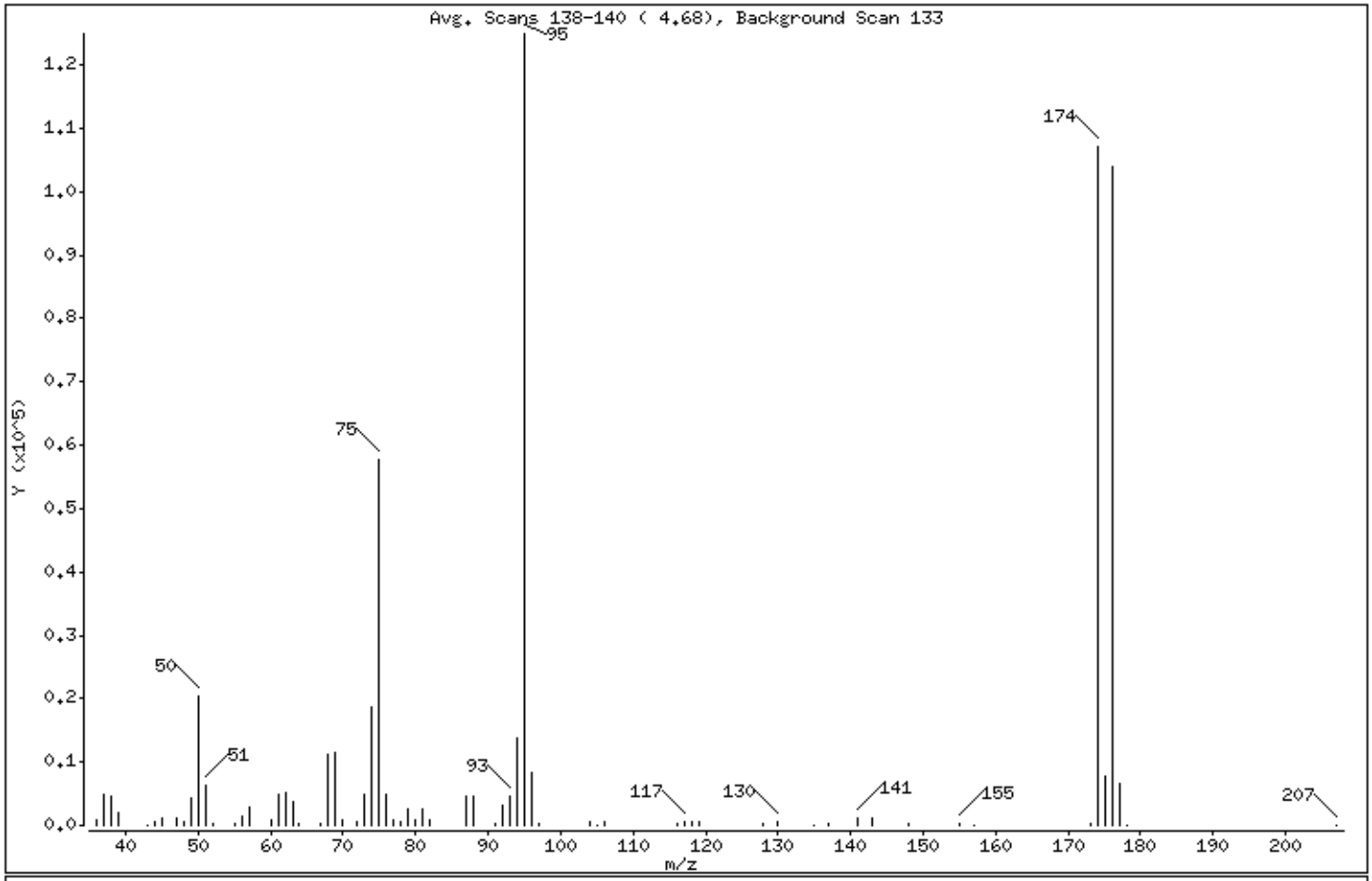
Sample Info: BFBAug14-17;50NGBFB;1;3;;;;;;

Operator: kk10002

Column phase: Rxi-624Sil MS

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	16.33
75	30.00 - 60.00% of mass 95	46.17
96	5.00 - 9.00% of mass 95	6.64
173	Less than 2.00% of mass 174	0.15 (0.17)
174	50.00 - 100.00% of mass 95	85.74
175	5.00 - 9.00% of mass 174	6.20 (7.23)
176	95.00 - 101.00% of mass 174	83.29 (97.14)
177	5.00 - 9.00% of mass 176	5.28 (6.34)

Digitally signed by Kevin Kelly on 01/16/2018 at 18:33.
Target 3.5 esignature user ID: kk10002

Data File: /chem2/HP09355.i/18jan16a.b/yj16t01.d

Date : 16-JAN-2018 17:32

Client ID: BFBAug14-17

Instrument: HP09355.i

Sample Info: BFBAug14-17;50NGBFB;1;3;;;;;;

Operator: kk10002

Column phase: Rxi-624Sil MS

Column diameter: 0.25

Data File: yj16t01.d
Spectrum: Avg. Scans 138-140 (4.68), Background Scan 133
Location of Maximum: 95.00
Number of points: 68

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	960	62.00	5029	87.00	4472	135.00	90
37.00	4960	63.00	3626	88.00	4455	137.00	183
38.00	4574	64.00	289	91.00	422	141.00	1052
39.00	1877	67.00	248	92.00	3180	143.00	1044
43.00	103	68.00	11104	93.00	4726	148.00	228
44.00	578	69.00	11382	94.00	13709	155.00	233
45.00	1035	70.00	874	95.00	124944	157.00	92
47.00	1238	72.00	529	96.00	8299	173.00	187
48.00	627	73.00	5013	97.00	283	174.00	107128
49.00	4411	74.00	18632	104.00	440	175.00	7742
50.00	20400	75.00	57688	105.00	96	176.00	104064
51.00	6357	76.00	4836	106.00	453	177.00	6600
52.00	262	77.00	728	116.00	399	178.00	90
55.00	335	78.00	445	117.00	678	207.00	100
56.00	1546	79.00	2626	118.00	462		
57.00	2855	80.00	895	119.00	595		
60.00	985	81.00	2490	128.00	429		
61.00	4789	82.00	741	130.00	448		

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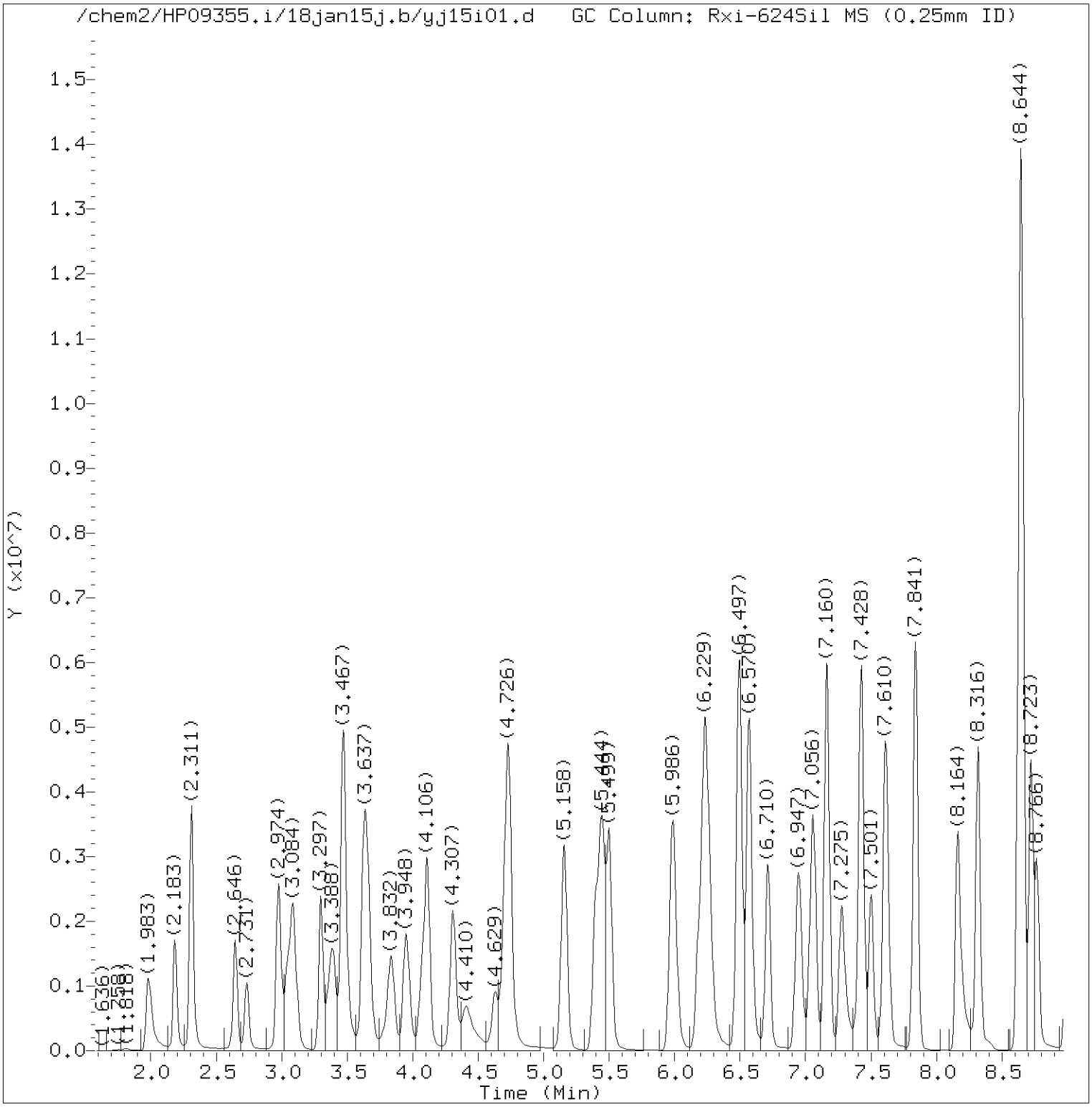
Target 3.5 esignature user ID: kk10002



Total Ion Chromatogram (TIC)

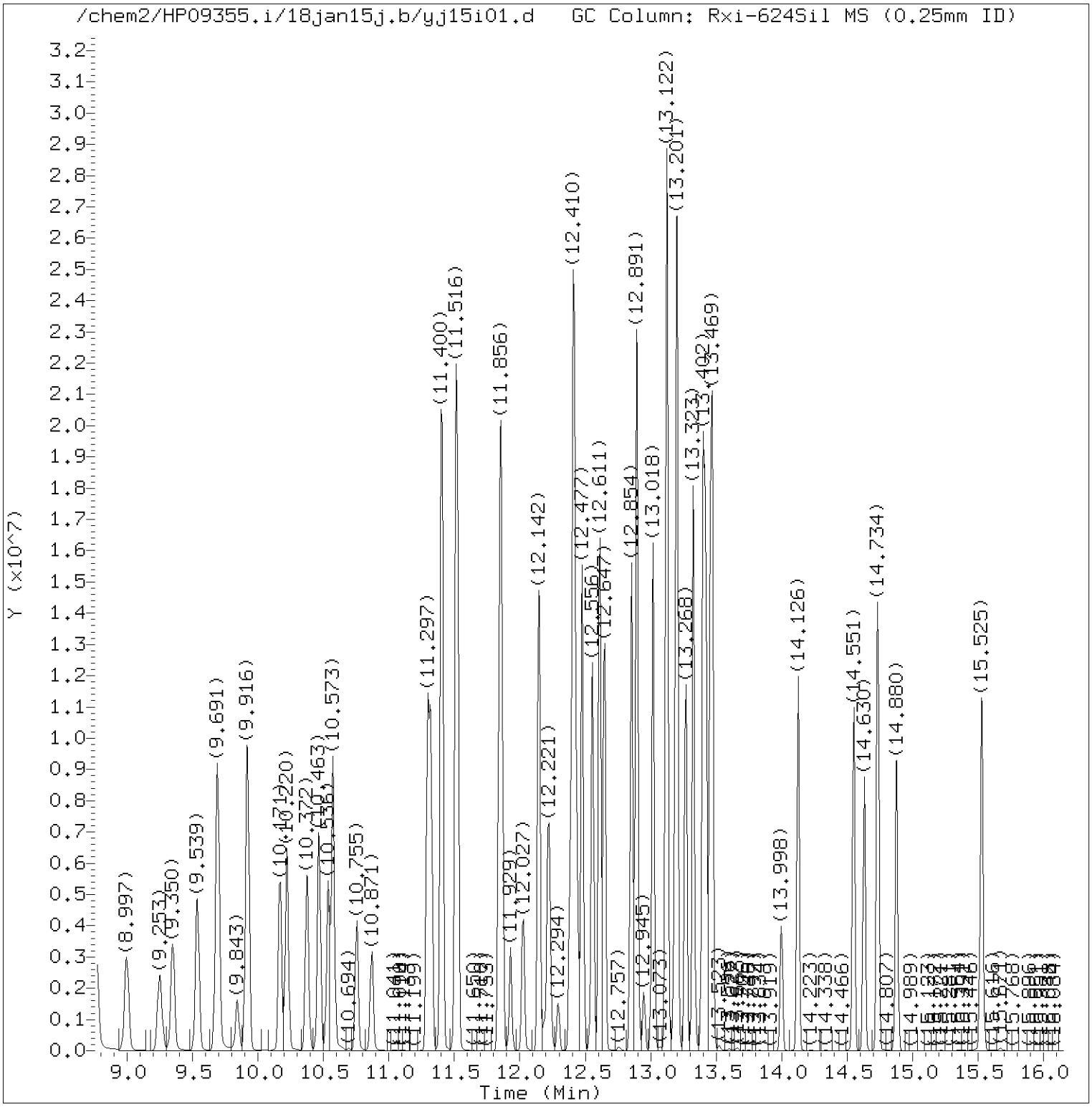
Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 12:54 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD300 Lab Sample ID: VSTD300

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 12:54 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD300 Lab Sample ID: VSTD300

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 12:54 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD300 Lab Sample ID: VSTD300

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
3) Dichlorodifluoromethane	(2)	1.977	85	2358081	273.688
4) Chloromethane	(2)	2.183	50	2305427	256.803
6) Vinyl Chloride	(2)	2.305	62	2304984	251.486
5) 1,3-Butadiene	(2)	2.311	39	1213620	260.408
8) Bromomethane	(2)	2.646	94	1523949	245.454
9) Chloroethane	(2)	2.731	64	1257284	247.339
10) Dichlorofluoromethane	(2)	2.974	67	2969297	258.925
12) Trichlorofluoromethane	(2)	3.047	101	2858544	274.384
11) n-Pentane	(2)	3.084	43	2288081	265.502
14) Ethyl ether	(2)	3.297	59	1810878	293.016
15) Freon 123a	(2)	3.388	67	1829372	270.113
16) Acrolein	(1)	3.467	56	7633461	2853.299
17) 1,1-Dichloroethene	(2)	3.625	96	1377662	280.691
17) 1,1-Dichloroethene	(2)	3.625	63	684872	283.574
18) Acetone	(1)	3.631	58	703633	591.349
19) Freon 113	(2)	3.656	101	1382627M	291.943
21) 2-Propanol	(1)	3.796	45	1254462	1505.171
22) Methyl Iodide	(2)	3.838	142	2655001	282.196
23) Carbon Disulfide	(2)	3.948	76	4647395	282.706
27) Methyl Acetate	(2)	4.069	43	2609620	278.753
25) Allyl Chloride	(2)	4.112	41	2871222	285.823
29)*t-Butyl alcohol-d10	(1)	4.282	65	382893	250.000
28) Methylene Chloride	(2)	4.307	84	1744176	277.309
30) t-Butyl alcohol	(1)	4.410	59	2504028	1483.759
31) Acrylonitrile	(2)	4.629	53	1357067	282.135
33) Methyl Tertiary Butyl Ether	(2)	4.714	73	5973668	278.322
32) trans-1,2-Dichloroethene	(2)	4.732	96	1758209	285.591
34) n-Hexane	(2)	5.158	57	2718238	298.020
36) 1,1-Dichloroethane	(2)	5.396	63	3143461	281.050
38) di-Isopropyl ether	(2)	5.444	45	5766897	276.122
39) 2-Chloro-1,3-butadiene	(2)	5.505	53	2793069	285.135
40) Ethyl t-butyl ether	(2)	5.986	59	5820575	276.289
44) 2-Butanone	(2)	6.186	43	4069178	530.448
42) cis-1,2-Dichloroethene	(2)	6.229	96	2040117	283.476
45) 2,2-Dichloropropane	(2)	6.247	77	2627238	286.124
47) Propionitrile	(1)	6.266	54	2675663	1576.803
48) Methacrylonitrile	(2)	6.497	67	3555469	774.436
49) Bromochloromethane	(2)	6.564	128	1104174	302.995

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 12:54 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD300 Lab Sample ID: VSTD300

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50) Tetrahydrofuran	(1)	6.576	71	1132273	578.516
51) Chloroform	(2)	6.710	83	3164122	278.312
43) 1,2-Dichloroethene (Total)	(2)		96	3798326	569.067
52)$Dibromofluoromethane	(2)	6.929	113	300867	50.075
52)$Dibromofluoromethane	(2)	6.929	111	307966	50.037
53) 1,1,1-Trichloroethane	(2)	6.947	97	2907840	267.501
54) Cyclohexane	(2)	7.056	56	3026820	286.747
54) Cyclohexane	(2)	7.056	84	2580996	283.220
54) Cyclohexane	(2)	7.056	69	951191	287.868
55) 1,1-Dichloropropene	(2)	7.160	75	2588600	281.573
56) Carbon Tetrachloride	(2)	7.166	117	2441190	296.557
58) Isobutyl Alcohol	(1)	7.275	41	2105844	3604.514
57)$1,2-Dichloroethane-d4	(2)	7.397	102	76766	49.553
57)$1,2-Dichloroethane-d4	(2)	7.397	65	360195	49.097
57)$1,2-Dichloroethane-d4	(2)	7.397	104	49076	49.858
60) Benzene	(2)	7.428	78	7412453	278.322
61) 1,2-Dichloroethane	(2)	7.501	62	2570023	268.064
61) 1,2-Dichloroethane	(2)	7.501	98	249436	284.969
65) t-Amyl methyl ether	(2)	7.610	73	5894930	278.216
66)*Fluorobenzene	(2)	7.835	96	1264454	50.000
67) n-Heptane	(2)	7.841	43	3145648	289.254
69) n-Butanol	(1)	8.164	56	3807000	7164.824
71) Trichloroethene	(2)	8.316	95	2015501	283.492
72) Methylcyclohexane	(2)	8.632	83	3685219	316.813
72) Methylcyclohexane	(2)	8.632	98	1660792	316.398
73) 1,2-Dichloropropane	(2)	8.650	63	2023314	282.006
76) Methyl Methacrylate	(2)	8.723	69	2283987	282.607
75) 1,4-Dioxane	(1)	8.729	88	517823M	3966.987
74) Dibromomethane	(2)	8.766	93	1327061	283.270
78) Bromodichloromethane	(2)	8.997	83	2588647	294.426
79) 2-Nitropropane	(2)	9.247	41	2055985	599.647
80) 2-Chloroethyl Vinyl Ether	(2)	9.350	63	1846466	295.850
81) cis-1,3-Dichloropropene	(2)	9.539	75	3395324	292.054
82) 4-Methyl-2-pentanone	(2)	9.691	43	7518323	541.841
83)$Toluene-d8	(3)	9.843	98	1268417	49.143
83)$Toluene-d8	(3)	9.843	100	827720	49.676
90) 1,3-Dichloropropene (total)	(3)		100	6654032	589.744
88) Toluene	(3)	9.916	92	4992910	276.240

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 12:54 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD300 Lab Sample ID: VSTD300

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
89) trans-1,3-Dichloropropene	(3)	10.171	75	3258708	297.690
91) Ethyl Methacrylate	(3)	10.220	69	3643948	281.952
92) 1,1,2-Trichloroethane	(3)	10.372	97	1990625	272.669
93) Tetrachloroethene	(3)	10.469	166	2243686	283.438
94) 1,3-Dichloropropane	(3)	10.536	76	3304004	269.416
96) 2-Hexanone	(3)	10.573	43	6192691M	535.585
97) Dibromochloromethane	(3)	10.755	129	2319099	304.561
99) 1,2-Dibromoethane	(3)	10.871	107	2236436	280.782
100)*Chlorobenzene-d5	(3)	11.291	117	981989	50.000
101) 1-Chlorohexane	(3)	11.297	91	2825709	272.413
102) Chlorobenzene	(3)	11.321	112	5716179	271.434
103) 1,1,1,2-Tetrachloroethane	(3)	11.400	131	2029180	294.583
104) Ethylbenzene	(3)	11.406	91	9509983	269.970
106) m+p-Xylene	(3)	11.516	106	7795274	552.657
108) Xylene (Total)	(3)		106	11651073	829.112
107) o-Xylene	(3)	11.844	106	3855799	276.455
109) Styrene	(3)	11.862	104	6634597	280.369
110) Bromoform	(3)	12.027	173	1914577	316.379
111) Isopropylbenzene	(3)	12.142	105	9240257	263.184
112) Cyclohexanone	(1)	12.221	55	3320318A	4014.523
114)$4-Bromofluorobenzene	(3)	12.294	95	474133	48.951
114)$4-Bromofluorobenzene	(3)	12.294	174	397578	48.924
116) 1,1,2,2-Tetrachloroethane	(4)	12.386	83	3343270M	267.105
118) trans-1,4-Dichloro-2-butene	(4)	12.410	53	2639431	756.866
115) Bromobenzene	(4)	12.410	156	2755574	289.830
117) 1,2,3-Trichloropropane	(4)	12.434	110	1085715	269.743
119) n-Propylbenzene	(4)	12.477	91	10701275	259.535
120) 2-Chlorotoluene	(4)	12.556	126	2367025	276.391
122) 1,3,5-Trimethylbenzene	(4)	12.611	105	8073872	266.794
121) 4-Chlorotoluene	(4)	12.647	126	2547158	277.478
124) tert-Butylbenzene	(4)	12.854	134	1765525M	276.446
125) Pentachloroethane	(4)	12.891	167	1634166	329.187
126) 1,2,4-Trimethylbenzene	(4)	12.897	105	8412659	268.636
127) sec-Butylbenzene	(4)	13.018	105	9848806	258.188
129) 1,3-Dichlorobenzene	(4)	13.122	146	5011449	274.868
130) p-Isopropyltoluene	(4)	13.128	119	8929202	265.261
131)*1,4-Dichlorobenzene-d4	(4)	13.177	152	528465	50.000
133) 1,4-Dichlorobenzene	(4)	13.195	146	5097779	272.993

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 12:54 Analyst ID: dhh02035

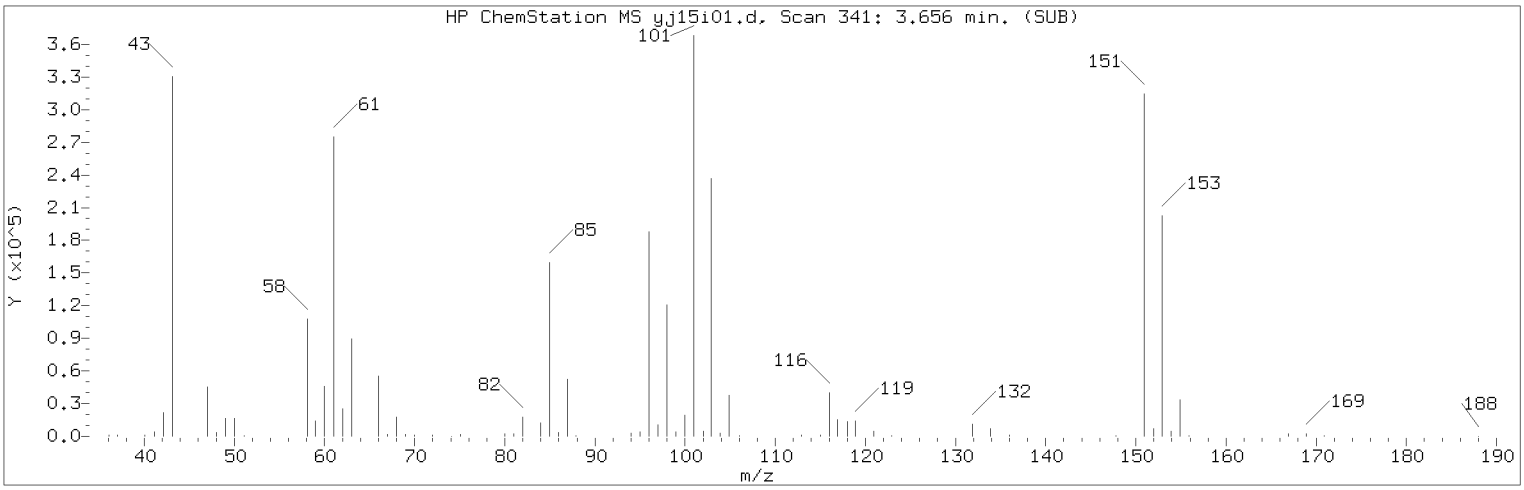
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD300 Lab Sample ID: VSTD300

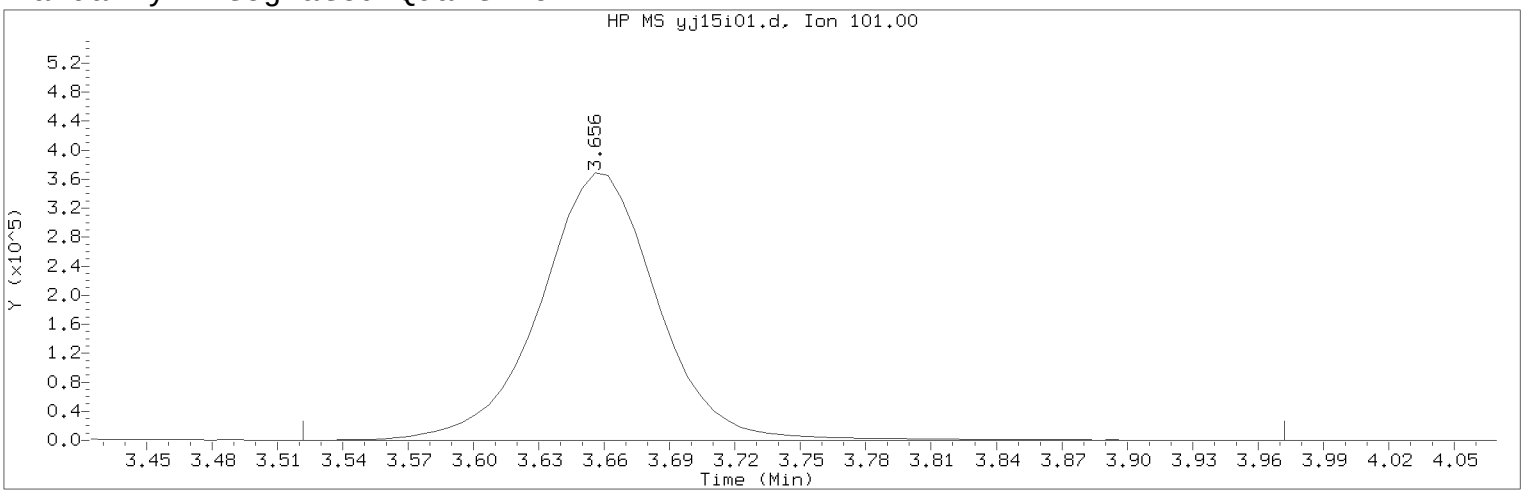
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
134) 1,2,3-Trimethylbenzene	(4)	13.201	105	8455477	279.483
135) Benzyl Chloride	(4)	13.268	91	7454549	300.553
136) 1,3-Diethylbenzene	(4)	13.323	119	5478084	284.486
137) 1,4-Diethylbenzene	(4)	13.402	119	5713059	286.129
139) n-Butylbenzene	(4)	13.420	92	4559346	267.558
138) 1,2-Dichlorobenzene	(4)	13.456	146	4726077	270.117
140) 1,2-Diethylbenzene	(4)	13.469	119	4544213	285.080
141) Diethylbenzene (total)	(4)		100	15735356	855.694
142) 1,2-Dibromo-3-chloropropane	(4)	13.998	75	881803	274.274
144) 1,3,5-Trichlorobenzene	(4)	14.126	180	3349448	254.726
146) 1,2,4-Trichlorobenzene	(4)	14.551	180	3102901	245.571
147) Hexachlorobutadiene	(4)	14.630	225	1457827	243.184
148) Naphthalene	(4)	14.734	128	10044810	237.315
149) 1,2,3-Trichlorobenzene	(4)	14.880	180	2804536	239.556
150) 2-Methylnaphthalene	(4)	15.525	142	5786069	240.445

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 12:54 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD300 Lab Sample ID: VSTD300

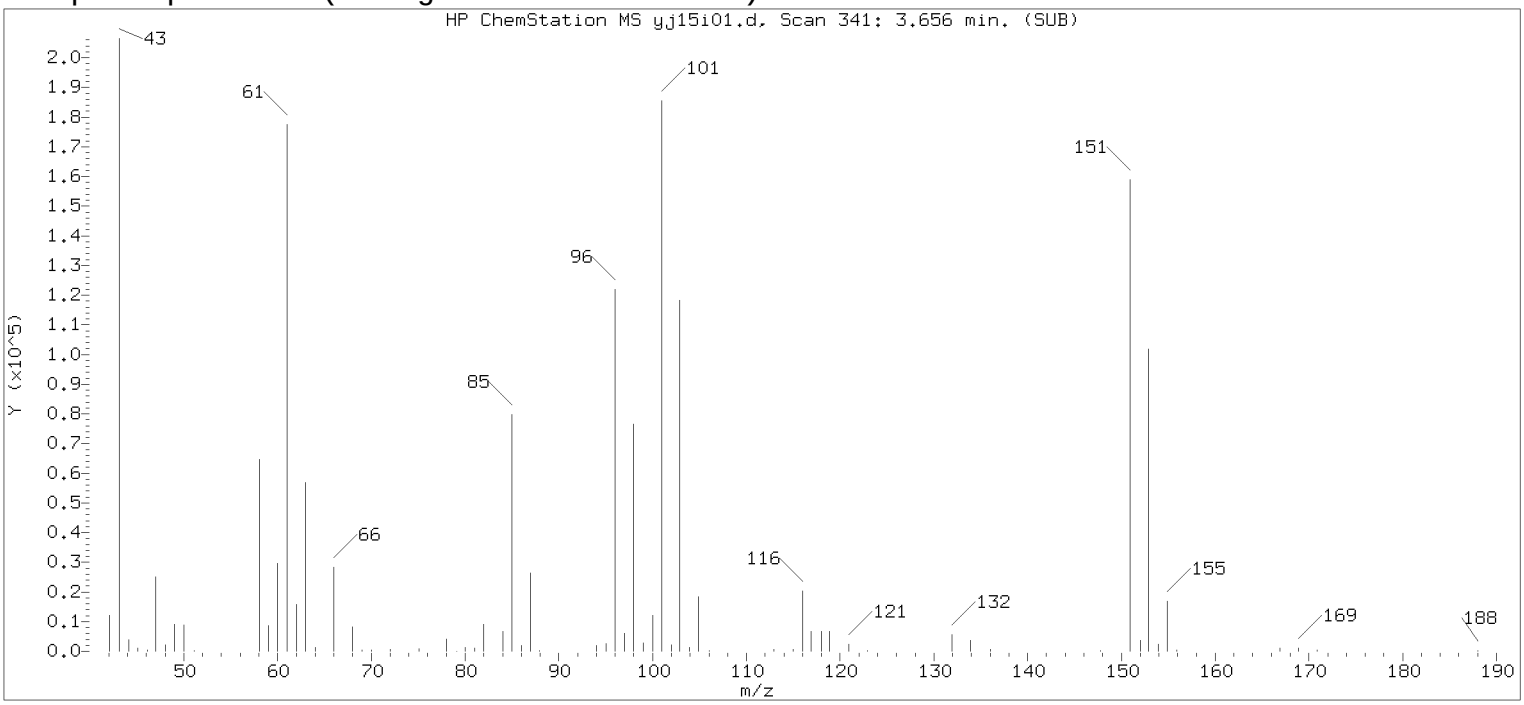
Compound Number : 19
Compound Name : Freon 113
Scan Number : 341
Retention Time (minutes): 3.656
Quant Ion : 101.00
Area (flag) : 1382627M
On-Column Amount (ng) : 291.9431
Integration start scan : 318 Integration stop scan: 392
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

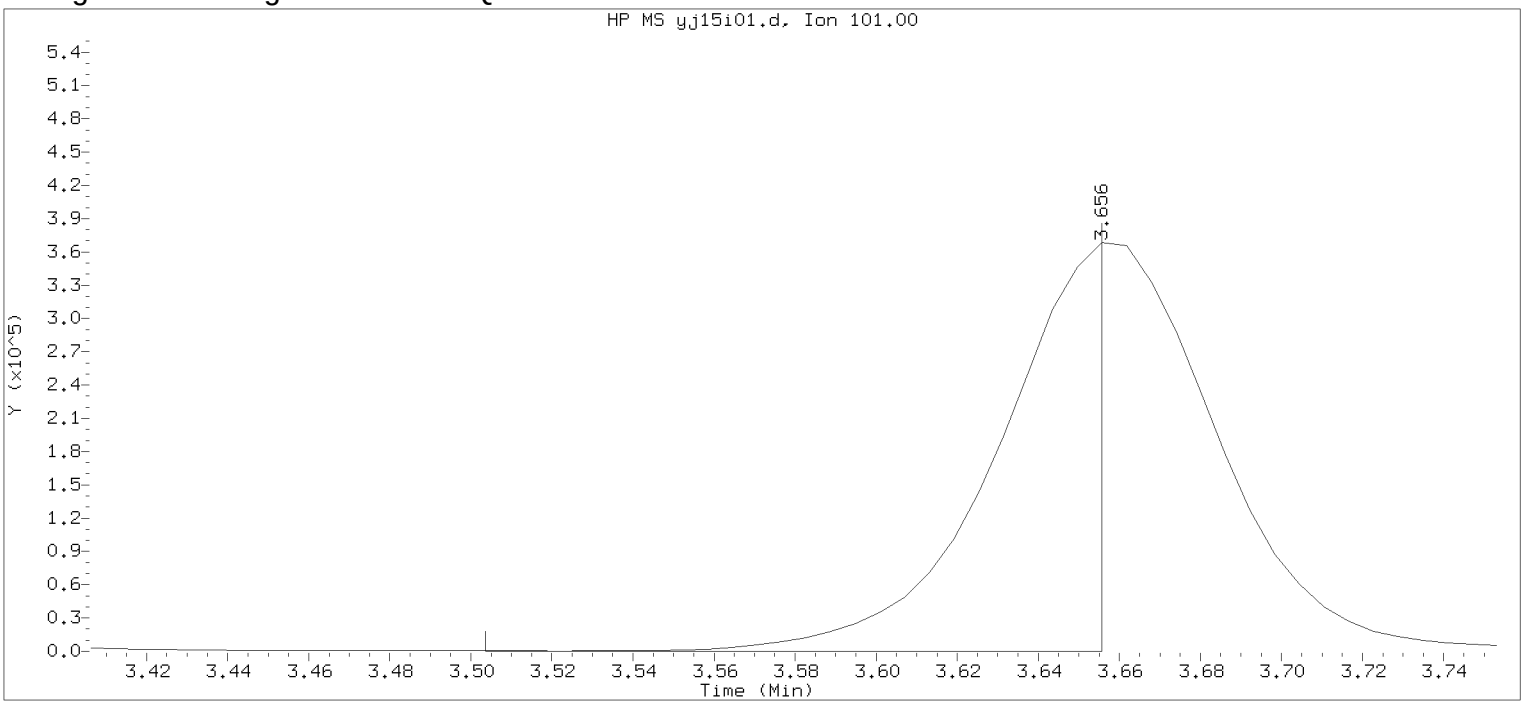
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 12:54 Analyst ID: dhh02035

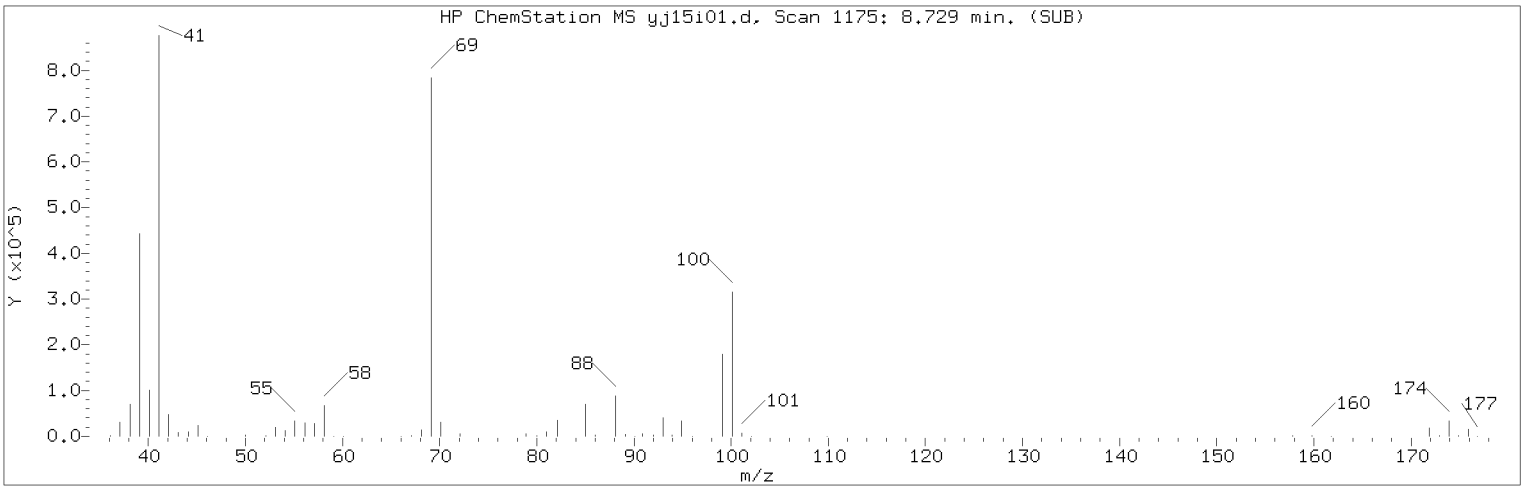
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 13:10
Date, time and analyst ID of latest file update: 15-Jan-2018 13:10 Automation

Sample Name: VSTD300 Lab Sample ID: VSTD300

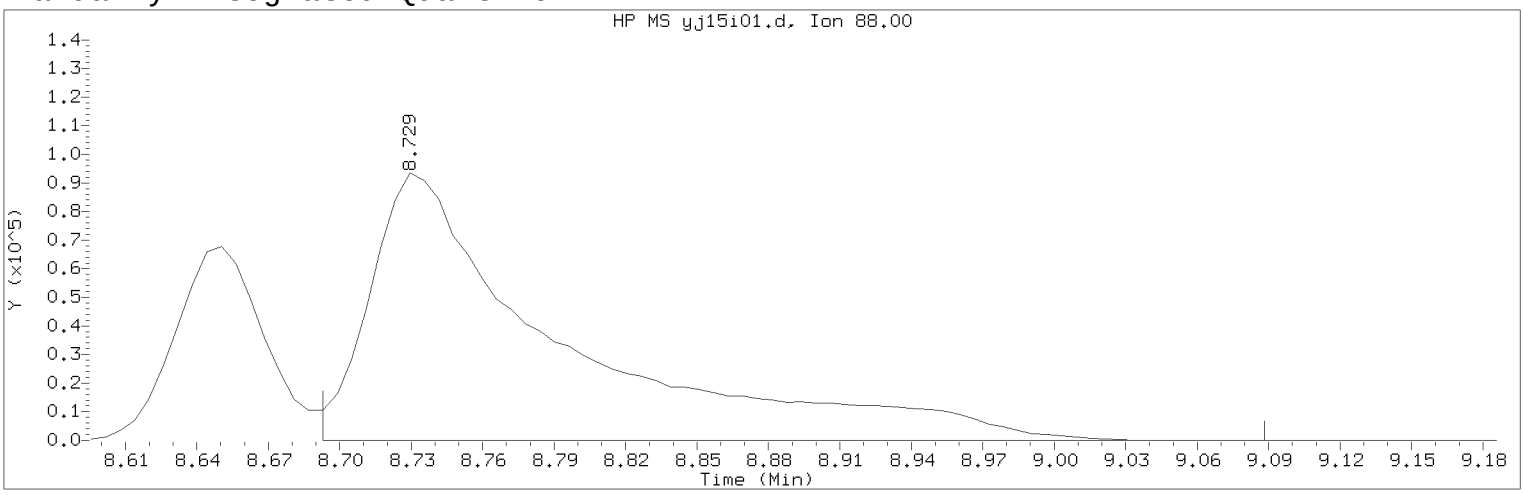
Compound Number : 19
Compound Name : Freon 113
Scan Number : 341
Retention Time (minutes): 3.656
Quant Ion : 101.00
Area : 640481
On-column Amount (ng) : 125.4848
Integration start scan : 315 Integration stop scan: 340
Y at integration start : 278 Y at integration end: 278

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly003

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 12:54 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD300 Lab Sample ID: VSTD300

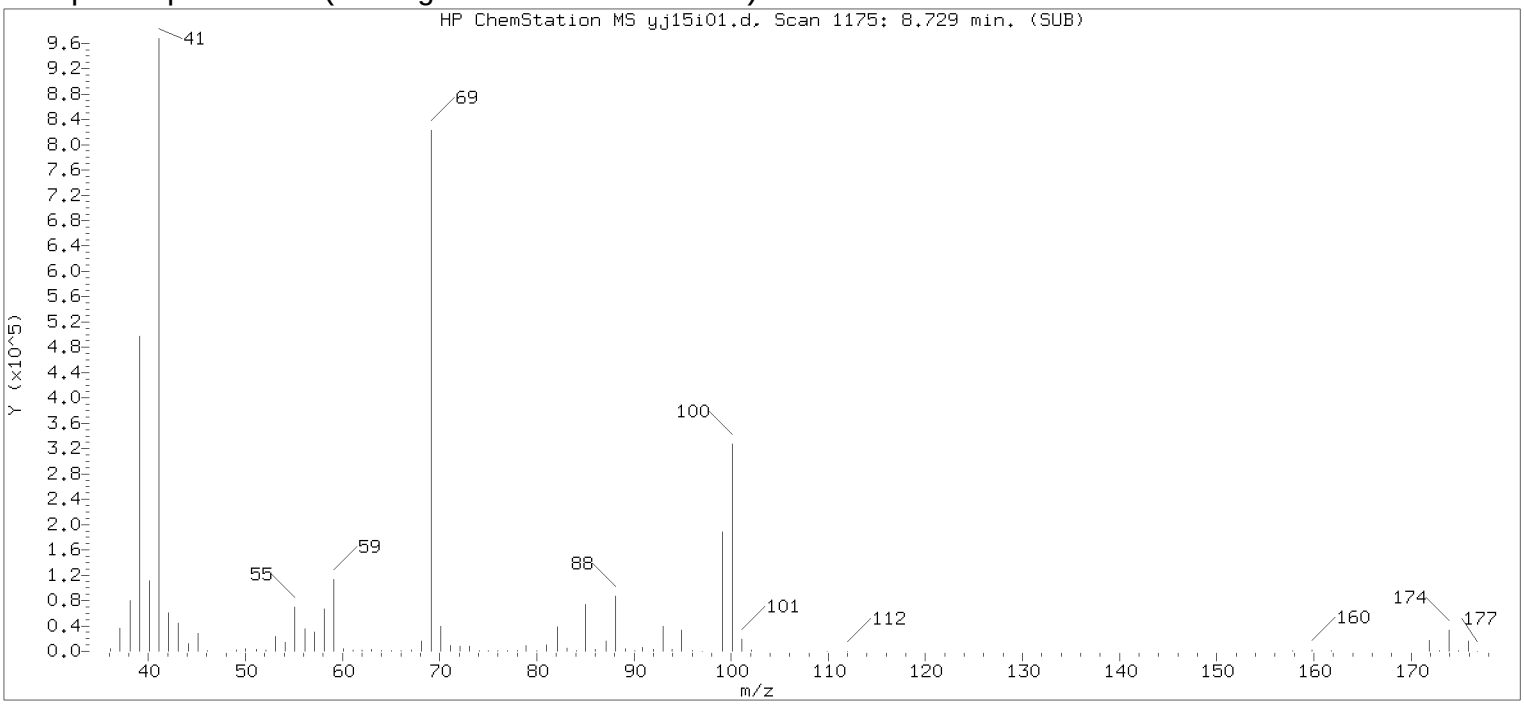
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 1175
Retention Time (minutes): 8.729
Quant Ion : 88.00
Area (flag) : 517823M
On-Column Amount (ng) : 3966.9869
Integration start scan : 1168 Integration stop scan: 1233
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

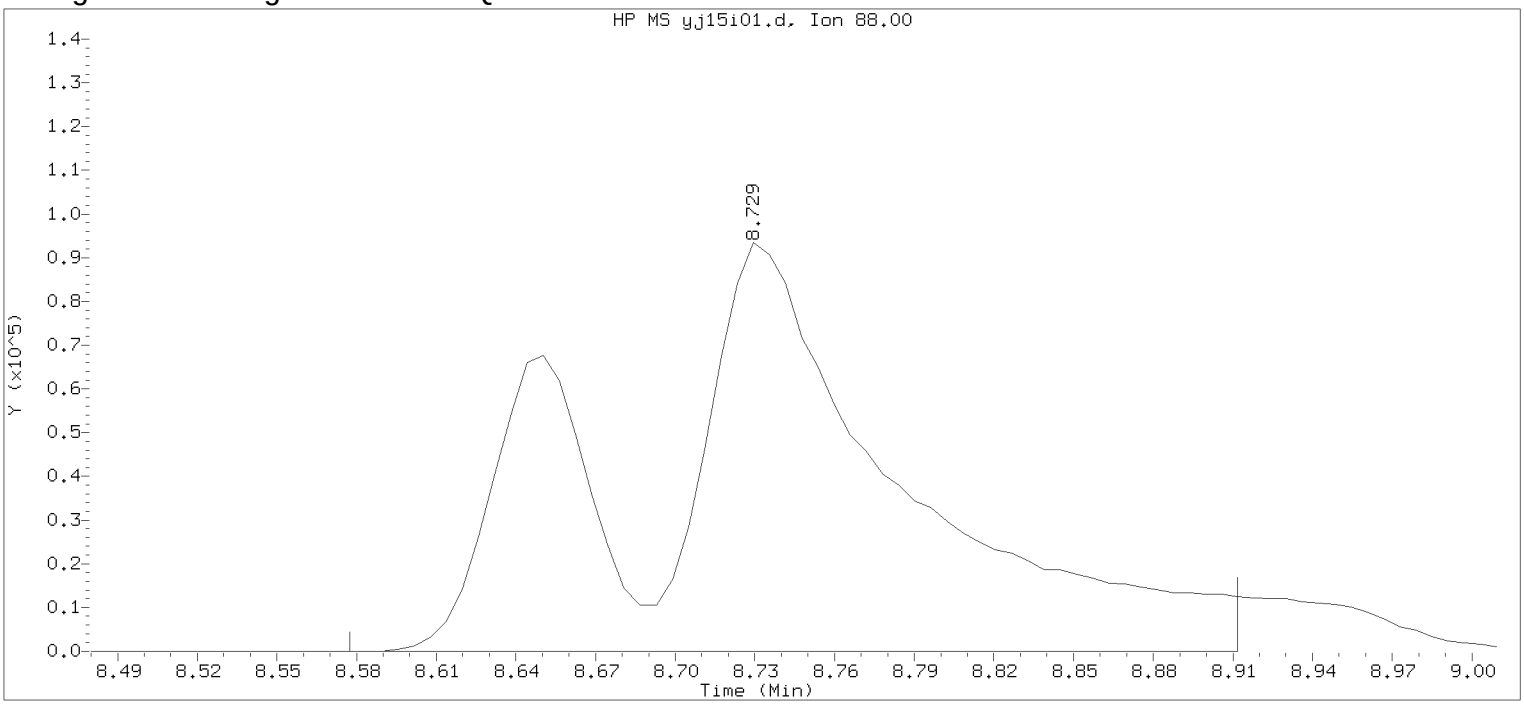
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 12:54 Analyst ID: dhh02035

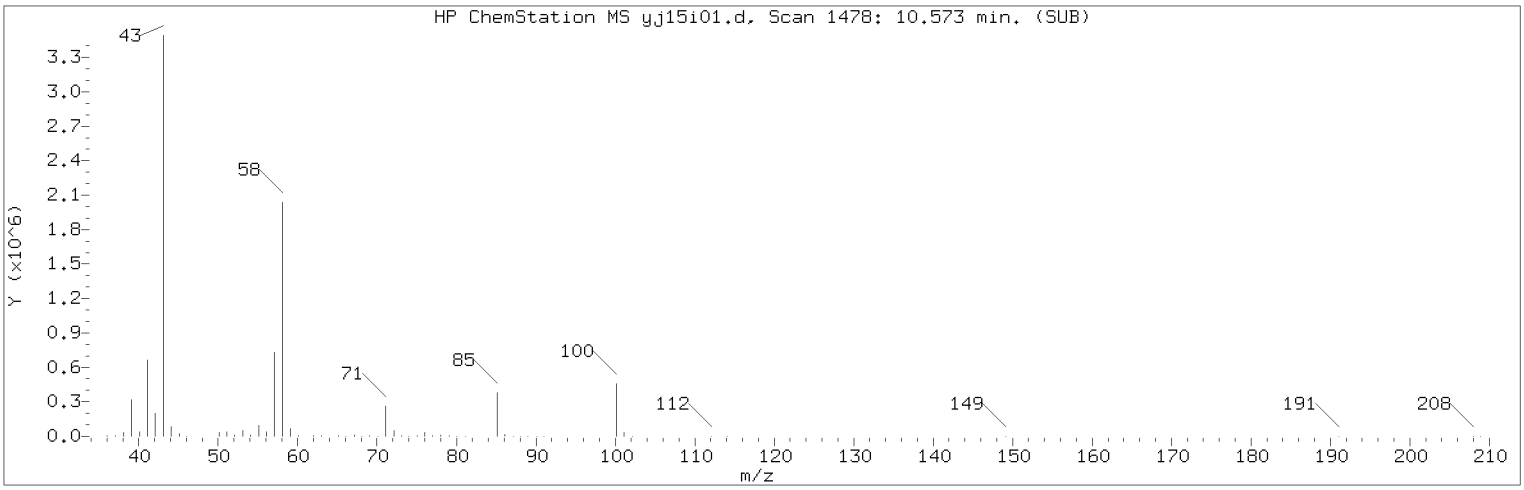
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 13:10
Date, time and analyst ID of latest file update: 15-Jan-2018 13:10 Automation

Sample Name: VSTD300 Lab Sample ID: VSTD300

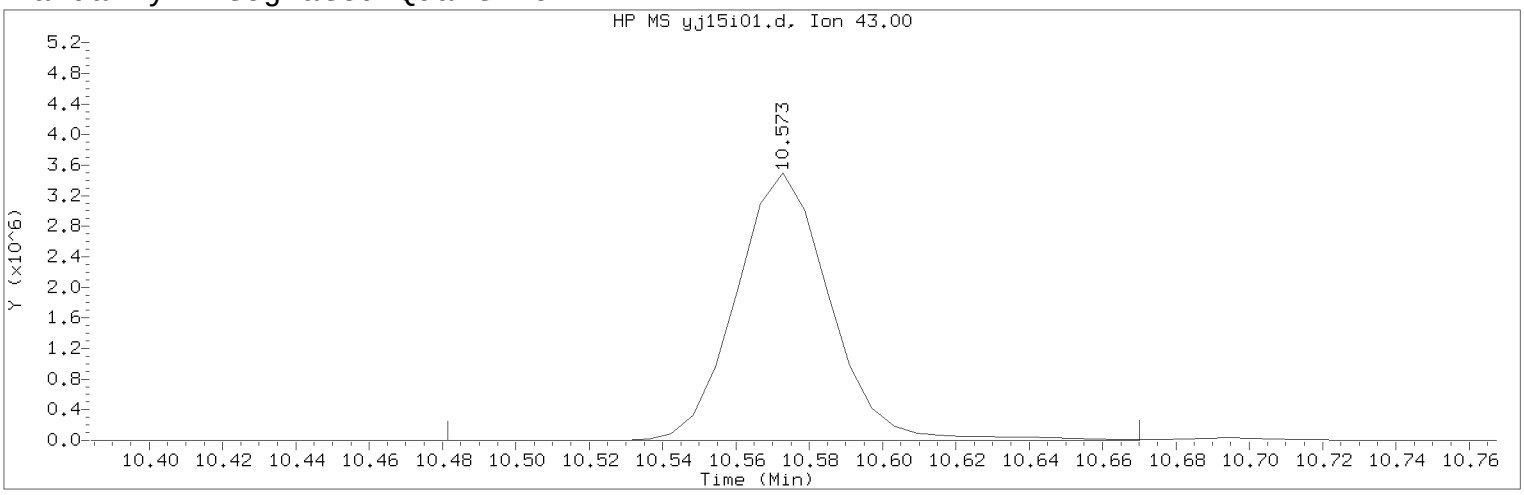
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 1175
Retention Time (minutes): 8.729
Quant Ion : 88.00
Area : 646509
On-column Amount (ng) : 3718.4190
Integration start scan : 1149 Integration stop scan: 1204
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 12:54 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD300 Lab Sample ID: VSTD300

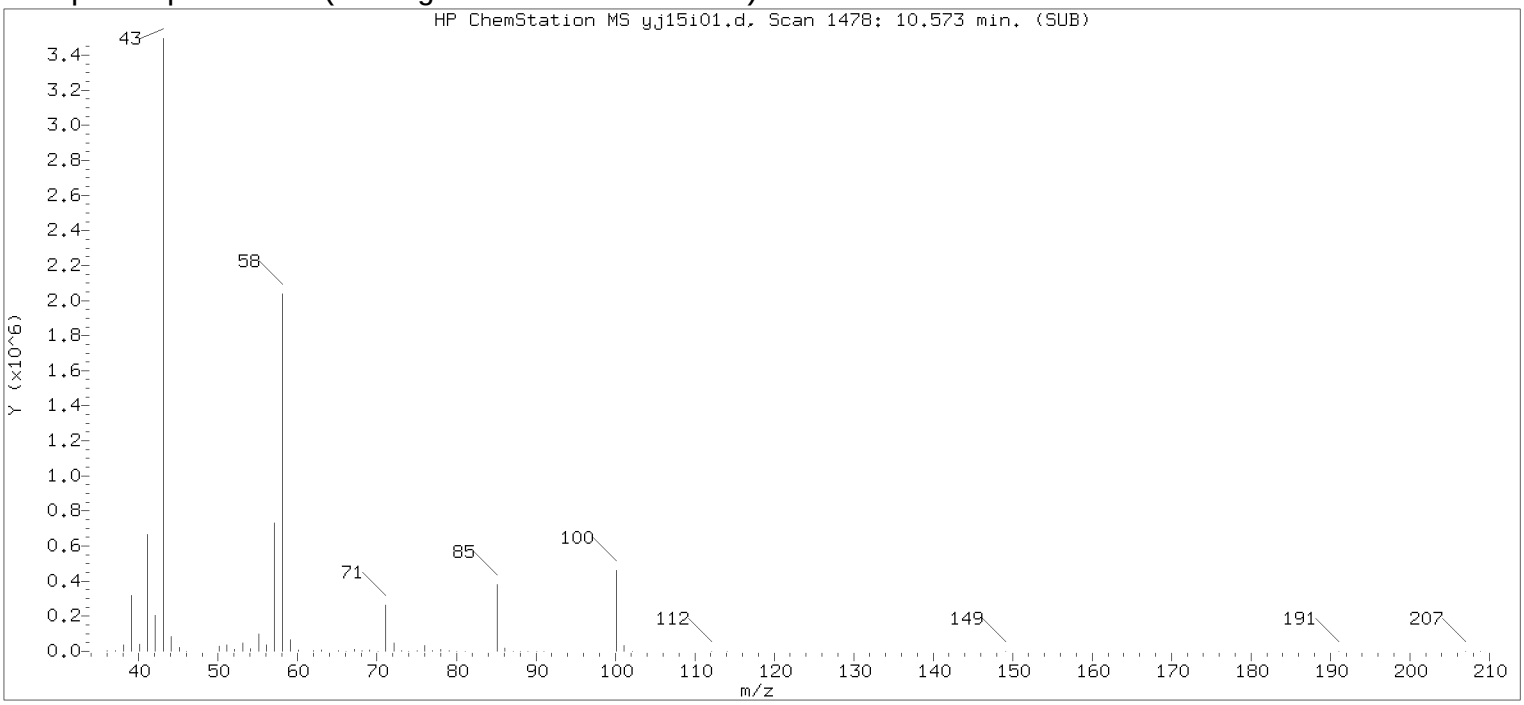
Compound Number : 96
Compound Name : 2-Hexanone
Scan Number : 1478
Retention Time (minutes): 10.573
Quant Ion : 43.00
Area (flag) : 6192691M
On-Column Amount (ng) : 535.5854
Integration start scan : 1462 Integration stop scan: 1493
Y at integration start : 577 Y at integration end: 577

Reason for manual integration: improper integration

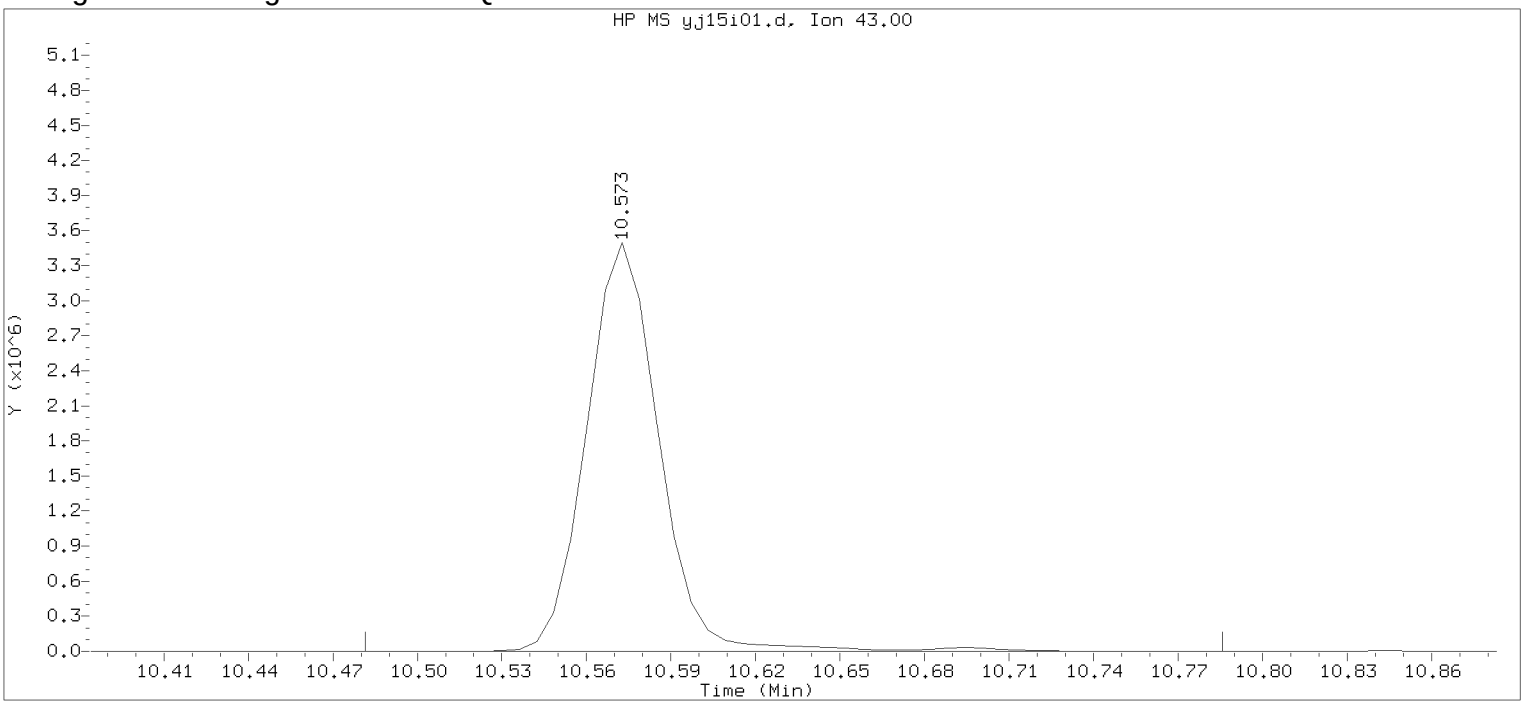
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 12:54 Analyst ID: dhh02035

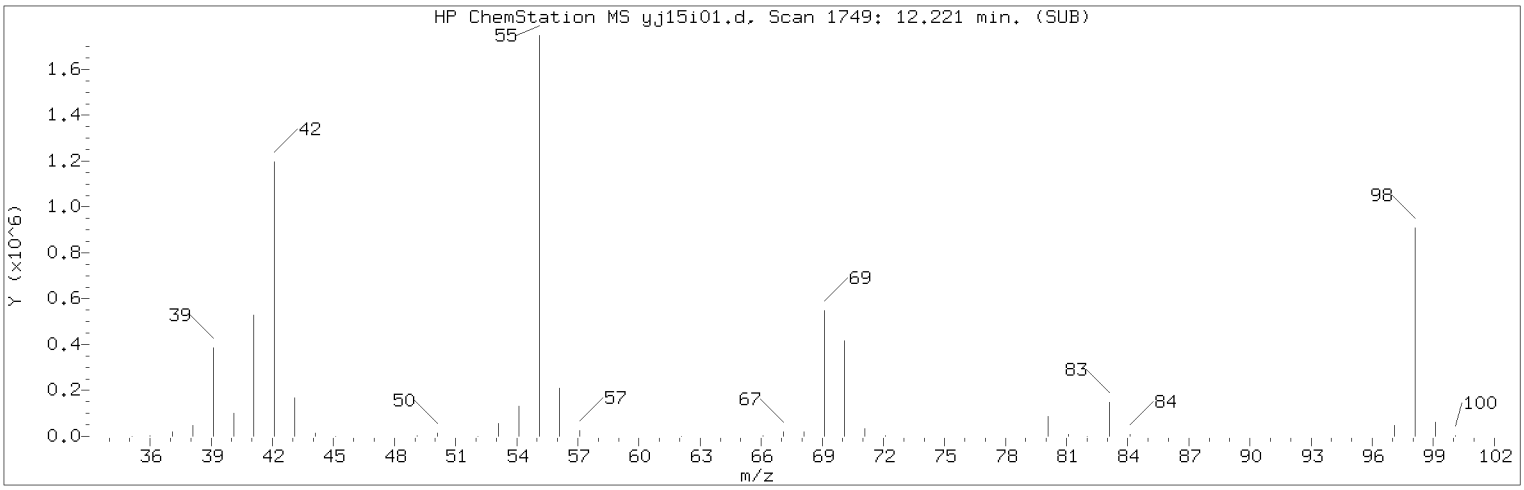
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 13:10
Date, time and analyst ID of latest file update: 15-Jan-2018 13:10 Automation

Sample Name: VSTD300 Lab Sample ID: VSTD300

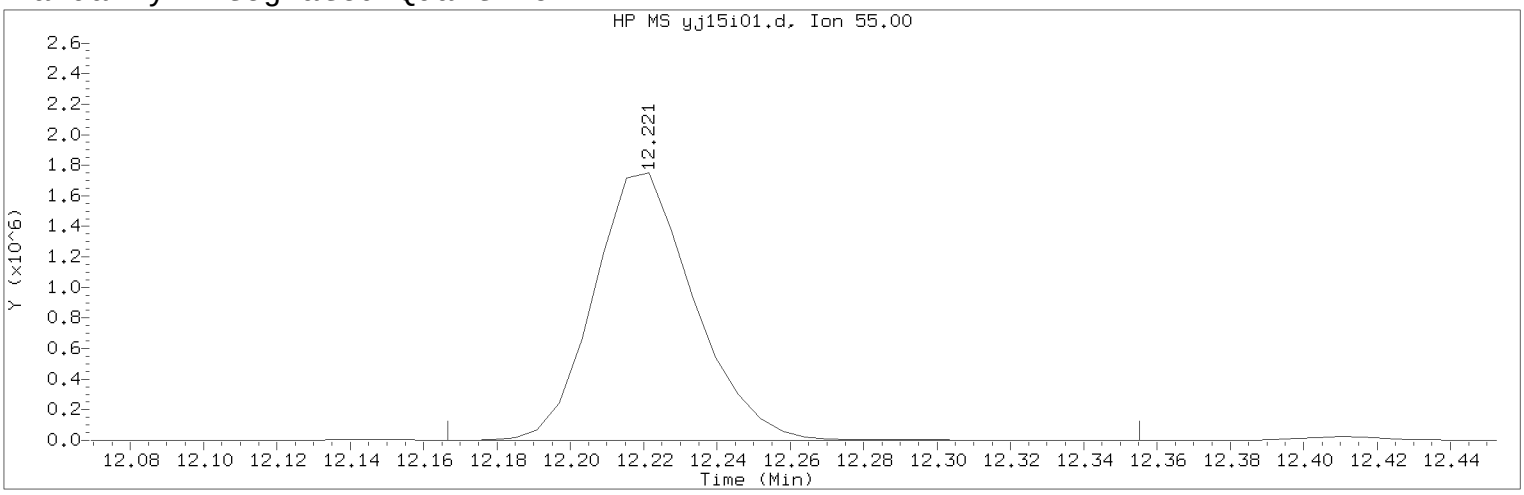
Compound Number : 96
Compound Name : 2-Hexanone
Scan Number : 1478
Retention Time (minutes): 10.573
Quant Ion : 43.00
Area : 6249532
On-column Amount (ng) : 640.9736
Integration start scan : 1462 Integration stop scan: 1512
Y at integration start : 577 Y at integration end: 577

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 12:54 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD300 Lab Sample ID: VSTD300

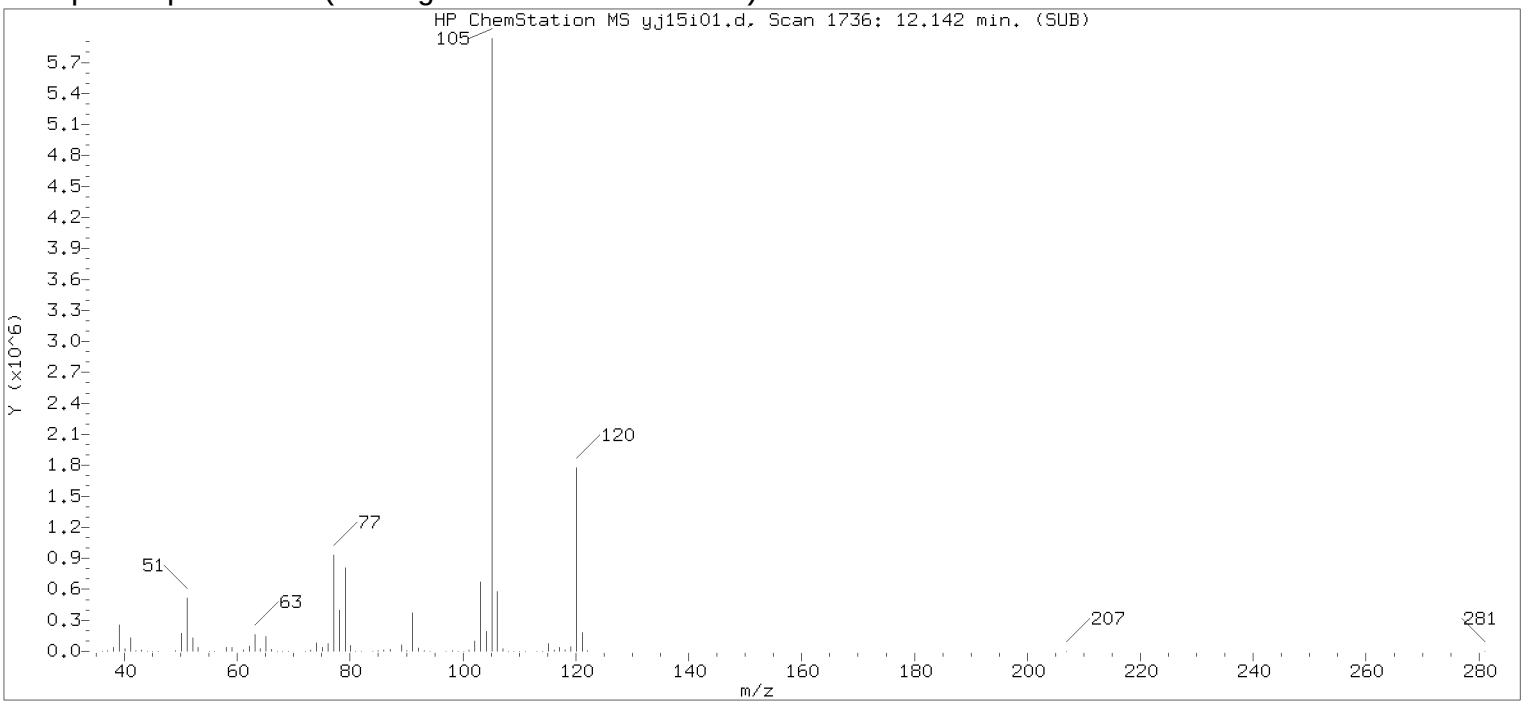
Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 1749
Retention Time (minutes): 12.221
Quant Ion : 55.00
Area (flag) : 3320318A
On-Column Amount (ng) : 4014.5233
Integration start scan : 1739 Integration stop scan: 1770
Y at integration start : 287 Y at integration end: 287

Reason for manual integration: improper integration

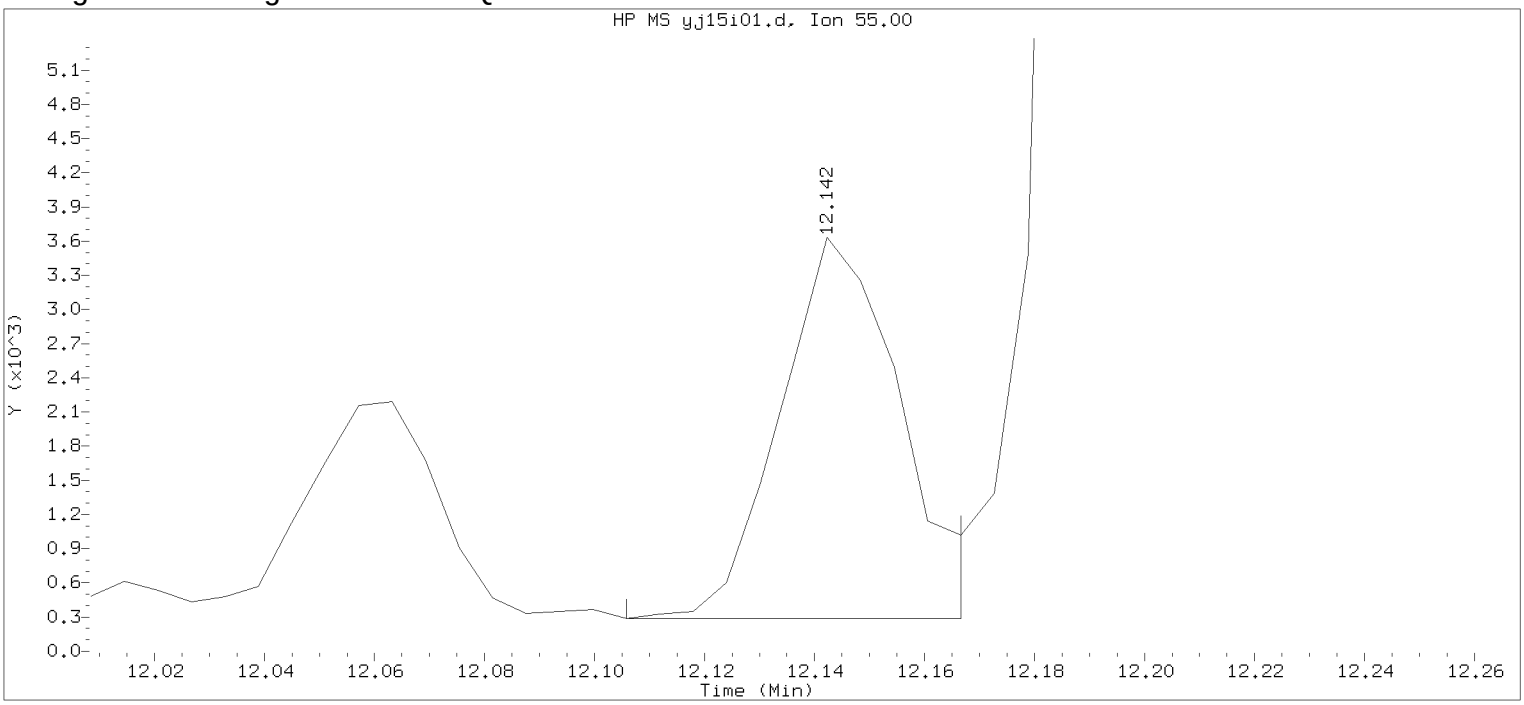
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 12:54 Analyst ID: dhh02035

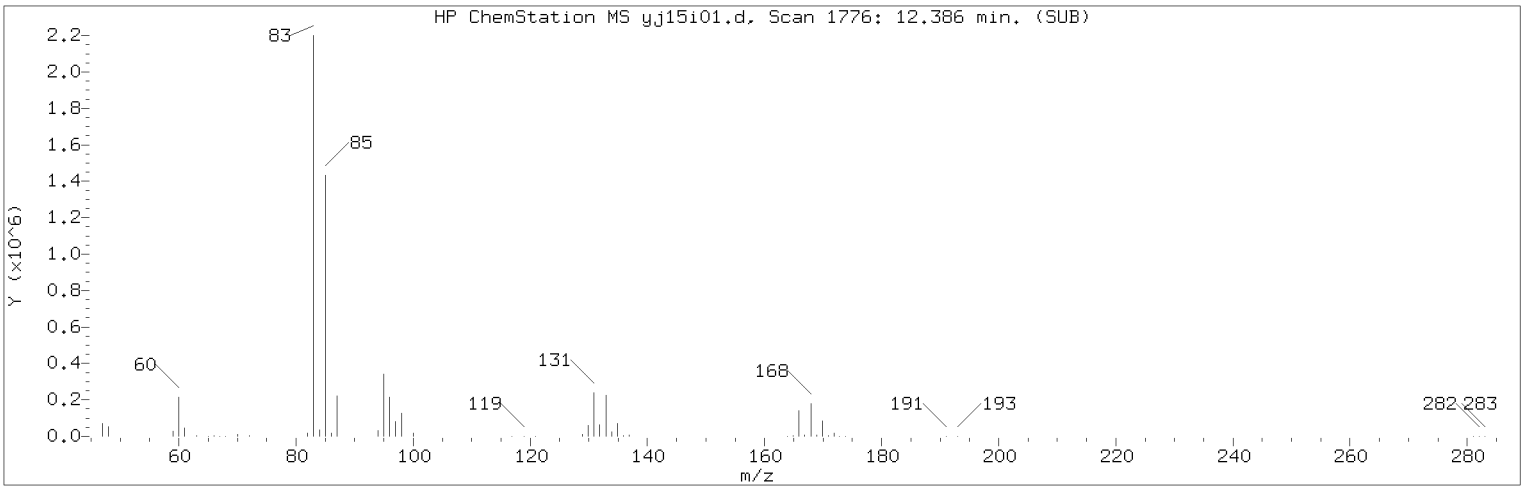
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 13:10
Date, time and analyst ID of latest file update: 15-Jan-2018 13:10 Automation

Sample Name: VSTD300 Lab Sample ID: VSTD300

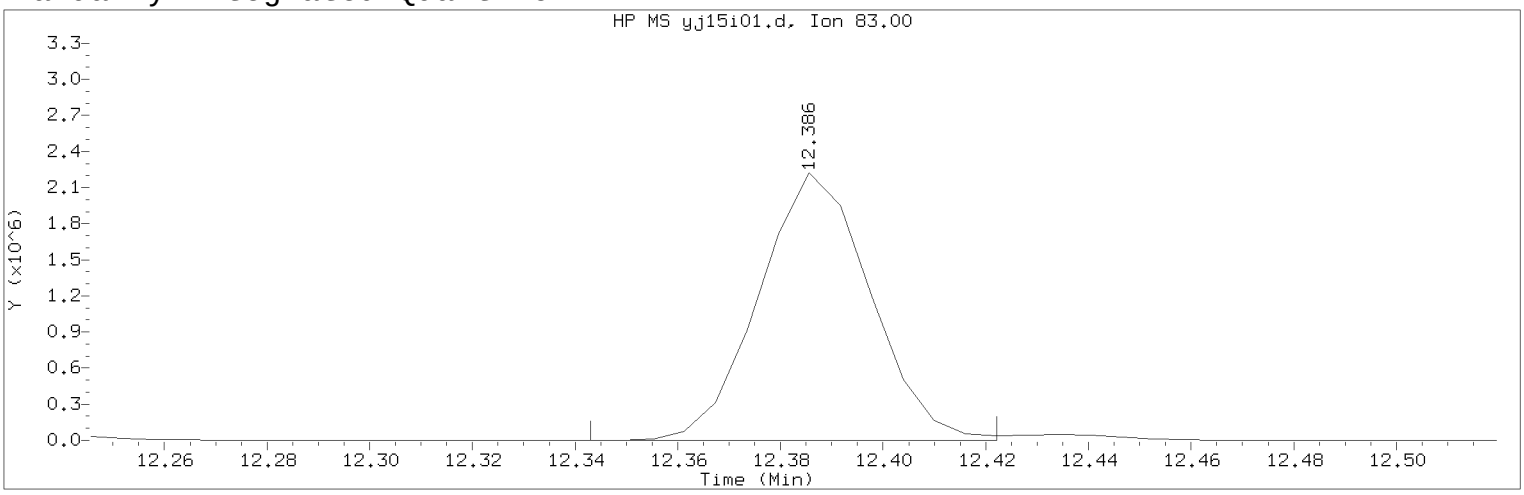
Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 1736
Retention Time (minutes): 12.142
Quant Ion : 55.00
Area : 4964
On-column Amount (ng) : 6.8752
Integration start scan : 1729 Integration stop scan: 1739
Y at integration start : 287 Y at integration end: 287

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 12:54 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD300 Lab Sample ID: VSTD300

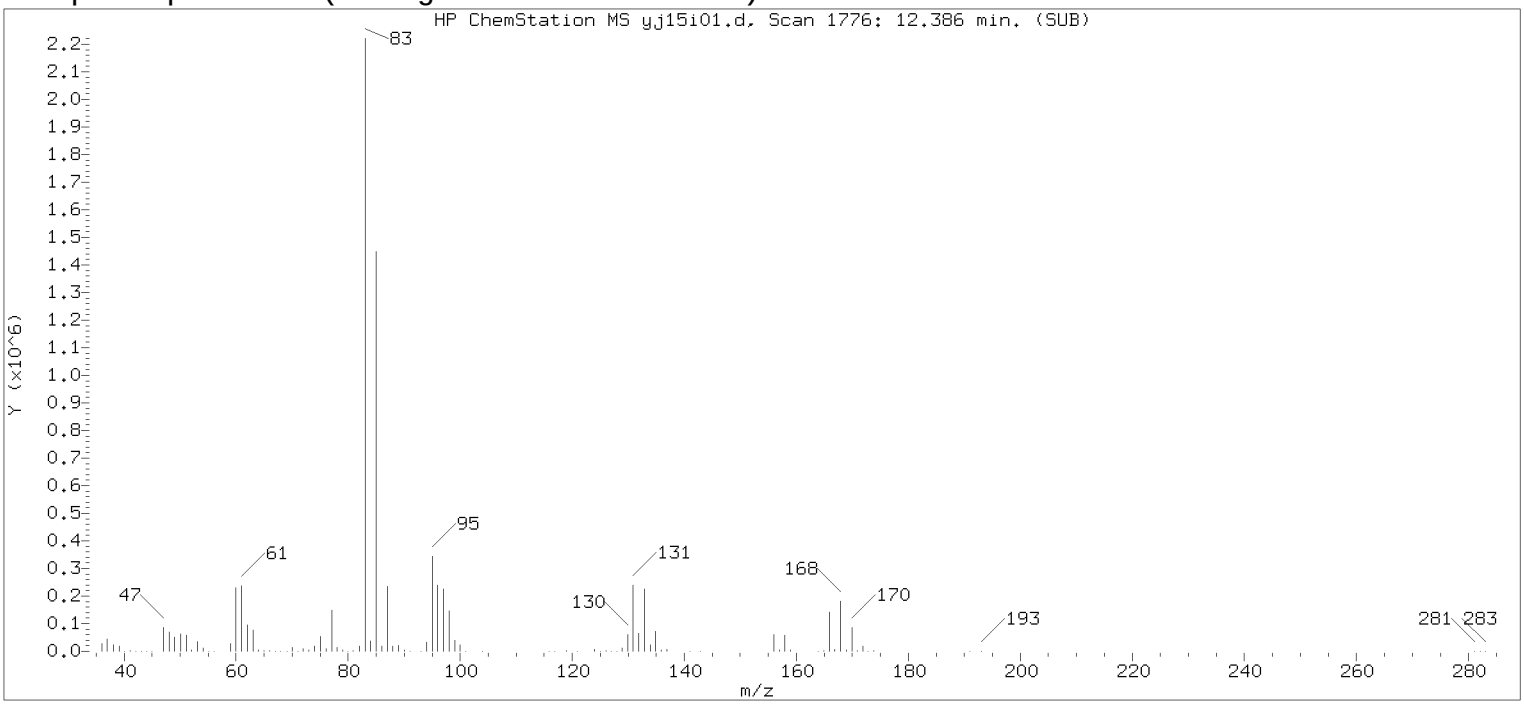
Compound Number : 116
Compound Name : 1,1,2,2-Tetrachloroethane
Scan Number : 1776
Retention Time (minutes): 12.386
Quant Ion : 83.00
Area (flag) : 3343270M
On-Column Amount (ng) : 267.1045
Integration start scan : 1768 Integration stop scan: 1781
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

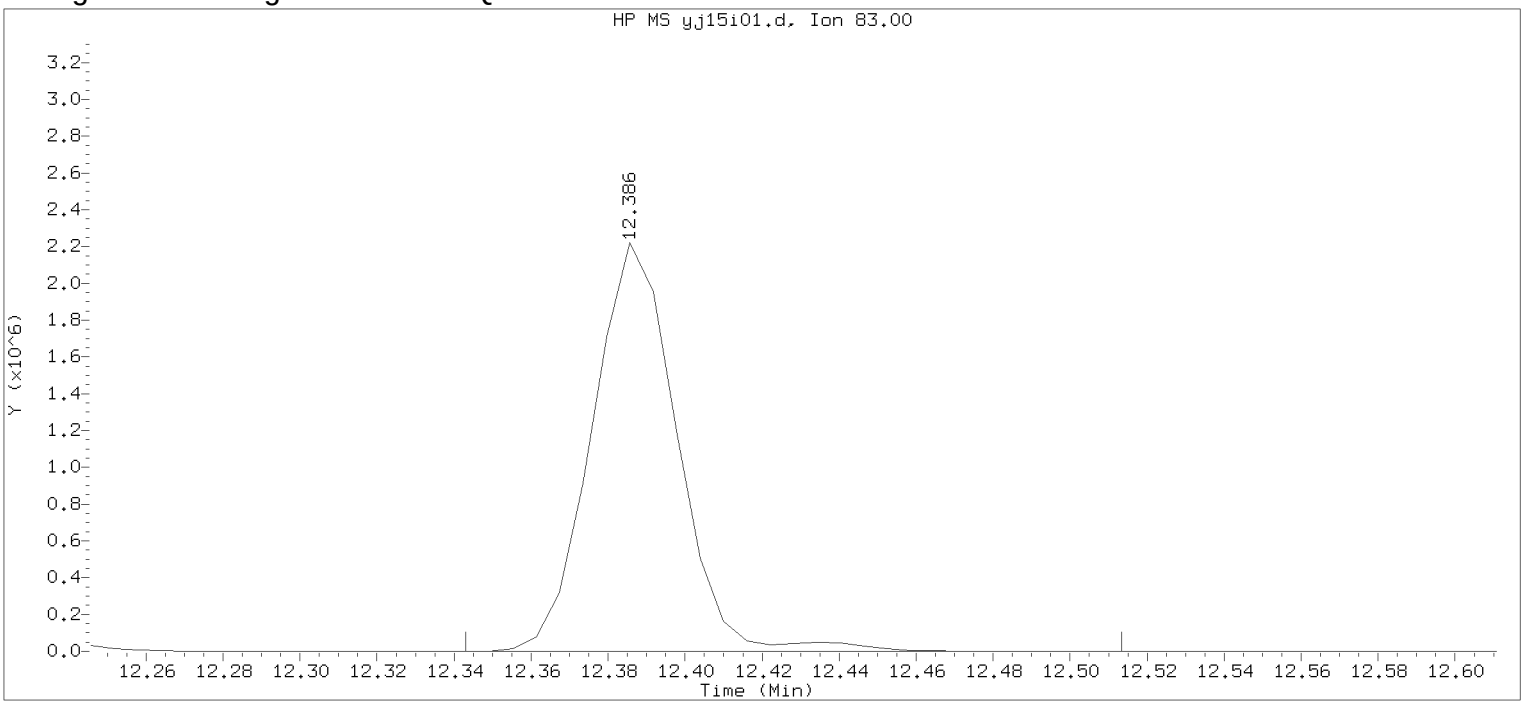
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 12:54 Analyst ID: dhh02035

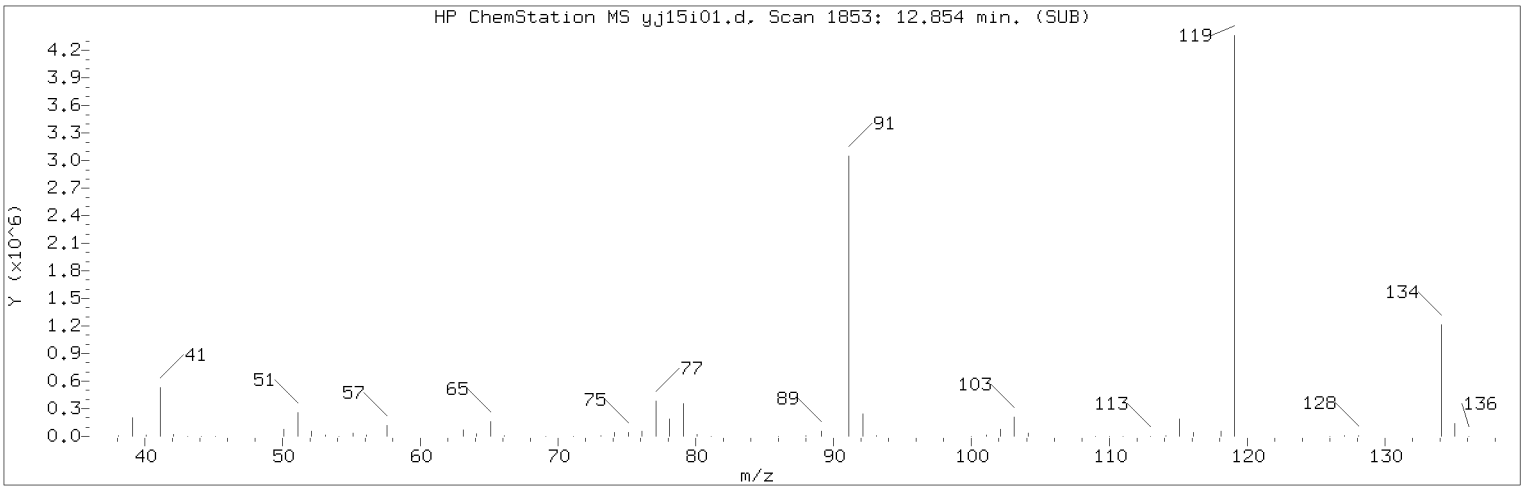
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 13:10
Date, time and analyst ID of latest file update: 15-Jan-2018 13:10 Automation

Sample Name: VSTD300 Lab Sample ID: VSTD300

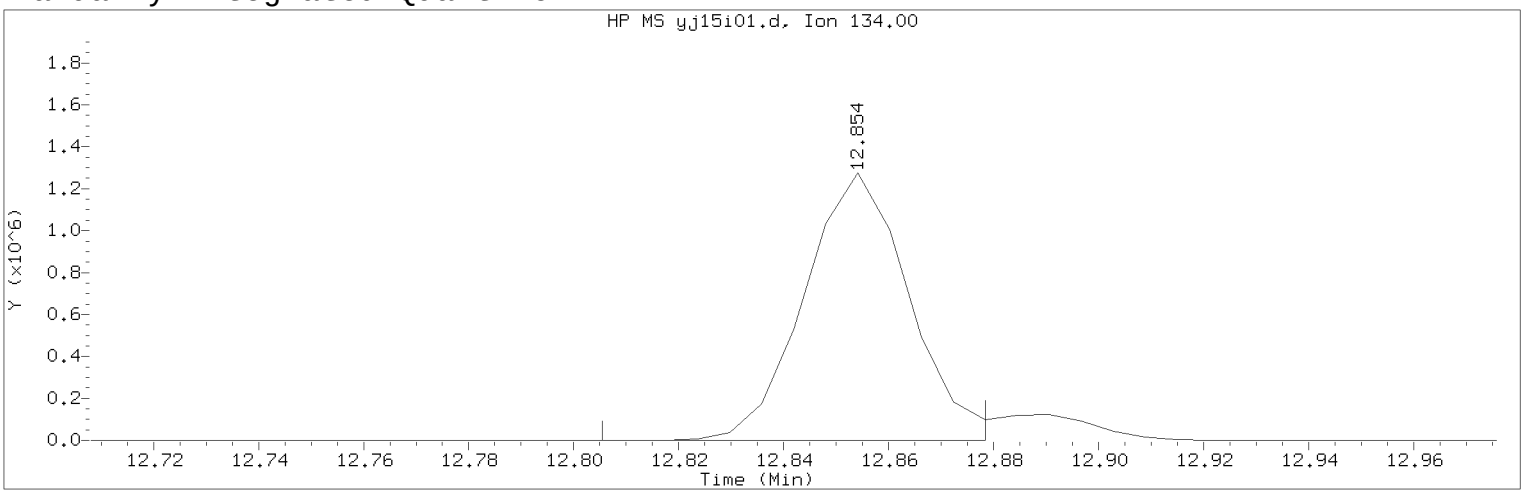
Compound Number : 116
Compound Name : 1,1,2,2-Tetrachloroethane
Scan Number : 1776
Retention Time (minutes): 12.386
Quant Ion : 83.00
Area : 3412060
On-column Amount (ng) : 289.1570
Integration start scan : 1768 Integration stop scan: 1796
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 12:54 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD300 Lab Sample ID: VSTD300

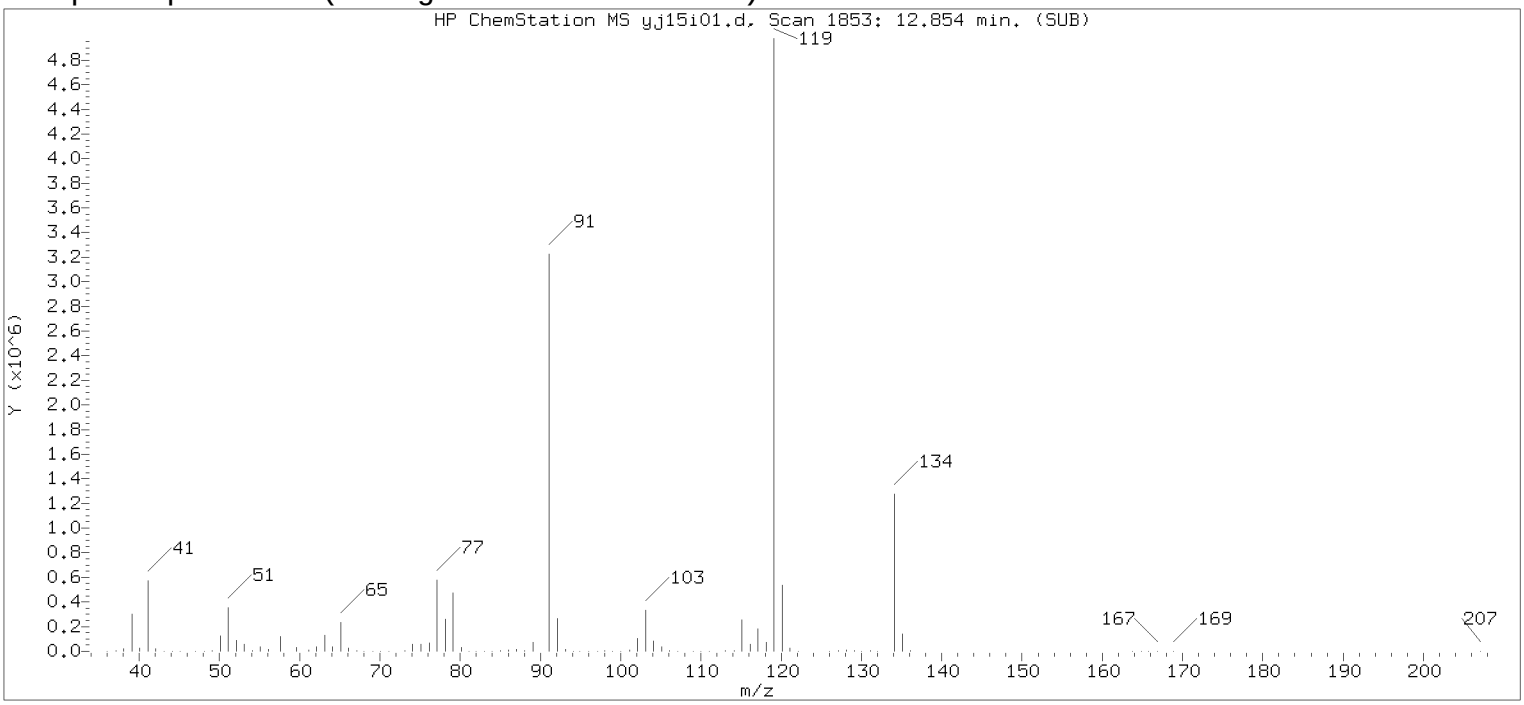
Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 1853
Retention Time (minutes): 12.854
Quant Ion : 134.00
Area (flag) : 1765525M
On-Column Amount (ng) : 276.4460
Integration start scan : 1844 Integration stop scan: 1856
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

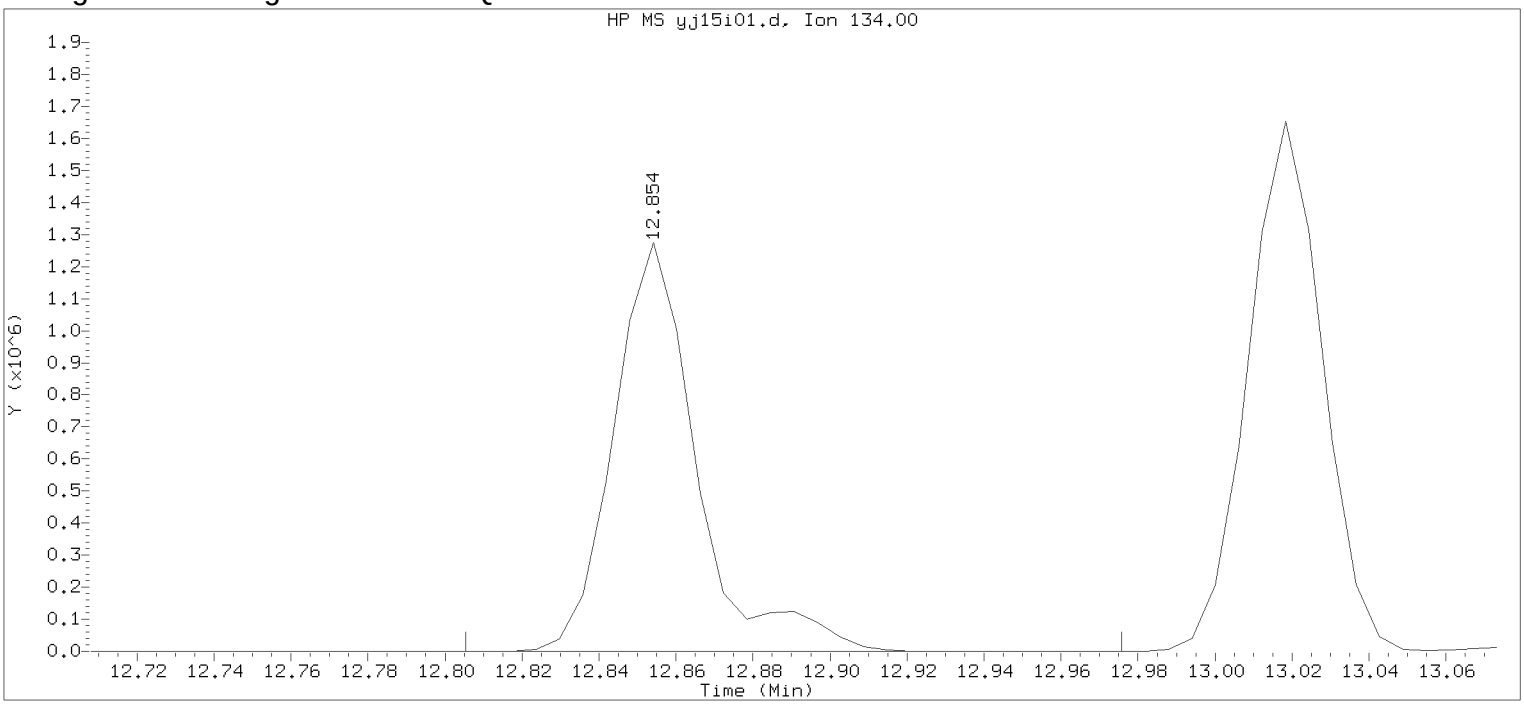
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



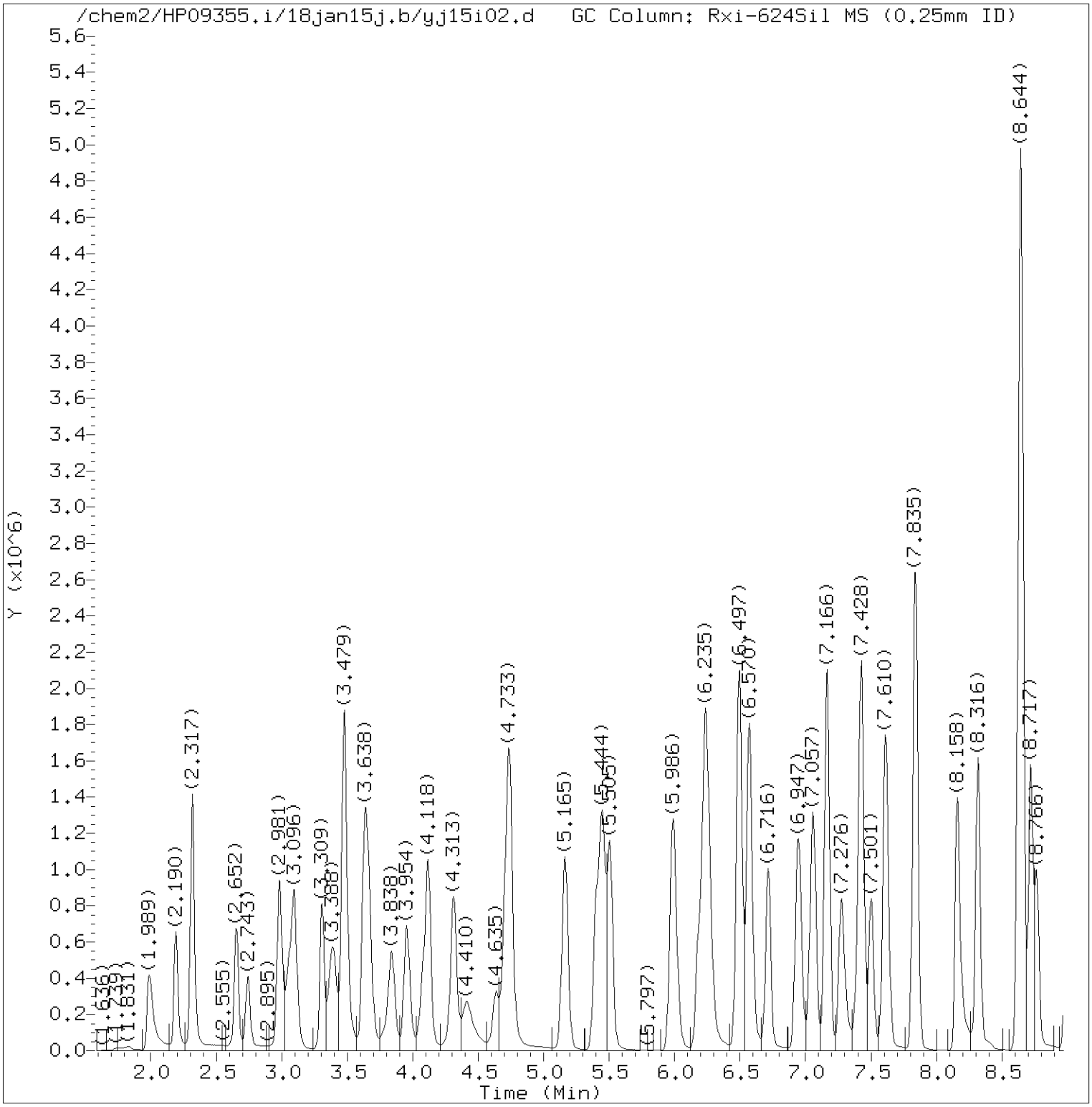
Data File: /chem2/HP09355.i/18jan15j.b/yj15i01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 12:54 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 13:10
Date, time and analyst ID of latest file update: 15-Jan-2018 13:10 Automation

Sample Name: VSTD300 Lab Sample ID: VSTD300

Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 1853
Retention Time (minutes): 12.854
Quant Ion : 134.00
Area : 1910554
On-column Amount (ng) : 321.7668
Integration start scan : 1844 Integration stop scan: 1872
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly



Total Ion Chromatogram (TIC)

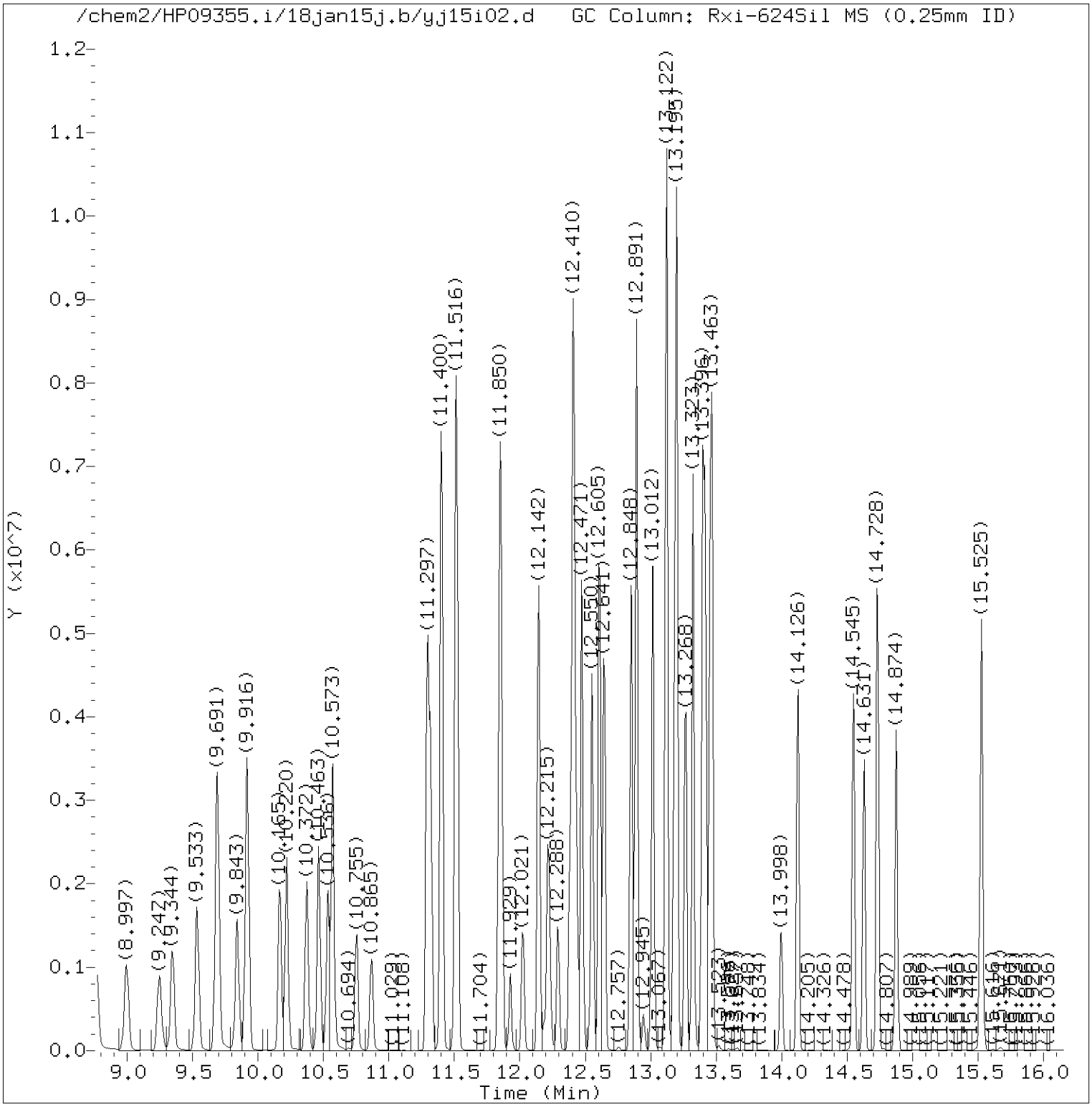
Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i02.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:16 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD100 Lab Sample ID: VSTD100

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i02.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:16 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD100 Lab Sample ID: VSTD100

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i02.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:16 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD100 Lab Sample ID: VSTD100

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
3) Dichlorodifluoromethane	(2)	1.989	85	880385	103.869
4) Chloromethane	(2)	2.190	50	880054	99.649
6) Vinyl Chloride	(2)	2.311	62	874429	96.981
5) 1,3-Butadiene	(2)	2.317	39	446922	97.481
8) Bromomethane	(2)	2.652	94	590376	96.659
9) Chloroethane	(2)	2.743	64	481525	96.293
10) Dichlorofluoromethane	(2)	2.981	67	1032667	91.537
12) Trichlorofluoromethane	(2)	3.054	101	1055779	103.015
11) n-Pentane	(2)	3.096	43	825426	97.362
14) Ethyl ether	(2)	3.309	59	623352	102.530
15) Freon 123a	(2)	3.388	67	662290	99.405
16) Acrolein	(1)	3.479	56	2816994	1028.788
17) 1,1-Dichloroethene	(2)	3.631	96	491113	101.714
17) 1,1-Dichloroethene	(2)	3.631	63	246401	103.708
18) Acetone	(1)	3.644	58	260628	214.010
19) Freon 113	(2)	3.662	101	493109	105.840
21) 2-Propanol	(1)	3.802	45	461331	540.823
22) Methyl Iodide	(2)	3.838	142	945830	102.191
23) Carbon Disulfide	(2)	3.954	76	1659599	102.623
27) Methyl Acetate	(2)	4.082	43	915646	99.423
25) Allyl Chloride	(2)	4.118	41	1009081	102.111
29)*t-Butyl alcohol-d10	(1)	4.288	65	391889	250.000
28) Methylene Chloride	(2)	4.313	84	614585	99.328
30) t-Butyl alcohol	(1)	4.416	59	900597	521.398
31) Acrylonitrile	(2)	4.635	53	491024	103.770
33) Methyl Tertiary Butyl Ether	(2)	4.720	73	2119481	100.381
32) trans-1,2-Dichloroethene	(2)	4.745	96	611563	100.979
34) n-Hexane	(2)	5.165	57	940523	104.820
36) 1,1-Dichloroethane	(2)	5.396	63	1111279	100.998
38) di-Isopropyl ether	(2)	5.450	45	2049846	99.769
39) 2-Chloro-1,3-butadiene	(2)	5.505	53	986674	102.390
40) Ethyl t-butyl ether	(2)	5.986	59	2076379	100.189
44) 2-Butanone	(2)	6.187	43	1491312	197.615
42) cis-1,2-Dichloroethene	(2)	6.229	96	710373	100.337
45) 2,2-Dichloropropane	(2)	6.247	77	934771	103.485
47) Propionitrile	(1)	6.266	54	948169	545.941
48) Methacrylonitrile	(2)	6.497	67	1246846	276.069
49) Bromochloromethane	(2)	6.570	128	377584	105.324

* = Compound is an internal standard.

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i02.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:16 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD100 Lab Sample ID: VSTD100

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50) Tetrahydrofuran	(1)	6.576	71	409103	204.226
51) Chloroform	(2)	6.716	83	1109653	99.216
43) 1,2-Dichloroethene (Total)	(2)		96	1321936	201.316
52)$Dibromofluoromethane	(2)	6.935	113	297385	50.313
52)$Dibromofluoromethane	(2)	6.935	111	304782	50.338
53) 1,1,1-Trichloroethane	(2)	6.947	97	1019231	95.311
54) Cyclohexane	(2)	7.057	56	1073370	103.366
54) Cyclohexane	(2)	7.057	84	906749	101.144
54) Cyclohexane	(2)	7.057	69	335069	103.080
56) Carbon Tetrachloride	(2)	7.166	117	845913	104.460
55) 1,1-Dichloropropene	(2)	7.166	75	911160	100.748
58) Isobutyl Alcohol	(1)	7.276	41	764004	1277.705
57)$1,2-Dichloroethane-d4	(2)	7.397	102	75401	49.476
57)$1,2-Dichloroethane-d4	(2)	7.397	65	355826	49.303
57)$1,2-Dichloroethane-d4	(2)	7.397	104	48099	49.673
60) Benzene	(2)	7.428	78	2628565	100.328
61) 1,2-Dichloroethane	(2)	7.501	62	908620	96.338
61) 1,2-Dichloroethane	(2)	7.501	98	86807	100.811
65) t-Amyl methyl ether	(2)	7.610	73	2082409	99.904
66)*Fluorobenzene	(2)	7.835	96	1243906	50.000
67) n-Heptane	(2)	7.841	43	1089333	101.823
69) n-Butanol	(1)	8.158	56	1417718	2606.915
71) Trichloroethene	(2)	8.316	95	703594	100.599
72) Methylcyclohexane	(2)	8.632	83	1238748	108.253
72) Methylcyclohexane	(2)	8.632	98	557715	108.006
73) 1,2-Dichloropropane	(2)	8.650	63	703825	99.719
76) Methyl Methacrylate	(2)	8.717	69	791160	99.511
75) 1,4-Dioxane	(1)	8.729	88	190214M	1423.758
74) Dibromomethane	(2)	8.766	93	461197	100.072
78) Bromodichloromethane	(2)	8.997	83	892704	103.211
79) 2-Nitropropane	(2)	9.247	41	731126	216.762
80) 2-Chloroethyl Vinyl Ether	(2)	9.344	63	638693	104.025
81) cis-1,3-Dichloropropene	(2)	9.533	75	1181560	103.313
82) 4-Methyl-2-pentanone	(2)	9.691	43	2798138	204.991
83)$Toluene-d8	(3)	9.843	98	1254631	49.685
83)$Toluene-d8	(3)	9.843	100	813993	49.933
90) 1,3-Dichloropropene (total)	(3)		100	2310276	208.704
88) Toluene	(3)	9.916	92	1755661	99.283

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i02.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:16 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD100 Lab Sample ID: VSTD100

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
89) trans-1,3-Dichloropropene	(3)	10.165	75	1128716	105.392
91) Ethyl Methacrylate	(3)	10.220	69	1268103	100.291
92) 1,1,2-Trichloroethane	(3)	10.372	97	695921	97.434
93) Tetrachloroethene	(3)	10.463	166	768628	99.247
94) 1,3-Dichloropropane	(3)	10.536	76	1167219	97.283
96) 2-Hexanone	(3)	10.573	43	2301697M	203.470
97) Dibromochloromethane	(3)	10.755	129	793038	106.451
99) 1,2-Dibromoethane	(3)	10.865	107	777262	99.743
100)*Chlorobenzene-d5	(3)	11.291	117	960735	50.000
101) 1-Chlorohexane	(3)	11.297	91	963089	94.901
102) Chlorobenzene	(3)	11.321	112	2020790	98.081
103) 1,1,1,2-Tetrachloroethane	(3)	11.400	131	695733	103.236
104) Ethylbenzene	(3)	11.400	91	3400962	98.683
106) m+p-Xylene	(3)	11.516	106	2750911	199.344
108) Xylene (Total)	(3)		106	4107888	298.790
107) o-Xylene	(3)	11.844	106	1356977	99.446
109) Styrene	(3)	11.856	104	2342113	101.164
110) Bromoform	(3)	12.021	173	639309	107.981
111) Isopropylbenzene	(3)	12.142	105	3378503	98.356
112) Cyclohexanone	(1)	12.215	55	1111115A	1312.586
114)$4-Bromofluorobenzene	(3)	12.288	95	472715	49.885
114)$4-Bromofluorobenzene	(3)	12.294	174	398298	50.097
116) 1,1,2,2-Tetrachloroethane	(4)	12.386	83	1182373M	94.426
118) trans-1,4-Dichloro-2-butene	(4)	12.410	53	968949	277.740
115) Bromobenzene	(4)	12.410	156	934896	98.293
117) 1,2,3-Trichloropropane	(4)	12.434	110	378528	94.007
119) n-Propylbenzene	(4)	12.471	91	4013679	97.304
120) 2-Chlorotoluene	(4)	12.550	126	831744	97.082
122) 1,3,5-Trimethylbenzene	(4)	12.605	105	2973473	98.217
121) 4-Chlorotoluene	(4)	12.641	126	894747	97.432
124) tert-Butylbenzene	(4)	12.854	134	631726M	98.877
125) Pentachloroethane	(4)	12.885	167	557495	112.258
126) 1,2,4-Trimethylbenzene	(4)	12.891	105	3099573	98.937
127) sec-Butylbenzene	(4)	13.018	105	3742898	98.082
129) 1,3-Dichlorobenzene	(4)	13.116	146	1779714	97.575
130) p-Isopropyltoluene	(4)	13.122	119	3392526	100.742
131)*1,4-Dichlorobenzene-d4	(4)	13.177	152	528674	50.000
133) 1,4-Dichlorobenzene	(4)	13.195	146	1818196	97.328

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i02.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:16 Analyst ID: dhh02035

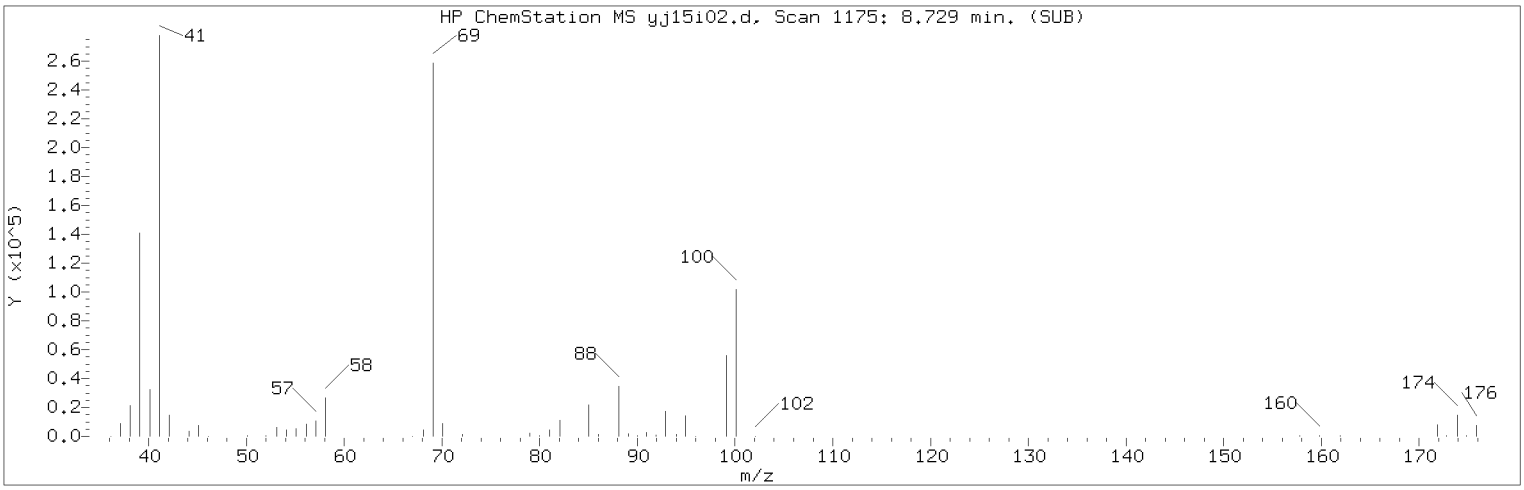
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD100 Lab Sample ID: VSTD100

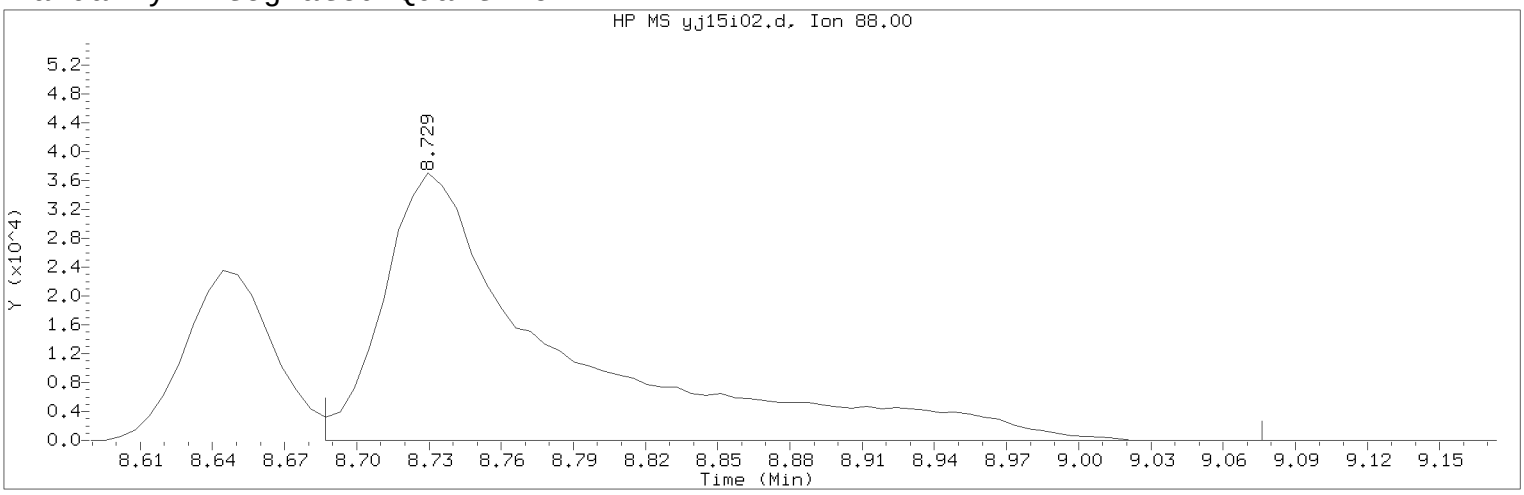
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
134) 1,2,3-Trimethylbenzene	(4)	13.201	105	3159692	104.398
135) Benzyl Chloride	(4)	13.268	91	2666153	107.452
136) 1,3-Diethylbenzene	(4)	13.323	119	2017423	104.727
137) 1,4-Diethylbenzene	(4)	13.396	119	2111173	105.693
139) n-Butylbenzene	(4)	13.414	92	1687077	98.964
138) 1,2-Dichlorobenzene	(4)	13.450	146	1695959	96.893
140) 1,2-Diethylbenzene	(4)	13.469	119	1674281	104.994
141) Diethylbenzene (total)	(4)		100	5802877	315.413
142) 1,2-Dibromo-3-chloropropane	(4)	13.992	75	322349	100.223
144) 1,3,5-Trichlorobenzene	(4)	14.126	180	1274272	96.870
146) 1,2,4-Trichlorobenzene	(4)	14.545	180	1205930	95.402
147) Hexachlorobutadiene	(4)	14.631	225	589384	98.278
148) Naphthalene	(4)	14.728	128	4056343	95.796
149) 1,2,3-Trichlorobenzene	(4)	14.874	180	1109949	94.771
150) 2-Methylnaphthalene	(4)	15.525	142	2539116	105.473

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i02.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:16 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD100 Lab Sample ID: VSTD100

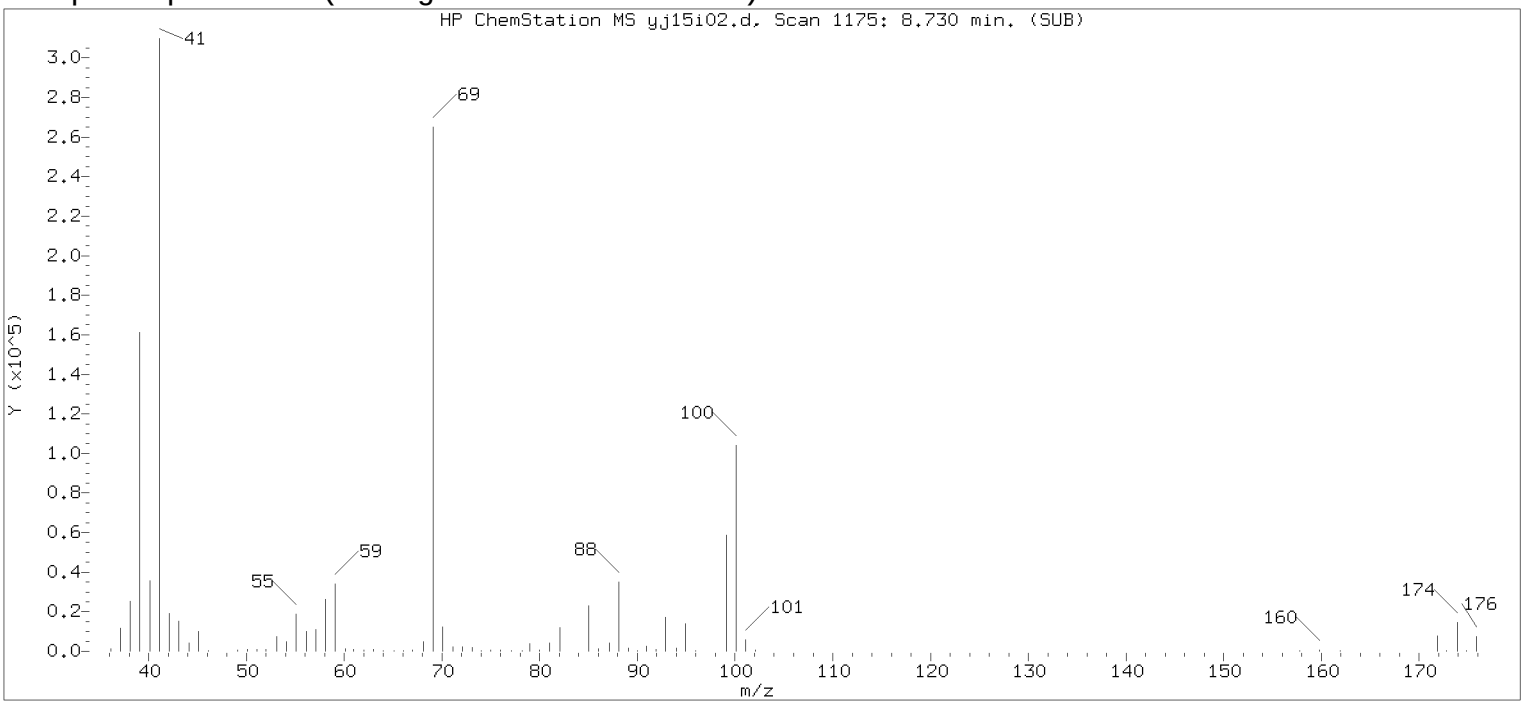
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 1175
Retention Time (minutes): 8.729
Quant Ion : 88.00
Area (flag) : 190214M
On-Column Amount (ng) : 1423.7583
Integration start scan : 1167 Integration stop scan: 1231
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

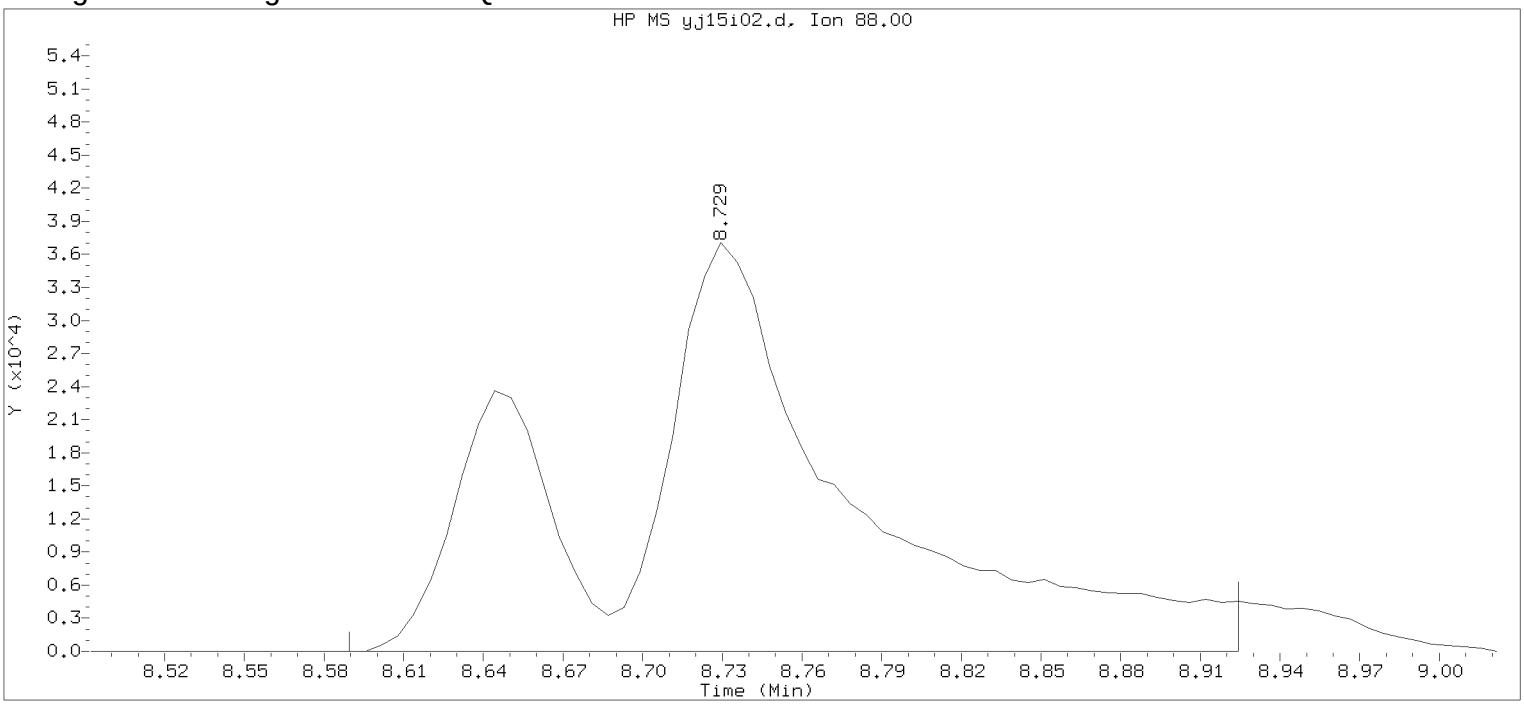
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i02.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:16 Analyst ID: dhh02035

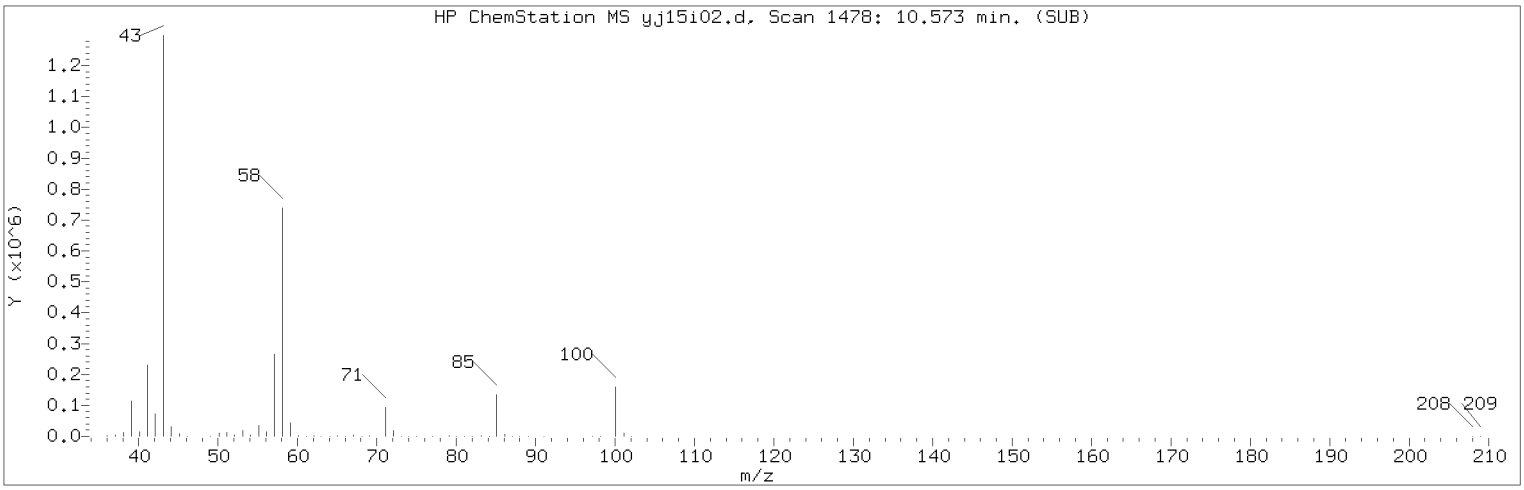
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 13:32
Date, time and analyst ID of latest file update: 15-Jan-2018 13:32 Automation

Sample Name: VSTD100 Lab Sample ID: VSTD100

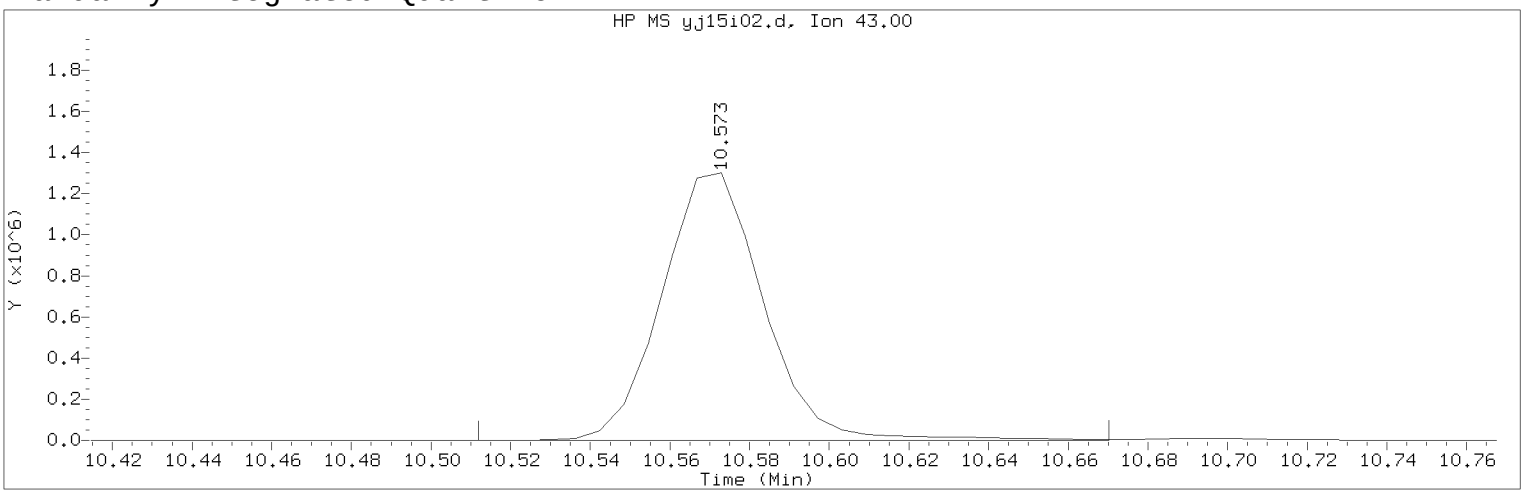
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 1175
Retention Time (minutes): 8.729
Quant Ion : 88.00
Area : 236365
On-column Amount (ng) : 1430.6849
Integration start scan : 1151 Integration stop scan: 1206
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly001

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i02.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:16 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD100 Lab Sample ID: VSTD100

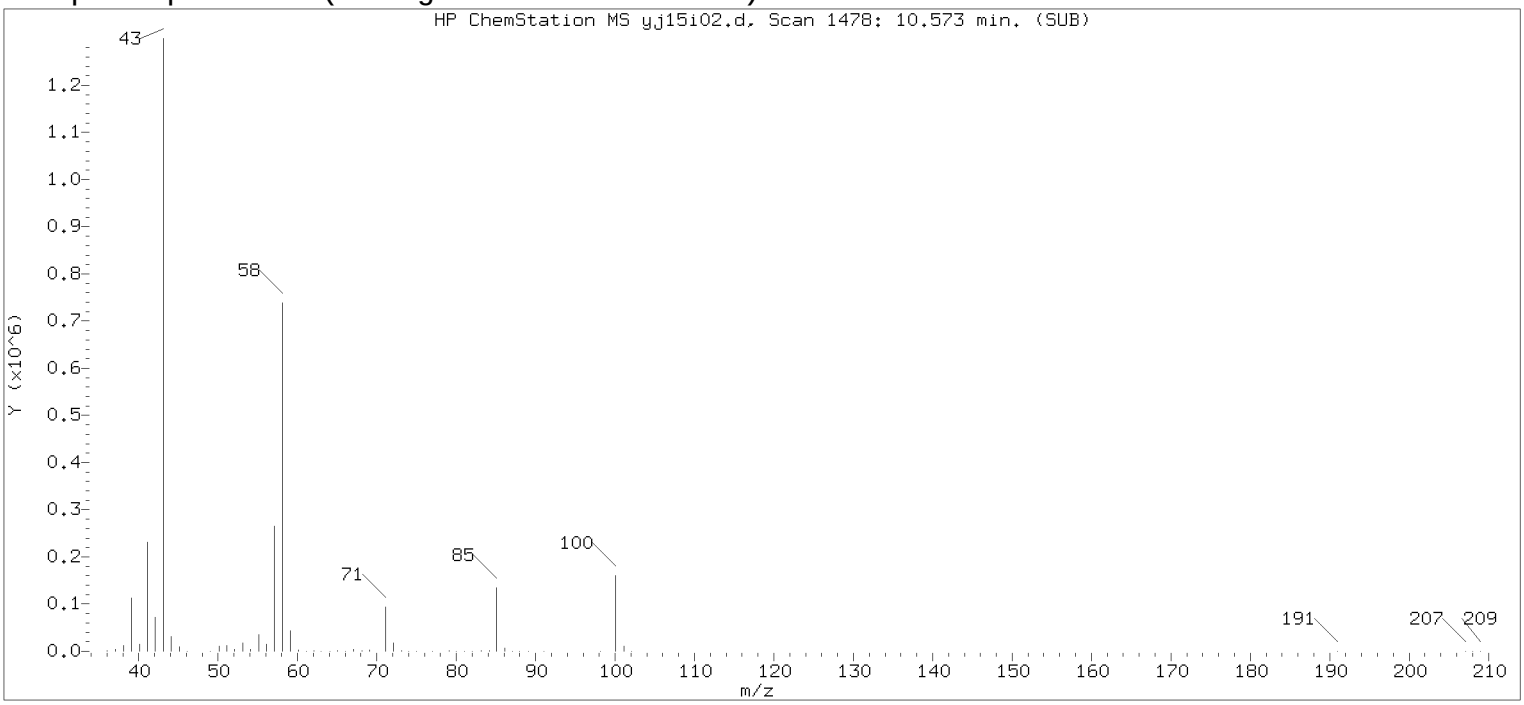
Compound Number : 96
Compound Name : 2-Hexanone
Scan Number : 1478
Retention Time (minutes): 10.573
Quant Ion : 43.00
Area (flag) : 2301697M
On-Column Amount (ng) : 203.4701
Integration start scan : 1467 Integration stop scan: 1493
Y at integration start : 326 Y at integration end: 326

Reason for manual integration: improper integration

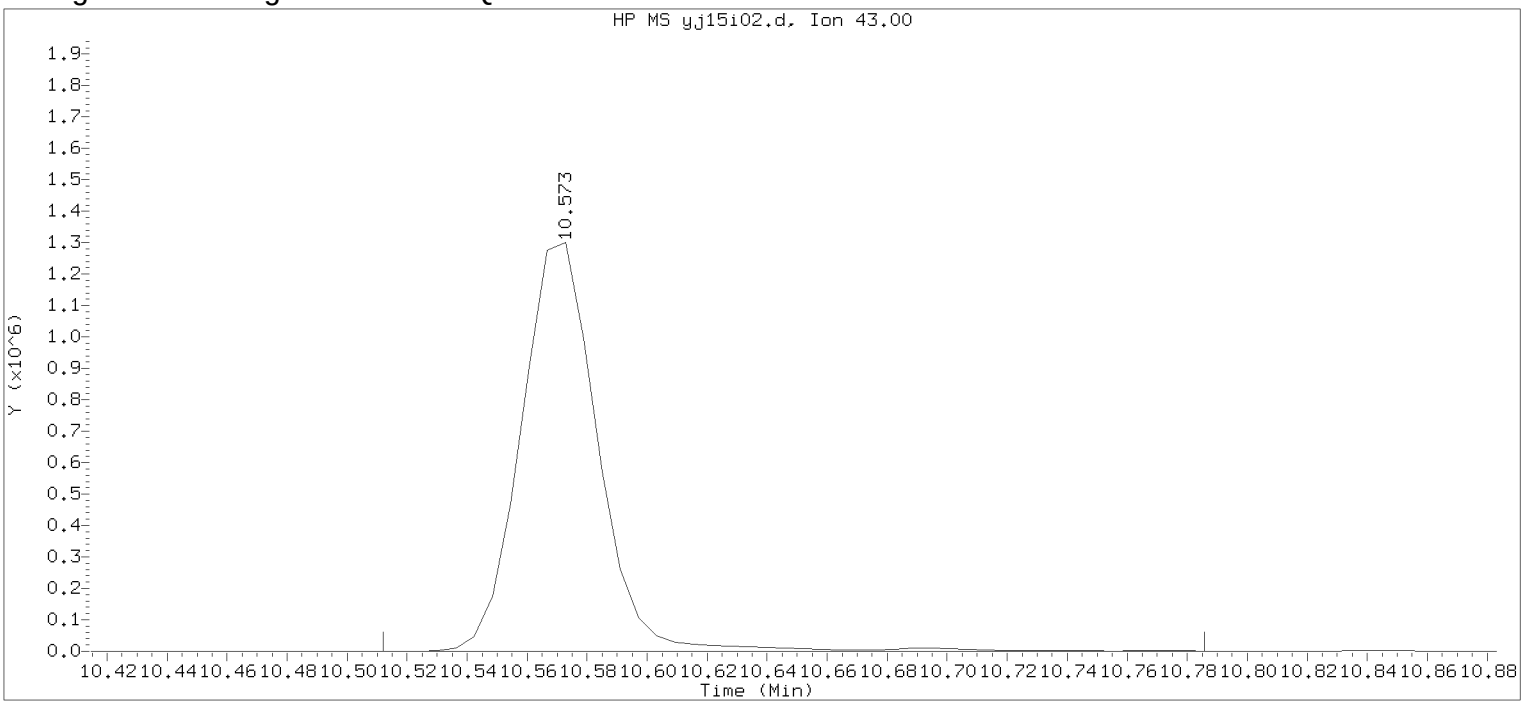
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i02.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:16 Analyst ID: dhh02035

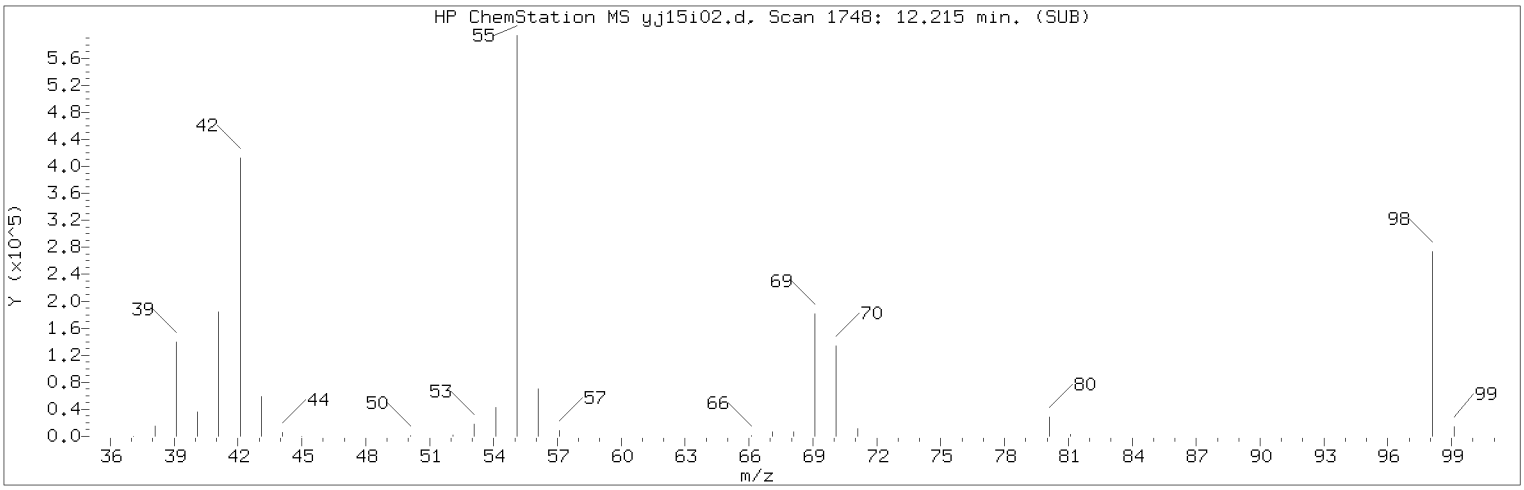
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 13:32
Date, time and analyst ID of latest file update: 15-Jan-2018 13:32 Automation

Sample Name: VSTD100 Lab Sample ID: VSTD100

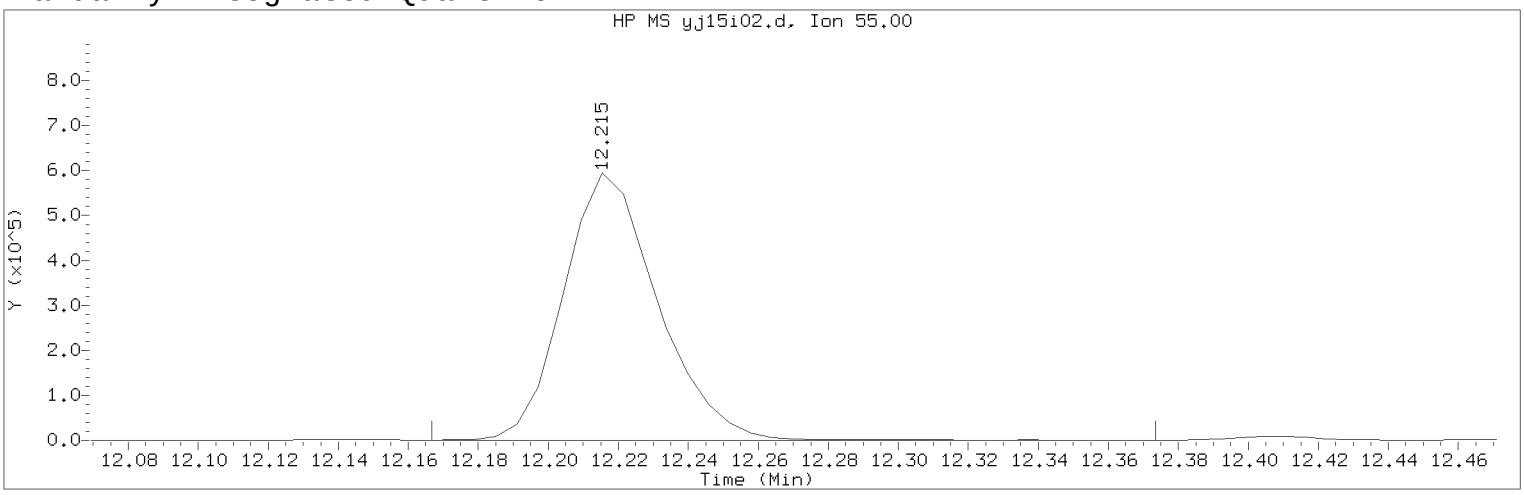
Compound Number : 96
Compound Name : 2-Hexanone
Scan Number : 1478
Retention Time (minutes): 10.573
Quant Ion : 43.00
Area : 2322529
On-column Amount (ng) : 213.9553
Integration start scan : 1467 Integration stop scan: 1512
Y at integration start : 326 Y at integration end: 326

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i02.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:16 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD100 Lab Sample ID: VSTD100

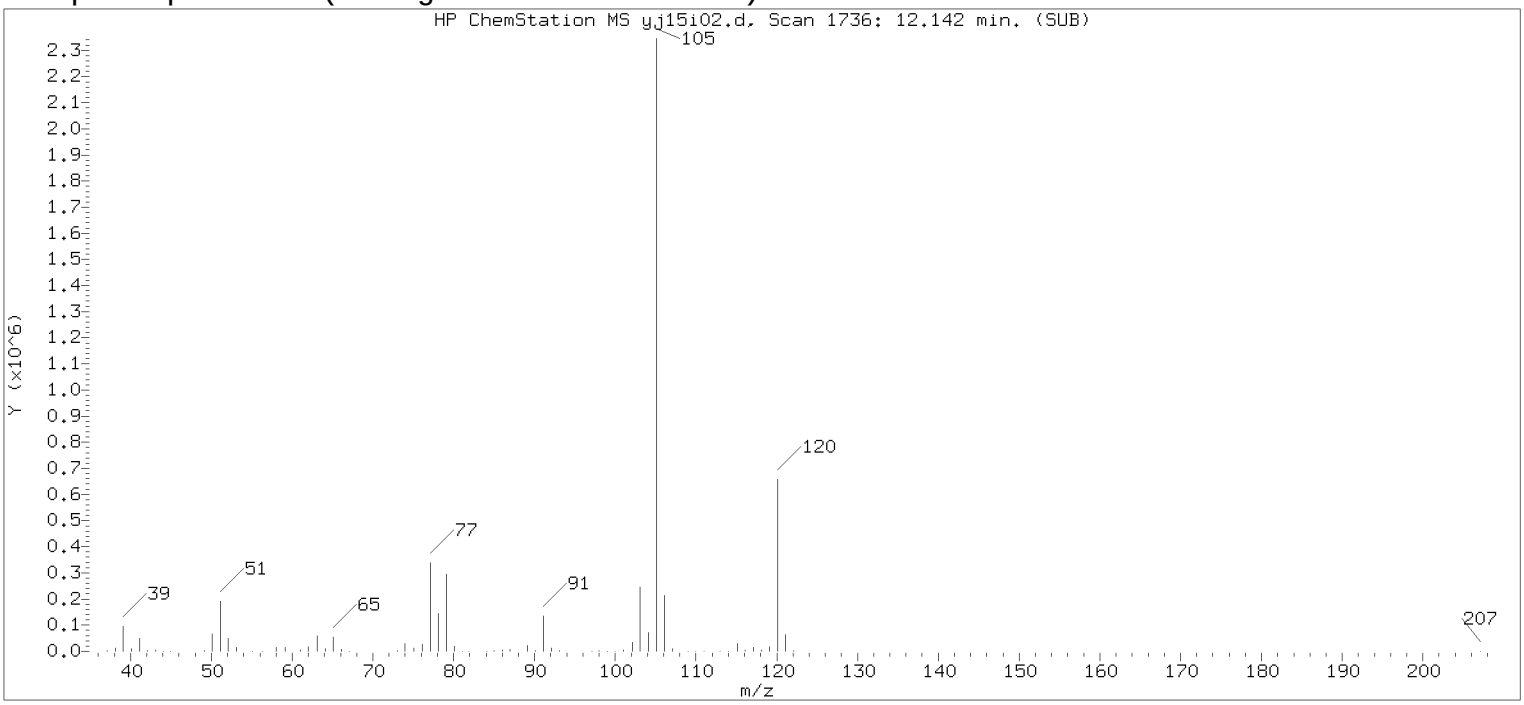
Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 1748
Retention Time (minutes): 12.215
Quant Ion : 55.00
Area (flag) : 1111115A
On-Column Amount (ng) : 1312.5857
Integration start scan : 1739 Integration stop scan: 1773
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

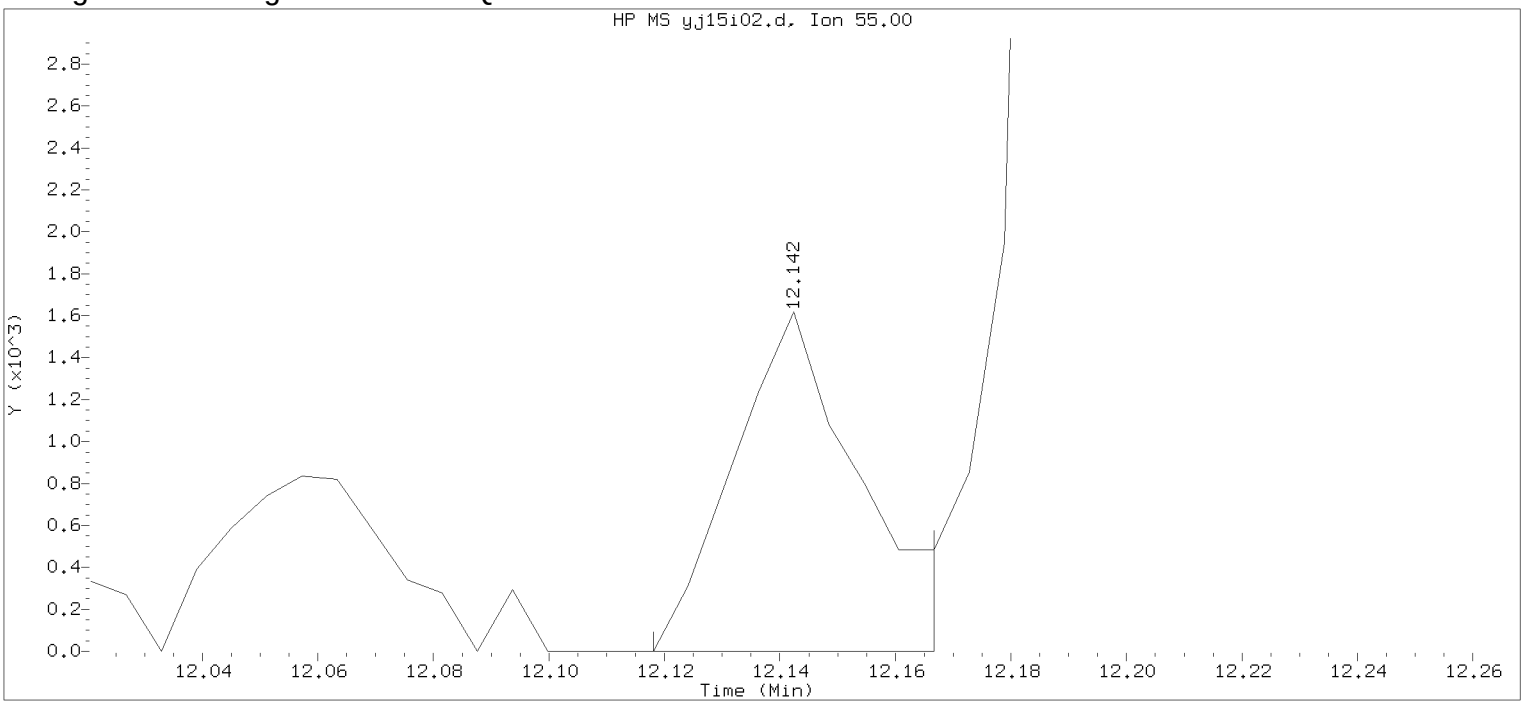
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i02.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:16 Analyst ID: dhh02035

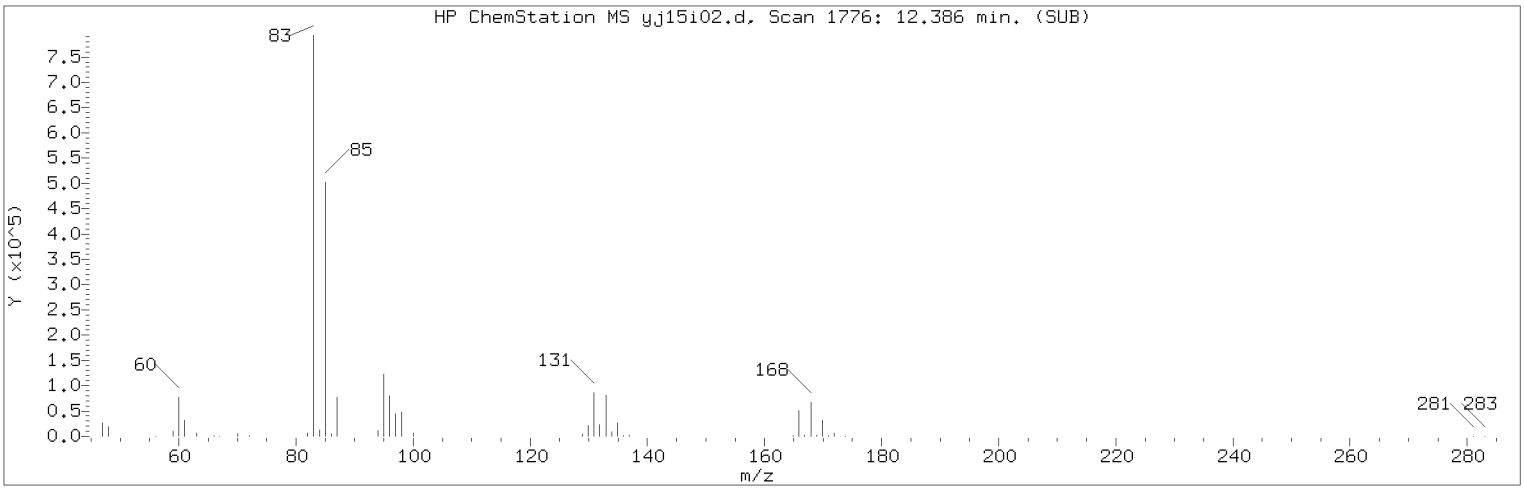
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 13:32
Date, time and analyst ID of latest file update: 15-Jan-2018 13:32 Automation

Sample Name: VSTD100 Lab Sample ID: VSTD100

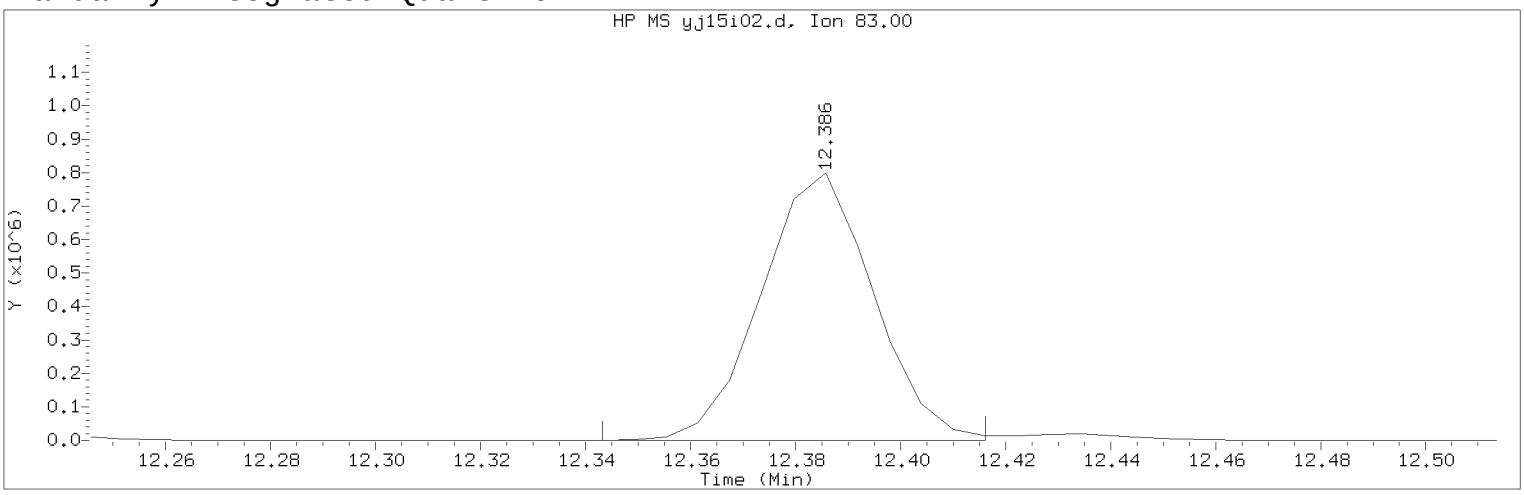
Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 1736
Retention Time (minutes): 12.142
Quant Ion : 55.00
Area : 2390
On-column Amount (ng) : 5.2646
Integration start scan : 1731 Integration stop scan: 1739
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i02.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:16 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD100 Lab Sample ID: VSTD100

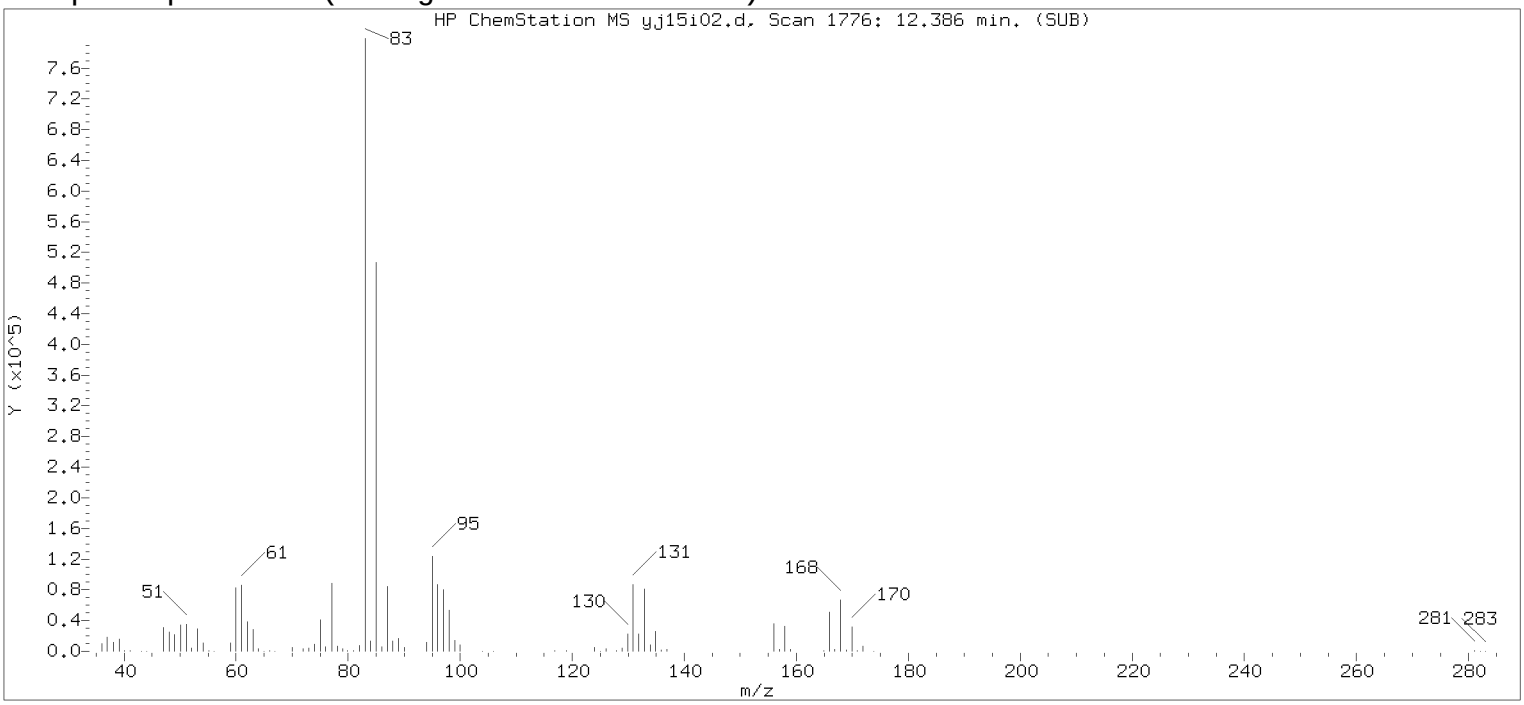
Compound Number : 116
Compound Name : 1,1,2,2-Tetrachloroethane
Scan Number : 1776
Retention Time (minutes): 12.386
Quant Ion : 83.00
Area (flag) : 1182373M
On-Column Amount (ng) : 94.4262
Integration start scan : 1768 Integration stop scan: 1780
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

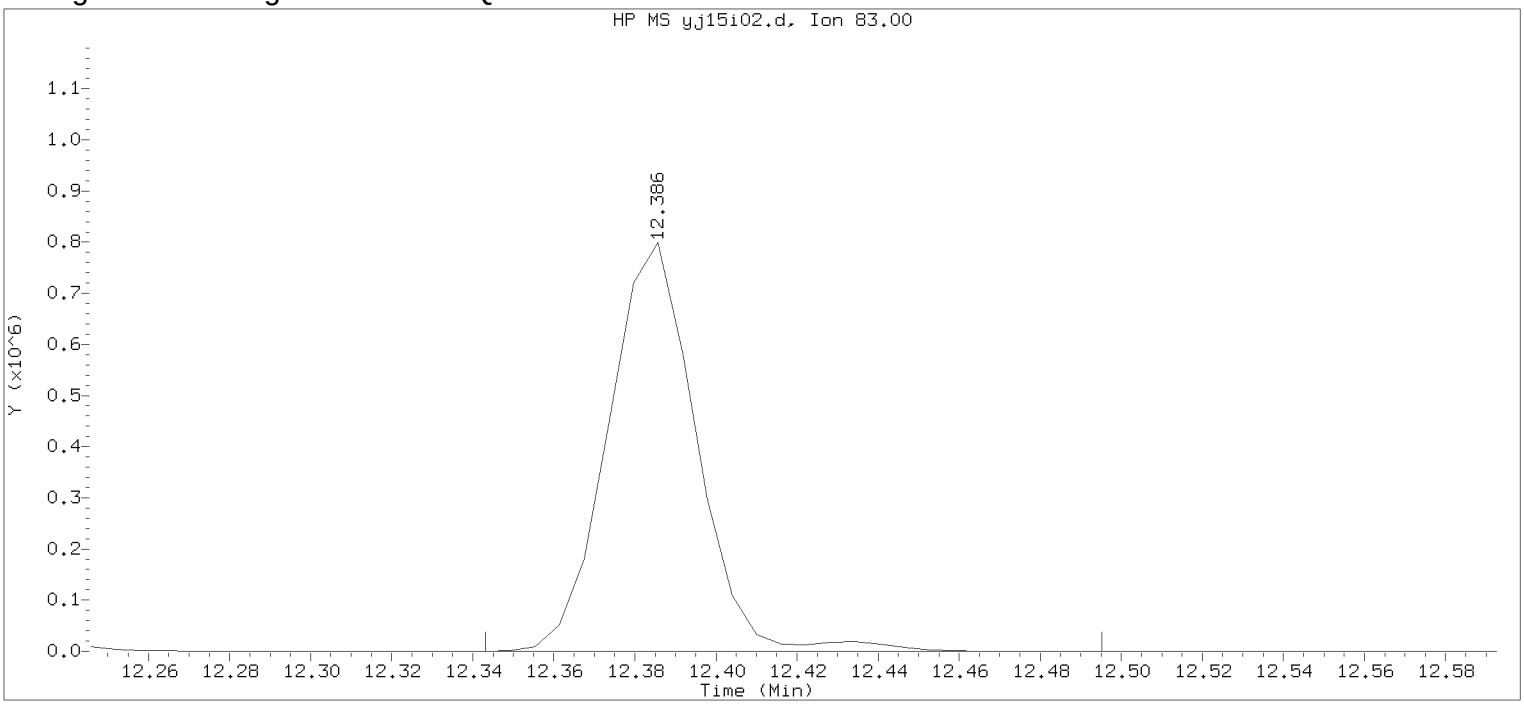
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i02.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:16 Analyst ID: dhh02035

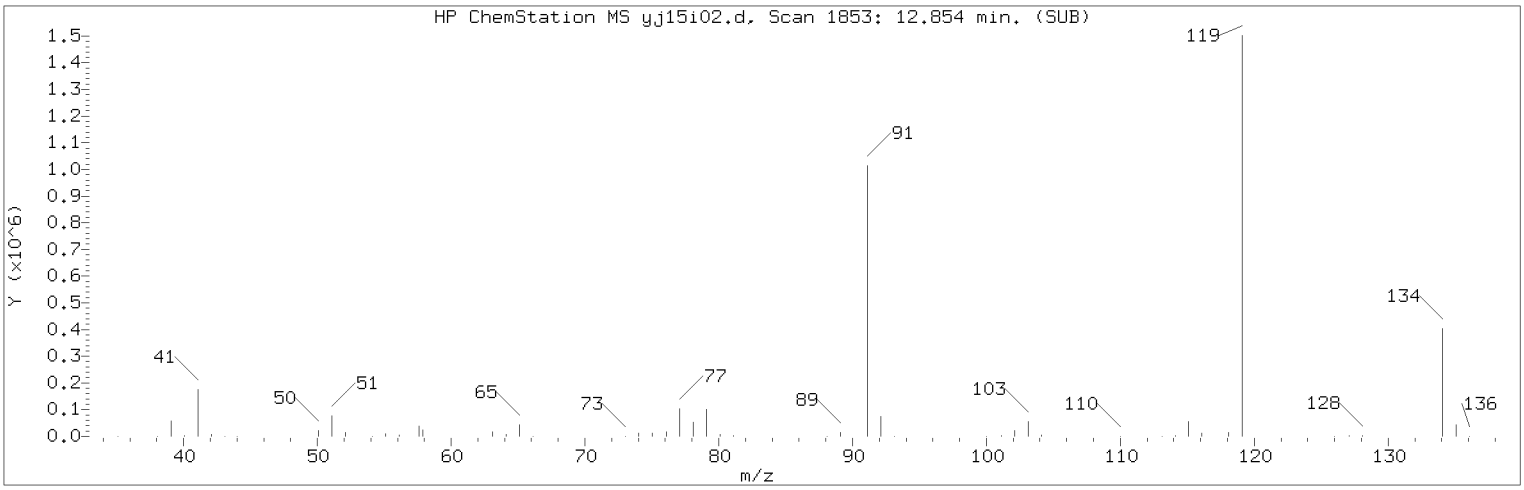
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 13:32
Date, time and analyst ID of latest file update: 15-Jan-2018 13:32 Automation

Sample Name: VSTD100 Lab Sample ID: VSTD100

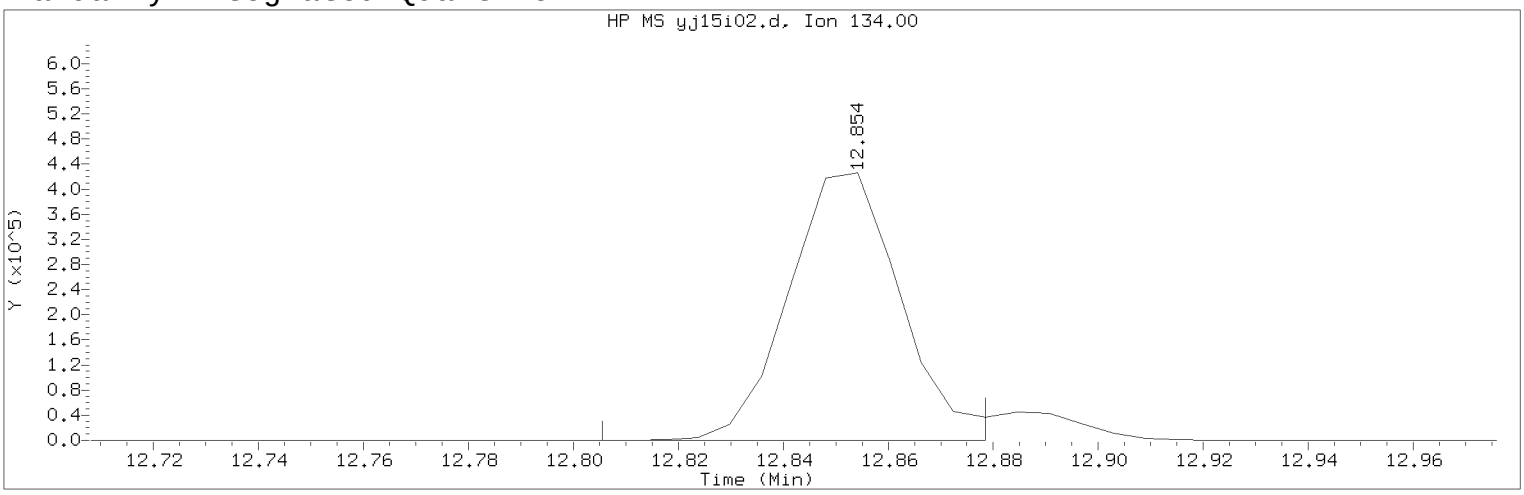
Compound Number : 116
Compound Name : 1,1,2,2-Tetrachloroethane
Scan Number : 1776
Retention Time (minutes): 12.386
Quant Ion : 83.00
Area : 1209491
On-column Amount (ng) : 104.0711
Integration start scan : 1768 Integration stop scan: 1793
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i02.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:16 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD100 Lab Sample ID: VSTD100

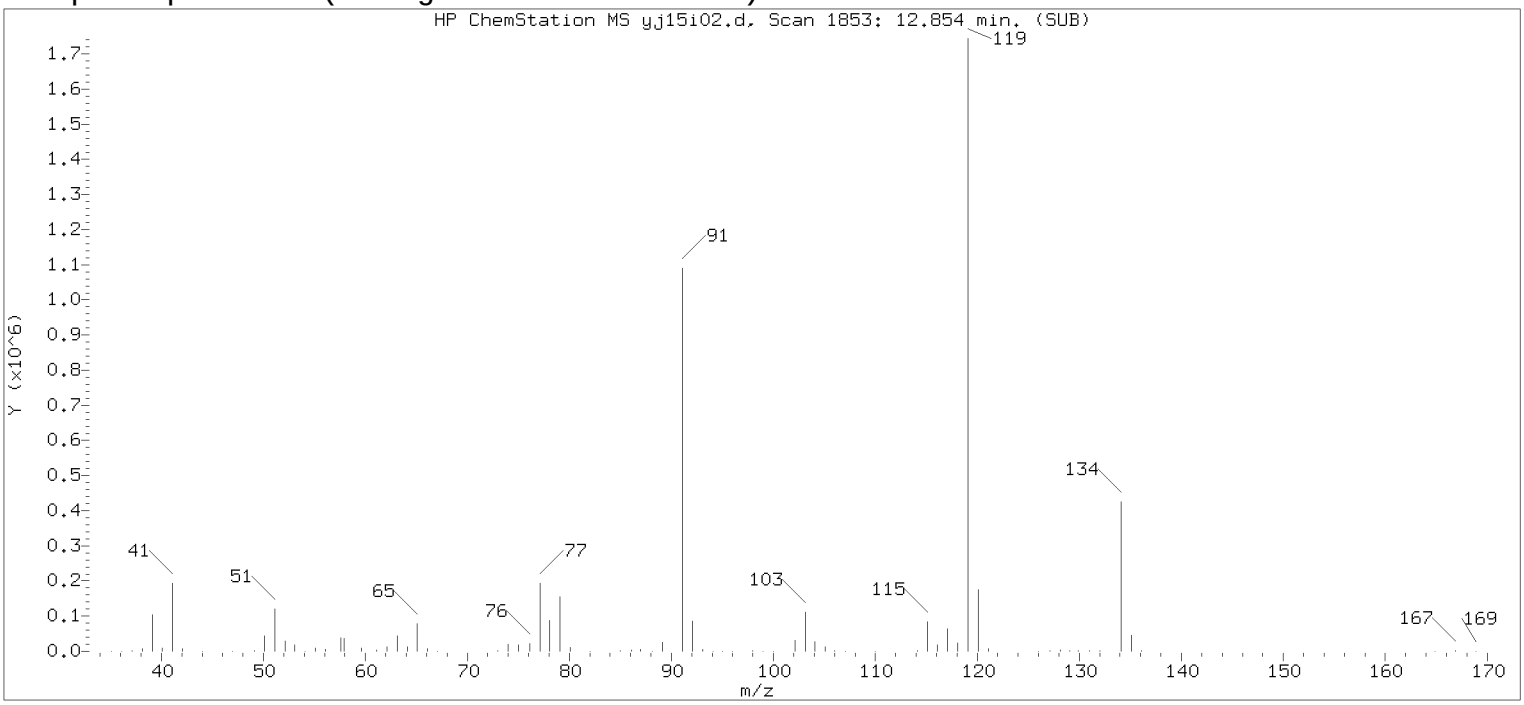
Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 1853
Retention Time (minutes): 12.854
Quant Ion : 134.00
Area (flag) : 631726M
On-Column Amount (ng) : 98.8766
Integration start scan : 1844 Integration stop scan: 1856
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

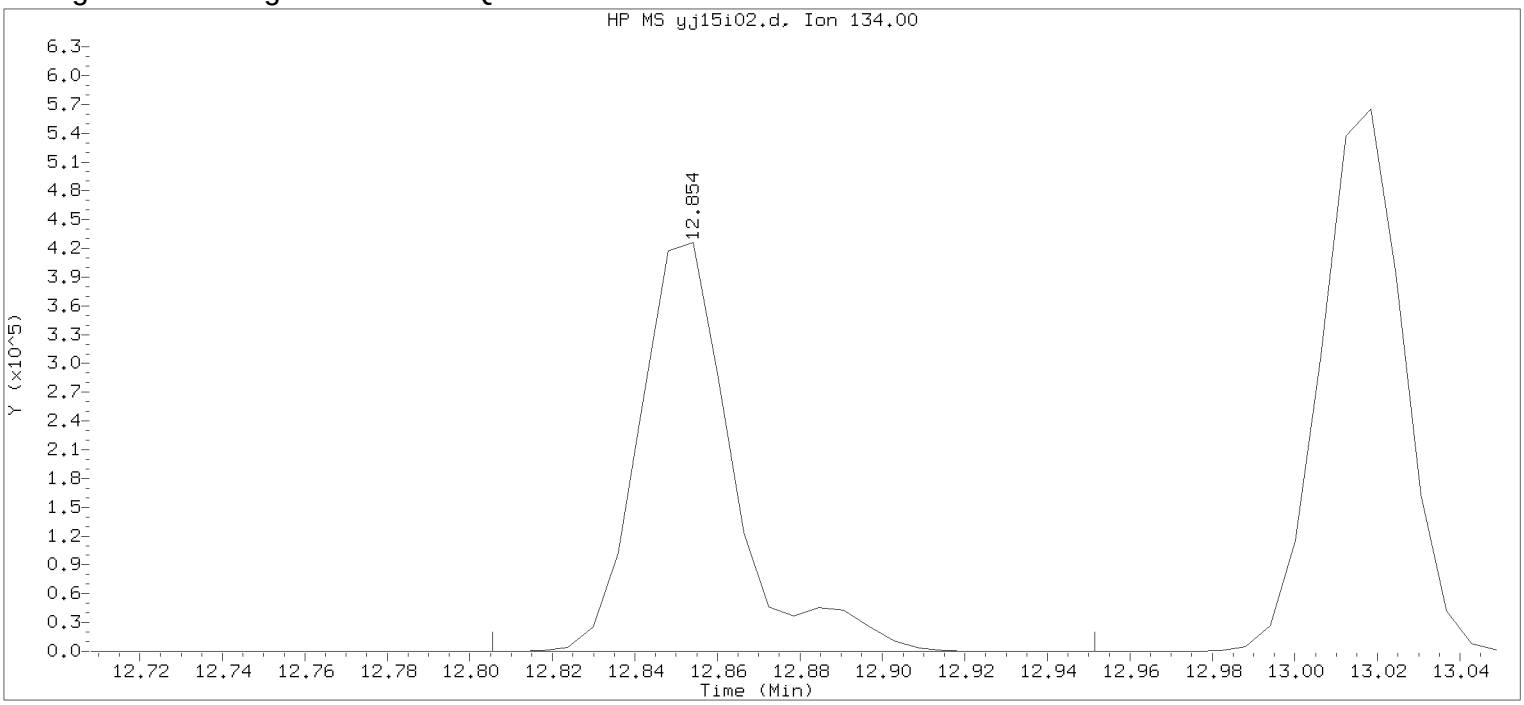
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



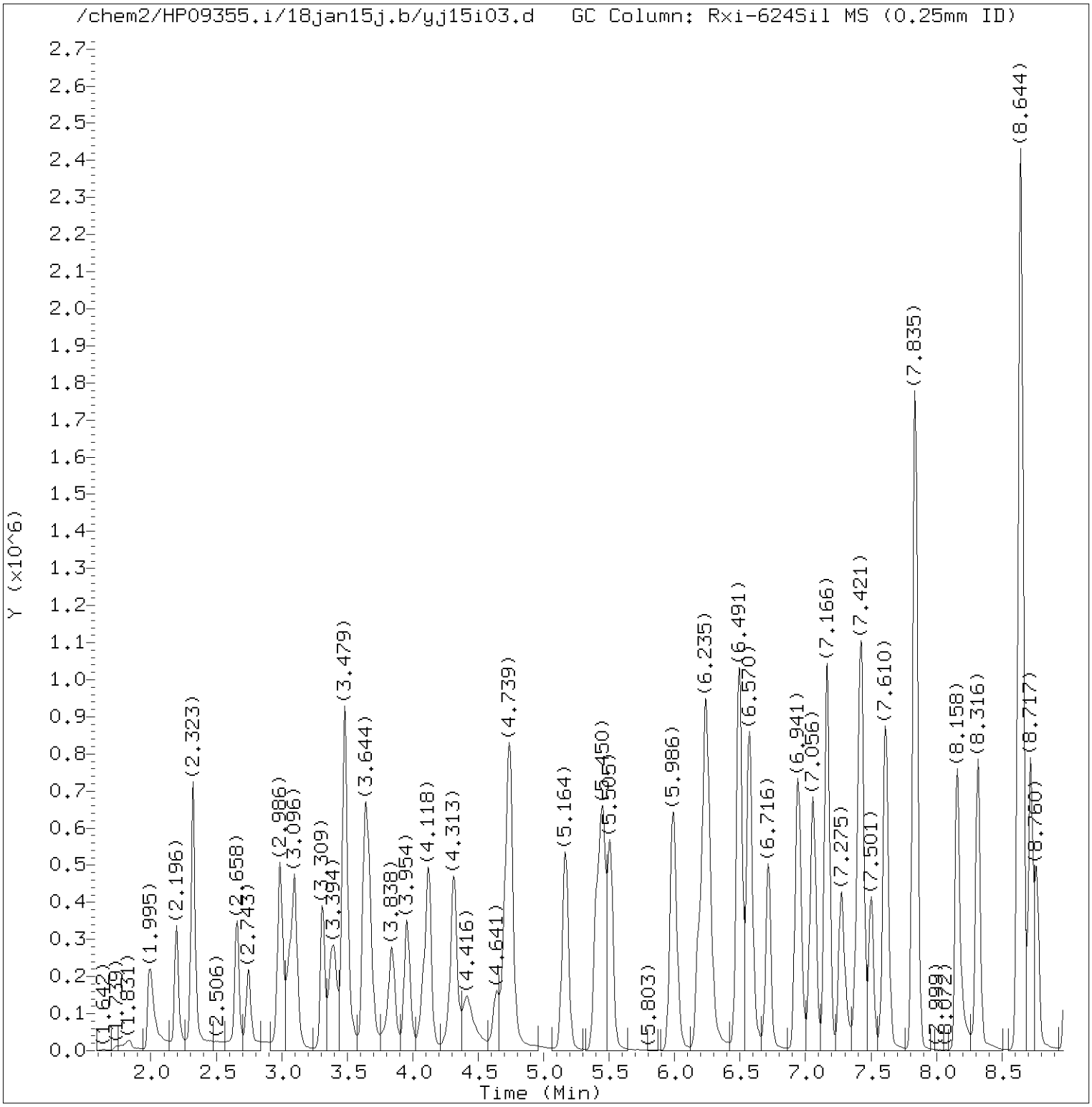
Data File: /chem2/HP09355.i/18jan15j.b/yj15i02.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:16 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 13:32
Date, time and analyst ID of latest file update: 15-Jan-2018 13:32 Automation

Sample Name: VSTD100 Lab Sample ID: VSTD100

Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 1853
Retention Time (minutes): 12.854
Quant Ion : 134.00
Area : 678672
On-column Amount (ng) : 107.0957
Integration start scan : 1844 Integration stop scan: 1868
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: KKELLY



Total Ion Chromatogram (TIC)

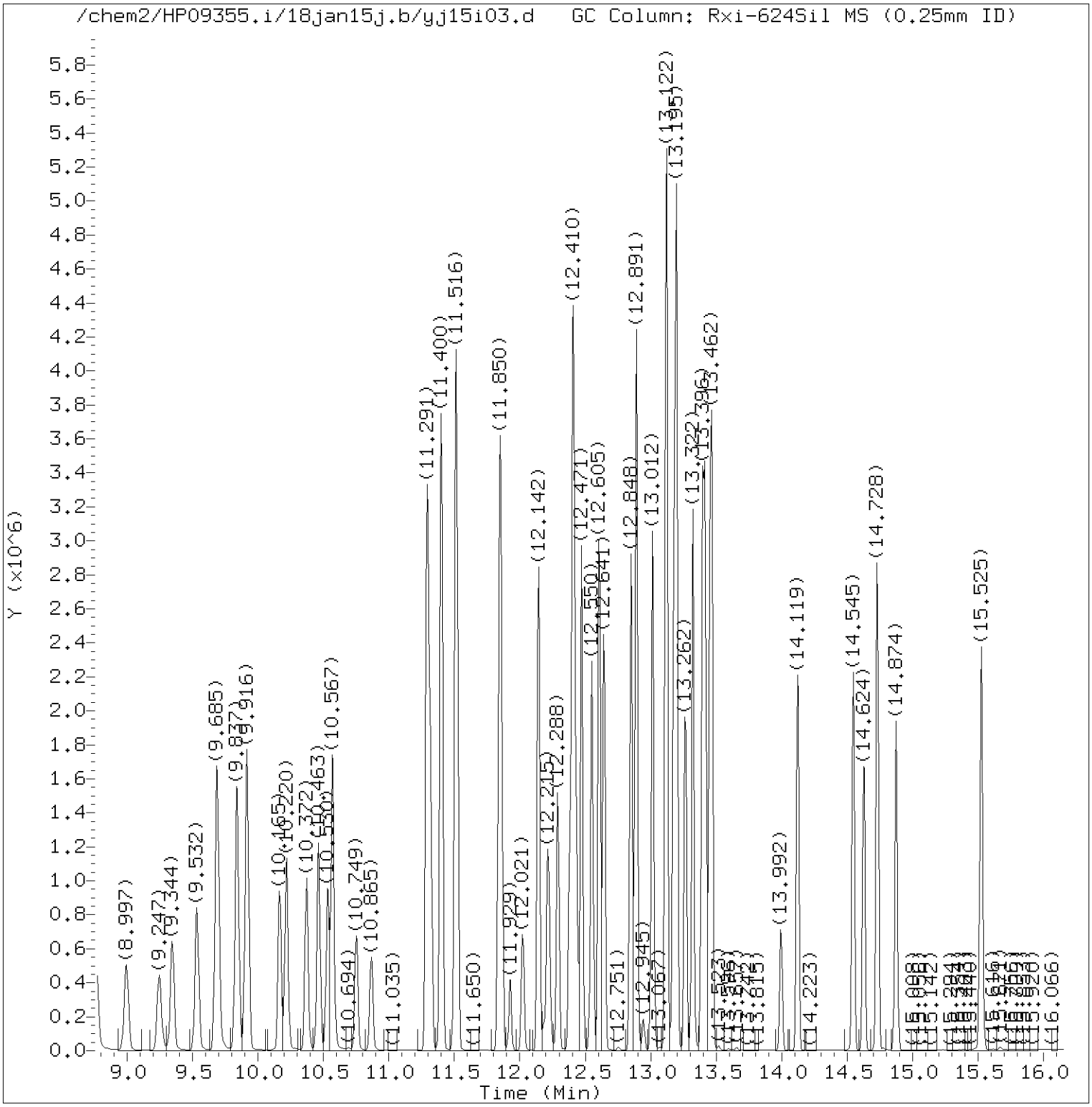
Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i03.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:39 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD050 Lab Sample ID: VSTD050

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i03.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:39 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD050 Lab Sample ID: VSTD050

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i03.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:39 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
3) Dichlorodifluoromethane	(2)	1.989	85	465254	55.332
4) Chloromethane	(2)	2.196	50	439859	50.206
6) Vinyl Chloride	(2)	2.317	62	443864	49.624
5) 1,3-Butadiene	(2)	2.323	39	226545	49.810
8) Bromomethane	(2)	2.658	94	300034	49.518
9) Chloroethane	(2)	2.743	64	247251	49.841
10) Dichlorofluoromethane	(2)	2.986	67	540033	48.254
12) Trichlorofluoromethane	(2)	3.060	101	547004	53.802
11) n-Pentane	(2)	3.096	43	420084	49.949
14) Ethyl ether	(2)	3.309	59	299900	49.725
15) Freon 123a	(2)	3.394	67	332167	50.257
16) Acrolein	(1)	3.479	56	1382097	511.588
17) 1,1-Dichloroethene	(2)	3.631	96	243353	50.806
17) 1,1-Dichloroethene	(2)	3.631	63	121518	51.557
18) Acetone	(1)	3.644	58	126492	105.273
19) Freon 113	(2)	3.662	101	252020	54.528
21) 2-Propanol	(1)	3.802	45	227969	270.869
22) Methyl Iodide	(2)	3.844	142	471101	51.309
23) Carbon Disulfide	(2)	3.954	76	827278	51.567
27) Methyl Acetate	(2)	4.082	43	425210	46.541
25) Allyl Chloride	(2)	4.124	41	469720	47.914
29)*t-Butyl alcohol-d10	(1)	4.288	65	386653	250.000
28) Methylene Chloride	(2)	4.313	84	307862	50.156
30) t-Butyl alcohol	(1)	4.416	59	458885	269.268
31) Acrylonitrile	(2)	4.641	53	243328	51.837
33) Methyl Tertiary Butyl Ether	(2)	4.720	73	1049812M	50.120
32) trans-1,2-Dichloroethene	(2)	4.745	96	304118	50.619
34) n-Hexane	(2)	5.164	57	483183	54.283
36) 1,1-Dichloroethane	(2)	5.402	63	554468	50.798
38) di-Isopropyl ether	(2)	5.450	45	1026150	50.346
39) 2-Chloro-1,3-butadiene	(2)	5.511	53	489989	51.257
40) Ethyl t-butyl ether	(2)	5.992	59	1033180	50.254
44) 2-Butanone	(2)	6.186	43	723310	96.617
42) cis-1,2-Dichloroethene	(2)	6.229	96	352454	50.183
45) 2,2-Dichloropropane	(2)	6.247	77	461286	51.478
47) Propionitrile	(1)	6.272	54	451951M	263.751
48) Methacrylonitrile	(2)	6.497	67	622206	138.873
49) Bromochloromethane	(2)	6.570	128	175474	49.341

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i03.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:39 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50) Tetrahydrofuran	(1)	6.576	71	206618	104.541
51) Chloroform	(2)	6.716	83	551302	49.689
43) 1,2-Dichloroethene (Total)	(2)		96	656572	100.802
52)$Dibromofluoromethane	(2)	6.935	113	295859	50.458
52)$Dibromofluoromethane	(2)	6.935	111	302649	50.388
53) 1,1,1-Trichloroethane	(2)	6.947	97	507942	47.881
54) Cyclohexane	(2)	7.056	56	548844	53.279
54) Cyclohexane	(2)	7.056	84	465177	52.306
54) Cyclohexane	(2)	7.056	69	170989	53.026
55) 1,1-Dichloropropene	(2)	7.160	75	453774	50.578
56) Carbon Tetrachloride	(2)	7.166	117	420249	52.313
58) Isobutyl Alcohol	(1)	7.275	41	384668	652.023
57)$1,2-Dichloroethane-d4	(2)	7.397	102	76649	50.699
57)$1,2-Dichloroethane-d4	(2)	7.397	65	355884	49.707
57)$1,2-Dichloroethane-d4	(2)	7.397	104	48120	50.094
60) Benzene	(2)	7.428	78	1309887	50.398
61) 1,2-Dichloroethane	(2)	7.501	62	453932	48.516
61) 1,2-Dichloroethane	(2)	7.501	98	42883	50.201
65) t-Amyl methyl ether	(2)	7.610	73	1034786	50.043
66)*Fluorobenzene	(2)	7.835	96	1233984	50.000
67) n-Heptane	(2)	7.841	43	549650	51.790
69) n-Butanol	(1)	8.158	56	707475	1318.529
71) Trichloroethene	(2)	8.316	95	348946	50.293
72) Methylcyclohexane	(2)	8.632	83	581190	51.198
72) Methylcyclohexane	(2)	8.632	98	257947	50.355
73) 1,2-Dichloropropane	(2)	8.650	63	351236	50.164
76) Methyl Methacrylate	(2)	8.717	69	393075	49.838
75) 1,4-Dioxane	(1)	8.729	88	85711M	650.238
74) Dibromomethane	(2)	8.766	93	230577	50.434
78) Bromodichloromethane	(2)	8.997	83	436964	50.926
79) 2-Nitropropane	(2)	9.247	41	362188	108.244
80) 2-Chloroethyl Vinyl Ether	(2)	9.344	63	343818	56.449
81) cis-1,3-Dichloropropene	(2)	9.532	75	585223	51.582
82) 4-Methyl-2-pentanone	(2)	9.685	43	1402549	103.577
83)$Toluene-d8	(3)	9.837	98	1258308	50.267
83)$Toluene-d8	(3)	9.837	100	810403	50.149
90) 1,3-Dichloropropene (total)	(3)		100	1136293	103.488
88) Toluene	(3)	9.916	92	880107	50.207

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i03.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:39 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
89) trans-1,3-Dichloropropene	(3)	10.165	75	551070	51.906
91) Ethyl Methacrylate	(3)	10.220	69	629185	50.197
92) 1,1,2-Trichloroethane	(3)	10.372	97	346415	48.926
93) Tetrachloroethene	(3)	10.463	166	387404	50.461
94) 1,3-Dichloropropane	(3)	10.530	76	585467	49.224
96) 2-Hexanone	(3)	10.567	43	1166872M	104.056
97) Dibromochloromethane	(3)	10.749	129	381252	51.625
99) 1,2-Dibromoethane	(3)	10.865	107	387023	50.100
100)*Chlorobenzene-d5	(3)	11.291	117	952388	50.000
101) 1-Chlorohexane	(3)	11.291	91	488711	48.579
102) Chlorobenzene	(3)	11.315	112	1011786	49.538
104) Ethylbenzene	(3)	11.400	91	1714396	50.181
103) 1,1,1,2-Tetrachloroethane	(3)	11.400	131	341215	51.075
106) m+p-Xylene	(3)	11.516	106	1385340	101.268
108) Xylene (Total)	(3)		106	2062817	151.352
107) o-Xylene	(3)	11.844	106	677477	50.084
109) Styrene	(3)	11.856	104	1161564	50.612
110) Bromoform	(3)	12.021	173	302760	51.585
111) Isopropylbenzene	(3)	12.142	105	1724000	50.630
112) Cyclohexanone	(1)	12.215	55	517362A	619.448
114)$4-Bromofluorobenzene	(3)	12.288	95	472786	50.329
114)$4-Bromofluorobenzene	(3)	12.288	174	397808	50.473
116) 1,1,2,2-Tetrachloroethane	(4)	12.386	83	586876M	47.254
118) trans-1,4-Dichloro-2-butene	(4)	12.410	53	481587	139.176
115) Bromobenzene	(4)	12.410	156	457293	48.474
117) 1,2,3-Trichloropropane	(4)	12.434	110	189058	47.338
119) n-Propylbenzene	(4)	12.471	91	2045381	49.994
120) 2-Chlorotoluene	(4)	12.550	126	419490	49.365
122) 1,3,5-Trimethylbenzene	(4)	12.605	105	1506124	50.157
121) 4-Chlorotoluene	(4)	12.641	126	448652	49.256
124) tert-Butylbenzene	(4)	12.848	134	320706M	50.609
125) Pentachloroethane	(4)	12.884	167	254299	51.626
126) 1,2,4-Trimethylbenzene	(4)	12.891	105	1557284	50.116
127) sec-Butylbenzene	(4)	13.012	105	1907555	50.398
129) 1,3-Dichlorobenzene	(4)	13.116	146	891068	49.255
130) p-Isopropyltoluene	(4)	13.122	119	1696210	50.783
131)*1,4-Dichlorobenzene-d4	(4)	13.170	152	524367	50.000
133) 1,4-Dichlorobenzene	(4)	13.195	146	901698	48.664

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i03.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:39 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

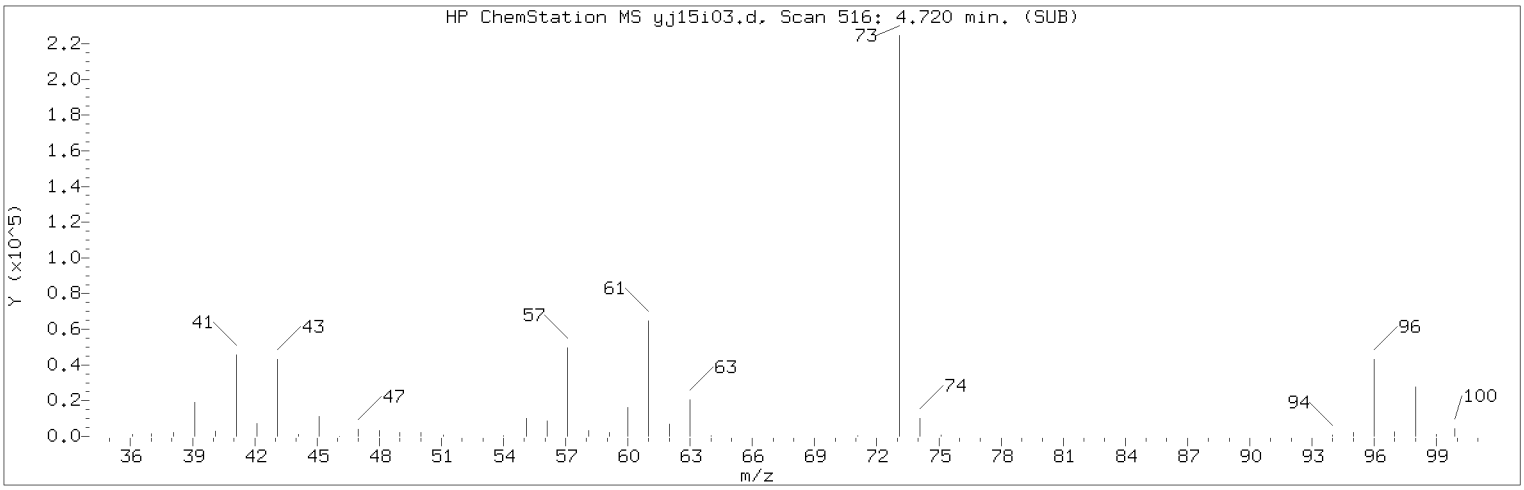
Sample Name: VSTD050 Lab Sample ID: VSTD050

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
134) 1,2,3-Trimethylbenzene	(4)	13.195	105	1478149	49.240
135) Benzyl Chloride	(4)	13.262	91	1280282	52.022
136) 1,3-Diethylbenzene	(4)	13.322	119	942797	49.344
137) 1,4-Diethylbenzene	(4)	13.396	119	980419	49.486
139) n-Butylbenzene	(4)	13.414	92	847423M	50.118
138) 1,2-Dichlorobenzene	(4)	13.450	146	846259	48.746
140) 1,2-Diethylbenzene	(4)	13.469	119	779951	49.312
141) Diethylbenzene (total)	(4)		100	2703167	148.142
142) 1,2-Dibromo-3-chloropropane	(4)	13.992	75	157524	49.379
144) 1,3,5-Trichlorobenzene	(4)	14.126	180	641751	49.187
146) 1,2,4-Trichlorobenzene	(4)	14.545	180	610187	48.669
147) Hexachlorobutadiene	(4)	14.630	225	291612	49.025
148) Naphthalene	(4)	14.728	128	2055979	48.953
149) 1,2,3-Trichlorobenzene	(4)	14.874	180	562728	48.442
150) 2-Methylnaphthalene	(4)	15.525	142	1187720	49.742

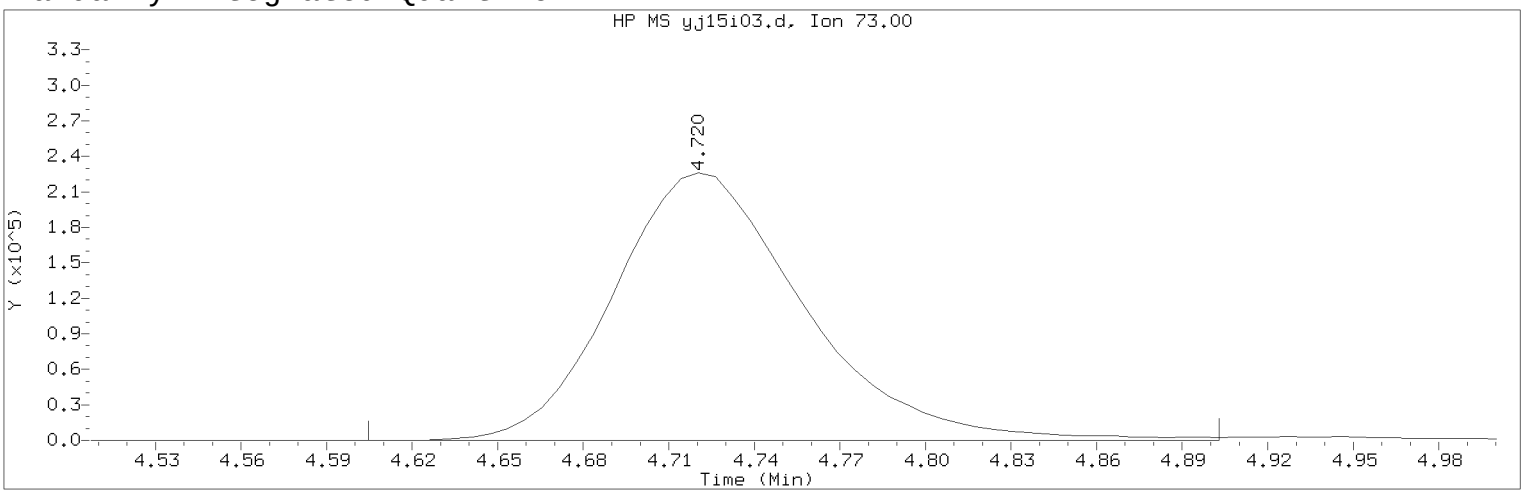
M = Compound was manually integrated.

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i03.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:39 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD050 Lab Sample ID: VSTD050

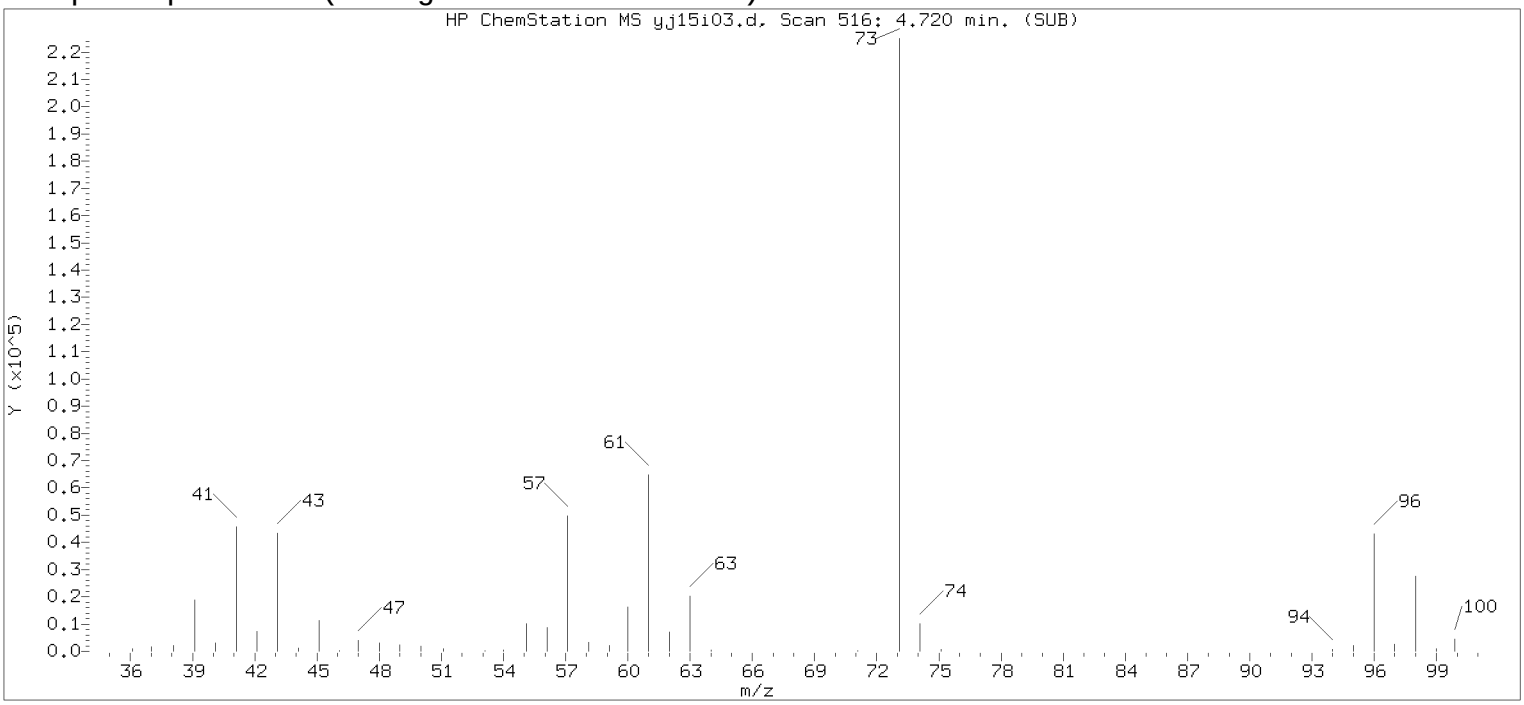
Compound Number : 33
Compound Name : Methyl Tertiary Butyl Ether
Scan Number : 516
Retention Time (minutes): 4.720
Quant Ion : 73.00
Area (flag) : 1049812M
On-Column Amount (ng) : 50.1201
Integration start scan : 496 Integration stop scan: 545
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

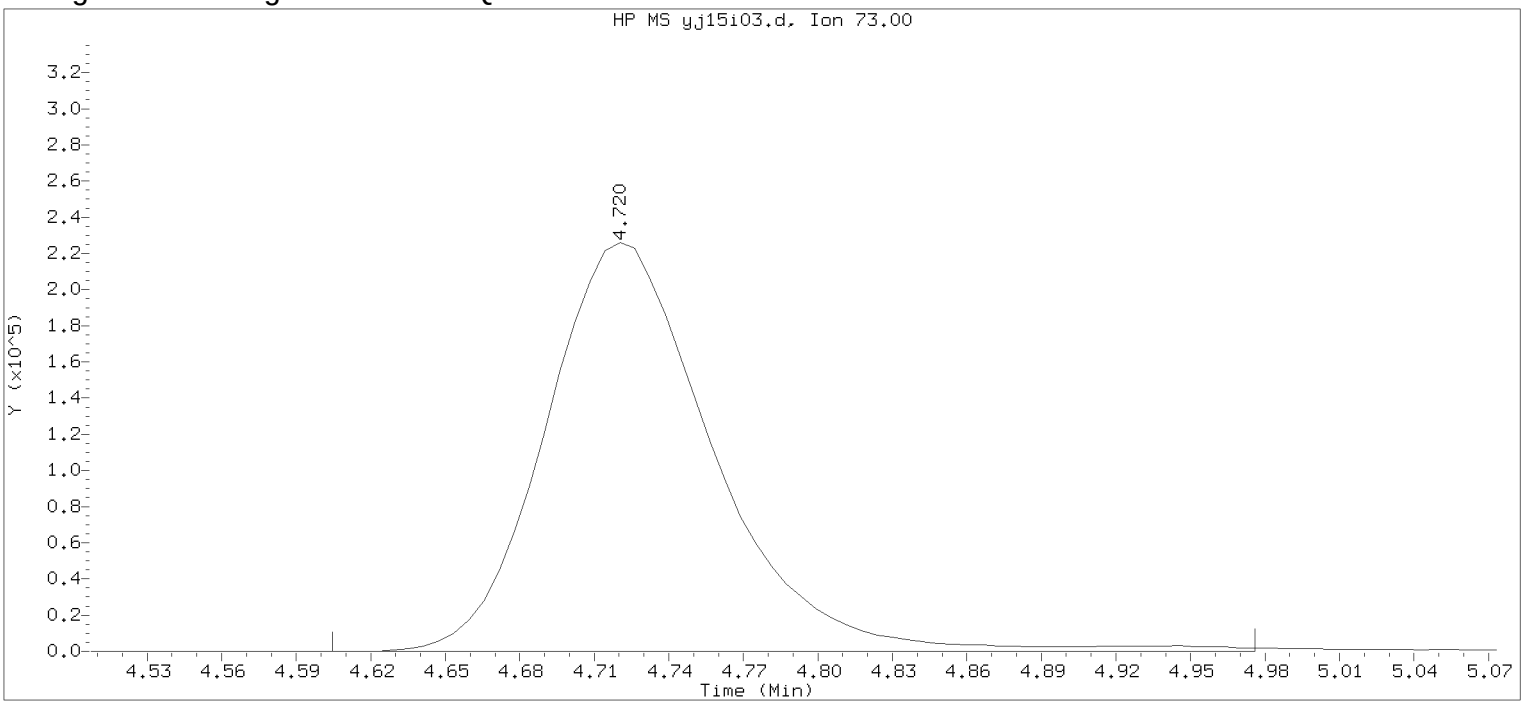
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i03.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:39 Analyst ID: dhh02035

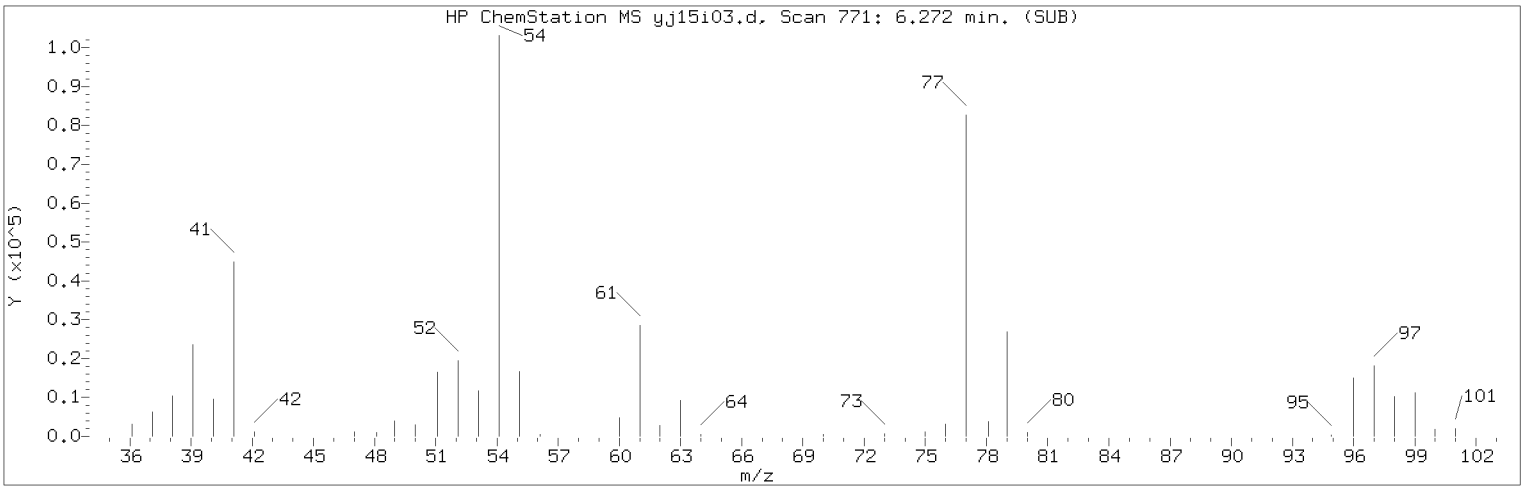
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 13:54
Date, time and analyst ID of latest file update: 15-Jan-2018 13:54 Automation

Sample Name: VSTD050 Lab Sample ID: VSTD050

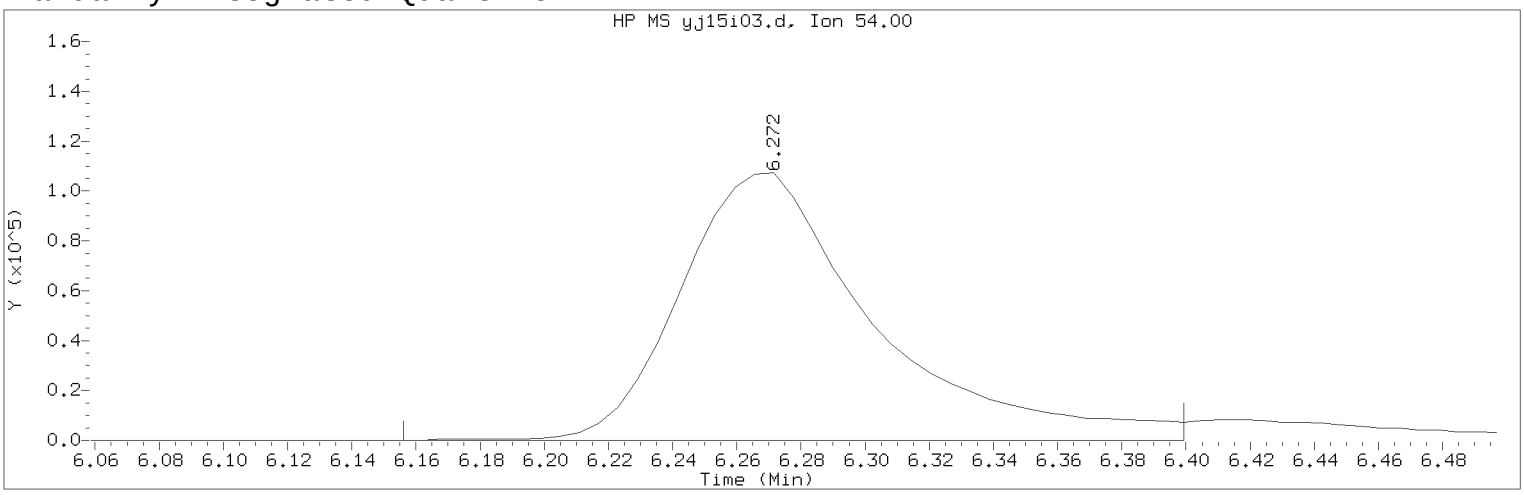
Compound Number : 33
Compound Name : Methyl Tertiary Butyl Ether
Scan Number : 516
Retention Time (minutes): 4.720
Quant Ion : 73.00
Area : 1060645
On-column Amount (ng) : 51.5953
Integration start scan : 496 Integration stop scan: 557
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i03.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:39 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD050 Lab Sample ID: VSTD050

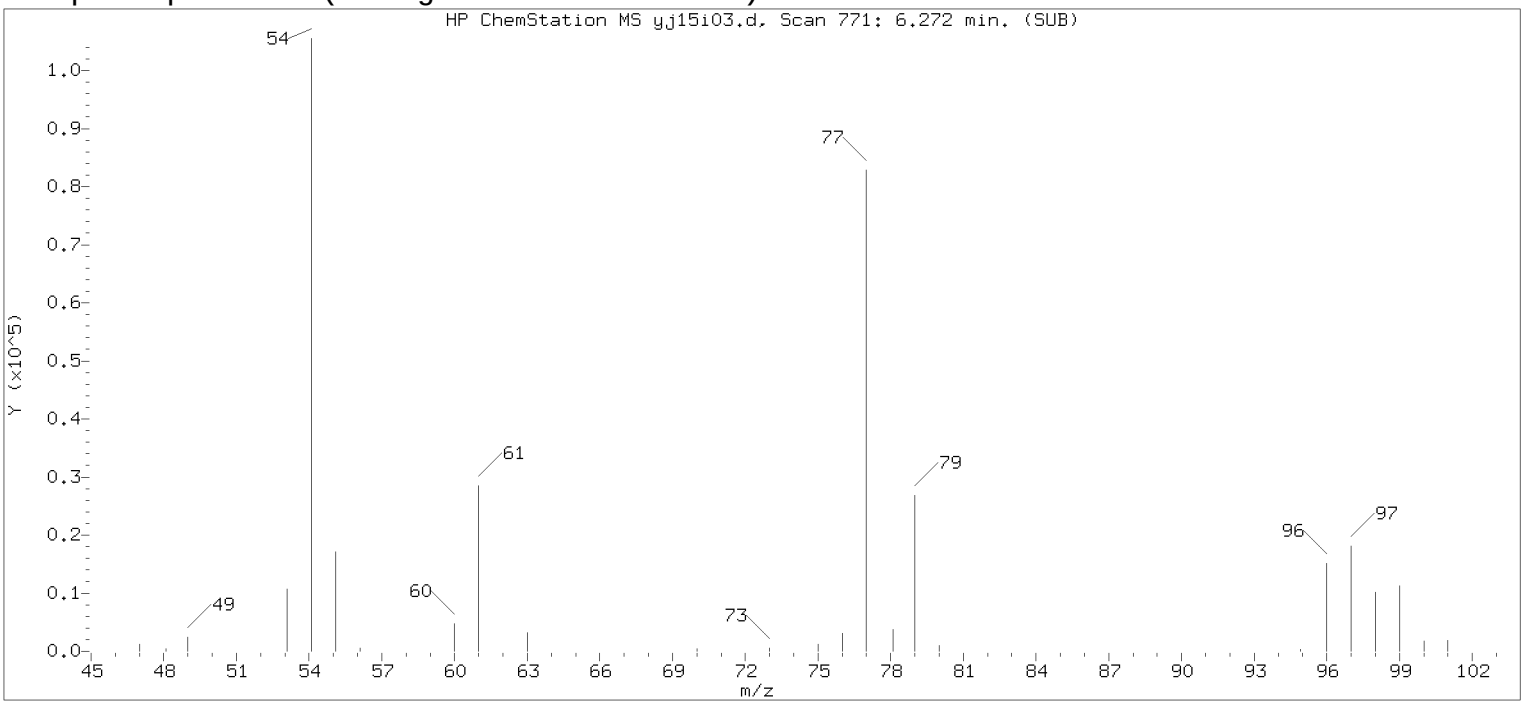
Compound Number : 47
Compound Name : Propionitrile
Scan Number : 771
Retention Time (minutes): 6.272
Quant Ion : 54.00
Area (flag) : 451951M
On-Column Amount (ng) : 263.7505
Integration start scan : 751 Integration stop scan: 791
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

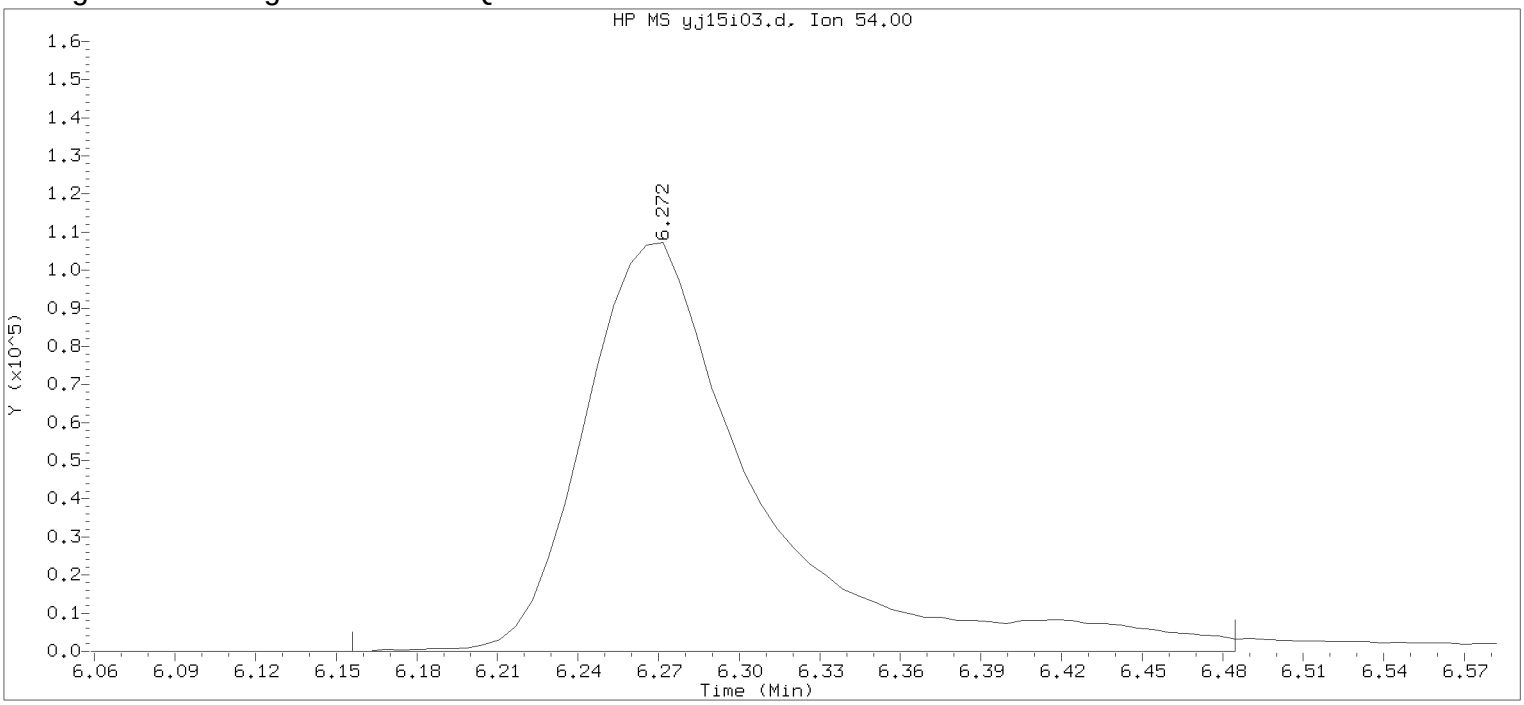
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i03.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:39 Analyst ID: dhh02035

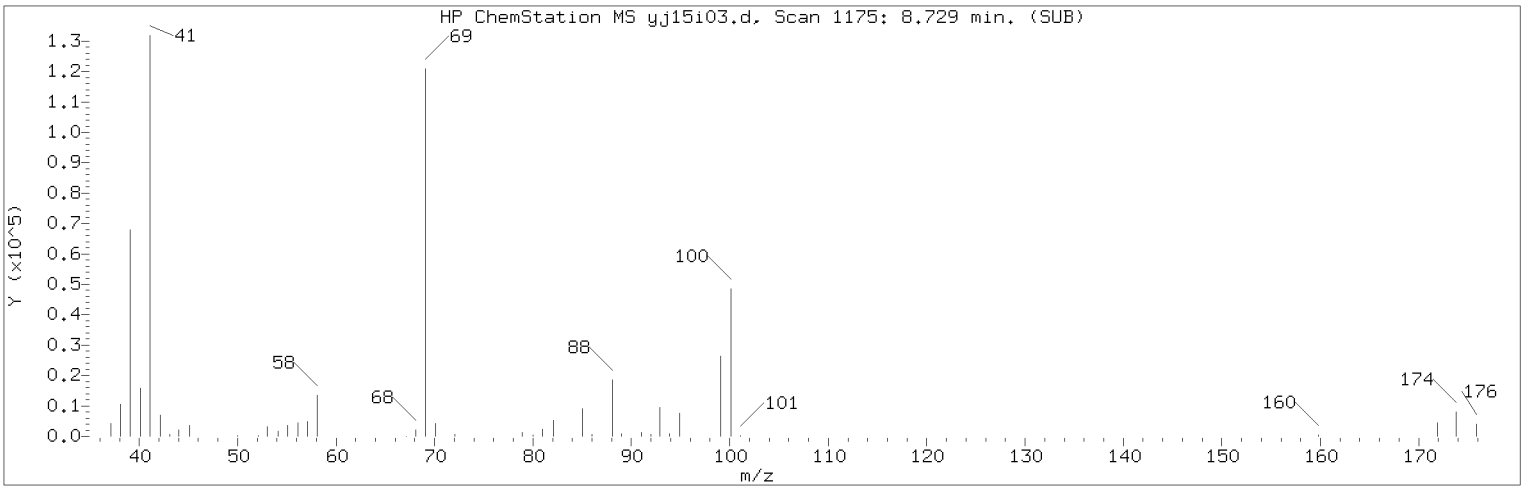
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 13:54
Date, time and analyst ID of latest file update: 15-Jan-2018 13:54 Automation

Sample Name: VSTD050 Lab Sample ID: VSTD050

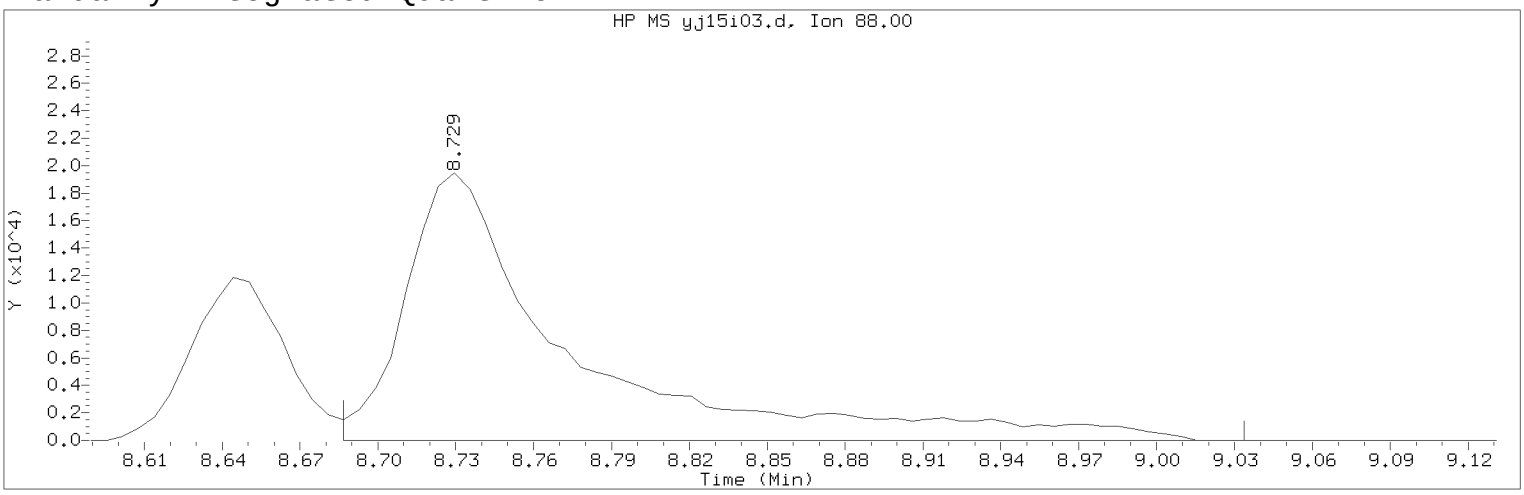
Compound Number : 47
Compound Name : Propionitrile
Scan Number : 771
Retention Time (minutes): 6.272
Quant Ion : 54.00
Area : 483102
On-column Amount (ng) : 258.5874
Integration start scan : 751 Integration stop scan: 805
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i03.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:39 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD050 Lab Sample ID: VSTD050

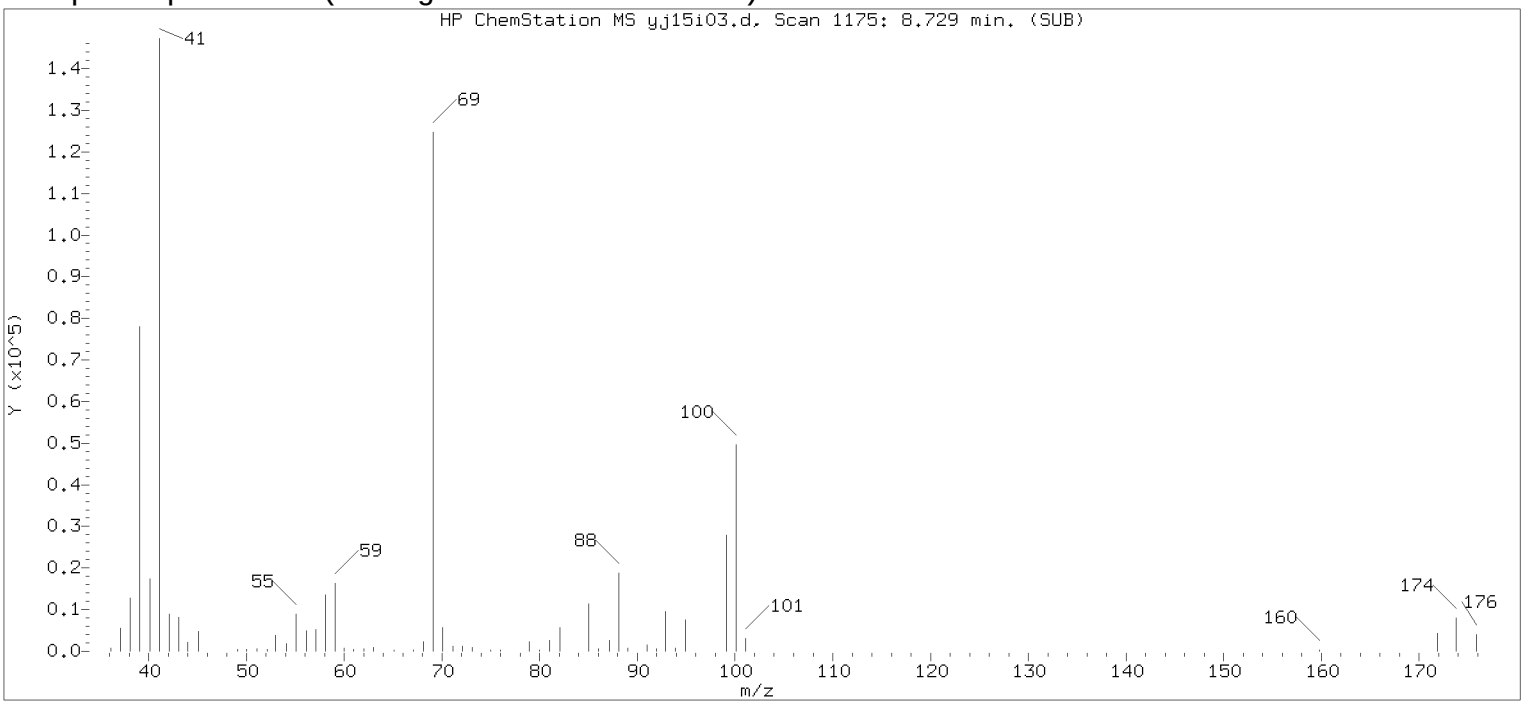
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 1175
Retention Time (minutes): 8.729
Quant Ion : 88.00
Area (flag) : 85711M
On-Column Amount (ng) : 650.2375
Integration start scan : 1167 Integration stop scan: 1224
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

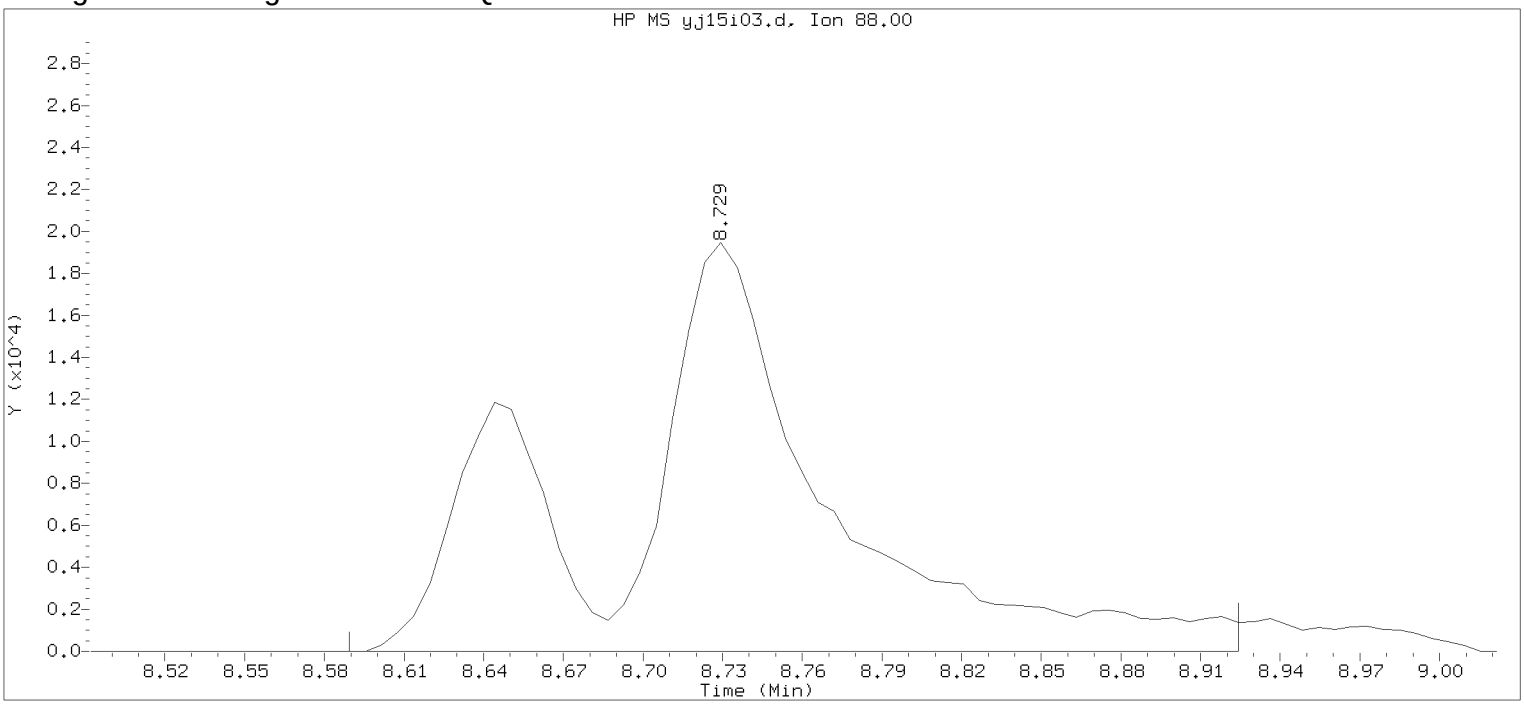
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i03.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:39 Analyst ID: dhh02035

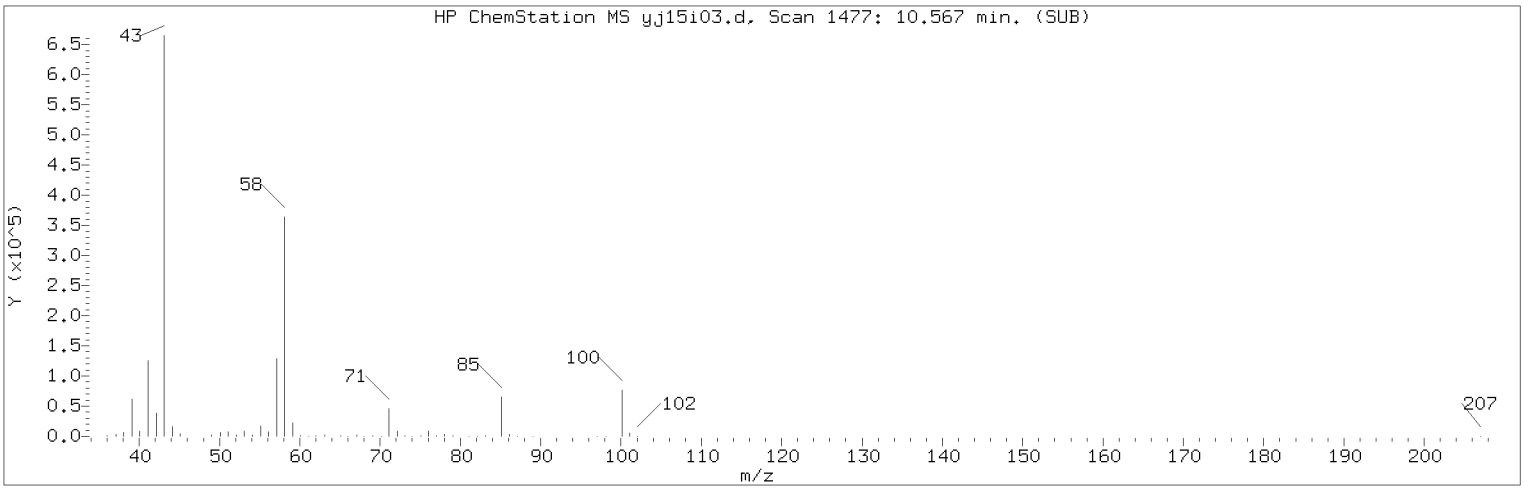
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 13:54
Date, time and analyst ID of latest file update: 15-Jan-2018 13:54 Automation

Sample Name: VSTD050 Lab Sample ID: VSTD050

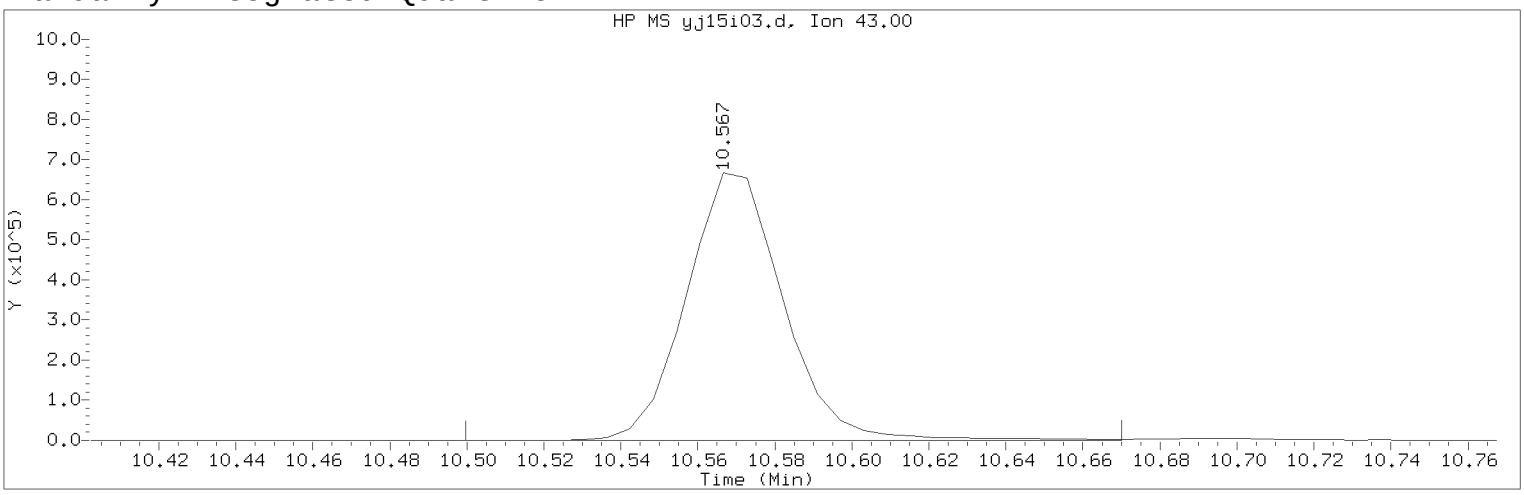
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 1175
Retention Time (minutes): 8.729
Quant Ion : 88.00
Area : 109933
On-column Amount (ng) : 657.1007
Integration start scan : 1151 Integration stop scan: 1206
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly01

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i03.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:39 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD050 Lab Sample ID: VSTD050

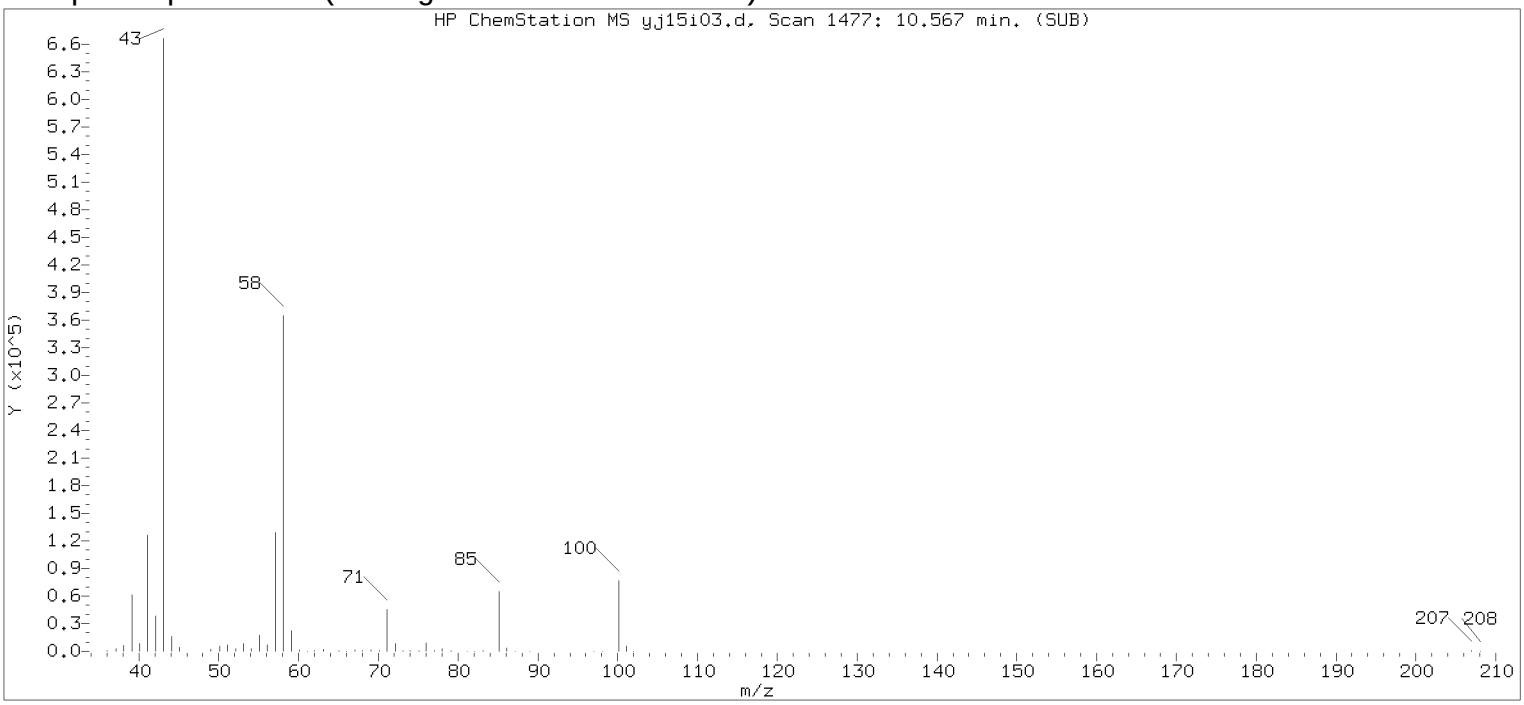
Compound Number : 96
Compound Name : 2-Hexanone
Scan Number : 1477
Retention Time (minutes): 10.567
Quant Ion : 43.00
Area (flag) : 1166872M
On-Column Amount (ng) : 104.0556
Integration start scan : 1465 Integration stop scan: 1493
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

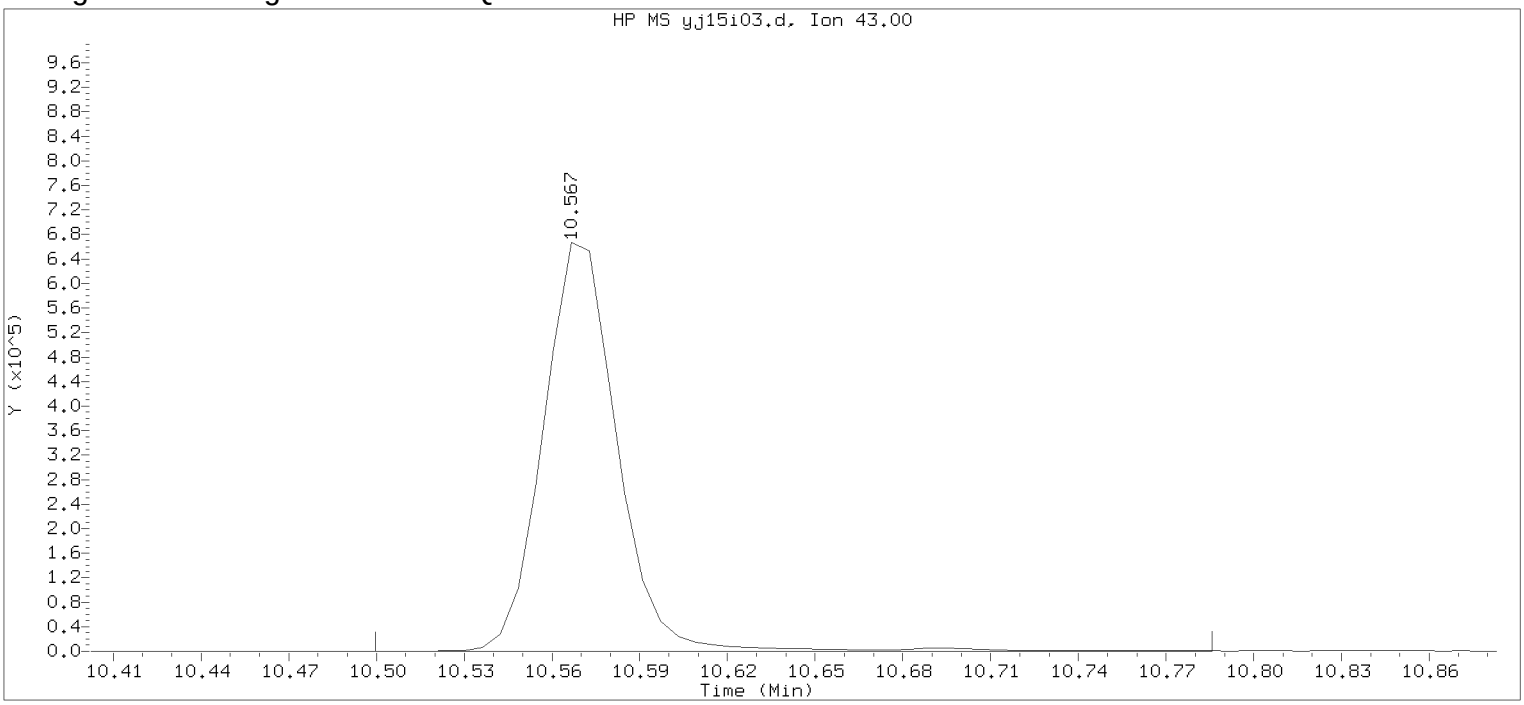
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i03.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:39 Analyst ID: dhh02035

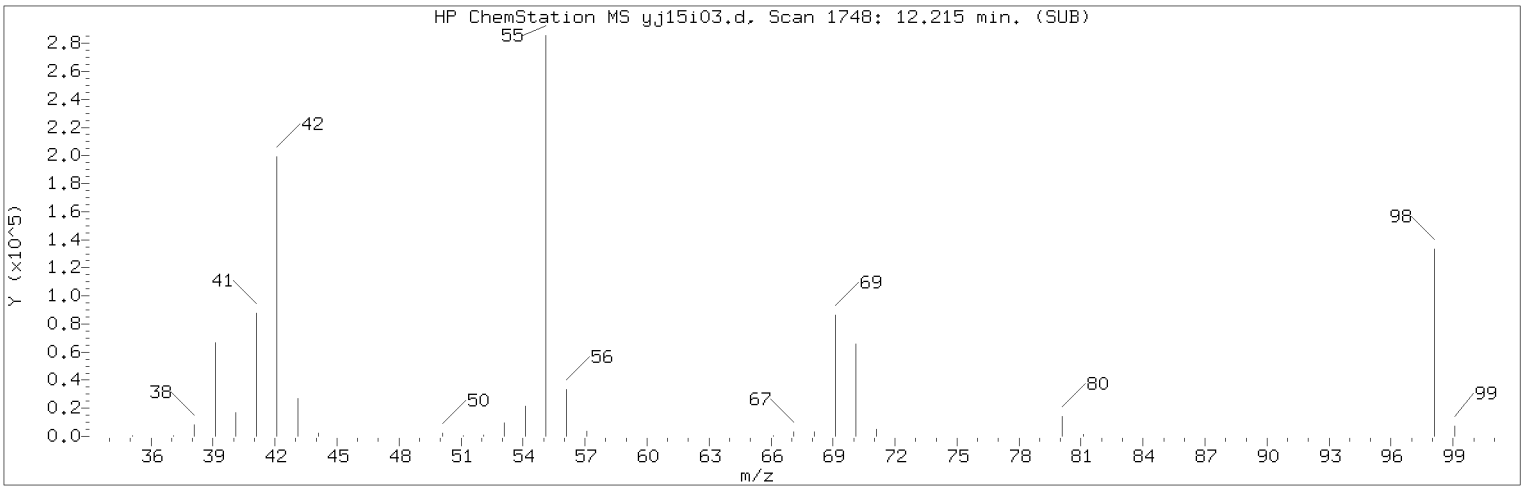
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 13:54
Date, time and analyst ID of latest file update: 15-Jan-2018 13:54 Automation

Sample Name: VSTD050 Lab Sample ID: VSTD050

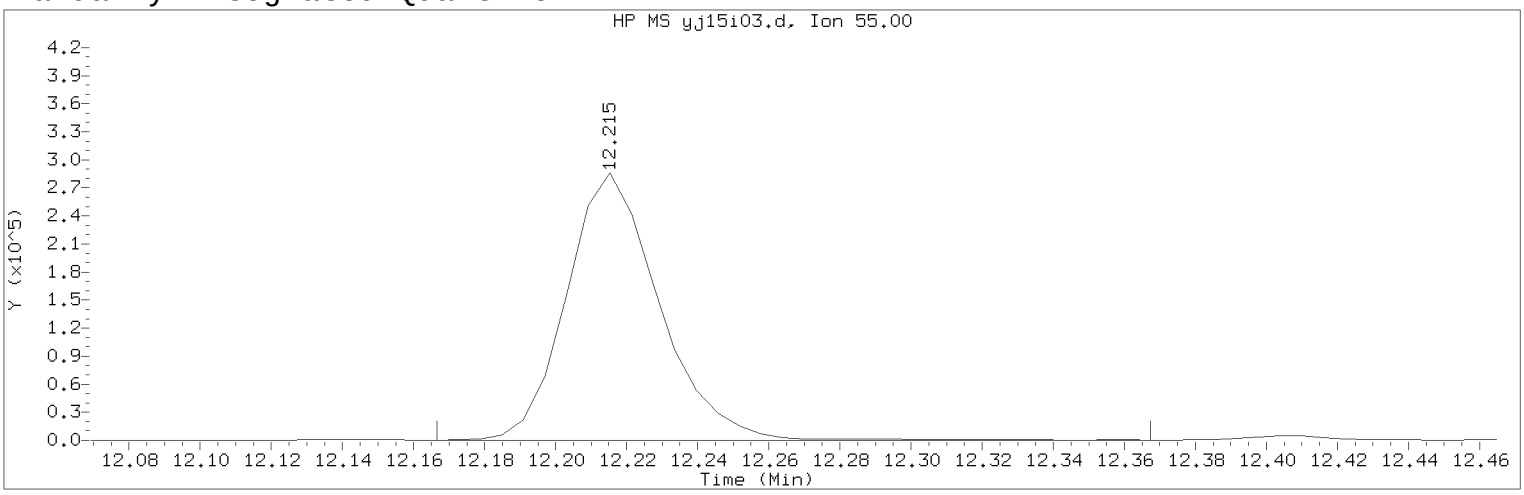
Compound Number : 96
Compound Name : 2-Hexanone
Scan Number : 1477
Retention Time (minutes): 10.567
Quant Ion : 43.00
Area : 1179485
On-column Amount (ng) : 106.2068
Integration start scan : 1465 Integration stop scan: 1512
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i03.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:39 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD050 Lab Sample ID: VSTD050

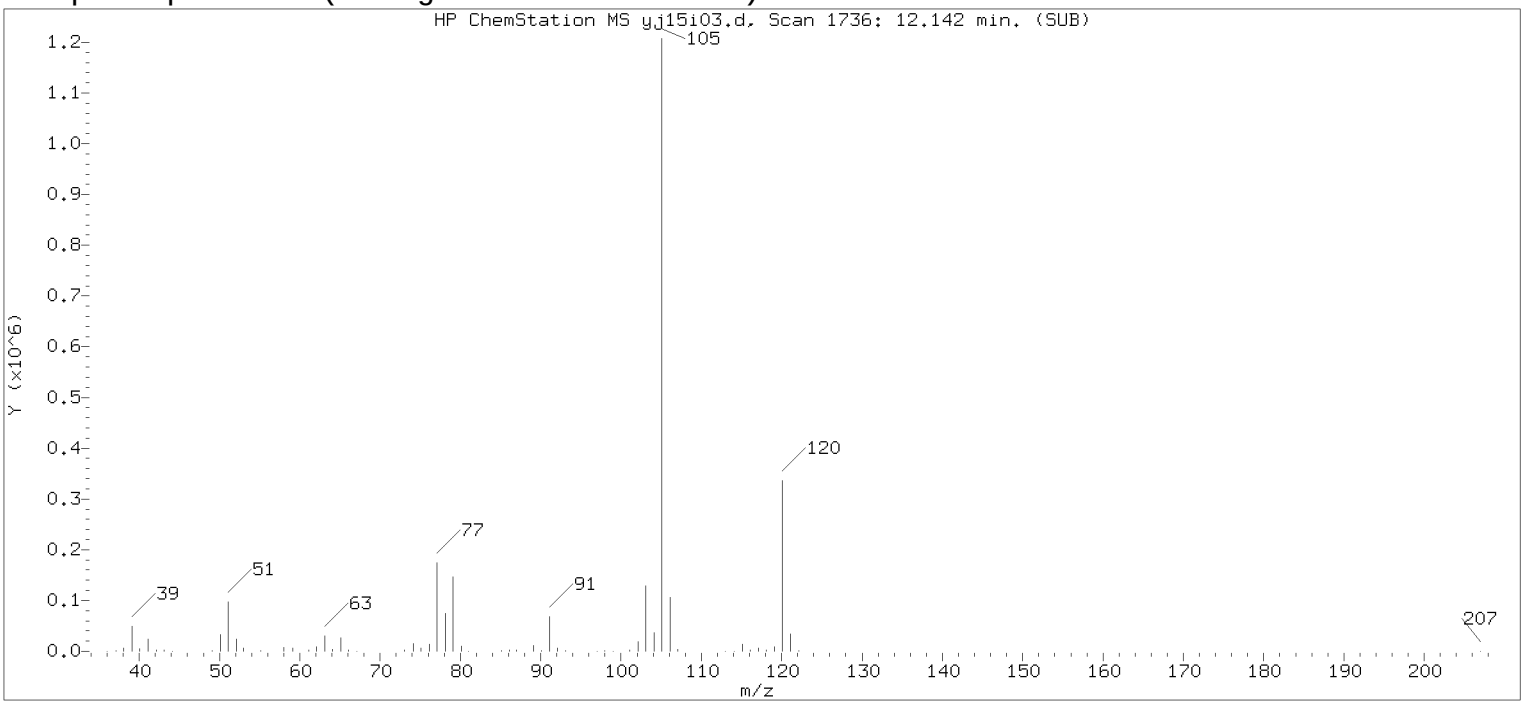
Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 1748
Retention Time (minutes): 12.215
Quant Ion : 55.00
Area (flag) : 517362A
On-Column Amount (ng) : 619.4480
Integration start scan : 1739 Integration stop scan: 1772
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

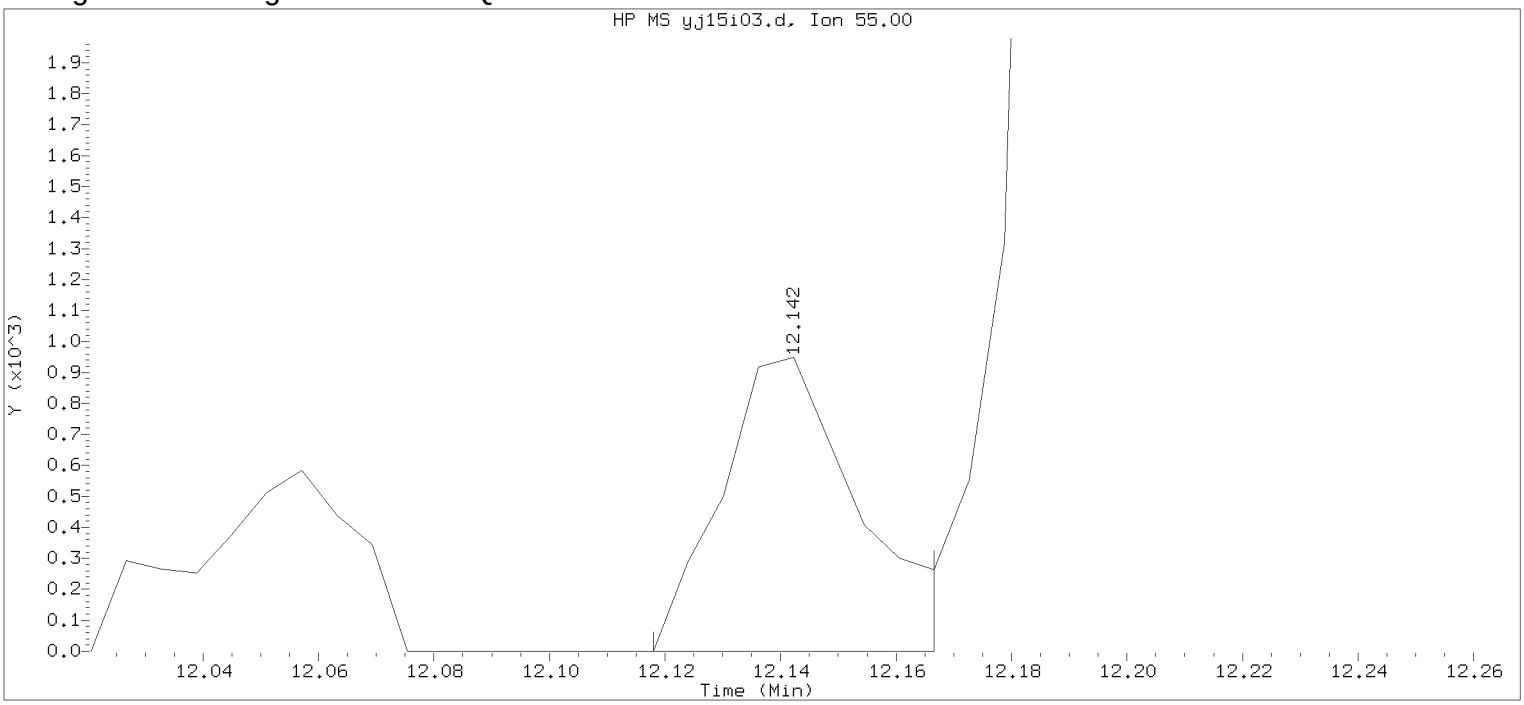
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i03.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:39 Analyst ID: dhh02035

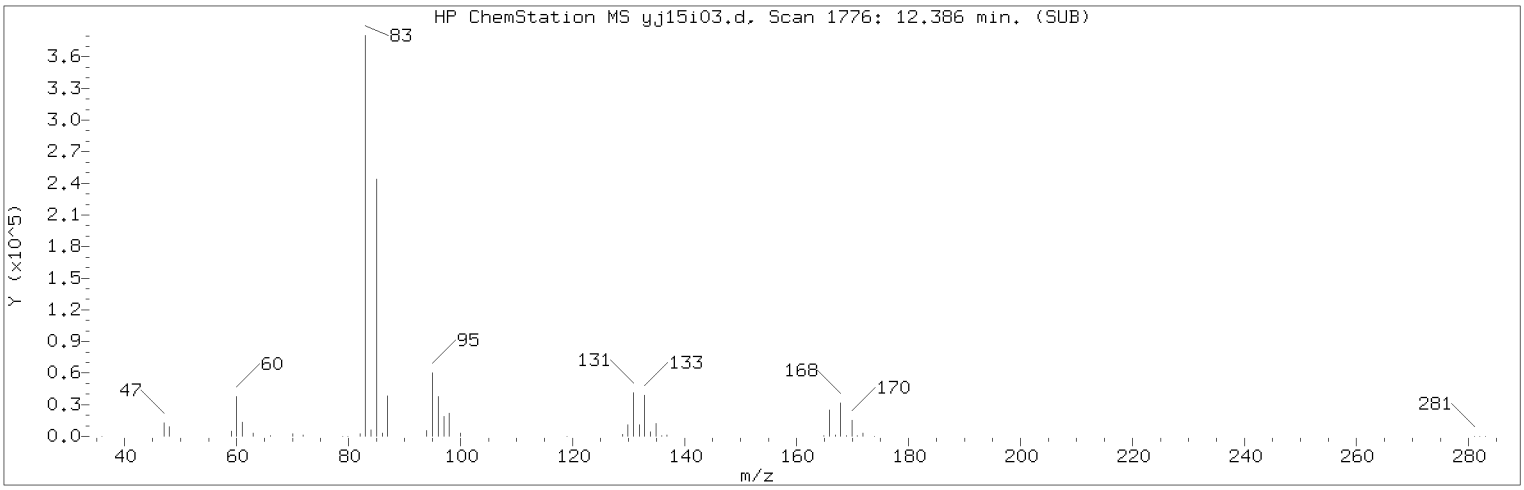
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 13:54
Date, time and analyst ID of latest file update: 15-Jan-2018 13:54 Automation

Sample Name: VSTD050 Lab Sample ID: VSTD050

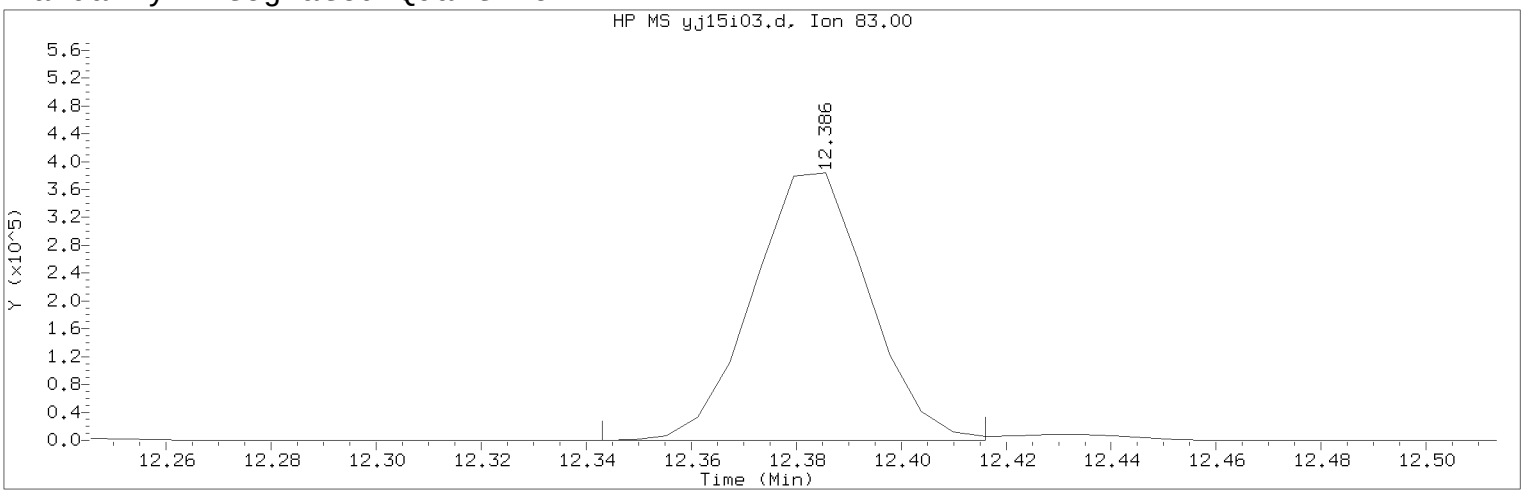
Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 1736
Retention Time (minutes): 12.142
Quant Ion : 55.00
Area : 1523
On-column Amount (ng) : 5.0874
Integration start scan : 1731 Integration stop scan: 1739
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i03.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:39 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD050 Lab Sample ID: VSTD050

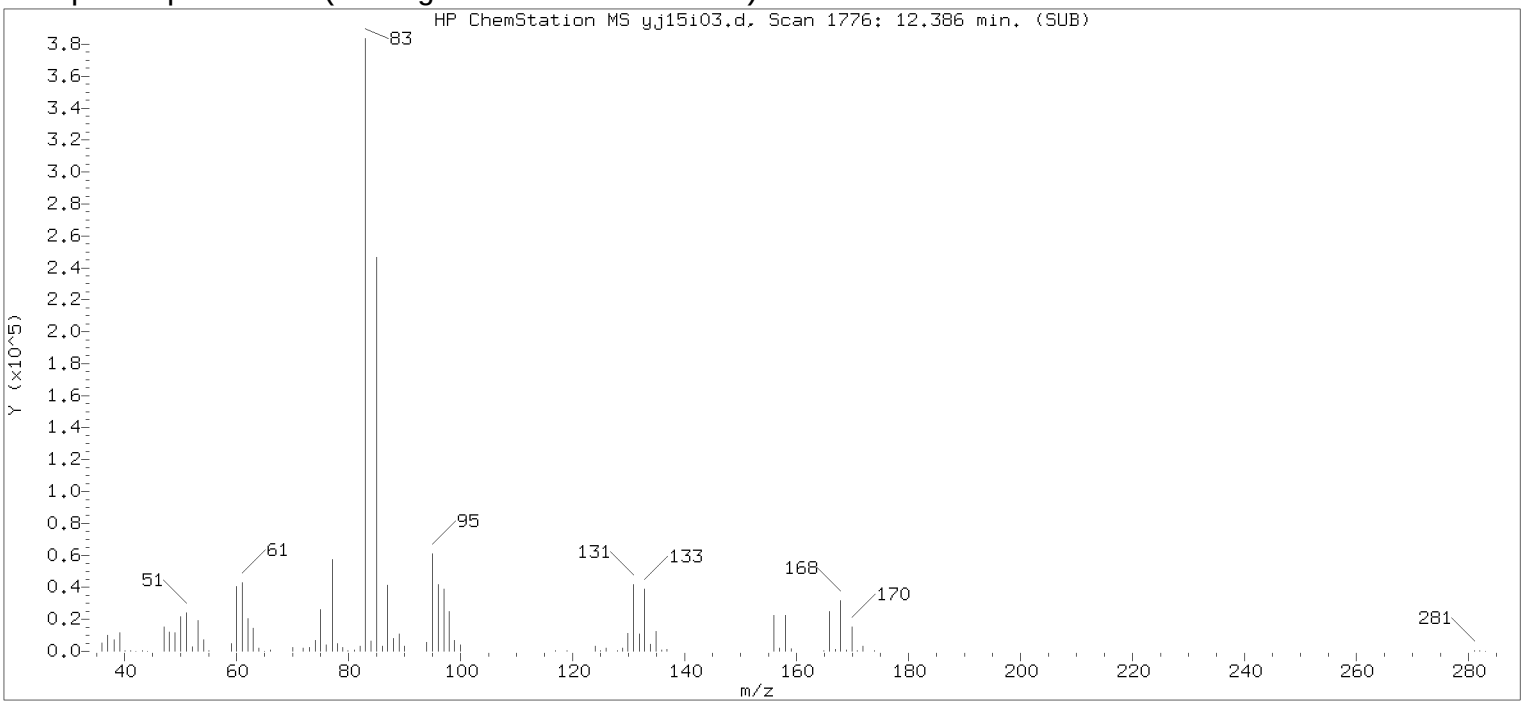
Compound Number : 116
Compound Name : 1,1,2,2-Tetrachloroethane
Scan Number : 1776
Retention Time (minutes): 12.386
Quant Ion : 83.00
Area (flag) : 586876M
On-Column Amount (ng) : 47.2538
Integration start scan : 1768 Integration stop scan: 1780
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

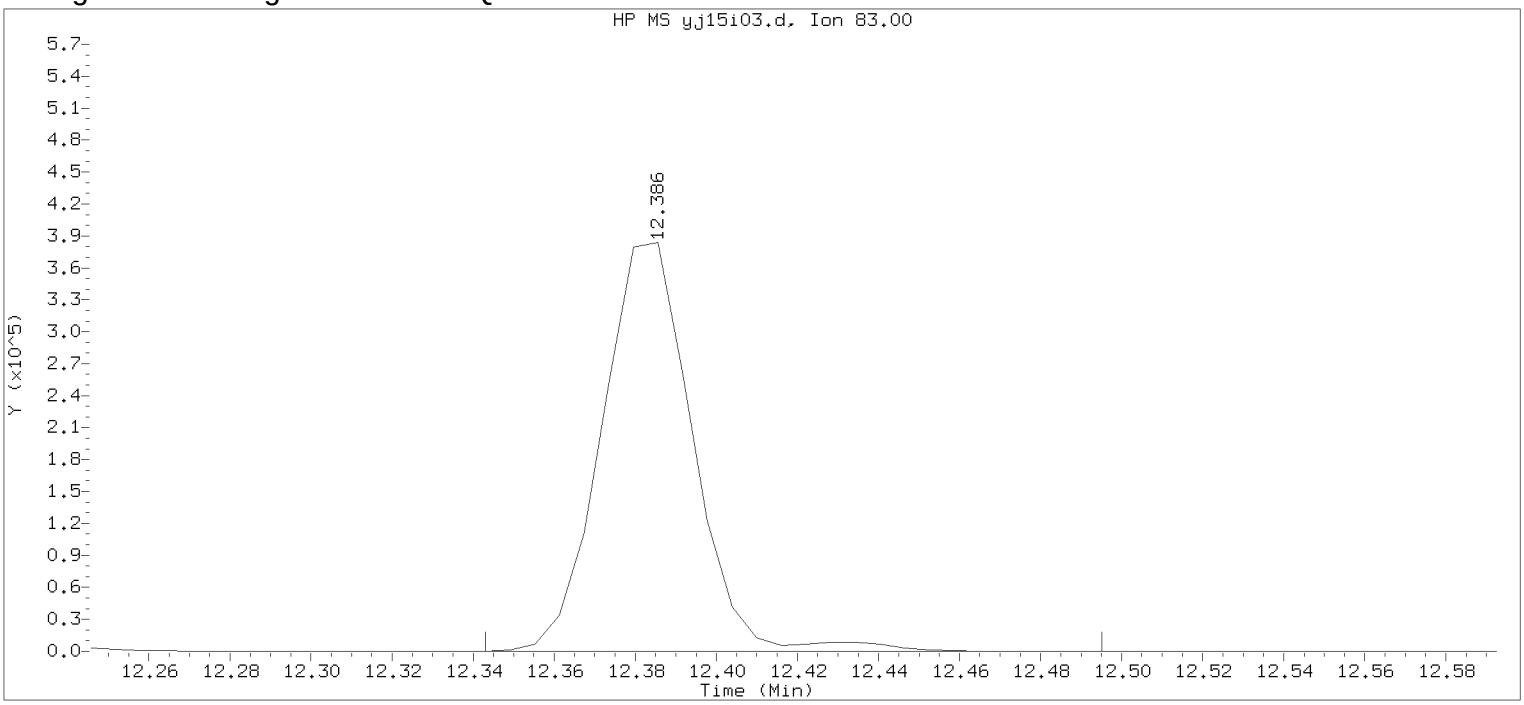
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i03.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:39 Analyst ID: dhh02035

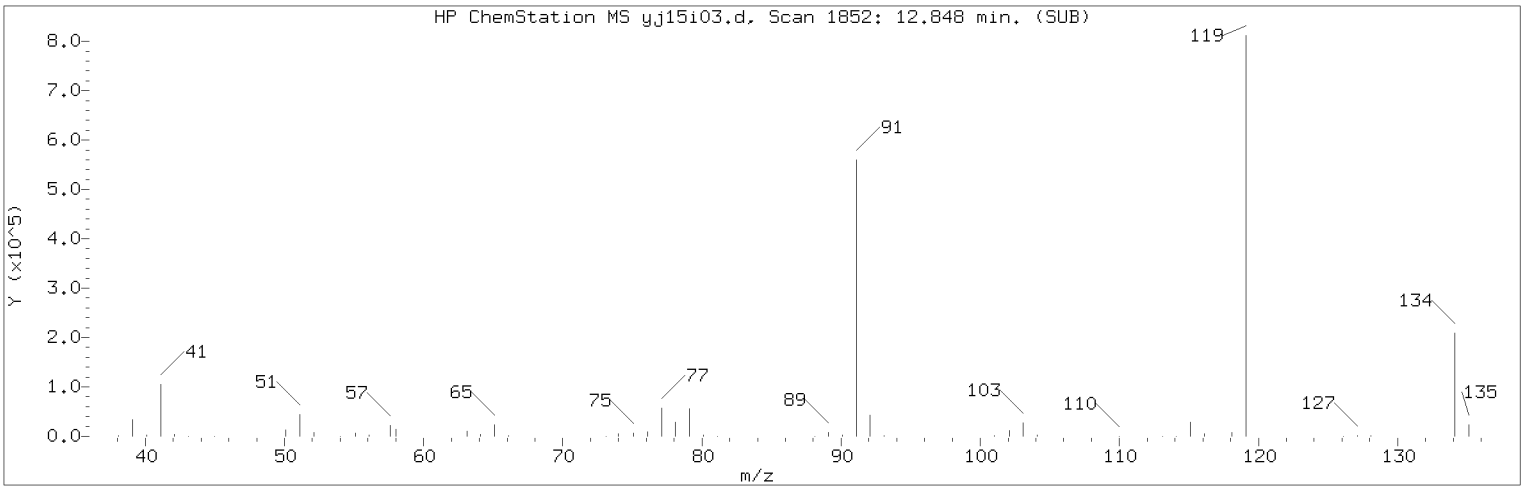
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 13:54
Date, time and analyst ID of latest file update: 15-Jan-2018 13:54 Automation

Sample Name: VSTD050 Lab Sample ID: VSTD050

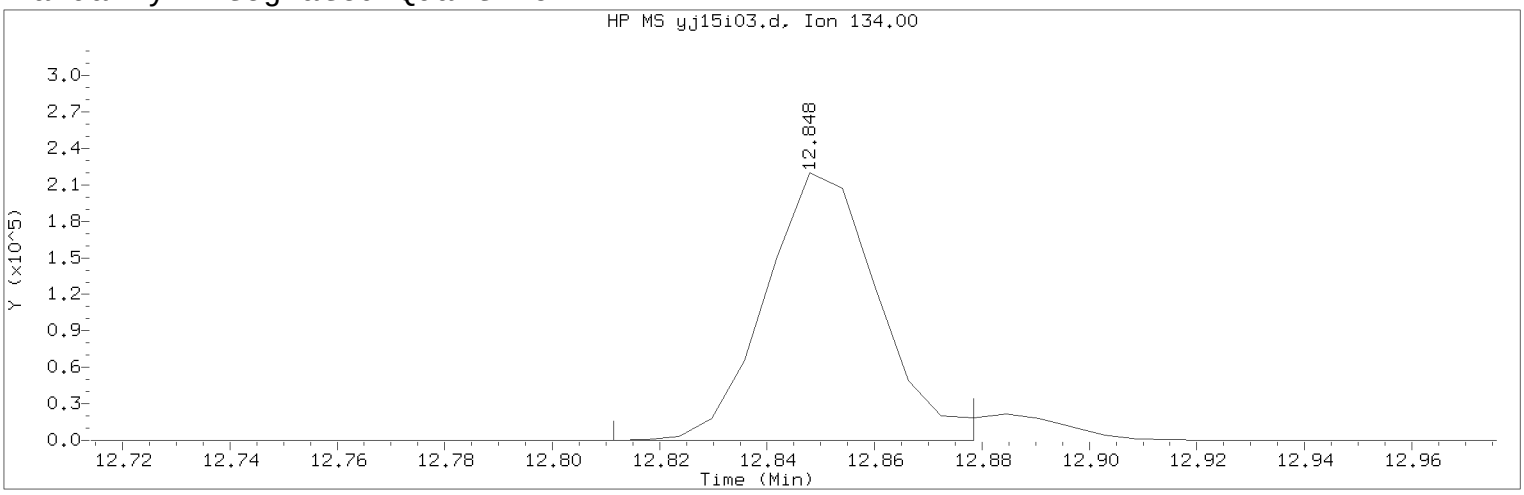
Compound Number : 116
Compound Name : 1,1,2,2-Tetrachloroethane
Scan Number : 1776
Retention Time (minutes): 12.386
Quant Ion : 83.00
Area : 599612
On-column Amount (ng) : 51.3272
Integration start scan : 1768 Integration stop scan: 1793
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i03.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:39 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD050 Lab Sample ID: VSTD050

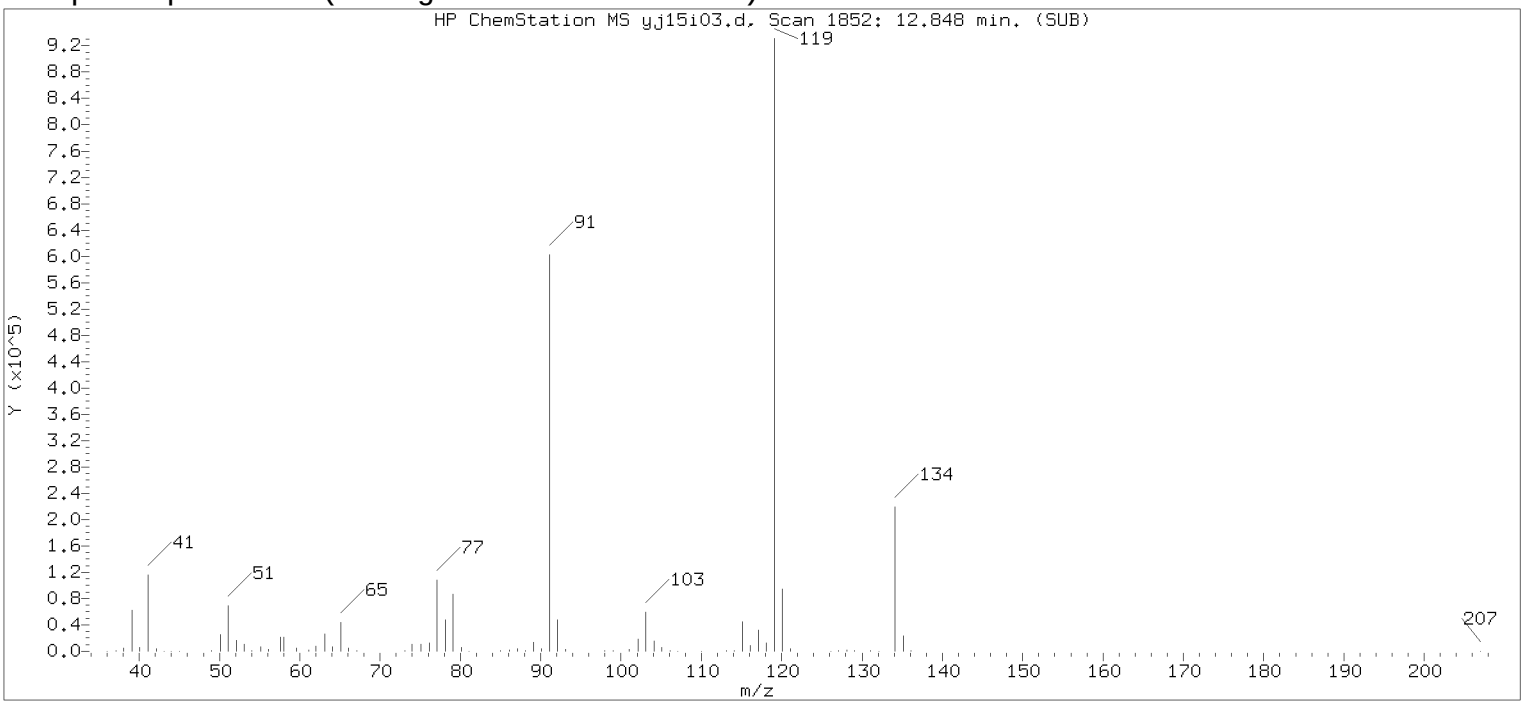
Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 1852
Retention Time (minutes): 12.848
Quant Ion : 134.00
Area (flag) : 320706M
On-Column Amount (ng) : 50.6086
Integration start scan : 1845 Integration stop scan: 1856
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

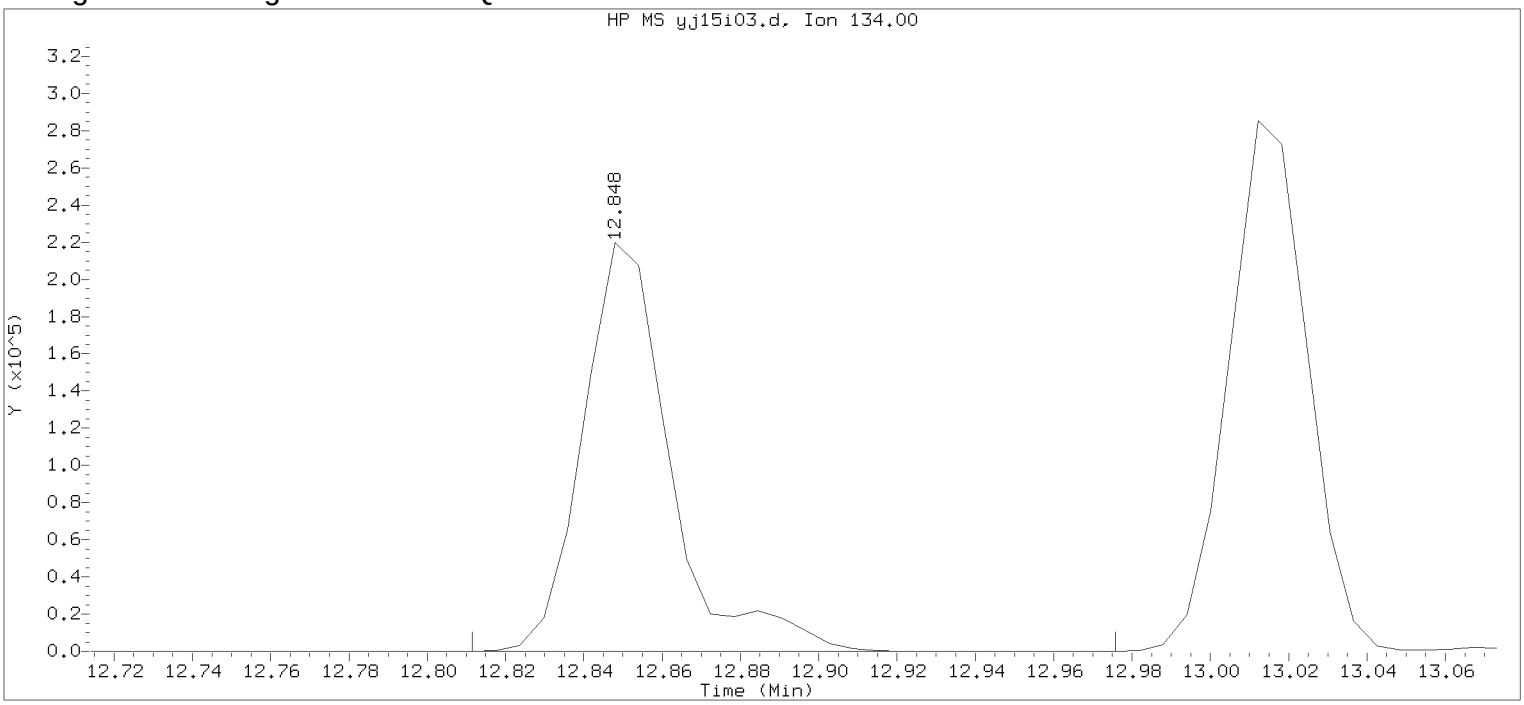
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i03.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:39 Analyst ID: dhh02035

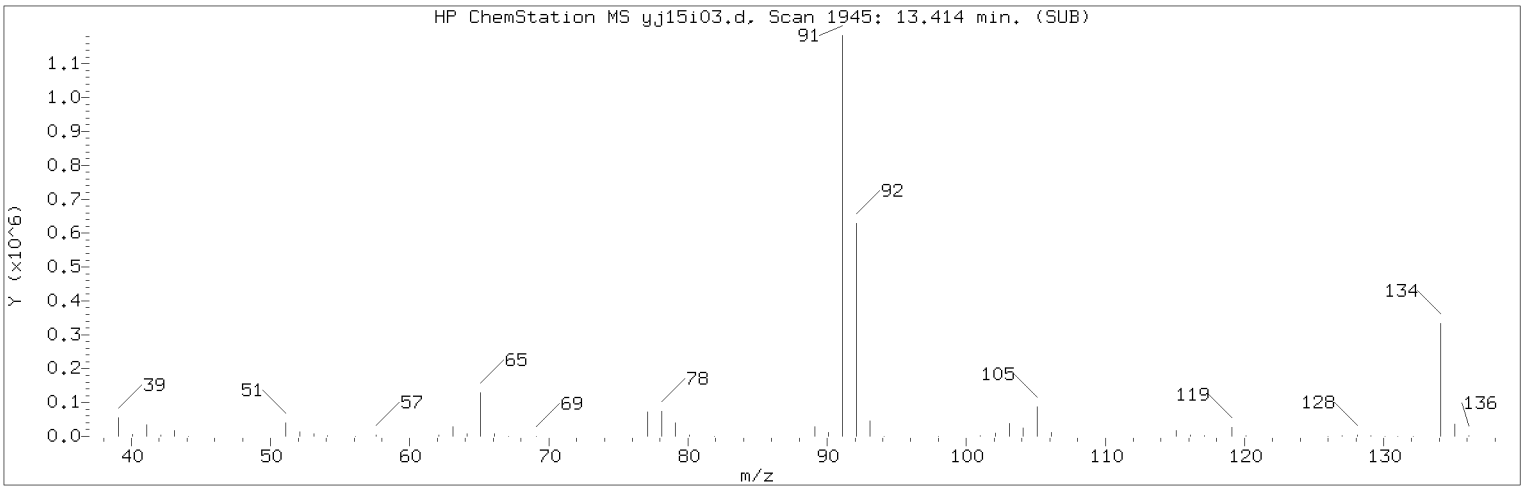
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 13:54
Date, time and analyst ID of latest file update: 15-Jan-2018 13:54 Automation

Sample Name: VSTD050 Lab Sample ID: VSTD050

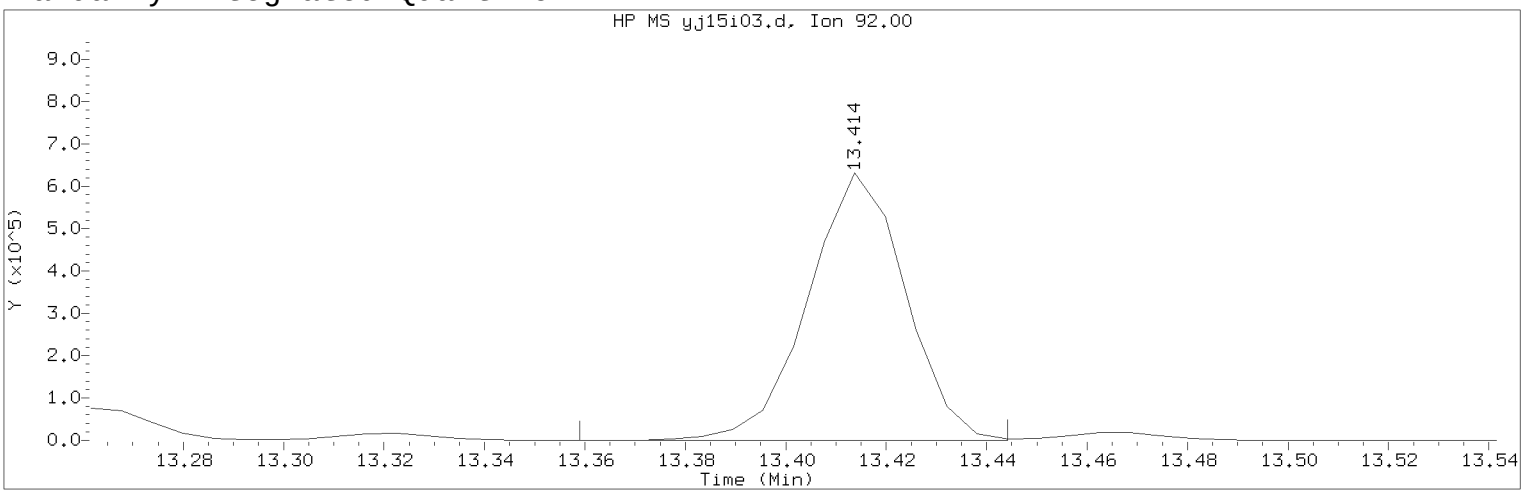
Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 1852
Retention Time (minutes): 12.848
Quant Ion : 134.00
Area : 341371
On-column Amount (ng) : 52.7940
Integration start scan : 1845 Integration stop scan: 1872
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i03.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:39 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD050 Lab Sample ID: VSTD050

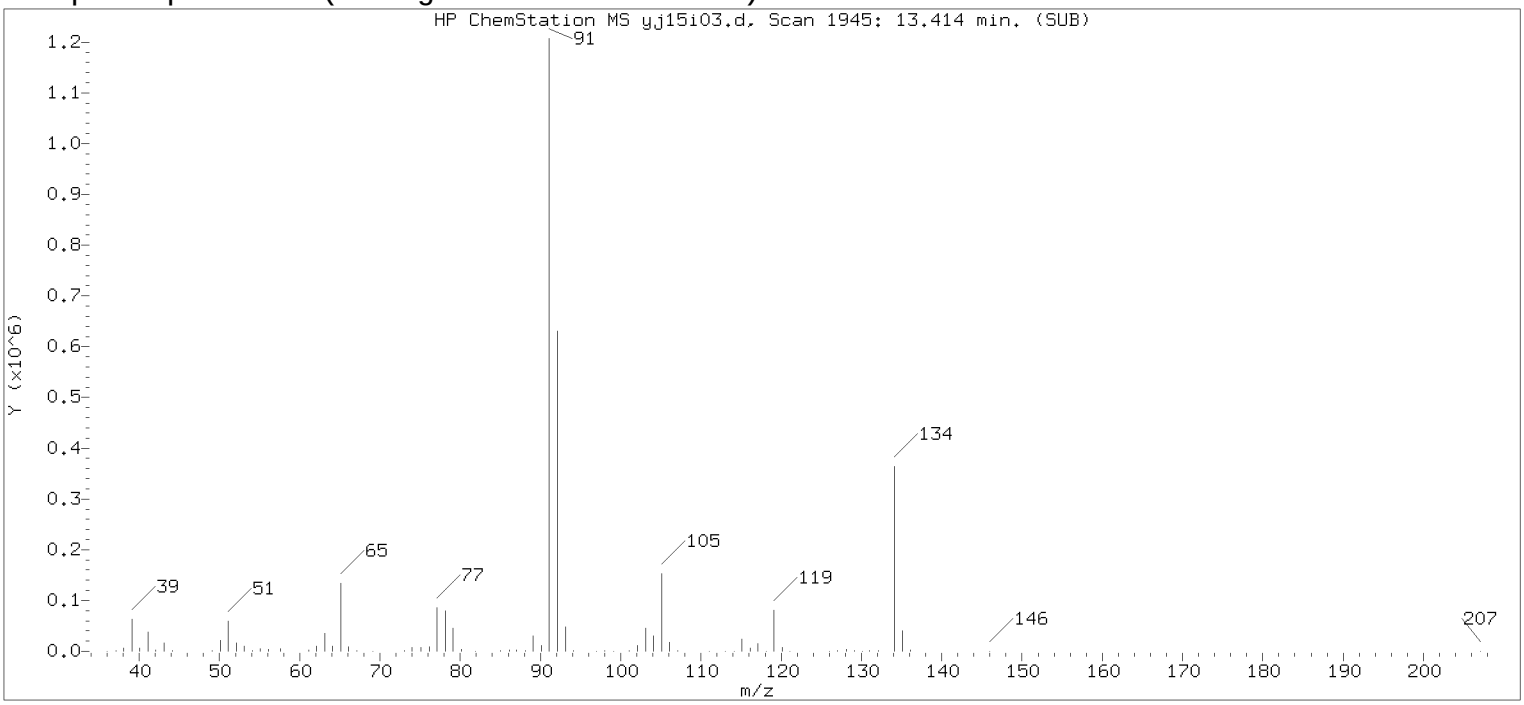
Compound Number : 139
Compound Name : n-Butylbenzene
Scan Number : 1945
Retention Time (minutes): 13.414
Quant Ion : 92.00
Area (flag) : 847423M
On-Column Amount (ng) : 50.1183
Integration start scan : 1935 Integration stop scan: 1949
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

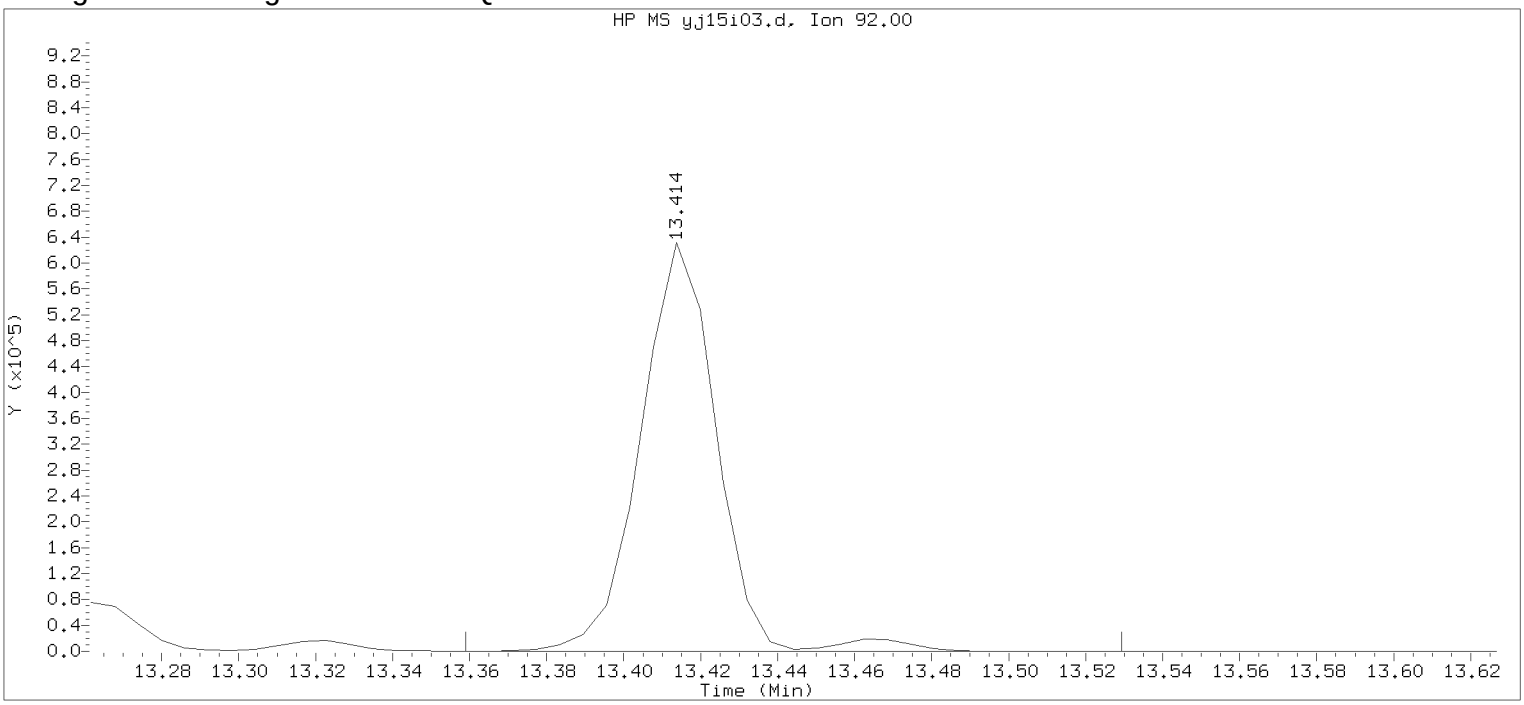
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



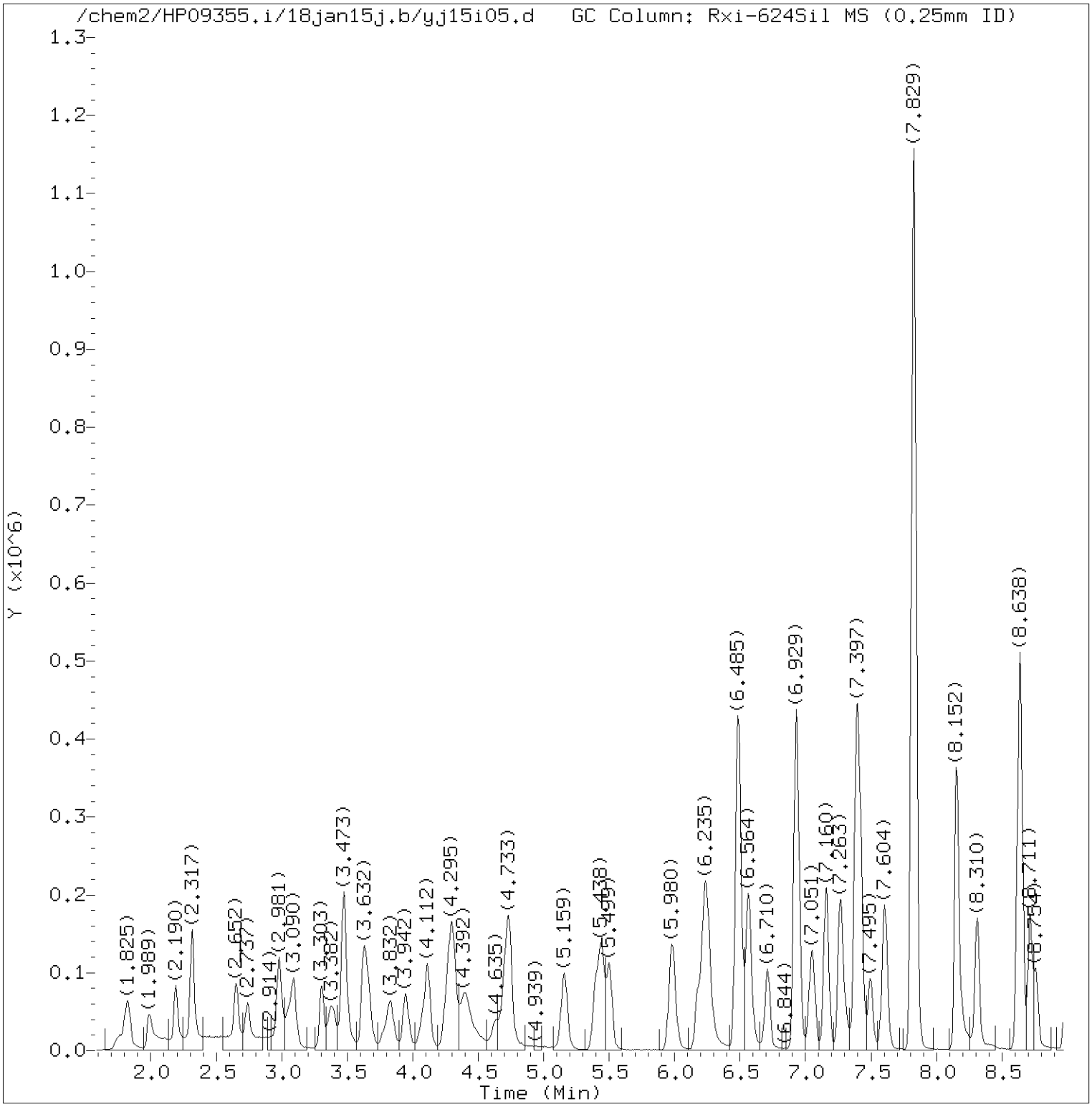
Data File: /chem2/HP09355.i/18jan15j.b/yj15i03.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 13:39 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 13:54
Date, time and analyst ID of latest file update: 15-Jan-2018 13:54 Automation

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compound Number : 139
Compound Name : n-Butylbenzene
Scan Number : 1945
Retention Time (minutes): 13.414
Quant Ion : 92.00
Area : 872842
On-column Amount (ng) : 53.1463
Integration start scan : 1935 Integration stop scan: 1963
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly01



Total Ion Chromatogram (TIC)

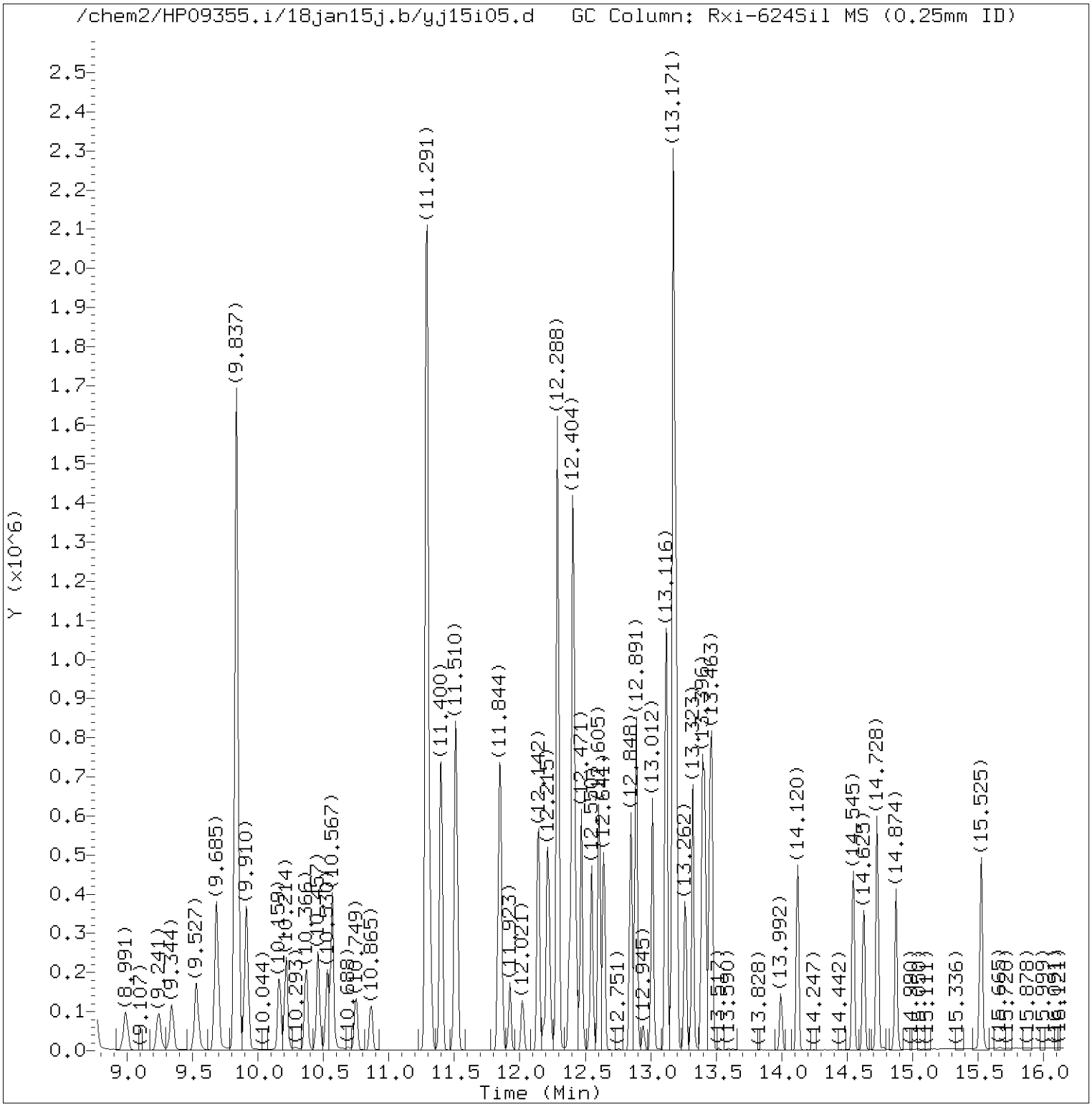
Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i05.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 14:25 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i05.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 14:25 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i05.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 14:25 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
3) Dichlorodifluoromethane	(2)	1.989	85	90874	10.174
4) Chloromethane	(2)	2.190	50	93042	9.997
6) Vinyl Chloride	(2)	2.311	62	93347	9.824
5) 1,3-Butadiene	(2)	2.317	39	45683	9.455
8) Bromomethane	(2)	2.652	94	65115	10.116
9) Chloroethane	(2)	2.737	64	53596	10.170
10) Dichlorofluoromethane	(2)	2.981	67	114978	9.671
12) Trichlorofluoromethane	(2)	3.054	101	109474	10.136
11) n-Pentane	(2)	3.090	43	77133	8.633
14) Ethyl ether	(2)	3.303	59	63759	9.951
15) Freon 123a	(2)	3.376	67	67120	9.560
16) Acrolein	(1)	3.473	56	302709	105.341
17) 1,1-Dichloroethene	(2)	3.625	96	48378	9.508
17) 1,1-Dichloroethene	(2)	3.619	63	22977	9.177
18) Acetone	(1)	3.644	58	28501	22.300
19) Freon 113	(2)	3.662	101	45079	9.181
21) 2-Propanol	(1)	3.796	45	92280	103.082
22) Methyl Iodide	(2)	3.832	142	92946	9.529
23) Carbon Disulfide	(2)	3.942	76	160797	9.435
27) Methyl Acetate	(2)	4.070	43	91928	9.472
25) Allyl Chloride	(2)	4.112	41	103263	9.916
29)*t-Butyl alcohol-d10	(1)	4.276	65	411273	250.000
28) Methylene Chloride	(2)	4.307	84	62212	9.541
30) t-Butyl alcohol	(1)	4.404	59	194922	107.531
31) Acrylonitrile	(2)	4.635	53	53087	10.646
33) Methyl Tertiary Butyl Ether	(2)	4.708	73	213609	9.600
32) trans-1,2-Dichloroethene	(2)	4.733	96	62048	9.722
34) n-Hexane	(2)	5.159	57	88893	9.401
36) 1,1-Dichloroethane	(2)	5.396	63	111613	9.626
38) di-Isopropyl ether	(2)	5.444	45	208932	9.650
39) 2-Chloro-1,3-butadiene	(2)	5.499	53	97020	9.554
40) Ethyl t-butyl ether	(2)	5.980	59	211542	9.686
44) 2-Butanone	(2)	6.174	43	172652	21.709
42) cis-1,2-Dichloroethene	(2)	6.223	96	71359	9.564
45) 2,2-Dichloropropane	(2)	6.247	77	91123	9.572
47) Propionitrile	(1)	6.260	54	194275	106.588
48) Methacrylonitrile	(2)	6.485	67	253999	53.366
49) Bromochloromethane	(2)	6.564	128	37866	10.023

* = Compound is an internal standard.

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i05.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 14:25 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50) Tetrahydrofuran	(1)	6.570	71	46320	22.033
51) Chloroform	(2)	6.710	83	112873	9.577
43) 1,2-Dichloroethene (Total)	(2)		96	133407	19.286
52)$Dibromofluoromethane	(2)	6.929	113	307435	49.356
52)$Dibromofluoromethane	(2)	6.929	111	314737	49.326
53) 1,1,1-Trichloroethane	(2)	6.941	97	108347	9.614
54) Cyclohexane	(2)	7.044	56	100945	9.224
54) Cyclohexane	(2)	7.051	84	85432	9.043
54) Cyclohexane	(2)	7.051	69	31657	9.241
55) 1,1-Dichloropropene	(2)	7.154	75	94340	9.898
56) Carbon Tetrachloride	(2)	7.160	117	79831	9.354
58) Isobutyl Alcohol	(1)	7.270	41	173951	277.201
57)$1,2-Dichloroethane-d4	(2)	7.391	102	80170	49.918
57)$1,2-Dichloroethane-d4	(2)	7.391	65	379023	49.834
57)$1,2-Dichloroethane-d4	(2)	7.391	104	50237	49.231
60) Benzene	(2)	7.422	78	268256	9.716
61) 1,2-Dichloroethane	(2)	7.495	62	94327	9.490
61) 1,2-Dichloroethane	(2)	7.495	98	8811	9.710
65) t-Amyl methyl ether	(2)	7.604	73	208742	9.503
66)*Fluorobenzene	(2)	7.829	96	1310876	50.000
67) n-Heptane	(2)	7.835	43	108279	9.604
69) n-Butanol	(1)	8.152	56	320654	561.832
71) Trichloroethene	(2)	8.310	95	71116	9.649
72) Methylcyclohexane	(2)	8.626	83	120364	9.981
72) Methylcyclohexane	(2)	8.626	98	54333	9.984
73) 1,2-Dichloropropane	(2)	8.644	63	72036	9.685
76) Methyl Methacrylate	(2)	8.711	69	81090	9.678
75) 1,4-Dioxane	(1)	8.723	88	39374M	280.825
74) Dibromomethane	(2)	8.760	93	45851	9.441
78) Bromodichloromethane	(2)	8.991	83	85117	9.338
79) 2-Nitropropane	(2)	9.241	41	74279	20.897
80) 2-Chloroethyl Vinyl Ether	(2)	9.344	63	60765	9.391
81) cis-1,3-Dichloropropene	(2)	9.527	75	116073	9.631
82) 4-Methyl-2-pentanone	(2)	9.685	43	312450	21.721
83)$Toluene-d8	(3)	9.837	98	1334165	49.953
83)$Toluene-d8	(3)	9.837	100	859161	49.830
90) 1,3-Dichloropropene (total)	(3)		100	224663	19.217
88) Toluene	(3)	9.910	92	182442	9.755

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i05.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 14:25 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
89) trans-1,3-Dichloropropene	(3)	10.165	75	108590	9.586
91) Ethyl Methacrylate	(3)	10.214	69	129920	9.715
92) 1,1,2-Trichloroethane	(3)	10.366	97	72087	9.542
93) Tetrachloroethene	(3)	10.457	166	79086	9.655
94) 1,3-Dichloropropane	(3)	10.530	76	121691	9.589
96) 2-Hexanone	(3)	10.567	43	263709M	22.041
97) Dibromochloromethane	(3)	10.749	129	72837	9.244
99) 1,2-Dibromoethane	(3)	10.865	107	79221	9.612
100)*Chlorobenzene-d5	(3)	11.291	117	1016146	50.000
101) 1-Chlorohexane	(3)	11.291	91	101207	9.429
102) Chlorobenzene	(3)	11.315	112	214547	9.845
103) 1,1,1,2-Tetrachloroethane	(3)	11.394	131	67034	9.404
104) Ethylbenzene	(3)	11.400	91	354912	9.737
106) m+p-Xylene	(3)	11.510	106	284203	19.472
108) Xylene (Total)	(3)		106	422758	29.072
107) o-Xylene	(3)	11.838	106	138555	9.600
109) Styrene	(3)	11.857	104	237595	9.703
110) Bromoform	(3)	12.021	173	56484	9.020
111) Isopropylbenzene	(3)	12.142	105	353417	9.728
112) Cyclohexanone	(1)	12.215	55	231822	260.949
114)$4-Bromofluorobenzene	(3)	12.288	95	500126	49.899
114)$4-Bromofluorobenzene	(3)	12.288	174	419730	49.913
116) 1,1,2,2-Tetrachloroethane	(4)	12.380	83	127304	9.750
118) trans-1,4-Dichloro-2-butene	(4)	12.404	53	196804	54.102
115) Bromobenzene	(4)	12.404	156	95225	9.602
117) 1,2,3-Trichloropropane	(4)	12.428	110	39544	9.419
119) n-Propylbenzene	(4)	12.471	91	427629	9.943
120) 2-Chlorotoluene	(4)	12.550	126	86828	9.720
122) 1,3,5-Trimethylbenzene	(4)	12.605	105	309567	9.807
121) 4-Chlorotoluene	(4)	12.641	126	93009	9.713
124) tert-Butylbenzene	(4)	12.848	134	64007M	9.608
125) Pentachloroethane	(4)	12.885	167	50167	9.688
126) 1,2,4-Trimethylbenzene	(4)	12.891	105	320063	9.798
127) sec-Butylbenzene	(4)	13.012	105	395490	9.939
129) 1,3-Dichlorobenzene	(4)	13.116	146	184494	9.701
130) p-Isopropyltoluene	(4)	13.122	119	346949	9.881
131)*1,4-Dichlorobenzene-d4	(4)	13.171	152	551242	50.000
133) 1,4-Dichlorobenzene	(4)	13.189	146	188859	9.696

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i05.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 14:25 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

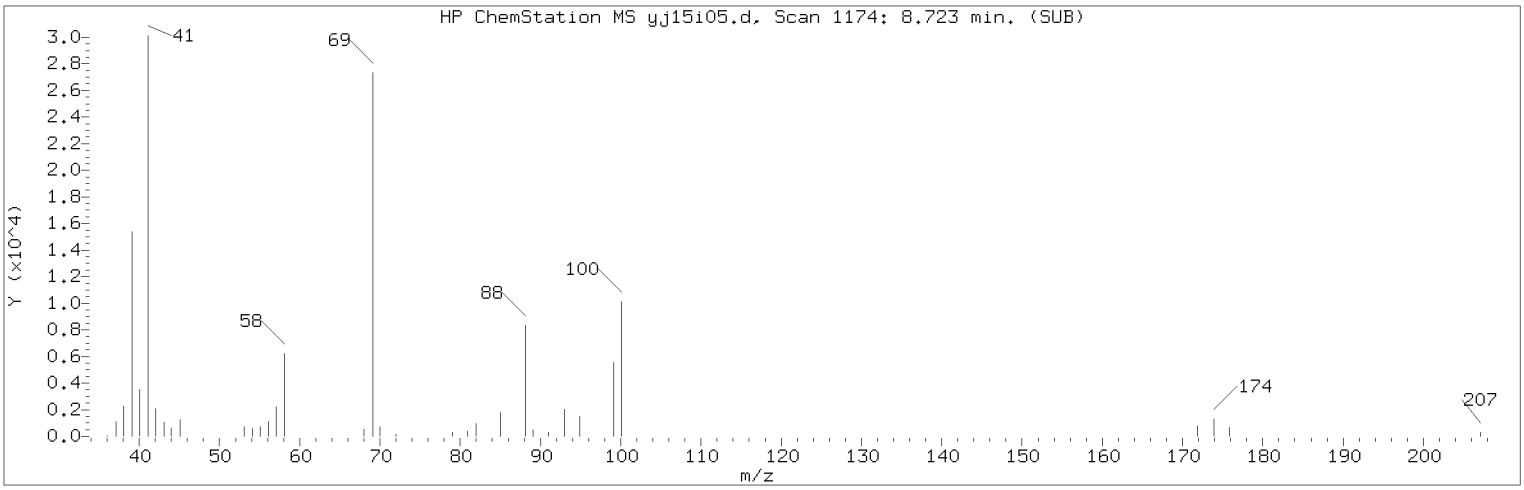
Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
134) 1,2,3-Trimethylbenzene	(4)	13.195	105	319547	10.126
135) Benzyl Chloride	(4)	13.262	91	241204	9.323
136) 1,3-Diethylbenzene	(4)	13.323	119	207167	10.314
137) 1,4-Diethylbenzene	(4)	13.396	119	214822	10.314
139) n-Butylbenzene	(4)	13.414	92	174008M	9.789
138) 1,2-Dichlorobenzene	(4)	13.450	146	175087	9.594
140) 1,2-Diethylbenzene	(4)	13.463	119	171281	10.301
141) Diethylbenzene (total)	(4)		100	593270	30.930
142) 1,2-Dibromo-3-chloropropane	(4)	13.992	75	31135	9.284
144) 1,3,5-Trichlorobenzene	(4)	14.120	180	133602	9.741
146) 1,2,4-Trichlorobenzene	(4)	14.545	180	126923	9.630
147) Hexachlorobutadiene	(4)	14.625	225	61111	9.773
148) Naphthalene	(4)	14.728	128	422576	9.571
149) 1,2,3-Trichlorobenzene	(4)	14.874	180	117721	9.640
150) 2-Methylnaphthalene	(4)	15.525	142	245677	9.787

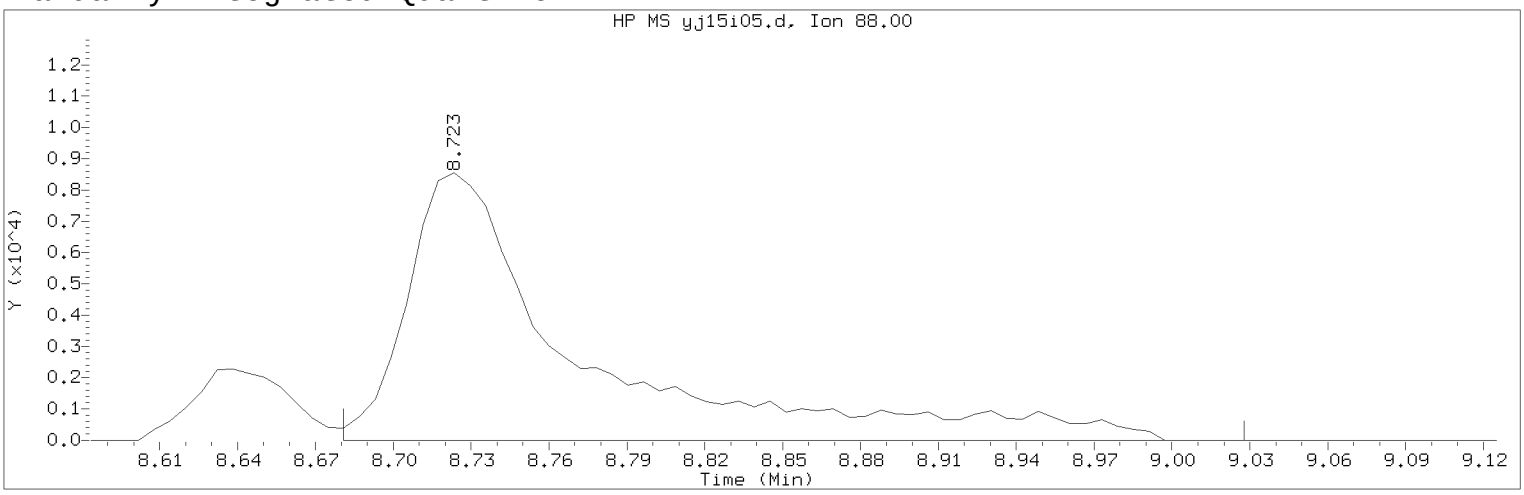
M = Compound was manually integrated.

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i05.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 14:25 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD010 Lab Sample ID: VSTD010

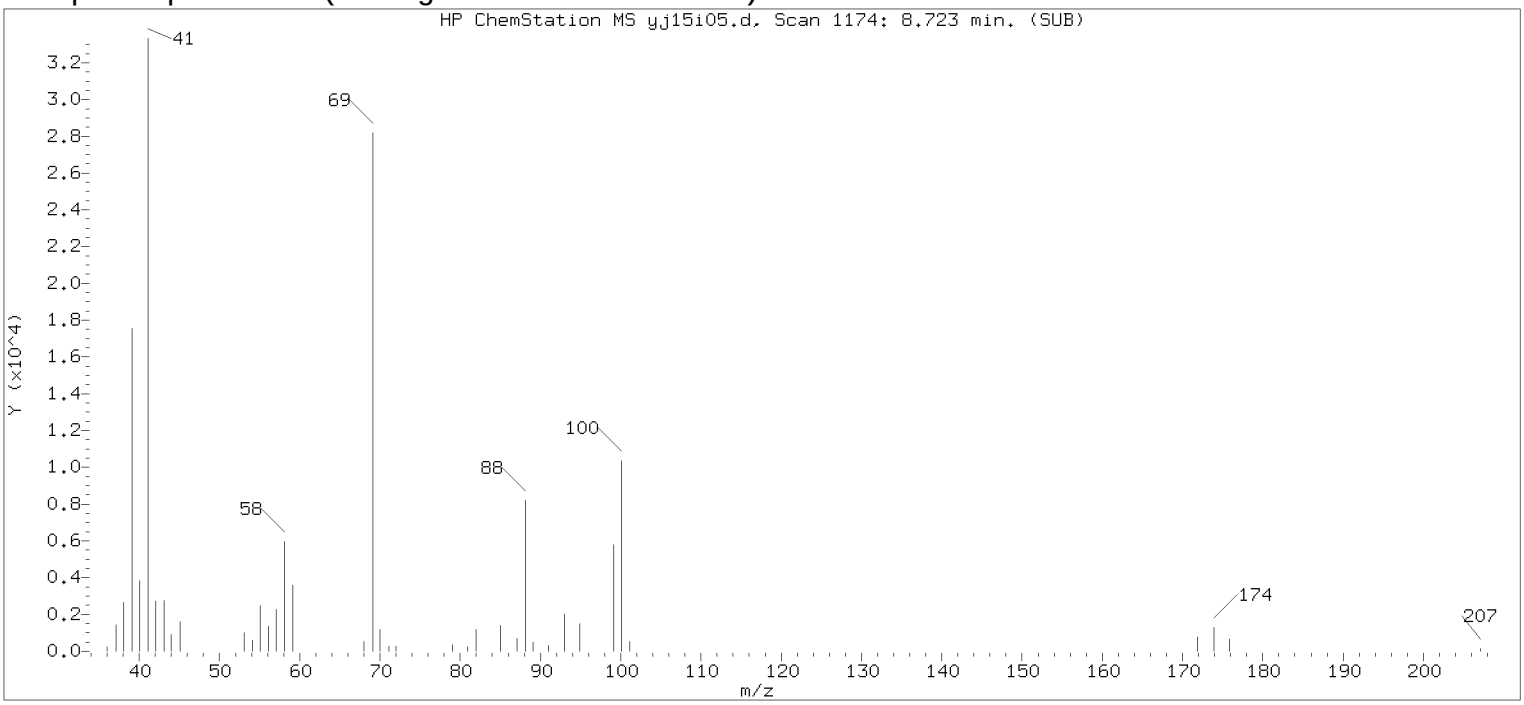
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 1174
Retention Time (minutes): 8.723
Quant Ion : 88.00
Area (flag) : 39374M
On-Column Amount (ng) : 280.8253
Integration start scan : 1166 Integration stop scan: 1223
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

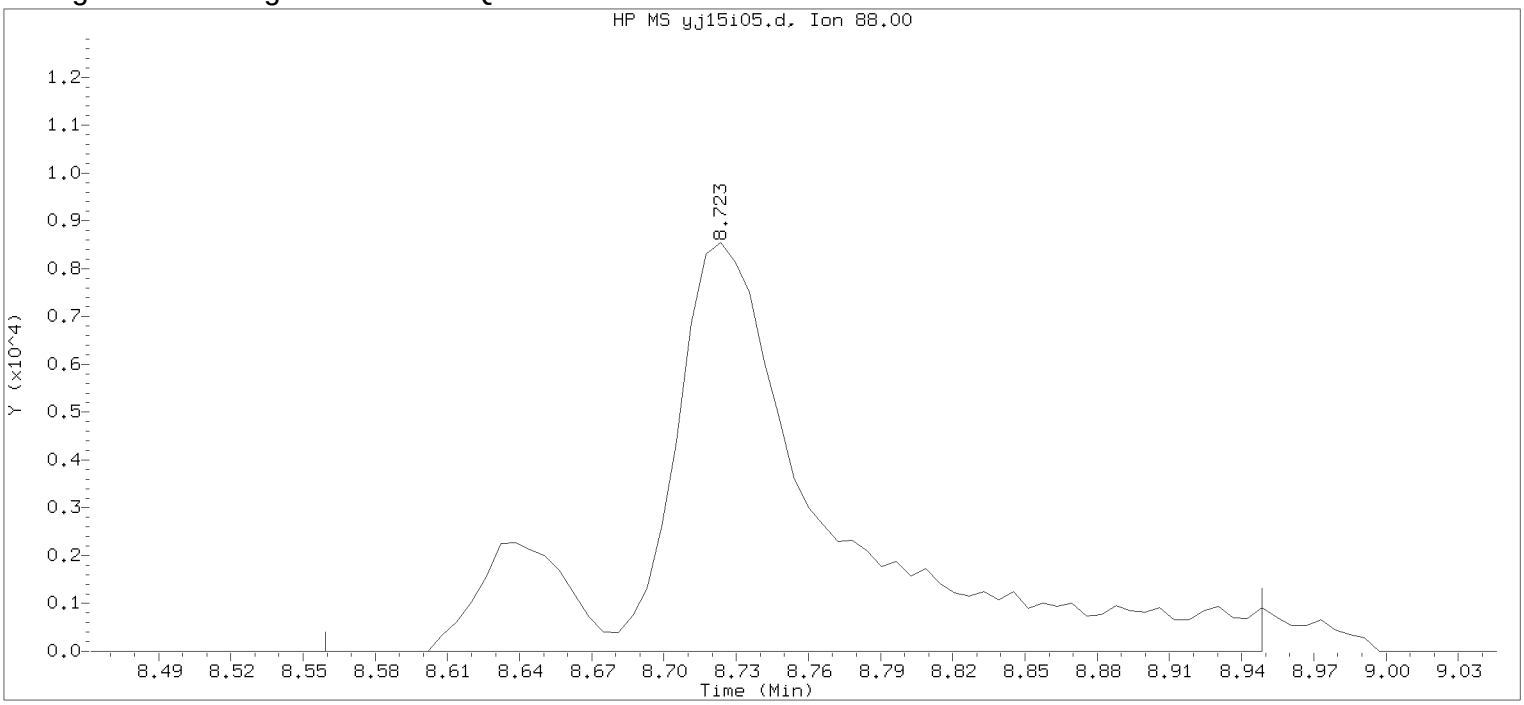
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i05.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 14:25 Analyst ID: dhh02035

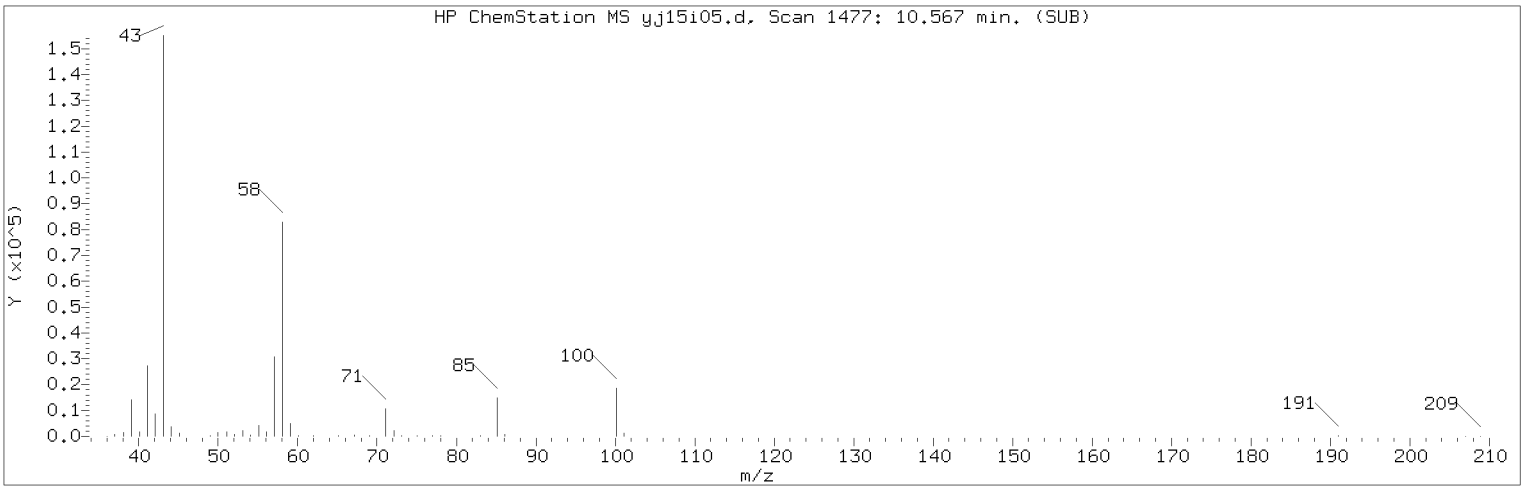
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 14:40
Date, time and analyst ID of latest file update: 15-Jan-2018 14:40 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

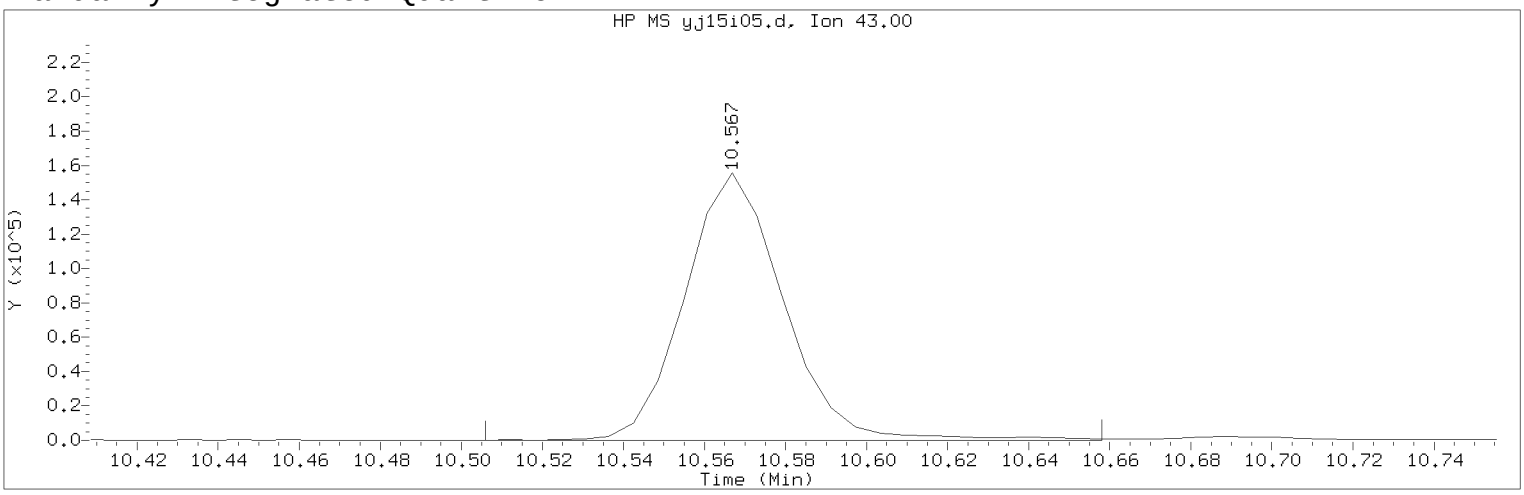
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 1174
Retention Time (minutes): 8.723
Quant Ion : 88.00
Area : 43845
On-column Amount (ng) : 270.8334
Integration start scan : 1146 Integration stop scan: 1210
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i05.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 14:25 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD010 Lab Sample ID: VSTD010

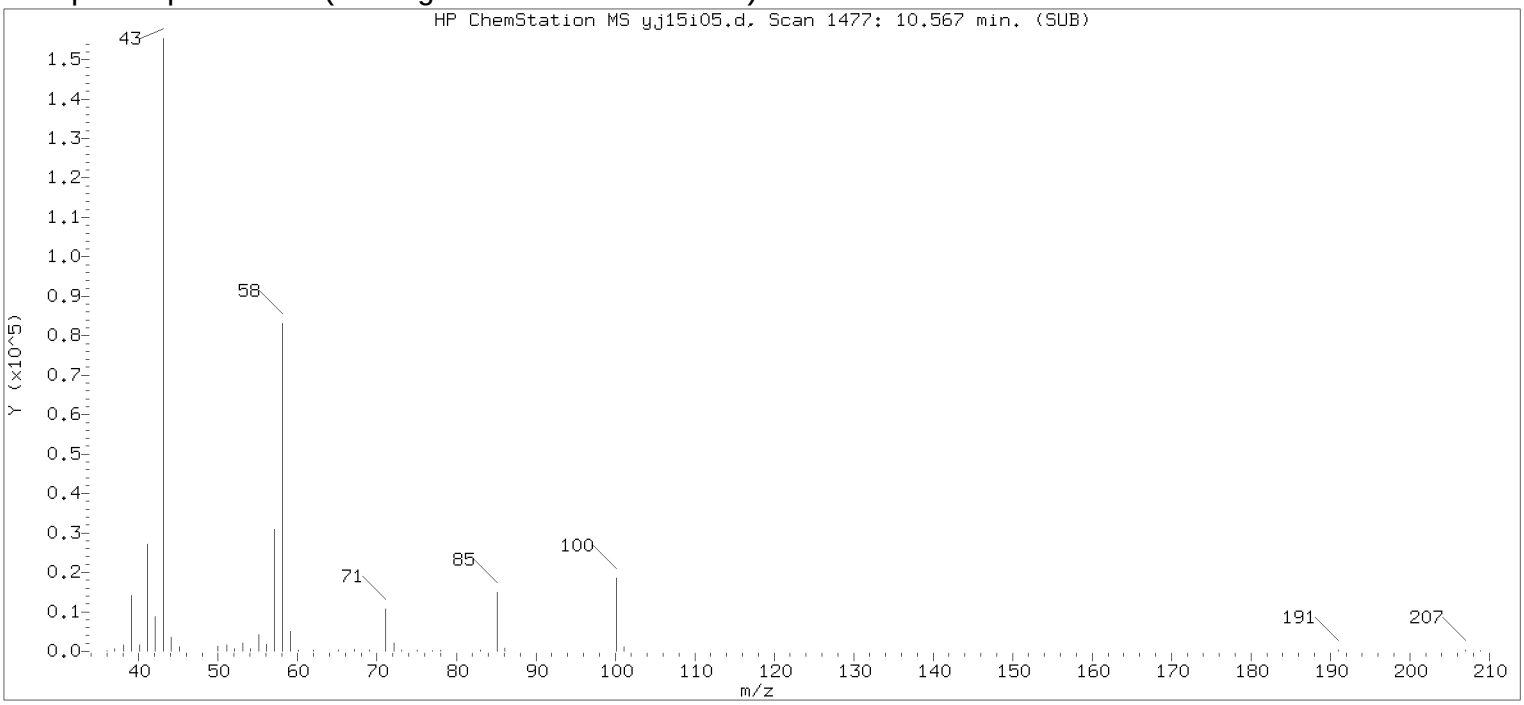
Compound Number : 96
Compound Name : 2-Hexanone
Scan Number : 1477
Retention Time (minutes): 10.567
Quant Ion : 43.00
Area (flag) : 263709M
On-Column Amount (ng) : 22.0407
Integration start scan : 1466 Integration stop scan: 1491
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

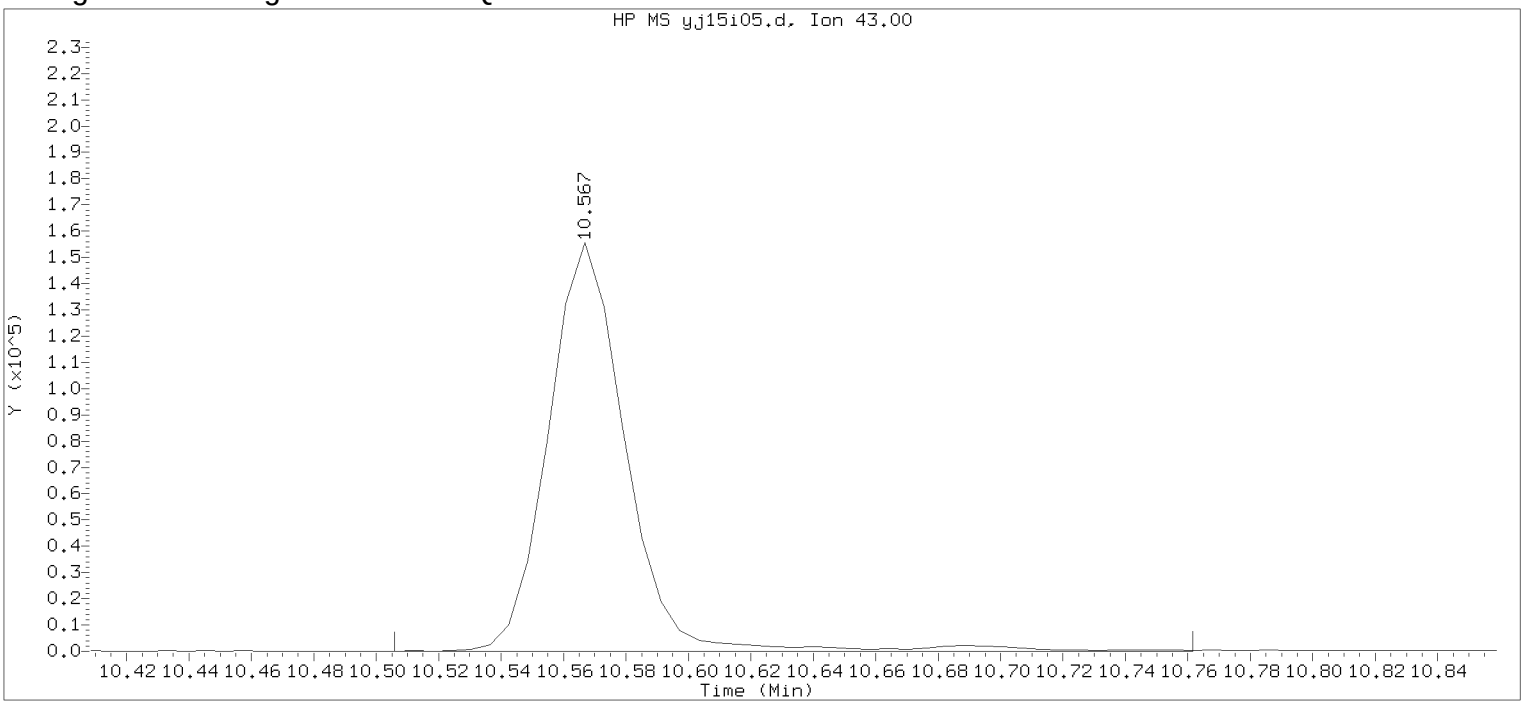
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i05.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 14:25 Analyst ID: dhh02035

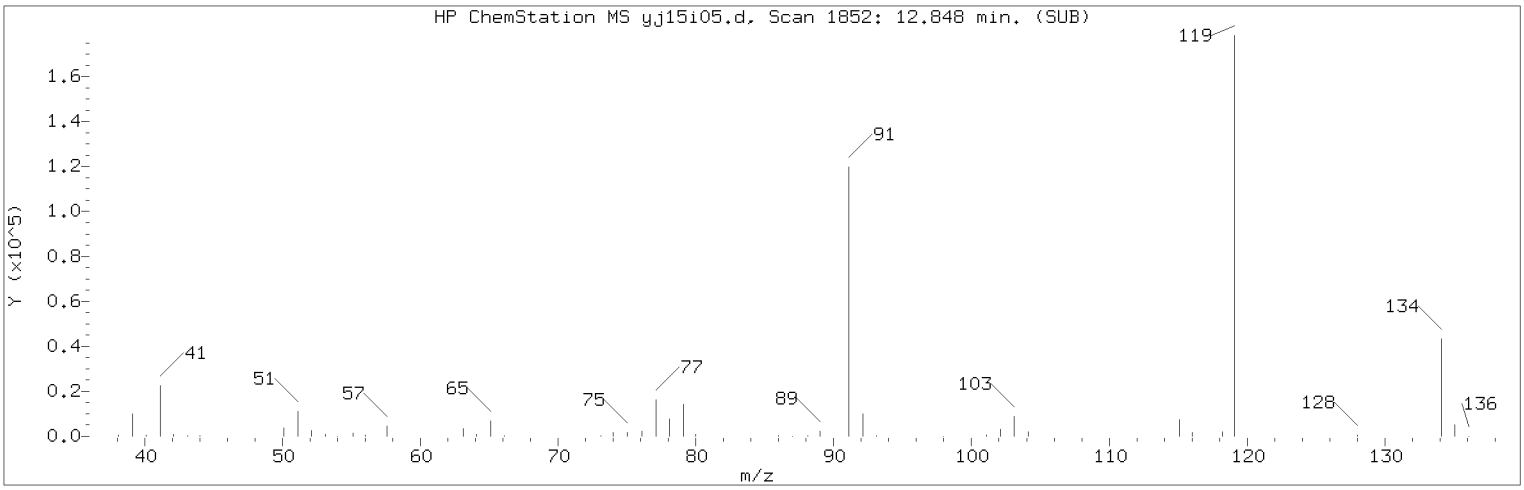
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 14:40
Date, time and analyst ID of latest file update: 15-Jan-2018 14:40 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

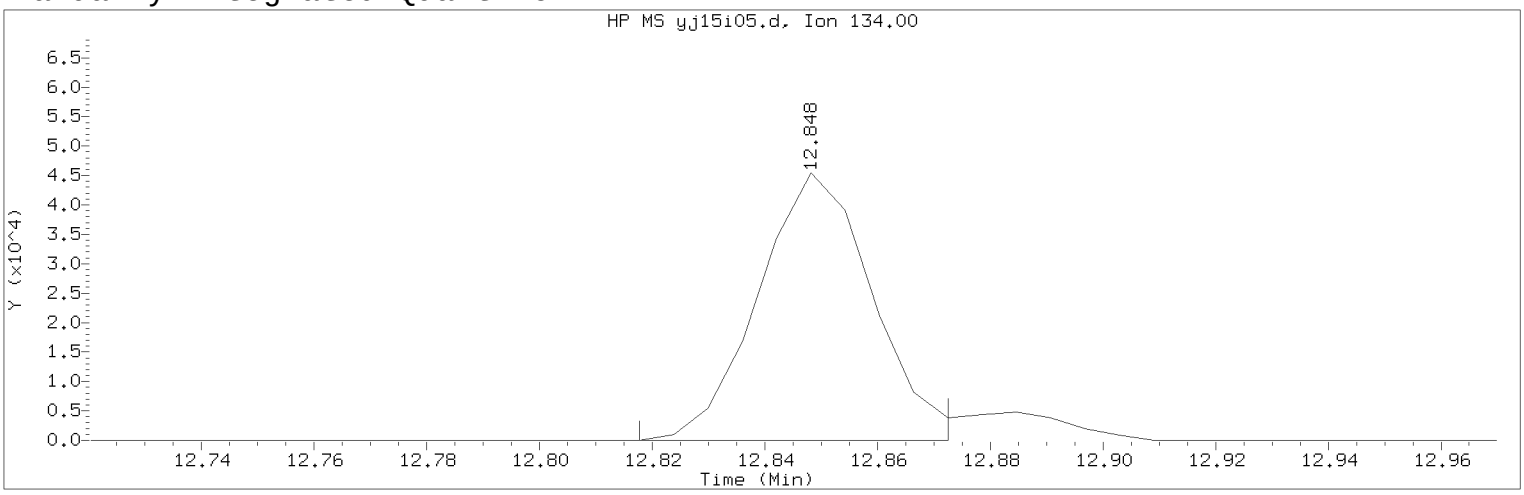
Compound Number : 96
Compound Name : 2-Hexanone
Scan Number : 1477
Retention Time (minutes): 10.567
Quant Ion : 43.00
Area : 269392
On-column Amount (ng) : 22.1791
Integration start scan : 1466 Integration stop scan: 1508
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i05.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 14:25 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD010 Lab Sample ID: VSTD010

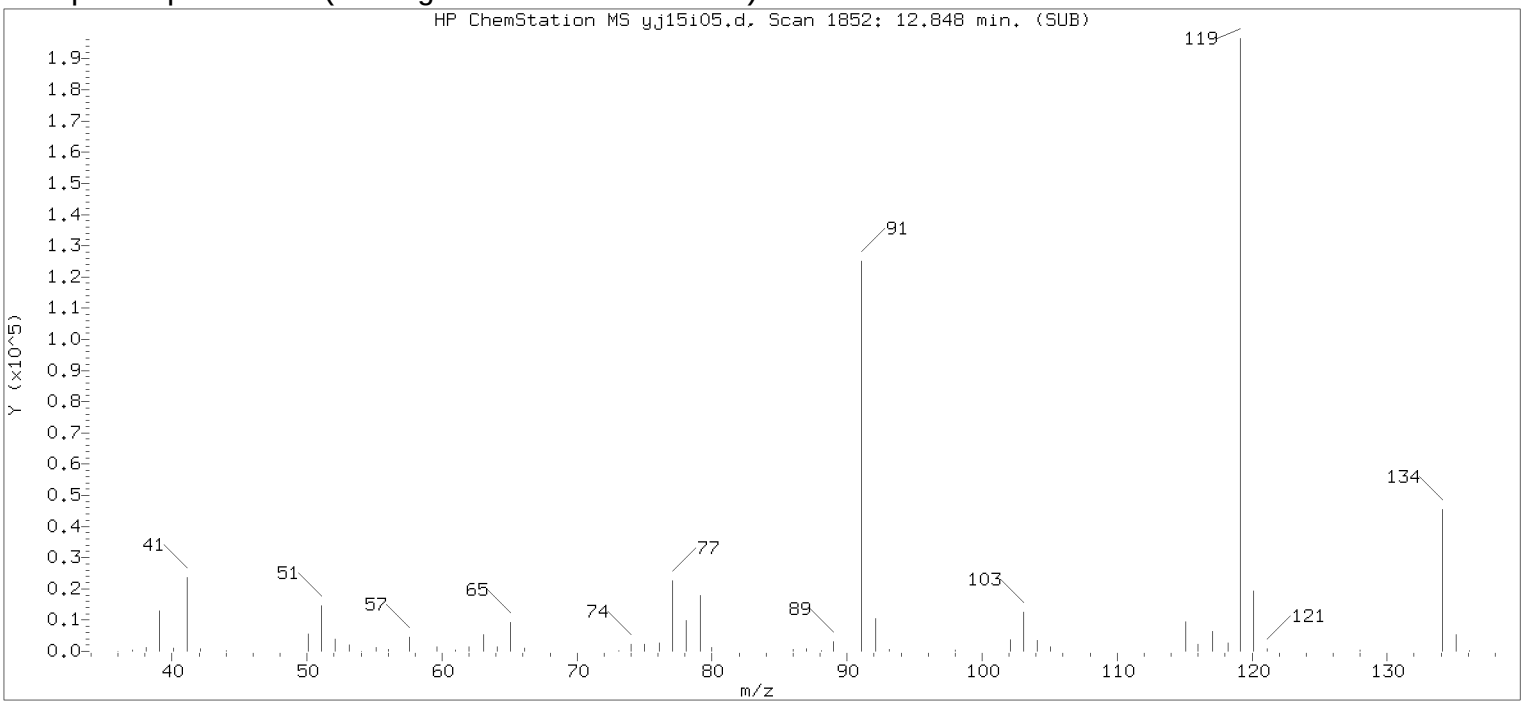
Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 1852
Retention Time (minutes): 12.848
Quant Ion : 134.00
Area (flag) : 64007M
On-Column Amount (ng) : 9.6081
Integration start scan : 1846 Integration stop scan: 1855
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

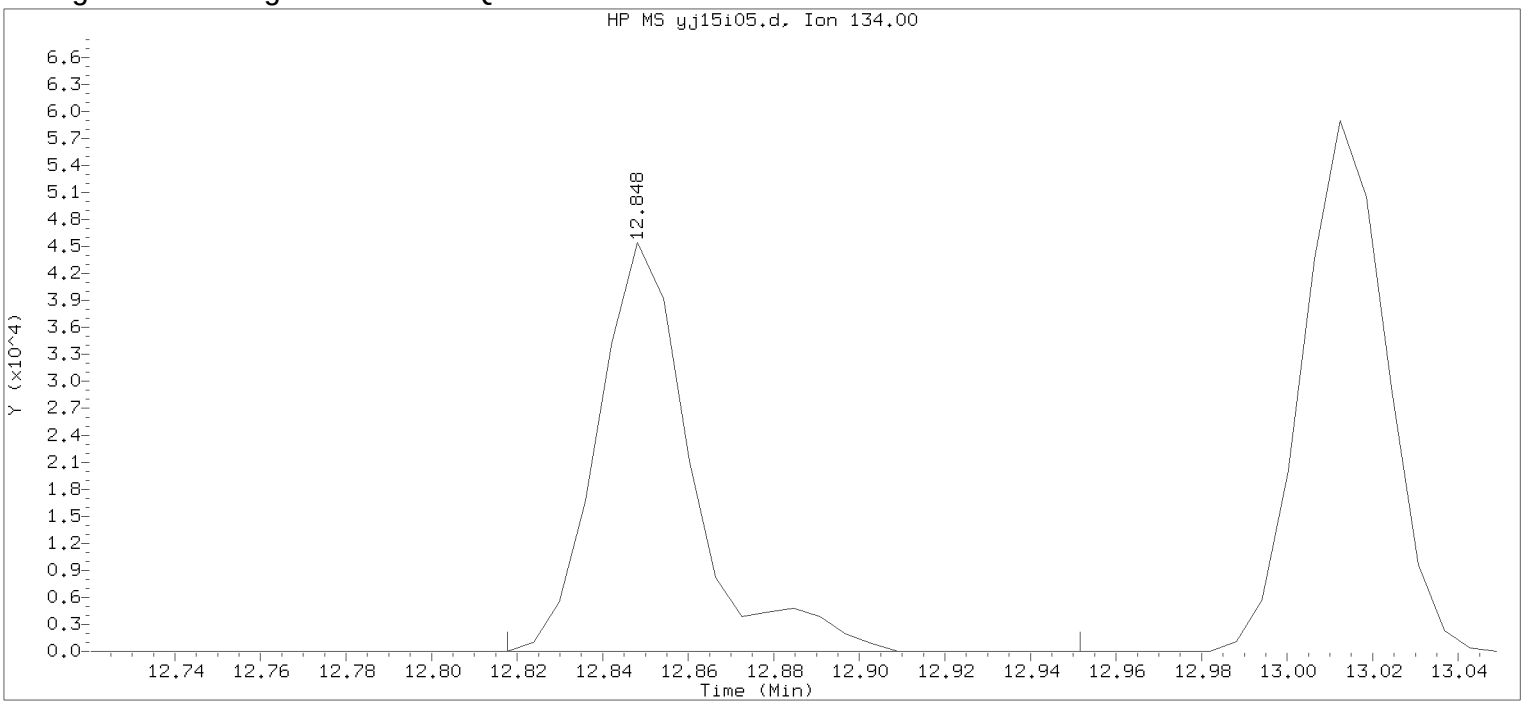
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i05.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 14:25 Analyst ID: dhh02035

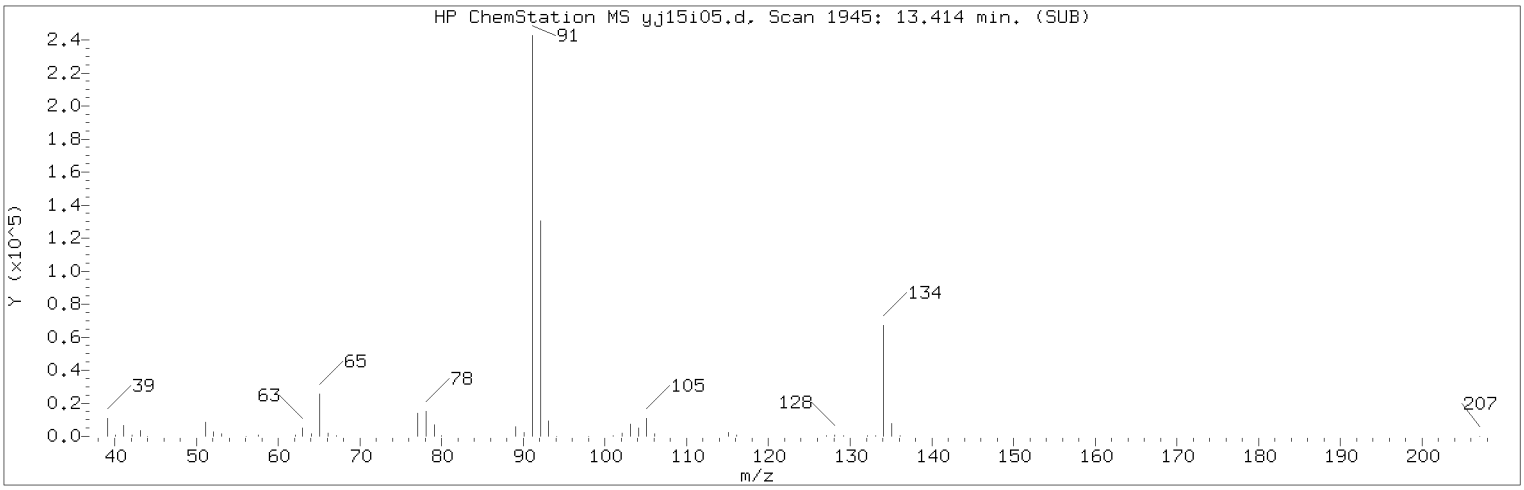
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 14:40
Date, time and analyst ID of latest file update: 15-Jan-2018 14:40 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

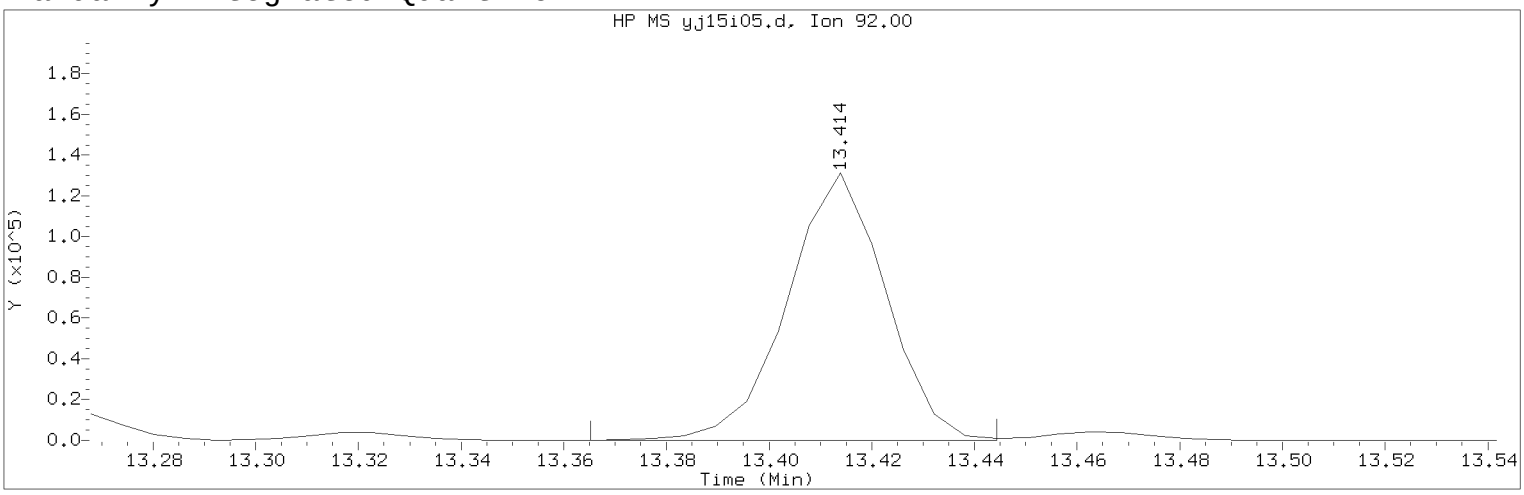
Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 1852
Retention Time (minutes): 12.848
Quant Ion : 134.00
Area : 69767
On-column Amount (ng) : 10.3131
Integration start scan : 1846 Integration stop scan: 1868
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i05.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 14:25 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD010 Lab Sample ID: VSTD010

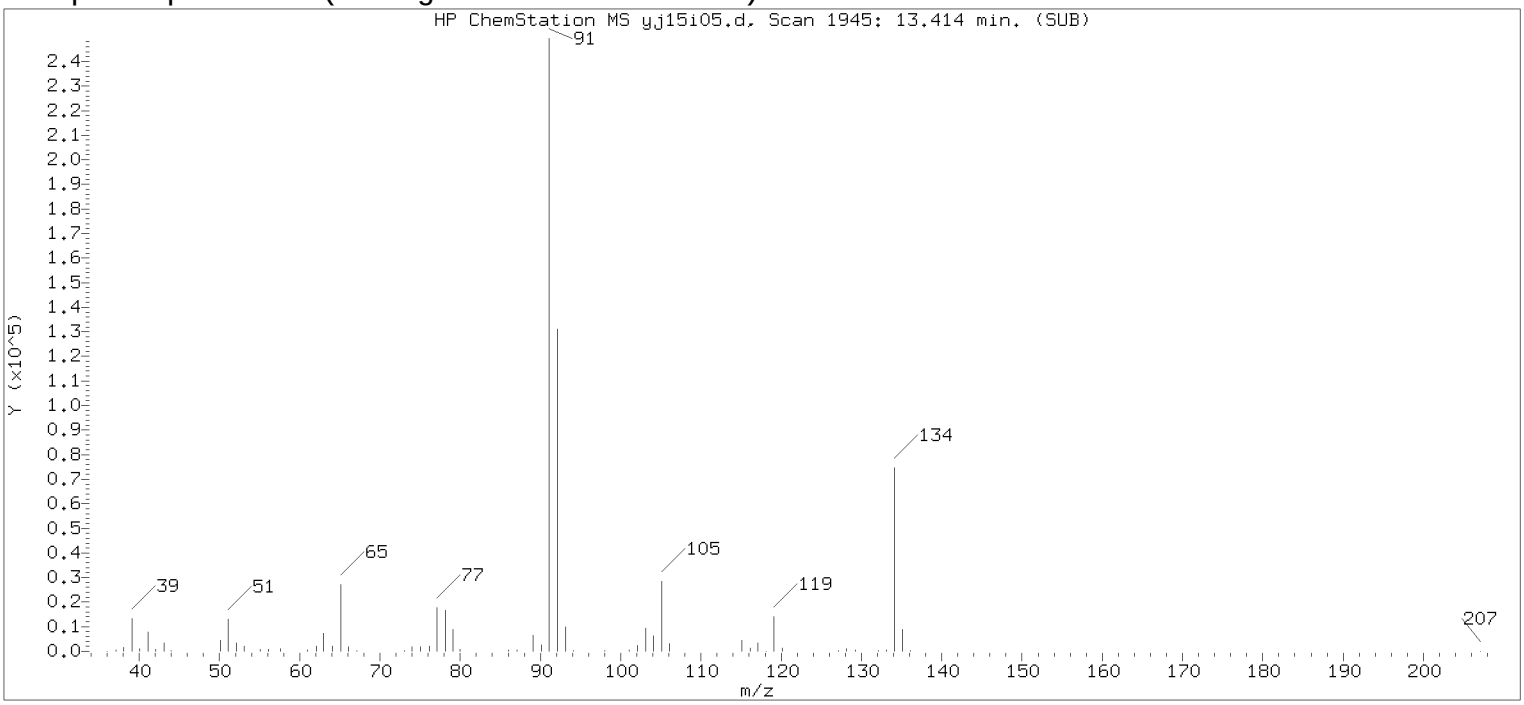
Compound Number : 139
Compound Name : n-Butylbenzene
Scan Number : 1945
Retention Time (minutes): 13.414
Quant Ion : 92.00
Area (flag) : 174008M
On-Column Amount (ng) : 9.7894
Integration start scan : 1936 Integration stop scan: 1949
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

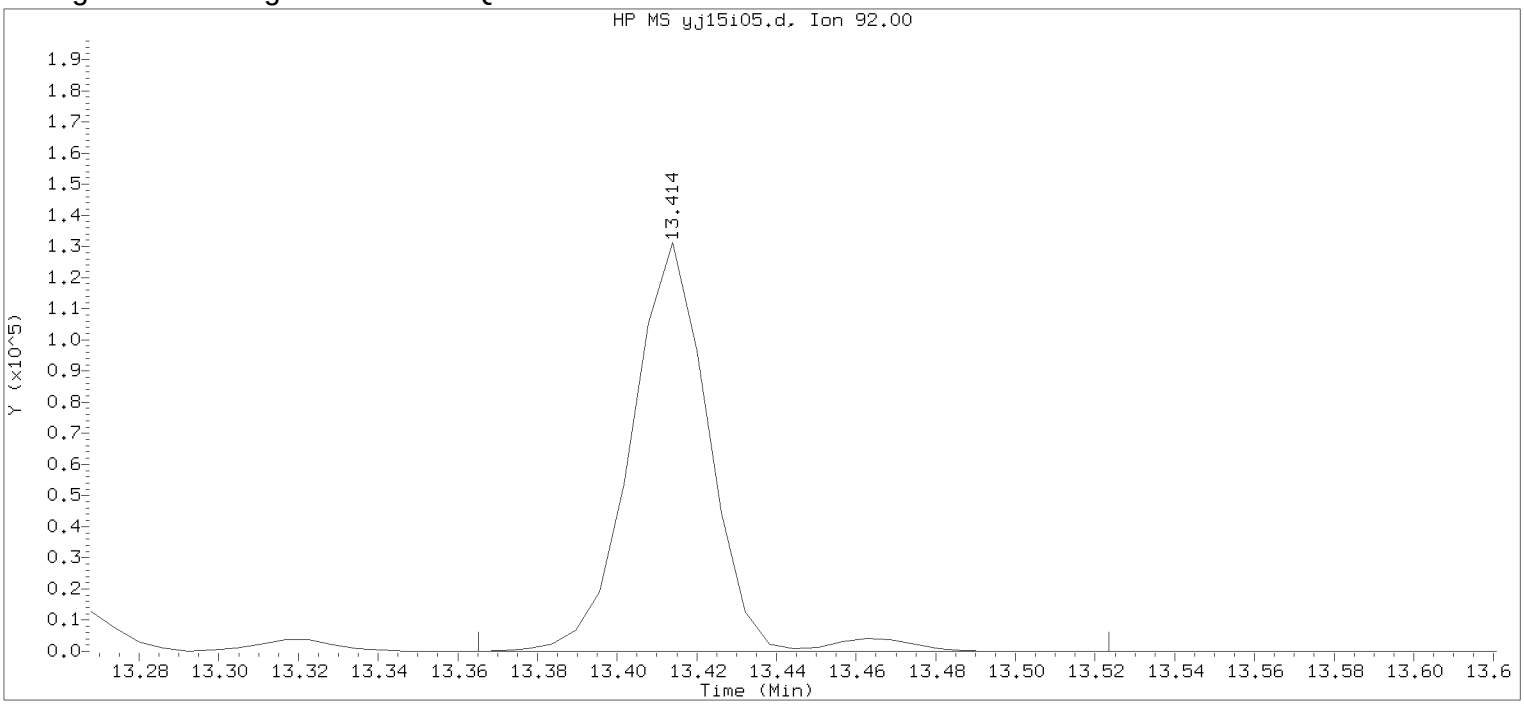
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



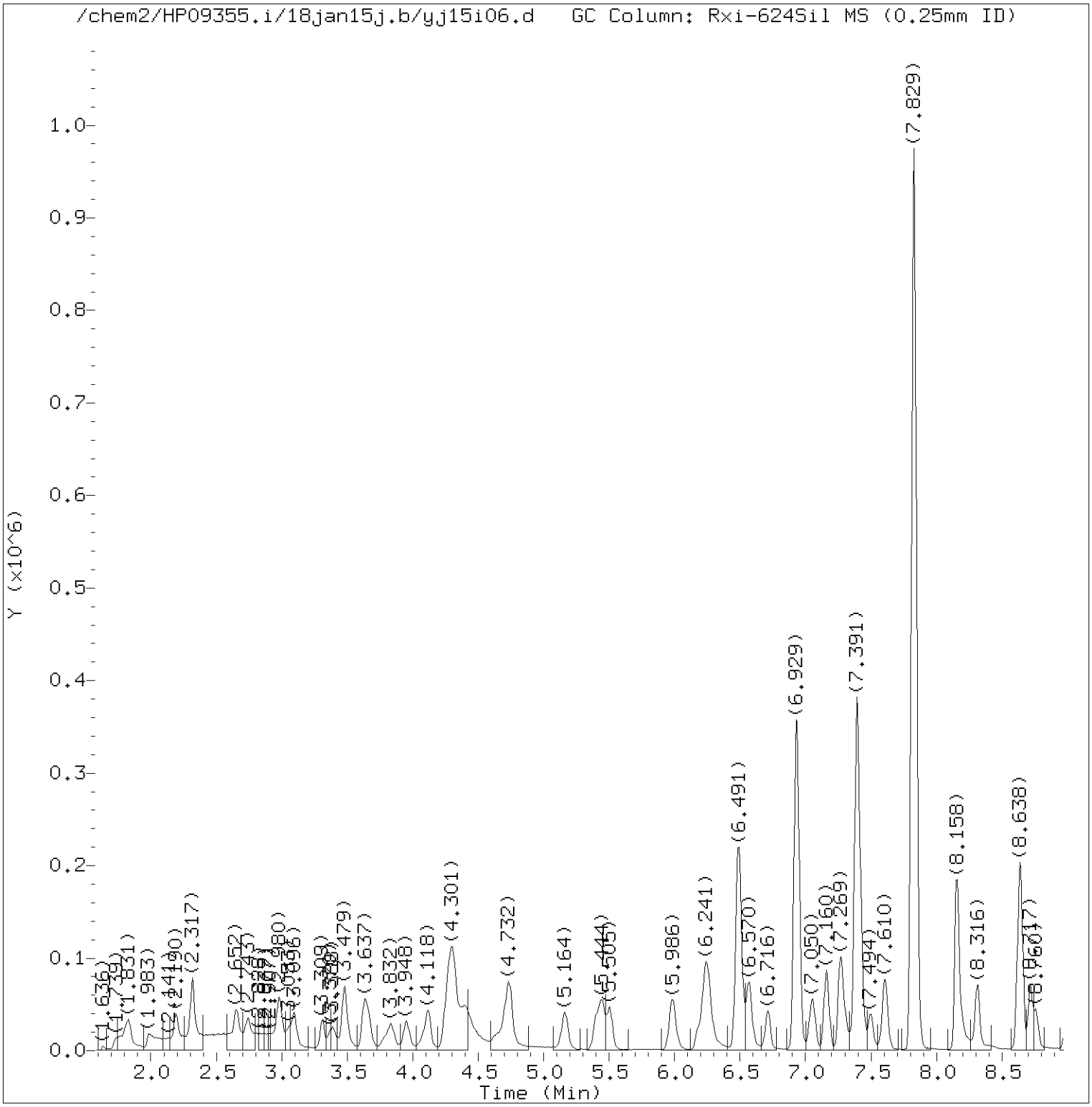
Data File: /chem2/HP09355.i/18jan15j.b/yj15i05.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 14:25 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 14:40
Date, time and analyst ID of latest file update: 15-Jan-2018 14:40 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compound Number : 139
Compound Name : n-Butylbenzene
Scan Number : 1945
Retention Time (minutes): 13.414
Quant Ion : 92.00
Area : 179694
On-column Amount (ng) : 10.1977
Integration start scan : 1936 Integration stop scan: 1962
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly



Total Ion Chromatogram (TIC)

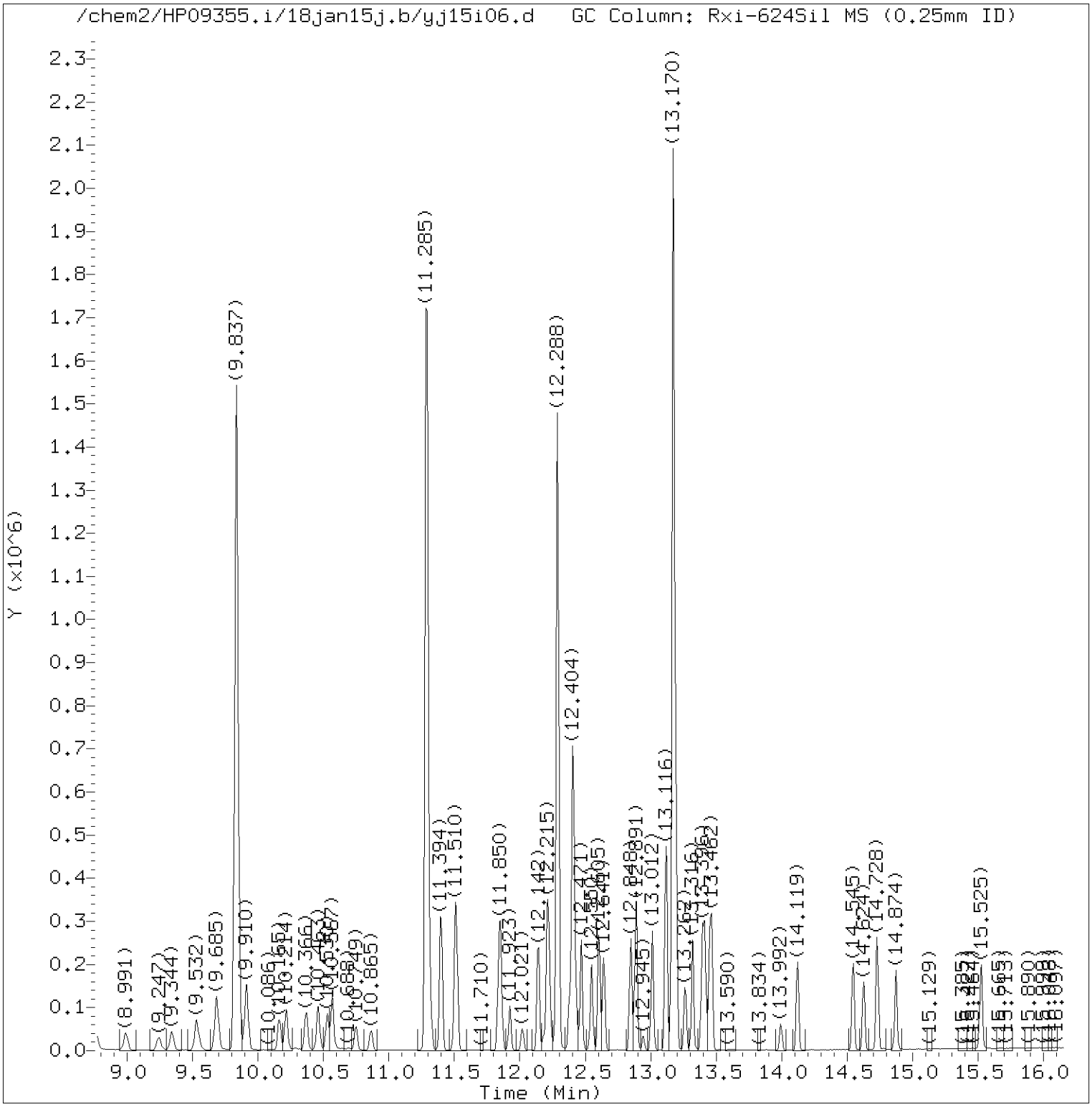
Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i06.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 14:47 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD004 Lab Sample ID: VSTD004

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i06.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 14:47 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD004 Lab Sample ID: VSTD004

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i06.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 14:47 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD004 Lab Sample ID: VSTD004

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
3) Dichlorodifluoromethane	(2)	1.983	85	35301	4.315
4) Chloromethane	(2)	2.190	50	36637	4.298
6) Vinyl Chloride	(2)	2.311	62	38266	4.397
5) 1,3-Butadiene	(2)	2.317	39	19878M	4.492
8) Bromomethane	(2)	2.652	94	25064	4.251
9) Chloroethane	(2)	2.743	64	21395	4.432
10) Dichlorofluoromethane	(2)	2.980	67	50193	4.609
12) Trichlorofluoromethane	(2)	3.053	101	42577	4.304
11) n-Pentane	(2)	3.096	43	33376	4.079
14) Ethyl ether	(2)	3.309	59	23567	4.016
15) Freon 123a	(2)	3.388	67	28886	4.492
16) Acrolein	(1)	3.479	56	105648	39.130
17) 1,1-Dichloroethene	(2)	3.631	96	20403	4.378
17) 1,1-Dichloroethene	(2)	3.631	63	10008	4.364
18) Acetone	(1)	3.650	58	9497	7.909
19) Freon 113	(2)	3.662	101	19649	4.369
21) 2-Propanol	(1)	3.802	45	51783	61.566
22) Methyl Iodide	(2)	3.838	142	37722	4.222
23) Carbon Disulfide	(2)	3.954	76	67614	4.331
27) Methyl Acetate	(2)	4.088	43	34992	3.936
25) Allyl Chloride	(2)	4.118	41	38877	4.076
29)*t-Butyl alcohol-d10	(1)	4.288	65	386413	250.000
28) Methylene Chloride	(2)	4.307	84	25207	4.221
30) t-Butyl alcohol	(1)	4.410	59	109398	64.233
31) Acrylonitrile	(2)	4.641	53	18186	3.982
33) Methyl Tertiary Butyl Ether	(2)	4.720	73	85439	4.192
32) trans-1,2-Dichloroethene	(2)	4.739	96	25326	4.332
34) n-Hexane	(2)	5.158	57	37192	4.294
36) 1,1-Dichloroethane	(2)	5.396	63	45380	4.273
38) di-Isopropyl ether	(2)	5.450	45	84285	4.250
39) 2-Chloro-1,3-butadiene	(2)	5.505	53	40035	4.304
40) Ethyl t-butyl ether	(2)	5.980	59	85083	4.253
44) 2-Butanone	(2)	6.186	43	60174	8.261
42) cis-1,2-Dichloroethene	(2)	6.229	96	28595	4.184
45) 2,2-Dichloropropane	(2)	6.241	77	37594	4.312
47) Propionitrile	(1)	6.259	54	106896	62.421
48) Methacrylonitrile	(2)	6.491	67	135115	30.993
50) Tetrahydrofuran	(1)	6.570	71	15156	7.673

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i06.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 14:47 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD004 Lab Sample ID: VSTD004

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
49) Bromochloromethane	(2)	6.570	128	14176	4.097
51) Chloroform	(2)	6.716	83	45933	4.255
43) 1,2-Dichloroethene (Total)	(2)		96	53921	8.517
52)$Dibromofluoromethane	(2)	6.929	113	284474	49.862
52)$Dibromofluoromethane	(2)	6.929	111	290688	49.738
53) 1,1,1-Trichloroethane	(2)	6.947	97	49196	4.766
54) Cyclohexane	(2)	7.056	56	43577	4.348
54) Cyclohexane	(2)	7.050	84	36794	4.252
54) Cyclohexane	(2)	7.056	69	13573	4.326
56) Carbon Tetrachloride	(2)	7.160	117	33309	4.261
55) 1,1-Dichloropropene	(2)	7.160	75	38235	4.380
58) Isobutyl Alcohol	(1)	7.269	41	98725	167.445
57)$1,2-Dichloroethane-d4	(2)	7.391	102	73127	49.711
57)$1,2-Dichloroethane-d4	(2)	7.391	65	352484	50.598
57)$1,2-Dichloroethane-d4	(2)	7.397	104	46807	50.079
60) Benzene	(2)	7.428	78	108476	4.289
61) 1,2-Dichloroethane	(2)	7.501	62	38986	4.282
61) 1,2-Dichloroethane	(2)	7.501	98	3687	4.436
65) t-Amyl methyl ether	(2)	7.610	73	85578	4.253
66)*Fluorobenzene	(2)	7.829	96	1200683	50.000
67) n-Heptane	(2)	7.841	43	43664	4.228
69) n-Butanol	(1)	8.158	56	175352	327.009
71) Trichloroethene	(2)	8.316	95	29184	4.323
72) Methylcyclohexane	(2)	8.626	83	46540	4.213
72) Methylcyclohexane	(2)	8.632	98	20815	4.176
73) 1,2-Dichloropropane	(2)	8.644	63	29006	4.258
76) Methyl Methacrylate	(2)	8.711	69	31688	4.129
75) 1,4-Dioxane	(1)	8.729	88	21812M	165.577
74) Dibromomethane	(2)	8.760	93	18807	4.228
78) Bromodichloromethane	(2)	8.991	83	33967	4.069
79) 2-Nitropropane	(2)	9.240	41	24060M	7.390
80) 2-Chloroethyl Vinyl Ether	(2)	9.344	63	22534	3.802
81) cis-1,3-Dichloropropene	(2)	9.526	75	45204	4.095
82) 4-Methyl-2-pentanone	(2)	9.685	43	102954	7.814
83)$Toluene-d8	(3)	9.837	98	1219692	50.241
83)$Toluene-d8	(3)	9.837	100	786188	50.165
90) 1,3-Dichloropropene (total)	(3)		100	87152	8.169
88) Toluene	(3)	9.916	92	74170	4.363

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i06.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 14:47 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD004 Lab Sample ID: VSTD004

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
89) trans-1,3-Dichloropropene	(3)	10.159	75	41948	4.074
91) Ethyl Methacrylate	(3)	10.214	69	51479	4.235
92) 1,1,2-Trichloroethane	(3)	10.372	97	29810	4.341
93) Tetrachloroethene	(3)	10.463	166	33145	4.452
94) 1,3-Dichloropropane	(3)	10.530	76	49765	4.314
96) 2-Hexanone	(3)	10.567	43	86268	7.932
97) Dibromochloromethane	(3)	10.749	129	29549	4.126
99) 1,2-Dibromoethane	(3)	10.865	107	31343	4.184
100)*Chlorobenzene-d5	(3)	11.291	117	923627	50.000
101) 1-Chlorohexane	(3)	11.291	91	43735	4.483
102) Chlorobenzene	(3)	11.315	112	87580	4.422
103) 1,1,1,2-Tetrachloroethane	(3)	11.394	131	27322	4.217
104) Ethylbenzene	(3)	11.400	91	147784	4.460
106) m+p-Xylene	(3)	11.516	106	116299	8.766
108) Xylene (Total)	(3)		106	174472	13.201
107) o-Xylene	(3)	11.838	106	58173	4.434
109) Styrene	(3)	11.856	104	95082	4.272
110) Bromoform	(3)	12.021	173	22261	3.911
111) Isopropylbenzene	(3)	12.142	105	149993	4.542
112) Cyclohexanone	(1)	12.215	55	158958	190.442
114)$4-Bromofluorobenzene	(3)	12.288	95	459104	50.395
114)$4-Bromofluorobenzene	(3)	12.288	174	383340	50.152
116) 1,1,2,2-Tetrachloroethane	(4)	12.380	83	54707	4.566
118) trans-1,4-Dichloro-2-butene	(4)	12.404	53	103542	31.016
115) Bromobenzene	(4)	12.404	156	39558	4.346
117) 1,2,3-Trichloropropane	(4)	12.428	110	17210	4.467
119) n-Propylbenzene	(4)	12.471	91	179905	4.558
120) 2-Chlorotoluene	(4)	12.550	126	36329	4.431
122) 1,3,5-Trimethylbenzene	(4)	12.605	105	130457	4.503
121) 4-Chlorotoluene	(4)	12.641	126	38676	4.401
124) tert-Butylbenzene	(4)	12.848	134	27626M	4.519
125) Pentachloroethane	(4)	12.884	167	17769	3.739
126) 1,2,4-Trimethylbenzene	(4)	12.891	105	133234	4.444
127) sec-Butylbenzene	(4)	13.012	105	168185	4.606
129) 1,3-Dichlorobenzene	(4)	13.116	146	77885	4.463
130) p-Isopropyltoluene	(4)	13.122	119	144721	4.491
131)*1,4-Dichlorobenzene-d4	(4)	13.170	152	505886	50.000
133) 1,4-Dichlorobenzene	(4)	13.189	146	80046	4.478

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i06.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 14:47 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

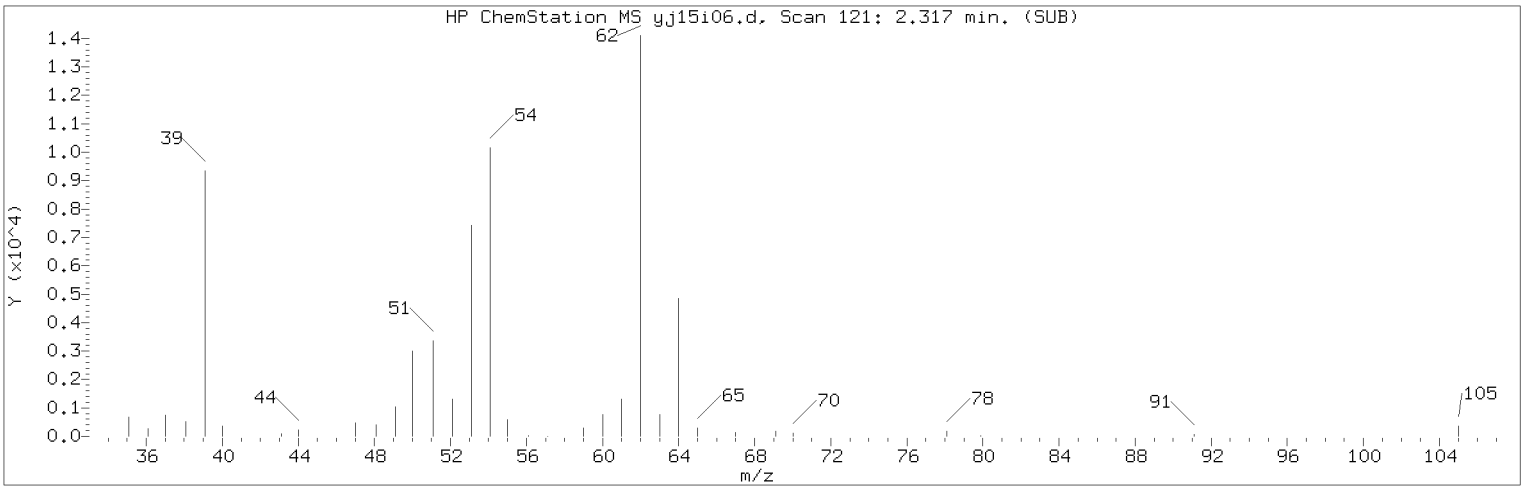
Sample Name: VSTD004 Lab Sample ID: VSTD004

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
134) 1,2,3-Trimethylbenzene	(4)	13.195	105	121422	4.193
135) Benzyl Chloride	(4)	13.262	91	92939	3.914
136) 1,3-Diethylbenzene	(4)	13.323	119	78764	4.273
137) 1,4-Diethylbenzene	(4)	13.396	119	81883	4.284
139) n-Butylbenzene	(4)	13.414	92	74741M	4.582
138) 1,2-Dichlorobenzene	(4)	13.450	146	75174	4.488
140) 1,2-Diethylbenzene	(4)	13.462	119	64411	4.221
141) Diethylbenzene (total)	(4)		100	225058	12.778
142) 1,2-Dibromo-3-chloropropane	(4)	13.992	75	13667	4.441
144) 1,3,5-Trichlorobenzene	(4)	14.119	180	57394	4.560
146) 1,2,4-Trichlorobenzene	(4)	14.545	180	55521	4.590
147) Hexachlorobutadiene	(4)	14.624	225	26540	4.625
148) Naphthalene	(4)	14.728	128	186928	4.613
149) 1,2,3-Trichlorobenzene	(4)	14.874	180	51482	4.594
150) 2-Methylnaphthalene	(4)	15.525	142	96935	4.208

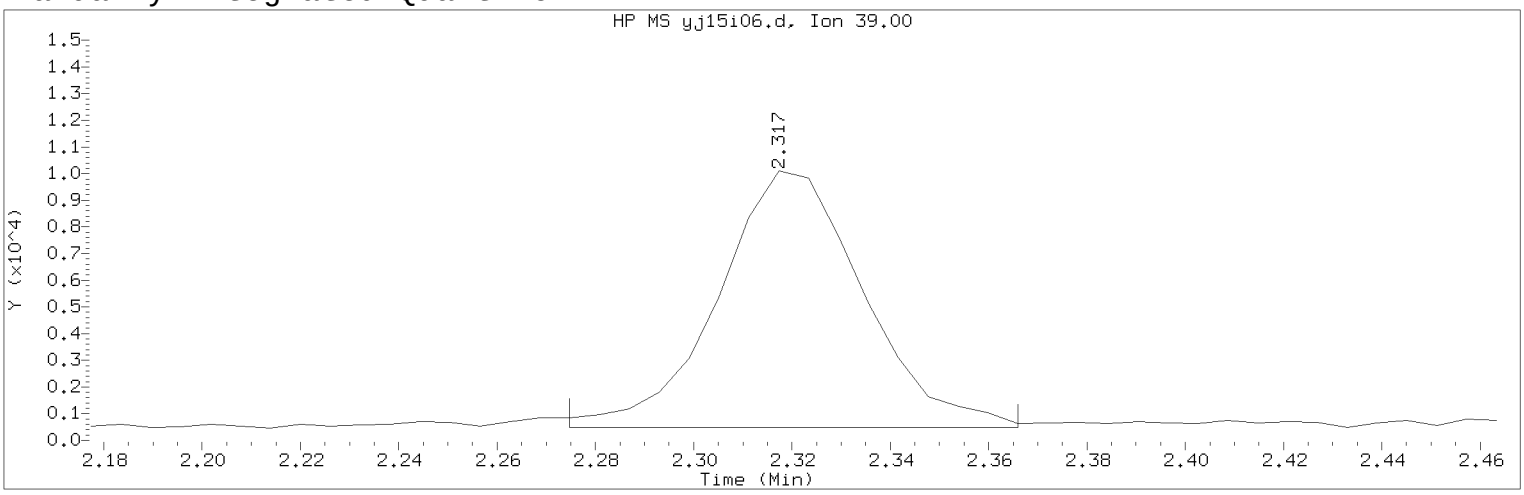
M = Compound was manually integrated.

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i06.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 14:47 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD004 Lab Sample ID: VSTD004

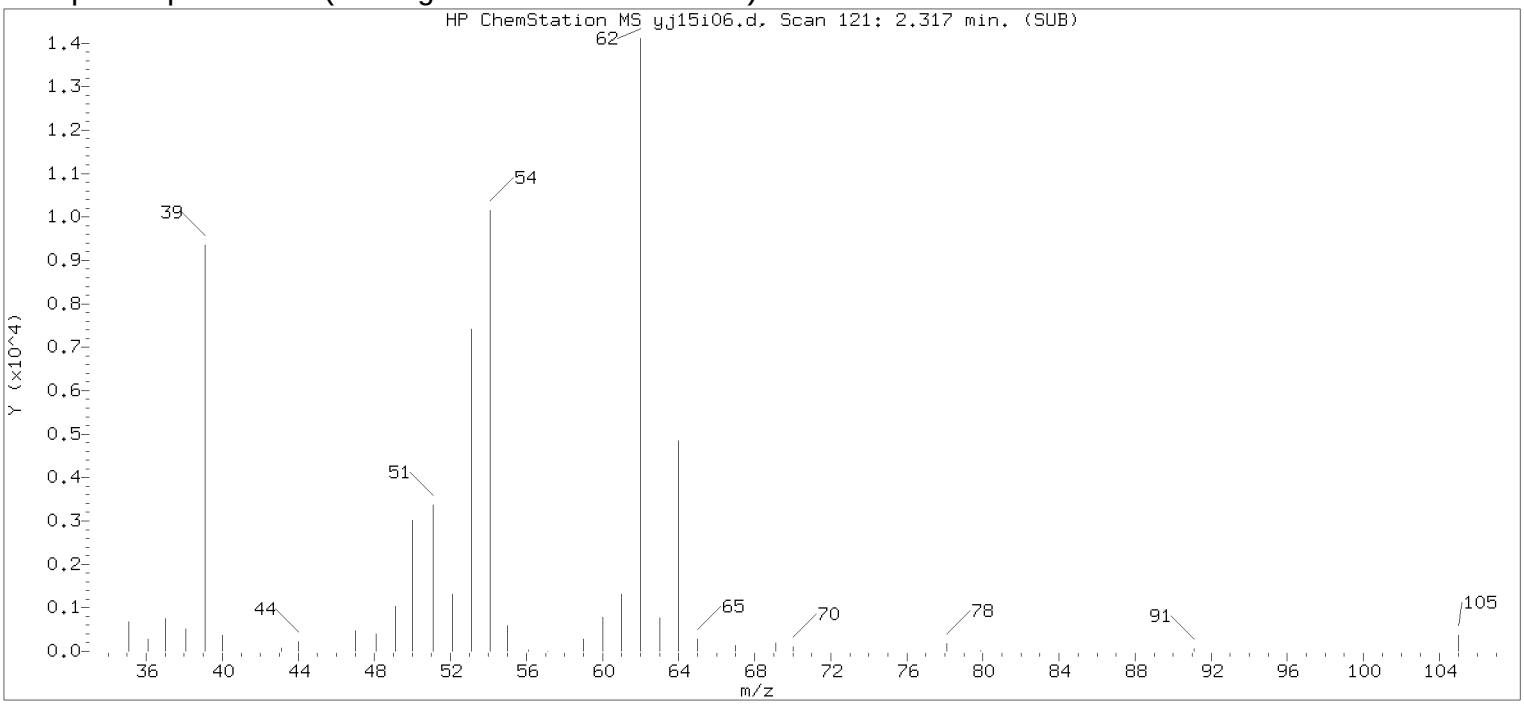
Compound Number : 5
Compound Name : 1,3-Butadiene
Scan Number : 121
Retention Time (minutes): 2.317
Quant Ion : 39.00
Area (flag) : 19878M
On-Column Amount (ng) : 4.4918
Integration start scan : 113 Integration stop scan: 128
Y at integration start : 469 Y at integration end: 469

Reason for manual integration: improper integration

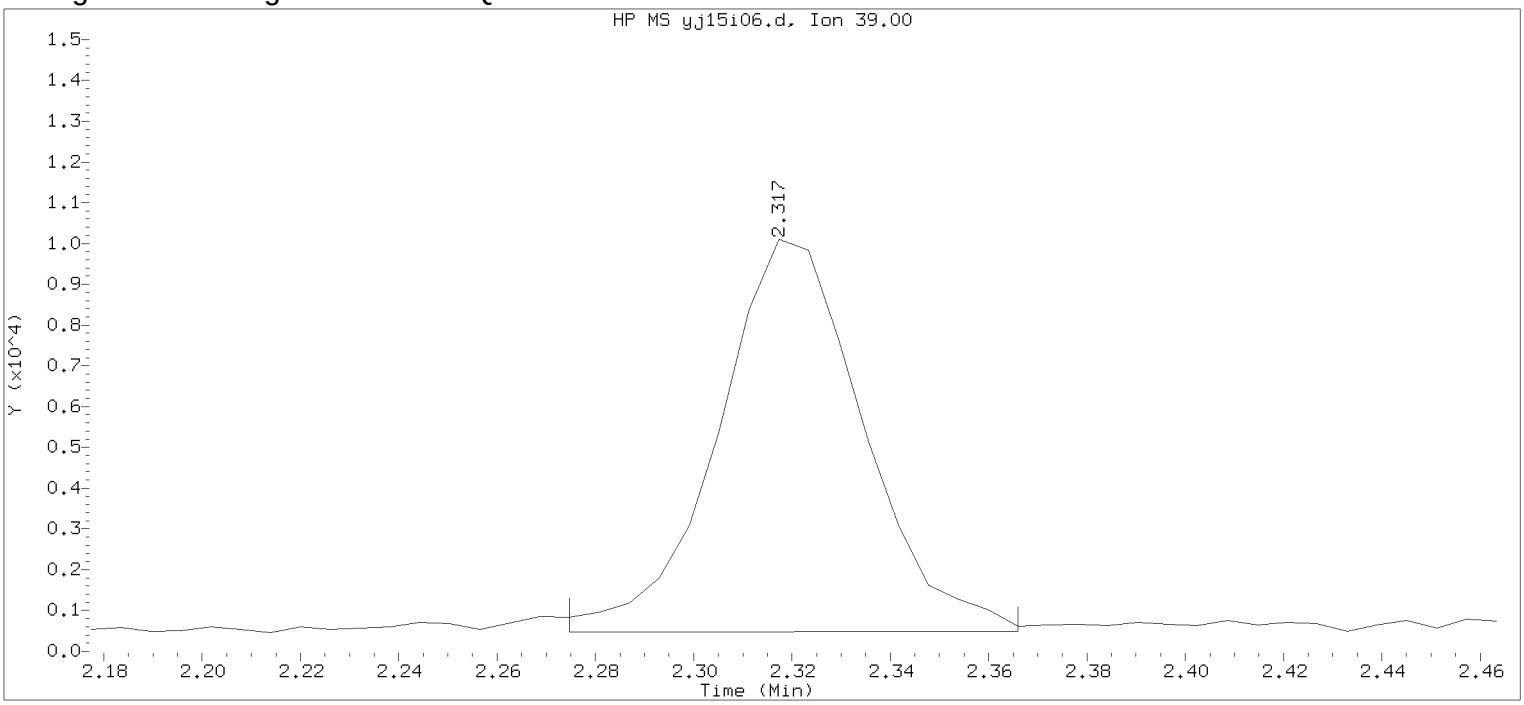
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i06.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 14:47 Analyst ID: dhh02035

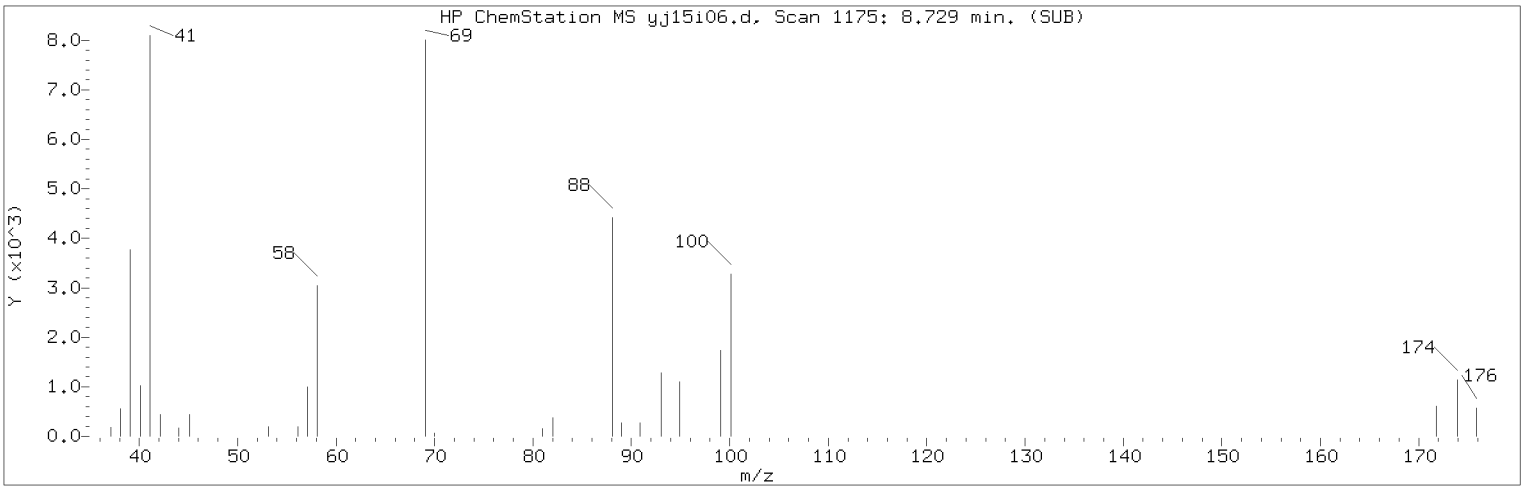
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 15:03
Date, time and analyst ID of latest file update: 15-Jan-2018 15:03 Automation

Sample Name: VSTD004 Lab Sample ID: VSTD004

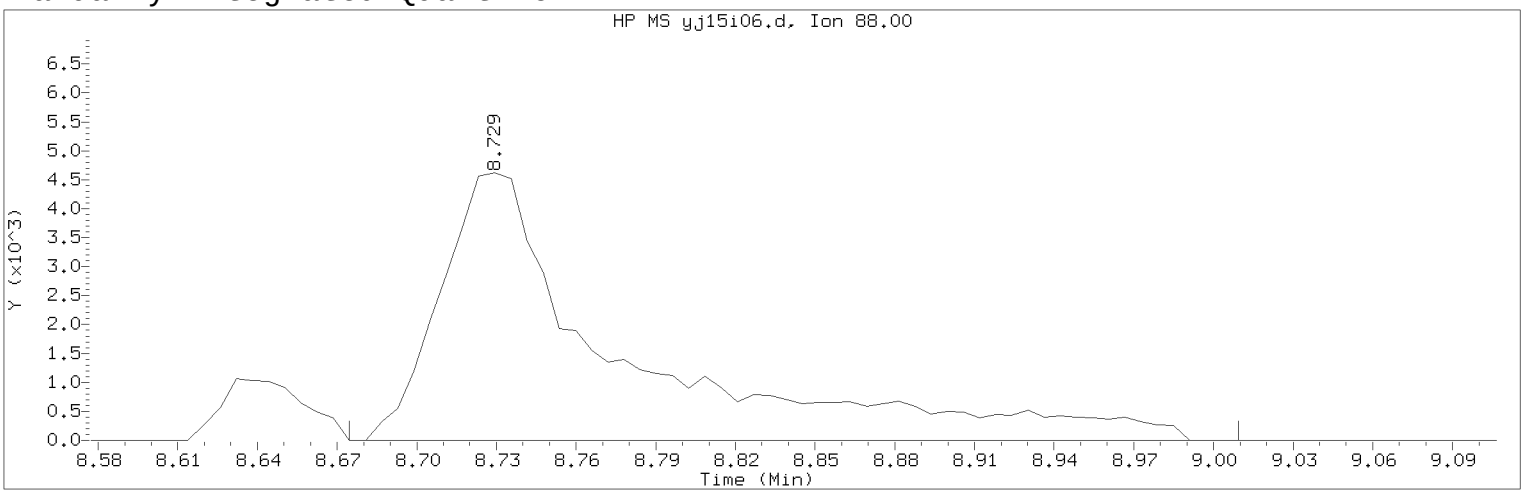
Compound Number : 5
Compound Name : 1,3-Butadiene
Scan Number : 121
Retention Time (minutes): 2.317
Quant Ion : 39.00
Area : 19698
On-column Amount (ng) : 4.5203
Integration start scan : 113 Integration stop scan: 128
Y at integration start : 475 Y at integration end: 494

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: 1

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i06.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 14:47 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD004 Lab Sample ID: VSTD004

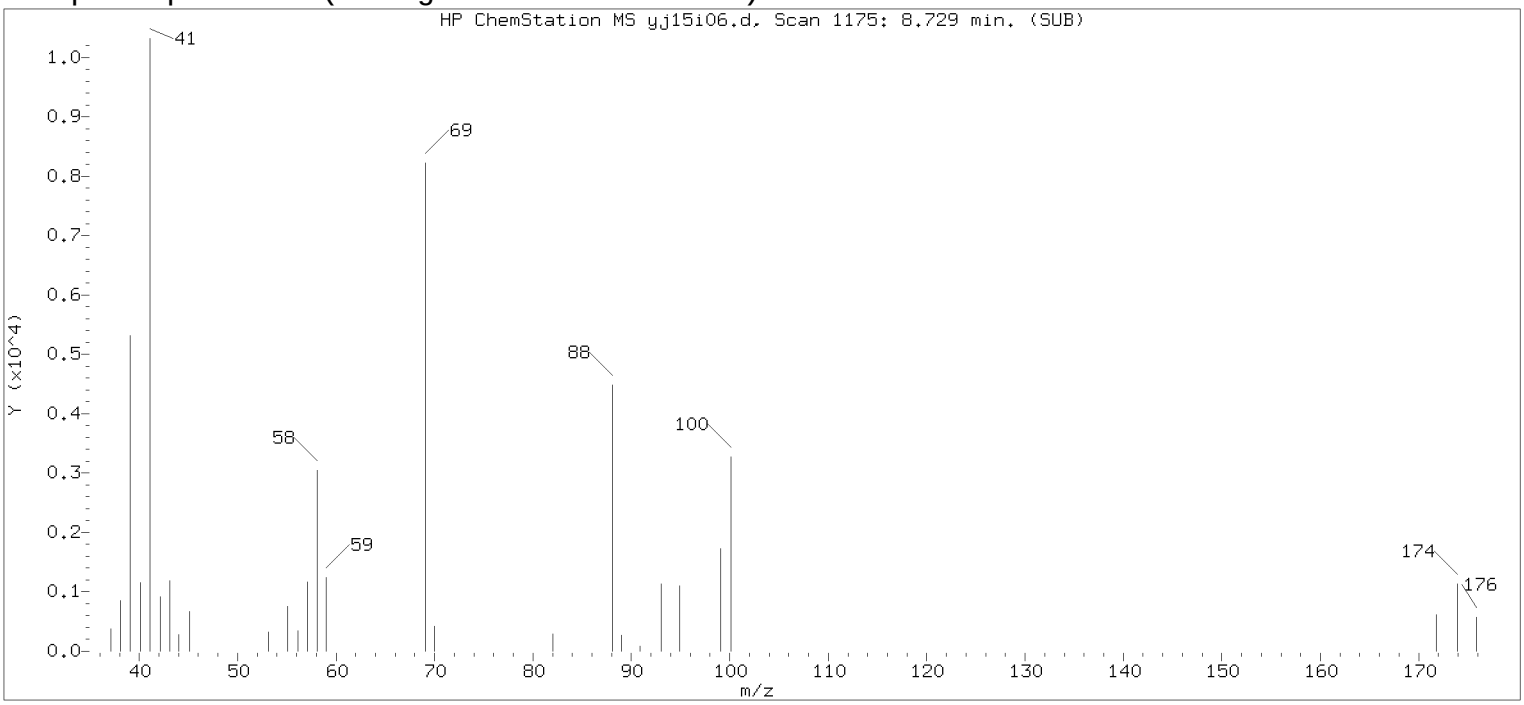
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 1175
Retention Time (minutes): 8.729
Quant Ion : 88.00
Area (flag) : 21812M
On-Column Amount (ng) : 165.5772
Integration start scan : 1165 Integration stop scan: 1220
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

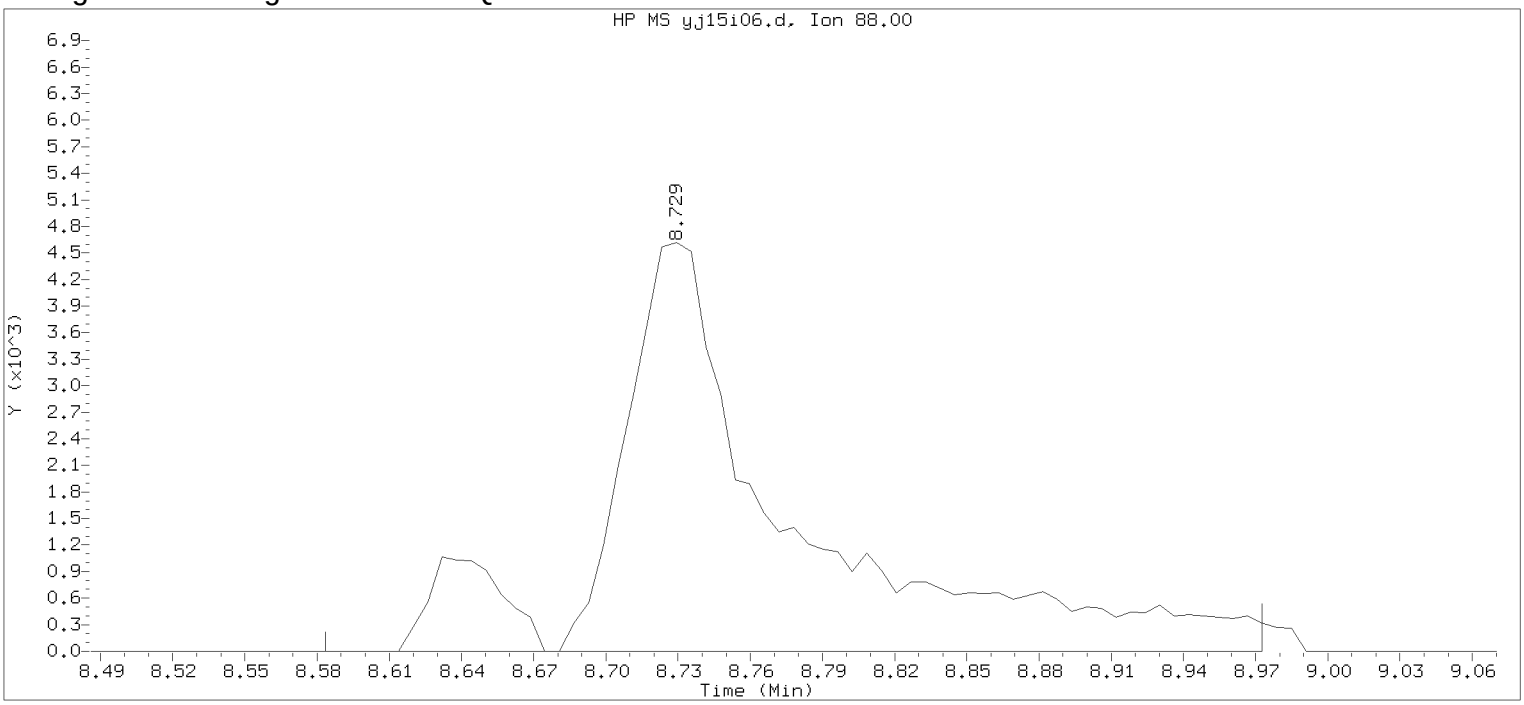
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i06.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 14:47 Analyst ID: dhh02035

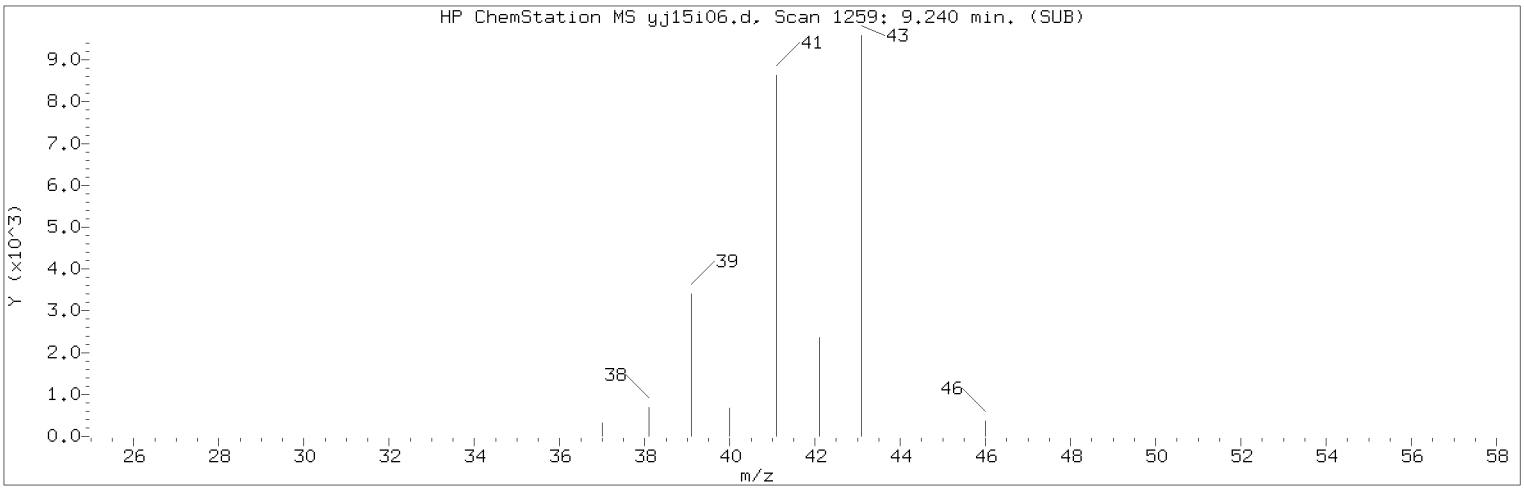
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 15:03
Date, time and analyst ID of latest file update: 15-Jan-2018 15:03 Automation

Sample Name: VSTD004 Lab Sample ID: VSTD004

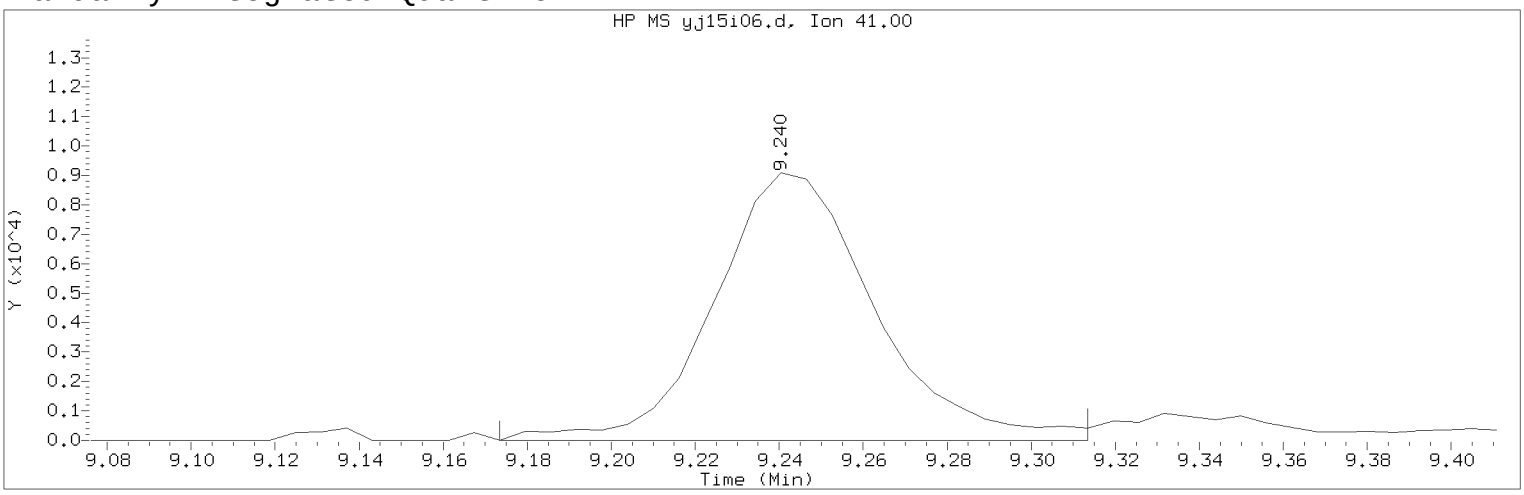
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 1175
Retention Time (minutes): 8.729
Quant Ion : 88.00
Area : 23892
On-column Amount (ng) : 162.9047
Integration start scan : 1150 Integration stop scan: 1214
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: 1081

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i06.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 14:47 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD004 Lab Sample ID: VSTD004

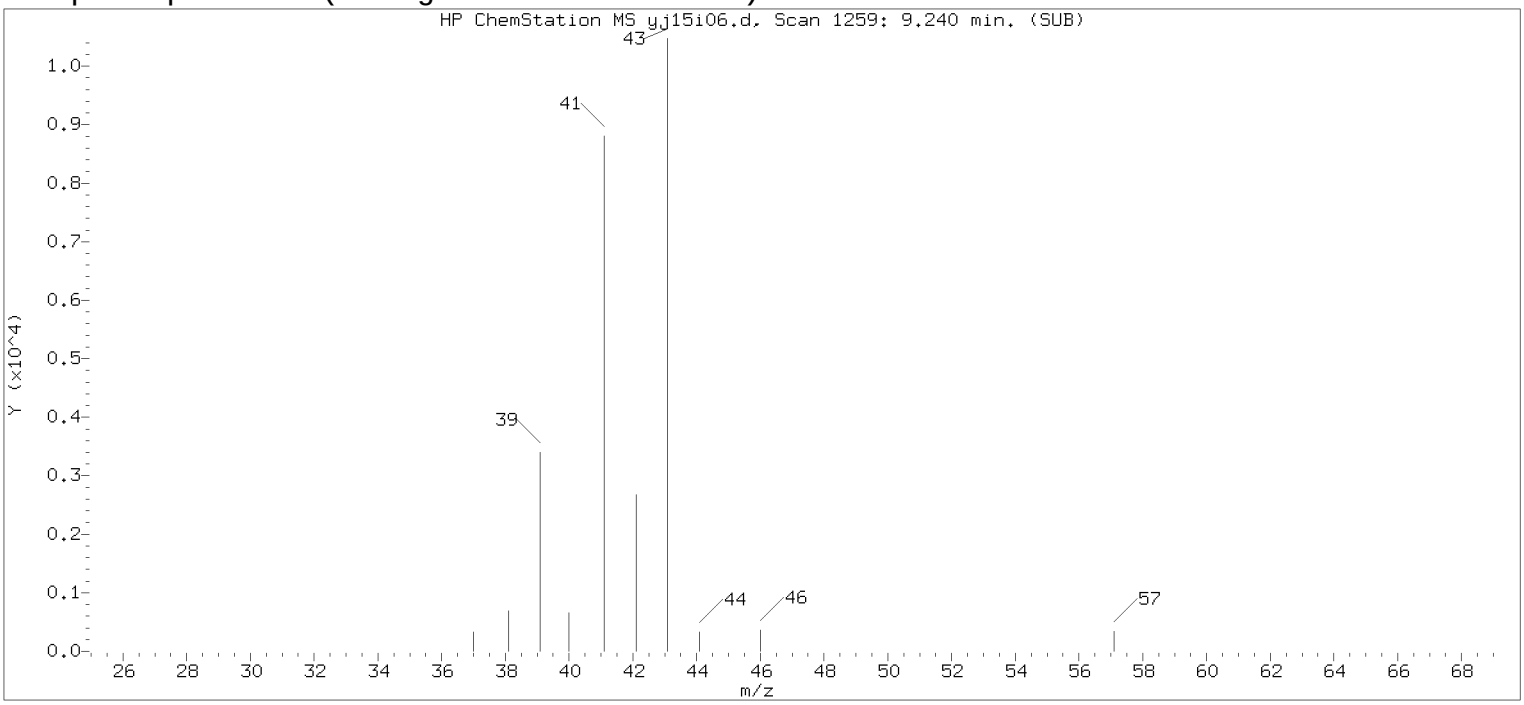
Compound Number : 79
Compound Name : 2-Nitropropane
Scan Number : 1259
Retention Time (minutes): 9.240
Quant Ion : 41.00
Area (flag) : 24060M
On-Column Amount (ng) : 7.3900
Integration start scan : 1247 Integration stop scan: 1270
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

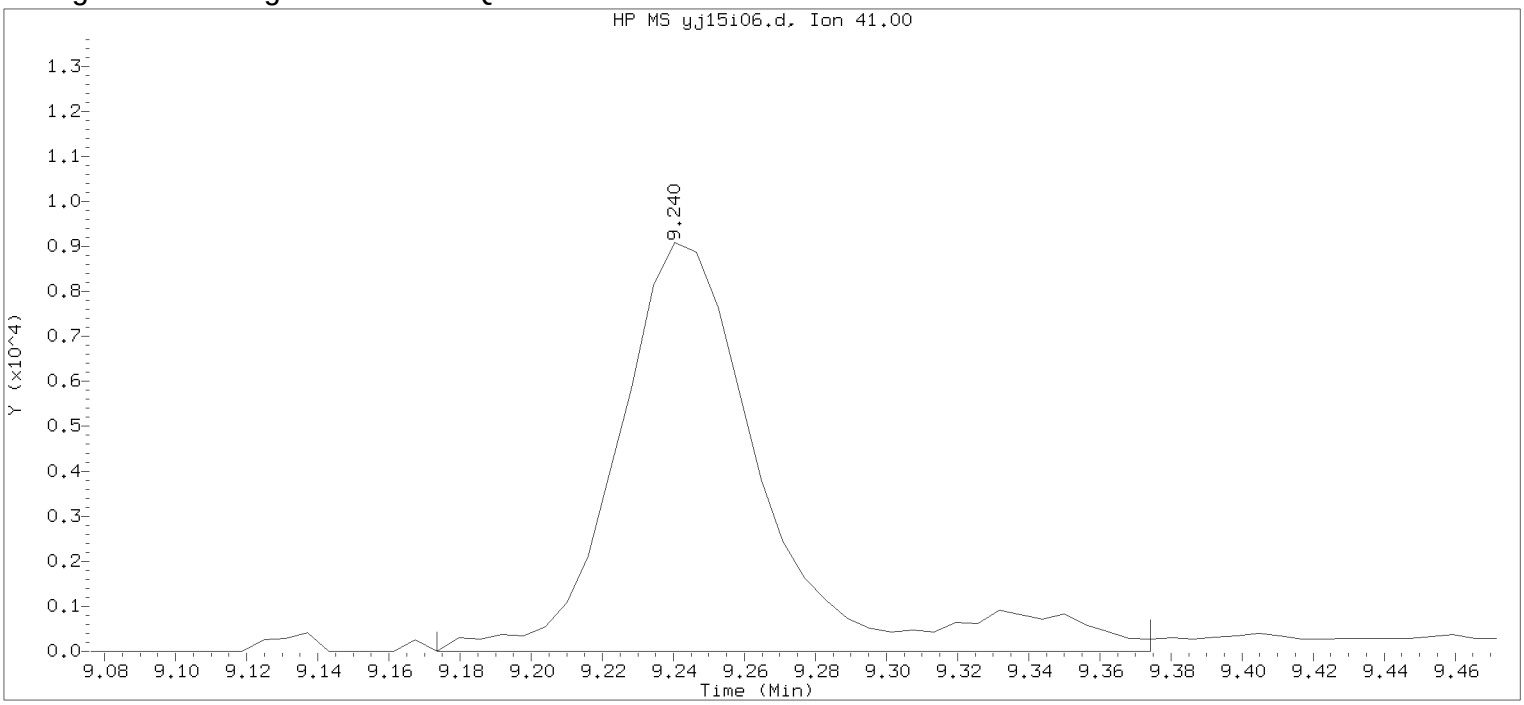
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i06.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 14:47 Analyst ID: dhh02035

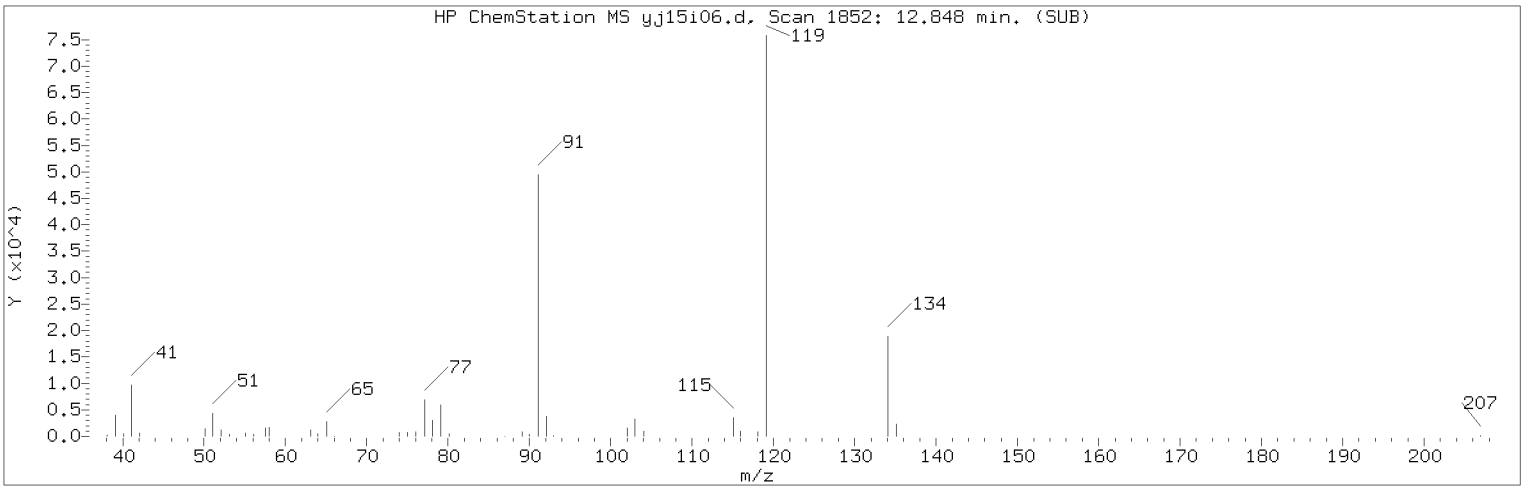
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 15:03
Date, time and analyst ID of latest file update: 15-Jan-2018 15:03 Automation

Sample Name: VSTD004 Lab Sample ID: VSTD004

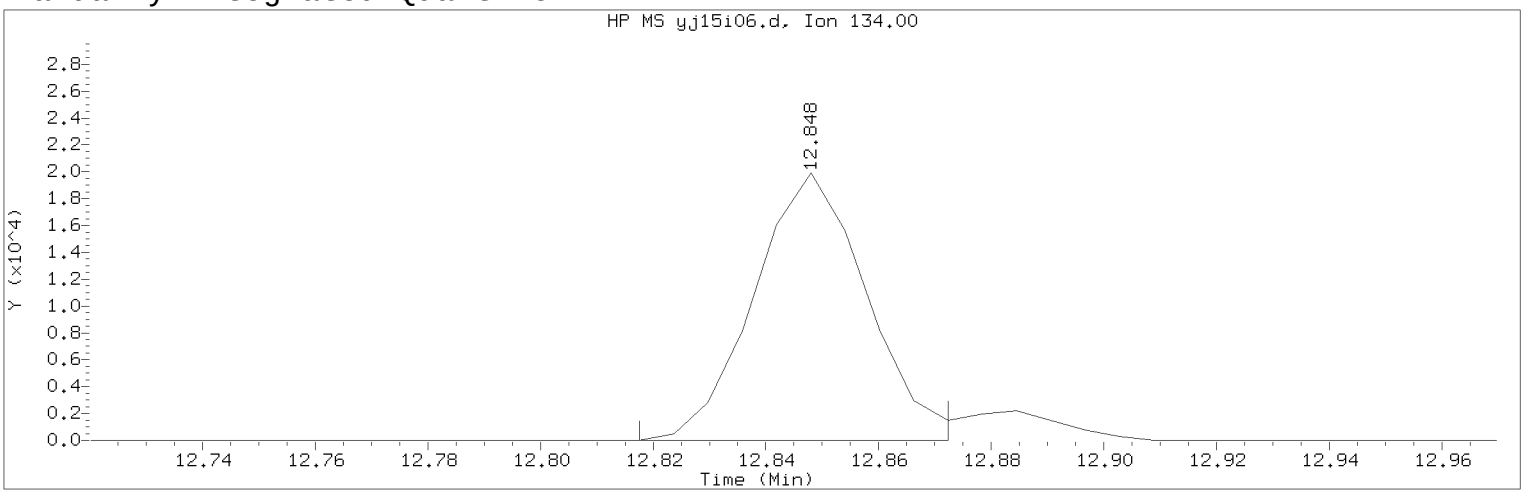
Compound Number : 79
Compound Name : 2-Nitropropane
Scan Number : 1259
Retention Time (minutes): 9.240
Quant Ion : 41.00
Area : 26229
On-column Amount (ng) : 7.8327
Integration start scan : 1247 Integration stop scan: 1280
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i06.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 14:47 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD004 Lab Sample ID: VSTD004

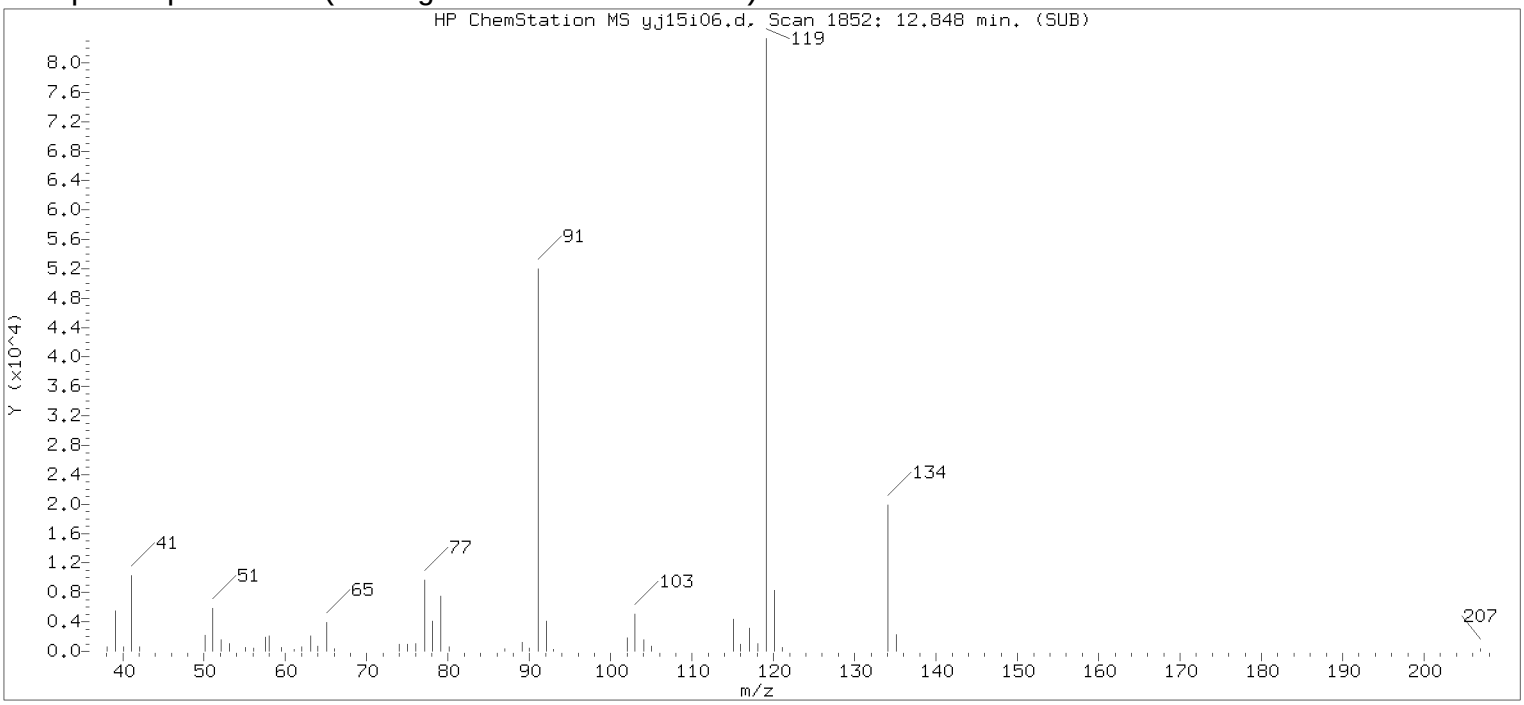
Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 1852
Retention Time (minutes): 12.848
Quant Ion : 134.00
Area (flag) : 27626M
On-Column Amount (ng) : 4.5187
Integration start scan : 1846 Integration stop scan: 1855
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

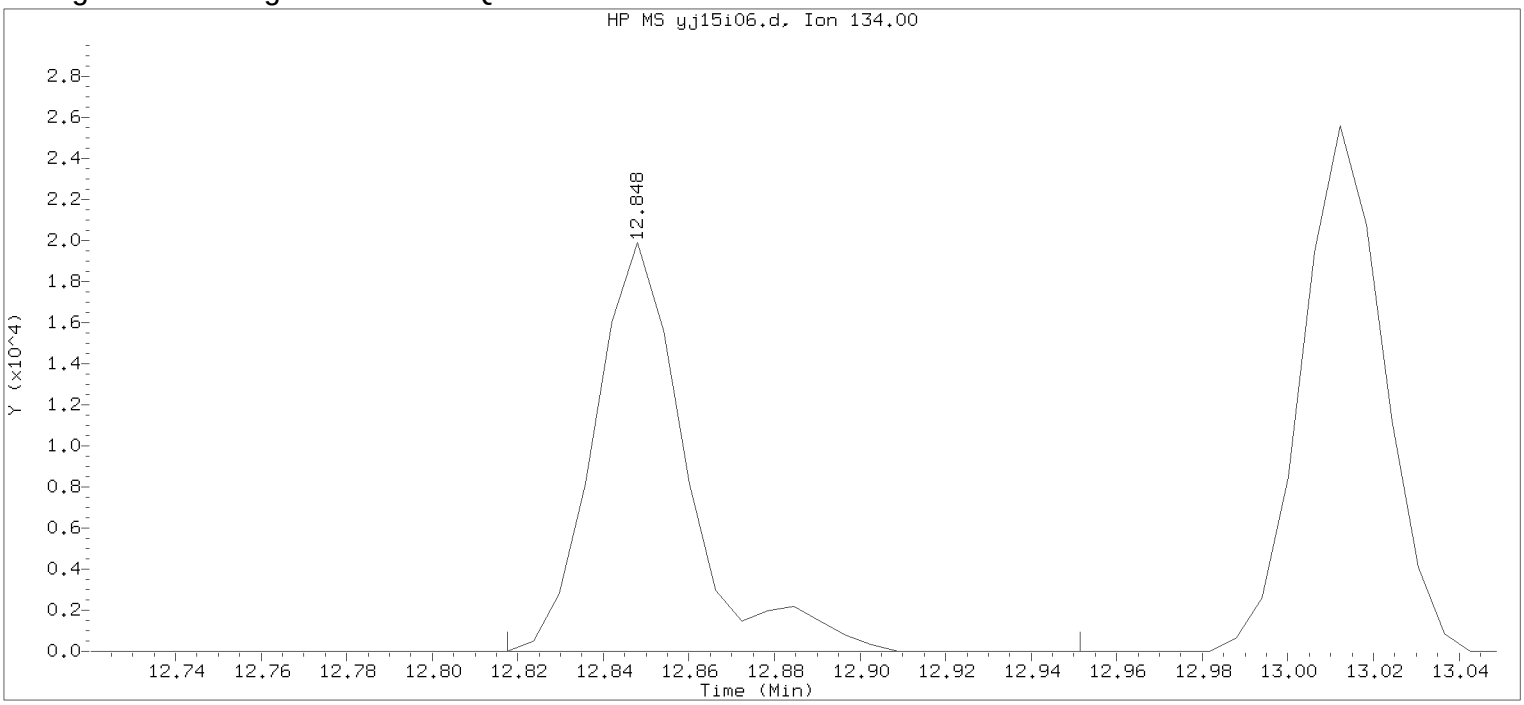
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i06.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 14:47 Analyst ID: dhh02035

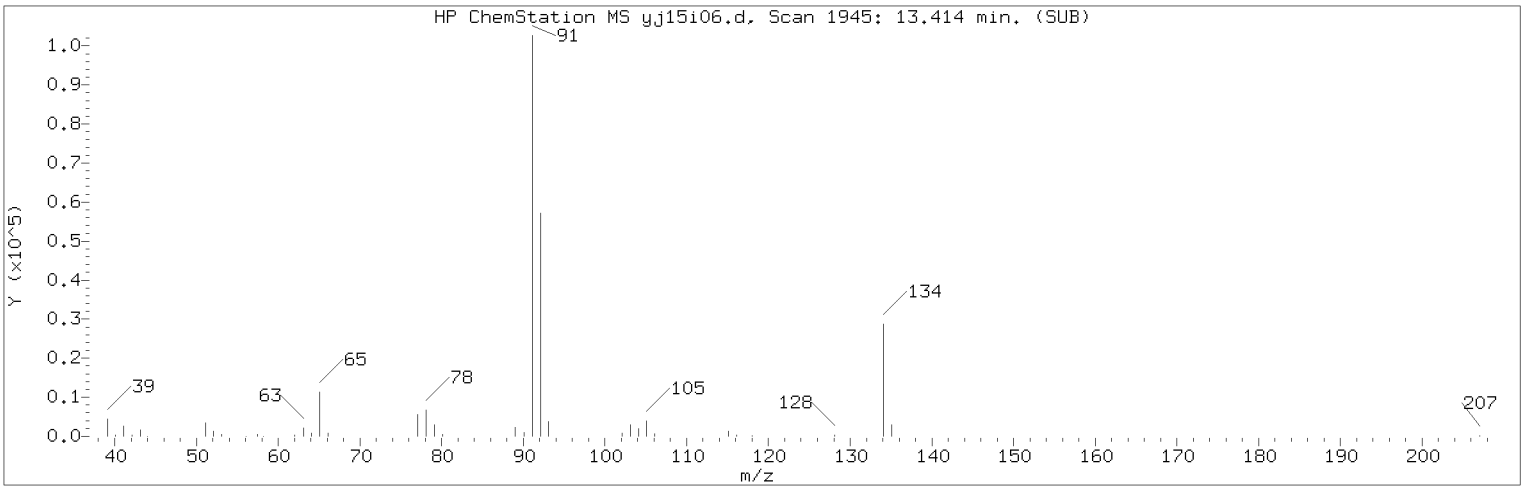
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 15:03
Date, time and analyst ID of latest file update: 15-Jan-2018 15:03 Automation

Sample Name: VSTD004 Lab Sample ID: VSTD004

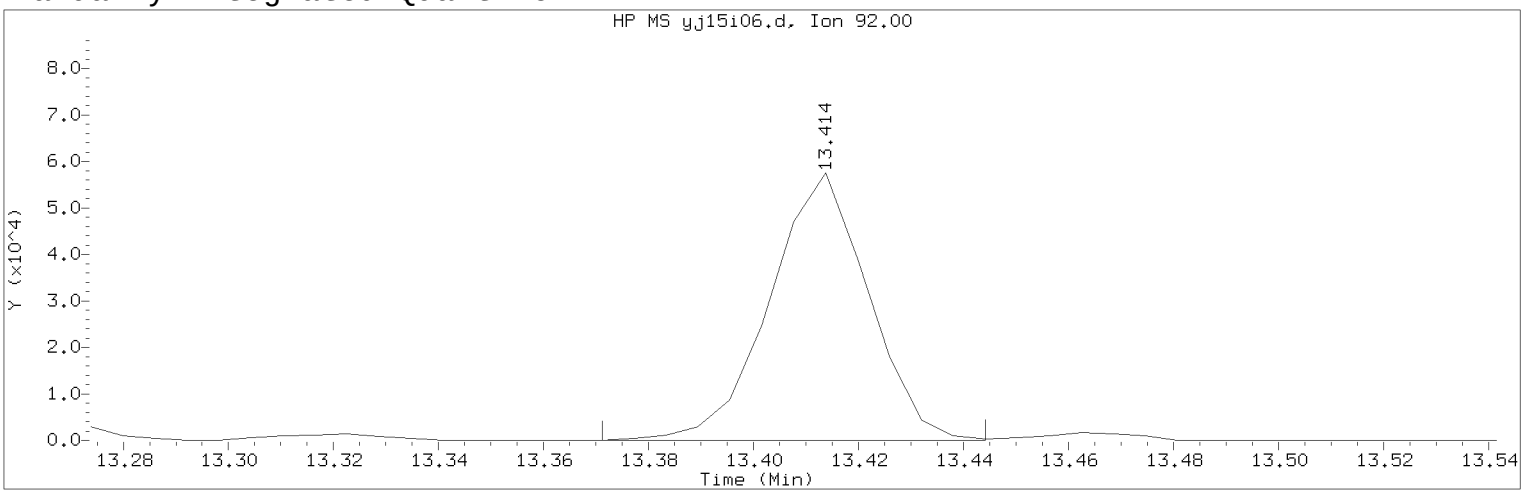
Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 1852
Retention Time (minutes): 12.848
Quant Ion : 134.00
Area : 30074
On-column Amount (ng) : 4.6796
Integration start scan : 1846 Integration stop scan: 1868
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i06.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 14:47 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD004 Lab Sample ID: VSTD004

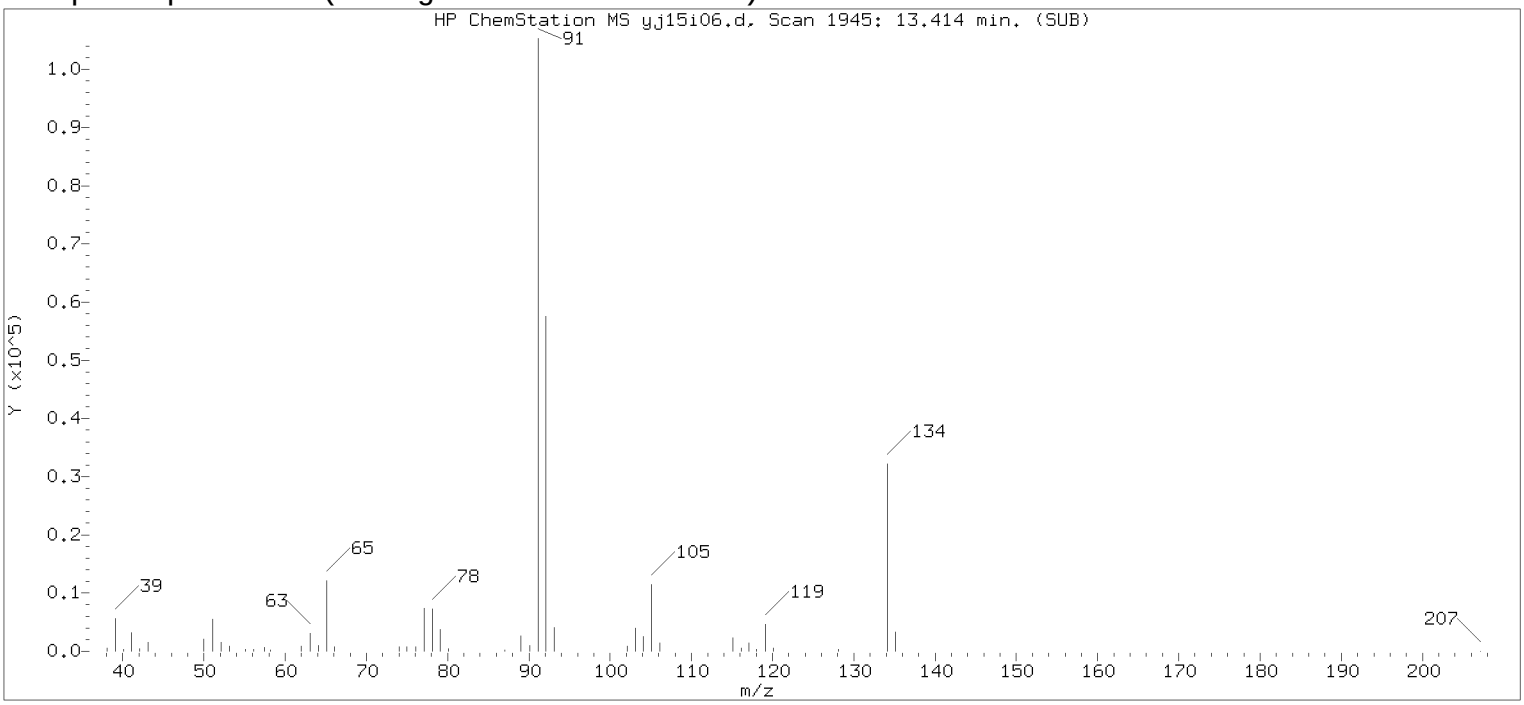
Compound Number : 139
Compound Name : n-Butylbenzene
Scan Number : 1945
Retention Time (minutes): 13.414
Quant Ion : 92.00
Area (flag) : 74741M
On-Column Amount (ng) : 4.5818
Integration start scan : 1937 Integration stop scan: 1949
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

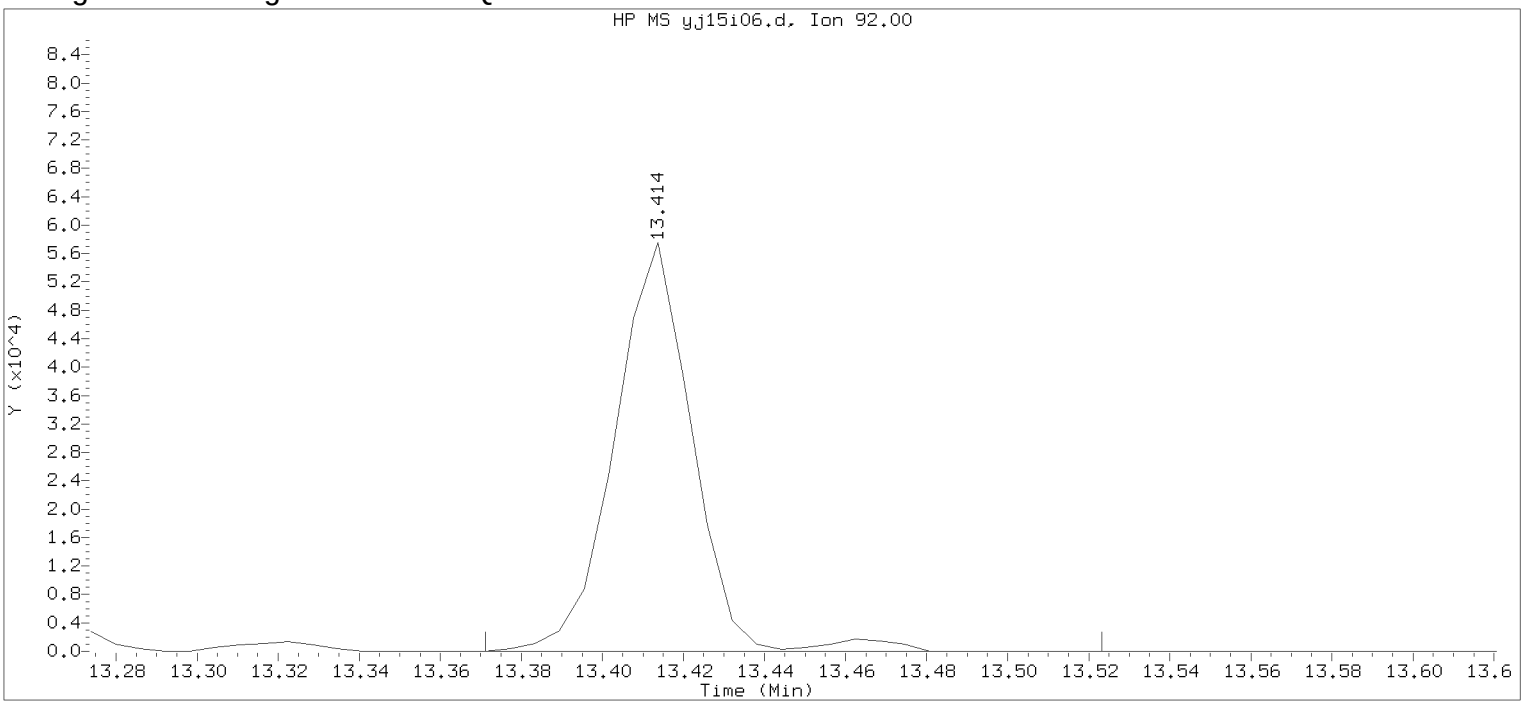
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



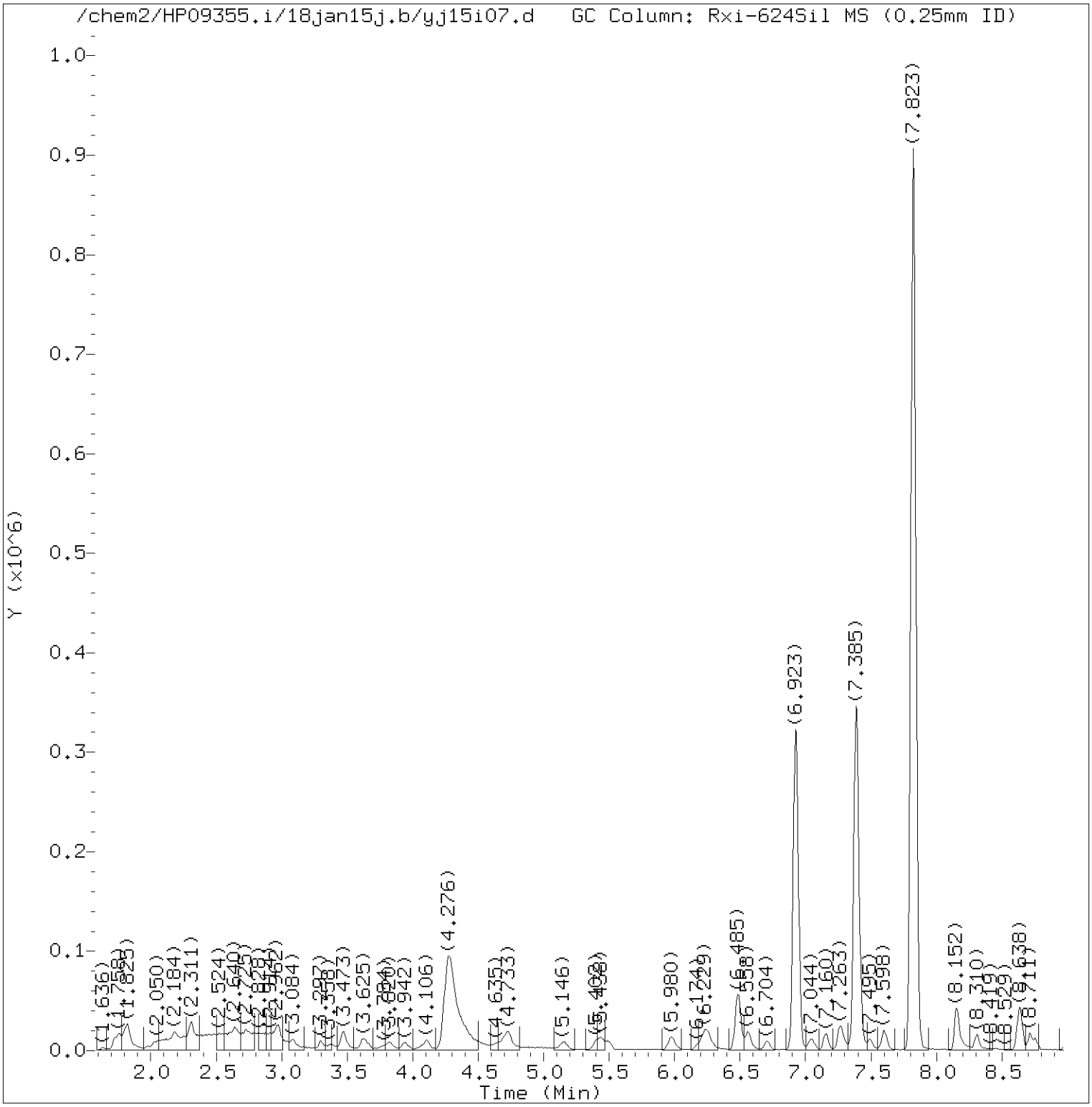
Data File: /chem2/HP09355.i/18jan15j.b/yj15i06.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 14:47 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 15:03
Date, time and analyst ID of latest file update: 15-Jan-2018 15:03 Automation

Sample Name: VSTD004 Lab Sample ID: VSTD004

Compound Number : 139
Compound Name : n-Butylbenzene
Scan Number : 1945
Retention Time (minutes): 13.414
Quant Ion : 92.00
Area : 76814
On-column Amount (ng) : 4.6061
Integration start scan : 1937 Integration stop scan: 1962
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly



Total Ion Chromatogram (TIC)

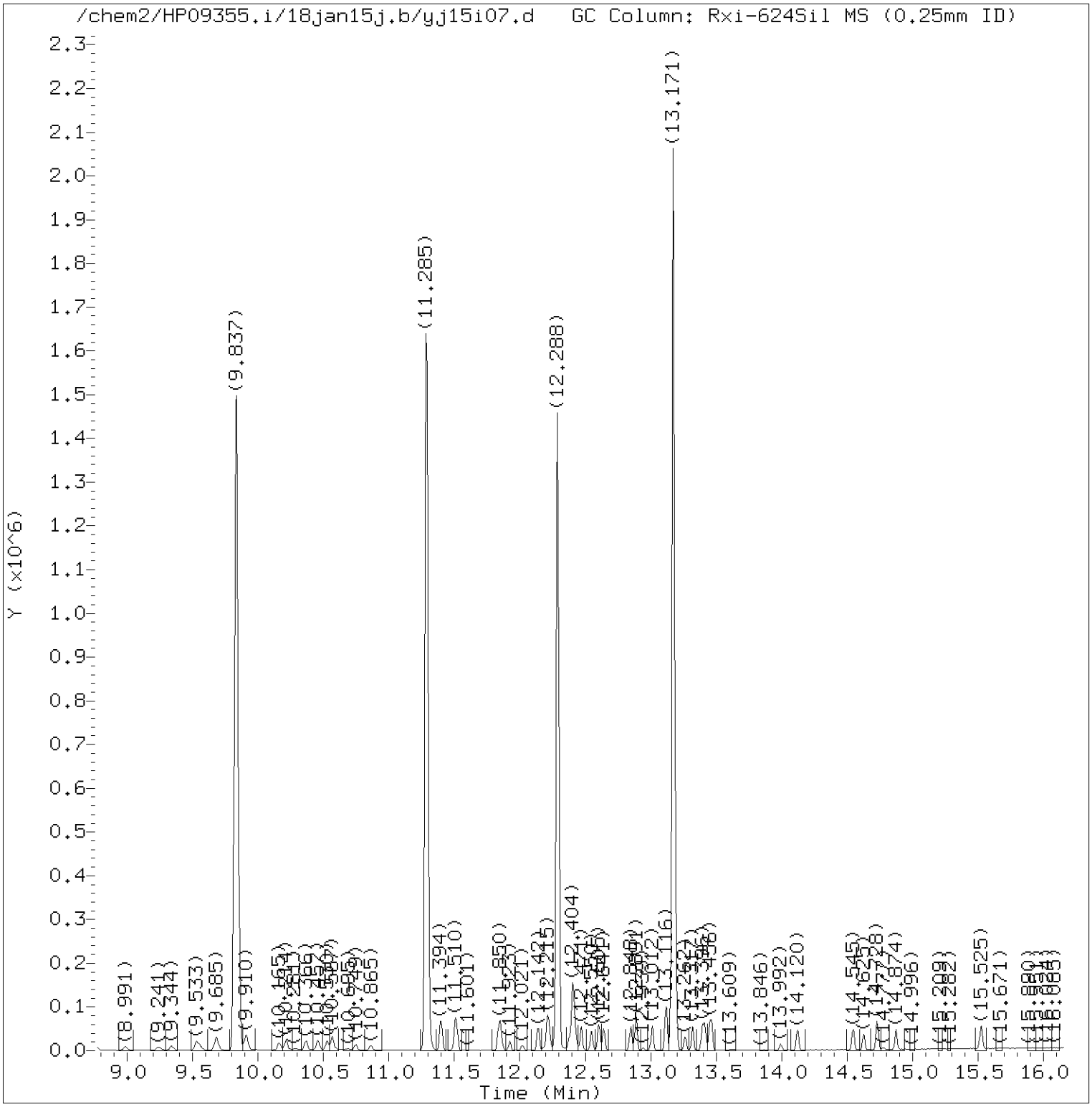
Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i07.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:09 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD001 Lab Sample ID: VSTD001

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i07.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:09 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD001 Lab Sample ID: VSTD001

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i07.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:09 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
3) Dichlorodifluoromethane	(2)	1.977	85	6218	0.770
4) Chloromethane	(2)	2.184	50	8458	1.006
5) 1,3-Butadiene	(2)	2.311	39	4497M	1.030
6) Vinyl Chloride	(2)	2.311	62	9149	1.065
8) Bromomethane	(2)	2.646	94	6419	1.104
9) Chloroethane	(2)	2.731	64	4912	1.031
10) Dichlorofluoromethane	(2)	2.974	67	12068	1.123
12) Trichlorofluoromethane	(2)	3.035	101	7975	0.817
11) n-Pentane	(2)	3.084	43	10196	1.263
14) Ethyl ether	(2)	3.297	59	5604	0.968
15) Freon 123a	(2)	3.370	67	6123	0.965
16) Acrolein	(1)	3.467	56	27428	10.520
17) 1,1-Dichloroethene	(2)	3.613	96	4273M	0.929
17) 1,1-Dichloroethene	(2)	3.619	63	2034	0.899
18) Acetone	(1)	3.644	58	1846	1.592
19) Freon 113	(2)	3.662	101	3493	0.787
21) 2-Propanol	(1)	3.777	45	14237M	17.529
22) Methyl Iodide	(2)	3.826	142	8294	0.941
23) Carbon Disulfide	(2)	3.948	76	14217	0.923
27) Methyl Acetate	(2)	4.063	43	10872	1.240
25) Allyl Chloride	(2)	4.106	41	10397	1.105
29)*t-Butyl alcohol-d10	(1)	4.270	65	373139	250.000
28) Methylene Chloride	(2)	4.301	84	6005	1.019
30) t-Butyl alcohol	(1)	4.398	59	28386	17.260
31) Acrylonitrile	(2)	4.635	53	4410	0.979
33) Methyl Tertiary Butyl Ether	(2)	4.714	73	20660	1.027
32) trans-1,2-Dichloroethene	(2)	4.739	96	5280	0.915
34) n-Hexane	(2)	5.152	57	6986	0.818
36) 1,1-Dichloroethane	(2)	5.390	63	9980	0.952
38) di-Isopropyl ether	(2)	5.444	45	19814	1.013
39) 2-Chloro-1,3-butadiene	(2)	5.499	53	8240	0.898
40) Ethyl t-butyl ether	(2)	5.980	59	19831	1.005
44) 2-Butanone	(2)	6.174	43	16129	2.244
42) cis-1,2-Dichloroethene	(2)	6.217	96	6836	1.014
45) 2,2-Dichloropropane	(2)	6.247	77	7666	0.891
47) Propionitrile	(1)	6.260	54	26646	16.113
48) Methacrylonitrile	(2)	6.485	67	33699	7.835
50) Tetrahydrofuran	(1)	6.564	71	3667	1.923

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i07.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:09 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
49) Bromochloromethane	(2)	6.564	128	3175	0.930
51) Chloroform	(2)	6.710	83	10931	1.026
43) 1,2-Dichloroethene (Total)	(2)		96	12116	1.929
52)$Dibromofluoromethane	(2)	6.923	113	280129	49.765
52)$Dibromofluoromethane	(2)	6.923	111	288098	49.963
53) 1,1,1-Trichloroethane	(2)	6.941	97	10192	1.001
54) Cyclohexane	(2)	7.050	56	8624M	0.872
54) Cyclohexane	(2)	7.050	84	8331	0.976
54) Cyclohexane	(2)	7.057	69	2716	0.877
56) Carbon Tetrachloride	(2)	7.154	117	6753	0.876
55) 1,1-Dichloropropene	(2)	7.154	75	7882	0.915
58) Isobutyl Alcohol	(1)	7.263	41	24572	43.159
57)$1,2-Dichloroethane-d4	(2)	7.391	102	72425	49.901
57)$1,2-Dichloroethane-d4	(2)	7.385	65	351632	51.160
57)$1,2-Dichloroethane-d4	(2)	7.385	104	46202	50.102
60) Benzene	(2)	7.422	78	24195	0.970
61) 1,2-Dichloroethane	(2)	7.495	62	10225	1.138
61) 1,2-Dichloroethane	(2)	7.391	98	747	0.911
65) t-Amyl methyl ether	(2)	7.604	73	20613	1.038
66)*Fluorobenzene	(2)	7.823	96	1184626	50.000
67) n-Heptane	(2)	7.835	43	9540	0.936
69) n-Butanol	(1)	8.152	56	42228M	81.551
71) Trichloroethene	(2)	8.316	95	6353	0.954
72) Methylcyclohexane	(2)	8.620	83	8942	0.821
72) Methylcyclohexane	(2)	8.614	98	4199	0.854
73) 1,2-Dichloropropane	(2)	8.644	63	6749	1.004
76) Methyl Methacrylate	(2)	8.711	69	7997	1.056
75) 1,4-Dioxane	(1)	8.730	88	3969M	31.201
74) Dibromomethane	(2)	8.754	93	4482	1.021
78) Bromodichloromethane	(2)	8.991	83	8235	1.000
79) 2-Nitropropane	(2)	9.234	41	6193	1.928
80) 2-Chloroethyl Vinyl Ether	(2)	9.338	63	5385	0.921
81) cis-1,3-Dichloropropene	(2)	9.533	75	10346	0.950
82) 4-Methyl-2-pentanone	(2)	9.685	43	26641	2.049
83)$Toluene-d8	(3)	9.837	98	1210602	50.443
83)$Toluene-d8	(3)	9.837	100	776955	50.149
90) 1,3-Dichloropropene (total)	(3)		100	19852	1.884
88) Toluene	(3)	9.910	92	16462	0.980

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i07.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:09 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
89) trans-1,3-Dichloropropene	(3)	10.165	75	9506	0.934
91) Ethyl Methacrylate	(3)	10.214	69	12296	1.023
92) 1,1,2-Trichloroethane	(3)	10.366	97	7459	1.099
93) Tetrachloroethene	(3)	10.457	166	6915	0.939
94) 1,3-Dichloropropane	(3)	10.524	76	12495	1.096
96) 2-Hexanone	(3)	10.567	43	22135M	2.059
97) Dibromochloromethane	(3)	10.749	129	6647	0.939
99) 1,2-Dibromoethane	(3)	10.859	107	7788	1.052
100)*Chlorobenzene-d5	(3)	11.285	117	913073	50.000
101) 1-Chlorohexane	(3)	11.291	91	10707	1.110
102) Chlorobenzene	(3)	11.315	112	19823	1.012
104) Ethylbenzene	(3)	11.394	91	32302	0.986
103) 1,1,1,2-Tetrachloroethane	(3)	11.400	131	6092	0.951
106) m+p-Xylene	(3)	11.510	106	25409	1.937
108) Xylene (Total)	(3)		106	38274	2.929
107) o-Xylene	(3)	11.838	106	12865	0.992
109) Styrene	(3)	11.856	104	21600	0.982
110) Bromoform	(3)	12.021	173	4917	0.874
111) Isopropylbenzene	(3)	12.142	105	32130	0.984
112) Cyclohexanone	(1)	12.215	55	38185	47.376
114)$4-Bromofluorobenzene	(3)	12.288	95	452278	50.219
114)$4-Bromofluorobenzene	(3)	12.288	174	378043	50.031
116) 1,1,2,2-Tetrachloroethane	(4)	12.380	83	13155	1.116
118) trans-1,4-Dichloro-2-butene	(4)	12.404	53	24229	7.376
115) Bromobenzene	(4)	12.404	156	9322	1.041
117) 1,2,3-Trichloropropane	(4)	12.434	110	4500	1.187
119) n-Propylbenzene	(4)	12.471	91	38487	0.991
120) 2-Chlorotoluene	(4)	12.550	126	8253	1.023
122) 1,3,5-Trimethylbenzene	(4)	12.605	105	28302	0.993
121) 4-Chlorotoluene	(4)	12.641	126	8921	1.032
124) tert-Butylbenzene	(4)	12.848	134	5859M	0.974
125) Pentachloroethane	(4)	12.885	167	3899	0.834
126) 1,2,4-Trimethylbenzene	(4)	12.891	105	29621	1.004
127) sec-Butylbenzene	(4)	13.012	105	34976	0.973
129) 1,3-Dichlorobenzene	(4)	13.116	146	17703	1.031
130) p-Isopropyltoluene	(4)	13.122	119	30246	0.954
131)*1,4-Dichlorobenzene-d4	(4)	13.171	152	497779	50.000
133) 1,4-Dichlorobenzene	(4)	13.189	146	18731	1.065

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i07.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:09 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

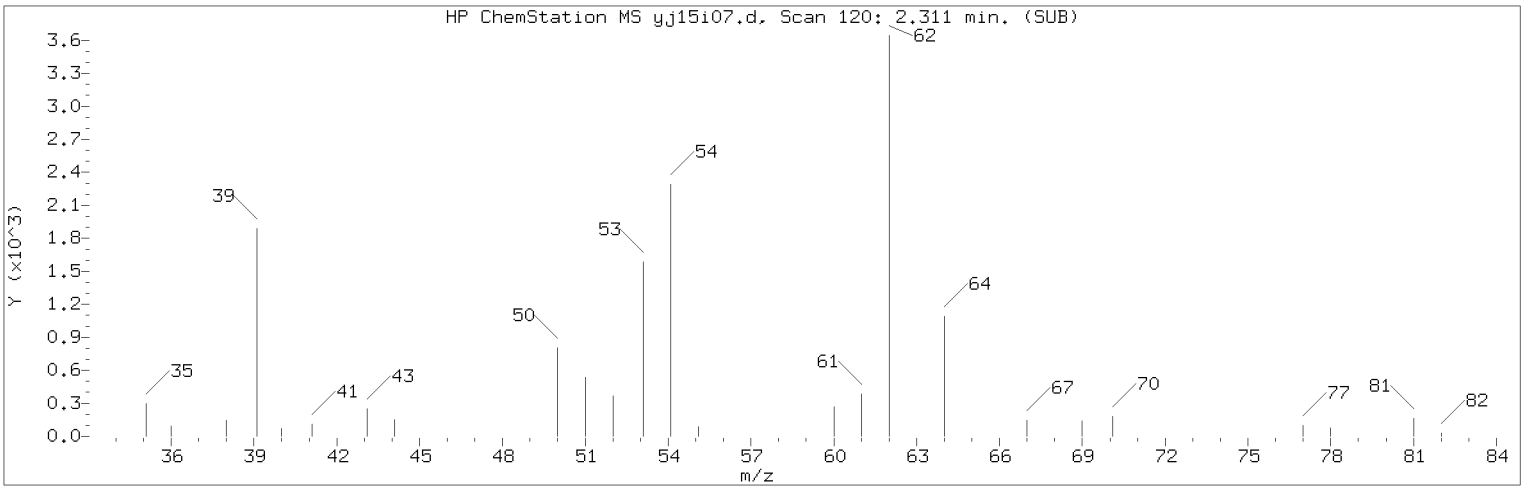
Sample Name: VSTD001 Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
134) 1,2,3-Trimethylbenzene	(4)	13.195	105	27556	0.967
135) Benzyl Chloride	(4)	13.262	91	20143	0.862
136) 1,3-Diethylbenzene	(4)	13.323	119	16656	0.918
137) 1,4-Diethylbenzene	(4)	13.396	119	16936	0.900
139) n-Butylbenzene	(4)	13.414	92	15787M	0.984
138) 1,2-Dichlorobenzene	(4)	13.450	146	17827	1.082
140) 1,2-Diethylbenzene	(4)	13.469	119	13990	0.932
141) Diethylbenzene (total)	(4)		100	47582	2.751
142) 1,2-Dibromo-3-chloropropane	(4)	13.992	75	3251	1.074
144) 1,3,5-Trichlorobenzene	(4)	14.120	180	13496	1.090
146) 1,2,4-Trichlorobenzene	(4)	14.545	180	13896	1.168
147) Hexachlorobutadiene	(4)	14.625	225	6473	1.146
148) Naphthalene	(4)	14.728	128	47166	1.183
149) 1,2,3-Trichlorobenzene	(4)	14.874	180	13293	1.205
150) 2-Methylnaphthalene	(4)	15.525	142	26447	1.167

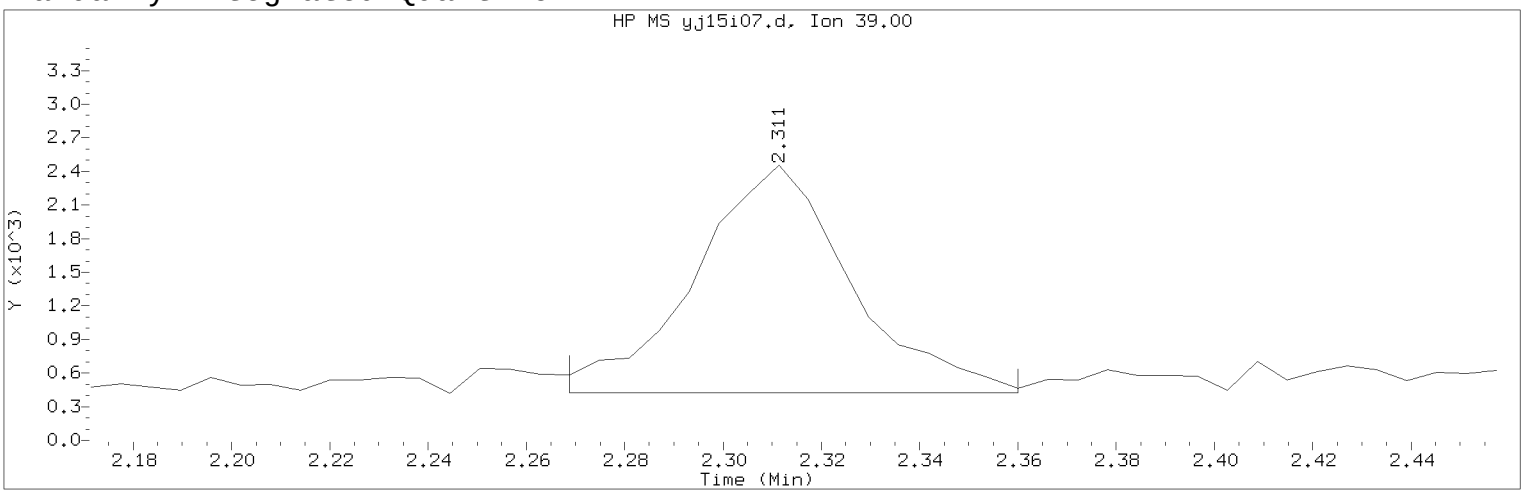
M = Compound was manually integrated.

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i07.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:09 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD001 Lab Sample ID: VSTD001

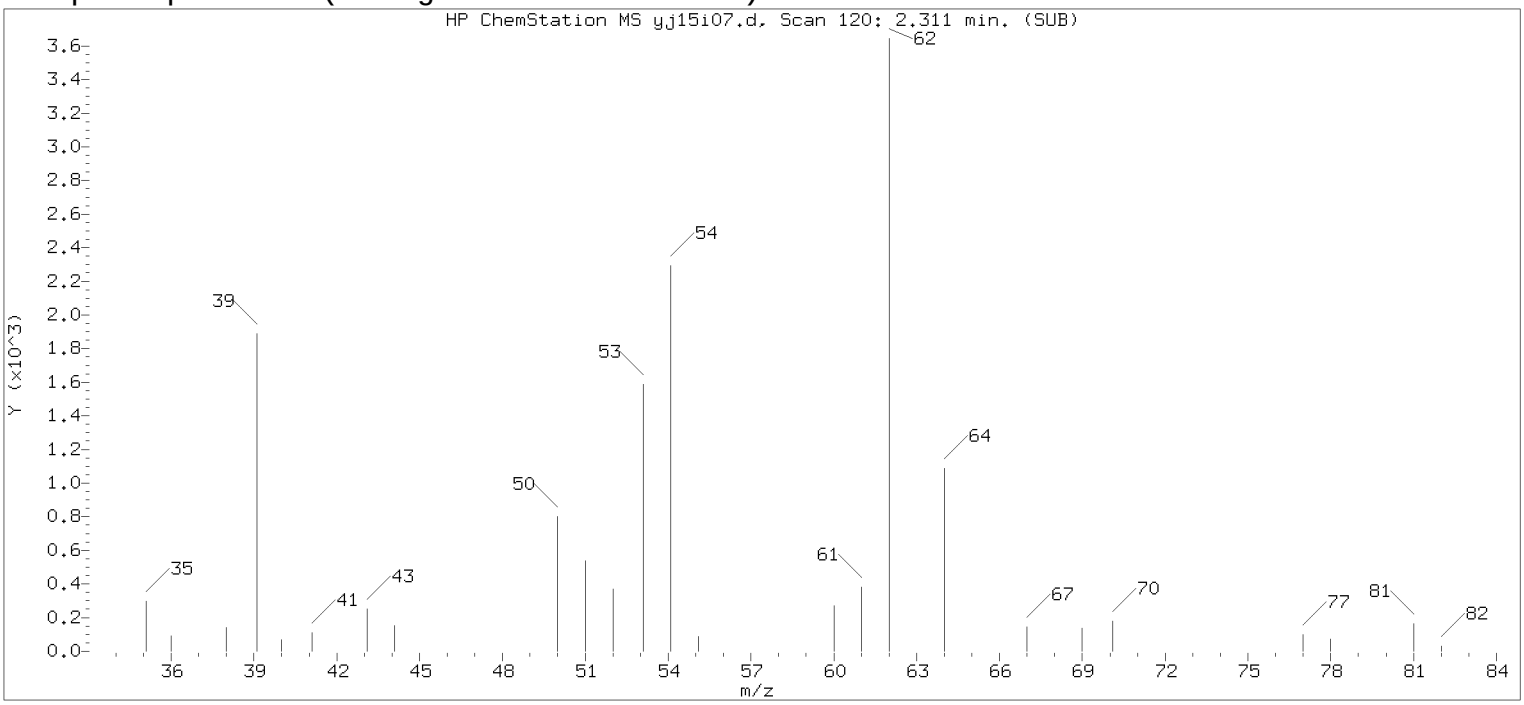
Compound Number : 5
Compound Name : 1,3-Butadiene
Scan Number : 120
Retention Time (minutes): 2.311
Quant Ion : 39.00
Area (flag) : 4497M
On-Column Amount (ng) : 1.0299
Integration start scan : 112 Integration stop scan: 127
Y at integration start : 423 Y at integration end: 423

Reason for manual integration: improper integration

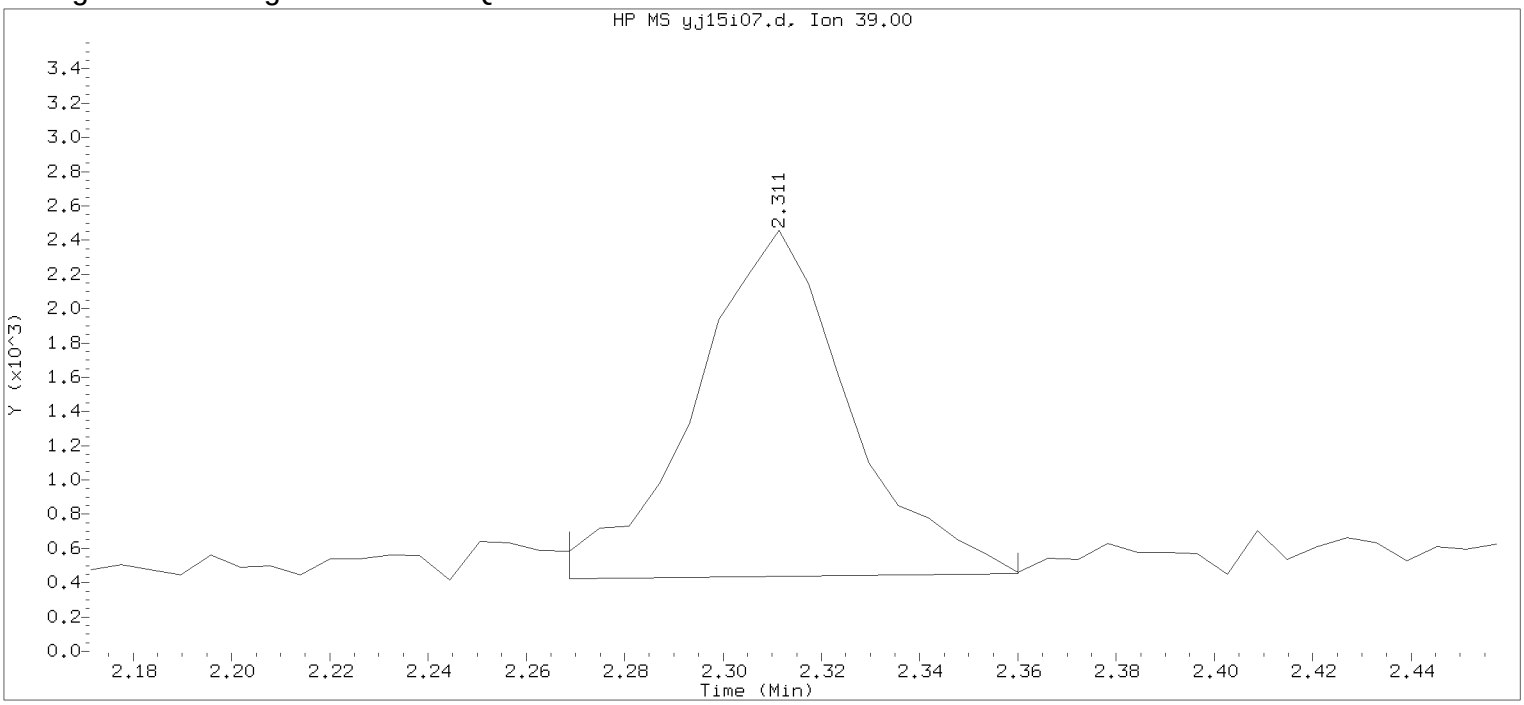
Analyst responsible for change: Digitally signed by Kevin Kelly
on 01/16/2018 at 16:36.
Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i07.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:09 Analyst ID: dhh02035

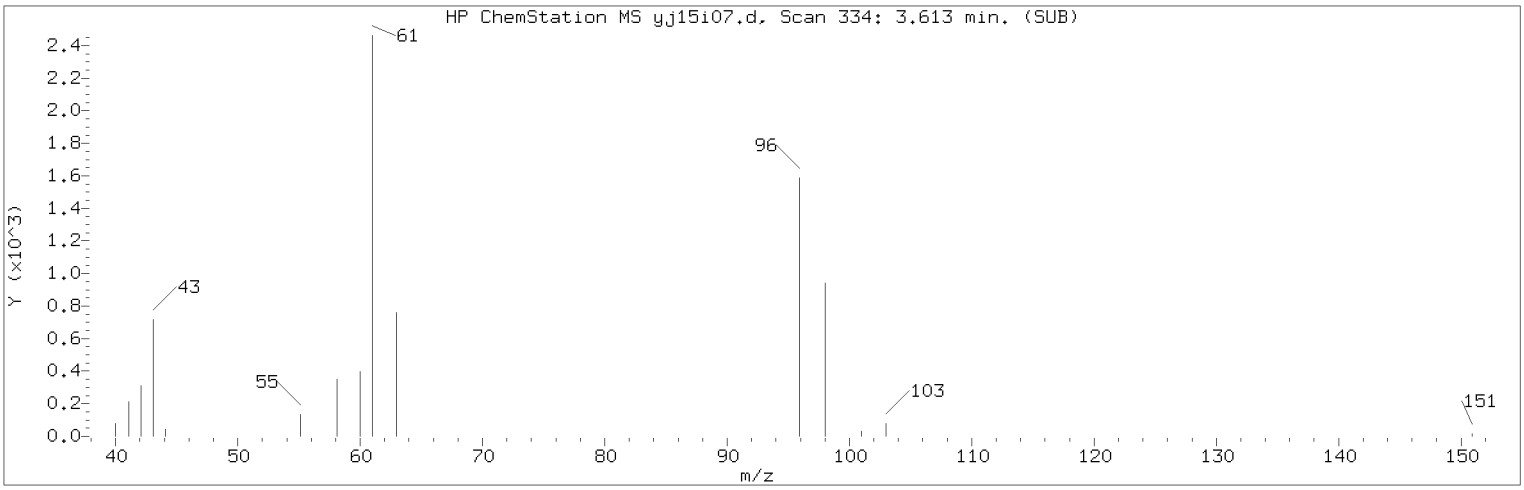
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 15:25
Date, time and analyst ID of latest file update: 15-Jan-2018 15:25 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

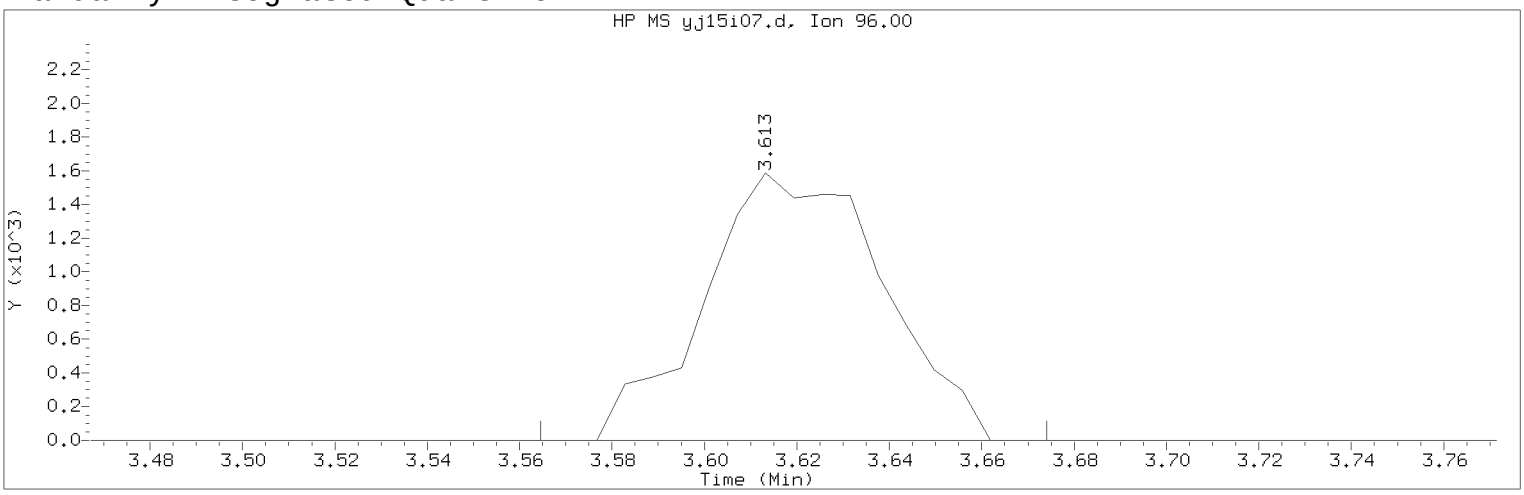
Compound Number : 5
Compound Name : 1,3-Butadiene
Scan Number : 120
Retention Time (minutes): 2.311
Quant Ion : 39.00
Area : 4368
On-column Amount (ng) : 1.0137
Integration start scan : 112 Integration stop scan: 127
Y at integration start : 425 Y at integration end: 455

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i07.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:09 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD001 Lab Sample ID: VSTD001

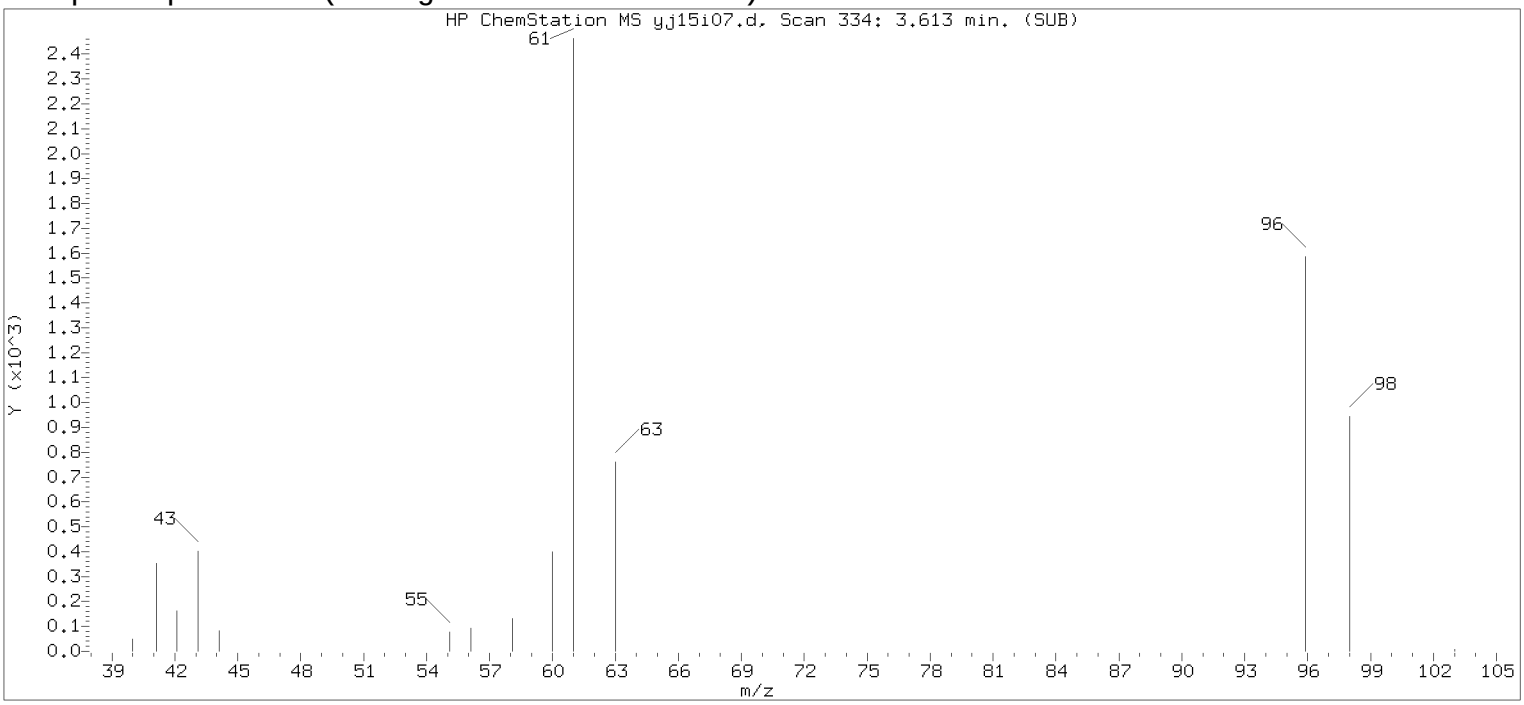
Compound Number : 17
Compound Name : 1,1-Dichloroethene
Scan Number : 334
Retention Time (minutes): 3.613
Quant Ion : 96.00
Area (flag) : 4273M
On-Column Amount (ng) : 0.9293
Integration start scan : 325 Integration stop scan: 343
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

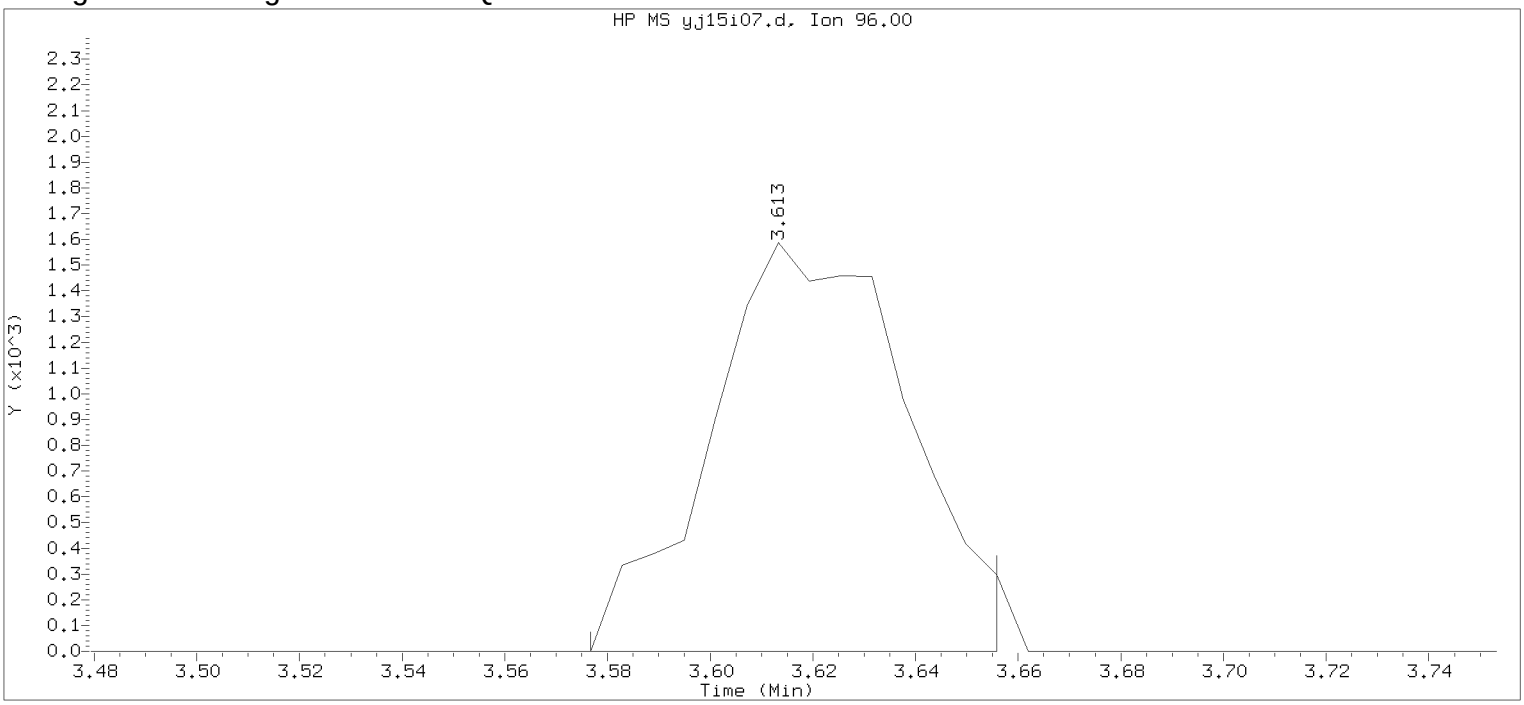
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i07.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:09 Analyst ID: dhh02035

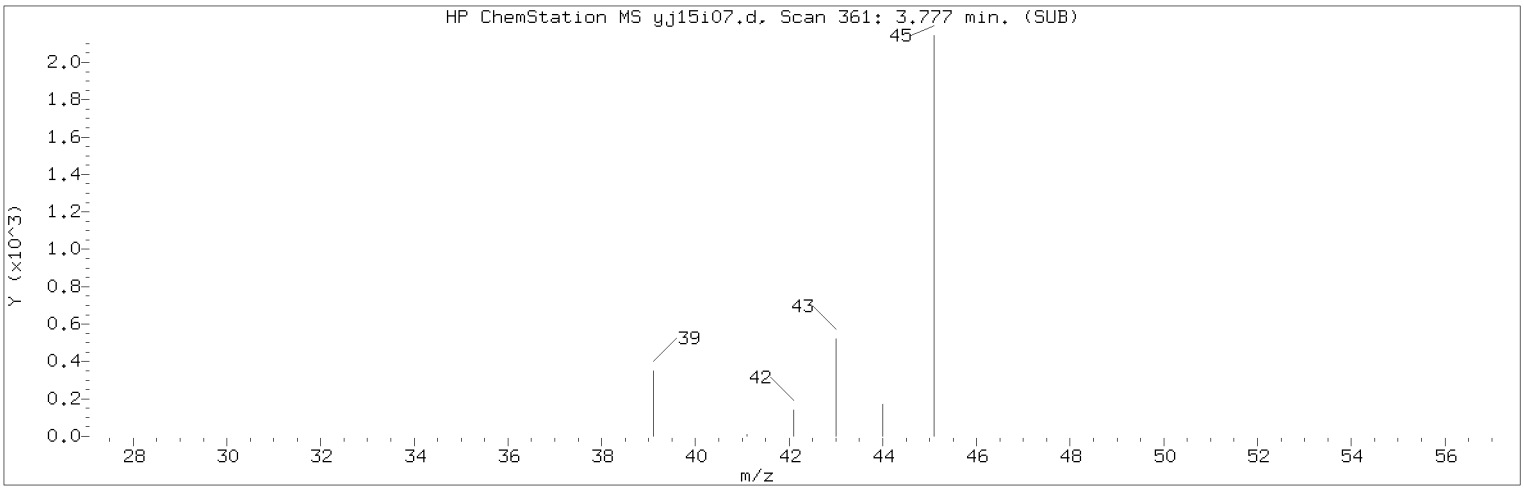
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 15:25
Date, time and analyst ID of latest file update: 15-Jan-2018 15:25 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

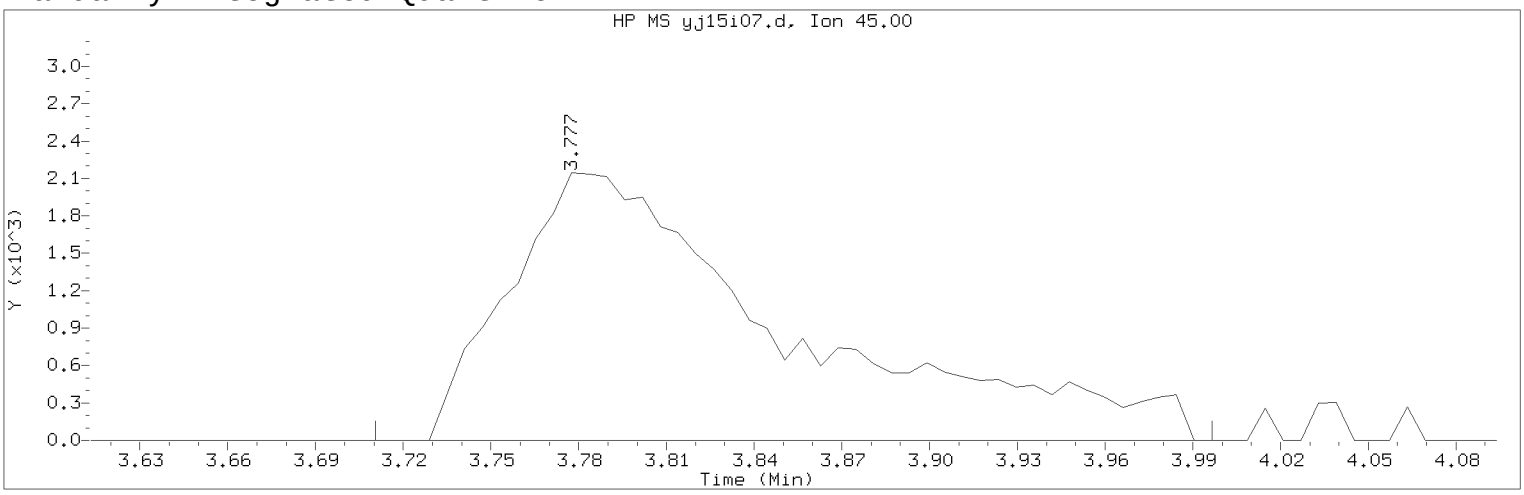
Compound Number : 17
Compound Name : 1,1-Dichloroethene
Scan Number : 334
Retention Time (minutes): 3.613
Quant Ion : 96.00
Area : 4219
On-column Amount (ng) : 0.9219
Integration start scan : 327 Integration stop scan: 340
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i07.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:09 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD001 Lab Sample ID: VSTD001

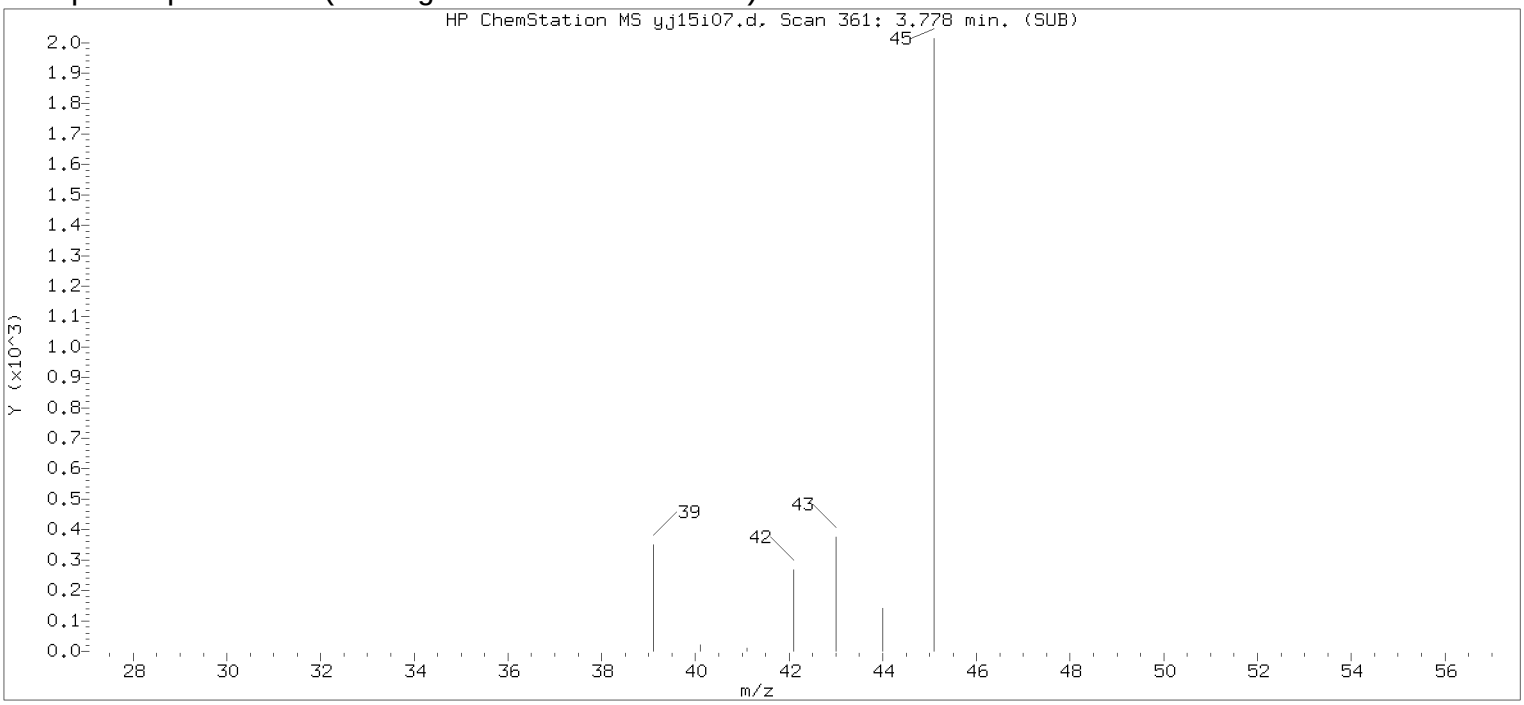
Compound Number : 21
Compound Name : 2-Propanol
Scan Number : 361
Retention Time (minutes): 3.777
Quant Ion : 45.00
Area (flag) : 14237M
On-Column Amount (ng) : 17.5289
Integration start scan : 349 Integration stop scan: 396
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

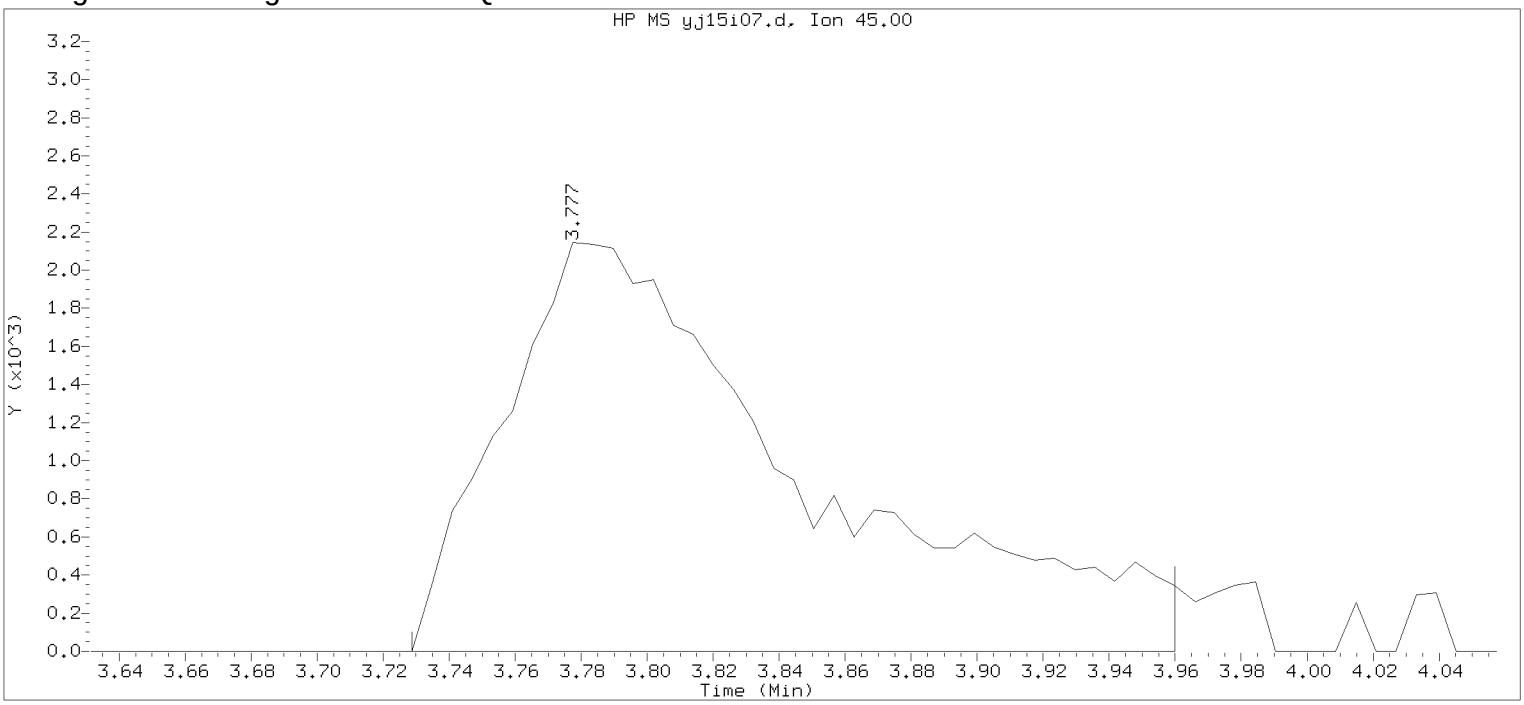
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i07.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:09 Analyst ID: dhh02035

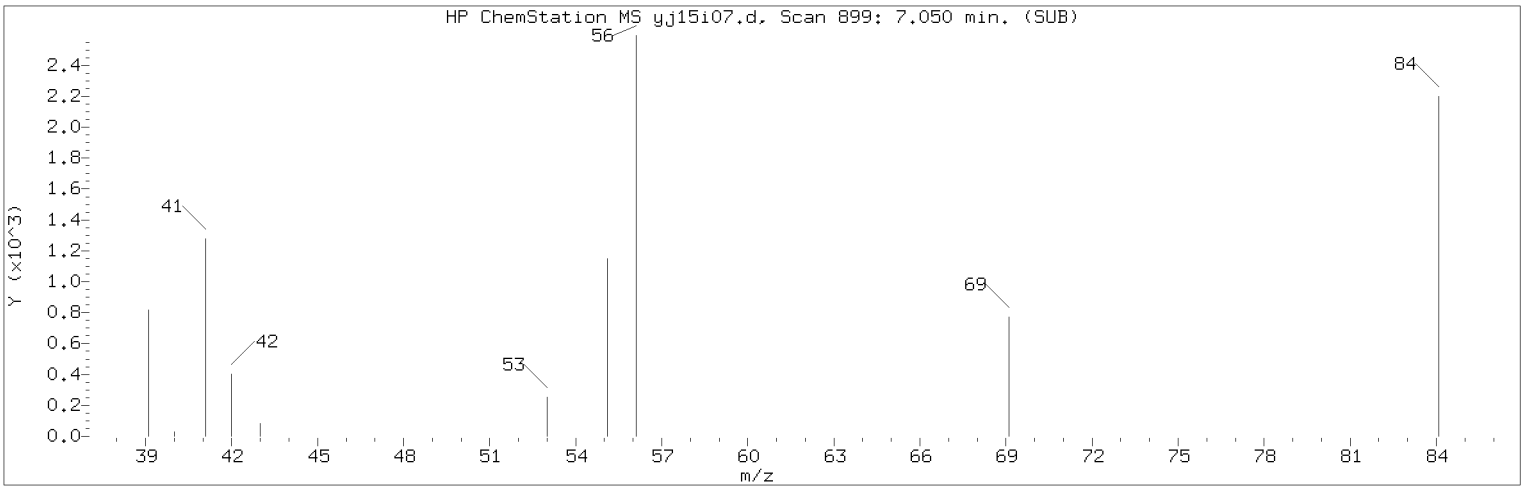
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 15:25
Date, time and analyst ID of latest file update: 15-Jan-2018 15:25 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

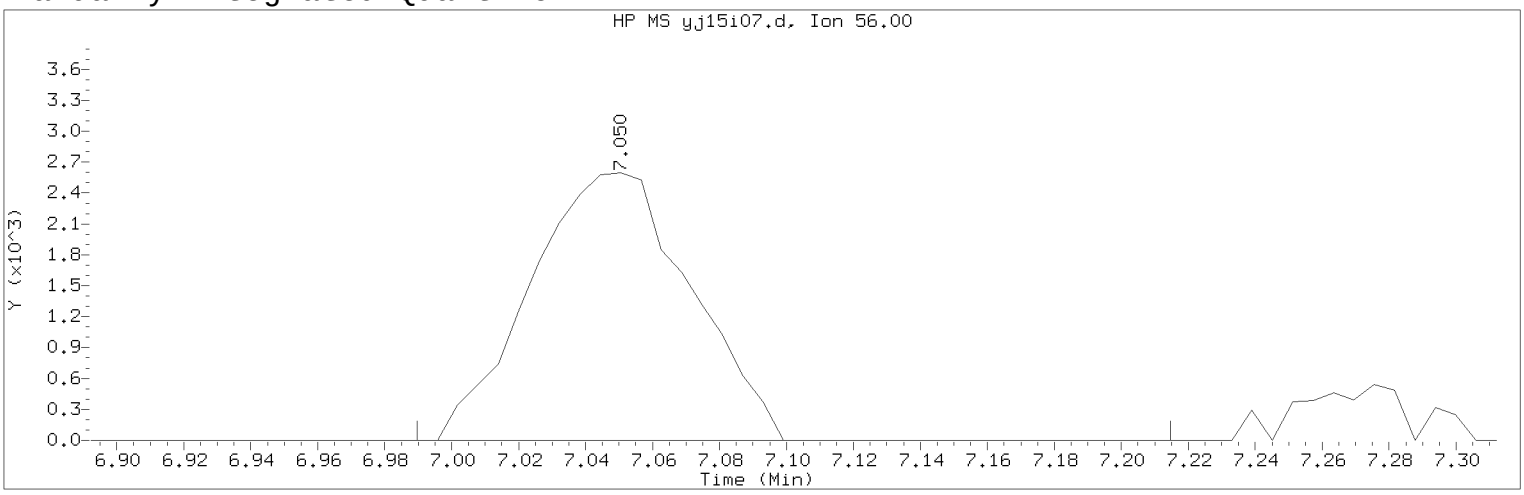
Compound Number : 21
Compound Name : 2-Propanol
Scan Number : 361
Retention Time (minutes): 3.777
Quant Ion : 45.00
Area : 13708
On-column Amount (ng) : 17.2157
Integration start scan : 352 Integration stop scan: 390
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i07.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:09 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD001 Lab Sample ID: VSTD001

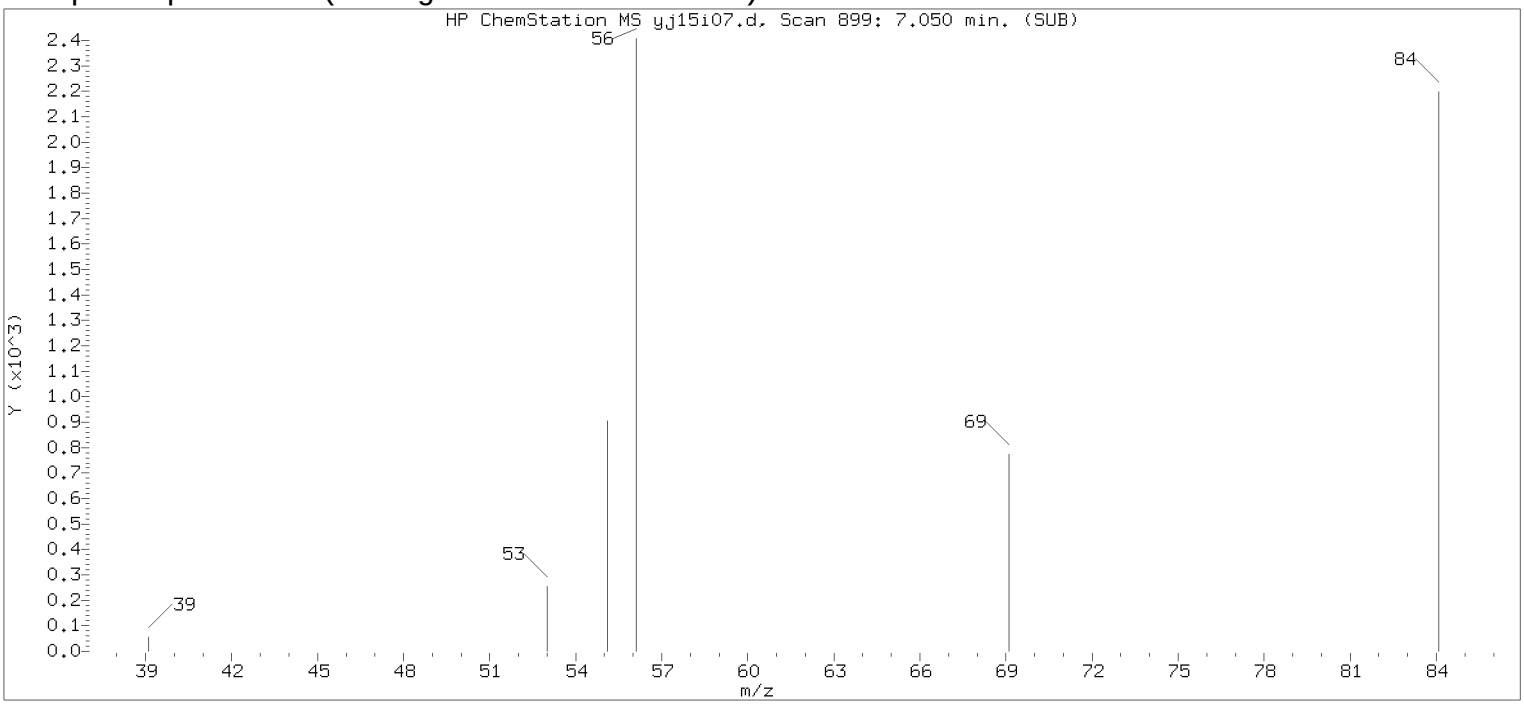
Compound Number : 54
Compound Name : Cyclohexane
Scan Number : 899
Retention Time (minutes): 7.050
Quant Ion : 56.00
Area (flag) : 8624M
On-Column Amount (ng) : 0.8721
Integration start scan : 888 Integration stop scan: 925
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

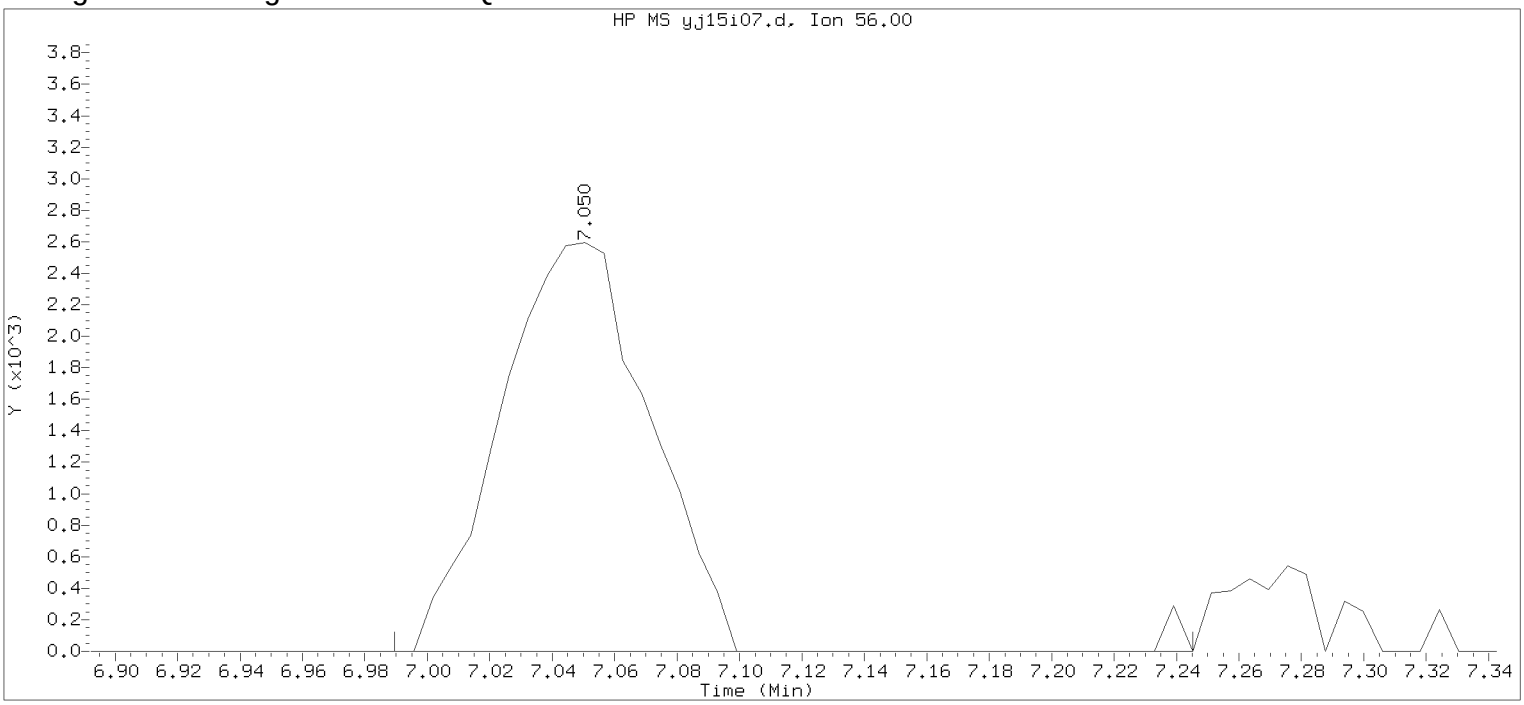
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i07.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:09 Analyst ID: dhh02035

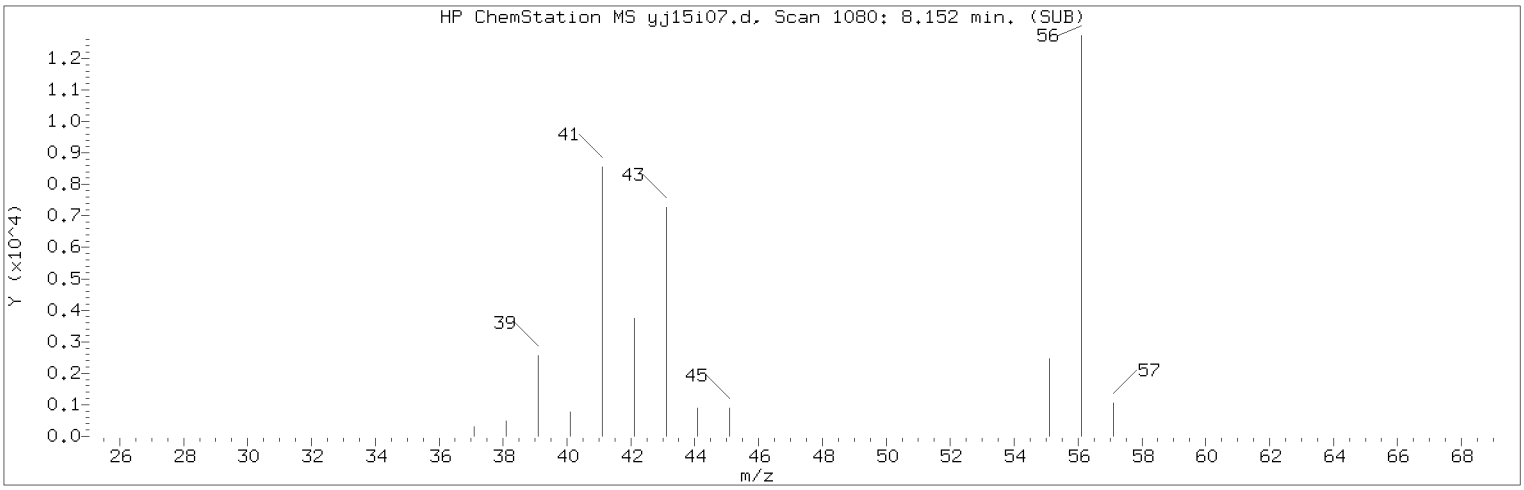
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 15:25
Date, time and analyst ID of latest file update: 15-Jan-2018 15:25 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

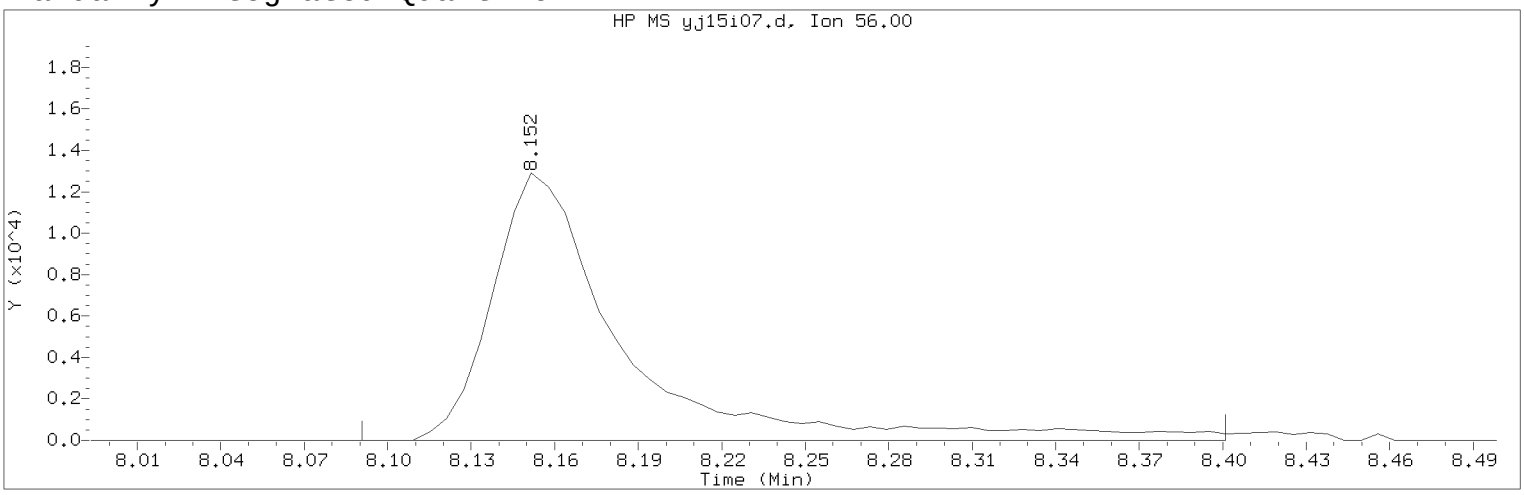
Compound Number : 54
Compound Name : Cyclohexane
Scan Number : 899
Retention Time (minutes): 7.050
Quant Ion : 56.00
Area : 8730
On-column Amount (ng) : 0.8884
Integration start scan : 888 Integration stop scan: 930
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i07.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:09 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD001 Lab Sample ID: VSTD001

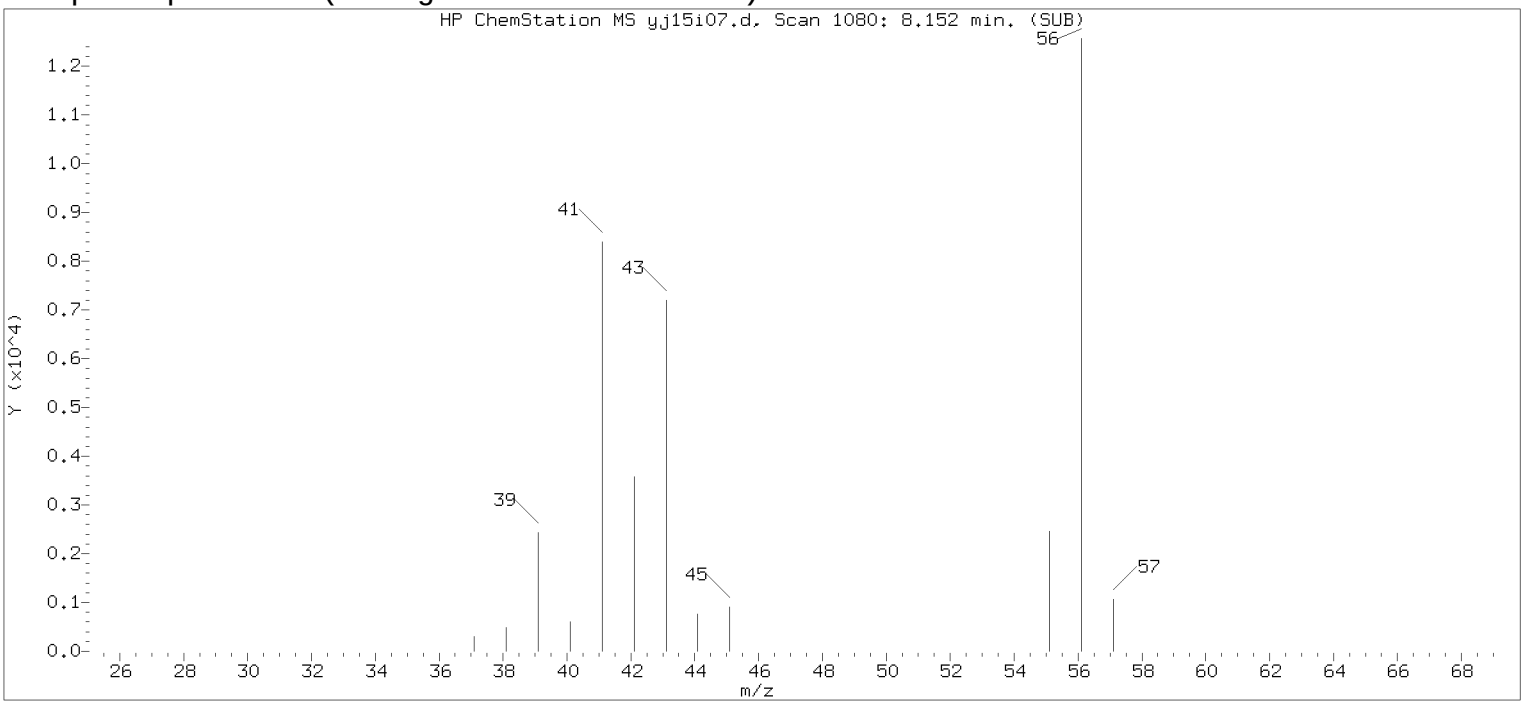
Compound Number : 69
Compound Name : n-Butanol
Scan Number : 1080
Retention Time (minutes): 8.152
Quant Ion : 56.00
Area (flag) : 42228M
On-Column Amount (ng) : 81.5511
Integration start scan : 1069 Integration stop scan: 1120
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

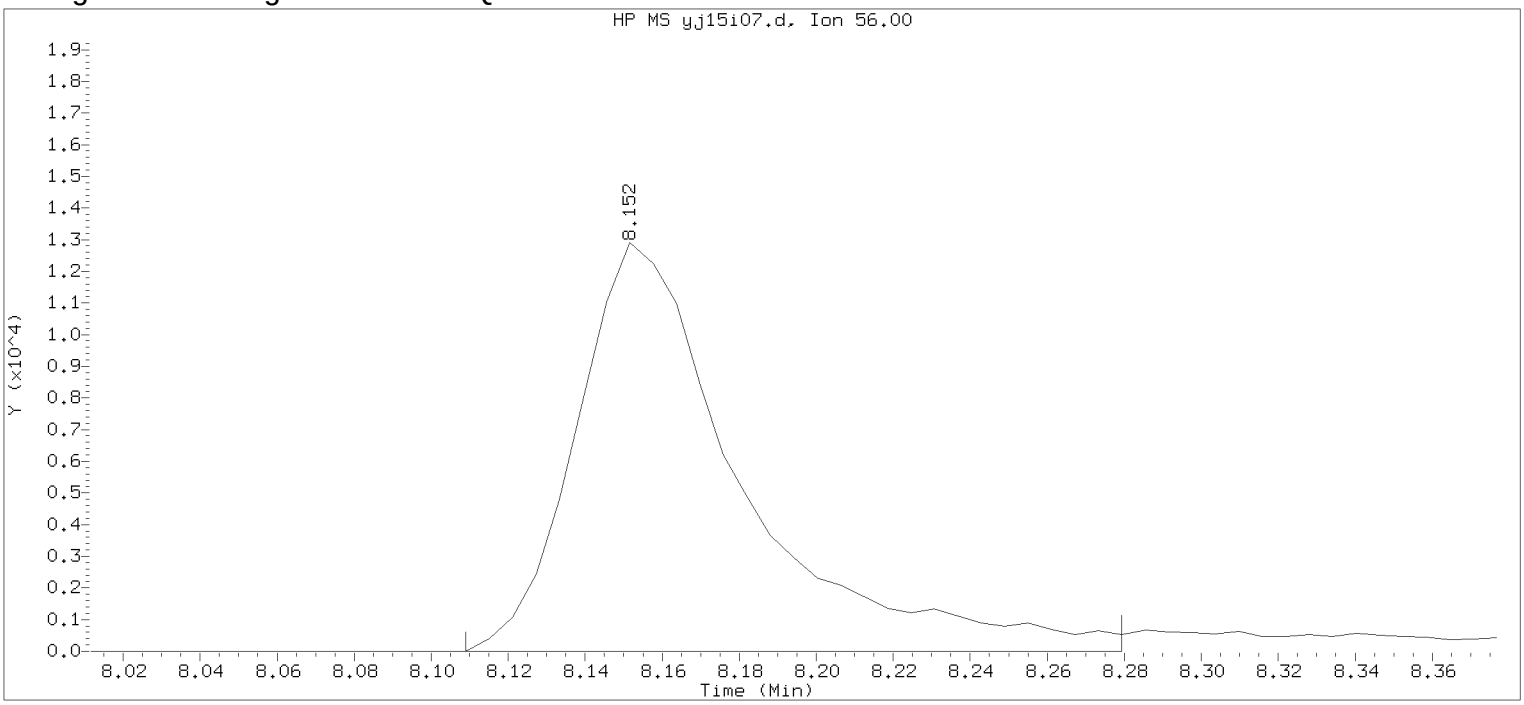
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i07.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:09 Analyst ID: dhh02035

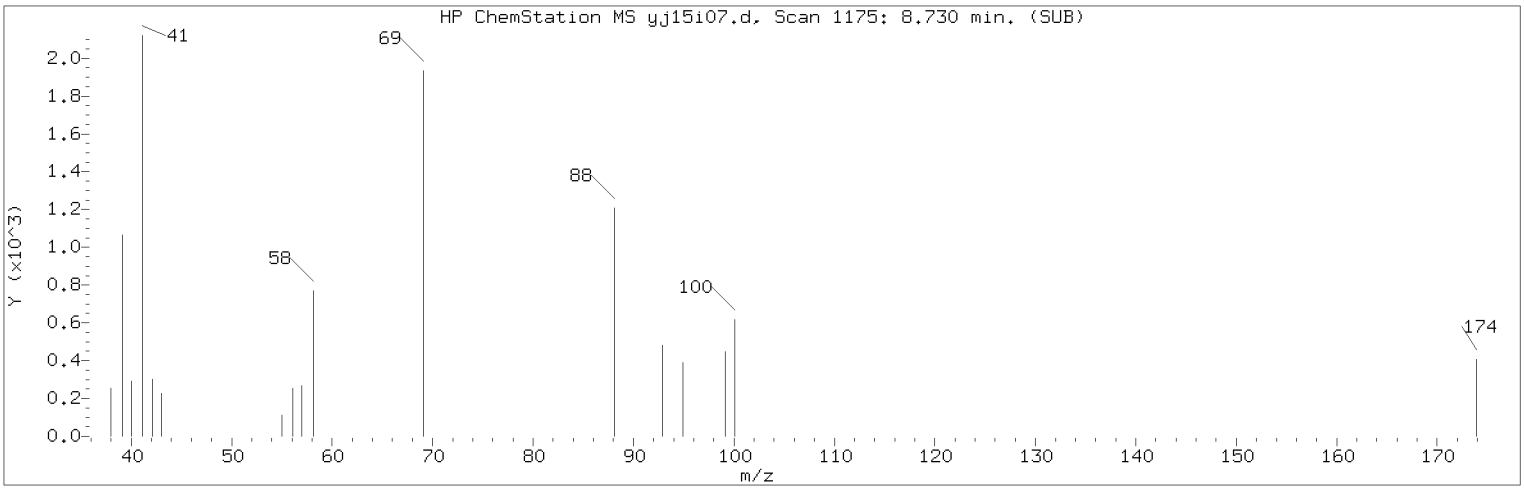
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 15:25
Date, time and analyst ID of latest file update: 15-Jan-2018 15:25 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

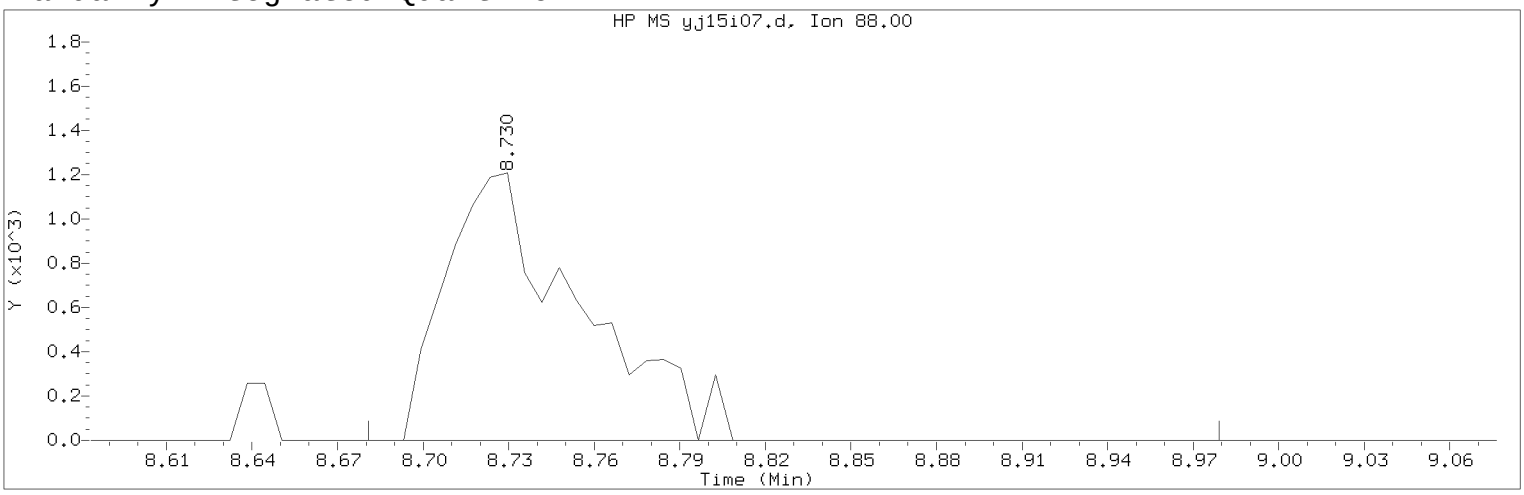
Compound Number : 69
Compound Name : n-Butanol
Scan Number : 1080
Retention Time (minutes): 8.152
Quant Ion : 56.00
Area : 38615
On-column Amount (ng) : 76.4804
Integration start scan : 1072 Integration stop scan: 1100
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i07.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:09 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD001 Lab Sample ID: VSTD001

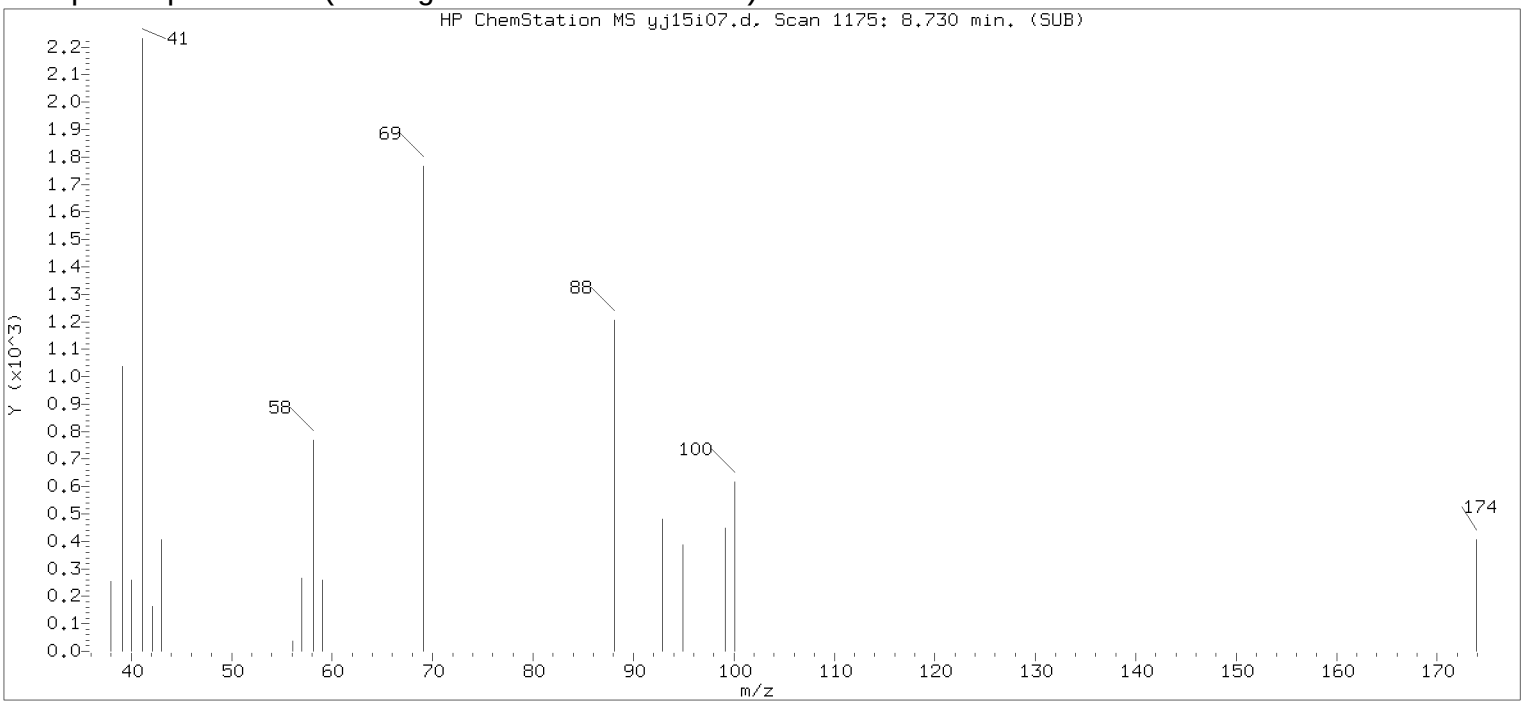
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 1175
Retention Time (minutes): 8.730
Quant Ion : 88.00
Area (flag) : 3969M
On-Column Amount (ng) : 31.2009
Integration start scan : 1166 Integration stop scan: 1215
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

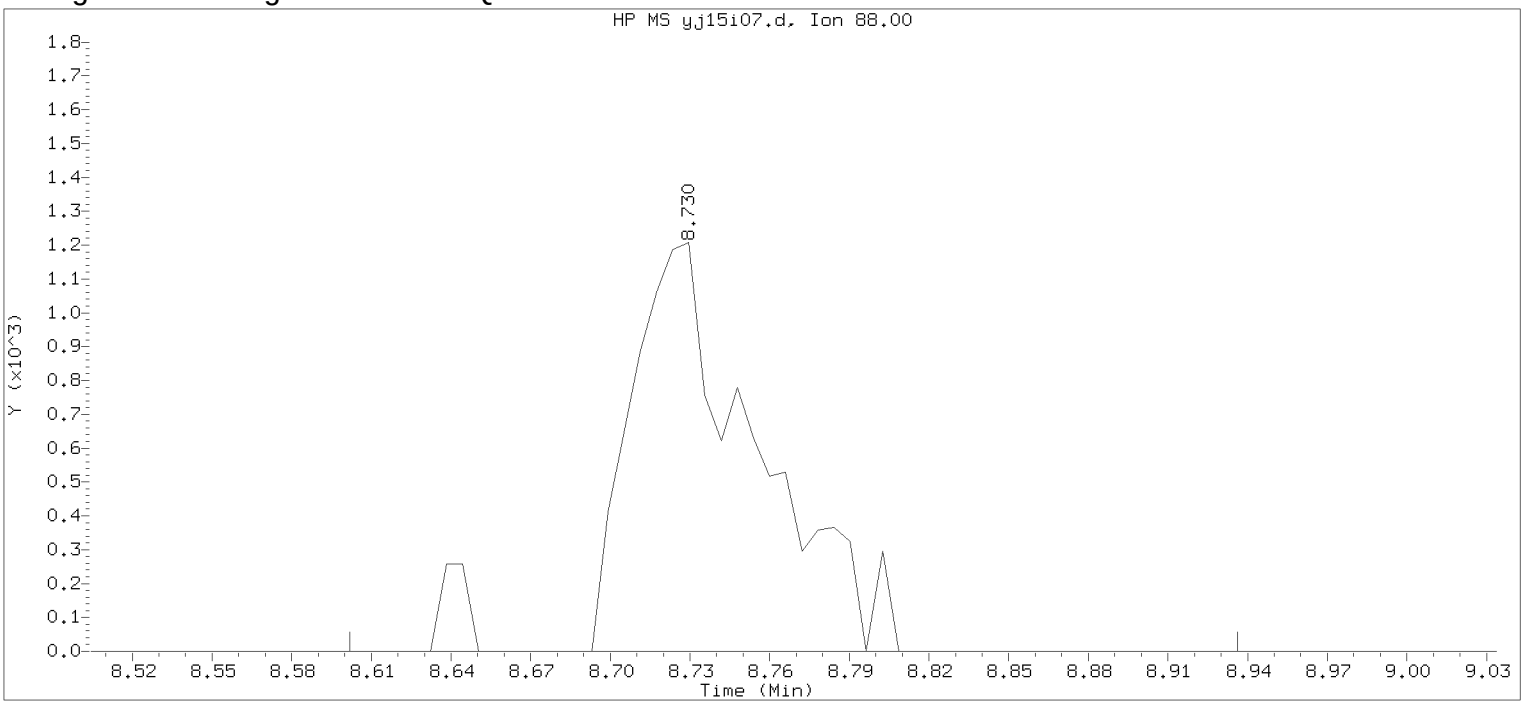
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i07.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:09 Analyst ID: dhh02035

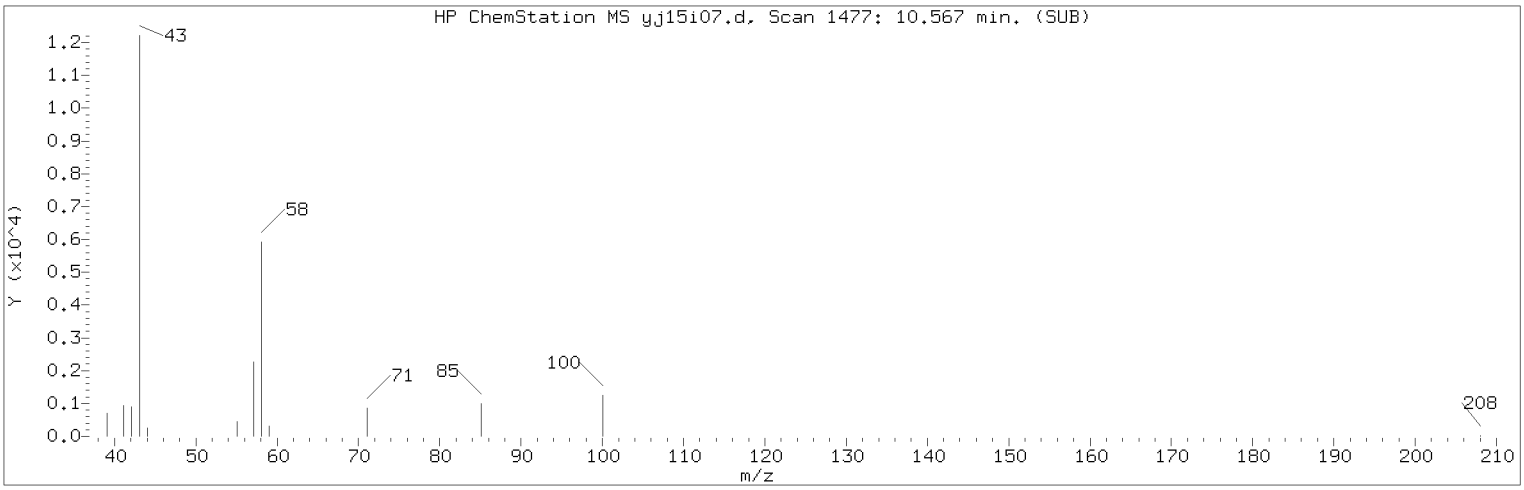
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 15:25
Date, time and analyst ID of latest file update: 15-Jan-2018 15:25 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

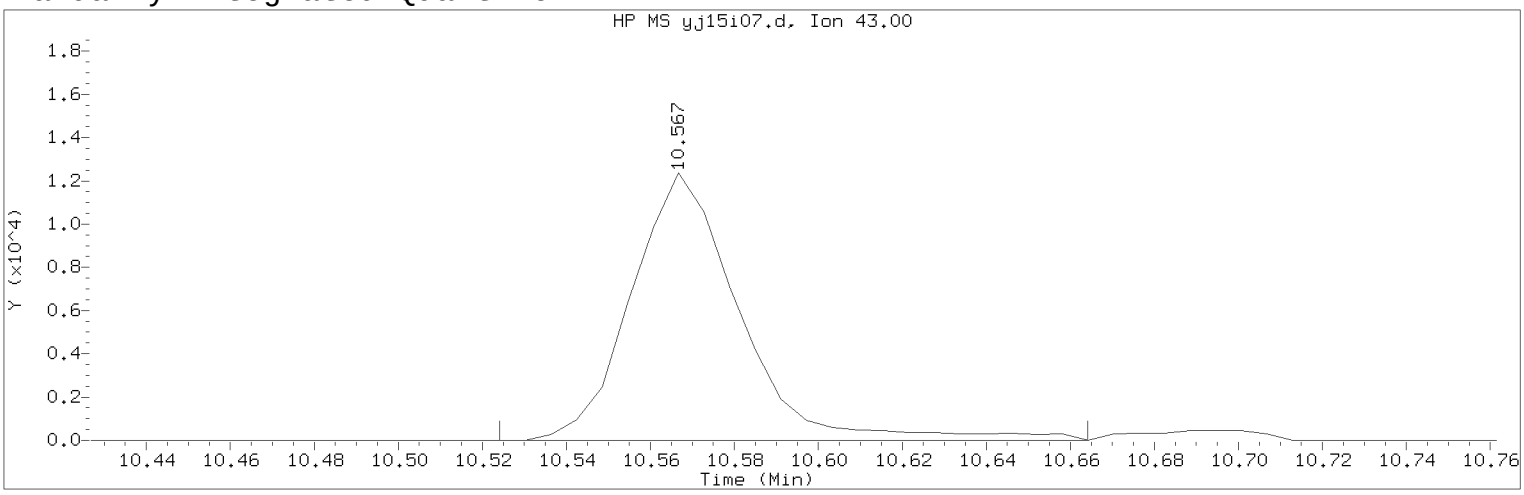
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 1175
Retention Time (minutes): 8.730
Quant Ion : 88.00
Area : 4157
On-column Amount (ng) : 31.1956
Integration start scan : 1153 Integration stop scan: 1208
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i07.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:09 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD001 Lab Sample ID: VSTD001

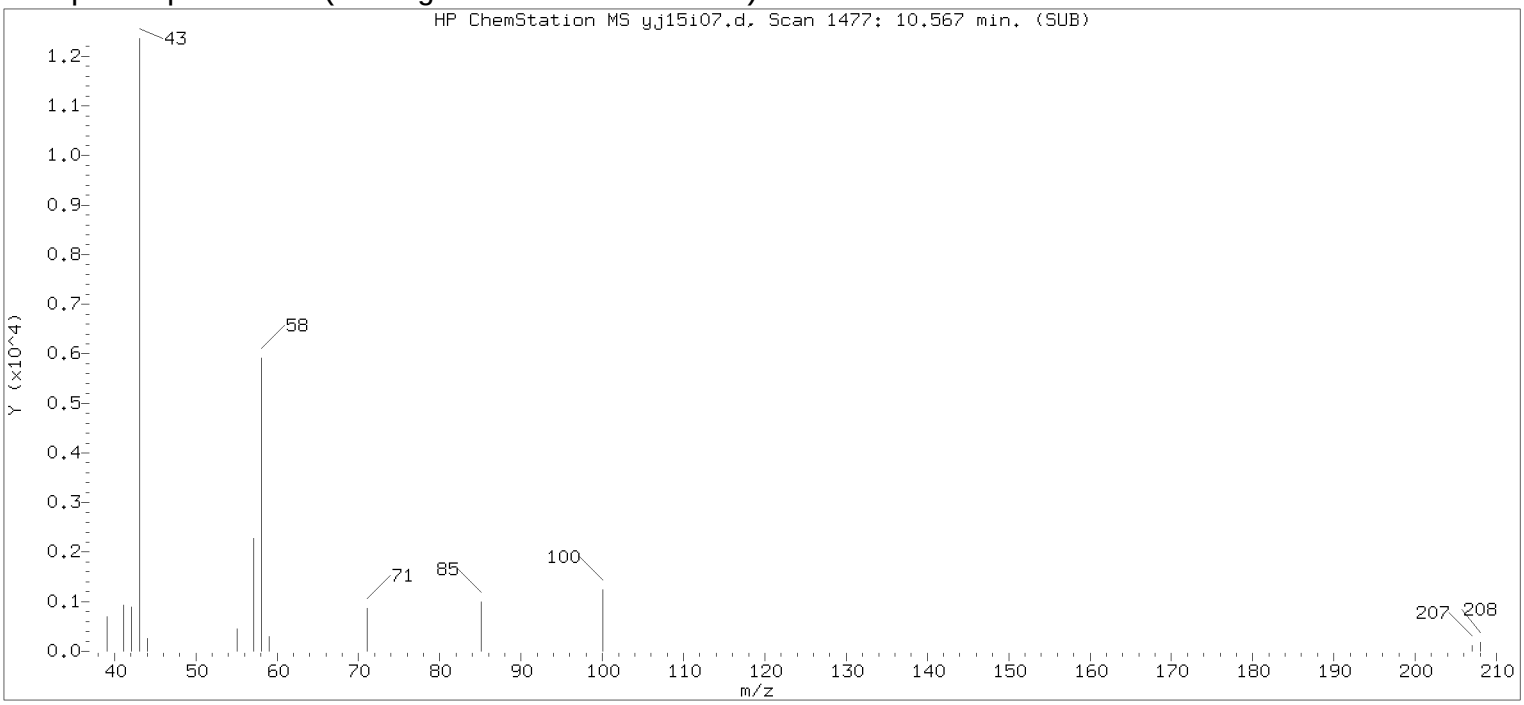
Compound Number : 96
Compound Name : 2-Hexanone
Scan Number : 1477
Retention Time (minutes): 10.567
Quant Ion : 43.00
Area (flag) : 22135M
On-Column Amount (ng) : 2.0589
Integration start scan : 1469 Integration stop scan: 1492
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

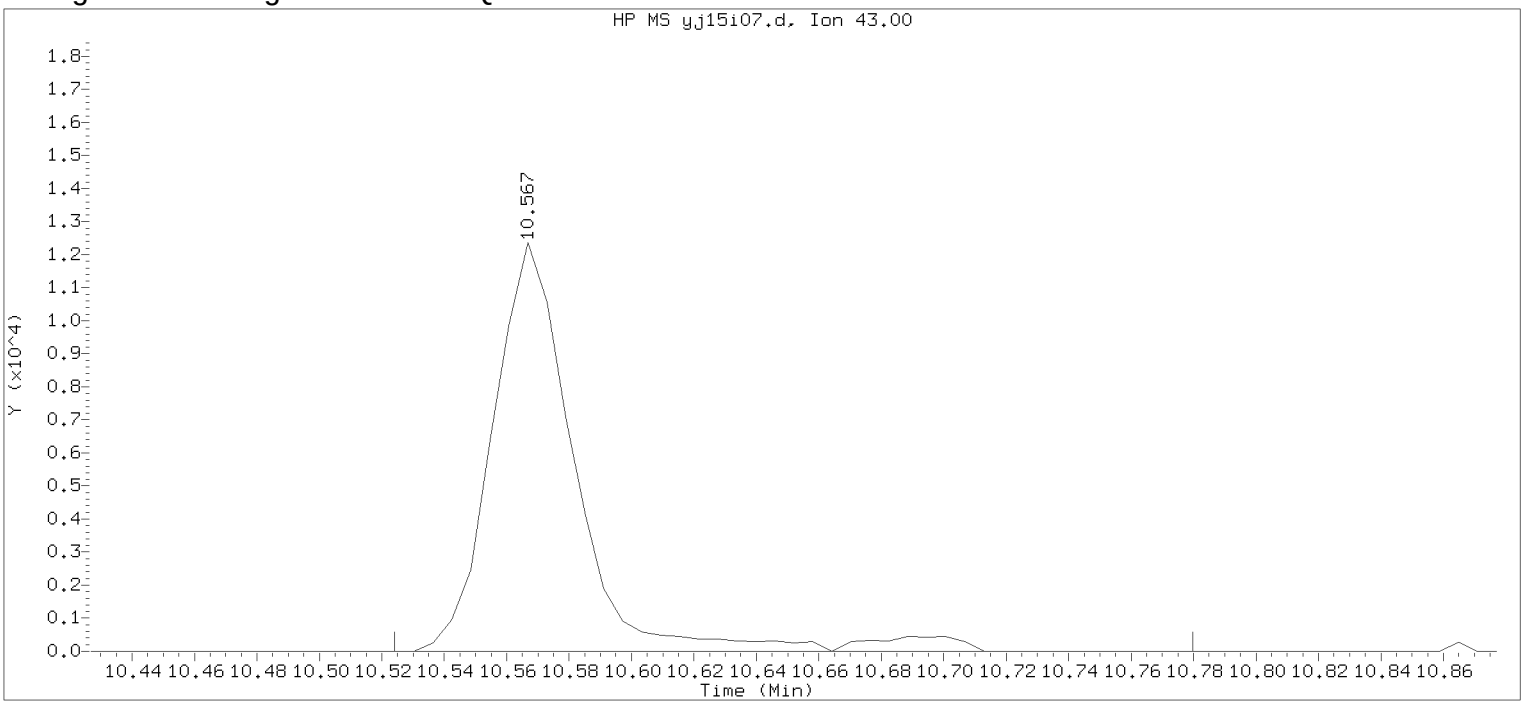
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i07.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:09 Analyst ID: dhh02035

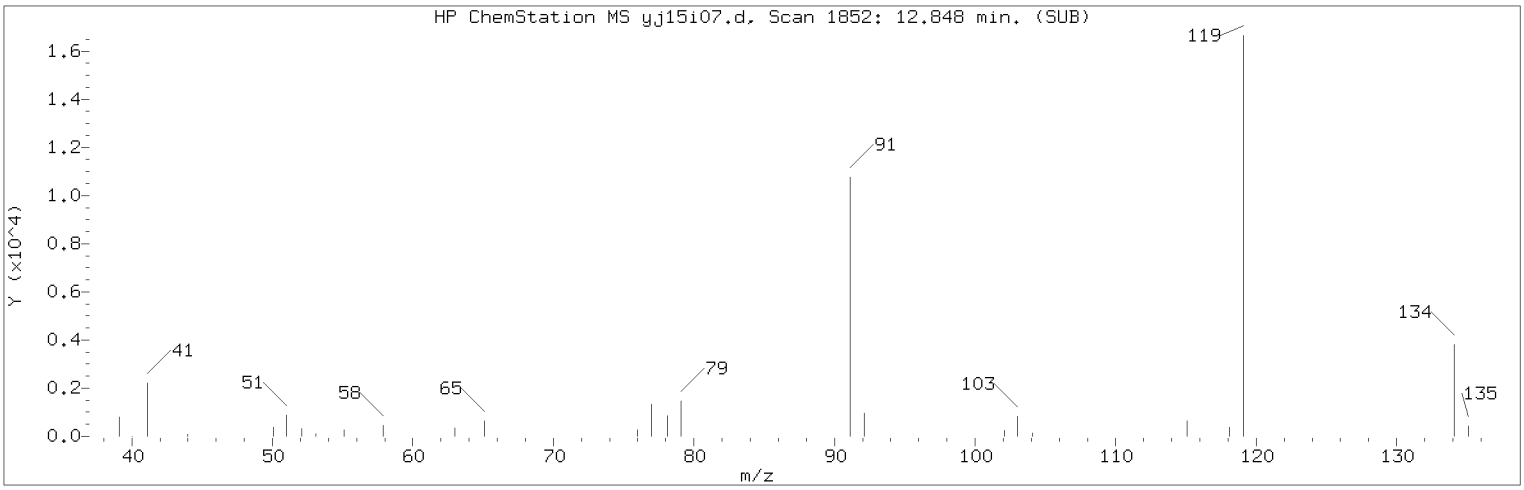
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 15:25
Date, time and analyst ID of latest file update: 15-Jan-2018 15:25 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

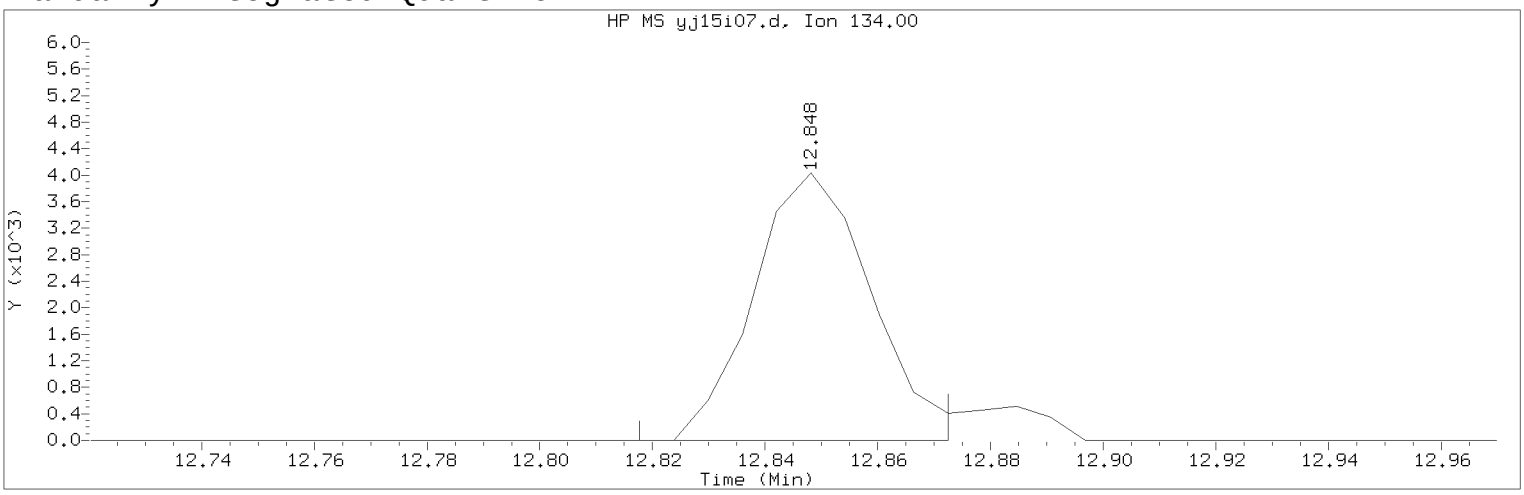
Compound Number : 96
Compound Name : 2-Hexanone
Scan Number : 1477
Retention Time (minutes): 10.567
Quant Ion : 43.00
Area : 23072
On-column Amount (ng) : 2.1038
Integration start scan : 1469 Integration stop scan: 1511
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i07.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:09 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD001 Lab Sample ID: VSTD001

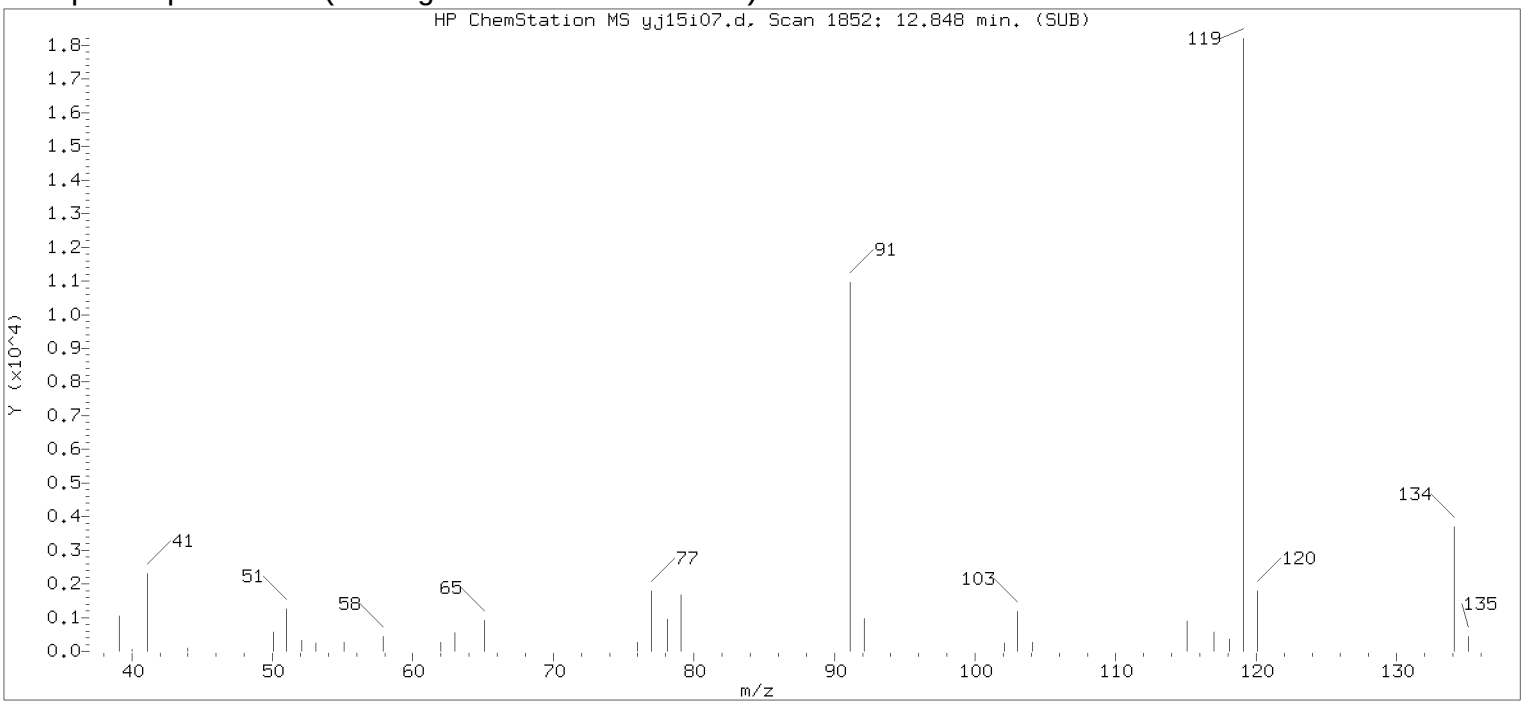
Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 1852
Retention Time (minutes): 12.848
Quant Ion : 134.00
Area (flag) : 5859M
On-Column Amount (ng) : 0.9740
Integration start scan : 1846 Integration stop scan: 1855
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

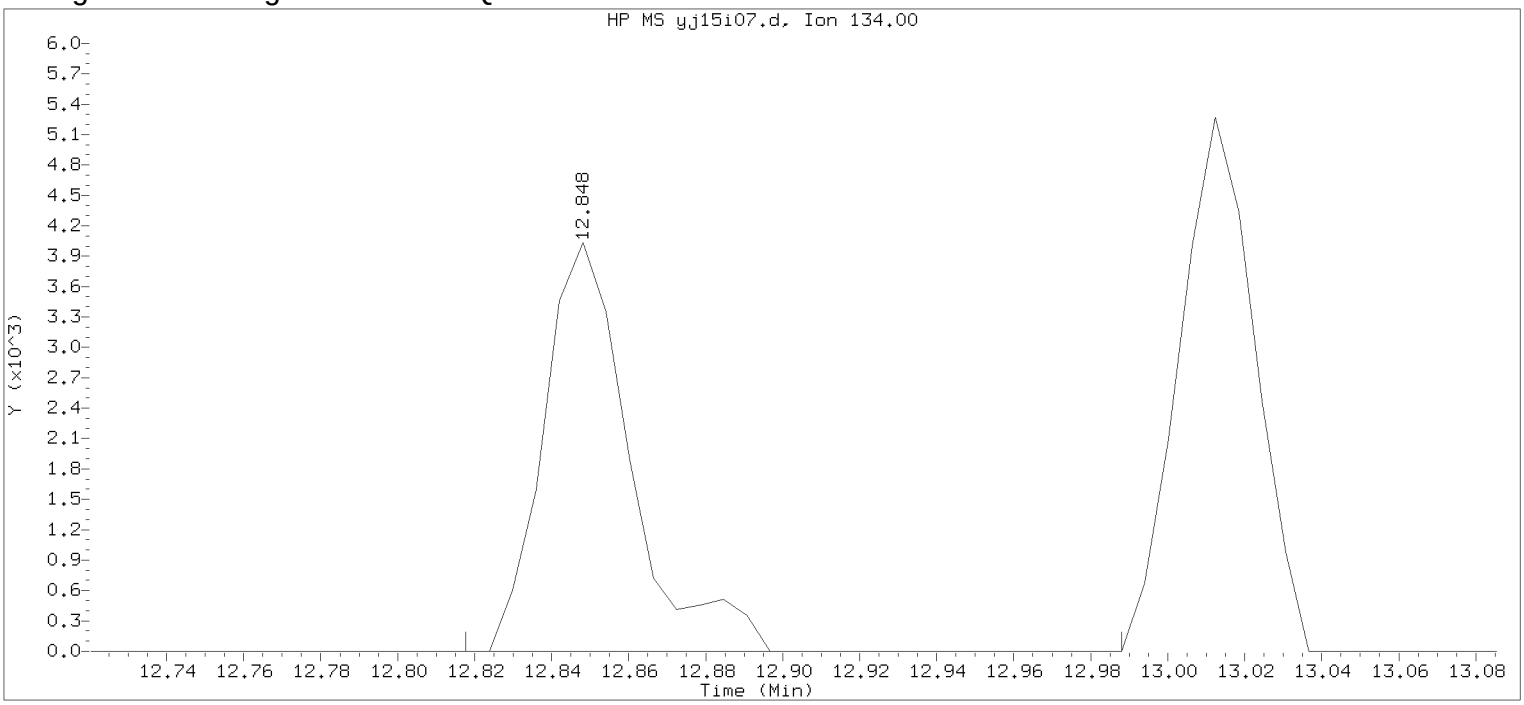
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i07.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:09 Analyst ID: dhh02035

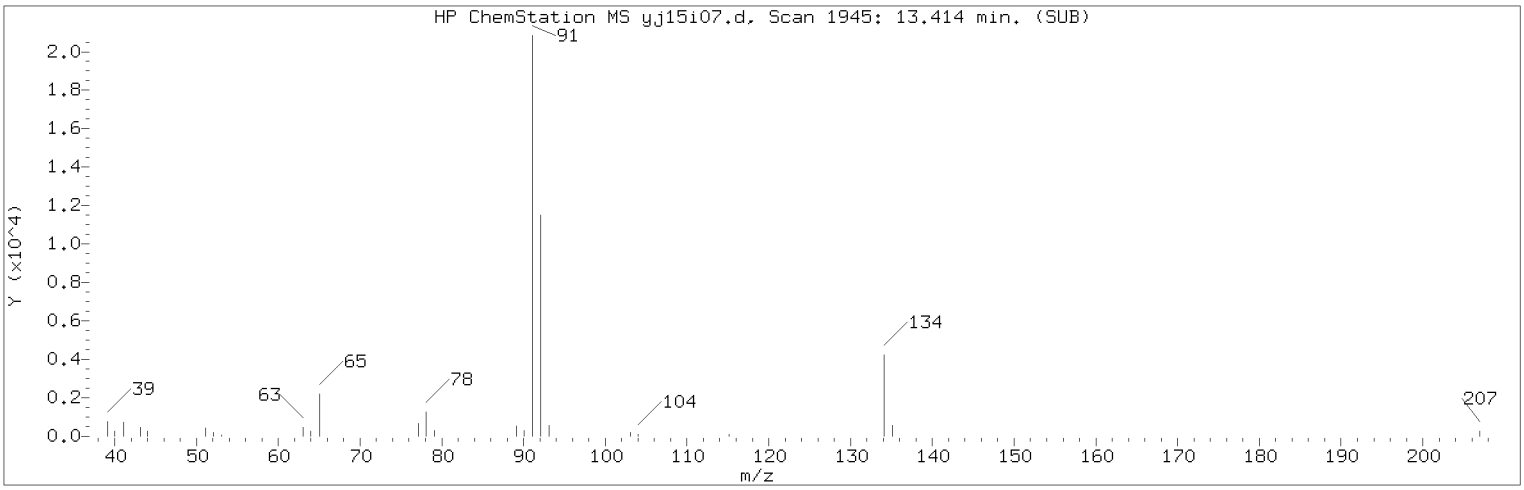
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 15:25
Date, time and analyst ID of latest file update: 15-Jan-2018 15:25 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

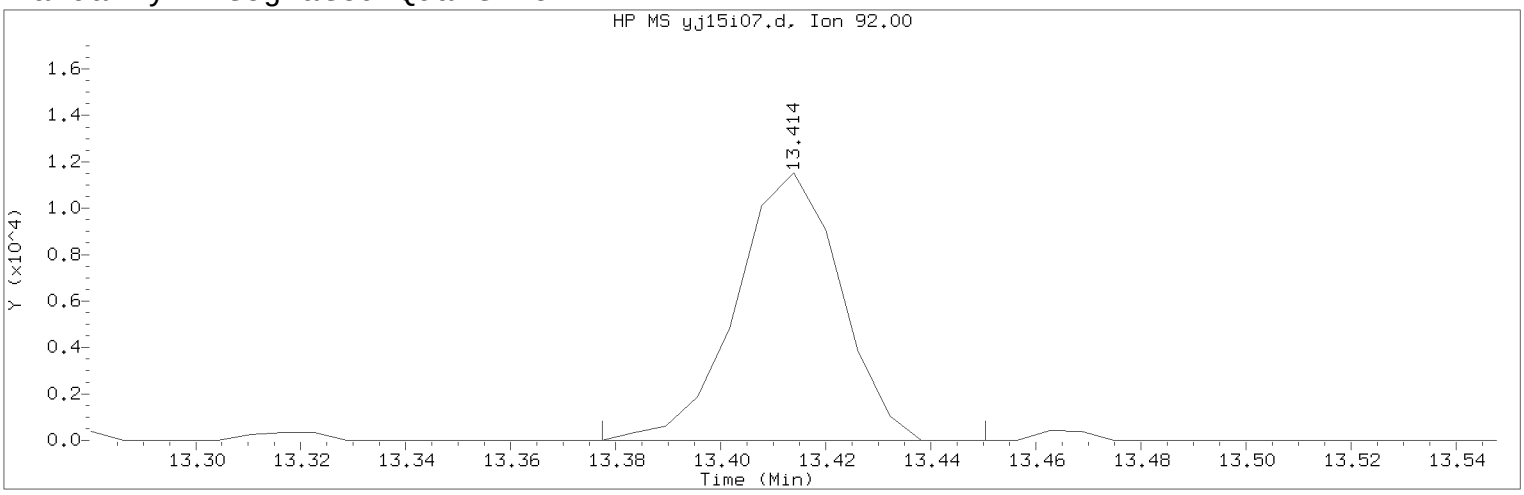
Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 1852
Retention Time (minutes): 12.848
Quant Ion : 134.00
Area : 6341
On-column Amount (ng) : 1.0024
Integration start scan : 1846 Integration stop scan: 1874
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i07.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:09 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD001 Lab Sample ID: VSTD001

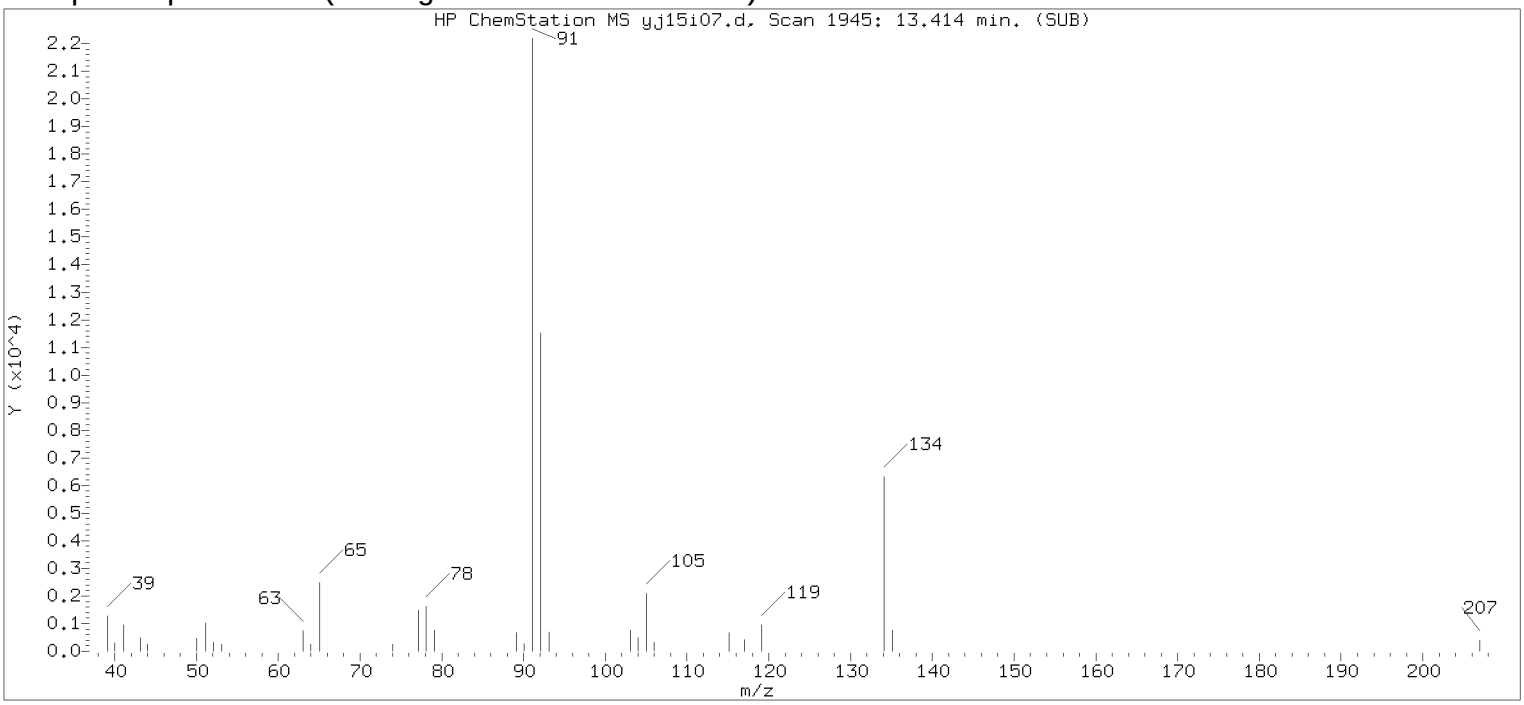
Compound Number : 139
Compound Name : n-Butylbenzene
Scan Number : 1945
Retention Time (minutes): 13.414
Quant Ion : 92.00
Area (flag) : 15787M
On-Column Amount (ng) : 0.9835
Integration start scan : 1938 Integration stop scan: 1950
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

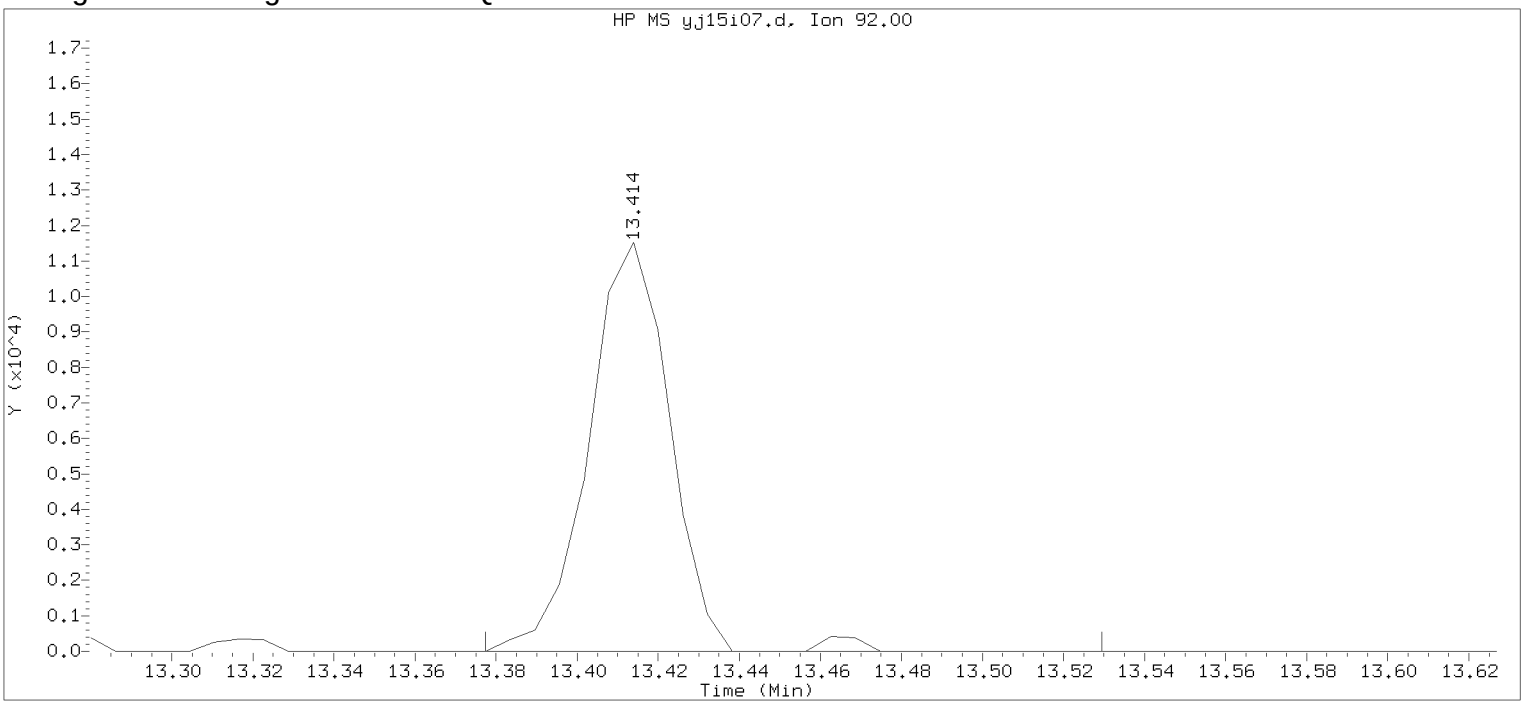
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:36. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



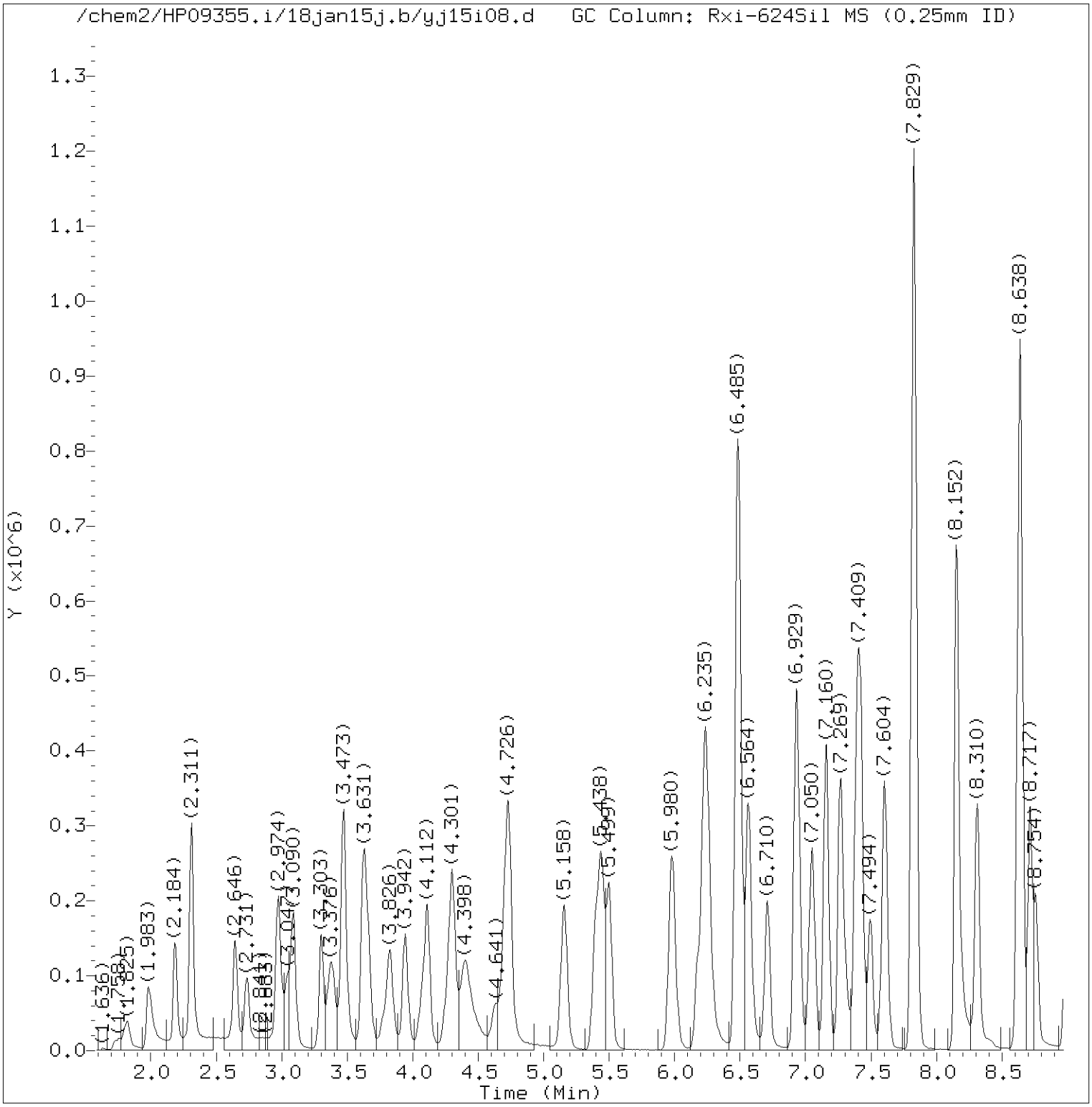
Data File: /chem2/HP09355.i/18jan15j.b/yj15i07.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:09 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 15:25
Date, time and analyst ID of latest file update: 15-Jan-2018 15:25 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compound Number : 139
Compound Name : n-Butylbenzene
Scan Number : 1945
Retention Time (minutes): 13.414
Quant Ion : 92.00
Area : 16081
On-column Amount (ng) : 0.9828
Integration start scan : 1938 Integration stop scan: 1963
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:36.
Target 3.5 esignature user id: kkelly



Total Ion Chromatogram (TIC)

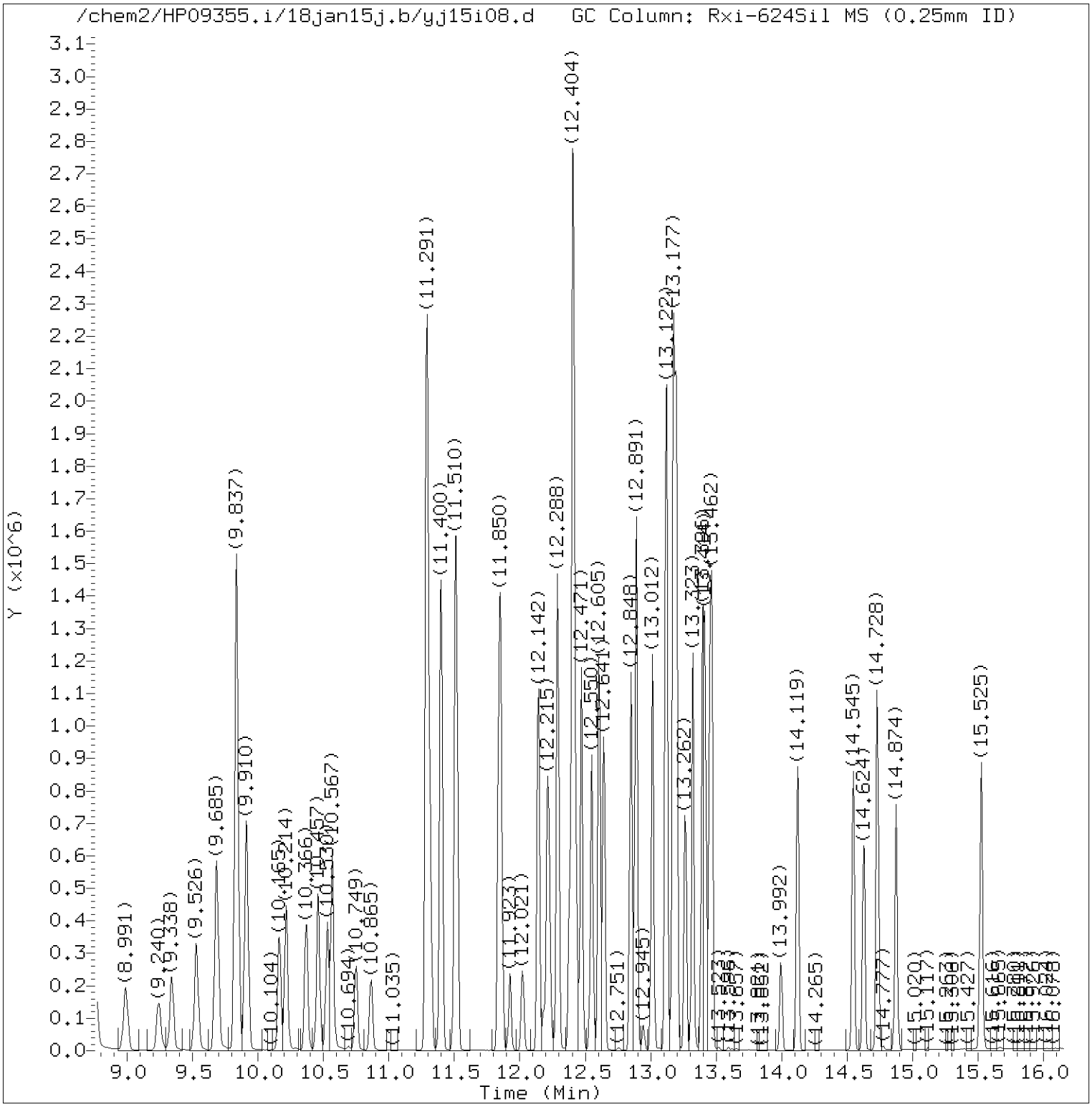
Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i08.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:31 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD020 Lab Sample ID: VSTD020

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:37.
Target 3.5 esignature user ID: kk10002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i08.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:31 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD020 Lab Sample ID: VSTD020

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:37.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i08.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:31 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD020 Lab Sample ID: VSTD020

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
3) Dichlorodifluoromethane	(2)	1.983	85	174868	21.520
4) Chloromethane	(2)	2.184	50	180109	21.272
6) Vinyl Chloride	(2)	2.305	62	181936	21.047
5) 1,3-Butadiene	(2)	2.311	39	93407	21.251
8) Bromomethane	(2)	2.640	94	122599	20.937
9) Chloroethane	(2)	2.731	64	101559	21.184
10) Dichlorofluoromethane	(2)	2.968	67	219291	20.276
12) Trichlorofluoromethane	(2)	3.047	101	210765	21.451
11) n-Pentane	(2)	3.090	43	162002	19.932
14) Ethyl ether	(2)	3.303	59	120825	20.730
15) Freon 123a	(2)	3.382	67	134974	21.131
16) Acrolein	(1)	3.473	56	478573	182.648
17) 1,1-Dichloroethene	(2)	3.619	96	97820	21.132
17) 1,1-Dichloroethene	(2)	3.619	63	49151	21.578
18) Acetone	(1)	3.631	58	46244M	39.682
19) Freon 113	(2)	3.656	101	96494	21.604
21) 2-Propanol	(1)	3.796	45	188490	230.918
22) Methyl Iodide	(2)	3.826	142	188428	21.236
23) Carbon Disulfide	(2)	3.942	76	325763	21.012
27) Methyl Acetate	(2)	4.069	43	172163	19.499
25) Allyl Chloride	(2)	4.112	41	180511	19.053
29)*t-Butyl alcohol-d10	(1)	4.276	65	375004	250.000
28) Methylene Chloride	(2)	4.301	84	124679	21.018
30) t-Butyl alcohol	(1)	4.404	59	380074	229.950
31) Acrylonitrile	(2)	4.629	53	85871	18.929
33) Methyl Tertiary Butyl Ether	(2)	4.708	73	417221	20.611
32) trans-1,2-Dichloroethene	(2)	4.733	96	122533	21.104
34) n-Hexane	(2)	5.158	57	179197	20.832
36) 1,1-Dichloroethane	(2)	5.396	63	222368	21.080
38) di-Isopropyl ether	(2)	5.438	45	407700	20.698
39) 2-Chloro-1,3-butadiene	(2)	5.499	53	197931	21.425
40) Ethyl t-butyl ether	(2)	5.980	59	411452	20.709
44) 2-Butanone	(2)	6.174	43	266676	36.860
42) cis-1,2-Dichloroethene	(2)	6.223	96	140047	20.633
45) 2,2-Dichloropropane	(2)	6.241	77	182818	21.111
47) Propionitrile	(1)	6.260	54	382276	230.019
48) Methacrylonitrile	(2)	6.485	67	487781	112.654
49) Bromochloromethane	(2)	6.564	128	68296	19.871

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:37.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i08.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:31 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD020 Lab Sample ID: VSTD020

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50) Tetrahydrofuran	(1)	6.570	71	72624	37.887
51) Chloroform	(2)	6.710	83	222750	20.774
43) 1,2-Dichloroethene (Total)	(2)		96	262580	41.737
52)$Dibromofluoromethane	(2)	6.929	113	284294	50.170
52)$Dibromofluoromethane	(2)	6.929	111	291447	50.209
53) 1,1,1-Trichloroethane	(2)	6.941	97	214044	20.878
54) Cyclohexane	(2)	7.050	56	211764	21.271
54) Cyclohexane	(2)	7.050	84	181405	21.107
54) Cyclohexane	(2)	7.050	69	66449	21.323
55) 1,1-Dichloropropene	(2)	7.154	75	180771	20.849
56) Carbon Tetrachloride	(2)	7.160	117	162135	20.884
58) Isobutyl Alcohol	(1)	7.263	41	333068	582.096
57)$1,2-Dichloroethane-d4	(2)	7.391	102	74135	50.741
57)$1,2-Dichloroethane-d4	(2)	7.391	65	348041	50.301
57)$1,2-Dichloroethane-d4	(2)	7.391	104	47310	50.963
60) Benzene	(2)	7.421	78	526172	20.948
61) 1,2-Dichloroethane	(2)	7.494	62	183508	20.295
61) 1,2-Dichloroethane	(2)	7.494	98	17288	20.942
65) t-Amyl methyl ether	(2)	7.604	73	407916	20.413
66)*Fluorobenzene	(2)	7.823	96	1192534	50.000
67) n-Heptane	(2)	7.835	43	210861	20.559
69) n-Butanol	(1)	8.152	56	619484	1190.404
71) Trichloroethene	(2)	8.310	95	139973	20.875
72) Methylcyclohexane	(2)	8.626	83	211831	19.309
72) Methylcyclohexane	(2)	8.626	98	95234	19.237
73) 1,2-Dichloropropane	(2)	8.644	63	138393	20.452
76) Methyl Methacrylate	(2)	8.711	69	153941	20.196
75) 1,4-Dioxane	(1)	8.723	88	75910M	593.772
74) Dibromomethane	(2)	8.760	93	90506	20.484
78) Bromodichloromethane	(2)	8.991	83	168703	20.345
79) 2-Nitropropane	(2)	9.247	41	116638	36.070
80) 2-Chloroethyl Vinyl Ether	(2)	9.338	63	121722	20.679
81) cis-1,3-Dichloropropene	(2)	9.526	75	224785	20.501
82) 4-Methyl-2-pentanone	(2)	9.685	43	496622	37.950
83)$Toluene-d8	(3)	9.837	98	1221954	50.267
83)$Toluene-d8	(3)	9.837	100	786181	50.098
90) 1,3-Dichloropropene (total)	(3)		100	431918	40.592
88) Toluene	(3)	9.910	92	352902	20.731

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:37.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i08.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:31 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD020 Lab Sample ID: VSTD020

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
89) trans-1,3-Dichloropropene	(3)	10.165	75	207133	20.091
91) Ethyl Methacrylate	(3)	10.214	69	243422	19.998
92) 1,1,2-Trichloroethane	(3)	10.372	97	137500	19.998
93) Tetrachloroethene	(3)	10.457	166	154422	20.713
94) 1,3-Dichloropropane	(3)	10.530	76	233620	20.227
96) 2-Hexanone	(3)	10.567	43	403544	37.057
97) Dibromochloromethane	(3)	10.749	129	142447	19.863
99) 1,2-Dibromoethane	(3)	10.865	107	150925	20.119
100)*Chlorobenzene-d5	(3)	11.291	117	924866	50.000
101) 1-Chlorohexane	(3)	11.291	91	194941	19.954
102) Chlorobenzene	(3)	11.315	112	405162	20.428
103) 1,1,1,2-Tetrachloroethane	(3)	11.394	131	132131	20.367
104) Ethylbenzene	(3)	11.400	91	686560	20.694
106) m+p-Xylene	(3)	11.516	106	548103	41.259
108) Xylene (Total)	(3)		106	816519	61.692
107) o-Xylene	(3)	11.844	106	268416	20.434
109) Styrene	(3)	11.856	104	455380	20.432
110) Bromoform	(3)	12.021	173	108760	19.082
111) Isopropylbenzene	(3)	12.142	105	683865	20.681
112) Cyclohexanone	(1)	12.215	55	382644	472.379
114)$4-Bromofluorobenzene	(3)	12.288	95	459052	50.322
114)$4-Bromofluorobenzene	(3)	12.288	174	385825	50.410
116) 1,1,2,2-Tetrachloroethane	(4)	12.380	83	236969	19.761
118) trans-1,4-Dichloro-2-butene	(4)	12.404	53	391386	117.142
115) Bromobenzene	(4)	12.404	156	181045	19.875
117) 1,2,3-Trichloropropane	(4)	12.434	110	74701	19.371
119) n-Propylbenzene	(4)	12.471	91	819517	20.745
120) 2-Chlorotoluene	(4)	12.550	126	166999	20.353
122) 1,3,5-Trimethylbenzene	(4)	12.605	105	594966	20.520
121) 4-Chlorotoluene	(4)	12.641	126	178050	20.245
124) tert-Butylbenzene	(4)	12.848	134	123981M	20.262
125) Pentachloroethane	(4)	12.885	167	96091	20.204
126) 1,2,4-Trimethylbenzene	(4)	12.891	105	610735	20.356
127) sec-Butylbenzene	(4)	13.012	105	754161	20.636
129) 1,3-Dichlorobenzene	(4)	13.116	146	351576	20.127
130) p-Isopropyltoluene	(4)	13.122	119	663016	20.558
131)*1,4-Dichlorobenzene-d4	(4)	13.170	152	506310	50.000
133) 1,4-Dichlorobenzene	(4)	13.189	146	354058	19.790

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:37.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15i08.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:31 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

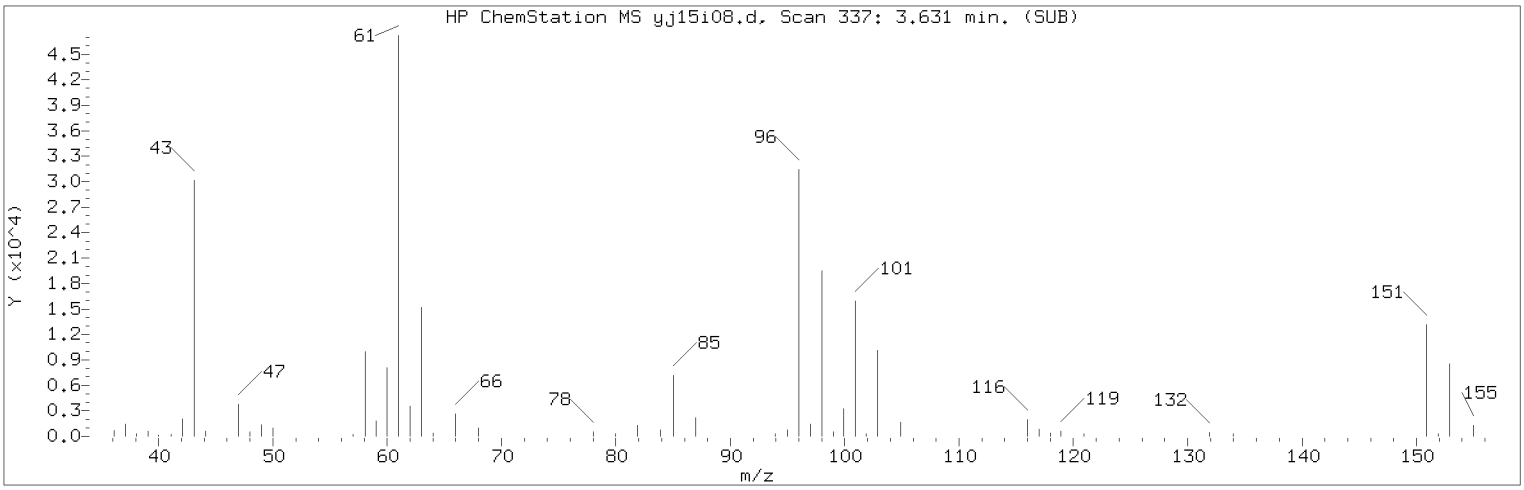
Sample Name: VSTD020 Lab Sample ID: VSTD020

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
134) 1,2,3-Trimethylbenzene	(4)	13.195	105	586630	20.239
135) Benzyl Chloride	(4)	13.262	91	462100	19.446
136) 1,3-Diethylbenzene	(4)	13.323	119	368847	19.993
137) 1,4-Diethylbenzene	(4)	13.396	119	381310	19.933
139) n-Butylbenzene	(4)	13.414	92	329198M	20.164
138) 1,2-Dichlorobenzene	(4)	13.450	146	332788	19.853
140) 1,2-Diethylbenzene	(4)	13.469	119	304329	19.927
141) Diethylbenzene (total)	(4)		100	1054486	59.853
142) 1,2-Dibromo-3-chloropropane	(4)	13.992	75	60610	19.677
144) 1,3,5-Trichlorobenzene	(4)	14.119	180	250666	19.897
146) 1,2,4-Trichlorobenzene	(4)	14.545	180	236286	19.519
147) Hexachlorobutadiene	(4)	14.630	225	108698	18.926
148) Naphthalene	(4)	14.728	128	793573	19.569
149) 1,2,3-Trichlorobenzene	(4)	14.874	180	216938	19.341
150) 2-Methylnaphthalene	(4)	15.525	142	438703	19.028

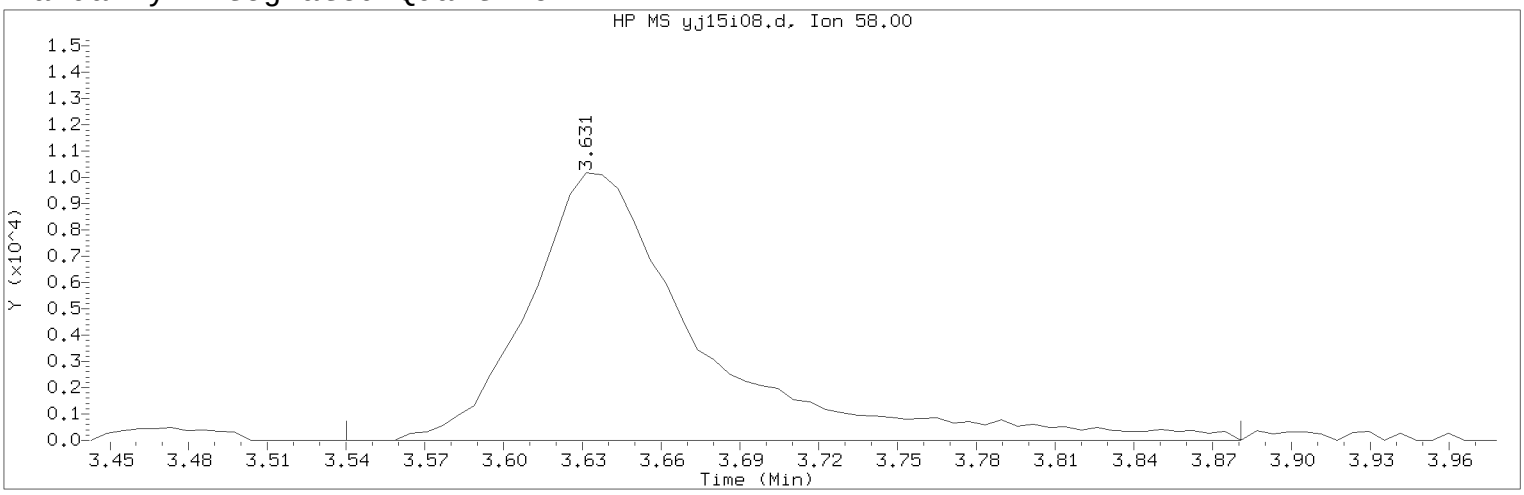
M = Compound was manually integrated.

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:37.
Target 3.5 esignature user ID: kk10002

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i08.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:31 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD020 Lab Sample ID: VSTD020

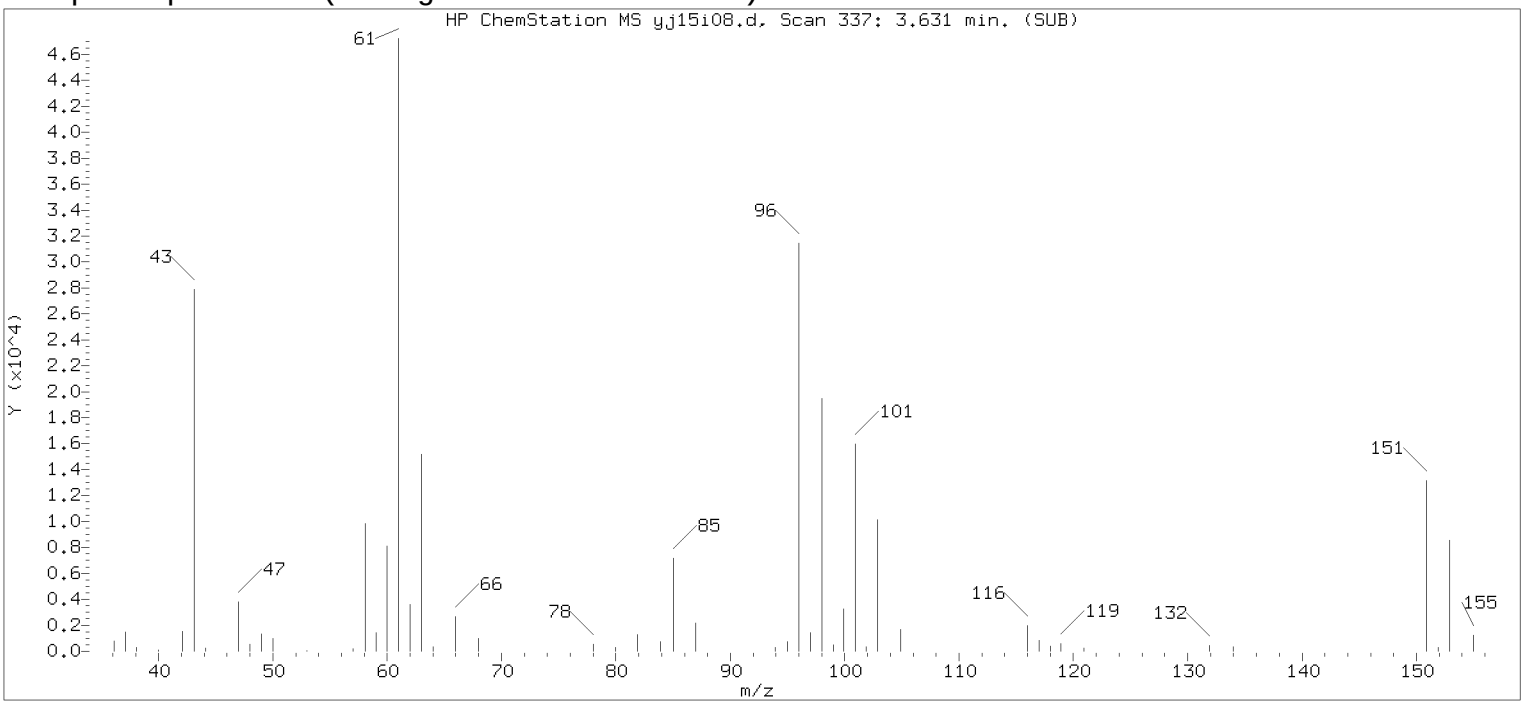
Compound Number : 18
Compound Name : Acetone
Scan Number : 337
Retention Time (minutes): 3.631
Quant Ion : 58.00
Area (flag) : 46244M
On-Column Amount (ng) : 39.6821
Integration start scan : 321 Integration stop scan: 377
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

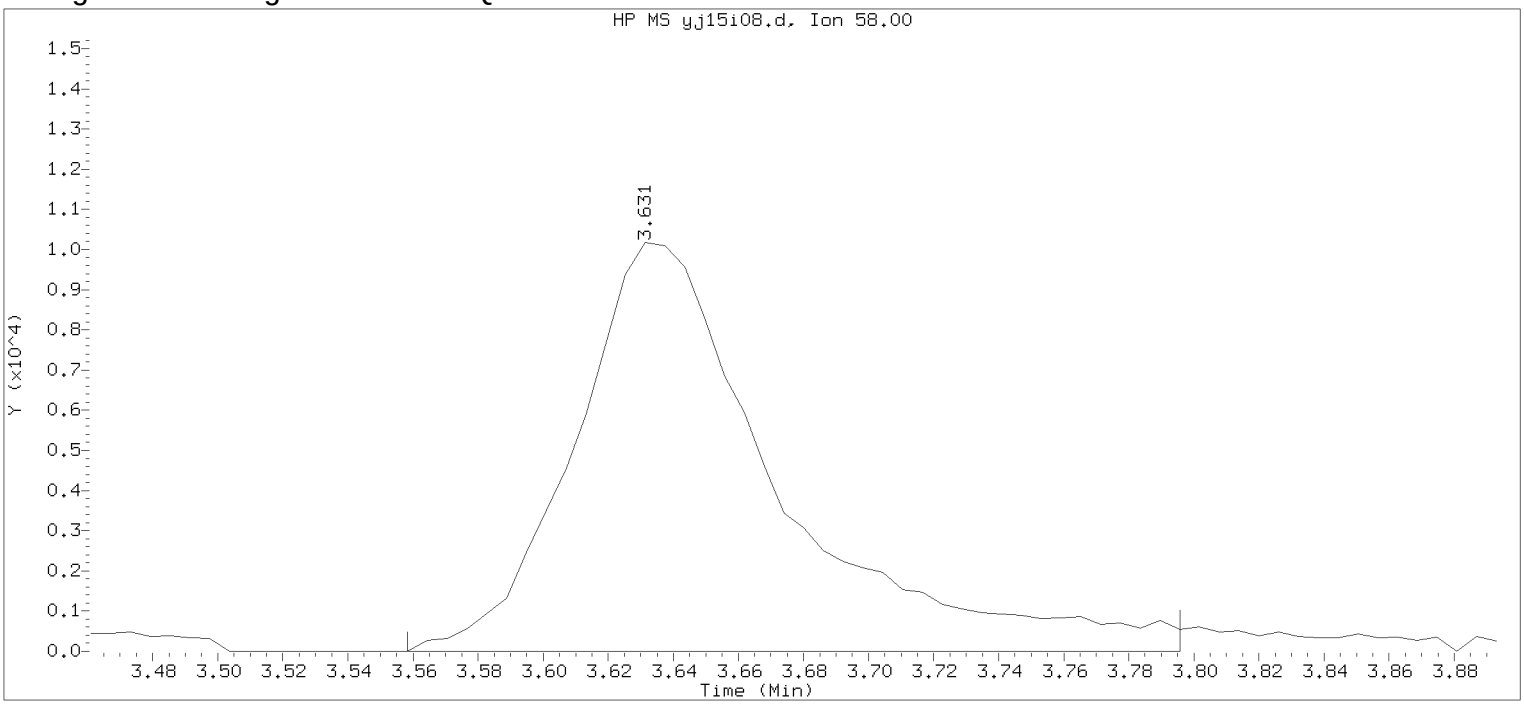
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:37. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i08.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:31 Analyst ID: dhh02035

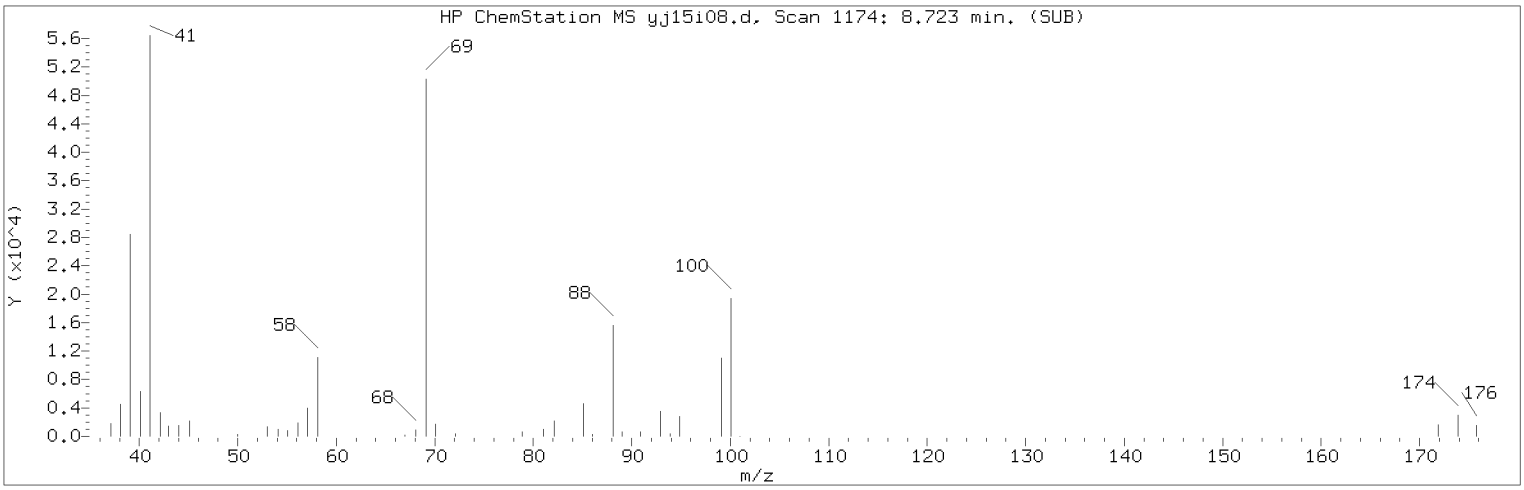
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 15:47
Date, time and analyst ID of latest file update: 15-Jan-2018 15:47 Automation

Sample Name: VSTD020 Lab Sample ID: VSTD020

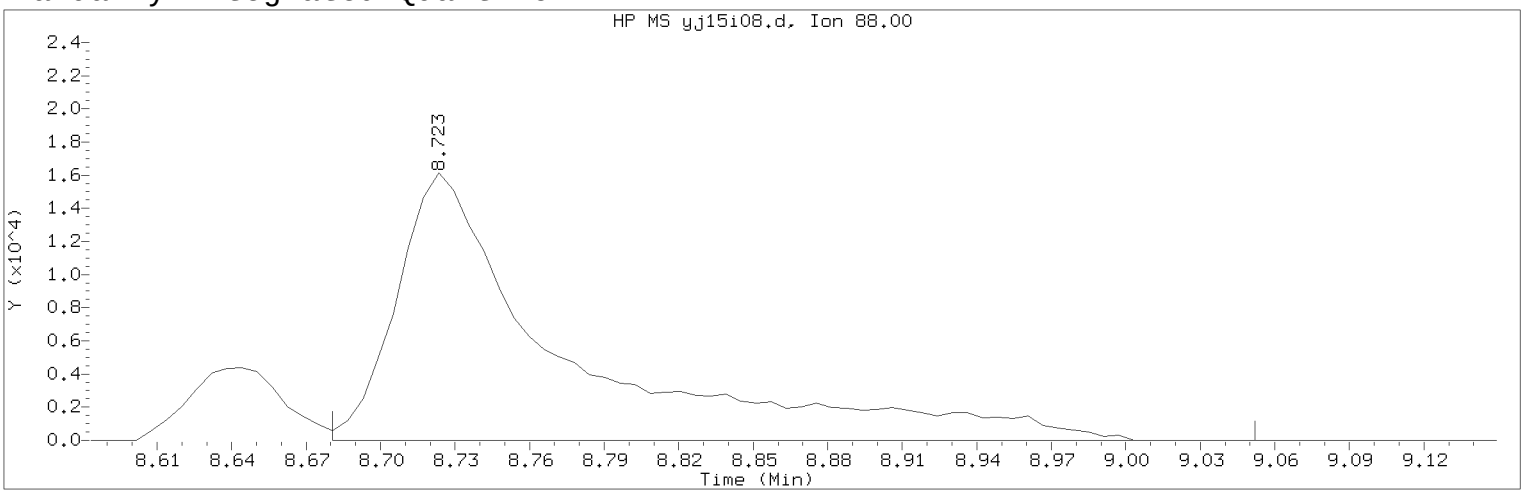
Compound Number : 18
Compound Name : Acetone
Scan Number : 337
Retention Time (minutes): 3.631
Quant Ion : 58.00
Area : 44232
On-column Amount (ng) : 38.1915
Integration start scan : 324 Integration stop scan: 363
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:37.
Target 3.5 esignature user id: kkelly

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i08.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:31 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD020 Lab Sample ID: VSTD020

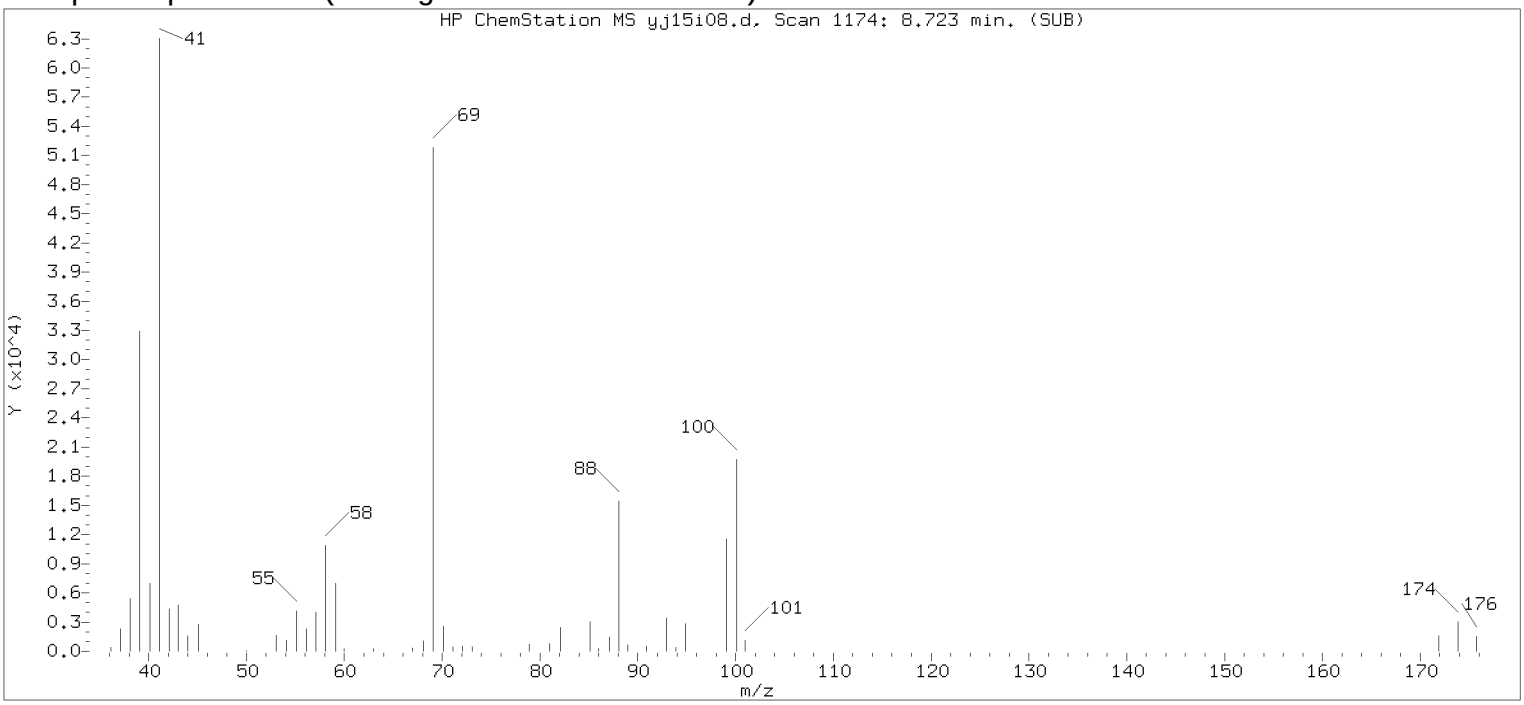
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 1174
Retention Time (minutes): 8.723
Quant Ion : 88.00
Area (flag) : 75910M
On-Column Amount (ng) : 593.7723
Integration start scan : 1166 Integration stop scan: 1227
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

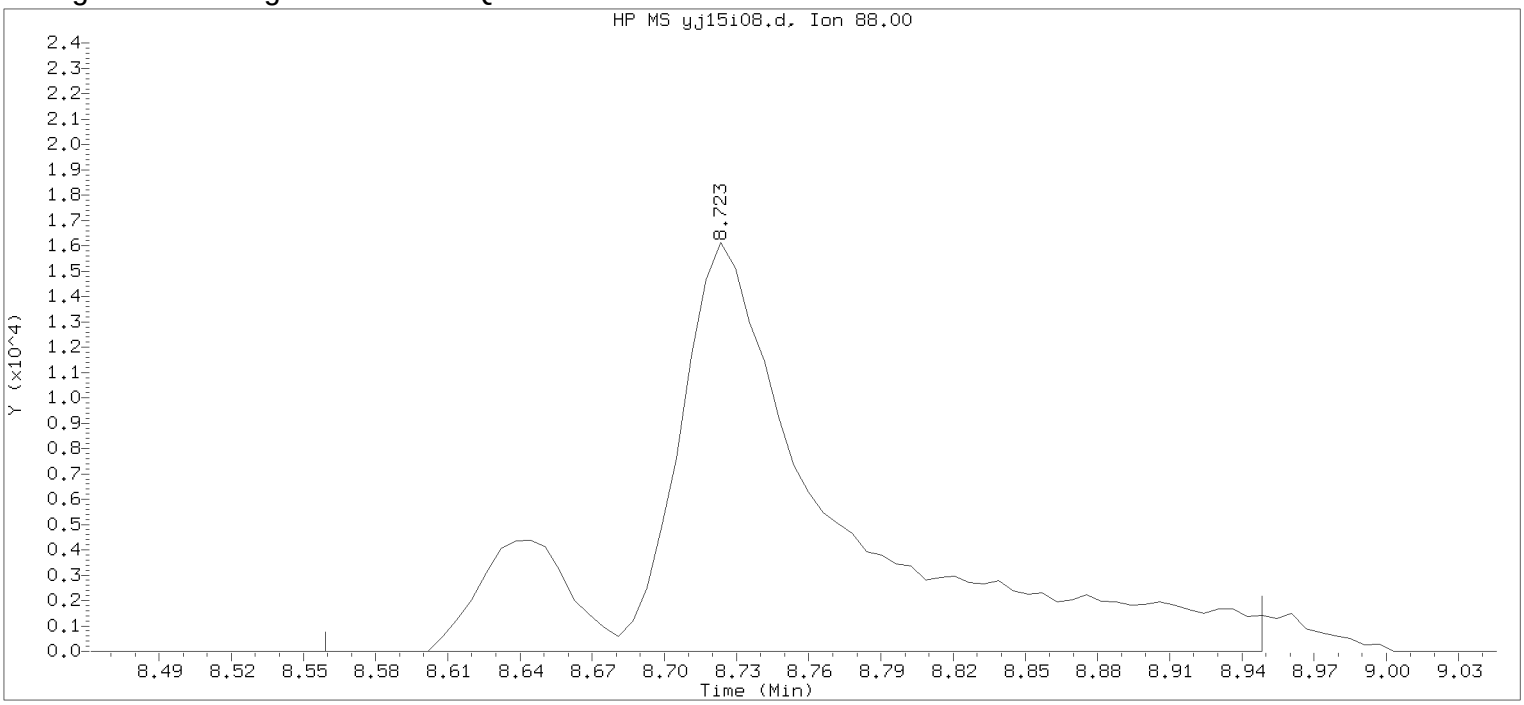
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:37. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i08.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:31 Analyst ID: dhh02035

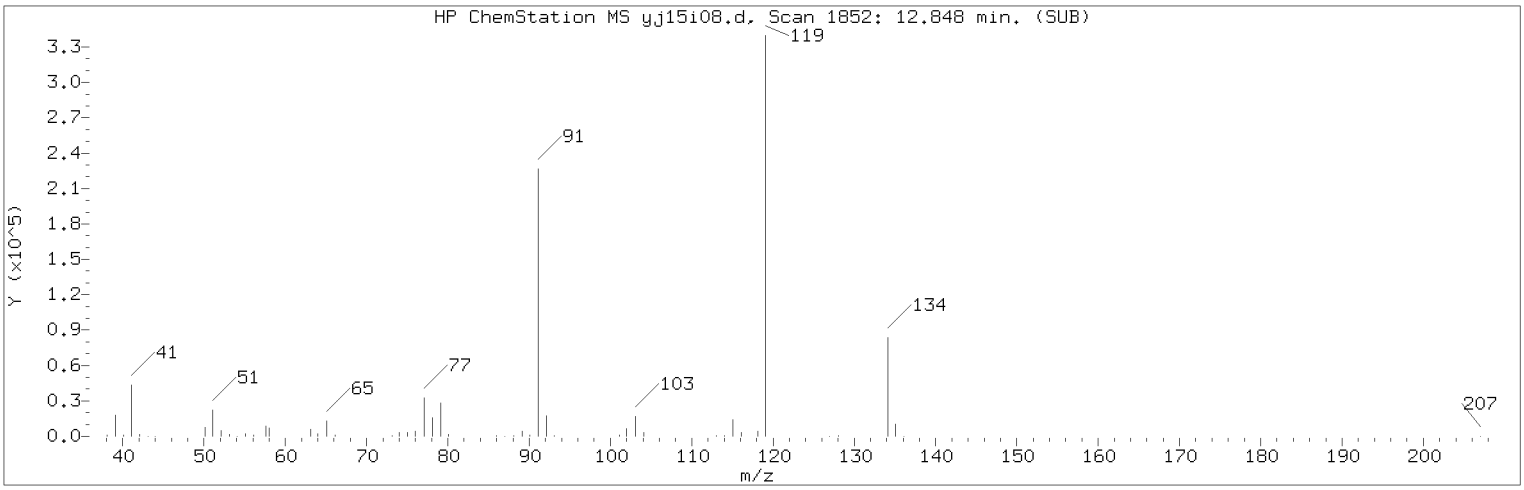
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 15:47
Date, time and analyst ID of latest file update: 15-Jan-2018 15:47 Automation

Sample Name: VSTD020 Lab Sample ID: VSTD020

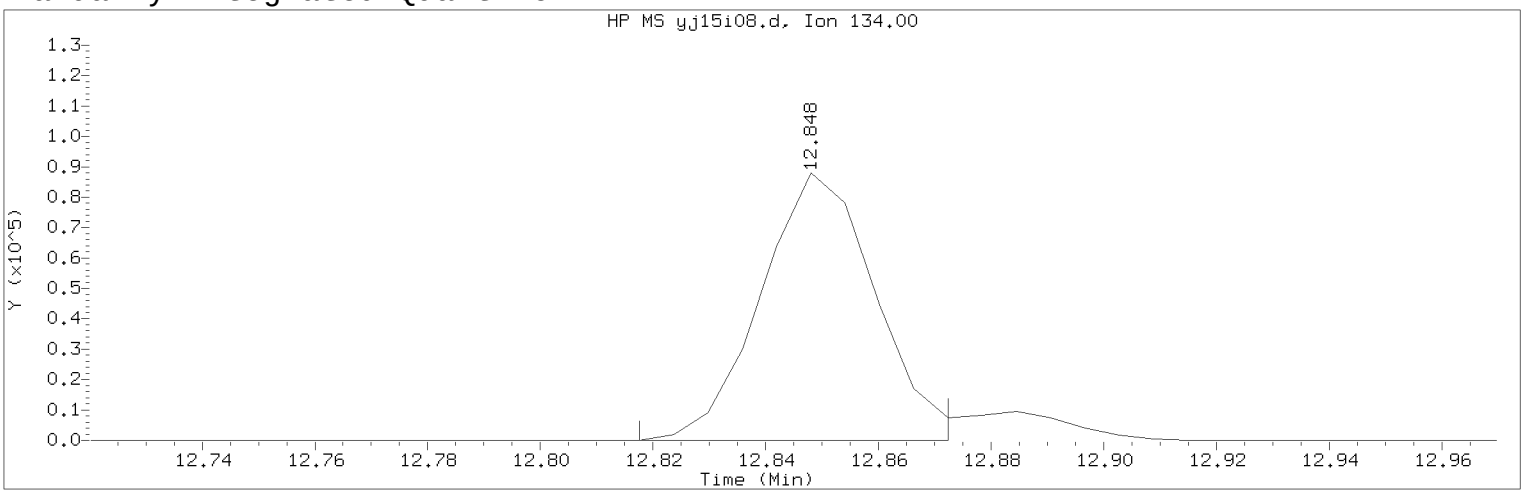
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 1174
Retention Time (minutes): 8.723
Quant Ion : 88.00
Area : 84958
On-column Amount (ng) : 630.5369
Integration start scan : 1146 Integration stop scan: 1210
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:37.
Target 3.5 esignature user id: kkelly

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i08.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:31 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD020 Lab Sample ID: VSTD020

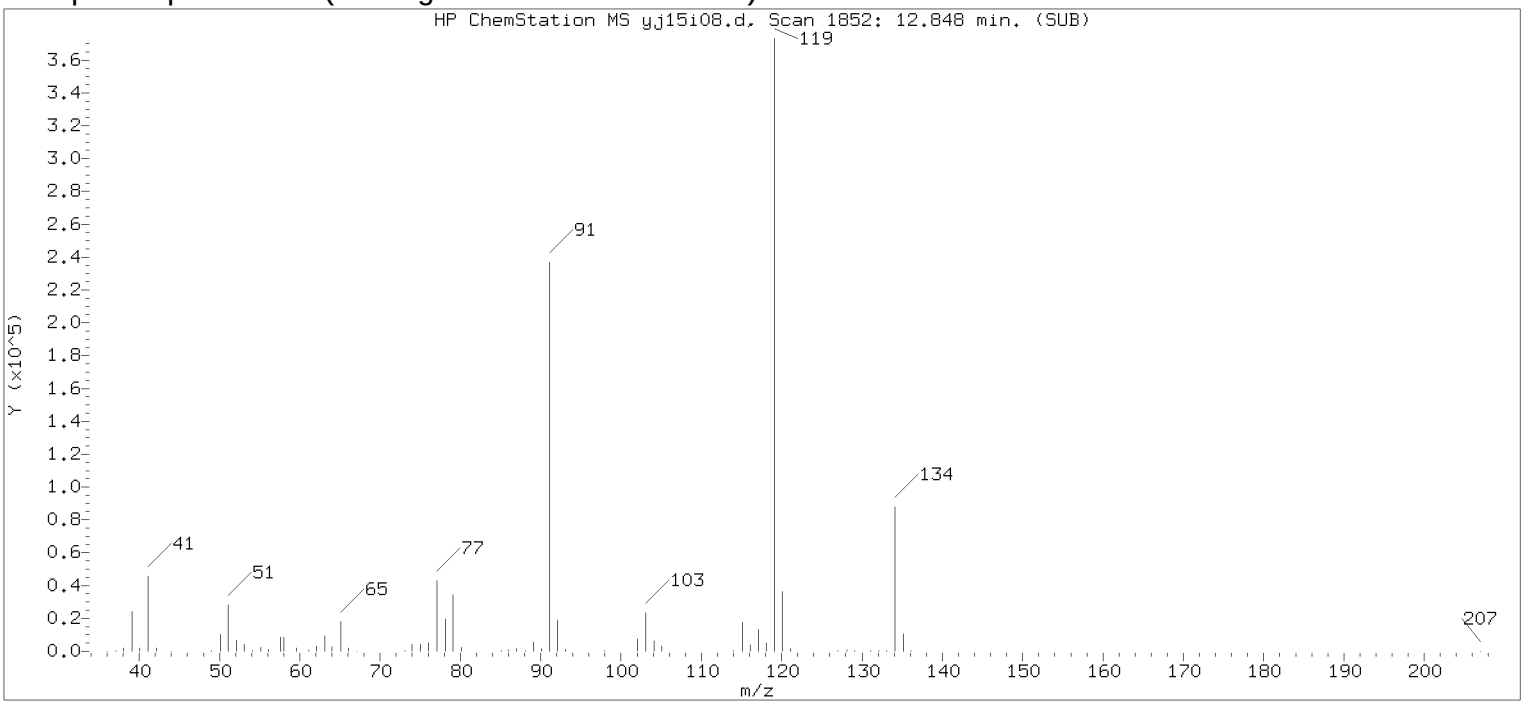
Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 1852
Retention Time (minutes): 12.848
Quant Ion : 134.00
Area (flag) : 123981M
On-Column Amount (ng) : 20.2624
Integration start scan : 1846 Integration stop scan: 1855
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

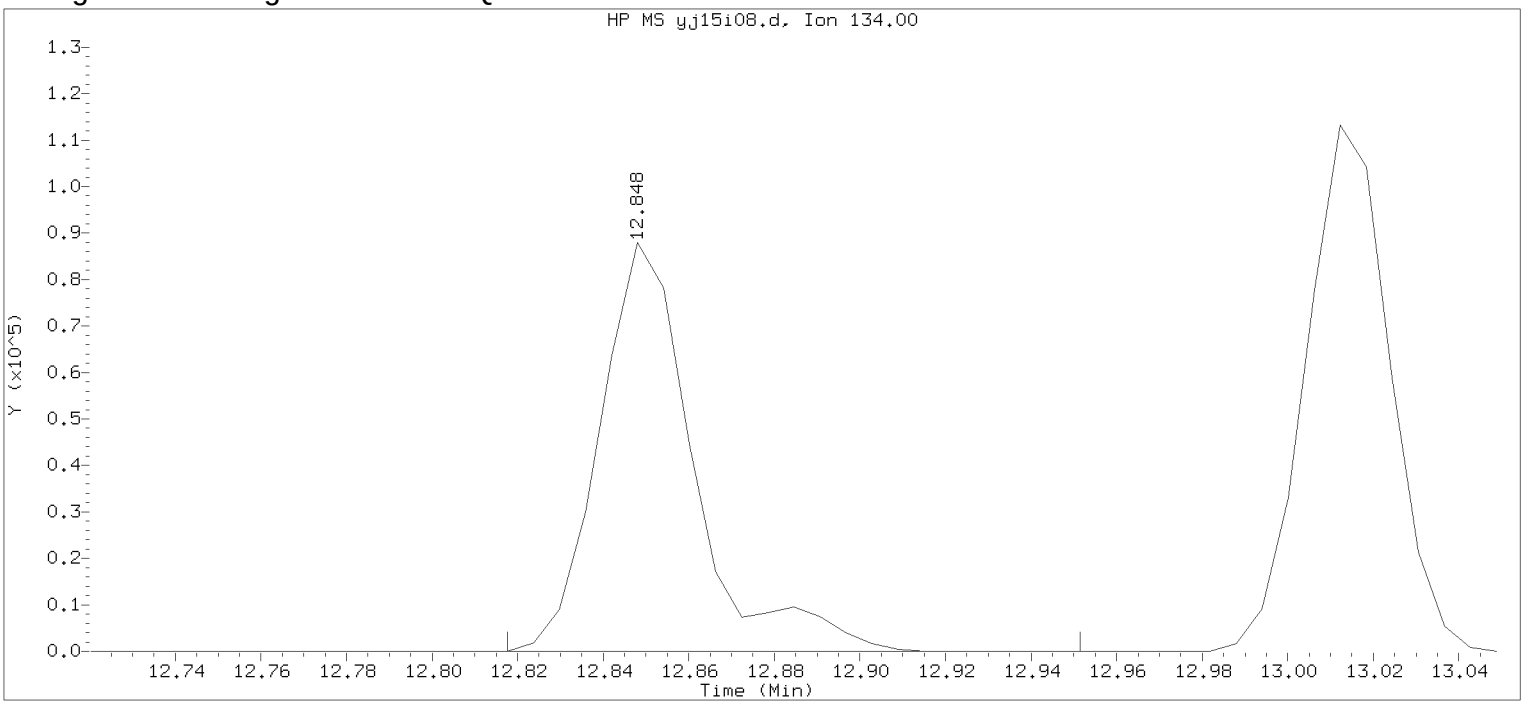
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:37. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i08.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:31 Analyst ID: dhh02035

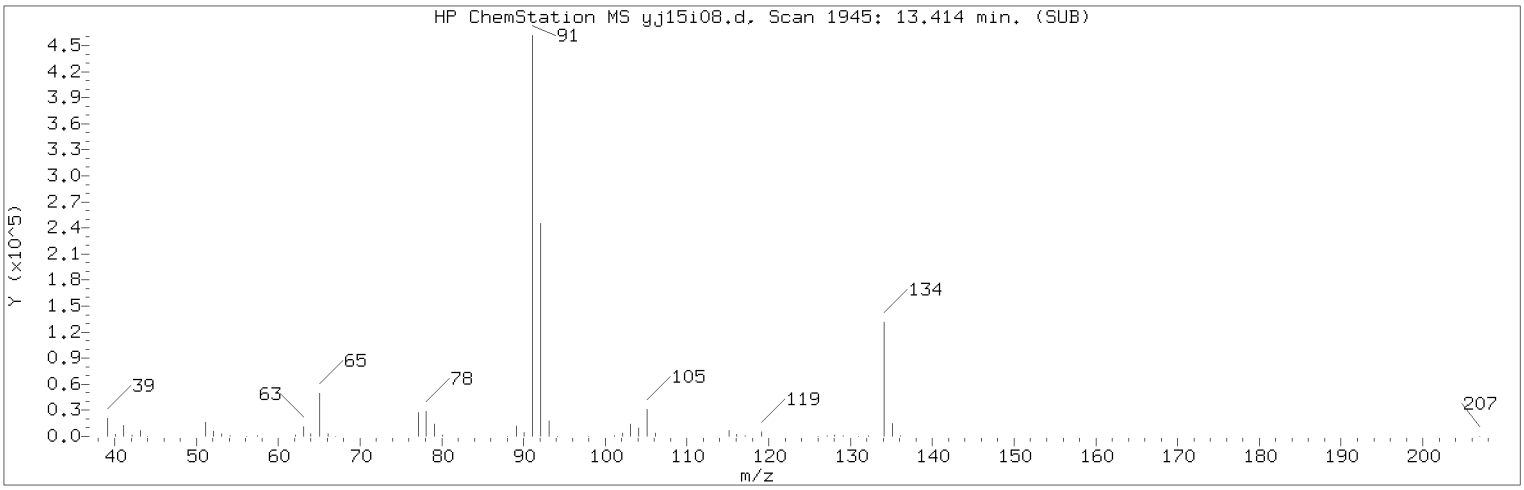
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 15:47
Date, time and analyst ID of latest file update: 15-Jan-2018 15:47 Automation

Sample Name: VSTD020 Lab Sample ID: VSTD020

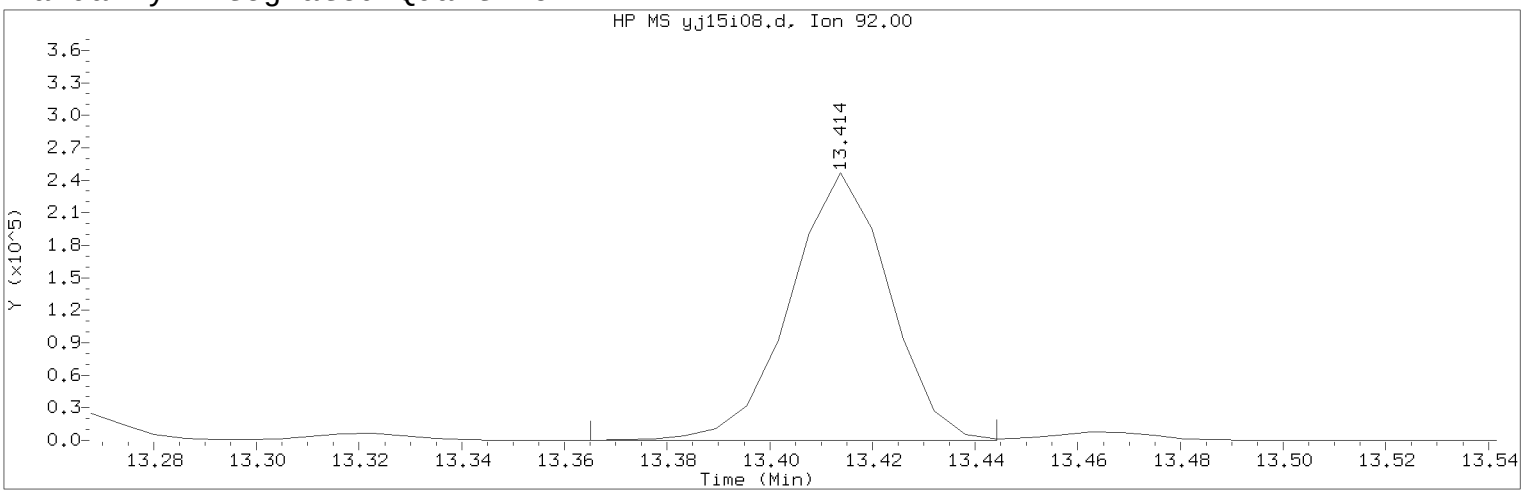
Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 1852
Retention Time (minutes): 12.848
Quant Ion : 134.00
Area : 135405
On-column Amount (ng) : 21.0469
Integration start scan : 1846 Integration stop scan: 1868
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:37.
Target 3.5 esignature user id: kkelly

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15i08.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:31 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:09
Date, time and analyst ID of latest file update: 16-Jan-2018 16:09 kk10002

Sample Name: VSTD020 Lab Sample ID: VSTD020

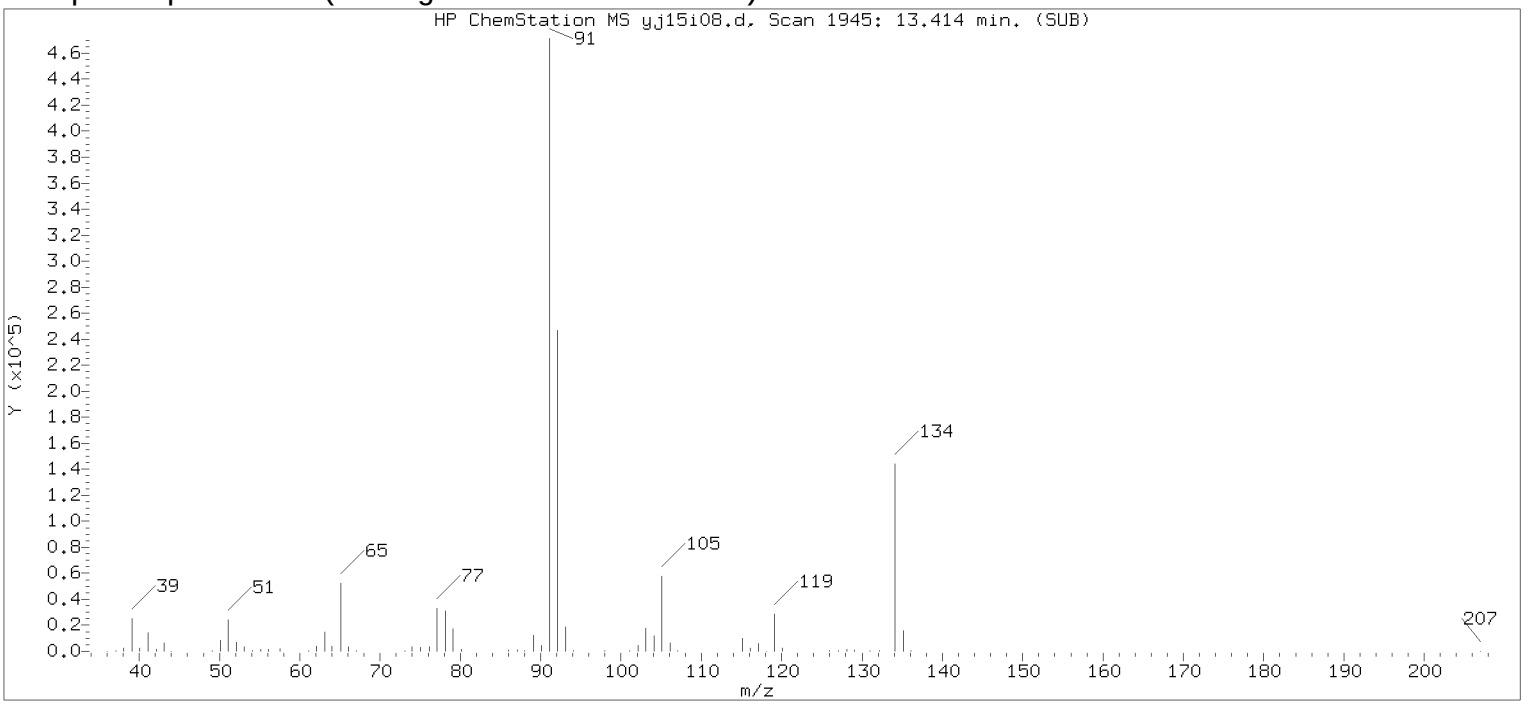
Compound Number : 139
Compound Name : n-Butylbenzene
Scan Number : 1945
Retention Time (minutes): 13.414
Quant Ion : 92.00
Area (flag) : 329198M
On-Column Amount (ng) : 20.1638
Integration start scan : 1936 Integration stop scan: 1949
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

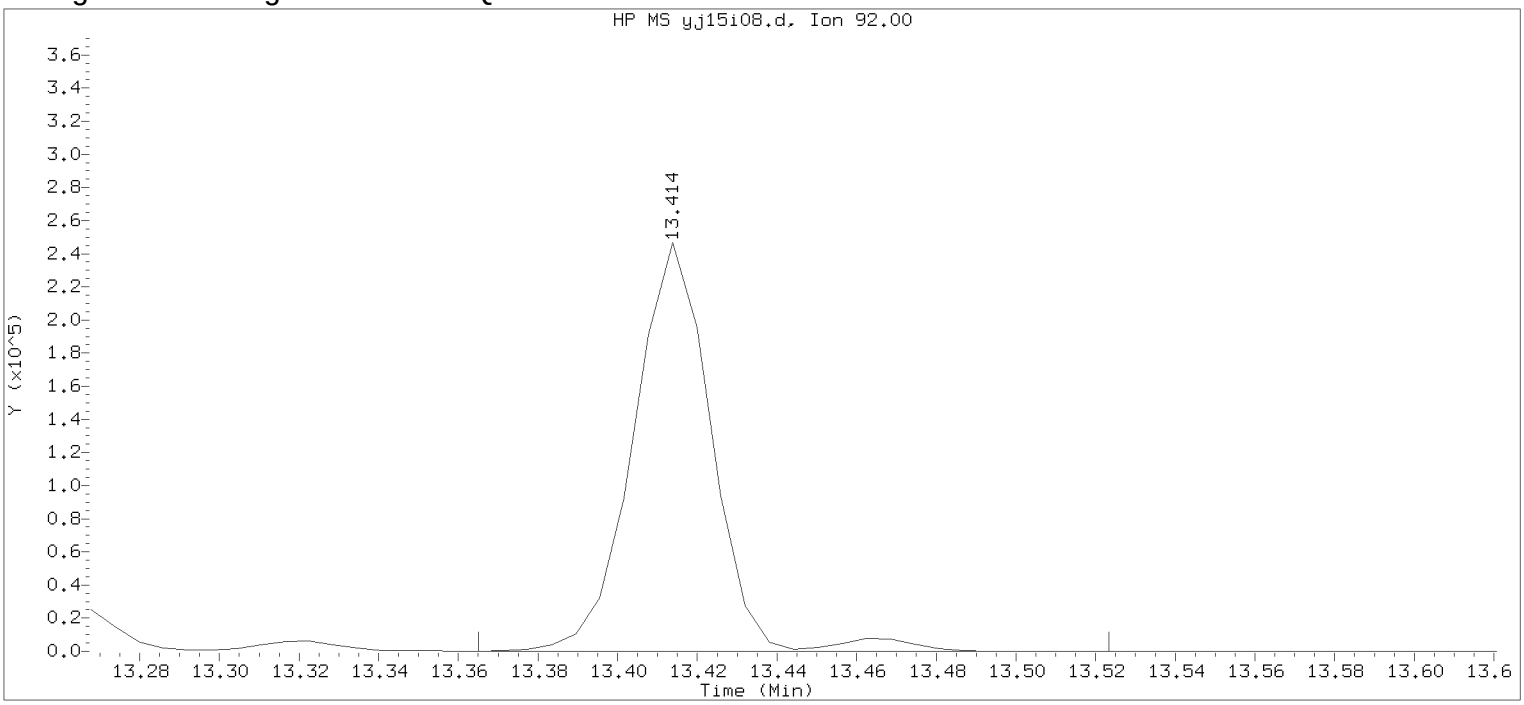
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:37. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:54.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



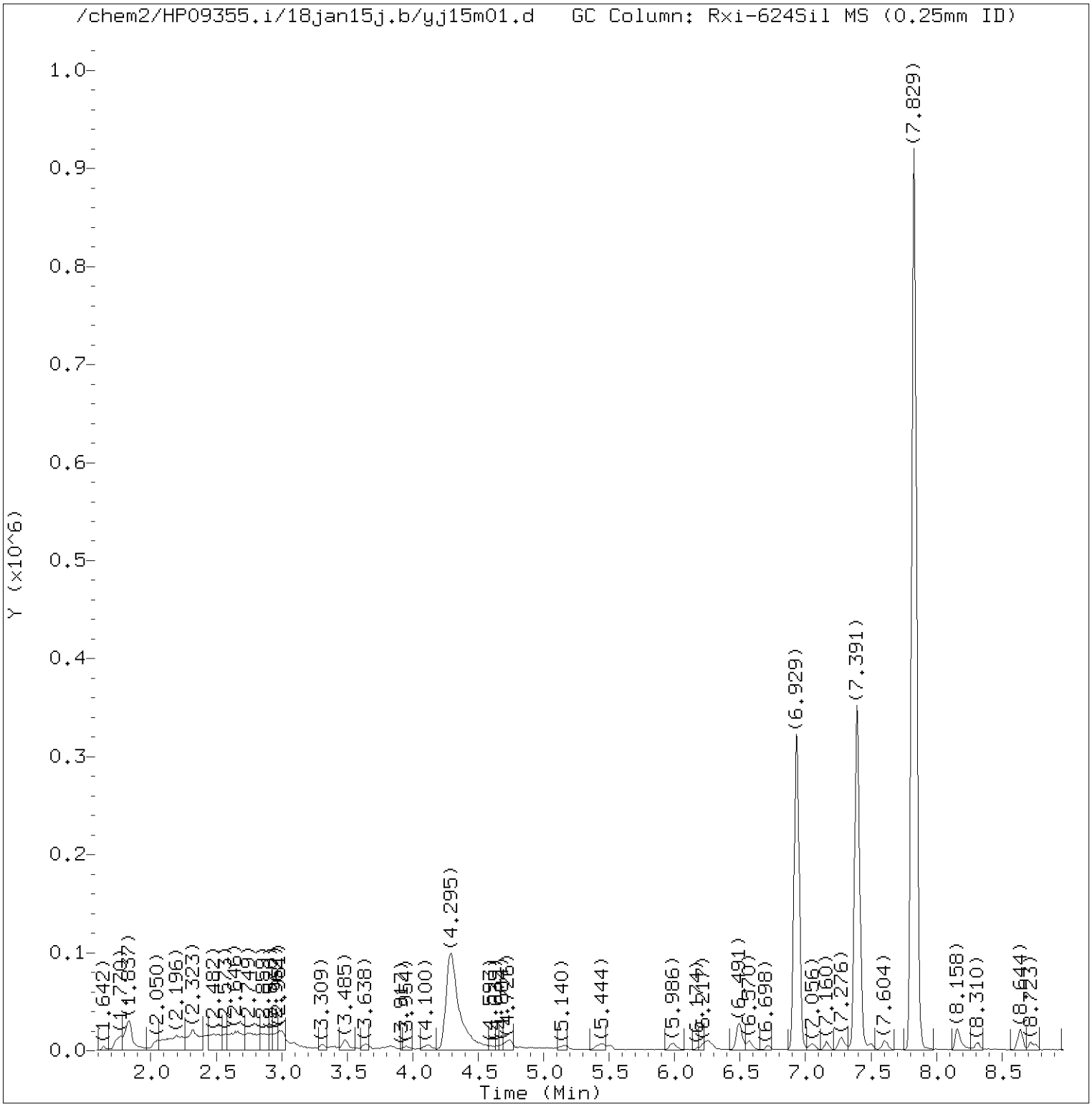
Data File: /chem2/HP09355.i/18jan15j.b/yj15i08.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:31 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 15-JAN-2018 15:47
Date, time and analyst ID of latest file update: 15-Jan-2018 15:47 Automation

Sample Name: VSTD020 Lab Sample ID: VSTD020

Compound Number : 139
Compound Name : n-Butylbenzene
Scan Number : 1945
Retention Time (minutes): 13.414
Quant Ion : 92.00
Area : 339525
On-column Amount (ng) : 20.4639
Integration start scan : 1936 Integration stop scan: 1962
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:37.
Target 3.5 esignature user id: kkelly



Total Ion Chromatogram (TIC)

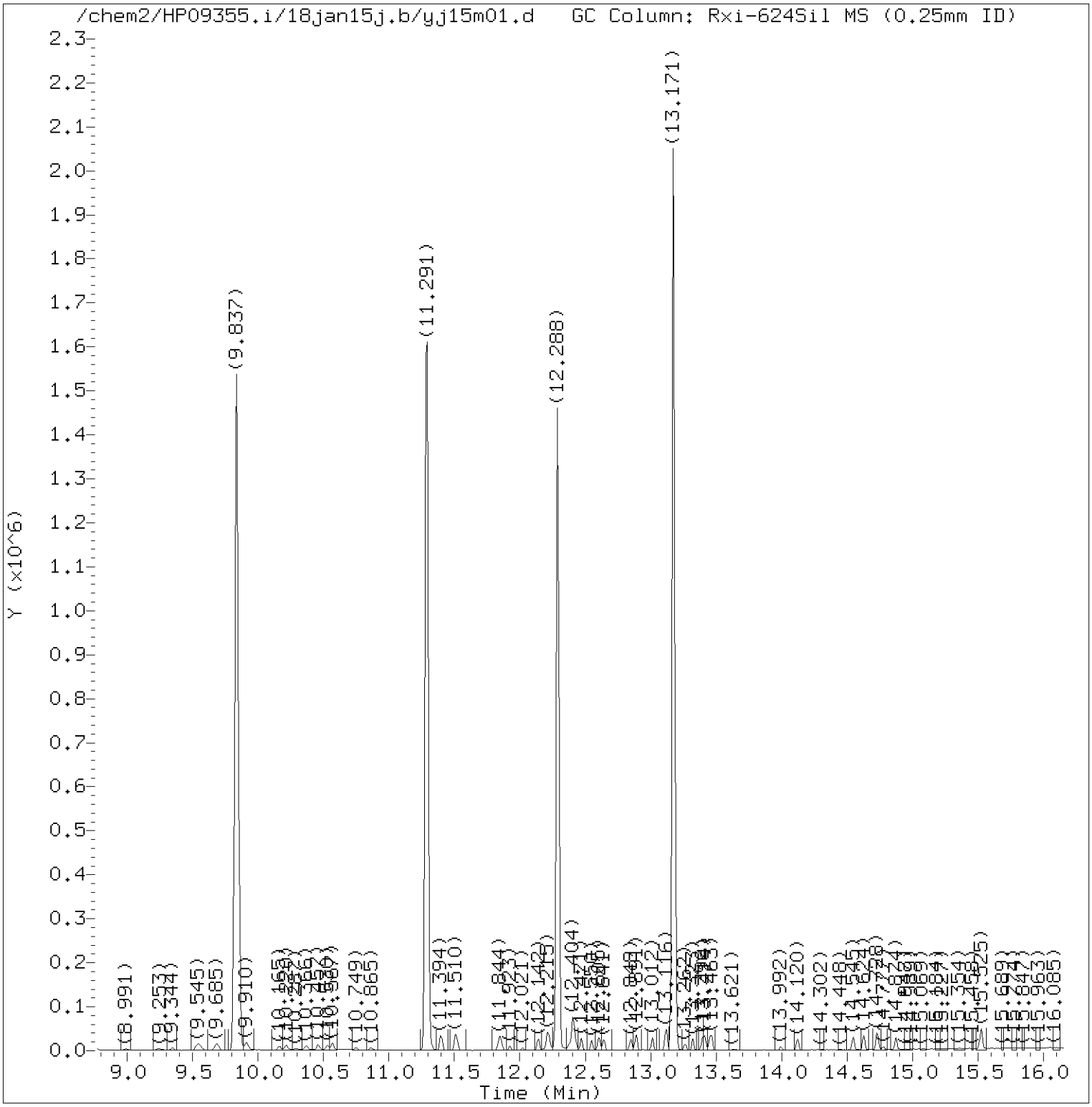
Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15m01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:53 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:26
Date, time and analyst ID of latest file update: 16-Jan-2018 16:34 kk10002

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:37.
Target 3.5 esignature user ID: kk10002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15m01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:53 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:26
Date, time and analyst ID of latest file update: 16-Jan-2018 16:34 kk10002

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:37.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15m01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:53 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:26
Date, time and analyst ID of latest file update: 16-Jan-2018 16:34 kk10002

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
3) Dichlorodifluoromethane	(2)	1.995	85	2562	0.315
4) Chloromethane	(2)	2.196	50	4049M	0.478
6) Vinyl Chloride	(2)	2.311	62	5671	0.655
5) 1,3-Butadiene	(2)	2.330	39	2568M	0.584
8) Bromomethane	(2)	2.658	94	3784	0.645
9) Chloroethane	(2)	2.737	64	2313	0.482
10) Dichlorofluoromethane	(2)	2.981	67	7680	0.709
12) Trichlorofluoromethane	(2)	3.054	101	3977	0.404
11) n-Pentane	(2)	3.096	43	7433M	0.913
14) Ethyl ether	(2)	3.309	59	2671	0.458
15) Freon 123a	(2)	3.394	67	3116	0.487
16) Acrolein	(1)	3.485	56	14139	5.450
17) 1,1-Dichloroethene	(2)	3.631	96	1799	0.388
18) Acetone	(1)	3.644	58	1087	0.942
19) Freon 113	(2)	3.668	101	1300	0.291
21) 2-Propanol	(1)	3.796	45	7142	8.836
22) Methyl Iodide	(2)	3.838	142	4099	0.461
23) Carbon Disulfide	(2)	3.954	76	7378M	0.475
27) Methyl Acetate	(2)	4.082	43	6386	0.722
25) Allyl Chloride	(2)	4.130	41	6375	0.672
29)*t-Butyl alcohol-d10	(1)	4.288	65	371318	250.000
28) Methylene Chloride	(2)	4.319	84	3396	0.572
30) t-Butyl alcohol	(1)	4.416	59	14325	8.753
31) Acrylonitrile	(2)	4.641	53	1697	0.374
33) Methyl Tertiary Butyl Ether	(2)	4.726	73	9794	0.483
32) trans-1,2-Dichloroethene	(2)	4.739	96	2378	0.409
34) n-Hexane	(2)	5.171	57	3966	0.461
36) 1,1-Dichloroethane	(2)	5.408	63	4842	0.459
38) di-Isopropyl ether	(2)	5.450	45	9776	0.496
39) 2-Chloro-1,3-butadiene	(2)	5.511	53	4091	0.442
40) Ethyl t-butyl ether	(2)	5.986	59	9845	0.495
44) 2-Butanone	(2)	6.187	43	8026	1.108
42) cis-1,2-Dichloroethene	(2)	6.229	96	3226	0.475
45) 2,2-Dichloropropane	(2)	6.247	77	3702	0.427
47) Propionitrile	(1)	6.266	54	12771	7.761
48) Methacrylonitrile	(2)	6.497	67	16250	3.749
49) Bromochloromethane	(2)	6.570	128	1391	0.404
50) Tetrahydrofuran	(1)	6.582	71	1838	0.968

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:37.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15m01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:53 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:26
Date, time and analyst ID of latest file update: 16-Jan-2018 16:34 kk10002

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
51) Chloroform	(2)	6.710	83	5399	0.503
43) 1,2-Dichloroethene (Total)	(2)		96	5604	0.884
52)$Dibromofluoromethane	(2)	6.929	113	280356	49.419
53) 1,1,1-Trichloroethane	(2)	6.941	97	5091	0.496
54) Cyclohexane	(2)	7.044	56	4465	0.448
56) Carbon Tetrachloride	(2)	7.160	117	3401	0.438
55) 1,1-Dichloropropene	(2)	7.160	75	3958	0.456
58) Isobutyl Alcohol	(1)	7.276	41	13770	24.304
57)$1,2-Dichloroethane-d4	(2)	7.391	102	73303	50.115
60) Benzene	(2)	7.428	78	11887	0.473
61) 1,2-Dichloroethane	(2)	7.501	62	5635M	0.622
65) t-Amyl methyl ether	(2)	7.604	73	10003	0.500
66)*Fluorobenzene	(2)	7.829	96	1193887	50.000
67) n-Heptane	(2)	7.835	43	5194	0.506
69) n-Butanol	(1)	8.158	56	21541	41.804
71) Trichloroethene	(2)	8.310	95	3019	0.450
72) Methylcyclohexane	(2)	8.626	83	4204	0.383
73) 1,2-Dichloropropane	(2)	8.644	63	3097	0.457
76) Methyl Methacrylate	(2)	8.717	69	3593	0.471
75) 1,4-Dioxane	(1)	8.723	88	2019	51.118
74) Dibromomethane	(2)	8.760	93	2037	0.461
78) Bromodichloromethane	(2)	8.991	83	3740	0.451
79) 2-Nitropropane	(2)	9.247	41	3407	1.052
80) 2-Chloroethyl Vinyl Ether	(2)	9.350	63	2679	0.455
81) cis-1,3-Dichloropropene	(2)	9.526	75	5103	0.465
82) 4-Methyl-2-pentanone	(2)	9.685	43	13045	0.996
83)$Toluene-d8	(3)	9.837	98	1216525	50.700
90) 1,3-Dichloropropene (total)	(3)		100	9710	0.918
88) Toluene	(3)	9.910	92	8463	0.504
89) trans-1,3-Dichloropropene	(3)	10.165	75	4607	0.453
91) Ethyl Methacrylate	(3)	10.214	69	6135	0.511
92) 1,1,2-Trichloroethane	(3)	10.366	97	3555	0.524
93) Tetrachloroethene	(3)	10.457	166	3350	0.455
94) 1,3-Dichloropropane	(3)	10.530	76	6046	0.530
96) 2-Hexanone	(3)	10.567	43	10466M	0.974
97) Dibromochloromethane	(3)	10.755	129	2869	0.405
99) 1,2-Dibromoethane	(3)	10.865	107	3851	0.520
100)*Chlorobenzene-d5	(3)	11.291	117	912902	50.000

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin Kelly
on 01/16/2018 at 16:37.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15m01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:53 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:26
Date, time and analyst ID of latest file update: 16-Jan-2018 16:34 kk10002

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
101) 1-Chlorohexane	(3)	11.291	91	6317	0.655
102) Chlorobenzene	(3)	11.315	112	9991	0.510
103) 1,1,1,2-Tetrachloroethane	(3)	11.394	131	2874	0.449
104) Ethylbenzene	(3)	11.400	91	15794	0.482
106) m+p-Xylene	(3)	11.516	106	12664	0.966
108) Xylene (Total)	(3)		106	18929	1.449
107) o-Xylene	(3)	11.838	106	6265	0.483
109) Styrene	(3)	11.856	104	10555	0.480
110) Bromoform	(3)	12.021	173	2382	0.423
111) Isopropylbenzene	(3)	12.142	105	15603	0.478
112) Cyclohexanone	(1)	12.209	55	18897M	23.560
114)$4-Bromofluorobenzene	(3)	12.288	95	451610	50.155
116) 1,1,2,2-Tetrachloroethane	(4)	12.380	83	6501	0.552
118) trans-1,4-Dichloro-2-butene	(4)	12.404	53	11305	3.303
115) Bromobenzene	(4)	12.410	156	4579	0.512
117) 1,2,3-Trichloropropane	(4)	12.428	110	2038	0.539
119) n-Propylbenzene	(4)	12.471	91	19557	0.504
120) 2-Chlorotoluene	(4)	12.550	126	4022	0.499
122) 1,3,5-Trimethylbenzene	(4)	12.605	105	13783	0.484
121) 4-Chlorotoluene	(4)	12.641	126	4337	0.502
124) tert-Butylbenzene	(4)	12.848	134	3236	0.539
125) Pentachloroethane	(4)	12.891	167	1758	0.377
126) 1,2,4-Trimethylbenzene	(4)	12.891	105	14369	0.488
127) sec-Butylbenzene	(4)	13.012	105	18458	0.515
129) 1,3-Dichlorobenzene	(4)	13.116	146	8905	0.519
130) p-Isopropyltoluene	(4)	13.122	119	15477	0.489
131)*1,4-Dichlorobenzene-d4	(4)	13.171	152	496886	50.000
133) 1,4-Dichlorobenzene	(4)	13.189	146	9776	0.557
134) 1,2,3-Trimethylbenzene	(4)	13.195	105	14143	0.497
135) Benzyl Chloride	(4)	13.262	91	9684	0.415
136) 1,3-Diethylbenzene	(4)	13.323	119	8418	0.465
137) 1,4-Diethylbenzene	(4)	13.396	119	8775	0.467
139) n-Butylbenzene	(4)	13.414	92	8018	0.500
138) 1,2-Dichlorobenzene	(4)	13.450	146	9118	0.554
140) 1,2-Diethylbenzene	(4)	13.463	119	7027	0.469
141) Diethylbenzene (total)	(4)		100	24220	1.401
142) 1,2-Dibromo-3-chloropropane	(4)	13.992	75	1654	0.547
144) 1,3,5-Trichlorobenzene	(4)	14.126	180	7913	0.640

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on 01/16/2018 at 16:37.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan15j.b/yj15m01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:53 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:26
Date, time and analyst ID of latest file update: 16-Jan-2018 16:34 kk10002

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
146) 1,2,4-Trichlorobenzene	(4)	14.545	180	8137	0.685
147) Hexachlorobutadiene	(4)	14.631	225	5481	0.972
148) Naphthalene	(4)	14.728	128	28510	0.716
149) 1,2,3-Trichlorobenzene	(4)	14.874	180	8487	0.771
150) 2-Methylnaphthalene	(4)	15.525	142	23016	1.017

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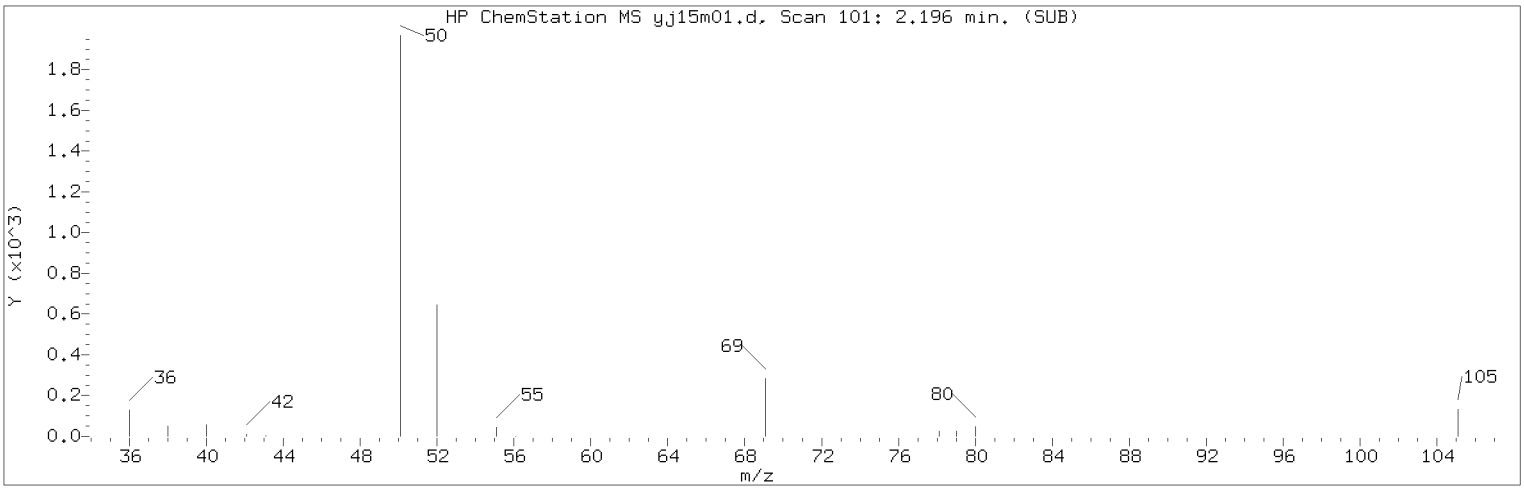
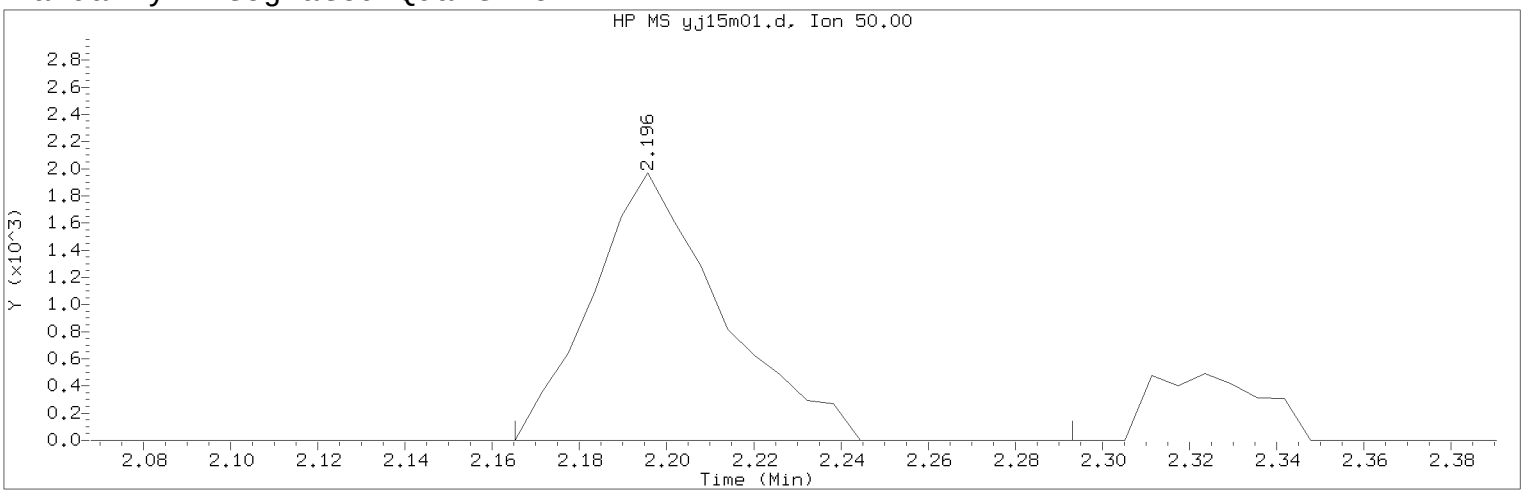
on 01/16/2018 at 16:37.
Target 3.5 esignature user ID: kk10002

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15m01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:53 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:26
Date, time and analyst ID of latest file update: 16-Jan-2018 16:34 kk10002

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

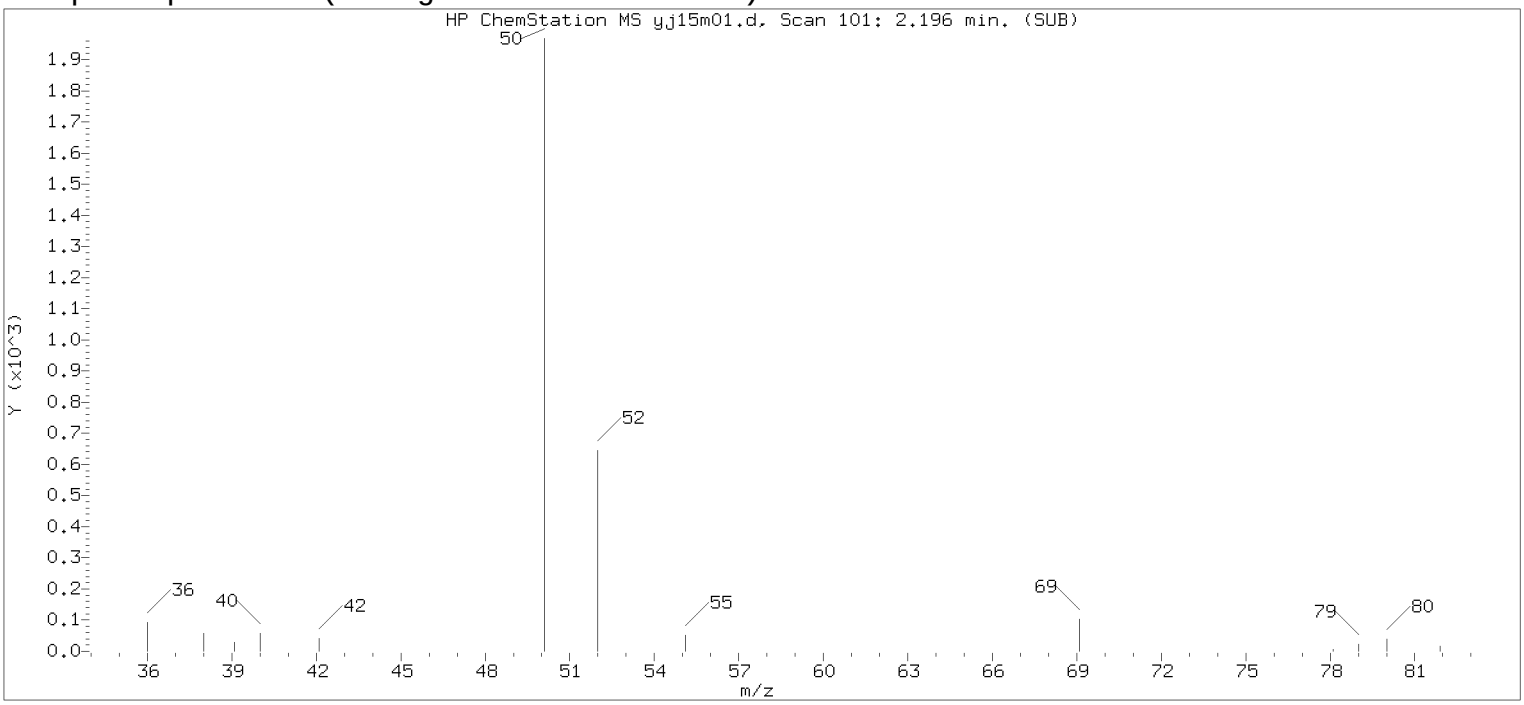
Compound Number : 4
Compound Name : Chloromethane
Scan Number : 101
Retention Time (minutes): 2.196
Quant Ion : 50.00
Area (flag) : 4049M
On-Column Amount (ng) : 0.4777
Integration start scan : 95 Integration stop scan: 116
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

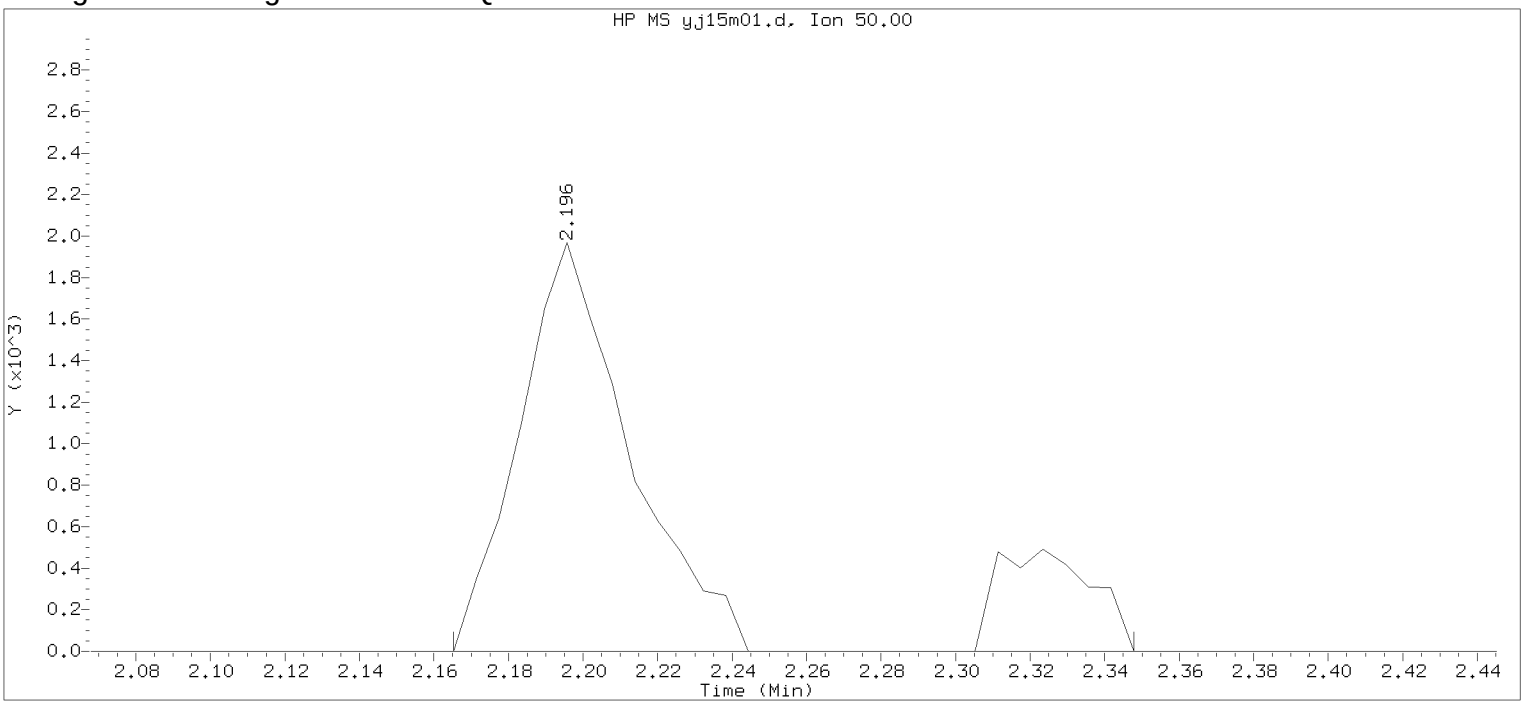
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:37. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:57.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15m01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:53 Analyst ID: dhh02035

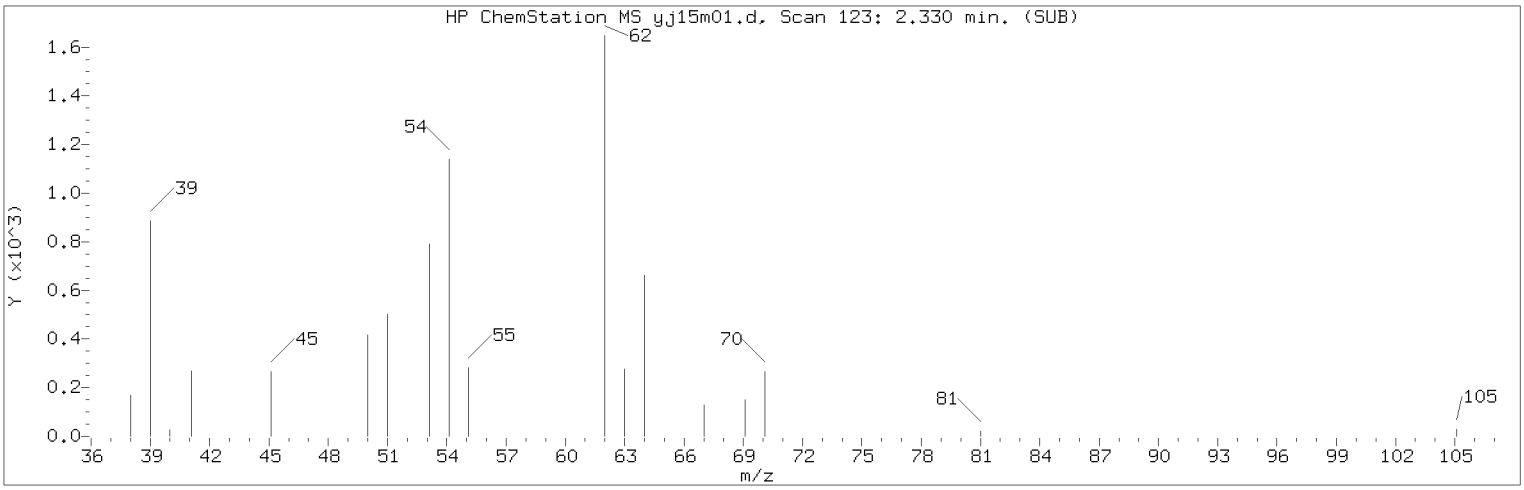
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 16-JAN-2018 16:26
Date, time and analyst ID of latest file update: 16-Jan-2018 16:29 kk10002

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

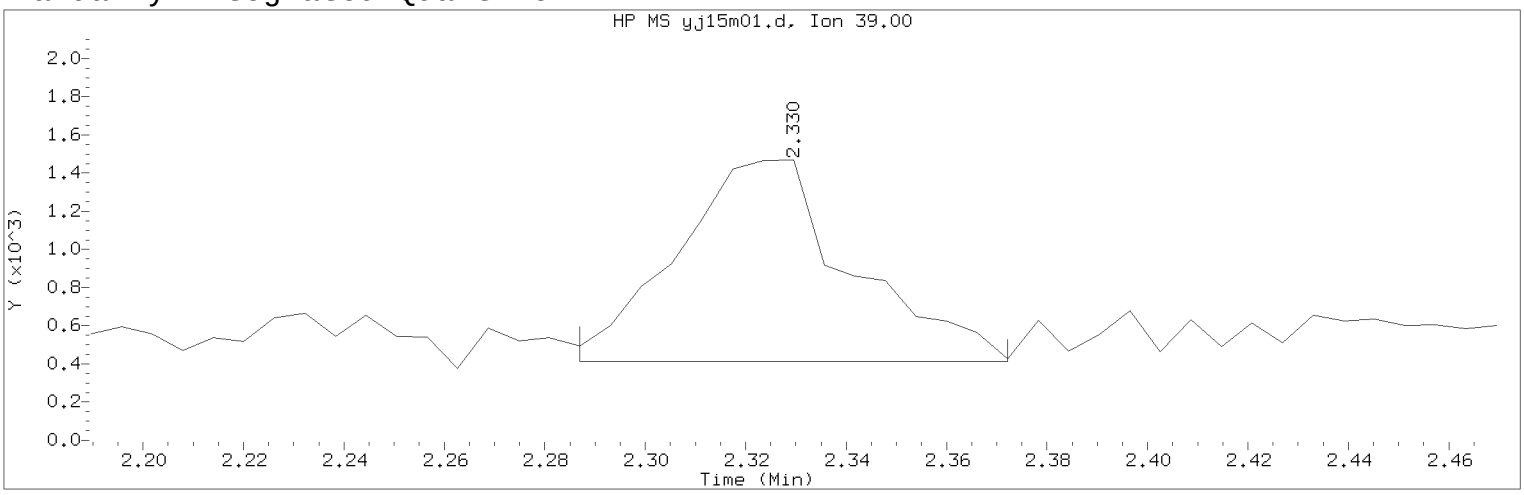
Compound Number : 4
Compound Name : Chloromethane
Scan Number : 101
Retention Time (minutes): 2.196
Quant Ion : 50.00
Area : 4928
On-column Amount (ng) : 0.5814
Integration start scan : 95 Integration stop scan: 125
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:37.
Target 3.5 esignature user id: kk10002

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15m01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:53 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:26
Date, time and analyst ID of latest file update: 16-Jan-2018 16:34 kk10002

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

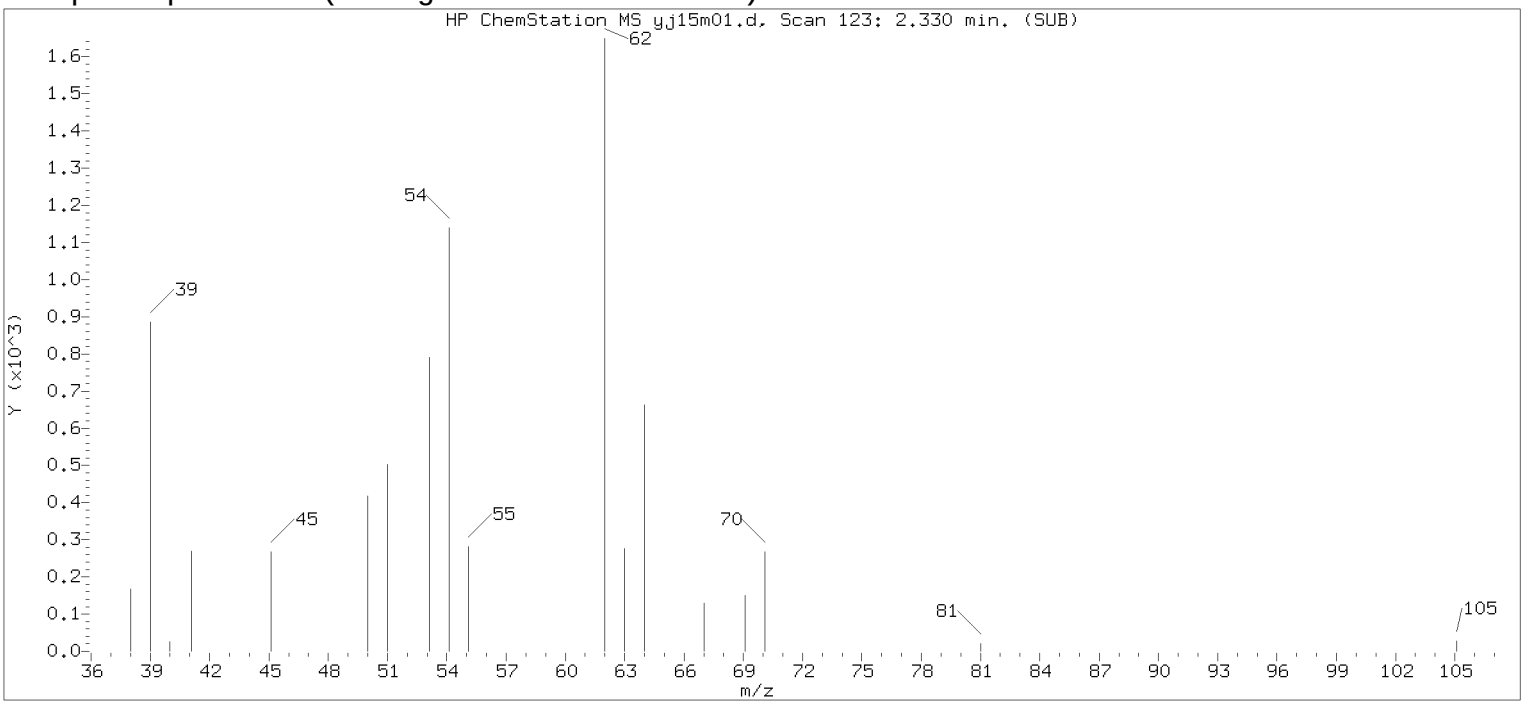
Compound Number : 5
Compound Name : 1,3-Butadiene
Scan Number : 123
Retention Time (minutes): 2.330
Quant Ion : 39.00
Area (flag) : 2568M
On-Column Amount (ng) : 0.5836
Integration start scan : 115 Integration stop scan: 129
Y at integration start : 412 Y at integration end: 412

Reason for manual integration: improper integration

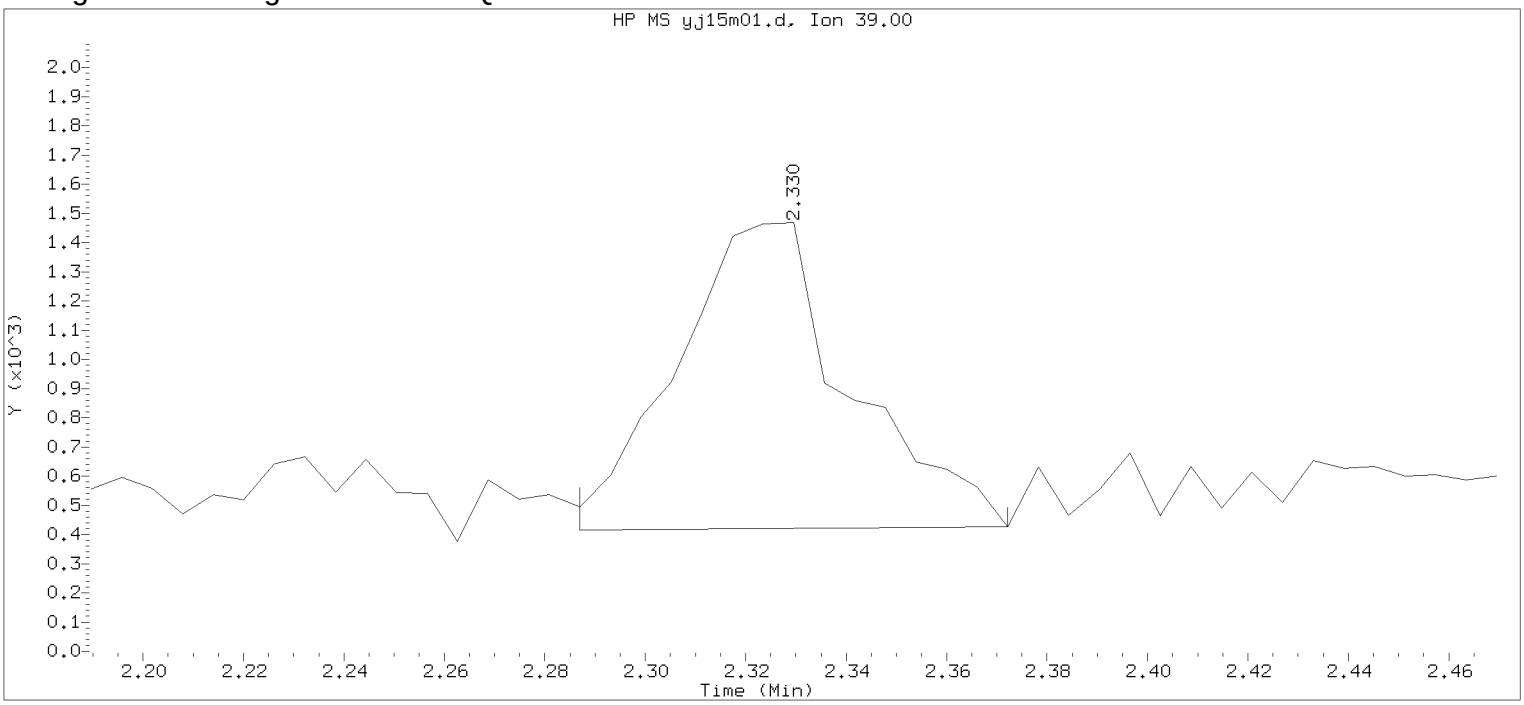
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:37. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:57.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15m01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:53 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 16-JAN-2018 16:26
Date, time and analyst ID of latest file update: 16-Jan-2018 16:29 kk10002

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

Compound Number : 5
Compound Name : 1,3-Butadiene
Scan Number : 123
Retention Time (minutes): 2.330
Quant Ion : 39.00
Area : 2505
On-column Amount (ng) : 0.5693
Integration start scan : 115 Integration stop scan: 129
Y at integration start : 415 Y at integration end: 427

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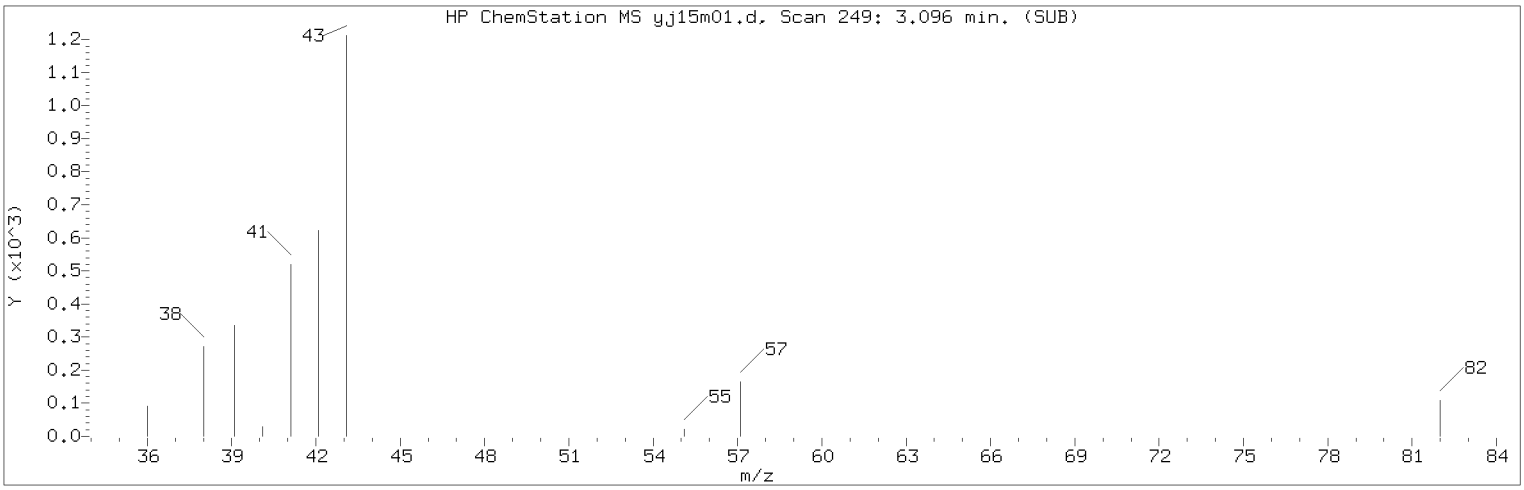
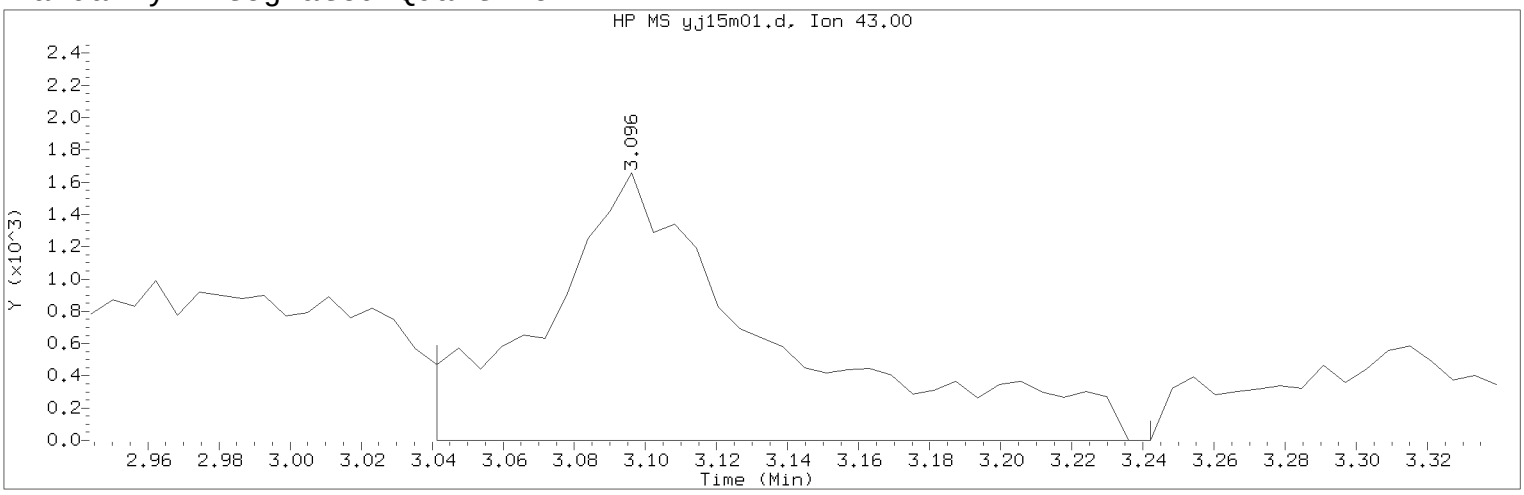
Target 3.5 esignature user id: kk10002

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



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Injection date and time: 15-JAN-2018 15:53 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:26
Date, time and analyst ID of latest file update: 16-Jan-2018 16:34 kk10002

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

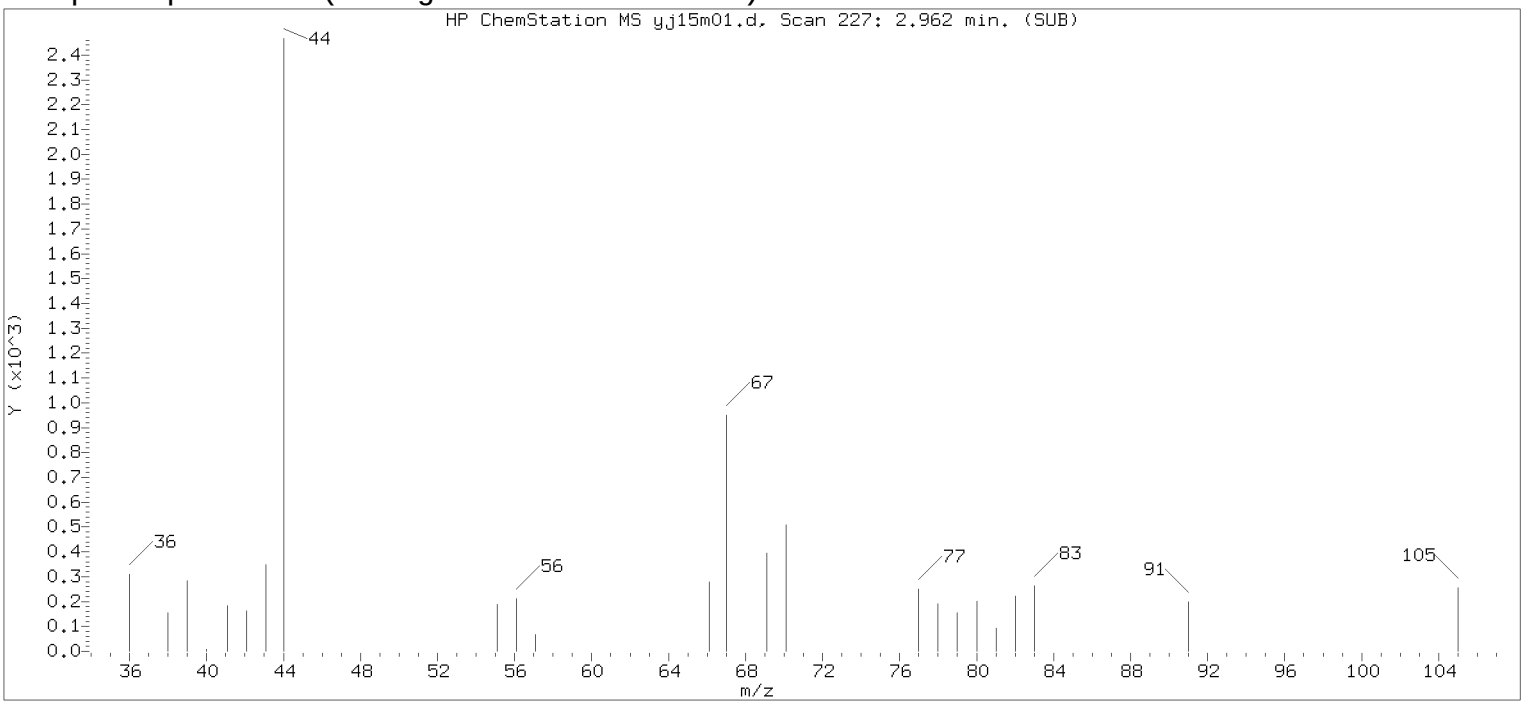
Compound Number : 11
Compound Name : n-Pentane
Scan Number : 249
Retention Time (minutes): 3.096
Quant Ion : 43.00
Area (flag) : 7433M
On-Column Amount (ng) : 0.9135
Integration start scan : 239 Integration stop scan: 272
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

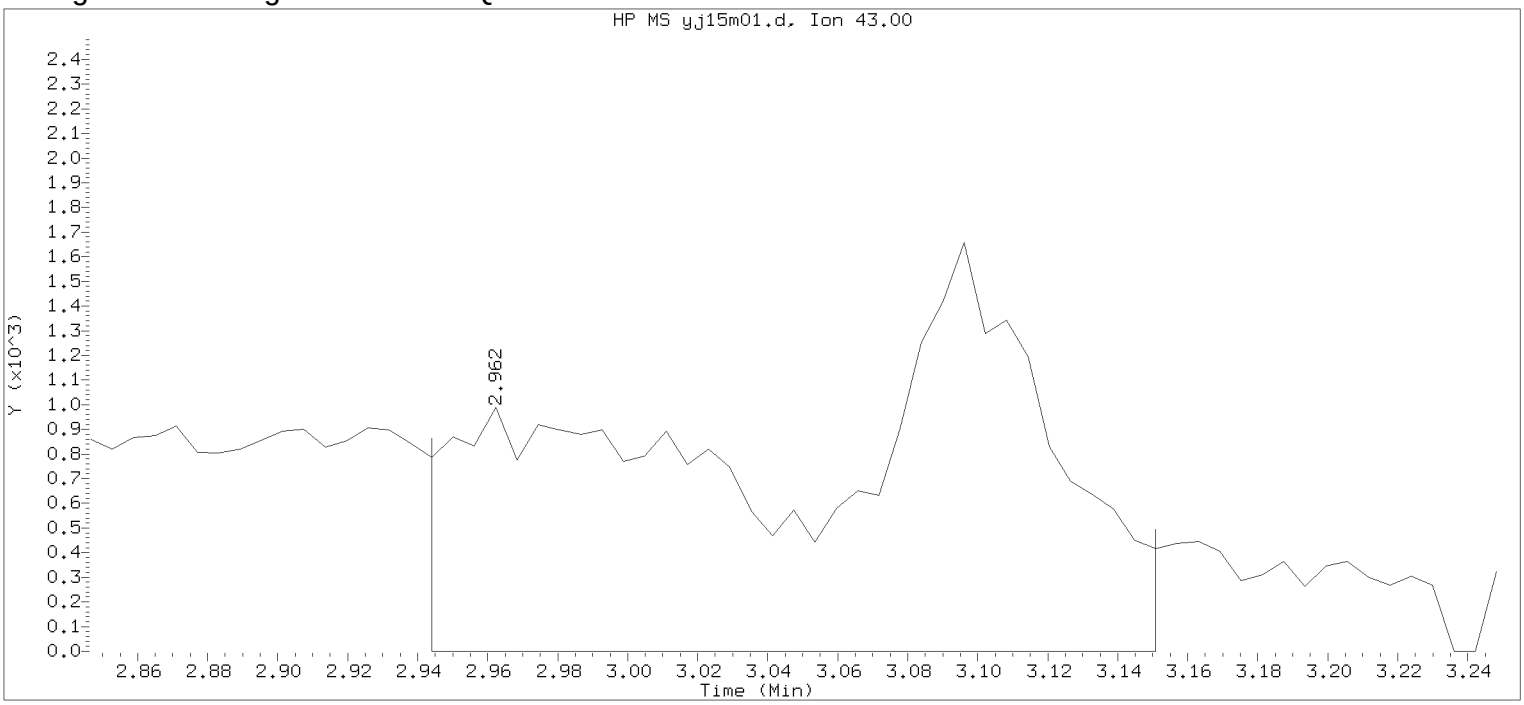
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:37. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:57.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15m01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:53 Analyst ID: dhh02035

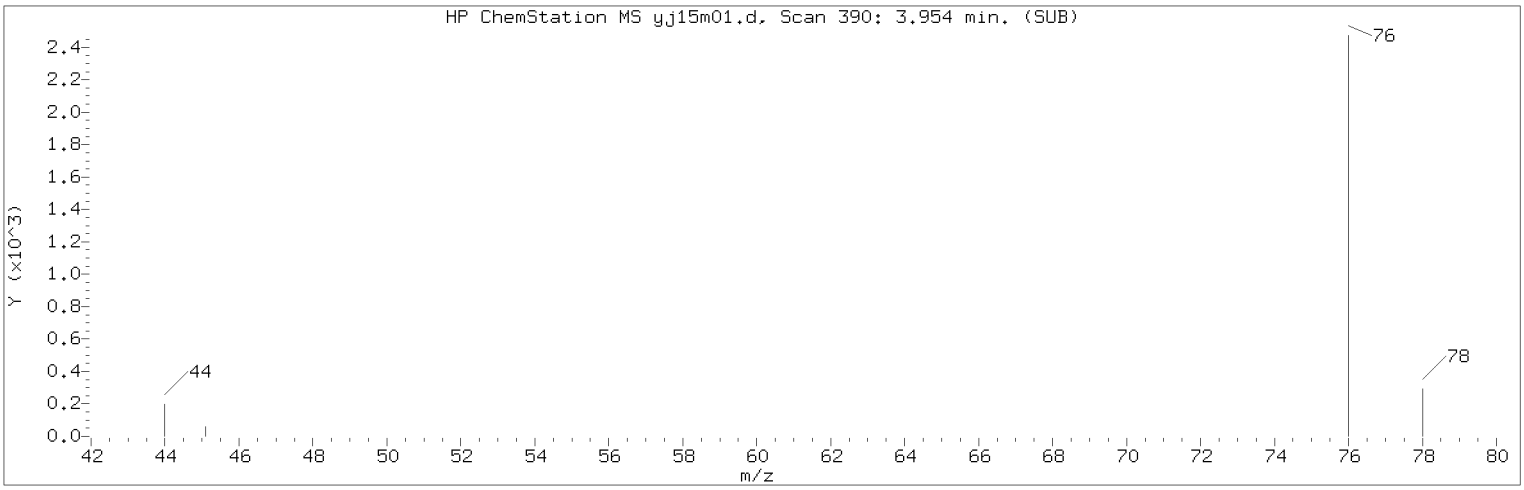
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 16-JAN-2018 16:26
Date, time and analyst ID of latest file update: 16-Jan-2018 16:29 kk10002

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

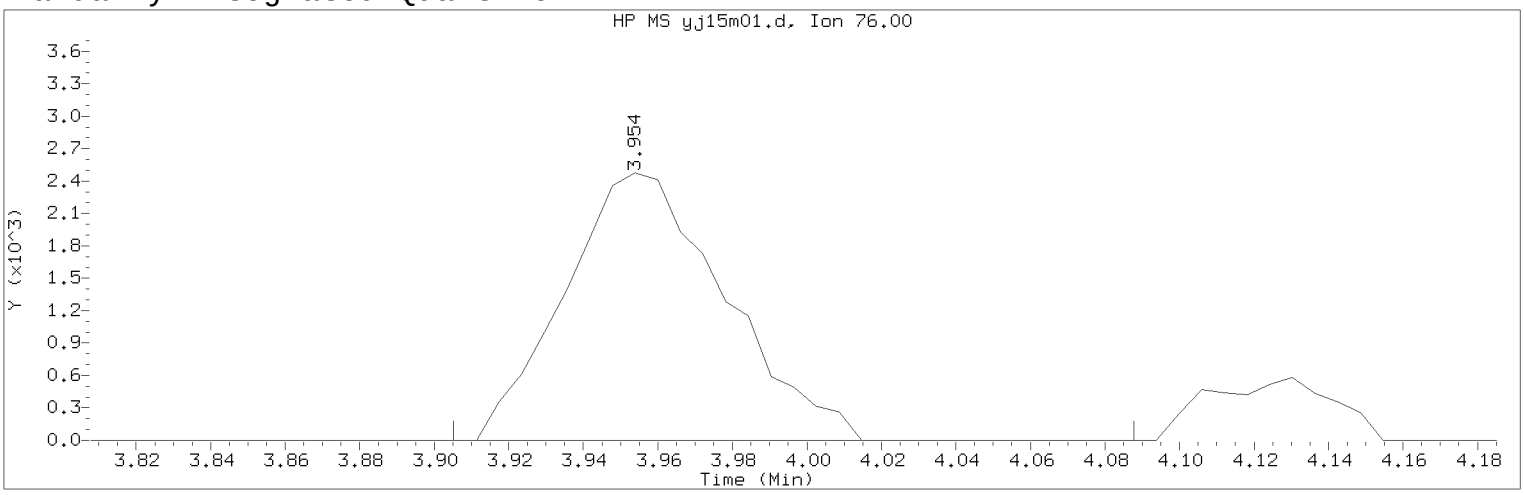
Compound Number : 11
Compound Name : n-Pentane
Scan Number : 227
Retention Time (minutes): 2.962
Quant Ion : 43.00
Area : 10438
On-column Amount (ng) : 1.2829
Integration start scan : 223 Integration stop scan: 257
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:37.
Target 3.5 esignature user id: kk10002

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15m01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:53 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:26
Date, time and analyst ID of latest file update: 16-Jan-2018 16:34 kk10002

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

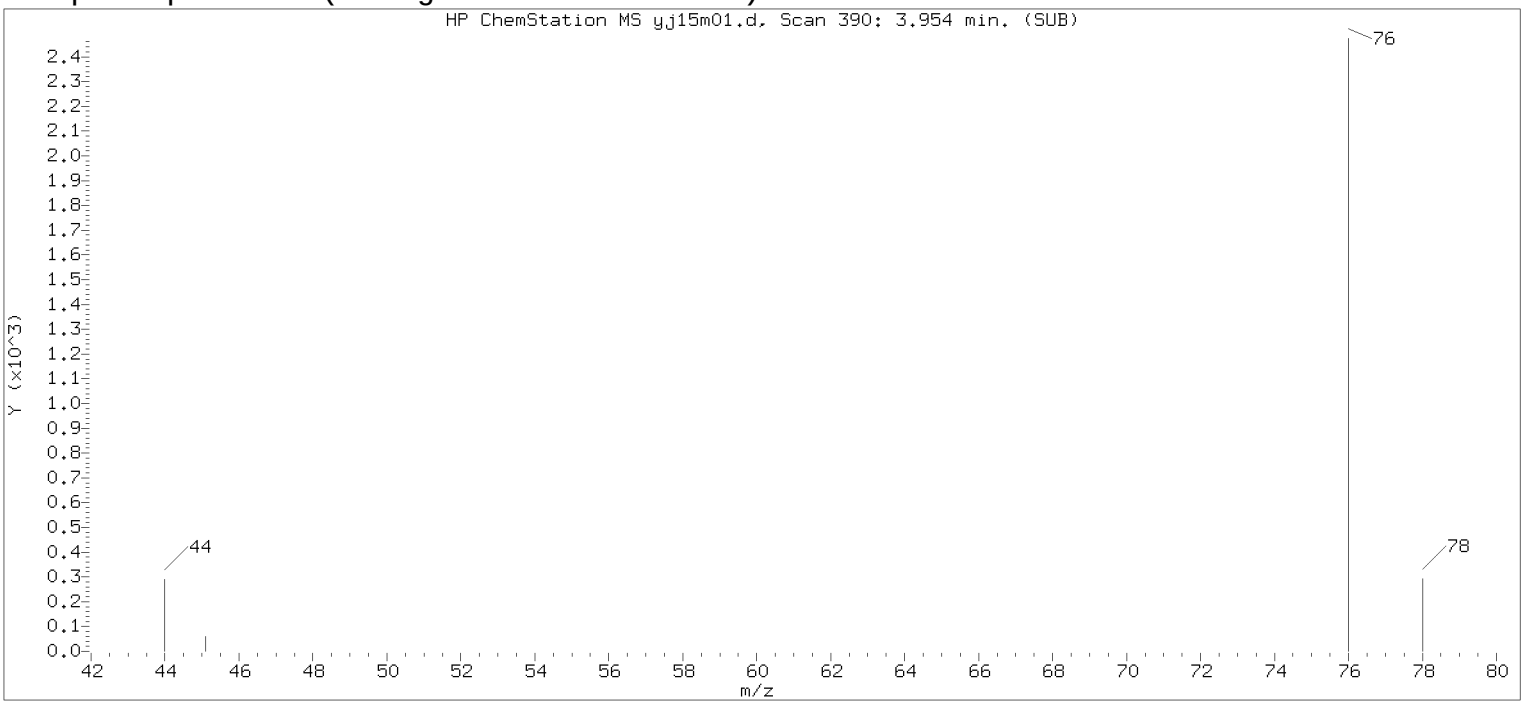
Compound Number : 23
Compound Name : Carbon Disulfide
Scan Number : 390
Retention Time (minutes): 3.954
Quant Ion : 76.00
Area (flag) : 7378M
On-Column Amount (ng) : 0.4753
Integration start scan : 381 Integration stop scan: 411
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

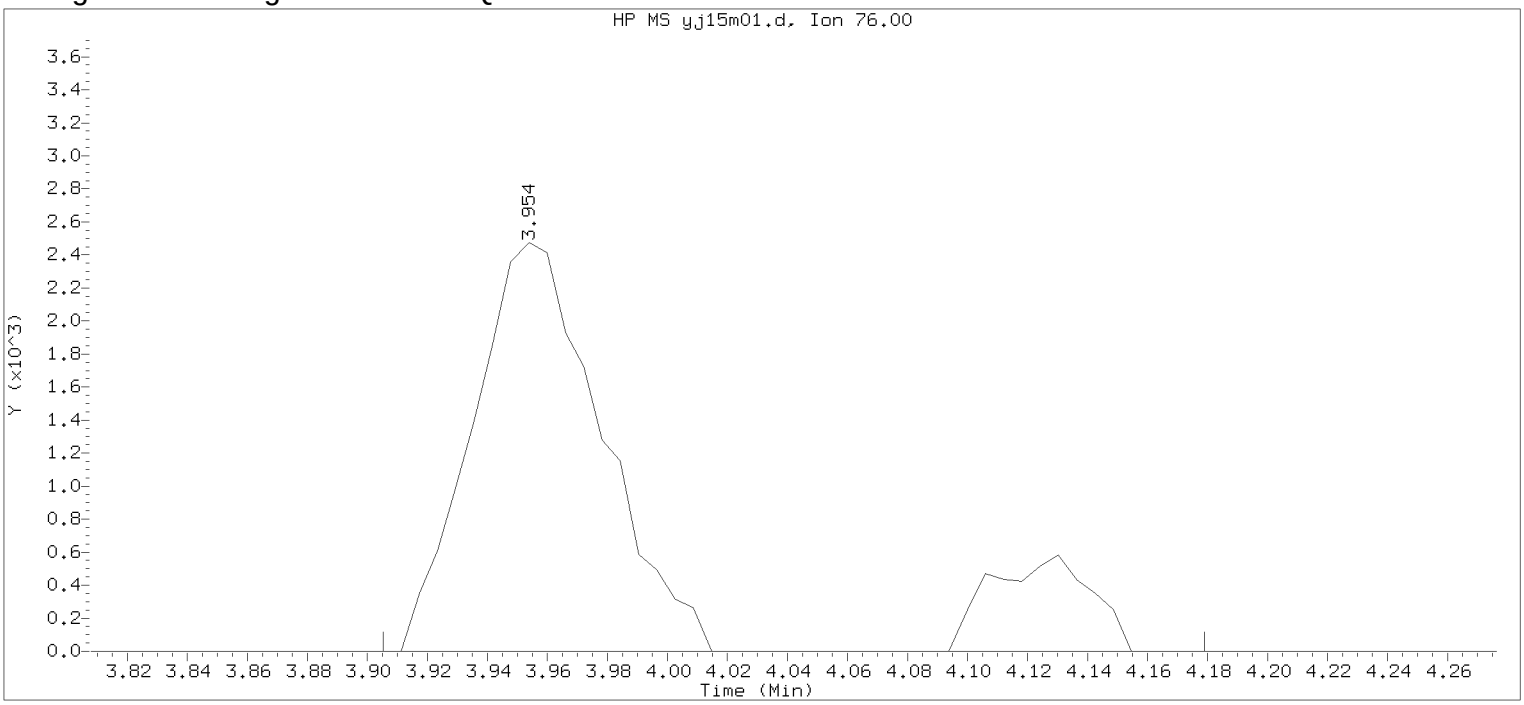
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:37. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:57.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15m01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:53 Analyst ID: dhh02035

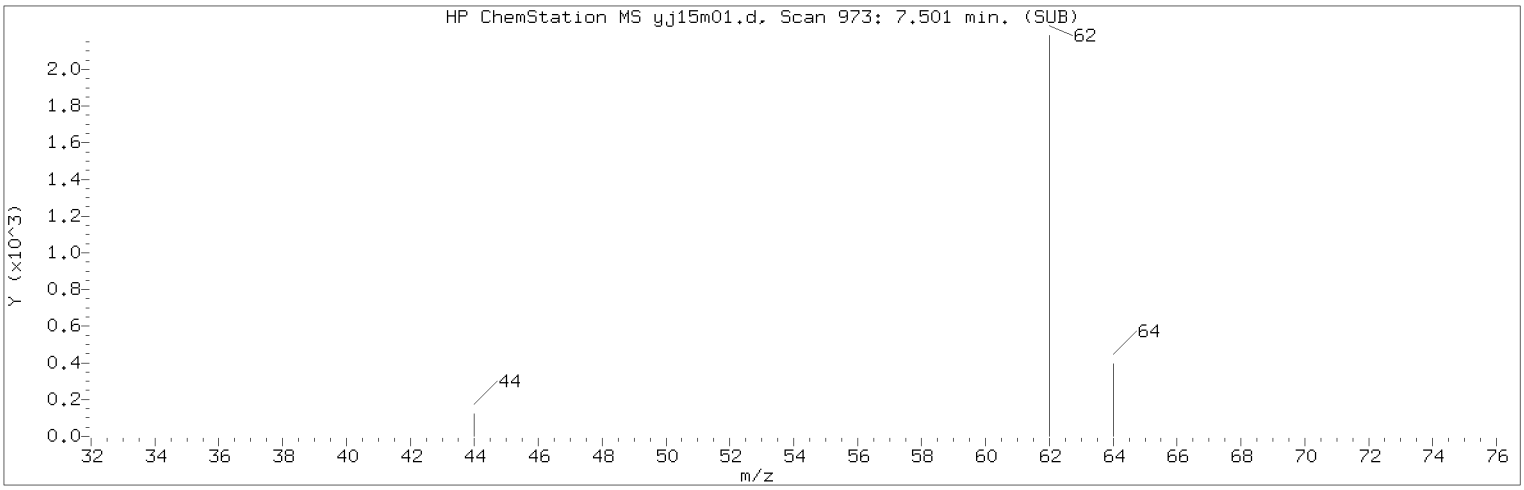
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 16-JAN-2018 16:26
Date, time and analyst ID of latest file update: 16-Jan-2018 16:29 kk10002

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

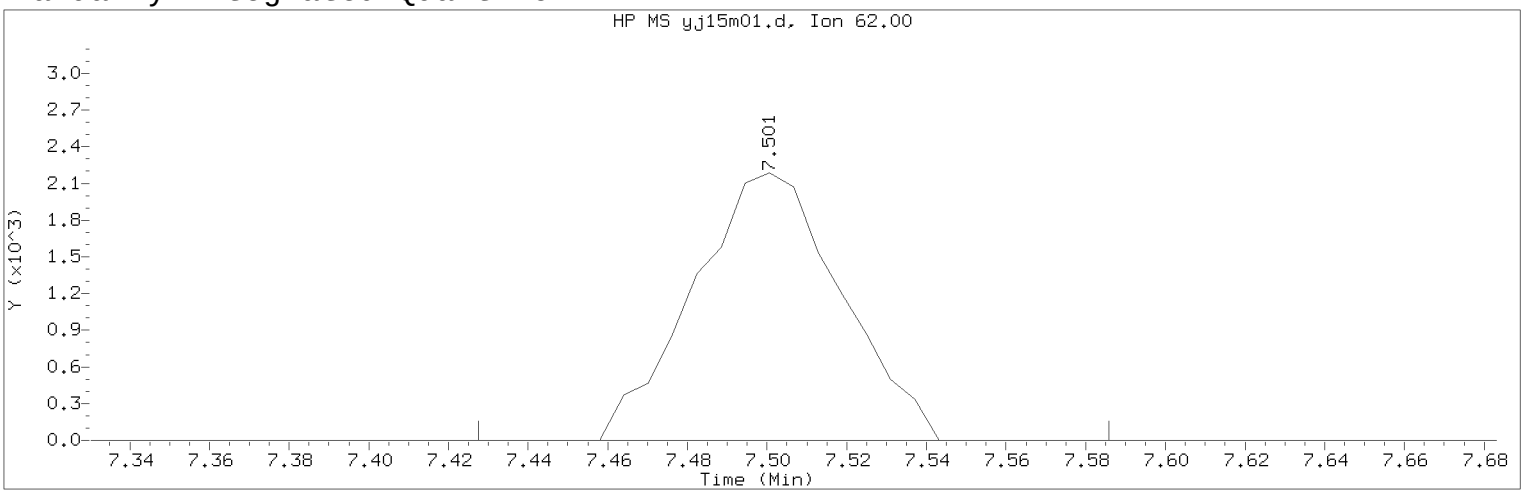
Compound Number : 23
Compound Name : Carbon Disulfide
Scan Number : 390
Retention Time (minutes): 3.954
Quant Ion : 76.00
Area : 8736
On-column Amount (ng) : 0.5628
Integration start scan : 381 Integration stop scan: 426
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:37.
Target 3.5 esignature user id: kk10002

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15m01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:53 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:26
Date, time and analyst ID of latest file update: 16-Jan-2018 16:34 kk10002

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

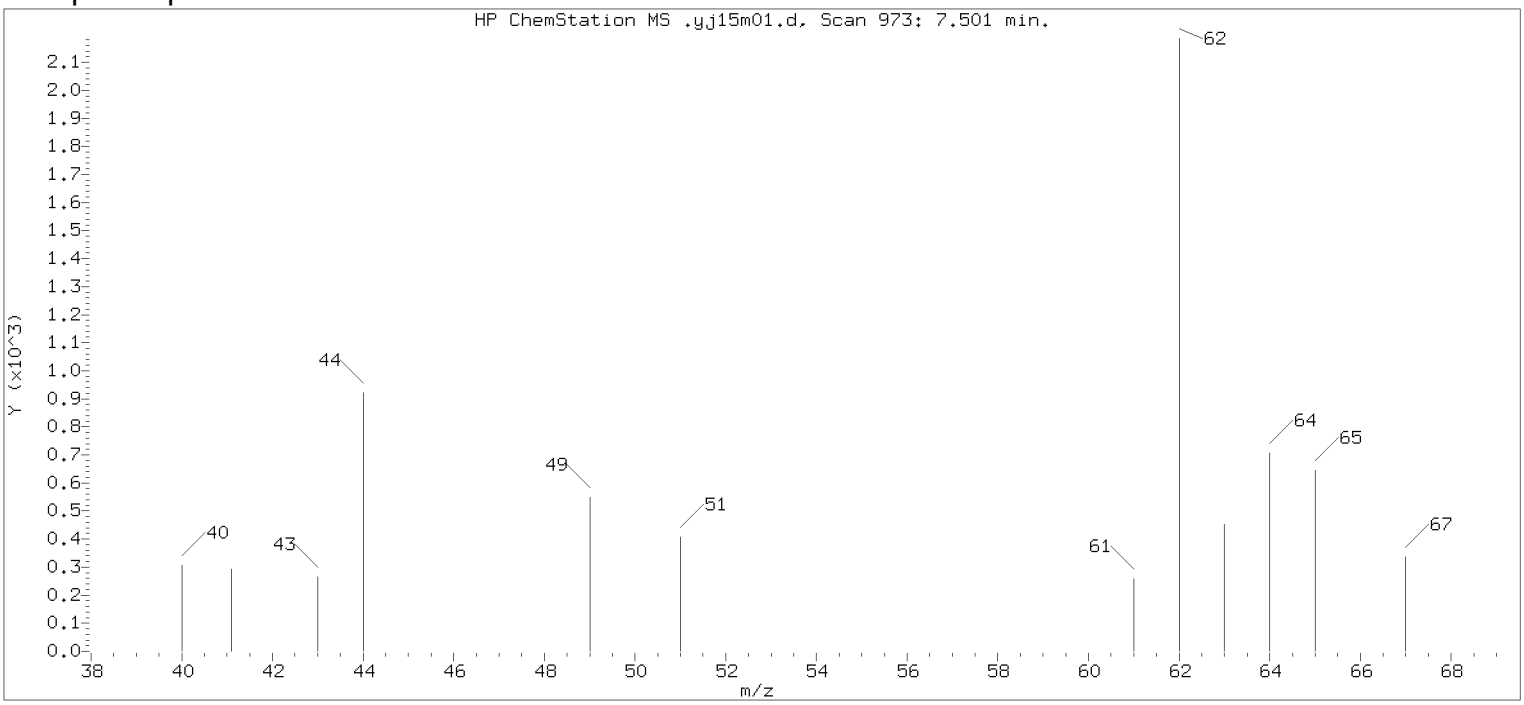
Compound Number : 61
Compound Name : 1,2-Dichloroethane
Scan Number : 973
Retention Time (minutes): 7.501
Quant Ion : 62.00
Area (flag) : 5635M
On-Column Amount (ng) : 0.6225
Integration start scan : 960 Integration stop scan: 986
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

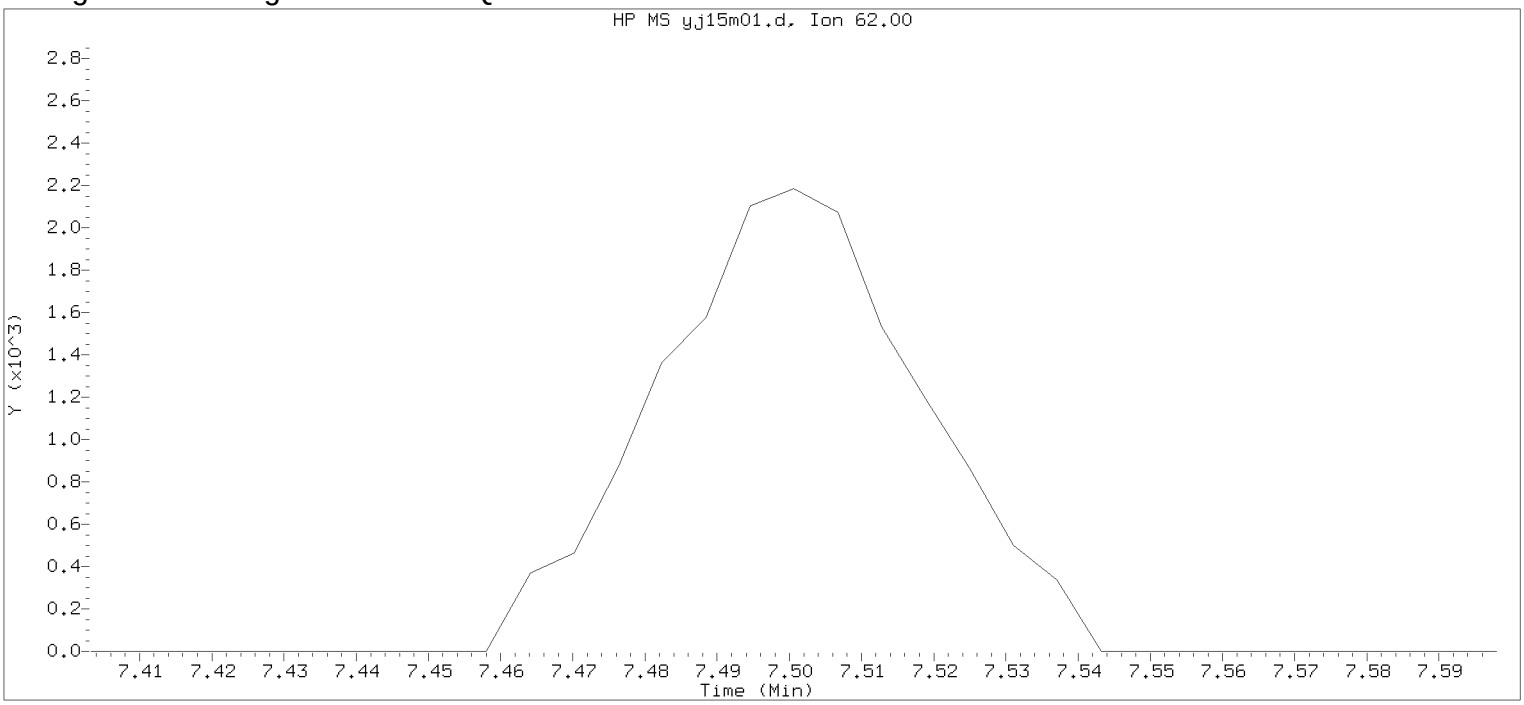
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:37. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:57.
PARALLAX ID: msl01251

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15m01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:53 Analyst ID: dhh02035

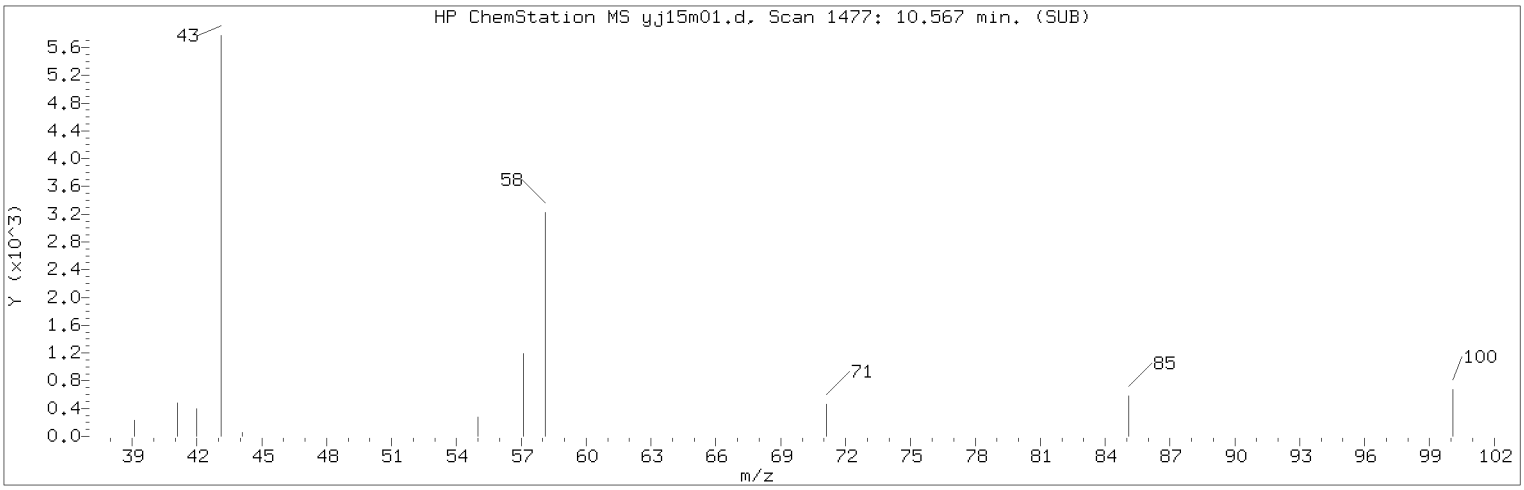
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 16-JAN-2018 16:26
Date, time and analyst ID of latest file update: 16-Jan-2018 16:29 kk10002

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

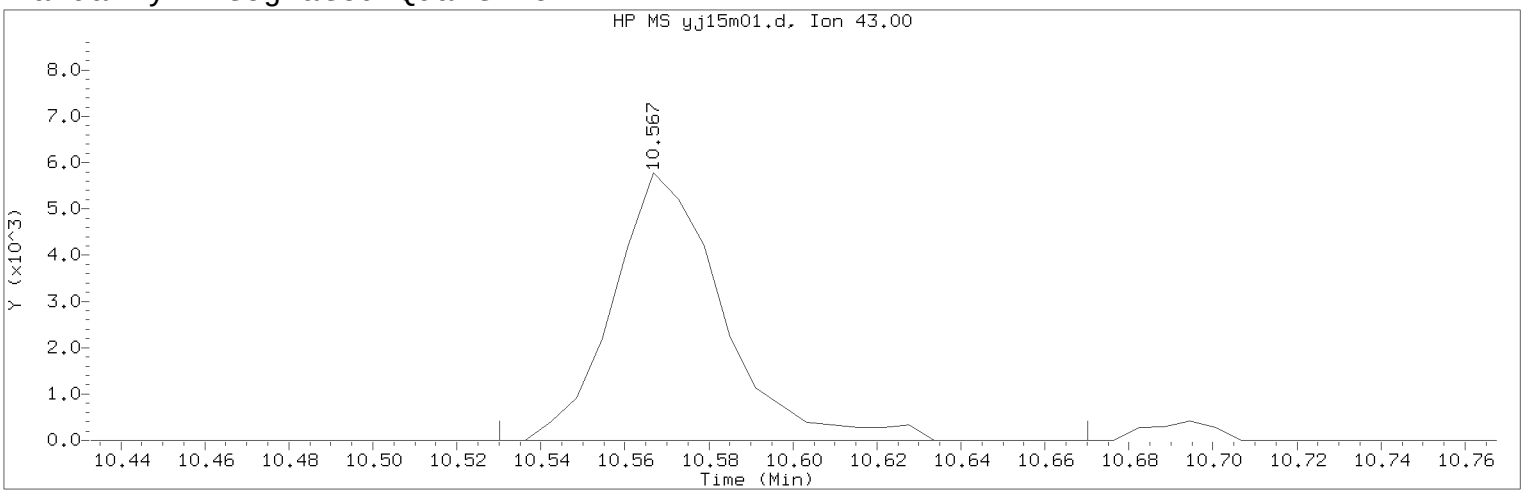
Compound Number : 61
Compound Name : 1,2-Dichloroethane
Expected RT (minutes) : 7.501
Quant Ion : 62.00

Digitally signed by Kevin Kelly on 01/16/2018 at 16:37.
Target 3.5 esignature user ID: kk10002

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15m01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:53 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:26
Date, time and analyst ID of latest file update: 16-Jan-2018 16:34 kk10002

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

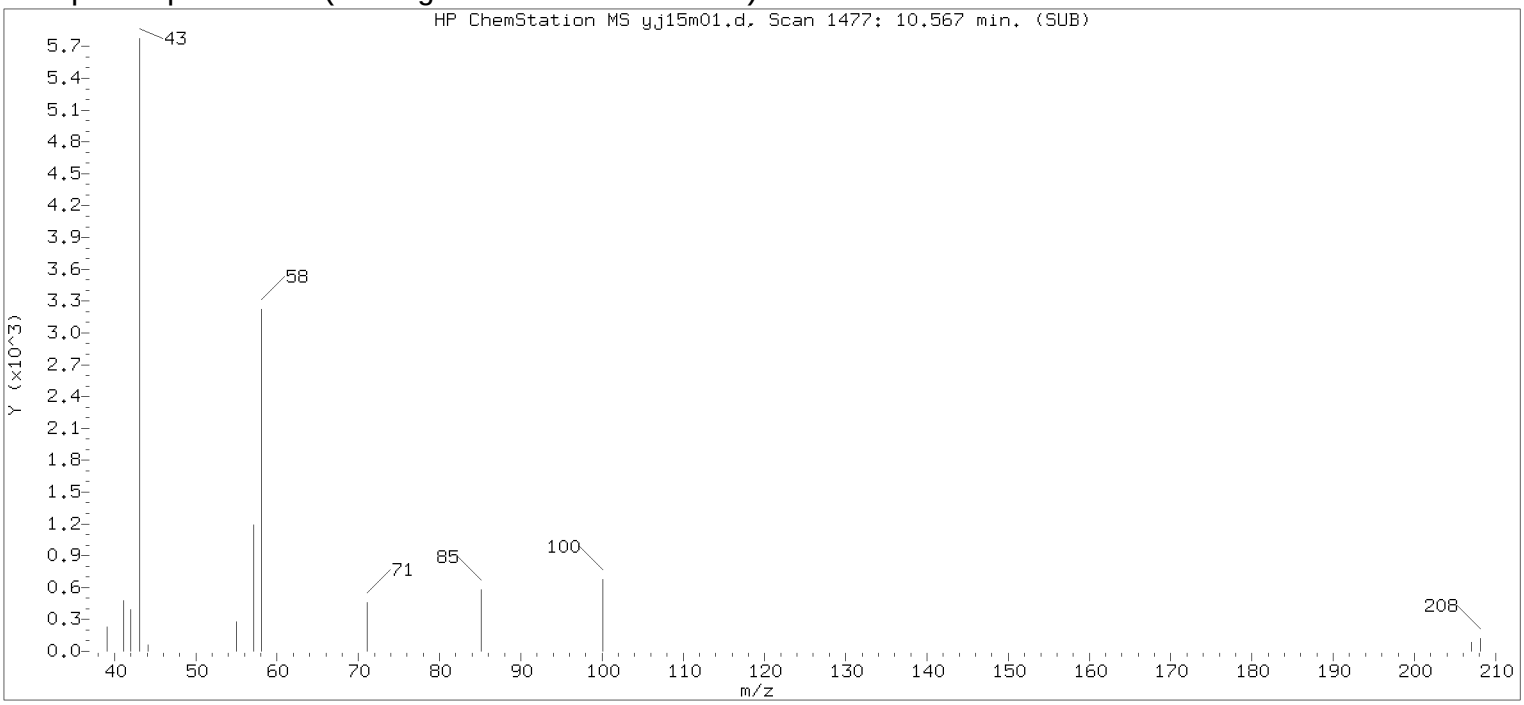
Compound Number : 96
Compound Name : 2-Hexanone
Scan Number : 1477
Retention Time (minutes): 10.567
Quant Ion : 43.00
Area (flag) : 10466M
On-Column Amount (ng) : 0.9737
Integration start scan : 1470 Integration stop scan: 1493
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

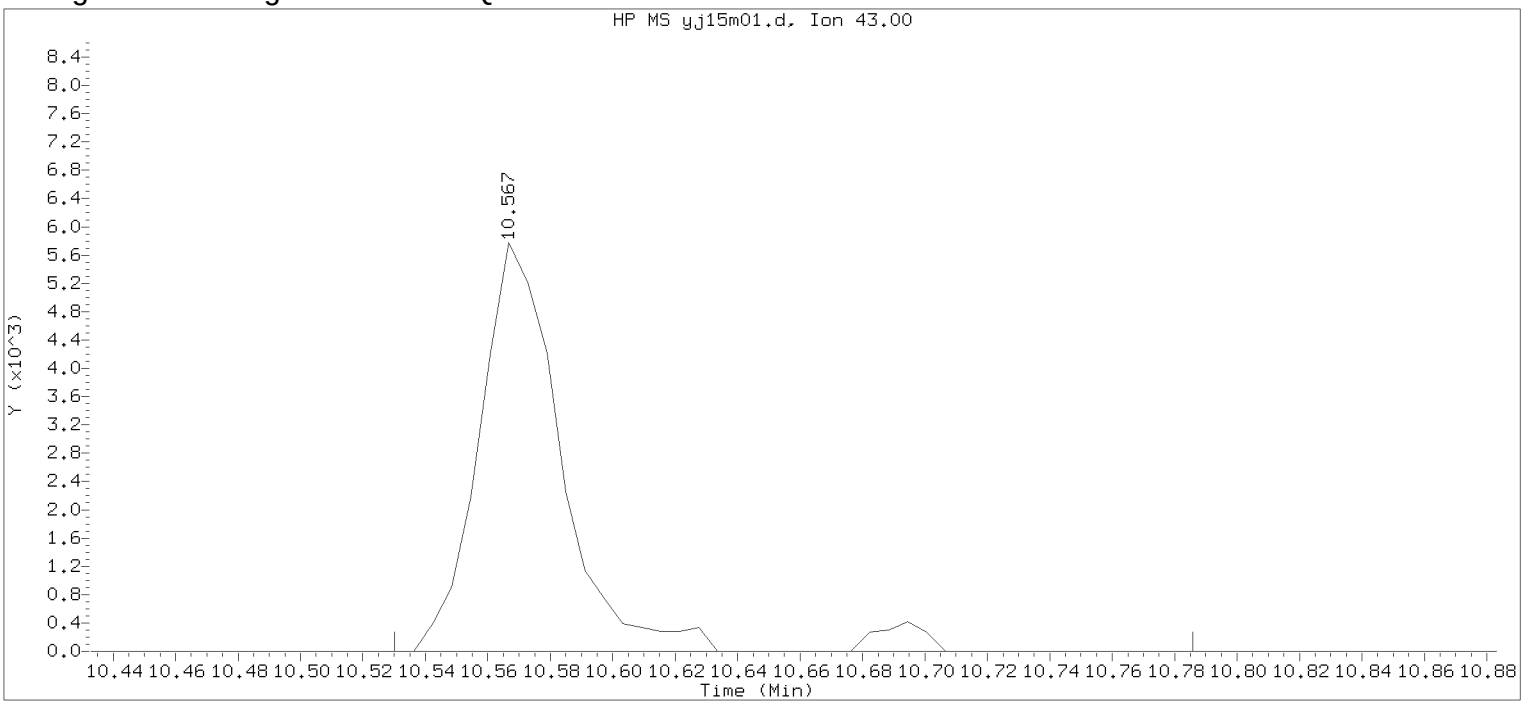
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:37. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:57.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15m01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:53 Analyst ID: dhh02035

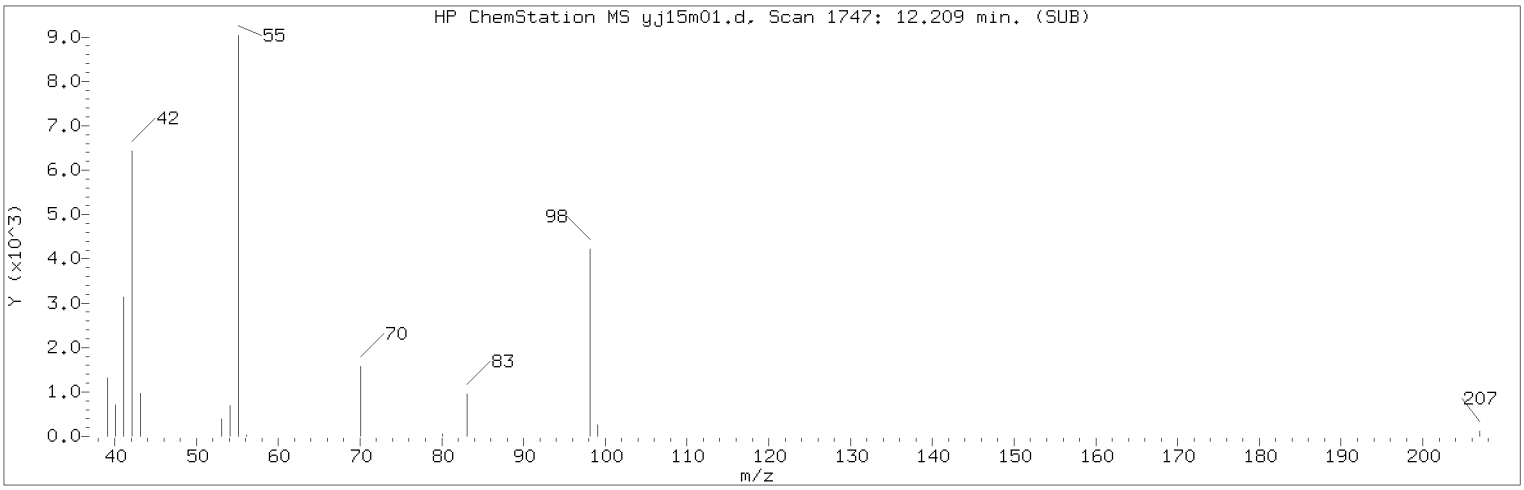
Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 16-JAN-2018 16:26
Date, time and analyst ID of latest file update: 16-Jan-2018 16:29 kk10002

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

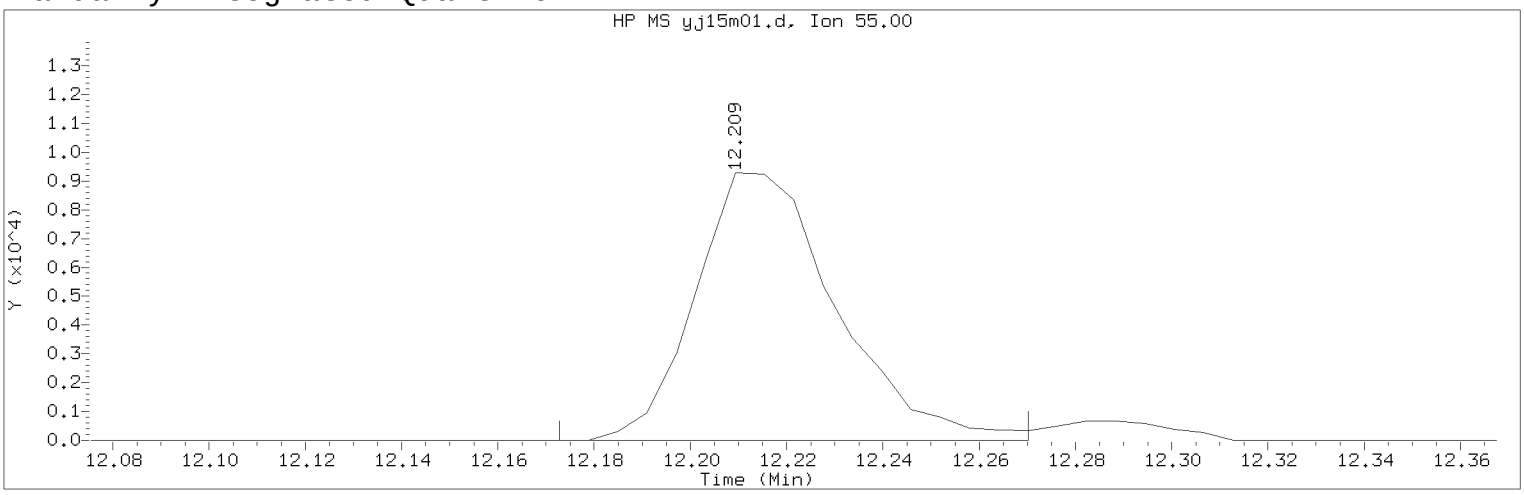
Compound Number : 96
Compound Name : 2-Hexanone
Scan Number : 1477
Retention Time (minutes): 10.567
Quant Ion : 43.00
Area : 10925
On-column Amount (ng) : 1.0164
Integration start scan : 1470 Integration stop scan: 1512
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:37.
Target 3.5 esignature user id: kk10002

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan15j.b/yj15m01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:53 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 16:26
Date, time and analyst ID of latest file update: 16-Jan-2018 16:34 kk10002

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

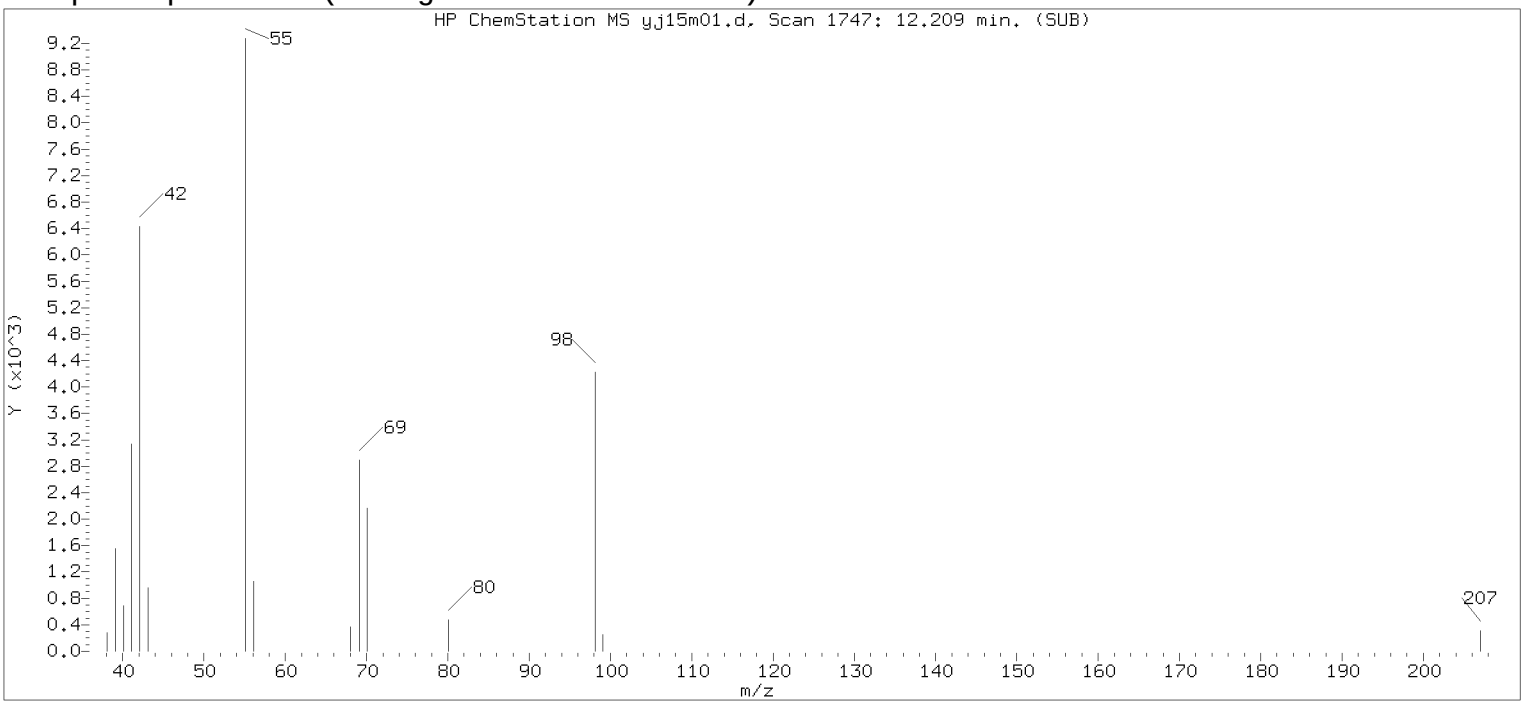
Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 1747
Retention Time (minutes): 12.209
Quant Ion : 55.00
Area (flag) : 18897M
On-Column Amount (ng) : 23.5602
Integration start scan : 1740 Integration stop scan: 1756
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

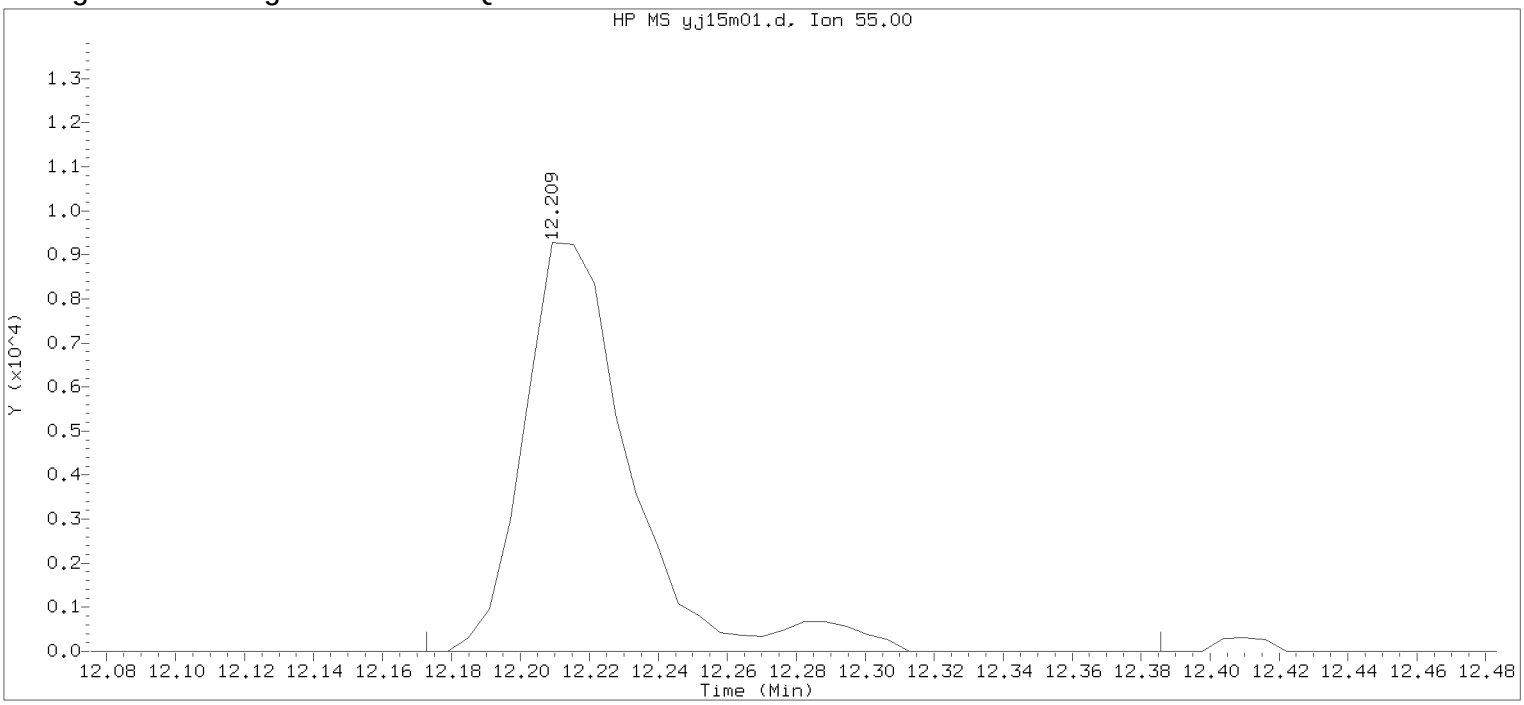
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 16:37. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:57.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



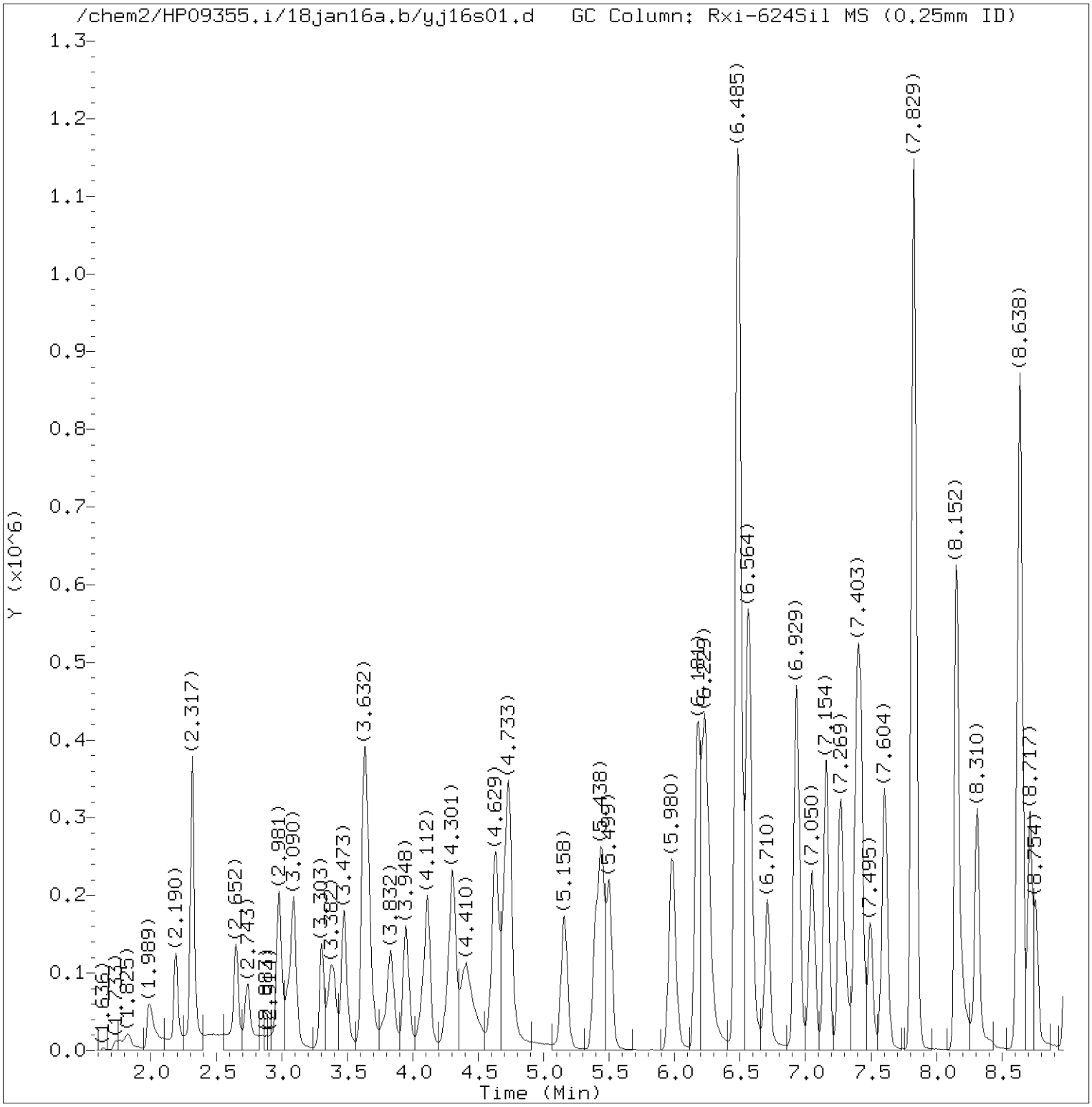
Data File: /chem2/HP09355.i/18jan15j.b/yj15m01.d Instrument ID: HP09355.i
Injection date and time: 15-JAN-2018 15:53 Analyst ID: dhh02035

Method used: /chem2/HP09355.i/18jan15j.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 16-JAN-2018 16:26
Date, time and analyst ID of latest file update: 16-Jan-2018 16:29 kk10002

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 1747
Retention Time (minutes): 12.209
Quant Ion : 55.00
Area : 20000
On-column Amount (ng) : 24.9354
Integration start scan : 1740 Integration stop scan: 1775
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 16:37.
Target 3.5 esignature user id: kk10002



Total Ion Chromatogram (TIC)

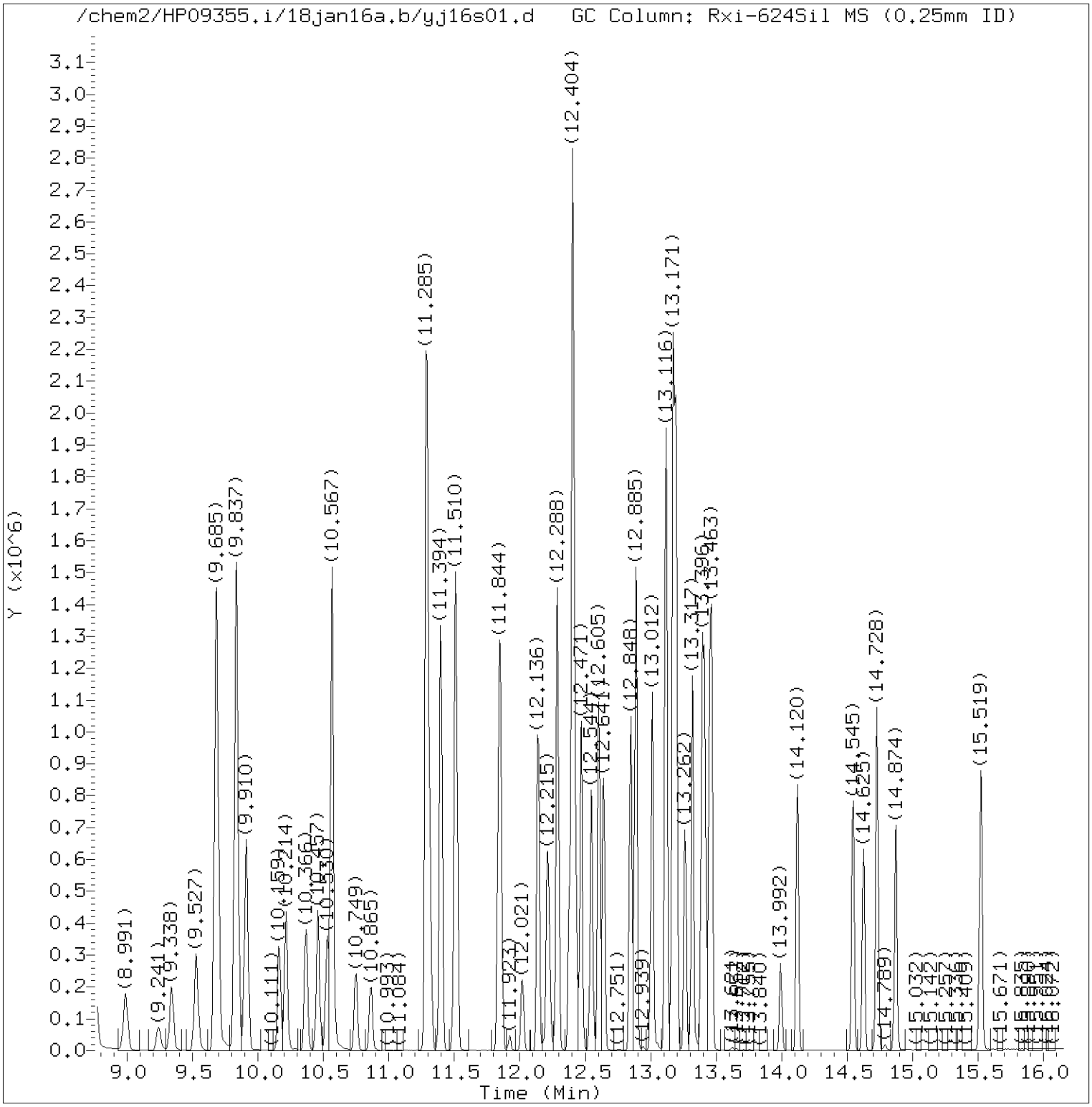
Target Revision 3.5

Data File: /chem2/HP09355.i/18jan16a.b/yj16s01.d Instrument ID: HP09355.i
Injection date and time: 16-JAN-2018 18:35 Analyst ID: kk10002

Method used: /chem2/HP09355.i/18jan16a.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 18:28
Date, time and analyst ID of latest file update: 16-Jan-2018 19:35 kk10002

Sample Name: LCSY03 Lab Sample ID: LCSY03

Digitally signed by Kevin Kelly
on 01/16/2018 at 19:42.
Target 3.5 esignature user ID: kk10002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan16a.b/yj16s01.d Instrument ID: HP09355.i
Injection date and time: 16-JAN-2018 18:35 Analyst ID: kk10002

Method used: /chem2/HP09355.i/18jan16a.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 18:28
Date, time and analyst ID of latest file update: 16-Jan-2018 19:35 kk10002

Sample Name: LCSY03 Lab Sample ID: LCSY03

Digitally signed by Kevin Kelly
on 01/16/2018 at 19:42.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan16a.b/yj16s01.d Instrument ID: HP09355.i
Injection date and time: 16-JAN-2018 18:35 Analyst ID: kk10002

Method used: /chem2/HP09355.i/18jan16a.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 18:28
Date, time and analyst ID of latest file update: 16-Jan-2018 19:35 kk10002

Sample Name: LCSY03 Lab Sample ID: LCSY03

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
3) Dichlorodifluoromethane	(2)	1.983	85	124545	15.155
4) Chloromethane	(2)	2.190	50	156498	18.276
6) Vinyl Chloride	(2)	2.311	62	153187	17.523
5) 1,3-Butadiene	(2)	2.317	39	136189	30.637
8) Bromomethane	(2)	2.652	94	110733	18.699
9) Chloroethane	(2)	2.737	64	84927	17.516
10) Dichlorofluoromethane	(2)	2.974	67	228710	20.909
12) Trichlorofluoromethane	(2)	3.047	101	175308	17.642
11) n-Pentane	(2)	3.090	43	177756	21.625
14) Ethyl ether	(2)	3.303	59	105455	17.890
15) Freon 123a	(2)	3.382	67	131883	20.416
16) Acrolein	(1)	3.473	56	271401	102.406
17) 1,1-Dichloroethene	(2)	3.625	96	104880	22.403
18) Acetone	(1)	3.638	58	164527	139.580
19) Freon 113	(2)	3.662	101	91338	20.220
21) 2-Propanol	(1)	3.796	45	126427	153.128
22) Methyl Iodide	(2)	3.832	142	198749	22.148
23) Carbon Disulfide	(2)	3.948	76	361838	23.077
27) Methyl Acetate	(2)	4.076	43	167592	18.769
25) Allyl Chloride	(2)	4.112	41	183534	19.155
29)*t-Butyl alcohol-d10	(1)	4.282	65	379306	250.000
28) Methylene Chloride	(2)	4.307	84	122060	20.346
30) t-Butyl alcohol	(1)	4.410	59	355463	212.621
31) Acrylonitrile	(2)	4.629	53	417771	91.060
33) Methyl Tertiary Butyl Ether	(2)	4.714	73	414580	20.251
32) trans-1,2-Dichloroethene	(2)	4.739	96	121854	20.752
34) n-Hexane	(2)	5.158	57	158134	18.177
36) 1,1-Dichloroethane	(2)	5.396	63	210447	19.727
38) di-Isopropyl ether	(2)	5.438	45	408842	20.523
39) 2-Chloro-1,3-butadiene	(2)	5.505	53	189340	20.265
40) Ethyl t-butyl ether	(2)	5.980	59	396117	19.713
44) 2-Butanone	(2)	6.174	43	969424	132.491
42) cis-1,2-Dichloroethene	(2)	6.229	96	135276	19.707
45) 2,2-Dichloropropane	(2)	6.241	77	173204	19.776
47) Propionitrile	(1)	6.260	54	277304	164.964
48) Methacrylonitrile	(2)	6.485	67	698354	159.478
49) Bromochloromethane	(2)	6.564	128	66842	19.230
50) Tetrahydrofuran	(1)	6.570	71	183745	94.769

* = Compound is an internal standard.

Digitally signed by Kevin Kelly
on 01/16/2018 at 19:42.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan16a.b/yj16s01.d Instrument ID: HP09355.i
Injection date and time: 16-JAN-2018 18:35 Analyst ID: kk10002

Method used: /chem2/HP09355.i/18jan16a.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 18:28
Date, time and analyst ID of latest file update: 16-Jan-2018 19:35 kk10002

Sample Name: LCSY03 Lab Sample ID: LCSY03

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
51) Chloroform	(2)	6.710	83	206188	19.014
43) 1,2-Dichloroethene (Total)	(2)		96	257130	40.458
52)$Dibromofluoromethane	(2)	6.929	113	288494	50.341
53) 1,1,1-Trichloroethane	(2)	6.947	97	189009	18.229
54) Cyclohexane	(2)	7.050	56	184330	18.308
55) 1,1-Dichloropropene	(2)	7.154	75	164057	18.709
56) Carbon Tetrachloride	(2)	7.160	117	150812	19.208
58) Isobutyl Alcohol	(1)	7.269	41	309168	534.199
57)$1,2-Dichloroethane-d4	(2)	7.391	102	73777	49.930
60) Benzene	(2)	7.422	78	493984	19.446
61) 1,2-Dichloroethane	(2)	7.495	62	171278	18.730
65) t-Amyl methyl ether	(2)	7.604	73	392103	19.402
66)*Fluorobenzene	(2)	7.823	96	1206055	50.000
67) n-Heptane	(2)	7.835	43	164291	15.839
69) n-Butanol	(1)	8.152	56	592435	1125.514
71) Trichloroethene	(2)	8.310	95	126881	18.711
72) Methylcyclohexane	(2)	8.626	83	190617	17.181
73) 1,2-Dichloropropane	(2)	8.644	63	130662	19.093
76) Methyl Methacrylate	(2)	8.711	69	145264	18.844
75) 1,4-Dioxane	(1)	8.723	88	74660M	517.775
74) Dibromomethane	(2)	8.760	93	84641	18.942
78) Bromodichloromethane	(2)	8.991	83	153148	18.262
79) 2-Nitropropane	(2)	9.241	41	58300	17.827
80) 2-Chloroethyl Vinyl Ether	(2)	9.338	63	107012	17.976
81) cis-1,3-Dichloropropene	(2)	9.527	75	205670	18.548
82) 4-Methyl-2-pentanone	(2)	9.685	43	1235865	93.381
83)$Toluene-d8	(3)	9.837	98	1230606	50.262
90) 1,3-Dichloropropene (total)	(3)		100	396680	36.942
88) Toluene	(3)	9.910	92	326818	19.061
89) trans-1,3-Dichloropropene	(3)	10.159	75	191010	18.395
91) Ethyl Methacrylate	(3)	10.214	69	236187	19.265
92) 1,1,2-Trichloroethane	(3)	10.366	97	130369	18.825
93) Tetrachloroethene	(3)	10.457	166	139207	18.539
94) 1,3-Dichloropropane	(3)	10.530	76	214115	18.405
96) 2-Hexanone	(3)	10.567	43	1014161	92.464
97) Dibromochloromethane	(3)	10.749	129	134277	18.590
99) 1,2-Dibromoethane	(3)	10.865	107	141771	18.764
100)*Chlorobenzene-d5	(3)	11.285	117	931514	50.000

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin Kelly
on 01/16/2018 at 19:42.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan16a.b/yj16s01.d Instrument ID: HP09355.i
Injection date and time: 16-JAN-2018 18:35 Analyst ID: kk10002

Method used: /chem2/HP09355.i/18jan16a.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 18:28
Date, time and analyst ID of latest file update: 16-Jan-2018 19:35 kk10002

Sample Name: LCSY03 Lab Sample ID: LCSY03

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
101) 1-Chlorohexane	(3)	11.291	91	172044	17.485
102) Chlorobenzene	(3)	11.315	112	371551	18.599
103) 1,1,1,2-Tetrachloroethane	(3)	11.394	131	120328	18.415
104) Ethylbenzene	(3)	11.394	91	620369	18.565
106) m+p-Xylene	(3)	11.510	106	501439	37.477
108) Xylene (Total)	(3)		106	744056	55.814
107) o-Xylene	(3)	11.838	106	242617	18.338
109) Styrene	(3)	11.857	104	418859	18.659
110) Bromoform	(3)	12.021	173	100488	17.505
111) Isopropylbenzene	(3)	12.136	105	623731	18.728
112) Cyclohexanone	(1)	12.215	55	286253	349.375
114)$4-Bromofluorobenzene	(3)	12.288	95	462099	50.294
116) 1,1,2,2-Tetrachloroethane	(4)	12.380	83	220475	18.279
118) trans-1,4-Dichloro-2-butene	(4)	12.404	53	394226	112.393
115) Bromobenzene	(4)	12.404	156	167857	18.321
117) 1,2,3-Trichloropropane	(4)	12.428	110	71445	18.420
119) n-Propylbenzene	(4)	12.471	91	745026	18.750
120) 2-Chlorotoluene	(4)	12.544	126	153331	18.579
122) 1,3,5-Trimethylbenzene	(4)	12.605	105	540208	18.524
121) 4-Chlorotoluene	(4)	12.641	126	161199	18.223
124) tert-Butylbenzene	(4)	12.848	134	123712	20.101
125) Pentachloroethane	(4)	12.885	167	91872	19.205
126) 1,2,4-Trimethylbenzene	(4)	12.891	105	557460	18.472
127) sec-Butylbenzene	(4)	13.012	105	683051	18.581
129) 1,3-Dichlorobenzene	(4)	13.116	146	315910	17.980
130) p-Isopropyltoluene	(4)	13.122	119	607695	18.734
131)*1,4-Dichlorobenzene-d4	(4)	13.171	152	509263	50.000
133) 1,4-Dichlorobenzene	(4)	13.189	146	328840	18.274
134) 1,2,3-Trimethylbenzene	(4)	13.195	105	575374	19.735
135) Benzyl Chloride	(4)	13.262	91	439531	18.389
136) 1,3-Diethylbenzene	(4)	13.317	119	356766	19.226
137) 1,4-Diethylbenzene	(4)	13.396	119	375997	19.541
139) n-Butylbenzene	(4)	13.414	92	310046	18.881
138) 1,2-Dichlorobenzene	(4)	13.450	146	308535	18.299
140) 1,2-Diethylbenzene	(4)	13.463	119	296815	19.323
141) Diethylbenzene (total)	(4)		100	1029578	58.090
142) 1,2-Dibromo-3-chloropropane	(4)	13.992	75	58746	18.961
144) 1,3,5-Trichlorobenzene	(4)	14.120	180	232637	18.359

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin Kelly
on 01/16/2018 at 19:42.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18jan16a.b/yj16s01.d Instrument ID: HP09355.i
Injection date and time: 16-JAN-2018 18:35 Analyst ID: kk10002

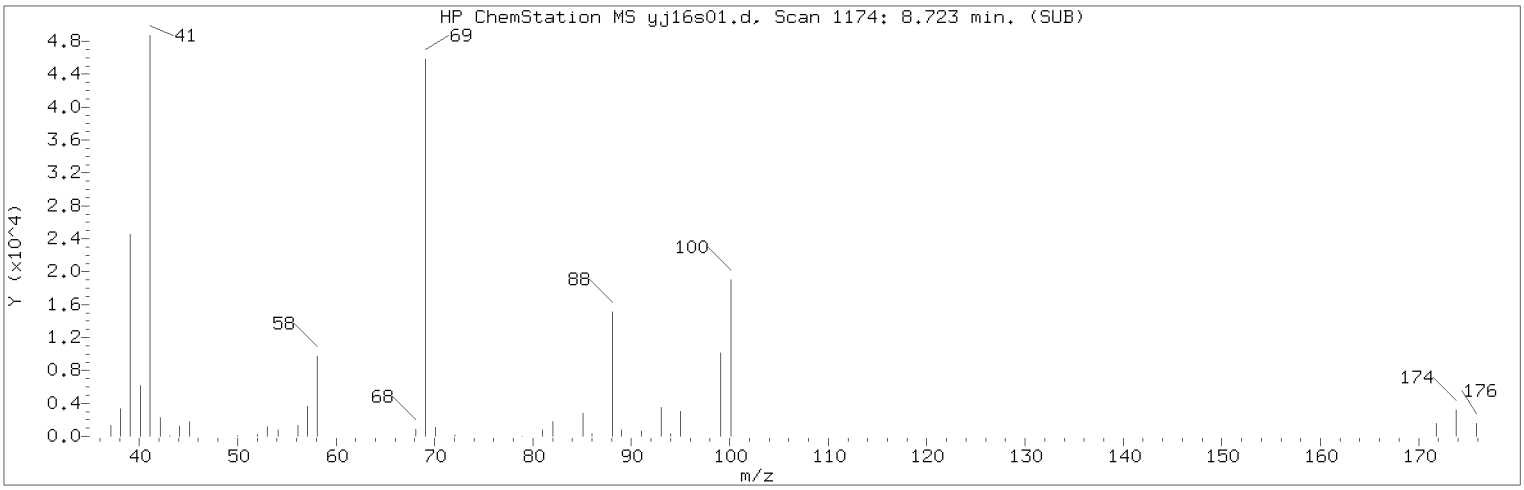
Method used: /chem2/HP09355.i/18jan16a.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 18:28
Date, time and analyst ID of latest file update: 16-Jan-2018 19:35 kk10002

Sample Name: LCSY03 Lab Sample ID: LCSY03

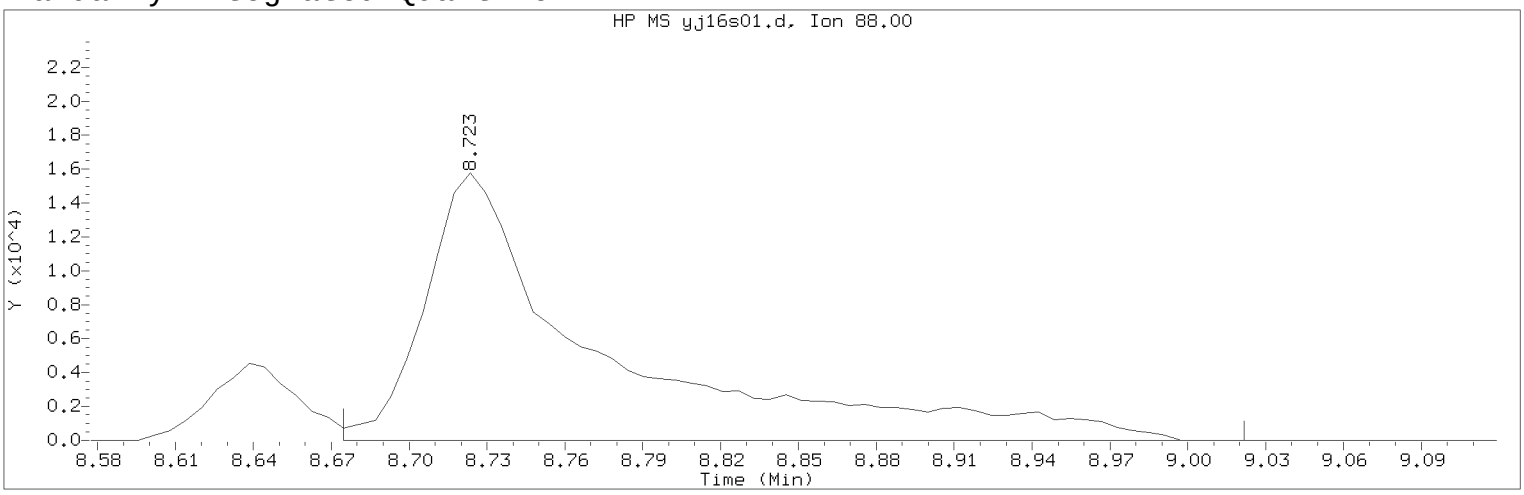
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
146) 1,2,4-Trichlorobenzene	(4)	14.545	180	219642	18.038
147) Hexachlorobutadiene	(4)	14.625	225	102269	17.703
148) Naphthalene	(4)	14.728	128	758234	18.589
149) 1,2,3-Trichlorobenzene	(4)	14.874	180	205293	18.197
150) 2-Methylnaphthalene	(4)	15.519	142	434659	18.744

Digitally signed by Kevin Kelly
on 01/16/2018 at 19:42.
Target 3.5 esignature user ID: kk10002

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18jan16a.b/yj16s01.d Instrument ID: HP09355.i
Injection date and time: 16-JAN-2018 18:35 Analyst ID: kk10002

Method used: /chem2/HP09355.i/18jan16a.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 18:28
Date, time and analyst ID of latest file update: 16-Jan-2018 19:35 kk10002

Sample Name: LCSY03 Lab Sample ID: LCSY03

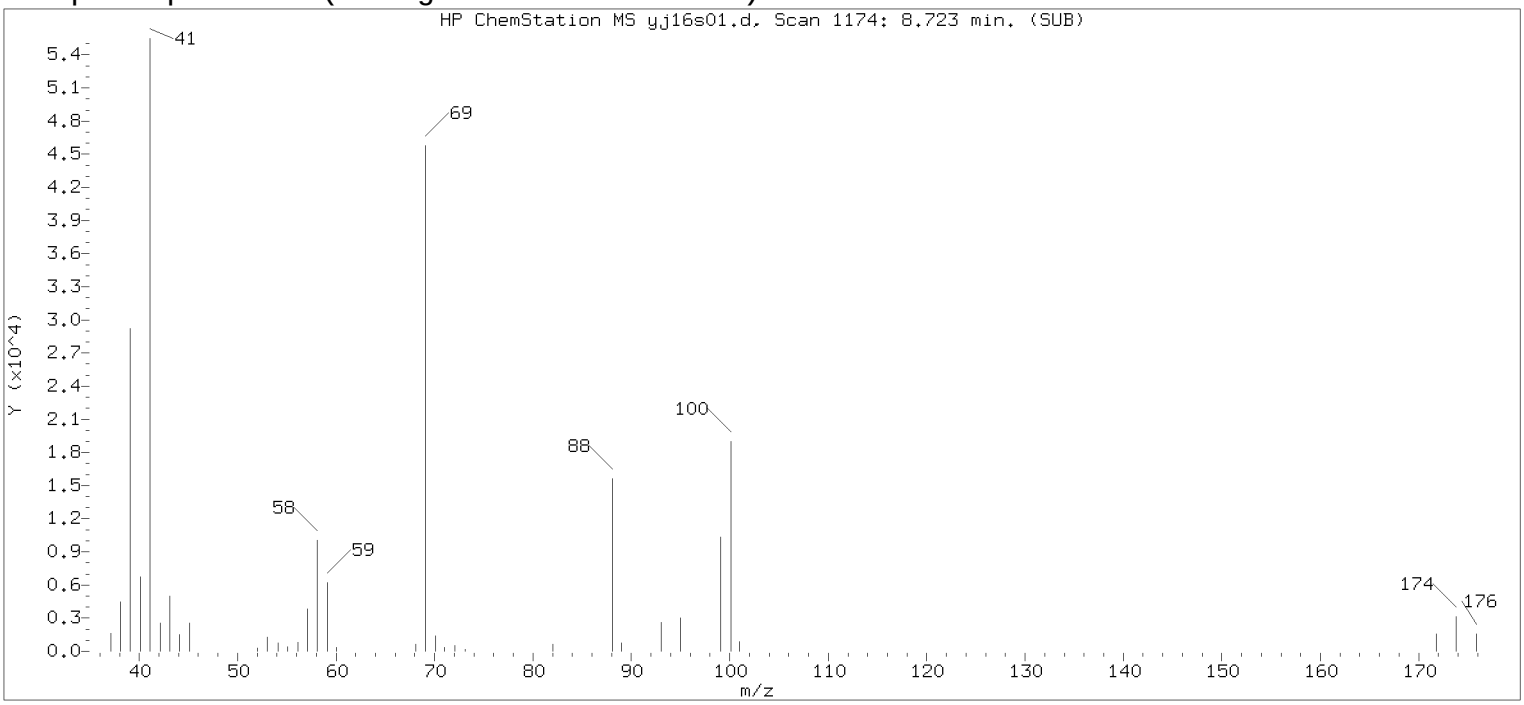
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 1174
Retention Time (minutes): 8.723
Quant Ion : 88.00
Area (flag) : 74660M
On-Column Amount (ng) : 517.7750
Integration start scan : 1165 Integration stop scan: 1222
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

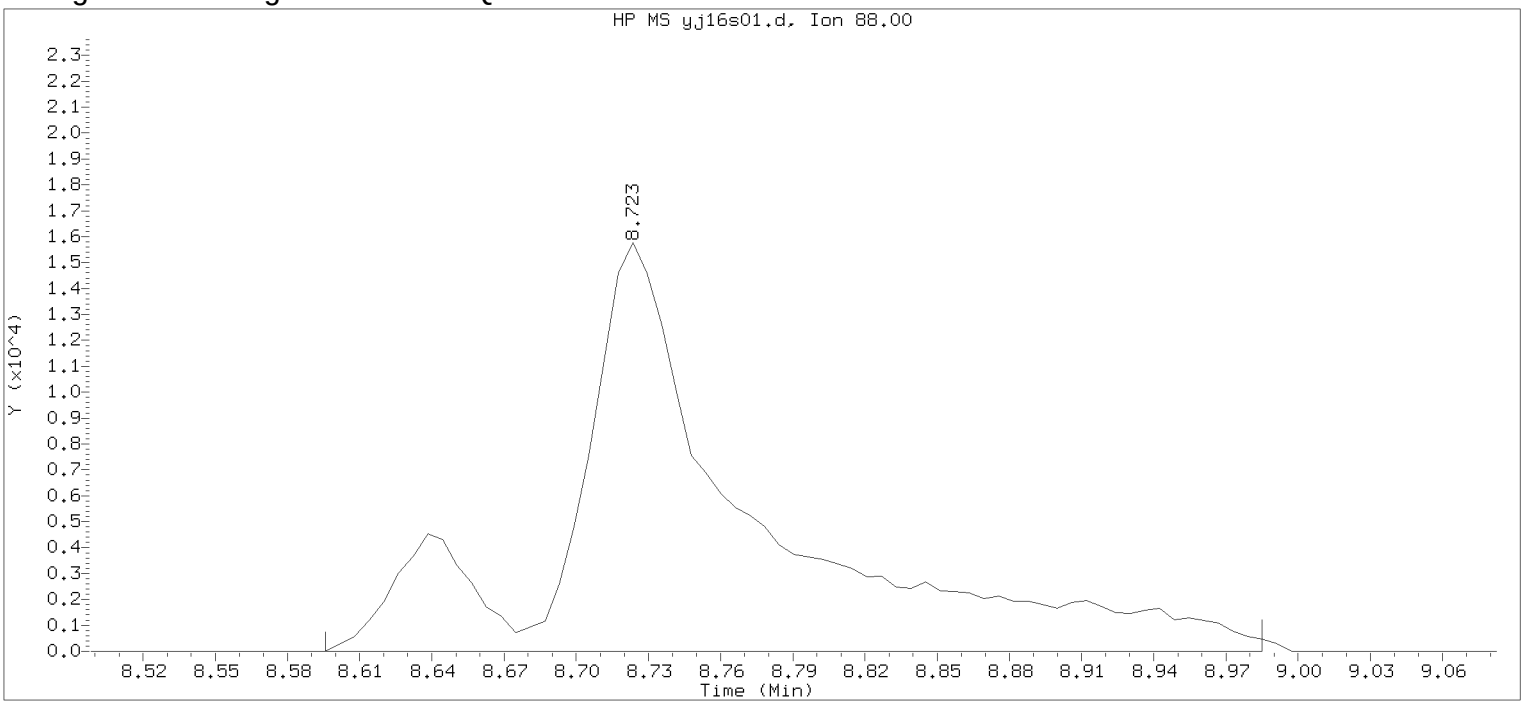
Analyst responsible for change: Digitally signed by Kevin Kelly on 01/16/2018 at 19:42. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 01/16/2018 at 21:57.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18jan16a.b/yj16s01.d Instrument ID: HP09355.i
Injection date and time: 16-JAN-2018 18:35 Analyst ID: kk10002

Method used: /chem2/HP09355.i/18jan16a.b/m8260b5.m Sublist used: 8260W-H
Calibration date and time: 16-JAN-2018 18:28
Date, time and analyst ID of latest file update: 16-Jan-2018 18:51 Automation

Sample Name: LCSY03 Lab Sample ID: LCSY03

Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 1174
Retention Time (minutes): 8.723
Quant Ion : 88.00
Area : 84905
On-column Amount (ng) : 585.2038
Integration start scan : 1152 Integration stop scan: 1216
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 01/16/2018 at 19:42.
Target 3.5 esignature user id: kkelly

Data File: /chem2/HP09355.i/18apr14a.b/ya14t01.d

Date : 14-APR-2018 07:50

Client ID: BFB FEB 13-2018

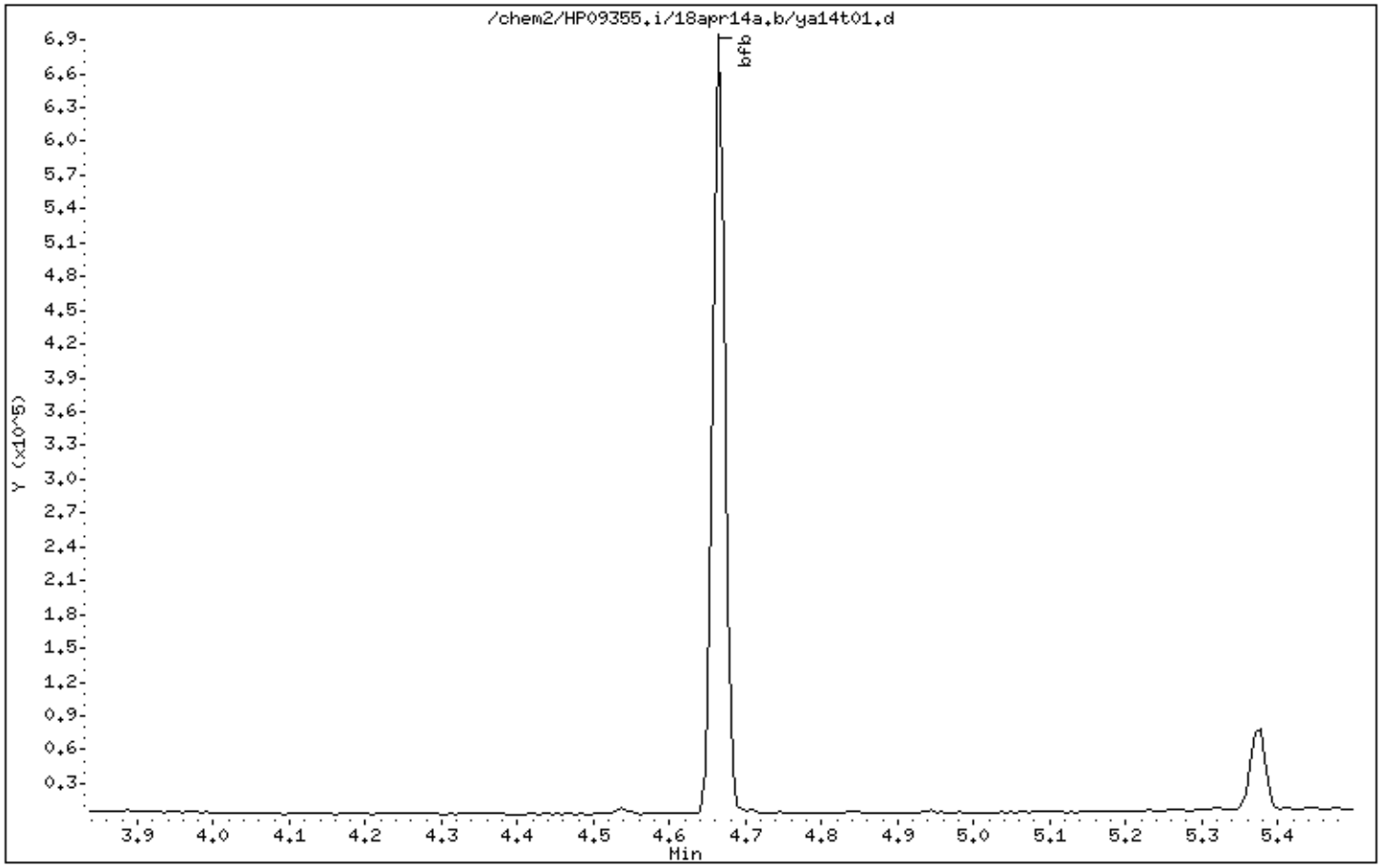
Instrument: HP09355.i

Sample Info: BFB FEB 13-2018;50NGBFB;1;2;;;;;;

Operator: LCP00895

Column phase: Rxi-624Sil MS

Column diameter: 0.25



Digitally signed by Linda C. Pape on 04/14/2018 at 09:02.
Target 3.5 esignature user ID: lcp00895

Data File: /chem2/HP09355.i/18apr14a.b/ya14t01.d

Date : 14-APR-2018 07:50

Client ID: BFB FEB 13-2018

Instrument: HP09355.i

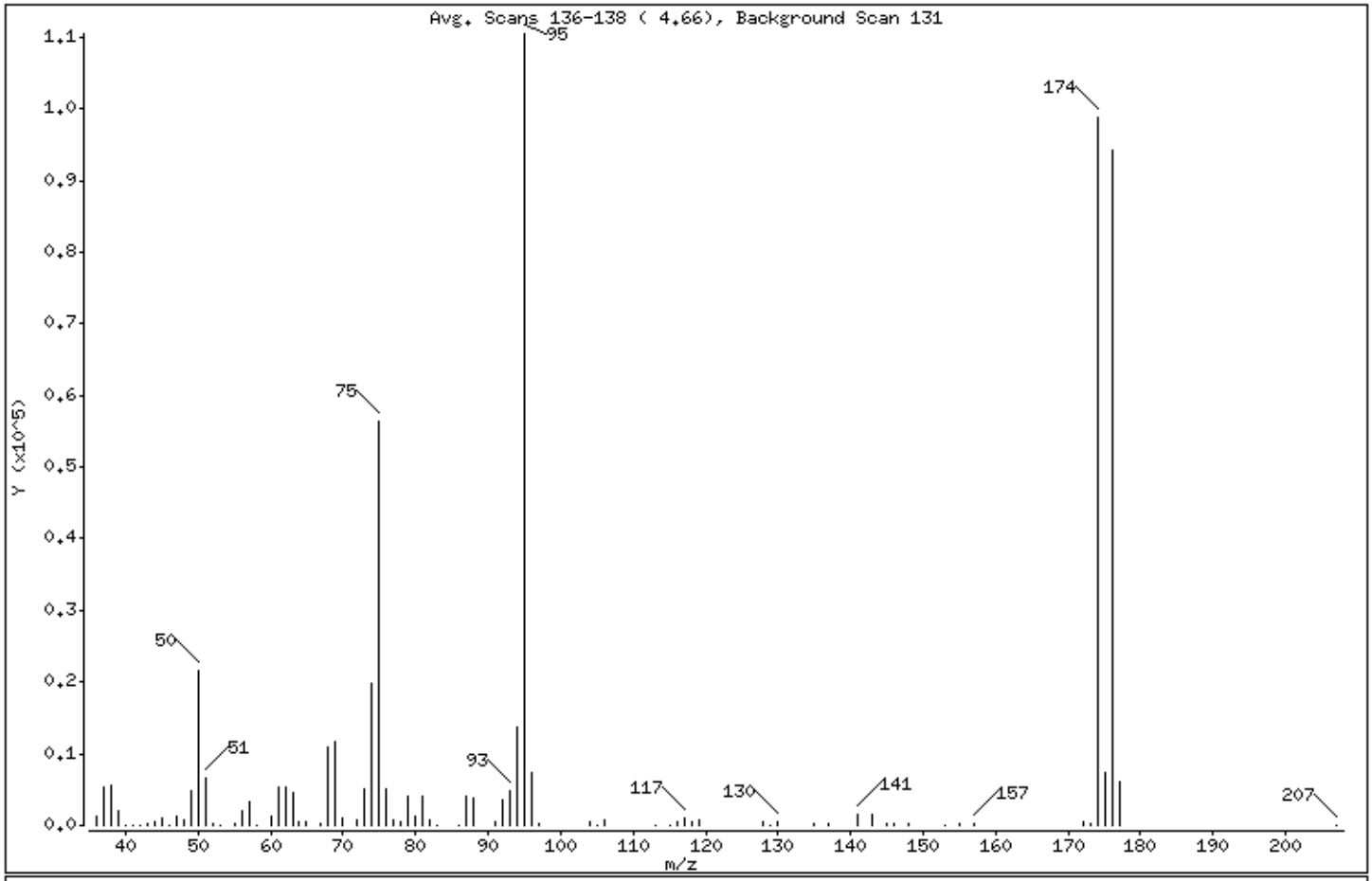
Sample Info: BFB FEB 13-2018;50NGBFB;1;2;;;;;;

Operator: LCP00895

Column phase: Rxi-624Sil MS

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	19.48
75	30.00 - 60.00% of mass 95	51.05
96	5.00 - 9.00% of mass 95	6.69
173	Less than 2.00% of mass 174	0.16 (0.18)
174	50.00 - 100.00% of mass 95	89.37
175	5.00 - 9.00% of mass 174	6.59 (7.38)
176	95.00 - 101.00% of mass 174	85.23 (95.38)
177	5.00 - 9.00% of mass 176	5.63 (6.60)

Digitally signed by Linda C. Pape on 04/14/2018 at 09:02.
Target 3.5 esignature user ID: lcp00895

Data File: /chem2/HP09355.i/18apr14a.b/ya14t01.d

Date : 14-APR-2018 07:50

Client ID: BFB FEB 13-2018 Instrument: HP09355.i

Sample Info: BFB FEB 13-2018;50NGBFB;1;2;;;;;;

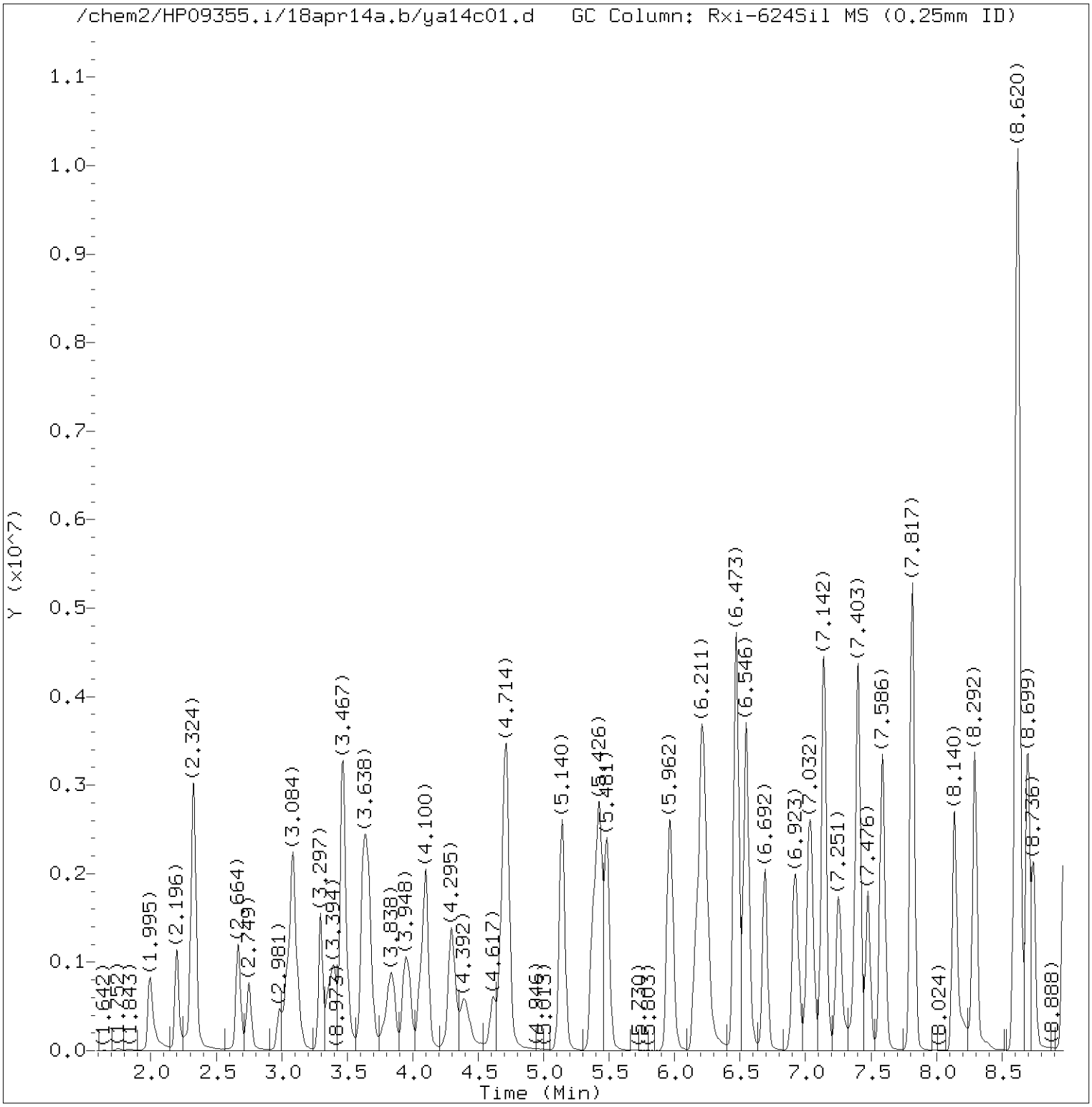
Operator: LCP00895

Column phase: Rxi-624Sil MS Column diameter: 0.25

Data File: ya14t01.d
Spectrum: Avg. Scans 136-138 (4.66), Background Scan 131
Location of Maximum: 95.00
Number of points: 83

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1184	58.00	114	82.00	862	128.00	417
37.00	5374	60.00	1271	83.00	86	129.00	87
38.00	5482	61.00	5319	86.00	117	130.00	505
39.00	2147	62.00	5294	87.00	4184	135.00	213
40.00	101	63.00	4524	88.00	3924	137.00	225
41.00	19	64.00	480	91.00	513	141.00	1402
42.00	92	65.00	427	92.00	3500	143.00	1401
43.00	197	67.00	315	93.00	4908	145.00	259
44.00	633	68.00	11030	94.00	13702	146.00	206
45.00	1121	69.00	11693	95.00	110464	148.00	229
46.00	87	70.00	1052	96.00	7385	153.00	88
47.00	1338	72.00	692	97.00	232	155.00	147
48.00	711	73.00	4966	104.00	568	157.00	257
49.00	4832	74.00	19832	105.00	109	172.00	519
50.00	21520	75.00	56392	106.00	637	173.00	173
51.00	6560	76.00	5034	113.00	91	174.00	98720
52.00	241	77.00	757	115.00	103	175.00	7282
53.00	89	78.00	528	116.00	518	176.00	94152
55.00	279	79.00	4025	117.00	903	177.00	6216
56.00	1969	80.00	1266	118.00	472	207.00	71
57.00	3254	81.00	4162	119.00	658		

Digitally signed by Linda C. Pape on 04/14/2018 at 09:02.
Target 3.5 esignature user ID: lcp00895



Total Ion Chromatogram (TIC)

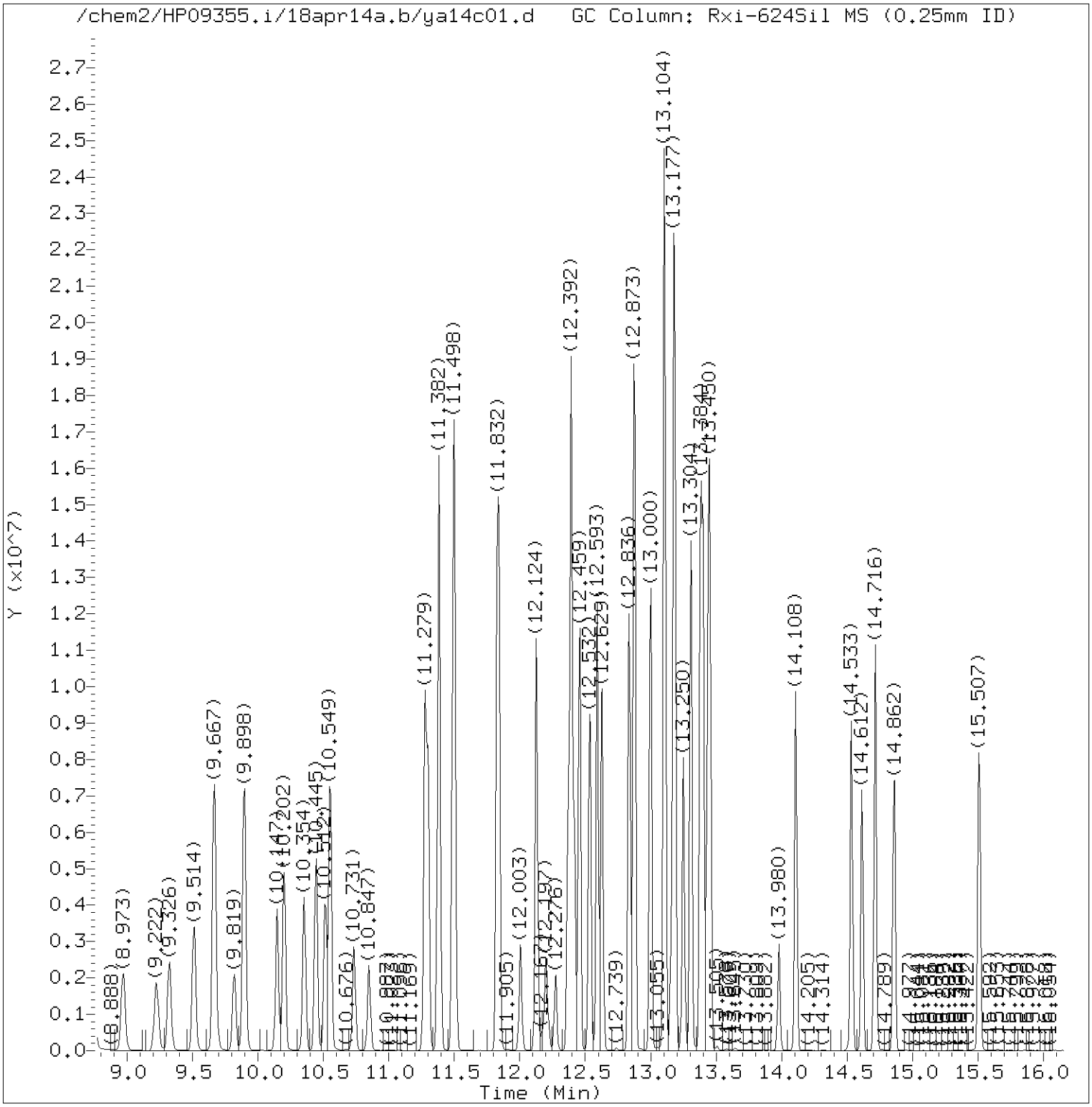
Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14c01.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 08:33 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 8260W-DH
Calibration date and time: 14-APR-2018 08:48
Date, time and analyst ID of latest file update: 14-Apr-2018 09:01 lcp00895

Sample Name: VSTD150 Lab Sample ID: VSTD150

Digitally signed by Linda C. Pape
on 04/14/2018 at 09:02.
Target 3.5 esignature user ID: lcp00895



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14c01.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 08:33 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 8260W-DH
Calibration date and time: 14-APR-2018 08:48
Date, time and analyst ID of latest file update: 14-Apr-2018 09:01 lcp00895

Sample Name: VSTD150 Lab Sample ID: VSTD150

Digitally signed by Linda C. Pape
on 04/14/2018 at 09:02.
Target 3.5 esignature user ID: lcp00895

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14c01.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 08:33 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 8260W-DH
Calibration date and time: 14-APR-2018 08:48
Date, time and analyst ID of latest file update: 14-Apr-2018 09:01 lcp00895

Sample Name: VSTD150 Lab Sample ID: VSTD150

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
3) Dichlorodifluoromethane	(2)	1.995	85	1572387	147.439
4) Chloromethane	(2)	2.196	50	1625526	146.285
6) Vinyl Chloride	(2)	2.311	62	1593052	140.421
5) 1,3-Butadiene	(2)	2.330	39	1691702	293.260
8) Bromomethane	(2)	2.664	94	1171633	152.457
9) Chloroethane	(2)	2.749	64	942260	149.757
12) Trichlorofluoromethane	(2)	3.048	101	2121439	164.513
11) n-Pentane	(2)	3.084	43	2346550	219.980
14) Ethyl ether	(2)	3.297	59	1121964	146.669
15) Freon 123a	(2)	3.394	67	1303315	155.471
16) Acrolein	(1)	3.467	56	4801697	1515.250
17) 1,1-Dichloroethene	(2)	3.626	96	957751	157.651
17) 1,1-Dichloroethene	(2)	3.626	63	512368	171.394
18) Acetone	(1)	3.626	58	496479	352.259
19) Freon 113	(2)	3.662	101	1083008	184.749
21) 2-Propanol	(1)	3.784	45	633875	642.090
22) Methyl Iodide	(2)	3.838	142	1879176	161.366
23) Carbon Disulfide	(2)	3.948	76	3320413	163.183
27) Methyl Acetate	(2)	4.064	43	1875039	161.811
25) Allyl Chloride	(2)	4.100	41	1844826	148.369
29)*t-Butyl alcohol-d10	(1)	4.264	65	453538	250.000
28) Methylene Chloride	(2)	4.295	84	1145467	147.134
30) t-Butyl alcohol	(1)	4.392	59	1532204	766.487
31) Acrylonitrile	(2)	4.611	53	924830	155.337
33) Methyl Tertiary Butyl Ether	(2)	4.696	73	3855801	145.137
32) trans-1,2-Dichloroethene	(2)	4.721	96	1162118	152.504
34) n-Hexane	(2)	5.140	57	2036083	180.348
36) 1,1-Dichloroethane	(2)	5.378	63	2122565	153.318
38) di-Isopropyl ether	(2)	5.426	45	4119414	159.350
39) 2-Chloro-1,3-butadiene	(2)	5.481	53	1993712	164.433
40) Ethyl t-butyl ether	(2)	5.962	59	3596086	137.907
44) 2-Butanone	(2)	6.162	43	2917820	307.293
42) cis-1,2-Dichloroethene	(2)	6.205	96	1321873	148.391
45) 2,2-Dichloropropane	(2)	6.223	77	1638912	144.201
47) Propionitrile	(1)	6.241	54	1962109	976.186
48) Methacrylonitrile	(2)	6.473	67	2434613	428.426
49) Bromochloromethane	(2)	6.546	128	696071	154.315
50) Tetrahydrofuran	(1)	6.552	71	771198	332.655

* = Compound is an internal standard.

Digitally signed by Linda C. Pape
on 04/14/2018 at 09:02.
Target 3.5 esignature user ID: lcp00895

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14c01.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 08:33 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 8260W-DH
Calibration date and time: 14-APR-2018 08:48
Date, time and analyst ID of latest file update: 14-Apr-2018 09:01 lcp00895

Sample Name: VSTD150 Lab Sample ID: VSTD150

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
51) Chloroform	(2)	6.692	83	2175886	154.622
43) 1,2-Dichloroethene (Total)	(2)		96	2483991	300.895
52)$Dibromofluoromethane	(2)	6.911	113	378292	50.867
52)$Dibromofluoromethane	(2)	6.911	111	383177	50.298
53) 1,1,1-Trichloroethane	(2)	6.929	97	1841618	136.871
54) Cyclohexane	(2)	7.032	56	2166978	165.853
54) Cyclohexane	(2)	7.038	84	1739928	154.250
54) Cyclohexane	(2)	7.032	69	643323	157.294
55) 1,1-Dichloropropene	(2)	7.136	75	1751621	153.930
56) Carbon Tetrachloride	(2)	7.142	117	1699521	166.798
58) Isobutyl Alcohol	(1)	7.251	41	1605145	2319.522
57)$1,2-Dichloroethane-d4	(2)	7.373	102	92597	48.290
57)$1,2-Dichloroethane-d4	(2)	7.373	65	503211	55.415
57)$1,2-Dichloroethane-d4	(2)	7.373	104	58397	47.931
60) Benzene	(2)	7.403	78	4973394	150.868
61) 1,2-Dichloroethane	(2)	7.476	62	1884956	158.840
61) 1,2-Dichloroethane	(2)	7.476	98	155358	143.393
65) t-Amyl methyl ether	(2)	7.586	73	3437611	131.074
66)*Fluorobenzene	(2)	7.811	96	1565113	50.000
67) n-Heptane	(2)	7.817	43	2338807	173.749
69) n-Butanol	(1)	8.140	56	2600205	4131.369
71) Trichloroethene	(2)	8.292	95	1358408	154.364
72) Methylcyclohexane	(2)	8.608	83	2288992	158.980
72) Methylcyclohexane	(2)	8.608	98	1015619	156.317
73) 1,2-Dichloropropane	(2)	8.626	63	1391485	156.686
76) Methyl Methacrylate	(2)	8.693	69	1550121	154.957
75) 1,4-Dioxane	(1)	8.705	88	320061M	1853.301
74) Dibromomethane	(2)	8.742	93	934361	161.132
78) Bromodichloromethane	(2)	8.973	83	1713635	157.463
79) 2-Nitropropane	(2)	9.222	41	1482285	349.273
80) 2-Chloroethyl Vinyl Ether	(2)	9.326	63	1217553	157.607
81) cis-1,3-Dichloropropene	(2)	9.514	75	2139684	148.692
82) 4-Methyl-2-pentanone	(2)	9.667	43	5656548	329.352
83)$Toluene-d8	(3)	9.819	98	1545854	45.492
83)$Toluene-d8	(3)	9.819	100	971531	44.288
88) Toluene	(3)	9.898	92	3285401	138.067
90) 1,3-Dichloropropene (total)	(3)		100	4227856	293.587
89) trans-1,3-Dichloropropene	(3)	10.147	75	2088172	144.895

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda C. Pape
on 04/14/2018 at 09:02.
Target 3.5 esignature user ID: lcp00895

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14c01.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 08:33 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 8260W-DH
Calibration date and time: 14-APR-2018 08:48
Date, time and analyst ID of latest file update: 14-Apr-2018 09:01 lcp00895

Sample Name: VSTD150 Lab Sample ID: VSTD150

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
91) Ethyl Methacrylate	(3)	10.202	69	2495420	146.661
92) 1,1,2-Trichloroethane	(3)	10.354	97	1330851	138.466
93) Tetrachloroethene	(3)	10.445	166	1570153	150.663
94) 1,3-Dichloropropane	(3)	10.512	76	2228965	138.056
96) 2-Hexanone	(3)	10.549	43	4775811	313.736
97) Dibromochloromethane	(3)	10.731	129	1465994	146.236
99) 1,2-Dibromoethane	(3)	10.847	107	1506218	143.638
100)*Chlorobenzene-d5	(3)	11.273	117	1292822	50.000
101) 1-Chlorohexane	(3)	11.279	91	1915569	140.270
102) Chlorobenzene	(3)	11.297	112	3840952	138.537
103) 1,1,1,2-Tetrachloroethane	(3)	11.382	131	1424369	157.064
104) Ethylbenzene	(3)	11.382	91	6817443	147.003
106) m+p-Xylene	(3)	11.498	106	5467109	294.408
108) Xylene (Total)	(3)		106	8107042	438.179
107) o-Xylene	(3)	11.826	106	2639933	143.771
109) Styrene	(3)	11.844	104	4607484	147.893
110) Bromoform	(3)	12.003	173	1227651	154.091
111) Isopropylbenzene	(3)	12.124	105	6409112	138.657
112) Cyclohexanone	(1)	12.197	55	1140208A	1163.864
114)$4-Bromofluorobenzene	(3)	12.276	95	598160	46.908
114)$4-Bromofluorobenzene	(3)	12.276	174	540199	50.491
116) 1,1,2,2-Tetrachloroethane	(4)	12.368	83	2399652	137.199
118) trans-1,4-Dichloro-2-butene	(4)	12.392	53	1886260	370.863
115) Bromobenzene	(4)	12.392	156	2070840	155.873
117) 1,2,3-Trichloropropane	(4)	12.416	110	779022	138.508
119) n-Propylbenzene	(4)	12.459	91	7859374	136.408
120) 2-Chlorotoluene	(4)	12.538	126	1620995	135.455
122) 1,3,5-Trimethylbenzene	(4)	12.593	105	5708439	134.991
121) 4-Chlorotoluene	(4)	12.629	126	1789280	139.490
124) tert-Butylbenzene	(4)	12.836	134	1209166M	135.492
125) Pentachloroethane	(4)	12.873	167	1117753	161.133
126) 1,2,4-Trimethylbenzene	(4)	12.879	105	6209201	141.892
127) sec-Butylbenzene	(4)	13.000	105	7176819	134.641
129) 1,3-Dichlorobenzene	(4)	13.104	146	3915185	153.676
130) p-Isopropyltoluene	(4)	13.110	119	6884866	146.369
131)*1,4-Dichlorobenzene-d4	(4)	13.158	152	738455	50.000
133) 1,4-Dichlorobenzene	(4)	13.177	146	3975458	152.353
134) 1,2,3-Trimethylbenzene	(4)	13.183	105	6241215	147.631

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda C. Pape
on 04/14/2018 at 09:02.
Target 3.5 esignature user ID: lcp00895

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14c01.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 08:33 Analyst ID: LCP00895

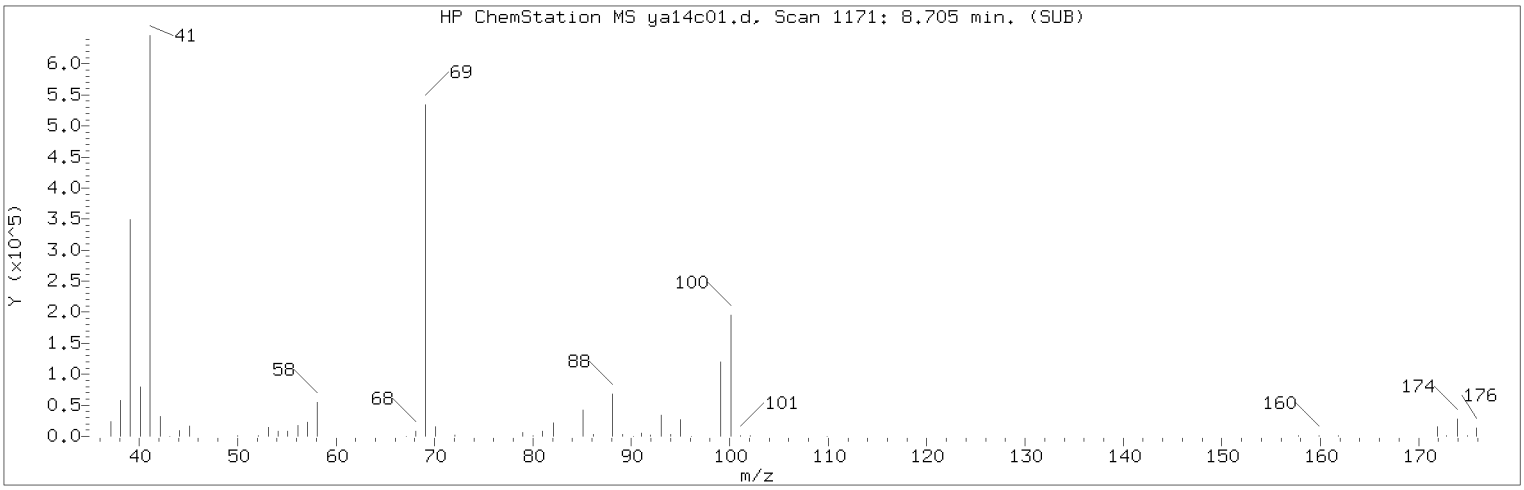
Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 8260W-DH
Calibration date and time: 14-APR-2018 08:48
Date, time and analyst ID of latest file update: 14-Apr-2018 09:01 lcp00895

Sample Name: VSTD150 Lab Sample ID: VSTD150

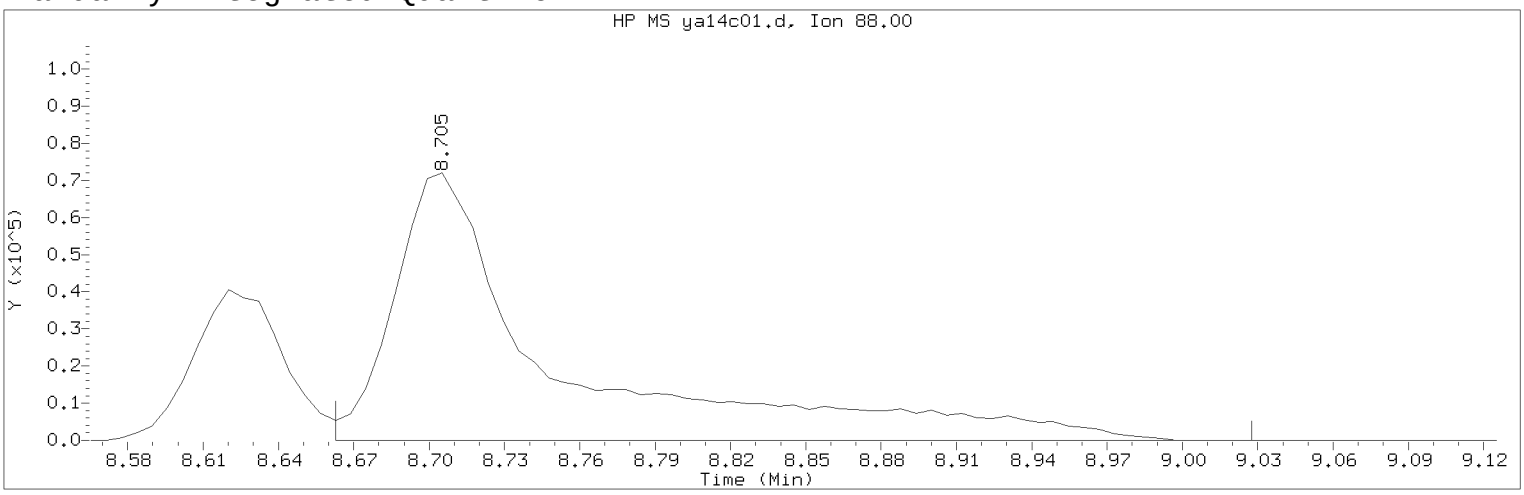
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
135) Benzyl Chloride	(4)	13.250	91	4734212	136.596
136) 1,3-Diethylbenzene	(4)	13.304	119	3856431	143.321
137) 1,4-Diethylbenzene	(4)	13.384	119	4105700	147.154
139) n-Butylbenzene	(4)	13.402	92	3469596	145.709
138) 1,2-Dichlorobenzene	(4)	13.438	146	3561961	145.691
140) 1,2-Diethylbenzene	(4)	13.450	119	3246806	145.766
141) Diethylbenzene (total)	(4)		100	11208937	436.241
142) 1,2-Dibromo-3-chloropropane	(4)	13.980	75	595274	132.502
144) 1,3,5-Trichlorobenzene	(4)	14.108	180	2633959	143.351
146) 1,2,4-Trichlorobenzene	(4)	14.533	180	2395538	135.676
147) Hexachlorobutadiene	(4)	14.612	225	1121306	133.858
148) Naphthalene	(4)	14.716	128	7327951	123.896
149) 1,2,3-Trichlorobenzene	(4)	14.862	180	2140380	130.836
150) 2-Methylnaphthalene	(4)	15.507	142	3686741	109.639

Digitally signed by Linda C. Pape
on 04/14/2018 at 09:02.
Target 3.5 esignature user ID: lcp00895

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18apr14a.b/ya14c01.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 08:33 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 8260W-DH
Calibration date and time: 14-APR-2018 08:48
Date, time and analyst ID of latest file update: 14-Apr-2018 09:01 lcp00895

Sample Name: VSTD150 Lab Sample ID: VSTD150

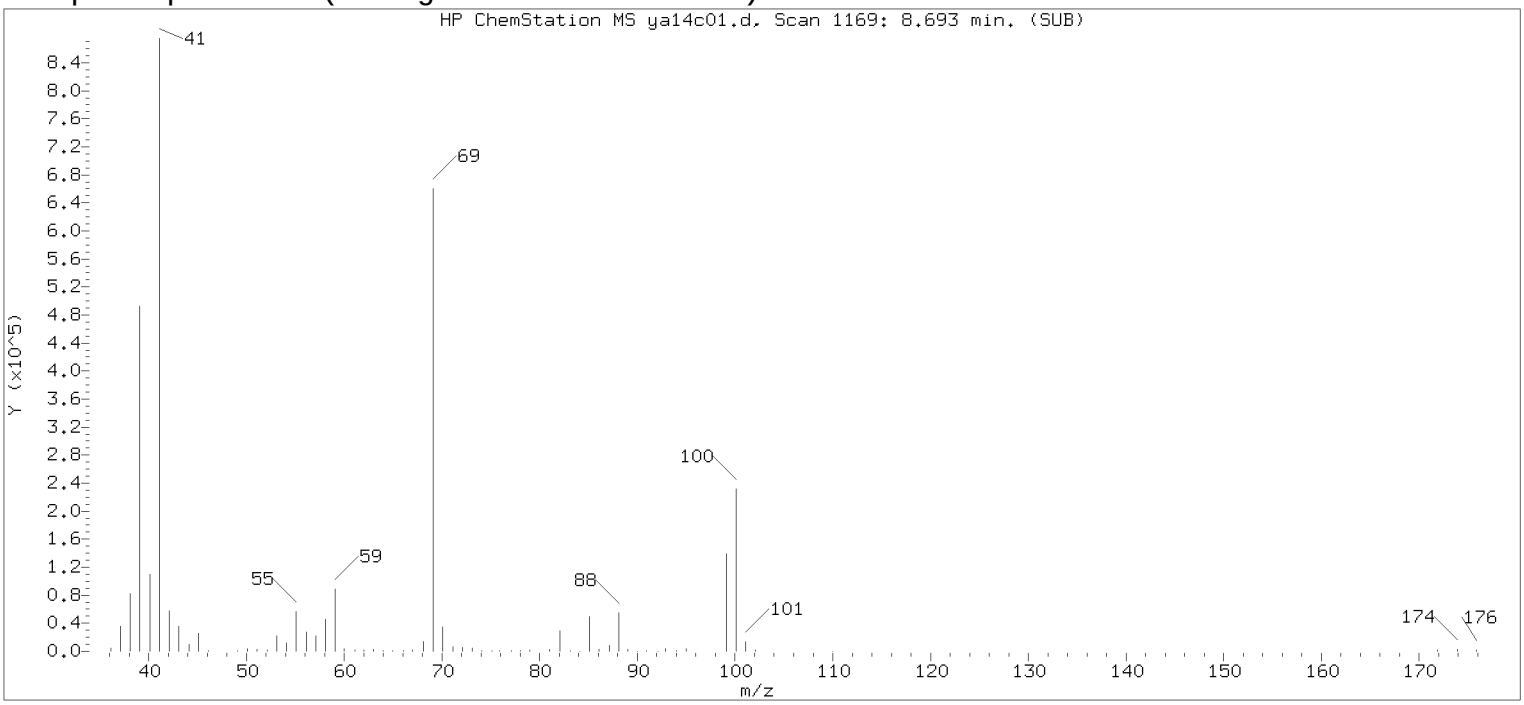
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 1171
Retention Time (minutes): 8.705
Quant Ion : 88.00
Area (flag) : 320061M
On-Column Amount (ng) : 1853.3014
Integration start scan : 1163 Integration stop scan: 1223
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

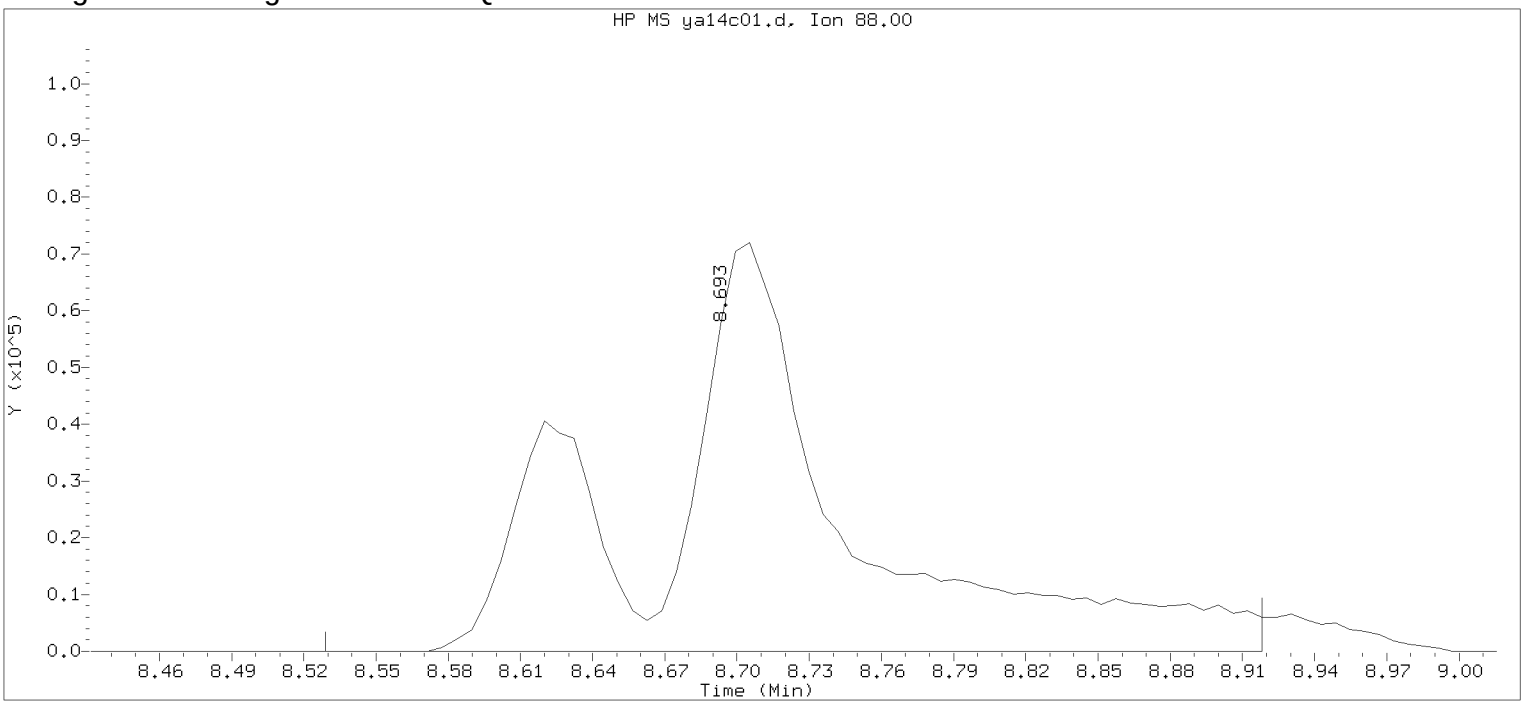
Analyst responsible for change: Digitally signed by Linda C. Pape on 04/14/2018 at 09:02. Target 3.5 esignature user ID: lcp00895

Secondary review performed and digitally signed by Joshua E. Berrios on 04/17/2018 at 21:46.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18apr14a.b/ya14c01.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 08:33 Analyst ID: LCP00895

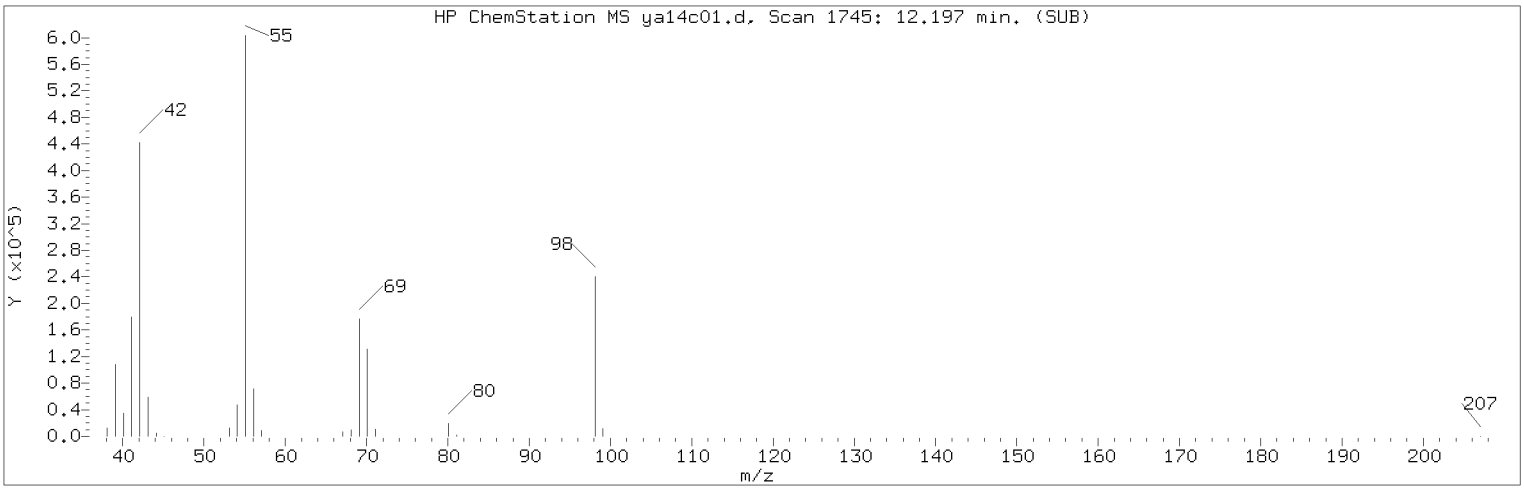
Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 8260W-DH
Calibration date and time: 14-APR-2018 08:48
Date, time and analyst ID of latest file update: 14-Apr-2018 08:48 Automation

Sample Name: VSTD150 Lab Sample ID: VSTD150

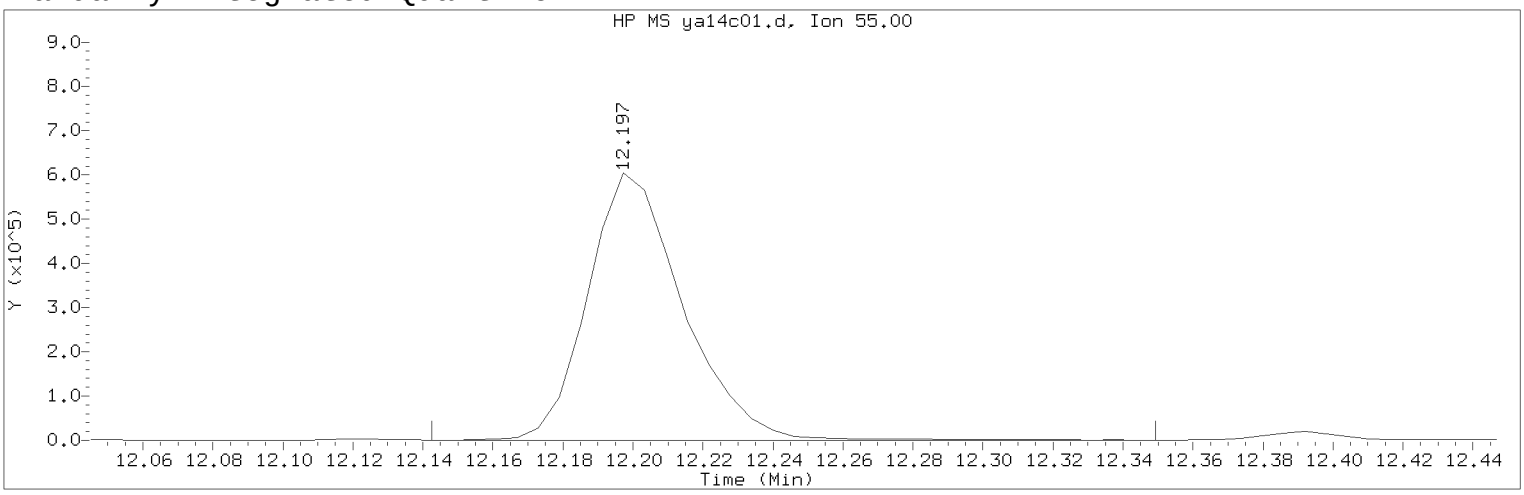
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 1169
Retention Time (minutes): 8.693
Quant Ion : 88.00
Area : 403390
On-column Amount (ng) : 2369.3624
Integration start scan : 1141 Integration stop scan: 1205
Y at integration start : 0 Y at integration end: 0

Digitally signed by Linda C. Pape on 04/14/2018 at 09:02.
Target 3.5 esignature user ID: 1181 Page 285 of 1243

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18apr14a.b/ya14c01.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 08:33 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 8260W-DH
Calibration date and time: 14-APR-2018 08:48
Date, time and analyst ID of latest file update: 14-Apr-2018 09:01 lcp00895

Sample Name: VSTD150 Lab Sample ID: VSTD150

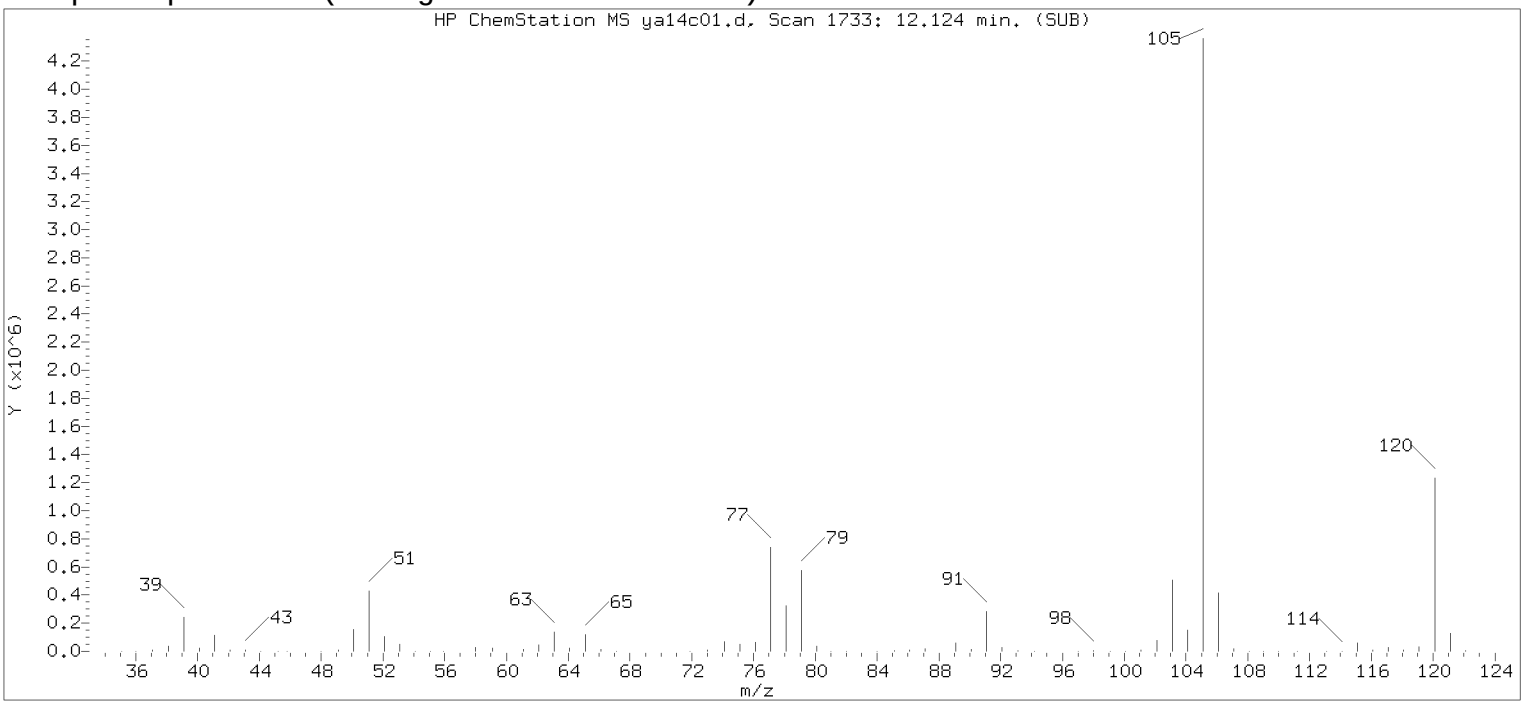
Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 1745
Retention Time (minutes): 12.197
Quant Ion : 55.00
Area (flag) : 1140208A
On-Column Amount (ng) : 1163.8637
Integration start scan : 1735 Integration stop scan: 1769
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

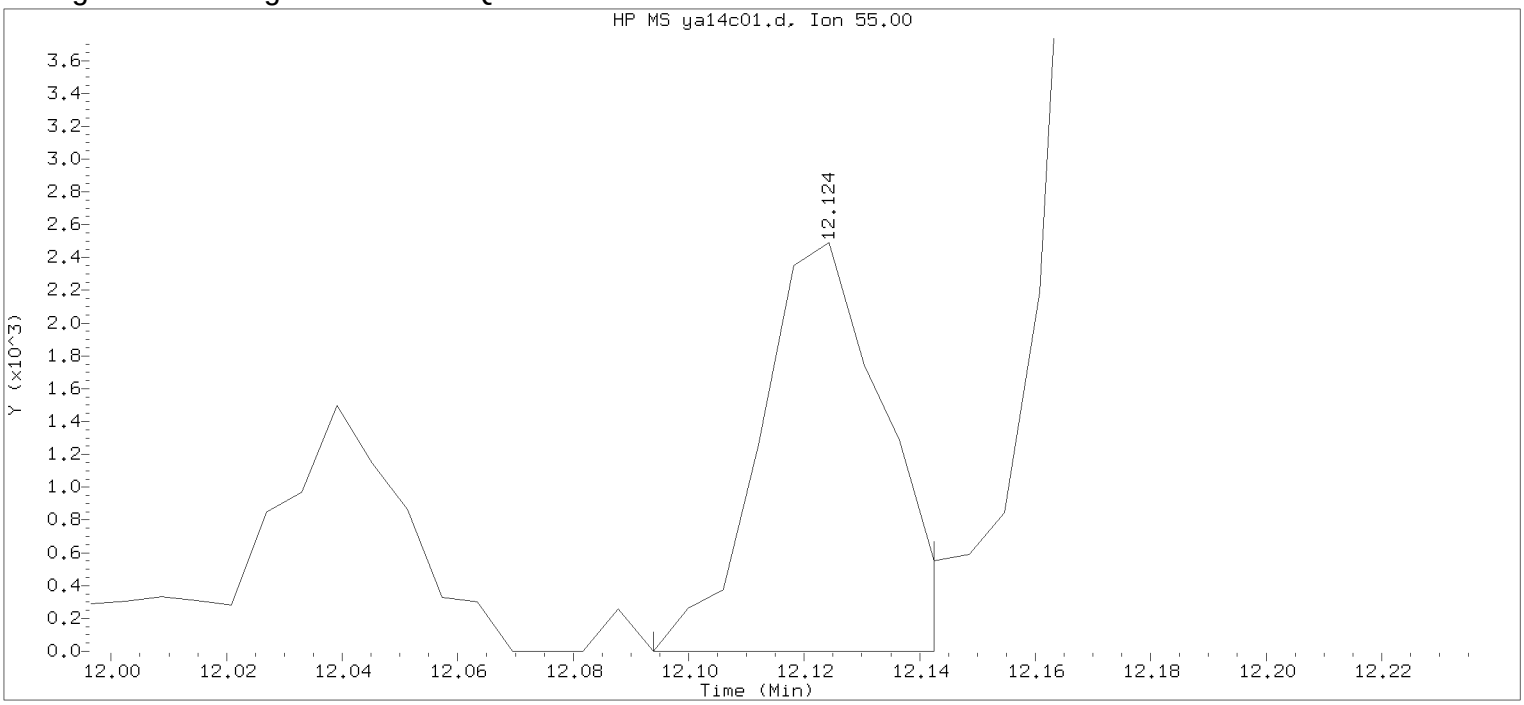
Analyst responsible for change: Digitally signed by Linda C. Pape on 04/14/2018 at 09:02. Target 3.5 esignature user ID: lcp00895

Secondary review performed and digitally signed by Joshua E. Berrios on 04/17/2018 at 21:46.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18apr14a.b/ya14c01.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 08:33 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 8260W-DH
Calibration date and time: 14-APR-2018 08:48
Date, time and analyst ID of latest file update: 14-Apr-2018 08:48 Automation

Sample Name: VSTD150 Lab Sample ID: VSTD150

Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 1733
Retention Time (minutes): 12.124
Quant Ion : 55.00
Area : 3665
On-column Amount (ng) : 3.7411
Integration start scan : 1727 Integration stop scan: 1735
Y at integration start : 0 Y at integration end: 0

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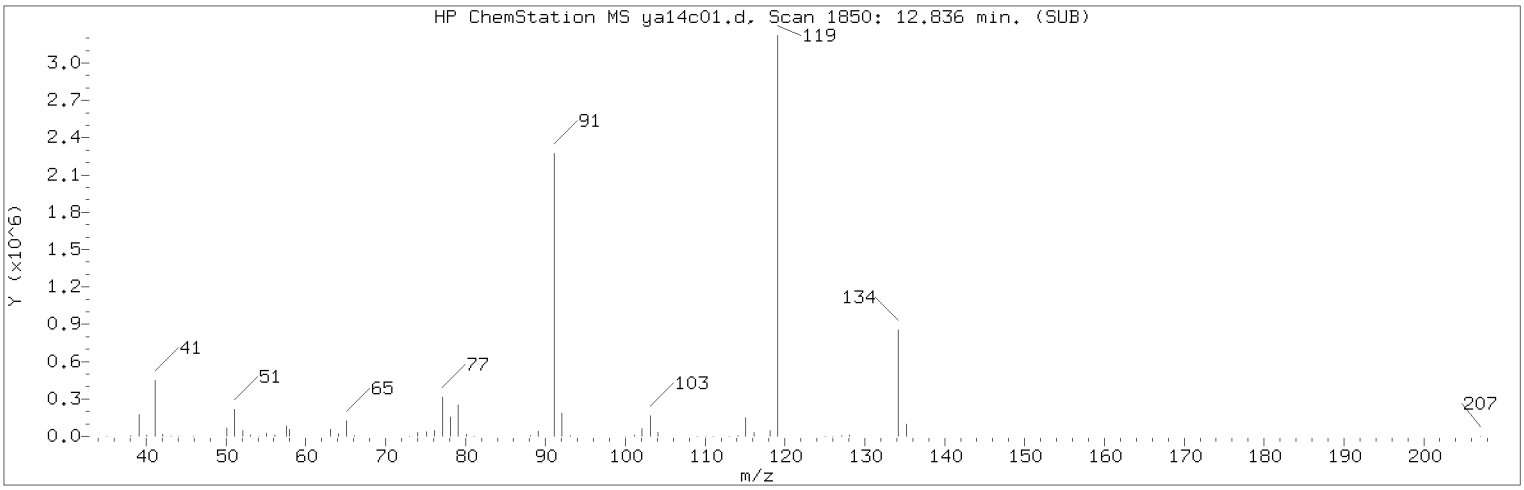
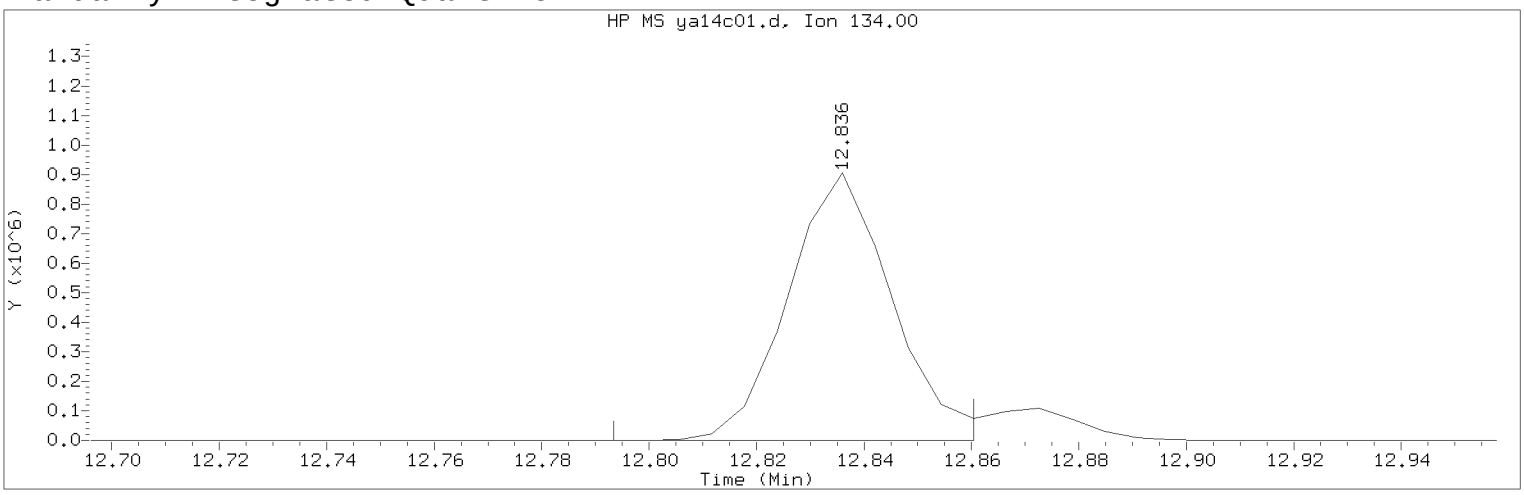
Target 3.5 esignature user id: LCP00895

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18apr14a.b/ya14c01.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 08:33 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 8260W-DH
Calibration date and time: 14-APR-2018 08:48
Date, time and analyst ID of latest file update: 14-Apr-2018 09:01 lcp00895

Sample Name: VSTD150 Lab Sample ID: VSTD150

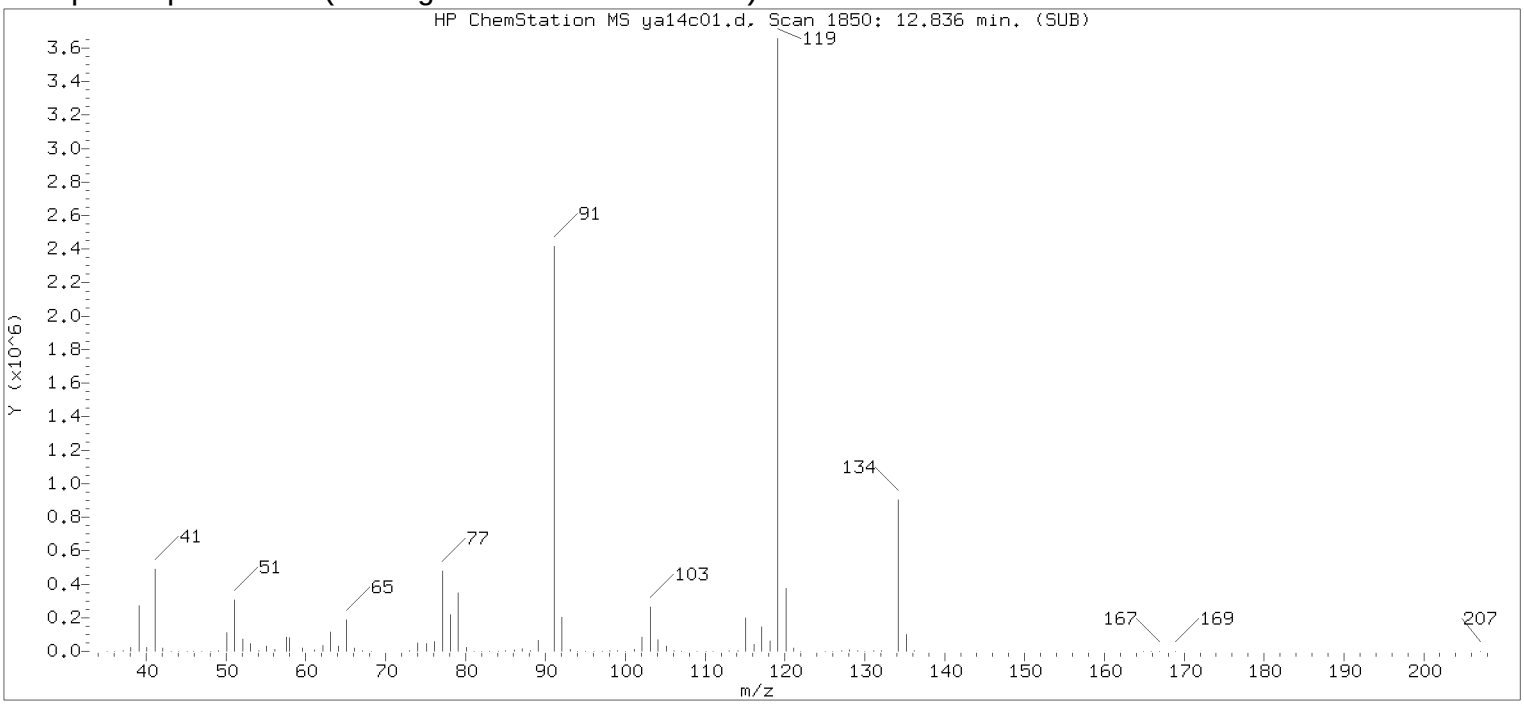
Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 1850
Retention Time (minutes): 12.836
Quant Ion : 134.00
Area (flag) : 1209166M
On-Column Amount (ng) : 135.4924
Integration start scan : 1842 Integration stop scan: 1853
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

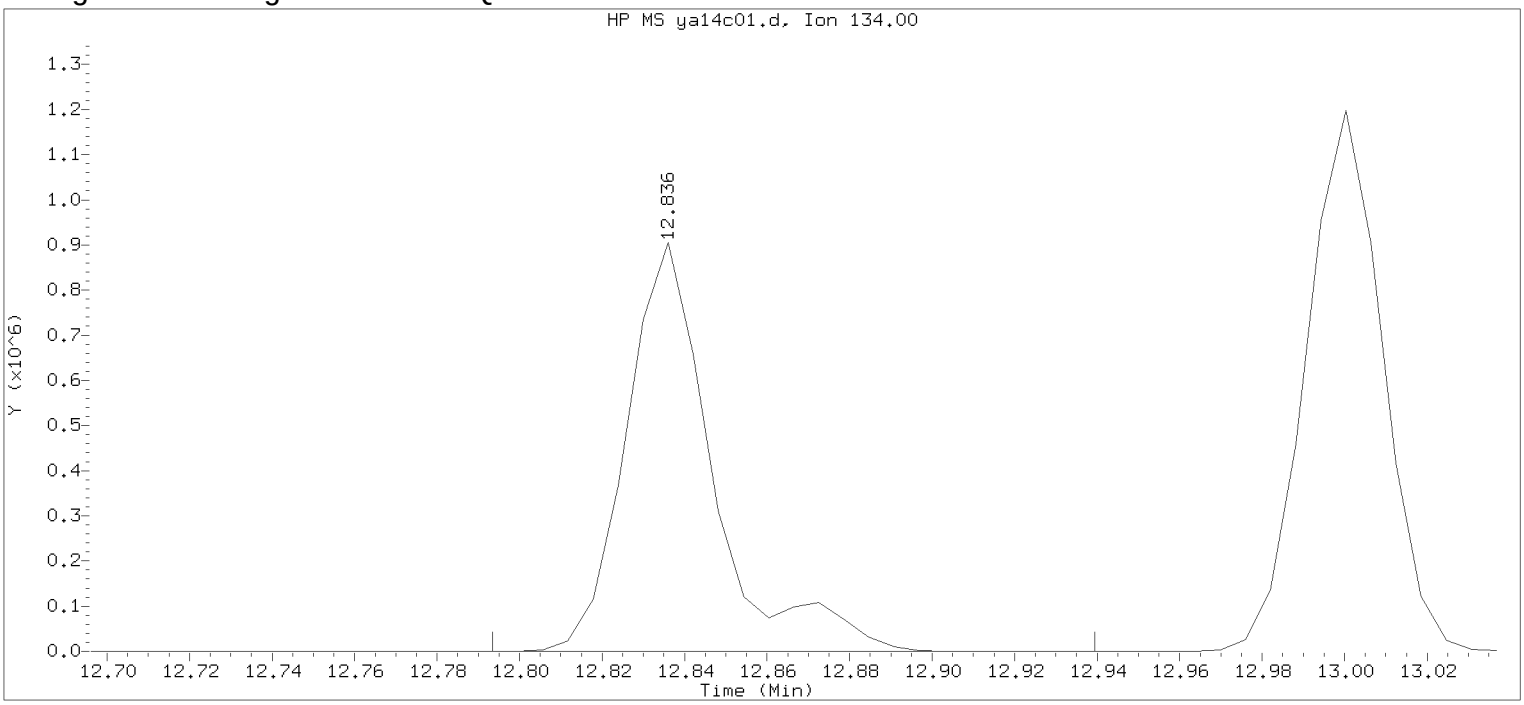
Analyst responsible for change: Digitally signed by Linda C. Pape on 04/14/2018 at 09:02. Target 3.5 esignature user ID: lcp00895

Secondary review performed and digitally signed by Joshua E. Berrios on 04/17/2018 at 21:46.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18apr14a.b/ya14c01.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 08:33 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 8260W-DH
Calibration date and time: 14-APR-2018 08:48
Date, time and analyst ID of latest file update: 14-Apr-2018 08:48 Automation

Sample Name: VSTD150 Lab Sample ID: VSTD150

Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 1850
Retention Time (minutes): 12.836
Quant Ion : 134.00
Area : 1326004
On-column Amount (ng) : 148.5844
Integration start scan : 1842 Integration stop scan: 1866
Y at integration start : 0 Y at integration end: 0

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Target 3.5 esignature user id: 1181 Page 295 of 1243

Raw QC Data

Volatiles by GC/MS

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

VBLKY80

Data file: /chem2/HP09355.i/18apr14a.b/ya14b01.d
Injection date and time: **14-APR-2018 09:17**
Data file Sample Info. Line: VBLKY80;VBLKY80;1;3;;;;;;
Instrument ID: **HP09355.i** Batch: **Y181041AA**
Date, time and analyst ID of latest file update: 14-Apr-2018 09:39 lcp00895

Blank Data file reference: **/chem2/HP09355.i/18apr14a.b/ya14b01.d**

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: **8260W-DH+S**
Calibration date and time (Last Method Edit): 14-APR-2018 09:35
Mid Level Daily Calibration Standard Reference: **/chem2/HP09355.i/18apr14a.b/ya14c01.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
29) t-Butyl alcohol-d10	4.258(0.006)	440	65	381968 (-16)	250.00	
66) Fluorobenzene	7.805(0.006)	1023	96	1348716 (-14)	50.00	
100) Chlorobenzene-d5	11.272(0.000)	1593	117	1047271 (-19)	50.00	
131) 1,4-Dichlorobenzene-d4	13.158(0.000)	1903	152	560506 (-24)	50.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(2)	6.904(0.000)	113	331371	51.707	103%		80 - 116
57) 1,2-Dichloroethane-d4	(2)	7.367(0.000)	102	84027	50.852	102%		77 - 113
83) Toluene-d8	(3)	9.812(0.001)	98	1312312	47.675	95%		80 - 113
114) 4-Bromofluorobenzene	(3)	12.270(0.001)	95	459936	44.526	89%		78 - 113

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
3) Dichlorodifluoromethane	(2)			Not Detected					0.5	1
4) Chloromethane	(2)			Not Detected					0.5	1
5) 1,3-Butadiene	(2)			Not Detected					0.5	1
6) Vinyl Chloride	(2)			Not Detected					0.5	1
8) Bromomethane	(2)			Not Detected					0.5	1
9) Chloroethane	(2)			Not Detected					0.5	1
11) n-Pentane	(2)			Not Detected					2	10
12) Trichlorofluoromethane	(2)			Not Detected					0.5	1
13) Ethanol	(1)			Not Detected					50	250
14) Ethyl ether	(2)			Not Detected					2	5
15) Freon 123a	(2)			Not Detected					2	5
16) Acrolein	(1)			Not Detected					40	100
17) 1,1-Dichloroethene	(2)			Not Detected					0.5	1
18) Acetone	(1)			Not Detected					6	20
19) Freon 113	(2)			Not Detected					2	10
21) 2-Propanol	(1)			Not Detected					50	100
22) Methyl Iodide	(2)			Not Detected					0.5	1
23) Carbon Disulfide	(2)			Not Detected					1	5
24) Acetonitrile	(1)			Not Detected					25	100
25) Allyl Chloride	(2)			Not Detected					1	5
27) Methyl Acetate	(2)			Not Detected					1	5
28) Methylene Chloride	(2)			Not Detected					0.5	1
30) t-Butyl alcohol	(1)			Not Detected					5	20
31) Acrylonitrile	(2)			Not Detected					4	20
32) trans-1,2-Dichloroethene	(2)			Not Detected					0.5	1
33) Methyl Tertiary Butyl Ether	(2)			Not Detected					0.5	1
34) n-Hexane	(2)			Not Detected					2	5
36) 1,1-Dichloroethane	(2)			Not Detected					0.5	1
37) Vinyl Acetate	(2)			Not Detected					2	10
38) di-Isopropyl ether	(2)			Not Detected					0.5	1
39) 2-Chloro-1,3-butadiene	(2)			Not Detected					1	5

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Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

VBLKY80

Data file: /chem2/HP09355.i/18apr14a.b/ya14b01.d Injection date and time: **14-APR-2018 09:17**
Data file Sample Info. Line: VBLKY80;VBLKY80;1;3;;;;;; Instrument ID: **HP09355.i** Batch: **Y181041AA**
Date, time and analyst ID of latest file update: 14-Apr-2018 09:39 lcp00895

Blank Data file reference: **/chem2/HP09355.i/18apr14a.b/ya14b01.d**

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: **8260W-DH+S**
Calibration date and time (Last Method Edit): 14-APR-2018 09:35
Mid Level Daily Calibration Standard Reference: **/chem2/HP09355.i/18apr14a.b/ya14c01.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
40) Ethyl t-butyl ether	(2)			Not Detected					0.5	1
42) cis-1,2-Dichloroethene	(2)			Not Detected					0.5	1
43) 1,2-Dichloroethene (Total)	(2)			Not Detected					0.5	1
44) 2-Butanone	(2)			Not Detected					3	10
45) 2,2-Dichloropropane	(2)			Not Detected					0.5	1
46) Ethyl Acetate	(2)			Not Detected					1	5
47) Propionitrile	(1)			Not Detected					30	100
48) Methacrylonitrile	(2)			Not Detected					10	50
49) Bromochloromethane	(2)			Not Detected					1	5
50) Tetrahydrofuran	(1)			Not Detected					4	10
51) Chloroform	(2)			Not Detected					0.5	1
53) 1,1,1-Trichloroethane	(2)			Not Detected					0.5	1
54) Cyclohexane	(2)			Not Detected					2	5
55) 1,1-Dichloropropene	(2)			Not Detected					1	5
56) Carbon Tetrachloride	(2)			Not Detected					0.5	1
58) Isobutyl Alcohol	(1)			Not Detected					100	250
60) Benzene	(2)			Not Detected					0.5	1
61) 1,2-Dichloroethane	(2)			Not Detected					0.5	1
62) Isopropyl acetate	(2)			Not Detected					1	5
65) t-Amyl methyl ether	(2)			Not Detected					0.5	1
67) n-Heptane	(2)			Not Detected					2	5
69) n-Butanol	(1)			Not Detected					100	250
71) Trichloroethene	(2)			Not Detected					0.5	1
72) Methylcyclohexane	(2)			Not Detected					1	5
73) 1,2-Dichloropropane	(2)			Not Detected					0.5	1
74) Dibromomethane	(2)			Not Detected					0.5	1
75) 1,4-Dioxane	(1)			Not Detected					70	250
76) Methyl Methacrylate	(2)			Not Detected					1	5
77) n-Propyl acetate	(2)			Not Detected					1	5
78) Bromodichloromethane	(2)			Not Detected					0.5	1
79) 2-Nitropropane	(2)			Not Detected					2	10
80) 2-Chloroethyl Vinyl Ether	(2)			Not Detected					2	10
81) cis-1,3-Dichloropropene	(2)			Not Detected					0.5	1
82) 4-Methyl-2-pentanone	(2)			Not Detected					3	10
88) Toluene	(3)			Not Detected					0.5	1
89) trans-1,3-Dichloropropene	(3)			Not Detected					0.5	1
90) 1,3-Dichloropropene (total)	(3)			Not Detected					1	5
91) Ethyl Methacrylate	(3)			Not Detected					1	5
92) 1,1,2-Trichloroethane	(3)			Not Detected					0.5	1
93) Tetrachloroethene	(3)			Not Detected					0.5	1
94) 1,3-Dichloropropane	(3)			Not Detected					0.5	1
96) 2-Hexanone	(3)			Not Detected					3	10
97) Dibromochloromethane	(3)			Not Detected					0.5	1
98) Butyl acetate	(3)			Not Detected					2	10
99) 1,2-Dibromoethane	(3)			Not Detected					0.5	1
101) 1-Chlorohexane	(3)			Not Detected					1	5
102) Chlorobenzene	(3)			Not Detected					0.5	1
103) 1,1,1,2-Tetrachloroethane	(3)			Not Detected					0.5	1
104) Ethylbenzene	(3)			Not Detected					0.5	1
106) m+p-Xylene	(3)			Not Detected					0.5	1
107) o-Xylene	(3)			Not Detected					0.5	1
108) Xylene (Total)	(3)			Not Detected					0.5	1
109) Styrene	(3)			Not Detected					1	5
110) Bromoform	(3)			Not Detected					0.5	4

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Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

VBLKY80

Data file: /chem2/HP09355.i/18apr14a.b/ya14b01.d
Injection date and time: **14-APR-2018 09:17**
Data file Sample Info. Line: VBLKY80;VBLKY80;1;3;;;;;;
Instrument ID: **HP09355.i** Batch: **Y181041AA**
Date, time and analyst ID of latest file update: 14-Apr-2018 09:39 lcp00895

Blank Data file reference: **/chem2/HP09355.i/18apr14a.b/ya14b01.d**

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: **8260W-DH+S**
Calibration date and time (Last Method Edit): 14-APR-2018 09:35
Mid Level Daily Calibration Standard Reference: **/chem2/HP09355.i/18apr14a.b/ya14c01.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

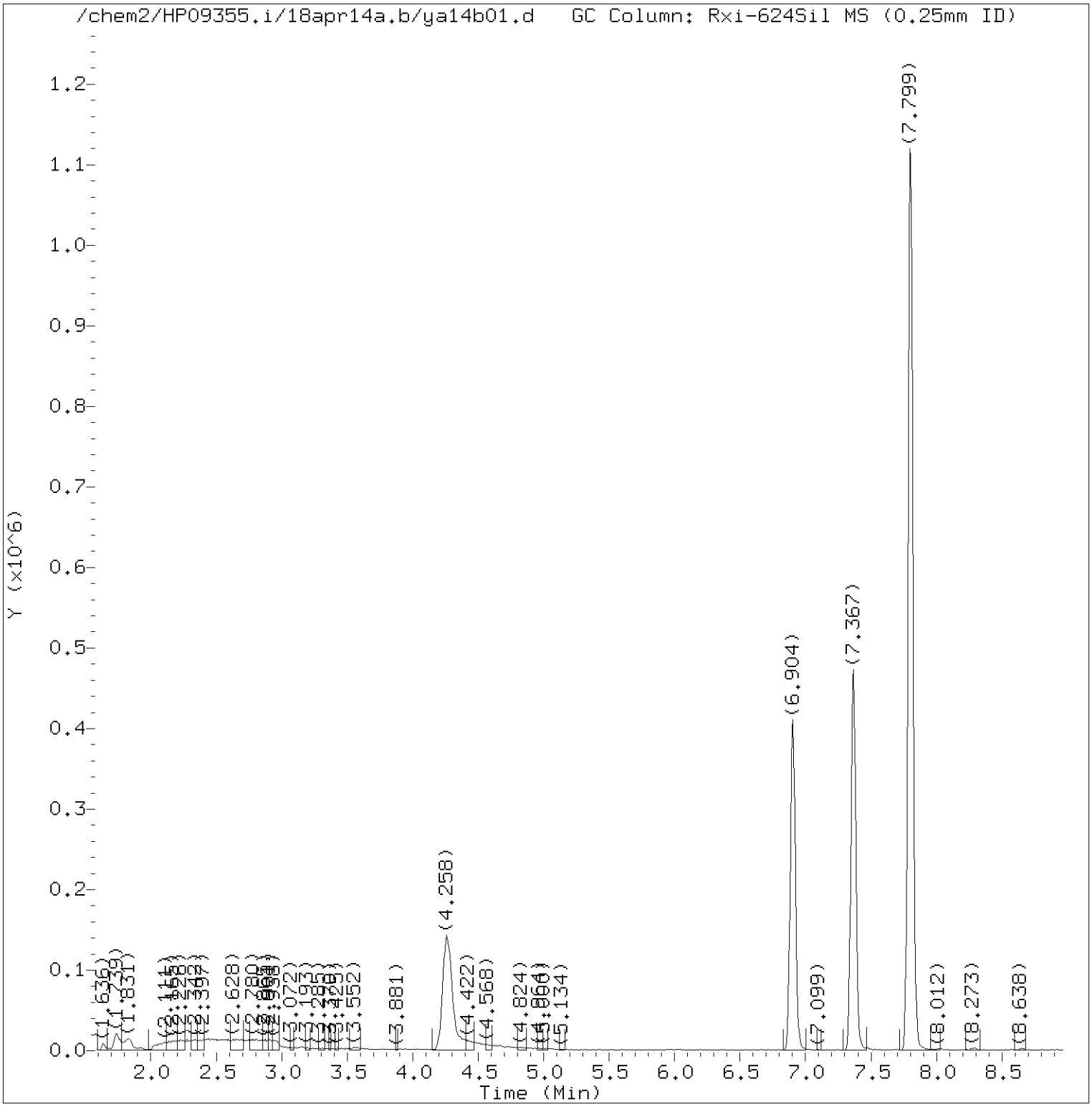
Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
111) Isopropylbenzene	(3)			Not Detected					1	5
112) Cyclohexanone	(1)			Not Detected					25	100
115) Bromobenzene	(4)			Not Detected					1	5
116) 1,1,2,2-Tetrachloroethane	(4)			Not Detected					0.5	1
117) 1,2,3-Trichloropropane	(4)			Not Detected					1	5
118) trans-1,4-Dichloro-2-butene	(4)			Not Detected					15	50
119) n-Propylbenzene	(4)			Not Detected					1	5
120) 2-Chlorotoluene	(4)			Not Detected					1	5
121) 4-Chlorotoluene	(4)			Not Detected					1	5
122) 1,3,5-Trimethylbenzene	(4)			Not Detected					1	5
124) tert-Butylbenzene	(4)			Not Detected					1	5
125) Pentachloroethane	(4)			Not Detected					1	5
126) 1,2,4-Trimethylbenzene	(4)			Not Detected					1	5
127) sec-Butylbenzene	(4)			Not Detected					1	5
129) 1,3-Dichlorobenzene	(4)			Not Detected					1	5
130) p-Isopropyltoluene	(4)			Not Detected					1	5
133) 1,4-Dichlorobenzene	(4)			Not Detected					1	5
134) 1,2,3-Trimethylbenzene	(4)			Not Detected					1	5
135) Benzyl Chloride	(4)			Not Detected					1	5
136) 1,3-Diethylbenzene	(4)			Not Detected					1	5
137) 1,4-Diethylbenzene	(4)			Not Detected					1	5
138) 1,2-Dichlorobenzene	(4)			Not Detected					1	5
139) n-Butylbenzene	(4)			Not Detected					1	5
140) 1,2-Diethylbenzene	(4)			Not Detected					1	5
141) Diethylbenzene (total)	(4)			Not Detected					1	5
142) 1,2-Dibromo-3-chloropropane	(4)			Not Detected					2	5
144) 1,3,5-Trichlorobenzene	(4)			Not Detected					1	5
146) 1,2,4-Trichlorobenzene	(4)			Not Detected					1	5
147) Hexachlorobutadiene	(4)			Not Detected					2	5
148) Naphthalene	(4)			Not Detected					1	5
149) 1,2,3-Trichlorobenzene	(4)			Not Detected					1	5
150) 2-Methylnaphthalene	(4)			Not Detected					2	5

Total number of targets = 117

Digitally signed by Linda C. Pape on 04/14/2018 at 09:39. Target 3.5 esignature user ID: lcp00895

Secondary review performed and digitally signed by Joshua E. Berrios on 04/17/2018 at 21:47. PARALLAX ID: jeb12641



Total Ion Chromatogram (TIC)

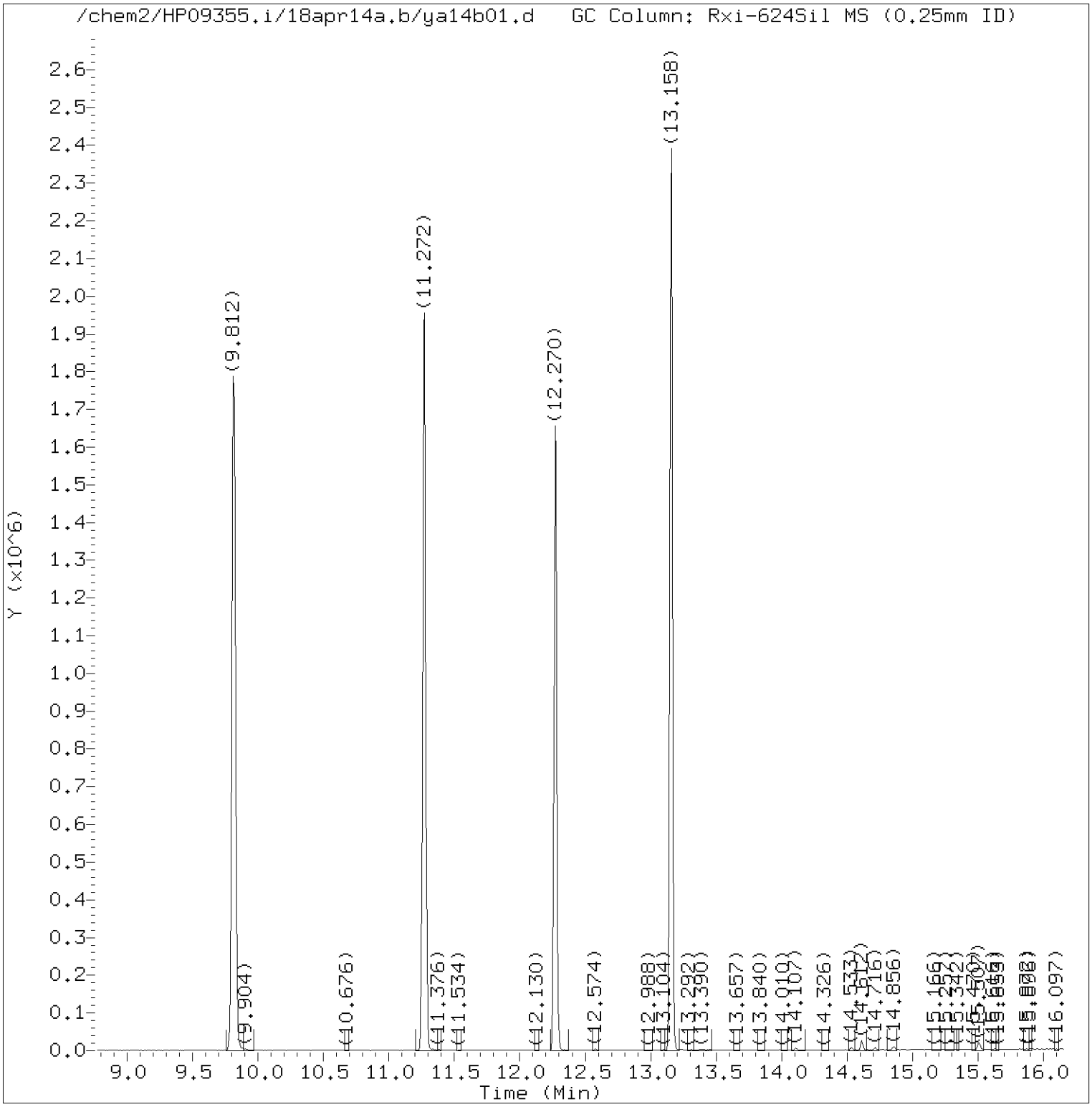
Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14b01.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 09:17 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 8260W-DH+S
Calibration date and time: 14-APR-2018 09:35
Date, time and analyst ID of latest file update: 14-Apr-2018 09:39 lcp00895

Sample Name: VBLKY80 Lab Sample ID: VBLKY80

Digitally signed by Linda C. Pape
on 04/14/2018 at 09:39.
Target 3.5 esignature user ID: lcp00895



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14b01.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 09:17 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 8260W-DH+S
Calibration date and time: 14-APR-2018 09:35
Date, time and analyst ID of latest file update: 14-Apr-2018 09:39 lcp00895

Sample Name: VBLKY80 Lab Sample ID: VBLKY80

Digitally signed by Linda C. Pape
on 04/14/2018 at 09:39.
Target 3.5 esignature user ID: lcp00895

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14b01.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 09:17 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 8260W-DH+S
Calibration date and time: 14-APR-2018 09:35
Date, time and analyst ID of latest file update: 14-Apr-2018 09:39 lcp00895

Sample Name: VBLKY80 Lab Sample ID: VBLKY80

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
29)*t-Butyl alcohol-d10	(1)	4.258	65	381968	250.000
52)$Dibromofluoromethane	(2)	6.904	113	331371	51.707
57)$1,2-Dichloroethane-d4	(2)	7.367	102	84027	50.852
66)*Fluorobenzene	(2)	7.805	96	1348716	50.000
83)$Toluene-d8	(3)	9.812	98	1312312	47.675
100)*Chlorobenzene-d5	(3)	11.272	117	1047271	50.000
114)$4-Bromofluorobenzene	(3)	12.270	95	459936	44.526
131)*1,4-Dichlorobenzene-d4	(4)	13.158	152	560506	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda C. Pape
on 04/14/2018 at 09:39.
Target 3.5 esignature user ID: lcp00895

T8101MS

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

9548790MS

Data file: /chem2/HP09355.i/18apr14a.b/ya14s10.d Injection date and time: **14-APR-2018 13:09**
Data file Sample Info. Line: T8101MS;9548790MS;1;3;MS;ATH81;;;ya14b01; Instrument ID: **HP09355.i** Batch: **Y181041AA**
Date, time and analyst ID of latest file update: 16-Apr-2018 09:28 nsl01327

Blank Data file reference: **/chem2/HP09355.i/18apr14a.b/ya14b01.d**

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 14-APR-2018 09:38
Mid Level Daily Calibration Standard Reference: **/chem2/HP09355.i/18apr14a.b/ya14c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
29) t-Butyl alcohol-d10	4.258(0.006)	440	65	377797 (-17)	250.00	
66) Fluorobenzene	7.799(0.012)	1022	96	1419635 (-9)	50.00	
100) Chlorobenzene-d5	11.272(0.000)	1593	117	1125100 (-13)	50.00	
131) 1,4-Dichlorobenzene-d4	13.158(0.000)	1903	152	637065 (-14)	50.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(2)	6.898(0.000)	113	344011	50.997	102%		80 - 120
57) 1,2-Dichloroethane-d4	(2)	7.361(0.000)	102	84989	48.864	98%		80 - 120
83) Toluene-d8	(3)	9.812(0.001)	98	1432028	48.425	97%		80 - 120
114) 4-Bromofluorobenzene	(3)	12.270(0.001)	95	536581	48.352	97%		80 - 120

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
4) Chloromethane	(2)	2.190(0.000)	50	203150	20.155	20.16			0.5	1
6) Vinyl Chloride	(2)	2.299(0.001)	62	211395	20.543	20.54			0.5	1
8) Bromomethane	(2)	2.658(0.000)	94	161688	23.196	23.20			0.5	1
9) Chloroethane	(2)	2.737(0.001)	64	129305	22.657	22.66			0.5	1
17) 1,1-Dichloroethene	(2)	3.607(0.001)	96	135330M	24.559	24.56			0.5	1
18) Acetone	(1)	3.619(0.000)	58	225228	191.840	191.84			6	20
23) Carbon Disulfide	(2)	3.936(0.000)	76	374962	20.316	20.32			1	5
28) Methylene Chloride	(2)	4.282(0.000)	84	152418	21.584	21.58			0.5	1
32) trans-1,2-Dichloroethene	(2)	4.708(0.000)	96	155319	22.471	22.47			0.5	1
36) 1,1-Dichloroethane	(2)	5.365(0.000)	63	272196	21.676	21.68			0.5	1
42) cis-1,2-Dichloroethene	(2)	6.192(0.000)	96	172554	21.356	21.36			0.5	1
44) 2-Butanone	(2)	6.156(-0.000)	43	1278472	148.441	148.44			3	10
51) Chloroform	(2)	6.685(-0.000)	83	277819	21.765	21.77			0.5	1
53) 1,1,1-Trichloroethane	(2)	6.916(0.000)	97	256736	21.036	21.04			0.5	1
56) Carbon Tetrachloride	(2)	7.135(-0.000)	117	208324	22.541	22.54			0.5	1
60) Benzene	(2)	7.391(0.000)	78	645640	21.593	21.59			0.5	1
61) 1,2-Dichloroethane	(2)	7.470(-0.000)	62	235127	21.844	21.84			0.5	1
71) Trichloroethene	(2)	8.285(-0.000)	95	169361	21.218	21.22			0.5	1
73) 1,2-Dichloropropane	(2)	8.620(-0.000)	63	170949	21.222	21.22			0.5	1
78) Bromodichloromethane	(2)	8.967(-0.001)	83	188100	19.055	19.06			0.5	1
81) cis-1,3-Dichloropropene	(2)	9.508(-0.001)	75	214910	16.465	16.47			0.5	1
82) 4-Methyl-2-pentanone	(2)	9.660(-0.001)	43	1589447	102.029	102.03			3	10
88) Toluene	(3)	9.891(0.000)	92	413678	19.976	19.98			0.5	1
89) trans-1,3-Dichloropropene	(3)	10.141(0.000)	75	206119	16.434	16.43			0.5	1
92) 1,1,2-Trichloroethane	(3)	10.348(0.000)	97	161829	19.347	19.35			0.5	1
93) Tetrachloroethene	(3)	10.439(0.000)	166	192246	21.197	21.20			0.5	1
96) 2-Hexanone	(3)	10.548(0.000)	43	1351688	102.033	102.03			3	10
97) Dibromochloromethane	(3)	10.731(0.000)	129	149958	17.189	17.19			0.5	1
102) Chlorobenzene	(3)	11.297(0.000)	112	477303	19.782	19.78			0.5	1
104) Ethylbenzene	(3)	11.382(0.000)	91	795948	19.721	19.72			0.5	1
106) m+p-Xylene	(3)	11.491(0.000)	106	630079	38.988	38.99			0.5	1

M = Compound was manually integrated.

Digitally signed by Nicole S. Lamoreaux on 04/16/2018 at 09:29. Target 3.5 esignature user ID: nsl01327

T8101MS

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

9548790MS

Data file: /chem2/HP09355.i/18apr14a.b/ya14s10.d Injection date and time: **14-APR-2018 13:09**
Data file Sample Info. Line: T8101MS;9548790MS;1;3;MS;ATH81;;;ya14b01; Instrument ID: **HP09355.i** Batch: **Y181041AA**
Date, time and analyst ID of latest file update: 16-Apr-2018 09:28 nsl01327

Blank Data file reference: **/chem2/HP09355.i/18apr14a.b/ya14b01.d**

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 14-APR-2018 09:38
Mid Level Daily Calibration Standard Reference: **/chem2/HP09355.i/18apr14a.b/ya14c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

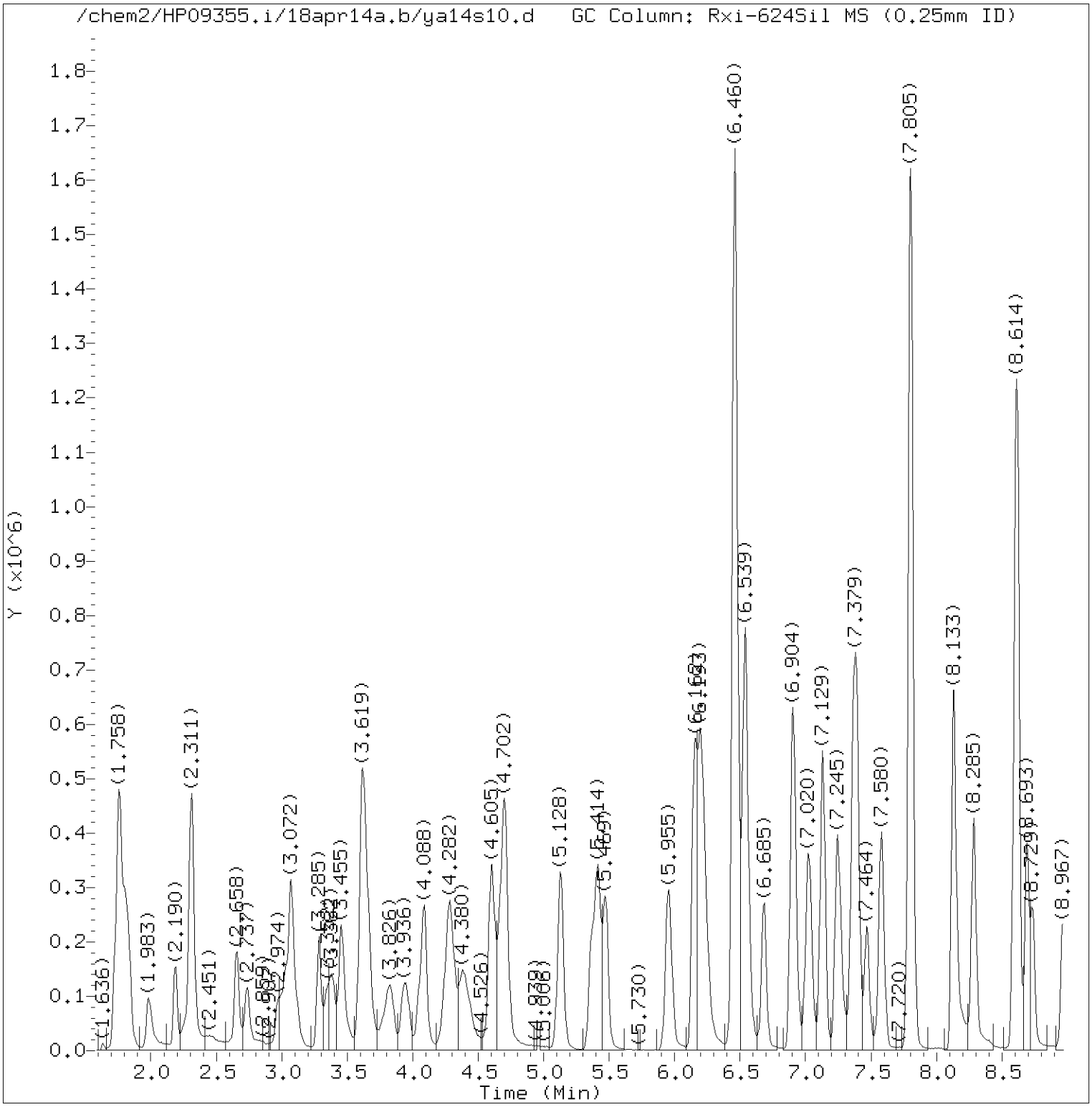
Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
107) o-Xylene	(3)	11.826(0.000)	106	280168	17.533	17.53			0.5	1
108) Xylene (Total)	(3)		106	910247	56.521	56.52			0.5	1
109) Styrene	(3)	11.838(0.000)	104	485342	17.901	17.90			1	5
110) Bromoform	(3)	12.002(-0.000)	173	104876	15.126	15.13			0.5	4
116) 1,1,2,2-Tetrachloroethane	(4)	12.361(0.000)	83	265048M	17.566	17.57			0.5	1

M = Compound was manually integrated.

Total number of targets = 36

Digitally signed by Nicole S. Lamoreaux on 04/16/2018 at 09:29. Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Joshua E. Berrios on 04/17/2018 at 21:47. PARALLAX ID: jeb12641



Total Ion Chromatogram (TIC)

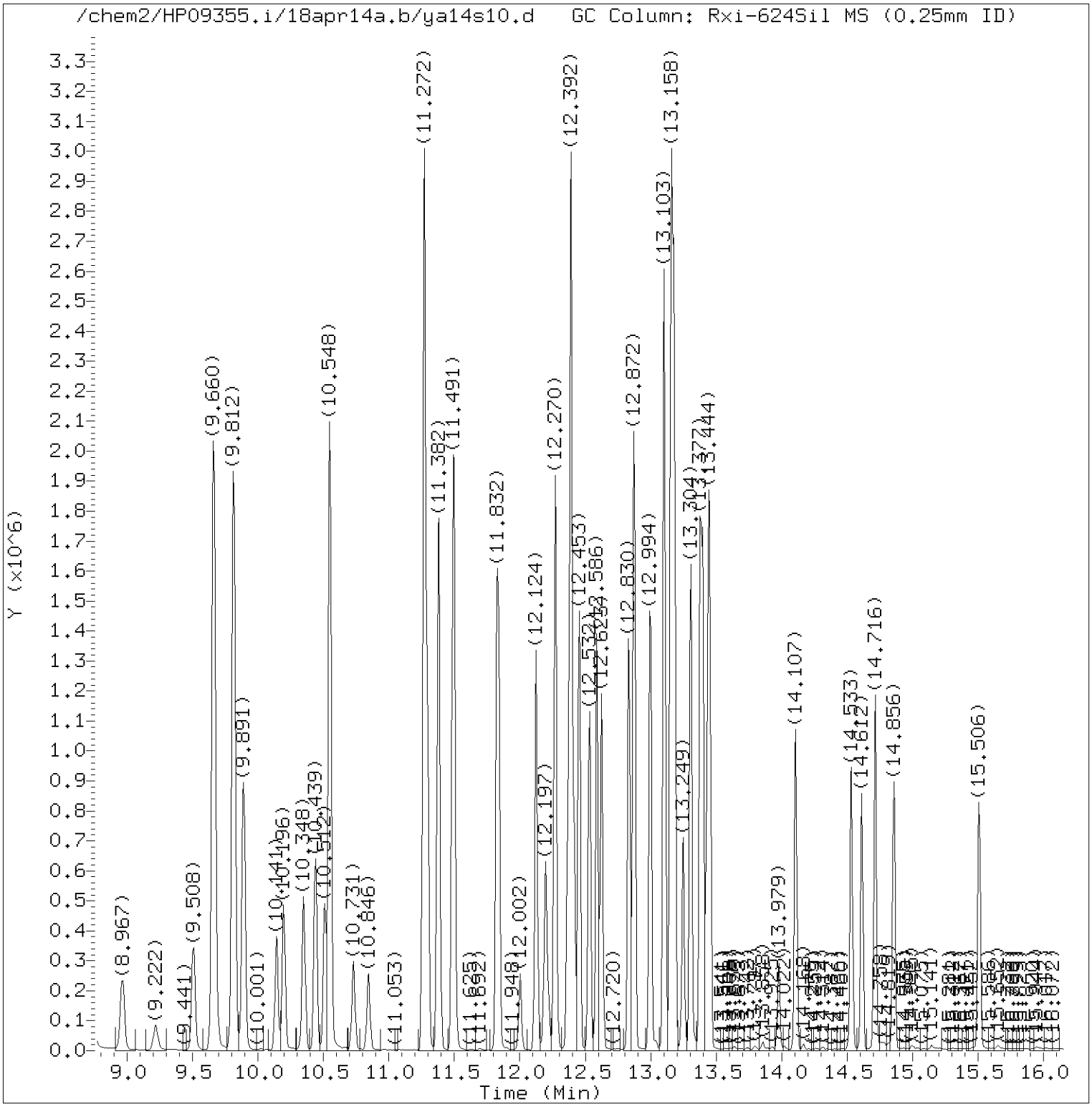
Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14s10.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 13:09 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 16-Apr-2018 09:28 nsl01327

Sample Name: T8101MS Lab Sample ID: 9548790MS

Digitally signed by Nicole S. Lamoreaux
on 04/16/2018 at 09:29.
Target 3.5 esignature user ID: nsl01327



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14s10.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 13:09 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 16-Apr-2018 09:28 nsl01327

Sample Name: T8101MS Lab Sample ID: 9548790MS

Digitally signed by Nicole S. Lamoreaux
on 04/16/2018 at 09:29.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14s10.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 13:09 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 16-Apr-2018 09:28 nsl01327

Sample Name: T8101MS Lab Sample ID: 9548790MS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Chloromethane	(2)	2.190	50	203150	20.155
6) Vinyl Chloride	(2)	2.299	62	211395	20.543
8) Bromomethane	(2)	2.658	94	161688	23.196
9) Chloroethane	(2)	2.737	64	129305	22.657
17) 1,1-Dichloroethene	(2)	3.607	96	135330M	24.559
18) Acetone	(1)	3.619	58	225228	191.840
23) Carbon Disulfide	(2)	3.936	76	374962	20.316
29)*t-Butyl alcohol-d10	(1)	4.258	65	377797	250.000
28) Methylene Chloride	(2)	4.282	84	152418	21.584
32) trans-1,2-Dichloroethene	(2)	4.708	96	155319	22.471
36) 1,1-Dichloroethane	(2)	5.365	63	272196	21.676
44) 2-Butanone	(2)	6.156	43	1278472	148.441
42) cis-1,2-Dichloroethene	(2)	6.193	96	172554	21.356
51) Chloroform	(2)	6.685	83	277819	21.765
52)$Dibromofluoromethane	(2)	6.898	113	344011	50.997
53) 1,1,1-Trichloroethane	(2)	6.916	97	256736	21.036
56) Carbon Tetrachloride	(2)	7.135	117	208324	22.541
57)$1,2-Dichloroethane-d4	(2)	7.361	102	84989	48.864
60) Benzene	(2)	7.391	78	645640	21.593
61) 1,2-Dichloroethane	(2)	7.470	62	235127	21.844
66)*Fluorobenzene	(2)	7.799	96	1419635	50.000
71) Trichloroethene	(2)	8.285	95	169361	21.218
73) 1,2-Dichloropropane	(2)	8.620	63	170949	21.222
78) Bromodichloromethane	(2)	8.967	83	188100	19.055
81) cis-1,3-Dichloropropene	(2)	9.508	75	214910	16.465
82) 4-Methyl-2-pentanone	(2)	9.660	43	1589447	102.029
83)$Toluene-d8	(3)	9.812	98	1432028	48.425
88) Toluene	(3)	9.891	92	413678	19.976
89) trans-1,3-Dichloropropene	(3)	10.141	75	206119	16.434
92) 1,1,2-Trichloroethane	(3)	10.348	97	161829	19.347
93) Tetrachloroethene	(3)	10.439	166	192246	21.197
96) 2-Hexanone	(3)	10.548	43	1351688	102.033
97) Dibromochloromethane	(3)	10.731	129	149958	17.189
100)*Chlorobenzene-d5	(3)	11.272	117	1125100	50.000
102) Chlorobenzene	(3)	11.297	112	477303	19.782
104) Ethylbenzene	(3)	11.382	91	795948	19.721
106) m+p-Xylene	(3)	11.491	106	630079	38.988
108) Xylene (Total)	(3)		106	910247	56.521

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Nicole S. Lamoreaux
on 04/16/2018 at 09:29.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14s10.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 13:09 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 16-Apr-2018 09:28 nsl01327

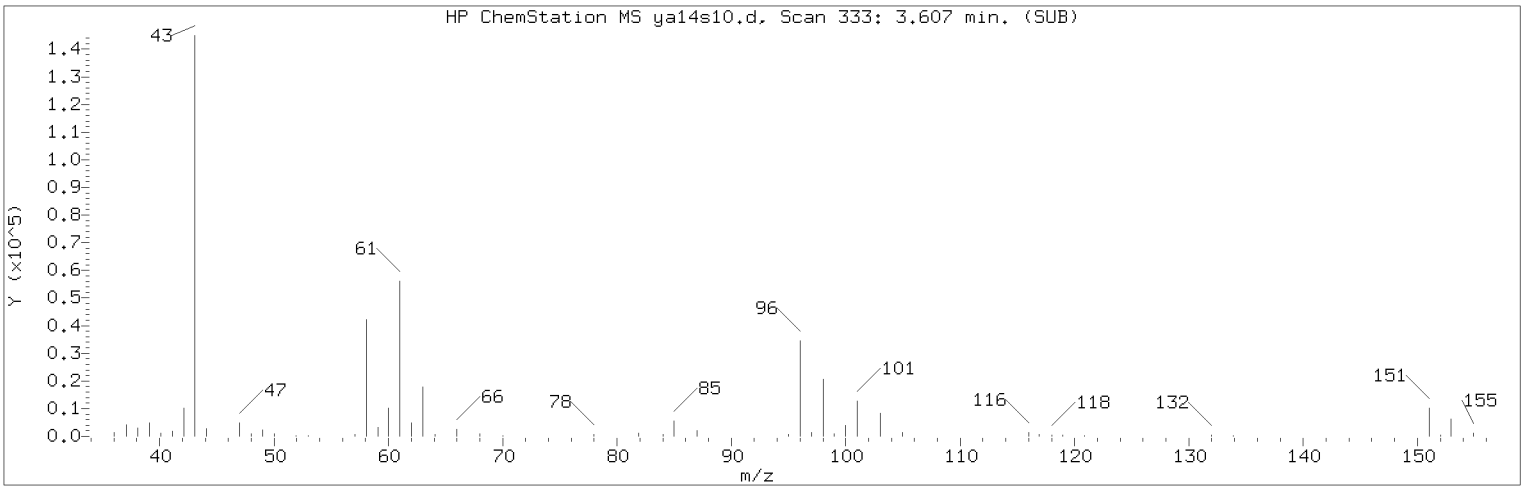
Sample Name: T8101MS Lab Sample ID: 9548790MS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
107) o-Xylene	(3)	11.826	106	280168	17.533
109) Styrene	(3)	11.838	104	485342	17.901
110) Bromoform	(3)	12.002	173	104876	15.126
114)$4-Bromofluorobenzene	(3)	12.270	95	536581	48.352
116) 1,1,2,2-Tetrachloroethane	(4)	12.361	83	265048M	17.566
131)*1,4-Dichlorobenzene-d4	(4)	13.158	152	637065	50.000

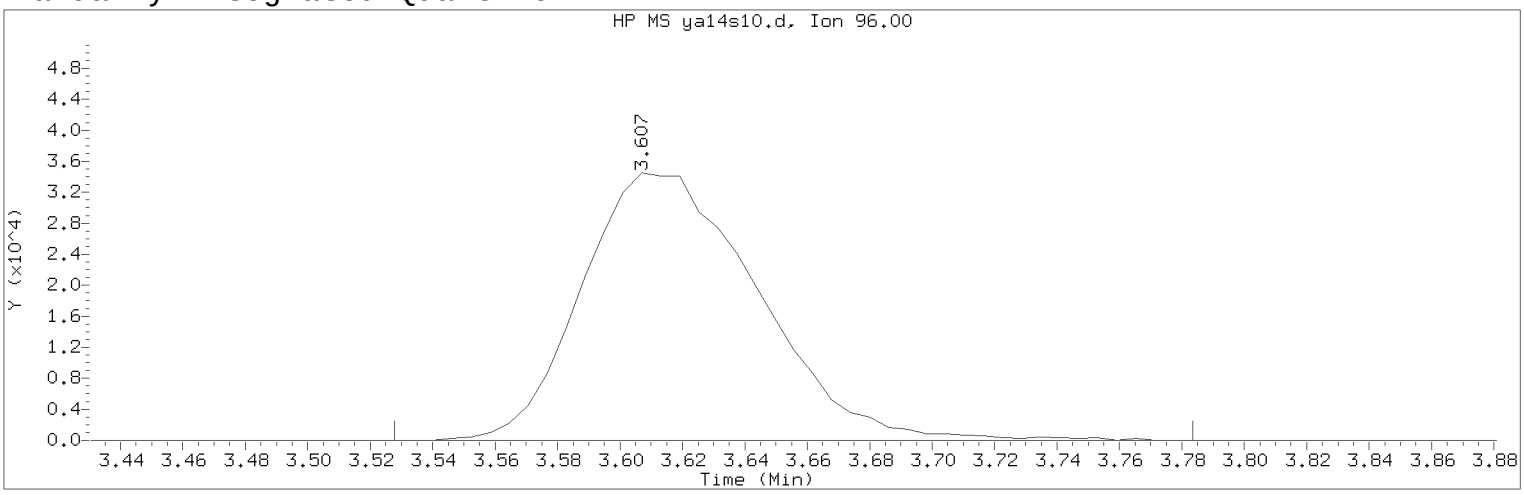
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Nicole S. Lamoreaux
on 04/16/2018 at 09:29.
Target 3.5 esignature user ID: nsl01327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18apr14a.b/ya14s10.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 13:09 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 16-Apr-2018 09:28 nsl01327

Sample Name: T8101MS Lab Sample ID: 9548790MS

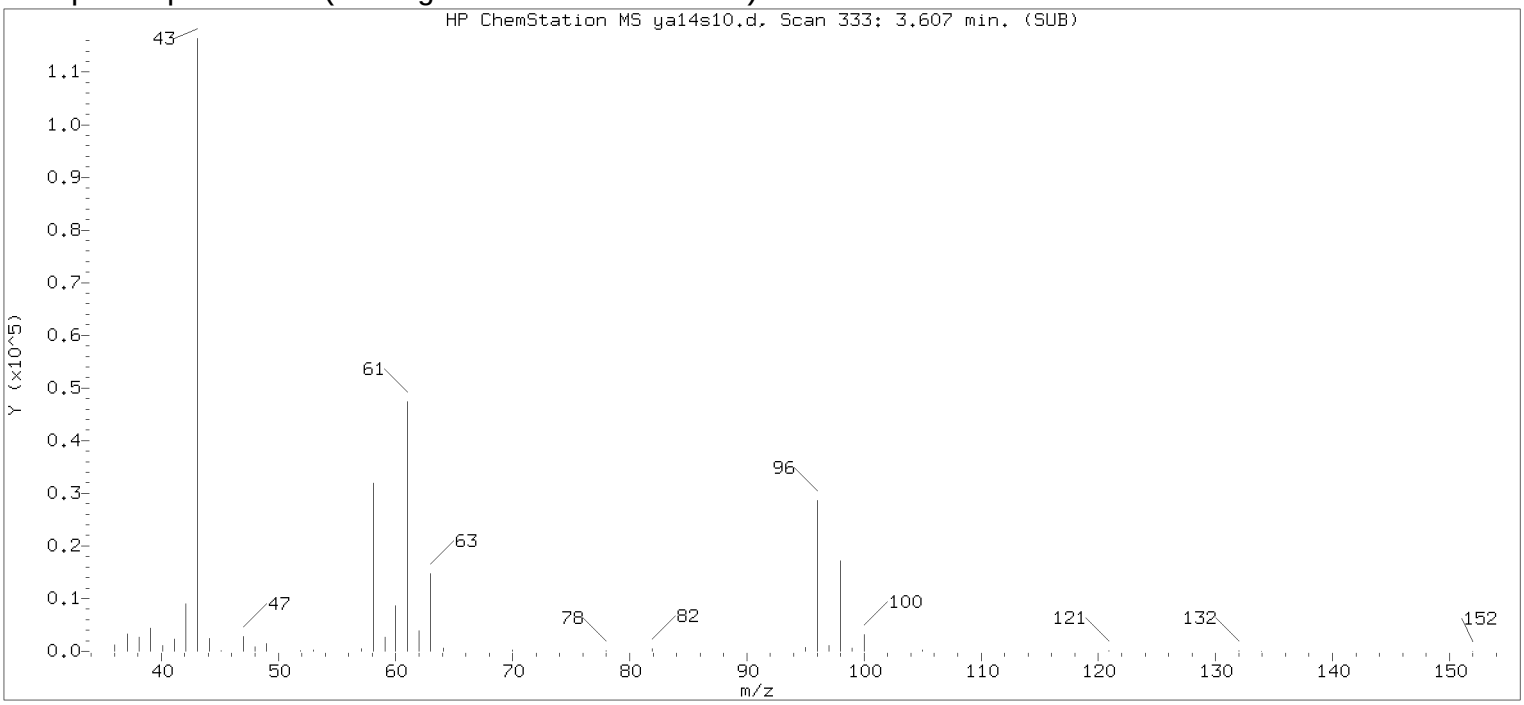
Compound Number : 17
Compound Name : 1,1-Dichloroethene
Scan Number : 333
Retention Time (minutes): 3.607
Quant Ion : 96.00
Area (flag) : 135330M
On-Column Amount (ng) : 24.5588
Integration start scan : 319 Integration stop scan: 361
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

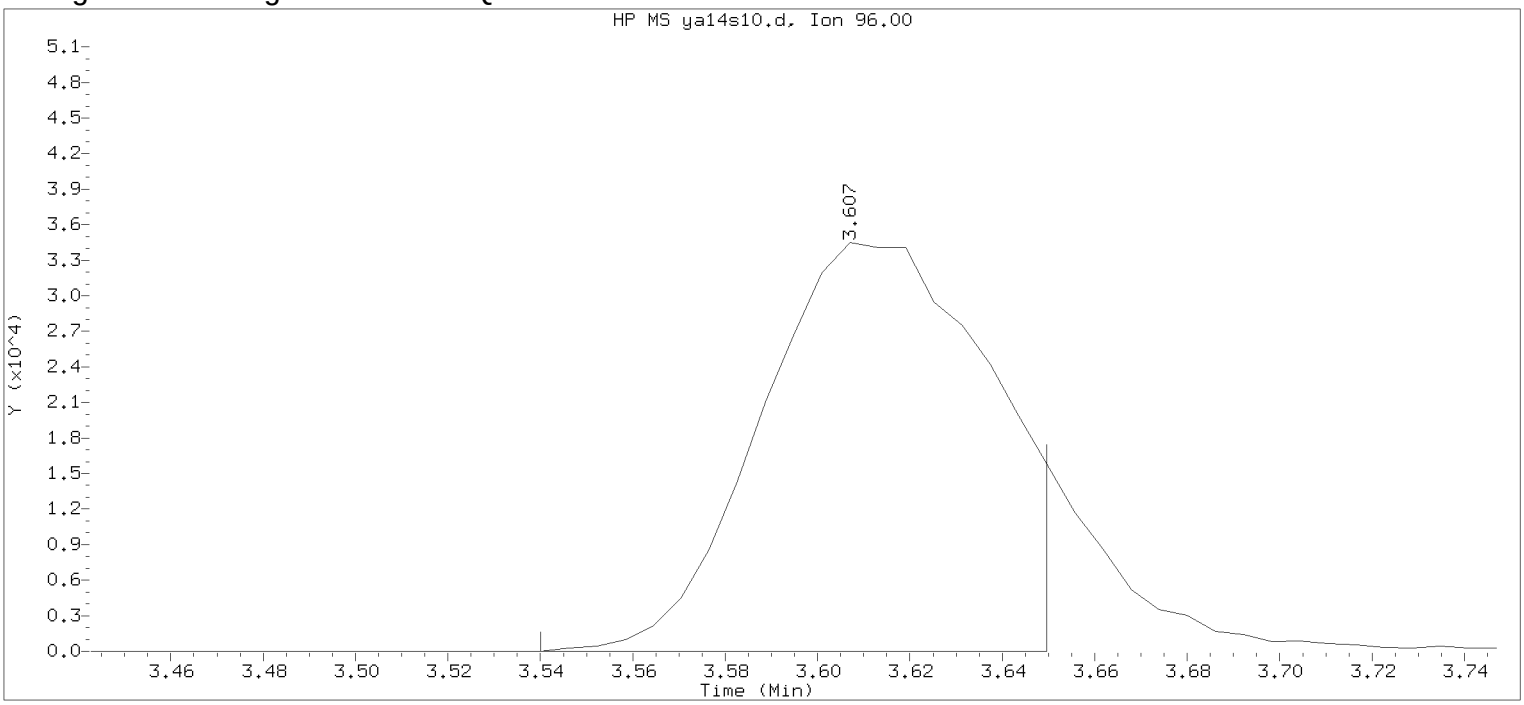
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/16/2018 at 09:29.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Joshua E. Berrios on 04/17/2018 at 21:47.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18apr14a.b/ya14s10.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 13:09 Analyst ID: LCP00895

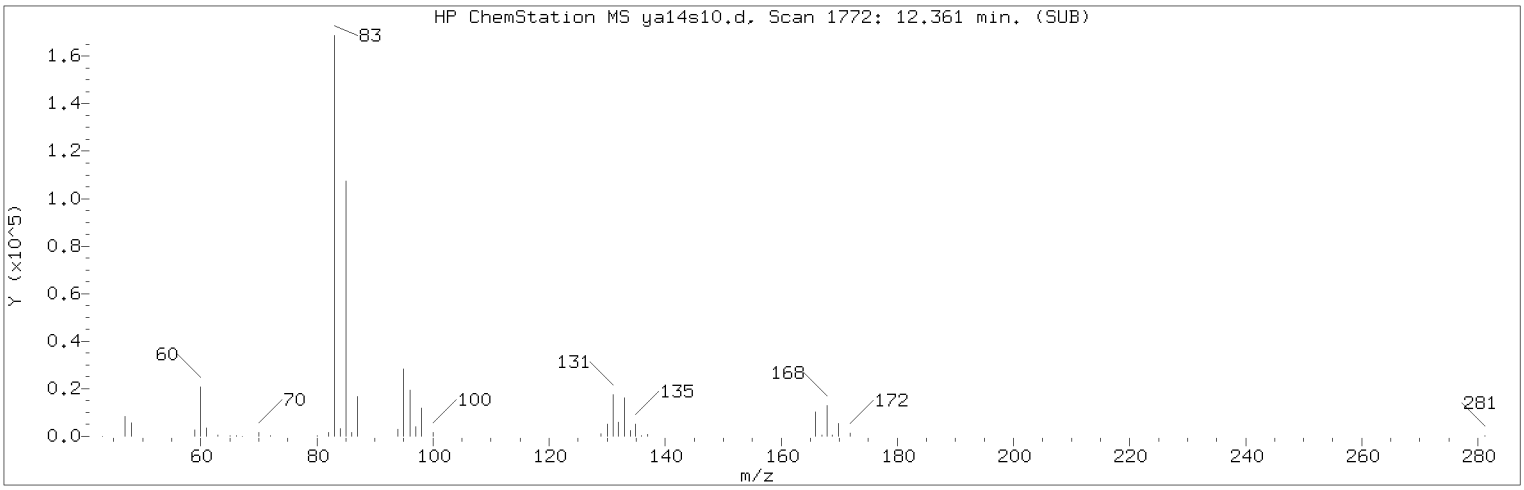
Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 8260W-DH
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 14-Apr-2018 13:44 lcp00895

Sample Name: T8101MS Lab Sample ID: 9548790MS

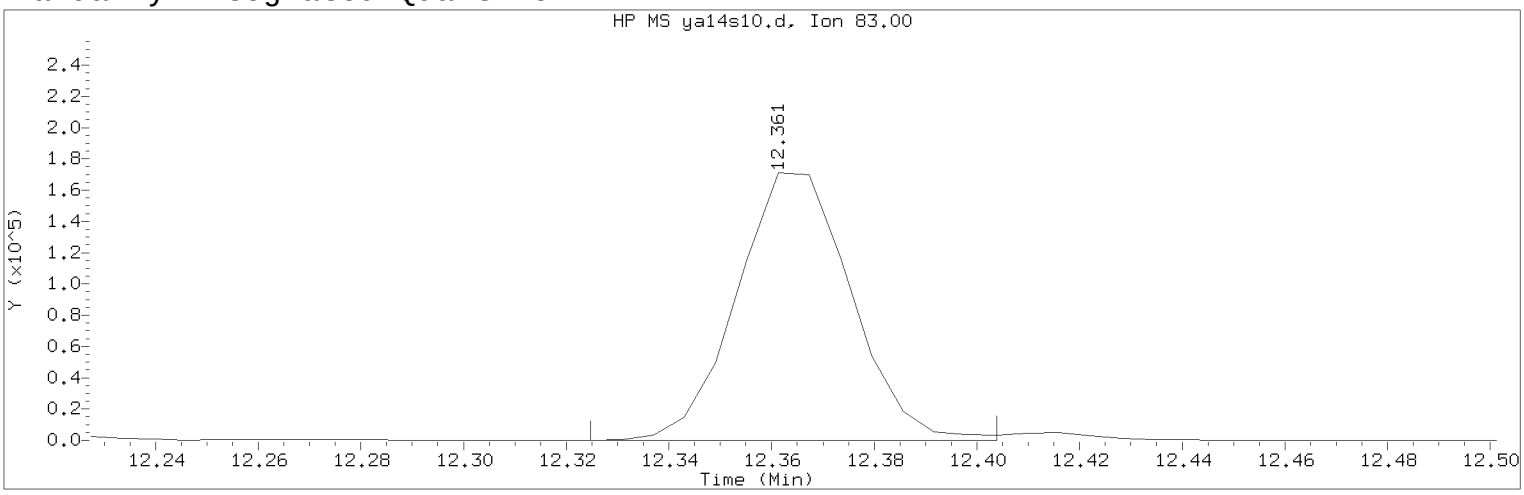
Compound Number : 17
Compound Name : 1,1-Dichloroethene
Scan Number : 333
Retention Time (minutes): 3.607
Quant Ion : 96.00
Area : 117751
On-column Amount (ng) : 21.3687
Integration start scan : 321 Integration stop scan: 339
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/16/2018 at 09:29.
Target 3.5 esignature user id: 1081 meaning: 27

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18apr14a.b/ya14s10.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 13:09 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 16-Apr-2018 09:28 nsl01327

Sample Name: T8101MS Lab Sample ID: 9548790MS

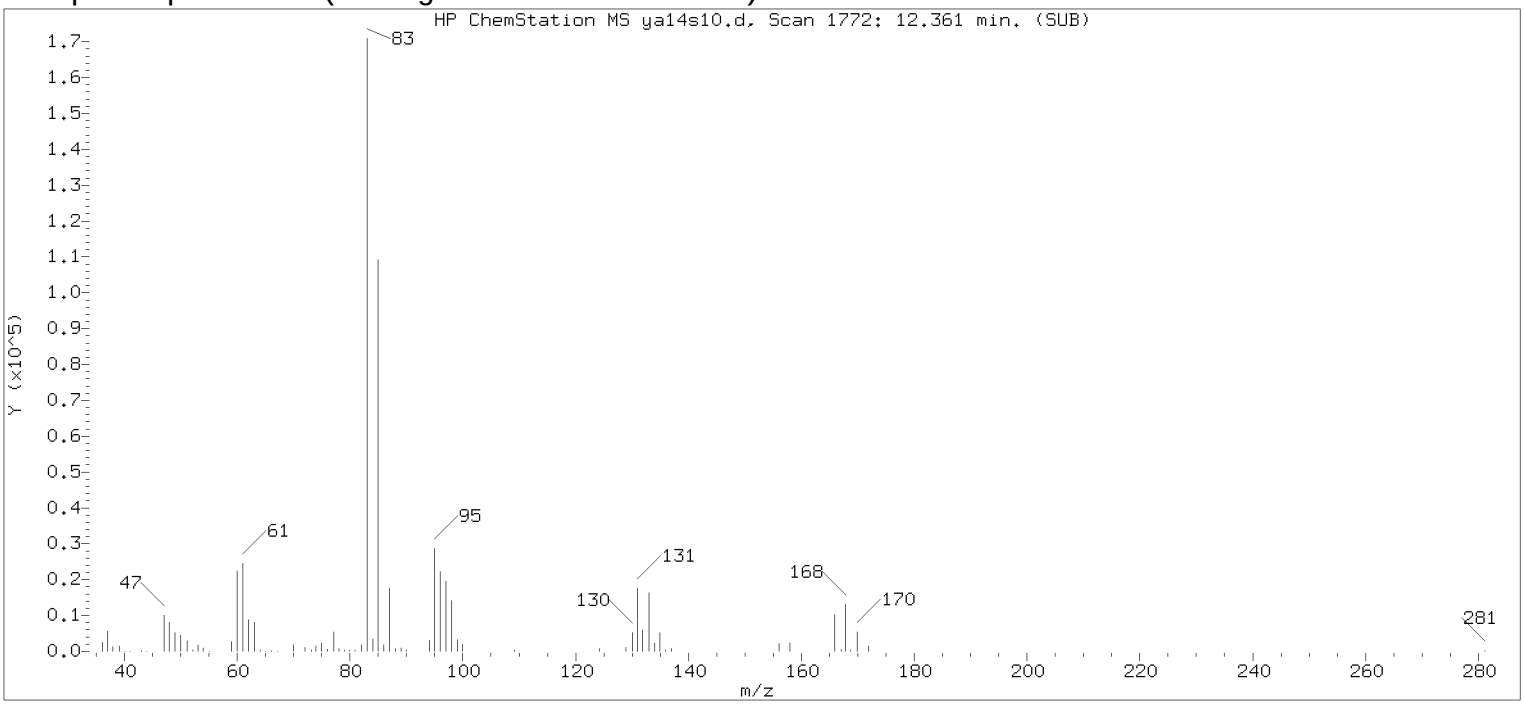
Compound Number : 116
Compound Name : 1,1,2,2-Tetrachloroethane
Scan Number : 1772
Retention Time (minutes): 12.361
Quant Ion : 83.00
Area (flag) : 265048M
On-Column Amount (ng) : 17.5658
Integration start scan : 1765 Integration stop scan: 1778
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

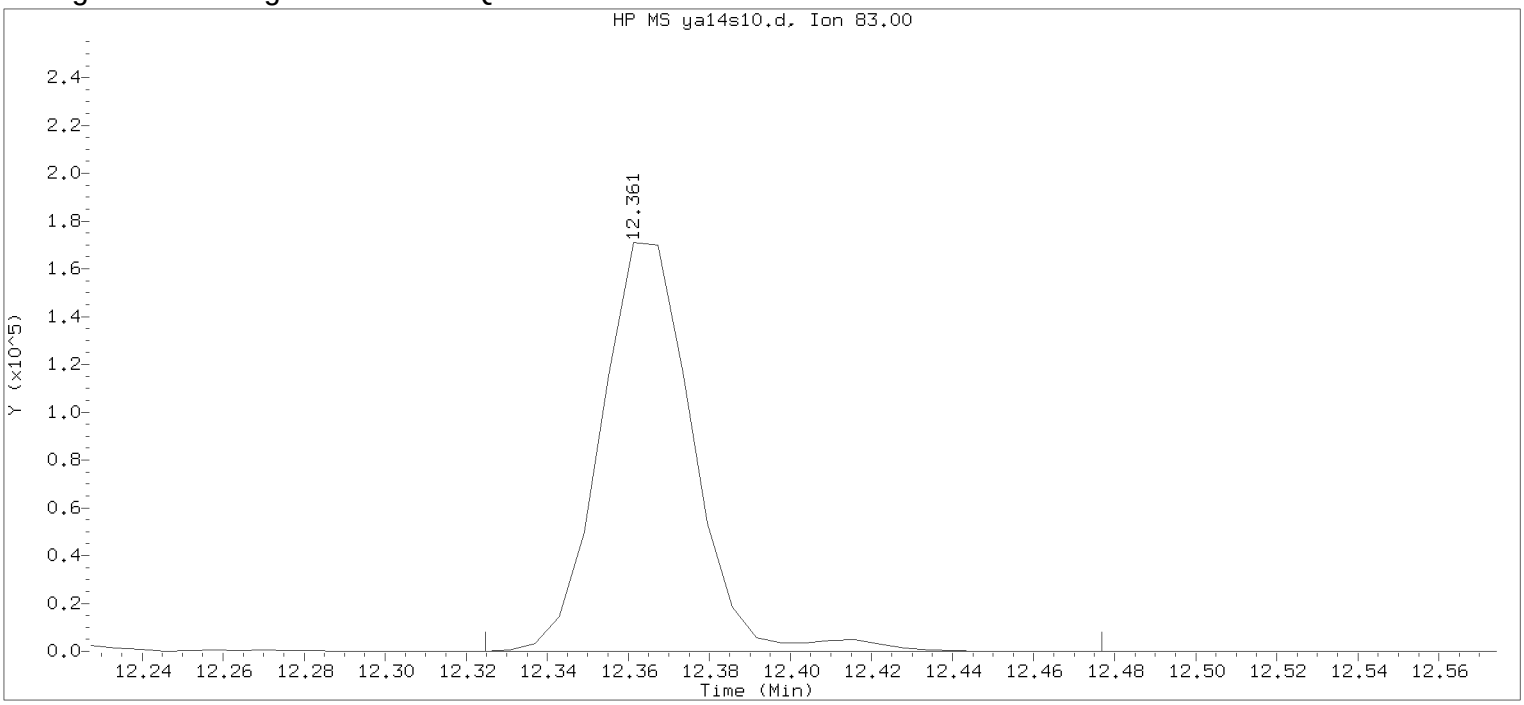
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/16/2018 at 09:29.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Joshua E. Berrios on 04/17/2018 at 21:47.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18apr14a.b/ya14s10.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 13:09 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 8260W-DH
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 14-Apr-2018 13:44 lcp00895

Sample Name: T8101MS Lab Sample ID: 9548790MS

Compound Number : 116
Compound Name : 1,1,2,2-Tetrachloroethane
Scan Number : 1772
Retention Time (minutes): 12.361
Quant Ion : 83.00
Area : 270302
On-column Amount (ng) : 17.9139
Integration start scan : 1765 Integration stop scan: 1790
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/16/2018 at 09:29.
Target 3.5 esignature user id: 1081 meaning: 3.5

T8101MSD Lancaster Laboratories Analysis Summary for GC/MS Volatiles 9548791MSD

Data file: /chem2/HP09355.i/18apr14a.b/ya14s11.d Injection date and time: **14-APR-2018 13:31**
Data file Sample Info. Line: T8101MSD;9548791MSD;1;3;MSD;ATH81;;;ya14b01; Instrument ID: **HP09355.i** Batch: **Y181041AA**
Date, time and analyst ID of latest file update: 16-Apr-2018 09:28 nsl01327

Blank Data file reference: **/chem2/HP09355.i/18apr14a.b/ya14b01.d**

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 14-APR-2018 09:38
Mid Level Daily Calibration Standard Reference: **/chem2/HP09355.i/18apr14a.b/ya14c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
29) t-Butyl alcohol-d10	4.270(-0.006)	442	65	407549 (-10)	250.00	
66) Fluorobenzene	7.811(0.000)	1024	96	1517116 (-3)	50.00	
100) Chlorobenzene-d5	11.273(0.000)	1593	117	1200289 (-7)	50.00	
131) 1,4-Dichlorobenzene-d4	13.158(0.000)	1903	152	666327 (-10)	50.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(2)	6.911(0.000)	113	361349	50.126	100%		80 - 120
57) 1,2-Dichloroethane-d4	(2)	7.373(0.000)	102	89813	48.320	97%		80 - 120
83) Toluene-d8	(3)	9.819(0.000)	98	1528436	48.447	97%		80 - 120
114) 4-Bromofluorobenzene	(3)	12.276(0.000)	95	571738	48.293	97%		80 - 120

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
4) Chloromethane	(2)	2.202(-0.000)	50	216888	20.136	20.14			0.5	1
6) Vinyl Chloride	(2)	2.317(-0.000)	62	225246	20.483	20.48			0.5	1
8) Bromomethane	(2)	2.664(0.000)	94	181209	24.326	24.33			0.5	1
9) Chloroethane	(2)	2.749(0.000)	64	138582	22.722	22.72			0.5	1
17) 1,1-Dichloroethene	(2)	3.625(0.000)	96	144522	24.542	24.54			0.5	1
18) Acetone	(1)	3.632(-0.000)	58	231207	182.556	182.56			6	20
23) Carbon Disulfide	(2)	3.942(0.000)	76	410189	20.797	20.80			1	5
28) Methylene Chloride	(2)	4.295(0.000)	84	163736	21.697	21.70			0.5	1
32) trans-1,2-Dichloroethene	(2)	4.720(0.000)	96	163598	22.148	22.15			0.5	1
36) 1,1-Dichloroethane	(2)	5.378(0.000)	63	290596	21.655	21.65			0.5	1
42) cis-1,2-Dichloroethene	(2)	6.205(0.000)	96	181016	20.963	20.96			0.5	1
44) 2-Butanone	(2)	6.162(0.000)	43	1358648	147.614	147.61			3	10
51) Chloroform	(2)	6.692(0.000)	83	290237	21.277	21.28			0.5	1
53) 1,1,1-Trichloroethane	(2)	6.923(0.000)	97	276901	21.231	21.23			0.5	1
56) Carbon Tetrachloride	(2)	7.142(0.000)	117	219740	22.248	22.25			0.5	1
60) Benzene	(2)	7.403(0.000)	78	697233	21.820	21.82			0.5	1
61) 1,2-Dichloroethane	(2)	7.482(-0.000)	62	253253	22.016	22.02			0.5	1
71) Trichloroethene	(2)	8.292(-0.000)	95	182185	21.358	21.36			0.5	1
73) 1,2-Dichloropropane	(2)	8.626(-0.000)	63	182199	21.165	21.17			0.5	1
78) Bromodichloromethane	(2)	8.973(0.000)	83	200082	18.967	18.97			0.5	1
81) cis-1,3-Dichloropropene	(2)	9.508(0.000)	75	237326	17.014	17.01			0.5	1
82) 4-Methyl-2-pentanone	(2)	9.666(0.000)	43	1703030	102.296	102.30			3	10
88) Toluene	(3)	9.898(0.000)	92	443053	20.054	20.05			0.5	1
89) trans-1,3-Dichloropropene	(3)	10.147(0.000)	75	227376	16.994	16.99			0.5	1
92) 1,1,2-Trichloroethane	(3)	10.354(0.000)	97	171709	19.242	19.24			0.5	1
93) Tetrachloroethene	(3)	10.445(0.000)	166	209087	21.609	21.61			0.5	1
96) 2-Hexanone	(3)	10.555(-0.000)	43	1451529	102.706	102.71			3	10
97) Dibromochloromethane	(3)	10.731(0.000)	129	161352	17.336	17.34			0.5	1
102) Chlorobenzene	(3)	11.297(0.000)	112	501327	19.476	19.48			0.5	1
104) Ethylbenzene	(3)	11.382(0.000)	91	854604	19.848	19.85			0.5	1
106) m+p-Xylene	(3)	11.498(0.000)	106	668751	38.789	38.79			0.5	1

Digitally signed by Nicole S. Lamoreaux on 04/16/2018 at 09:29. Target 3.5 esignature user ID: nsl01327

T8101MSD Lancaster Laboratories 9548791MSD
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP09355.i/18apr14a.b/ya14s11.d Injection date and time: **14-APR-2018 13:31**
Data file Sample Info. Line: T8101MSD;9548791MSD;1;3;MSD;ATH81;;;ya14b01; Instrument ID: **HP09355.i** Batch: **Y181041AA**
Date, time and analyst ID of latest file update: 16-Apr-2018 09:28 nsl01327

Blank Data file reference: **/chem2/HP09355.i/18apr14a.b/ya14b01.d**

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 14-APR-2018 09:38
Mid Level Daily Calibration Standard Reference: **/chem2/HP09355.i/18apr14a.b/ya14c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

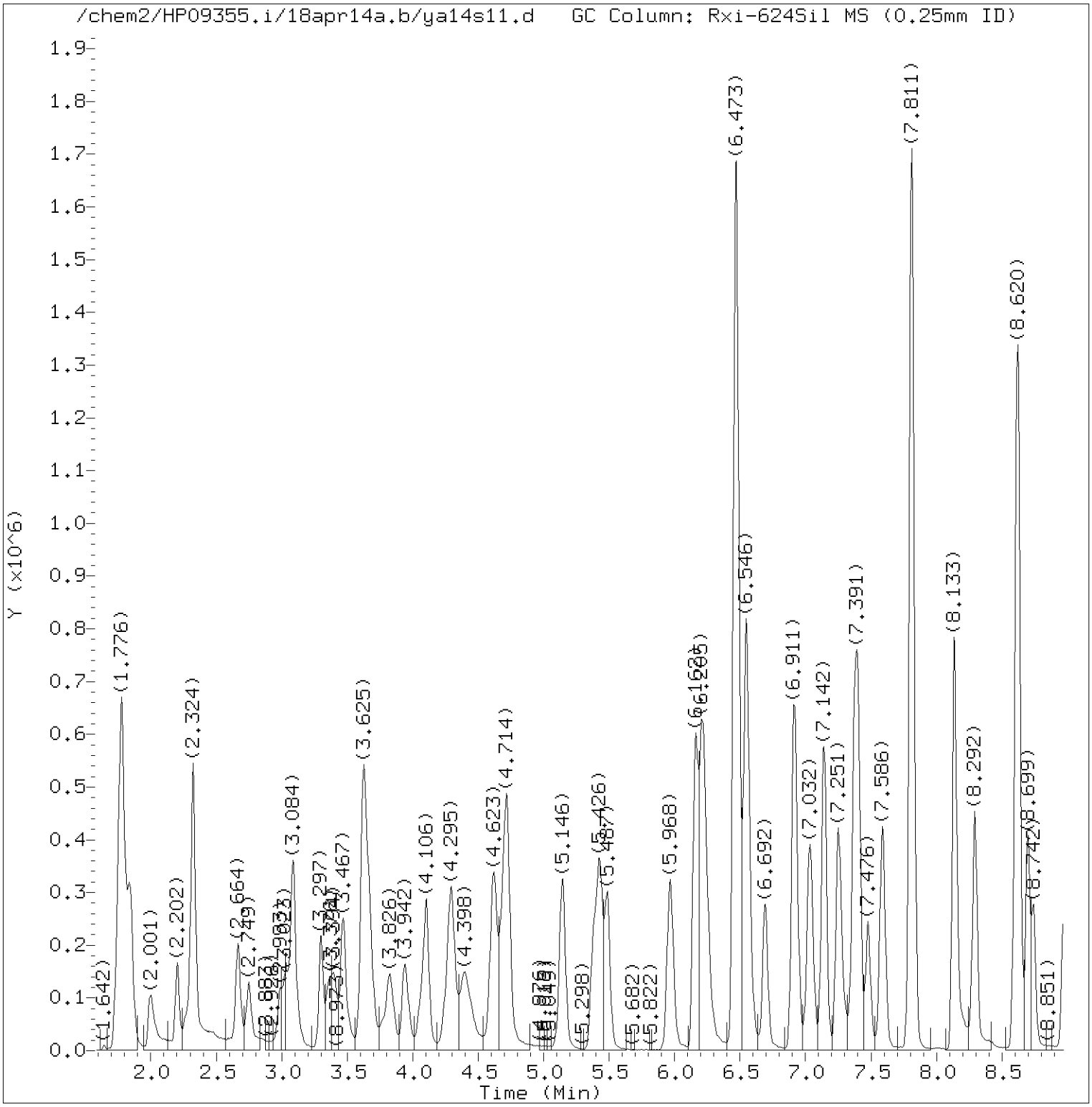
Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
107) o-Xylene	(3)	11.826(0.000)	106	300956	17.654	17.65			0.5	1
108) Xylene (Total)	(3)		106	969707	56.443	56.44			0.5	1
109) Styrene	(3)	11.844(0.000)	104	512666	17.724	17.72			1	5
110) Bromoform	(3)	12.009(-0.000)	173	111846	15.121	15.12			0.5	4
116) 1,1,2,2-Tetrachloroethane	(4)	12.368(-0.000)	83	278993M	17.678	17.68			0.5	1

M = Compound was manually integrated.

Total number of targets = 36

Digitally signed by Nicole S. Lamoreaux on 04/16/2018 at 09:29. Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Joshua E. Berrios on 04/17/2018 at 21:47. PARALLAX ID: jeb12641



Total Ion Chromatogram (TIC)

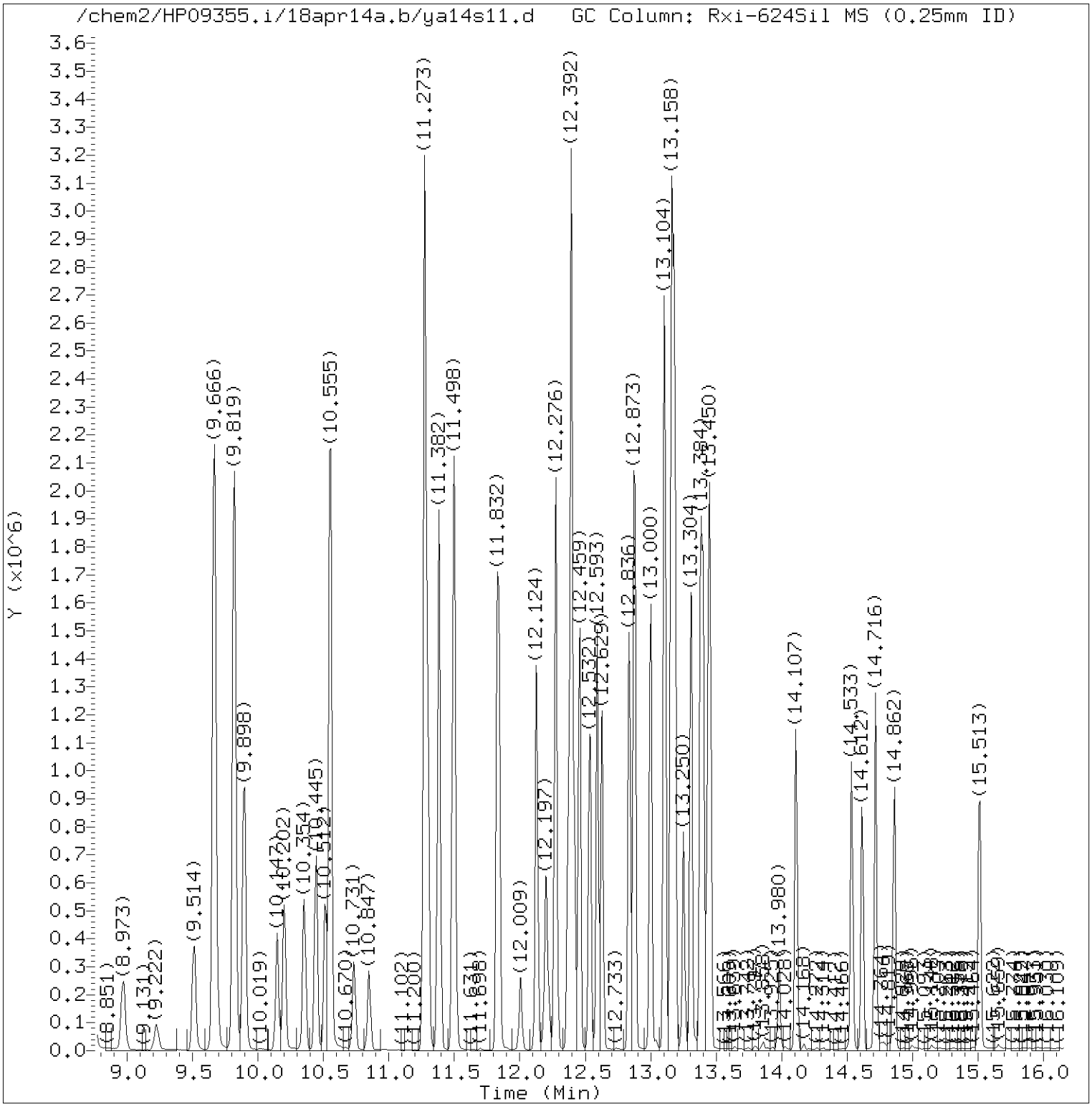
Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14s11.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 13:31 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 16-Apr-2018 09:28 nsl01327

Sample Name: T8101MSD Lab Sample ID: 9548791MSD

Digitally signed by Nicole S. Lamoreaux
on 04/16/2018 at 09:29.
Target 3.5 esignature user ID: nsl01327



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14s11.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 13:31 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 16-Apr-2018 09:28 nsl01327

Sample Name: T8101MSD Lab Sample ID: 9548791MSD

Digitally signed by Nicole S. Lamoreaux
on 04/16/2018 at 09:29.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14s11.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 13:31 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 16-Apr-2018 09:28 nsl01327

Sample Name: T8101MSD Lab Sample ID: 9548791MSD

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Chloromethane	(2)	2.202	50	216888	20.136
6) Vinyl Chloride	(2)	2.317	62	225246	20.483
8) Bromomethane	(2)	2.664	94	181209	24.326
9) Chloroethane	(2)	2.749	64	138582	22.722
17) 1,1-Dichloroethene	(2)	3.625	96	144522	24.542
18) Acetone	(1)	3.632	58	231207	182.556
23) Carbon Disulfide	(2)	3.942	76	410189	20.797
29)*t-Butyl alcohol-d10	(1)	4.270	65	407549	250.000
28) Methylene Chloride	(2)	4.295	84	163736	21.697
32) trans-1,2-Dichloroethene	(2)	4.721	96	163598	22.148
36) 1,1-Dichloroethane	(2)	5.378	63	290596	21.655
44) 2-Butanone	(2)	6.162	43	1358648	147.614
42) cis-1,2-Dichloroethene	(2)	6.205	96	181016	20.963
51) Chloroform	(2)	6.692	83	290237	21.277
52)$Dibromofluoromethane	(2)	6.911	113	361349	50.126
53) 1,1,1-Trichloroethane	(2)	6.923	97	276901	21.231
56) Carbon Tetrachloride	(2)	7.142	117	219740	22.248
57)$1,2-Dichloroethane-d4	(2)	7.373	102	89813	48.320
60) Benzene	(2)	7.403	78	697233	21.820
61) 1,2-Dichloroethane	(2)	7.482	62	253253	22.016
66)*Fluorobenzene	(2)	7.811	96	1517116	50.000
71) Trichloroethene	(2)	8.292	95	182185	21.358
73) 1,2-Dichloropropane	(2)	8.626	63	182199	21.165
78) Bromodichloromethane	(2)	8.973	83	200082	18.967
81) cis-1,3-Dichloropropene	(2)	9.508	75	237326	17.014
82) 4-Methyl-2-pentanone	(2)	9.666	43	1703030	102.296
83)$Toluene-d8	(3)	9.819	98	1528436	48.447
88) Toluene	(3)	9.898	92	443053	20.054
89) trans-1,3-Dichloropropene	(3)	10.147	75	227376	16.994
92) 1,1,2-Trichloroethane	(3)	10.354	97	171709	19.242
93) Tetrachloroethene	(3)	10.445	166	209087	21.609
96) 2-Hexanone	(3)	10.555	43	1451529	102.706
97) Dibromochloromethane	(3)	10.731	129	161352	17.336
100)*Chlorobenzene-d5	(3)	11.273	117	1200289	50.000
102) Chlorobenzene	(3)	11.297	112	501327	19.476
104) Ethylbenzene	(3)	11.382	91	854604	19.848
106) m+p-Xylene	(3)	11.498	106	668751	38.789
108) Xylene (Total)	(3)		106	969707	56.443

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Nicole S. Lamoreaux
on 04/16/2018 at 09:29.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14s11.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 13:31 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 16-Apr-2018 09:28 nsl01327

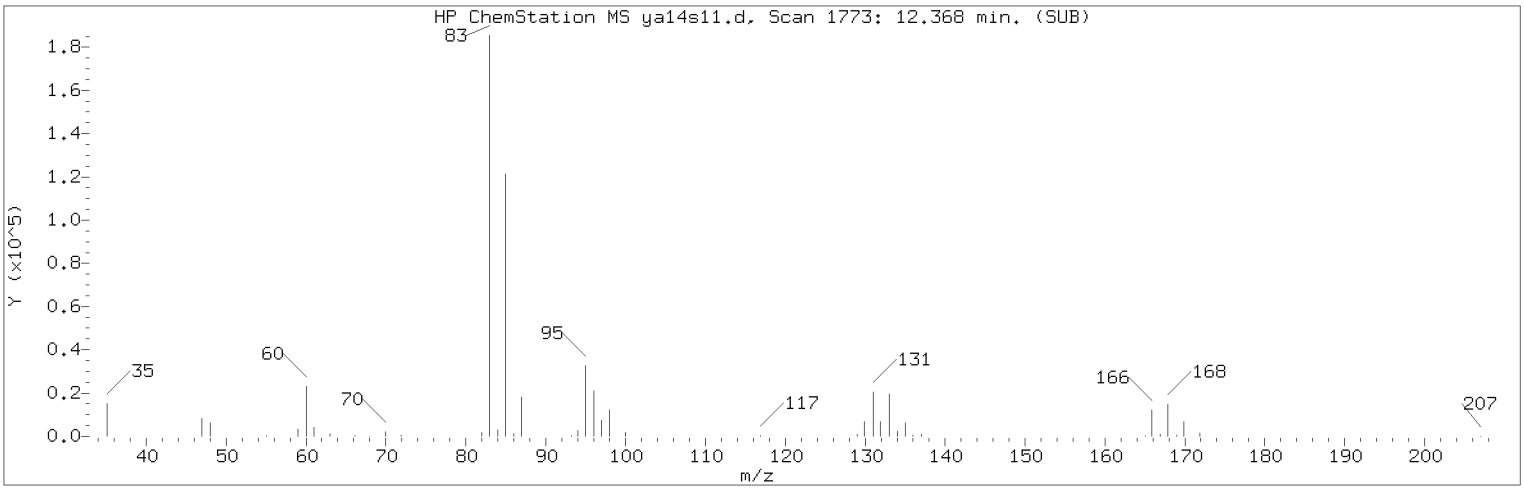
Sample Name: T8101MSD Lab Sample ID: 9548791MSD

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
107) o-Xylene	(3)	11.826	106	300956	17.654
109) Styrene	(3)	11.844	104	512666	17.724
110) Bromoform	(3)	12.009	173	111846	15.121
114)$4-Bromofluorobenzene	(3)	12.276	95	571738	48.293
116) 1,1,2,2-Tetrachloroethane	(4)	12.368	83	278993M	17.678
131)*1,4-Dichlorobenzene-d4	(4)	13.158	152	666327	50.000

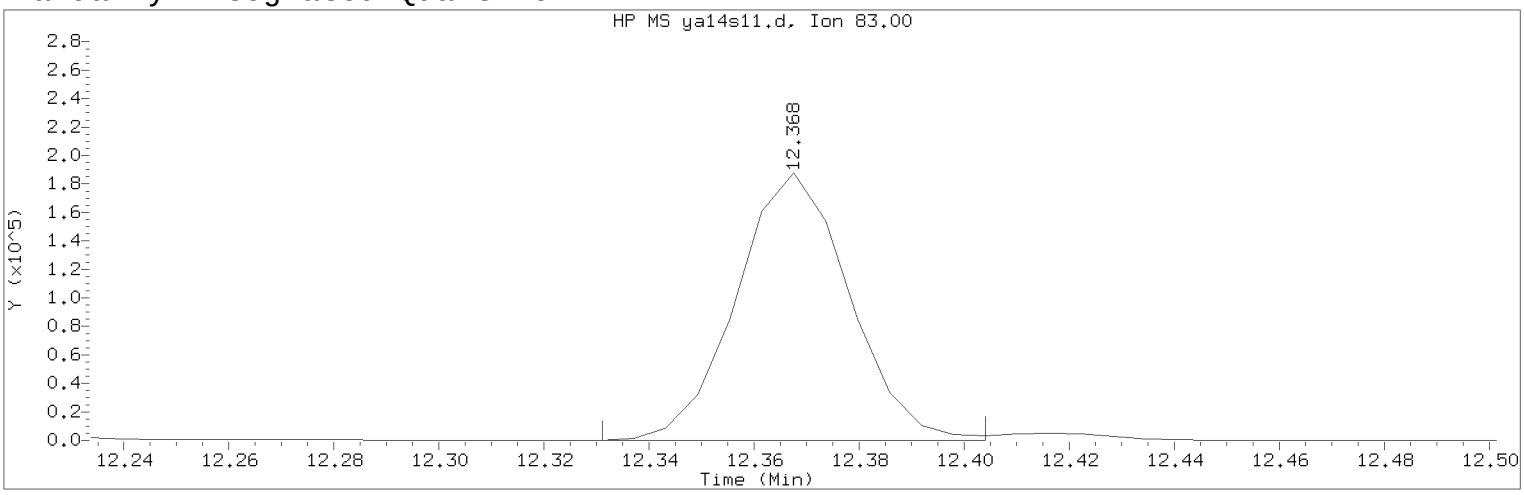
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Nicole S. Lamoreaux
on 04/16/2018 at 09:29.
Target 3.5 esignature user ID: nsl01327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18apr14a.b/ya14s11.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 13:31 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 16-Apr-2018 09:28 nsl01327

Sample Name: T8101MSD Lab Sample ID: 9548791MSD

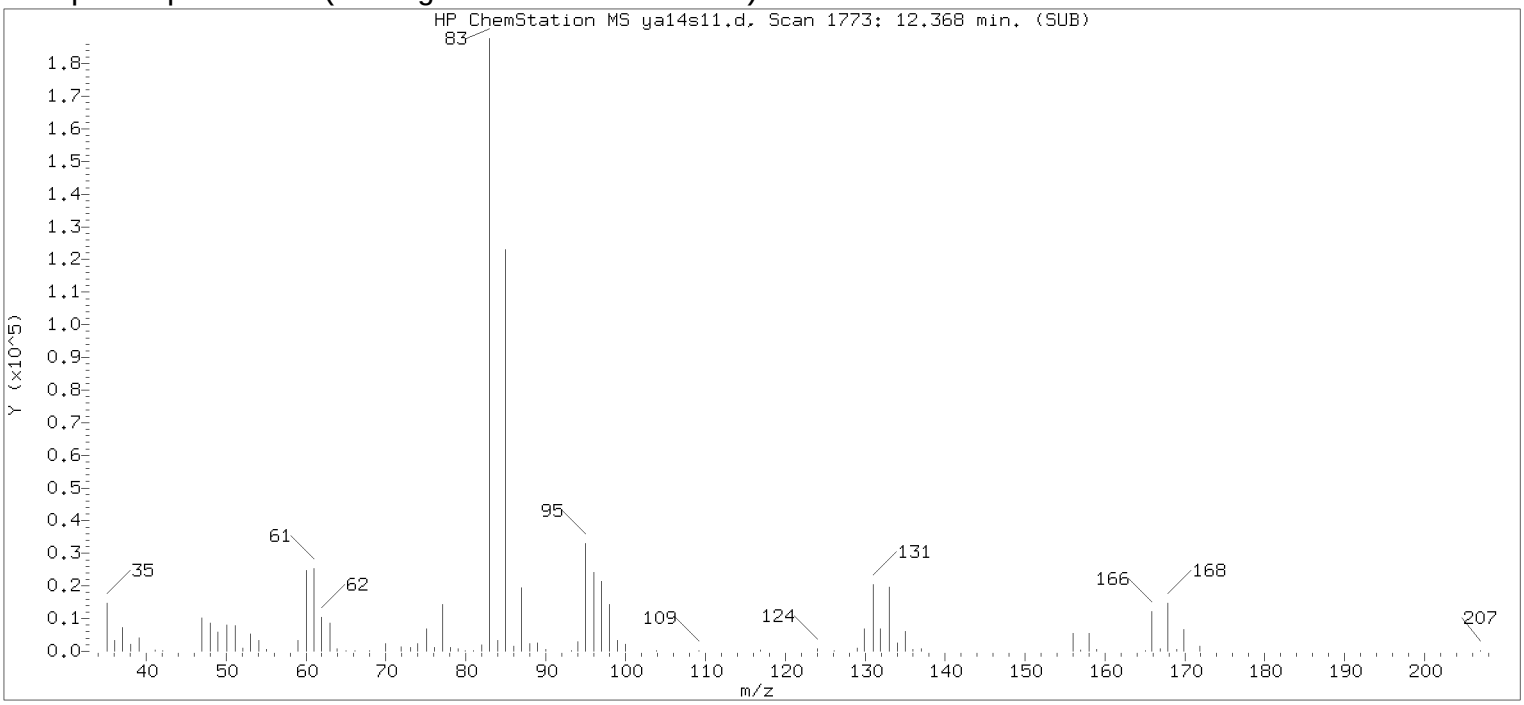
Compound Number : 116
Compound Name : 1,1,2,2-Tetrachloroethane
Scan Number : 1773
Retention Time (minutes): 12.368
Quant Ion : 83.00
Area (flag) : 278993M
On-Column Amount (ng) : 17.6780
Integration start scan : 1766 Integration stop scan: 1778
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

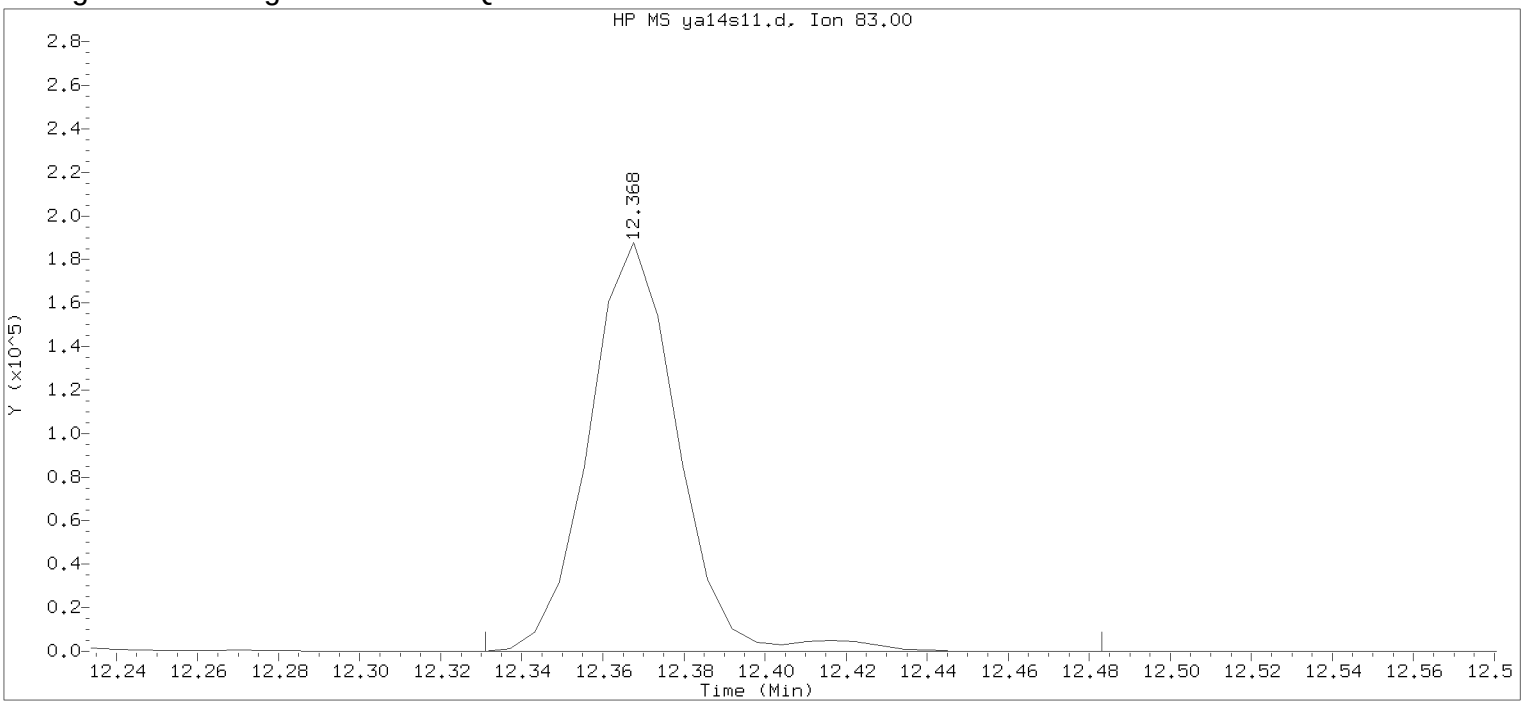
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/16/2018 at 09:29.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Joshua E. Berrios on 04/17/2018 at 21:47.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18apr14a.b/ya14s11.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 13:31 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 8260W-DH
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 14-Apr-2018 13:47 Automation

Sample Name: T8101MSD Lab Sample ID: 9548791MSD

Compound Number : 116
Compound Name : 1,1,2,2-Tetrachloroethane
Scan Number : 1773
Retention Time (minutes): 12.368
Quant Ion : 83.00
Area : 285608
On-column Amount (ng) : 18.0971
Integration start scan : 1766 Integration stop scan: 1791
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/16/2018 at 09:29.
Target 3.5 esignature user id: 9127

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

LCSY80

Data file: /chem2/HP09355.i/18apr14a.b/ya14s01.d
Injection date and time: **14-APR-2018 09:40**
Data file Sample Info. Line: LCSY80;LCSY80;1;3;LCS;;;;ya14b01;
Instrument ID: **HP09355.i** Batch: **Y181041AA**
Date, time and analyst ID of latest file update: 14-Apr-2018 10:06 lcp00895

Blank Data file reference: **/chem2/HP09355.i/18apr14a.b/ya14b01.d**

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: **8260W-DH**
Calibration date and time (Last Method Edit): 14-APR-2018 09:38
Mid Level Daily Calibration Standard Reference: **/chem2/HP09355.i/18apr14a.b/ya14c01.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
29) t-Butyl alcohol-d10	4.264(0.000)	441	65	422941 (-7)	250.00	
66) Fluorobenzene	7.805(0.006)	1023	96	1512525 (-3)	50.00	
100) Chlorobenzene-d5	11.266(0.006)	1592	117	1200840 (-7)	50.00	
131) 1,4-Dichlorobenzene-d4	13.158(0.000)	1903	152	668157 (-10)	50.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(2)	6.904(0.000)	113	363014	50.509	101%		80 - 120
57) 1,2-Dichloroethane-d4	(2)	7.367(0.000)	102	91482	49.367	99%		80 - 120
83) Toluene-d8	(3)	9.812(0.000)	98	1526157	48.353	97%		80 - 120
114) 4-Bromofluorobenzene	(3)	12.270(0.000)	95	578854	48.871	98%		80 - 120

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
3) Dichlorodifluoromethane	(2)	1.989(0.000)	85	201327	19.534	19.53			0.5	1
4) Chloromethane	(2)	2.196(-0.000)	50	217135	20.220	20.22			0.5	1
5) 1,3-Butadiene	(2)	2.317(0.001)	39	306035	54.896	54.90			0.5	1
6) Vinyl Chloride	(2)	2.305(0.000)	62	207477	18.924	18.92			0.5	1
8) Bromomethane	(2)	2.664(-0.000)	94	163753	22.049	22.05			0.5	1
9) Chloroethane	(2)	2.743(0.000)	64	125401	20.623	20.62			0.5	1
11) n-Pentane	(2)	3.084(-0.000)	43	314487	30.507	30.51			2	10
12) Trichlorofluoromethane	(2)	3.035(0.001)	101	296906	23.825	23.82			0.5	1
14) Ethyl ether	(2)	3.291(0.000)	59	146552	19.824	19.82			2	5
15) Freon 123a	(2)	3.388(0.000)	67	177855	21.954	21.95			2	5
16) Acrolein	(1)	3.461(0.001)	56	425016	143.823	143.82			40	100
17) 1,1-Dichloroethene	(2)	3.613(0.001)	96	131556	22.408	22.41			0.5	1
18) Acetone	(1)	3.619(0.001)	58	238605	181.541	181.54			6	20
19) Freon 113	(2)	3.656(0.000)	101	138711	24.485	24.49			2	10
21) 2-Propanol	(1)	3.777(0.001)	45	128691	139.789	139.79			50	100
22) Methyl Iodide	(2)	3.832(0.000)	142	233238	20.725	20.72			0.5	1
23) Carbon Disulfide	(2)	3.942(0.000)	76	375843	19.113	19.11			1	5
25) Allyl Chloride	(2)	4.094(0.000)	41	230699	19.199	19.20			1	5
27) Methyl Acetate	(2)	4.057(0.000)	43	247115	22.067	22.07			1	5
28) Methylene Chloride	(2)	4.294(-0.000)	84	157799	20.974	20.97			0.5	1
30) t-Butyl alcohol	(1)	4.392(-0.000)	59	382444	205.159	205.16			5	20
31) Acrylonitrile	(2)	4.611(-0.000)	53	582415	101.225	101.23			4	20
32) trans-1,2-Dichloroethene	(2)	4.714(0.000)	96	153170	20.799	20.80			0.5	1
33) Methyl Tertiary Butyl Ether	(2)	4.690(0.000)	73	474940	18.499	18.50			0.5	1
34) n-Hexane	(2)	5.134(0.000)	57	233684	21.418	21.42			2	5
36) 1,1-Dichloroethane	(2)	5.371(0.000)	63	270156	20.193	20.19			0.5	1
38) di-Isopropyl ether	(2)	5.420(0.000)	45	502077	20.097	20.10			0.5	1
39) 2-Chloro-1,3-butadiene	(2)	5.475(0.000)	53	227416	19.408	19.41			1	5
40) Ethyl t-butyl ether	(2)	5.961(-0.000)	59	416370	16.523	16.52			0.5	1
42) cis-1,2-Dichloroethene	(2)	6.199(0.000)	96	171662	19.940	19.94			0.5	1
43) 1,2-Dichloroethene (Total)	(2)		96	324832	40.740	40.74			0.5	1

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Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

LCSY80

Data file: /chem2/HP09355.i/18apr14a.b/ya14s01.d Injection date and time: **14-APR-2018 09:40**
Data file Sample Info. Line: LCSY80;LCSY80;1;3;LCS;;;;ya14b01; Instrument ID: **HP09355.i** Batch: **Y181041AA**
Date, time and analyst ID of latest file update: 14-Apr-2018 10:06 lcp00895

Blank Data file reference: **/chem2/HP09355.i/18apr14a.b/ya14b01.d**

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: **8260W-DH**
Calibration date and time (Last Method Edit): 14-APR-2018 09:38
Mid Level Daily Calibration Standard Reference: **/chem2/HP09355.i/18apr14a.b/ya14c01.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
44) 2-Butanone	(2)	6.156(0.000)	43	1373571	149.688	149.69			3	10
45) 2,2-Dichloropropane	(2)	6.217(0.000)	77	196014	17.846	17.85			0.5	1
47) Propionitrile	(1)	6.235(0.001)	54	380676	203.095	203.09			30	100
48) Methacrylonitrile	(2)	6.466(0.000)	67	923946	168.243	168.24			10	50
49) Bromochloromethane	(2)	6.539(0.000)	128	87100	19.981	19.98			1	5
50) Tetrahydrofuran	(1)	6.539(0.002)	71	237292	109.760	109.76			4	10
51) Chloroform	(2)	6.685(0.000)	83	277059	20.373	20.37			0.5	1
53) 1,1,1-Trichloroethane	(2)	6.923(0.000)	97	253981	19.532	19.53			0.5	1
54) Cyclohexane	(2)	7.032(-0.000)	56	260484	20.630	20.63			2	5
55) 1,1-Dichloropropene	(2)	7.136(-0.000)	75	212428	19.317	19.32			1	5
56) Carbon Tetrachloride	(2)	7.129(0.000)	117	199666	20.277	20.28			0.5	1
58) Isobutyl Alcohol	(1)	7.245(0.001)	41	397604	616.125	616.13			100	250
60) Benzene	(2)	7.397(0.000)	78	636413	19.977	19.98			0.5	1
61) 1,2-Dichloroethane	(2)	7.470(0.000)	62	242133	21.113	21.11			0.5	1
65) t-Amyl methyl ether	(2)	7.586(-0.000)	73	409668	16.164	16.16			0.5	1
67) n-Heptane	(2)	7.811(-0.000)	43	279695	21.501	21.50			2	5
69) n-Butanol	(1)	8.133(0.001)	56	623277	1061.943	1061.94			100	250
71) Trichloroethene	(2)	8.285(-0.000)	95	164930	19.394	19.39			0.5	1
72) Methylcyclohexane	(2)	8.602(-0.000)	83	273136	19.630	19.63			1	5
73) 1,2-Dichloropropane	(2)	8.620(-0.000)	63	171569	19.991	19.99			0.5	1
74) Dibromomethane	(2)	8.736(-0.000)	93	113756	20.299	20.30			0.5	1
75) 1,4-Dioxane	(1)	8.699(0.001)	88	79380M	495.030	495.03			70	250
76) Methyl Methacrylate	(2)	8.693(-0.000)	69	173982	17.997	18.00			1	5
78) Bromodichloromethane	(2)	8.967(-0.000)	83	190303	18.095	18.09			0.5	1
79) 2-Nitropropane	(2)	9.222(-0.000)	41	74189	18.089	18.09			2	10
80) 2-Chloroethyl Vinyl Ether	(2)	9.320(-0.000)	63	129289	17.318	17.32			2	10
81) cis-1,3-Dichloropropene	(2)	9.508(-0.000)	75	236309	16.993	16.99			0.5	1
82) 4-Methyl-2-pentanone	(2)	9.660(-0.000)	43	1703030	102.606	102.61			3	10
88) Toluene	(3)	9.891(0.000)	92	405773	18.359	18.36			0.5	1
89) trans-1,3-Dichloropropene	(3)	10.141(0.000)	75	218976	16.358	16.36			0.5	1
90) 1,3-Dichloropropene (total)	(3)		100	455285	33.351	33.35			1	5
91) Ethyl Methacrylate	(3)	10.196(0.000)	69	258595	16.362	16.36			1	5
92) 1,1,2-Trichloroethane	(3)	10.348(0.000)	97	167867	18.803	18.80			0.5	1
93) Tetrachloroethene	(3)	10.439(0.000)	166	190000	19.628	19.63			0.5	1
94) 1,3-Dichloropropane	(3)	10.512(-0.000)	76	273759	18.255	18.25			0.5	1
96) 2-Hexanone	(3)	10.548(-0.000)	43	1432293	101.298	101.30			3	10
97) Dibromochloromethane	(3)	10.731(-0.000)	129	154196	16.560	16.56			0.5	1
99) 1,2-Dibromoethane	(3)	10.846(-0.000)	107	177958	18.271	18.27			0.5	1
101) 1-Chlorohexane	(3)	11.272(-0.000)	91	210940	16.630	16.63			1	5
102) Chlorobenzene	(3)	11.297(-0.000)	112	466887	18.130	18.13			0.5	1
103) 1,1,1,2-Tetrachloroethane	(3)	11.376(-0.000)	131	149289	17.723	17.72			0.5	1
104) Ethylbenzene	(3)	11.382(-0.000)	91	785510	18.235	18.24			0.5	1
106) m+p-Xylene	(3)	11.491(-0.000)	106	619104	35.893	35.89			0.5	1
107) o-Xylene	(3)	11.826(-0.000)	106	280462	16.444	16.44			0.5	1
108) Xylene (Total)	(3)		106	899566	52.337	52.34			0.5	1
109) Styrene	(3)	11.838(-0.000)	104	484700	16.750	16.75			1	5
110) Bromoform	(3)	12.002(-0.000)	173	110220	14.894	14.89			0.5	4
111) Isopropylbenzene	(3)	12.124(-0.000)	105	727589	16.947	16.95			1	5
112) Cyclohexanone	(1)	12.197(-0.000)	55	292455	320.119	320.12			25	100
115) Bromobenzene	(4)	12.392(0.000)	156	225714	18.777	18.78			1	5
116) 1,1,2,2-Tetrachloroethane	(4)	12.361(0.000)	83	287188	18.147	18.15			0.5	1
117) 1,2,3-Trichloropropane	(4)	12.416(0.000)	110	93739	18.420	18.42			1	5
118) trans-1,4-Dichloro-2-butene	(4)	12.392(0.000)	53	400504	87.029	87.03			15	50
119) n-Propylbenzene	(4)	12.452(0.000)	91	952511	18.271	18.27			1	5

M = Compound was manually integrated.

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Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

LCSY80

Data file: /chem2/HP09355.i/18apr14a.b/ya14s01.d Injection date and time: **14-APR-2018 09:40**
Data file Sample Info. Line: LCSY80;LCSY80;1;3;LCS;;;;ya14b01; Instrument ID: **HP09355.i** Batch: **Y181041AA**
Date, time and analyst ID of latest file update: 14-Apr-2018 10:06 lcp00895

Blank Data file reference: **/chem2/HP09355.i/18apr14a.b/ya14b01.d**

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: **8260W-DH**
Calibration date and time (Last Method Edit): 14-APR-2018 09:38
Mid Level Daily Calibration Standard Reference: **/chem2/HP09355.i/18apr14a.b/ya14c01.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
120) 2-Chlorotoluene	(4)	12.532(0.000)	126	188806	17.437	17.44			1	5
121) 4-Chlorotoluene	(4)	12.623(0.000)	126	201974	17.402	17.40			1	5
122) 1,3,5-Trimethylbenzene	(4)	12.586(0.000)	105	653310	17.075	17.07			1	5
124) tert-Butylbenzene	(4)	12.836(0.000)	134	132087M	16.358	16.36			1	5
125) Pentachloroethane	(4)	12.866(0.000)	167	115702	18.434	18.43			1	5
126) 1,2,4-Trimethylbenzene	(4)	12.872(0.000)	105	685720	17.319	17.32			1	5
127) sec-Butylbenzene	(4)	12.994(0.000)	105	833004	17.272	17.27			1	5
129) 1,3-Dichlorobenzene	(4)	13.097(0.000)	146	413867	17.954	17.95			1	5
130) p-Isopropyltoluene	(4)	13.104(0.000)	119	729350	17.137	17.14			1	5
133) 1,4-Dichlorobenzene	(4)	13.176(-0.000)	146	442115	18.726	18.73			1	5
134) 1,2,3-Trimethylbenzene	(4)	13.183(-0.000)	105	715247	18.699	18.70			1	5
135) Benzyl Chloride	(4)	13.250(-0.000)	91	459533	14.654	14.65			1	5
136) 1,3-Diethylbenzene	(4)	13.304(-0.000)	119	429180	17.628	17.63			1	5
137) 1,4-Diethylbenzene	(4)	13.377(0.000)	119	455190	18.031	18.03			1	5
138) 1,2-Dichlorobenzene	(4)	13.432(0.000)	146	403381	18.235	18.23			1	5
139) n-Butylbenzene	(4)	13.396(0.000)	92	382985M	17.776	17.78			1	5
140) 1,2-Diethylbenzene	(4)	13.450(0.000)	119	366285	18.175	18.17			1	5
141) Diethylbenzene (total)	(4)		100	1250655	53.834	53.83			1	5
142) 1,2-Dibromo-3-chloropropane	(4)	13.973(0.000)	75	59077	14.533	14.53			2	5
144) 1,3,5-Trichlorobenzene	(4)	14.107(-0.000)	180	293964	17.682	17.68			1	5
146) 1,2,4-Trichlorobenzene	(4)	14.533(-0.000)	180	261245	16.353	16.35			1	5
147) Hexachlorobutadiene	(4)	14.612(-0.000)	225	129991	17.151	17.15			2	5
148) Naphthalene	(4)	14.716(-0.000)	128	810702	15.149	15.15			1	5
149) 1,2,3-Trichlorobenzene	(4)	14.856(0.000)	180	254226	17.175	17.18			1	5
150) 2-Methylnaphthalene	(4)	15.506(-0.000)	142	365318	12.007	12.01			2	5

M = Compound was manually integrated.

Total number of targets = 110

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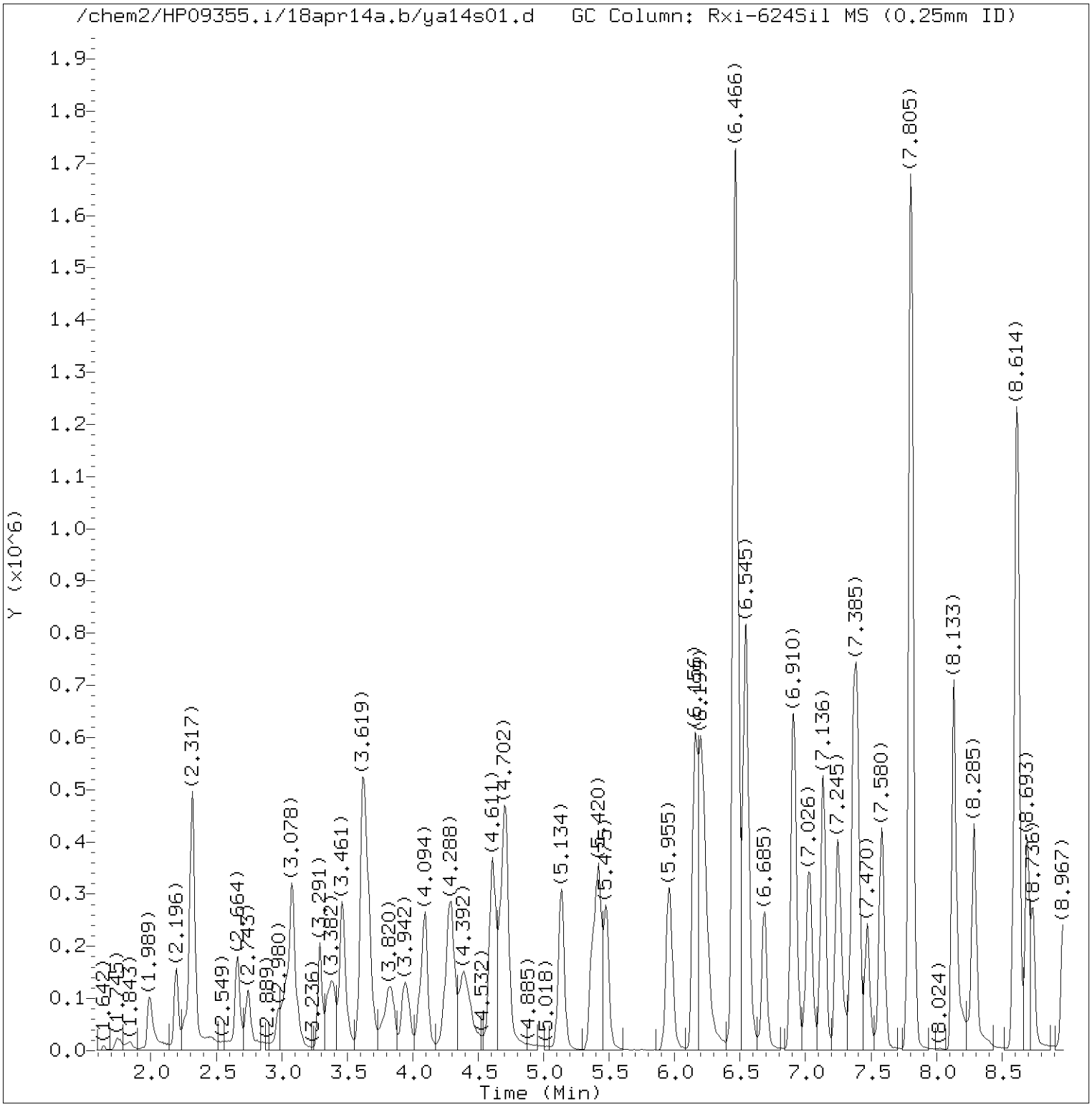
Secondary review performed and digitally signed by Joshua E. Berrios on 04/17/2018 at 21:47. PARALLAX ID: jeb12641



Total Ion Chromatogram (TIC)

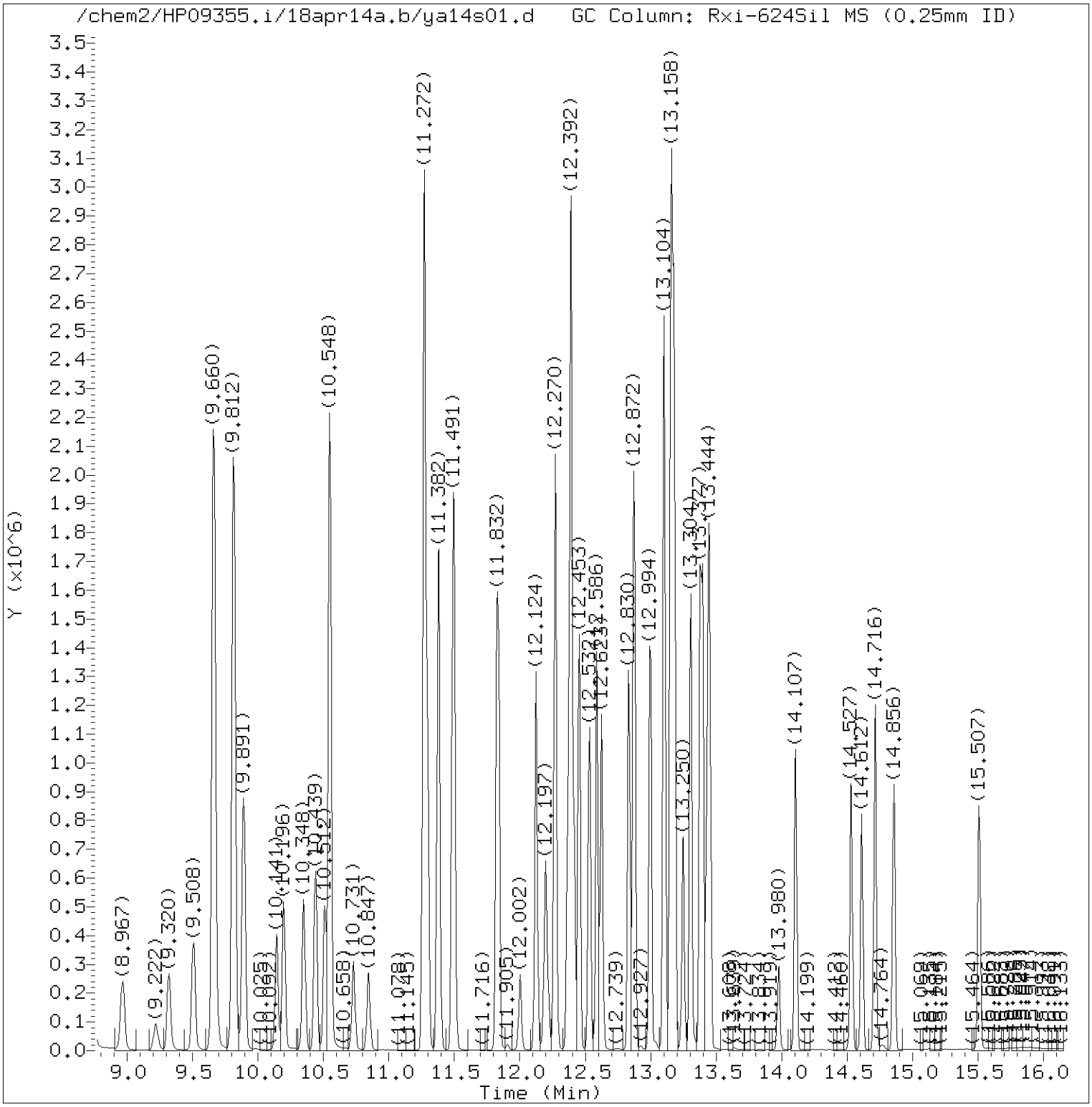
Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14s01.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 09:40 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 8260W-DH
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 14-Apr-2018 10:06 lcp00895

Sample Name: LCSY80 Lab Sample ID: LCSY80

Digitally signed by Linda C. Pape
on 04/14/2018 at 10:07.
Target 3.5 esignature user ID: lcp00895



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14s01.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 09:40 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 8260W-DH
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 14-Apr-2018 10:06 lcp00895

Sample Name: LCSY80 Lab Sample ID: LCSY80

Digitally signed by Linda C. Pape
on 04/14/2018 at 10:07.
Target 3.5 esignature user ID: lcp00895

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14s01.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 09:40 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 8260W-DH
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 14-Apr-2018 10:06 lcp00895

Sample Name: LCSY80 Lab Sample ID: LCSY80

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
3) Dichlorodifluoromethane	(2)	1.989	85	201327	19.534
4) Chloromethane	(2)	2.196	50	217135	20.220
6) Vinyl Chloride	(2)	2.305	62	207477	18.924
5) 1,3-Butadiene	(2)	2.317	39	306035	54.896
8) Bromomethane	(2)	2.664	94	163753	22.049
9) Chloroethane	(2)	2.743	64	125401	20.623
12) Trichlorofluoromethane	(2)	3.035	101	296906	23.825
11) n-Pentane	(2)	3.084	43	314487	30.507
14) Ethyl ether	(2)	3.291	59	146552	19.824
15) Freon 123a	(2)	3.388	67	177855	21.954
16) Acrolein	(1)	3.461	56	425016	143.823
17) 1,1-Dichloroethene	(2)	3.613	96	131556	22.408
18) Acetone	(1)	3.619	58	238605	181.541
19) Freon 113	(2)	3.656	101	138711	24.485
21) 2-Propanol	(1)	3.777	45	128691	139.789
22) Methyl Iodide	(2)	3.832	142	233238	20.725
23) Carbon Disulfide	(2)	3.942	76	375843	19.113
27) Methyl Acetate	(2)	4.057	43	247115	22.067
25) Allyl Chloride	(2)	4.094	41	230699	19.199
29)*t-Butyl alcohol-d10	(1)	4.264	65	422941	250.000
28) Methylene Chloride	(2)	4.295	84	157799	20.974
30) t-Butyl alcohol	(1)	4.392	59	382444	205.159
31) Acrylonitrile	(2)	4.611	53	582415	101.225
33) Methyl Tertiary Butyl Ether	(2)	4.690	73	474940	18.499
32) trans-1,2-Dichloroethene	(2)	4.714	96	153170	20.799
34) n-Hexane	(2)	5.134	57	233684	21.418
36) 1,1-Dichloroethane	(2)	5.371	63	270156	20.193
38) di-Isopropyl ether	(2)	5.420	45	502077	20.097
39) 2-Chloro-1,3-butadiene	(2)	5.475	53	227416	19.408
40) Ethyl t-butyl ether	(2)	5.961	59	416370	16.523
44) 2-Butanone	(2)	6.156	43	1373571	149.688
42) cis-1,2-Dichloroethene	(2)	6.199	96	171662	19.940
45) 2,2-Dichloropropane	(2)	6.217	77	196014	17.846
47) Propionitrile	(1)	6.235	54	380676	203.095
48) Methacrylonitrile	(2)	6.466	67	923946	168.243
50) Tetrahydrofuran	(1)	6.539	71	237292	109.760
49) Bromochloromethane	(2)	6.539	128	87100	19.981
51) Chloroform	(2)	6.685	83	277059	20.373

* = Compound is an internal standard.

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on 04/14/2018 at 10:07.
Target 3.5 esignature user ID: lcp00895

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14s01.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 09:40 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 8260W-DH
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 14-Apr-2018 10:06 lcp00895

Sample Name: LCSY80 Lab Sample ID: LCSY80

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
43) 1,2-Dichloroethene (Total)	(2)		96	324832	40.740
52)$Dibromofluoromethane	(2)	6.904	113	363014	50.509
53) 1,1,1-Trichloroethane	(2)	6.923	97	253981	19.532
54) Cyclohexane	(2)	7.032	56	260484	20.630
56) Carbon Tetrachloride	(2)	7.129	117	199666	20.277
55) 1,1-Dichloropropene	(2)	7.136	75	212428	19.317
58) Isobutyl Alcohol	(1)	7.245	41	397604	616.125
57)$1,2-Dichloroethane-d4	(2)	7.367	102	91482	49.367
60) Benzene	(2)	7.397	78	636413	19.977
61) 1,2-Dichloroethane	(2)	7.470	62	242133	21.113
65) t-Amyl methyl ether	(2)	7.586	73	409668	16.164
66)*Fluorobenzene	(2)	7.805	96	1512525	50.000
67) n-Heptane	(2)	7.811	43	279695	21.501
69) n-Butanol	(1)	8.133	56	623277	1061.943
71) Trichloroethene	(2)	8.285	95	164930	19.394
72) Methylcyclohexane	(2)	8.602	83	273136	19.630
73) 1,2-Dichloropropane	(2)	8.620	63	171569	19.991
76) Methyl Methacrylate	(2)	8.693	69	173982	17.997
75) 1,4-Dioxane	(1)	8.699	88	79380M	495.030
74) Dibromomethane	(2)	8.736	93	113756	20.299
78) Bromodichloromethane	(2)	8.967	83	190303	18.095
79) 2-Nitropropane	(2)	9.222	41	74189	18.089
80) 2-Chloroethyl Vinyl Ether	(2)	9.320	63	129289	17.318
81) cis-1,3-Dichloropropene	(2)	9.508	75	236309	16.993
82) 4-Methyl-2-pentanone	(2)	9.660	43	1703030	102.606
83)$Toluene-d8	(3)	9.812	98	1526157	48.353
88) Toluene	(3)	9.891	92	405773	18.359
90) 1,3-Dichloropropene (total)	(3)		100	455285	33.351
89) trans-1,3-Dichloropropene	(3)	10.141	75	218976	16.358
91) Ethyl Methacrylate	(3)	10.196	69	258595	16.362
92) 1,1,2-Trichloroethane	(3)	10.348	97	167867	18.803
93) Tetrachloroethene	(3)	10.439	166	190000	19.628
94) 1,3-Dichloropropane	(3)	10.512	76	273759	18.255
96) 2-Hexanone	(3)	10.548	43	1432293	101.298
97) Dibromochloromethane	(3)	10.731	129	154196	16.560
99) 1,2-Dibromoethane	(3)	10.847	107	177958	18.271
100)*Chlorobenzene-d5	(3)	11.266	117	1200840	50.000
101) 1-Chlorohexane	(3)	11.272	91	210940	16.630

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 04/14/2018 at 10:07.
Target 3.5 esignature user ID: lcp00895

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14s01.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 09:40 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 8260W-DH
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 14-Apr-2018 10:06 lcp00895

Sample Name: LCSY80 Lab Sample ID: LCSY80

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
102) Chlorobenzene	(3)	11.297	112	466887	18.130
103) 1,1,1,2-Tetrachloroethane	(3)	11.376	131	149289	17.723
104) Ethylbenzene	(3)	11.382	91	785510	18.235
106) m+p-Xylene	(3)	11.491	106	619104	35.893
108) Xylene (Total)	(3)		106	899566	52.337
107) o-Xylene	(3)	11.826	106	280462	16.444
109) Styrene	(3)	11.838	104	484700	16.750
110) Bromoform	(3)	12.002	173	110220	14.894
111) Isopropylbenzene	(3)	12.124	105	727589	16.947
112) Cyclohexanone	(1)	12.197	55	292455	320.119
114)$4-Bromofluorobenzene	(3)	12.270	95	578854	48.871
116) 1,1,2,2-Tetrachloroethane	(4)	12.361	83	287188	18.147
118) trans-1,4-Dichloro-2-butene	(4)	12.392	53	400504	87.029
115) Bromobenzene	(4)	12.392	156	225714	18.777
117) 1,2,3-Trichloropropane	(4)	12.416	110	93739	18.420
119) n-Propylbenzene	(4)	12.453	91	952511	18.271
120) 2-Chlorotoluene	(4)	12.532	126	188806	17.437
122) 1,3,5-Trimethylbenzene	(4)	12.586	105	653310	17.075
121) 4-Chlorotoluene	(4)	12.623	126	201974	17.402
124) tert-Butylbenzene	(4)	12.836	134	132087M	16.358
125) Pentachloroethane	(4)	12.866	167	115702	18.434
126) 1,2,4-Trimethylbenzene	(4)	12.872	105	685720	17.319
127) sec-Butylbenzene	(4)	12.994	105	833004	17.272
129) 1,3-Dichlorobenzene	(4)	13.097	146	413867	17.954
130) p-Isopropyltoluene	(4)	13.104	119	729350	17.137
131)*1,4-Dichlorobenzene-d4	(4)	13.158	152	668157	50.000
133) 1,4-Dichlorobenzene	(4)	13.177	146	442115	18.726
134) 1,2,3-Trimethylbenzene	(4)	13.183	105	715247	18.699
135) Benzyl Chloride	(4)	13.250	91	459533	14.654
136) 1,3-Diethylbenzene	(4)	13.304	119	429180	17.628
137) 1,4-Diethylbenzene	(4)	13.377	119	455190	18.031
139) n-Butylbenzene	(4)	13.396	92	382985M	17.776
138) 1,2-Dichlorobenzene	(4)	13.432	146	403381	18.235
140) 1,2-Diethylbenzene	(4)	13.450	119	366285	18.175
141) Diethylbenzene (total)	(4)		100	1250655	53.834
142) 1,2-Dibromo-3-chloropropane	(4)	13.973	75	59077	14.533
144) 1,3,5-Trichlorobenzene	(4)	14.107	180	293964	17.682
146) 1,2,4-Trichlorobenzene	(4)	14.533	180	261245	16.353

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 04/14/2018 at 10:07.
Target 3.5 esignature user ID: lcp00895

Quant Report

Target Revision 3.5

Data File: /chem2/HP09355.i/18apr14a.b/ya14s01.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 09:40 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 8260W-DH
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 14-Apr-2018 10:06 lcp00895

Sample Name: LCSY80 Lab Sample ID: LCSY80

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
147) Hexachlorobutadiene	(4)	14.612	225	129991	17.151
148) Naphthalene	(4)	14.716	128	810702	15.149
149) 1,2,3-Trichlorobenzene	(4)	14.856	180	254226	17.175
150) 2-Methylnaphthalene	(4)	15.507	142	365318	12.007

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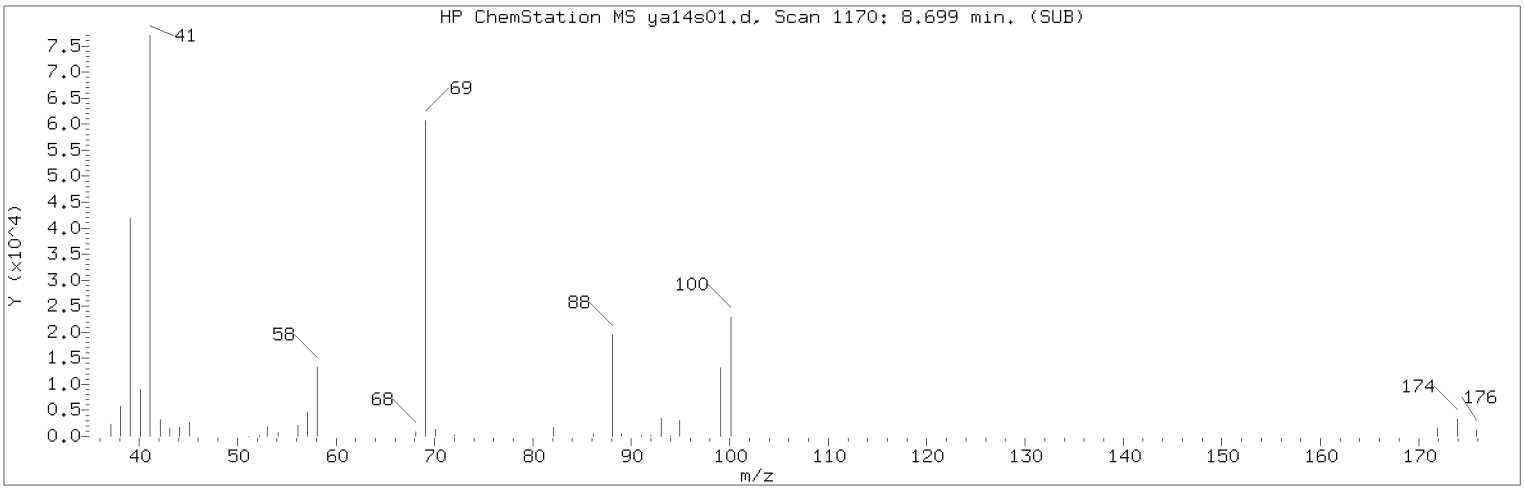
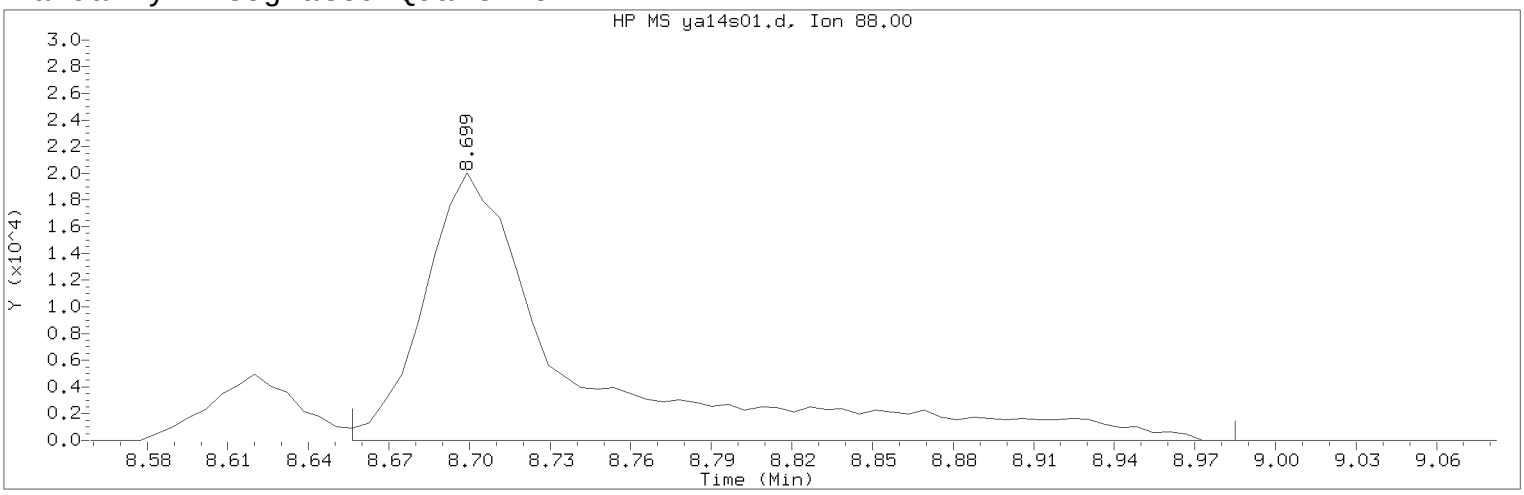
on 04/14/2018 at 10:07.
Target 3.5 esignature user ID: lcp00895

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18apr14a.b/ya14s01.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 09:40 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 8260W-DH
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 14-Apr-2018 10:06 lcp00895

Sample Name: LCSY80 Lab Sample ID: LCSY80

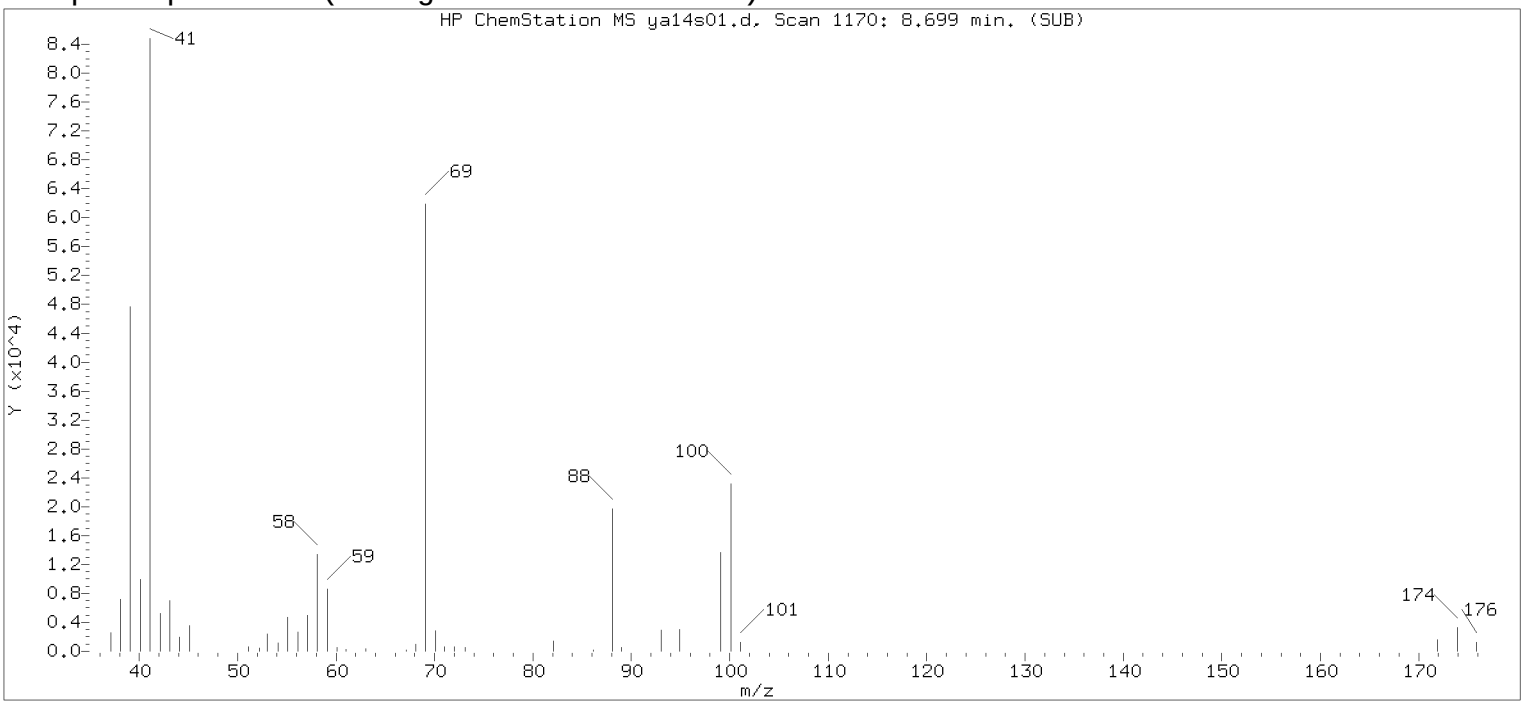
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 1170
Retention Time (minutes): 8.699
Quant Ion : 88.00
Area (flag) : 79380M
On-Column Amount (ng) : 495.0298
Integration start scan : 1162 Integration stop scan: 1216
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

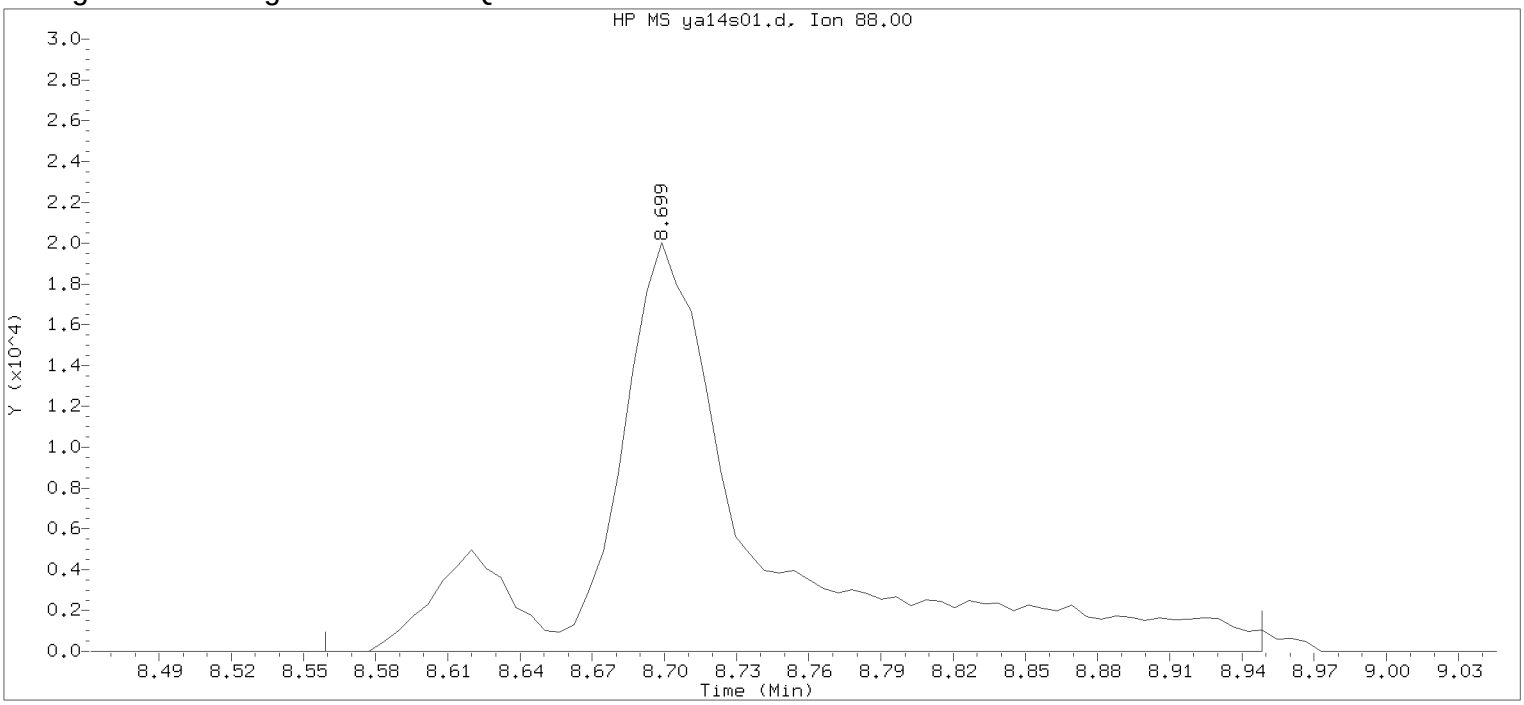
Analyst responsible for change: Digitally signed by Linda C. Pape on 04/14/2018 at 10:07. Target 3.5 esignature user ID: lcp00895

Secondary review performed and digitally signed by Joshua E. Berrios on 04/17/2018 at 21:47.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18apr14a.b/ya14s01.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 09:40 Analyst ID: LCP00895

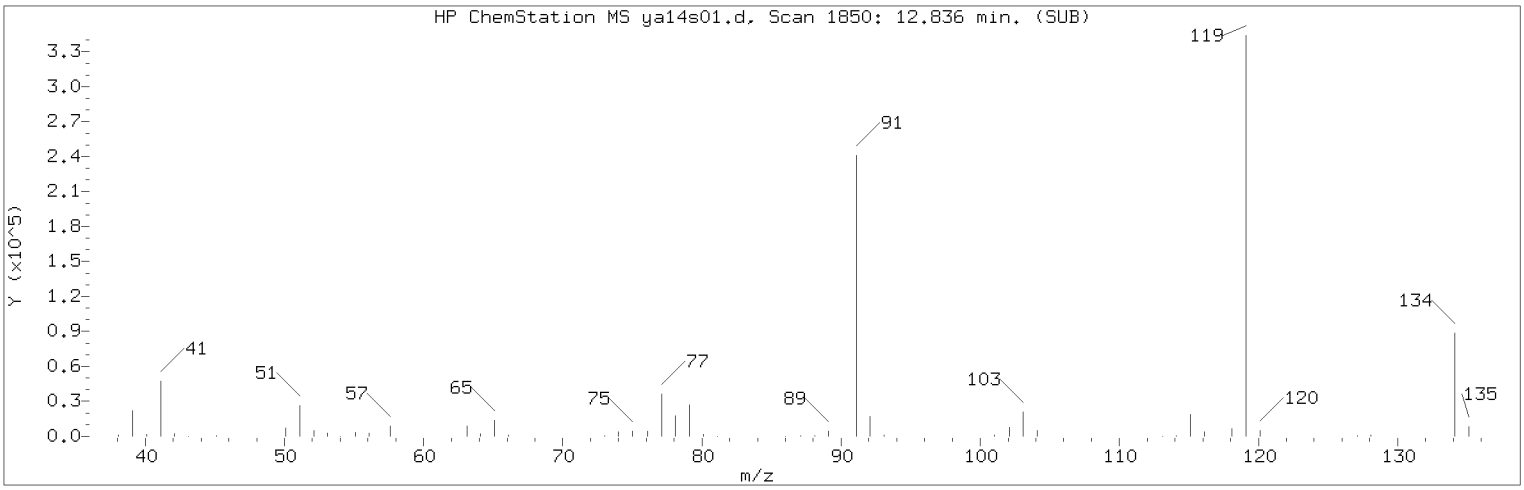
Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 8260W-DH
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 14-Apr-2018 09:55 Automation

Sample Name: LCSY80 Lab Sample ID: LCSY80

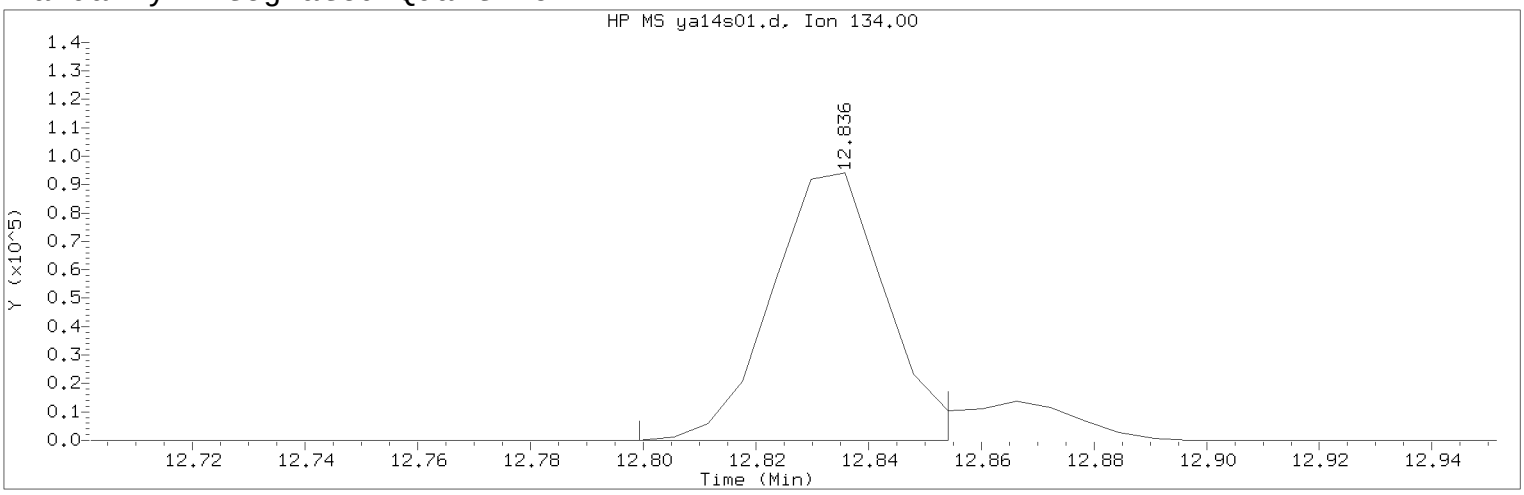
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 1170
Retention Time (minutes): 8.699
Quant Ion : 88.00
Area : 89792
On-column Amount (ng) : 556.3501
Integration start scan : 1146 Integration stop scan: 1210
Y at integration start : 0 Y at integration end: 0

Digitally signed by Linda C. Pape on 04/14/2018 at 10:07.
Target 3.5 esignature user id: 00895

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18apr14a.b/ya14s01.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 09:40 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 8260W-DH
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 14-Apr-2018 10:06 lcp00895

Sample Name: LCSY80 Lab Sample ID: LCSY80

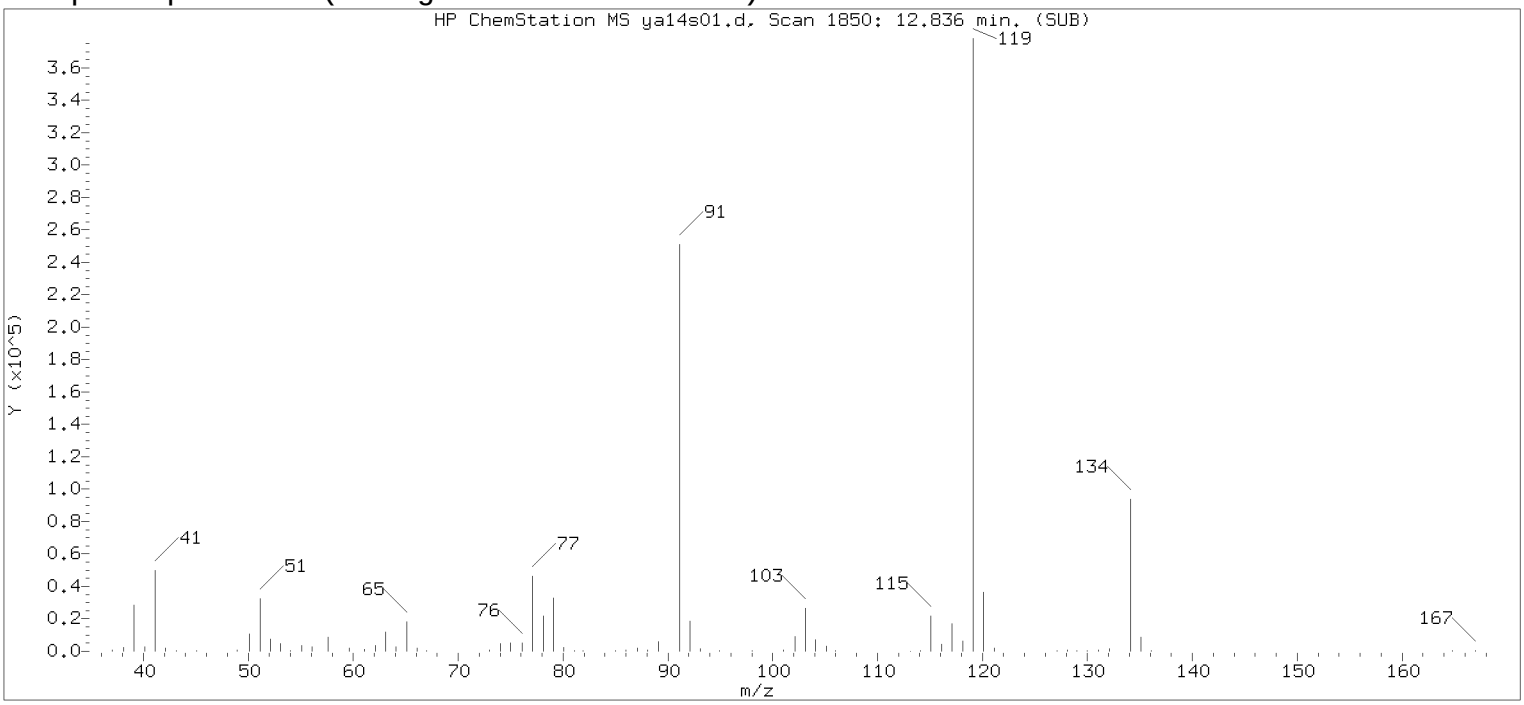
Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 1850
Retention Time (minutes): 12.836
Quant Ion : 134.00
Area (flag) : 132087M
On-Column Amount (ng) : 16.3583
Integration start scan : 1843 Integration stop scan: 1852
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

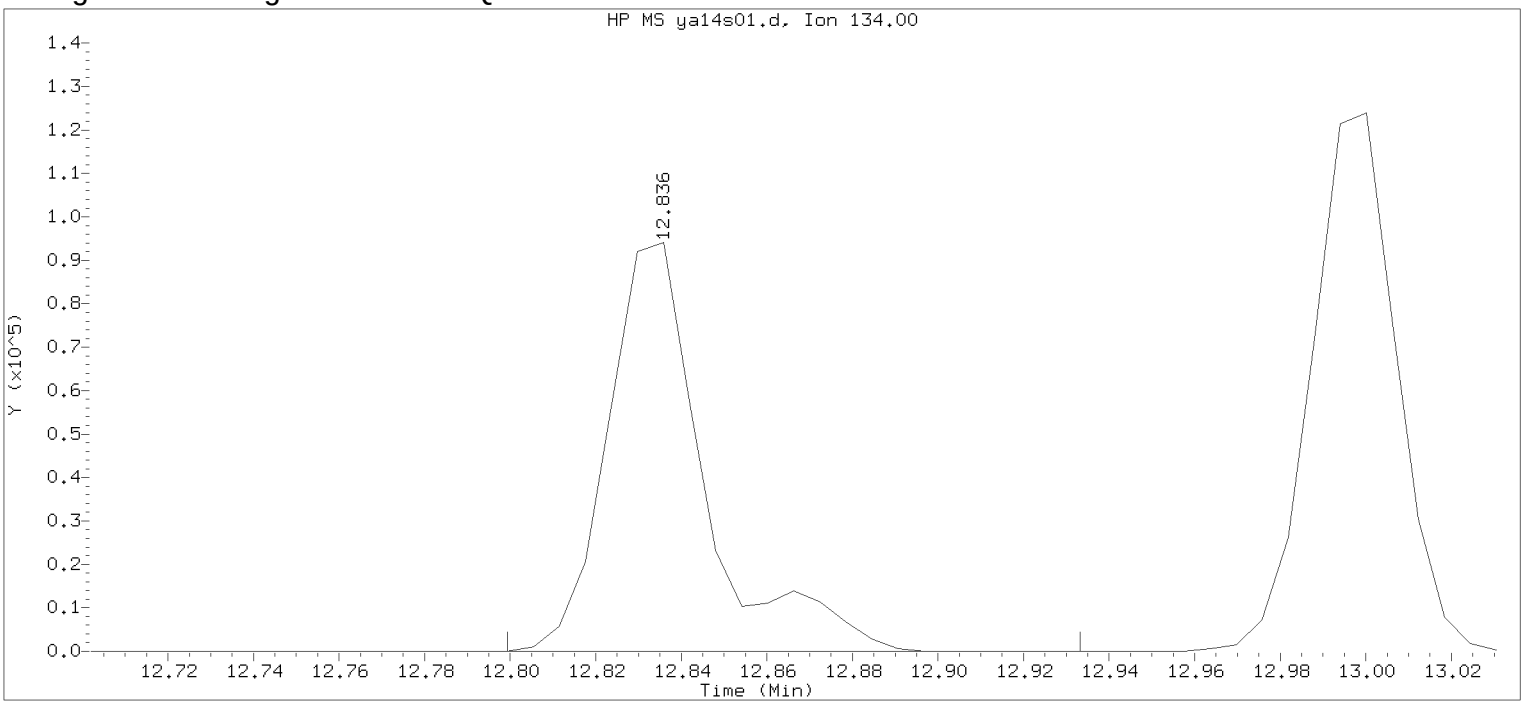
Analyst responsible for change: Digitally signed by Linda C. Pape on 04/14/2018 at 10:07.
Target 3.5 esignature user ID: lcp00895

Secondary review performed and digitally signed by Joshua E. Berrios on 04/17/2018 at 21:47.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18apr14a.b/ya14s01.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 09:40 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 8260W-DH
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 14-Apr-2018 09:55 Automation

Sample Name: LCSY80 Lab Sample ID: LCSY80

Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 1850
Retention Time (minutes): 12.836
Quant Ion : 134.00
Area : 149058
On-column Amount (ng) : 18.4599
Integration start scan : 1843 Integration stop scan: 1865
Y at integration start : 0 Y at integration end: 0

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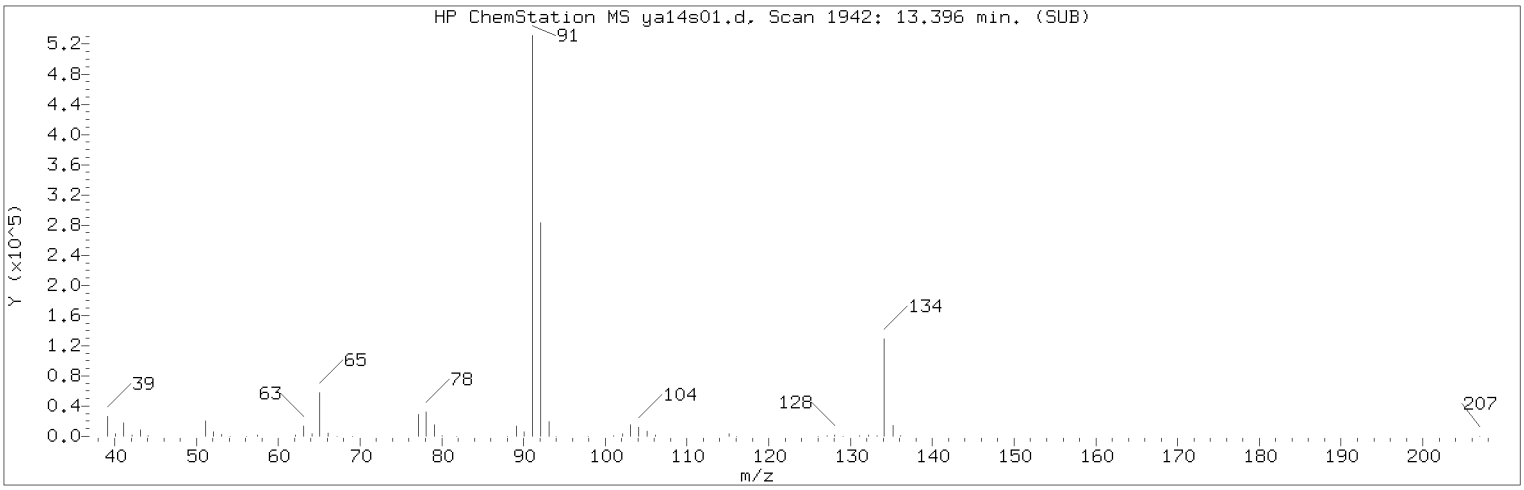
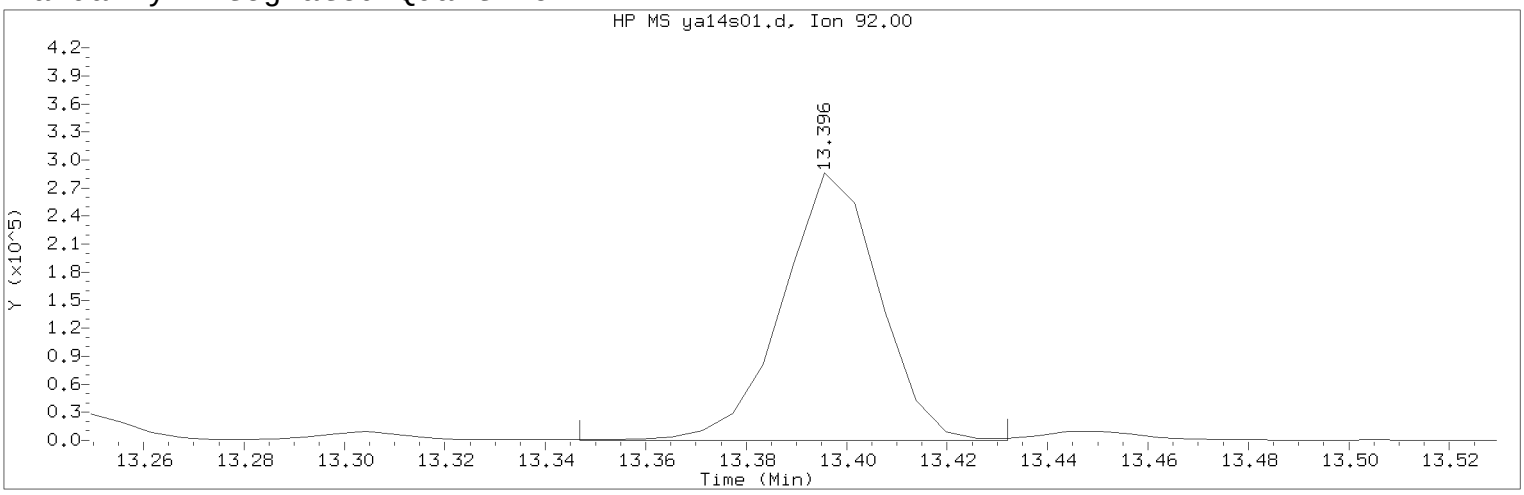
Target 3.5 esignature user ID: 1081 Page 835 of 1243

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09355.i/18apr14a.b/ya14s01.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 09:40 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 8260W-DH
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 14-Apr-2018 10:06 lcp00895

Sample Name: LCSY80 Lab Sample ID: LCSY80

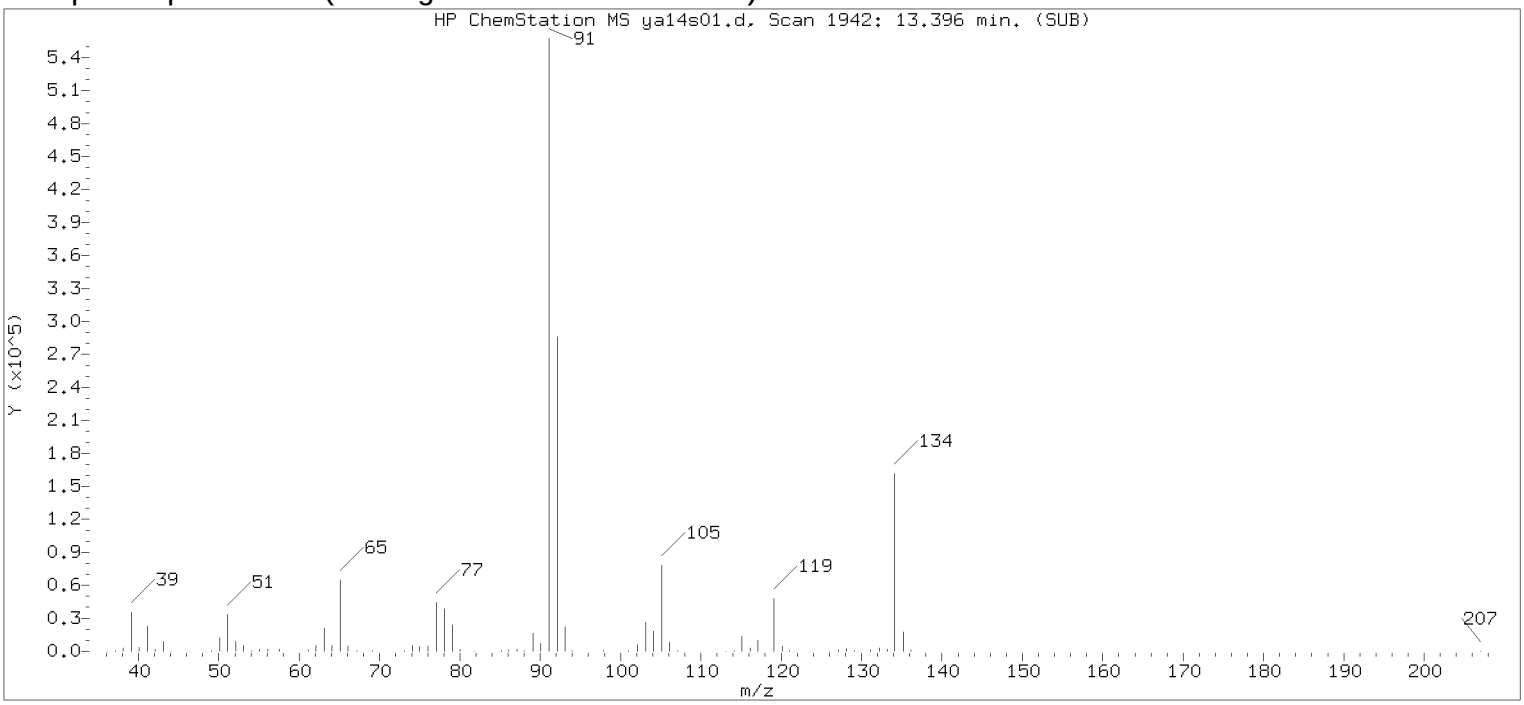
Compound Number : 139
Compound Name : n-Butylbenzene
Scan Number : 1942
Retention Time (minutes): 13.396
Quant Ion : 92.00
Area (flag) : 382985M
On-Column Amount (ng) : 17.7760
Integration start scan : 1933 Integration stop scan: 1947
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

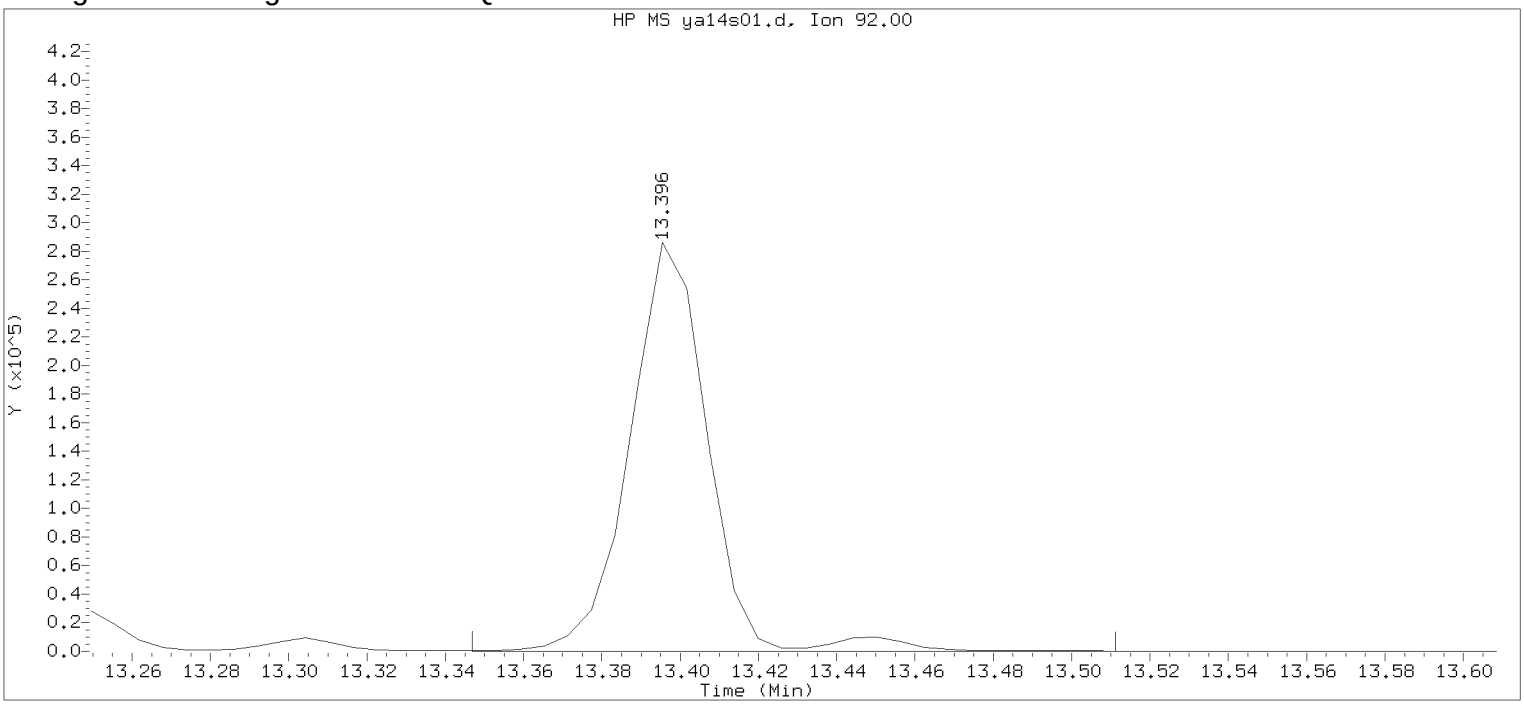
Analyst responsible for change: Digitally signed by Linda C. Pape on 04/14/2018 at 10:07. Target 3.5 esignature user ID: lcp00895

Secondary review performed and digitally signed by Joshua E. Berrios on 04/17/2018 at 21:47.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09355.i/18apr14a.b/ya14s01.d Instrument ID: HP09355.i
Injection date and time: 14-APR-2018 09:40 Analyst ID: LCP00895

Method used: /chem2/HP09355.i/18apr14a.b/m8260b5.m Sublist used: 8260W-DH
Calibration date and time: 14-APR-2018 09:38
Date, time and analyst ID of latest file update: 14-Apr-2018 09:55 Automation

Sample Name: LCSY80 Lab Sample ID: LCSY80

Compound Number : 139
Compound Name : n-Butylbenzene
Scan Number : 1942
Retention Time (minutes): 13.396
Quant Ion : 92.00
Area : 396335
On-column Amount (ng) : 18.3957
Integration start scan : 1933 Integration stop scan: 1960
Y at integration start : 0 Y at integration end: 0

Digitally signed by Linda C. Pape on 04/14/2018 at 10:07.
Target 3.5 esignature user ID: 1081 Page 835 of 1243

Semivolatiles by GC/MS Data

Case Narrative/Conformance Summary

Semivolatiles by GC/MS

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Case Narrative/Conformance Summary

CLIENT: Stantec
SDG: ATH81

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
9548789	NY-MW-55	X		1	Unspiked
9548790	NY-MW-55MS	X		1	Matrix Spike
9548791	NY-MW-55MSD	X		1	Matrix Spike Duplicate
9548797	NY-MW-55DUP	X		1	Field Duplicate Sample
9548799	EB-20180406	X		1	Equipment Blank

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

MS/MSD

Batch#: 18101WAR026 (Sample number(s): 9548789-9548791, 9548797, UNSPK: 9548789)
The recovery(ies) for the following analyte(s) in the MS were below the acceptance window: 2,4,6-Trichlorophenol

The recovery(ies) for the following analyte(s) in the MS and MSD were below the acceptance window: 2,4-Dichlorophenol, 2-Chlorophenol, 2-Methylphenol, 4-Chloro-3-methylphenol, 4-Methylphenol

Surrogate

Surrogate recoveries that are noncompliant are confirmed unless attributed to a dilution or otherwise noted.

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Case Narrative/Conformance Summary

CLIENT: Stantec
SDG: ATH81

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

Batch#: 18101WAR026 (Sample number(s): 9548789-9548791, 9548797, UNSPK: 9548789)
The recovery(ies) for the following surrogate(s) were below the acceptance window: 2,4,6-Tribromophenol (101WRLCS, 9548789 UNSPK, 9548790, 9548791, 9548797), 2-Fluorobiphenyl (101WRLCS, 9548789 UNSPK, 9548790, 9548791, 9548797), 2-Fluorophenol (101WRLCS, 9548789 UNSPK, 9548790, 9548791, 9548797), Nitrobenzene-d5 (101WRLCS, 9548789 UNSPK, 9548790, 9548791, 9548797), Phenol-d6 (101WRLCS, 9548789 UNSPK, 9548790, 9548791, 9548797), Terphenyl-d14 (101WRLCS, 9548789 UNSPK, 9548790, 9548791, 9548797)

Batch#: 18106WAE026 (Sample number(s): 9548799)
The recovery(ies) for the following surrogate(s) were below the acceptance window: 2-Fluorophenol (9548789RE), Phenol-d6 (9548789RE, 9548797RE)

(Sample number(s): 9548789, 9548797: Analysis: 14240)
Due to laboratory error surrogates were not spiked in the Laboratory Control Spike, the background unspiked sample, the matrix spike, the matrix spike duplicate, and the sample. The following action was taken:
The sample was re-extracted outside the method required holding time and the recovery for the sample surrogate(s) is outside the QC acceptance limits. The client was contacted, and the data reported.

(Sample number(s): 9548790-9548791: Analysis: 14240)
Due to laboratory error surrogates were not spiked in the Laboratory Control Spike, the background unspiked sample, the matrix spike, and the matrix spike duplicate. Sufficient volume was not available to re-extract. The client was contacted, and the data reported.

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
+MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E= out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

Quality Control and Calibration Summary Forms

Semivolatiles by GC/MS

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Quality Control Reference List
GC/MS Semivolatiles

CLIENT: Stantec
SDG: ATH81

Fraction: Semivolatiles by GC/MS

Analysis	Batch Number	Sample Number	Analysis Date
TCL SW846 8270C MINI	18101WAR026	SBLKWR101	04/15/2018 17:02:00
		101WRLCS	04/15/2018 17:32:00
		9548789 UNSPK	04/15/2018 18:02:00
		9548790 MS	04/15/2018 18:33:00
		9548791 MSD	04/15/2018 19:03:00
		9548797	04/15/2018 19:33:00
TCL SW846 8270C MINI	18106WAE026	SBLKWE106	04/17/2018 08:49:00
		106WELCS	04/17/2018 09:17:00
		106WELCSD	04/17/2018 09:44:00
		9548789RE	04/17/2018 10:11:00
		9548797RE	04/17/2018 10:38:00
		9548799	04/17/2018 11:05:00

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Quality Control Summary
Method Blank
GC/MS Semivolatiles
SDG: ATH81
Matrix: LIQUID

Fraction: Semivolatiles by GC/MS

18101WAR026 / SBLKWR101 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Phenol	04/15/18	N.D.	ug/l	0.5	1
bis(2-Chloroethyl)ether	04/15/18	N.D.	ug/l	0.5	1
2-Chlorophenol	04/15/18	N.D.	ug/l	0.5	1
1,3-Dichlorobenzene	04/15/18	N.D.	ug/l	0.5	1
1,4-Dichlorobenzene	04/15/18	N.D.	ug/l	0.5	1
1,2-Dichlorobenzene	04/15/18	N.D.	ug/l	0.5	1
2-Methylphenol	04/15/18	N.D.	ug/l	0.5	1
2,2'-oxybis(1-Chloropropane)	04/15/18	N.D.	ug/l	0.5	1
4-Methylphenol	04/15/18	N.D.	ug/l	0.5	1
N-Nitroso-di-n-propylamine	04/15/18	N.D.	ug/l	0.5	1
Hexachloroethane	04/15/18	N.D.	ug/l	1	5
Nitrobenzene	04/15/18	N.D.	ug/l	0.5	1
Isophorone	04/15/18	N.D.	ug/l	0.5	1
2-Nitrophenol	04/15/18	N.D.	ug/l	0.5	1
2,4-Dichlorophenol	04/15/18	N.D.	ug/l	0.5	1
2,4-Dimethylphenol	04/15/18	N.D.	ug/l	0.5	1
bis(2-Chloroethoxy)methane	04/15/18	N.D.	ug/l	0.5	1
1,2,4-Trichlorobenzene	04/15/18	N.D.	ug/l	0.5	1
Naphthalene	04/15/18	N.D.	ug/l	0.1	0.5
4-Chloroaniline	04/15/18	N.D.	ug/l	2	4
Hexachlorobutadiene	04/15/18	N.D.	ug/l	0.5	1
4-Chloro-3-methylphenol	04/15/18	N.D.	ug/l	0.5	1
2-Methylnaphthalene	04/15/18	N.D.	ug/l	0.1	0.5
Hexachlorocyclopentadiene	04/15/18	N.D.	ug/l	5	15
2,4,6-Trichlorophenol	04/15/18	N.D.	ug/l	0.5	1
2,4,5-Trichlorophenol	04/15/18	N.D.	ug/l	0.5	1
2-Chloronaphthalene	04/15/18	N.D.	ug/l	0.4	1
2-Nitroaniline	04/15/18	N.D.	ug/l	0.5	1
Dimethylphthalate	04/15/18	N.D.	ug/l	2	5
2,6-Dinitrotoluene	04/15/18	N.D.	ug/l	0.5	1
Acenaphthylene	04/15/18	N.D.	ug/l	0.1	0.5
4-Nitroaniline	04/15/18	N.D.	ug/l	0.5	1
3-Nitroaniline	04/15/18	N.D.	ug/l	0.5	1
Acenaphthene	04/15/18	N.D.	ug/l	0.1	0.5
2,4-Dinitrophenol	04/15/18	N.D.	ug/l	10	30
4-Nitrophenol	04/15/18	N.D.	ug/l	10	30
2,4-Dinitrotoluene	04/15/18	N.D.	ug/l	1	5
Dibenzofuran	04/15/18	N.D.	ug/l	0.5	1
Diethylphthalate	04/15/18	N.D.	ug/l	2	5
Fluorene	04/15/18	N.D.	ug/l	0.1	0.5
4-Chlorophenyl-phenylether	04/15/18	N.D.	ug/l	0.5	1
4,6-Dinitro-2-methylphenol	04/15/18	N.D.	ug/l	5	15
N-Nitrosodiphenylamine	04/15/18	N.D.	ug/l	0.5	1
4-Bromophenyl-phenylether	04/15/18	N.D.	ug/l	0.5	1
Hexachlorobenzene	04/15/18	N.D.	ug/l	0.1	0.5

Quality Control Summary
Method Blank
GC/MS Semivolatiles
SDG: ATH81
Matrix: LIQUID

Fraction: Semivolatiles by GC/MS

18101WAR026 / SBLKWR101 **Analyte**	**Analysis Date**	**Blank Results**	**Units**	**MDL**	**LOQ**
Pentachlorophenol	04/15/18	N.D.	ug/l	1	5
Phenanthrene	04/15/18	N.D.	ug/l	0.1	0.5
Anthracene	04/15/18	N.D.	ug/l	0.1	0.5
Carbazole	04/15/18	N.D.	ug/l	0.5	1
Di-n-butylphthalate	04/15/18	N.D.	ug/l	2	5
Fluoranthene	04/15/18	N.D.	ug/l	0.1	0.5
Pyrene	04/15/18	N.D.	ug/l	0.1	0.5
Butylbenzylphthalate	04/15/18	N.D.	ug/l	2	5
3,3'-Dichlorobenzidine	04/15/18	N.D.	ug/l	2	5
Benzo(a)anthracene	04/15/18	N.D.	ug/l	0.1	0.5
Chrysene	04/15/18	N.D.	ug/l	0.1	0.5
bis(2-Ethylhexyl)phthalate	04/15/18	N.D.	ug/l	2	5
Di-n-octylphthalate	04/15/18	N.D.	ug/l	2	5
Benzo(b)fluoranthene	04/15/18	N.D.	ug/l	0.1	0.5
Benzo(k)fluoranthene	04/15/18	N.D.	ug/l	0.1	0.5
Benzo(a)pyrene	04/15/18	N.D.	ug/l	0.1	0.5
Indeno(1,2,3-cd)pyrene	04/15/18	N.D.	ug/l	0.1	0.5
Dibenz(a,h)anthracene	04/15/18	N.D.	ug/l	0.1	0.5
Benzo(g,h,i)perylene	04/15/18	N.D.	ug/l	0.1	0.5

18106WAE026 / SBLKWE106 **Analyte**	**Analysis Date**	**Blank Results**	**Units**	**MDL**	**LOQ**
Phenol	04/17/18	N.D.	ug/l	0.5	1
bis(2-Chloroethyl)ether	04/17/18	N.D.	ug/l	0.5	1
2-Chlorophenol	04/17/18	N.D.	ug/l	0.5	1
1,3-Dichlorobenzene	04/17/18	N.D.	ug/l	0.5	1
1,4-Dichlorobenzene	04/17/18	N.D.	ug/l	0.5	1
1,2-Dichlorobenzene	04/17/18	N.D.	ug/l	0.5	1
2-Methylphenol	04/17/18	N.D.	ug/l	0.5	1
2,2'-oxybis(1-Chloropropane)	04/17/18	N.D.	ug/l	0.5	1
4-Methylphenol	04/17/18	N.D.	ug/l	0.5	1
N-Nitroso-di-n-propylamine	04/17/18	N.D.	ug/l	0.5	1
Hexachloroethane	04/17/18	N.D.	ug/l	1	5
Nitrobenzene	04/17/18	N.D.	ug/l	0.5	1
Isophorone	04/17/18	N.D.	ug/l	0.5	1
2-Nitrophenol	04/17/18	N.D.	ug/l	0.5	1
2,4-Dichlorophenol	04/17/18	N.D.	ug/l	0.5	1
2,4-Dimethylphenol	04/17/18	N.D.	ug/l	0.5	1
bis(2-Chloroethoxy)methane	04/17/18	N.D.	ug/l	0.5	1
1,2,4-Trichlorobenzene	04/17/18	N.D.	ug/l	0.5	1
Naphthalene	04/17/18	N.D.	ug/l	0.1	0.5
4-Chloroaniline	04/17/18	N.D.	ug/l	2	4
Hexachlorobutadiene	04/17/18	N.D.	ug/l	0.5	1
4-Chloro-3-methylphenol	04/17/18	N.D.	ug/l	0.5	1
2-Methylnaphthalene	04/17/18	N.D.	ug/l	0.1	0.5

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Quality Control Summary
Method Blank
GC/MS Semivolatiles
SDG: ATH81
Matrix: LIQUID

Fraction: Semivolatiles by GC/MS

18106WAE026 / SBLKWE106 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Hexachlorocyclopentadiene	04/17/18	N.D.	ug/l	5	15
2,4,6-Trichlorophenol	04/17/18	N.D.	ug/l	0.5	1
2,4,5-Trichlorophenol	04/17/18	N.D.	ug/l	0.5	1
2-Chloronaphthalene	04/17/18	N.D.	ug/l	0.4	1
2-Nitroaniline	04/17/18	N.D.	ug/l	0.5	1
Dimethylphthalate	04/17/18	N.D.	ug/l	2	5
2,6-Dinitrotoluene	04/17/18	N.D.	ug/l	0.5	1
Acenaphthylene	04/17/18	N.D.	ug/l	0.1	0.5
4-Nitroaniline	04/17/18	N.D.	ug/l	0.5	1
3-Nitroaniline	04/17/18	N.D.	ug/l	0.5	1
Acenaphthene	04/17/18	N.D.	ug/l	0.1	0.5
2,4-Dinitrophenol	04/17/18	N.D.	ug/l	10	30
4-Nitrophenol	04/17/18	N.D.	ug/l	10	30
2,4-Dinitrotoluene	04/17/18	N.D.	ug/l	1	5
Dibenzofuran	04/17/18	N.D.	ug/l	0.5	1
Diethylphthalate	04/17/18	N.D.	ug/l	2	5
Fluorene	04/17/18	N.D.	ug/l	0.1	0.5
4-Chlorophenyl-phenylether	04/17/18	N.D.	ug/l	0.5	1
4,6-Dinitro-2-methylphenol	04/17/18	N.D.	ug/l	5	15
N-Nitrosodiphenylamine	04/17/18	N.D.	ug/l	0.5	1
4-Bromophenyl-phenylether	04/17/18	N.D.	ug/l	0.5	1
Hexachlorobenzene	04/17/18	N.D.	ug/l	0.1	0.5
Pentachlorophenol	04/17/18	N.D.	ug/l	1	5
Phenanthrene	04/17/18	N.D.	ug/l	0.1	0.5
Anthracene	04/17/18	N.D.	ug/l	0.1	0.5
Carbazole	04/17/18	N.D.	ug/l	0.5	1
Di-n-butylphthalate	04/17/18	N.D.	ug/l	2	5
Fluoranthene	04/17/18	N.D.	ug/l	0.1	0.5
Pyrene	04/17/18	N.D.	ug/l	0.1	0.5
Butylbenzylphthalate	04/17/18	N.D.	ug/l	2	5
3,3'-Dichlorobenzidine	04/17/18	N.D.	ug/l	2	5
Benzo(a)anthracene	04/17/18	N.D.	ug/l	0.1	0.5
Chrysene	04/17/18	N.D.	ug/l	0.1	0.5
bis(2-Ethylhexyl)phthalate	04/17/18	N.D.	ug/l	2	5
Di-n-octylphthalate	04/17/18	N.D.	ug/l	2	5
Benzo(b)fluoranthene	04/17/18	N.D.	ug/l	0.1	0.5
Benzo(k)fluoranthene	04/17/18	N.D.	ug/l	0.1	0.5
Benzo(a)pyrene	04/17/18	N.D.	ug/l	0.1	0.5
Indeno(1,2,3-cd)pyrene	04/17/18	N.D.	ug/l	0.1	0.5
Dibenz(a,h)anthracene	04/17/18	N.D.	ug/l	0.1	0.5
Benzo(g,h,i)perylene	04/17/18	N.D.	ug/l	0.1	0.5

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Quality Control Summary
Surrogates
GC/MS Semivolatiles
SDG: ATH81
Matrix: LIQUID

Fraction: Semivolatiles by GC/MS

18101WAR026	2,4,6-Tribromophenol		2-Fluorobiphenyl		2-Fluorophenol		Nitrobenzene-d5		Phenol-d6		Terphenyl-d14	
	Spike Added	200 ug/l	Spike Added	100 ug/l	Spike Added	200 ug/l	Spike Added	100 ug/l	Spike Added	200 ug/l	Spike Added	100 ug/l
Sample	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
SBLKWR101	83	21 - 134	80	39 - 105	50	10 - 82	78	30 - 111	39	10 - 71	94	27 - 116
101WRLCS	0 *	21 - 134	0 *	39 - 105	0 *	10 - 82	0 *	30 - 111	0 *	10 - 71	0 *	27 - 116
9548789 UNSPK	0 *	21 - 134	0 *	39 - 105	0 *	10 - 82	0 *	30 - 111	0 *	10 - 71	0 *	27 - 116
9548790 MS	0 *	21 - 134	0 *	39 - 105	0 *	10 - 82	0 *	30 - 111	0 *	10 - 71	0 *	27 - 116
9548791 MSD	0 *	21 - 134	0 *	39 - 105	0 *	10 - 82	0 *	30 - 111	0 *	10 - 71	0 *	27 - 116
9548797	0 *	21 - 134	0 *	39 - 105	0 *	10 - 82	0 *	30 - 111	0 *	10 - 71	0 *	27 - 116

18106WAE026	2,4,6-Tribromophenol		2-Fluorobiphenyl		2-Fluorophenol		Nitrobenzene-d5		Phenol-d6		Terphenyl-d14	
	Spike Added	200 ug/l	Spike Added	100 ug/l	Spike Added	200 ug/l	Spike Added	100 ug/l	Spike Added	200 ug/l	Spike Added	100 ug/l
Sample	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
SBLKWE106	94	21 - 134	73	39 - 105	46	10 - 82	79	30 - 111	34	10 - 71	95	27 - 116
106WELCS	95	21 - 134	78	39 - 105	57	10 - 82	82	30 - 111	43	10 - 71	92	27 - 116
106WELCSD	94	21 - 134	74	39 - 105	53	10 - 82	76	30 - 111	39	10 - 71	88	27 - 116
9548789RE	64	21 - 134	84	39 - 105	9 *	10 - 82	80	30 - 111	7 *	10 - 71	73	27 - 116
9548797RE	63	21 - 134	72	39 - 105	10	10 - 82	70	30 - 111	7 *	10 - 71	68	27 - 116
9548799	91	21 - 134	77	39 - 105	44	10 - 82	78	30 - 111	31	10 - 71	86	27 - 116

Surrogate recoveries that are noncompliant are confirmed unless attributed to a dilution or otherwise noted.

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Quality Control Summary
Matrix Spike/Matrix Spike Duplicate

SDG: ATH81
Matrix: LIQUID

GC/MS Semivolatiles
Fraction: Semivolatiles by GC/MS

UNSPK: 9548789 MS: 9548790 MSD: 9548791 **Analyte**	Batch: **18101WAR026** (Sample number(s): 9548789-9548791, 9548797)								
	Spike Added ug/l MS/MSD	**Unspiked Conc ug/l**	**MS Conc ug/l**	**MSD Conc ug/l**	**MS %Rec**	**MSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Phenol	50.2 / 50.61	N.D.	7.62	6.42	15	13	10-92	17	30
bis(2-Chloroethyl)ether	50.2 / 50.61	N.D.	43.42	43.2	86	85	48-119	1	30
2-Chlorophenol	50.2 / 50.61	N.D.	19.64	17.6	39 *	35 *	47-116	11	30
1,3-Dichlorobenzene	50.2 / 50.61	N.D.	39.11	34.38	78	68	24-115	13	30
1,4-Dichlorobenzene	50.2 / 50.61	N.D.	37.43	34.13	75	67	30-109	9	30
1,2-Dichlorobenzene	50.2 / 50.61	N.D.	40.06	36.99	80	73	31-116	8	30
2-Methylphenol	50.2 / 50.61	N.D.	16.41	16.99	33 *	34 *	46-113	3	30
2,2'-oxybis(1-Chloropropane)	50.2 / 50.61	N.D.	42.66	42.96	85	85	40-117	1	30
4-Methylphenol	50.2 / 50.61	N.D.	13.26	13.26	26 *	26 *	42-115	0	30
N-Nitroso-di-n-propylamine	50.2 / 50.61	N.D.	47.17	47.24	94	93	48-128	0	30
Hexachloroethane	50.2 / 50.61	N.D.	36.83	31.48	73	62	19-105	16	30
Nitrobenzene	50.2 / 50.61	N.D.	42.2	42.85	84	85	43-128	2	30
Isophorone	50.2 / 50.61	N.D.	48.49	50.08	97	99	49-129	3	30
2-Nitrophenol	50.2 / 50.61	N.D.	43.28	43.68	86	86	58-125	1	30
2,4-Dichlorophenol	50.2 / 50.61	N.D.	20.33	20.12	40 *	40 *	53-126	1	30
2,4-Dimethylphenol	50.2 / 50.61	N.D.	28.01	30.32	56	60	41-103	8	30
bis(2-Chloroethoxy)methane	50.2 / 50.61	N.D.	45.13	46.14	90	91	54-127	2	30
1,2,4-Trichlorobenzene	50.2 / 50.61	N.D.	40.98	37.68	82	74	29-120	8	30
Naphthalene	50.2 / 50.61	N.D.	42.56	41.96	85	83	44-114	1	30
4-Chloroaniline	50.2 / 50.61	N.D.	32.9	33.78	66	67	33-106	3	30
Hexachlorobutadiene	50.2 / 50.61	N.D.	37.22	31.88	74	63	16-119	15	30
4-Chloro-3-methylphenol	50.2 / 50.61	N.D.	18.79	20.38	37 *	40 *	50-130	8	30
2-Methylnaphthalene	50.2 / 50.61	N.D.	42.22	42.27	84	84	42-120	0	30
Hexachlorocyclopentadiene	100.4 / 101.21	N.D.	87.39	79.4	87	78	10-104	10	30
2,4,6-Trichlorophenol	50.2 / 50.61	N.D.	28.85	31.31	57 *	62	61-130	8	30
2,4,5-Trichlorophenol	50.2 / 50.61	N.D.	33.98	36.22	68	72	59-129	6	30
2-Chloronaphthalene	50.2 / 50.61	N.D.	41.45	43.5	83	86	41-123	5	30
2-Nitroaniline	50.2 / 50.61	N.D.	47.92	49.26	95	97	54-133	3	30
Dimethylphthalate	50.2 / 50.61	N.D.	40.69	42.72	81	84	19-119	5	30
2,6-Dinitrotoluene	50.2 / 50.61	N.D.	44.52	46.05	89	91	57-131	3	30
Acenaphthylene	50.2 / 50.61	N.D.	49.17	49.24	98	97	67-111	0	30
4-Nitroaniline	50.2 / 50.61	N.D.	38.9	40.7	77	80	46-114	5	30
3-Nitroaniline	50.2 / 50.61	N.D.	39.24	39.13	78	77	41-123	0	30
Acenaphthene	50.2 / 50.61	N.D.	47.	47.92	94	95	49-123	2	30
2,4-Dinitrophenol	100.4 / 101.21	N.D.	63.5	77.22	63	76	19-140	19	30

Comments:
(2) The unspiked sample result is greater than four times the spike added.
* = Out of Specification

Results are being reported on an as received basis.

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Quality Control Summary
Matrix Spike/Matrix Spike Duplicate

SDG: ATH81
Matrix: LIQUID

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

UNSPK: 9548789 MS: 9548790 MSD: 9548791 **Analyte**	Batch: **18101WAR026** (Sample number(s): 9548789-9548791, 9548797)								
	Spike Added ug/l MS/MSD	**Unspiked Conc ug/l**	**MS Conc ug/l**	**MSD Conc ug/l**	**MS %Rec**	**MSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
4-Nitrophenol	50.2 / 50.61	N.D.	31.52	32.05	63	63	10-96	2	30
2,4-Dinitrotoluene	50.2 / 50.61	N.D.	44.21	46.47	88	92	56-128	5	30
Dibenzofuran	50.2 / 50.61	N.D.	45.32	46.33	90	92	50-124	2	30
Diethylphthalate	50.2 / 50.61	N.D.	43.31	43.22	86	85	42-124	0	30
Fluorene	50.2 / 50.61	N.D.	44.51	46.25	89	91	48-124	4	30
4-Chlorophenyl-phenylether	50.2 / 50.61	N.D.	40.63	42.75	81	84	45-124	5	30
4,6-Dinitro-2-methylphenol	50.2 / 50.61	N.D.	43.35	47.1	86	93	50-132	8	30
N-Nitrosodiphenylamine	50.2 / 50.61	N.D.	46.7	48.13	93	95	55-128	3	30
4-Bromophenyl-phenylether	50.2 / 50.61	N.D.	43.57	45.93	87	91	53-127	5	30
Hexachlorobenzene	50.2 / 50.61	N.D.	45.22	46.06	90	91	57-123	2	30
Pentachlorophenol	50.2 / 50.61	N.D.	33.92	38.5	68	76	50-127	13	30
Phenanthrene	50.2 / 50.61	N.D.	45.41	48.2	90	95	54-122	6	30
Anthracene	50.2 / 50.61	N.D.	46.16	46.77	92	92	55-126	1	30
Carbazole	50.2 / 50.61	N.D.	49.76	50.49	99	100	65-123	1	30
Di-n-butylphthalate	50.2 / 50.61	N.D.	44.92	45.46	89	90	58-119	1	30
Fluoranthene	50.2 / 50.61	N.D.	44.08	46.35	88	92	61-123	5	30
Pyrene	50.2 / 50.61	N.D.	44.94	46.89	90	93	54-123	4	30
Butylbenzylphthalate	50.2 / 50.61	N.D.	43.18	47.97	86	95	40-131	11	30
3,3'-Dichlorobenzidine	50.2 / 50.61	N.D.	23.05	25.98	46	51	32-106	12	30
Benzo(a)anthracene	50.2 / 50.61	N.D.	42.37	46.34	84	92	63-124	9	30
Chrysene	50.2 / 50.61	N.D.	43.25	46.8	86	92	65-124	8	30
bis(2-Ethylhexyl)phthalate	50.2 / 50.61	N.D.	40.4	43.37	80	86	52-132	7	30
Di-n-octylphthalate	50.2 / 50.61	N.D.	41.79	44.79	83	89	51-134	7	30
Benzo(b)fluoranthene	50.2 / 50.61	N.D.	42.77	45.65	85	90	58-127	7	30
Benzo(k)fluoranthene	50.2 / 50.61	N.D.	42.71	46.29	85	91	63-123	8	30
Benzo(a)pyrene	50.2 / 50.61	N.D.	44.11	46.65	88	92	50-128	6	30
Indeno(1,2,3-cd)pyrene	50.2 / 50.61	N.D.	42.14	46.52	84	92	52-127	10	30
Dibenz(a,h)anthracene	50.2 / 50.61	N.D.	45.55	47.86	91	95	53-132	5	30
Benzo(g,h,i)perylene	50.2 / 50.61	N.D.	42.82	46.13	85	91	51-124	7	30

Comments:
(2) The unspiked sample result is greater than four times the spike added.
* = Out of Specification

Results are being reported on an as received basis.

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Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate(LCSD)

SDG: ATH81
Matrix: LIQUID

GC/MS Semivolatiles
Fraction: Semivolatiles by GC/MS

LCS: 101WRLCS	Batch: **18101WAR026** (Sample number(s): 9548789-9548791, 9548797)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Phenol	50	24.74	NA	49	NA	10-92	NA	NA
bis(2-Chloroethyl)ether	50	43.6	NA	87	NA	48-119	NA	NA
2-Chlorophenol	50	43.47	NA	87	NA	47-116	NA	NA
1,3-Dichlorobenzene	50	38.24	NA	76	NA	24-115	NA	NA
1,4-Dichlorobenzene	50	37.58	NA	75	NA	30-109	NA	NA
1,2-Dichlorobenzene	50	41.31	NA	83	NA	31-116	NA	NA
2-Methylphenol	50	42.65	NA	85	NA	46-113	NA	NA
2,2'-oxybis(1-Chloropropane)	50	43.42	NA	87	NA	40-117	NA	NA
4-Methylphenol	50	40.01	NA	80	NA	42-115	NA	NA
N-Nitroso-di-n-propylamine	50	45.55	NA	91	NA	48-128	NA	NA
Hexachloroethane	50	36.16	NA	72	NA	19-105	NA	NA
Nitrobenzene	50	44.86	NA	90	NA	43-128	NA	NA
Isophorone	50	49.7	NA	99	NA	49-129	NA	NA
2-Nitrophenol	50	46.69	NA	93	NA	58-125	NA	NA
2,4-Dichlorophenol	50	44.84	NA	90	NA	53-126	NA	NA
2,4-Dimethylphenol	50	39.15	NA	78	NA	41-103	NA	NA
bis(2-Chloroethoxy)methane	50	47.83	NA	96	NA	54-127	NA	NA
1,2,4-Trichlorobenzene	50	41.88	NA	84	NA	29-120	NA	NA
Naphthalene	50	45.06	NA	90	NA	44-114	NA	NA
4-Chloroaniline	50	35.4	NA	71	NA	33-106	NA	NA
Hexachlorobutadiene	50	39.25	NA	78	NA	16-119	NA	NA
4-Chloro-3-methylphenol	50	44.61	NA	89	NA	50-130	NA	NA
2-Methylnaphthalene	50	45.68	NA	91	NA	42-120	NA	NA
Hexachlorocyclopentadiene	100	82.29	NA	82	NA	10-104	NA	NA
2,4,6-Trichlorophenol	50	48.03	NA	96	NA	61-130	NA	NA
2,4,5-Trichlorophenol	50	53.32	NA	107	NA	59-129	NA	NA
2-Chloronaphthalene	50	42.31	NA	85	NA	41-123	NA	NA
2-Nitroaniline	50	49.17	NA	98	NA	54-133	NA	NA
Dimethylphthalate	50	42.06	NA	84	NA	19-119	NA	NA
2,6-Dinitrotoluene	50	45.97	NA	92	NA	57-131	NA	NA
Acenaphthylene	50	49.73	NA	99	NA	67-111	NA	NA
4-Nitroaniline	50	42.73	NA	85	NA	46-114	NA	NA
3-Nitroaniline	50	40.86	NA	82	NA	41-123	NA	NA
Acenaphthene	50	47.09	NA	94	NA	49-123	NA	NA
2,4-Dinitrophenol	100	97.9	NA	98	NA	19-140	NA	NA
4-Nitrophenol	50	33.29	NA	67	NA	10-96	NA	NA
2,4-Dinitrotoluene	50	48.53	NA	97	NA	56-128	NA	NA
Dibenzofuran	50	46.56	NA	93	NA	50-124	NA	NA
Diethylphthalate	50	46.1	NA	92	NA	42-124	NA	NA
Fluorene	50	46.57	NA	93	NA	48-124	NA	NA
4-Chlorophenyl-phenylether	50	44.41	NA	89	NA	45-124	NA	NA
4,6-Dinitro-2-methylphenol	50	51.17	NA	102	NA	50-132	NA	NA

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

LCS: 101WRLCS	Batch: **18101WAR026** (Sample number(s): 9548789-9548791, 9548797)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
N-Nitrosodiphenylamine	50	47.97	NA	96	NA	55-128	NA	NA
4-Bromophenyl-phenylether	50	45.21	NA	90	NA	53-127	NA	NA
Hexachlorobenzene	50	48.7	NA	97	NA	57-123	NA	NA
Pentachlorophenol	50	52.34	NA	105	NA	50-127	NA	NA
Phenanthrene	50	48.41	NA	97	NA	54-122	NA	NA
Anthracene	50	49.63	NA	99	NA	55-126	NA	NA
Carbazole	50	53.02	NA	106	NA	65-123	NA	NA
Di-n-butylphthalate	50	48.51	NA	97	NA	58-119	NA	NA
Fluoranthene	50	49.48	NA	99	NA	61-123	NA	NA
Pyrene	50	48.71	NA	97	NA	54-123	NA	NA
Butylbenzylphthalate	50	45.23	NA	90	NA	40-131	NA	NA
3,3'-Dichlorobenzidine	50	29.5	NA	59	NA	32-106	NA	NA
Benzo(a)anthracene	50	47.03	NA	94	NA	63-124	NA	NA
Chrysene	50	46.87	NA	94	NA	65-124	NA	NA
bis(2-Ethylhexyl)phthalate	50	45.51	NA	91	NA	52-132	NA	NA
Di-n-octylphthalate	50	49.14	NA	98	NA	51-134	NA	NA
Benzo(b)fluoranthene	50	48.35	NA	97	NA	58-127	NA	NA
Benzo(k)fluoranthene	50	50.2	NA	100	NA	63-123	NA	NA
Benzo(a)pyrene	50	51	NA	102	NA	50-128	NA	NA
Indeno(1,2,3-cd)pyrene	50	51	NA	102	NA	52-127	NA	NA
Dibenz(a,h)anthracene	50	51.04	NA	102	NA	53-132	NA	NA
Benzo(g,h,i)perylene	50	50.22	NA	100	NA	51-124	NA	NA

LCS: 106WELCS LCSD: 106WELCSD	Batch: **18106WAE026** (Sample number(s): 9548789, 9548797, 9548799)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Phenol	50	21.51	19.79	43	40	10-92	8	30
bis(2-Chloroethyl)ether	50	43.3	38.76	87	78	48-119	11	30
2-Chlorophenol	50	43.25	39.94	87	80	47-116	8	30
1,3-Dichlorobenzene	50	29	29.83	58	60	24-115	3	30
1,4-Dichlorobenzene	50	30.17	30.62	60	61	30-109	1	30
1,2-Dichlorobenzene	50	31.28	31.35	63	63	31-116	0	30
2-Methylphenol	50	42.47	38.66	85	77	46-113	9	30
2,2'-oxybis(1-Chloropropane)	50	41.15	37.29	82	75	40-117	10	30
4-Methylphenol	50	39.15	35.82	78	72	42-115	9	30
N-Nitroso-di-n-propylamine	50	43.98	39.95	88	80	48-128	10	30
Hexachloroethane	50	24.66	26.5	49	53	19-105	7	30
Nitrobenzene	50	43.74	39.81	87	80	43-128	9	30
Isophorone	50	47.65	43.72	95	87	49-129	9	30
2-Nitrophenol	50	48.34	45.88	97	92	58-125	5	30
2,4-Dichlorophenol	50	46.97	44.38	94	89	53-126	6	30

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Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate(LCSD)

SDG: ATH81
Matrix: LIQUID

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

LCS: 106WELCS LCSD: 106WELCSD **Analyte**	Batch: **18106WAE026** (Sample number(s): 9548789, 9548797, 9548799)							
	Spike Added ug/l	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
2,4-Dimethylphenol	50	42.11	38.59	84	77	41-103	9	30
bis(2-Chloroethoxy)methane	50	47.63	43.04	95	86	54-127	10	30
1,2,4-Trichlorobenzene	50	31.12	33.34	62	67	29-120	7	30
Naphthalene	50	36.63	36.11	73	72	44-114	1	30
4-Chloroaniline	50	37.41	36.25	75	72	33-106	3	30
Hexachlorobutadiene	50	26.26	31	53	62	16-119	17	30
4-Chloro-3-methylphenol	50	46.75	43.72	93	87	50-130	7	30
2-Methylnaphthalene	50	34.85	35.61	70	71	42-120	2	30
Hexachlorocyclopentadiene	100	32.51	41.06	33	41	10-104	23	30
2,4,6-Trichlorophenol	50	48.95	46.96	98	94	61-130	4	30
2,4,5-Trichlorophenol	50	50.47	48.3	101	97	59-129	4	30
2-Chloronaphthalene	50	34.15	36.02	68	72	41-123	5	30
2-Nitroaniline	50	52.46	48	105	96	54-133	9	30
Dimethylphthalate	50	32.02	28.07	64	56	19-119	13	30
2,6-Dinitrotoluene	50	49.16	47.1	98	94	57-131	4	30
Acenaphthylene	50	44.94	44.03	90	88	67-111	2	30
4-Nitroaniline	50	41.19	40.57	82	81	46-114	2	30
3-Nitroaniline	50	46.71	45.4	93	91	41-123	3	30
Acenaphthene	50	40.93	41.71	82	83	49-123	2	30
2,4-Dinitrophenol	100	115.45	110.38	115	110	19-140	4	30
4-Nitrophenol	50	26.86 J	24.98 J	54	50	10-96	7	30
2,4-Dinitrotoluene	50	51.29	47.55	103	95	56-128	8	30
Dibenzofuran	50	41.33	41.28	83	83	50-124	0	30
Diethylphthalate	50	41.79	39.1	84	78	42-124	7	30
Fluorene	50	41	41.2	82	82	48-124	0	30
4-Chlorophenyl-phenylether	50	36.51	38.7	73	77	45-124	6	30
4,6-Dinitro-2-methylphenol	50	57.12	53.7	114	107	50-132	6	30
N-Nitrosodiphenylamine	50	49.9	45.6	100	91	55-128	9	30
4-Bromophenyl-phenylether	50	41.67	40.62	83	81	53-127	3	30
Hexachlorobenzene	50	46.66	43.51	93	87	57-123	7	30
Pentachlorophenol	50	49.92	46.14	100	92	50-127	8	30
Phenanthrene	50	47.69	43.53	95	87	54-122	9	30
Anthracene	50	47.74	43.47	95	87	55-126	9	30
Carbazole	50	52.08	47.22	104	94	65-123	10	30
Di-n-butylphthalate	50	45.73	40.99	91	82	58-119	11	30
Fluoranthene	50	50.32	45.83	101	92	61-123	9	30
Pyrene	50	49.16	45.19	98	90	54-123	8	30
Butylbenzylphthalate	50	41.52	35.37	83	71	40-131	16	30
3,3'-Dichlorobenzidine	50	34.14	33.81	68	68	32-106	1	30
Benzo(a)anthracene	50	49.92	46.25	100	92	63-124	8	30
Chrysene	50	50.63	47.33	101	95	65-124	7	30
bis(2-Ethylhexyl)phthalate	50	47.6	44.94	95	90	52-132	6	30

Lancaster Laboratories Environmental

Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate(LCSD)

SDG: ATH81
Matrix: LIQUID

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

LCS: 106WELCS LCSD: 106WELCSD	Batch: **18106WAE026** (Sample number(s): 9548789, 9548797, 9548799)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Di-n-octylphthalate	50	45.81	42.36	92	85	51-134	8	30
Benzo(b)fluoranthene	50	48.47	44.62	97	89	58-127	8	30
Benzo(k)fluoranthene	50	51.94	47.74	104	95	63-123	8	30
Benzo(a)pyrene	50	49.77	45.08	100	90	50-128	10	30
Indeno(1,2,3-cd)pyrene	50	46.86	43.08	94	86	52-127	8	30
Dibenz(a,h)anthracene	50	48.78	44.6	98	89	53-132	9	30
Benzo(g,h,i)perylene	50	46.26	42.38	93	85	51-124	9	30

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: hd0020.d DFTPP Injection Date: 04/02/18

Instrument ID: HP18831 DFTPP Injection Time: 21:44

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	36.8
68	Less than 2.0% of mass 69	0.47 (1.14)1
69	Mass 69 relative abundance	41.4
70	Less than 2.0% of mass 69	0.31 (0.75)1
127	40.0 - 60.0% of mass 198	45.2
197	Less than 1.0% of mass 198	0.64
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.42
275	10.0 - 30.0% of mass 198	23.2
365	Greater than 1.00% of mass 198	2.44
441	Present, and less than mass 443	8.87
442	Greater than 40.0 % of mass 198	57.7
443	17.0 - 23.0% of mass 442	10.7 (18.6)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	RVSTD0608 - SSTD7.5	hd0021.d	04/02/18	22:00
02	rvSTD0668 - SSTD.125	hd0022.d	04/02/18	22:43
03	rvSTD0608 - SSTD30	hd0023.d	04/02/18	23:13
04	rvSTD0608 - SSTD20	hd0024.d	04/02/18	23:42
05	rvSTD0608 - SSTD12.5	hd0025.d	04/03/18	00:12
06	rvSTD0608 - SSTD3.75	hd0026.d	04/03/18	00:42
07	rvSTD0608 - SSTD1.25	hd0027.d	04/03/18	01:12
08	rvSTD0658 - SSTD.25	hd0028.d	04/03/18	01:42
09	rvMDL0668 - SSTD0.125	hd0029.d	04/03/18	02:12
10	PAHMDL0608 - SSTD0.025	hd0030.d	04/03/18	02:42
11	rvICV0648 - SSTD12.5	hd0031.d	04/03/18	03:11
12	rvBASICV0648 - SSTD12.5	hd0032.d	04/03/18	03:41
13	MS180852 - ICVSPK	hd0033.d	04/03/18	04:11

FORM V SV

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: hd0750.d DFTPP Injection Date: 04/17/18

Instrument ID: HP18831 DFTPP Injection Time: 06:05

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	35.0
68	Less than 2.0% of mass 69	0.57 (1.4)1
69	Mass 69 relative abundance	40.8
70	Less than 2.0% of mass 69	0.25 (0.62)1
127	40.0 - 60.0% of mass 198	45.8
197	Less than 1.0% of mass 198	0.72
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 30.0% of mass 198	23.5
365	Greater than 1.00% of mass 198	2.25
441	Present, and less than mass 443	8.84
442	Greater than 40.0 % of mass 198	55.6
443	17.0 - 23.0% of mass 442	10.6 (19.1)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	RVSTD0968 - SSTD7.5	hd0751.d	04/17/18	06:19
02	SBLKWF106	hd0752.d	04/17/18	07:28
03	106WFLCS	hd0753.d	04/17/18	07:55
04	106WFLCSD	hd0754.d	04/17/18	08:22
05	SBLKWE106	hd0755.d	04/17/18	08:49
06	106WELCS	hd0756.d	04/17/18	09:17
07	106WELCSD	hd0757.d	04/17/18	09:44
08	9548789RE	hd0758.d	04/17/18	10:11
09	9548797RE	hd0759.d	04/17/18	10:38
10	9548799	hd0760.d	04/17/18	11:05
11	9552016	hd0761.d	04/17/18	11:33
12	9553408	hd0762.d	04/17/18	12:00
13	9553410	hd0763.d	04/17/18	12:27
14	9553411	hd0764.d	04/17/18	12:54
15	9553412	hd0765.d	04/17/18	13:21
16	9553413	hd0766.d	04/17/18	13:49
17	9553414	hd0767.d	04/17/18	14:16
18	9553415	hd0768.d	04/17/18	14:43

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: hd0750.d DFTPP Injection Date: 04/17/18

Instrument ID: HP18831 DFTPP Injection Time: 06:05

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	35.0
68	Less than 2.0% of mass 69	0.57 (1.4)1
69	Mass 69 relative abundance	40.8
70	Less than 2.0% of mass 69	0.25 (0.62)1
127	40.0 - 60.0% of mass 198	45.8
197	Less than 1.0% of mass 198	0.72
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 30.0% of mass 198	23.5
365	Greater than 1.00% of mass 198	2.25
441	Present, and less than mass 443	8.84
442	Greater than 40.0 % of mass 198	55.6
443	17.0 - 23.0% of mass 442	10.6 (19.1)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
19	9553416	hd0769.d	04/17/18	15:10
20	9553417	hd0770.d	04/17/18	15:37
21	9553418	hd0771.d	04/17/18	16:05
22	9553582RE	hd0772.d	04/17/18	16:32
23	9553583	hd0773.d	04/17/18	16:59

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: jd0620.d DFTPP Injection Date: 04/14/18

Instrument ID: HP23264 DFTPP Injection Time: 14:02

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	44.4
68	Less than 2.0% of mass 69	0.96 (1.66)1
69	Mass 69 relative abundance	57.9
70	Less than 2.0% of mass 69	0.42 (0.73)1
127	40.0 - 60.0% of mass 198	48.8
197	Less than 1.0% of mass 198	0.0
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.11
275	10.0 - 30.0% of mass 198	25.1
365	Greater than 1.00% of mass 198	3.22
441	Present, and less than mass 443	9.67
442	Greater than 40.0 % of mass 198	60.1
443	17.0 - 23.0% of mass 442	12.1 (20.2)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	rvSTD0968 - SSTD7.5	jd0621.d	04/14/18	14:18
02	rvSTD0968 - SSTD.125	jd0622.d	04/14/18	16:29
03	rvSTD0968 - SSTD30	jd0623.d	04/14/18	16:59
04	rvSTD0968 - SSTD20	jd0624.d	04/14/18	17:30
05	rvSTD0968 - SSTD12.5	jd0625.d	04/14/18	18:00
06	rvSTD0968 - SSTD3.75	jd0626.d	04/14/18	18:30
07	rvSTD0968 - SSTD1.25	jd0627.d	04/14/18	19:01
08	rvSTD0968 - SSTD.25	jd0628.d	04/14/18	19:31
09	rvMDL0968 - SSTD0.125	jd0629.d	04/14/18	20:01
10	PAHMDL0968 - SSTD0.025	jd0630.d	04/14/18	20:31
11	rvICV0648 - SSTD12.5	jd0631.d	04/14/18	21:02
12	rvBASICV0648 - SSTD12.5	jd0632.d	04/14/18	21:32
13	MS180952 - MSSPK1	jd0633.d	04/14/18	22:02

FORM V SV

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: jd0640.d DFTPP Injection Date: 04/15/18

Instrument ID: HP23264 DFTPP Injection Time: 15:40

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	44.0
68	Less than 2.0% of mass 69	0.91 (1.58)1
69	Mass 69 relative abundance	58.0
70	Less than 2.0% of mass 69	0.37 (0.64)1
127	40.0 - 60.0% of mass 198	47.3
197	Less than 1.0% of mass 198	0.23
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.34
275	10.0 - 30.0% of mass 198	22.7
365	Greater than 1.00% of mass 198	3.16
441	Present, and less than mass 443	8.77
442	Greater than 40.0 % of mass 198	55.7
443	17.0 - 23.0% of mass 442	10.5 (18.8)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	rvSTD0968 - SSTD7.5	jd0641.d	04/15/18	15:56
02	SBLKWR101	jd0642.d	04/15/18	17:02
03	101WRLCS	jd0643.d	04/15/18	17:32
04	9548789	jd0644.d	04/15/18	18:02
05	9548790MS	jd0645.d	04/15/18	18:33
06	9548791MSD	jd0646.d	04/15/18	19:03
07	9548797	jd0647.d	04/15/18	19:33
08	9553582	jd0660.d	04/16/18	02:08

FORM V SV

6B

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP18831 Calibration Date(s): 04/02/18 04/03/18

Calibration Times: 22:00 01:42

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID: RRF0.125 = hd0022.d RRF0.25 = hd0028.d RRF1.25 = hd0027.d RRF3.75 = hd0026.d
RRF7.5 = hd0021.d RRF12.5 = hd0025.d RRF20 = hd0024.d RRF30 = hd0023.d

COMPOUND		RRF0.125	RF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
1,4-Dioxane				0.626	0.599	0.581	0.568	0.580	0.581	0.589	3	AVG
N-Nitrosodimethylamine				1.136	0.963	0.929	0.969	0.962	0.948	0.984	8	AVG
Pyridine				1.852	1.638	1.568	1.566	1.648	1.612	1.647	6	AVG
2-Picoline				1.872	1.753	1.594	1.646	1.689	1.658	1.702	6	AVG
N-Nitrosomethylethylamine				0.719	0.677	0.652	0.672	0.669	0.659	0.675	3	AVG
Methyl methanesulfonate				0.905	0.846	0.788	0.809	0.823	0.804	0.829	5	AVG
N-Nitrosodiethylamine			0.632	0.748	0.677	0.644	0.664	0.677	0.659	0.672	6	AVG
Ethyl methanesulfonate			0.684	0.787	0.735	0.700	0.716	0.714	0.704	0.720	5	AVG
Benzaldehyde				1.286	1.307	1.141	1.009	0.937		1.136	14	AVG
Phenol	*		1.982	2.345	2.195	2.001	2.065	2.085	2.017	2.099	6	AVG *
Aniline			2.043	2.733	2.462	2.332	2.368	2.382	2.325	2.378	9	AVG
a-methylstyrene				0.516	0.572	0.483	0.531	0.509	0.500	0.518	6	AVG
bis(2-Chloroethyl)ether			1.460	1.729	1.578	1.474	1.464	1.489	1.462	1.522	7	AVG
2-Chlorophenol			1.362	1.592	1.484	1.382	1.386	1.417	1.373	1.428	6	AVG
1,3-Dichlorobenzene			1.414	1.815	1.662	1.531	1.535	1.561	1.525	1.578	8	AVG
1,4-Dichlorobenzene	*		1.424	1.812	1.642	1.531	1.539	1.564	1.535	1.578	8	AVG *
Benzyl alcohol				0.848	0.880	0.807	0.858	0.856	0.850	0.850	3	AVG
1,2-Dichlorobenzene			1.440	1.738	1.567	1.467	1.475	1.505	1.455	1.521	7	AVG
Indene				2.101	2.253	1.996	2.093	2.098	2.086	2.105	4	AVG
2-Methylphenol			1.192	1.500	1.385	1.305	1.294	1.318	1.273	1.324	7	AVG
2,2'-oxybis(1-Chloropropane)			1.654	2.117	1.902	1.787	1.793	1.823	1.769	1.835	8	AVG
bis(2-Chloroisopropyl)ether			1.654	2.117	1.902	1.787	1.793	1.823	1.769	1.835	8	AVG
N-Nitrosopyrrolidine			0.672	0.803	0.735	0.703	0.729	0.728	0.714	0.726	5	AVG
Acetophenone			1.883	2.005	2.022	1.924	1.980	2.009	1.981	1.972	3	AVG
4-Methylphenol			1.429	1.708	1.599	1.464	1.491	1.504	1.436	1.519	7	AVG
Total Cresols			1.310	1.604	1.492	1.384	1.392	1.411	1.355	1.421	7	AVG
N-Nitroso-di-n-propylamine	#		1.187	1.303	1.166	1.095	1.107	1.114	1.077	1.150	7	AVG #
N-Nitrosomorpholine				0.935	0.871	0.829	0.816	0.811	0.797	0.843	6	AVG
o-Toluidine			2.023	2.658	2.477	2.272	2.253	2.262	2.199	2.306	9	AVG
Hexachloroethane				0.768	0.658	0.606	0.610	0.614	0.607	0.644	10	AVG
Nitrobenzene			0.406	0.479	0.455	0.422	0.429	0.439	0.428	0.437	6	AVG
N-Nitrosopiperidine			0.170	0.208	0.202	0.186	0.191	0.193	0.190	0.191	6	AVG
Isophorone			0.709	0.856	0.811	0.758	0.770	0.779	0.761	0.778	6	AVG
2-Nitrophenol	*		0.167	0.198	0.183	0.166	0.181	0.185	0.180	0.180	6	AVG *
2,4-Dimethylphenol			0.352	0.435	0.411	0.381	0.386	0.388	0.385	0.391	7	AVG
O,O,O-Triethylphosphorothioate				0.218	0.202	0.191	0.192	0.195	0.191	0.198	5	AVG
bis(2-Chloroethoxy)methane			0.429	0.553	0.513	0.486	0.496	0.500	0.485	0.495	8	AVG
Benzoic acid				0.205	0.217	0.214	0.227	0.232		0.219	5	AVG
2,4-Dichlorophenol	*		0.282	0.371	0.343	0.316	0.326	0.326	0.322	0.327	8	AVG *
1,2,4-Trichlorobenzene			0.311	0.405	0.381	0.350	0.351	0.361	0.353	0.359	8	AVG
Naphthalene		0.966	0.977	1.259	1.162	1.079	1.097	1.126	1.099	1.096	9	AVG
4-Chloroaniline			0.429	0.508	0.471	0.436	0.439	0.443	0.434	0.451	6	AVG
2,6-Dichlorophenol			0.266	0.355	0.335	0.308	0.317	0.320	0.311	0.316	9	AVG
Hexachloropropene				0.277	0.258	0.245	0.248	0.255	0.246	0.255	5	AVG
Hexachlorobutadiene	*		0.185	0.251	0.228	0.212	0.215	0.221	0.214	0.218	9	AVG *
Quinoline				0.750	0.715	0.670	0.684	0.690	0.675	0.697	4	AVG
Caprolactam				0.093	0.101	0.098	0.097	0.099	0.098	0.098	3	AVG
N-Nitrosodi-n-butylamine				0.332	0.306	0.289	0.362	0.367	0.328	0.331	9	AVG
4-Chloro-3-methylphenol	*		0.305	0.375	0.347	0.324	0.332	0.335	0.331	0.335	6	AVG *
Safrole				0.322	0.304	0.284	0.288	0.292	0.285	0.296	5	AVG
2-Methylnaphthalene		0.711	0.629	0.843	0.779	0.724	0.740	0.753	0.732	0.739	8	AVG
1-Methylnaphthalene		0.653	0.620	0.755	0.703	0.660	0.665	0.672	0.661	0.674	6	AVG

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP18831 Calibration Date(s): 04/02/18 04/03/18

Calibration Times: 22:00 01:42

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID: RRF0.125 = hd0022.d RRF0.25 = hd0028.d RRF1.25 = hd0027.d RRF3.75 = hd0026.d
RRF7.5 = hd0021.d RRF12.5 = hd0025.d RRF20 = hd0024.d RRF30 = hd0023.d

COMPOUND		RRF0.125	RF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD	
Hexachlorocyclopentadiene	#			0.482	0.467	0.463	0.448	0.452	0.429	0.457	4	AVG	#
1,2,4,5-Tetrachlorobenzene			0.667	0.837	0.799	0.741	0.736	0.745	0.735	0.752	7	AVG	
cis-Isosafrole				0.726	0.649	0.634	0.624	0.629	0.625	0.648	6	AVG	
2,4,6-Trichlorophenol	*		0.423	0.528	0.517	0.470	0.476	0.480	0.473	0.481	7	AVG	*
2,4,5-Trichlorophenol			0.435	0.552	0.523	0.488	0.491	0.497	0.490	0.496	7	AVG	
trans-Isosafrole				0.783	0.737	0.698	0.701	0.712	0.677	0.718	5	AVG	
Isosafrole				0.774	0.722	0.687	0.688	0.697	0.668	0.706	5	AVG	
1,1'-Biphenyl			1.408	1.713	1.770	1.670	1.686	1.707	1.722	1.668	7	AVG	
2-Chloronaphthalene			1.166	1.577	1.553	1.455	1.358	1.404	1.484	1.428	10	AVG	
1-Chloronaphthalene			1.264	1.571	1.341	1.256	1.277	1.270	1.174	1.308	10	AVG	
Diphenyl ether			0.856	1.097	1.023	0.954	0.946	0.963	0.954	0.970	8	AVG	
2-Nitroaniline			0.368	0.428	0.435	0.402	0.427	0.425	0.420	0.415	6	AVG	
1,4-Naphthoquinone				0.599	0.597	0.564	0.559	0.569	0.558	0.574	3	AVG	
1,4-Dinitrobenzene				0.199	0.202	0.186	0.209	0.205	0.205	0.201	4	AVG	
Dimethylphthalate				1.819	1.699	1.582	1.560	1.557	1.559	1.629	7	AVG	
1,3-Dinitrobenzene				0.225	0.229	0.215	0.235	0.232	0.229	0.228	3	AVG	
2,6-Dinitrotoluene				0.377	0.350	0.332	0.336	0.341	0.335	0.345	5	AVG	
Acenaphthylene		2.123	1.833	2.357	2.231	2.091	2.083	2.098	2.079	2.112	7	AVG	
3-Nitroaniline			0.287	0.404	0.383	0.360	0.375	0.366	0.372	0.364	10	AVG	
Acenaphthene	*	1.447	1.293	1.611	1.544	1.429	1.411	1.413	1.407	1.445	7	AVG	*
2,4-Dinitrophenol	#				0.171	0.149	0.196	0.189	0.195	0.180	11	AVG	#
4-Nitrophenol	#				0.238	0.219	0.229	0.228	0.229	0.228	3	AVG	#
Pentachlorobenzene			0.559	0.737	0.697	0.648	0.641	0.651	0.637	0.653	8	AVG	
2,4-Dinitrotoluene				0.475	0.467	0.433	0.459	0.461	0.457	0.459	3	AVG	
2,4_2,6-Dinitrotoluenes				0.426	0.409	0.383	0.398	0.401	0.396	0.402	4	AVG	
Dibenzofuran			1.720	2.213	2.082	1.935	1.920	1.932	1.903	1.958	8	AVG	
1-Naphthylamine				1.595	1.505	1.453	1.438	1.439	1.440	1.478	4	AVG	
2,3,4,6-Tetrachlorophenol			0.348	0.448	0.429	0.394	0.410	0.417	0.408	0.408	8	AVG	
2-Naphthylamine					1.498	1.392	1.393	1.389	1.376	1.409	4	AVG	
Diethylphthalate				1.720	1.635	1.527	1.543	1.538	1.523	1.581	5	AVG	
Thionazin				0.329	0.309	0.294	0.292	0.294	0.293	0.302	5	AVG	
Fluorene		1.572	1.442	1.808	1.713	1.605	1.562	1.572	1.536	1.601	7	AVG	
4-Chlorophenyl-phenylether			0.691	0.880	0.828	0.777	0.757	0.757	0.750	0.777	8	AVG	
5-Nitro-o-toluidine			0.348	0.465	0.445	0.413	0.430	0.429	0.428	0.423	9	AVG	
4-Nitroaniline			0.332	0.400	0.388	0.362	0.371	0.375	0.371	0.371	6	AVG	
4,6-Dinitro-2-methylphenol					0.116	0.105	0.128	0.131	0.131	0.122	9	AVG	
N-Nitrosodiphenylamine (1)	*		0.576	0.754	0.695	0.643	0.629	0.647	0.646	0.656	9	AVG	*
NDPA as diphenylamine			0.576	0.754	0.695	0.643	0.629	0.647	0.646	0.656	9	AVG	
1,2-Diphenylhydrazine			0.763	0.958	0.897	0.868	0.837	0.865	0.856	0.863	7	AVG	
Tetraethyldithiopyrophosphate				0.161	0.156	0.142	0.143	0.146	0.149	0.149	5	AVG	
1,3,5-Trinitrobenzene					0.071	0.064	0.078	0.079	0.079	0.074	9	AVG	
Diallate (peak 1)				0.414	0.385	0.363	0.357	0.371	0.363	0.376	6	AVG	
Phorate			0.444	0.615	0.600	0.624	0.737	0.763	0.753	0.648	18	1STDEG	
Phenacetin			0.328	0.443	0.432	0.407	0.412	0.425	0.418	0.409	9	AVG	
4-Bromophenyl-phenylether			0.210	0.267	0.254	0.239	0.229	0.237	0.233	0.239	8	AVG	
Diallate (peak 2)				0.344	0.331	0.297	0.290	0.296	0.295	0.309	7	AVG	
Diallate trans/cis				0.402	0.376	0.351	0.346	0.359	0.352	0.364	6	AVG	
Hexachlorobenzene		0.239	0.212	0.280	0.258	0.244	0.234	0.240	0.238	0.243	8	AVG	
Dimethoate				0.364	0.354	0.331	0.328	0.340	0.332	0.341	4	AVG	
Atrazine				0.219	0.228	0.209	0.198	0.208	0.190	0.209	7	AVG	
Pentachlorophenol	*			0.148	0.149	0.142	0.151	0.158	0.157	0.151	4	AVG	*
4-Aminobiphenyl			0.635	0.857	0.784	0.761	0.731	0.767	0.722	0.751	9	AVG	

(1) Cannot be separated from Diphenylamine
4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP18831 Calibration Date(s): 04/02/18 04/03/18

Calibration Times: 22:00 01:42

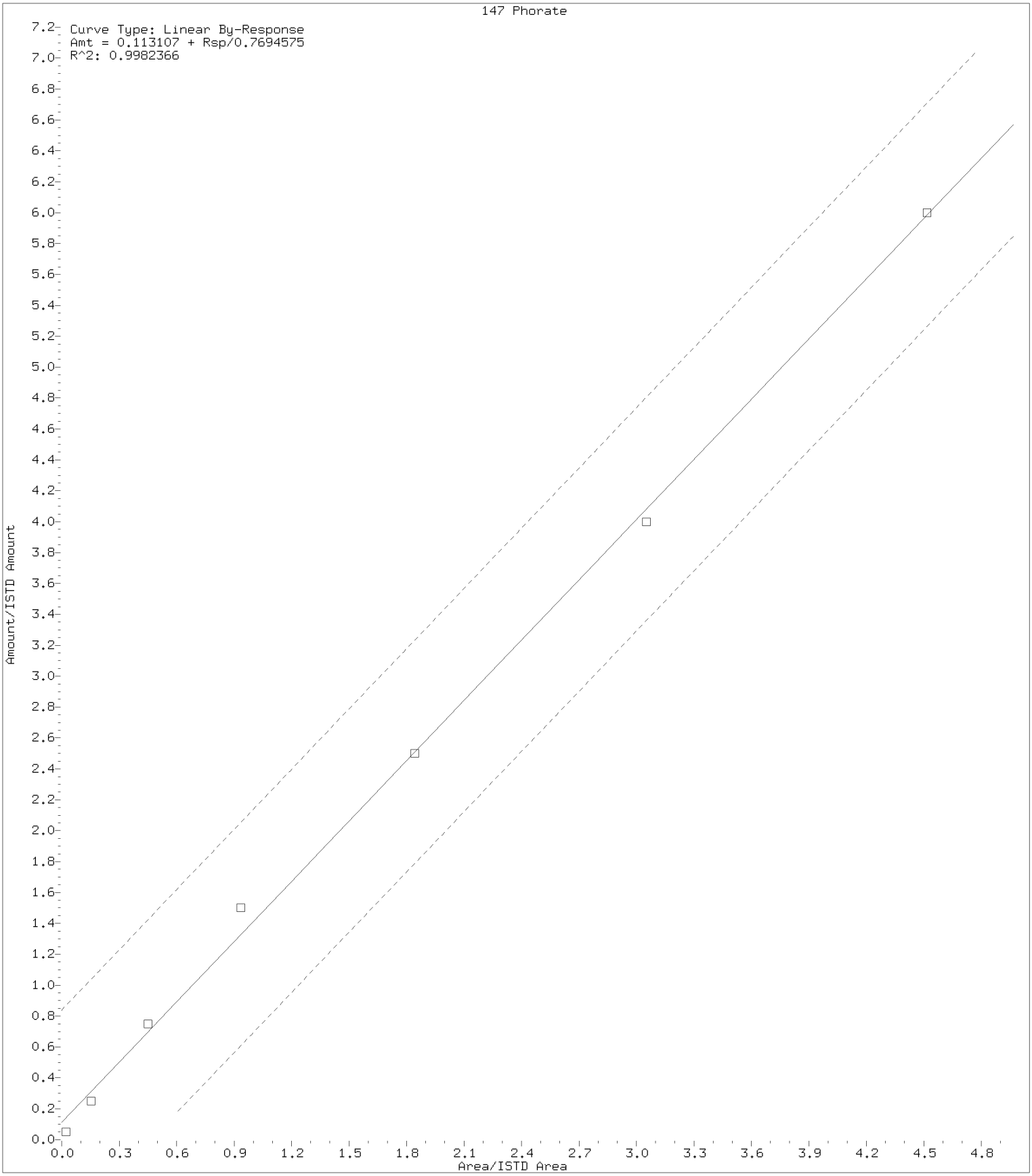
Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID: RRF0.125 = hd0022.d RRF0.25 = hd0028.d RRF1.25 = hd0027.d RRF3.75 = hd0026.d
RRF7.5 = hd0021.d RRF12.5 = hd0025.d RRF20 = hd0024.d RRF30 = hd0023.d

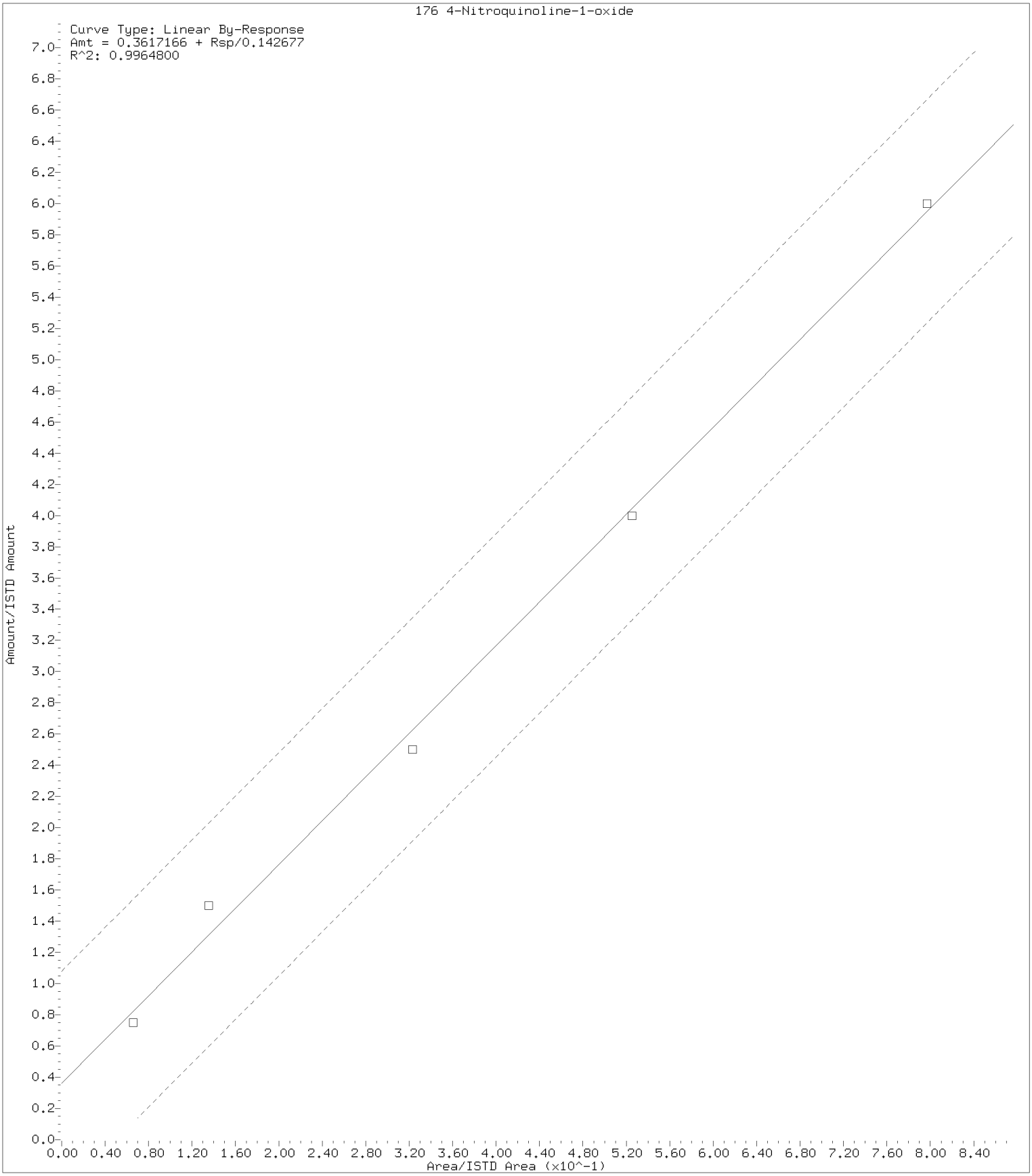
COMPOUND	RRF0.125	RRF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
Pentachloronitrobenzene			0.114	0.112	0.105	0.108	0.111	0.110	0.110	3	AVG
Pronamide		0.312	0.428	0.407	0.386	0.385	0.394	0.387	0.386	9	AVG
Dinoseb			0.169	0.185	0.174	0.219	0.219	0.217	0.197	12	AVG
Phenanthrene	1.113	1.050	1.335	1.226	1.151	1.130	1.170	1.141	1.165	7	AVG
Anthracene	1.092	1.044	1.378	1.265	1.188	1.168	1.197	1.180	1.189	9	AVG
Carbazole		0.928	1.191	1.114	1.048	1.039	1.071	1.044	1.062	8	AVG
Methyl parathion			0.255	0.255	0.242	0.263	0.270	0.265	0.258	4	AVG
Di-n-butylphthalate			1.490	1.407	1.355	1.330	1.369	1.339	1.382	4	AVG
Parathion			0.168	0.169	0.163	0.172	0.176	0.175	0.171	3	AVG
4-Nitroquinoline-1-oxide				0.088	0.090	0.129	0.131	0.133	0.114	20	1STDEG
Octachlorostyrene			0.094	0.096	0.090	0.093	0.094	0.096	0.094	2	AVG
Isodrin		0.123	0.153	0.149	0.138	0.138	0.142	0.140	0.141	7	AVG
Fluoranthene *	1.217	1.202	1.553	1.464	1.378	1.362	1.397	1.363	1.367	9	AVG *
Benzidine				0.854	0.806	0.766	0.776	0.722	0.785	6	AVG
Pyrene	1.310	1.194	1.484	1.399	1.301	1.293	1.314	1.294	1.324	6	AVG
p-Dimethylaminoazobenzene		0.164	0.235	0.229	0.212	0.219	0.224	0.220	0.215	11	AVG
Chlorobenzilate			0.421	0.397	0.371	0.377	0.383	0.380	0.388	5	AVG
3,3'-Dimethylbenzidine			0.953	0.907	0.881	0.844	0.842	0.813	0.873	6	AVG
Butylbenzylphthalate			0.637	0.588	0.559	0.561	0.581	0.567	0.582	5	AVG
2-Acetylaminofluorene			0.557	0.536	0.518	0.528	0.547	0.550	0.539	3	AVG
3,3'-Dichlorobenzidine			0.505	0.474	0.459	0.448	0.457	0.452	0.466	5	AVG
4,4'-Methylenebis(2-chloroanil				0.272	0.261	0.259	0.265	0.264	0.264	2	AVG
Benzo(a)anthracene	1.089	1.054	1.398	1.304	1.236	1.242	1.263	1.240	1.228	9	AVG
Chrysene	1.102	1.012	1.348	1.251	1.167	1.149	1.195	1.159	1.173	8	AVG
bis(2-Ethylhexyl)phthalate			0.909	0.860	0.824	0.828	0.856	0.836	0.852	4	AVG
6-Methylchrysene			0.938	0.879	0.824	0.826	0.857	0.839	0.860	5	AVG
Di-n-octylphthalate *			1.654	1.567	1.511	1.512	1.536	1.473	1.542	4	AVG *
Benzo(b)fluoranthene	1.142	1.056	1.415	1.354	1.268	1.259	1.295	1.256	1.256	9	AVG
7,12-Dimethylbenz[a]anthracene		0.370	0.540	0.532	0.515	0.526	0.541	0.522	0.507	12	AVG
Benzo(k)fluoranthene	1.125	1.030	1.360	1.270	1.188	1.174	1.180	1.132	1.182	8	AVG
Benzo(a)pyrene *	1.056	1.009	1.308	1.227	1.165	1.153	1.184	1.141	1.155	8	AVG *
3-Methylcholanthrene		0.499	0.635	0.609	0.573	0.578	0.594	0.572	0.580	7	AVG
Dibenz(a,h)acridine			1.146	1.065	1.017	1.028	1.057	1.026	1.057	5	AVG
Dibenz(a,j)acridine			1.156	1.087	1.029	1.026	1.049	1.014	1.060	5	AVG
Indeno(1,2,3-cd)pyrene	1.021	0.937	1.297	1.218	1.164	1.158	1.200	1.132	1.141	10	AVG
Dibenz(a,h)anthracene	1.087	0.978	1.319	1.228	1.180	1.189	1.233	1.171	1.173	9	AVG
Benzo(g,h,i)perylene	1.150	1.029	1.367	1.272	1.196	1.190	1.219	1.181	1.200	8	AVG
Total PAHs	1.013	0.941	1.222	1.145	1.070	1.058	1.066	1.024	1.068	8	AVG
2-Fluorophenol		1.191	1.565	1.428	1.337	1.350	1.386	1.345	1.372	8	AVG
Phenol-d6		1.641	2.058	1.897	1.763	1.799	1.815	1.772	1.821	7	AVG
Nitrobenzene-d5		0.379	0.492	0.463	0.427	0.436	0.448	0.432	0.440	8	AVG
2-Fluorobiphenyl		1.441	1.884	1.767	1.646	1.606	1.629	1.590	1.652	8	AVG
2,4,6-Tribromophenol		0.175	0.238	0.233	0.217	0.221	0.221	0.217	0.218	9	AVG
Terphenyl-d14		0.780	1.001	0.943	0.877	0.854	0.872	0.840	0.881	8	AVG

Average %RSD 7

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.
Benzidine Levels in the 5,15,30,50,80,120 standards are 15,45,90,150,240,360 ng/ul, respectively.
Benzoic acid and 2,4-Dinitrophenol are at 15 ng/ul, 30 ng/ul,40 ng/ul in the 5,15,30 standards.



Digitally signed by Brandon H. Smith on 04/03/2018 at 12:46.
Target 3.5 esignature user ID: bhs10208



Digitally signed by Brandon H. Smith on 04/03/2018 at 12:46.
Target 3.5 esignature user ID: bhs10208

Internal Standard
Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP18831.i/18apr02a.b/hd0021.d SSTD7.5
/chem/HP18831.i/18apr02a.b/hd0022.d SSTD0.125
/chem/HP18831.i/18apr02a.b/hd0023.d SSTD30
/chem/HP18831.i/18apr02a.b/hd0024.d SSTD20
/chem/HP18831.i/18apr02a.b/hd0025.d SSTD12.5
/chem/HP18831.i/18apr02a.b/hd0026.d SSTD3.75
/chem/HP18831.i/18apr02a.b/hd0027.d SSTD1.25
/chem/HP18831.i/18apr02a.b/hd0028.d SSTD0.25

Area Summary

File ID:

Internal Standard Name	hd0021.d	hd0022.d	hd0023.d	hd0024.d	hd0025.d	hd0026.d	hd0027.d	hd0028.d	Avg. Area	%RSD	In Spec
1,4-Dichlorobenzene-d4	204539	241175	207564	208797	364312	207449	223312	211838	233623	23	Yes
Naphthalene-d8	761979	885095	761190	766348	1357837	766908	833242	794950	865944	24	Yes
Acenaphthene-d10	375873	443130	378480	386945	686788	381841	417983	397526	433571	24	Yes
Phenanthrene-d10	748038	893841	744610	755287	1379211	761921	817579	801950	862805	25	Yes
Pyrene-d10	807816	937101	804342	816168	1474489	809782	876036	850025	921970	25	Yes
Perylene-d12	791375	916074	833428	828338	1454767	792321	860372	825782	912807	24	Yes

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:

Internal Standard Name	hd0021.d	hd0022.d	hd0023.d	hd0024.d	hd0025.d	hd0026.d	hd0027.d	hd0028.d	Avg. RT
1,4-Dichlorobenzene-d4	6.304	6.303	6.309	6.309	6.309	6.304	6.303	6.303	6.306
Naphthalene-d8	8.244	8.244	8.250	8.250	8.250	8.244	8.244	8.244	8.247
Acenaphthene-d10	11.025	11.025	11.030	11.031	11.031	11.031	11.025	11.025	11.028
Phenanthrene-d10	12.971	12.971	12.983	12.977	12.983	12.977	12.977	12.971	12.977
Pyrene-d10	14.842	14.842	14.848	14.848	14.848	14.842	14.842	14.842	14.845
Perylene-d12	19.226	19.226	19.237	19.231	19.237	19.231	19.231	19.231	19.231

Comments:_____

_____

Report generated on 04/03/2018 at 12:48

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP18831

Method: SW-846 8270C MINI File ID: hd0031.d

ICV SAMPLE ID: rvICV0648 BATCH: 18APR02A026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
1,4-Dioxane	12.50	14.47	16	20	YES
N-Nitrosodimethylamine	12.50	11.36	-9	20	YES
Pyridine	12.50	11.39	-9	20	YES
2-Picoline	12.50	11.26	-10	20	YES
N-Nitrosomethylethylamine	12.50	11.27	-10	20	YES
Methyl methanesulfonate	12.50	11.76	-6	20	YES
N-Nitrosodiethylamine	12.50	11.31	-10	20	YES
Ethyl methanesulfonate	12.50	11.54	-8	20	YES
Phenol	12.50	11.60	-7	20	YES
Aniline	12.50	11.48	-8	20	YES
bis(2-Chloroethyl)ether	12.50	11.37	-9	20	YES
2-Chlorophenol	12.50	11.62	-7	20	YES
1,3-Dichlorobenzene	12.50	11.59	-7	20	YES
1,4-Dichlorobenzene	12.50	11.97	-4	20	YES
Benzyl alcohol	12.50	13.14	5	20	YES
1,2-Dichlorobenzene	12.50	11.72	-6	20	YES
Indene	12.50	14.89	19	20	YES
2-Methylphenol	12.50	11.63	-7	20	YES
2,2'-oxybis(1-Chloropropane	12.50	11.47	-8	20	YES
bis(2-Chloroisopropyl)ether	12.50	11.47	-8	20	YES
N-Nitrosopyrrolidine	12.50	11.24	-10	20	YES
Acetophenone	12.50	11.93	-5	20	YES
4-Methylphenol	12.50	11.58	-7	20	YES
N-Nitroso-di-n-propylamine	12.50	11.26	-10	20	YES
N-Nitrosomorpholine	12.50	11.44	-8	20	YES
o-Toluidine	12.50	11.58	-7	20	YES
Total Cresols	25.00	23.21	-7	20	YES
Hexachloroethane	12.50	11.25	-10	20	YES
Nitrobenzene	12.50	11.56	-7	20	YES
N-Nitrosopiperidine	12.50	11.22	-10	20	YES
Isophorone	12.50	12.00	-4	20	YES
2-Nitrophenol	12.50	11.88	-5	20	YES
2,4-Dimethylphenol	12.50	10.11	-19	20	YES
O,O,O-Triethylphosphorothio	12.50	11.66	-7	20	YES
bis(2-Chloroethoxy)methane	12.50	11.76	-6	20	YES
Benzoic acid	25.00	20.00	-20	20	YES
2,4-Dichlorophenol	12.50	11.75	-6	20	YES

NC = Could not calculate

Comments:

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP18831

Method: SW-846 8270C MINI File ID: hd0031.d

ICV SAMPLE ID: rvICV0648 BATCH: 18APR02A026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
1,2,4-Trichlorobenzene	12.50	11.79	-6	20	YES
Naphthalene	12.50	11.77	-6	20	YES
4-Chloroaniline	12.50	11.99	-4	20	YES
2,6-Dichlorophenol	12.50	11.92	-5	20	YES
Hexachloropropene	12.50	12.49	0	20	YES
Hexachlorobutadiene	12.50	11.82	-5	20	YES
Quinoline	12.50	11.84	-5	20	YES
N-Nitrosodi-n-butylamine	12.50	10.08	-19	20	YES
4-Chloro-3-methylphenol	12.50	11.69	-6	20	YES
Safrole	12.50	11.38	-9	20	YES
2-Methylnaphthalene	12.50	11.60	-7	20	YES
1-Methylnaphthalene	12.50	11.88	-5	20	YES
Hexachlorocyclopentadiene	25.00	25.90	4	20	YES
1,2,4,5-Tetrachlorobenzene	12.50	11.74	-6	20	YES
cis-Isosafrole	1.50	1.45	-3	20	YES
2,4,6-Trichlorophenol	12.50	11.63	-7	20	YES
2,4,5-Trichlorophenol	12.50	12.13	-3	20	YES
trans-Isosafrole	11.00	10.10	-8	20	YES
1,1'-Biphenyl	12.50	12.42	-1	20	YES
2-Chloronaphthalene	12.50	11.48	-8	20	YES
Isosafrole	12.50	11.55	-8	20	YES
1-Chloronaphthalene	12.50	15.39	23	20	NO*
Diphenyl ether	12.50	15.05	20	20	YES
2-Nitroaniline	12.50	11.90	-5	20	YES
1,4-Naphthoquinone	15.63	14.40	-8	20	YES
1,4-Dinitrobenzene	12.50	11.65	-7	20	YES
Dimethylphthalate	12.50	11.21	-10	20	YES
1,3-Dinitrobenzene	12.50	11.63	-7	20	YES
2,6-Dinitrotoluene	12.50	11.42	-9	20	YES
Acenaphthylene	12.50	12.60	1	20	YES
3-Nitroaniline	12.50	11.83	-5	20	YES
Acenaphthene	12.50	12.10	-3	20	YES
2,4-Dinitrophenol	25.00	25.61	2	20	YES
4-Nitrophenol	12.50	11.80	-6	20	YES
Pentachlorobenzene	12.50	11.79	-6	20	YES
2,4-Dinitrotoluene	12.50	11.54	-8	20	YES
Dibenzofuran	12.50	11.77	-6	20	YES

NC = Could not calculate

Comments:*Non-CCC; OK if <50% D

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP18831

Method: SW-846 8270C MINI File ID: hd0031.d

ICV SAMPLE ID: rvICV0648 BATCH: 18APR02A026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
2,4_2,6-Dinitrotoluenes	25.00	22.97	-8	20	YES
1-Naphthylamine	25.00	22.40	-10	20	YES
2-Naphthylamine	25.00	23.35	-7	20	YES
Diethylphthalate	12.50	11.18	-11	20	YES
Thionazin	12.50	11.60	-7	20	YES
Fluorene	12.50	11.37	-9	20	YES
4-Chlorophenyl-phenylether	12.50	11.47	-8	20	YES
5-Nitro-o-toluidine	12.50	12.11	-3	20	YES
4-Nitroaniline	12.50	11.35	-9	20	YES
4,6-Dinitro-2-methylphenol	12.50	12.70	2	20	YES
N-Nitrosodiphenylamine	12.50	11.75	-6	20	YES
NDPA as diphenylamine	12.50	11.75	-6	20	YES
1,2-Diphenylhydrazine	12.50	11.98	-4	20	YES
Tetraethyldithiopyrophospha	12.50	11.76	-6	20	YES
1,3,5-Trinitrobenzene	12.50	12.16	-3	20	YES
Diallate (peak 1)	9.38	7.94	-15	20	YES
Phorate	12.50	12.19	-2	20	YES
Phenacetin	12.50	12.11	-3	20	YES
4-Bromophenyl-phenylether	12.50	11.65	-7	20	YES
Diallate (peak 2)	3.13	3.14	0	20	YES
Hexachlorobenzene	12.50	11.86	-5	20	YES
Diallate trans/cis	12.50	11.08	-11	20	YES
Dimethoate	12.50	12.29	-2	20	YES
Pentachlorophenol	12.50	12.89	3	20	YES
4-Aminobiphenyl	12.50	13.74	10	20	YES
Pentachloronitrobenzene	12.50	12.09	-3	20	YES
Pronamide	12.50	11.63	-7	20	YES
Dinoseb	12.50	12.48	0	20	YES
Phenanthrene	12.50	11.87	-5	20	YES
Anthracene	12.50	11.88	-5	20	YES
Carbazole	12.50	12.26	-2	20	YES
Methyl parathion	12.50	13.32	7	20	YES
Di-n-butylphthalate	12.50	11.53	-8	20	YES
Parathion	12.50	12.99	4	20	YES
4-Nitroquinoline-1-oxide	150.00	156.83	5	20	YES
Isodrin	12.50	11.79	-6	20	YES

NC = Could not calculate

Comments: _____

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP18831

Method: SW-846 8270C MINI File ID: hd0031.d

ICV SAMPLE ID: rvICV0648 BATCH: 18APR02A026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Fluoranthene	12.50	11.72	-6	20	YES
Benzidine	62.50	59.11	-5	20	YES
Pyrene	12.50	11.58	-7	20	YES
p-Dimethylaminoazobenzene	12.50	13.44	8	20	YES
Chlorobenzilate	12.50	11.54	-8	20	YES
3,3'-Dimethylbenzidine	25.00	22.02	-12	20	YES
Butylbenzylphthalate	12.50	11.52	-8	20	YES
2-Acetylaminofluorene	12.50	11.40	-9	20	YES
3,3'-Dichlorobenzidine	12.50	11.68	-7	20	YES
4,4'-Methylenebis(2-chloroa	12.50	11.49	-8	20	YES
Benzo(a)anthracene	12.50	11.94	-4	20	YES
Chrysene	12.50	11.75	-6	20	YES
bis(2-Ethylhexyl)phthalate	12.50	11.41	-9	20	YES
6-Methylchrysene	12.50	11.18	-11	20	YES
Di-n-octylphthalate	12.50	11.57	-7	20	YES
Benzo(b)fluoranthene	12.50	11.89	-5	20	YES
7,12-Dimethylbenz[a]anthrac	12.50	12.32	-1	20	YES
Benzo(k)fluoranthene	12.50	11.97	-4	20	YES
Benzo(a)pyrene	12.50	11.95	-4	20	YES
3-Methylcholanthrene	12.50	12.65	1	20	YES
Dibenz(a,h)acridine	12.50	11.43	-9	20	YES
Dibenz(a,j)acridine	12.50	10.24	-18	20	YES
Indeno(1,2,3-cd)pyrene	12.50	11.58	-7	20	YES
Dibenz(a,h)anthracene	12.50	11.99	-4	20	YES
Benzo(g,h,i)perylene	12.50	11.40	-9	20	YES
Total PAHs	225.00	212.83	-5	20	YES

NC = Could not calculate

Comments:

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP18831

Method: SW-846 8270C MINI File ID: hd0032.d

ICV SAMPLE ID: rvBASICV0648 BATCH: 18APR02A026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Benzaldehyde	12.50	13.98	12	20	YES
Caprolactam	12.50	12.09	-3	20	YES
Atrazine	12.50	13.67	9	20	YES

NC = Could not calculate

Comments:

Page 1 of 1

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP18831

Method: SW-846 8270C MINI File ID: hd0033.d

ICV SAMPLE ID: MS180852 BATCH: 18APR02A026 Sample Name: ICVSPK

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
2,3,4,6-Tetrachlorophenol	12.50	12.46	0	20	YES

NC = Could not calculate

Comments: _____

Page 1 of 1

6B

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP23264 Calibration Date(s): 04/14/18 04/14/18

Calibration Times: 14:18 19:31

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID: RRF0.125 = jd0622.d RRF0.25 = jd0628.d RRF1.25 = jd0627.d RRF3.75 = jd0626.d
RRF7.5 = jd0621.d RRF12.5 = jd0625.d RRF20 = jd0624.d RRF30 = jd0623.d

COMPOUND		RRF0.125	RF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD	
1,4-Dioxane				0.878	0.742	0.734	0.758	0.723	0.763	0.766	7	AVG	
N-Nitrosodimethylamine				1.315	1.079	1.224	1.259	1.188	1.272	1.223	7	AVG	
Pyridine				2.411	1.919	2.056	2.221	2.086	2.149	2.140	8	AVG	
2-Picoline				2.203	1.944	1.968	2.115	2.020	2.080	2.055	5	AVG	
N-Nitrosomethylethylamine				0.972	0.876	0.916	0.948	0.903	0.932	0.925	4	AVG	
Methyl methanesulfonate				1.151	1.007	1.064	1.132	1.077	1.111	1.090	5	AVG	
N-Nitrosodiethylamine			0.581	0.831	0.796	0.836	0.867	0.815	0.863	0.799	12	AVG	
Ethyl methanesulfonate			0.607	0.760	0.761	0.790	0.836	0.808	0.832	0.771	10	AVG	
Benzaldehyde				1.560	1.582	1.683	1.619	1.438	1.399	1.547	7	AVG	
Phenol	*		1.839	2.374	2.108	2.227	2.345	2.239	2.293	2.204	8	AVG	*
Aniline			2.009	2.800	2.607	2.716	2.902	2.759	2.879	2.668	12	AVG	
a-methylstyrene				0.504	0.529	0.494	0.547	0.545	0.586	0.534	6	AVG	
bis(2-Chloroethyl)ether			1.295	1.747	1.670	1.757	1.839	1.776	1.820	1.701	11	AVG	
2-Chlorophenol			0.957	1.387	1.291	1.388	1.464	1.402	1.421	1.330	13	AVG	
1,3-Dichlorobenzene			1.045	1.538	1.418	1.561	1.648	1.579	1.620	1.487	14	AVG	
1,4-Dichlorobenzene	*		0.991	1.571	1.415	1.532	1.634	1.595	1.610	1.478	15	1STDEG	*
Benzyl alcohol				0.743	0.802	0.790	0.847	0.844	0.883	0.818	6	AVG	
1,2-Dichlorobenzene			0.931	1.459	1.340	1.409	1.526	1.458	1.474	1.371	15	AVG	
Indene				1.854	1.882	1.792	2.016	1.989	2.089	1.937	6	AVG	
2-Methylphenol			0.995	1.234	1.172	1.234	1.294	1.212	1.229	1.196	8	AVG	
2,2'-oxybis(1-Chloropropane)			1.700	2.044	1.888	2.005	2.122	2.002	2.030	1.970	7	AVG	
bis(2-Chloroisopropyl)ether			1.700	2.044	1.888	2.005	2.122	2.002	2.030	1.970	7	AVG	
N-Nitrosopyrrolidine			0.511	0.646	0.622	0.654	0.722	0.703	0.700	0.651	11	AVG	
Acetophenone			1.063	1.750	1.657	1.829	1.898	1.785	1.897	1.697	17	1STDEG	
4-Methylphenol			1.115	1.231	1.165	1.227	1.290	1.209	1.210	1.207	5	AVG	
Total Cresols			1.055	1.233	1.169	1.230	1.292	1.210	1.219	1.201	6	AVG	
N-Nitroso-di-n-propylamine	#		0.886	1.100	1.040	1.061	1.119	1.063	1.114	1.055	8	AVG	#
N-Nitrosomorpholine				0.905	0.829	0.882	0.938	0.886	0.910	0.892	4	AVG	
o-Toluidine			1.469	2.122	1.896	2.044	2.192	2.076	2.289	2.013	13	AVG	
Hexachloroethane			0.400	0.571	0.572	0.603	0.644	0.605	0.627	0.574	14	AVG	
Nitrobenzene			0.520	0.663	0.625	0.633	0.665	0.656	0.644	0.629	8	AVG	
N-Nitrosopiperidine			0.149	0.212	0.205	0.215	0.225	0.225	0.222	0.208	13	AVG	
Isophorone			0.754	0.897	0.836	0.910	0.963	0.954	0.922	0.891	8	AVG	
2-Nitrophenol	*		0.164	0.206	0.206	0.212	0.229	0.227	0.220	0.209	11	AVG	*
2,4-Dimethylphenol			0.364	0.448	0.413	0.429	0.455	0.462	0.445	0.431	8	AVG	
O,O,O-Triethylphosphorothioate				0.181	0.162	0.171	0.180	0.176	0.177	0.175	4	AVG	
bis(2-Chloroethoxy)methane			0.416	0.515	0.485	0.483	0.524	0.510	0.510	0.492	7	AVG	
Benzoic acid				0.130	0.199	0.245	0.302	0.330	0.331	0.256	31	1STDEG	
2,4-Dichlorophenol	*		0.260	0.379	0.326	0.354	0.379	0.374	0.360	0.348	12	AVG	*
1,2,4-Trichlorobenzene			0.317	0.421	0.385	0.394	0.417	0.415	0.405	0.394	9	AVG	
Naphthalene		0.952	0.777	1.105	1.001	1.031	1.088	1.086	1.087	1.016	11	AVG	
4-Chloroaniline			0.307	0.406	0.389	0.423	0.476	0.474	0.476	0.422	15	AVG	
2,6-Dichlorophenol			0.241	0.333	0.319	0.329	0.366	0.365	0.361	0.331	13	AVG	
Hexachloropropene				0.306	0.291	0.300	0.324	0.315	0.311	0.308	4	AVG	
Hexachlorobutadiene	*		0.181	0.264	0.240	0.242	0.257	0.244	0.242	0.238	11	AVG	*
Quinoline				0.534	0.568	0.624	0.701	0.679	0.673	0.630	11	AVG	
Caprolactam					0.110	0.128	0.135	0.138	0.142	0.131	9	AVG	
N-Nitrosodi-n-butylamine			0.292	0.328	0.330	0.369	0.426	0.428	0.350	0.361	14	AVG	
4-Chloro-3-methylphenol	*		0.233	0.295	0.303	0.349	0.385	0.383	0.375	0.332	17	1STDEG	*
Safrole				0.259	0.243	0.256	0.286	0.285	0.287	0.269	7	AVG	
2-Methylnaphthalene		0.489	0.495	0.612	0.579	0.616	0.678	0.687	0.689	0.606	13	AVG	
1-Methylnaphthalene		0.434	0.420	0.524	0.517	0.546	0.603	0.604	0.616	0.533	14	AVG	

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP23264 Calibration Date(s): 04/14/18 04/14/18

Calibration Times: 14:18 19:31

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID: RRF0.125 = jd0622.d RRF0.25 = jd0628.d RRF1.25 = jd0627.d RRF3.75 = jd0626.d
RRF7.5 = jd0621.d RRF12.5 = jd0625.d RRF20 = jd0624.d RRF30 = jd0623.d

COMPOUND		RRF0.125	RF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD	
Hexachlorocyclopentadiene	#			0.523	0.548	0.555	0.538	0.536	0.527	0.538	2	AVG	#
1,2,4,5-Tetrachlorobenzene			0.818	0.928	0.881	0.881	0.862	0.845	0.874	0.870	4	AVG	
cis-Isosafrole				0.660	0.626	0.631	0.639	0.667	0.659	0.647	3	AVG	
2,4,6-Trichlorophenol	*		0.482	0.527	0.523	0.582	0.588	0.613	0.622	0.563	9	AVG	*
2,4,5-Trichlorophenol			0.480	0.530	0.551	0.629	0.653	0.628	0.616	0.584	11	AVG	
trans-Isosafrole				0.656	0.652	0.684	0.709	0.707	0.709	0.686	4	AVG	
Isosafrole				0.657	0.648	0.675	0.697	0.700	0.701	0.680	3	AVG	
1,1'-Biphenyl			1.020	1.768	1.549	1.705	1.671	1.671	1.759	1.592	16	1STDEG	
2-Chloronaphthalene			1.364	1.579	1.420	1.395	1.402	1.587	1.500	1.464	6	AVG	
1-Chloronaphthalene			1.198	1.398	1.302	1.317	1.393	1.304	1.362	1.325	5	AVG	
Diphenyl ether			0.848	0.968	0.902	0.903	0.931	0.933	0.932	0.917	4	AVG	
2-Nitroaniline			0.335	0.441	0.438	0.477	0.485	0.495	0.498	0.453	13	AVG	
1,4-Naphthoquinone				0.523	0.568	0.602	0.616	0.615	0.599	0.587	6	AVG	
1,4-Dinitrobenzene				0.223	0.258	0.263	0.274	0.270	0.279	0.261	8	AVG	
Dimethylphthalate				1.550	1.542	1.632	1.682	1.706	1.676	1.631	4	AVG	
1,3-Dinitrobenzene				0.271	0.285	0.301	0.307	0.304	0.301	0.295	5	AVG	
2,6-Dinitrotoluene			0.304	0.386	0.359	0.410	0.396	0.394	0.403	0.379	10	AVG	
Acenaphthylene		1.760	1.612	1.946	1.823	1.918	2.040	2.107	2.032	1.905	9	AVG	
3-Nitroaniline			0.318	0.367	0.359	0.392	0.413	0.419	0.419	0.384	10	AVG	
Acenaphthene	*	1.013	1.110	1.295	1.179	1.275	1.328	1.338	1.330	1.234	10	AVG	*
2,4-Dinitrophenol	#				0.260	0.283	0.318	0.309	0.310	0.296	8	AVG	#
4-Nitrophenol	#			0.317	0.321	0.346	0.343	0.344	0.369	0.340	6	AVG	#
Pentachlorobenzene			0.561	0.707	0.595	0.620	0.637	0.616	0.634	0.624	7	AVG	
2,4-Dinitrotoluene				0.501	0.497	0.546	0.558	0.557	0.552	0.535	5	AVG	
2,4_2,6-Dinitrotoluenes			0.348	0.443	0.428	0.478	0.477	0.476	0.477	0.447	11	AVG	
Dibenzofuran			1.569	1.773	1.739	1.802	1.916	1.943	1.947	1.813	8	AVG	
1-Naphthylamine					1.224	1.314	1.415	1.488	1.448	1.378	8	AVG	
2,3,4,6-Tetrachlorophenol			0.370	0.471	0.459	0.474	0.489	0.523	0.518	0.472	11	AVG	
2-Naphthylamine					1.165	1.221	1.407	1.433	1.389	1.323	9	AVG	
Diethylphthalate				1.582	1.527	1.651	1.689	1.679	1.658	1.631	4	AVG	
Thionazin				0.245	0.254	0.262	0.279	0.274	0.285	0.266	6	AVG	
Fluorene		1.332	1.265	1.513	1.413	1.443	1.545	1.611	1.611	1.467	9	AVG	
4-Chlorophenyl-phenylether			0.718	0.776	0.725	0.732	0.779	0.778	0.781	0.756	4	AVG	
5-Nitro-o-toluidine			0.348	0.459	0.435	0.479	0.493	0.498	0.478	0.456	11	AVG	
4-Nitroaniline			0.266	0.418	0.443	0.438	0.440	0.409	0.399	0.402	15	2NDDEG	
4,6-Dinitro-2-methylphenol				0.162	0.171	0.181	0.192	0.191	0.190	0.181	7	AVG	
N-Nitrosodiphenylamine (1)	*		0.560	0.673	0.623	0.656	0.693	0.704	0.677	0.655	8	AVG	*
NDPA as diphenylamine			0.560	0.673	0.623	0.656	0.693	0.704	0.677	0.655	8	AVG	
1,2-Diphenylhydrazine			0.866	1.026	0.925	0.970	1.036	1.035	1.015	0.982	7	AVG	
Tetraethyldithiopyrophosphate				0.200	0.183	0.193	0.199	0.195	0.193	0.194	3	AVG	
1,3,5-Trinitrobenzene				0.106	0.098	0.111	0.111	0.111	0.111	0.108	5	AVG	
Diallate (peak 1)				0.419	0.384	0.393	0.414	0.407	0.410	0.405	3	AVG	
Phorate			0.517	0.643	0.578	0.596	0.626	0.626	0.631	0.602	7	AVG	
Phenacetin			0.361	0.496	0.503	0.515	0.530	0.505	0.494	0.486	12	AVG	
4-Bromophenyl-phenylether			0.206	0.264	0.220	0.233	0.235	0.237	0.233	0.233	8	AVG	
Diallate (peak 2)				0.329	0.333	0.353	0.339	0.342	0.333	0.338	3	AVG	
Diallate trans/cis				0.403	0.375	0.387	0.401	0.396	0.397	0.393	3	AVG	
Hexachlorobenzene		0.185	0.273	0.228	0.226	0.243	0.240	0.244	0.247	0.236	11	AVG	
Dimethoate				0.382	0.376	0.384	0.382	0.372	0.354	0.375	3	AVG	
Atrazine				0.266	0.224	0.240	0.226	0.218	0.210	0.231	9	AVG	
Pentachlorophenol	*			0.174	0.170	0.178	0.183	0.184	0.182	0.178	3	AVG	*
4-Aminobiphenyl			0.633	0.807	0.728	0.807	0.806	0.822	0.802	0.772	9	AVG	

(1) Cannot be separated from Diphenylamine
4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP23264 Calibration Date(s): 04/14/18 04/14/18

Calibration Times: 14:18 19:31

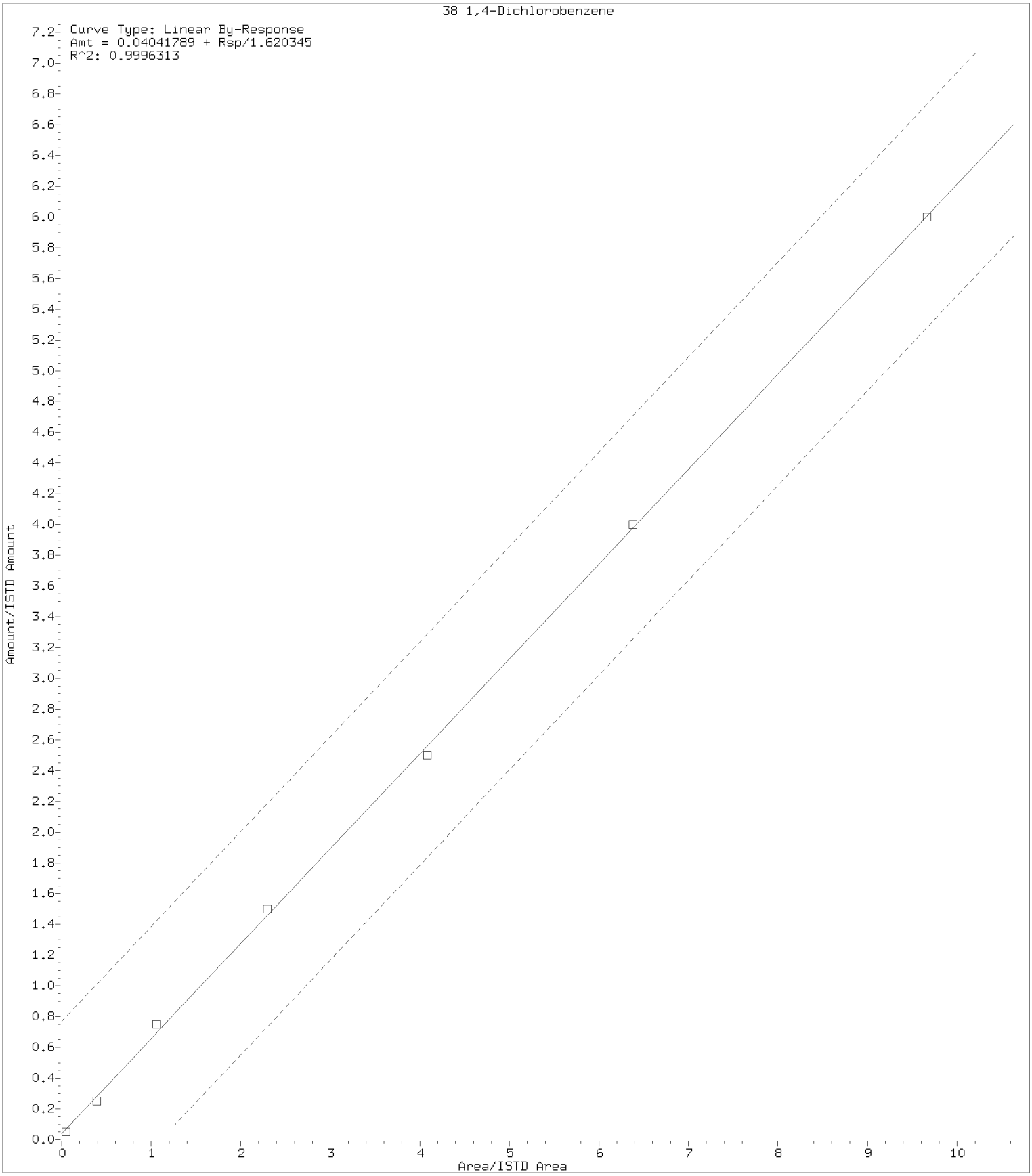
Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID: RRF0.125 = jd0622.d RRF0.25 = jd0628.d RRF1.25 = jd0627.d RRF3.75 = jd0626.d
RRF7.5 = jd0621.d RRF12.5 = jd0625.d RRF20 = jd0624.d RRF30 = jd0623.d

COMPOUND	RRF0.125	RRF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
Pentachloronitrobenzene			0.138	0.140	0.144	0.150	0.150	0.153	0.146	4	AVG
Pronamide		0.315	0.421	0.407	0.422	0.432	0.419	0.411	0.404	10	AVG
Dinoseb			0.247	0.237	0.249	0.264	0.259	0.259	0.253	4	AVG
Phenanthrene	0.957	0.990	1.178	1.093	1.158	1.185	1.211	1.213	1.123	9	AVG
Anthracene	0.928	0.992	1.203	1.136	1.193	1.208	1.236	1.228	1.140	10	AVG
Carbazole		0.849	1.091	1.016	1.058	1.076	1.063	1.061	1.031	8	AVG
Methyl parathion			0.273	0.284	0.285	0.301	0.286	0.280	0.285	3	AVG
Di-n-butylphthalate			1.429	1.339	1.410	1.397	1.376	1.351	1.384	3	AVG
Parathion			0.171	0.168	0.190	0.192	0.189	0.185	0.183	6	AVG
4-Nitroquinoline-1-oxide			0.140	0.139	0.167	0.165	0.172	0.164	0.158	9	AVG
Octachlorostyrene			0.098	0.094	0.088	0.089	0.094	0.094	0.093	4	AVG
Isodrin		0.136	0.169	0.152	0.152	0.152	0.152	0.150	0.152	6	AVG
Fluoranthene *	1.242	1.178	1.392	1.224	1.298	1.319	1.330	1.307	1.286	5	AVG *
Benzidine				0.709	0.765	0.795	0.786	0.795	0.770	5	AVG
Pyrene	1.098	1.130	1.323	1.216	1.264	1.339	1.362	1.365	1.262	8	AVG
p-Dimethylaminoazobenzene		0.171	0.193	0.194	0.197	0.211	0.220	0.221	0.201	9	AVG
Chlorobenzilate			0.392	0.380	0.414	0.412	0.428	0.438	0.410	5	AVG
3,3'-Dimethylbenzidine			0.768	0.801	0.849	0.819	0.822	0.822	0.813	3	AVG
Butylbenzylphthalate			0.589	0.561	0.619	0.605	0.596	0.607	0.596	3	AVG
2-Acetylaminofluorene			0.454	0.475	0.488	0.519	0.537	0.562	0.506	8	AVG
3,3'-Dichlorobenzidine			0.461	0.419	0.430	0.454	0.476	0.485	0.454	6	AVG
4,4'-Methylenebis(2-chloroanil				0.227	0.246	0.247	0.262	0.266	0.250	6	AVG
Benzo(a)anthracene	1.086	1.099	1.239	1.183	1.249	1.260	1.279	1.304	1.212	7	AVG
Chrysene	1.017	1.072	1.218	1.101	1.174	1.175	1.189	1.231	1.147	7	AVG
bis(2-Ethylhexyl)phthalate			0.814	0.771	0.853	0.877	0.897	0.913	0.854	6	AVG
6-Methylchrysene			0.802	0.717	0.778	0.792	0.825	0.834	0.791	5	AVG
Di-n-octylphthalate *			1.536	1.534	1.650	1.648	1.613	1.737	1.620	5	AVG *
Benzo(b)fluoranthene	1.051	1.079	1.257	1.215	1.270	1.317	1.332	1.399	1.240	10	AVG
7,12-Dimethylbenz[a]anthracene		0.407	0.505	0.501	0.562	0.562	0.576	0.611	0.532	13	AVG
Benzo(k)fluoranthene	1.098	0.996	1.278	1.123	1.186	1.222	1.219	1.299	1.178	9	AVG
Benzo(a)pyrene *	1.077	0.929	1.177	1.116	1.144	1.223	1.223	1.296	1.148	10	AVG *
3-Methylcholanthrene		0.498	0.580	0.500	0.521	0.564	0.553	0.582	0.543	7	AVG
Dibenz(a,h)acridine			0.916	0.847	0.921	0.924	0.883	0.898	0.898	3	AVG
Dibenz(a,j)acridine			0.942	0.884	0.912	0.926	0.899	0.909	0.912	2	AVG
Indeno(1,2,3-cd)pyrene	0.864	0.976	1.144	1.039	1.085	1.103	1.064	1.067	1.043	8	AVG
Dibenz(a,h)anthracene	0.839	0.803	1.077	0.982	1.031	1.067	1.032	1.025	0.982	11	AVG
Benzo(g,h,i)perylene	1.049	0.973	1.255	1.141	1.145	1.160	1.113	1.084	1.115	7	AVG
Total PAHs	0.956	0.922	1.147	1.068	1.082	1.116	1.091	1.134	1.064	8	AVG
2-Fluorophenol		1.134	1.549	1.460	1.541	1.605	1.519	1.593	1.486	11	AVG
Phenol-d6		1.588	2.179	1.973	2.119	2.220	2.141	2.192	2.059	11	AVG
Nitrobenzene-d5		0.491	0.664	0.614	0.628	0.667	0.673	0.654	0.627	10	AVG
2-Fluorobiphenyl		1.410	1.676	1.581	1.591	1.635	1.673	1.724	1.613	6	AVG
2,4,6-Tribromophenol		0.152	0.232	0.215	0.225	0.233	0.246	0.248	0.222	15	AVG
Terphenyl-d14		0.736	0.824	0.799	0.845	0.882	0.917	0.933	0.848	8	AVG

Average %RSD 8

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.
Benzidine Levels in the 5,15,30,50,80,120 standards are 15,45,90,150,240,360 ng/ul, respectively.
Benzoic acid and 2,4-Dinitrophenol are at 15 ng/ul, 30 ng/ul,40 ng/ul in the 5,15,30 standards.



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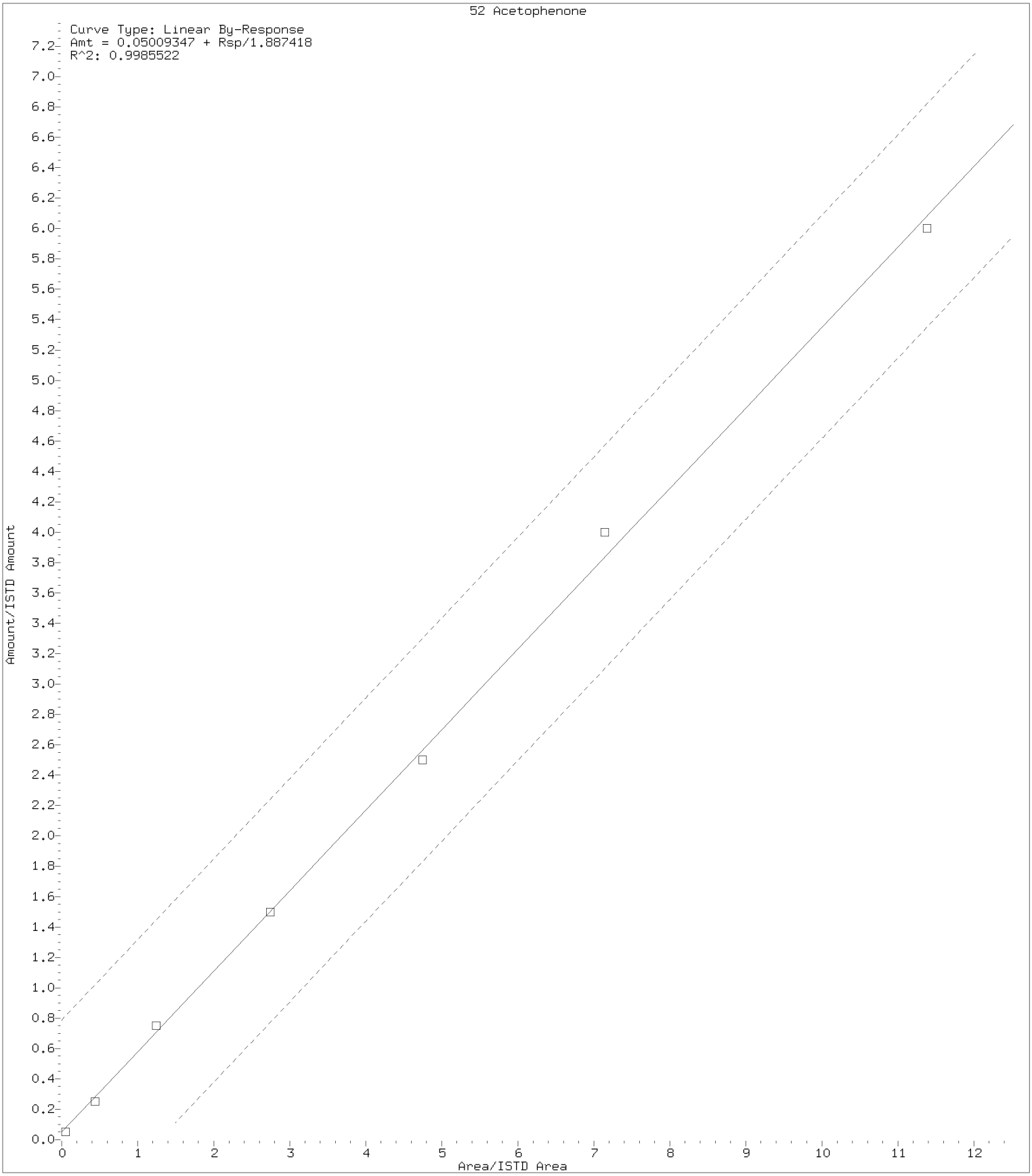
Target 3.5 esignature user ID: cam01237



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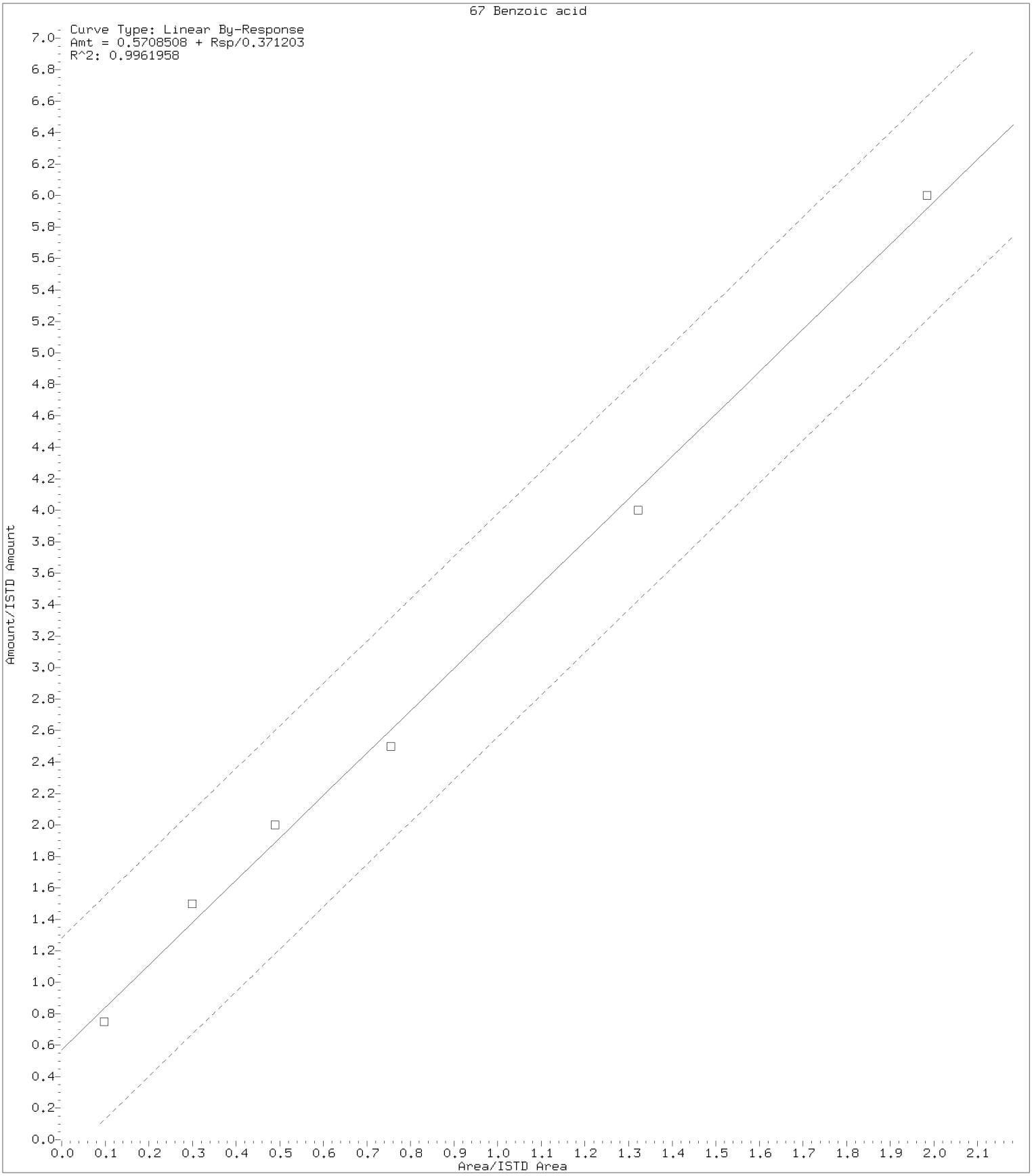

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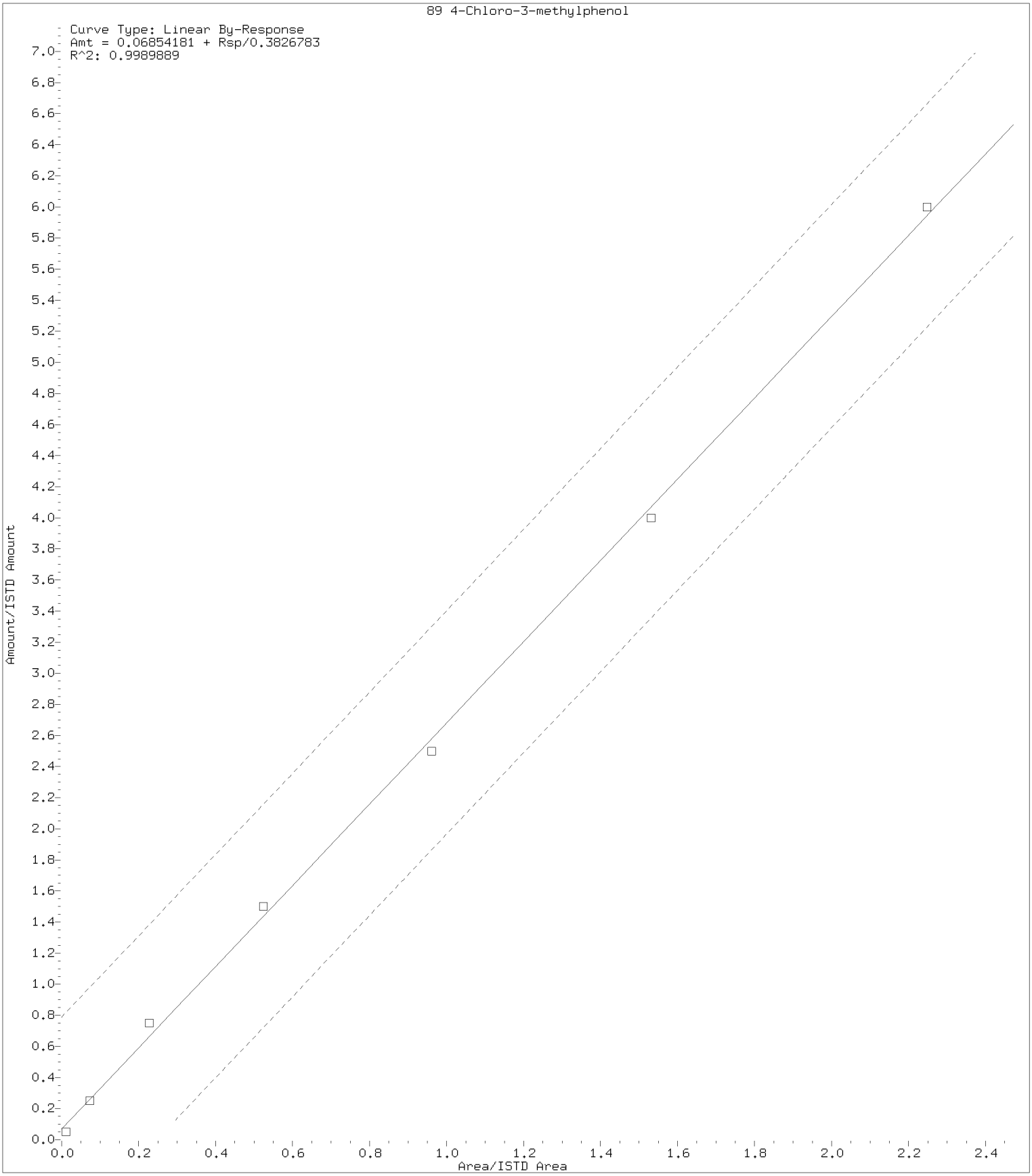

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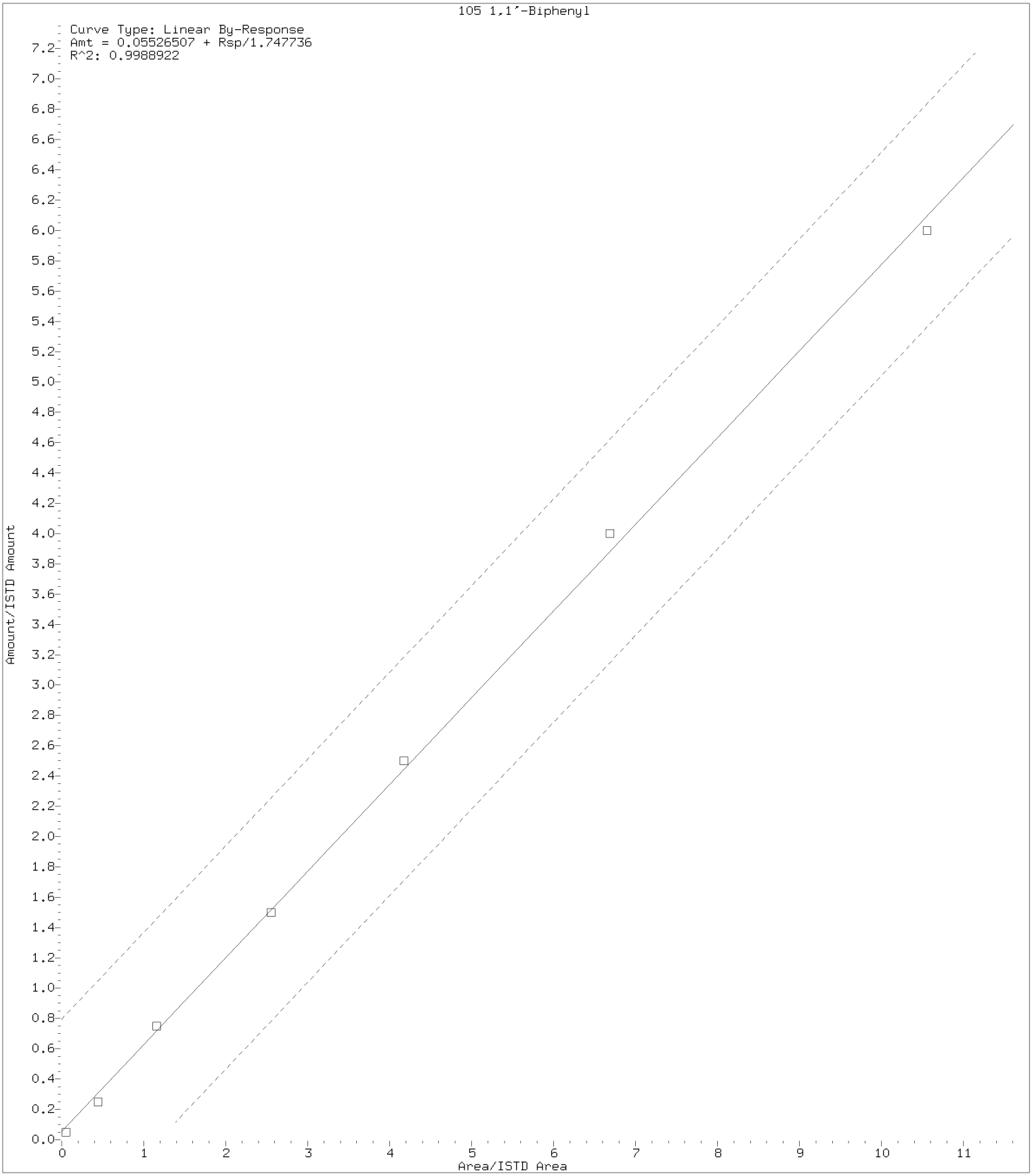
Target 3.5 esignature user ID: cam01237



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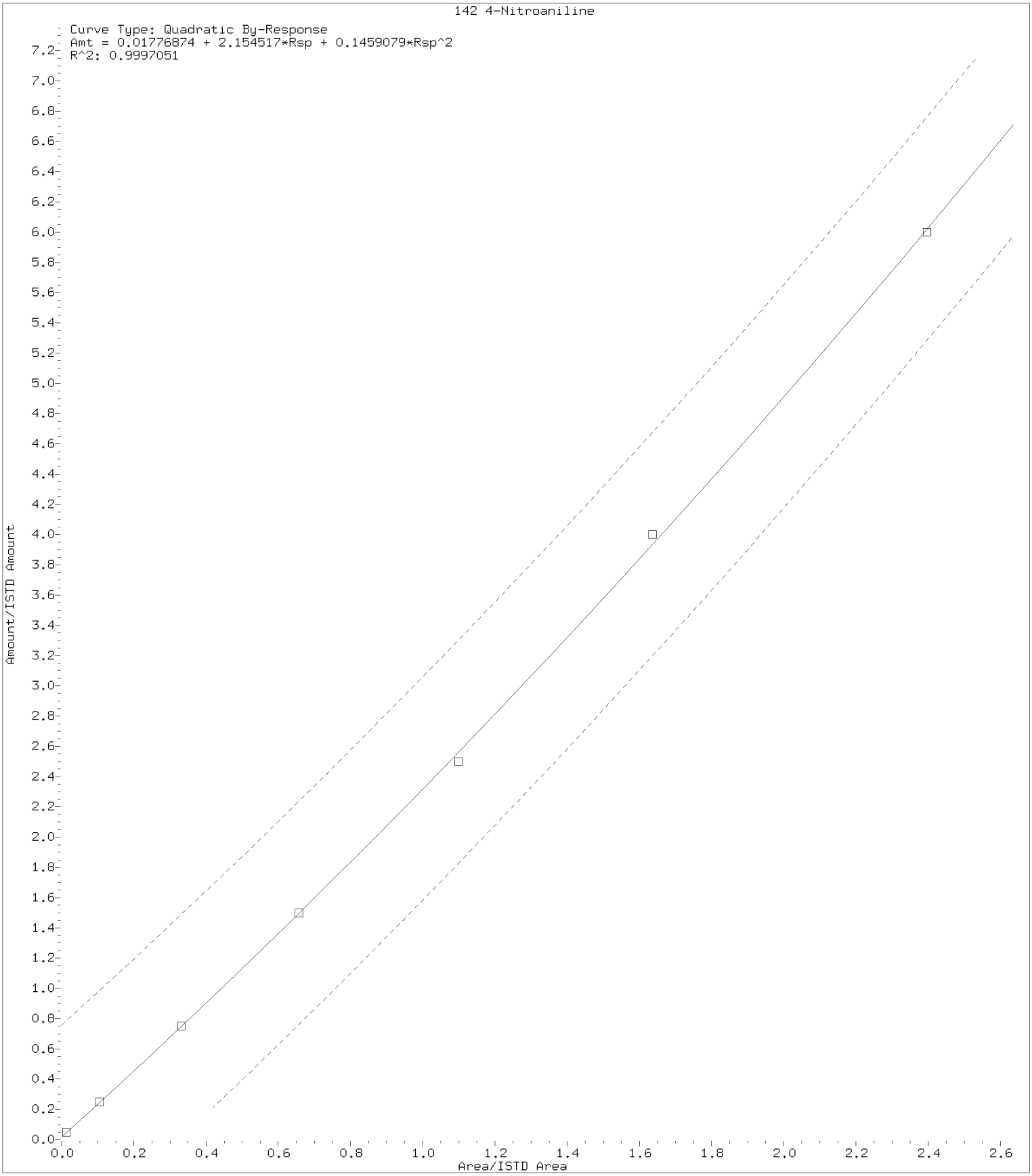
Target 3.5 esignature user ID: cam01237



Digitally signed by Chad A. Moline on 04/17/2018 at 11:24.
Target 3.5 esignature user ID: cam01237

Internal Standard
Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP23264.i/18apr14.b/jd0621.d SSTD7.5
/chem/HP23264.i/18apr14.b/jd0622.d SSTD0.125
/chem/HP23264.i/18apr14.b/jd0623.d SSTD30
/chem/HP23264.i/18apr14.b/jd0624.d SSTD20
/chem/HP23264.i/18apr14.b/jd0625.d SSTD12.5
/chem/HP23264.i/18apr14.b/jd0626.d SSTD3.75
/chem/HP23264.i/18apr14.b/jd0627.d SSTD1.25
/chem/HP23264.i/18apr14.b/jd0628.d SSTD0.25

Area Summary

File ID:

Internal Standard Name	jd0621.d	jd0622.d	jd0623.d	jd0624.d	jd0625.d	jd0626.d	jd0627.d	jd0628.d	Avg. Area	%RSD	In Spec
1,4-Dichlorobenzene-d4	213925	200304	204439	210227	192563	193356	166729	165435	193372	10	Yes
Naphthalene-d8	544533	499320	530047	517584	501287	484814	412803	420279	488833	10	Yes
Acenaphthene-d10	218924	179602	235744	231104	224130	184793	155647	150045	197499	17	Yes
Phenanthrene-d10	432744	358688	465542	452267	436402	364176	299306	294878	388000	18	Yes
Pyrene-d10	460502	396867	462192	467094	457446	401640	344174	325617	414442	14	Yes
Perylene-d12	435012	362179	452305	466067	433468	356596	304273	305797	389462	17	Yes

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:

Internal Standard Name	jd0621.d	jd0622.d	jd0623.d	jd0624.d	jd0625.d	jd0626.d	jd0627.d	jd0628.d	Avg. RT
1,4-Dichlorobenzene-d4	8.090	8.090	8.096	8.096	8.096	8.090	8.090	8.090	8.092
Naphthalene-d8	9.626	9.626	9.631	9.626	9.625	9.626	9.625	9.626	9.626
Acenaphthene-d10	11.955	11.949	11.955	11.955	11.955	11.955	11.949	11.949	11.953
Phenanthrene-d10	13.497	13.497	13.503	13.497	13.497	13.497	13.497	13.497	13.498
Pyrene-d10	15.225	15.225	15.231	15.225	15.225	15.225	15.225	15.225	15.226
Perylene-d12	19.569	19.564	19.569	19.570	19.569	19.564	19.563	19.564	19.566

Comments:_____

_____

Report generated on 04/15/2018 at 14:18

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP23264

Method: SW-846 8270C MINI File ID: jd0631.d

ICV SAMPLE ID: rvICV0648 BATCH: 18APR14026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
1,4-Dioxane	12.50	14.90	19	20	YES
N-Nitrosodimethylamine	12.50	12.33	-1	20	YES
Pyridine	12.50	12.23	-2	20	YES
2-Picoline	12.50	12.15	-3	20	YES
N-Nitrosomethylethylamine	12.50	11.93	-5	20	YES
Methyl methanesulfonate	12.50	12.51	0	20	YES
N-Nitrosodiethylamine	12.50	12.67	1	20	YES
Ethyl methanesulfonate	12.50	12.83	3	20	YES
Phenol	12.50	12.20	-2	20	YES
Aniline	12.50	12.26	-2	20	YES
bis(2-Chloroethyl)ether	12.50	12.50	0	20	YES
2-Chlorophenol	12.50	12.78	2	20	YES
1,3-Dichlorobenzene	12.50	13.13	5	20	YES
1,4-Dichlorobenzene	12.50	12.34	-1	20	YES
Benzyl alcohol	12.50	13.49	8	20	YES
1,2-Dichlorobenzene	12.50	13.02	4	20	YES
2-Methylphenol	12.50	12.18	-3	20	YES
Indene	12.50	15.77	26	20	*NO
2,2'-oxybis(1-Chloropropane	12.50	12.38	-1	20	YES
bis(2-Chloroisopropyl)ether	12.50	12.38	-1	20	YES
N-Nitrosopyrrolidine	12.50	12.83	3	20	YES
Acetophenone	12.50	12.01	-4	20	YES
4-Methylphenol	12.50	12.37	-1	20	YES
N-Nitroso-di-n-propylamine	12.50	12.38	-1	20	YES
N-Nitrosomorpholine	12.50	12.00	-4	20	YES
o-Toluidine	12.50	12.52	0	20	YES
Hexachloroethane	12.50	12.77	2	20	YES
Nitrobenzene	12.50	12.21	-2	20	YES
N-Nitrosopiperidine	12.50	12.31	-2	20	YES
Isophorone	12.50	12.80	2	20	YES
2-Nitrophenol	12.50	12.50	0	20	YES
2,4-Dimethylphenol	12.50	10.60	-15	20	YES
O,O,O-Triethylphosphorothio	12.50	11.83	-5	20	YES
Benzoic acid	25.00	29.67	19	20	YES
bis(2-Chloroethoxy)methane	12.50	12.12	-3	20	YES
2,4-Dichlorophenol	12.50	12.91	3	20	YES
1,2,4-Trichlorobenzene	12.50	12.37	-1	20	YES

NC = Could not calculate

Comments: *non-CCC, <50%, OK

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP23264

Method: SW-846 8270C MINI File ID: jd0631.d

ICV SAMPLE ID: rvICV0648 BATCH: 18APR14026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Naphthalene	12.50	12.36	-1	20	YES
4-Chloroaniline	12.50	13.71	10	20	YES
2,6-Dichlorophenol	12.50	12.94	4	20	YES
Hexachloropropene	12.50	12.90	3	20	YES
Hexachlorobutadiene	12.50	12.56	0	20	YES
Quinoline	12.50	12.61	1	20	YES
N-Nitrosodi-n-butylamine	12.50	10.40	-17	20	YES
4-Chloro-3-methylphenol	12.50	12.71	2	20	YES
Safrole	12.50	12.13	-3	20	YES
2-Methylnaphthalene	12.50	13.04	4	20	YES
1-Methylnaphthalene	12.50	13.67	9	20	YES
Hexachlorocyclopentadiene	25.00	24.26	-3	20	YES
1,2,4,5-Tetrachlorobenzene	12.50	11.11	-11	20	YES
cis-Isosafrole	1.50	1.46	-3	20	YES
2,4,6-Trichlorophenol	12.50	12.39	-1	20	YES
2,4,5-Trichlorophenol	12.50	13.65	9	20	YES
trans-Isosafrole	11.00	10.62	-4	20	YES
1,1'-Biphenyl	12.50	11.43	-9	20	YES
2-Chloronaphthalene	12.50	11.32	-9	20	YES
Diphenyl ether	12.50	14.74	18	20	YES
2-Nitroaniline	12.50	13.30	6	20	YES
1,4-Naphthoquinone	15.63	15.29	-2	20	YES
1,4-Dinitrobenzene	12.50	12.25	-2	20	YES
Dimethylphthalate	12.50	12.03	-4	20	YES
1,3-Dinitrobenzene	12.50	12.23	-2	20	YES
2,6-Dinitrotoluene	12.50	12.26	-2	20	YES
Acenaphthylene	12.50	13.52	8	20	YES
3-Nitroaniline	12.50	13.11	5	20	YES
Acenaphthene	12.50	12.93	3	20	YES
2,4-Dinitrophenol	25.00	24.95	0	20	YES
4-Nitrophenol	12.50	12.25	-2	20	YES
Pentachlorobenzene	12.50	11.93	-5	20	YES
2,4-Dinitrotoluene	12.50	11.93	-5	20	YES
Dibenzofuran	12.50	12.70	2	20	YES
1-Naphthylamine	25.00	24.77	-1	20	YES
2-Naphthylamine	25.00	25.98	4	20	YES
Diethylphthalate	12.50	11.91	-5	20	YES

NC = Could not calculate

Comments:

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP23264

Method: SW-846 8270C MINI File ID: jd0631.d

ICV SAMPLE ID: rvICV0648 BATCH: 18APR14026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Thionazin	12.50	12.47	0	20	YES
Fluorene	12.50	12.42	-1	20	YES
5-Nitro-o-toluidine	12.50	12.94	4	20	YES
4-Chlorophenyl-phenylether	12.50	12.05	-4	20	YES
4-Nitroaniline	12.50	11.48	-8	20	YES
4,6-Dinitro-2-methylphenol	12.50	12.66	1	20	YES
N-Nitrosodiphenylamine	12.50	12.55	0	20	YES
NDPA as diphenylamine	12.50	12.55	0	20	YES
1,2-Diphenylhydrazine	12.50	12.46	0	20	YES
Tetraethyldithiopyrophospha	12.50	11.57	-7	20	YES
1,3,5-Trinitrobenzene	12.50	12.31	-2	20	YES
Diallate (peak 1)	9.38	7.99	-15	20	YES
Phorate	12.50	11.99	-4	20	YES
Phenacetin	12.50	12.30	-2	20	YES
4-Bromophenyl-phenylether	12.50	11.81	-6	20	YES
Diallate (peak 2)	3.13	3.03	-3	20	YES
Hexachlorobenzene	12.50	12.11	-3	20	YES
Dimethoate	12.50	12.26	-2	20	YES
Pentachlorophenol	12.50	12.89	3	20	YES
4-Aminobiphenyl	12.50	13.61	9	20	YES
Pentachloronitrobenzene	12.50	11.92	-5	20	YES
Pronamide	12.50	11.85	-5	20	YES
Dinoseb	12.50	11.94	-4	20	YES
Phenanthrene	12.50	12.69	2	20	YES
Anthracene	12.50	12.37	-1	20	YES
Carbazole	12.50	12.52	0	20	YES
Methyl parathion	12.50	13.14	5	20	YES
Di-n-butylphthalate	12.50	11.55	-8	20	YES
4-Nitroquinoline-1-oxide	150.00	170.58	14	20	YES
Parathion	12.50	12.48	0	20	YES
Isodrin	12.50	11.70	-6	20	YES
Fluoranthene	12.50	11.76	-6	20	YES
Benzidine	62.50	51.41	-18	20	YES
Pyrene	12.50	12.24	-2	20	YES
p-Dimethylaminoazobenzene	12.50	14.53	16	20	YES
Chlorobenzilate	12.50	11.94	-4	20	YES
3,3'-Dimethylbenzidine	25.00	21.04	-16	20	YES

NC = Could not calculate

Comments:

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP23264

Method: SW-846 8270C MINI File ID: jd0631.d

ICV SAMPLE ID: rvICV0648 BATCH: 18APR14026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Butylbenzylphthalate	12.50	11.42	-9	20	YES
2-Acetylaminofluorene	12.50	12.00	-4	20	YES
Benzo(a)anthracene	12.50	11.39	-9	20	YES
3,3'-Dichlorobenzidine	12.50	11.66	-7	20	YES
4,4'-Methylenebis(2-chloroa	12.50	11.21	-10	20	YES
Chrysene	12.50	11.39	-9	20	YES
bis(2-Ethylhexyl)phthalate	12.50	11.54	-8	20	YES
6-Methylchrysene	12.50	11.44	-8	20	YES
Di-n-octylphthalate	12.50	12.26	-2	20	YES
Benzo(b)fluoranthene	12.50	12.68	1	20	YES
7,12-Dimethylbenz[a]anthrac	12.50	12.87	3	20	YES
Benzo(k)fluoranthene	12.50	12.57	1	20	YES
Benzo(a)pyrene	12.50	12.85	3	20	YES
3-Methylcholanthrene	12.50	13.71	10	20	YES
Dibenz(a,h)acridine	12.50	12.10	-3	20	YES
Dibenz(a,j)acridine	12.50	10.85	-13	20	YES
Indeno(1,2,3-cd)pyrene	12.50	12.16	-3	20	YES
Dibenz(a,h)anthracene	12.50	13.00	4	20	YES
Benzo(g,h,i)perylene	12.50	11.99	-4	20	YES
Total Cresols	25.00	24.55	-2	20	YES
Isosafrole	12.50	12.07	-3	20	YES
2,4_2,6-Dinitrotoluenes	25.00	24.19	-3	20	YES
Diallate trans/cis	12.50	11.01	-12	20	YES
Total PAHs	225.00	225.03	0	20	YES

NC = Could not calculate

Comments:

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP23264

Method: SW-846 8270C MINI File ID: jd0632.d

ICV SAMPLE ID: rvBASICV0648 BATCH: 18APR14026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Benzaldehyde	12.50	13.42	7	20	YES
Caprolactam	12.50	6.19	-50	20	*NO
Atrazine	12.50	14.03	12	20	YES

NC = Could not calculate

Comments: *Dift is 49.52%; Non-CCC, OK since <50%

Page 1 of 1

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP23264

Method: SW-846 8270C MINI File ID: jd0633.d

ICV SAMPLE ID: MS180952 BATCH: 18APR14026 Sample Name: MSSPK1

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
1-Chloronaphthalene	12.50	13.08	5	20	YES
2,3,4,6-Tetrachlorophenol	12.50	13.12	5	20	YES

NC = Could not calculate

Comments:

Page 1 of 1

7B
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP18831 Calibration Date: 04/17/18 Time: 06:19

Lab File ID: hd0751.d Init. Calib. Date(s): 04/02/18 04/03/18

Init. Calib. Times(s): 22:00 01:42

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
1,4-Dioxane	0.589	0.555	7.070	7.5	-6
N-Nitrosodimethylamine	0.984	0.926	7.060	7.5	-6
Pyridine	1.648	1.584	7.210	7.5	-4
2-Picoline	1.702	1.558	6.860	7.5	-8
N-Nitrosomethylethylamine	0.675	0.660	7.340	7.5	-2
Methyl methanesulfonate	0.829	0.781	7.060	7.5	-6
N-Nitrosodiethylamine	0.672	0.653	7.290	7.5	-3
Ethyl methanesulfonate	0.720	0.693	7.220	7.5	-4
Benzaldehyde	1.136	1.260	8.320	7.5	11
* Phenol	2.099	1.906	6.810	7.5	-9*
Aniline	2.378	2.292	7.230	7.5	-4
a-methylstyrene	0.518	0.475	6.880	7.5	-8
bis(2-Chloroethyl)ether	1.522	1.472	7.250	7.5	-3
2-Chlorophenol	1.428	1.387	7.280	7.5	-3
1,3-Dichlorobenzene	1.578	1.553	7.380	7.5	-2
* 1,4-Dichlorobenzene	1.578	1.574	7.480	7.5	0*
Benzyl alcohol	0.850	0.743	6.560	7.5	-13
1,2-Dichlorobenzene	1.521	1.491	7.350	7.5	-2
Indene	2.105	1.946	6.940	7.5	-8
2-Methylphenol	1.324	1.283	7.270	7.5	-3
2,2'-oxybis(1-Chloropropane)	1.835	1.770	7.240	7.5	-4
bis(2-Chloroisopropyl)ether	1.835	1.770	7.240	7.5	-4
N-Nitrosopyrrolidine	0.726	0.703	7.260	7.5	-3
Acetophenone	1.972	2.021	7.680	7.5	2
4-Methylphenol	1.518	1.451	7.170	7.5	-4
Total Cresols	1.421	1.367	14.430	15.0	-4
# N-Nitroso-di-n-propylamine	1.150	1.072	6.990	7.5	-7#
N-Nitrosomorpholine	0.843	0.786	7.000	7.5	-7
o-Toluidine	2.306	2.256	7.340	7.5	-2
Hexachloroethane	0.644	0.611	7.120	7.5	-5
Nitrobenzene	0.437	0.417	7.160	7.5	-5
N-Nitrosopiperidine	0.191	0.183	7.160	7.5	-5
Isophorone	0.778	0.732	7.060	7.5	-6
* 2-Nitrophenol	0.180	0.182	7.580	7.5	1*
2,4-Dimethylphenol	0.391	0.362	6.950	7.5	-7
O,O,O-Triethylphosphorothioate	0.198	0.187	7.100	7.5	-5

FORM VII SV-1

7C
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP18831 Calibration Date: 04/17/18 Time: 06:19

Lab File ID: hd0751.d Init. Calib. Date(s): 04/02/18 04/03/18

Init. Calib. Times(s): 22:00 01:42

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
bis(2-Chloroethoxy)methane	0.495	0.476	7.220	7.5	-4
Benzoic acid	0.219	0.197	9.010	10.0	-10
* 2,4-Dichlorophenol	0.327	0.314	7.210	7.5	-4*
1,2,4-Trichlorobenzene	0.359	0.350	7.320	7.5	-2
Naphthalene	1.096	1.076	7.360	7.5	-2
4-Chloroaniline	0.451	0.425	7.070	7.5	-6
2,6-Dichlorophenol	0.316	0.307	7.290	7.5	-3
Hexachloropropene	0.255	0.238	7.000	7.5	-7
* Hexachlorobutadiene	0.218	0.212	7.310	7.5	-3*
Quinoline	0.697	0.653	7.020	7.5	-6
Caprolactam	0.098	0.098	7.530	7.5	0
N-Nitrosodi-n-butylamine	0.331	0.275	6.240	7.5	-17
* 4-Chloro-3-methylphenol	0.335	0.308	6.900	7.5	-8*
Safrole	0.296	0.278	7.050	7.5	-6
2-Methylnaphthalene	0.739	0.728	7.390	7.5	-1
1-Methylnaphthalene	0.674	0.652	7.260	7.5	-3
# Hexachlorocyclopentadiene	0.457	0.414	6.790	7.5	-9#
1,2,4,5-Tetrachlorobenzene	0.752	0.728	7.270	7.5	-3
cis-Isosafrole	0.648	0.579	1.140	1.3	-11
* 2,4,6-Trichlorophenol	0.481	0.459	7.160	7.5	-5*
2,4,5-Trichlorophenol	0.496	0.472	7.130	7.5	-5
trans-Isosafrole	0.718	0.612	5.300	6.2	-15
Isosafrole	0.706	0.606	6.440	7.5	-14
1,1'-Biphenyl	1.668	1.747	7.850	7.5	5
2-Chloronaphthalene	1.428	1.357	7.130	7.5	-5
1-Chloronaphthalene	1.308	1.329	7.620	7.5	2
Diphenyl ether	0.970	0.932	7.210	7.5	-4
2-Nitroaniline	0.415	0.415	7.500	7.5	0
1,4-Naphthoquinone	0.574	0.524	6.840	7.5	-9
1,4-Dinitrobenzene	0.201	0.210	7.860	7.5	5
Dimethylphthalate	1.629	1.526	7.020	7.5	-6
1,3-Dinitrobenzene	0.228	0.231	7.610	7.5	1
2,6-Dinitrotoluene	0.345	0.337	7.320	7.5	-2
Acenaphthylene	2.112	2.012	7.150	7.5	-5
3-Nitroaniline	0.364	0.353	7.270	7.5	-3
* Acenaphthene	1.444	1.378	7.150	7.5	-5*

FORM VII SV-1

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Casé No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP18831 Calibration Date: 04/17/18 Time: 06:19

Lab File ID: hd0751.d Init. Calib. Date(s): 04/02/18 04/03/18

Init. Calib. Times(s): 22:00 01:42

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
# 2,4-Dinitrophenol	0.180	0.188	10.450	10.0	5#
# 4-Nitrophenol	0.228	0.196	6.440	7.5	-14#
Pentachlorobenzene	0.653	0.639	7.340	7.5	-2
2,4-Dinitrotoluene	0.459	0.446	7.300	7.5	-3
2,4_2,6-Dinitrotoluenes	0.402	0.392	14.620	15.0	-3
Dibenzofuran	1.958	1.882	7.210	7.5	-4
1-Naphthylamine	1.478	1.363	6.910	7.5	-8
2,3,4,6-Tetrachlorophenol	0.408	0.391	7.200	7.5	-4
2-Naphthylamine	1.409	1.302	6.930	7.5	-8
Diethylphthalate	1.581	1.444	6.850	7.5	-9
Thionazin	0.302	0.272	6.770	7.5	-10
Fluorene	1.601	1.541	7.220	7.5	-4
4-Chlorophenyl-phenylether	0.777	0.760	7.330	7.5	-2
5-Nitro-o-toluidine	0.423	0.419	7.440	7.5	-1
4-Nitroaniline	0.371	0.363	7.340	7.5	-2
4,6-Dinitro-2-methylphenol	0.122	0.124	7.620	7.5	2
* N-Nitrosodiphenylamine (1)	0.656	0.615	7.030	7.5	-6*
NDPA as diphenylamine	0.656	0.615	7.030	7.5	-6
1,2-Diphenylhydrazine	0.863	0.793	6.890	7.5	-8
Tetraethyldithiopyrophosphate	0.149	0.135	6.790	7.5	-10
1,3,5-Trinitrobenzene	0.074	0.077	7.790	7.5	4
Diallate (peak 1)	0.376	0.343	5.680	6.2	-9
Phorate	0.648	0.706	7.450	7.5	-1
Phenacetin	0.409	0.376	6.890	7.5	-8
4-Bromophenyl-phenylether	0.239	0.232	7.280	7.5	-3
Diallate (peak 2)	0.309	0.271	1.120	1.3	-12
Diallate trans/cis	0.364	0.331	6.800	7.5	-9
Hexachlorobenzene	0.243	0.240	7.400	7.5	-1
Dimethoate	0.341	0.316	6.950	7.5	-7
Atrazine	0.209	0.217	7.800	7.5	4
* Pentachlorophenol	0.151	0.130	6.480	7.5	-14*
4-Aminobiphenyl	0.751	0.723	7.220	7.5	-4
Pentachloronitrobenzene	0.110	0.105	7.160	7.5	-5
Pronamide	0.386	0.358	6.970	7.5	-7
Dinoseb	0.197	0.212	8.070	7.5	8
Phenanthrene	1.165	1.119	7.210	7.5	-4

(1) Cannot be Separated from Diphenylamine

FORM VII SV-1

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP18831 Calibration Date: 04/17/18 Time: 06:19

Lab File ID: hd0751.d Init. Calib. Date(s): 04/02/18 04/03/18

Init. Calib. Times(s): 22:00 01:42

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Anthracene	1.189	1.159	7.310	7.5	-3
Carbazole	1.062	1.000	7.060	7.5	-6
Methyl parathion	0.258	0.253	7.340	7.5	-2
Di-n-butylphthalate	1.382	1.254	6.810	7.5	-9
Parathion	0.171	0.164	7.200	7.5	-4
4-Nitroquinoline-1-oxide	0.114	0.092	6.660	7.5	-11
Octachlorostyrene	0.094	0.085	6.790	7.5	-9
Isodrin	0.141	0.133	7.090	7.5	-5
* Fluoranthene	1.367	1.315	7.210	7.5	-4*
Benzidine	0.785	0.735	21.080	22.5	-6
Pyrene	1.324	1.274	7.220	7.5	-4
p-Dimethylaminoazobenzene	0.215	0.200	6.990	7.5	-7
Chlorobenzilate	0.388	0.348	6.720	7.5	-10
3,3'-Dimethylbenzidine	0.873	0.795	6.820	7.5	-9
Butylbenzylphthalate	0.582	0.542	6.980	7.5	-7
2-Acetylaminofluorene	0.539	0.492	6.840	7.5	-9
3,3'-Dichlorobenzidine	0.466	0.433	6.980	7.5	-7
4,4'-Methylenebis(2-chloroanil	0.264	0.246	6.990	7.5	-7
Benzo(a)anthracene	1.228	1.194	7.290	7.5	-3
Chrysene	1.173	1.177	7.530	7.5	0
bis(2-Ethylhexyl)phthalate	0.852	0.776	6.830	7.5	-9
6-Methylchrysene	0.860	0.802	6.990	7.5	-7
* Di-n-octylphthalate	1.542	1.343	6.530	7.5	-13*
Benzo(b)fluoranthene	1.256	1.180	7.050	7.5	-6
7,12-Dimethylbenz[a]anthracene	0.507	0.487	7.200	7.5	-4
Benzo(k)fluoranthene	1.182	1.164	7.390	7.5	-2
* Benzo(a)pyrene	1.155	1.104	7.170	7.5	-4*
3-Methylcholanthrene	0.580	0.528	6.820	7.5	-9
Dibenz(a,h)acridine	1.056	0.947	6.720	7.5	-10
Dibenz(a,j)acridine	1.060	0.973	6.890	7.5	-8
Indeno(1,2,3-cd)pyrene	1.141	1.074	7.060	7.5	-6
Dibenz(a,h)anthracene	1.173	1.104	7.050	7.5	-6
Benzo(g,h,i)perylene	1.201	1.121	7.000	7.5	-7
Total PAHs	1.067	0.996	130.010	135.0	-4
2-Fluorophenol	1.372	1.338	14.640	15.0	-2

FORM VII SV-1

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP18831 Calibration Date: 04/17/18 Time: 06:19

Lab File ID: hd0751.d Init. Calib. Date(s): 04/02/18 04/03/18

Init. Calib. Times(s): 22:00 01:42

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Phenol-d6	1.821	1.787	14.720	15.0	-2
Nitrobenzene-d5	0.440	0.426	14.530	15.0	-3
2-Fluorobiphenyl	1.652	1.595	14.480	15.0	-3
2,4,6-Tribromophenol	0.218	0.221	15.210	15.0	1
Terphenyl-d14	0.881	0.858	14.600	15.0	-3
			Average %Drift:		6

FORM VII SV-1

Continuing Calibration
Internal Standard Area and Retention Time
Summary

Initial Calibration Standards:

/chem/HP18831.i/18apr02a.b/hd0021.d **
/chem/HP18831.i/18apr02a.b/hd0022.d
/chem/HP18831.i/18apr02a.b/hd0023.d
/chem/HP18831.i/18apr02a.b/hd0024.d
/chem/HP18831.i/18apr02a.b/hd0025.d
/chem/HP18831.i/18apr02a.b/hd0026.d
/chem/HP18831.i/18apr02a.b/hd0027.d
/chem/HP18831.i/18apr02a.b/hd0028.d

** indicates the Mid Level Calibration Standard.

Mid Level Calibration Standard is used for comparison.

Current Continuing Calibration Standard:

/chem/HP18831.i/18apr17.b/hd0751.d

Area Summary

File ID:

Internal Standard Name	hd0751.d	ICAL Area	Low Limit	High Limit	In Spec
1,4-Dichlorobenzene-d4	174883	204539	102270	409078	Yes
Naphthalene-d8	652366	761979	380990	1523958	Yes
Acenaphthene-d10	330386	375873	187936	751746	Yes
Phenanthrene-d10	663389	748038	374019	1496076	Yes
Pyrene-d10	713078	807816	403908	1615632	Yes
Perylene-d12	734642	791375	395688	1582750	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

RT Summary

File ID:

Internal Standard Name	hd0751.d	ICAL RT	In Spec
1,4-Dichlorobenzene-d4	6.019	6.304	No
Naphthalene-d8	7.960	8.244	No
Acenaphthene-d10	10.729	11.025	No
Phenanthrene-d10	12.734	12.971	No
Pyrene-d10	14.535	14.842	No
Perylene-d12	18.842	19.226	No

A "No" indicates the retention time is greater than 10 seconds from the RT of the referenced standard.

Comments: *Column maintenance

10208
4/24/18

Report generated on 04/17/2018 at 07:04

7B
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP23264 Calibration Date: 04/15/18 Time: 15:56

Lab File ID: jd0641.d Init. Calib. Date(s): 04/14/18 04/14/18

Init. Calib. Times(s): 14:18 19:31

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
1,4-Dioxane	0.766	0.723	7.080	7.5	-6
N-Nitrosodimethylamine	1.216	1.240	7.650	7.5	2
Pyridine	2.140	2.110	7.390	7.5	-1
2-Picoline	2.055	2.035	7.430	7.5	-1
N-Nitrosomethylethylamine	0.925	0.941	7.630	7.5	2
Methyl methanesulfonate	1.090	1.127	7.750	7.5	3
N-Nitrosodiethylamine	0.799	0.838	7.870	7.5	5
Ethyl methanesulfonate	0.771	0.826	8.040	7.5	7
Benzaldehyde	1.547	1.672	8.110	7.5	8
* Phenol	2.204	2.279	7.760	7.5	3*
Aniline	2.668	2.808	7.900	7.5	5
a-methylstyrene	0.534	0.515	7.230	7.5	-4
bis(2-Chloroethyl)ether	1.701	1.764	7.780	7.5	4
2-Chlorophenol	1.330	1.410	7.950	7.5	6
1,3-Dichlorobenzene	1.487	1.612	8.130	7.5	8
* 1,4-Dichlorobenzene	1.478	1.615	7.680	7.5	2*
Benzyl alcohol	0.818	0.819	7.510	7.5	0
1,2-Dichlorobenzene	1.371	1.454	7.950	7.5	6
Indene	1.937	1.862	7.210	7.5	-4
2-Methylphenol	1.196	1.280	8.030	7.5	7
2,2'-oxybis(1-Chloropropane)	1.970	2.048	7.800	7.5	4
bis(2-Chloroisopropyl)ether	1.970	2.048	7.800	7.5	4
N-Nitrosopyrrolidine	0.651	0.691	7.960	7.5	6
Acetophenone	1.697	1.890	7.760	7.5	3
4-Methylphenol	1.207	1.282	7.970	7.5	6
Total Cresols	1.201	1.281	16.000	15.0	7
# N-Nitroso-di-n-propylamine	1.055	1.122	7.980	7.5	6#
N-Nitrosomorpholine	0.252	0.254	7.540	7.5	1
o-Toluidine	2.013	2.148	8.000	7.5	7
Hexachloroethane	0.574	0.617	8.060	7.5	7
Nitrobenzene	0.629	0.638	7.600	7.5	1
N-Nitrosopiperidine	0.208	0.218	7.870	7.5	5
Isophorone	0.891	0.894	7.530	7.5	0
* 2-Nitrophenol	0.209	0.215	7.710	7.5	3*
2,4-Dimethylphenol	0.431	0.438	7.620	7.5	2
O,O,O-Triethylphosphorothioate	0.175	0.176	7.560	7.5	1

FORM VII SV-1

7C
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP23264 Calibration Date: 04/15/18 Time: 15:56

Lab File ID: jd0641.d Init. Calib. Date(s): 04/14/18 04/14/18

Init. Calib. Times(s): 14:18 19:31

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
bis(2-Chloroethoxy)methane	0.492	0.501	7.640	7.5	2
Benzoic acid	0.257	0.248	9.530	10.0	-5
* 2,4-Dichlorophenol	0.348	0.349	7.530	7.5	0*
1,2,4-Trichlorobenzene	0.394	0.396	7.550	7.5	1
Naphthalene	1.016	1.039	7.670	7.5	2
4-Chloroaniline	0.422	0.423	7.520	7.5	0
2,6-Dichlorophenol	0.331	0.333	7.560	7.5	1
Hexachloropropene	0.308	0.307	7.490	7.5	0
* Hexachlorobutadiene	0.238	0.247	7.750	7.5	3*
Quinoline	0.630	0.628	7.480	7.5	0
Caprolactam	0.131	0.123	7.100	7.5	-5
N-Nitrosodi-n-butylamine	0.361	0.367	7.620	7.5	2
* 4-Chloro-3-methylphenol	0.332	0.342	7.060	7.5	-6*
Safrole	0.269	0.257	7.150	7.5	-5
2-Methylnaphthalene	0.606	0.620	7.680	7.5	2
1-Methylnaphthalene	0.533	0.547	7.700	7.5	3
# Hexachlorocyclopentadiene	0.538	0.542	7.560	7.5	1#
1,2,4,5-Tetrachlorobenzene	0.870	0.906	7.810	7.5	4
cis-Isosafrole	0.647	0.668	1.320	1.3	3
* 2,4,6-Trichlorophenol	0.563	0.587	7.810	7.5	4*
2,4,5-Trichlorophenol	0.584	0.658	8.450	7.5	13
trans-Isosafrole	0.687	0.680	6.160	6.2	-1
Isosafrole	0.680	0.678	7.480	7.5	0
1,1'-Biphenyl	1.591	1.725	7.680	7.5	2
2-Chloronaphthalene	1.470	1.467	7.480	7.5	0
1-Chloronaphthalene	1.332	1.313	7.400	7.5	-1
Diphenyl ether	0.917	0.926	7.570	7.5	1
2-Nitroaniline	0.453	0.511	8.460	7.5	13
1,4-Naphthoquinone	0.586	0.623	7.970	7.5	6
1,4-Dinitrobenzene	0.262	0.277	7.930	7.5	6
Dimethylphthalate	1.631	1.684	7.740	7.5	3
1,3-Dinitrobenzene	0.295	0.298	7.560	7.5	1
2,6-Dinitrotoluene	0.379	0.398	7.880	7.5	5
Acenaphthylene	1.906	1.972	7.760	7.5	3
3-Nitroaniline	0.384	0.412	8.050	7.5	7
* Acenaphthene	1.234	1.293	7.860	7.5	5*

FORM VII SV-1

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP23264 Calibration Date: 04/15/18 Time: 15:56

Lab File ID: jd0641.d Init. Calib. Date(s): 04/14/18 04/14/18

Init. Calib. Times(s): 14:18 19:31

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
# 2,4-Dinitrophenol	0.295	0.299	10.120	10.0	1#
# 4-Nitrophenol	0.340	0.339	7.460	7.5	-1#
Pentachlorobenzene	0.625	0.659	7.920	7.5	6
2,4-Dinitrotoluene	0.535	0.547	7.670	7.5	2
2,4_2,6-Dinitrotoluenes	0.447	0.473	15.550	15.0	4
Dibenzofuran	1.811	1.897	7.860	7.5	5
1-Naphthylamine	1.379	1.318	7.170	7.5	-4
2,3,4,6-Tetrachlorophenol	0.472	0.494	7.860	7.5	5
2-Naphthylamine	1.323	1.307	7.410	7.5	-1
Diethylphthalate	1.632	1.671	7.680	7.5	2
Thionazin	0.267	0.272	7.630	7.5	2
Fluorene	1.467	1.550	7.920	7.5	6
4-Chlorophenyl-phenylether	0.757	0.775	7.690	7.5	2
5-Nitro-o-toluidine	0.455	0.488	8.050	7.5	7
4-Nitroaniline	0.402	0.453	8.100	7.5	8
4,6-Dinitro-2-methylphenol	0.181	0.183	7.560	7.5	1
* N-Nitrosodiphenylamine (1)	0.655	0.661	7.580	7.5	1*
NDPA as diphenylamine	0.655	0.661	7.570	7.5	1
1,2-Diphenylhydrazine	0.981	0.969	7.410	7.5	-1
Tetraethyldithiopyrophosphate	0.193	0.184	7.130	7.5	-5
1,3,5-Trinitrobenzene	0.108	0.109	7.570	7.5	1
Diallate (peak 1)	0.404	0.389	5.990	6.2	-4
Phorate	0.602	0.592	7.370	7.5	-2
Phenacetin	0.486	0.504	7.780	7.5	4
4-Bromophenyl-phenylether	0.233	0.225	7.260	7.5	-3
Diallate (peak 2)	0.338	0.331	1.250	1.3	-2
Diallate trans/cis	0.393	0.379	7.240	7.5	-3
Hexachlorobenzene	0.236	0.234	7.450	7.5	-1
Dimethoate	0.375	0.368	7.350	7.5	-2
Atrazine	0.231	0.231	7.490	7.5	0
* Pentachlorophenol	0.178	0.175	7.360	7.5	-2*
4-Aminobiphenyl	0.772	0.766	7.440	7.5	-1
Pentachloronitrobenzene	0.146	0.146	7.530	7.5	0
Pronamide	0.404	0.408	7.580	7.5	1
Dinoseb	0.253	0.256	7.590	7.5	1
Phenanthrene	1.123	1.133	7.570	7.5	1

(1) Cannot be Separated from Diphenylamine

FORM VII SV-1

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP23264 Calibration Date: 04/15/18 Time: 15:56

Lab File ID: jd0641.d Init. Calib. Date(s): 04/14/18 04/14/18

Init. Calib. Times(s): 14:18 19:31

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	$\overline{RRF}$	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Anthracene	1.140	1.154	7.590	7.5	1
Carbazole	1.030	1.034	7.530	7.5	0
Methyl parathion	0.285	0.272	7.180	7.5	-4
Di-n-butylphthalate	1.384	1.344	7.280	7.5	-3
Parathion	0.183	0.174	7.140	7.5	-5
4-Nitroquinoline-1-oxide	0.158	0.160	7.590	7.5	1
Octachlorostyrene	0.093	0.084	6.800	7.5	-9
Isodrin	0.152	0.146	7.210	7.5	-4
* Fluoranthene	1.286	1.301	7.590	7.5	1*
Benzidine	0.769	0.736	21.540	22.5	-4
Pyrene	1.262	1.221	7.250	7.5	-3
p-Dimethylaminoazobenzene	0.201	0.202	7.530	7.5	0
Chlorobenzilate	0.410	0.387	7.070	7.5	-6
3,3'-Dimethylbenzidine	0.813	0.793	7.310	7.5	-2
Butylbenzylphthalate	0.596	0.588	7.400	7.5	-1
2-Acetylaminofluorene	0.506	0.445	6.600	7.5	-12
3,3'-Dichlorobenzidine	0.454	0.425	7.020	7.5	-6
4,4'-Methylenebis(2-chloroanil	0.250	0.237	7.120	7.5	-5
Benzo(a)anthracene	1.212	1.202	7.430	7.5	-1
Chrysene	1.147	1.144	7.480	7.5	0
bis(2-Ethylhexyl)phthalate	0.854	0.794	6.970	7.5	-7
6-Methylchrysene	0.791	0.735	6.970	7.5	-7
* Di-n-octylphthalate	1.620	1.583	7.330	7.5	-2*
Benzo(b)fluoranthene	1.240	1.263	7.640	7.5	2
7,12-Dimethylbenz[a]anthracene	0.532	0.537	7.560	7.5	1
Benzo(k)fluoranthene	1.178	1.223	7.790	7.5	4
* Benzo(a)pyrene	1.148	1.171	7.650	7.5	2*
3-Methylcholanthrene	0.543	0.539	7.450	7.5	-1
Dibenz(a,h)acridine	0.898	0.891	7.440	7.5	-1
Dibenz(a,j)acridine	0.912	0.905	7.440	7.5	-1
Indeno(1,2,3-cd)pyrene	1.043	1.119	8.050	7.5	7
Dibenz(a,h)anthracene	0.978	1.051	8.060	7.5	8
Benzo(g,h,i)perylene	1.115	1.178	7.930	7.5	6
Total PAHs	1.064	1.092	138.620	135.0	3
2-Fluorophenol	1.486	1.558	15.730	15.0	5

FORM VII SV-1

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP23264 Calibration Date: 04/15/18 Time: 15:56

Lab File ID: jd0641.d Init. Calib. Date(s): 04/14/18 04/14/18

Init. Calib. Times(s): 14:18 19:31

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Phenol-d6	2.059	2.131	15.530	15.0	4
Nitrobenzene-d5	0.627	0.634	15.160	15.0	1
2-Fluorobiphenyl	1.613	1.674	15.570	15.0	4
2,4,6-Tribromophenol	0.222	0.237	16.050	15.0	7
Terphenyl-d14	0.848	0.826	14.610	15.0	-3
			Average %Drift:		3

FORM VII SV-1

Continuing Calibration
Internal Standard Area and Retention Time
Summary

Initial Calibration Standards:

/chem/HP23264.i/18apr14.b/jd0621.d **
/chem/HP23264.i/18apr14.b/jd0622.d
/chem/HP23264.i/18apr14.b/jd0623.d
/chem/HP23264.i/18apr14.b/jd0624.d
/chem/HP23264.i/18apr14.b/jd0625.d
/chem/HP23264.i/18apr14.b/jd0626.d
/chem/HP23264.i/18apr14.b/jd0627.d
/chem/HP23264.i/18apr14.b/jd0628.d

** indicates the Mid Level Calibration Standard.

Mid Level Calibration Standard is used for comparison.

Current Continuing Calibration Standard:

/chem/HP23264.i/18apr15.b/jd0641.d

Area Summary

File ID:

Internal Standard Name	jd0641.d	ICAL Area	Low Limit	High Limit	In Spec
1,4-Dichlorobenzene-d4	190707	213925	106962	427850	Yes
Naphthalene-d8	513260	544533	272266	1089066	Yes
Acenaphthene-d10	202352	218924	109462	437848	Yes
Phenanthrene-d10	414832	432744	216372	865488	Yes
Pyrene-d10	453318	460502	230251	921004	Yes
Perylene-d12	412229	435012	217506	870024	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

RT Summary

File ID:

Internal Standard Name	jd0641.d	ICAL RT	In Spec
1,4-Dichlorobenzene-d4	8.090	8.090	Yes
Naphthalene-d8	9.626	9.626	Yes
Acenaphthene-d10	11.955	11.955	Yes
Phenanthrene-d10	13.497	13.497	Yes
Pyrene-d10	15.225	15.225	Yes
Perylene-d12	19.564	19.569	Yes

A "No" indicates the retention time is greater than 10 seconds from the RT of the referenced standard.

Comments: _____

Report generated on 04/15/2018 at 16:38

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): hd0751.d Date Analyzed: 04/17/18

Instrument ID: HP18831 Time Analyzed: 06:19

		IS1(DCB)		IS2(NPT)		IS3(ANT)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	174883	6.019	652366	7.960	330386	10.729
	UPPER LIMIT	349766	6.519	1304732	8.460	660772	11.229
	LOWER LIMIT	87442	5.519	326183	7.460	165193	10.229
	LLI SAMPLE NO.						
01	SBLKWF106	160119	6.019	590251	7.954	284124	10.729
02	106WFLCS	157186	6.025	567380	7.960	279641	10.735
03	106WFLCSD	154381	6.025	562611	7.960	279822	10.735
04	SBLKWE106	143464	6.019	526242	7.960	255731	10.729
05	106WELCS	146887	6.025	535851	7.960	267081	10.735
06	106WELCSD	146011	6.025	528972	7.960	258426	10.735
07	9548789RE	130530	6.019	487928	7.960	237338	10.729
08	9548797RE	152205	6.020	554907	7.960	271696	10.729
09	9548799	148178	6.020	534888	7.960	262674	10.729
10	9552016	146950	6.019	534528	7.960	261161	10.729
11	9553408	153544	6.019	565214	7.960	276212	10.729
12	9553410	141930	6.019	522807	7.960	255187	10.729
13	9553411	158864	6.020	583106	7.960	280413	10.729
14	9553412	158690	6.019	575429	7.960	275475	10.729
15	9553413	154321	6.019	563542	7.960	276466	10.729
16	9553414	155990	6.020	578308	7.955	283578	10.729
17	9553415	152511	6.019	569719	7.954	280374	10.729

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): hd0751.d Date Analyzed: 04/17/18

Instrument ID: HP18831 Time Analyzed: 06:19

		IS4(PHN)		IS5(PYR)		IS6(PRY)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	663389	12.734	713078	14.535	734642	18.842
	UPPER LIMIT	1326778	13.234	1426156	15.035	1469284	19.342
	LOWER LIMIT	331695	12.234	356539	14.035	367321	18.342
	LLI SAMPLE NO.						
01	SBLKWF106	574839	12.728	594929	14.529	623122	18.842
02	106WFLCS	546208	12.728	601592	14.529	618659	18.842
03	106WFLCSD	546033	12.728	606900	14.529	618998	18.842
04	SBLKWE106	525287	12.728	538665	14.529	571177	18.842
05	106WELCS	519777	12.728	564550	14.529	580359	18.842
06	106WELCSD	517819	12.728	558046	14.529	579180	18.842
07	9548789RE	484734	12.728	506004	14.529	522060	18.837
08	9548797RE	550531	12.728	586184	14.529	607953	18.843
09	9548799	524886	12.728	568062	14.529	577887	18.837
10	9552016	528759	12.728	553401	14.529	575466	18.837
11	9553408	555504	12.728	579772	14.529	607945	18.837
12	9553410	513517	12.728	534913	14.529	557343	18.836
13	9553411	576077	12.728	594207	14.529	612186	18.837
14	9553412	543931	12.728	579047	14.529	623660	18.837
15	9553413	546702	12.728	568016	14.529	618714	18.837
16	9553414	555247	12.728	592590	14.529	623868	18.837
17	9553415	573653	12.728	602084	14.529	628031	18.842

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): hd0751.d Date Analyzed: 04/17/18

Instrument ID: HP18831 Time Analyzed: 06:19

		IS1(DCB)		IS2(NPT)		IS3(ANT)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	174883	6.019	652366	7.960	330386	10.729
	UPPER LIMIT	349766	6.519	1304732	8.460	660772	11.229
	LOWER LIMIT	87442	5.519	326183	7.460	165193	10.229
	LLI SAMPLE NO.						
18	9553416	158215	6.019	571793	7.954	285972	10.729
19	9553417	156084	6.019	572160	7.954	281146	10.729
20	9553418	153452	6.019	571351	7.955	276158	10.729
21	9553582RE	156578	6.019	577971	7.955	290273	10.729
22	9553583	157580	6.019	578103	7.954	279658	10.729

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): hd0751.d Date Analyzed: 04/17/18

Instrument ID: HP18831 Time Analyzed: 06:19

	IS4(PHN)		IS5(PYR)		IS6(PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	663389	12.734	713078	14.535	734642	18.842
UPPER LIMIT	1326778	13.234	1426156	15.035	1469284	19.342
LOWER LIMIT	331695	12.234	356539	14.035	367321	18.342
LLI SAMPLE NO.						
18 9553416	570963	12.728	601406	14.529	639918	18.837
19 9553417	571692	12.728	594315	14.529	635514	18.836
20 9553418	566409	12.728	599031	14.529	622074	18.837
21 9553582RE	579466	12.728	614013	14.529	631347	18.837
22 9553583	578799	12.728	608431	14.529	635316	18.836

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): jd0641.d Date Analyzed: 04/15/18

Instrument ID: HP23264 Time Analyzed: 15:56

		IS1(DCB)		IS2(NPT)		IS3(ANT)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	190707	8.090	513260	9.626	202352	11.955
	UPPER LIMIT	381414	8.590	1026520	10.126	404704	12.455
	LOWER LIMIT	95354	7.590	256630	9.126	101176	11.455
	LLI SAMPLE NO.						
01	SBLKWR101	182416	8.090	460408	9.626	169284	11.949
02	101WRLCS	178226	8.096	438622	9.626	186192	11.955
03	9548789	174554	8.090	434145	9.626	160272	11.949
04	9548790MS	173362	8.090	463767	9.626	190688	11.955
05	9548791MSD	184485	8.096	480473	9.625	200373	11.955
06	9548797	187549	8.090	460746	9.625	170681	11.949
07	9553582	153971	8.090	388323	9.625	139068	11.949

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): jd0641.d Date Analyzed: 04/15/18

Instrument ID: HP23264 Time Analyzed: 15:56

		IS4(PHN)		IS5(PYR)		IS6(PRY)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	414832	13.497	453318	15.225	412229	19.564
	UPPER LIMIT	829664	13.997	906636	15.725	824458	20.064
	LOWER LIMIT	207416	12.997	226659	14.725	206115	19.064
	LLI SAMPLE NO.						
01	SBLKWR101	317916	13.497	349352	15.225	331133	19.564
02	101WRLCS	357630	13.497	393918	15.225	357195	19.564
03	9548789	311139	13.497	342393	15.225	305219	19.564
04	9548790MS	358926	13.497	387038	15.225	359688	19.564
05	9548791MSD	384243	13.497	398262	15.225	381855	19.564
06	9548797	323420	13.497	367102	15.225	330973	19.563
07	9553582	275215	13.497	306703	15.225	291284	19.563

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

Sample Data

Semivolatiles by GC/MS

eurofins | Lancaster Laboratories Environmental

LOQ/MDL Summary
GC/MS Semivolatiles

SDG: ATH81

Fraction: Semivolatiles by GC/MS

14240: TCL SW846 8270C MINI Analyte Name	Default MDL	Default LOQ	Units
Phenol	0.5	1	ug/l
bis(2-Chloroethyl)ether	0.5	1	ug/l
2-Chlorophenol	0.5	1	ug/l
1,3-Dichlorobenzene	0.5	1	ug/l
1,4-Dichlorobenzene	0.5	1	ug/l
1,2-Dichlorobenzene	0.5	1	ug/l
2-Methylphenol	0.5	1	ug/l
2,2'-oxybis(1-Chloropropane)	0.5	1	ug/l
4-Methylphenol	0.5	1	ug/l
N-Nitroso-di-n-propylamine	0.5	1	ug/l
Hexachloroethane	1	5	ug/l
Nitrobenzene	0.5	1	ug/l
Isophorone	0.5	1	ug/l
2-Nitrophenol	0.5	1	ug/l
2,4-Dichlorophenol	0.5	1	ug/l
2,4-Dimethylphenol	0.5	1	ug/l
bis(2-Chloroethoxy)methane	0.5	1	ug/l
1,2,4-Trichlorobenzene	0.5	1	ug/l
Naphthalene	0.1	0.5	ug/l
4-Chloroaniline	2	4	ug/l
Hexachlorobutadiene	0.5	1	ug/l
4-Chloro-3-methylphenol	0.5	1	ug/l
2-Methylnaphthalene	0.1	0.5	ug/l
Hexachlorocyclopentadiene	5	15	ug/l
2,4,6-Trichlorophenol	0.5	1	ug/l
2,4,5-Trichlorophenol	0.5	1	ug/l
2-Chloronaphthalene	0.4	1	ug/l
2-Nitroaniline	0.5	1	ug/l
Dimethylphthalate	2	5	ug/l
2,6-Dinitrotoluene	0.5	1	ug/l
Acenaphthylene	0.1	0.5	ug/l
4-Nitroaniline	0.5	1	ug/l
3-Nitroaniline	0.5	1	ug/l
Acenaphthene	0.1	0.5	ug/l
2,4-Dinitrophenol	10	30	ug/l
4-Nitrophenol	10	30	ug/l
2,4-Dinitrotoluene	1	5	ug/l
Dibenzofuran	0.5	1	ug/l
Diethylphthalate	2	5	ug/l
Fluorene	0.1	0.5	ug/l
4-Chlorophenyl-phenylether	0.5	1	ug/l
4,6-Dinitro-2-methylphenol	5	15	ug/l
N-Nitrosodiphenylamine	0.5	1	ug/l
4-Bromophenyl-phenylether	0.5	1	ug/l
Hexachlorobenzene	0.1	0.5	ug/l
Pentachlorophenol	1	5	ug/l
Phenanthrene	0.1	0.5	ug/l

Fraction: Semivolatiles by GC/MS

14240: TCL SW846 8270C MINI Analyte Name	Default MDL	Default LOQ	Units
Anthracene	0.1	0.5	ug/l
Carbazole	0.5	1	ug/l
Di-n-butylphthalate	2	5	ug/l
Fluoranthene	0.1	0.5	ug/l
Pyrene	0.1	0.5	ug/l
Butylbenzylphthalate	2	5	ug/l
3,3'-Dichlorobenzidine	2	5	ug/l
Benzo(a)anthracene	0.1	0.5	ug/l
Chrysene	0.1	0.5	ug/l
bis(2-Ethylhexyl)phthalate	2	5	ug/l
Di-n-octylphthalate	2	5	ug/l
Benzo(b)fluoranthene	0.1	0.5	ug/l
Benzo(k)fluoranthene	0.1	0.5	ug/l
Benzo(a)pyrene	0.1	0.5	ug/l
Indeno(1,2,3-cd)pyrene	0.1	0.5	ug/l
Dibenz(a,h)anthracene	0.1	0.5	ug/l
Benzo(g,h,i)perylene	0.1	0.5	ug/l

T8101 Lancaster Laboratories, Inc. 9548789
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP23264.i/18apr15.b/jd0644.d
Data file Sample Info. Line: T8101;9548789;1;0;SAMPLE;;;
Date, time and analyst ID of latest file update: 18-Apr-2018 16:30 bkc25363

Injection date and time: **15-APR-2018 18:02**
Instrument ID: **HP23264.i** Batch: **18101WAR**

Blank Data file reference: **/chem/HP23264.i/18apr15.b/jd0642.d**

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: **20639M**
Calibration date and time (Last Method Edit): 18-APR-2018 16:26
Mid Level Daily Calibration Standard Reference: **/chem/HP23264.i/18apr15.b/jd0641.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 246 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
36) 1,4-Dichlorobenzene-d4	8.090(0.000)	1011	152	174554 (-8)	5.00	
76) Naphthalene-d8	9.626(0.000)	1274	136	434145 (-15)	5.00	
122) Acenaphthene-d10	11.949(0.006)	1672	164	160272 (-21)	5.00	
165) Phenanthrene-d10	13.497(0.000)	1937	188	311139 (-25)	5.00	
185) Pyrene-d10	15.225(0.000)	2233	212	342393 (-24)	5.00	
215) Perylene-d12	19.564(0.000)	2976	264	305219 (-26)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
13) 2-Fluorophenol	(1)			Not Detected		0%	*	10 - 82
26) Phenol-d6	(1)			Not Detected		0%	*	10 - 71
58) Nitrobenzene-d5	(2)			Not Detected		0%	*	30 - 111
102) 2-Fluorobiphenyl	(3)			Not Detected		0%	*	39 - 105
147) 2,4,6-Tribromophenol	(3)			Not Detected		0%	*	21 - 134
192) Terphenyl-d14	(5)			Not Detected		0%	*	27 - 116

 # = Retention Time outside QC limits. * = Surrogate Standard % recovery outside QC limits.

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
27) Phenol	(1)			Not Detected					0.1
31) bis(2-Chloroethyl)ether	(1)			Not Detected					0.1
32) 2-Chlorophenol	(1)			Not Detected					0.1
34) 1,3-Dichlorobenzene	(1)			Not Detected					0.1
38) 1,4-Dichlorobenzene	(1)			Not Detected					0.1
41) 1,2-Dichlorobenzene	(1)			Not Detected					0.1
44) 2-Methylphenol	(1)			Not Detected					0.1
47) 2,2'-oxybis(1-Chloropropane)	(1)			Not Detected					0.1
53) 4-Methylphenol	(1)			Not Detected					0.1
54) N-Nitroso-di-n-propylamine	(1)			Not Detected					0.1
57) Hexachloroethane	(1)			Not Detected					0.3
59) Nitrobenzene	(2)			Not Detected					0.1
63) Isophorone	(2)			Not Detected					0.1
64) 2-Nitrophenol	(2)			Not Detected					0.1
65) 2,4-Dimethylphenol	(2)			Not Detected					0.1
68) bis(2-Chloroethoxy)methane	(2)			Not Detected					0.1
70) 2,4-Dichlorophenol	(2)			Not Detected					0.1
72) 1,2,4-Trichlorobenzene	(2)			Not Detected					0.1
78) Naphthalene	(2)			Not Detected					0.03
79) 4-Chloroaniline	(2)			Not Detected					0.5
83) Hexachlorobutadiene	(2)			Not Detected					0.1
89) 4-Chloro-3-methylphenol	(2)			Not Detected					0.1
91) 2-Methylnaphthalene	(2)			Not Detected					0.03
95) Hexachlorocyclopentadiene	(3)			Not Detected					1
98) 2,4,6-Trichlorophenol	(3)			Not Detected					0.1
100) 2,4,5-Trichlorophenol	(3)			Not Detected					0.1

Digitally signed by Brandon K. Cordova on 04/18/2018 at 16:31. Target 3.5 esignature user ID: bkc25363

T8101 Lancaster Laboratories, Inc. 9548789
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP23264.i/18apr15.b/jd0644.d Injection date and time: **15-APR-2018 18:02**
Data file Sample Info. Line: T8101;9548789;1;0;SAMPLE;;; Instrument ID: **HP23264.i** Batch: **18101WAR**
Date, time and analyst ID of latest file update: 18-Apr-2018 16:30 bkc25363

Blank Data file reference: **/chem/HP23264.i/18apr15.b/jd0642.d**

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: **20639M**
Calibration date and time (Last Method Edit): 18-APR-2018 16:26
Mid Level Daily Calibration Standard Reference: **/chem/HP23264.i/18apr15.b/jd0641.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

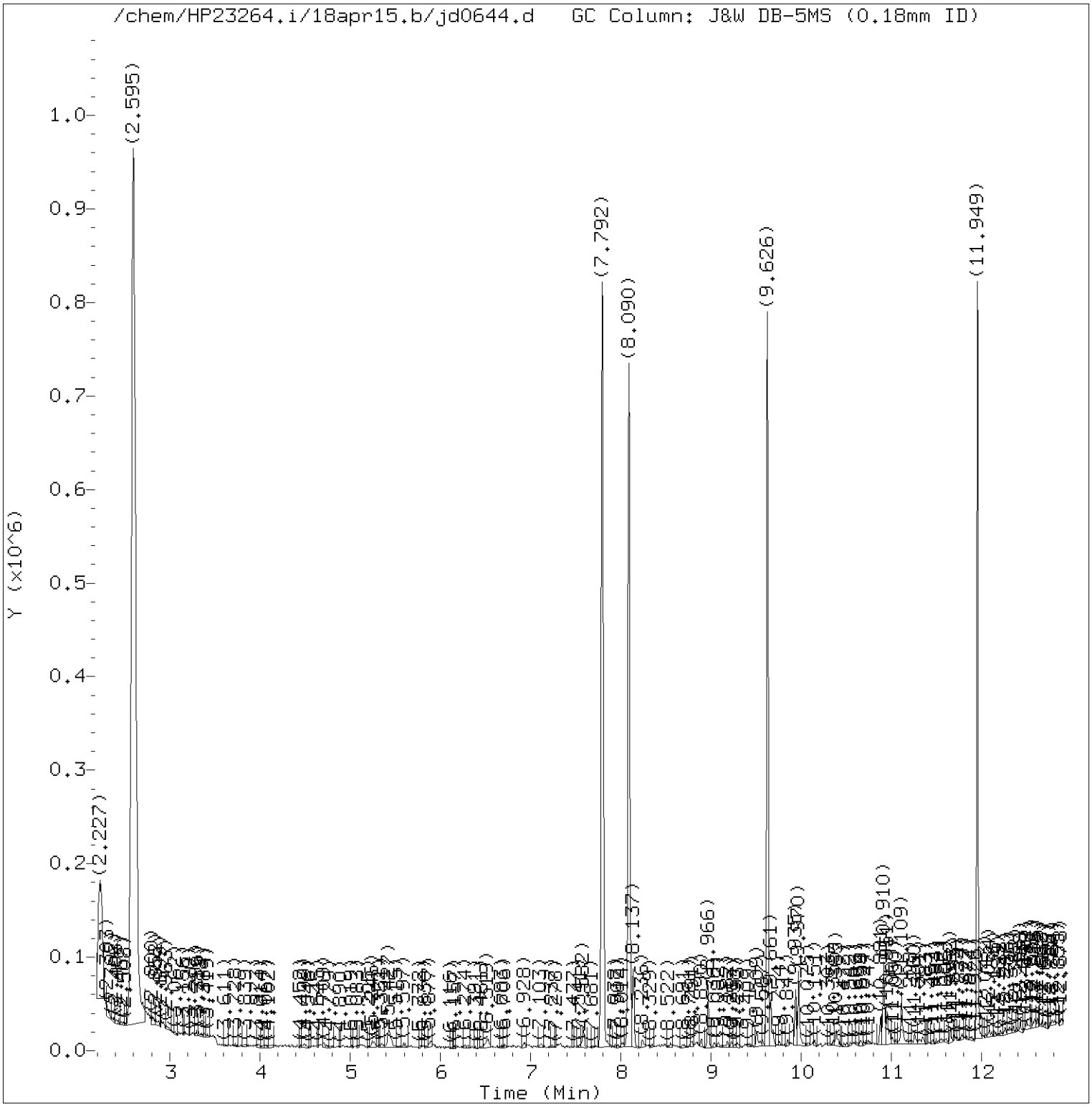
Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 246 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
107) 2-Chloronaphthalene	(3)			Not Detected					0.1
110) 2-Nitroaniline	(3)			Not Detected					0.1
114) Dimethylphthalate	(3)			Not Detected					0.5
117) 2,6-Dinitrotoluene	(3)			Not Detected					0.1
118) Acenaphthylene	(3)			Not Detected					0.03
120) 3-Nitroaniline	(3)			Not Detected					0.1
123) Acenaphthene	(3)			Not Detected					0.03
125) 2,4-Dinitrophenol	(3)			Not Detected					3
126) 4-Nitrophenol	(3)			Not Detected					3
128) 2,4-Dinitrotoluene	(3)			Not Detected					0.3
129) Dibenzofuran	(3)			Not Detected					0.1
136) Diethylphthalate	(3)			Not Detected					0.5
139) Fluorene	(3)			Not Detected					0.03
141) 4-Chlorophenyl-phenylether	(3)			Not Detected					0.1
142) 4-Nitroaniline	(3)			Not Detected					0.1
143) 4,6-Dinitro-2-methylphenol	(4)			Not Detected					1
144) N-Nitrosodiphenylamine	(4)			Not Detected					0.1
153) 4-Bromophenyl-phenylether	(4)			Not Detected					0.1
155) Hexachlorobenzene	(4)			Not Detected					0.03
160) Pentachlorophenol	(4)			Not Detected					0.3
167) Phenanthrene	(4)			Not Detected					0.03
168) Anthracene	(4)			Not Detected					0.03
169) Carbazole	(4)			Not Detected					0.1
174) Di-n-butylphthalate	(4)			Not Detected					0.5
183) Fluoranthene	(4)			Not Detected					0.03
187) Pyrene	(5)			Not Detected					0.03
198) Butylbenzylphthalate	(5)			Not Detected					0.5
202) 3,3'-Dichlorobenzidine	(5)			Not Detected					0.5
201) Benzo(a)anthracene	(5)			Not Detected					0.03
206) Chrysene	(5)			Not Detected					0.03
207) bis(2-Ethylhexyl)phthalate	(5)			Not Detected					0.5
209) Di-n-octylphthalate	(6)			Not Detected					0.5
210) Benzo(b)fluoranthene	(6)			Not Detected					0.03
212) Benzo(k)fluoranthene	(6)			Not Detected					0.03
214) Benzo(a)pyrene	(6)			Not Detected					0.03
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

Total number of targets = 64

Digitally signed by Brandon K. Cordova on 04/18/2018 at 16:31. Target 3.5 esignature user ID: bkc25363

Secondary review performed and digitally signed by Chad A. Moline on 04/19/2018 at 08:56. PARALLAX ID: cam01237



Total Ion Chromatogram (TIC)

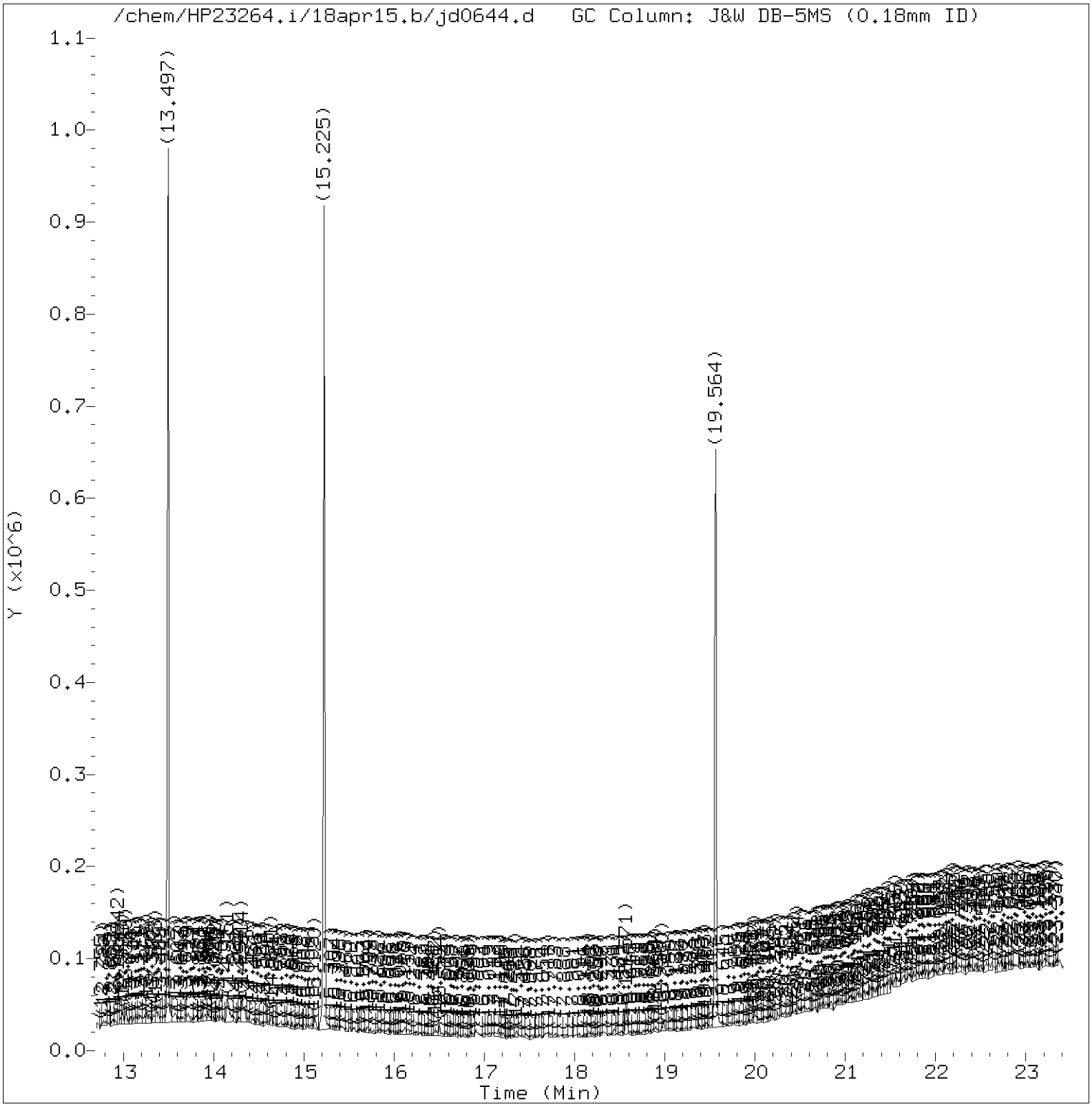
Target Revision 3.5

Data File: /chem/HP23264.i/18apr15.b/jd0644.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 18:02 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 18-APR-2018 16:26
Date, time and analyst ID of latest file update: 18-Apr-2018 16:30 bkc25363

Sample Name: T8101 Lab Sample ID: 9548789

Digitally signed by Brandon K. Cordova
on 04/18/2018 at 16:31.
Target 3.5 esignature user ID: bkc25363



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP23264.i/18apr15.b/jd0644.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 18:02 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 18-APR-2018 16:26
Date, time and analyst ID of latest file update: 18-Apr-2018 16:30 bkc25363

Sample Name: T8101 Lab Sample ID: 9548789

Digitally signed by Brandon K. Cordova
on 04/18/2018 at 16:31.
Target 3.5 esignature user ID: bkc25363

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr15.b/jd0644.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 18:02 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 18-APR-2018 16:26
Date, time and analyst ID of latest file update: 18-Apr-2018 16:30 bkc25363

Sample Name: T8101 Lab Sample ID: 9548789

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
36)*1,4-Dichlorobenzene-d4	(1)	8.090	152	174554	5.000
76)*Naphthalene-d8	(2)	9.626	136	434145	5.000
122)*Acenaphthene-d10	(3)	11.949	164	160272	5.000
165)*Phenanthrene-d10	(4)	13.497	188	311139	5.000
185)*Pyrene-d10	(5)	15.225	212	342393	5.000
215)*Perylene-d12	(6)	19.564	264	305219	5.000

* = Compound is an internal standard.

Digitally signed by Brandon K. Cordova
on 04/18/2018 at 16:31.
Target 3.5 esignature user ID: bkc25363

T8101RE

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

9548789RE

Data file: /chem/HP18831.i/18apr17.b/hd0758.d
Data file Sample Info. Line: T8101RE;9548789RE;1;0;SAMPLE;;;
Date, time and analyst ID of latest file update: 17-Apr-2018 15:27 bkc25363

Injection date and time: **17-APR-2018 10:11**
Instrument ID: **HP18831.i** Batch: **18106WAE**

Blank Data file reference: **/chem/HP18831.i/18apr17.b/hd0755.d**

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: **20639M**
Calibration date and time (Last Method Edit): 17-APR-2018 07:01
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/18apr17.b/hd0751.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
26) 1,4-Dichlorobenzene-d4	6.019(0.000)	872	152	130530 (-25)	5.00	
67) Naphthalene-d8	7.960(0.000)	1205	136	487928 (-25)	5.00	
119) Acenaphthene-d10	10.729(0.000)	1680	164	237338 (-28)	5.00	
160) Phenanthrene-d10	12.728(0.006)	2023	188	484734 (-27)	5.00	
183) Pyrene-d10	14.529(0.006)	2332	212	506004 (-29)	5.00	
221) Perylene-d12	18.837(0.006)	3071	264	522060 (-29)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
12) 2-Fluorophenol	(1)	4.102(0.000)	112	162510	4.538	9%	*	10 - 82
18) Phenol-d6	(1)	5.559(0.000)	99	168790	3.551	7%	*	10 - 71
45) Nitrobenzene-d5	(2)	6.870(0.000)	82	862231	20.101	80%		30 - 111
97) 2-Fluorobiphenyl	(3)	9.709(0.001)	172	1638356	20.897	84%		39 - 105
141) 2,4,6-Tribromophenol	(3)	11.930(0.000)	330	332392	32.182	64%		21 - 134
187) Terphenyl-d14	(5)	14.850(0.000)	244	1623401	18.206	73%		27 - 116

*** = Surrogate Standard % recovery outside QC limits.**

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
19) Phenol	(1)			Not Detected					0.1
23) bis(2-Chloroethyl)ether	(1)			Not Detected					0.1
24) 2-Chlorophenol	(1)			Not Detected					0.1
25) 1,3-Dichlorobenzene	(1)			Not Detected					0.1
27) 1,4-Dichlorobenzene	(1)			Not Detected					0.1
29) 1,2-Dichlorobenzene	(1)			Not Detected					0.1
32) 2-Methylphenol	(1)			Not Detected					0.1
34) 2,2'-oxybis(1-Chloropropane)	(1)			Not Detected					0.1
38) 4-Methylphenol	(1)			Not Detected					0.1
39) N-Nitroso-di-n-propylamine	(1)			Not Detected					0.1
44) Hexachloroethane	(1)			Not Detected					0.3
46) Nitrobenzene	(2)			Not Detected					0.1
52) Isophorone	(2)			Not Detected					0.1
53) 2-Nitrophenol	(2)			Not Detected					0.1
55) 2,4-Dimethylphenol	(2)			Not Detected					0.1
58) bis(2-Chloroethoxy)methane	(2)			Not Detected					0.1
62) 2,4-Dichlorophenol	(2)			Not Detected					0.1
64) 1,2,4-Trichlorobenzene	(2)			Not Detected					0.1
69) Naphthalene	(2)			Not Detected					0.03
70) 4-Chloroaniline	(2)			Not Detected					0.5
74) Hexachlorobutadiene	(2)			Not Detected					0.1
83) 4-Chloro-3-methylphenol	(2)			Not Detected					0.1
86) 2-Methylnaphthalene	(2)			Not Detected					0.03
88) Hexachlorocyclopentadiene	(3)			Not Detected					1
94) 2,4,6-Trichlorophenol	(3)			Not Detected					0.1
96) 2,4,5-Trichlorophenol	(3)			Not Detected					0.1

Digitally signed by Brandon K. Cordova on 04/17/2018 at 16:01. Target 3.5 esignature user ID: bkc25363

T8101RE

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

9548789RE

Data file: /chem/HP18831.i/18apr17.b/hd0758.d
Data file Sample Info. Line: T8101RE;9548789RE;1;0;SAMPLE;;;
Date, time and analyst ID of latest file update: 17-Apr-2018 15:27 bkc25363

Injection date and time: **17-APR-2018 10:11**
Instrument ID: **HP18831.i** Batch: **18106WAE**

Blank Data file reference: **/chem/HP18831.i/18apr17.b/hd0755.d**

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: **20639M**
Calibration date and time (Last Method Edit): 17-APR-2018 07:01
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/18apr17.b/hd0751.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

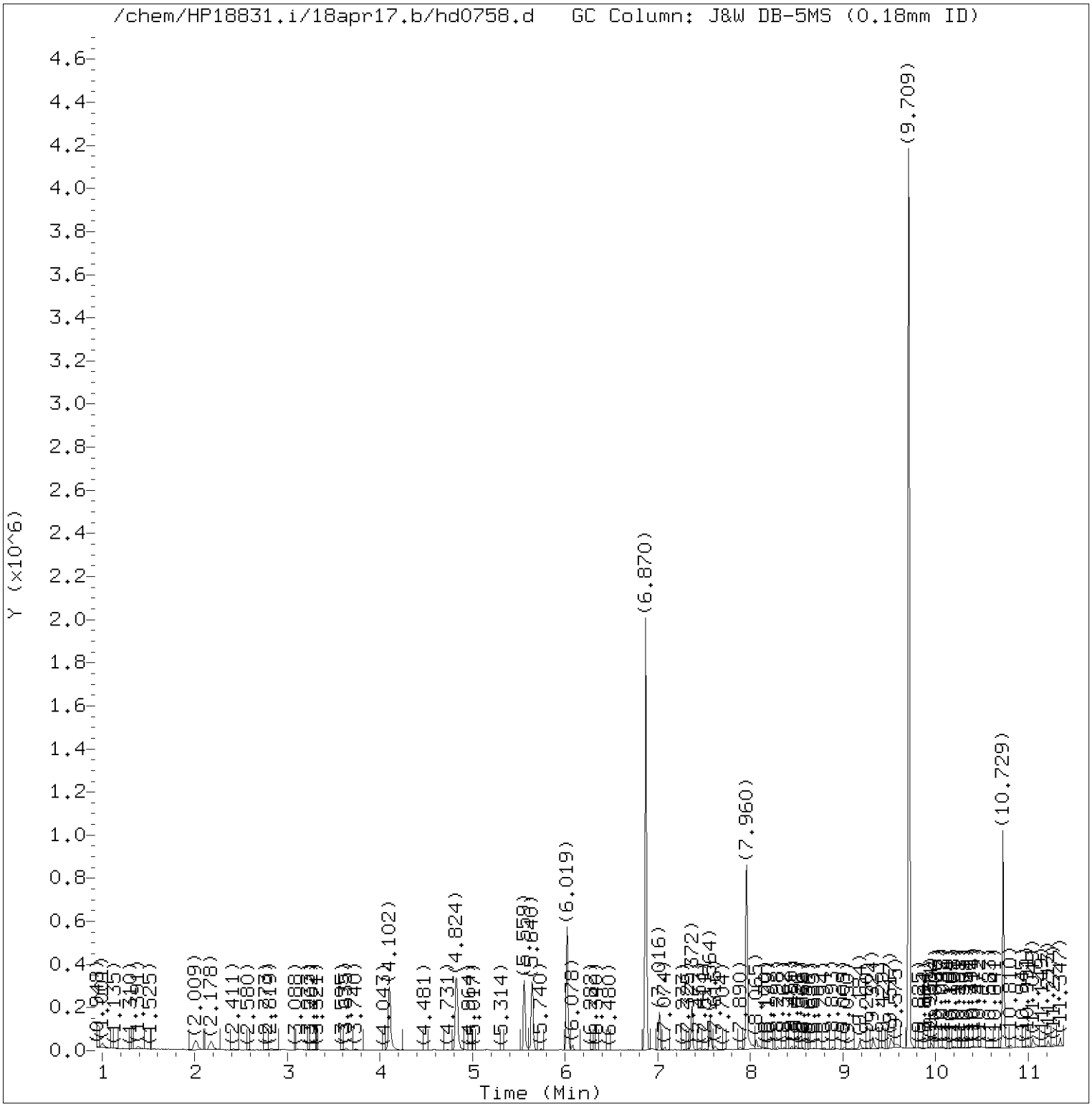
Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
100) 2-Chloronaphthalene	(3)			Not Detected					0.1
105) 2-Nitroaniline	(3)			Not Detected					0.1
111) Dimethylphthalate	(3)			Not Detected					0.5
114) 2,6-Dinitrotoluene	(3)			Not Detected					0.1
115) Acenaphthylene	(3)			Not Detected					0.03
118) 3-Nitroaniline	(3)			Not Detected					0.1
120) Acenaphthene	(3)			Not Detected					0.03
121) 2,4-Dinitrophenol	(3)			Not Detected					3
122) 4-Nitrophenol	(3)			Not Detected					3
124) 2,4-Dinitrotoluene	(3)			Not Detected					0.3
125) Dibenzofuran	(3)			Not Detected					0.1
130) Diethylphthalate	(3)			Not Detected					0.5
132) Fluorene	(3)			Not Detected					0.03
133) 4-Chlorophenyl-phenylether	(3)			Not Detected					0.1
135) 4-Nitroaniline	(3)			Not Detected					0.1
136) 4,6-Dinitro-2-methylphenol	(4)			Not Detected					1
137) N-Nitrosodiphenylamine	(4)			Not Detected					0.1
149) 4-Bromophenyl-phenylether	(4)			Not Detected					0.1
151) Hexachlorobenzene	(4)			Not Detected					0.03
156) Pentachlorophenol	(4)			Not Detected					0.3
162) Phenanthrene	(4)			Not Detected					0.03
164) Anthracene	(4)			Not Detected					0.03
170) Carbazole	(4)			Not Detected					0.1
173) Di-n-butylphthalate	(4)			Not Detected					0.5
181) Fluoranthene	(4)			Not Detected					0.03
185) Pyrene	(5)			Not Detected					0.03
196) Butylbenzylphthalate	(5)			Not Detected					0.5
201) 3,3'-Dichlorobenzidine	(5)			Not Detected					0.5
204) Benzo(a)anthracene	(5)			Not Detected					0.03
205) Chrysene	(5)			Not Detected					0.03
207) bis(2-Ethylhexyl)phthalate	(5)			Not Detected					0.5
213) Di-n-octylphthalate	(6)			Not Detected					0.5
214) Benzo(b)fluoranthene	(6)			Not Detected					0.03
216) Benzo(k)fluoranthene	(6)			Not Detected					0.03
219) Benzo(a)pyrene	(6)			Not Detected					0.03
227) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
228) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
229) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

Total number of targets = 64

Digitally signed by Brandon K. Cordova on 04/17/2018 at 16:01. Target 3.5 esignature user ID: bkc25363

Secondary review performed and digitally signed by Matthew E. Barton on 04/18/2018 at 19:16. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

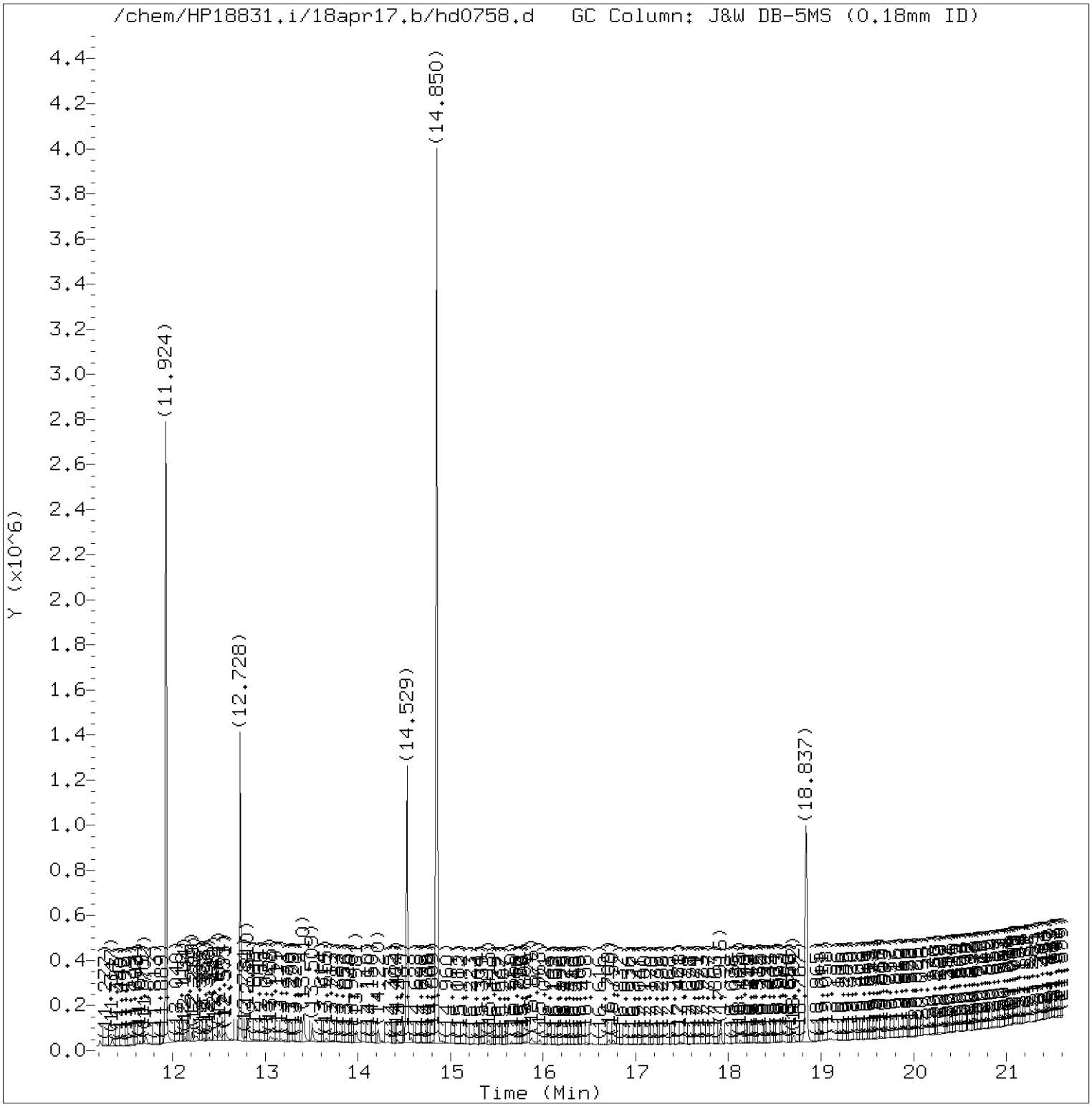
Target Revision 3.5

Data File: /chem/HP18831.i/18apr17.b/hd0758.d Instrument ID: HP18831.i
Injection date and time: 17-APR-2018 10:11 Analyst ID: bhs10208

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 17-APR-2018 07:01
Date, time and analyst ID of latest file update: 17-Apr-2018 15:27 bkc25363

Sample Name: T8101RE Lab Sample ID: 9548789RE

Digitally signed by Brandon K. Cordova
on 04/17/2018 at 16:01.
Target 3.5 esignature user ID: bkc25363



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/18apr17.b/hd0758.d Instrument ID: HP18831.i
Injection date and time: 17-APR-2018 10:11 Analyst ID: bhs10208

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 17-APR-2018 07:01
Date, time and analyst ID of latest file update: 17-Apr-2018 15:27 bkc25363

Sample Name: T8101RE Lab Sample ID: 9548789RE

Digitally signed by Brandon K. Cordova
on 04/17/2018 at 16:01.
Target 3.5 esignature user ID: bkc25363

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr17.b/hd0758.d Instrument ID: HP18831.i
Injection date and time: 17-APR-2018 10:11 Analyst ID: bhs10208

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 17-APR-2018 07:01
Date, time and analyst ID of latest file update: 17-Apr-2018 15:27 bkc25363

Sample Name: T8101RE Lab Sample ID: 9548789RE

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
12)$2-Fluorophenol	(1)	4.102	112	162510	4.538
18)$Phenol-d6	(1)	5.559	99	168790	3.551
26)*1,4-Dichlorobenzene-d4	(1)	6.019	152	130530	5.000
45)$Nitrobenzene-d5	(2)	6.870	82	862231	20.101
67)*Naphthalene-d8	(2)	7.960	136	487928	5.000
97)$2-Fluorobiphenyl	(3)	9.709	172	1638356	20.897
119)*Acenaphthene-d10	(3)	10.729	164	237338	5.000
141)$2,4,6-Tribromophenol	(3)	11.930	330	332392	32.182
160)*Phenanthrene-d10	(4)	12.728	188	484734	5.000
183)*Pyrene-d10	(5)	14.529	212	506004	5.000
187)$Terphenyl-d14	(5)	14.850	244	1623401	18.206
221)*Perylene-d12	(6)	18.837	264	522060	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon K. Cordova
on 04/17/2018 at 16:01.
Target 3.5 esignature user ID: bkc25363

T8103 Lancaster Laboratories, Inc. 9548797
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP23264.i/18apr15.b/jd0647.d
Data file Sample Info. Line: T8103;9548797;1;0;SAMPLE;;;
Date, time and analyst ID of latest file update: 16-Apr-2018 05:52 bhs10208

Injection date and time: **15-APR-2018 19:33**
Instrument ID: **HP23264.i** Batch: **18101WAR**

Blank Data file reference: **/chem/HP23264.i/18apr15.b/jd0642.d**

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: **20639M**
Calibration date and time (Last Method Edit): 15-APR-2018 16:36
Mid Level Daily Calibration Standard Reference: **/chem/HP23264.i/18apr15.b/jd0641.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 247 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
36) 1,4-Dichlorobenzene-d4	8.090(0.000)	1011	152	187549 (-2)	5.00	
76) Naphthalene-d8	9.625(0.000)	1274	136	460746 (-10)	5.00	
122) Acenaphthene-d10	11.949(0.006)	1672	164	170681 (-16)	5.00	
165) Phenanthrene-d10	13.497(0.000)	1937	188	323420 (-22)	5.00	
185) Pyrene-d10	15.225(0.000)	2233	212	367102 (-19)	5.00	
215) Perylene-d12	19.563(0.000)	2976	264	330973 (-20)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
13) 2-Fluorophenol	(1)			Not Detected		0%	*	10 - 82
26) Phenol-d6	(1)			Not Detected		0%	*	10 - 71
58) Nitrobenzene-d5	(2)			Not Detected		0%	*	30 - 111
102) 2-Fluorobiphenyl	(3)			Not Detected		0%	*	39 - 105
147) 2,4,6-Tribromophenol	(3)			Not Detected		0%	*	21 - 134
192) Terphenyl-d14	(5)			Not Detected		0%	*	27 - 116

 # = Retention Time outside QC limits. * = Surrogate Standard % recovery outside QC limits.

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
27) Phenol	(1)			Not Detected					0.1
31) bis(2-Chloroethyl)ether	(1)			Not Detected					0.1
32) 2-Chlorophenol	(1)			Not Detected					0.1
34) 1,3-Dichlorobenzene	(1)			Not Detected					0.1
38) 1,4-Dichlorobenzene	(1)			Not Detected					0.1
41) 1,2-Dichlorobenzene	(1)			Not Detected					0.1
44) 2-Methylphenol	(1)			Not Detected					0.1
47) 2,2'-oxybis(1-Chloropropane)	(1)			Not Detected					0.1
53) 4-Methylphenol	(1)			Not Detected					0.1
54) N-Nitroso-di-n-propylamine	(1)			Not Detected					0.1
57) Hexachloroethane	(1)			Not Detected					0.3
59) Nitrobenzene	(2)			Not Detected					0.1
63) Isophorone	(2)			Not Detected					0.1
64) 2-Nitrophenol	(2)			Not Detected					0.1
65) 2,4-Dimethylphenol	(2)			Not Detected					0.1
68) bis(2-Chloroethoxy)methane	(2)			Not Detected					0.1
70) 2,4-Dichlorophenol	(2)			Not Detected					0.1
72) 1,2,4-Trichlorobenzene	(2)			Not Detected					0.1
78) Naphthalene	(2)			Not Detected					0.03
79) 4-Chloroaniline	(2)			Not Detected					0.5
83) Hexachlorobutadiene	(2)			Not Detected					0.1
89) 4-Chloro-3-methylphenol	(2)			Not Detected					0.1
91) 2-Methylnaphthalene	(2)			Not Detected					0.03
95) Hexachlorocyclopentadiene	(3)			Not Detected					1
98) 2,4,6-Trichlorophenol	(3)			Not Detected					0.1
100) 2,4,5-Trichlorophenol	(3)			Not Detected					0.1

Digitally signed by Brandon H. Smith on 04/16/2018 at 07:33. Target 3.5 esignature user ID: bhs10208

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP23264.i/18apr15.b/jd0647.d
Injection date and time: **15-APR-2018 19:33**
Data file Sample Info. Line: T8103;9548797;1;0;SAMPLE;;;
Instrument ID: **HP23264.i** Batch: **18101WAR**
Date, time and analyst ID of latest file update: 16-Apr-2018 05:52 bhs10208

Blank Data file reference: **/chem/HP23264.i/18apr15.b/jd0642.d**

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: **20639M**
Calibration date and time (Last Method Edit): 15-APR-2018 16:36
Mid Level Daily Calibration Standard Reference: **/chem/HP23264.i/18apr15.b/jd0641.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

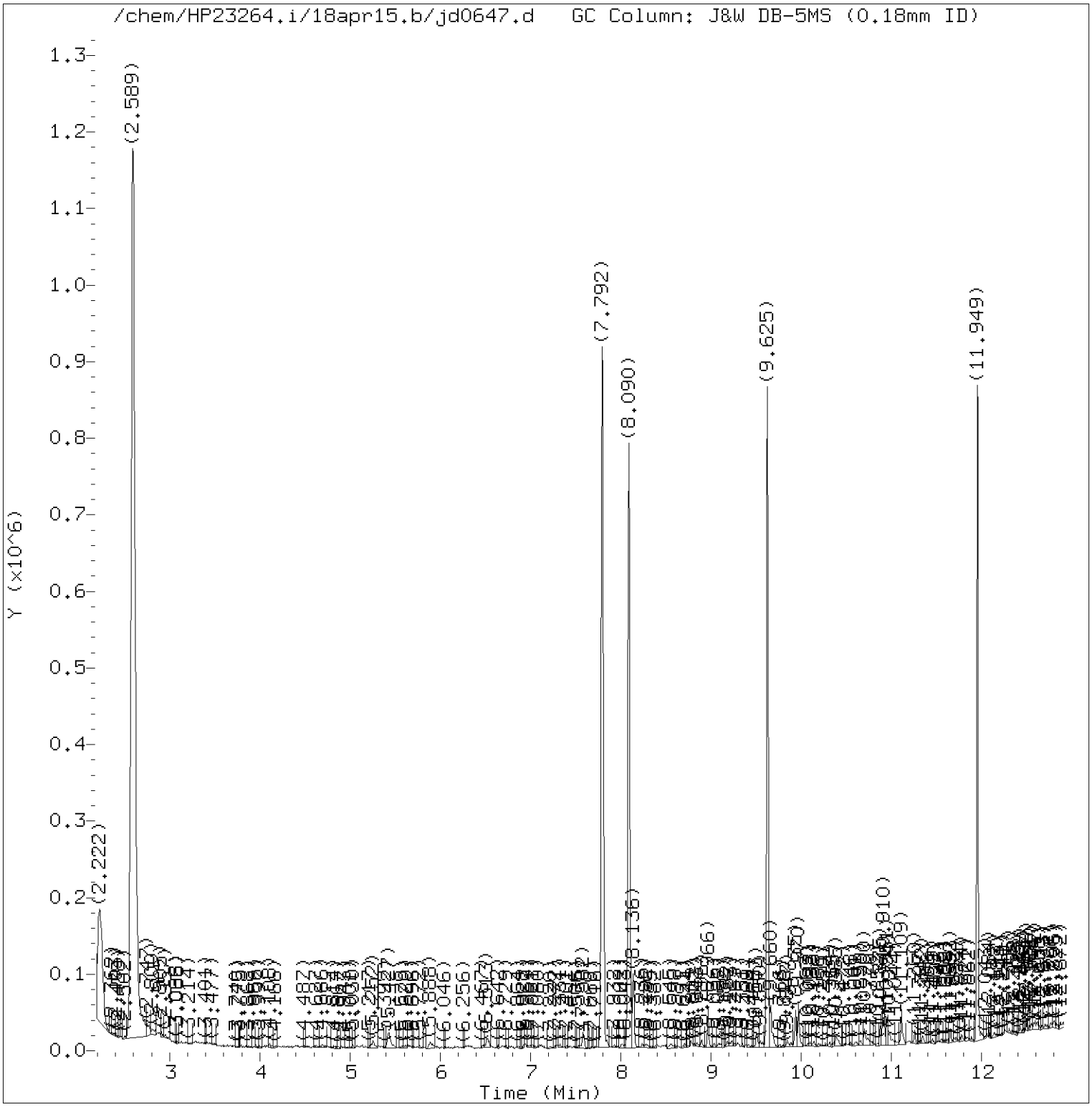
Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 247 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
107) 2-Chloronaphthalene	(3)			Not Detected					0.1
110) 2-Nitroaniline	(3)			Not Detected					0.1
114) Dimethylphthalate	(3)			Not Detected					0.5
117) 2,6-Dinitrotoluene	(3)			Not Detected					0.1
118) Acenaphthylene	(3)			Not Detected					0.03
120) 3-Nitroaniline	(3)			Not Detected					0.1
123) Acenaphthene	(3)			Not Detected					0.03
125) 2,4-Dinitrophenol	(3)			Not Detected					3
126) 4-Nitrophenol	(3)			Not Detected					3
128) 2,4-Dinitrotoluene	(3)			Not Detected					0.3
129) Dibenzofuran	(3)			Not Detected					0.1
136) Diethylphthalate	(3)			Not Detected					0.5
139) Fluorene	(3)			Not Detected					0.03
141) 4-Chlorophenyl-phenylether	(3)			Not Detected					0.1
142) 4-Nitroaniline	(3)			Not Detected					0.1
143) 4,6-Dinitro-2-methylphenol	(4)			Not Detected					1
144) N-Nitrosodiphenylamine	(4)			Not Detected					0.1
153) 4-Bromophenyl-phenylether	(4)			Not Detected					0.1
155) Hexachlorobenzene	(4)			Not Detected					0.03
160) Pentachlorophenol	(4)			Not Detected					0.3
167) Phenanthrene	(4)			Not Detected					0.03
168) Anthracene	(4)			Not Detected					0.03
169) Carbazole	(4)			Not Detected					0.1
174) Di-n-butylphthalate	(4)			Not Detected					0.5
183) Fluoranthene	(4)			Not Detected					0.03
187) Pyrene	(5)			Not Detected					0.03
198) Butylbenzylphthalate	(5)			Not Detected					0.5
202) 3,3'-Dichlorobenzidine	(5)			Not Detected					0.5
201) Benzo(a)anthracene	(5)			Not Detected					0.03
206) Chrysene	(5)			Not Detected					0.03
207) bis(2-Ethylhexyl)phthalate	(5)			Not Detected					0.5
209) Di-n-octylphthalate	(6)			Not Detected					0.5
210) Benzo(b)fluoranthene	(6)			Not Detected					0.03
212) Benzo(k)fluoranthene	(6)			Not Detected					0.03
214) Benzo(a)pyrene	(6)			Not Detected					0.03
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

Total number of targets = 64

Digitally signed by Brandon H. Smith on 04/16/2018 at 07:33. Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/18/2018 at 14:26. PARALLAX ID: cam01237



Total Ion Chromatogram (TIC)

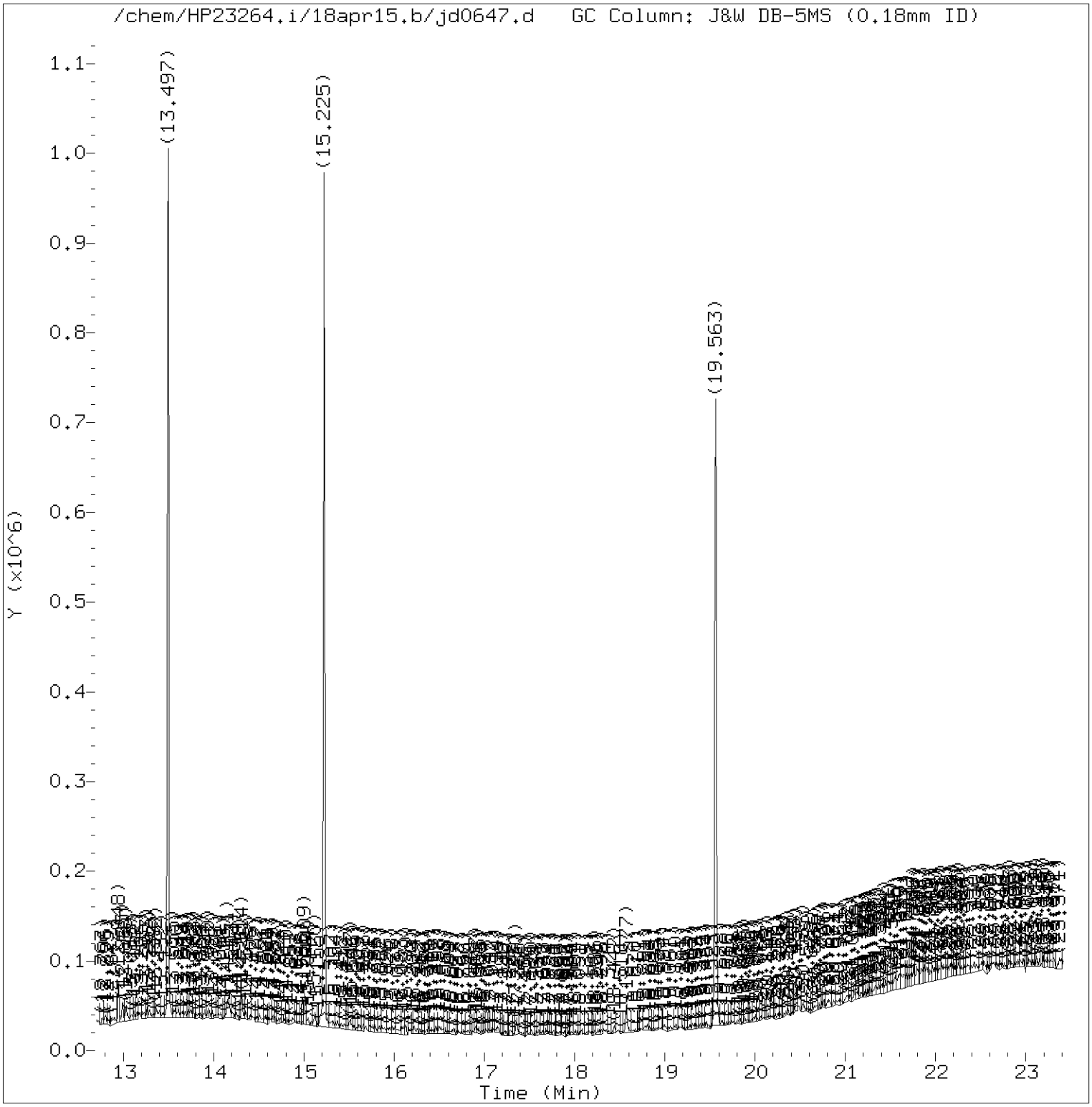
Target Revision 3.5

Data File: /chem/HP23264.i/18apr15.b/jd0647.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 19:33 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 15-APR-2018 16:36
Date, time and analyst ID of latest file update: 16-Apr-2018 05:52 bhs10208

Sample Name: T8103 Lab Sample ID: 9548797

Digitally signed by Brandon H. Smith
on 04/16/2018 at 07:33.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP23264.i/18apr15.b/jd0647.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 19:33 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 15-APR-2018 16:36
Date, time and analyst ID of latest file update: 16-Apr-2018 05:52 bhs10208

Sample Name: T8103 Lab Sample ID: 9548797

Digitally signed by Brandon H. Smith
on 04/16/2018 at 07:33.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr15.b/jd0647.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 19:33 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 15-APR-2018 16:36
Date, time and analyst ID of latest file update: 16-Apr-2018 05:52 bhs10208

Sample Name: T8103 Lab Sample ID: 9548797

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
36)*1,4-Dichlorobenzene-d4	(1)	8.090	152	187549	5.000
76)*Naphthalene-d8	(2)	9.625	136	460746	5.000
122)*Acenaphthene-d10	(3)	11.949	164	170681	5.000
165)*Phenanthrene-d10	(4)	13.497	188	323420	5.000
185)*Pyrene-d10	(5)	15.225	212	367102	5.000
215)*Perylene-d12	(6)	19.563	264	330973	5.000

* = Compound is an internal standard.

Digitally signed by Brandon H. Smith
on 04/16/2018 at 07:33.
Target 3.5 esignature user ID: bhs10208

T8103RE

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

9548797RE

Data file: /chem/HP18831.i/18apr17.b/hd0759.d
Data file Sample Info. Line: T8103RE;9548797RE;1;0;SAMPLE;;;
Date, time and analyst ID of latest file update: 17-Apr-2018 15:29 bkc25363

Injection date and time: **17-APR-2018 10:38**
Instrument ID: **HP18831.i** Batch: **18106WAE**

Blank Data file reference: **/chem/HP18831.i/18apr17.b/hd0755.d**

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: **20639M**
Calibration date and time (Last Method Edit): 17-APR-2018 07:01
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/18apr17.b/hd0751.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 249 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
26) 1,4-Dichlorobenzene-d4	6.020(0.000)	872	152	152205 (-13)	5.00	
67) Naphthalene-d8	7.960(0.000)	1205	136	554907 (-15)	5.00	
119) Acenaphthene-d10	10.729(0.000)	1680	164	271696 (-18)	5.00	
160) Phenanthrene-d10	12.728(0.006)	2023	188	550531 (-17)	5.00	
183) Pyrene-d10	14.529(0.006)	2332	212	586184 (-18)	5.00	
221) Perylene-d12	18.843(0.000)	3072	264	607953 (-17)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
12) 2-Fluorophenol	(1)	4.102(0.000)	112	212008	5.077	10%		10 - 82
18) Phenol-d6	(1)	5.559(0.000)	99	204298	3.686	7%	*	10 - 71
45) Nitrobenzene-d5	(2)	6.871(0.000)	82	857845	17.585	70%		30 - 111
97) 2-Fluorobiphenyl	(3)	9.709(0.001)	172	1620812	18.059	72%		39 - 105
141) 2,4,6-Tribromophenol	(3)	11.930(0.000)	330	372464	31.502	63%		21 - 134
187) Terphenyl-d14	(5)	14.850(0.000)	244	1758631	17.025	68%		27 - 116

*** = Surrogate Standard % recovery outside QC limits.**

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
19) Phenol	(1)			Not Detected					0.1
23) bis(2-Chloroethyl)ether	(1)			Not Detected					0.1
24) 2-Chlorophenol	(1)			Not Detected					0.1
25) 1,3-Dichlorobenzene	(1)			Not Detected					0.1
27) 1,4-Dichlorobenzene	(1)			Not Detected					0.1
29) 1,2-Dichlorobenzene	(1)			Not Detected					0.1
32) 2-Methylphenol	(1)			Not Detected					0.1
34) 2,2'-oxybis(1-Chloropropane)	(1)			Not Detected					0.1
38) 4-Methylphenol	(1)			Not Detected					0.1
39) N-Nitroso-di-n-propylamine	(1)			Not Detected					0.1
44) Hexachloroethane	(1)			Not Detected					0.3
46) Nitrobenzene	(2)			Not Detected					0.1
52) Isophorone	(2)			Not Detected					0.1
53) 2-Nitrophenol	(2)			Not Detected					0.1
55) 2,4-Dimethylphenol	(2)			Not Detected					0.1
58) bis(2-Chloroethoxy)methane	(2)			Not Detected					0.1
62) 2,4-Dichlorophenol	(2)			Not Detected					0.1
64) 1,2,4-Trichlorobenzene	(2)			Not Detected					0.1
69) Naphthalene	(2)			Not Detected					0.03
70) 4-Chloroaniline	(2)			Not Detected					0.5
74) Hexachlorobutadiene	(2)			Not Detected					0.1
83) 4-Chloro-3-methylphenol	(2)			Not Detected					0.1
86) 2-Methylnaphthalene	(2)			Not Detected					0.03
88) Hexachlorocyclopentadiene	(3)			Not Detected					1
94) 2,4,6-Trichlorophenol	(3)			Not Detected					0.1
96) 2,4,5-Trichlorophenol	(3)			Not Detected					0.1

Digitally signed by Brandon K. Cordova on 04/17/2018 at 16:01. Target 3.5 esignature user ID: bkc25363

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP18831.i/18apr17.b/hd0759.d
Injection date and time: **17-APR-2018 10:38**
Data file Sample Info. Line: T8103RE;9548797RE;1;0;SAMPLE;;;
Instrument ID: **HP18831.i** Batch: **18106WAE**
Date, time and analyst ID of latest file update: 17-Apr-2018 15:29 bkc25363

Blank Data file reference: **/chem/HP18831.i/18apr17.b/hd0755.d**

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: **20639M**
Calibration date and time (Last Method Edit): 17-APR-2018 07:01
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/18apr17.b/hd0751.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

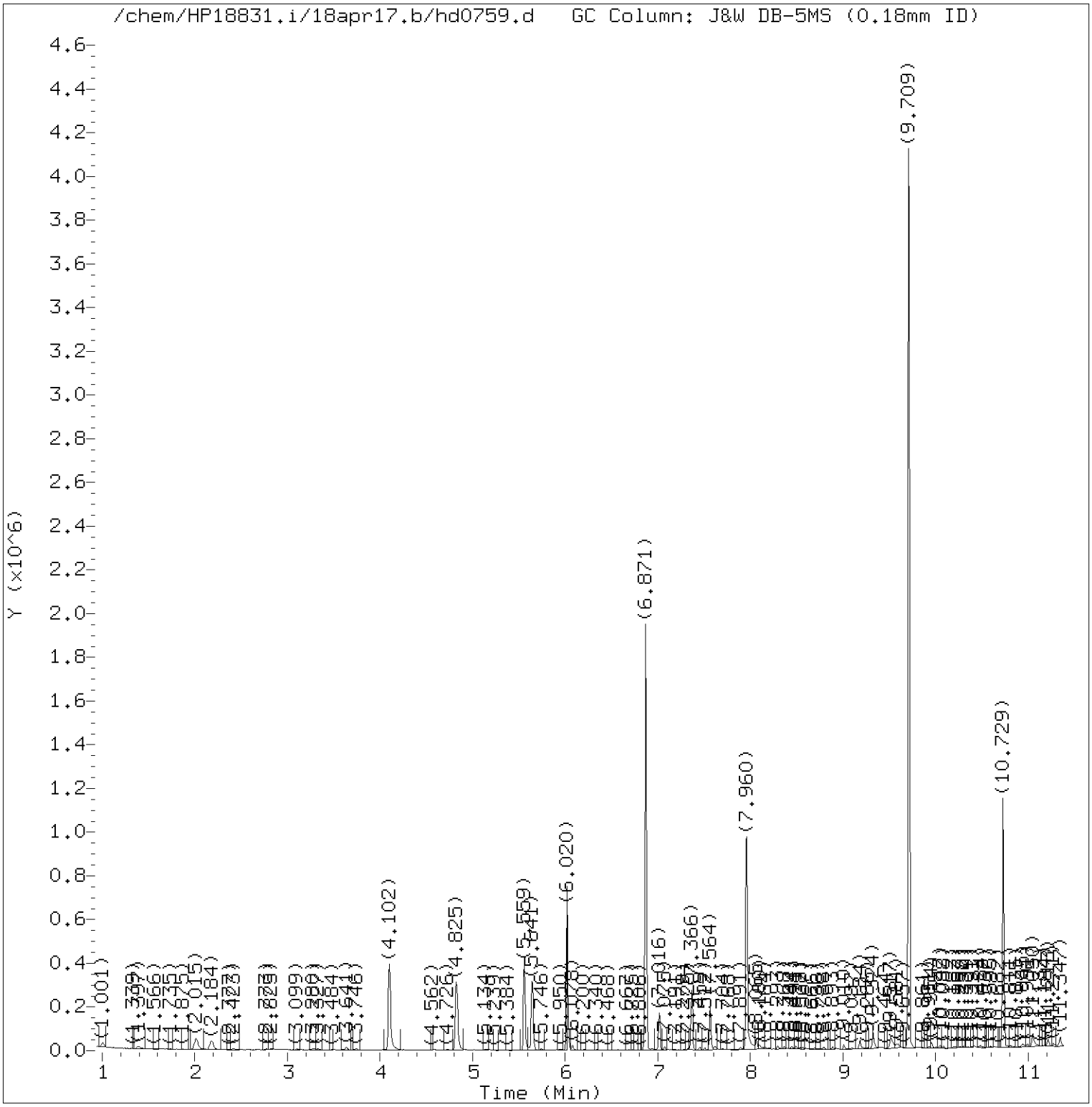
Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 249 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
100) 2-Chloronaphthalene	(3)			Not Detected					0.1
105) 2-Nitroaniline	(3)			Not Detected					0.1
111) Dimethylphthalate	(3)			Not Detected					0.5
114) 2,6-Dinitrotoluene	(3)			Not Detected					0.1
115) Acenaphthylene	(3)			Not Detected					0.03
118) 3-Nitroaniline	(3)			Not Detected					0.1
120) Acenaphthene	(3)			Not Detected					0.03
121) 2,4-Dinitrophenol	(3)			Not Detected					3
122) 4-Nitrophenol	(3)			Not Detected					3
124) 2,4-Dinitrotoluene	(3)			Not Detected					0.3
125) Dibenzofuran	(3)			Not Detected					0.1
130) Diethylphthalate	(3)			Not Detected					0.5
132) Fluorene	(3)			Not Detected					0.03
133) 4-Chlorophenyl-phenylether	(3)			Not Detected					0.1
135) 4-Nitroaniline	(3)			Not Detected					0.1
136) 4,6-Dinitro-2-methylphenol	(4)			Not Detected					1
137) N-Nitrosodiphenylamine	(4)			Not Detected					0.1
149) 4-Bromophenyl-phenylether	(4)			Not Detected					0.1
151) Hexachlorobenzene	(4)			Not Detected					0.03
156) Pentachlorophenol	(4)			Not Detected					0.3
162) Phenanthrene	(4)			Not Detected					0.03
164) Anthracene	(4)			Not Detected					0.03
170) Carbazole	(4)			Not Detected					0.1
173) Di-n-butylphthalate	(4)			Not Detected					0.5
181) Fluoranthene	(4)			Not Detected					0.03
185) Pyrene	(5)			Not Detected					0.03
196) Butylbenzylphthalate	(5)			Not Detected					0.5
201) 3,3'-Dichlorobenzidine	(5)			Not Detected					0.5
204) Benzo(a)anthracene	(5)			Not Detected					0.03
205) Chrysene	(5)			Not Detected					0.03
207) bis(2-Ethylhexyl)phthalate	(5)			Not Detected					0.5
213) Di-n-octylphthalate	(6)			Not Detected					0.5
214) Benzo(b)fluoranthene	(6)			Not Detected					0.03
216) Benzo(k)fluoranthene	(6)			Not Detected					0.03
219) Benzo(a)pyrene	(6)			Not Detected					0.03
227) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
228) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
229) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

Total number of targets = 64

Digitally signed by Brandon K. Cordova on 04/17/2018 at 16:01. Target 3.5 esignature user ID: bkc25363

Secondary review performed and digitally signed by Matthew E. Barton on 04/18/2018 at 19:16. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

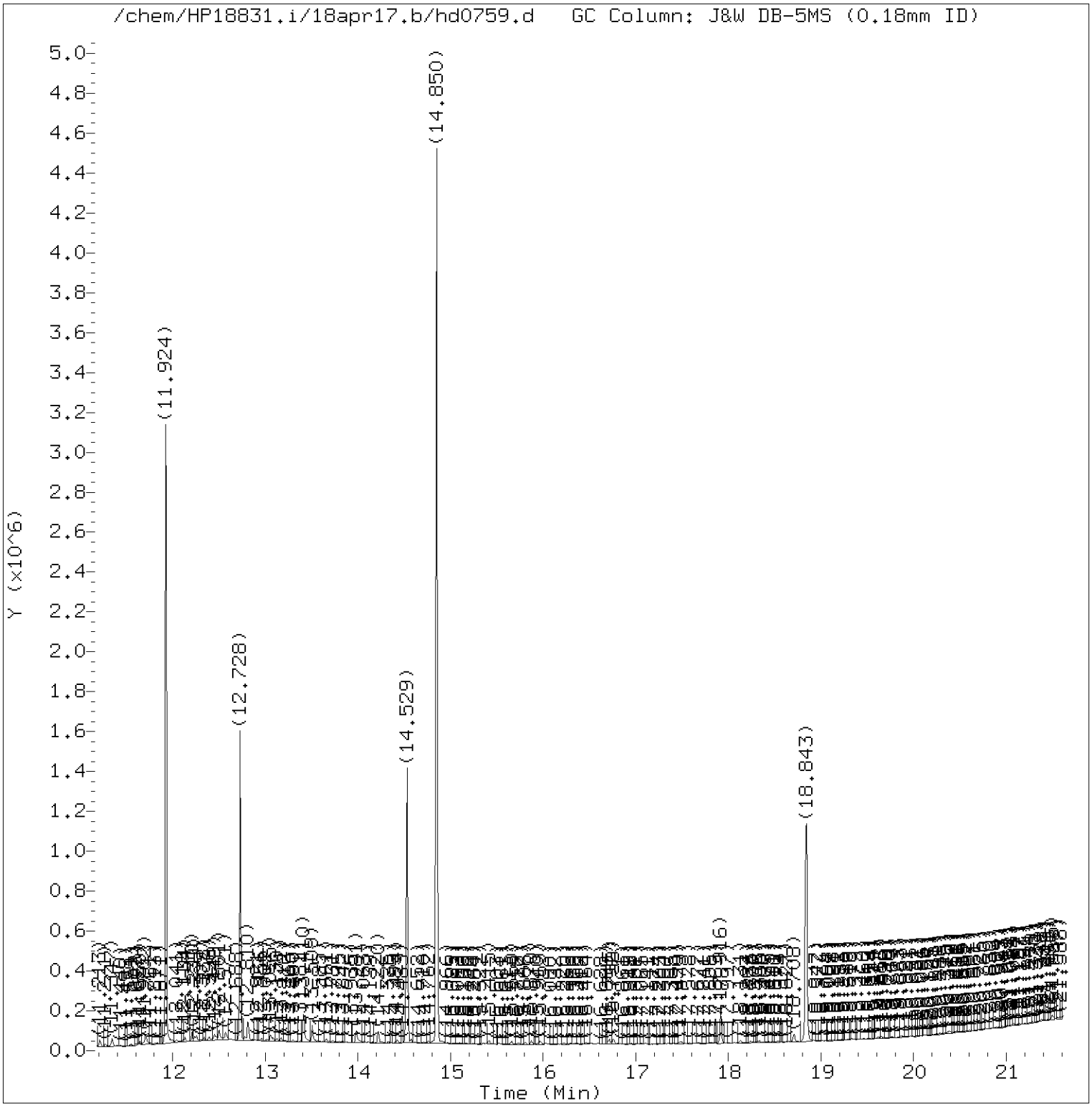
Target Revision 3.5

Data File: /chem/HP18831.i/18apr17.b/hd0759.d Instrument ID: HP18831.i
Injection date and time: 17-APR-2018 10:38 Analyst ID: bhs10208

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 17-APR-2018 07:01
Date, time and analyst ID of latest file update: 17-Apr-2018 15:29 bkc25363

Sample Name: T8103RE Lab Sample ID: 9548797RE

Digitally signed by Brandon K. Cordova
on 04/17/2018 at 16:01.
Target 3.5 esignature user ID: bkc25363



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/18apr17.b/hd0759.d Instrument ID: HP18831.i
Injection date and time: 17-APR-2018 10:38 Analyst ID: bhs10208

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 17-APR-2018 07:01
Date, time and analyst ID of latest file update: 17-Apr-2018 15:29 bkc25363

Sample Name: T8103RE Lab Sample ID: 9548797RE

Digitally signed by Brandon K. Cordova
on 04/17/2018 at 16:01.
Target 3.5 esignature user ID: bkc25363

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr17.b/hd0759.d Instrument ID: HP18831.i
Injection date and time: 17-APR-2018 10:38 Analyst ID: bhs10208

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 17-APR-2018 07:01
Date, time and analyst ID of latest file update: 17-Apr-2018 15:29 bkc25363

Sample Name: T8103RE Lab Sample ID: 9548797RE

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
12)$2-Fluorophenol	(1)	4.102	112	212008	5.077
18)$Phenol-d6	(1)	5.559	99	204298	3.686
26)*1,4-Dichlorobenzene-d4	(1)	6.020	152	152205	5.000
45)$Nitrobenzene-d5	(2)	6.871	82	857845	17.585
67)*Naphthalene-d8	(2)	7.960	136	554907	5.000
97)$2-Fluorobiphenyl	(3)	9.709	172	1620812	18.059
119)*Acenaphthene-d10	(3)	10.729	164	271696	5.000
141)$2,4,6-Tribromophenol	(3)	11.930	330	372464	31.502
160)*Phenanthrene-d10	(4)	12.728	188	550531	5.000
183)*Pyrene-d10	(5)	14.529	212	586184	5.000
187)$Terphenyl-d14	(5)	14.850	244	1758631	17.025
221)*Perylene-d12	(6)	18.843	264	607953	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon K. Cordova
on 04/17/2018 at 16:01.
Target 3.5 esignature user ID: bkc25363

T8105 Lancaster Laboratories, Inc. 9548799
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP18831.i/18apr17.b/hd0760.d
Data file Sample Info. Line: T8105;9548799;1;0;SAMPLE;;;
Date, time and analyst ID of latest file update: 18-Apr-2018 19:11 bkc25363

Injection date and time: **17-APR-2018 11:05**
Instrument ID: **HP18831.i** Batch: **18106WAE**

Blank Data file reference: **/chem/HP18831.i/18apr17.b/hd0755.d**

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: **20639M**
Calibration date and time (Last Method Edit): 17-APR-2018 15:42
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/18apr17.b/hd0751.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 248 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
26) 1,4-Dichlorobenzene-d4	6.020(0.000)	872	152	148178 (-15)	5.00	
67) Naphthalene-d8	7.960(0.000)	1205	136	534888 (-18)	5.00	
119) Acenaphthene-d10	10.729(0.000)	1680	164	262674 (-20)	5.00	
160) Phenanthrene-d10	12.728(0.006)	2023	188	524886 (-21)	5.00	
183) Pyrene-d10	14.529(0.006)	2332	212	568062 (-20)	5.00	
221) Perylene-d12	18.837(0.006)	3071	264	577887 (-21)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
12) 2-Fluorophenol	(1)	4.096(0.001)	112	903823	22.234	44%		10 - 82
18) Phenol-d6	(1)	5.559(0.000)	99	849489	15.744	31%		10 - 71
45) Nitrobenzene-d5	(2)	6.871(0.000)	82	912800	19.411	78%		30 - 111
97) 2-Fluorobiphenyl	(3)	9.709(0.001)	172	1670979	19.257	77%		39 - 105
141) 2,4,6-Tribromophenol	(3)	11.930(0.000)	330	521520	45.623	91%		21 - 134
187) Terphenyl-d14	(5)	14.850(0.000)	244	2152515	21.502	86%		27 - 116

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
19) Phenol	(1)			Not Detected					0.1
23) bis(2-Chloroethyl)ether	(1)			Not Detected					0.1
24) 2-Chlorophenol	(1)			Not Detected					0.1
25) 1,3-Dichlorobenzene	(1)			Not Detected					0.1
27) 1,4-Dichlorobenzene	(1)			Not Detected					0.1
29) 1,2-Dichlorobenzene	(1)			Not Detected					0.1
32) 2-Methylphenol	(1)			Not Detected					0.1
34) 2,2'-oxybis(1-Chloropropane)	(1)			Not Detected					0.1
38) 4-Methylphenol	(1)			Not Detected					0.1
39) N-Nitroso-di-n-propylamine	(1)			Not Detected					0.1
44) Hexachloroethane	(1)			Not Detected					0.3
46) Nitrobenzene	(2)			Not Detected					0.1
52) Isophorone	(2)			Not Detected					0.1
53) 2-Nitrophenol	(2)			Not Detected					0.1
55) 2,4-Dimethylphenol	(2)			Not Detected					0.1
58) bis(2-Chloroethoxy)methane	(2)			Not Detected					0.1
62) 2,4-Dichlorophenol	(2)			Not Detected					0.1
64) 1,2,4-Trichlorobenzene	(2)			Not Detected					0.1
69) Naphthalene	(2)			Not Detected					0.03
70) 4-Chloroaniline	(2)			Not Detected					0.5
74) Hexachlorobutadiene	(2)			Not Detected					0.1
83) 4-Chloro-3-methylphenol	(2)			Not Detected					0.1
86) 2-Methylnaphthalene	(2)			Not Detected					0.03
88) Hexachlorocyclopentadiene	(3)			Not Detected					1
94) 2,4,6-Trichlorophenol	(3)			Not Detected					0.1
96) 2,4,5-Trichlorophenol	(3)			Not Detected					0.1
100) 2-Chloronaphthalene	(3)			Not Detected					0.1

Digitally signed by Brandon K. Cordova on 04/18/2018 at 19:11. Target 3.5 esignature user ID: bkc25363

T8105 Lancaster Laboratories, Inc. 9548799
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP18831.i/18apr17.b/hd0760.d
Data file Sample Info. Line: T8105;9548799;1;0;SAMPLE;;;
Date, time and analyst ID of latest file update: 18-Apr-2018 19:11 bkc25363

Injection date and time: **17-APR-2018 11:05**
Instrument ID: **HP18831.i** Batch: **18106WAE**

Blank Data file reference: **/chem/HP18831.i/18apr17.b/hd0755.d**

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: **20639M**
Calibration date and time (Last Method Edit): 17-APR-2018 15:42
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/18apr17.b/hd0751.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

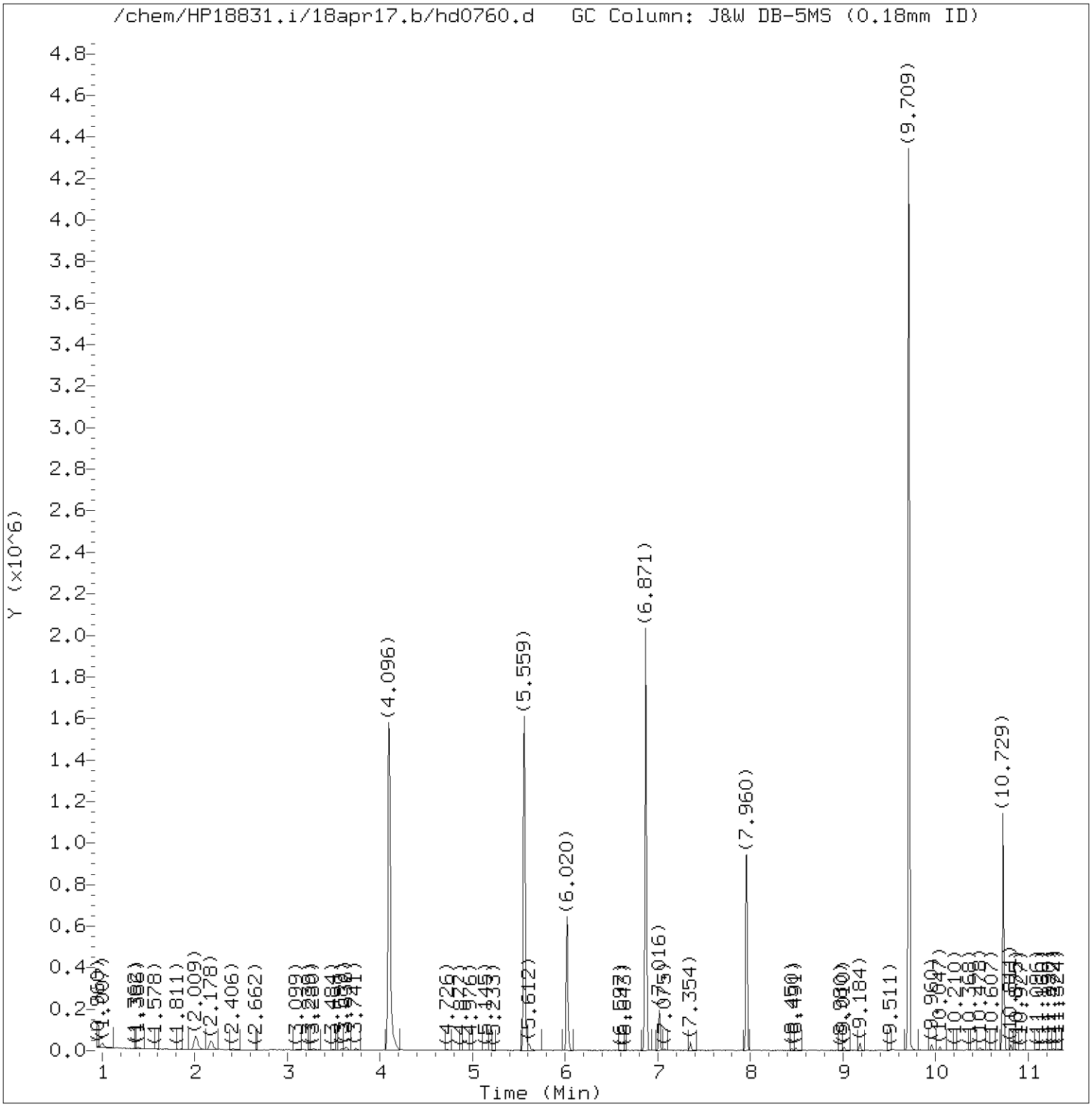
Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 248 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
105) 2-Nitroaniline	(3)			Not Detected					0.1
111) Dimethylphthalate	(3)			Not Detected					0.5
114) 2,6-Dinitrotoluene	(3)			Not Detected					0.1
115) Acenaphthylene	(3)			Not Detected					0.03
118) 3-Nitroaniline	(3)			Not Detected					0.1
120) Acenaphthene	(3)			Not Detected					0.03
121) 2,4-Dinitrophenol	(3)			Not Detected					3
122) 4-Nitrophenol	(3)			Not Detected					3
124) 2,4-Dinitrotoluene	(3)			Not Detected					0.3
125) Dibenzofuran	(3)			Not Detected					0.1
130) Diethylphthalate	(3)			Not Detected					0.5
132) Fluorene	(3)			Not Detected					0.03
133) 4-Chlorophenyl-phenylether	(3)			Not Detected					0.1
135) 4-Nitroaniline	(3)			Not Detected					0.1
136) 4,6-Dinitro-2-methylphenol	(4)			Not Detected					1
137) N-Nitrosodiphenylamine	(4)			Not Detected					0.1
149) 4-Bromophenyl-phenylether	(4)			Not Detected					0.1
151) Hexachlorobenzene	(4)			Not Detected					0.03
156) Pentachlorophenol	(4)			Not Detected					0.3
162) Phenanthrene	(4)			Not Detected					0.03
164) Anthracene	(4)			Not Detected					0.03
170) Carbazole	(4)			Not Detected					0.1
173) Di-n-butylphthalate	(4)			Not Detected					0.5
181) Fluoranthene	(4)			Not Detected					0.03
185) Pyrene	(5)			Not Detected					0.03
196) Butylbenzylphthalate	(5)			Not Detected					0.5
201) 3,3'-Dichlorobenzidine	(5)			Not Detected					0.5
204) Benzo(a)anthracene	(5)			Not Detected					0.03
205) Chrysene	(5)			Not Detected					0.03
207) bis(2-Ethylhexyl)phthalate	(5)			Not Detected					0.5
213) Di-n-octylphthalate	(6)			Not Detected					0.5
214) Benzo(b)fluoranthene	(6)			Not Detected					0.03
216) Benzo(k)fluoranthene	(6)			Not Detected					0.03
219) Benzo(a)pyrene	(6)			Not Detected					0.03
227) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
228) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
229) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

Total number of targets = 64

Digitally signed by Brandon K. Cordova on 04/18/2018 at 19:11. Target 3.5 esignature user ID: bkc25363

Secondary review performed and digitally signed by Matthew E. Barton on 04/18/2018 at 19:17. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

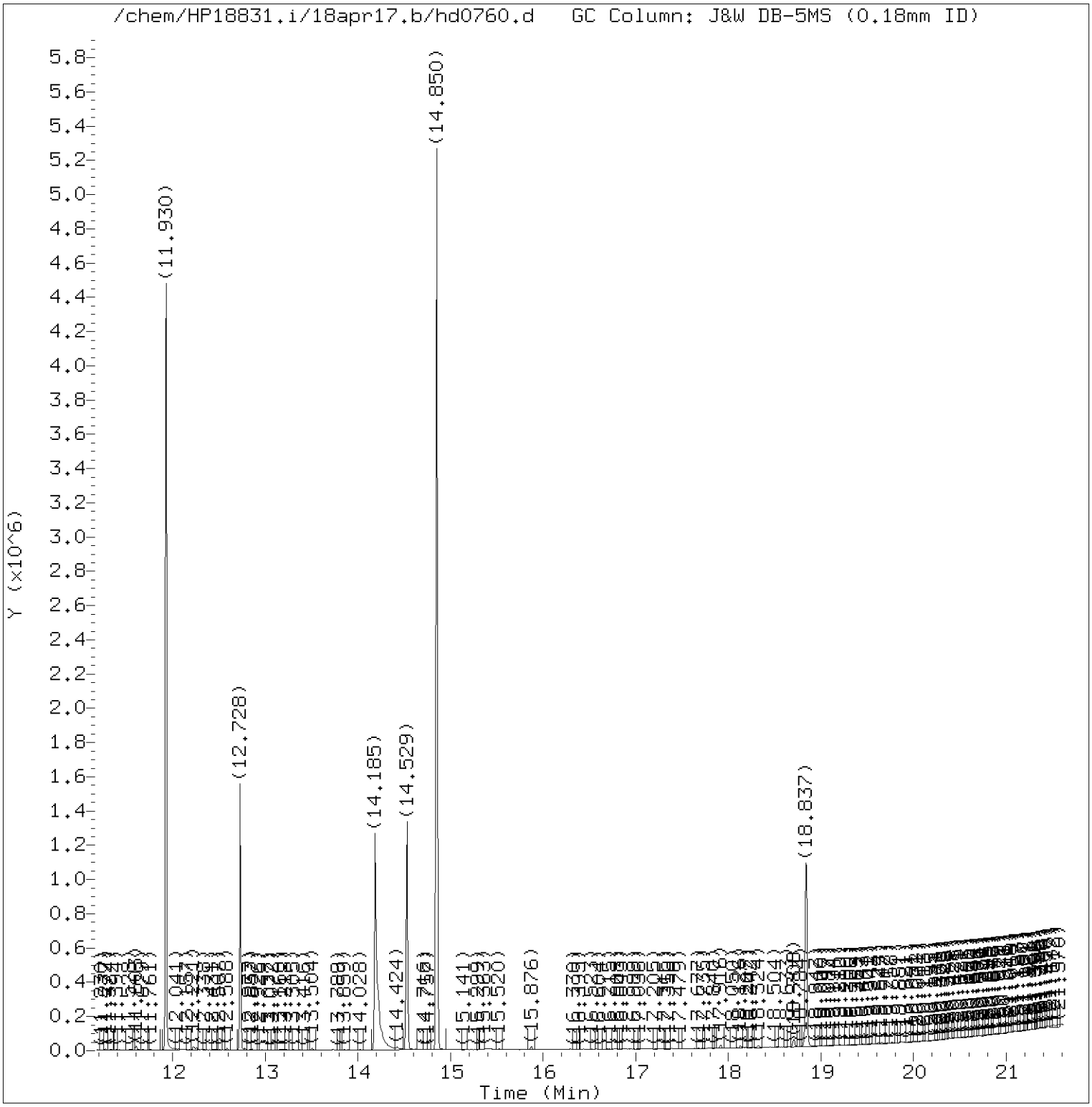
Target Revision 3.5

Data File: /chem/HP18831.i/18apr17.b/hd0760.d Instrument ID: HP18831.i
Injection date and time: 17-APR-2018 11:05 Analyst ID: bhs10208

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 17-APR-2018 15:42
Date, time and analyst ID of latest file update: 18-Apr-2018 19:11 bkc25363

Sample Name: T8105 Lab Sample ID: 9548799

Digitally signed by Brandon K. Cordova
on 04/18/2018 at 19:11.
Target 3.5 esignature user ID: bkc25363



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/18apr17.b/hd0760.d Instrument ID: HP18831.i
Injection date and time: 17-APR-2018 11:05 Analyst ID: bhs10208

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 17-APR-2018 15:42
Date, time and analyst ID of latest file update: 18-Apr-2018 19:11 bkc25363

Sample Name: T8105 Lab Sample ID: 9548799

Digitally signed by Brandon K. Cordova
on 04/18/2018 at 19:11.
Target 3.5 esignature user ID: bkc25363

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr17.b/hd0760.d Instrument ID: HP18831.i
Injection date and time: 17-APR-2018 11:05 Analyst ID: bhs10208

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 17-APR-2018 15:42
Date, time and analyst ID of latest file update: 18-Apr-2018 19:11 bkc25363

Sample Name: T8105 Lab Sample ID: 9548799

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
12)$2-Fluorophenol	(1)	4.096	112	903823	22.234
18)$Phenol-d6	(1)	5.559	99	849489	15.744
26)*1,4-Dichlorobenzene-d4	(1)	6.020	152	148178	5.000
45)$Nitrobenzene-d5	(2)	6.871	82	912800	19.411
67)*Naphthalene-d8	(2)	7.960	136	534888	5.000
97)$2-Fluorobiphenyl	(3)	9.709	172	1670979	19.257
119)*Acenaphthene-d10	(3)	10.729	164	262674	5.000
141)$2,4,6-Tribromophenol	(3)	11.930	330	521520	45.623
160)*Phenanthrene-d10	(4)	12.728	188	524886	5.000
183)*Pyrene-d10	(5)	14.529	212	568062	5.000
187)$Terphenyl-d14	(5)	14.850	244	2152515	21.502
221)*Perylene-d12	(6)	18.837	264	577887	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon K. Cordova
on 04/18/2018 at 19:11.
Target 3.5 esignature user ID: bkc25363

Standards Data

Semivolatiles by GC/MS

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP18831 **HP #08**

Data Directory Path is - C:\msdchem\1\data\18apr02a\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
bkc25363	HD0020.D	RVDFTPP0878	04/02/2018	21:44		
bkc25363	HD0021.D	RVSTD0608	04/02/2018	22:00		
bkc25363	HD0022.D	rvSTD0668	04/02/2018	22:43		
bkc25363	HD0023.D	rvSTD0608	04/02/2018	23:13		
bkc25363	HD0024.D	rvSTD0608	04/02/2018	23:42		
bkc25363	HD0025.D	rvSTD0608	04/03/2018	00:12		
bkc25363	HD0026.D	rvSTD0608	04/03/2018	00:42		
bkc25363	HD0027.D	rvSTD0608	04/03/2018	01:12		
bkc25363	HD0028.D	rvSTD0658	04/03/2018	01:42		
bkc25363	HD0029.D	rvMDL0668	04/03/2018	02:12		
bkc25363	HD0030.D	PAHMDL0608	04/03/2018	02:42		
bkc25363	HD0031.D	rvICV0648	04/03/2018	03:11		
bkc25363	HD0032.D	rvBASICV0648	04/03/2018	03:41		
bkc25363	HD0033.D	MS1808526A	04/03/2018	04:11		

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP18831 **HP #08**

Data Directory Path is - C:\msdchem\1\data\18apr17\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
bhs10208	HD0750.D	RVDFTPP0878	04/17/2018	06:05		
bhs10208	HD0751.D	RVSTD0968	04/17/2018	06:19		
bhs10208	HD0752.D	SBLKWF106	04/17/2018	07:28	18106WAF	
bhs10208	HD0753.D	106WFLCS	04/17/2018	07:55	18106WAF	
bhs10208	HD0754.D	106WFLCSD	04/17/2018	08:22	18106WAF	
bhs10208	HD0755.D	SBLKWE106	04/17/2018	08:49	18106WAE	
bhs10208	HD0756.D	106WELCS	04/17/2018	09:17	18106WAE	
bhs10208	HD0757.D	106WELCSD	04/17/2018	09:44	18106WAE	
bhs10208	HD0758.D	9548789RE	04/17/2018	10:11	18106WAE	
bhs10208	HD0759.D	9548797RE	04/17/2018	10:38	18106WAE	
bhs10208	HD0760.D	9548799RE	04/17/2018	11:05	18106WAE	
bhs10208	HD0761.D	9552016RE	04/17/2018	11:33	18106WAE	
bhs10208	HD0762.D	9553408RE	04/17/2018	12:00	18106WAE	
bhs10208	HD0763.D	9553410RE	04/17/2018	12:27	18106WAE	
bhs10208	HD0764.D	9553411RE	04/17/2018	12:54	18106WAE	
bhs10208	HD0765.D	9553412RE	04/17/2018	13:21	18106WAE	
bhs10208	HD0766.D	9553413RE	04/17/2018	13:49	18106WAE	
bhs10208	HD0767.D	9553414RE	04/17/2018	14:16	18106WAE	
bhs10208	HD0768.D	9553415RE	04/17/2018	14:43	18106WAE	
bhs10208	HD0769.D	9553416RE	04/17/2018	15:10	18106WAE	
bhs10208	HD0770.D	9553417RE	04/17/2018	15:37	18106WAE	
bhs10208	HD0771.D	9553418RE	04/17/2018	16:05	18106WAE	
bhs10208	HD0772.D	9553582RE	04/17/2018	16:32	18106WAF	
bhs10208	HD0773.D	9553583RE	04/17/2018	16:59	18106WAF	
bhs10208	HD0782.D	SECC12.5	04/17/2018	17:26		

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP23264 **HP #10**

Data Directory Path is - C:\msdchem\1\data\18apr14\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
knk25316	JD0620.D	DFTPP0108	04/14/2018	14:02		
knk25316	JD0621.D	rvSTD0968	04/14/2018	14:18		
knk25316	JD0622.D	rvSTD0968	04/14/2018	16:29		
knk25316	JD0623.D	rvSTD0968	04/14/2018	16:59		
knk25316	JD0624.D	rvSTD0968	04/14/2018	17:30		
knk25316	JD0625.D	rvSTD0968	04/14/2018	18:00		
knk25316	JD0626.D	rvSTD0968	04/14/2018	18:30		
knk25316	JD0627.D	rvSTD0968	04/14/2018	19:01		
knk25316	JD0628.D	rvSTD0968	04/14/2018	19:31		
knk25316	JD0629.D	rvMDL0968	04/14/2018	20:01		
knk25316	JD0630.D	PAHMDL0968	04/14/2018	20:31		
knk25316	JD0631.D	rvICV0648	04/14/2018	21:02		
knk25316	JD0632.D	rvBASICV0648	04/14/2018	21:32		
knk25316	JD0633.D	MS1809526A	04/14/2018	22:02		

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP23264 **HP #10**

Data Directory Path is - C:\msdchem\1\data\18apr15\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
bhs10208	JD0640.D	DFTPP0878	04/15/2018	15:40		
bhs10208	JD0641.D	rvSTD0968	04/15/2018	15:56		
bhs10208	JD0642.D	SBLKWR101	04/15/2018	17:02	18101WAR	
bhs10208	JD0643.D	101WRLCS	04/15/2018	17:32	18101WAR	
bhs10208	JD0644.D	9548789	04/15/2018	18:02	18101WAR	
bhs10208	JD0645.D	9548790	04/15/2018	18:33	18101WAR	
bhs10208	JD0646.D	9548791	04/15/2018	19:03	18101WAR	
bhs10208	JD0647.D	9548797	04/15/2018	19:33	18101WAR	
bhs10208	JD0648.D	9548799	04/15/2018	20:04	18101WAR	
bhs10208	JD0649.D	9552016	04/15/2018	20:34	18101WAR	
bhs10208	JD0650.D	9553408	04/15/2018	21:04	18101WAR	
bhs10208	JD0651.D	9553410	04/15/2018	21:34	18101WAR	
bhs10208	JD0652.D	9553411	04/15/2018	22:05	18101WAR	
bhs10208	JD0653.D	9553412	04/15/2018	22:35	18101WAR	
bhs10208	JD0654.D	9553413	04/15/2018	23:05	18101WAR	
bhs10208	JD0655.D	9553414	04/15/2018	23:36	18101WAR	
bhs10208	JD0656.D	9553415	04/16/2018	00:06	18101WAR	
bhs10208	JD0657.D	9553416	04/16/2018	00:36	18101WAR	
bhs10208	JD0658.D	9553417	04/16/2018	01:07	18101WAR	
bhs10208	JD0659.D	9553418	04/16/2018	01:37	18101WAR	
bhs10208	JD0660.D	9553582	04/16/2018	02:08	18101WAR	
bhs10208	JD0661.D	9553583	04/16/2018	02:38	18101WAR	
bhs10208	JD0662.D	9553584	04/16/2018	03:09	18101WAR	
bhs10208	JD0663.D	RVSTD0968	04/16/2018	03:39		

Data File: /chem/HP18831.i/18apr02a.b/hd0020.d

Date : 02-APR-2018 21:44

Client ID: DFTPP

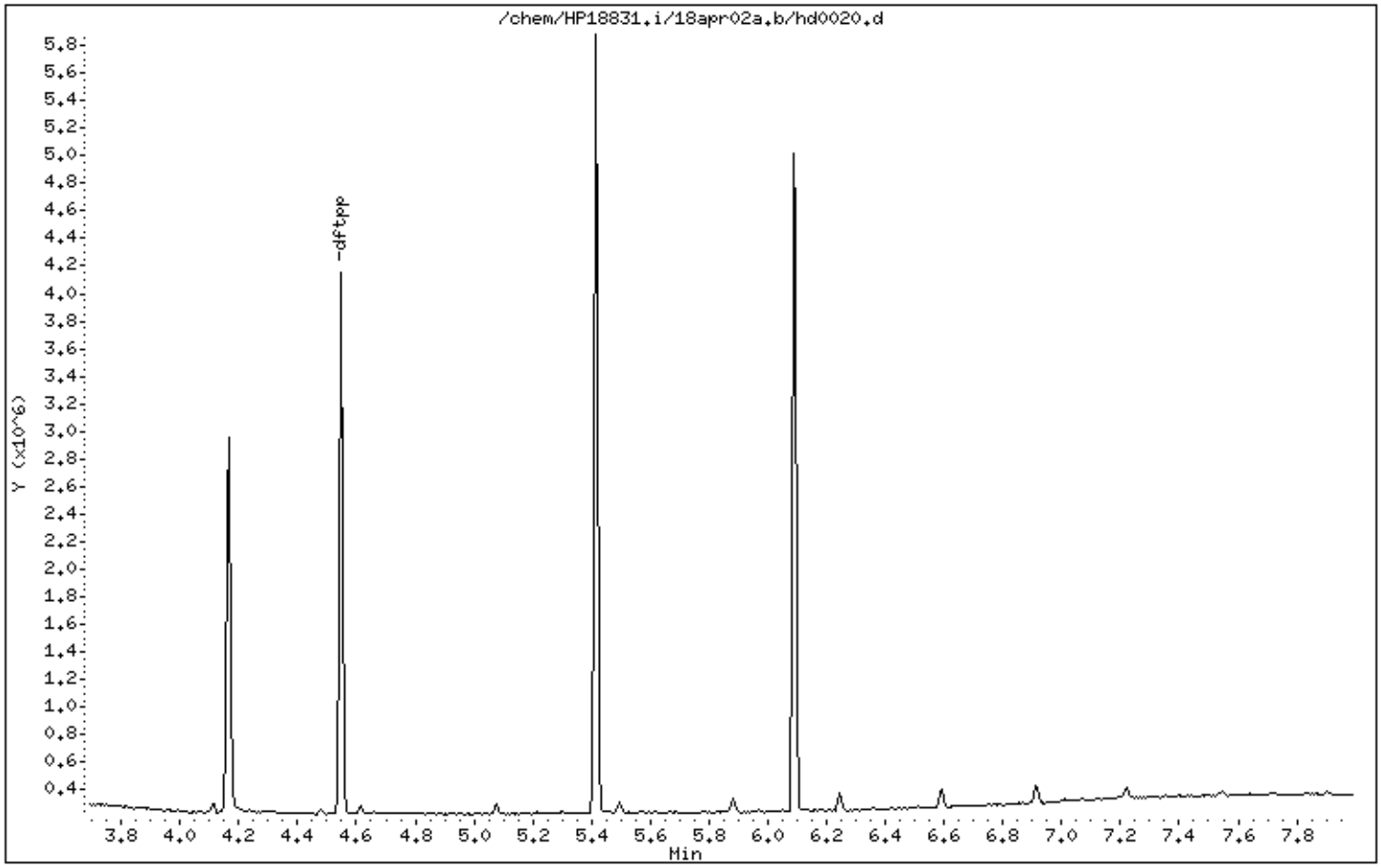
Instrument: HP18831.i

Sample Info: DFTPP;RVDFTPP0878;1;3;DFTPP;

Operator: bkc25363

Column phase: DB-5MS

Column diameter: 0.18



Digitally signed by Brandon H. Smith on 04/03/2018 at 12:28.
Target 3.5 esignature user ID: bhs10208

Data File: /chem/HP18831.i/18apr02a.b/hd0020.d

Date : 02-APR-2018 21:44

Client ID: DFTPP

Instrument: HP18831.i

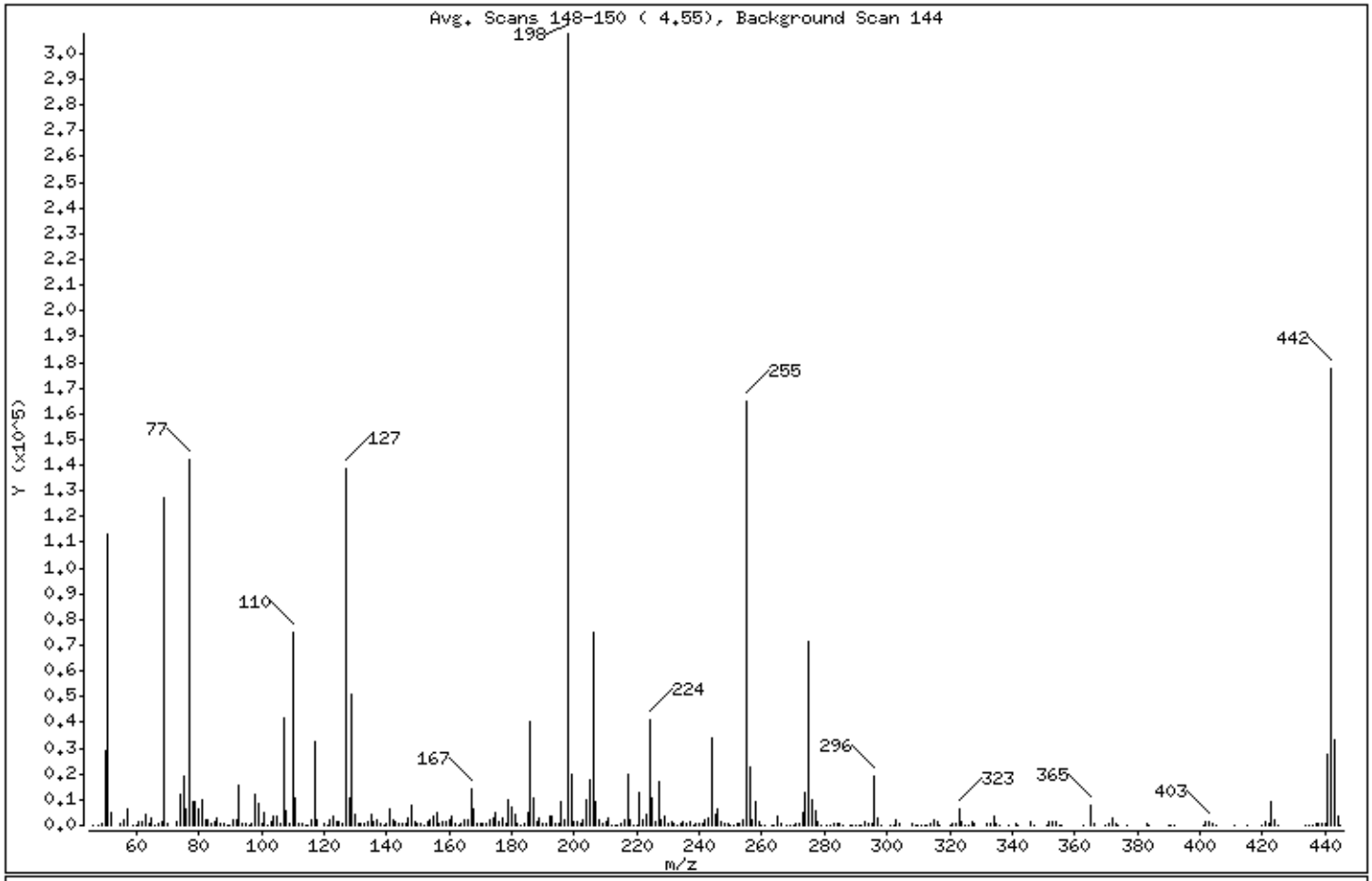
Sample Info: DFTPP;RVDFTPP0878;1;3;DFTPP;

Operator: bkc25363

Column phase: DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	36.85
68	Less than 2.00% of mass 69	0.47 (1.14)
69	Mass 69 relative abundance	41.41
70	Less than 2.00% of mass 69	0.31 (0.75)
127	40.00 - 60.00% of mass 198	45.17
197	Less than 1.00% of mass 198	0.64
199	5.00 - 9.00% of mass 198	6.42
275	10.00 - 30.00% of mass 198	23.19
365	Greater than 1.00% of mass 198	2.44
441	Present, but less than mass 443	8.87
442	40.00 - 99.99% of mass 198	57.65
443	17.00 - 23.00% of mass 442	10.70 (18.57)

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:28.
Target 3.5 esignature user ID: bhs10208

Data File: /chem/HP18831.i/18apr02a.b/hd0020.d

Date : 02-APR-2018 21:44

Client ID: DFTPP

Instrument: HP18831.i

Sample Info: DFTPP;RVDFTPP0878;1;3;DFTPP;

Operator: bkc25363

Column phase: DB-5MS

Column diameter: 0.18

Data File: hd0020.d
Spectrum: Avg. Scans 148-150 (4.55), Background Scan 144
Location of Maximum: 198.00
Number of points: 320

m/z	Y	m/z	Y	m/z	Y	m/z	Y
46.00	29	134.00	1119	215.00	971	302.00	305
48.00	39	135.00	4082	216.00	1878	303.00	1983
49.00	555	136.00	1641	217.00	19664	304.00	651
50.00	28864	137.00	1870	218.00	2446	308.00	356
51.00	113376	138.00	636	219.00	276	309.00	188
52.00	5254	139.00	209	220.00	192	310.00	290
55.00	595	140.00	714	221.00	12792	311.00	66
56.00	2379	141.00	6561	222.00	2277	312.00	72
57.00	6539	142.00	1787	223.00	4562	313.00	205
59.00	82	143.00	1697	224.00	41016	314.00	990
60.00	83	144.00	443	225.00	10349	315.00	2303
61.00	1289	145.00	367	226.00	1126	316.00	1221
62.00	1344	146.00	965	227.00	17024	317.00	306
63.00	4399	147.00	3010	228.00	2227	320.00	52
64.00	599	148.00	7556	229.00	3862	321.00	663
65.00	2509	149.00	1657	230.00	698	322.00	449
66.00	166	150.00	559	231.00	1453	323.00	6390
67.00	566	151.00	1030	232.00	470	324.00	1148
68.00	1455	152.00	209	233.00	244	325.00	278
69.00	127408	153.00	1578	234.00	954	326.00	94
70.00	954	154.00	1793	235.00	1241	327.00	1184
73.00	1278	155.00	3743	236.00	1022	328.00	579
74.00	11920	156.00	5262	237.00	1486	332.00	540
75.00	18960	157.00	798	238.00	300	333.00	496
76.00	6338	158.00	1150	239.00	574	334.00	3616
77.00	142080	159.00	1207	240.00	655	335.00	918
78.00	8882	160.00	2252	241.00	1039	336.00	69
79.00	8959	161.00	3289	242.00	2209	339.00	67
80.00	6566	162.00	902	243.00	2799	341.00	830
81.00	9871	163.00	209	244.00	33840	342.00	212
82.00	1939	164.00	355	245.00	4331	346.00	1253
83.00	2324	165.00	2150	246.00	6516	347.00	125
84.00	797	166.00	1974	247.00	1348	351.00	65
85.00	1083	167.00	14181	248.00	387	352.00	1556
86.00	2641	168.00	6033	249.00	950	353.00	1190

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:28.
Target 3.5 esignature user ID: bhs10208

Data File: /chem/HP18831.i/18apr02a.b/hd0020.d

Date : 02-APR-2018 21:44

Client ID: DFTPP

Instrument: HP18831.i

Sample Info: DFTPP;RVDFTPP0878;1;3;DFTPP;

Operator: bkc25363

Column phase: DB-5MS

Column diameter: 0.18

Data File: hd0020.d
Spectrum: Avg. Scans 148-150 (4.55), Background Scan 144
Location of Maximum: 198.00
Number of points: 320

m/z	Y	m/z	Y	m/z	Y	m/z	Y
87.00	979	169.00	829	250.00	307	354.00	1727
88.00	573	170.00	569	251.00	273	355.00	236
89.00	65	171.00	422	252.00	493	356.00	89
90.00	201	172.00	937	253.00	770	363.00	57
91.00	1893	173.00	1922	254.00	1784	365.00	7506
92.00	2061	174.00	2895	255.00	164480	366.00	956
93.00	15473	175.00	5027	256.00	22920	370.00	188
94.00	604	176.00	1454	257.00	1838	371.00	456
95.00	880	177.00	2558	258.00	9403	372.00	2878
96.00	240	178.00	730	259.00	1627	373.00	673
97.00	472	179.00	9944	260.00	258	374.00	52
98.00	11810	180.00	7272	261.00	319	377.00	89
99.00	8574	181.00	3917	263.00	151	383.00	688
100.00	650	182.00	470	264.00	111	384.00	324
101.00	5137	183.00	178	265.00	3507	390.00	284
102.00	76	184.00	741	266.00	865	391.00	231
103.00	1363	185.00	4979	268.00	12	392.00	245
104.00	3325	186.00	40376	269.00	225	401.00	152
105.00	3400	187.00	10568	270.00	321	402.00	1066
106.00	868	188.00	1163	271.00	563	403.00	1575
107.00	41424	189.00	2598	272.00	557	404.00	565
108.00	5939	190.00	658	273.00	5040	405.00	64
109.00	783	191.00	992	274.00	12821	411.00	64
110.00	75296	192.00	3240	275.00	71368	415.00	112
111.00	10777	193.00	3325	276.00	9907	420.00	61
112.00	887	194.00	745	277.00	5923	421.00	1299
113.00	620	195.00	517	278.00	1117	422.00	1044
114.00	119	196.00	9012	279.00	301	423.00	8937
115.00	98	197.00	1960	281.00	5	424.00	1861
116.00	2063	198.00	307712	282.00	12	425.00	220
117.00	32824	199.00	19752	283.00	650	434.00	115
118.00	2190	200.00	1641	284.00	598	435.00	140
120.00	790	201.00	1444	285.00	979	436.00	145
121.00	138	202.00	358	286.00	144	437.00	357
122.00	2274	203.00	2050	288.00	51	438.00	435

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:28.
Target 3.5 esignature user ID: bhs10208

Data File: /chem/HP18831.i/18apr02a.b/hd0020.d

Date : 02-APR-2018 21:44

Client ID: DFTPP

Instrument: HP18831.i

Sample Info: DFTPP;RVDFTPP0878;1;3;DFTPP;

Operator: bkc25363

Column phase: DB-5MS

Column diameter: 0.18

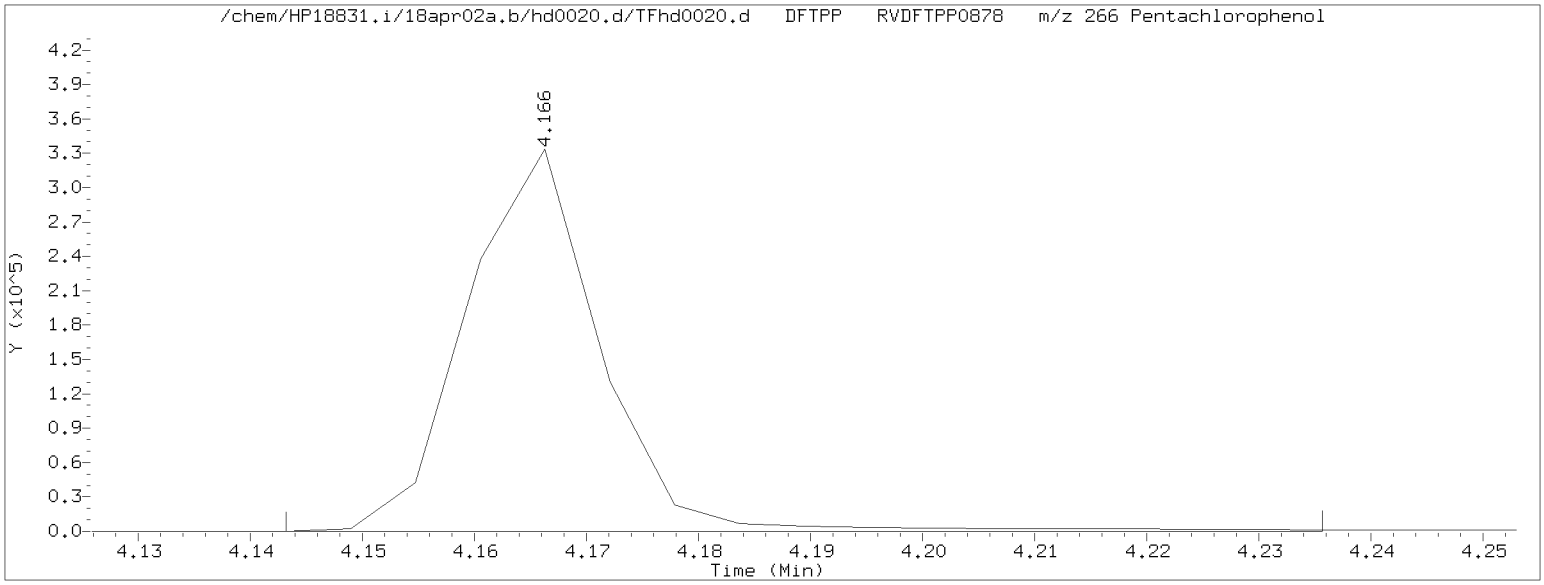
Data File: hd0020.d
Spectrum: Avg. Scans 148-150 (4.55), Background Scan 144
Location of Maximum: 198.00
Number of points: 320

m/z	Y	m/z	Y	m/z	Y	m/z	Y
123.00	3311	204.00	10252	289.00	188	439.00	530
124.00	1706	205.00	18024	290.00	329	440.00	602
125.00	1356	206.00	74808	291.00	130	441.00	27288
126.00	458	207.00	9456	292.00	328	442.00	177344
127.00	138944	208.00	2195	293.00	1471	443.00	32928
128.00	10603	209.00	1033	294.00	378	444.00	3214
129.00	50904	210.00	1710	295.00	429	445.00	95
130.00	4381	211.00	2689	296.00	19256		
131.00	770	212.00	276	297.00	2611		
132.00	678	213.00	191	298.00	123		
133.00	691	214.00	53	301.00	241		

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:28.
Target 3.5 esignature user ID: bhs10208

Assessment of GC Column Performance and Injection Port Inertness for

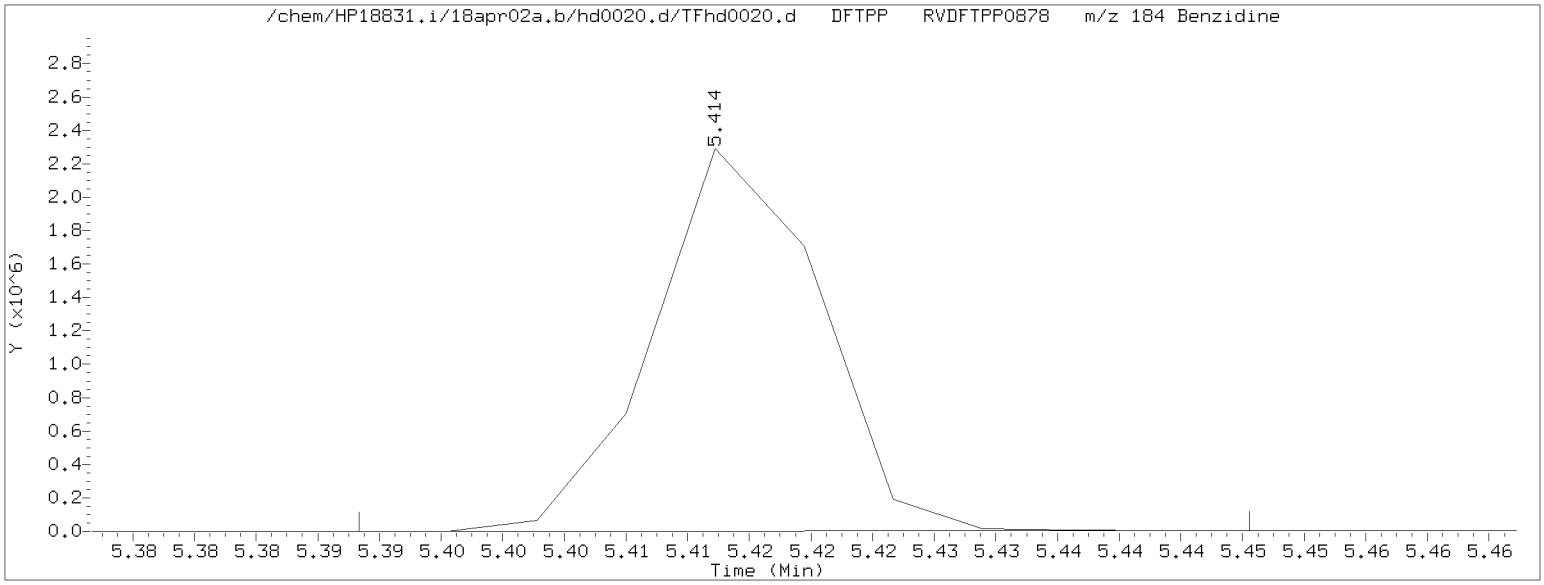
Instrument ID: HP18831.i Injection Date: 02-APR-2018 21:44 Operator: bkc25363



Pentachlorophenol EICP peak height = 333632 EICP peak height at 10% = 33363 Pentachlorophenol EICP area = 276300

Pentachlorophenol EICP peak apex (min.) = 4.166
RT at 10% of front half of EICP (min.) = 4.154 'Front' peak width (min.) = 0.0128166667
RT at 10% of back half of EICP (min.) = 4.177 'Tailing' peak width (min.) = 0.0109666667

$$\text{PCP tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0109666667}{0.0128166667} = 0.856$$



Benzidine EICP peak height = 2288058 EICP peak height at 10% = 228806 Benzidine EICP area = 1723856

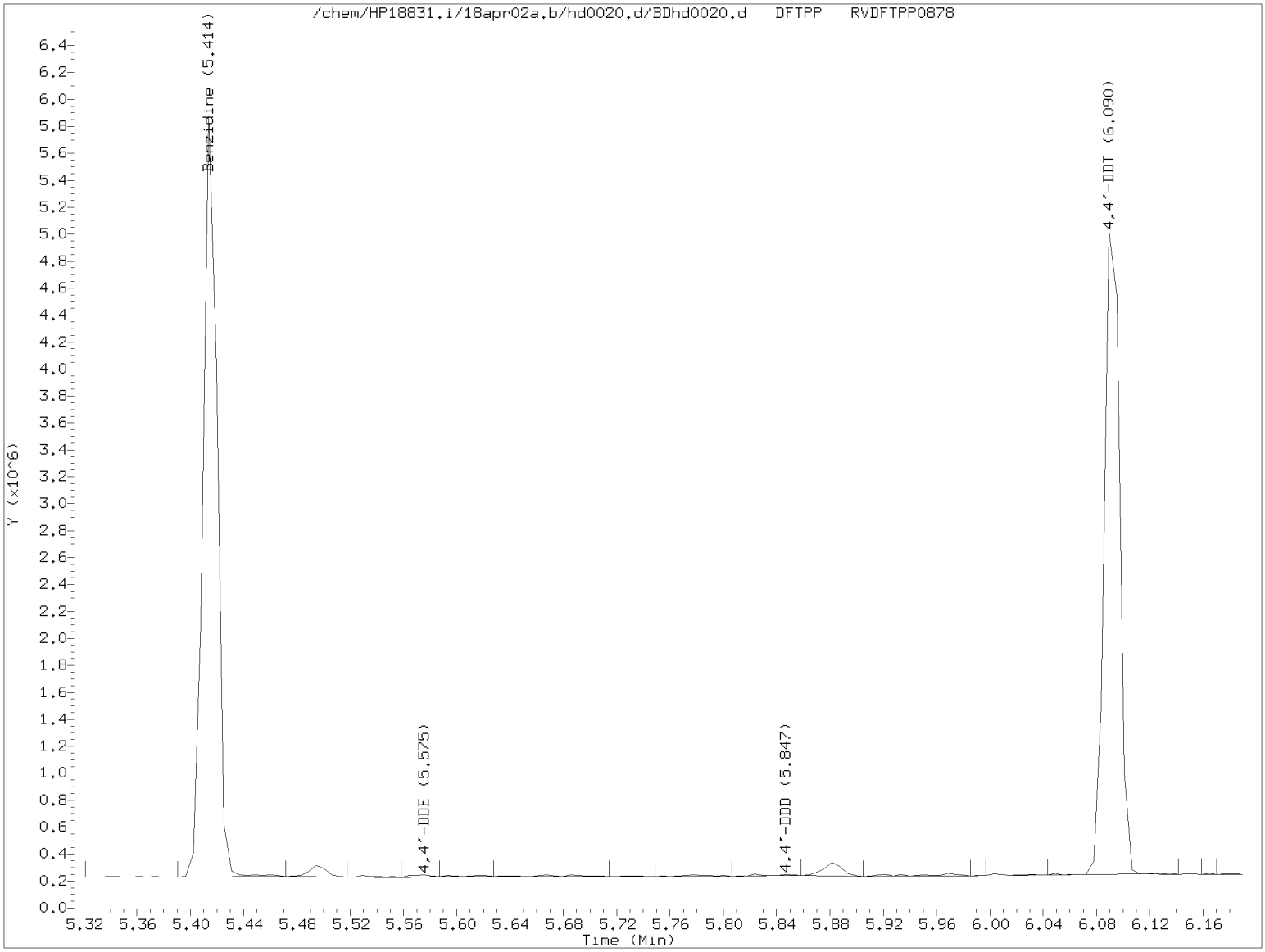
Benzidine EICP peak apex (min.) = 5.414
RT at 10% of front half of EICP (min.) = 5.404 'Front' peak width (min.) = 0.0100333333
RT at 10% of back half of EICP (min.) = 5.425 'Tailing' peak width (min.) = 0.0114000000

$$\text{Benzidine tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0114000000}{0.0100333333} = 1.136$$

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 14:54. PARALLAX ID: cam01237

Assessment of GC Column Performance and Injection Port Inertness for

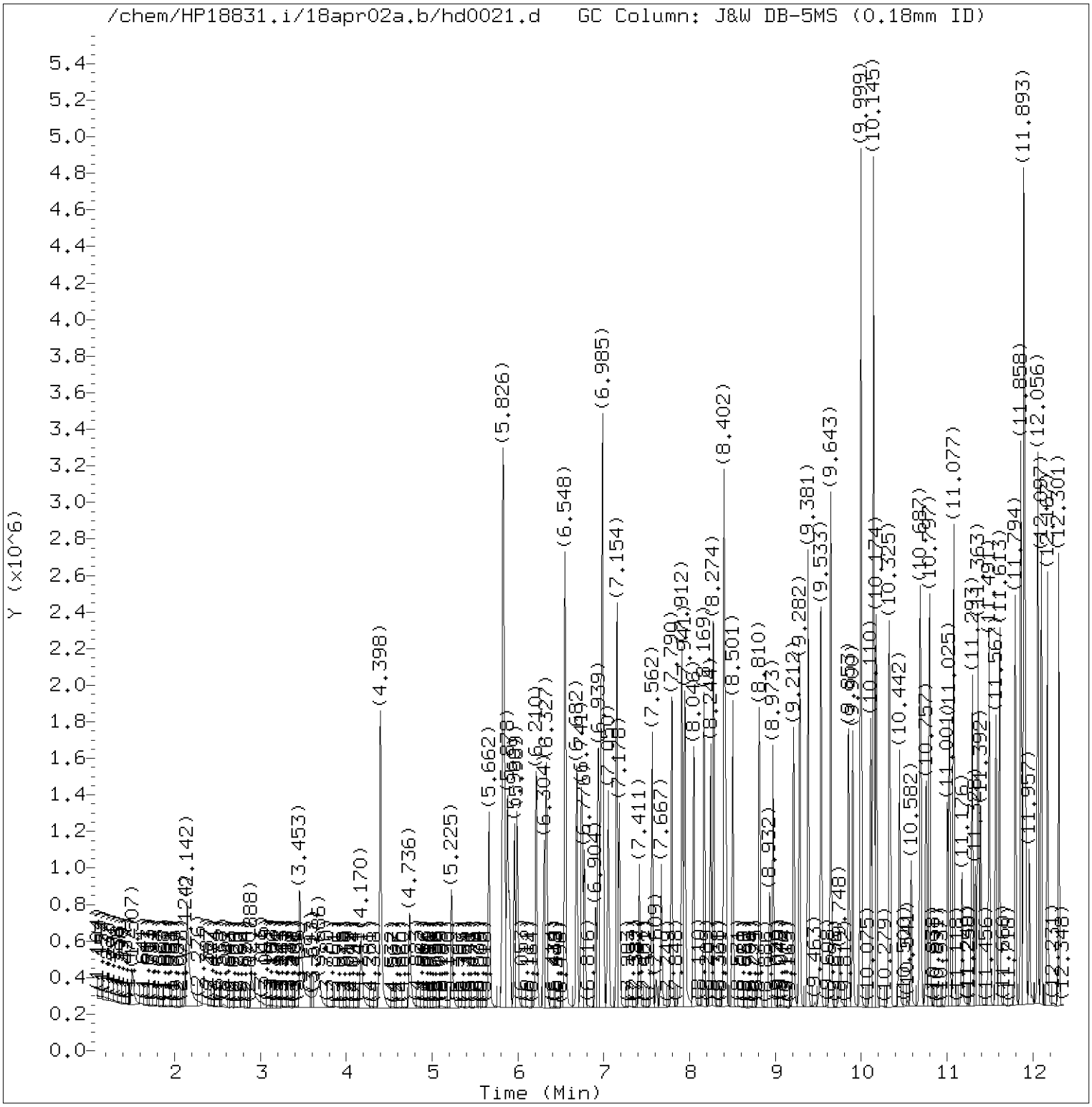
Instrument ID: HP18831.i Injection Date: 02-APR-2018 21:44 Operator: bkc25363



$$\% \text{ 4,4'-DDT breakdown} = \frac{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area}}{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area + 4,4'-DDT TIC area}} \times 100$$

$$\% \text{ 4,4'-DDT breakdown} = \frac{15755 + 4815}{15755 + 4815 + 3886449} \times 100 = 0.5$$

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 14:54. PARALLAX ID: cam01237



Total Ion Chromatogram (TIC)

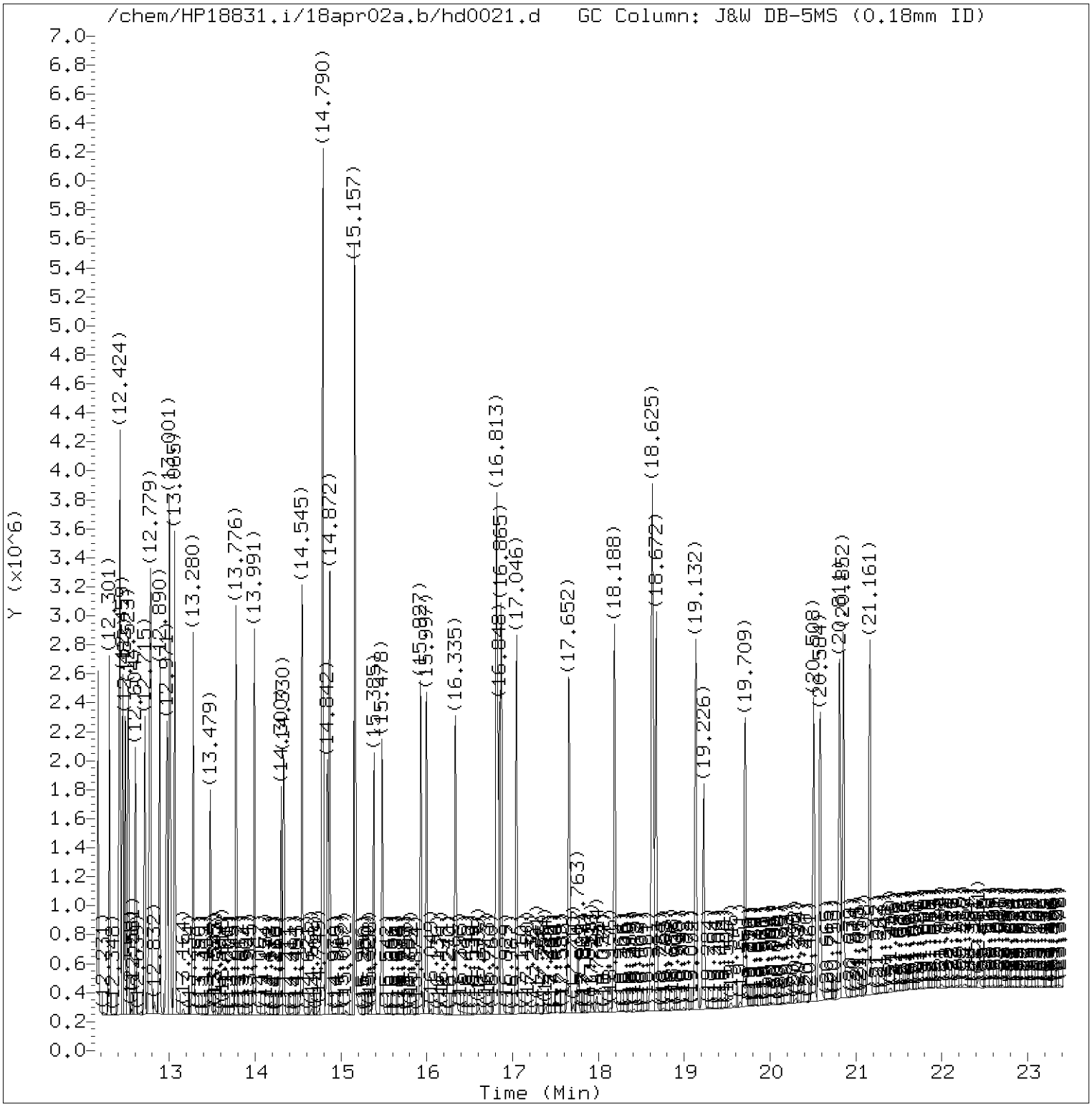
Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0021.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:00 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0608

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0021.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:00 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0608

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0021.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:00 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0608

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
2) 1,4-Dioxane	(1)	1.507	88	178159	7.500
5) N-Nitrosodimethylamine	(1)	2.124	74	284901	7.500
6) Pyridine	(1)	2.148	79	481190	7.500
8) 2-Picoline	(1)	3.453	93	488987M	7.500
9) N-Nitrosomethylethylamine	(1)	3.686	88	200045	7.500
10) Methyl methanesulfonate	(1)	4.170	80	241635	7.500
12)$2-Fluorophenol	(1)	4.398	112	820434	15.000
14) N-Nitrosodiethylamine	(1)	4.741	102	197637	7.500
16) Ethyl methanesulfonate	(1)	5.225	109	214885	7.500
43) Total Cresols	(1)			849430	15.000
17) Benzaldehyde	(1)	5.662	77	350005	7.500
18)$Phenol-d6	(1)	5.820	99	1082030	15.000
20) Aniline	(1)	5.831	93	715445	7.500
19) Phenol	(1)	5.843	94	614028	7.500
21) a-methylstyrene	(1)	5.901	118	148141	7.500
23) bis(2-Chloroethyl)ether	(1)	5.960	93	452175	7.500
24) 2-Chlorophenol	(1)	5.989	128	423968	7.500
25) 1,3-Dichlorobenzene	(1)	6.210	146	469825	7.500
26)*1,4-Dichlorobenzene-d4	(1)	6.304	152	204539	5.000
27) 1,4-Dichlorobenzene	(1)	6.333	146	469831	7.500
29) 1,2-Dichlorobenzene	(1)	6.548	146	450120	7.500
28) Benzyl alcohol	(1)	6.548	108	247678	7.500
31) Indene	(1)	6.688	115	612390	7.500
32) 2-Methylphenol	(1)	6.741	108	400269	7.500
34) 2,2'-oxybis(1-Chloropropane)	(1)	6.776	45	548166	7.500
35) bis(2-Chloroisopropyl)ether	(1)	6.776	45	548166	7.500
36) N-Nitrosopyrrolidine	(1)	6.910	100	215835	7.500
37) Acetophenone	(1)	6.939	105	590302	7.500
39) N-Nitroso-di-n-propylamine	(1)	6.962	70	335959	7.500
40) N-Nitrosomorpholine	(1)	6.980	56	254244	7.500
41) o-Toluidine	(1)	6.985	106	697111	7.500
38) 4-Methylphenol	(1)	6.985	108	449161	7.500
44) Hexachloroethane	(1)	7.050	117	185777	7.500
45)$Nitrobenzene-d5	(2)	7.154	82	976142	15.000
46) Nitrobenzene	(2)	7.178	77	482302	7.500
101) Isosafrole	(3)			387161	7.500
50) N-Nitrosopiperidine	(2)	7.417	114	212036	7.500
52) Isophorone	(2)	7.562	82	865961	7.500
53) 2-Nitrophenol	(2)	7.673	139	190138	7.500
55) 2,4-Dimethylphenol	(2)	7.790	107	435155	7.500

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0021.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:00 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0608

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
57) O,O,O-Triethylphosphorothioate	(2)	7.912	198	218318	7.500
58) bis(2-Chloroethoxy)methane	(2)	7.941	93	556007	7.500
59) Benzoic acid	(2)	7.959	105	326188	10.000
62) 2,4-Dichlorophenol	(2)	8.046	162	361077	7.500
126) 2,4_2,6-Dinitrotoluenes	(3)			431325	15.000
64) 1,2,4-Trichlorobenzene	(2)	8.169	180	400347	7.500
67)*Naphthalene-d8	(2)	8.244	136	761979	5.000
69) Naphthalene	(2)	8.279	128	1233599	7.500
70) 4-Chloroaniline	(2)	8.402	127	498665	7.500
71) 2,6-Dichlorophenol	(2)	8.402	162	351548	7.500
72) Hexachloropropene	(2)	8.425	213	279467	7.500
74) Hexachlorobutadiene	(2)	8.501	225	242737	7.500
152) Diallate trans/cis	(4)			394359	7.500
78) Quinoline	(2)	8.810	129	765343	7.500
79) Caprolactam	(2)	8.932	113	111913	7.500
80) N-Nitrosodi-n-butylamine	(2)	8.973	84	329817	7.500
83) 4-Chloro-3-methylphenol	(2)	9.212	107	369996	7.500
85) Safrole	(2)	9.282	162	324574	7.500
86) 2-Methylnaphthalene	(2)	9.381	142	827962	7.500
87) 1-Methylnaphthalene	(2)	9.533	142	754438	7.500
88) Hexachlorocyclopentadiene	(3)	9.637	237	261325	7.500
89) 1,2,4,5-Tetrachlorobenzene	(3)	9.649	216	417808	7.500
92) cis-Isosafrole	(3)	9.748	162	60746	1.275
94) 2,4,6-Trichlorophenol	(3)	9.853	196	265129	7.500
96) 2,4,5-Trichlorophenol	(3)	9.900	196	275046	7.500
97)$2-Fluorobiphenyl	(3)	9.999	172	1855773	15.000
98) trans-Isosafrole	(3)	10.110	162	326415	6.225
99) 1,1'-Biphenyl	(3)	10.145	154	941501	7.500
100) 2-Chloronaphthalene	(3)	10.145	162	820293	7.500
102) 1-Chloronaphthalene	(3)	10.174	162	708423	7.500
104) Diphenyl ether	(3)	10.325	170	537667	7.500
105) 2-Nitroaniline	(3)	10.343	138	226926	7.500
109) 1,4-Naphthoquinone	(3)	10.448	158	317862	7.500
110) 1,4-Dinitrobenzene	(3)	10.582	168	104817	7.500
111) Dimethylphthalate	(3)	10.687	163	891746	7.500
112) 1,3-Dinitrobenzene	(3)	10.692	168	121477	7.500
114) 2,6-Dinitrotoluene	(3)	10.757	165	187209	7.500
115) Acenaphthylene	(3)	10.797	152	1179006	7.500
118) 3-Nitroaniline	(3)	11.001	138	202693	7.500
119)*Acenaphthene-d10	(3)	11.025	164	375873	5.000

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Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0021.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:00 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0608

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120) Acenaphthene	(3)	11.077	153	805828	7.500
121) 2,4-Dinitrophenol	(3)	11.176	184	111698	10.000
123) Pentachlorobenzene	(3)	11.293	250	365221	7.500
122) 4-Nitrophenol	(3)	11.328	109	123205	7.500
125) Dibenzofuran	(3)	11.363	168	1090745	7.500
124) 2,4-Dinitrotoluene	(3)	11.392	165	244116	7.500
127) 1-Naphthylamine	(3)	11.491	143	819365	7.500
128) 2,3,4,6-Tetrachlorophenol	(3)	11.567	232	222363	7.500
129) 2-Naphthylamine	(3)	11.613	143	784562	7.500
130) Diethylphthalate	(3)	11.794	149	860795	7.500
132) Fluorene	(3)	11.858	166	905101	7.500
131) Thionazin	(3)	11.893	107	165778	7.500
133) 4-Chlorophenyl-phenylether	(3)	11.899	204	437872	7.500
134) 5-Nitro-o-toluidine	(3)	11.905	152	233041	7.500
135) 4-Nitroaniline	(3)	11.916	138	204139	7.500
136) 4,6-Dinitro-2-methylphenol	(4)	11.963	198	117455	7.500
138) NDPA as diphenylamine	(4)	12.056	169	721610	7.500
137) N-Nitrosodiphenylamine	(4)	12.056	169	721610	7.500
140) 1,2-Diphenylhydrazine	(4)	12.097	77	973936	7.500
141)$2,4,6-Tribromophenol	(3)	12.167	330	244883	15.000
143) Tetraethyldithiopyrophosphate	(4)	12.301	97	159288	7.500
145) 1,3,5-Trinitrobenzene	(4)	12.412	213	71893	7.500
146) Diallate (peak 1)	(4)	12.418	86	337760	6.225
147) Phorate	(4)	12.424	75	700056M	7.500
148) Phenacetin	(4)	12.459	108	456188	7.500
149) 4-Bromophenyl-phenylether	(4)	12.488	248	268362	7.500
150) Diallate (peak 2)	(4)	12.511	86	56599	1.275
151) Hexachlorobenzene	(4)	12.523	284	273630	7.500
153) Dimethoate	(4)	12.604	87	371122	7.500
154) Atrazine	(4)	12.715	200	234863	7.500
156) Pentachlorophenol	(4)	12.762	266	159850	7.500
158) Pentachloronitrobenzene	(4)	12.773	237	118078	7.500
157) 4-Aminobiphenyl	(4)	12.785	169	853704	7.500
159) Pronamide	(4)	12.890	173	432813	7.500
160)*Phenanthrene-d10	(4)	12.971	188	748038	5.000
162) Phenanthrene	(4)	13.001	178	1291662	7.500
161) Dinoseb	(4)	13.012	211	194867	7.500
164) Anthracene	(4)	13.065	178	1333419	7.500
170) Carbazole	(4)	13.280	167	1175788	7.500
171) Methyl parathion	(4)	13.479	109	271450	7.500

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on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0021.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:00 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0608

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
173) Di-n-butylphthalate	(4)	13.776	149	1520039	7.500
175) Parathion	(4)	13.991	109	183085	7.500
176) 4-Nitroquinoline-1-oxide	(4)	13.991	190	101294	7.500
177) Octachlorostyrene	(4)	14.300	308	101458	7.500
179) Isodrin	(4)	14.330	193	154897	7.500
181) Fluoranthene	(4)	14.545	202	1546087	7.500
182) Benzidine	(5)	14.790	184	2929216	22.500
183)*Pyrene-d10	(5)	14.842	212	807816	5.000
185) Pyrene	(5)	14.872	202	1576943	7.500
230) Total PAHs	(6)			22867028	135.000
187)$Terphenyl-d14	(5)	15.163	244	2125852	15.000
190) p-Dimethylaminoazobenzene	(5)	15.385	225	257269	7.500
193) Chlorobenzilate	(5)	15.478	139	449000	7.500
195) 3,3'-Dimethylbenzidine	(5)	15.927	212	1067332	7.500
196) Butylbenzylphthalate	(5)	15.997	149	676763	7.500
199) 2-Acetylaminofluorene	(5)	16.335	181	627547	7.500
204) Benzo(a)anthracene	(5)	16.807	228	1497112	7.500
201) 3,3'-Dichlorobenzidine	(5)	16.824	252	555941	7.500
203) 4,4'-Methylenebis(2-chloroanil	(5)	16.848	231	315695	7.500
205) Chrysene	(5)	16.865	228	1414466	7.500
207) bis(2-Ethylhexyl)phthalate	(5)	17.046	149	998426	7.500
211) 6-Methylchrysene	(5)	17.658	242	998099	7.500
213) Di-n-octylphthalate	(6)	18.188	149	1793251	7.500
214) Benzo(b)fluoranthene	(6)	18.619	252	1504887	7.500
215) 7,12-Dimethylbenz[a]anthracene	(6)	18.631	256	611566	7.500
216) Benzo(k)fluoranthene	(6)	18.672	252	1410537	7.500
219) Benzo(a)pyrene	(6)	19.132	252	1382674	7.500
221)*Perylene-d12	(6)	19.226	264	791375	5.000
223) 3-Methylcholanthrene	(6)	19.709	268	679697	7.500
225) Dibenz(a,h)acridine	(6)	20.508	279	1207323	7.500
226) Dibenz(a,j)acridine	(6)	20.584	279	1221521	7.500
227) Indeno(1,2,3-cd)pyrene	(6)	20.811	276	1382137M	7.500
228) Dibenz(a,h)anthracene	(6)	20.852	278	1401153	7.500
229) Benzo(g,h,i)perylene	(6)	21.161	276	1420017	7.500

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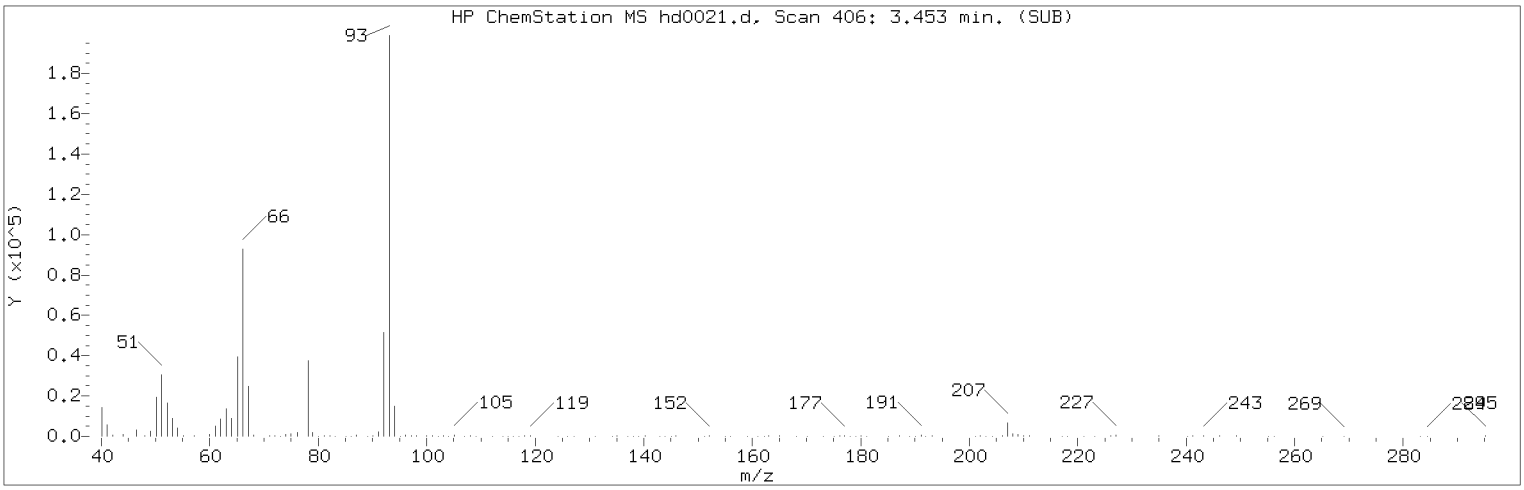
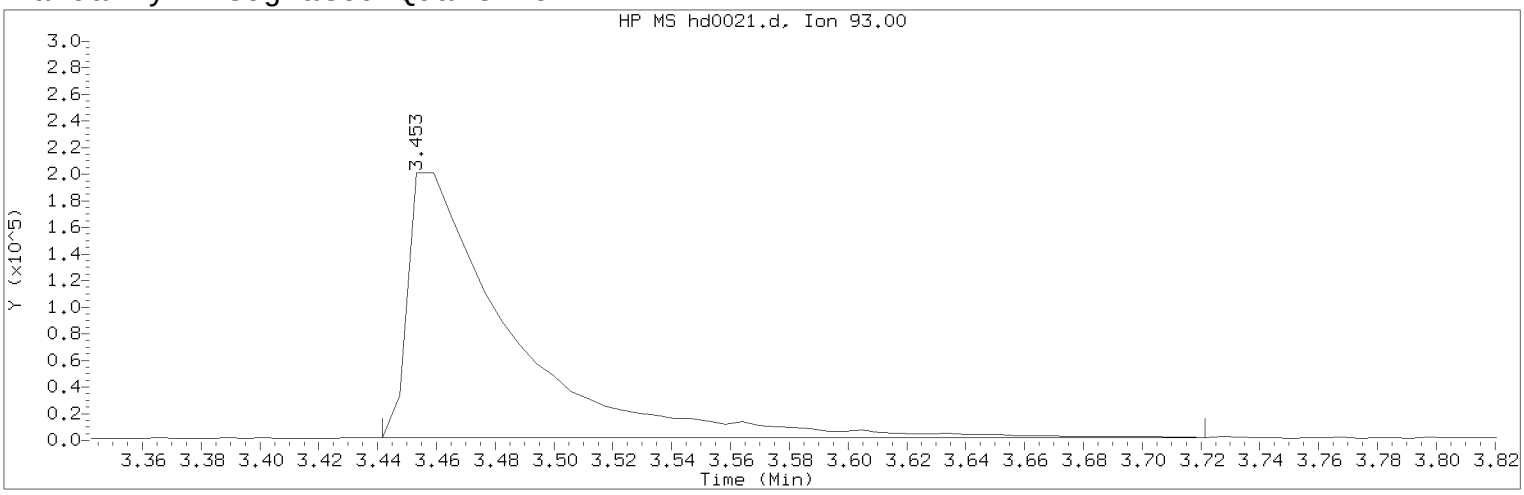
Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0021.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:00 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0608

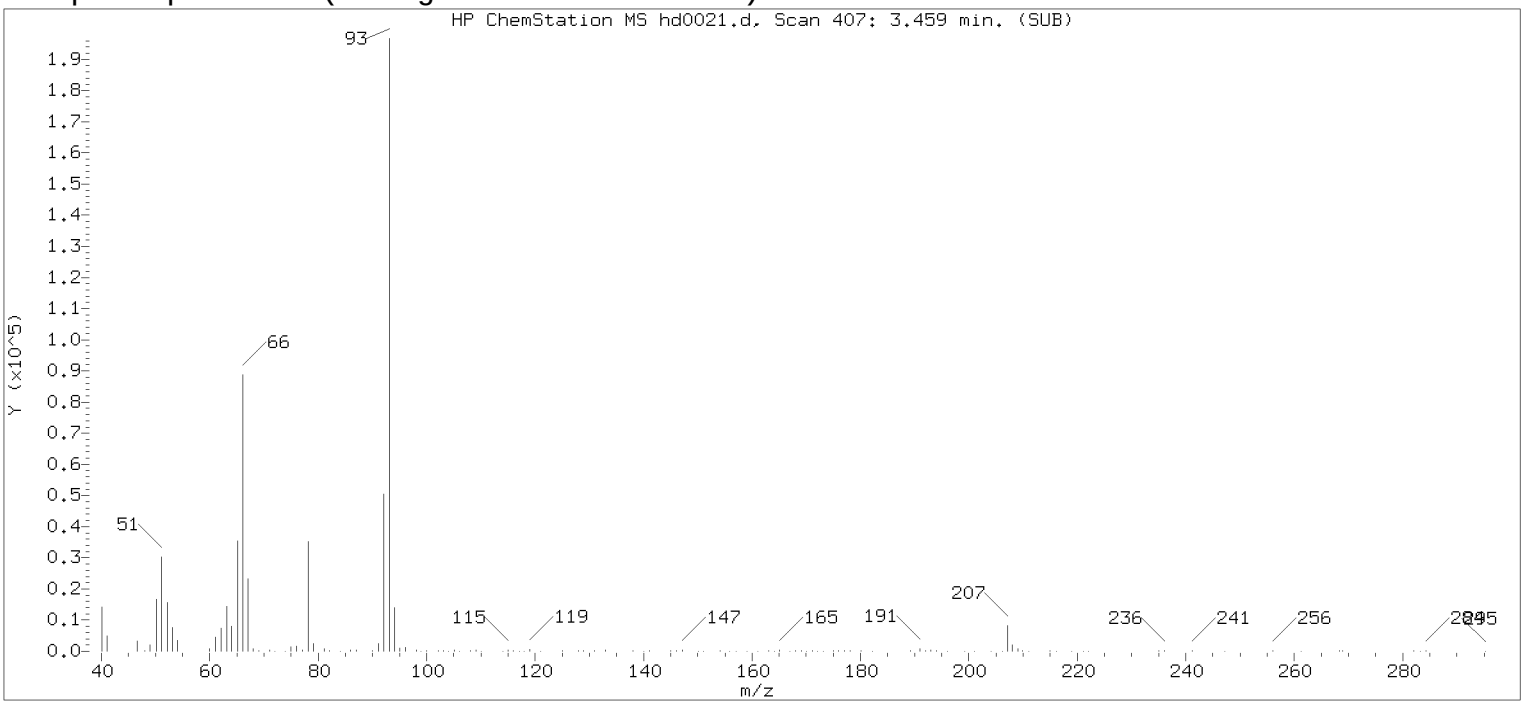
Compound Number : 8
Compound Name : 2-Picoline
Scan Number : 406
Retention Time (minutes) : 3.453
Quant Ion : 93.00
Area (flag) : 488987M
On-Column Amount (ng/ul) : 7.5000
Integration start scan : 403 Integration stop scan: 451
Y at integration start : 1802 Y at integration end: 1802

Reason for manual integration: improper integration

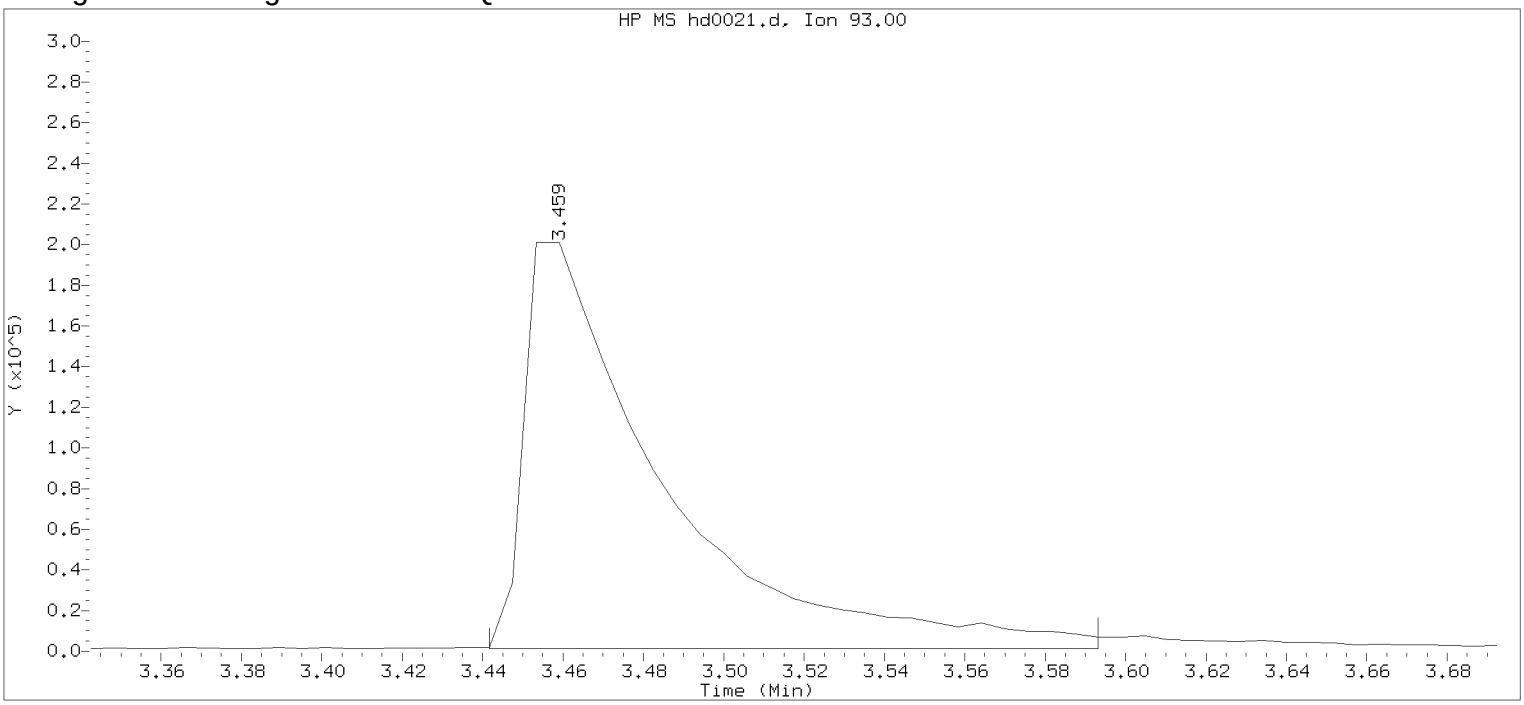
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0021.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:00 Analyst ID: bkc25363

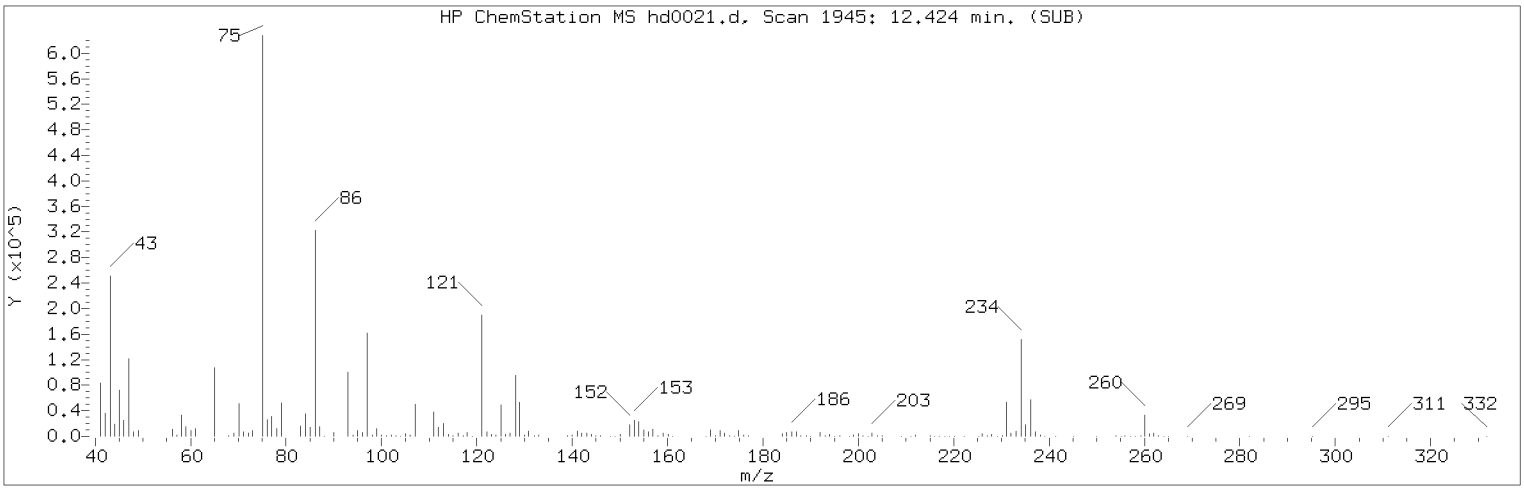
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 02-APR-2018 22:40
Date, time and analyst ID of latest file update: 02-Apr-2018 22:40 bkc25363

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0608

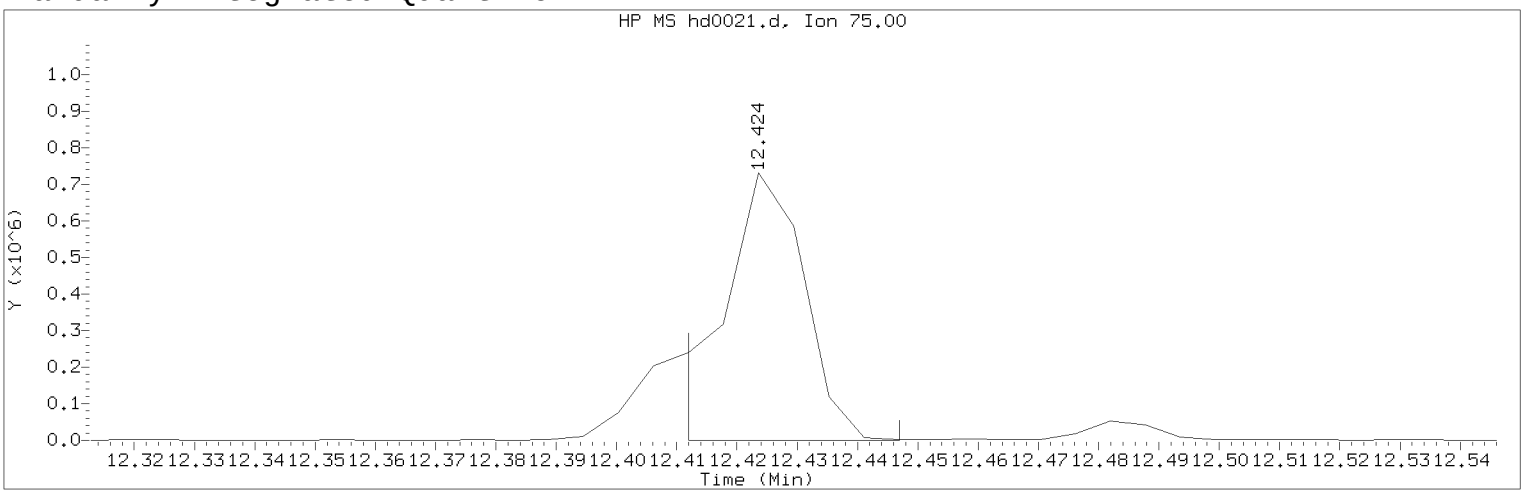
Compound Number : 8
Compound Name : 2-Picoline
Scan Number : 407
Retention Time (minutes) : 3.459
Quant Ion : 93.00
Area : 477153
On-column Amount (ng/ul) : 6.5207
Integration start scan : 403 Integration stop scan: 429
Y at integration start : 1151 Y at integration end: 1151

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0021.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:00 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0608

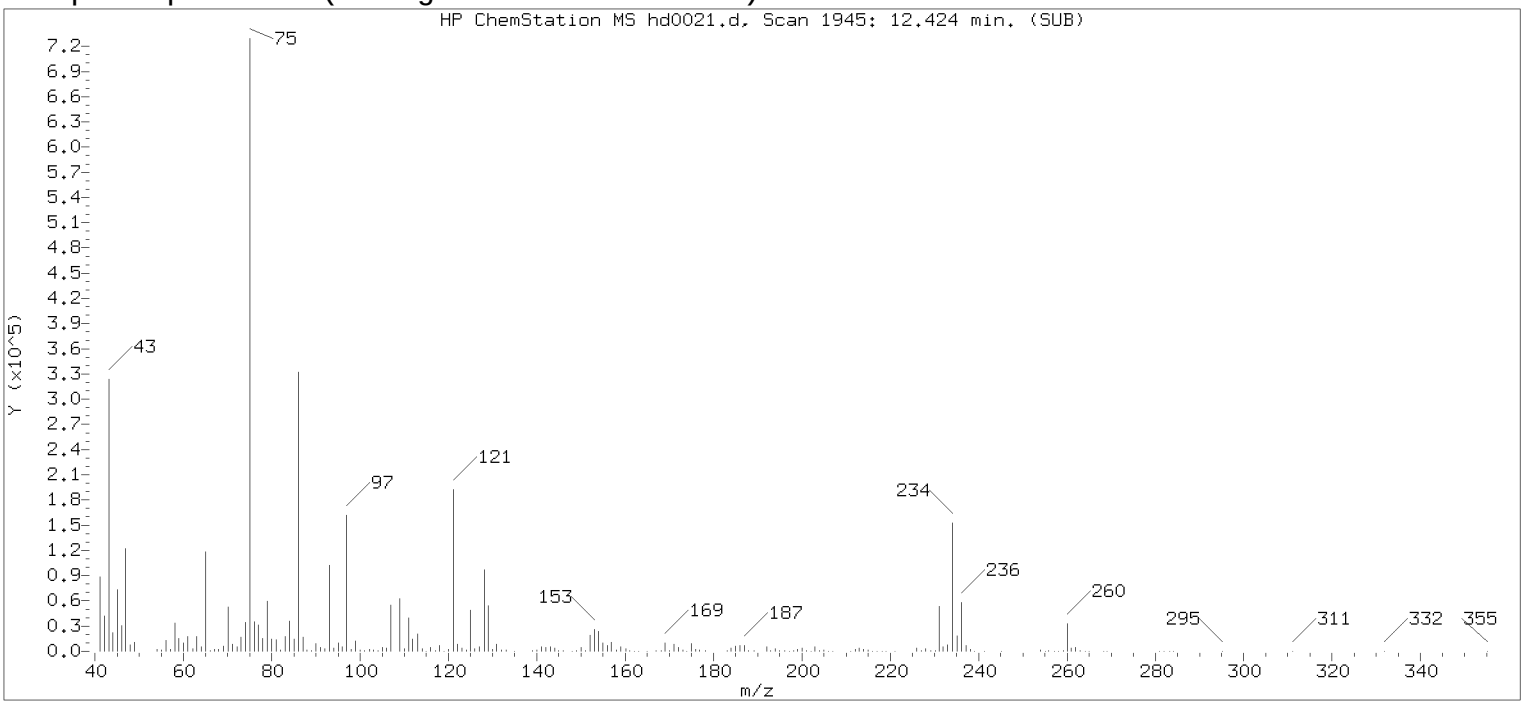
Compound Number : 147
Compound Name : Phorate
Scan Number : 1945
Retention Time (minutes) : 12.424
Quant Ion : 75.00
Area (flag) : 700056M
On-Column Amount (ng/ul) : 7.5000
Integration start scan : 1942 Integration stop scan: 1948
Y at integration start : 284 Y at integration end: 284

Reason for manual integration: improper integration

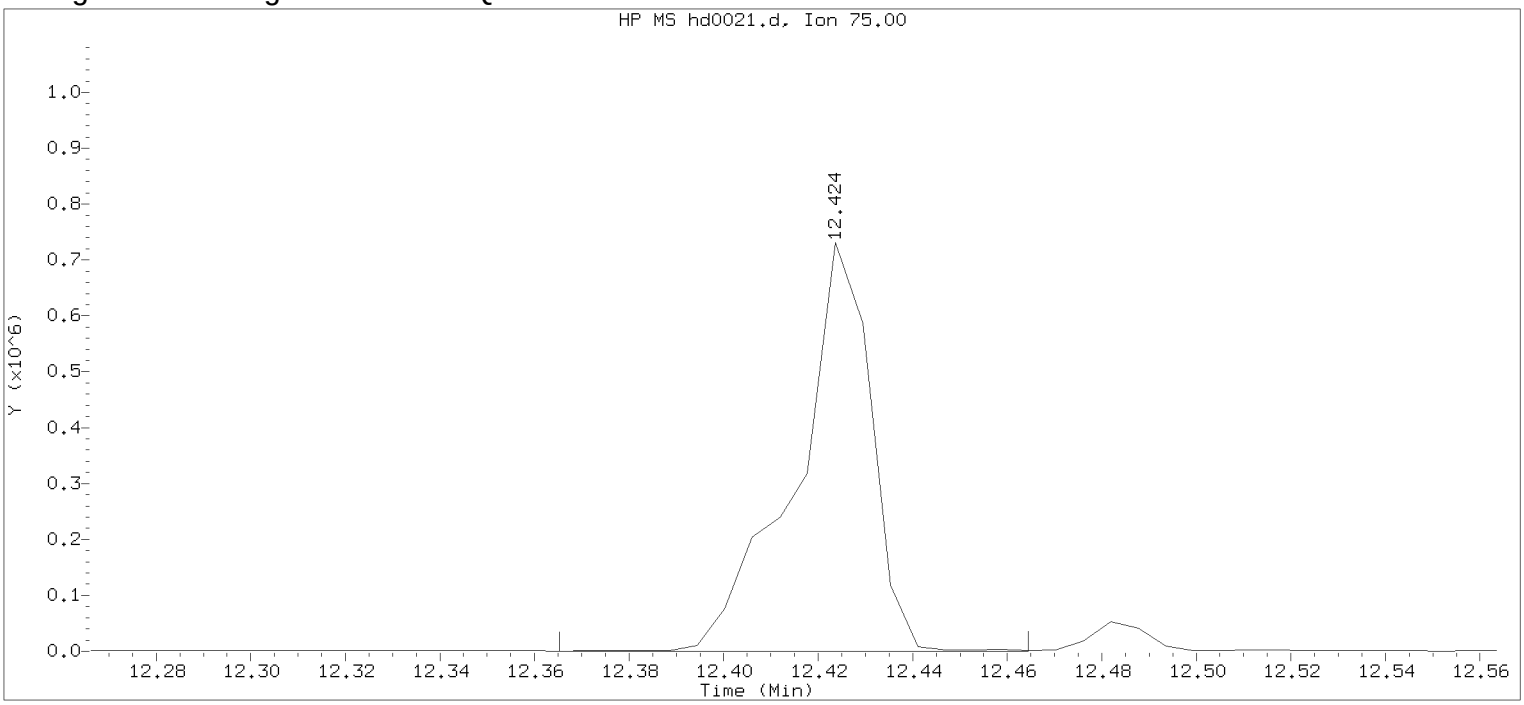
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0021.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:00 Analyst ID: bkc25363

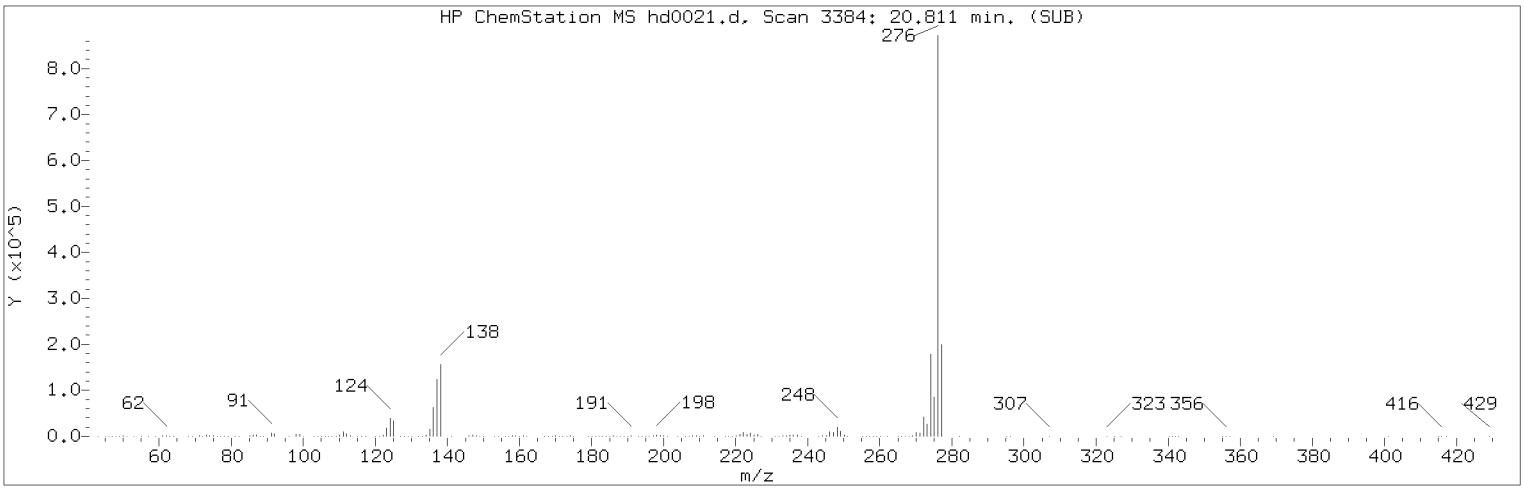
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 02-APR-2018 22:40
Date, time and analyst ID of latest file update: 02-Apr-2018 22:40 bkc25363

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0608

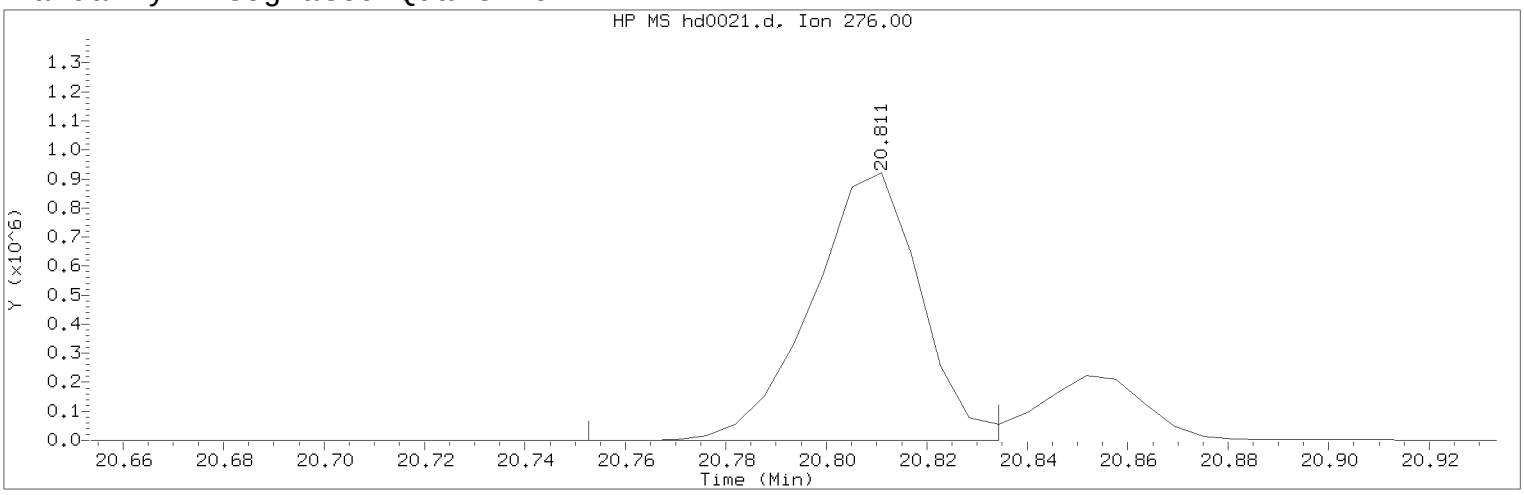
Compound Number : 147
Compound Name : Phorate
Scan Number : 1945
Retention Time (minutes) : 12.424
Quant Ion : 75.00
Area : 803073
On-column Amount (ng/ul) : 6.5878
Integration start scan : 1934 Integration stop scan: 1951
Y at integration start : 475 Y at integration end: 475

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0021.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:00 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0608

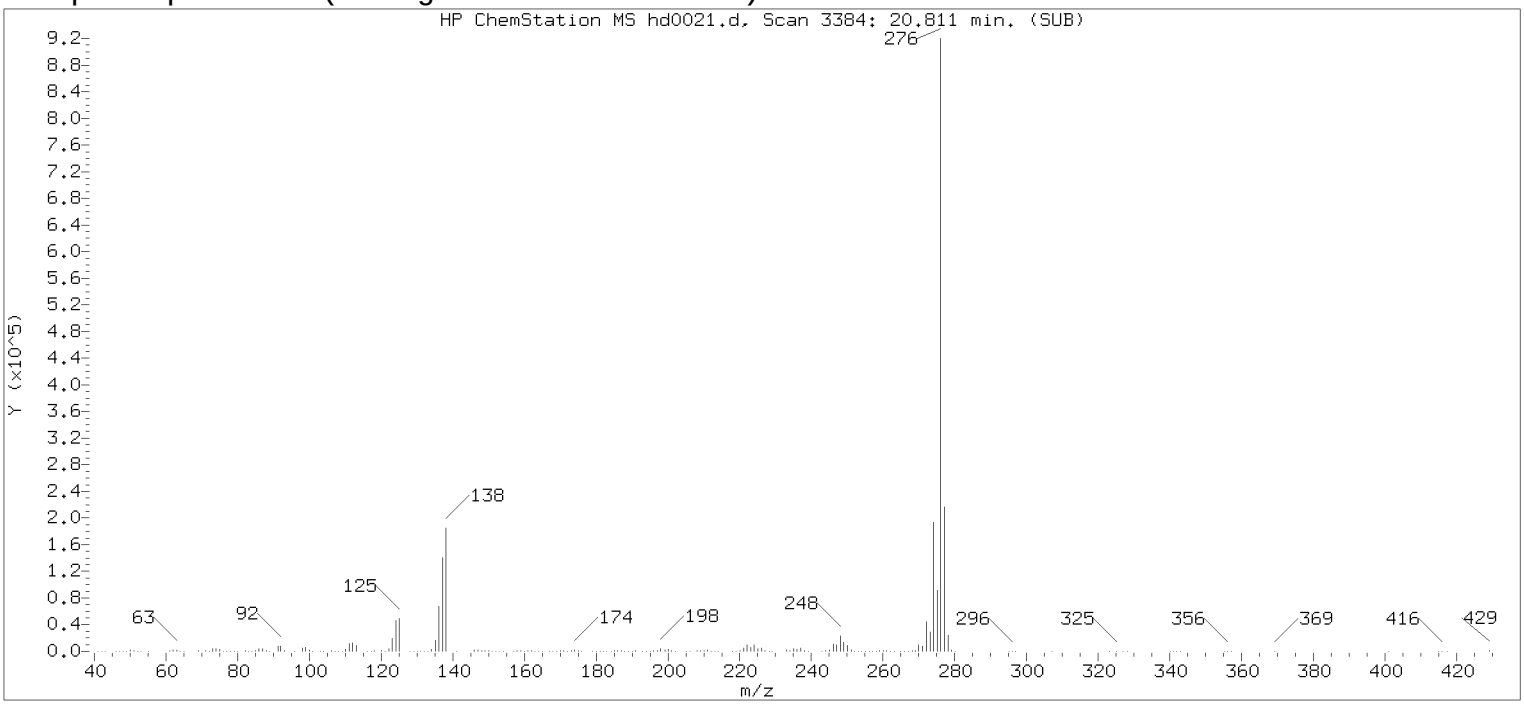
Compound Number : 227
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3384
Retention Time (minutes) : 20.811
Quant Ion : 276.00
Area (flag) : 1382137M
On-Column Amount (ng/ul) : 7.5000
Integration start scan : 3373 Integration stop scan: 3387
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

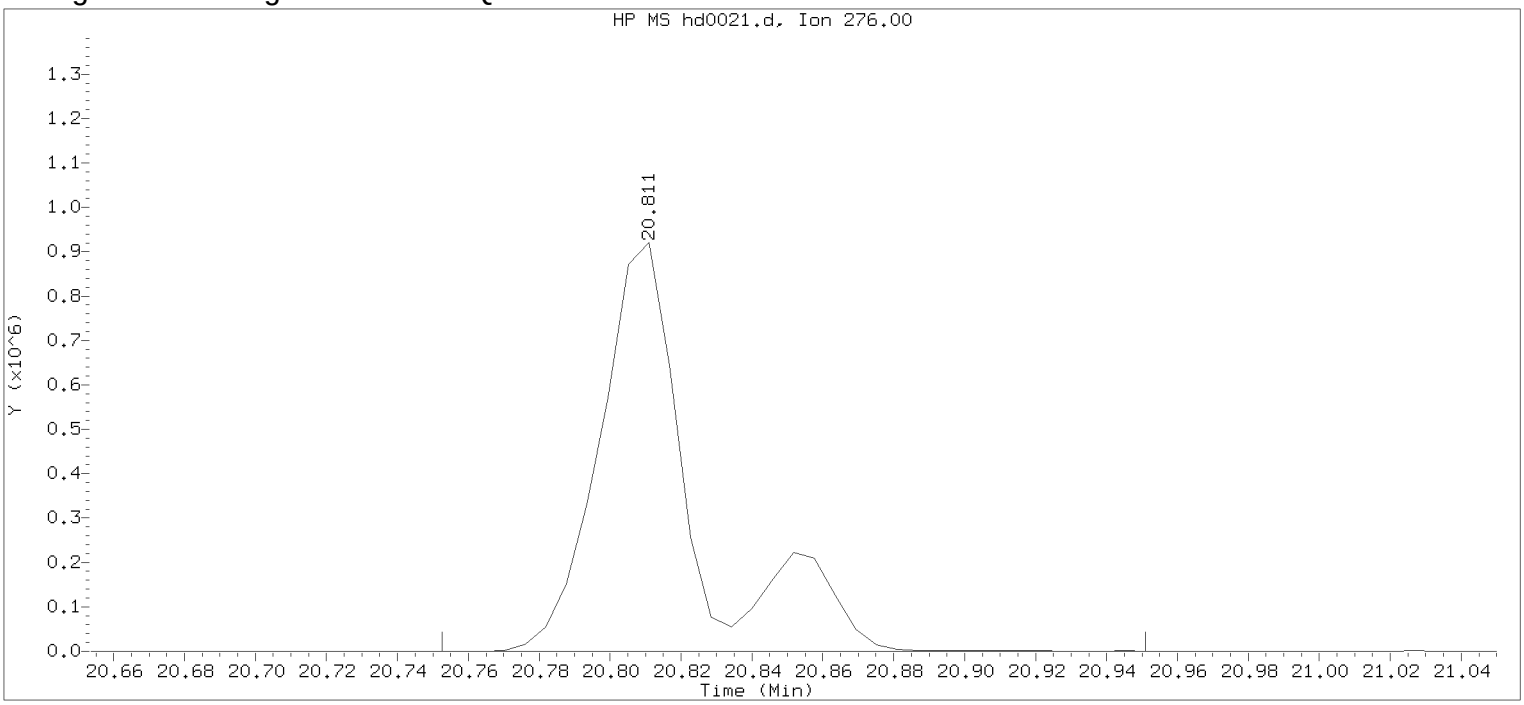
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



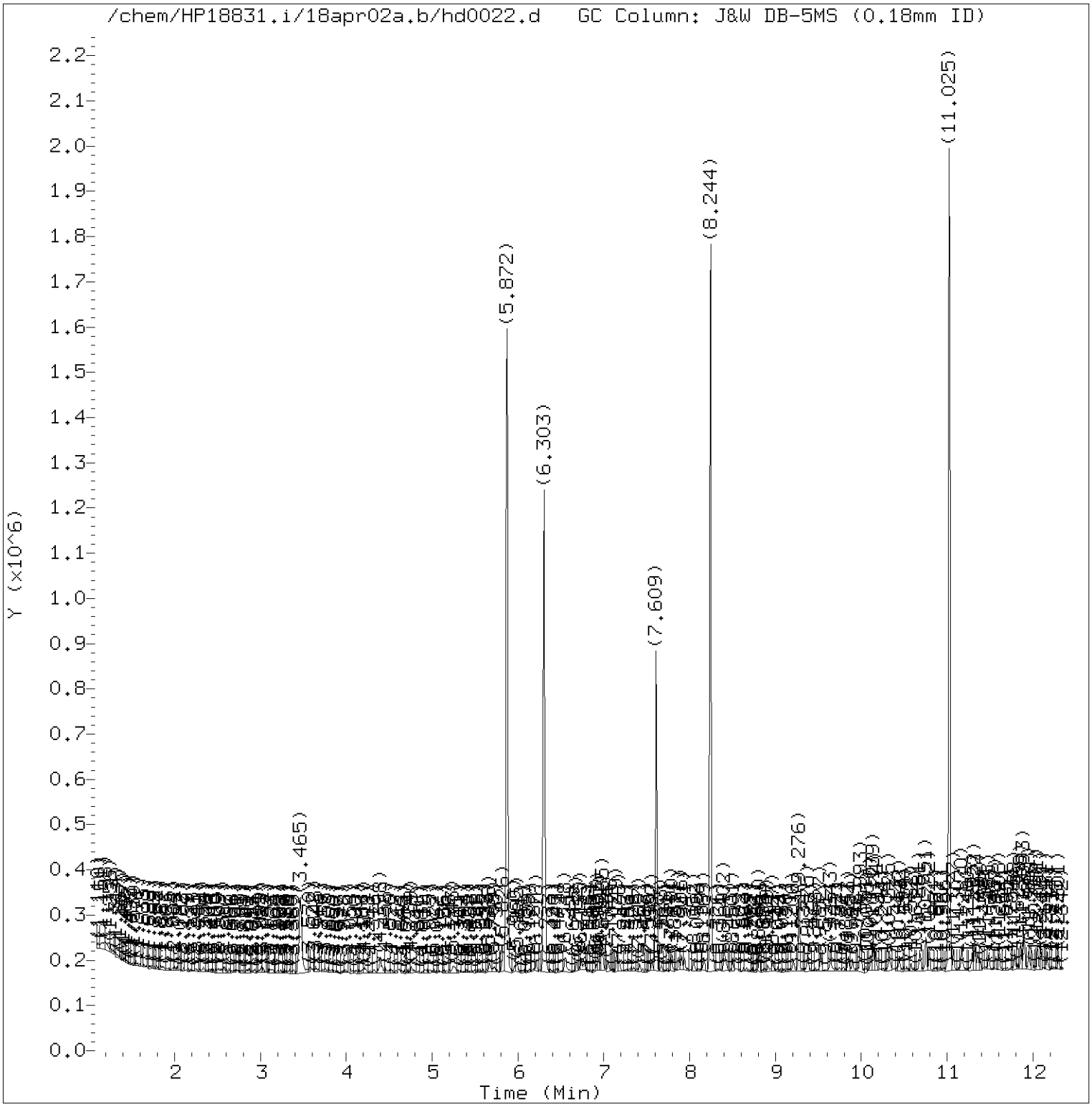
Data File: /chem/HP18831.i/18apr02a.b/hd0021.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:00 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 02-APR-2018 22:40
Date, time and analyst ID of latest file update: 02-Apr-2018 22:40 bkc25363

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0608

Compound Number : 227
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3384
Retention Time (minutes) : 20.811
Quant Ion : 276.00
Area : 1696316
On-column Amount (ng/ul) : 9.9211
Integration start scan : 3373 Integration stop scan: 3407
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29.
Target 3.5 esignature user id: bhsmith



Total Ion Chromatogram (TIC)

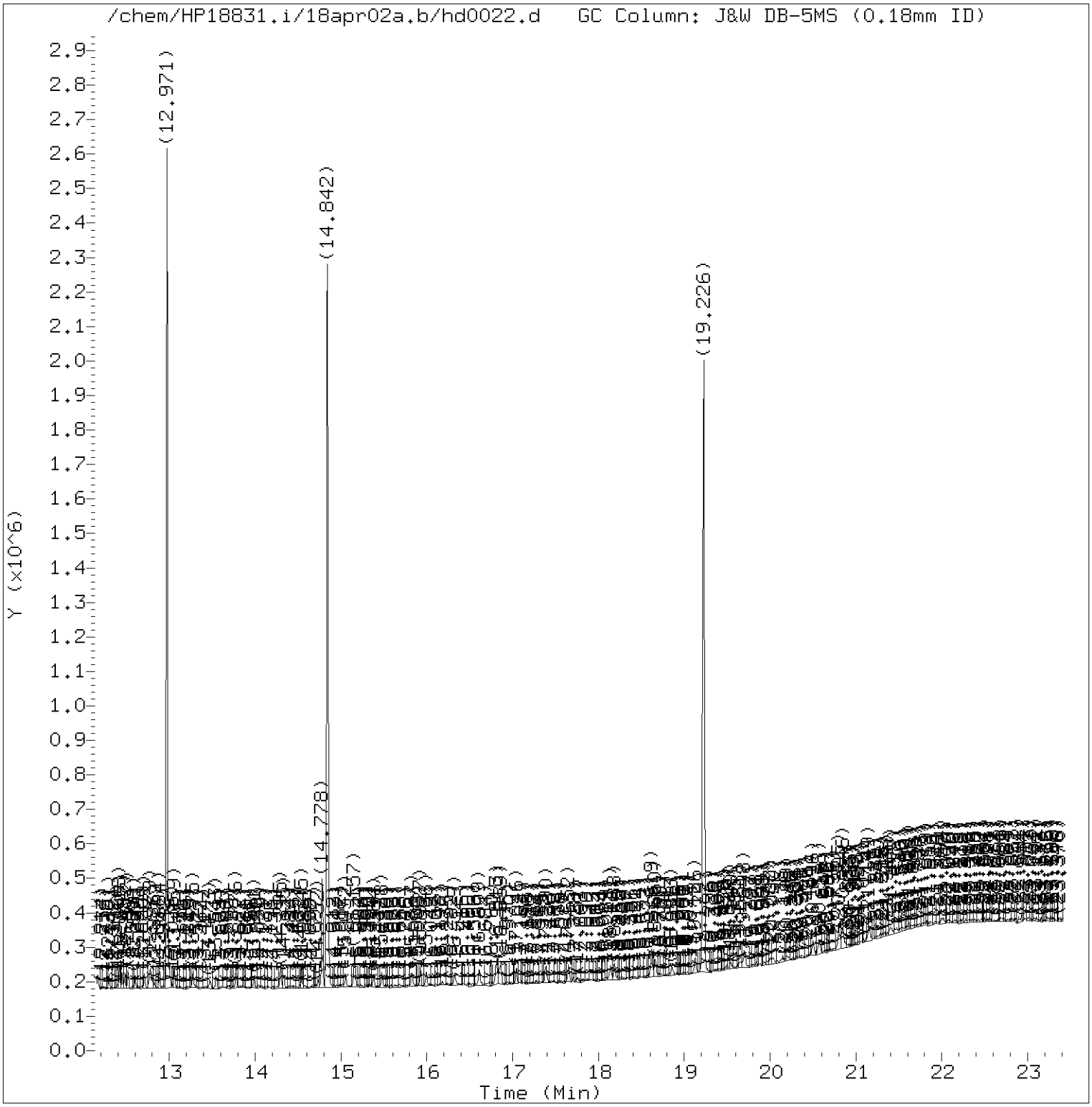
Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0022.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:43 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0668

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0022.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:43 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0668

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0022.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:43 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0668

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
2) 1,4-Dioxane	(1)	1.524	88	4258M	0.152
5) N-Nitrosodimethylamine	(1)	2.247	74	6681	0.149
6) Pyridine	(1)	2.334	79	18056M	0.239
8) 2-Picoline	(1)	3.587	93	10240M	0.133
9) N-Nitrosomethylethylamine	(1)	3.751	88	3743M	0.119
10) Methyl methanesulfonate	(1)	4.211	80	5182M	0.136
12)$2-Fluorophenol	(1)	4.398	112	15846	0.246
14) N-Nitrosodiethylamine	(1)	4.765	102	3861	0.124
16) Ethyl methanesulfonate	(1)	5.248	109	2891	0.086
43) Total Cresols	(1)			19662	0.295
17) Benzaldehyde	(1)	5.668	77	7704	0.140
18)$Phenol-d6	(1)	5.820	99	22012	0.259
19) Phenol	(1)	5.837	94	13105	0.136
20) Aniline	(1)	5.837	93	15371	0.137
21) a-methylstyrene	(1)	5.872	118	5408	0.232
23) bis(2-Chloroethyl)ether	(1)	5.965	93	10625	0.149
24) 2-Chlorophenol	(1)	5.989	128	9260	0.139
25) 1,3-Dichlorobenzene	(1)	6.210	146	9432	0.128
26)*1,4-Dichlorobenzene-d4	(1)	6.303	152	241175	5.000
27) 1,4-Dichlorobenzene	(1)	6.327	146	10365	0.140
29) 1,2-Dichlorobenzene	(1)	6.548	146	9233	0.130
28) Benzyl alcohol	(1)	6.560	108	4019	0.103
31) Indene	(1)	6.682	115	10096	0.105
32) 2-Methylphenol	(1)	6.735	108	9790	0.156
34) 2,2'-oxybis(1-Chloropropane)	(1)	6.776	45	11656	0.135
35) bis(2-Chloroisopropyl)ether	(1)	6.776	45	11656	0.135
36) N-Nitrosopyrrolidine	(1)	6.915	100	4286	0.126
37) Acetophenone	(1)	6.933	105	14694	0.158
39) N-Nitroso-di-n-propylamine	(1)	6.962	70	8202	0.155
40) N-Nitrosomorpholine	(1)	6.980	56	4604	0.115
38) 4-Methylphenol	(1)	6.980	108	9872	0.140
41) o-Toluidine	(1)	6.985	106	13346	0.122
44) Hexachloroethane	(1)	7.050	117	4737	0.162
45)$Nitrobenzene-d5	(2)	7.149	82	17992	0.238
46) Nitrobenzene	(2)	7.178	77	10519	0.141
101) Isosafrole	(3)			7552	0.125
50) N-Nitrosopiperidine	(2)	7.417	114	3738	0.114
52) Isophorone	(2)	7.562	82	17306	0.129
53) 2-Nitrophenol	(2)	7.667	139	4240	0.144
55) 2,4-Dimethylphenol	(2)	7.790	107	9496	0.141

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0022.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:43 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0668

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
59) Benzoic acid	(2)	7.866	105	14915	0.394
57) O,O,O-Triethylphosphorothioate	(2)	7.906	198	4387	0.130
58) bis(2-Chloroethoxy)methane	(2)	7.941	93	10826	0.126
62) 2,4-Dichlorophenol	(2)	8.046	162	6776	0.121
126) 2,4_2,6-Dinitrotoluenes	(3)			8136	0.242
64) 1,2,4-Trichlorobenzene	(2)	8.169	180	7619	0.123
67)*Naphthalene-d8	(2)	8.244	136	885095	5.000
69) Naphthalene	(2)	8.274	128	21381M	0.118
70) 4-Chloroaniline	(2)	8.402	127	9843	0.127
71) 2,6-Dichlorophenol	(2)	8.402	162	6804	0.125
72) Hexachloropropene	(2)	8.419	213	4816	0.111
74) Hexachlorobutadiene	(2)	8.501	225	4359	0.116
152) Diallate trans/cis	(4)			8101	0.130
78) Quinoline	(2)	8.810	129	13994	0.118
80) N-Nitrosodi-n-butylamine	(2)	8.967	84	5517	0.108
83) 4-Chloro-3-methylphenol	(2)	9.206	107	9785	0.171
85) Safrole	(2)	9.282	162	6062	0.121
86) 2-Methylnaphthalene	(2)	9.375	142	15741M	0.124
87) 1-Methylnaphthalene	(2)	9.527	142	14449	0.124
88) Hexachlorocyclopentadiene	(3)	9.637	237	4227	0.103
89) 1,2,4,5-Tetrachlorobenzene	(3)	9.643	216	7623	0.116
92) cis-Isosafrole	(3)	9.754	162	1449	0.026
94) 2,4,6-Trichlorophenol	(3)	9.847	196	4952	0.119
96) 2,4,5-Trichlorophenol	(3)	9.894	196	5433	0.126
97)$2-Fluorobiphenyl	(3)	9.993	172	34232	0.235
98) trans-Isosafrole	(3)	10.110	162	6103	0.099
99) 1,1'-Biphenyl	(3)	10.139	154	16186	0.109
100) 2-Chloronaphthalene	(3)	10.139	162	15079	0.117
102) 1-Chloronaphthalene	(3)	10.168	162	15004	0.135
104) Diphenyl ether	(3)	10.319	170	10319	0.122
105) 2-Nitroaniline	(3)	10.337	138	4861	0.136
109) 1,4-Naphthoquinone	(3)	10.442	158	5601	0.112
111) Dimethylphthalate	(3)	10.681	163	17784	0.127
112) 1,3-Dinitrobenzene	(3)	10.692	168	2435	0.128
110) 1,4-Dinitrobenzene	(3)	10.692	168	2435	0.148
114) 2,6-Dinitrotoluene	(3)	10.751	165	3774	0.128
115) Acenaphthylene	(3)	10.792	152	23523	0.126
118) 3-Nitroaniline	(3)	11.001	138	4509	0.142
119)*Acenaphthene-d10	(3)	11.025	164	443130	5.000
120) Acenaphthene	(3)	11.077	153	16028	0.126

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0022.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:43 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0668

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
121) 2,4-Dinitrophenol	(3)	11.170	184	8550	0.649
123) Pentachlorobenzene	(3)	11.293	250	6885	0.120
122) 4-Nitrophenol	(3)	11.322	109	12722	0.657
125) Dibenzofuran	(3)	11.357	168	20843	0.122
124) 2,4-Dinitrotoluene	(3)	11.386	165	4362	0.114
127) 1-Naphthylamine	(3)	11.485	143	16269	0.126
128) 2,3,4,6-Tetrachlorophenol	(3)	11.567	232	3922	0.112
129) 2-Naphthylamine	(3)	11.608	143	16886	0.137
130) Diethylphthalate	(3)	11.788	149	17647	0.130
132) Fluorene	(3)	11.858	166	17412M	0.124
131) Thionazin	(3)	11.887	107	3399	0.130
133) 4-Chlorophenyl-phenylether	(3)	11.893	204	8144	0.118
134) 5-Nitro-o-toluidine	(3)	11.899	152	4311	0.118
135) 4-Nitroaniline	(3)	11.911	138	4773	0.149
136) 4,6-Dinitro-2-methylphenol	(4)	11.951	198	7904	0.422
138) NDPA as diphenylamine	(4)	12.051	169	14491	0.126
137) N-Nitrosodiphenylamine	(4)	12.051	169	14491	0.126
140) 1,2-Diphenylhydrazine	(4)	12.091	77	18471	0.119
141)$2,4,6-Tribromophenol	(3)	12.167	330	4139	0.215
143) Tetraethyldithiopyrophosphate	(4)	12.301	97	4740	0.187
145) 1,3,5-Trinitrobenzene	(4)	12.400	213	1327	0.116
146) Diallate (peak 1)	(4)	12.418	86	6556	0.101
147) Phorate	(4)	12.424	75	11584	0.104
148) Phenacetin	(4)	12.447	108	8153	0.112
149) 4-Bromophenyl-phenylether	(4)	12.482	248	5451	0.127
150) Diallate (peak 2)	(4)	12.511	86	1545	0.029
151) Hexachlorobenzene	(4)	12.517	284	5347	0.124
153) Dimethoate	(4)	12.598	87	7089	0.120
154) Atrazine	(4)	12.709	200	4501	0.120
156) Pentachlorophenol	(4)	12.762	266	2673	0.105
158) Pentachloronitrobenzene	(4)	12.773	237	2206	0.117
157) 4-Aminobiphenyl	(4)	12.779	169	15143	0.111
159) Pronamide	(4)	12.884	173	8220	0.119
160)*Phenanthrene-d10	(4)	12.971	188	893841	5.000
162) Phenanthrene	(4)	13.001	178	24876	0.123
161) Dinoseb	(4)	13.012	211	2181	0.070
164) Anthracene	(4)	13.059	178	24412	0.120
170) Carbazole	(4)	13.275	167	22515	0.120
171) Methyl parathion	(4)	13.479	109	3440	0.080
173) Di-n-butylphthalate	(4)	13.776	149	27799	0.115

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0022.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:43 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

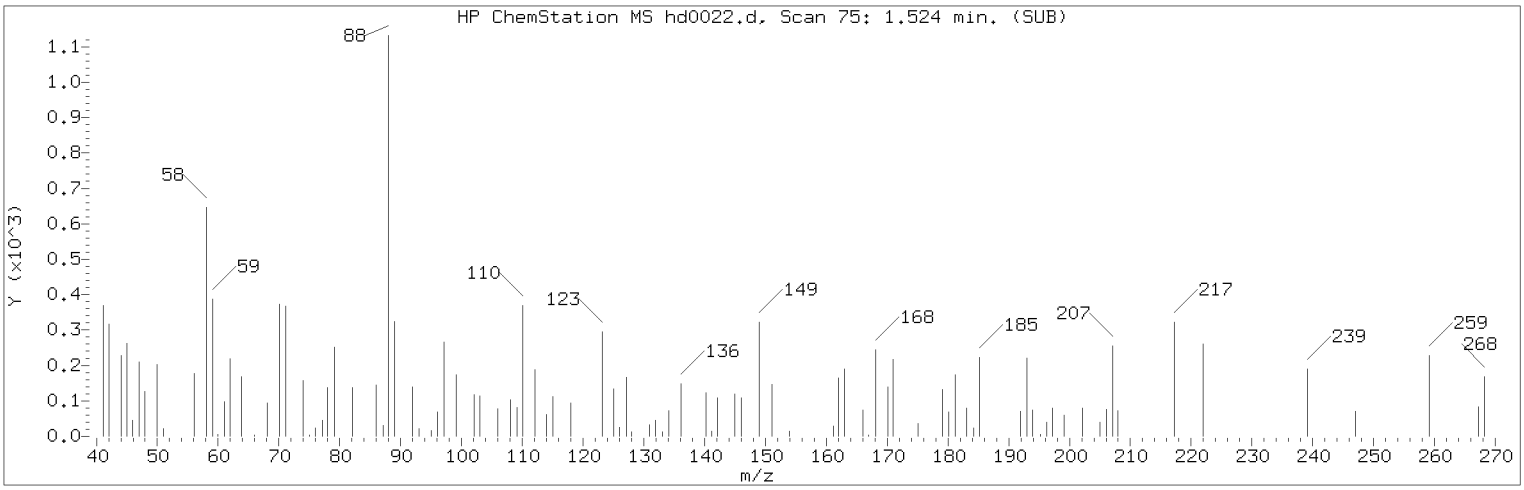
Sample Name: SSTD0.125 Lab Sample ID: rvSTD0668

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
175) Parathion	(4)	13.991	109	3544	0.121
176) 4-Nitroquinoline-1-oxide	(4)	13.991	190	1364M	0.085
177) Octachlorostyrene	(4)	14.300	308	1864	0.115
179) Isodrin	(4)	14.330	193	2920	0.118
181) Fluoranthene	(4)	14.545	202	27184	0.117
182) Benzidine	(5)	14.778	184	148039	0.980
183)*Pyrene-d10	(5)	14.842	212	937101	5.000
185) Pyrene	(5)	14.866	202	30694	0.125
230) Total PAHs	(6)			417711	2.184
187)$Terphenyl-d14	(5)	15.157	244	38220	0.232
190) p-Dimethylaminoazobenzene	(5)	15.384	225	4983	0.125
193) Chlorobenzilate	(5)	15.478	139	7974	0.115
195) 3,3'-Dimethylbenzidine	(5)	15.927	212	20555	0.125
196) Butylbenzylphthalate	(5)	15.991	149	12535	0.120
199) 2-Acetylaminofluorene	(5)	16.329	181	9945	0.102
204) Benzo(a)anthracene	(5)	16.807	228	25505	0.117
201) 3,3'-Dichlorobenzidine	(5)	16.818	252	10646	0.124
203) 4,4'-Methylenebis(2-chloroanil	(5)	16.847	231	5988	0.123
205) Chrysene	(5)	16.859	228	25817	0.121
207) bis(2-Ethylhexyl)phthalate	(5)	17.040	149	17727	0.115
211) 6-Methylchrysene	(5)	17.652	242	18477	0.120
213) Di-n-octylphthalate	(6)	18.188	149	31960	0.115
214) Benzo(b)fluoranthene	(6)	18.614	252	26152	0.118
215) 7,12-Dimethylbenz[a]anthracene	(6)	18.625	256	10405	0.110
216) Benzo(k)fluoranthene	(6)	18.660	252	25754	0.122
219) Benzo(a)pyrene	(6)	19.126	252	24178	0.119
221)*Perylene-d12	(6)	19.226	264	916074	5.000
223) 3-Methylcholanthrene	(6)	19.698	268	14766	0.141
225) Dibenz(a,h)acridine	(6)	20.502	279	20102	0.108
226) Dibenz(a,j)acridine	(6)	20.572	279	21027	0.112
227) Indeno(1,2,3-cd)pyrene	(6)	20.799	276	23376M	0.117
228) Dibenz(a,h)anthracene	(6)	20.846	278	24902	0.120
229) Benzo(g,h,i)perylene	(6)	21.149	276	26327	0.123

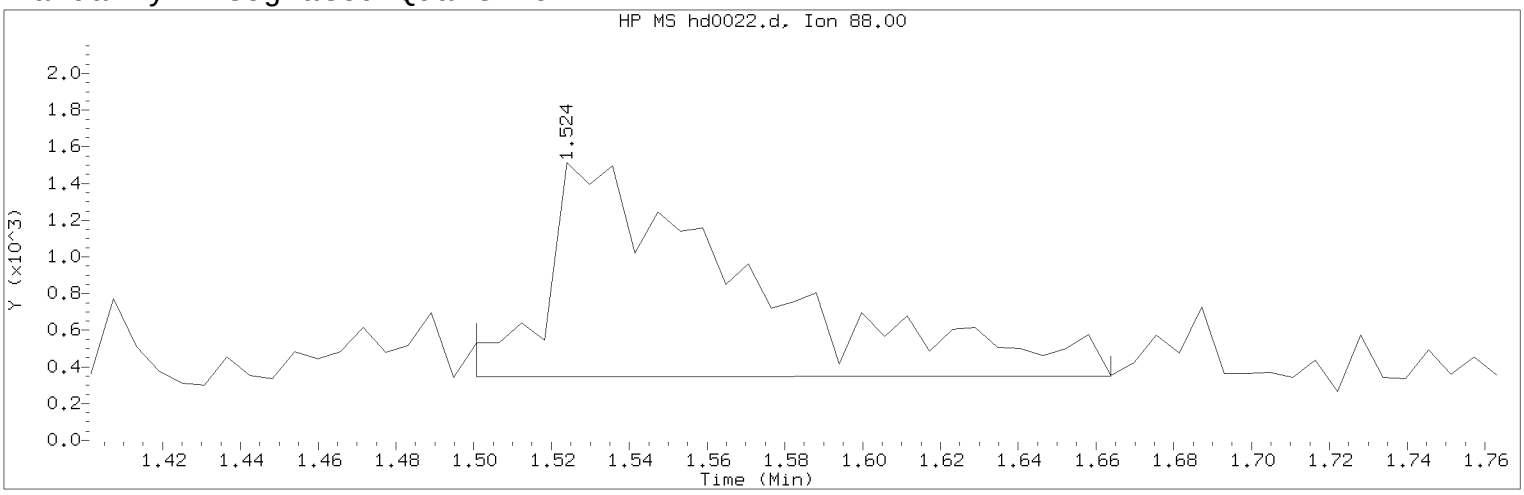
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0022.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:43 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0668

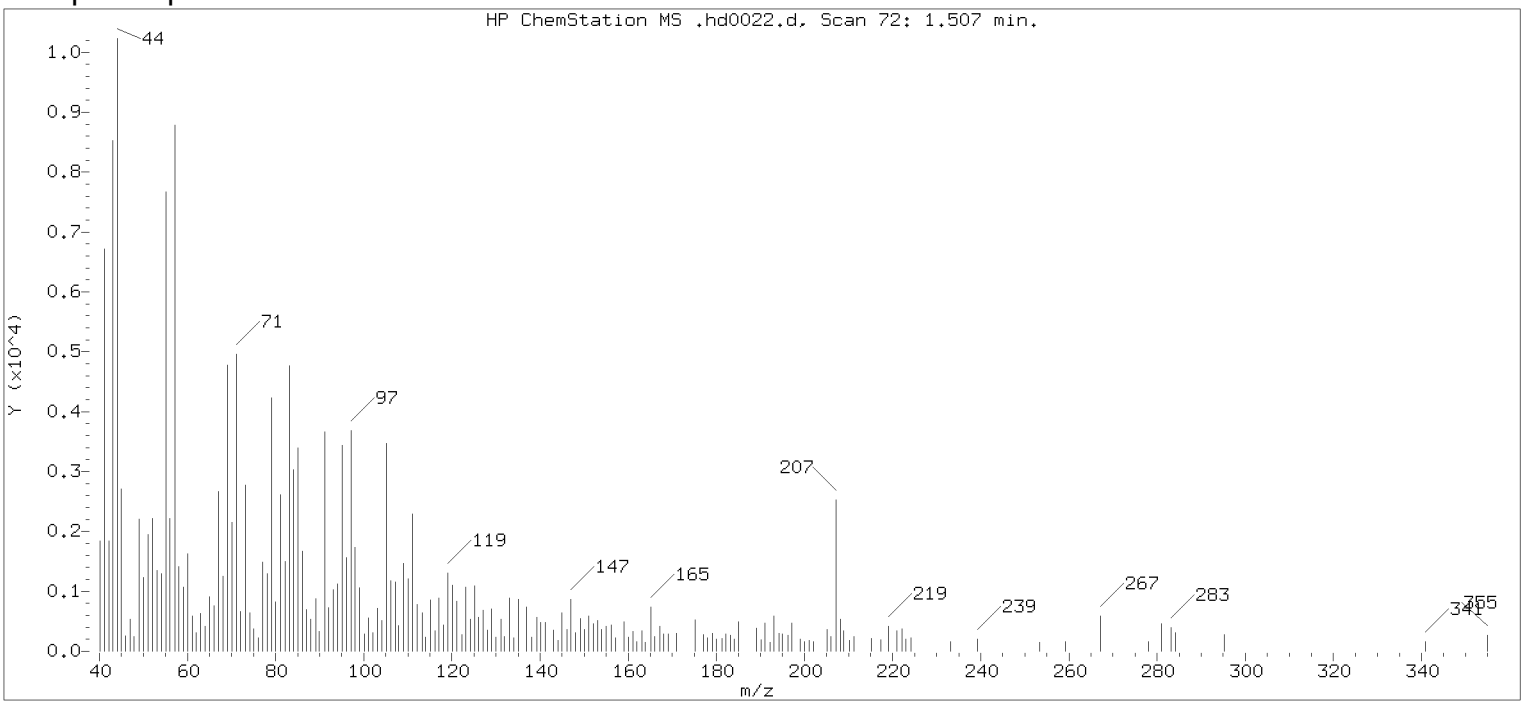
Compound Number : 2
Compound Name : 1,4-Dioxane
Scan Number : 75
Retention Time (minutes) : 1.524
Quant Ion : 88.00
Area (flag) : 4258M
On-Column Amount (ng/ul) : 0.1520
Integration start scan : 70 Integration stop scan: 98
Y at integration start : 346 Y at integration end: 350

Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion

Data File: /chem/HP18831.i/18apr02a.b/hd0022.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:43 Analyst ID: bkc25363

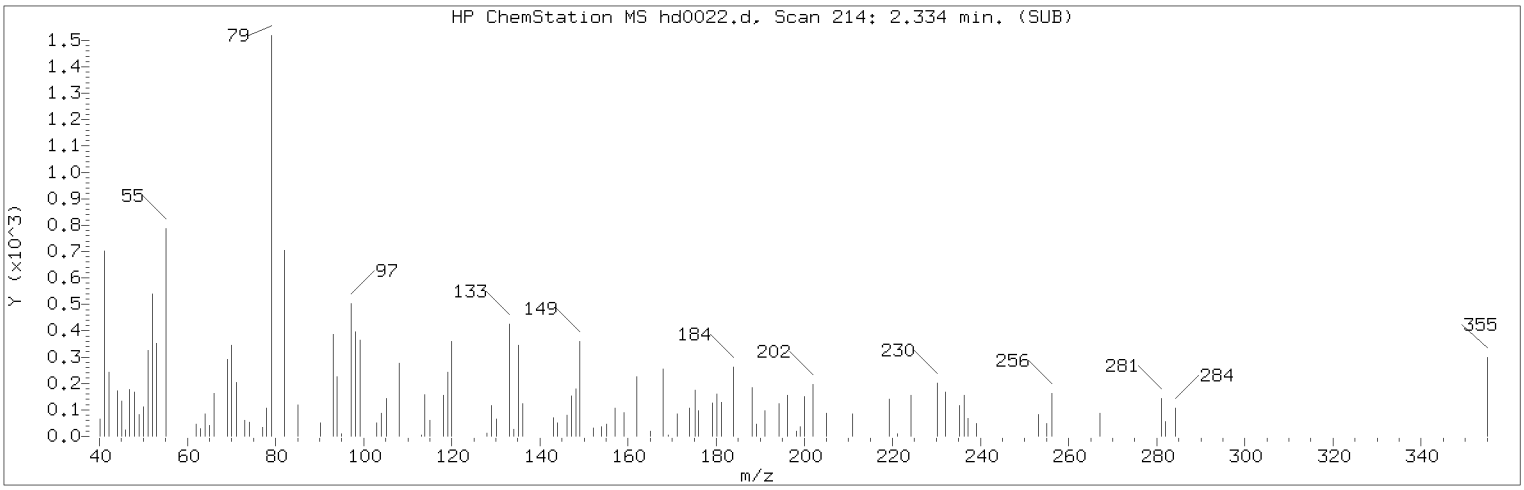
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 02-APR-2018 23:10
Date, time and analyst ID of latest file update: 02-Apr-2018 23:10 Automation

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0668

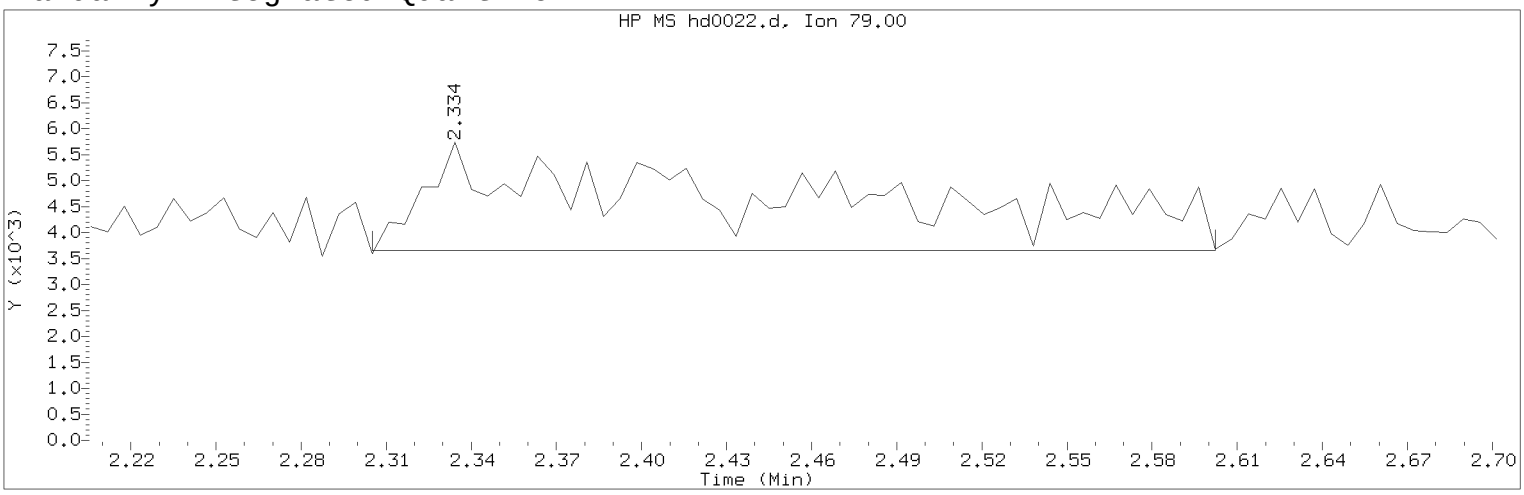
Compound Number : 2
Compound Name : 1,4-Dioxane
Expected RT (minutes) : 1.507
Quant Ion : 88.00

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0022.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:43 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0668

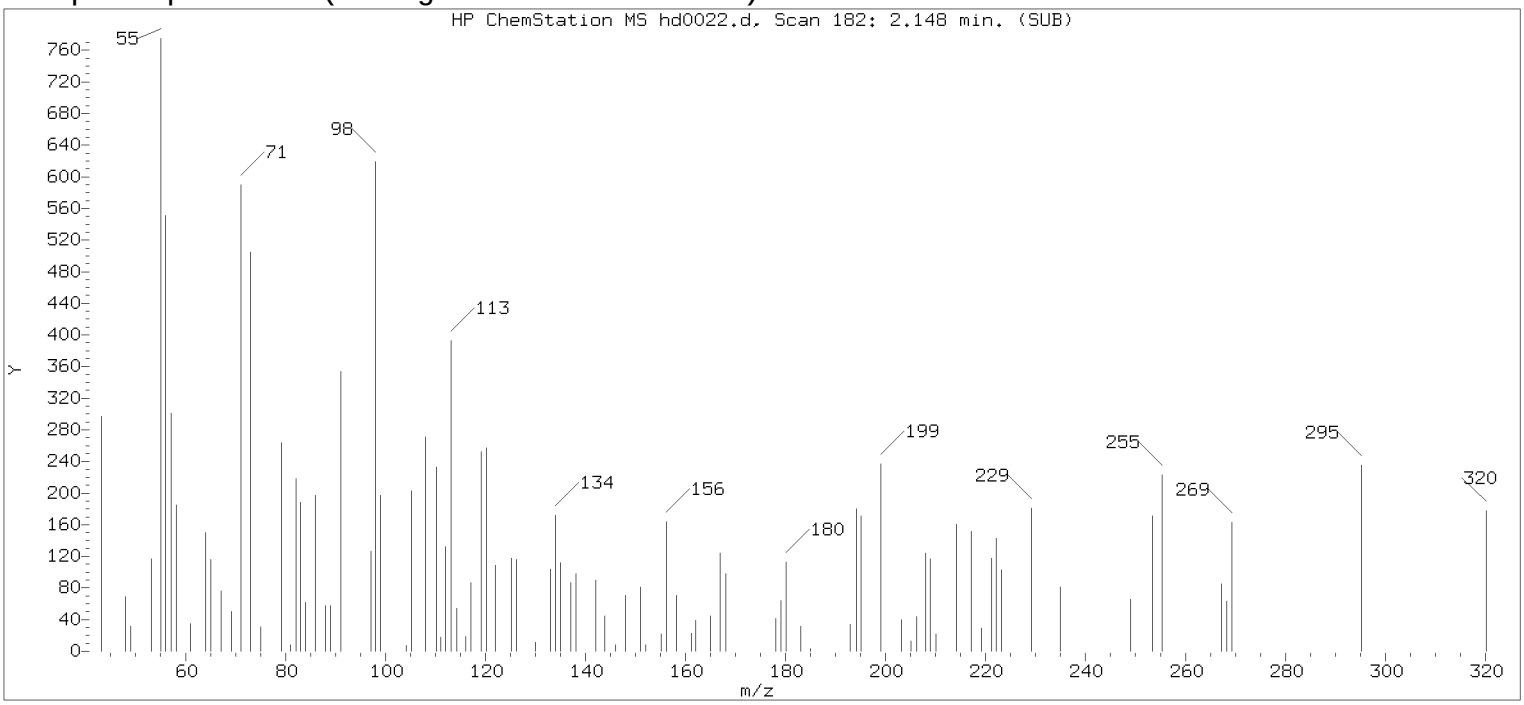
Compound Number : 6
Compound Name : Pyridine
Scan Number : 214
Retention Time (minutes) : 2.334
Quant Ion : 79.00
Area (flag) : 18056M
On-Column Amount (ng/ul) : 0.2387
Integration start scan : 208 Integration stop scan: 259
Y at integration start : 3655 Y at integration end: 3655

Reason for manual integration: improper integration

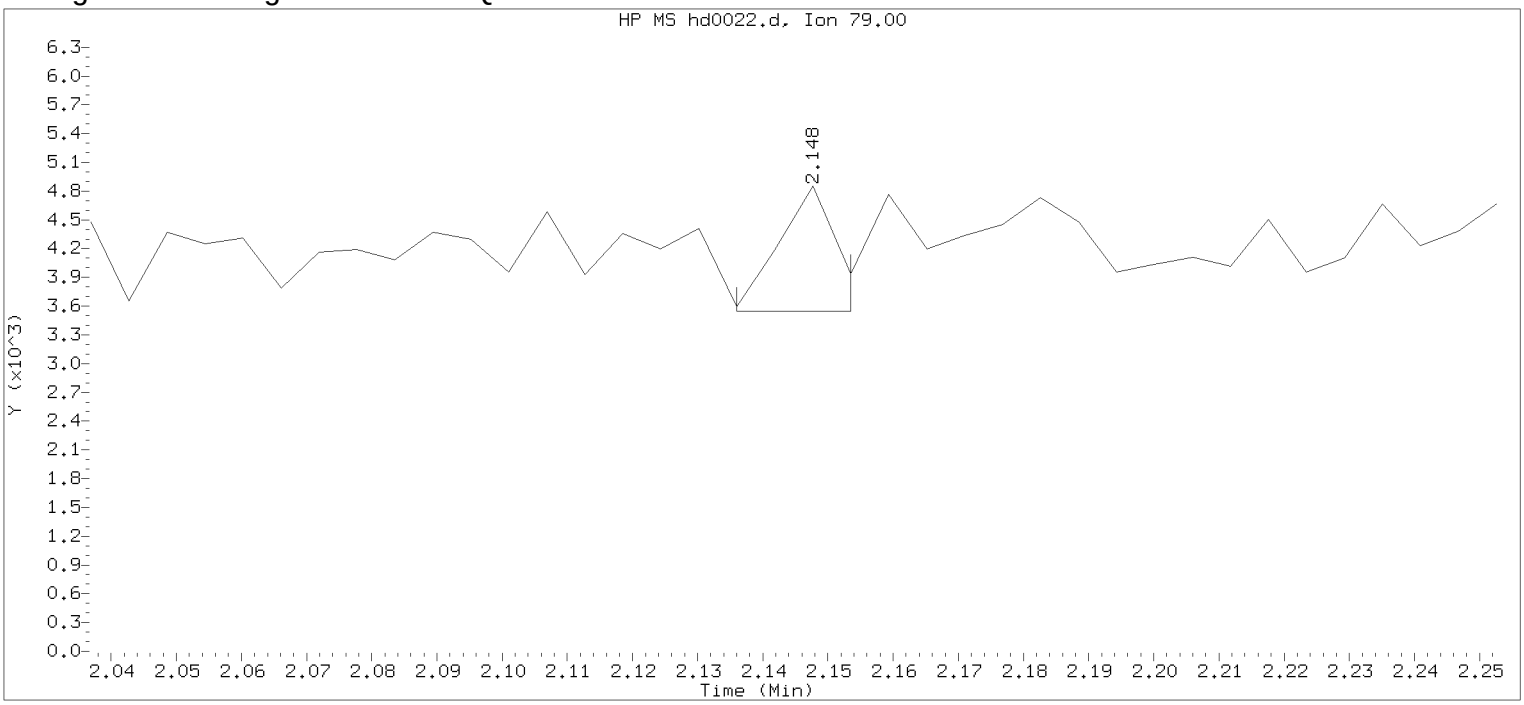
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0022.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:43 Analyst ID: bkc25363

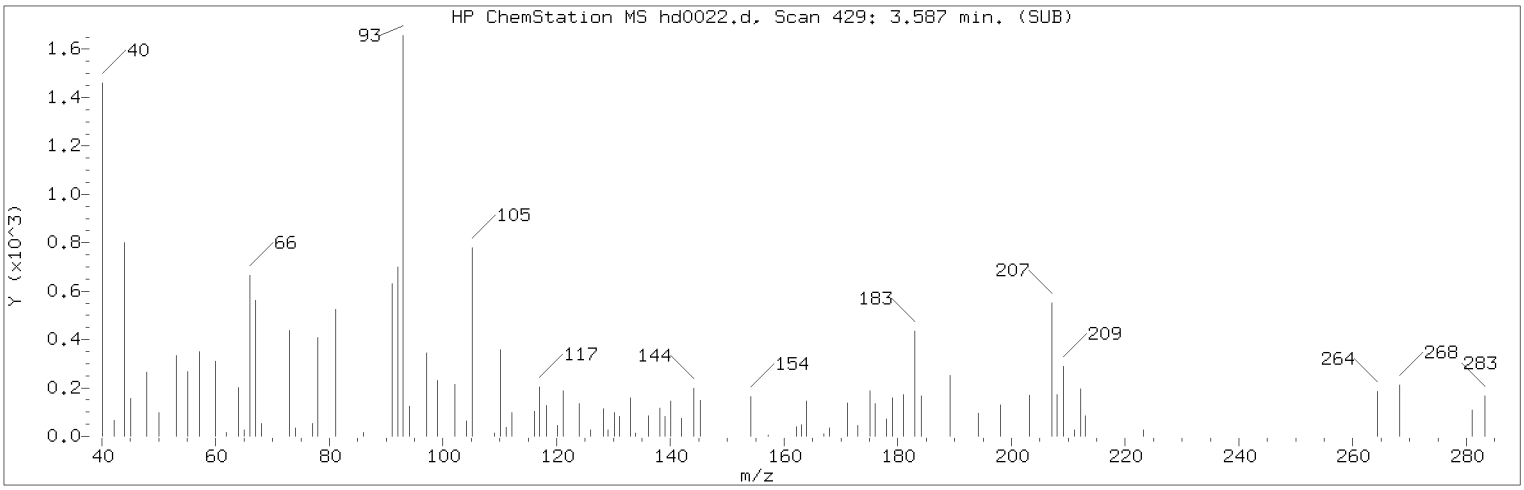
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 02-APR-2018 23:10
Date, time and analyst ID of latest file update: 02-Apr-2018 23:10 Automation

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0668

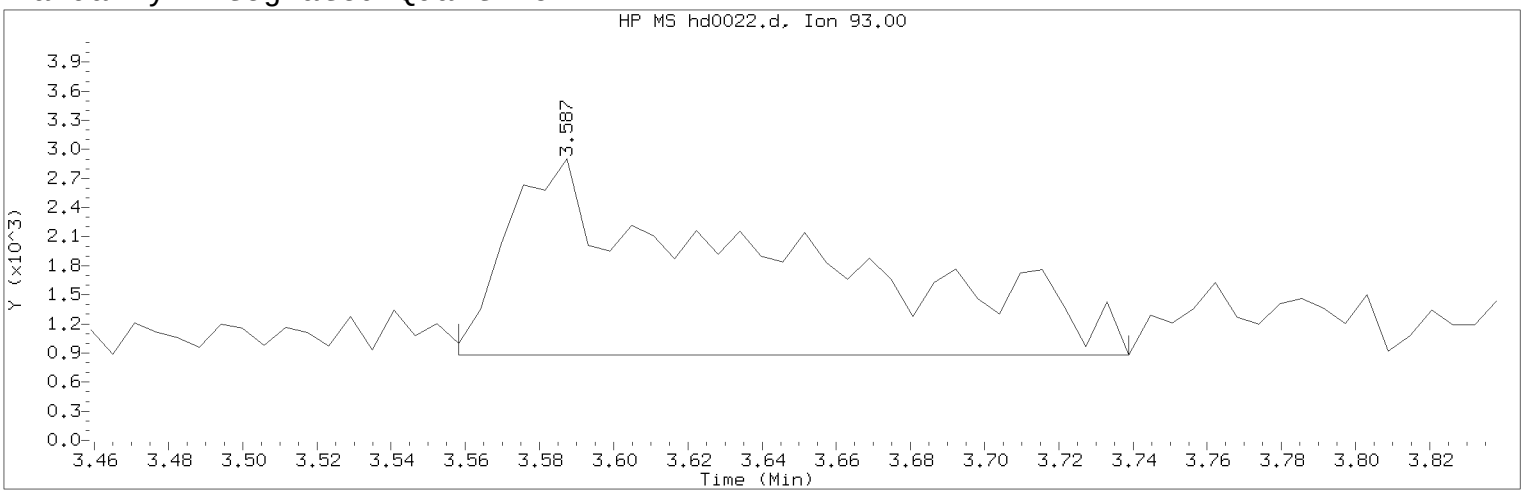
Compound Number : 6
Compound Name : Pyridine
Scan Number : 182
Retention Time (minutes) : 2.148
Quant Ion : 79.00
Area : 750
On-column Amount (ng/ul) : 0.0091
Integration start scan : 179 Integration stop scan: 182
Y at integration start : 3550 Y at integration end: 3550

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0022.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:43 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0668

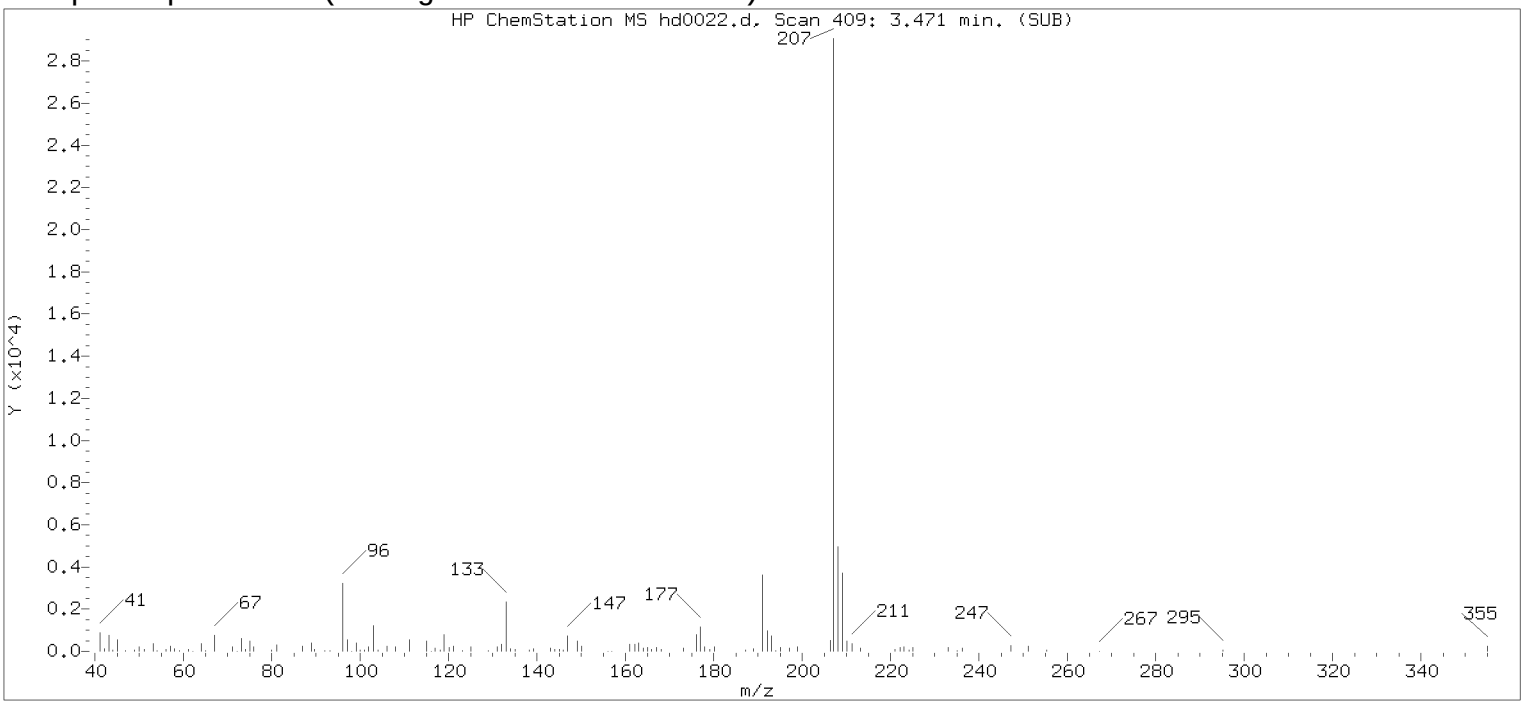
Compound Number : 8
Compound Name : 2-Picoline
Scan Number : 429
Retention Time (minutes) : 3.587
Quant Ion : 93.00
Area (flag) : 10240M
On-Column Amount (ng/ul) : 0.1332
Integration start scan : 423 Integration stop scan: 454
Y at integration start : 878 Y at integration end: 878

Reason for manual integration: improper integration

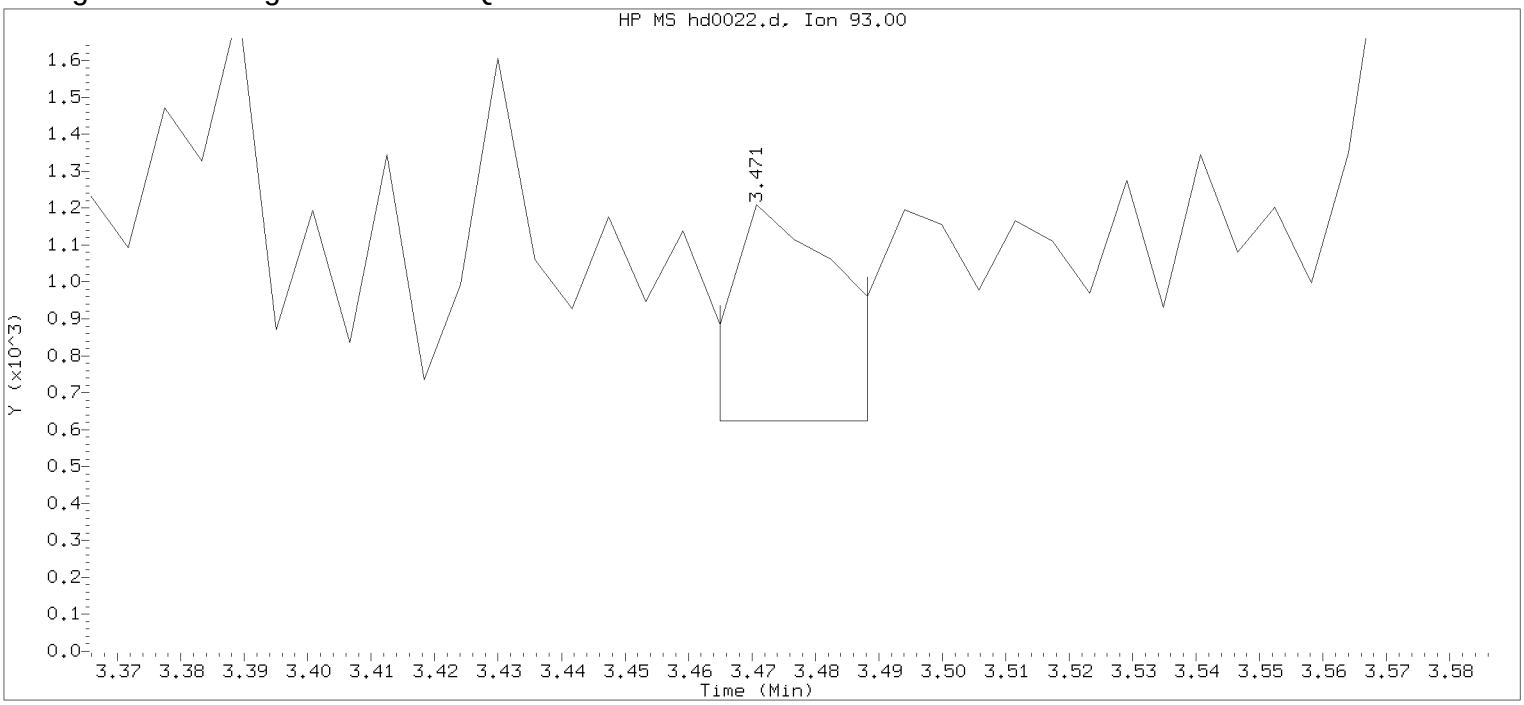
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29. Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0022.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:43 Analyst ID: bkc25363

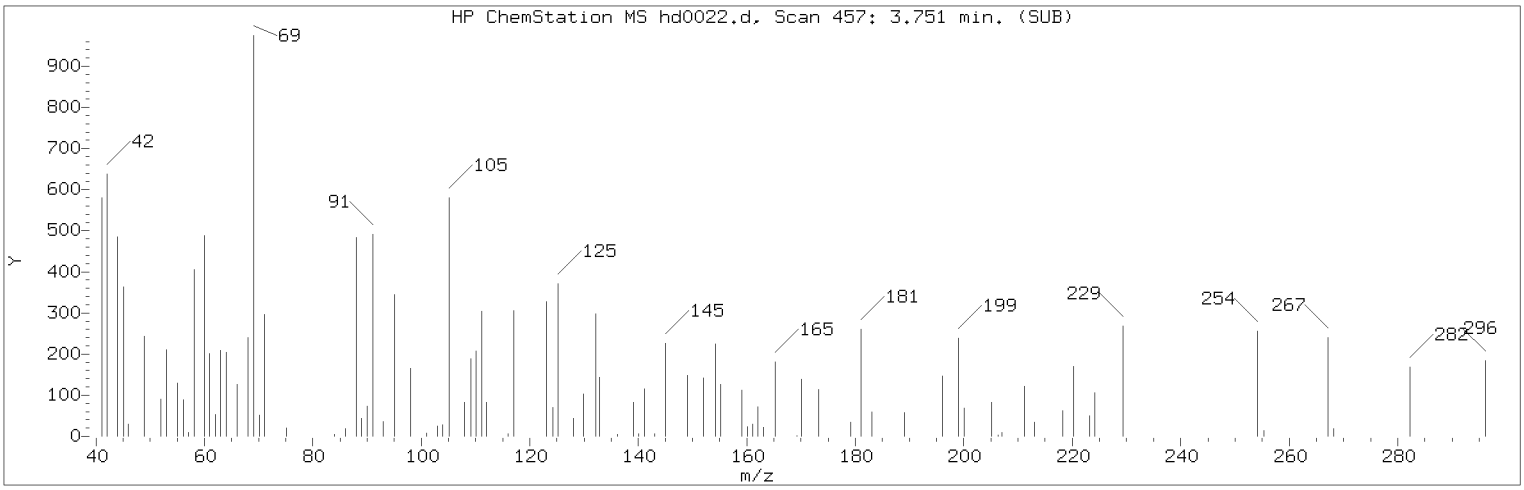
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 02-APR-2018 23:10
Date, time and analyst ID of latest file update: 02-Apr-2018 23:10 Automation

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0668

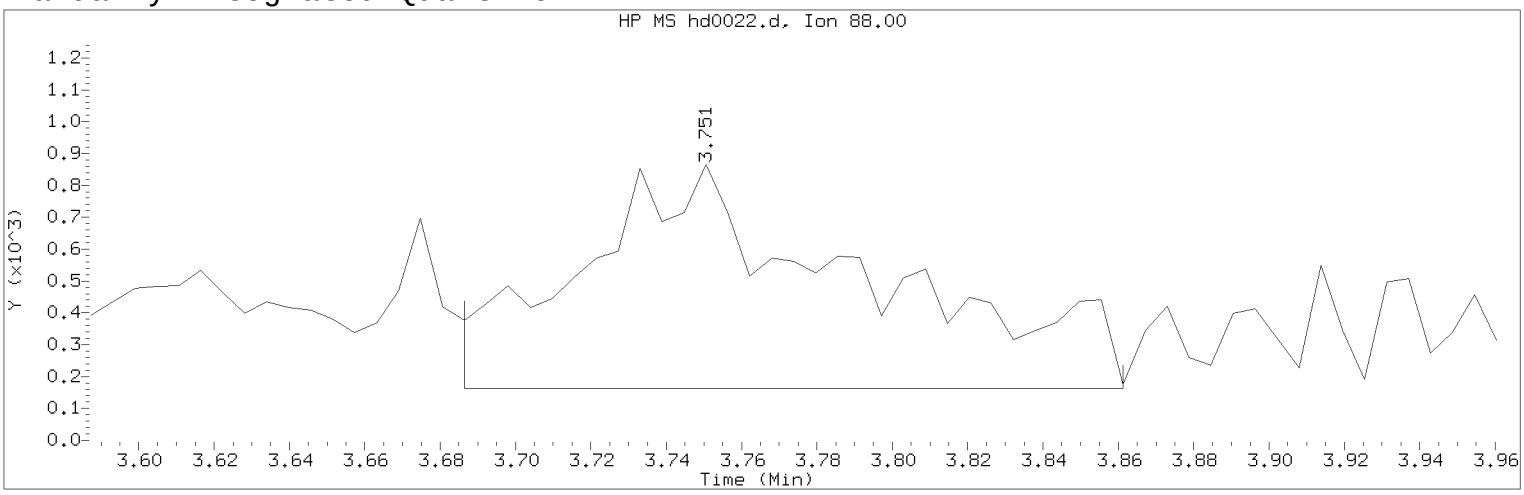
Compound Number : 8
Compound Name : 2-Picoline
Scan Number : 409
Retention Time (minutes) : 3.471
Quant Ion : 93.00
Area : 635
On-column Amount (ng/ul) : 0.0074
Integration start scan : 407 Integration stop scan: 411
Y at integration start : 623 Y at integration end: 623

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0022.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:43 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0668

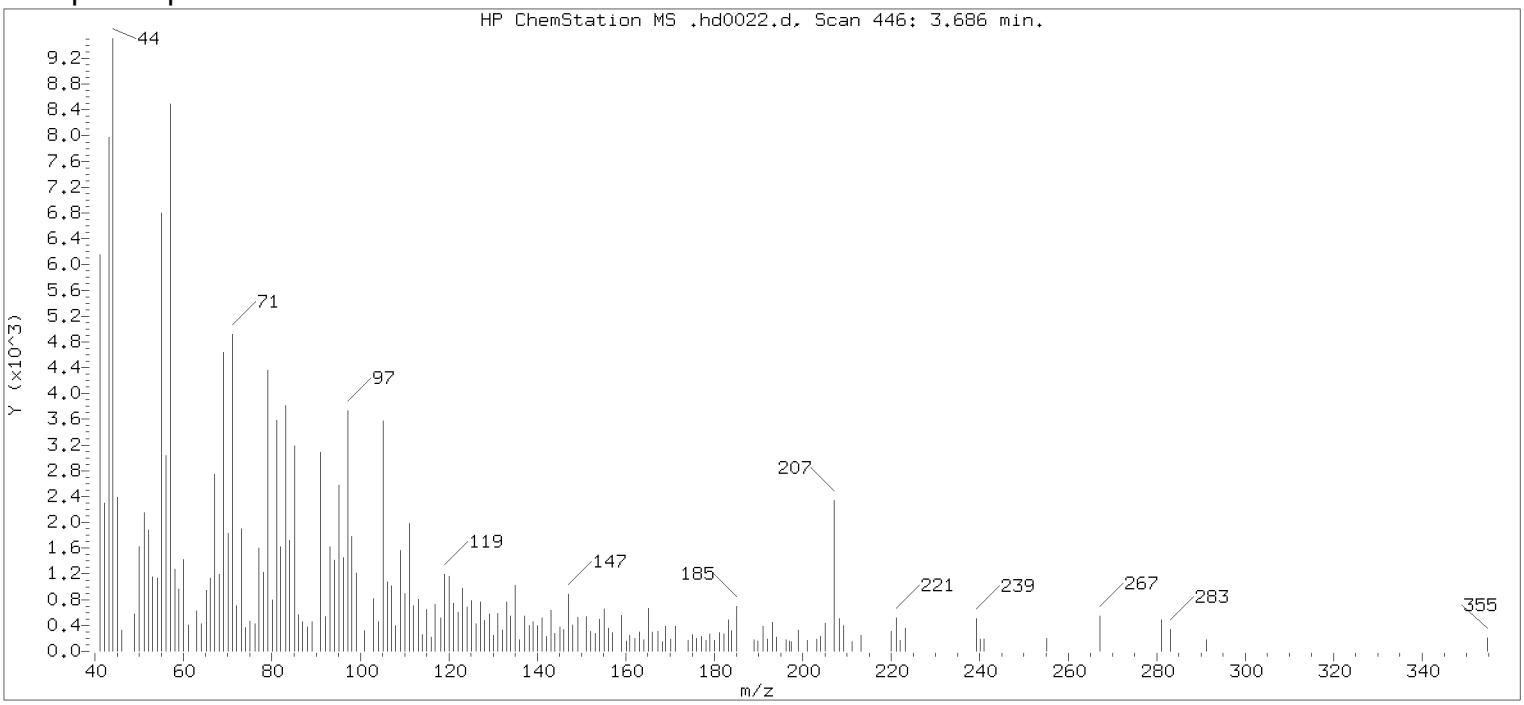
Compound Number : 9
Compound Name : N-Nitrosomethylethylamine
Scan Number : 457
Retention Time (minutes) : 3.751
Quant Ion : 88.00
Area (flag) : 3743M
On-Column Amount (ng/ul) : 0.1190
Integration start scan : 445 Integration stop scan: 475
Y at integration start : 163 Y at integration end: 163

Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29. Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion

Data File: /chem/HP18831.i/18apr02a.b/hd0022.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:43 Analyst ID: bkc25363

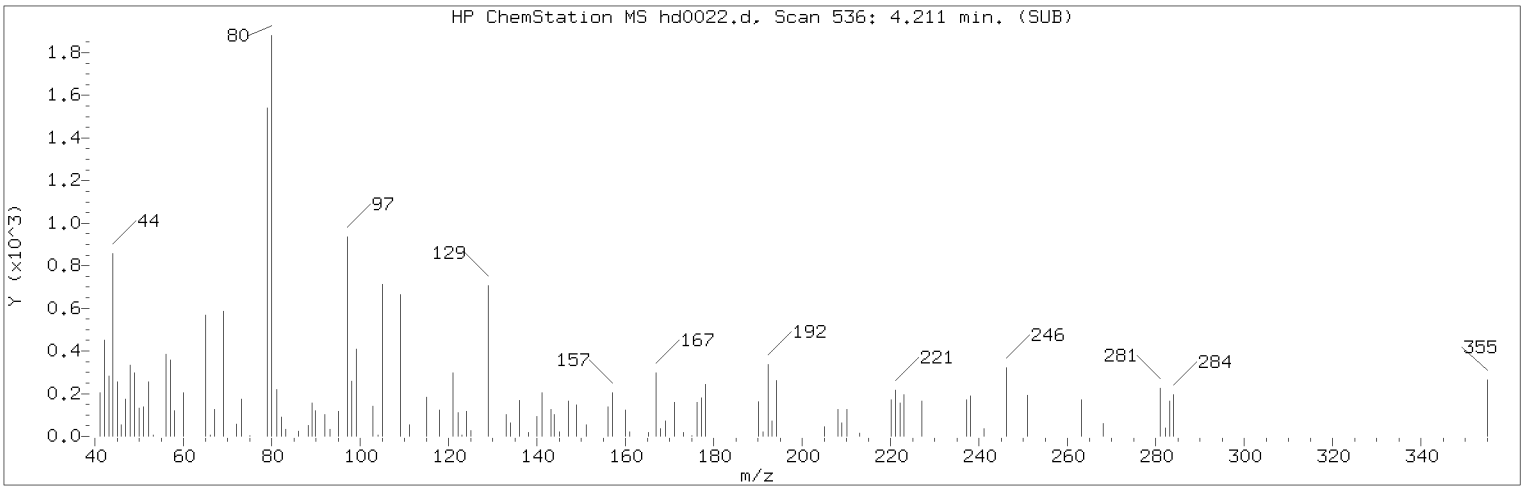
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 02-APR-2018 23:10
Date, time and analyst ID of latest file update: 02-Apr-2018 23:10 Automation

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0668

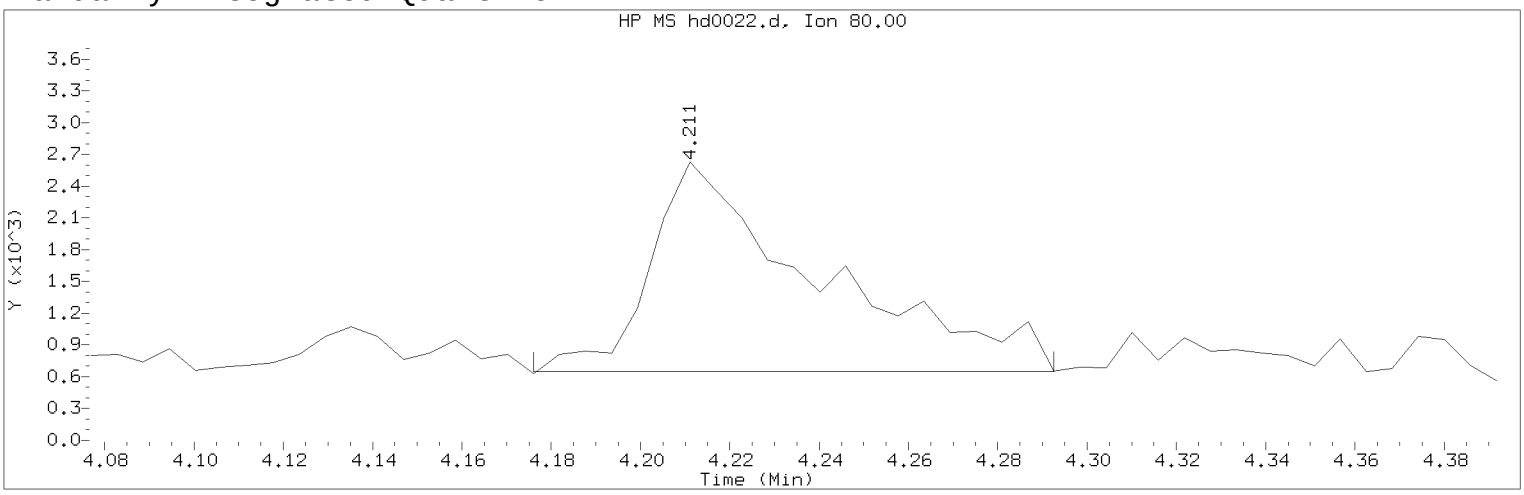
Compound Number : 9
Compound Name : N-Nitrosomethylethylamine
Expected RT (minutes) : 3.686
Quant Ion : 88.00

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0022.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:43 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0668

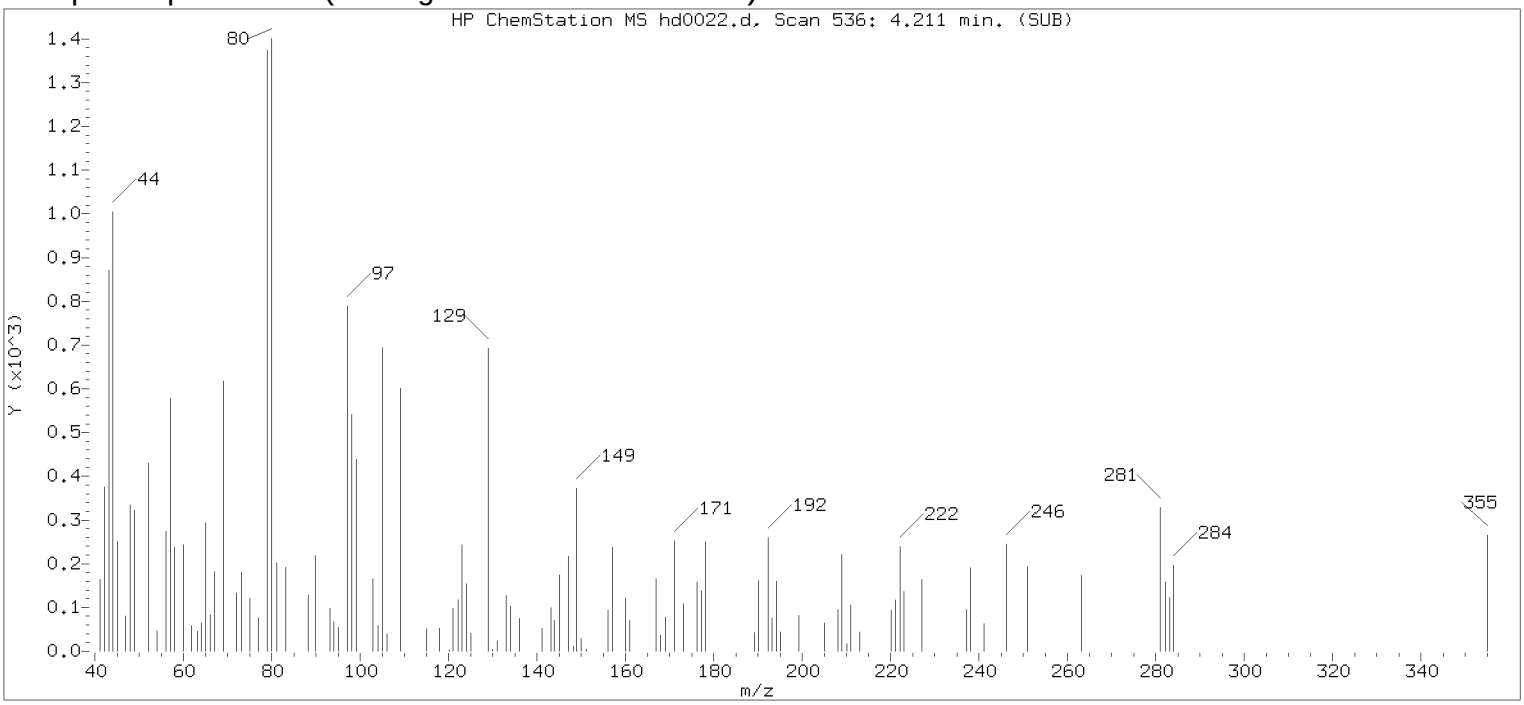
Compound Number : 10
Compound Name : Methyl methanesulfonate
Scan Number : 536
Retention Time (minutes) : 4.211
Quant Ion : 80.00
Area (flag) : 5182M
On-Column Amount (ng/ul) : 0.1364
Integration start scan : 529 Integration stop scan: 549
Y at integration start : 649 Y at integration end: 649

Reason for manual integration: improper integration

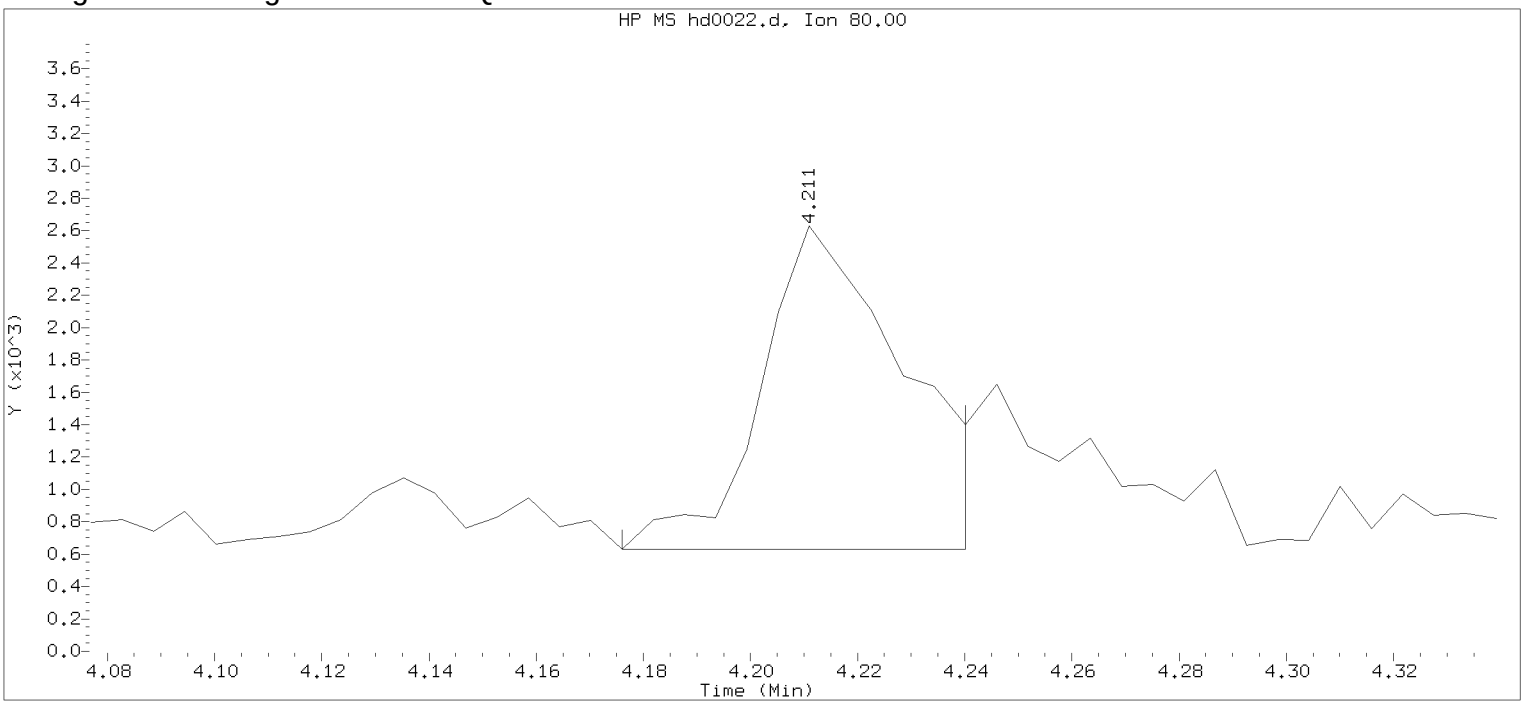
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0022.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:43 Analyst ID: bkc25363

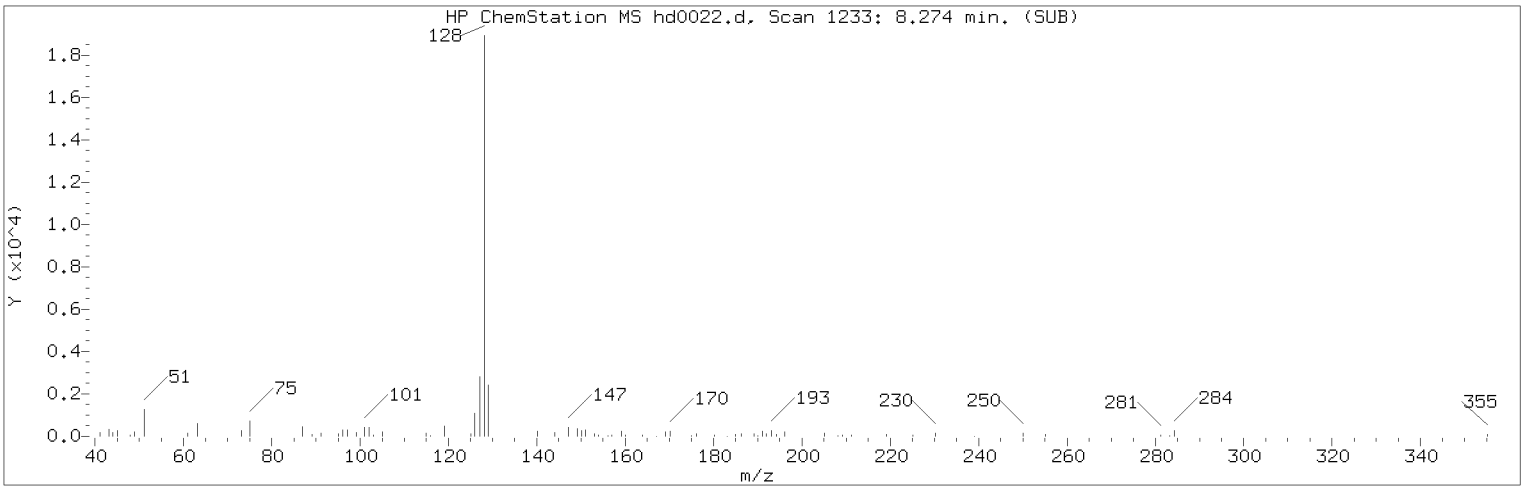
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 02-APR-2018 23:10
Date, time and analyst ID of latest file update: 02-Apr-2018 23:10 Automation

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0668

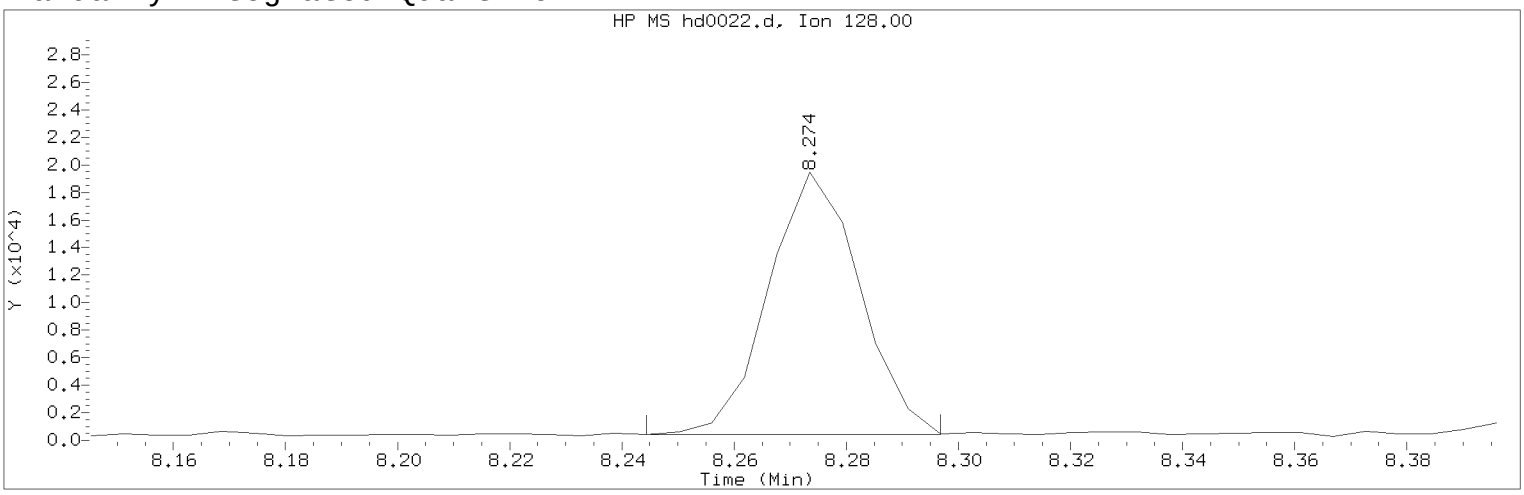
Compound Number : 10
Compound Name : Methyl methanesulfonate
Scan Number : 536
Retention Time (minutes) : 4.211
Quant Ion : 80.00
Area : 3614
On-column Amount (ng/ul) : 0.0803
Integration start scan : 529 Integration stop scan: 540
Y at integration start : 631 Y at integration end: 631

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0022.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:43 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0668

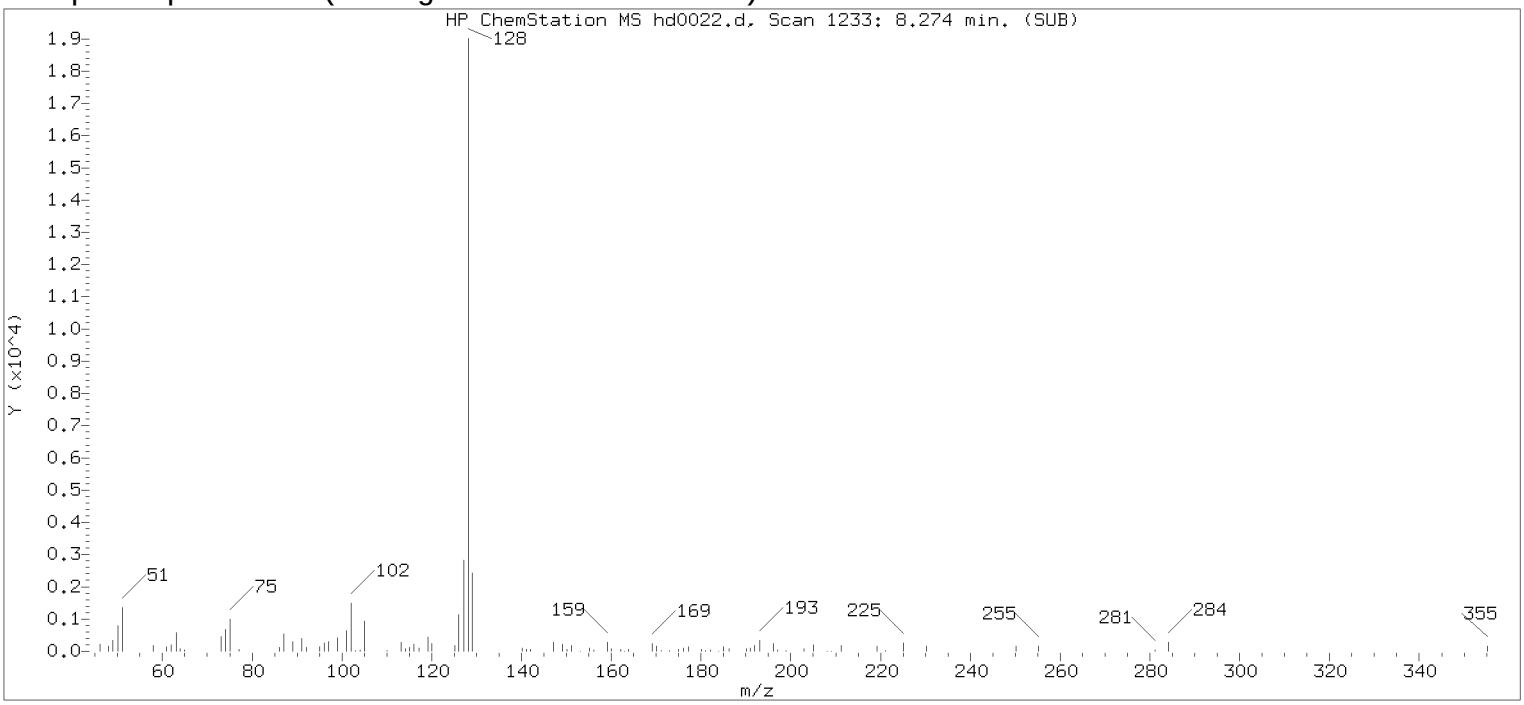
Compound Number : 69
Compound Name : Naphthalene
Scan Number : 1233
Retention Time (minutes) : 8.274
Quant Ion : 128.00
Area (flag) : 21381M
On-Column Amount (ng/ul) : 0.1181
Integration start scan : 1227 Integration stop scan: 1236
Y at integration start : 422 Y at integration end: 422

Reason for manual integration: improper integration

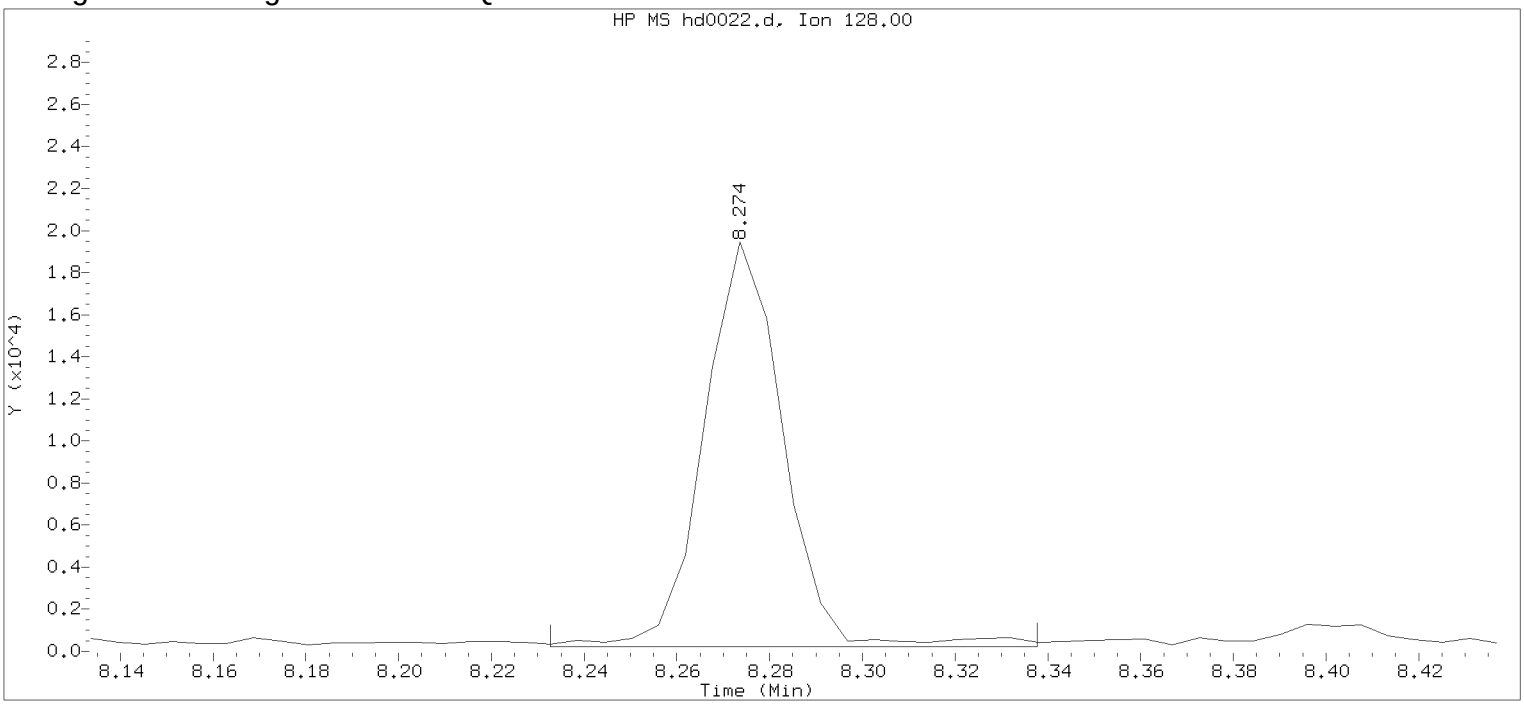
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0022.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:43 Analyst ID: bkc25363

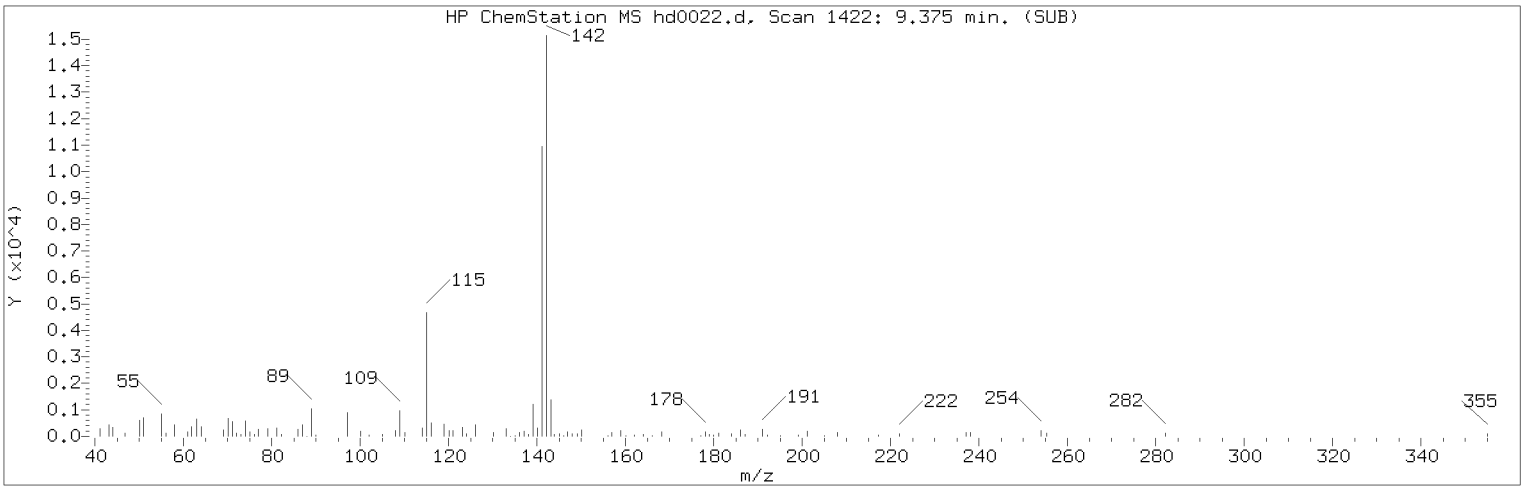
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 02-APR-2018 23:10
Date, time and analyst ID of latest file update: 02-Apr-2018 23:10 Automation

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0668

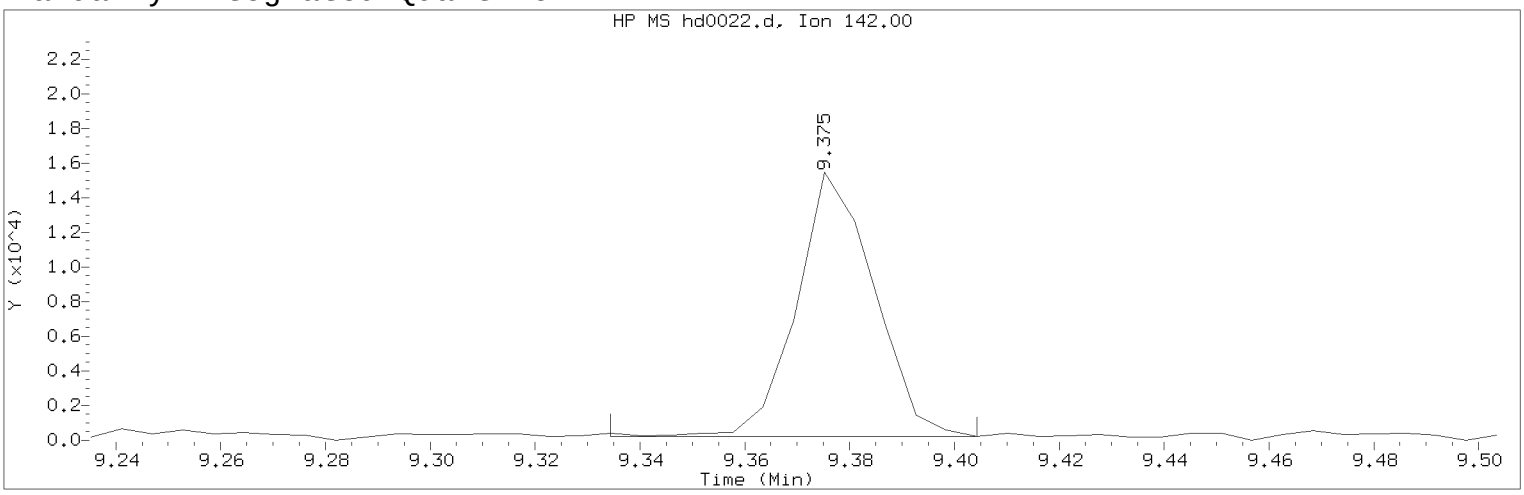
Compound Number : 69
Compound Name : Naphthalene
Scan Number : 1233
Retention Time (minutes) : 8.274
Quant Ion : 128.00
Area : 22925
On-column Amount (ng/ul) : 0.1155
Integration start scan : 1225 Integration stop scan: 1243
Y at integration start : 218 Y at integration end: 218

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29.
Target 3.5 esignature used to hash 1068

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0022.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:43 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0668

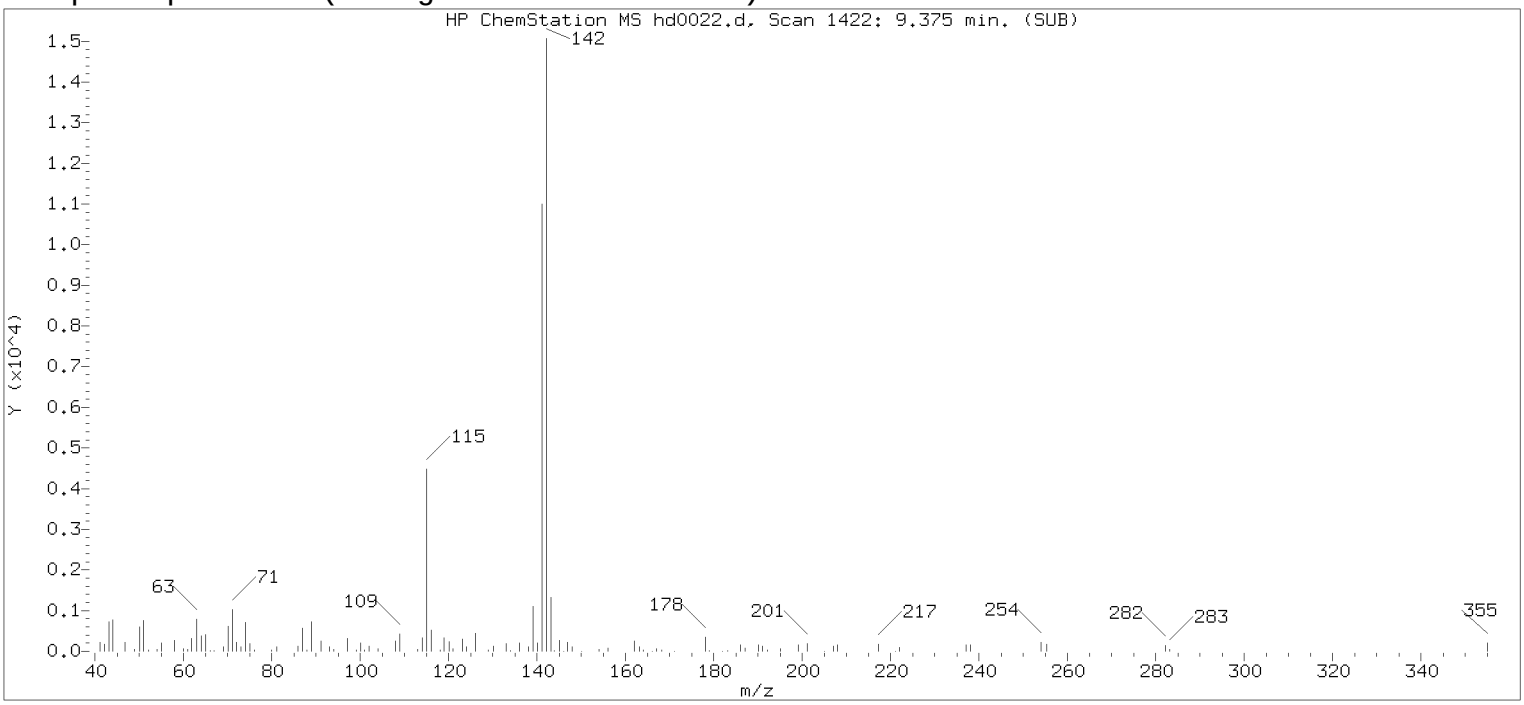
Compound Number : 86
Compound Name : 2-Methylnaphthalene
Scan Number : 1422
Retention Time (minutes) : 9.375
Quant Ion : 142.00
Area (flag) : 15741M
On-Column Amount (ng/ul) : 0.1239
Integration start scan : 1414 Integration stop scan: 1426
Y at integration start : 207 Y at integration end: 207

Reason for manual integration: improper integration

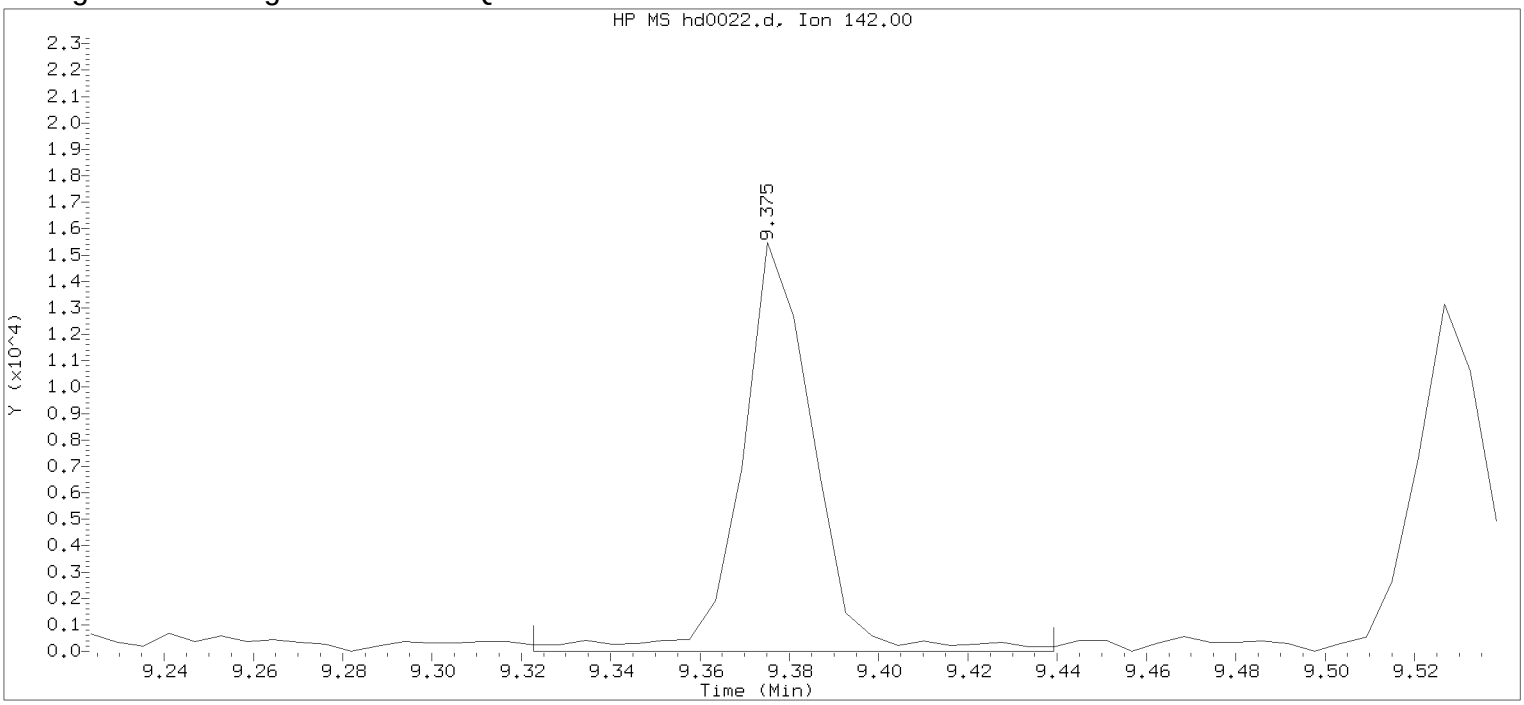
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0022.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:43 Analyst ID: bkc25363

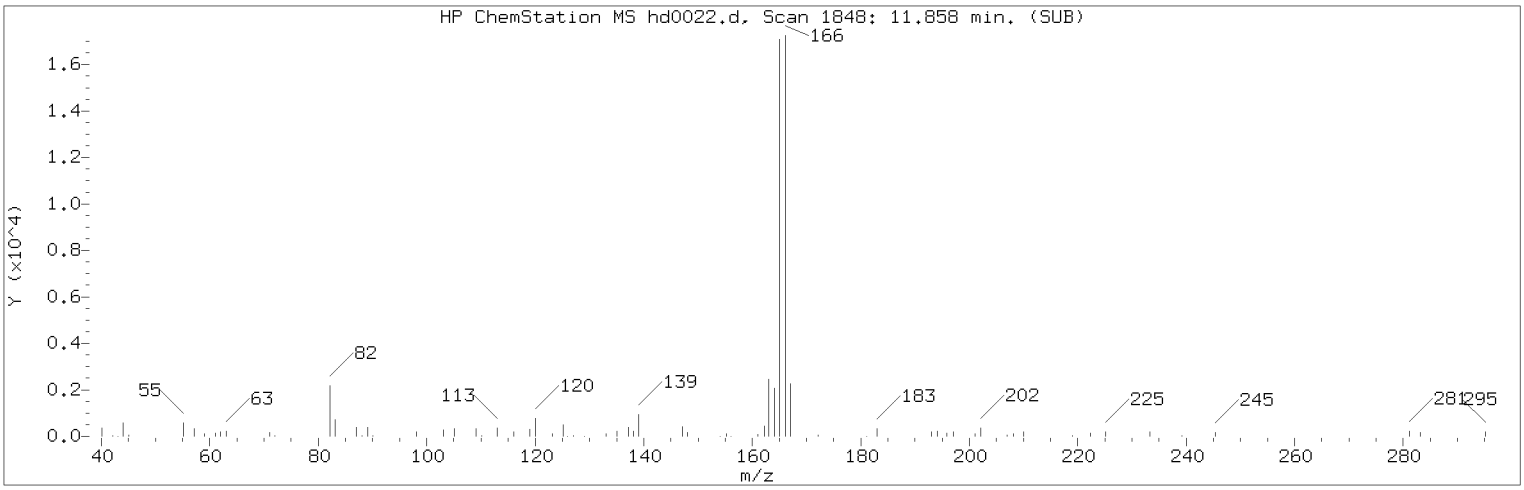
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 02-APR-2018 23:10
Date, time and analyst ID of latest file update: 02-Apr-2018 23:10 Automation

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0668

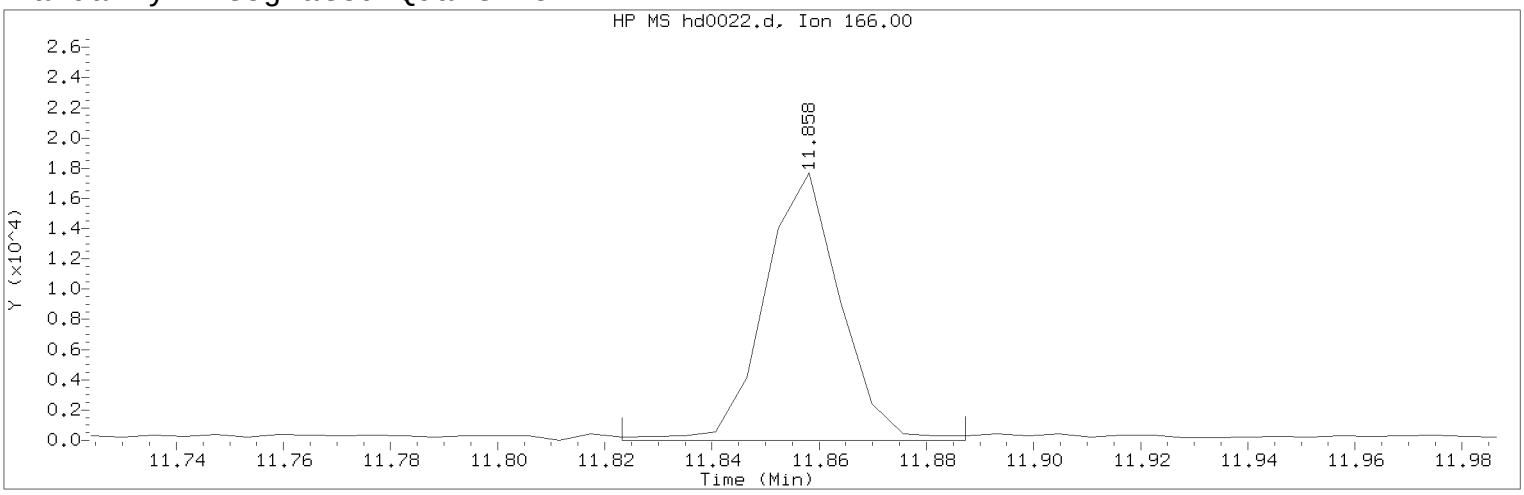
Compound Number : 86
Compound Name : 2-Methylnaphthalene
Scan Number : 1422
Retention Time (minutes) : 9.375
Quant Ion : 142.00
Area : 17334
On-column Amount (ng/ul) : 0.1319
Integration start scan : 1412 Integration stop scan: 1432
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29.
Target 3.5 esignature user has been applied

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0022.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:43 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0668

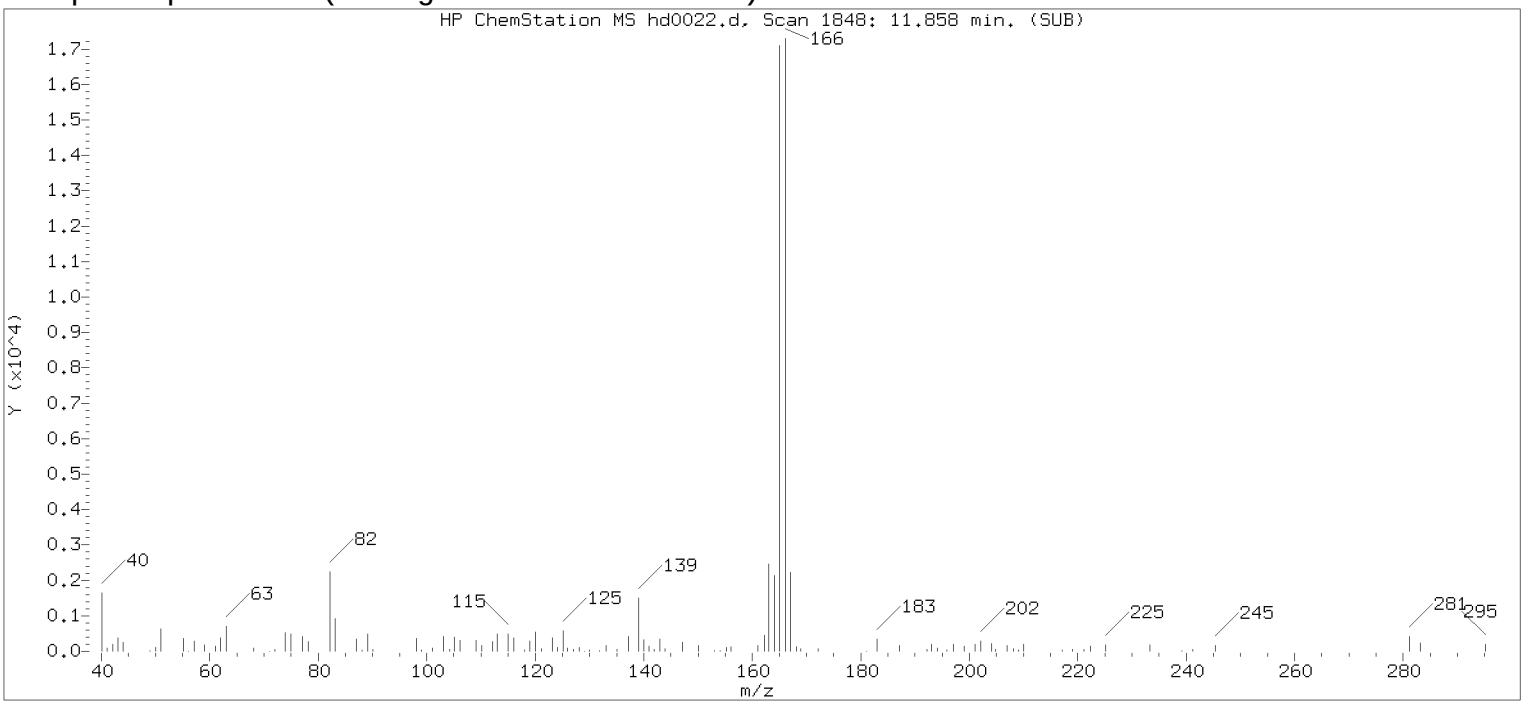
Compound Number : 132
Compound Name : Fluorene
Scan Number : 1848
Retention Time (minutes) : 11.858
Quant Ion : 166.00
Area (flag) : 17412M
On-Column Amount (ng/ul) : 0.1237
Integration start scan : 1841 Integration stop scan: 1852
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

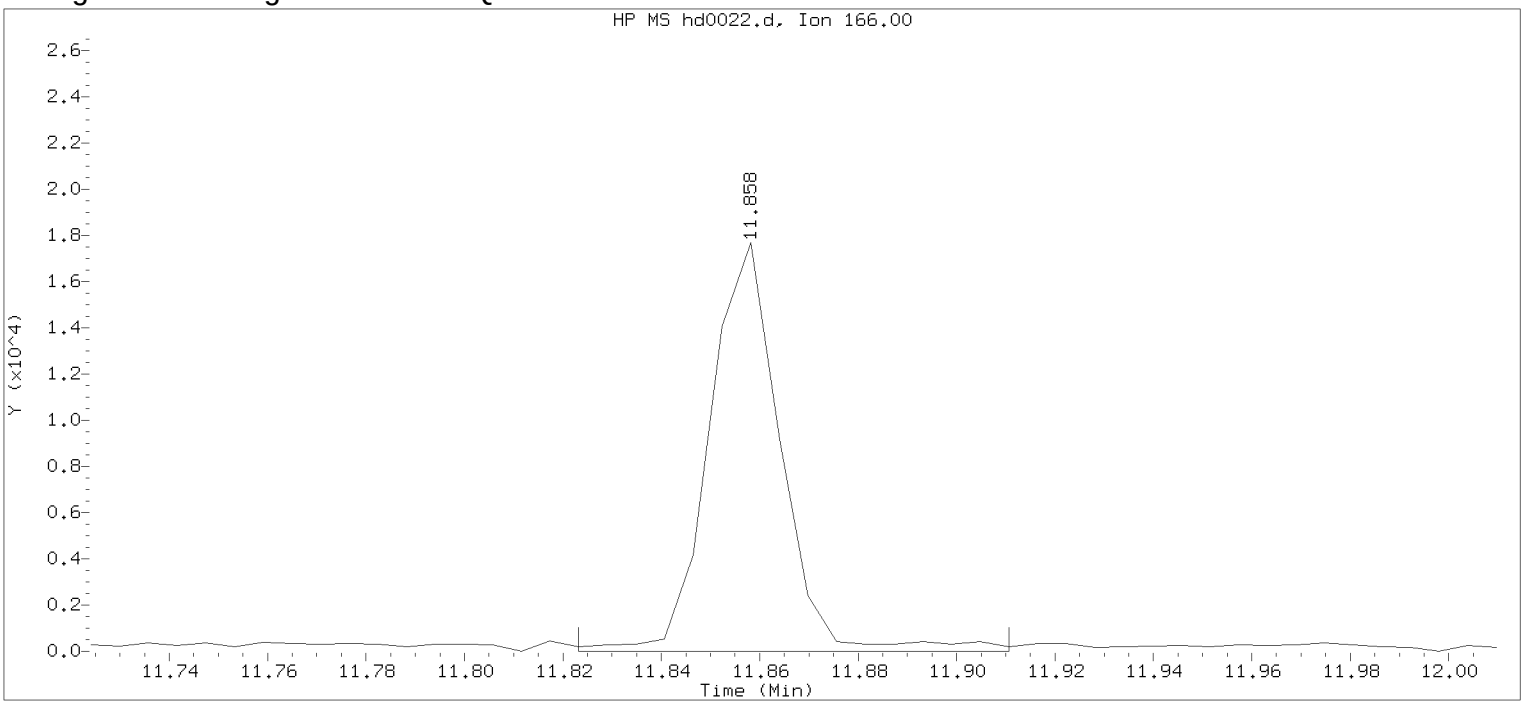
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29. Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0022.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:43 Analyst ID: bkc25363

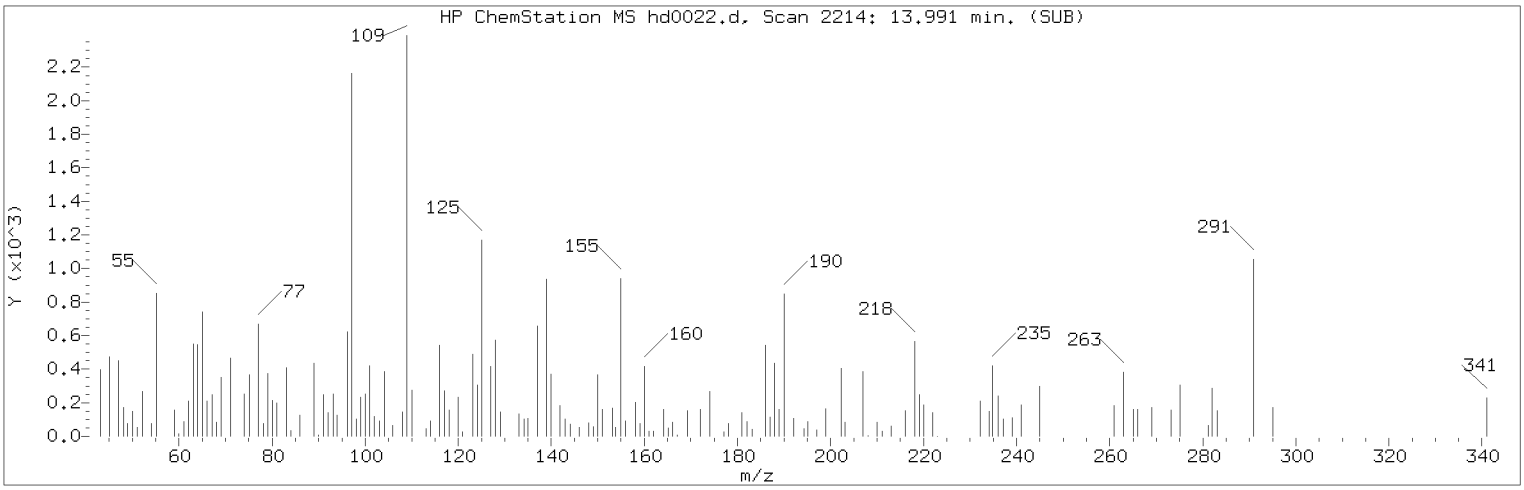
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 02-APR-2018 23:10
Date, time and analyst ID of latest file update: 02-Apr-2018 23:10 Automation

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0668

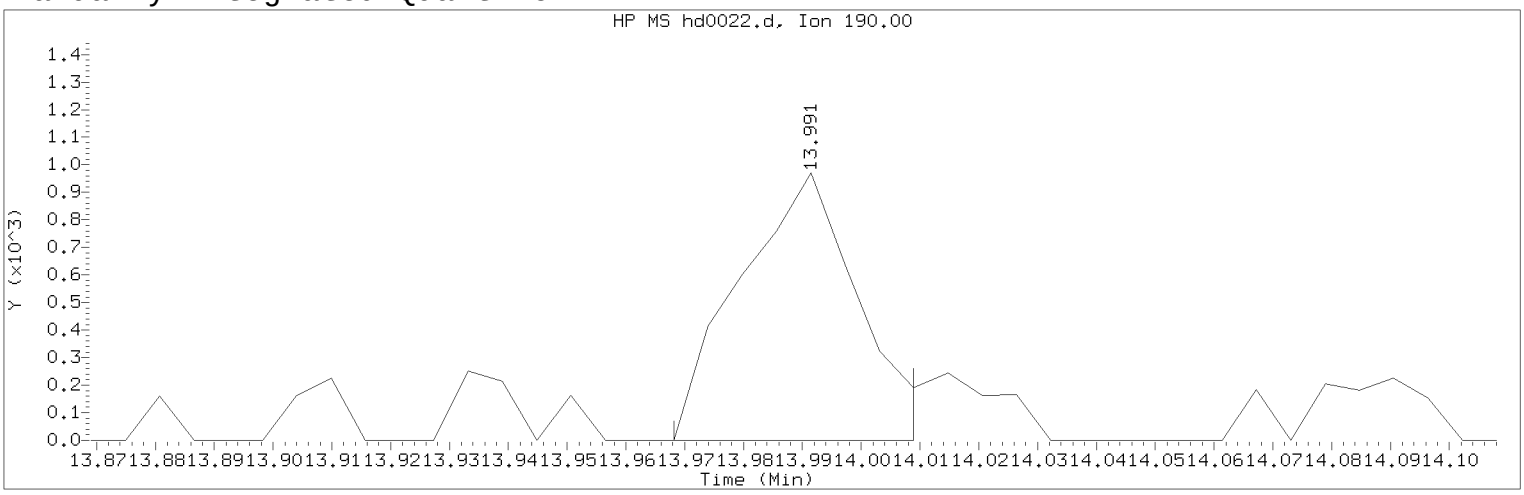
Compound Number : 132
Compound Name : Fluorene
Scan Number : 1848
Retention Time (minutes) : 11.858
Quant Ion : 166.00
Area : 17814
On-column Amount (ng/ul) : 0.1277
Integration start scan : 1841 Integration stop scan: 1856
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0022.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:43 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0668

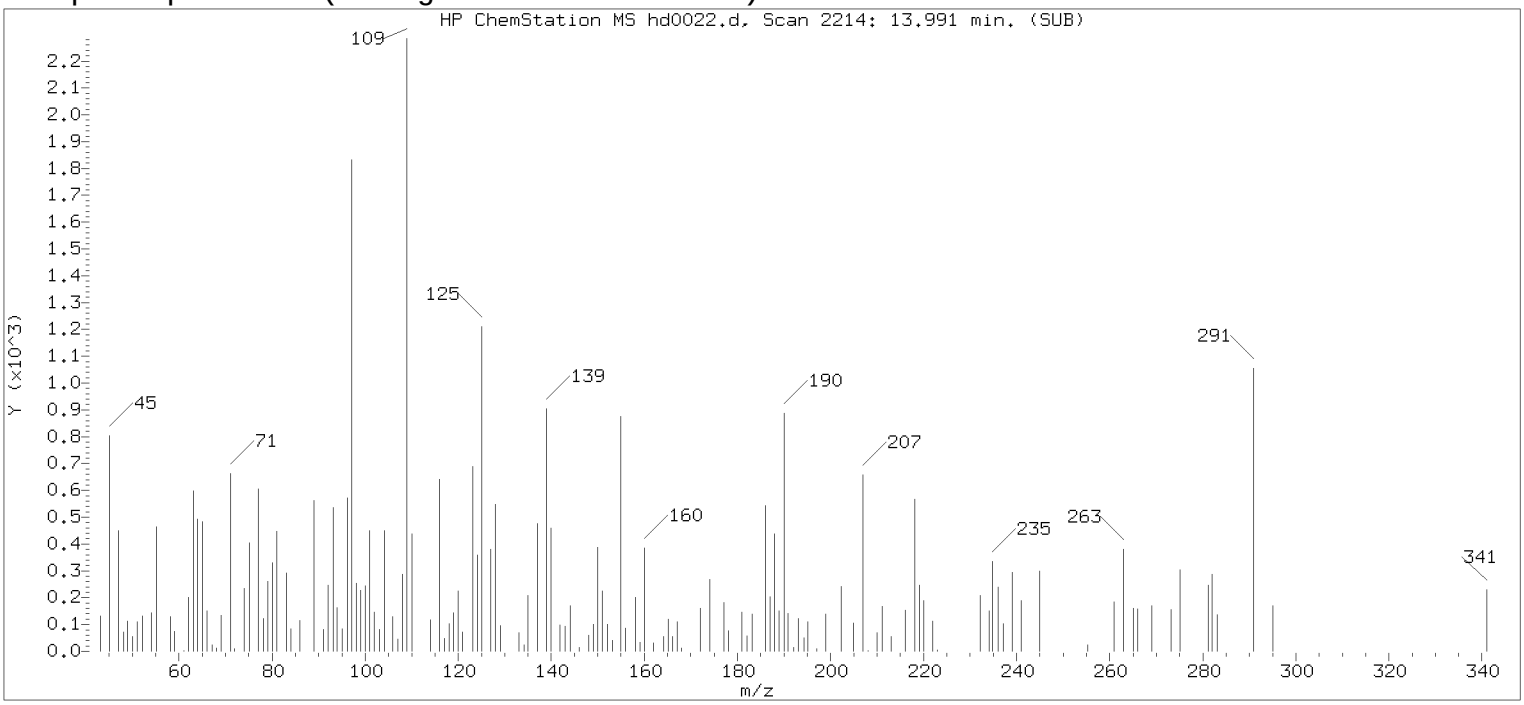
Compound Number : 176
Compound Name : 4-Nitroquinoline-1-oxide
Scan Number : 2214
Retention Time (minutes) : 13.991
Quant Ion : 190.00
Area (flag) : 1364M
On-Column Amount (ng/ul) : 0.0845
Integration start scan : 2209 Integration stop scan: 2216
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

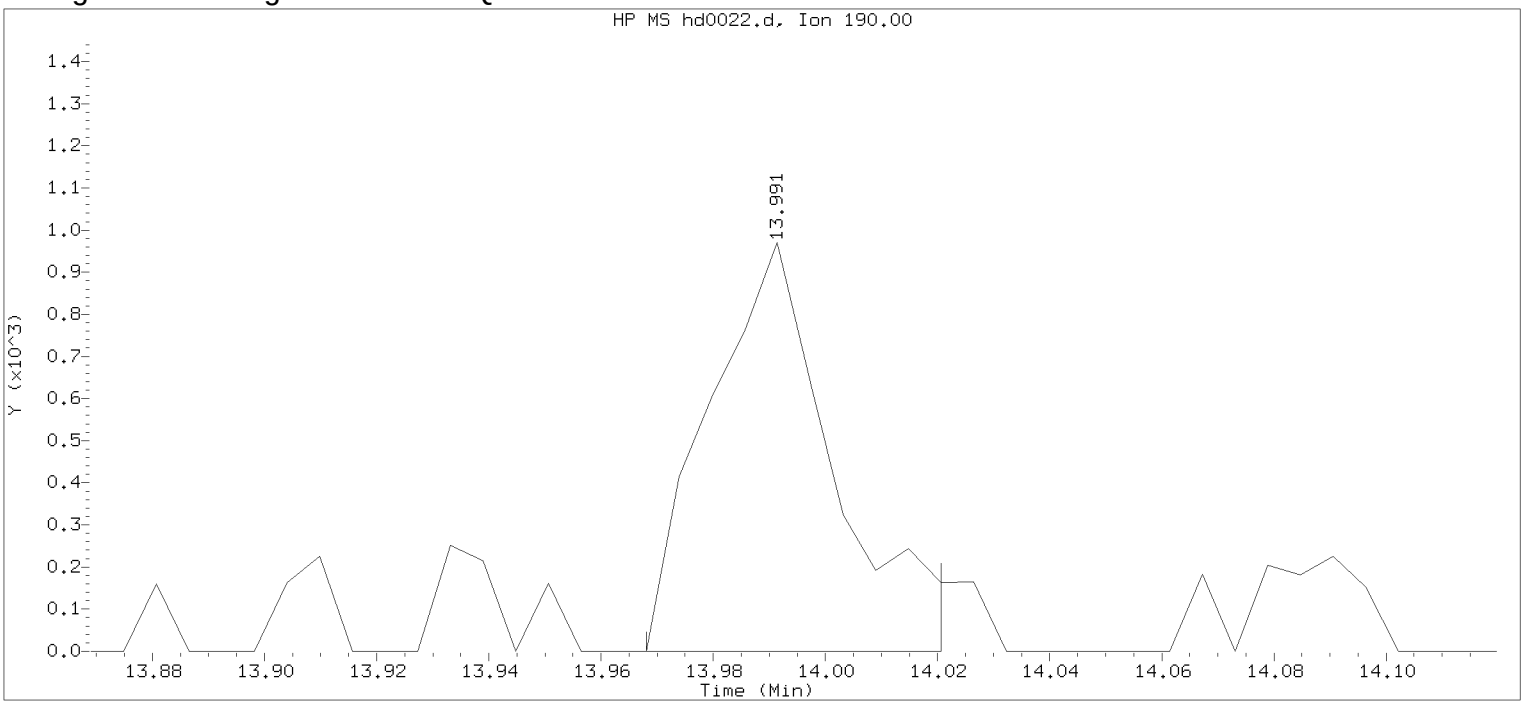
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29. Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0022.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:43 Analyst ID: bkc25363

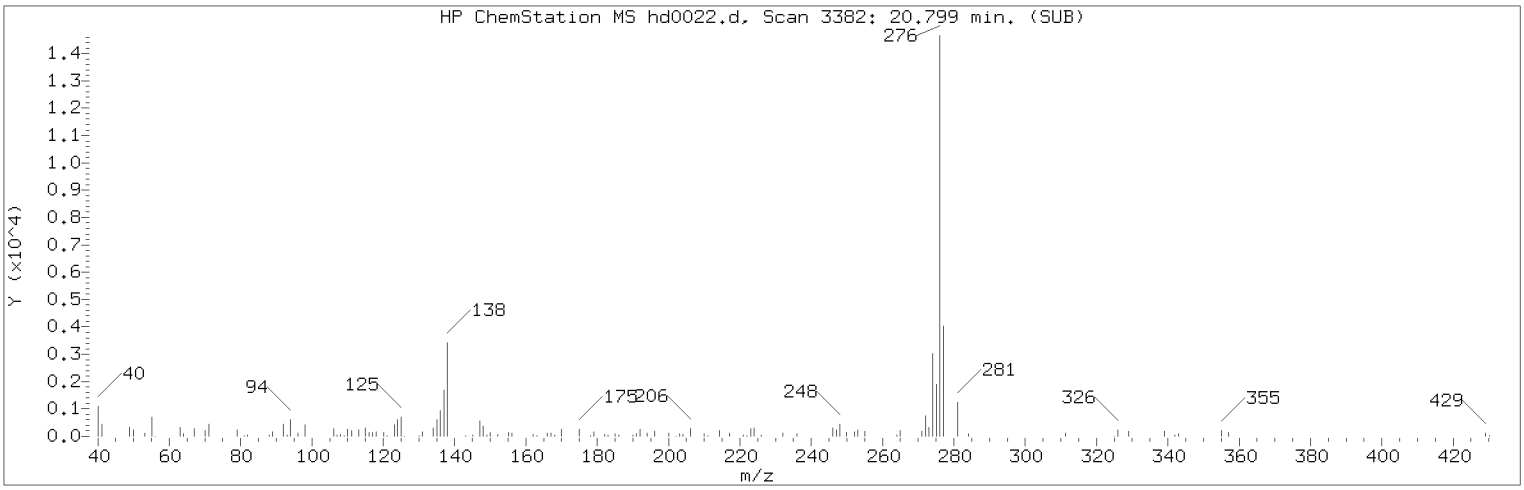
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 02-APR-2018 23:10
Date, time and analyst ID of latest file update: 02-Apr-2018 23:10 Automation

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0668

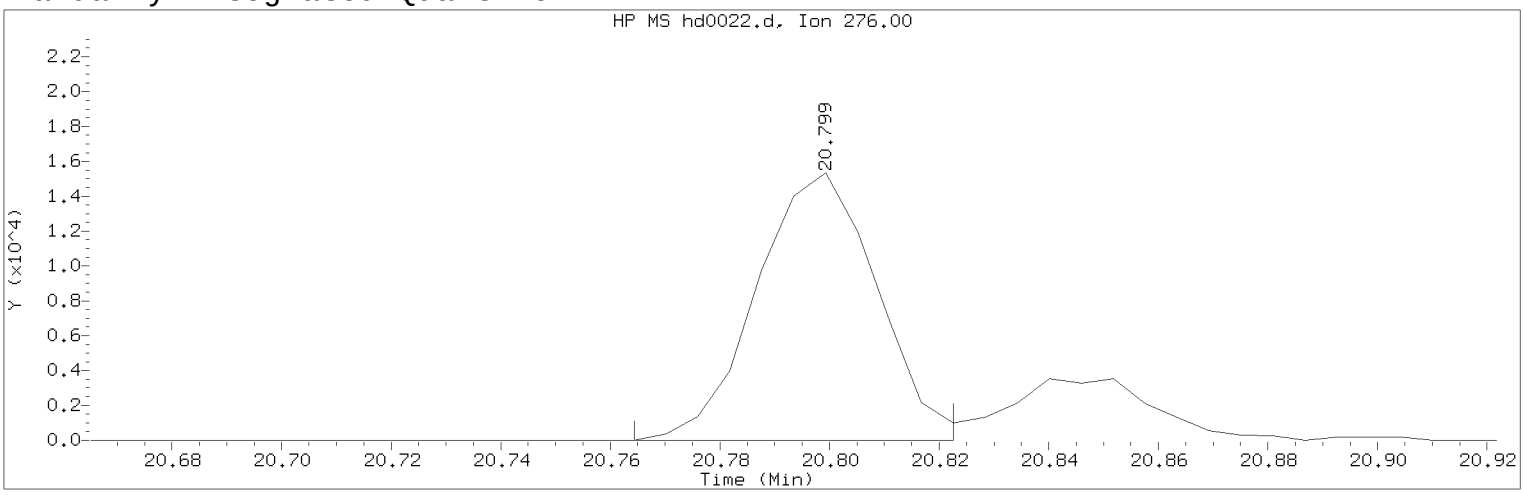
Compound Number : 176
Compound Name : 4-Nitroquinoline-1-oxide
Scan Number : 2214
Retention Time (minutes) : 13.991
Quant Ion : 190.00
Area : 1478
On-column Amount (ng/ul) : 0.0755
Integration start scan : 2209 Integration stop scan: 2218
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0022.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:43 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0668

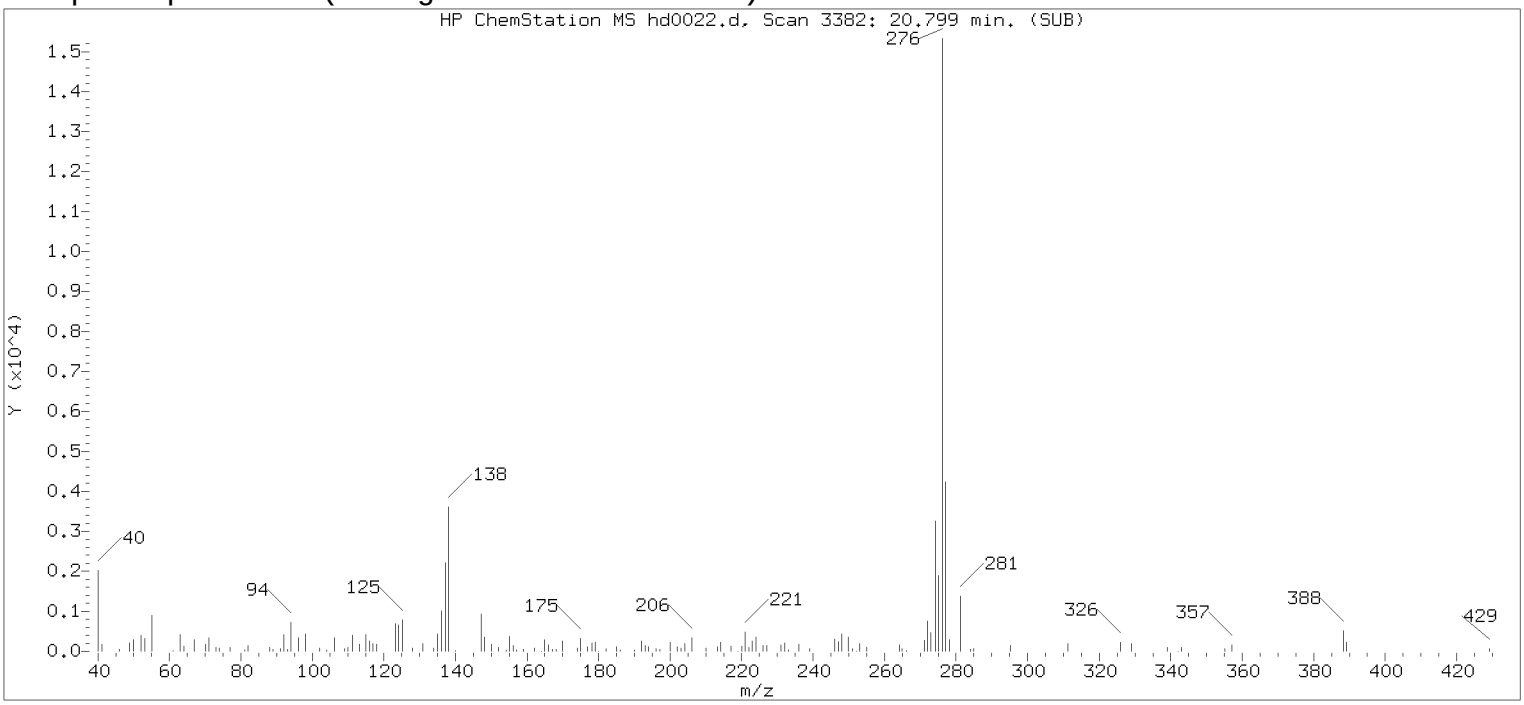
Compound Number : 227
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3382
Retention Time (minutes) : 20.799
Quant Ion : 276.00
Area (flag) : 23376M
On-Column Amount (ng/ul) : 0.1168
Integration start scan : 3375 Integration stop scan: 3385
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

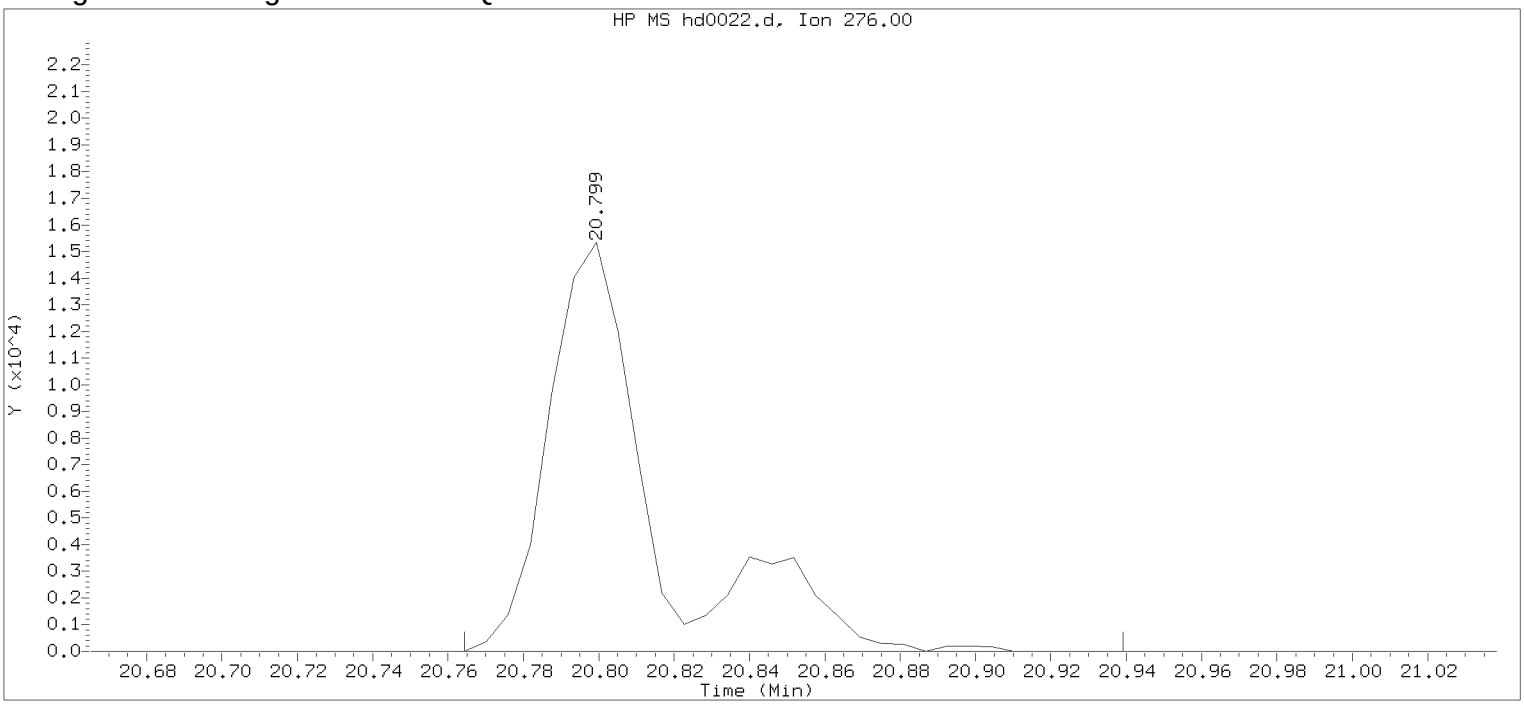
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



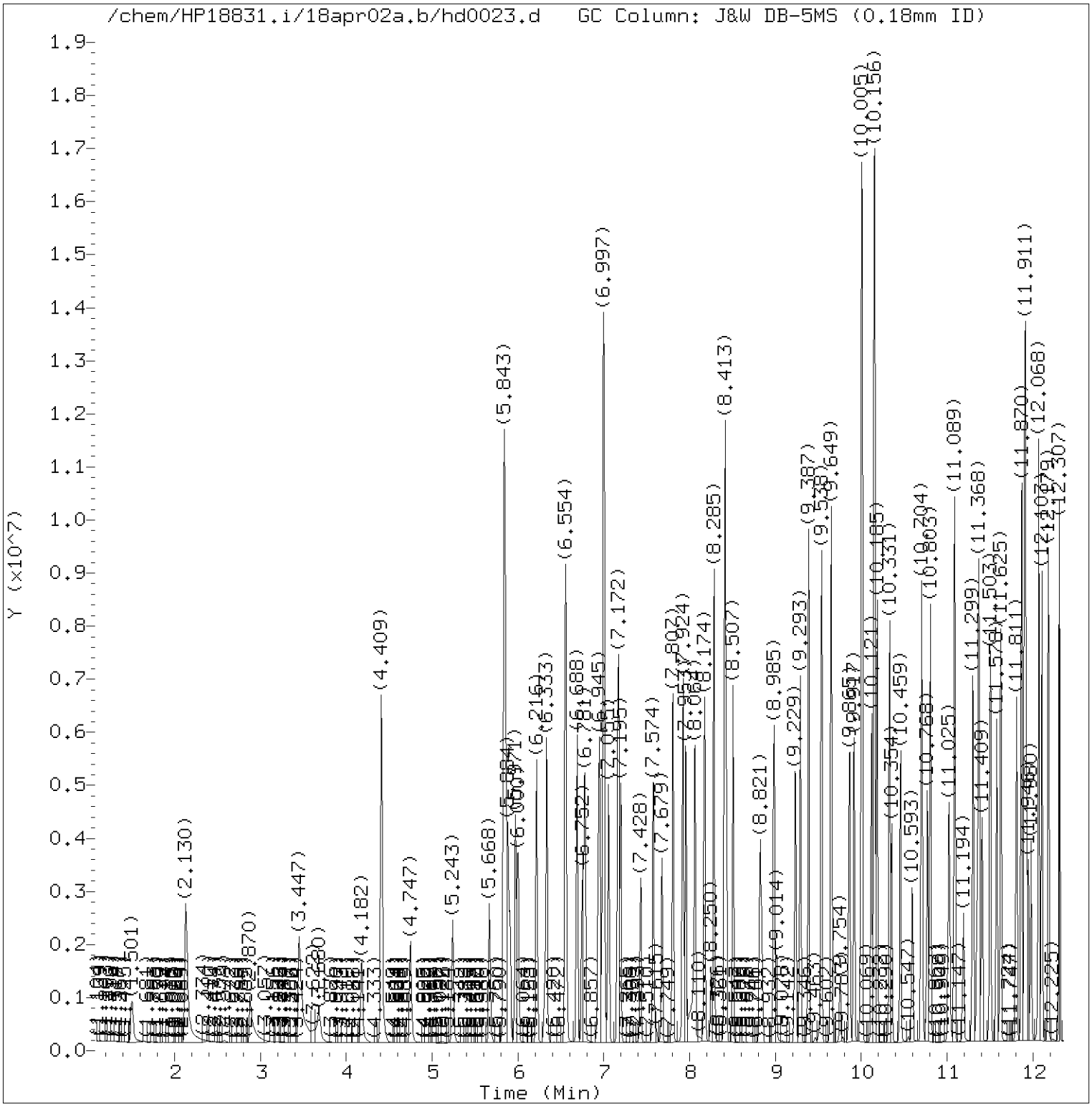
Data File: /chem/HP18831.i/18apr02a.b/hd0022.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 22:43 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 02-APR-2018 23:10
Date, time and analyst ID of latest file update: 02-Apr-2018 23:10 Automation

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0668

Compound Number : 227
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3382
Retention Time (minutes) : 20.799
Quant Ion : 276.00
Area : 29968
On-column Amount (ng/ul) : 0.1450
Integration start scan : 3375 Integration stop scan: 3405
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29.
Target 3.5 esignature user id: bhsmith



Total Ion Chromatogram (TIC)

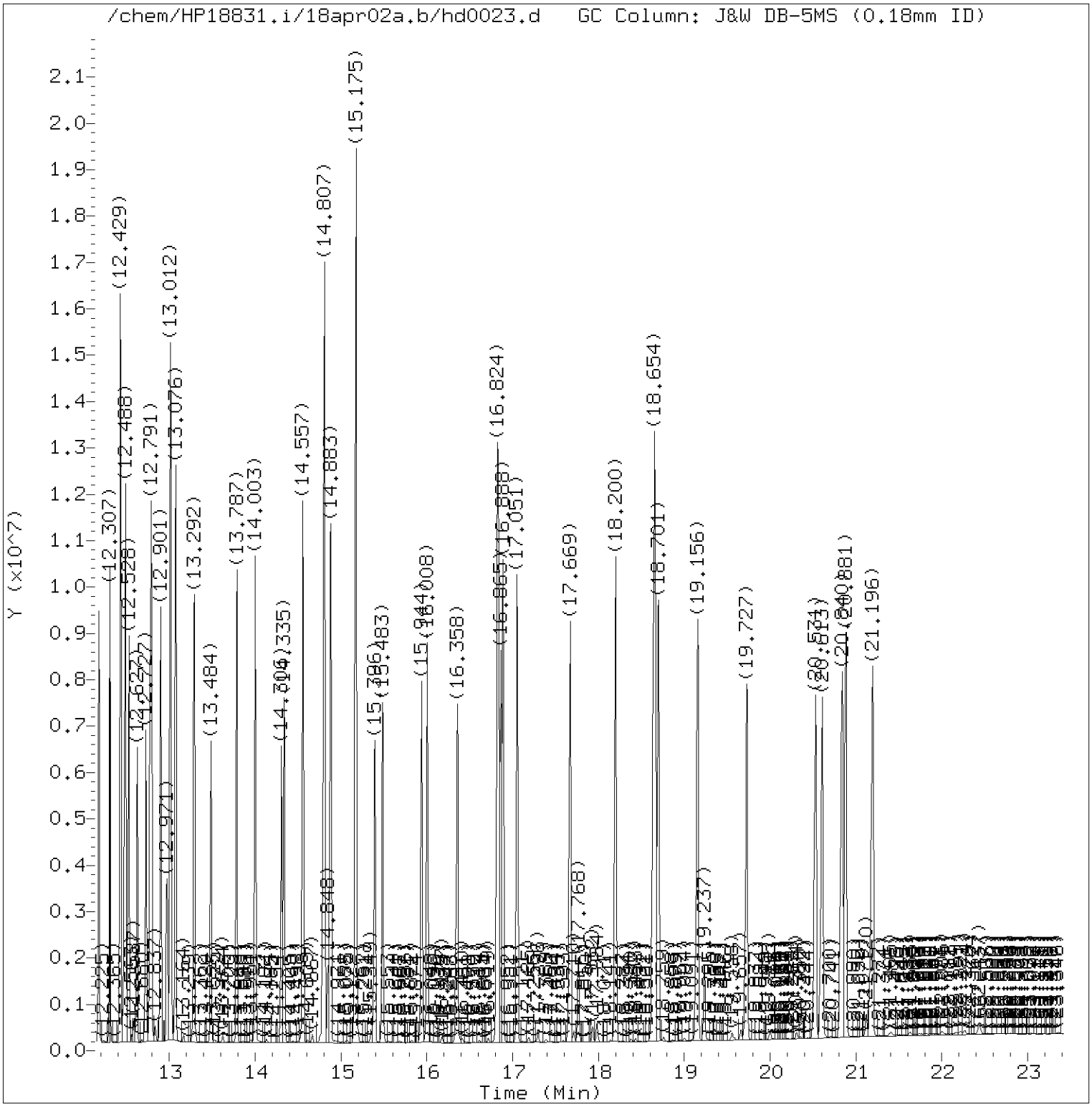
Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0023.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 23:13 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD30 Lab Sample ID: rvSTD0608

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0023.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 23:13 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD30 Lab Sample ID: rvSTD0608

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0023.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 23:13 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD30 Lab Sample ID: rvSTD0608

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
2) 1,4-Dioxane	(1)	1.501	88	723588	30.009
5) N-Nitrosodimethylamine	(1)	2.124	74	1180411	30.308
6) Pyridine	(1)	2.130	79	2007018	30.407
8) 2-Picoline	(1)	3.447	93	2064865	30.593
9) N-Nitrosomethylethylamine	(1)	3.680	88	820321	30.153
10) Methyl methanesulfonate	(1)	4.182	80	1001347	30.310
12)$2-Fluorophenol	(1)	4.409	112	3350019	60.177
14) N-Nitrosodiethylamine	(1)	4.747	102	820971	30.346
16) Ethyl methanesulfonate	(1)	5.243	109	876191	30.068
43) Total Cresols	(1)			3373939	59.344
17) Benzaldehyde	(1)	5.668	77	941913	19.889
20) Aniline	(1)	5.843	93	2895305	29.954
18)$Phenol-d6	(1)	5.843	99	4413407	60.145
19) Phenol	(1)	5.860	94	2512177	30.118
21) a-methylstyrene	(1)	5.907	118	622106	30.510
23) bis(2-Chloroethyl)ether	(1)	5.971	93	1821182	29.883
24) 2-Chlorophenol	(1)	6.000	128	1709850	29.903
25) 1,3-Dichlorobenzene	(1)	6.216	146	1898706	29.934
26)*1,4-Dichlorobenzene-d4	(1)	6.309	152	207564	5.000
27) 1,4-Dichlorobenzene	(1)	6.333	146	1911236	30.032
29) 1,2-Dichlorobenzene	(1)	6.554	146	1812044	29.876
28) Benzyl alcohol	(1)	6.560	108	1058063	30.766
31) Indene	(1)	6.688	115	2597362	30.658
32) 2-Methylphenol	(1)	6.752	108	1585436	29.633
34) 2,2'-oxybis(1-Chloropropane)	(1)	6.781	45	2202538	29.847
35) bis(2-Chloroisopropyl)ether	(1)	6.781	45	2202538	29.847
36) N-Nitrosopyrrolidine	(1)	6.939	100	888969	30.219
37) Acetophenone	(1)	6.950	105	2466896	30.437
39) N-Nitroso-di-n-propylamine	(1)	6.991	70	1341423	29.753
41) o-Toluidine	(1)	6.997	106	2738887	29.511
38) 4-Methylphenol	(1)	7.003	108	1788503	29.712
40) N-Nitrosomorpholine	(1)	7.003	56	992194	29.410
44) Hexachloroethane	(1)	7.055	117	756193	30.042
45)$Nitrobenzene-d5	(2)	7.172	82	3950480	60.382
46) Nitrobenzene	(2)	7.195	77	1952603	30.196
101) Isosafrole	(3)			1517616	29.596
50) N-Nitrosopiperidine	(2)	7.428	114	867735	30.358
52) Isophorone	(2)	7.580	82	3475240	30.065
53) 2-Nitrophenol	(2)	7.679	139	821354	31.169
55) 2,4-Dimethylphenol	(2)	7.807	107	1756297	30.150

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0023.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 23:13 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD30 Lab Sample ID: rvSTD0608

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
57) O,O,O-Triethylphosphorothioate	(2)	7.924	198	870331	29.965
58) bis(2-Chloroethoxy)methane	(2)	7.953	93	2214652	29.952
59) Benzoic acid	(2)	8.040	105	1105370M	33.923
126) 2,4_2,6-Dinitrotoluenes	(3)			1798365	60.943
62) 2,4-Dichlorophenol	(2)	8.064	162	1472889	30.309
64) 1,2,4-Trichlorobenzene	(2)	8.174	180	1612181	30.116
67)*Naphthalene-d8	(2)	8.250	136	761190	5.000
69) Naphthalene	(2)	8.285	128	5019799	31.456
71) 2,6-Dichlorophenol	(2)	8.408	162	1422467	30.188
70) 4-Chloroaniline	(2)	8.413	127	1981161	29.914
72) Hexachloropropene	(2)	8.425	213	1123387	30.089
74) Hexachlorobutadiene	(2)	8.507	225	975150	30.080
152) Diallate trans/cis	(4)			1571334	30.008
78) Quinoline	(2)	8.821	129	3080871	30.111
80) N-Nitrosodi-n-butylamine	(2)	8.985	84	1500187	31.941
79) Caprolactam	(2)	9.014	113	447434	30.008
83) 4-Chloro-3-methylphenol	(2)	9.235	107	1511659	30.333
85) Safrole	(2)	9.293	162	1300005	30.035
86) 2-Methylnaphthalene	(2)	9.387	142	3343886	30.395
87) 1-Methylnaphthalene	(2)	9.538	142	3018900	30.136
88) Hexachlorocyclopentadiene	(3)	9.643	237	975225	28.856
89) 1,2,4,5-Tetrachlorobenzene	(3)	9.655	216	1669931	29.885
92) cis-Isosafrole	(3)	9.754	162	241160	5.063
94) 2,4,6-Trichlorophenol	(3)	9.865	196	1074211	30.089
96) 2,4,5-Trichlorophenol	(3)	9.917	196	1112718	30.066
97)$2-Fluorobiphenyl	(3)	10.005	172	7222754	58.972
98) trans-Isosafrole	(3)	10.121	162	1276456	24.532
99) 1,1'-Biphenyl	(3)	10.150	154	3910798	30.462
100) 2-Chloronaphthalene	(3)	10.156	162	3369787	30.296
102) 1-Chloronaphthalene	(3)	10.185	162	2666624	28.985
104) Diphenyl ether	(3)	10.331	170	2167348	30.012
105) 2-Nitroaniline	(3)	10.354	138	954794	30.655
109) 1,4-Naphthoquinone	(3)	10.459	158	1266939	29.843
110) 1,4-Dinitrobenzene	(3)	10.599	168	464965	31.447
111) Dimethylphthalate	(3)	10.704	163	3540440	29.784
112) 1,3-Dinitrobenzene	(3)	10.710	168	520556	30.929
114) 2,6-Dinitrotoluene	(3)	10.768	165	761295	30.144
115) Acenaphthylene	(3)	10.803	152	4721832	29.734
118) 3-Nitroaniline	(3)	11.025	138	843713	30.494
119)*Acenaphthene-d10	(3)	11.030	164	378480	5.000

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0023.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 23:13 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD30 Lab Sample ID: rvSTD0608

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120) Acenaphthene	(3)	11.089	153	3195135	29.565
121) 2,4-Dinitrophenol	(3)	11.194	184	441910	34.022
123) Pentachlorobenzene	(3)	11.304	250	1447122	29.754
122) 4-Nitrophenol	(3)	11.351	109	519855	30.697
125) Dibenzofuran	(3)	11.368	168	4322287	29.756
124) 2,4-Dinitrotoluene	(3)	11.409	165	1037070	30.799
127) 1-Naphthylamine	(3)	11.503	143	3270034	29.862
128) 2,3,4,6-Tetrachlorophenol	(3)	11.578	232	926808	30.513
129) 2-Naphthylamine	(3)	11.625	143	3124750	29.832
130) Diethylphthalate	(3)	11.811	149	3457958	29.961
132) Fluorene	(3)	11.870	166	3488391	29.333
133) 4-Chlorophenyl-phenylether	(3)	11.905	204	1703577	29.480
131) Thionazin	(3)	11.911	107	664965	29.938
134) 5-Nitro-o-toluidine	(3)	11.922	152	973029	30.540
135) 4-Nitroaniline	(3)	11.946	138	841930	30.355
136) 4,6-Dinitro-2-methylphenol	(4)	11.980	198	583495	33.306
138) NDPA as diphenylamine	(4)	12.068	169	2884082	30.057
137) N-Nitrosodiphenylamine	(4)	12.068	169	2884082	30.057
140) 1,2-Diphenylhydrazine	(4)	12.103	77	3822258	29.783
141)$2,4,6-Tribromophenol	(3)	12.179	330	986916	60.018
143) Tetraethyldithiopyrophosphate	(4)	12.307	97	663482	30.676
146) Diallate (peak 1)	(4)	12.429	86	1347261	24.922
147) Phorate	(4)	12.435	75	3362598	32.806
145) 1,3,5-Trinitrobenzene	(4)	12.435	213	354781	33.207
148) Phenacetin	(4)	12.482	108	1868961	30.428
149) 4-Bromophenyl-phenylether	(4)	12.493	248	1040909	29.607
150) Diallate (peak 2)	(4)	12.517	86	224073	5.085
151) Hexachlorobenzene	(4)	12.528	284	1063910	29.714
153) Dimethoate	(4)	12.627	87	1483972	30.064
154) Atrazine	(4)	12.727	200	849346	28.558
156) Pentachlorophenol	(4)	12.773	266	702688	31.483
158) Pentachloronitrobenzene	(4)	12.785	237	491402	30.663
157) 4-Aminobiphenyl	(4)	12.796	169	3227708	29.224
159) Pronamide	(4)	12.901	173	1727998	30.041
160)*Phenanthrene-d10	(4)	12.983	188	744610	5.000
162) Phenanthrene	(4)	13.012	178	5096832	30.152
161) Dinoseb	(4)	13.024	211	970644	33.345
164) Anthracene	(4)	13.076	178	5270787	30.682
170) Carbazole	(4)	13.292	167	4664035	29.944
171) Methyl parathion	(4)	13.484	109	1184177	31.369

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$ = Compound is a surrogate standard.

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on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0023.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 23:13 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD30 Lab Sample ID: rvSTD0608

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
173) Di-n-butylphthalate	(4)	13.787	149	5983244	29.828
175) Parathion	(4)	14.003	109	780402	31.022
176) 4-Nitroquinoline-1-oxide	(4)	14.003	190	593330	35.719
177) Octachlorostyrene	(4)	14.306	308	428210	30.874
179) Isodrin	(4)	14.335	193	627151	30.251
181) Fluoranthene	(4)	14.557	202	6089974	30.999
182) Benzidine	(5)	14.807	184	10447613	85.039
183)*Pyrene-d10	(5)	14.848	212	804342	5.000
185) Pyrene	(5)	14.883	202	6244948	29.819
230) Total PAHs	(6)			92132315	546.454
187)$Terphenyl-d14	(5)	15.175	244	8111614	58.714
190) p-Dimethylaminoazobenzene	(5)	15.396	225	1060856	30.521
193) Chlorobenzilate	(5)	15.483	139	1832528	30.367
195) 3,3'-Dimethylbenzidine	(5)	15.944	212	3924534	28.802
196) Butylbenzylphthalate	(5)	16.008	149	2737477	30.232
199) 2-Acetylaminofluorene	(5)	16.358	181	2655087	30.906
204) Benzo(a)anthracene	(5)	16.824	228	5983548	31.309
201) 3,3'-Dichlorobenzidine	(5)	16.836	252	2180551	29.770
203) 4,4'-Methylenebis(2-chloroanil	(5)	16.859	231	1272613	30.181
205) Chrysene	(5)	16.888	228	5593471	30.426
207) bis(2-Ethylhexyl)phthalate	(5)	17.051	149	4033932	30.215
211) 6-Methylchrysene	(5)	17.669	242	4048679	30.275
213) Di-n-octylphthalate	(6)	18.200	149	7365524	29.621
214) Benzo(b)fluoranthene	(6)	18.648	252	6281619	30.841
215) 7,12-Dimethylbenz[a]anthracene	(6)	18.654	256	2612185	30.208
216) Benzo(k)fluoranthene	(6)	18.701	252	5659550	29.571
219) Benzo(a)pyrene	(6)	19.156	252	5703707	30.542
221)*Perylene-d12	(6)	19.237	264	833428	5.000
223) 3-Methylcholanthrene	(6)	19.727	268	2862214	29.995
225) Dibenz(a,h)acridine	(6)	20.531	279	5131663	30.134
226) Dibenz(a,j)acridine	(6)	20.613	279	5071363	29.782
227) Indeno(1,2,3-cd)pyrene	(6)	20.840	276	5658364	30.706
228) Dibenz(a,h)anthracene	(6)	20.887	278	5856167	30.650
229) Benzo(g,h,i)perylene	(6)	21.196	276	5905405	30.137

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$ = Compound is a surrogate standard.

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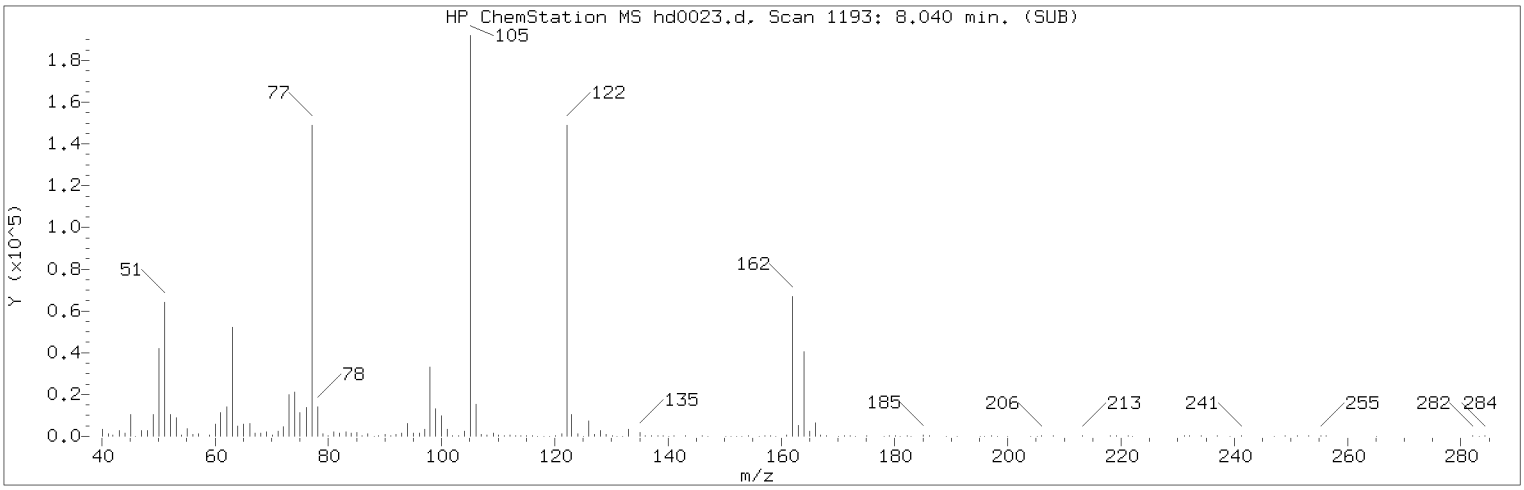
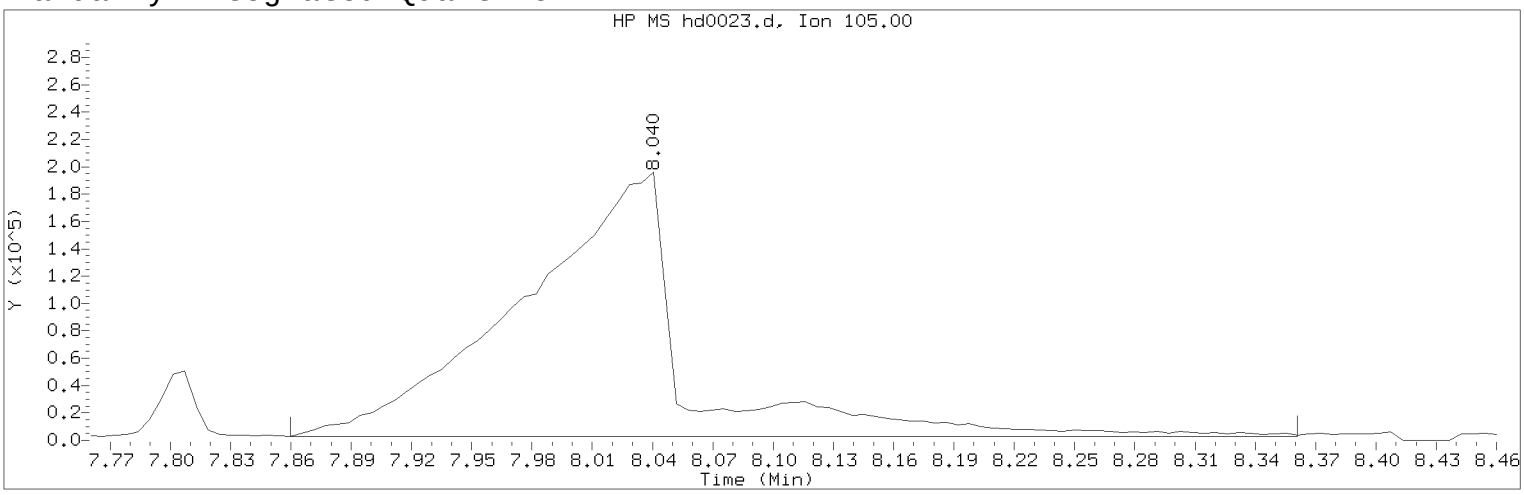
on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0023.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 23:13 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD30 Lab Sample ID: rvSTD0608

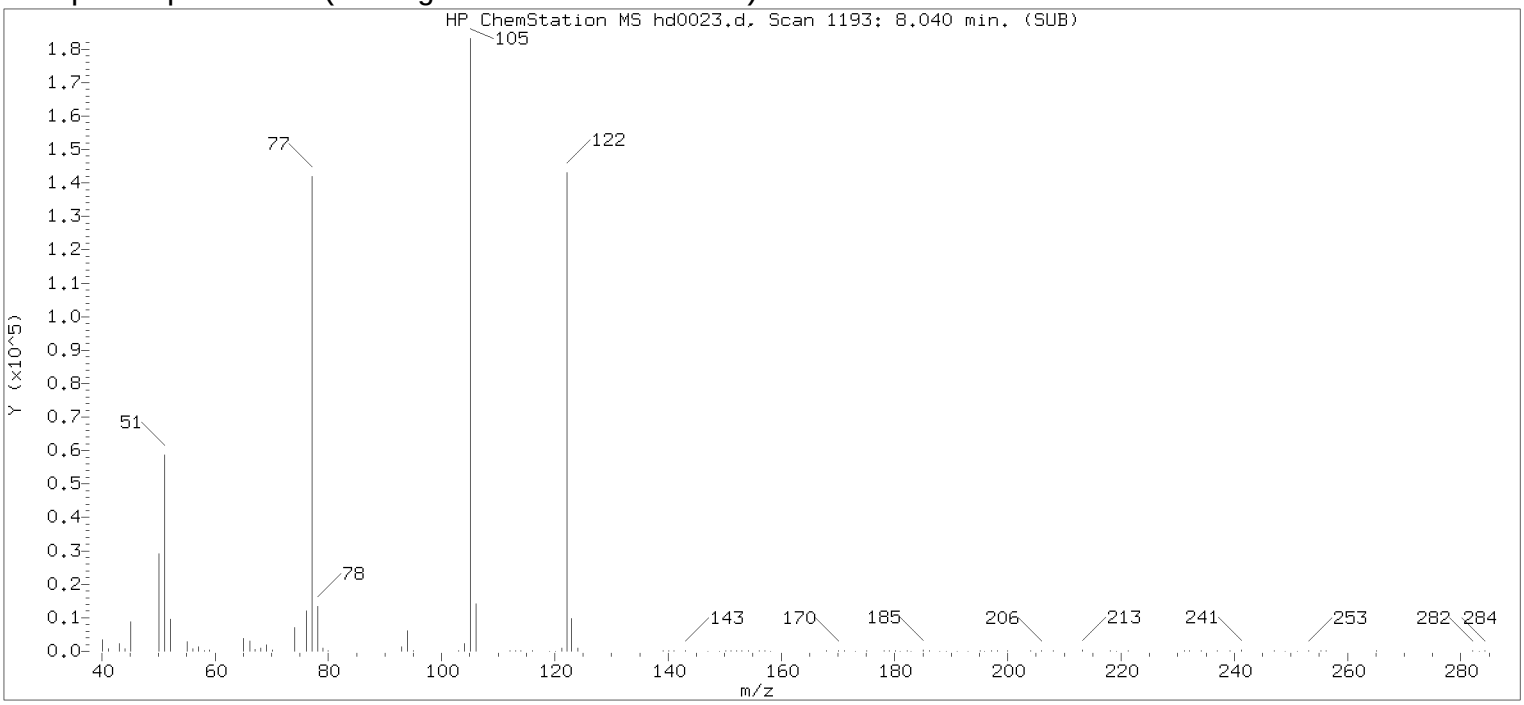
Compound Number : 59
Compound Name : Benzoic acid
Scan Number : 1193
Retention Time (minutes) : 8.040
Quant Ion : 105.00
Area (flag) : 1105370M
On-Column Amount (ng/ul) : 33.9226
Integration start scan : 1161 Integration stop scan: 1247
Y at integration start : 2663 Y at integration end: 2722

Reason for manual integration: improper integration

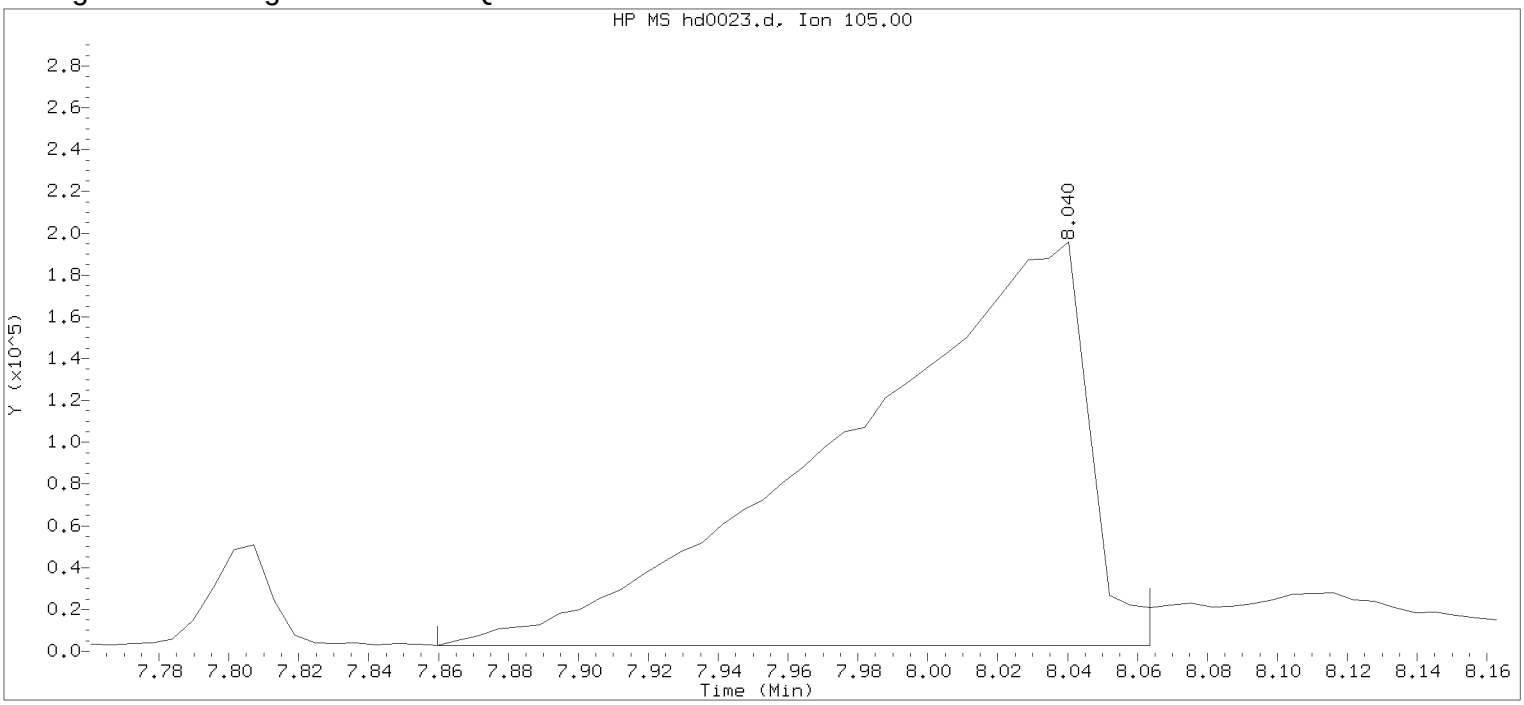
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29. Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0023.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 23:13 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 02-APR-2018 23:40
Date, time and analyst ID of latest file update: 02-Apr-2018 23:40 Automation

Sample Name: SSTD30 Lab Sample ID: rvSTD0608

Compound Number : 59
Compound Name : Benzoic acid
Scan Number : 1193
Retention Time (minutes) : 8.040
Quant Ion : 105.00
Area : 931101
On-column Amount (ng/ul) : 28.2197
Integration start scan : 1161 Integration stop scan: 1196
Y at integration start : 2651 Y at integration end: 2651

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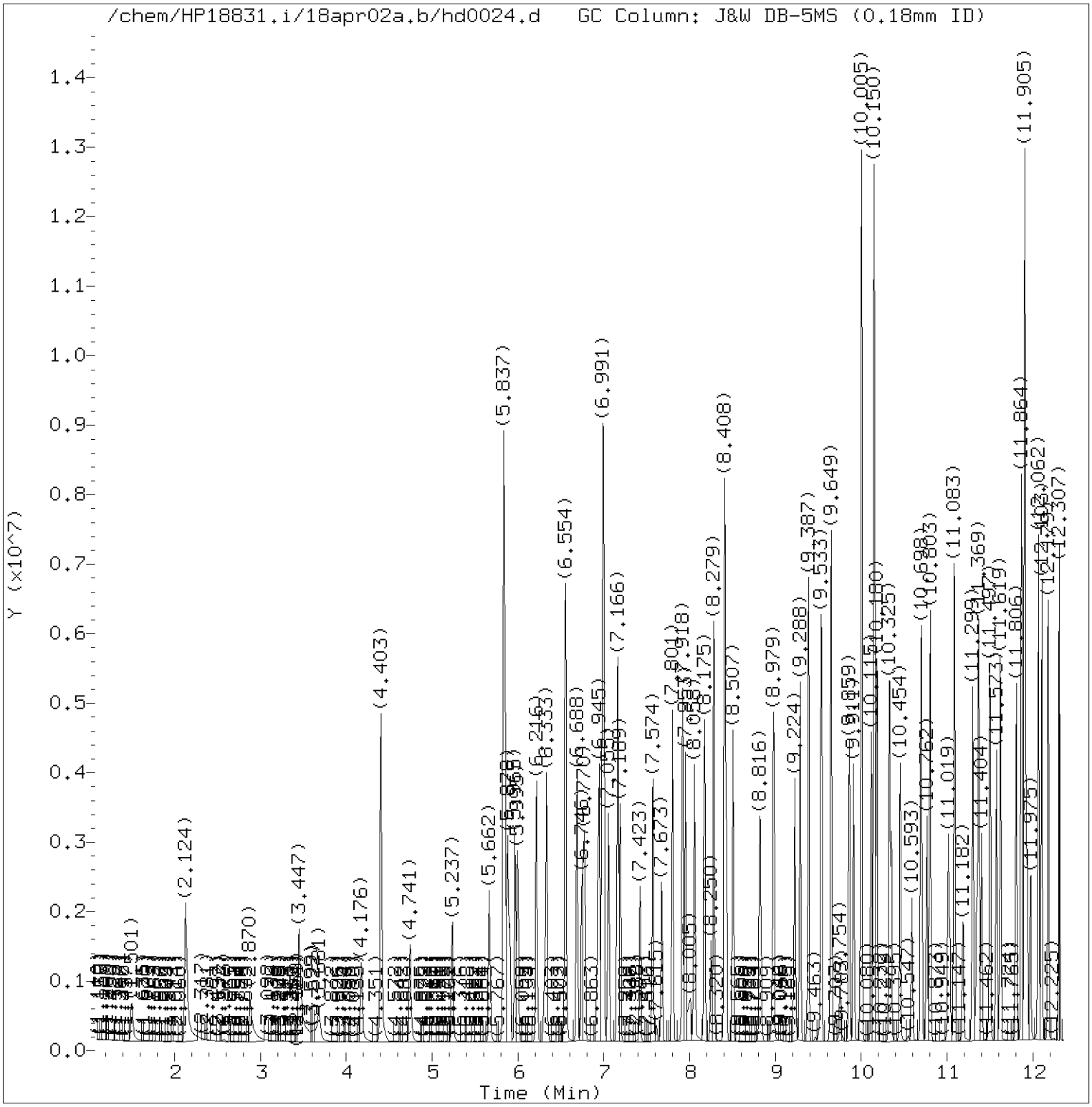
Target 3.5 esignature user id: bhsmith



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0024.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 23:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD20 Lab Sample ID: rvSTD0608

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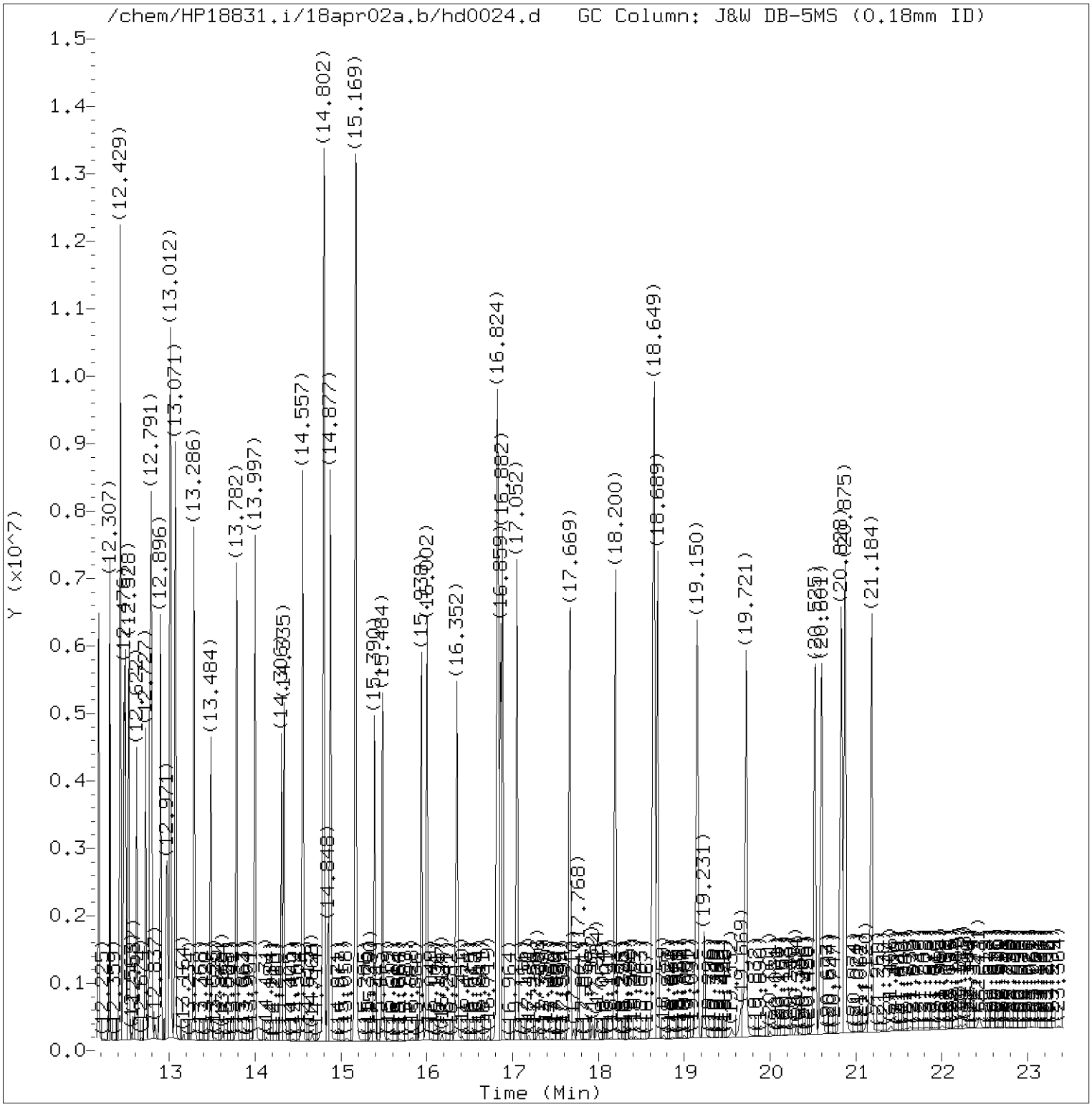
on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0024.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 23:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD20 Lab Sample ID: rvSTD0608

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Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0024.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 23:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD20 Lab Sample ID: rvSTD0608

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
2) 1,4-Dioxane	(1)	1.501	88	484653	19.987
5) N-Nitrosodimethylamine	(1)	2.124	74	803720	20.340
6) Pyridine	(1)	2.124	79	1376726	20.484
8) 2-Picoline	(1)	3.447	93	1410557	20.510
9) N-Nitrosomethylethylamine	(1)	3.681	88	559151	20.286
10) Methyl methanesulfonate	(1)	4.176	80	687747	20.458
12)$2-Fluorophenol	(1)	4.403	112	2315469	40.889
14) N-Nitrosodiethylamine	(1)	4.741	102	565017	20.502
16) Ethyl methanesulfonate	(1)	5.237	109	596584	20.233
43) Total Cresols	(1)			2356737	40.788
17) Benzaldehyde	(1)	5.662	77	782381	18.036
20) Aniline	(1)	5.837	93	1989126	20.303
18)$Phenol-d6	(1)	5.837	99	3030978	40.702
19) Phenol	(1)	5.855	94	1741101	20.494
21) a-methylstyrene	(1)	5.907	118	424797	20.468
23) bis(2-Chloroethyl)ether	(1)	5.965	93	1243436	20.187
24) 2-Chlorophenol	(1)	5.995	128	1183466	20.380
25) 1,3-Dichlorobenzene	(1)	6.216	146	1303378	20.283
26)*1,4-Dichlorobenzene-d4	(1)	6.309	152	208797	5.000
27) 1,4-Dichlorobenzene	(1)	6.333	146	1306081	20.266
29) 1,2-Dichlorobenzene	(1)	6.548	146	1256927	20.397
28) Benzyl alcohol	(1)	6.554	108	714977	20.440
31) Indene	(1)	6.688	115	1752393	20.372
32) 2-Methylphenol	(1)	6.746	108	1100632	20.298
34) 2,2'-oxybis(1-Chloropropane)	(1)	6.776	45	1522827	20.340
35) bis(2-Chloroisopropyl)ether	(1)	6.776	45	1522827	20.340
36) N-Nitrosopyrrolidine	(1)	6.927	100	608348	20.368
37) Acetophenone	(1)	6.945	105	1677891	20.383
39) N-Nitroso-di-n-propylamine	(1)	6.980	70	930553	20.342
40) N-Nitrosomorpholine	(1)	6.991	56	677472	19.975
41) o-Toluidine	(1)	6.997	106	1888816	20.154
38) 4-Methylphenol	(1)	6.997	108	1256105	20.490
44) Hexachloroethane	(1)	7.055	117	512809	20.167
45)$Nitrobenzene-d5	(2)	7.166	82	2745296	41.104
46) Nitrobenzene	(2)	7.189	77	1345473	20.440
101) Isosafrole	(3)			1079464	20.382
50) N-Nitrosopiperidine	(2)	7.423	114	592728	20.394
52) Isophorone	(2)	7.574	82	2387914	20.343
53) 2-Nitrophenol	(2)	7.673	139	567122	20.897
55) 2,4-Dimethylphenol	(2)	7.801	107	1190525	20.199

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$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0024.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 23:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD20 Lab Sample ID: rvSTD0608

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
57) O,O,O-Triethylphosphorothioate	(2)	7.918	198	598260	20.304
58) bis(2-Chloroethoxy)methane	(2)	7.953	93	1533704	20.398
59) Benzoic acid	(2)	8.005	105	711530M	20.810
126) 2,4_2,6-Dinitrotoluenes	(3)			1240543	40.756
62) 2,4-Dichlorophenol	(2)	8.058	162	998767	20.274
64) 1,2,4-Trichlorobenzene	(2)	8.175	180	1106529	20.351
67)*Naphthalene-d8	(2)	8.250	136	766348	5.000
69) Naphthalene	(2)	8.279	128	3450135	21.086
70) 4-Chloroaniline	(2)	8.408	127	1359340	20.256
71) 2,6-Dichlorophenol	(2)	8.408	162	981239	20.451
72) Hexachloropropene	(2)	8.425	213	783000	20.547
74) Hexachlorobutadiene	(2)	8.507	225	677323	20.496
152) Diallate trans/cis	(4)			1083143	20.253
78) Quinoline	(2)	8.816	129	2114621	20.349
80) N-Nitrosodi-n-butylamine	(2)	8.979	84	1124847	22.375
79) Caprolactam	(2)	8.985	113	304066	20.170
83) 4-Chloro-3-methylphenol	(2)	9.224	107	1026356	20.302
85) Safrole	(2)	9.288	162	894975	20.356
86) 2-Methylnaphthalene	(2)	9.387	142	2308233	20.623
87) 1-Methylnaphthalene	(2)	9.533	142	2059241	20.312
88) Hexachlorocyclopentadiene	(3)	9.643	237	699150	20.156
89) 1,2,4,5-Tetrachlorobenzene	(3)	9.655	216	1153737	20.130
92) cis-Isosafrole	(3)	9.754	162	165404	3.398
94) 2,4,6-Trichlorophenol	(3)	9.859	196	743520	20.245
96) 2,4,5-Trichlorophenol	(3)	9.911	196	768821	20.212
97)$2-Fluorobiphenyl	(3)	10.005	172	5041822	40.176
98) trans-Isosafrole	(3)	10.115	162	914060	16.984
99) 1,1'-Biphenyl	(3)	10.150	154	2642380	20.088
100) 2-Chloronaphthalene	(3)	10.150	162	2172555	19.394
102) 1-Chloronaphthalene	(3)	10.180	162	1965348	20.588
104) Diphenyl ether	(3)	10.331	170	1491054	20.130
105) 2-Nitroaniline	(3)	10.349	138	658268	20.443
109) 1,4-Naphthoquinone	(3)	10.454	158	880650	20.192
110) 1,4-Dinitrobenzene	(3)	10.593	168	317133	20.642
111) Dimethylphthalate	(3)	10.692	163	2409517	19.884
112) 1,3-Dinitrobenzene	(3)	10.704	168	358404	20.545
114) 2,6-Dinitrotoluene	(3)	10.762	165	527784	20.292
115) Acenaphthylene	(3)	10.803	152	3246818	19.999
118) 3-Nitroaniline	(3)	11.013	138	566284	20.013
119)*Acenaphthene-d10	(3)	11.031	164	386945	5.000

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0024.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 23:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD20 Lab Sample ID: rvSTD0608

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120) Acenaphthene	(3)	11.083	153	2187400	19.848
121) 2,4-Dinitrophenol	(3)	11.188	184	293130	21.337
123) Pentachlorobenzene	(3)	11.299	250	1007543	20.175
122) 4-Nitrophenol	(3)	11.345	109	353011	20.258
125) Dibenzofuran	(3)	11.369	168	2990804	20.092
124) 2,4-Dinitrotoluene	(3)	11.404	165	712759	20.464
127) 1-Naphthylamine	(3)	11.497	143	2226550	19.925
128) 2,3,4,6-Tetrachlorophenol	(3)	11.573	232	645104	20.510
129) 2-Naphthylamine	(3)	11.619	143	2149102	20.046
130) Diethylphthalate	(3)	11.806	149	2380484	20.116
132) Fluorene	(3)	11.864	166	2433620	20.012
133) 4-Chlorophenyl-phenylether	(3)	11.905	204	1172049	19.892
131) Thionazin	(3)	11.905	107	455731	20.046
134) 5-Nitro-o-toluidine	(3)	11.916	152	664165	20.258
135) 4-Nitroaniline	(3)	11.934	138	579783	20.295
136) 4,6-Dinitro-2-methylphenol	(4)	11.975	198	395294	21.442
138) NDPA as diphenylamine	(4)	12.062	169	1955956	20.064
137) N-Nitrosodiphenylamine	(4)	12.062	169	1955956	20.064
140) 1,2-Diphenylhydrazine	(4)	12.103	77	2614191	20.055
141)$2,4,6-Tribromophenol	(3)	12.179	330	684161	40.461
143) Tetraethyldithiopyrophosphate	(4)	12.307	97	442335	20.108
146) Diallate (peak 1)	(4)	12.424	86	930982	16.850
147) Phorate	(4)	12.429	75	2304351	21.392
145) 1,3,5-Trinitrobenzene	(4)	12.429	213	239710	21.365
148) Phenacetin	(4)	12.476	108	1284193	20.404
149) 4-Bromophenyl-phenylether	(4)	12.494	248	717345	20.077
150) Diallate (peak 2)	(4)	12.517	86	152161	3.403
151) Hexachlorobenzene	(4)	12.528	284	725786	19.988
153) Dimethoate	(4)	12.622	87	1026908	20.337
154) Atrazine	(4)	12.727	200	627473	20.526
156) Pentachlorophenol	(4)	12.773	266	478458	20.742
158) Pentachloronitrobenzene	(4)	12.785	237	335826	20.435
157) 4-Aminobiphenyl	(4)	12.791	169	2316415	20.446
159) Pronamide	(4)	12.896	173	1190343	20.266
160)*Phenanthrene-d10	(4)	12.977	188	755287	5.000
162) Phenanthrene	(4)	13.012	178	3536062	20.464
161) Dinoseb	(4)	13.018	211	660632	21.523
164) Anthracene	(4)	13.071	178	3615801	20.558
170) Carbazole	(4)	13.286	167	3235771	20.318
171) Methyl parathion	(4)	13.484	109	815093	20.840

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0024.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 23:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

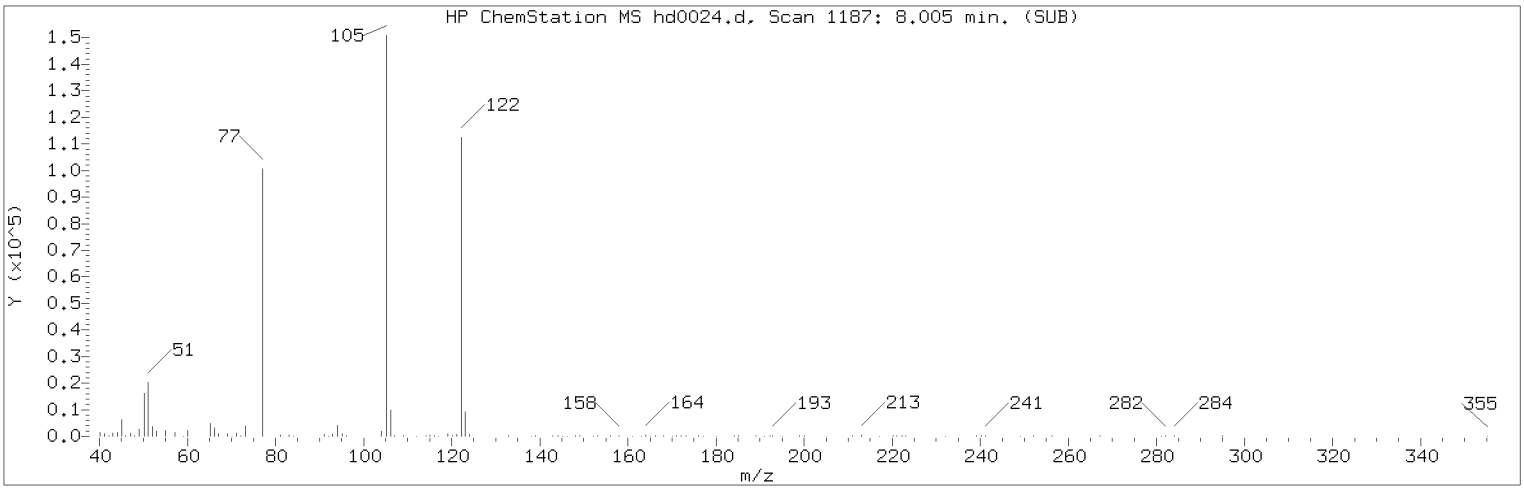
Sample Name: SSTD20 Lab Sample ID: rvSTD0608

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
173) Di-n-butylphthalate	(4)	13.782	149	4136032	20.217
175) Parathion	(4)	13.997	109	533153	20.587
176) 4-Nitroquinoline-1-oxide	(4)	14.003	190	396716	22.232
177) Octachlorostyrene	(4)	14.306	308	284320	20.139
179) Isodrin	(4)	14.335	193	430110	20.300
181) Fluoranthene	(4)	14.557	202	4219337	20.868
182) Benzidine	(5)	14.802	184	7597324	60.626
183)*Pyrene-d10	(5)	14.848	212	816168	5.000
185) Pyrene	(5)	14.877	202	4291096	20.144
230) Total PAHs	(6)			63595136	370.572
187)$Terphenyl-d14	(5)	15.169	244	5691681	40.399
190) p-Dimethylaminoazobenzene	(5)	15.390	225	731847	20.494
193) Chlorobenzilate	(5)	15.484	139	1251648	20.291
195) 3,3'-Dimethylbenzidine	(5)	15.938	212	2749294	19.923
196) Butylbenzylphthalate	(5)	16.002	149	1895563	20.416
199) 2-Acetylaminofluorene	(5)	16.352	181	1786873	20.330
204) Benzo(a)anthracene	(5)	16.818	228	4122284	20.928
201) 3,3'-Dichlorobenzidine	(5)	16.836	252	1492008	20.050
203) 4,4'-Methylenebis(2-chloroanil	(5)	16.859	231	866052	20.160
205) Chrysene	(5)	16.882	228	3900127	20.673
207) bis(2-Ethylhexyl)phthalate	(5)	17.052	149	2793181	20.408
211) 6-Methylchrysene	(5)	17.669	242	2798133	20.409
213) Di-n-octylphthalate	(6)	18.200	149	5089326	20.391
214) Benzo(b)fluoranthene	(6)	18.637	252	4291738	20.887
215) 7,12-Dimethylbenz[a]anthracene	(6)	18.654	256	1791577	20.556
216) Benzo(k)fluoranthene	(6)	18.689	252	3909111	20.410
219) Benzo(a)pyrene	(6)	19.150	252	3923753	20.843
221)*Perylene-d12	(6)	19.231	264	828338	5.000
223) 3-Methylcholanthrene	(6)	19.721	268	1968738	20.499
225) Dibenz(a,h)acridine	(6)	20.525	279	3502732	20.458
226) Dibenz(a,j)acridine	(6)	20.601	279	3474557	20.350
227) Indeno(1,2,3-cd)pyrene	(6)	20.828	276	3974669M	21.250
228) Dibenz(a,h)anthracene	(6)	20.875	278	4086469	21.118
229) Benzo(g,h,i)perylene	(6)	21.184	276	4039242	20.550

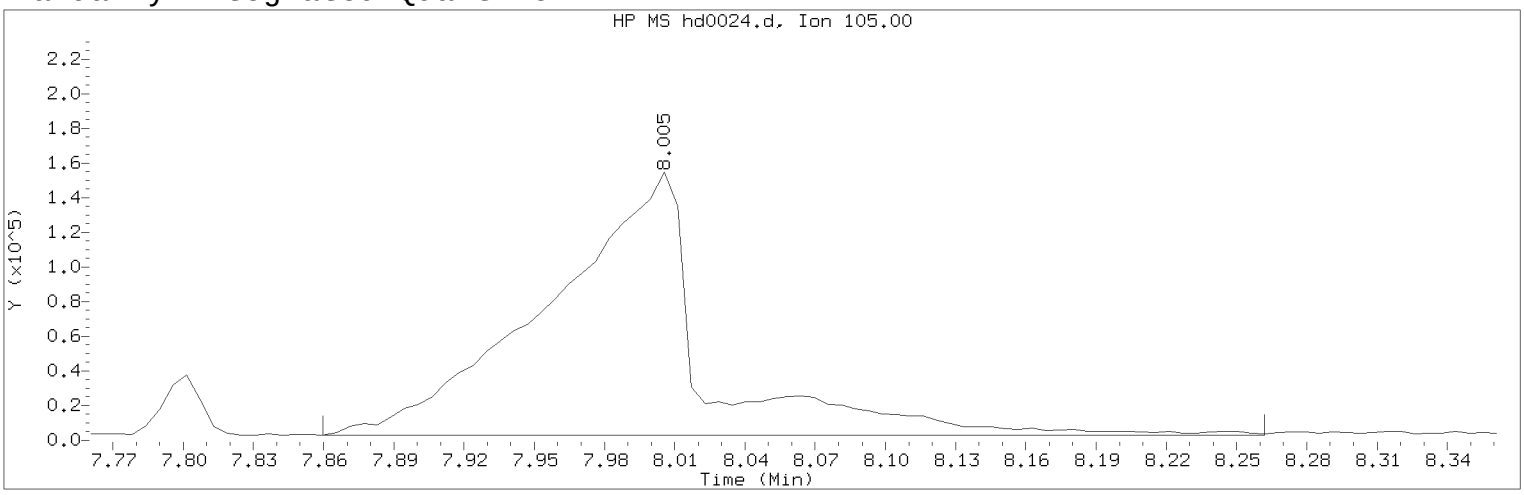
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0024.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 23:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD20 Lab Sample ID: rvSTD0608

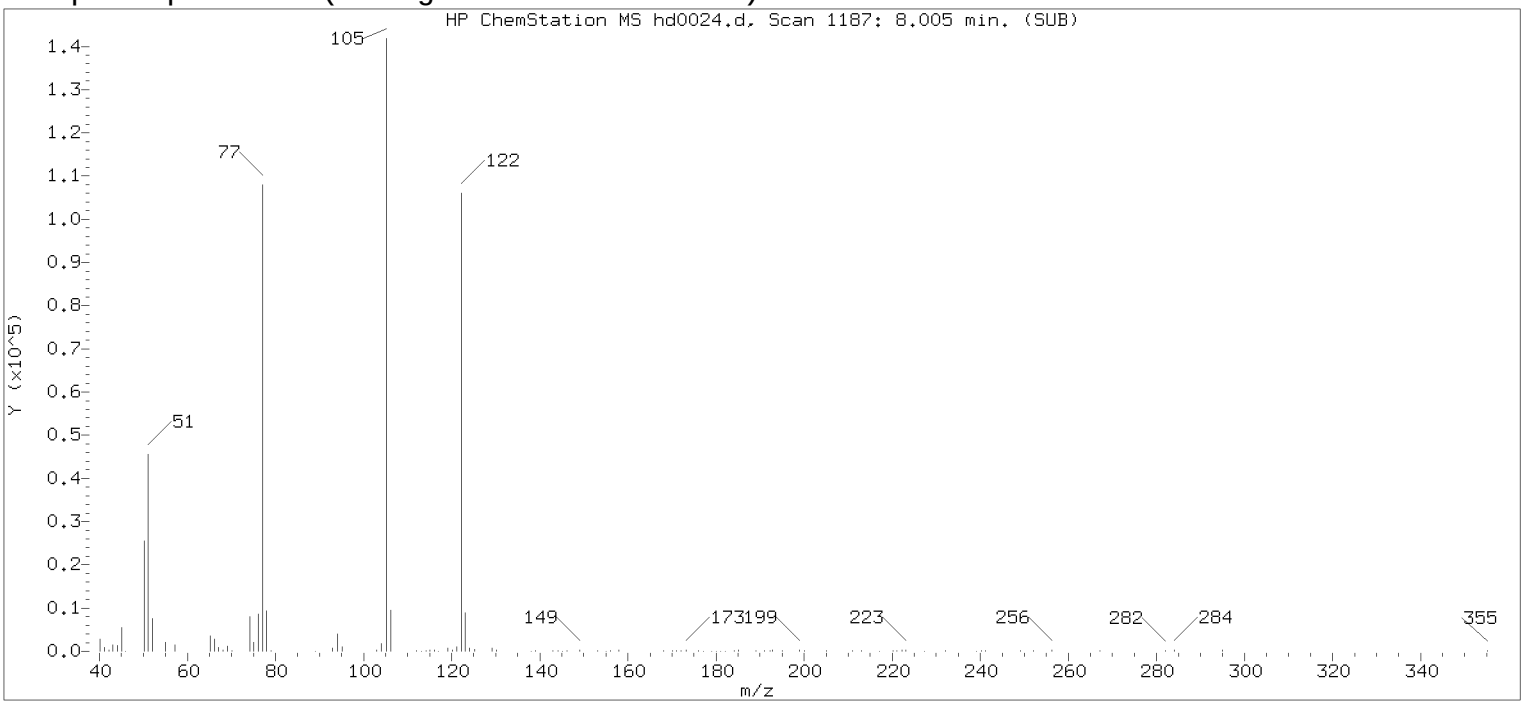
Compound Number : 59
Compound Name : Benzoic acid
Scan Number : 1187
Retention Time (minutes) : 8.005
Quant Ion : 105.00
Area (flag) : 711530M
On-Column Amount (ng/ul) : 20.8103
Integration start scan : 1161 Integration stop scan: 1230
Y at integration start : 2880 Y at integration end: 2880

Reason for manual integration: improper integration

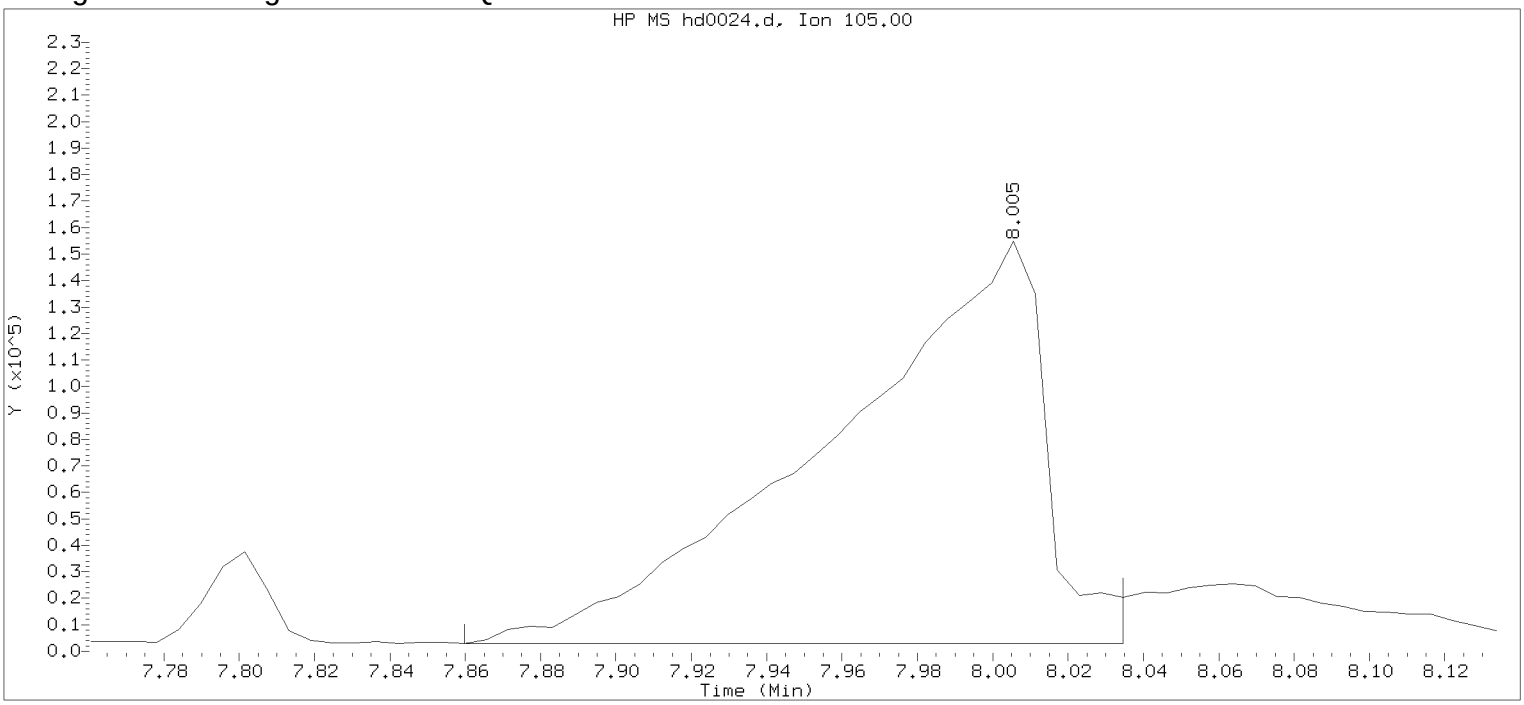
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29. Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0024.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 23:42 Analyst ID: bkc25363

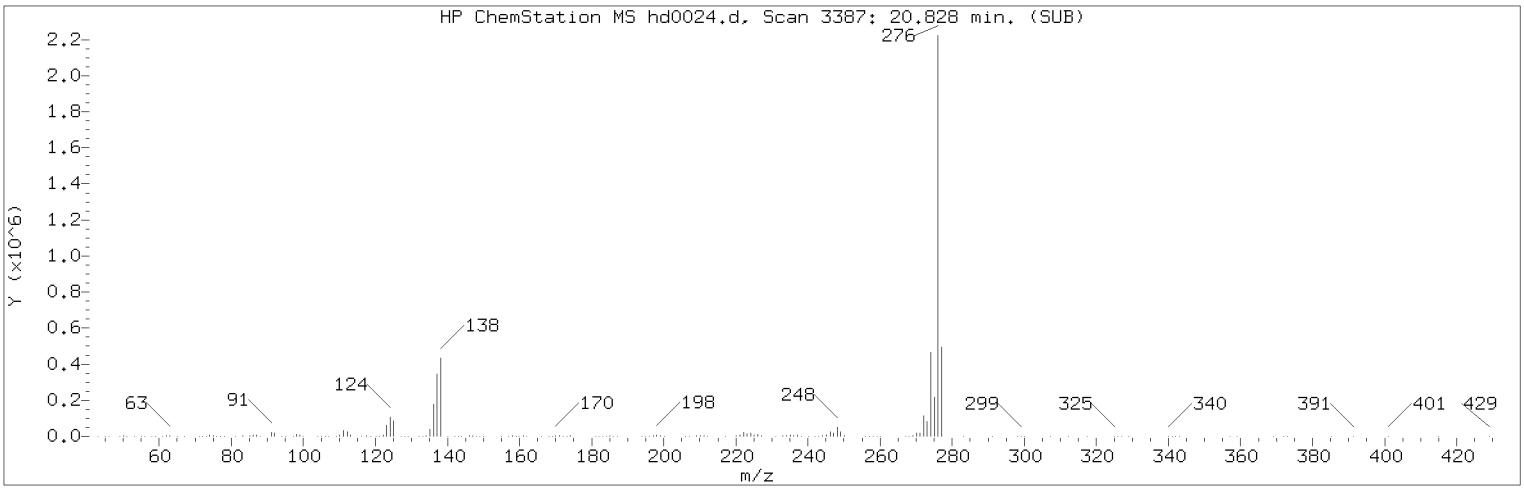
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 00:10
Date, time and analyst ID of latest file update: 03-Apr-2018 00:10 Automation

Sample Name: SSTD20 Lab Sample ID: rvSTD0608

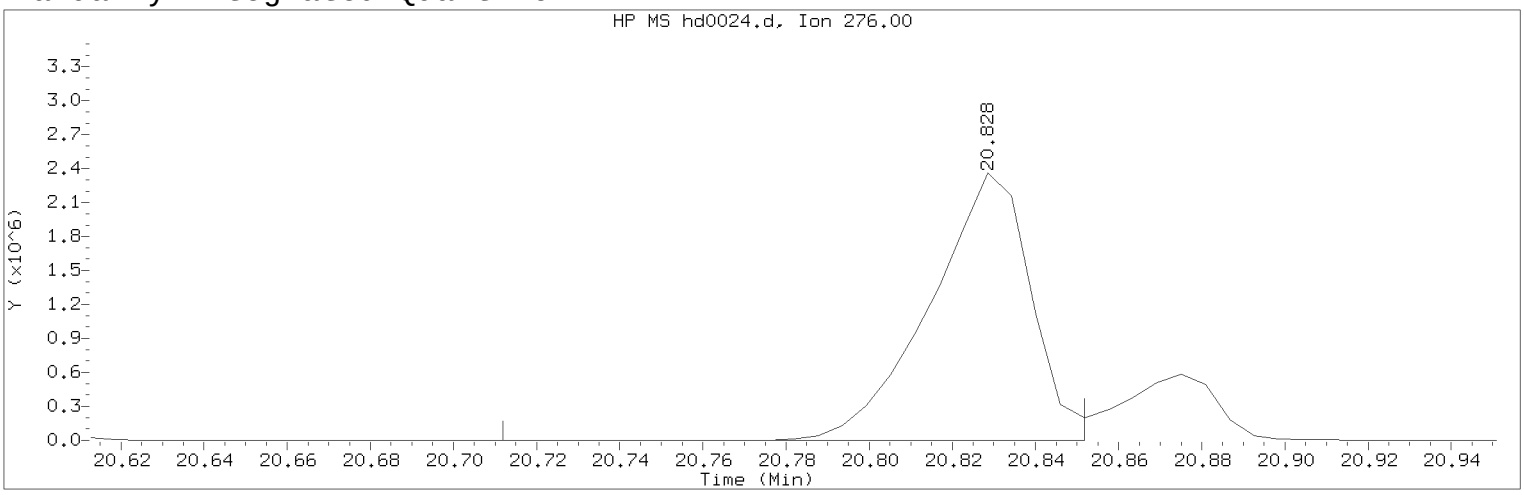
Compound Number : 59
Compound Name : Benzoic acid
Scan Number : 1187
Retention Time (minutes) : 8.005
Quant Ion : 105.00
Area : 599456
On-column Amount (ng/ul) : 18.7352
Integration start scan : 1161 Integration stop scan: 1191
Y at integration start : 2810 Y at integration end: 2810

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0024.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 23:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD20 Lab Sample ID: rvSTD0608

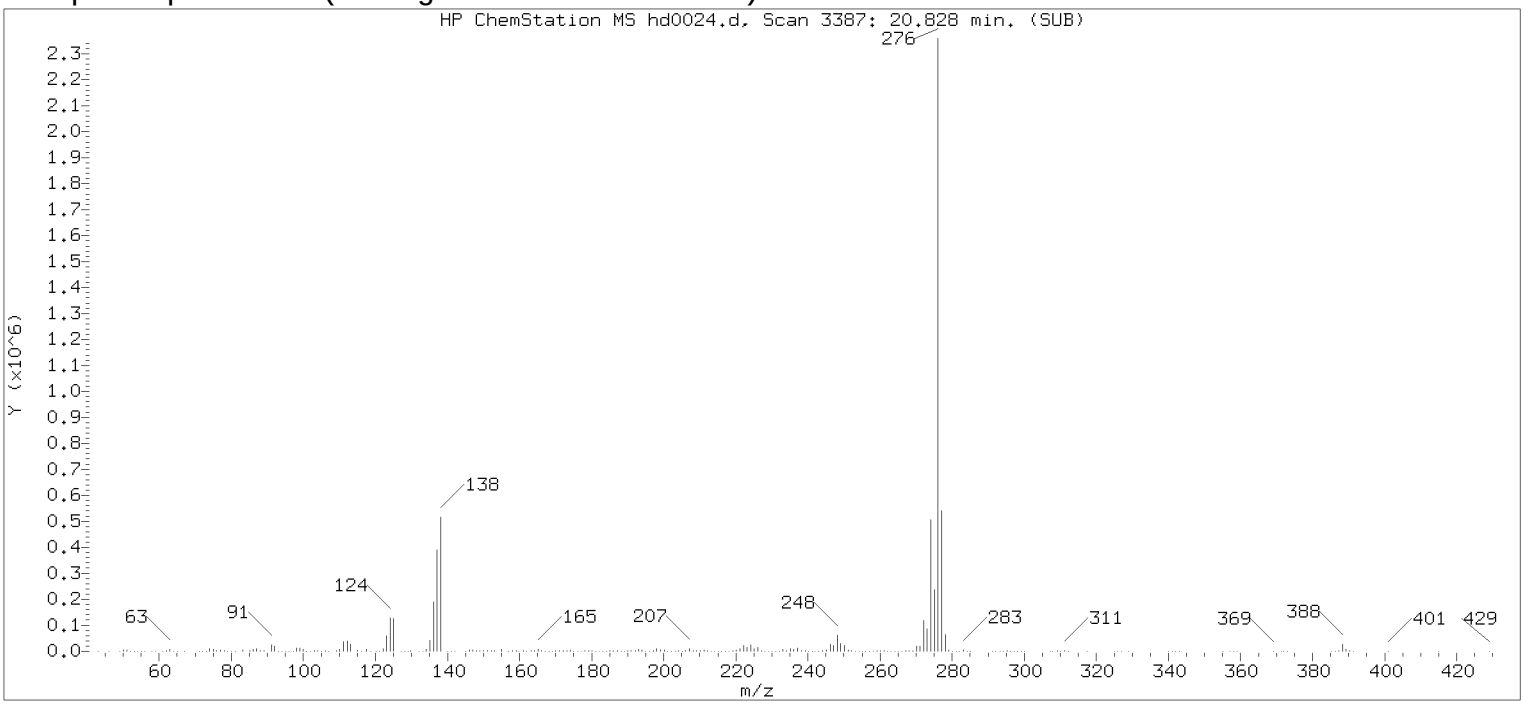
Compound Number : 227
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3387
Retention Time (minutes) : 20.828
Quant Ion : 276.00
Area (flag) : 3974669M
On-Column Amount (ng/ul) : 21.2497
Integration start scan : 3366 Integration stop scan: 3390
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

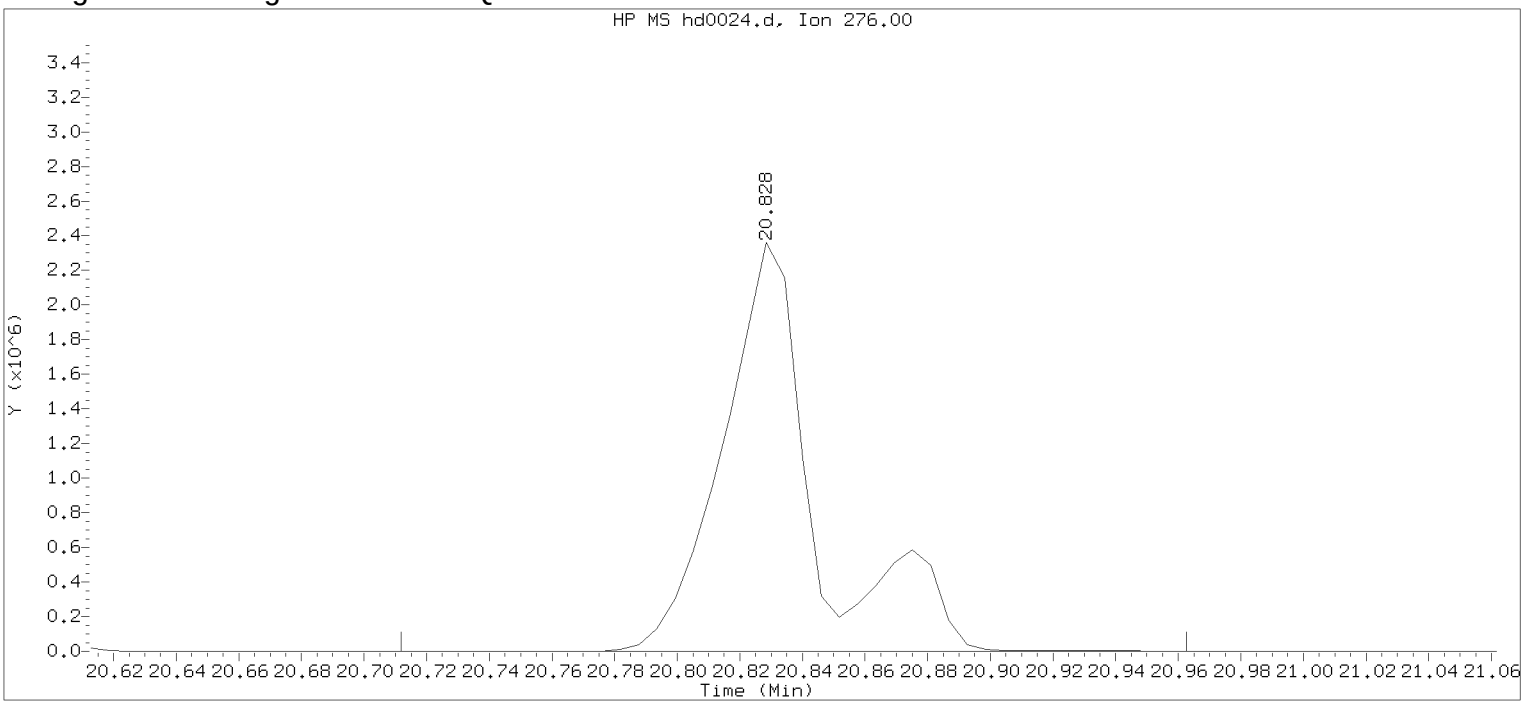
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29. Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



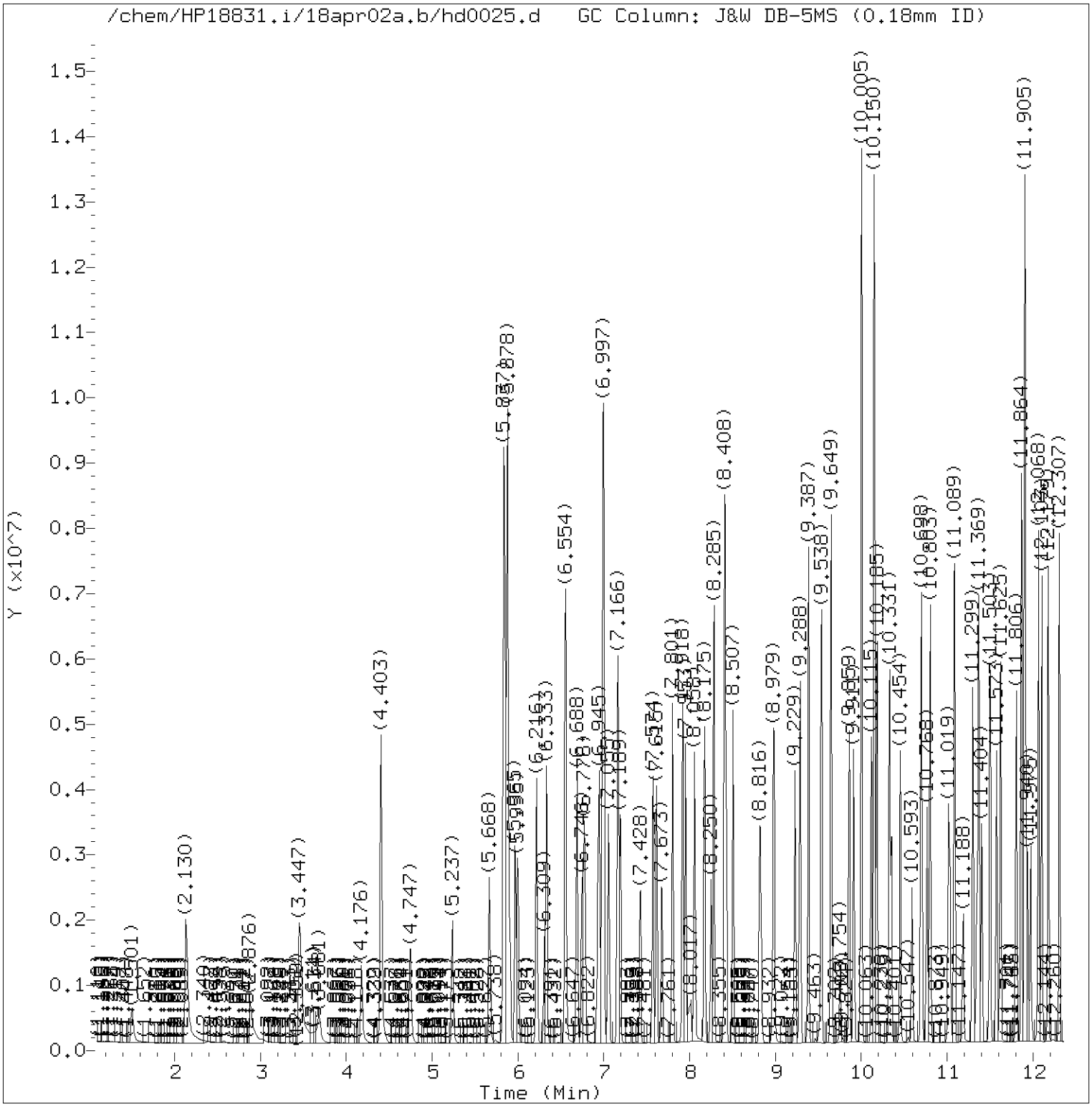
Data File: /chem/HP18831.i/18apr02a.b/hd0024.d Instrument ID: HP18831.i
Injection date and time: 02-APR-2018 23:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 00:10
Date, time and analyst ID of latest file update: 03-Apr-2018 00:10 Automation

Sample Name: SSTD20 Lab Sample ID: rvSTD0608

Compound Number : 227
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3387
Retention Time (minutes) : 20.828
Quant Ion : 276.00
Area : 4846593
On-column Amount (ng/ul) : 25.3083
Integration start scan : 3366 Integration stop scan: 3409
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29.
Target 3.5 esignature user id: bhsmith



Total Ion Chromatogram (TIC)

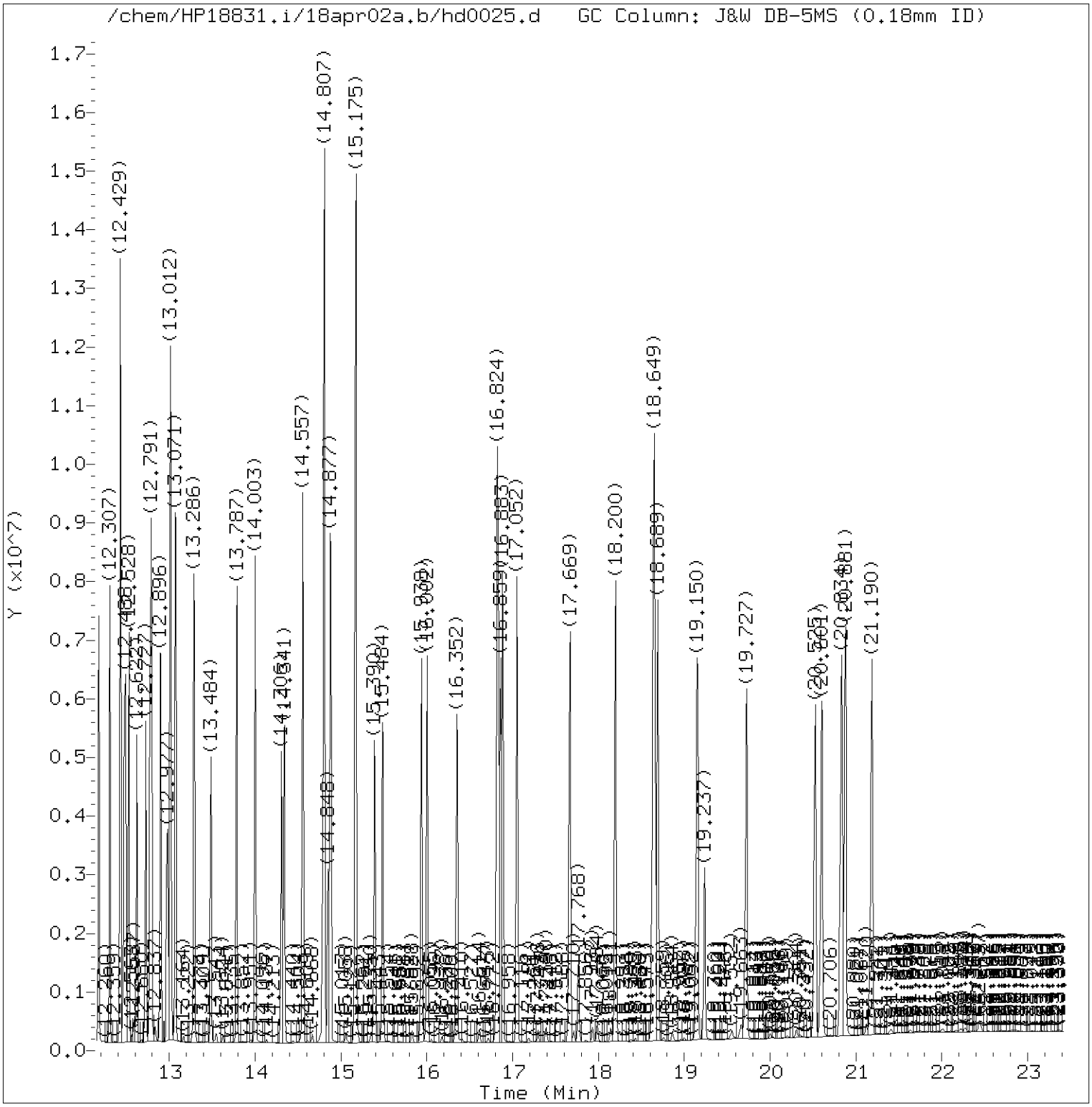
Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0025.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 00:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: rvSTD0608

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0025.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 00:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: rvSTD0608

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0025.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 00:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: rvSTD0608

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
2) 1,4-Dioxane	(1)	1.501	88	517578	12.299
5) N-Nitrosodimethylamine	(1)	2.124	74	882101	12.719
6) Pyridine	(1)	2.130	79	1426482	12.247
8) 2-Picoline	(1)	3.447	93	1499104	12.495
9) N-Nitrosomethylethylamine	(1)	3.681	88	611777M	12.665
10) Methyl methanesulfonate	(1)	4.176	80	736547	12.543
12)$2-Fluorophenol	(1)	4.403	112	2458949	24.915
14) N-Nitrosodiethylamine	(1)	4.747	102	605151	12.563
16) Ethyl methanesulfonate	(1)	5.237	109	652062	12.630
43) Total Cresols	(1)			2535841	25.109
17) Benzaldehyde	(1)	5.668	77	919189	12.261
20) Aniline	(1)	5.837	93	2156770	12.587
18)$Phenol-d6	(1)	5.837	99	3277174	25.166
19) Phenol	(1)	5.855	94	1880899	12.641
21) a-methylstyrene	(1)	5.907	118	483857	13.135
23) bis(2-Chloroethyl)ether	(1)	5.965	93	1333403	12.430
24) 2-Chlorophenol	(1)	5.995	128	1262640	12.471
25) 1,3-Dichlorobenzene	(1)	6.216	146	1398425	12.479
26)*1,4-Dichlorobenzene-d4	(1)	6.309	152	364312	5.000
27) 1,4-Dichlorobenzene	(1)	6.333	146	1401640	12.474
29) 1,2-Dichlorobenzene	(1)	6.548	146	1343549	12.497
28) Benzyl alcohol	(1)	6.560	108	781878	12.732
31) Indene	(1)	6.688	115	1906532	12.651
32) 2-Methylphenol	(1)	6.746	108	1178160	12.464
34) 2,2'-oxybis(1-Chloropropane)	(1)	6.781	45	1633288	12.502
35) bis(2-Chloroisopropyl)ether	(1)	6.781	45	1633288	12.502
36) N-Nitrosopyrrolidine	(1)	6.927	100	664253	12.684
37) Acetophenone	(1)	6.945	105	1803188	12.541
39) N-Nitroso-di-n-propylamine	(1)	6.980	70	1008600	12.602
41) o-Toluidine	(1)	6.997	106	2051558	12.534
40) N-Nitrosomorpholine	(1)	6.997	56	743491	12.548
38) 4-Methylphenol	(1)	6.997	108	1357681	12.644
44) Hexachloroethane	(1)	7.055	117	555920	12.523
45)$Nitrobenzene-d5	(2)	7.166	82	2959359	25.005
46) Nitrobenzene	(2)	7.189	77	1457921	12.500
101) Isosafrole	(3)			1181249	12.550
50) N-Nitrosopiperidine	(2)	7.428	114	649800	12.589
52) Isophorone	(2)	7.574	82	2613056	12.548
53) 2-Nitrophenol	(2)	7.679	139	614135	12.703
55) 2,4-Dimethylphenol	(2)	7.801	107	1311555	12.544

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0025.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 00:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: rvSTD0608

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
57) O,O,O-Triethylphosphorothioate	(2)	7.918	198	651216	12.480
58) bis(2-Chloroethoxy)methane	(2)	7.953	93	1682138	12.595
59) Benzoic acid	(2)	8.017	105	771373	12.654
126) 2,4_2,6-Dinitrotoluenes	(3)			1366220	25.200
62) 2,4-Dichlorophenol	(2)	8.058	162	1107748	12.643
64) 1,2,4-Trichlorobenzene	(2)	8.175	180	1193099	12.413
67)*Naphthalene-d8	(2)	8.250	136	1357837	5.000
69) Naphthalene	(2)	8.285	128	3722608	12.771
70) 4-Chloroaniline	(2)	8.408	127	1489085	12.518
71) 2,6-Dichlorophenol	(2)	8.408	162	1076585	12.622
72) Hexachloropropene	(2)	8.425	213	841426	12.471
74) Hexachlorobutadiene	(2)	8.507	225	730298	12.479
152) Diallate trans/cis	(4)			1191817	12.281
78) Quinoline	(2)	8.816	129	2321657	12.582
80) N-Nitrosodi-n-butylamine	(2)	8.979	84	1229813	13.455
79) Caprolactam	(2)	8.991	113	329832	12.386
83) 4-Chloro-3-methylphenol	(2)	9.229	107	1126517	12.557
85) Safrole	(2)	9.288	162	979133	12.552
86) 2-Methylnaphthalene	(2)	9.387	142	2512319	12.635
87) 1-Methylnaphthalene	(2)	9.538	142	2259049	12.561
88) Hexachlorocyclopentadiene	(3)	9.643	237	769484	12.499
89) 1,2,4,5-Tetrachlorobenzene	(3)	9.655	216	1263984	12.444
92) cis-Isosafrole	(3)	9.754	162	182072	2.112
94) 2,4,6-Trichlorophenol	(3)	9.859	196	817844	12.535
96) 2,4,5-Trichlorophenol	(3)	9.911	196	842506	12.484
97)$2-Fluorobiphenyl	(3)	10.005	172	5513780	24.815
98) trans-Isosafrole	(3)	10.115	162	999177	10.439
99) 1,1'-Biphenyl	(3)	10.150	154	2894966	12.425
100) 2-Chloronaphthalene	(3)	10.156	162	2332476	11.915
102) 1-Chloronaphthalene	(3)	10.185	162	2192048	12.825
104) Diphenyl ether	(3)	10.331	170	1623774	12.388
105) 2-Nitroaniline	(3)	10.354	138	732560	12.737
109) 1,4-Naphthoquinone	(3)	10.454	158	960173	12.428
110) 1,4-Dinitrobenzene	(3)	10.593	168	358318	12.974
111) Dimethylphthalate	(3)	10.698	163	2678801	12.466
112) 1,3-Dinitrobenzene	(3)	10.710	168	404197	12.911
114) 2,6-Dinitrotoluene	(3)	10.768	165	577388	12.505
115) Acenaphthylene	(3)	10.803	152	3575591	12.427
118) 3-Nitroaniline	(3)	11.019	138	643098	12.727
119)*Acenaphthene-d10	(3)	11.031	164	686788	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0025.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 00:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: rvSTD0608

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120) Acenaphthene	(3)	11.089	153	2423000	12.409
121) 2,4-Dinitrophenol	(3)	11.188	184	336528	13.451
123) Pentachlorobenzene	(3)	11.299	250	1100438	12.436
122) 4-Nitrophenol	(3)	11.345	109	392455	12.641
125) Dibenzofuran	(3)	11.369	168	3296999	12.484
124) 2,4-Dinitrotoluene	(3)	11.404	165	788832	12.694
127) 1-Naphthylamine	(3)	11.503	143	2469457	12.463
128) 2,3,4,6-Tetrachlorophenol	(3)	11.578	232	703223	12.572
129) 2-Naphthylamine	(3)	11.625	143	2391019	12.549
130) Diethylphthalate	(3)	11.806	149	2649665	12.586
132) Fluorene	(3)	11.864	166	2681149	12.437
133) 4-Chlorophenyl-phenylether	(3)	11.905	204	1299119	12.442
131) Thionazin	(3)	11.905	107	500543	12.428
134) 5-Nitro-o-toluidine	(3)	11.916	152	738977	12.649
135) 4-Nitroaniline	(3)	11.940	138	637625	12.557
136) 4,6-Dinitro-2-methylphenol	(4)	11.975	198	441528	12.956
138) NDPA as diphenylamine	(4)	12.068	169	2169724	12.265
137) N-Nitrosodiphenylamine	(4)	12.068	169	2169724	12.265
140) 1,2-Diphenylhydrazine	(4)	12.103	77	2884710	12.212
141)$2,4,6-Tribromophenol	(3)	12.179	330	757240	25.173
143) Tetraethyldithiopyrophosphate	(4)	12.307	97	493082	12.330
146) Diallate (peak 1)	(4)	12.424	86	1021980	10.190
145) 1,3,5-Trinitrobenzene	(4)	12.429	213	268984	12.966
147) Phorate	(4)	12.435	75	2541026	12.811
148) Phenacetin	(4)	12.476	108	1420727	12.396
149) 4-Bromophenyl-phenylether	(4)	12.494	248	790613	12.211
150) Diallate (peak 2)	(4)	12.517	86	169837	2.091
151) Hexachlorobenzene	(4)	12.528	284	805756	12.220
153) Dimethoate	(4)	12.622	87	1130531	12.320
154) Atrazine	(4)	12.727	200	683614	12.309
156) Pentachlorophenol	(4)	12.773	266	519935	12.382
158) Pentachloronitrobenzene	(4)	12.785	237	371325	12.405
157) 4-Aminobiphenyl	(4)	12.797	169	2520420	12.261
159) Pronamide	(4)	12.902	173	1328351	12.413
160)*Phenanthrene-d10	(4)	12.983	188	1379211	5.000
162) Phenanthrene	(4)	13.012	178	3895170	12.375
161) Dinoseb	(4)	13.018	211	753526	13.195
164) Anthracene	(4)	13.076	178	4026855	12.530
170) Carbazole	(4)	13.286	167	3582318	12.363
171) Methyl parathion	(4)	13.484	109	906351	12.642

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0025.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 00:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

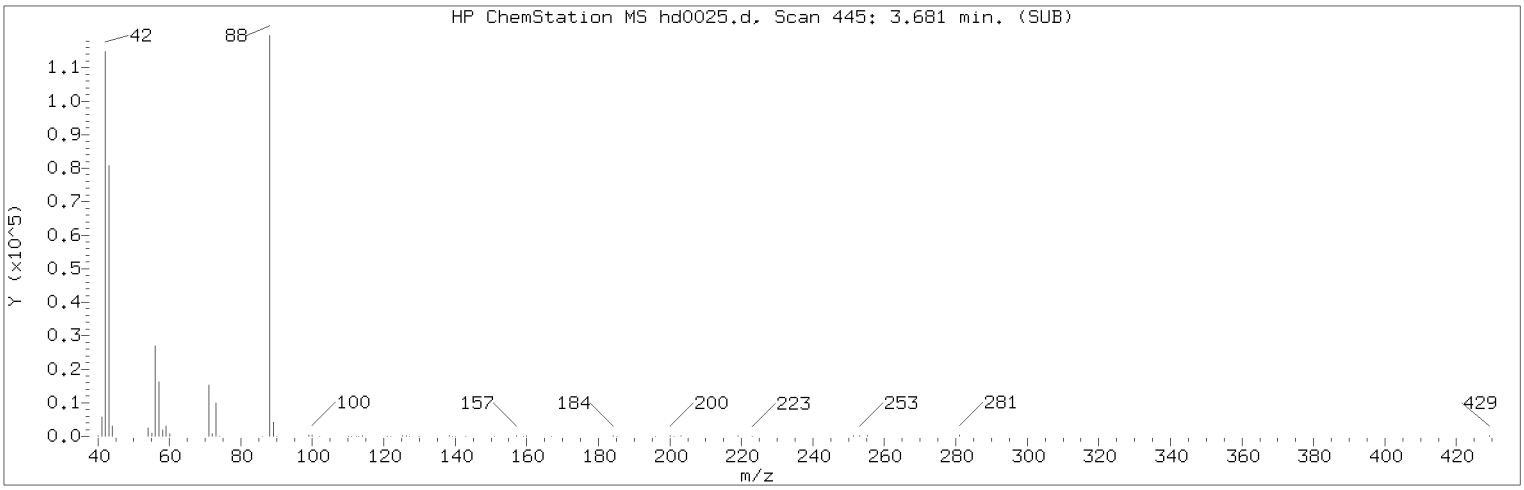
Sample Name: SSTD12.5 Lab Sample ID: rvSTD0608

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
173) Di-n-butylphthalate	(4)	13.787	149	4587370	12.334
175) Parathion	(4)	14.003	109	594223	12.549
176) 4-Nitroquinoline-1-oxide	(4)	14.003	190	445555	13.360
177) Octachlorostyrene	(4)	14.306	308	320022	12.435
179) Isodrin	(4)	14.341	193	477398	12.379
181) Fluoranthene	(4)	14.557	202	4695941	12.674
182) Benzidine	(5)	14.807	184	8476451	37.456
183)*Pyrene-d10	(5)	14.848	212	1474489	5.000
185) Pyrene	(5)	14.883	202	4767901	12.411
230) Total PAHs	(6)			69280474	226.381
187)$Terphenyl-d14	(5)	15.175	244	6296536	24.803
190) p-Dimethylaminoazobenzene	(5)	15.396	225	808494	12.524
193) Chlorobenzilate	(5)	15.484	139	1390230	12.482
195) 3,3'-Dimethylbenzidine	(5)	15.938	212	3111860	12.487
196) Butylbenzylphthalate	(5)	16.002	149	2067314	12.368
199) 2-Acetylaminofluorene	(5)	16.352	181	1944491	12.308
204) Benzo(a)anthracene	(5)	16.818	228	4579643	12.794
201) 3,3'-Dichlorobenzidine	(5)	16.836	252	1649847	12.328
203) 4,4'-Methylenebis(2-chloroanil	(5)	16.859	231	953516	12.339
205) Chrysene	(5)	16.883	228	4234557	12.439
207) bis(2-Ethylhexyl)phthalate	(5)	17.052	149	3053880	12.388
211) 6-Methylchrysene	(5)	17.669	242	3044433	12.343
213) Di-n-octylphthalate	(6)	18.200	149	5499141	12.534
214) Benzo(b)fluoranthene	(6)	18.643	252	4579784	12.652
215) 7,12-Dimethylbenz[a]anthracene	(6)	18.654	256	1912530	12.496
216) Benzo(k)fluoranthene	(6)	18.689	252	4268653	12.652
219) Benzo(a)pyrene	(6)	19.150	252	4194124	12.648
221)*Perylene-d12	(6)	19.237	264	1454767	5.000
223) 3-Methylcholanthrene	(6)	19.727	268	2102596	12.474
225) Dibenz(a,h)acridine	(6)	20.525	279	3737893	12.448
226) Dibenz(a,j)acridine	(6)	20.601	279	3730652	12.456
227) Indeno(1,2,3-cd)pyrene	(6)	20.834	276	4211451M	12.755
228) Dibenz(a,h)anthracene	(6)	20.881	278	4325987	12.683
229) Benzo(g,h,i)perylene	(6)	21.190	276	4326692	12.527

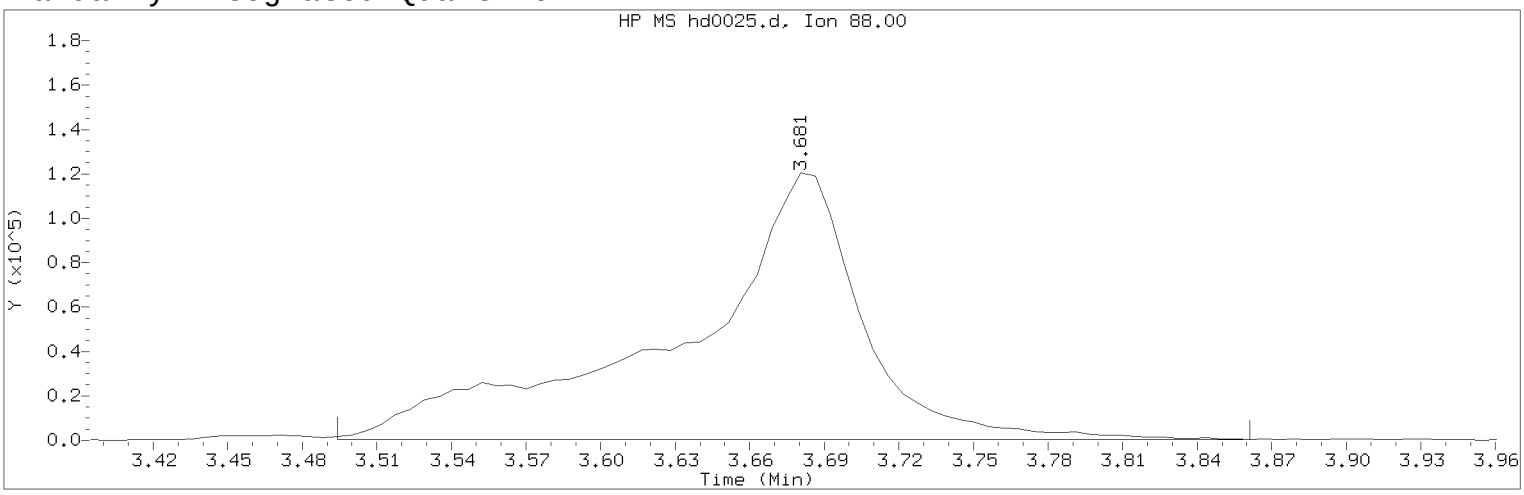
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0025.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 00:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: rvSTD0608

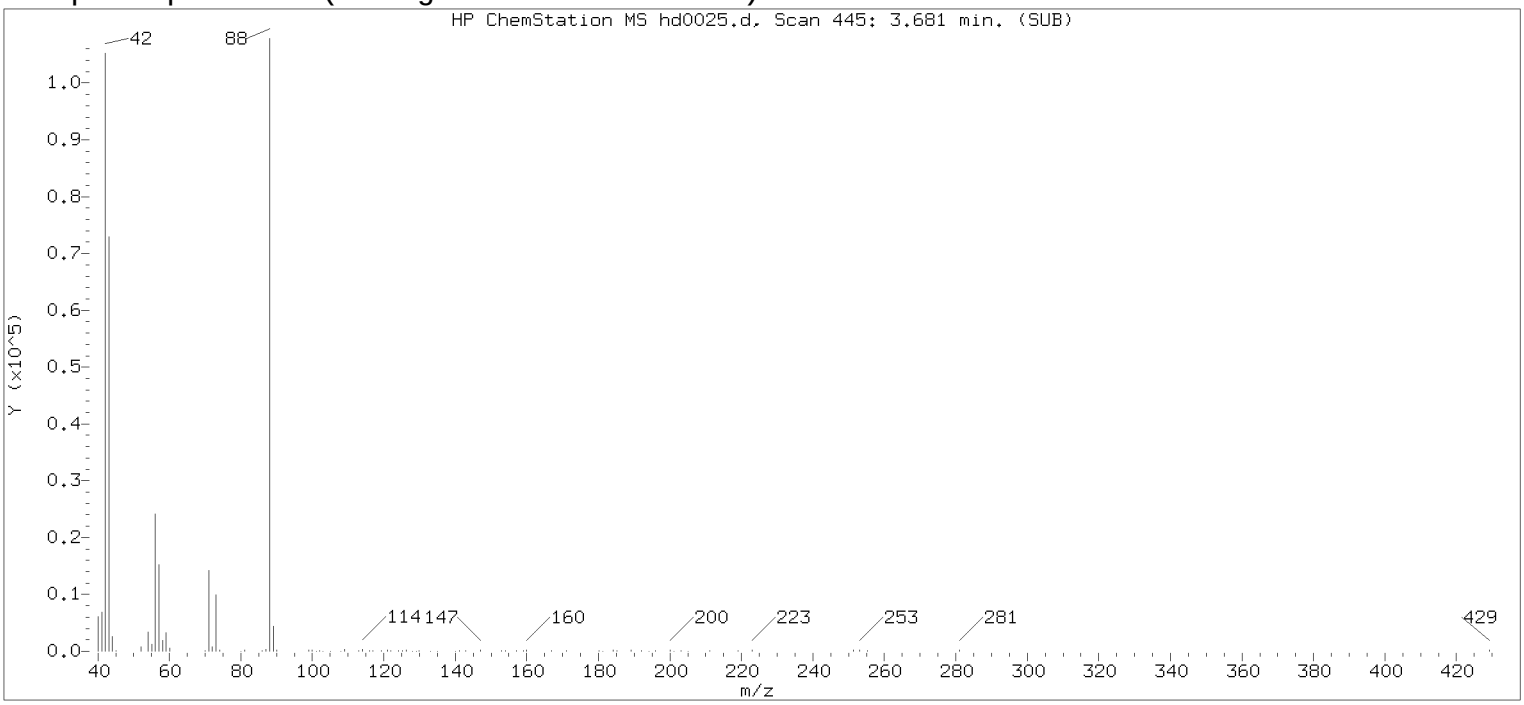
Compound Number : 9
Compound Name : N-Nitrosomethylethylamine
Scan Number : 445
Retention Time (minutes) : 3.681
Quant Ion : 88.00
Area (flag) : 611777M
On-Column Amount (ng/ul) : 12.6646
Integration start scan : 412 Integration stop scan: 475
Y at integration start : 264 Y at integration end: 248

Reason for manual integration: improper integration

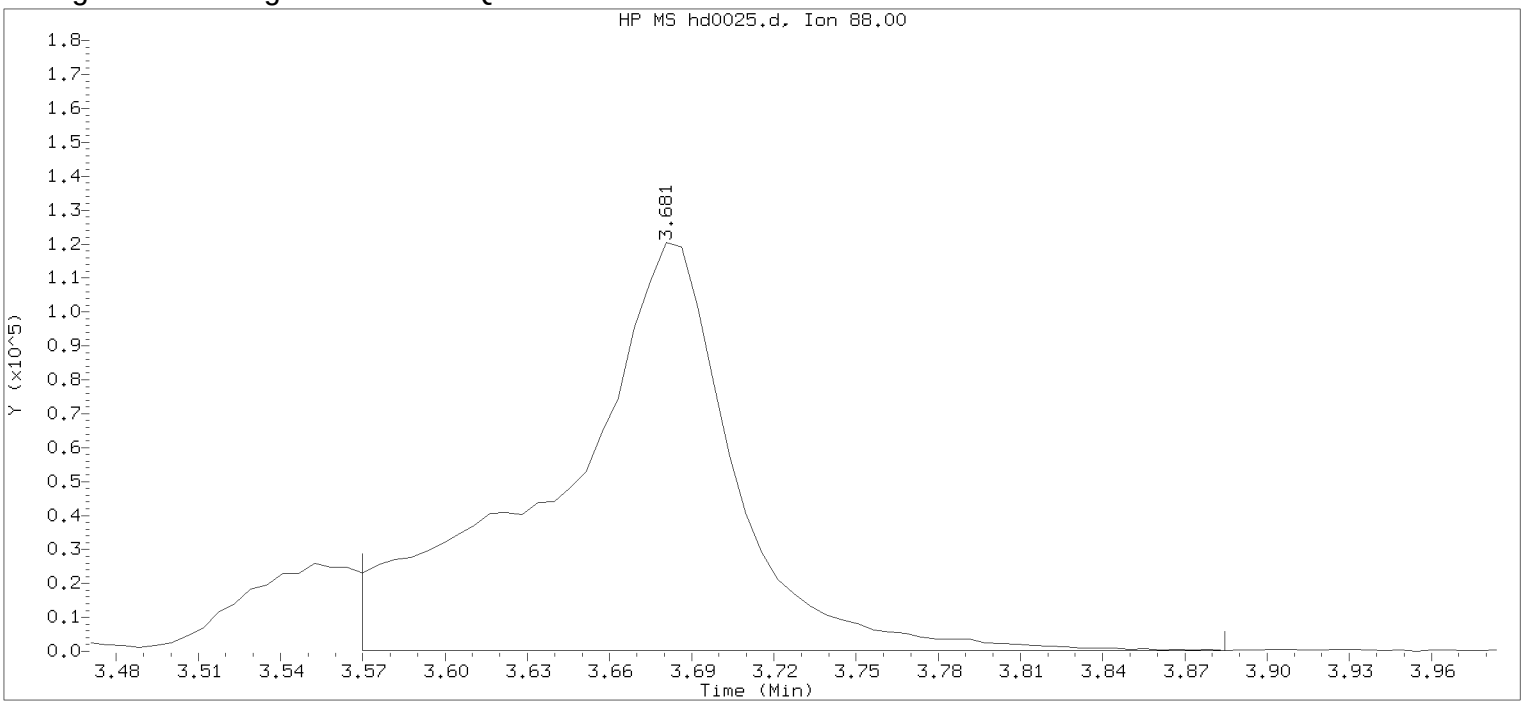
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0025.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 00:12 Analyst ID: bkc25363

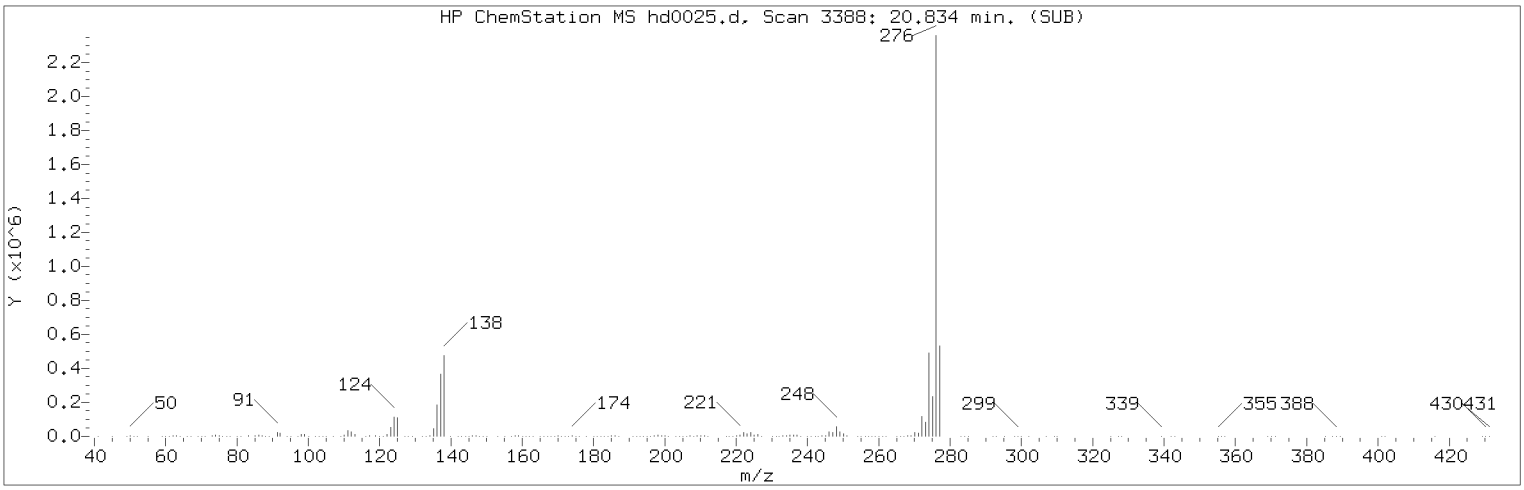
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 00:40
Date, time and analyst ID of latest file update: 03-Apr-2018 00:41 Automation

Sample Name: SSTD12.5 Lab Sample ID: rvSTD0608

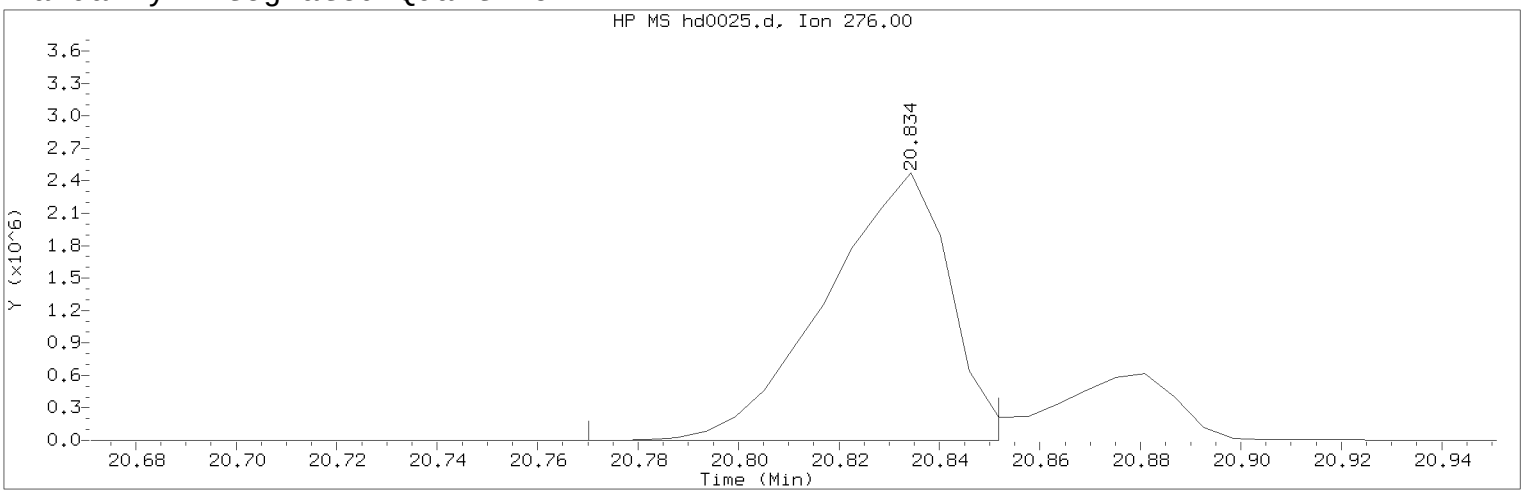
Compound Number : 9
Compound Name : N-Nitrosomethylethylamine
Scan Number : 445
Retention Time (minutes) : 3.681
Quant Ion : 88.00
Area : 539196
On-column Amount (ng/ul) : 10.8793
Integration start scan : 425 Integration stop scan: 479
Y at integration start : 261 Y at integration end: 261

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0025.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 00:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: rvSTD0608

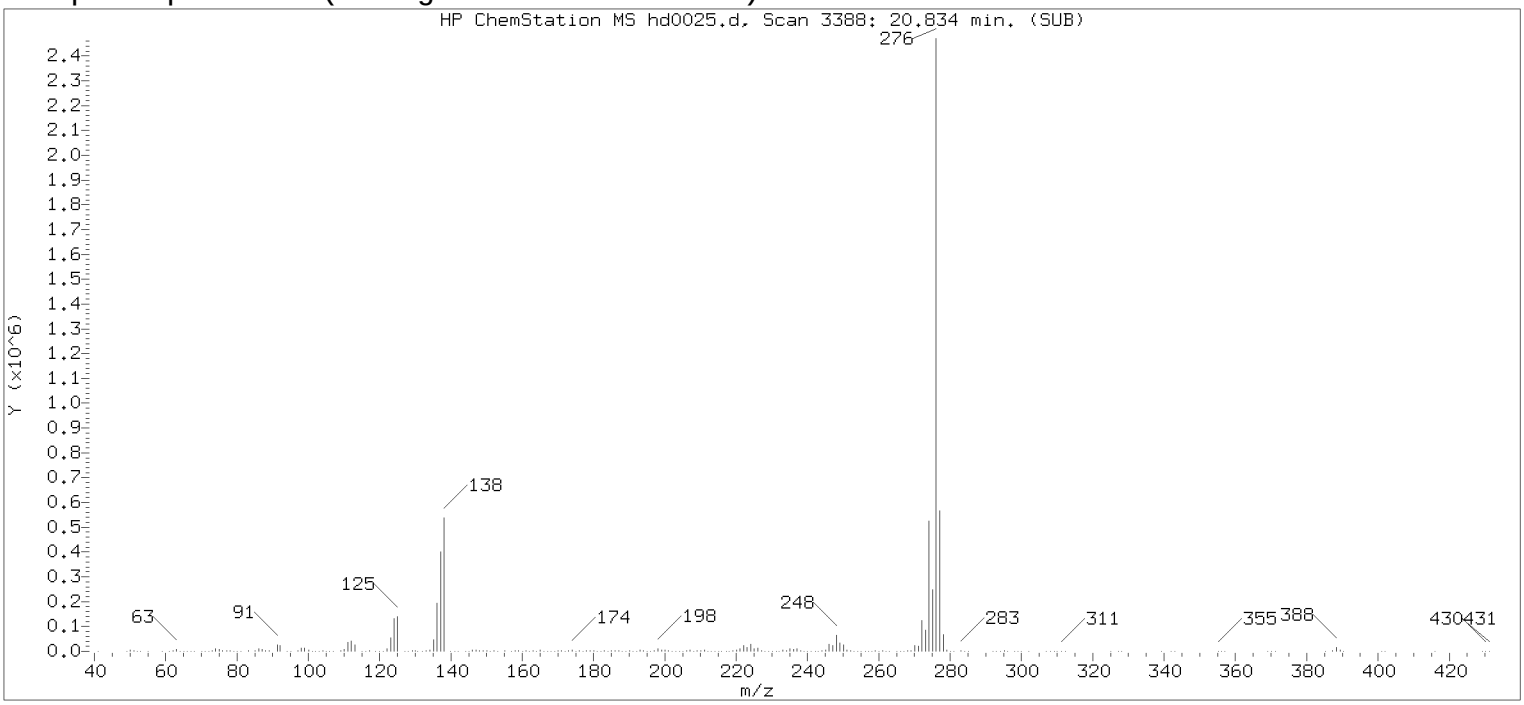
Compound Number : 227
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3388
Retention Time (minutes) : 20.834
Quant Ion : 276.00
Area (flag) : 4211451M
On-Column Amount (ng/ul) : 12.7549
Integration start scan : 3376 Integration stop scan: 3390
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

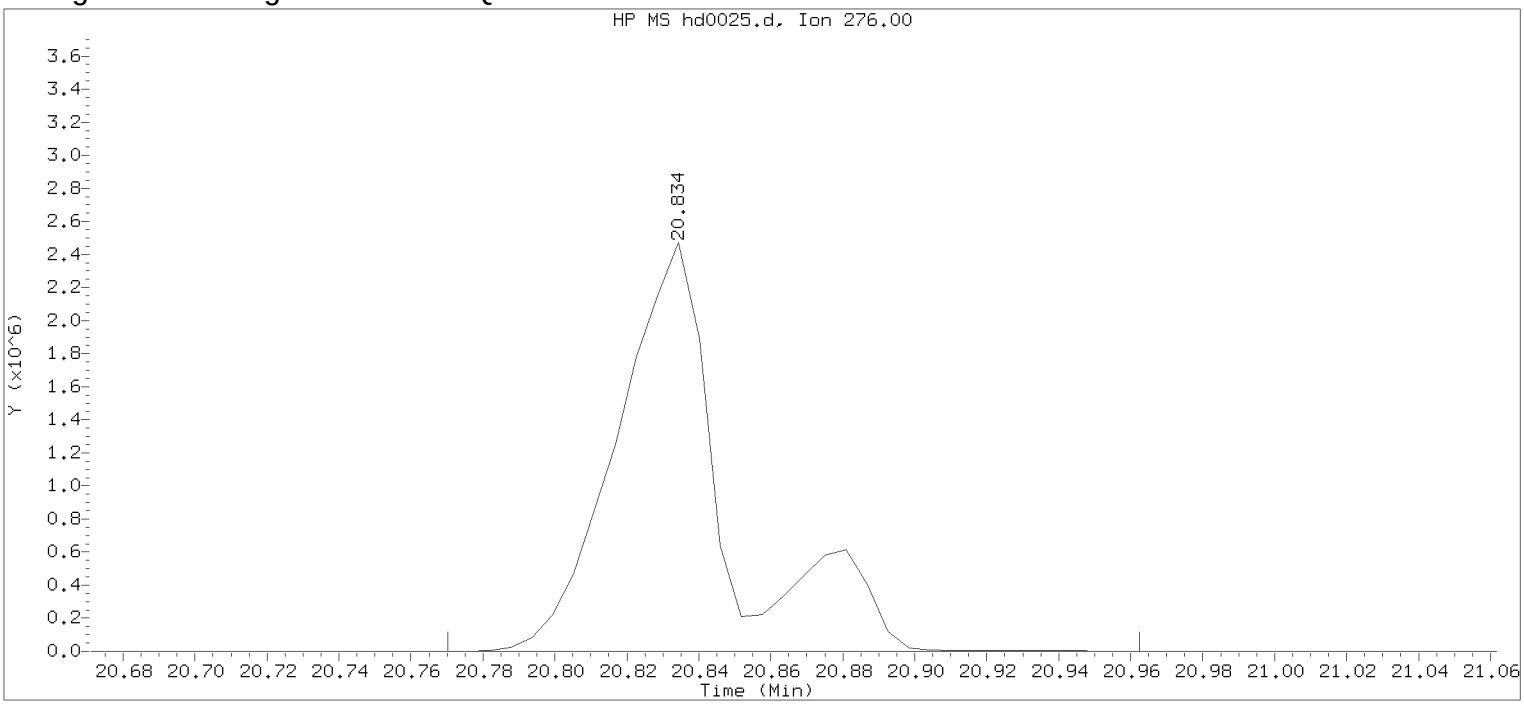
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29. Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



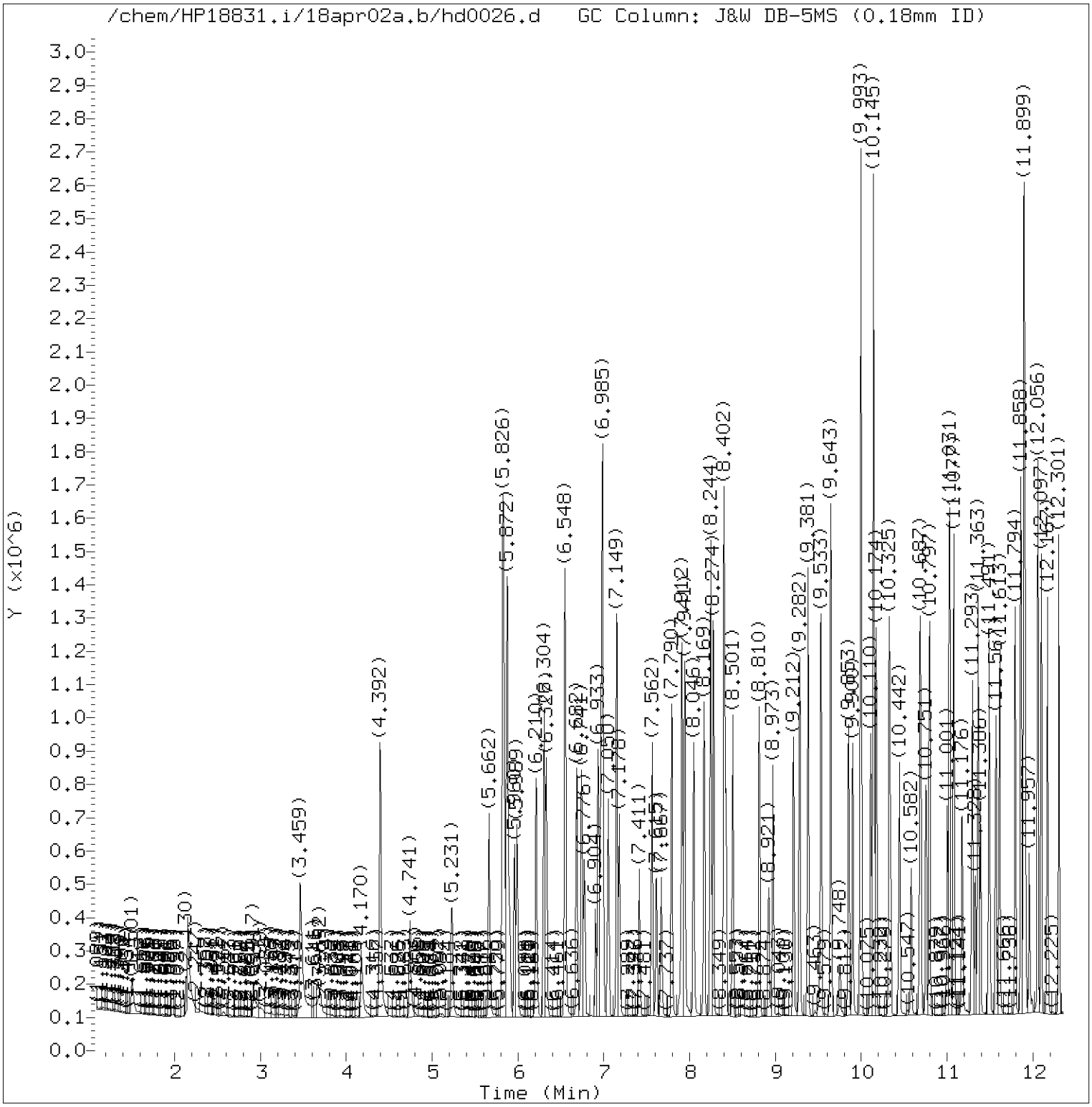
Data File: /chem/HP18831.i/18apr02a.b/hd0025.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 00:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 00:40
Date, time and analyst ID of latest file update: 03-Apr-2018 00:41 Automation

Sample Name: SSTD12.5 Lab Sample ID: rvSTD0608

Compound Number : 227
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3388
Retention Time (minutes) : 20.834
Quant Ion : 276.00
Area : 5186252
On-column Amount (ng/ul) : 14.9745
Integration start scan : 3376 Integration stop scan: 3409
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29.
Target 3.5 esignature user id: bhsmith



Total Ion Chromatogram (TIC)

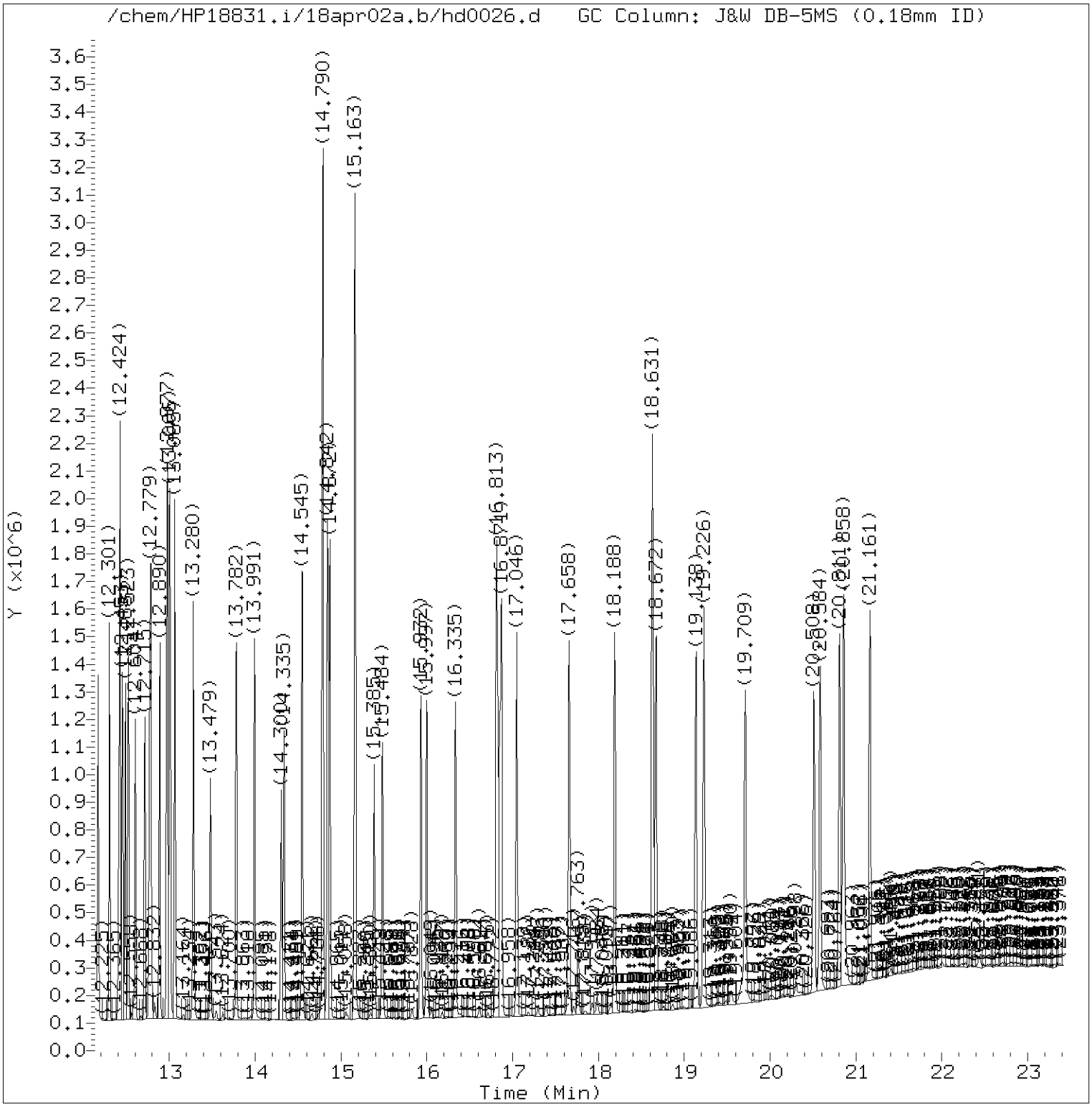
Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0026.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 00:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0608

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0026.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 00:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0608

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0026.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 00:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0608

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
2) 1,4-Dioxane	(1)	1.501	88	93149	3.859
5) N-Nitrosodimethylamine	(1)	2.130	74	149851	3.786
6) Pyridine	(1)	2.154	79	254870	3.824
8) 2-Picoline	(1)	3.459	93	272684M	3.941
9) N-Nitrosomethylethylamine	(1)	3.692	88	105379	3.815
10) Methyl methanesulfonate	(1)	4.170	80	131562	3.896
12)$2-Fluorophenol	(1)	4.392	112	444241	7.820
14) N-Nitrosodiethylamine	(1)	4.741	102	105286	3.821
16) Ethyl methanesulfonate	(1)	5.231	109	114296	3.860
43) Total Cresols	(1)			464267	7.951
17) Benzaldehyde	(1)	5.662	77	203324	4.462
18)$Phenol-d6	(1)	5.820	99	590250	7.864
20) Aniline	(1)	5.831	93	383095	3.890
19) Phenol	(1)	5.837	94	341459	3.971
21) a-methylstyrene	(1)	5.901	118	89020	4.135
23) bis(2-Chloroethyl)ether	(1)	5.960	93	245517	3.962
24) 2-Chlorophenol	(1)	5.989	128	230858	3.951
25) 1,3-Dichlorobenzene	(1)	6.210	146	258612	3.988
26)*1,4-Dichlorobenzene-d4	(1)	6.304	152	207449	5.000
27) 1,4-Dichlorobenzene	(1)	6.333	146	255505	3.942
29) 1,2-Dichlorobenzene	(1)	6.548	146	243773	3.933
28) Benzyl alcohol	(1)	6.548	108	136870	3.880
31) Indene	(1)	6.682	115	350544	4.013
32) 2-Methylphenol	(1)	6.741	108	215552	3.951
34) 2,2'-oxybis(1-Chloropropane)	(1)	6.776	45	295972	3.931
35) bis(2-Chloroisopropyl)ether	(1)	6.776	45	295972	3.931
36) N-Nitrosopyrrolidine	(1)	6.904	100	114384	3.818
37) Acetophenone	(1)	6.933	105	314620	3.824
39) N-Nitroso-di-n-propylamine	(1)	6.962	70	181454	3.933
40) N-Nitrosomorpholine	(1)	6.974	56	135458	3.959
41) o-Toluidine	(1)	6.985	106	385344	4.051
38) 4-Methylphenol	(1)	6.985	108	248715	4.000
44) Hexachloroethane	(1)	7.050	117	102402	3.987
45)$Nitrobenzene-d5	(2)	7.149	82	532721	7.871
46) Nitrobenzene	(2)	7.178	77	261595	3.925
101) Isosafrole	(3)			206694	3.908
50) N-Nitrosopiperidine	(2)	7.411	114	115932	3.929
52) Isophorone	(2)	7.562	82	466723	3.922
53) 2-Nitrophenol	(2)	7.673	139	105492	3.840
55) 2,4-Dimethylphenol	(2)	7.790	107	236141	3.946

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0026.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 00:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0608

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
57) O,O,O-Triethylphosphorothioate	(2)	7.912	198	116359	3.907
58) bis(2-Chloroethoxy)methane	(2)	7.941	93	295036	3.878
59) Benzoic acid	(2)	7.947	105	249499	7.309
62) 2,4-Dichlorophenol	(2)	8.046	162	197082	3.934
126) 2,4_2,6-Dinitrotoluenes	(3)			233982	7.720
64) 1,2,4-Trichlorobenzene	(2)	8.169	180	219397	3.980
67)*Naphthalene-d8	(2)	8.244	136	766908	5.000
69) Naphthalene	(2)	8.274	128	668611	4.006
70) 4-Chloroaniline	(2)	8.402	127	270738	3.970
71) 2,6-Dichlorophenol	(2)	8.402	162	192676	3.947
72) Hexachloropropene	(2)	8.425	213	148565	3.868
74) Hexachlorobutadiene	(2)	8.501	225	131399	3.928
152) Diallate trans/cis	(4)			214860	3.958
78) Quinoline	(2)	8.810	129	411259	3.905
79) Caprolactam	(2)	8.921	113	58266	3.848
80) N-Nitrosodi-n-butylamine	(2)	8.973	84	175910	3.471
83) 4-Chloro-3-methylphenol	(2)	9.212	107	199332	3.896
85) Safrole	(2)	9.282	162	174640	3.919
86) 2-Methylnaphthalene	(2)	9.381	142	448346	3.950
87) 1-Methylnaphthalene	(2)	9.533	142	404460	3.941
88) Hexachlorocyclopentadiene	(3)	9.643	237	133848	3.877
89) 1,2,4,5-Tetrachlorobenzene	(3)	9.649	216	228866	3.988
92) cis-Isosafrole	(3)	9.748	162	31614	0.655
94) 2,4,6-Trichlorophenol	(3)	9.853	196	148124	4.012
96) 2,4,5-Trichlorophenol	(3)	9.900	196	149918	3.944
97)$2-Fluorobiphenyl	(3)	9.993	172	1012078	8.044
98) trans-Isosafrole	(3)	10.110	162	175080	3.253
99) 1,1'-Biphenyl	(3)	10.145	154	507002	3.880
100) 2-Chloronaphthalene	(3)	10.145	162	444658	4.014
102) 1-Chloronaphthalene	(3)	10.174	162	384153	3.980
104) Diphenyl ether	(3)	10.325	170	292932	3.963
105) 2-Nitroaniline	(3)	10.337	138	124702	3.869
109) 1,4-Naphthoquinone	(3)	10.448	158	170887	3.930
110) 1,4-Dinitrobenzene	(3)	10.582	168	57850	3.764
111) Dimethylphthalate	(3)	10.681	163	486463	4.003
112) 1,3-Dinitrobenzene	(3)	10.692	168	65692	3.769
114) 2,6-Dinitrotoluene	(3)	10.757	165	100352	3.876
115) Acenaphthylene	(3)	10.797	152	638788	3.950
118) 3-Nitroaniline	(3)	11.001	138	109814	3.876
119)*Acenaphthene-d10	(3)	11.031	164	381841	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0026.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 00:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0608

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120) Acenaphthene	(3)	11.077	153	442240	4.016
121) 2,4-Dinitrophenol	(3)	11.176	184	97763	7.118
123) Pentachlorobenzene	(3)	11.293	250	199502	3.990
122) 4-Nitrophenol	(3)	11.328	109	68066	3.903
125) Dibenzofuran	(3)	11.363	168	596347	3.995
124) 2,4-Dinitrotoluene	(3)	11.386	165	133630	3.844
127) 1-Naphthylamine	(3)	11.491	143	430981	3.879
128) 2,3,4,6-Tetrachlorophenol	(3)	11.567	232	122872	3.909
129) 2-Naphthylamine	(3)	11.613	143	428900	3.985
130) Diethylphthalate	(3)	11.794	149	468209	3.947
132) Fluorene	(3)	11.858	166	490546	4.031
131) Thionazin	(3)	11.893	107	88605	3.914
133) 4-Chlorophenyl-phenylether	(3)	11.899	204	237262	4.015
134) 5-Nitro-o-toluidine	(3)	11.905	152	127406	3.887
135) 4-Nitroaniline	(3)	11.911	138	111129	3.897
136) 4,6-Dinitro-2-methylphenol	(4)	11.957	198	66373	3.568
138) NDPA as diphenylamine	(4)	12.056	169	397407	3.999
137) N-Nitrosodiphenylamine	(4)	12.056	169	397407	3.999
140) 1,2-Diphenylhydrazine	(4)	12.097	77	512539	3.891
141)$2,4,6-Tribromophenol	(3)	12.173	330	133659	7.888
143) Tetraethyldithiopyrophosphate	(4)	12.301	97	89345	3.982
145) 1,3,5-Trinitrobenzene	(4)	12.406	213	40418	3.569
146) Diallate (peak 1)	(4)	12.424	86	182733	3.259
147) Phorate	(4)	12.424	75	342891	3.236
148) Phenacetin	(4)	12.453	108	246721	3.866
149) 4-Bromophenyl-phenylether	(4)	12.488	248	145259	3.995
150) Diallate (peak 2)	(4)	12.517	86	32127	0.699
151) Hexachlorobenzene	(4)	12.523	284	147673	4.000
153) Dimethoate	(4)	12.604	87	202327	3.940
154) Atrazine	(4)	12.715	200	130542	4.143
156) Pentachlorophenol	(4)	12.767	266	85269	3.690
158) Pentachloronitrobenzene	(4)	12.779	237	64172	3.854
157) 4-Aminobiphenyl	(4)	12.785	169	448204	3.906
159) Pronamide	(4)	12.890	173	232349	3.893
160)*Phenanthrene-d10	(4)	12.977	188	761921	5.000
162) Phenanthrene	(4)	13.001	178	700830	3.981
161) Dinoseb	(4)	13.012	211	105475	3.417
164) Anthracene	(4)	13.065	178	722973	4.015
170) Carbazole	(4)	13.280	167	636835	3.931
171) Methyl parathion	(4)	13.479	109	145701	3.693

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0026.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 00:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0608

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
173) Di-n-butylphthalate	(4)	13.782	149	804114	3.880
175) Parathion	(4)	13.991	109	96724	3.708
176) 4-Nitroquinoline-1-oxide	(4)	13.991	190	50206	2.883
177) Octachlorostyrene	(4)	14.306	308	54708	3.828
179) Isodrin	(4)	14.335	193	85068	3.942
181) Fluoranthene	(4)	14.551	202	836494	4.026
182) Benzidine	(5)	14.790	184	1556740	12.248
183)*Pyrene-d10	(5)	14.842	212	809782	5.000
185) Pyrene	(5)	14.872	202	849923	3.979
230) Total PAHs	(6)			12252160	71.776
187)$Terphenyl-d14	(5)	15.163	244	1145928	8.065
190) p-Dimethylaminoazobenzene	(5)	15.390	225	138907	3.883
193) Chlorobenzilate	(5)	15.484	139	240910	3.899
195) 3,3'-Dimethylbenzidine	(5)	15.932	212	550721	3.966
196) Butylbenzylphthalate	(5)	15.997	149	357317	3.863
199) 2-Acetylaminofluorene	(5)	16.335	181	325483	3.751
204) Benzo(a)anthracene	(5)	16.807	228	791815	3.979
201) 3,3'-Dichlorobenzidine	(5)	16.824	252	288132	3.885
203) 4,4'-Methylenebis(2-chloroanil	(5)	16.848	231	164896	3.858
205) Chrysene	(5)	16.871	228	759650	4.008
207) bis(2-Ethylhexyl)phthalate	(5)	17.046	149	522291	3.836
211) 6-Methylchrysene	(5)	17.658	242	533992	3.902
213) Di-n-octylphthalate	(6)	18.188	149	931064	3.866
214) Benzo(b)fluoranthene	(6)	18.625	252	804455	4.022
215) 7,12-Dimethylbenz[a]anthracene	(6)	18.631	256	316329	3.786
216) Benzo(k)fluoranthene	(6)	18.672	252	754761	4.043
219) Benzo(a)pyrene	(6)	19.138	252	729227	3.987
221)*Perylene-d12	(6)	19.231	264	792321	5.000
223) 3-Methylcholanthrene	(6)	19.709	268	361686	3.900
225) Dibenz(a,h)acridine	(6)	20.508	279	632957	3.846
226) Dibenz(a,j)acridine	(6)	20.584	279	645875	3.916
227) Indeno(1,2,3-cd)pyrene	(6)	20.811	276	723675M	3.976
228) Dibenz(a,h)anthracene	(6)	20.858	278	729546	3.896
229) Benzo(g,h,i)perylene	(6)	21.161	276	755820	3.971

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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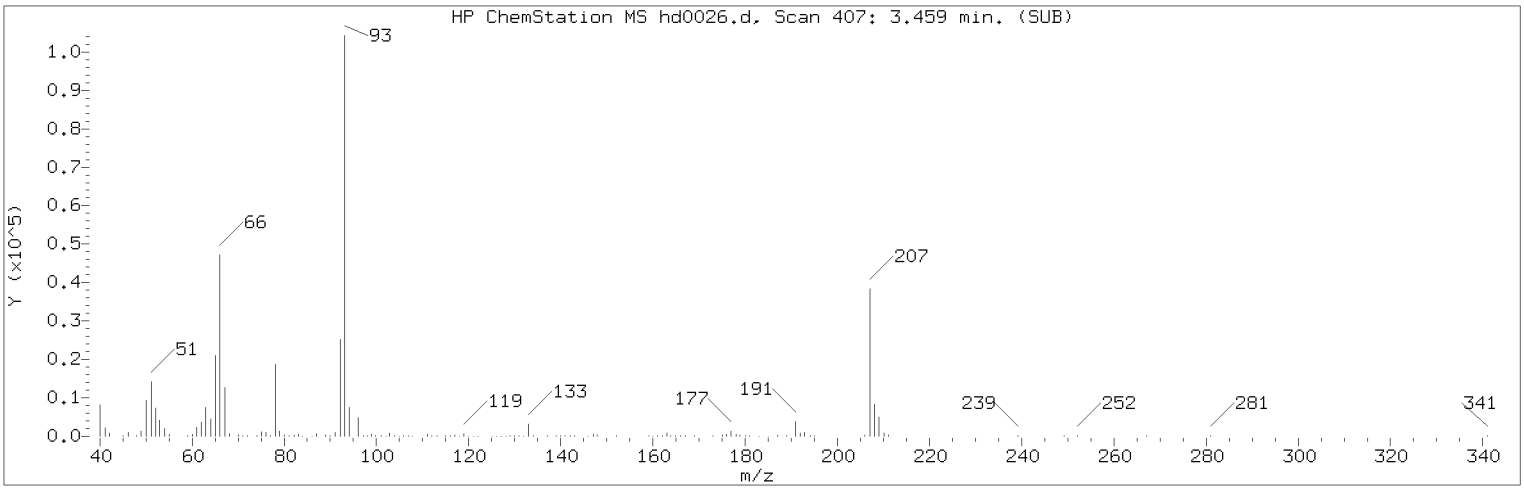
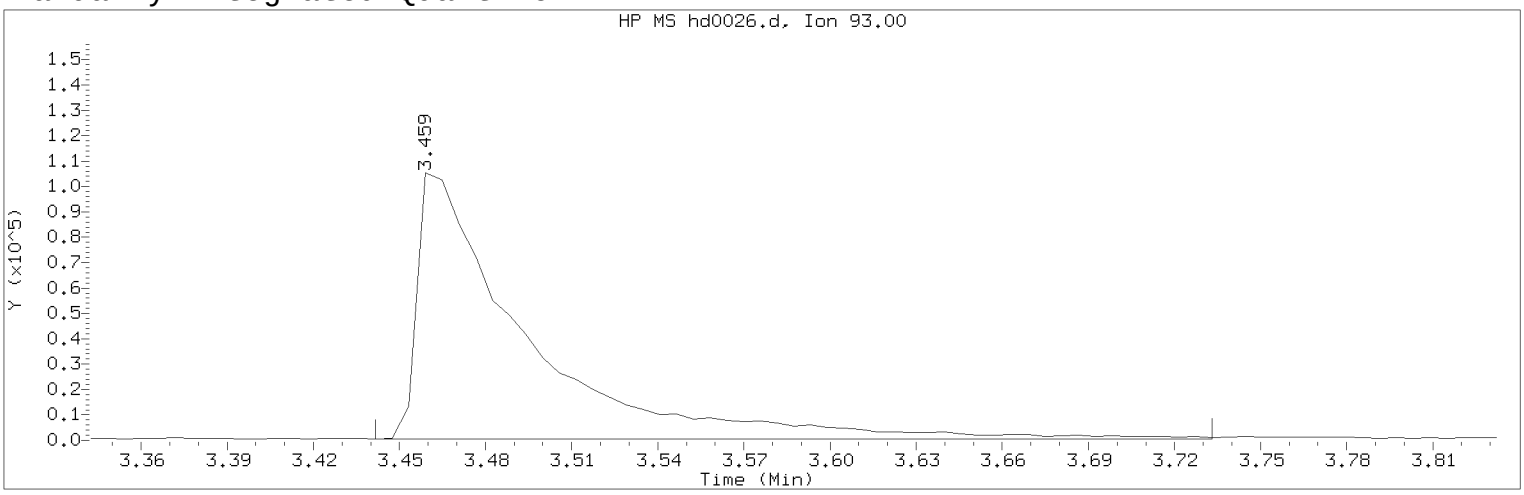
on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0026.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 00:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0608

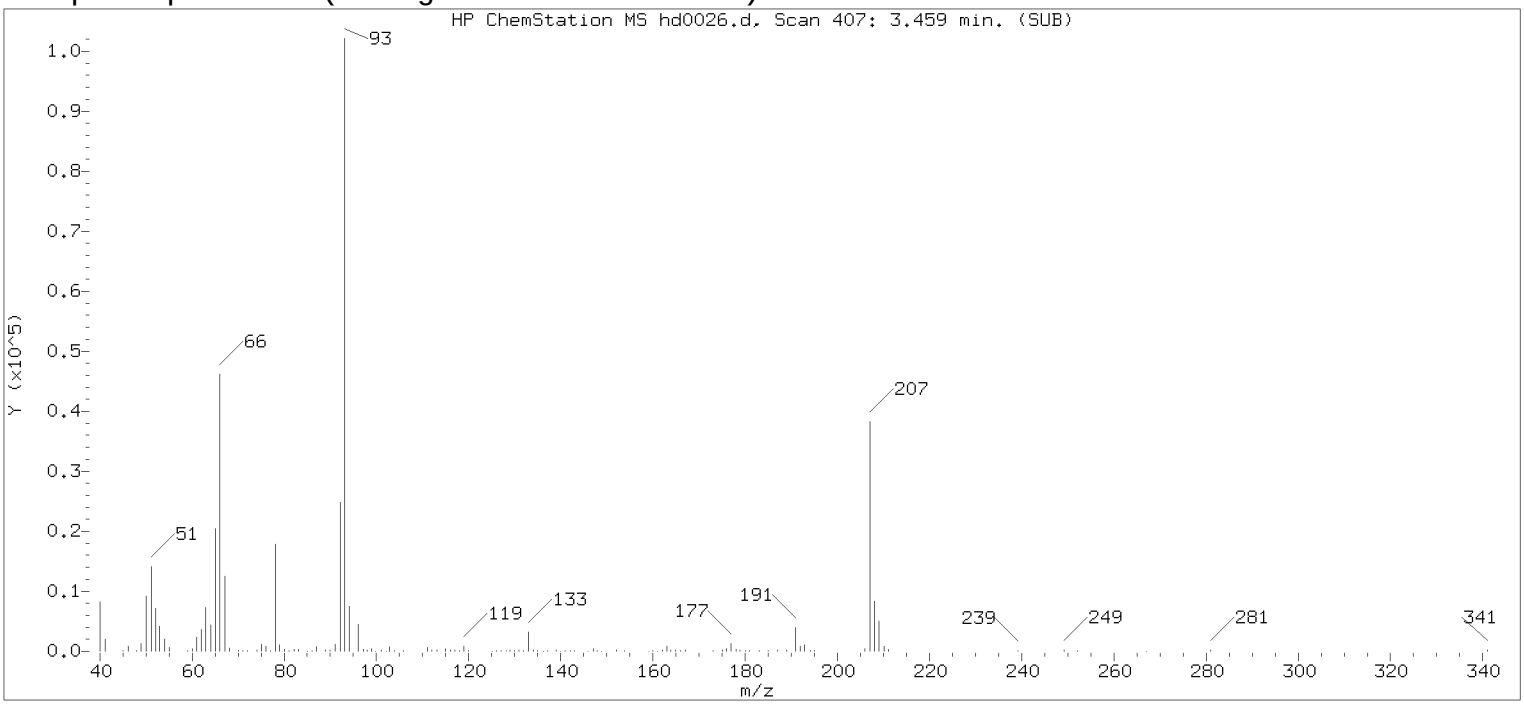
Compound Number : 8
Compound Name : 2-Picoline
Scan Number : 407
Retention Time (minutes) : 3.459
Quant Ion : 93.00
Area (flag) : 272684M
On-Column Amount (ng/ul) : 3.9406
Integration start scan : 403 Integration stop scan: 453
Y at integration start : 594 Y at integration end: 534

Reason for manual integration: improper integration

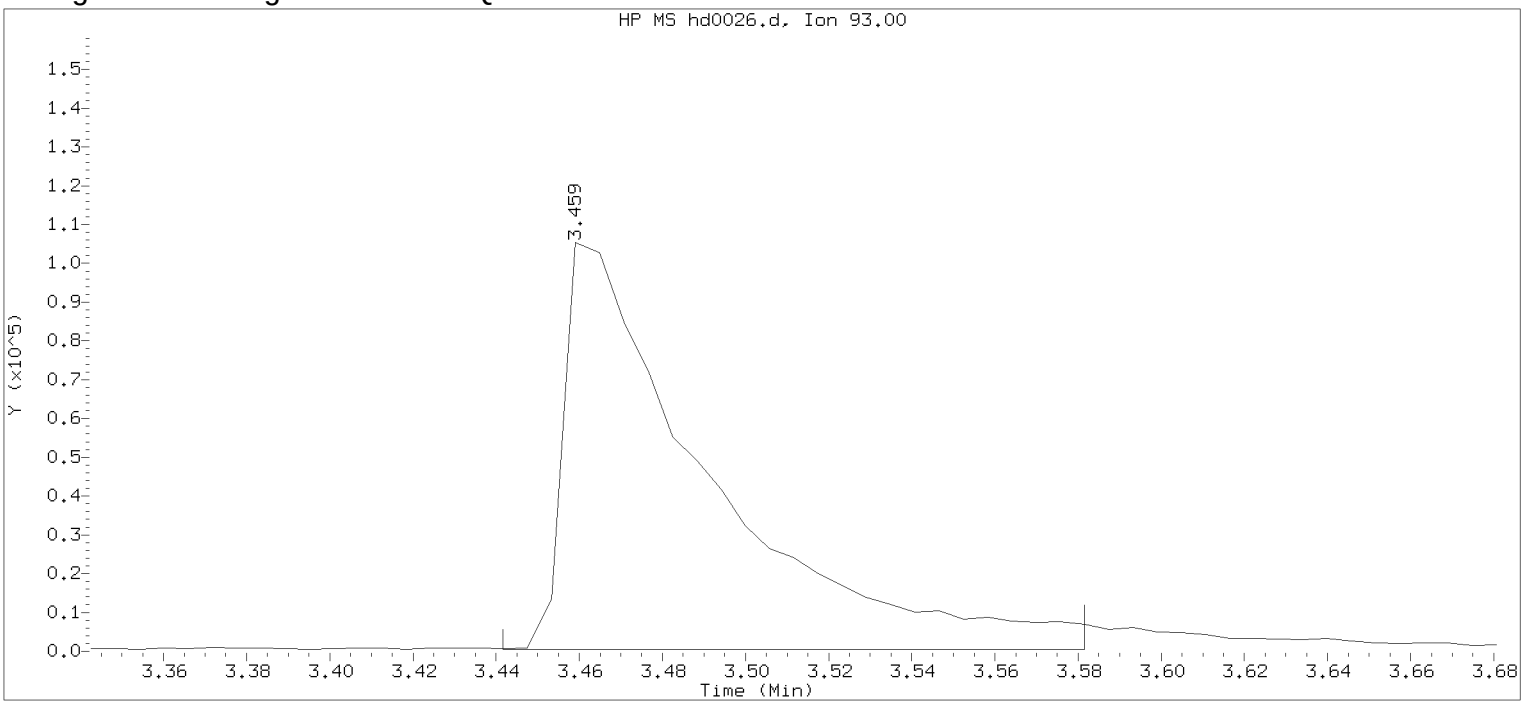
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0026.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 00:42 Analyst ID: bkc25363

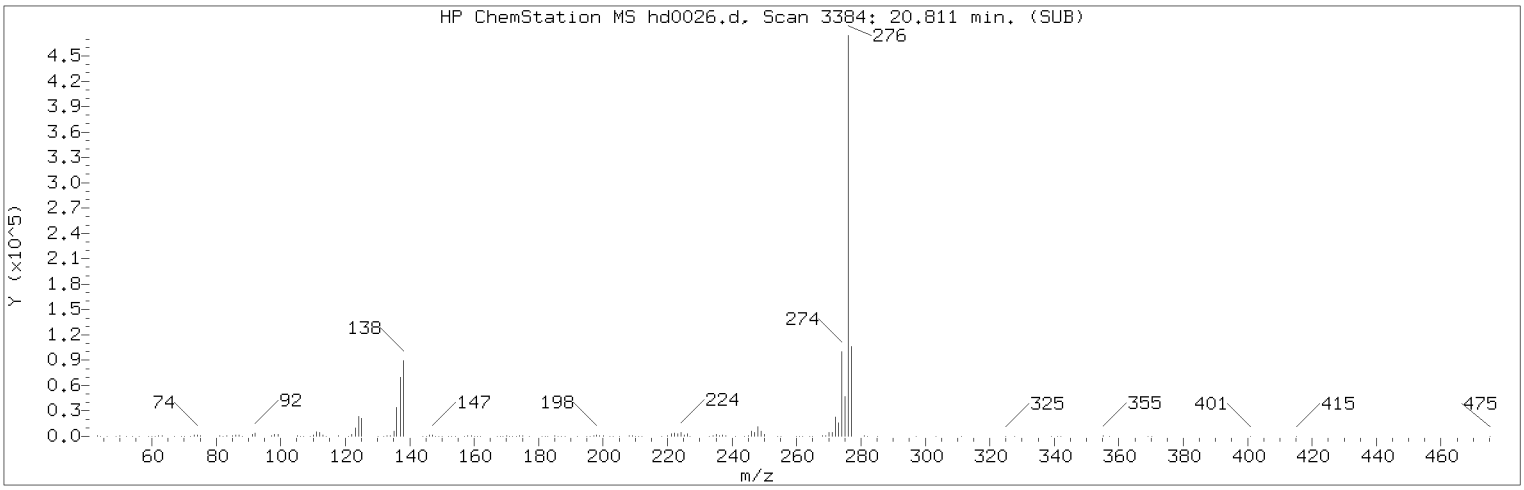
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 01:10
Date, time and analyst ID of latest file update: 03-Apr-2018 01:10 Automation

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0608

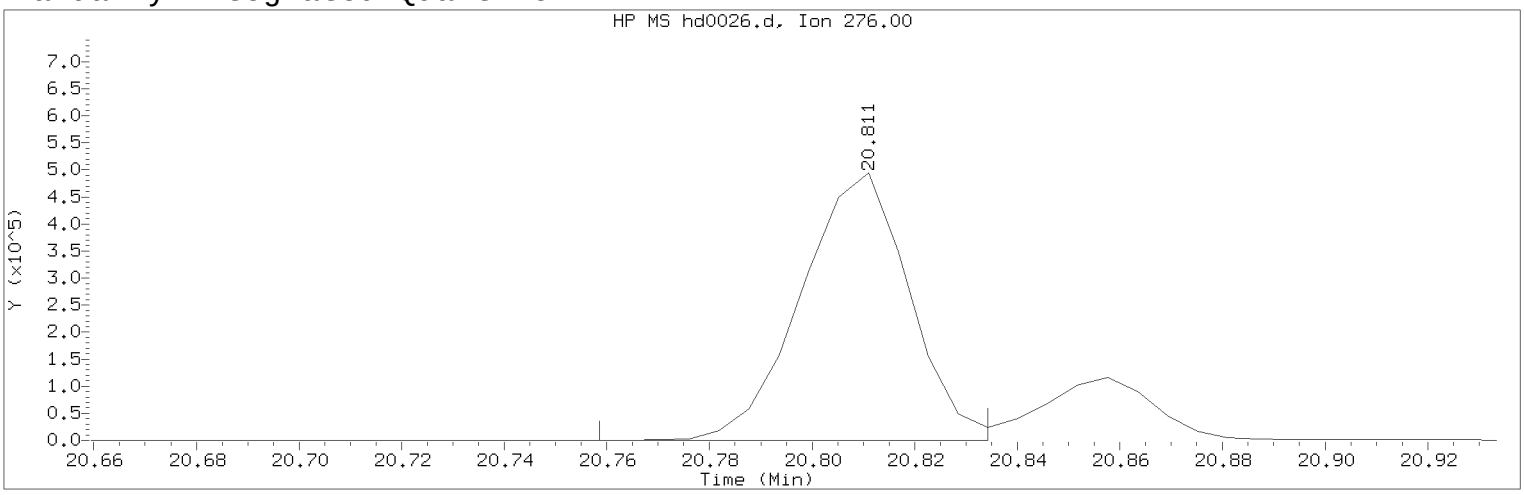
Compound Number : 8
Compound Name : 2-Picoline
Scan Number : 407
Retention Time (minutes) : 3.459
Quant Ion : 93.00
Area : 253483
On-column Amount (ng/ul) : 3.6124
Integration start scan : 403 Integration stop scan: 427
Y at integration start : 430 Y at integration end: 430

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29.
Target 3.5 esignature user id: bhs1 Page 208 of 1243

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0026.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 00:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0608

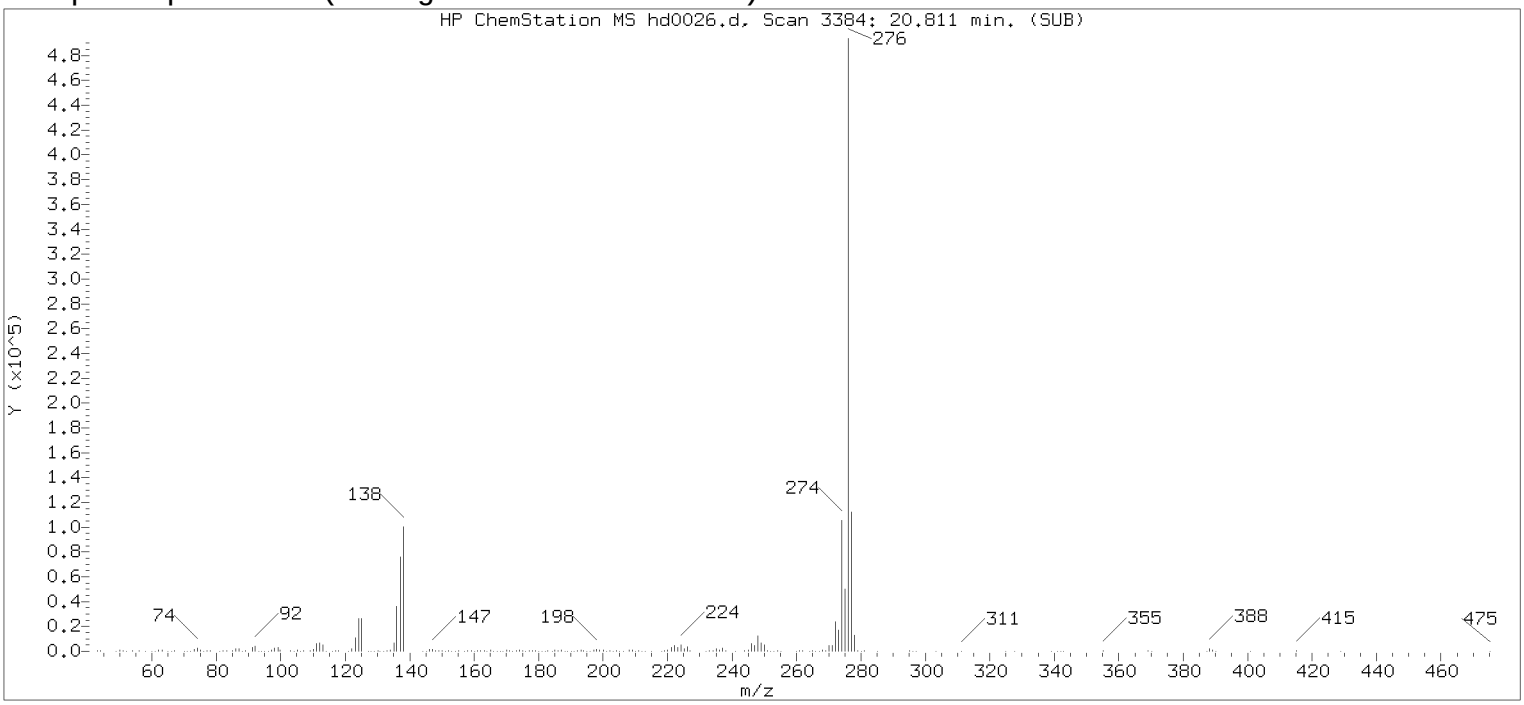
Compound Number : 227
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3384
Retention Time (minutes) : 20.811
Quant Ion : 276.00
Area (flag) : 723675M
On-Column Amount (ng/ul) : 3.9758
Integration start scan : 3374 Integration stop scan: 3387
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

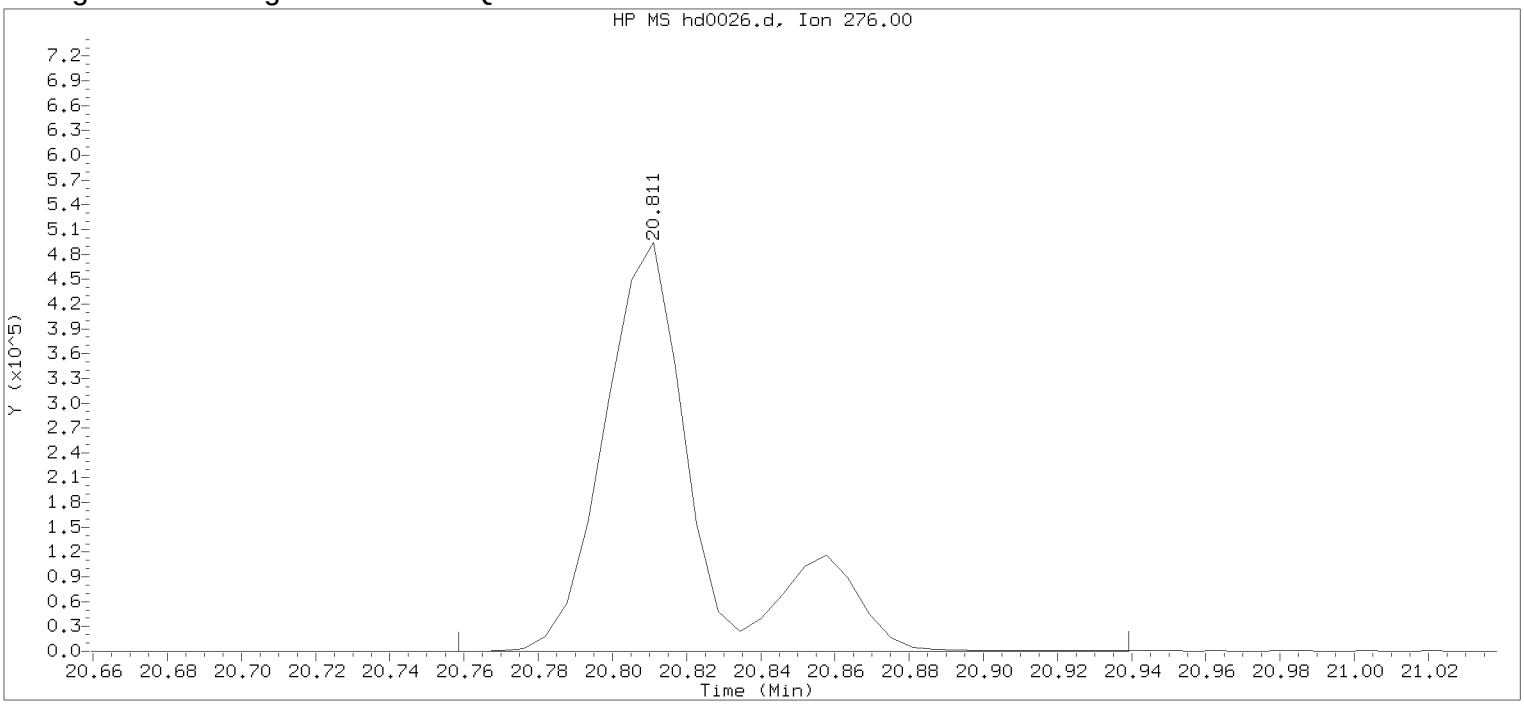
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



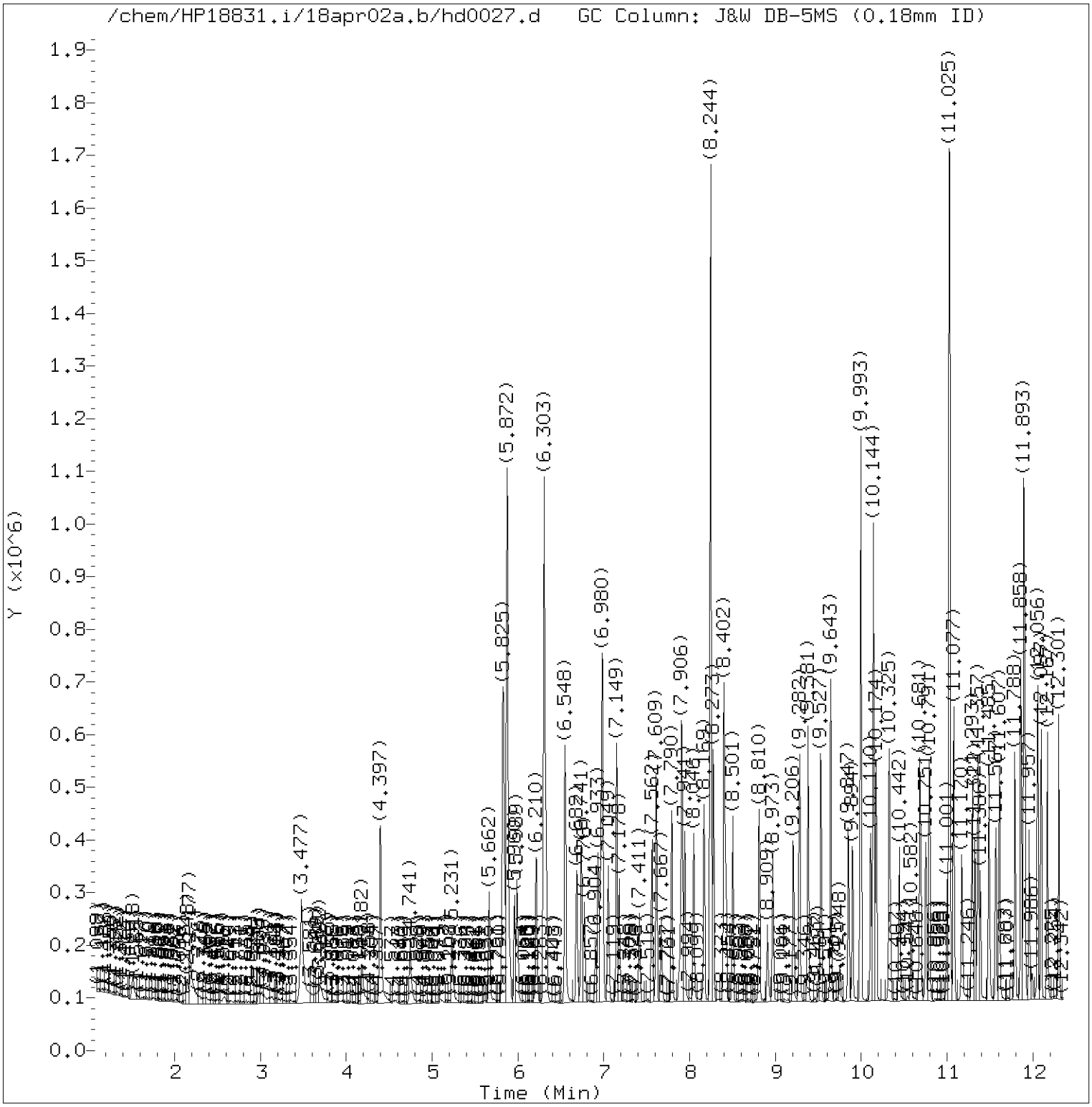
Data File: /chem/HP18831.i/18apr02a.b/hd0026.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 00:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 01:10
Date, time and analyst ID of latest file update: 03-Apr-2018 01:10 Automation

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0608

Compound Number : 227
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3384
Retention Time (minutes) : 20.811
Quant Ion : 276.00
Area : 895999
On-column Amount (ng/ul) : 4.5702
Integration start scan : 3374 Integration stop scan: 3405
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:29.
Target 3.5 esignature user id: bhsmith



Total Ion Chromatogram (TIC)

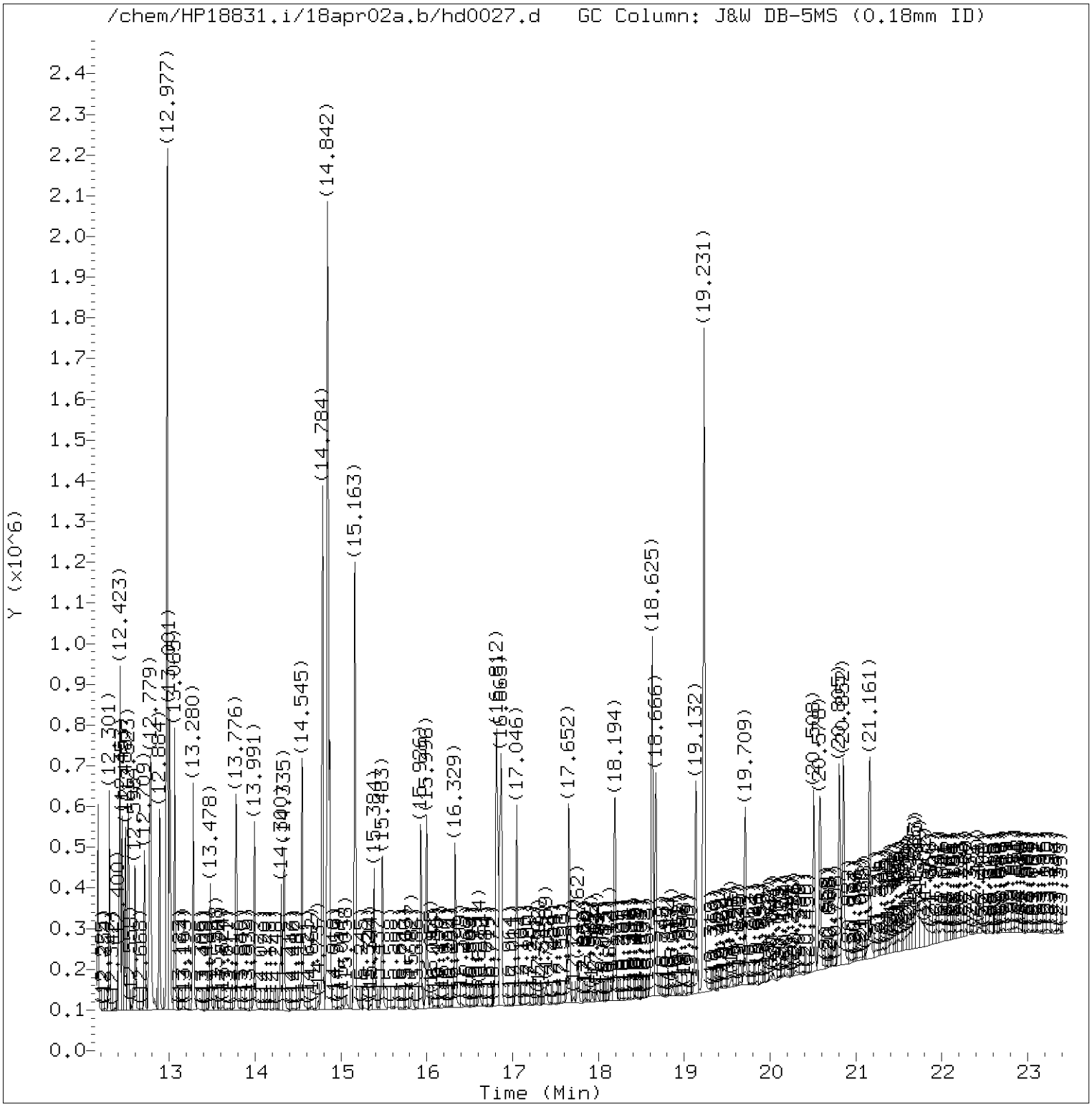
Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0027.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:32
Date, time and analyst ID of latest file update: 03-Apr-2018 12:32 bhs10208

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0608

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:32.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0027.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:32
Date, time and analyst ID of latest file update: 03-Apr-2018 12:32 bhs10208

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0608

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:32.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0027.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:32
Date, time and analyst ID of latest file update: 03-Apr-2018 12:32 bhs10208

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0608

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
2) 1,4-Dioxane	(1)	1.512	88	34934	1.328
5) N-Nitrosodimethylamine	(1)	2.142	74	63422M	1.443
6) Pyridine	(1)	2.177	79	103399M	1.405
8) 2-Picoline	(1)	3.477	93	104526M	1.375
9) N-Nitrosomethylethylamine	(1)	3.698	88	40136M	1.332
10) Methyl methanesulfonate	(1)	4.182	80	50506M	1.364
12)$2-Fluorophenol	(1)	4.397	112	174737	2.852
14) N-Nitrosodiethylamine	(1)	4.741	102	41761	1.392
16) Ethyl methanesulfonate	(1)	5.231	109	43921	1.366
43) Total Cresols	(1)			179094	2.822
17) Benzaldehyde	(1)	5.662	77	71777	1.415
18)$Phenol-d6	(1)	5.820	99	229784	2.826
20) Aniline	(1)	5.831	93	152575	1.437
19) Phenol	(1)	5.837	94	130943	1.397
21) a-methylstyrene	(1)	5.901	118	28790	1.244
23) bis(2-Chloroethyl)ether	(1)	5.960	93	96520	1.420
24) 2-Chlorophenol	(1)	5.989	128	88875	1.394
25) 1,3-Dichlorobenzene	(1)	6.216	146	101308	1.438
26)*1,4-Dichlorobenzene-d4	(1)	6.303	152	223312	5.000
27) 1,4-Dichlorobenzene	(1)	6.327	146	101171	1.435
29) 1,2-Dichlorobenzene	(1)	6.548	146	97002	1.428
28) Benzyl alcohol	(1)	6.548	108	47320	1.247
31) Indene	(1)	6.682	115	117291	1.248
32) 2-Methylphenol	(1)	6.741	108	83757	1.417
34) 2,2'-oxybis(1-Chloropropane)	(1)	6.776	45	118194	1.442
35) bis(2-Chloroisopropyl)ether	(1)	6.776	45	118194	1.442
36) N-Nitrosopyrrolidine	(1)	6.904	100	44821	1.381
37) Acetophenone	(1)	6.933	105	111935	1.271
39) N-Nitroso-di-n-propylamine	(1)	6.962	70	72764	1.417
40) N-Nitrosomorpholine	(1)	6.974	56	52203	1.386
38) 4-Methylphenol	(1)	6.980	108	95337	1.406
41) o-Toluidine	(1)	6.985	106	148414	1.441
44) Hexachloroethane	(1)	7.049	117	42878	1.491
45)$Nitrobenzene-d5	(2)	7.149	82	205012	2.799
46) Nitrobenzene	(2)	7.178	77	99853	1.372
101) Isosafrole	(3)			80844	1.370
50) N-Nitrosopiperidine	(2)	7.411	114	43234	1.356
52) Isophorone	(2)	7.562	82	178317	1.376
53) 2-Nitrophenol	(2)	7.667	139	41171	1.372
55) 2,4-Dimethylphenol	(2)	7.790	107	90660	1.391

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:32.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0027.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:32
Date, time and analyst ID of latest file update: 03-Apr-2018 12:32 bhs10208

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0608

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
57) O,O,O-Triethylphosphorothioate	(2)	7.906	198	45329	1.373
59) Benzoic acid	(2)	7.912	105	128255	3.513
58) bis(2-Chloroethoxy)methane	(2)	7.941	93	115230	1.398
62) 2,4-Dichlorophenol	(2)	8.046	162	77257	1.420
126) 2,4_2,6-Dinitrotoluenes	(3)			89073	2.660
64) 1,2,4-Trichlorobenzene	(2)	8.169	180	84388	1.410
67)*Naphthalene-d8	(2)	8.244	136	833242	5.000
69) Naphthalene	(2)	8.273	128	262307	1.436
71) 2,6-Dichlorophenol	(2)	8.402	162	73865	1.403
70) 4-Chloroaniline	(2)	8.402	127	105886	1.408
72) Hexachloropropene	(2)	8.425	213	57627	1.357
74) Hexachlorobutadiene	(2)	8.501	225	52327	1.440
152) Diallate trans/cis	(4)			82252	1.381
78) Quinoline	(2)	8.810	129	156248	1.345
79) Caprolactam	(2)	8.909	113	19328	1.187
80) N-Nitrosodi-n-butylamine	(2)	8.973	84	69179	1.255
83) 4-Chloro-3-methylphenol	(2)	9.206	107	78152	1.398
85) Safrole	(2)	9.282	162	67148	1.362
86) 2-Methylnaphthalene	(2)	9.381	142	175675	1.426
87) 1-Methylnaphthalene	(2)	9.527	142	157180	1.400
88) Hexachlorocyclopentadiene	(3)	9.643	237	50371	1.318
89) 1,2,4,5-Tetrachlorobenzene	(3)	9.643	216	87470	1.392
92) cis-Isosafrole	(3)	9.748	162	12898	0.238
94) 2,4,6-Trichlorophenol	(3)	9.847	196	55178	1.372
96) 2,4,5-Trichlorophenol	(3)	9.894	196	57668	1.389
97)$2-Fluorobiphenyl	(3)	9.993	172	393728	2.851
98) trans-Isosafrole	(3)	10.110	162	67946	1.132
99) 1,1'-Biphenyl	(3)	10.139	154	178972	1.283
100) 2-Chloronaphthalene	(3)	10.144	162	164744	1.380
102) 1-Chloronaphthalene	(3)	10.174	162	164184	1.502
104) Diphenyl ether	(3)	10.325	170	114665	1.413
105) 2-Nitroaniline	(3)	10.337	138	44729	1.289
109) 1,4-Naphthoquinone	(3)	10.442	158	62562	1.303
110) 1,4-Dinitrobenzene	(3)	10.582	168	20838	1.240
111) Dimethylphthalate	(3)	10.681	163	190108	1.396
112) 1,3-Dinitrobenzene	(3)	10.692	168	23550	1.237
114) 2,6-Dinitrotoluene	(3)	10.751	165	39397	1.365
115) Acenaphthylene	(3)	10.791	152	246247	1.395
118) 3-Nitroaniline	(3)	11.001	138	42253	1.389
119)*Acenaphthene-d10	(3)	11.025	164	417983	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:32.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0027.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:32
Date, time and analyst ID of latest file update: 03-Apr-2018 12:32 bhs10208

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0608

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120) Acenaphthene	(3)	11.077	153	168385	1.394
121) 2,4-Dinitrophenol	(3)	11.170	184	43936	2.922
123) Pentachlorobenzene	(3)	11.293	250	77040	1.412
122) 4-Nitrophenol	(3)	11.322	109	47365M	2.481
125) Dibenzofuran	(3)	11.363	168	231293	1.413
124) 2,4-Dinitrotoluene	(3)	11.386	165	49676	1.296
127) 1-Naphthylamine	(3)	11.485	143	166722	1.349
128) 2,3,4,6-Tetrachlorophenol	(3)	11.567	232	46857	1.375
129) 2-Naphthylamine	(3)	11.607	143	167387	1.421
130) Diethylphthalate	(3)	11.788	149	179723	1.360
132) Fluorene	(3)	11.858	166	188944	1.412
131) Thionazin	(3)	11.887	107	34350	1.361
134) 5-Nitro-o-toluidine	(3)	11.899	152	48567	1.374
133) 4-Chlorophenyl-phenylether	(3)	11.899	204	91940	1.415
135) 4-Nitroaniline	(3)	11.911	138	41746	1.345
136) 4,6-Dinitro-2-methylphenol	(4)	11.957	198	45028	2.256
138) NDPA as diphenylamine	(4)	12.056	169	154215	1.438
137) N-Nitrosodiphenylamine	(4)	12.056	169	154215	1.438
140) 1,2-Diphenylhydrazine	(4)	12.097	77	195880	1.387
141)$2,4,6-Tribromophenol	(3)	12.167	330	49800	2.738
143) Tetraethyldithiopyrophosphate	(4)	12.301	97	32823	1.343
145) 1,3,5-Trinitrobenzene	(4)	12.406	213	13215	1.088
146) Diallate (peak 1)	(4)	12.418	86	70309	1.145
147) Phorate	(4)	12.423	75	125732	1.565
148) Phenacetin	(4)	12.453	108	90522	1.353
149) 4-Bromophenyl-phenylether	(4)	12.488	248	54632	1.400
150) Diallate (peak 2)	(4)	12.517	86	11943	0.237
151) Hexachlorobenzene	(4)	12.523	284	57324	1.441
153) Dimethoate	(4)	12.598	87	74340	1.332
154) Atrazine	(4)	12.715	200	44719	1.310
156) Pentachlorophenol	(4)	12.762	266	30166	1.222
158) Pentachloronitrobenzene	(4)	12.773	237	23260	1.293
157) 4-Aminobiphenyl	(4)	12.785	169	175191	1.426
159) Pronamide	(4)	12.884	173	87524	1.389
160)*Phenanthrene-d10	(4)	12.977	188	817579	5.000
162) Phenanthrene	(4)	13.001	178	272968	1.433
161) Dinoseb	(4)	13.012	211	34476	1.071
164) Anthracene	(4)	13.065	178	281627	1.449
170) Carbazole	(4)	13.280	167	243487	1.402
171) Methyl parathion	(4)	13.478	109	52044	1.233

M = Compound was manually integrated.
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$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:32.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0027.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:32
Date, time and analyst ID of latest file update: 03-Apr-2018 12:32 bhs10208

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0608

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
173) Di-n-butylphthalate	(4)	13.776	149	304582	1.348
175) Parathion	(4)	13.991	109	34276	1.229
176) 4-Nitroquinoline-1-oxide	(4)	13.991	190	13595	2.391
177) Octachlorostyrene	(4)	14.306	308	19207	1.252
179) Isodrin	(4)	14.335	193	31374	1.365
181) Fluoranthene	(4)	14.545	202	317501	1.421
182) Benzidine	(5)	14.784	184	573104	4.168
183)*Pyrene-d10	(5)	14.842	212	876036	5.000
185) Pyrene	(5)	14.871	202	324914	1.401
230) Total PAHs	(6)			4732061	25.538
187)$Terphenyl-d14	(5)	15.163	244	438366	2.840
190) p-Dimethylaminoazobenzene	(5)	15.384	225	51572	1.370
193) Chlorobenzilate	(5)	15.483	139	92296	1.357
195) 3,3'-Dimethylbenzidine	(5)	15.926	212	208781	1.364
196) Butylbenzylphthalate	(5)	15.996	149	139600	1.369
199) 2-Acetylaminofluorene	(5)	16.329	181	121947	1.291
204) Benzo(a)anthracene	(5)	16.807	228	306066	1.423
201) 3,3'-Dichlorobenzidine	(5)	16.824	252	110543	1.355
203) 4,4'-Methylenebis(2-chloroanil	(5)	16.847	231	62668	1.355
205) Chrysene	(5)	16.865	228	295302	1.437
207) bis(2-Ethylhexyl)phthalate	(5)	17.051	149	199137	1.334
211) 6-Methylchrysene	(5)	17.658	242	205499	1.363
213) Di-n-octylphthalate	(6)	18.194	149	355738	1.341
214) Benzo(b)fluoranthene	(6)	18.619	252	304290	1.408
215) 7,12-Dimethylbenz[a]anthracene	(6)	18.631	256	116239	1.333
216) Benzo(k)fluoranthene	(6)	18.666	252	292445	1.438
219) Benzo(a)pyrene	(6)	19.132	252	281425	1.415
221)*Perylene-d12	(6)	19.231	264	860372	5.000
223) 3-Methylcholanthrene	(6)	19.709	268	136679	1.369
225) Dibenz(a,h)acridine	(6)	20.508	279	246431	1.356
226) Dibenz(a,j)acridine	(6)	20.584	279	248705	1.363
227) Indeno(1,2,3-cd)pyrene	(6)	20.805	276	279003M	1.421
228) Dibenz(a,h)anthracene	(6)	20.852	278	283687	1.405
229) Benzo(g,h,i)perylene	(6)	21.161	276	294095	1.424

M = Compound was manually integrated.
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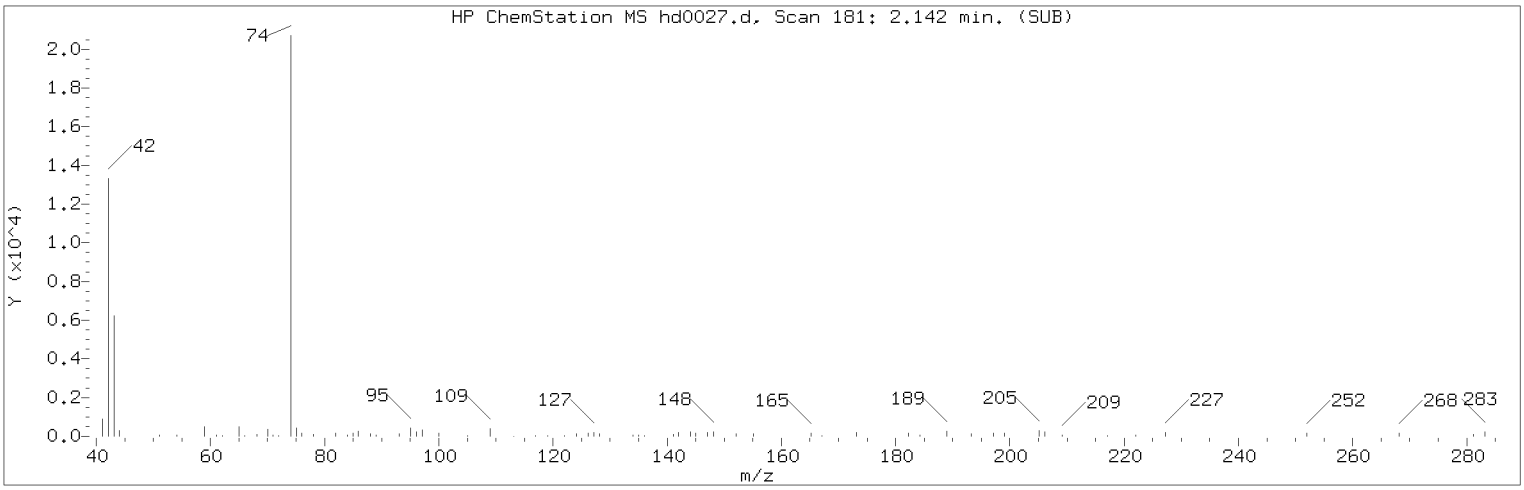
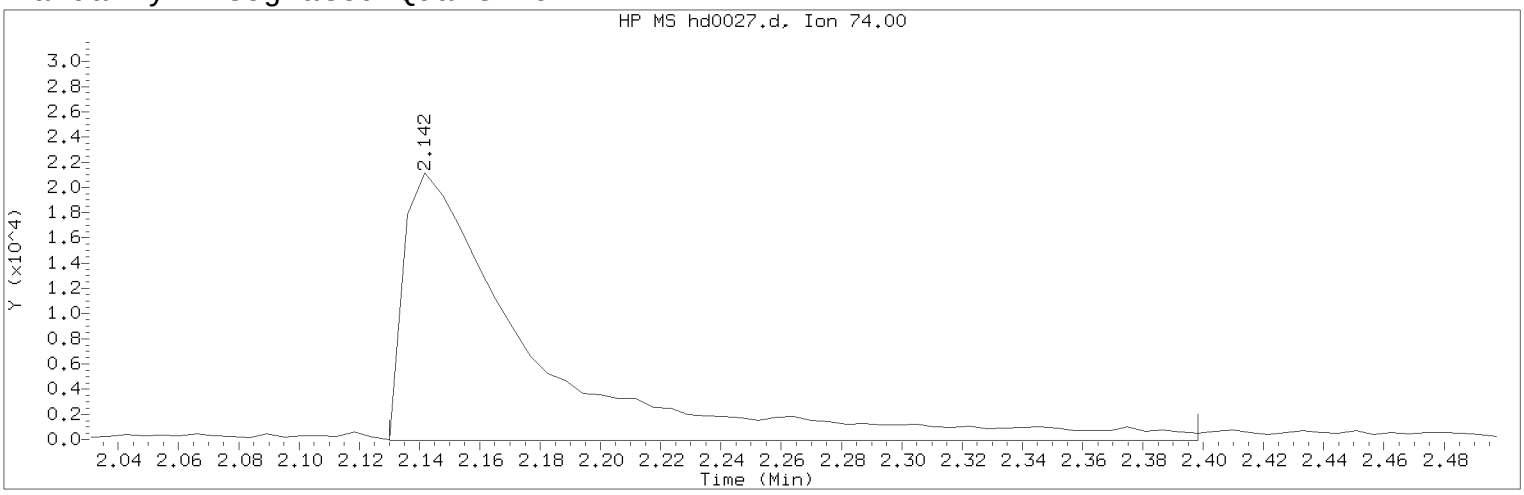
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:32.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0027.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:32
Date, time and analyst ID of latest file update: 03-Apr-2018 12:32 bhs10208

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0608

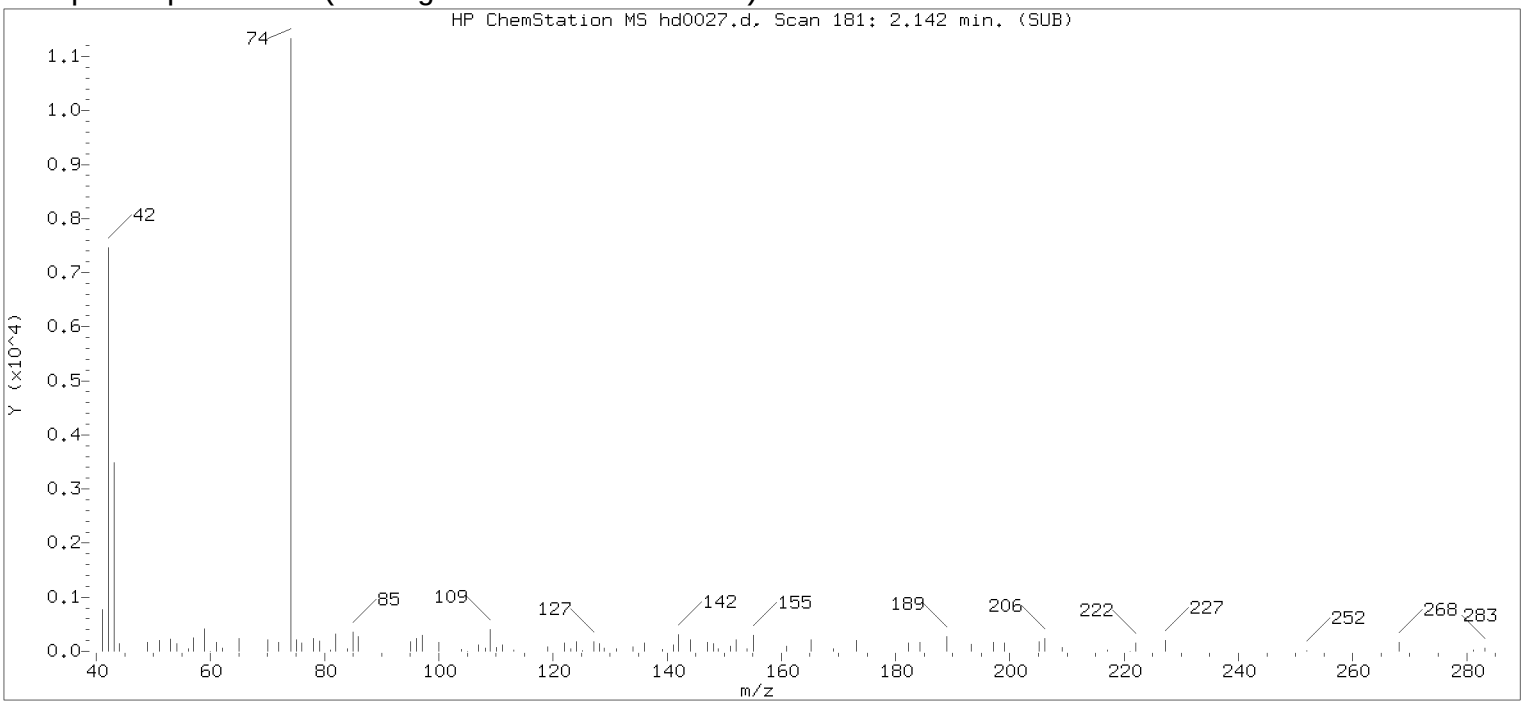
Compound Number : 5
Compound Name : N-Nitrosodimethylamine
Scan Number : 181
Retention Time (minutes) : 2.142
Quant Ion : 74.00
Area (flag) : 63422M
On-Column Amount (ng/ul) : 1.4425
Integration start scan : 178 Integration stop scan: 224
Y at integration start : -31 Y at integration end: -48

Reason for manual integration: improper integration

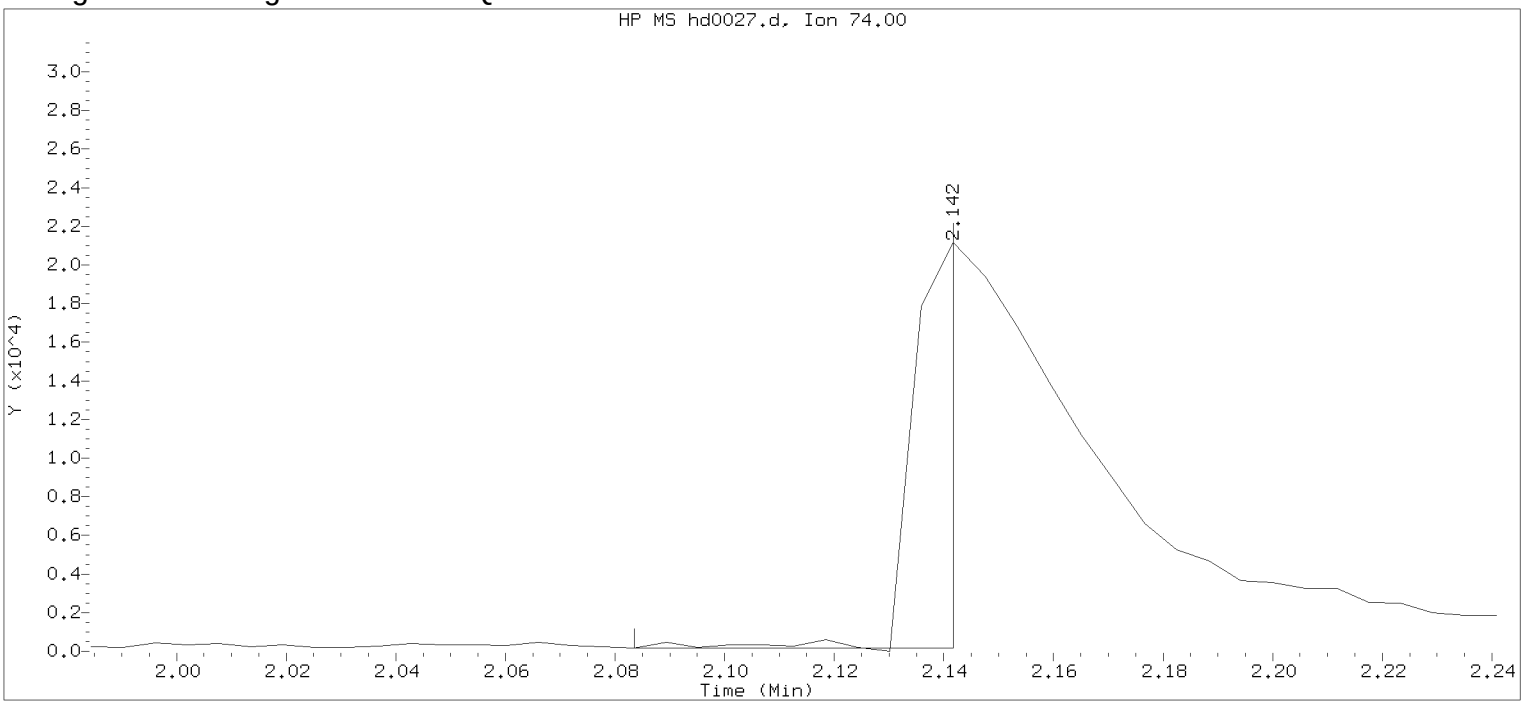
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:32.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0027.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:12 Analyst ID: bkc25363

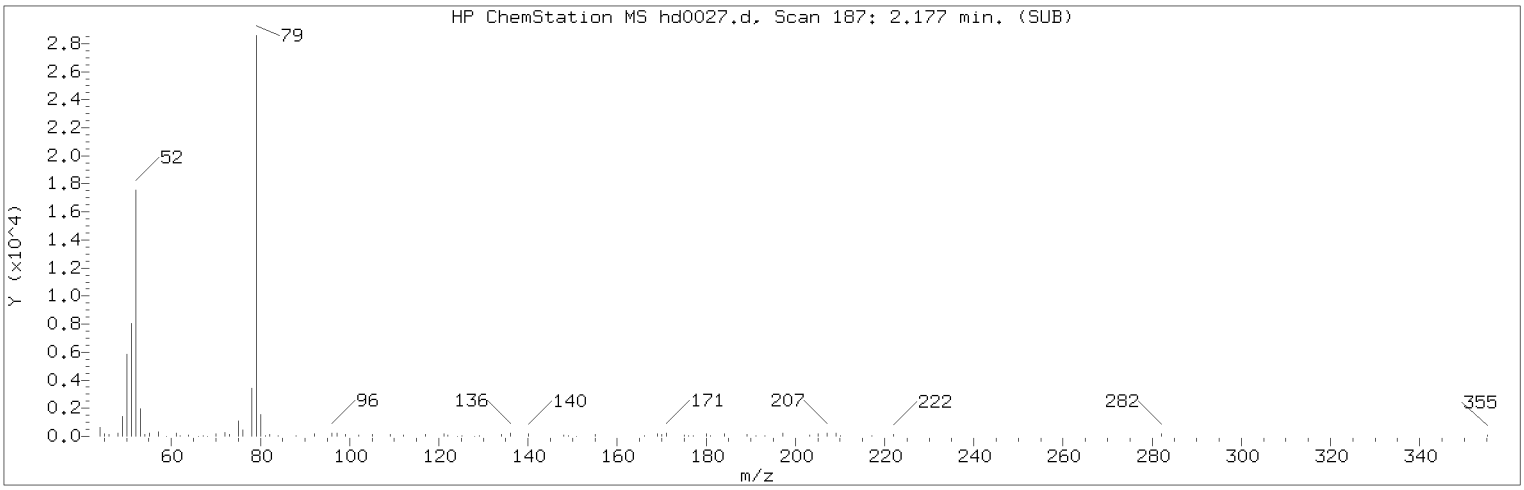
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 01:40
Date, time and analyst ID of latest file update: 03-Apr-2018 01:40 Automation

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0608

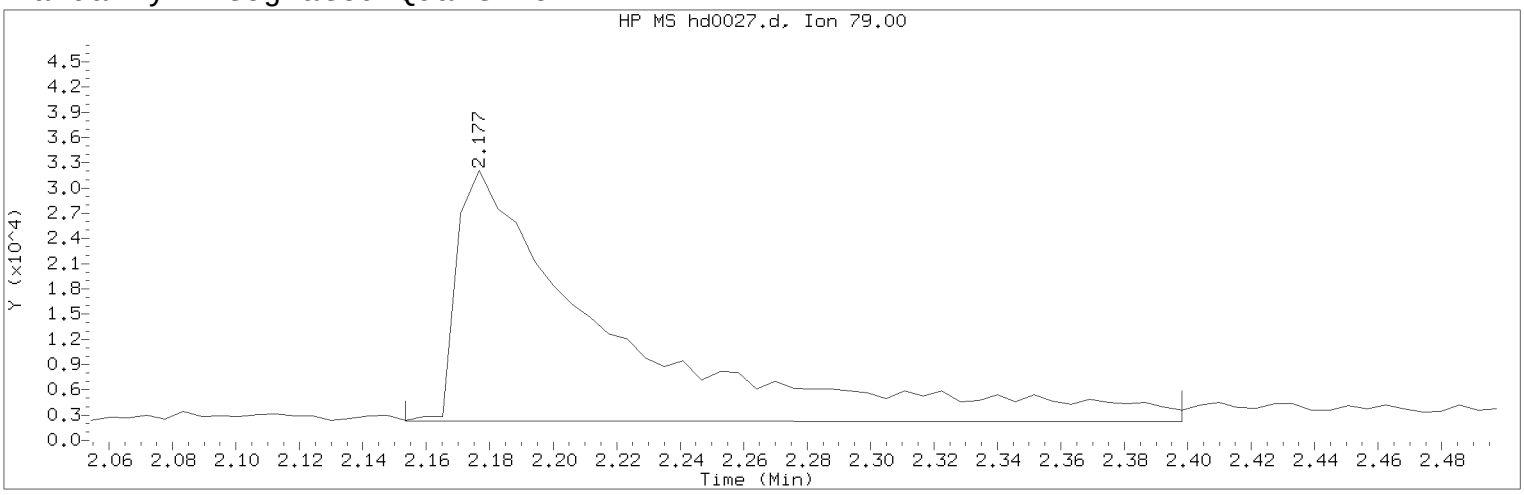
Compound Number : 5
Compound Name : N-Nitrosodimethylamine
Scan Number : 181
Retention Time (minutes) : 2.142
Quant Ion : 74.00
Area : 10243
On-column Amount (ng/ul) : 0.2748
Integration start scan : 170 Integration stop scan: 180
Y at integration start : 159 Y at integration end: 159

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:32.
Target 3.5 esignature used by bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0027.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:32
Date, time and analyst ID of latest file update: 03-Apr-2018 12:32 bhs10208

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0608

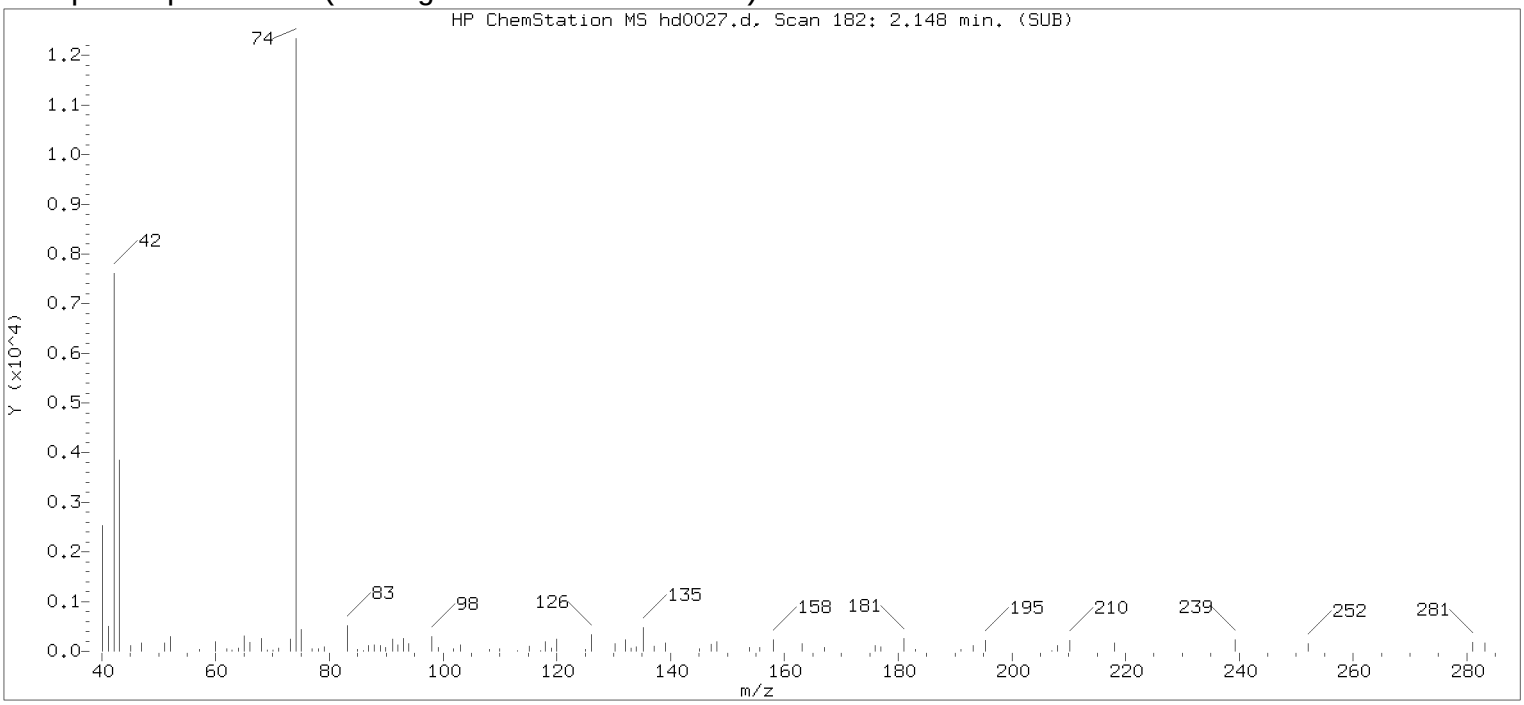
Compound Number : 6
Compound Name : Pyridine
Scan Number : 187
Retention Time (minutes) : 2.177
Quant Ion : 79.00
Area (flag) : 103399M
On-Column Amount (ng/ul) : 1.4053
Integration start scan : 182 Integration stop scan: 224
Y at integration start : 2256 Y at integration end: 2193

Reason for manual integration: improper integration

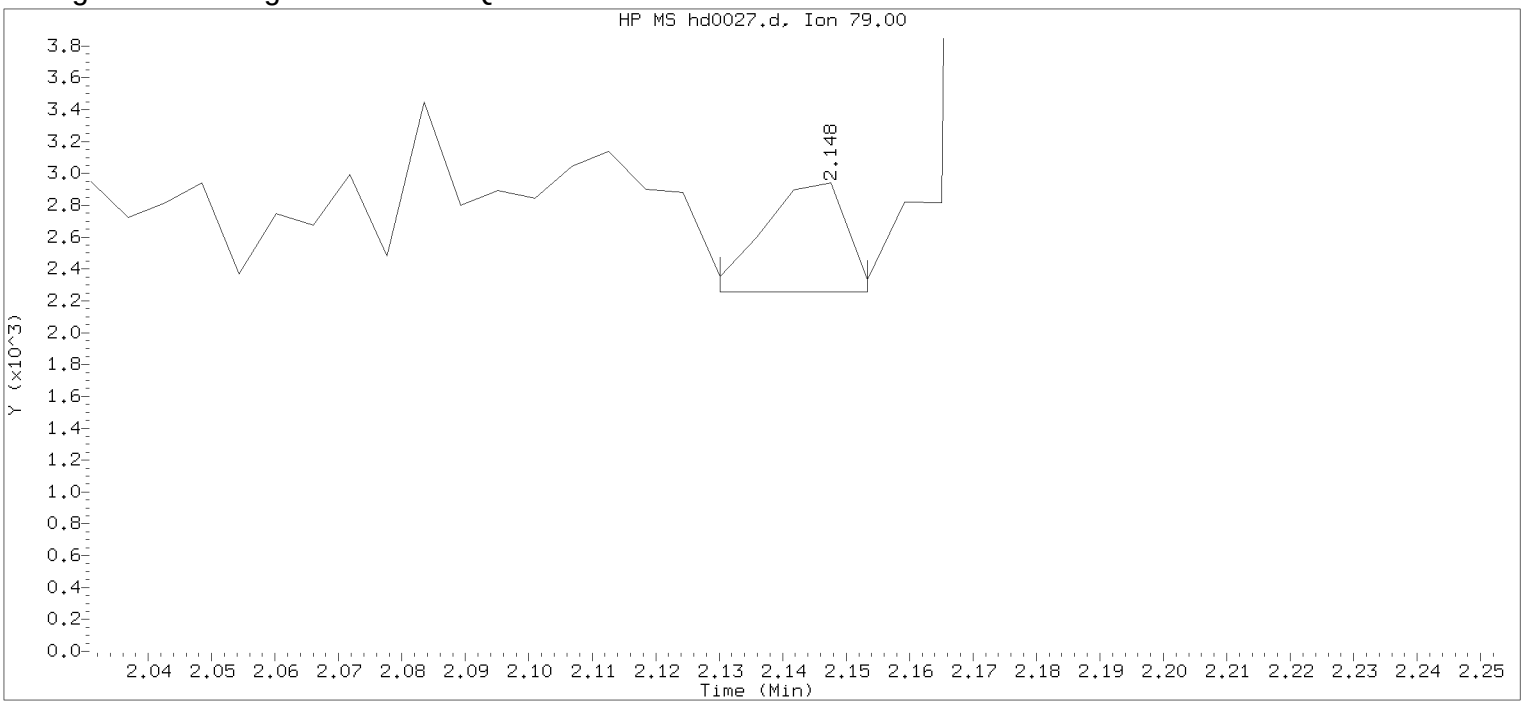
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:32.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0027.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:12 Analyst ID: bkc25363

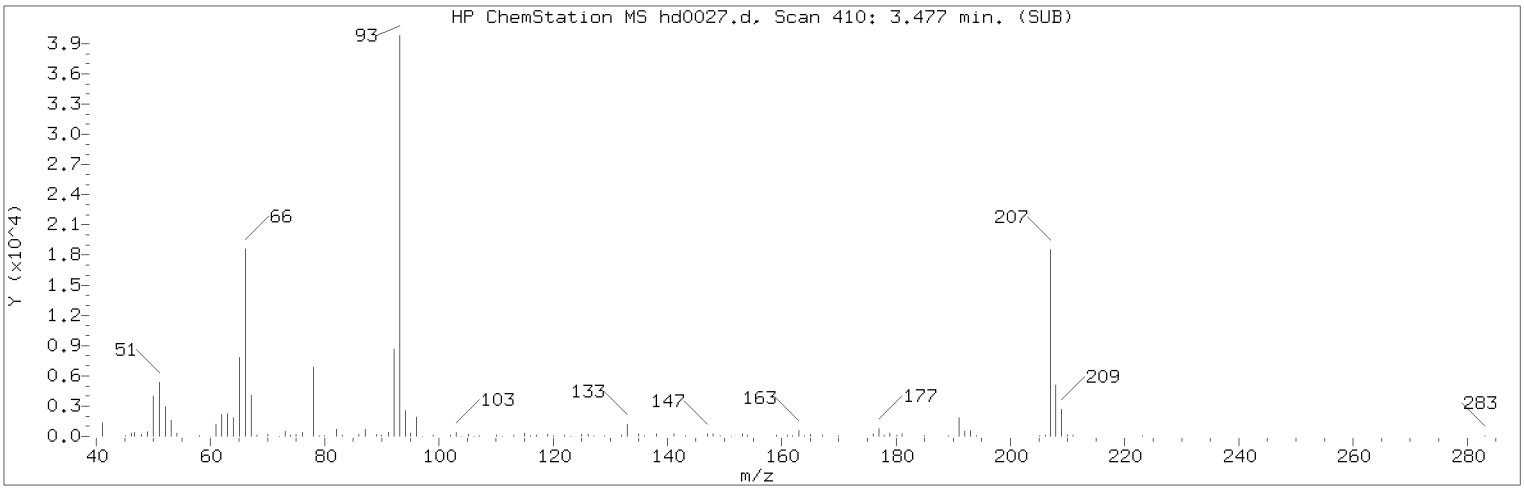
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 01:40
Date, time and analyst ID of latest file update: 03-Apr-2018 01:40 Automation

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0608

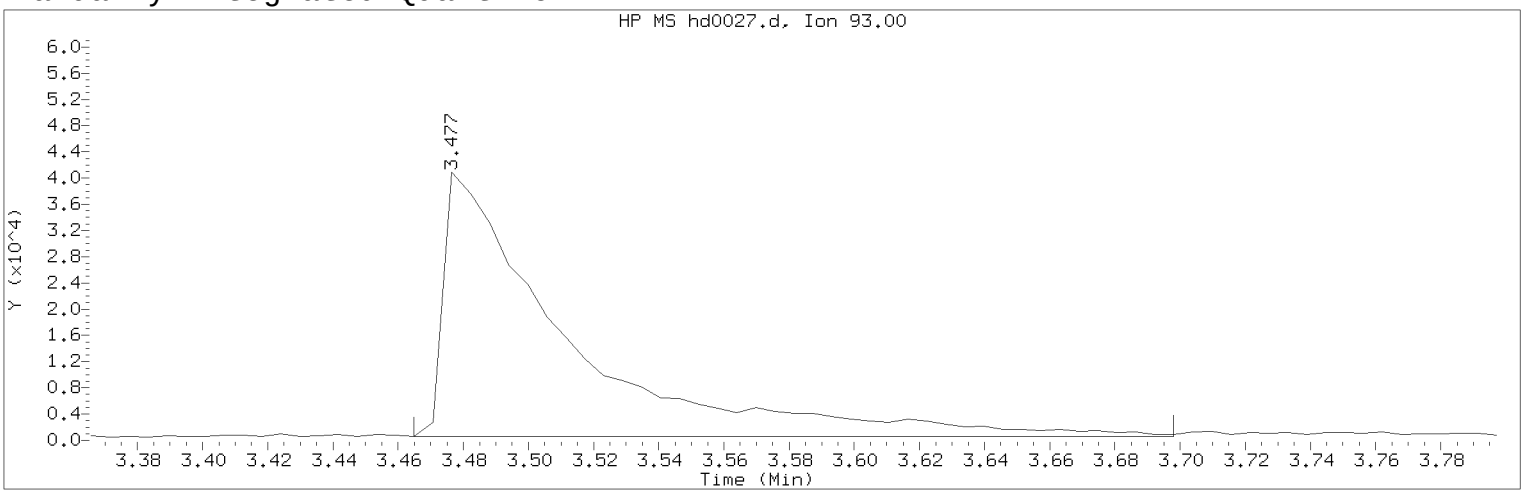
Compound Number : 6
Compound Name : Pyridine
Scan Number : 182
Retention Time (minutes) : 2.148
Quant Ion : 79.00
Area : 613
On-column Amount (ng/ul) : 0.0102
Integration start scan : 178 Integration stop scan: 182
Y at integration start : 2256 Y at integration end: 2256

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:32.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0027.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:32
Date, time and analyst ID of latest file update: 03-Apr-2018 12:32 bhs10208

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0608

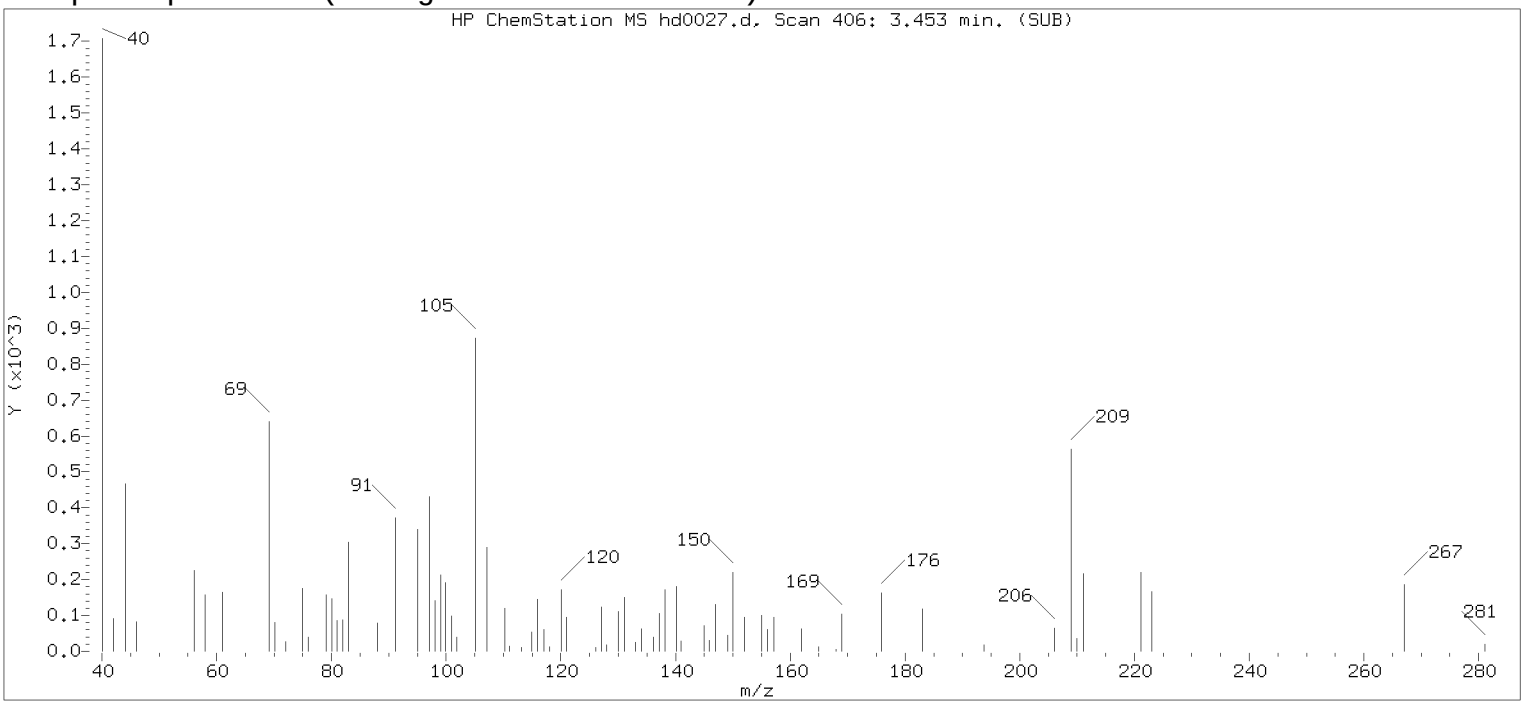
Compound Number : 8
Compound Name : 2-Picoline
Scan Number : 410
Retention Time (minutes) : 3.477
Quant Ion : 93.00
Area (flag) : 104526M
On-Column Amount (ng/ul) : 1.3751
Integration start scan : 407 Integration stop scan: 447
Y at integration start : 594 Y at integration end: 594

Reason for manual integration: improper integration

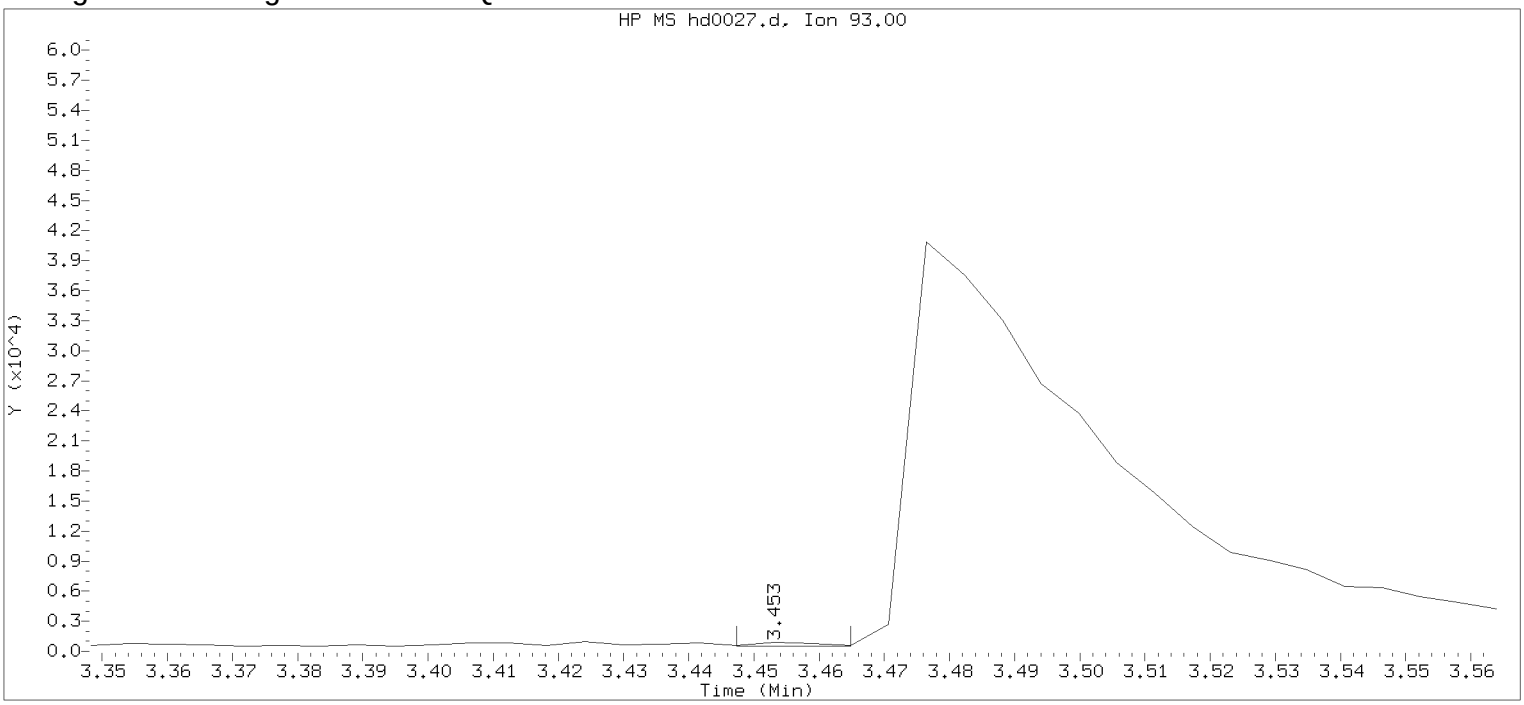
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:32.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0027.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:12 Analyst ID: bkc25363

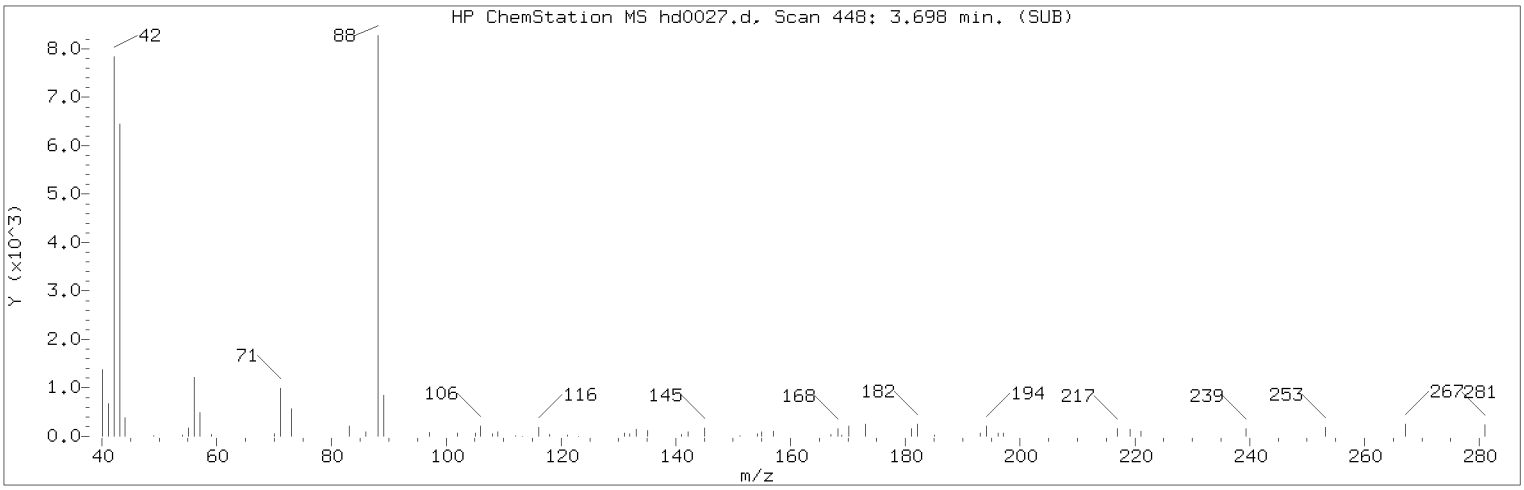
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 01:40
Date, time and analyst ID of latest file update: 03-Apr-2018 01:40 Automation

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0608

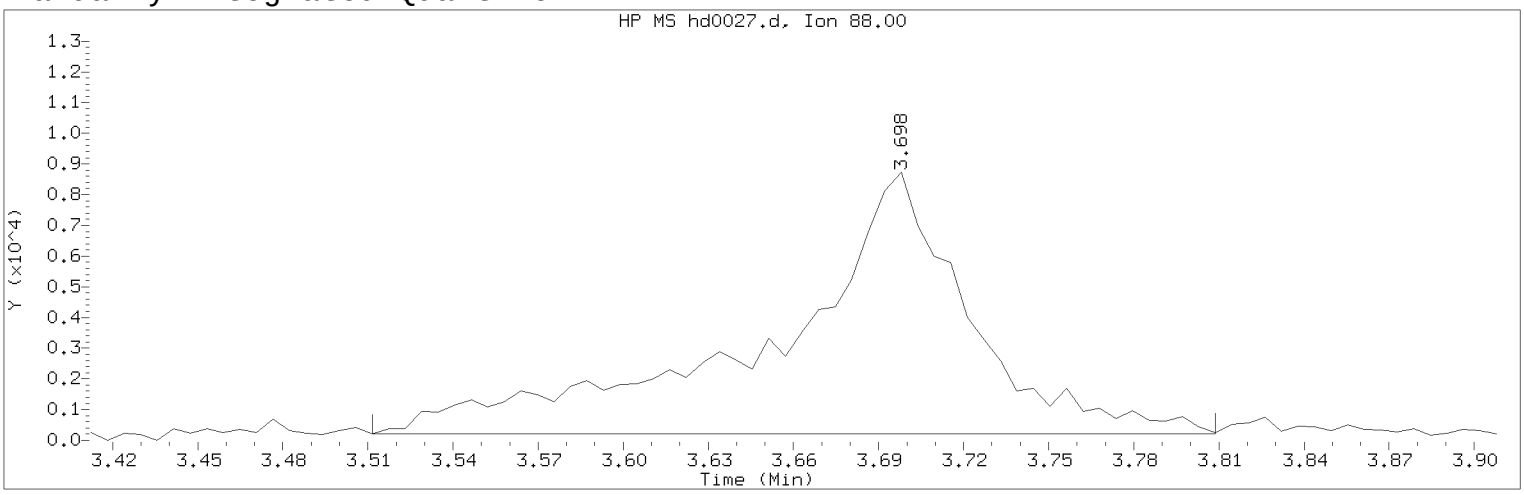
Compound Number : 8
Compound Name : 2-Picoline
Scan Number : 406
Retention Time (minutes) : 3.453
Quant Ion : 93.00
Area : 287
On-column Amount (ng/ul) : 0.0047
Integration start scan : 404 Integration stop scan: 407
Y at integration start : 482 Y at integration end: 482

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:32.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0027.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:32
Date, time and analyst ID of latest file update: 03-Apr-2018 12:32 bhs10208

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0608

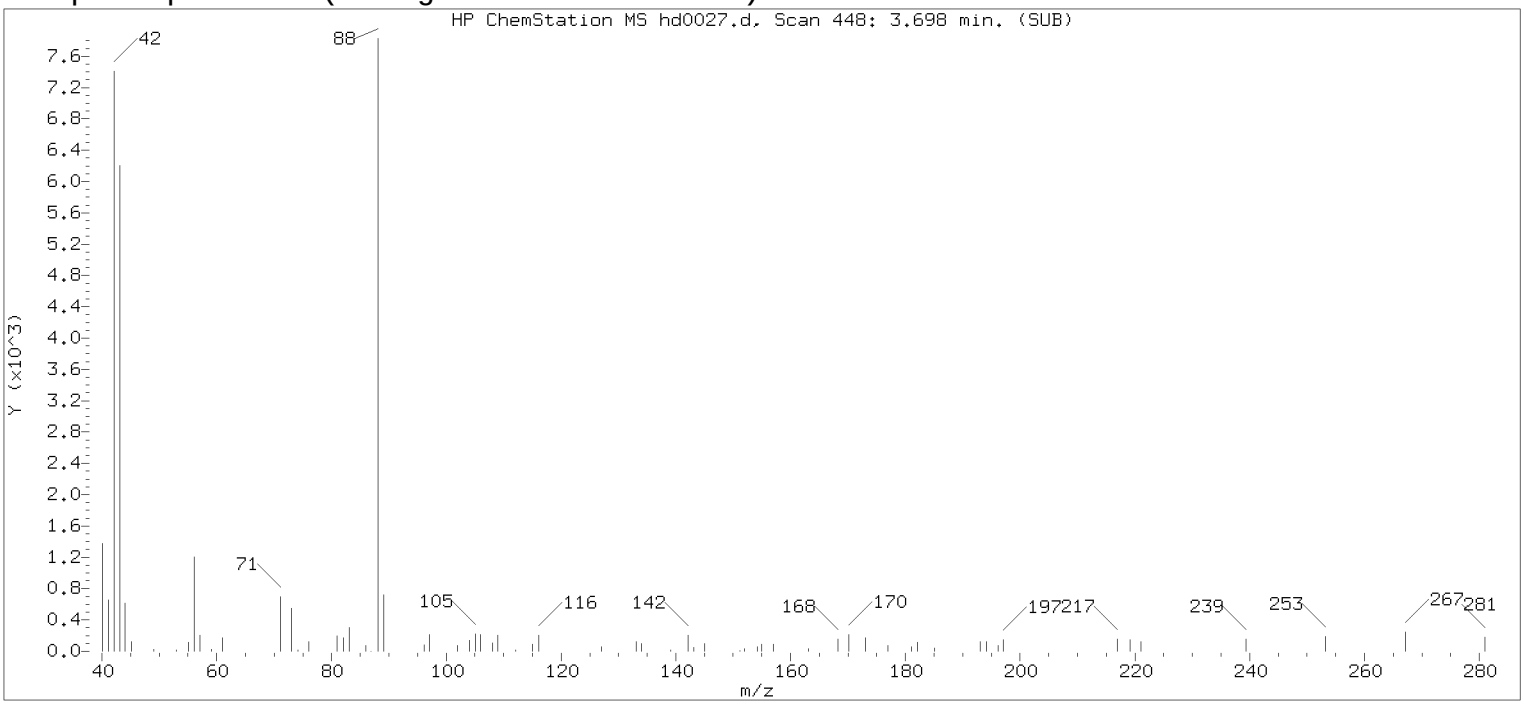
Compound Number : 9
Compound Name : N-Nitrosomethylethylamine
Scan Number : 448
Retention Time (minutes) : 3.698
Quant Ion : 88.00
Area (flag) : 40136M
On-Column Amount (ng/ul) : 1.3320
Integration start scan : 415 Integration stop scan: 466
Y at integration start : 215 Y at integration end: 213

Reason for manual integration: improper integration

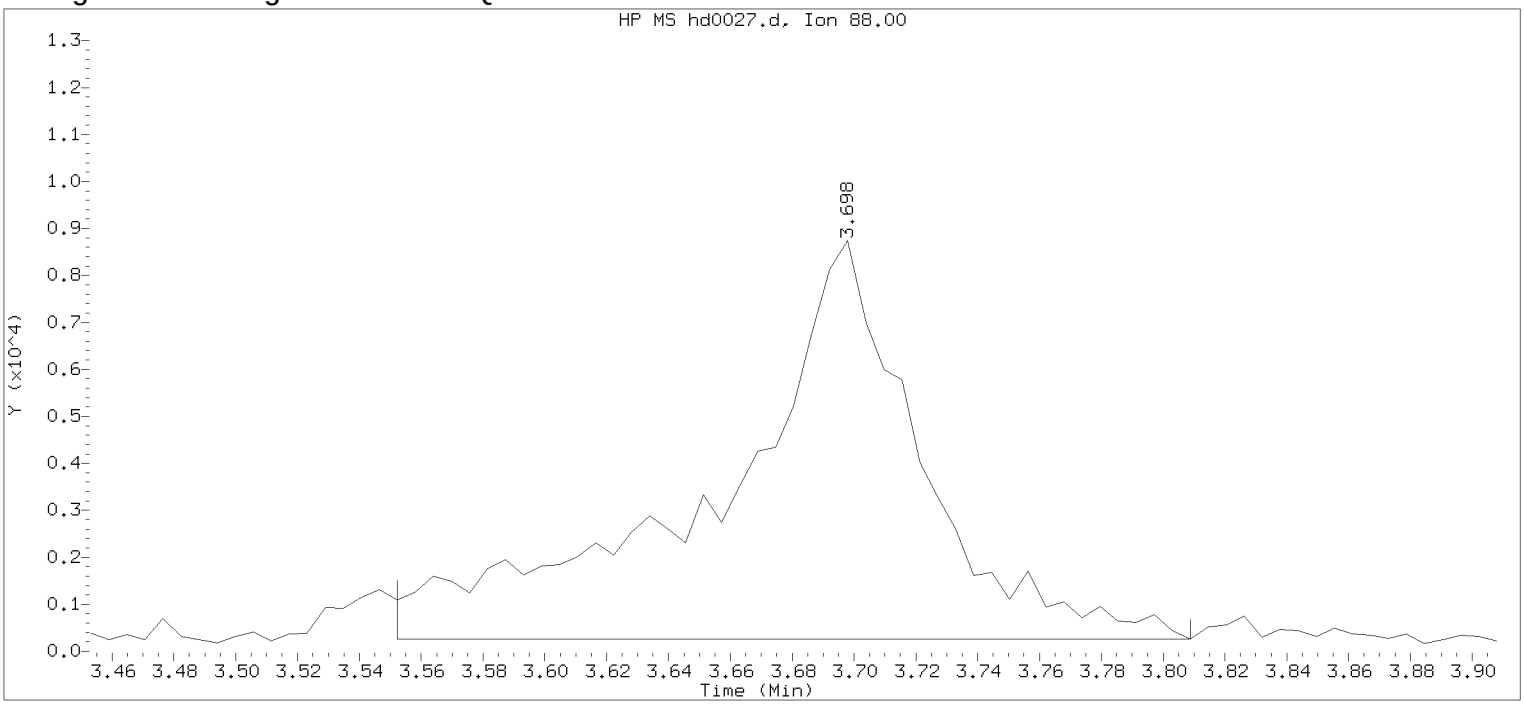
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:32.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0027.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:12 Analyst ID: bkc25363

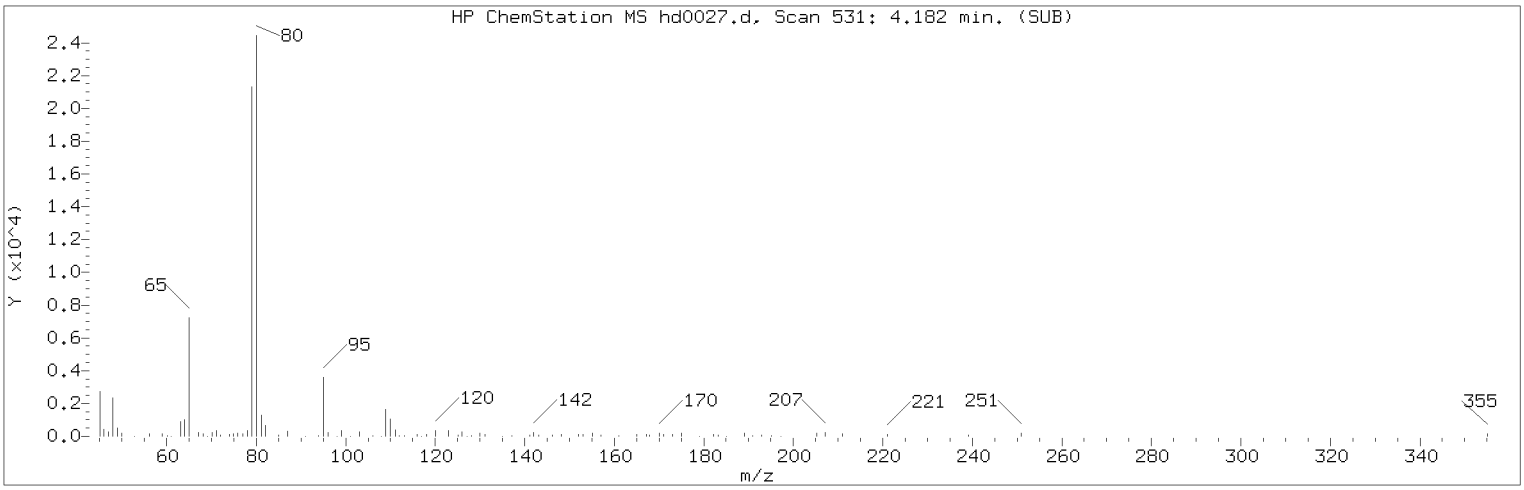
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 01:40
Date, time and analyst ID of latest file update: 03-Apr-2018 01:40 Automation

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0608

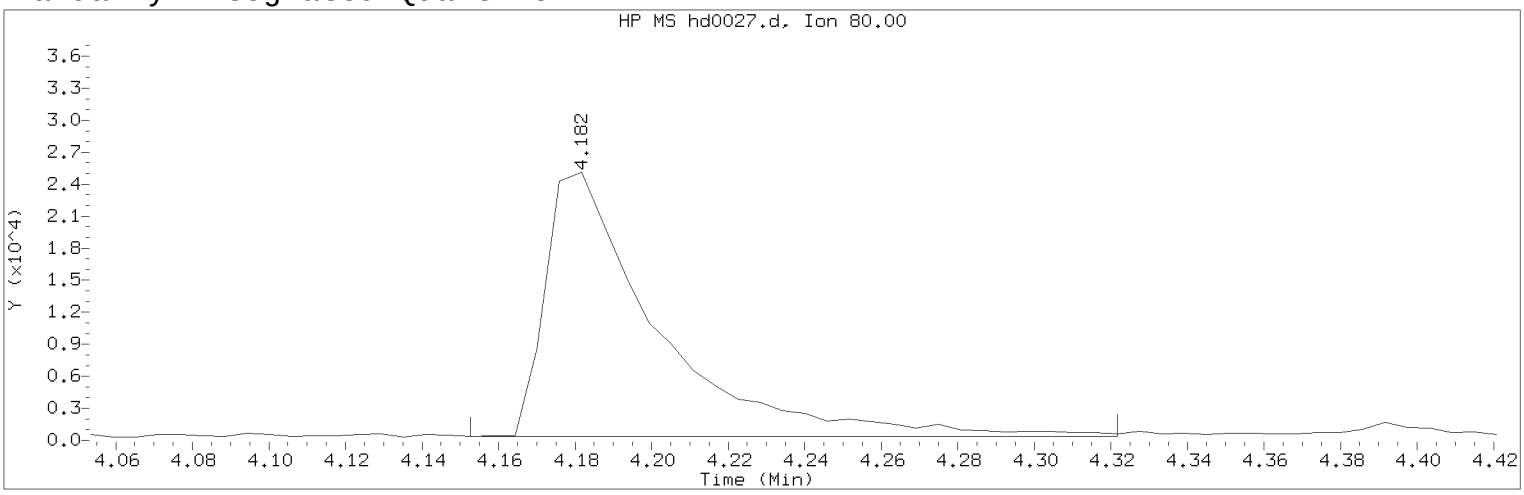
Compound Number : 9
Compound Name : N-Nitrosomethylethylamine
Scan Number : 448
Retention Time (minutes) : 3.698
Quant Ion : 88.00
Area : 37951
On-column Amount (ng/ul) : 1.2908
Integration start scan : 422 Integration stop scan: 466
Y at integration start : 260 Y at integration end: 260

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:32.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0027.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:32
Date, time and analyst ID of latest file update: 03-Apr-2018 12:32 bhs10208

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0608

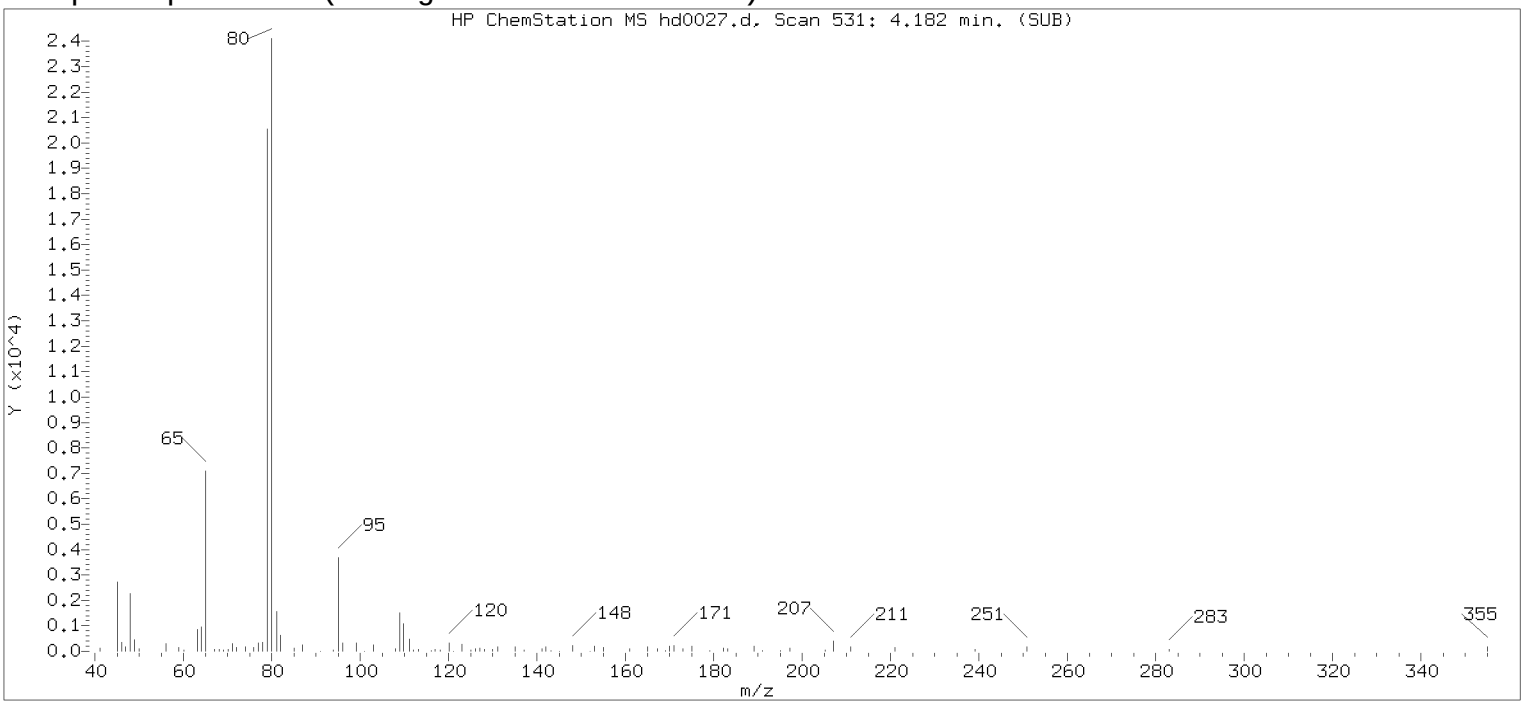
Compound Number : 10
Compound Name : Methyl methanesulfonate
Scan Number : 531
Retention Time (minutes) : 4.182
Quant Ion : 80.00
Area (flag) : 50506M
On-Column Amount (ng/ul) : 1.3641
Integration start scan : 525 Integration stop scan: 554
Y at integration start : 355 Y at integration end: 355

Reason for manual integration: improper integration

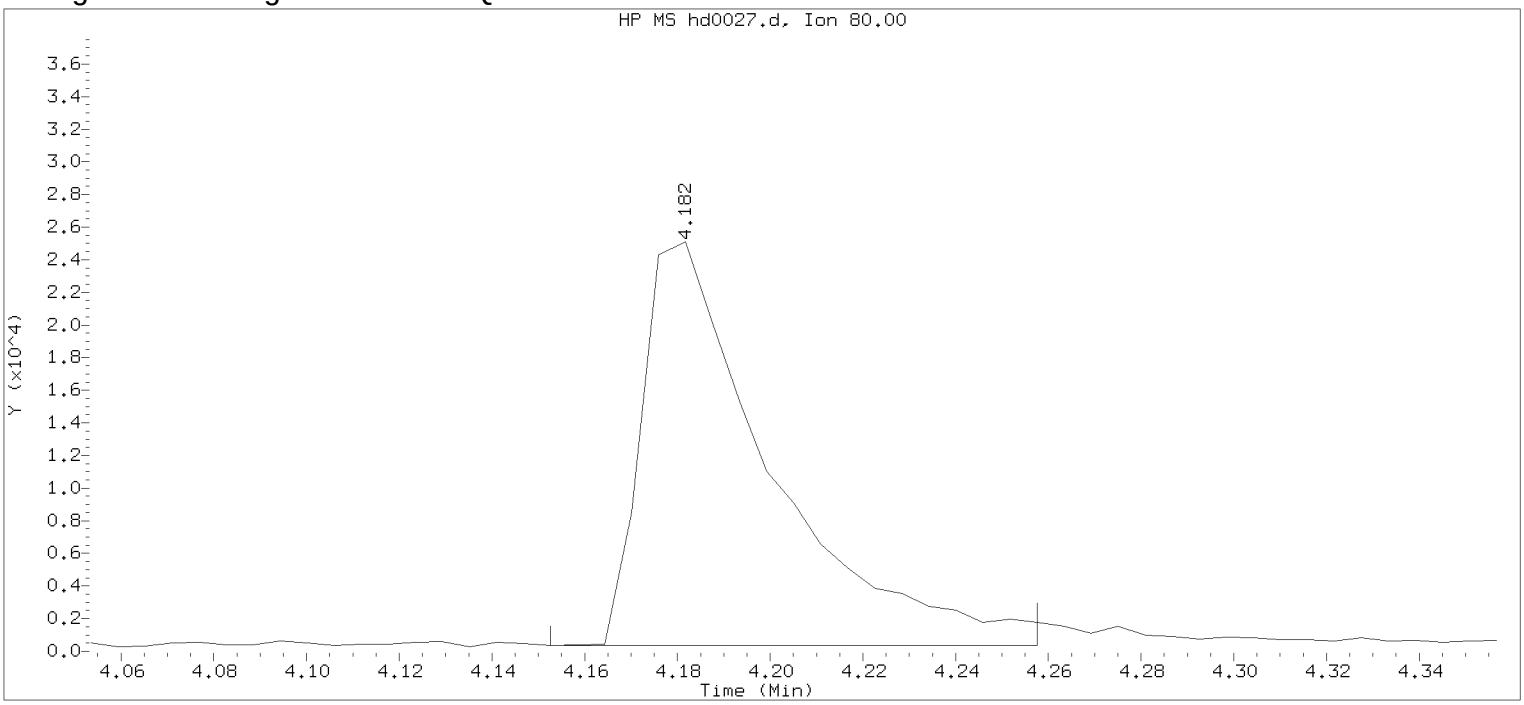
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:32.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0027.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:12 Analyst ID: bkc25363

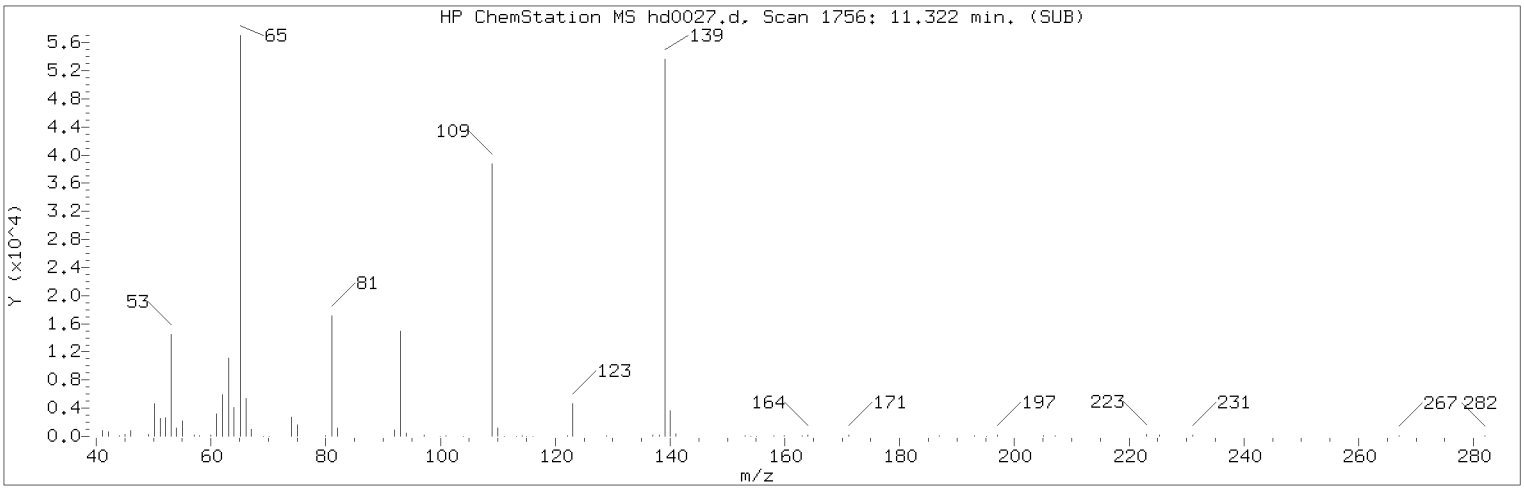
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 01:40
Date, time and analyst ID of latest file update: 03-Apr-2018 01:40 Automation

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0608

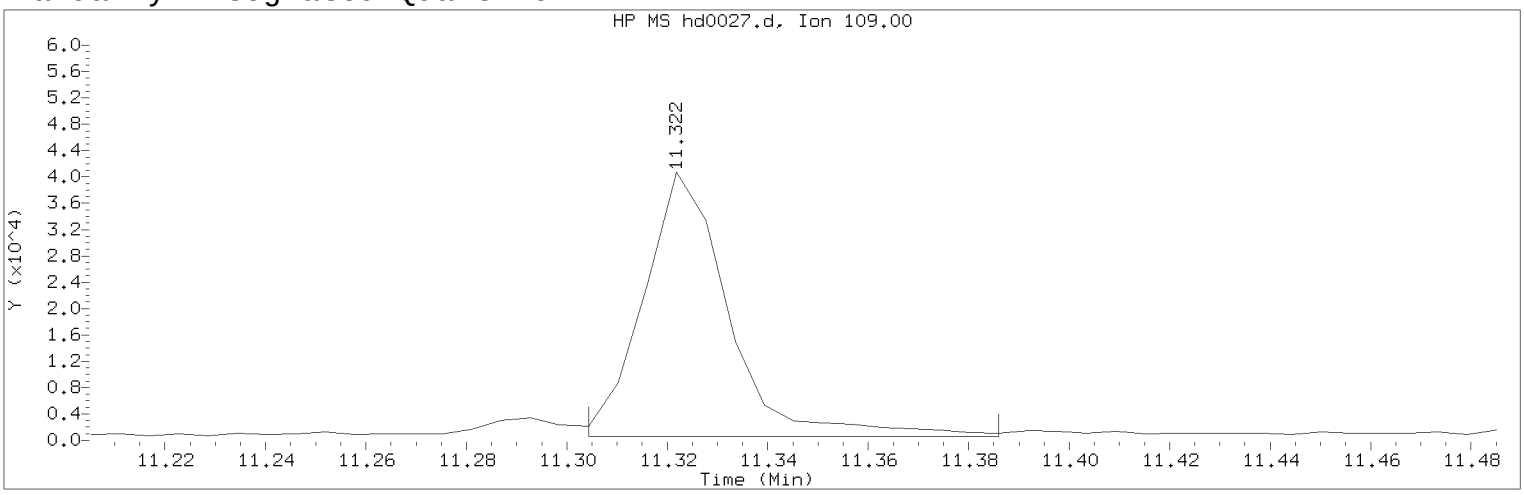
Compound Number : 10
Compound Name : Methyl methanesulfonate
Scan Number : 531
Retention Time (minutes) : 4.182
Quant Ion : 80.00
Area : 47923
On-column Amount (ng/ul) : 1.2764
Integration start scan : 525 Integration stop scan: 543
Y at integration start : 356 Y at integration end: 356

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:32.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0027.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:32
Date, time and analyst ID of latest file update: 03-Apr-2018 12:32 bhs10208

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0608

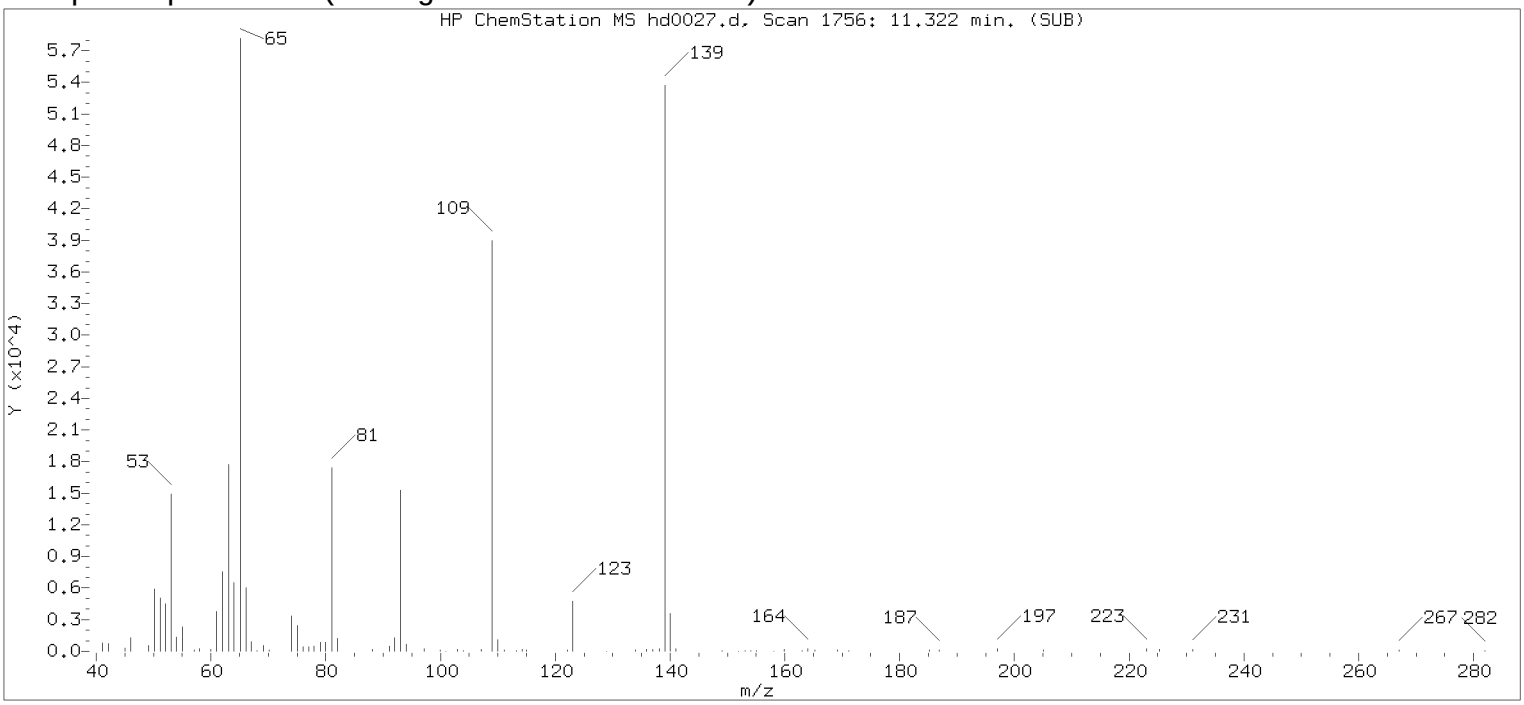
Compound Number : 122
Compound Name : 4-Nitrophenol
Scan Number : 1756
Retention Time (minutes) : 11.322
Quant Ion : 109.00
Area (flag) : 47365M
On-Column Amount (ng/ul) : 2.4812
Integration start scan : 1752 Integration stop scan: 1766
Y at integration start : 623 Y at integration end: 623

Reason for manual integration: improper integration

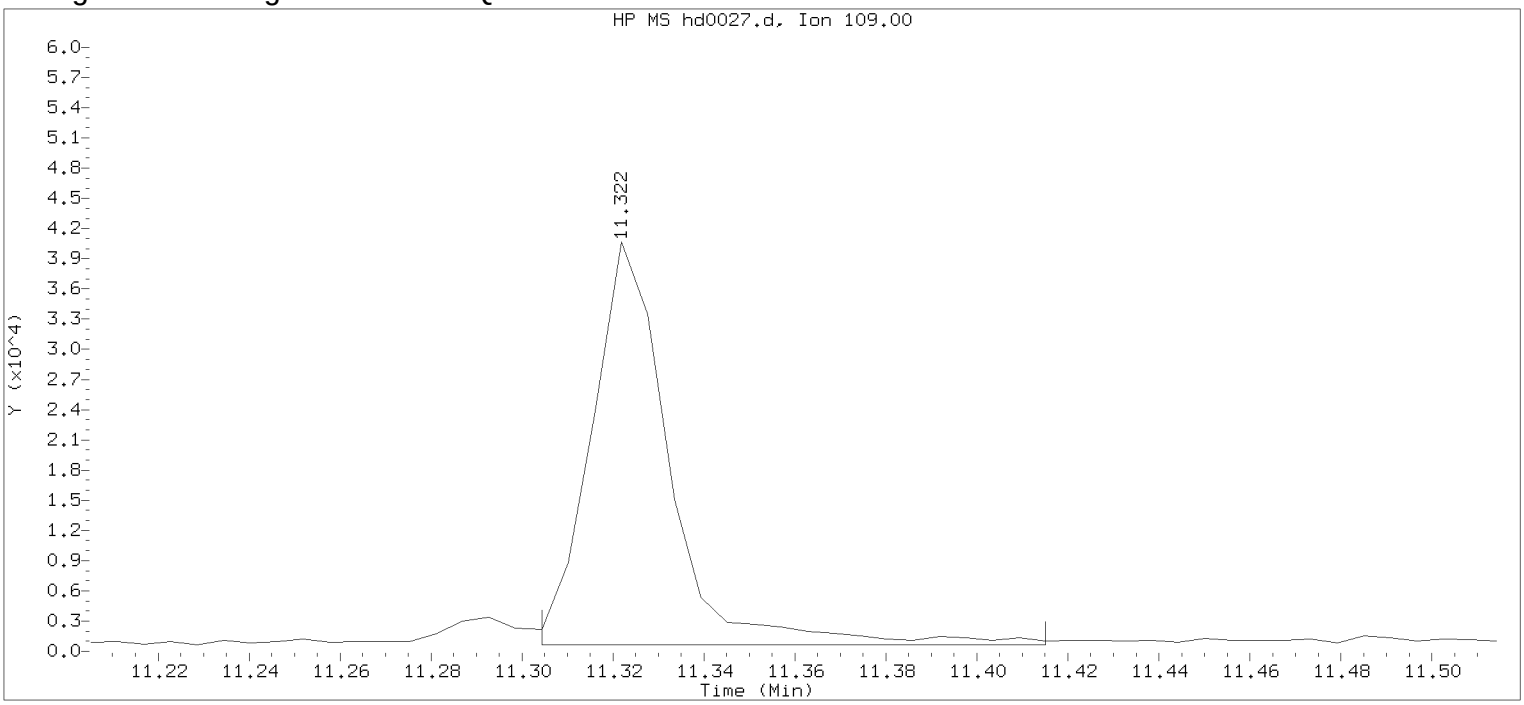
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:32.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0027.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:12 Analyst ID: bkc25363

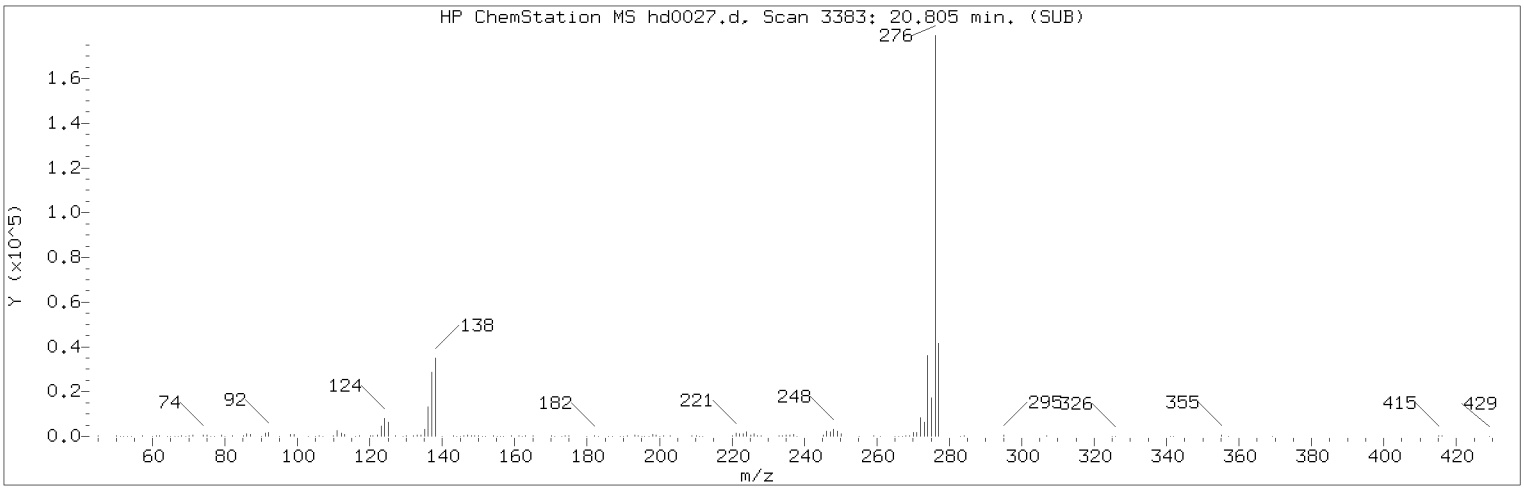
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 01:40
Date, time and analyst ID of latest file update: 03-Apr-2018 01:40 Automation

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0608

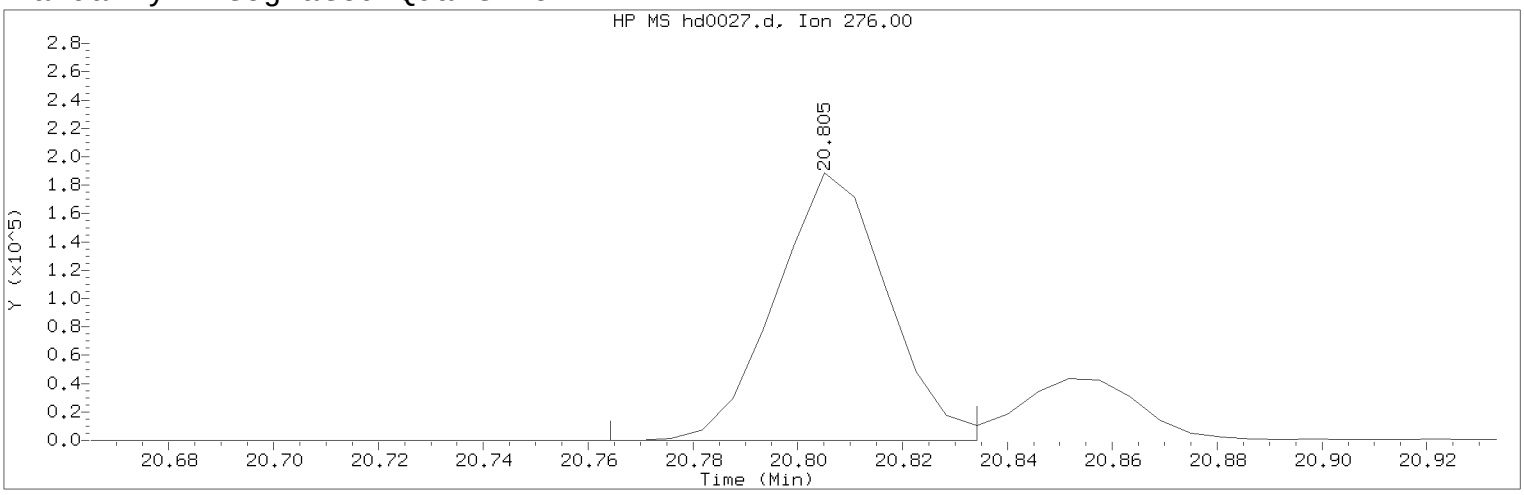
Compound Number : 122
Compound Name : 4-Nitrophenol
Scan Number : 1756
Retention Time (minutes) : 11.322
Quant Ion : 109.00
Area : 48120
On-column Amount (ng/ul) : 2.4374
Integration start scan : 1752 Integration stop scan: 1771
Y at integration start : 623 Y at integration end: 623

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:32.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0027.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:32
Date, time and analyst ID of latest file update: 03-Apr-2018 12:32 bhs10208

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0608

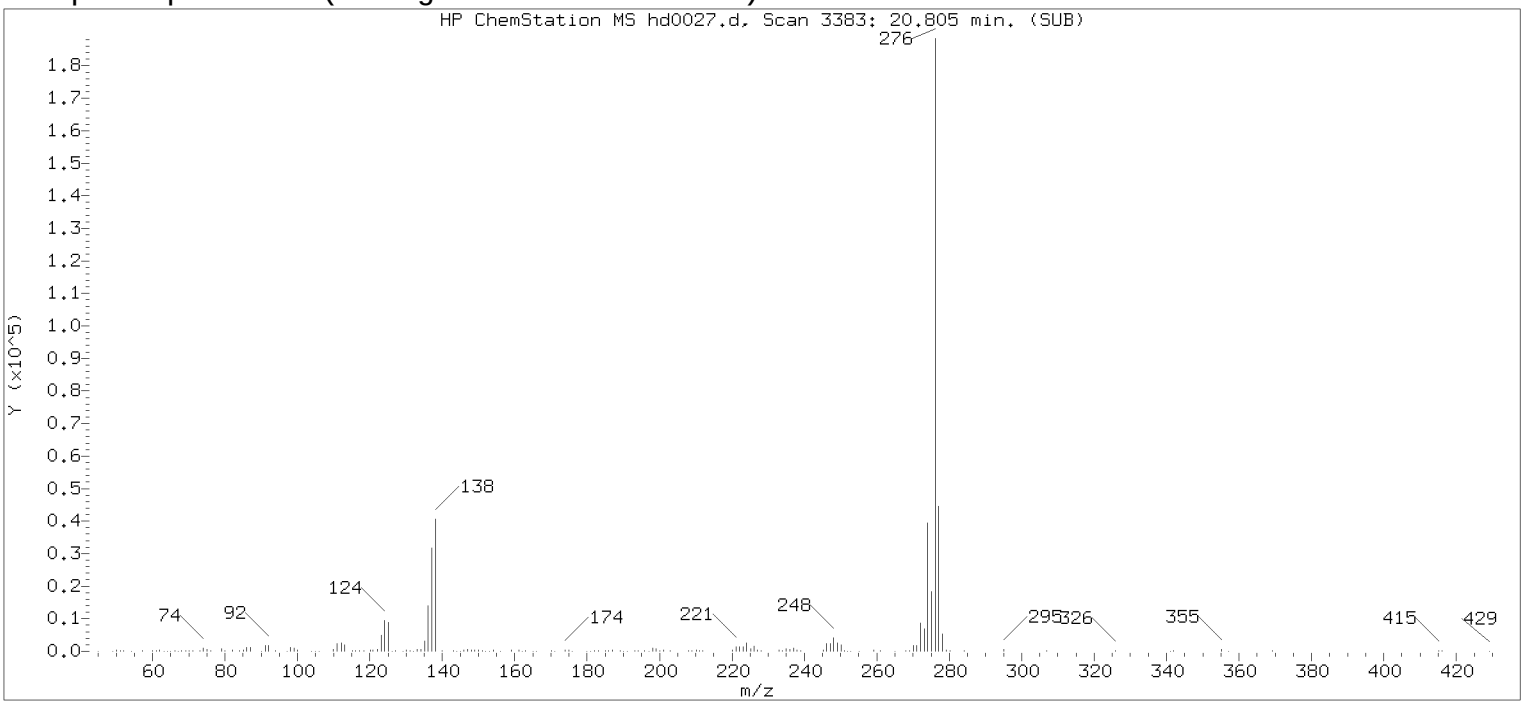
Compound Number : 227
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3383
Retention Time (minutes) : 20.805
Quant Ion : 276.00
Area (flag) : 279003M
On-Column Amount (ng/ul) : 1.4213
Integration start scan : 3375 Integration stop scan: 3387
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

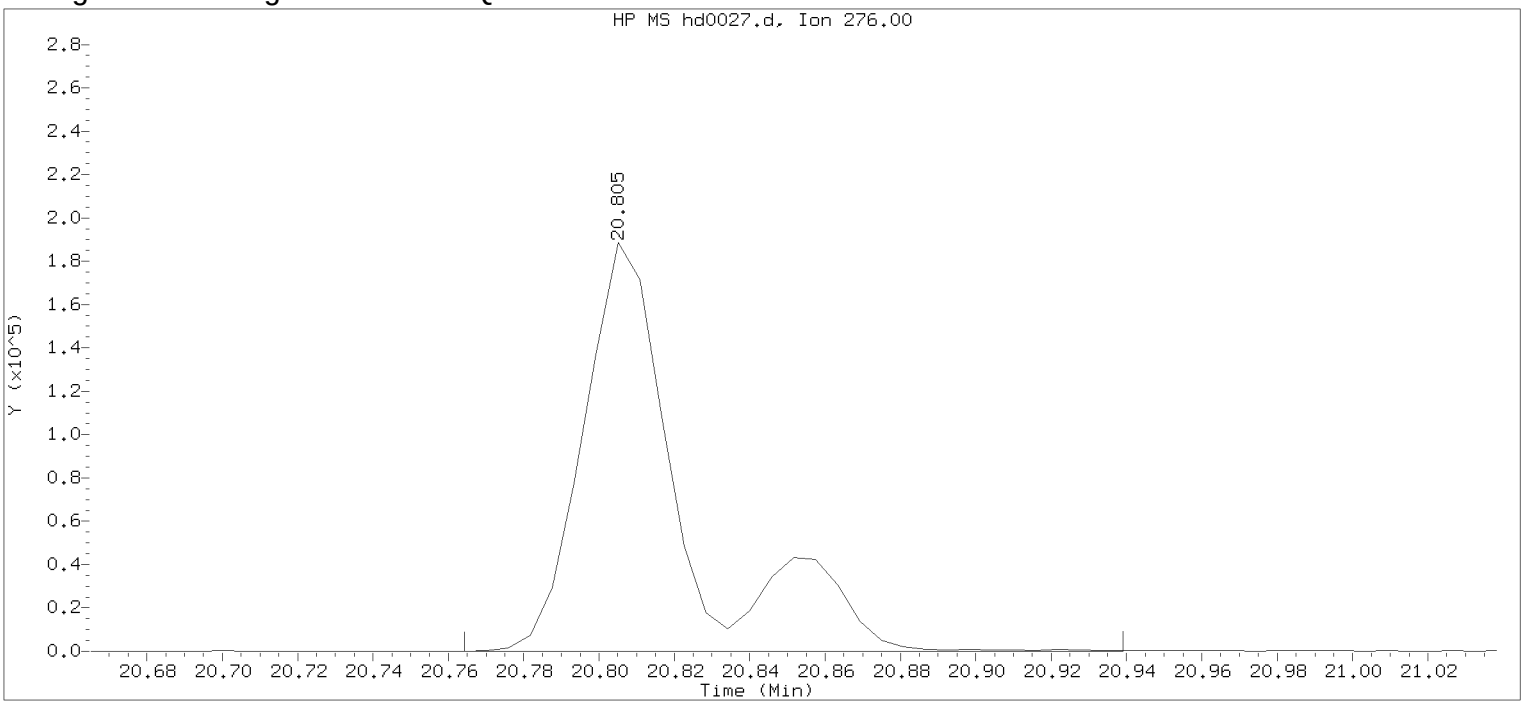
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:32. Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



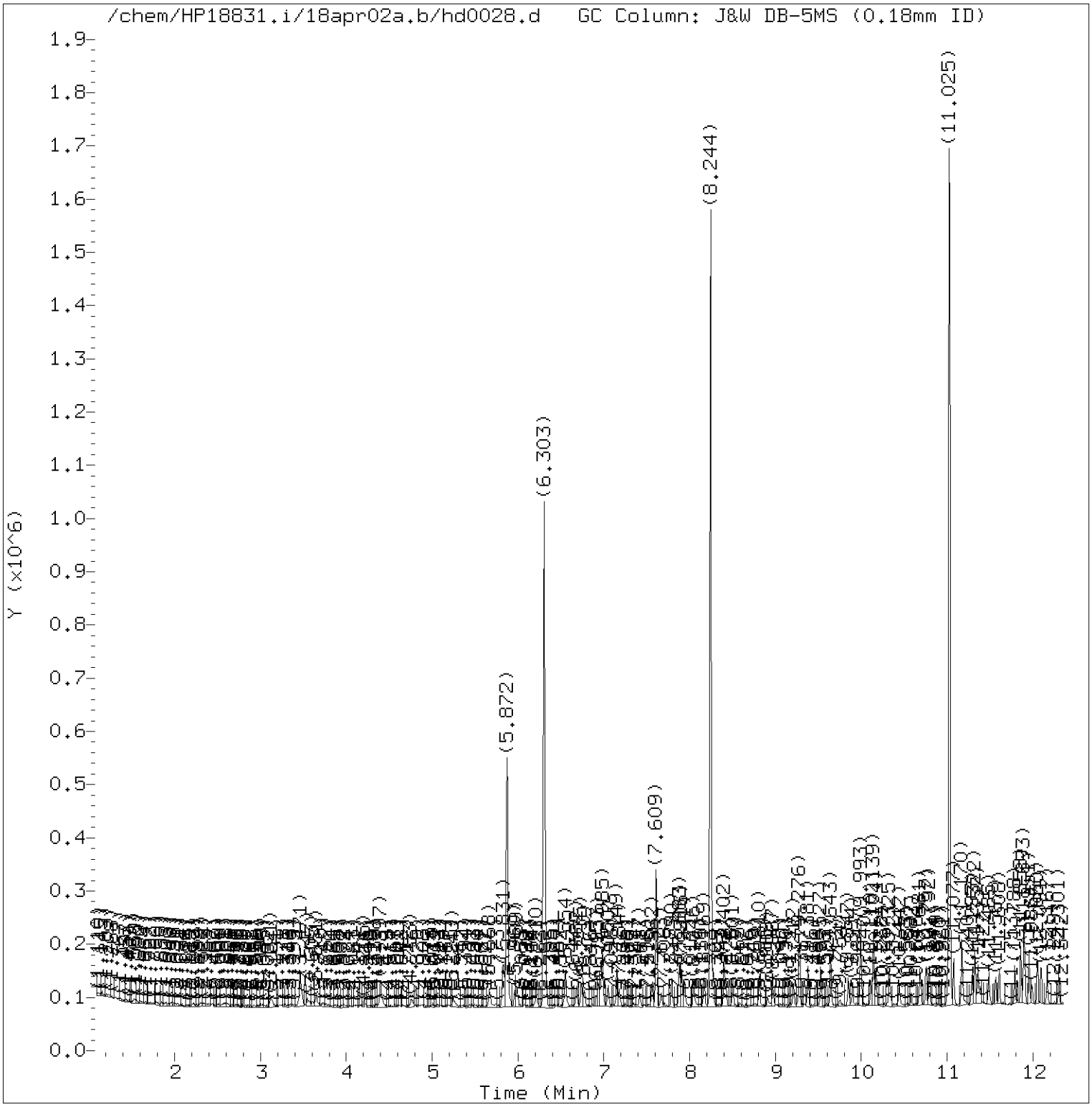
Data File: /chem/HP18831.i/18apr02a.b/hd0027.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 01:40
Date, time and analyst ID of latest file update: 03-Apr-2018 01:40 Automation

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0608

Compound Number : 227
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3383
Retention Time (minutes) : 20.805
Quant Ion : 276.00
Area : 347502
On-column Amount (ng/ul) : 1.5584
Integration start scan : 3375 Integration stop scan: 3405
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:32.
Target 3.5 esignature user id: bhsmith



Total Ion Chromatogram (TIC)

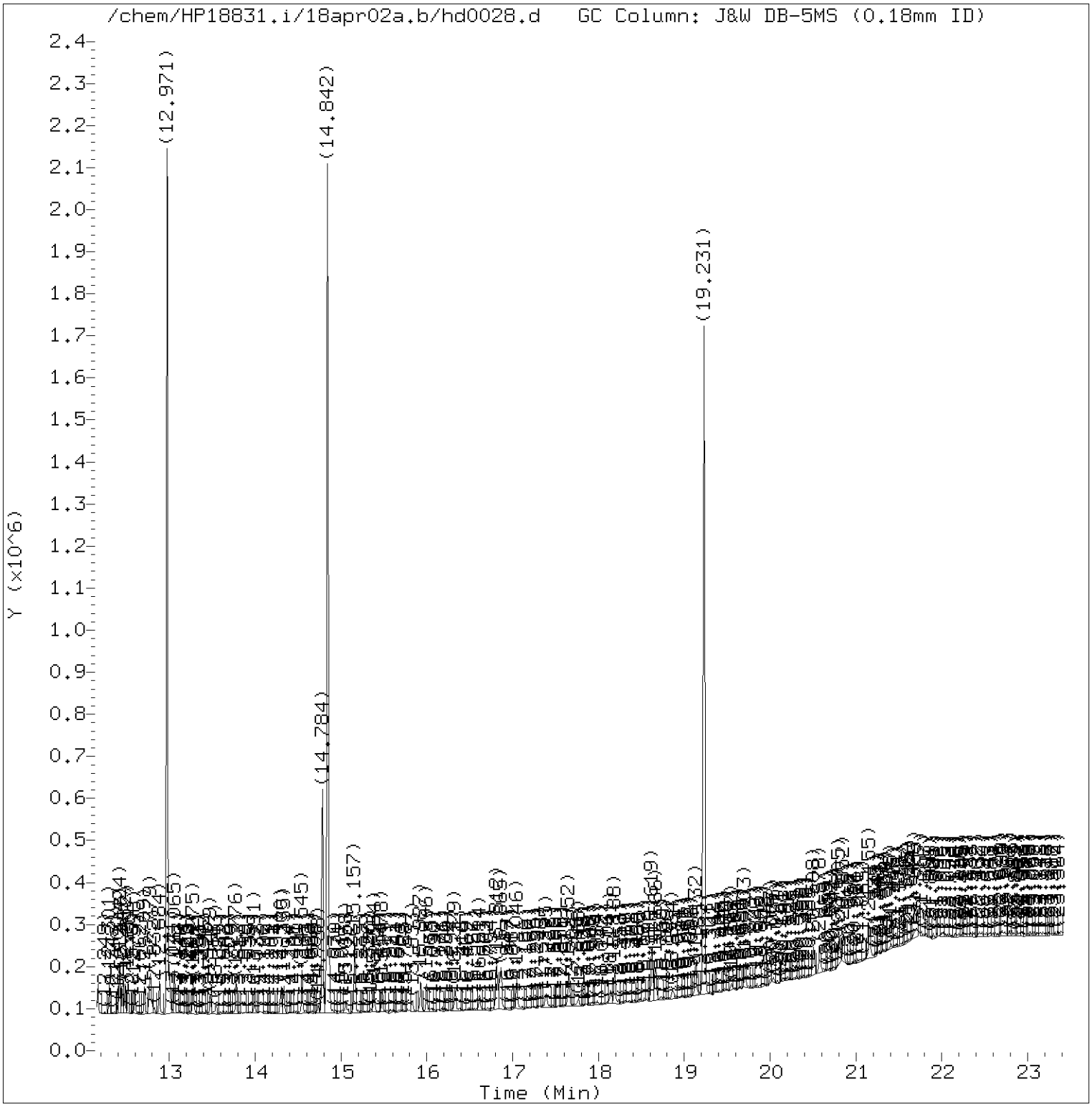
Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
2) 1,4-Dioxane	(1)	1.536	88	7211M	0.289
5) N-Nitrosodimethylamine	(1)	2.218	74	8369M	0.201
6) Pyridine	(1)	2.299	79	20941M	0.300
8) 2-Picoline	(1)	3.547	93	16137M	0.224
9) N-Nitrosomethylethylamine	(1)	3.733	88	10772M	0.377
10) Methyl methanesulfonate	(1)	4.199	80	8308M	0.237
12)$2-Fluorophenol	(1)	4.397	112	25233	0.434
14) N-Nitrosodiethylamine	(1)	4.759	102	6692M	0.235
16) Ethyl methanesulfonate	(1)	5.243	109	7243	0.237
43) Total Cresols	(1)			27757	0.460
17) Benzaldehyde	(1)	5.668	77	12378	0.257
18)$Phenol-d6	(1)	5.820	99	34761	0.451
19) Phenol	(1)	5.837	94	20988	0.236
20) Aniline	(1)	5.837	93	21637	0.215
21) a-methylstyrene	(1)	5.901	118	3748	0.171
23) bis(2-Chloroethyl)ether	(1)	5.960	93	15460	0.240
24) 2-Chlorophenol	(1)	5.989	128	14425M	0.238
25) 1,3-Dichlorobenzene	(1)	6.210	146	14980M	0.224
26)*1,4-Dichlorobenzene-d4	(1)	6.303	152	211838	5.000
27) 1,4-Dichlorobenzene	(1)	6.333	146	15078	0.226
29) 1,2-Dichlorobenzene	(1)	6.548	146	15249	0.237
28) Benzyl alcohol	(1)	6.554	108	7622	0.212
31) Indene	(1)	6.682	115	16160	0.181
32) 2-Methylphenol	(1)	6.735	108	12624M	0.225
34) 2,2'-oxybis(1-Chloropropane)	(1)	6.776	45	17518	0.225
35) bis(2-Chloroisopropyl)ether	(1)	6.776	45	17518	0.225
36) N-Nitrosopyrrolidine	(1)	6.910	100	7119	0.231
37) Acetophenone	(1)	6.939	105	19946	0.239
39) N-Nitroso-di-n-propylamine	(1)	6.962	70	12577	0.258
40) N-Nitrosomorpholine	(1)	6.980	56	8605	0.241
41) o-Toluidine	(1)	6.985	106	21426	0.219
38) 4-Methylphenol	(1)	6.985	108	15133	0.235
44) Hexachloroethane	(1)	7.050	117	6518	0.239
45)$Nitrobenzene-d5	(2)	7.149	82	30097	0.431
46) Nitrobenzene	(2)	7.178	77	16122	0.232
101) Isosafrole	(3)			12960	0.231
50) N-Nitrosopiperidine	(2)	7.417	114	6753	0.222
52) Isophorone	(2)	7.562	82	28181	0.228
53) 2-Nitrophenol	(2)	7.673	139	6639	0.232
55) 2,4-Dimethylphenol	(2)	7.790	107	13974	0.225

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
59) Benzoic acid	(2)	7.883	105	44852	1.288
57) O,O,O-Triethylphosphorothioate	(2)	7.906	198	6908	0.219
58) bis(2-Chloroethoxy)methane	(2)	7.941	93	17052	0.217
62) 2,4-Dichlorophenol	(2)	8.046	162	11205	0.216
126) 2,4_2,6-Dinitrotoluenes	(3)			14519	0.457
64) 1,2,4-Trichlorobenzene	(2)	8.169	180	12362	0.217
67)*Naphthalene-d8	(2)	8.244	136	794950	5.000
69) Naphthalene	(2)	8.274	128	38853	0.223
70) 4-Chloroaniline	(2)	8.402	127	17032	0.237
71) 2,6-Dichlorophenol	(2)	8.402	162	10562	0.210
72) Hexachloropropene	(2)	8.425	213	8692	0.215
74) Hexachlorobutadiene	(2)	8.501	225	7351	0.212
152) Diallate trans/cis	(4)			13360	0.231
78) Quinoline	(2)	8.810	129	24352	0.220
79) Caprolactam	(2)	8.909	113	2601	0.167
80) N-Nitrosodi-n-butylamine	(2)	8.967	84	10627	0.202
83) 4-Chloro-3-methylphenol	(2)	9.206	107	12109	0.227
85) Safrole	(2)	9.282	162	10275	0.218
86) 2-Methylnaphthalene	(2)	9.381	142	24992	0.213
87) 1-Methylnaphthalene	(2)	9.533	142	24627	0.230
88) Hexachlorocyclopentadiene	(3)	9.643	237	6719	0.185
89) 1,2,4,5-Tetrachlorobenzene	(3)	9.649	216	13264	0.222
92) cis-Isosafrole	(3)	9.754	162	2131	0.041
94) 2,4,6-Trichlorophenol	(3)	9.847	196	8409	0.220
96) 2,4,5-Trichlorophenol	(3)	9.900	196	8649	0.219
97)$2-Fluorobiphenyl	(3)	9.993	172	57269	0.436
98) trans-Isosafrole	(3)	10.110	162	10829	0.190
99) 1,1'-Biphenyl	(3)	10.139	154	27981	0.211
100) 2-Chloronaphthalene	(3)	10.145	162	23166	0.204
102) 1-Chloronaphthalene	(3)	10.174	162	25128	0.242
104) Diphenyl ether	(3)	10.319	170	17010	0.220
105) 2-Nitroaniline	(3)	10.337	138	7320	0.222
109) 1,4-Naphthoquinone	(3)	10.442	158	8495	0.186
110) 1,4-Dinitrobenzene	(3)	10.582	168	3149	0.197
111) Dimethylphthalate	(3)	10.681	163	30077	0.232
112) 1,3-Dinitrobenzene	(3)	10.692	168	3457	0.191
114) 2,6-Dinitrotoluene	(3)	10.751	165	6555	0.239
115) Acenaphthylene	(3)	10.792	152	36437	0.217
118) 3-Nitroaniline	(3)	11.001	138	5712	0.197
119)*Acenaphthene-d10	(3)	11.025	164	397526	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120) Acenaphthene	(3)	11.077	153	25699	0.224
121) 2,4-Dinitrophenol	(3)	11.170	184	19982	1.397
123) Pentachlorobenzene	(3)	11.293	250	11108	0.214
122) 4-Nitrophenol	(3)	11.322	109	18438	1.016
125) Dibenzofuran	(3)	11.357	168	34182	0.220
124) 2,4-Dinitrotoluene	(3)	11.386	165	7964	0.218
127) 1-Naphthylamine	(3)	11.485	143	24353	0.207
128) 2,3,4,6-Tetrachlorophenol	(3)	11.567	232	6916	0.213
129) 2-Naphthylamine	(3)	11.608	143	24959	0.223
130) Diethylphthalate	(3)	11.788	149	26778	0.213
132) Fluorene	(3)	11.858	166	28652	0.225
131) Thionazin	(3)	11.887	107	5285	0.220
134) 5-Nitro-o-toluidine	(3)	11.899	152	6920	0.206
133) 4-Chlorophenyl-phenylether	(3)	11.899	204	13736	0.222
135) 4-Nitroaniline	(3)	11.911	138	6595	0.223
136) 4,6-Dinitro-2-methylphenol	(4)	11.957	198	14970	0.765
138) NDPA as diphenylamine	(4)	12.050	169	23108	0.220
137) N-Nitrosodiphenylamine	(4)	12.050	169	23108	0.220
140) 1,2-Diphenylhydrazine	(4)	12.091	77	30601	0.221
141)$2,4,6-Tribromophenol	(3)	12.167	330	6976	0.403
143) Tetraethyldithiopyrophosphate	(4)	12.301	97	6157	0.257
145) 1,3,5-Trinitrobenzene	(4)	12.400	213	1936	0.162
146) Diallate (peak 1)	(4)	12.418	86	10831	0.180
147) Phorate	(4)	12.424	75	17792	0.171
148) Phenacetin	(4)	12.447	108	13135	0.200
149) 4-Bromophenyl-phenylether	(4)	12.488	248	8416	0.220
150) Diallate (peak 2)	(4)	12.511	86	2529M	0.051
151) Hexachlorobenzene	(4)	12.523	284	8483	0.217
153) Dimethoate	(4)	12.598	87	10577	0.193
154) Atrazine	(4)	12.709	200	6988	0.209
156) Pentachlorophenol	(4)	12.762	266	3971	0.164
158) Pentachloronitrobenzene	(4)	12.773	237	3407	0.193
157) 4-Aminobiphenyl	(4)	12.785	169	25472	0.211
159) Pronamide	(4)	12.884	173	12506	0.202
160)*Phenanthrene-d10	(4)	12.971	188	801950	5.000
162) Phenanthrene	(4)	13.001	178	42105	0.225
161) Dinoseb	(4)	13.012	211	3817	0.121
164) Anthracene	(4)	13.065	178	41856	0.219
170) Carbazole	(4)	13.280	167	37222	0.218
171) Methyl parathion	(4)	13.479	109	6893	0.166

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
173) Di-n-butylphthalate	(4)	13.776	149	45854	0.207
175) Parathion	(4)	13.991	109	5507	0.201
176) 4-Nitroquinoline-1-oxide	(4)	13.991	190	1334	0.073
177) Octachlorostyrene	(4)	14.306	308	2820	0.187
179) Isodrin	(4)	14.335	193	4920	0.218
181) Fluoranthene	(4)	14.545	202	48192	0.220
182) Benzidine	(5)	14.784	184	241063	1.807
183)*Pyrene-d10	(5)	14.842	212	850025	5.000
185) Pyrene	(5)	14.866	202	50739	0.225
230) Total PAHs	(6)			699340	3.927
187)$Terphenyl-d14	(5)	15.157	244	66323	0.443
190) p-Dimethylaminoazobenzene	(5)	15.384	225	6982	0.191
193) Chlorobenzilate	(5)	15.484	139	12804	0.194
195) 3,3'-Dimethylbenzidine	(5)	15.927	212	29487	0.199
196) Butylbenzylphthalate	(5)	15.996	149	20434	0.206
199) 2-Acetylaminofluorene	(5)	16.329	181	15632	0.171
204) Benzo(a)anthracene	(5)	16.807	228	44793	0.215
201) 3,3'-Dichlorobenzidine	(5)	16.824	252	16322	0.206
203) 4,4'-Methylenebis(2-chloroanil	(5)	16.847	231	9203	0.205
205) Chrysene	(5)	16.865	228	43009	0.216
207) bis(2-Ethylhexyl)phthalate	(5)	17.046	149	29264	0.202
211) 6-Methylchrysene	(5)	17.652	242	30480	0.208
213) Di-n-octylphthalate	(6)	18.188	149	49211	0.193
214) Benzo(b)fluoranthene	(6)	18.619	252	43617	0.210
215) 7,12-Dimethylbenz[a]anthracene	(6)	18.631	256	15297	0.183
216) Benzo(k)fluoranthene	(6)	18.666	252	42511	0.218
219) Benzo(a)pyrene	(6)	19.132	252	41674	0.218
221)*Perylene-d12	(6)	19.231	264	825782	5.000
223) 3-Methylcholanthrene	(6)	19.709	268	20606	0.215
225) Dibenz(a,h)acridine	(6)	20.508	279	35668	0.204
226) Dibenz(a,j)acridine	(6)	20.578	279	35541	0.203
227) Indeno(1,2,3-cd)pyrene	(6)	20.805	276	38697M	0.205
228) Dibenz(a,h)anthracene	(6)	20.852	278	40392M	0.208
229) Benzo(g,h,i)perylene	(6)	21.155	276	42495M	0.214

M = Compound was manually integrated.
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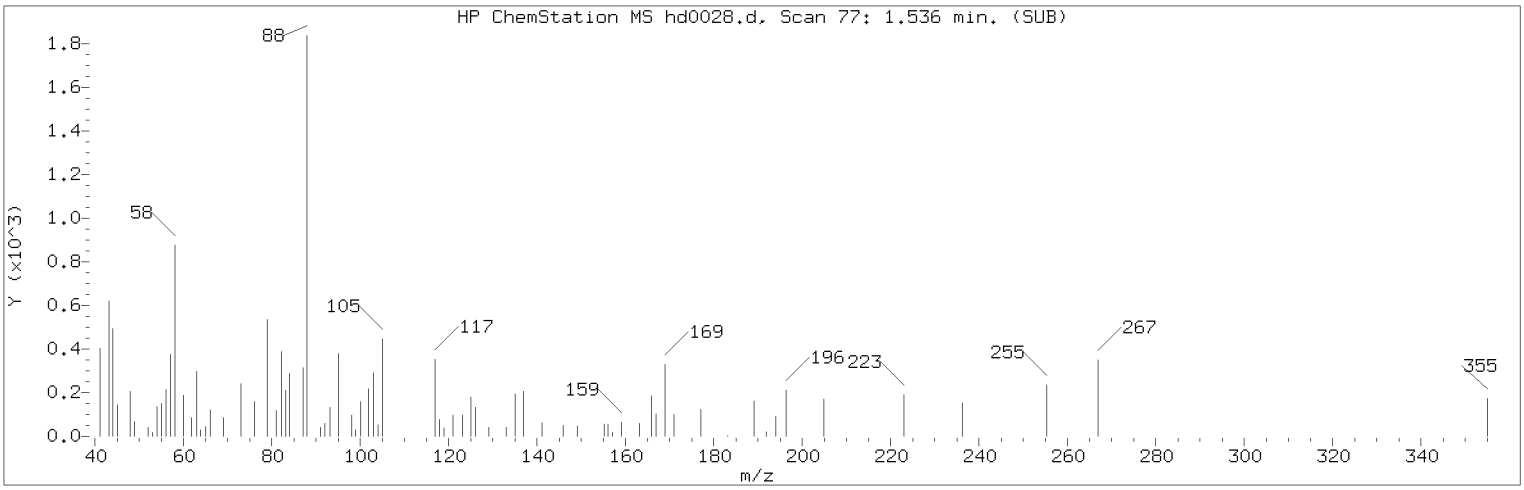
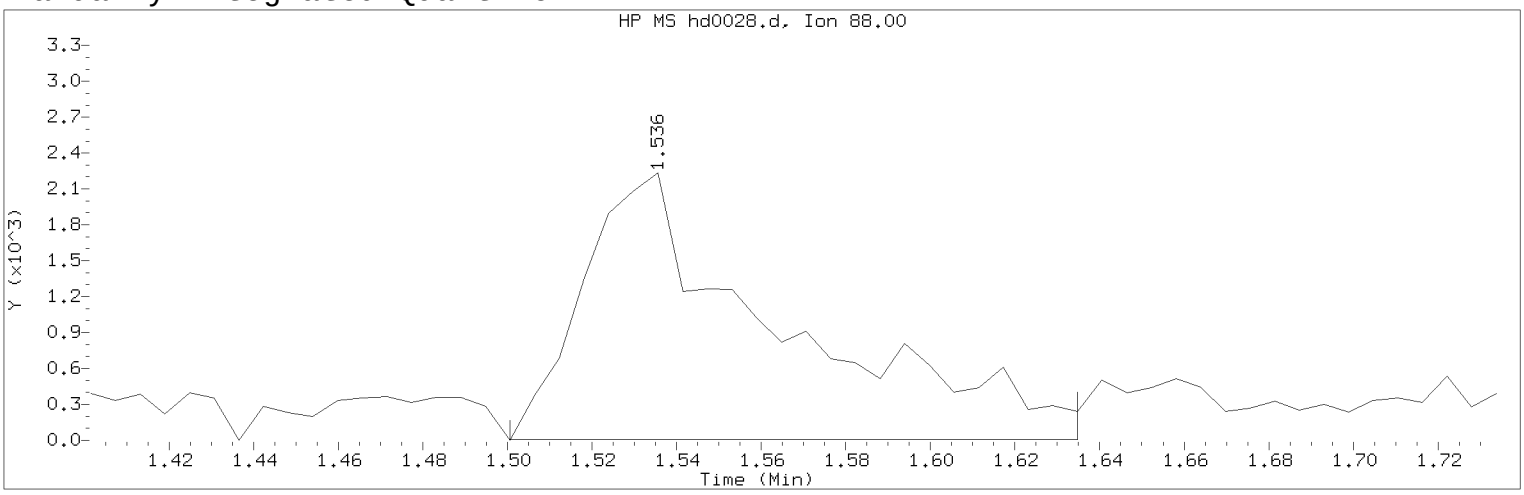
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

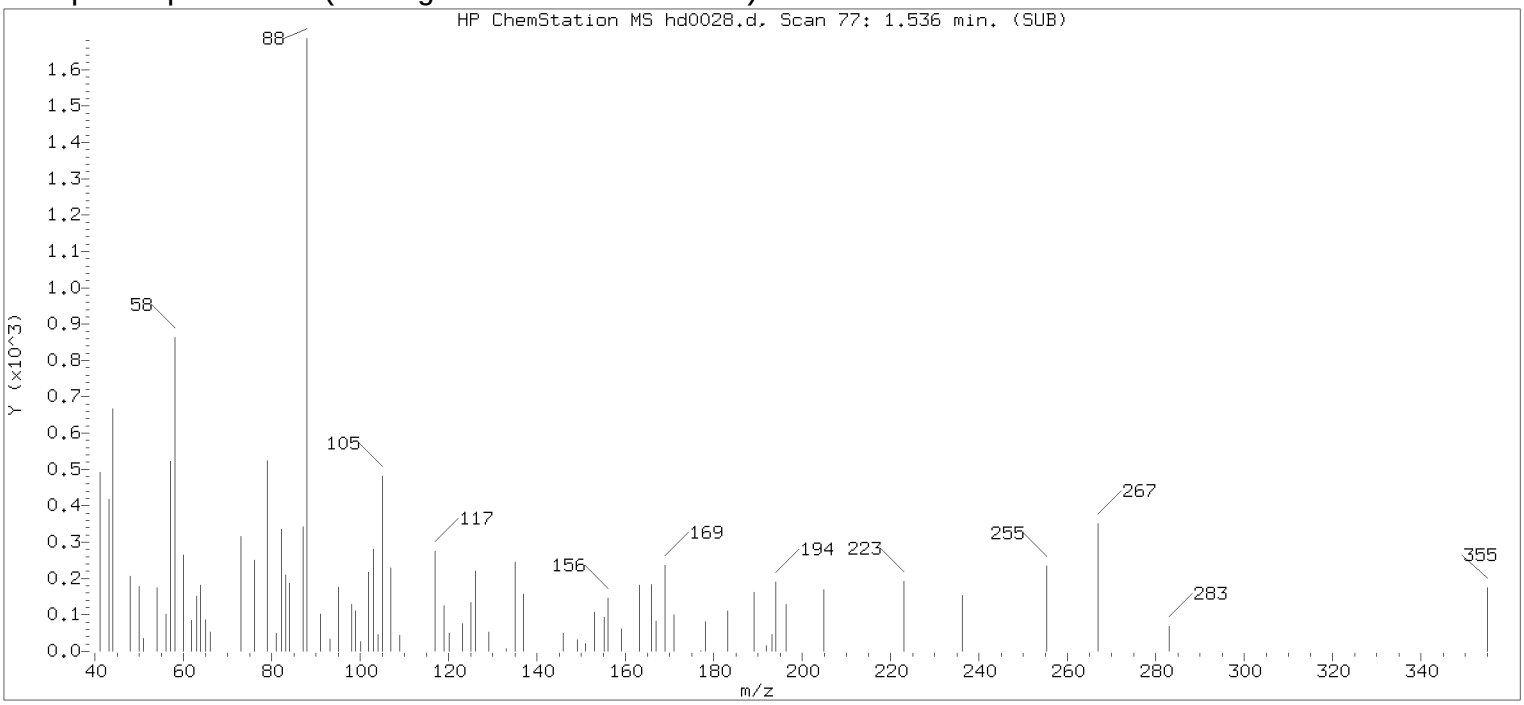
Compound Number : 2
Compound Name : 1,4-Dioxane
Scan Number : 77
Retention Time (minutes) : 1.536
Quant Ion : 88.00
Area (flag) : 7211M
On-Column Amount (ng/ul) : 0.2889
Integration start scan : 70 Integration stop scan: 93
Y at integration start : 3 Y at integration end: 3

Reason for manual integration: improper integration

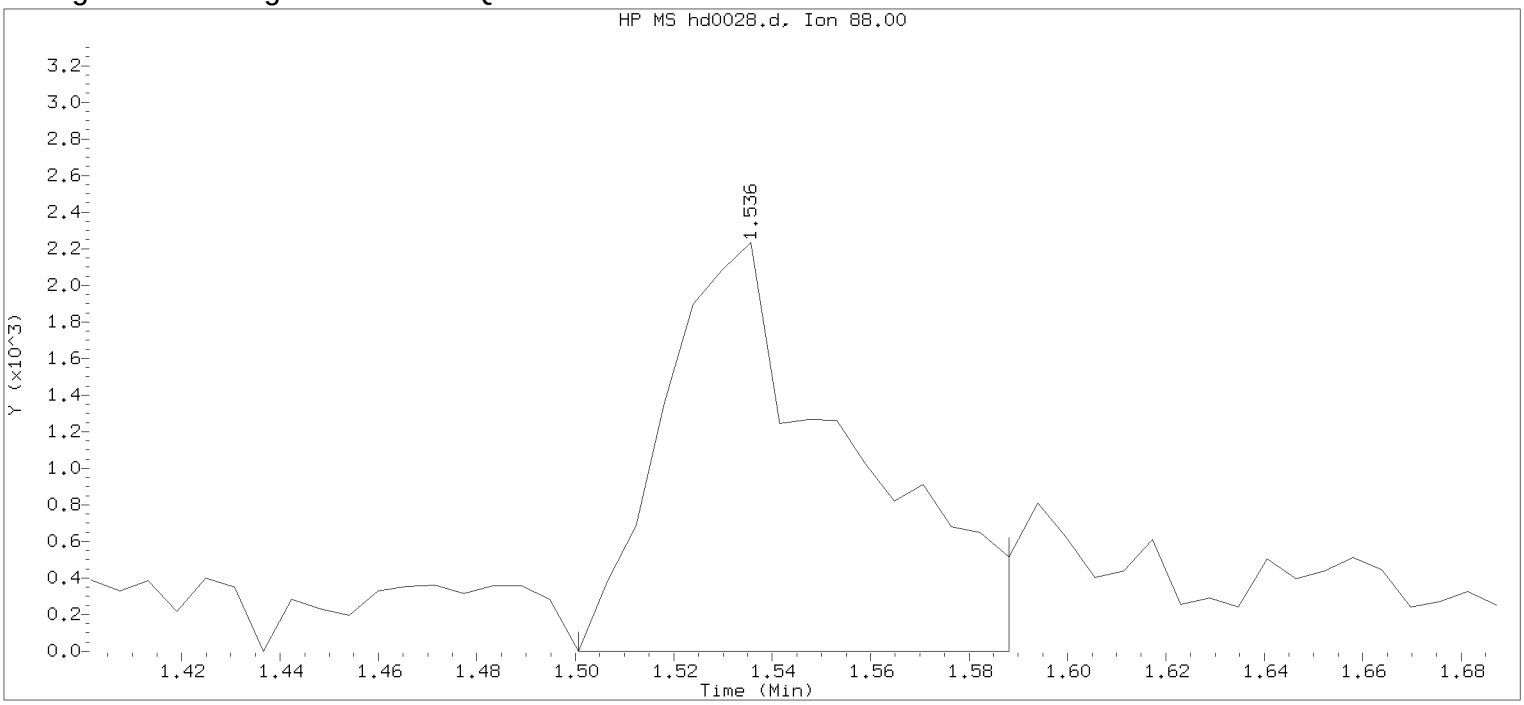
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

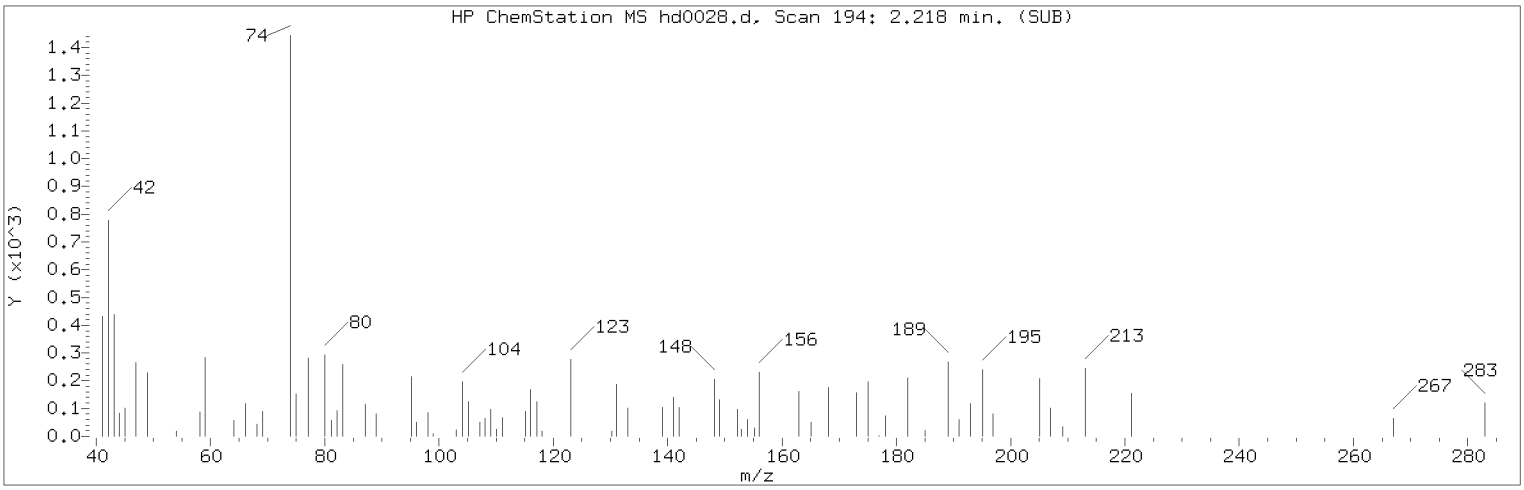
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 02:09
Date, time and analyst ID of latest file update: 03-Apr-2018 02:09 Automation

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

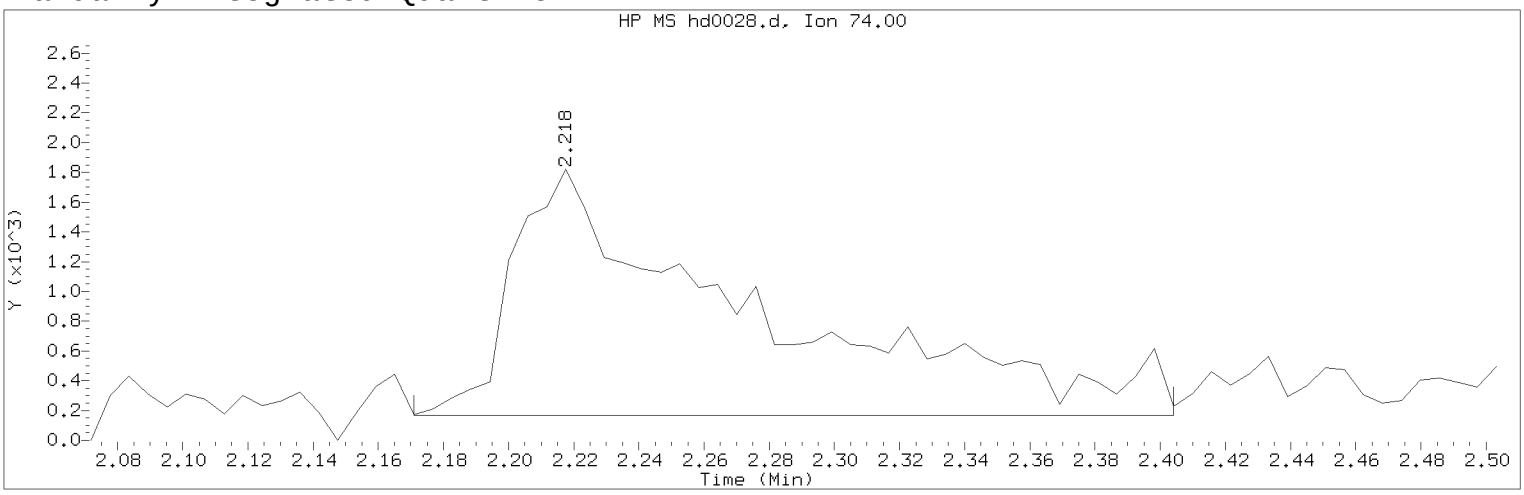
Compound Number : 2
Compound Name : 1,4-Dioxane
Scan Number : 77
Retention Time (minutes) : 1.536
Quant Ion : 88.00
Area : 5859
On-column Amount (ng/ul) : 0.2316
Integration start scan : 70 Integration stop scan: 85
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

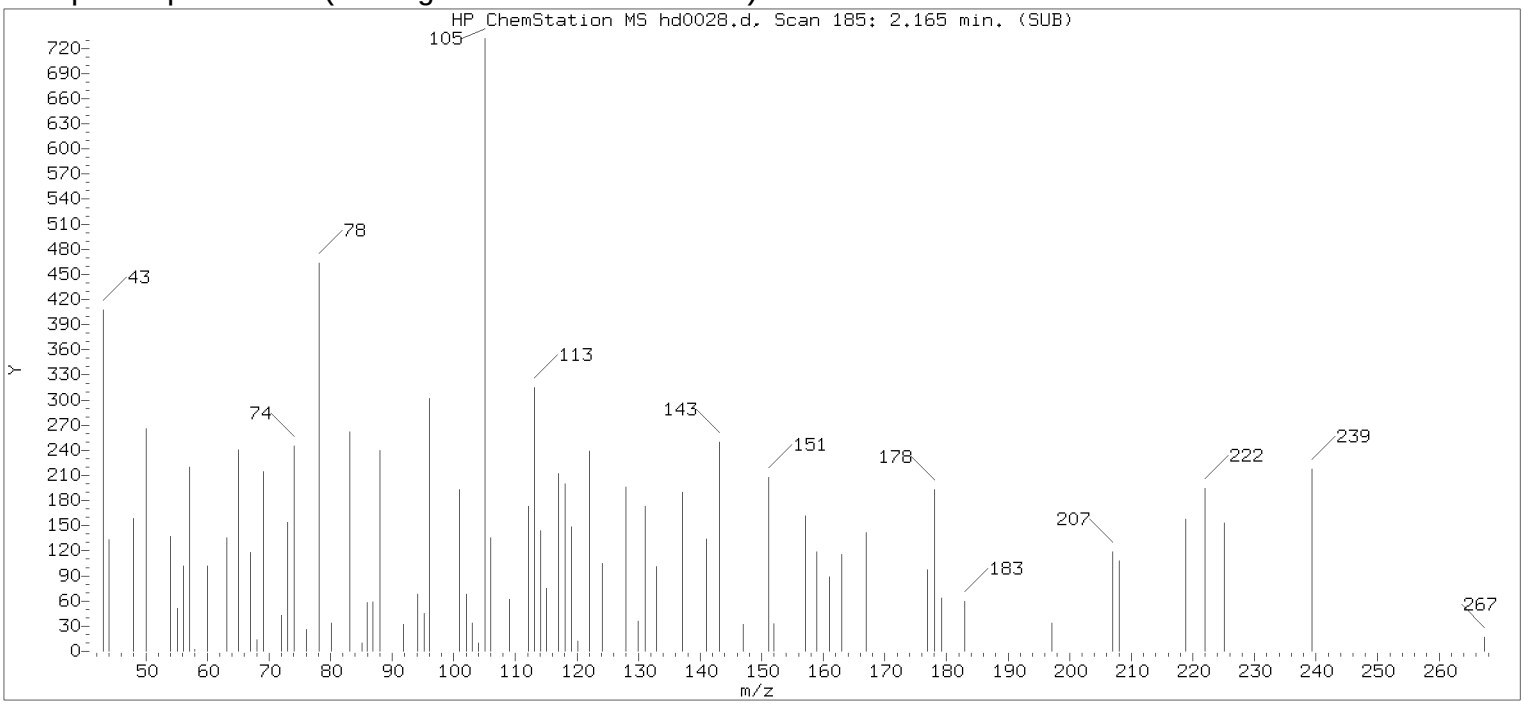
Compound Number : 5
Compound Name : N-Nitrosodimethylamine
Scan Number : 194
Retention Time (minutes) : 2.218
Quant Ion : 74.00
Area (flag) : 8369M
On-Column Amount (ng/ul) : 0.2007
Integration start scan : 185 Integration stop scan: 225
Y at integration start : 166 Y at integration end: 166

Reason for manual integration: improper integration

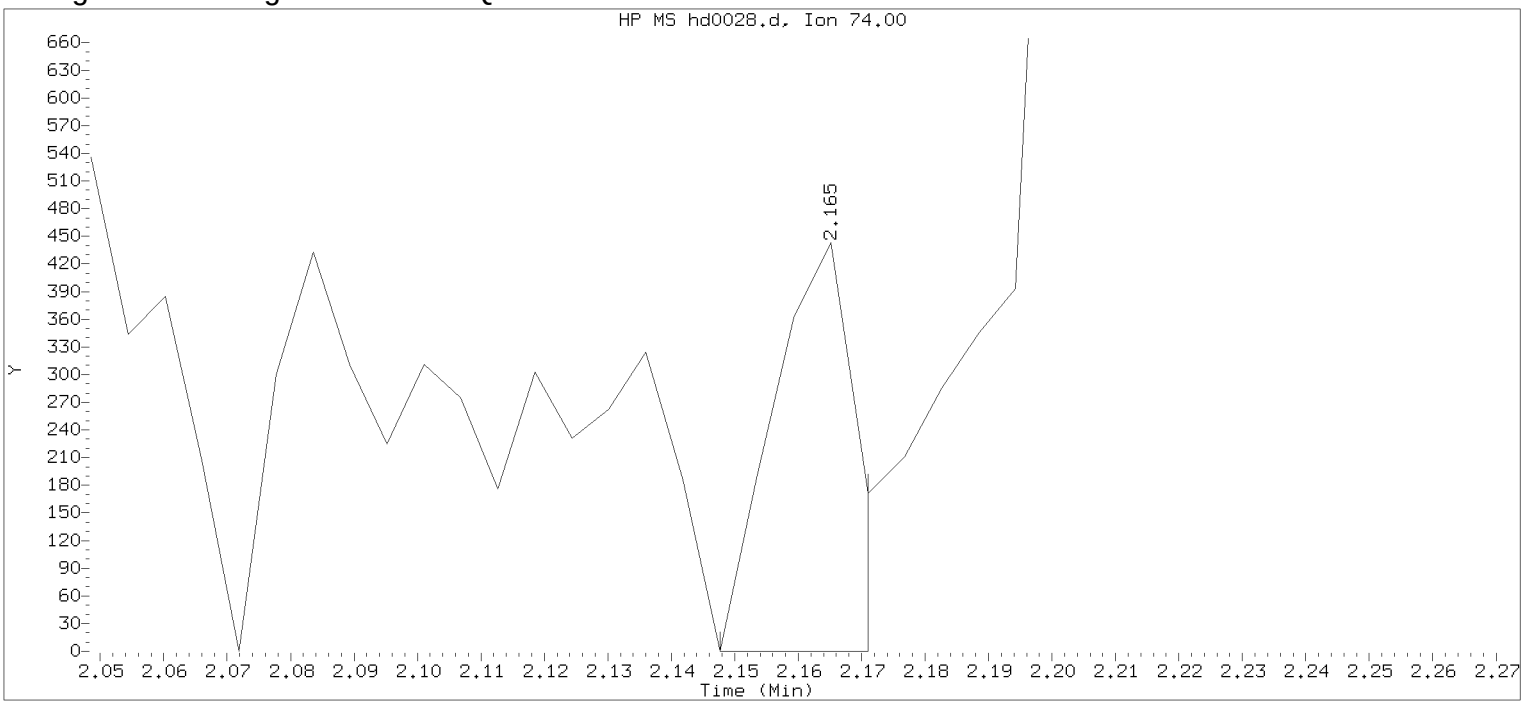
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

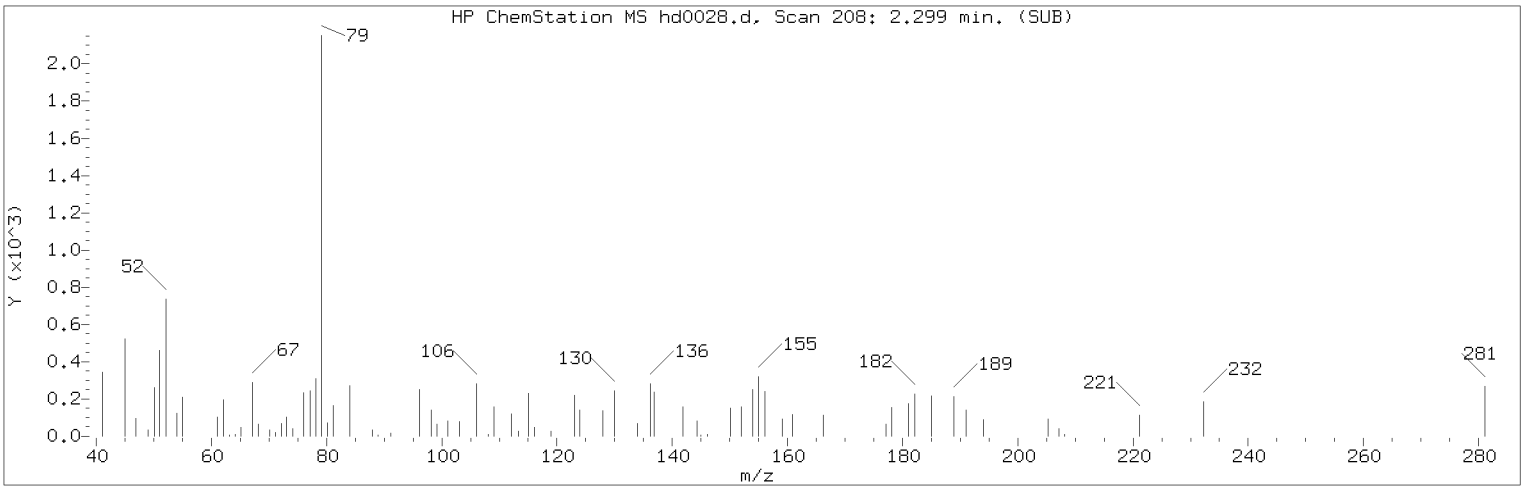
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 02:09
Date, time and analyst ID of latest file update: 03-Apr-2018 02:09 Automation

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

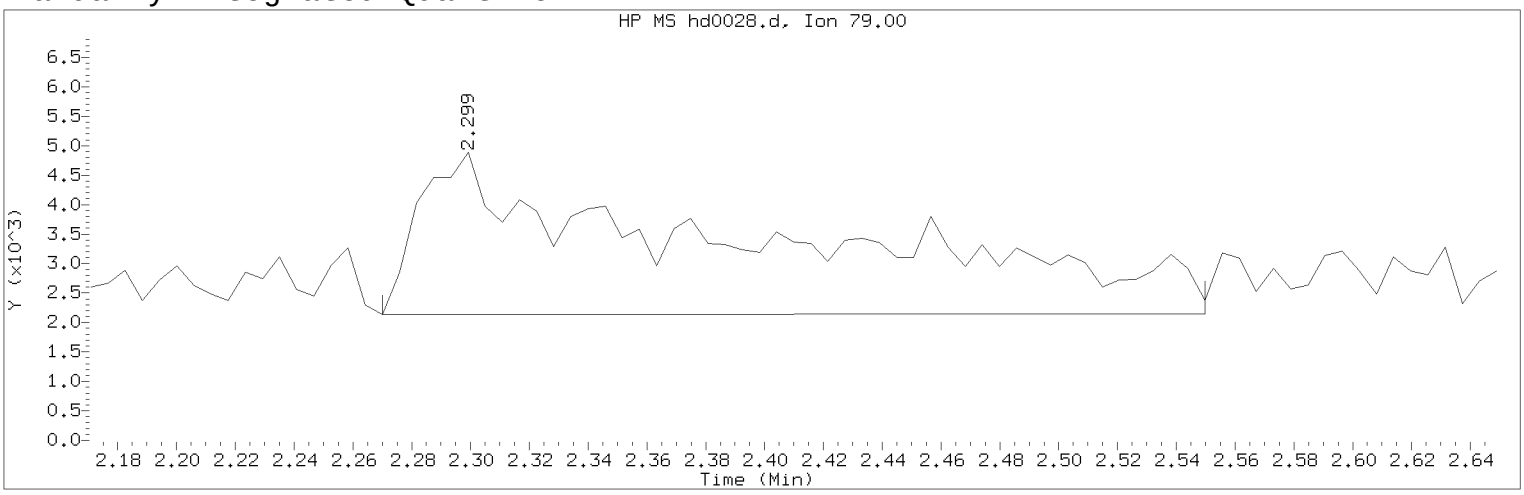
Compound Number : 5
Compound Name : N-Nitrosodimethylamine
Scan Number : 185
Retention Time (minutes) : 2.165
Quant Ion : 74.00
Area : 377
On-column Amount (ng/ul) : 0.0107
Integration start scan : 181 Integration stop scan: 185
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

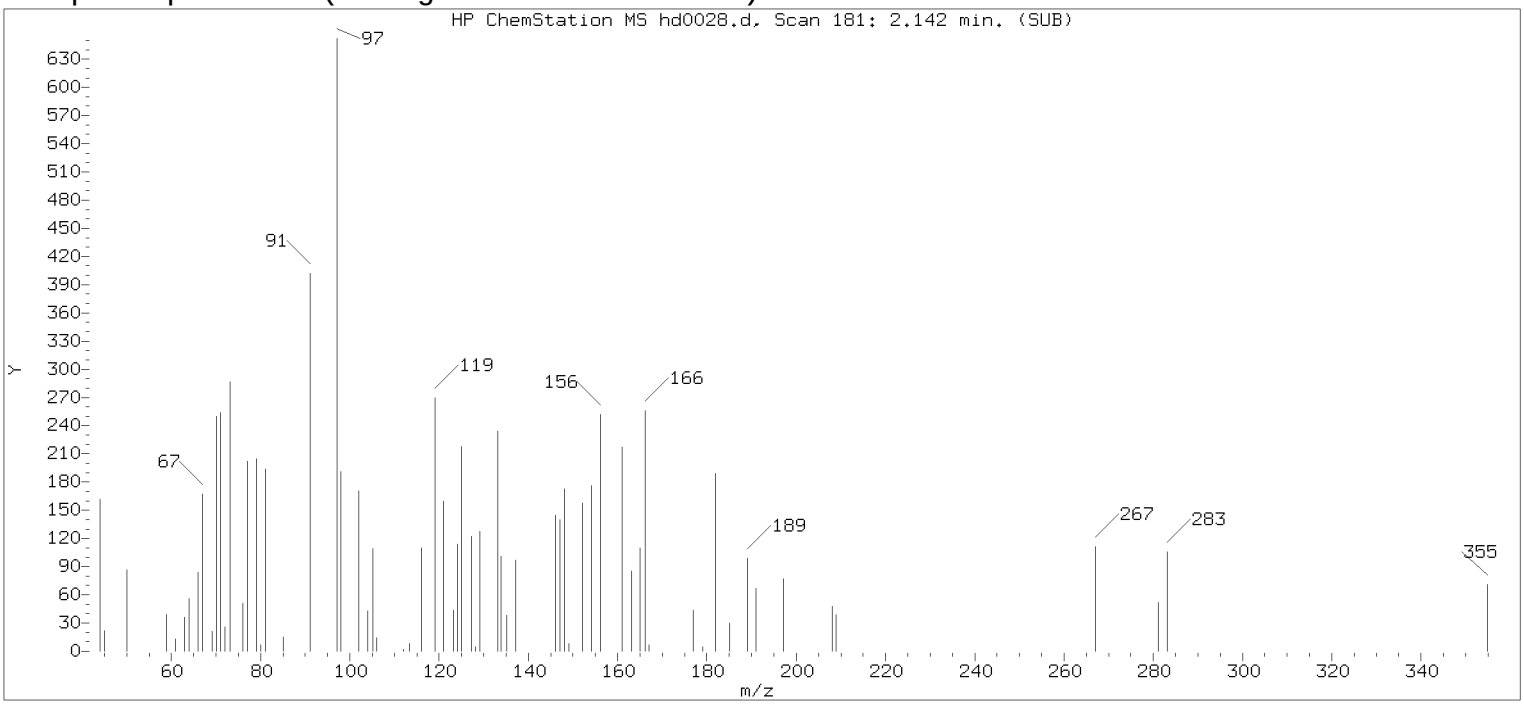
Compound Number : 6
Compound Name : Pyridine
Scan Number : 208
Retention Time (minutes) : 2.299
Quant Ion : 79.00
Area (flag) : 20941M
On-Column Amount (ng/ul) : 0.3000
Integration start scan : 202 Integration stop scan: 250
Y at integration start : 2133 Y at integration end: 2148

Reason for manual integration: improper integration

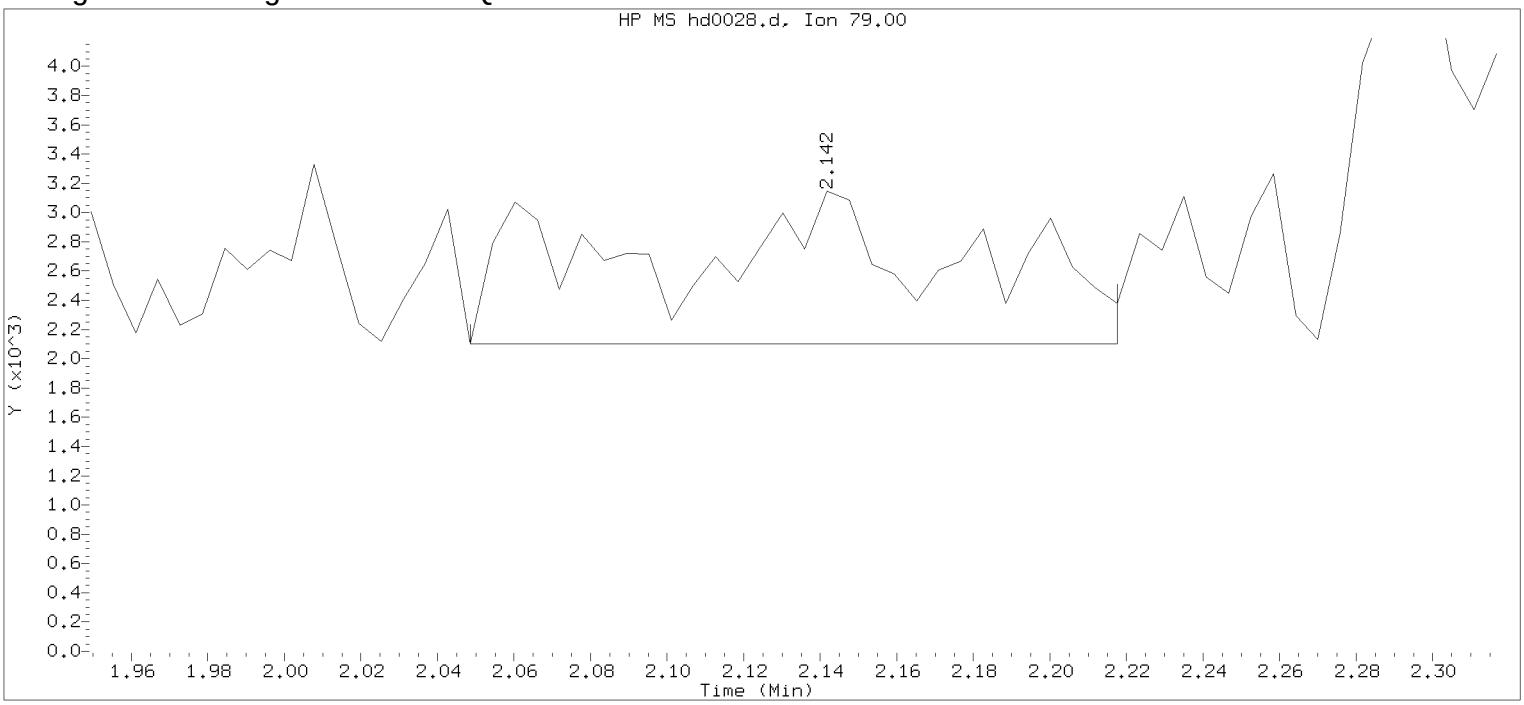
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

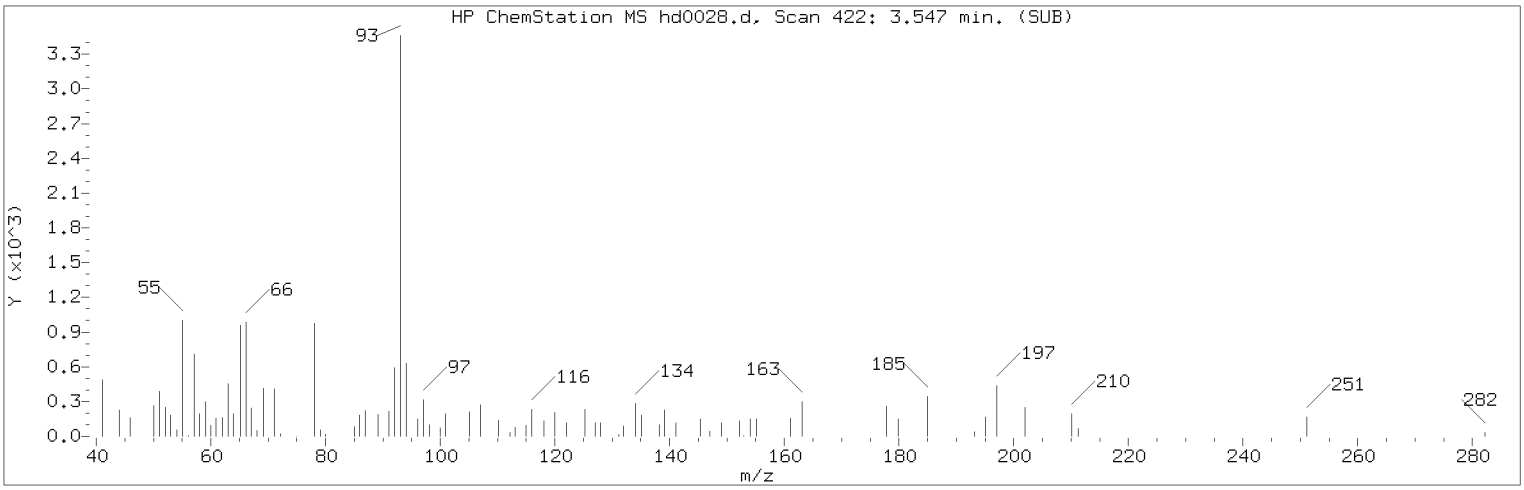
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 02:09
Date, time and analyst ID of latest file update: 03-Apr-2018 02:09 Automation

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

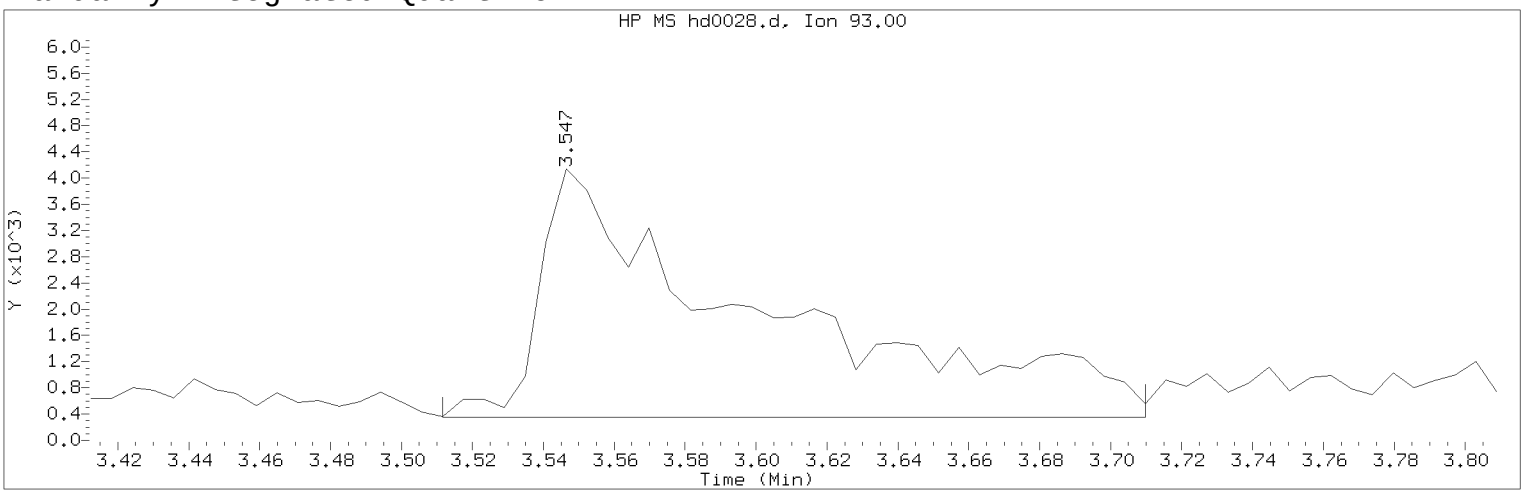
Compound Number : 6
Compound Name : Pyridine
Scan Number : 181
Retention Time (minutes) : 2.142
Quant Ion : 79.00
Area : 6007
On-column Amount (ng/ul) : 0.1049
Integration start scan : 164 Integration stop scan: 193
Y at integration start : 2103 Y at integration end: 2103

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

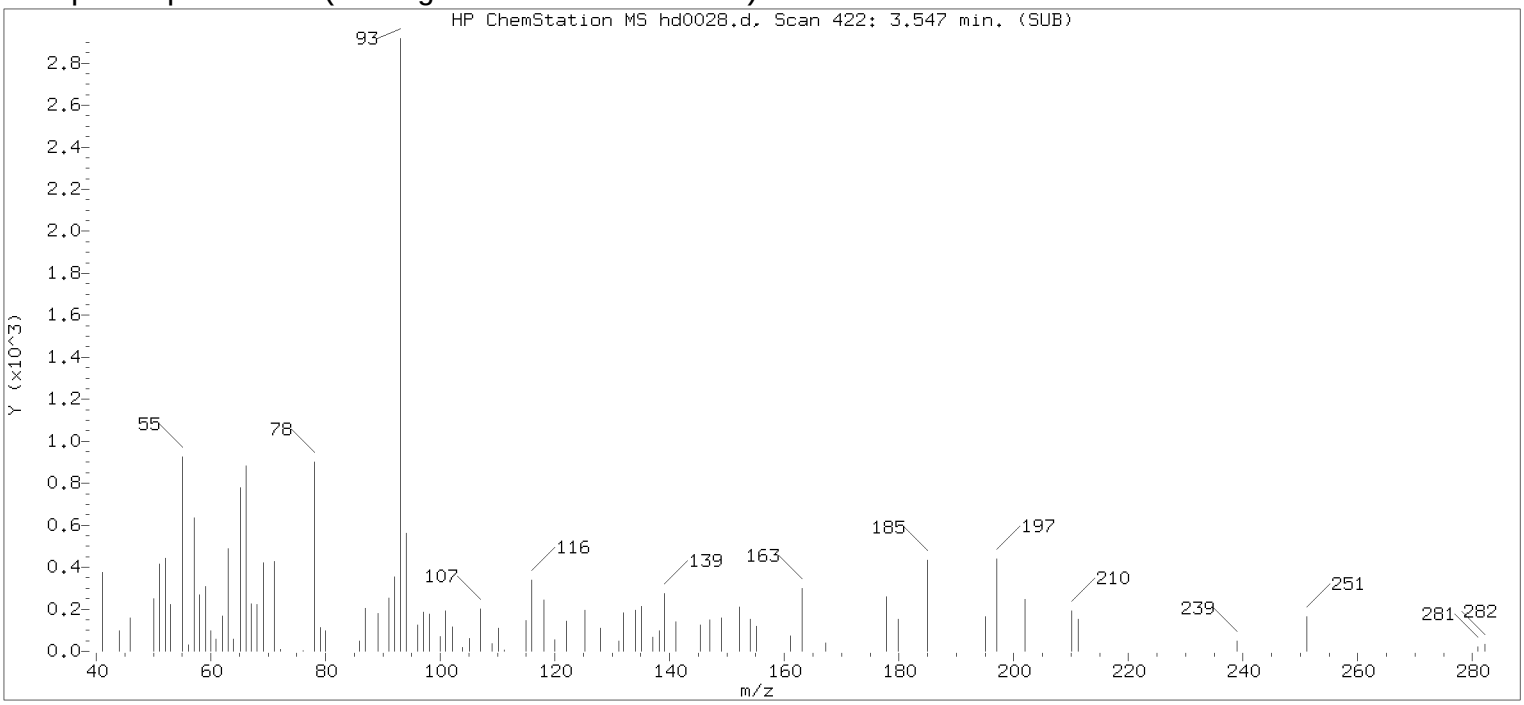
Compound Number : 8
Compound Name : 2-Picoline
Scan Number : 422
Retention Time (minutes) : 3.547
Quant Ion : 93.00
Area (flag) : 16137M
On-Column Amount (ng/ul) : 0.2238
Integration start scan : 415 Integration stop scan: 449
Y at integration start : 353 Y at integration end: 353

Reason for manual integration: improper integration

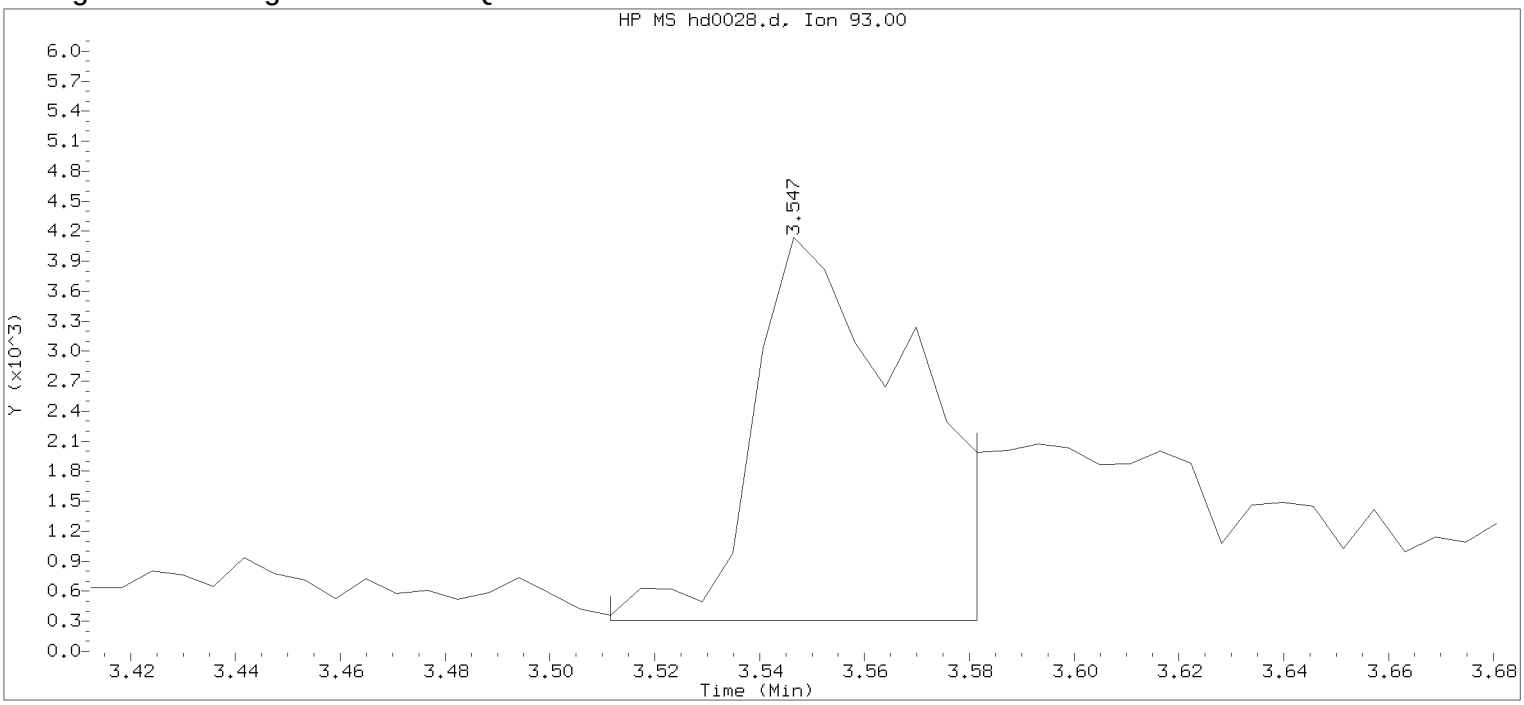
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

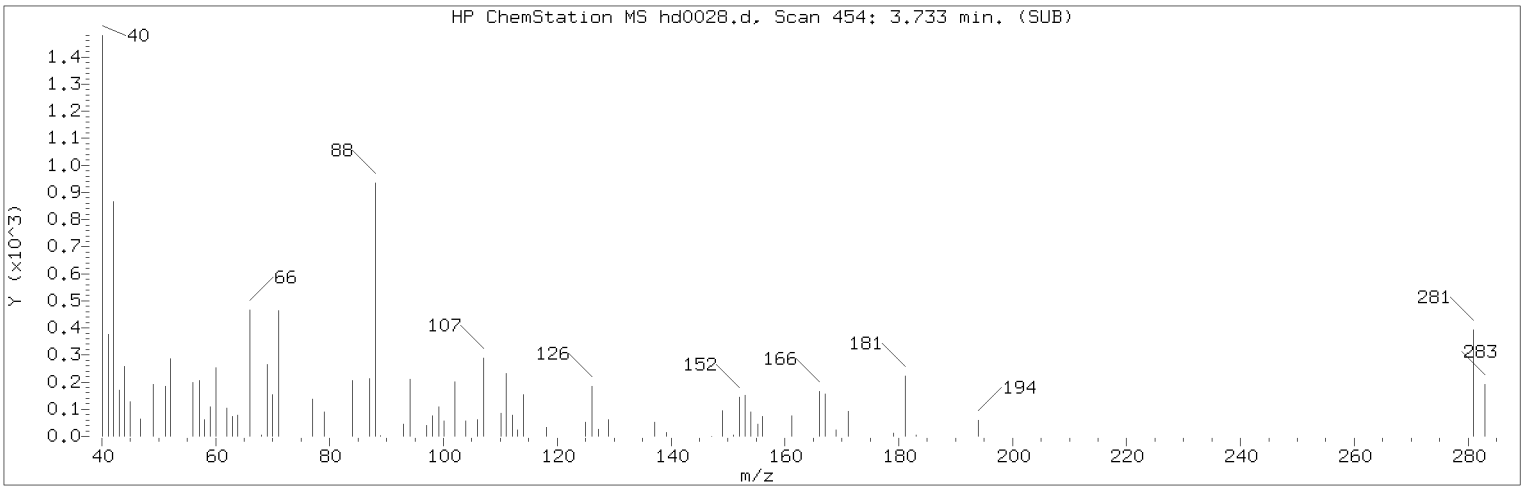
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 02:09
Date, time and analyst ID of latest file update: 03-Apr-2018 02:09 Automation

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

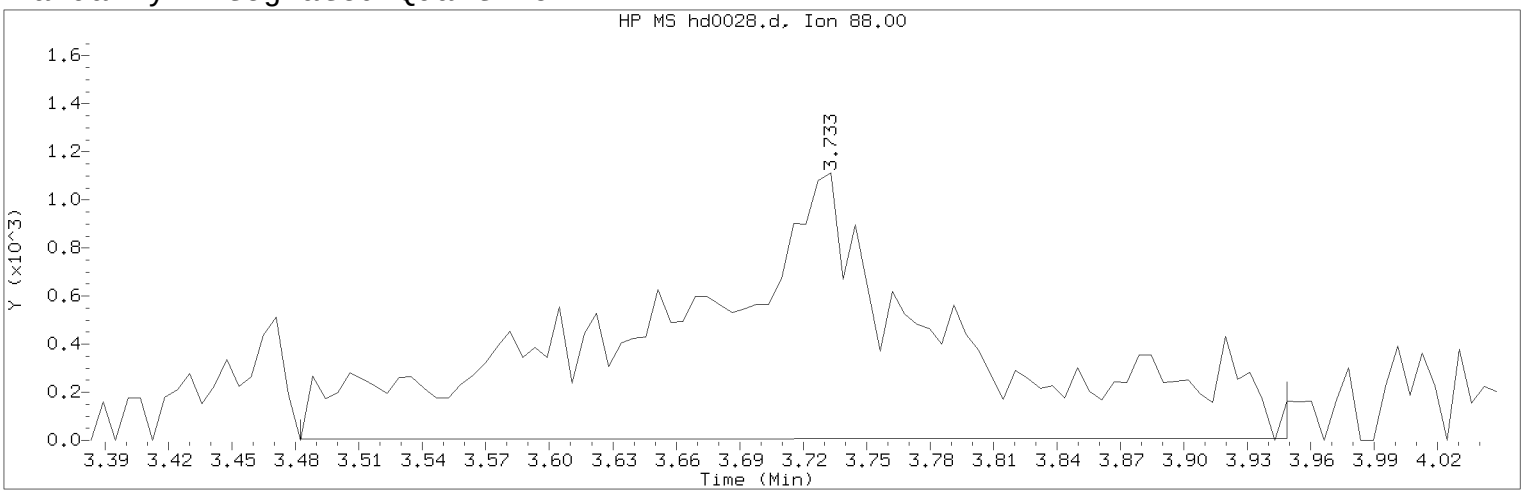
Compound Number : 8
Compound Name : 2-Picoline
Scan Number : 422
Retention Time (minutes) : 3.547
Quant Ion : 93.00
Area : 7845
On-column Amount (ng/ul) : 0.1347
Integration start scan : 415 Integration stop scan: 427
Y at integration start : 309 Y at integration end: 309

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

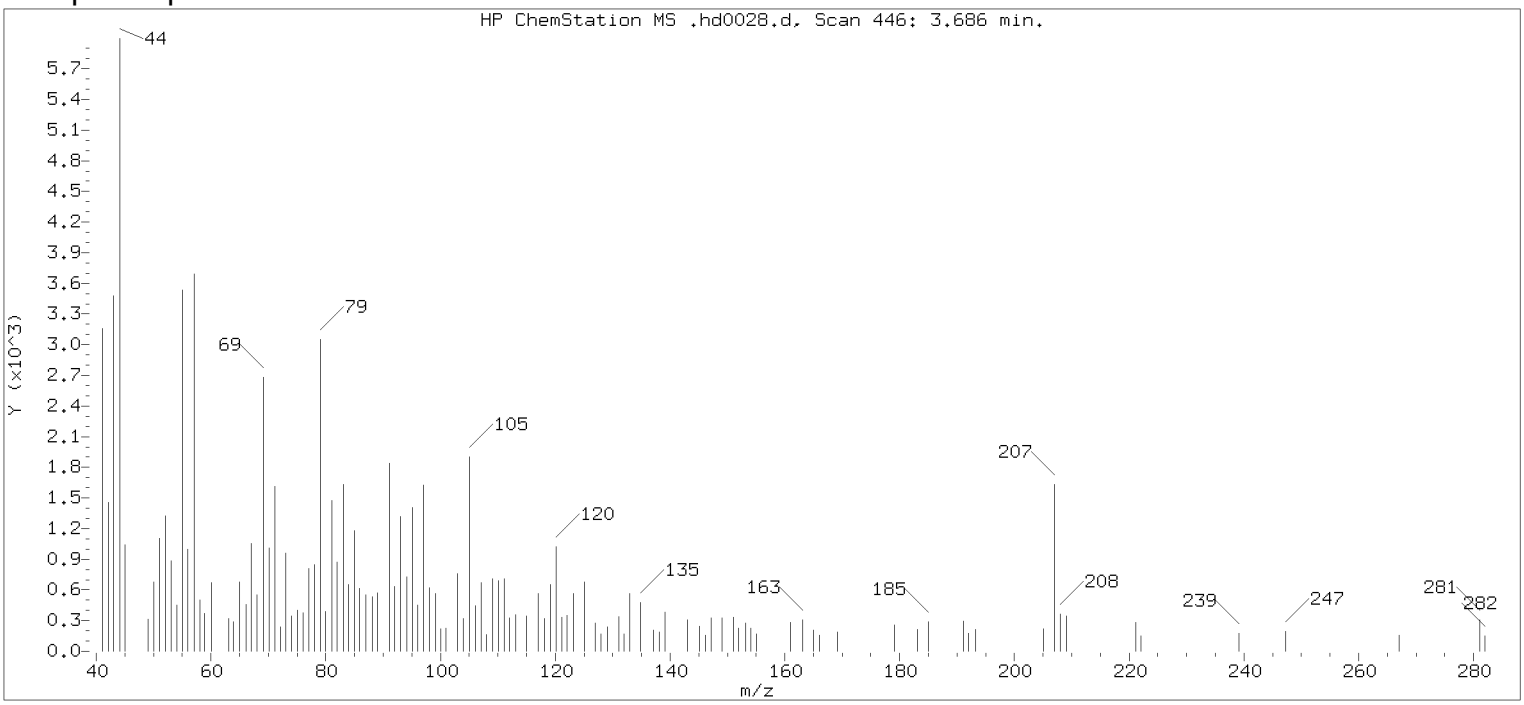
Compound Number : 9
Compound Name : N-Nitrosomethylethylamine
Scan Number : 454
Retention Time (minutes) : 3.733
Quant Ion : 88.00
Area (flag) : 10772M
On-Column Amount (ng/ul) : 0.3768
Integration start scan : 410 Integration stop scan: 490
Y at integration start : 5 Y at integration end: 8

Reason for manual integration: missed peak

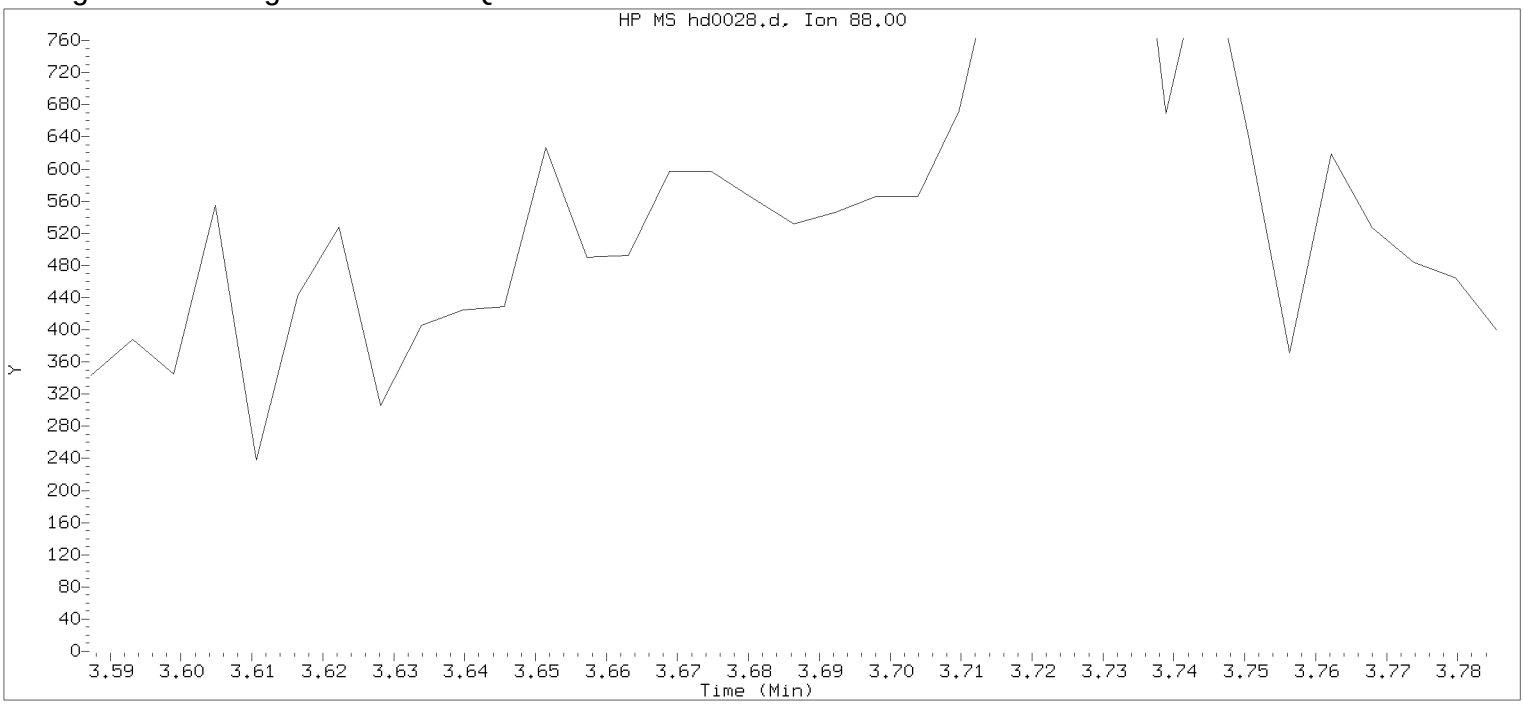
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

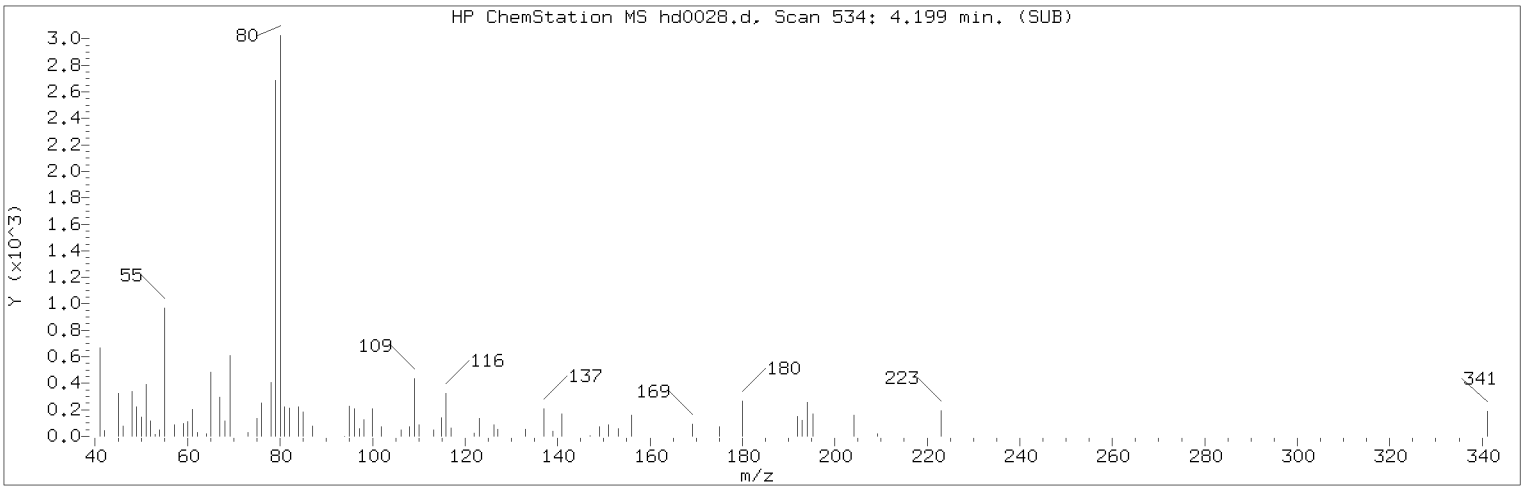
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 02:09
Date, time and analyst ID of latest file update: 03-Apr-2018 02:09 Automation

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

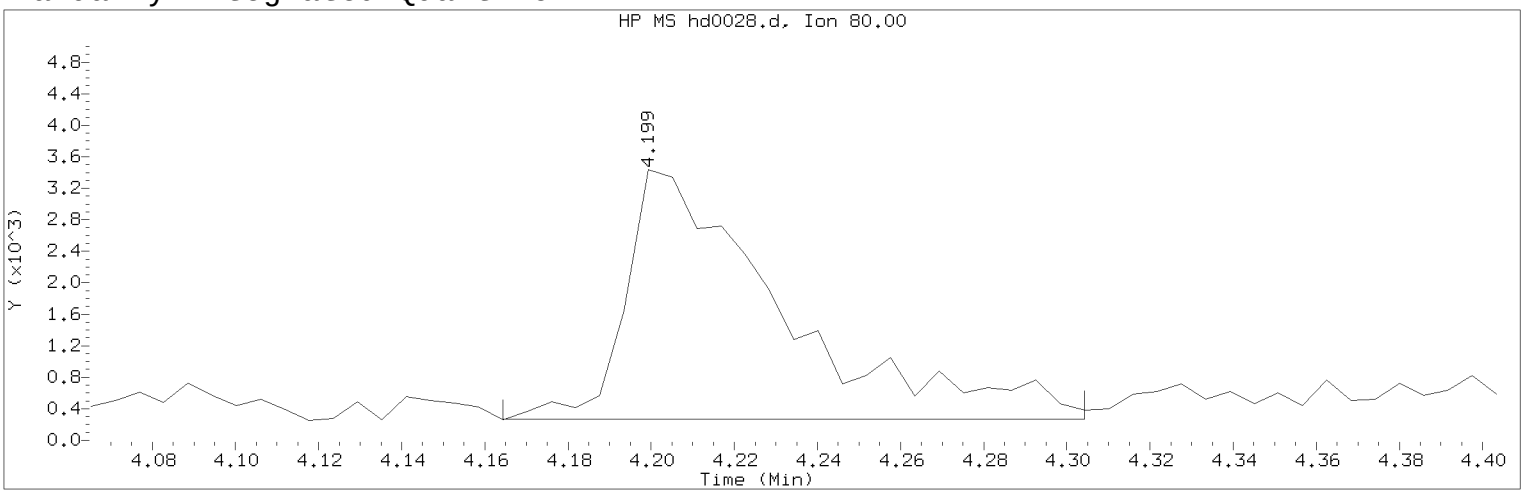
Compound Number : 9
Compound Name : N-Nitrosomethylethylamine
Expected RT (minutes) : 3.686
Quant Ion : 88.00

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

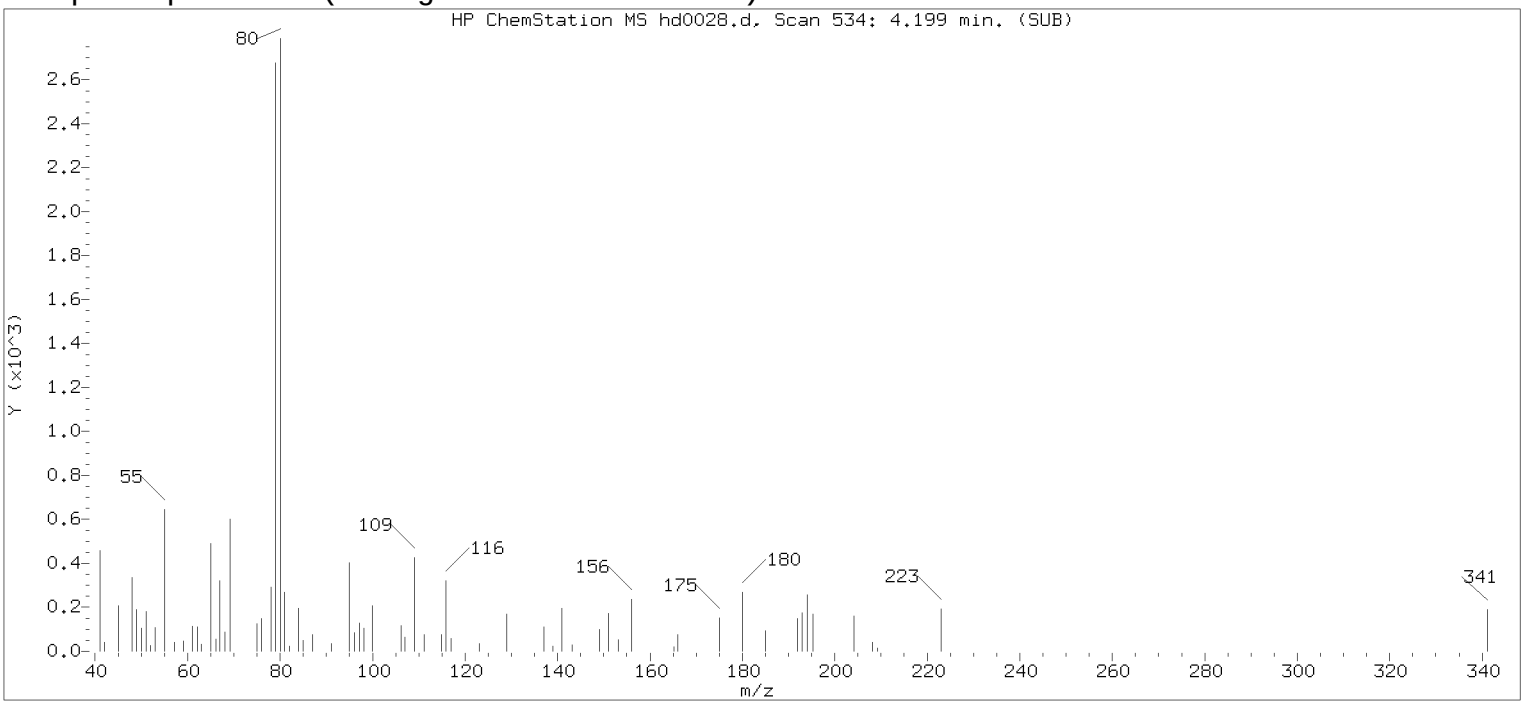
Compound Number : 10
Compound Name : Methyl methanesulfonate
Scan Number : 534
Retention Time (minutes) : 4.199
Quant Ion : 80.00
Area (flag) : 8308M
On-Column Amount (ng/ul) : 0.2365
Integration start scan : 527 Integration stop scan: 551
Y at integration start : 266 Y at integration end: 266

Reason for manual integration: improper integration

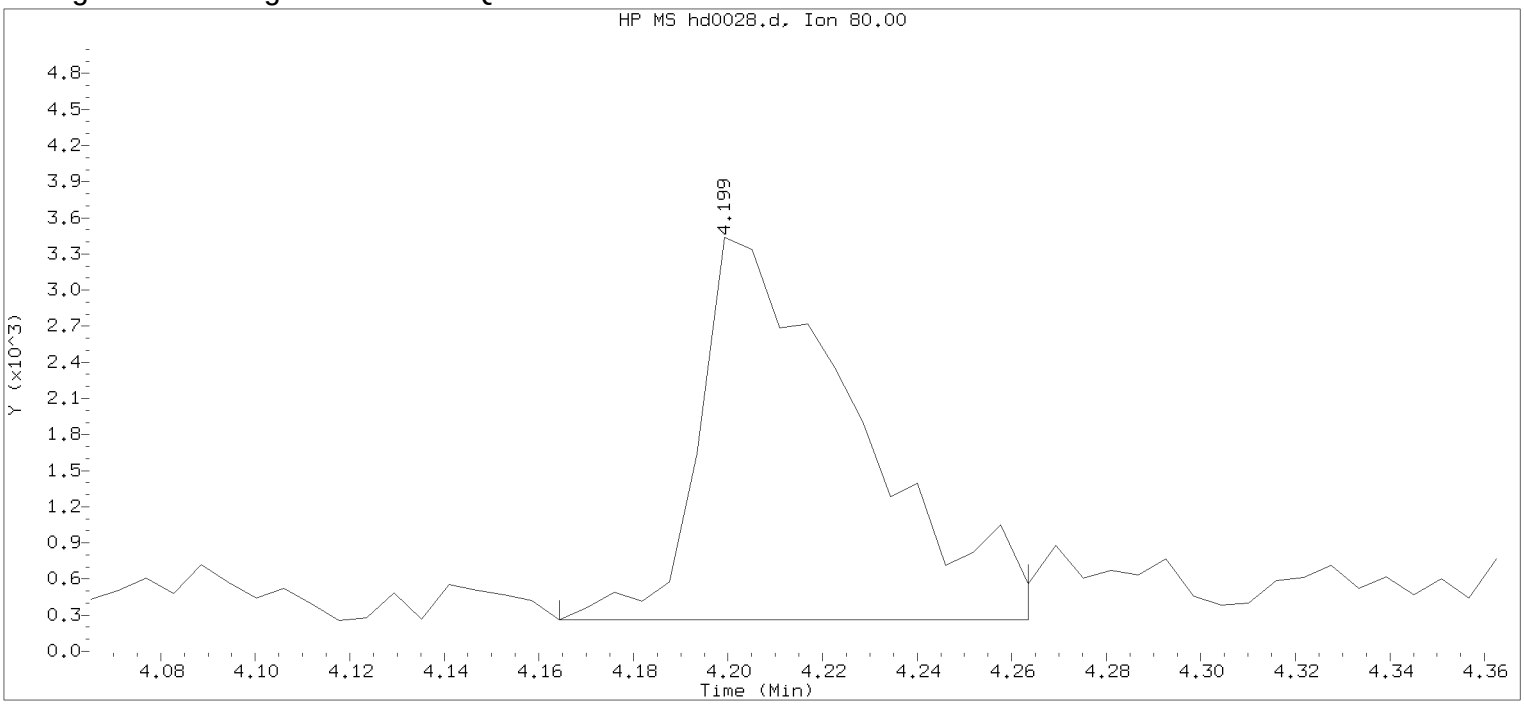
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

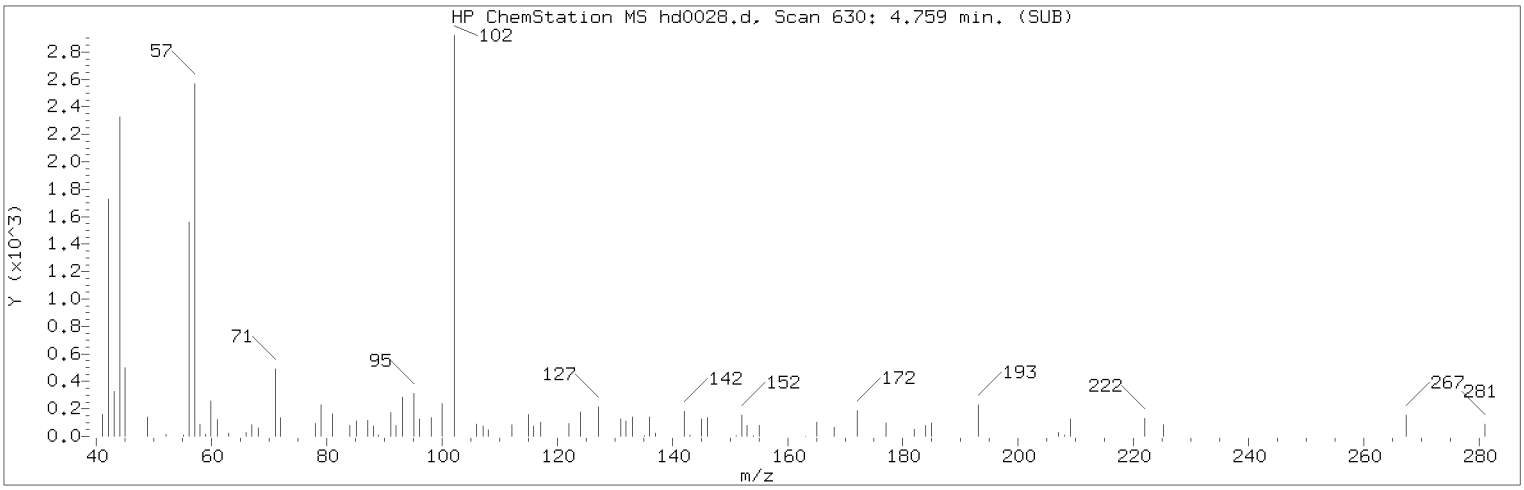
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 02:09
Date, time and analyst ID of latest file update: 03-Apr-2018 02:09 Automation

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

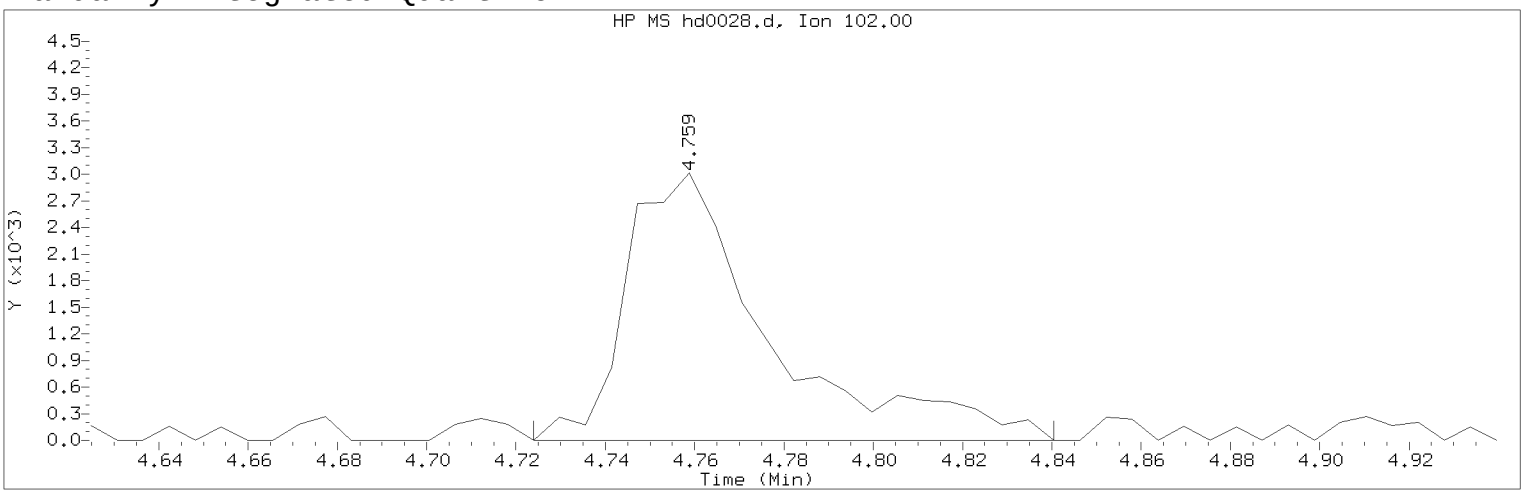
Compound Number : 10
Compound Name : Methyl methanesulfonate
Scan Number : 534
Retention Time (minutes) : 4.199
Quant Ion : 80.00
Area : 7395
On-column Amount (ng/ul) : 0.2076
Integration start scan : 527 Integration stop scan: 544
Y at integration start : 262 Y at integration end: 262

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

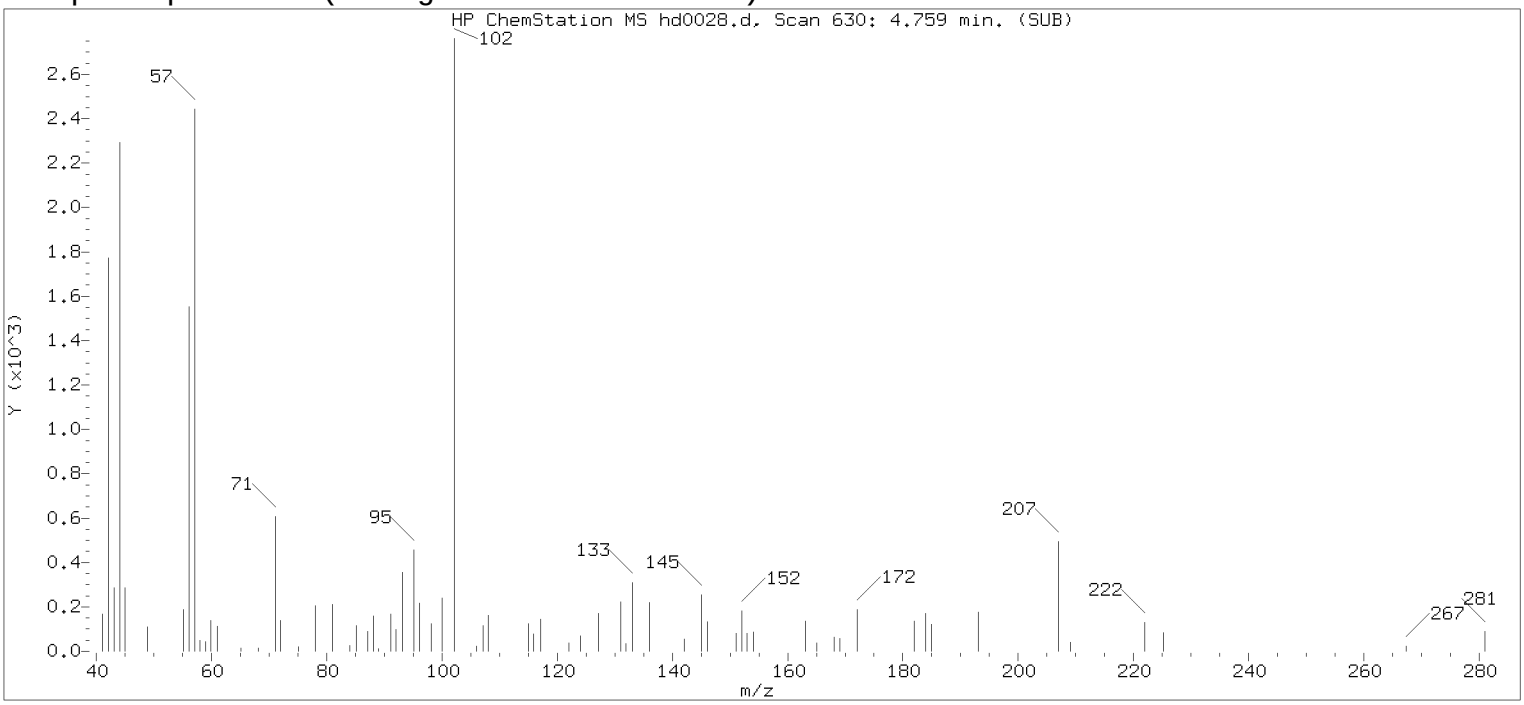
Compound Number : 14
Compound Name : N-Nitrosodiethylamine
Scan Number : 630
Retention Time (minutes) : 4.759
Quant Ion : 102.00
Area (flag) : 6692M
On-Column Amount (ng/ul) : 0.2352
Integration start scan : 623 Integration stop scan: 643
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

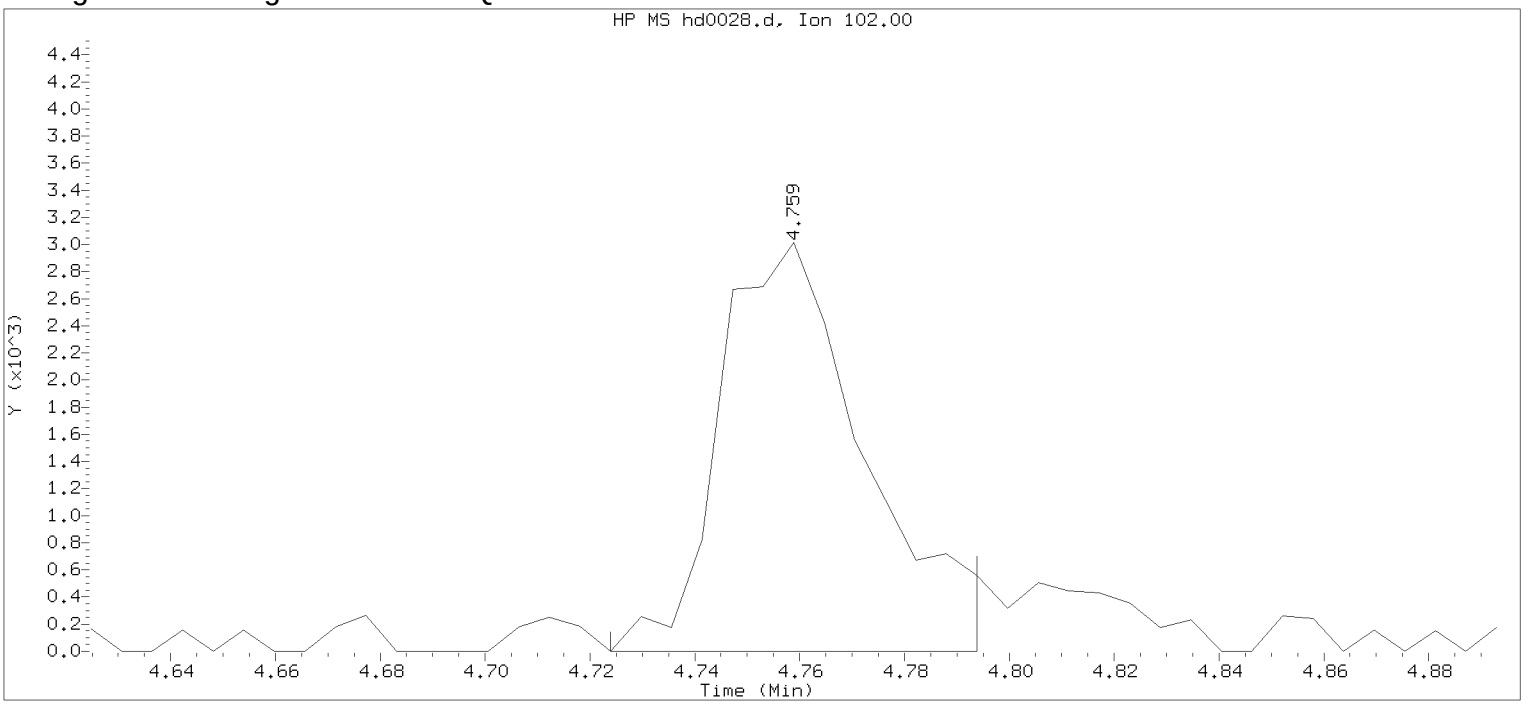
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

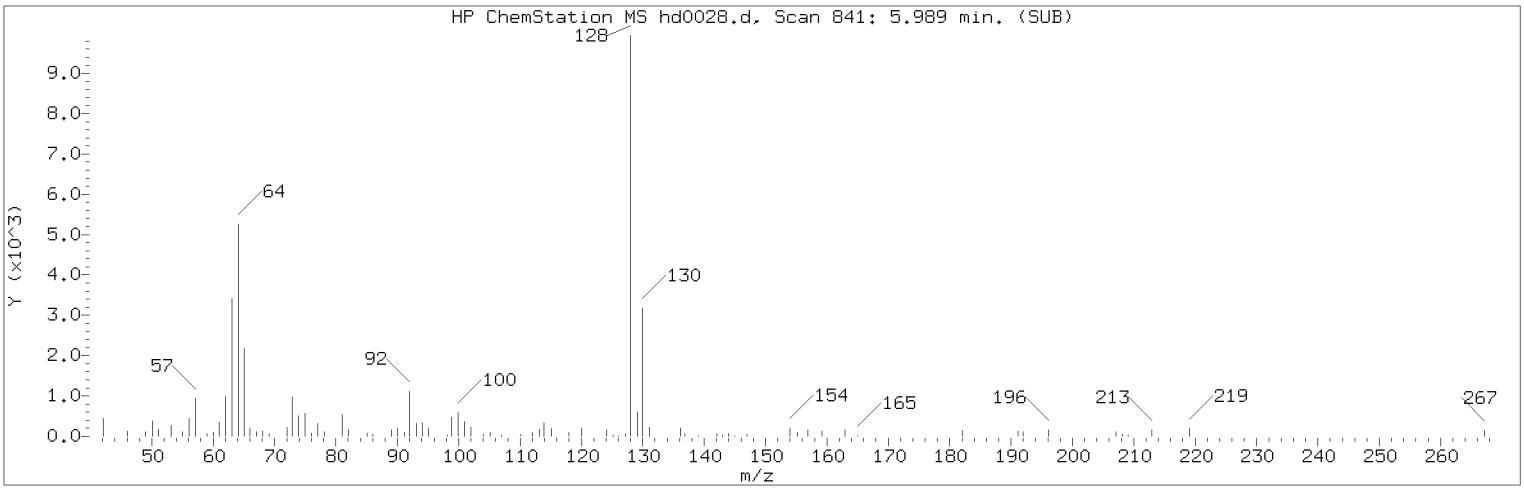
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 02:09
Date, time and analyst ID of latest file update: 03-Apr-2018 02:09 Automation

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

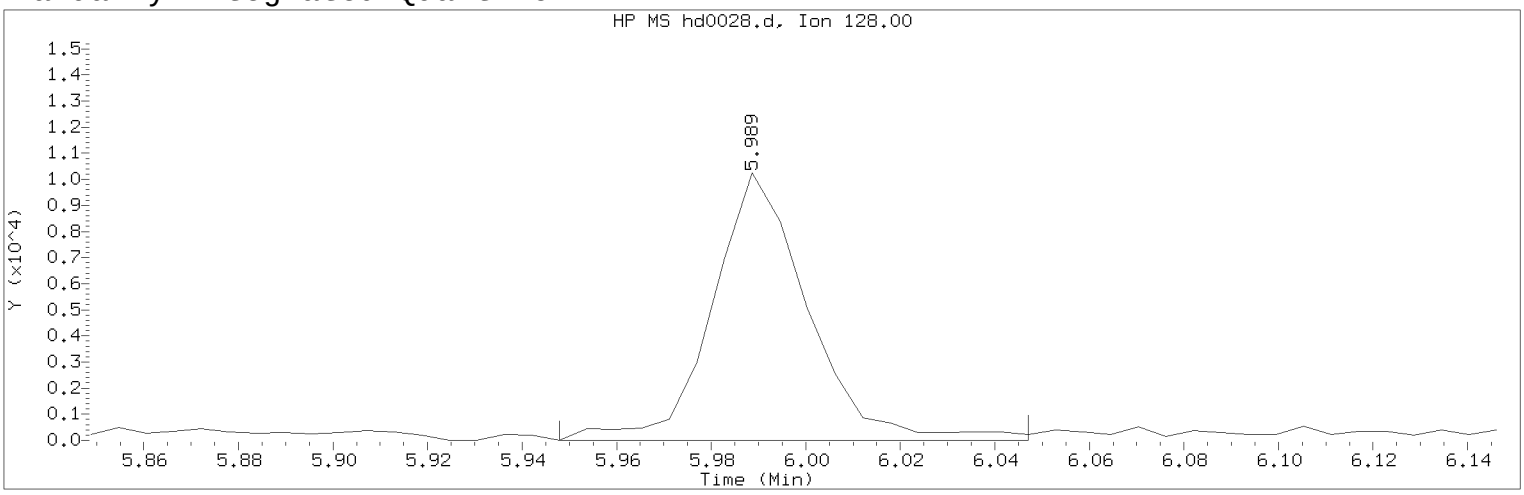
Compound Number : 14
Compound Name : N-Nitrosodiethylamine
Scan Number : 630
Retention Time (minutes) : 4.759
Quant Ion : 102.00
Area : 5733
On-column Amount (ng/ul) : 0.2048
Integration start scan : 623 Integration stop scan: 635
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

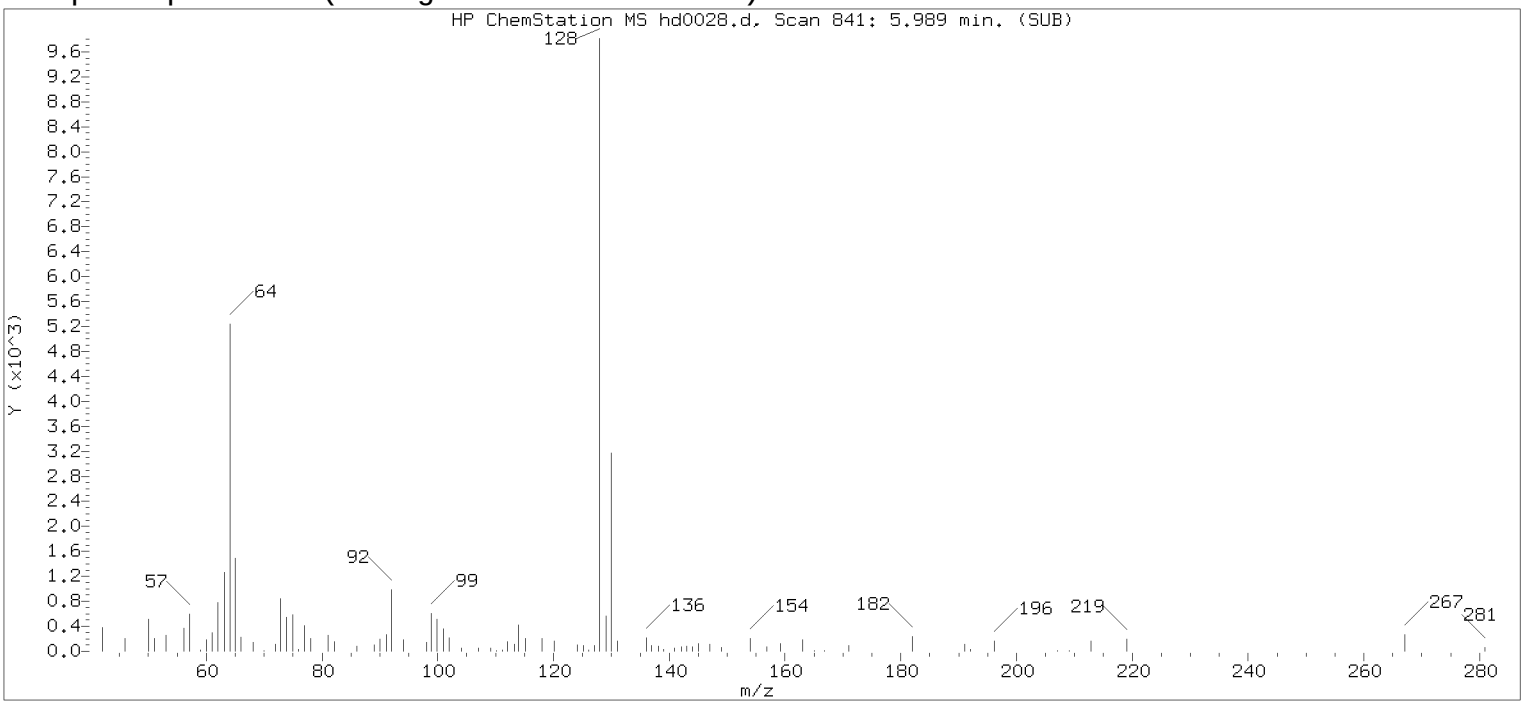
Compound Number : 24
Compound Name : 2-Chlorophenol
Scan Number : 841
Retention Time (minutes) : 5.989
Quant Ion : 128.00
Area (flag) : 14425M
On-Column Amount (ng/ul) : 0.2384
Integration start scan : 833 Integration stop scan: 850
Y at integration start : 8 Y at integration end: 1

Reason for manual integration: improper integration

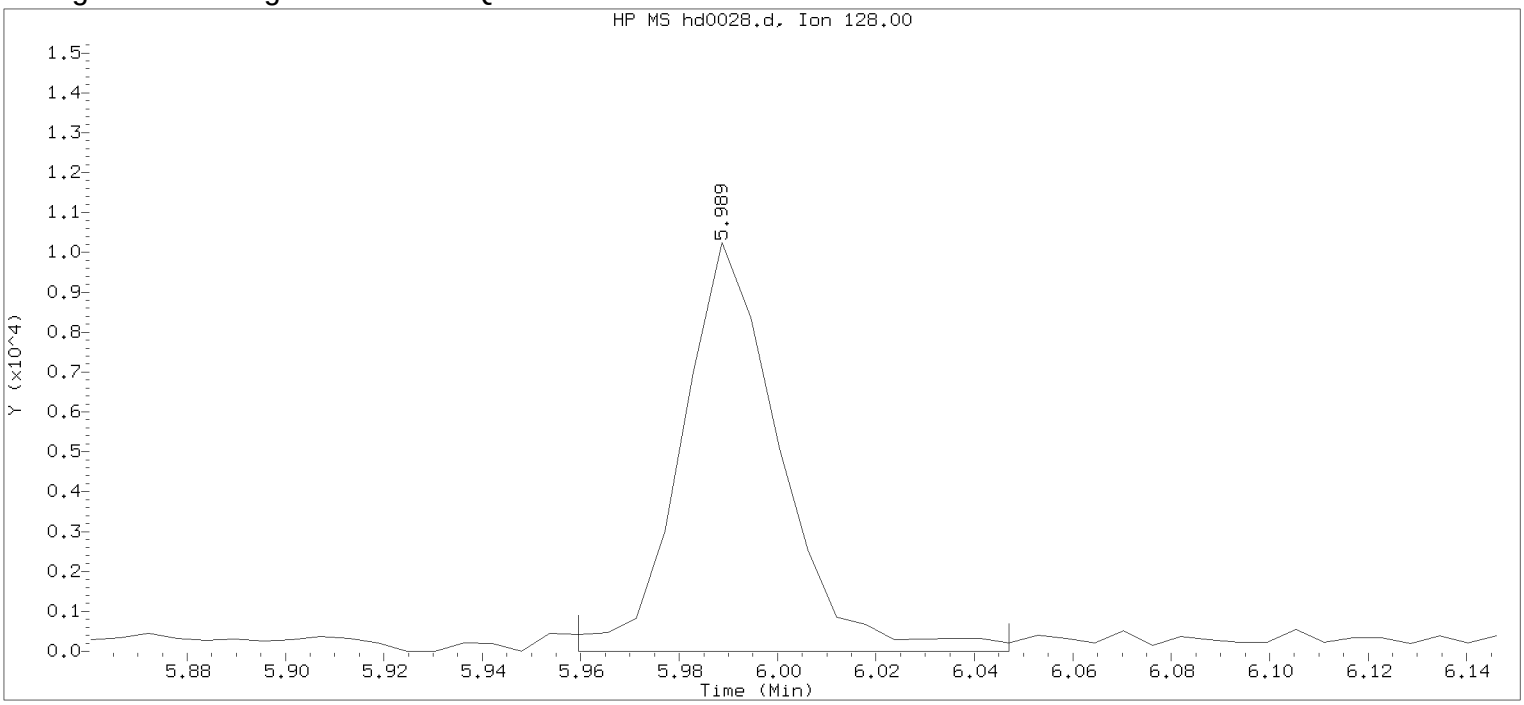
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

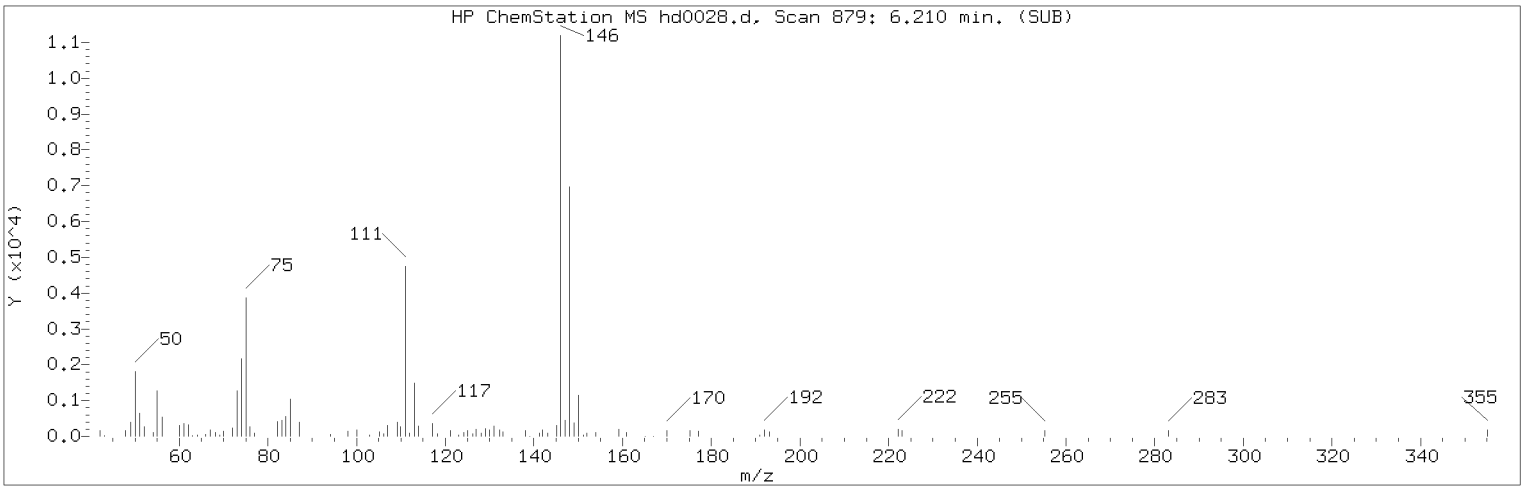
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 02:09
Date, time and analyst ID of latest file update: 03-Apr-2018 02:09 Automation

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

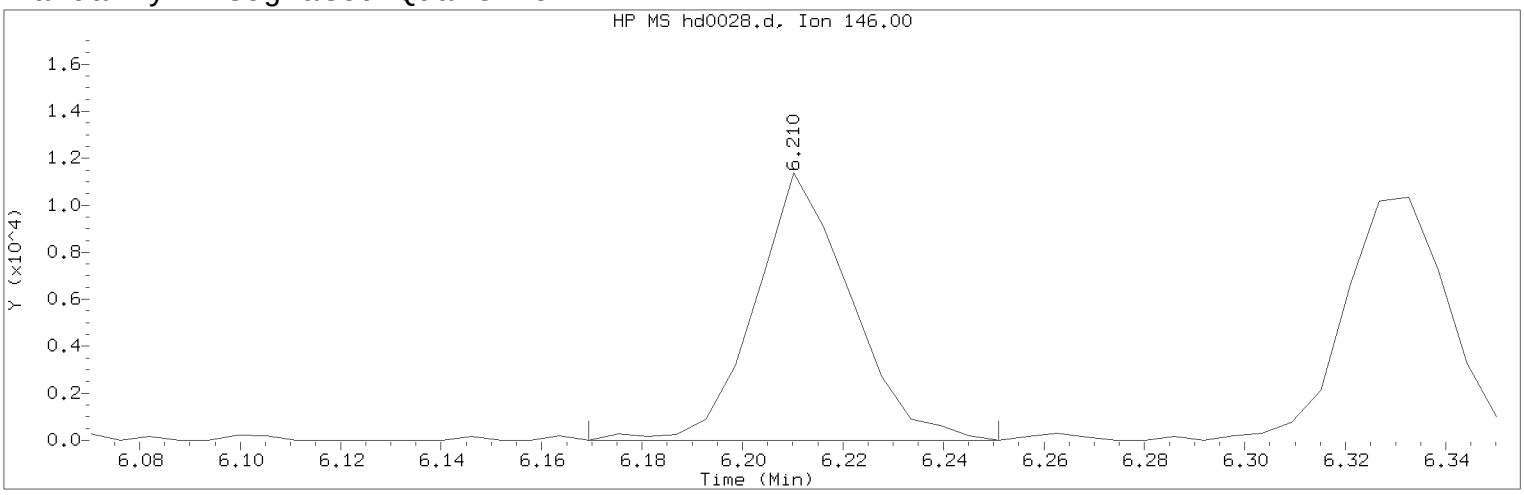
Compound Number : 24
Compound Name : 2-Chlorophenol
Scan Number : 841
Retention Time (minutes) : 5.989
Quant Ion : 128.00
Area : 14187
On-column Amount (ng/ul) : 0.2331
Integration start scan : 835 Integration stop scan: 850
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

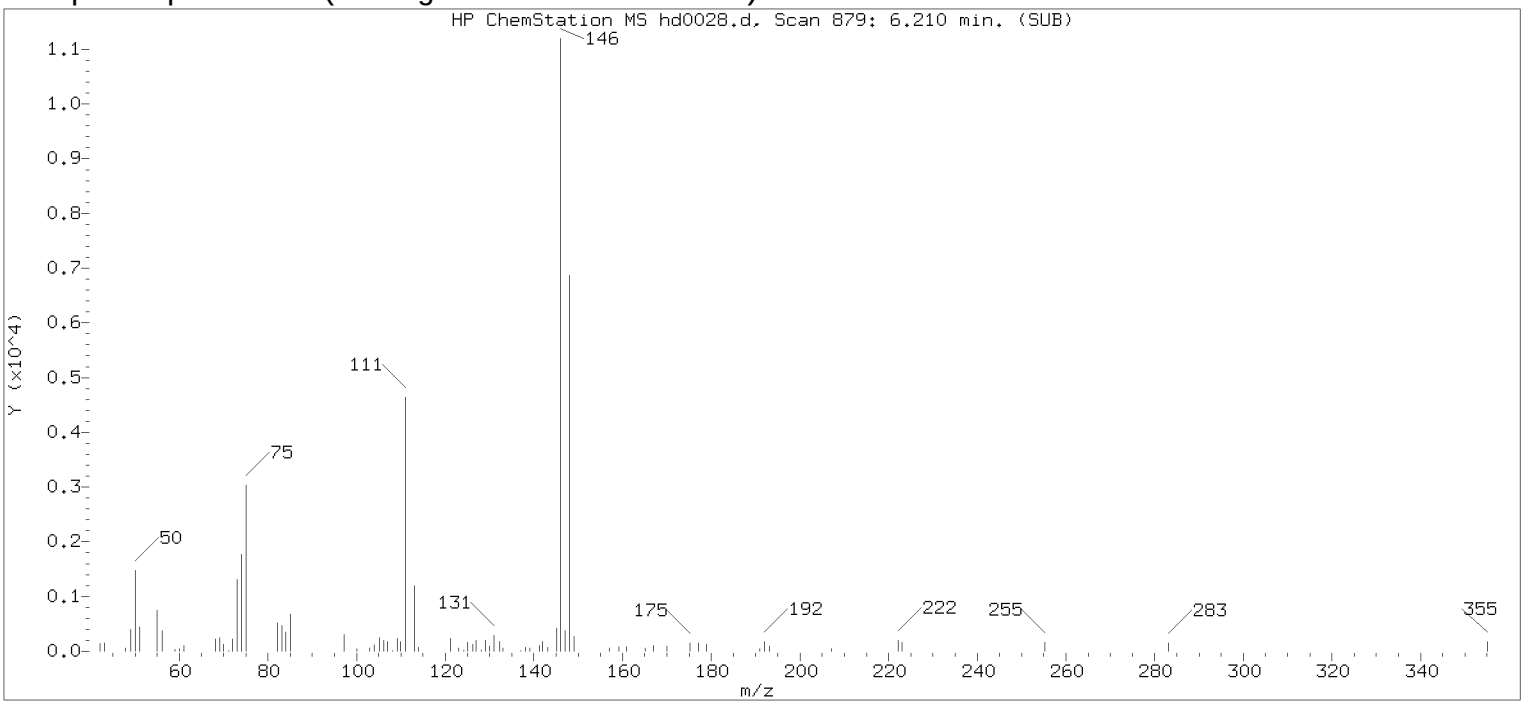
Compound Number : 25
Compound Name : 1,3-Dichlorobenzene
Scan Number : 879
Retention Time (minutes) : 6.210
Quant Ion : 146.00
Area (flag) : 14980M
On-Column Amount (ng/ul) : 0.2241
Integration start scan : 871 Integration stop scan: 885
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

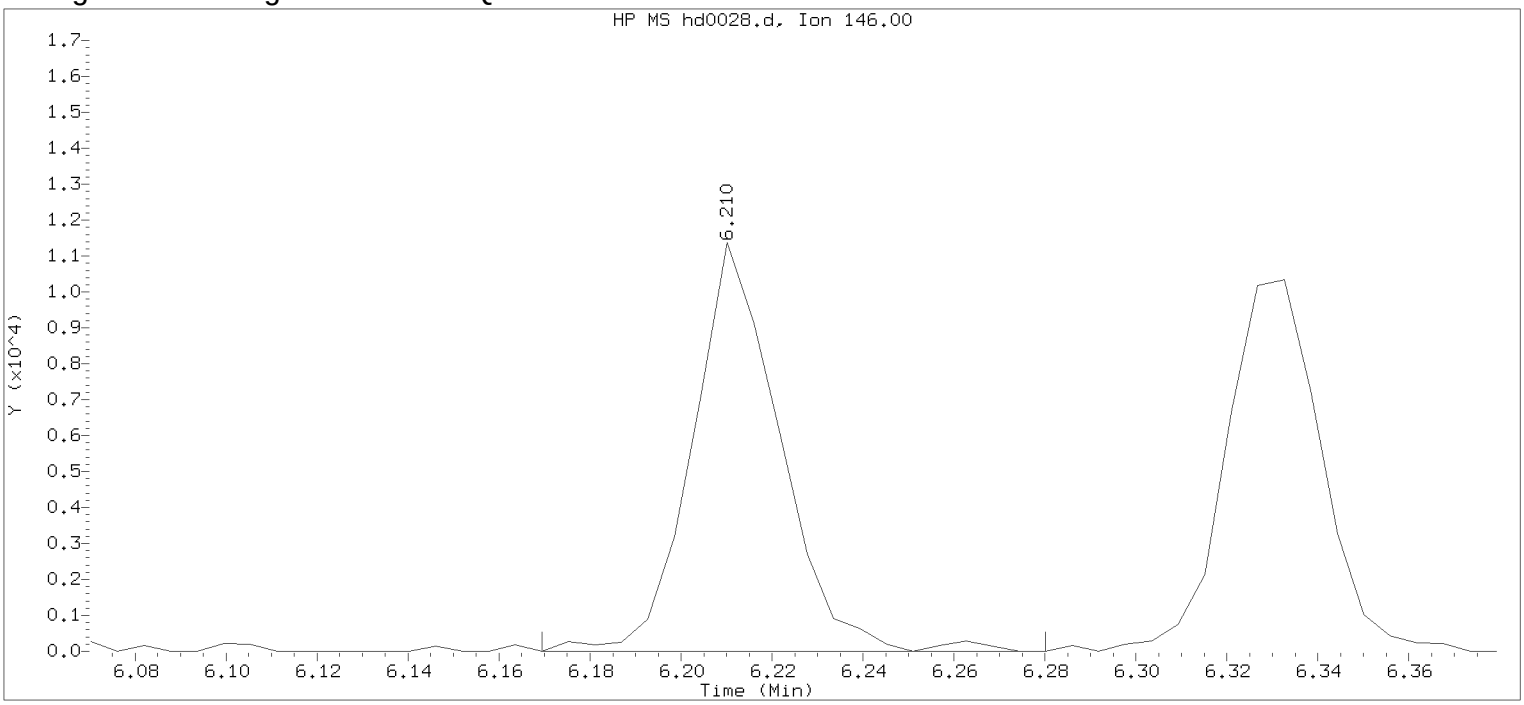
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

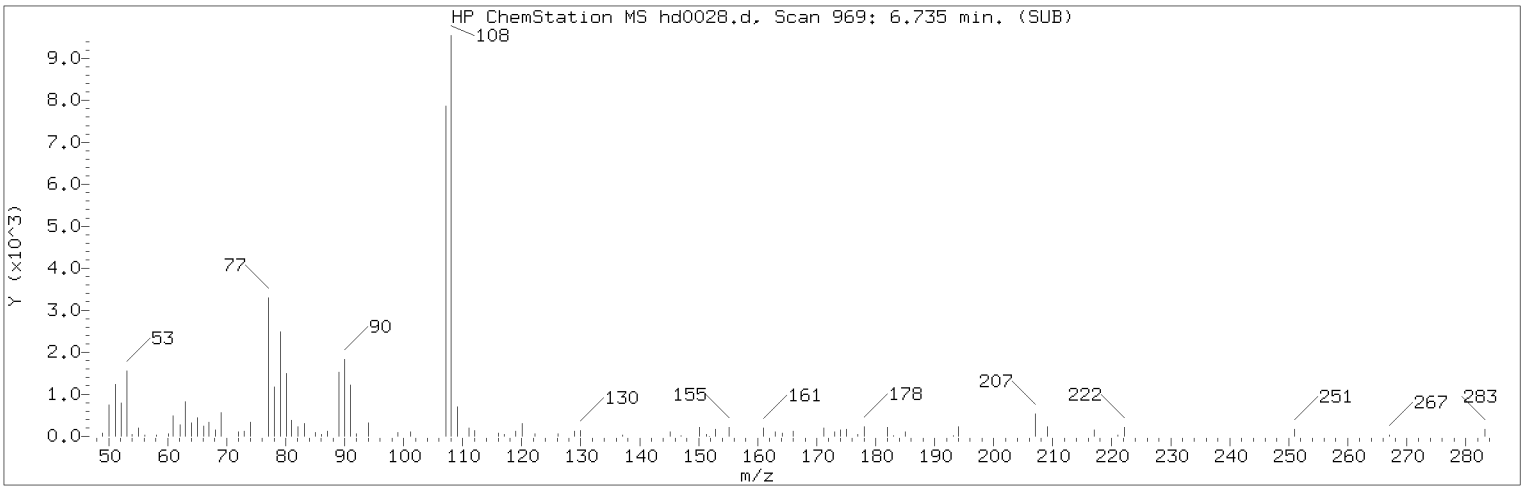
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 02:09
Date, time and analyst ID of latest file update: 03-Apr-2018 02:09 Automation

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

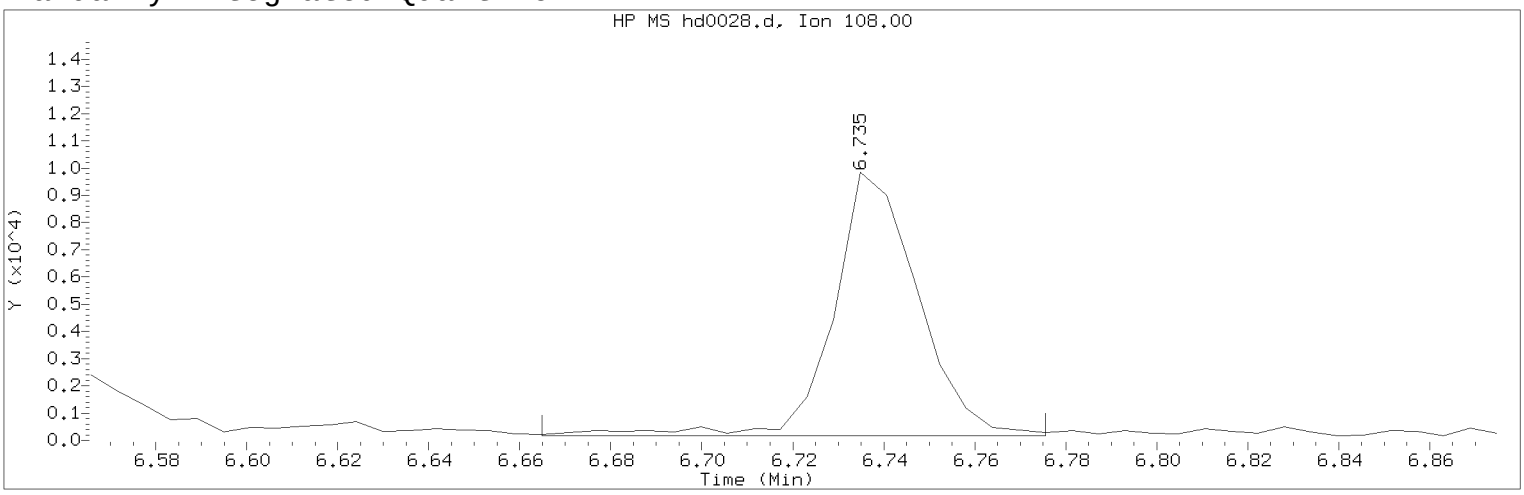
Compound Number : 25
Compound Name : 1,3-Dichlorobenzene
Scan Number : 879
Retention Time (minutes) : 6.210
Quant Ion : 146.00
Area : 15192
On-column Amount (ng/ul) : 0.2270
Integration start scan : 871 Integration stop scan: 890
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

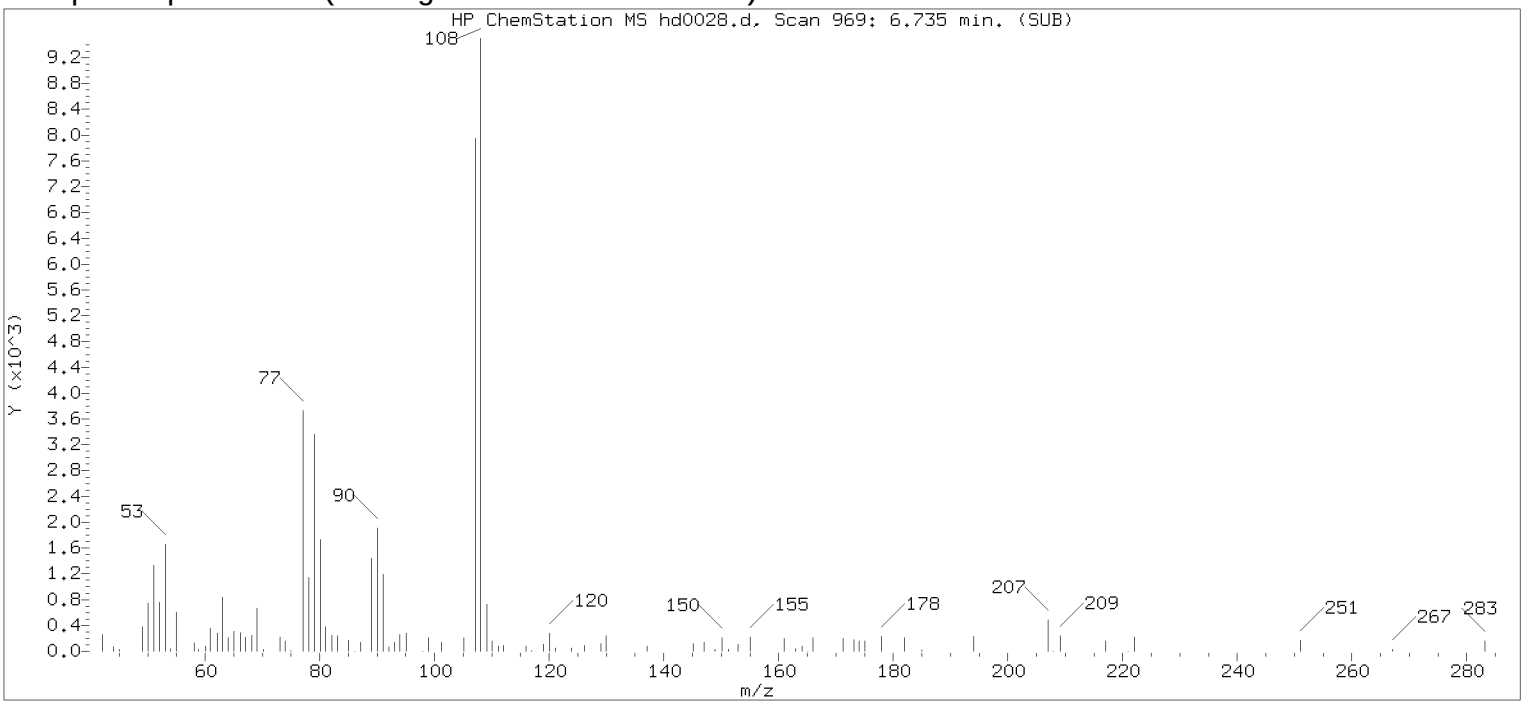
Compound Number : 32
Compound Name : 2-Methylphenol
Scan Number : 969
Retention Time (minutes) : 6.735
Quant Ion : 108.00
Area (flag) : 12624M
On-Column Amount (ng/ul) : 0.2251
Integration start scan : 956 Integration stop scan: 975
Y at integration start : 167 Y at integration end: 167

Reason for manual integration: improper integration

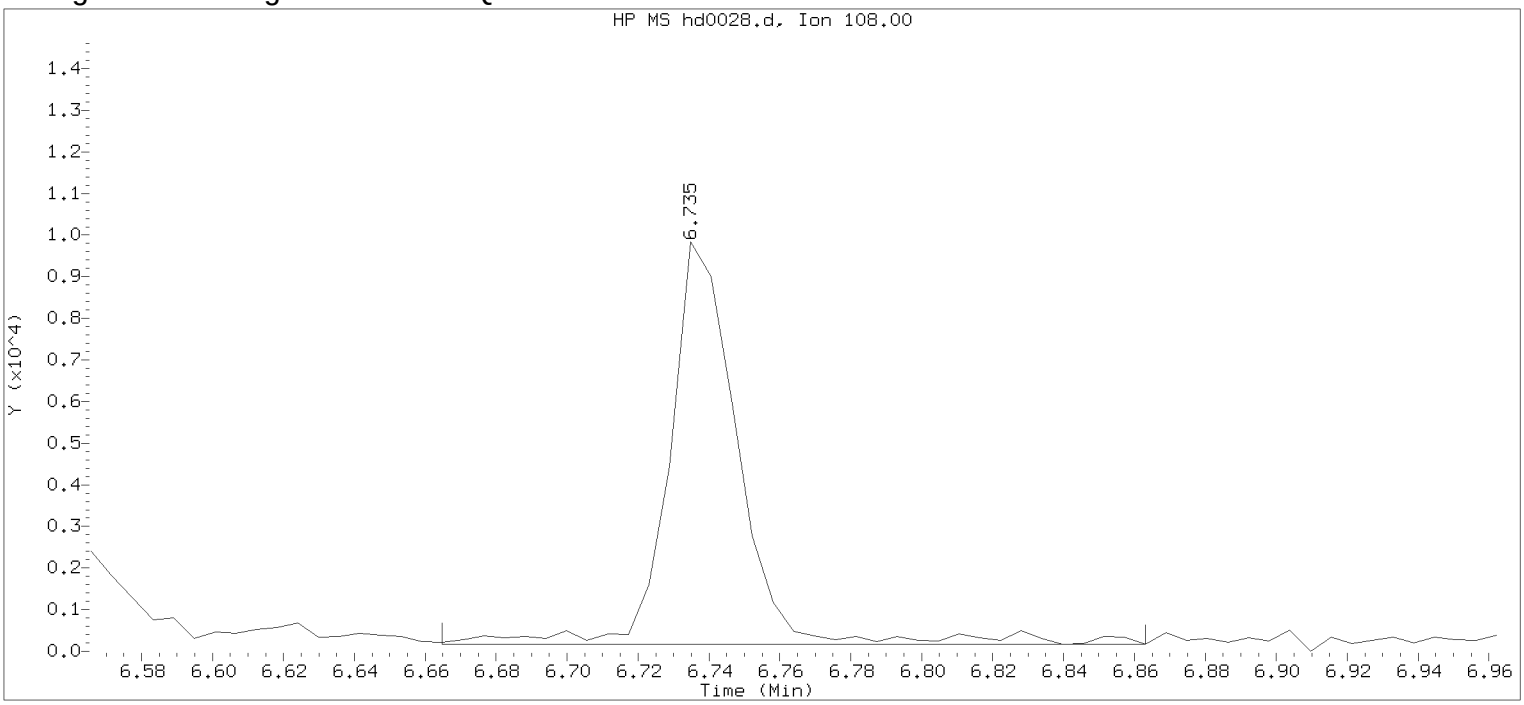
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

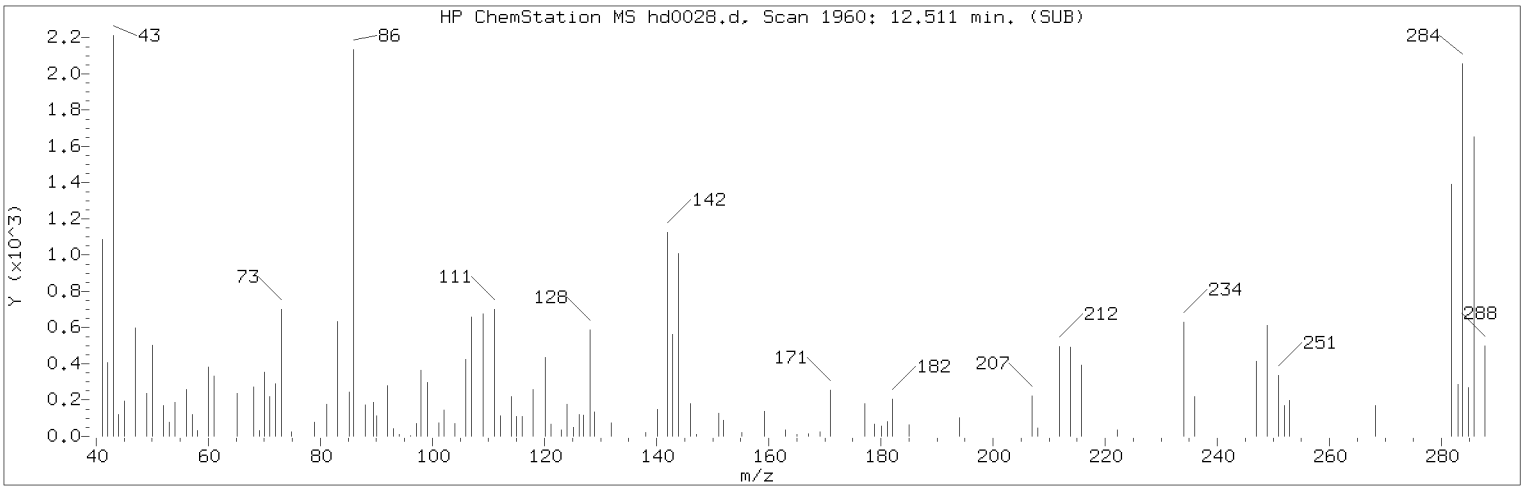
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 02:09
Date, time and analyst ID of latest file update: 03-Apr-2018 02:09 Automation

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

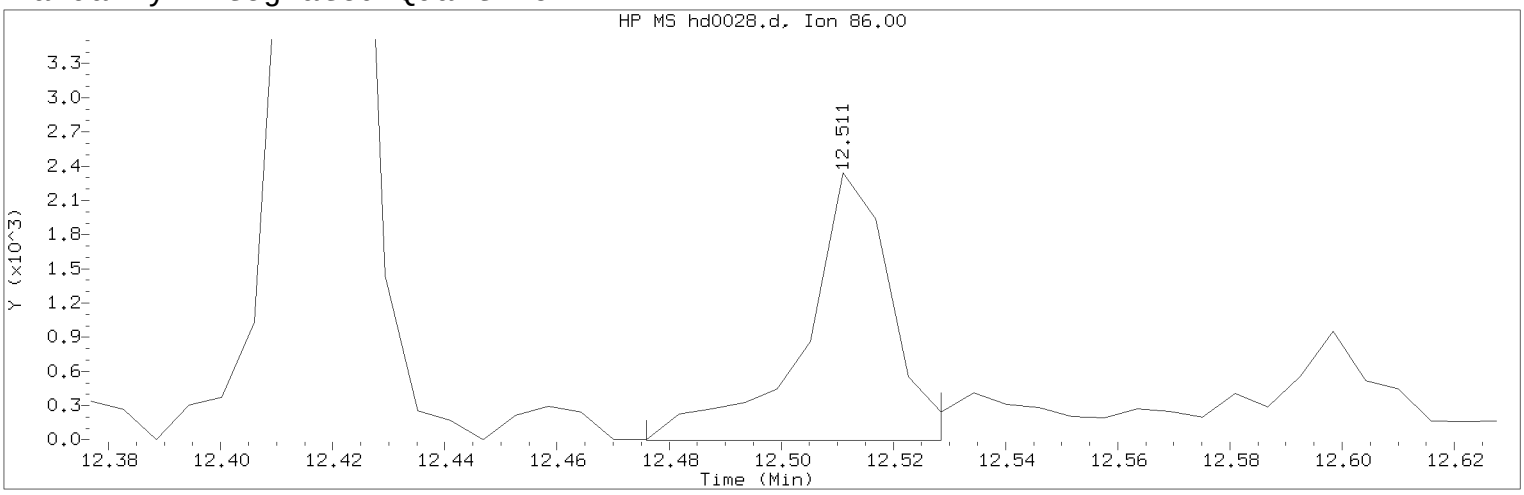
Compound Number : 32
Compound Name : 2-Methylphenol
Scan Number : 969
Retention Time (minutes) : 6.735
Quant Ion : 108.00
Area : 13307
On-column Amount (ng/ul) : 0.2344
Integration start scan : 956 Integration stop scan: 990
Y at integration start : 167 Y at integration end: 167

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

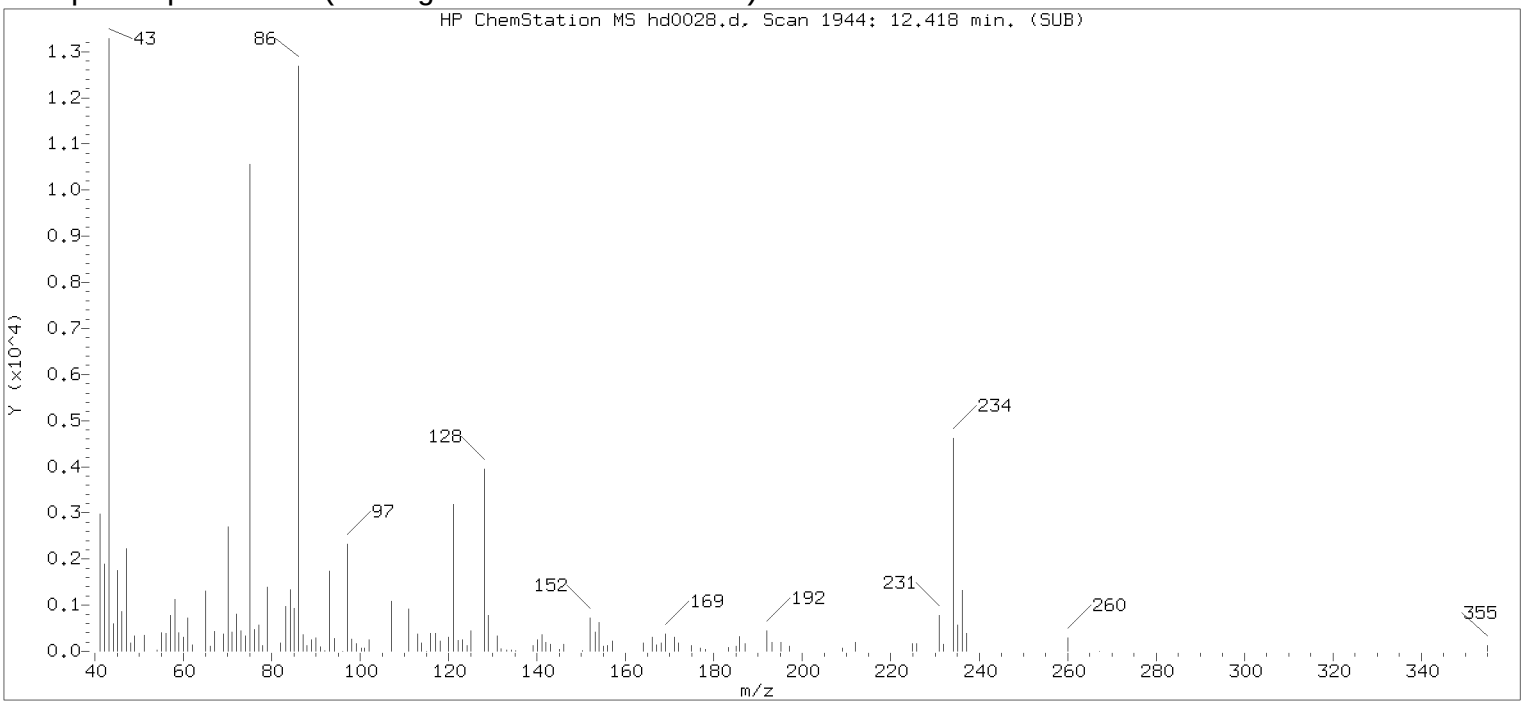
Compound Number : 150
Compound Name : Diallate (peak 2)
Scan Number : 1960
Retention Time (minutes) : 12.511
Quant Ion : 86.00
Area (flag) : 2529M
On-Column Amount (ng/ul) : 0.0511
Integration start scan : 1953 Integration stop scan: 1962
Y at integration start : -3 Y at integration end: -3

Reason for manual integration: improper integration

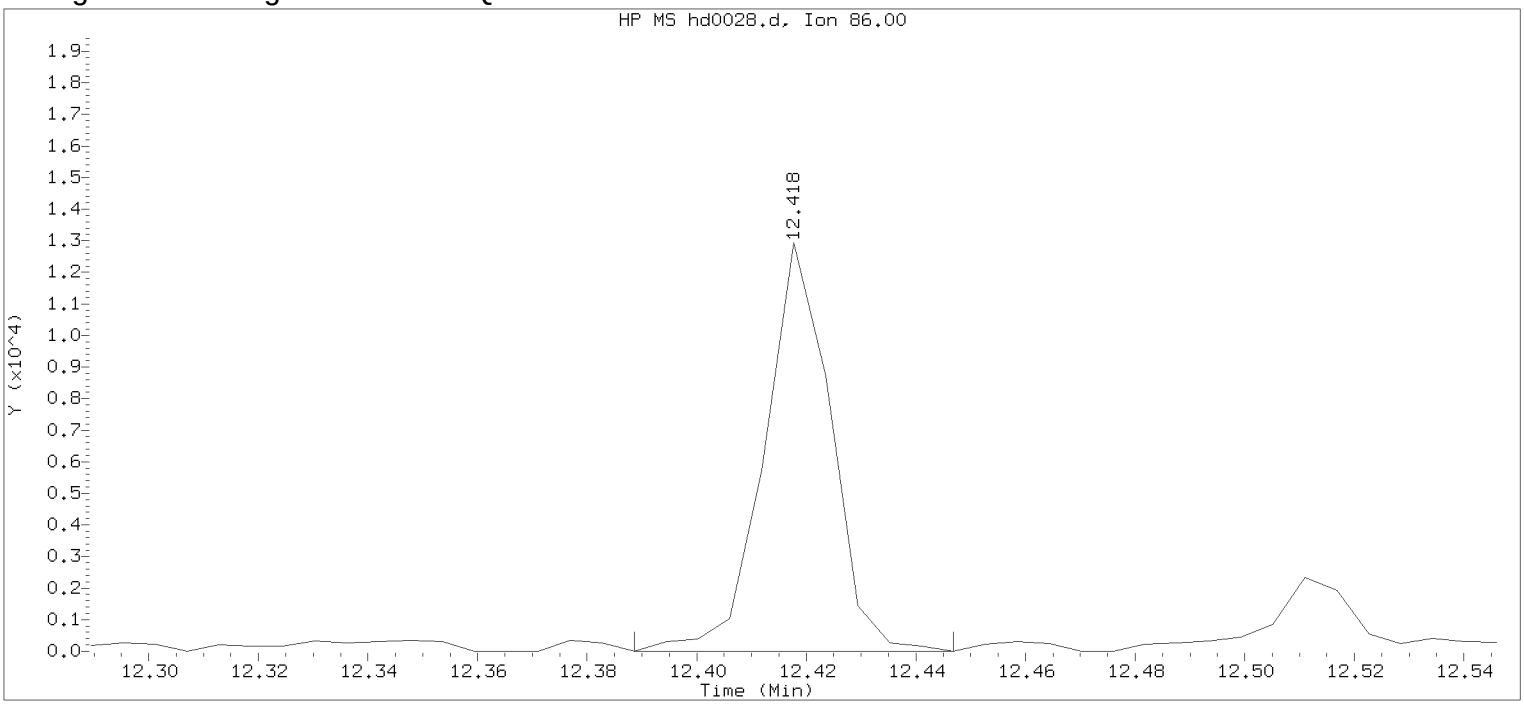
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

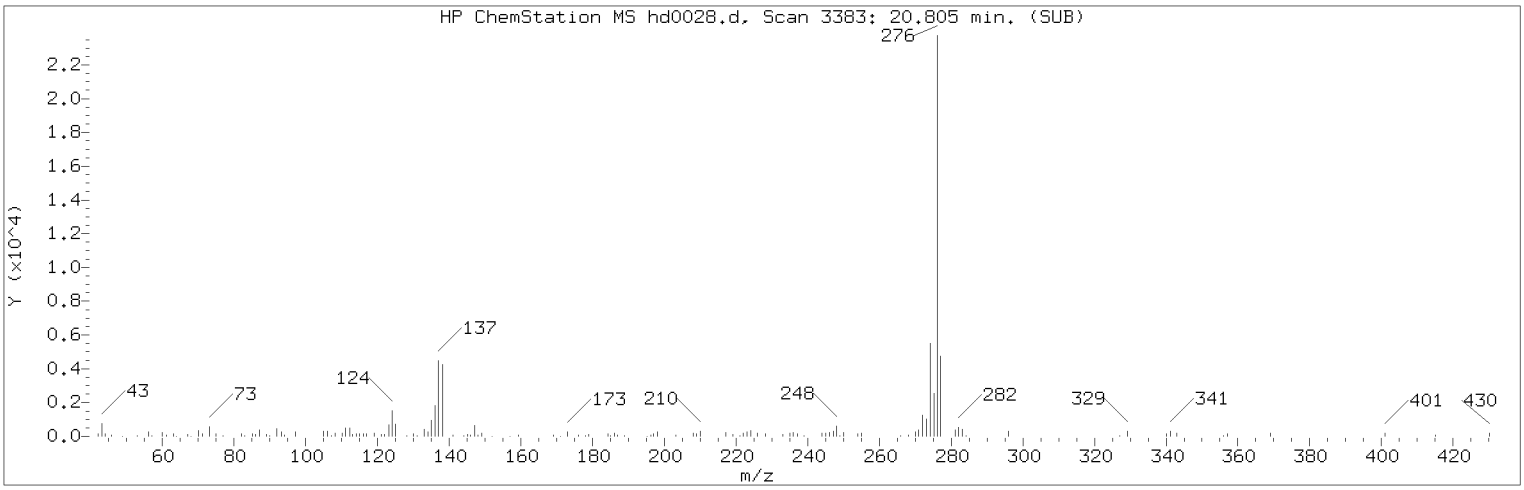
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 02:09
Date, time and analyst ID of latest file update: 03-Apr-2018 02:09 Automation

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

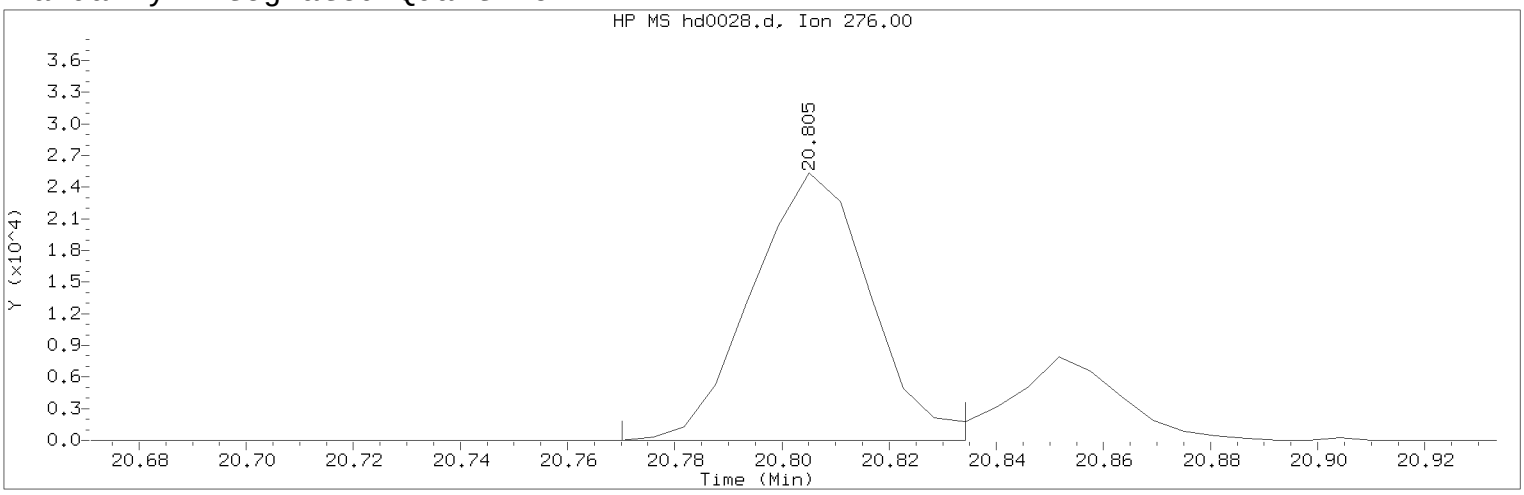
Compound Number : 150
Compound Name : Diallate (peak 2)
Scan Number : 1944
Retention Time (minutes) : 12.418
Quant Ion : 86.00
Area : 10831
On-column Amount (ng/ul) : 0.2146
Integration start scan : 1938 Integration stop scan: 1948
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

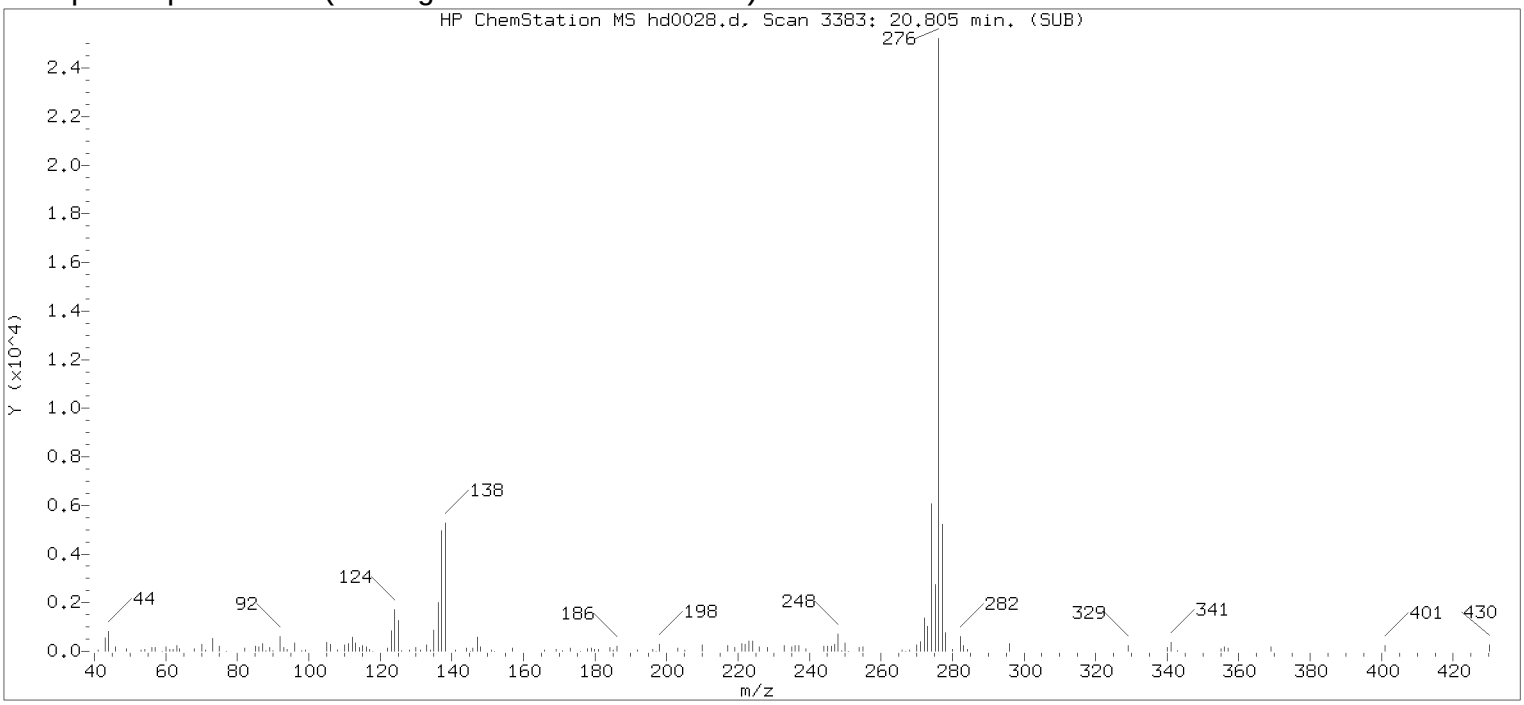
Compound Number : 227
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3383
Retention Time (minutes) : 20.805
Quant Ion : 276.00
Area (flag) : 38697M
On-Column Amount (ng/ul) : 0.2054
Integration start scan : 3376 Integration stop scan: 3387
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

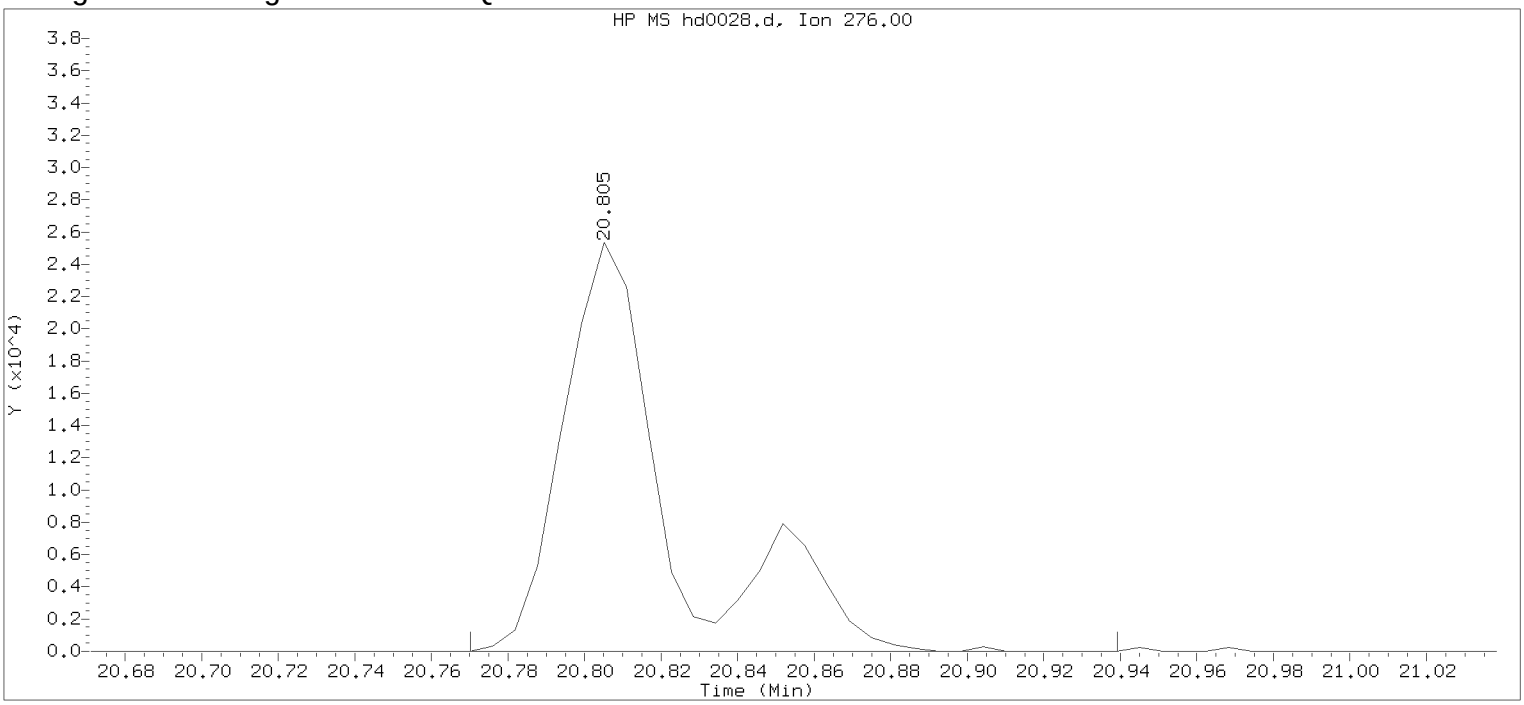
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30. Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

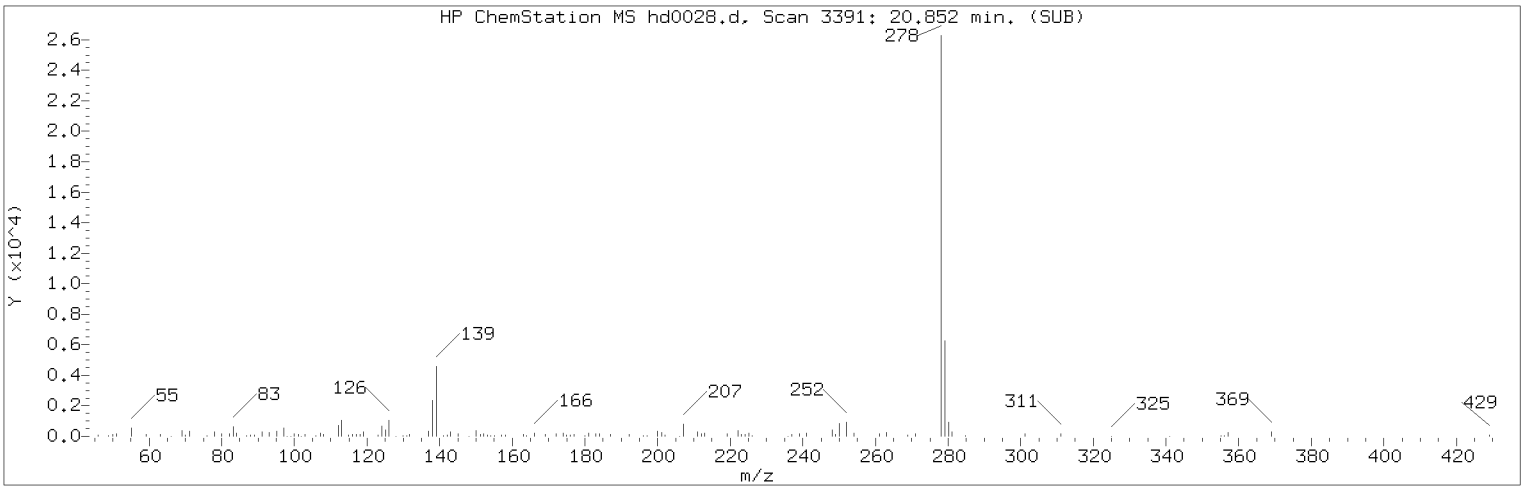
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 02:09
Date, time and analyst ID of latest file update: 03-Apr-2018 02:09 Automation

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

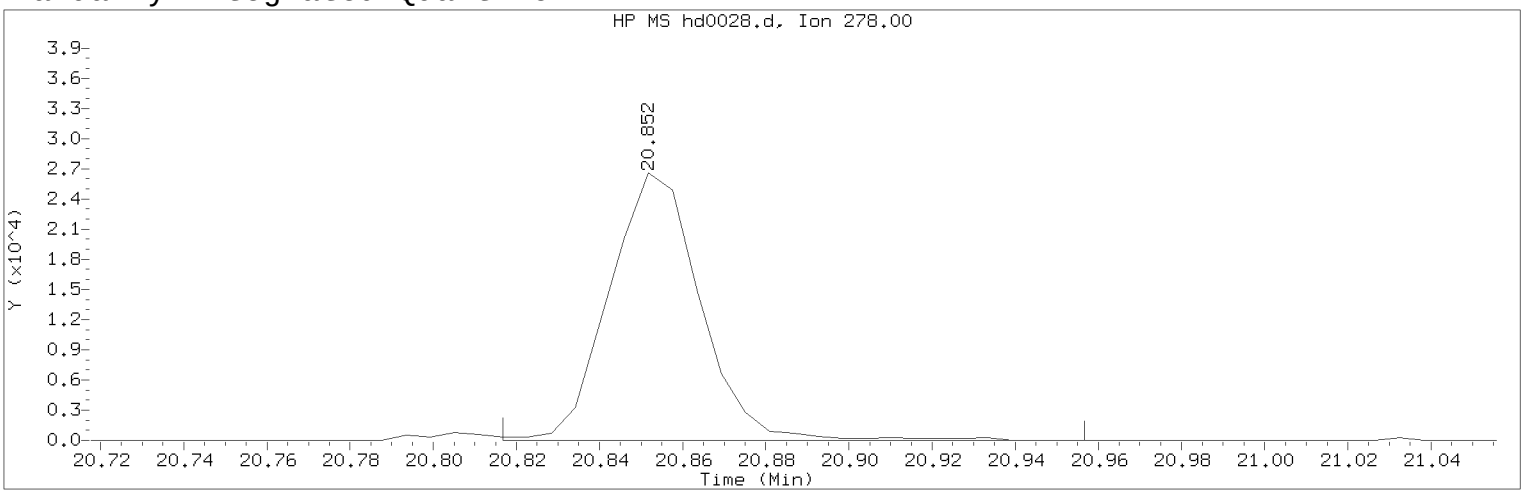
Compound Number : 227
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3383
Retention Time (minutes) : 20.805
Quant Ion : 276.00
Area : 49336
On-column Amount (ng/ul) : 0.2230
Integration start scan : 3376 Integration stop scan: 3405
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

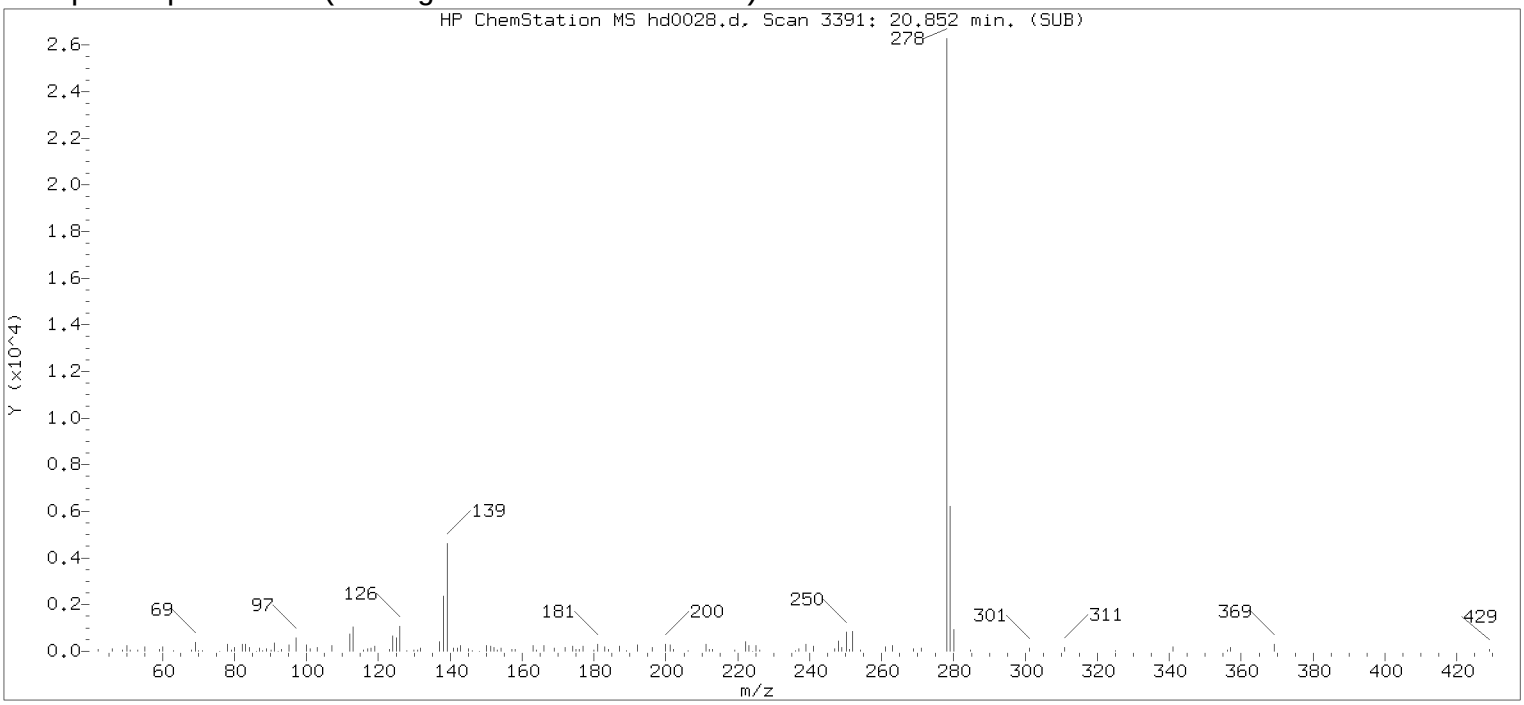
Compound Number : 228
Compound Name : Dibenz(a,h)anthracene
Scan Number : 3391
Retention Time (minutes) : 20.852
Quant Ion : 278.00
Area (flag) : 40392M
On-Column Amount (ng/ul) : 0.2084
Integration start scan : 3384 Integration stop scan: 3408
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

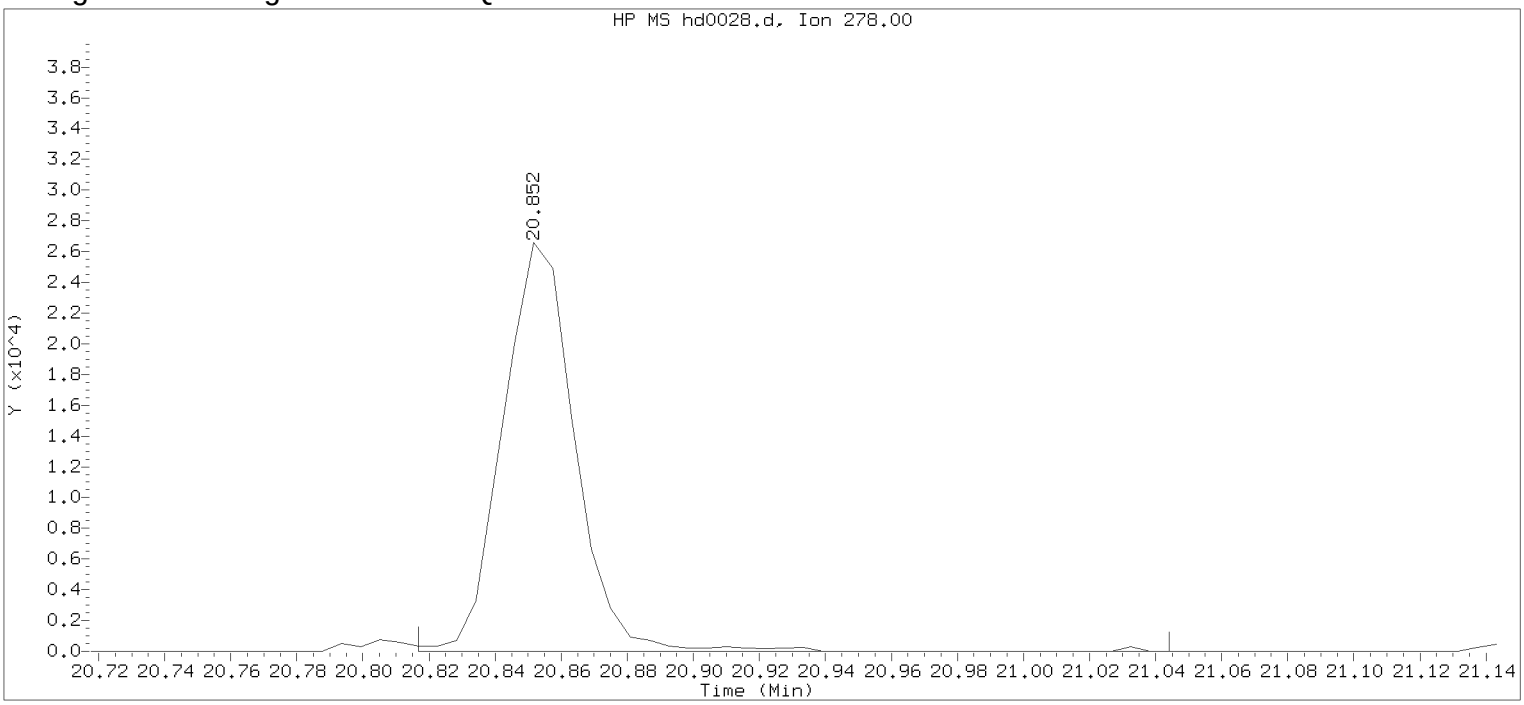
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

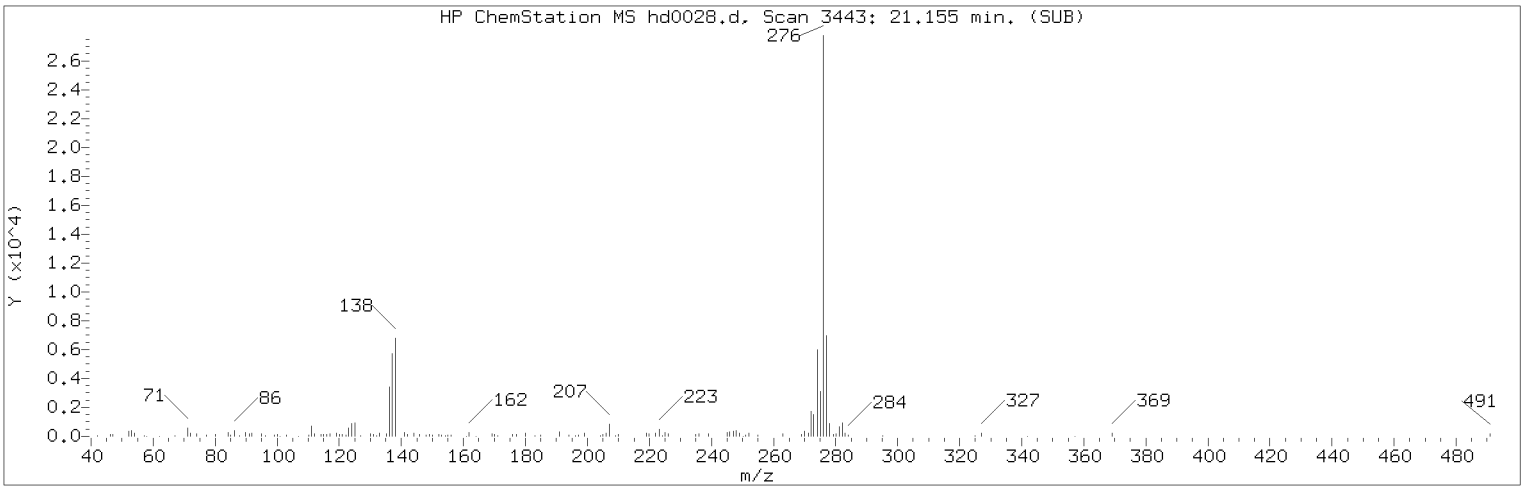
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 02:09
Date, time and analyst ID of latest file update: 03-Apr-2018 02:09 Automation

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

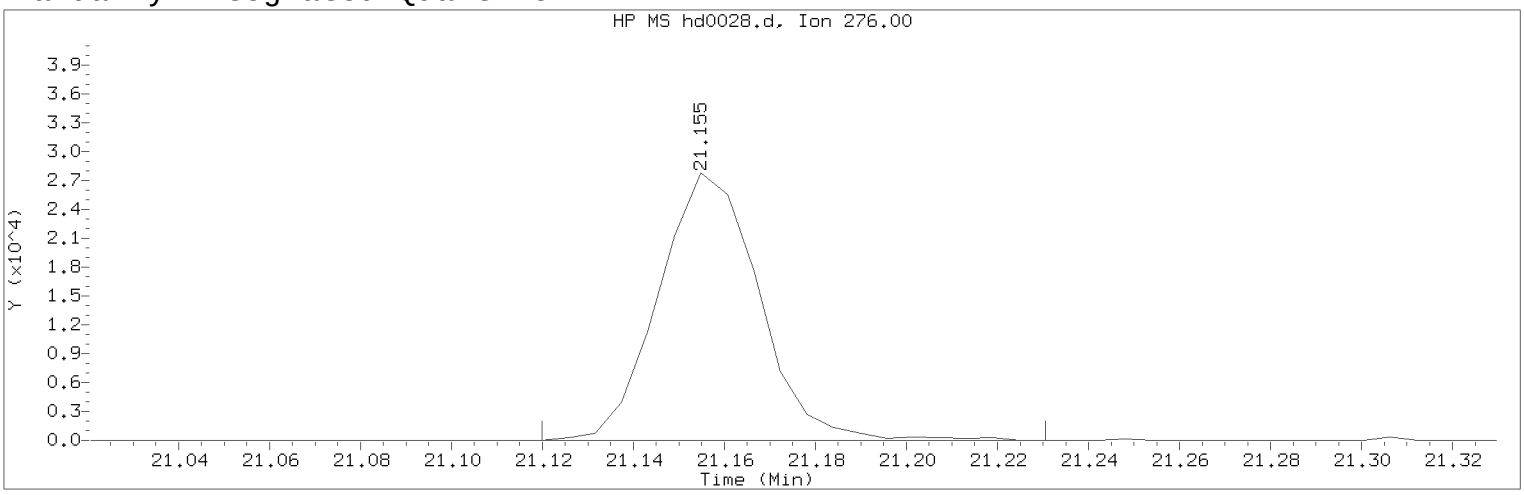
Compound Number : 228
Compound Name : Dibenz(a,h)anthracene
Scan Number : 3391
Retention Time (minutes) : 20.852
Quant Ion : 278.00
Area : 40436
On-column Amount (ng/ul) : 0.2105
Integration start scan : 3384 Integration stop scan: 3423
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 12:22
Date, time and analyst ID of latest file update: 03-Apr-2018 12:22 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

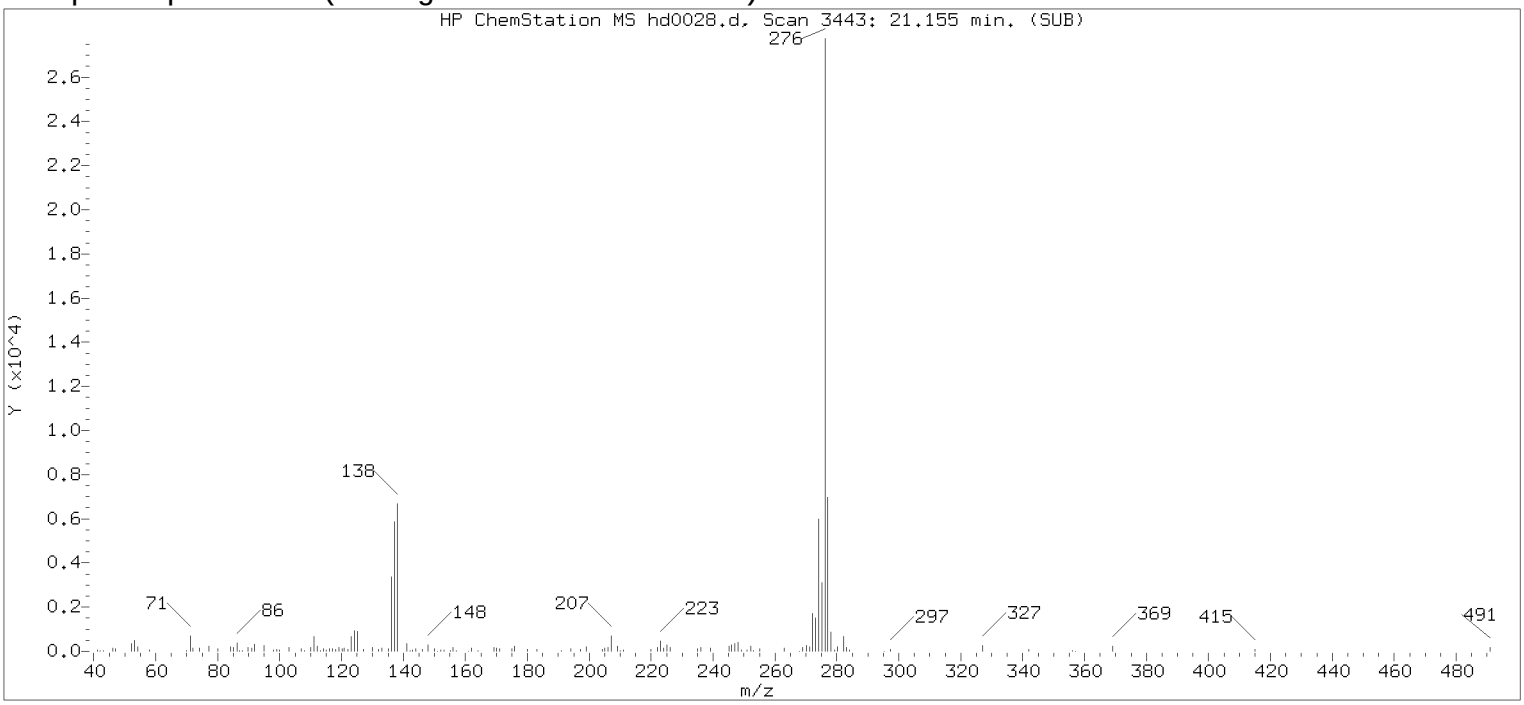
Compound Number : 229
Compound Name : Benzo(g,h,i)perylene
Scan Number : 3443
Retention Time (minutes) : 21.155
Quant Ion : 276.00
Area (flag) : 42495M
On-Column Amount (ng/ul) : 0.2143
Integration start scan : 3436 Integration stop scan: 3455
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

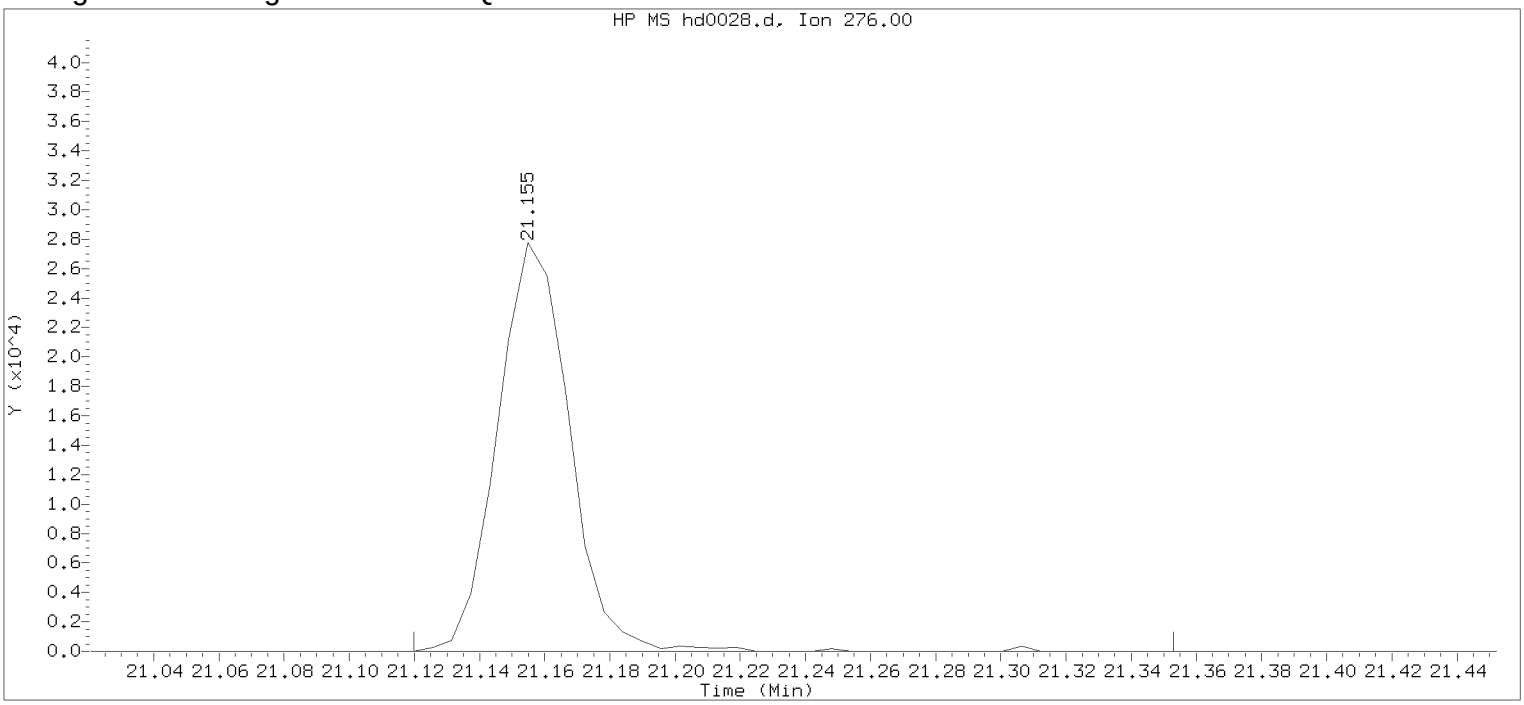
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



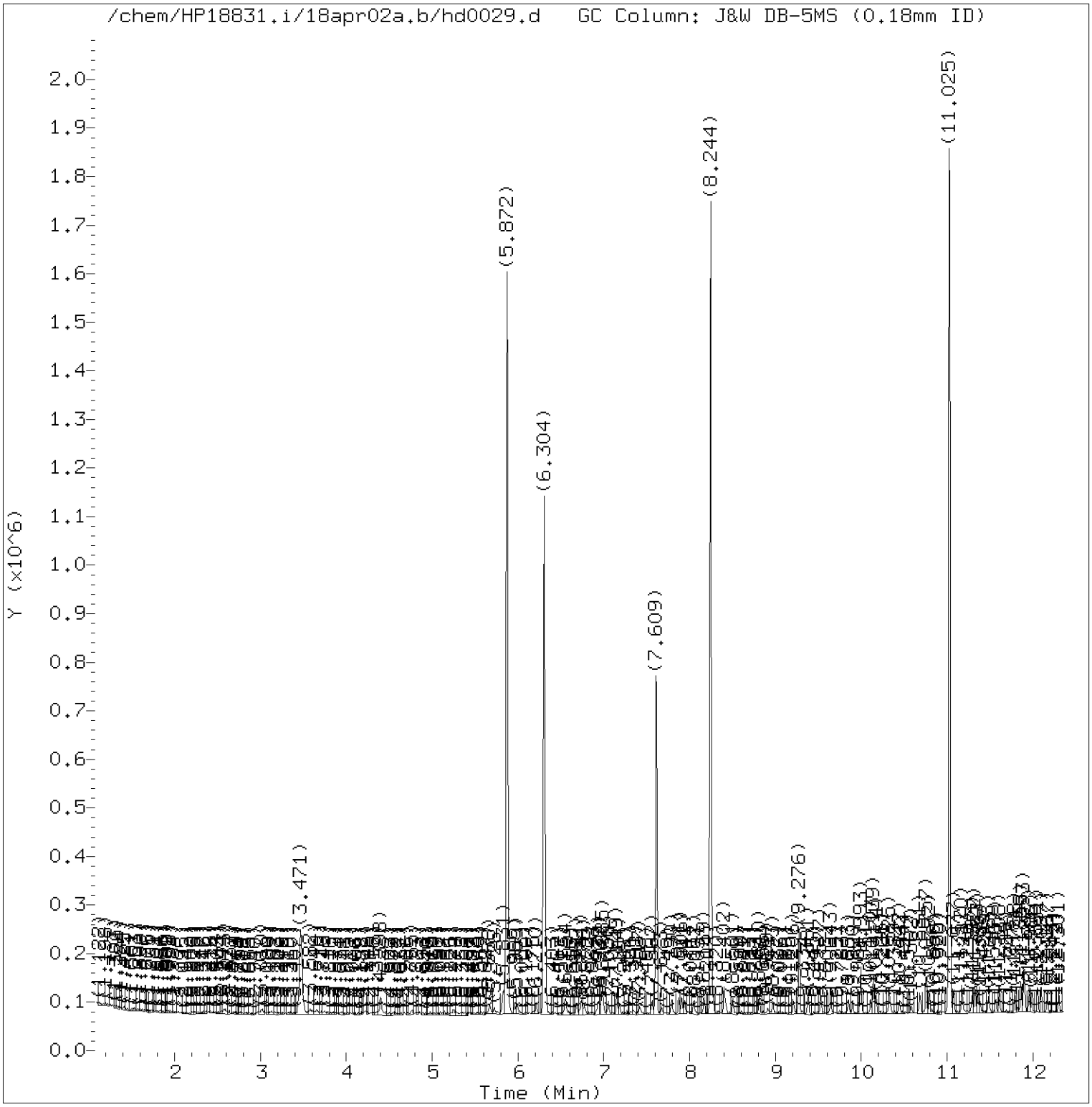
Data File: /chem/HP18831.i/18apr02a.b/hd0028.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 01:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: all1
Calibration date and time: 03-APR-2018 02:09
Date, time and analyst ID of latest file update: 03-Apr-2018 02:09 Automation

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0658

Compound Number : 229
Compound Name : Benzo(g,h,i)perylene
Scan Number : 3443
Retention Time (minutes) : 21.155
Quant Ion : 276.00
Area : 42664
On-column Amount (ng/ul) : 0.2163
Integration start scan : 3436 Integration stop scan: 3476
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user id: bhsmith



Total Ion Chromatogram (TIC)

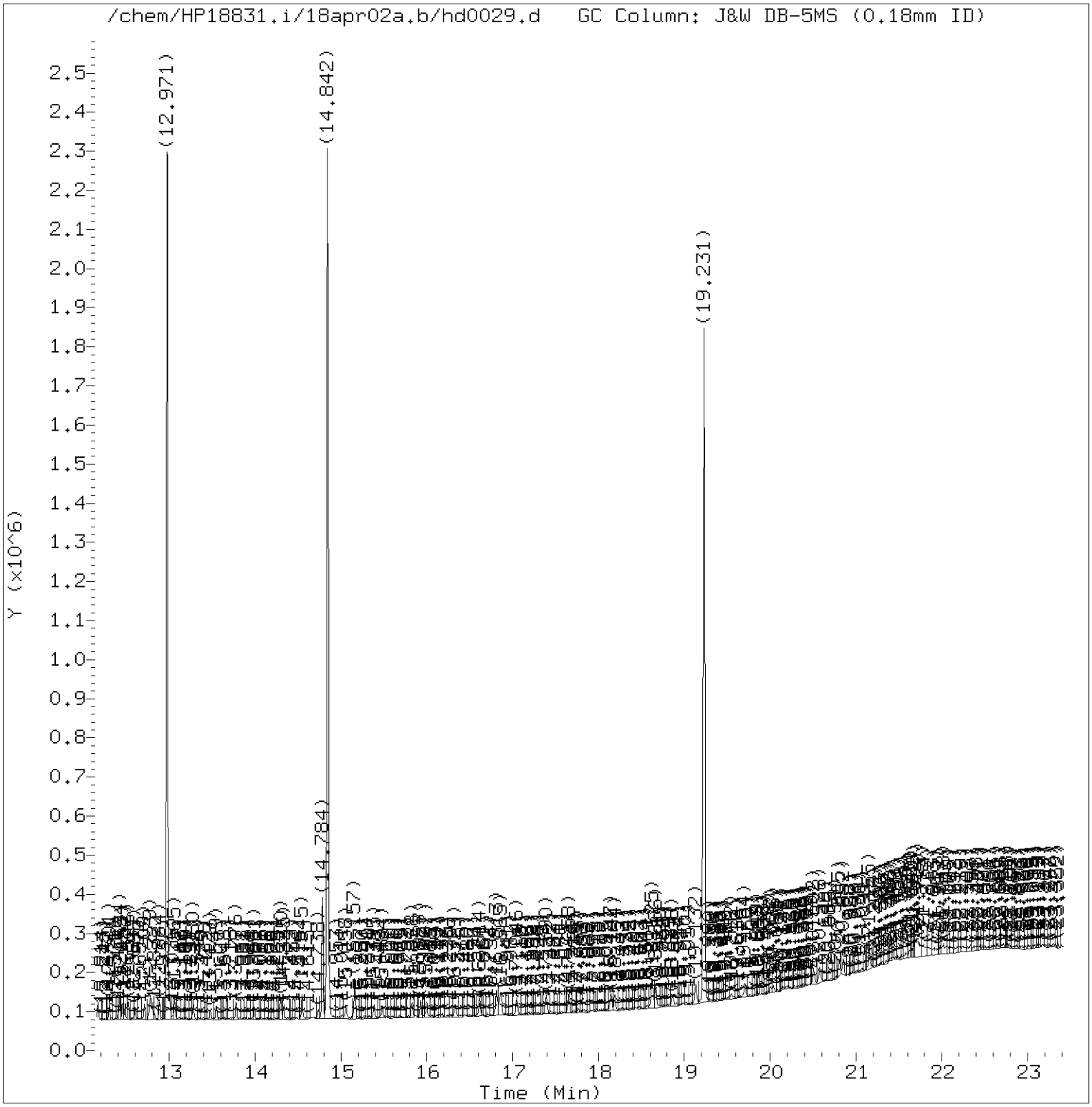
Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0029.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 02:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 03-APR-2018 12:25
Date, time and analyst ID of latest file update: 03-Apr-2018 12:27 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0668

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0029.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 02:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 03-APR-2018 12:25
Date, time and analyst ID of latest file update: 03-Apr-2018 12:27 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0668

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0029.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 02:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 03-APR-2018 12:25
Date, time and analyst ID of latest file update: 03-Apr-2018 12:27 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0668

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
2) 1,4-Dioxane	(1)	1.536	88	5412M	0.191
5) N-Nitrosodimethylamine	(1)	2.247	74	5884	0.124
6) Pyridine	(1)	2.346	79	11743M	0.148
8) 2-Picoline	(1)	3.582	93	9590M	0.117
9) N-Nitrosomethylethylamine	(1)	3.727	88	7617M	0.235
10) Methyl methanesulfonate	(1)	4.217	80	3105	0.078
12)$2-Fluorophenol	(1)	4.403	112	15670	0.238
14) N-Nitrosodiethylamine	(1)	4.759	102	3549	0.110
16) Ethyl methanesulfonate	(1)	5.254	109	2926	0.085
43) Total Cresols	(1)			19441	0.286
17) Benzaldehyde	(1)	5.668	77	6721	0.123
18)$Phenol-d6	(1)	5.820	99	20575	0.235
20) Aniline	(1)	5.837	93	13690	0.120
19) Phenol	(1)	5.843	94	13051	0.129
21) a-methylstyrene	(1)	5.872	118	8244	0.331
23) bis(2-Chloroethyl)ether	(1)	5.965	93	9183	0.126
24) 2-Chlorophenol	(1)	5.989	128	8343	0.122
25) 1,3-Dichlorobenzene	(1)	6.210	146	9781	0.129
26)*1,4-Dichlorobenzene-d4	(1)	6.304	152	240299	5.000
27) 1,4-Dichlorobenzene	(1)	6.333	146	8730	0.115
29) 1,2-Dichlorobenzene	(1)	6.554	146	8707	0.119
28) Benzyl alcohol	(1)	6.554	108	4863	0.119
31) Indene	(1)	6.682	115	9505	0.094
32) 2-Methylphenol	(1)	6.741	108	9968	0.157
35) bis(2-Chloroisopropyl)ether	(1)	6.776	45	10643	0.121
34) 2,2'-oxybis(1-Chloropropane)	(1)	6.776	45	10643	0.121
36) N-Nitrosopyrrolidine	(1)	6.916	100	3836	0.110
37) Acetophenone	(1)	6.939	105	12446	0.131
39) N-Nitroso-di-n-propylamine	(1)	6.962	70	7546	0.137
40) N-Nitrosomorpholine	(1)	6.980	56	4331	0.107
41) o-Toluidine	(1)	6.985	106	13558	0.122
38) 4-Methylphenol	(1)	6.985	108	9473	0.130
44) Hexachloroethane	(1)	7.050	117	3929	0.127
45)$Nitrobenzene-d5	(2)	7.149	82	20468	0.262
46) Nitrobenzene	(2)	7.184	77	9123	0.118
101) Isosafrole	(3)			7462	0.120
50) N-Nitrosopiperidine	(2)	7.417	114	3722	0.110
52) Isophorone	(2)	7.562	82	17956	0.130
53) 2-Nitrophenol	(2)	7.667	139	4665	0.146
55) 2,4-Dimethylphenol	(2)	7.790	107	9151	0.132

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0029.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 02:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 03-APR-2018 12:25
Date, time and analyst ID of latest file update: 03-Apr-2018 12:27 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0668

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
59) Benzoic acid	(2)	7.871	105	19330	0.497
57) O,O,O-Triethylphosphorothioate	(2)	7.906	198	4279	0.122
58) bis(2-Chloroethoxy)methane	(2)	7.941	93	9497	0.108
62) 2,4-Dichlorophenol	(2)	8.046	162	6649	0.115
126) 2,4_2,6-Dinitrotoluenes	(3)			8757	0.247
64) 1,2,4-Trichlorobenzene	(2)	8.169	180	7763	0.122
67)*Naphthalene-d8	(2)	8.244	136	888259	5.000
70) 4-Chloroaniline	(2)	8.402	127	10646	0.133
71) 2,6-Dichlorophenol	(2)	8.402	162	6534	0.116
72) Hexachloropropene	(2)	8.419	213	4610	0.102
74) Hexachlorobutadiene	(2)	8.501	225	4159	0.107
152) Diallate trans/cis	(4)			8931	0.141
78) Quinoline	(2)	8.810	129	15022	0.121
79) Caprolactam	(2)	8.909	113	2334M	0.134
80) N-Nitrosodi-n-butylamine	(2)	8.973	84	6312	0.107
83) 4-Chloro-3-methylphenol	(2)	9.212	107	8444	0.142
85) Safrole	(2)	9.282	162	5918	0.113
88) Hexachlorocyclopentadiene	(3)	9.643	237	3547	0.088
89) 1,2,4,5-Tetrachlorobenzene	(3)	9.649	216	7509	0.113
92) cis-Isosafrole	(3)	9.748	162	1335	0.023
94) 2,4,6-Trichlorophenol	(3)	9.853	196	5151	0.121
96) 2,4,5-Trichlorophenol	(3)	9.900	196	4865	0.111
97)$2-Fluorobiphenyl	(3)	9.993	172	33750	0.231
98) trans-Isosafrole	(3)	10.110	162	6127	0.097
99) 1,1'-Biphenyl	(3)	10.139	154	15783	0.107
100) 2-Chloronaphthalene	(3)	10.145	162	14291	0.113
102) 1-Chloronaphthalene	(3)	10.174	162	13204	0.114
104) Diphenyl ether	(3)	10.319	170	10160	0.118
105) 2-Nitroaniline	(3)	10.337	138	4417	0.120
109) 1,4-Naphthoquinone	(3)	10.442	158	5152	0.101
110) 1,4-Dinitrobenzene	(3)	10.588	168	1949M	0.110
111) Dimethylphthalate	(3)	10.681	163	17197	0.119
112) 1,3-Dinitrobenzene	(3)	10.692	168	2173	0.108
114) 2,6-Dinitrotoluene	(3)	10.751	165	3863	0.127
118) 3-Nitroaniline	(3)	11.001	138	3834	0.119
119)*Acenaphthene-d10	(3)	11.025	164	442077	5.000
121) 2,4-Dinitrophenol	(3)	11.170	184	8693	0.547
123) Pentachlorobenzene	(3)	11.293	250	6918	0.120
122) 4-Nitrophenol	(3)	11.322	109	9085	0.450
125) Dibenzofuran	(3)	11.363	168	20478	0.118

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0029.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 02:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 03-APR-2018 12:25
Date, time and analyst ID of latest file update: 03-Apr-2018 12:27 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0668

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
124) 2,4-Dinitrotoluene	(3)	11.386	165	4894	0.121
127) 1-Naphthylamine	(3)	11.485	143	14648	0.112
128) 2,3,4,6-Tetrachlorophenol	(3)	11.567	232	3838	0.106
129) 2-Naphthylamine	(3)	11.608	143	15120	0.121
130) Diethylphthalate	(3)	11.788	149	18372	0.131
131) Thionazin	(3)	11.887	107	3281	0.123
133) 4-Chlorophenyl-phenylether	(3)	11.899	204	8463	0.123
134) 5-Nitro-o-toluidine	(3)	11.899	152	3873	0.104
135) 4-Nitroaniline	(3)	11.911	138	3805	0.116
136) 4,6-Dinitro-2-methylphenol	(4)	11.957	198	6853	0.316
137) N-Nitrosodiphenylamine	(4)	12.056	169	14100	0.121
138) NDPA as diphenylamine	(4)	12.056	169	14100	0.121
140) 1,2-Diphenylhydrazine	(4)	12.097	77	17446	0.114
141)$2,4,6-Tribromophenol	(3)	12.167	330	4615	0.240
143) Tetraethyldithiopyrophosphate	(4)	12.301	97	5695	0.215
145) 1,3,5-Trinitrobenzene	(4)	12.406	213	1226	0.093
146) Diallate (peak 1)	(4)	12.418	86	6808	0.102
147) Phorate	(4)	12.424	75	10285	0.641
148) Phenacetin	(4)	12.453	108	7925	0.109
149) 4-Bromophenyl-phenylether	(4)	12.488	248	5015	0.118
150) Diallate (peak 2)	(4)	12.511	86	2123M	0.039
153) Dimethoate	(4)	12.598	87	6631	0.109
154) Atrazine	(4)	12.709	200	3835	0.103
156) Pentachlorophenol	(4)	12.767	266	2369	0.088
158) Pentachloronitrobenzene	(4)	12.773	237	1754	0.090
157) 4-Aminobiphenyl	(4)	12.785	169	15399	0.115
159) Pronamide	(4)	12.884	173	7595	0.111
160)*Phenanthrene-d10	(4)	12.977	188	887964	5.000
161) Dinoseb	(4)	13.012	211	2439	0.070
170) Carbazole	(4)	13.280	167	22332	0.118
171) Methyl parathion	(4)	13.479	109	4894	0.107
173) Di-n-butylphthalate	(4)	13.776	149	27282	0.111
176) 4-Nitroquinoline-1-oxide	(4)	13.986	190	860M	1.843
175) Parathion	(4)	13.991	109	3044	0.100
177) Octachlorostyrene	(4)	14.306	308	1790	0.107
179) Isodrin	(4)	14.335	193	3402	0.136
182) Benzidine	(5)	14.784	184	141549	0.957
183)*Pyrene-d10	(5)	14.842	212	942298	5.000
187)$Terphenyl-d14	(5)	15.157	244	38557	0.232
190) p-Dimethylaminoazobenzene	(5)	15.385	225	4277	0.106

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0029.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 02:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 03-APR-2018 12:25
Date, time and analyst ID of latest file update: 03-Apr-2018 12:27 bhs10208

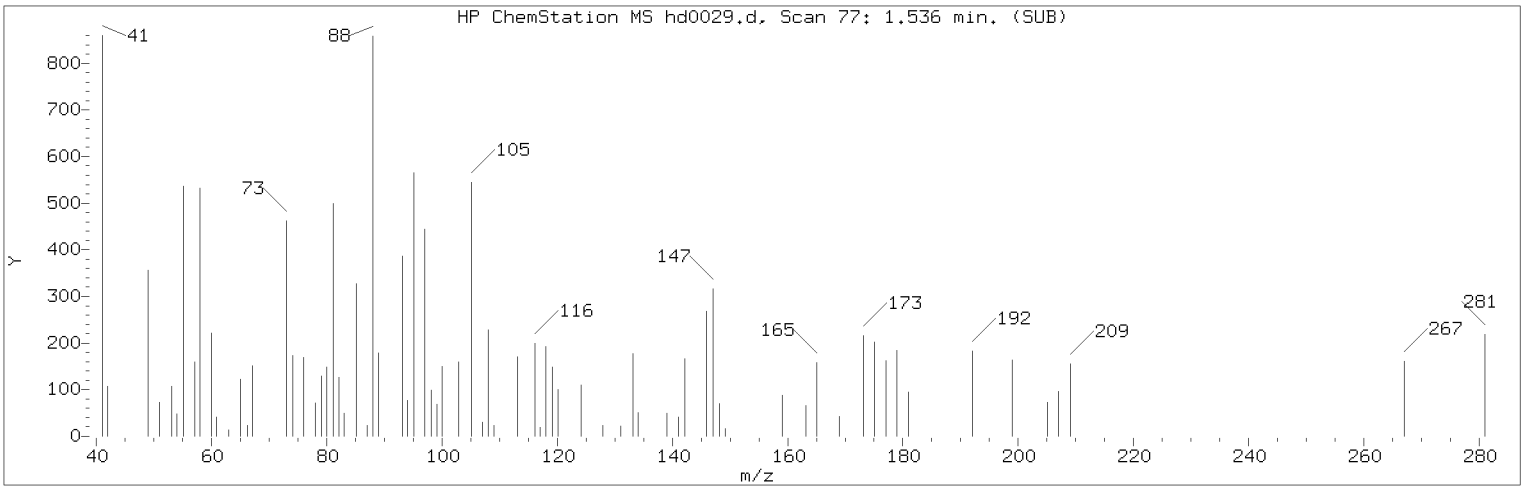
Sample Name: SSTD0.125 Lab Sample ID: rvMDL0668

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
193) Chlorobenzilate	(5)	15.484	139	7359	0.101
195) 3,3'-Dimethylbenzidine	(5)	15.932	212	19141	0.116
196) Butylbenzylphthalate	(5)	15.997	149	11865	0.108
199) 2-Acetylaminofluorene	(5)	16.329	181	9495	0.093
201) 3,3'-Dichlorobenzidine	(5)	16.824	252	9938	0.113
203) 4,4'-Methylenebis(2-chloroanil	(5)	16.848	231	5294	0.106
207) bis(2-Ethylhexyl)phthalate	(5)	17.046	149	17258	0.107
211) 6-Methylchrysene	(5)	17.652	242	18039	0.111
213) Di-n-octylphthalate	(6)	18.188	149	28255	0.100
215) 7,12-Dimethylbenz[a]anthracene	(6)	18.631	256	10143	0.109
221)*Perylene-d12	(6)	19.231	264	920416	5.000
223) 3-Methylcholanthrene	(6)	19.704	268	12473	0.117
225) Dibenz(a,h)acridine	(6)	20.508	279	19795	0.102
226) Dibenz(a,j)acridine	(6)	20.578	279	20419	0.105

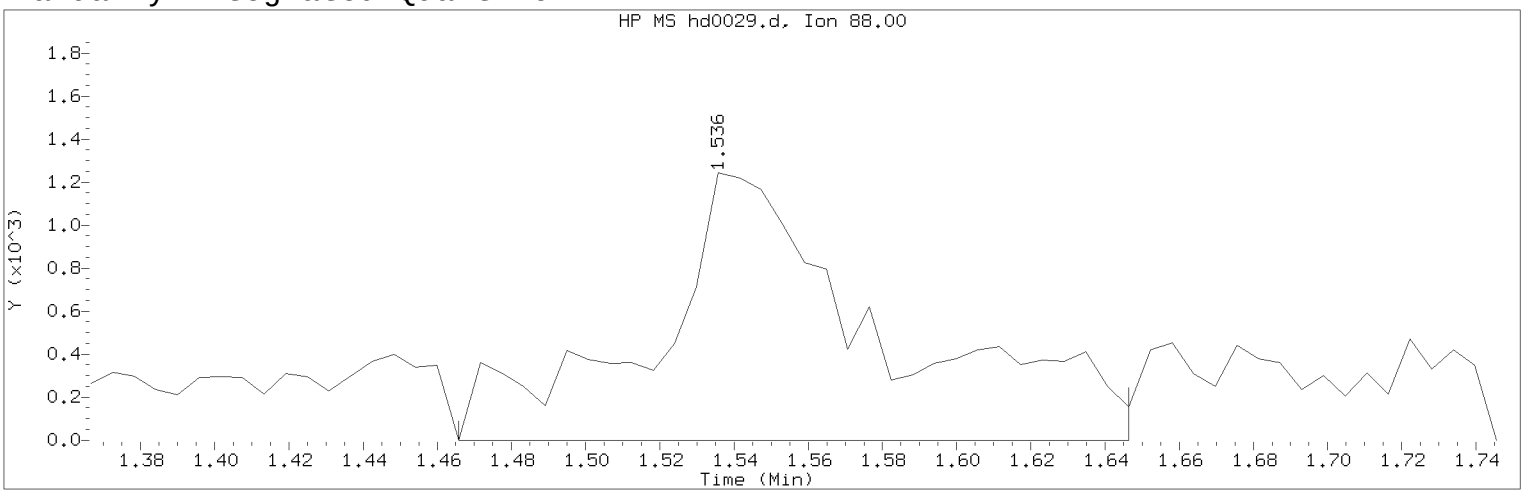
* = Compound is an internal standard.

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0029.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 02:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 03-APR-2018 12:25
Date, time and analyst ID of latest file update: 03-Apr-2018 12:27 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0668

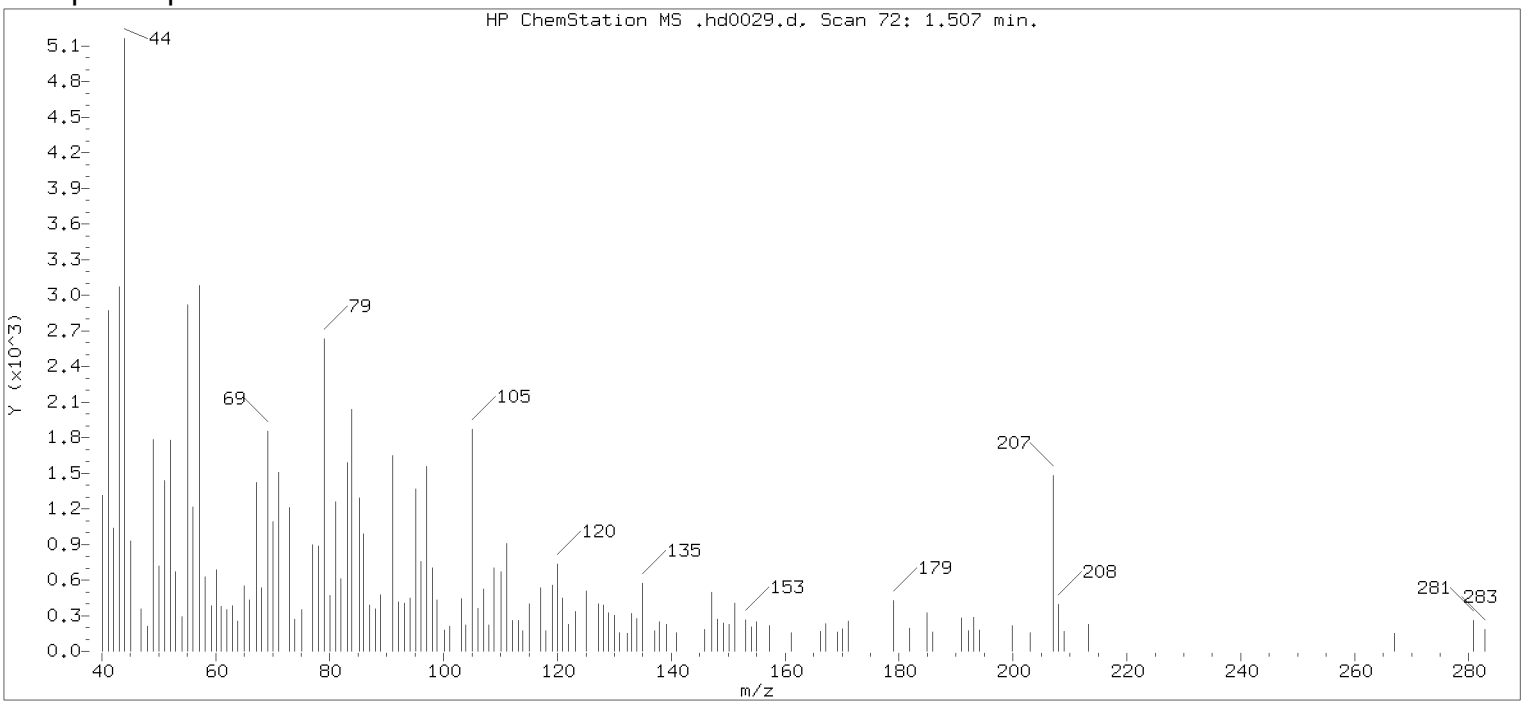
Compound Number : 2
Compound Name : 1,4-Dioxane
Scan Number : 77
Retention Time (minutes) : 1.536
Quant Ion : 88.00
Area (flag) : 5412M
On-Column Amount (ng/ul) : 0.1911
Integration start scan : 64 Integration stop scan: 95
Y at integration start : -1 Y at integration end: -1

Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion

Data File: /chem/HP18831.i/18apr02a.b/hd0029.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 02:12 Analyst ID: bkc25363

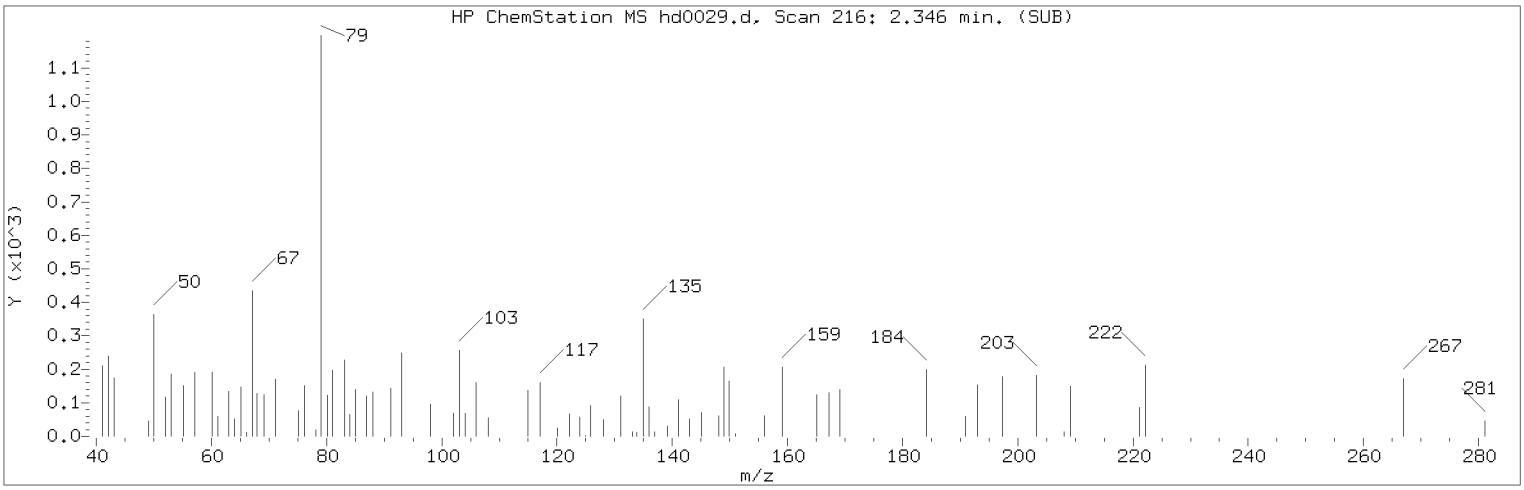
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 03-APR-2018 02:09
Date, time and analyst ID of latest file update: 03-Apr-2018 02:39 Automation

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0668

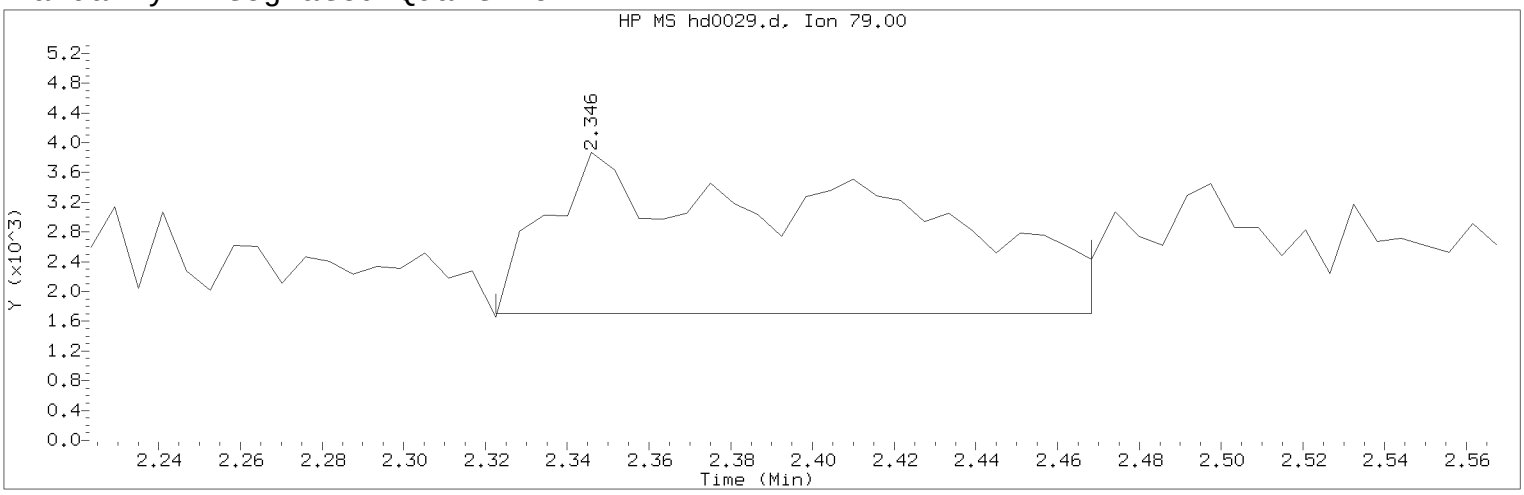
Compound Number : 2
Compound Name : 1,4-Dioxane
Expected RT (minutes) : 1.507
Quant Ion : 88.00

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0029.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 02:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 03-APR-2018 12:25
Date, time and analyst ID of latest file update: 03-Apr-2018 12:27 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0668

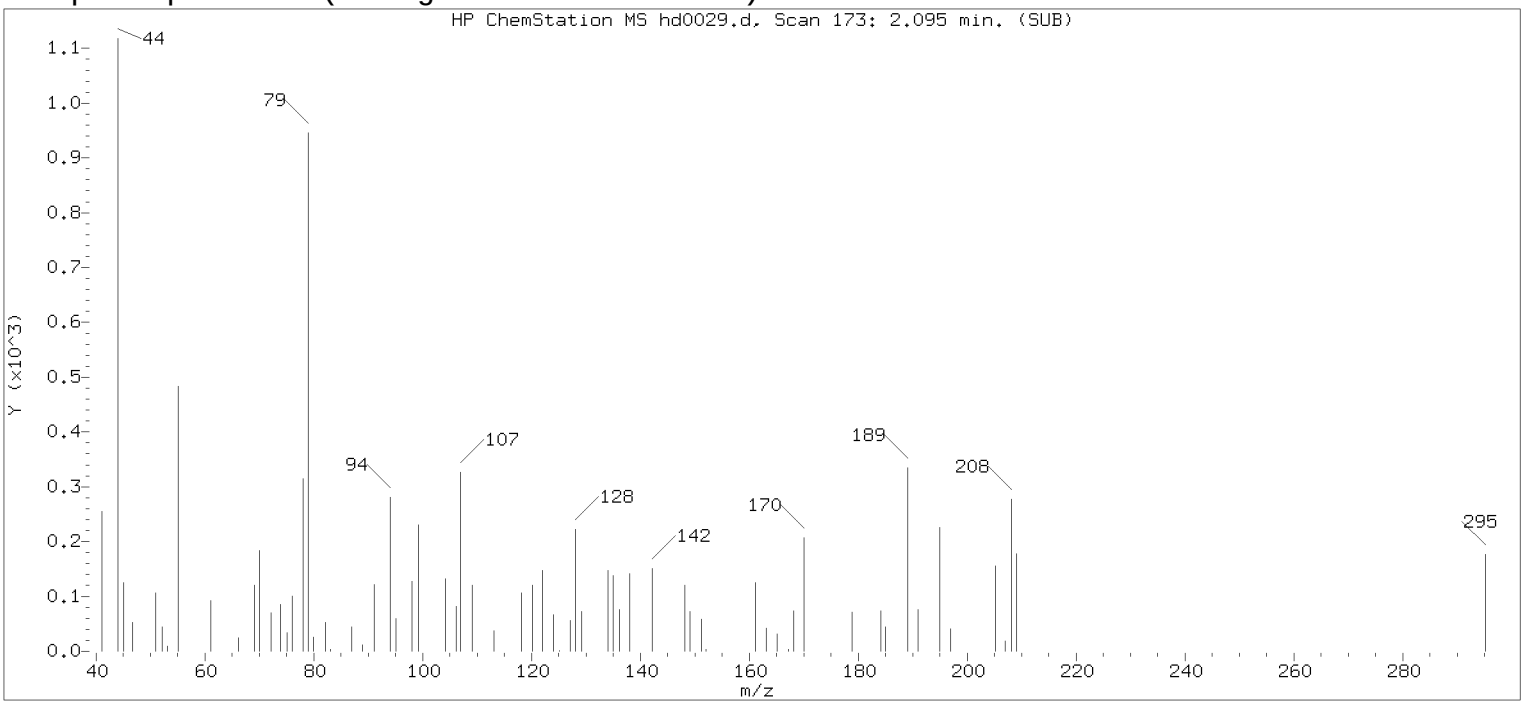
Compound Number : 6
Compound Name : Pyridine
Scan Number : 216
Retention Time (minutes) : 2.346
Quant Ion : 79.00
Area (flag) : 11743M
On-Column Amount (ng/ul) : 0.1483
Integration start scan : 211 Integration stop scan: 236
Y at integration start : 1707 Y at integration end: 1707

Reason for manual integration: improper integration

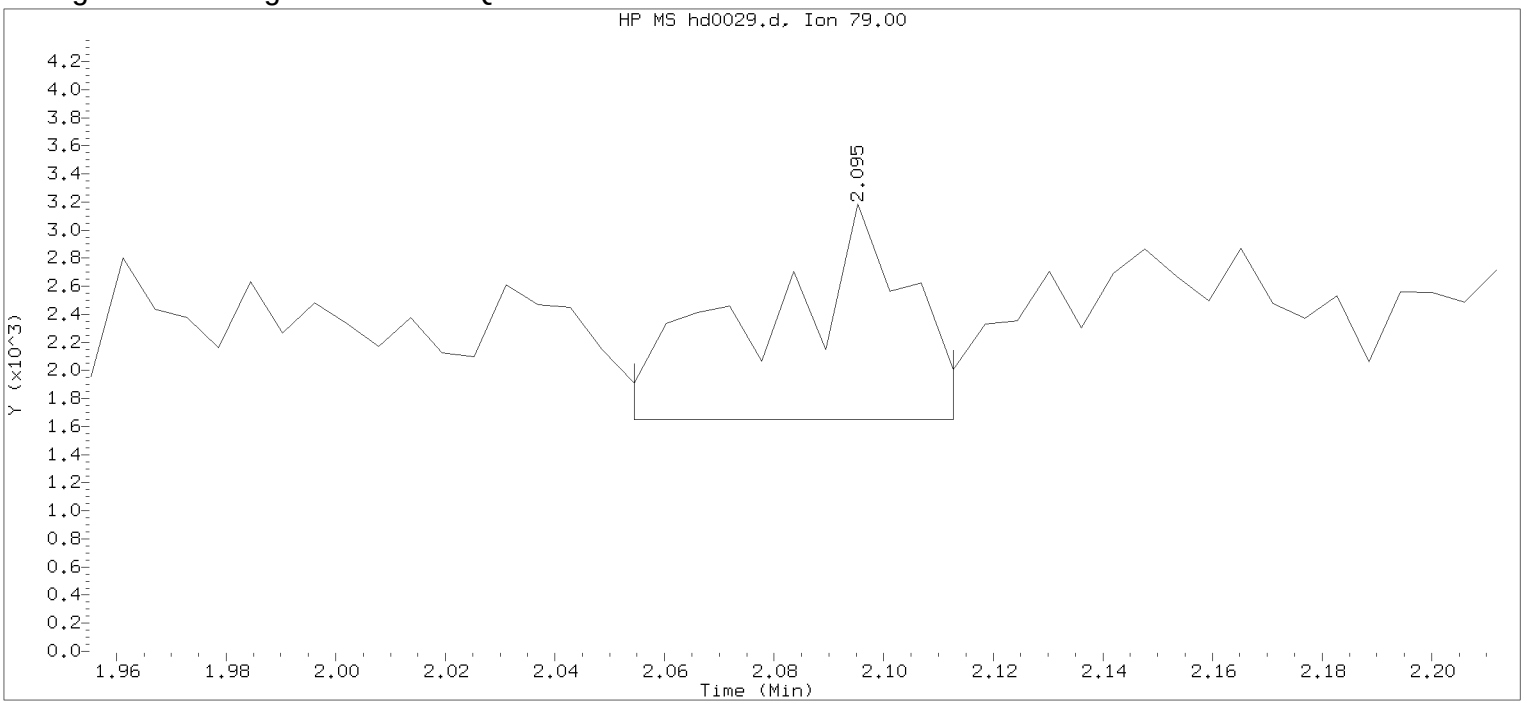
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0029.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 02:12 Analyst ID: bkc25363

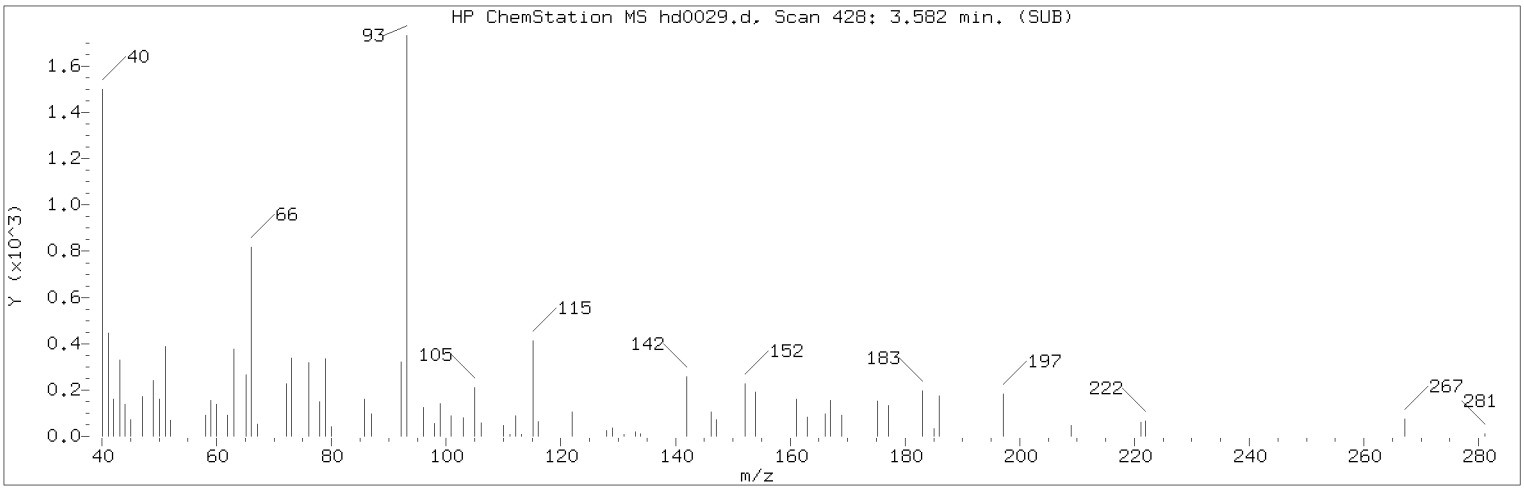
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 03-APR-2018 02:09
Date, time and analyst ID of latest file update: 03-Apr-2018 02:39 Automation

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0668

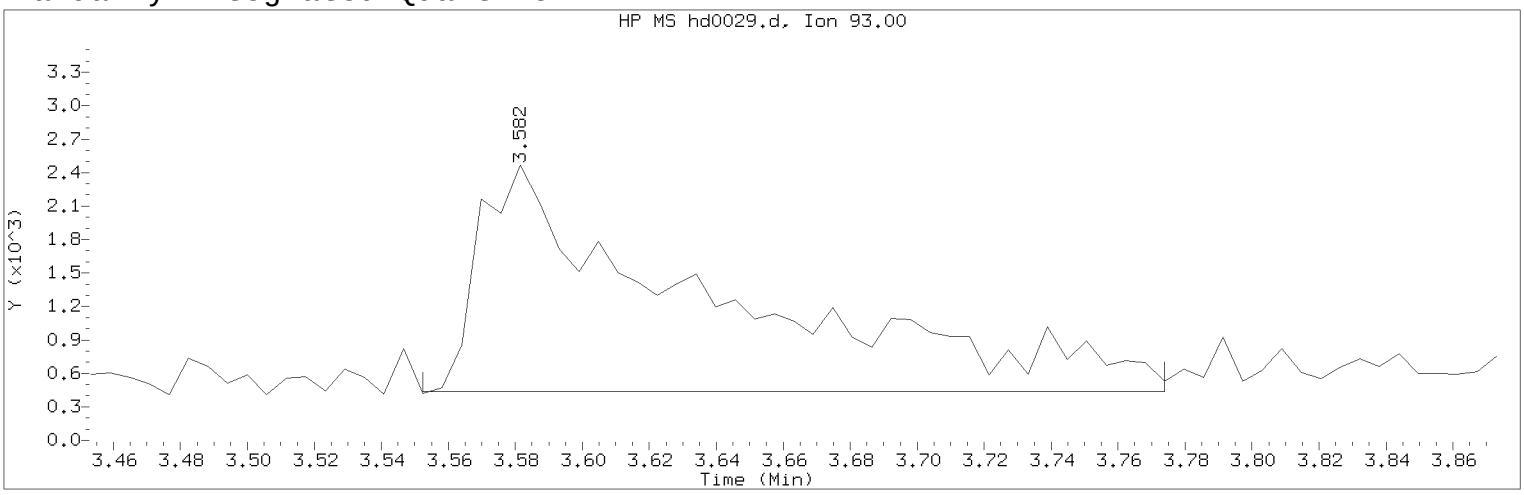
Compound Number : 6
Compound Name : Pyridine
Scan Number : 173
Retention Time (minutes) : 2.095
Quant Ion : 79.00
Area : 2780
On-column Amount (ng/ul) : 0.0428
Integration start scan : 165 Integration stop scan: 175
Y at integration start : 1651 Y at integration end: 1651

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0029.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 02:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 03-APR-2018 12:25
Date, time and analyst ID of latest file update: 03-Apr-2018 12:27 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0668

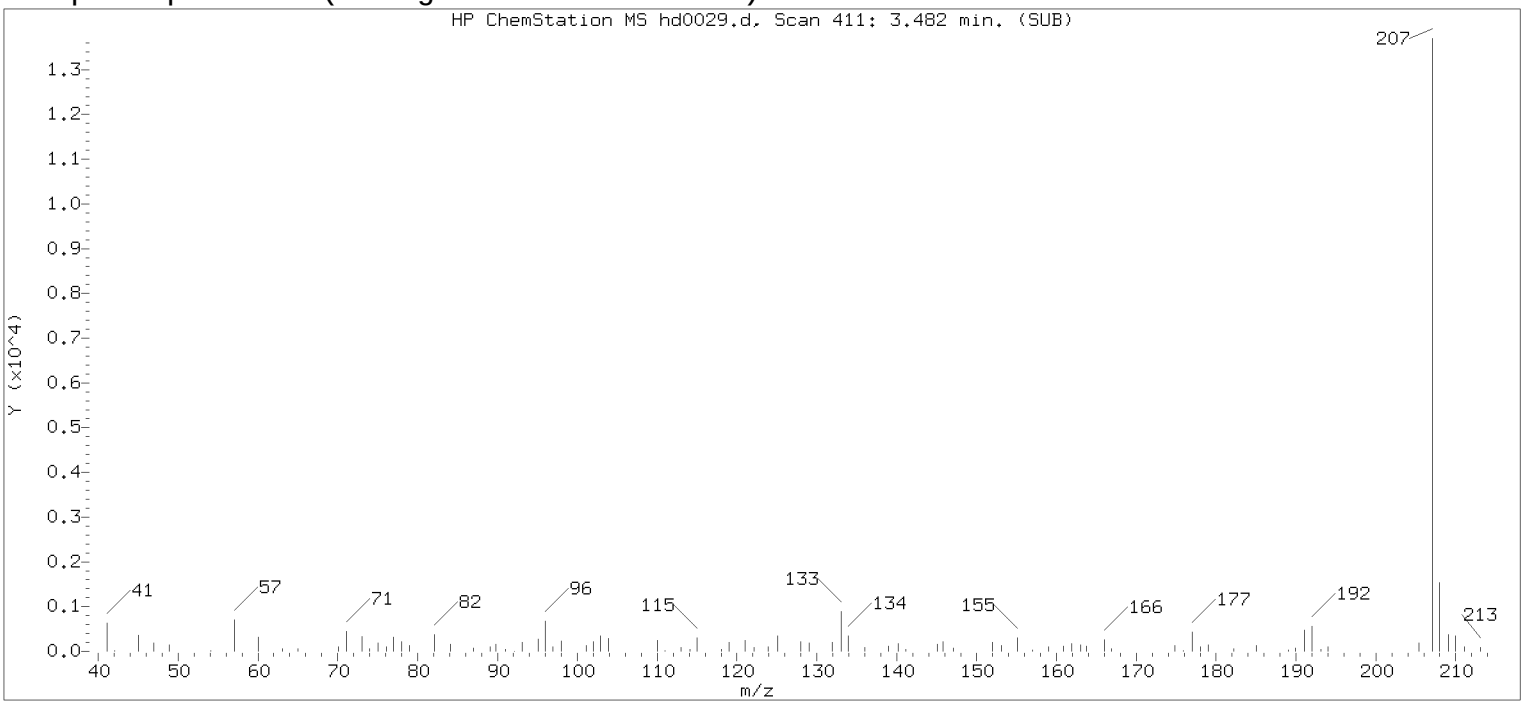
Compound Number : 8
Compound Name : 2-Picoline
Scan Number : 428
Retention Time (minutes) : 3.582
Quant Ion : 93.00
Area (flag) : 9590M
On-Column Amount (ng/ul) : 0.1172
Integration start scan : 422 Integration stop scan: 460
Y at integration start : 439 Y at integration end: 439

Reason for manual integration: improper integration

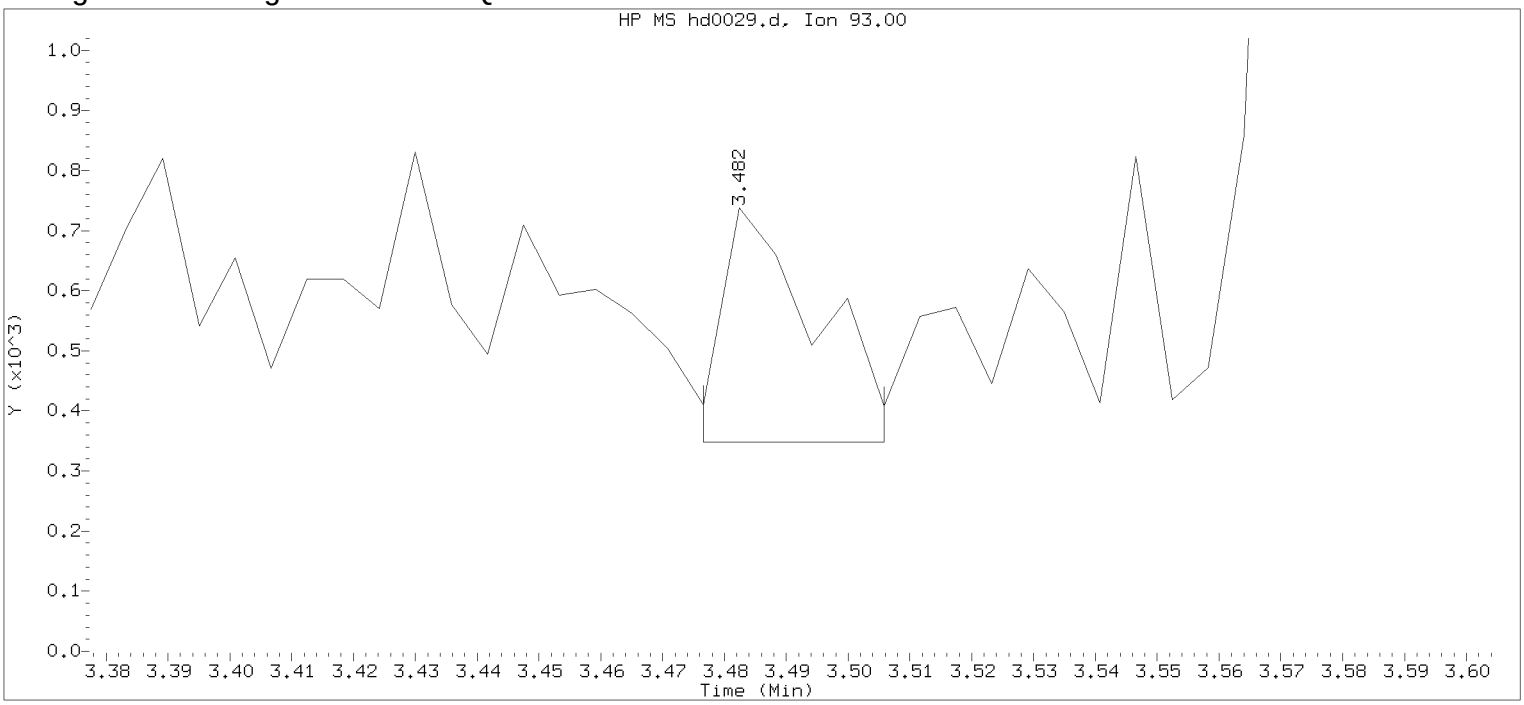
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0029.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 02:12 Analyst ID: bkc25363

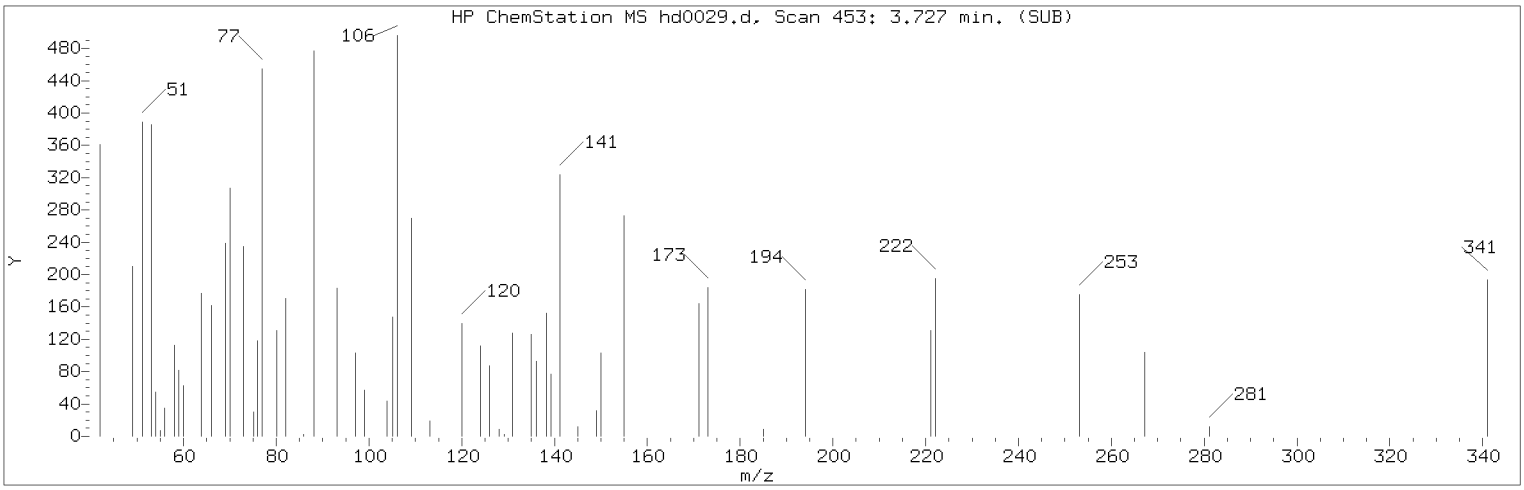
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 03-APR-2018 02:09
Date, time and analyst ID of latest file update: 03-Apr-2018 02:39 Automation

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0668

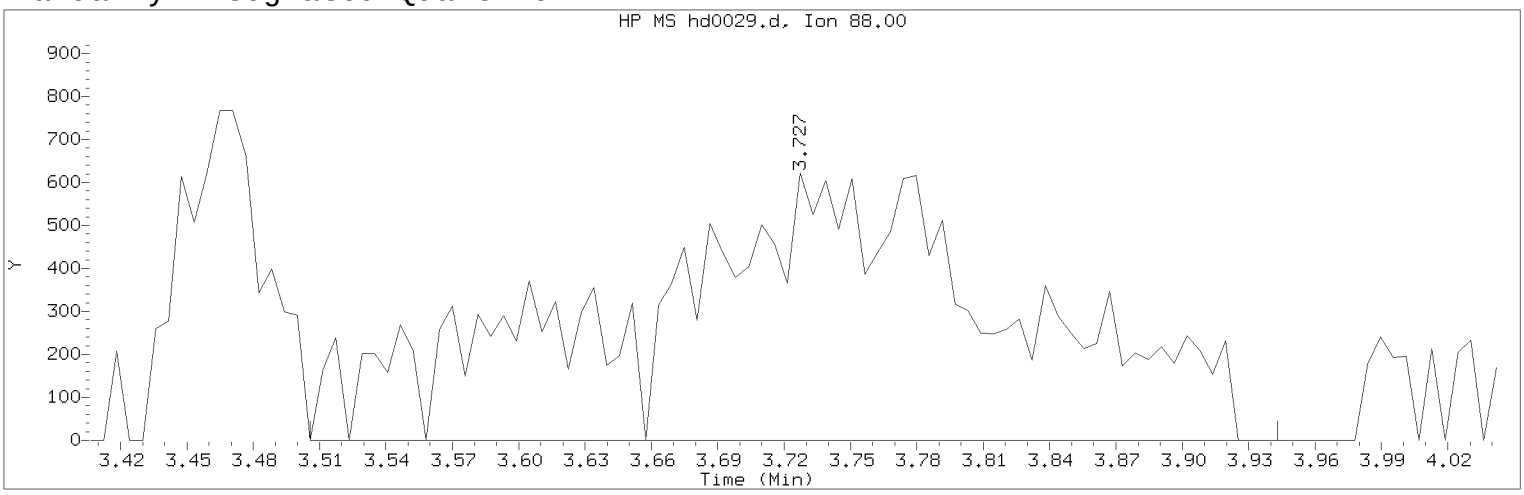
Compound Number : 8
Compound Name : 2-Picoline
Scan Number : 411
Retention Time (minutes) : 3.482
Quant Ion : 93.00
Area : 406
On-column Amount (ng/ul) : 0.0062
Integration start scan : 409 Integration stop scan: 414
Y at integration start : 348 Y at integration end: 348

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0029.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 02:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 03-APR-2018 12:25
Date, time and analyst ID of latest file update: 03-Apr-2018 12:27 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0668

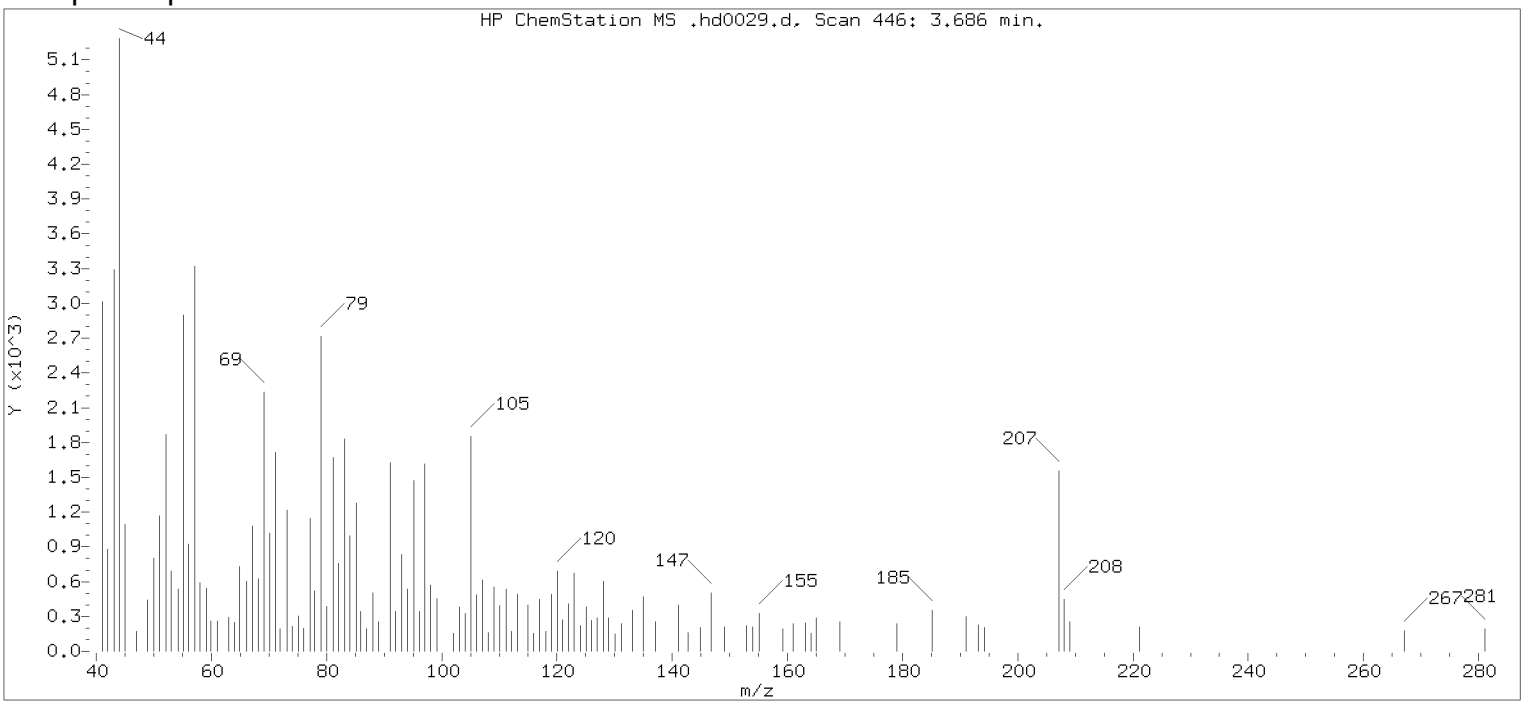
Compound Number	: 9
Compound Name	: N-Nitrosomethylethylamine
Scan Number	: 453
Retention Time (minutes)	: 3.727
Quant Ion	: 88.00
Area (flag)	: 7617M
On-Column Amount (ng/ul)	: 0.2349
Integration start scan	: 414 Integration stop scan: 489
Y at integration start	: 0 Y at integration end: 0

Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30. Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion

Data File: /chem/HP18831.i/18apr02a.b/hd0029.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 02:12 Analyst ID: bkc25363

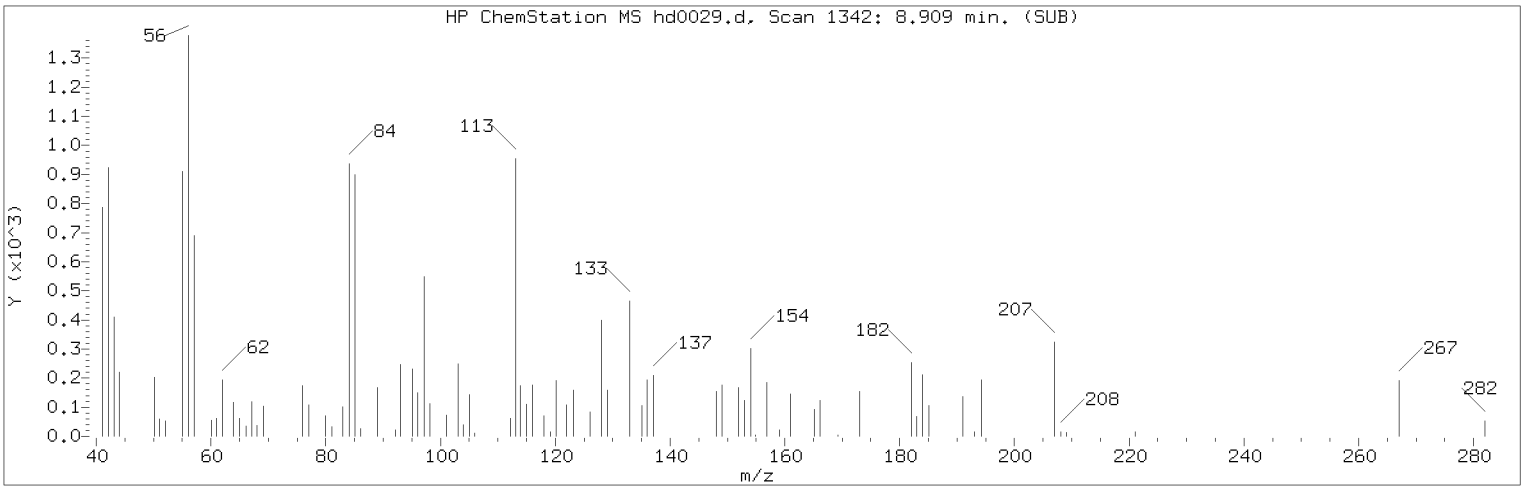
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 03-APR-2018 02:09
Date, time and analyst ID of latest file update: 03-Apr-2018 02:39 Automation

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0668

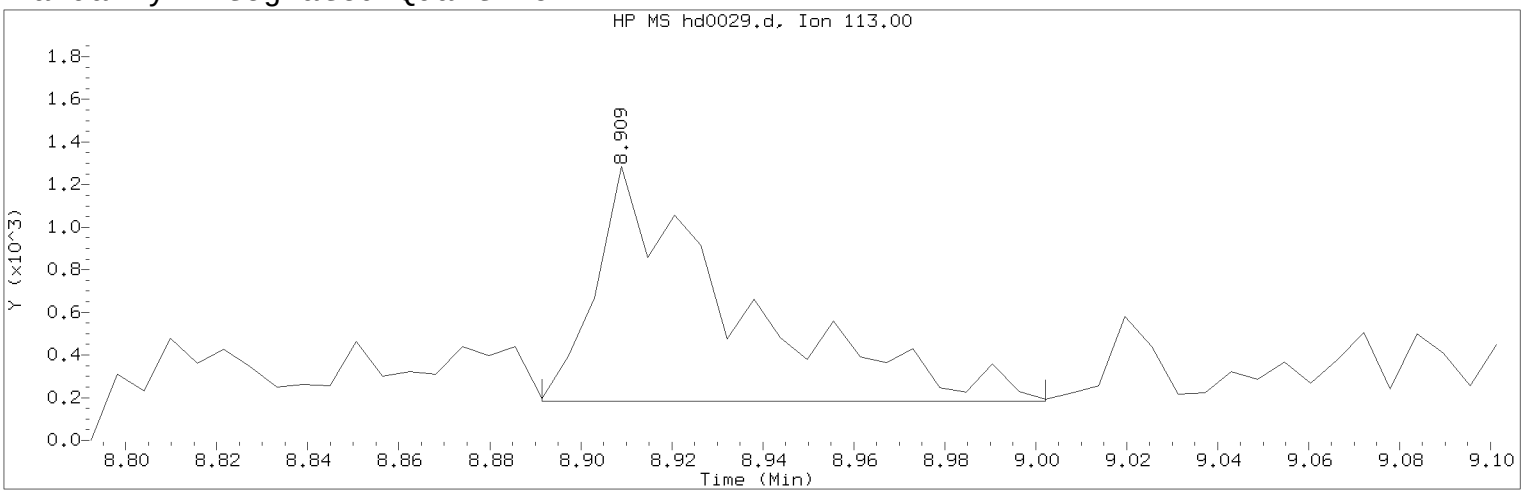
Compound Number : 9
Compound Name : N-Nitrosomethylethylamine
Expected RT (minutes) : 3.686
Quant Ion : 88.00

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0029.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 02:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 03-APR-2018 12:25
Date, time and analyst ID of latest file update: 03-Apr-2018 12:27 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0668

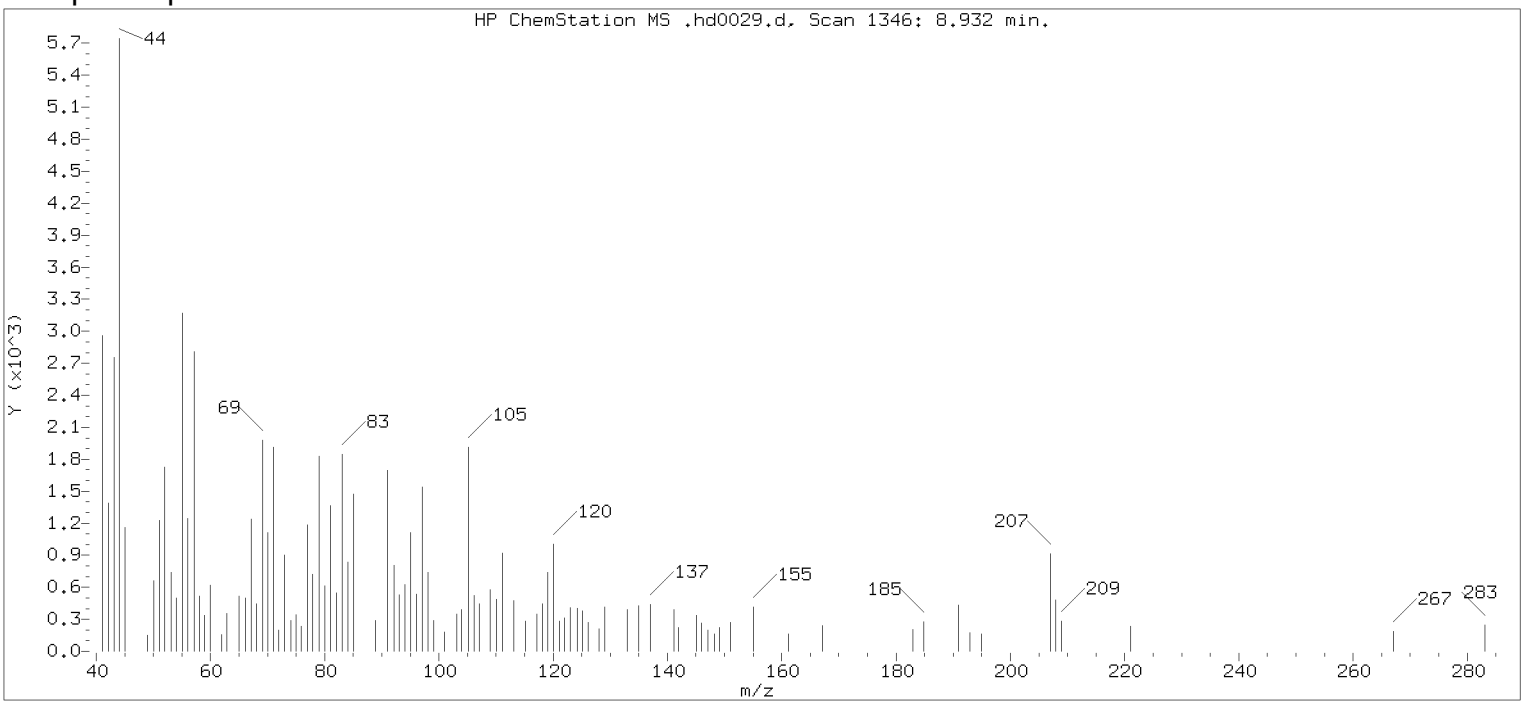
Compound Number : 79
Compound Name : Caprolactam
Scan Number : 1342
Retention Time (minutes) : 8.909
Quant Ion : 113.00
Area (flag) : 2334M
On-Column Amount (ng/ul) : 0.1344
Integration start scan : 1338 Integration stop scan: 1357
Y at integration start : 185 Y at integration end: 185

Reason for manual integration: missed peak

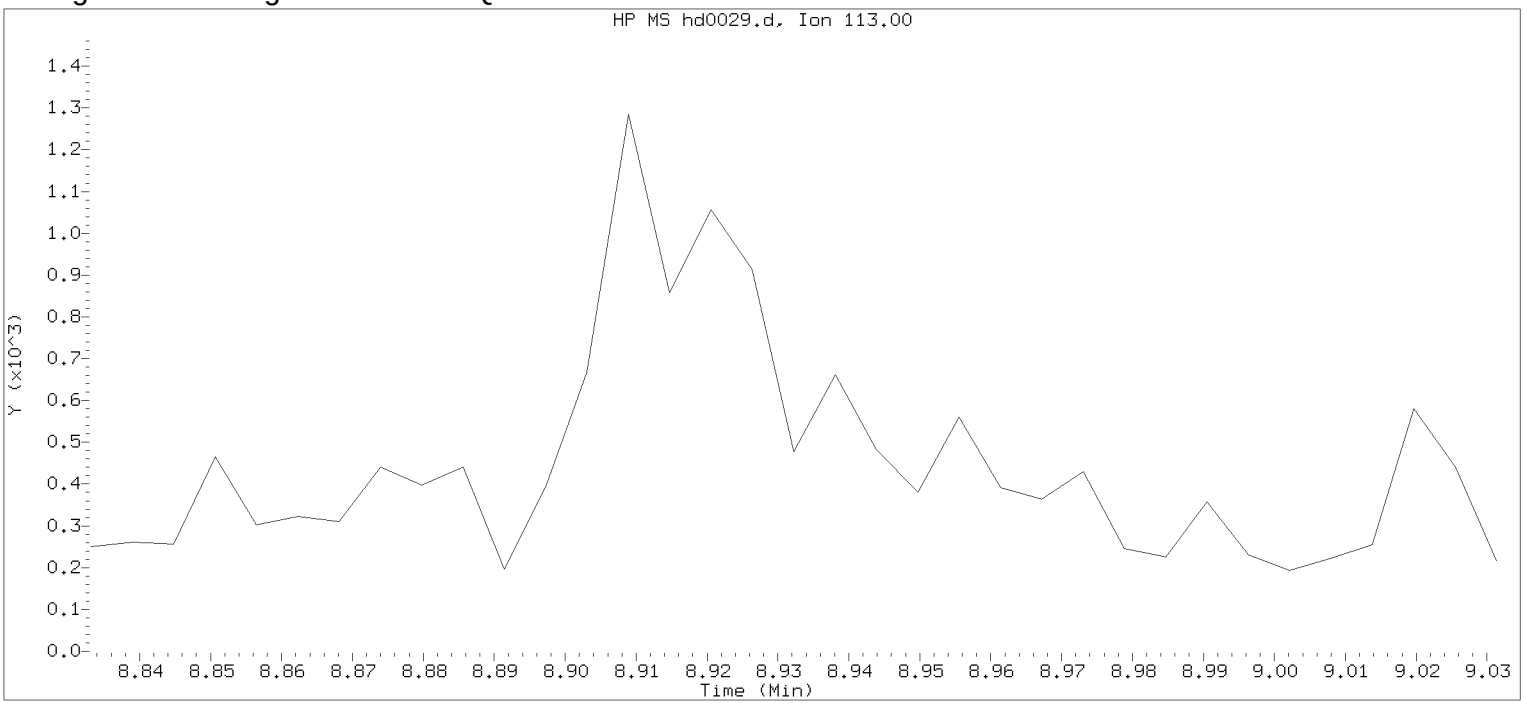
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0029.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 02:12 Analyst ID: bkc25363

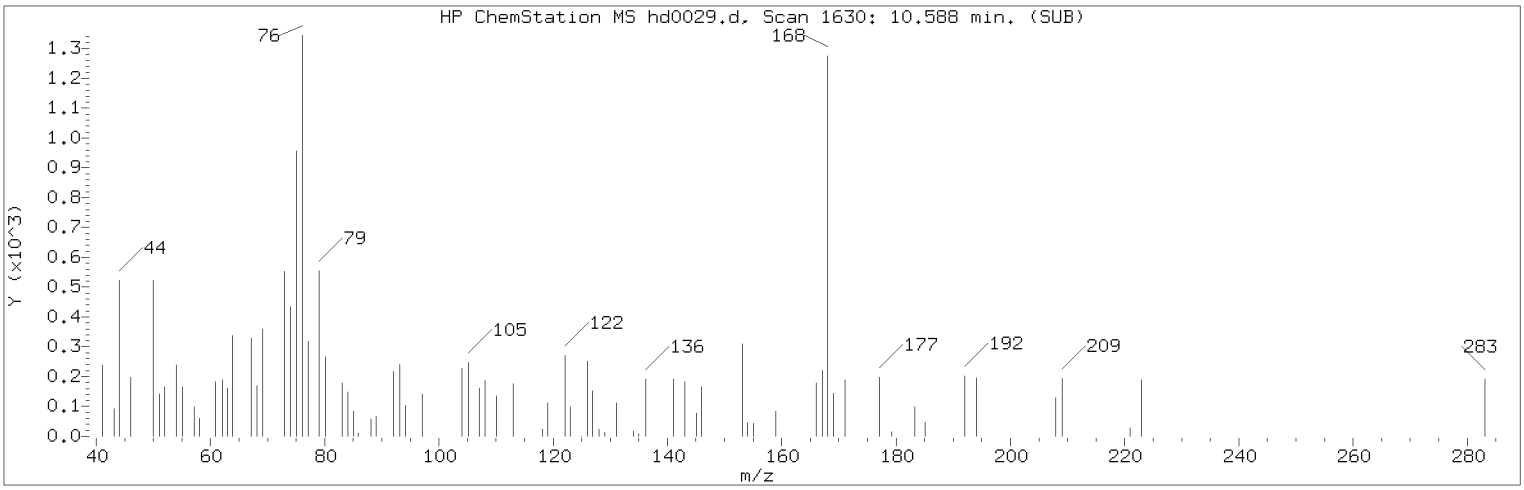
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 03-APR-2018 02:09
Date, time and analyst ID of latest file update: 03-Apr-2018 02:39 Automation

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0668

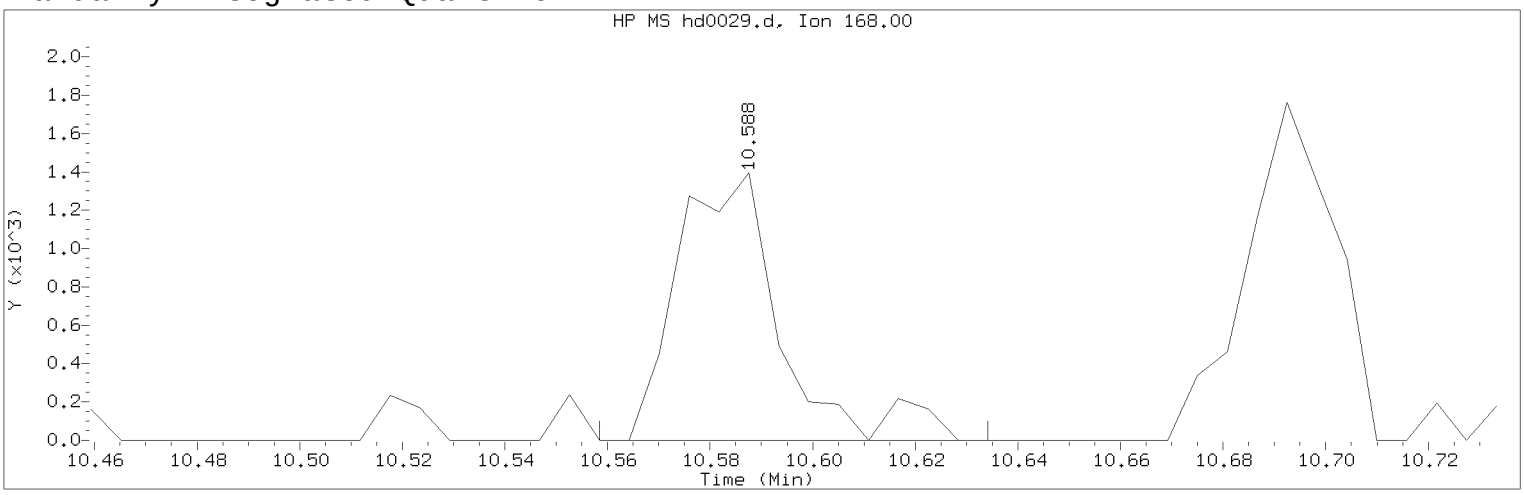
Compound Number : 79
Compound Name : Caprolactam
Expected RT (minutes) : 8.932
Quant Ion : 113.00

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0029.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 02:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 03-APR-2018 12:25
Date, time and analyst ID of latest file update: 03-Apr-2018 12:27 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0668

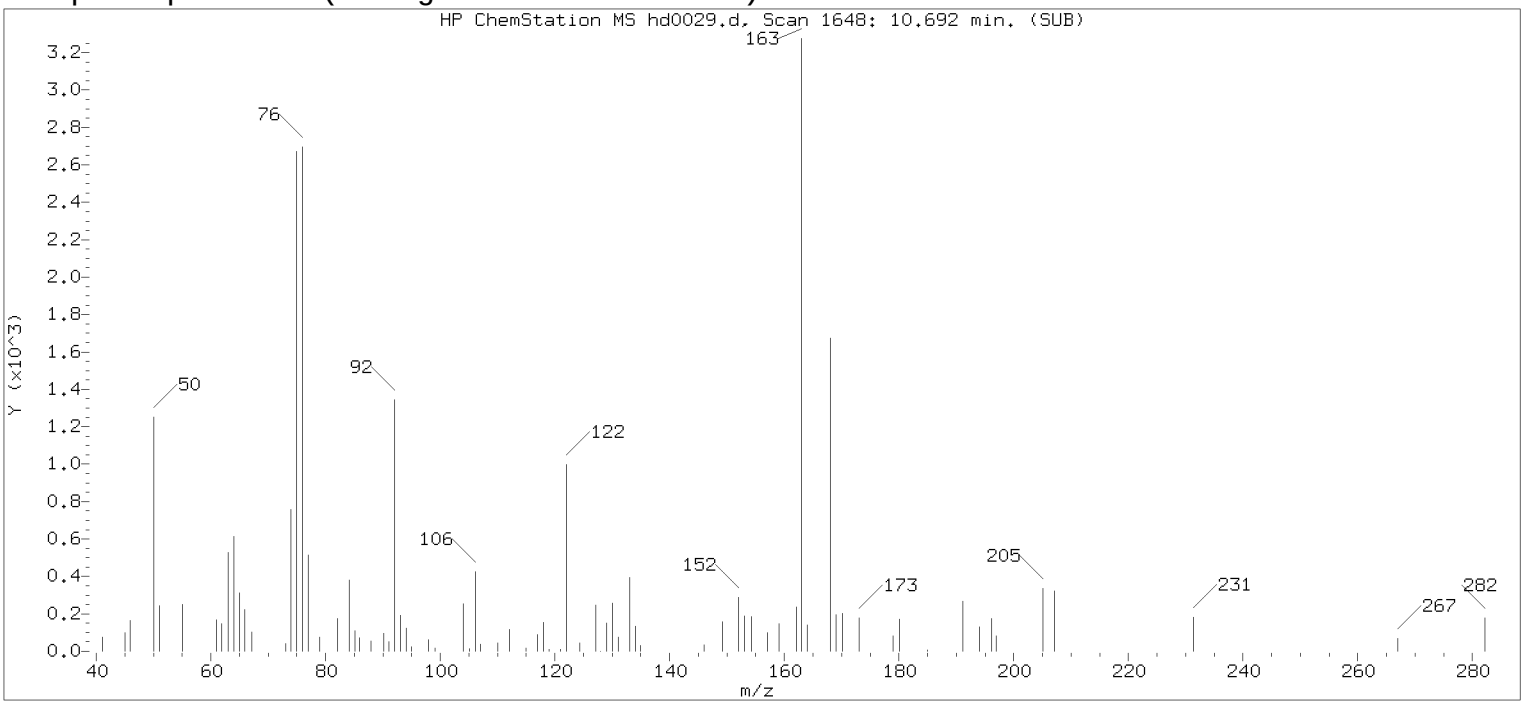
Compound Number : 110
Compound Name : 1,4-Dinitrobenzene
Scan Number : 1630
Retention Time (minutes) : 10.588
Quant Ion : 168.00
Area (flag) : 1949M
On-Column Amount (ng/ul) : 0.1097
Integration start scan : 1624 Integration stop scan: 1637
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

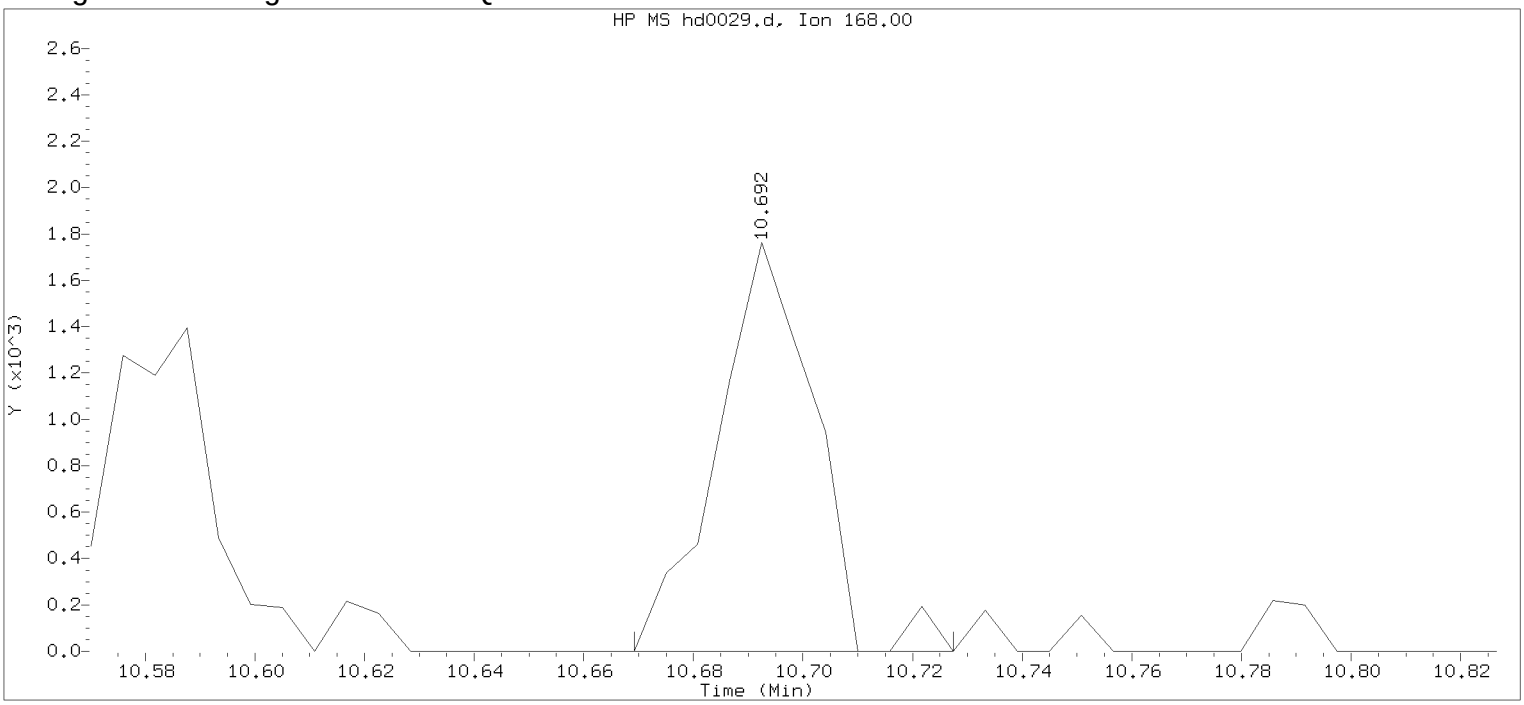
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30. Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0029.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 02:12 Analyst ID: bkc25363

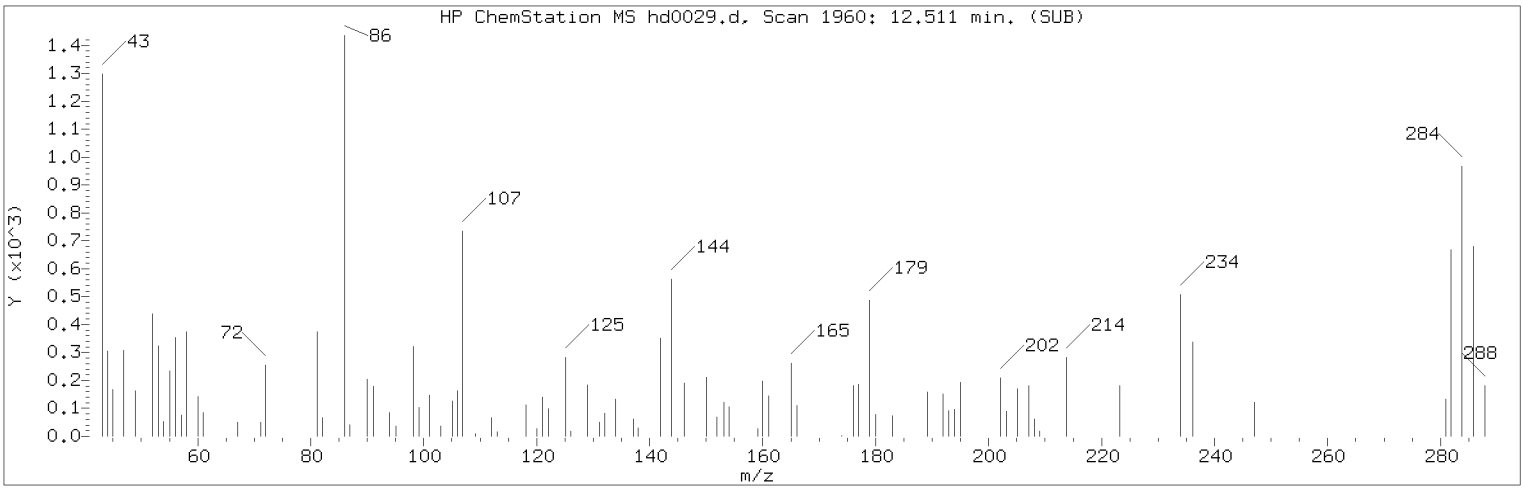
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 03-APR-2018 02:09
Date, time and analyst ID of latest file update: 03-Apr-2018 02:39 Automation

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0668

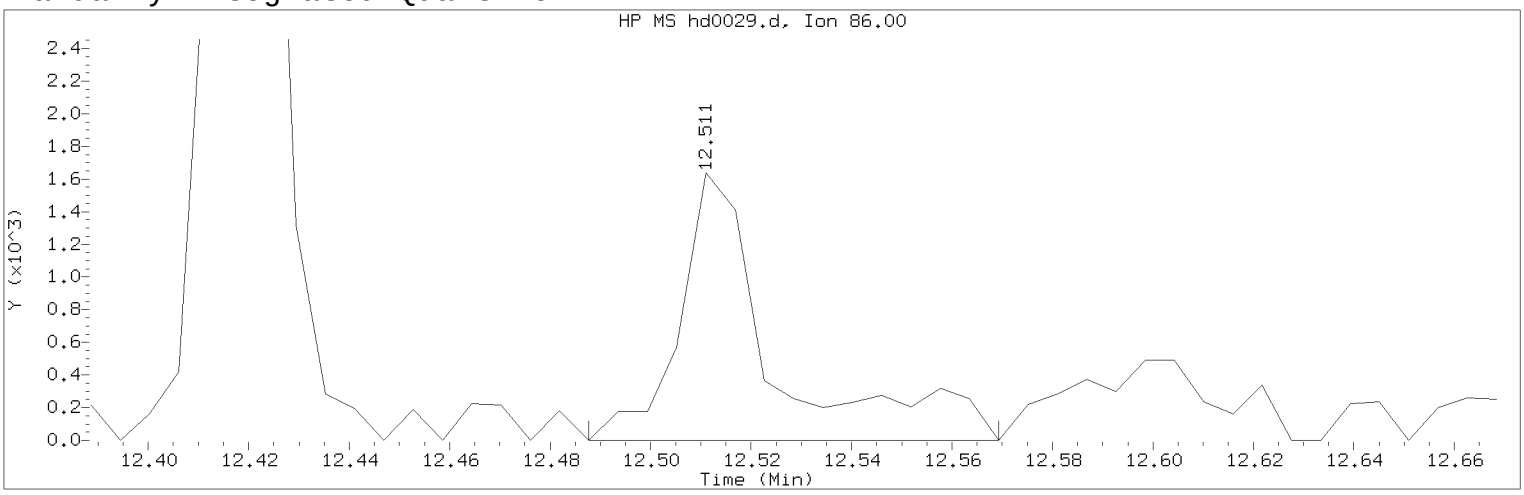
Compound Number : 110
Compound Name : 1,4-Dinitrobenzene
Scan Number : 1648
Retention Time (minutes) : 10.692
Quant Ion : 168.00
Area : 2173
On-column Amount (ng/ul) : 0.1212
Integration start scan : 1643 Integration stop scan: 1653
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0029.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 02:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 03-APR-2018 12:25
Date, time and analyst ID of latest file update: 03-Apr-2018 12:27 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0668

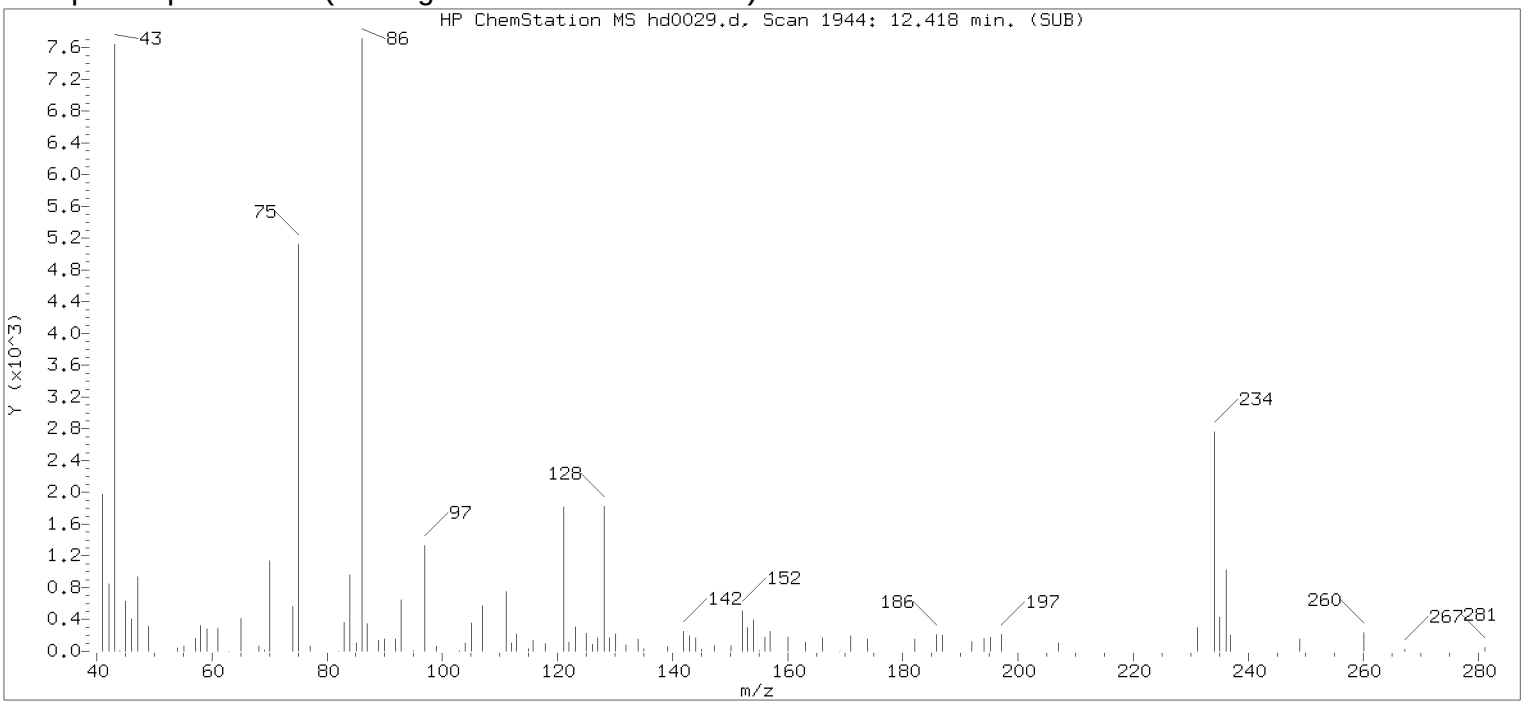
Compound Number : 150
Compound Name : Diallate (peak 2)
Scan Number : 1960
Retention Time (minutes) : 12.511
Quant Ion : 86.00
Area (flag) : 2123M
On-Column Amount (ng/ul) : 0.0387
Integration start scan : 1955 Integration stop scan: 1969
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

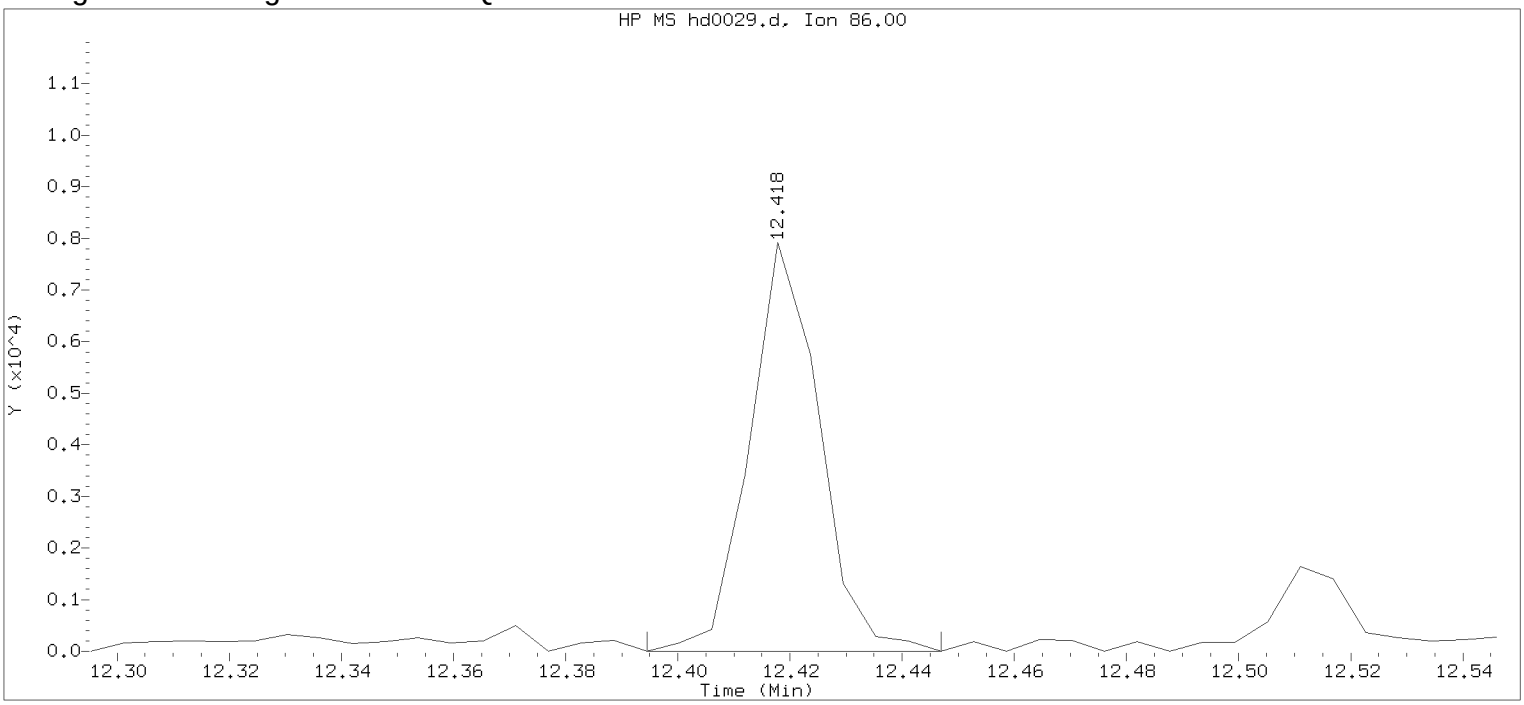
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30. Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0029.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 02:12 Analyst ID: bkc25363

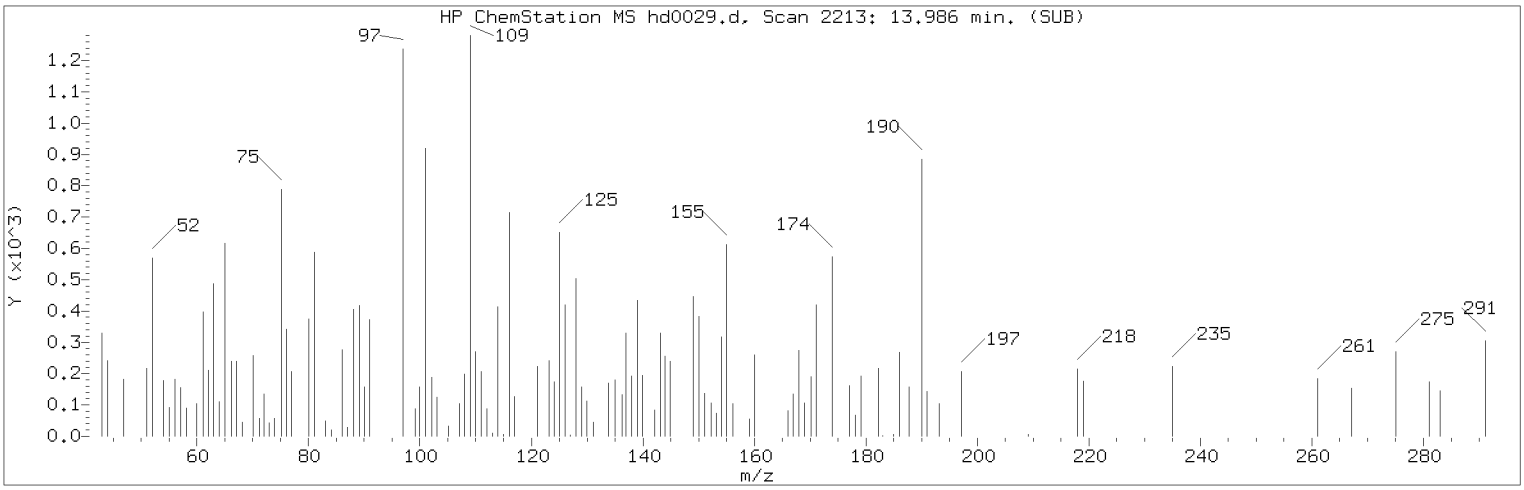
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 03-APR-2018 02:09
Date, time and analyst ID of latest file update: 03-Apr-2018 02:39 Automation

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0668

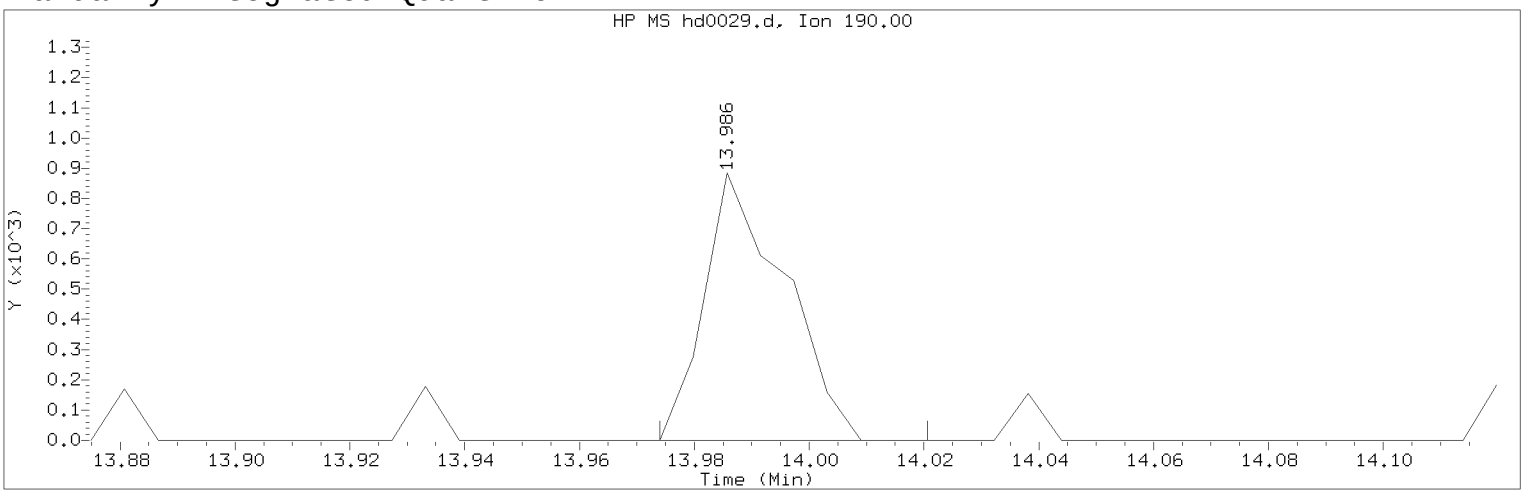
Compound Number : 150
Compound Name : Diallate (peak 2)
Scan Number : 1944
Retention Time (minutes) : 12.418
Quant Ion : 86.00
Area : 6808
On-column Amount (ng/ul) : 0.1218
Integration start scan : 1939 Integration stop scan: 1948
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature used by bhsmith.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0029.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 02:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 03-APR-2018 12:25
Date, time and analyst ID of latest file update: 03-Apr-2018 12:27 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0668

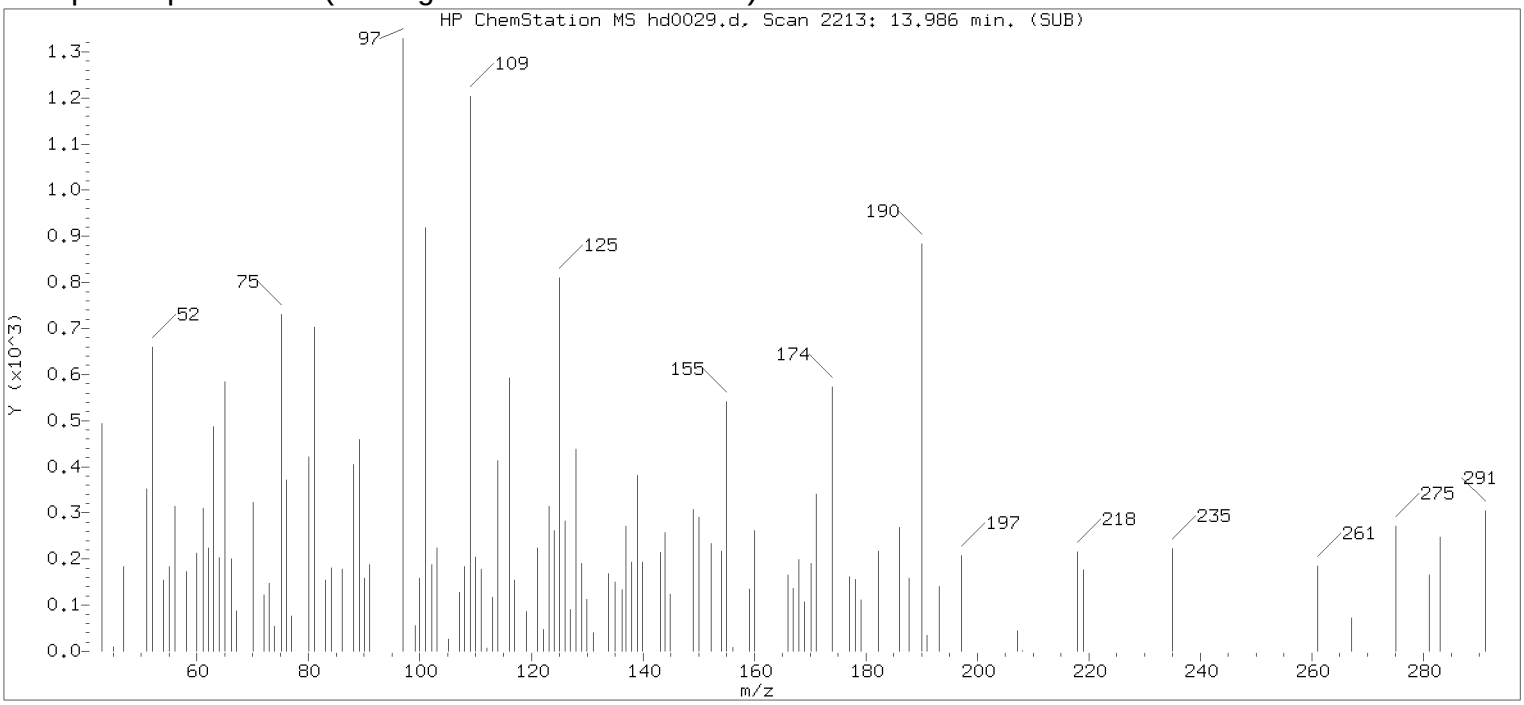
Compound Number : 176
Compound Name : 4-Nitroquinoline-1-oxide
Scan Number : 2213
Retention Time (minutes) : 13.986
Quant Ion : 190.00
Area (flag) : 860M
On-Column Amount (ng/ul) : 1.8425
Integration start scan : 2210 Integration stop scan: 2218
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

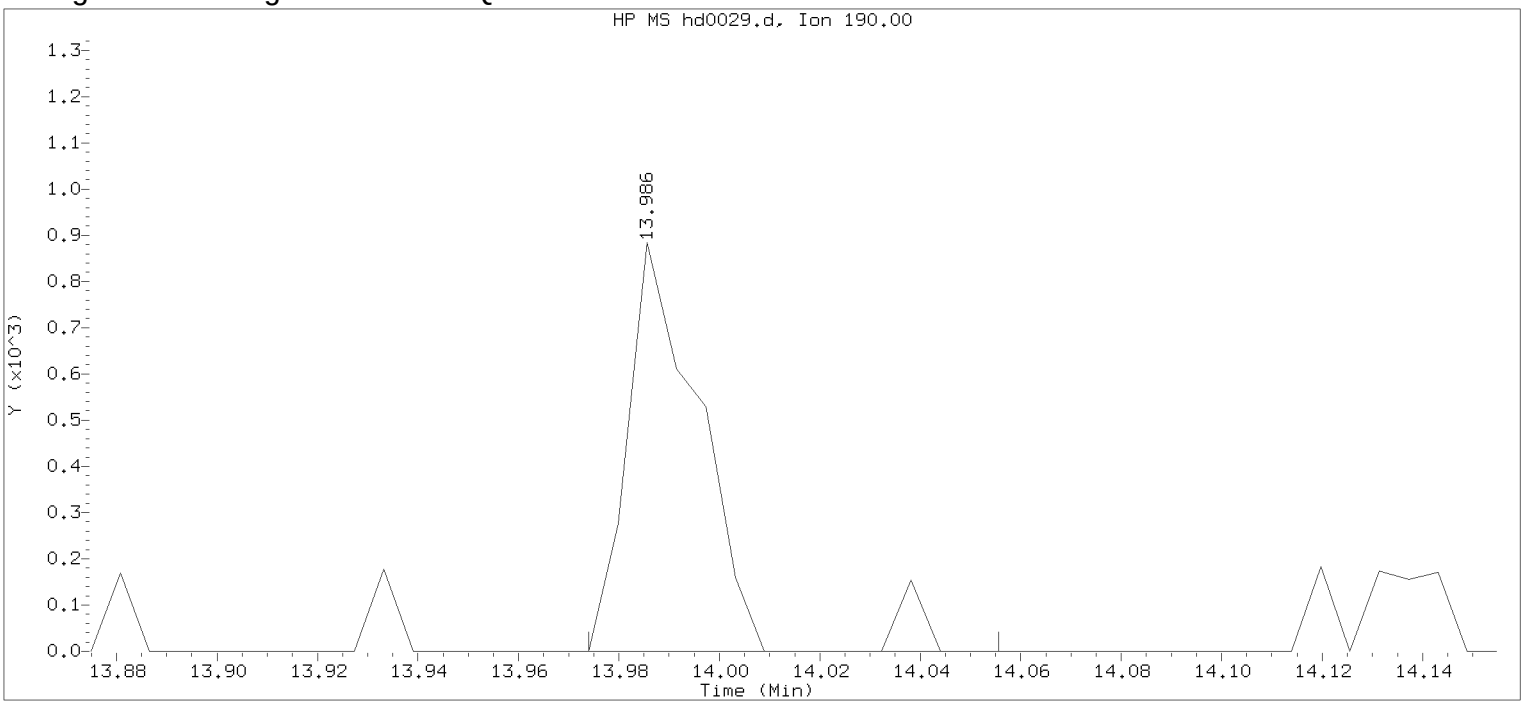
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30. Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



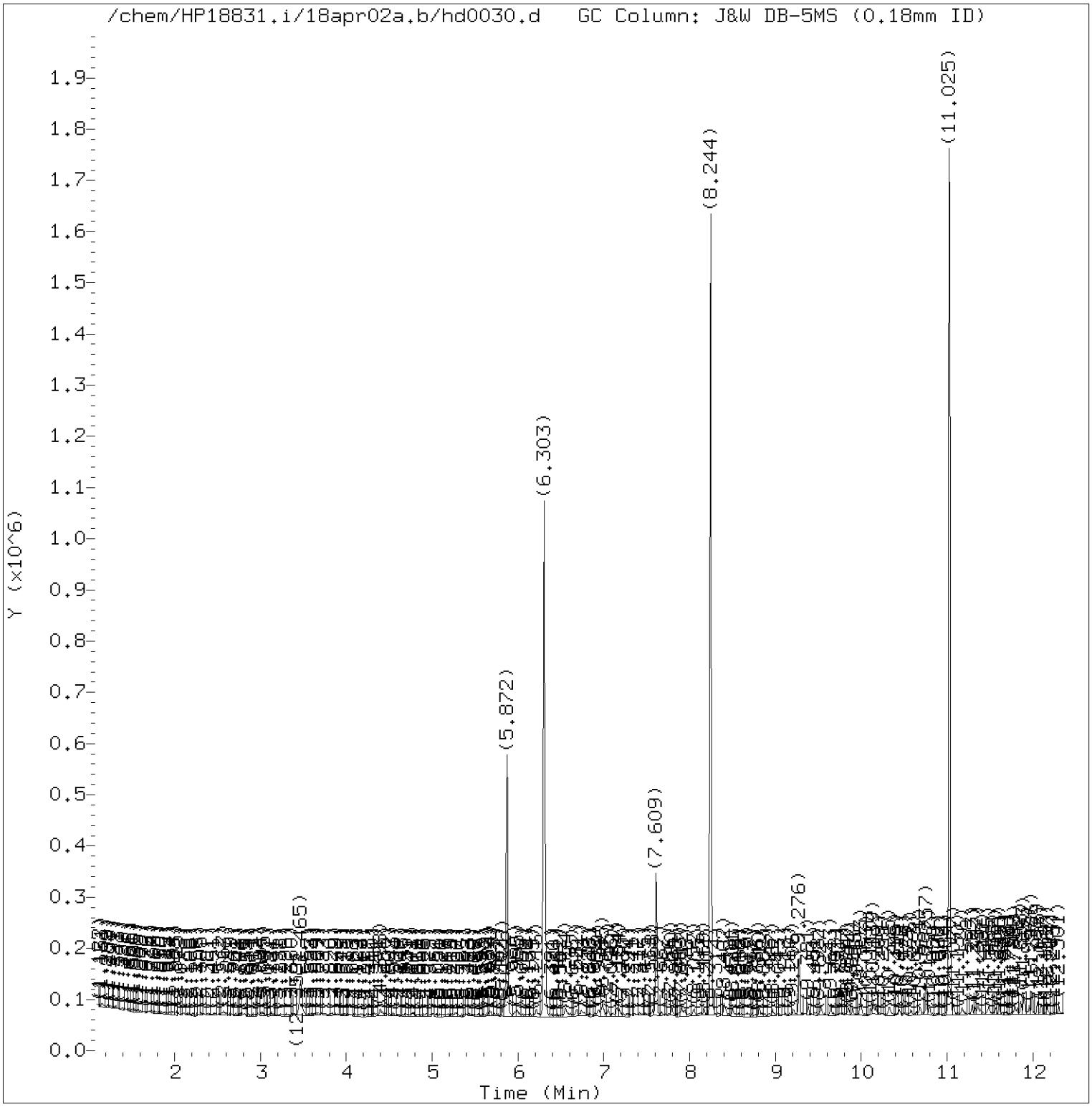
Data File: /chem/HP18831.i/18apr02a.b/hd0029.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 02:12 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 03-APR-2018 02:09
Date, time and analyst ID of latest file update: 03-Apr-2018 02:39 Automation

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0668

Compound Number : 176
Compound Name : 4-Nitroquinoline-1-oxide
Scan Number : 2213
Retention Time (minutes) : 13.986
Quant Ion : 190.00
Area : 914
On-column Amount (ng/ul) : 0.0454
Integration start scan : 2210 Integration stop scan: 2224
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user id: bhsmith



Total Ion Chromatogram (TIC)

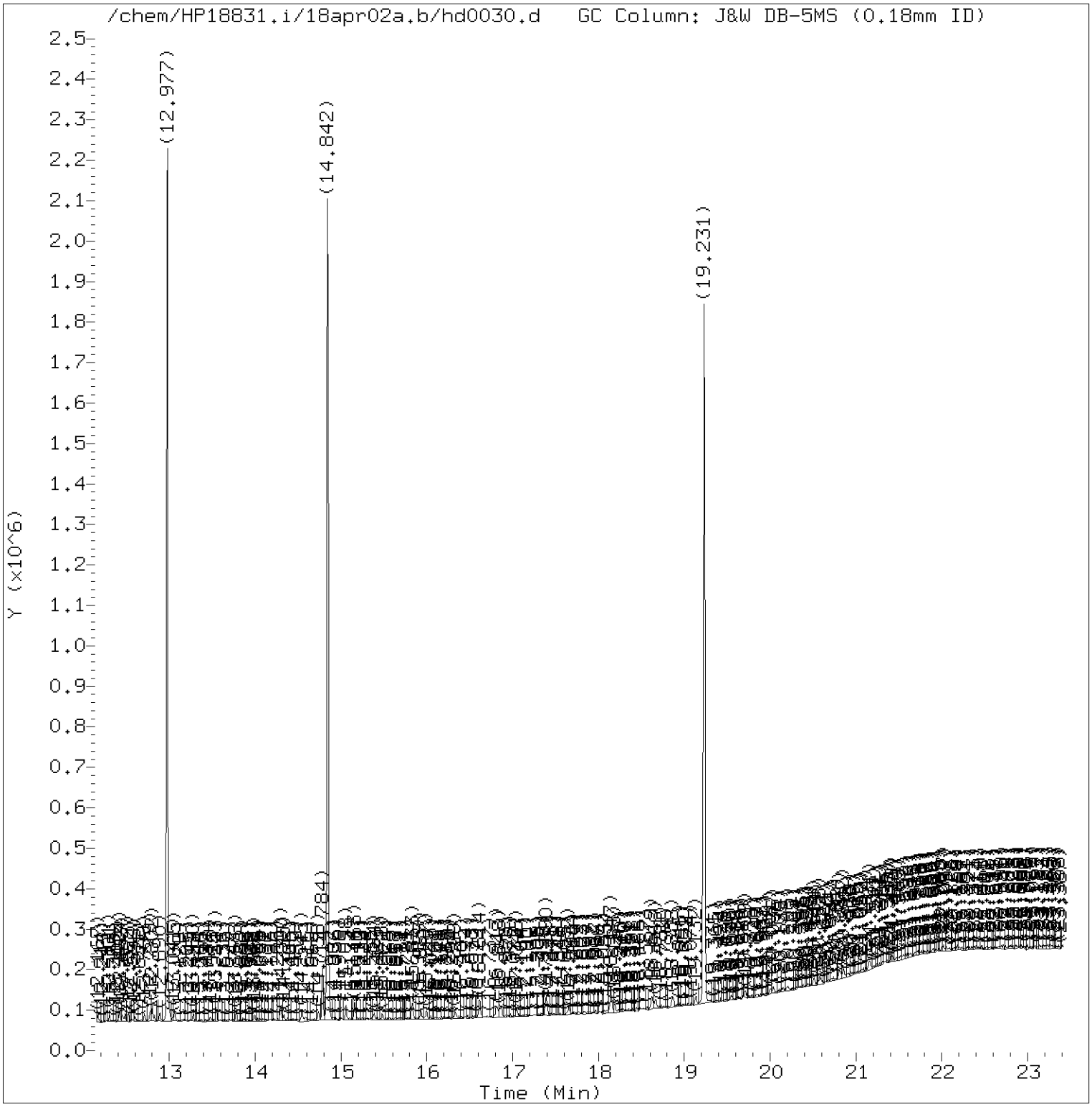
Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0030.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 02:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: pahmdlall1
Calibration date and time: 03-APR-2018 12:25
Date, time and analyst ID of latest file update: 03-Apr-2018 12:28 bhs10208

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL0608

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0030.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 02:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: pahmdlall1
Calibration date and time: 03-APR-2018 12:25
Date, time and analyst ID of latest file update: 03-Apr-2018 12:28 bhs10208

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL0608

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0030.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 02:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: pahmdlall1
Calibration date and time: 03-APR-2018 12:25
Date, time and analyst ID of latest file update: 03-Apr-2018 12:28 bhs10208

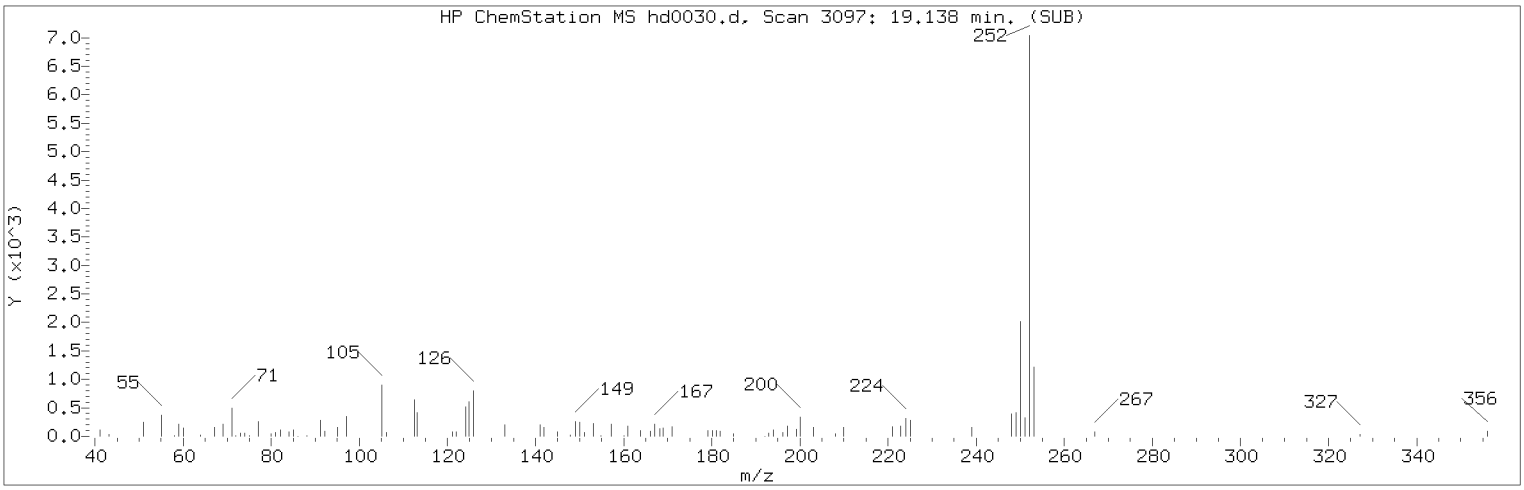
Sample Name: SSTD0.025 Lab Sample ID: PAHMDL0608

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
26)*1,4-Dichlorobenzene-d4	(1)	6.303	152	227237	5.000
45)$Nitrobenzene-d5	(2)	7.154	82	6802	0.093
67)*Naphthalene-d8	(2)	8.244	136	833626	5.000
69) Naphthalene	(2)	8.274	128	9740	0.053
86) 2-Methylnaphthalene	(2)	9.381	142	6236	0.051
87) 1-Methylnaphthalene	(2)	9.527	142	6077	0.054
97)$2-Fluorobiphenyl	(3)	9.993	172	13267	0.096
115) Acenaphthylene	(3)	10.797	152	8890	0.050
119)*Acenaphthene-d10	(3)	11.025	164	419037	5.000
120) Acenaphthene	(3)	11.077	153	6363	0.053
132) Fluorene	(3)	11.858	166	6828	0.051
151) Hexachlorobenzene	(4)	12.523	284	1890	0.047
160)*Phenanthrene-d10	(4)	12.977	188	833619	5.000
162) Phenanthrene	(4)	13.001	178	10480	0.054
164) Anthracene	(4)	13.059	178	10810	0.055
181) Fluoranthene	(4)	14.551	202	11333	0.050
183)*Pyrene-d10	(5)	14.842	212	886244	5.000
185) Pyrene	(5)	14.872	202	12760	0.054
230) Total PAHs	(6)	15.000	100	171447	0.915
187)$Terphenyl-d14	(5)	15.163	244	16335	0.105
204) Benzo(a)anthracene	(5)	16.807	228	10759	0.049
205) Chrysene	(5)	16.871	228	10668	0.051
214) Benzo(b)fluoranthene	(6)	18.619	252	11172	0.051
216) Benzo(k)fluoranthene	(6)	18.666	252	9991	0.048
219) Benzo(a)pyrene	(6)	19.138	252	9790M	0.048
221)*Perylene-d12	(6)	19.231	264	878956	5.000
227) Indeno(1,2,3-cd)pyrene	(6)	20.805	276	9827M	0.049
228) Dibenz(a,h)anthracene	(6)	20.852	278	9531	0.046
229) Benzo(g,h,i)perylene	(6)	21.155	276	10192	0.048

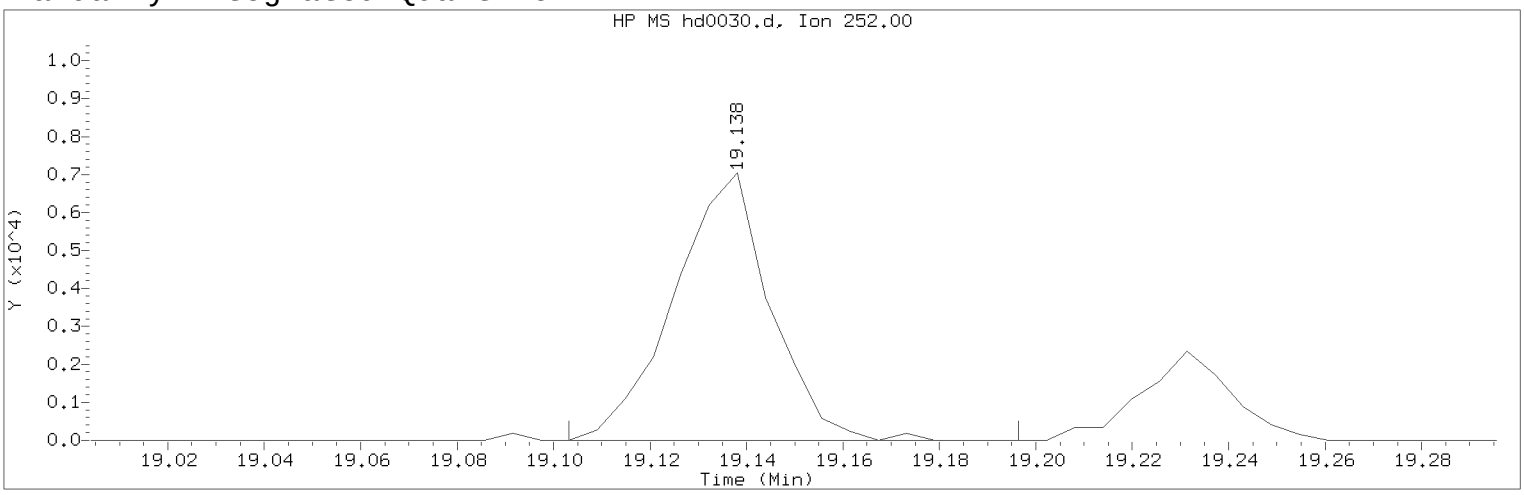
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0030.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 02:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: pahmdlall1
Calibration date and time: 03-APR-2018 12:25
Date, time and analyst ID of latest file update: 03-Apr-2018 12:28 bhs10208

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL0608

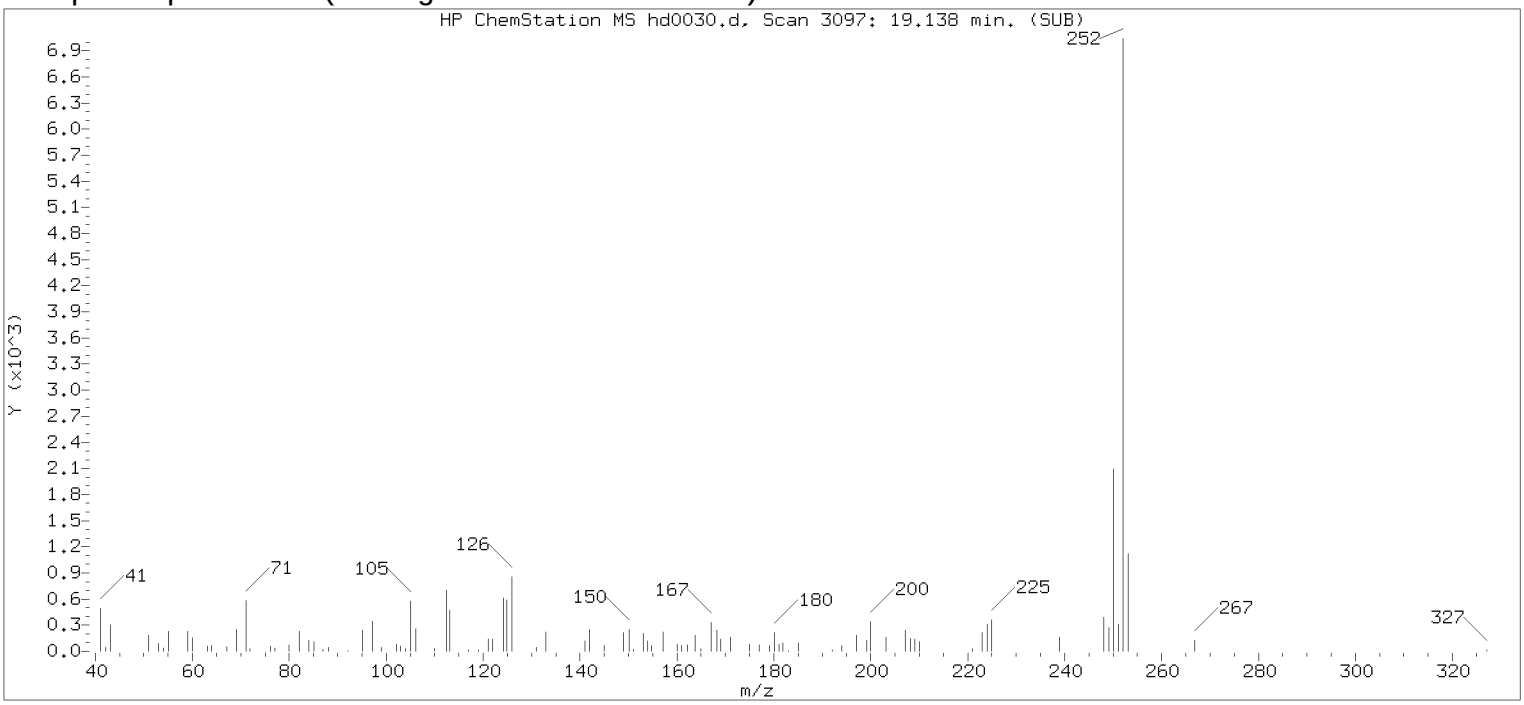
Compound Number : 219
Compound Name : Benzo(a)pyrene
Scan Number : 3097
Retention Time (minutes) : 19.138
Quant Ion : 252.00
Area (flag) : 9790M
On-Column Amount (ng/ul) : 0.0482
Integration start scan : 3090 Integration stop scan: 3106
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

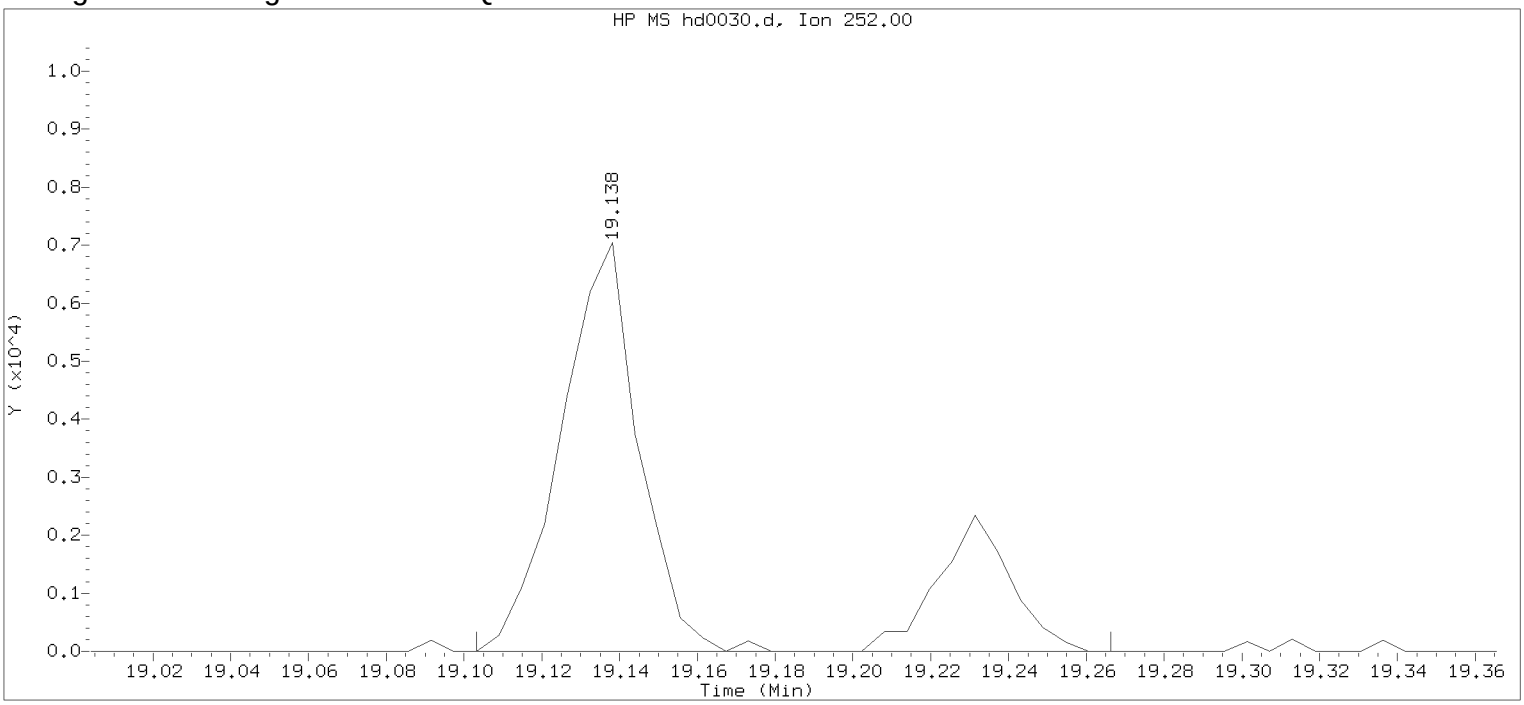
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0030.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 02:42 Analyst ID: bkc25363

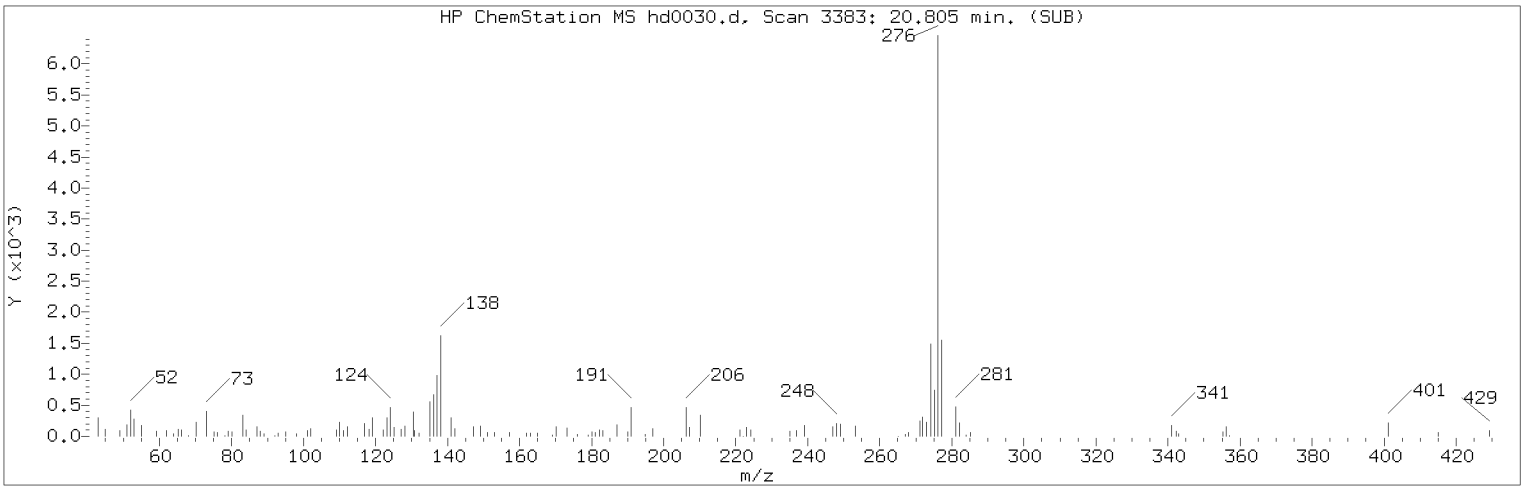
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: pahmdlall1
Calibration date and time: 03-APR-2018 02:09
Date, time and analyst ID of latest file update: 03-Apr-2018 03:09 Automation

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL0608

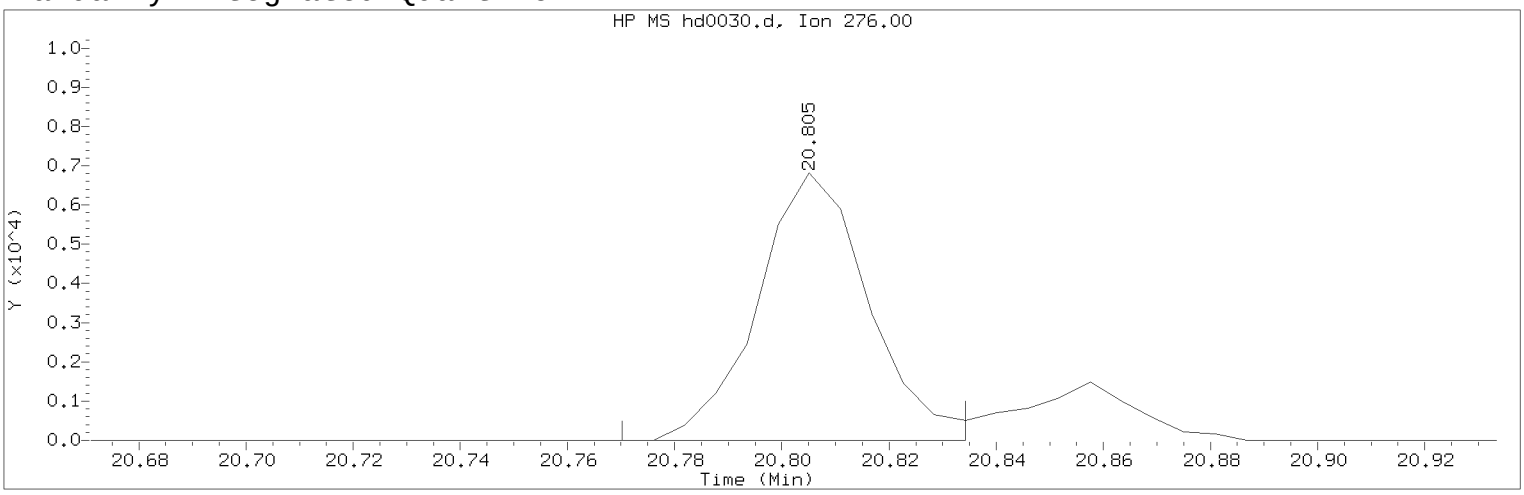
Compound Number : 219
Compound Name : Benzo(a)pyrene
Scan Number : 3097
Retention Time (minutes) : 19.138
Quant Ion : 252.00
Area : 12881
On-column Amount (ng/ul) : 0.0631
Integration start scan : 3090 Integration stop scan: 3118
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user id: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0030.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 02:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: pahmdlall1
Calibration date and time: 03-APR-2018 12:25
Date, time and analyst ID of latest file update: 03-Apr-2018 12:28 bhs10208

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL0608

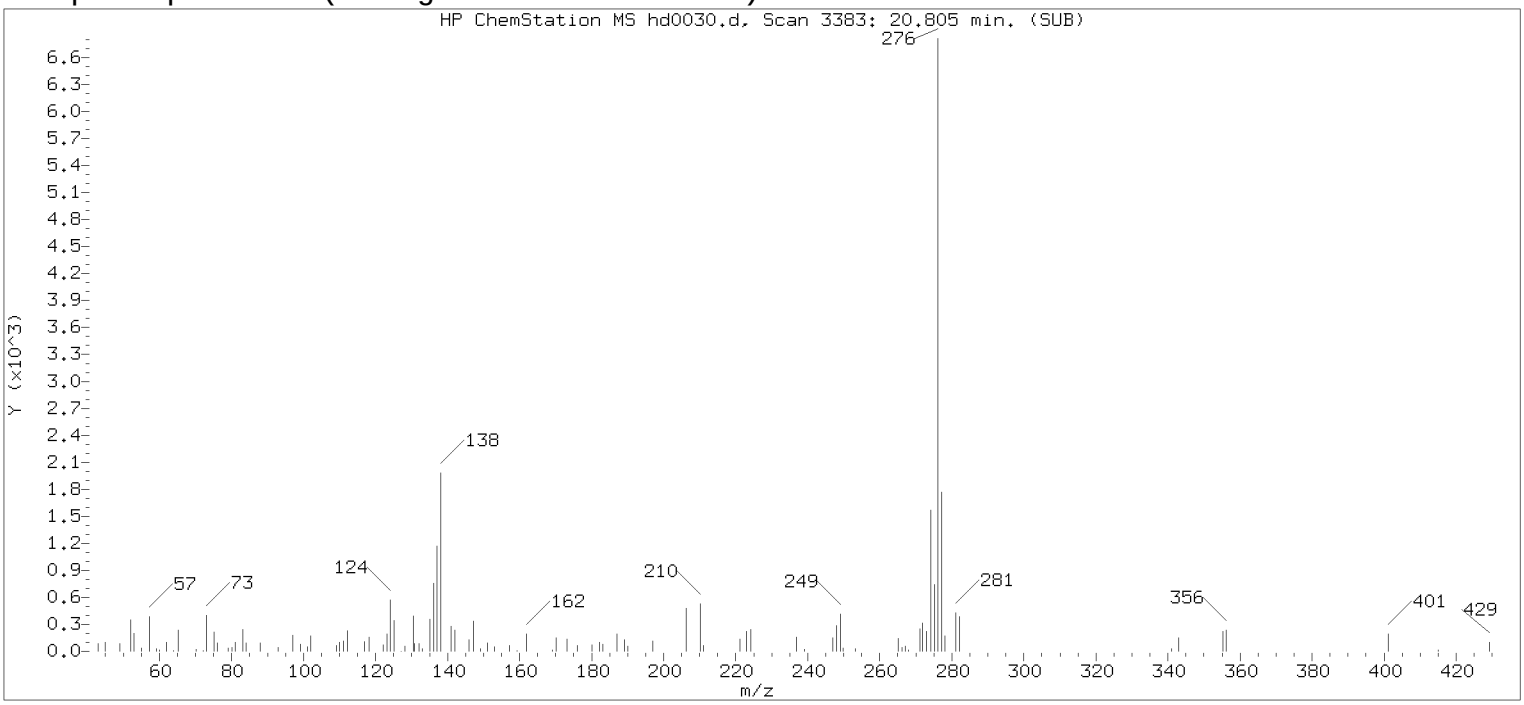
Compound Number : 227
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3383
Retention Time (minutes) : 20.805
Quant Ion : 276.00
Area (flag) : 9827M
On-Column Amount (ng/ul) : 0.0490
Integration start scan : 3376 Integration stop scan: 3387
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

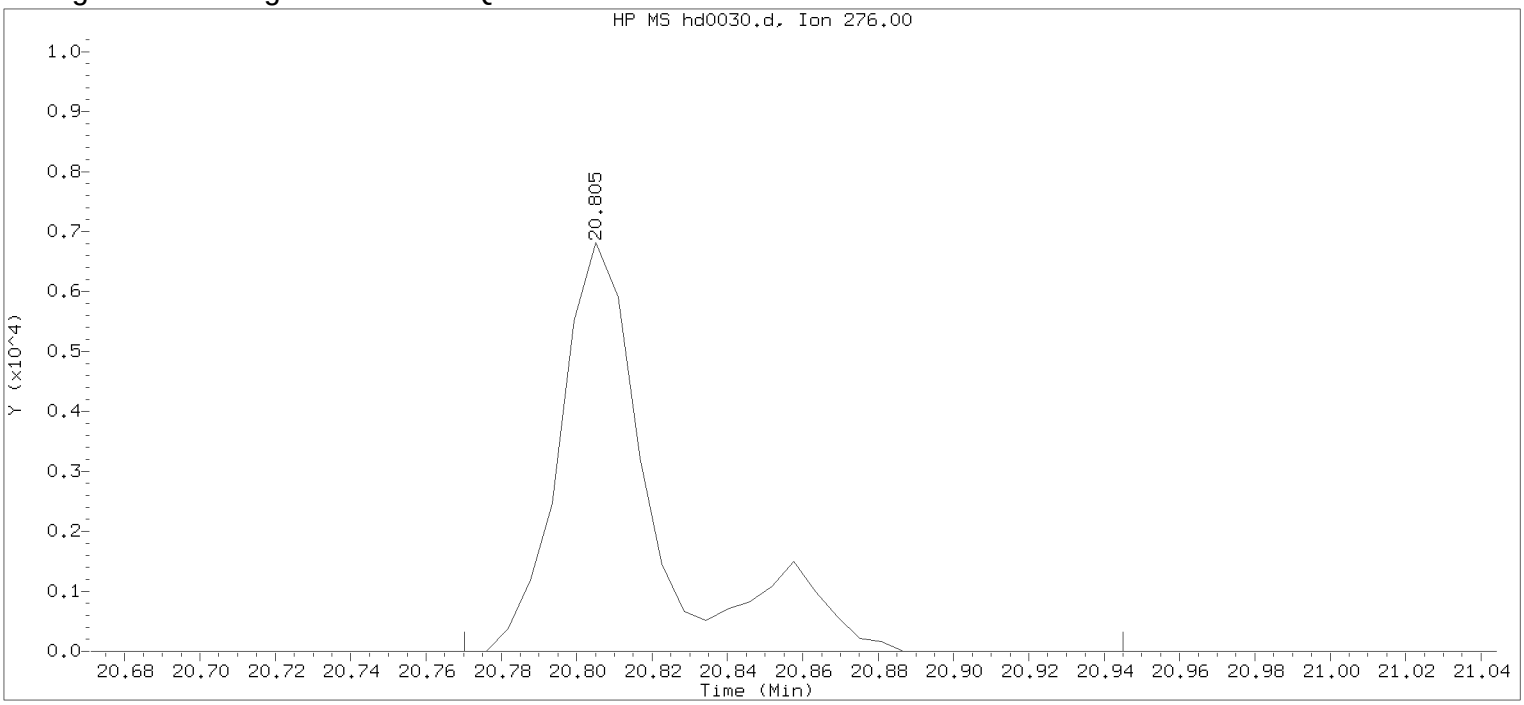
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 15:31.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



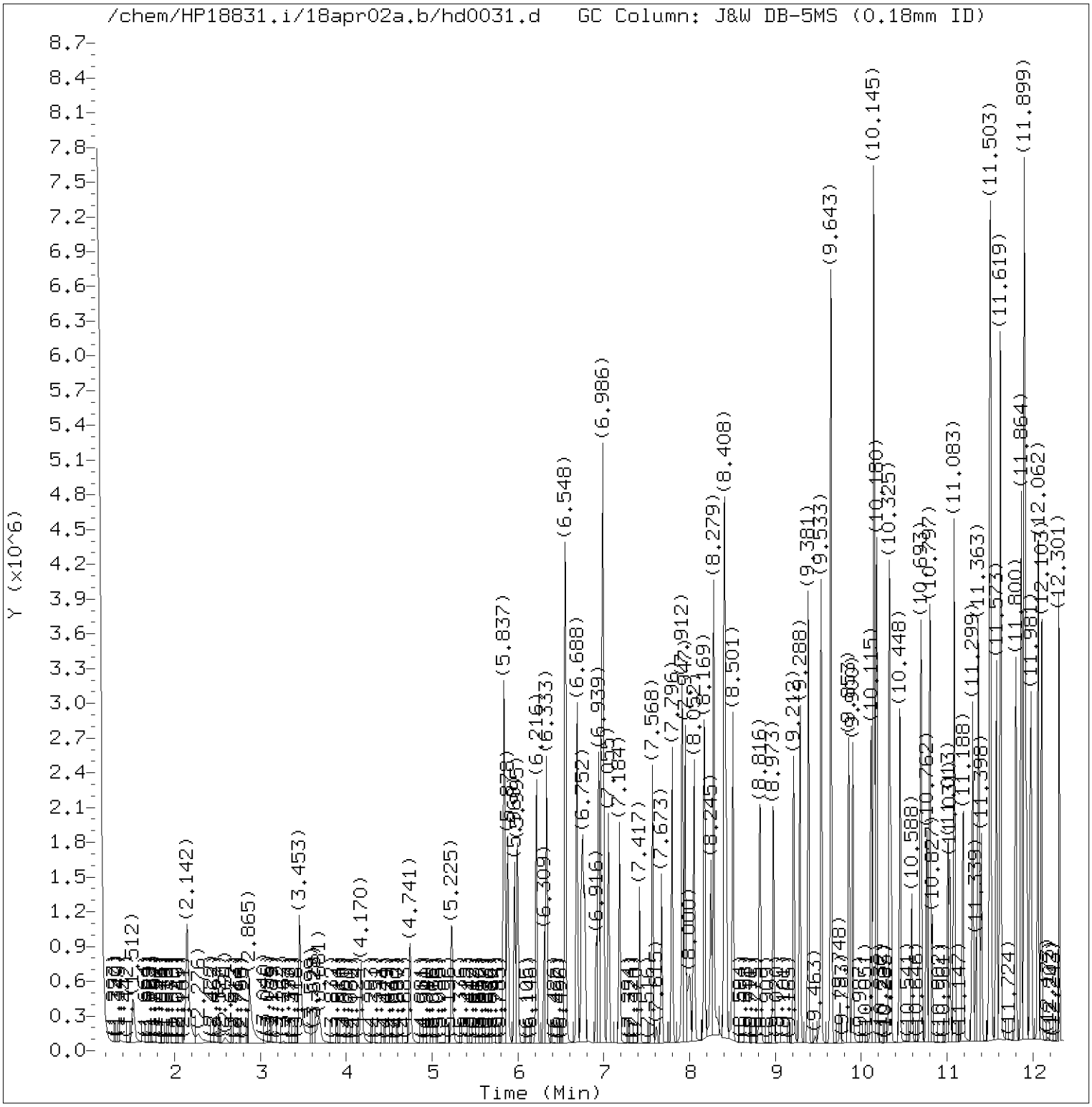
Data File: /chem/HP18831.i/18apr02a.b/hd0030.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 02:42 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: pahmdlall1
Calibration date and time: 03-APR-2018 02:09
Date, time and analyst ID of latest file update: 03-Apr-2018 03:09 Automation

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL0608

Compound Number : 227
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3383
Retention Time (minutes) : 20.805
Quant Ion : 276.00
Area : 11939
On-column Amount (ng/ul) : 0.0507
Integration start scan : 3376 Integration stop scan: 3406
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/03/2018 at 12:30.
Target 3.5 esignature user id: bhsmith



Total Ion Chromatogram (TIC)

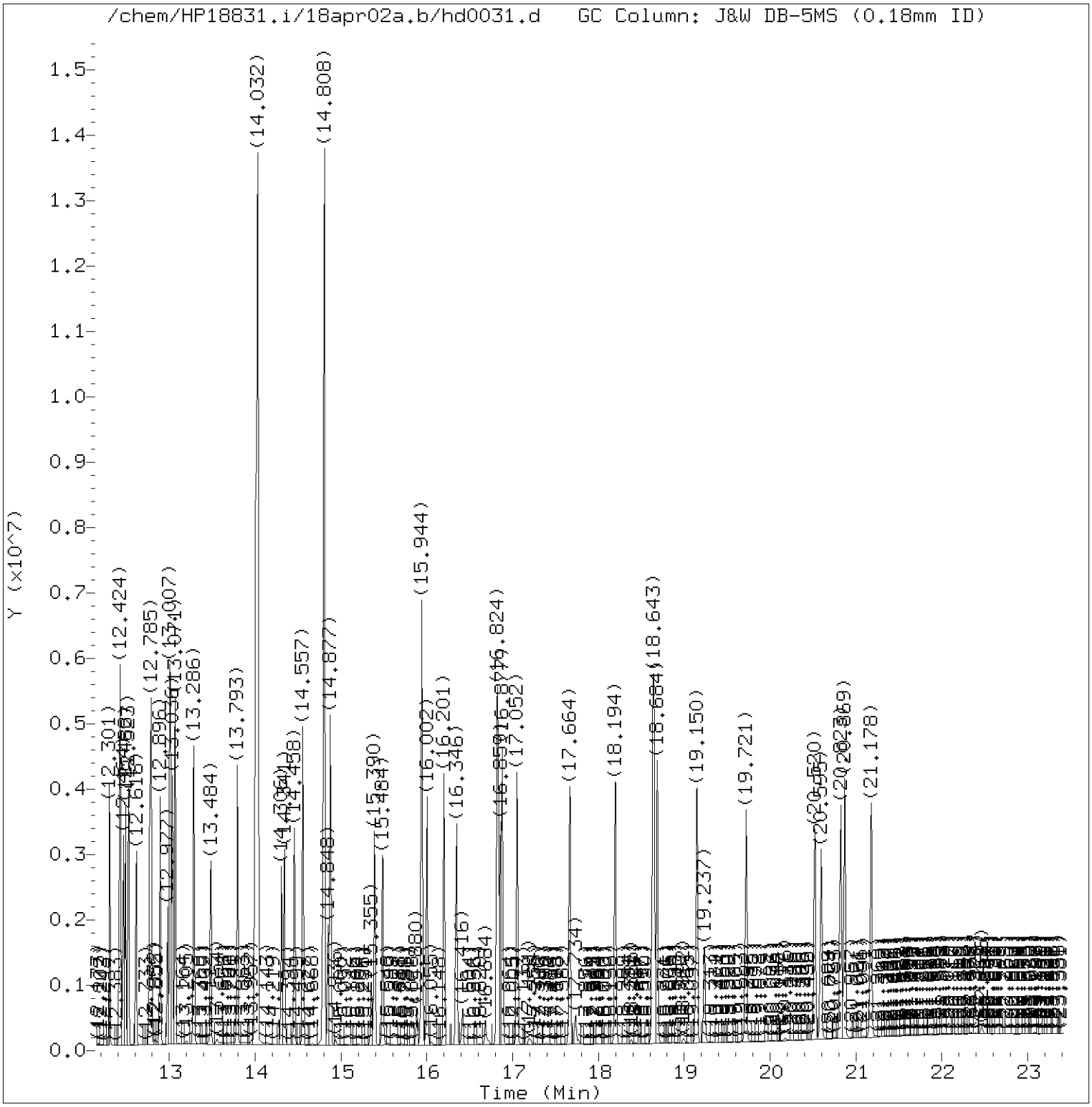
Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0031.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 03:11 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 03-APR-2018 16:15
Date, time and analyst ID of latest file update: 03-Apr-2018 16:16 bkc25363

Sample Name: SSTD12.5 Lab Sample ID: rvICV0648

Digitally signed by Brandon K. Cordova
on 04/03/2018 at 16:16.
Target 3.5 esignature user ID: bkc25363



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0031.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 03:11 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 03-APR-2018 16:15
Date, time and analyst ID of latest file update: 03-Apr-2018 16:16 bkc25363

Sample Name: SSTD12.5 Lab Sample ID: rvICV0648

Digitally signed by Brandon K. Cordova
on 04/03/2018 at 16:16.
Target 3.5 esignature user ID: bkc25363

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0031.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 03:11 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 03-APR-2018 16:15
Date, time and analyst ID of latest file update: 03-Apr-2018 16:16 bkc25363

Sample Name: SSTD12.5 Lab Sample ID: rvICV0648

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
2) 1,4-Dioxane	(1)	1.512	88	361141	14.471
5) N-Nitrosodimethylamine	(1)	2.130	74	473570	11.356
6) Pyridine	(1)	2.142	79	795219	11.394
8) 2-Picoline	(1)	3.453	93	811756	11.259
9) N-Nitrosomethylethylamine	(1)	3.687	88	322129	11.270
10) Methyl methanesulfonate	(1)	4.170	80	412939	11.758
14) N-Nitrosodiethylamine	(1)	4.741	102	321637	11.306
16) Ethyl methanesulfonate	(1)	5.231	109	351941	11.540
43) Total Cresols	(1)	5.660	100	1397065	23.209
20) Aniline	(1)	5.831	93	1155915	11.475
19) Phenol	(1)	5.843	94	1030951	11.597
23) bis(2-Chloroethyl)ether	(1)	5.960	93	733462	11.374
24) 2-Chlorophenol	(1)	5.995	128	703112	11.623
25) 1,3-Dichlorobenzene	(1)	6.216	146	774797	11.593
26)*1,4-Dichlorobenzene-d4	(1)	6.309	152	211815	5.000
27) 1,4-Dichlorobenzene	(1)	6.333	146	800440	11.973
29) 1,2-Dichlorobenzene	(1)	6.548	146	755050	11.719
28) Benzyl alcohol	(1)	6.554	108	472979	13.139
31) Indene	(1)	6.688	115	1327597	14.891
32) 2-Methylphenol	(1)	6.747	108	652363	11.633
34) 2,2'-oxybis(1-Chloropropane)	(1)	6.776	45	891311	11.466
35) bis(2-Chloroisopropyl)ether	(1)	6.776	45	891311	11.466
36) N-Nitrosopyrrolidine	(1)	6.916	100	345766	11.235
37) Acetophenone	(1)	6.939	105	996700	11.931
39) N-Nitroso-di-n-propylamine	(1)	6.968	70	548705	11.262
40) N-Nitrosomorpholine	(1)	6.980	56	408583	11.440
38) 4-Methylphenol	(1)	6.986	108	744702	11.576
41) o-Toluidine	(1)	6.991	106	1131484	11.581
44) Hexachloroethane	(1)	7.055	117	306971	11.254
46) Nitrobenzene	(2)	7.184	77	784161	11.565
101) Isosafrole	(3)	7.383	162	638174	11.553
50) N-Nitrosopiperidine	(2)	7.417	114	333124	11.217
52) Isophorone	(2)	7.568	82	1448701	12.001
53) 2-Nitrophenol	(2)	7.673	139	332075	11.883
55) 2,4-Dimethylphenol	(2)	7.796	107	613527	10.107
57) O,O,O-Triethylphosphorothioate	(2)	7.912	198	358418	11.657
58) bis(2-Chloroethoxy)methane	(2)	7.947	93	902983	11.761
59) Benzoic acid	(2)	8.000	105	680258	20.001
126) 2,4_2,6-Dinitrotoluenes	(3)	8.050	165	719637	22.965
62) 2,4-Dichlorophenol	(2)	8.052	162	595662	11.751

* = Compound is an internal standard.

Digitally signed by Brandon K. Cordova
on 04/03/2018 at 16:16.
Target 3.5 esignature user ID: bkc25363

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0031.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 03:11 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 03-APR-2018 16:15
Date, time and analyst ID of latest file update: 03-Apr-2018 16:16 bkc25363

Sample Name: SSTD12.5 Lab Sample ID: rvICV0648

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
64) 1,2,4-Trichlorobenzene	(2)	8.169	180	656970	11.788
67)*Naphthalene-d8	(2)	8.245	136	776137	5.000
69) Naphthalene	(2)	8.279	128	2001575	11.768
70) 4-Chloroaniline	(2)	8.402	127	840061	11.989
71) 2,6-Dichlorophenol	(2)	8.408	162	584357	11.915
72) Hexachloropropene	(2)	8.425	213	493949	12.489
74) Hexachlorobutadiene	(2)	8.507	225	400048	11.817
152) Diallate trans/cis	(4)	8.775	86	598369	11.078
78) Quinoline	(2)	8.822	129	1281522	11.842
80) N-Nitrosodi-n-butylamine	(2)	8.973	84	517235	10.076
83) 4-Chloro-3-methylphenol	(2)	9.212	107	608718	11.692
85) Safrole	(2)	9.288	162	522661	11.382
86) 2-Methylnaphthalene	(2)	9.381	142	1331147	11.603
87) 1-Methylnaphthalene	(2)	9.533	142	1241884	11.877
88) Hexachlorocyclopentadiene	(3)	9.643	237	922170	25.901
89) 1,2,4,5-Tetrachlorobenzene	(3)	9.649	216	687321	11.738
92) cis-Isosafrole	(3)	9.754	162	73281	1.452
94) 2,4,6-Trichlorophenol	(3)	9.853	196	436049	11.633
96) 2,4,5-Trichlorophenol	(3)	9.900	196	469321	12.133
98) trans-Isosafrole	(3)	10.115	162	564893	10.101
99) 1,1'-Biphenyl	(3)	10.145	154	1613983	12.421
100) 2-Chloronaphthalene	(3)	10.150	162	1276632	11.477
102) 1-Chloronaphthalene	(3)	10.180	162	1568009	15.392
104) Diphenyl ether	(3)	10.325	170	1137843	15.051
105) 2-Nitroaniline	(3)	10.349	138	384890	11.899
109) 1,4-Naphthoquinone	(3)	10.454	158	644040	14.398
110) 1,4-Dinitrobenzene	(3)	10.588	168	182337	11.648
111) Dimethylphthalate	(3)	10.693	163	1422838	11.210
112) 1,3-Dinitrobenzene	(3)	10.704	168	206381	11.633
114) 2,6-Dinitrotoluene	(3)	10.762	165	307298	11.423
115) Acenaphthylene	(3)	10.797	152	2073613	12.605
118) 3-Nitroaniline	(3)	11.013	138	335362	11.833
119)*Acenaphthene-d10	(3)	11.031	164	389502	5.000
120) Acenaphthene	(3)	11.083	153	1361803	12.102
121) 2,4-Dinitrophenol	(3)	11.188	184	358740	25.605
123) Pentachlorobenzene	(3)	11.299	250	599323	11.785
122) 4-Nitrophenol	(3)	11.339	109	209831	11.796
125) Dibenzofuran	(3)	11.363	168	1795820	11.774
124) 2,4-Dinitrotoluene	(3)	11.398	165	412339	11.542
127) 1-Naphthylamine	(3)	11.497	143	2579916	22.401

* = Compound is an internal standard.

Digitally signed by Brandon K. Cordova
on 04/03/2018 at 16:16.
Target 3.5 esignature user ID: bkc25363

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0031.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 03:11 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 03-APR-2018 16:15
Date, time and analyst ID of latest file update: 03-Apr-2018 16:16 bkc25363

Sample Name: SSTD12.5 Lab Sample ID: rvICV0648

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
129) 2-Naphthylamine	(3)	11.619	143	2563921	23.355
130) Diethylphthalate	(3)	11.800	149	1376913	11.180
132) Fluorene	(3)	11.864	166	1418846	11.375
133) 4-Chlorophenyl-phenylether	(3)	11.899	204	694596	11.473
131) Thionazin	(3)	11.899	107	272673	11.597
134) 5-Nitro-o-toluidine	(3)	11.911	152	398746	12.109
135) 4-Nitroaniline	(3)	11.928	138	328202	11.351
136) 4,6-Dinitro-2-methylphenol	(4)	11.969	198	234687	12.698
138) NDPA as diphenylamine	(4)	12.062	169	1166855	11.748
137) N-Nitrosodiphenylamine	(4)	12.062	169	1166855	11.748
140) 1,2-Diphenylhydrazine	(4)	12.097	77	1566808	11.985
143) Tetraethyldithiopyrophosphate	(4)	12.301	97	266075	11.756
145) 1,3,5-Trinitrobenzene	(4)	12.418	213	136830	12.160
146) Diallate (peak 1)	(4)	12.424	86	451785	7.942
147) Phorate	(4)	12.429	75	1354171	12.188
148) Phenacetin	(4)	12.464	108	750480	12.113
149) 4-Bromophenyl-phenylether	(4)	12.488	248	420865	11.649
150) Diallate (peak 2)	(4)	12.517	86	146584	3.136
151) Hexachlorobenzene	(4)	12.529	284	436651	11.857
153) Dimethoate	(4)	12.616	87	635443	12.292
156) Pentachlorophenol	(4)	12.768	266	294638	12.891
158) Pentachloronitrobenzene	(4)	12.779	237	201356	12.086
157) 4-Aminobiphenyl	(4)	12.791	169	1562128	13.735
159) Pronamide	(4)	12.896	173	678994	11.632
160)*Phenanthrene-d10	(4)	12.977	188	757084	5.000
162) Phenanthrene	(4)	13.007	178	2093239	11.870
161) Dinoseb	(4)	13.018	211	372133	12.482
164) Anthracene	(4)	13.071	178	2138684	11.879
170) Carbazole	(4)	13.286	167	1971176	12.255
171) Methyl parathion	(4)	13.484	109	520849	13.322
173) Di-n-butylphthalate	(4)	13.793	149	2412475	11.530
175) Parathion	(4)	14.003	109	335533	12.989
176) 4-Nitroquinoline-1-oxide	(4)	14.032	190	3348989	156.828
179) Isodrin	(4)	14.341	193	250944	11.786
181) Fluoranthene	(4)	14.557	202	2424676	11.715
182) Benzidine	(5)	14.808	184	7576092	59.107
183)*Pyrene-d10	(5)	14.848	212	816606	5.000
185) Pyrene	(5)	14.877	202	2503753	11.581
230) Total PAHs	(6)	15.000	100	36663795	212.828
190) p-Dimethylaminoazobenzene	(5)	15.390	225	471776	13.444

* = Compound is an internal standard.

Digitally signed by Brandon K. Cordova
on 04/03/2018 at 16:16.
Target 3.5 esignature user ID: bkc25363

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0031.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 03:11 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 03-APR-2018 16:15
Date, time and analyst ID of latest file update: 03-Apr-2018 16:16 bkc25363

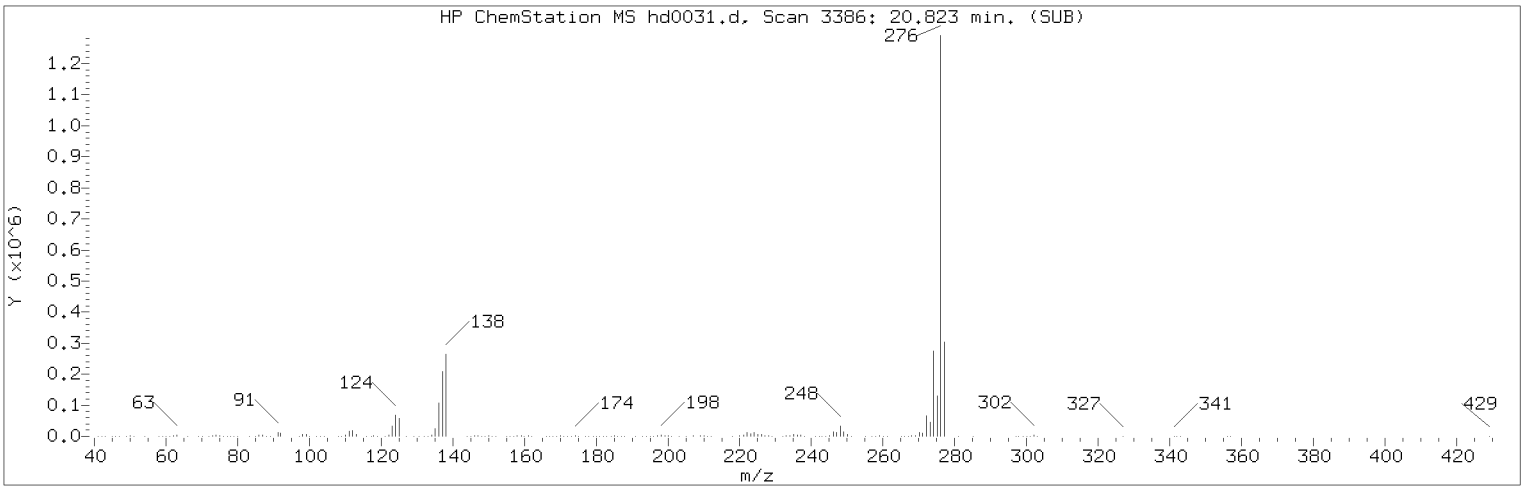
Sample Name: SSTD12.5 Lab Sample ID: rvICV0648

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
193) Chlorobenzilate	(5)	15.484	139	731374	11.537
195) 3,3'-Dimethylbenzidine	(5)	15.944	212	3141724	22.025
196) Butylbenzylphthalate	(5)	16.002	149	1095640	11.524
199) 2-Acetylaminofluorene	(5)	16.346	181	1004475	11.405
204) Benzo(a)anthracene	(5)	16.818	228	2394687	11.940
201) 3,3'-Dichlorobenzidine	(5)	16.830	252	888708	11.684
203) 4,4'-Methylenebis(2-chloroanil	(5)	16.859	231	495201	11.488
205) Chrysene	(5)	16.877	228	2250319	11.748
207) bis(2-Ethylhexyl)phthalate	(5)	17.052	149	1588338	11.412
211) 6-Methylchrysene	(5)	17.664	242	1570969	11.178
213) Di-n-octylphthalate	(6)	18.200	149	2858953	11.574
214) Benzo(b)fluoranthene	(6)	18.631	252	2391609	11.890
215) 7,12-Dimethylbenz[a]anthracene	(6)	18.649	256	999792	12.316
216) Benzo(k)fluoranthene	(6)	18.684	252	2265956	11.966
219) Benzo(a)pyrene	(6)	19.150	252	2211136	11.946
221)*Perylene-d12	(6)	19.237	264	800949	5.000
223) 3-Methylcholanthrene	(6)	19.721	268	1175198	12.647
225) Dibenz(a,h)acridine	(6)	20.520	279	1933794	11.426
226) Dibenz(a,j)acridine	(6)	20.595	279	1739238	10.242
227) Indeno(1,2,3-cd)pyrene	(6)	20.823	276	2115846M	11.578
228) Dibenz(a,h)anthracene	(6)	20.869	278	2253220	11.988
229) Benzo(g,h,i)perylene	(6)	21.178	276	2191802	11.397

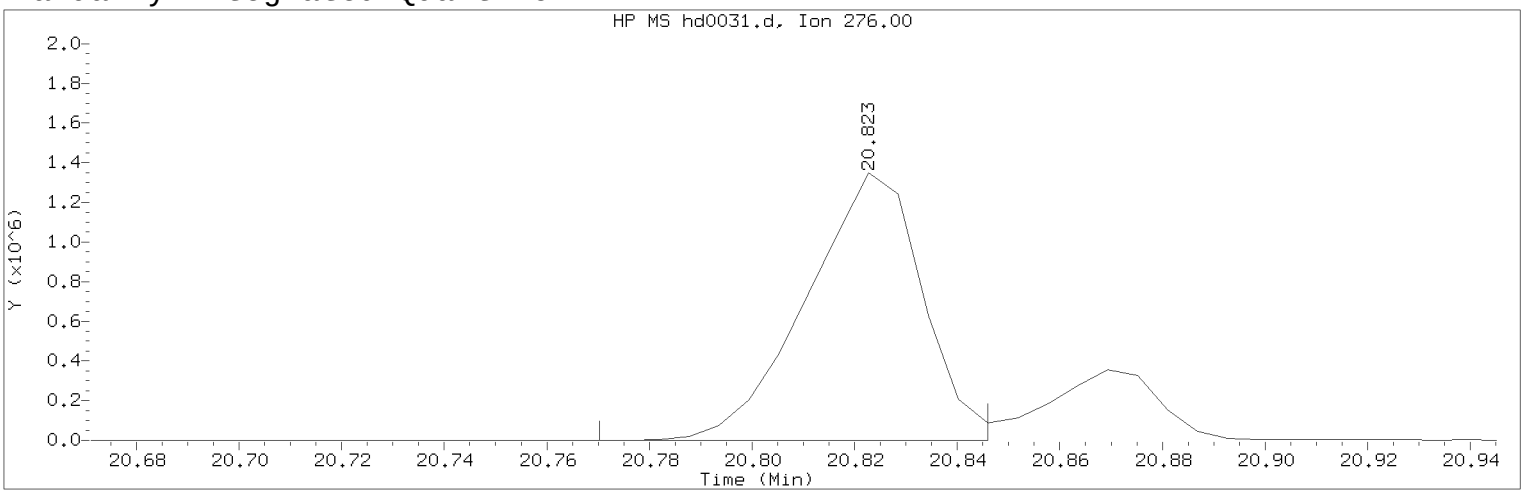
M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Brandon K. Cordova
on 04/03/2018 at 16:16.
Target 3.5 esignature user ID: bkc25363

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr02a.b/hd0031.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 03:11 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 03-APR-2018 16:15
Date, time and analyst ID of latest file update: 03-Apr-2018 16:16 bkc25363

Sample Name: SSTD12.5 Lab Sample ID: rvICV0648

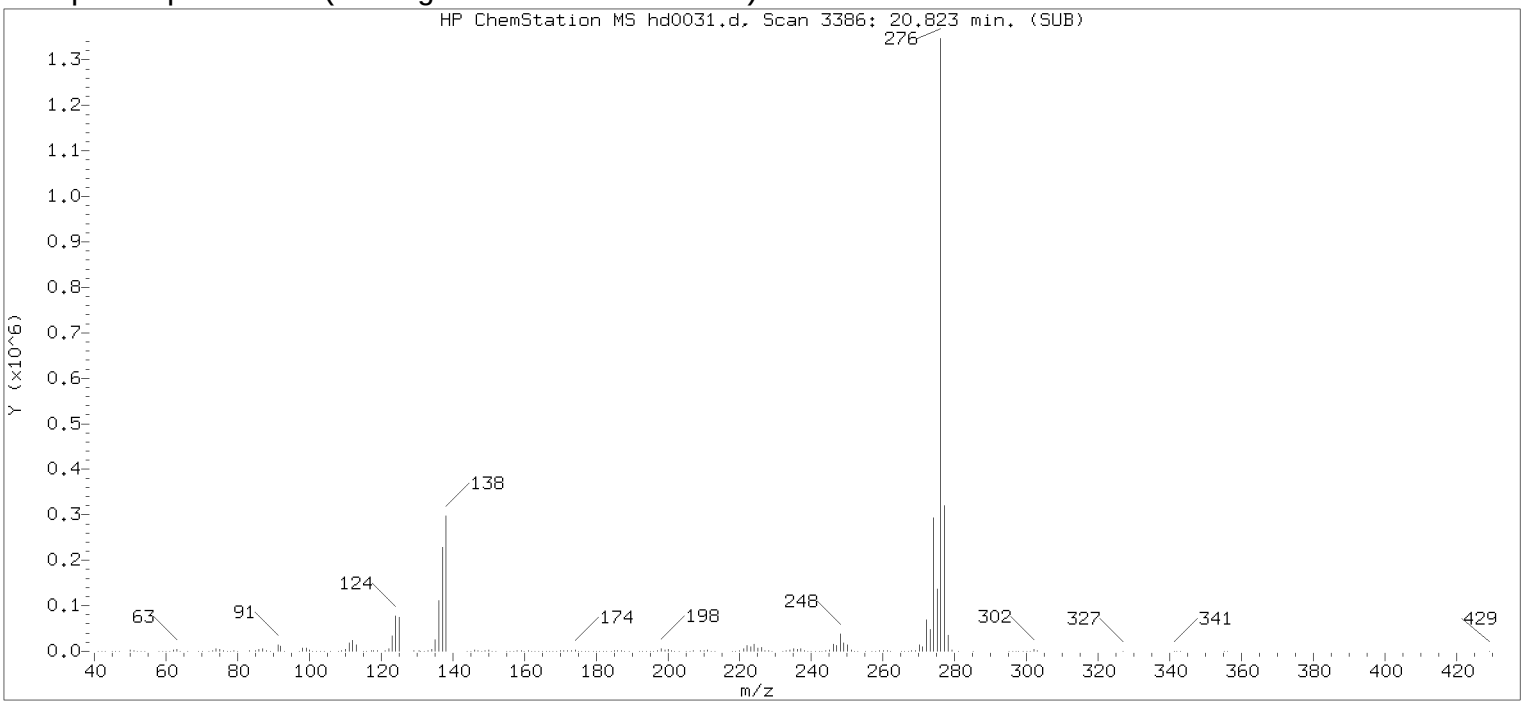
Compound Number : 227
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3386
Retention Time (minutes) : 20.823
Quant Ion : 276.00
Area (flag) : 2115846M
On-Column Amount (ng/ul) : 11.5783
Integration start scan : 3376 Integration stop scan: 3389
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

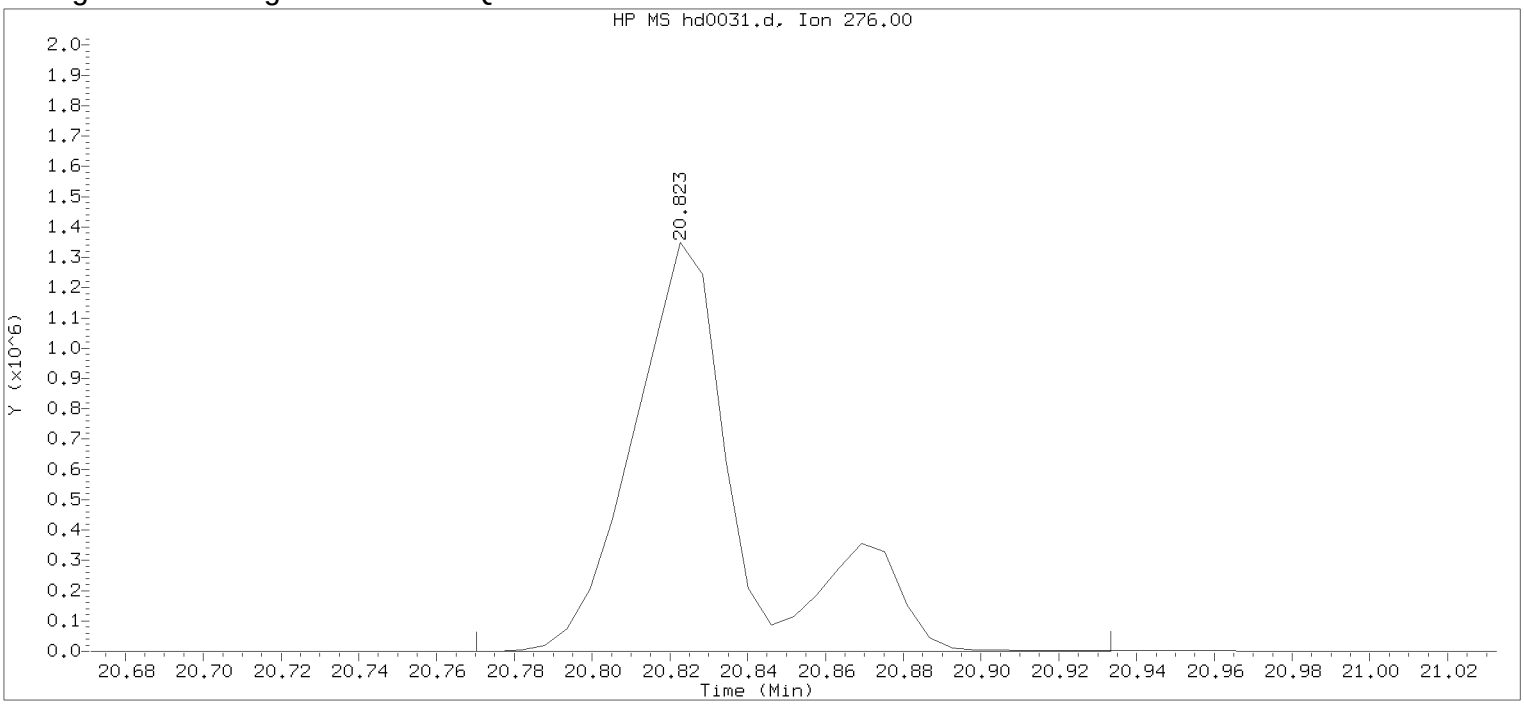
Analyst responsible for change: Digitally signed by Brandon K. Cordova on 04/03/2018 at 16:16.
Target 3.5 esignature user ID: bkc25363

Secondary review performed and digitally signed by Chad A. Moline on 04/03/2018 at 16:22.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



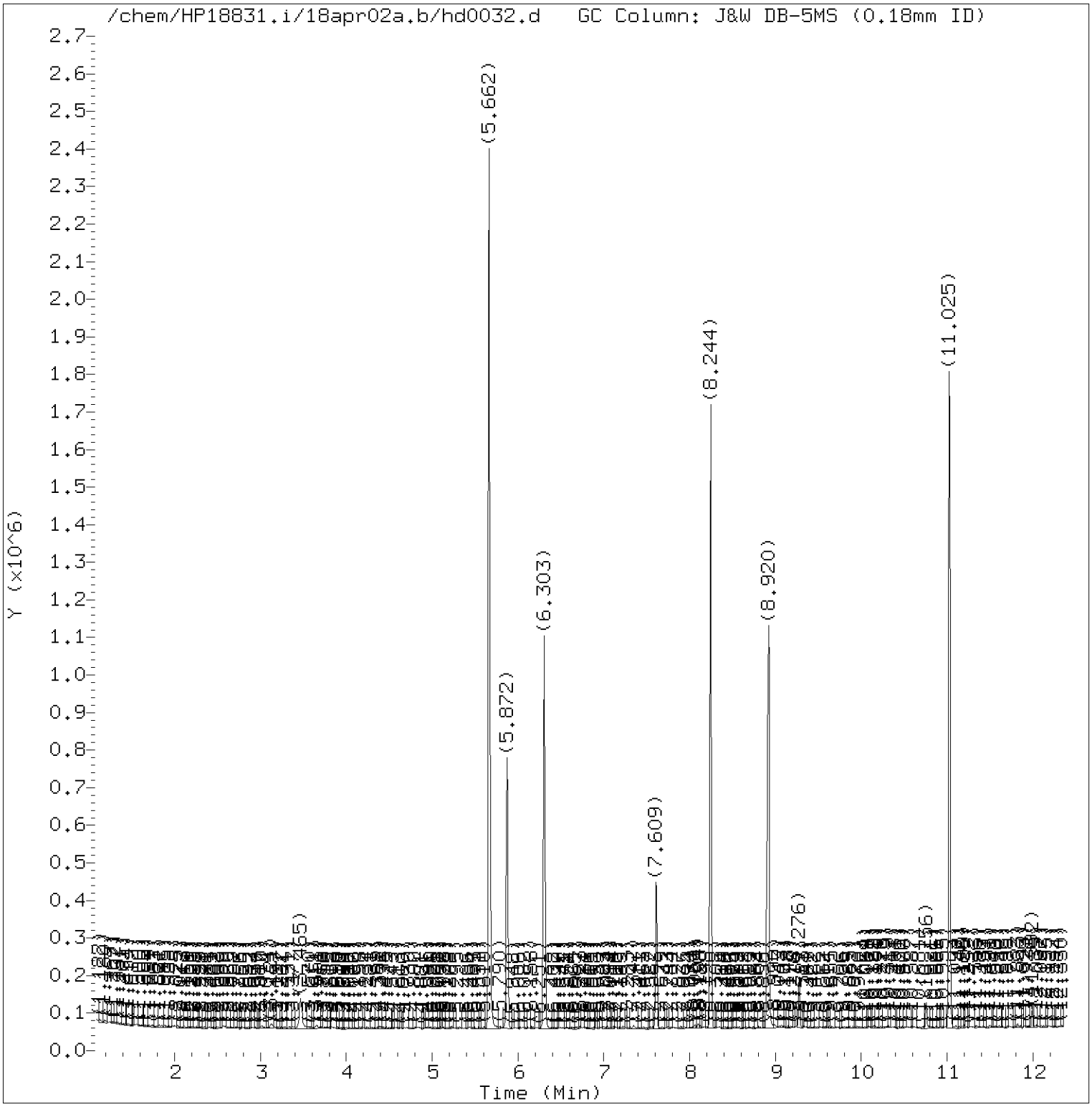
Data File: /chem/HP18831.i/18apr02a.b/hd0031.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 03:11 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 03-APR-2018 02:09
Date, time and analyst ID of latest file update: 03-Apr-2018 03:39 Automation

Sample Name: SSTD12.5 Lab Sample ID: rvICV0648

Compound Number : 227
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3386
Retention Time (minutes) : 20.823
Quant Ion : 276.00
Area : 2634542
On-column Amount (ng/ul) : 12.2780
Integration start scan : 3376 Integration stop scan: 3404
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon K. Cordova on 04/03/2018 at 16:16.
Target 3.5 esignature user id: bkc25363



Total Ion Chromatogram (TIC)

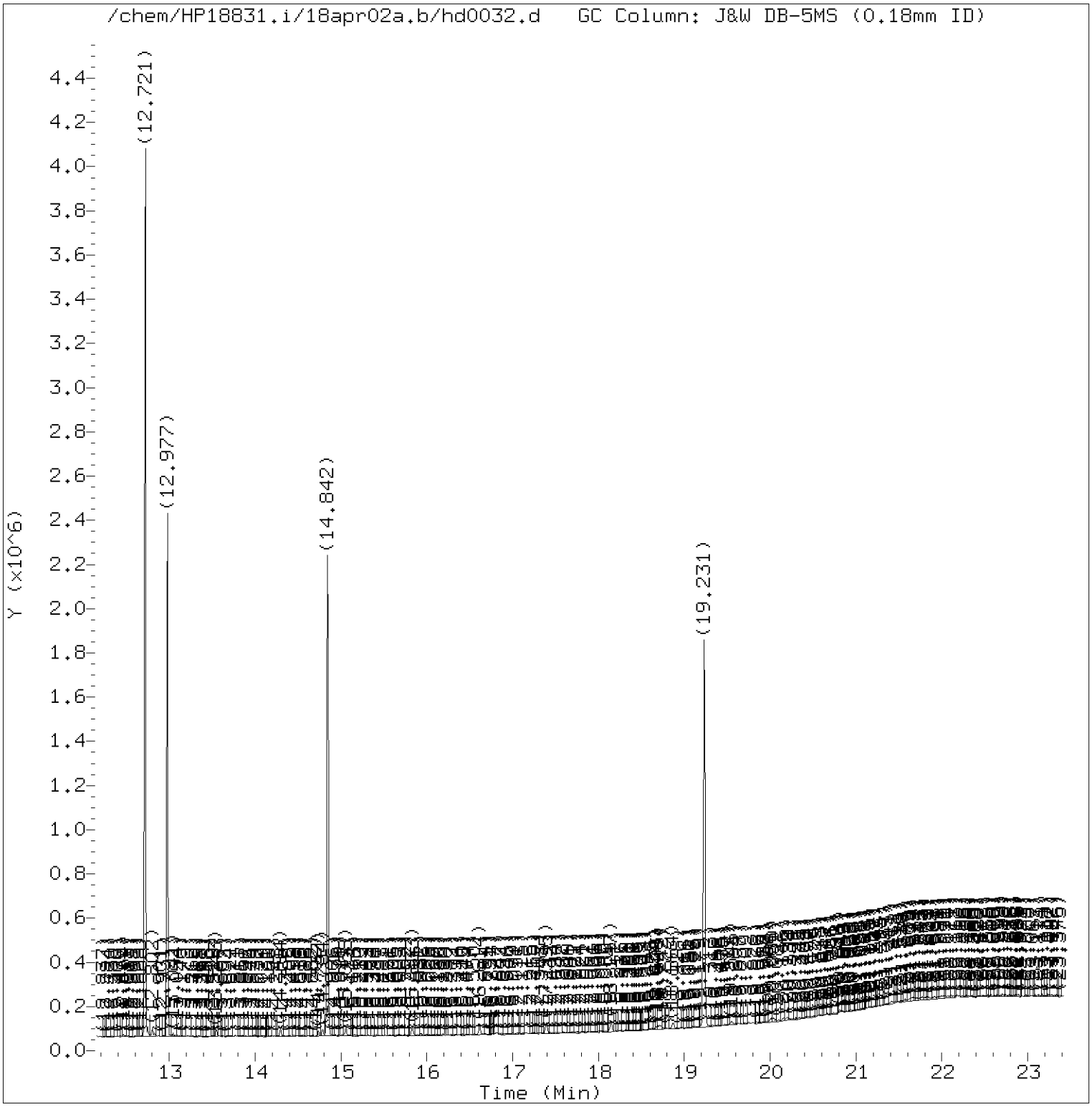
Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0032.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 03:41 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: basicvall1
Calibration date and time: 03-APR-2018 14:55
Date, time and analyst ID of latest file update: 03-Apr-2018 16:11 bkc25363

Sample Name: SSTD12.5 Lab Sample ID: rvBASICV0648

Digitally signed by Brandon K. Cordova
on 04/03/2018 at 16:11.
Target 3.5 esignature user ID: bkc25363



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0032.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 03:41 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: basicvall1
Calibration date and time: 03-APR-2018 14:55
Date, time and analyst ID of latest file update: 03-Apr-2018 16:11 bkc25363

Sample Name: SSTD12.5 Lab Sample ID: rvBASICV0648

Digitally signed by Brandon K. Cordova
on 04/03/2018 at 16:11.
Target 3.5 esignature user ID: bkc25363

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0032.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 03:41 Analyst ID: bkc25363

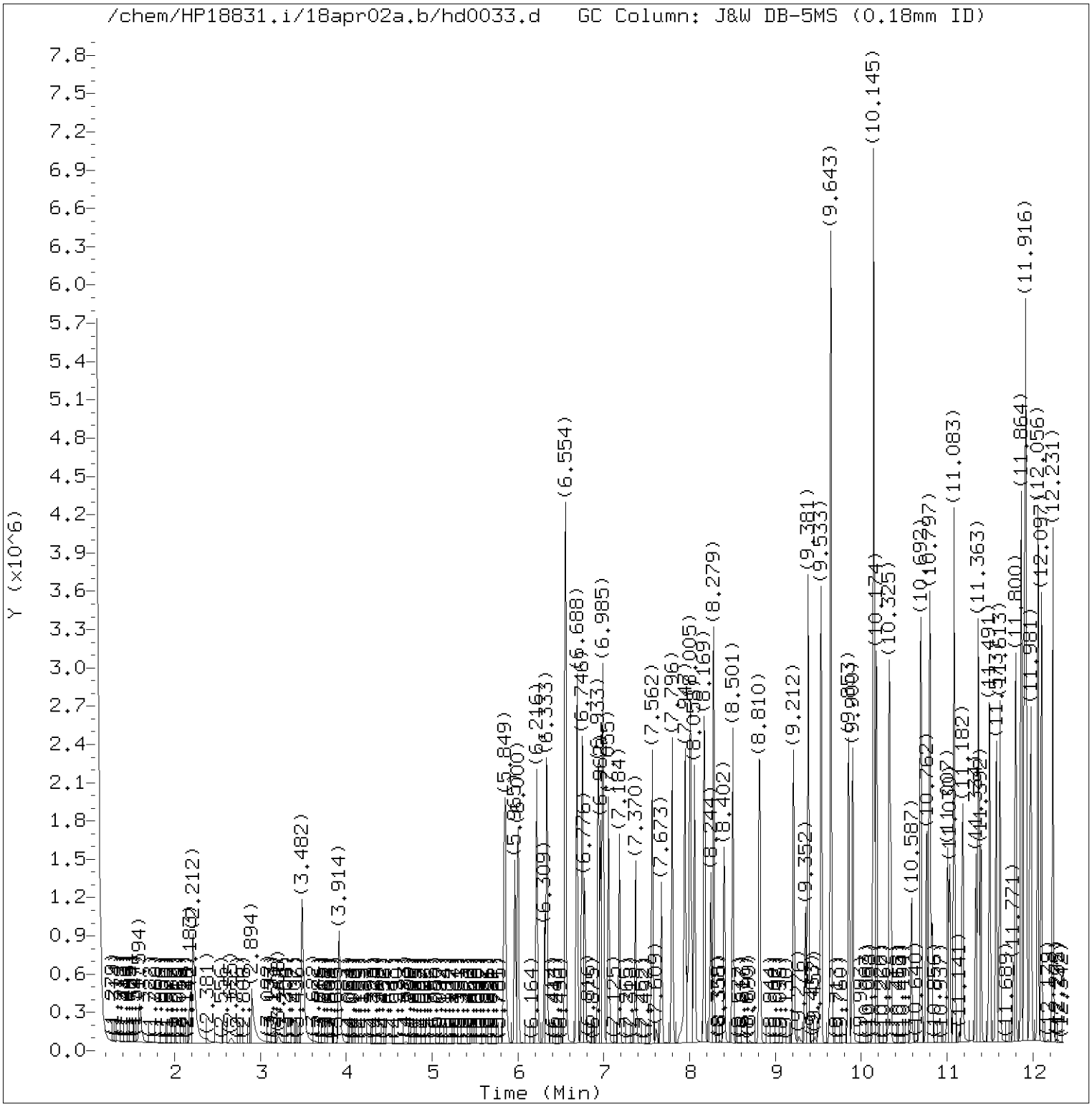
Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: basicvall1
Calibration date and time: 03-APR-2018 14:55
Date, time and analyst ID of latest file update: 03-Apr-2018 16:11 bkc25363

Sample Name: SSTD12.5 Lab Sample ID: rvBASICV0648

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
17) Benzaldehyde	(1)	5.662	77	756030	13.979
26)*1,4-Dichlorobenzene-d4	(1)	6.303	152	238073	5.000
67)*Naphthalene-d8	(2)	8.244	136	869137	5.000
79) Caprolactam	(2)	8.920	113	205318	12.087
119)*Acenaphthene-d10	(3)	11.025	164	441985	5.000
154) Atrazine	(4)	12.721	200	498377	13.668
160)*Phenanthrene-d10	(4)	12.977	188	873300	5.000
183)*Pyrene-d10	(5)	14.842	212	947014	5.000
221)*Perylene-d12	(6)	19.231	264	908803	5.000

* = Compound is an internal standard.

Digitally signed by Brandon K. Cordova
on 04/03/2018 at 16:11.
Target 3.5 esignature user ID: bkc25363



Total Ion Chromatogram (TIC)

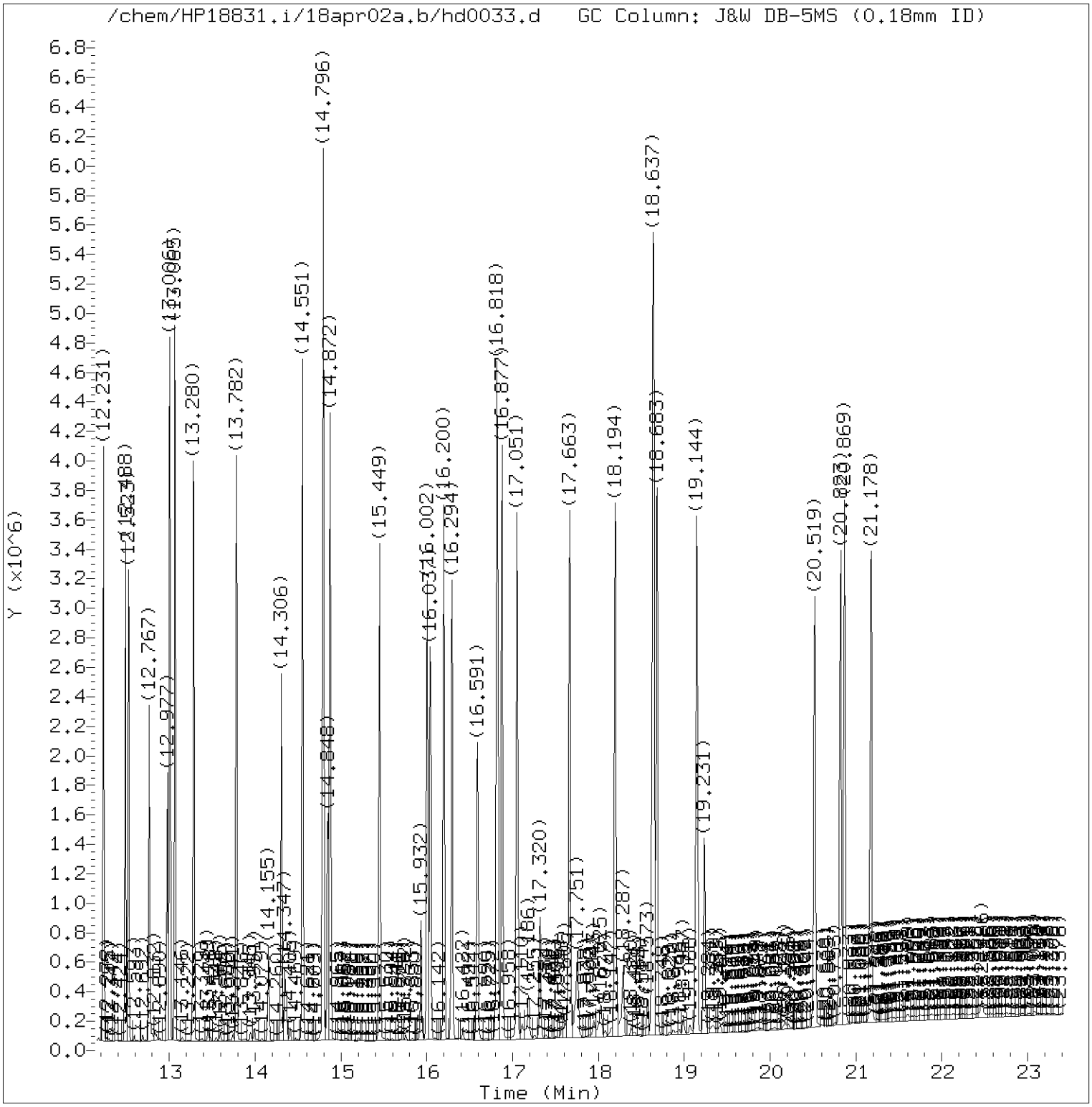
Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0033.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 04:11 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: icvall6
Calibration date and time: 03-APR-2018 23:55
Date, time and analyst ID of latest file update: 03-Apr-2018 23:55 bkc25363

Sample Name: ICVSPK Lab Sample ID: MS1808526A

Digitally signed by Brandon K. Cordova
on 04/03/2018 at 23:56.
Target 3.5 esignature user ID: bkc25363



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0033.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 04:11 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: icvall6
Calibration date and time: 03-APR-2018 23:55
Date, time and analyst ID of latest file update: 03-Apr-2018 23:55 bkc25363

Sample Name: ICVSPK Lab Sample ID: MS1808526A

Digitally signed by Brandon K. Cordova
on 04/03/2018 at 23:56.
Target 3.5 esignature user ID: bkc25363

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr02a.b/hd0033.d Instrument ID: HP18831.i
Injection date and time: 03-APR-2018 04:11 Analyst ID: bkc25363

Method used: /chem/HP18831.i/18apr02a.b/rv8270c.m Sublist used: icvall6
Calibration date and time: 03-APR-2018 23:55
Date, time and analyst ID of latest file update: 03-Apr-2018 23:55 bkc25363

Sample Name: ICVSPK Lab Sample ID: MS1808526A

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
26)*1,4-Dichlorobenzene-d4	(1)	6.309	152	187837	5.000
67)*Naphthalene-d8	(2)	8.244	136	690184	5.000
119)*Acenaphthene-d10	(3)	11.030	164	340573	5.000
128) 2,3,4,6-Tetrachlorophenol	(3)	11.573	232	346022	12.458
160)*Phenanthrene-d10	(4)	12.977	188	670677	5.000
183)*Pyrene-d10	(5)	14.848	212	719450	5.000
221)*Perylene-d12	(6)	19.231	264	684767	5.000

* = Compound is an internal standard.

Digitally signed by Brandon K. Cordova
on 04/03/2018 at 23:56.
Target 3.5 esignature user ID: bkc25363

Data File: /chem/HP18831.i/18apr17.b/hd0750.d

Date : 17-APR-2018 06:05

Client ID: DFTPP

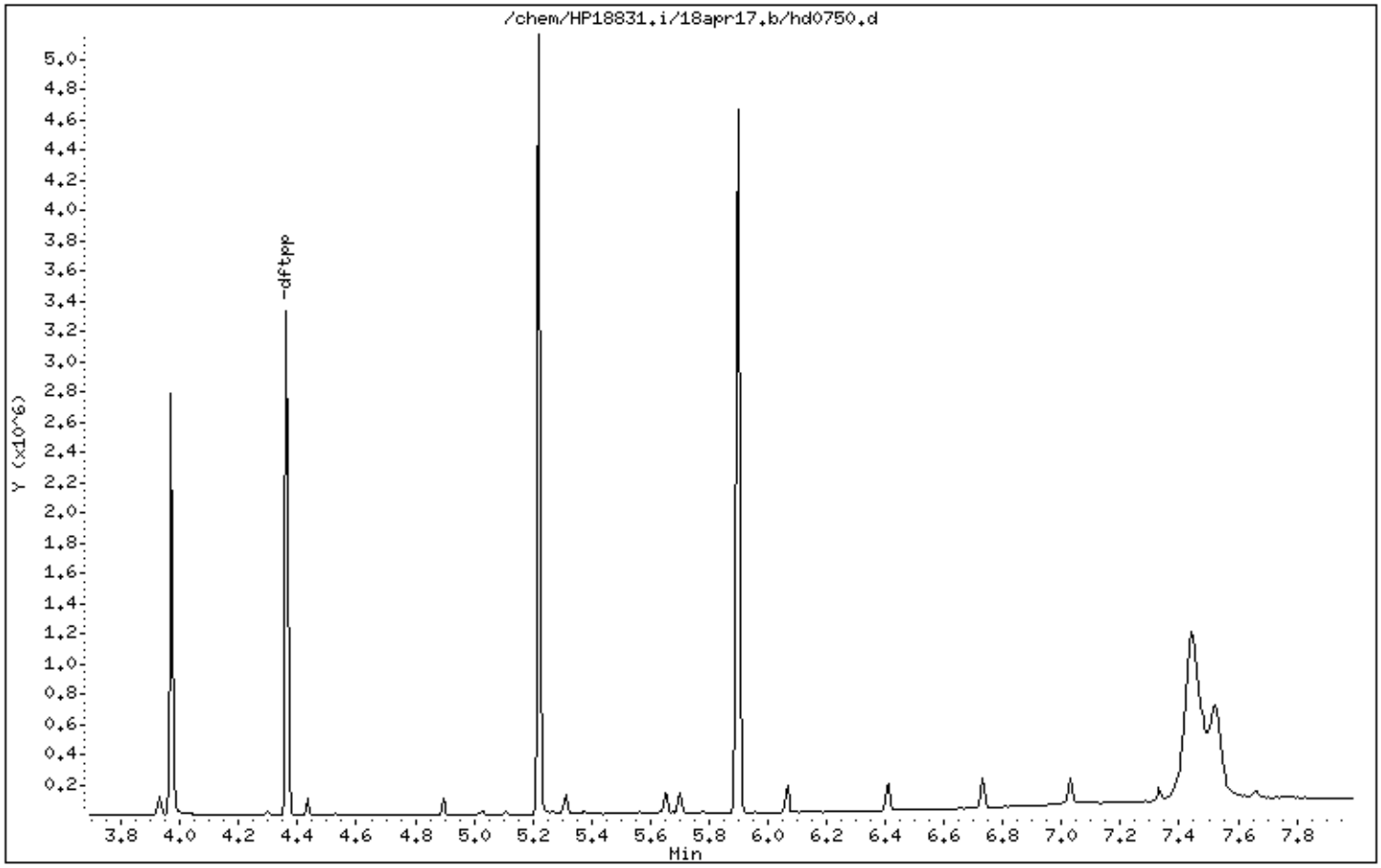
Instrument: HP18831.i

Sample Info: DFTPP;RVDFTPP0878;1;3;DFTPP;

Operator: bhs10208

Column phase: DB-5MS

Column diameter: 0.18



Digitally signed by Brandon H. Smith on 04/18/2018 at 12:39.
Target 3.5 esignature user ID: bhs10208

Data File: /chem/HP18831.i/18apr17.b/hd0750.d

Date : 17-APR-2018 06:05

Client ID: DFTPP

Instrument: HP18831.i

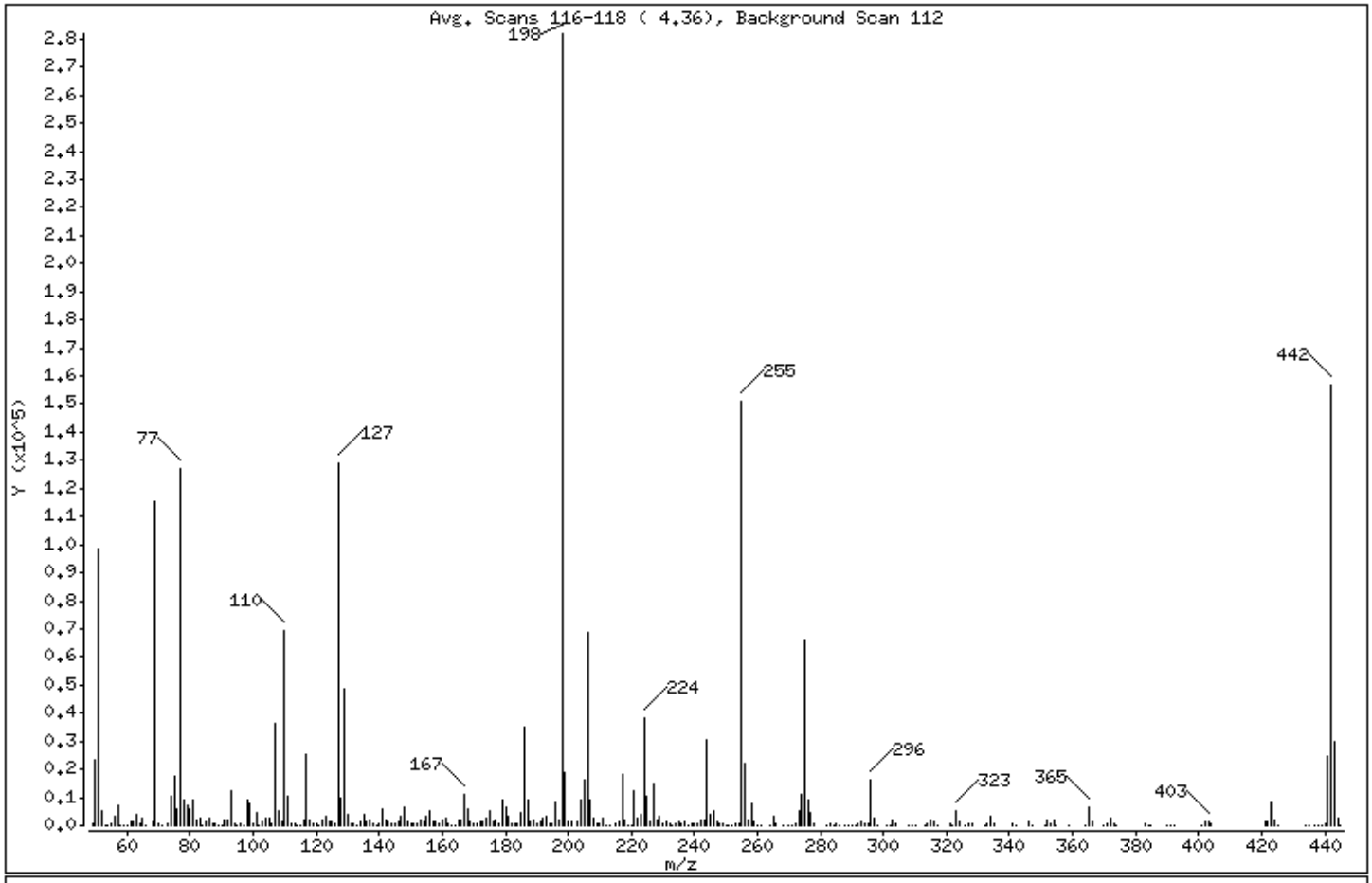
Sample Info: DFTPP;RVDFTPP0878;1;3;DFTPP;

Operator: bhs10208

Column phase: DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	34.98
68	Less than 2.00% of mass 69	0.57 (1.40)
69	Mass 69 relative abundance	40.81
70	Less than 2.00% of mass 69	0.25 (0.62)
127	40.00 - 60.00% of mass 198	45.80
197	Less than 1.00% of mass 198	0.72
199	5.00 - 9.00% of mass 198	6.60
275	10.00 - 30.00% of mass 198	23.54
365	Greater than 1.00% of mass 198	2.25
441	Present, but less than mass 443	8.84
442	40.00 - 99.99% of mass 198	55.61
443	17.00 - 23.00% of mass 442	10.65 (19.15)

Digitally signed by Brandon H. Smith on 04/18/2018 at 12:39.
Target 3.5 esignature user ID: bhs10208

Data File: /chem/HP18831.i/18apr17.b/hd0750.d

Date : 17-APR-2018 06:05

Client ID: DFTPP

Instrument: HP18831.i

Sample Info: DFTPP;RVDFTPP0878;1;3;DFTPP;

Operator: bhs10208

Column phase: DB-5MS

Column diameter: 0.18

Data File: hd0750.d
Spectrum: Avg. Scans 116-118 (4.36), Background Scan 112
Location of Maximum: 198.00
Number of points: 305

m/z	Y	m/z	Y	m/z	Y	m/z	Y
49.00	654	128.00	9848	206.00	68912	292.00	324
50.00	23096	129.00	48488	207.00	8827	293.00	1245
51.00	98552	130.00	4081	208.00	2363	294.00	324
52.00	5042	131.00	761	209.00	749	295.00	385
53.00	51	132.00	489	210.00	785	296.00	16075
54.00	52	133.00	206	211.00	2899	297.00	2475
55.00	458	134.00	1153	212.00	281	298.00	165
56.00	2929	135.00	3789	213.00	231	301.00	255
57.00	7034	136.00	1287	215.00	839	302.00	303
58.00	296	137.00	2021	216.00	1393	303.00	1947
59.00	145	138.00	584	217.00	17848	304.00	527
60.00	64	139.00	209	218.00	2233	308.00	305
61.00	1376	140.00	669	219.00	201	309.00	186
62.00	1536	141.00	5726	220.00	61	310.00	130
63.00	3983	142.00	2189	221.00	12369	313.00	151
64.00	636	143.00	1542	222.00	2628	314.00	862
65.00	2374	144.00	408	223.00	3755	315.00	2140
66.00	316	145.00	449	224.00	37920	316.00	1035
68.00	1609	146.00	1160	225.00	10192	317.00	112
69.00	115008	147.00	3137	226.00	988	321.00	574
70.00	716	148.00	6789	227.00	14710	322.00	273
71.00	70	149.00	1554	228.00	1877	323.00	5123
73.00	832	150.00	451	229.00	3134	324.00	998
74.00	10058	151.00	949	230.00	424	326.00	59
75.00	17240	152.00	480	231.00	1254	327.00	730
76.00	5635	153.00	2101	232.00	359	328.00	447
77.00	127176	154.00	1405	233.00	275	332.00	229
78.00	9361	155.00	3393	234.00	797	333.00	620
79.00	7367	156.00	5466	235.00	1056	334.00	3353
80.00	6009	157.00	1028	236.00	641	335.00	835
81.00	9103	158.00	1003	237.00	1235	341.00	699
82.00	2125	159.00	827	238.00	141	342.00	143
83.00	2283	160.00	1724	239.00	597	346.00	1046
84.00	298	161.00	2885	240.00	493	347.00	174
85.00	1618	162.00	893	241.00	864	351.00	116

Digitally signed by Brandon H. Smith on 04/18/2018 at 12:39.
Target 3.5 esignature user ID: bhs10208

Data File: /chem/HP18831.i/18apr17.b/hd0750.d

Date : 17-APR-2018 06:05

Client ID: DFTPP

Instrument: HP18831.i

Sample Info: DFTPP;RVDFTPP0878;1;3;DFTPP;

Operator: bhs10208

Column phase: DB-5MS

Column diameter: 0.18

Data File: hd0750.d
Spectrum: Avg. Scans 116-118 (4.36), Background Scan 112
Location of Maximum: 198.00
Number of points: 305

m/z	Y	m/z	Y	m/z	Y	m/z	Y
86.00	2274	163.00	205	242.00	2002	352.00	1667
87.00	949	164.00	275	243.00	2218	353.00	947
88.00	440	165.00	2134	244.00	30392	354.00	1734
89.00	244	166.00	1805	245.00	3716	355.00	292
90.00	80	167.00	11157	246.00	5185	359.00	152
91.00	1783	168.00	6062	247.00	1118	364.00	111
92.00	1927	169.00	1133	248.00	331	365.00	6335
93.00	12018	170.00	358	249.00	919	366.00	1028
94.00	962	171.00	485	250.00	285	370.00	118
95.00	271	172.00	1138	251.00	255	371.00	391
96.00	805	173.00	1503	252.00	296	372.00	2585
97.00	133	174.00	2497	253.00	840	373.00	660
98.00	9320	175.00	4942	254.00	956	374.00	55
99.00	7995	176.00	1279	255.00	150912	383.00	801
100.00	672	177.00	2049	256.00	21736	384.00	188
101.00	4476	178.00	772	257.00	1789	385.00	65
102.00	129	179.00	8945	258.00	7557	390.00	269
103.00	1589	180.00	6500	259.00	1358	391.00	204
104.00	2318	181.00	3120	260.00	143	392.00	183
105.00	2542	182.00	583	261.00	227	401.00	169
106.00	702	183.00	324	264.00	240	402.00	1095
107.00	35984	184.00	736	265.00	3212	403.00	1476
108.00	5414	185.00	4434	266.00	476	404.00	510
109.00	985	186.00	34824	268.00	60	421.00	1137
110.00	69560	187.00	8985	270.00	178	422.00	1187
111.00	10417	188.00	1013	271.00	290	423.00	8417
112.00	970	189.00	1918	272.00	582	424.00	1706
113.00	360	190.00	376	273.00	5138	425.00	195
114.00	60	191.00	1020	274.00	10883	434.00	58
115.00	210	192.00	2689	275.00	66344	435.00	132
116.00	2033	193.00	3503	276.00	8824	437.00	186
117.00	25560	194.00	668	277.00	4814	438.00	314
118.00	1998	195.00	620	278.00	875	439.00	222
119.00	331	196.00	8359	282.00	70	440.00	540
120.00	414	197.00	2020	283.00	668	441.00	24920

Digitally signed by Brandon H. Smith on 04/18/2018 at 12:39.
Target 3.5 esignature user ID: bhs10208

Data File: /chem/HP18831.i/18apr17.b/hd0750.d

Date : 17-APR-2018 06:05

Client ID: DFTPP

Instrument: HP18831.i

Sample Info: DFTPP;RVDFTPP0878;1;3;DFTPP;

Operator: bhs10208

Column phase: DB-5MS

Column diameter: 0.18

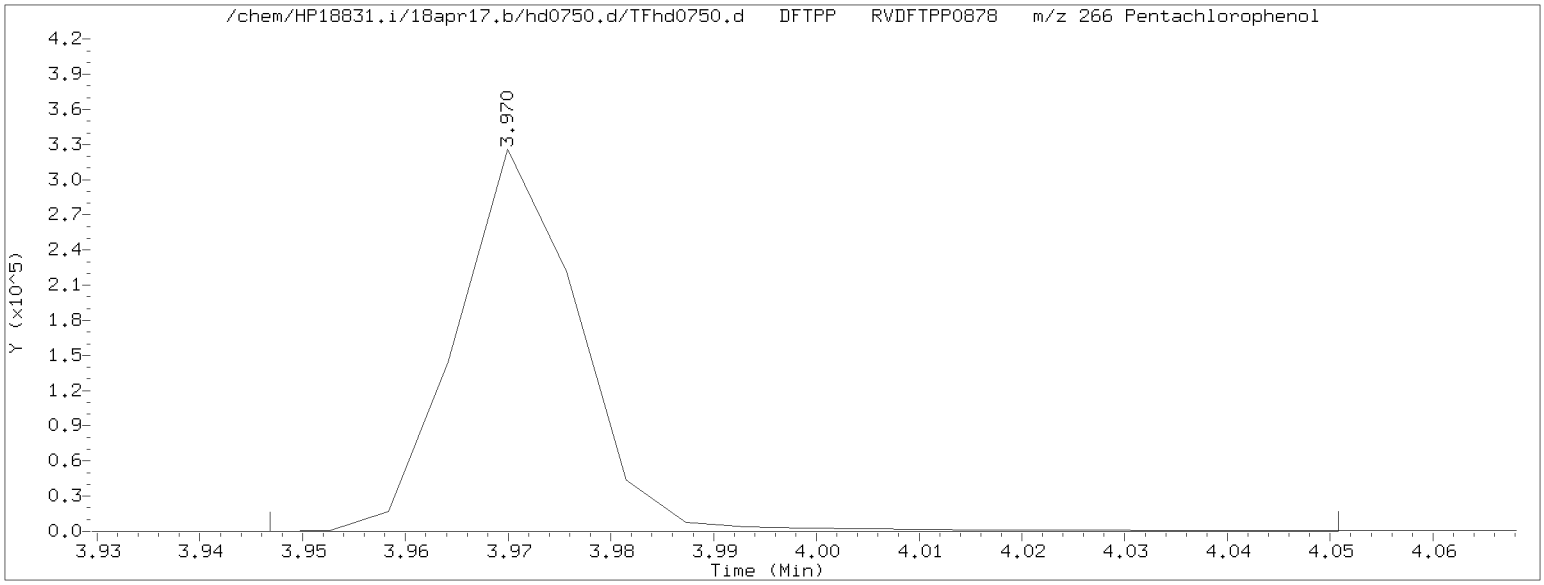
Data File: hd0750.d
Spectrum: Avg. Scans 116-118 (4.36), Background Scan 112
Location of Maximum: 198.00
Number of points: 305

m/z	Y	m/z	Y	m/z	Y	m/z	Y
121.00	111	198.00	281792	284.00	218	442.00	156672
122.00	1921	199.00	18600	285.00	926	443.00	30008
123.00	3231	200.00	1432	286.00	53	444.00	2618
124.00	1375	201.00	1484	288.00	55	445.00	128
125.00	1577	203.00	1548	289.00	211		
126.00	742	204.00	8915	290.00	145		
127.00	129072	205.00	16030	291.00	87		

Digitally signed by Brandon H. Smith on 04/18/2018 at 12:39.
Target 3.5 esignature user ID: bhs10208

Assessment of GC Column Performance and Injection Port Inertness for

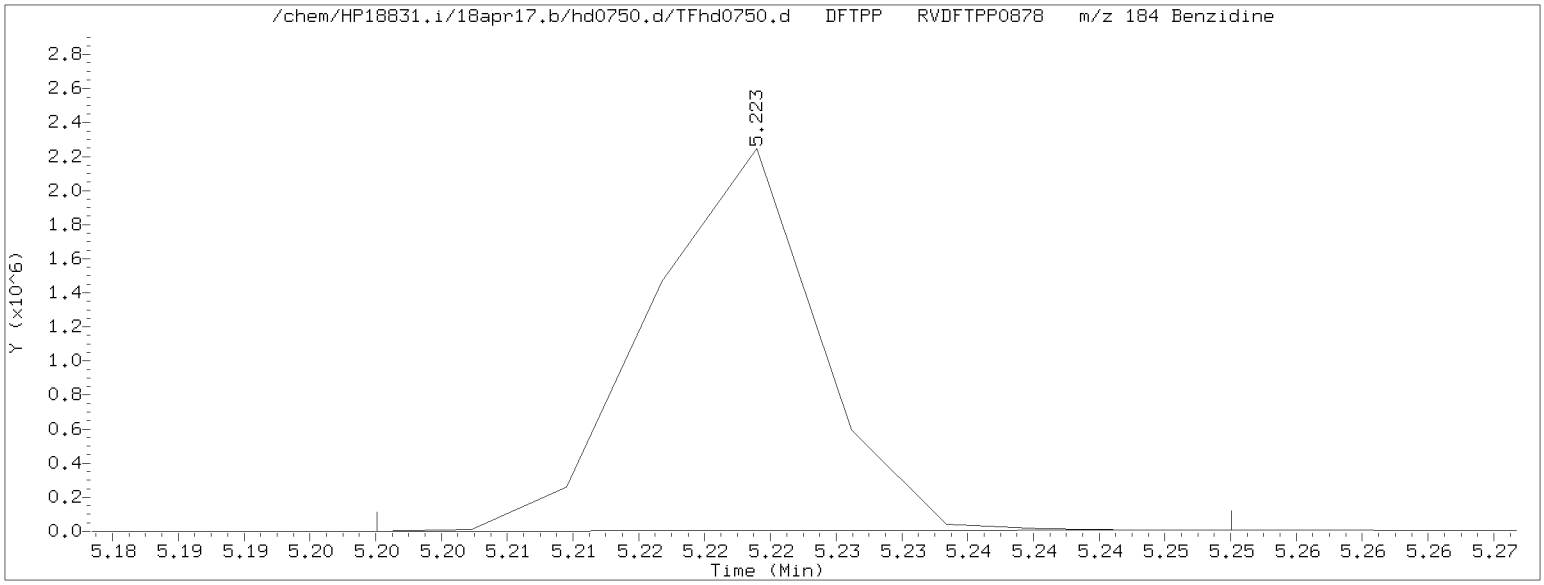
Instrument ID: HP18831.i Injection Date: 17-APR-2018 06:05 Operator: bhs10208



Pentachlorophenol EICP peak height = 326144 EICP peak height at 10% = 32614 Pentachlorophenol EICP area = 269413

Pentachlorophenol EICP peak apex (min.) = 3.970
RT at 10% of front half of EICP (min.) = 3.959 'Front' peak width (min.) = 0.0108166667
RT at 10% of back half of EICP (min.) = 3.983 'Tailing' peak width (min.) = 0.0133166667

$$\text{PCP tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0133166667}{0.0108166667} = 1.231$$



Benzidine EICP peak height = 2243880 EICP peak height at 10% = 224388 Benzidine EICP area = 1601102

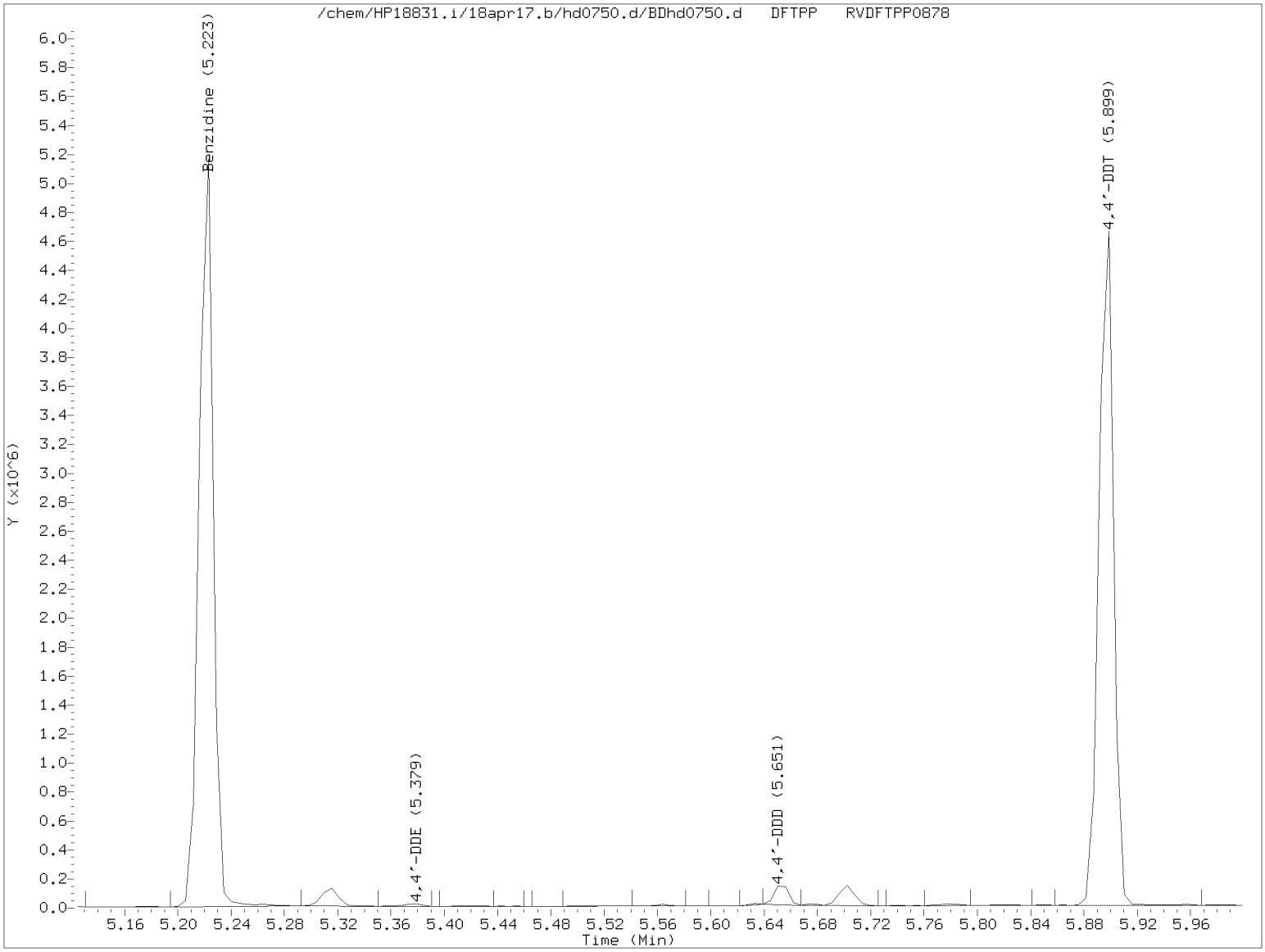
Benzidine EICP peak apex (min.) = 5.223
RT at 10% of front half of EICP (min.) = 5.211 'Front' peak width (min.) = 0.0122833333
RT at 10% of back half of EICP (min.) = 5.233 'Tailing' peak width (min.) = 0.0096166667

$$\text{Benzidine tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0096166667}{0.0122833333} = 0.783$$

Secondary review performed and digitally signed by Matthew E. Barton on 04/18/2018 at 19:16. PARALLAX ID: reb00745

Assessment of GC Column Performance and Injection Port Inertness for

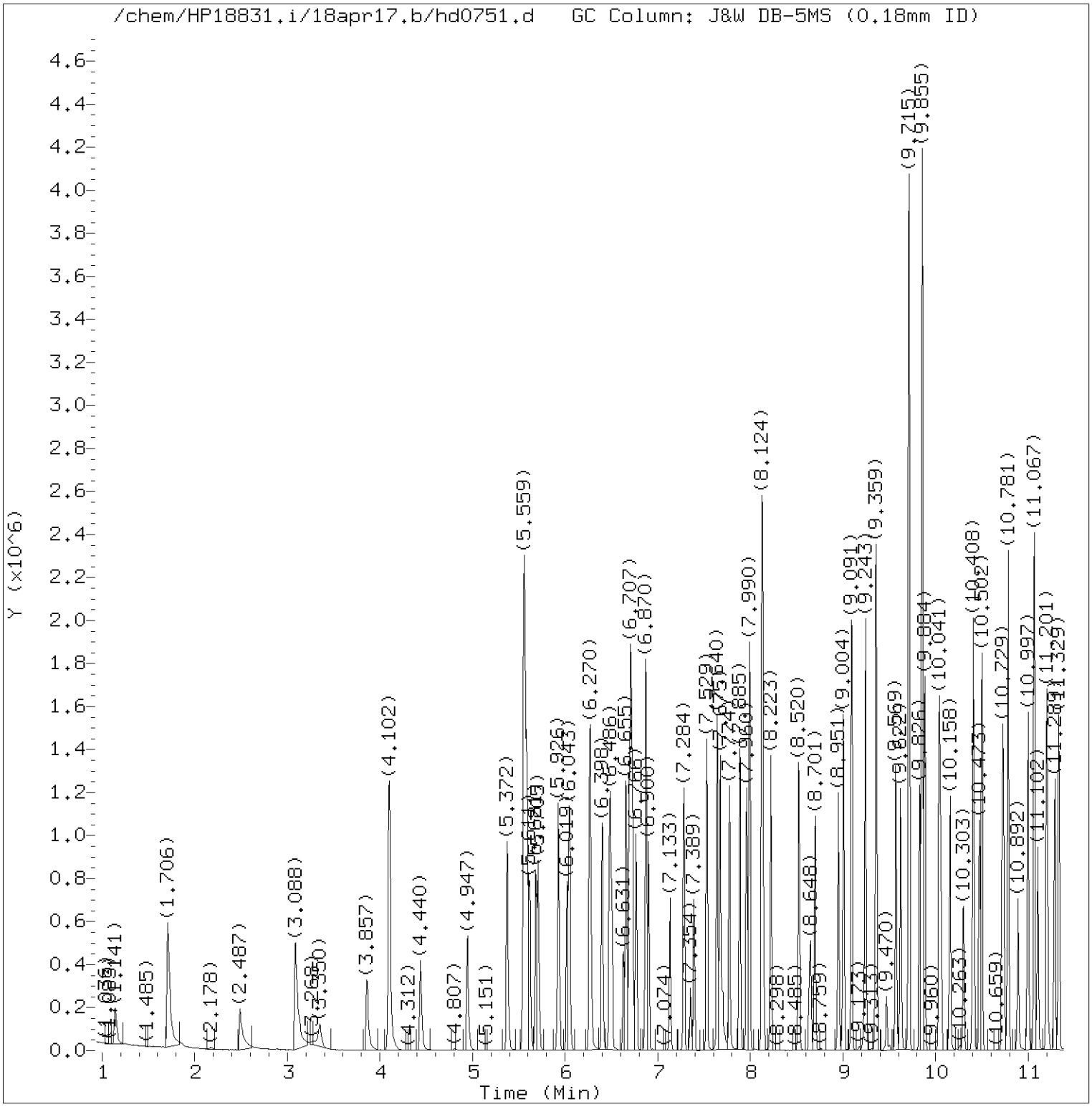
Instrument ID: HP18831.i Injection Date: 17-APR-2018 06:05 Operator: bhs10208



$$\% \text{ 4,4'-DDT breakdown} = \frac{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area}}{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area + 4,4'-DDT TIC area}} \times 100$$

$$\% \text{ 4,4'-DDT breakdown} = \frac{14622 + 101179}{14622 + 101179 + 3581288} \times 100 = 3.1$$

Secondary review performed and digitally signed by Matthew E. Barton on 04/18/2018 at 19:16. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

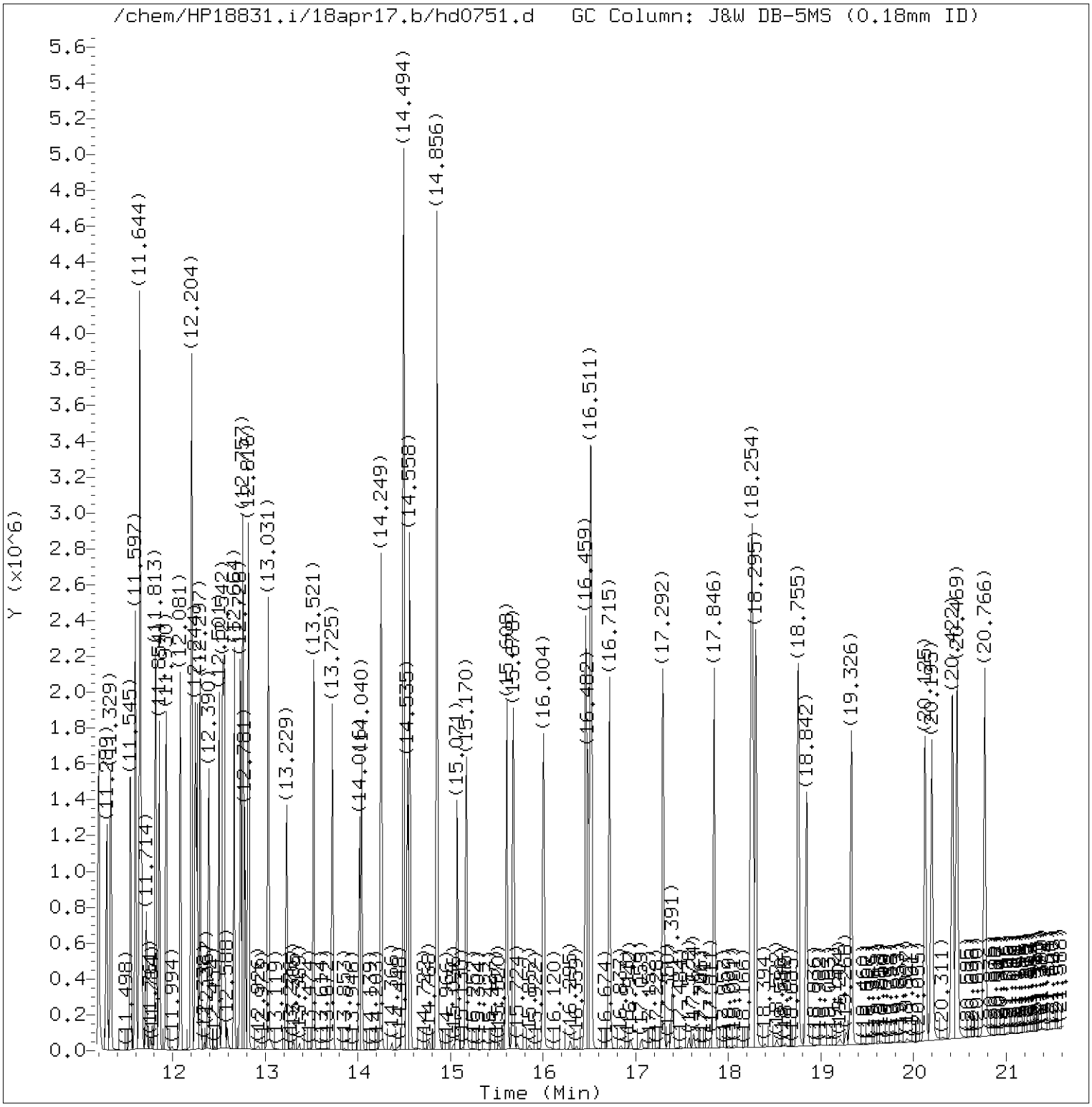
Target Revision 3.5

Data File: /chem/HP18831.i/18apr17.b/hd0751.d Instrument ID: HP18831.i
Injection date and time: 17-APR-2018 06:19 Analyst ID: bhs10208

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 07:01
Date, time and analyst ID of latest file update: 17-Apr-2018 07:01 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0968

Digitally signed by Brandon H. Smith
on 04/17/2018 at 07:07.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/18apr17.b/hd0751.d Instrument ID: HP18831.i
Injection date and time: 17-APR-2018 06:19 Analyst ID: bhs10208

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 07:01
Date, time and analyst ID of latest file update: 17-Apr-2018 07:01 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0968

Digitally signed by Brandon H. Smith
on 04/17/2018 at 07:07.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr17.b/hd0751.d Instrument ID: HP18831.i
Injection date and time: 17-APR-2018 06:19 Analyst ID: bhs10208

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 07:01
Date, time and analyst ID of latest file update: 17-Apr-2018 07:01 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
2) 1,4-Dioxane	(1)	1.141	88	145703	7.071
6) Pyridine	(1)	1.706	79	415563	7.212
5) N-Nitrosodimethylamine	(1)	1.712	74	242964	7.057
8) 2-Picoline	(1)	3.082	93	408597	6.864
9) N-Nitrosomethylethylamine	(1)	3.350	88	173171M	7.338
10) Methyl methanesulfonate	(1)	3.863	80	204765	7.062
12)$2-Fluorophenol	(1)	4.102	112	702154	14.635
14) N-Nitrosodiethylamine	(1)	4.440	102	171253	7.291
16) Ethyl methanesulfonate	(1)	4.947	109	181875	7.223
17) Benzaldehyde	(1)	5.372	77	330539	8.320
20) Aniline	(1)	5.547	93	601288	7.230
18)$Phenol-d6	(1)	5.559	99	937551	14.723
19) Phenol	(1)	5.582	94	500014	6.812
21) a-methylstyrene	(1)	5.617	118	124686	6.877
43) Total Cresols	(1)			717184	14.435
23) bis(2-Chloroethyl)ether	(1)	5.681	93	386037	7.251
24) 2-Chlorophenol	(1)	5.705	128	363762	7.283
25) 1,3-Dichlorobenzene	(1)	5.926	146	407456	7.384
26)*1,4-Dichlorobenzene-d4	(1)	6.019	152	174883	5.000
27) 1,4-Dichlorobenzene	(1)	6.049	146	412827	7.479
29) 1,2-Dichlorobenzene	(1)	6.264	146	391042	7.351
28) Benzyl alcohol	(1)	6.276	108	194920	6.558
31) Indene	(1)	6.398	115	510525	6.936
32) 2-Methylphenol	(1)	6.480	108	336480	7.267
35) bis(2-Chloroisopropyl)ether	(1)	6.503	45	464408	7.236
34) 2,2'-oxybis(1-Chloropropane)	(1)	6.503	45	464408	7.236
36) N-Nitrosopyrrolidine	(1)	6.631	100	184383	7.257
37) Acetophenone	(1)	6.655	105	530031	7.685
39) N-Nitroso-di-n-propylamine	(1)	6.690	70	281235	6.991
40) N-Nitrosomorpholine	(1)	6.701	56	206275	6.995
41) o-Toluidine	(1)	6.707	106	591706	7.336
38) 4-Methylphenol	(1)	6.725	108	380704	7.168
44) Hexachloroethane	(1)	6.766	117	160264	7.116
45)$Nitrobenzene-d5	(2)	6.870	82	833571	14.534
46) Nitrobenzene	(2)	6.900	77	408054	7.160
50) N-Nitrosopiperidine	(2)	7.133	114	178746	7.160
52) Isophorone	(2)	7.284	82	716091	7.057
101) Isosafrole	(3)			300319	6.442
53) 2-Nitrophenol	(2)	7.389	139	178046	7.580
55) 2,4-Dimethylphenol	(2)	7.529	107	354488	6.948

M = Compound was manually integrated.
* = Compound is an internal standard.
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Digitally signed by Brandon H. Smith
on 04/17/2018 at 07:07.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr17.b/hd0751.d Instrument ID: HP18831.i
Injection date and time: 17-APR-2018 06:19 Analyst ID: bhs10208

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 07:01
Date, time and analyst ID of latest file update: 17-Apr-2018 07:01 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
57) O,O,O-Triethylphosphorothioate	(2)	7.640	198	183385	7.096
58) bis(2-Chloroethoxy)methane	(2)	7.675	93	466131	7.223
59) Benzoic acid	(2)	7.704	105	257569	9.010
62) 2,4-Dichlorophenol	(2)	7.774	162	307246	7.211
64) 1,2,4-Trichlorobenzene	(2)	7.885	180	342771	7.317
67)*Naphthalene-d8	(2)	7.960	136	652366	5.000
69) Naphthalene	(2)	7.990	128	1052752	7.364
126) 2,4_2,6-Dinitrotoluenes	(3)			388218	14.619
71) 2,6-Dichlorophenol	(2)	8.124	162	300375	7.287
70) 4-Chloroaniline	(2)	8.124	127	416341	7.069
72) Hexachloropropene	(2)	8.135	213	232680	6.999
74) Hexachlorobutadiene	(2)	8.223	225	207911	7.307
78) Quinoline	(2)	8.520	129	638672	7.021
79) Caprolactam	(2)	8.648	113	95957	7.526
80) N-Nitrosodi-n-butylamine	(2)	8.701	84	269317	6.242
152) Diallate trans/cis	(4)			328946	6.799
83) 4-Chloro-3-methylphenol	(2)	8.951	107	301800	6.897
85) Safrole	(2)	9.004	162	272075	7.049
86) 2-Methylnaphthalene	(2)	9.091	142	712472	7.389
87) 1-Methylnaphthalene	(2)	9.243	142	638206	7.262
88) Hexachlorocyclopentadiene	(3)	9.353	237	205072	6.790
89) 1,2,4,5-Tetrachlorobenzene	(3)	9.359	216	361012	7.269
92) cis-Isosafrole	(3)	9.470	162	48754	1.139
94) 2,4,6-Trichlorophenol	(3)	9.569	196	227678	7.161
96) 2,4,5-Trichlorophenol	(3)	9.622	196	234003	7.132
97)$2-Fluorobiphenyl	(3)	9.715	172	1580603	14.482
98) trans-Isosafrole	(3)	9.831	162	251565	5.303
99) 1,1'-Biphenyl	(3)	9.855	154	865546	7.853
100) 2-Chloronaphthalene	(3)	9.855	162	672728	7.130
102) 1-Chloronaphthalene	(3)	9.884	162	658711	7.623
104) Diphenyl ether	(3)	10.041	170	462120	7.207
105) 2-Nitroaniline	(3)	10.059	138	205679	7.496
109) 1,4-Naphthoquinone	(3)	10.158	158	259503	6.839
110) 1,4-Dinitrobenzene	(3)	10.303	168	104306	7.856
111) Dimethylphthalate	(3)	10.403	163	756211	7.024
112) 1,3-Dinitrobenzene	(3)	10.414	168	114539	7.611
114) 2,6-Dinitrotoluene	(3)	10.473	165	166995	7.318
115) Acenaphthylene	(3)	10.502	152	997189	7.146
118) 3-Nitroaniline	(3)	10.717	138	174825	7.272
119)*Acenaphthene-d10	(3)	10.729	164	330386	5.000

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Digitally signed by Brandon H. Smith
on 04/17/2018 at 07:07.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr17.b/hd0751.d Instrument ID: HP18831.i
Injection date and time: 17-APR-2018 06:19 Analyst ID: bhs10208

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 07:01
Date, time and analyst ID of latest file update: 17-Apr-2018 07:01 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120) Acenaphthene	(3)	10.781	153	682853	7.154
121) 2,4-Dinitrophenol	(3)	10.892	184	124198	10.451
123) Pentachlorobenzene	(3)	10.997	250	316821	7.345
122) 4-Nitrophenol	(3)	11.061	109	97101	6.435
125) Dibenzofuran	(3)	11.067	168	932927	7.211
124) 2,4-Dinitrotoluene	(3)	11.108	165	221223	7.300
127) 1-Naphthylamine	(3)	11.201	143	675505	6.915
128) 2,3,4,6-Tetrachlorophenol	(3)	11.289	232	193965	7.199
129) 2-Naphthylamine	(3)	11.329	143	645157	6.928
130) Diethylphthalate	(3)	11.545	149	715411	6.848
132) Fluorene	(3)	11.597	166	763560	7.217
133) 4-Chlorophenyl-phenylether	(3)	11.644	204	376615	7.334
131) Thionazin	(3)	11.644	107	135020	6.770
134) 5-Nitro-o-toluidine	(3)	11.650	152	207833	7.440
135) 4-Nitroaniline	(3)	11.667	138	180096	7.343
136) 4,6-Dinitro-2-methylphenol	(4)	11.714	198	123432	7.621
138) NDPA as diphenylamine	(4)	11.813	169	611957	7.032
137) N-Nitrosodiphenylamine	(4)	11.813	169	611957	7.032
140) 1,2-Diphenylhydrazine	(4)	11.854	77	789106	6.888
141)$2,4,6-Tribromophenol	(3)	11.930	330	218705	15.211
143) Tetraethyldithiopyrophosphate	(4)	12.081	97	134600	6.787
146) Diallate (peak 1)	(4)	12.198	86	283056	5.679
147) Phorate	(4)	12.204	75	702413	7.446
145) 1,3,5-Trinitrobenzene	(4)	12.204	213	76853	7.795
148) Phenacetin	(4)	12.244	108	374209	6.893
149) 4-Bromophenyl-phenylether	(4)	12.262	248	230526	7.282
150) Diallate (peak 2)	(4)	12.297	86	45890	1.120
151) Hexachlorobenzene	(4)	12.297	284	238654	7.396
153) Dimethoate	(4)	12.390	87	314903	6.952
154) Atrazine	(4)	12.501	200	216147	7.803
156) Pentachlorophenol	(4)	12.536	266	129828	6.482
158) Pentachloronitrobenzene	(4)	12.542	237	104471	7.156
157) 4-Aminobiphenyl	(4)	12.559	169	719459	7.220
159) Pronamide	(4)	12.664	173	356393	6.968
160)*Phenanthrene-d10	(4)	12.734	188	663389	5.000
162) Phenanthrene	(4)	12.757	178	1113482	7.206
161) Dinoseb	(4)	12.781	211	210823	8.070
164) Anthracene	(4)	12.816	178	1153193	7.310
170) Carbazole	(4)	13.031	167	995536	7.064
171) Methyl parathion	(4)	13.229	109	251347	7.337

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on 04/17/2018 at 07:07.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr17.b/hd0751.d Instrument ID: HP18831.i
Injection date and time: 17-APR-2018 06:19 Analyst ID: bhs10208

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 07:01
Date, time and analyst ID of latest file update: 17-Apr-2018 07:01 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
173) Di-n-butylphthalate	(4)	13.521	149	1247686	6.806
176) 4-Nitroquinoline-1-oxide	(4)	13.719	190	91863	6.661
175) Parathion	(4)	13.725	109	162872	7.196
177) Octachlorostyrene	(4)	14.016	308	84555	6.793
179) Isodrin	(4)	14.040	193	132326	7.093
181) Fluoranthene	(4)	14.249	202	1308298	7.214
182) Benzidine	(5)	14.494	184	2359529	21.081
183)*Pyrene-d10	(5)	14.535	212	713078	5.000
185) Pyrene	(5)	14.558	202	1362798	7.219
187)$Terphenyl-d14	(5)	14.856	244	1834630	14.600
230) Total PAHs	(6)			19754758	130.012
190) p-Dimethylaminoazobenzene	(5)	15.071	225	214234	6.991
193) Chlorobenzilate	(5)	15.170	139	371805	6.717
195) 3,3'-Dimethylbenzidine	(5)	15.608	212	849867	6.823
196) Butylbenzylphthalate	(5)	15.678	149	579804	6.984
199) 2-Acetylaminofluorene	(5)	16.004	181	526022	6.840
204) Benzo(a)anthracene	(5)	16.459	228	1276957	7.291
201) 3,3'-Dichlorobenzidine	(5)	16.482	252	463410	6.977
203) 4,4'-Methylenebis(2-chloroanil	(5)	16.511	231	263303	6.995
205) Chrysene	(5)	16.517	228	1258726	7.525
207) bis(2-Ethylhexyl)phthalate	(5)	16.715	149	830309	6.832
211) 6-Methylchrysene	(5)	17.292	242	857311	6.986
213) Di-n-octylphthalate	(6)	17.846	149	1479987	6.532
214) Benzo(b)fluoranthene	(6)	18.248	252	1300279	7.048
215) 7,12-Dimethylbenz[a]anthracene	(6)	18.260	256	536396	7.204
216) Benzo(k)fluoranthene	(6)	18.295	252	1283051	7.387
219) Benzo(a)pyrene	(6)	18.755	252	1216432	7.165
221)*Perylene-d12	(6)	18.842	264	734642	5.000
223) 3-Methylcholanthrene	(6)	19.326	268	581628	6.824
225) Dibenz(a,h)acridine	(6)	20.125	279	1043568	6.723
226) Dibenz(a,j)acridine	(6)	20.201	279	1072451	6.885
227) Indeno(1,2,3-cd)pyrene	(6)	20.422	276	1183162M	7.059
228) Dibenz(a,h)anthracene	(6)	20.469	278	1216186	7.055
229) Benzo(g,h,i)perylene	(6)	20.766	276	1235162	7.003

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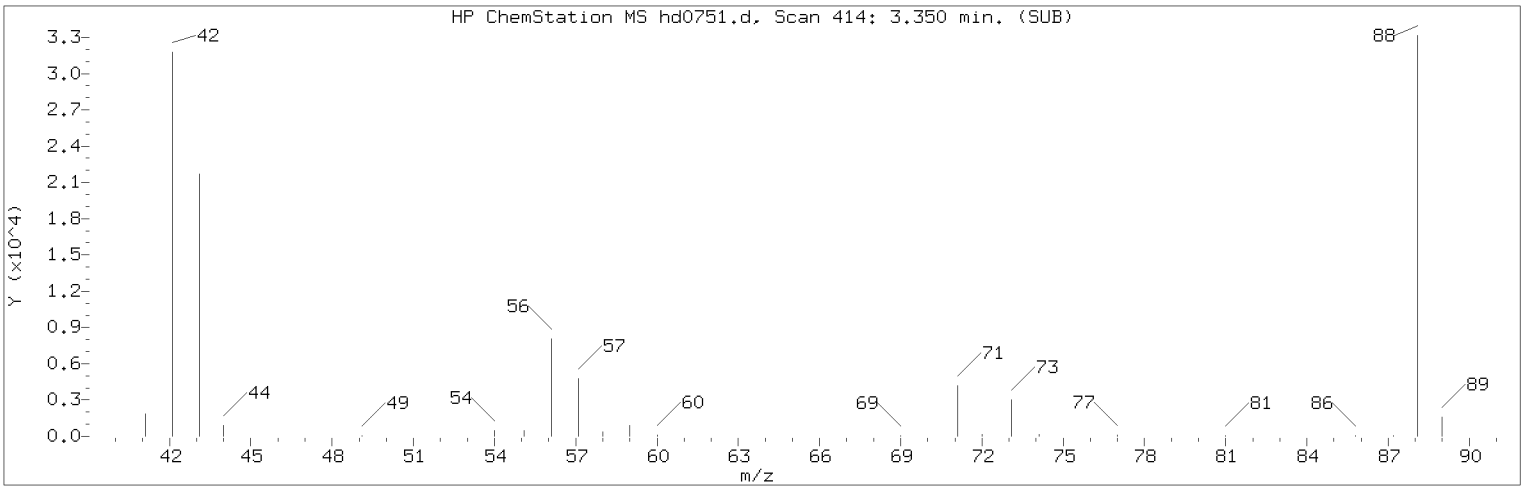
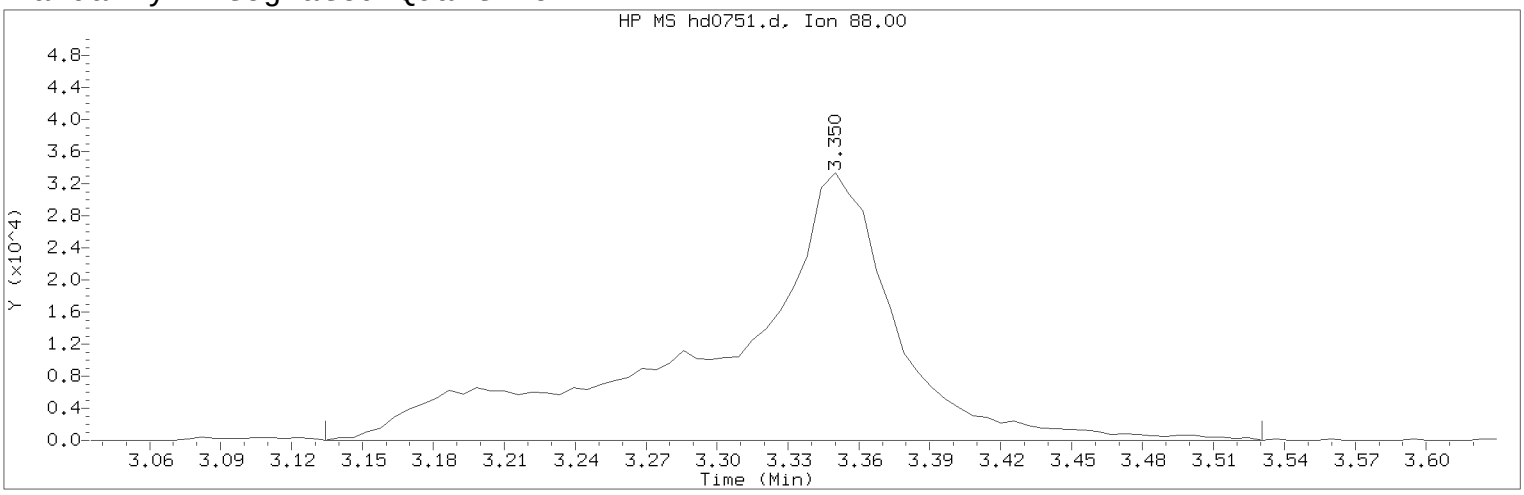
on 04/17/2018 at 07:07.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr17.b/hd0751.d Instrument ID: HP18831.i
Injection date and time: 17-APR-2018 06:19 Analyst ID: bhs10208

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 07:01
Date, time and analyst ID of latest file update: 17-Apr-2018 07:01 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0968

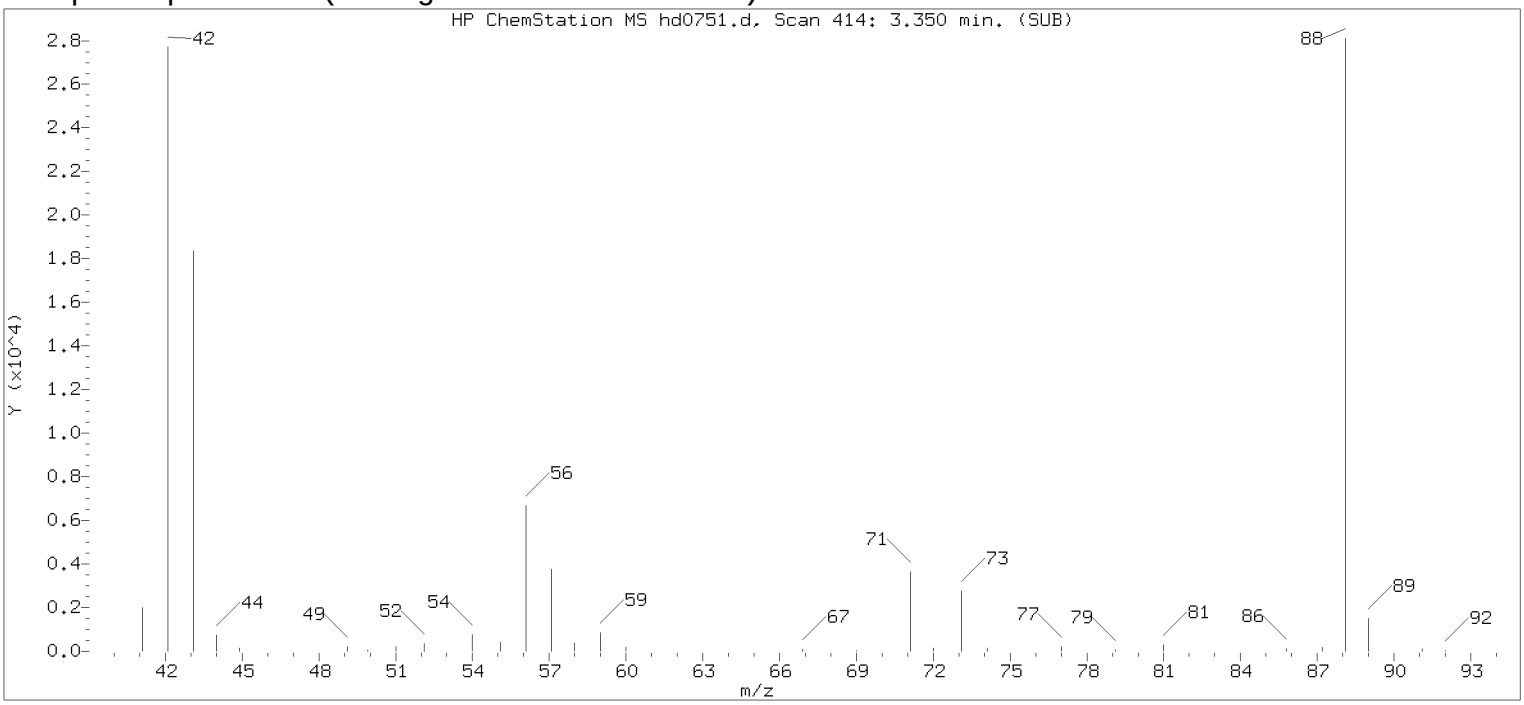
Compound Number : 9
Compound Name : N-Nitrosomethylethylamine
Scan Number : 414
Retention Time (minutes) : 3.350
Quant Ion : 88.00
Area (flag) : 173171M
On-Column Amount (ng/ul) : 7.3383
Integration start scan : 376 Integration stop scan: 444
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

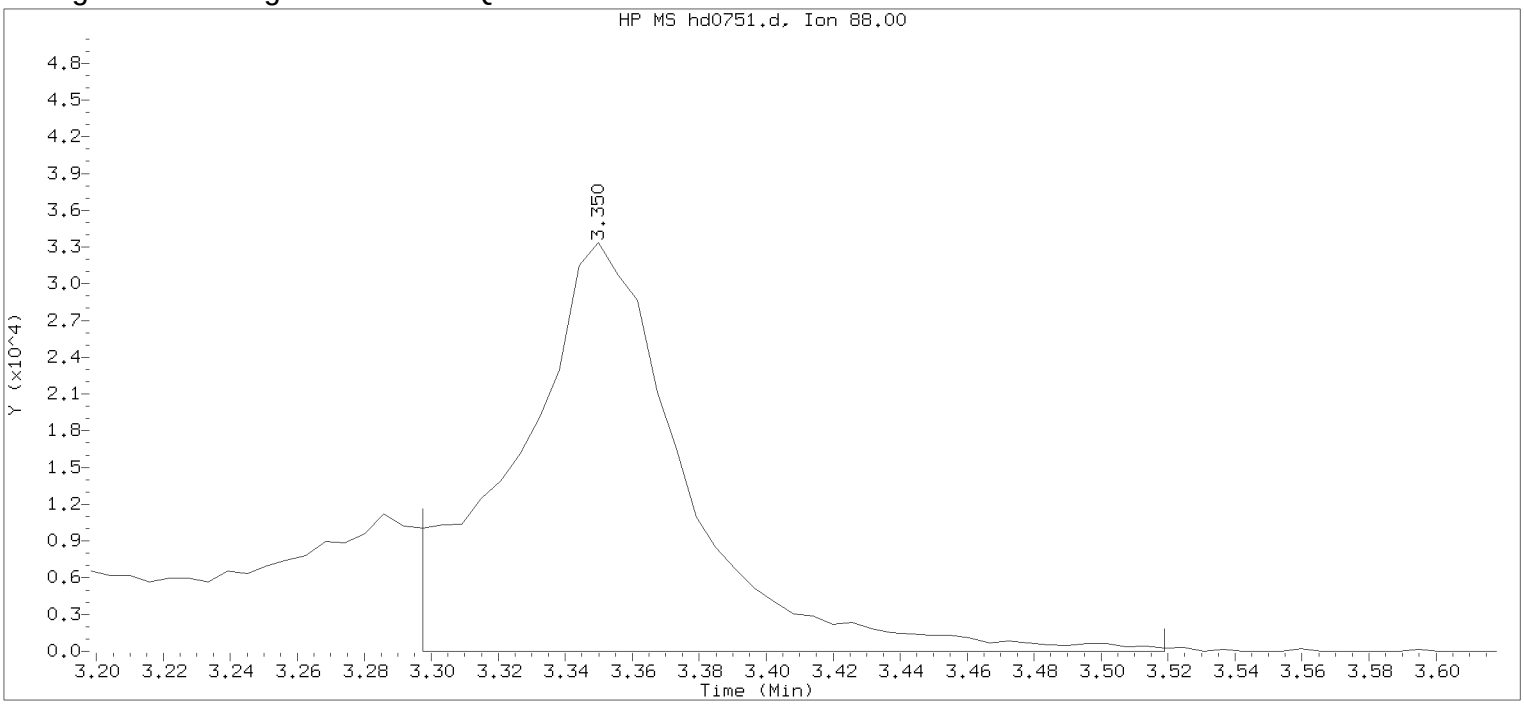
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/17/2018 at 07:07.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 04/18/2018 at 19:16.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr17.b/hd0751.d Instrument ID: HP18831.i
Injection date and time: 17-APR-2018 06:19 Analyst ID: bhs10208

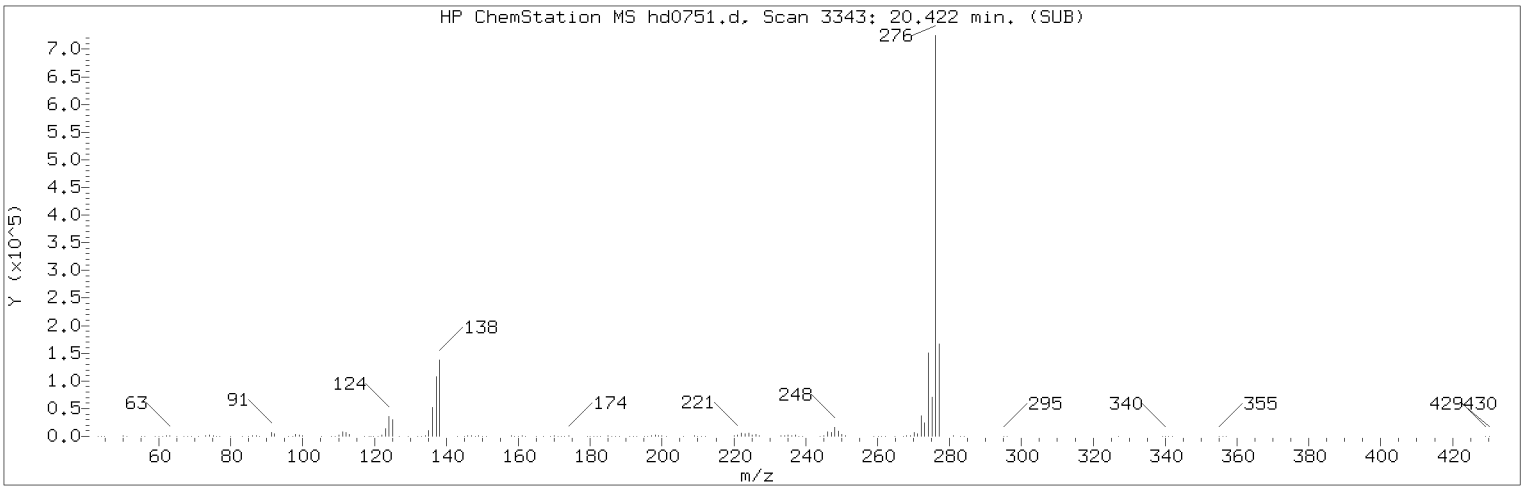
Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 06:58
Date, time and analyst ID of latest file update: 17-Apr-2018 06:58 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0968

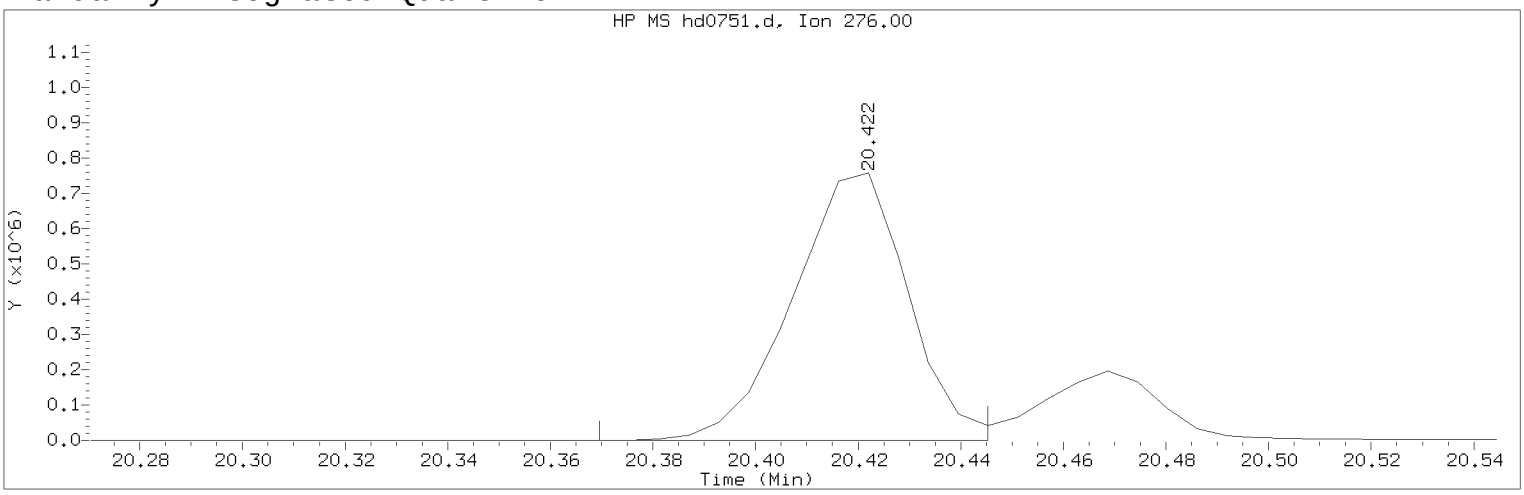
Compound Number : 9
Compound Name : N-Nitrosomethylethylamine
Scan Number : 414
Retention Time (minutes) : 3.350
Quant Ion : 88.00
Area : 116132
On-column Amount (ng/ul) : 4.9212
Integration start scan : 404 Integration stop scan: 442
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/17/2018 at 07:07.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/18apr17.b/hd0751.d Instrument ID: HP18831.i
Injection date and time: 17-APR-2018 06:19 Analyst ID: bhs10208

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 07:01
Date, time and analyst ID of latest file update: 17-Apr-2018 07:01 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0968

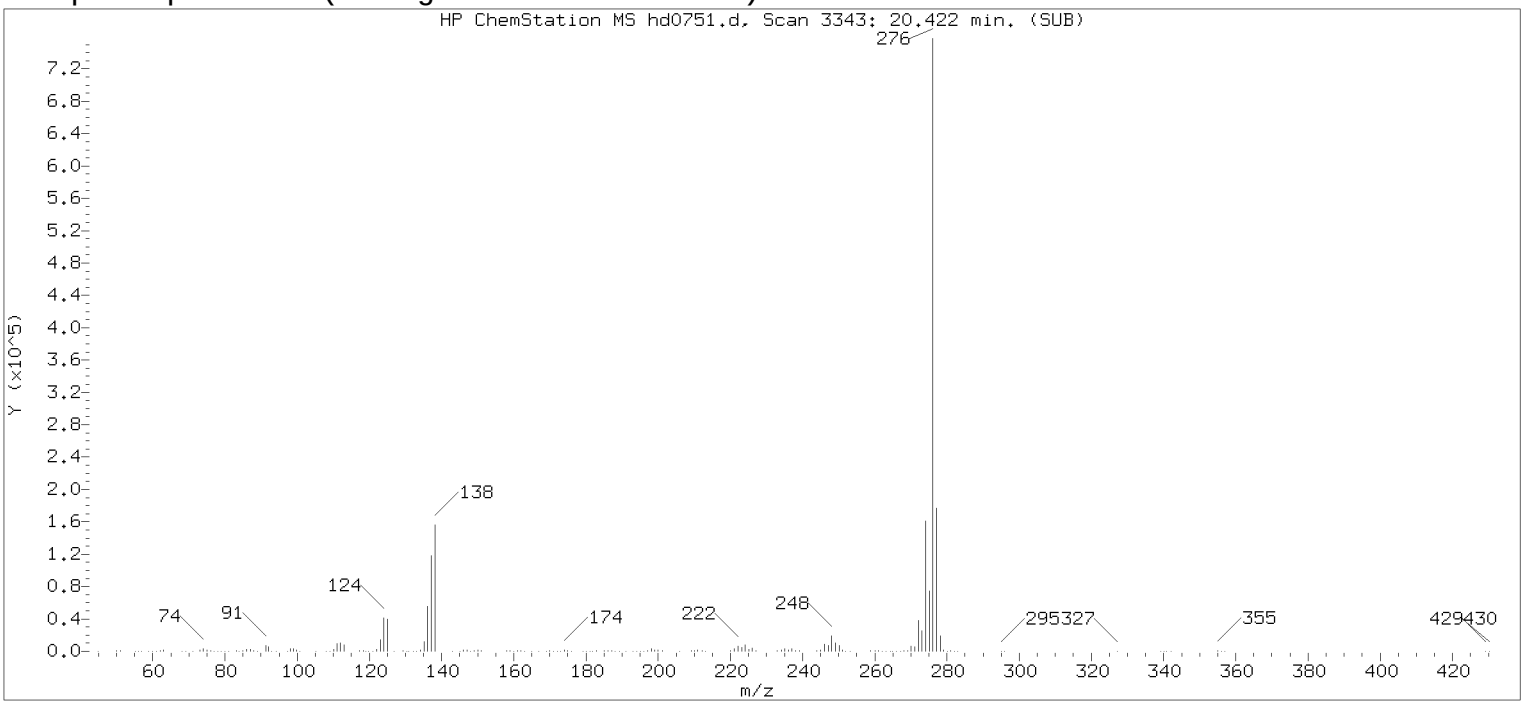
Compound Number : 227
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3343
Retention Time (minutes) : 20.422
Quant Ion : 276.00
Area (flag) : 1183162M
On-Column Amount (ng/ul) : 7.0588
Integration start scan : 3333 Integration stop scan: 3346
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

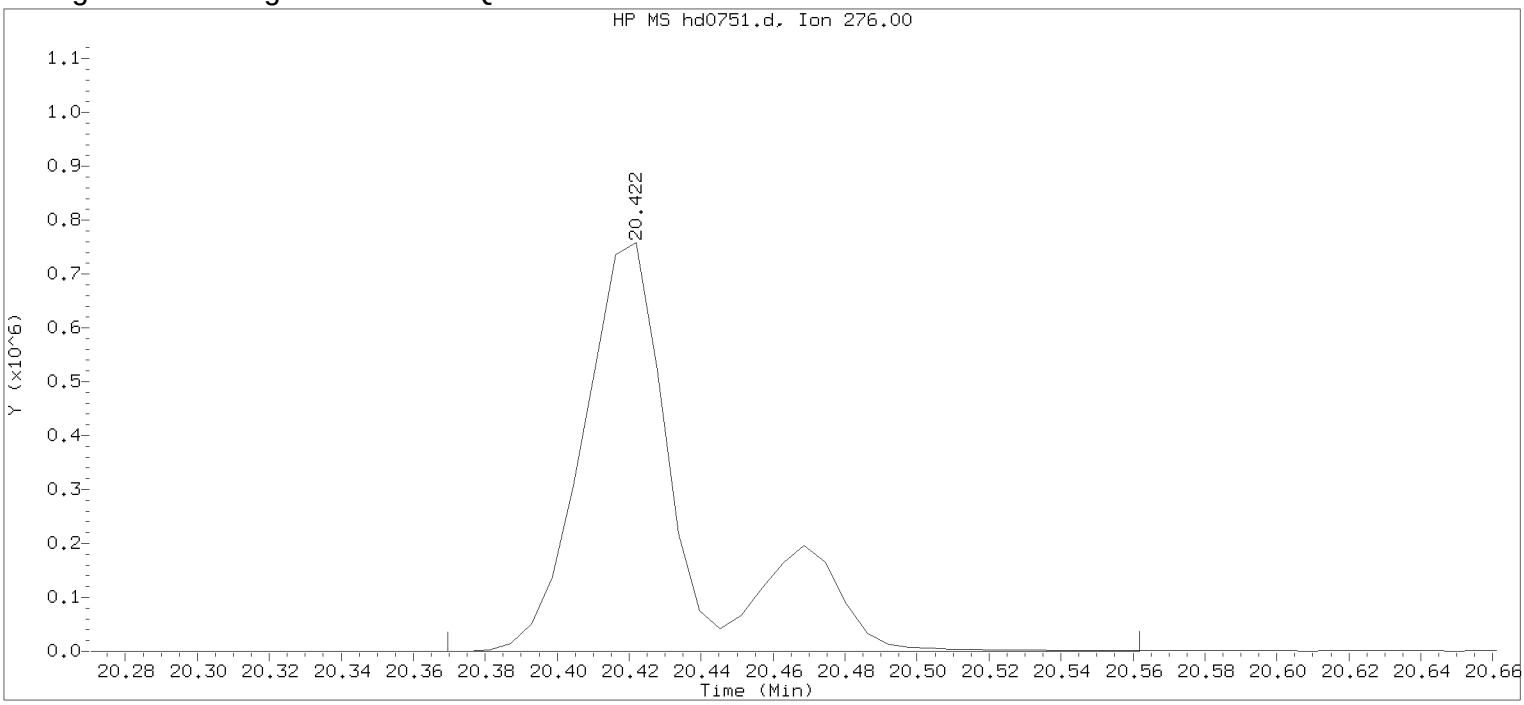
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/17/2018 at 07:07. Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 04/18/2018 at 19:16.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/18apr17.b/hd0751.d Instrument ID: HP18831.i
Injection date and time: 17-APR-2018 06:19 Analyst ID: bhs10208

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 06:58
Date, time and analyst ID of latest file update: 17-Apr-2018 06:58 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0968

Compound Number : 227
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3343
Retention Time (minutes) : 20.422
Quant Ion : 276.00
Area : 1490315
On-column Amount (ng/ul) : 8.8913
Integration start scan : 3333 Integration stop scan: 3366
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/17/2018 at 07:07.
Target 3.5 esignature user id: bhs10208

Data File: /chem/HP23264.i/18apr14.b/jd0620.d

Date : 14-APR-2018 14:02

Client ID: DFTPP12.5

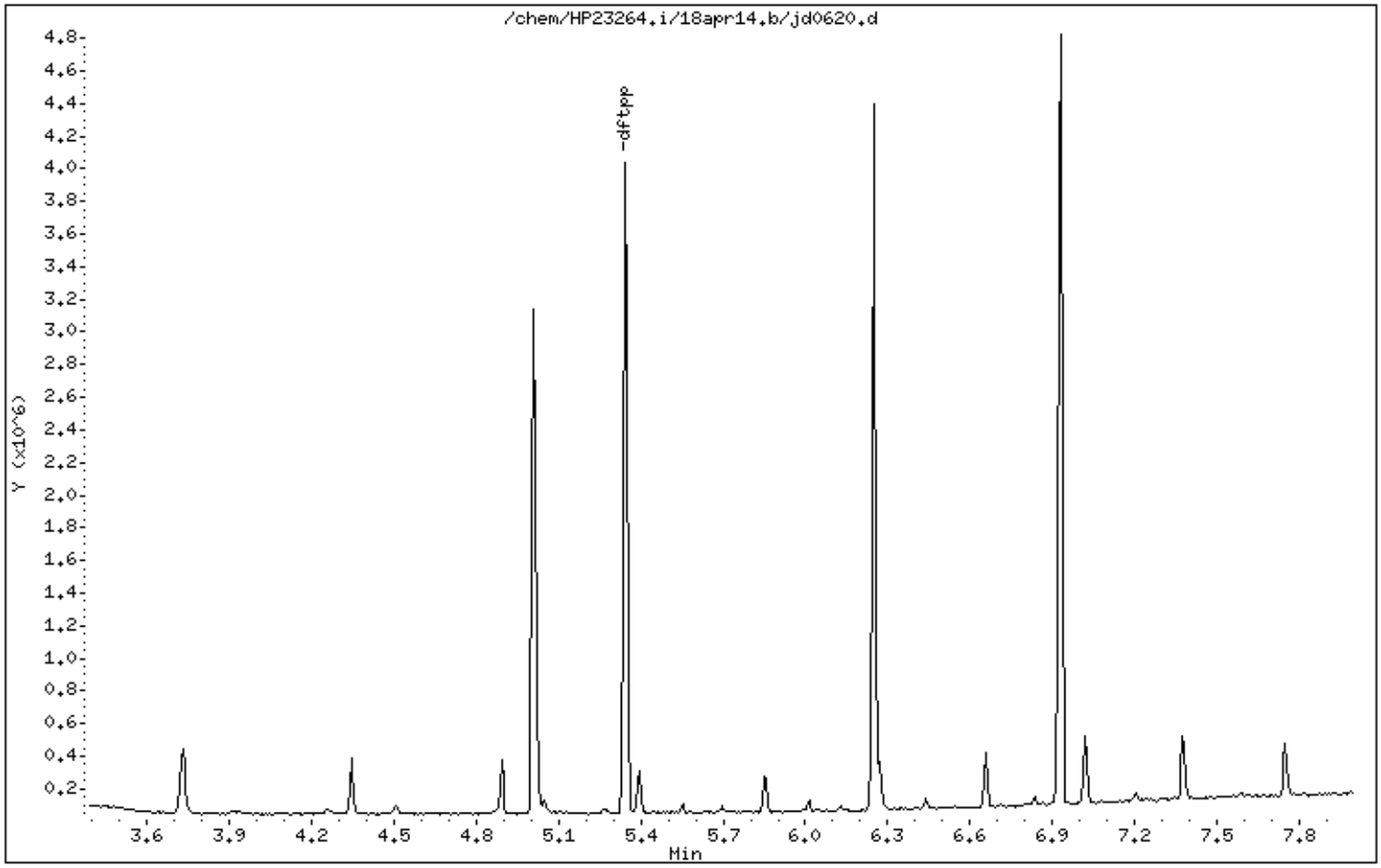
Instrument: HP23264.i

Sample Info: DFTPP12.5;DFTPP0108;1;3;DFTPP;

Operator: knk25316

Column phase: DB-5MS

Column diameter: 0.18



Digitally signed by Kira N. Klaassen on 04/15/2018 at 14:19.
Target 3.5 esignature user ID: knk25316

Data File: /chem/HP23264.i/18apr14.b/jd0620.d

Date : 14-APR-2018 14:02

Client ID: DFTPP12.5

Instrument: HP23264.i

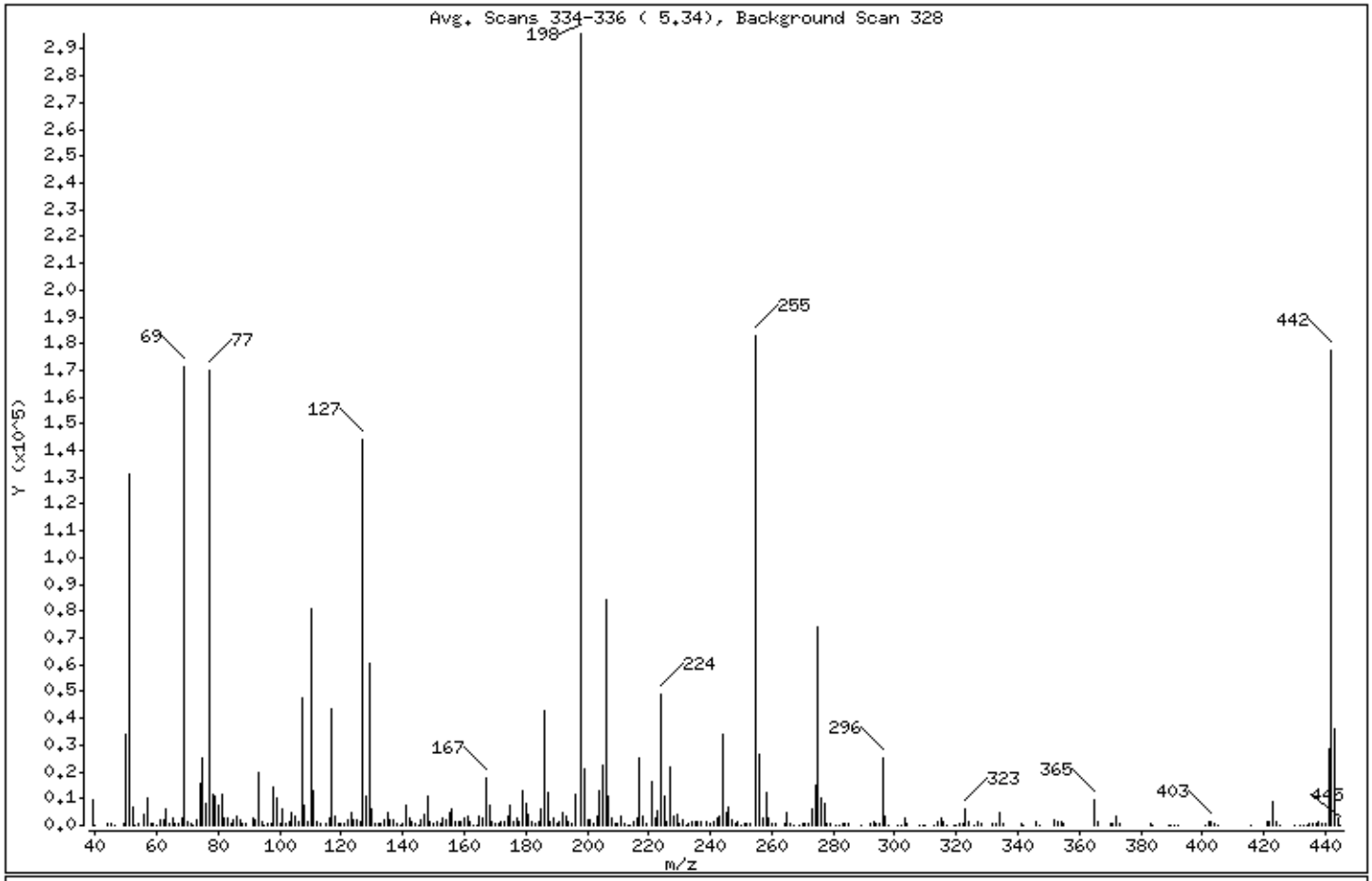
Sample Info: DFTPP12.5;DFTPP0108;1;3;DFTPP;

Operator: knk25316

Column phase: DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	44.38
68	Less than 2.00% of mass 69	0.96 (1.66)
69	Mass 69 relative abundance	57.91
70	Less than 2.00% of mass 69	0.42 (0.73)
127	40.00 - 60.00% of mass 198	48.83
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	7.11
275	10.00 - 30.00% of mass 198	25.15
365	Greater than 1.00% of mass 198	3.22
441	Present, but less than mass 443	9.67
442	40.00 - 99.99% of mass 198	60.10
443	17.00 - 23.00% of mass 442	12.15 (20.21)

Digitally signed by Kira N. Klaassen on 04/15/2018 at 14:19.
Target 3.5 esignature user ID: knk25316

Data File: /chem/HP23264.i/18apr14.b/jd0620.d

Date : 14-APR-2018 14:02

Client ID: DFTPP12.5 Instrument: HP23264.i

Sample Info: DFTPP12.5;DFTPP0108;1;3;DFTPP;

Operator: knk25316

Column phase: DB-5MS Column diameter: 0.18

Data File: jd0620.d
Spectrum: Avg. Scans 334-336 (5.34), Background Scan 328
Location of Maximum: 198.00
Number of points: 310

m/z	Y	m/z	Y	m/z	Y	m/z	Y
39.00	9285	125.00	2356	204.00	13139	294.00	574
40.00	25	126.00	1226	205.00	22488	295.00	852
44.00	734	127.00	144384	206.00	84072	296.00	25016
45.00	438	128.00	10980	207.00	10554	297.00	3333
46.00	94	129.00	60584	208.00	2837	298.00	268
49.00	697	130.00	5803	209.00	987	301.00	249
50.00	34200	131.00	910	210.00	879	302.00	309
51.00	131264	132.00	807	211.00	3303	303.00	2589
52.00	6498	133.00	380	212.00	446	304.00	762
53.00	87	134.00	1945	213.00	294	308.00	190
54.00	407	135.00	4484	214.00	112	309.00	329
56.00	4144	136.00	1846	215.00	1298	310.00	273
57.00	10137	137.00	2227	216.00	2674	313.00	159
58.00	739	138.00	816	217.00	25248	314.00	1118
59.00	576	139.00	114	218.00	3432	315.00	2838
60.00	89	140.00	730	219.00	641	316.00	1467
61.00	1821	141.00	7464	221.00	16027	317.00	199
62.00	1926	142.00	2710	222.00	2904	319.00	112
63.00	6214	143.00	1441	223.00	5316	320.00	87
64.00	929	144.00	841	224.00	48696	321.00	551
65.00	2997	145.00	144	225.00	10911	322.00	521
66.00	463	146.00	1754	226.00	1343	323.00	6040
67.00	389	147.00	4071	227.00	21496	324.00	1206
68.00	2840	148.00	11096	228.00	3099	326.00	337
69.00	171264	149.00	1626	229.00	4234	327.00	1367
70.00	1251	150.00	870	230.00	668	328.00	673
71.00	394	151.00	1058	231.00	1943	332.00	610
72.00	269	152.00	485	232.00	267	333.00	622
73.00	1939	153.00	2494	233.00	445	334.00	4544
74.00	15451	154.00	1751	234.00	1428	335.00	856
75.00	25448	155.00	4480	235.00	1480	341.00	552
76.00	8273	156.00	6247	236.00	1172	342.00	184
77.00	170176	157.00	1225	237.00	1393	346.00	1404
78.00	11267	158.00	1528	239.00	1324	347.00	166
79.00	11215	159.00	1029	240.00	733	352.00	1854

Digitally signed by Kira N. Klaassen on 04/15/2018 at 14:19.
Target 3.5 esignature user ID: knk25316

Data File: /chem/HP23264.i/18apr14.b/jd0620.d

Date : 14-APR-2018 14:02

Client ID: DFTPP12.5 Instrument: HP23264.i

Sample Info: DFTPP12.5;DFTPP0108;1;3;DFTPP;

Operator: knk25316

Column phase: DB-5MS Column diameter: 0.18

Data File: jd0620.d
Spectrum: Avg. Scans 334-336 (5.34), Background Scan 328
Location of Maximum: 198.00
Number of points: 310

m/z	Y	m/z	Y	m/z	Y	m/z	Y
80.00	7702	160.00	2554	241.00	1498	353.00	1402
81.00	11266	161.00	3668	242.00	2768	354.00	1576
82.00	2515	162.00	1117	243.00	3132	355.00	402
83.00	2534	163.00	306	244.00	34208	365.00	9531
84.00	564	164.00	309	245.00	4890	366.00	1546
85.00	2050	165.00	3310	246.00	7003	370.00	450
86.00	3341	166.00	2770	247.00	1871	371.00	573
87.00	1742	167.00	17392	248.00	430	372.00	3326
88.00	485	168.00	7400	249.00	1474	373.00	604
89.00	474	169.00	1442	250.00	322	383.00	492
91.00	2618	170.00	428	251.00	744	384.00	145
92.00	2366	171.00	833	252.00	876	389.00	126
93.00	19528	172.00	1695	253.00	999	390.00	244
94.00	1563	173.00	1525	255.00	182656	391.00	203
95.00	279	174.00	3393	256.00	26416	392.00	105
96.00	621	175.00	7264	257.00	2517	401.00	103
97.00	571	176.00	1645	258.00	12462	402.00	1181
98.00	14339	177.00	2791	259.00	2449	403.00	1607
99.00	10478	178.00	1377	260.00	345	404.00	549
100.00	951	179.00	13210	261.00	500	405.00	100
101.00	6359	180.00	8069	264.00	385	416.00	86
102.00	610	181.00	4216	265.00	4485	421.00	1315
103.00	1671	182.00	1054	266.00	949	422.00	1102
104.00	4450	183.00	549	267.00	93	423.00	8772
105.00	3636	184.00	1021	269.00	214	424.00	1529
106.00	1103	185.00	5937	270.00	407	425.00	94
107.00	47416	186.00	42680	271.00	734	430.00	120
108.00	7211	187.00	12150	272.00	766	432.00	182
109.00	1581	188.00	1378	273.00	5820	433.00	169
110.00	80968	189.00	2995	274.00	14769	434.00	222
111.00	12809	190.00	888	275.00	74392	435.00	481
112.00	1457	191.00	1305	276.00	10407	436.00	788
113.00	669	192.00	5053	277.00	7845	437.00	852
115.00	630	193.00	3738	278.00	906	438.00	1317
116.00	2722	194.00	1320	279.00	406	439.00	354

Digitally signed by Kira N. Klaassen on 04/15/2018 at 14:19.
Target 3.5 esignature user ID: knk25316

Data File: /chem/HP23264.i/18apr14.b/jd0620.d

Date : 14-APR-2018 14:02

Client ID: DFTPP12.5 Instrument: HP23264.i

Sample Info: DFTPP12.5;DFTPP0108;1;3;DFTPP;

Operator: knk25316

Column phase: DB-5MS Column diameter: 0.18

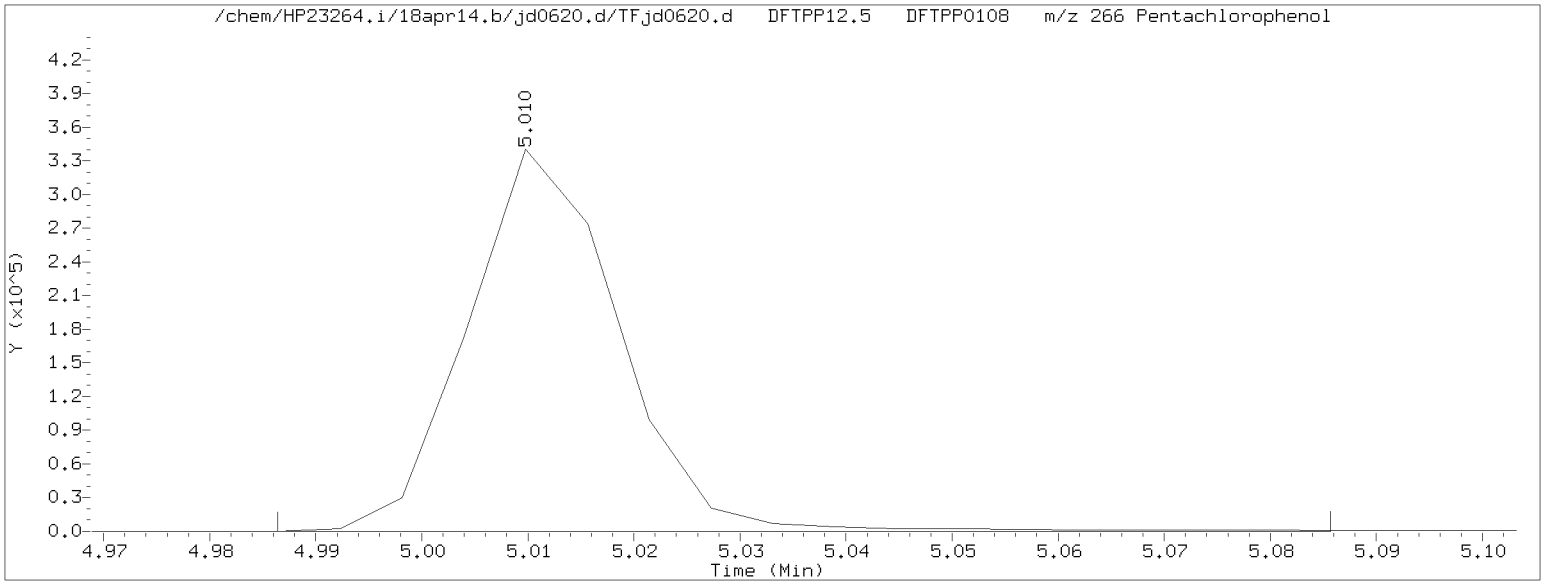
Data File: jd0620.d
Spectrum: Avg. Scans 334-336 (5.34), Background Scan 328
Location of Maximum: 198.00
Number of points: 310

m/z	Y	m/z	Y	m/z	Y	m/z	Y
117.00	43256	195.00	381	281.00	150	440.00	840
118.00	3623	196.00	11449	282.00	271	441.00	28600
119.00	922	198.00	295744	283.00	896	442.00	177728
120.00	638	199.00	21016	284.00	559	443.00	35936
121.00	478	200.00	1950	285.00	908	444.00	2993
122.00	2244	201.00	1847	289.00	110	445.00	217
123.00	4862	202.00	910	292.00	443		
124.00	2080	203.00	3273	293.00	1218		

Digitally signed by Kira N. Klaassen on 04/15/2018 at 14:19.
Target 3.5 esignature user ID: knk25316

Assessment of GC Column Performance and Injection Port Inertness for

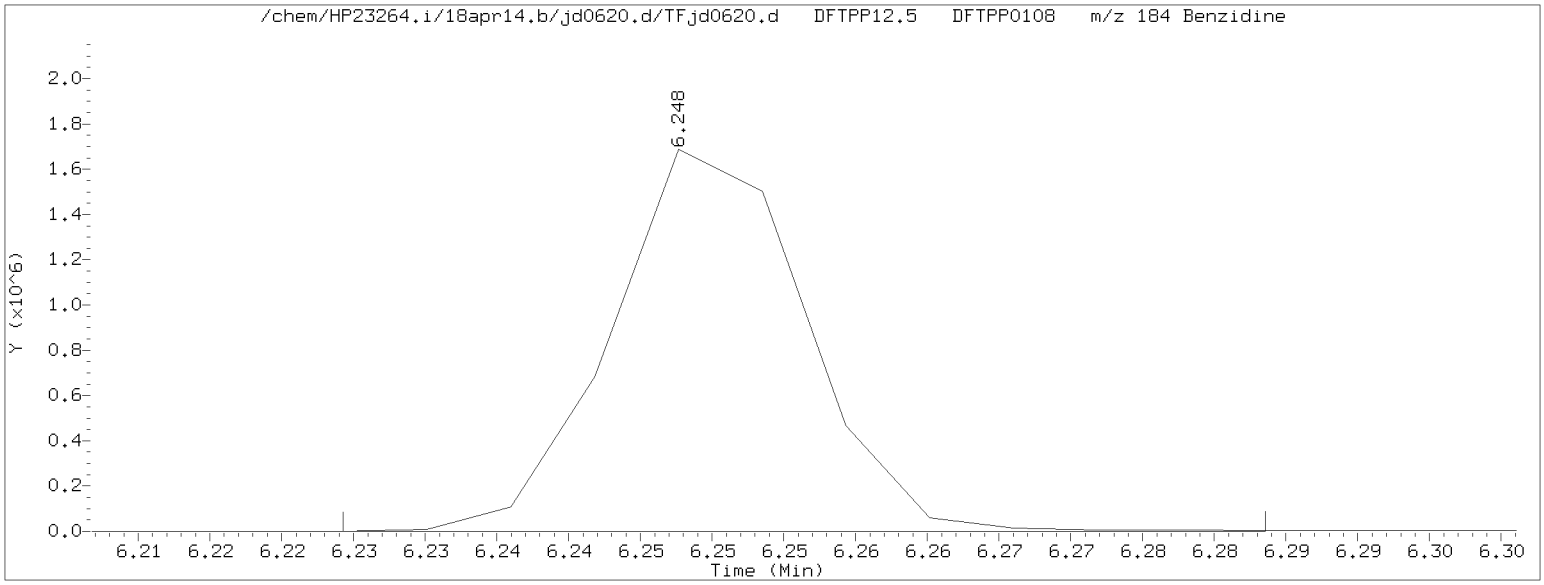
Instrument ID: HP23264.i Injection Date: 14-APR-2018 14:02 Operator: knk25316



Pentachlorophenol EICP peak height = 340608 EICP peak height at 10% = 34061 Pentachlorophenol EICP area = 336711

Pentachlorophenol EICP peak apex (min.) = 5.010
RT at 10% of front half of EICP (min.) = 4.998 'Front' peak width (min.) = 0.0114833333
RT at 10% of back half of EICP (min.) = 5.026 'Tailing' peak width (min.) = 0.0165000000

$$\text{PCP tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0165000000}{0.0114833333} = 1.437$$



Benzidine EICP peak height = 1689088 EICP peak height at 10% = 168909 Benzidine EICP area = 1591241

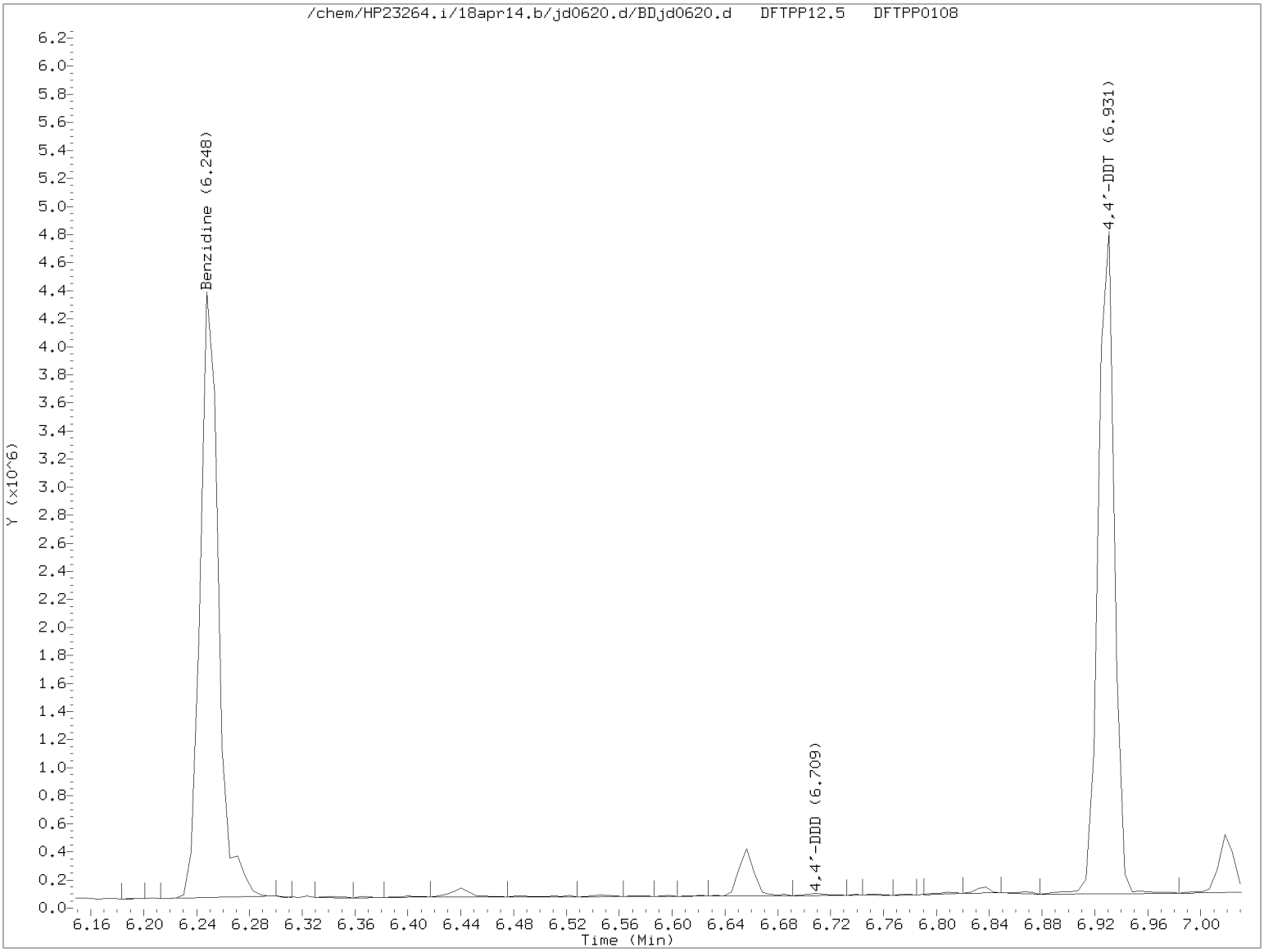
Benzidine EICP peak apex (min.) = 6.248
RT at 10% of front half of EICP (min.) = 6.237 'Front' peak width (min.) = 0.0110166667
RT at 10% of back half of EICP (min.) = 6.264 'Tailing' peak width (min.) = 0.0159166667

$$\text{Benzidine tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0159166667}{0.0110166667} = 1.445$$

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 15:41. PARALLAX ID: cam01237

Assessment of GC Column Performance and Injection Port Inertness for

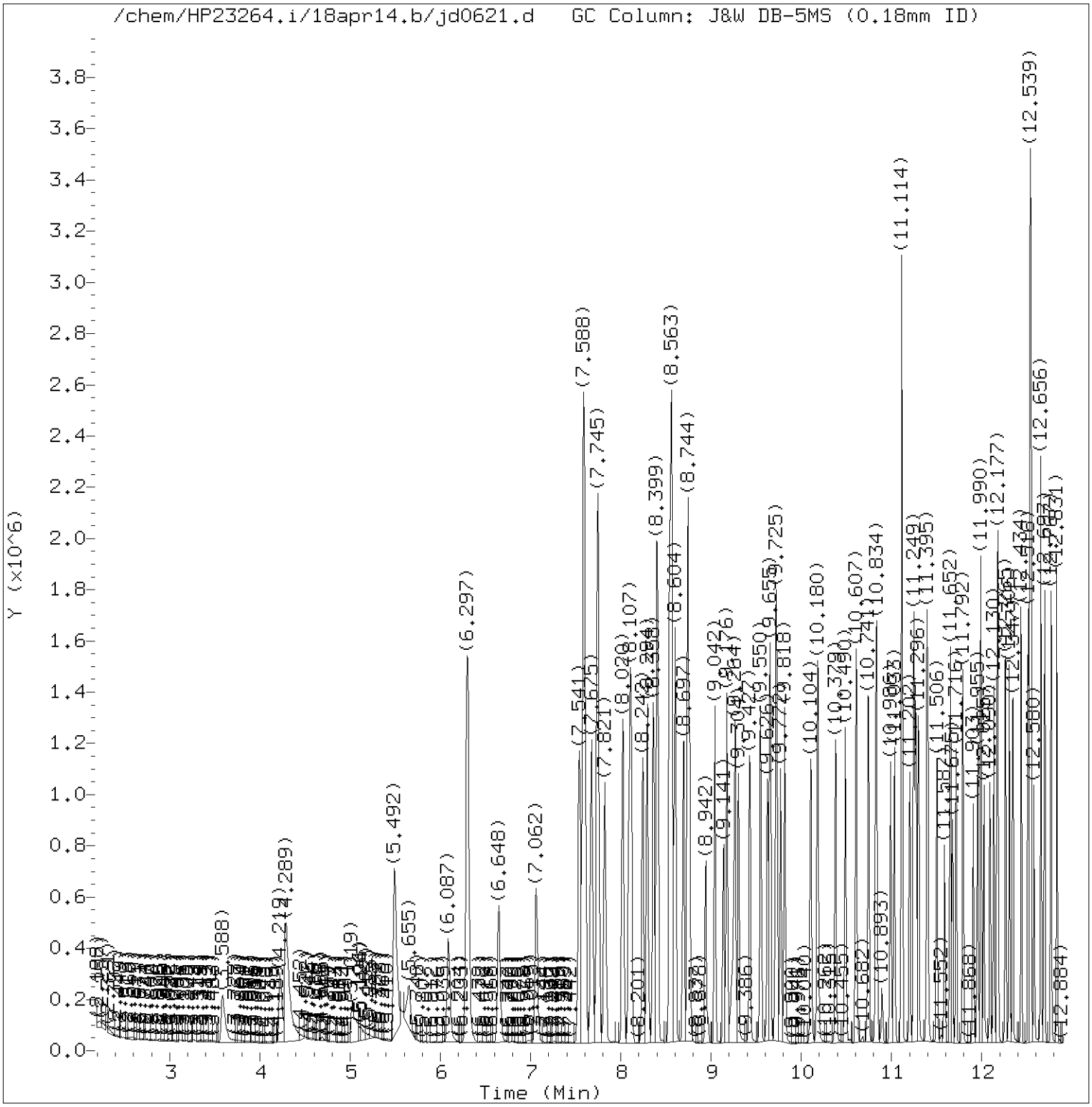
Instrument ID: HP23264.i Injection Date: 14-APR-2018 14:02 Operator: knk25316



$$\% \text{ 4,4'-DDT breakdown} = \frac{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area}}{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area + 4,4'-DDT TIC area}} \times 100$$

$$\% \text{ 4,4'-DDT breakdown} = \frac{0 + 14682}{0 + 14682 + 4049720} \times 100 = 0.4$$

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 15:41. PARALLAX ID: cam01237



Total Ion Chromatogram (TIC)

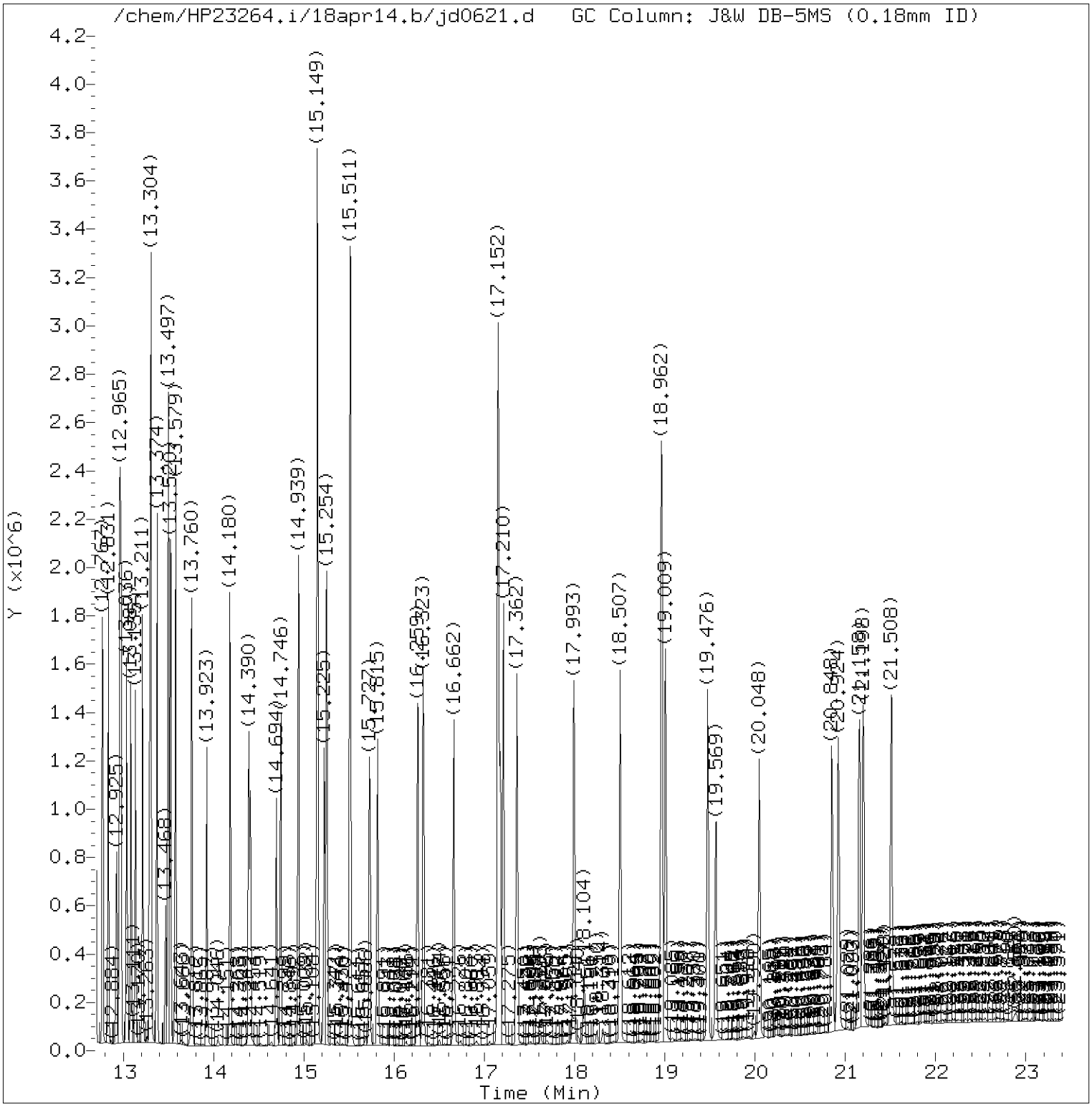
Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0621.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 14:18 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD7.5 Lab Sample ID: rvSTD0968

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 10:50.
Target 3.5 esignature user ID: knk25316



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0621.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 14:18 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD7.5 Lab Sample ID: rvSTD0968

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 10:50.
Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0621.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 14:18 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD7.5 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
3) 1,4-Dioxane	(1)	3.588	88	235640	7.187
5) N-Nitrosodimethylamine	(1)	4.224	74	392747	7.508
6) Pyridine	(1)	4.289	79	659836	7.205
8) 2-Picoline	(1)	5.492	93	631549	7.183
11) N-Nitrosomethylethylamine	(1)	5.655	88	294032	7.432
12) Methyl methanesulfonate	(1)	6.087	80	341310	7.317
13)$2-Fluorophenol	(1)	6.297	112	989048	15.557
14) N-Nitrosodiethylamine	(1)	6.648	102	268410	7.855
18) Ethyl methanesulfonate	(1)	7.062	109	253562	7.691
24) Benzaldehyde	(1)	7.541	77	540019	8.159
26)$Phenol-d6	(1)	7.588	99	1360124	15.440
27) Phenol	(1)	7.605	94	714540	7.579
28) Aniline	(1)	7.675	93	871434	7.635
30) a-methylstyrene	(1)	7.734	118	158373	6.932
31) bis(2-Chloroethyl)ether	(1)	7.751	93	563844	7.750
32) 2-Chlorophenol	(1)	7.821	128	445275	7.825
34) 1,3-Dichlorobenzene	(1)	8.020	146	500934	7.873
36)*1,4-Dichlorobenzene-d4	(1)	8.090	152	213925	5.000
38) 1,4-Dichlorobenzene	(1)	8.113	146	491515	7.292
39) Benzyl alcohol	(1)	8.242	108	253654	7.246
41) 1,2-Dichlorobenzene	(1)	8.294	146	452101	7.707
44) 2-Methylphenol	(1)	8.358	108	395982	7.740
46) Indene	(1)	8.399	115	575134	6.939
48) bis(2-Chloroisopropyl)ether	(1)	8.411	45	643374	7.633
47) 2,2'-oxybis(1-Chloropropane)	(1)	8.411	45	643374	7.633
53) 4-Methylphenol	(1)	8.539	108	393661	7.624
51) N-Nitrosopyrrolidine	(1)	8.539	100	210001	7.537
54) N-Nitroso-di-n-propylamine	(1)	8.557	70	340392	7.544
52) Acetophenone	(1)	8.563	105	586838	7.518
55) N-Nitrosomorpholine	(1)	8.586	56	283046	7.418
56) o-Toluidine	(1)	8.604	106	655932	7.617
57) Hexachloroethane	(1)	8.691	117	193354	7.867
58)$Nitrobenzene-d5	(2)	8.744	82	1025923	15.015
59) Nitrobenzene	(2)	8.761	77	517138	7.543
61) N-Nitrosopiperidine	(2)	8.942	114	175495	7.763
63) Isophorone	(2)	9.042	82	743503	7.662
64) 2-Nitrophenol	(2)	9.141	139	173195	7.598
65) 2,4-Dimethylphenol	(2)	9.176	107	350631	7.475
67) Benzoic acid	(2)	9.252	105	266447	9.445
66) O,O,O-Triethylphosphorothioate	(2)	9.269	198	139672	7.351

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 10:50.
Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0621.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 14:18 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD7.5 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
68) bis(2-Chloroethoxy)methane	(2)	9.304	93	394369	7.365
70) 2,4-Dichlorophenol	(2)	9.427	162	289468	7.647
72) 1,2,4-Trichlorobenzene	(2)	9.550	180	321814	7.509
76)*Naphthalene-d8	(2)	9.626	136	544533	5.000
78) Naphthalene	(2)	9.655	128	842350	7.613
79) 4-Chloroaniline	(2)	9.719	127	345662	7.527
80) 2,6-Dichlorophenol	(2)	9.731	162	268992	7.471
81) Hexachloropropene	(2)	9.772	213	245093	7.308
83) Hexachlorobutadiene	(2)	9.818	225	197342	7.597
84) Quinoline	(2)	10.104	129	510035	7.436
86) Caprolactam	(2)	10.180	113	104180	7.331
87) N-Nitrosodi-n-butylamine	(2)	10.186	84	301774	7.684
89) 4-Chloro-3-methylphenol	(2)	10.379	107	285056	7.182
90) Safrole	(2)	10.490	162	208770	7.118
91) 2-Methylnaphthalene	(2)	10.607	142	502773	7.623
92) 1-Methylnaphthalene	(2)	10.747	142	446244	7.687
95) Hexachlorocyclopentadiene	(3)	10.823	237	183196	7.744
96) 1,2,4,5-Tetrachlorobenzene	(3)	10.834	216	290527	7.592
97) cis-Isosafrole	(3)	10.893	162	35373	1.243
98) 2,4,6-Trichlorophenol	(3)	10.992	196	192090	7.763
100) 2,4,5-Trichlorophenol	(3)	11.033	196	207494	8.080
102)$2-Fluorobiphenyl	(3)	11.114	172	1049904	14.799
104) trans-Isosafrole	(3)	11.202	162	187371	6.206
105) 1,1'-Biphenyl	(3)	11.249	154	562330	7.591
107) 2-Chloronaphthalene	(3)	11.266	162	460066	7.145
108) 1-Chloronaphthalene	(3)	11.296	162	434632	7.458
109) Diphenyl ether	(3)	11.395	170	297935	7.388
110) 2-Nitroaniline	(3)	11.406	138	157505	7.908
111) 1,4-Naphthoquinone	(3)	11.506	158	198517	7.686
112) 1,4-Dinitrobenzene	(3)	11.587	168	86915	7.559
114) Dimethylphthalate	(3)	11.652	163	538484	7.505
116) 1,3-Dinitrobenzene	(3)	11.675	168	99389	7.663
117) 2,6-Dinitrotoluene	(3)	11.716	165	135248	8.115
118) Acenaphthylene	(3)	11.792	152	632794	7.552
120) 3-Nitroaniline	(3)	11.909	138	129207	7.650
122)*Acenaphthene-d10	(3)	11.955	164	219939	5.000
123) Acenaphthene	(3)	11.990	153	420569	7.751
125) 2,4-Dinitrophenol	(3)	12.025	184	124324	9.548
126) 4-Nitrophenol	(3)	12.090	109	114204	7.635
127) Pentachlorobenzene	(3)	12.136	250	204631	7.450

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 04/17/2018 at 10:50.
Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0621.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 14:18 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD7.5 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
128) 2,4-Dinitrotoluene	(3)	12.171	165	180170	7.653
129) Dibenzofuran	(3)	12.177	168	594398	7.455
131) 1-Naphthylamine	(3)	12.265	143	433558	7.154
132) 2,3,4,6-Tetrachlorophenol	(3)	12.306	232	156222	7.527
133) 2-Naphthylamine	(3)	12.347	143	402725	6.921
136) Diethylphthalate	(3)	12.434	149	544539	7.591
138) Thionazin	(3)	12.516	107	86325	7.368
139) Fluorene	(3)	12.528	166	475914	7.377
141) 4-Chlorophenyl-phenylether	(3)	12.539	204	241434	7.265
142) 4-Nitroaniline	(3)	12.545	138	144411	7.477
140) 5-Nitro-o-toluidine	(3)	12.545	152	158006	7.882
143) 4,6-Dinitro-2-methylphenol	(4)	12.580	198	117809	7.512
145) NDPA as diphenylamine	(4)	12.656	169	425673	7.509
144) N-Nitrosodiphenylamine	(4)	12.656	169	425673	7.509
146) 1,2-Diphenylhydrazine	(4)	12.697	77	629321	7.406
147)$2,4,6-Tribromophenol	(3)	12.773	330	148251	15.205
148) Tetraethyldithiopyrophosphate	(4)	12.831	97	125565	7.483
149) 1,3,5-Trinitrobenzene	(4)	12.925	213	71859	7.693
150) Diallate (peak 1)	(4)	12.954	86	211909	6.053
151) Phorate	(4)	12.965	75	386595	7.415
152) Phenacetin	(4)	12.977	108	334103	7.938
153) 4-Bromophenyl-phenylether	(4)	13.036	248	151016	7.499
154) Diallate (peak 2)	(4)	13.047	86	38983	1.332
155) Hexachlorobenzene	(4)	13.082	284	157770	7.735
156) Dimethoate	(4)	13.135	87	249455	7.687
157) Atrazine	(4)	13.211	200	156029	7.812
160) Pentachlorophenol	(4)	13.292	266	115674	7.489
161) 4-Aminobiphenyl	(4)	13.304	169	523566	7.835
162) Pentachloronitrobenzene	(4)	13.304	237	93281	7.398
164) Pronamide	(4)	13.374	173	273835	7.831
166) Dinoseb	(4)	13.497	211	161701	7.395
165)*Phenanthrene-d10	(4)	13.497	188	432737	5.000
167) Phenanthrene	(4)	13.526	178	751771	7.734
168) Anthracene	(4)	13.579	178	774247	7.844
169) Carbazole	(4)	13.760	167	686834	7.700
170) Methyl parathion	(4)	13.923	109	184784	7.499
174) Di-n-butylphthalate	(4)	14.180	149	915510	7.645
180) Parathion	(4)	14.390	109	123309	7.804
179) 4-Nitroquinoline-1-oxide	(4)	14.408	190	108346	7.937
181) Octachlorostyrene	(4)	14.694	308	57305	7.128

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 04/17/2018 at 10:50.
Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0621.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 14:18 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD7.5 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
182) Isodrin	(4)	14.746	193	98984	7.532
183) Fluoranthene	(4)	14.939	202	842413	7.568
184) Benzidine	(5)	15.149	184	1585513	22.355
185)*Pyrene-d10	(5)	15.225	212	460502	5.000
187) Pyrene	(5)	15.254	202	872807	7.508
192)$Terphenyl-d14	(5)	15.517	244	1166910	14.944
193) p-Dimethylaminoazobenzene	(5)	15.733	225	135896	7.344
194) Chlorobenzilate	(5)	15.815	139	285681	7.556
196) 3,3'-Dimethylbenzidine	(5)	16.265	212	586788	7.831
198) Butylbenzylphthalate	(5)	16.323	149	427637	7.786
199) 2-Acetylaminofluorene	(5)	16.662	181	337198	7.239
201) Benzo(a)anthracene	(5)	17.152	228	862450	7.725
202) 3,3'-Dichlorobenzidine	(5)	17.152	252	297096	7.102
205) 4,4'-Methylenebis(2-chloroanil	(5)	17.175	231	169858	7.391
206) Chrysene	(5)	17.210	228	810883	7.676
207) bis(2-Ethylhexyl)phthalate	(5)	17.362	149	589073	7.489
208) 6-Methylchrysene	(5)	17.993	242	537494	7.377
209) Di-n-octylphthalate	(6)	18.507	149	1076720	7.642
210) Benzo(b)fluoranthene	(6)	18.962	252	828859	7.683
211) 7,12-Dimethylbenz[a]anthracene	(6)	18.968	256	366468	7.916
212) Benzo(k)fluoranthene	(6)	19.009	252	773731	7.552
214) Benzo(a)pyrene	(6)	19.476	252	746374	7.473
215)*Perylene-d12	(6)	19.569	264	435005	5.000
216) 3-Methylcholanthrene	(6)	20.048	268	339748	7.199
217) Dibenz(a,h)acridine	(6)	20.848	279	601095	7.692
218) Dibenz(a,j)acridine	(6)	20.924	279	595267	7.500
219) Indeno(1,2,3-cd)pyrene	(6)	21.158	276	707928M	7.803
220) Dibenz(a,h)anthracene	(6)	21.198	278	672506	7.872
221) Benzo(g,h,i)perylene	(6)	21.514	276	747336	7.704
224) Isosafrole	(3)			222744	7.449
225) 2,4_2,6-Dinitrotoluenes	(3)			315418	15.768
222) Total Cresols	(1)			789643	15.364
228) Total PAHs	(6)			12711949	137.747
226) Diallate trans/cis	(4)			250892	7.385

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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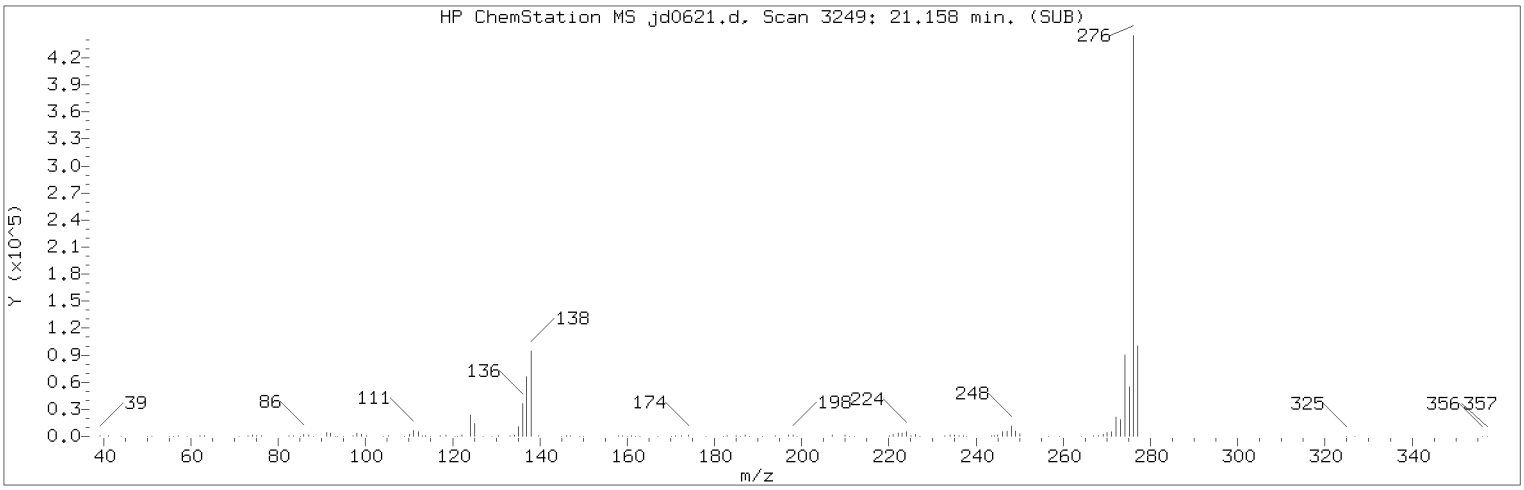
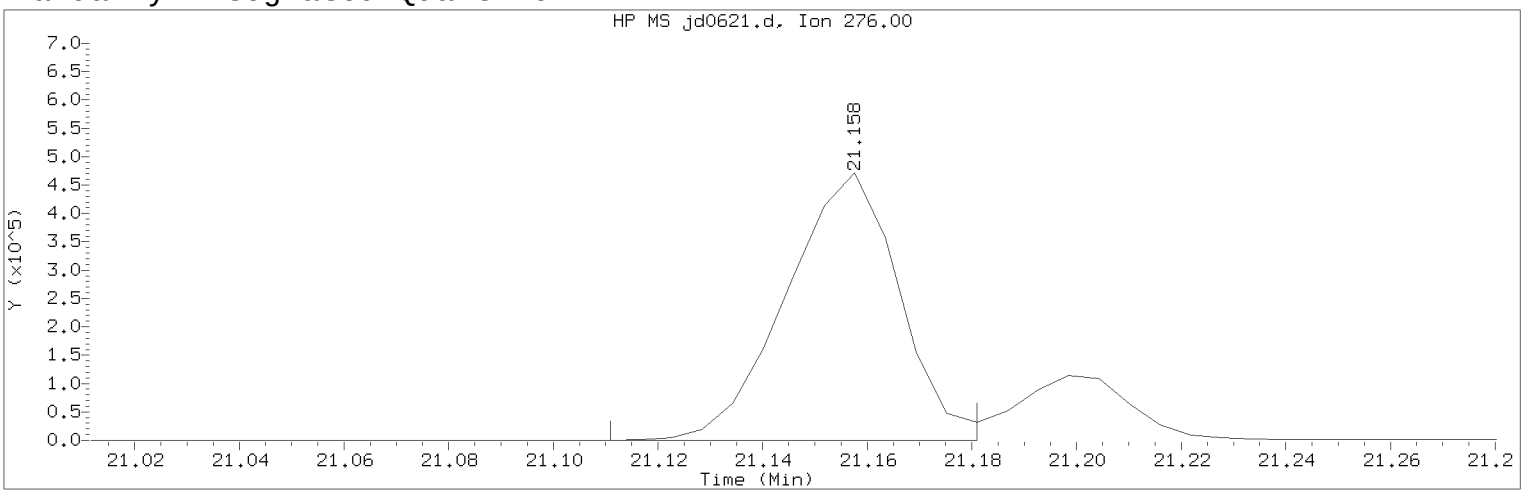
on 04/17/2018 at 10:50.
Target 3.5 esignature user ID: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0621.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 14:18 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD7.5 Lab Sample ID: rvSTD0968

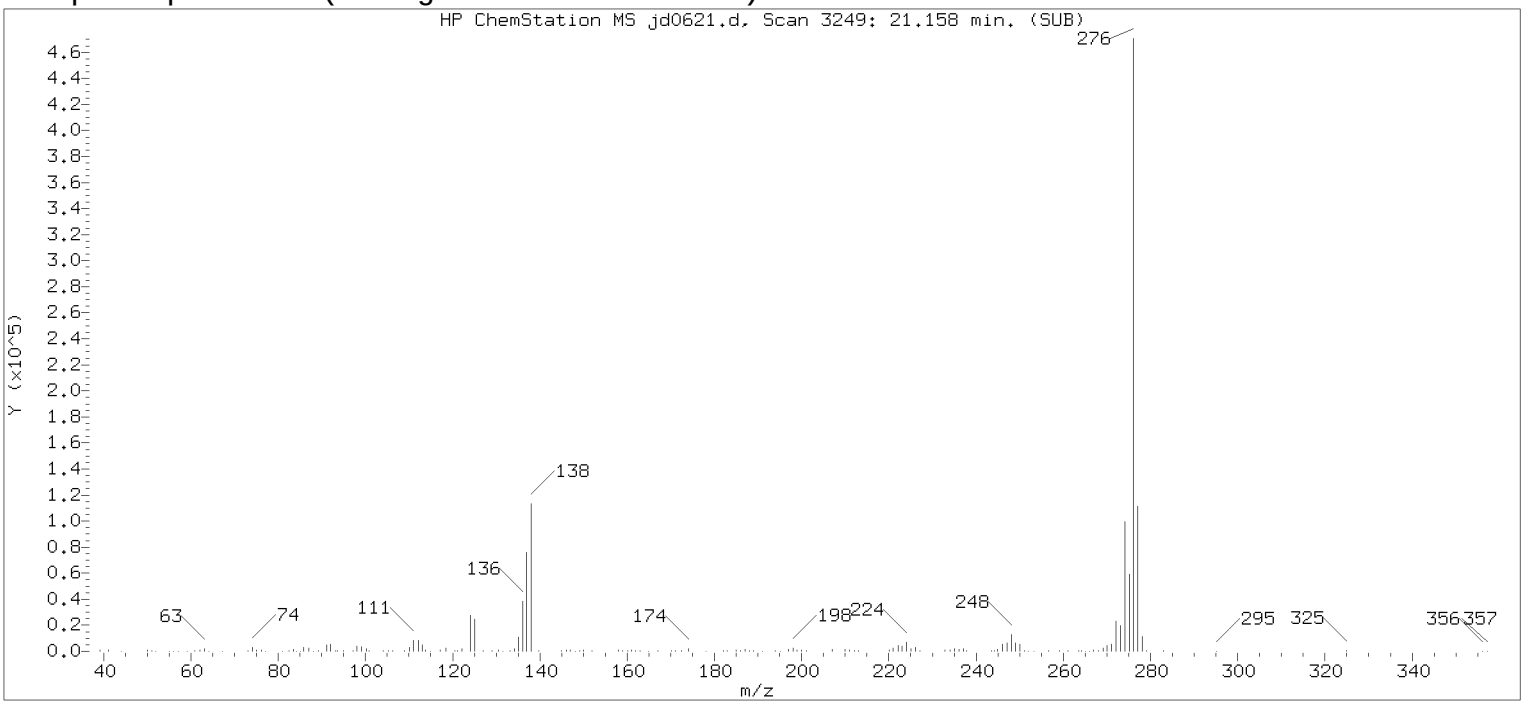
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3249
Retention Time (minutes) : 21.158
Quant Ion : 276.00
Area (flag) : 707928M
On-Column Amount (ng/ul) : 7.8034
Integration start scan : 3240 Integration stop scan: 3252
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

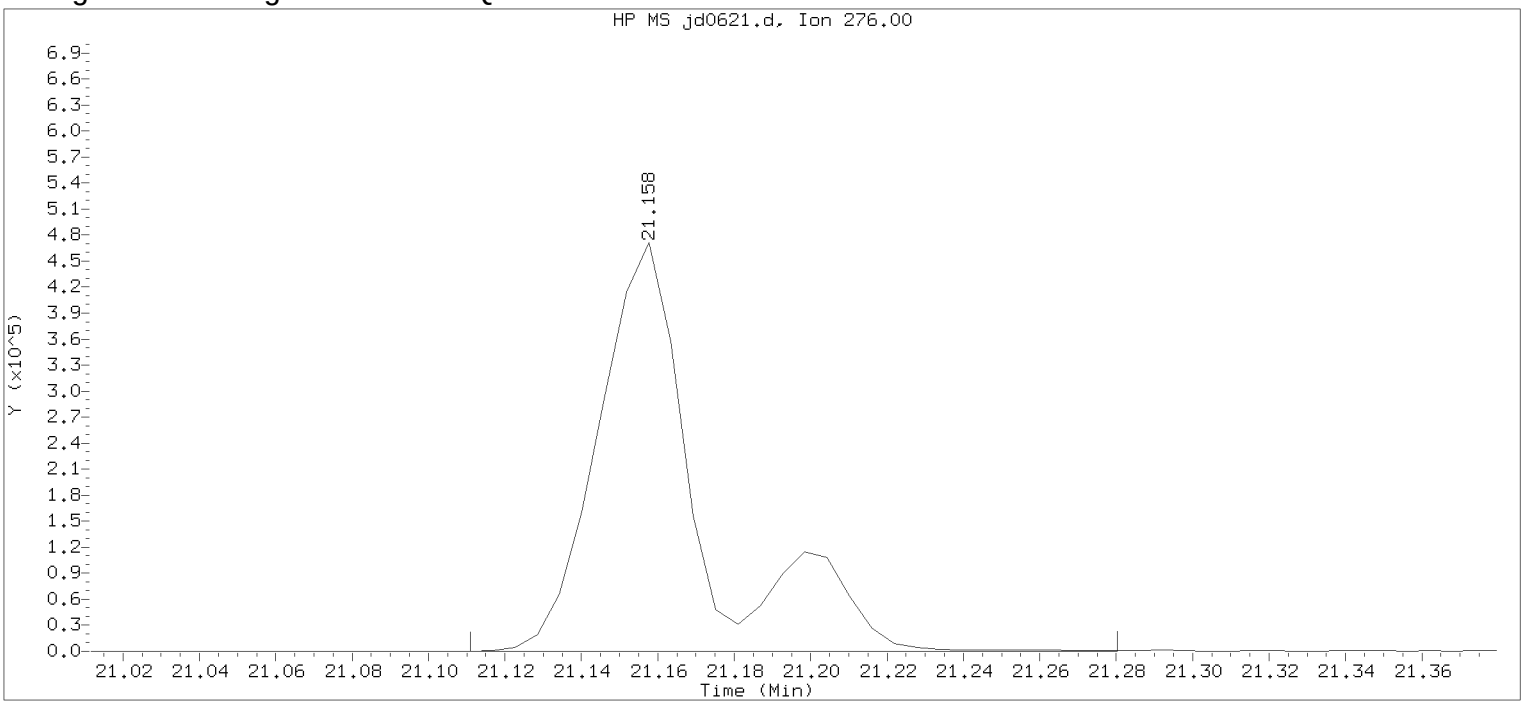
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:50.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



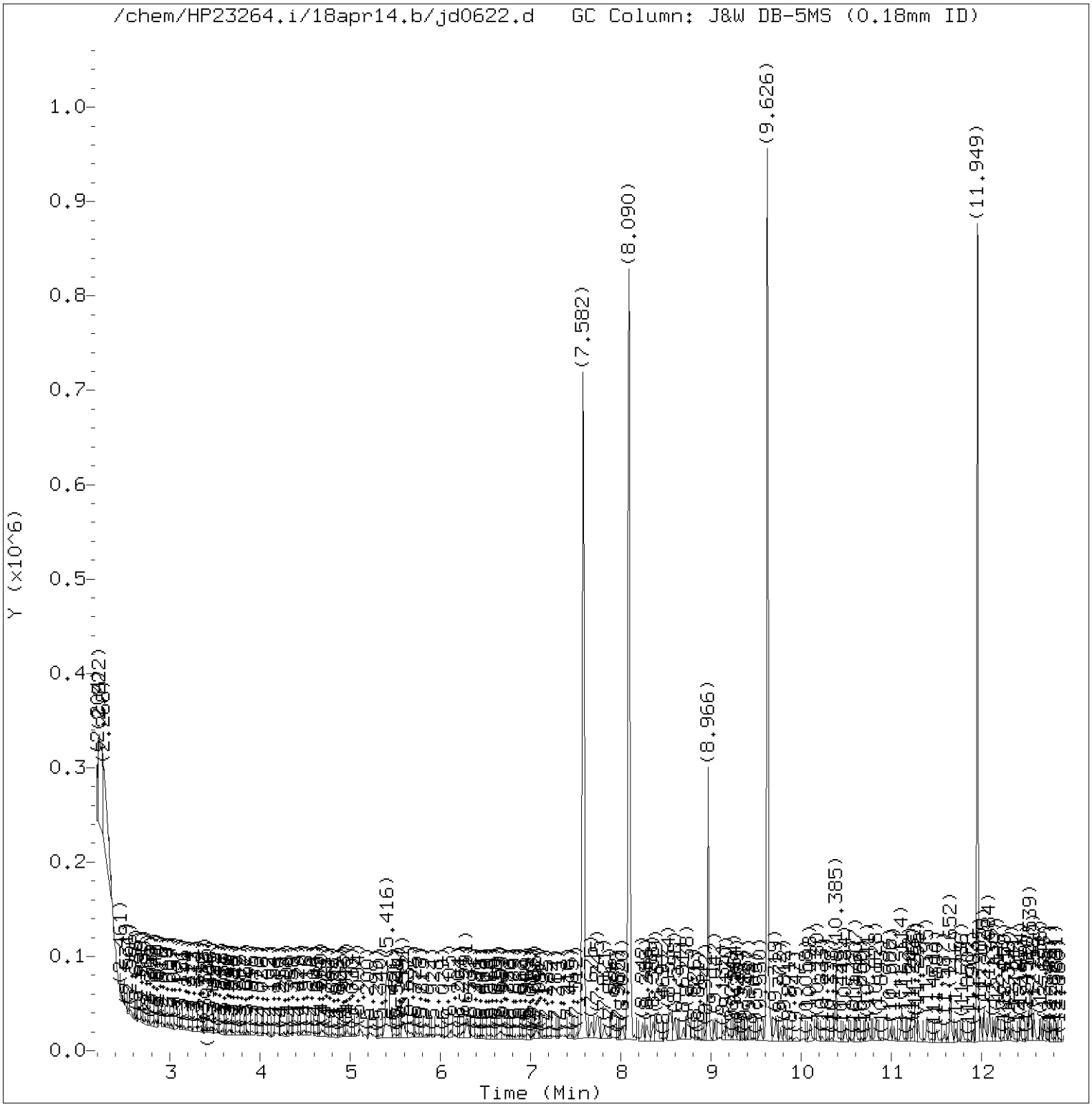
Data File: /chem/HP23264.i/18apr14.b/jd0621.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 14:18 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 09:31
Date, time and analyst ID of latest file update: 17-Apr-2018 09:32 knk25316

Sample Name: SSTD7.5 Lab Sample ID: rvSTD0968

Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3249
Retention Time (minutes) : 21.158
Quant Ion : 276.00
Area : 875714
On-column Amount (ng/ul) : 9.3642
Integration start scan : 3240 Integration stop scan: 3269
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:50.
Target 3.5 esignature user id: knk25316



Total Ion Chromatogram (TIC)

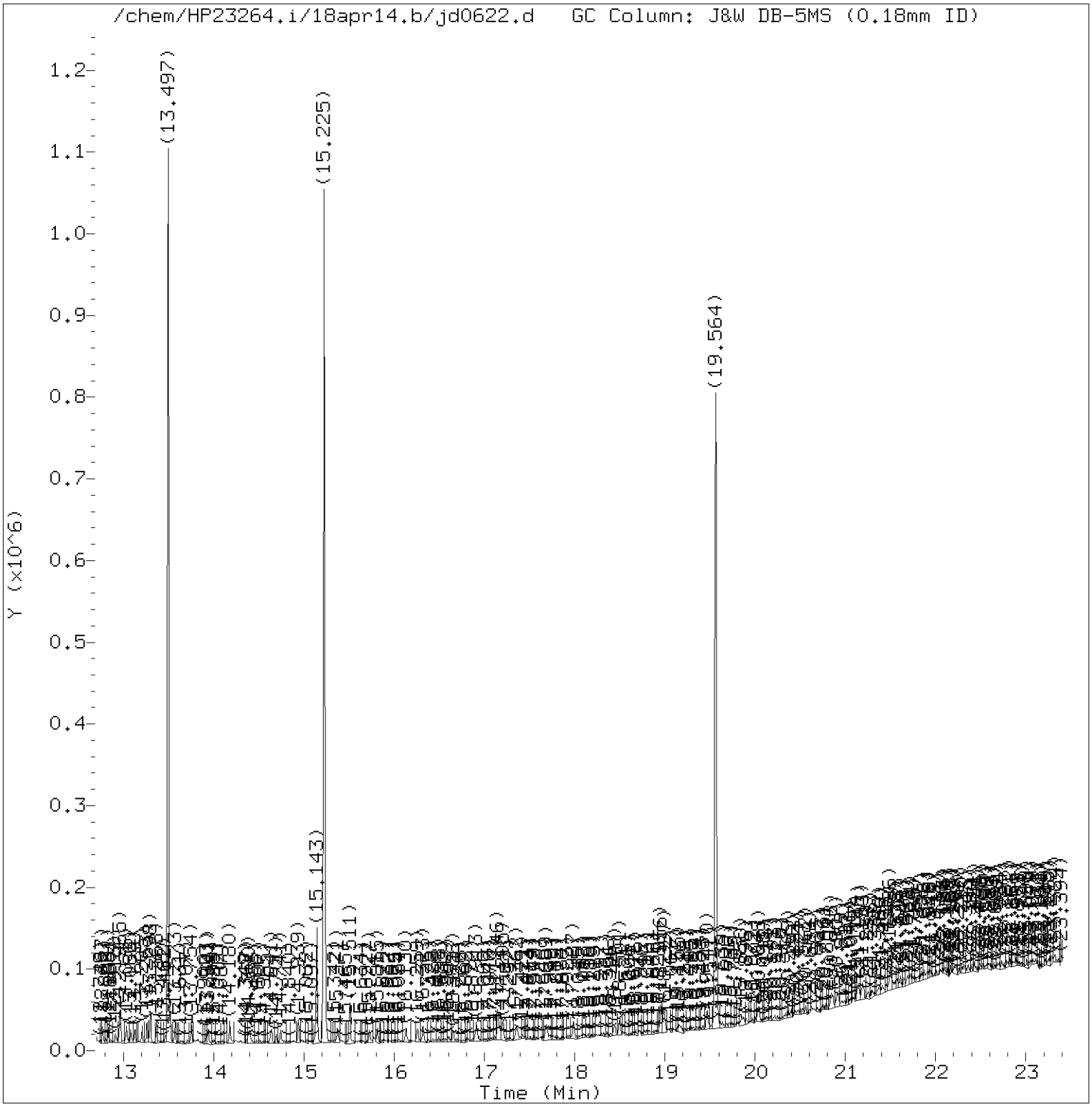
Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0622.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 16:29 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 10:50.
Target 3.5 esignature user ID: knk25316



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0622.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 16:29 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 10:50.
Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0622.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 16:29 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
6) Pyridine	(1)	4.341	79	514	0.006
5) N-Nitrosodimethylamine	(1)	4.376	74	2384	0.049
8) 2-Picoline	(1)	5.579	93	5264	0.064
13)$2-Fluorophenol	(1)	6.297	112	11528	0.194
26)$Phenol-d6	(1)	7.582	99	16680	0.202
27) Phenol	(1)	7.599	94	9122	0.103
28) Aniline	(1)	7.669	93	10177	0.095
30) a-methylstyrene	(1)	7.734	118	1786	0.083
31) bis(2-Chloroethyl)ether	(1)	7.751	93	7333	0.108
32) 2-Chlorophenol	(1)	7.821	128	4774	0.090
34) 1,3-Dichlorobenzene	(1)	8.020	146	5356	0.090
36)*1,4-Dichlorobenzene-d4	(1)	8.090	152	200304	5.000
38) 1,4-Dichlorobenzene	(1)	8.107	146	4736	0.275
39) Benzyl alcohol	(1)	8.248	108	3388	0.103
41) 1,2-Dichlorobenzene	(1)	8.288	146	4735	0.086
44) 2-Methylphenol	(1)	8.358	108	4941	0.103
46) Indene	(1)	8.393	115	7570	0.098
48) bis(2-Chloroisopropyl)ether	(1)	8.405	45	10403	0.132
47) 2,2'-oxybis(1-Chloropropane)	(1)	8.405	45	10403	0.132
53) 4-Methylphenol	(1)	8.539	108	5527	0.114
51) N-Nitrosopyrrolidine	(1)	8.539	100	2754	0.106
54) N-Nitroso-di-n-propylamine	(1)	8.557	70	4795	0.113
52) Acetophenone	(1)	8.563	105	5704	0.326
56) o-Toluidine	(1)	8.604	106	7803	0.097
57) Hexachloroethane	(1)	8.697	117	2311	0.100
58)$Nitrobenzene-d5	(2)	8.738	82	13514	0.216
59) Nitrobenzene	(2)	8.761	77	8568	0.136
55) N-Nitrosomorpholine	(1)	8.942	56	1482	0.041
63) Isophorone	(2)	9.042	82	10740	0.121
64) 2-Nitrophenol	(2)	9.141	139	2559	0.122
65) 2,4-Dimethylphenol	(2)	9.176	107	4970	0.116
67) Benzoic acid	(2)	9.205	105	3398	2.946
66) O,O,O-Triethylphosphorothioate	(2)	9.269	198	1605	0.092
68) bis(2-Chloroethoxy)methane	(2)	9.299	93	5980	0.122
70) 2,4-Dichlorophenol	(2)	9.427	162	2822	0.081
72) 1,2,4-Trichlorobenzene	(2)	9.550	180	3788	0.096
76)*Naphthalene-d8	(2)	9.626	136	499320	5.000
78) Naphthalene	(2)	9.649	128	11884	0.117
79) 4-Chloroaniline	(2)	9.719	127	4270	0.101
80) 2,6-Dichlorophenol	(2)	9.725	162	3150	0.095

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 10:50.
Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0622.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 16:29 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
81) Hexachloropropene	(2)	9.766	213	2421	0.079
83) Hexachlorobutadiene	(2)	9.818	225	1977	0.083
84) Quinoline	(2)	10.104	129	6813	0.108
87) N-Nitrosodi-n-butylamine	(2)	10.180	84	4455	0.124
89) 4-Chloro-3-methylphenol	(2)	10.367	107	2902	0.419
90) Safrole	(2)	10.490	162	2936	0.109
91) 2-Methylnaphthalene	(2)	10.607	142	6110	0.101
92) 1-Methylnaphthalene	(2)	10.741	142	5414	0.102
95) Hexachlorocyclopentadiene	(3)	10.823	237	1861	0.096
96) 1,2,4,5-Tetrachlorobenzene	(3)	10.834	216	3911	0.125
98) 2,4,6-Trichlorophenol	(3)	10.992	196	2271	0.112
100) 2,4,5-Trichlorophenol	(3)	11.033	196	2505	0.119
102)$2-Fluorobiphenyl	(3)	11.114	172	12962	0.224
104) trans-Isosafrole	(3)	11.196	162	2433	0.099
105) 1,1'-Biphenyl	(3)	11.243	154	4863	0.354
107) 2-Chloronaphthalene	(3)	11.266	162	6235	0.119
108) 1-Chloronaphthalene	(3)	11.296	162	5199M	0.109
109) Diphenyl ether	(3)	11.389	170	3753	0.114
110) 2-Nitroaniline	(3)	11.401	138	1940	0.119
111) 1,4-Naphthoquinone	(3)	11.500	158	2065	0.098
112) 1,4-Dinitrobenzene	(3)	11.587	168	700	0.075
114) Dimethylphthalate	(3)	11.646	163	5919	0.101
116) 1,3-Dinitrobenzene	(3)	11.675	168	1188	0.112
117) 2,6-Dinitrotoluene	(3)	11.716	165	1611	0.118
118) Acenaphthylene	(3)	11.786	152	7902	0.115
120) 3-Nitroaniline	(3)	11.903	138	1258	0.091
122)*Acenaphthene-d10	(3)	11.949	164	179602	5.000
123) Acenaphthene	(3)	11.990	153	4548	0.103
125) 2,4-Dinitrophenol	(3)	12.025	184	5105	0.480
126) 4-Nitrophenol	(3)	12.084	109	6327	0.518
127) Pentachlorobenzene	(3)	12.130	250	2437	0.109
128) 2,4-Dinitrotoluene	(3)	12.166	165	1643	0.085
129) Dibenzofuran	(3)	12.177	168	7317	0.112
131) 1-Naphthylamine	(3)	12.259	143	5050	0.102
132) 2,3,4,6-Tetrachlorophenol	(3)	12.306	232	1611	0.095
133) 2-Naphthylamine	(3)	12.341	143	5556	0.117
136) Diethylphthalate	(3)	12.434	149	6565	0.112
139) Fluorene	(3)	12.528	166	5981	0.114
140) 5-Nitro-o-toluidine	(3)	12.539	152	1555	0.095
142) 4-Nitroaniline	(3)	12.539	138	1604	0.185

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Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0622.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 16:29 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
141) 4-Chlorophenyl-phenylether	(3)	12.539	204	3290	0.121
143) 4,6-Dinitro-2-methylphenol	(4)	12.580	198	4333	0.333
144) N-Nitrosodiphenylamine	(4)	12.656	169	4822	0.103
145) NDPA as diphenylamine	(4)	12.656	169	4822	0.103
146) 1,2-Diphenylhydrazine	(4)	12.691	77	8947	0.127
147)$2,4,6-Tribromophenol	(3)	12.767	330	1879	0.236
148) Tetraethyldithiopyrophosphate	(4)	12.831	97	1909	0.137
150) Diallate (peak 1)	(4)	12.954	86	2795	0.096
154) Diallate (peak 2)	(4)	12.954	86	2795	0.115
152) Phenacetin	(4)	12.965	108	3334	0.096
151) Phorate	(4)	12.965	75	5213	0.121
153) 4-Bromophenyl-phenylether	(4)	13.036	248	2173	0.130
155) Hexachlorobenzene	(4)	13.082	284	1658	0.098
156) Dimethoate	(4)	13.129	87	2605	0.097
157) Atrazine	(4)	13.205	200	1776	0.107
160) Pentachlorophenol	(4)	13.292	266	1358	0.106
161) 4-Aminobiphenyl	(4)	13.298	169	5990	0.108
162) Pentachloronitrobenzene	(4)	13.298	237	959	0.092
164) Pronamide	(4)	13.368	173	3300	0.114
165)*Phenanthrene-d10	(4)	13.497	188	358688	5.000
167) Phenanthrene	(4)	13.520	178	8584	0.107
168) Anthracene	(4)	13.579	178	8324	0.102
169) Carbazole	(4)	13.754	167	8165	0.110
170) Methyl parathion	(4)	13.923	109	2265	0.111
174) Di-n-butylphthalate	(4)	14.180	149	12165	0.123
180) Parathion	(4)	14.384	109	1474	0.113
179) 4-Nitroquinoline-1-oxide	(4)	14.408	190	1011	0.089
183) Fluoranthene	(4)	14.939	202	11137	0.121
184) Benzidine	(5)	15.143	184	53525	0.876
185)*Pyrene-d10	(5)	15.225	212	396867	5.000
187) Pyrene	(5)	15.249	202	10898	0.109
192)$Terphenyl-d14	(5)	15.511	244	15298	0.227
193) p-Dimethylaminoazobenzene	(5)	15.727	225	1615	0.101
194) Chlorobenzilate	(5)	15.815	139	2934	0.090
196) 3,3'-Dimethylbenzidine	(5)	16.253	212	6661	0.103
198) Butylbenzylphthalate	(5)	16.323	149	4671	0.099
199) 2-Acetylaminofluorene	(5)	16.656	181	3590	0.089
201) Benzo(a)anthracene	(5)	17.146	228	10775	0.112
202) 3,3'-Dichlorobenzidine	(5)	17.146	252	4057	0.113
205) 4,4'-Methylenebis(2-chloroanil	(5)	17.175	231	1793	0.091

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 04/17/2018 at 10:50.
Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0622.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 16:29 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
206) Chrysene	(5)	17.205	228	10086	0.111
207) bis(2-Ethylhexyl)phthalate	(5)	17.362	149	7506	0.111
208) 6-Methylchrysene	(5)	17.987	242	7364	0.117
209) Di-n-octylphthalate	(6)	18.495	149	11864	0.101
210) Benzo(b)fluoranthene	(6)	18.950	252	9513	0.106
211) 7,12-Dimethylbenz[a]anthracene	(6)	18.956	256	3641	0.094
212) Benzo(k)fluoranthene	(6)	19.003	252	9940	0.117
214) Benzo(a)pyrene	(6)	19.470	252	9749M	0.117
215)*Perylene-d12	(6)	19.564	264	362179	5.000
216) 3-Methylcholanthrene	(6)	20.042	268	4157	0.106
217) Dibenz(a,h)acridine	(6)	20.848	279	7765	0.119
218) Dibenz(a,j)acridine	(6)	20.912	279	7097	0.107
219) Indeno(1,2,3-cd)pyrene	(6)	21.146	276	7821M	0.104
220) Dibenz(a,h)anthracene	(6)	21.199	278	7598	0.107
221) Benzo(g,h,i)perylene	(6)	21.502	276	9500	0.118
224) Isosafrole	(3)			2433	0.099
225) 2,4_2,6-Dinitrotoluenes	(3)			3254	0.204
222) Total Cresols	(1)			10468	0.217
228) Total PAHs	(6)			155764	1.980
226) Diallate trans/cis	(4)			5590	0.212

M = Compound was manually integrated.
* = Compound is an internal standard.

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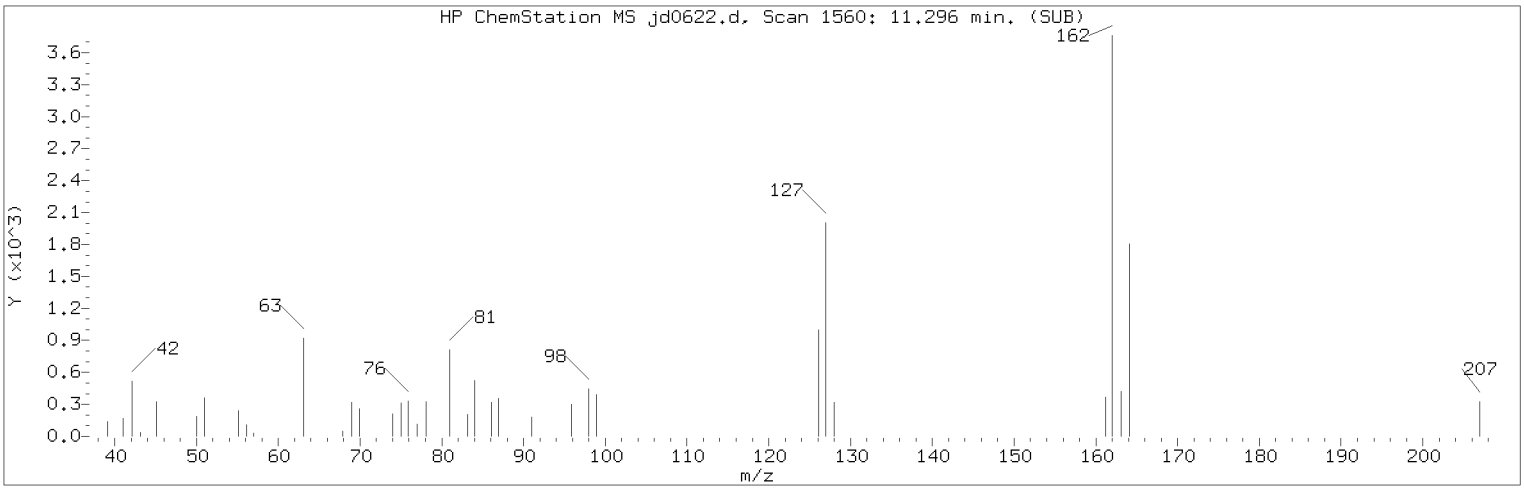
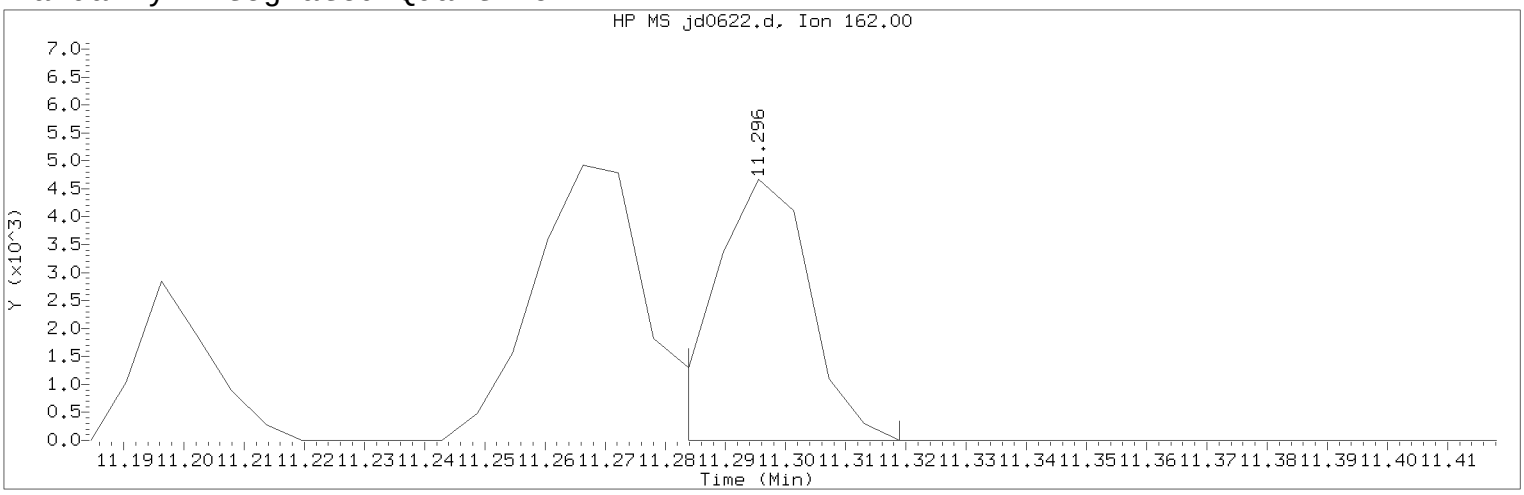
on 04/17/2018 at 10:50.
Target 3.5 esignature user ID: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0622.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 16:29 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

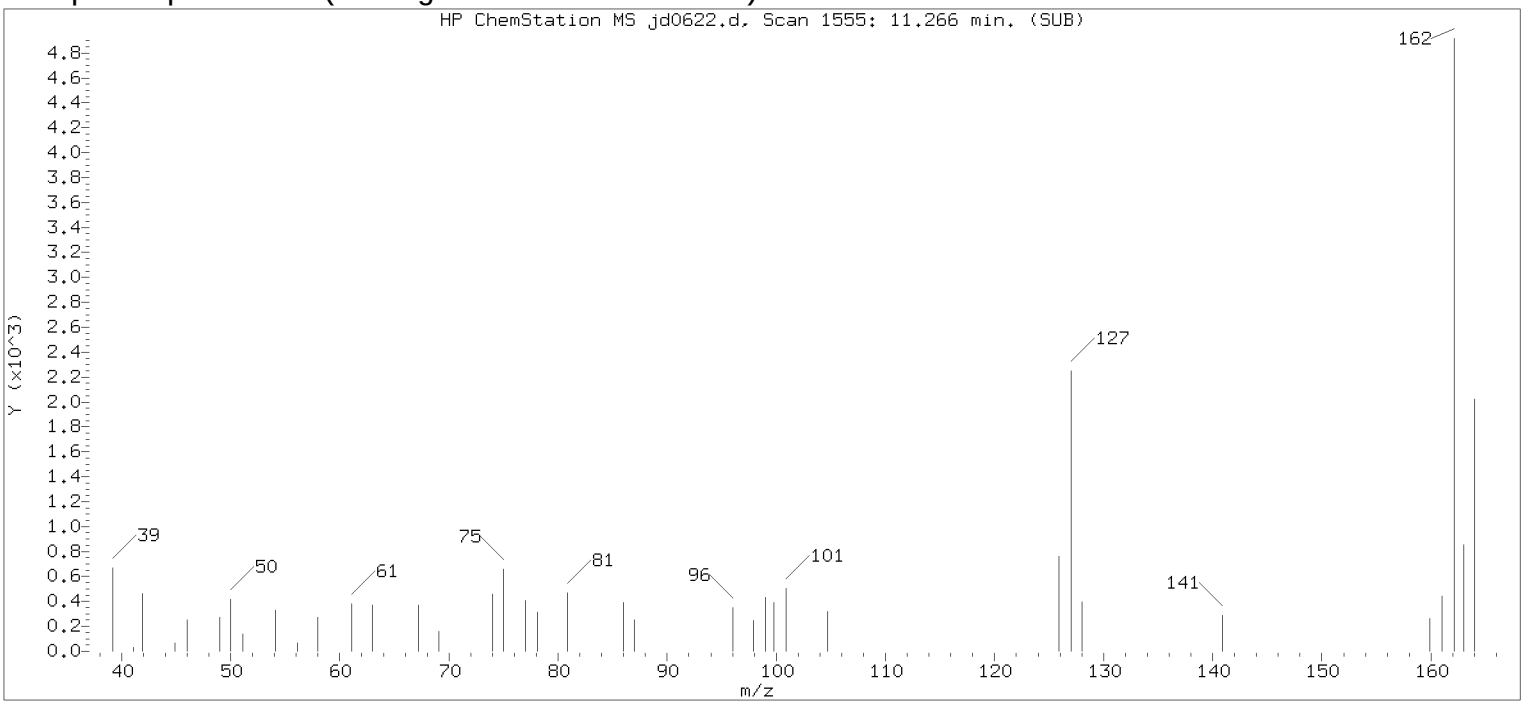
Compound Number : 108
Compound Name : 1-Chloronaphthalene
Scan Number : 1560
Retention Time (minutes) : 11.296
Quant Ion : 162.00
Area (flag) : 5199M
On-Column Amount (ng/ul) : 0.1093
Integration start scan : 1557 Integration stop scan: 1563
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

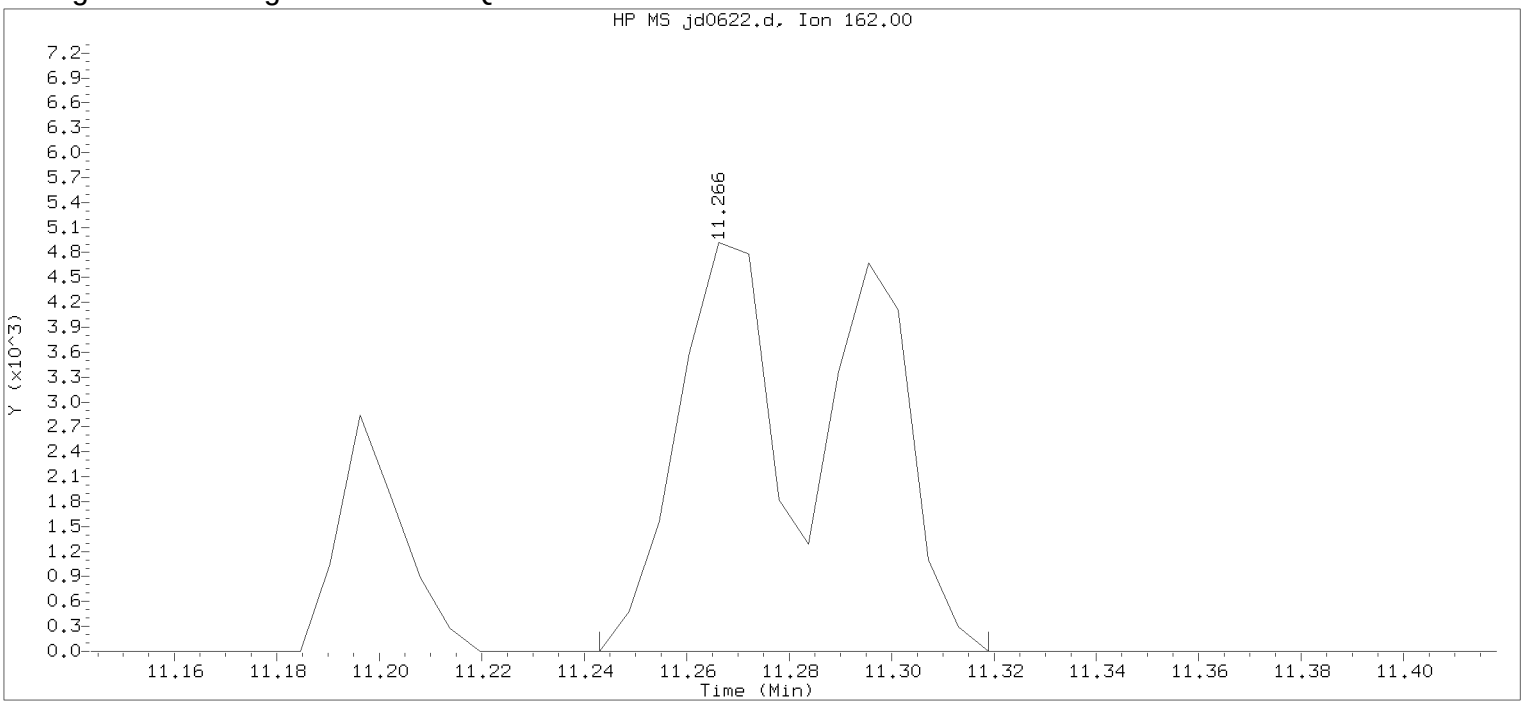
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:50.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0622.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 16:29 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:20
Date, time and analyst ID of latest file update: 15-Apr-2018 13:20 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

Compound Number : 108
Compound Name : 1-Chloronaphthalene
Scan Number : 1555
Retention Time (minutes) : 11.266
Quant Ion : 162.00
Area : 11209
On-column Amount (ng/ul) : 0.2358
Integration start scan : 1550 Integration stop scan: 1563
Y at integration start : 0 Y at integration end: 0

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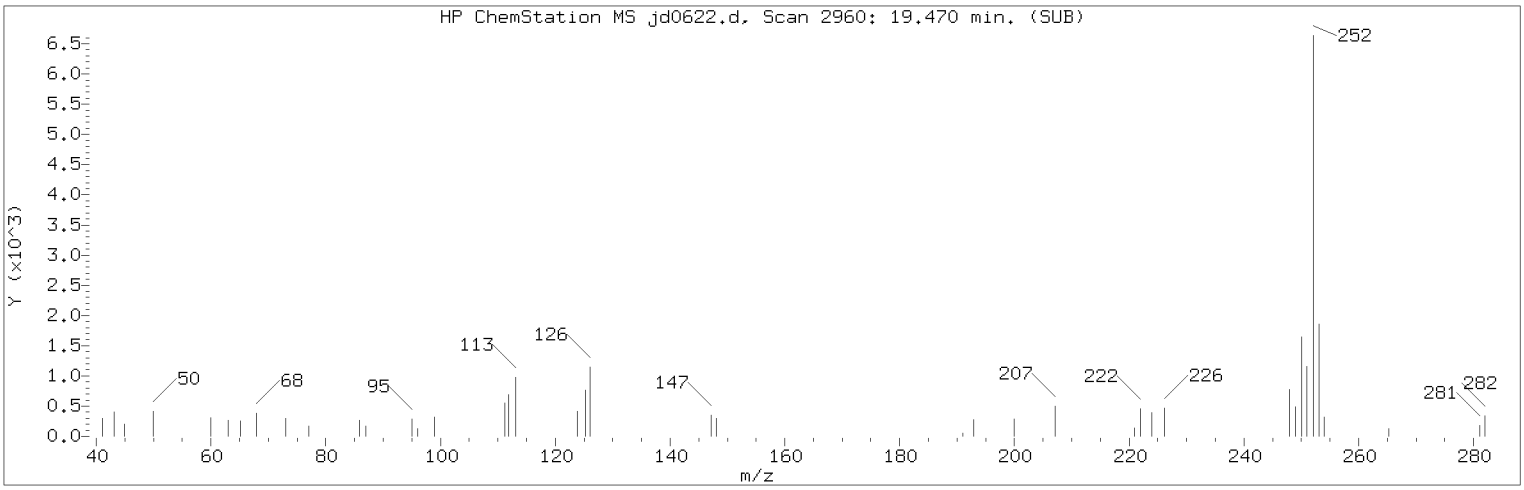
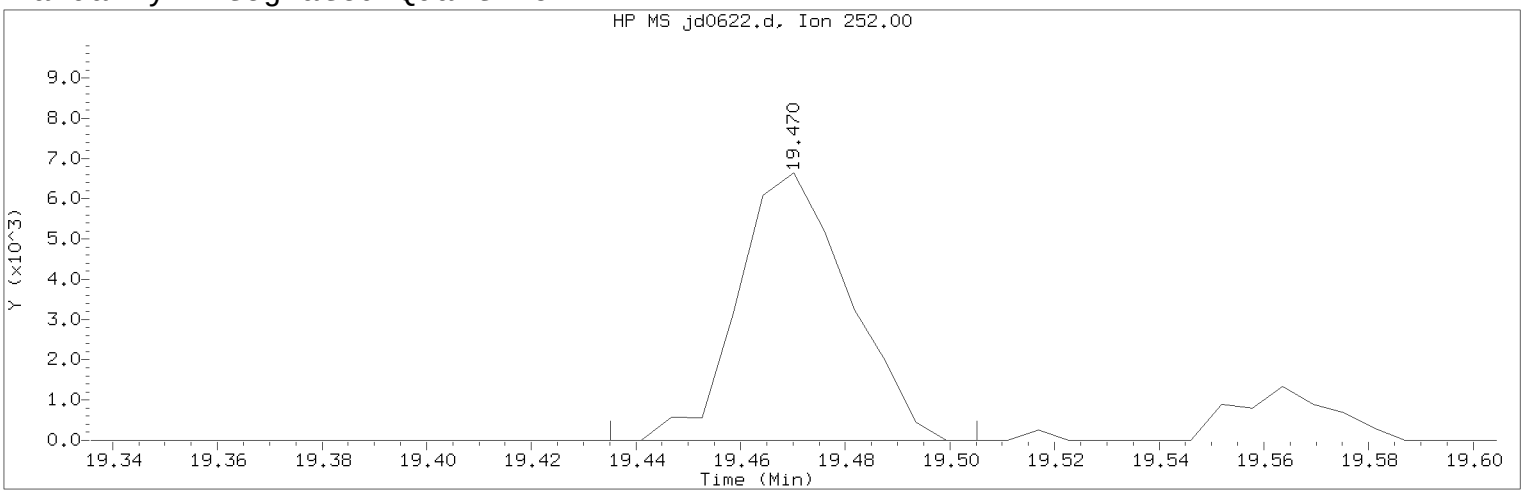
Target 3.5 esignature user ID: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



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Injection date and time: 14-APR-2018 16:29 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

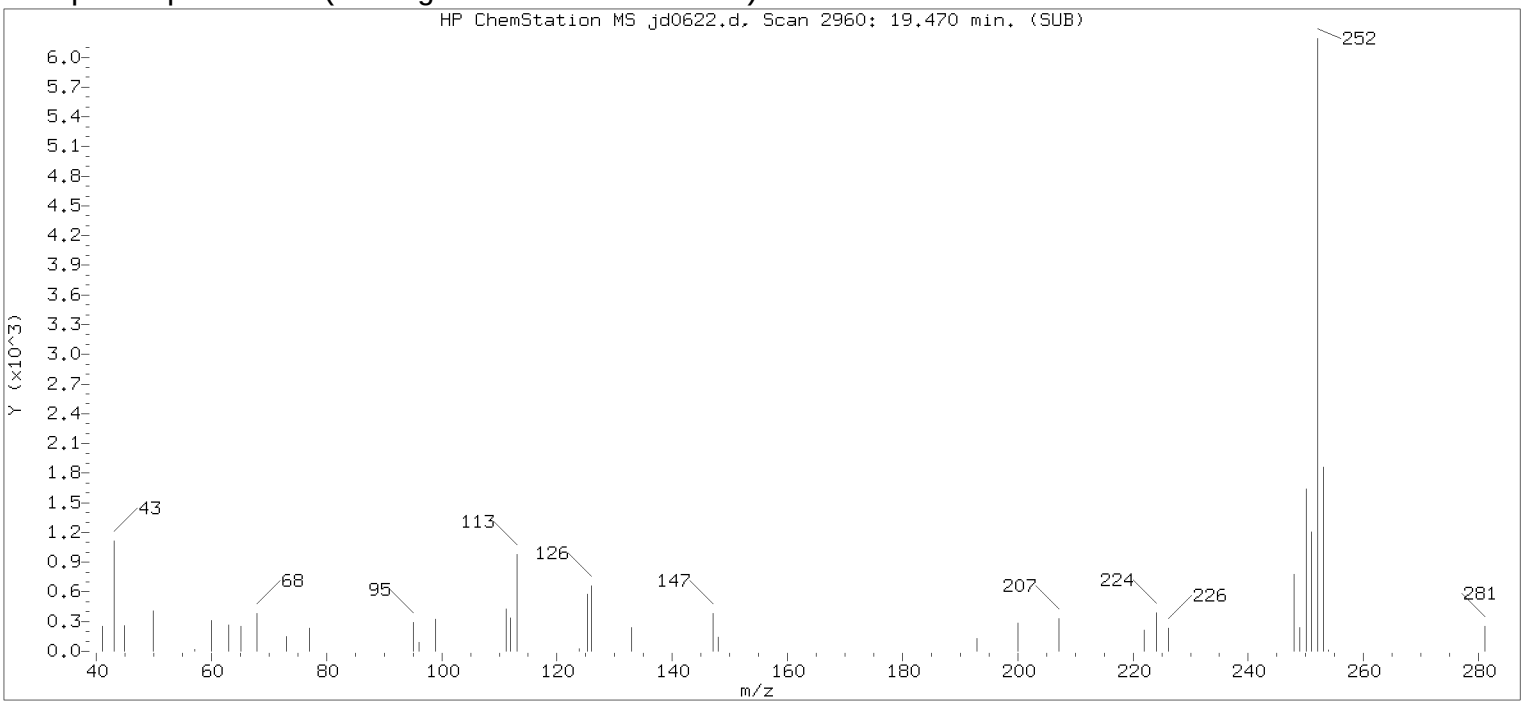
Compound Number : 214
Compound Name : Benzo(a)pyrene
Scan Number : 2960
Retention Time (minutes) : 19.470
Quant Ion : 252.00
Area (flag) : 9749M
On-Column Amount (ng/ul) : 0.1172
Integration start scan : 2953 Integration stop scan: 2965
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

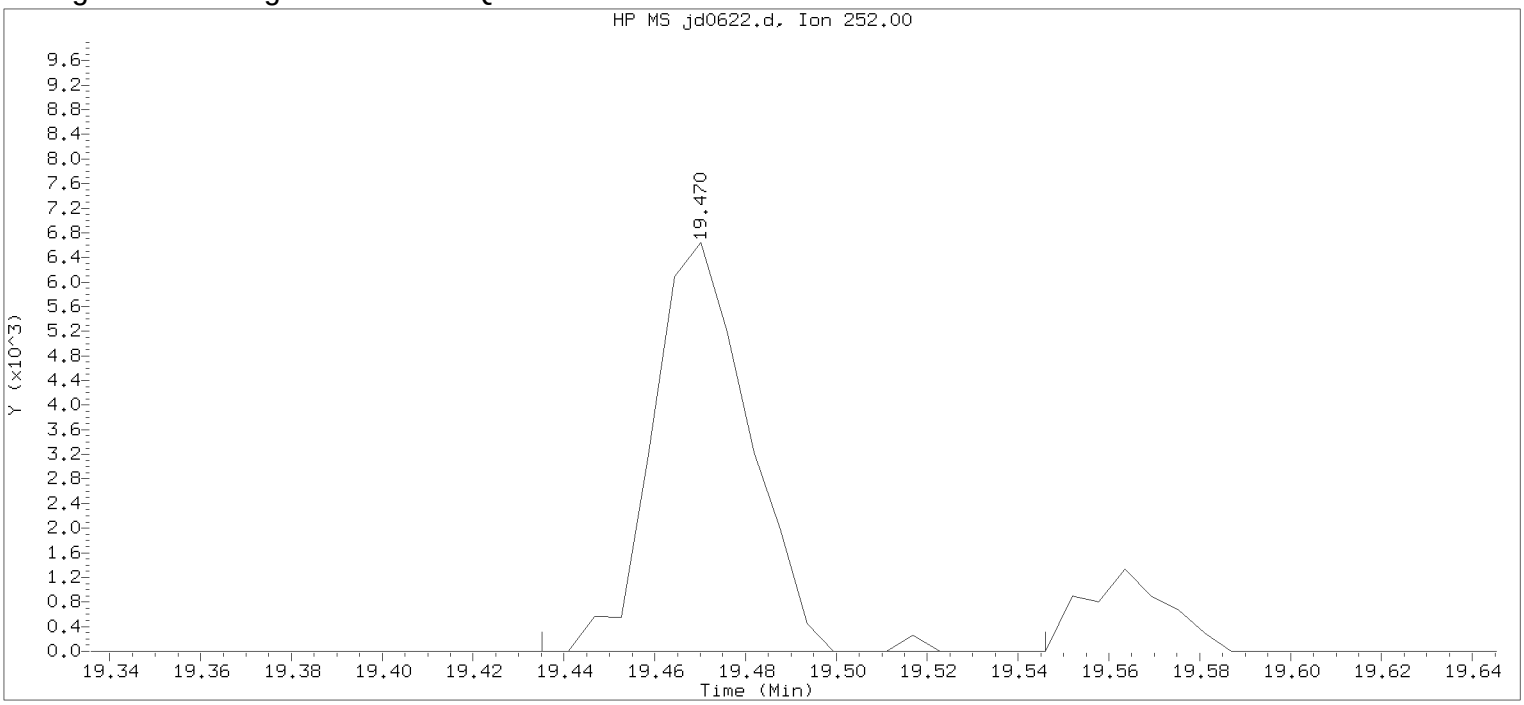
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:50.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0622.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 16:29 Analyst ID: knk25316

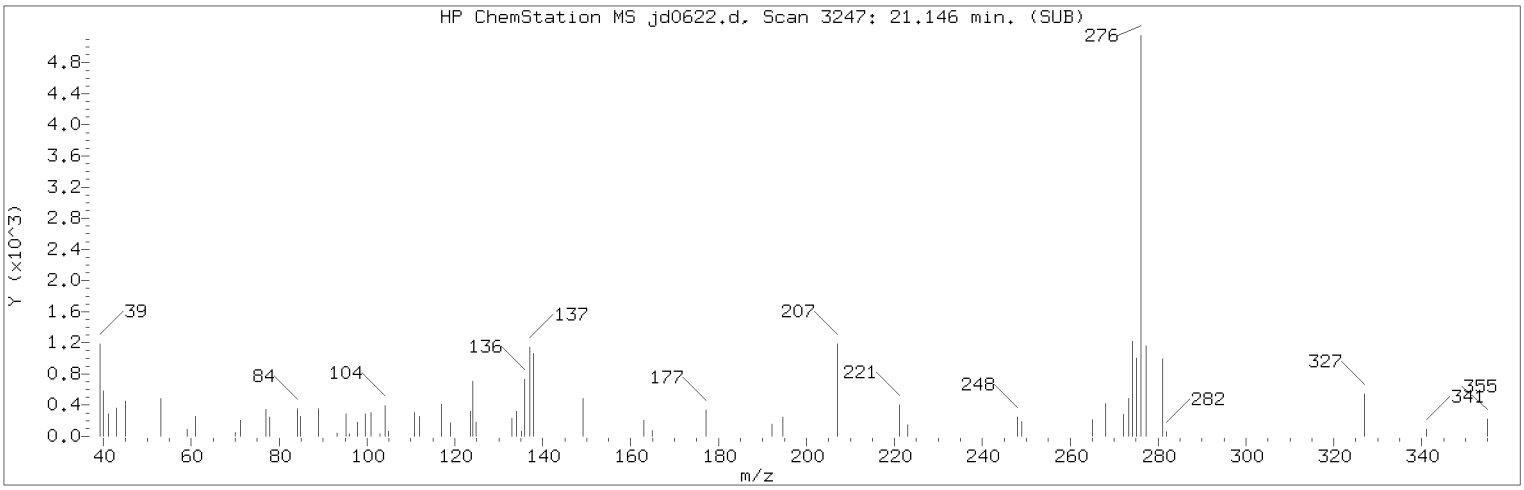
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:20
Date, time and analyst ID of latest file update: 15-Apr-2018 13:20 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

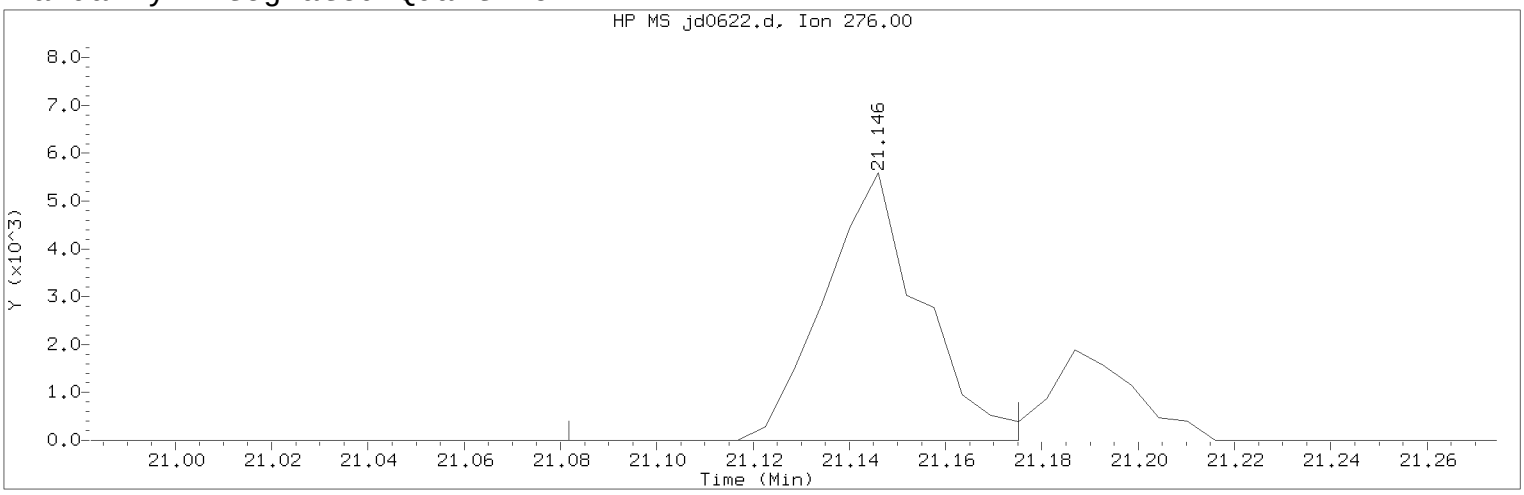
Compound Number : 214
Compound Name : Benzo(a)pyrene
Scan Number : 2960
Retention Time (minutes) : 19.470
Quant Ion : 252.00
Area : 9839
On-column Amount (ng/ul) : 0.1172
Integration start scan : 2953 Integration stop scan: 2972
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:50.
Target 3.5 esignature user id: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



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Injection date and time: 14-APR-2018 16:29 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

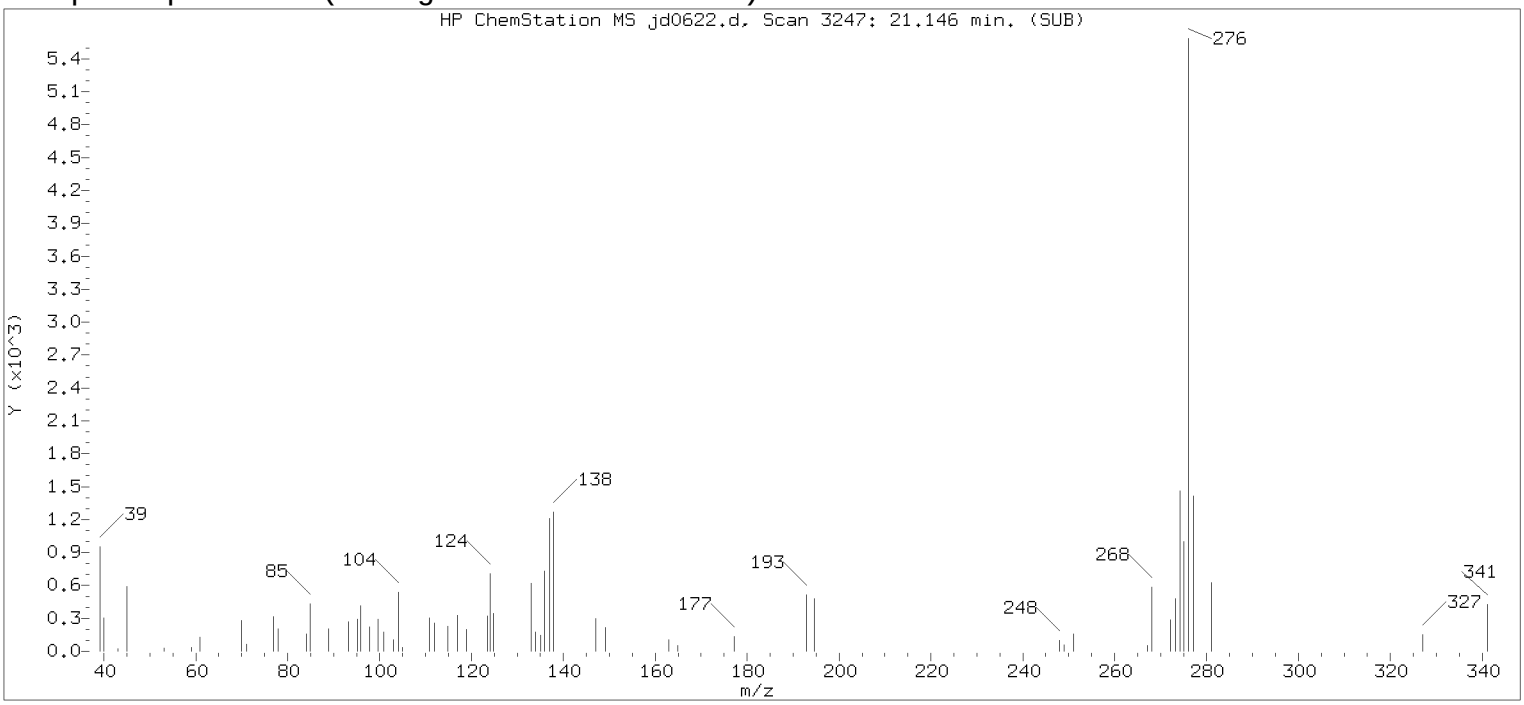
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3247
Retention Time (minutes) : 21.146
Quant Ion : 276.00
Area (flag) : 7821M
On-Column Amount (ng/ul) : 0.1035
Integration start scan : 3235 Integration stop scan: 3251
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

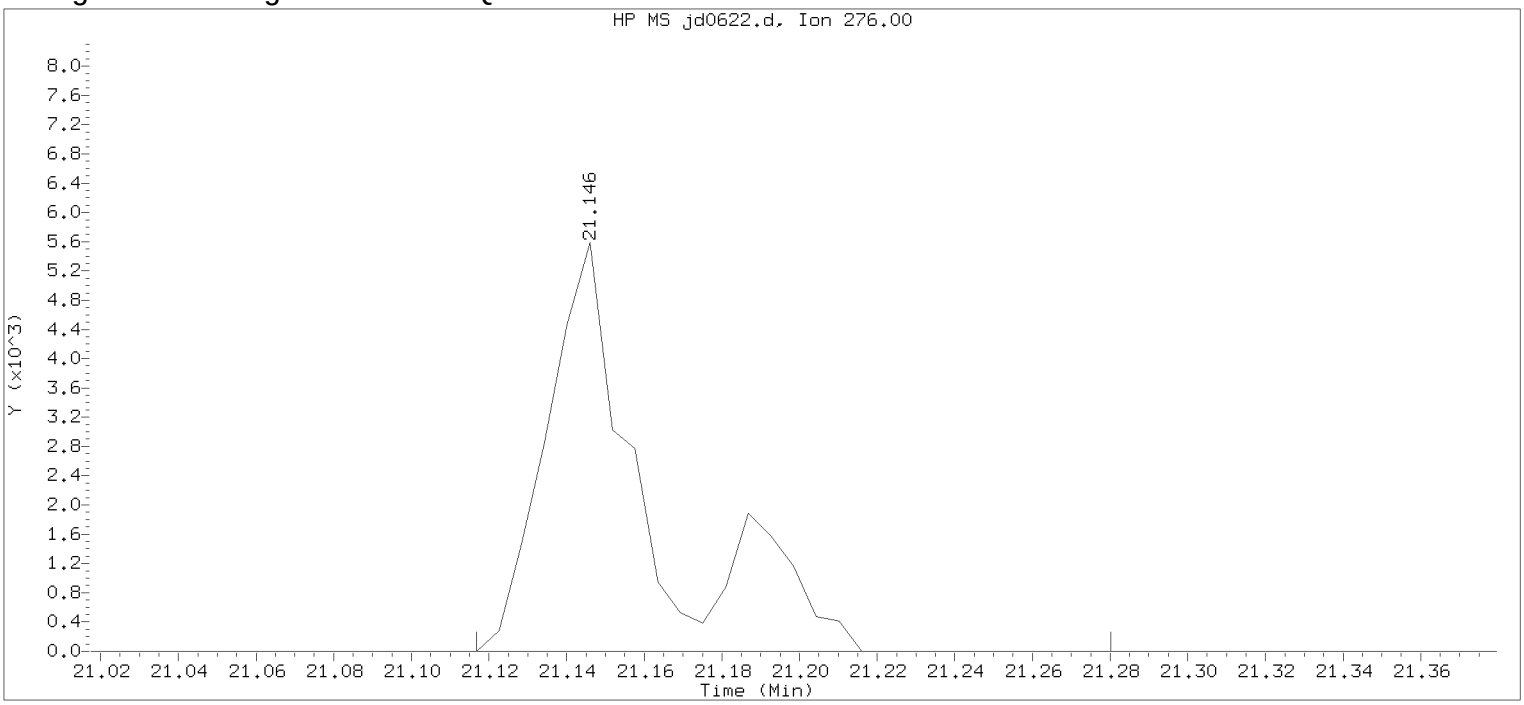
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:50.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



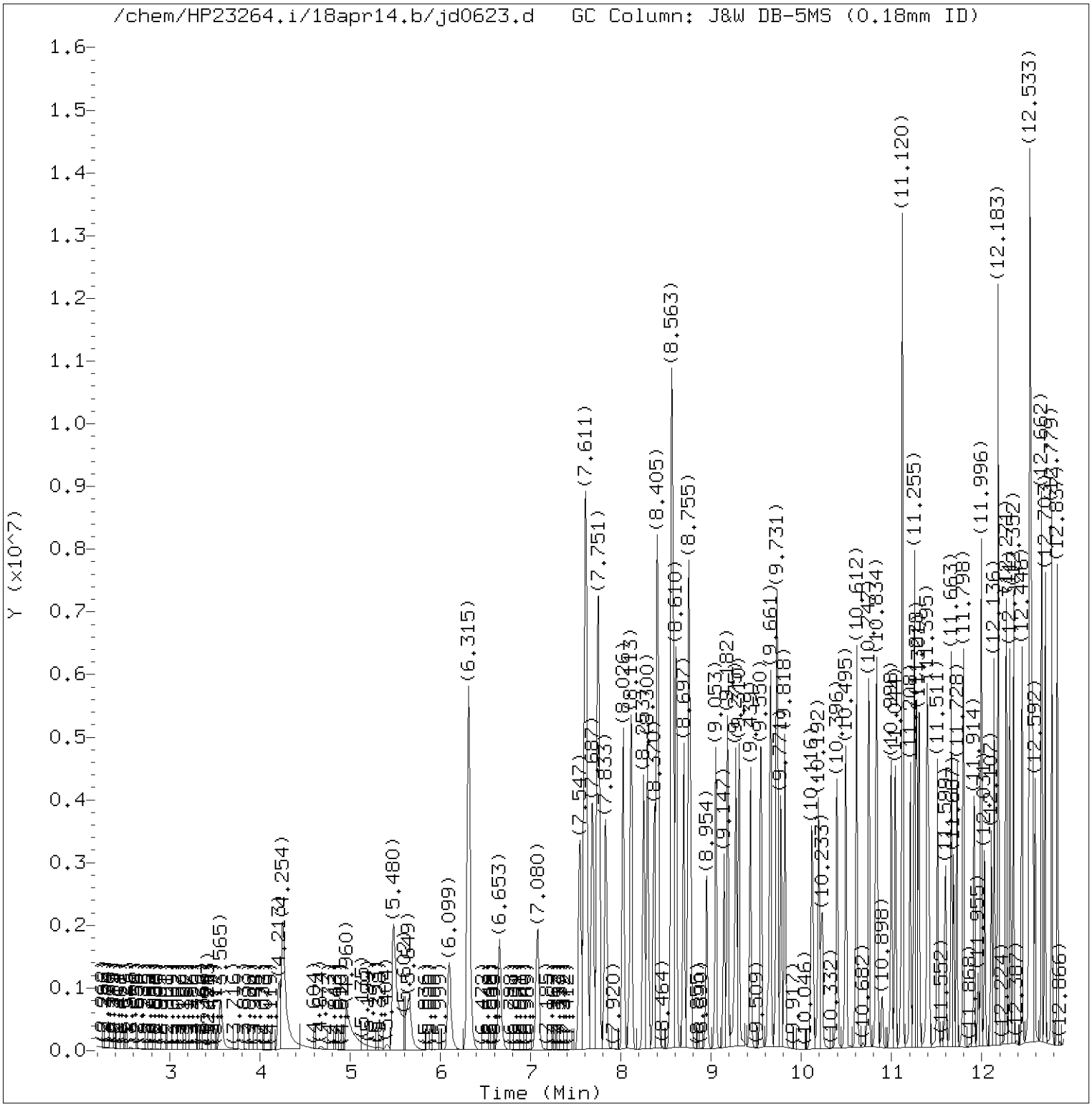
Data File: /chem/HP23264.i/18apr14.b/jd0622.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 16:29 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:20
Date, time and analyst ID of latest file update: 15-Apr-2018 13:20 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3247
Retention Time (minutes) : 21.146
Quant Ion : 276.00
Area : 10051
On-column Amount (ng/ul) : 0.1100
Integration start scan : 3241 Integration stop scan: 3269
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:50.
Target 3.5 esignature user ID: knk25316



Total Ion Chromatogram (TIC)

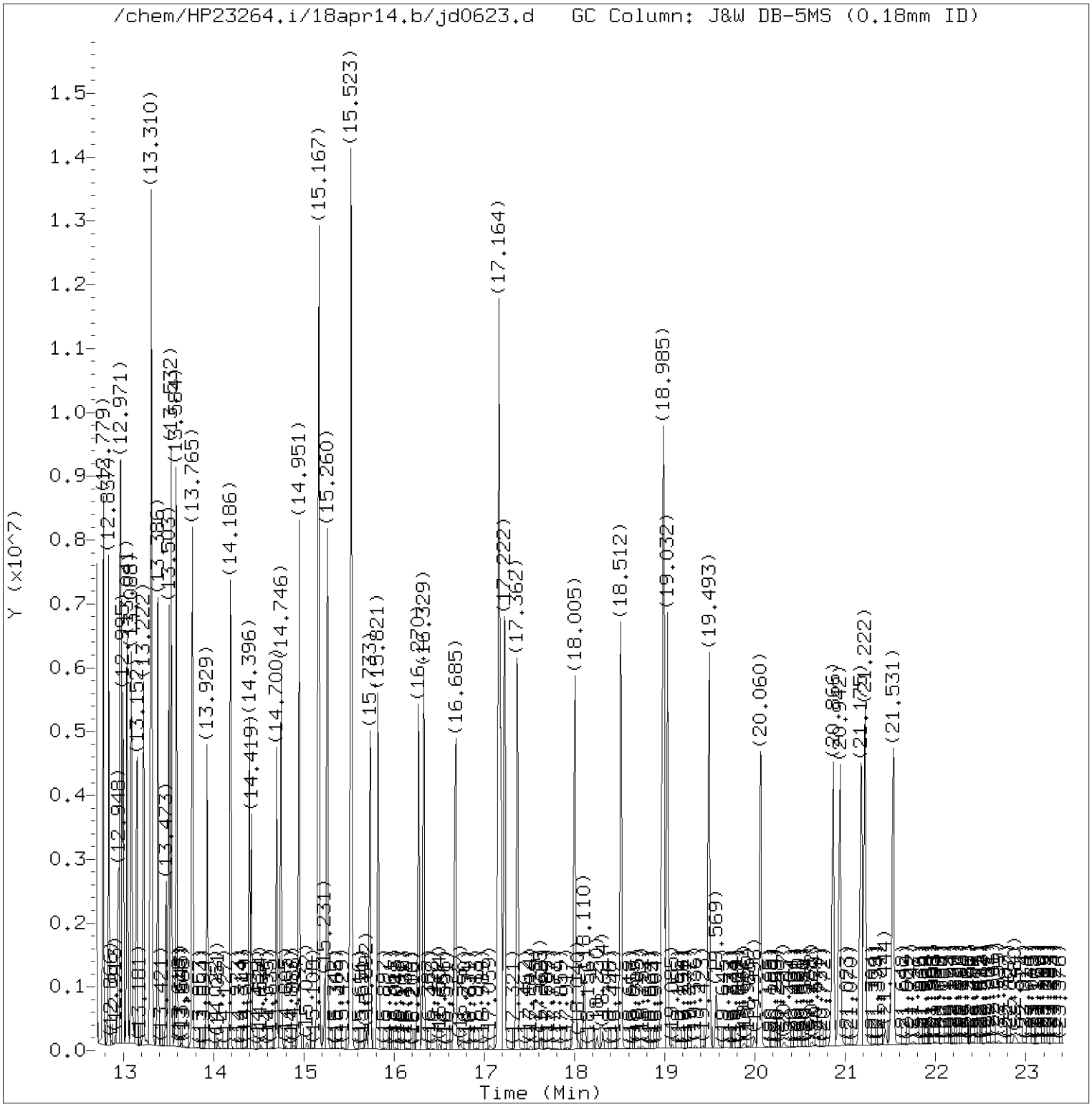
Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0623.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 16:59 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD30 Lab Sample ID: rvSTD0968

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 10:50.
Target 3.5 esignature user ID: knk25316



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0623.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 16:59 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD30 Lab Sample ID: rvSTD0968

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 10:50.
Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0623.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 16:59 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD30 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
3) 1,4-Dioxane	(1)	3.559	88	935976	29.870
5) N-Nitrosodimethylamine	(1)	4.213	74	1559708	31.202
6) Pyridine	(1)	4.254	79	2636187	30.122
8) 2-Picoline	(1)	5.480	93	2551696	30.368
11) N-Nitrosomethylethylamine	(1)	5.649	88	1143560	30.248
12) Methyl methanesulfonate	(1)	6.099	80	1363383	30.583
13)$2-Fluorophenol	(1)	6.315	112	3908699	64.335
14) N-Nitrosodiethylamine	(1)	6.659	102	1057974	32.400
18) Ethyl methanesulfonate	(1)	7.074	109	1020769	32.397
24) Benzaldehyde	(1)	7.547	77	1716511	27.138
26)$Phenol-d6	(1)	7.605	99	5378735	63.893
27) Phenol	(1)	7.623	94	2812660	31.218
28) Aniline	(1)	7.681	93	3531665	32.380
30) a-methylstyrene	(1)	7.739	118	718867	32.923
31) bis(2-Chloroethyl)ether	(1)	7.757	93	2232929	32.115
32) 2-Chlorophenol	(1)	7.833	128	1742775	32.047
34) 1,3-Dichlorobenzene	(1)	8.026	146	1987702	32.688
36)*1,4-Dichlorobenzene-d4	(1)	8.096	152	204439	5.000
38) 1,4-Dichlorobenzene	(1)	8.113	146	1975334	30.017
39) Benzyl alcohol	(1)	8.253	108	1083700	32.393
41) 1,2-Dichlorobenzene	(1)	8.300	146	1807805	32.248
44) 2-Methylphenol	(1)	8.370	108	1507196	30.828
46) Indene	(1)	8.405	115	2562677	32.355
48) bis(2-Chloroisopropyl)ether	(1)	8.411	45	2490340	30.918
47) 2,2'-oxybis(1-Chloropropane)	(1)	8.411	45	2490340	30.918
53) 4-Methylphenol	(1)	8.557	108	1484316	30.080
51) N-Nitrosopyrrolidine	(1)	8.563	100	858983	32.260
52) Acetophenone	(1)	8.574	105	2326669	30.399
54) N-Nitroso-di-n-propylamine	(1)	8.580	70	1366458	31.688
55) N-Nitrosomorpholine	(1)	8.604	56	1116751M	30.625
56) o-Toluidine	(1)	8.615	106	2807541	34.115
57) Hexachloroethane	(1)	8.697	117	769251	32.753
58)$Nitrobenzene-d5	(2)	8.755	82	4160990	62.564
59) Nitrobenzene	(2)	8.773	77	2048952	30.702
61) N-Nitrosopiperidine	(2)	8.954	114	706196	32.093
63) Isophorone	(2)	9.053	82	2932219	31.045
64) 2-Nitrophenol	(2)	9.147	139	700450	31.570
65) 2,4-Dimethylphenol	(2)	9.182	107	1415380	30.998
66) O,O,O-Triethylphosphorothioate	(2)	9.275	198	563228	30.452
68) bis(2-Chloroethoxy)methane	(2)	9.310	93	1620492	31.089

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on 04/17/2018 at 10:50.
Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0623.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 16:59 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD30 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
67) Benzoic acid	(2)	9.316	105	1051537	29.576
70) 2,4-Dichlorophenol	(2)	9.439	162	1146385	31.114
72) 1,2,4-Trichlorobenzene	(2)	9.555	180	1287529	30.865
76)*Naphthalene-d8	(2)	9.631	136	530047	5.000
78) Naphthalene	(2)	9.661	128	3456768	32.097
79) 4-Chloroaniline	(2)	9.725	127	1512315	33.833
80) 2,6-Dichlorophenol	(2)	9.736	162	1147784	32.749
81) Hexachloropropene	(2)	9.771	213	989658	30.316
83) Hexachlorobutadiene	(2)	9.818	225	768564	30.396
84) Quinoline	(2)	10.116	129	2139450	32.046
87) N-Nitrosodi-n-butylamine	(2)	10.192	84	1114414	29.150
86) Caprolactam	(2)	10.233	113	450051	32.534
89) 4-Chloro-3-methylphenol	(2)	10.396	107	1191221	29.707
90) Safrole	(2)	10.495	162	913188	31.986
91) 2-Methylnaphthalene	(2)	10.612	142	2190457	34.121
92) 1-Methylnaphthalene	(2)	10.747	142	1960425	34.694
95) Hexachlorocyclopentadiene	(3)	10.828	237	744833	29.376
96) 1,2,4,5-Tetrachlorobenzene	(3)	10.840	216	1236596	30.150
97) cis-Isosafrole	(3)	10.898	162	158568	5.198
98) 2,4,6-Trichlorophenol	(3)	10.998	196	879886	33.177
100) 2,4,5-Trichlorophenol	(3)	11.044	196	870929	31.639
102)$2-Fluorobiphenyl	(3)	11.120	172	4876061	64.124
104) trans-Isosafrole	(3)	11.208	162	832834	25.737
105) 1,1'-Biphenyl	(3)	11.255	154	2487944	30.468
107) 2-Chloronaphthalene	(3)	11.278	162	2120992	30.730
108) 1-Chloronaphthalene	(3)	11.307	162	1926630	30.845
109) Diphenyl ether	(3)	11.395	170	1317855	30.487
110) 2-Nitroaniline	(3)	11.412	138	703896	32.973
111) 1,4-Naphthoquinone	(3)	11.511	158	847215	30.604
112) 1,4-Dinitrobenzene	(3)	11.599	168	394988	32.050
114) Dimethylphthalate	(3)	11.663	163	2370488	30.821
116) 1,3-Dinitrobenzene	(3)	11.687	168	425564	30.613
117) 2,6-Dinitrotoluene	(3)	11.728	165	569696	31.892
118) Acenaphthylene	(3)	11.798	152	2874237	32.004
120) 3-Nitroaniline	(3)	11.920	138	592911	32.751
122)*Acenaphthene-d10	(3)	11.955	164	235744	5.000
123) Acenaphthene	(3)	11.996	153	1881662	32.353
125) 2,4-Dinitrophenol	(3)	12.037	184	438429	31.414
126) 4-Nitrophenol	(3)	12.107	109	522405M	32.582
127) Pentachlorobenzene	(3)	12.136	250	897375	30.482

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on 04/17/2018 at 10:50.
Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0623.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 16:59 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD30 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
129) Dibenzofuran	(3)	12.183	168	2753828	32.222
128) 2,4-Dinitrotoluene	(3)	12.183	165	780770	30.939
131) 1-Naphthylamine	(3)	12.271	143	2047438	31.521
132) 2,3,4,6-Tetrachlorophenol	(3)	12.311	232	732253	32.915
133) 2-Naphthylamine	(3)	12.352	143	1964610	31.497
136) Diethylphthalate	(3)	12.446	149	2344905	30.497
138) Thionazin	(3)	12.527	107	403130	32.100
139) Fluorene	(3)	12.533	166	2278626	32.954
141) 4-Chlorophenyl-phenylether	(3)	12.545	204	1104864	31.018
140) 5-Nitro-o-toluidine	(3)	12.557	152	676625	31.492
142) 4-Nitroaniline	(3)	12.568	138	564852M	30.089
143) 4,6-Dinitro-2-methylphenol	(4)	12.592	198	531476	31.503
145) NDPA as diphenylamine	(4)	12.662	169	1891561	31.015
144) N-Nitrosodiphenylamine	(4)	12.662	169	1891561	31.015
146) 1,2-Diphenylhydrazine	(4)	12.703	77	2834833	31.009
147)$2,4,6-Tribromophenol	(3)	12.779	330	701988	67.169
148) Tetraethyldithiopyrophosphate	(4)	12.837	97	539032	29.861
149) 1,3,5-Trinitrobenzene	(4)	12.948	213	310040	30.852
150) Diallate (peak 1)	(4)	12.965	86	951650	25.268
151) Phorate	(4)	12.971	75	1762462	31.422
152) Phenacetin	(4)	12.995	108	1378726	30.450
153) 4-Bromophenyl-phenylether	(4)	13.041	248	651731	30.083
154) Diallate (peak 2)	(4)	13.047	86	158305	5.026
155) Hexachlorobenzene	(4)	13.088	284	689435	31.418
156) Dimethoate	(4)	13.152	87	989025	28.331
157) Atrazine	(4)	13.222	200	587274	27.331
160) Pentachlorophenol	(4)	13.298	266	508448	30.598
161) 4-Aminobiphenyl	(4)	13.310	169	2241420	31.180
162) Pentachloronitrobenzene	(4)	13.310	237	426586	31.448
164) Pronamide	(4)	13.386	173	1148977	30.543
166) Dinoseb	(4)	13.503	211	724108	30.782
165)*Phenanthrene-d10	(4)	13.503	188	465542	5.000
167) Phenanthrene	(4)	13.532	178	3387575	32.394
168) Anthracene	(4)	13.584	178	3429343	32.295
169) Carbazole	(4)	13.765	167	2962315	30.872
170) Methyl parathion	(4)	13.929	109	781027	29.463
174) Di-n-butylphthalate	(4)	14.186	149	3772360	29.281
180) Parathion	(4)	14.396	109	518138	30.479
179) 4-Nitroquinoline-1-oxide	(4)	14.419	190	458758	31.239
181) Octachlorostyrene	(4)	14.700	308	262293	30.327

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Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0623.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 16:59 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD30 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
182) Isodrin	(4)	14.746	193	418934	29.630
183) Fluoranthene	(4)	14.951	202	3652148	30.497
184) Benzidine	(5)	15.167	184	6617056	92.956
185)*Pyrene-d10	(5)	15.231	212	462192	5.000
187) Pyrene	(5)	15.260	202	3786624	32.453
192)$Terphenyl-d14	(5)	15.523	244	5173085	66.005
193) p-Dimethylaminoazobenzene	(5)	15.733	225	612758	32.992
194) Chlorobenzilate	(5)	15.821	139	1213784	31.986
196) 3,3'-Dimethylbenzidine	(5)	16.270	212	2278472	30.298
198) Butylbenzylphthalate	(5)	16.329	149	1683841	30.546
199) 2-Acetylaminofluorene	(5)	16.685	181	1558157	33.326
201) Benzo(a)anthracene	(5)	17.164	228	3614812	32.259
202) 3,3'-Dichlorobenzidine	(5)	17.164	252	1346260	32.063
205) 4,4'-Methylenebis(2-chloroanil	(5)	17.187	231	737216	31.959
206) Chrysene	(5)	17.228	228	3414110	32.201
207) bis(2-Ethylhexyl)phthalate	(5)	17.368	149	2531065	32.058
208) 6-Methylchrysene	(5)	18.005	242	2311933	31.613
209) Di-n-octylphthalate	(6)	18.512	149	4712681	32.168
210) Benzo(b)fluoranthene	(6)	18.980	252	3797082	33.852
211) 7,12-Dimethylbenz[a]anthracene	(6)	18.985	256	1657931	34.443
212) Benzo(k)fluoranthene	(6)	19.032	252	3525718	33.095
214) Benzo(a)pyrene	(6)	19.493	252	3516349	33.861
215)*Perylene-d12	(6)	19.569	264	452305	5.000
216) 3-Methylcholanthrene	(6)	20.066	268	1578813	32.172
217) Dibenz(a,h)acridine	(6)	20.866	279	2436208	29.982
218) Dibenz(a,j)acridine	(6)	20.942	279	2467734	29.902
219) Indeno(1,2,3-cd)pyrene	(6)	21.181	276	2896181M	30.703
220) Dibenz(a,h)anthracene	(6)	21.222	278	2781050	31.309
221) Benzo(g,h,i)perylene	(6)	21.531	276	2941551	29.164
224) Isosafrole	(3)			991402	30.934
225) 2,4_2,6-Dinitrotoluenes	(3)			1350466	62.831
222) Total Cresols	(1)			2991512	60.908
228) Total PAHs	(6)			55384718	582.306
226) Diallate trans/cis	(4)			1109955	30.294

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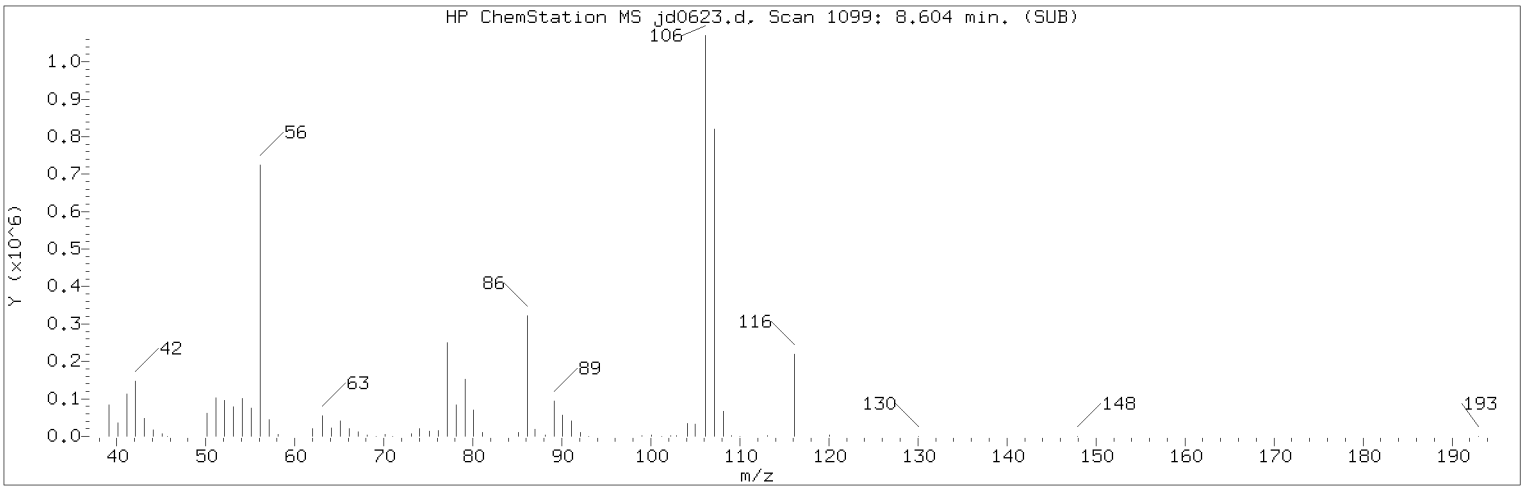
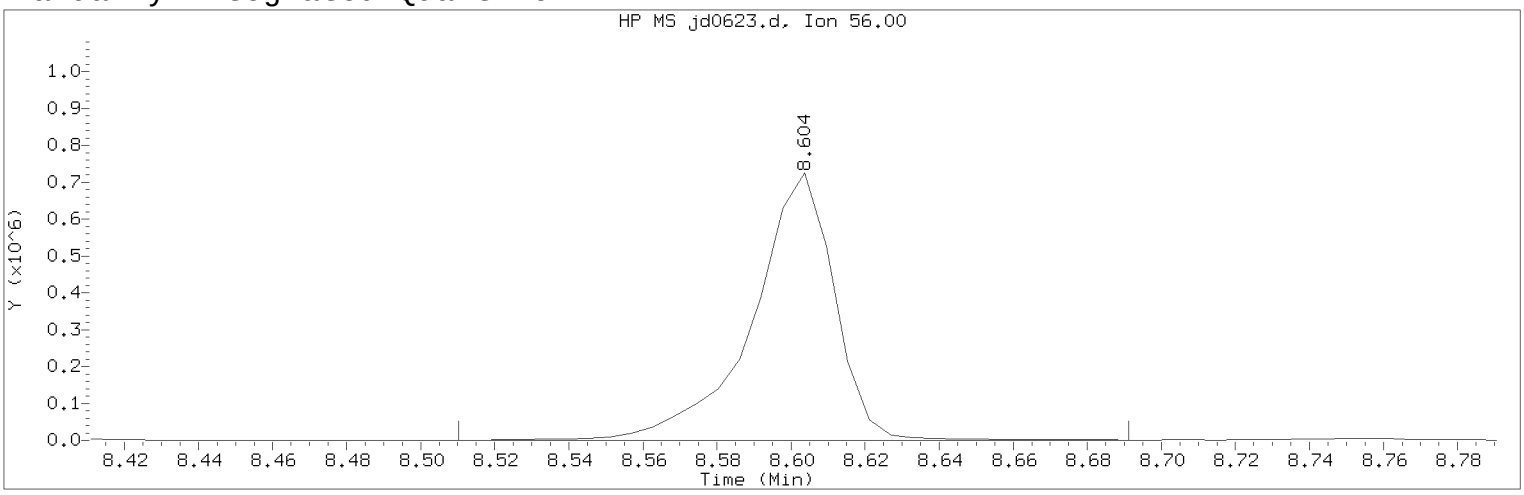
on 04/17/2018 at 10:50.
Target 3.5 esignature user ID: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0623.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 16:59 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD30 Lab Sample ID: rvSTD0968

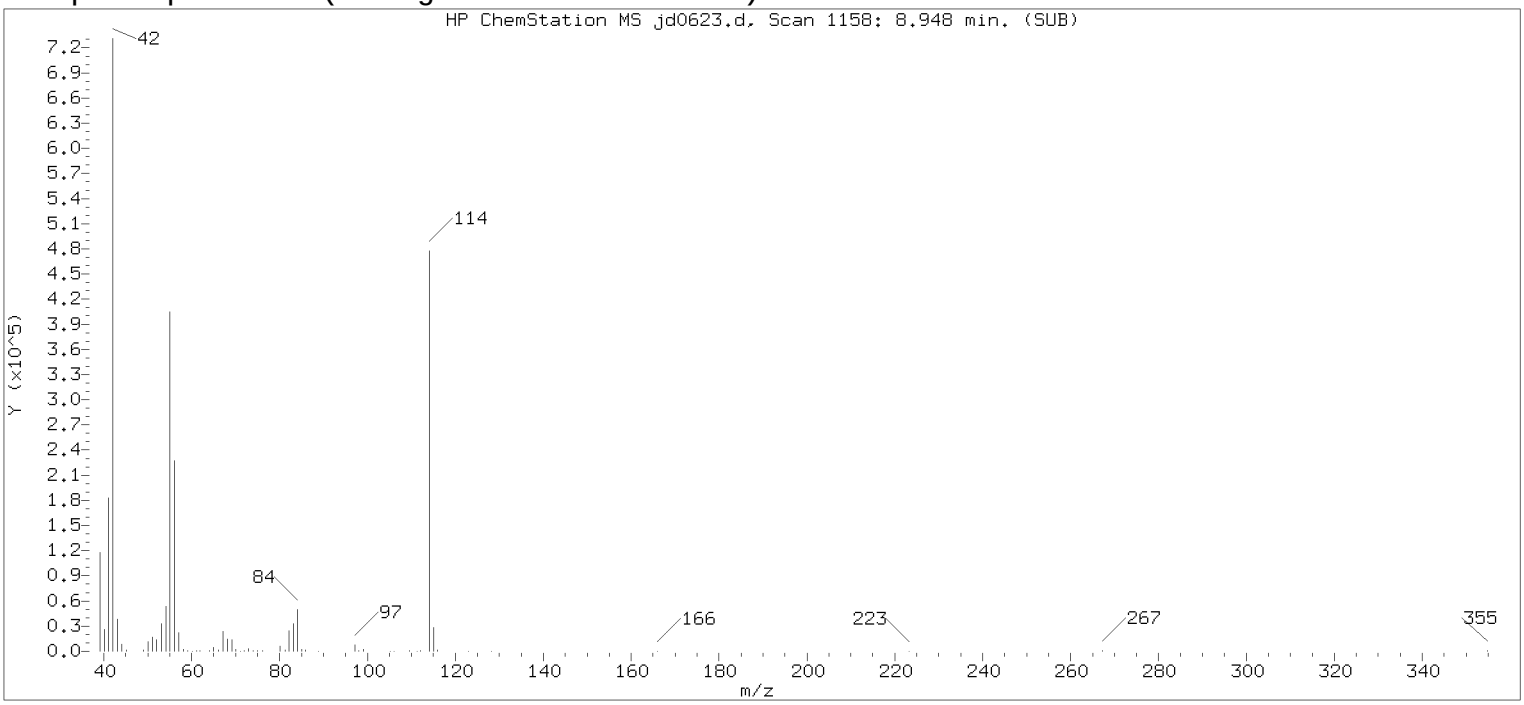
Compound Number : 55
Compound Name : N-Nitrosomorpholine
Scan Number : 1099
Retention Time (minutes) : 8.604
Quant Ion : 56.00
Area (flag) : 1116751M
On-Column Amount (ng/ul) : 30.6252
Integration start scan : 1082 Integration stop scan: 1113
Y at integration start : 293 Y at integration end: 293

Reason for manual integration: improper integration

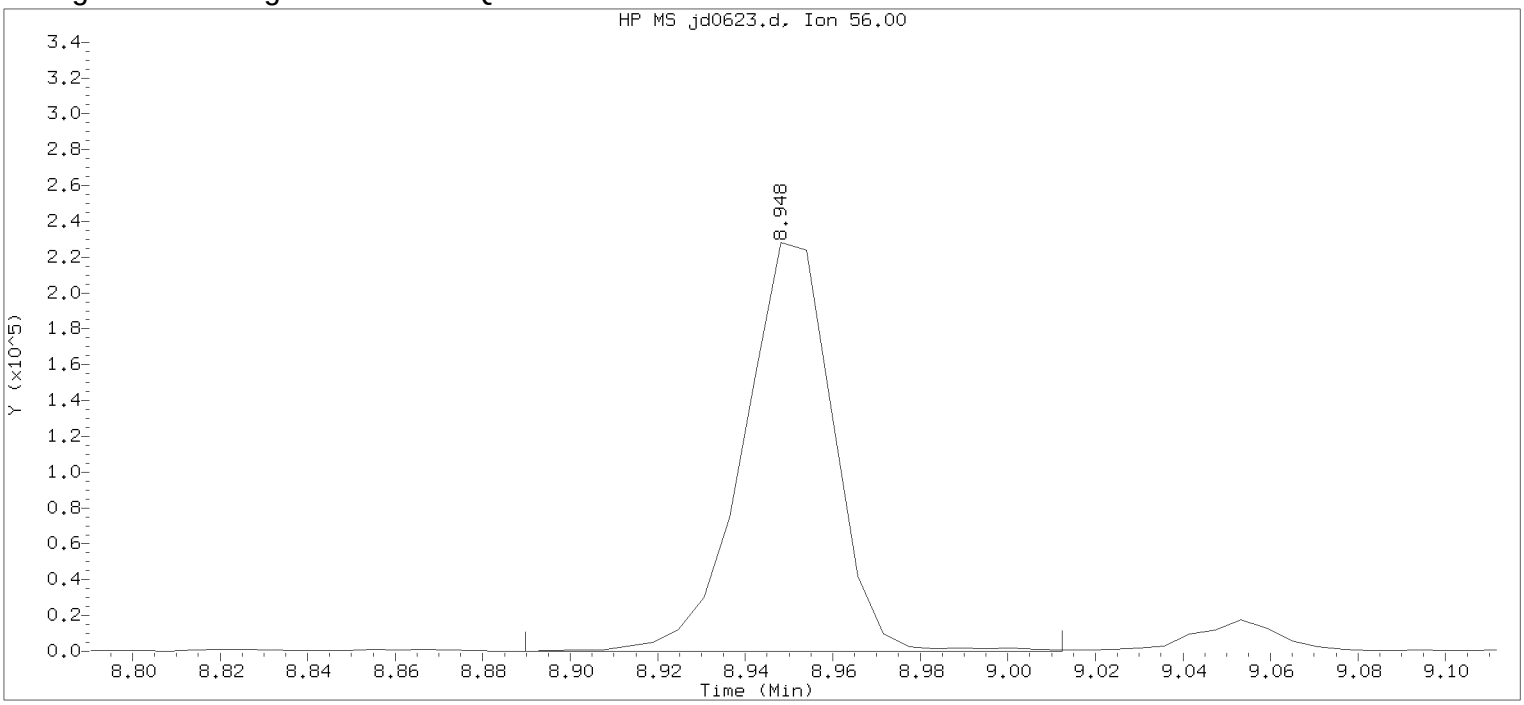
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:50.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0623.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 16:59 Analyst ID: knk25316

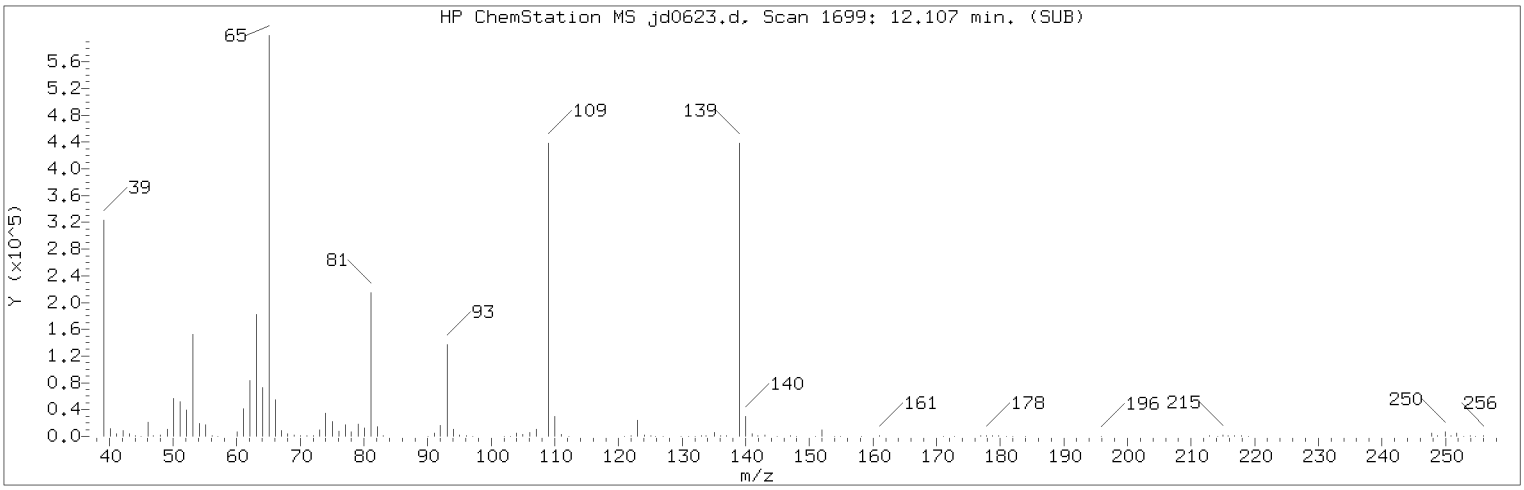
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:20
Date, time and analyst ID of latest file update: 15-Apr-2018 13:20 knk25316

Sample Name: SSTD30 Lab Sample ID: rvSTD0968

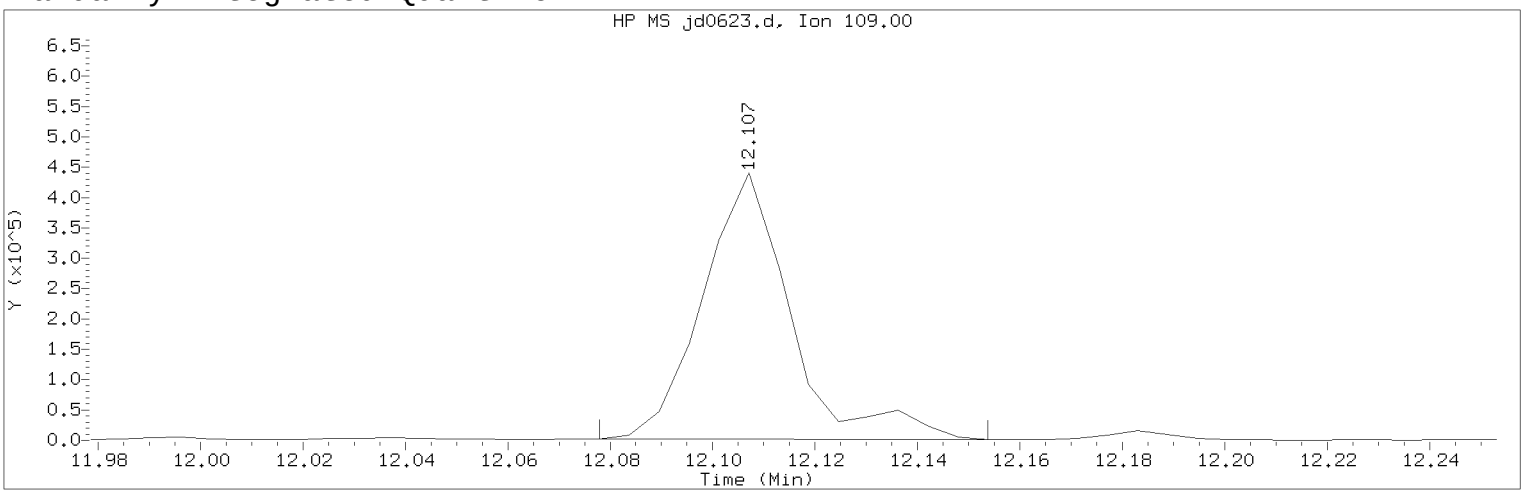
Compound Number : 55
Compound Name : N-Nitrosomorpholine
Scan Number : 1158
Retention Time (minutes) : 8.948
Quant Ion : 56.00
Area : 324594
On-column Amount (ng/ul) : 22.9418
Integration start scan : 1147 Integration stop scan: 1168
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:50.
Target 3.5 esignature user ID: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0623.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 16:59 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD30 Lab Sample ID: rvSTD0968

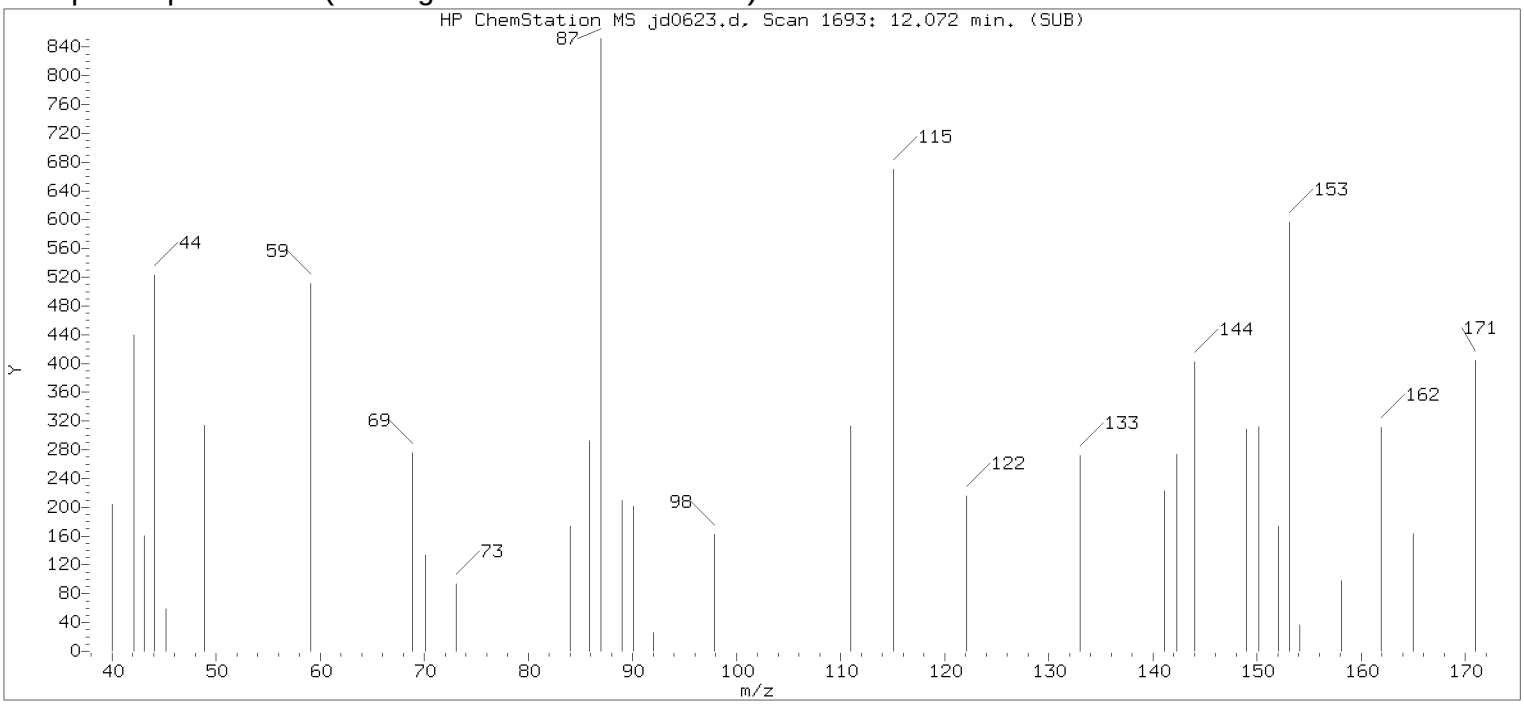
Compound Number : 126
Compound Name : 4-Nitrophenol
Scan Number : 1699
Retention Time (minutes) : 12.107
Quant Ion : 109.00
Area (flag) : 522405M
On-Column Amount (ng/ul) : 32.5823
Integration start scan : 1693 Integration stop scan: 1706
Y at integration start : 1802 Y at integration end: 1541

Reason for manual integration: improper integration

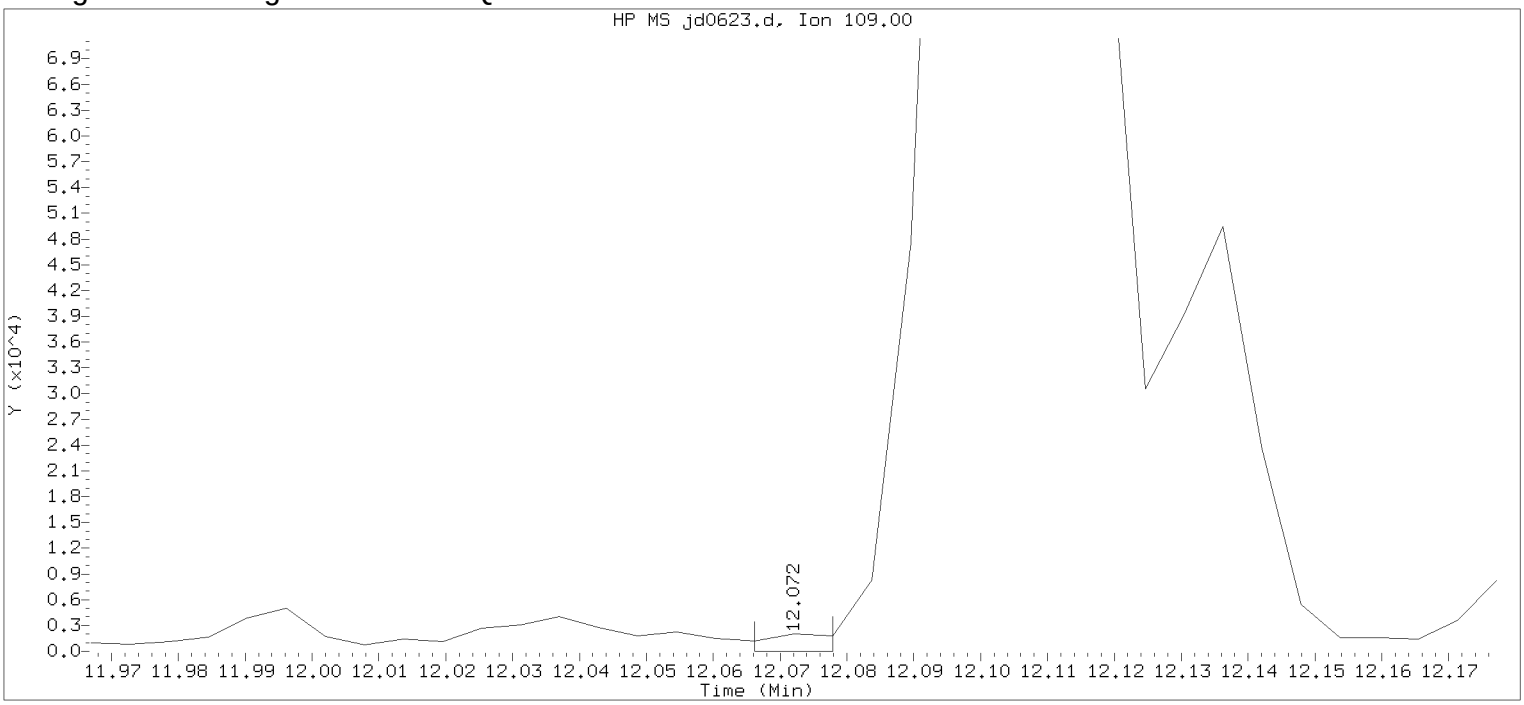
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:50.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0623.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 16:59 Analyst ID: knk25316

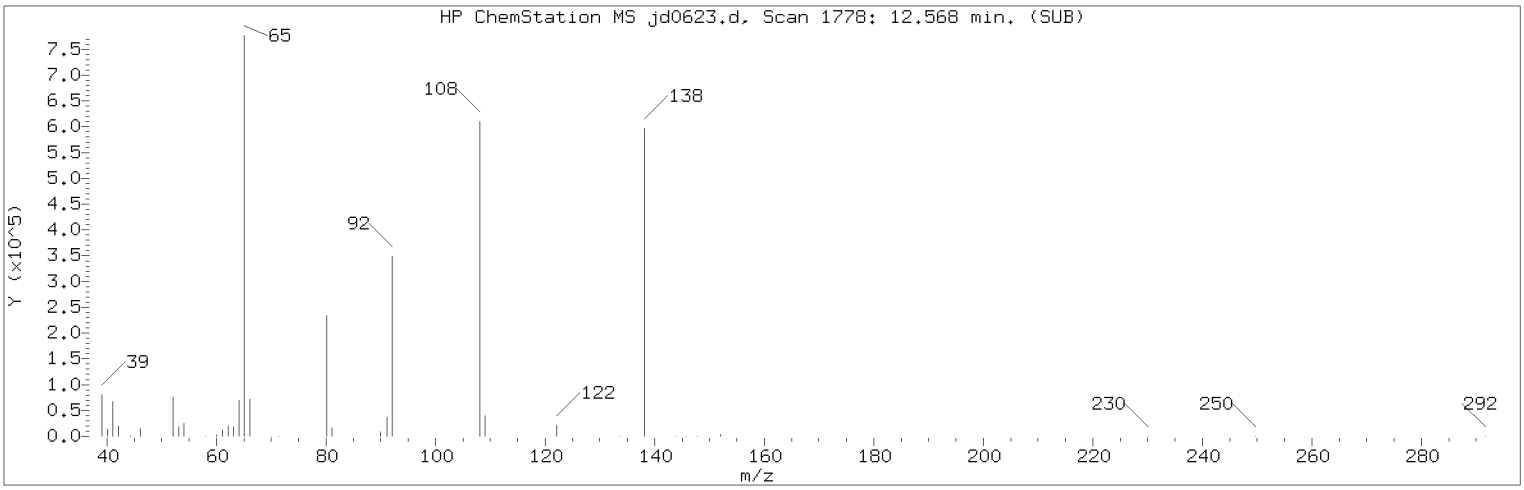
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:20
Date, time and analyst ID of latest file update: 15-Apr-2018 13:20 knk25316

Sample Name: SSTD30 Lab Sample ID: rvSTD0968

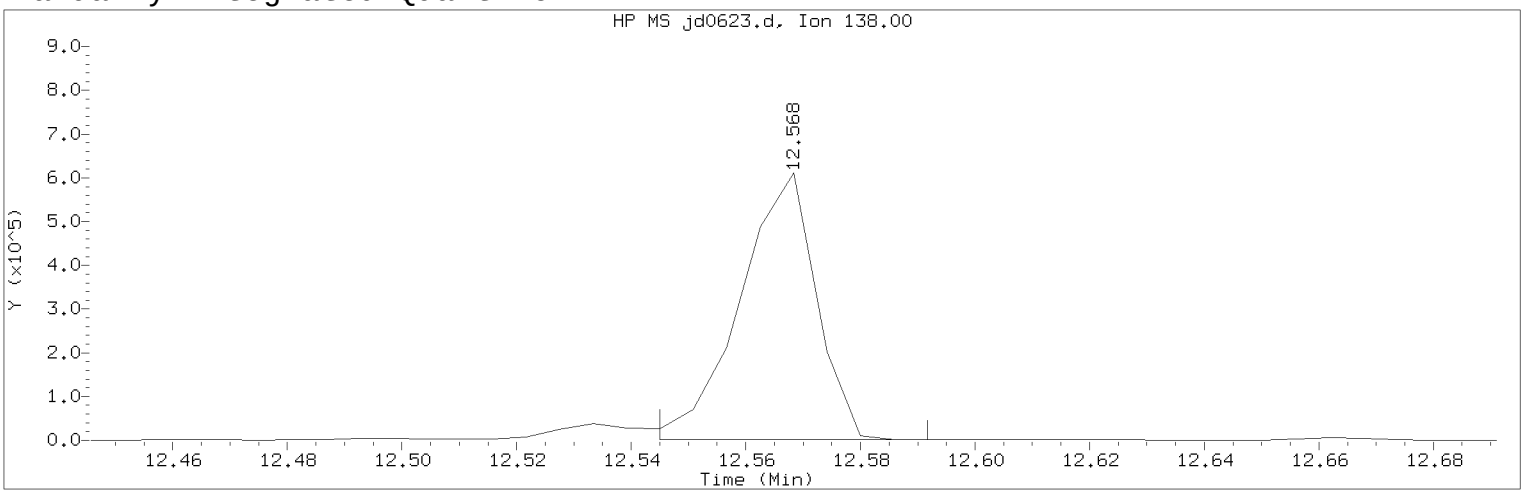
Compound Number : 126
Compound Name : 4-Nitrophenol
Scan Number : 1693
Retention Time (minutes) : 12.072
Quant Ion : 109.00
Area : 1214
On-column Amount (ng/ul) : 0.0891
Integration start scan : 1691 Integration stop scan: 1693
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:50.
Target 3.5 esignature user ID: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0623.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 16:59 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD30 Lab Sample ID: rvSTD0968

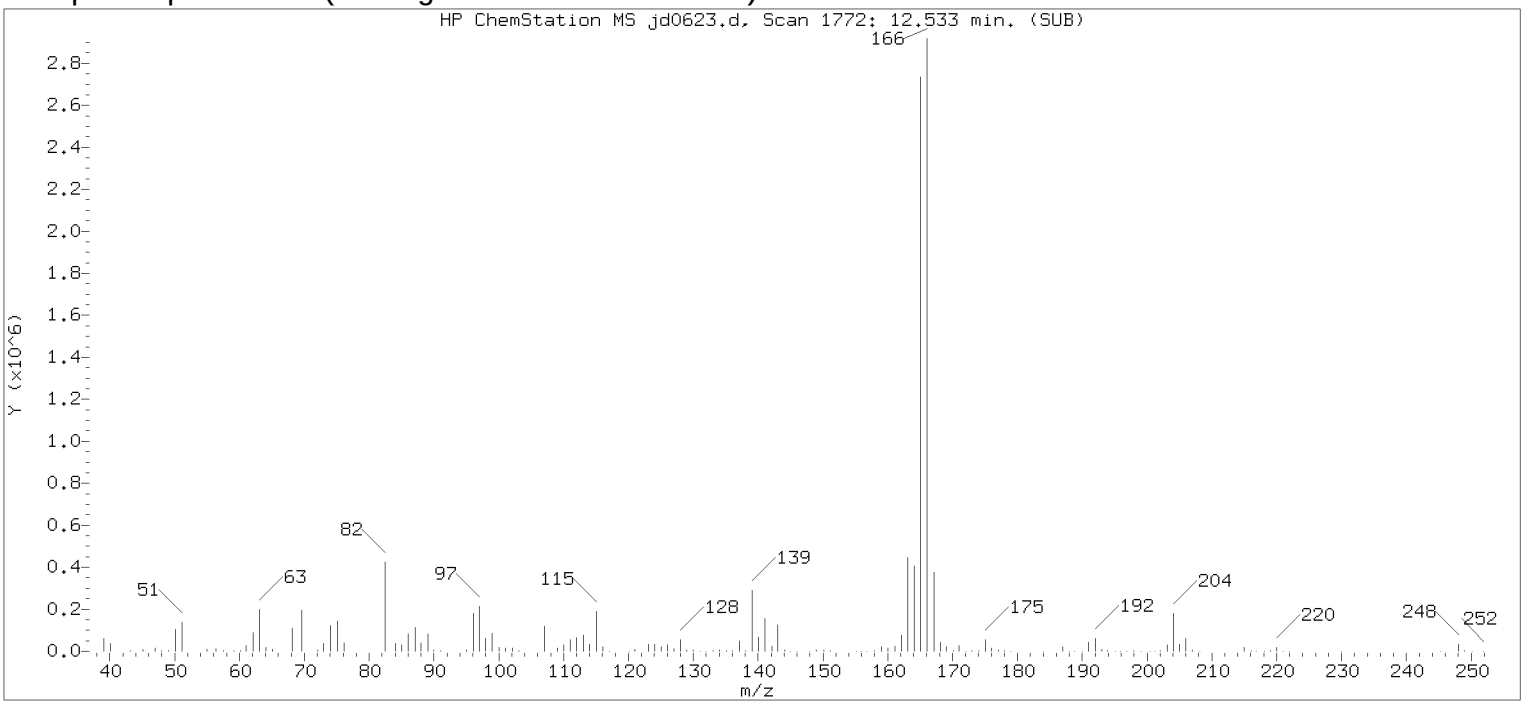
Compound Number : 142
Compound Name : 4-Nitroaniline
Scan Number : 1778
Retention Time (minutes) : 12.568
Quant Ion : 138.00
Area (flag) : 564852M
On-Column Amount (ng/ul) : 30.0887
Integration start scan : 1773 Integration stop scan: 1781
Y at integration start : 1235 Y at integration end: 1235

Reason for manual integration: improper integration

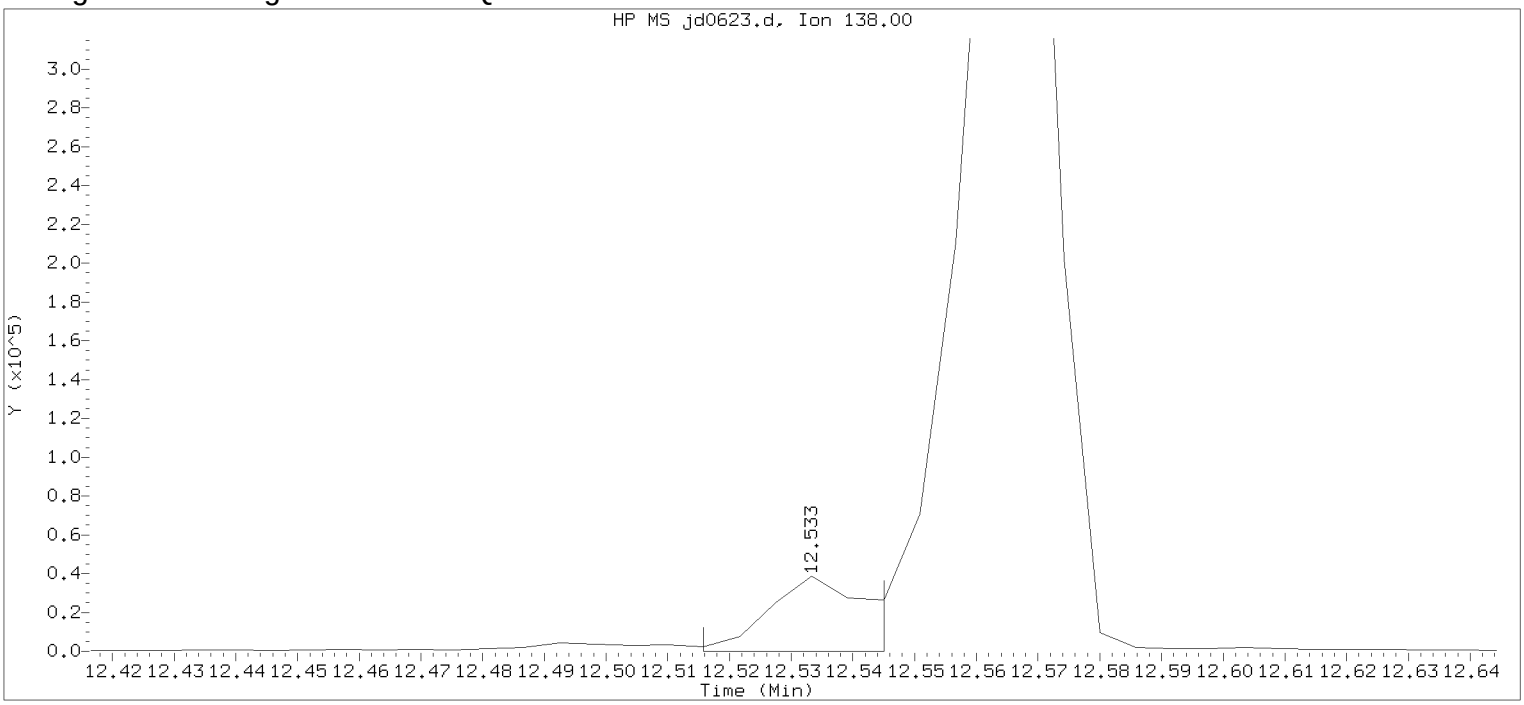
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:50.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0623.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 16:59 Analyst ID: knk25316

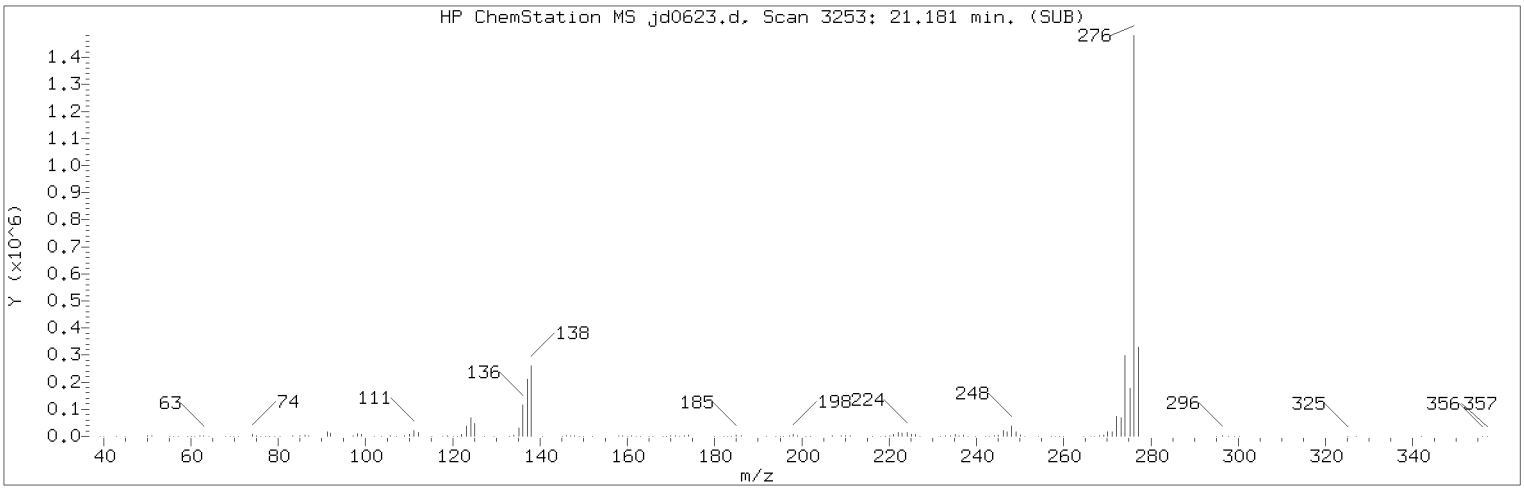
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:20
Date, time and analyst ID of latest file update: 15-Apr-2018 13:20 knk25316

Sample Name: SSTD30 Lab Sample ID: rvSTD0968

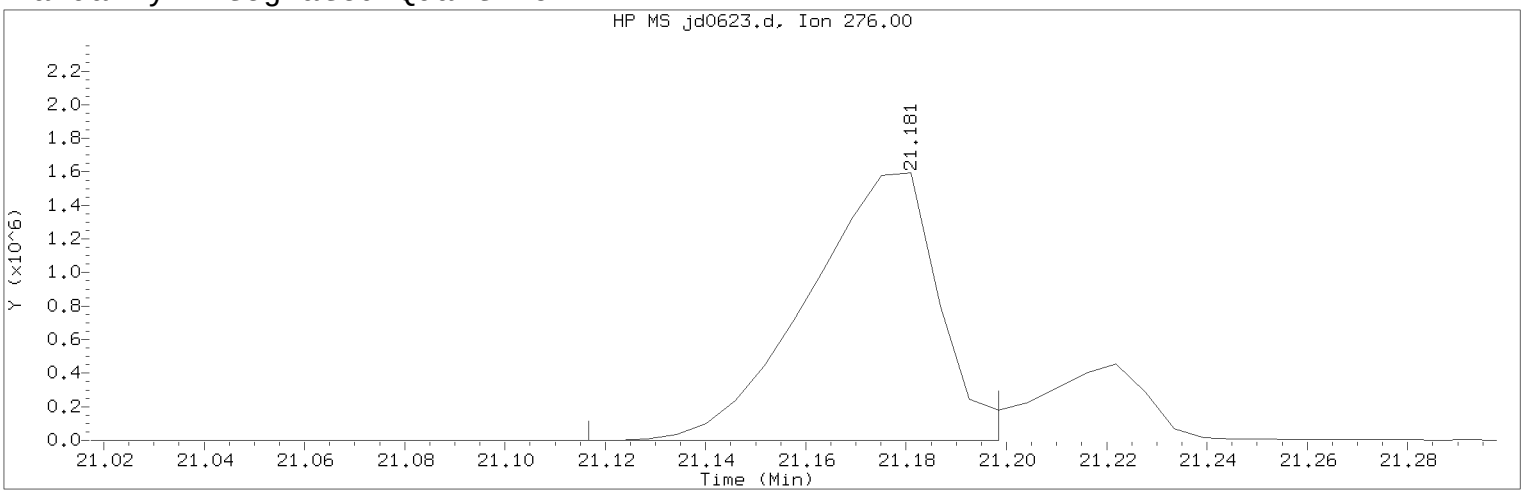
Compound Number : 142
Compound Name : 4-Nitroaniline
Scan Number : 1772
Retention Time (minutes) : 12.533
Quant Ion : 138.00
Area : 39747
On-column Amount (ng/ul) : 2.8727
Integration start scan : 1768 Integration stop scan: 1773
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:50.
Target 3.5 esignature user ID: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0623.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 16:59 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD30 Lab Sample ID: rvSTD0968

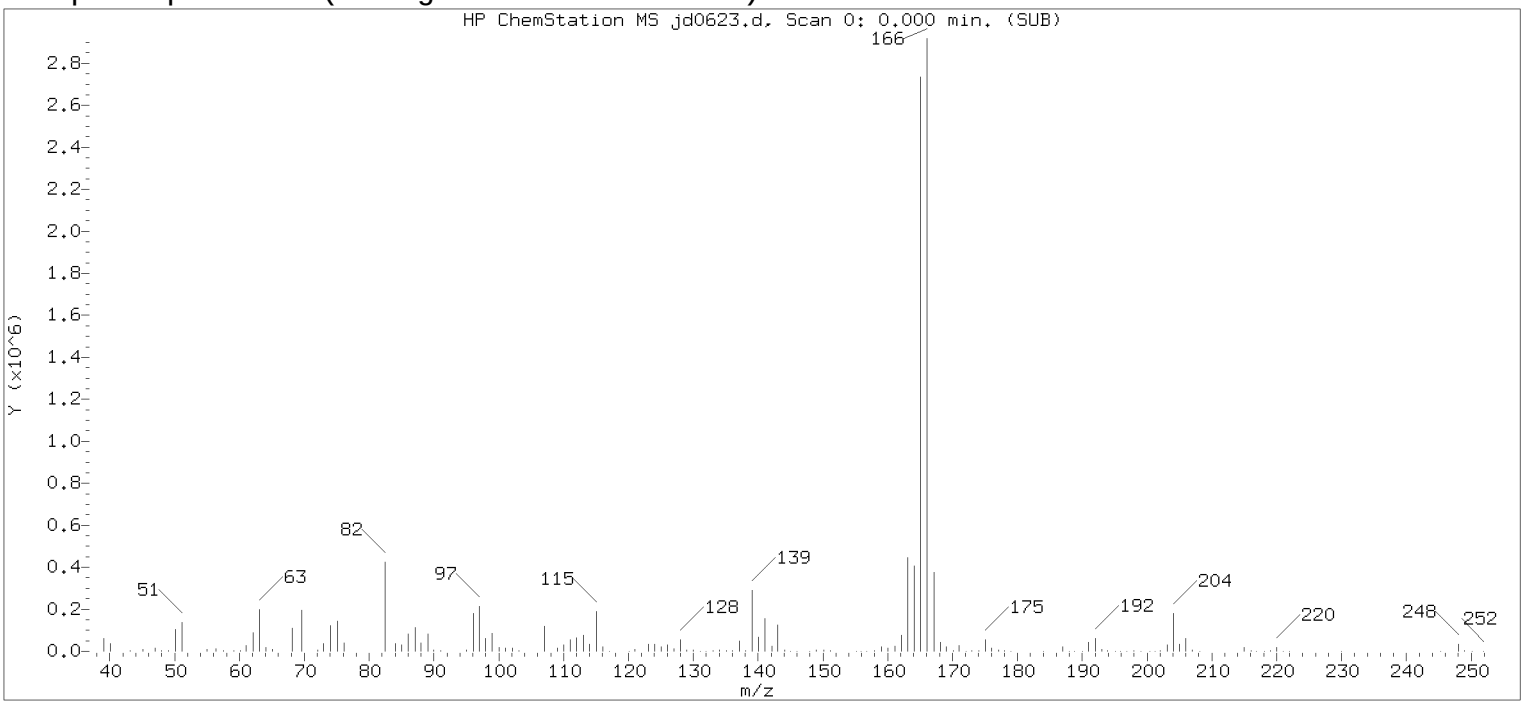
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3253
Retention Time (minutes) : 21.181
Quant Ion : 276.00
Area (flag) : 2896181M
On-Column Amount (ng/ul) : 30.7031
Integration start scan : 3241 Integration stop scan: 3255
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

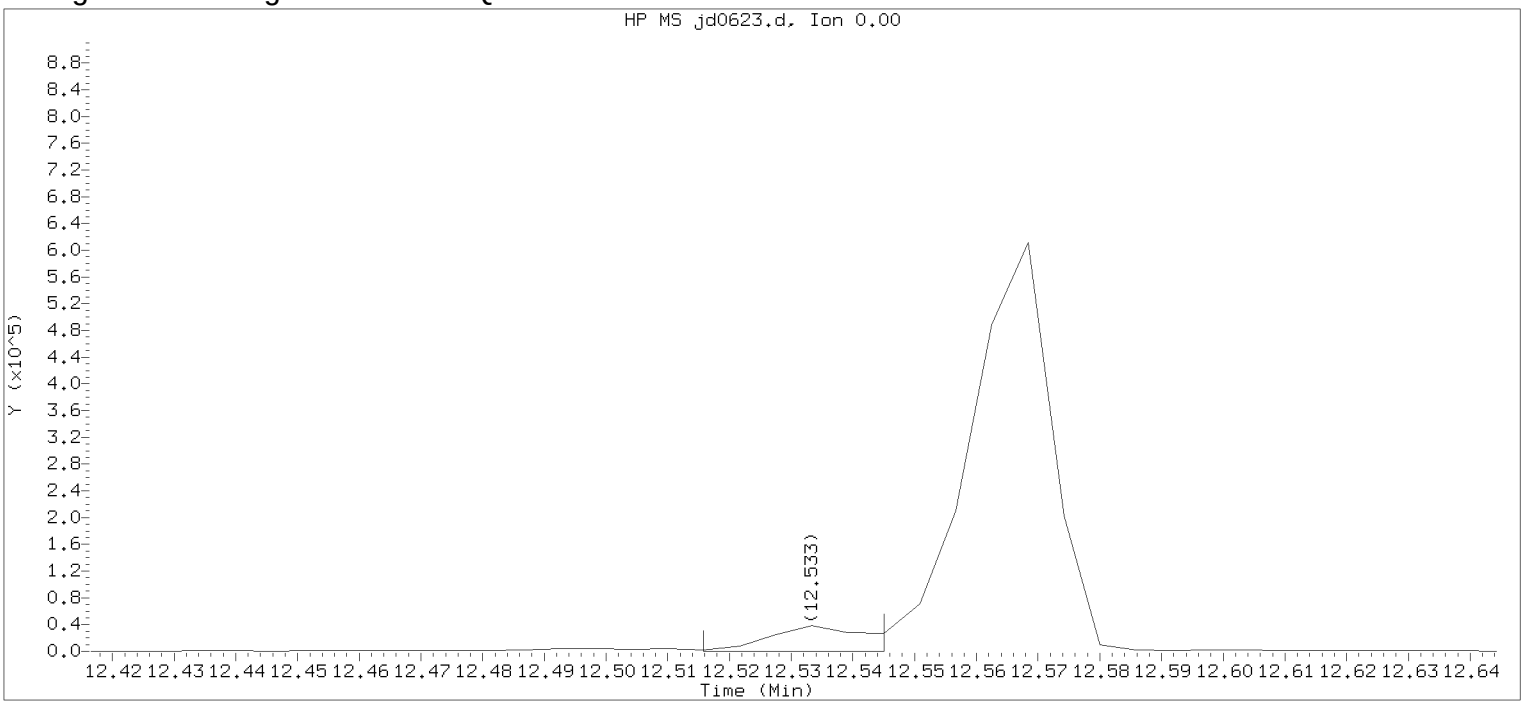
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:50.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0623.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 16:59 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:20
Date, time and analyst ID of latest file update: 15-Apr-2018 13:20 knk25316

Sample Name: SSTD30 Lab Sample ID: rvSTD0968

Compound Number : 0
Compound Name : Diallate trans/cis
Scan Number : 0
Retention Time (minutes) : 0.000
Quant Ion : 0.00
Area : 0
On-column Amount (ng/ul) : 0.0000
Integration start scan : 1 Integration stop scan: 1273309
Y at integration start : 0 Y at integration end: 0

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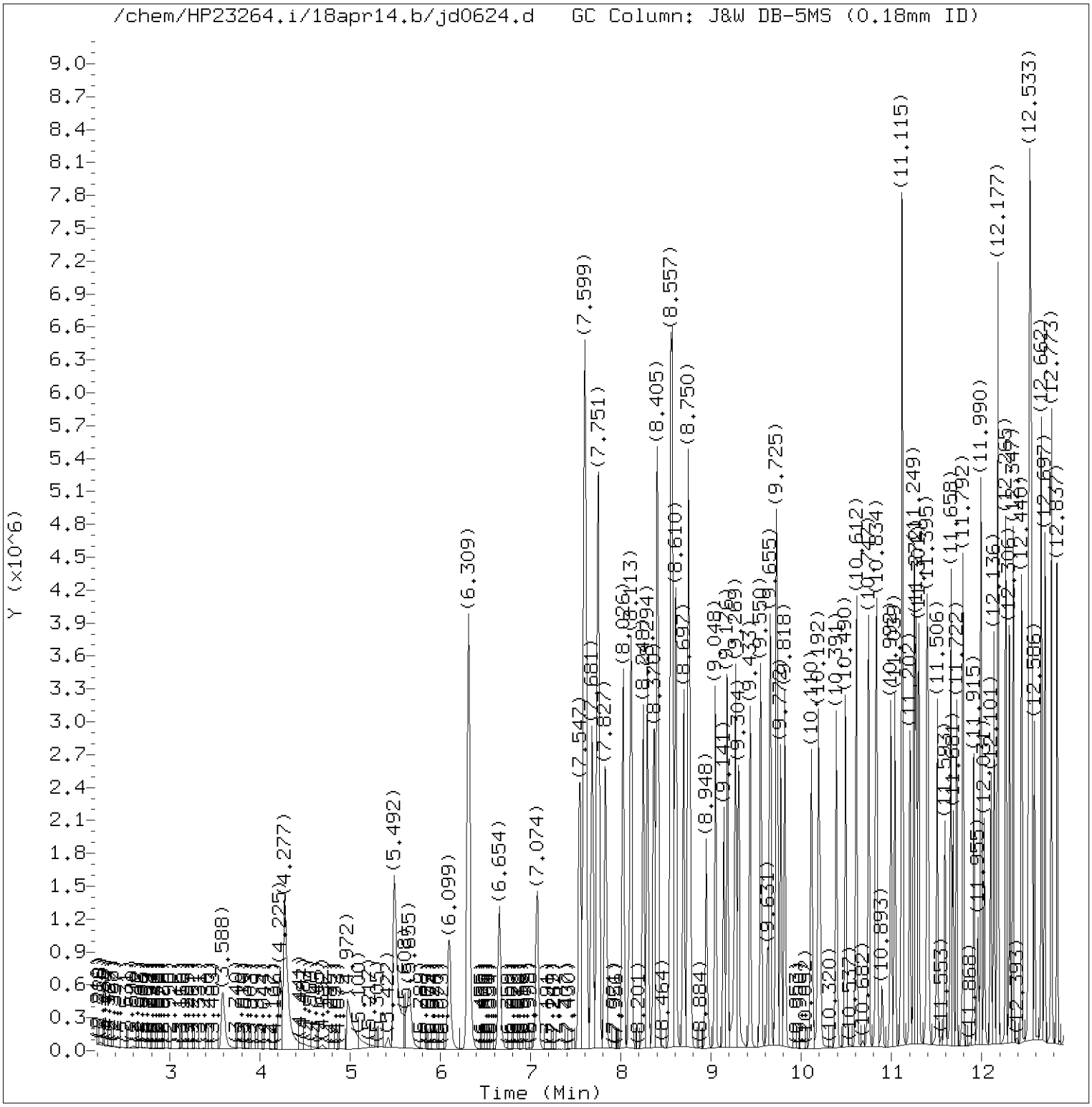
Target 3.5 esignature user id: knk25316



Total Ion Chromatogram (TIC)

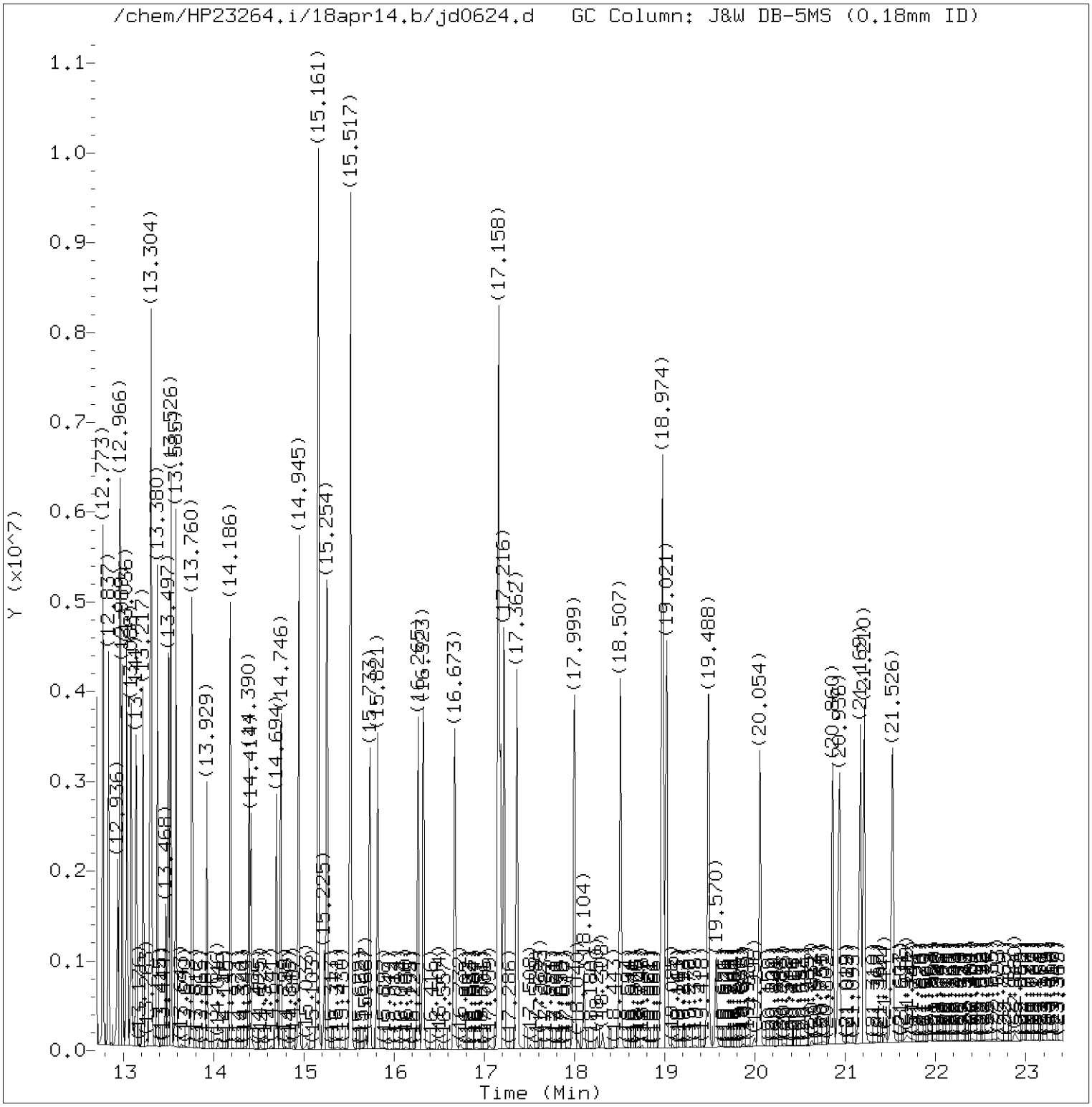
Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0624.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 17:30 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD20 Lab Sample ID: rvSTD0968

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0624.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 17:30 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD20 Lab Sample ID: rvSTD0968

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0624.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 17:30 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD20 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
3) 1,4-Dioxane	(1)	3.588	88	608064	18.871
5) N-Nitrosodimethylamine	(1)	4.225	74	998943	19.434
6) Pyridine	(1)	4.277	79	1754002	19.490
8) 2-Picoline	(1)	5.492	93	1698303	19.655
11) N-Nitrosomethylethylamine	(1)	5.655	88	759466	19.535
12) Methyl methanesulfonate	(1)	6.099	80	905696	19.757
13)$2-Fluorophenol	(1)	6.315	112	2555477	40.904
14) N-Nitrosodiethylamine	(1)	6.654	102	685752	20.423
18) Ethyl methanesulfonate	(1)	7.074	109	679825	20.982
24) Benzaldehyde	(1)	7.541	77	1209253	18.592
26)$Phenol-d6	(1)	7.599	99	3600100	41.587
27) Phenol	(1)	7.617	94	1882669	20.320
28) Aniline	(1)	7.681	93	2320403	20.689
30) a-methylstyrene	(1)	7.740	118	458457	20.418
31) bis(2-Chloroethyl)ether	(1)	7.757	93	1493778	20.892
32) 2-Chlorophenol	(1)	7.833	128	1178940	21.082
34) 1,3-Dichlorobenzene	(1)	8.026	146	1328058	21.239
36)*1,4-Dichlorobenzene-d4	(1)	8.096	152	210227	5.000
38) 1,4-Dichlorobenzene	(1)	8.113	146	1340943	19.885
39) Benzyl alcohol	(1)	8.248	108	709578	20.626
41) 1,2-Dichlorobenzene	(1)	8.294	146	1226438	21.275
44) 2-Methylphenol	(1)	8.370	108	1018767	20.264
46) Indene	(1)	8.399	115	1672680	20.537
48) bis(2-Chloroisopropyl)ether	(1)	8.411	45	1683228	20.322
47) 2,2'-oxybis(1-Chloropropane)	(1)	8.411	45	1683228	20.322
53) 4-Methylphenol	(1)	8.551	108	1016632	20.035
51) N-Nitrosopyrrolidine	(1)	8.551	100	591365	21.598
54) N-Nitroso-di-n-propylamine	(1)	8.569	70	893628	20.152
52) Acetophenone	(1)	8.569	105	1501320	19.169
55) N-Nitrosomorpholine	(1)	8.598	56	745282M	19.875
56) o-Toluidine	(1)	8.610	106	1745780	20.629
57) Hexachloroethane	(1)	8.697	117	509051	21.077
58)$Nitrobenzene-d5	(2)	8.750	82	2786257	42.903
59) Nitrobenzene	(2)	8.767	77	1357983	20.838
61) N-Nitrosopiperidine	(2)	8.948	114	466233	21.698
63) Isophorone	(2)	9.048	82	1974750	21.411
64) 2-Nitrophenol	(2)	9.141	139	470006	21.694
65) 2,4-Dimethylphenol	(2)	9.182	107	956286	21.447
66) O,O,O-Triethylphosphorothioate	(2)	9.269	198	364549	20.185
67) Benzoic acid	(2)	9.287	105	683957	20.654

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0624.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 17:30 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD20 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
68) bis(2-Chloroethoxy)methane	(2)	9.310	93	1054861	20.724
70) 2,4-Dichlorophenol	(2)	9.433	162	773896	21.510
72) 1,2,4-Trichlorobenzene	(2)	9.550	180	860197	21.117
76)*Naphthalene-d8	(2)	9.626	136	517584	5.000
78) Naphthalene	(2)	9.655	128	2248395	21.380
79) 4-Chloroaniline	(2)	9.725	127	981782	22.493
80) 2,6-Dichlorophenol	(2)	9.731	162	755376	22.071
81) Hexachloropropene	(2)	9.772	213	652866	20.481
83) Hexachlorobutadiene	(2)	9.818	225	506030	20.495
84) Quinoline	(2)	10.110	129	1404735	21.548
87) N-Nitrosodi-n-butylamine	(2)	10.192	84	885385	23.717
86) Caprolactam	(2)	10.210	113	284780	21.082
89) 4-Chloro-3-methylphenol	(2)	10.391	107	792403	20.346
90) Safrole	(2)	10.490	162	590448	21.180
91) 2-Methylnaphthalene	(2)	10.612	142	1421981	22.684
92) 1-Methylnaphthalene	(2)	10.747	142	1251413	22.680
95) Hexachlorocyclopentadiene	(3)	10.828	237	495795	19.947
96) 1,2,4,5-Tetrachlorobenzene	(3)	10.840	216	781167	19.428
97) cis-Isosafrole	(3)	10.893	162	104761	3.503
98) 2,4,6-Trichlorophenol	(3)	10.992	196	566405	21.786
100) 2,4,5-Trichlorophenol	(3)	11.039	196	580449	21.510
102)$2-Fluorobiphenyl	(3)	11.120	172	3093883	41.504
104) trans-Isosafrole	(3)	11.202	162	542332	17.096
105) 1,1'-Biphenyl	(3)	11.249	154	1545057	19.403
107) 2-Chloronaphthalene	(3)	11.272	162	1467329	21.687
108) 1-Chloronaphthalene	(3)	11.301	162	1205113	19.681
109) Diphenyl ether	(3)	11.395	170	862820	20.361
110) 2-Nitroaniline	(3)	11.412	138	457546	21.863
111) 1,4-Naphthoquinone	(3)	11.506	158	568270	20.940
112) 1,4-Dinitrobenzene	(3)	11.593	168	249674	20.666
114) Dimethylphthalate	(3)	11.658	163	1576634	20.911
116) 1,3-Dinitrobenzene	(3)	11.681	168	281275	20.640
117) 2,6-Dinitrotoluene	(3)	11.722	165	364501	20.815
118) Acenaphthylene	(3)	11.792	152	1947882	22.125
120) 3-Nitroaniline	(3)	11.915	138	387314	21.824
122)*Acenaphthene-d10	(3)	11.955	164	231104	5.000
123) Acenaphthene	(3)	11.990	153	1236672	21.690
125) 2,4-Dinitrophenol	(3)	12.031	184	285957	20.901
126) 4-Nitrophenol	(3)	12.101	109	317871	20.224
127) Pentachlorobenzene	(3)	12.136	250	569147	19.721

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on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0624.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 17:30 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD20 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
128) 2,4-Dinitrotoluene	(3)	12.177	165	515327	20.830
129) Dibenzofuran	(3)	12.183	168	1795838	21.435
131) 1-Naphthylamine	(3)	12.265	143	1375666	21.604
132) 2,3,4,6-Tetrachlorophenol	(3)	12.312	232	483713	22.179
133) 2-Naphthylamine	(3)	12.347	143	1324734	21.665
136) Diethylphthalate	(3)	12.440	149	1551811	20.587
138) Thionazin	(3)	12.522	107	253034	20.553
139) Fluorene	(3)	12.533	166	1488943	21.966
141) 4-Chlorophenyl-phenylether	(3)	12.539	204	719082	20.593
140) 5-Nitro-o-toluidine	(3)	12.551	152	460515	21.864
142) 4-Nitroaniline	(3)	12.557	138	378238M	19.674
143) 4,6-Dinitro-2-methylphenol	(4)	12.586	198	345392	21.074
145) NDPA as diphenylamine	(4)	12.662	169	1274017	21.503
144) N-Nitrosodiphenylamine	(4)	12.662	169	1274017	21.503
146) 1,2-Diphenylhydrazine	(4)	12.697	77	1872100	21.079
147)$2,4,6-Tribromophenol	(3)	12.773	330	455527	44.462
148) Tetraethyldithiopyrophosphate	(4)	12.831	97	353188	20.140
149) 1,3,5-Trinitrobenzene	(4)	12.936	213	200458	20.533
150) Diallate (peak 1)	(4)	12.960	86	610816	16.694
151) Phorate	(4)	12.966	75	1133190	20.796
152) Phenacetin	(4)	12.989	108	914005	20.779
153) 4-Bromophenyl-phenylether	(4)	13.036	248	429625	20.413
154) Diallate (peak 2)	(4)	13.047	86	105050	3.433
155) Hexachlorobenzene	(4)	13.088	284	442245	20.745
156) Dimethoate	(4)	13.141	87	672249	19.822
157) Atrazine	(4)	13.217	200	394652	18.905
160) Pentachlorophenol	(4)	13.293	266	332890	20.621
161) 4-Aminobiphenyl	(4)	13.304	169	1487507	21.300
162) Pentachloronitrobenzene	(4)	13.310	237	271135	20.575
164) Pronamide	(4)	13.380	173	758840	20.764
165)*Phenanthrene-d10	(4)	13.497	188	452267	5.000
166) Dinoseb	(4)	13.503	211	468017	20.480
167) Phenanthrene	(4)	13.526	178	2190444	21.561
168) Anthracene	(4)	13.585	178	2236352	21.679
169) Carbazole	(4)	13.760	167	1922888	20.627
170) Methyl parathion	(4)	13.929	109	516871	20.070
174) Di-n-butylphthalate	(4)	14.186	149	2489205	19.888
180) Parathion	(4)	14.390	109	342612	20.746
179) 4-Nitroquinoline-1-oxide	(4)	14.414	190	310270	21.748
181) Octachlorostyrene	(4)	14.700	308	169966	20.229

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Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0624.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 17:30 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD20 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
182) Isodrin	(4)	14.746	193	274289	19.969
183) Fluoranthene	(4)	14.945	202	2406827	20.688
184) Benzidine	(5)	15.161	184	4403475	61.211
185)*Pyrene-d10	(5)	15.225	212	467094	5.000
187) Pyrene	(5)	15.260	202	2545063	21.583
192)$Terphenyl-d14	(5)	15.517	244	3424778	43.239
193) p-Dimethylaminoazobenzene	(5)	15.733	225	410129	21.850
194) Chlorobenzilate	(5)	15.821	139	799444	20.846
196) 3,3'-Dimethylbenzidine	(5)	16.265	212	1536375	20.215
198) Butylbenzylphthalate	(5)	16.323	149	1114294	20.002
199) 2-Acetylaminofluorene	(5)	16.673	181	1003373	21.235
201) Benzo(a)anthracene	(5)	17.158	228	2389455	21.100
202) 3,3'-Dichlorobenzidine	(5)	17.158	252	889514	20.963
205) 4,4'-Methylenebis(2-chloroanil	(5)	17.181	231	489304	20.989
206) Chrysene	(5)	17.216	228	2220906	20.727
207) bis(2-Ethylhexyl)phthalate	(5)	17.362	149	1675791	21.003
208) 6-Methylchrysene	(5)	17.999	242	1541666	20.859
209) Di-n-octylphthalate	(6)	18.507	149	3006809	19.918
210) Benzo(b)fluoranthene	(6)	18.968	252	2483712	21.489
211) 7,12-Dimethylbenz[a]anthracene	(6)	18.980	256	1074688	21.667
212) Benzo(k)fluoranthene	(6)	19.021	252	2273377	20.710
214) Benzo(a)pyrene	(6)	19.488	252	2280042	21.307
215)*Perylene-d12	(6)	19.570	264	466067	5.000
216) 3-Methylcholanthrene	(6)	20.054	268	1031427	20.397
217) Dibenz(a,h)acridine	(6)	20.860	279	1645660	19.655
218) Dibenz(a,j)acridine	(6)	20.936	279	1676639	19.716
219) Indeno(1,2,3-cd)pyrene	(6)	21.169	276	1983866M	20.410
220) Dibenz(a,h)anthracene	(6)	21.210	278	1923259	21.013
221) Benzo(g,h,i)perylene	(6)	21.526	276	2074319	19.958
224) Isosafrole	(3)			647093	20.599
225) 2,4_2,6-Dinitrotoluenes	(3)			879828	41.645
222) Total Cresols	(1)			2035399	40.299
228) Total PAHs	(6)			36602908	384.750
226) Diallate trans/cis	(4)			715866	20.127

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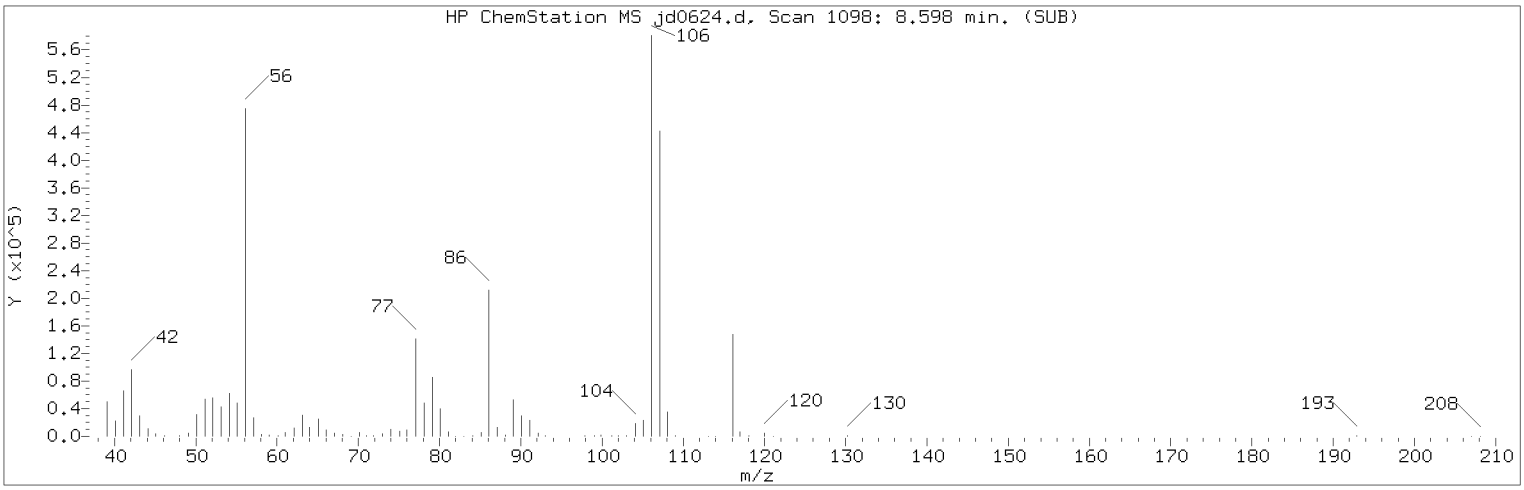
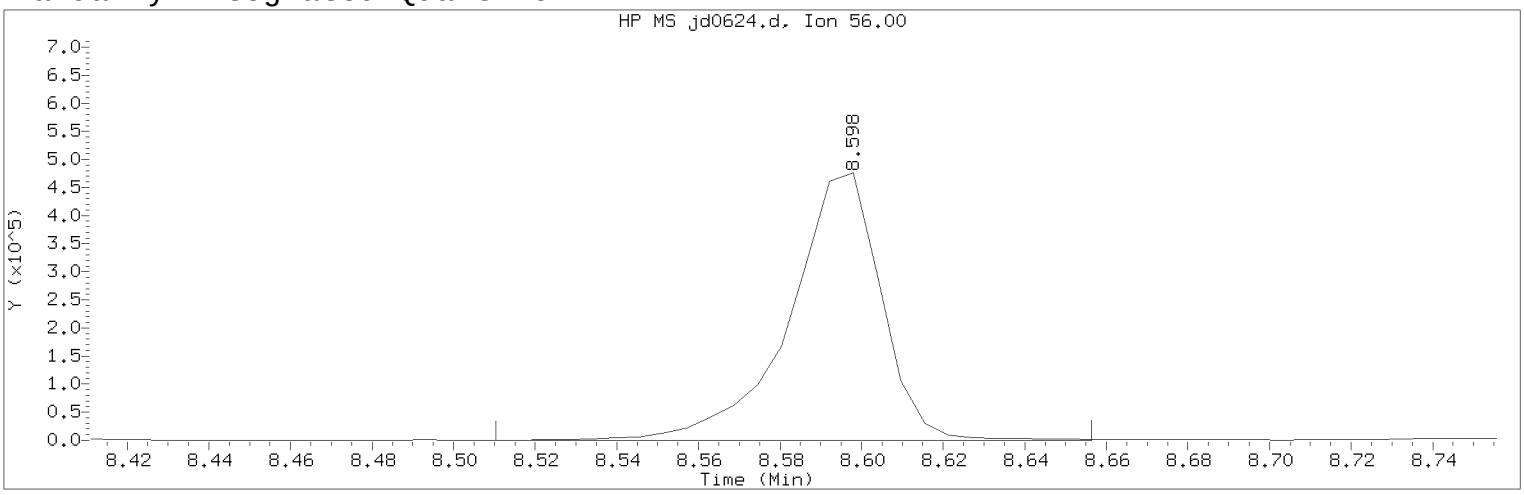
Target 3.5 esignature user ID: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0624.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 17:30 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD20 Lab Sample ID: rvSTD0968

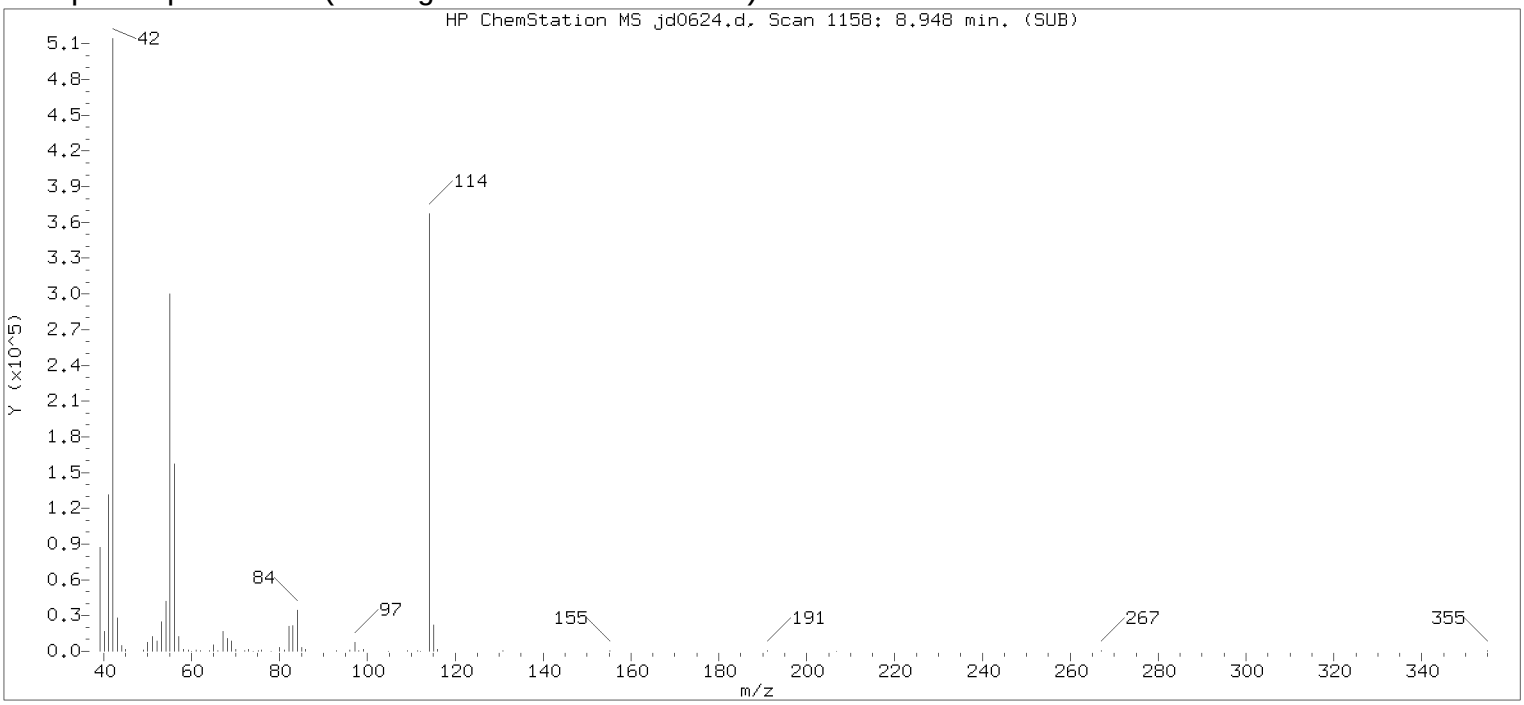
Compound Number : 55
Compound Name : N-Nitrosomorpholine
Scan Number : 1098
Retention Time (minutes) : 8.598
Quant Ion : 56.00
Area (flag) : 745282M
On-Column Amount (ng/ul) : 19.8755
Integration start scan : 1082 Integration stop scan: 1107
Y at integration start : 21 Y at integration end: 21

Reason for manual integration: improper integration

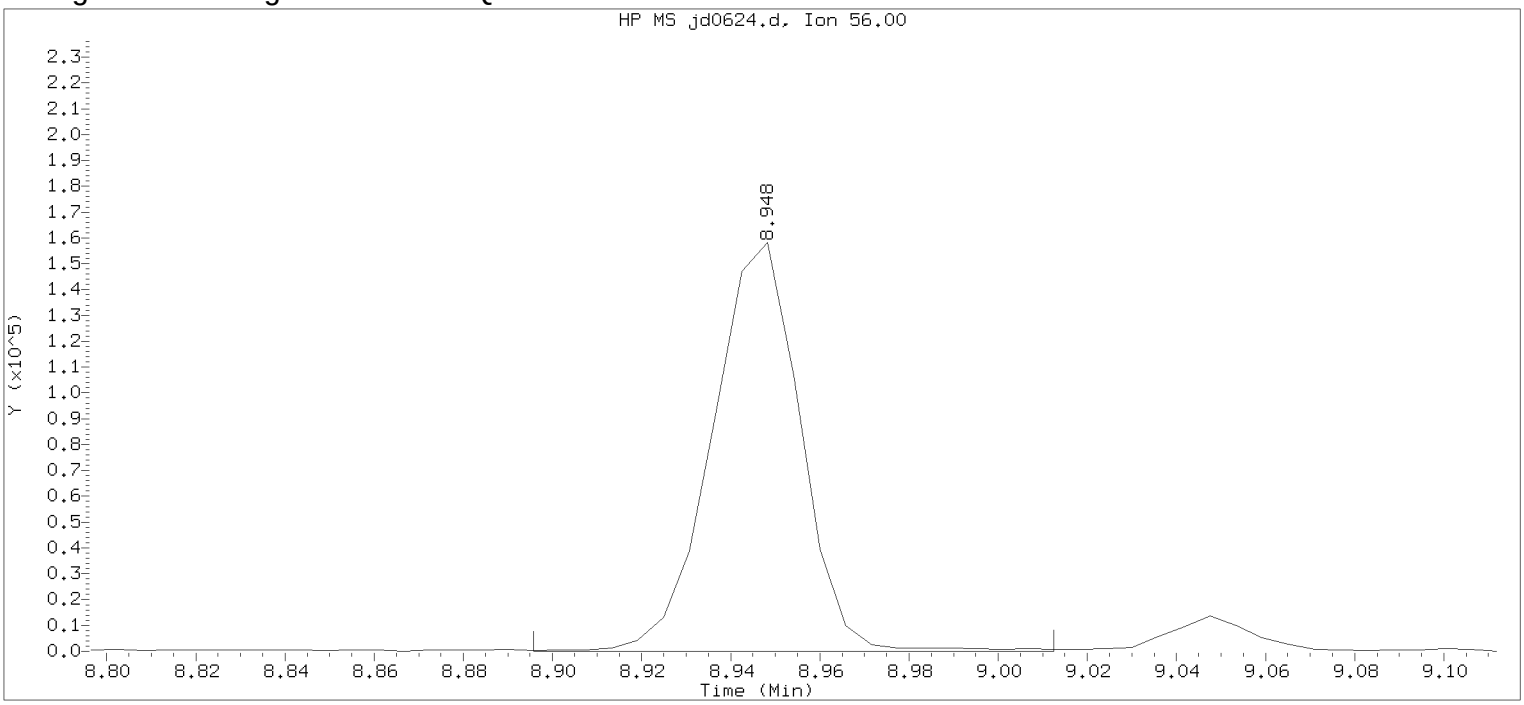
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0624.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 17:30 Analyst ID: knk25316

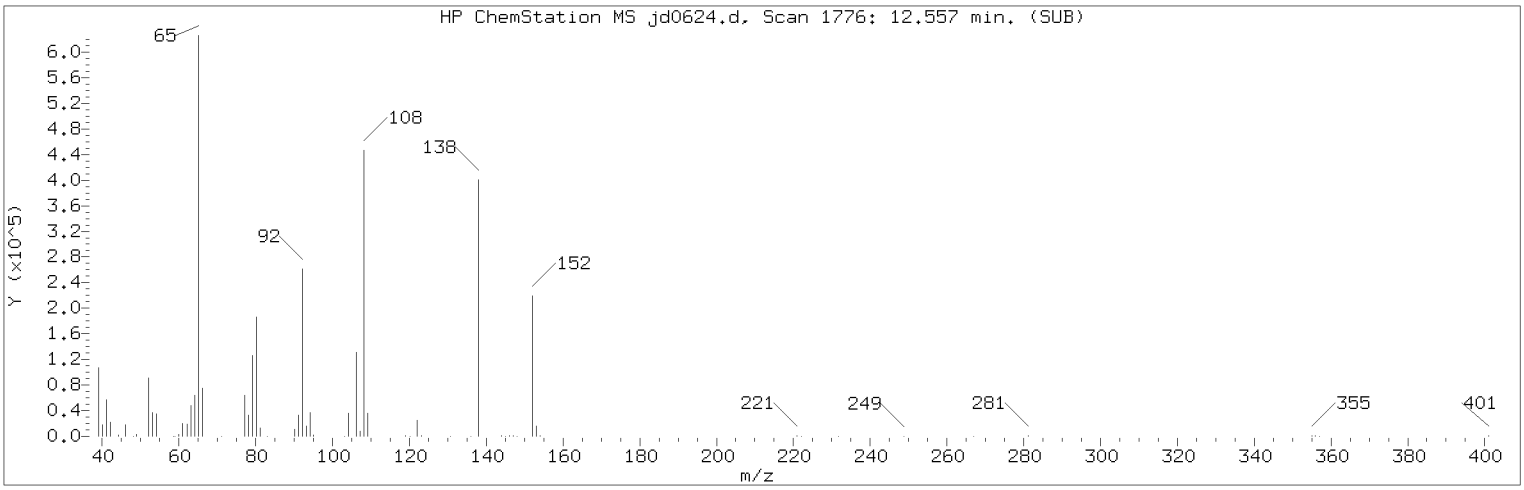
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:20
Date, time and analyst ID of latest file update: 15-Apr-2018 13:20 knk25316

Sample Name: SSTD20 Lab Sample ID: rvSTD0968

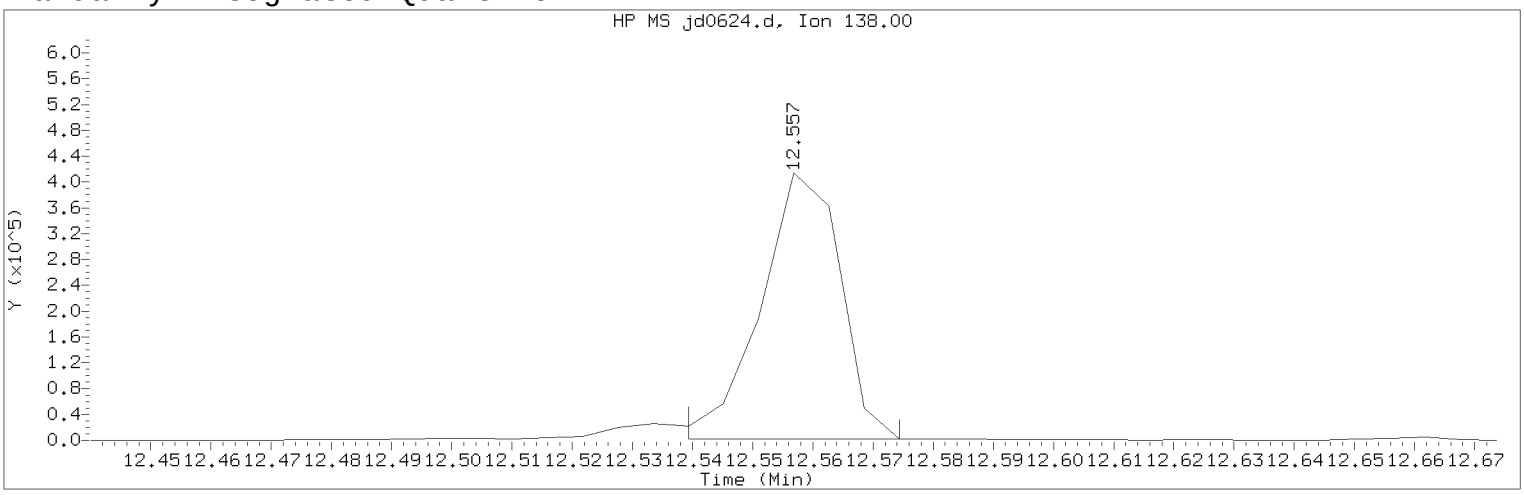
Compound Number : 55
Compound Name : N-Nitrosomorpholine
Scan Number : 1158
Retention Time (minutes) : 8.948
Quant Ion : 56.00
Area : 217541
On-column Amount (ng/ul) : 14.9521
Integration start scan : 1148 Integration stop scan: 1168
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user id: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0624.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 17:30 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD20 Lab Sample ID: rvSTD0968

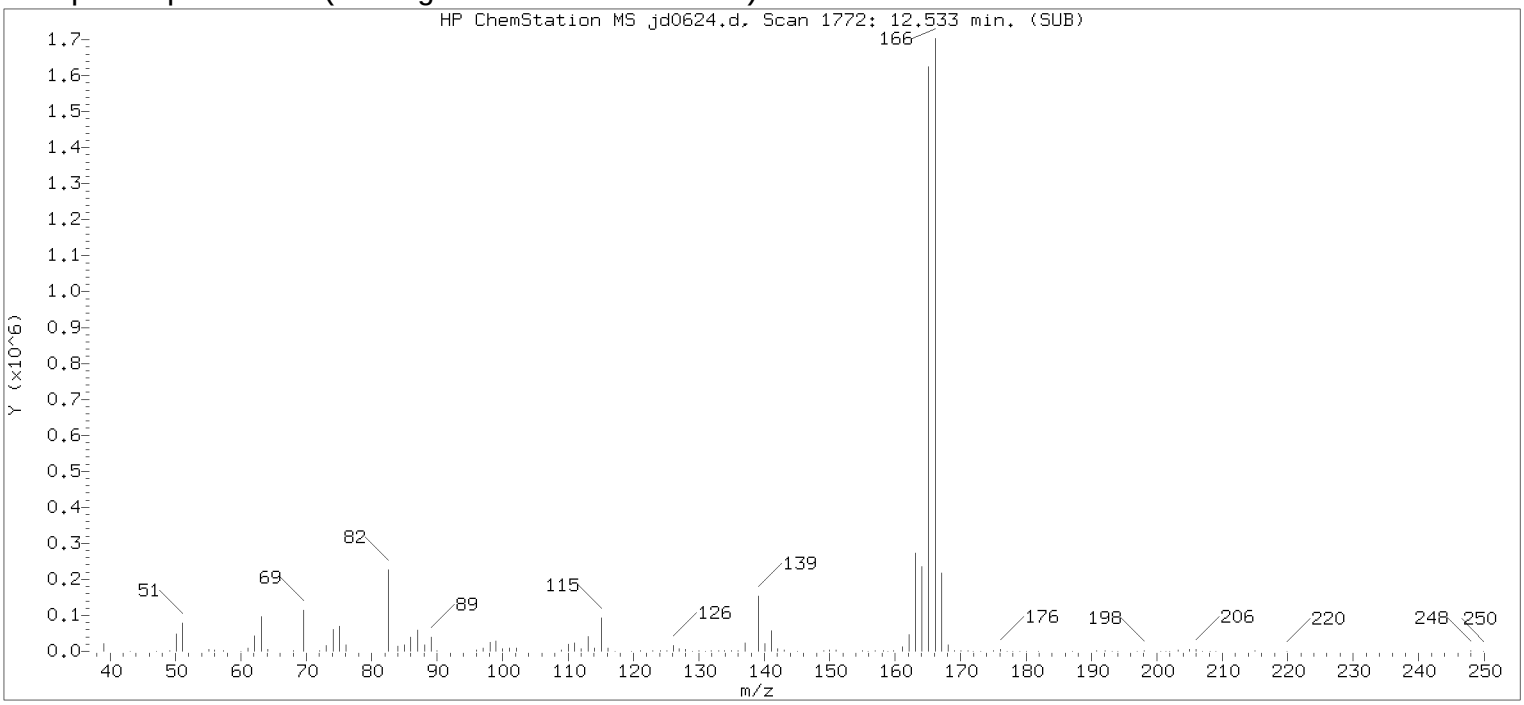
Compound Number : 142
Compound Name : 4-Nitroaniline
Scan Number : 1776
Retention Time (minutes) : 12.557
Quant Ion : 138.00
Area (flag) : 378238M
On-Column Amount (ng/ul) : 19.6740
Integration start scan : 1772 Integration stop scan: 1778
Y at integration start : 2337 Y at integration end: 2337

Reason for manual integration: improper integration

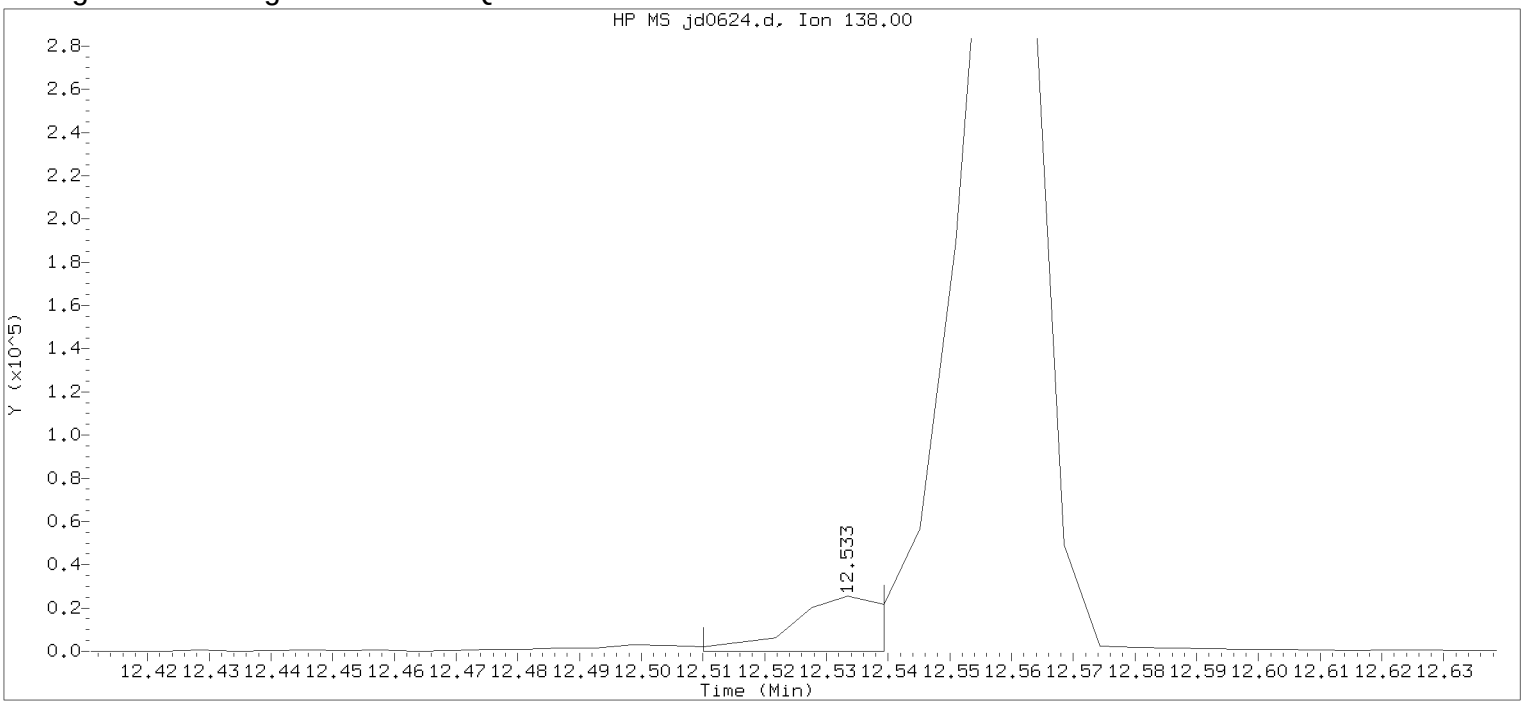
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0624.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 17:30 Analyst ID: knk25316

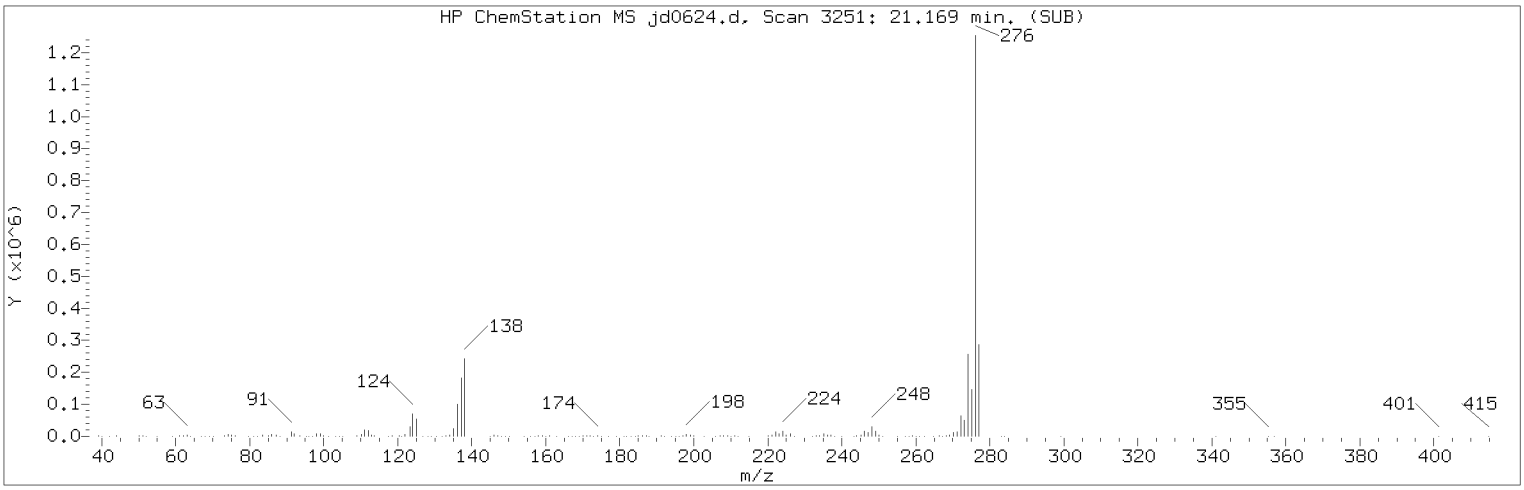
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:20
Date, time and analyst ID of latest file update: 15-Apr-2018 13:20 knk25316

Sample Name: SSTD20 Lab Sample ID: rvSTD0968

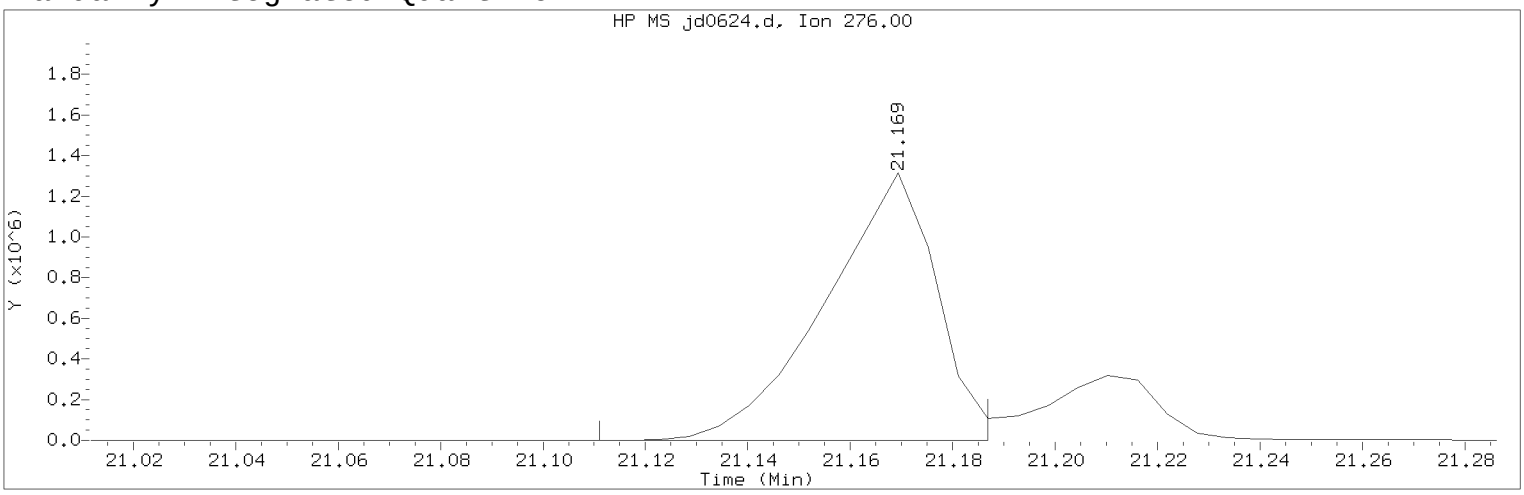
Compound Number : 142
Compound Name : 4-Nitroaniline
Scan Number : 1772
Retention Time (minutes) : 12.533
Quant Ion : 138.00
Area : 23820
On-column Amount (ng/ul) : 1.7562
Integration start scan : 1767 Integration stop scan: 1772
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0624.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 17:30 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD20 Lab Sample ID: rvSTD0968

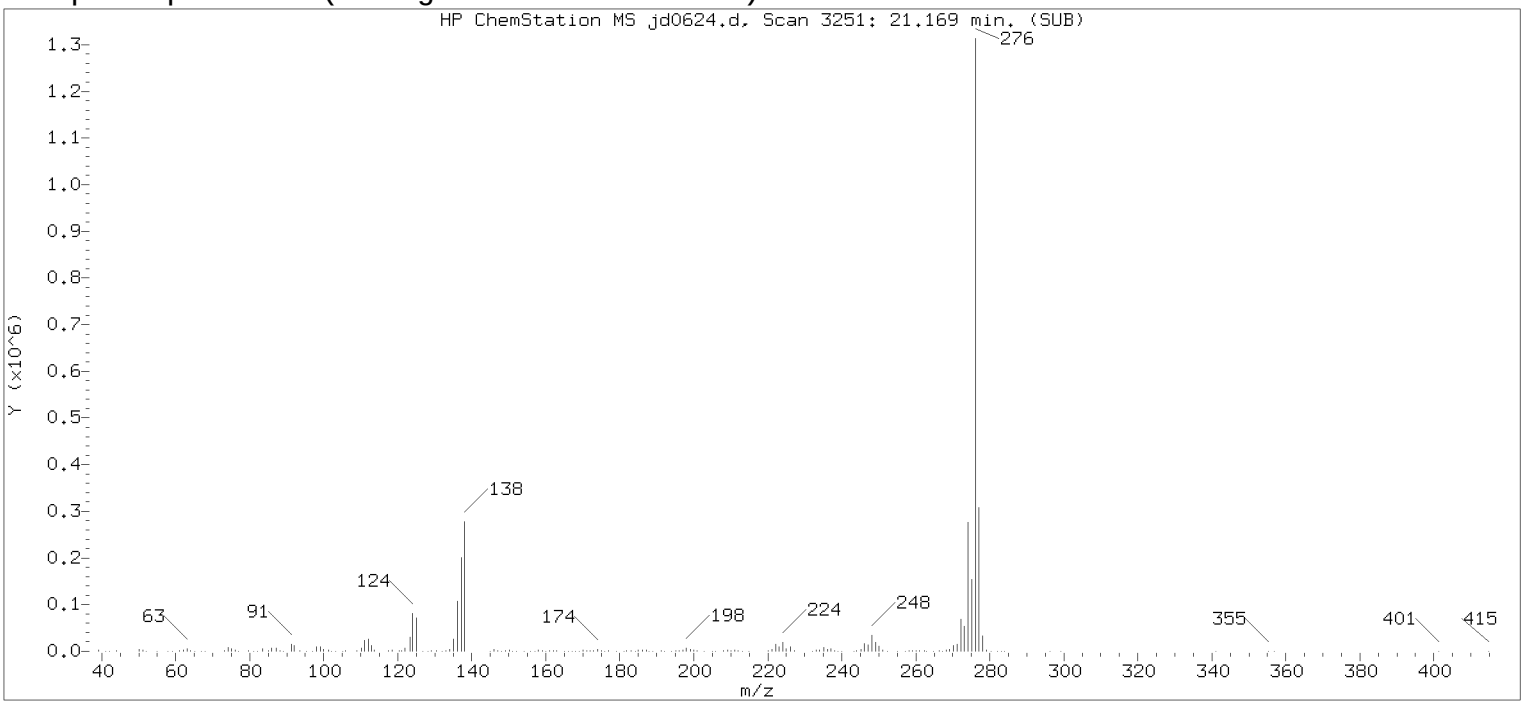
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3251
Retention Time (minutes) : 21.169
Quant Ion : 276.00
Area (flag) : 1983866M
On-Column Amount (ng/ul) : 20.4104
Integration start scan : 3240 Integration stop scan: 3253
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

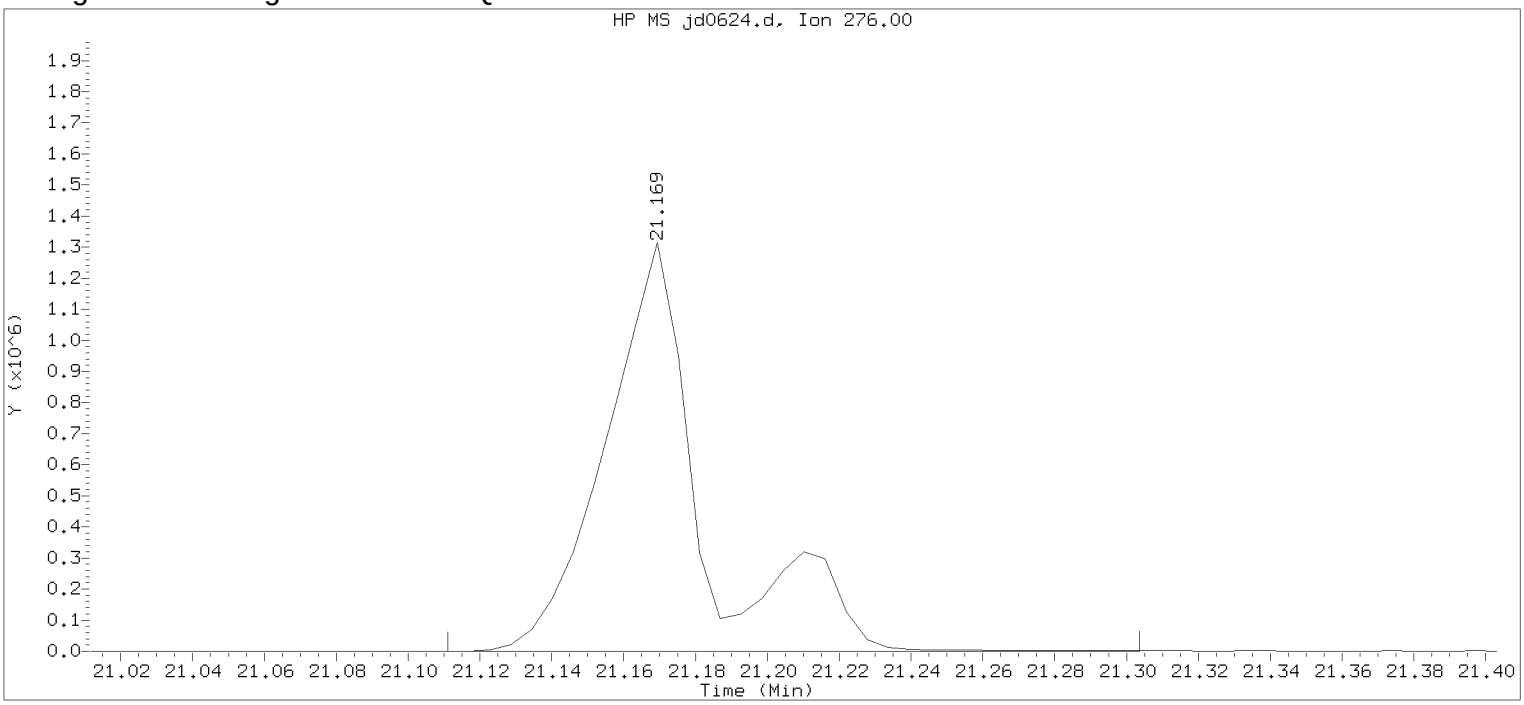
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



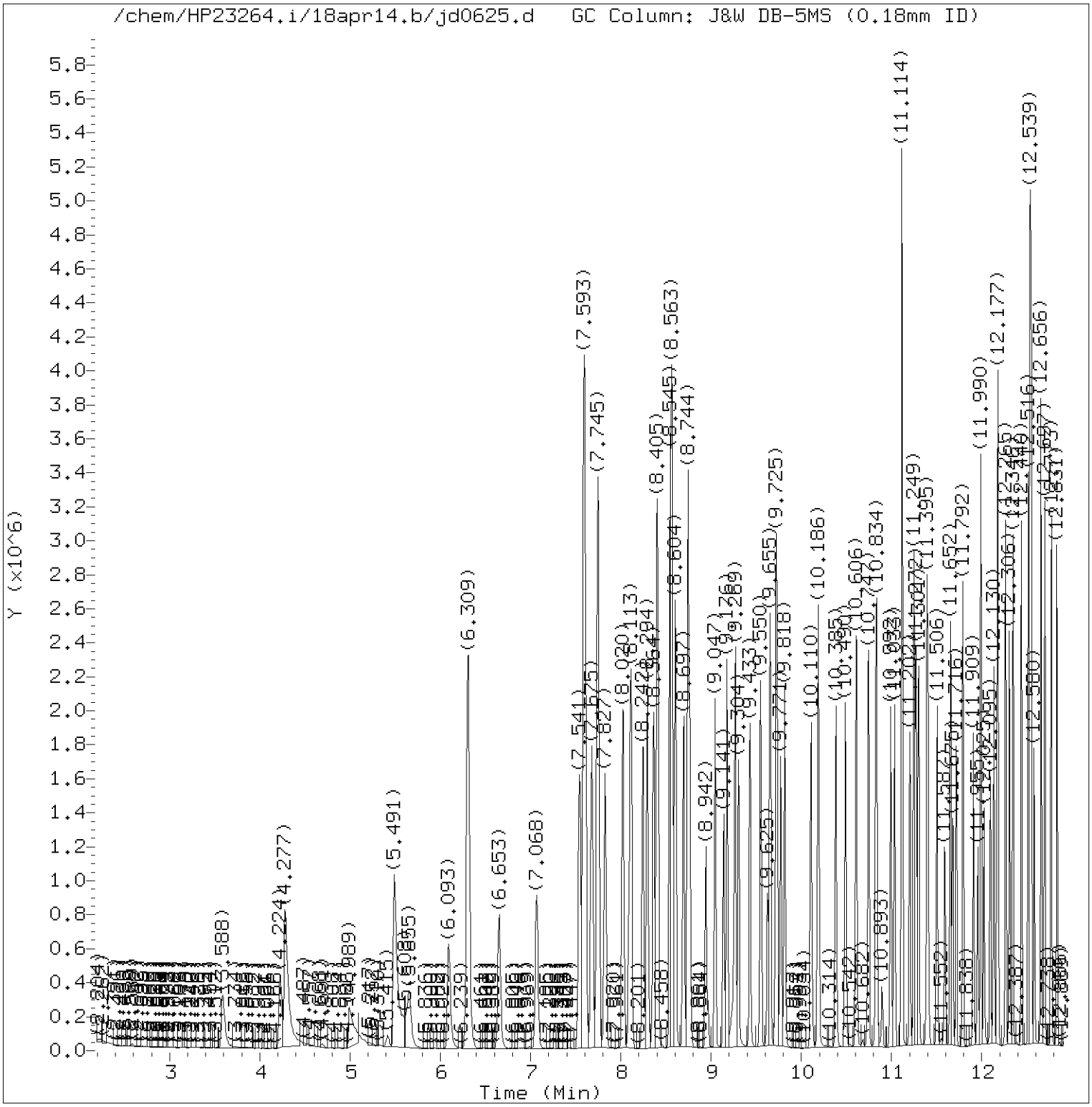
Data File: /chem/HP23264.i/18apr14.b/jd0624.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 17:30 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:20
Date, time and analyst ID of latest file update: 15-Apr-2018 13:20 knk25316

Sample Name: SSTD20 Lab Sample ID: rvSTD0968

Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3251
Retention Time (minutes) : 21.169
Quant Ion : 276.00
Area : 2466669
On-column Amount (ng/ul) : 20.9824
Integration start scan : 3240 Integration stop scan: 3273
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316



Total Ion Chromatogram (TIC)

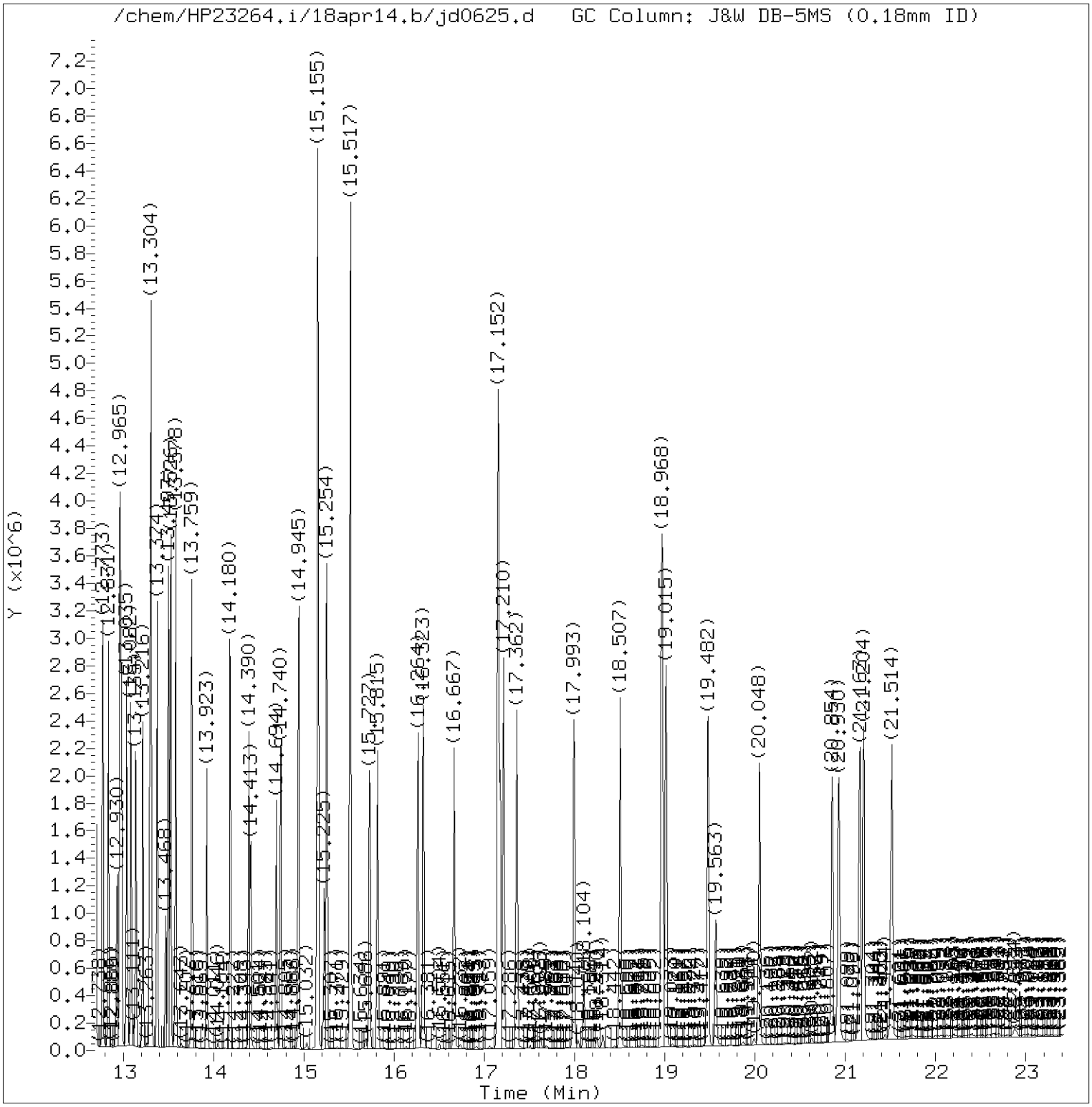
Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0625.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 18:00 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 07:23
Date, time and analyst ID of latest file update: 17-Apr-2018 07:23 knk25316

Sample Name: SSTD12.5 Lab Sample ID: rvSTD0968

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 07:28.
Target 3.5 esignature user ID: knk25316



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0625.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 18:00 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 07:23
Date, time and analyst ID of latest file update: 17-Apr-2018 07:23 knk25316

Sample Name: SSTD12.5 Lab Sample ID: rvSTD0968

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 07:28.
Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0625.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 18:00 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 07:23
Date, time and analyst ID of latest file update: 17-Apr-2018 07:23 knk25316

Sample Name: SSTD12.5 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
3) 1,4-Dioxane	(1)	3.588	88	364731	12.358
5) N-Nitrosodimethylamine	(1)	4.224	74	605910	12.934
6) Pyridine	(1)	4.277	79	1069395	12.973
8) 2-Picoline	(1)	5.491	93	1018334	12.867
11) N-Nitrosomethylethylamine	(1)	5.655	88	456478	12.819
12) Methyl methanesulfonate	(1)	6.093	80	544851	12.976
13)$2-Fluorophenol	(1)	6.309	112	1544923	26.997
14) N-Nitrosodiethylamine	(1)	6.653	102	417515	13.575
18) Ethyl methanesulfonate	(1)	7.068	109	402228	13.553
24) Benzaldehyde	(1)	7.541	77	779549	13.085
26)$Phenol-d6	(1)	7.593	99	2137853	26.961
27) Phenol	(1)	7.611	94	1129137	13.305
28) Aniline	(1)	7.681	93	1397146	13.600
30) a-methylstyrene	(1)	7.739	118	263097	12.793
31) bis(2-Chloroethyl)ether	(1)	7.751	93	885071	13.514
32) 2-Chlorophenol	(1)	7.827	128	704810	13.760
34) 1,3-Dichlorobenzene	(1)	8.026	146	793408	13.852
36)*1,4-Dichlorobenzene-d4	(1)	8.096	152	192563	5.000
38) 1,4-Dichlorobenzene	(1)	8.113	146	786755	12.810
39) Benzyl alcohol	(1)	8.247	108	407526	12.933
41) 1,2-Dichlorobenzene	(1)	8.294	146	734868	13.917
44) 2-Methylphenol	(1)	8.364	108	623113	13.531
46) Indene	(1)	8.399	115	970318	13.006
48) bis(2-Chloroisopropyl)ether	(1)	8.411	45	1021389	13.463
47) 2,2'-oxybis(1-Chloropropane)	(1)	8.411	45	1021389	13.463
53) 4-Methylphenol	(1)	8.545	108	621051	13.362
51) N-Nitrosopyrrolidine	(1)	8.545	100	347413	13.852
54) N-Nitroso-di-n-propylamine	(1)	8.563	70	538786	13.265
52) Acetophenone	(1)	8.569	105	913705	12.820
55) N-Nitrosomorpholine	(1)	8.586	56	451581M	13.213
56) o-Toluidine	(1)	8.604	106	1055474	13.616
57) Hexachloroethane	(1)	8.697	117	309932	14.010
58)$Nitrobenzene-d5	(2)	8.744	82	1672365	26.588
59) Nitrobenzene	(2)	8.767	77	833987	13.214
61) N-Nitrosopiperidine	(2)	8.942	114	281953	13.548
63) Isophorone	(2)	9.047	82	1206610	13.508
64) 2-Nitrophenol	(2)	9.141	139	287339	13.694
65) 2,4-Dimethylphenol	(2)	9.176	107	570092	13.202
67) Benzoic acid	(2)	9.263	105	378270	13.010
66) O,O,O-Triethylphosphorothioate	(2)	9.269	198	225371	12.884

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 07:28.
Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0625.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 18:00 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 07:23
Date, time and analyst ID of latest file update: 17-Apr-2018 07:23 knk25316

Sample Name: SSTD12.5 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
68) bis(2-Chloroethoxy)methane	(2)	9.304	93	657247	13.332
70) 2,4-Dichlorophenol	(2)	9.433	162	474407	13.615
72) 1,2,4-Trichlorobenzene	(2)	9.550	180	522819	13.252
76)*Naphthalene-d8	(2)	9.625	136	501287	5.000
78) Naphthalene	(2)	9.655	128	1362950	13.382
79) 4-Chloroaniline	(2)	9.719	127	596825	14.118
80) 2,6-Dichlorophenol	(2)	9.731	162	458383	13.829
81) Hexachloropropene	(2)	9.771	213	406387	13.163
83) Hexachlorobutadiene	(2)	9.818	225	322527	13.488
84) Quinoline	(2)	10.110	129	878067	13.907
87) N-Nitrosodi-n-butylamine	(2)	10.186	84	534038	14.768
86) Caprolactam	(2)	10.192	113	169733	12.974
89) 4-Chloro-3-methylphenol	(2)	10.385	107	481947	12.904
90) Safrole	(2)	10.490	162	358497	13.277
91) 2-Methylnaphthalene	(2)	10.612	142	850202	14.003
92) 1-Methylnaphthalene	(2)	10.747	142	755884	14.145
95) Hexachlorocyclopentadiene	(3)	10.822	237	301347	12.493
96) 1,2,4,5-Tetrachlorobenzene	(3)	10.834	216	483063	12.390
97) cis-Isosafrole	(3)	10.893	162	60848	2.098
98) 2,4,6-Trichlorophenol	(3)	10.992	196	329624	13.051
100) 2,4,5-Trichlorophenol	(3)	11.033	196	365863	13.982
102)$2-Fluorobiphenyl	(3)	11.114	172	1831851	25.338
104) trans-Isosafrole	(3)	11.202	162	329892	10.713
105) 1,1'-Biphenyl	(3)	11.249	154	936186	12.229
107) 2-Chloronaphthalene	(3)	11.272	162	785342	11.918
108) 1-Chloronaphthalene	(3)	11.301	162	780460	13.072
109) Diphenyl ether	(3)	11.395	170	521830	12.693
110) 2-Nitroaniline	(3)	11.406	138	272023	13.398
111) 1,4-Naphthoquinone	(3)	11.506	158	345379	13.144
112) 1,4-Dinitrobenzene	(3)	11.593	168	153566	13.100
114) Dimethylphthalate	(3)	11.652	163	942260	12.888
116) 1,3-Dinitrobenzene	(3)	11.681	168	172161	13.016
117) 2,6-Dinitrotoluene	(3)	11.722	165	221984	13.064
118) Acenaphthylene	(3)	11.792	152	1143133	13.383
120) 3-Nitroaniline	(3)	11.909	138	231566	13.449
122)*Acenaphthene-d10	(3)	11.955	164	224130	5.000
123) Acenaphthene	(3)	11.990	153	744089	13.449
125) 2,4-Dinitrophenol	(3)	12.025	184	178187	13.455
126) 4-Nitrophenol	(3)	12.095	109	192339	12.605
127) Pentachlorobenzene	(3)	12.136	250	356760	12.743

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 07:28.
Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0625.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 18:00 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 07:23
Date, time and analyst ID of latest file update: 17-Apr-2018 07:23 knk25316

Sample Name: SSTD12.5 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
128) 2,4-Dinitrotoluene	(3)	12.171	165	312841	13.040
129) Dibenzofuran	(3)	12.183	168	1073359	13.218
131) 1-Naphthylamine	(3)	12.265	143	792744	12.825
132) 2,3,4,6-Tetrachlorophenol	(3)	12.306	232	273746	12.935
133) 2-Naphthylamine	(3)	12.346	143	788533	13.300
136) Diethylphthalate	(3)	12.440	149	946130	12.936
138) Thionazin	(3)	12.516	107	156528	13.090
139) Fluorene	(3)	12.527	166	865539	13.162
141) 4-Chlorophenyl-phenylether	(3)	12.539	204	436479	12.868
140) 5-Nitro-o-toluidine	(3)	12.545	152	276160	13.543
142) 4-Nitroaniline	(3)	12.551	138	246344	13.337
143) 4,6-Dinitro-2-methylphenol	(4)	12.580	198	209217	13.225
145) NDPA as diphenylamine	(4)	12.656	169	755838	13.221
144) N-Nitrosodiphenylamine	(4)	12.656	169	755838	13.228
146) 1,2-Diphenylhydrazine	(4)	12.697	77	1130634	13.207
147)$2,4,6-Tribromophenol	(3)	12.773	330	261593	26.336
148) Tetraethyldithiopyrophosphate	(4)	12.831	97	216936	12.858
149) 1,3,5-Trinitrobenzene	(4)	12.930	213	120637	12.820
150) Diallate (peak 1)	(4)	12.960	86	374596	10.614
151) Phorate	(4)	12.965	75	683478	13.005
152) Phenacetin	(4)	12.983	108	578295	13.629
153) 4-Bromophenyl-phenylether	(4)	13.035	248	256377	12.624
154) Diallate (peak 2)	(4)	13.047	86	62936	2.131
155) Hexachlorobenzene	(4)	13.082	284	261529	12.714
156) Dimethoate	(4)	13.135	87	416280	12.720
157) Atrazine	(4)	13.216	200	246532	12.239
160) Pentachlorophenol	(4)	13.292	266	199463	12.812
161) 4-Aminobiphenyl	(4)	13.304	169	878931	13.040
162) Pentachloronitrobenzene	(4)	13.304	237	163482	12.857
164) Pronamide	(4)	13.374	173	471281	13.365
166) Dinoseb	(4)	13.497	211	288165	13.072
165)*Phenanthrene-d10	(4)	13.497	188	436402	5.000
167) Phenanthrene	(4)	13.526	178	1292390	13.187
168) Anthracene	(4)	13.578	178	1317478	13.243
169) Carbazole	(4)	13.759	167	1174344	13.061
170) Methyl parathion	(4)	13.923	109	328319	13.212
174) Di-n-butylphthalate	(4)	14.180	149	1524321	12.622
180) Parathion	(4)	14.390	109	209507	13.146
179) 4-Nitroquinoline-1-oxide	(4)	14.413	190	179680	13.052
181) Octachlorostyrene	(4)	14.694	308	96879	11.966

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 07:28.
Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0625.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 18:00 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 07:23
Date, time and analyst ID of latest file update: 17-Apr-2018 07:23 knk25316

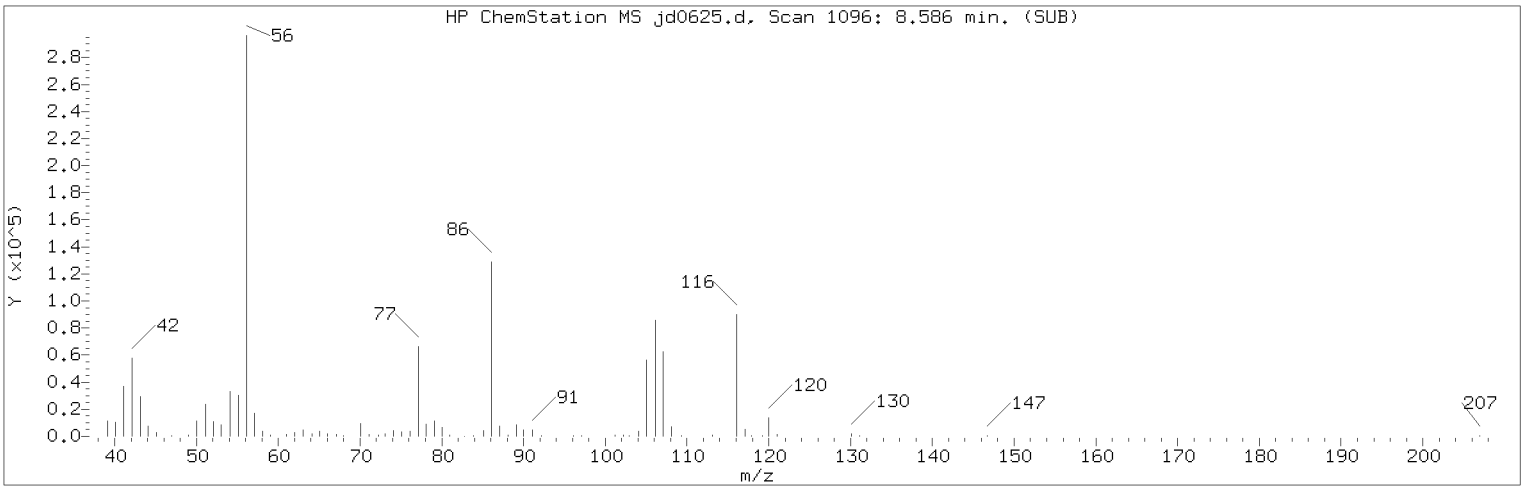
Sample Name: SSTD12.5 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
182) Isodrin	(4)	14.746	193	165684	12.500
183) Fluoranthene	(4)	14.945	202	1438786	12.819
184) Benzidine	(5)	15.155	184	2727800	38.754
185)*Pyrene-d10	(5)	15.225	212	457446	5.000
187) Pyrene	(5)	15.254	202	1531420	13.261
192)$Terphenyl-d14	(5)	15.517	244	2018330	26.020
193) p-Dimethylaminoazobenzene	(5)	15.733	225	241368	13.130
194) Chlorobenzilate	(5)	15.815	139	471515	12.555
196) 3,3'-Dimethylbenzidine	(5)	16.264	212	936441	12.581
198) Butylbenzylphthalate	(5)	16.323	149	692287	12.689
199) 2-Acetylaminofluorene	(5)	16.667	181	593145	12.818
201) Benzo(a)anthracene	(5)	17.152	228	1440842	12.991
202) 3,3'-Dichlorobenzidine	(5)	17.158	252	519106	12.492
205) 4,4'-Methylenebis(2-chloroanil	(5)	17.175	231	282887	12.391
206) Chrysene	(5)	17.210	228	1343454	12.802
207) bis(2-Ethylhexyl)phthalate	(5)	17.362	149	1002764	12.833
208) 6-Methylchrysene	(5)	17.993	242	905271	12.507
209) Di-n-octylphthalate	(6)	18.507	149	1786091	12.721
210) Benzo(b)fluoranthene	(6)	18.962	252	1427205	13.277
211) 7,12-Dimethylbenz[a]anthracene	(6)	18.974	256	609257	13.207
212) Benzo(k)fluoranthene	(6)	19.015	252	1324308	12.971
214) Benzo(a)pyrene	(6)	19.482	252	1325250	13.316
215)*Perylene-d12	(6)	19.569	264	433468	5.000
216) 3-Methylcholanthrene	(6)	20.048	268	610796	12.987
217) Dibenz(a,h)acridine	(6)	20.854	279	1001669	12.863
218) Dibenz(a,j)acridine	(6)	20.930	279	1003861	12.693
219) Indeno(1,2,3-cd)pyrene	(6)	21.163	276	1195381M	13.223
220) Dibenz(a,h)anthracene	(6)	21.204	278	1156237	13.642
221) Benzo(g,h,i)perylene	(6)	21.520	276	1256634	12.999
224) Isosafrole	(3)			390740	12.811
225) 2,4_2,6-Dinitrotoluenes	(3)			534825	26.104
222) Total Cresols	(1)			1244164	26.893
228) Total PAHs	(6)			21771182	239.255
226) Diallate trans/cis	(4)			437532	12.745

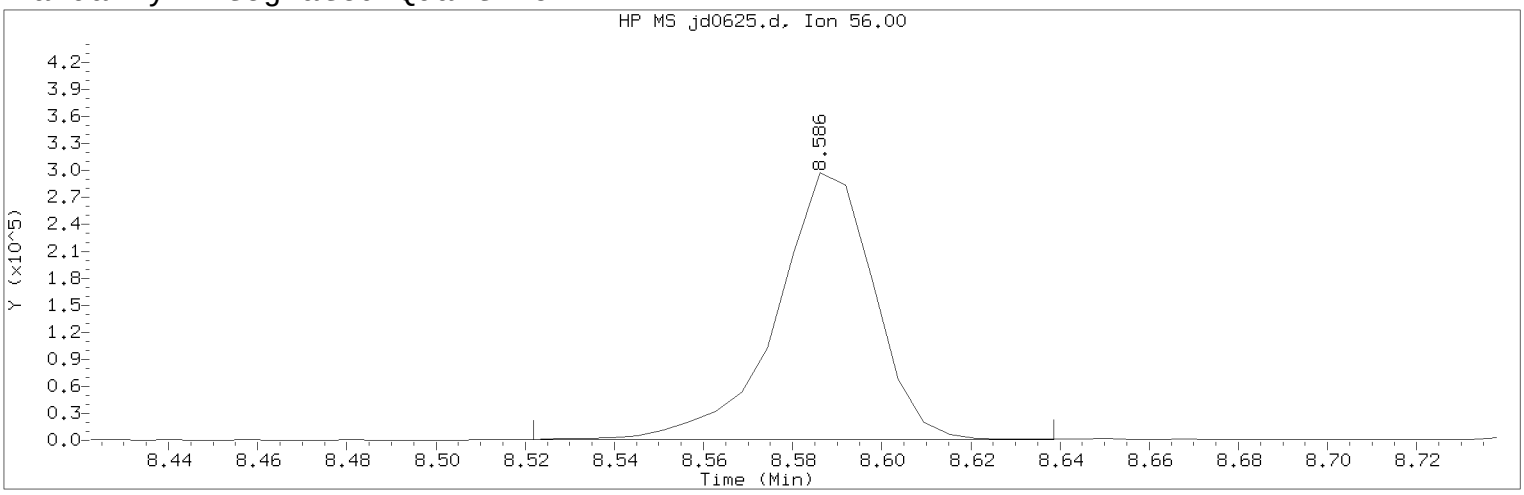
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 07:28.
Target 3.5 esignature user ID: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0625.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 18:00 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 07:23
Date, time and analyst ID of latest file update: 17-Apr-2018 07:23 knk25316

Sample Name: SSTD12.5 Lab Sample ID: rvSTD0968

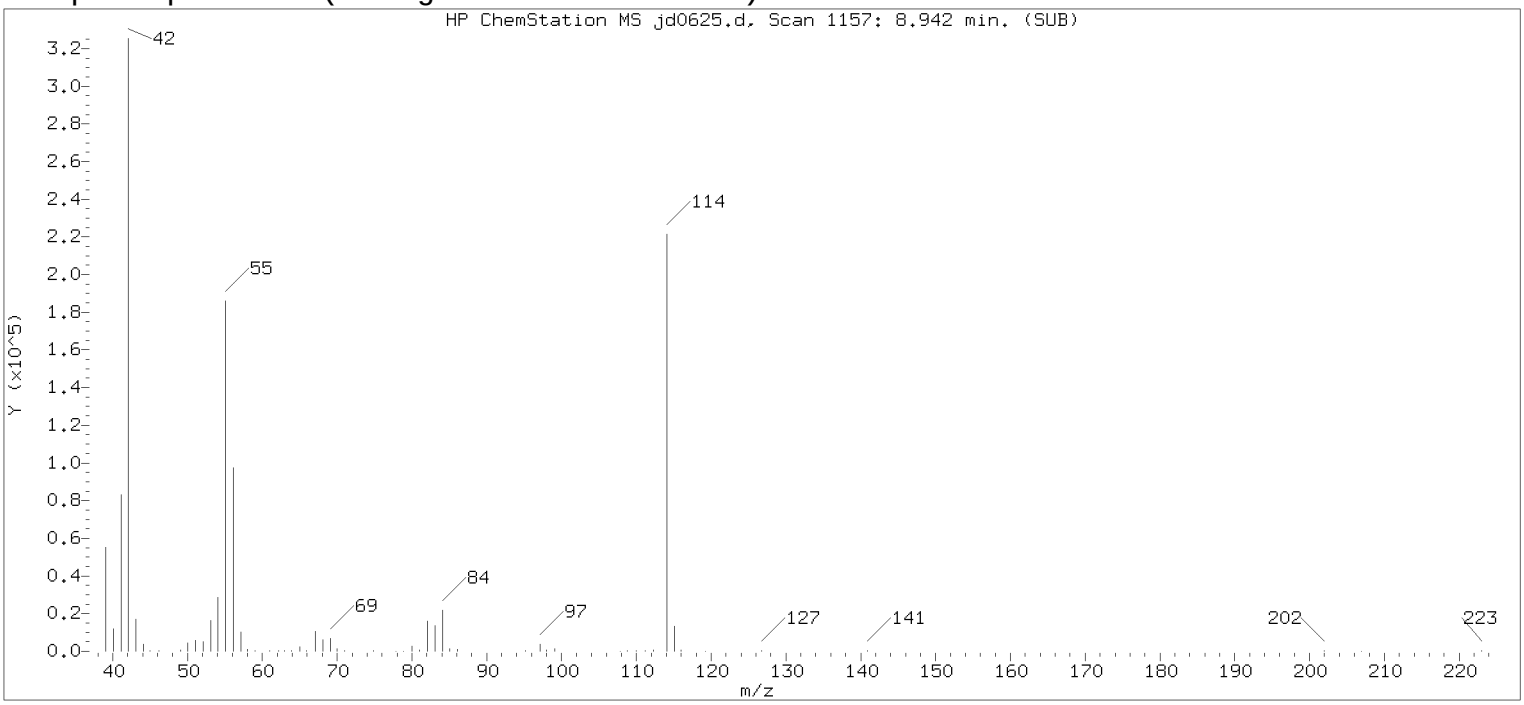
Compound Number : 55
Compound Name : N-Nitrosomorpholine
Scan Number : 1096
Retention Time (minutes) : 8.586
Quant Ion : 56.00
Area (flag) : 451581M
On-Column Amount (ng/ul) : 13.2131
Integration start scan : 1084 Integration stop scan: 1104
Y at integration start : 633 Y at integration end: 633

Reason for manual integration: improper integration

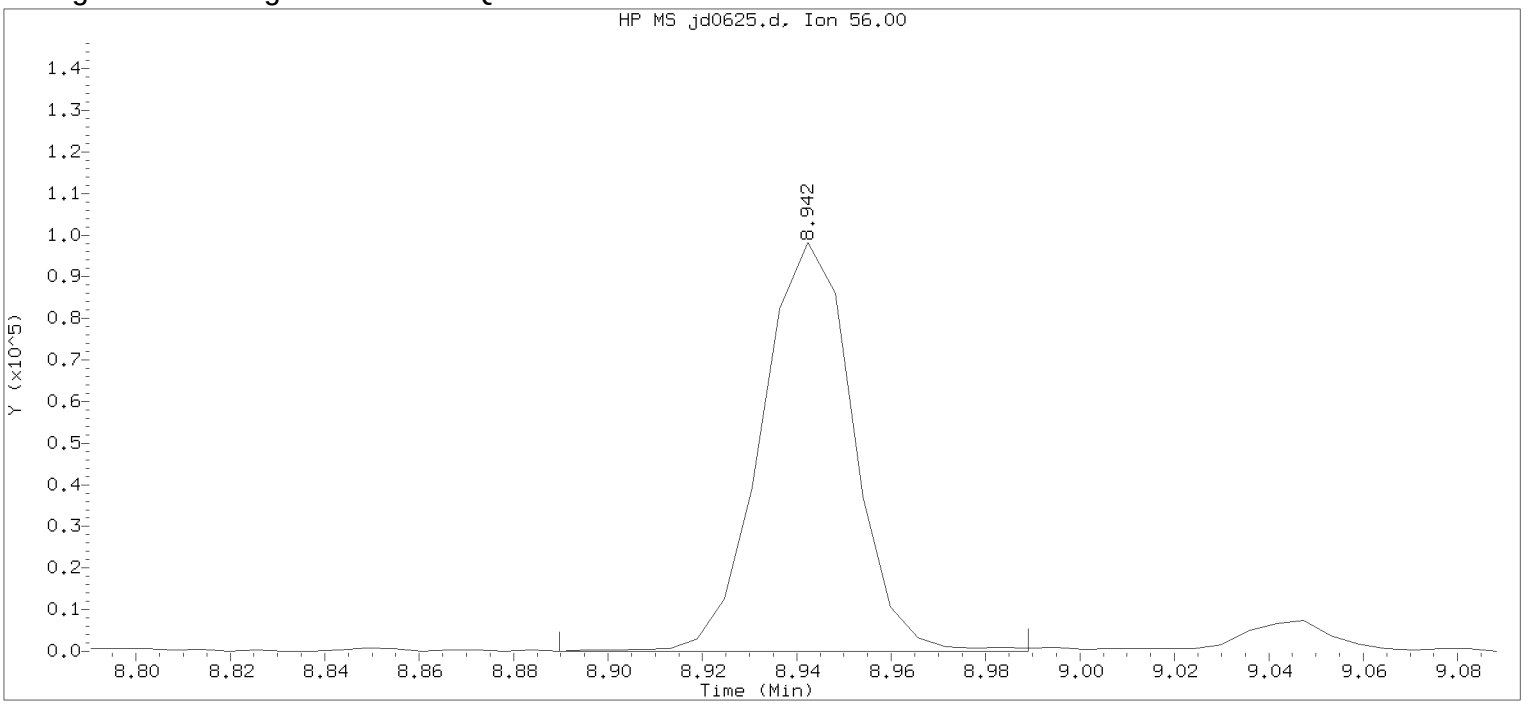
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 07:28.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 10:33.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0625.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 18:00 Analyst ID: knk25316

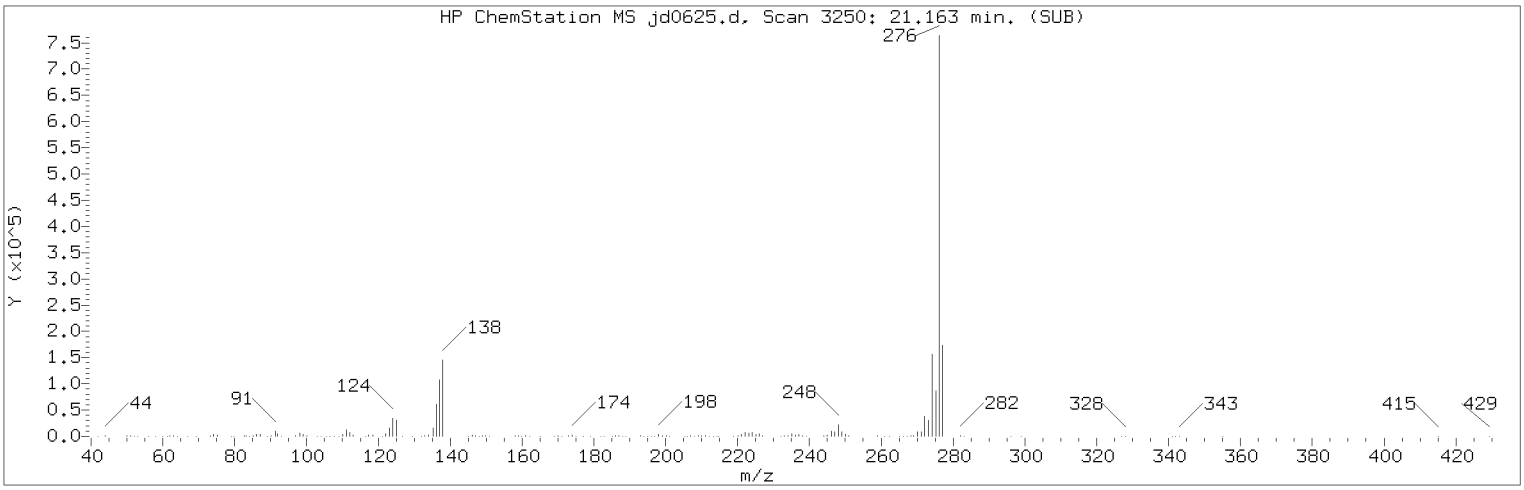
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:20
Date, time and analyst ID of latest file update: 15-Apr-2018 13:20 knk25316

Sample Name: SSTD12.5 Lab Sample ID: rvSTD0968

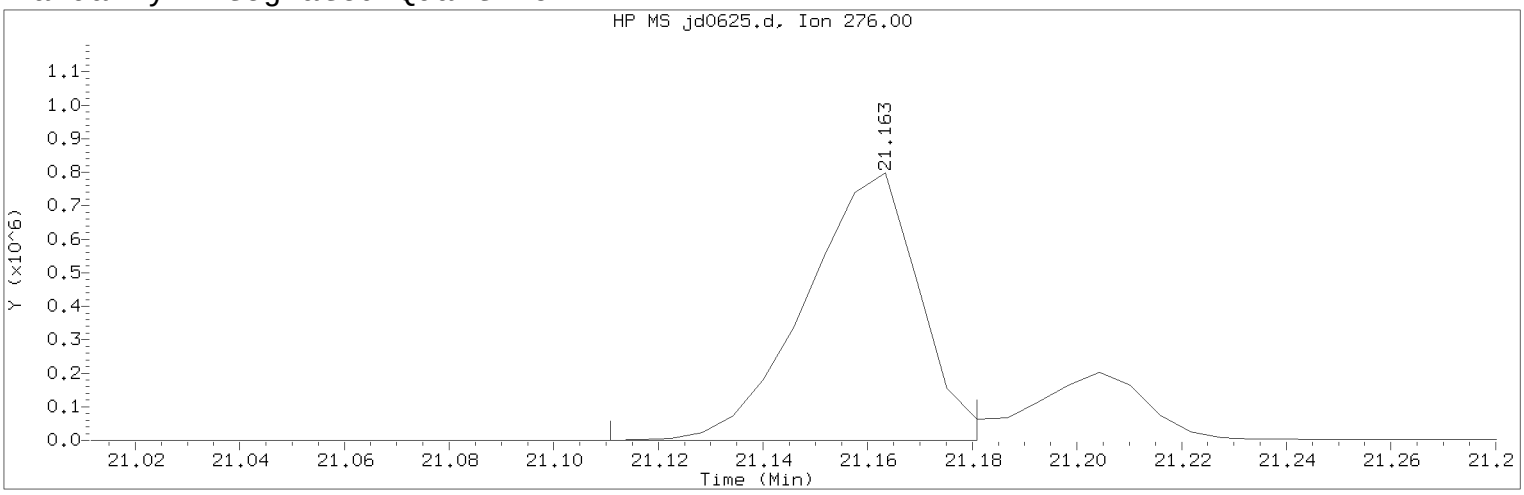
Compound Number : 55
Compound Name : N-Nitrosomorpholine
Scan Number : 1157
Retention Time (minutes) : 8.942
Quant Ion : 56.00
Area : 132259
On-column Amount (ng/ul) : 9.9244
Integration start scan : 1147 Integration stop scan: 1164
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 07:28.
Target 3.5 esignature user id: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



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Injection date and time: 14-APR-2018 18:00 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 07:23
Date, time and analyst ID of latest file update: 17-Apr-2018 07:23 knk25316

Sample Name: SSTD12.5 Lab Sample ID: rvSTD0968

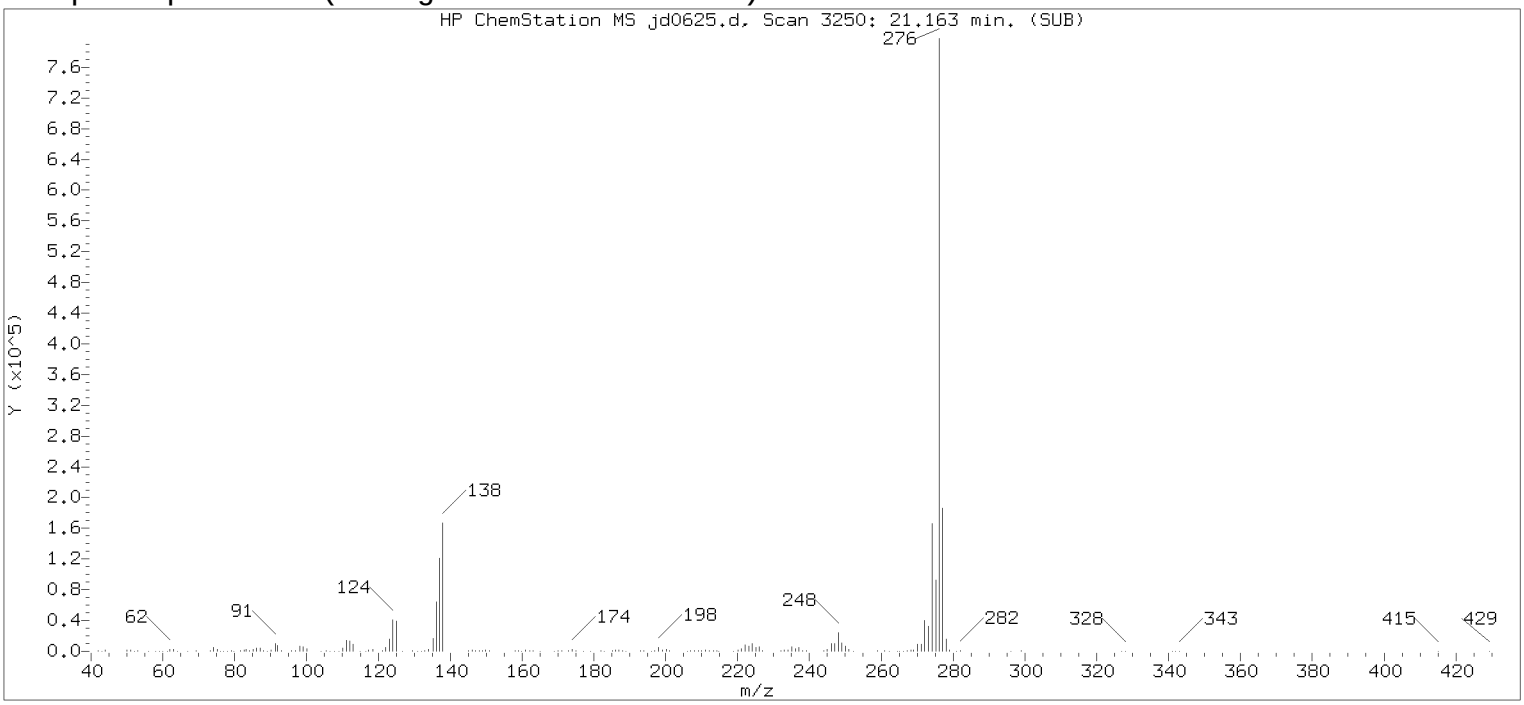
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3250
Retention Time (minutes) : 21.163
Quant Ion : 276.00
Area (flag) : 1195381M
On-Column Amount (ng/ul) : 13.2233
Integration start scan : 3240 Integration stop scan: 3252
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

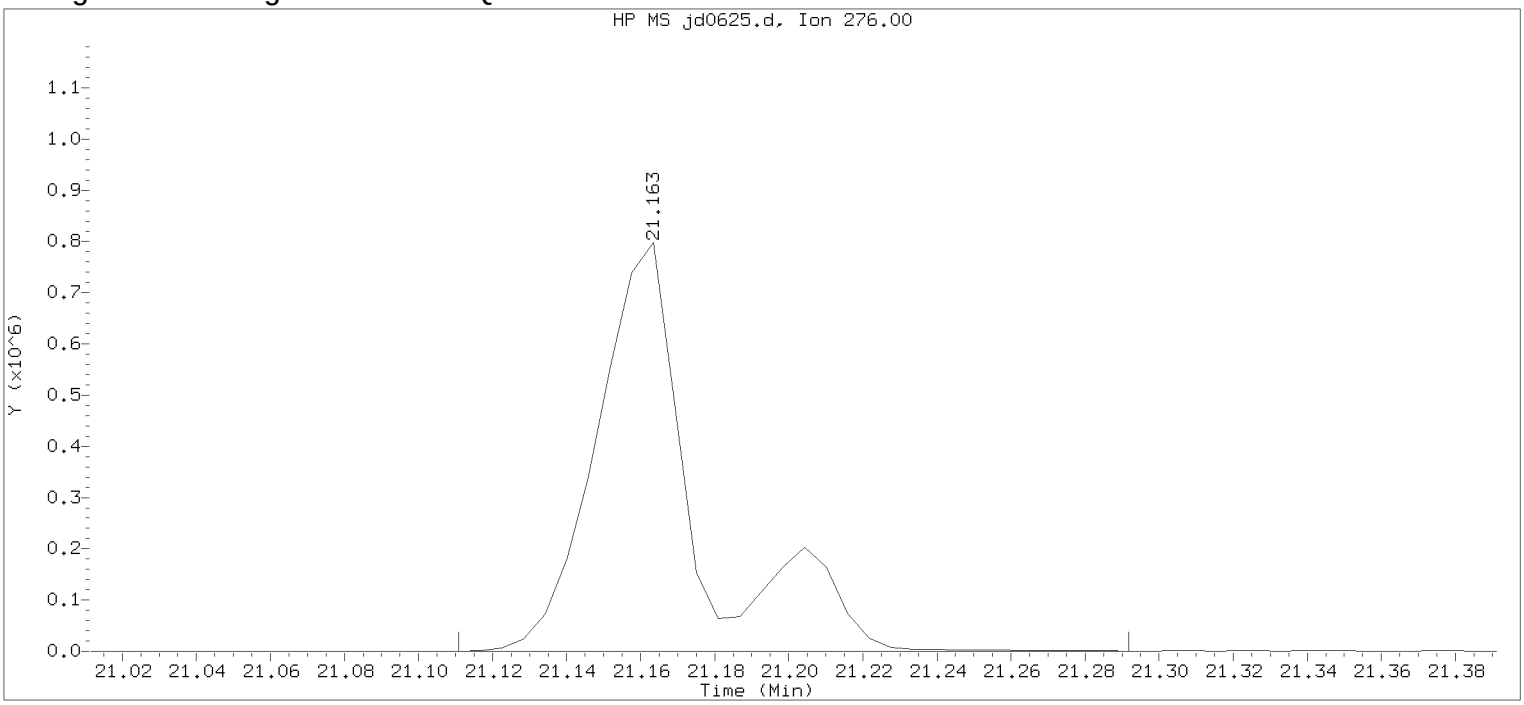
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 07:28.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 10:33.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



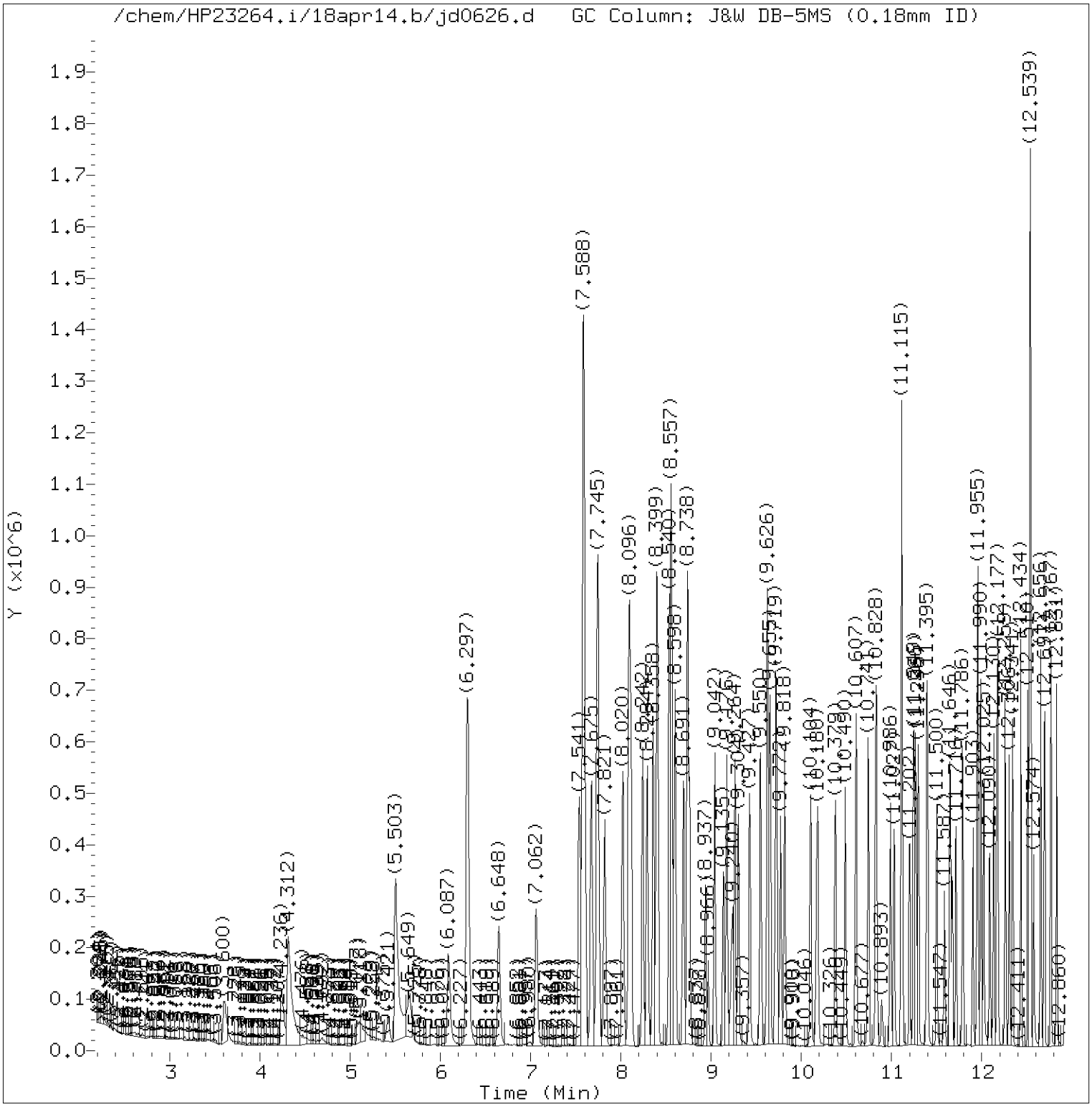
Data File: /chem/HP23264.i/18apr14.b/jd0625.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 18:00 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:20
Date, time and analyst ID of latest file update: 15-Apr-2018 13:20 knk25316

Sample Name: SSTD12.5 Lab Sample ID: rvSTD0968

Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3250
Retention Time (minutes) : 21.163
Quant Ion : 276.00
Area : 1490949
On-column Amount (ng/ul) : 13.6364
Integration start scan : 3240 Integration stop scan: 3271
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 07:28.
Target 3.5 esignature user id: knk25316



Total Ion Chromatogram (TIC)

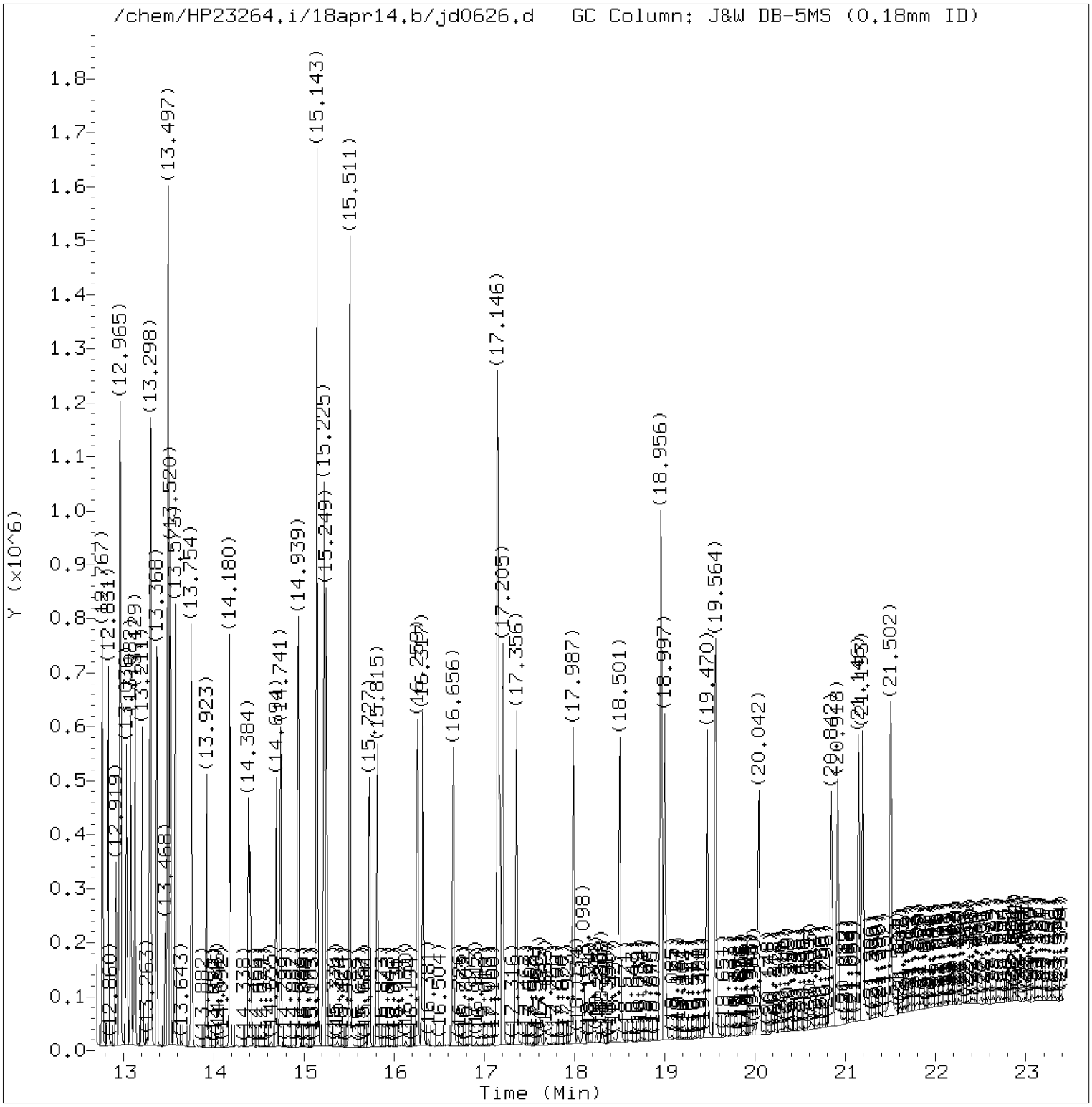
Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0626.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 18:30 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0968

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0626.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 18:30 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0968

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0626.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 18:30 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
3) 1,4-Dioxane	(1)	3.606	88	107640	3.632
5) N-Nitrosodimethylamine	(1)	4.236	74	156411	3.308
6) Pyridine	(1)	4.318	79	278238	3.361
8) 2-Picoline	(1)	5.503	93	281902	3.547
11) N-Nitrosomethylethylamine	(1)	5.661	88	127082	3.554
12) Methyl methanesulfonate	(1)	6.093	80	146057	3.464
13)$2-Fluorophenol	(1)	6.303	112	423440	7.369
14) N-Nitrosodiethylamine	(1)	6.648	102	115456	3.738
18) Ethyl methanesulfonate	(1)	7.062	109	110404	3.705
24) Benzaldehyde	(1)	7.541	77	229357	3.834
26)$Phenol-d6	(1)	7.582	99	572181	7.186
27) Phenol	(1)	7.599	94	305637	3.587
28) Aniline	(1)	7.675	93	378050	3.665
30) a-methylstyrene	(1)	7.740	118	76747	3.716
31) bis(2-Chloroethyl)ether	(1)	7.745	93	242110	3.682
32) 2-Chlorophenol	(1)	7.821	128	187207	3.640
34) 1,3-Dichlorobenzene	(1)	8.020	146	205629	3.575
36)*1,4-Dichlorobenzene-d4	(1)	8.090	152	193356	5.000
38) 1,4-Dichlorobenzene	(1)	8.113	146	205212	3.477
39) Benzyl alcohol	(1)	8.242	108	116354	3.677
41) 1,2-Dichlorobenzene	(1)	8.294	146	194271	3.664
44) 2-Methylphenol	(1)	8.358	108	170007	3.677
46) Indene	(1)	8.399	115	272925	3.643
47) 2,2'-oxybis(1-Chloropropane)	(1)	8.405	45	273759	3.594
48) bis(2-Chloroisopropyl)ether	(1)	8.405	45	273759	3.594
51) N-Nitrosopyrrolidine	(1)	8.534	100	90260	3.584
53) 4-Methylphenol	(1)	8.540	108	169000	3.621
54) N-Nitroso-di-n-propylamine	(1)	8.557	70	150819	3.698
52) Acetophenone	(1)	8.563	105	240320	3.543
55) N-Nitrosomorpholine	(1)	8.580	56	120175M	3.485
56) o-Toluidine	(1)	8.604	106	274960	3.533
57) Hexachloroethane	(1)	8.691	117	82932	3.733
58)$Nitrobenzene-d5	(2)	8.738	82	446466	7.339
59) Nitrobenzene	(2)	8.761	77	227330	3.724
61) N-Nitrosopiperidine	(2)	8.937	114	74367	3.695
63) Isophorone	(2)	9.042	82	304063	3.520
64) 2-Nitrophenol	(2)	9.141	139	74945	3.693
65) 2,4-Dimethylphenol	(2)	9.170	107	150062	3.593
67) Benzoic acid	(2)	9.240	105	145057	6.884
66) O,O,O-Triethylphosphorothioate	(2)	9.269	198	58935	3.484

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0626.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 18:30 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
68) bis(2-Chloroethoxy)methane	(2)	9.304	93	176308	3.698
70) 2,4-Dichlorophenol	(2)	9.427	162	118468	3.515
72) 1,2,4-Trichlorobenzene	(2)	9.550	180	139899	3.667
76)*Naphthalene-d8	(2)	9.626	136	484814	5.000
78) Naphthalene	(2)	9.655	128	363881	3.694
79) 4-Chloroaniline	(2)	9.719	127	141469	3.460
80) 2,6-Dichlorophenol	(2)	9.725	162	116153	3.623
81) Hexachloropropene	(2)	9.772	213	105820	3.544
83) Hexachlorobutadiene	(2)	9.818	225	87119	3.767
84) Quinoline	(2)	10.104	129	206503	3.382
86) Caprolactam	(2)	10.169	113	40147	3.173
87) N-Nitrosodi-n-butylamine	(2)	10.180	84	119992	3.431
89) 4-Chloro-3-methylphenol	(2)	10.379	107	110087	3.310
90) Safrole	(2)	10.490	162	88239	3.379
91) 2-Methylnaphthalene	(2)	10.607	142	210533	3.585
92) 1-Methylnaphthalene	(2)	10.741	142	187828	3.634
95) Hexachlorocyclopentadiene	(3)	10.823	237	75930	3.820
96) 1,2,4,5-Tetrachlorobenzene	(3)	10.834	216	122147	3.799
97) cis-Isosafrole	(3)	10.893	162	14757	0.617
98) 2,4,6-Trichlorophenol	(3)	10.986	196	72471	3.486
100) 2,4,5-Trichlorophenol	(3)	11.027	196	76410	3.541
102)$2-Fluorobiphenyl	(3)	11.115	172	438201	7.352
104) trans-Isosafrole	(3)	11.202	162	74995	2.957
105) 1,1'-Biphenyl	(3)	11.249	154	214618	3.599
107) 2-Chloronaphthalene	(3)	11.266	162	196866	3.639
108) 1-Chloronaphthalene	(3)	11.296	162	180410	3.685
109) Diphenyl ether	(3)	11.389	170	125013	3.689
110) 2-Nitroaniline	(3)	11.401	138	60729	3.629
111) 1,4-Naphthoquinone	(3)	11.500	158	78722	3.628
112) 1,4-Dinitrobenzene	(3)	11.587	168	35776	3.703
114) Dimethylphthalate	(3)	11.646	163	213668	3.544
116) 1,3-Dinitrobenzene	(3)	11.675	168	39439	3.619
117) 2,6-Dinitrotoluene	(3)	11.716	165	49755	3.553
118) Acenaphthylene	(3)	11.792	152	252621	3.588
120) 3-Nitroaniline	(3)	11.903	138	49772	3.507
122)*Acenaphthene-d10	(3)	11.955	164	184793	5.000
123) Acenaphthene	(3)	11.990	153	163462	3.586
125) 2,4-Dinitrophenol	(3)	12.025	184	72097	6.590
126) 4-Nitrophenol	(3)	12.090	109	44507	3.541
127) Pentachlorobenzene	(3)	12.130	250	82512	3.576

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$ = Compound is a surrogate standard.

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0626.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 18:30 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
128) 2,4-Dinitrotoluene	(3)	12.166	165	68834	3.480
129) Dibenzofuran	(3)	12.177	168	240993	3.597
131) 1-Naphthylamine	(3)	12.259	143	169598	3.331
132) 2,3,4,6-Tetrachlorophenol	(3)	12.306	232	63667	3.651
133) 2-Naphthylamine	(3)	12.341	143	161416	3.301
136) Diethylphthalate	(3)	12.434	149	211636	3.511
138) Thionazin	(3)	12.510	107	35185	3.574
139) Fluorene	(3)	12.528	166	195841	3.613
140) 5-Nitro-o-toluidine	(3)	12.539	152	60291M	3.580
141) 4-Chlorophenyl-phenylether	(3)	12.539	204	100425	3.597
142) 4-Nitroaniline	(3)	12.545	138	61331	3.745
143) 4,6-Dinitro-2-methylphenol	(4)	12.580	198	46691	3.538
145) NDPA as diphenylamine	(4)	12.656	169	170099	3.565
144) N-Nitrosodiphenylamine	(4)	12.656	169	170099	3.565
146) 1,2-Diphenylhydrazine	(4)	12.697	77	252764	3.534
147)$2,4,6-Tribromophenol	(3)	12.767	330	59531	7.267
148) Tetraethyldithiopyrophosphate	(4)	12.831	97	49890	3.533
149) 1,3,5-Trinitrobenzene	(4)	12.919	213	26890	3.421
150) Diallate (peak 1)	(4)	12.954	86	87070	2.955
151) Phorate	(4)	12.965	75	157793	3.596
152) Phenacetin	(4)	12.971	108	137392	3.879
153) 4-Bromophenyl-phenylether	(4)	13.036	248	60195	3.552
154) Diallate (peak 2)	(4)	13.047	86	15461	0.628
155) Hexachlorobenzene	(4)	13.082	284	61847	3.603
156) Dimethoate	(4)	13.129	87	102589	3.757
157) Atrazine	(4)	13.211	200	61120	3.636
160) Pentachlorophenol	(4)	13.287	266	46335	3.564
161) 4-Aminobiphenyl	(4)	13.298	169	198907	3.537
162) Pentachloronitrobenzene	(4)	13.304	237	38177	3.598
164) Pronamide	(4)	13.374	173	111276	3.781
166) Dinoseb	(4)	13.497	211	64820	3.523
165)*Phenanthrene-d10	(4)	13.497	188	364176	5.000
167) Phenanthrene	(4)	13.520	178	298471	3.649
168) Anthracene	(4)	13.579	178	310245	3.735
169) Carbazole	(4)	13.754	167	277503	3.697
170) Methyl parathion	(4)	13.923	109	77704	3.747
174) Di-n-butylphthalate	(4)	14.180	149	365656	3.628
180) Parathion	(4)	14.384	109	45907	3.452
179) 4-Nitroquinoline-1-oxide	(4)	14.408	190	38092	3.316
181) Octachlorostyrene	(4)	14.694	308	25781	3.811

M = Compound was manually integrated.
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$ = Compound is a surrogate standard.

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0626.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 18:30 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
182) Isodrin	(4)	14.741	193	41626	3.764
183) Fluoranthene	(4)	14.939	202	334231	3.568
184) Benzidine	(5)	15.143	184	640899	10.361
185)*Pyrene-d10	(5)	15.225	212	401640	5.000
187) Pyrene	(5)	15.249	202	366345	3.613
192)$Terphenyl-d14	(5)	15.511	244	481476	7.069
193) p-Dimethylaminoazobenzene	(5)	15.727	225	58414	3.619
194) Chlorobenzilate	(5)	15.815	139	114330	3.467
196) 3,3'-Dimethylbenzidine	(5)	16.259	212	241248	3.692
198) Butylbenzylphthalate	(5)	16.317	149	168954	3.527
199) 2-Acetylaminofluorene	(5)	16.656	181	142967	3.519
201) Benzo(a)anthracene	(5)	17.146	228	356396	3.660
202) 3,3'-Dichlorobenzidine	(5)	17.146	252	126068	3.455
205) 4,4'-Methylenebis(2-chloroanil	(5)	17.170	231	68299	3.407
206) Chrysene	(5)	17.205	228	331644	3.600
207) bis(2-Ethylhexyl)phthalate	(5)	17.356	149	232250	3.385
208) 6-Methylchrysene	(5)	17.987	242	215842	3.396
209) Di-n-octylphthalate	(6)	18.501	149	410207	3.552
210) Benzo(b)fluoranthene	(6)	18.951	252	324962	3.675
211) 7,12-Dimethylbenz[a]anthracene	(6)	18.962	256	133985	3.531
212) Benzo(k)fluoranthene	(6)	18.997	252	300343	3.576
214) Benzo(a)pyrene	(6)	19.470	252	298424	3.645
215)*Perylene-d12	(6)	19.564	264	356596	5.000
216) 3-Methylcholanthrene	(6)	20.042	268	133805	3.458
217) Dibenz(a,h)acridine	(6)	20.842	279	226554	3.536
218) Dibenz(a,j)acridine	(6)	20.918	279	236455	3.634
219) Indeno(1,2,3-cd)pyrene	(6)	21.146	276	277807M	3.736
220) Dibenz(a,h)anthracene	(6)	21.193	278	262738	3.752
221) Benzo(g,h,i)perylene	(6)	21.502	276	305121	3.837
224) Isosafrole	(3)			89752	3.574
225) 2,4_2,6-Dinitrotoluenes	(3)			118589	7.033
222) Total Cresols	(1)			339007	7.298
228) Total PAHs	(6)			5140893	65.745
226) Diallate trans/cis	(4)			102531	3.583

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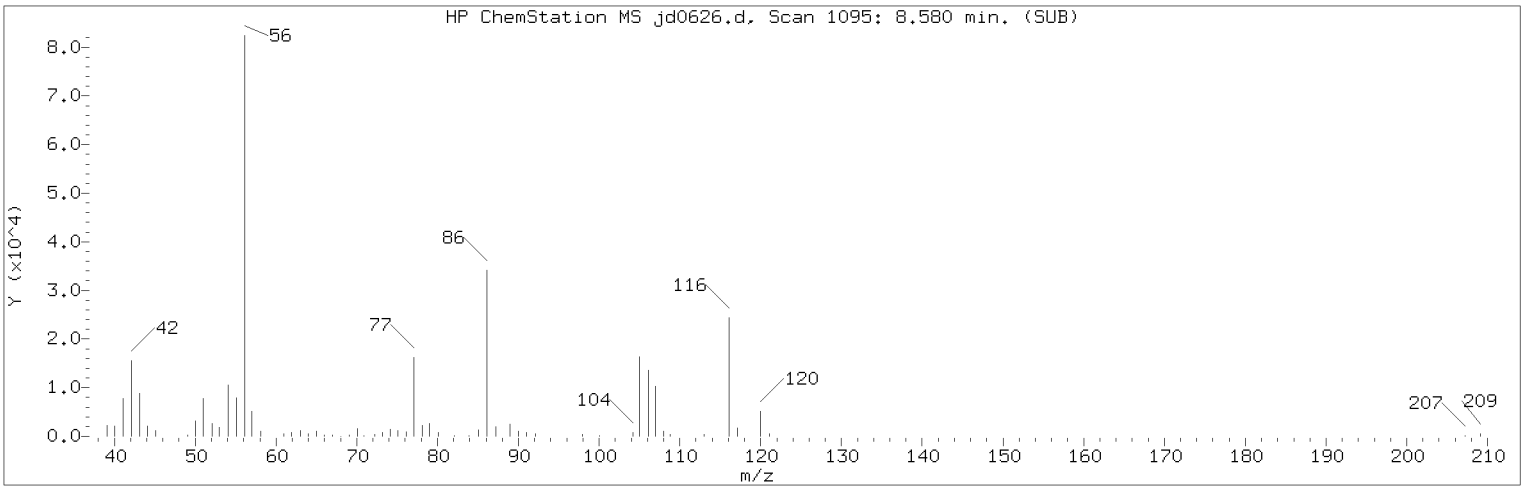
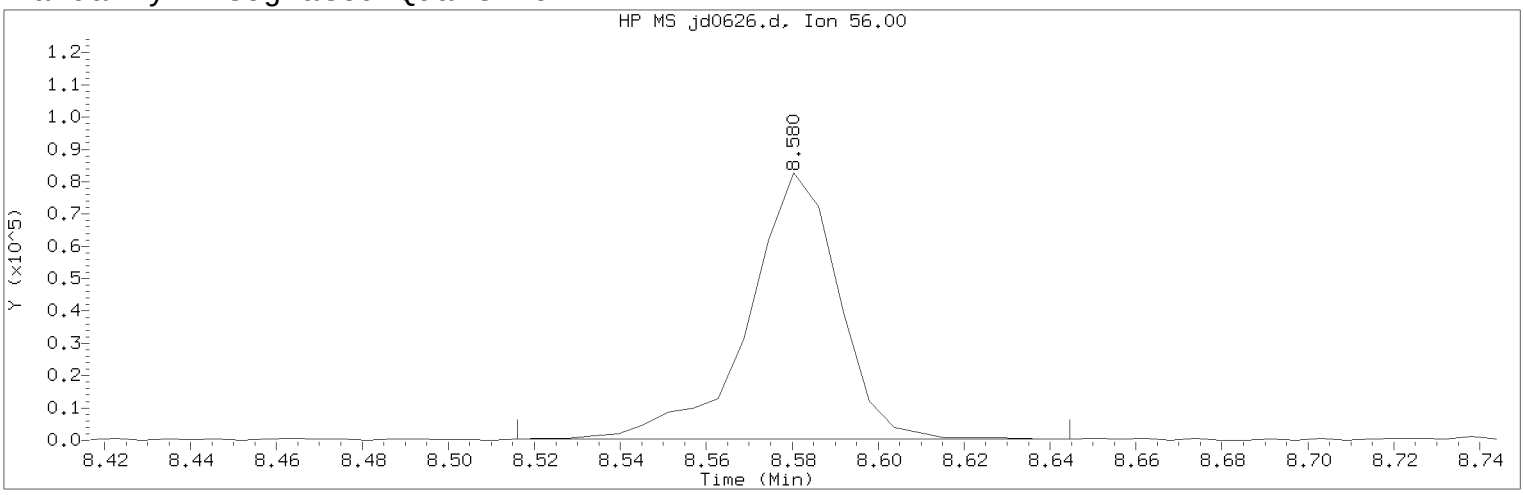
on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0626.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 18:30 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0968

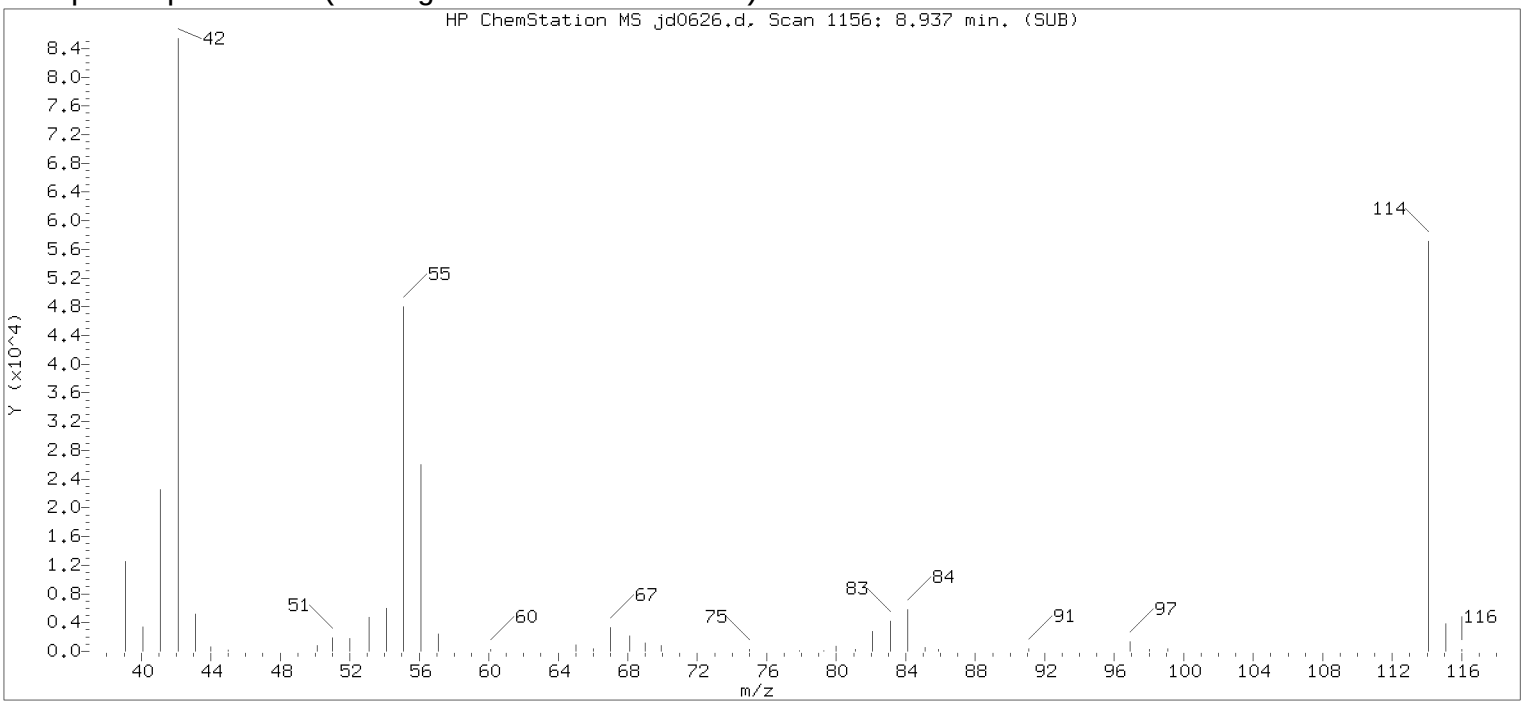
Compound Number : 55
Compound Name : N-Nitrosomorpholine
Scan Number : 1095
Retention Time (minutes) : 8.580
Quant Ion : 56.00
Area (flag) : 120175M
On-Column Amount (ng/ul) : 3.4845
Integration start scan : 1083 Integration stop scan: 1105
Y at integration start : 347 Y at integration end: 347

Reason for manual integration: improper integration

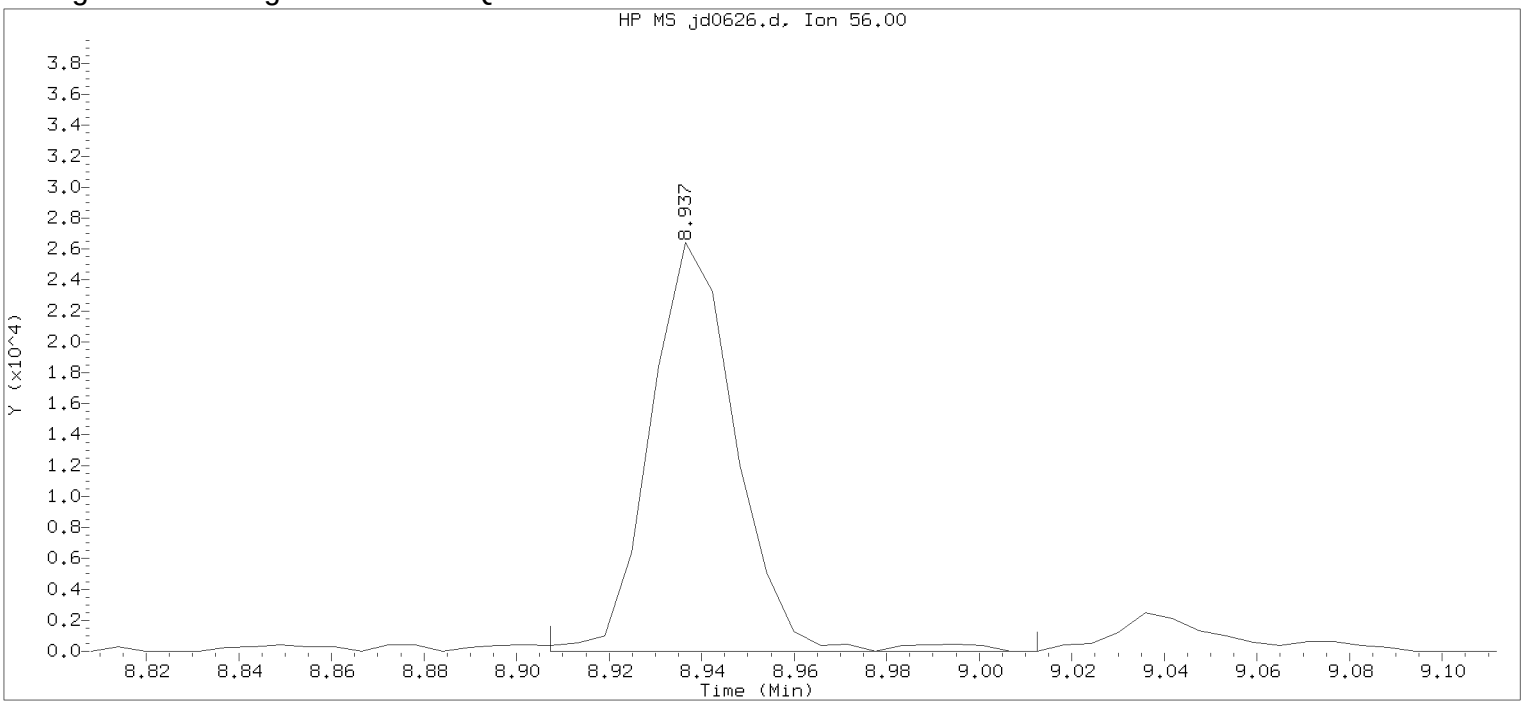
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0626.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 18:30 Analyst ID: knk25316

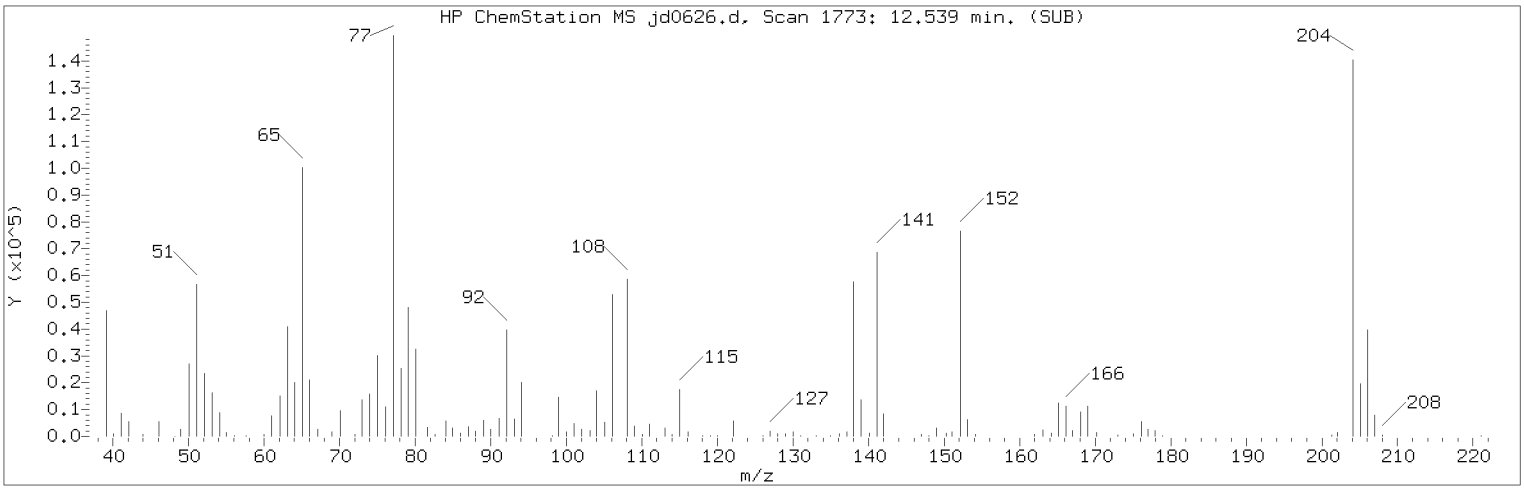
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:20
Date, time and analyst ID of latest file update: 15-Apr-2018 13:21 knk25316

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0968

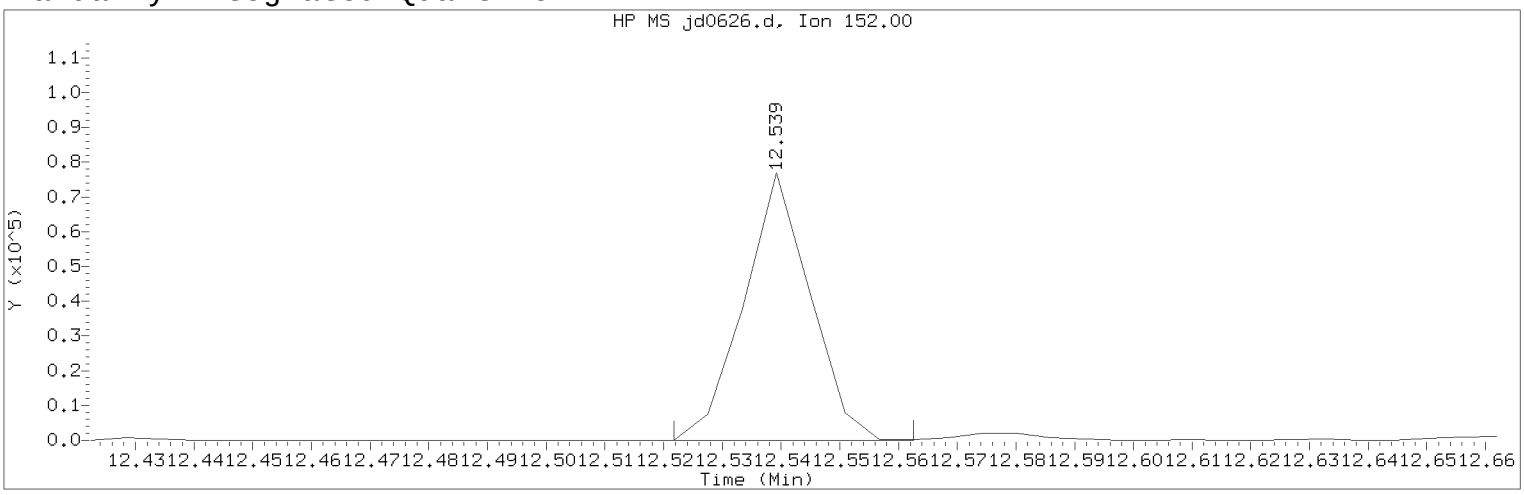
Compound Number : 55
Compound Name : N-Nitrosomorpholine
Scan Number : 1156
Retention Time (minutes) : 8.937
Quant Ion : 56.00
Area : 33993
On-column Amount (ng/ul) : 2.5403
Integration start scan : 1150 Integration stop scan: 1168
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0626.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 18:30 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0968

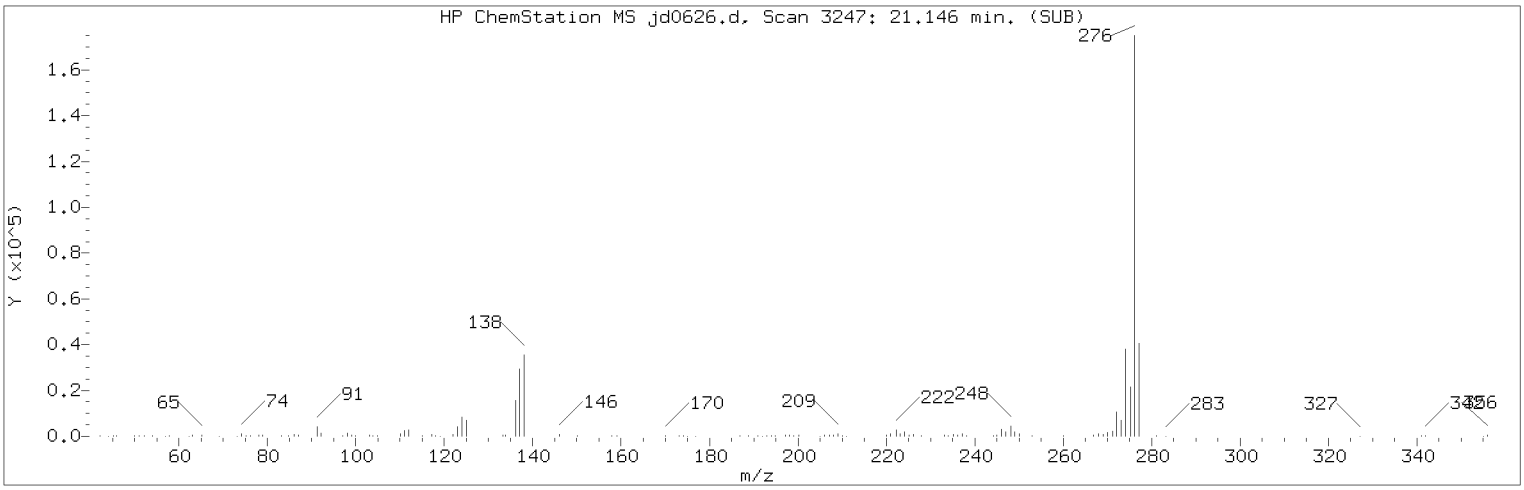
Compound Number : 140
Compound Name : 5-Nitro-o-toluidine
Scan Number : 1773
Retention Time (minutes) : 12.539
Quant Ion : 152.00
Area (flag) : 60291M
On-Column Amount (ng/ul) : 3.5798
Integration start scan : 1769 Integration stop scan: 1776
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: compound not in processing sublist

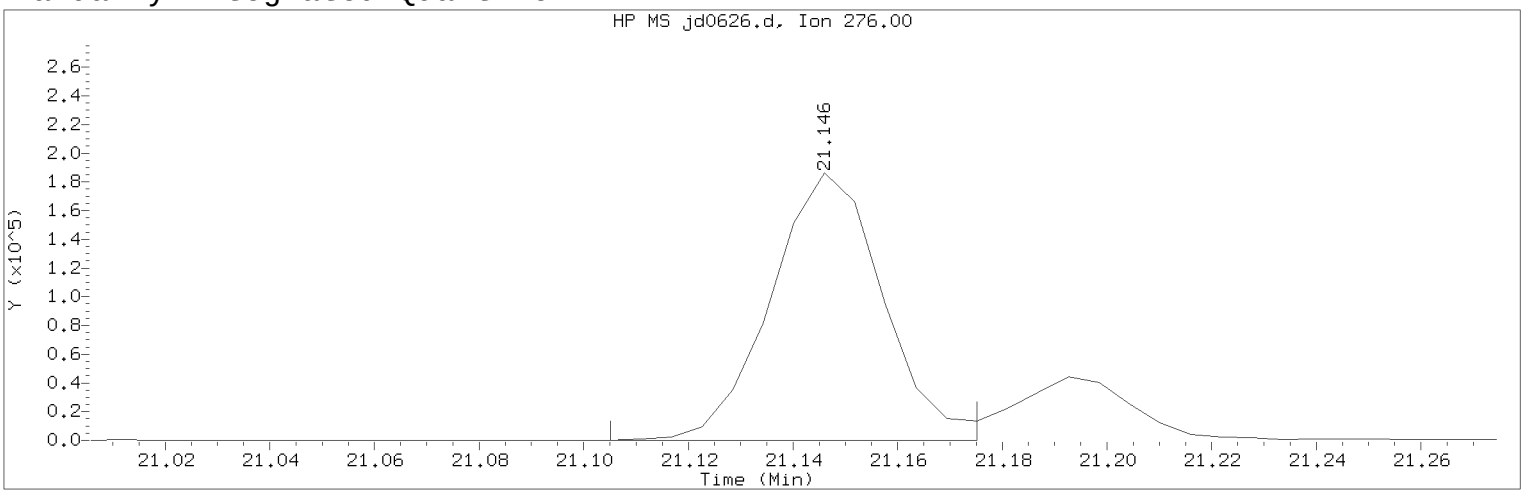
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0626.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 18:30 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:49 knk25316

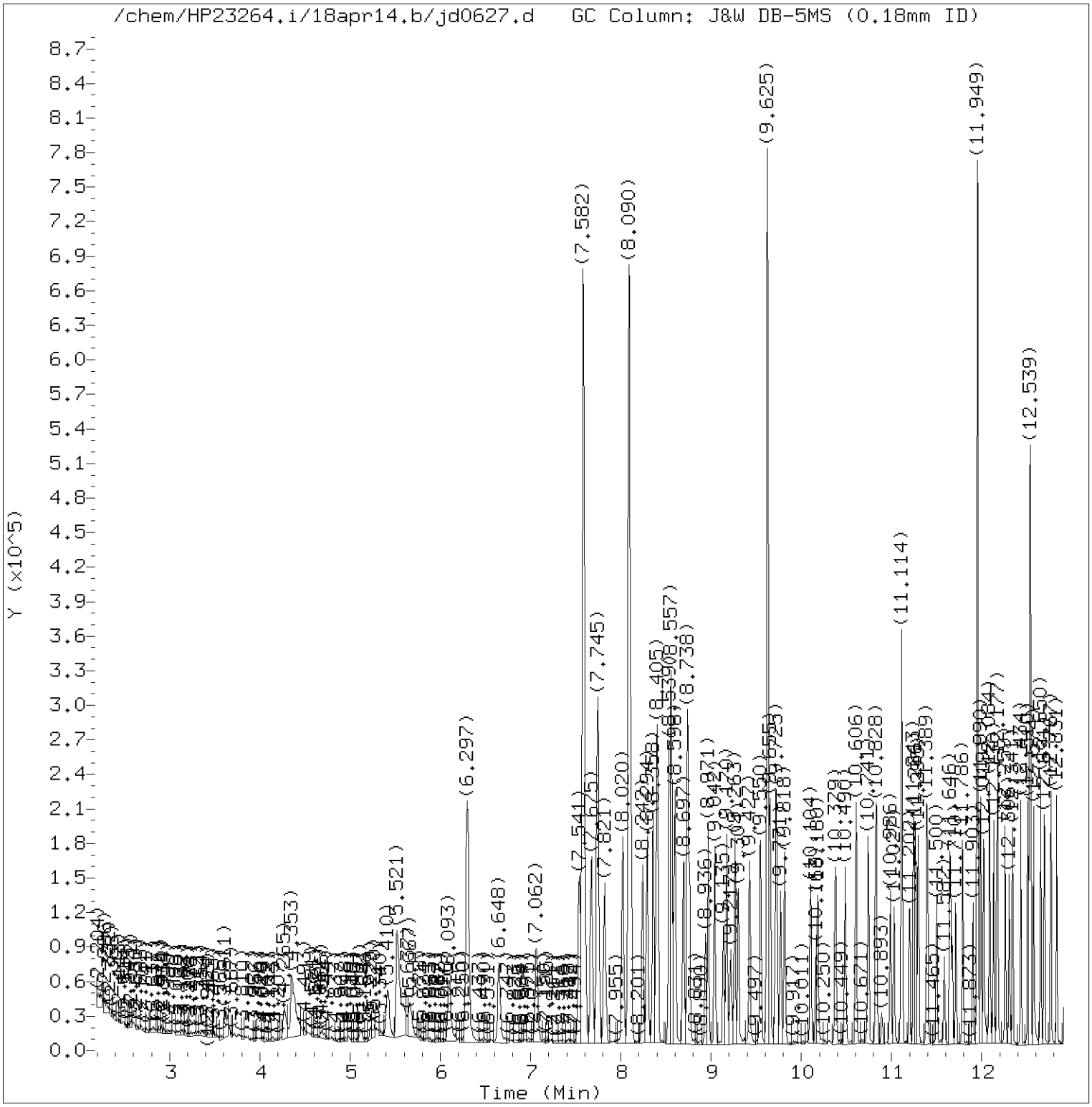
Sample Name: SSTD3.75 Lab Sample ID: rvSTD0968

Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3247
Retention Time (minutes) : 21.146
Quant Ion : 276.00
Area (flag) : 277807M
On-Column Amount (ng/ul) : 3.7356
Integration start scan : 3239 Integration stop scan: 3251
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: compound not in processing sublist

Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237



Total Ion Chromatogram (TIC)

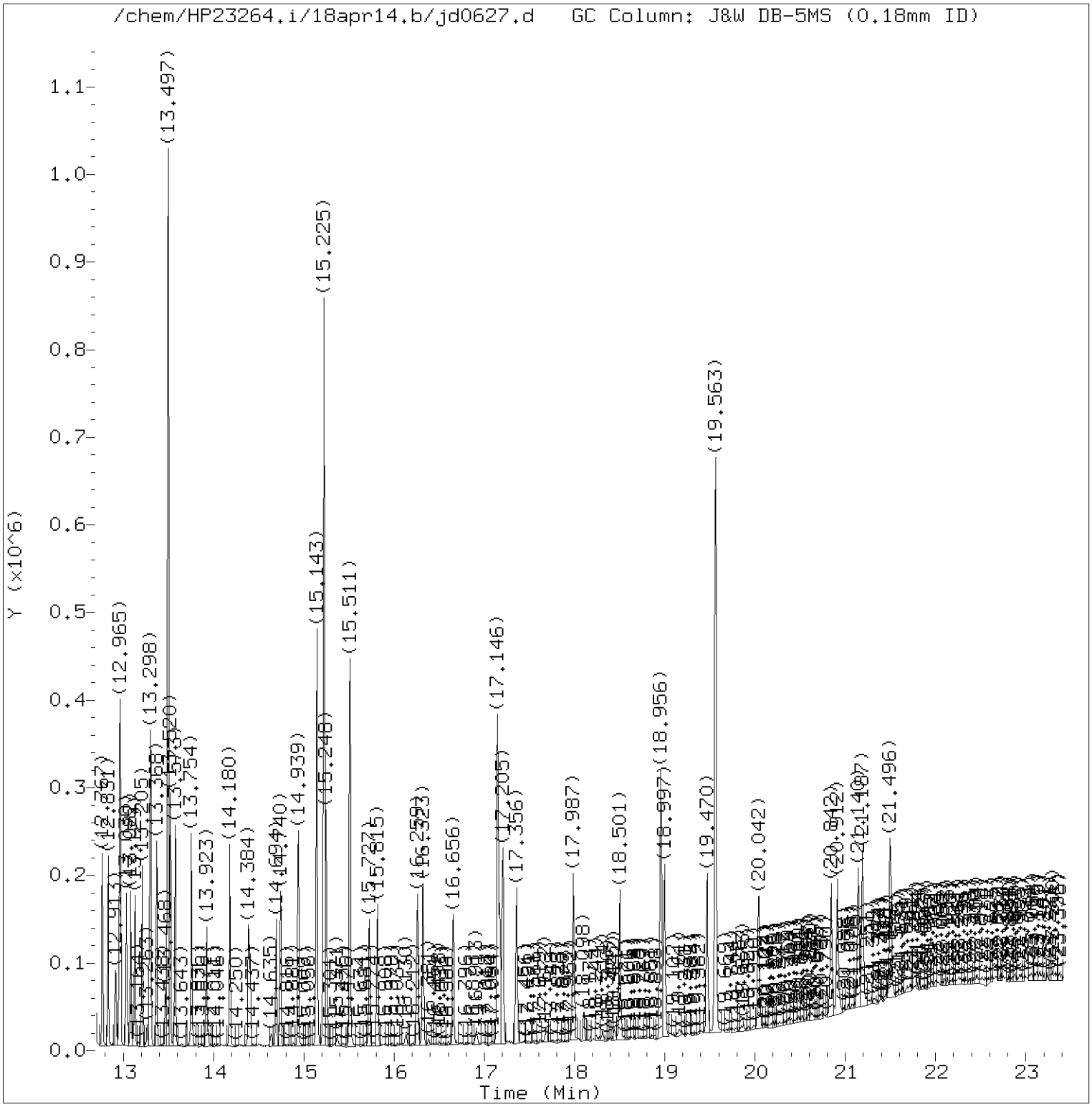
Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0627.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0627.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0627.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
3) 1,4-Dioxane	(1)	3.617	88	36590M	1.432
5) N-Nitrosodimethylamine	(1)	4.277	74	54802M	1.344
6) Pyridine	(1)	4.347	79	100501M	1.408
8) 2-Picoline	(1)	5.515	93	91824M	1.340
11) N-Nitrosomethylethylamine	(1)	5.661	88	40496	1.313
12) Methyl methanesulfonate	(1)	6.099	80	47963M	1.319
13)$2-Fluorophenol	(1)	6.297	112	129138	2.606
14) N-Nitrosodiethylamine	(1)	6.648	102	34653	1.301
18) Ethyl methanesulfonate	(1)	7.056	109	31673	1.233
24) Benzaldehyde	(1)	7.541	77	65039	1.261
26)$Phenol-d6	(1)	7.582	99	181661	2.646
27) Phenol	(1)	7.599	94	98961	1.347
28) Aniline	(1)	7.675	93	116711	1.312
30) a-methylstyrene	(1)	7.734	118	20991	1.179
31) bis(2-Chloroethyl)ether	(1)	7.751	93	72807	1.284
32) 2-Chlorophenol	(1)	7.821	128	57828	1.304
34) 1,3-Dichlorobenzene	(1)	8.020	146	64124	1.293
36)*1,4-Dichlorobenzene-d4	(1)	8.090	152	166729	5.000
38) 1,4-Dichlorobenzene	(1)	8.113	146	65495	1.414
39) Benzyl alcohol	(1)	8.242	108	30955	1.135
41) 1,2-Dichlorobenzene	(1)	8.294	146	60827	1.330
44) 2-Methylphenol	(1)	8.358	108	51449	1.290
46) Indene	(1)	8.399	115	77296	1.197
47) 2,2'-oxybis(1-Chloropropane)	(1)	8.405	45	85185	1.297
48) bis(2-Chloroisopropyl)ether	(1)	8.405	45	85185	1.297
51) N-Nitrosopyrrolidine	(1)	8.534	100	26917	1.240
53) 4-Methylphenol	(1)	8.539	108	51329	1.275
54) N-Nitroso-di-n-propylamine	(1)	8.557	70	45868	1.304
52) Acetophenone	(1)	8.563	105	72934	1.409
55) N-Nitrosomorpholine	(1)	8.580	56	37743M	1.269
56) o-Toluidine	(1)	8.598	106	88457	1.318
57) Hexachloroethane	(1)	8.691	117	23781	1.242
58)$Nitrobenzene-d5	(2)	8.738	82	137114	2.647
59) Nitrobenzene	(2)	8.761	77	68424	1.316
61) N-Nitrosopiperidine	(2)	8.936	114	21910	1.278
63) Isophorone	(2)	9.042	82	92608	1.259
64) 2-Nitrophenol	(2)	9.141	139	21302	1.233
65) 2,4-Dimethylphenol	(2)	9.170	107	46187	1.299
67) Benzoic acid	(2)	9.223	105	40385	4.172
66) O,O,O-Triethylphosphorothioate	(2)	9.263	198	18651	1.295

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on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0627.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
68) bis(2-Chloroethoxy)methane	(2)	9.304	93	53103	1.308
70) 2,4-Dichlorophenol	(2)	9.427	162	39155	1.365
72) 1,2,4-Trichlorobenzene	(2)	9.550	180	43434	1.337
76)*Naphthalene-d8	(2)	9.625	136	412803	5.000
78) Naphthalene	(2)	9.655	128	114070	1.360
79) 4-Chloroaniline	(2)	9.719	127	41915	1.204
80) 2,6-Dichlorophenol	(2)	9.725	162	34369	1.259
81) Hexachloropropene	(2)	9.771	213	31553	1.241
83) Hexachlorobutadiene	(2)	9.818	225	27214	1.382
84) Quinoline	(2)	10.104	129	55149	1.061
86) Caprolactam	(2)	10.163	113	12361	1.147
87) N-Nitrosodi-n-butylamine	(2)	10.180	84	33887	1.138
89) 4-Chloro-3-methylphenol	(2)	10.373	107	30436	1.306
90) Safrole	(2)	10.490	162	26750	1.203
91) 2-Methylnaphthalene	(2)	10.606	142	63112	1.262
92) 1-Methylnaphthalene	(2)	10.741	142	54039	1.228
95) Hexachlorocyclopentadiene	(3)	10.822	237	20340	1.215
96) 1,2,4,5-Tetrachlorobenzene	(3)	10.834	216	36098	1.333
97) cis-Isosafrole	(3)	10.893	162	4369	0.217
98) 2,4,6-Trichlorophenol	(3)	10.986	196	20501	1.171
100) 2,4,5-Trichlorophenol	(3)	11.027	196	20631M	1.135
102)$2-Fluorobiphenyl	(3)	11.114	172	130419	2.598
104) trans-Isosafrole	(3)	11.196	162	21193	0.992
105) 1,1'-Biphenyl	(3)	11.243	154	68807	1.541
107) 2-Chloronaphthalene	(3)	11.266	162	61458	1.349
108) 1-Chloronaphthalene	(3)	11.295	162	54406	1.319
109) Diphenyl ether	(3)	11.389	170	37658	1.319
110) 2-Nitroaniline	(3)	11.401	138	17156	1.217
111) 1,4-Naphthoquinone	(3)	11.500	158	20352	1.114
112) 1,4-Dinitrobenzene	(3)	11.587	168	8690	1.068
114) Dimethylphthalate	(3)	11.646	163	60330	1.188
116) 1,3-Dinitrobenzene	(3)	11.669	168	10538	1.148
117) 2,6-Dinitrotoluene	(3)	11.710	165	15013	1.273
118) Acenaphthylene	(3)	11.786	152	75740	1.277
120) 3-Nitroaniline	(3)	11.903	138	14295	1.196
122)*Acenaphthene-d10	(3)	11.949	164	155647	5.000
123) Acenaphthene	(3)	11.990	153	50397	1.312
125) 2,4-Dinitrophenol	(3)	12.025	184	25192	2.734
126) 4-Nitrophenol	(3)	12.084	109	24639M	2.328
127) Pentachlorobenzene	(3)	12.130	250	27514	1.416

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on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0627.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
128) 2,4-Dinitrotoluene	(3)	12.165	165	19490	1.170
129) Dibenzofuran	(3)	12.177	168	69005	1.223
131) 1-Naphthylamine	(3)	12.259	143	47825M	1.115
132) 2,3,4,6-Tetrachlorophenol	(3)	12.306	232	18313	1.247
133) 2-Naphthylamine	(3)	12.341	143	47821	1.161
136) Diethylphthalate	(3)	12.434	149	61563	1.213
138) Thionazin	(3)	12.510	107	9516M	1.148
139) Fluorene	(3)	12.527	166	58879	1.290
141) 4-Chlorophenyl-phenylether	(3)	12.539	204	30211	1.285
142) 4-Nitroaniline	(3)	12.539	138	16278	1.223
140) 5-Nitro-o-toluidine	(3)	12.539	152	17848M	1.258
143) 4,6-Dinitro-2-methylphenol	(4)	12.574	198	24210	2.232
145) NDPA as diphenylamine	(4)	12.656	169	50339	1.284
144) N-Nitrosodiphenylamine	(4)	12.656	169	50339	1.284
146) 1,2-Diphenylhydrazine	(4)	12.691	77	76753	1.306
147)$2,4,6-Tribromophenol	(3)	12.767	330	18070	2.619
148) Tetraethyldithiopyrophosphate	(4)	12.831	97	14974	1.290
149) 1,3,5-Trinitrobenzene	(4)	12.919	213	7936M	1.228
150) Diallate (peak 1)	(4)	12.954	86	26003	1.074
151) Phorate	(4)	12.960	75	48080	1.333
152) Phenacetin	(4)	12.965	108	37142	1.276
153) 4-Bromophenyl-phenylether	(4)	13.035	248	19776	1.420
154) Diallate (peak 2)	(4)	13.047	86	4185	0.207
155) Hexachlorobenzene	(4)	13.082	284	17025	1.207
156) Dimethoate	(4)	13.129	87	28620M	1.275
157) Atrazine	(4)	13.205	200	19917	1.442
160) Pentachlorophenol	(4)	13.287	266	13029	1.220
161) 4-Aminobiphenyl	(4)	13.298	169	60355	1.306
162) Pentachloronitrobenzene	(4)	13.304	237	10341	1.186
164) Pronamide	(4)	13.368	173	31528	1.304
166) Dinoseb	(4)	13.497	211	18510	1.224
165)*Phenanthrene-d10	(4)	13.497	188	299306	5.000
167) Phenanthrene	(4)	13.520	178	88173	1.311
168) Anthracene	(4)	13.573	178	90027	1.319
169) Carbazole	(4)	13.754	167	81654	1.324
170) Methyl parathion	(4)	13.923	109	20416	1.198
174) Di-n-butylphthalate	(4)	14.180	149	106949	1.291
180) Parathion	(4)	14.384	109	12759	1.167
179) 4-Nitroquinoline-1-oxide	(4)	14.402	190	10441	1.106
181) Octachlorostyrene	(4)	14.694	308	7334	1.319

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0627.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:49
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
182) Isodrin	(4)	14.740	193	12649	1.391
183) Fluoranthene	(4)	14.939	202	104150	1.353
184) Benzidine	(5)	15.143	184	177401	3.347
185)*Pyrene-d10	(5)	15.225	212	344174	5.000
187) Pyrene	(5)	15.248	202	113823	1.310
192)$Terphenyl-d14	(5)	15.511	244	141715	2.428
193) p-Dimethylaminoazobenzene	(5)	15.727	225	16589	1.199
194) Chlorobenzilate	(5)	15.815	139	33735	1.194
196) 3,3'-Dimethylbenzidine	(5)	16.259	212	66091	1.180
198) Butylbenzylphthalate	(5)	16.323	149	50689	1.235
199) 2-Acetylaminofluorene	(5)	16.656	181	39101	1.123
201) Benzo(a)anthracene	(5)	17.146	228	106624	1.278
202) 3,3'-Dichlorobenzidine	(5)	17.146	252	39687	1.269
205) 4,4'-Methylenebis(2-chloroanil	(5)	17.169	231	22560	1.313
206) Chrysene	(5)	17.205	228	104766	1.327
207) bis(2-Ethylhexyl)phthalate	(5)	17.356	149	70068	1.192
208) 6-Methylchrysene	(5)	17.987	242	68993	1.267
209) Di-n-octylphthalate	(6)	18.501	149	116804	1.185
210) Benzo(b)fluoranthene	(6)	18.950	252	95581	1.267
211) 7,12-Dimethylbenz[a]anthracene	(6)	18.962	256	38445	1.187
212) Benzo(k)fluoranthene	(6)	18.997	252	97235	1.357
214) Benzo(a)pyrene	(6)	19.470	252	89495M	1.281
215)*Perylene-d12	(6)	19.563	264	304273	5.000
216) 3-Methylcholanthrene	(6)	20.042	268	44113	1.336
217) Dibenz(a,h)acridine	(6)	20.842	279	69706	1.275
218) Dibenz(a,j)acridine	(6)	20.912	279	71683	1.291
219) Indeno(1,2,3-cd)pyrene	(6)	21.140	276	87053M	1.372
220) Dibenz(a,h)anthracene	(6)	21.193	278	81939	1.371
221) Benzo(g,h,i)perylene	(6)	21.496	276	95467	1.407
224) Isosafrole	(3)			25562	1.209
225) 2,4_2,6-Dinitrotoluenes	(3)			34503	2.443
222) Total Cresols	(1)			102778	2.566
228) Total PAHs	(6)			1570570	23.682
226) Diallate trans/cis	(4)			30188	1.281

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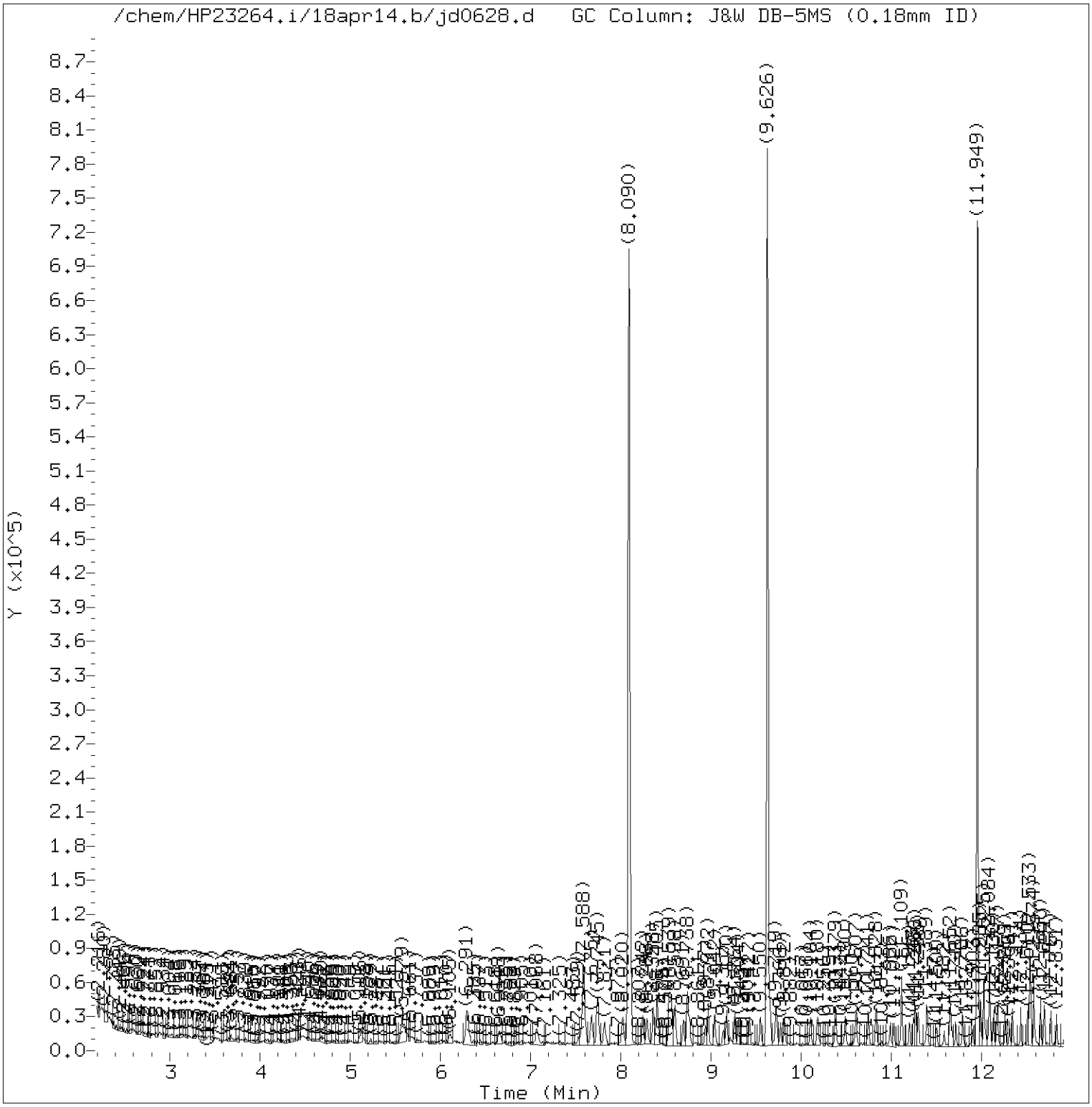
Target 3.5 esignature user ID: knk25316



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

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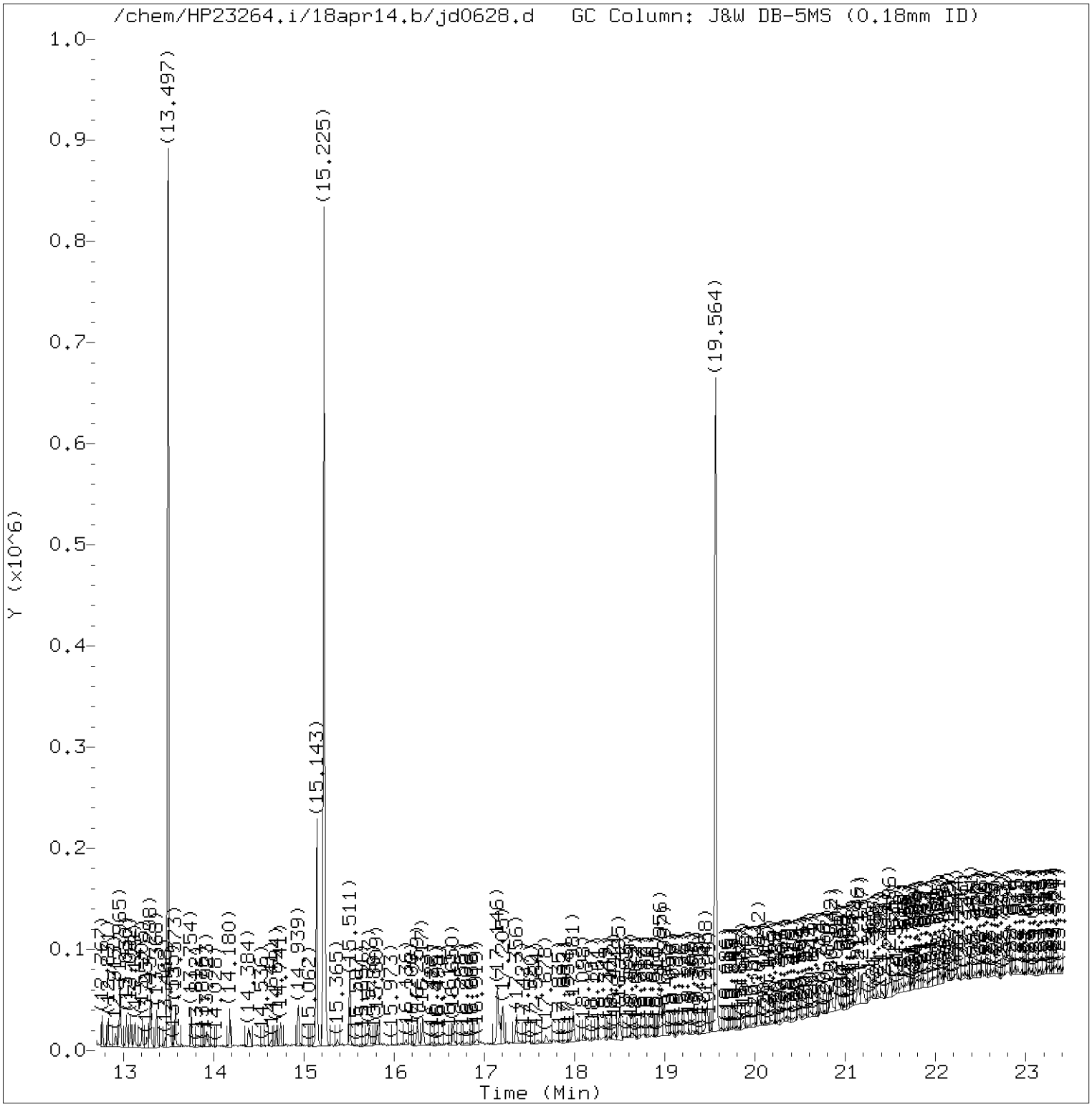
Target 3.5 esignature user ID: knk25316



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

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on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
3) 1,4-Dioxane	(1)	3.664	88	4503M	0.178
5) N-Nitrosodimethylamine	(1)	4.365	74	6941M	0.172
6) Pyridine	(1)	4.464	79	16082M	0.227
8) 2-Picoline	(1)	5.567	93	13365M	0.197
11) N-Nitrosomethylethylamine	(1)	5.684	88	5959M	0.195
12) Methyl methanesulfonate	(1)	6.105	80	7412M	0.205
13)$2-Fluorophenol	(1)	6.297	112	18757	0.382
14) N-Nitrosodiethylamine	(1)	6.659	102	4806	0.182
18) Ethyl methanesulfonate	(1)	7.062	109	5018	0.197
24) Benzaldehyde	(1)	7.535	77	3811M	0.074
26)$Phenol-d6	(1)	7.588	99	26263	0.386
27) Phenol	(1)	7.599	94	15212	0.209
28) Aniline	(1)	7.675	93	16622	0.188
30) a-methylstyrene	(1)	7.740	118	3052	0.173
31) bis(2-Chloroethyl)ether	(1)	7.745	93	10711	0.190
32) 2-Chlorophenol	(1)	7.815	128	7919	0.180
34) 1,3-Dichlorobenzene	(1)	8.026	146	8644	0.176
36)*1,4-Dichlorobenzene-d4	(1)	8.090	152	165435	5.000
38) 1,4-Dichlorobenzene	(1)	8.107	146	8197	0.355
39) Benzyl alcohol	(1)	8.242	108	5661	0.209
41) 1,2-Dichlorobenzene	(1)	8.288	146	7699	0.170
44) 2-Methylphenol	(1)	8.353	108	8229M	0.208
46) Indene	(1)	8.399	115	10943	0.171
47) 2,2'-oxybis(1-Chloropropane)	(1)	8.405	45	14058	0.216
48) bis(2-Chloroisopropyl)ether	(1)	8.405	45	14058	0.216
53) 4-Methylphenol	(1)	8.534	108	9226M	0.231
51) N-Nitrosopyrrolidine	(1)	8.539	100	4225	0.196
54) N-Nitroso-di-n-propylamine	(1)	8.551	70	7325	0.210
52) Acetophenone	(1)	8.563	105	8792	0.391
55) N-Nitrosomorpholine	(1)	8.586	56	6682M	0.226
56) o-Toluidine	(1)	8.598	106	12154	0.183
57) Hexachloroethane	(1)	8.691	117	3306	0.174
58)$Nitrobenzene-d5	(2)	8.738	82	20637	0.391
59) Nitrobenzene	(2)	8.761	77	10921	0.206
61) N-Nitrosopiperidine	(2)	8.942	114	3133	0.180
63) Isophorone	(2)	9.042	82	15851	0.212
64) 2-Nitrophenol	(2)	9.141	139	3445	0.196
65) 2,4-Dimethylphenol	(2)	9.176	107	7643	0.211
67) Benzoic acid	(2)	9.211	105	4019	2.983
66) O,O,O-Triethylphosphorothioate	(2)	9.269	198	3288	0.224

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Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
68) bis(2-Chloroethoxy)methane	(2)	9.299	93	8745	0.212
70) 2,4-Dichlorophenol	(2)	9.433	162	5474	0.187
72) 1,2,4-Trichlorobenzene	(2)	9.550	180	6670	0.202
76)*Naphthalene-d8	(2)	9.626	136	420279	5.000
78) Naphthalene	(2)	9.655	128	16337	0.191
79) 4-Chloroaniline	(2)	9.719	127	6455	0.182
80) 2,6-Dichlorophenol	(2)	9.725	162	5064	0.182
81) Hexachloropropene	(2)	9.772	213	4695	0.181
83) Hexachlorobutadiene	(2)	9.818	225	3809	0.190
84) Quinoline	(2)	10.104	129	9385	0.177
87) N-Nitrosodi-n-butylamine	(2)	10.180	84	6145	0.203
86) Caprolactam	(2)	10.186	113	1128M	0.103
89) 4-Chloro-3-methylphenol	(2)	10.373	107	4893	0.495
90) Safrole	(2)	10.490	162	4195	0.185
91) 2-Methylnaphthalene	(2)	10.607	142	10403	0.204
92) 1-Methylnaphthalene	(2)	10.741	142	8825	0.197
95) Hexachlorocyclopentadiene	(3)	10.817	237	3160	0.196
96) 1,2,4,5-Tetrachlorobenzene	(3)	10.834	216	6139	0.235
97) cis-Isosafrole	(3)	10.893	162	860	0.044
98) 2,4,6-Trichlorophenol	(3)	10.986	196	3619	0.214
100) 2,4,5-Trichlorophenol	(3)	11.021	196	3599	0.205
102)$2-Fluorobiphenyl	(3)	11.114	172	21154	0.437
104) trans-Isosafrole	(3)	11.196	162	3819	0.185
105) 1,1'-Biphenyl	(3)	11.243	154	7649	0.422
107) 2-Chloronaphthalene	(3)	11.266	162	10235	0.233
108) 1-Chloronaphthalene	(3)	11.296	162	8985	0.226
109) Diphenyl ether	(3)	11.389	170	6365	0.231
110) 2-Nitroaniline	(3)	11.401	138	2512	0.185
111) 1,4-Naphthoquinone	(3)	11.500	158	3616	0.205
112) 1,4-Dinitrobenzene	(3)	11.582	168	1551	0.198
114) Dimethylphthalate	(3)	11.646	163	9869	0.202
116) 1,3-Dinitrobenzene	(3)	11.675	168	1633	0.185
117) 2,6-Dinitrotoluene	(3)	11.716	165	2281	0.201
118) Acenaphthylene	(3)	11.786	152	12091	0.212
120) 3-Nitroaniline	(3)	11.903	138	2387	0.207
122)*Acenaphthene-d10	(3)	11.949	164	150045	5.000
123) Acenaphthene	(3)	11.990	153	8327	0.225
125) 2,4-Dinitrophenol	(3)	12.025	184	10095	1.136
126) 4-Nitrophenol	(3)	12.084	109	8758M	0.858
127) Pentachlorobenzene	(3)	12.130	250	4211	0.225

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Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
128) 2,4-Dinitrotoluene	(3)	12.160	165	2940	0.183
129) Dibenzofuran	(3)	12.177	168	11773	0.216
131) 1-Naphthylamine	(3)	12.259	143	7723	0.187
132) 2,3,4,6-Tetrachlorophenol	(3)	12.306	232	2775	0.196
133) 2-Naphthylamine	(3)	12.341	143	7600	0.191
136) Diethylphthalate	(3)	12.434	149	9369	0.191
138) Thionazin	(3)	12.510	107	1948	0.244
139) Fluorene	(3)	12.528	166	9491	0.216
141) 4-Chlorophenyl-phenylether	(3)	12.539	204	5384	0.237
142) 4-Nitroaniline	(3)	12.539	138	1996	0.232
140) 5-Nitro-o-toluidine	(3)	12.539	152	2610	0.191
143) 4,6-Dinitro-2-methylphenol	(4)	12.574	198	8306M	0.777
145) NDPA as diphenylamine	(4)	12.656	169	8251	0.214
144) N-Nitrosodiphenylamine	(4)	12.656	169	8251	0.214
146) 1,2-Diphenylhydrazine	(4)	12.691	77	12773M	0.221
147)$2,4,6-Tribromophenol	(3)	12.767	330	2281	0.343
148) Tetraethyldithiopyrophosphate	(4)	12.831	97	2619	0.229
149) 1,3,5-Trinitrobenzene	(4)	12.913	213	1055	0.166
150) Diallate (peak 1)	(4)	12.954	86	4206	0.176
151) Phorate	(4)	12.960	75	7626	0.215
152) Phenacetin	(4)	12.971	108	5324	0.186
153) 4-Bromophenyl-phenylether	(4)	13.036	248	3032	0.221
154) Diallate (peak 2)	(4)	13.047	86	995	0.050
155) Hexachlorobenzene	(4)	13.082	284	4018	0.289
156) Dimethoate	(4)	13.123	87	3529	0.160
157) Atrazine	(4)	13.205	200	2498	0.184
160) Pentachlorophenol	(4)	13.292	266	1760	0.167
161) 4-Aminobiphenyl	(4)	13.298	169	9329	0.205
162) Pentachloronitrobenzene	(4)	13.304	237	1481	0.172
164) Pronamide	(4)	13.368	173	4641	0.195
166) Dinoseb	(4)	13.497	211	1970M	0.132
165)*Phenanthrene-d10	(4)	13.497	188	294878	5.000
167) Phenanthrene	(4)	13.520	178	14603	0.220
168) Anthracene	(4)	13.573	178	14628	0.217
169) Carbazole	(4)	13.754	167	12516	0.206
170) Methyl parathion	(4)	13.923	109	2954	0.176
174) Di-n-butylphthalate	(4)	14.180	149	17120	0.210
180) Parathion	(4)	14.384	109	1836	0.171
179) 4-Nitroquinoline-1-oxide	(4)	14.402	190	1660	0.178
181) Octachlorostyrene	(4)	14.694	308	1220M	0.223

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Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

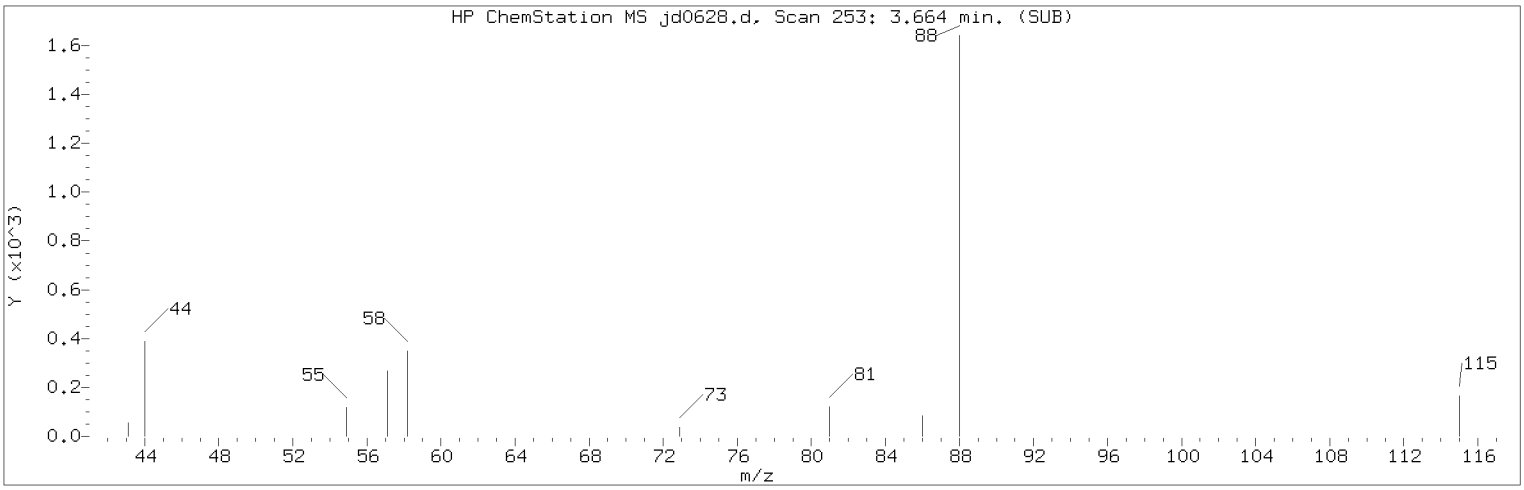
Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
182) Isodrin	(4)	14.741	193	1999M	0.223
183) Fluoranthene	(4)	14.939	202	17362	0.229
184) Benzidine	(5)	15.143	184	85893	1.713
185)*Pyrene-d10	(5)	15.225	212	325617	5.000
187) Pyrene	(5)	15.249	202	18403	0.224
192)$Terphenyl-d14	(5)	15.511	244	23964	0.434
193) p-Dimethylaminoazobenzene	(5)	15.727	225	2792	0.213
194) Chlorobenzilate	(5)	15.809	139	5230	0.196
196) 3,3'-Dimethylbenzidine	(5)	16.259	212	9450M	0.178
198) Butylbenzylphthalate	(5)	16.323	149	7590	0.195
199) 2-Acetylaminofluorene	(5)	16.650	181	5624	0.171
201) Benzo(a)anthracene	(5)	17.146	228	17888	0.227
202) 3,3'-Dichlorobenzidine	(5)	17.146	252	5210	0.176
205) 4,4'-Methylenebis(2-chloroanil	(5)	17.170	231	3675	0.226
206) Chrysene	(5)	17.205	228	17458M	0.234
207) bis(2-Ethylhexyl)phthalate	(5)	17.356	149	11249	0.202
208) 6-Methylchrysene	(5)	17.987	242	11805	0.229
209) Di-n-octylphthalate	(6)	18.501	149	18362	0.185
210) Benzo(b)fluoranthene	(6)	18.945	252	16494	0.217
211) 7,12-Dimethylbenz[a]anthracene	(6)	18.956	256	6226	0.191
212) Benzo(k)fluoranthene	(6)	18.997	252	15225	0.211
214) Benzo(a)pyrene	(6)	19.470	252	14208M	0.202
215)*Perylene-d12	(6)	19.564	264	305797	5.000
216) 3-Methylcholanthrene	(6)	20.042	268	7612M	0.229
217) Dibenz(a,h)acridine	(6)	20.837	279	12257	0.223
218) Dibenz(a,j)acridine	(6)	20.918	279	11286	0.202
219) Indeno(1,2,3-cd)pyrene	(6)	21.146	276	14919M	0.234
220) Dibenz(a,h)anthracene	(6)	21.187	278	12273M	0.204
221) Benzo(g,h,i)perylene	(6)	21.496	276	14882	0.218
224) Isosafrole	(3)			4679	0.230
225) 2,4_2,6-Dinitrotoluenes	(3)			5221	0.384
222) Total Cresols	(1)			17455	0.439
228) Total PAHs	(6)			253817	3.884
226) Diallate trans/cis	(4)			5201	0.226

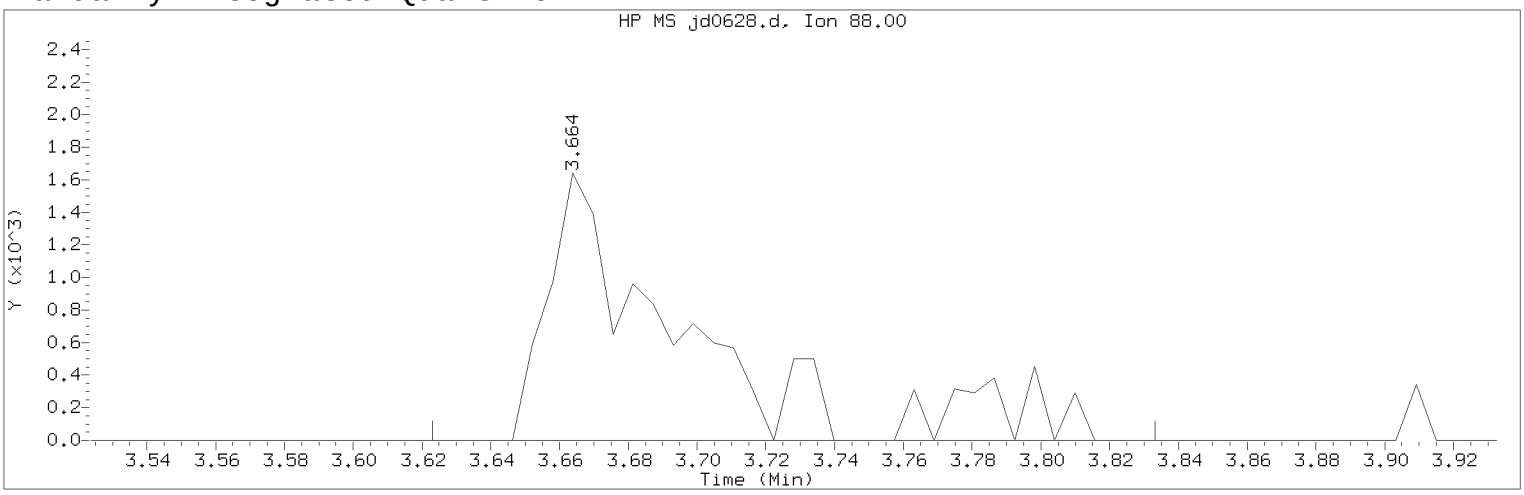
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

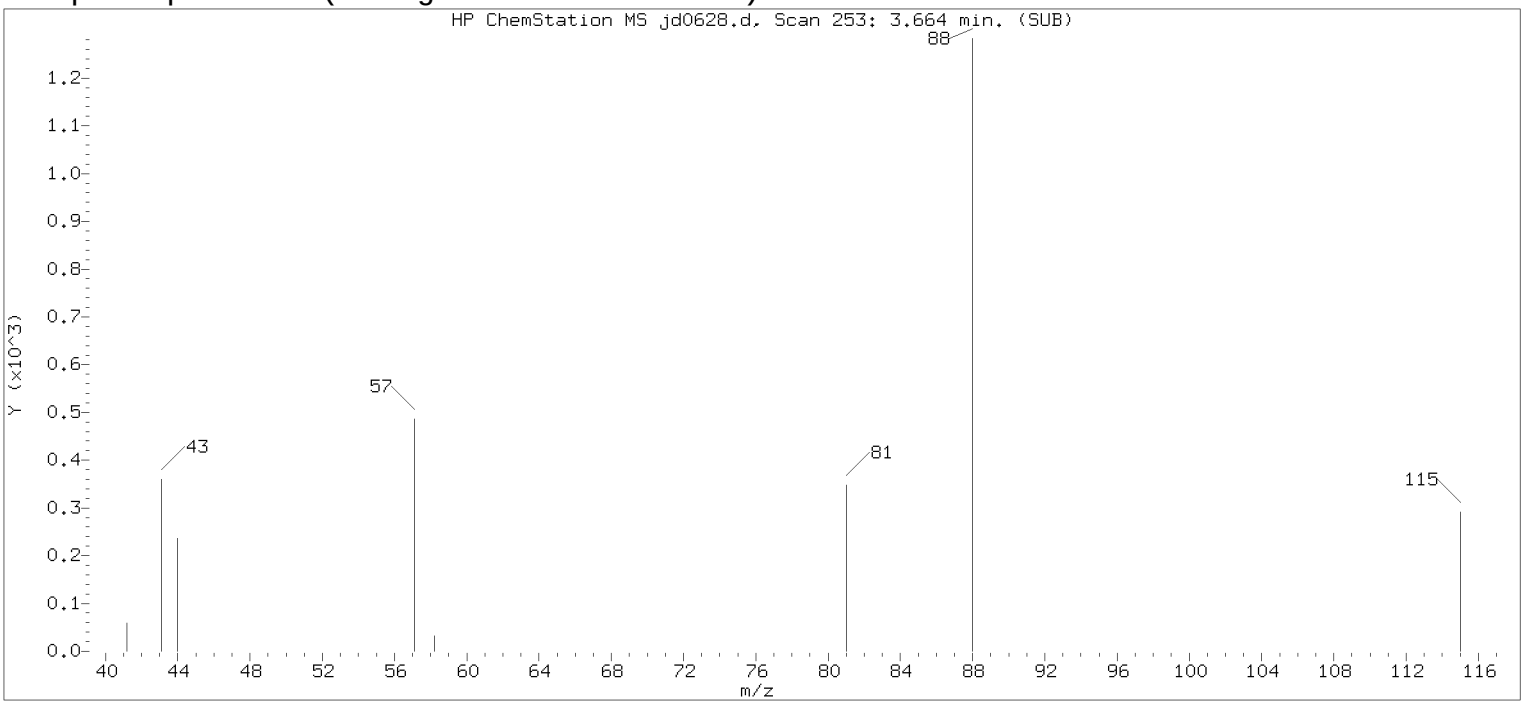
Compound Number : 3
Compound Name : 1,4-Dioxane
Scan Number : 253
Retention Time (minutes) : 3.664
Quant Ion : 88.00
Area (flag) : 4503M
On-Column Amount (ng/ul) : 0.1776
Integration start scan : 245 Integration stop scan: 281
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

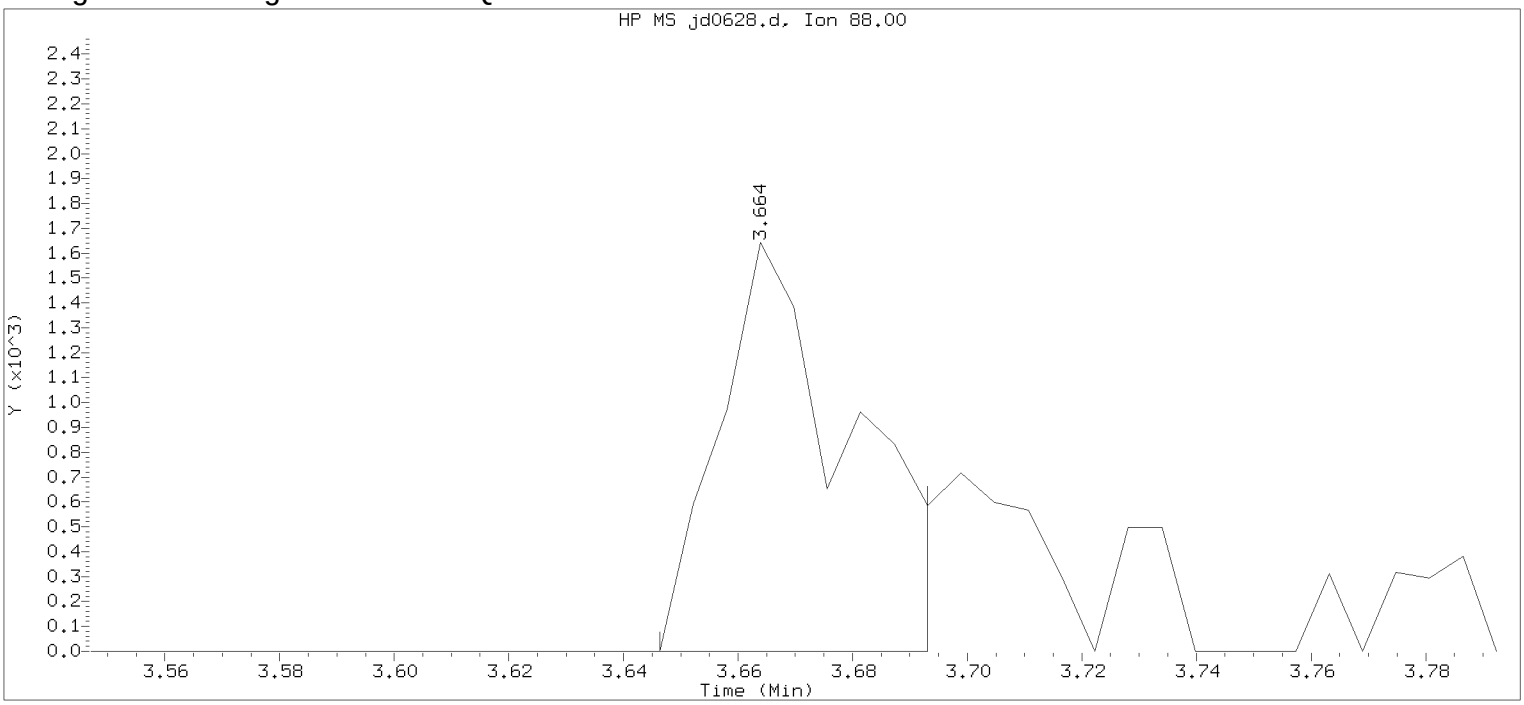
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

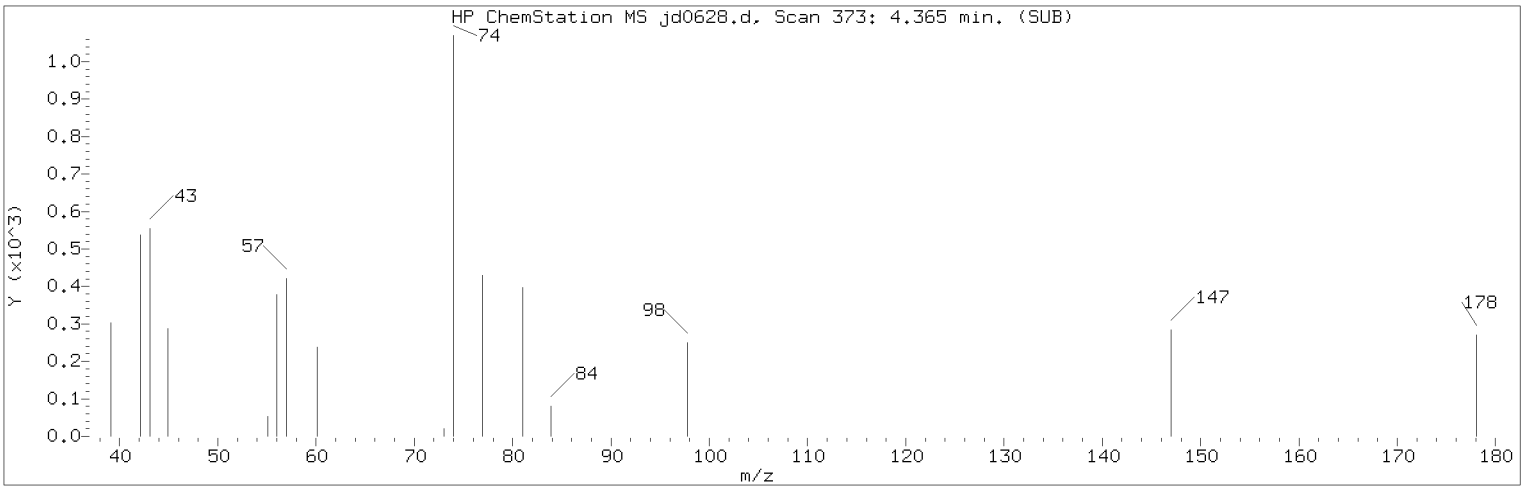
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:21 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

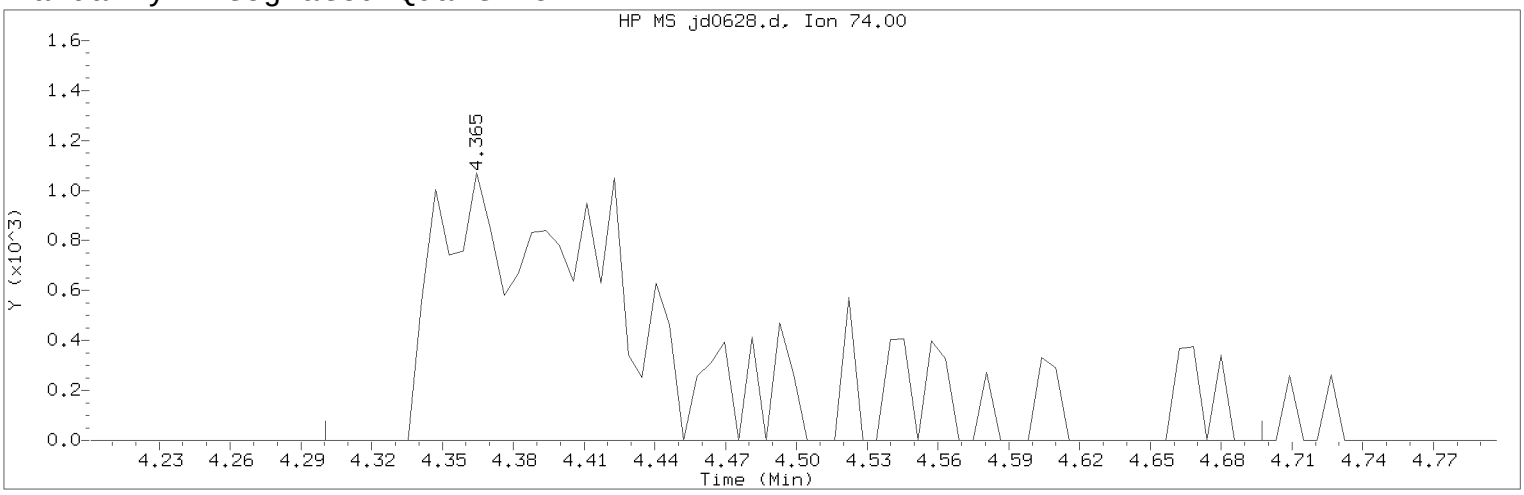
Compound Number : 3
Compound Name : 1,4-Dioxane
Scan Number : 253
Retention Time (minutes) : 3.664
Quant Ion : 88.00
Area : 2568
On-column Amount (ng/ul) : 0.1020
Integration start scan : 249 Integration stop scan: 257
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user id: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

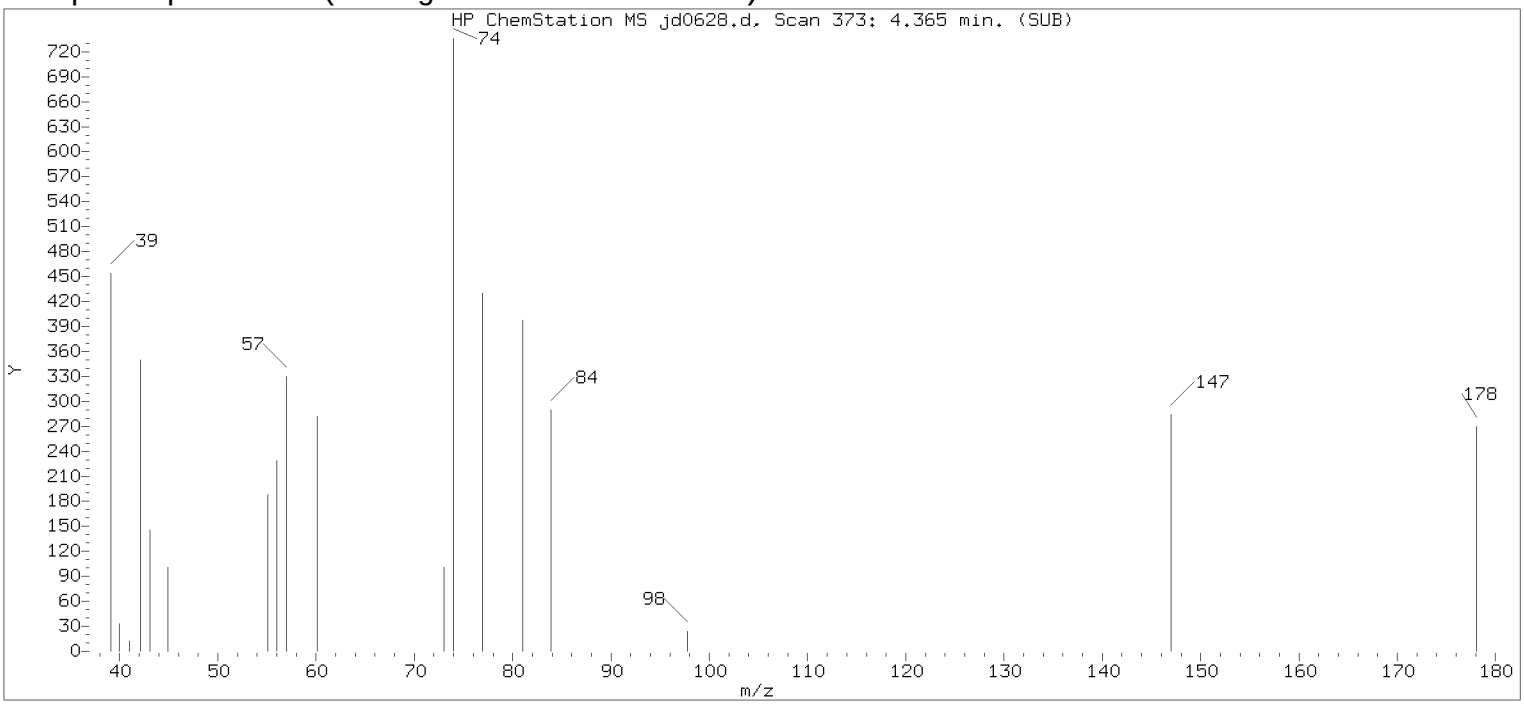
Compound Number : 5
Compound Name : N-Nitrosodimethylamine
Scan Number : 373
Retention Time (minutes) : 4.365
Quant Ion : 74.00
Area (flag) : 6941M
On-Column Amount (ng/ul) : 0.1716
Integration start scan : 361 Integration stop scan: 429
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

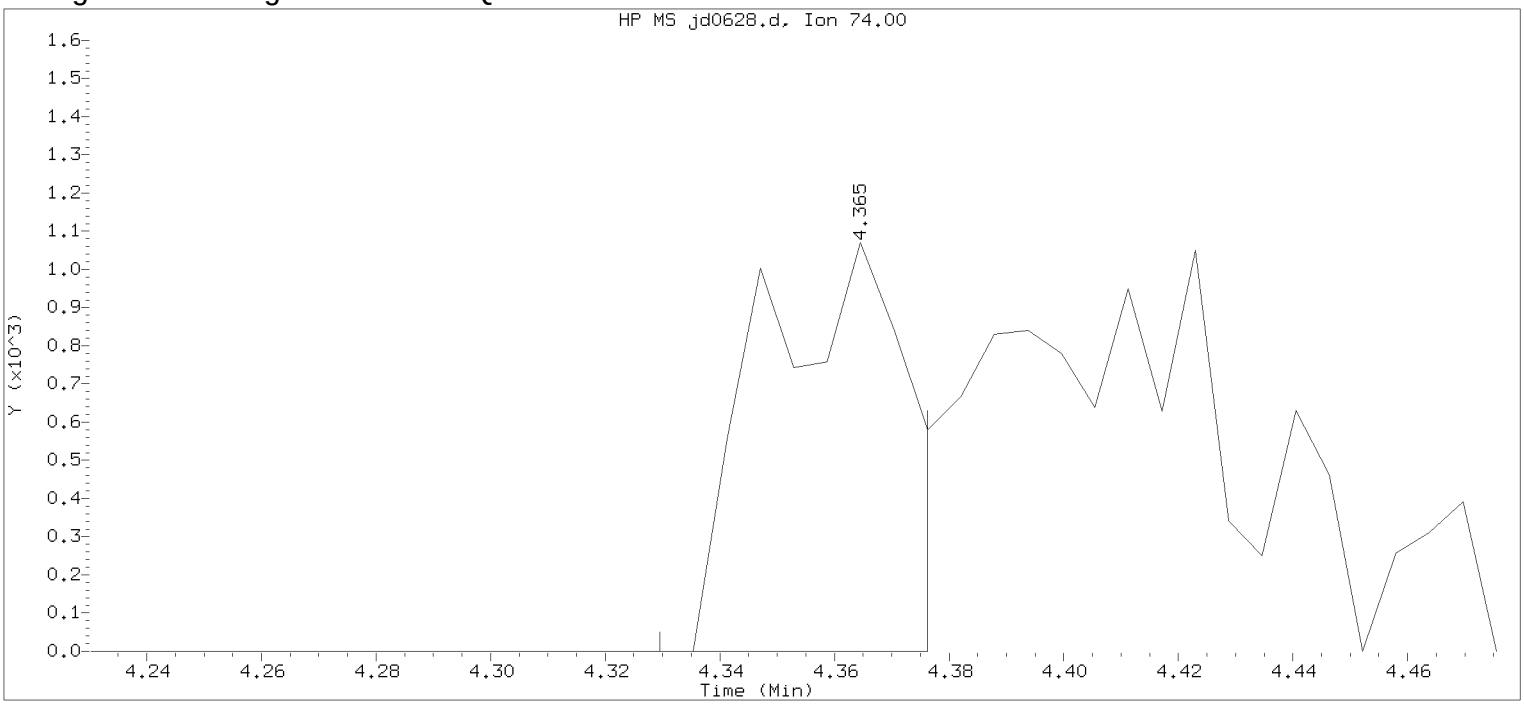
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

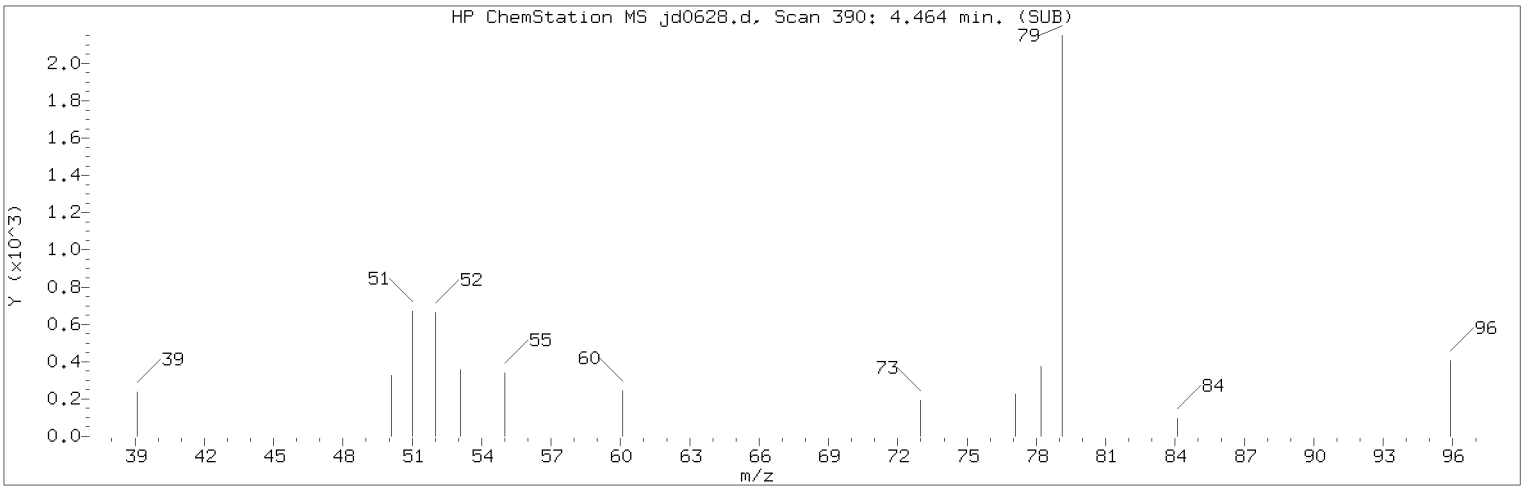
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:21 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

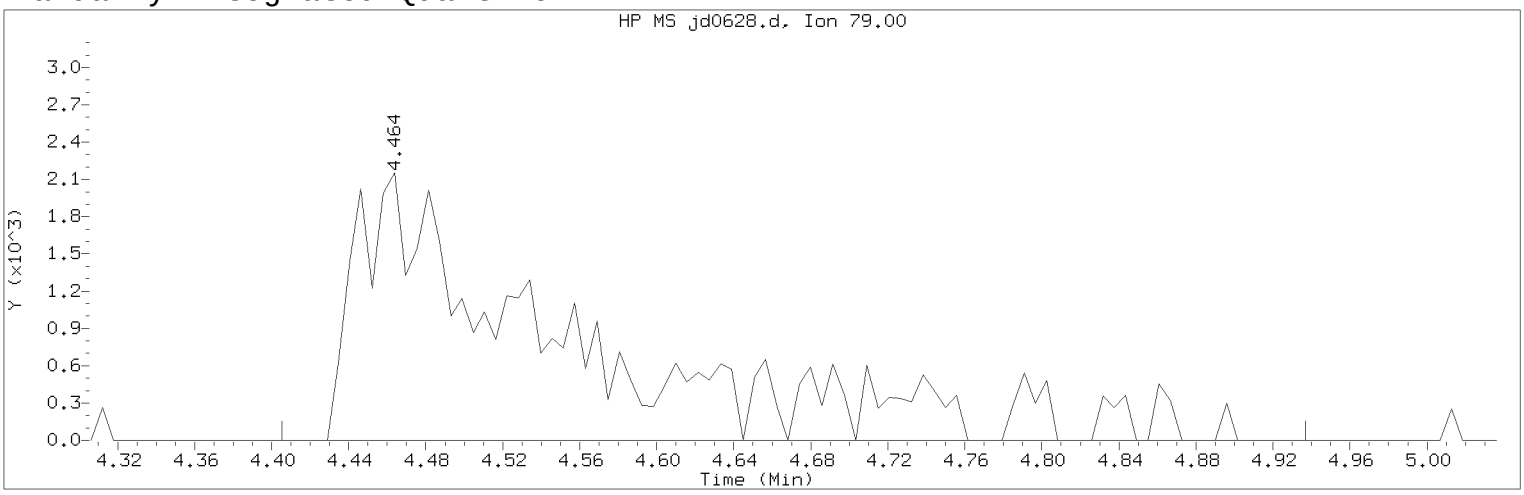
Compound Number : 5
Compound Name : N-Nitrosodimethylamine
Scan Number : 373
Retention Time (minutes) : 4.365
Quant Ion : 74.00
Area : 1843
On-column Amount (ng/ul) : 0.0470
Integration start scan : 366 Integration stop scan: 374
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

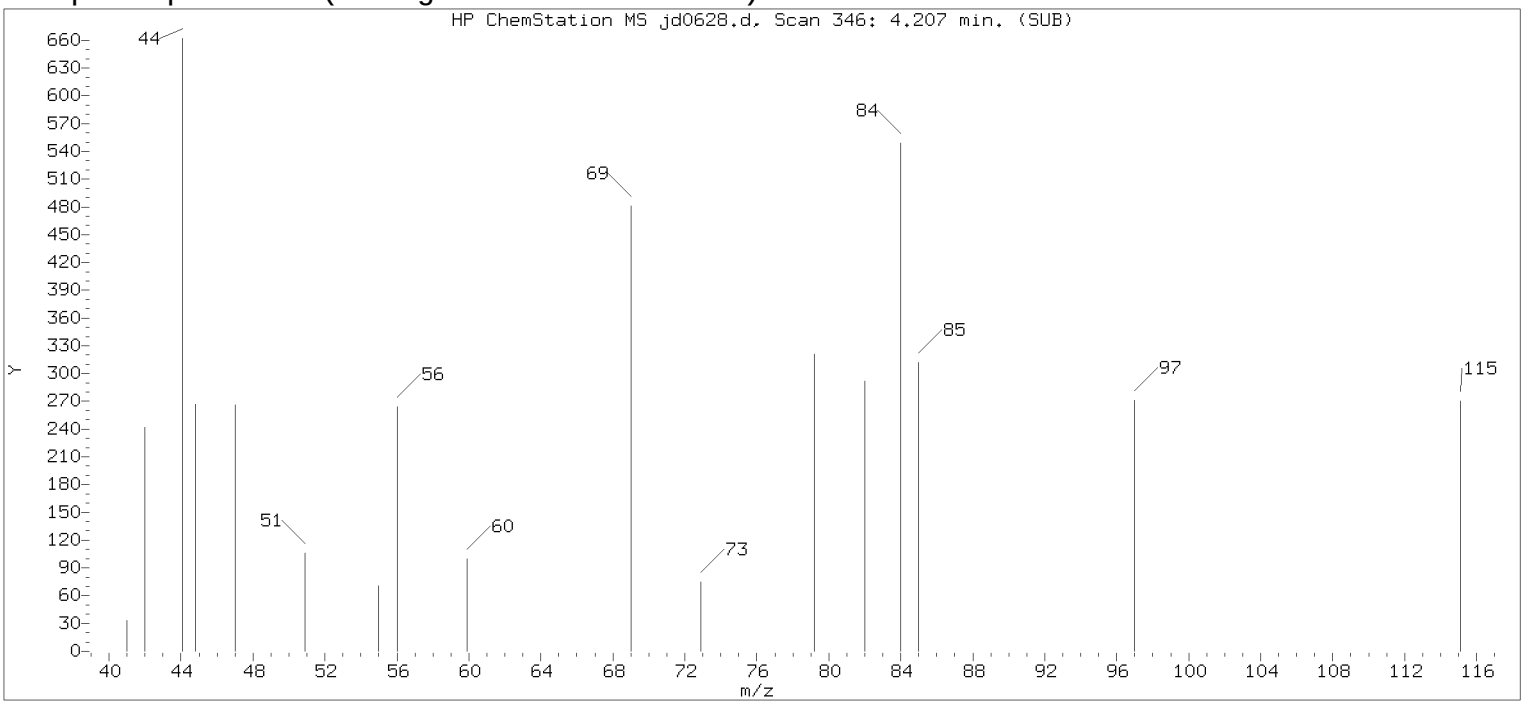
Compound Number : 6
Compound Name : Pyridine
Scan Number : 390
Retention Time (minutes) : 4.464
Quant Ion : 79.00
Area (flag) : 16082M
On-Column Amount (ng/ul) : 0.2271
Integration start scan : 379 Integration stop scan: 470
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

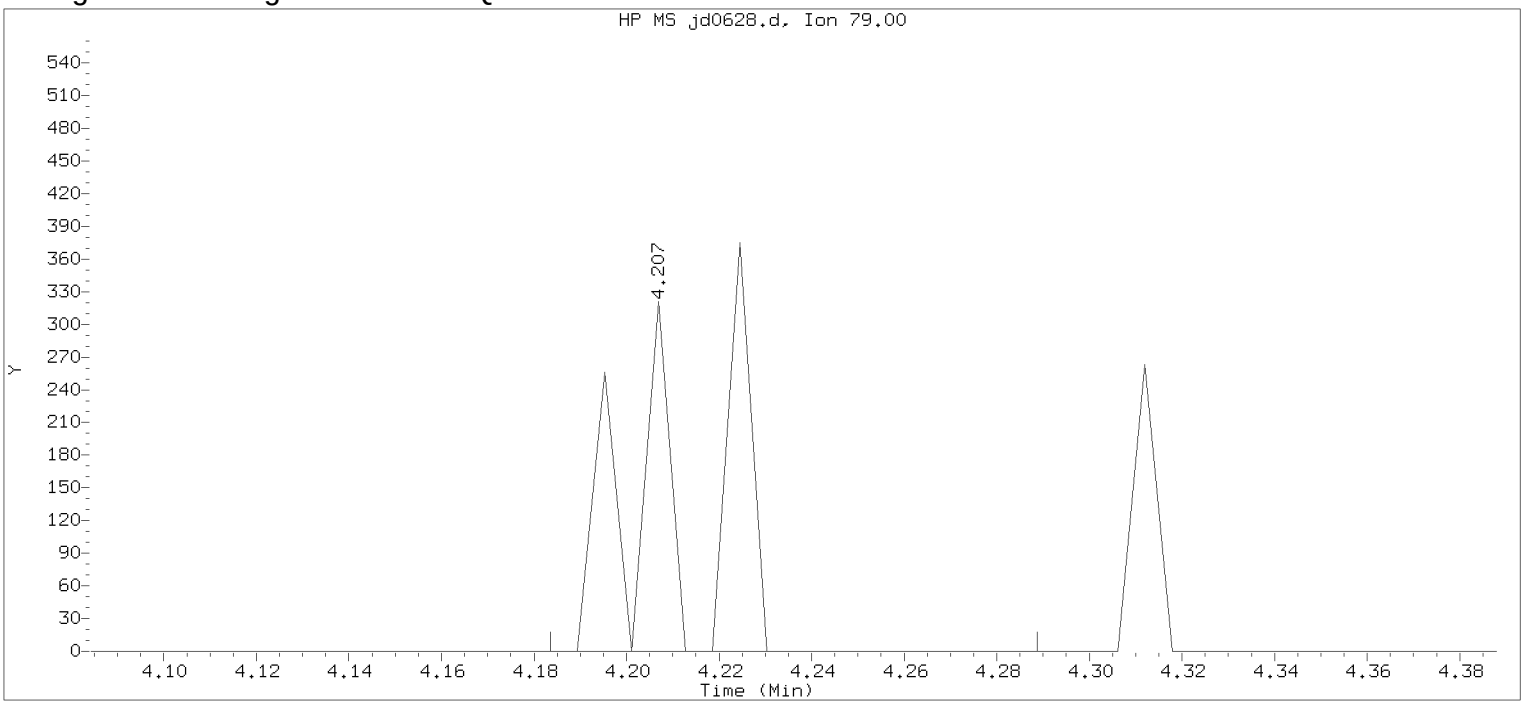
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

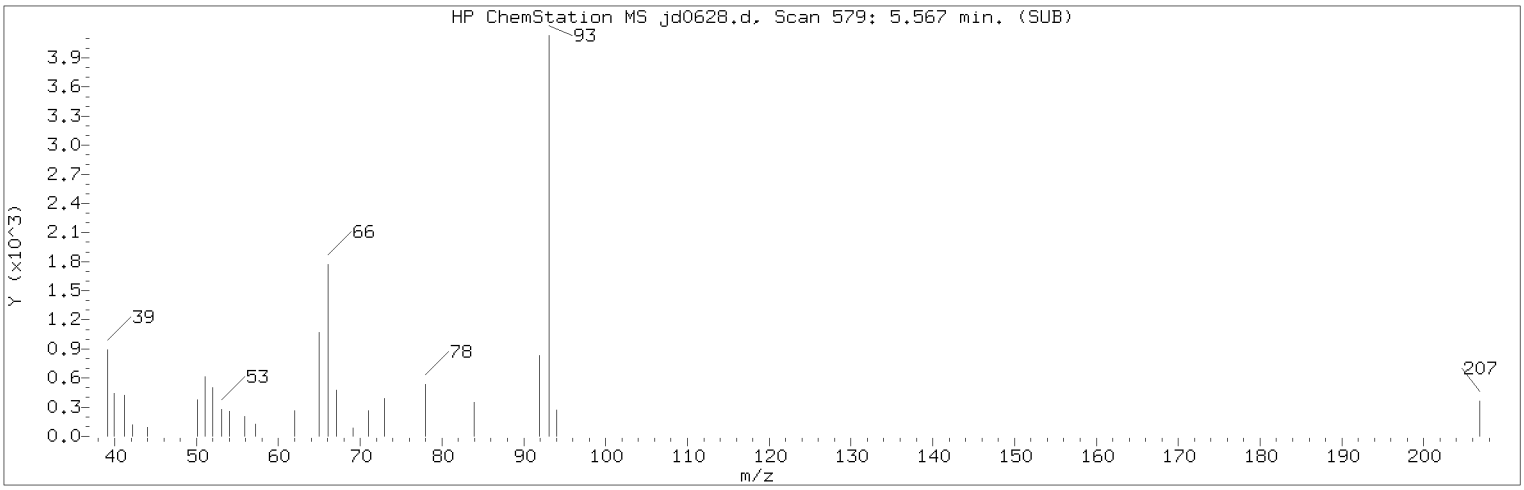
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:21 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

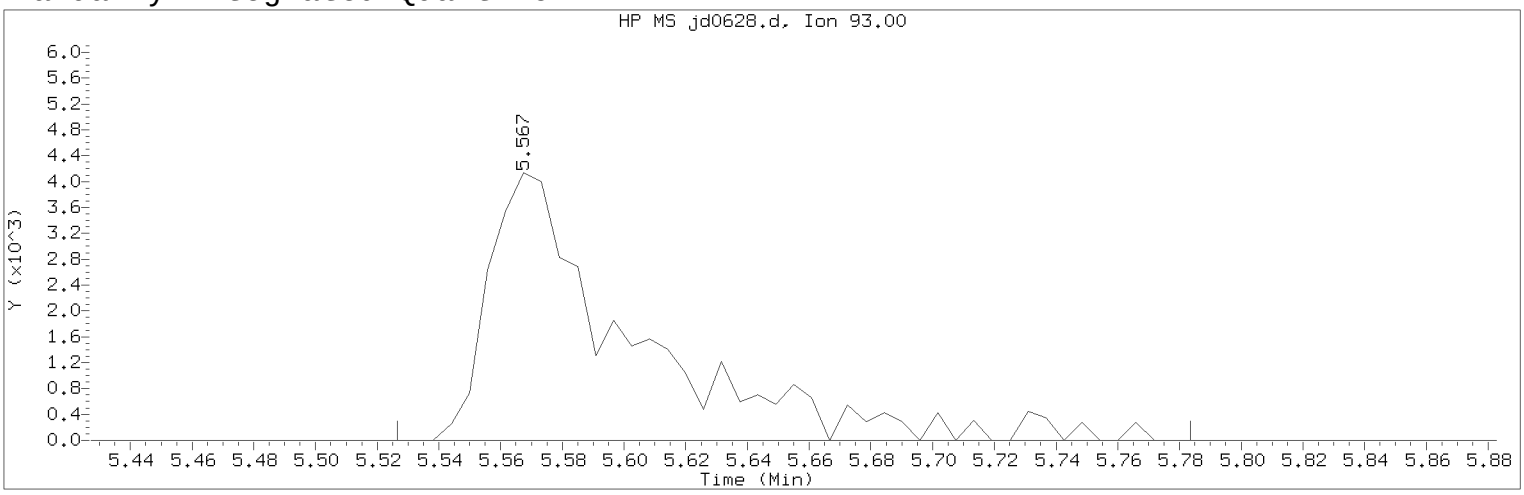
Compound Number : 6
Compound Name : Pyridine
Scan Number : 346
Retention Time (minutes) : 4.207
Quant Ion : 79.00
Area : 333
On-column Amount (ng/ul) : 0.0048
Integration start scan : 341 Integration stop scan: 359
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user id: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

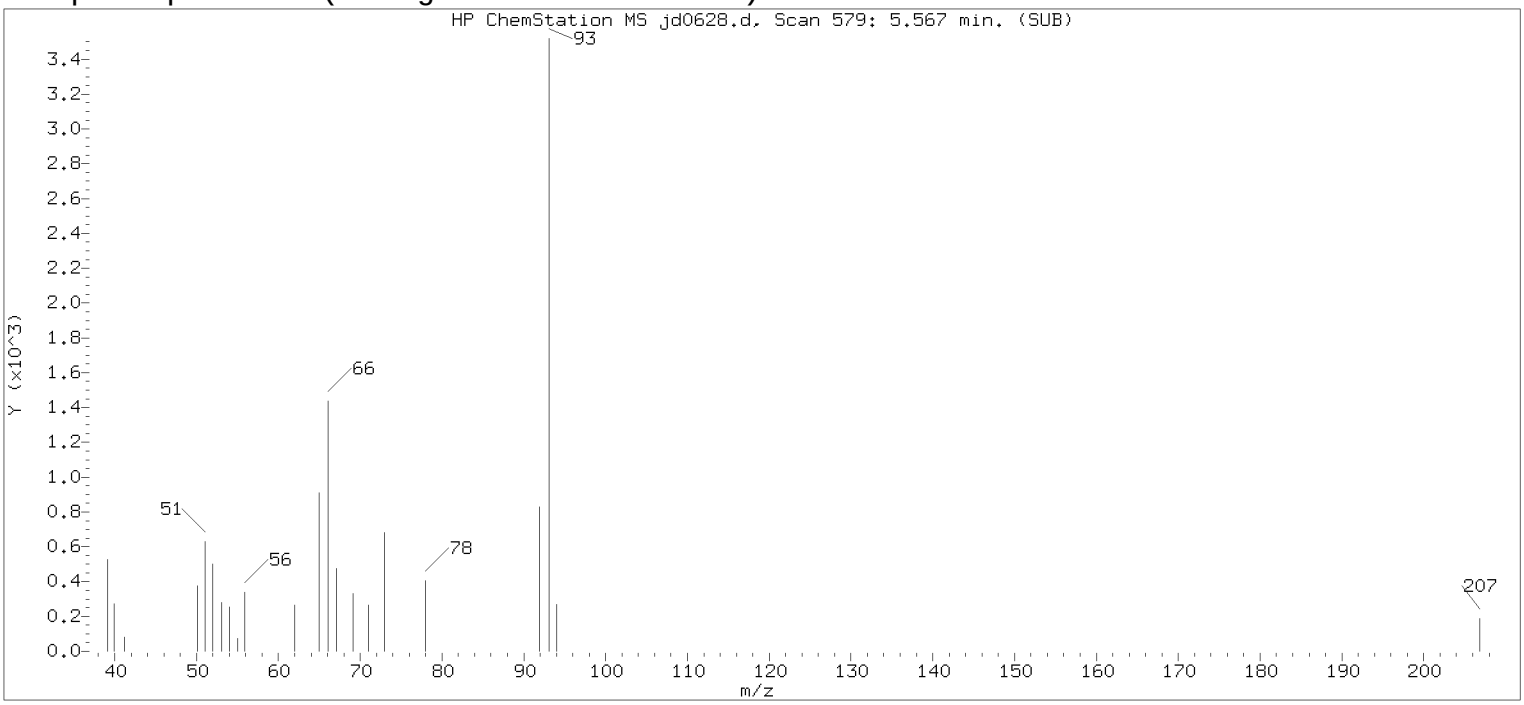
Compound Number : 8
Compound Name : 2-Picoline
Scan Number : 579
Retention Time (minutes) : 5.567
Quant Ion : 93.00
Area (flag) : 13365M
On-Column Amount (ng/ul) : 0.1966
Integration start scan : 571 Integration stop scan: 615
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

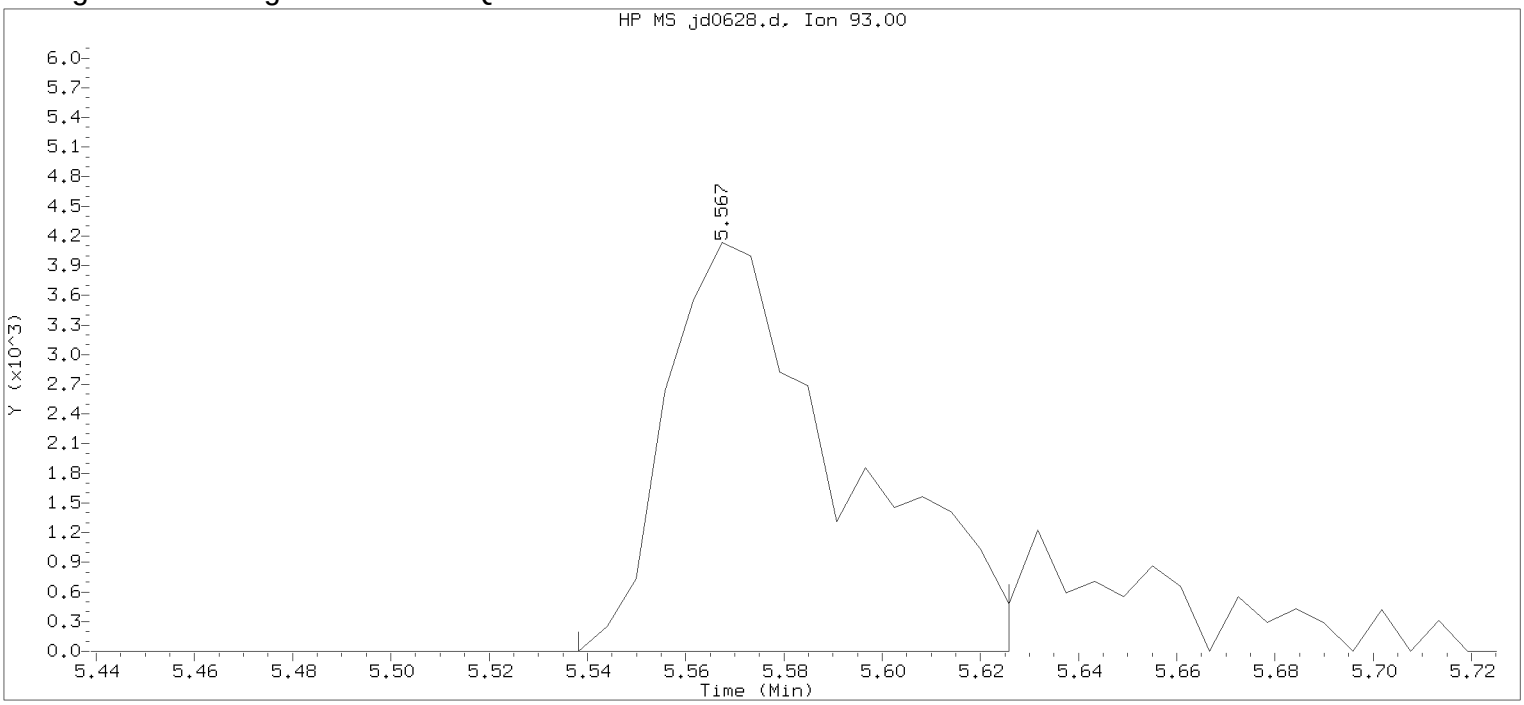
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

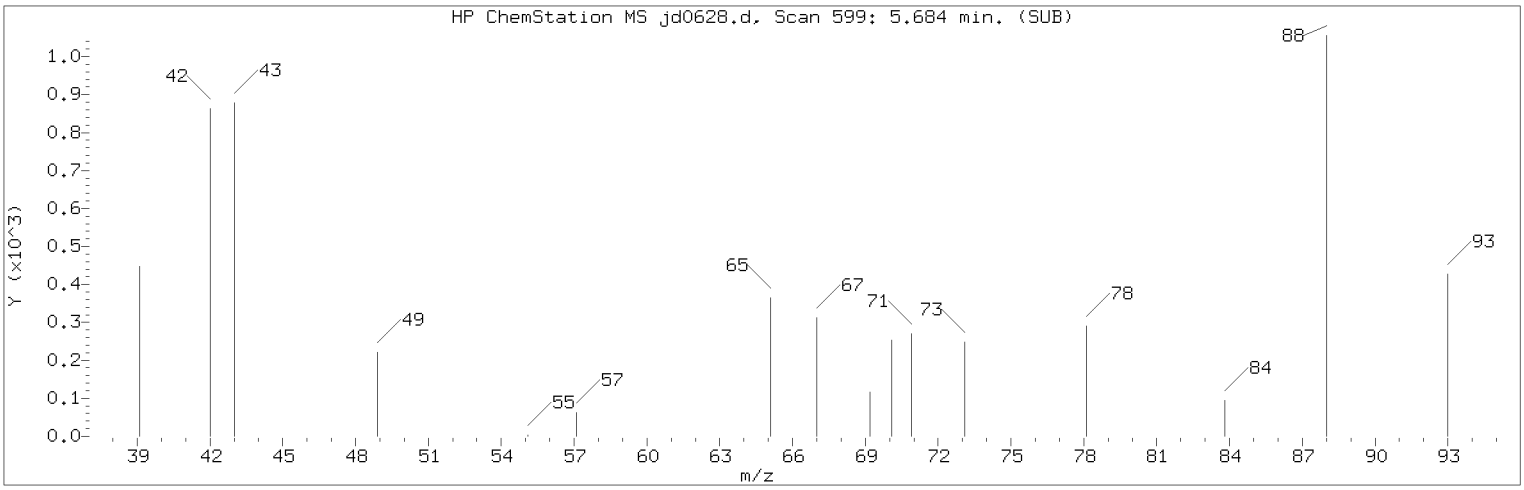
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:21 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

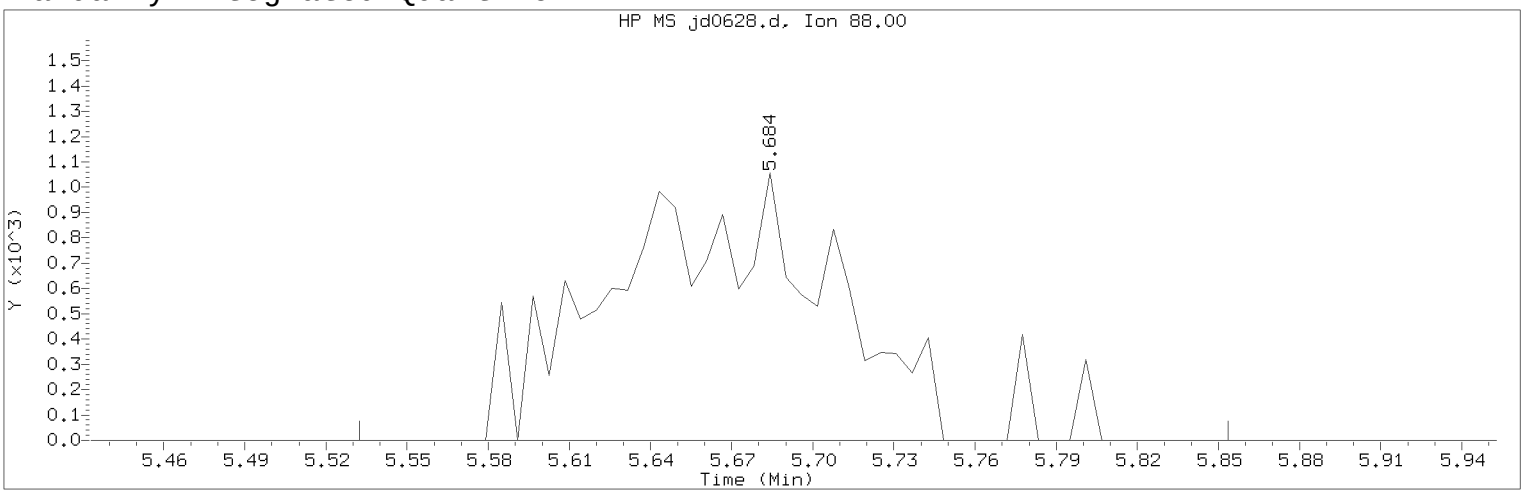
Compound Number : 8
Compound Name : 2-Picoline
Scan Number : 579
Retention Time (minutes) : 5.567
Quant Ion : 93.00
Area : 10397
On-column Amount (ng/ul) : 0.1548
Integration start scan : 573 Integration stop scan: 588
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

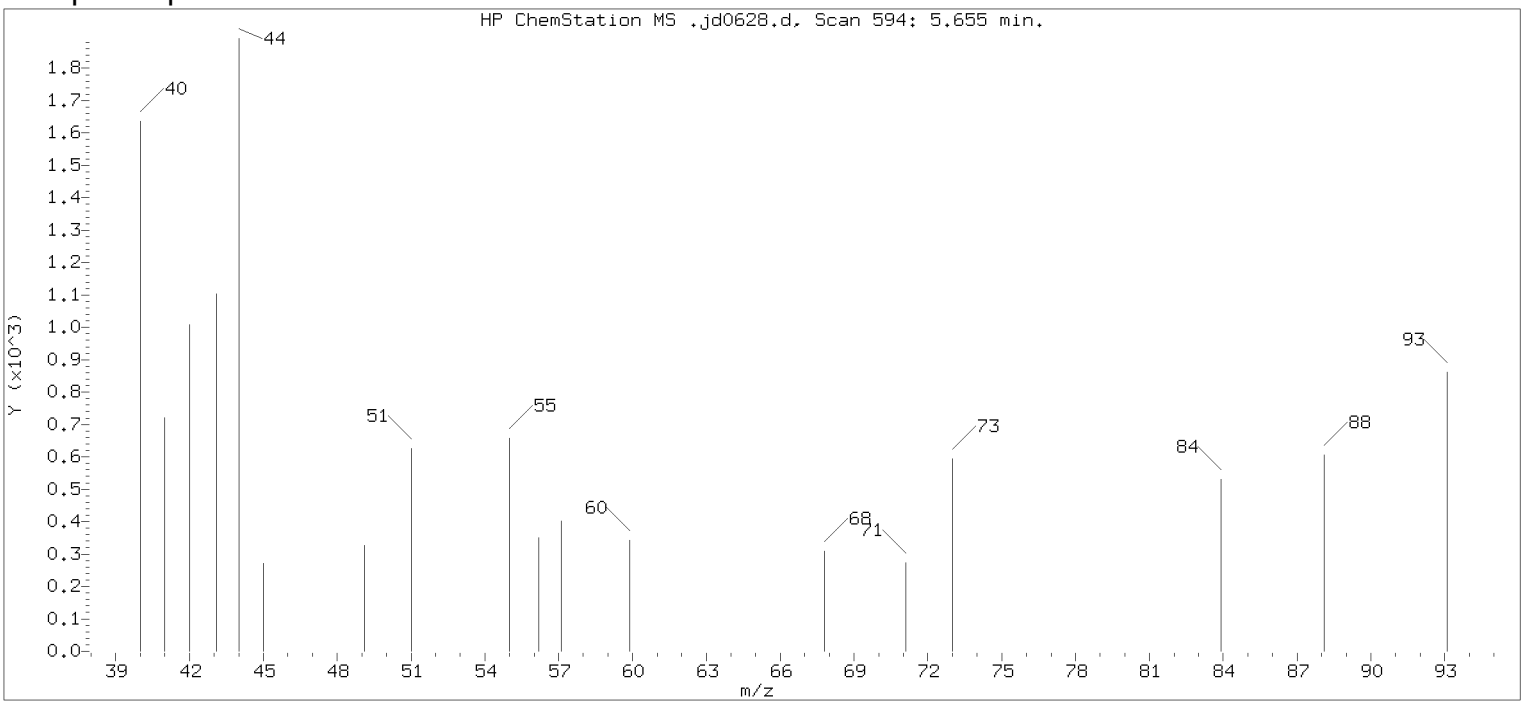
Compound Number : 11
Compound Name : N-Nitrosomethylethylamine
Scan Number : 599
Retention Time (minutes) : 5.684
Quant Ion : 88.00
Area (flag) : 5959M
On-Column Amount (ng/ul) : 0.1948
Integration start scan : 572 Integration stop scan: 627
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

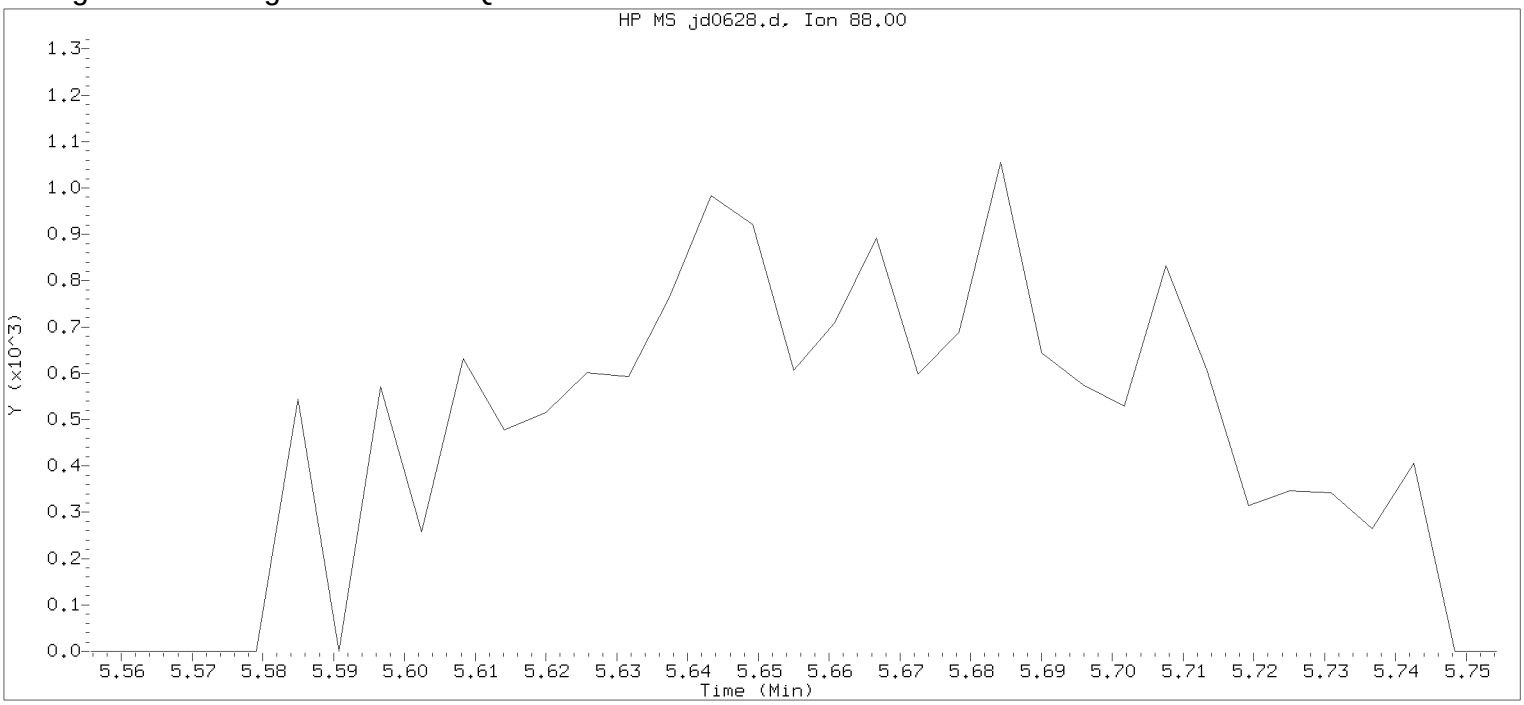
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

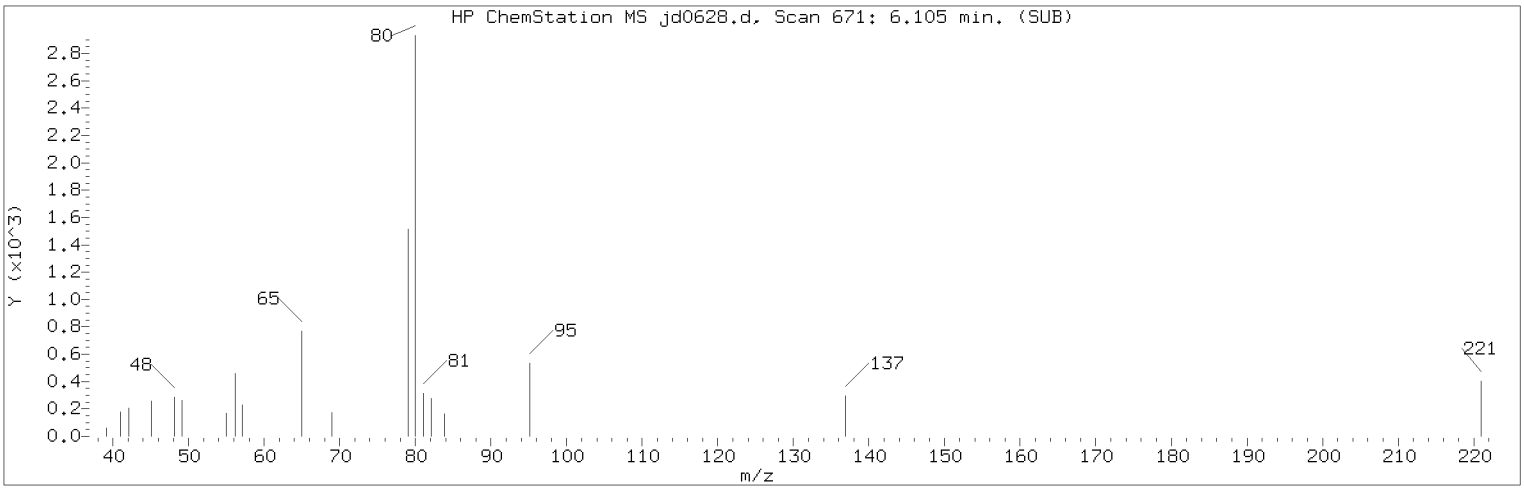
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:21 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

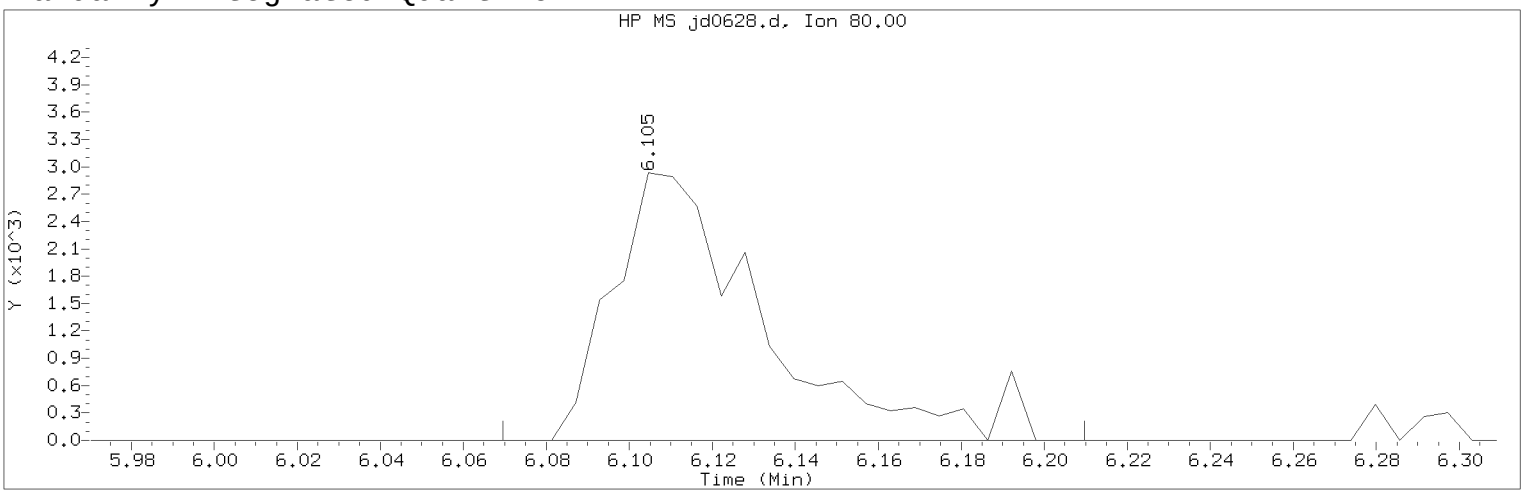
Compound Number : 11
Compound Name : N-Nitrosomethylethylamine
Expected RT (minutes) : 5.655
Quant Ion : 88.00

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user id: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

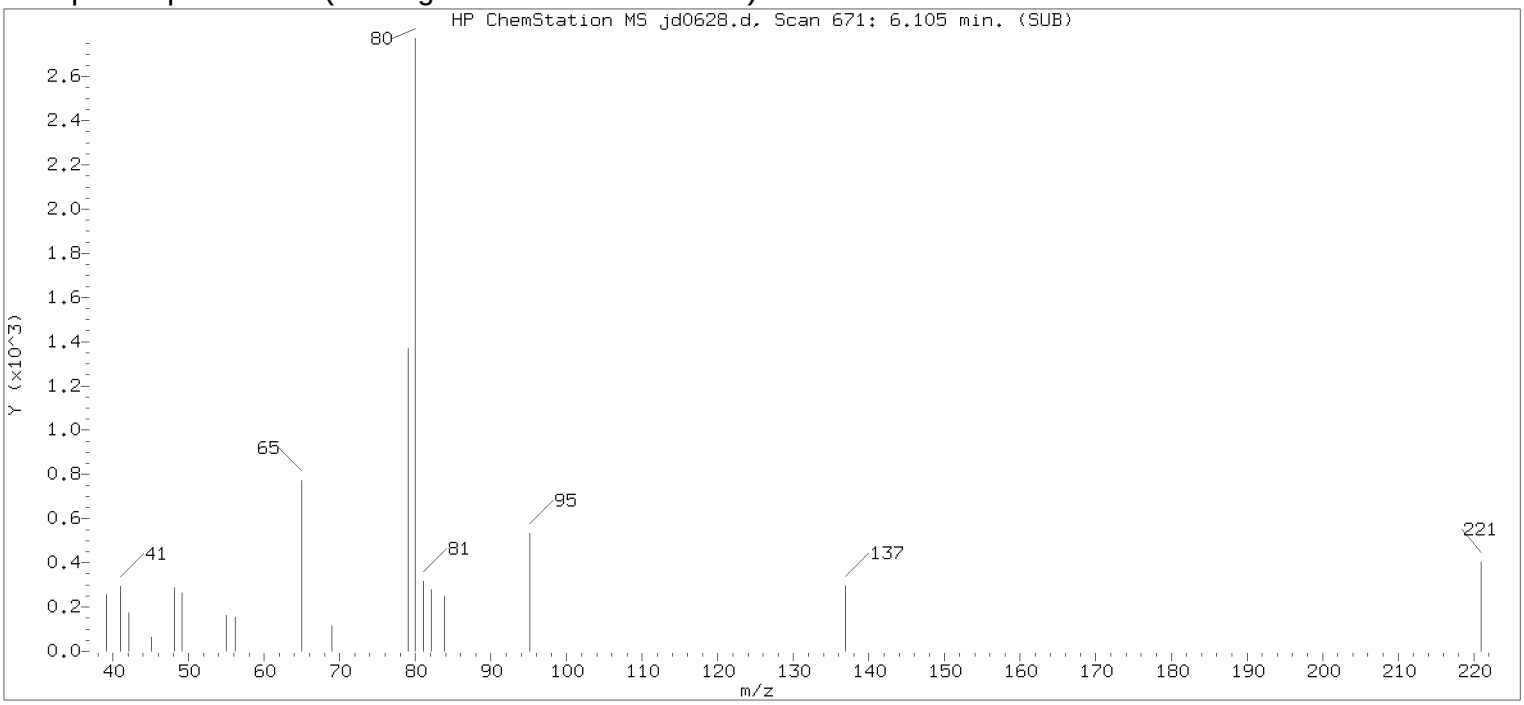
Compound Number : 12
Compound Name : Methyl methanesulfonate
Scan Number : 671
Retention Time (minutes) : 6.105
Quant Ion : 80.00
Area (flag) : 7412M
On-Column Amount (ng/ul) : 0.2055
Integration start scan : 664 Integration stop scan: 688
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

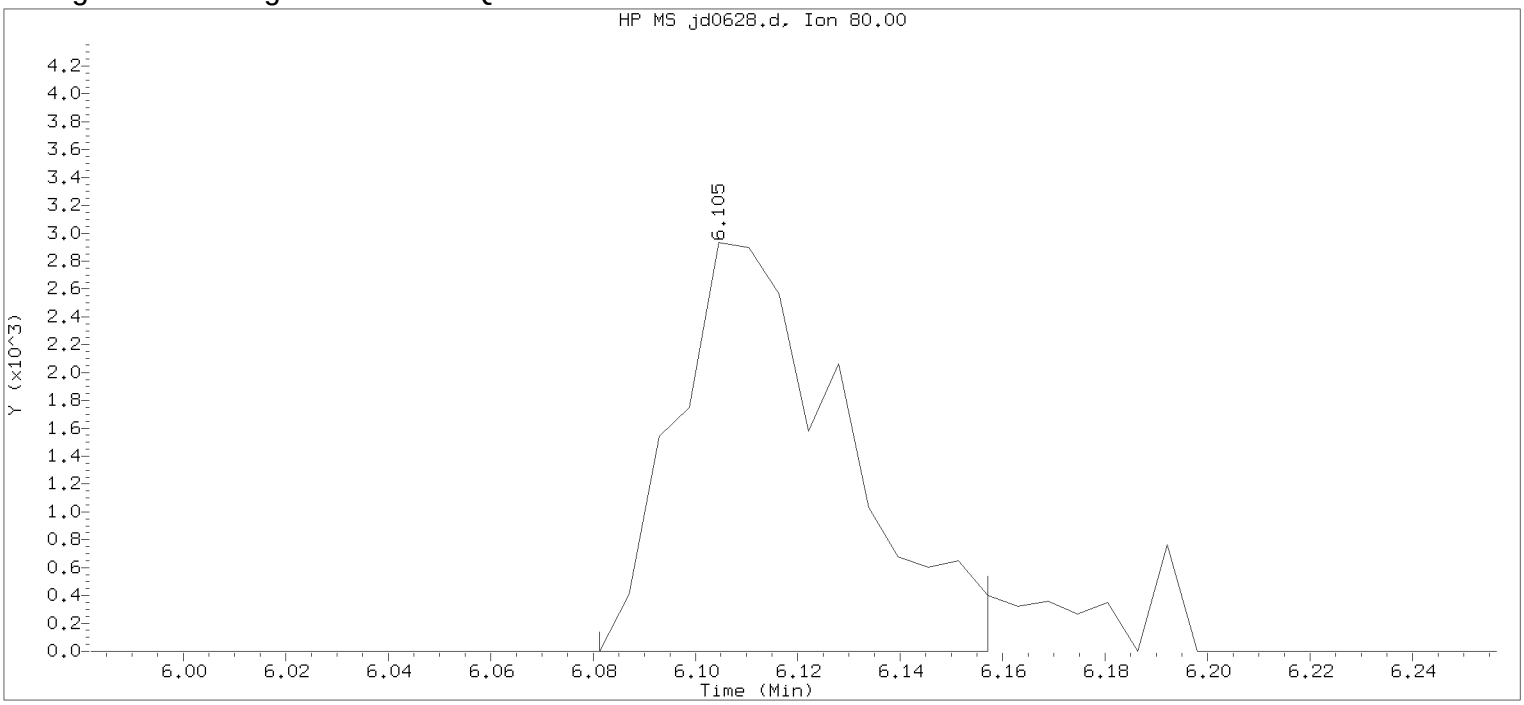
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

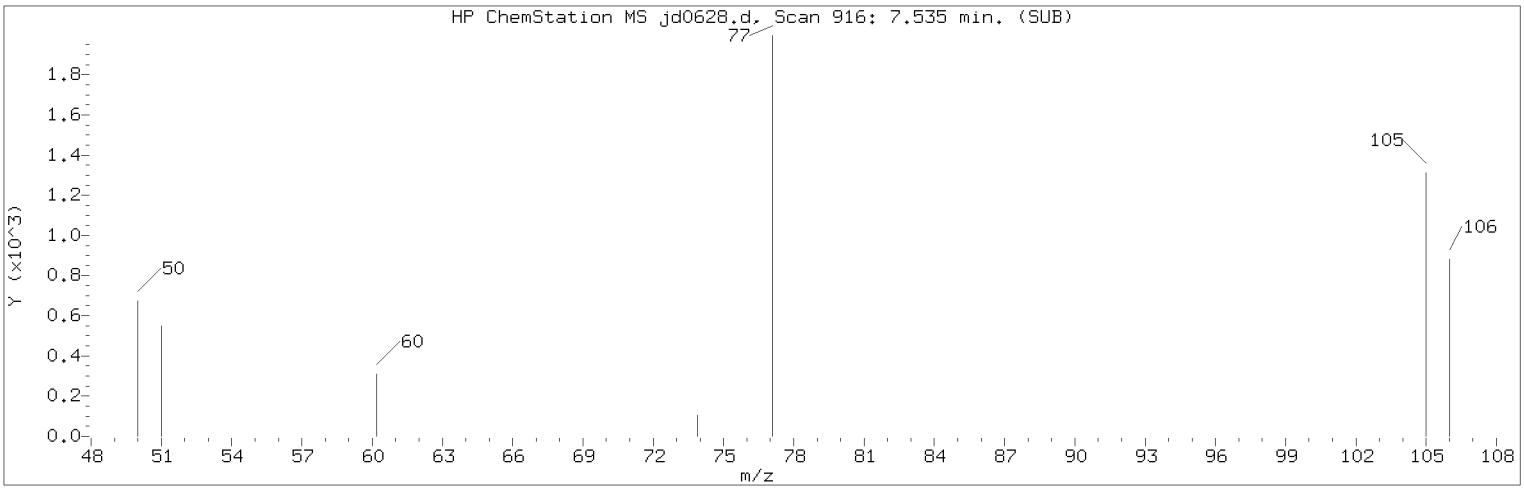
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:21 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

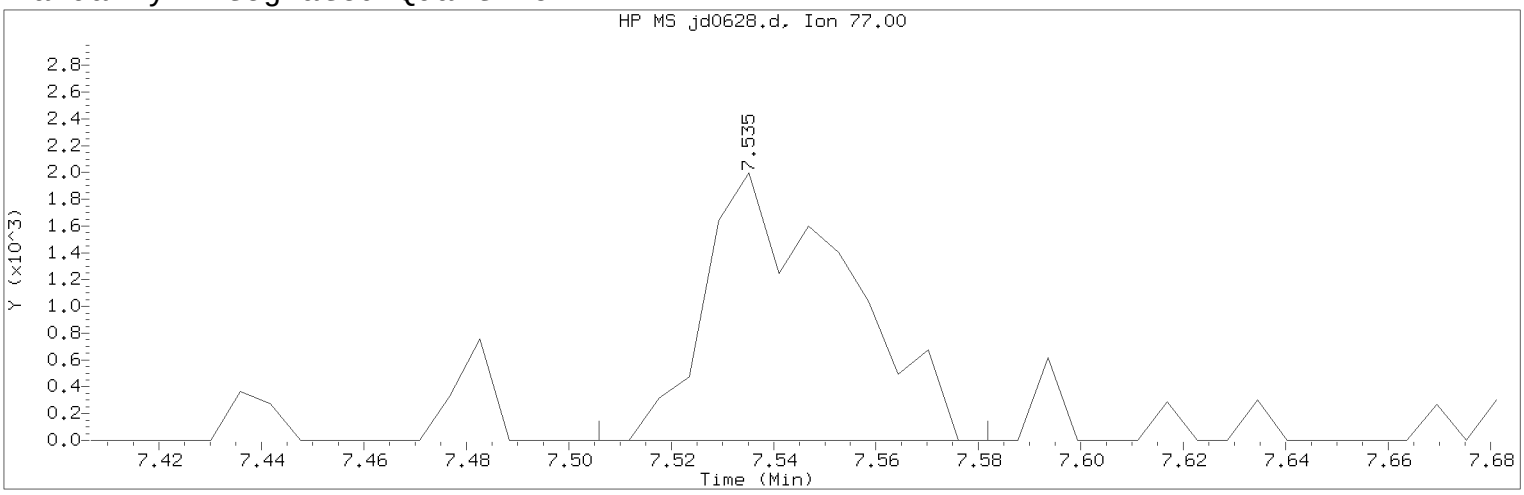
Compound Number : 12
Compound Name : Methyl methanesulfonate
Scan Number : 671
Retention Time (minutes) : 6.105
Quant Ion : 80.00
Area : 6621
On-column Amount (ng/ul) : 0.1795
Integration start scan : 666 Integration stop scan: 679
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user id: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

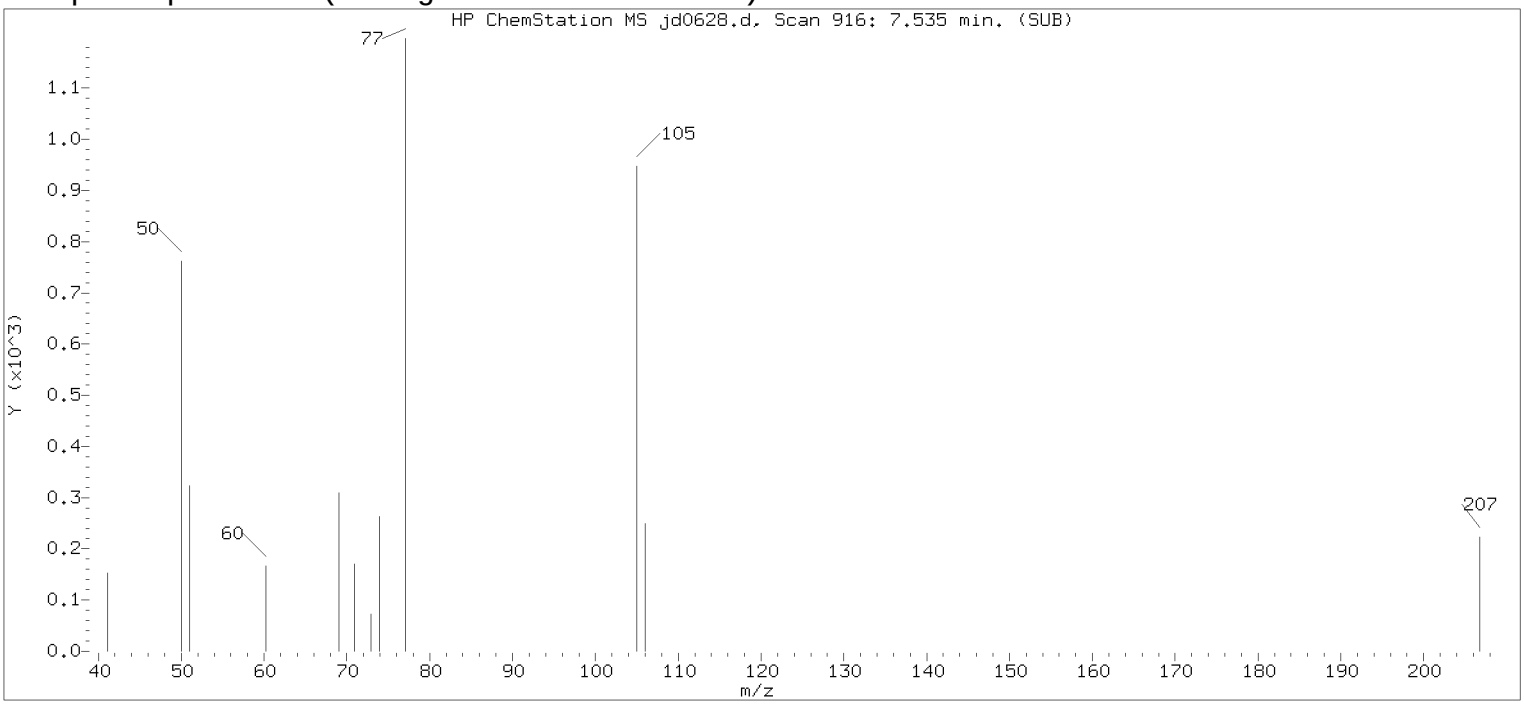
Compound Number : 24
Compound Name : Benzaldehyde
Scan Number : 916
Retention Time (minutes) : 7.535
Quant Ion : 77.00
Area (flag) : 3811M
On-Column Amount (ng/ul) : 0.0745
Integration start scan : 910 Integration stop scan: 923
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

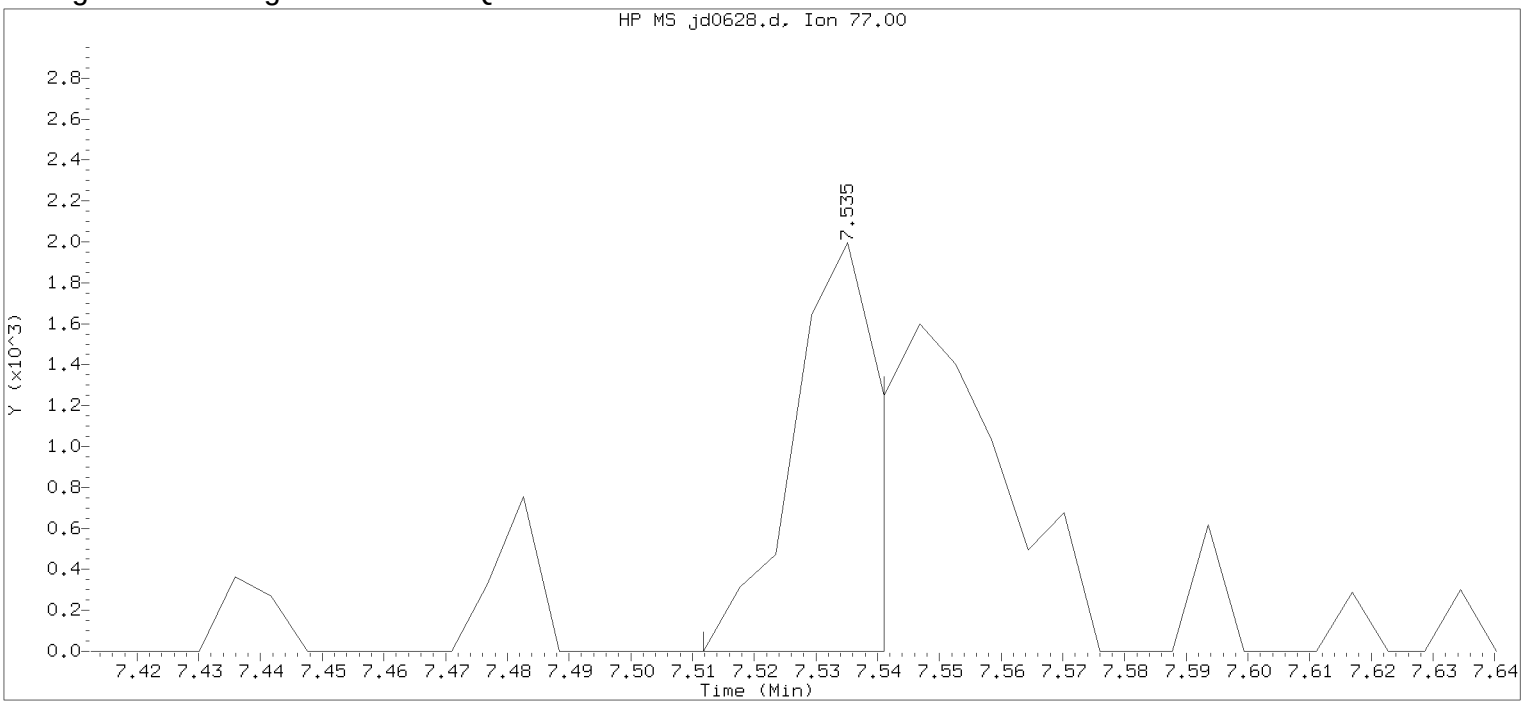
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

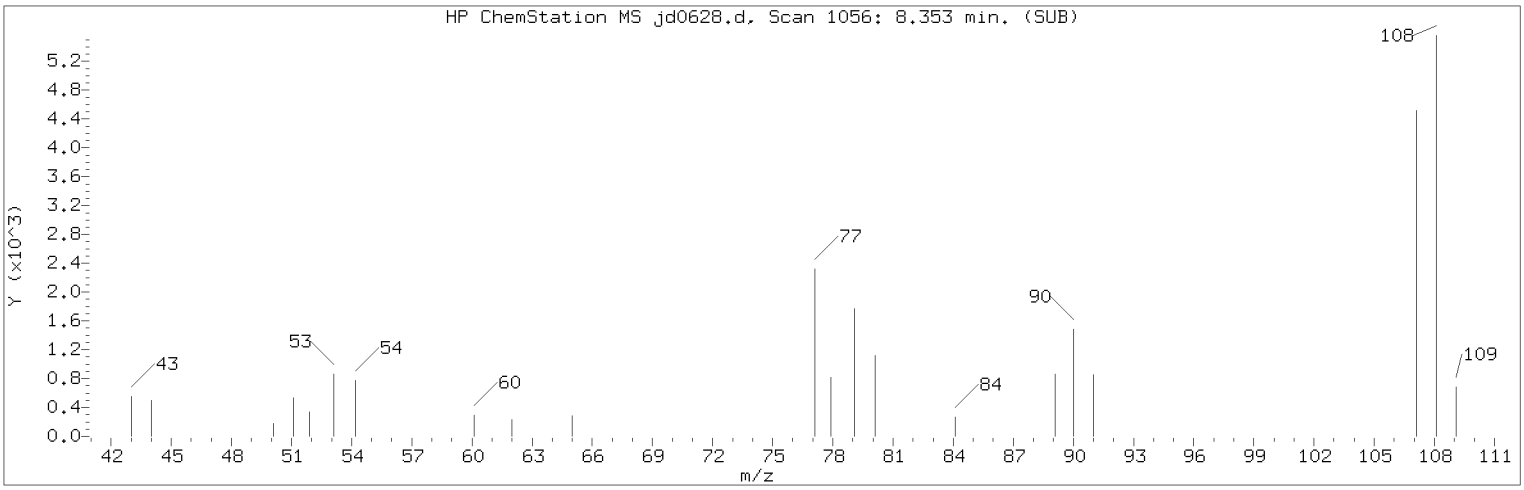
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:21 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

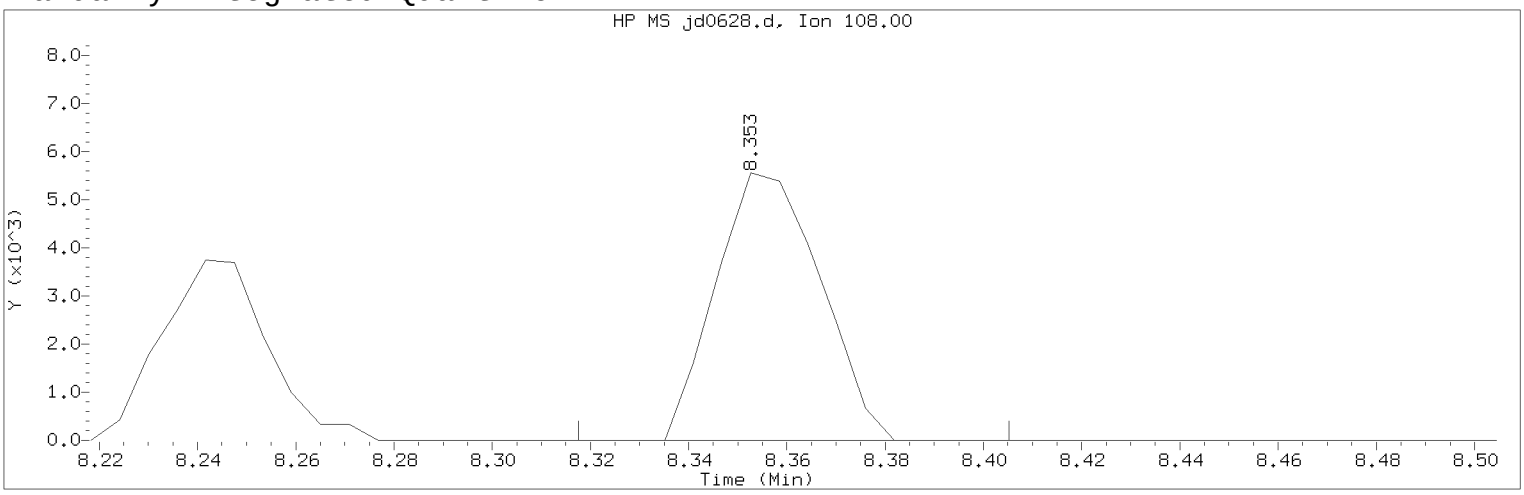
Compound Number : 24
Compound Name : Benzaldehyde
Scan Number : 916
Retention Time (minutes) : 7.535
Quant Ion : 77.00
Area : 1769
On-column Amount (ng/ul) : 0.0344
Integration start scan : 911 Integration stop scan: 916
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user id: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

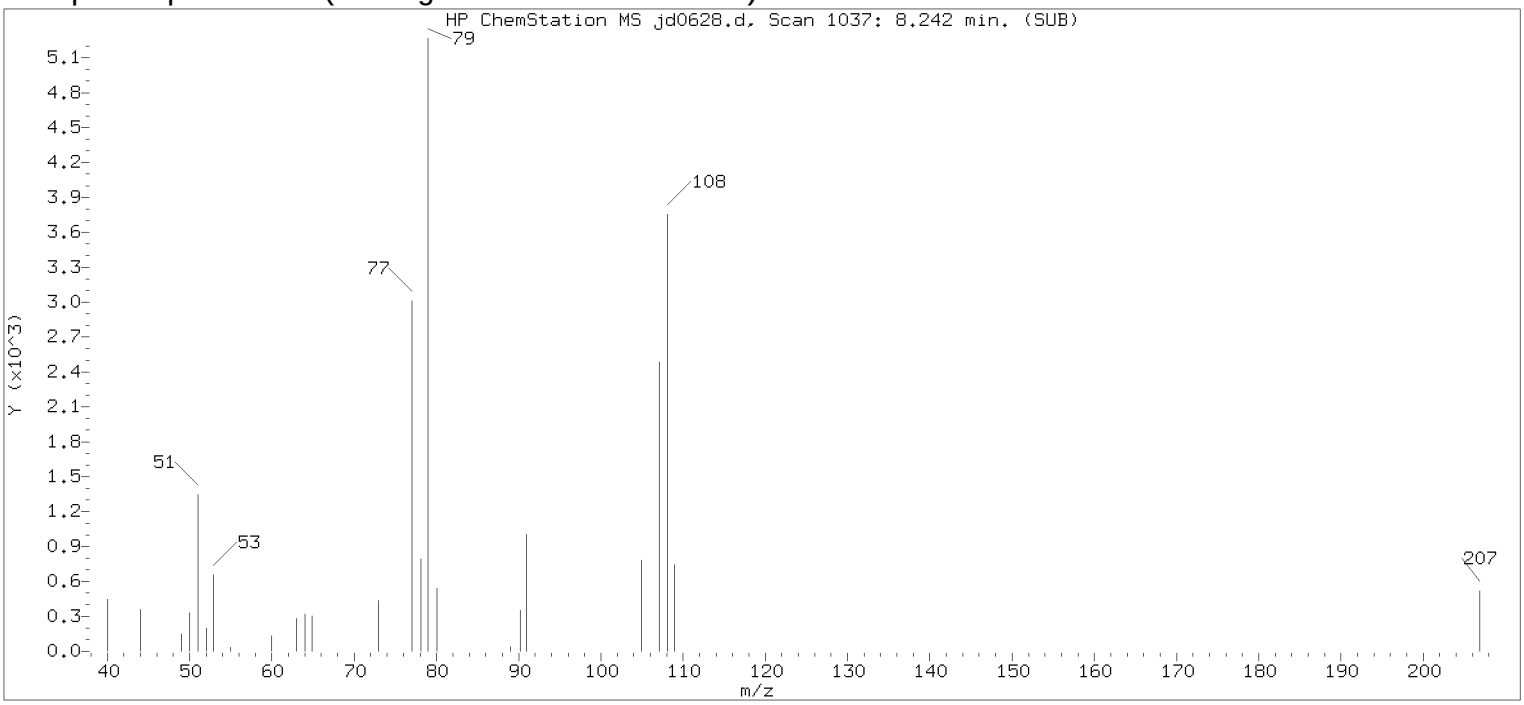
Compound Number : 44
Compound Name : 2-Methylphenol
Scan Number : 1056
Retention Time (minutes) : 8.353
Quant Ion : 108.00
Area (flag) : 8229M
On-Column Amount (ng/ul) : 0.2080
Integration start scan : 1049 Integration stop scan: 1064
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

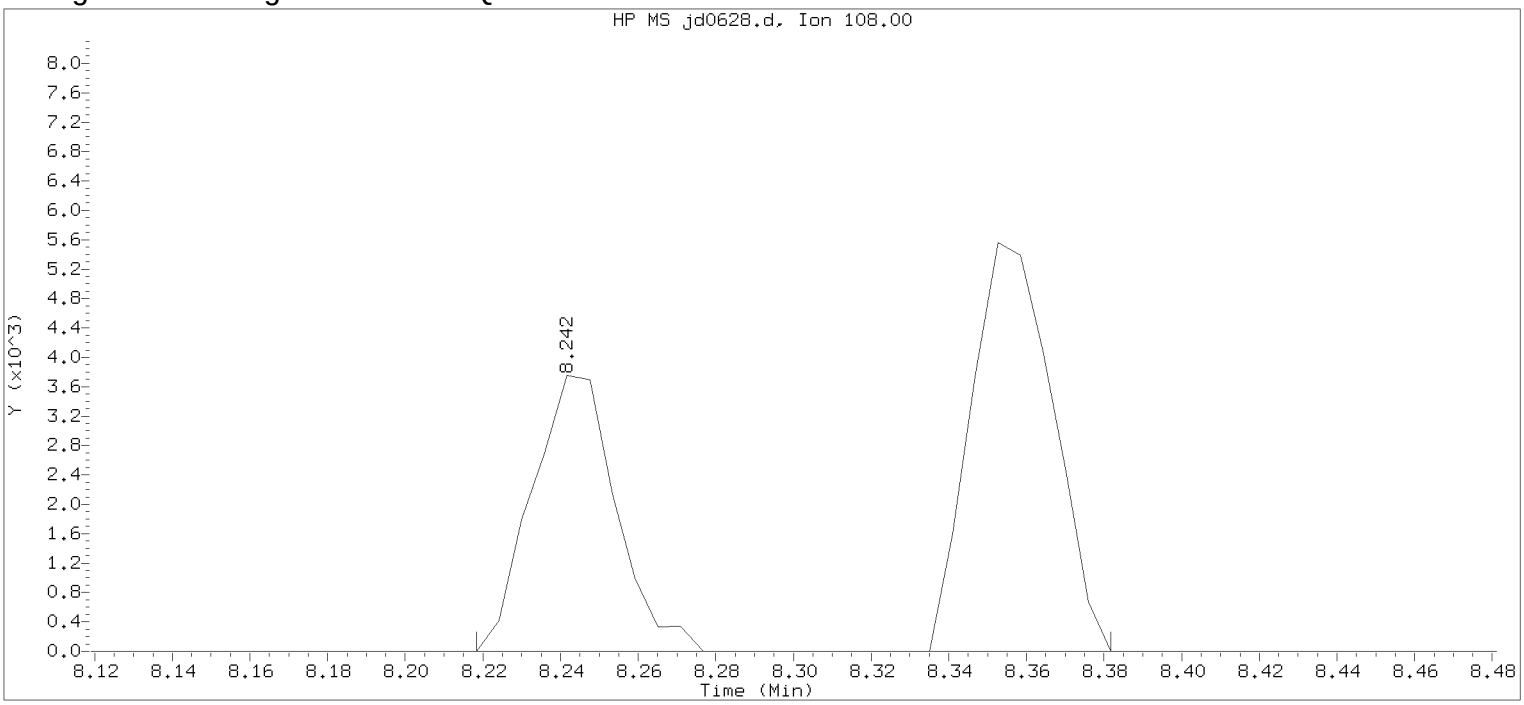
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

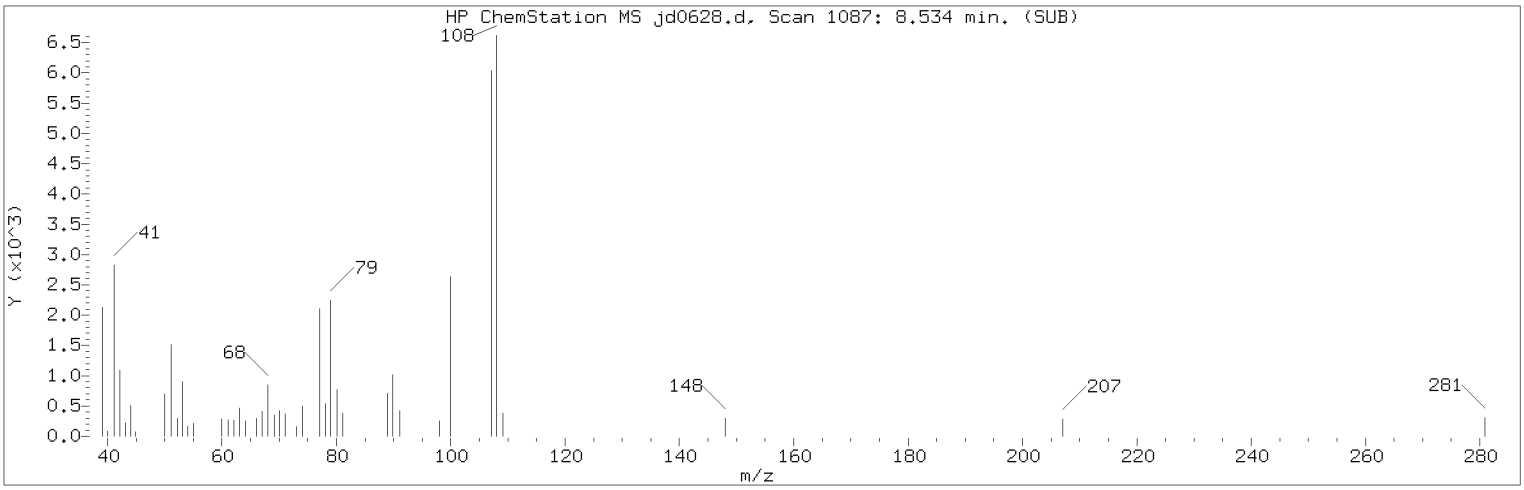
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:21 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

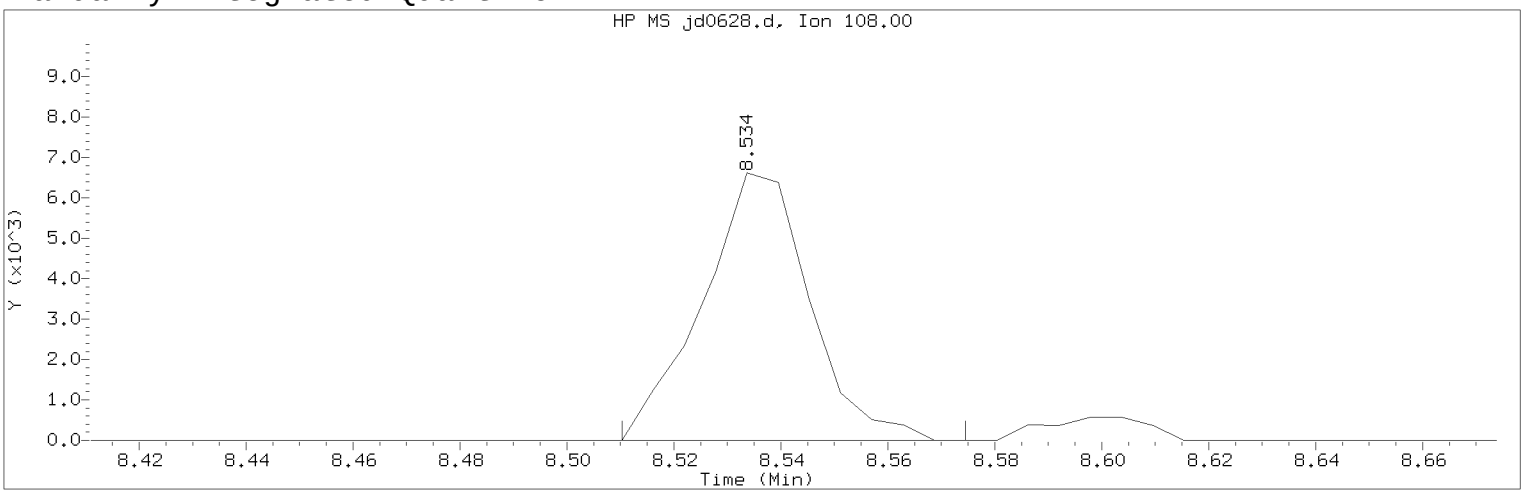
Compound Number : 44
Compound Name : 2-Methylphenol
Scan Number : 1037
Retention Time (minutes) : 8.242
Quant Ion : 108.00
Area : 13891
On-column Amount (ng/ul) : 0.3265
Integration start scan : 1032 Integration stop scan: 1060
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user id: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

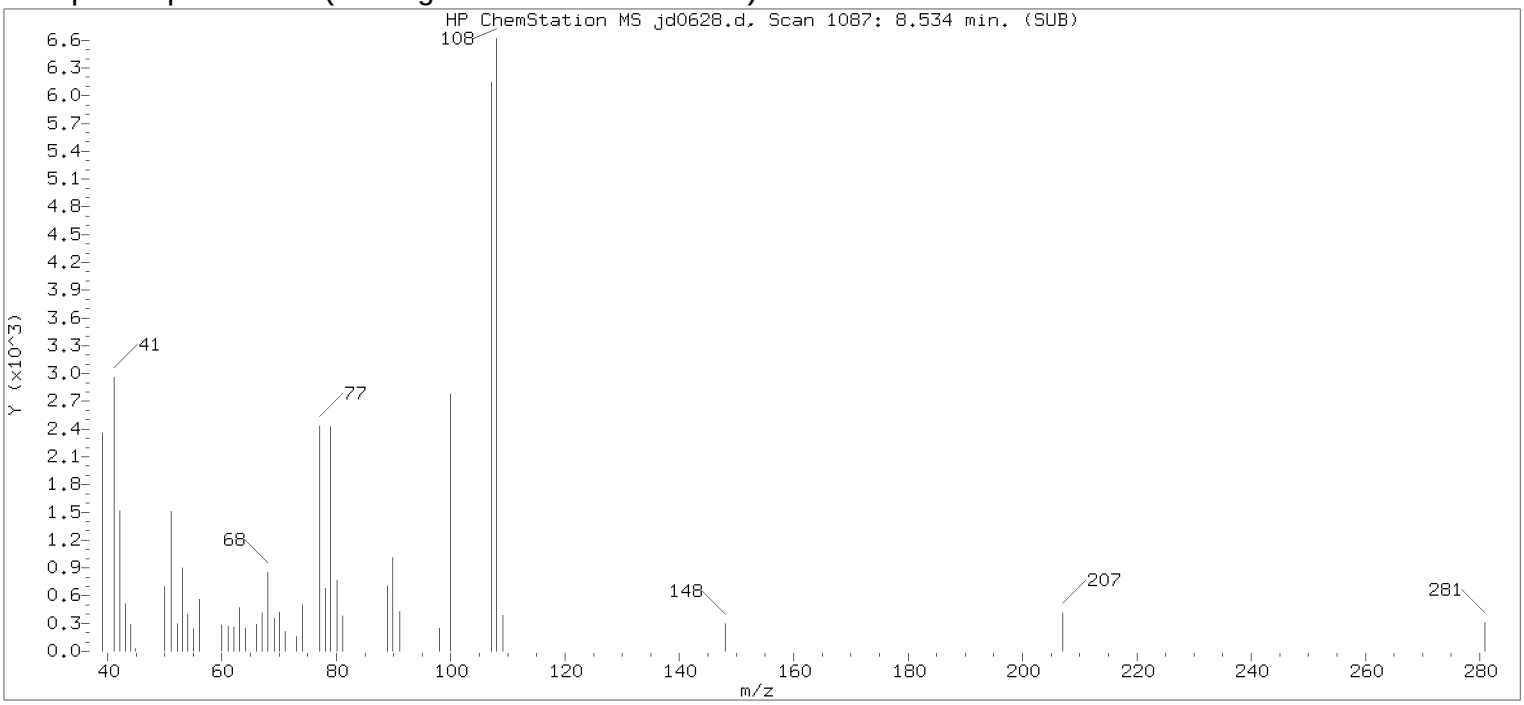
Compound Number : 53
Compound Name : 4-Methylphenol
Scan Number : 1087
Retention Time (minutes) : 8.534
Quant Ion : 108.00
Area (flag) : 9226M
On-Column Amount (ng/ul) : 0.2310
Integration start scan : 1082 Integration stop scan: 1093
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

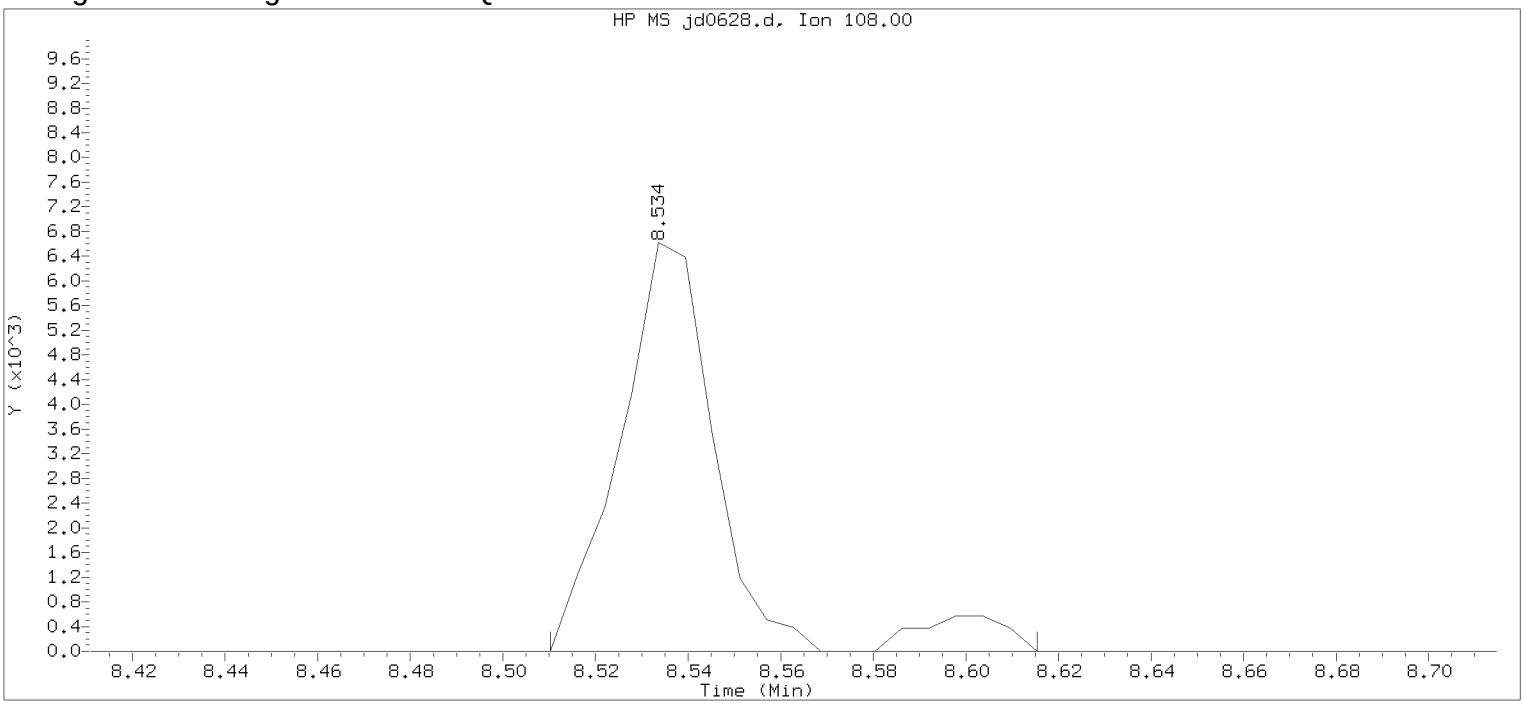
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

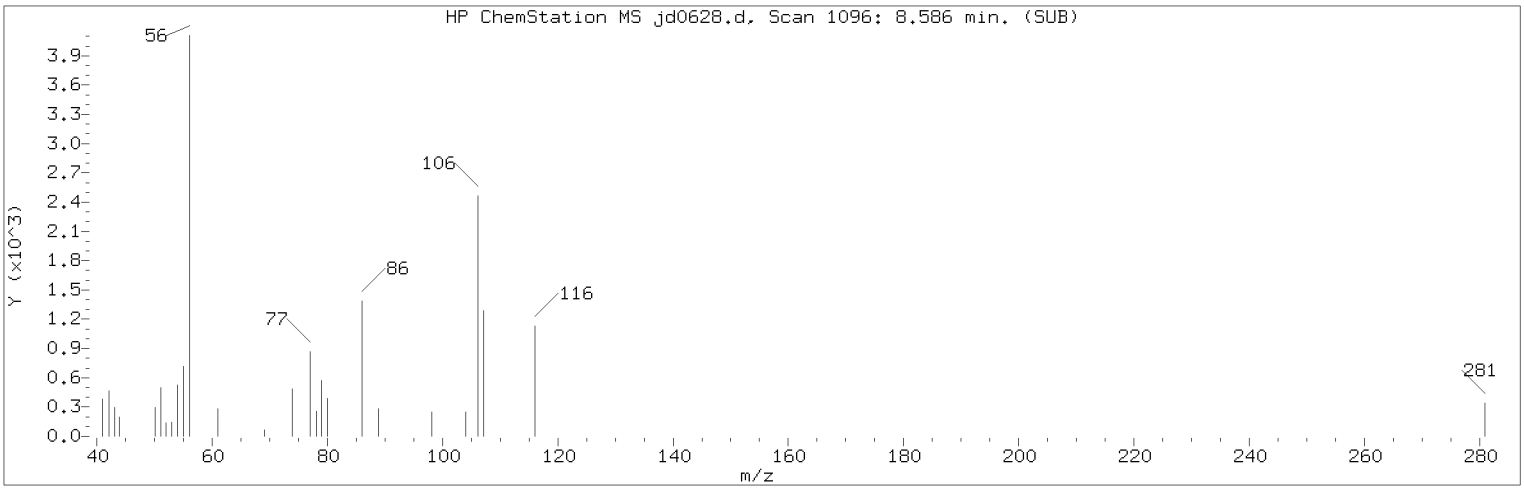
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:21 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

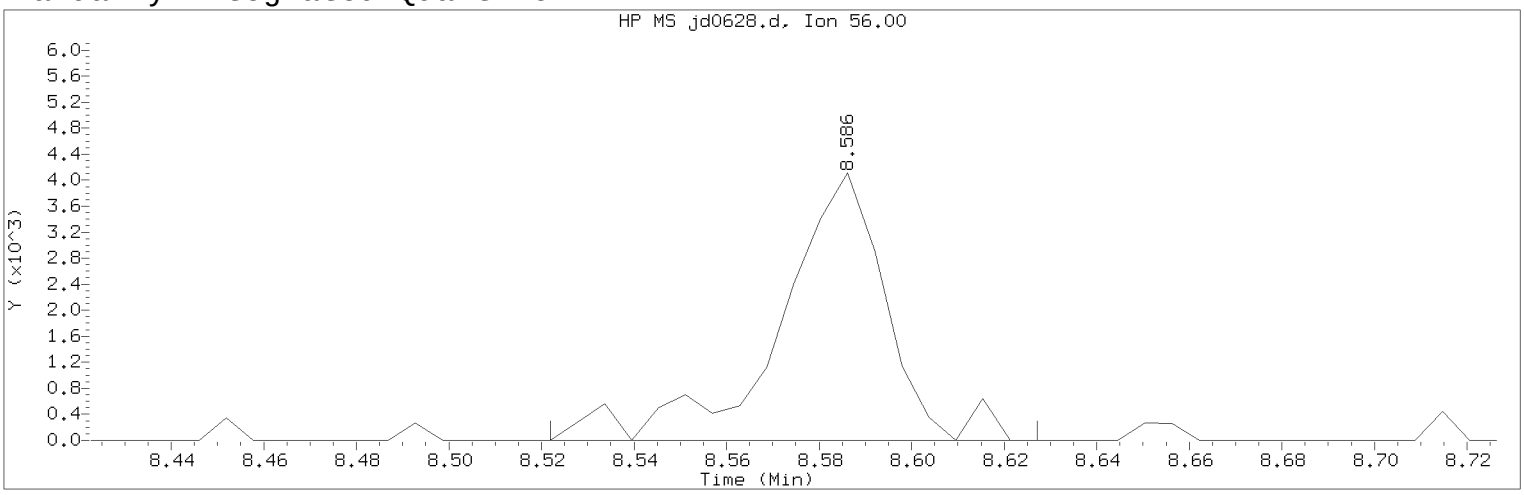
Compound Number : 53
Compound Name : 4-Methylphenol
Scan Number : 1087
Retention Time (minutes) : 8.534
Quant Ion : 108.00
Area : 10021
On-column Amount (ng/ul) : 0.2517
Integration start scan : 1082 Integration stop scan: 1100
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

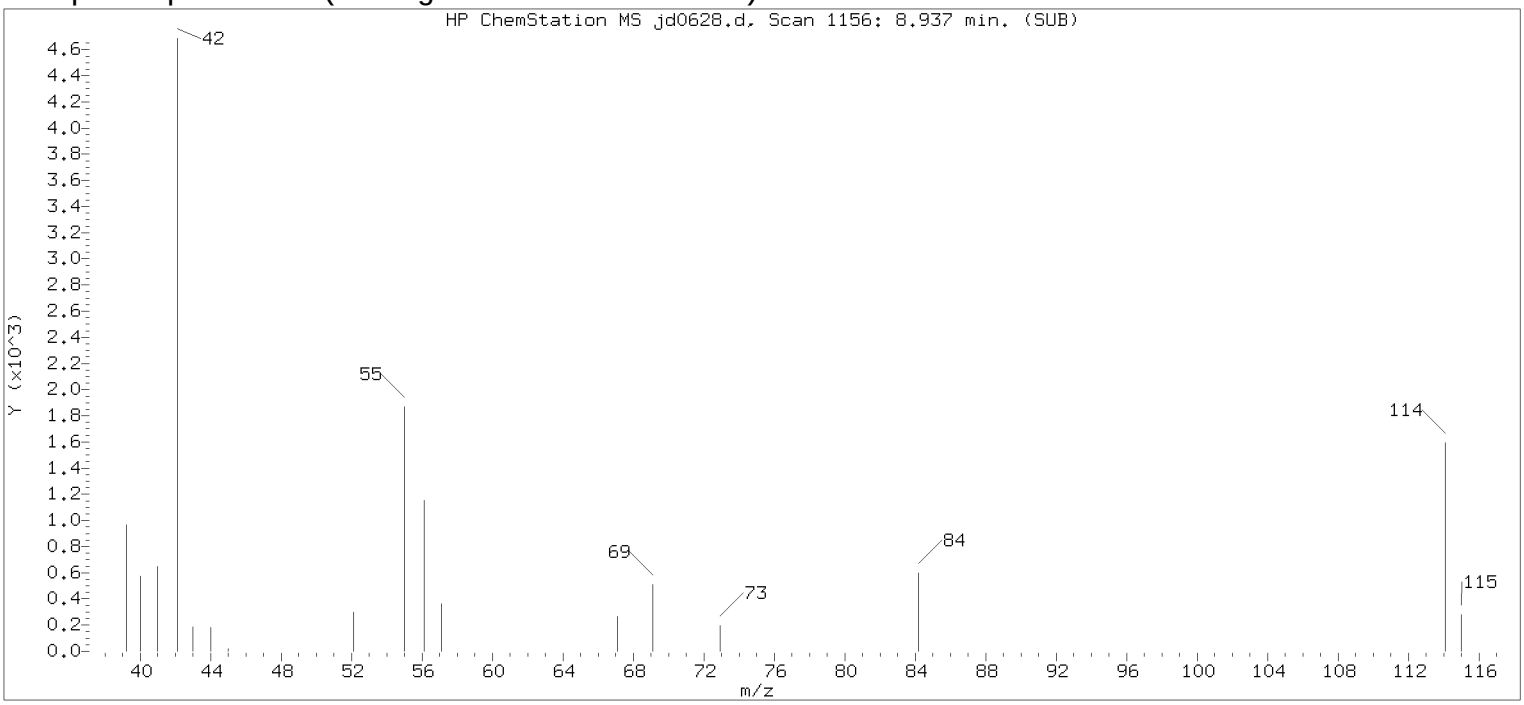
Compound Number : 55
Compound Name : N-Nitrosomorpholine
Scan Number : 1096
Retention Time (minutes) : 8.586
Quant Ion : 56.00
Area (flag) : 6682M
On-Column Amount (ng/ul) : 0.2264
Integration start scan : 1084 Integration stop scan: 1102
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

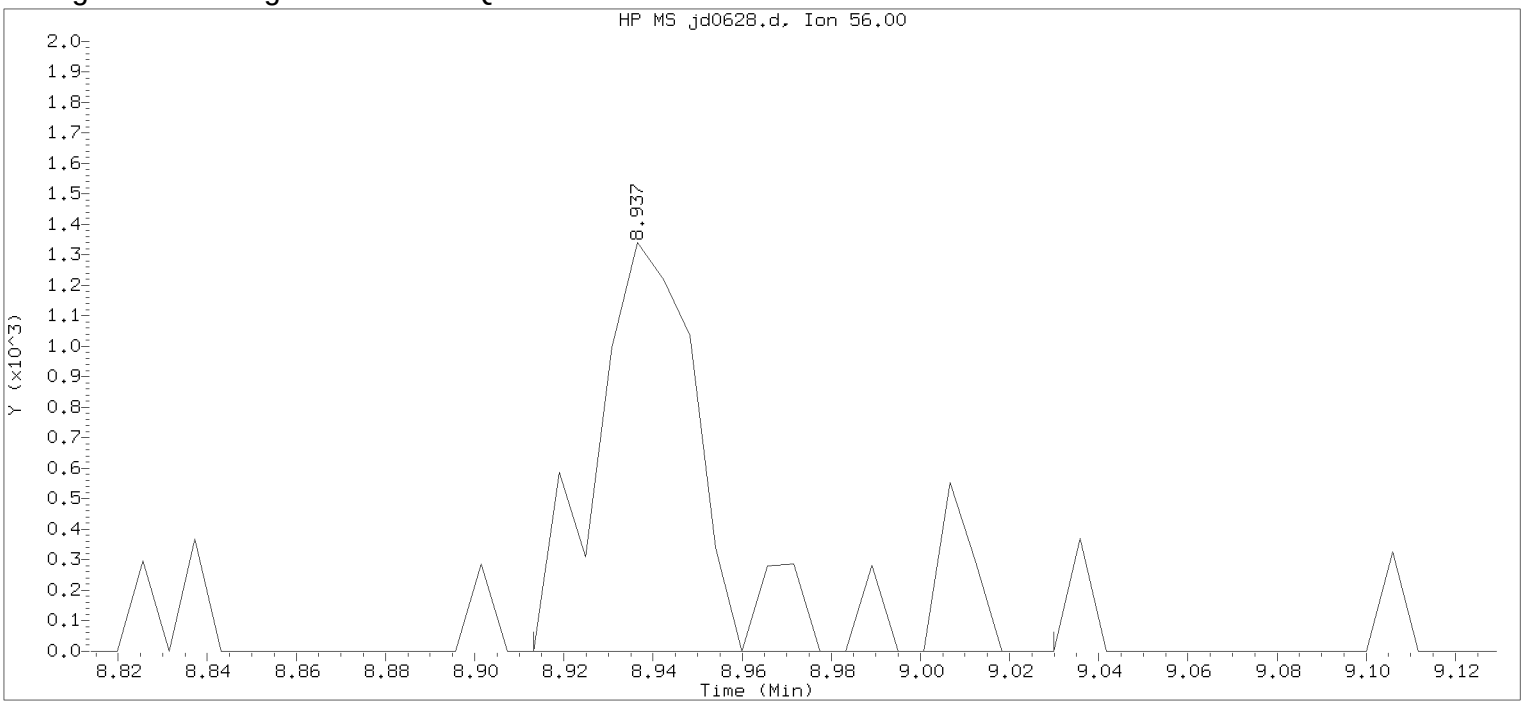
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

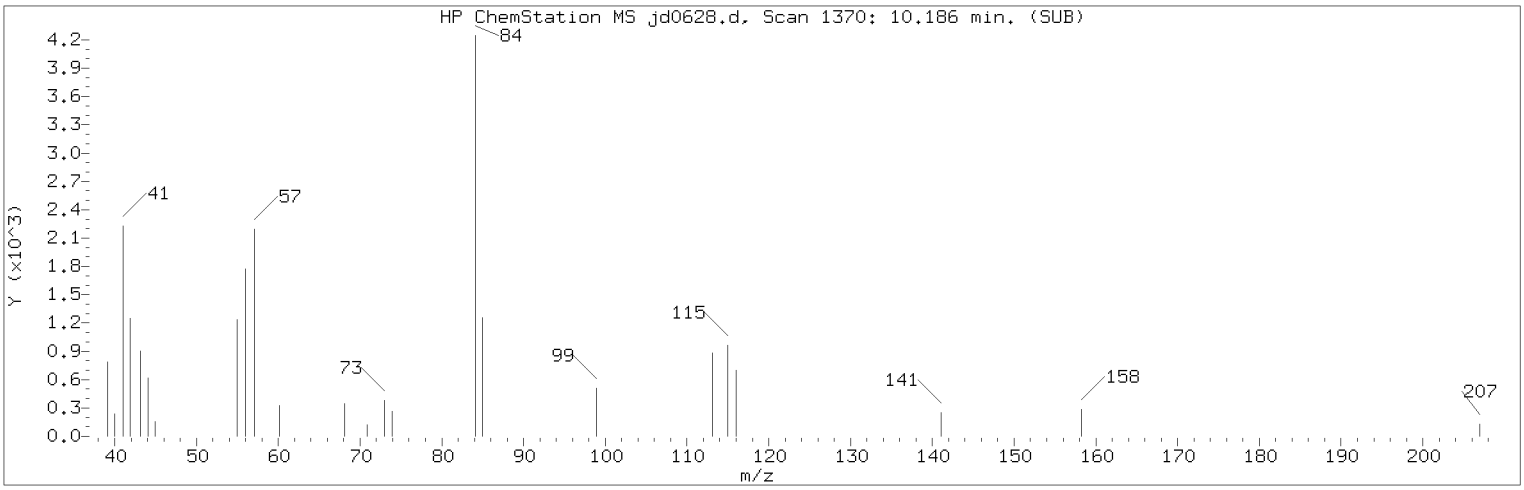
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:21 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

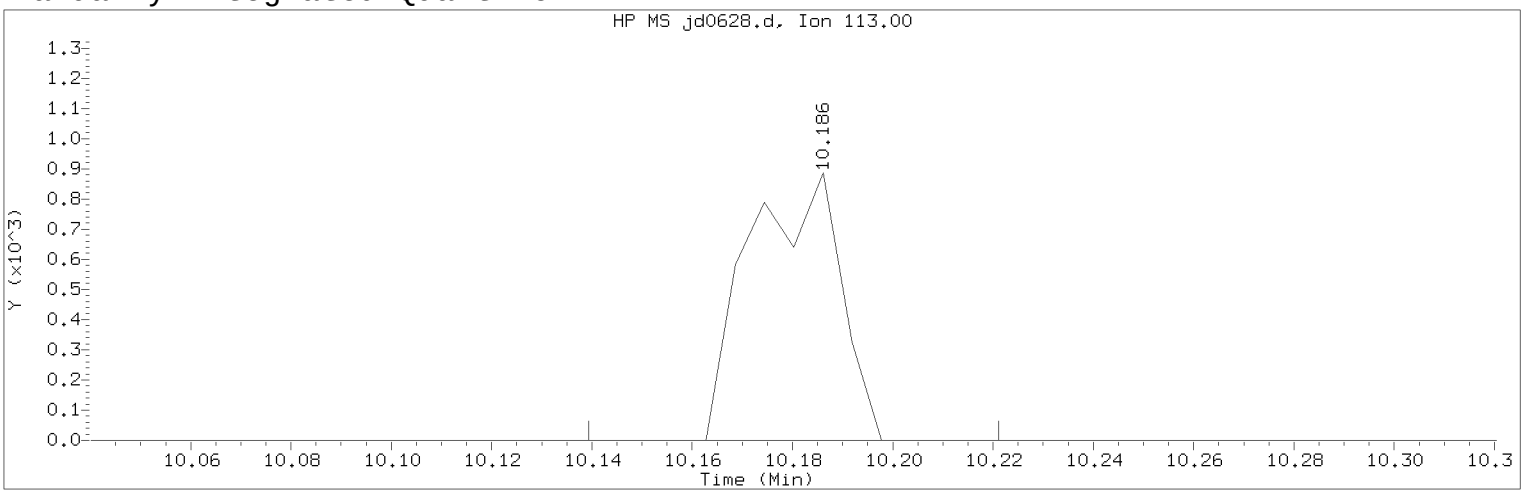
Compound Number : 55
Compound Name : N-Nitrosomorpholine
Scan Number : 1156
Retention Time (minutes) : 8.937
Quant Ion : 56.00
Area : 2633
On-column Amount (ng/ul) : 0.2300
Integration start scan : 1151 Integration stop scan: 1171
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

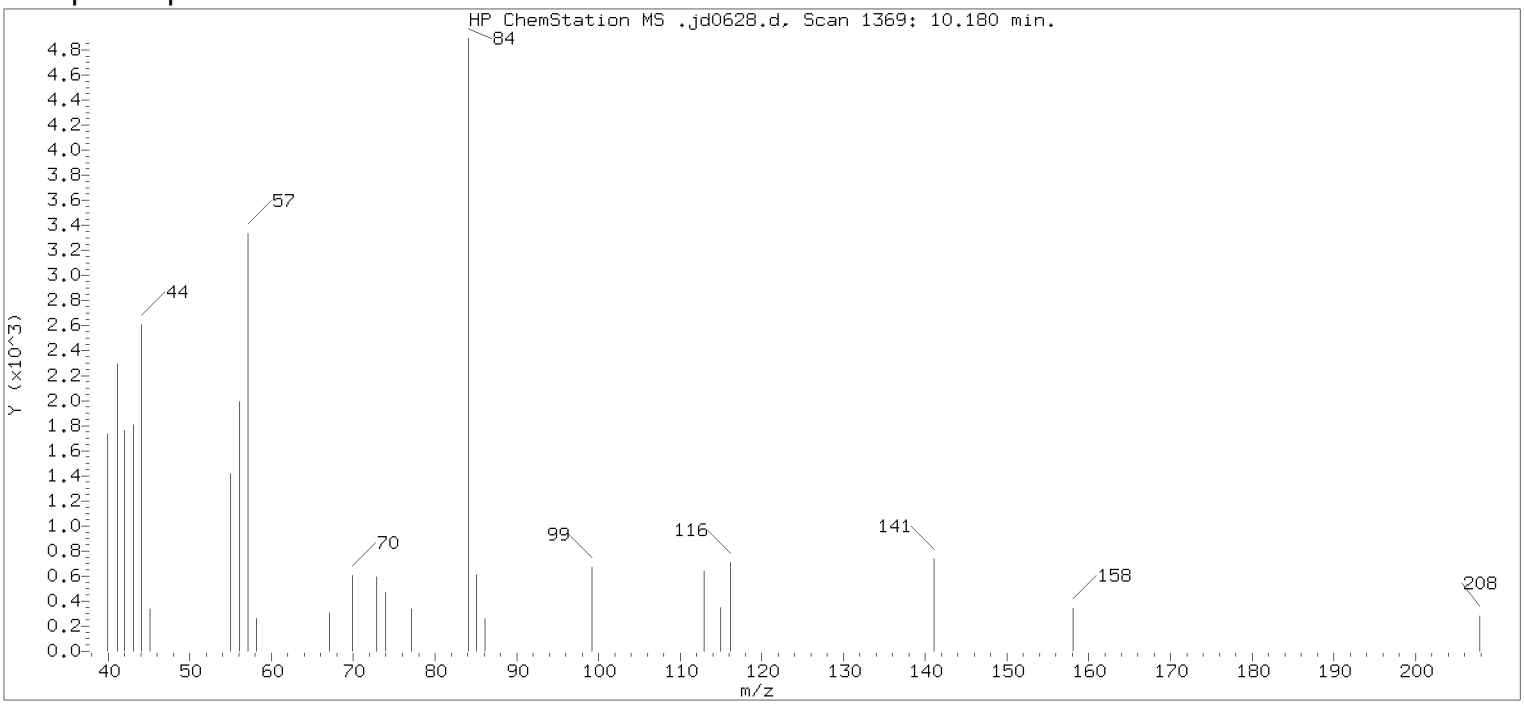
Compound Number : 86
Compound Name : Caprolactam
Scan Number : 1370
Retention Time (minutes) : 10.186
Quant Ion : 113.00
Area (flag) : 1128M
On-Column Amount (ng/ul) : 0.1028
Integration start scan : 1361 Integration stop scan: 1375
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

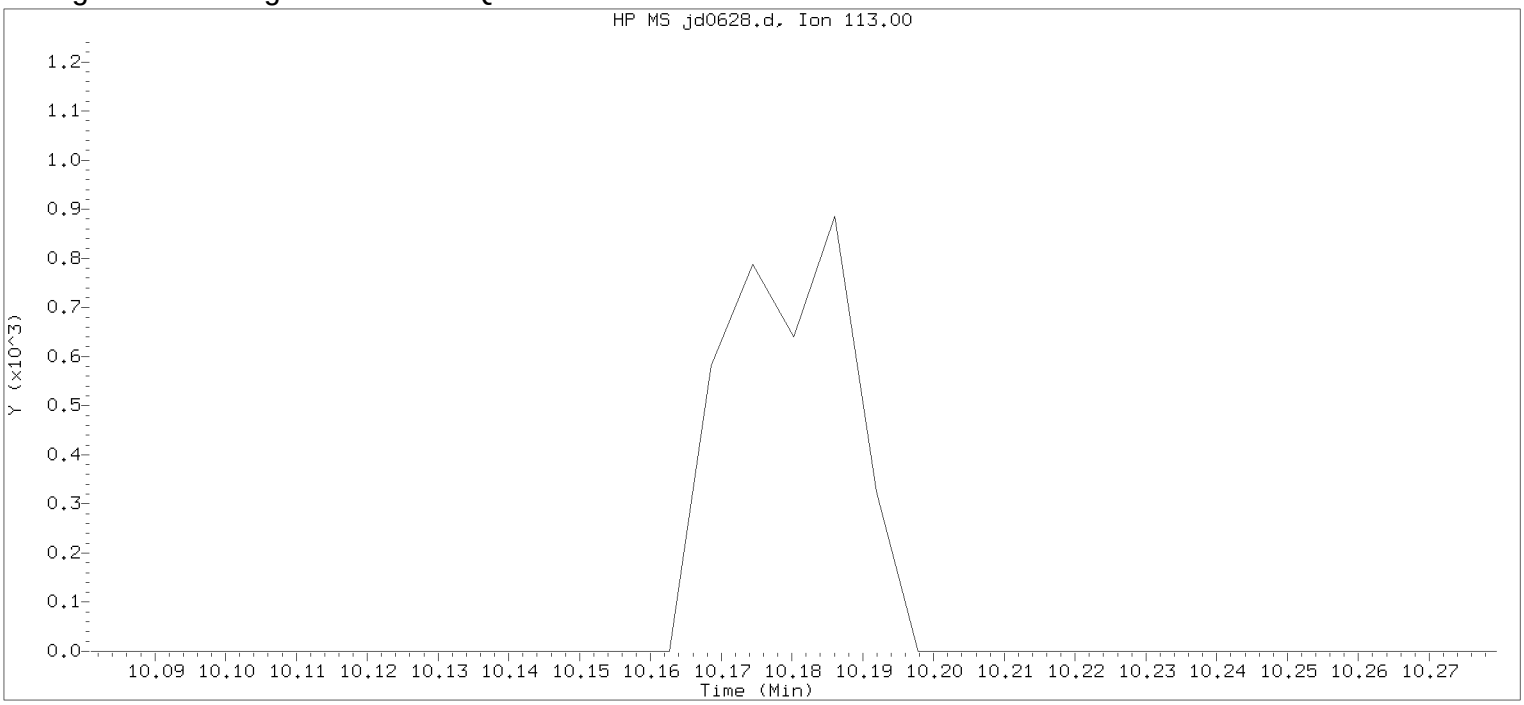
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

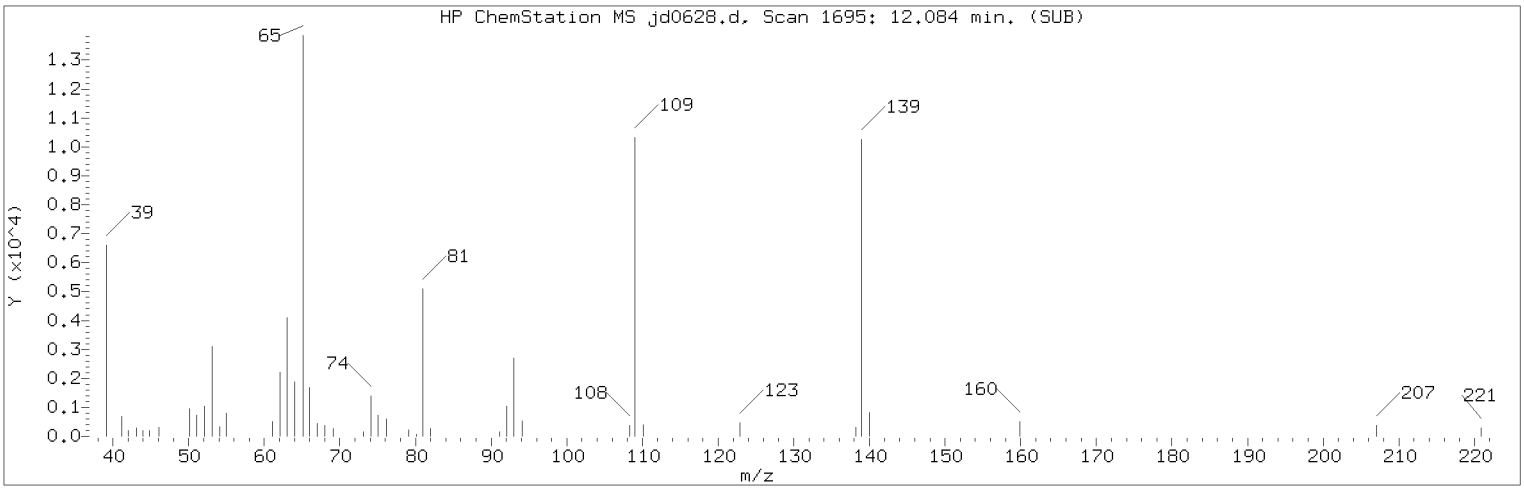
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:21 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

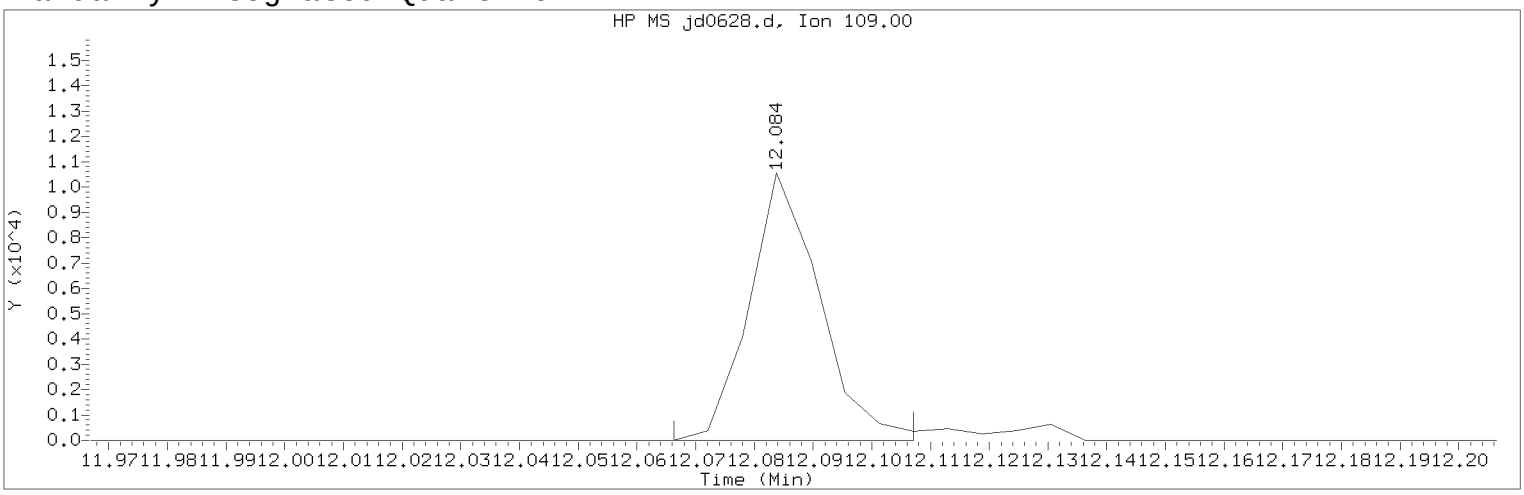
Compound Number : 86
Compound Name : Caprolactam
Expected RT (minutes) : 10.180
Quant Ion : 113.00

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

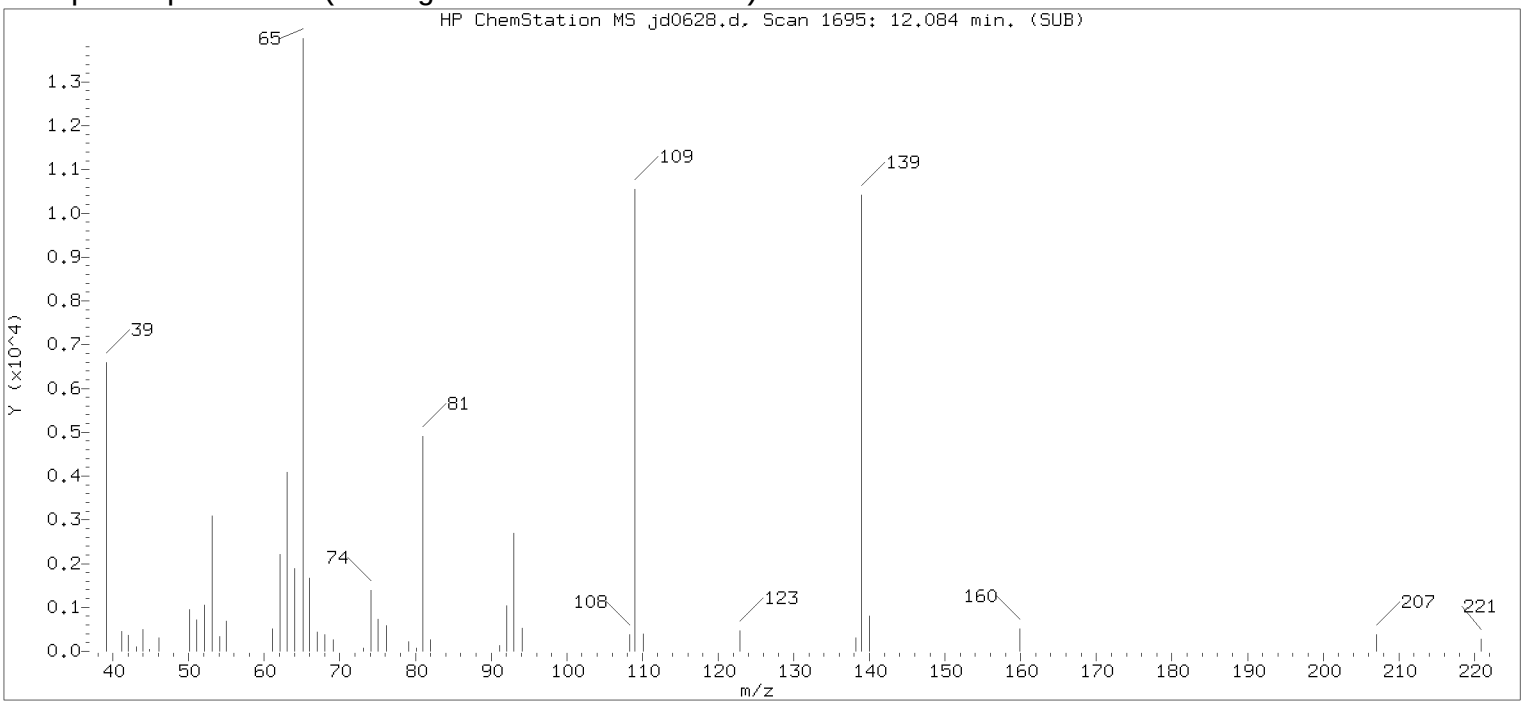
Compound Number : 126
Compound Name : 4-Nitrophenol
Scan Number : 1695
Retention Time (minutes) : 12.084
Quant Ion : 109.00
Area (flag) : 8758M
On-Column Amount (ng/ul) : 0.8582
Integration start scan : 1691 Integration stop scan: 1698
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

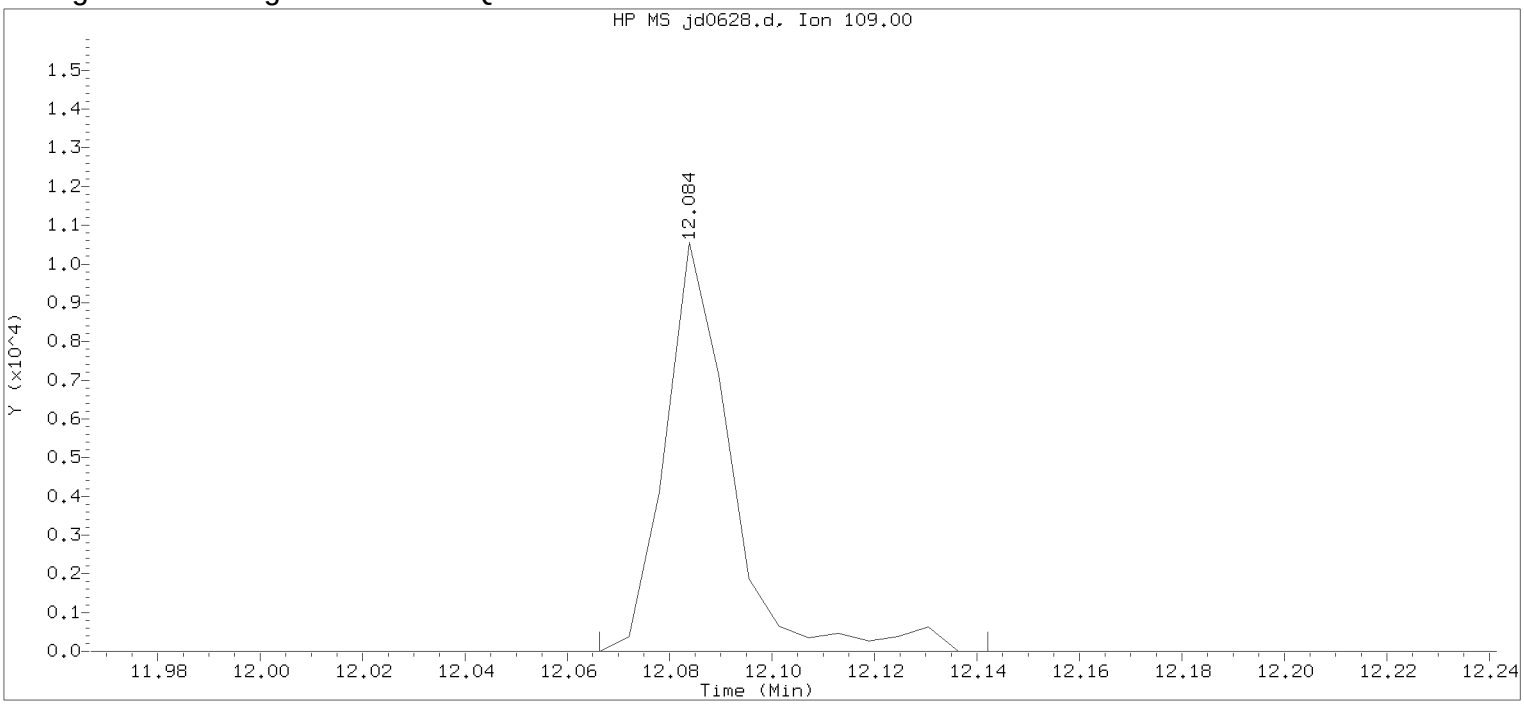
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

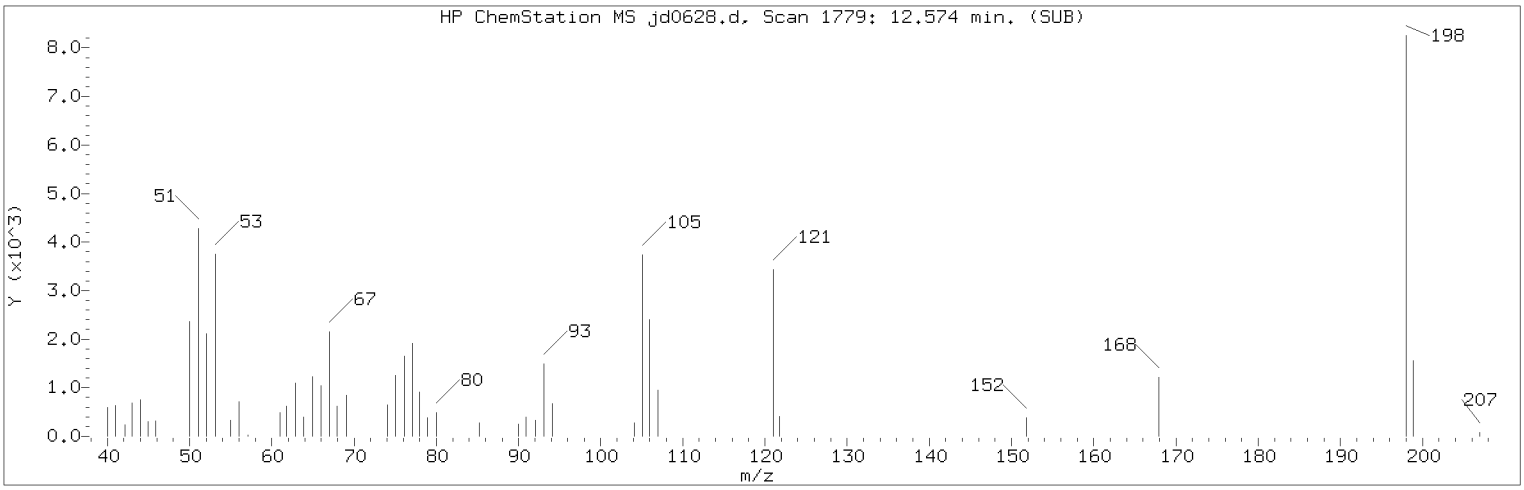
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:21 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

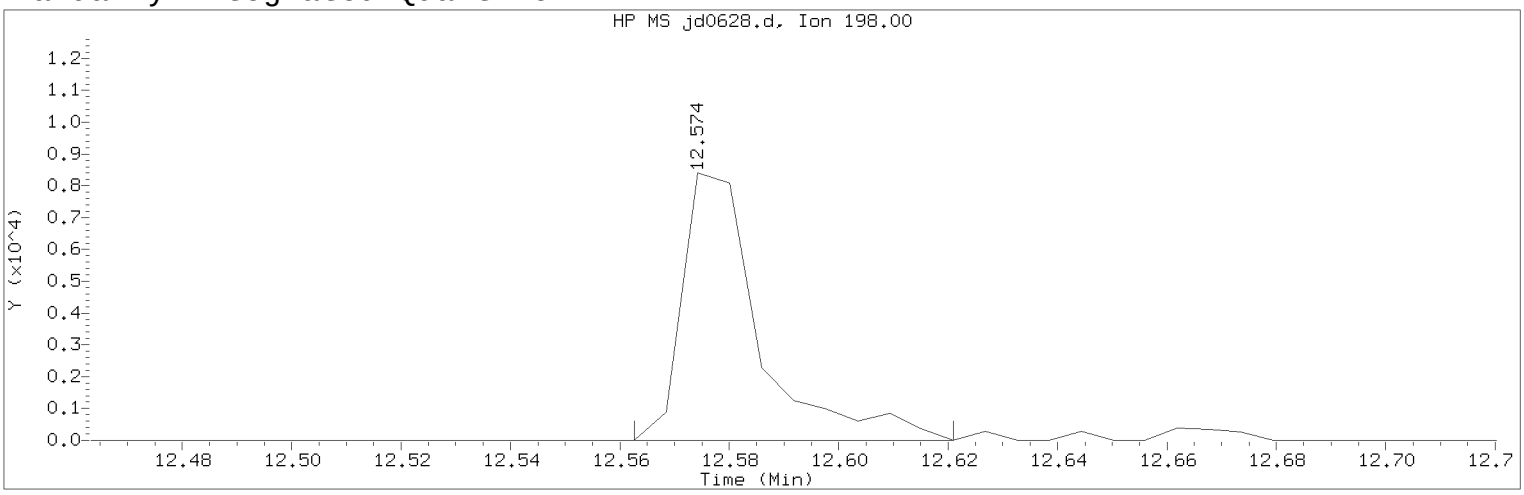
Compound Number : 126
Compound Name : 4-Nitrophenol
Scan Number : 1695
Retention Time (minutes) : 12.084
Quant Ion : 109.00
Area : 9365
On-column Amount (ng/ul) : 1.0797
Integration start scan : 1691 Integration stop scan: 1704
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

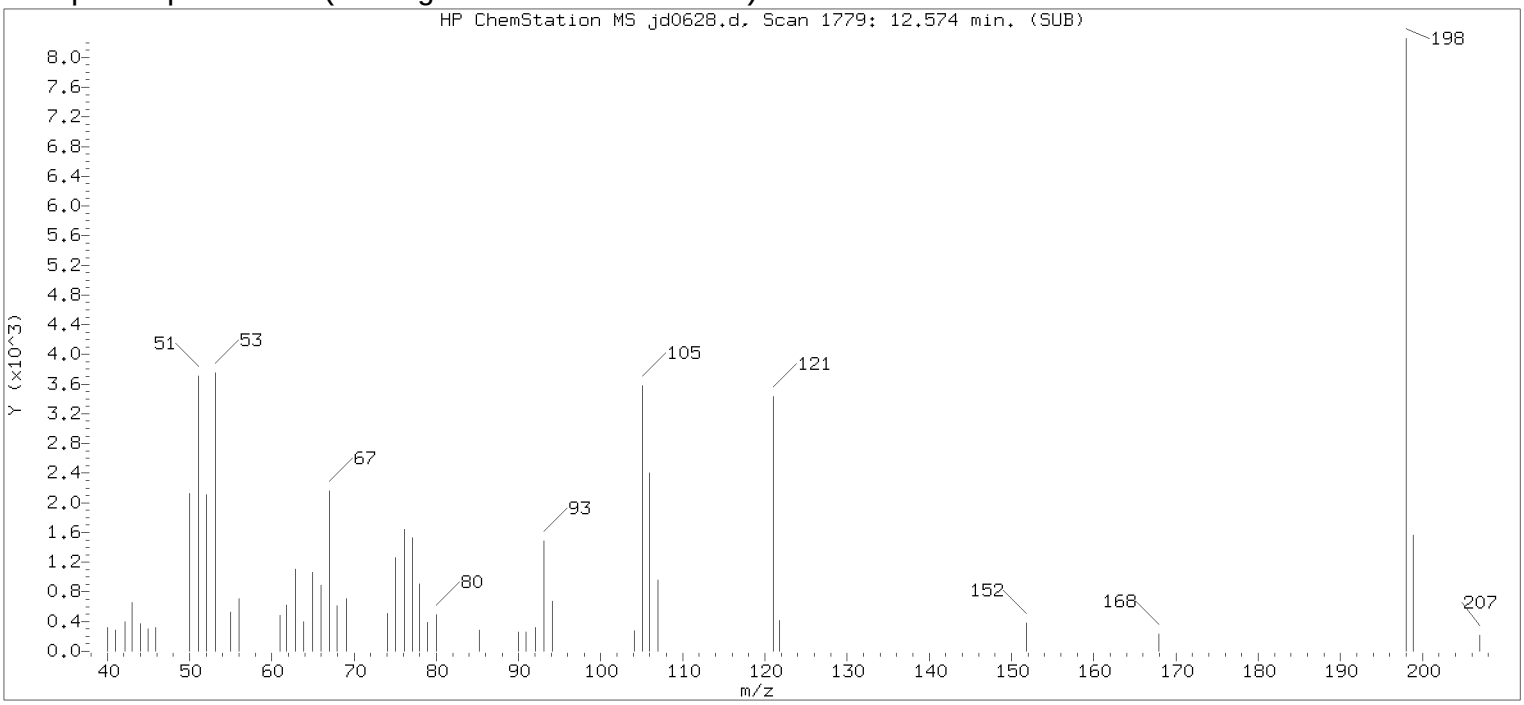
Compound Number : 143
Compound Name : 4,6-Dinitro-2-methylphenol
Scan Number : 1779
Retention Time (minutes) : 12.574
Quant Ion : 198.00
Area (flag) : 8306M
On-Column Amount (ng/ul) : 0.7773
Integration start scan : 1776 Integration stop scan: 1786
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

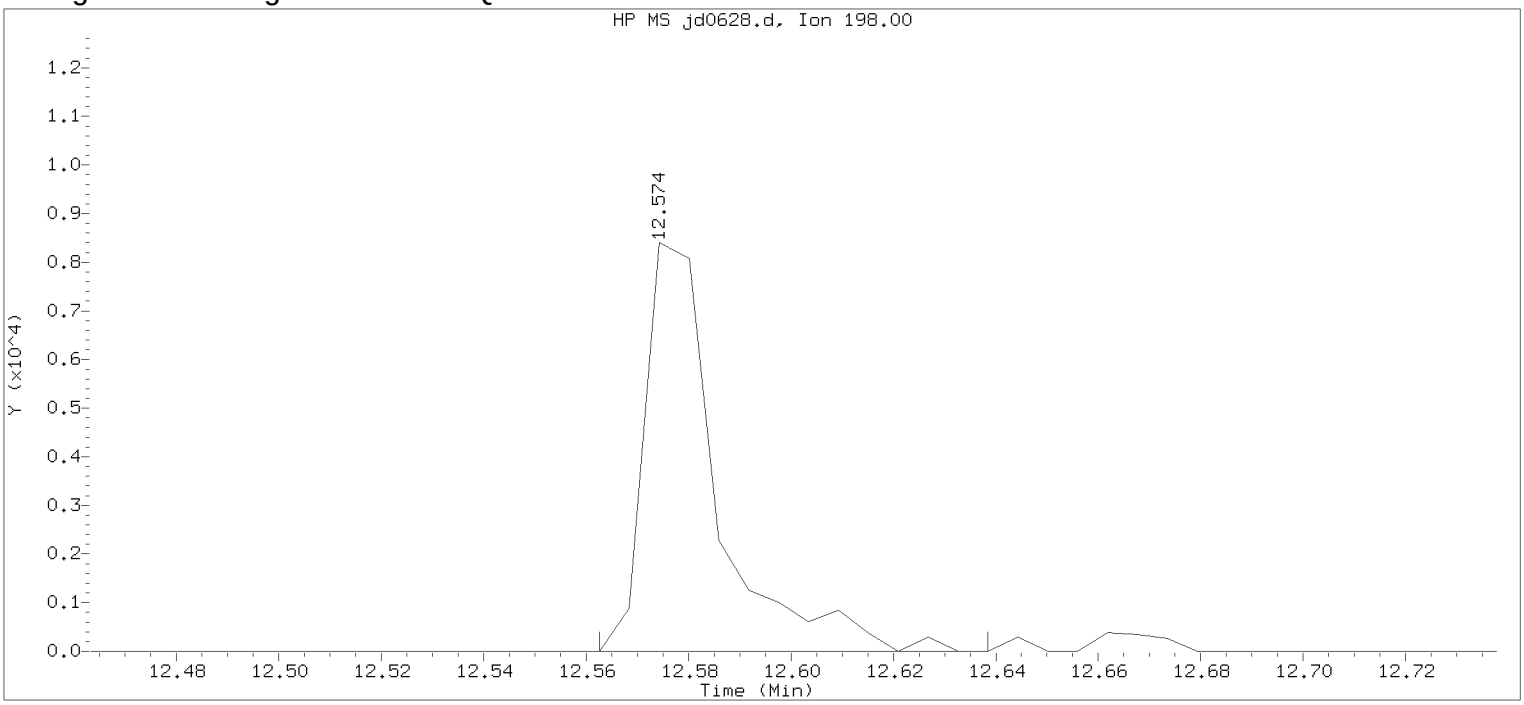
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

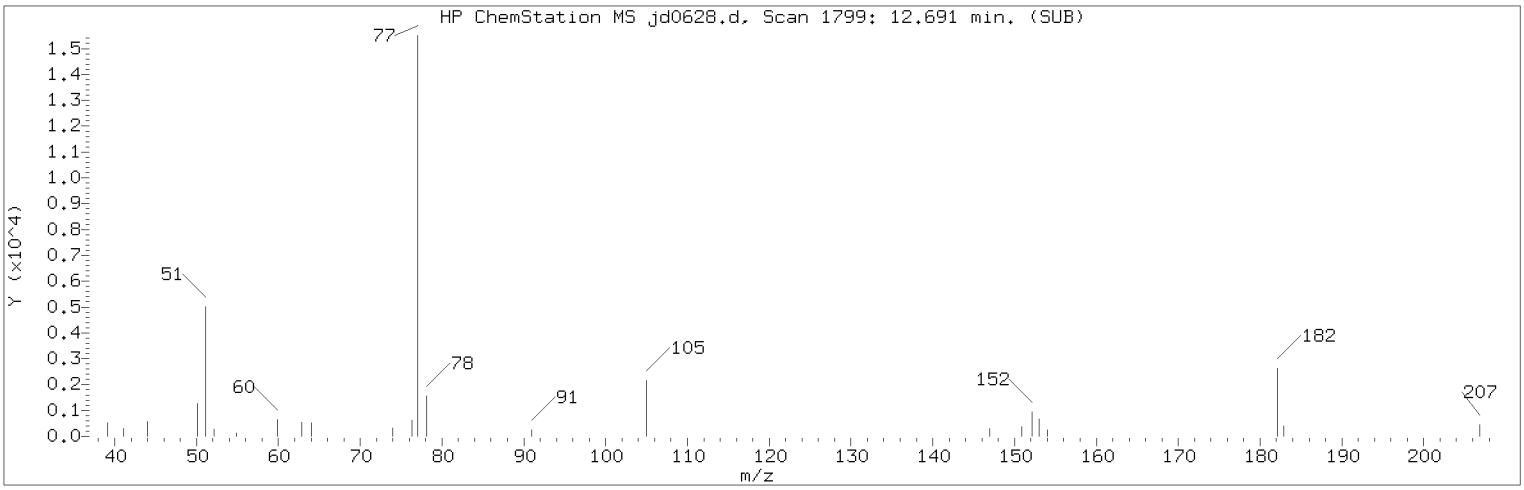
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:21 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

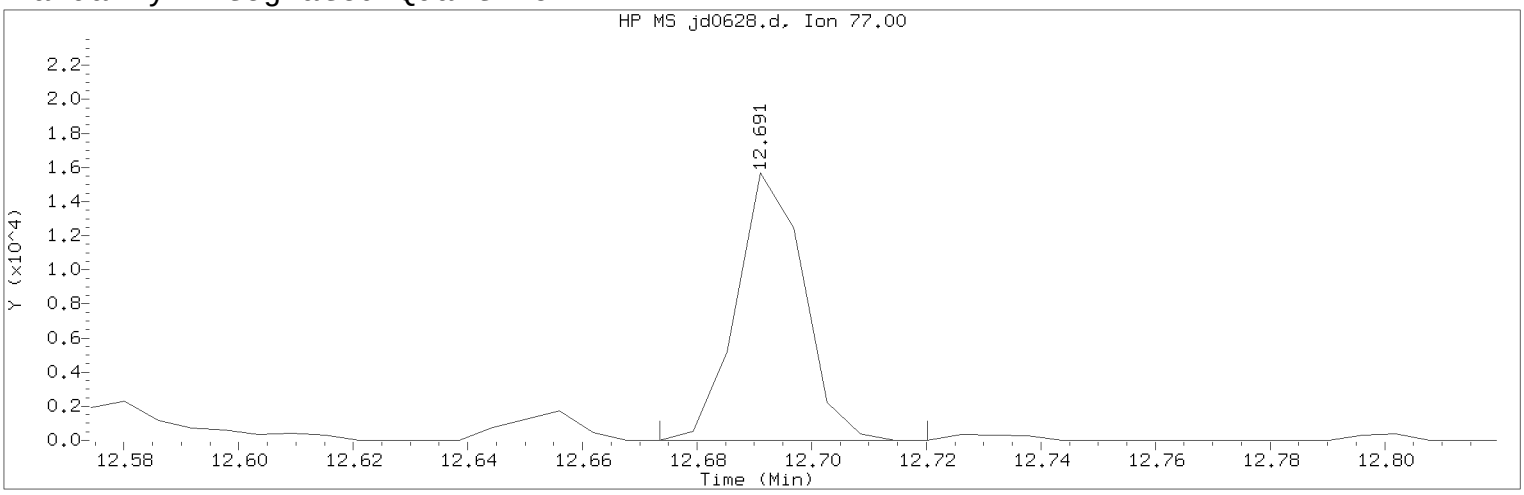
Compound Number : 143
Compound Name : 4,6-Dinitro-2-methylphenol
Scan Number : 1779
Retention Time (minutes) : 12.574
Quant Ion : 198.00
Area : 8408
On-column Amount (ng/ul) : 0.7854
Integration start scan : 1776 Integration stop scan: 1789
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user id: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

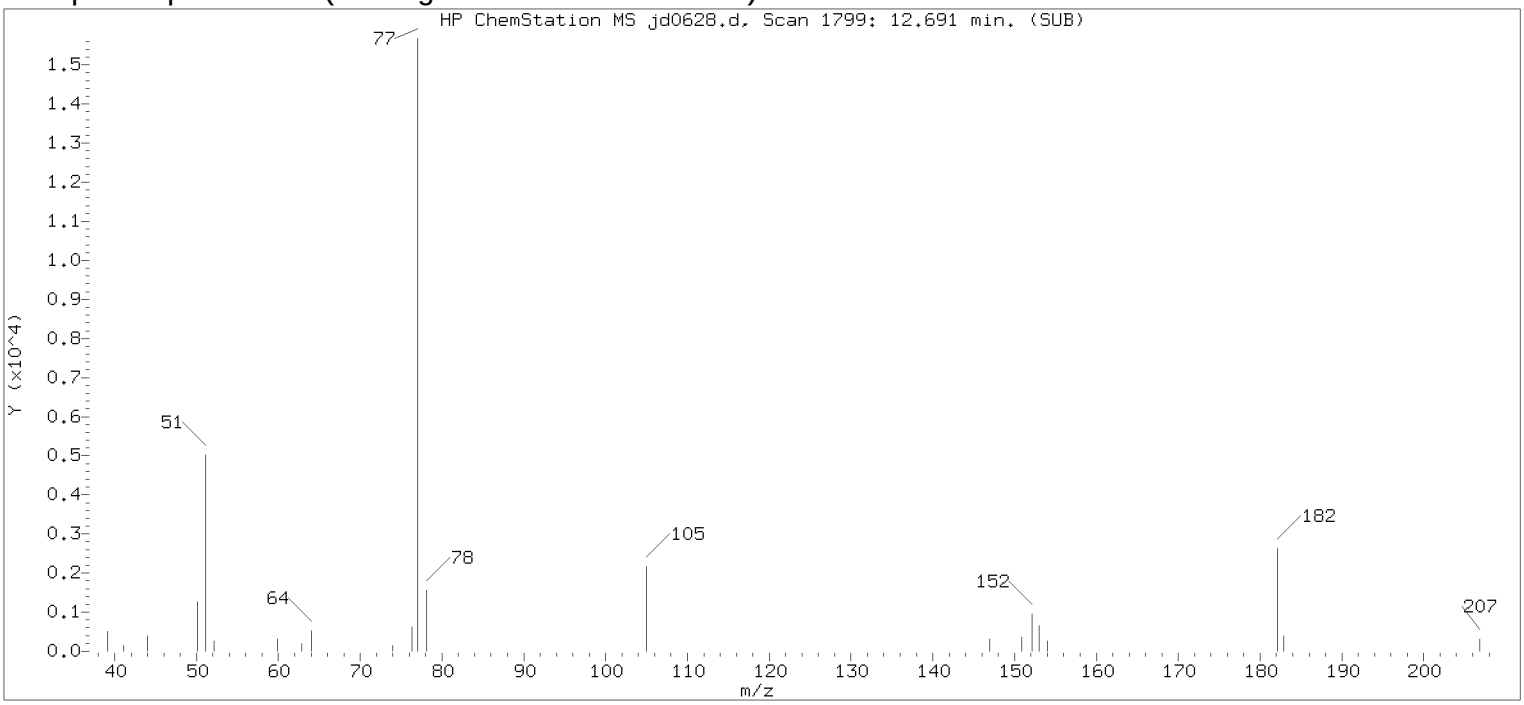
Compound Number : 146
Compound Name : 1,2-Diphenylhydrazine
Scan Number : 1799
Retention Time (minutes) : 12.691
Quant Ion : 77.00
Area (flag) : 12773M
On-Column Amount (ng/ul) : 0.2206
Integration start scan : 1795 Integration stop scan: 1803
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

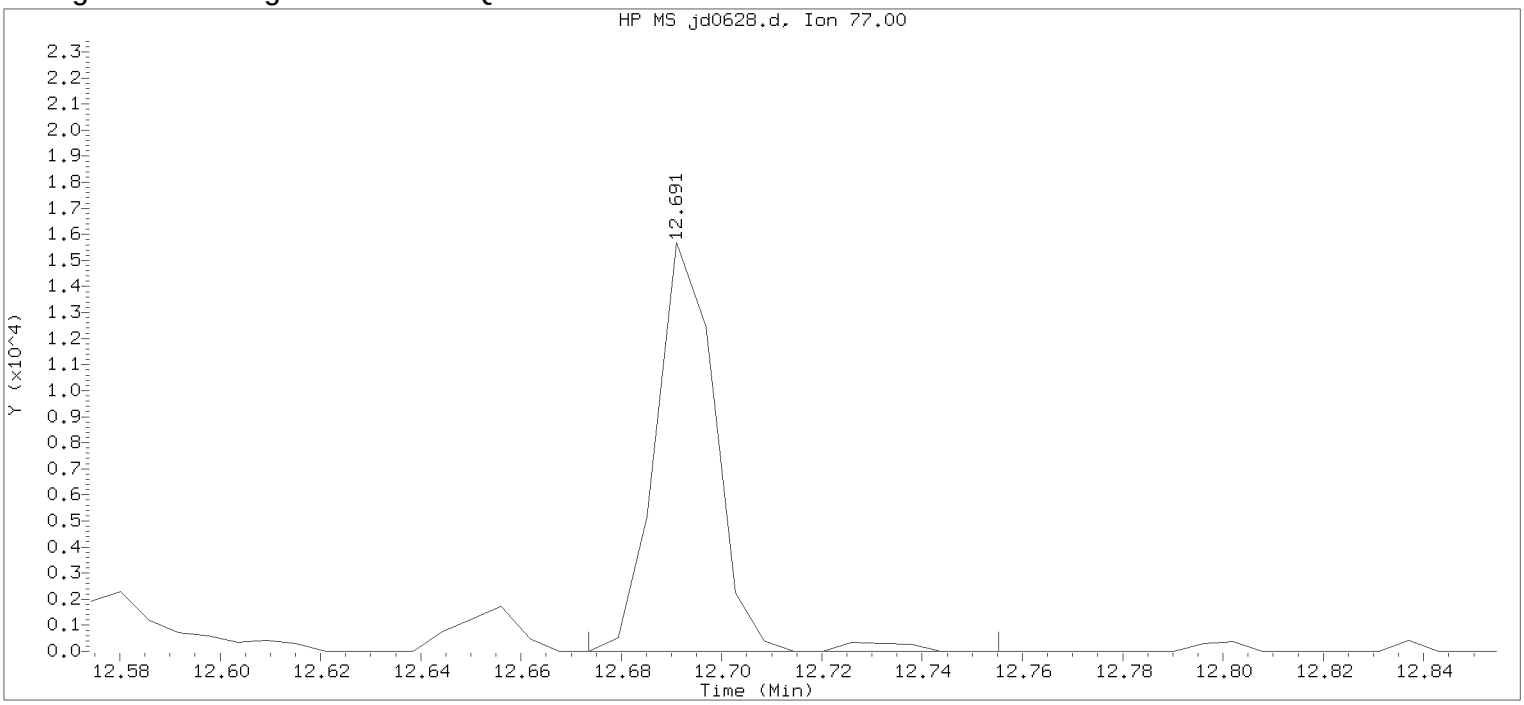
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

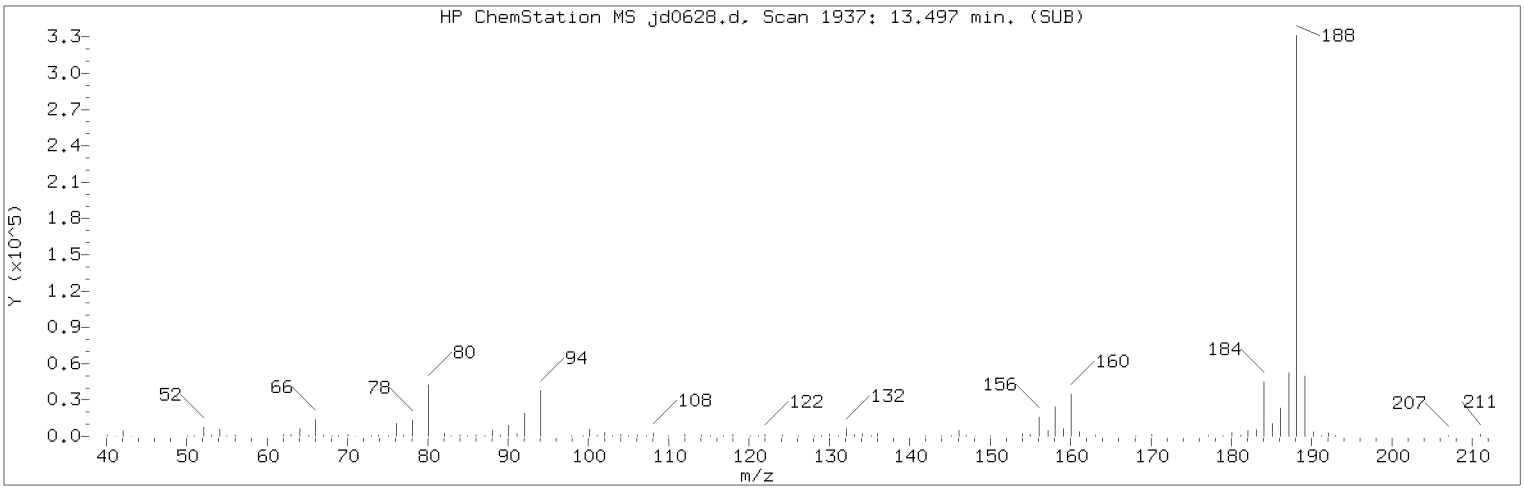
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:21 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

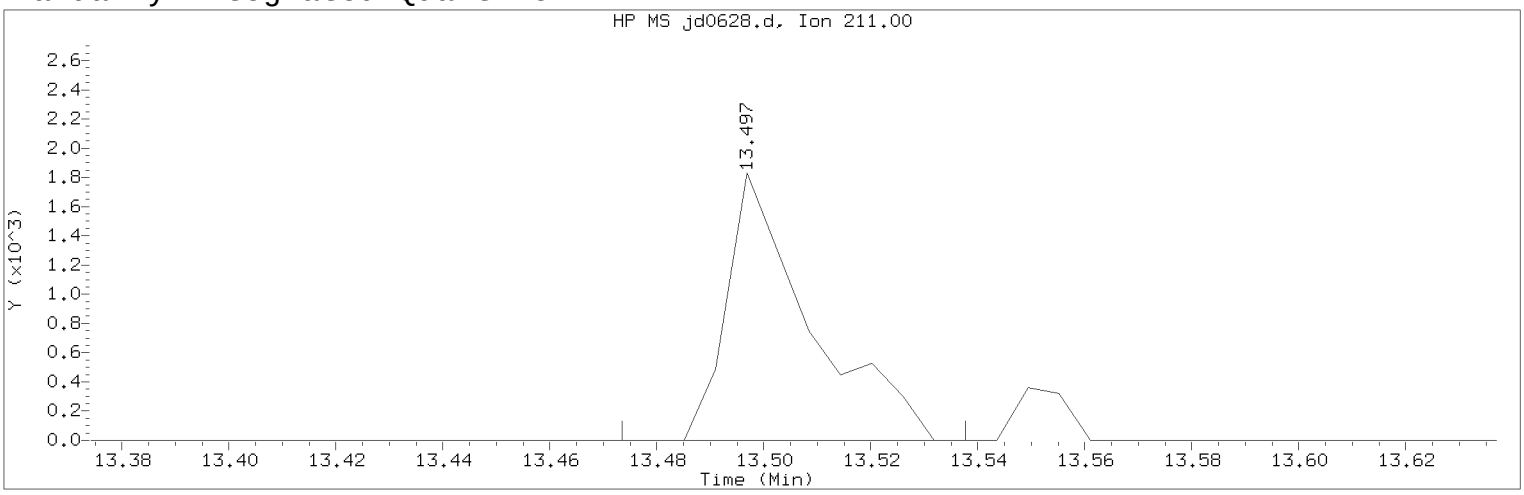
Compound Number : 146
Compound Name : 1,2-Diphenylhydrazine
Scan Number : 1799
Retention Time (minutes) : 12.691
Quant Ion : 77.00
Area : 13091
On-column Amount (ng/ul) : 0.2269
Integration start scan : 1795 Integration stop scan: 1809
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user id: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

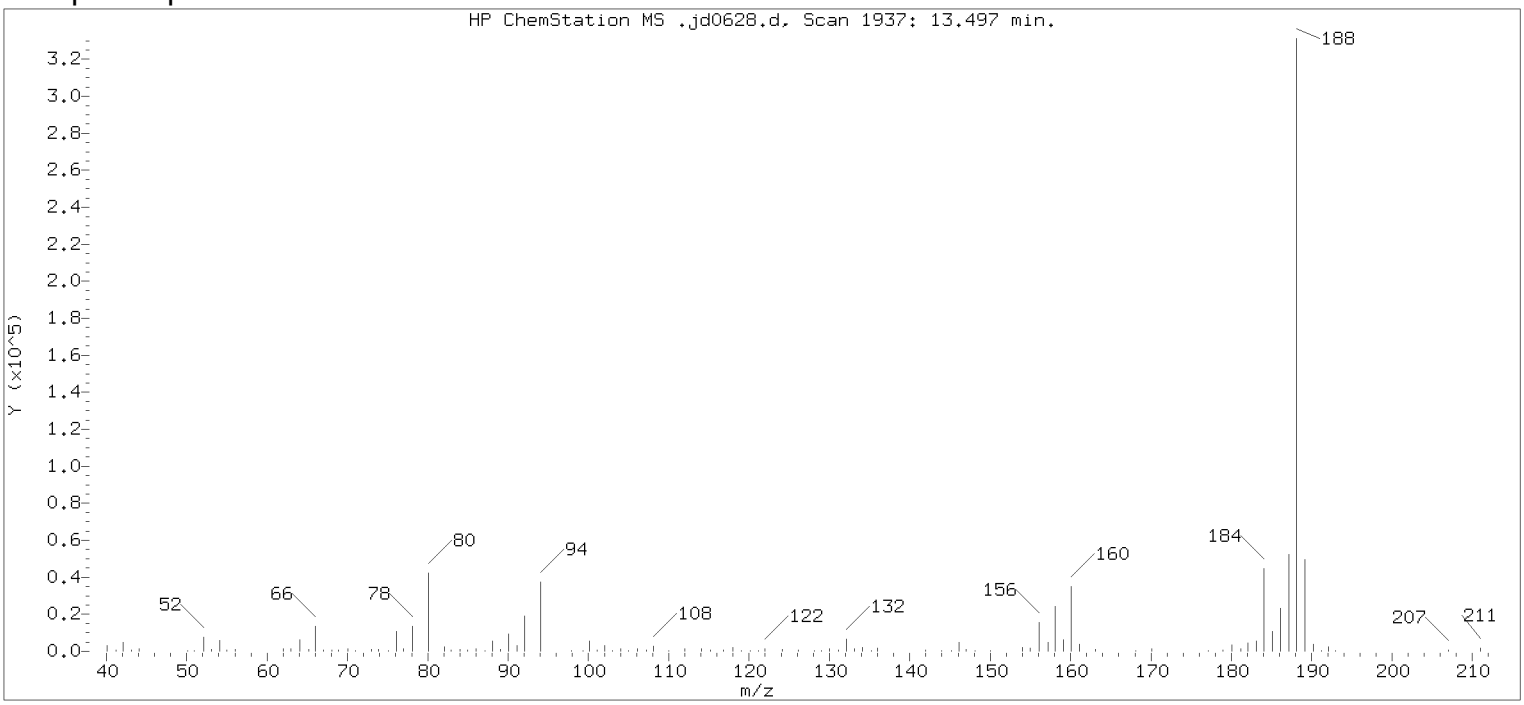
Compound Number : 166
Compound Name : Dinoseb
Scan Number : 1937
Retention Time (minutes) : 13.497
Quant Ion : 211.00
Area (flag) : 1970M
On-Column Amount (ng/ul) : 0.1322
Integration start scan : 1932 Integration stop scan: 1943
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

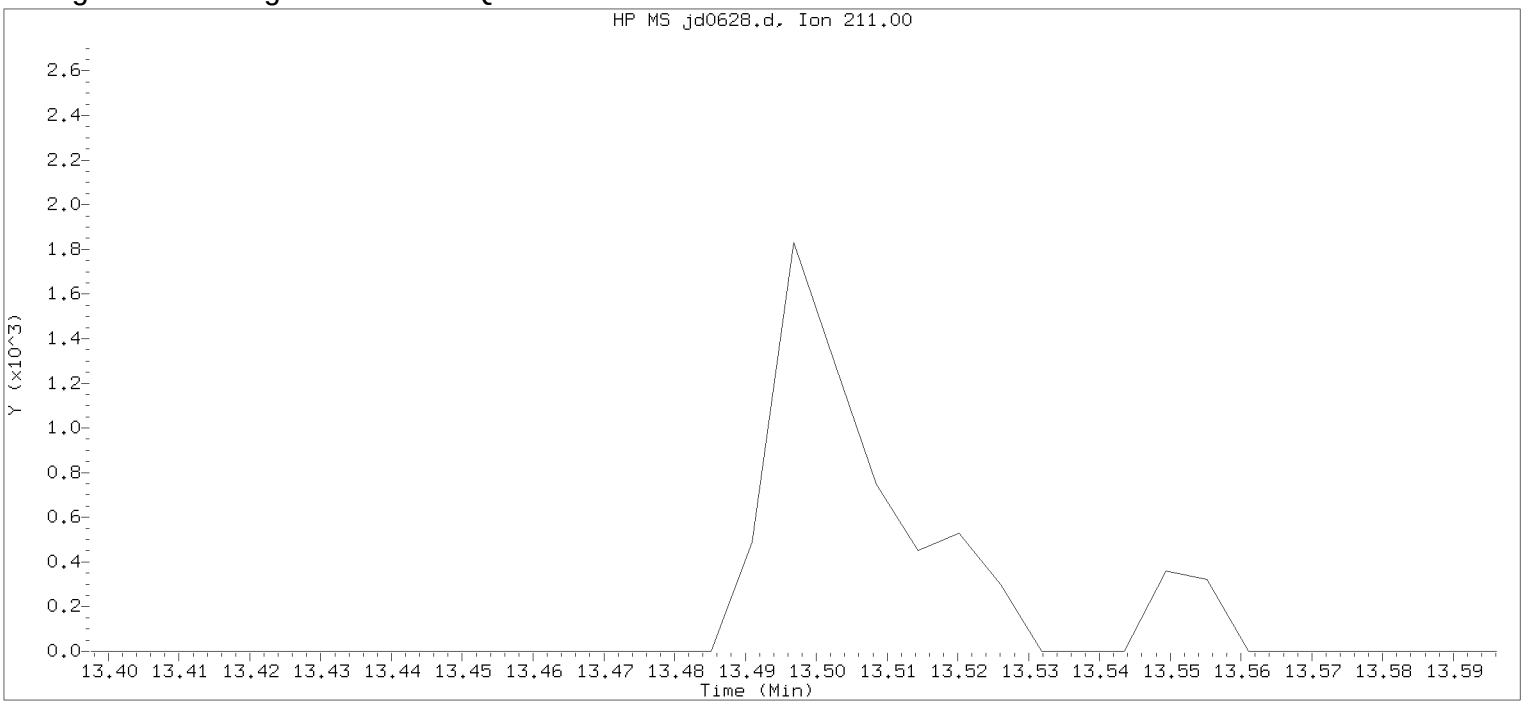
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

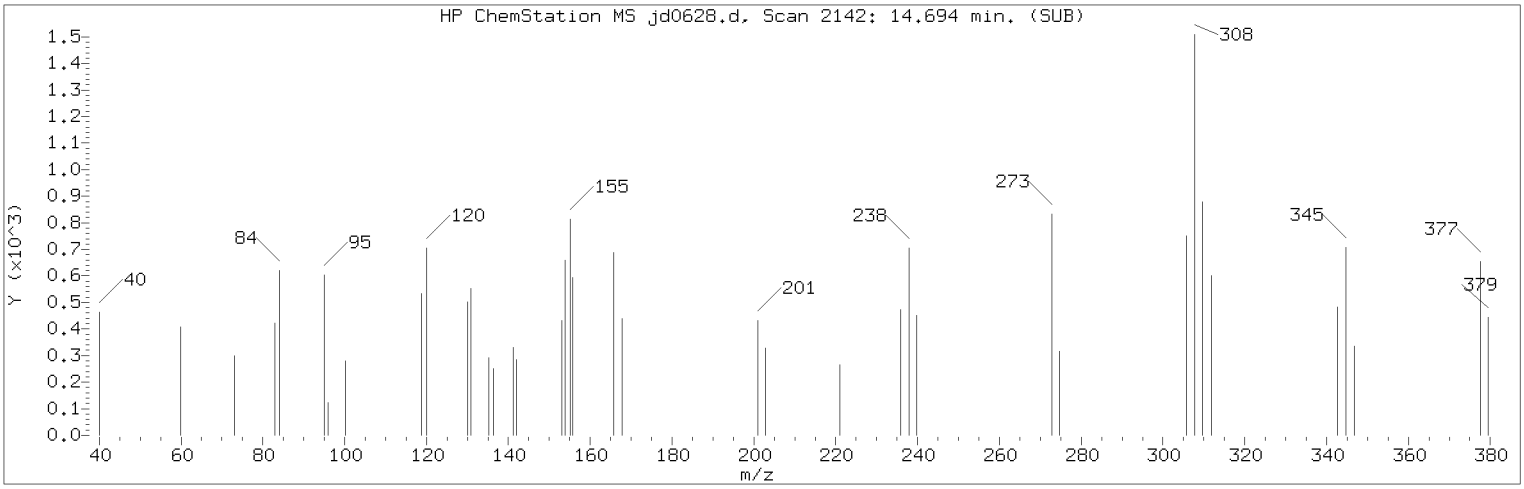
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:21 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

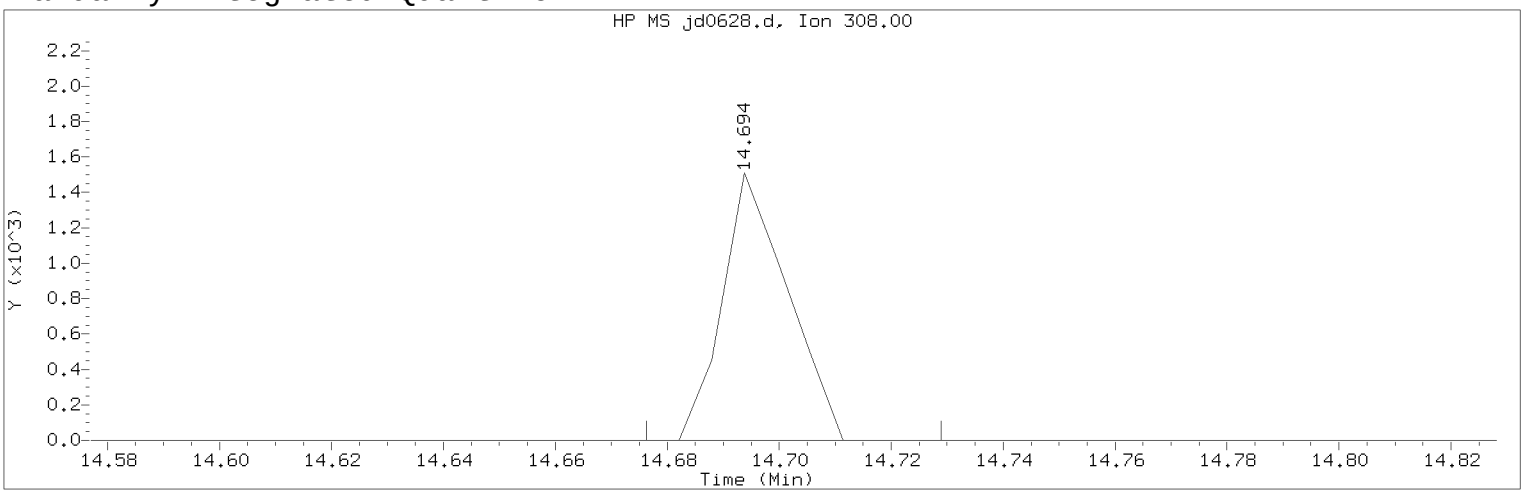
Compound Number : 166
Compound Name : Dinoseb
Expected RT (minutes) : 13.497
Quant Ion : 211.00

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

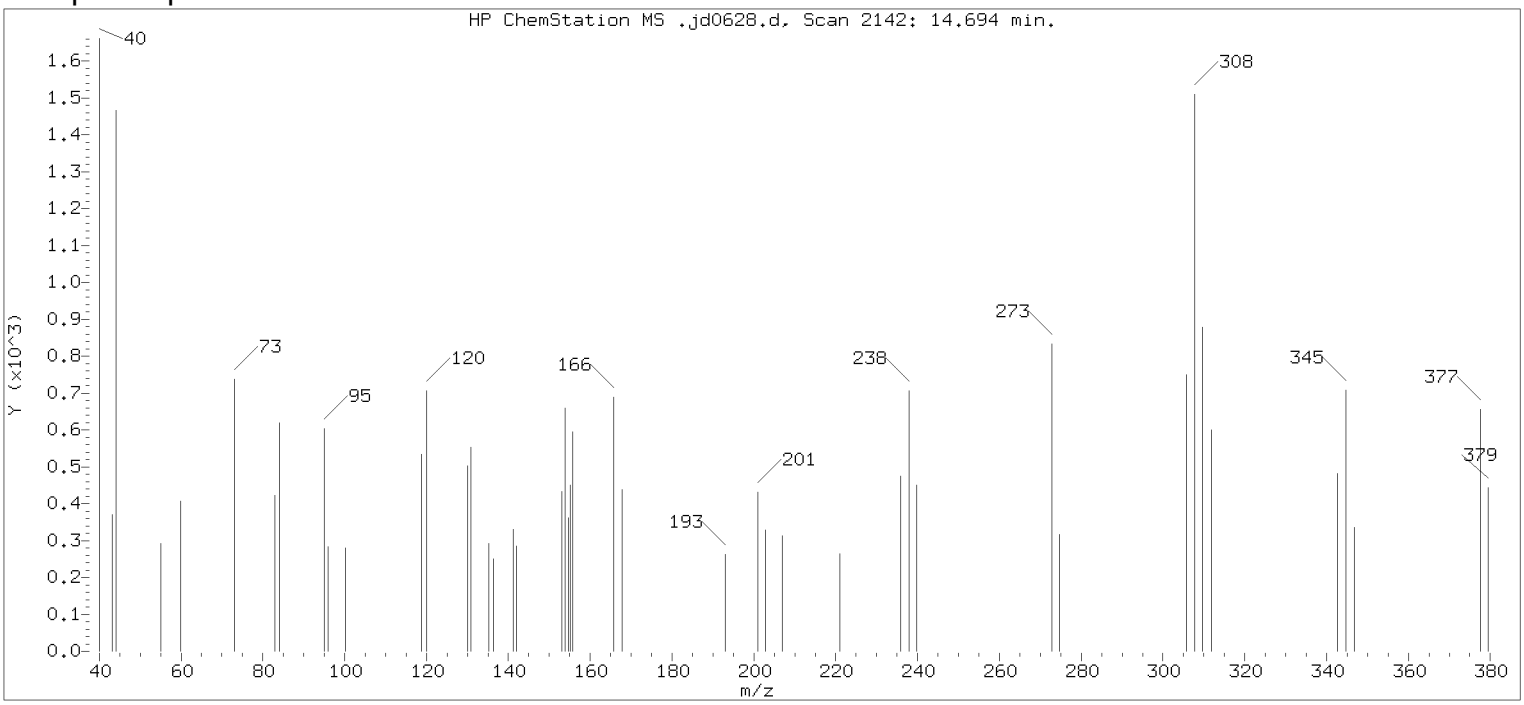
Compound Number : 181
Compound Name : Octachlorostyrene
Scan Number : 2142
Retention Time (minutes) : 14.694
Quant Ion : 308.00
Area (flag) : 1220M
On-Column Amount (ng/ul) : 0.2227
Integration start scan : 2138 Integration stop scan: 2147
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

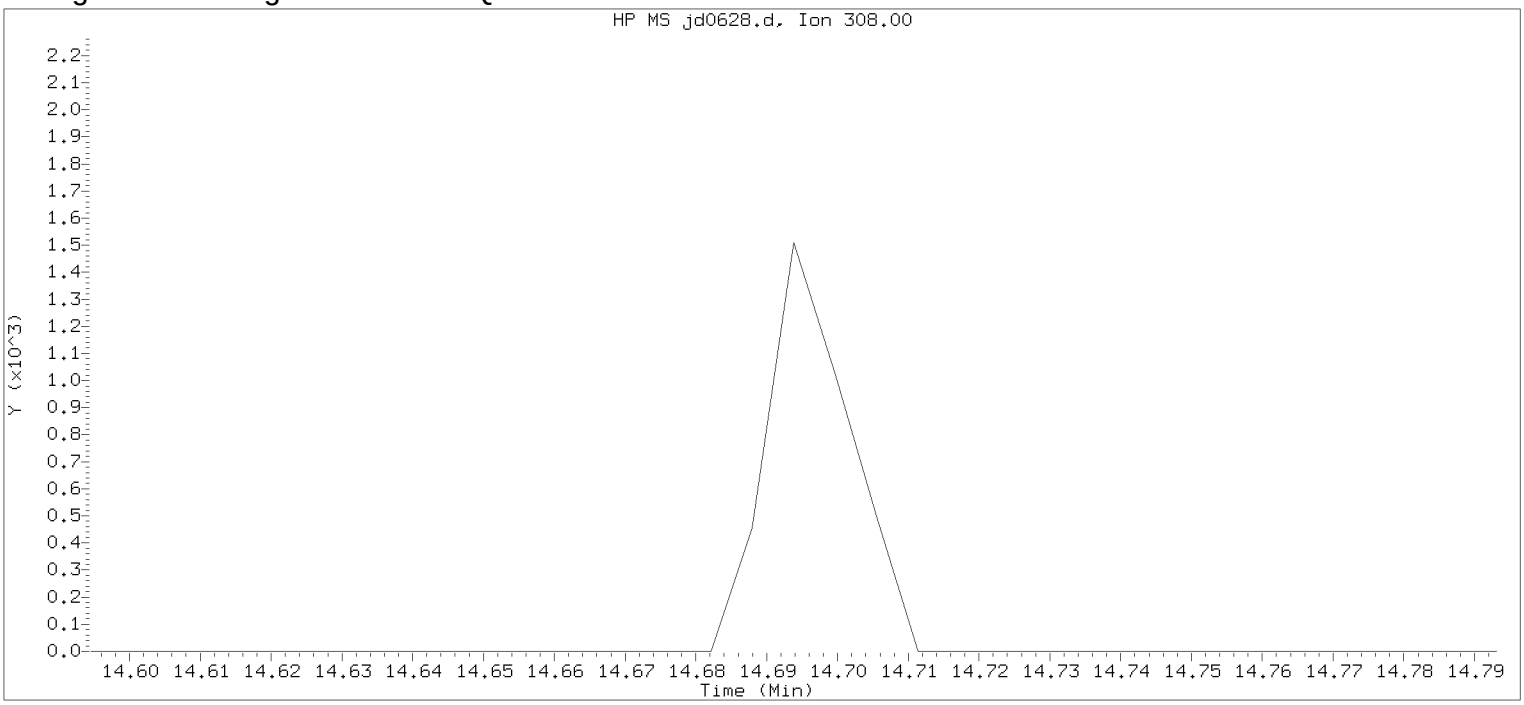
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

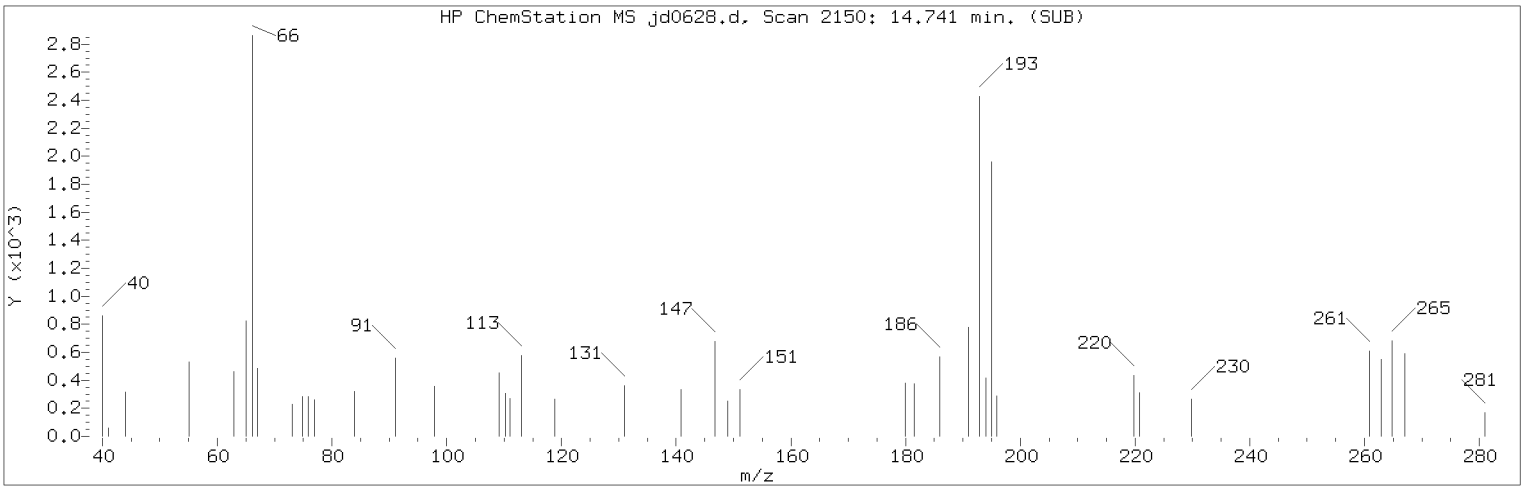
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:21 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

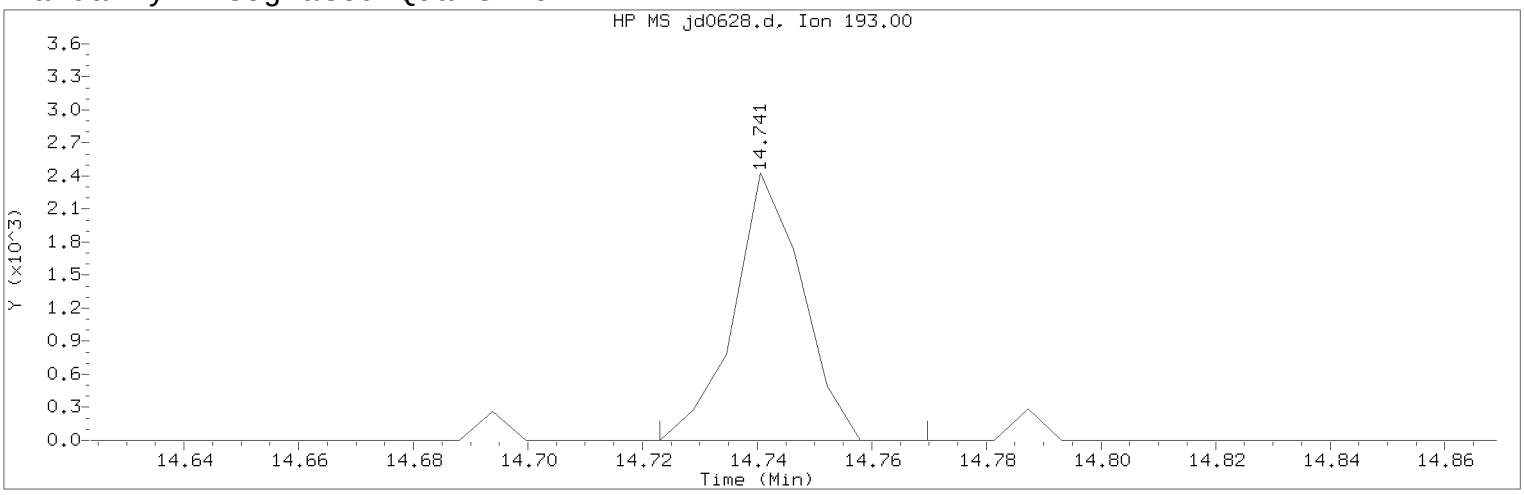
Compound Number : 181
Compound Name : Octachlorostyrene
Expected RT (minutes) : 14.694
Quant Ion : 308.00

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user id: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

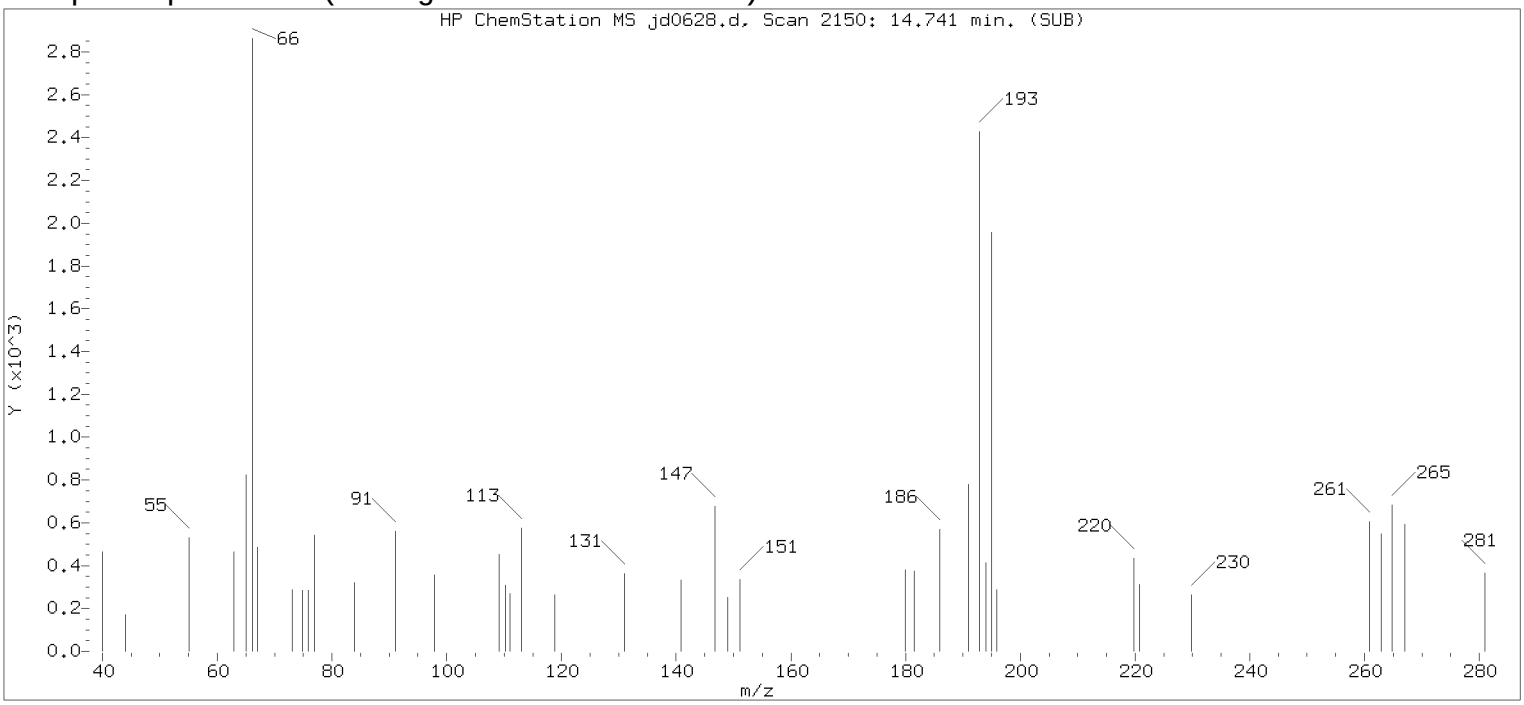
Compound Number : 182
Compound Name : Isodrin
Scan Number : 2150
Retention Time (minutes) : 14.741
Quant Ion : 193.00
Area (flag) : 1999M
On-Column Amount (ng/ul) : 0.2232
Integration start scan : 2146 Integration stop scan: 2154
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

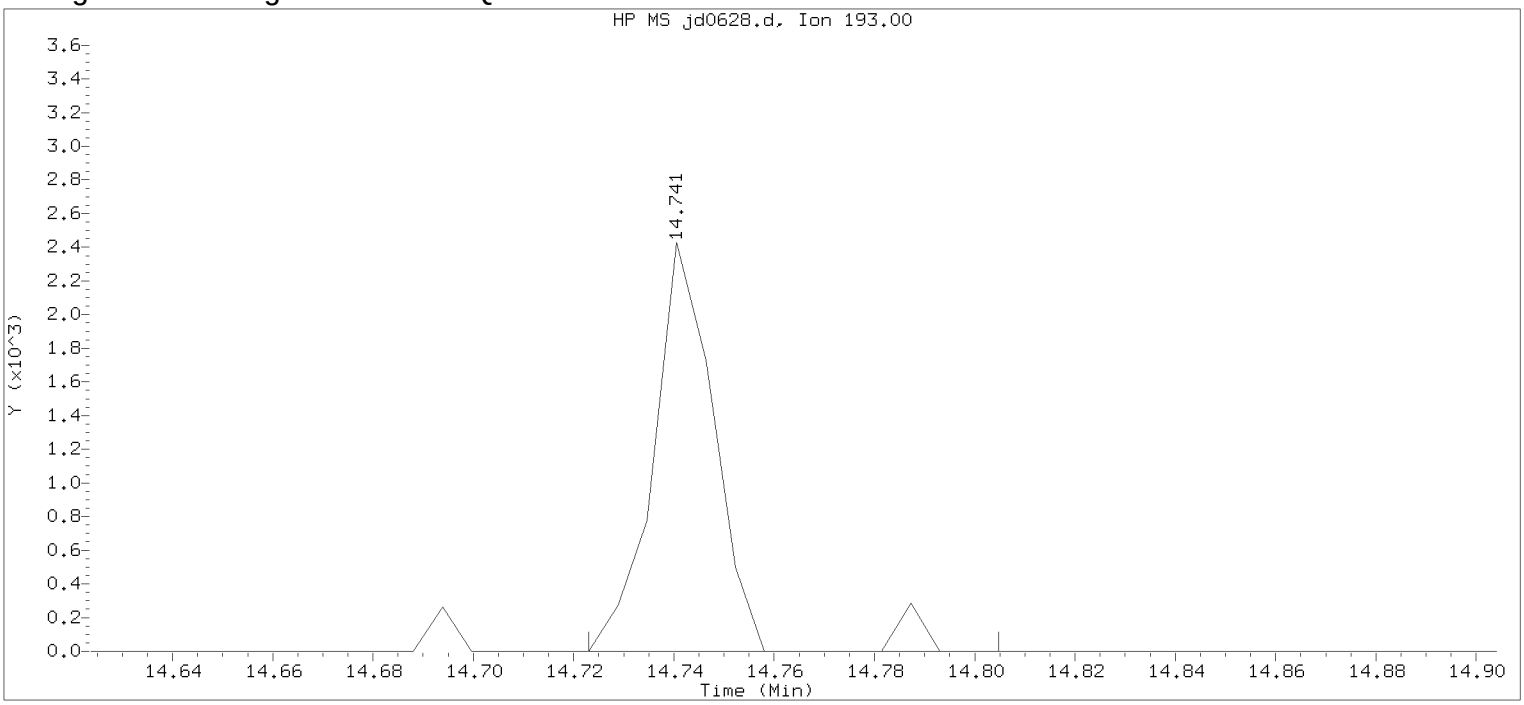
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

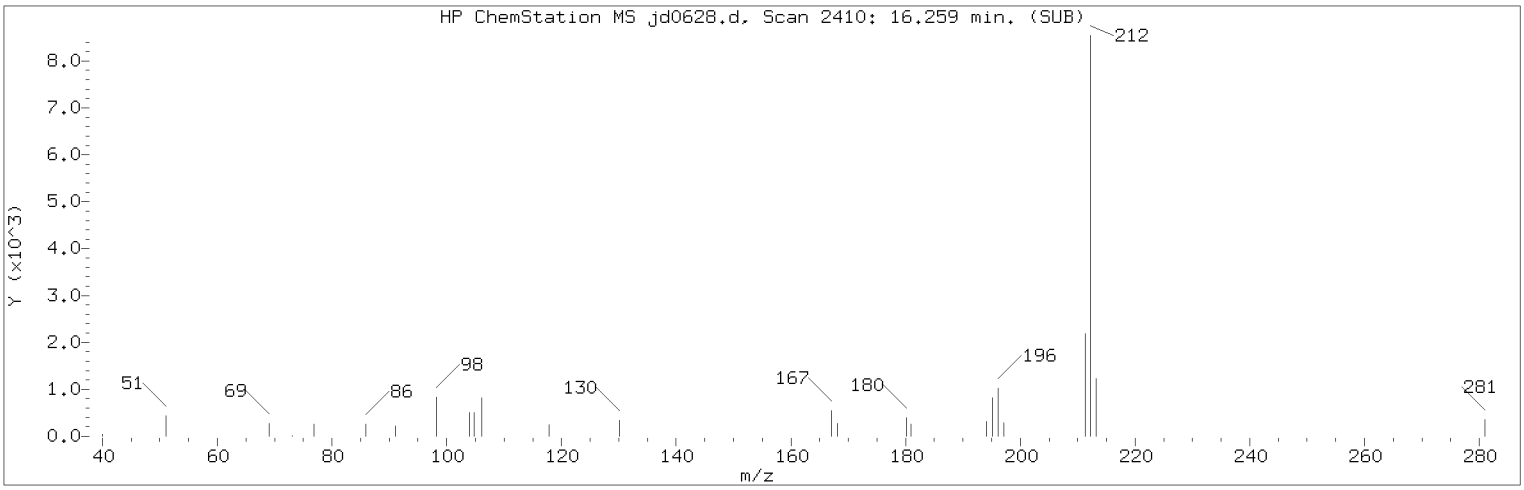
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:21 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

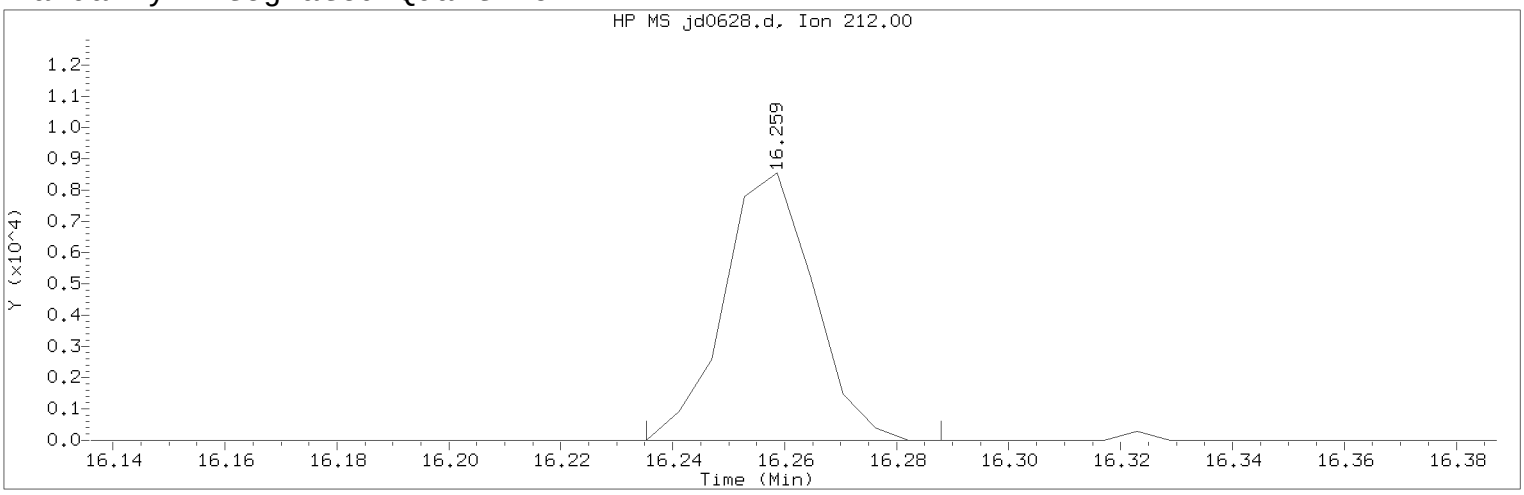
Compound Number : 182
Compound Name : Isodrin
Scan Number : 2150
Retention Time (minutes) : 14.741
Quant Ion : 193.00
Area : 2099
On-column Amount (ng/ul) : 0.2324
Integration start scan : 2146 Integration stop scan: 2160
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

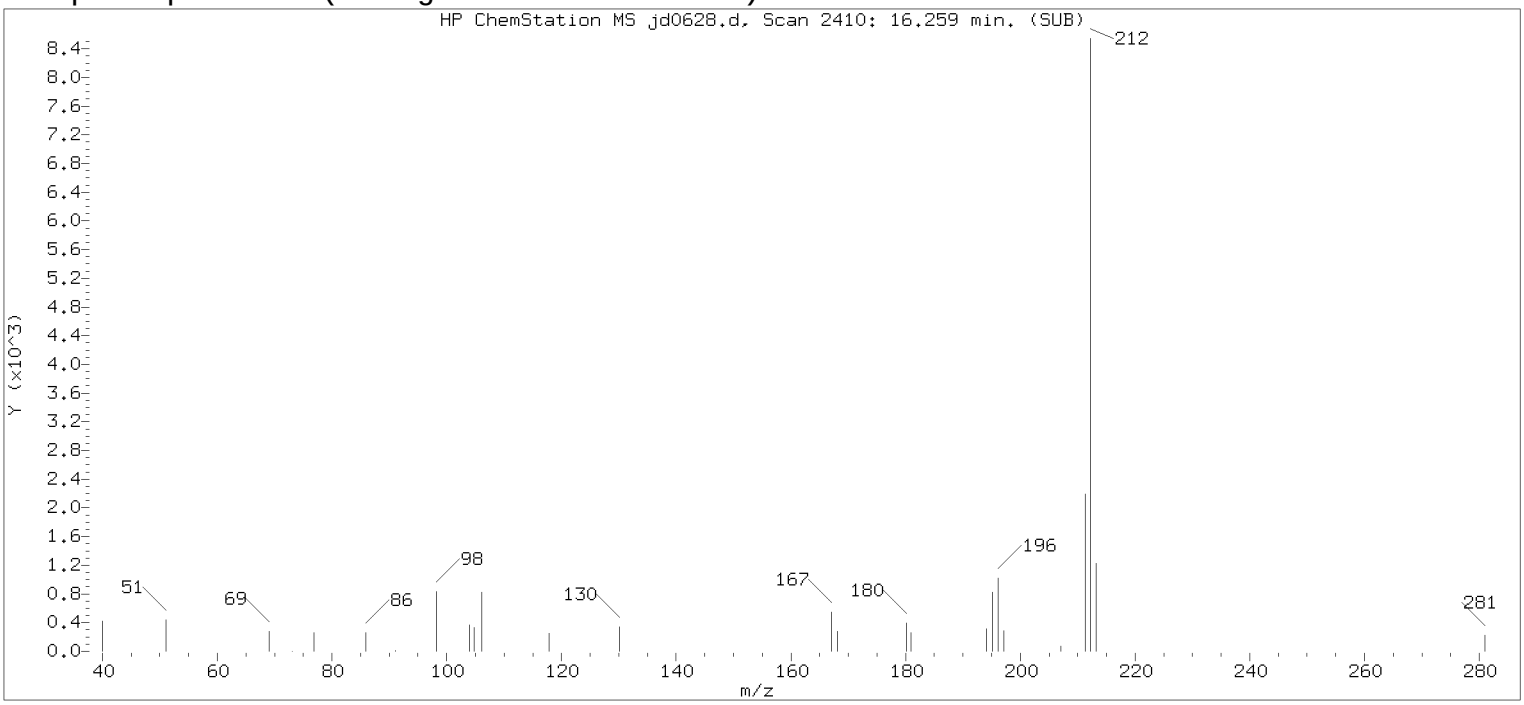
Compound Number : 196
Compound Name : 3,3'-Dimethylbenzidine
Scan Number : 2410
Retention Time (minutes) : 16.259
Quant Ion : 212.00
Area (flag) : 9450M
On-Column Amount (ng/ul) : 0.1784
Integration start scan : 2405 Integration stop scan: 2414
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

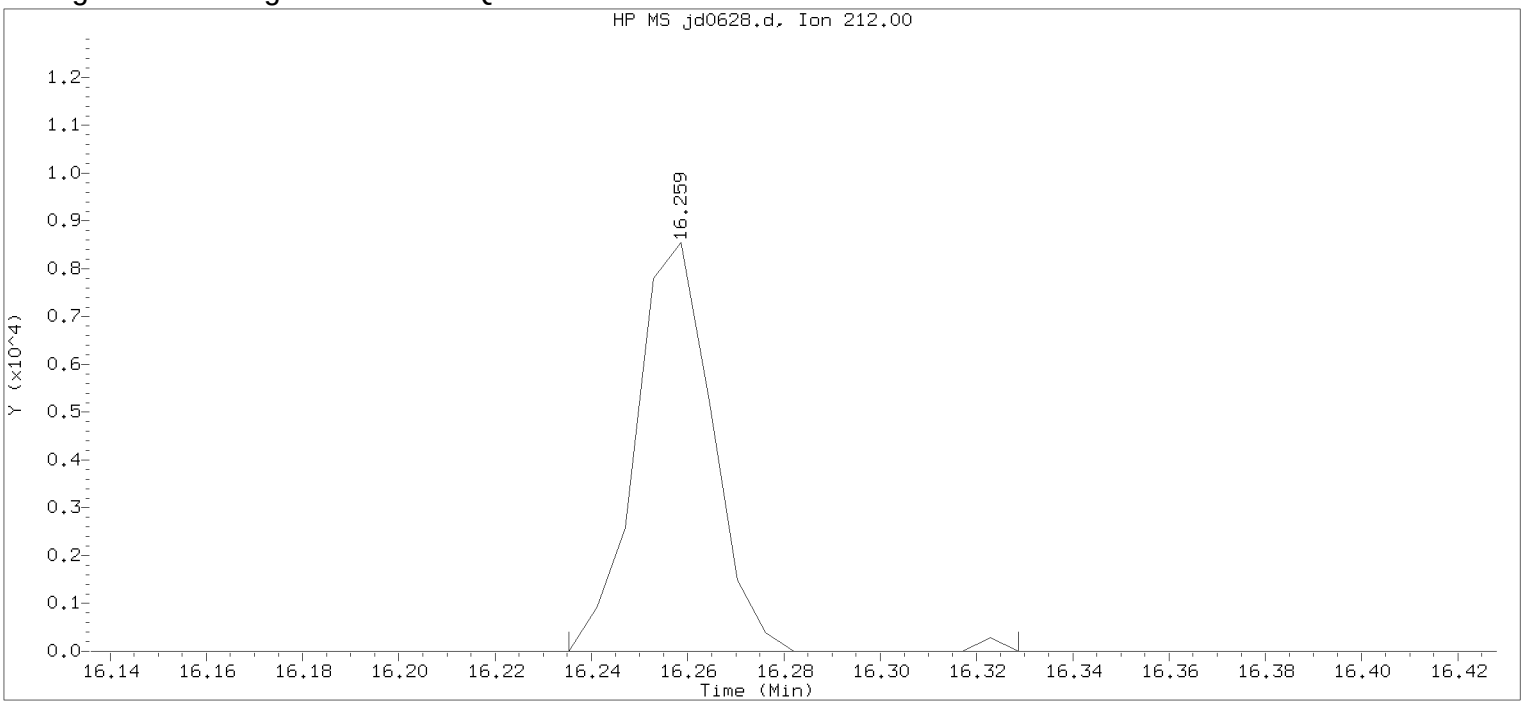
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

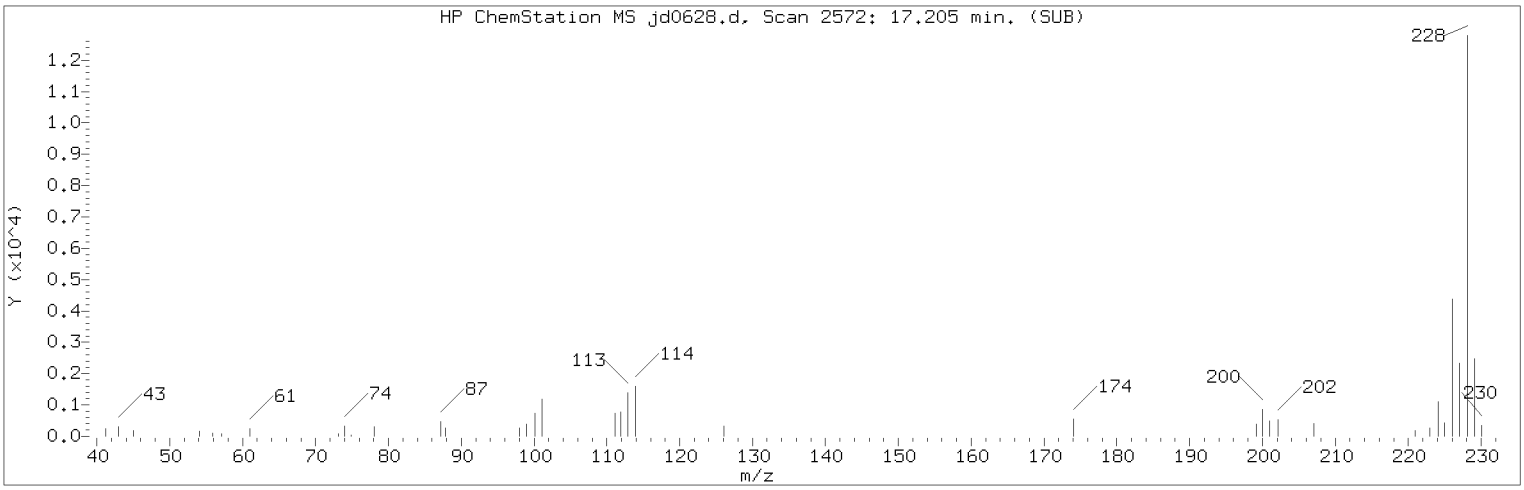
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:21 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

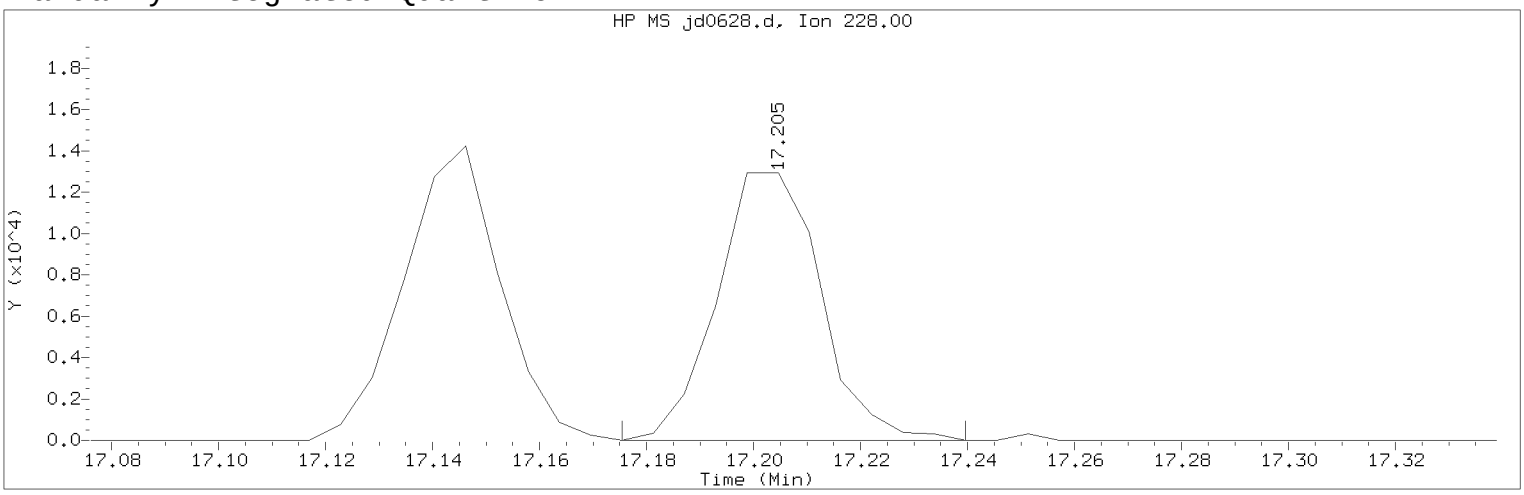
Compound Number : 196
Compound Name : 3,3'-Dimethylbenzidine
Scan Number : 2410
Retention Time (minutes) : 16.259
Quant Ion : 212.00
Area : 9549
On-column Amount (ng/ul) : 0.1827
Integration start scan : 2405 Integration stop scan: 2421
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

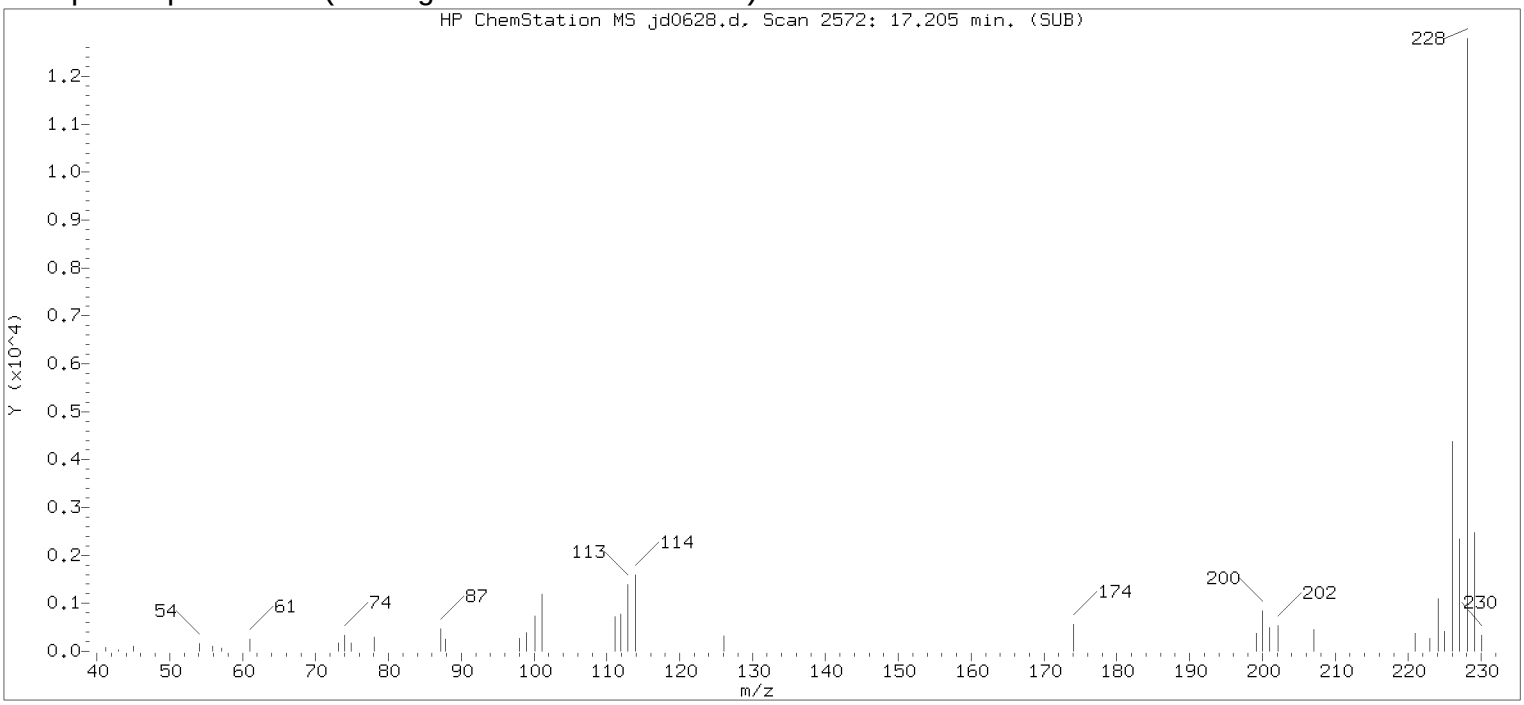
Compound Number : 206
Compound Name : Chrysene
Scan Number : 2572
Retention Time (minutes) : 17.205
Quant Ion : 228.00
Area (flag) : 17458M
On-Column Amount (ng/ul) : 0.2337
Integration start scan : 2566 Integration stop scan: 2577
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

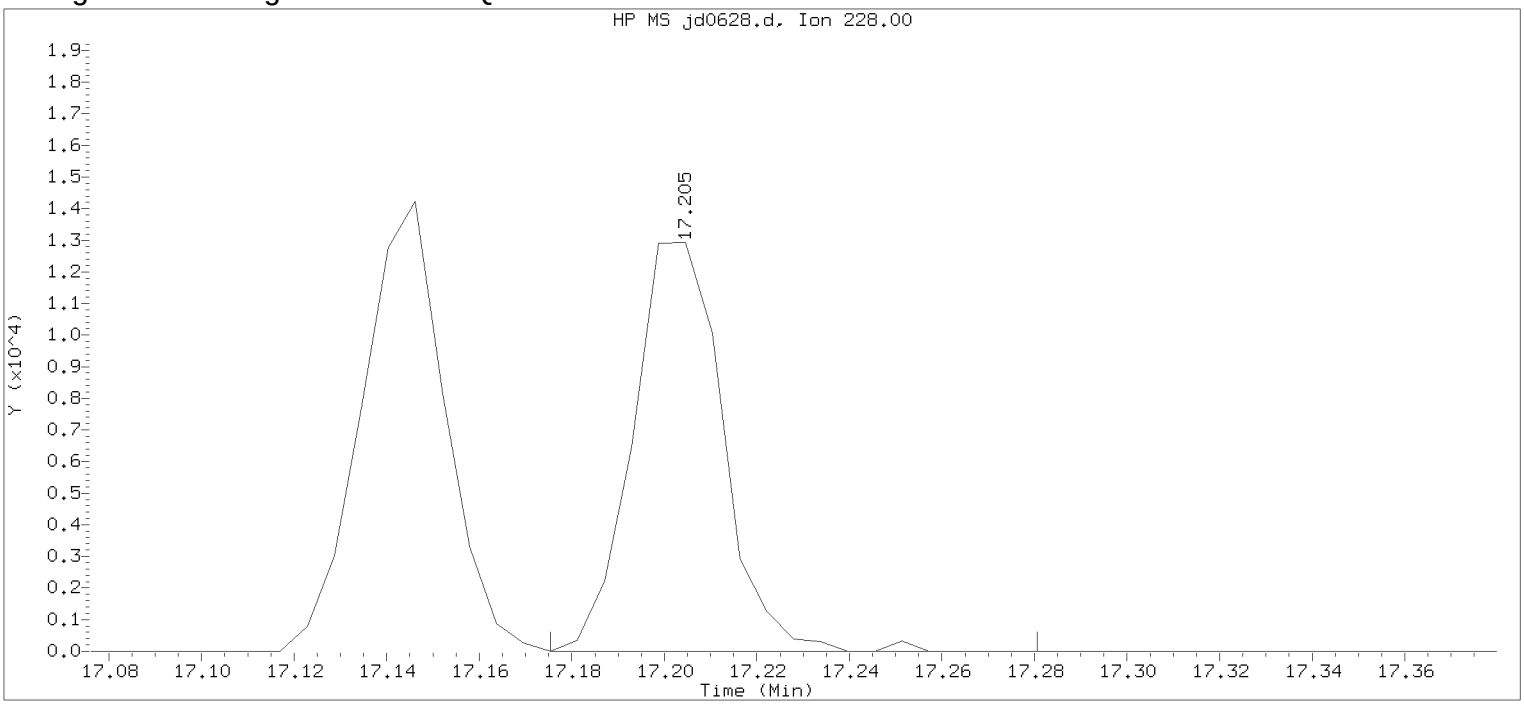
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

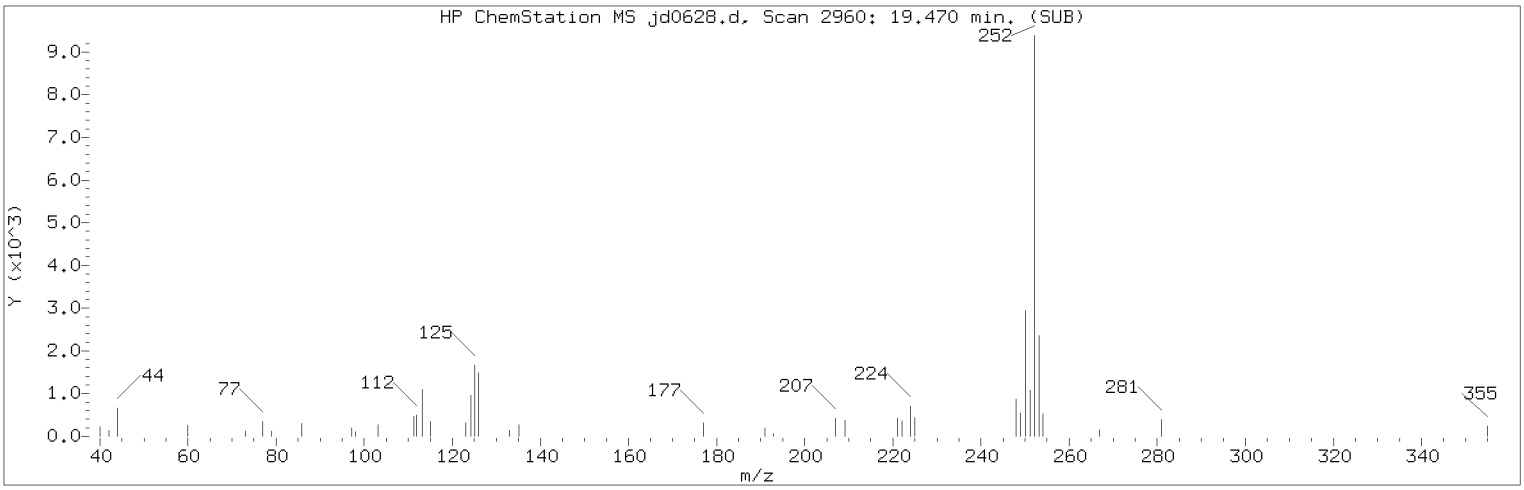
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:21 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

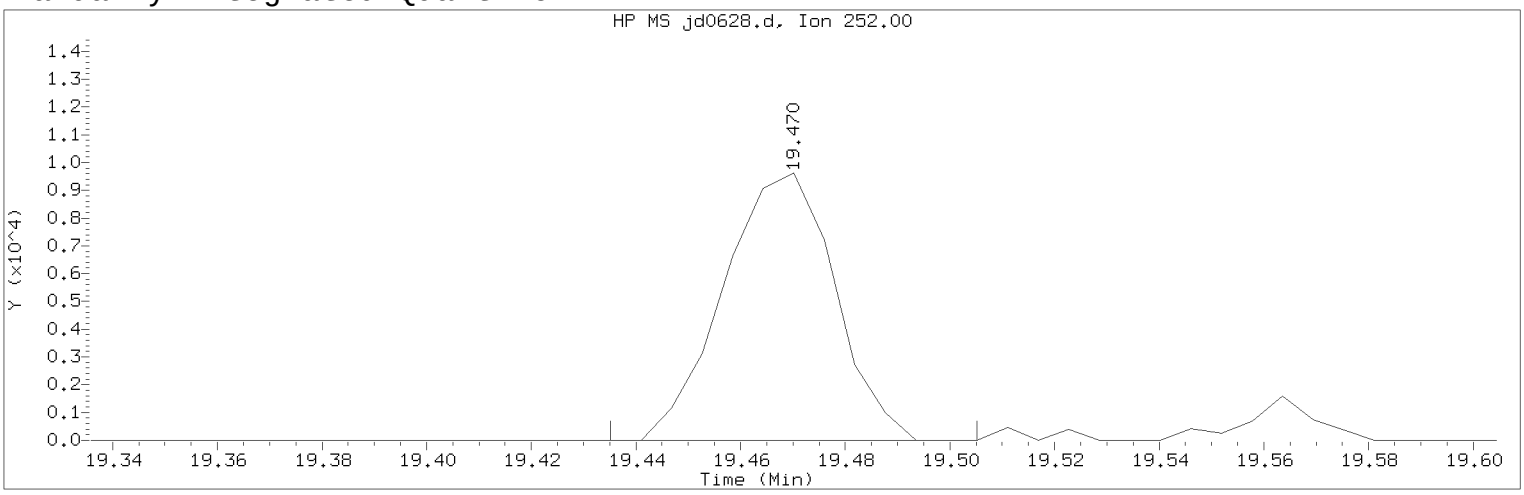
Compound Number : 206
Compound Name : Chrysene
Scan Number : 2572
Retention Time (minutes) : 17.205
Quant Ion : 228.00
Area : 17569
On-column Amount (ng/ul) : 0.2360
Integration start scan : 2566 Integration stop scan: 2584
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

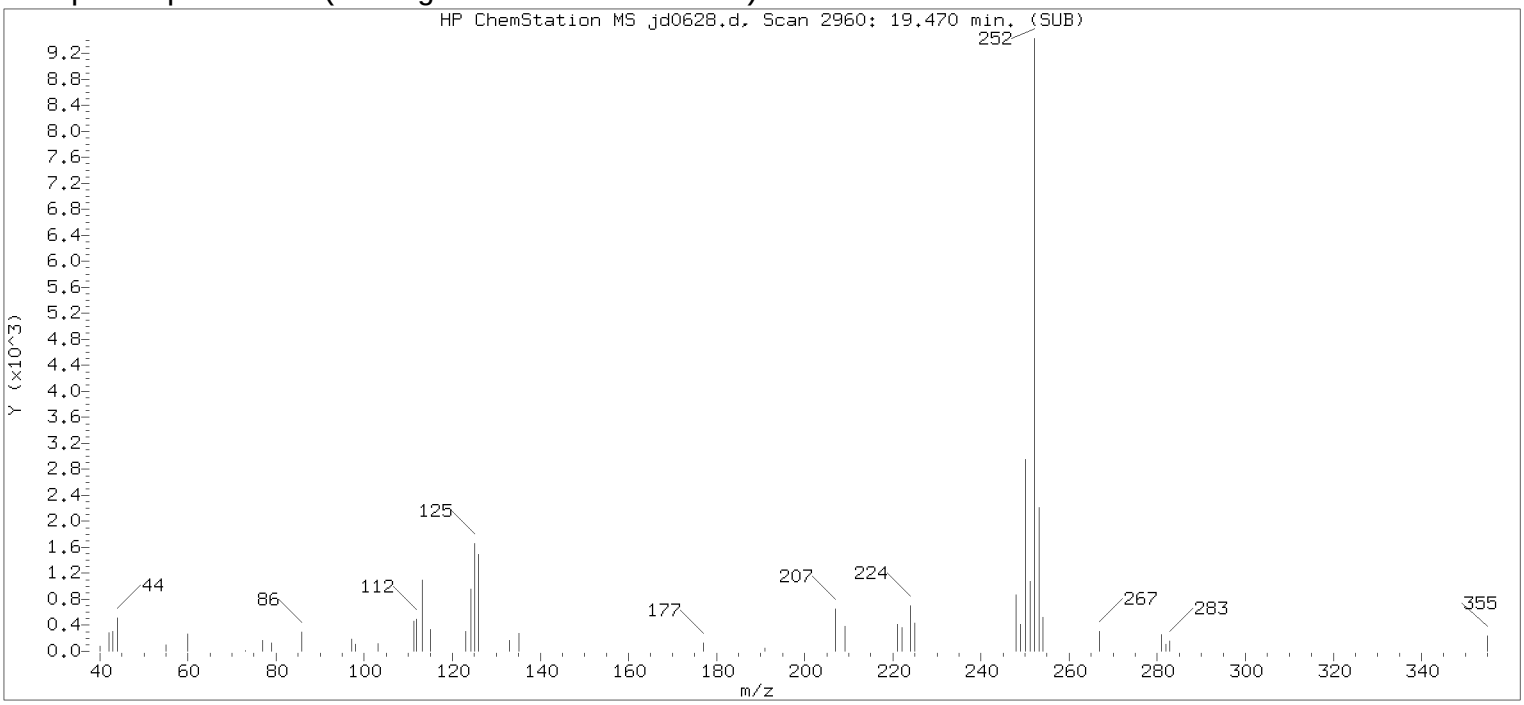
Compound Number : 214
Compound Name : Benzo(a)pyrene
Scan Number : 2960
Retention Time (minutes) : 19.470
Quant Ion : 252.00
Area (flag) : 14208M
On-Column Amount (ng/ul) : 0.2024
Integration start scan : 2953 Integration stop scan: 2965
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

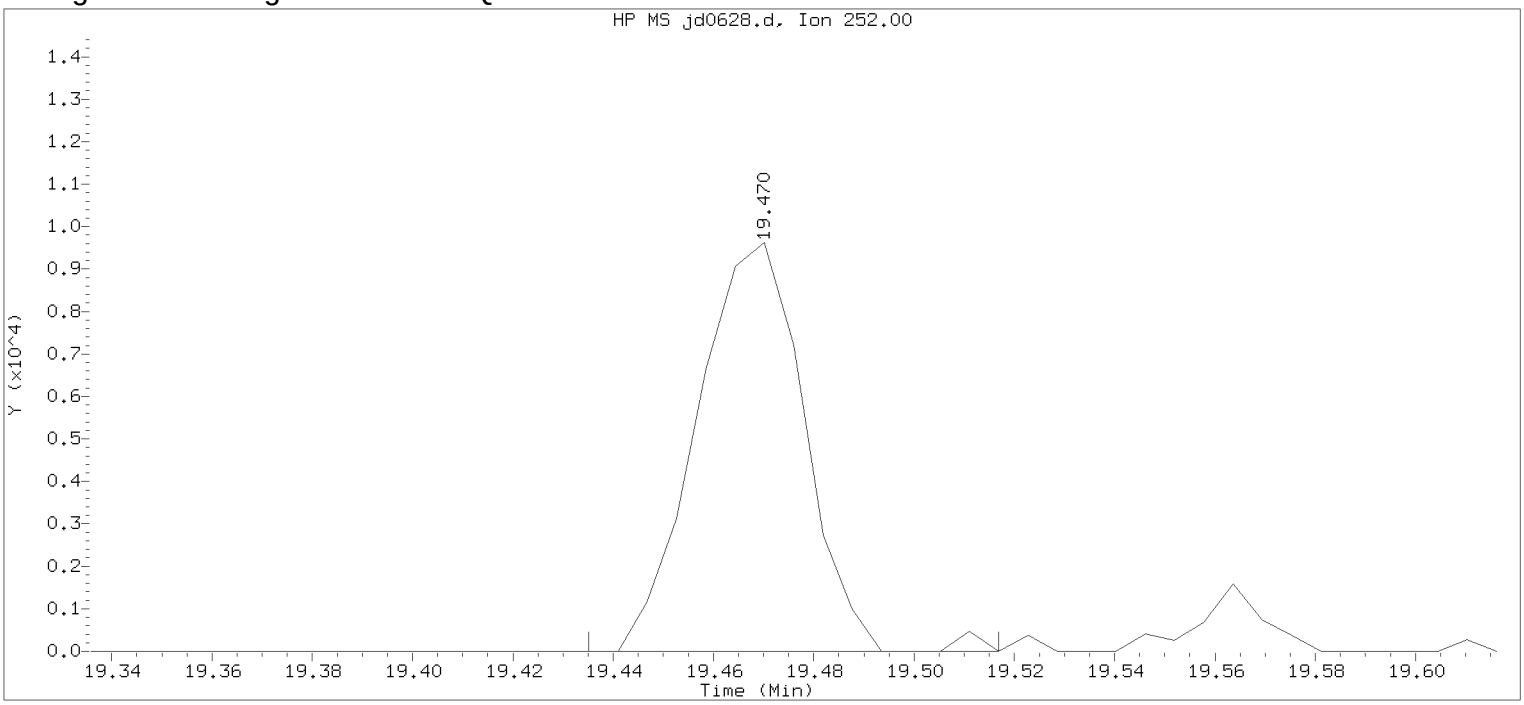
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

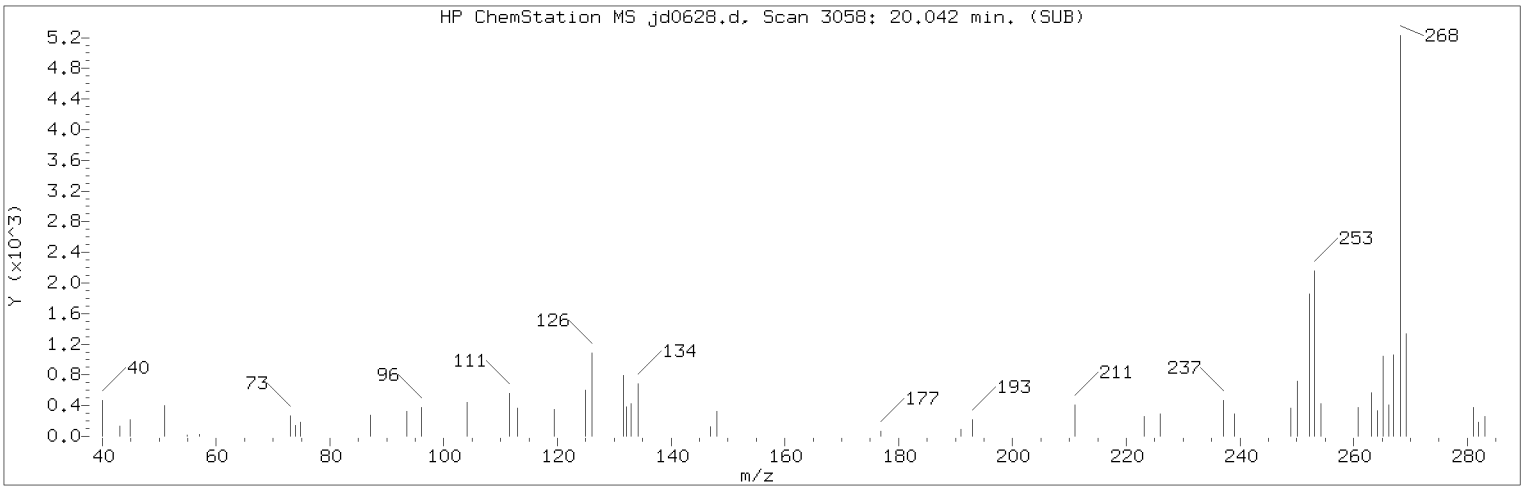
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:21 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

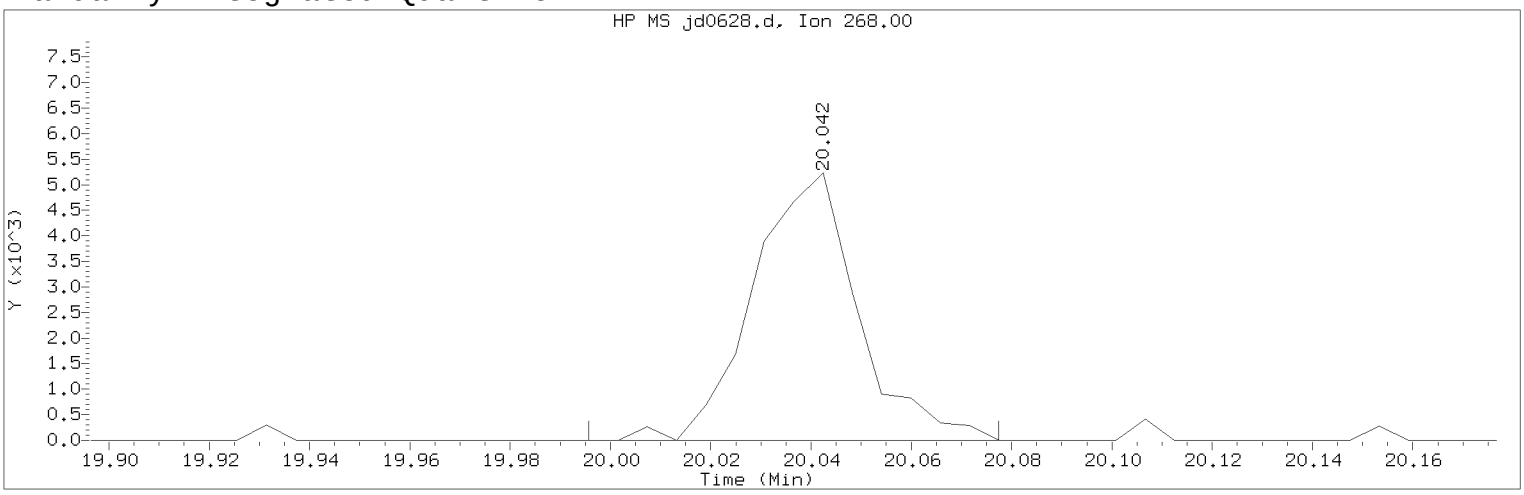
Compound Number : 214
Compound Name : Benzo(a)pyrene
Scan Number : 2960
Retention Time (minutes) : 19.470
Quant Ion : 252.00
Area : 14371
On-column Amount (ng/ul) : 0.2028
Integration start scan : 2953 Integration stop scan: 2967
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user id: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

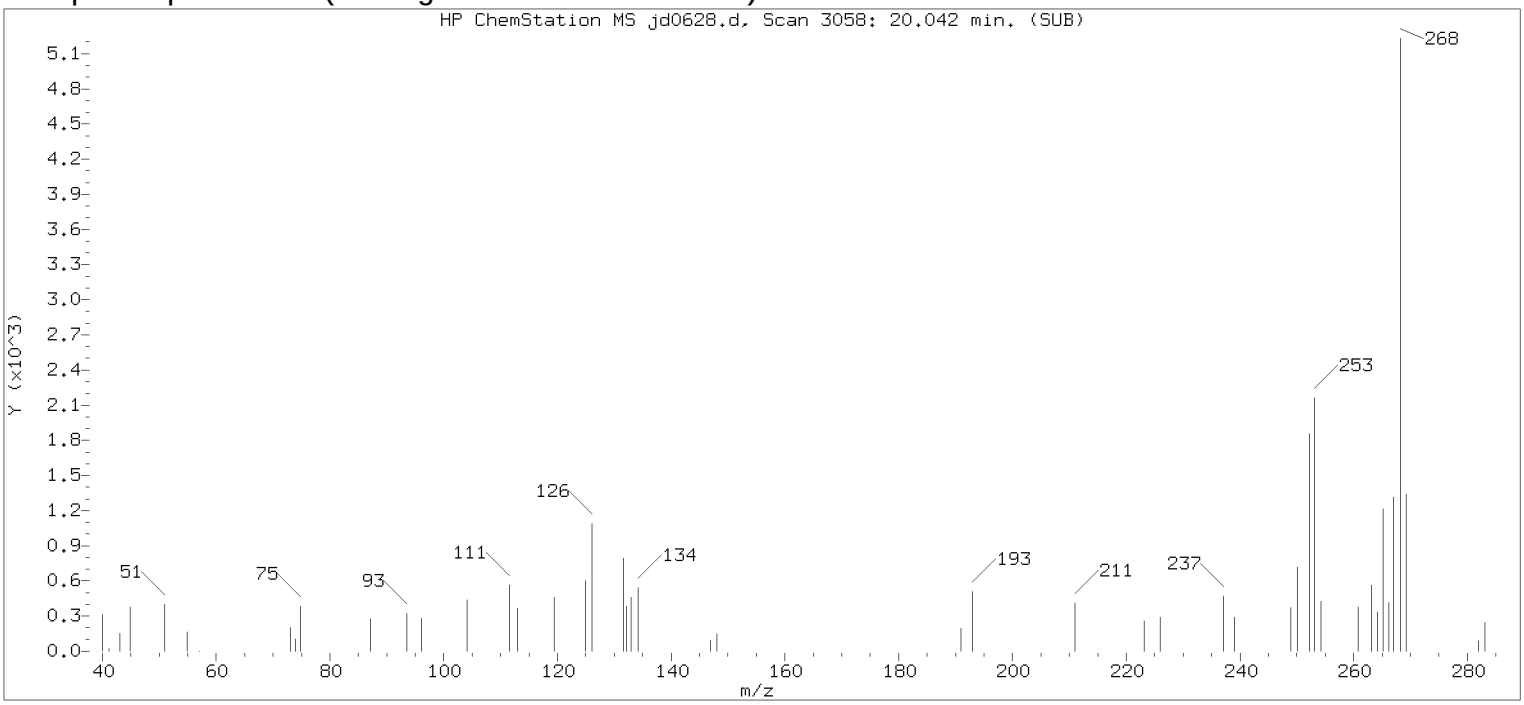
Compound Number : 216
Compound Name : 3-Methylcholanthrene
Scan Number : 3058
Retention Time (minutes) : 20.042
Quant Ion : 268.00
Area (flag) : 7612M
On-Column Amount (ng/ul) : 0.2294
Integration start scan : 3049 Integration stop scan: 3063
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

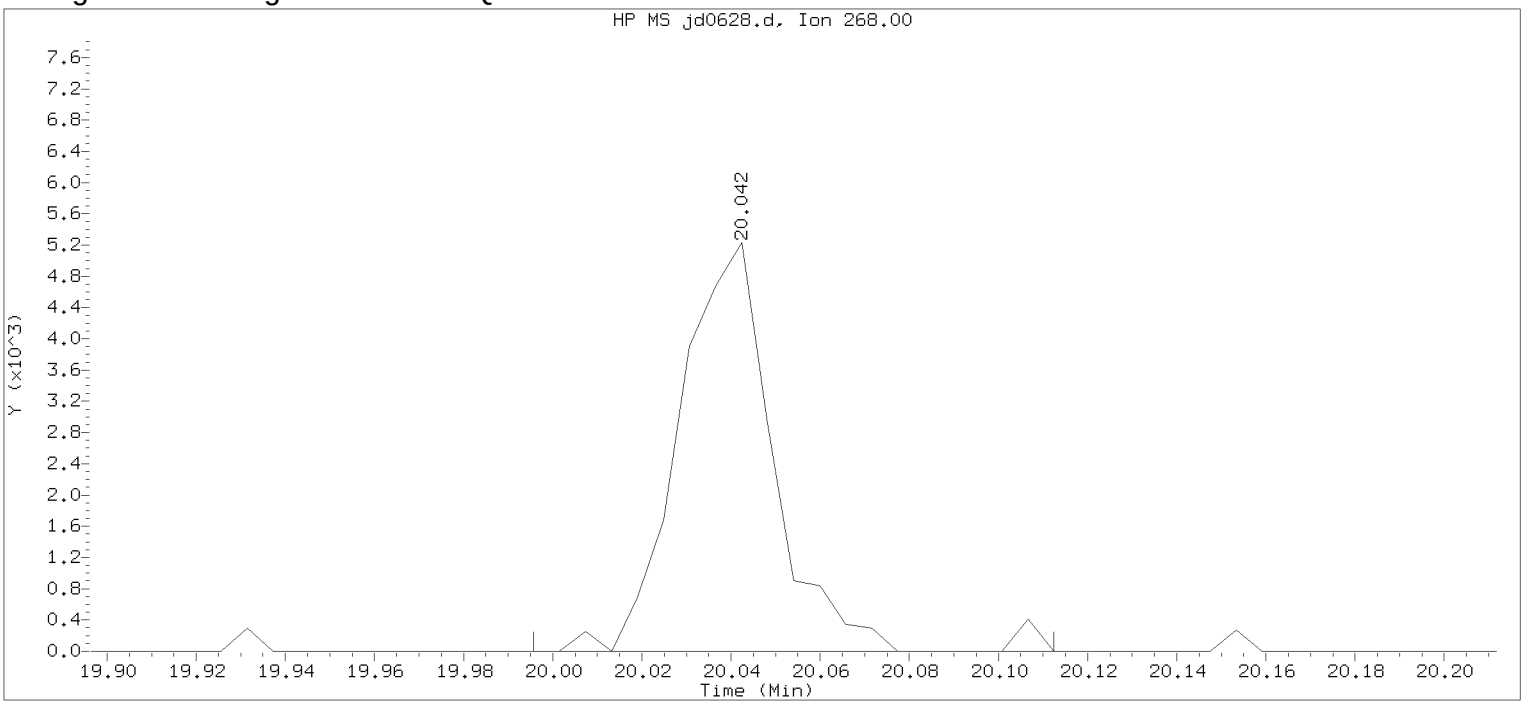
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

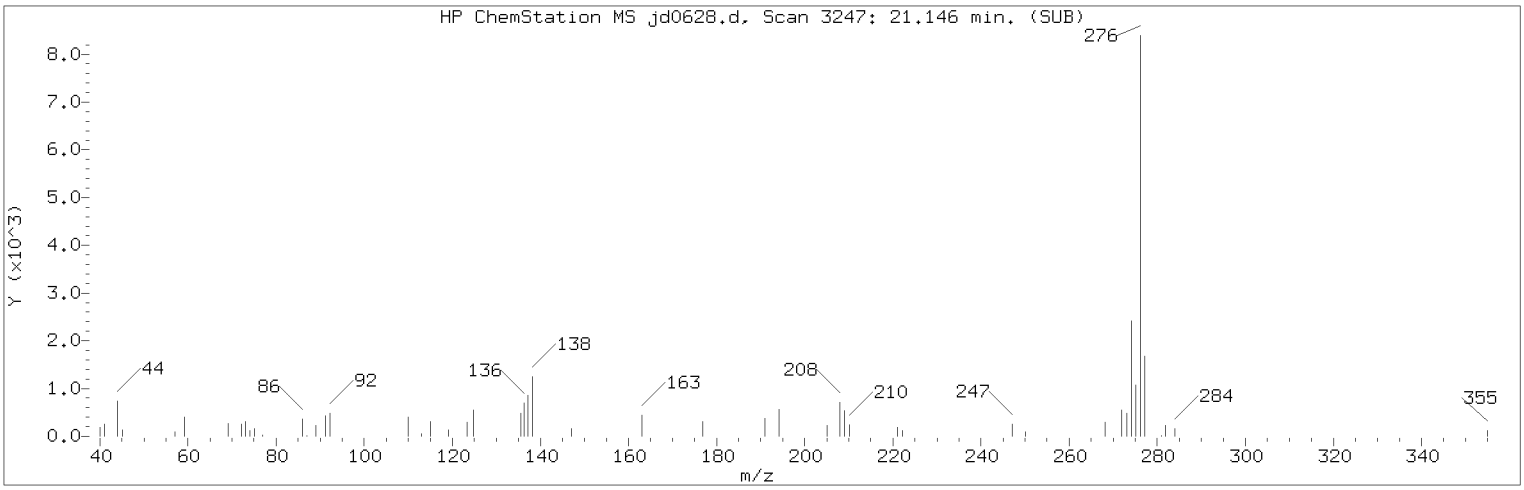
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:21 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

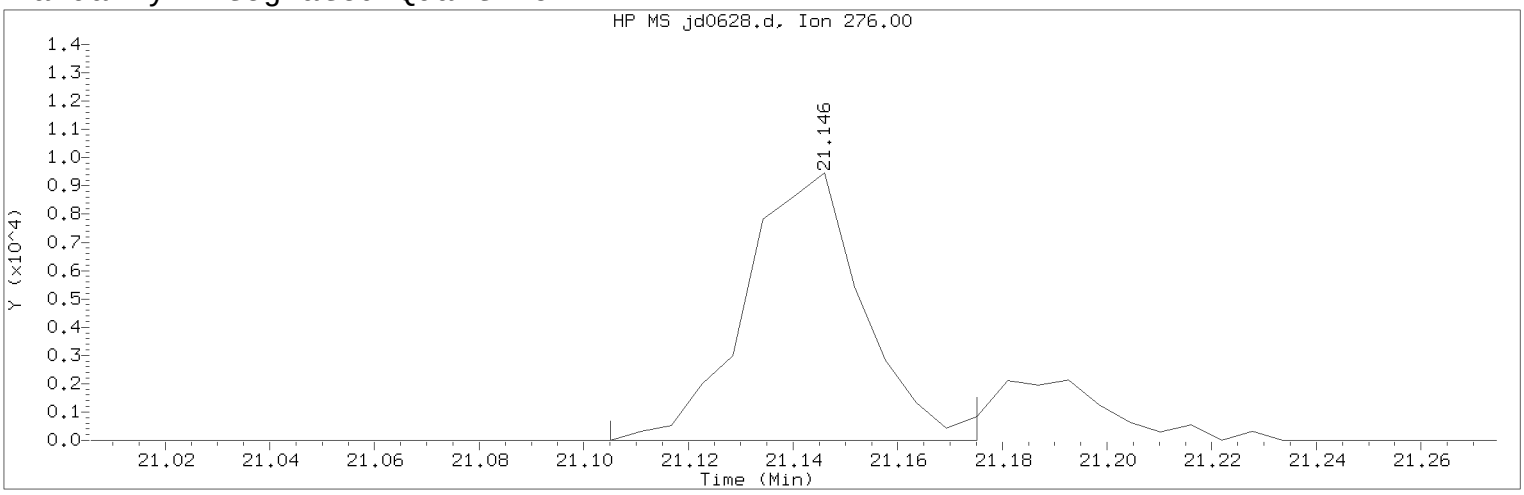
Compound Number : 216
Compound Name : 3-Methylcholanthrene
Scan Number : 3058
Retention Time (minutes) : 20.042
Quant Ion : 268.00
Area : 7756
On-column Amount (ng/ul) : 0.2326
Integration start scan : 3049 Integration stop scan: 3069
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user id: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

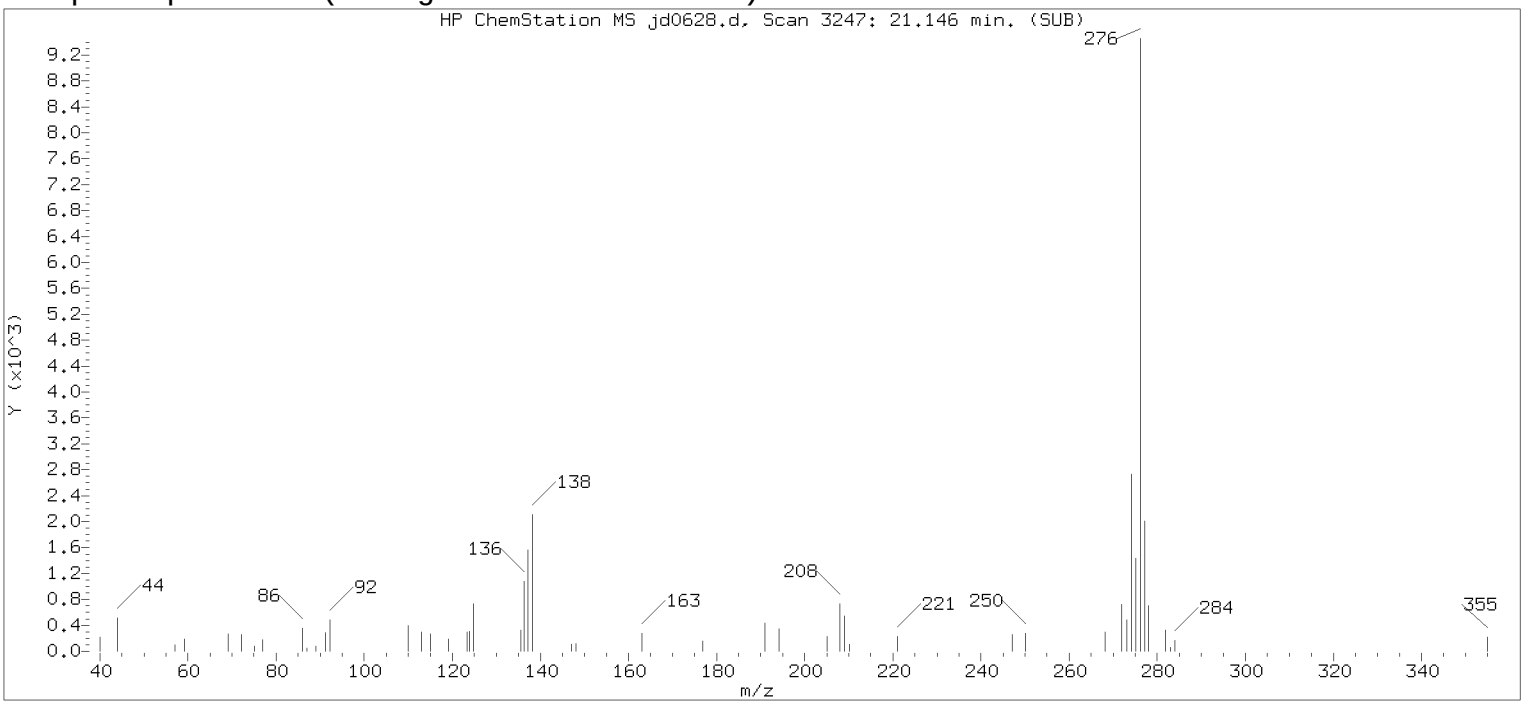
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3247
Retention Time (minutes) : 21.146
Quant Ion : 276.00
Area (flag) : 14919M
On-Column Amount (ng/ul) : 0.2339
Integration start scan : 3239 Integration stop scan: 3251
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

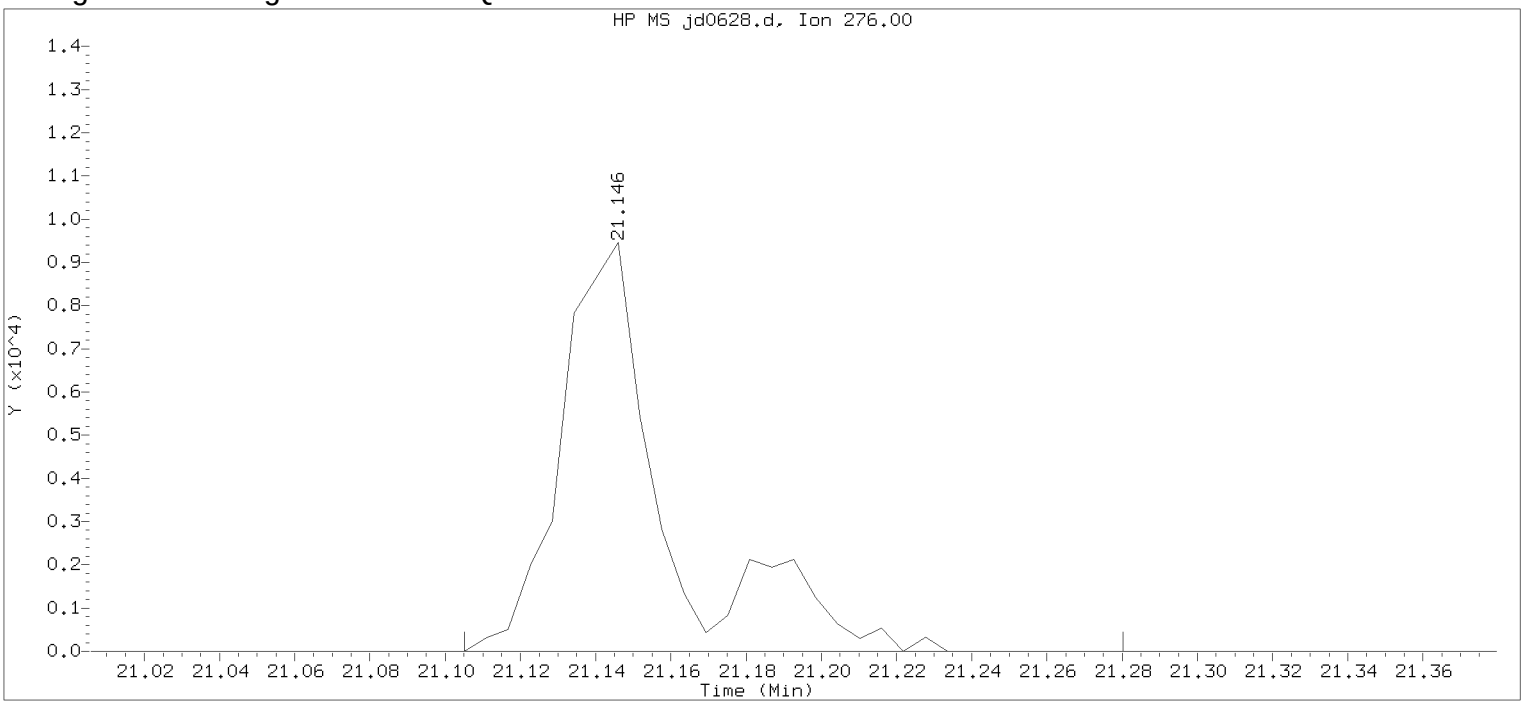
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

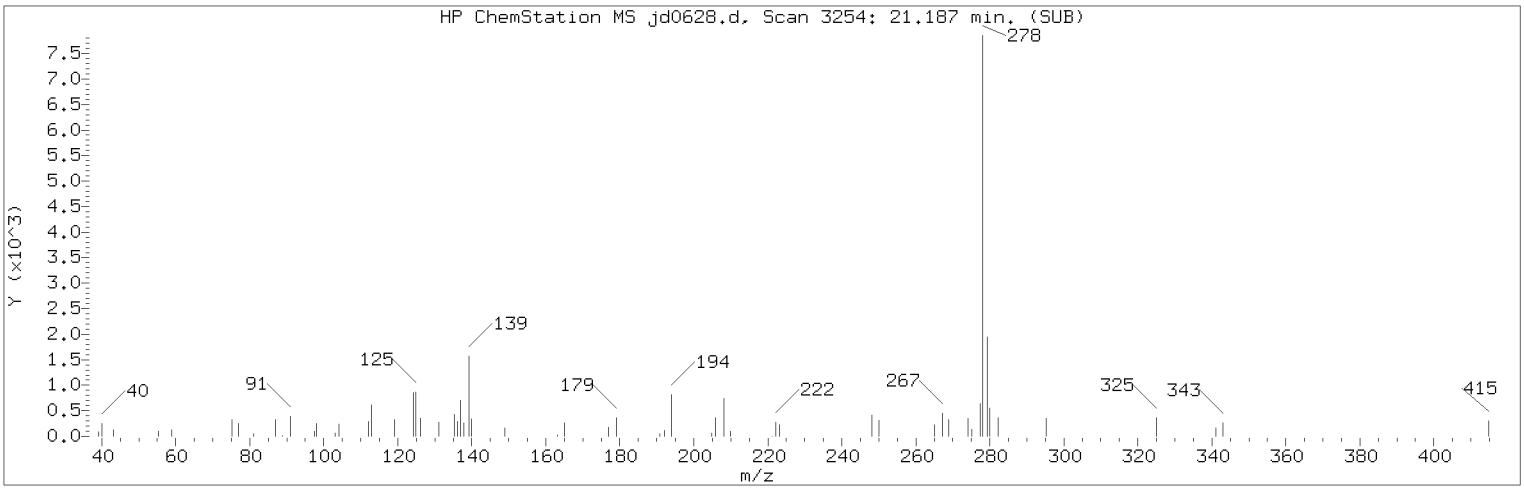
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:21 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

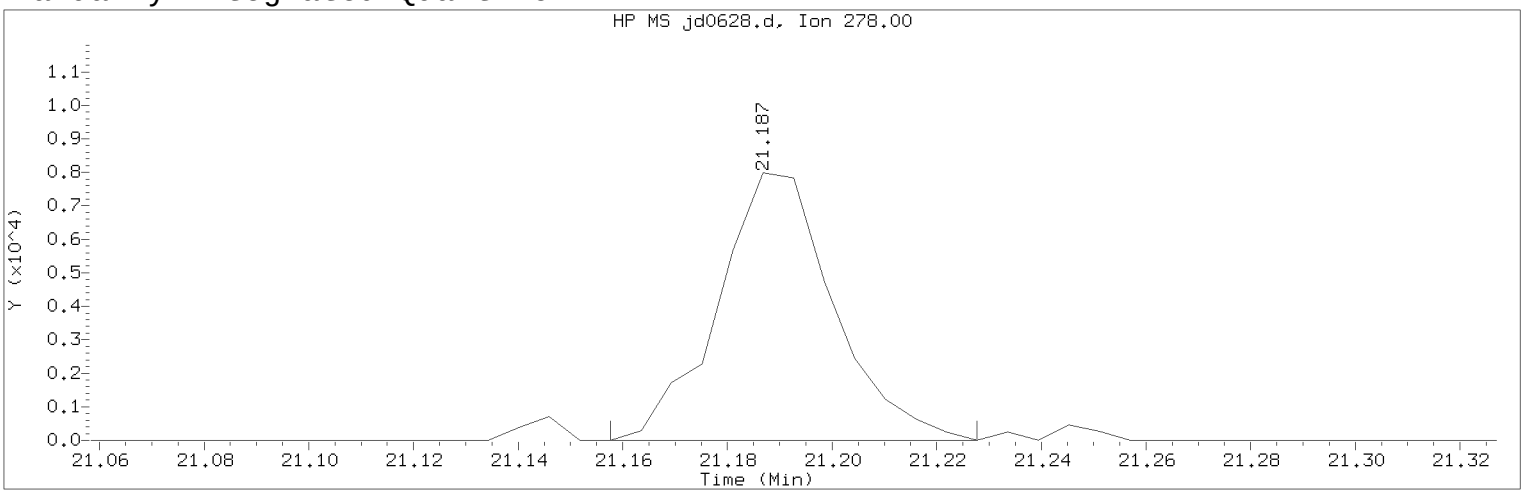
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3247
Retention Time (minutes) : 21.146
Quant Ion : 276.00
Area : 18158
On-column Amount (ng/ul) : 0.2354
Integration start scan : 3239 Integration stop scan: 3269
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user id: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:50 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

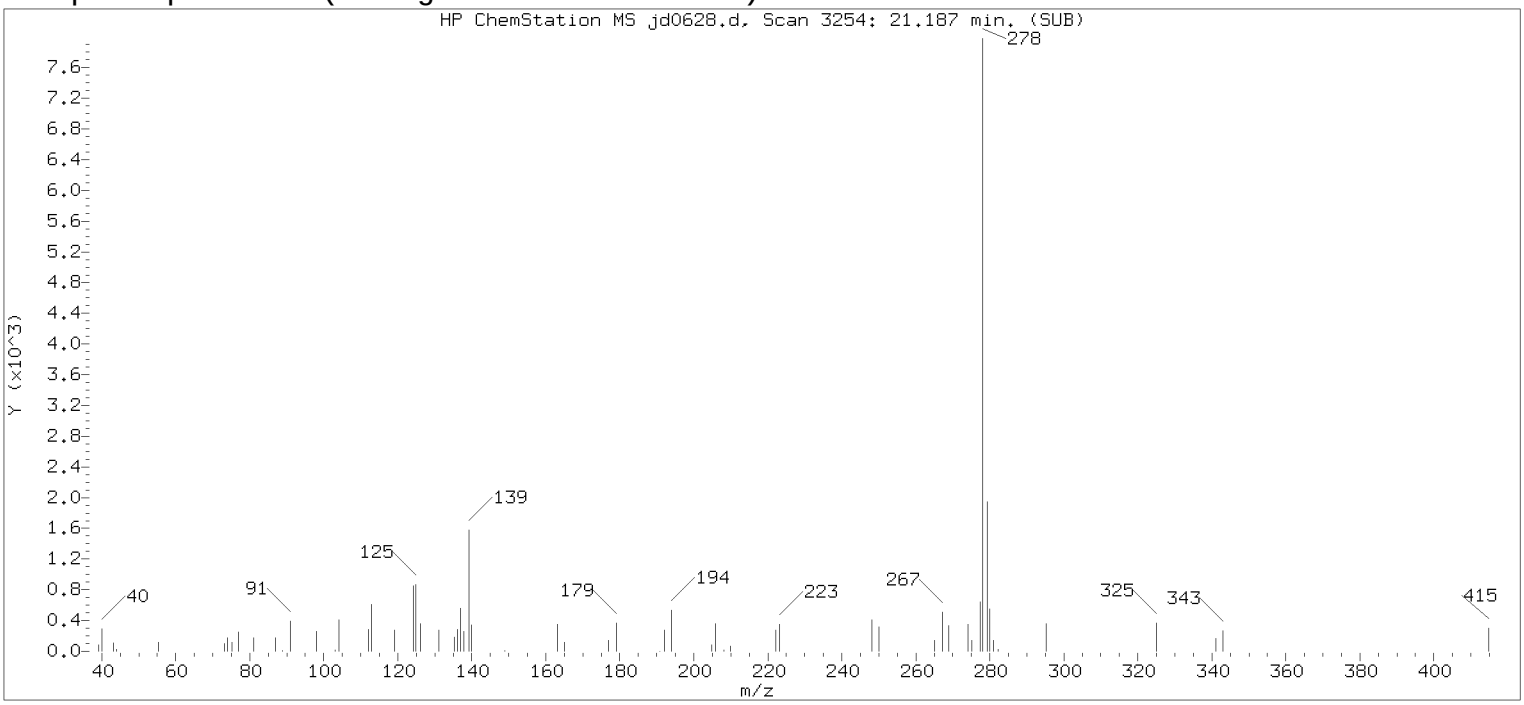
Compound Number : 220
Compound Name : Dibenz(a,h)anthracene
Scan Number : 3254
Retention Time (minutes) : 21.187
Quant Ion : 278.00
Area (flag) : 12273M
On-Column Amount (ng/ul) : 0.2044
Integration start scan : 3248 Integration stop scan: 3260
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

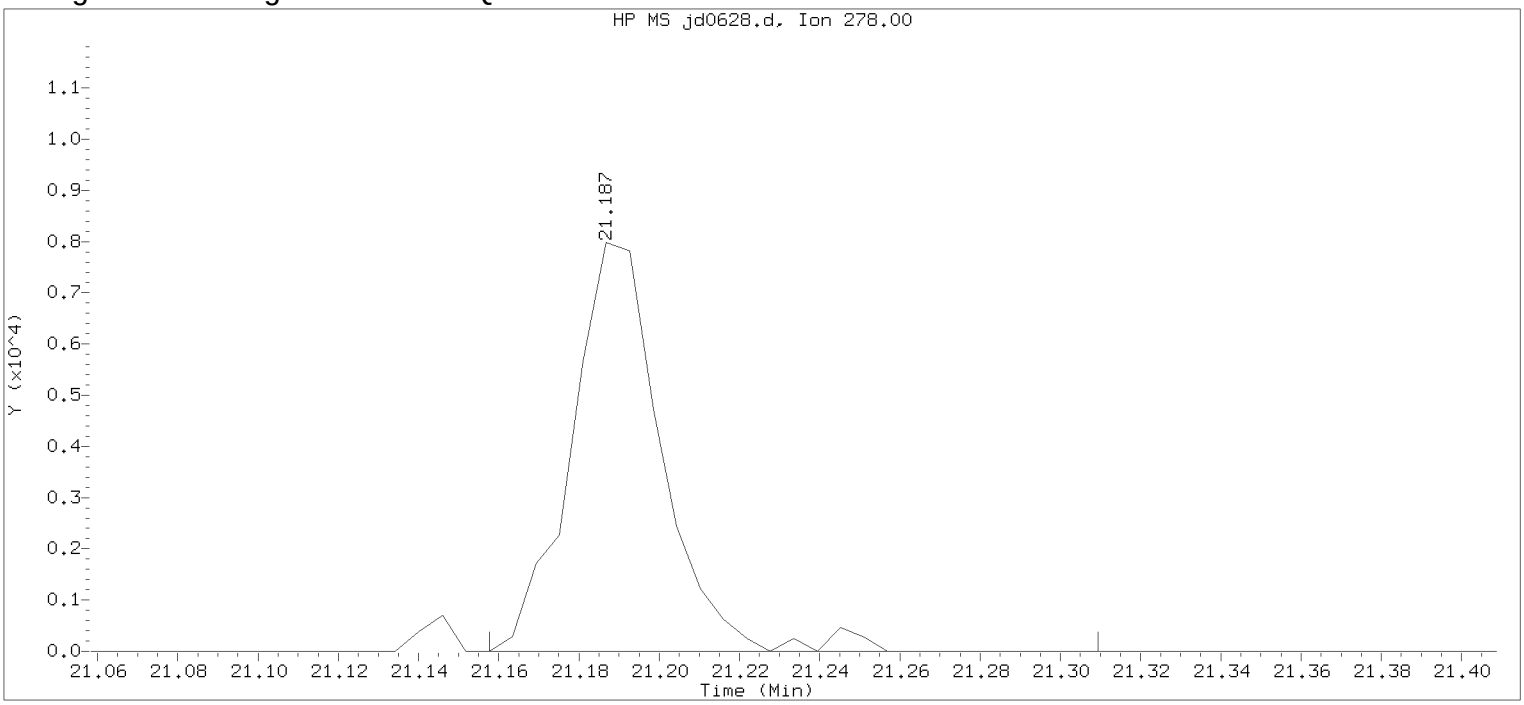
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



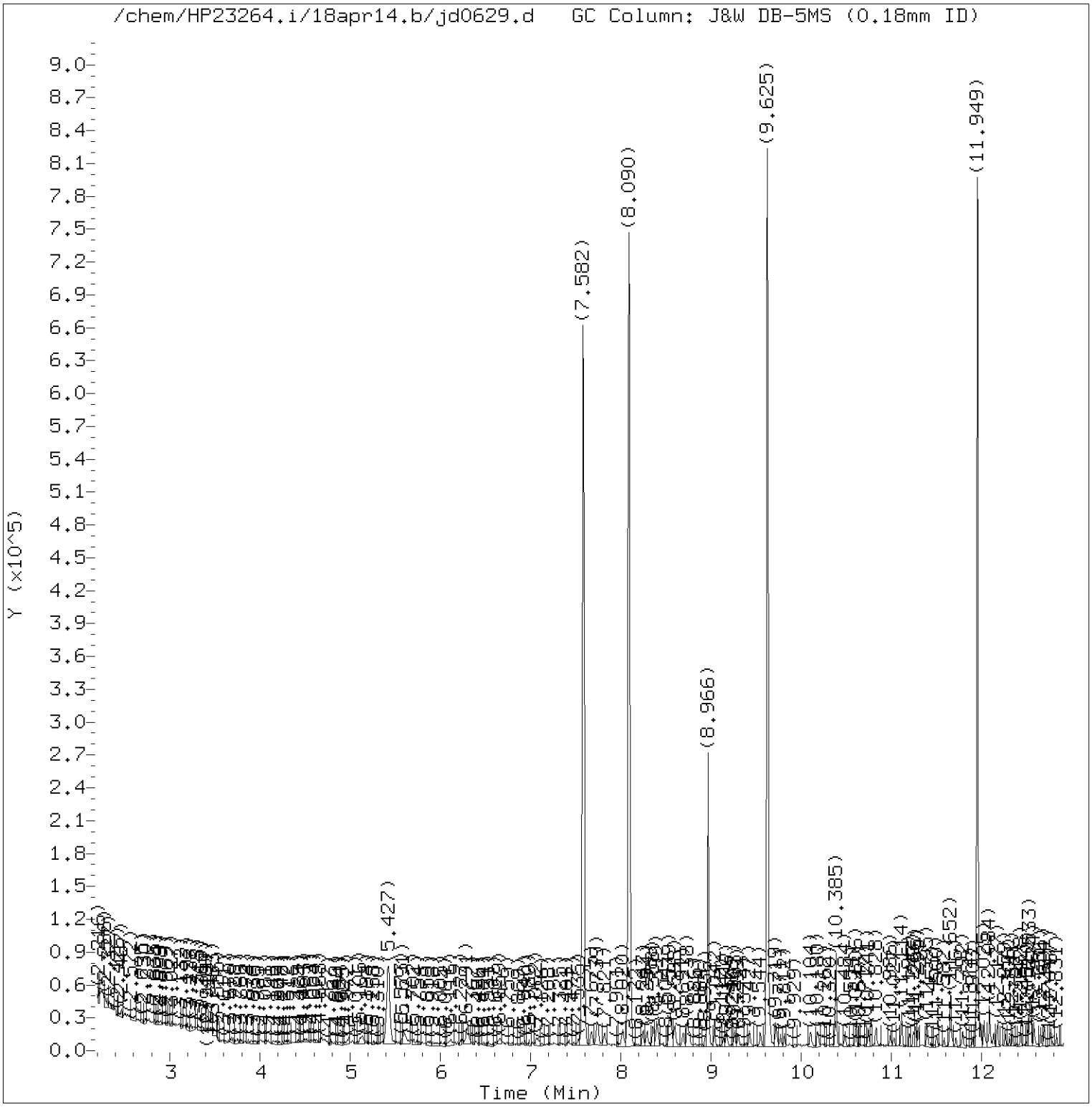
Data File: /chem/HP23264.i/18apr14.b/jd0628.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 19:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:21 knk25316

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

Compound Number : 220
Compound Name : Dibenz(a,h)anthracene
Scan Number : 3254
Retention Time (minutes) : 21.187
Quant Ion : 278.00
Area : 12617
On-column Amount (ng/ul) : 0.2107
Integration start scan : 3248 Integration stop scan: 3274
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:51.
Target 3.5 esignature user ID: knk25316



Total Ion Chromatogram (TIC)

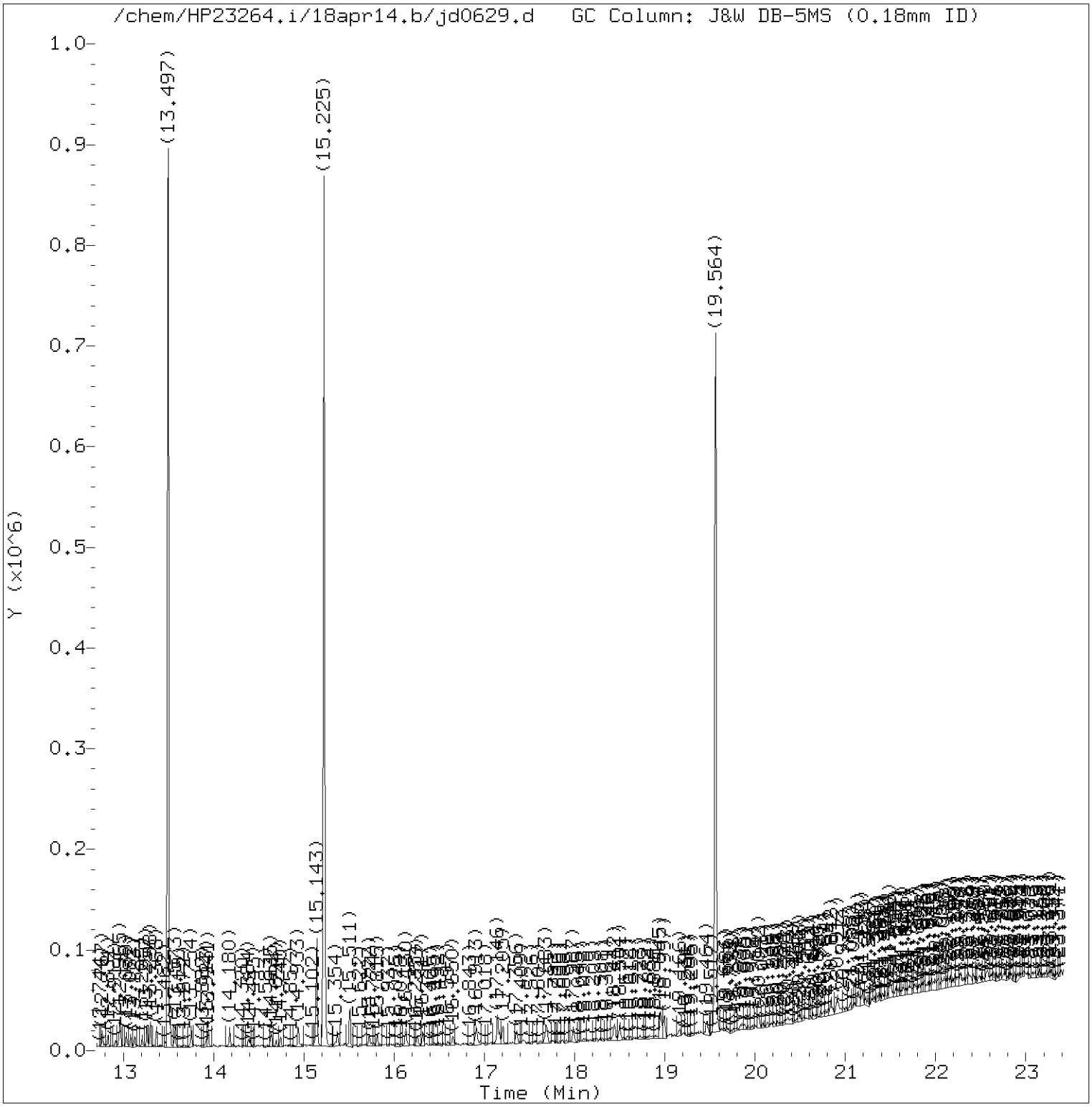
Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

Digitally signed by Linda M. Hartenstine
on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

Digitally signed by Linda M. Hartenstine
on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
3) 1,4-Dioxane	(1)	3.705	88	2359M	0.088
5) N-Nitrosodimethylamine	(1)	4.411	74	2673M	0.063
6) Pyridine	(1)	4.505	79	7601M	0.102
8) 2-Picoline	(1)	5.591	93	6736M	0.094
11) N-Nitrosomethylethylamine	(1)	5.725	88	2470M	0.076
12) Methyl methanesulfonate	(1)	6.116	80	3126M	0.082
13)$2-Fluorophenol	(1)	6.303	112	9612M	0.185
14) N-Nitrosodiethylamine	(1)	6.653	102	2692M	0.096
18) Ethyl methanesulfonate	(1)	7.080	109	2975M	0.110
24) Benzaldehyde	(1)	7.535	77	2752M	0.051
26)$Phenol-d6	(1)	7.576	99	15131	0.210
27) Phenol	(1)	7.599	94	7962M	0.103
28) Aniline	(1)	7.664	93	7820	0.084
30) a-methylstyrene	(1)	7.734	118	1583M	0.085
31) bis(2-Chloroethyl)ether	(1)	7.739	93	5408	0.091
32) 2-Chlorophenol	(1)	7.827	128	4157	0.089
34) 1,3-Dichlorobenzene	(1)	8.014	146	5105	0.098
36)*1,4-Dichlorobenzene-d4	(1)	8.090	152	174770	5.000
38) 1,4-Dichlorobenzene	(1)	8.107	146	5565	0.300
39) Benzyl alcohol	(1)	8.247	108	3106	0.109
41) 1,2-Dichlorobenzene	(1)	8.283	146	4350	0.091
44) 2-Methylphenol	(1)	8.353	108	3988	0.095
46) Indene	(1)	8.399	115	5425	0.080
47) 2,2'-oxybis(1-Chloropropane)	(1)	8.405	45	7044	0.102
48) bis(2-Chloroisopropyl)ether	(1)	8.405	45	7044	0.102
51) N-Nitrosopyrrolidine	(1)	8.534	100	2297	0.101
53) 4-Methylphenol	(1)	8.539	108	5522	0.131
54) N-Nitroso-di-n-propylamine	(1)	8.551	70	4527	0.123
52) Acetophenone	(1)	8.563	105	5183	0.329
55) N-Nitrosomorpholine	(1)	8.586	56	3505M	0.112
56) o-Toluidine	(1)	8.598	106	6782	0.096
57) Hexachloroethane	(1)	8.685	117	2000	0.100
58)$Nitrobenzene-d5	(2)	8.738	82	11831	0.215
59) Nitrobenzene	(2)	8.761	77	5245	0.095
61) N-Nitrosopiperidine	(2)	8.942	114	1583	0.087
63) Isophorone	(2)	9.042	82	7984	0.102
64) 2-Nitrophenol	(2)	9.141	139	1595	0.087
65) 2,4-Dimethylphenol	(2)	9.170	107	3987	0.106
66) O,O,O-Triethylphosphorothioate	(2)	9.263	198	1962	0.128
68) bis(2-Chloroethoxy)methane	(2)	9.304	93	4039	0.094

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda M. Hartenstine
on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
70) 2,4-Dichlorophenol	(2)	9.427	162	3146	0.103
72) 1,2,4-Trichlorobenzene	(2)	9.544	180	3996	0.116
76)*Naphthalene-d8	(2)	9.625	136	438637	5.000
79) 4-Chloroaniline	(2)	9.707	127	3010	0.081
80) 2,6-Dichlorophenol	(2)	9.725	162	3117	0.107
81) Hexachloropropene	(2)	9.771	213	1541	0.057
83) Hexachlorobutadiene	(2)	9.818	225	2056	0.098
84) Quinoline	(2)	10.104	129	5244	0.095
86) Caprolactam	(2)	10.174	113	1217M	0.106
87) N-Nitrosodi-n-butylamine	(2)	10.180	84	3313	0.105
89) 4-Chloro-3-methylphenol	(2)	10.373	107	2660	0.422
90) Safrole	(2)	10.490	162	2048	0.087
95) Hexachlorocyclopentadiene	(3)	10.822	237	1569	0.092
96) 1,2,4,5-Tetrachlorobenzene	(3)	10.834	216	3201	0.116
97) cis-Isosafrole	(3)	10.893	162	245M	0.012
98) 2,4,6-Trichlorophenol	(3)	10.986	196	1587	0.089
100) 2,4,5-Trichlorophenol	(3)	11.027	196	1971	0.106
102)$2-Fluorobiphenyl	(3)	11.114	172	11267	0.220
104) trans-Isosafrole	(3)	11.196	162	1920	0.088
105) 1,1'-Biphenyl	(3)	11.249	154	4418	0.356
108) 1-Chloronaphthalene	(3)	11.295	162	4018	0.095
109) Diphenyl ether	(3)	11.389	170	3399	0.117
110) 2-Nitroaniline	(3)	11.401	138	1373	0.095
111) 1,4-Naphthoquinone	(3)	11.500	158	1453	0.078
112) 1,4-Dinitrobenzene	(3)	11.582	168	451M	0.054
114) Dimethylphthalate	(3)	11.646	163	4525	0.087
116) 1,3-Dinitrobenzene	(3)	11.669	168	634M	0.068
117) 2,6-Dinitrotoluene	(3)	11.716	165	931	0.077
120) 3-Nitroaniline	(3)	11.903	138	874	0.072
122)*Acenaphthene-d10	(3)	11.949	164	158792	5.000
125) 2,4-Dinitrophenol	(3)	12.025	184	3889M	0.414
126) 4-Nitrophenol	(3)	12.090	109	4428	0.410
127) Pentachlorobenzene	(3)	12.130	250	2642	0.133
128) 2,4-Dinitrotoluene	(3)	12.165	165	1473	0.087
129) Dibenzofuran	(3)	12.177	168	6412	0.111
131) 1-Naphthylamine	(3)	12.259	143	3964	0.091
132) 2,3,4,6-Tetrachlorophenol	(3)	12.306	232	1305	0.087
133) 2-Naphthylamine	(3)	12.341	143	3959	0.094
136) Diethylphthalate	(3)	12.428	149	5699	0.110
138) Thionazin	(3)	12.510	107	921M	0.109

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Digitally signed by Linda M. Hartenstine
on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
140) 5-Nitro-o-toluidine	(3)	12.533	152	1311M	0.091
142) 4-Nitroaniline	(3)	12.539	138	1092M	0.163
141) 4-Chlorophenyl-phenylether	(3)	12.539	204	3120	0.130
143) 4,6-Dinitro-2-methylphenol	(4)	12.574	198	3287	0.300
146) 1,2-Diphenylhydrazine	(4)	12.650	77	7463	0.126
144) N-Nitrosodiphenylamine	(4)	12.656	169	4531	0.115
145) NDPA as diphenylamine	(4)	12.656	169	4531	0.115
147)$2,4,6-Tribromophenol	(3)	12.767	330	1518	0.216
148) Tetraethyldithiopyrophosphate	(4)	12.831	97	1350	0.115
149) 1,3,5-Trinitrobenzene	(4)	12.913	213	686M	0.105
150) Diallate (peak 1)	(4)	12.954	86	1871	0.077
151) Phorate	(4)	12.960	75	3394M	0.093
152) Phenacetin	(4)	12.965	108	2864	0.098
153) 4-Bromophenyl-phenylether	(4)	13.030	248	1655M	0.118
154) Diallate (peak 2)	(4)	13.047	86	301M	0.015
156) Dimethoate	(4)	13.123	87	1846	0.082
157) Atrazine	(4)	13.211	200	1374	0.099
160) Pentachlorophenol	(4)	13.292	266	399	0.037
162) Pentachloronitrobenzene	(4)	13.298	237	678M	0.077
161) 4-Aminobiphenyl	(4)	13.298	169	4228	0.091
164) Pronamide	(4)	13.368	173	2181	0.089
165)*Phenanthrene-d10	(4)	13.497	188	301925	5.000
166) Dinoseb	(4)	13.503	211	841M	0.055
169) Carbazole	(4)	13.754	167	7355	0.118
170) Methyl parathion	(4)	13.917	109	1572	0.091
174) Di-n-butylphthalate	(4)	14.180	149	8883	0.106
180) Parathion	(4)	14.384	109	1222	0.111
179) 4-Nitroquinoline-1-oxide	(4)	14.402	190	863	0.091
181) Octachlorostyrene	(4)	14.694	308	705M	0.126
182) Isodrin	(4)	14.746	193	1057	0.115
184) Benzidine	(5)	15.143	184	43352	0.815
185)*Pyrene-d10	(5)	15.225	212	345571	5.000
192)$Terphenyl-d14	(5)	15.511	244	12764	0.218
193) p-Dimethylaminoazobenzene	(5)	15.727	225	1594	0.115
194) Chlorobenzilate	(5)	15.815	139	2597	0.092
196) 3,3'-Dimethylbenzidine	(5)	16.259	212	4141	0.074
198) Butylbenzylphthalate	(5)	16.317	149	4739	0.115
199) 2-Acetylaminofluorene	(5)	16.650	181	2588	0.074
202) 3,3'-Dichlorobenzidine	(5)	17.146	252	3081	0.098
205) 4,4'-Methylenebis(2-chloroanil	(5)	17.164	231	1829	0.106

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Digitally signed by Linda M. Hartenstine
on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

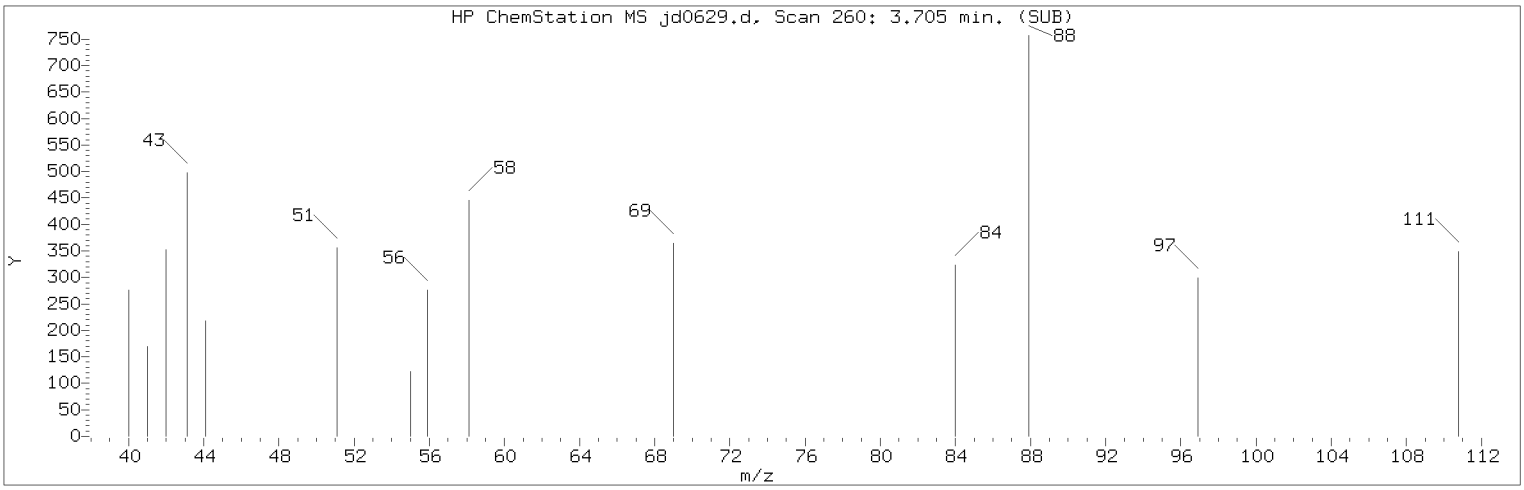
Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
207) bis(2-Ethylhexyl)phthalate	(5)	17.356	149	5850	0.099
208) 6-Methylchrysene	(5)	17.987	242	6193	0.113
209) Di-n-octylphthalate	(6)	18.501	149	10478M	0.099
211) 7,12-Dimethylbenz[a]anthracene	(6)	18.956	256	3406	0.098
215)*Perylene-d12	(6)	19.564	264	326108	5.000
216) 3-Methylcholanthrene	(6)	20.048	268	3753M	0.106
217) Dibenz(a,h)acridine	(6)	20.842	279	5779	0.099
218) Dibenz(a,j)acridine	(6)	20.912	279	6078	0.102
226) Diallate trans/cis	(4)			2172	0.091
224) Isosafrole	(3)			2165	0.100
222) Total Cresols	(1)			9510	0.226
225) 2,4_2,6-Dinitrotoluenes	(3)			2404	0.164

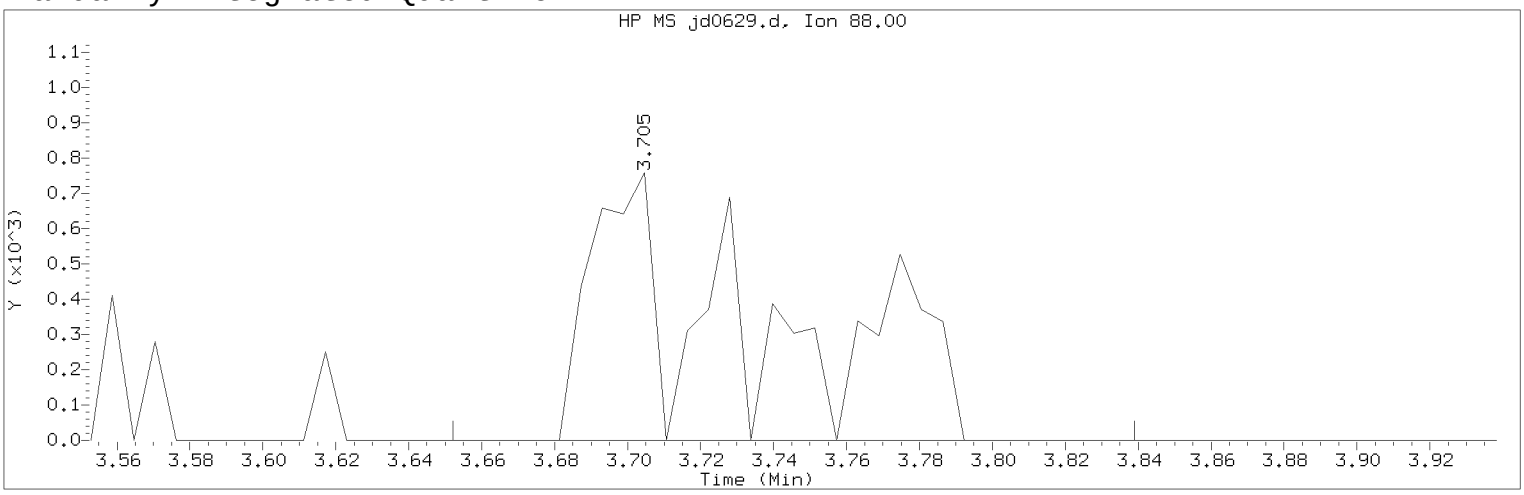
M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Linda M. Hartenstine
on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

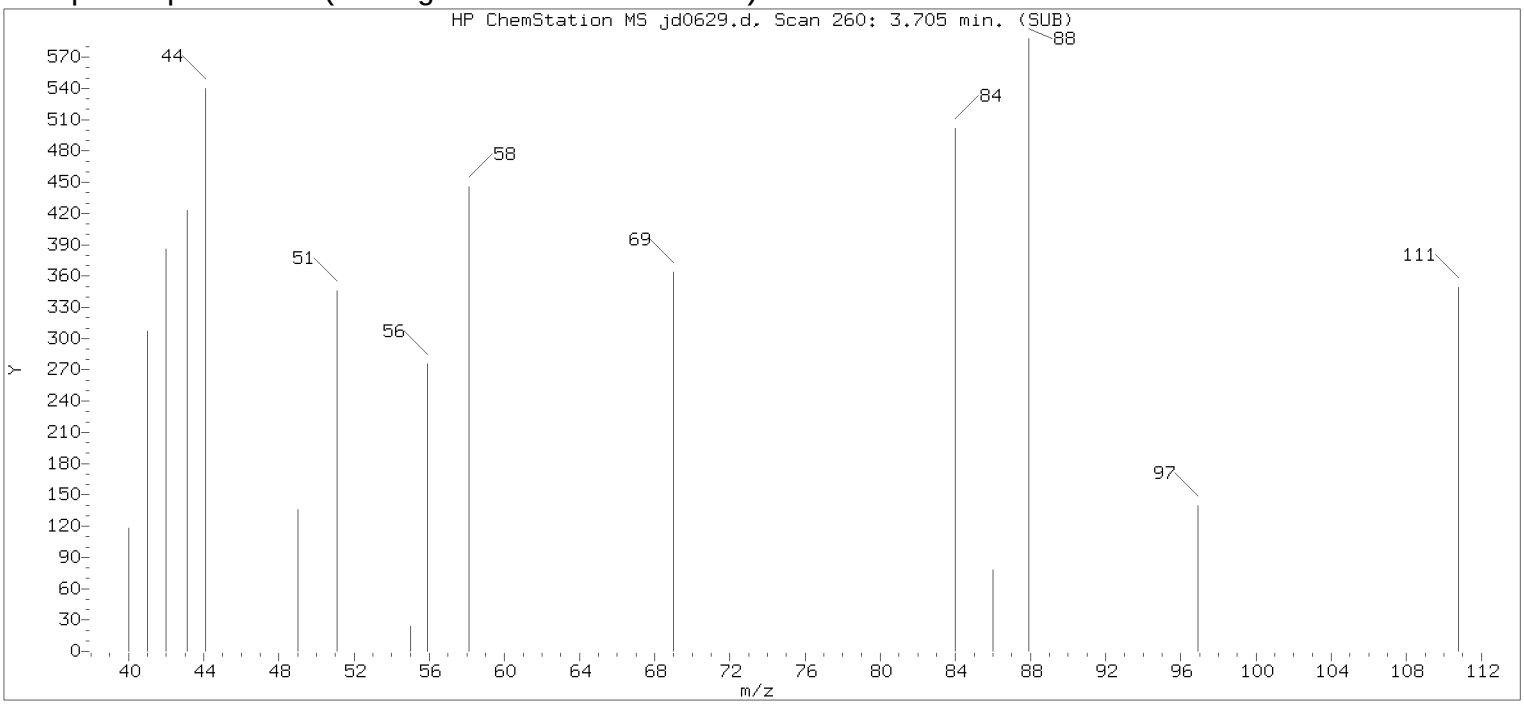
Compound Number : 3
Compound Name : 1,4-Dioxane
Scan Number : 260
Retention Time (minutes) : 3.705
Quant Ion : 88.00
Area (flag) : 2359M
On-Column Amount (ng/ul) : 0.0881
Integration start scan : 250 Integration stop scan: 282
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

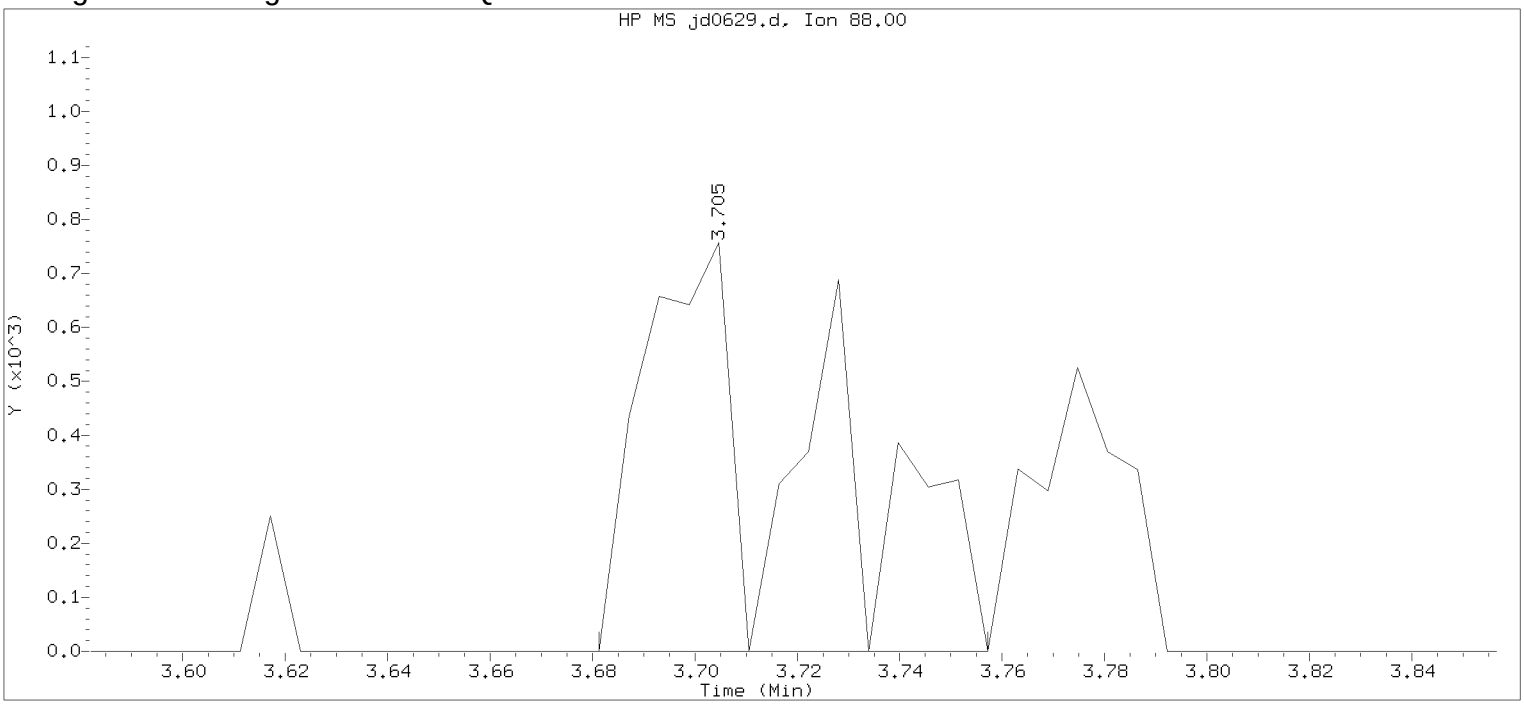
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:35 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

Compound Number : 3
Compound Name : 1,4-Dioxane
Scan Number : 260
Retention Time (minutes) : 3.705
Quant Ion : 88.00
Area : 1705
On-column Amount (ng/ul) : 0.0628
Integration start scan : 255 Integration stop scan: 268
Y at integration start : 0 Y at integration end: 0

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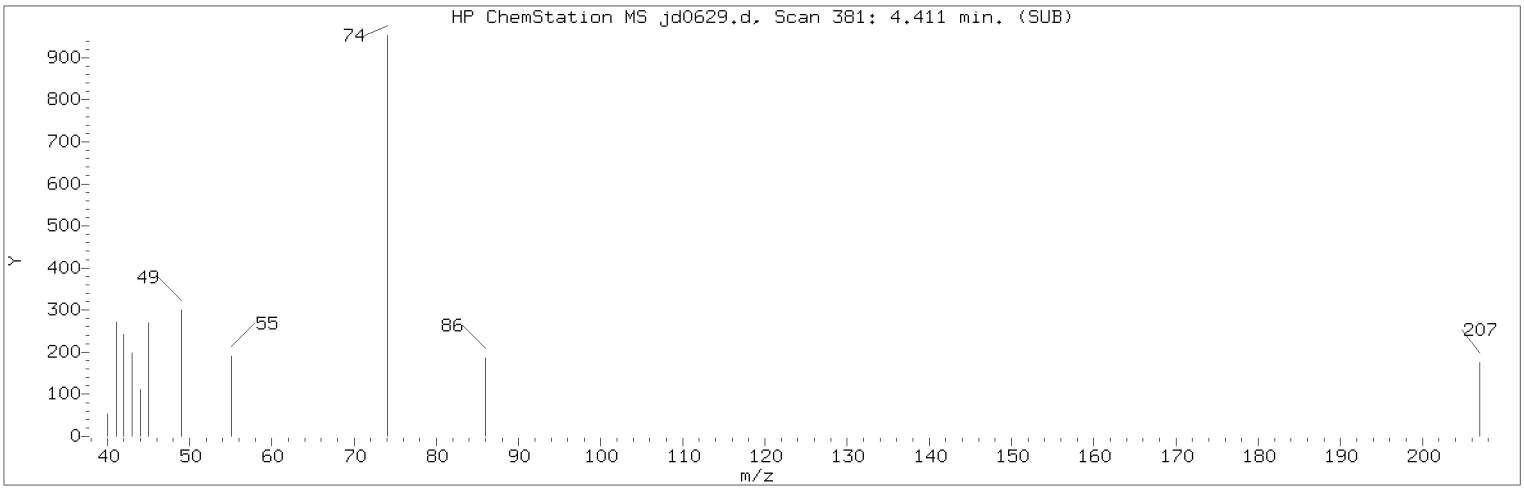
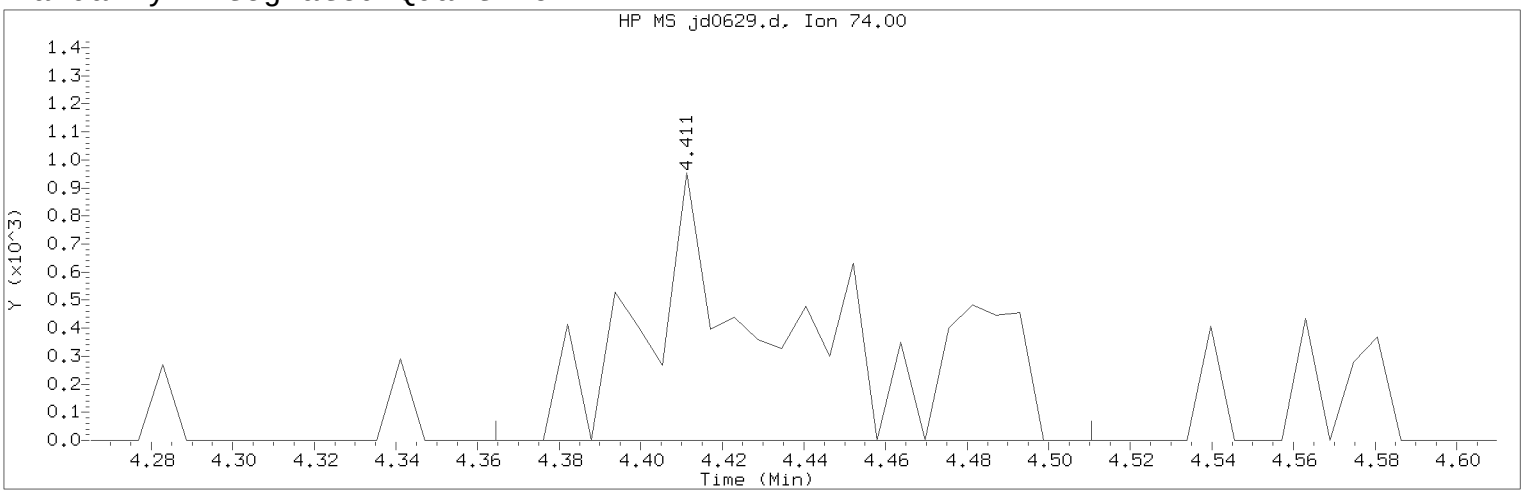
Target 3.5 esignature user ID: 1081 Page 968 of 1243

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

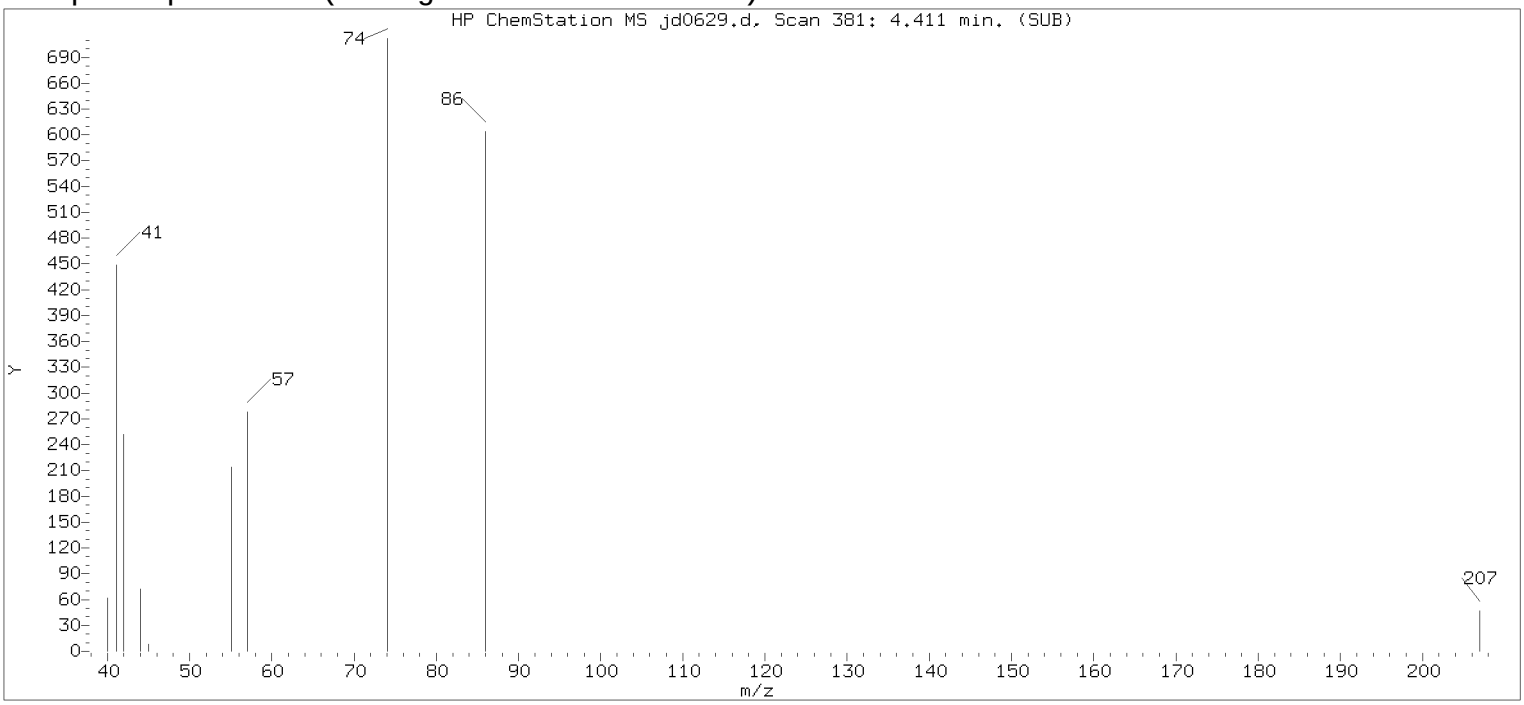
Compound Number : 5
Compound Name : N-Nitrosodimethylamine
Scan Number : 381
Retention Time (minutes) : 4.411
Quant Ion : 74.00
Area (flag) : 2673M
On-Column Amount (ng/ul) : 0.0626
Integration start scan : 372 Integration stop scan: 397
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

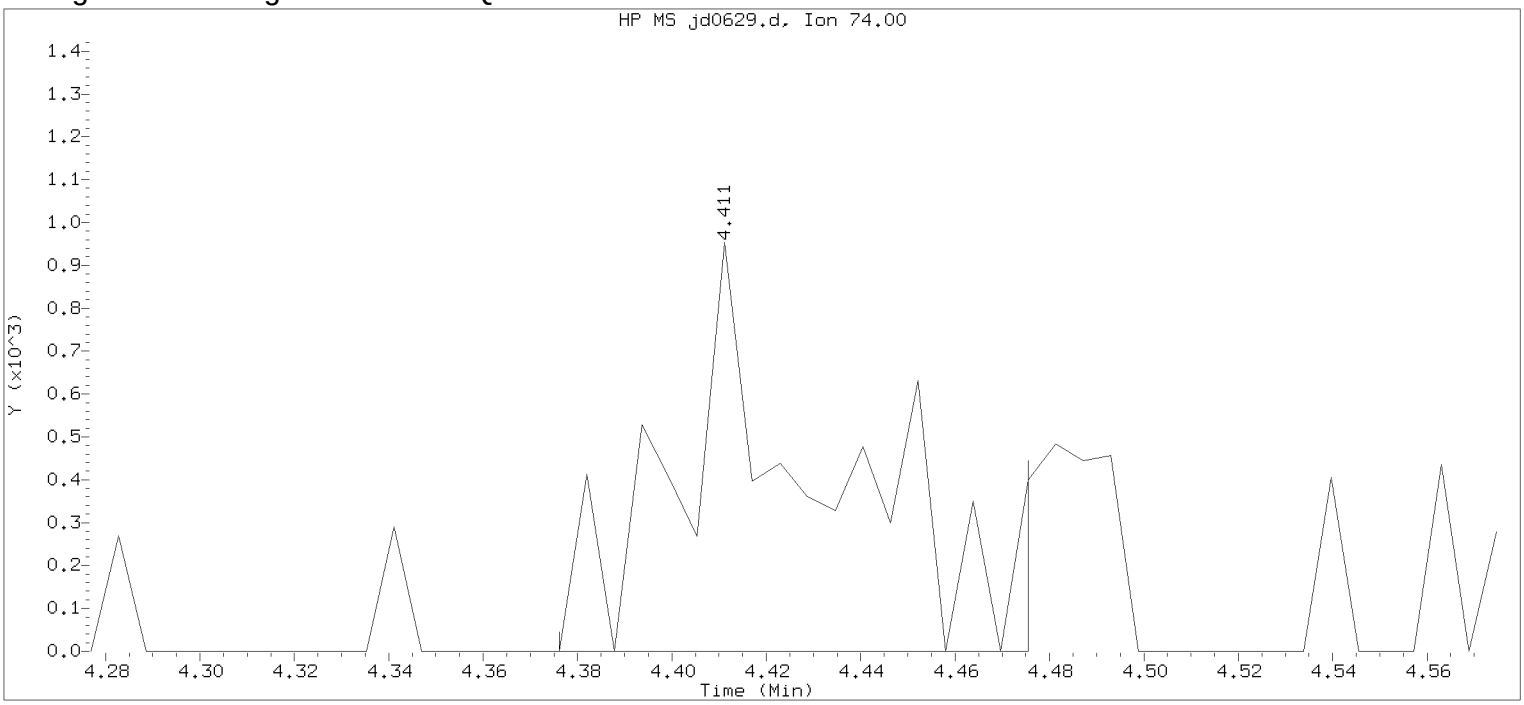
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:35 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

Compound Number : 5
Compound Name : N-Nitrosodimethylamine
Scan Number : 381
Retention Time (minutes) : 4.411
Quant Ion : 74.00
Area : 2118
On-column Amount (ng/ul) : 0.0494
Integration start scan : 374 Integration stop scan: 391
Y at integration start : 0 Y at integration end: 0

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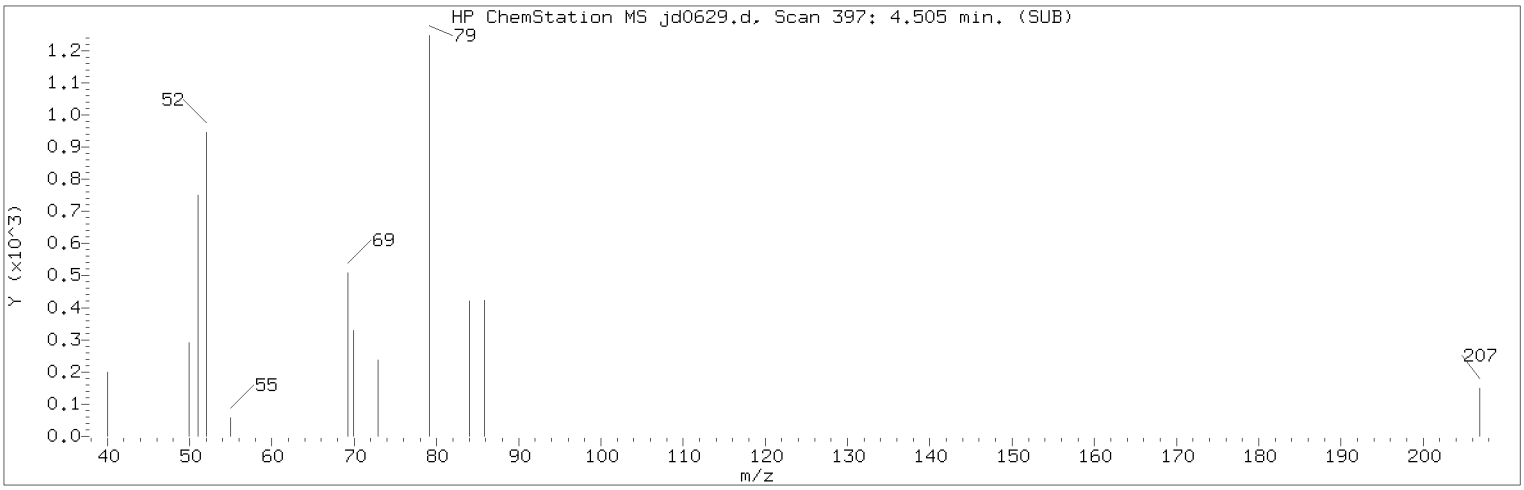
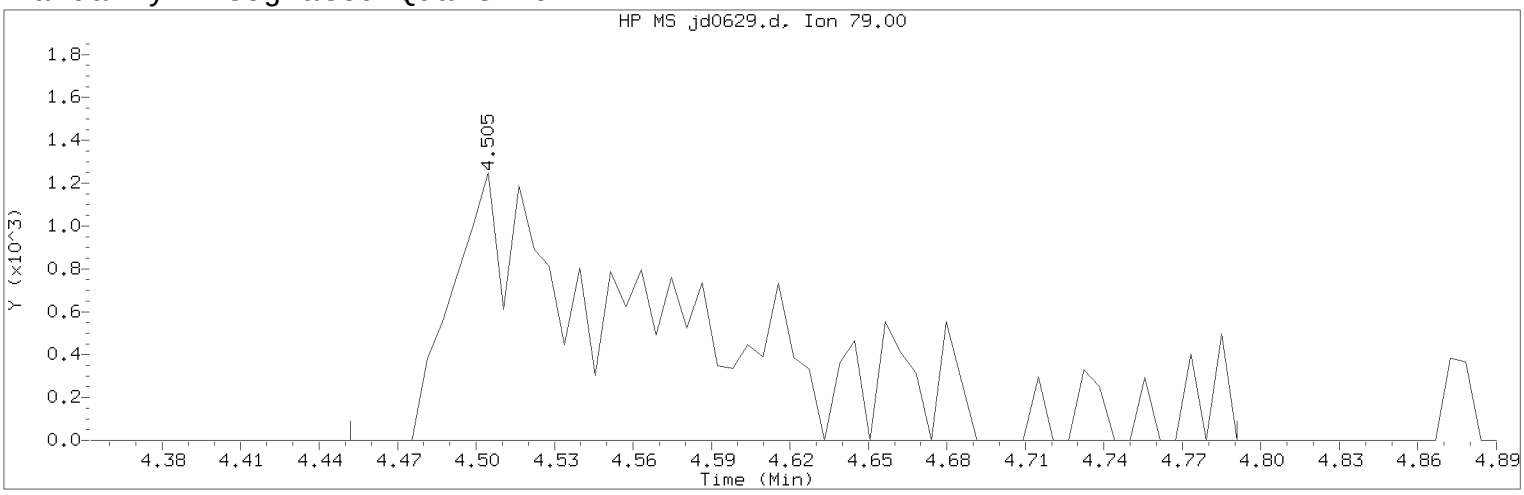
Target 3.5 esignature user id: 1081 Page 976 of 1243

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

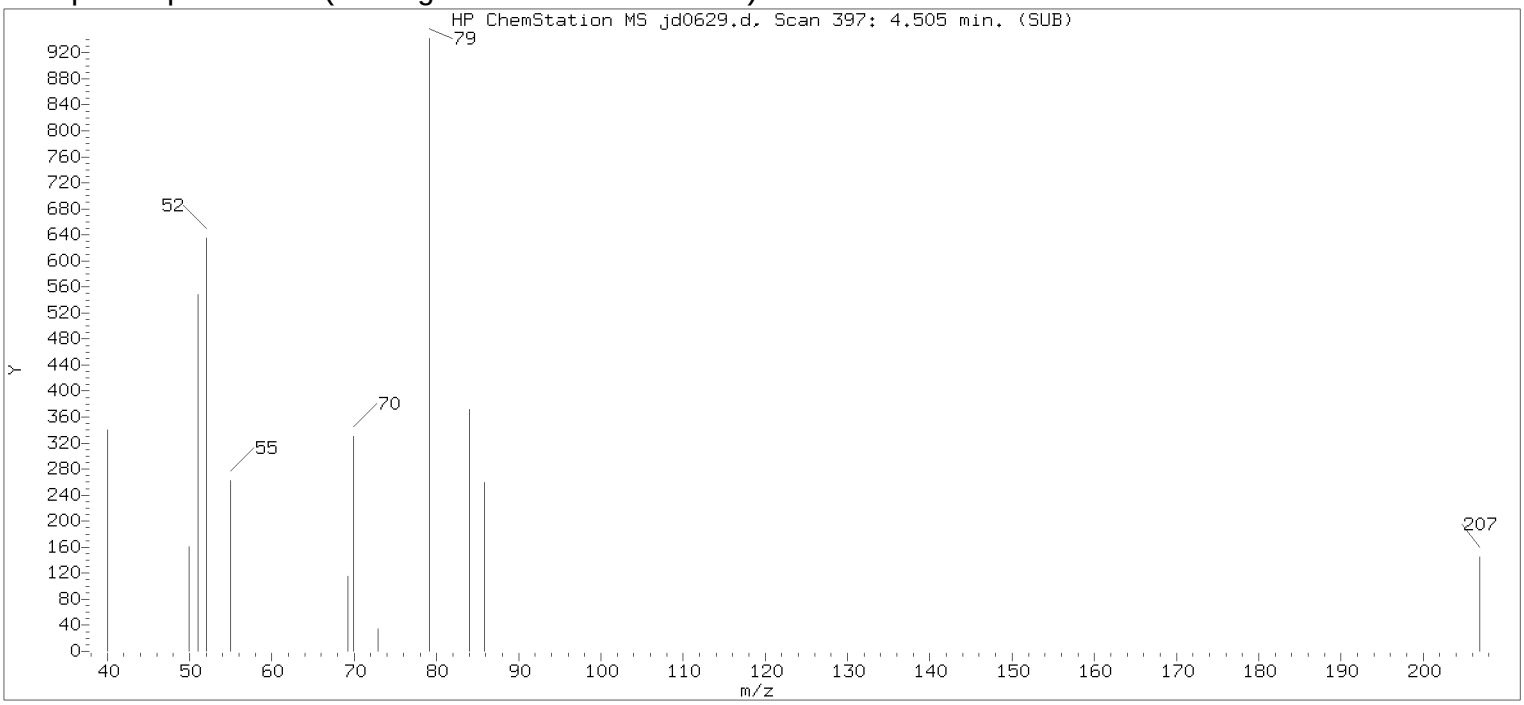
Compound Number : 6
Compound Name : Pyridine
Scan Number : 397
Retention Time (minutes) : 4.505
Quant Ion : 79.00
Area (flag) : 7601M
On-Column Amount (ng/ul) : 0.1016
Integration start scan : 387 Integration stop scan: 445
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

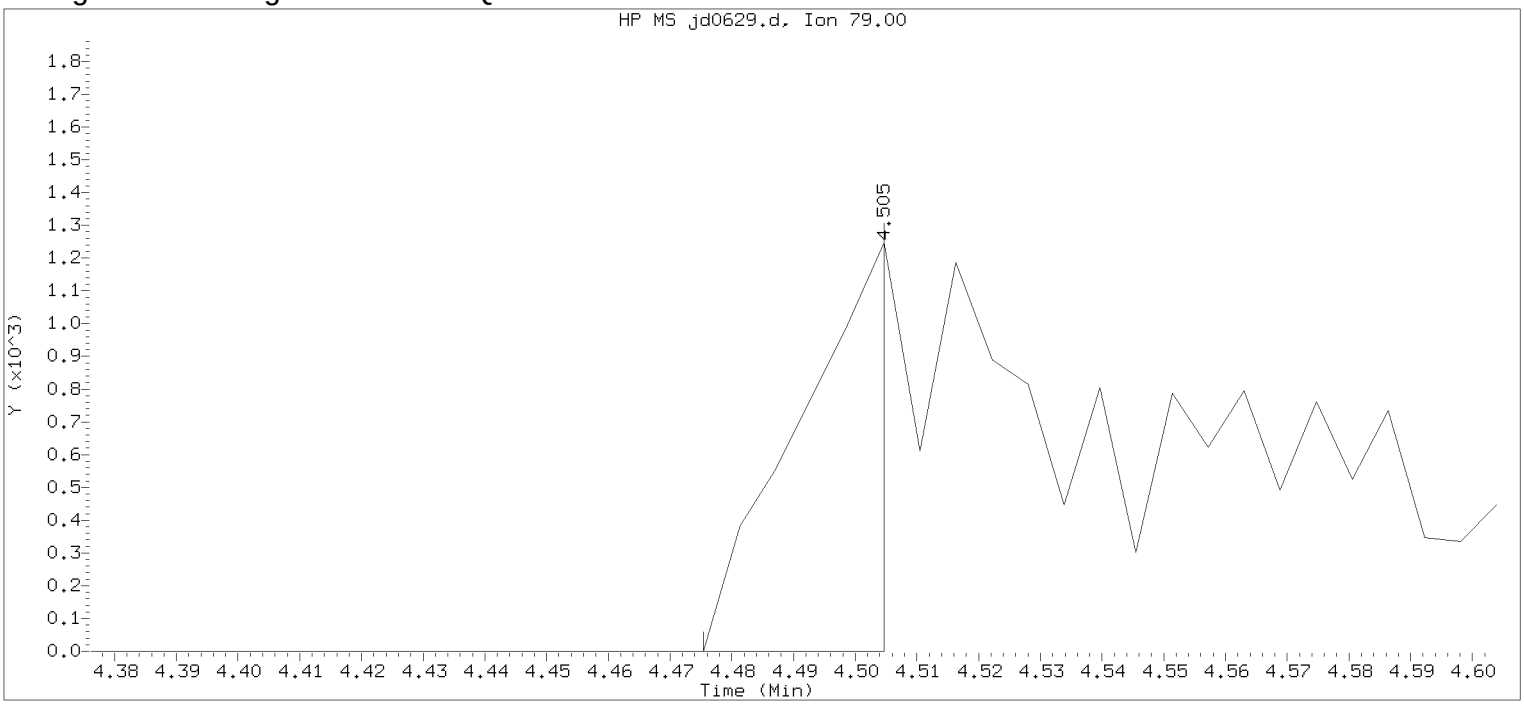
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:35 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

Compound Number : 6
Compound Name : Pyridine
Scan Number : 397
Retention Time (minutes) : 4.505
Quant Ion : 79.00
Area : 1167
On-column Amount (ng/ul) : 0.0156
Integration start scan : 391 Integration stop scan: 396
Y at integration start : 0 Y at integration end: 0

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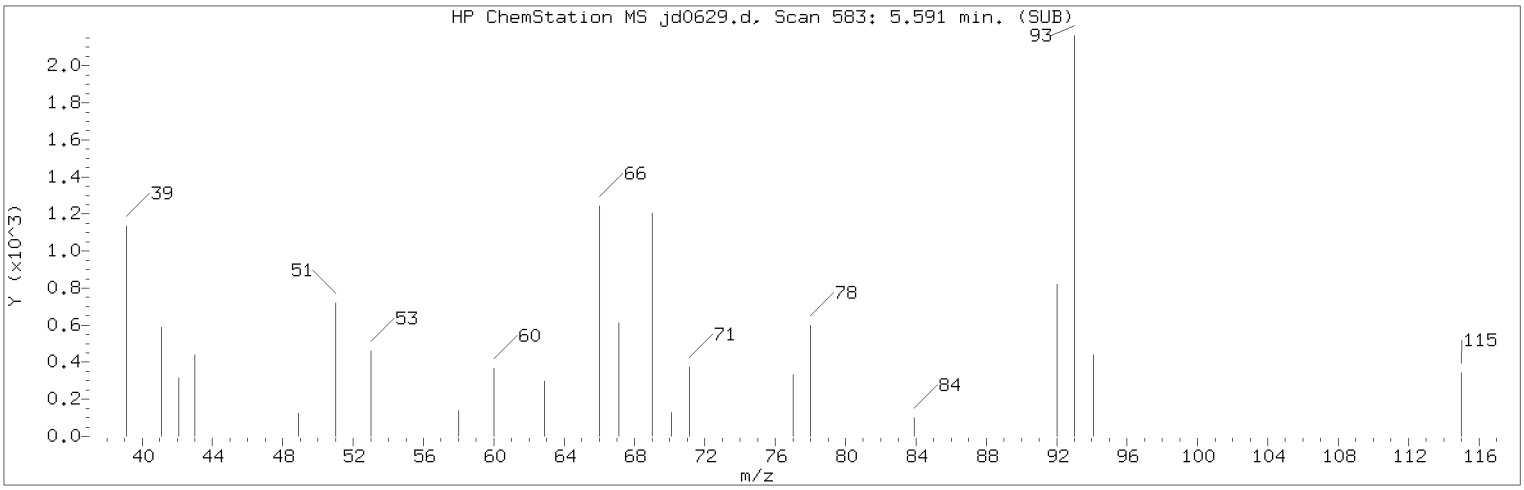
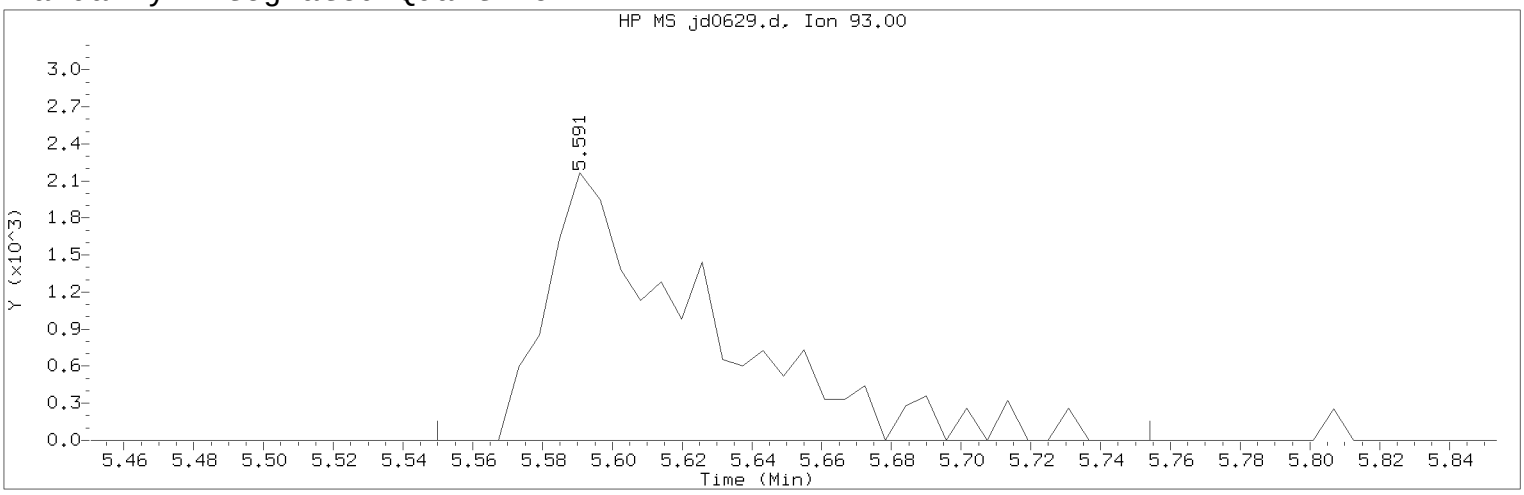
Target 3.5 esignature user id: LMH01 Page 976 of 1243

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

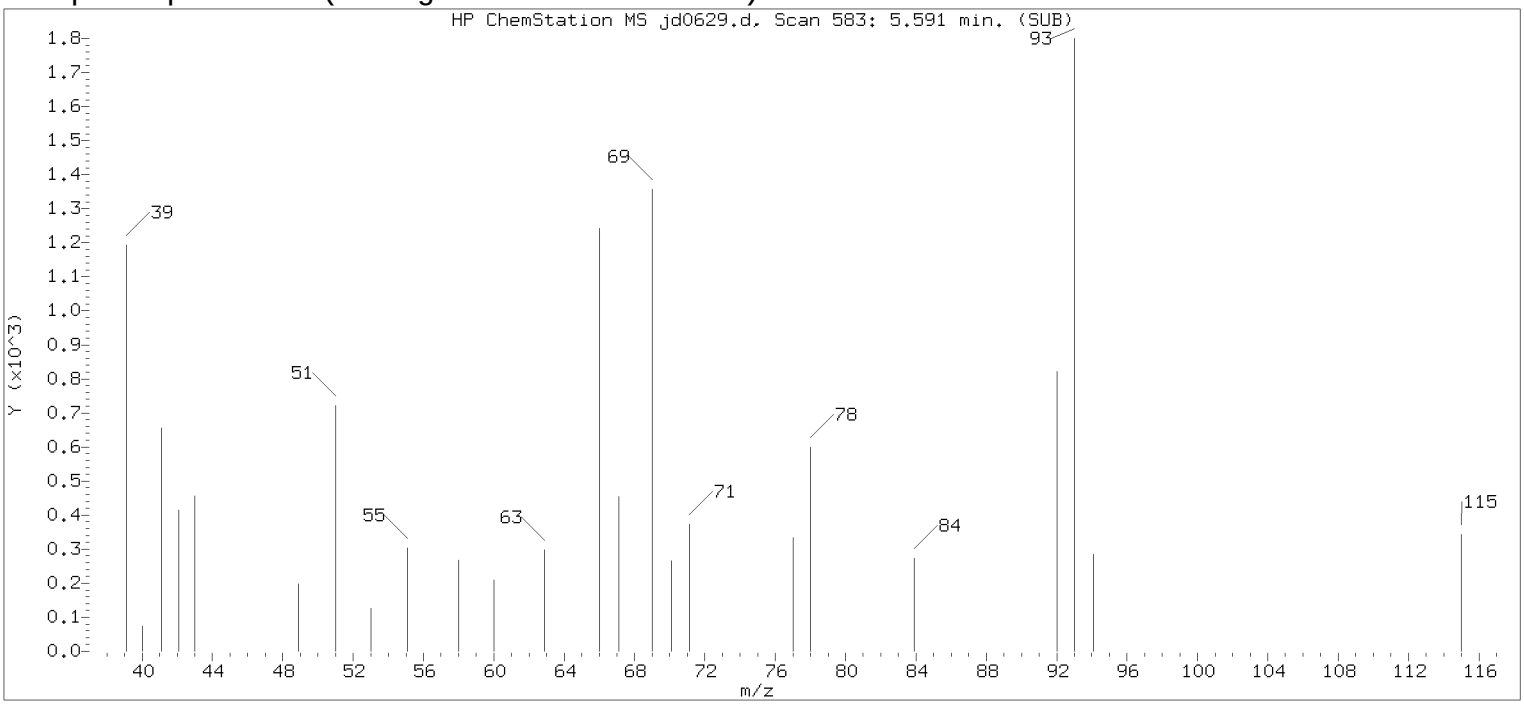
Compound Number : 8
Compound Name : 2-Picoline
Scan Number : 583
Retention Time (minutes) : 5.591
Quant Ion : 93.00
Area (flag) : 6736M
On-Column Amount (ng/ul) : 0.0938
Integration start scan : 575 Integration stop scan: 610
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

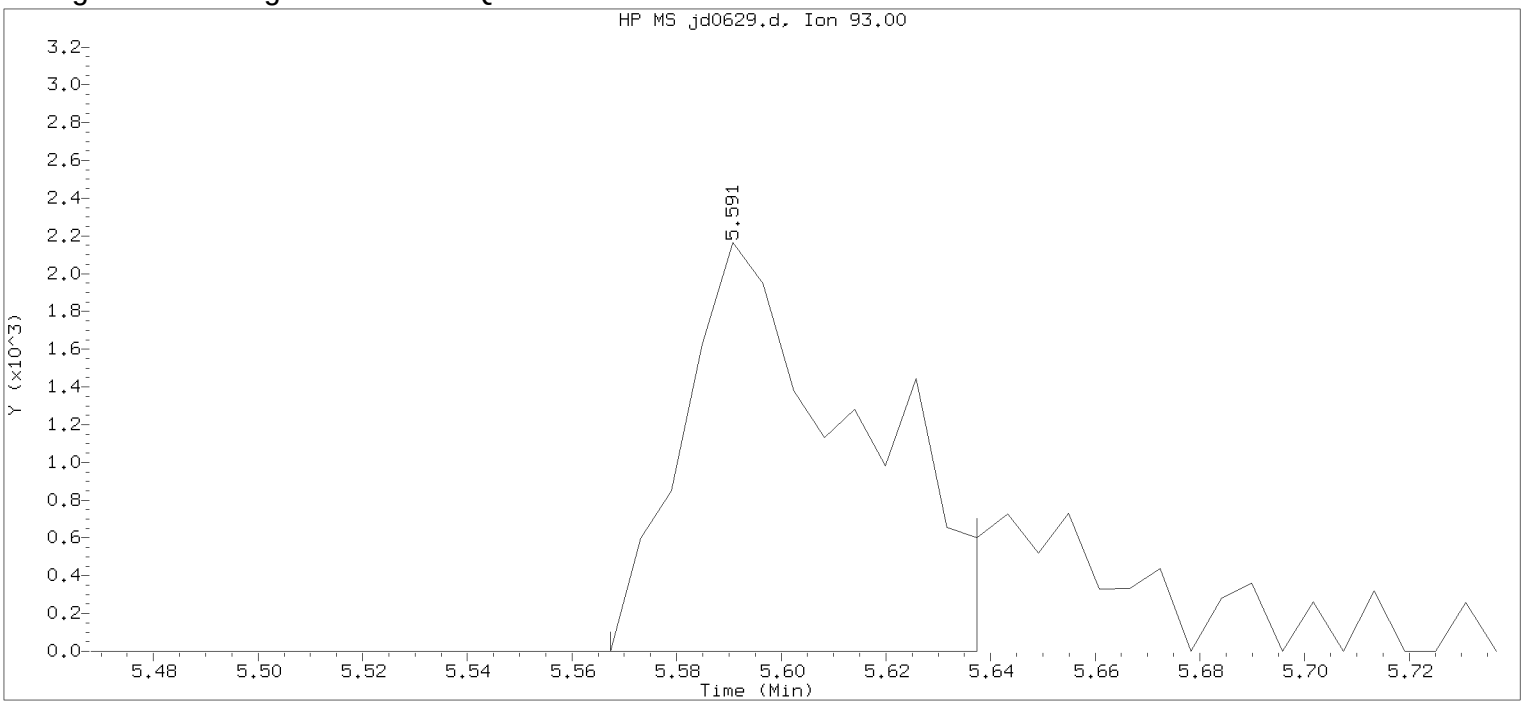
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

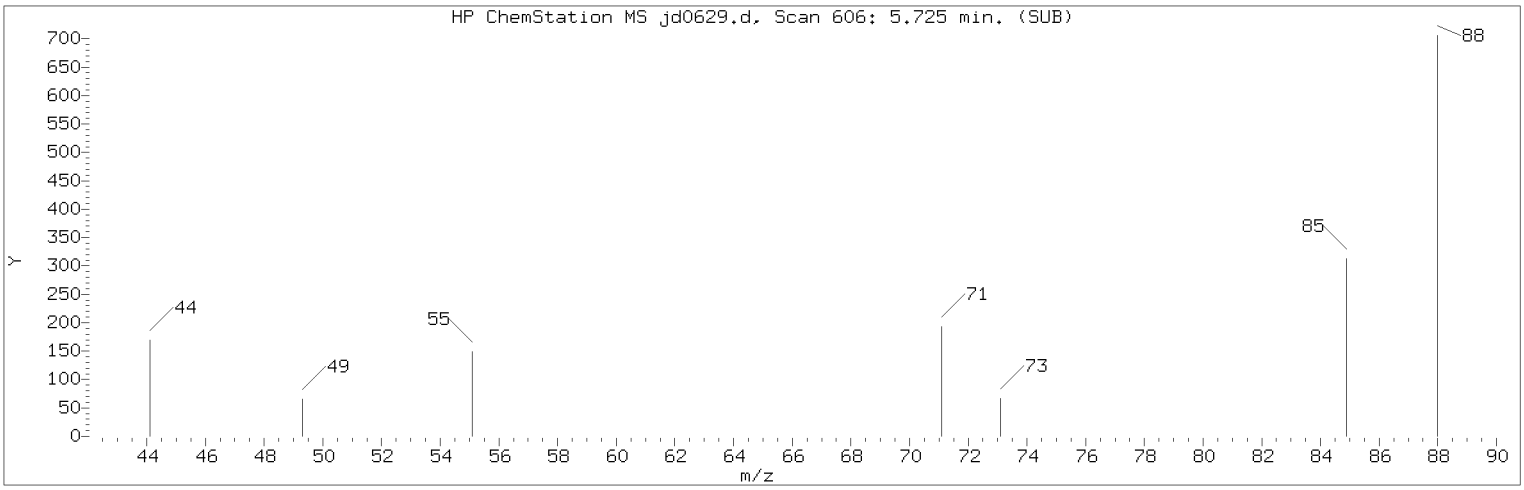
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:35 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

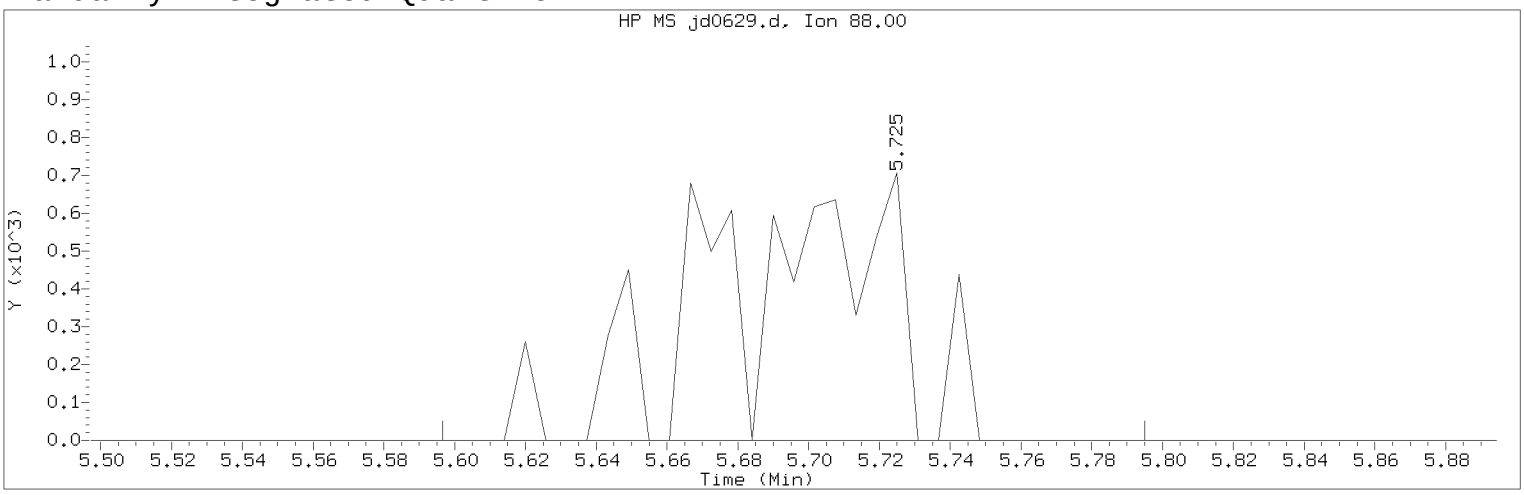
Compound Number : 8
Compound Name : 2-Picoline
Scan Number : 583
Retention Time (minutes) : 5.591
Quant Ion : 93.00
Area : 5031
On-column Amount (ng/ul) : 0.0699
Integration start scan : 578 Integration stop scan: 590
Y at integration start : 0 Y at integration end: 0

Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user id: LMH01 Page 976 of 1243

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

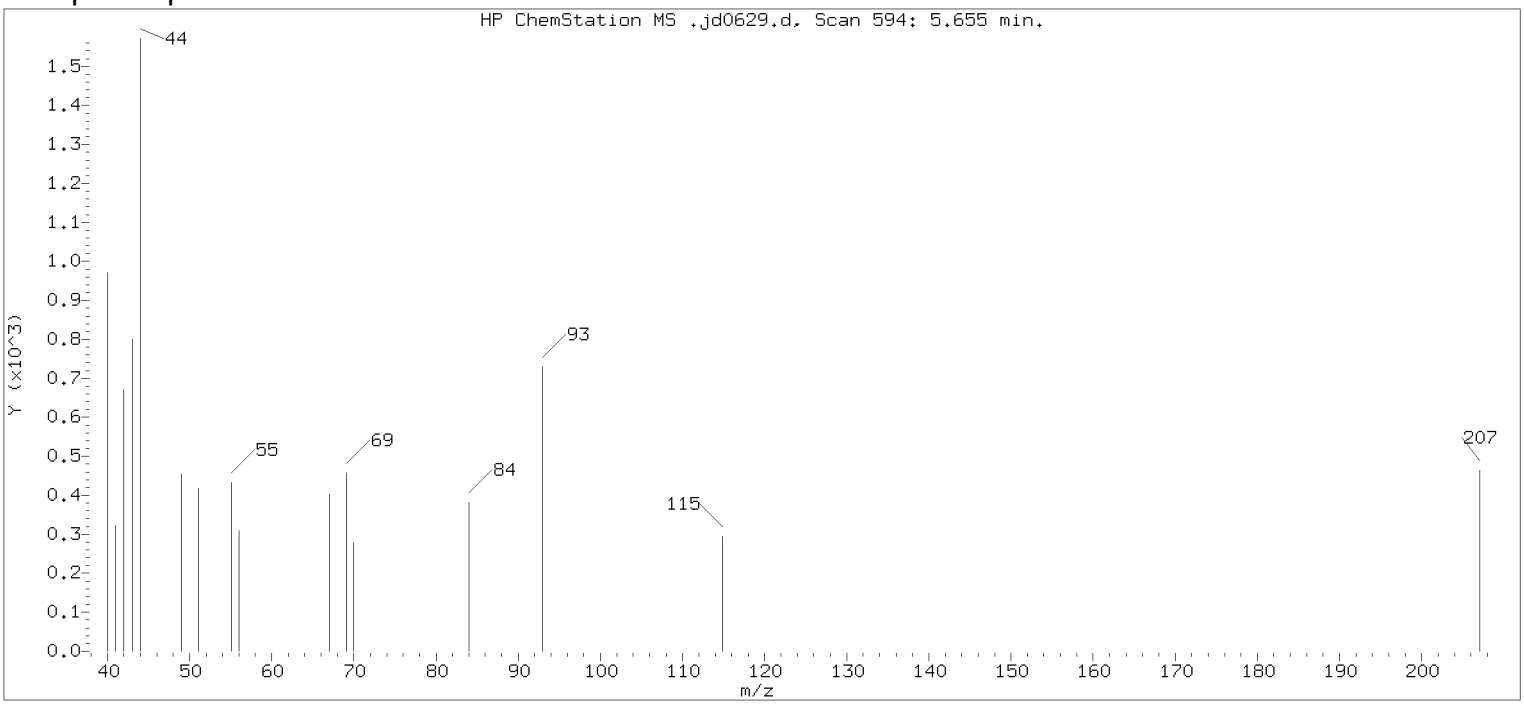
Compound Number : 11
Compound Name : N-Nitrosomethylethylamine
Scan Number : 606
Retention Time (minutes) : 5.725
Quant Ion : 88.00
Area (flag) : 2470M
On-Column Amount (ng/ul) : 0.0764
Integration start scan : 583 Integration stop scan: 617
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

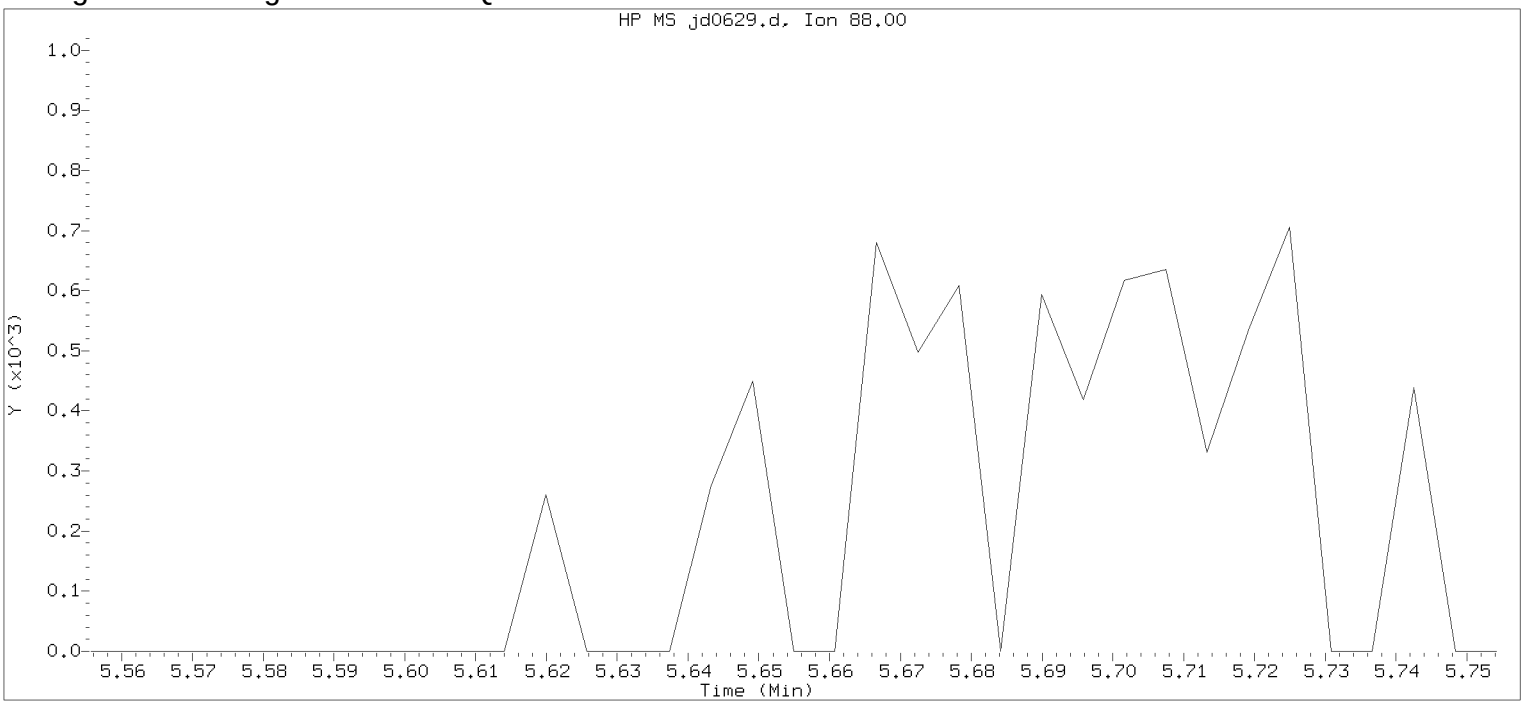
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

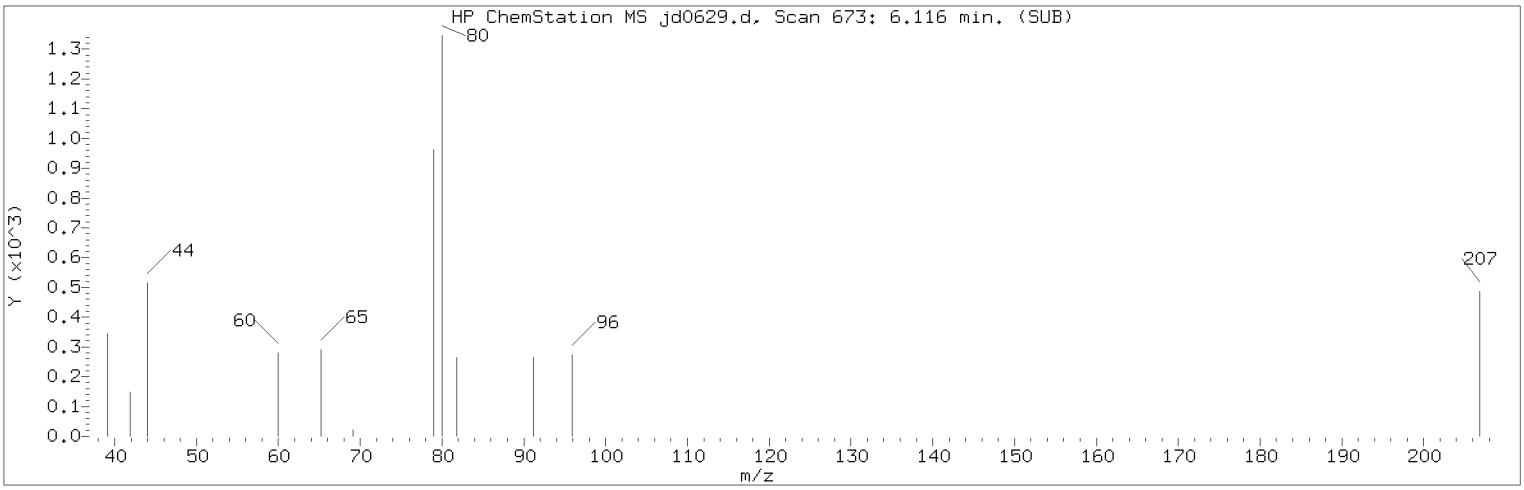
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:35 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

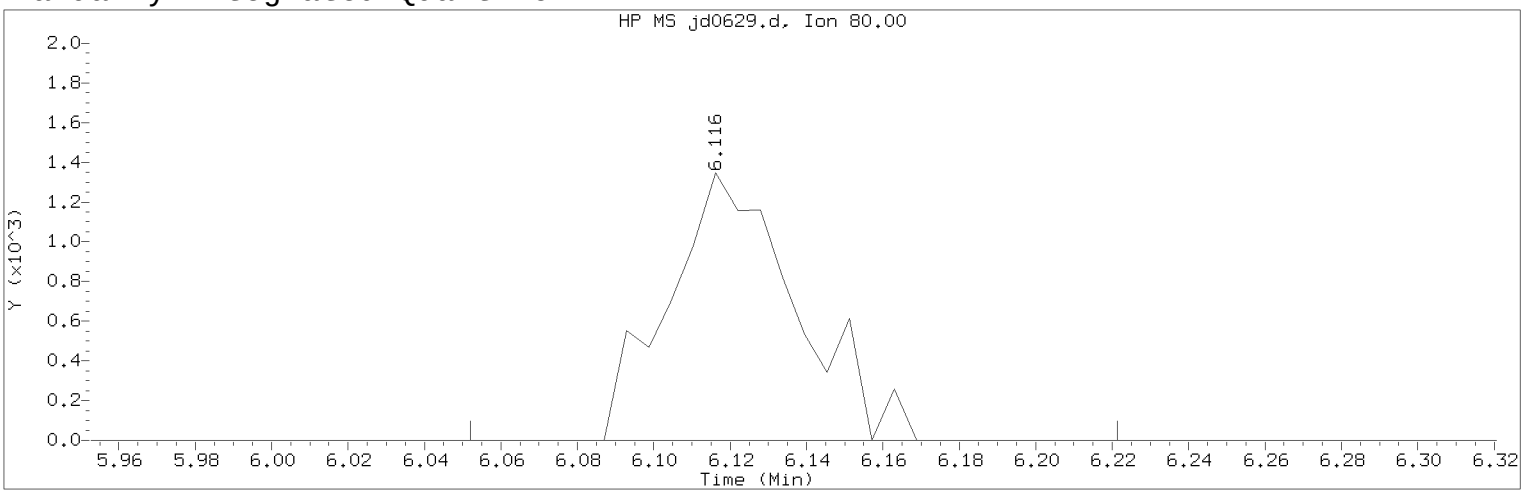
Compound Number : 11
Compound Name : N-Nitrosomethylethylamine
Expected RT (minutes) : 5.655
Quant Ion : 88.00

Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user id: 1 Page 976 of 1243

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

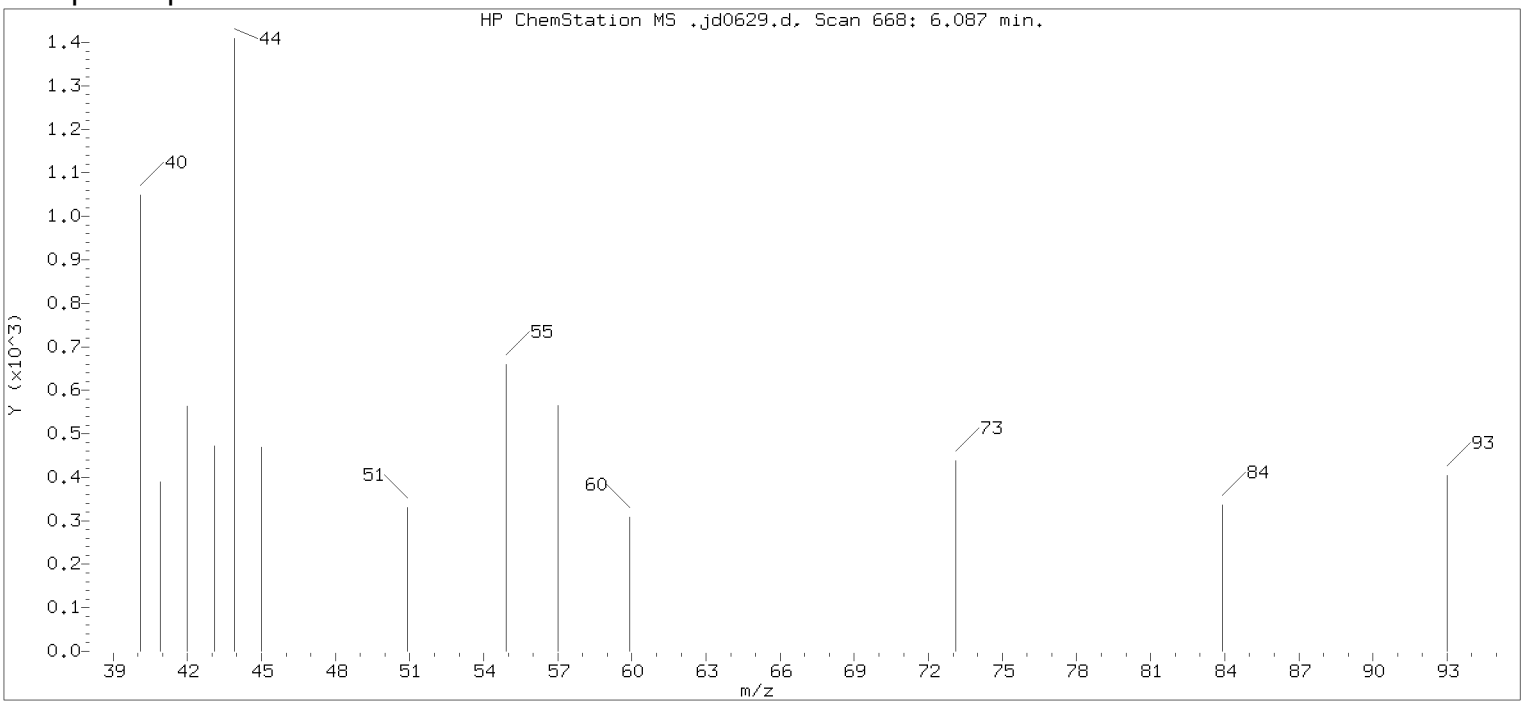
Compound Number : 12
Compound Name : Methyl methanesulfonate
Scan Number : 673
Retention Time (minutes) : 6.116
Quant Ion : 80.00
Area (flag) : 3126M
On-Column Amount (ng/ul) : 0.0820
Integration start scan : 661 Integration stop scan: 690
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

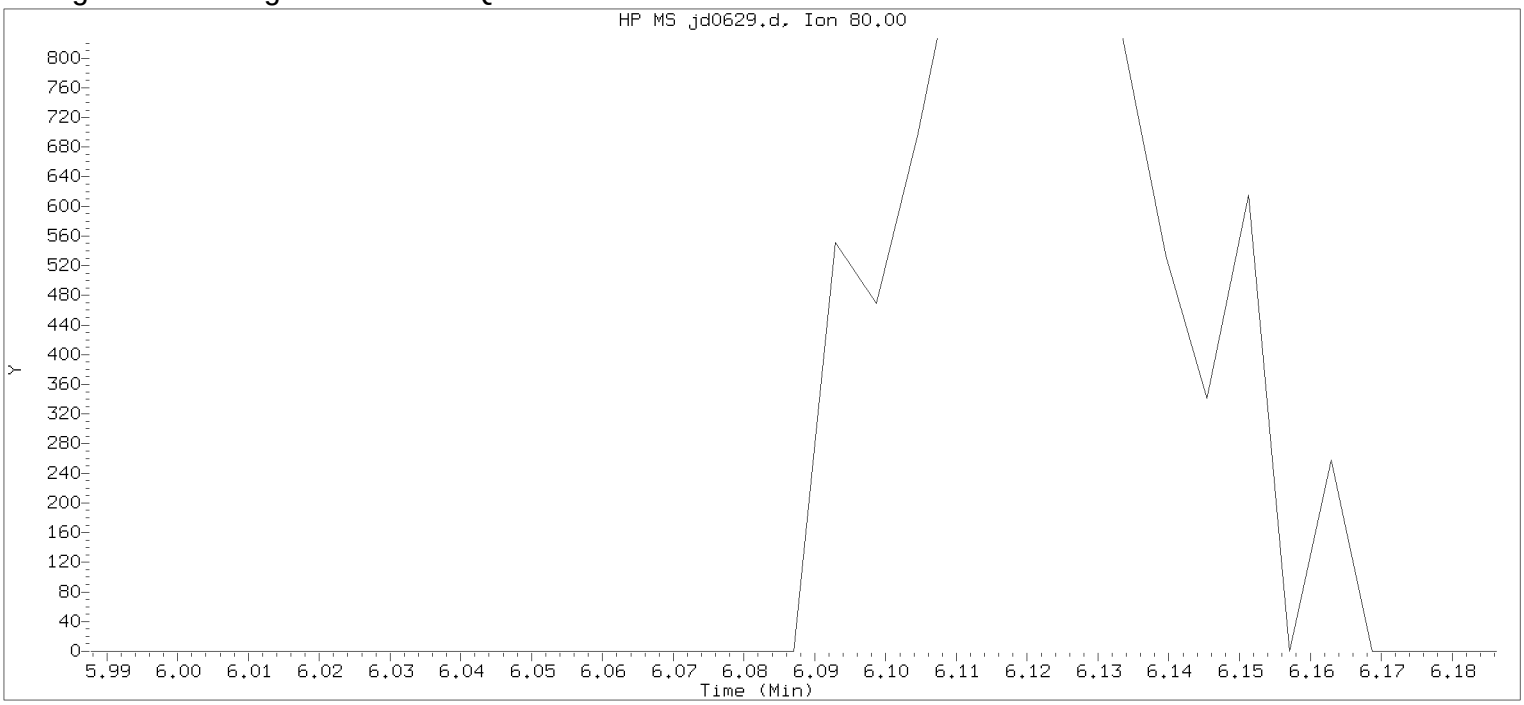
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

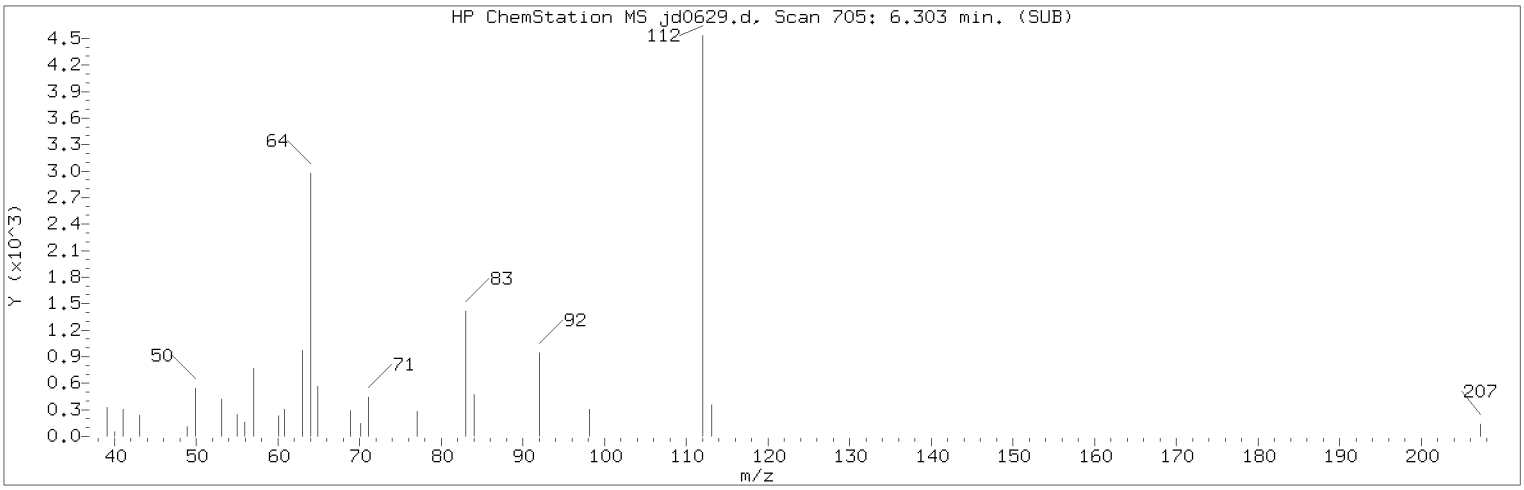
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:35 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

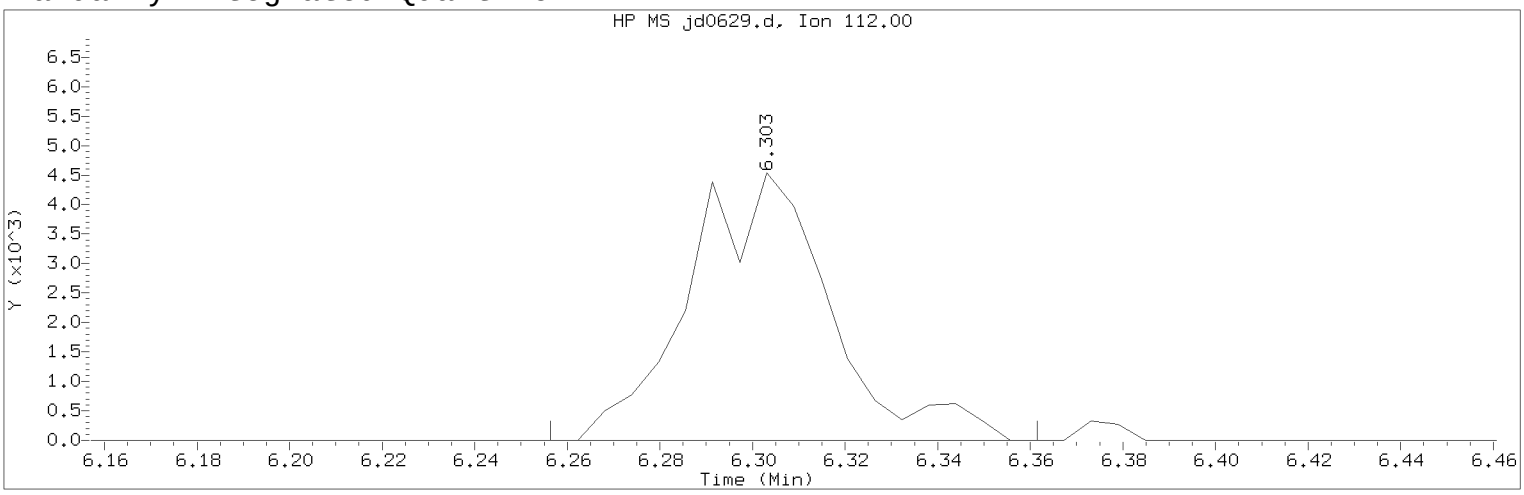
Compound Number : 12
Compound Name : Methyl methanesulfonate
Expected RT (minutes) : 6.087
Quant Ion : 80.00

Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: 1081 Page 978 of 1243

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

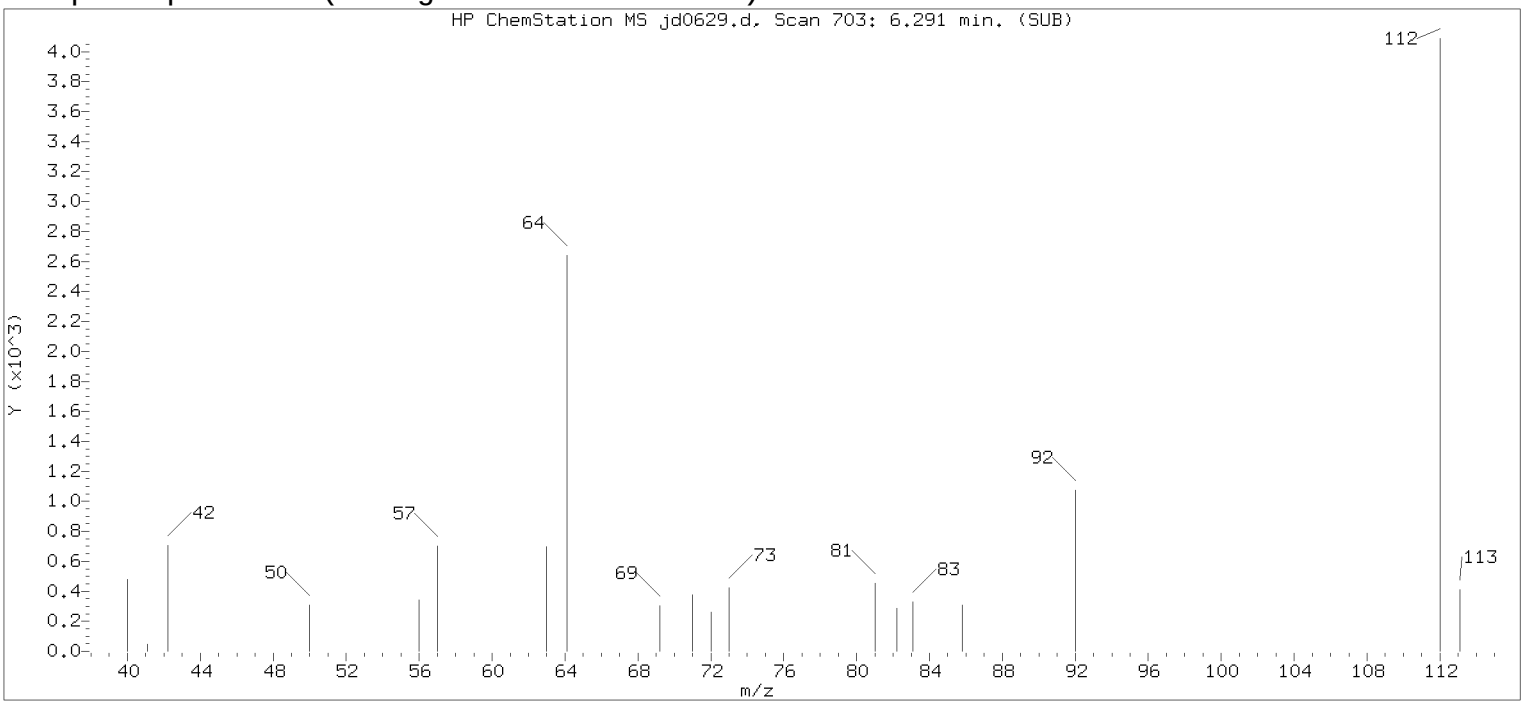
Compound Number : 13
Compound Name : 2-Fluorophenol
Scan Number : 705
Retention Time (minutes) : 6.303
Quant Ion : 112.00
Area (flag) : 9612M
On-Column Amount (ng/ul) : 0.1851
Integration start scan : 696 Integration stop scan: 714
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

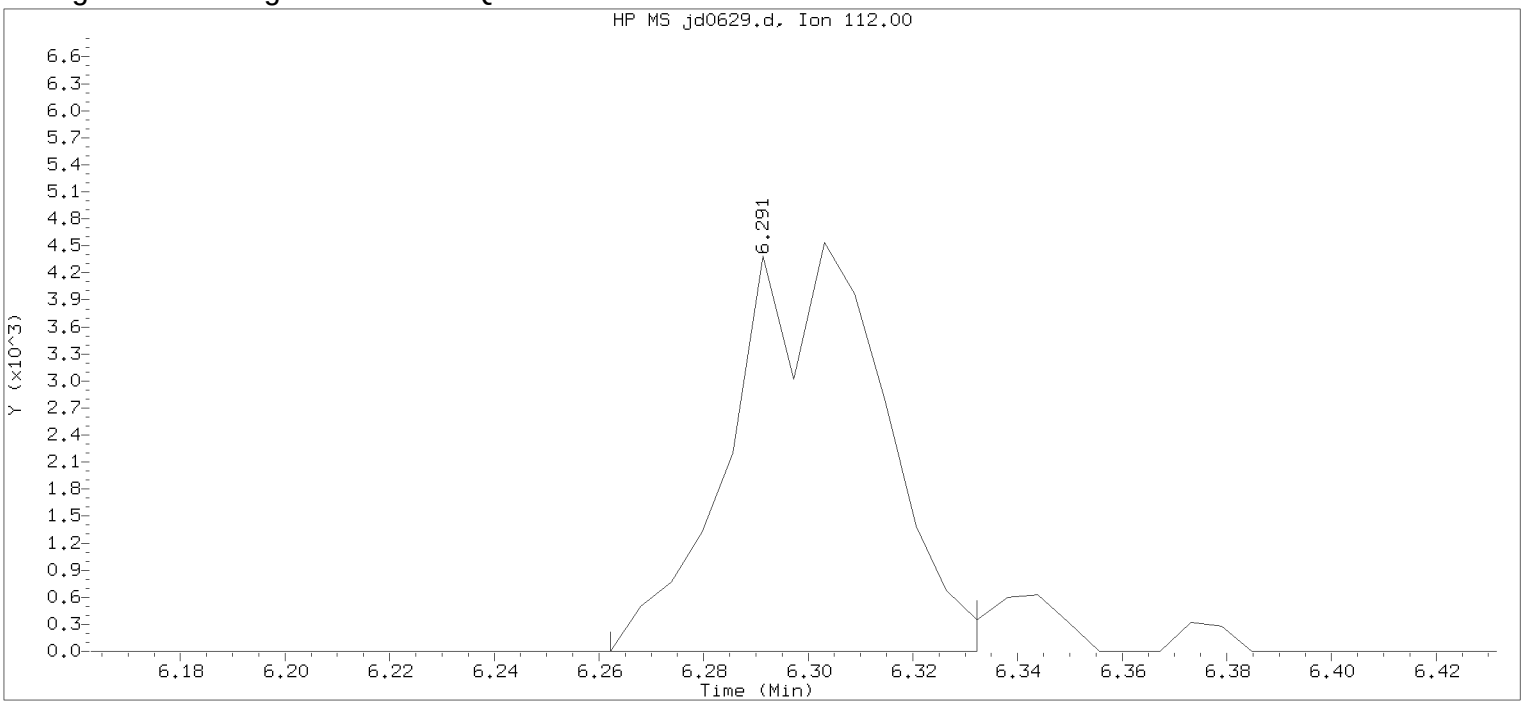
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

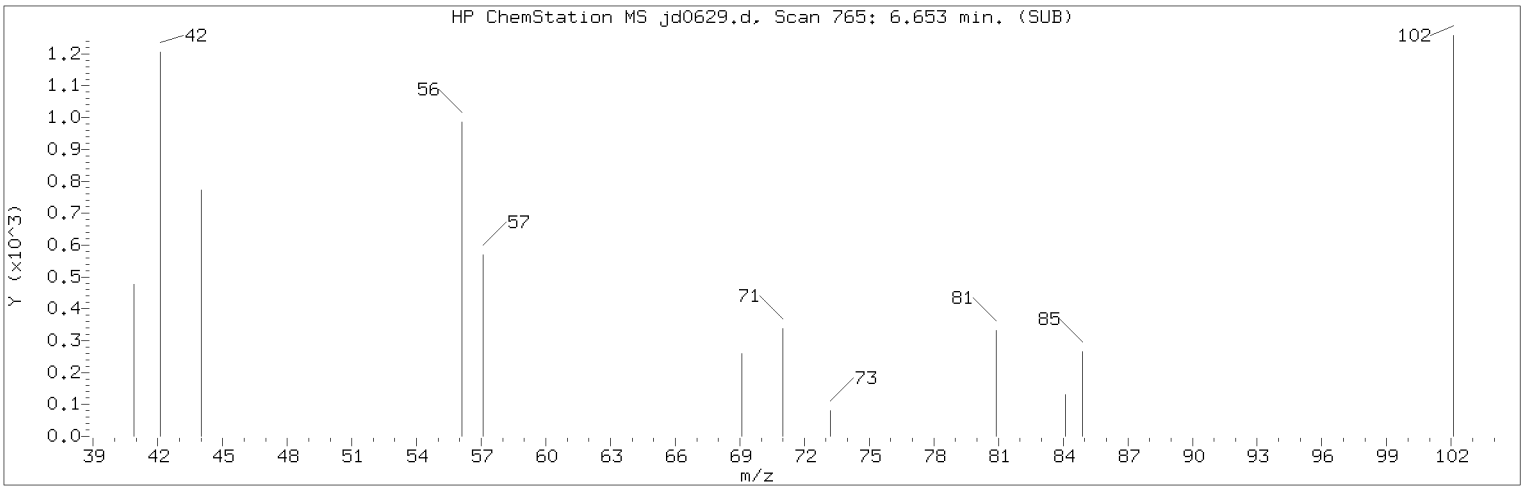
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:35 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

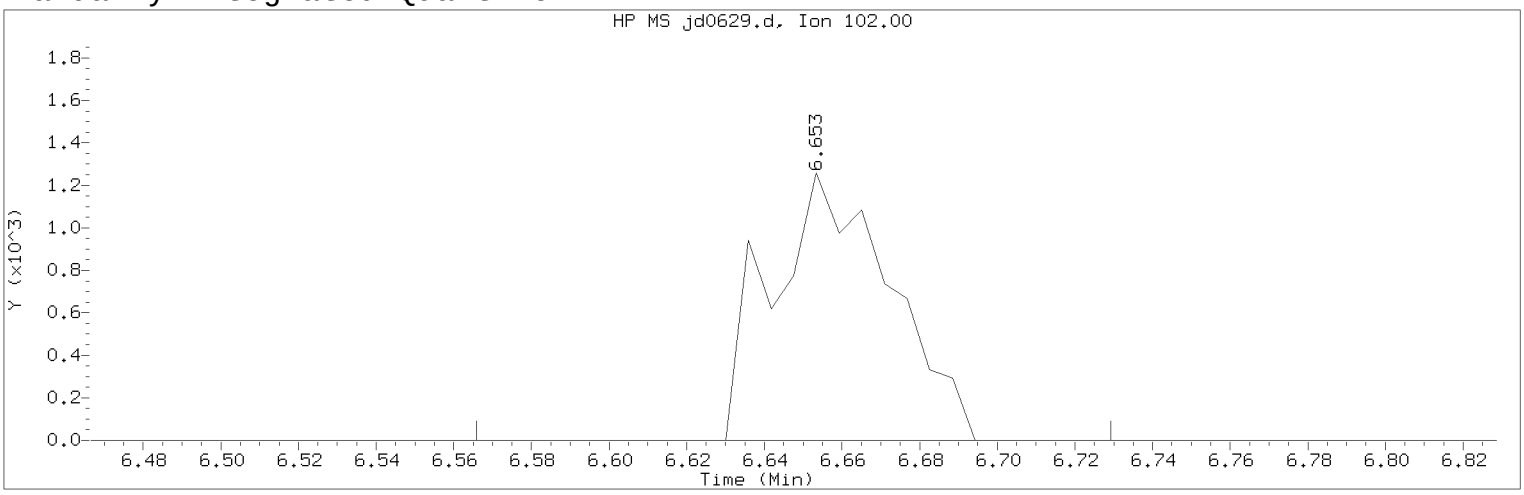
Compound Number : 13
Compound Name : 2-Fluorophenol
Scan Number : 703
Retention Time (minutes) : 6.291
Quant Ion : 112.00
Area : 9009
On-column Amount (ng/ul) : 0.1724
Integration start scan : 697 Integration stop scan: 709
Y at integration start : 0 Y at integration end: 0

Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user id: 1081 Page 980 of 1243

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

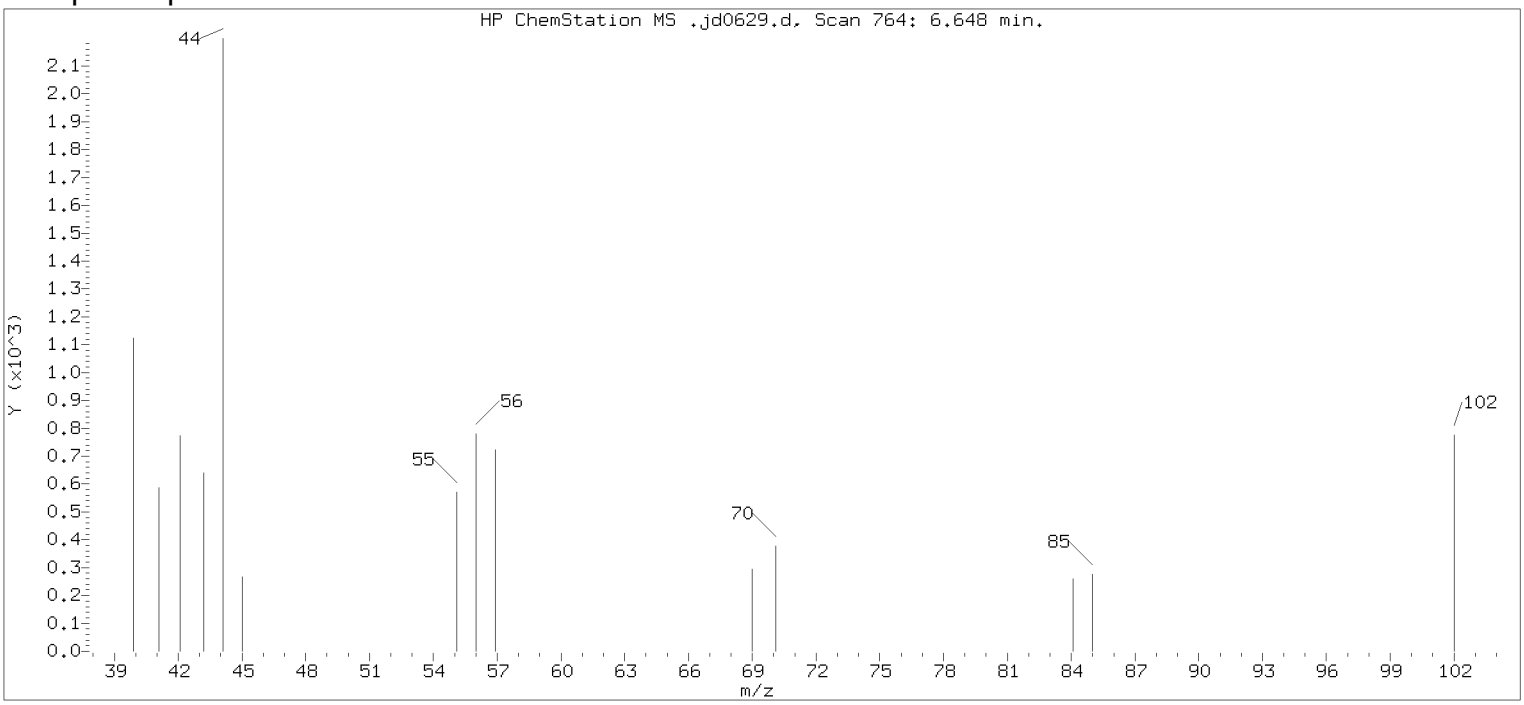
Compound Number : 14
Compound Name : N-Nitrosodiethylamine
Scan Number : 765
Retention Time (minutes) : 6.653
Quant Ion : 102.00
Area (flag) : 2692M
On-Column Amount (ng/ul) : 0.0964
Integration start scan : 749 Integration stop scan: 777
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

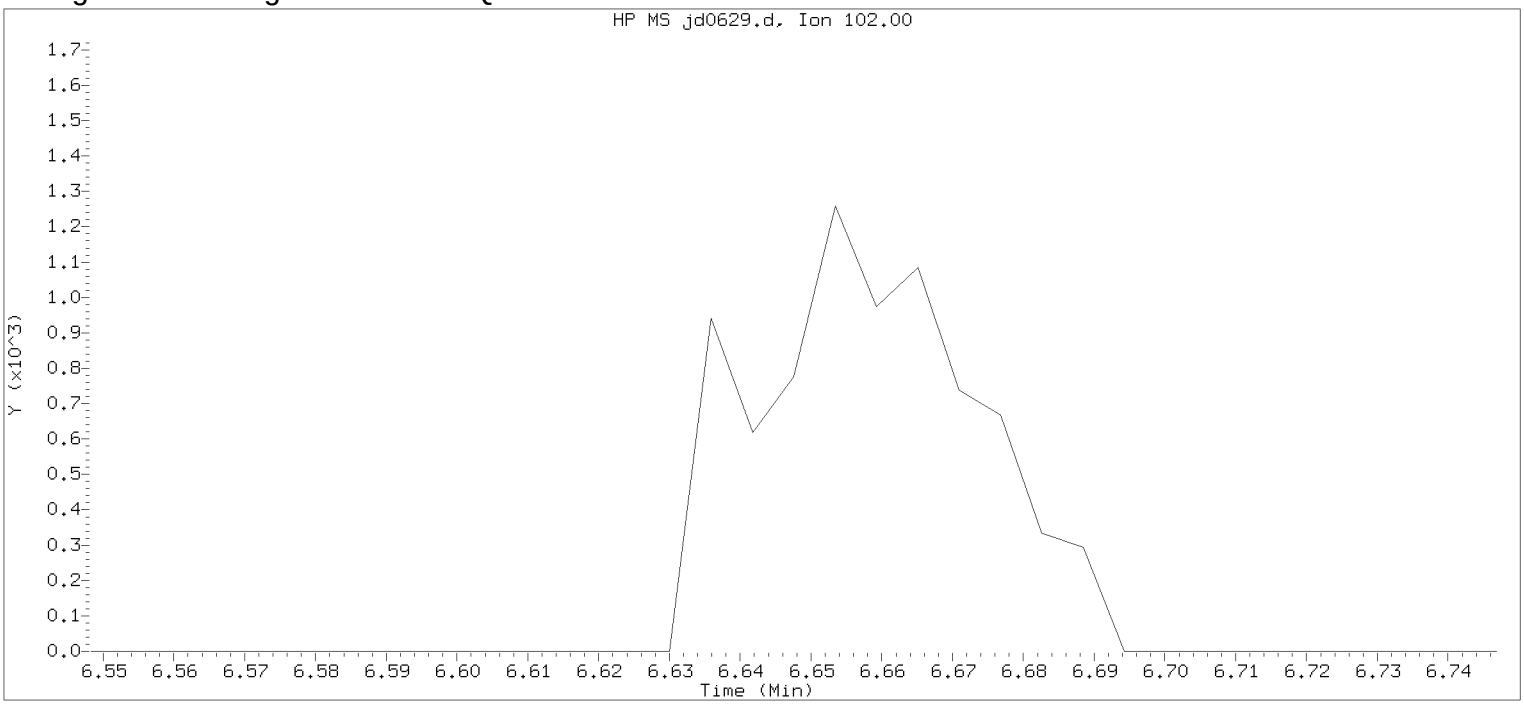
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

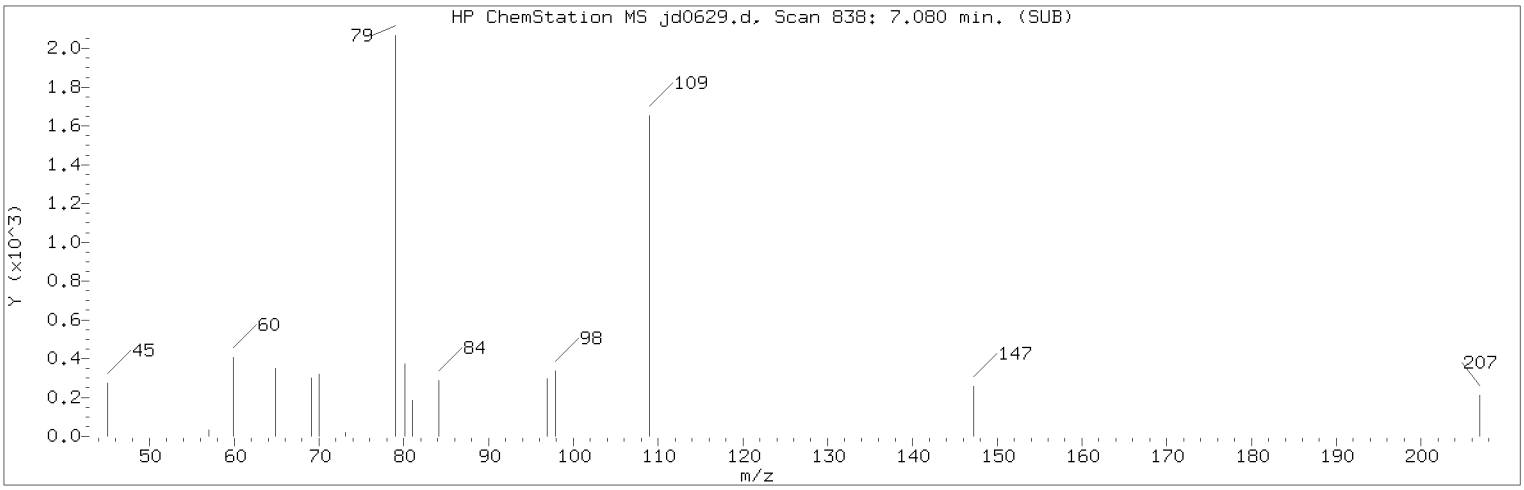
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:35 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

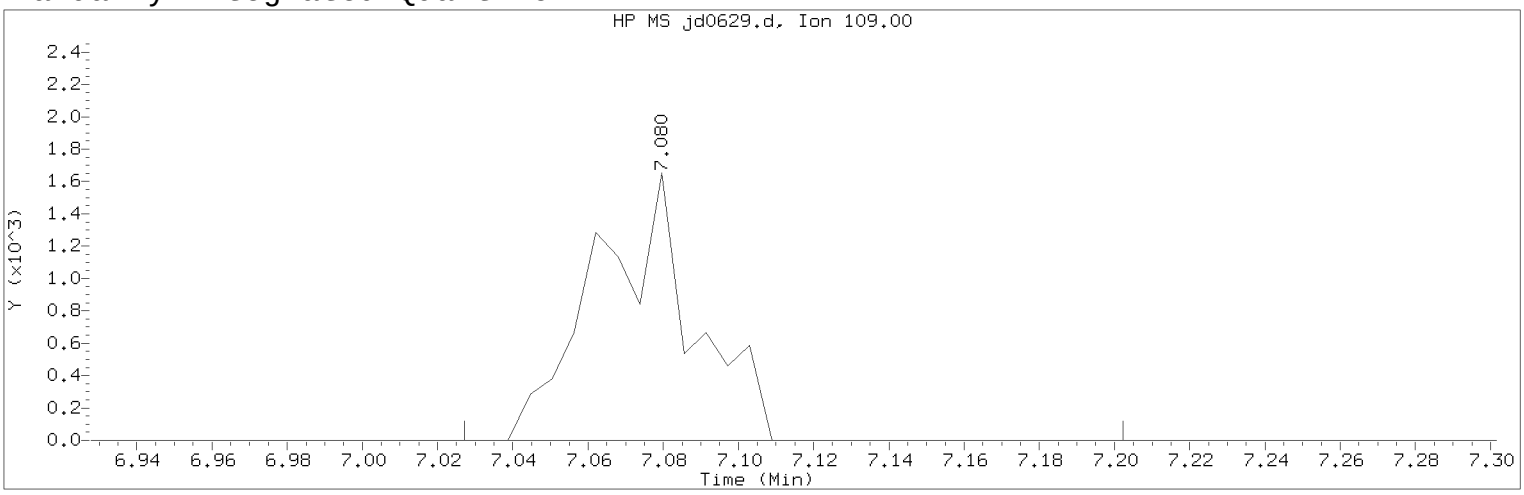
Compound Number : 14
Compound Name : N-Nitrosodiethylamine
Expected RT (minutes) : 6.648
Quant Ion : 102.00

Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: 1081 Page 982 of 1243

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

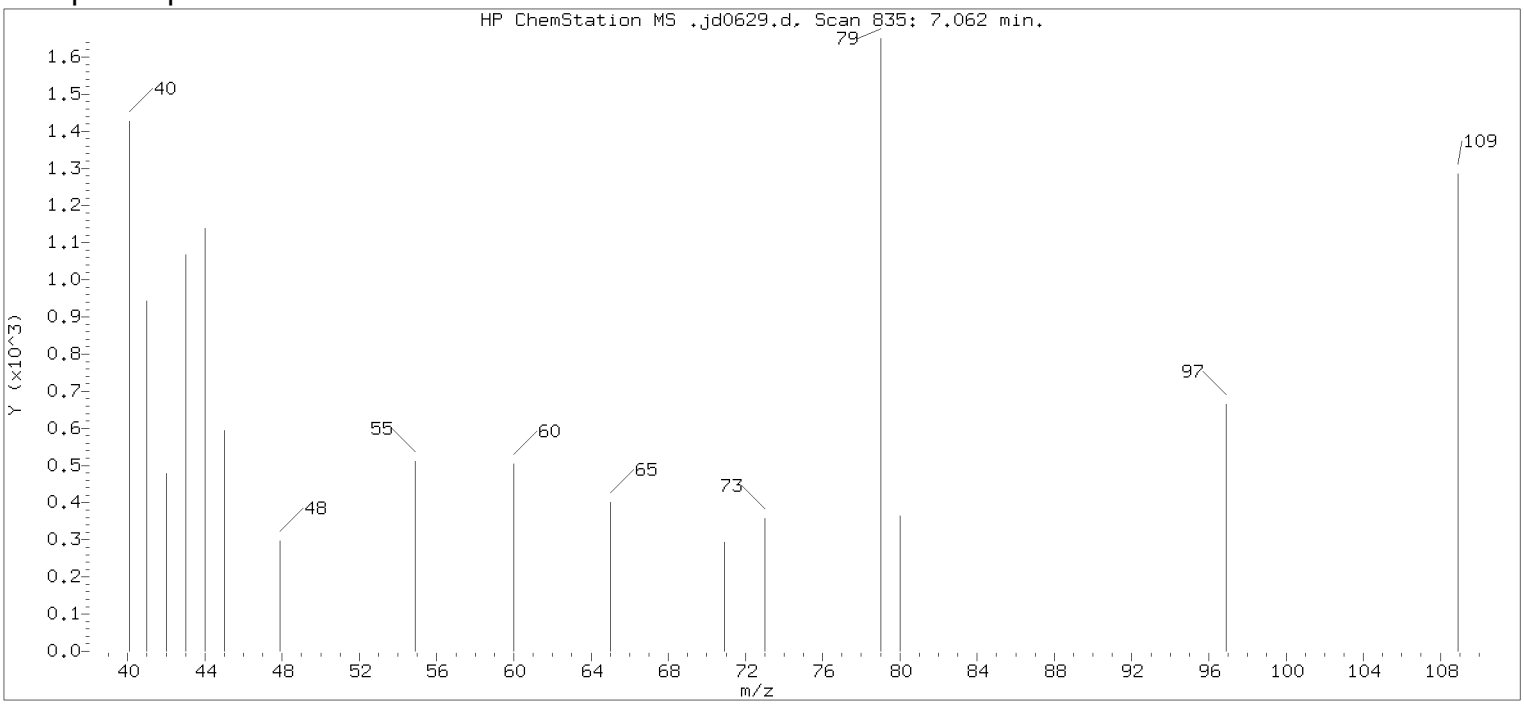
Compound Number : 18
Compound Name : Ethyl methanesulfonate
Scan Number : 838
Retention Time (minutes) : 7.080
Quant Ion : 109.00
Area (flag) : 2975M
On-Column Amount (ng/ul) : 0.1104
Integration start scan : 828 Integration stop scan: 858
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

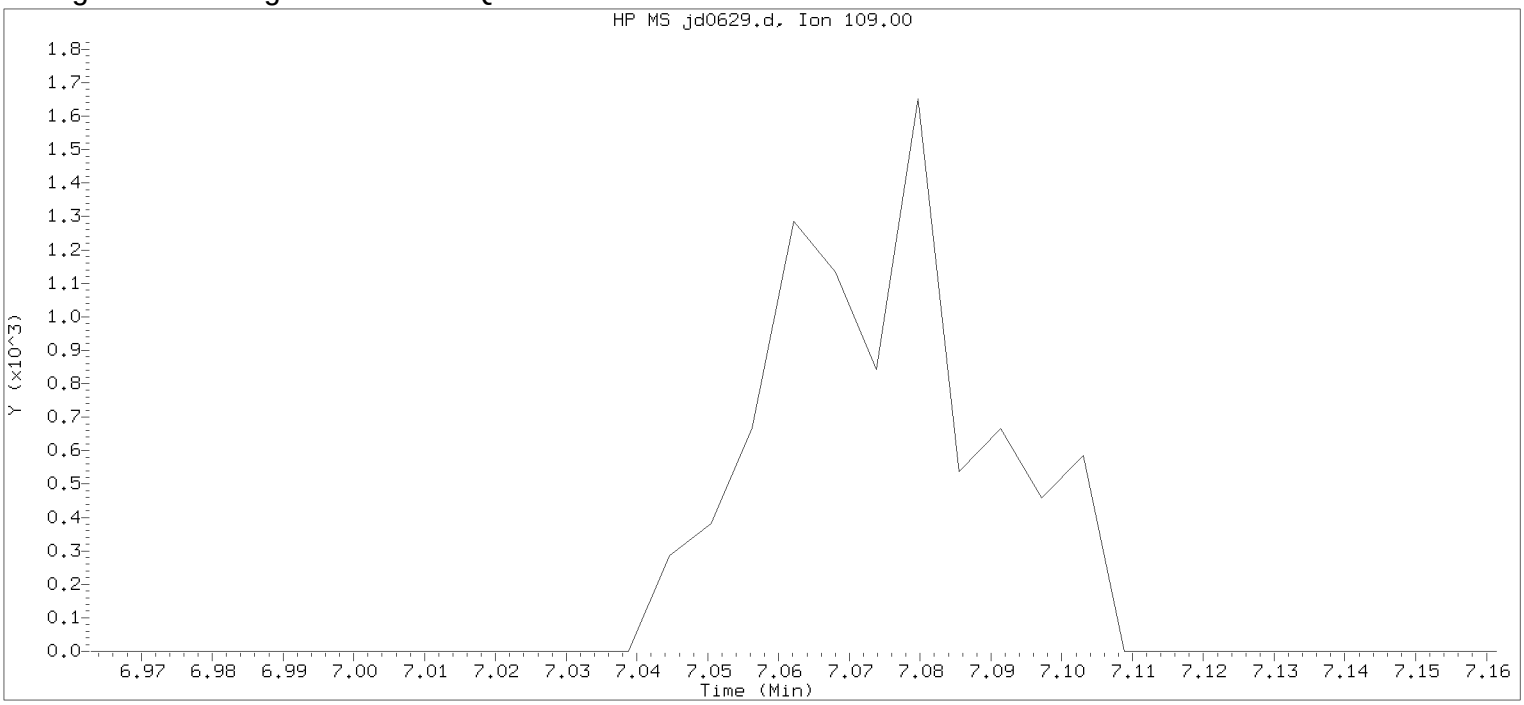
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

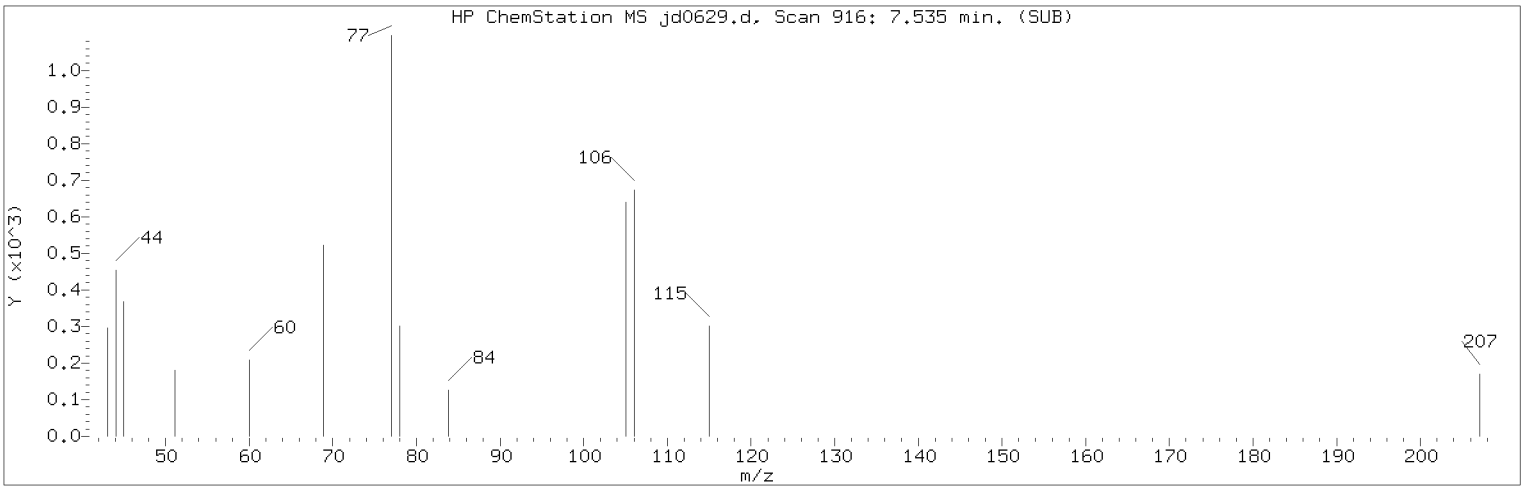
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:35 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

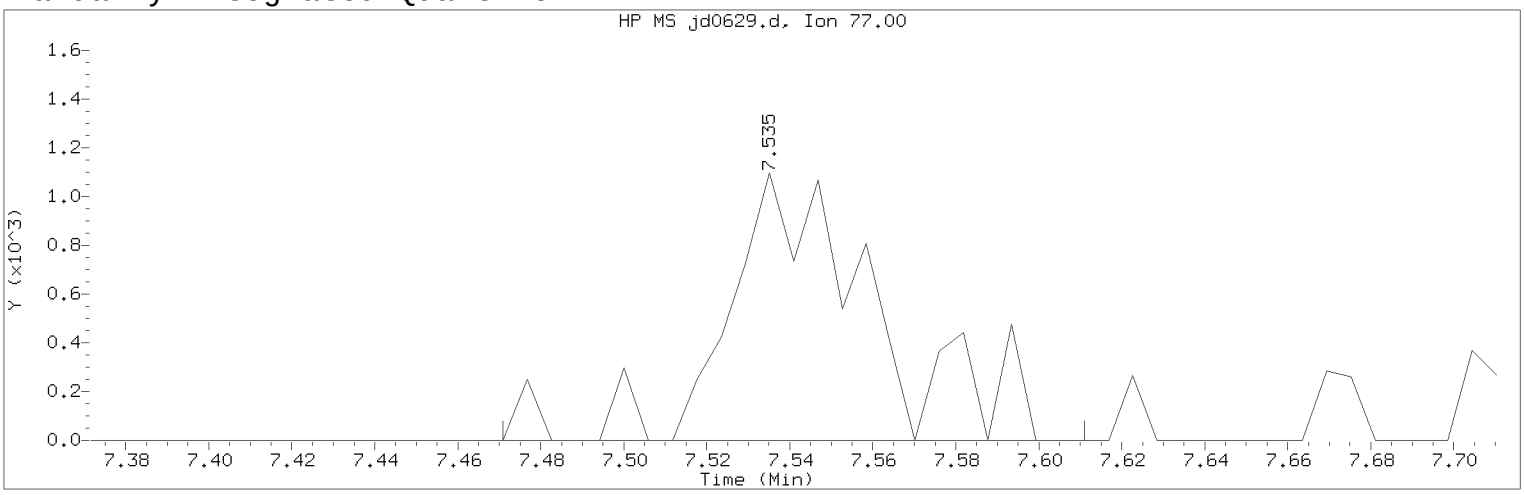
Compound Number : 18
Compound Name : Ethyl methanesulfonate
Expected RT (minutes) : 7.062
Quant Ion : 109.00

Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: 1

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

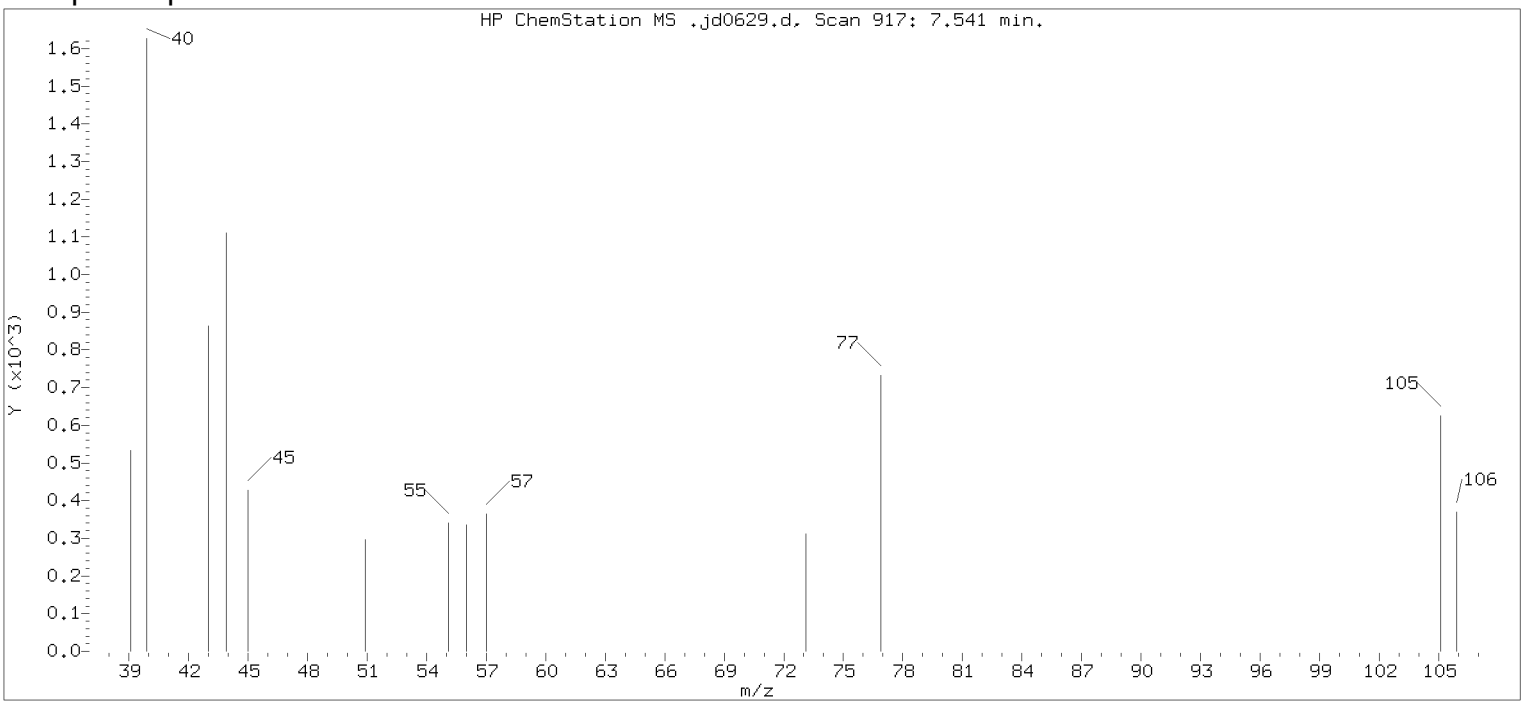
Compound Number : 24
Compound Name : Benzaldehyde
Scan Number : 916
Retention Time (minutes) : 7.535
Quant Ion : 77.00
Area (flag) : 2752M
On-Column Amount (ng/ul) : 0.0509
Integration start scan : 904 Integration stop scan: 928
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

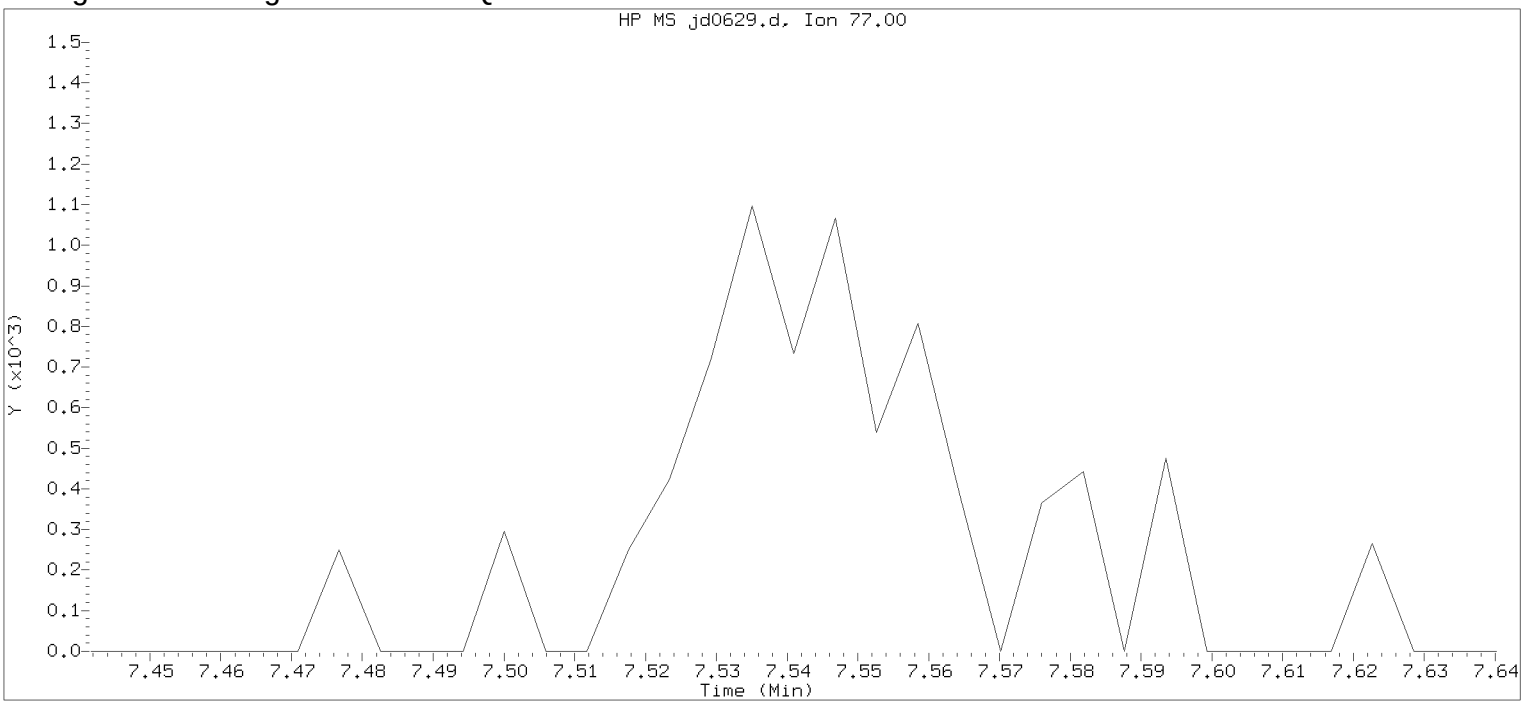
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

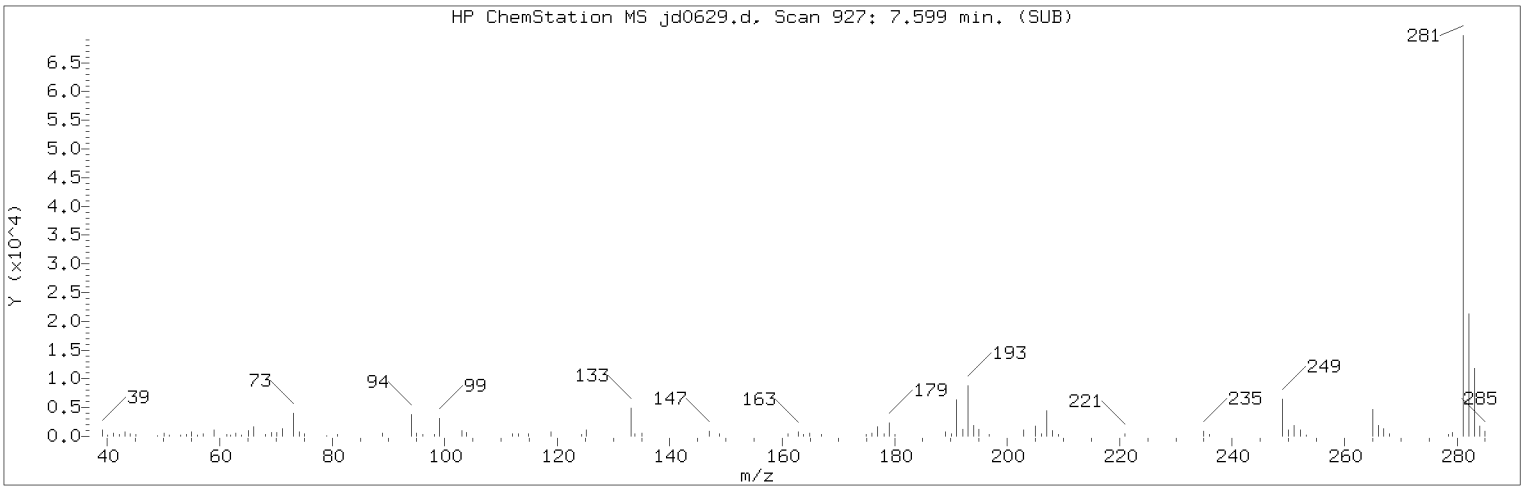
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:35 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

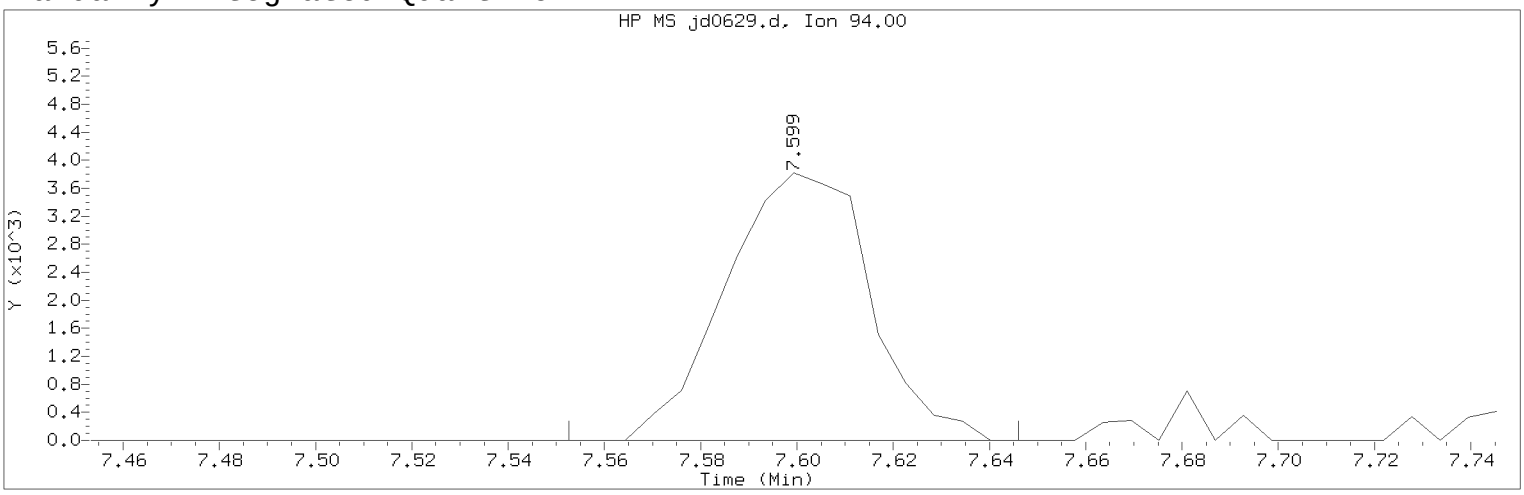
Compound Number : 24
Compound Name : Benzaldehyde
Expected RT (minutes) : 7.541
Quant Ion : 77.00

Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user id: 1081 Page 986 of 1243

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

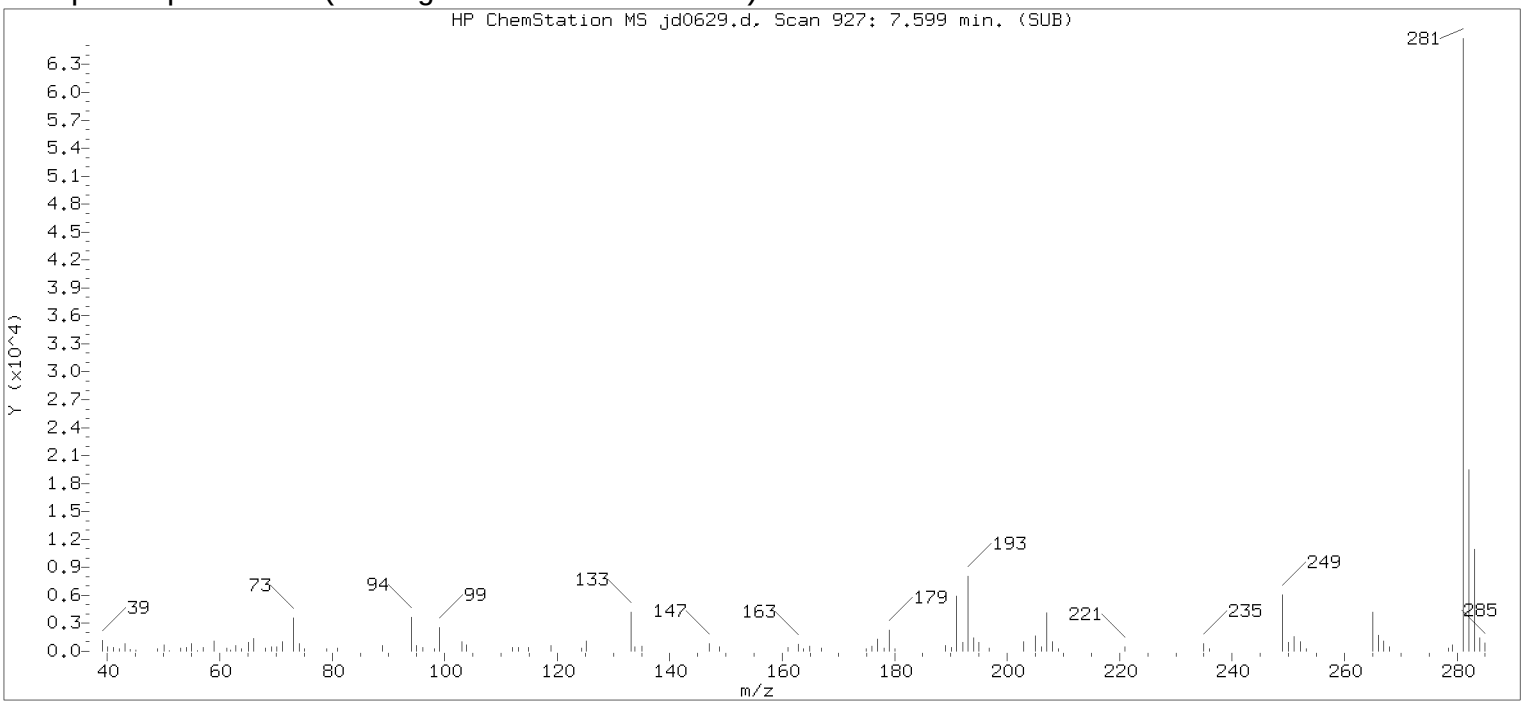
Compound Number : 27
Compound Name : Phenol
Scan Number : 927
Retention Time (minutes) : 7.599
Quant Ion : 94.00
Area (flag) : 7962M
On-Column Amount (ng/ul) : 0.1034
Integration start scan : 918 Integration stop scan: 934
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

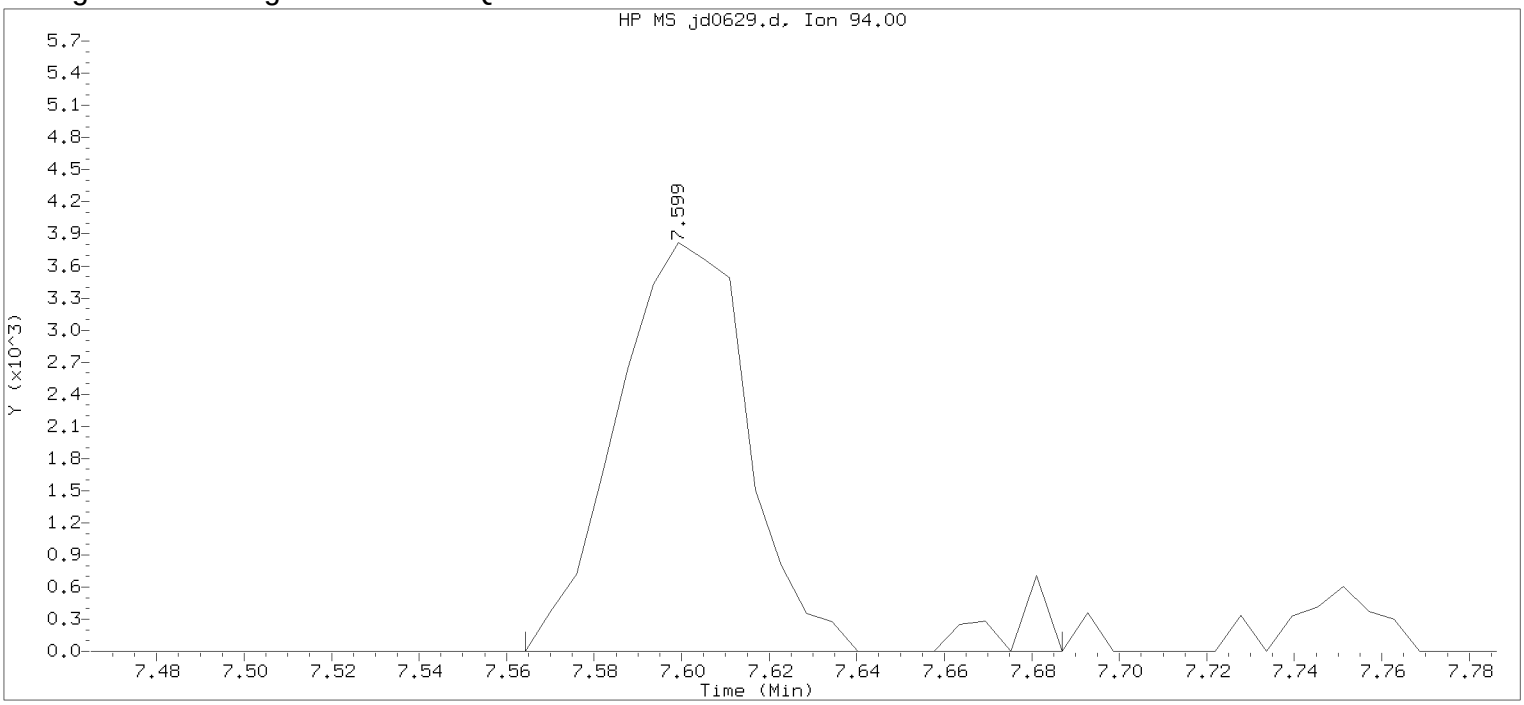
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

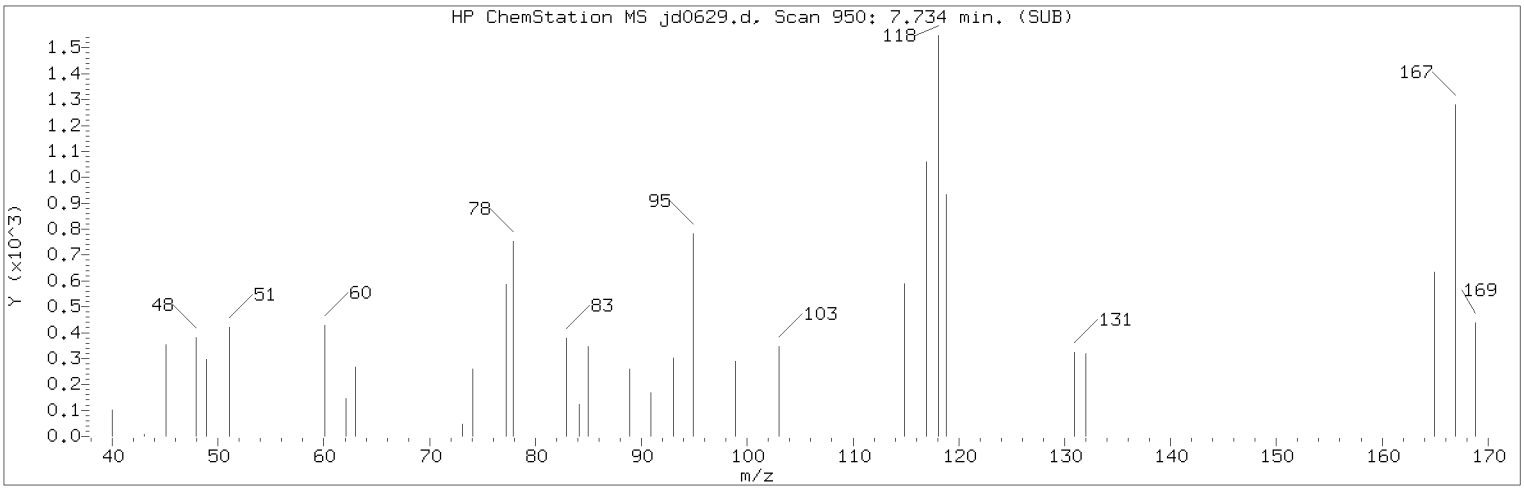
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:35 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

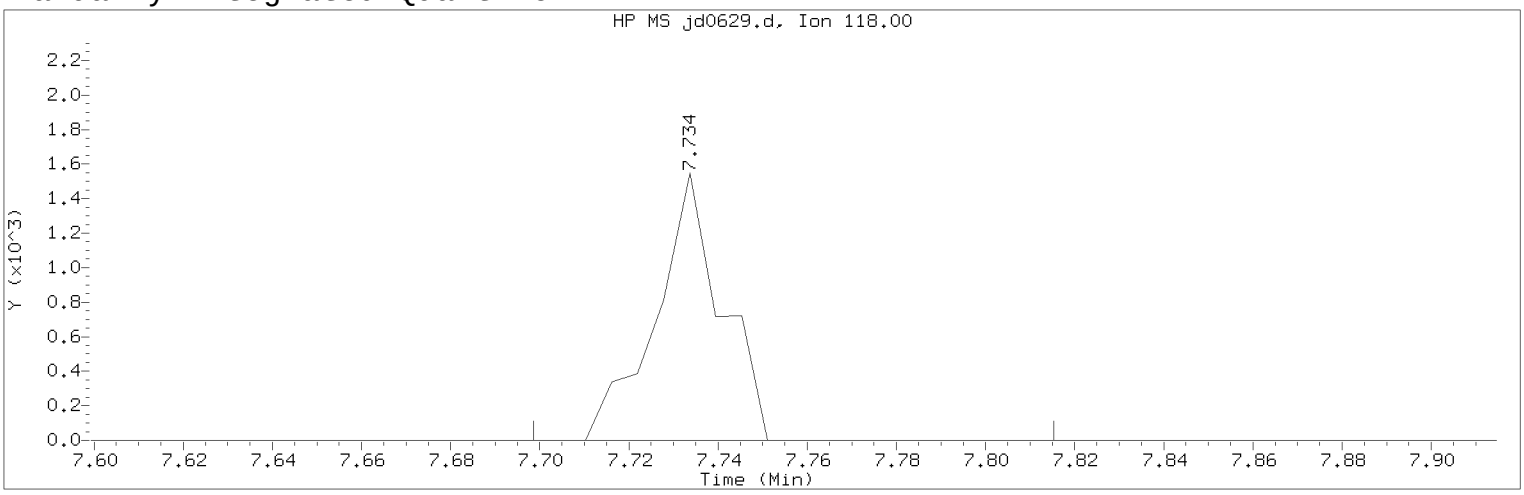
Compound Number : 27
Compound Name : Phenol
Scan Number : 927
Retention Time (minutes) : 7.599
Quant Ion : 94.00
Area : 8398
On-column Amount (ng/ul) : 0.1087
Integration start scan : 920 Integration stop scan: 941
Y at integration start : 0 Y at integration end: 0

Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user id: 1081 Page 988 of 1243

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

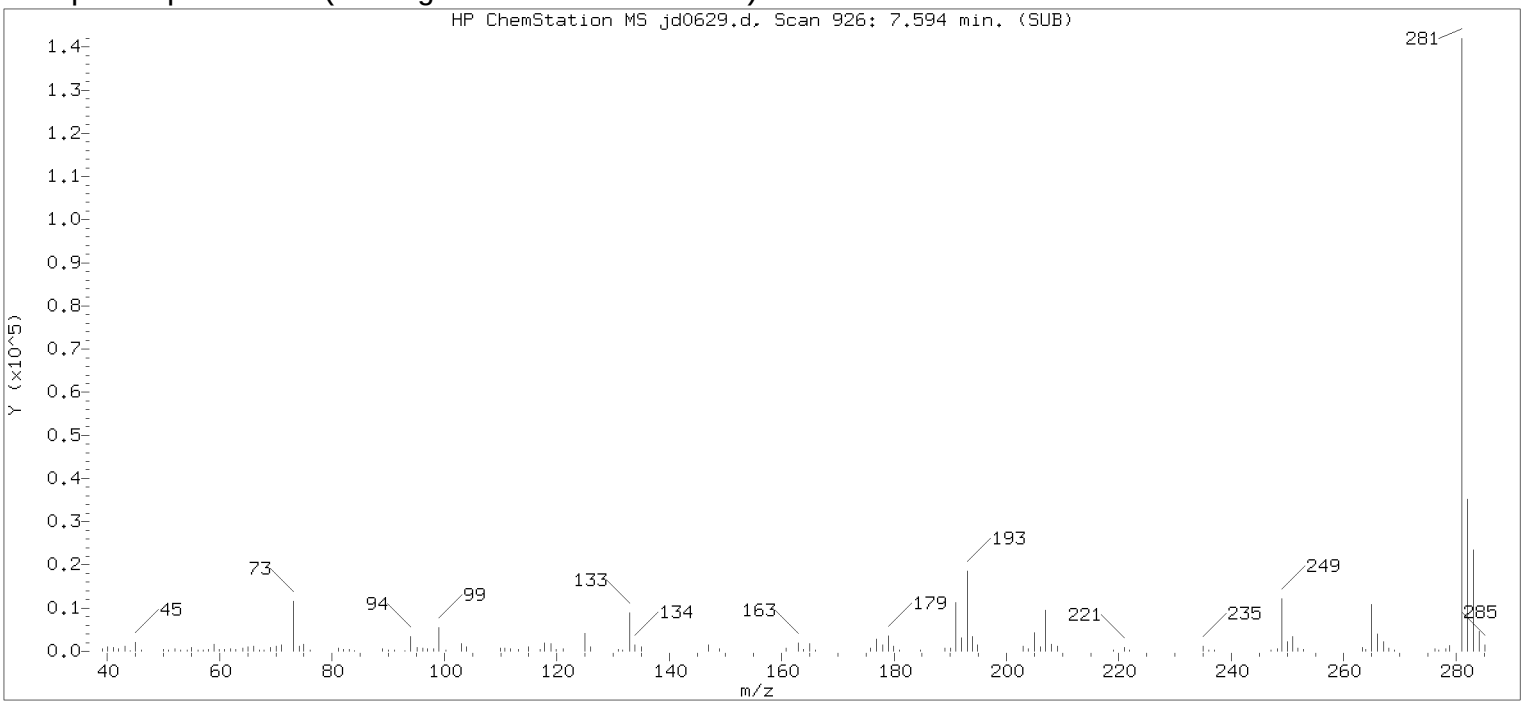
Compound Number : 30
Compound Name : a-methylstyrene
Scan Number : 950
Retention Time (minutes) : 7.734
Quant Ion : 118.00
Area (flag) : 1583M
On-Column Amount (ng/ul) : 0.0848
Integration start scan : 943 Integration stop scan: 963
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

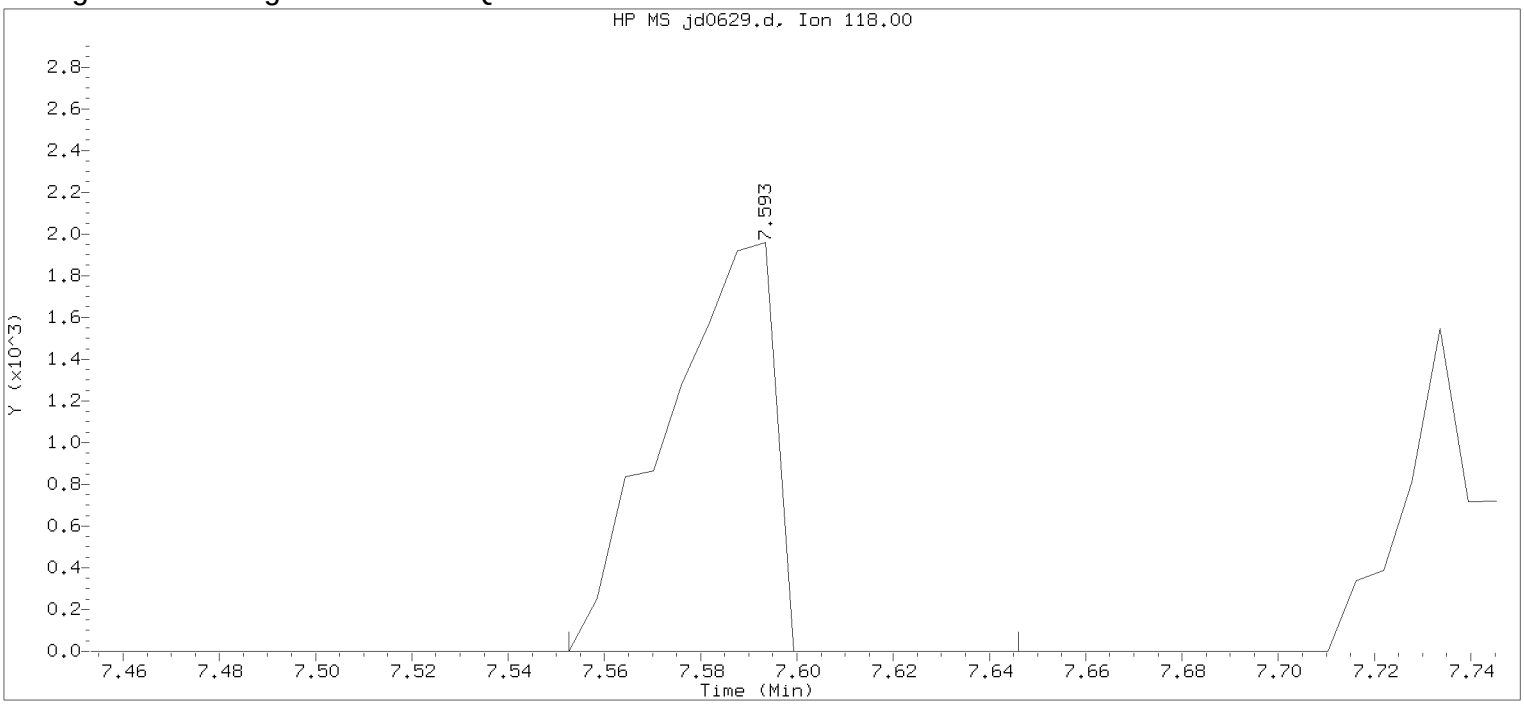
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

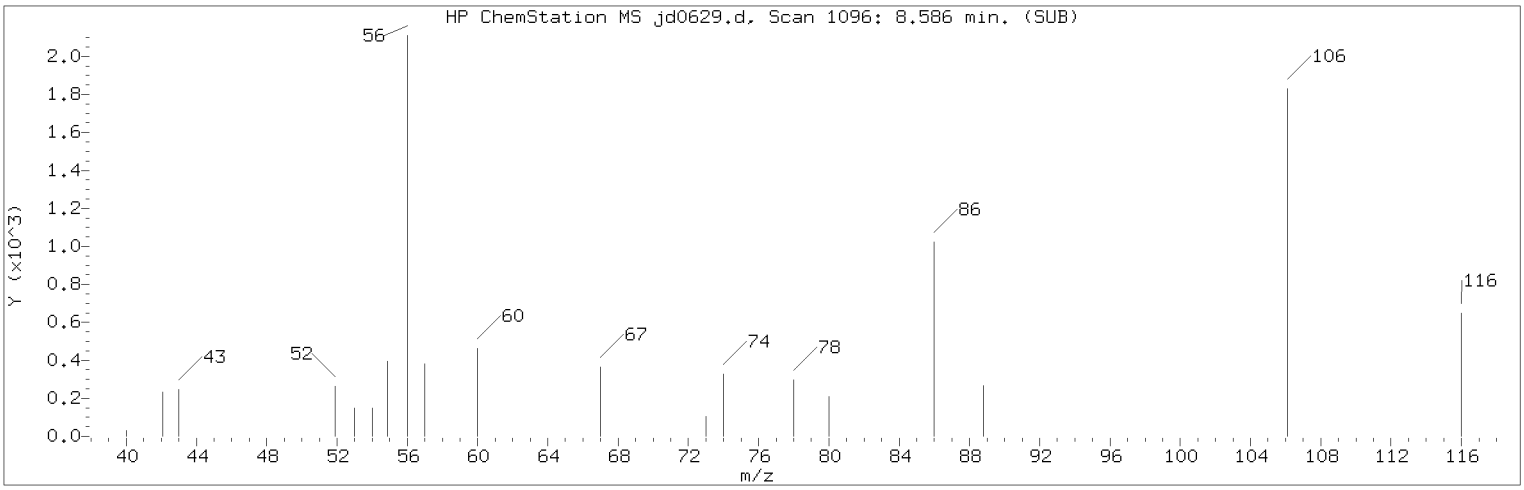
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:35 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

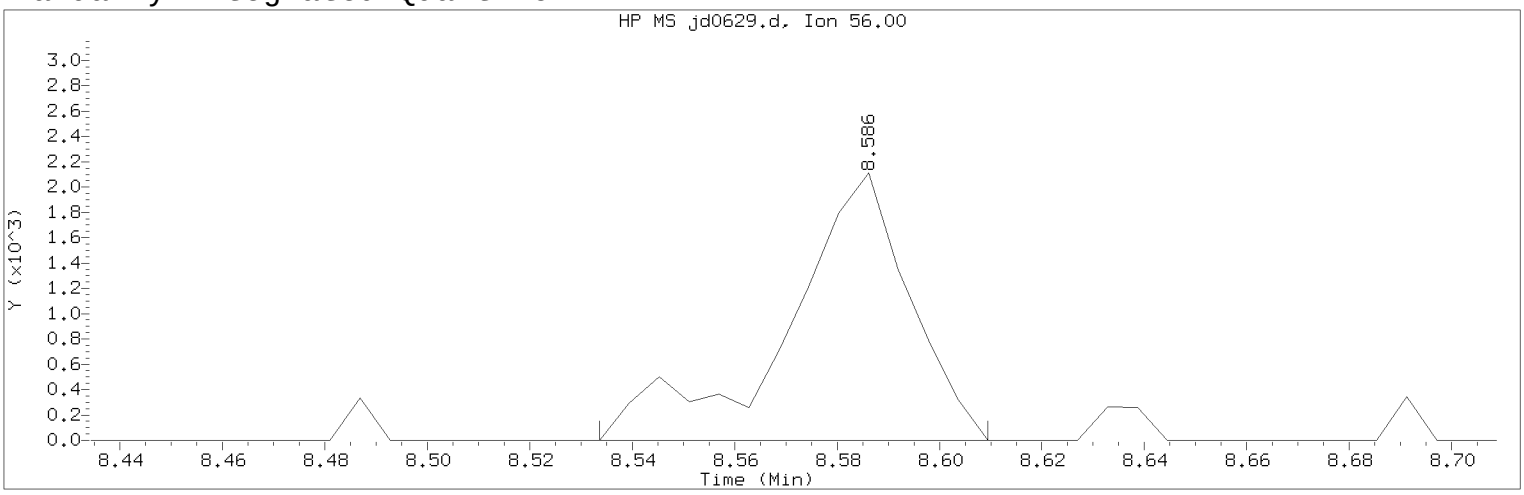
Compound Number : 30
Compound Name : a-methylstyrene
Scan Number : 926
Retention Time (minutes) : 7.593
Quant Ion : 118.00
Area : 3039
On-column Amount (ng/ul) : 0.1624
Integration start scan : 918 Integration stop scan: 934
Y at integration start : 0 Y at integration end: 0

Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user id: 1

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

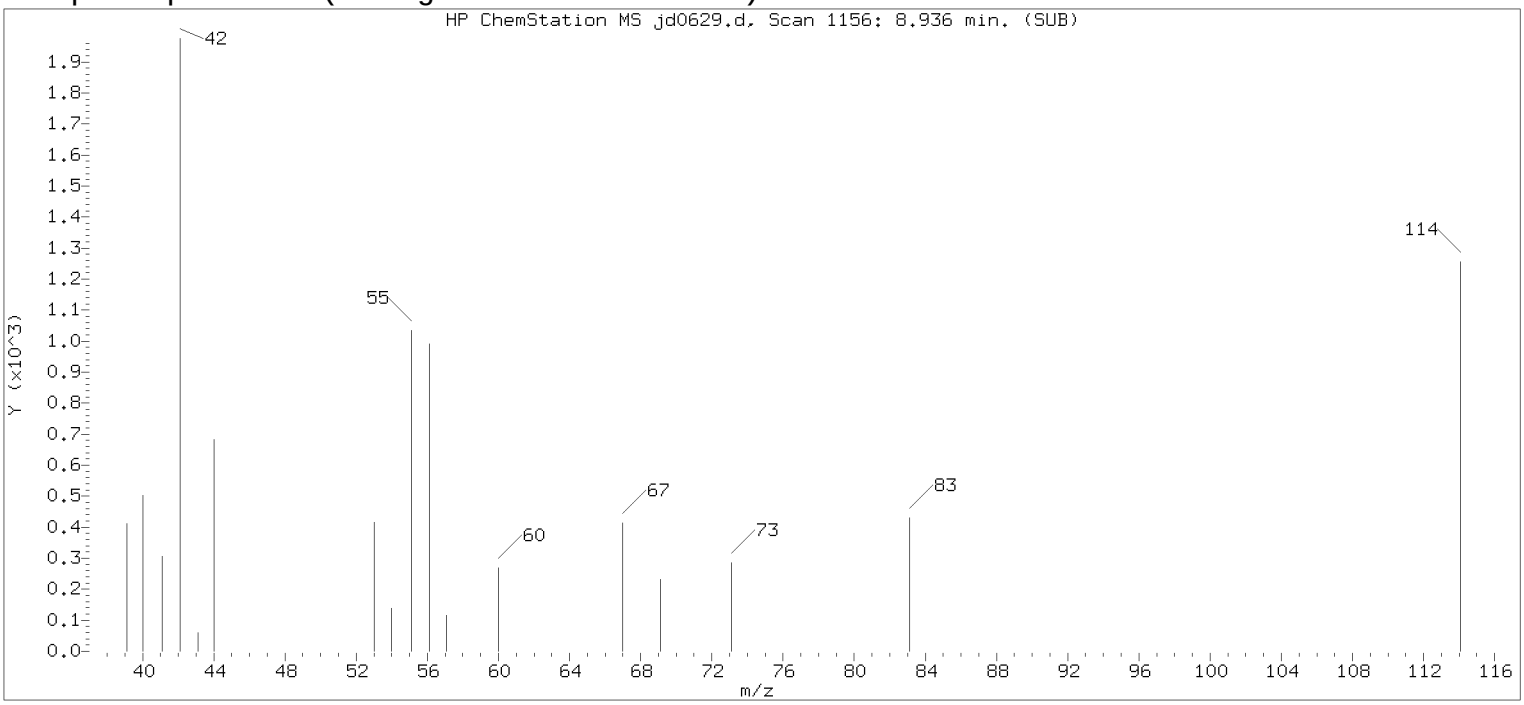
Compound Number : 55
Compound Name : N-Nitrosomorpholine
Scan Number : 1096
Retention Time (minutes) : 8.586
Quant Ion : 56.00
Area (flag) : 3505M
On-Column Amount (ng/ul) : 0.1124
Integration start scan : 1086 Integration stop scan: 1099
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

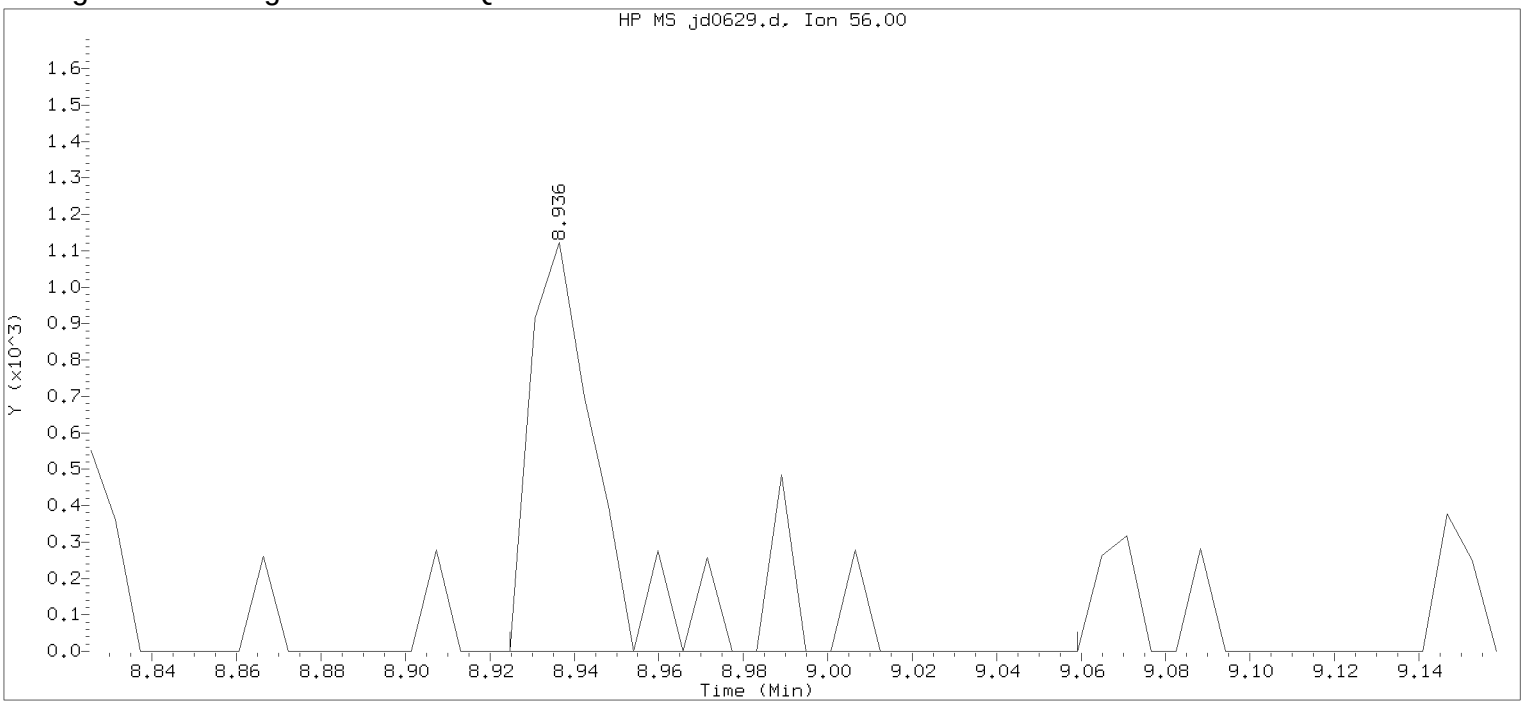
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

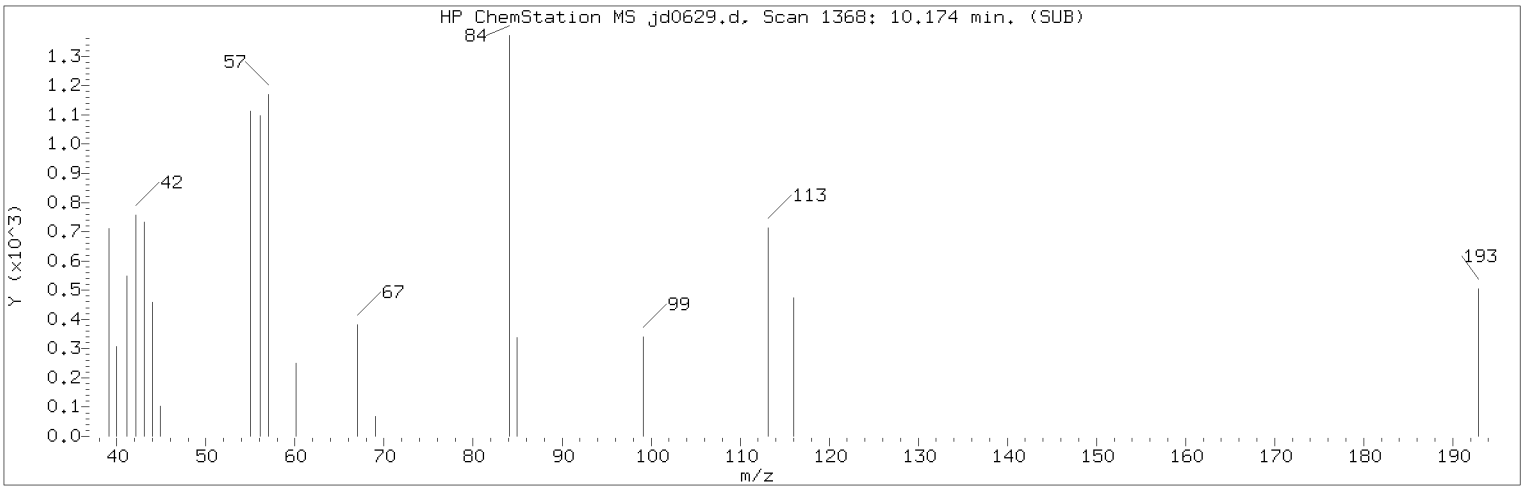
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:35 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

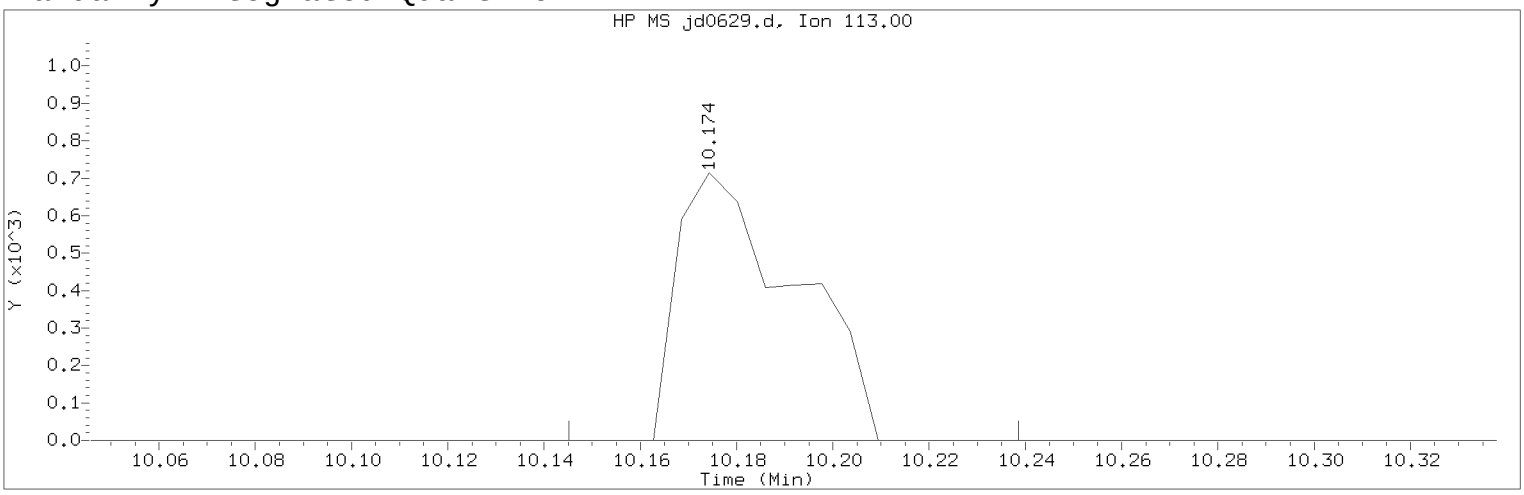
Compound Number : 55
Compound Name : N-Nitrosomorpholine
Scan Number : 1156
Retention Time (minutes) : 8.936
Quant Ion : 56.00
Area : 1551
On-column Amount (ng/ul) : 0.1283
Integration start scan : 1153 Integration stop scan: 1176
Y at integration start : 0 Y at integration end: 0

Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: 1081 Page 952 of 1243

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

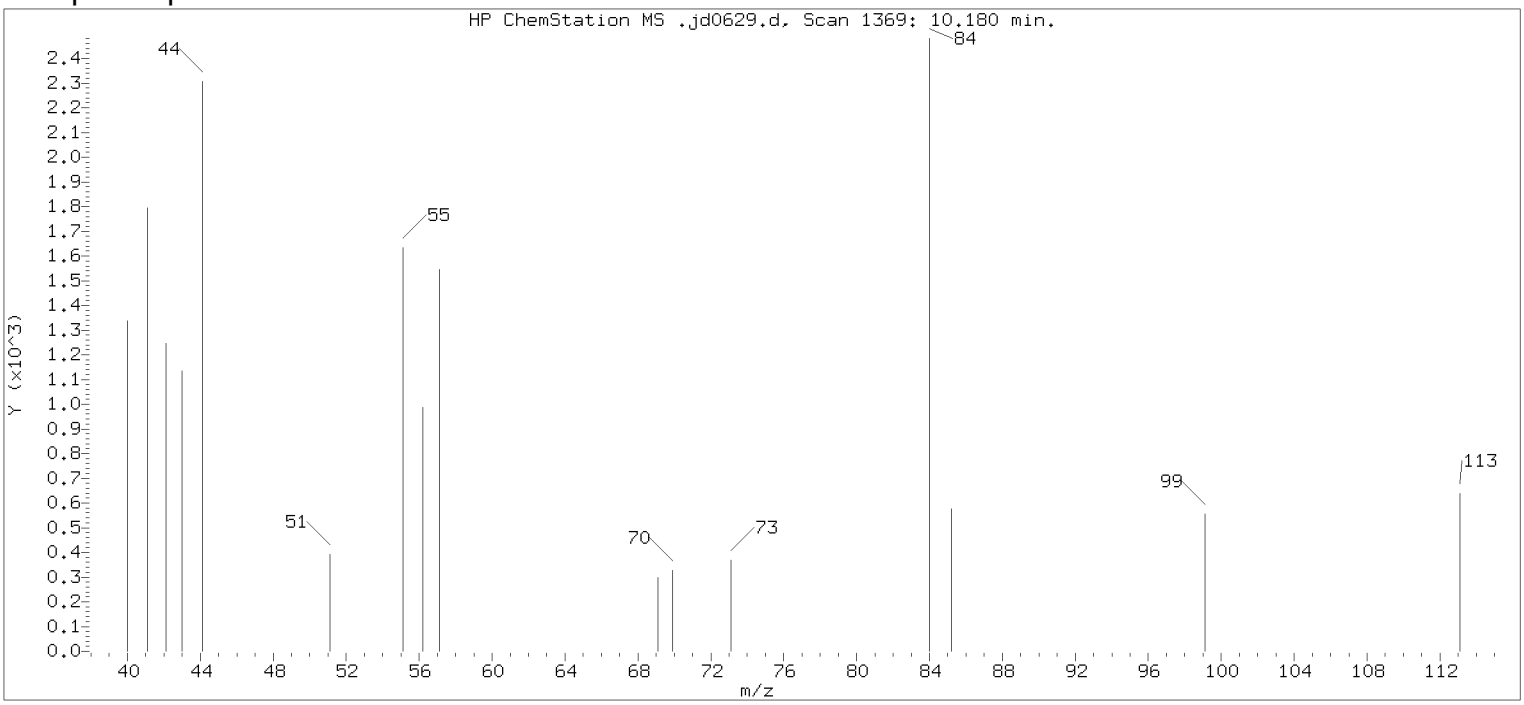
Compound Number : 86
Compound Name : Caprolactam
Scan Number : 1368
Retention Time (minutes) : 10.174
Quant Ion : 113.00
Area (flag) : 1217M
On-Column Amount (ng/ul) : 0.1063
Integration start scan : 1362 Integration stop scan: 1378
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

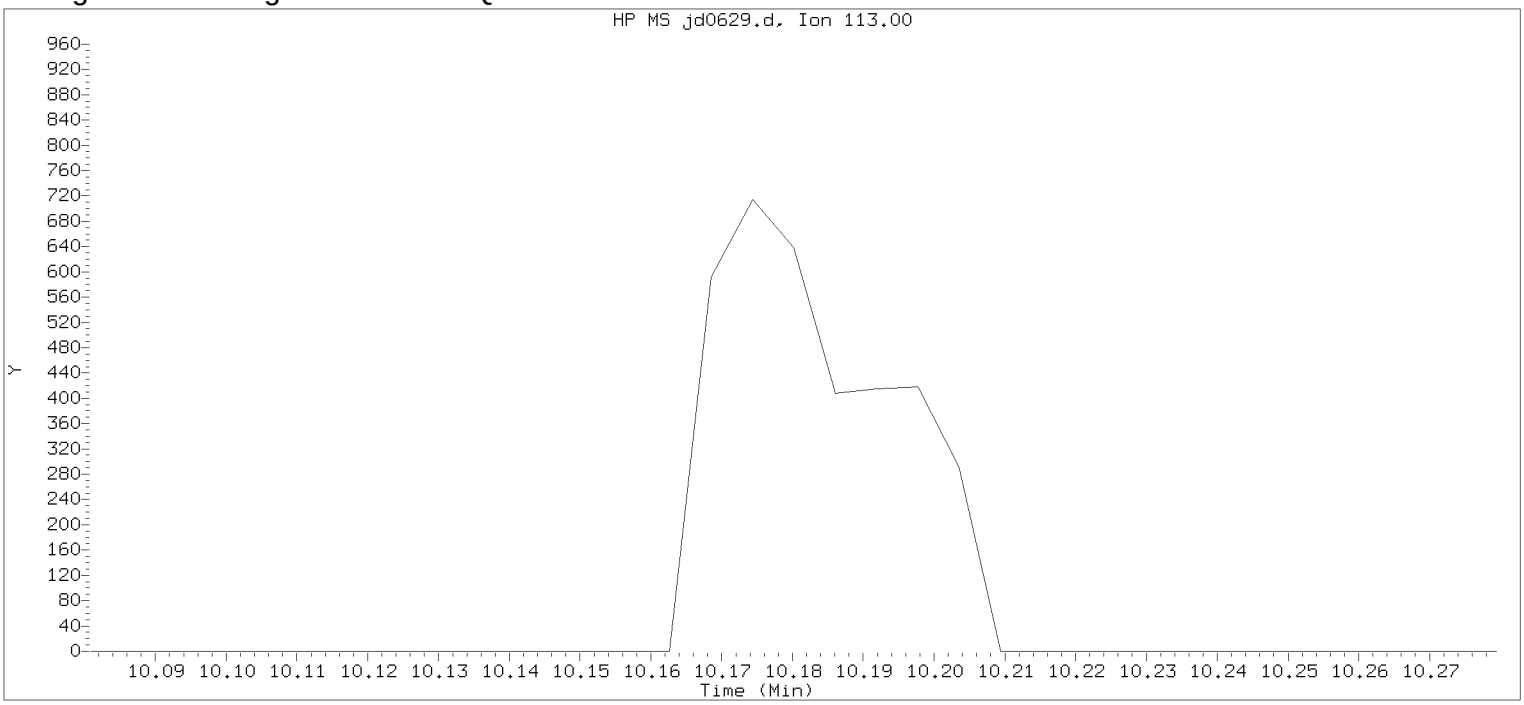
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

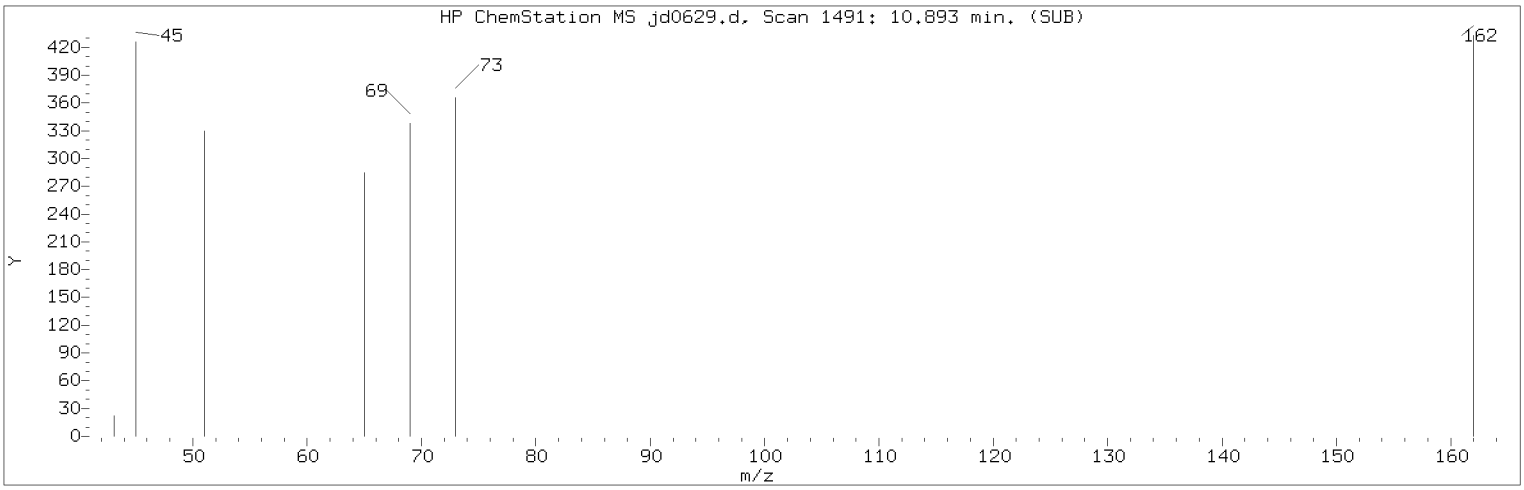
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:35 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

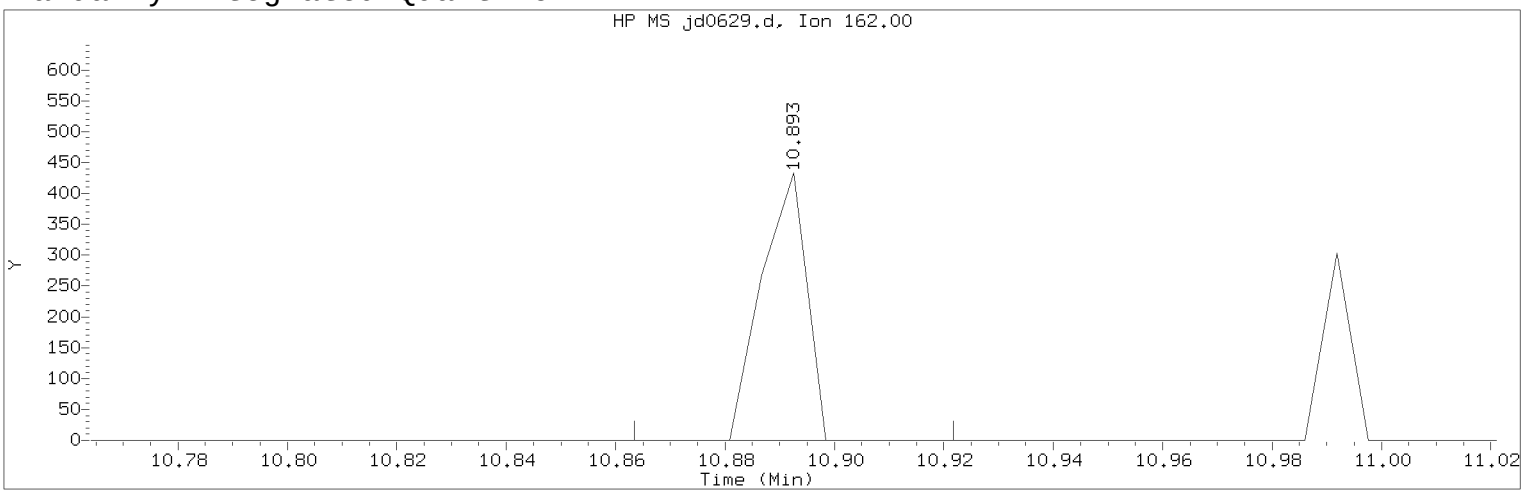
Compound Number : 86
Compound Name : Caprolactam
Expected RT (minutes) : 10.180
Quant Ion : 113.00

Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user id: 1

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

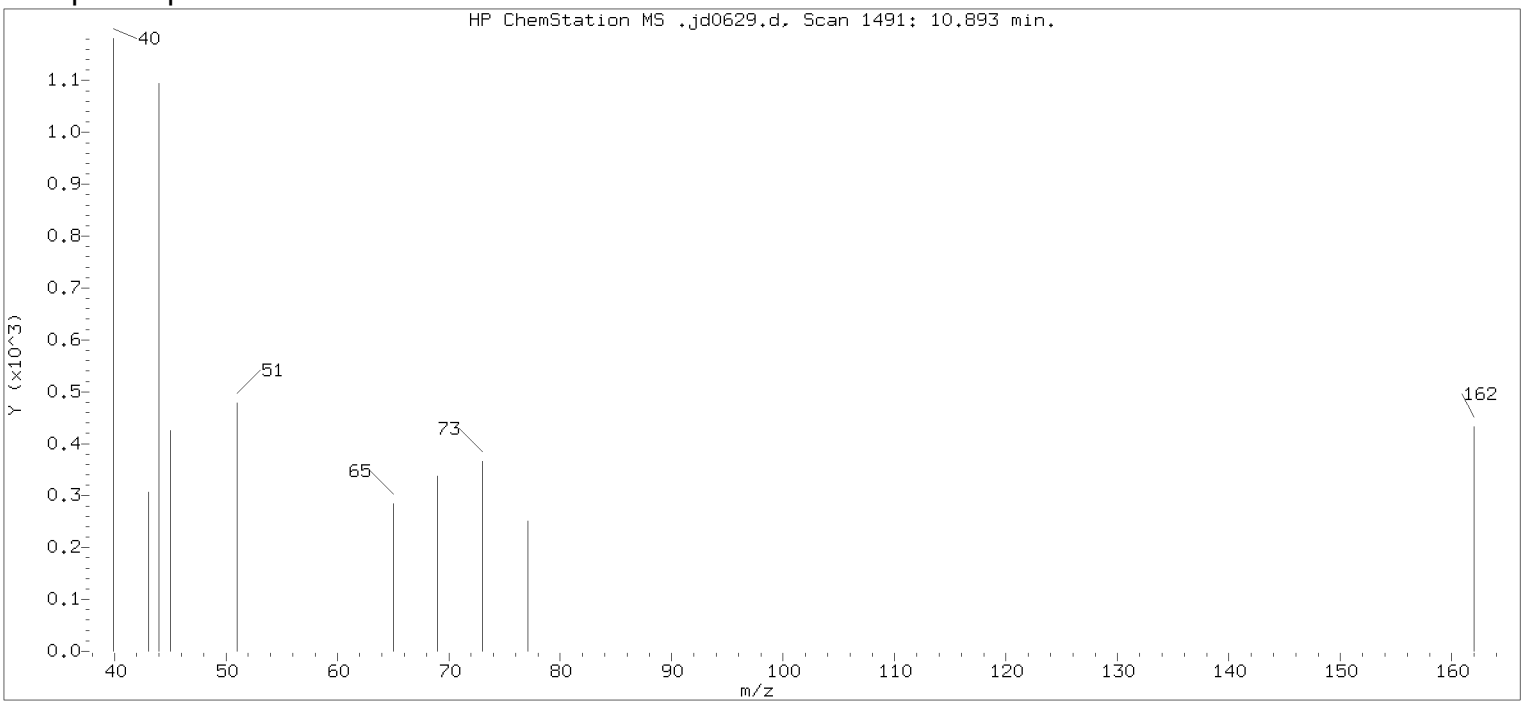
Compound Number : 97
Compound Name : cis-Isosafrole
Scan Number : 1491
Retention Time (minutes) : 10.893
Quant Ion : 162.00
Area (flag) : 245M
On-Column Amount (ng/ul) : 0.0119
Integration start scan : 1485 Integration stop scan: 1495
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

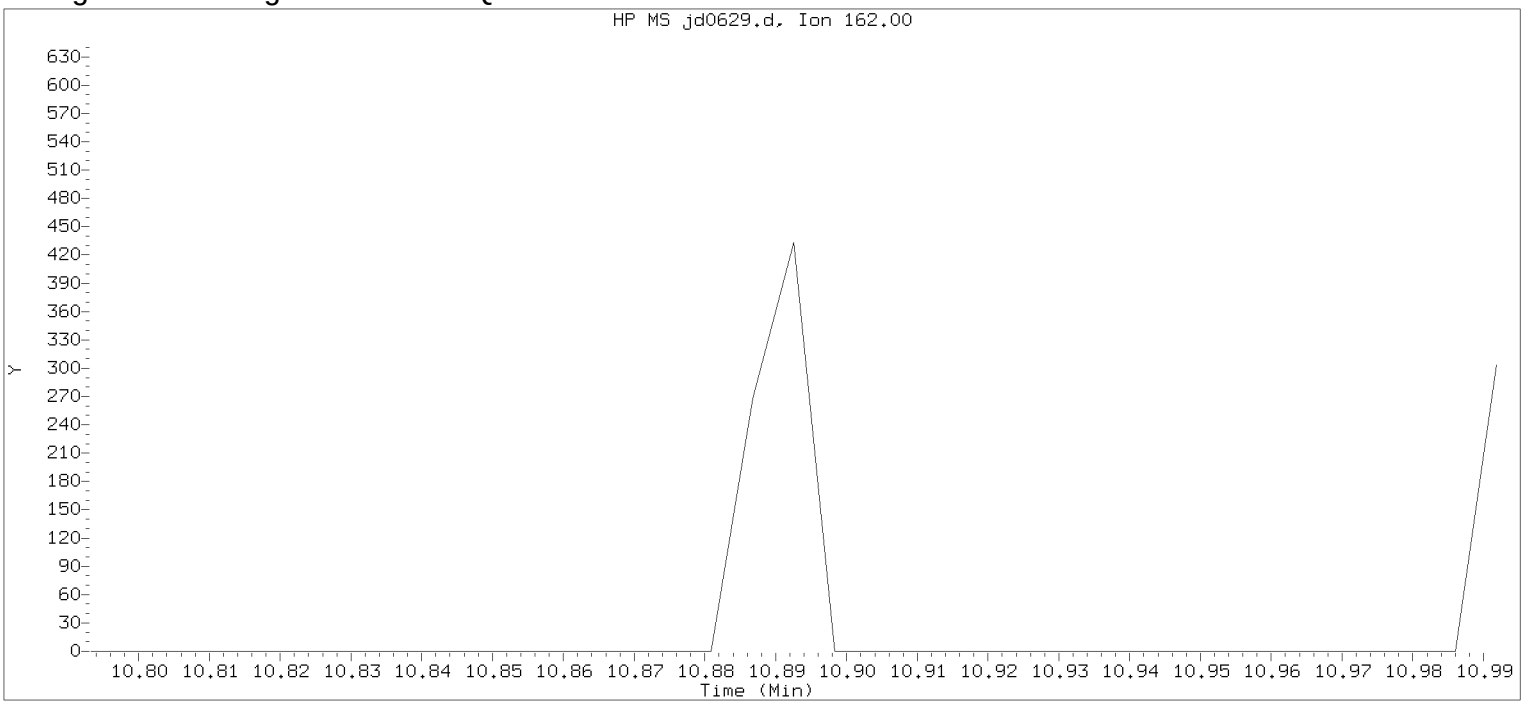
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

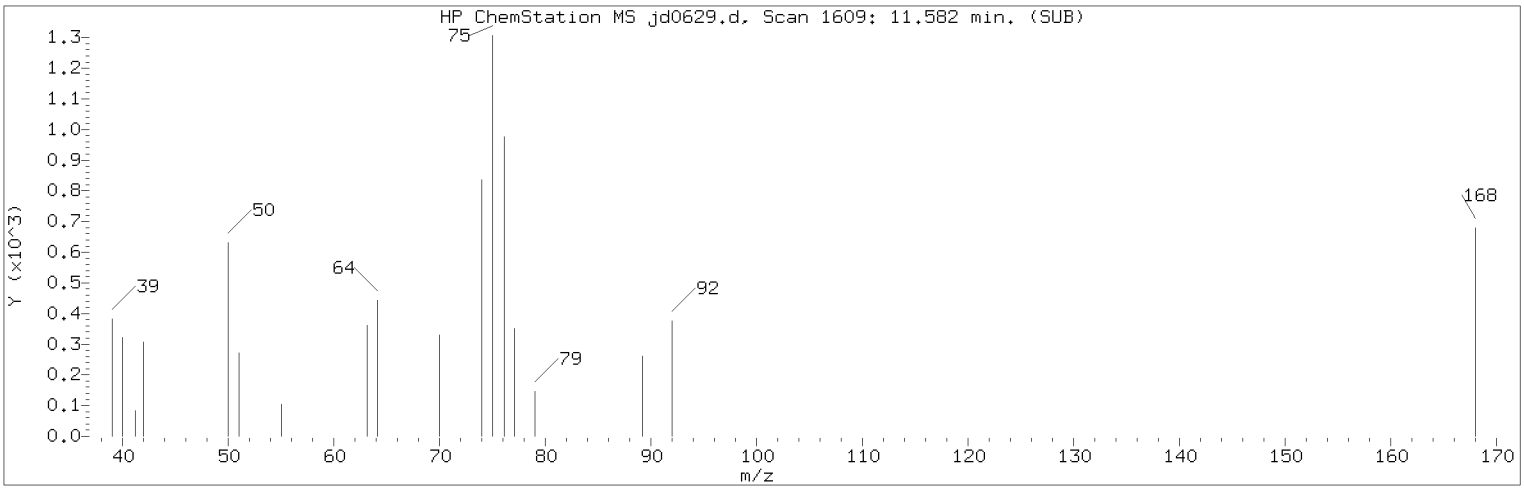
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:35 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

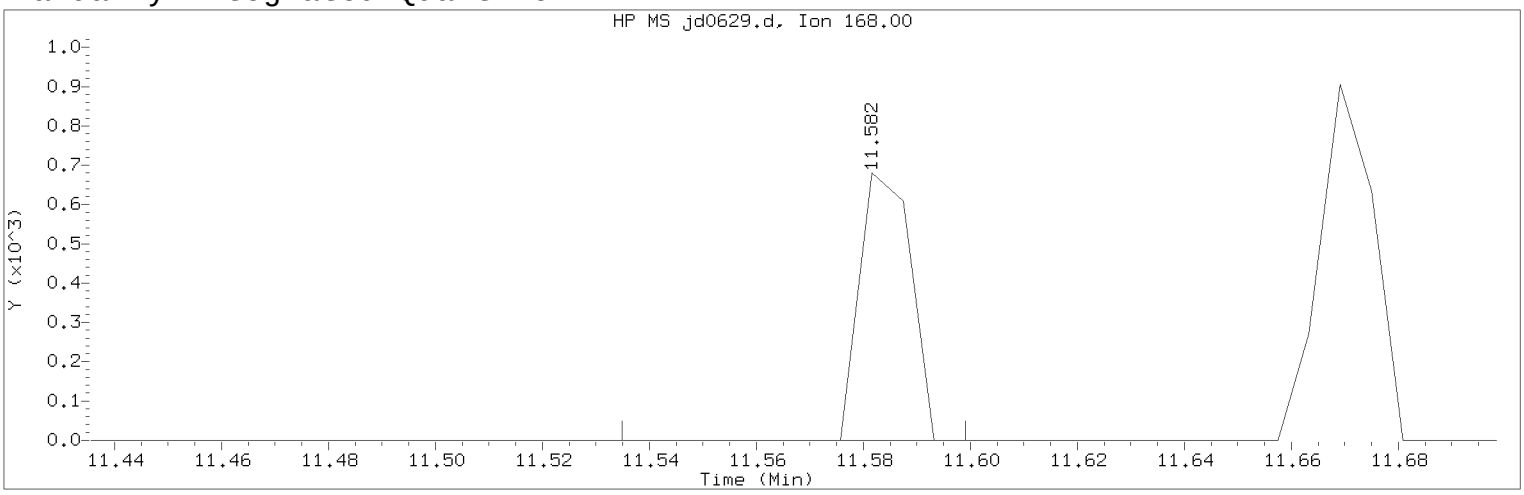
Compound Number : 97
Compound Name : cis-Isosafrole
Expected RT (minutes) : 10.893
Quant Ion : 162.00

Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user id: LMH01 Page 996 of 1243

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

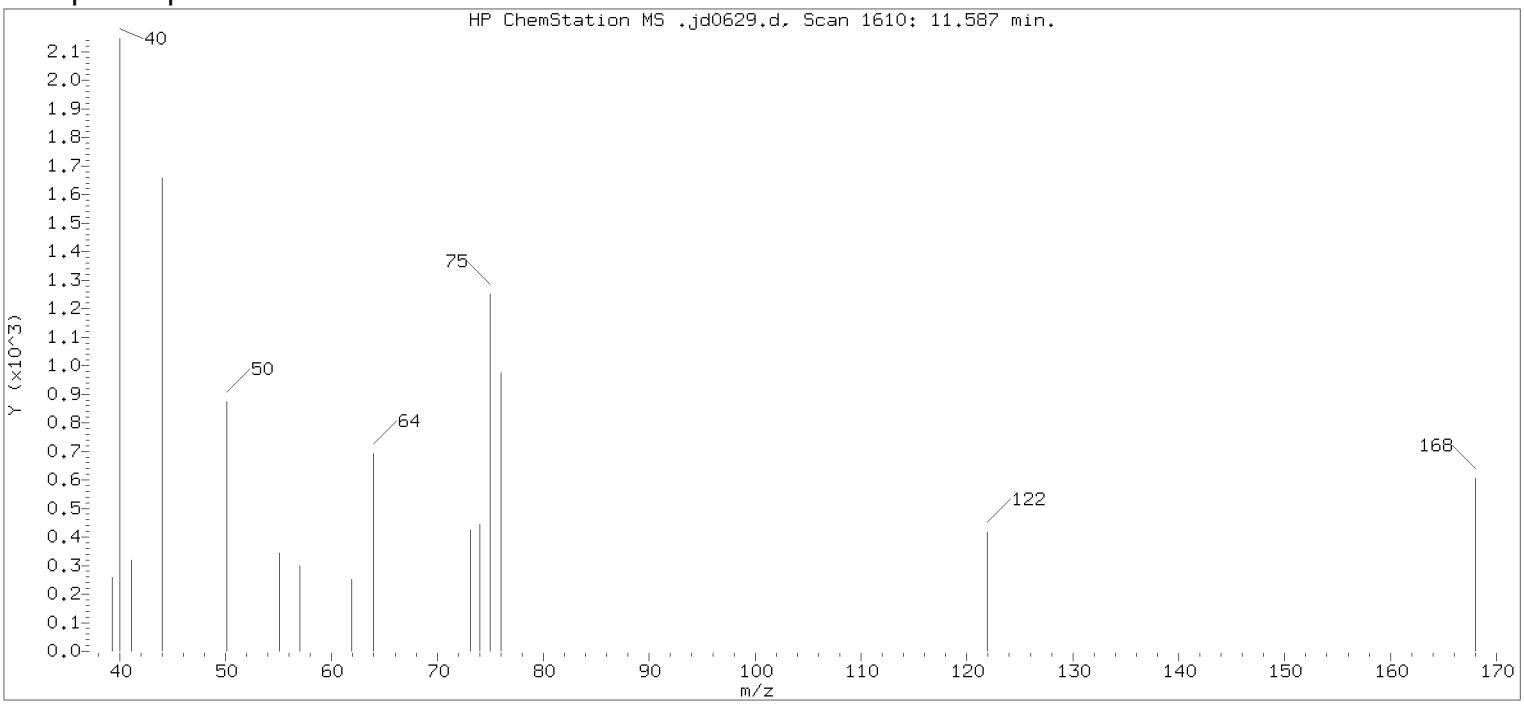
Compound Number : 112
Compound Name : 1,4-Dinitrobenzene
Scan Number : 1609
Retention Time (minutes) : 11.582
Quant Ion : 168.00
Area (flag) : 451M
On-Column Amount (ng/ul) : 0.0543
Integration start scan : 1600 Integration stop scan: 1611
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

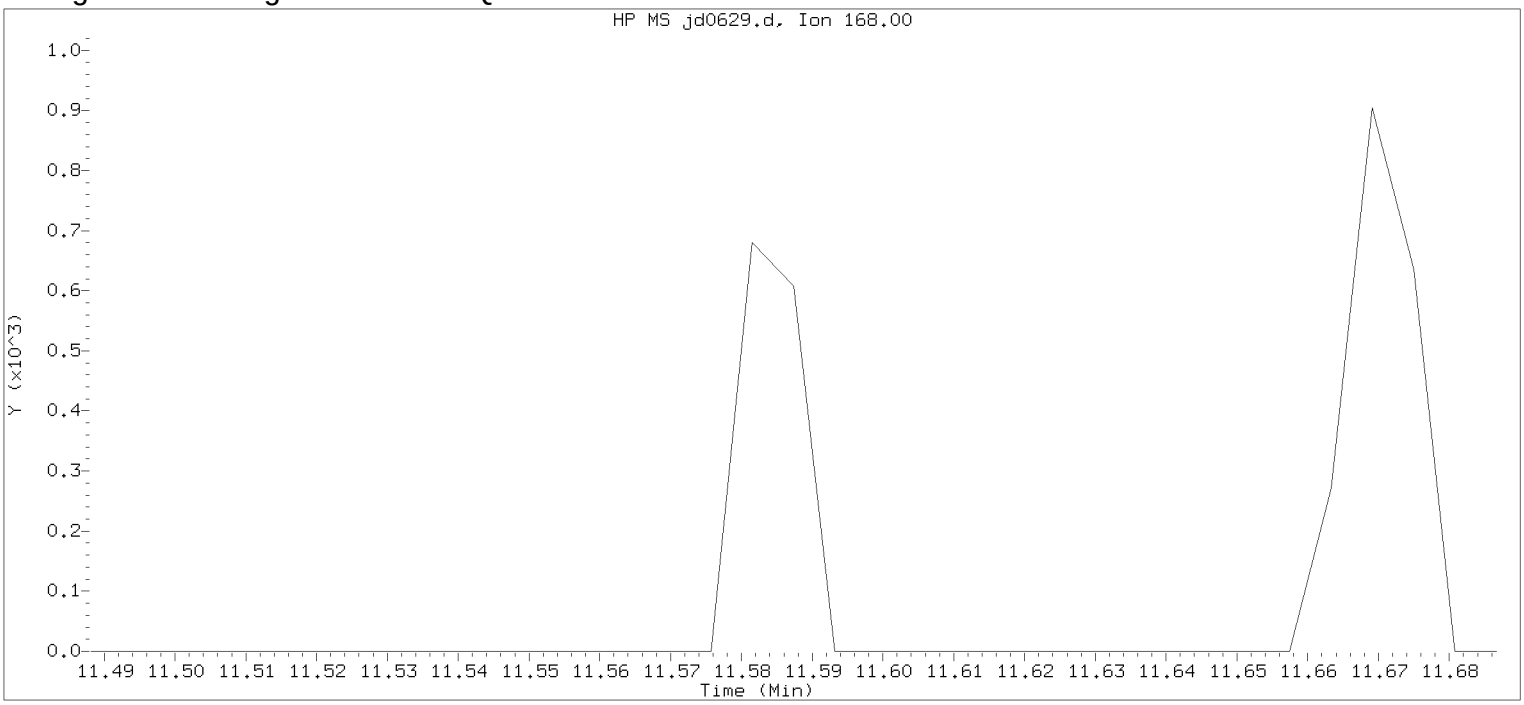
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

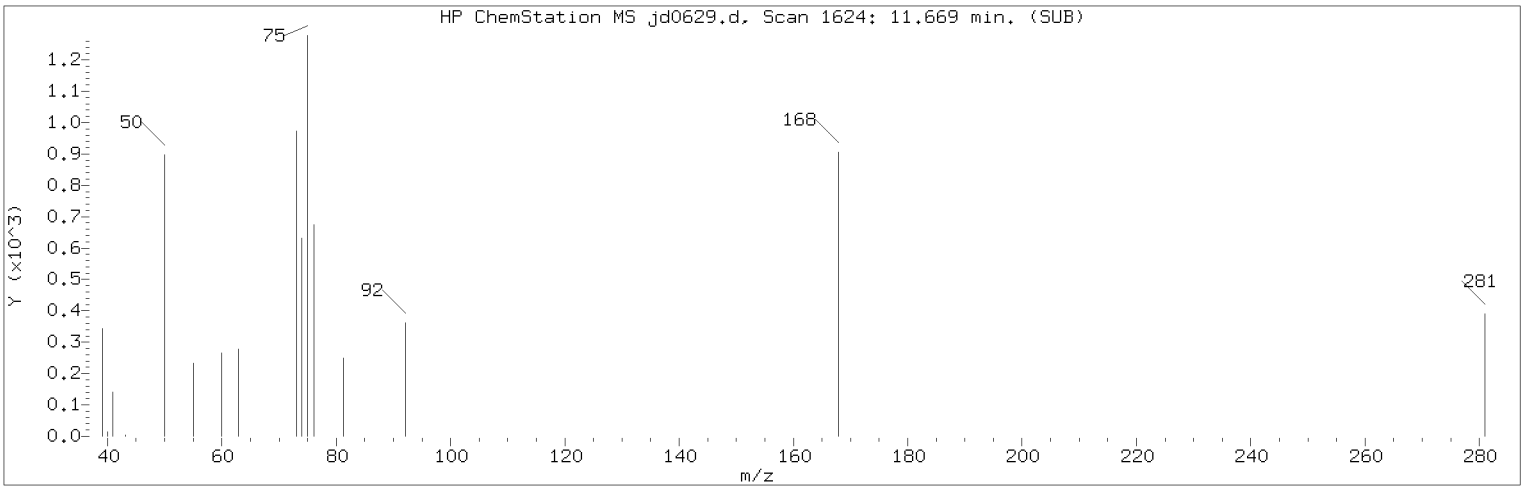
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:35 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

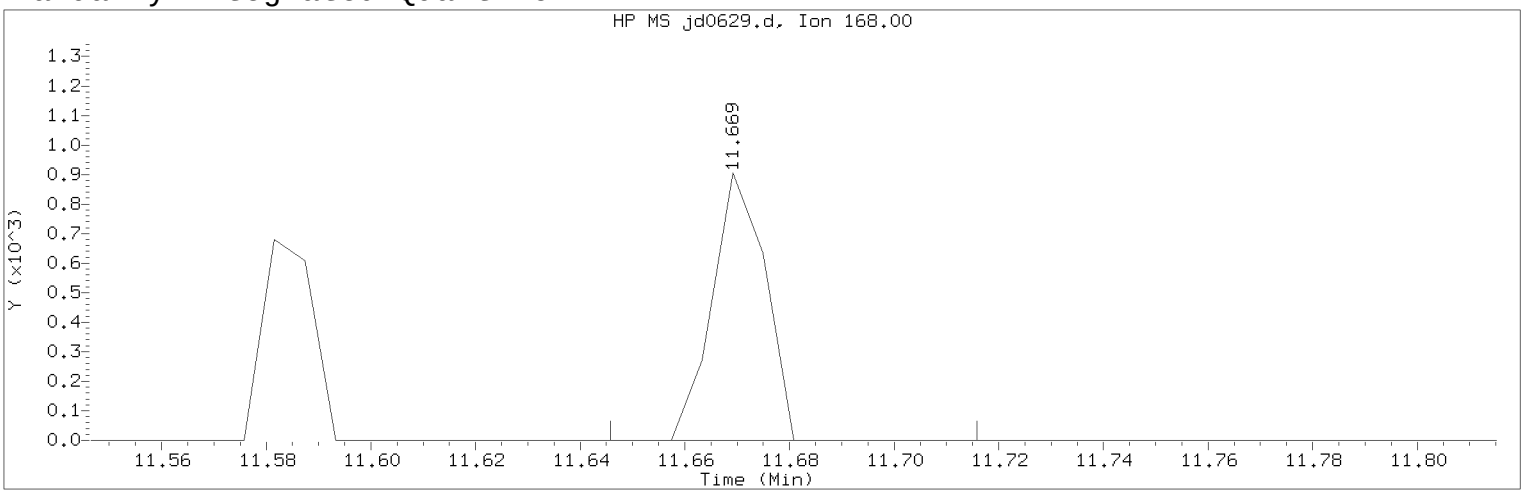
Compound Number : 112
Compound Name : 1,4-Dinitrobenzene
Expected RT (minutes) : 11.587
Quant Ion : 168.00

Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user id: LMH01 Page 998 of 1243

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

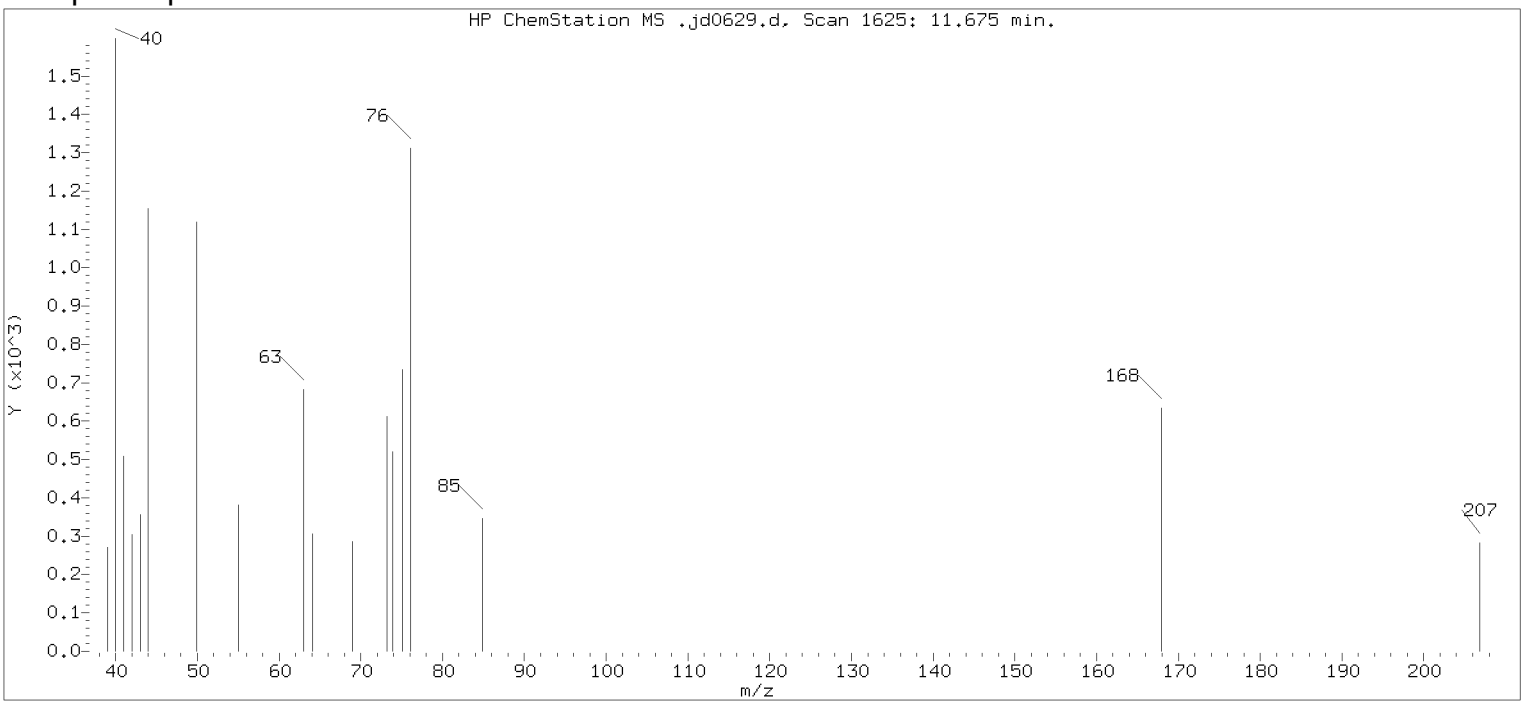
Compound Number : 116
Compound Name : 1,3-Dinitrobenzene
Scan Number : 1624
Retention Time (minutes) : 11.669
Quant Ion : 168.00
Area (flag) : 634M
On-Column Amount (ng/ul) : 0.0677
Integration start scan : 1619 Integration stop scan: 1631
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

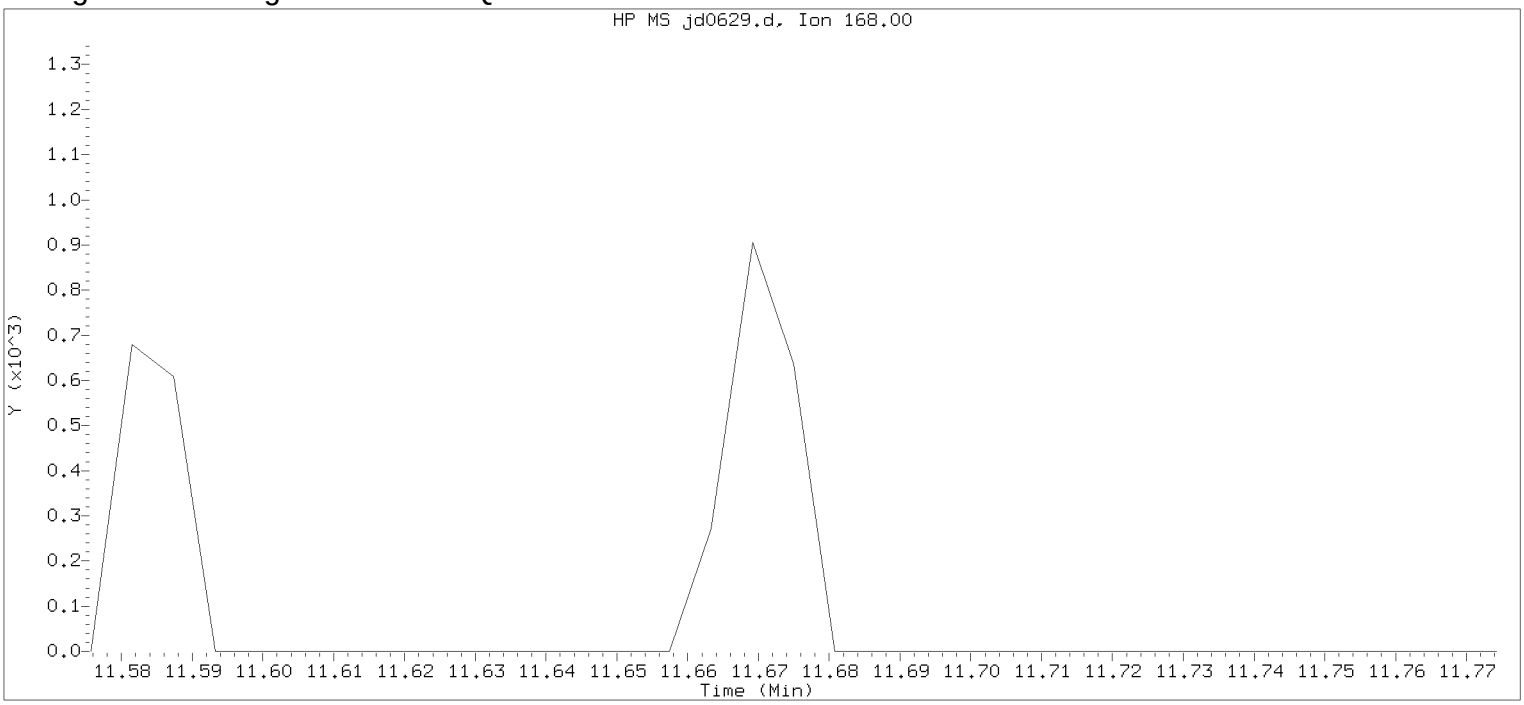
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

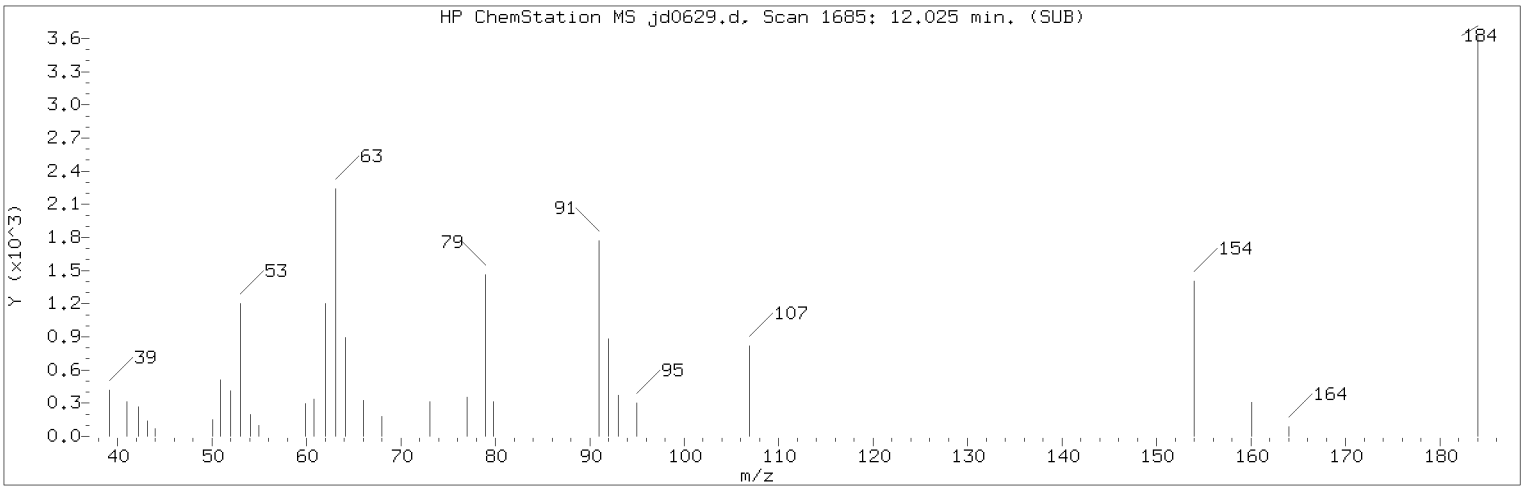
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:35 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

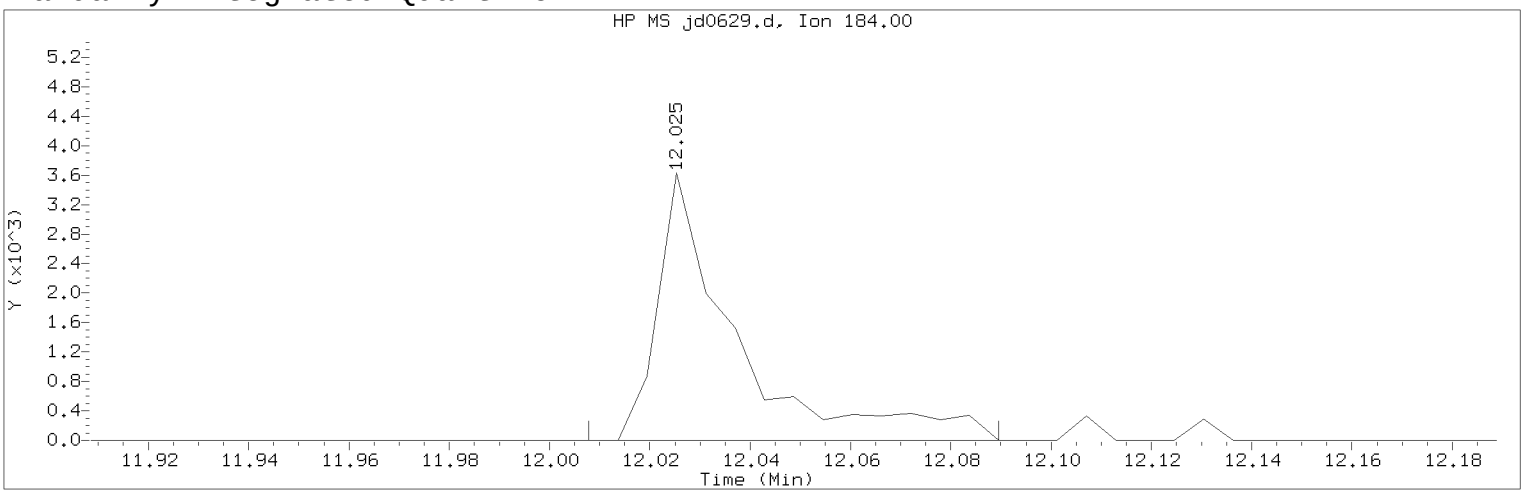
Compound Number : 116
Compound Name : 1,3-Dinitrobenzene
Expected RT (minutes) : 11.675
Quant Ion : 168.00

Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user id: 1

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

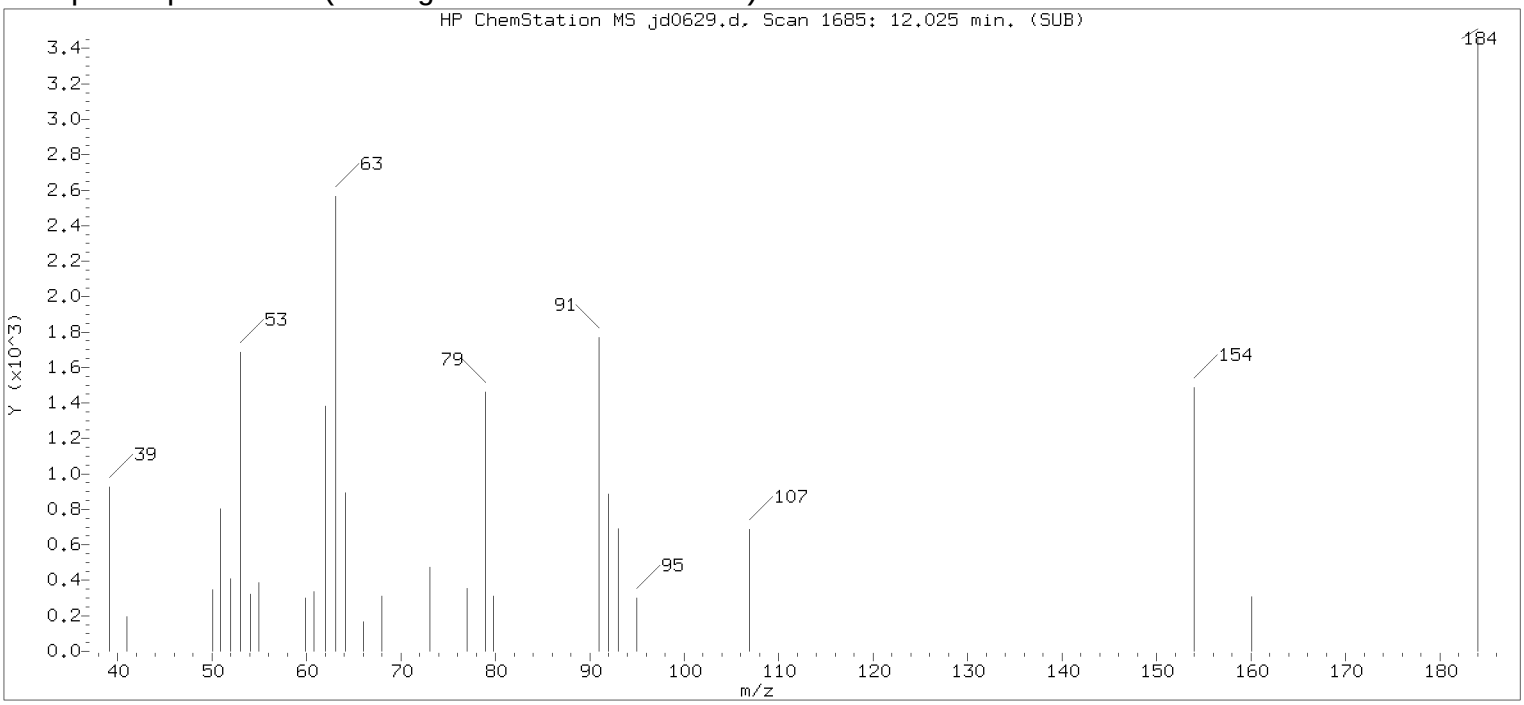
Compound Number : 125
Compound Name : 2,4-Dinitrophenol
Scan Number : 1685
Retention Time (minutes) : 12.025
Quant Ion : 184.00
Area (flag) : 3889M
On-Column Amount (ng/ul) : 0.4137
Integration start scan : 1681 Integration stop scan: 1695
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

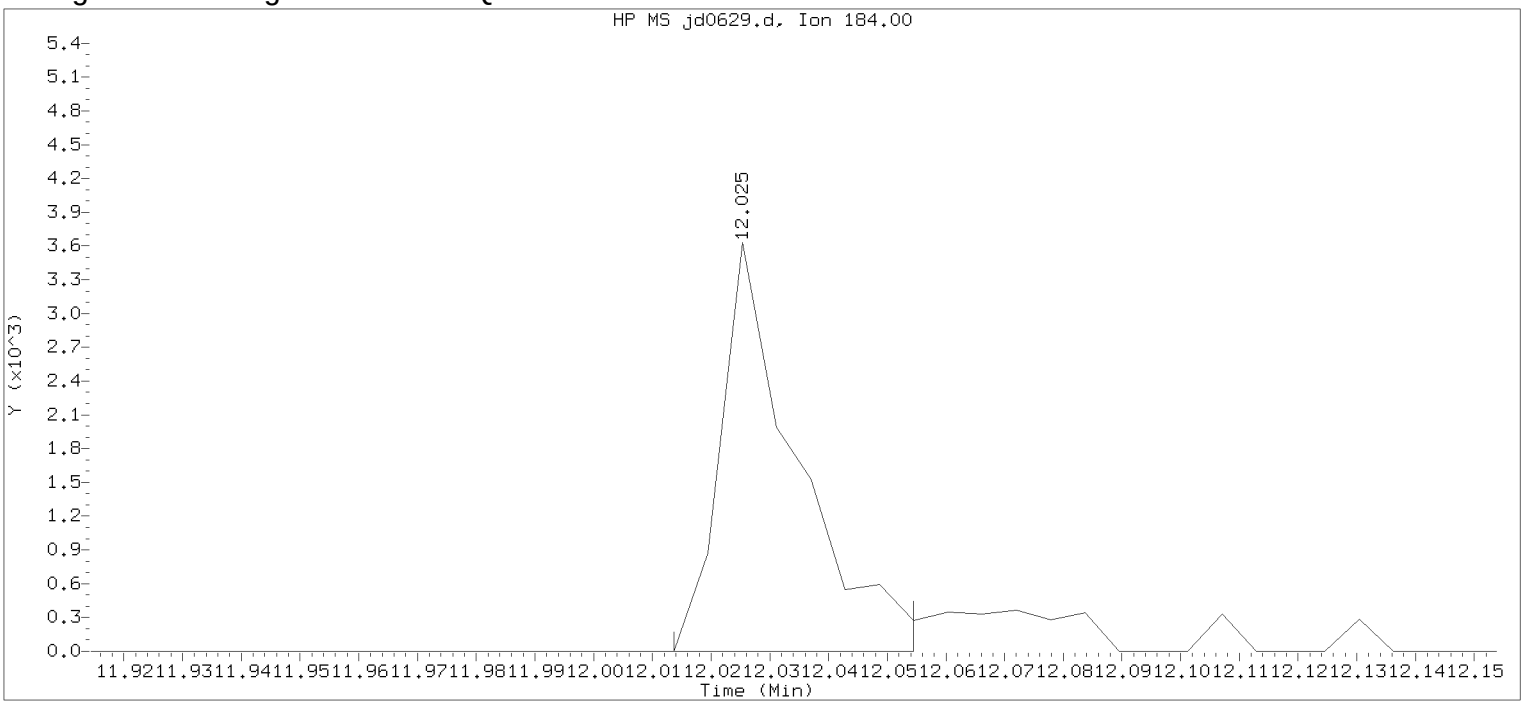
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

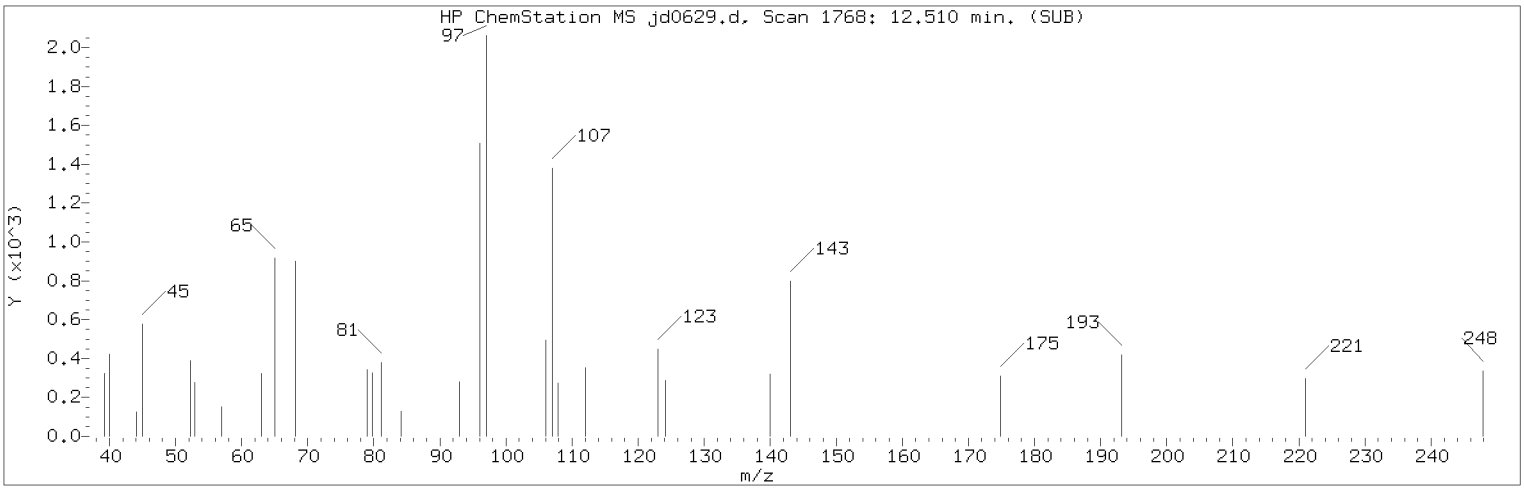
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:35 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

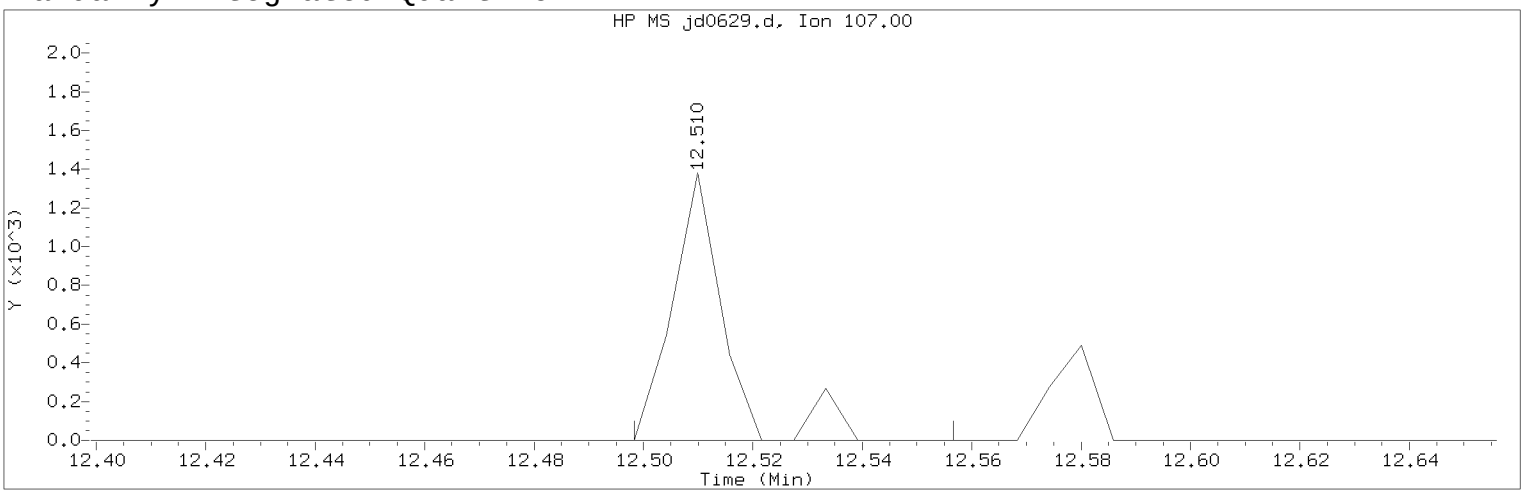
Compound Number : 125
Compound Name : 2,4-Dinitrophenol
Scan Number : 1685
Retention Time (minutes) : 12.025
Quant Ion : 184.00
Area : 3257
On-column Amount (ng/ul) : 0.3466
Integration start scan : 1682 Integration stop scan: 1689
Y at integration start : 0 Y at integration end: 0

Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user id: 1081 Page 352 of 1243

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

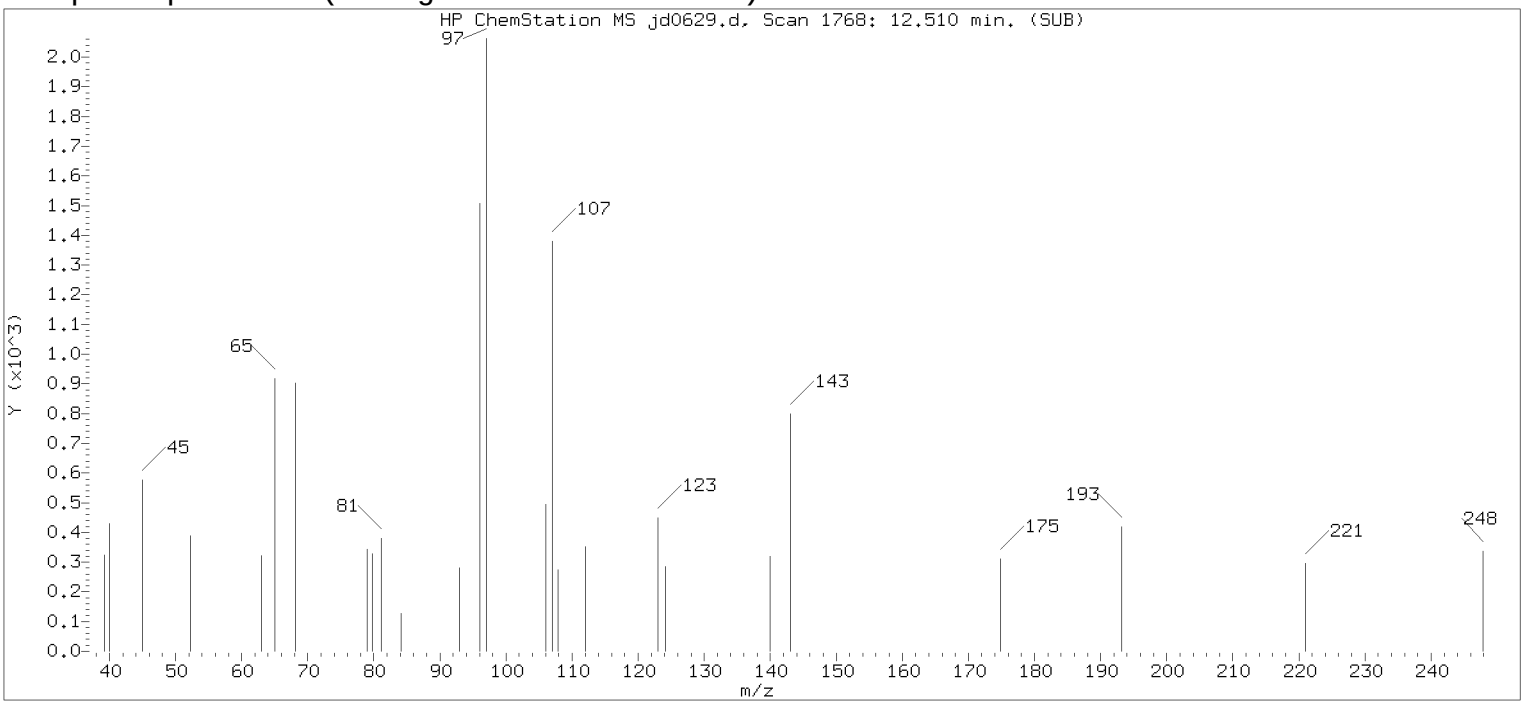
Compound Number : 138
Compound Name : Thionazin
Scan Number : 1768
Retention Time (minutes) : 12.510
Quant Ion : 107.00
Area (flag) : 921M
On-Column Amount (ng/ul) : 0.1089
Integration start scan : 1765 Integration stop scan: 1775
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

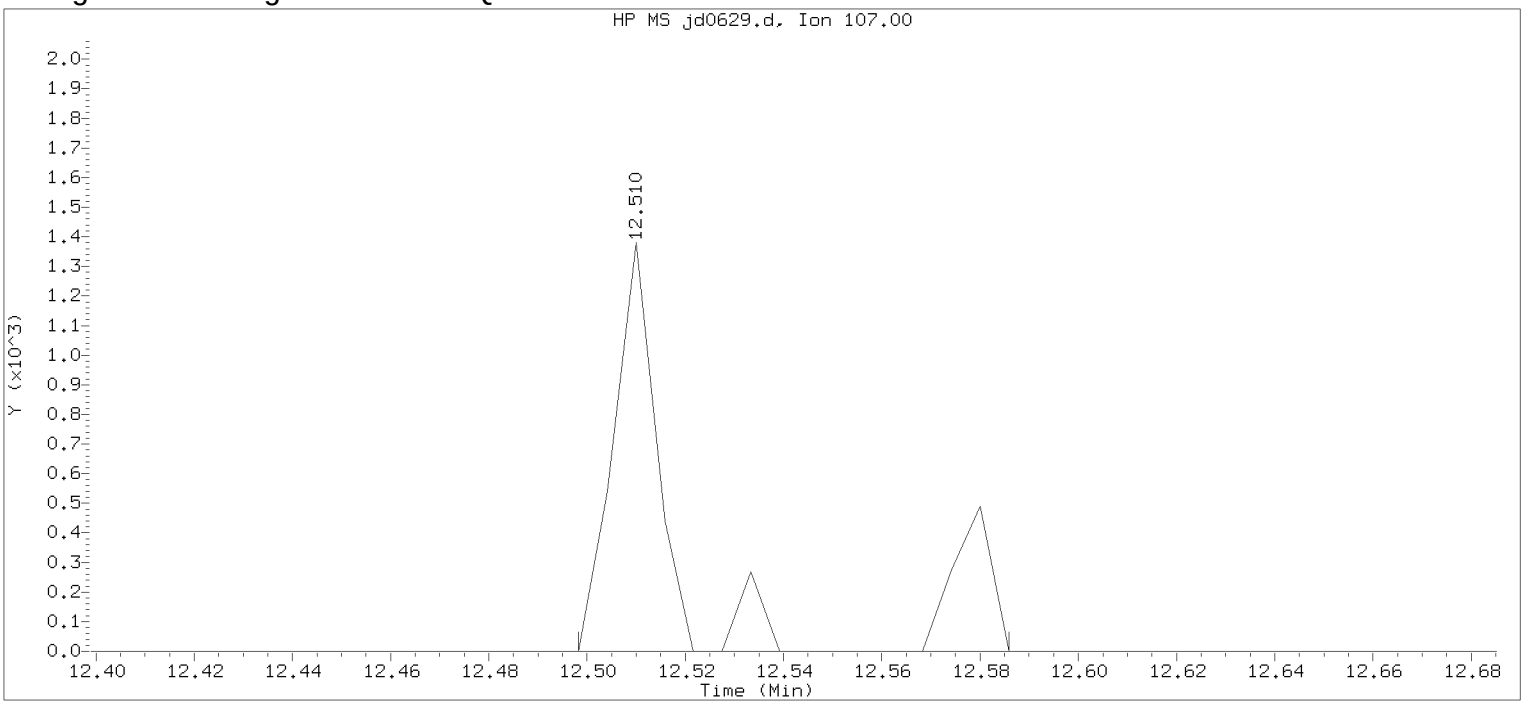
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

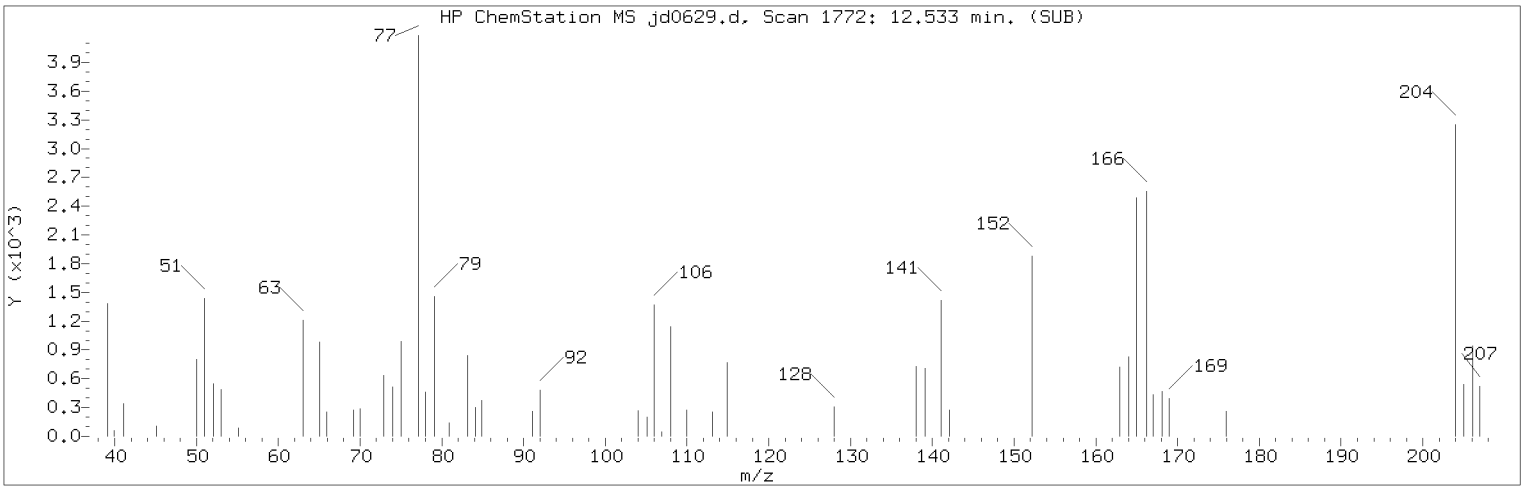
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:35 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

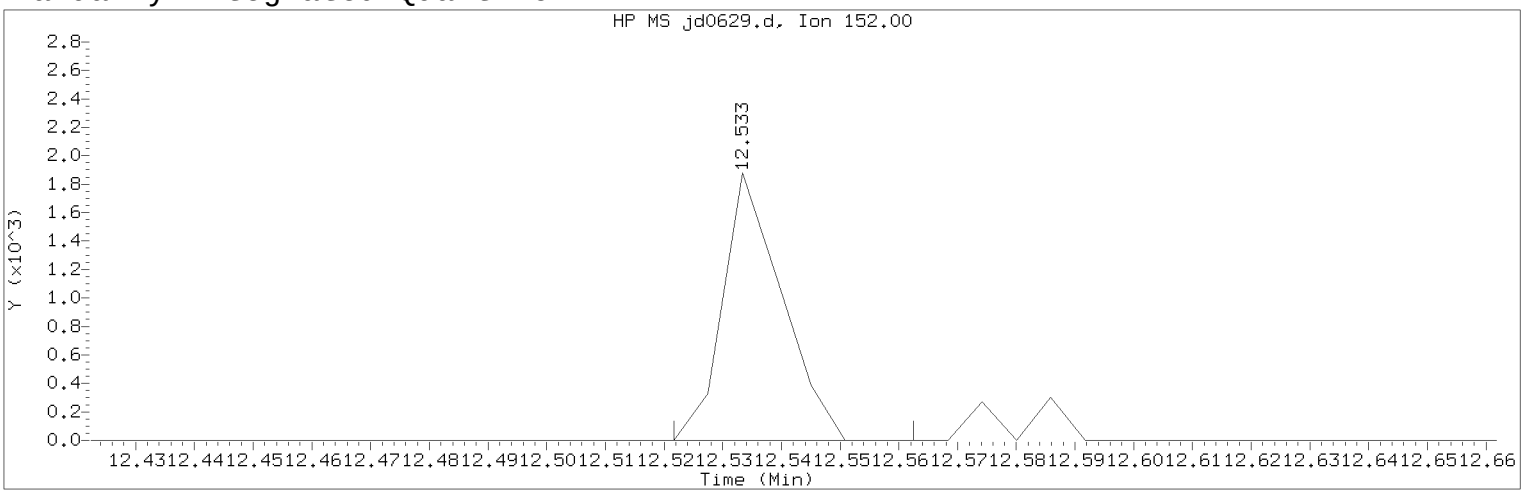
Compound Number : 138
Compound Name : Thionazin
Scan Number : 1768
Retention Time (minutes) : 12.510
Quant Ion : 107.00
Area : 1188
On-column Amount (ng/ul) : 0.1393
Integration start scan : 1765 Integration stop scan: 1780
Y at integration start : 0 Y at integration end: 0

Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user id: 1081 Page 354 of 1243

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

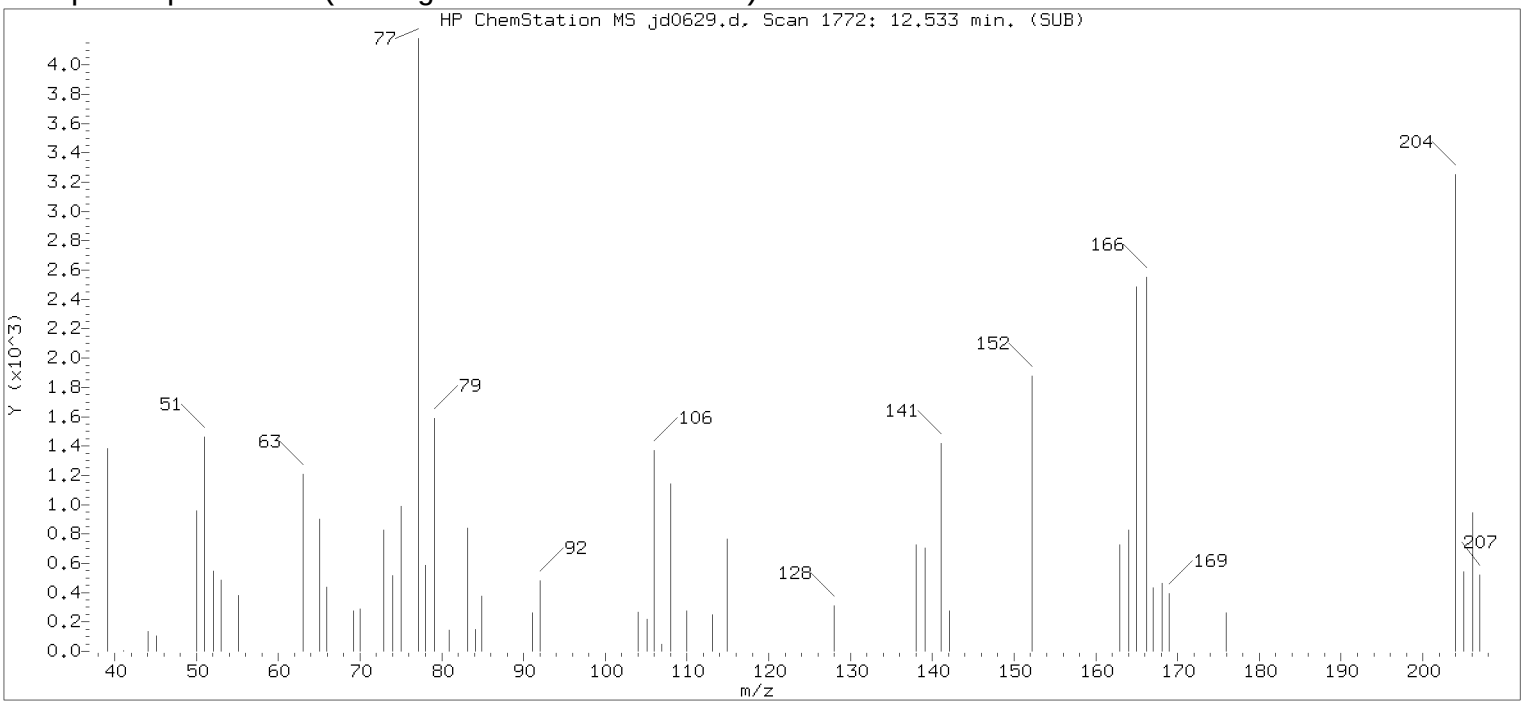
Compound Number : 140
Compound Name : 5-Nitro-o-toluidine
Scan Number : 1772
Retention Time (minutes) : 12.533
Quant Ion : 152.00
Area (flag) : 1311M
On-Column Amount (ng/ul) : 0.0906
Integration start scan : 1769 Integration stop scan: 1776
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

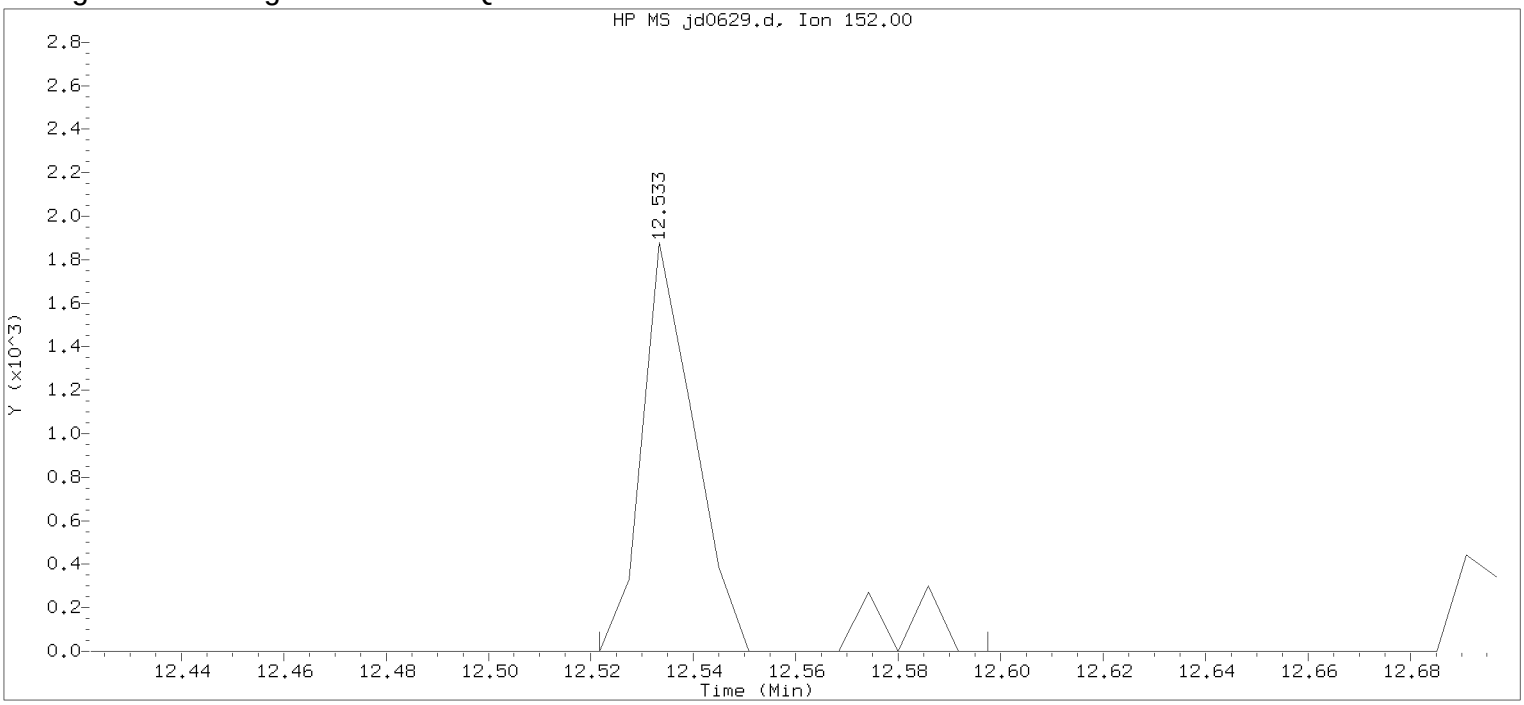
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

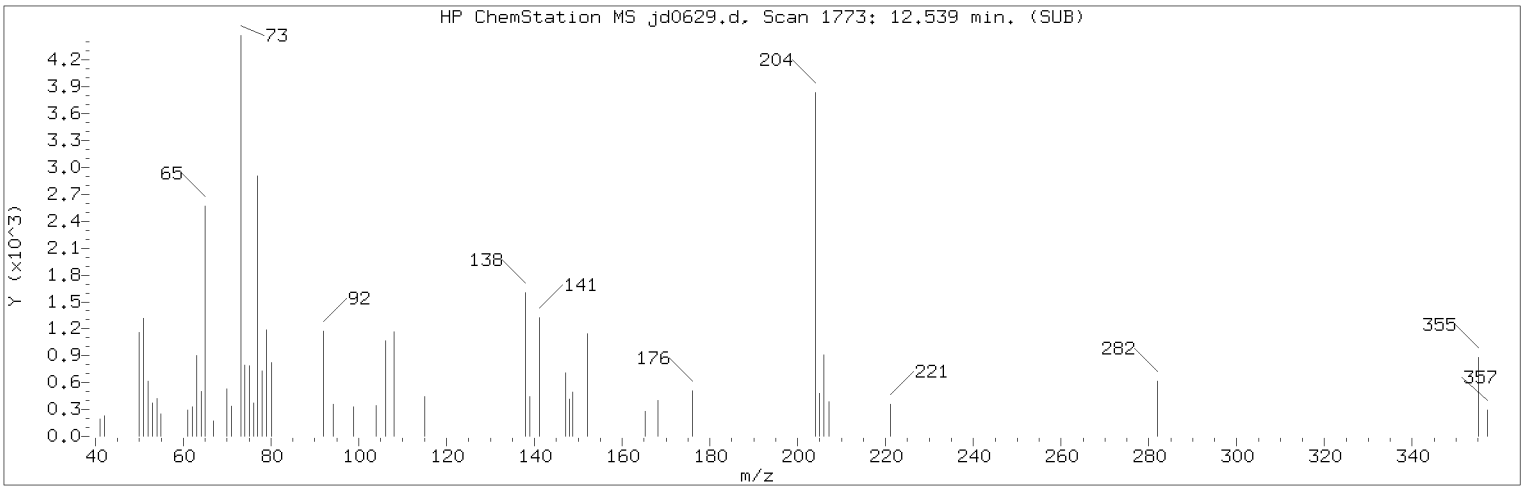
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:35 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

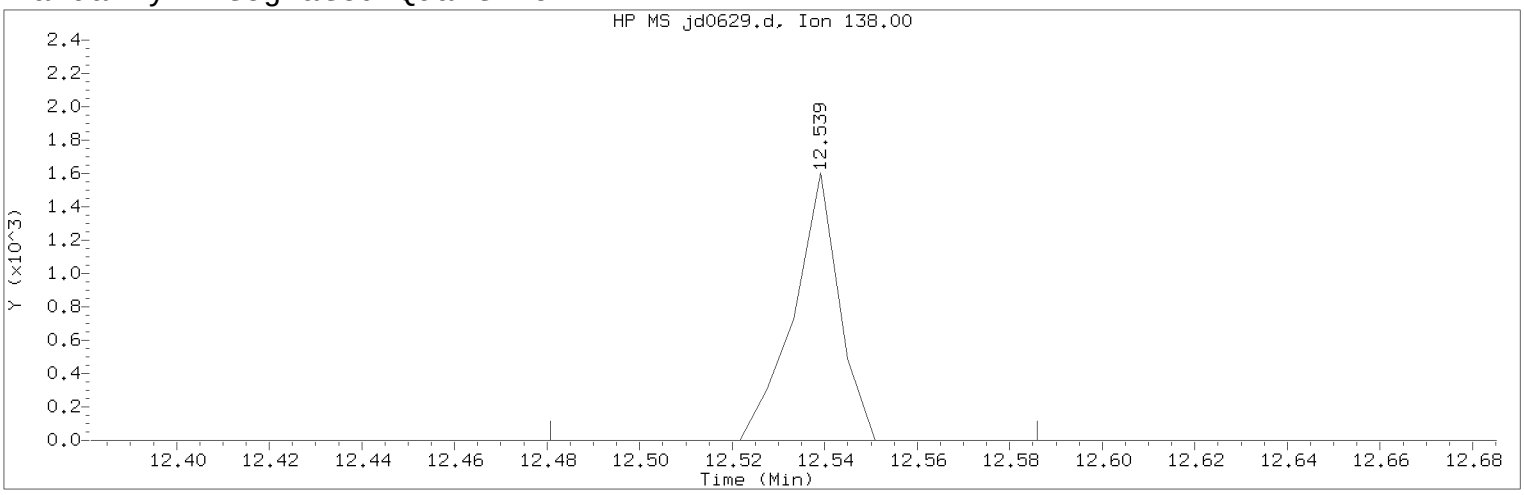
Compound Number : 140
Compound Name : 5-Nitro-o-toluidine
Scan Number : 1772
Retention Time (minutes) : 12.533
Quant Ion : 152.00
Area : 1512
On-column Amount (ng/ul) : 0.1042
Integration start scan : 1769 Integration stop scan: 1782
Y at integration start : 0 Y at integration end: 0

Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user id: 1081 Page 306 of 1243

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

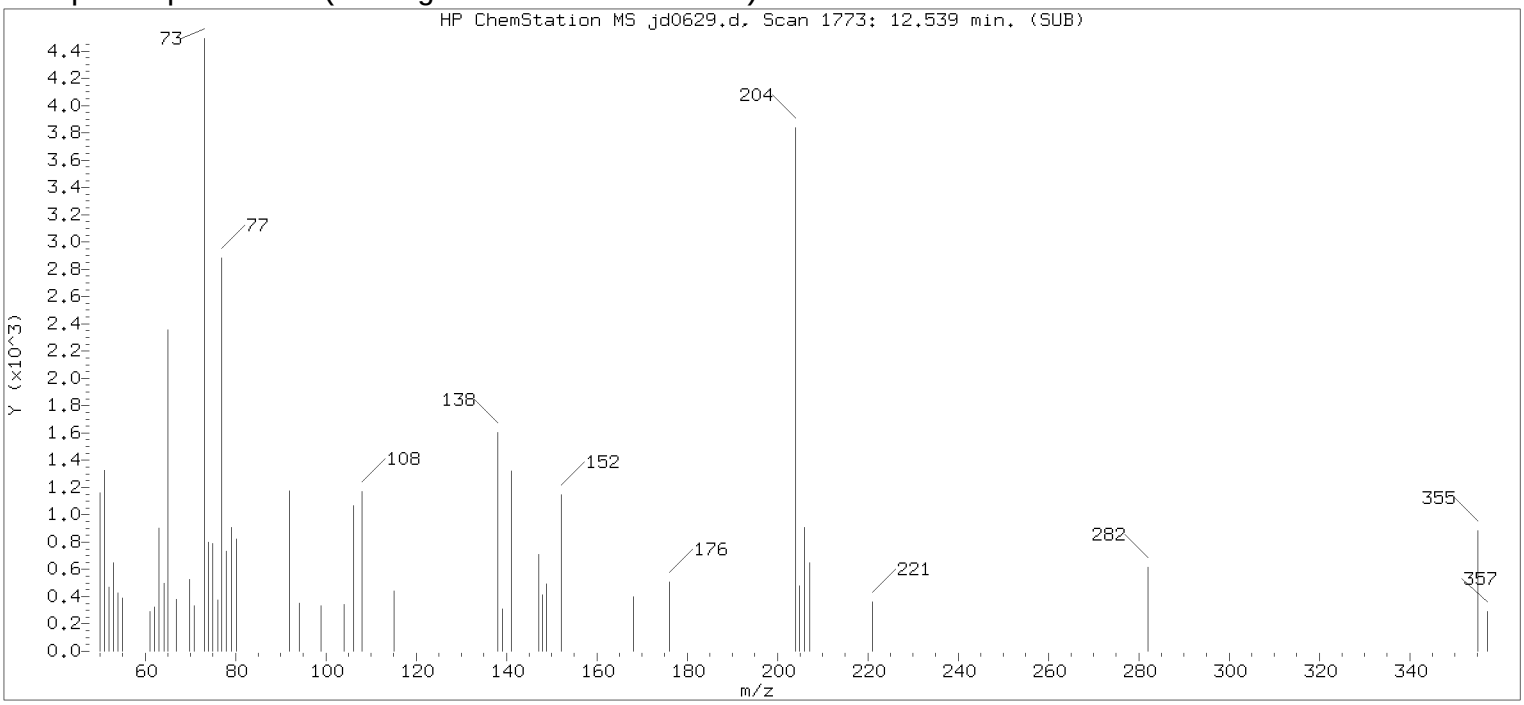
Compound Number : 142
Compound Name : 4-Nitroaniline
Scan Number : 1773
Retention Time (minutes) : 12.539
Quant Ion : 138.00
Area (flag) : 1092M
On-Column Amount (ng/ul) : 0.1630
Integration start scan : 1762 Integration stop scan: 1780
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

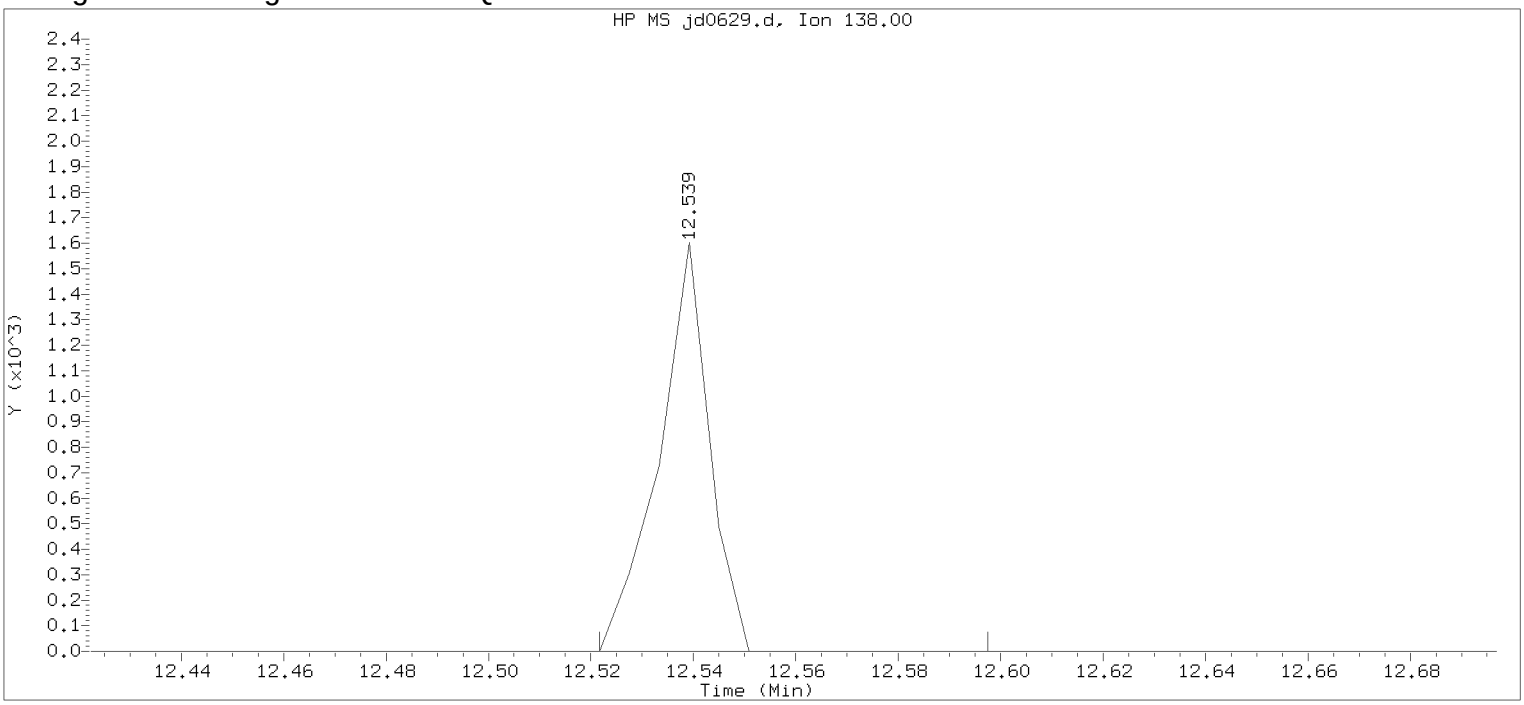
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

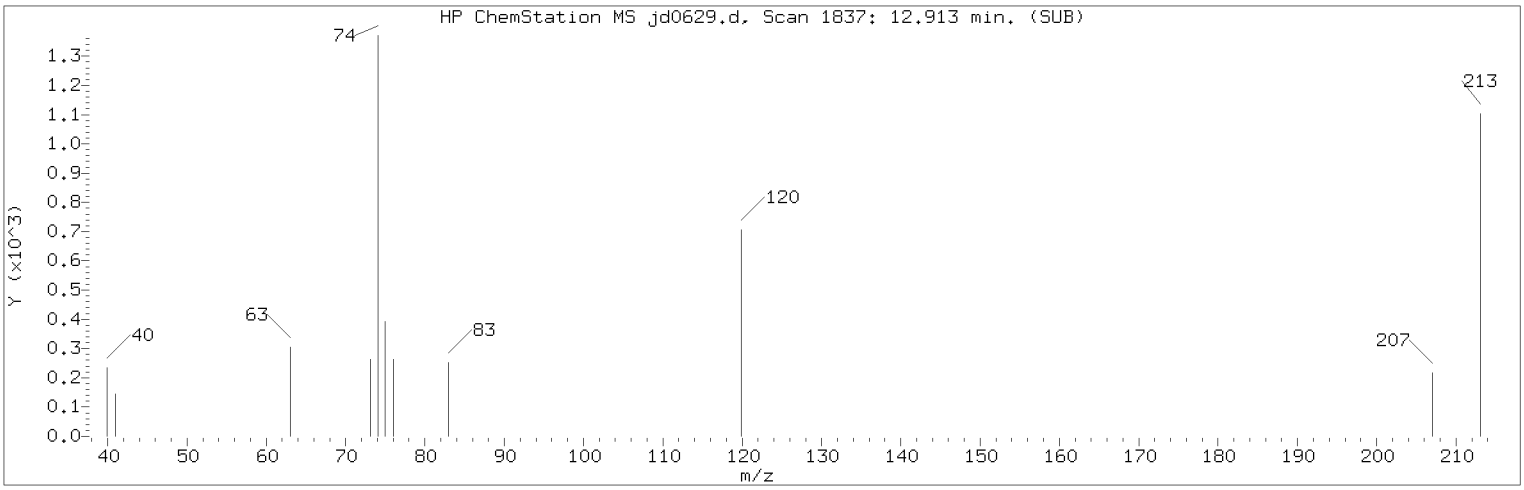
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:35 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

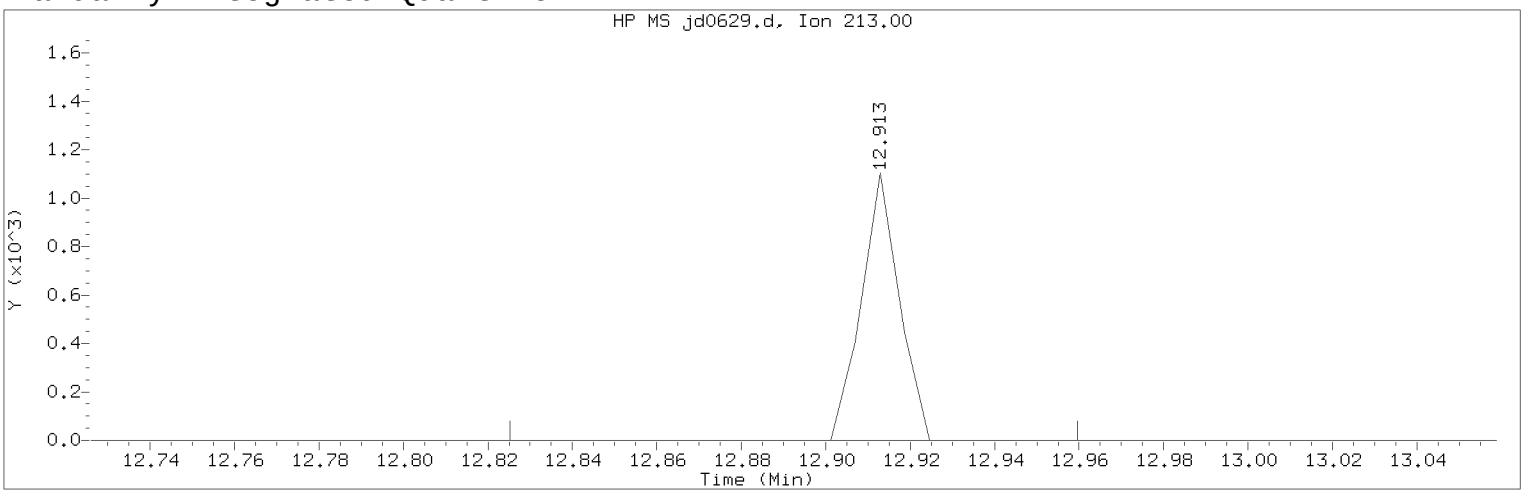
Compound Number : 142
Compound Name : 4-Nitroaniline
Scan Number : 1773
Retention Time (minutes) : 12.539
Quant Ion : 138.00
Area : 1092
On-column Amount (ng/ul) : 0.0857
Integration start scan : 1769 Integration stop scan: 1782
Y at integration start : 0 Y at integration end: 0

Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user id: 1081 Page 308 of 1243

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

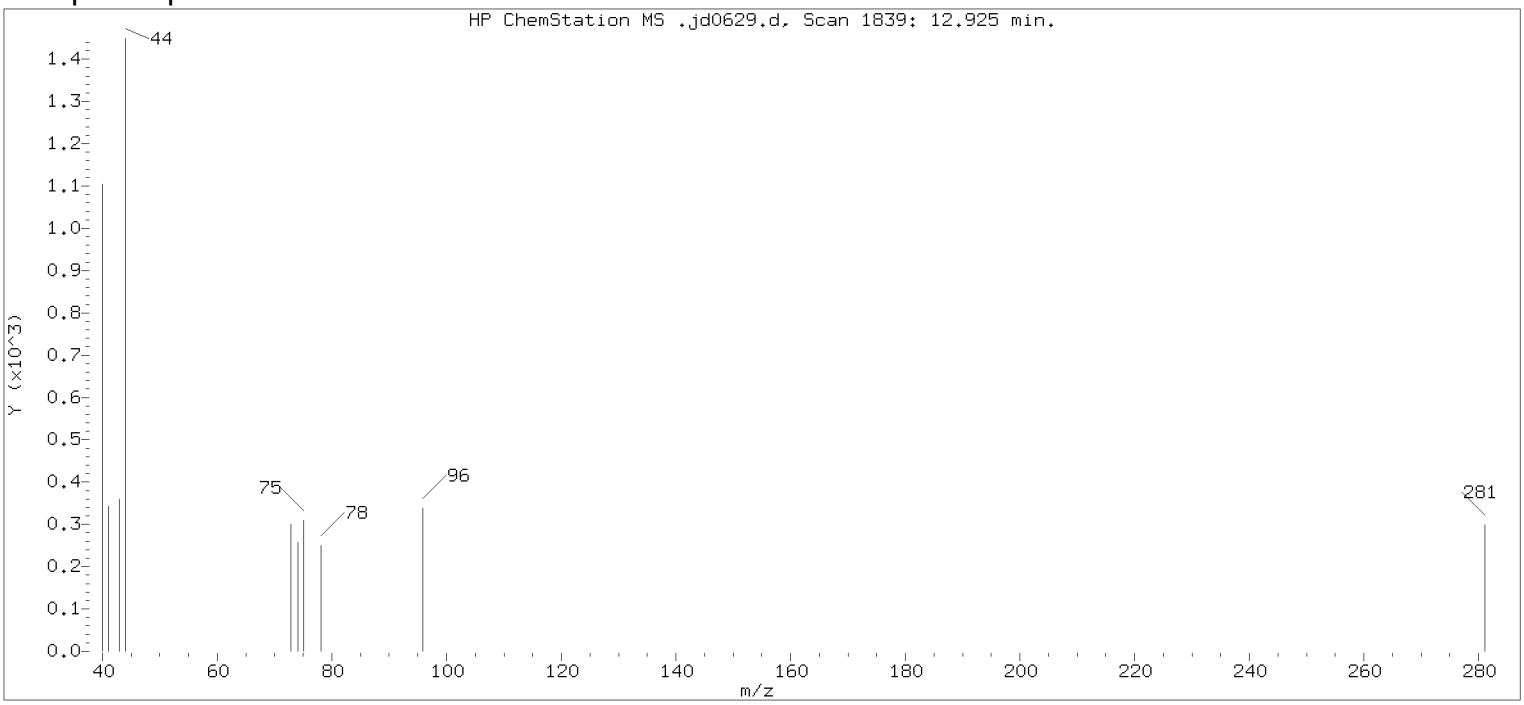
Compound Number : 149
Compound Name : 1,3,5-Trinitrobenzene
Scan Number : 1837
Retention Time (minutes) : 12.913
Quant Ion : 213.00
Area (flag) : 686M
On-Column Amount (ng/ul) : 0.1053
Integration start scan : 1821 Integration stop scan: 1844
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

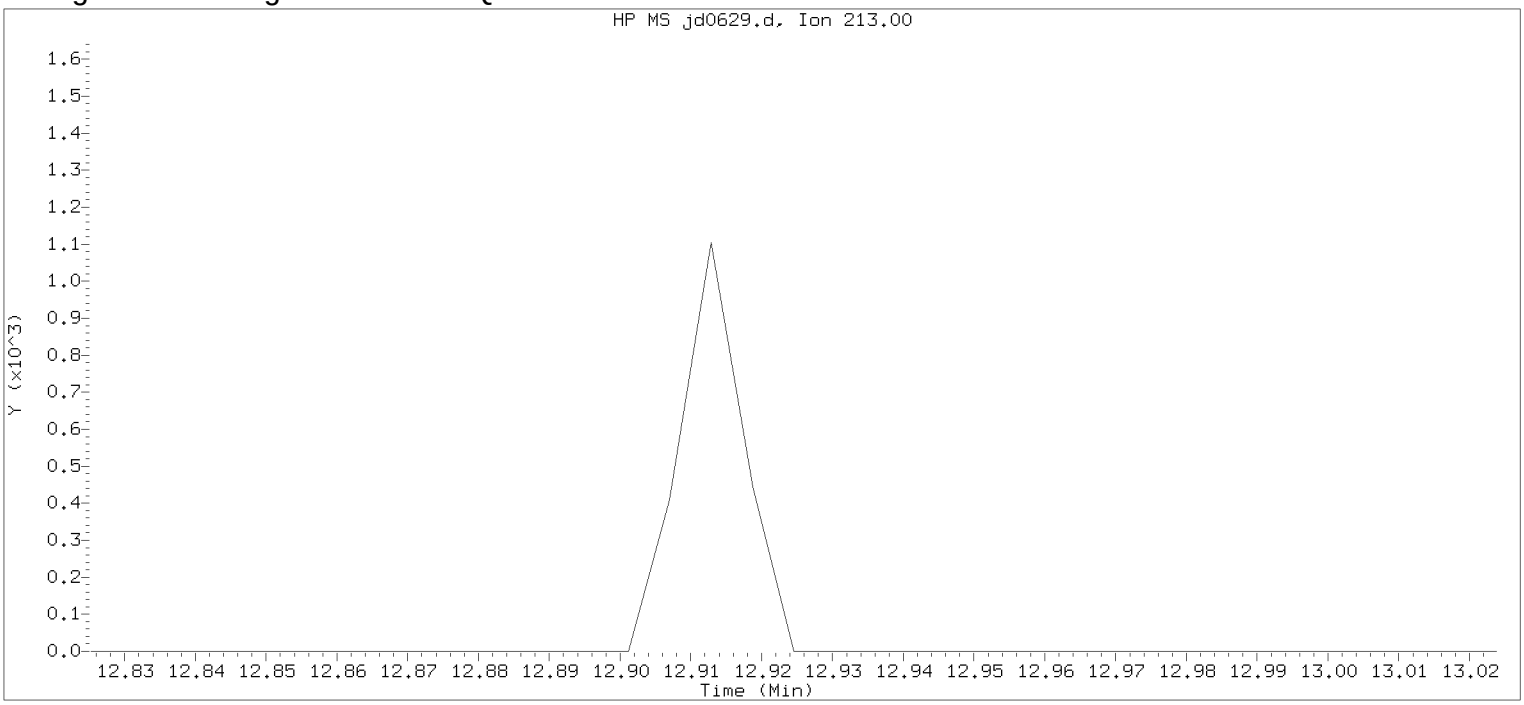
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

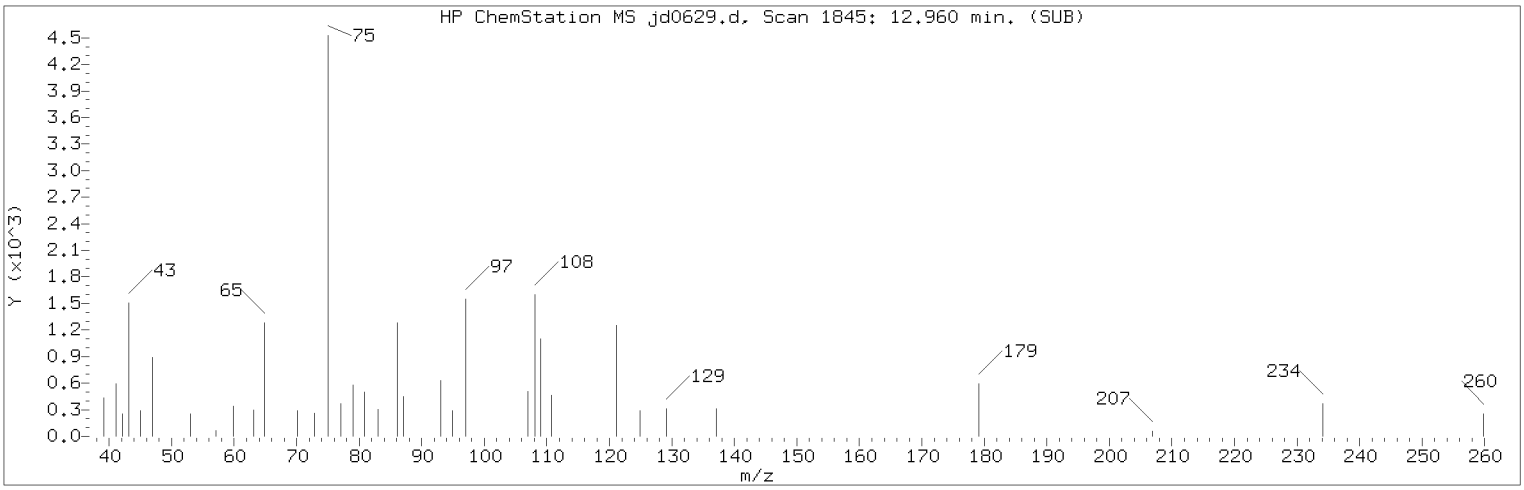
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:35 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

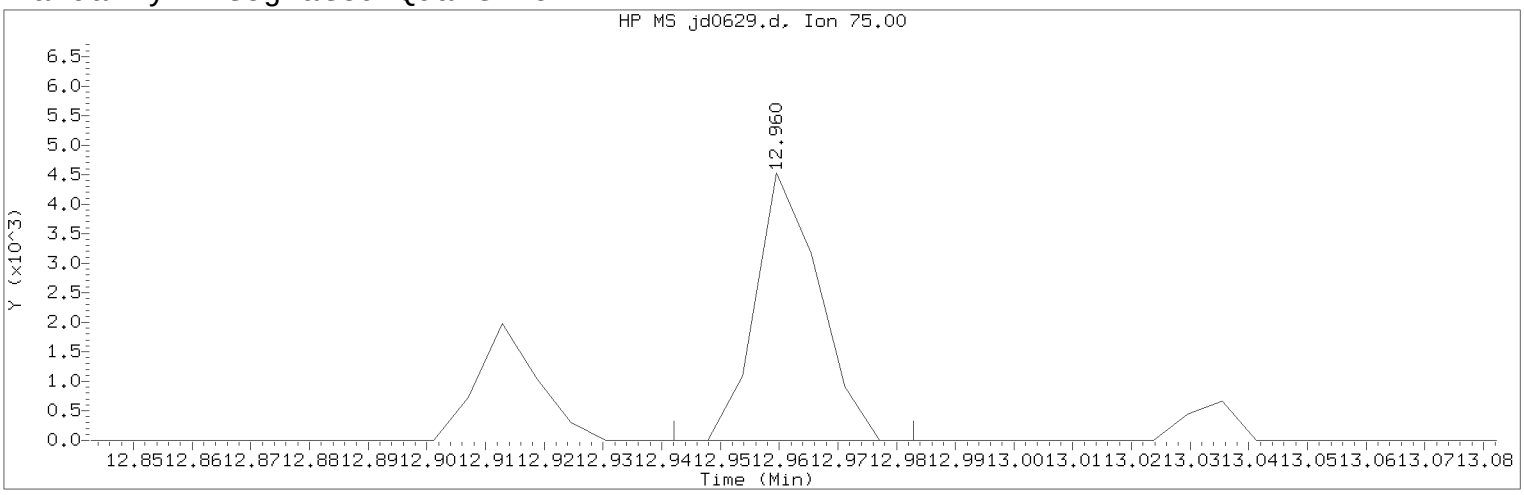
Compound Number : 149
Compound Name : 1,3,5-Trinitrobenzene
Expected RT (minutes) : 12.925
Quant Ion : 213.00

Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user id: 1

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

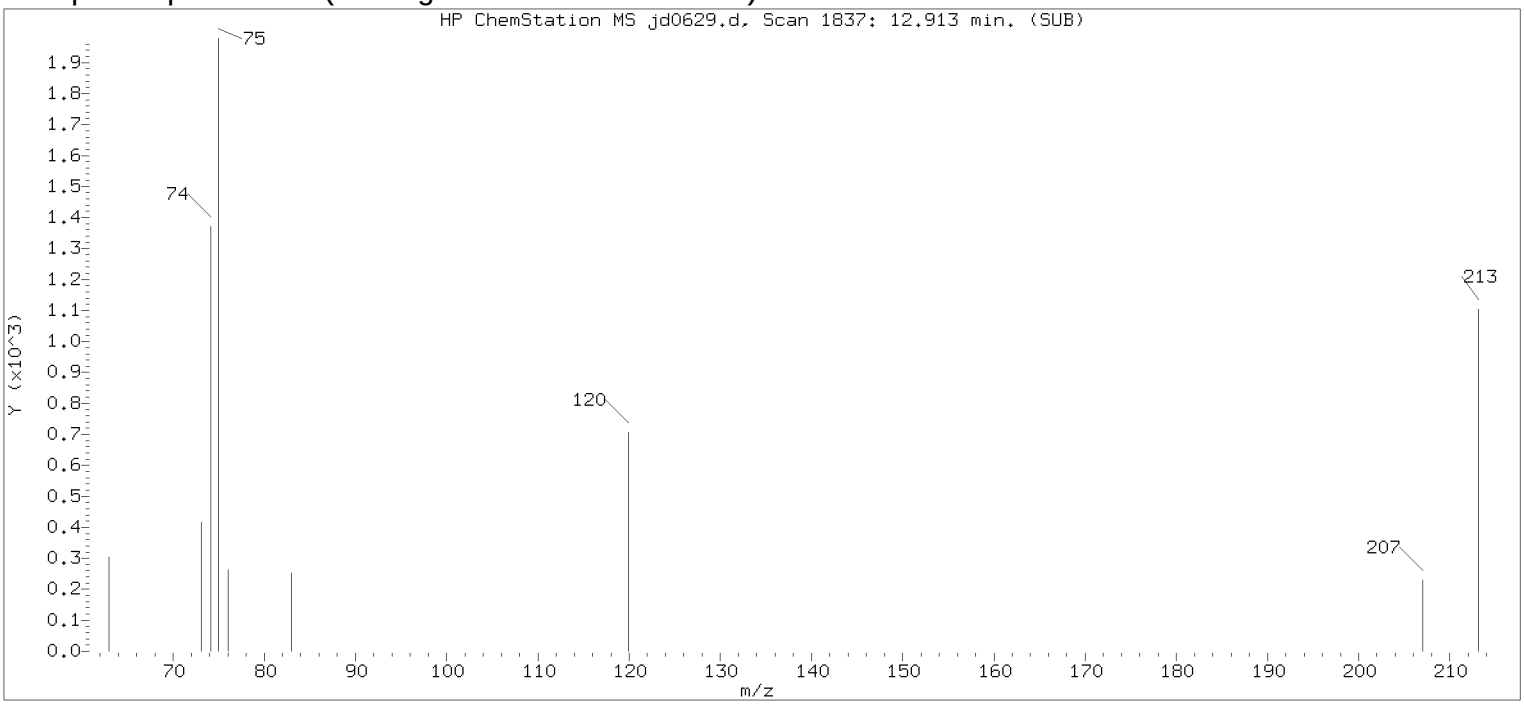
Compound Number : 151
Compound Name : Phorate
Scan Number : 1845
Retention Time (minutes) : 12.960
Quant Ion : 75.00
Area (flag) : 3394M
On-Column Amount (ng/ul) : 0.0933
Integration start scan : 1841 Integration stop scan: 1848
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

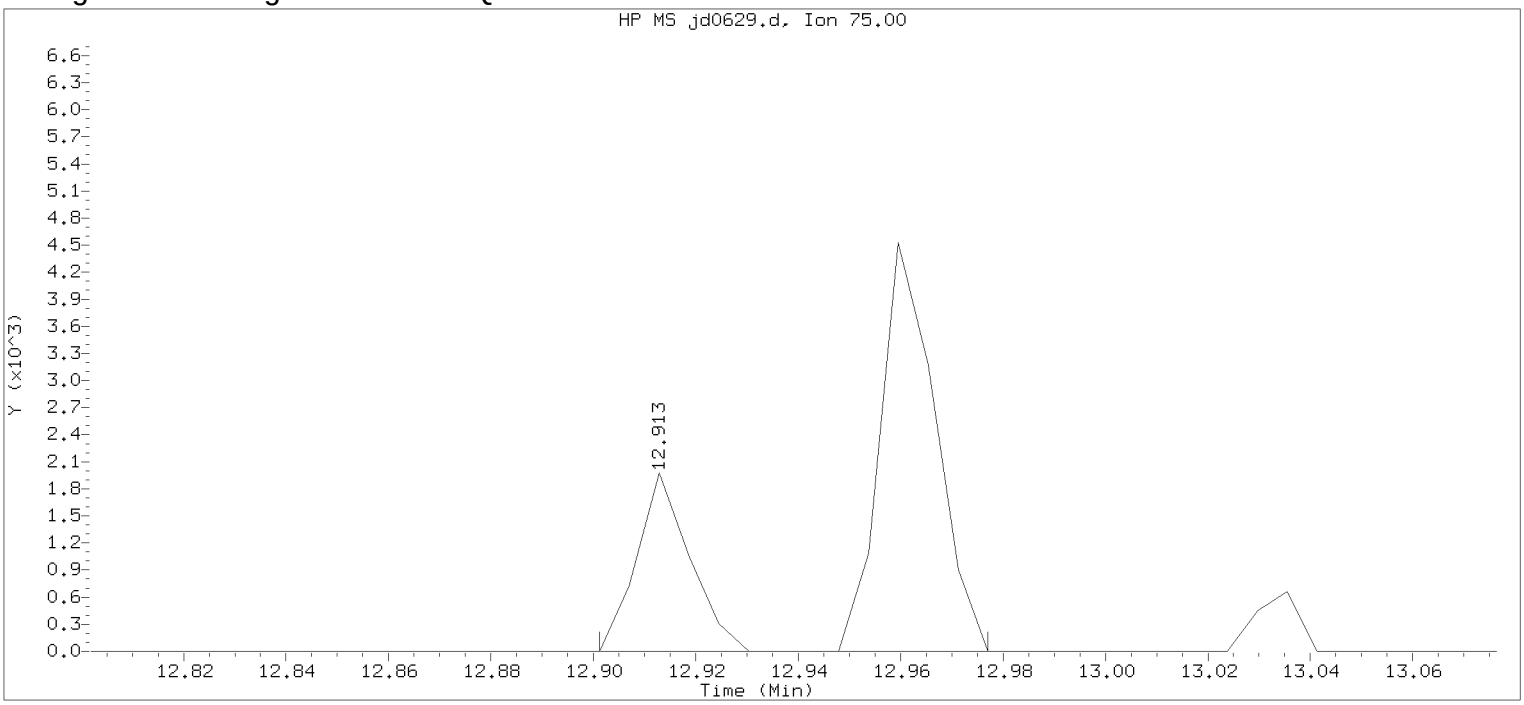
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

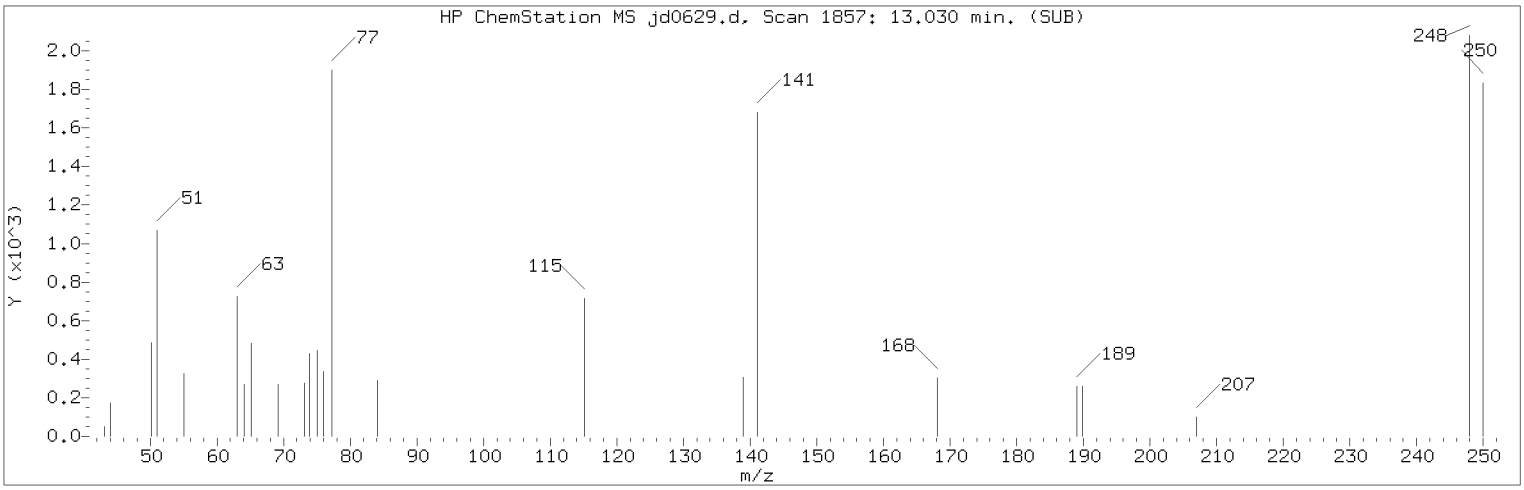
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:35 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

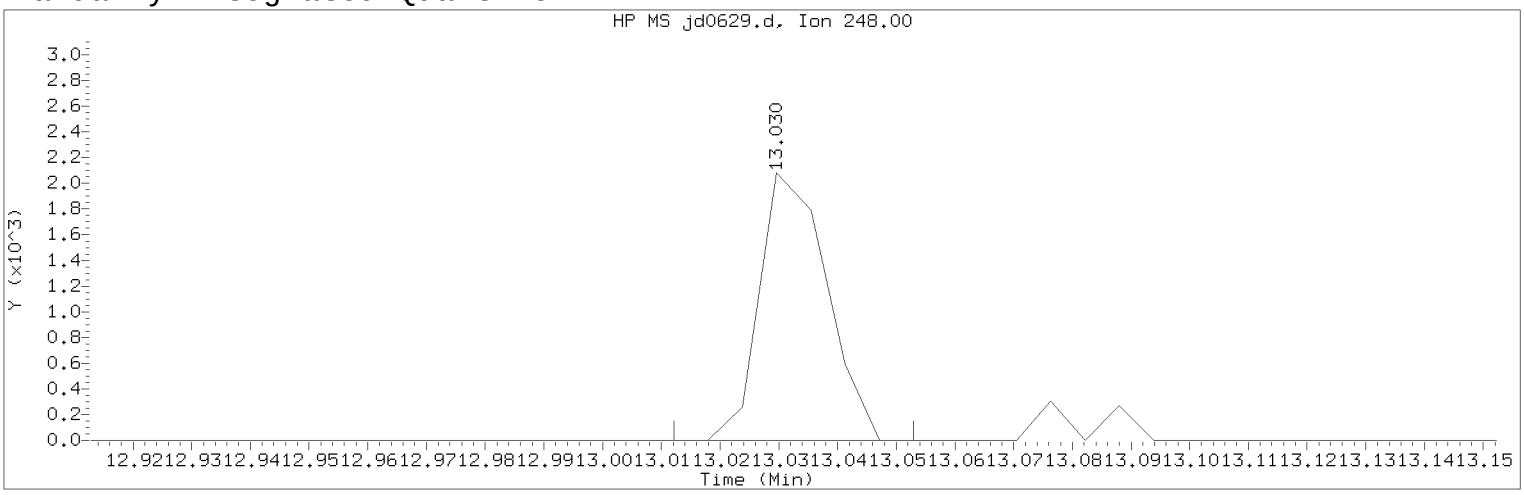
Compound Number : 151
Compound Name : Phorate
Scan Number : 1837
Retention Time (minutes) : 12.913
Quant Ion : 75.00
Area : 4818
On-column Amount (ng/ul) : 0.1335
Integration start scan : 1834 Integration stop scan: 1847
Y at integration start : 0 Y at integration end: 0

Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user id: LMH01 Page 0857

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

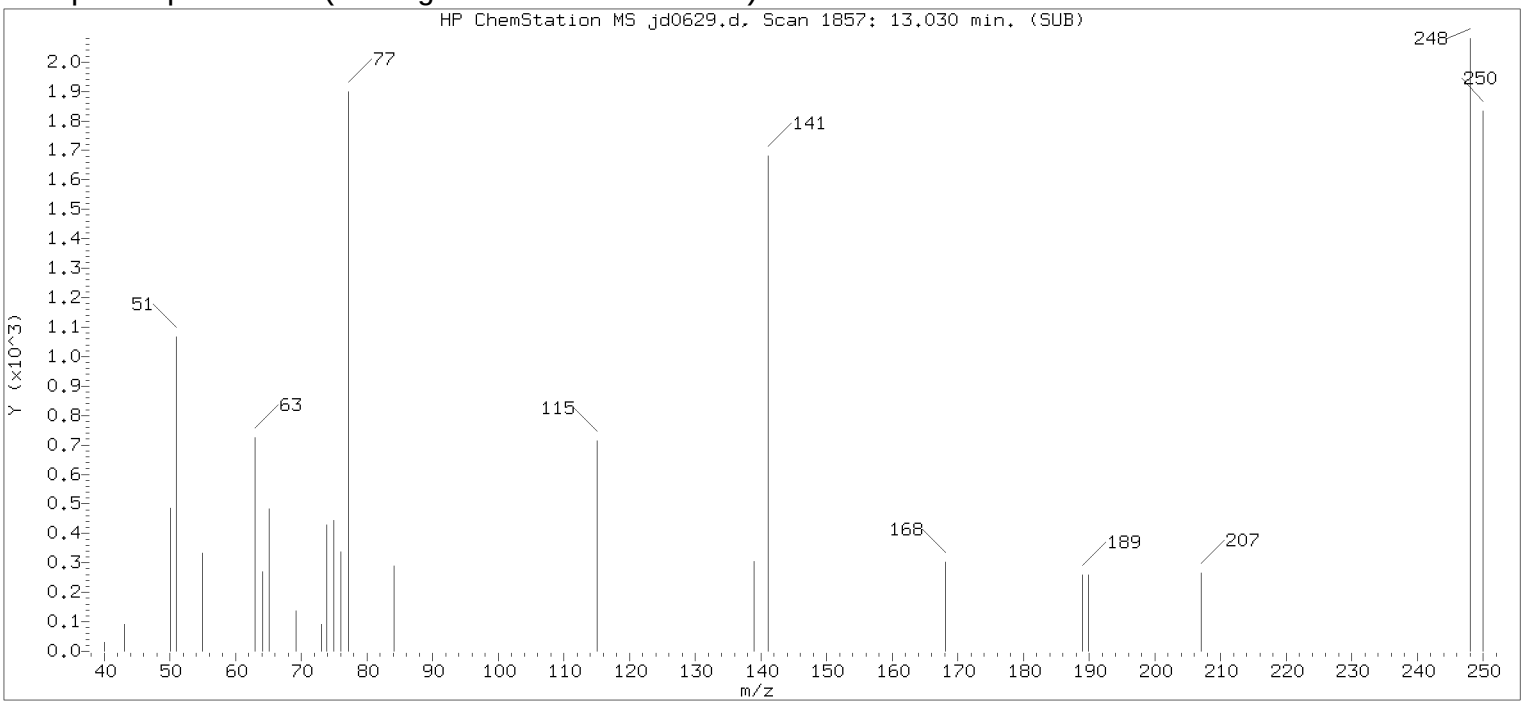
Compound Number : 153
Compound Name : 4-Bromophenyl-phenylether
Scan Number : 1857
Retention Time (minutes) : 13.030
Quant Ion : 248.00
Area (flag) : 1655M
On-Column Amount (ng/ul) : 0.1178
Integration start scan : 1853 Integration stop scan: 1860
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

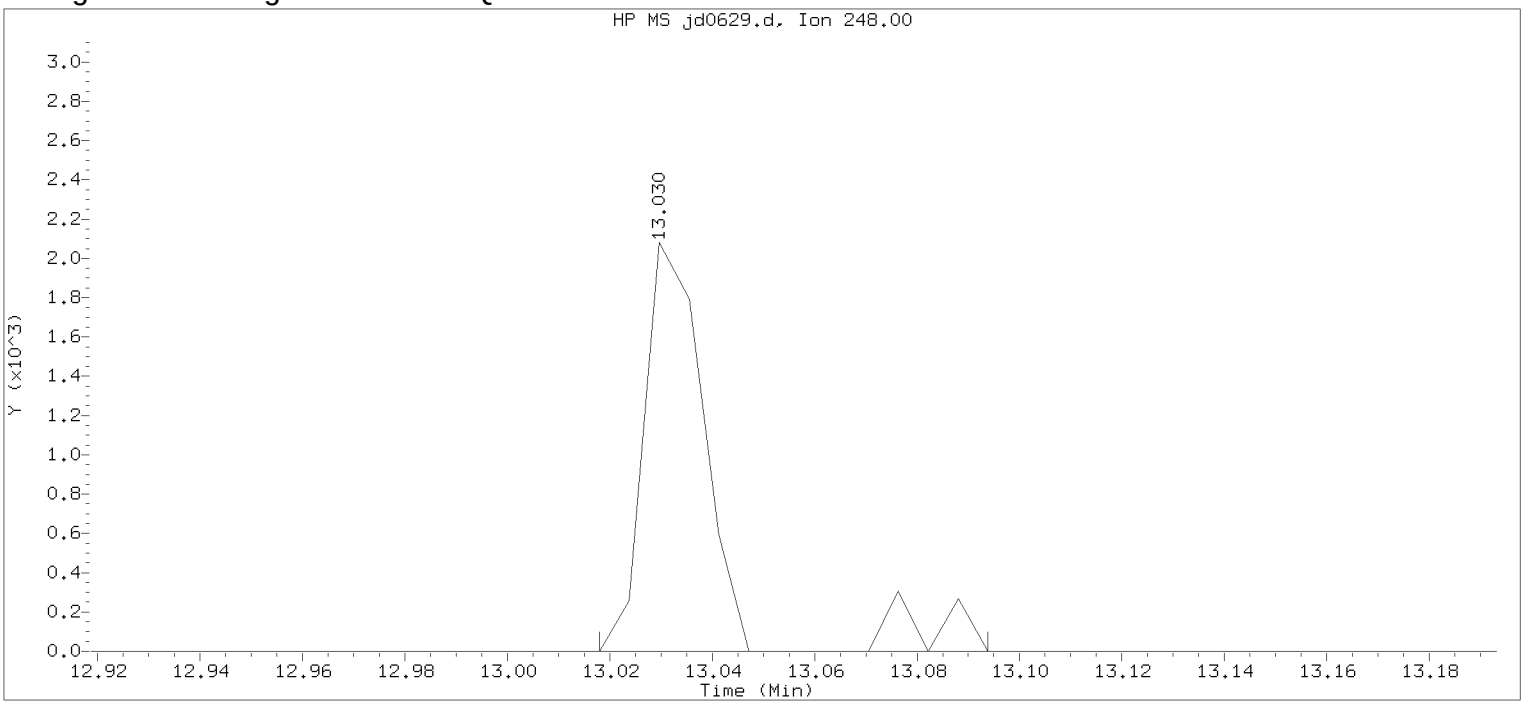
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

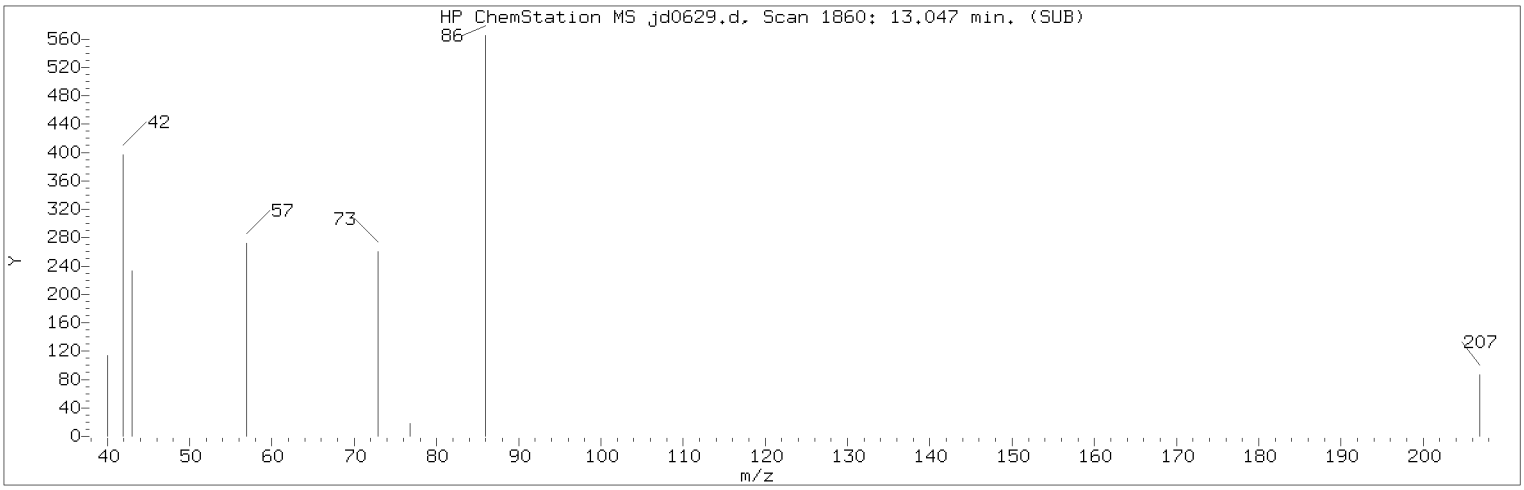
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:35 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

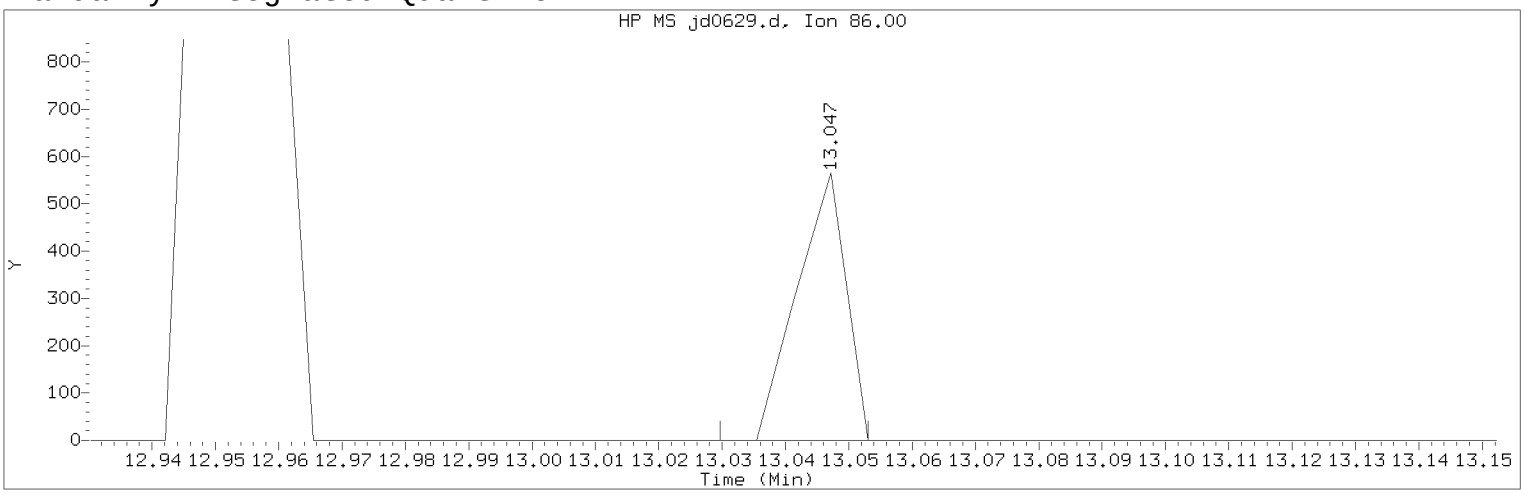
Compound Number : 153
Compound Name : 4-Bromophenyl-phenylether
Scan Number : 1857
Retention Time (minutes) : 13.030
Quant Ion : 248.00
Area : 1857
On-column Amount (ng/ul) : 0.1329
Integration start scan : 1854 Integration stop scan: 1867
Y at integration start : 0 Y at integration end: 0

Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user id: 1081 Page 0856 of 1243

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

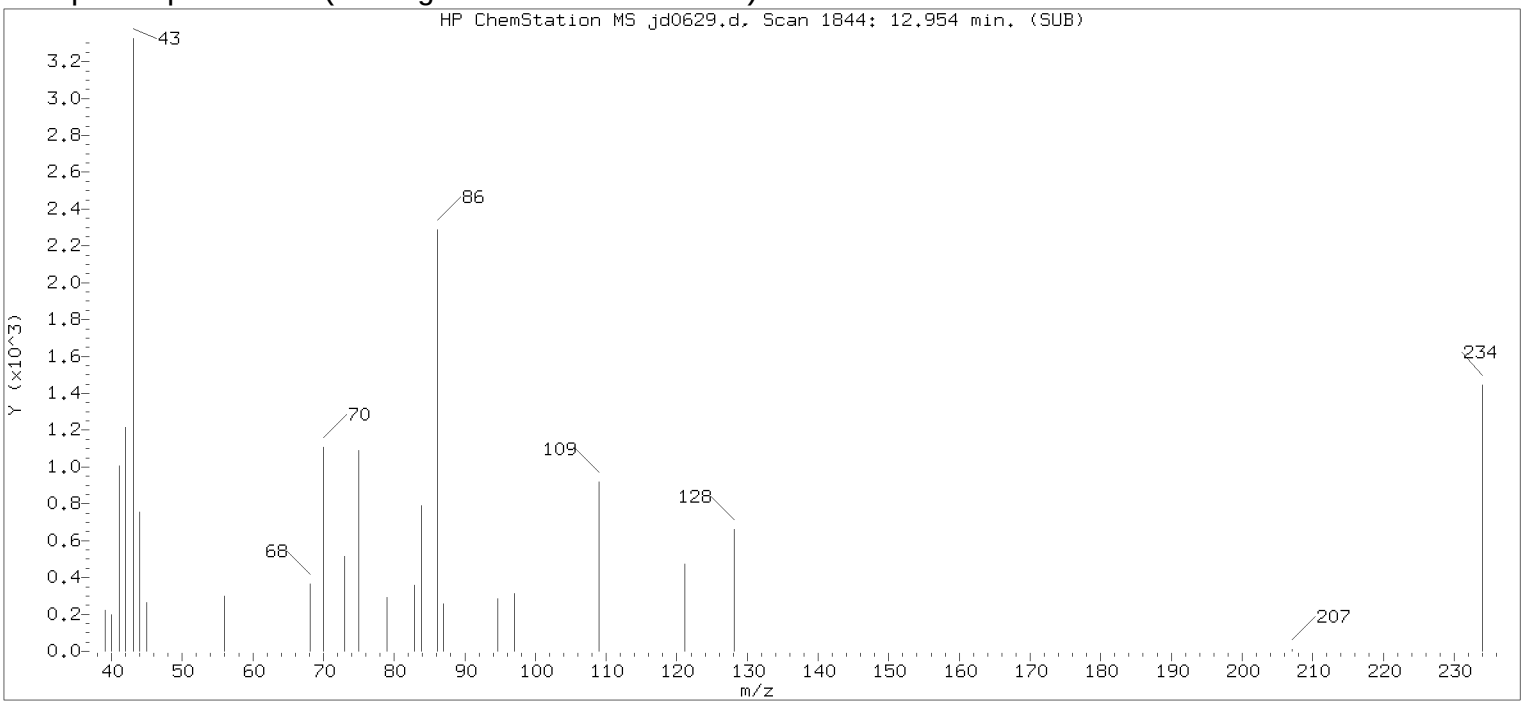
Compound Number : 154
Compound Name : Diallate (peak 2)
Scan Number : 1860
Retention Time (minutes) : 13.047
Quant Ion : 86.00
Area (flag) : 301M
On-Column Amount (ng/ul) : 0.0147
Integration start scan : 1856 Integration stop scan: 1860
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

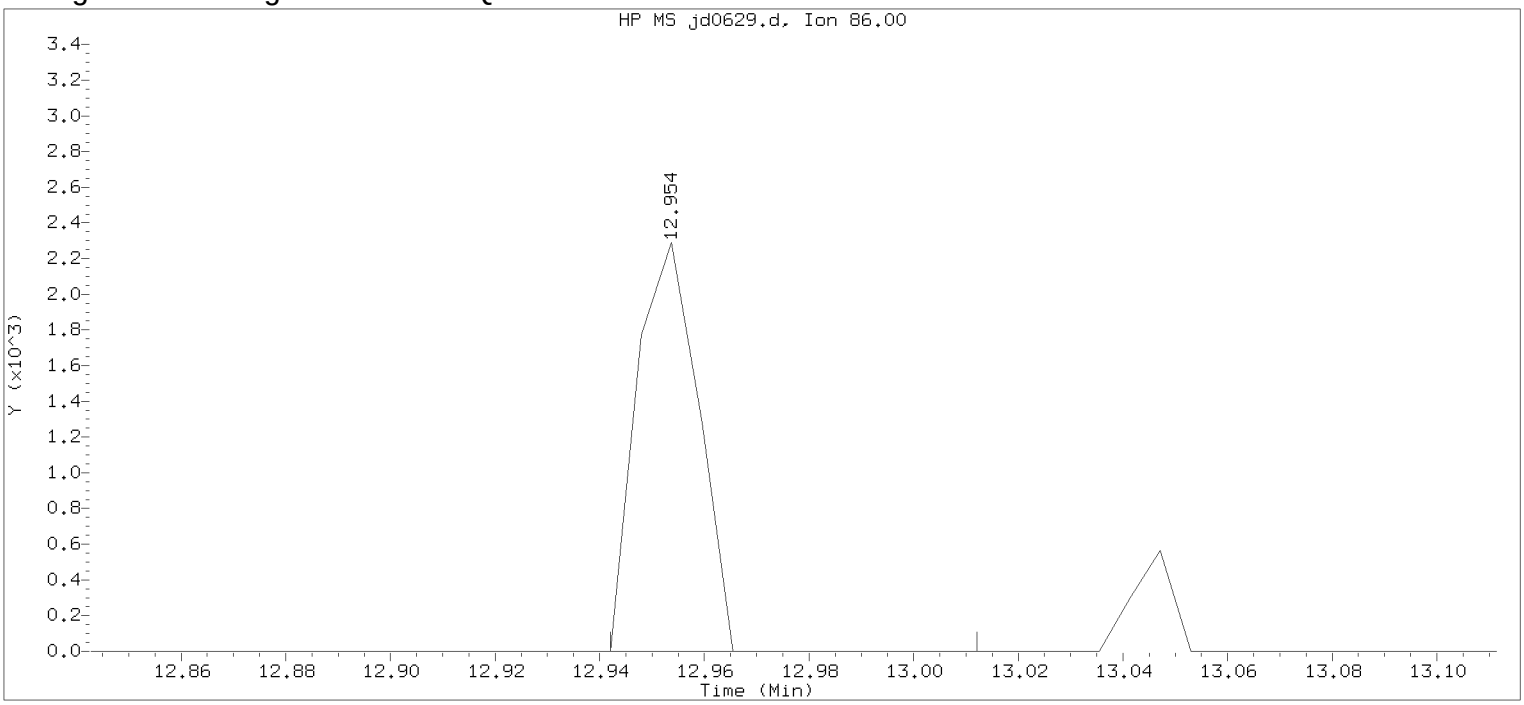
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

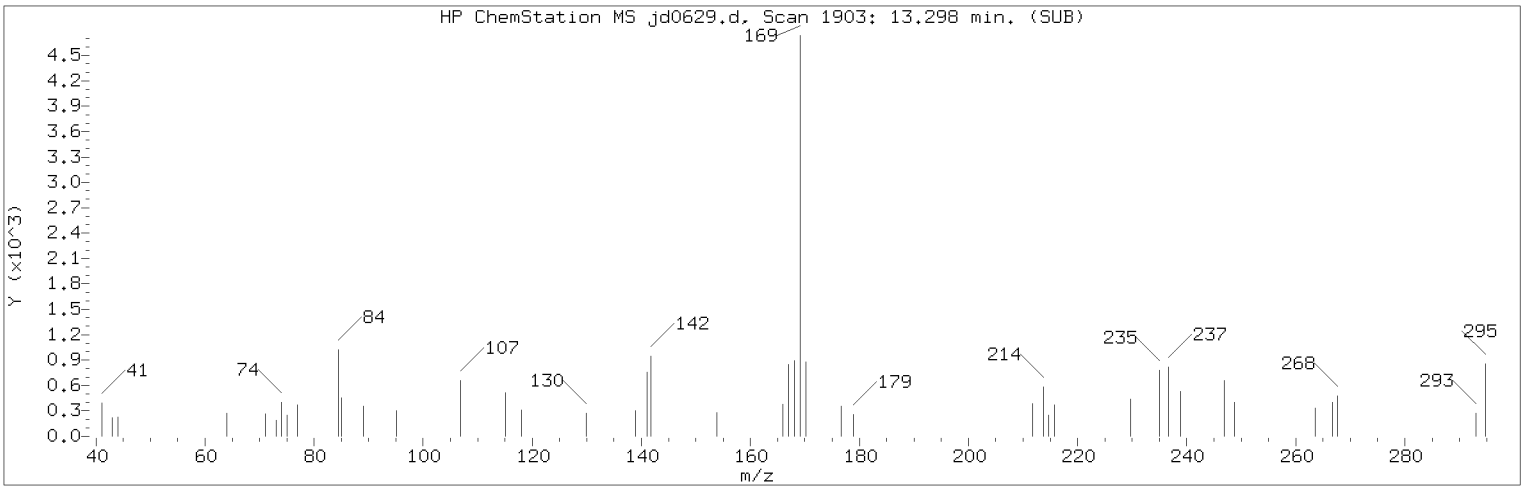
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:35 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

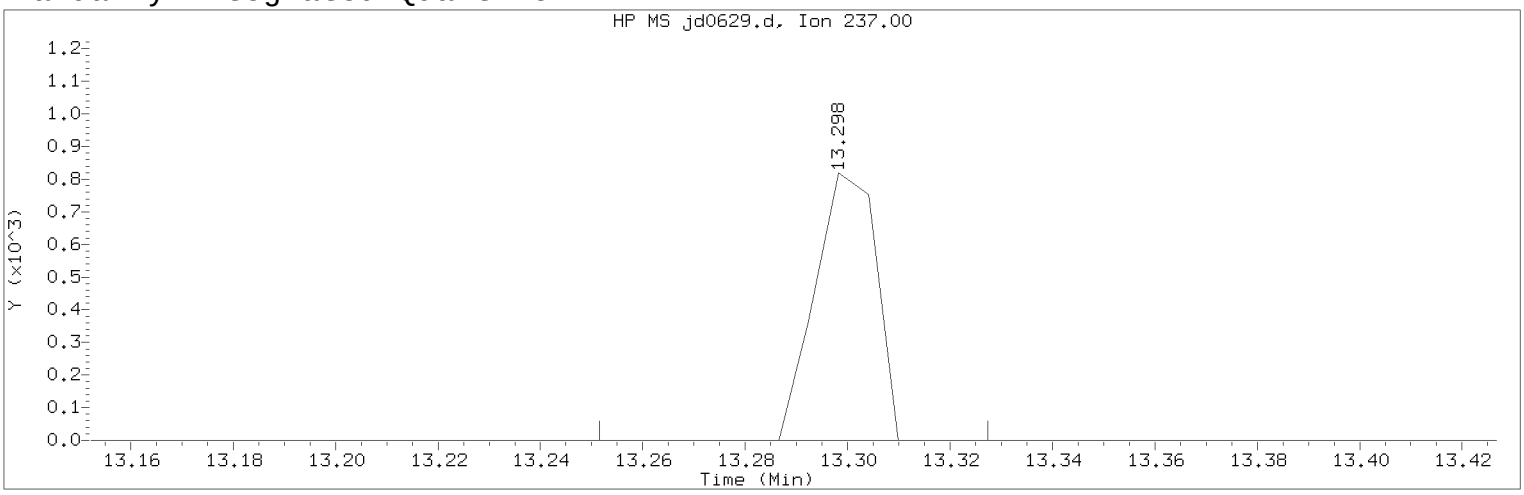
Compound Number : 154
Compound Name : Diallate (peak 2)
Scan Number : 1844
Retention Time (minutes) : 12.954
Quant Ion : 86.00
Area : 1871
On-column Amount (ng/ul) : 0.0932
Integration start scan : 1841 Integration stop scan: 1853
Y at integration start : 0 Y at integration end: 0

Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user id: 1081 Page 316 of 1243

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

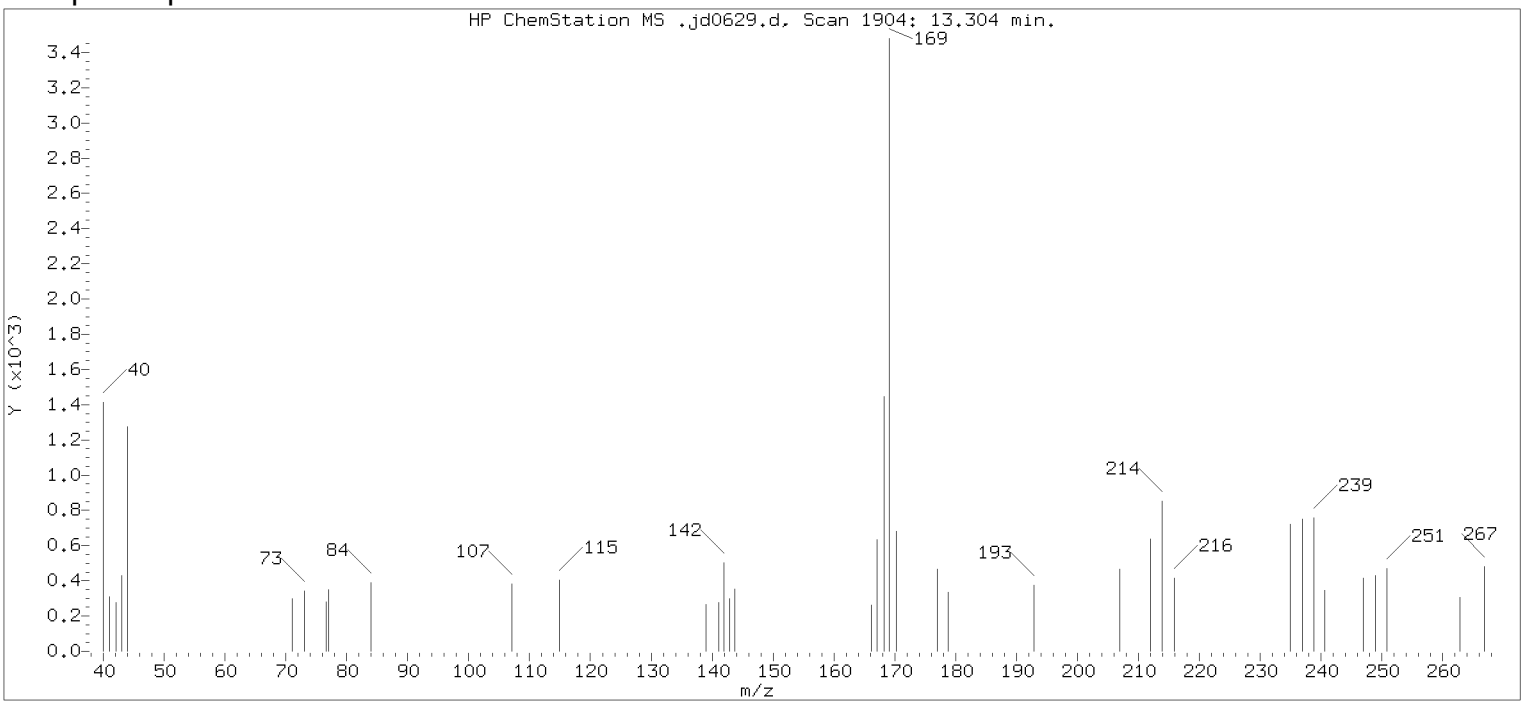
Compound Number : 162
Compound Name : Pentachloronitrobenzene
Scan Number : 1903
Retention Time (minutes) : 13.298
Quant Ion : 237.00
Area (flag) : 678M
On-Column Amount (ng/ul) : 0.0771
Integration start scan : 1894 Integration stop scan: 1907
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

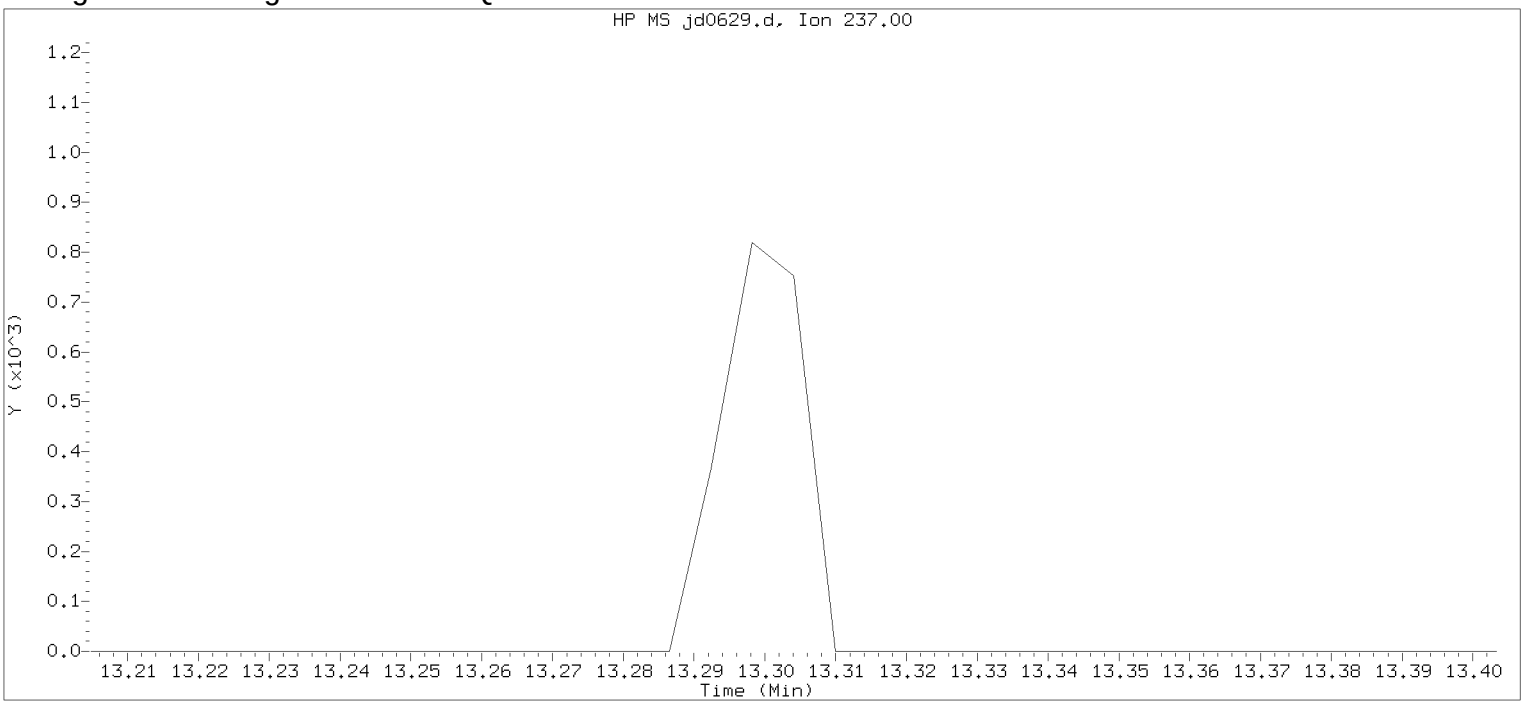
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

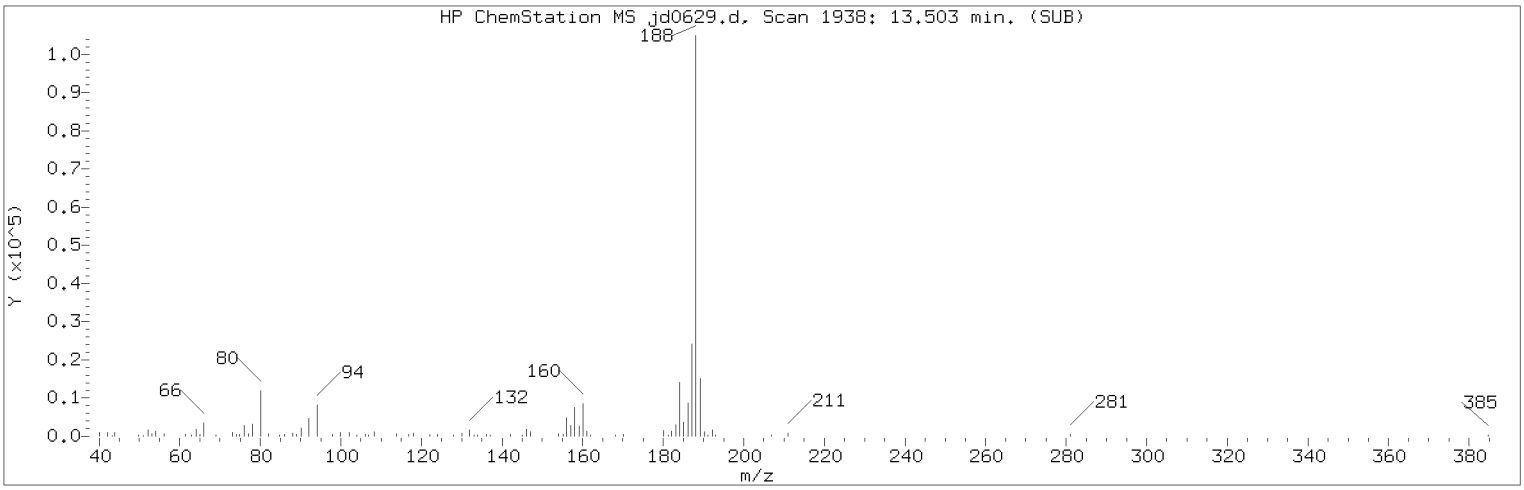
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:35 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

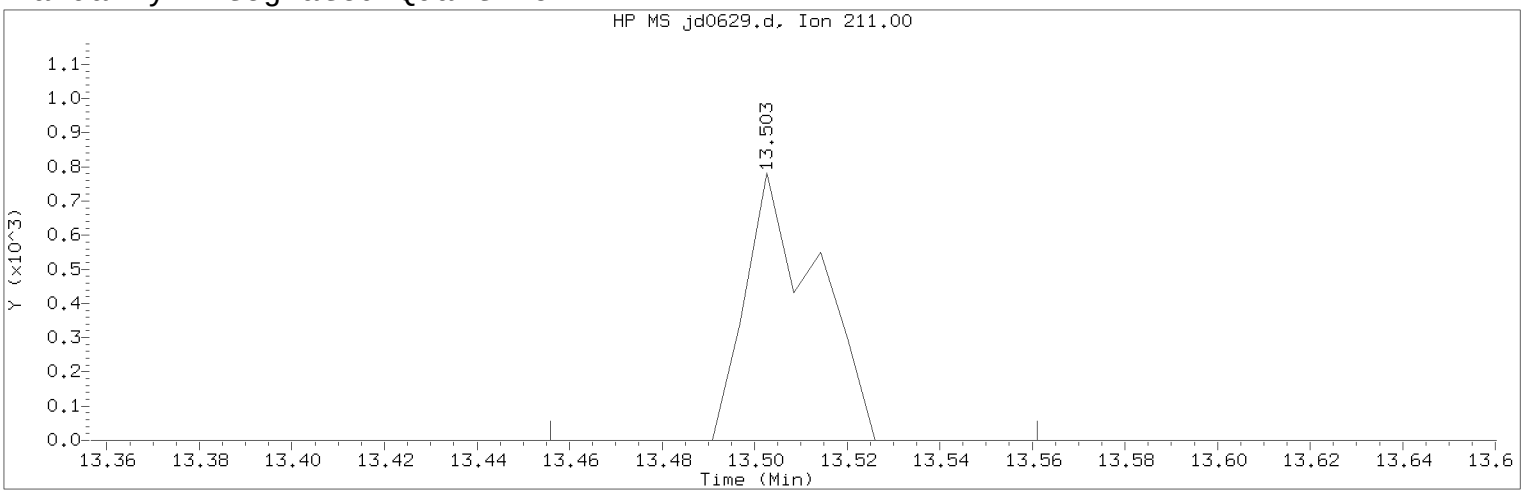
Compound Number : 162
Compound Name : Pentachloronitrobenzene
Expected RT (minutes) : 13.304
Quant Ion : 237.00

Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user id: 1081 Page 316 of 1243

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

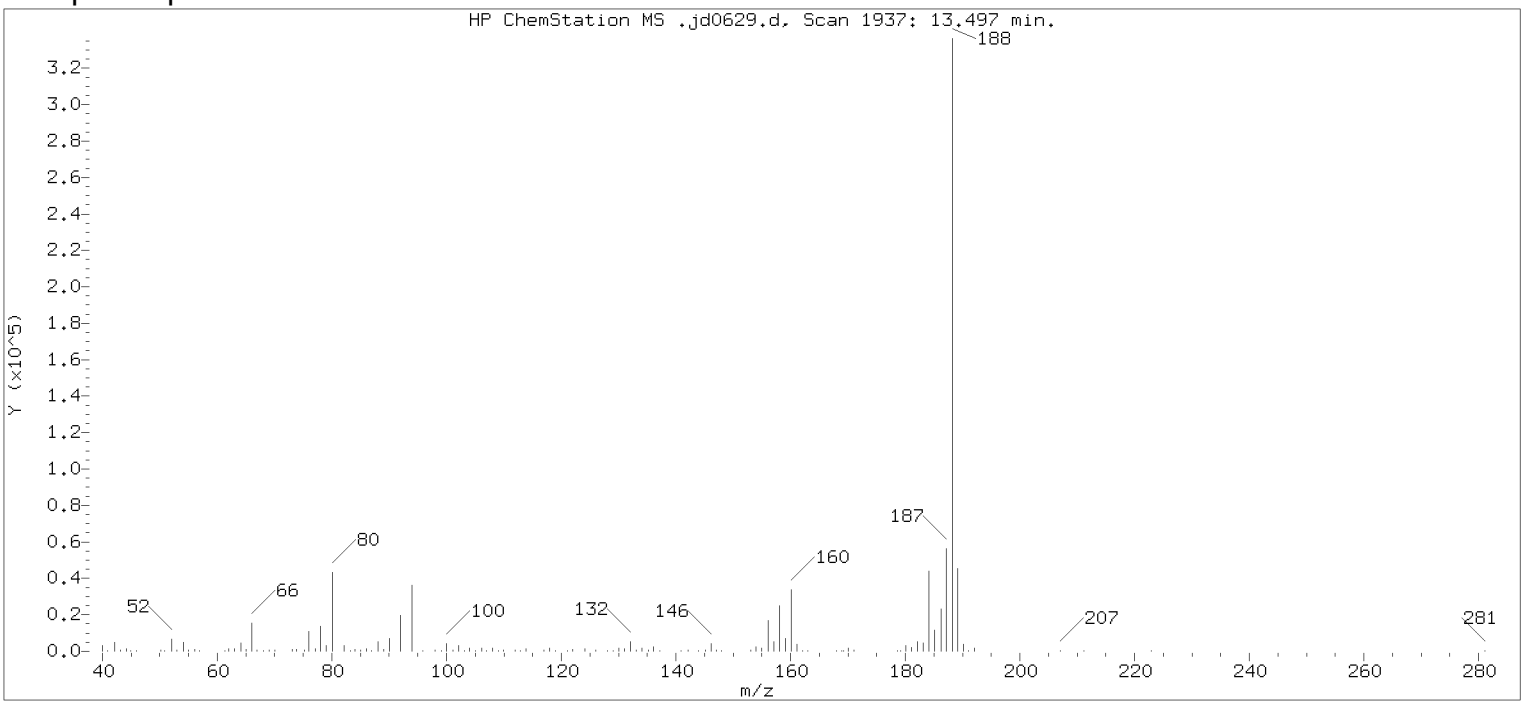
Compound Number : 166
Compound Name : Dinoseb
Scan Number : 1938
Retention Time (minutes) : 13.503
Quant Ion : 211.00
Area (flag) : 841M
On-Column Amount (ng/ul) : 0.0551
Integration start scan : 1929 Integration stop scan: 1947
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

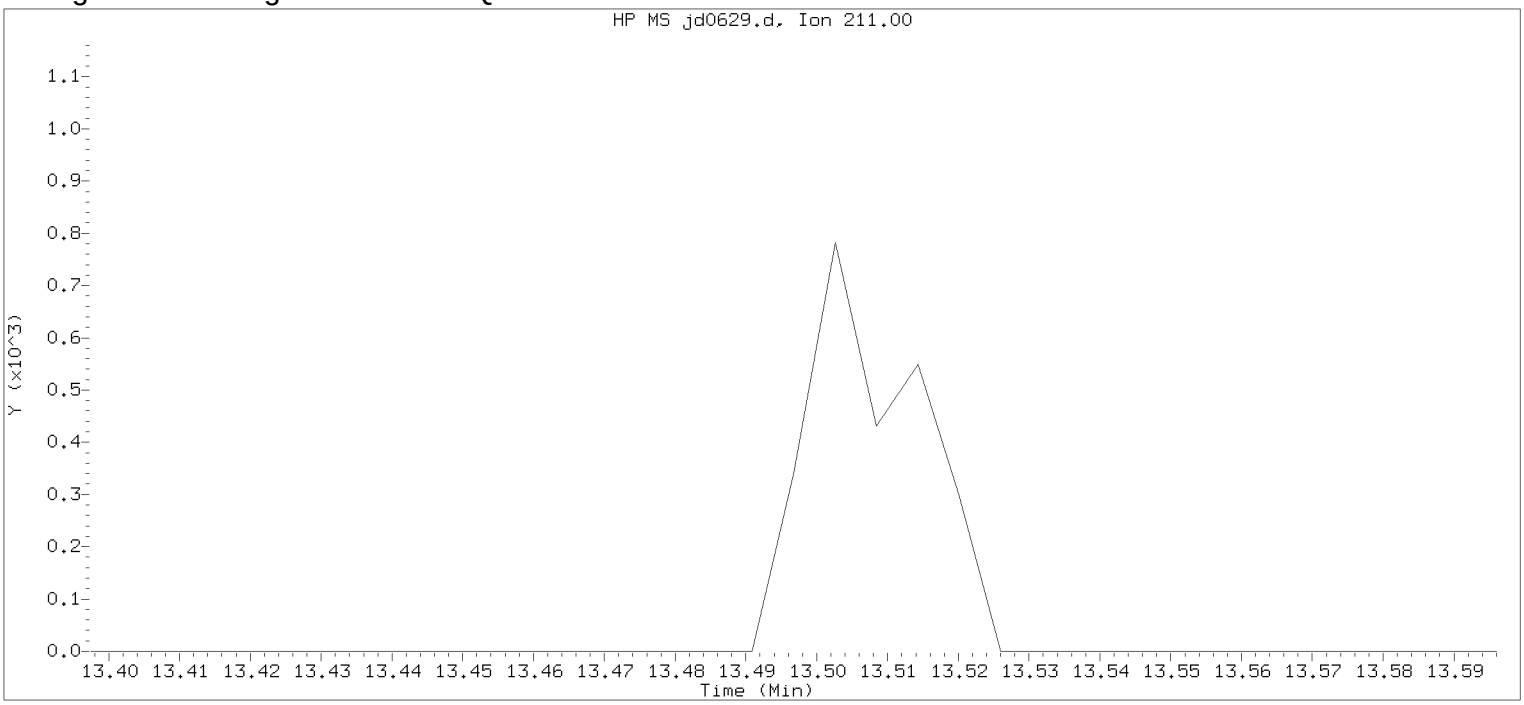
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

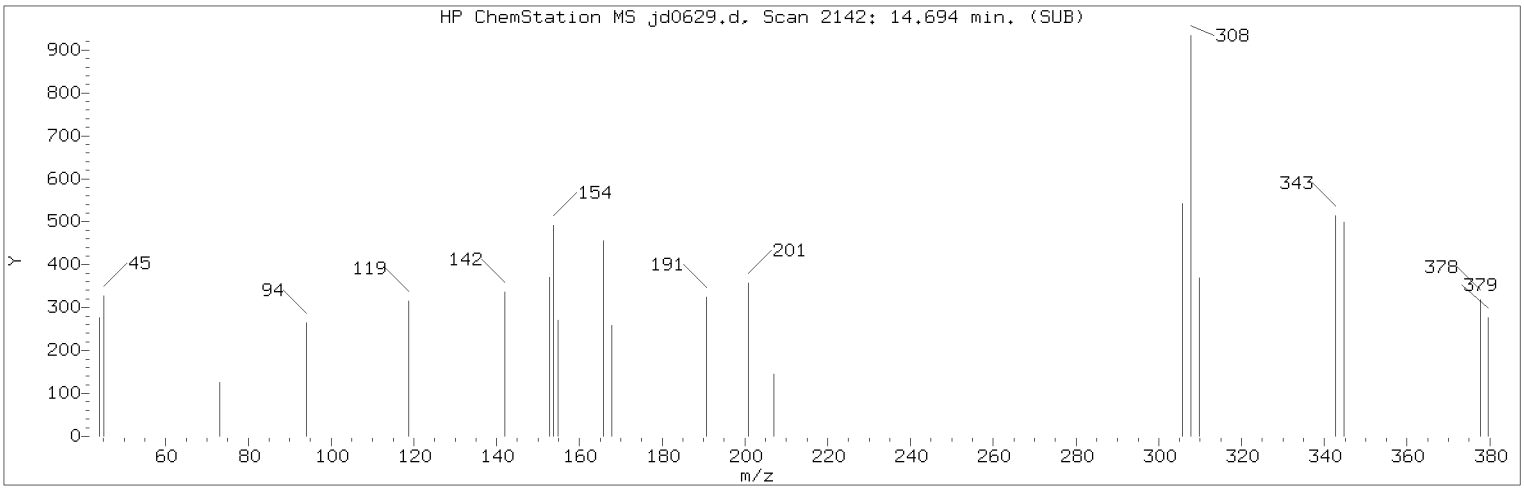
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:35 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

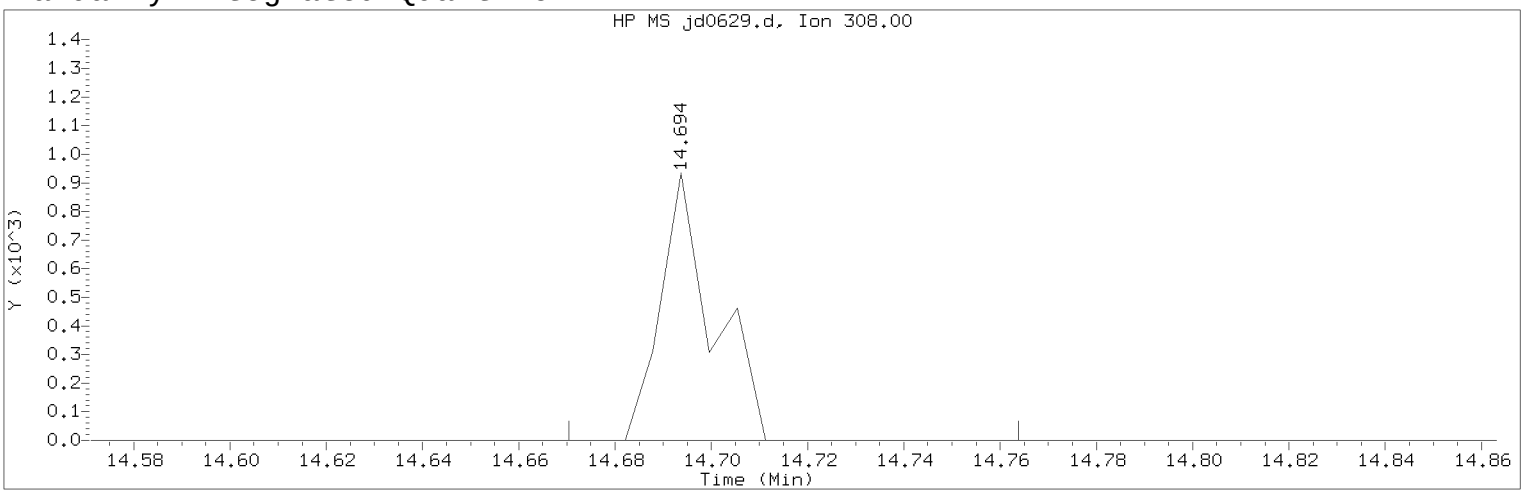
Compound Number : 166
Compound Name : Dinoseb
Expected RT (minutes) : 13.497
Quant Ion : 211.00

Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: 1

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

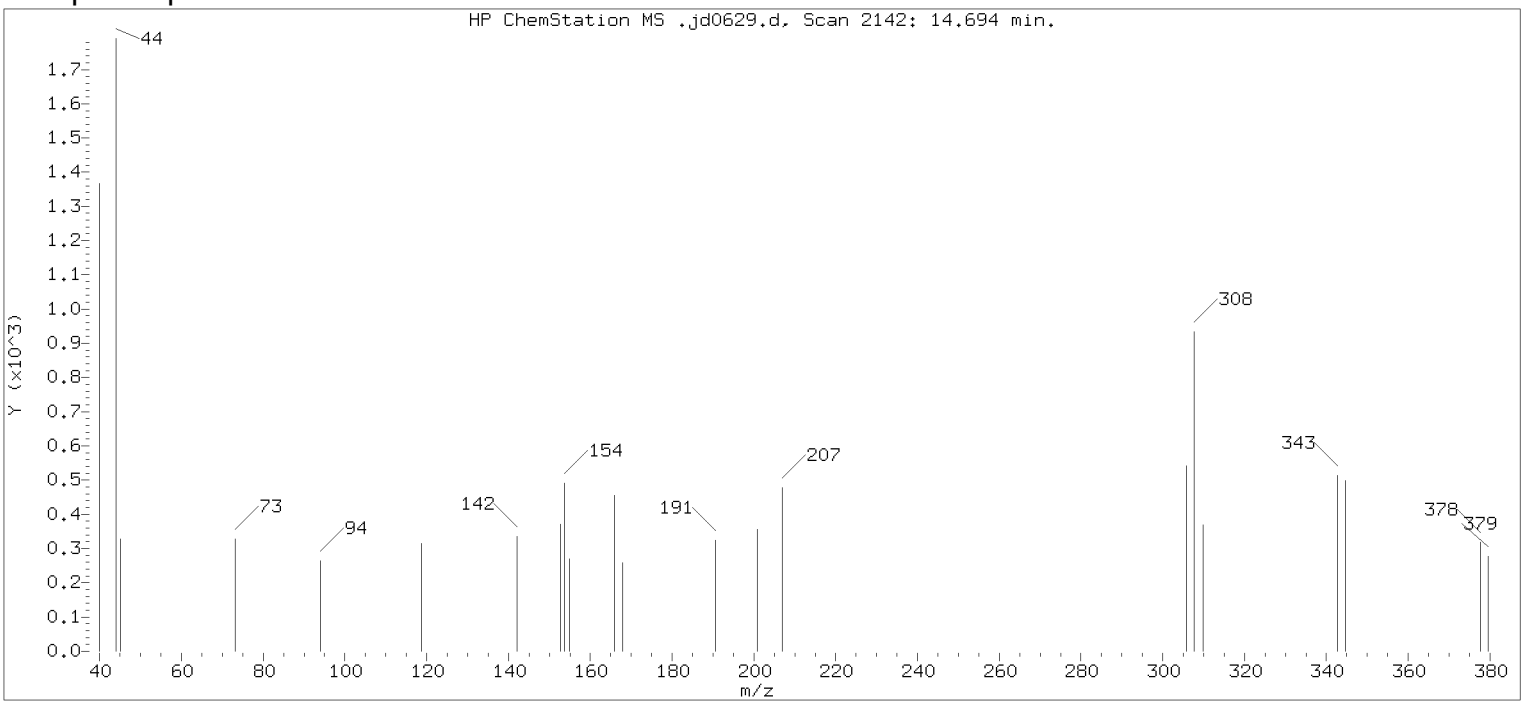
Compound Number : 181
Compound Name : Octachlorostyrene
Scan Number : 2142
Retention Time (minutes) : 14.694
Quant Ion : 308.00
Area (flag) : 705M
On-Column Amount (ng/ul) : 0.1257
Integration start scan : 2137 Integration stop scan: 2153
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

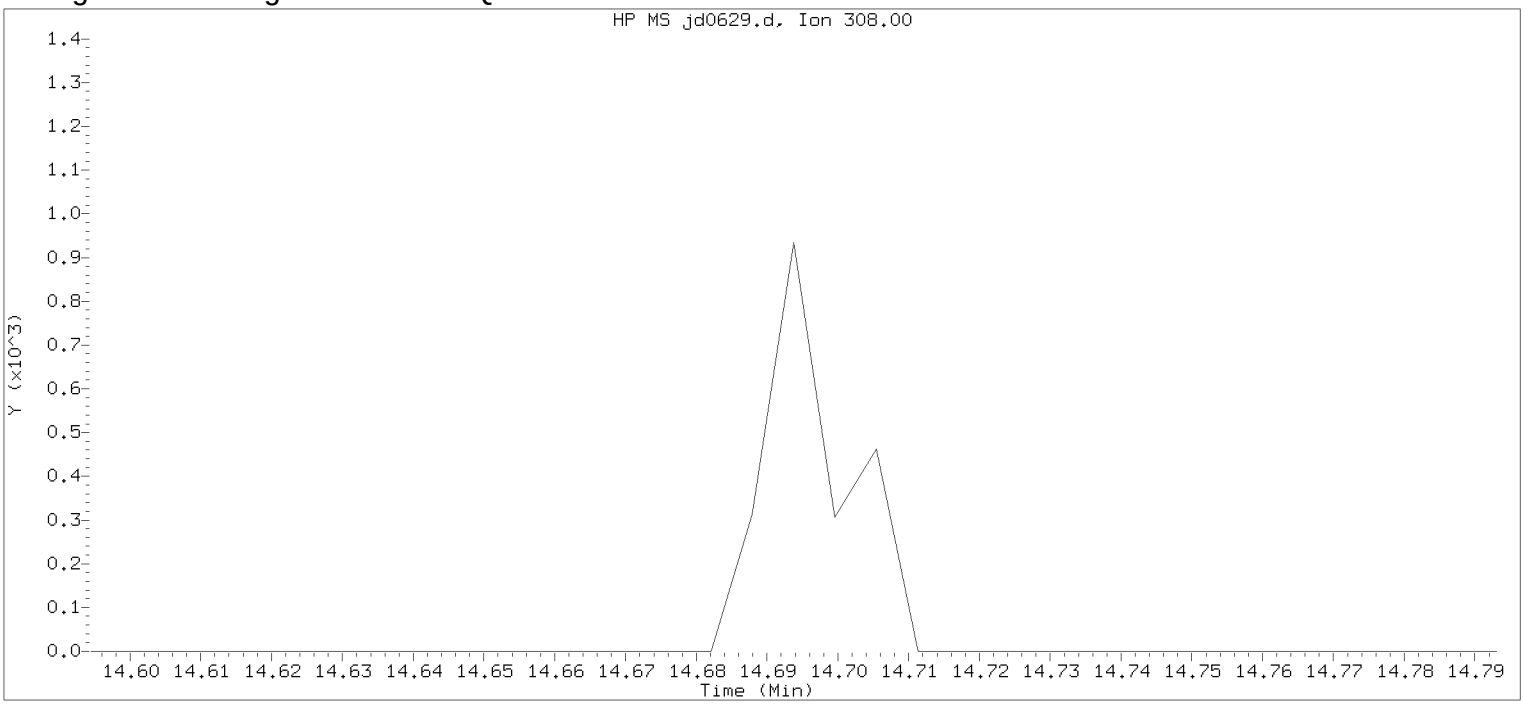
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

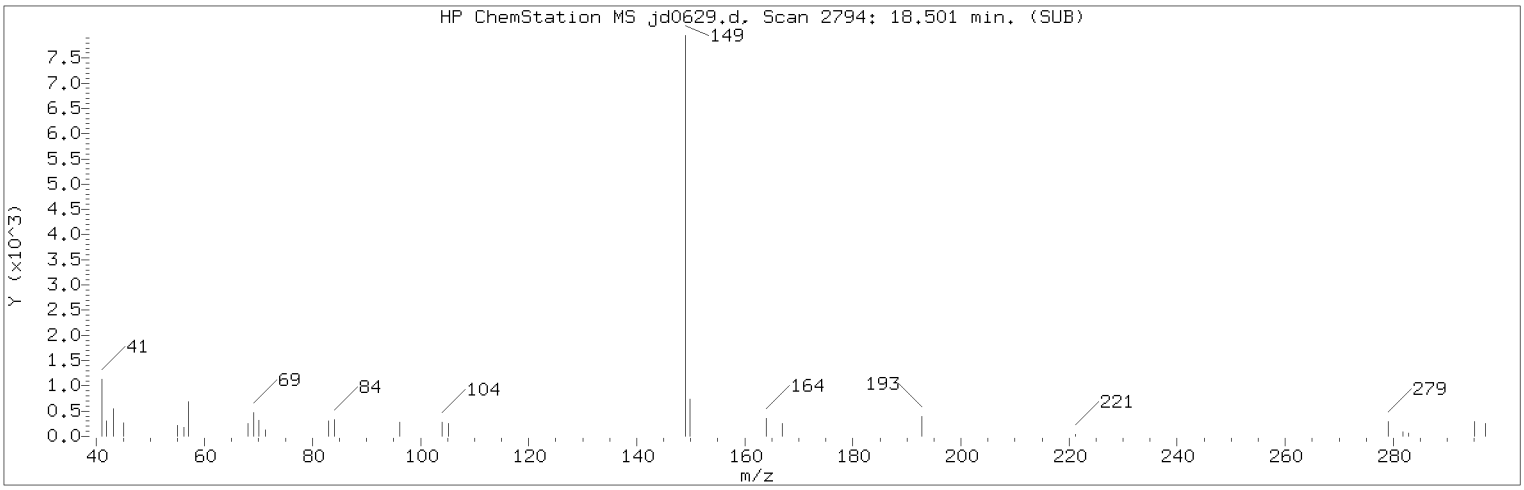
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:35 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

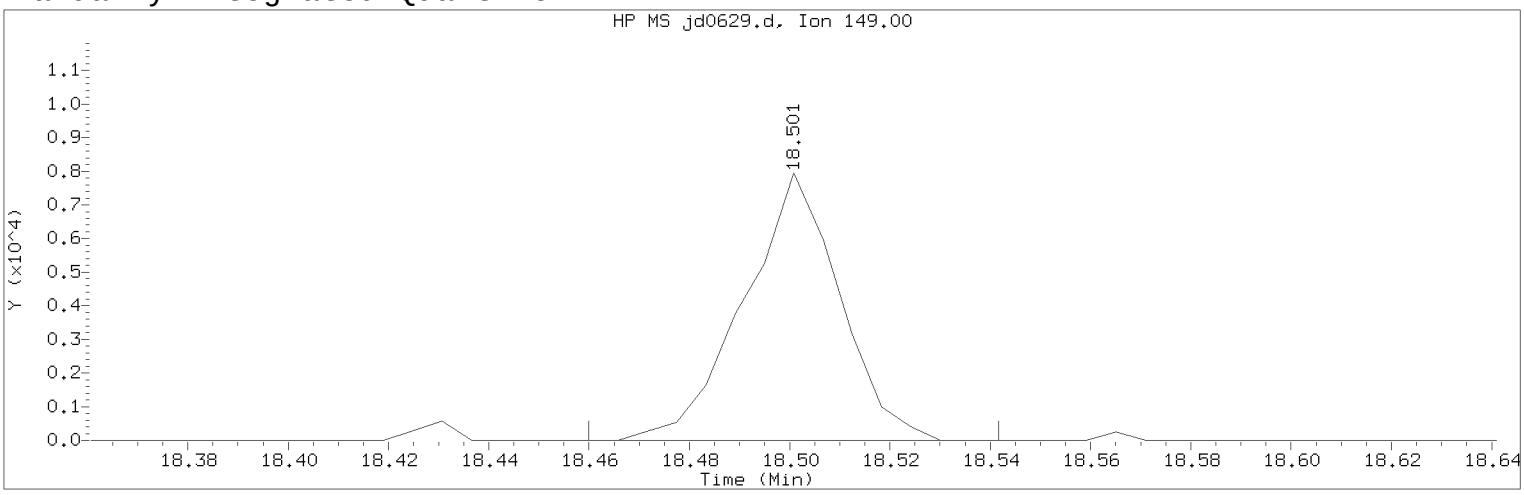
Compound Number : 181
Compound Name : Octachlorostyrene
Expected RT (minutes) : 14.694
Quant Ion : 308.00

Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user id: 1

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

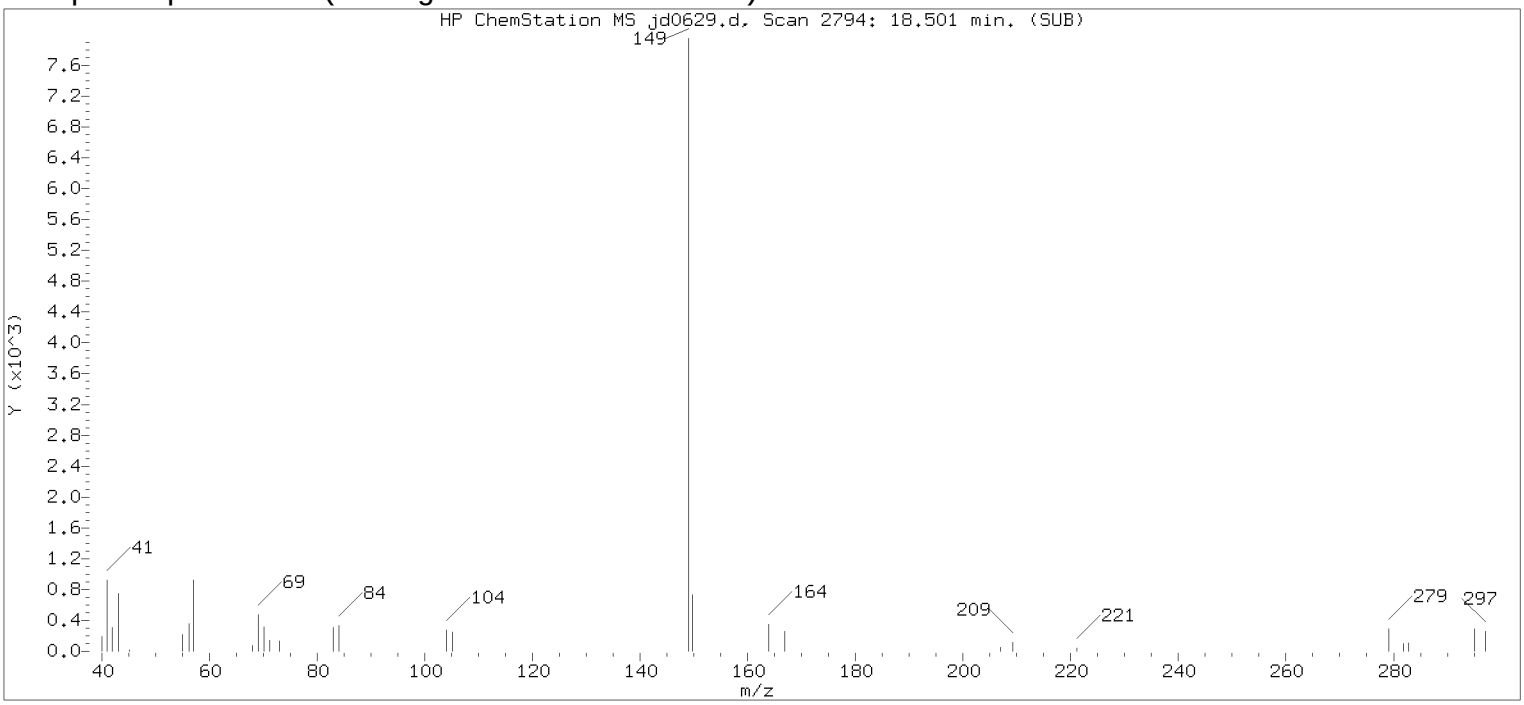
Compound Number : 209
Compound Name : Di-n-octylphthalate
Scan Number : 2794
Retention Time (minutes) : 18.501
Quant Ion : 149.00
Area (flag) : 10478M
On-Column Amount (ng/ul) : 0.0992
Integration start scan : 2786 Integration stop scan: 2800
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

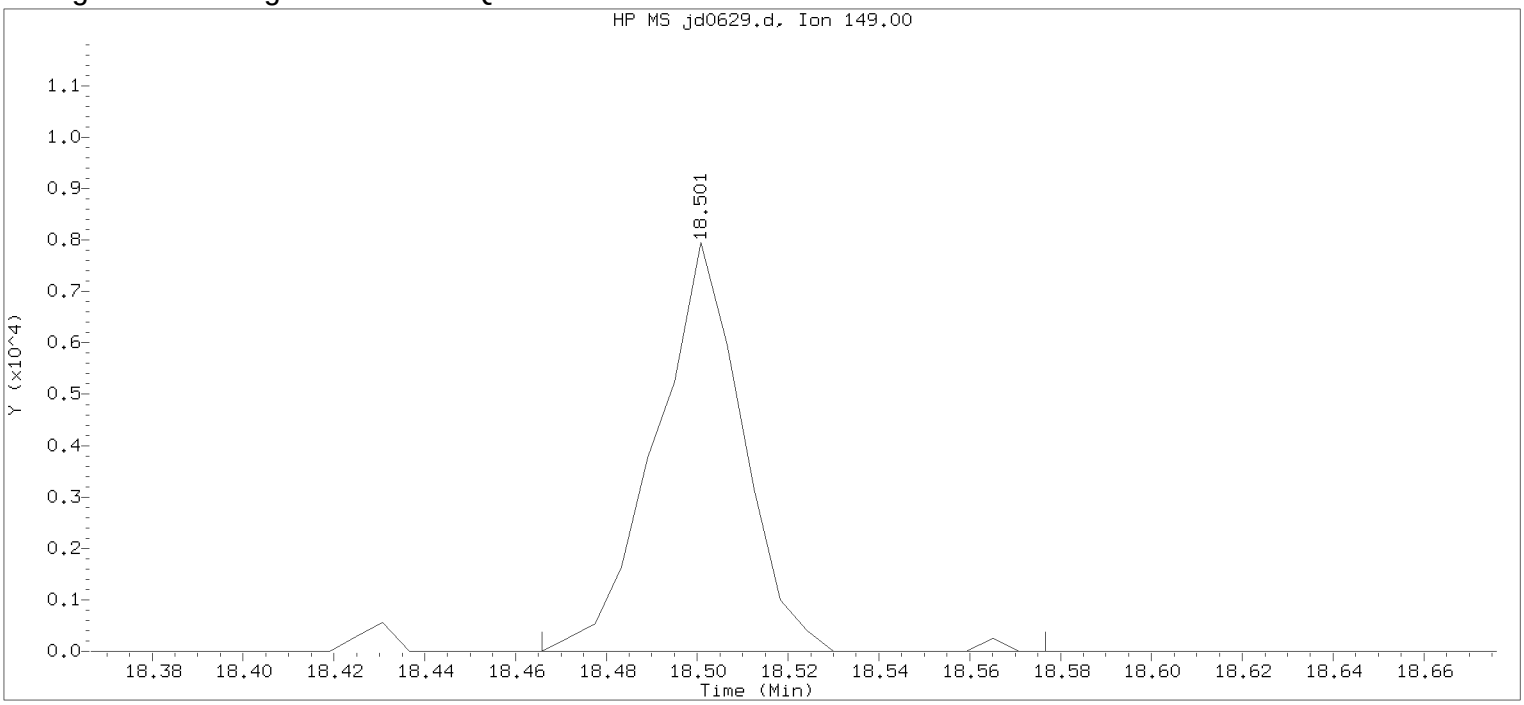
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:35 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

Compound Number : 209
Compound Name : Di-n-octylphthalate
Scan Number : 2794
Retention Time (minutes) : 18.501
Quant Ion : 149.00
Area : 10568
On-column Amount (ng/ul) : 0.1008
Integration start scan : 2787 Integration stop scan: 2806
Y at integration start : 0 Y at integration end: 0

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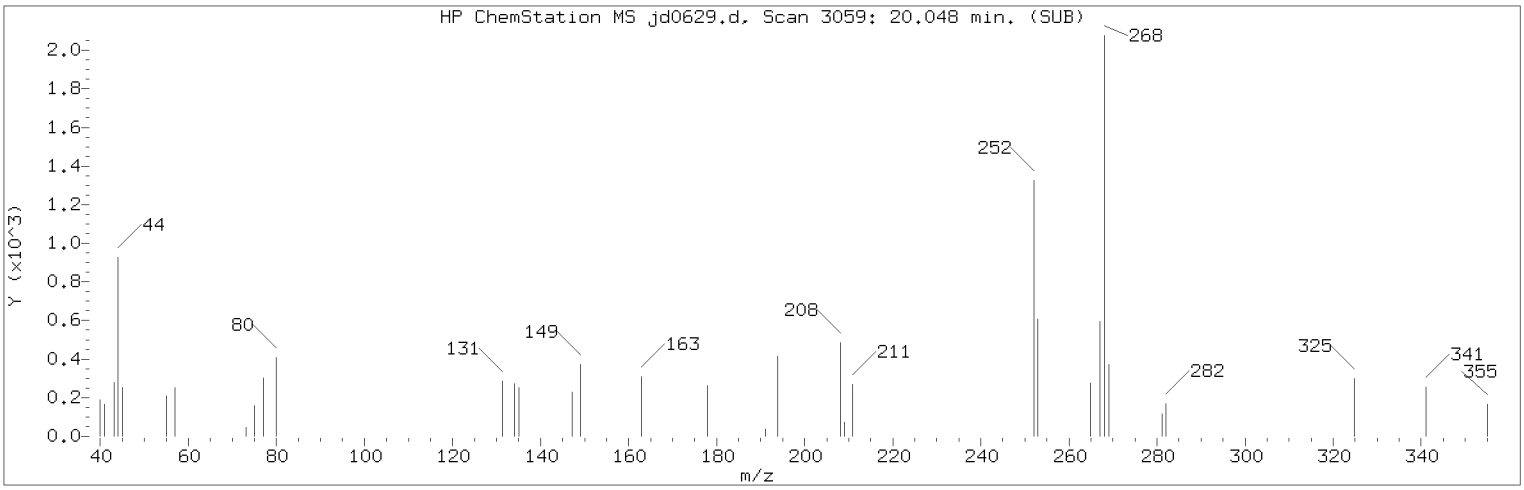
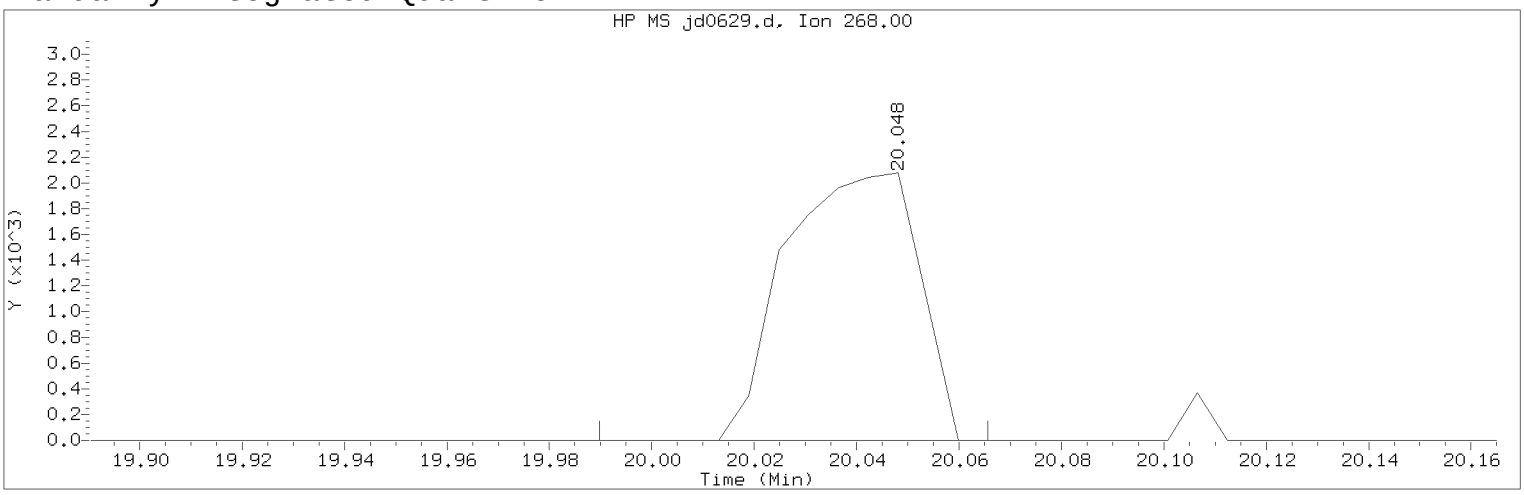
Target 3.5 esignature user id: 1081 Page 324 of 1243

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 11:14 cam01237

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

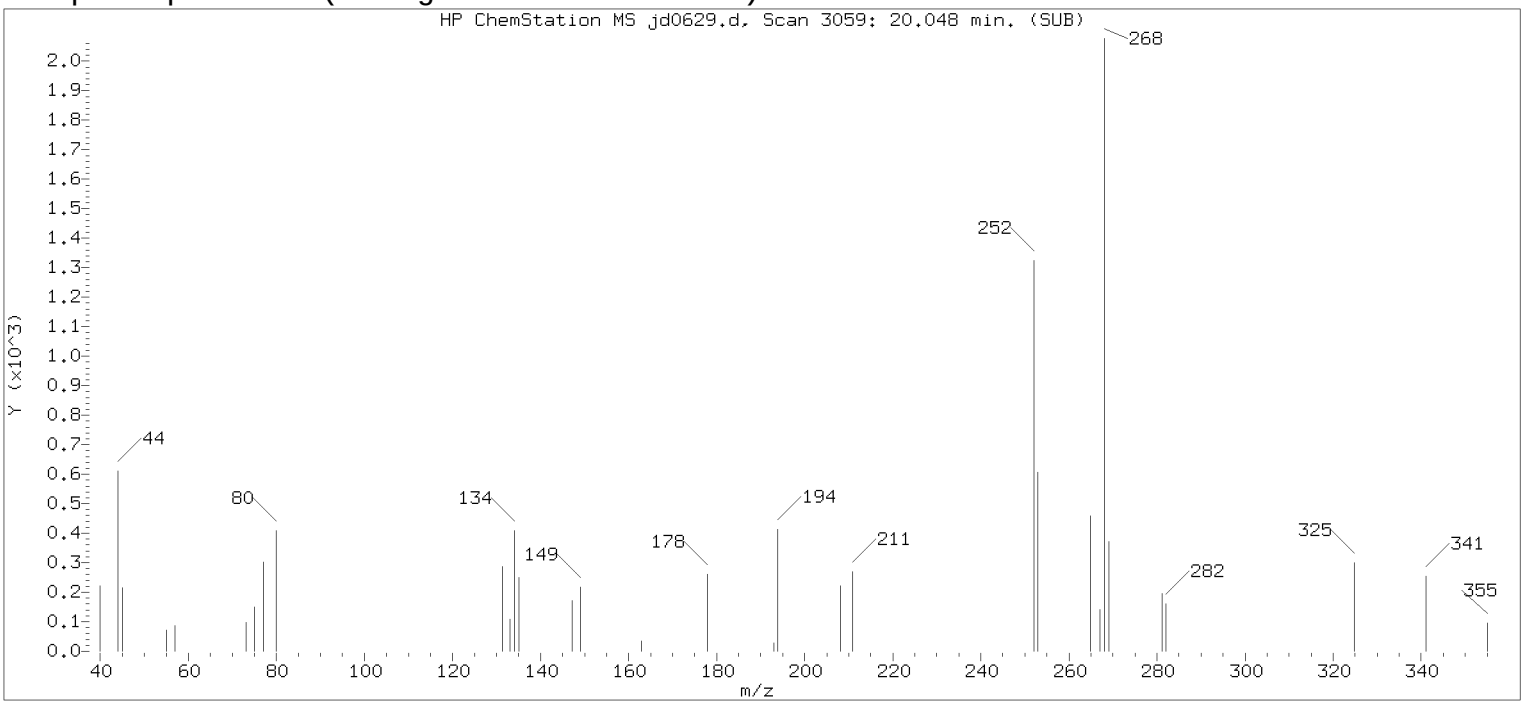
Compound Number : 216
Compound Name : 3-Methylcholanthrene
Scan Number : 3059
Retention Time (minutes) : 20.048
Quant Ion : 268.00
Area (flag) : 3753M
On-Column Amount (ng/ul) : 0.1061
Integration start scan : 3048 Integration stop scan: 3061
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

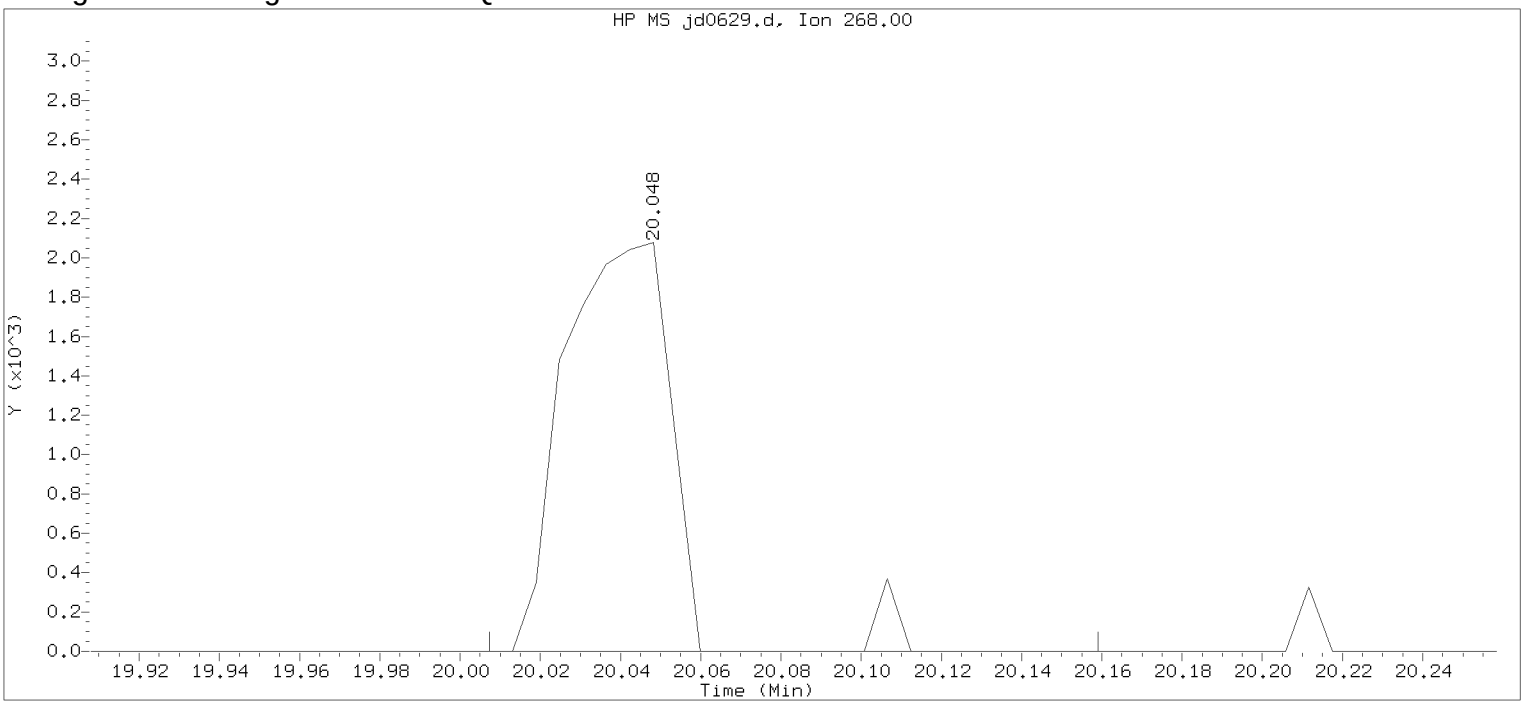
Analyst responsible for change: Digitally signed by Linda M. Hartenstine on 04/17/2018 at 11:14.
Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0629.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:01 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:35 knk25316

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

Compound Number : 216
Compound Name : 3-Methylcholanthrene
Scan Number : 3059
Retention Time (minutes) : 20.048
Quant Ion : 268.00
Area : 3882
On-column Amount (ng/ul) : 0.1095
Integration start scan : 3051 Integration stop scan: 3077
Y at integration start : 0 Y at integration end: 0

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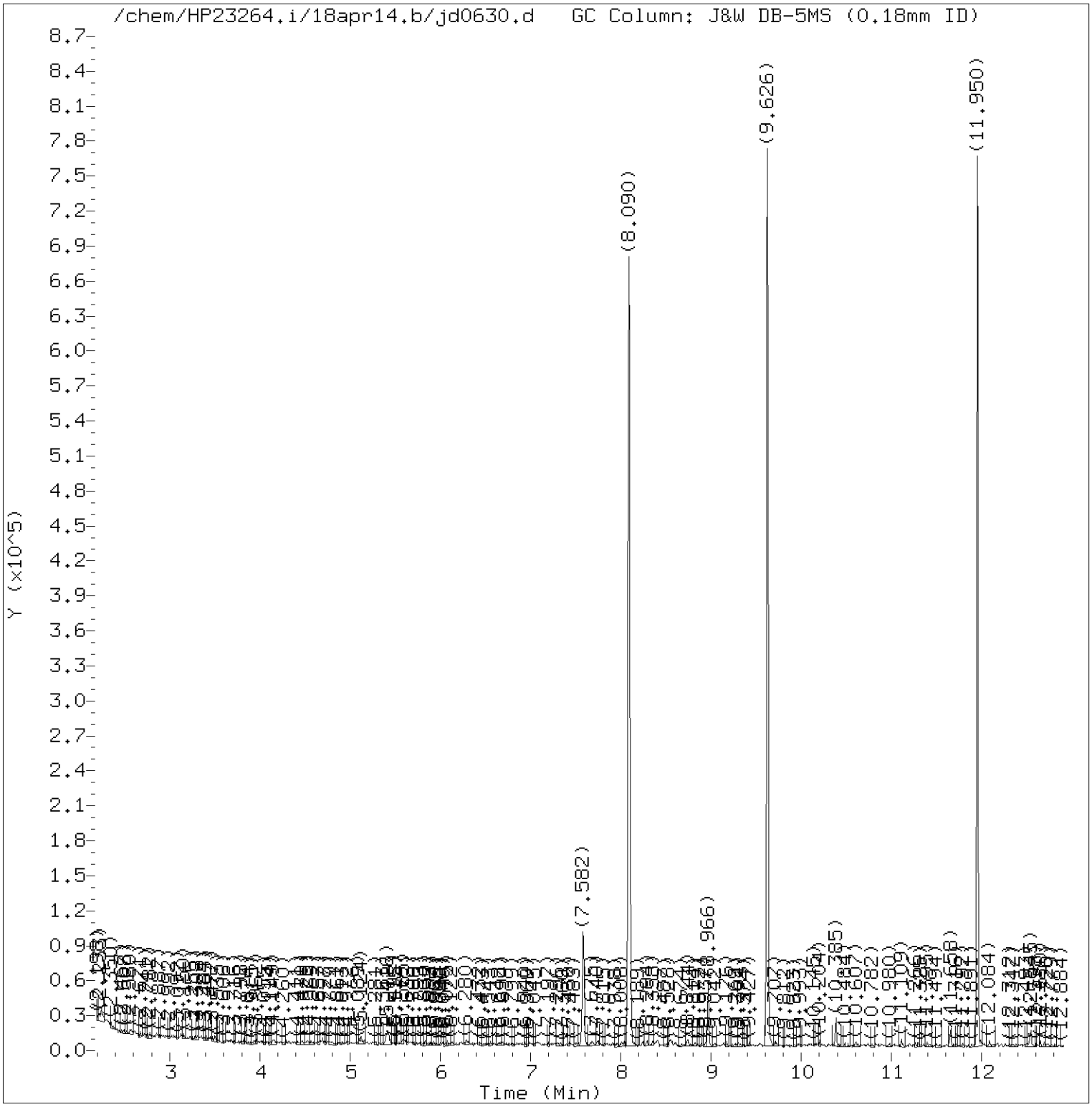
Target 3.5 esignature user id: 1081 Page 326 of 1243



Total Ion Chromatogram (TIC)

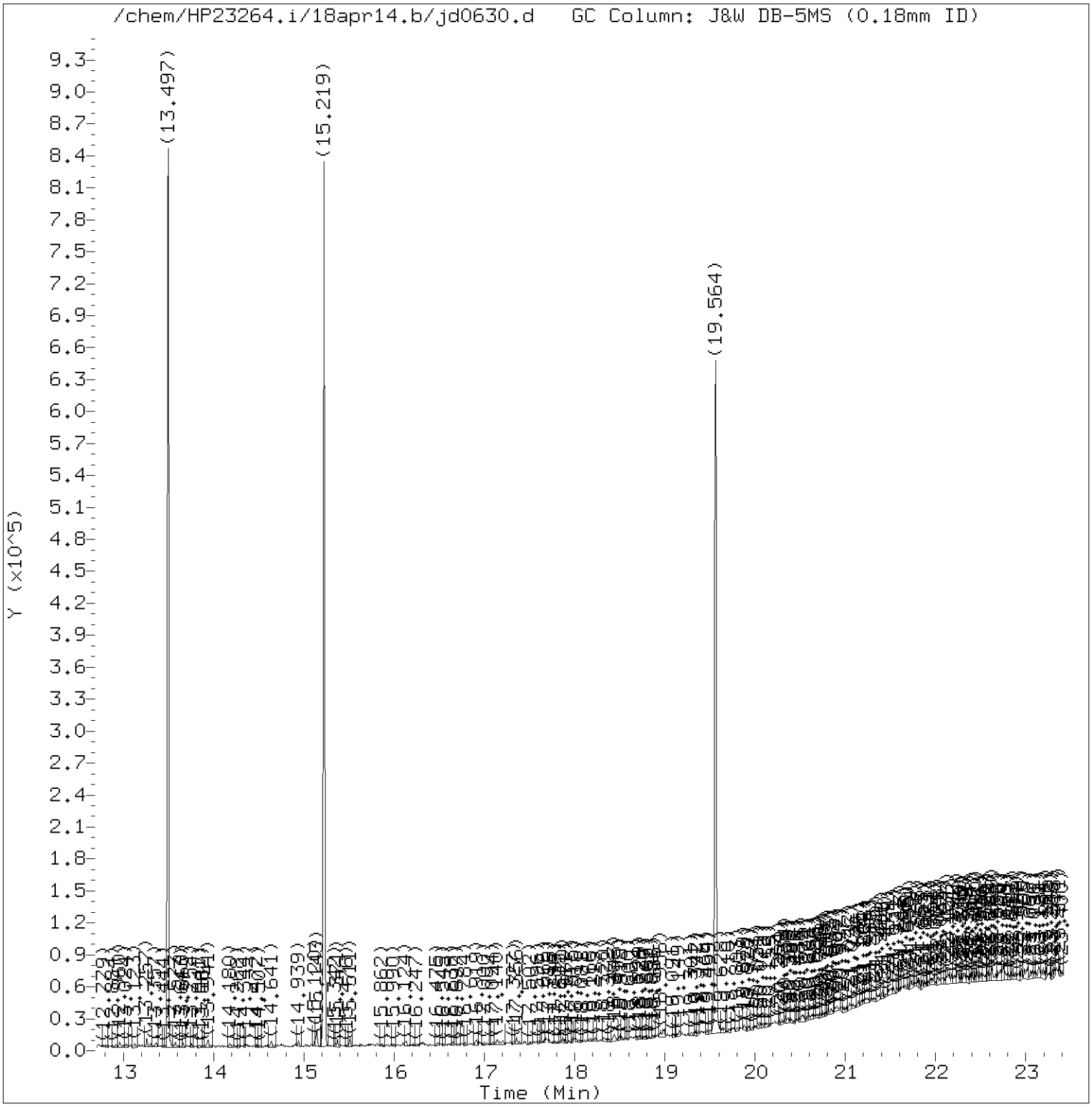
Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0630.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: pahmdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:51 knk25316

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL0968

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 10:52.
Target 3.5 esignature user ID: knk25316



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0630.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: pahmdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:51 knk25316

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL0968

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 10:52.
Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0630.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: pahmdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:51 knk25316

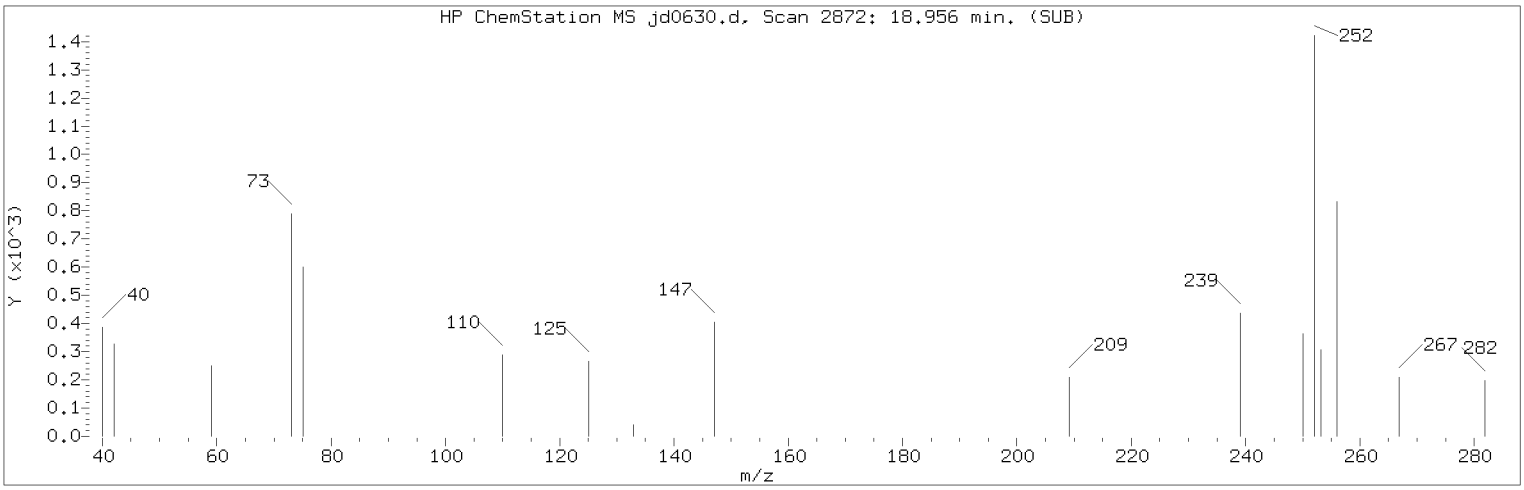
Sample Name: SSTD0.025 Lab Sample ID: PAHMDL0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
36)*1,4-Dichlorobenzene-d4	(1)	8.090	152	159656	5.000
58)$Nitrobenzene-d5	(2)	8.744	82	2070	0.040
76)*Naphthalene-d8	(2)	9.626	136	408629	5.000
78) Naphthalene	(2)	9.655	128	1550	0.019
91) 2-Methylnaphthalene	(2)	10.612	142	1017	0.021
92) 1-Methylnaphthalene	(2)	10.747	142	632	0.015
102)$2-Fluorobiphenyl	(3)	11.109	172	2107	0.043
107) 2-Chloronaphthalene	(3)	11.266	162	911	0.021
118) Acenaphthylene	(3)	11.792	152	927	0.016
122)*Acenaphthene-d10	(3)	11.950	164	150854	5.000
123) Acenaphthene	(3)	11.990	153	694	0.019
139) Fluorene	(3)	12.528	166	779	0.018
155) Hexachlorobenzene	(4)	13.076	284	163	0.012
165)*Phenanthrene-d10	(4)	13.497	188	289972	5.000
167) Phenanthrene	(4)	13.514	178	1337	0.021
168) Anthracene	(4)	13.573	178	1685	0.025
183) Fluoranthene	(4)	14.939	202	1767	0.024
185)*Pyrene-d10	(5)	15.219	212	334034	5.000
187) Pyrene	(5)	15.249	202	2294	0.027
192)$Terphenyl-d14	(5)	15.505	244	2330	0.041
201) Benzo(a)anthracene	(5)	17.140	228	2097	0.026
206) Chrysene	(5)	17.199	228	1585	0.021
210) Benzo(b)fluoranthene	(6)	18.956	252	1683M	0.022
212) Benzo(k)fluoranthene	(6)	18.997	252	1541M	0.021
214) Benzo(a)pyrene	(6)	19.470	252	1187M	0.017
215)*Perylene-d12	(6)	19.564	264	306077	5.000
219) Indeno(1,2,3-cd)pyrene	(6)	21.140	276	1492M	0.023
220) Dibenz(a,h)anthracene	(6)	21.187	278	1155	0.019
221) Benzo(g,h,i)perylene	(6)	21.496	276	1848	0.027
228) Total PAHs	(6)			25270	0.380

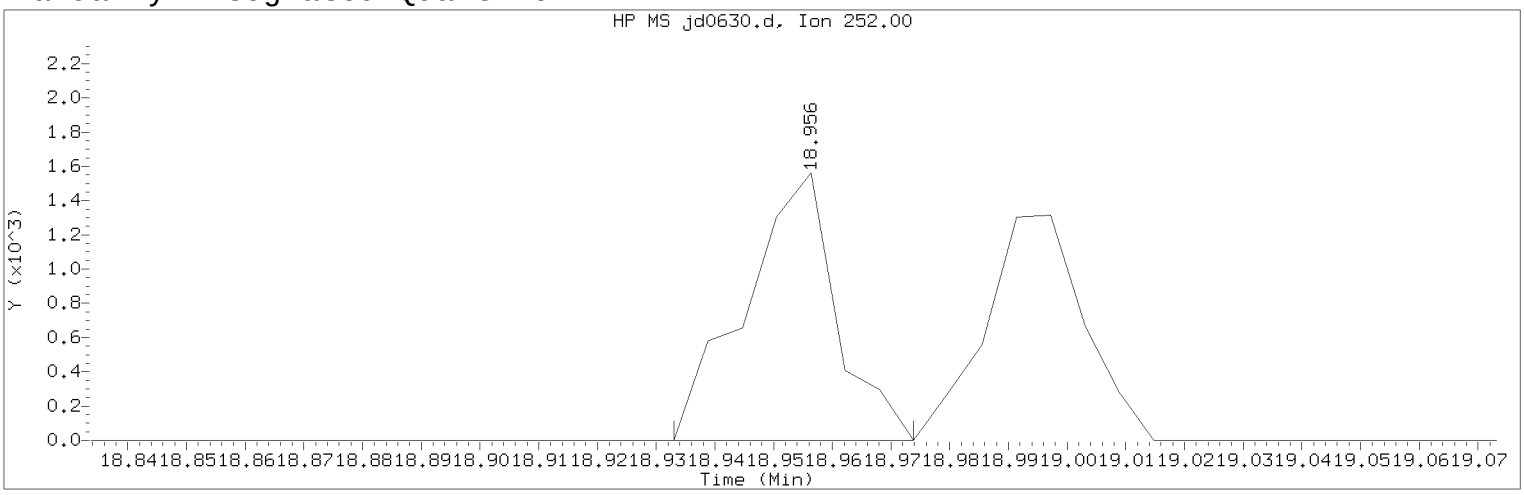
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 10:52.
Target 3.5 esignature user ID: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0630.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: pahmdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:51 knk25316

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL0968

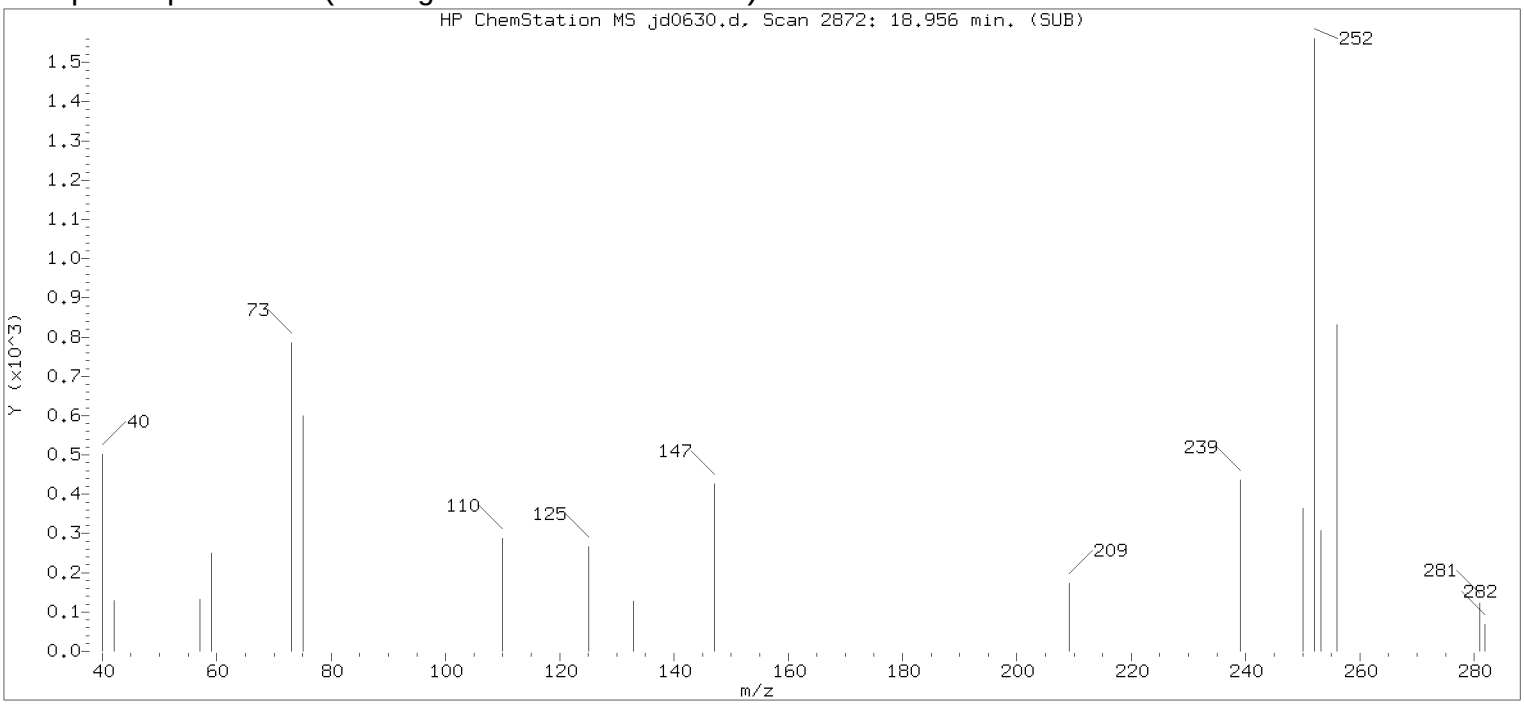
Compound Number : 210
Compound Name : Benzo(b)fluoranthene
Scan Number : 2872
Retention Time (minutes) : 18.956
Quant Ion : 252.00
Area (flag) : 1683M
On-Column Amount (ng/ul) : 0.0222
Integration start scan : 2867 Integration stop scan: 2874
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

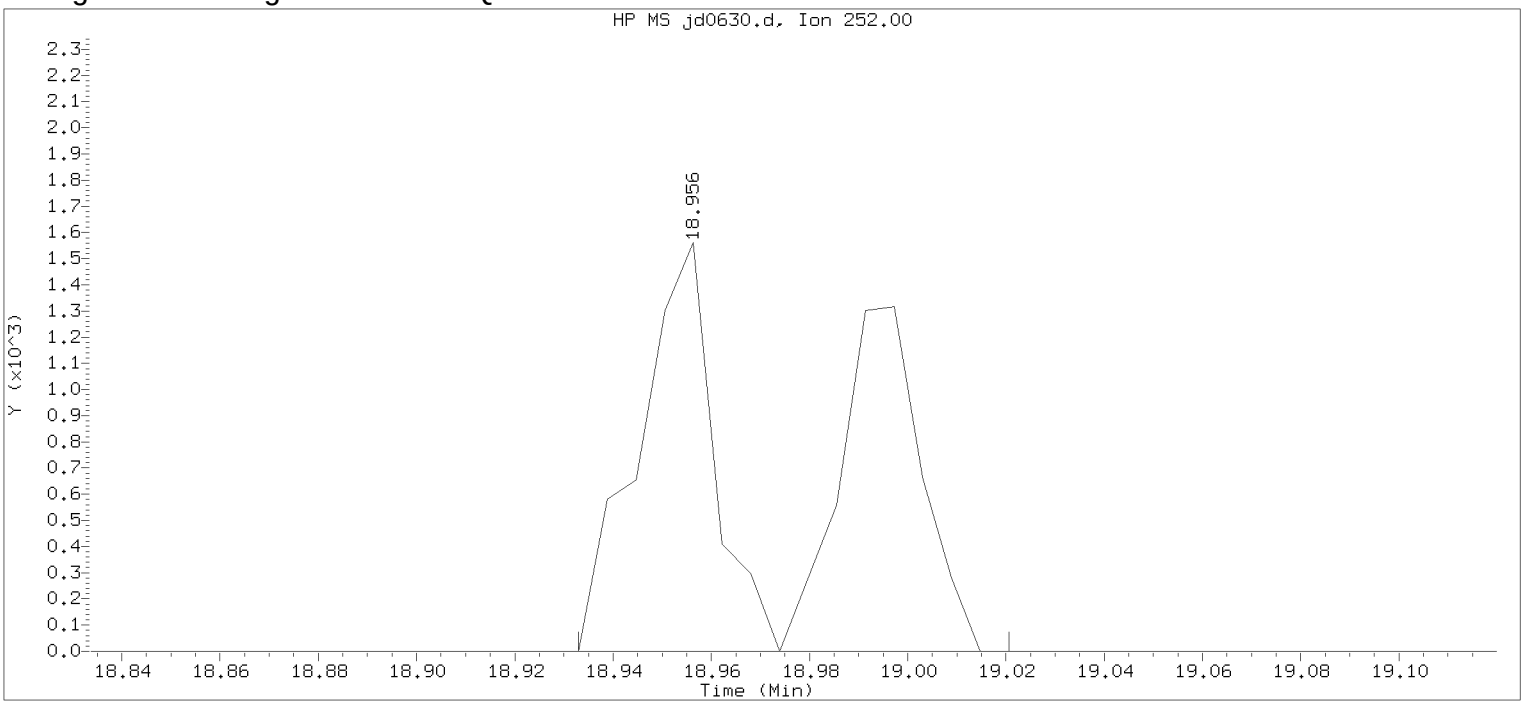
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:52.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0630.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:31 Analyst ID: knk25316

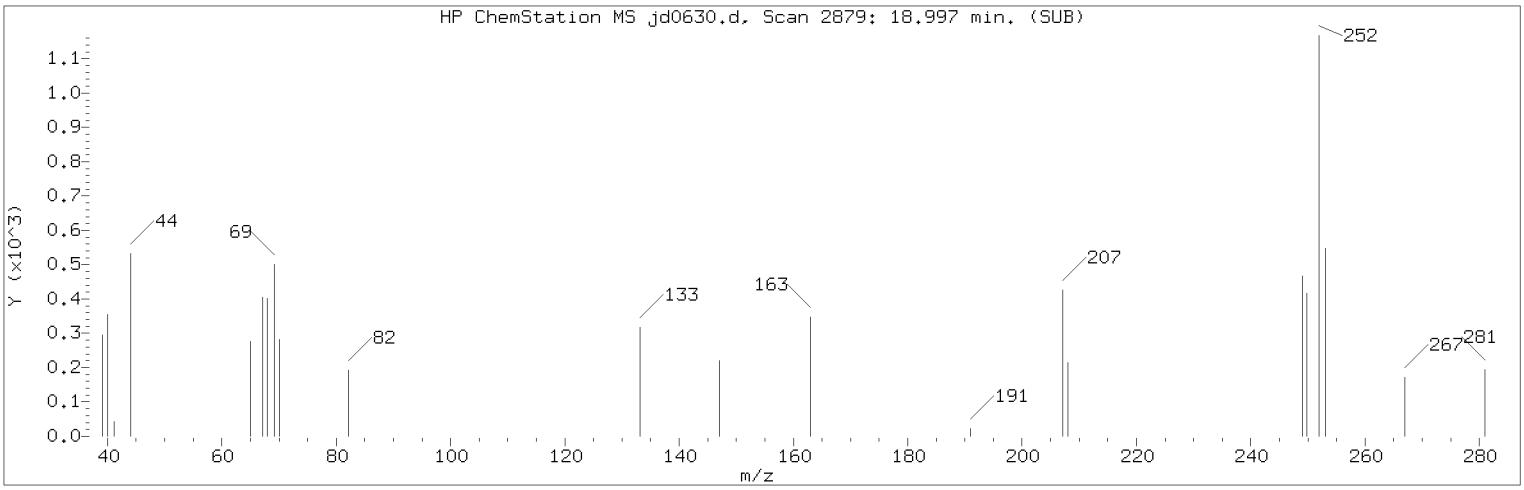
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: pahmdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:36 knk25316

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL0968

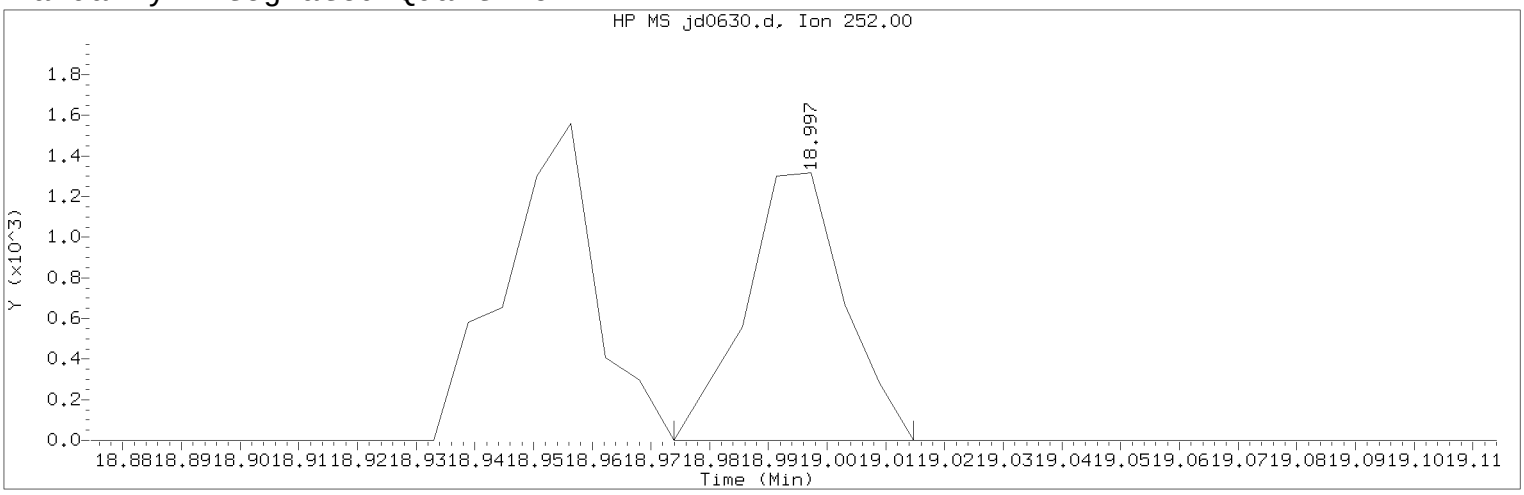
Compound Number : 210
Compound Name : Benzo(b)fluoranthene
Scan Number : 2872
Retention Time (minutes) : 18.956
Quant Ion : 252.00
Area : 3224
On-column Amount (ng/ul) : 0.0425
Integration start scan : 2867 Integration stop scan: 2882
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:52.
Target 3.5 esignature user ID: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0630.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: pahmdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:51 knk25316

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL0968

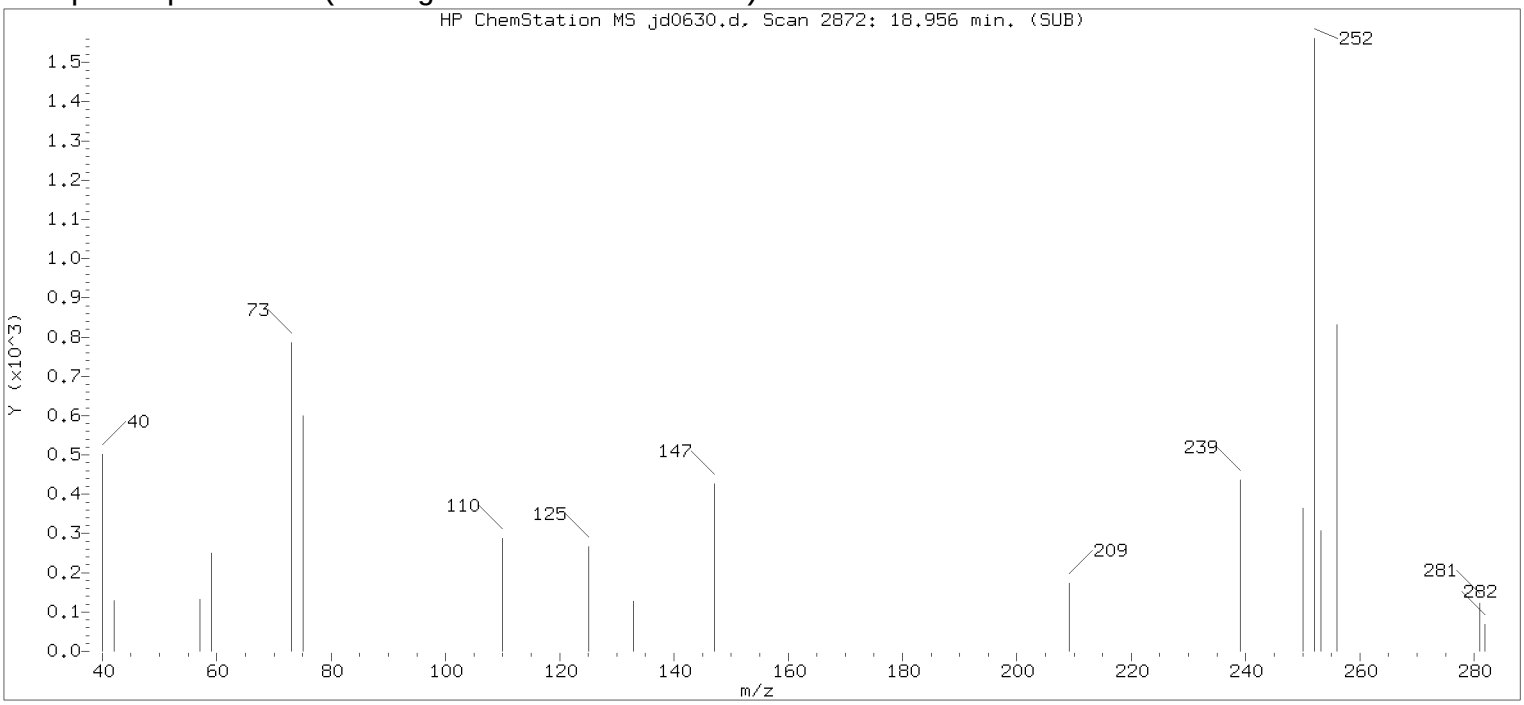
Compound Number : 212
Compound Name : Benzo(k)fluoranthene
Scan Number : 2879
Retention Time (minutes) : 18.997
Quant Ion : 252.00
Area (flag) : 1541M
On-Column Amount (ng/ul) : 0.0214
Integration start scan : 2874 Integration stop scan: 2881
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

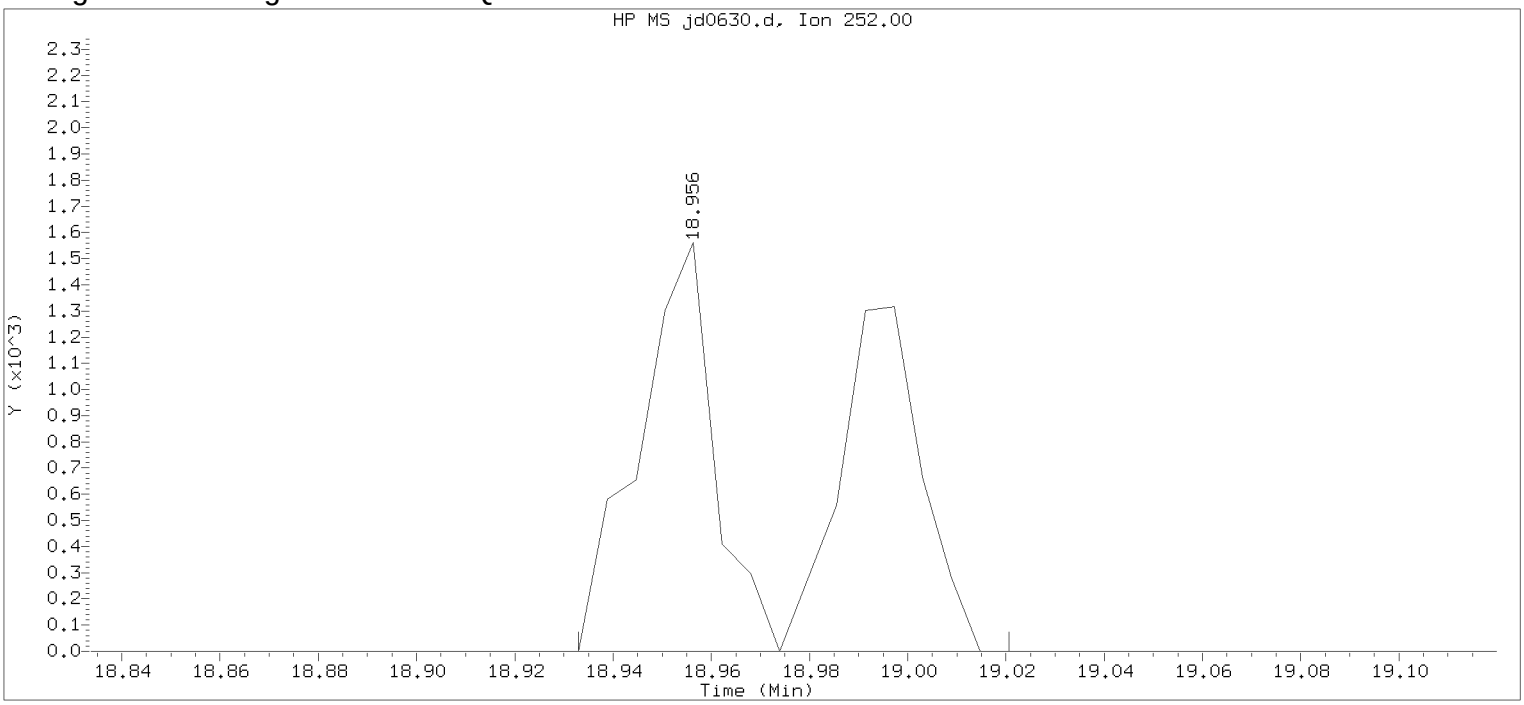
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:52.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0630.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:31 Analyst ID: knk25316

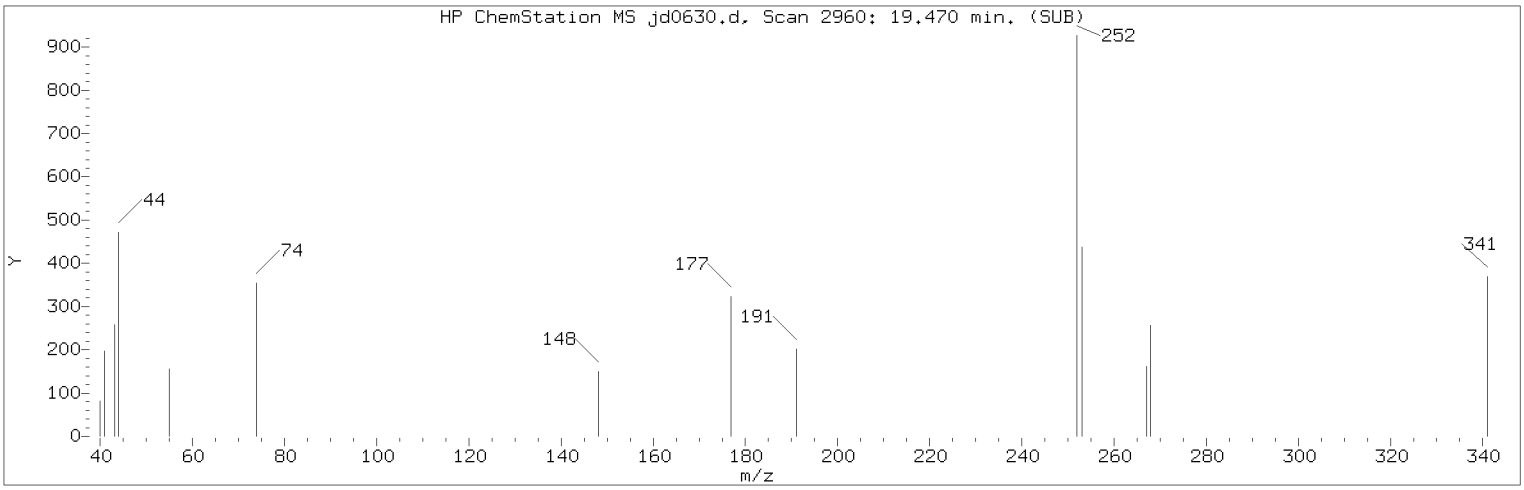
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: pahmdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:36 knk25316

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL0968

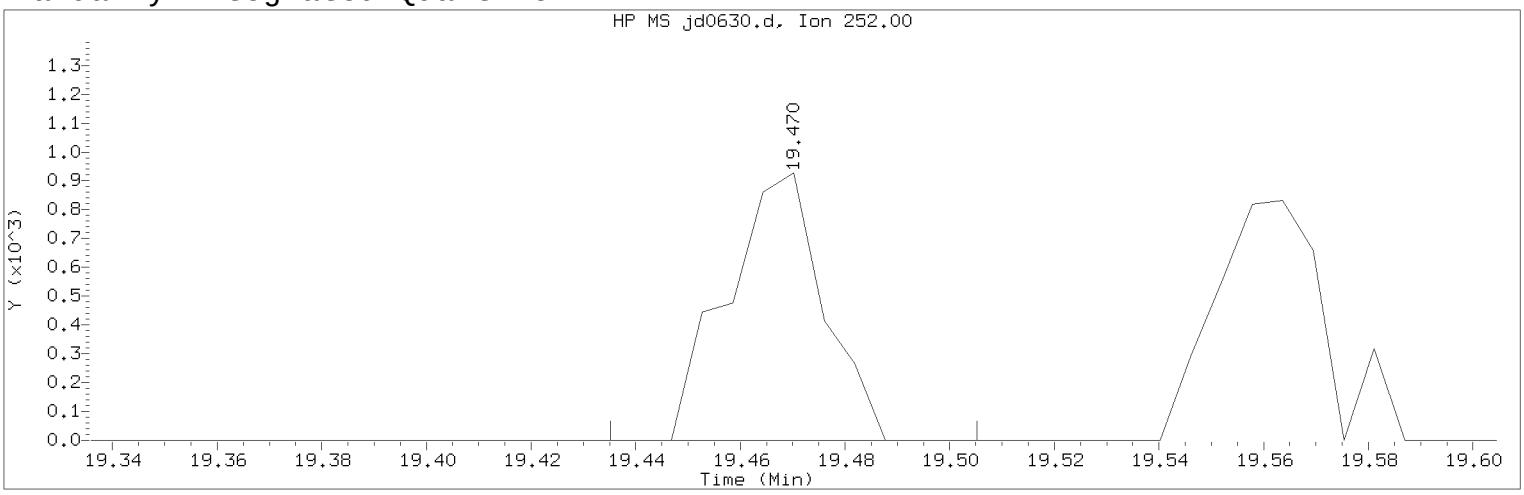
Compound Number : 212
Compound Name : Benzo(k)fluoranthene
Scan Number : 2872
Retention Time (minutes) : 18.956
Quant Ion : 252.00
Area : 3224
On-column Amount (ng/ul) : 0.0446
Integration start scan : 2867 Integration stop scan: 2882
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:52.
Target 3.5 esignature user ID: kkl25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0630.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: pahmdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:51 knk25316

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL0968

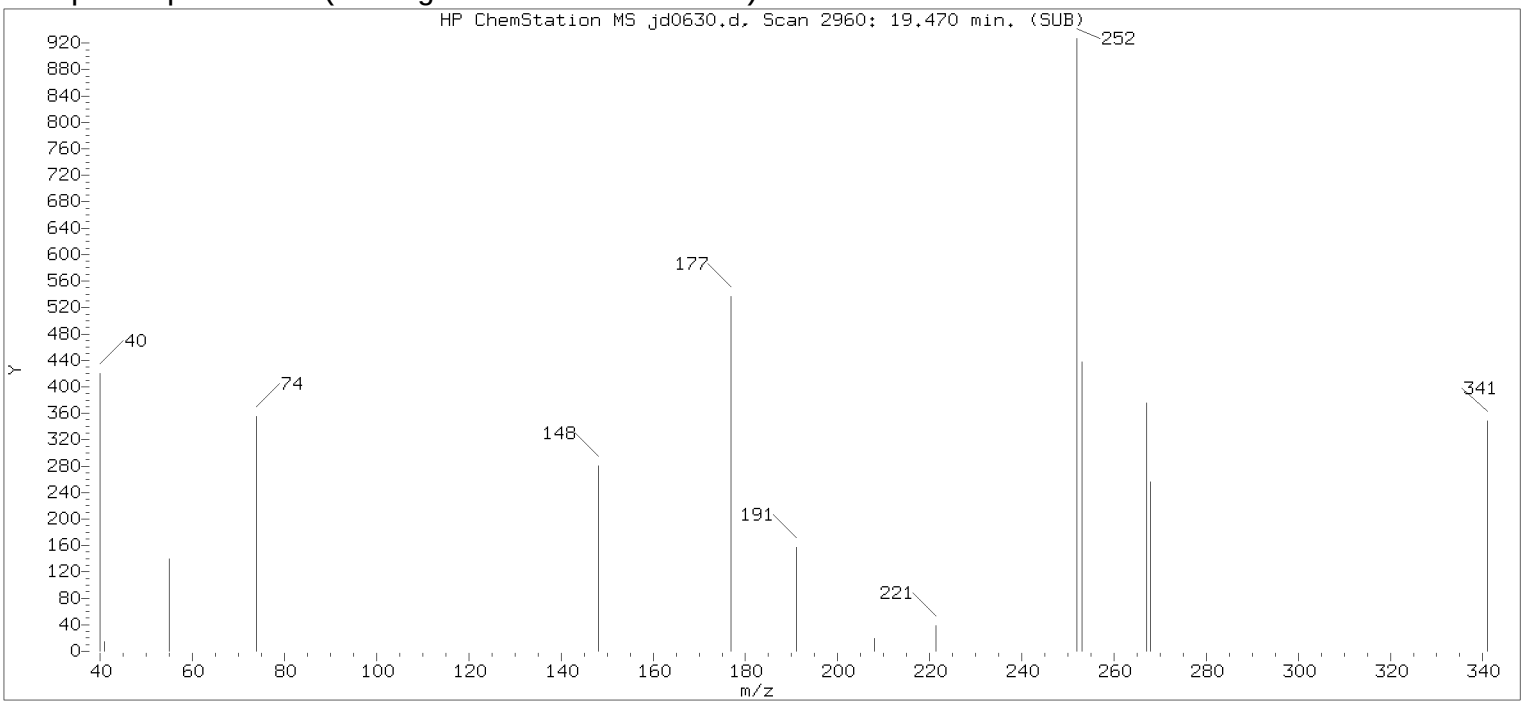
Compound Number : 214
Compound Name : Benzo(a)pyrene
Scan Number : 2960
Retention Time (minutes) : 19.470
Quant Ion : 252.00
Area (flag) : 1187M
On-Column Amount (ng/ul) : 0.0169
Integration start scan : 2953 Integration stop scan: 2965
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

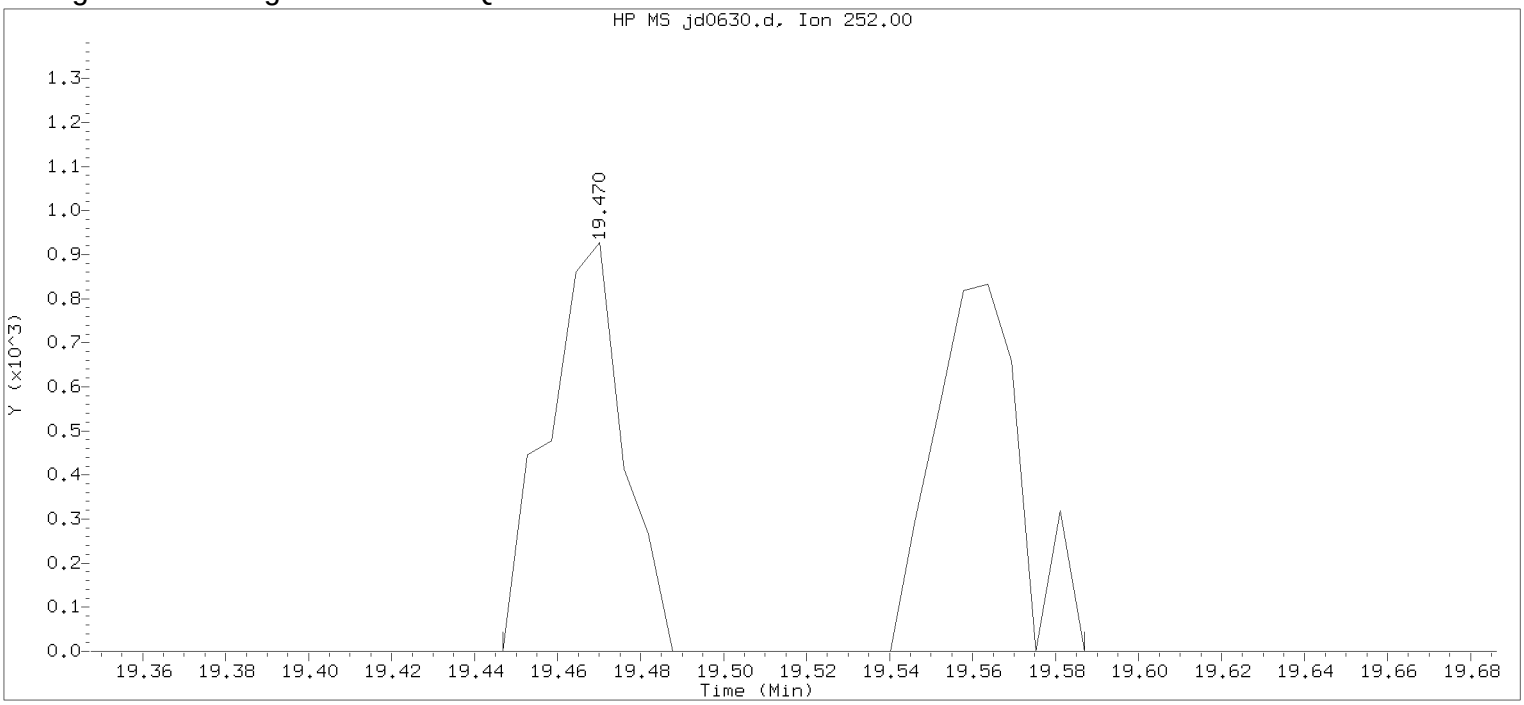
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:52.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0630.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:31 Analyst ID: knk25316

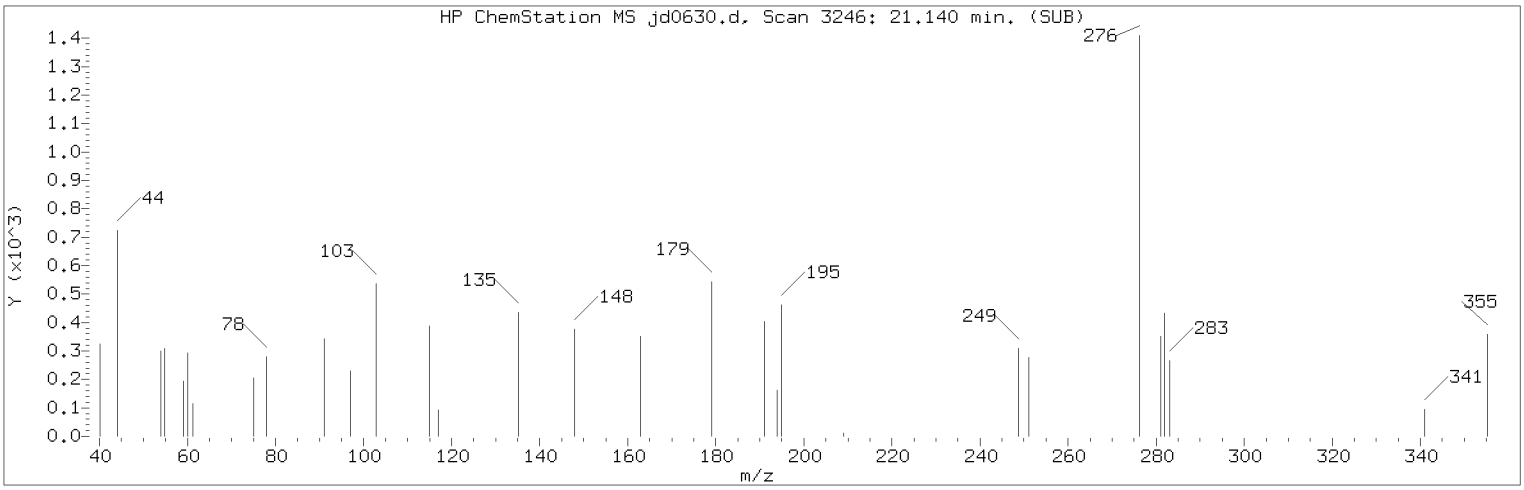
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: pahmdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:36 knk25316

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL0968

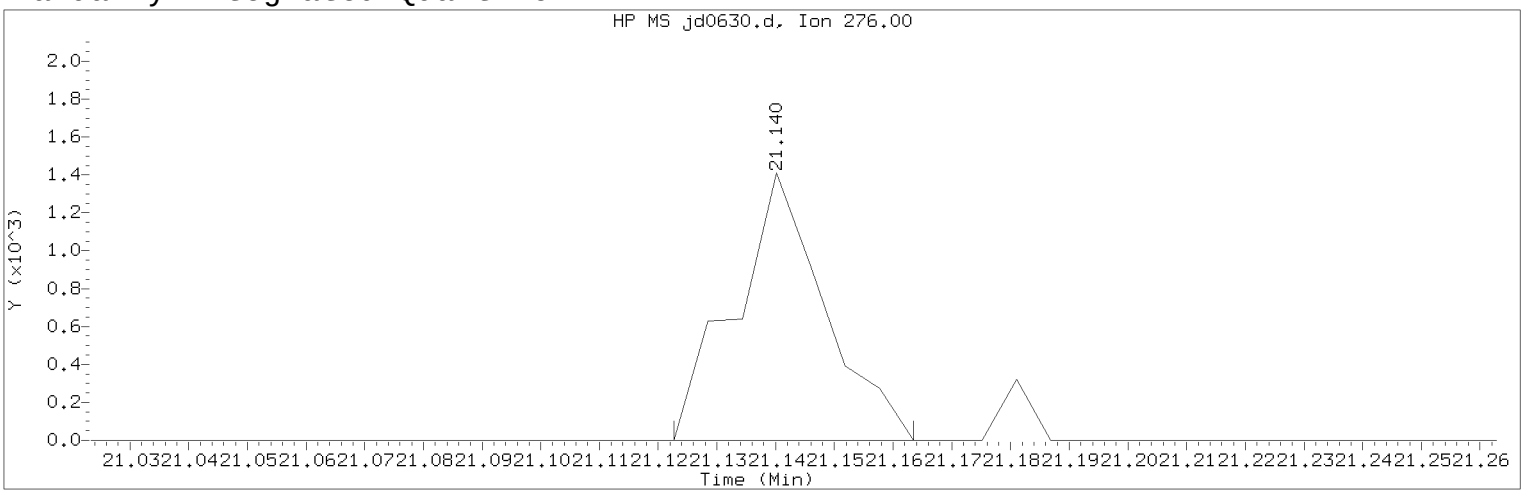
Compound Number : 214
Compound Name : Benzo(a)pyrene
Scan Number : 2960
Retention Time (minutes) : 19.470
Quant Ion : 252.00
Area : 2404
On-column Amount (ng/ul) : 0.0341
Integration start scan : 2955 Integration stop scan: 2979
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:52.
Target 3.5 esignature user ID: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0630.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: pahmdlall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:51 knk25316

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL0968

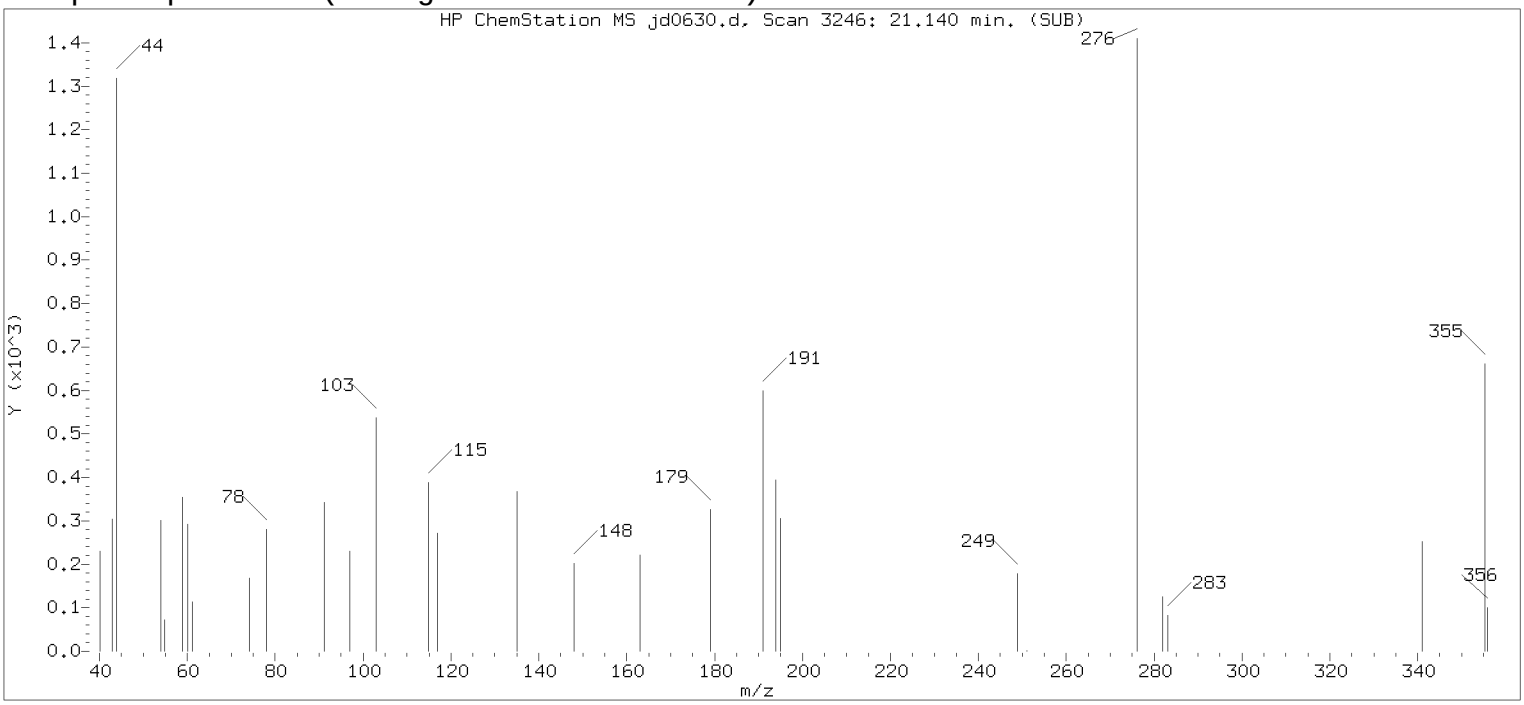
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3246
Retention Time (minutes) : 21.140
Quant Ion : 276.00
Area (flag) : 1492M
On-Column Amount (ng/ul) : 0.0234
Integration start scan : 3242 Integration stop scan: 3249
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

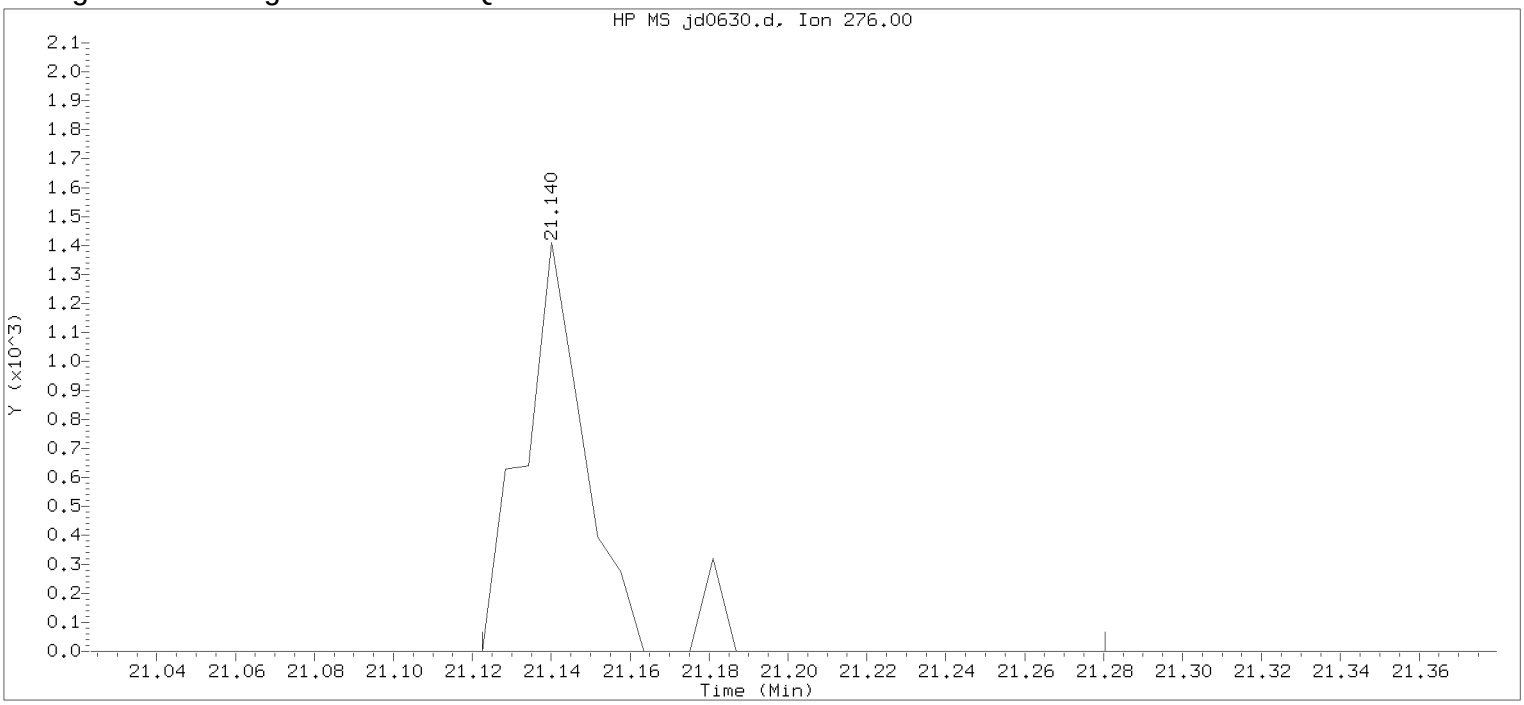
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:52.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



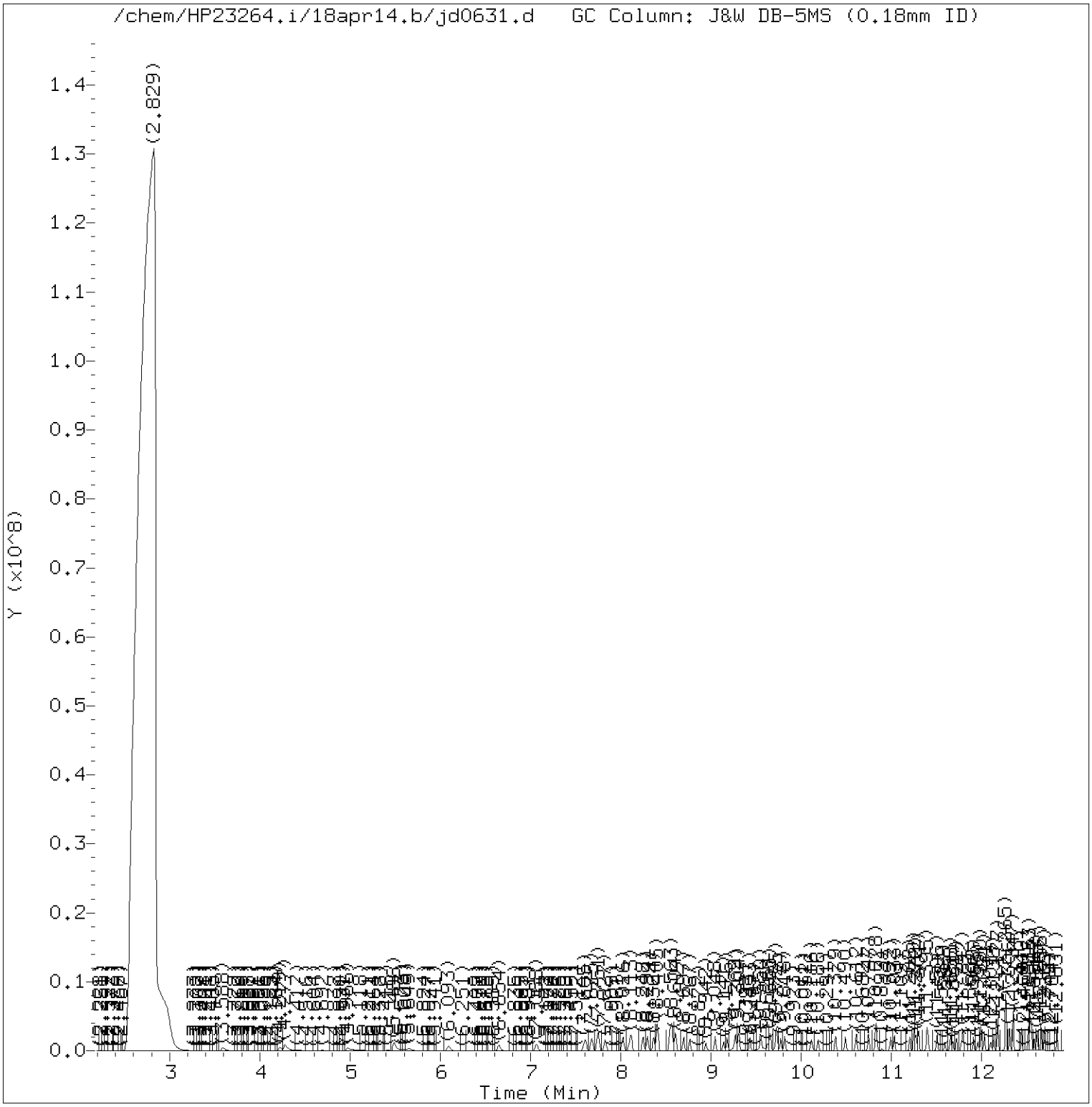
Data File: /chem/HP23264.i/18apr14.b/jd0630.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 20:31 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: pahmdlall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:36 knk25316

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL0968

Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3246
Retention Time (minutes) : 21.140
Quant Ion : 276.00
Area : 1604
On-column Amount (ng/ul) : 0.0252
Integration start scan : 3242 Integration stop scan: 3269
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 10:52.
Target 3.5 esignature user ID: knk25316



Total Ion Chromatogram (TIC)

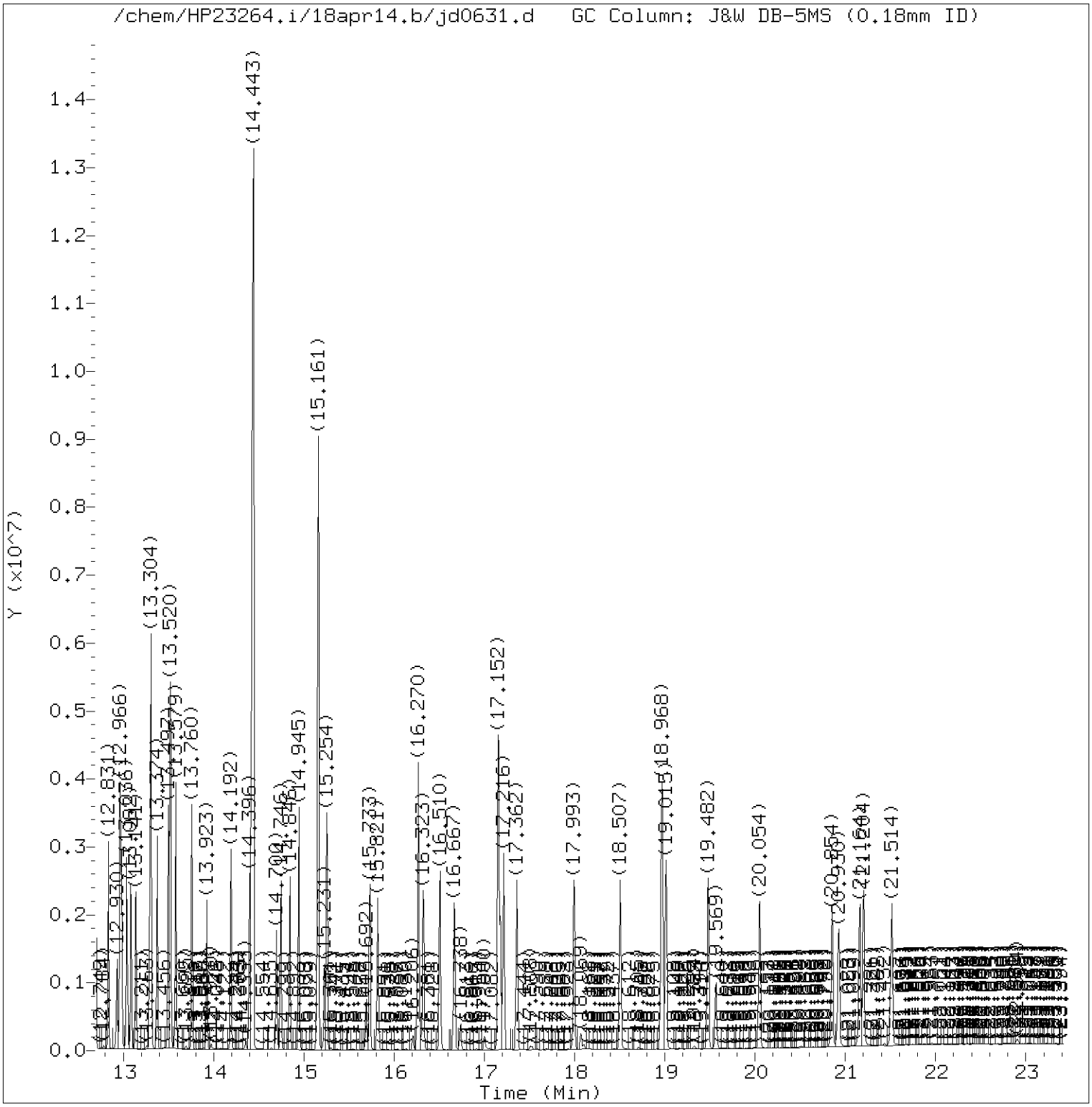
Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0631.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 21:02 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:51 knk25316

Sample Name: SSTD12.5 Lab Sample ID: rvICV0648

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 11:04.
Target 3.5 esignature user ID: knk25316



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0631.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 21:02 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:51 knk25316

Sample Name: SSTD12.5 Lab Sample ID: rvICV0648

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 11:04.
Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0631.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 21:02 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:51 knk25316

Sample Name: SSTD12.5 Lab Sample ID: rvICV0648

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
3) 1,4-Dioxane	(1)	3.588	88	468436	14.895
5) N-Nitrosodimethylamine	(1)	4.224	74	618464	12.328
6) Pyridine	(1)	4.277	79	1074006	12.228
8) 2-Picoline	(1)	5.486	93	1024828	12.153
11) N-Nitrosomethylethylamine	(1)	5.649	88	452774	11.933
12) Methyl methanesulfonate	(1)	6.093	80	559665	12.509
14) N-Nitrosodiethylamine	(1)	6.654	102	415156	12.668
18) Ethyl methanesulfonate	(1)	7.068	109	405799	12.833
27) Phenol	(1)	7.605	94	1103589	12.205
28) Aniline	(1)	7.675	93	1342181	12.261
31) bis(2-Chloroethyl)ether	(1)	7.751	93	871925	12.495
32) 2-Chlorophenol	(1)	7.827	128	697344	12.777
34) 1,3-Dichlorobenzene	(1)	8.026	146	801406	13.132
36)*1,4-Dichlorobenzene-d4	(1)	8.096	152	205178	5.000
38) 1,4-Dichlorobenzene	(1)	8.113	146	807198	12.342
39) Benzyl alcohol	(1)	8.248	108	452940	13.490
41) 1,2-Dichlorobenzene	(1)	8.294	146	732384	13.017
44) 2-Methylphenol	(1)	8.364	108	597845	12.184
46) Indene	(1)	8.399	115	1253911	15.774
47) 2,2'-oxybis(1-Chloropropane)	(1)	8.411	45	1000919	12.382
48) bis(2-Chloroisopropyl)ether	(1)	8.411	45	1000919	12.382
51) N-Nitrosopyrrolidine	(1)	8.545	100	342963	12.834
53) 4-Methylphenol	(1)	8.545	108	612614	12.370
54) N-Nitroso-di-n-propylamine	(1)	8.563	70	535643	12.377
52) Acetophenone	(1)	8.569	105	910540	12.007
55) N-Nitrosomorpholine	(1)	8.586	56	439179M	12.000
56) o-Toluidine	(1)	8.604	106	1034406	12.524
57) Hexachloroethane	(1)	8.697	117	300993	12.769
59) Nitrobenzene	(2)	8.767	77	811923	12.206
61) N-Nitrosopiperidine	(2)	8.942	114	270012	12.311
63) Isophorone	(2)	9.048	82	1204909	12.799
64) 2-Nitrophenol	(2)	9.141	139	276462	12.501
65) 2,4-Dimethylphenol	(2)	9.176	107	482513	10.602
66) O,O,O-Triethylphosphorothioate	(2)	9.269	198	218138	11.833
68) bis(2-Chloroethoxy)methane	(2)	9.304	93	629905	12.124
67) Benzoic acid	(2)	9.316	105	1051958	29.675
70) 2,4-Dichlorophenol	(2)	9.433	162	474151	12.911
72) 1,2,4-Trichlorobenzene	(2)	9.550	180	514358	12.371
76)*Naphthalene-d8	(2)	9.626	136	528311	5.000
78) Naphthalene	(2)	9.655	128	1326962	12.362

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 11:04.
Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0631.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 21:02 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:51 knk25316

Sample Name: SSTD12.5 Lab Sample ID: rvICV0648

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
79) 4-Chloroaniline	(2)	9.719	127	610877	13.711
80) 2,6-Dichlorophenol	(2)	9.731	162	451972	12.938
81) Hexachloropropene	(2)	9.772	213	419648	12.897
83) Hexachlorobutadiene	(2)	9.818	225	316517	12.559
84) Quinoline	(2)	10.116	129	839342	12.614
87) N-Nitrosodi-n-butylamine	(2)	10.186	84	396188	10.397
89) 4-Chloro-3-methylphenol	(2)	10.379	107	500150	12.712
90) Safrole	(2)	10.490	162	345071	12.126
91) 2-Methylnaphthalene	(2)	10.612	142	834373	13.040
92) 1-Methylnaphthalene	(2)	10.747	142	769916	13.670
95) Hexachlorocyclopentadiene	(3)	10.823	237	643044	24.257
96) 1,2,4,5-Tetrachlorobenzene	(3)	10.834	216	476585	11.114
97) cis-Isosafrole	(3)	10.893	162	46441	1.456
98) 2,4,6-Trichlorophenol	(3)	10.992	196	343533	12.389
100) 2,4,5-Trichlorophenol	(3)	11.033	196	392800	13.648
104) trans-Isosafrole	(3)	11.202	162	359160	10.615
105) 1,1'-Biphenyl	(3)	11.249	154	960997	11.430
107) 2-Chloronaphthalene	(3)	11.272	162	817067	11.322
109) Diphenyl ether	(3)	11.395	170	666108	14.738
110) 2-Nitroaniline	(3)	11.406	138	296869	13.301
111) 1,4-Naphthoquinone	(3)	11.506	158	442601	15.292
112) 1,4-Dinitrobenzene	(3)	11.593	168	157878	12.252
114) Dimethylphthalate	(3)	11.658	163	967130	12.027
116) 1,3-Dinitrobenzene	(3)	11.681	168	177775	12.231
117) 2,6-Dinitrotoluene	(3)	11.722	165	229062	12.265
118) Acenaphthylene	(3)	11.792	152	1269130	13.516
120) 3-Nitroaniline	(3)	11.909	138	248068	13.106
122)*Acenaphthene-d10	(3)	11.955	164	246483	5.000
123) Acenaphthene	(3)	11.990	153	786206	12.929
125) 2,4-Dinitrophenol	(3)	12.031	184	364048	24.948
126) 4-Nitrophenol	(3)	12.101	109	205311M	12.247
127) Pentachlorobenzene	(3)	12.136	250	367281	11.932
128) 2,4-Dinitrotoluene	(3)	12.177	165	314652	11.925
129) Dibenzofuran	(3)	12.183	168	1135245	12.705
131) 1-Naphthylamine	(3)	12.265	143	1681983	24.766
133) 2-Naphthylamine	(3)	12.347	143	1694269	25.979
136) Diethylphthalate	(3)	12.440	149	957504	11.910
138) Thionazin	(3)	12.516	107	163801	12.475
139) Fluorene	(3)	12.533	166	898078	12.422
141) 4-Chlorophenyl-phenylether	(3)	12.539	204	448903	12.053

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 11:04.
Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0631.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 21:02 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:51 knk25316

Sample Name: SSTD12.5 Lab Sample ID: rvICV0648

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
140) 5-Nitro-o-toluidine	(3)	12.545	152	290746	12.942
142) 4-Nitroaniline	(3)	12.557	138	244203	11.478
143) 4,6-Dinitro-2-methylphenol	(4)	12.586	198	222053	12.664
145) NDPA as diphenylamine	(4)	12.656	169	795791	12.554
144) N-Nitrosodiphenylamine	(4)	12.656	169	795791	12.554
146) 1,2-Diphenylhydrazine	(4)	12.697	77	1184334	12.464
148) Tetraethyldithiopyrophosphate	(4)	12.831	97	217062	11.569
149) 1,3,5-Trinitrobenzene	(4)	12.930	213	128544	12.307
150) Diallate (peak 1)	(4)	12.960	86	312737	7.989
151) Phorate	(4)	12.966	75	698984	11.990
152) Phenacetin	(4)	12.983	108	578738	12.298
153) 4-Bromophenyl-phenylether	(4)	13.036	248	265882	11.808
154) Diallate (peak 2)	(4)	13.047	86	99028	3.025
155) Hexachlorobenzene	(4)	13.088	284	276281	12.114
156) Dimethoate	(4)	13.141	87	444928	12.262
160) Pentachlorophenol	(4)	13.293	266	222684	12.893
162) Pentachloronitrobenzene	(4)	13.304	237	168084	11.922
161) 4-Aminobiphenyl	(4)	13.304	169	1016632	13.607
164) Pronamide	(4)	13.374	173	463234	11.848
166) Dinoseb	(4)	13.497	211	291908	11.939
165)*Phenanthrene-d10	(4)	13.497	188	483863	5.000
167) Phenanthrene	(4)	13.526	178	1379765	12.695
168) Anthracene	(4)	13.579	178	1365210	12.370
169) Carbazole	(4)	13.760	167	1249074	12.524
170) Methyl parathion	(4)	13.923	109	362098	13.142
174) Di-n-butylphthalate	(4)	14.192	149	1546480	11.549
180) Parathion	(4)	14.396	109	220478	12.479
179) 4-Nitroquinoline-1-oxide	(4)	14.443	190	2603608	170.577
182) Isodrin	(4)	14.746	193	171895	11.697
183) Fluoranthene	(4)	14.945	202	1463348	11.757
184) Benzidine	(5)	15.161	184	3976178	51.408
185)*Pyrene-d10	(5)	15.231	212	502196	5.000
187) Pyrene	(5)	15.254	202	1551879	12.241
193) p-Dimethylaminoazobenzene	(5)	15.733	225	293183	14.528
194) Chlorobenzilate	(5)	15.821	139	492373	11.942
196) 3,3'-Dimethylbenzidine	(5)	16.270	212	1719560	21.044
198) Butylbenzylphthalate	(5)	16.323	149	683790	11.416
199) 2-Acetylaminofluorene	(5)	16.667	181	609369	11.995
201) Benzo(a)anthracene	(5)	17.152	228	1387155	11.393
202) 3,3'-Dichlorobenzidine	(5)	17.158	252	531932	11.660

* = Compound is an internal standard.

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 11:04.
Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0631.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 21:02 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:51 knk25316

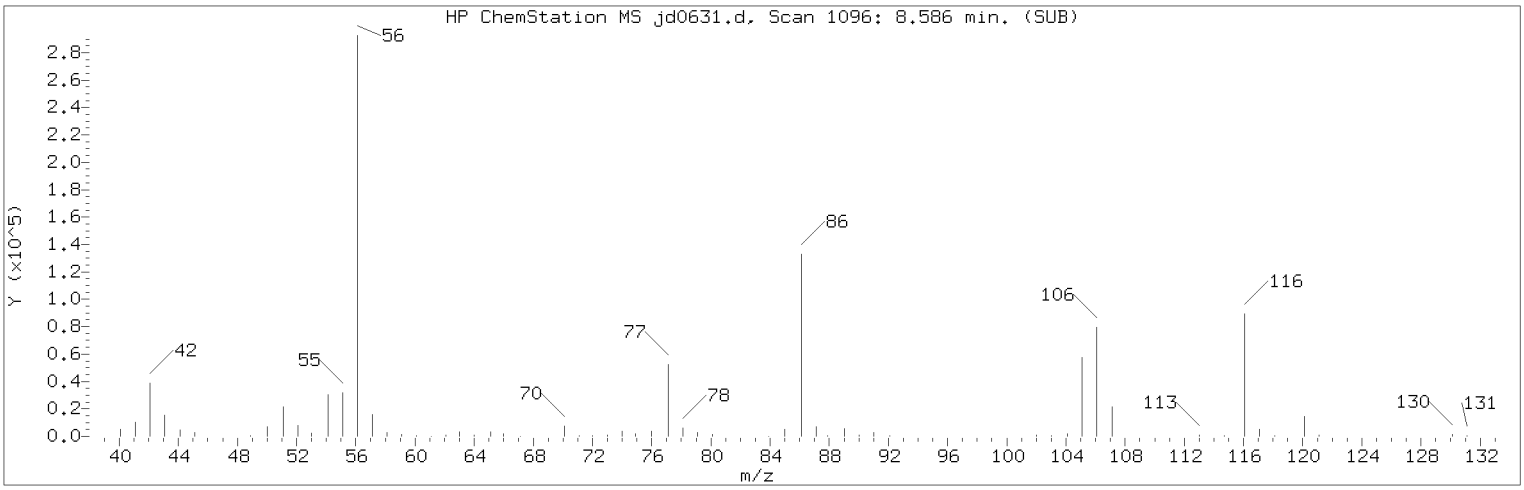
Sample Name: SSTD12.5 Lab Sample ID: rvICV0648

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
205) 4,4'-Methylenebis(2-chloroanil	(5)	17.181	231	280961	11.210
206) Chrysene	(5)	17.216	228	1312600	11.394
207) bis(2-Ethylhexyl)phthalate	(5)	17.362	149	990099	11.542
208) 6-Methylchrysene	(5)	17.993	242	909263	11.443
209) Di-n-octylphthalate	(6)	18.507	149	1818769	12.259
210) Benzo(b)fluoranthene	(6)	18.962	252	1440242	12.679
211) 7,12-Dimethylbenz[a]anthracene	(6)	18.974	256	627563	12.874
212) Benzo(k)fluoranthene	(6)	19.015	252	1356112	12.570
214) Benzo(a)pyrene	(6)	19.482	252	1351636	12.853
215)*Perylene-d12	(6)	19.569	264	458045	5.000
216) 3-Methylcholanthrene	(6)	20.054	268	681200	13.707
217) Dibenz(a,h)acridine	(6)	20.854	279	995777	12.101
218) Dibenz(a,j)acridine	(6)	20.930	279	906974	10.852
219) Indeno(1,2,3-cd)pyrene	(6)	21.164	276	1161349M	12.157
220) Dibenz(a,h)anthracene	(6)	21.204	278	1169139	12.997
221) Benzo(g,h,i)perylene	(6)	21.520	276	1224290	11.986
222) Total Cresols	(1)	22.000	100	1210459	24.554
226) Diallate trans/cis	(4)	22.000	86	411765	11.014
228) Total PAHs	(6)	22.000	100	22047390	225.030
224) Isosafrole	(3)	22.000	162	405601	12.071
225) 2,4_2,6-Dinitrotoluenes	(3)	22.000	165	543714	24.190

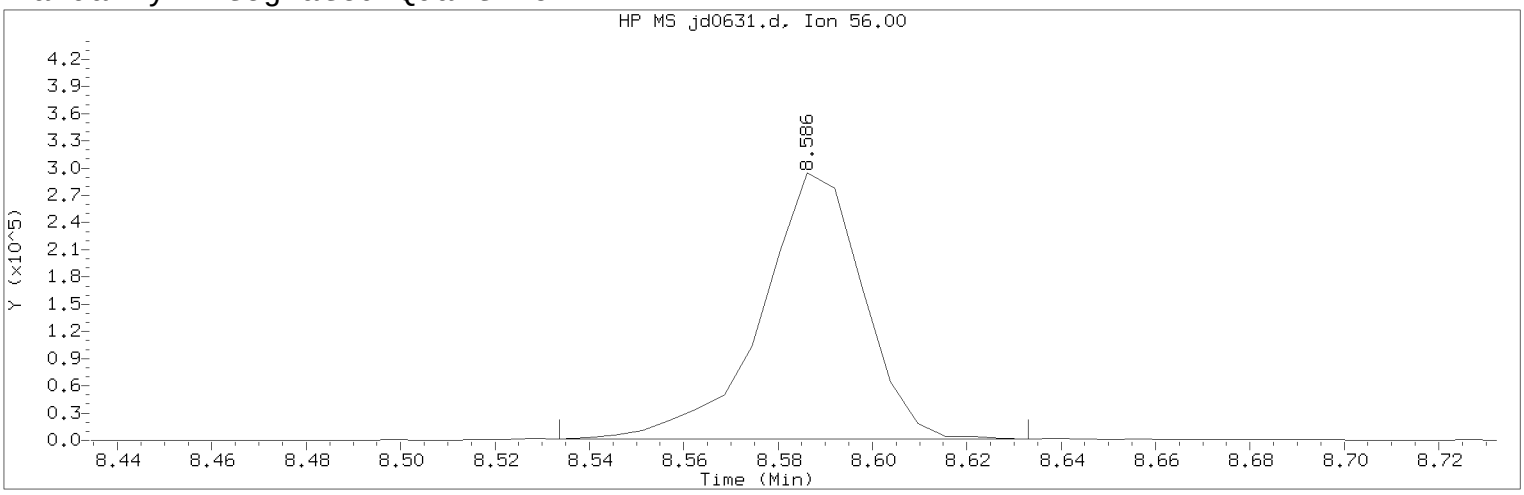
M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 11:04.
Target 3.5 esignature user ID: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0631.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 21:02 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:51 knk25316

Sample Name: SSTD12.5 Lab Sample ID: rvICV0648

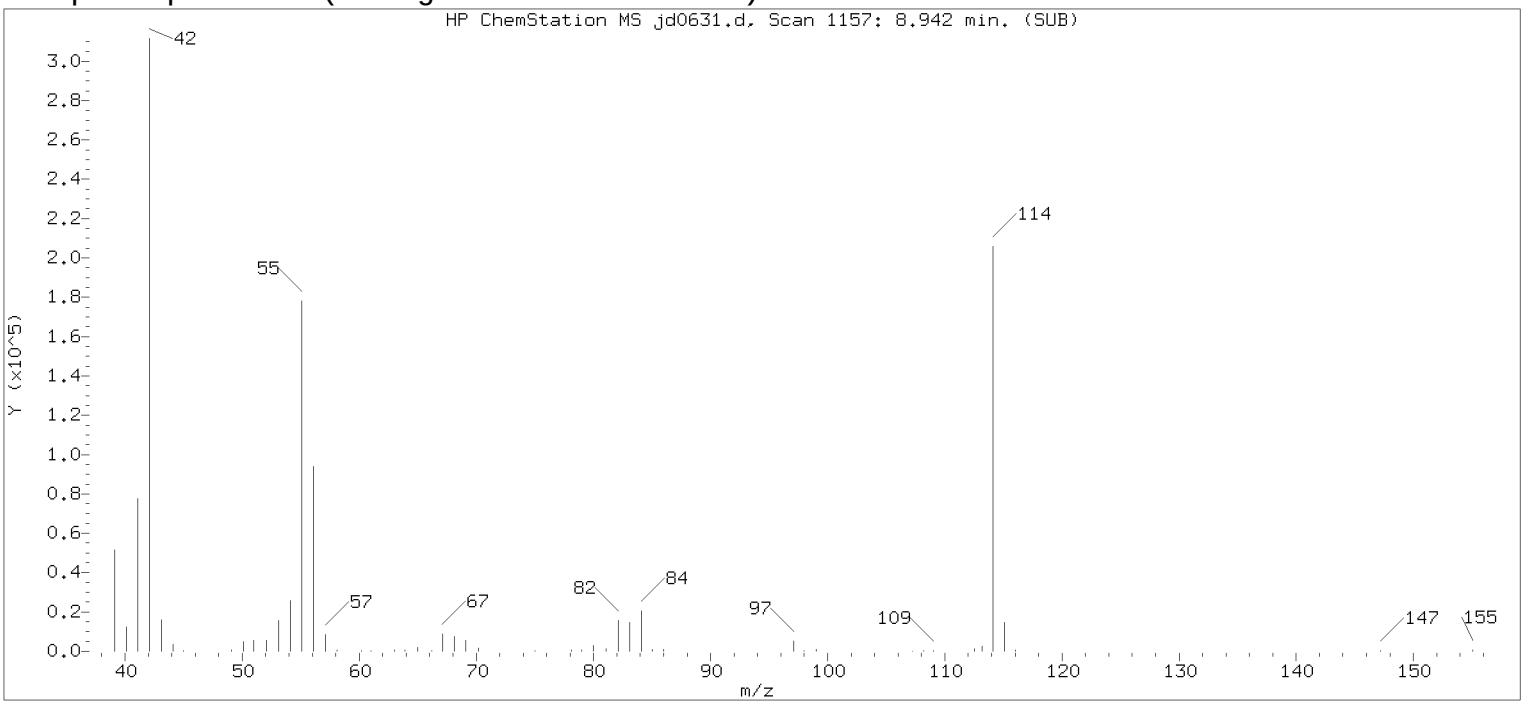
Compound Number : 55
Compound Name : N-Nitrosomorpholine
Scan Number : 1096
Retention Time (minutes) : 8.586
Quant Ion : 56.00
Area (flag) : 439179M
On-Column Amount (ng/ul) : 12.0004
Integration start scan : 1086 Integration stop scan: 1103
Y at integration start : 1118 Y at integration end: 1118

Reason for manual integration: improper integration

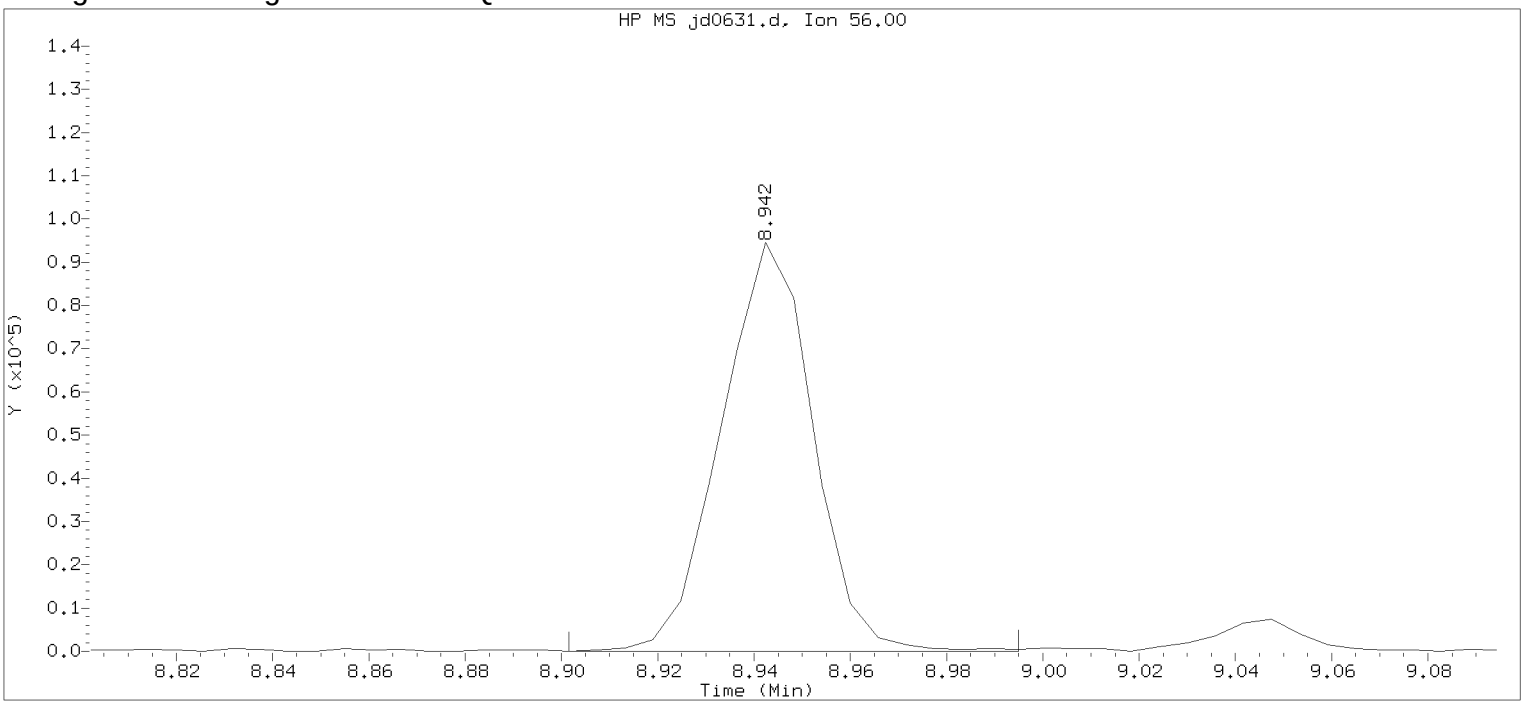
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 11:04.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0631.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 21:02 Analyst ID: knk25316

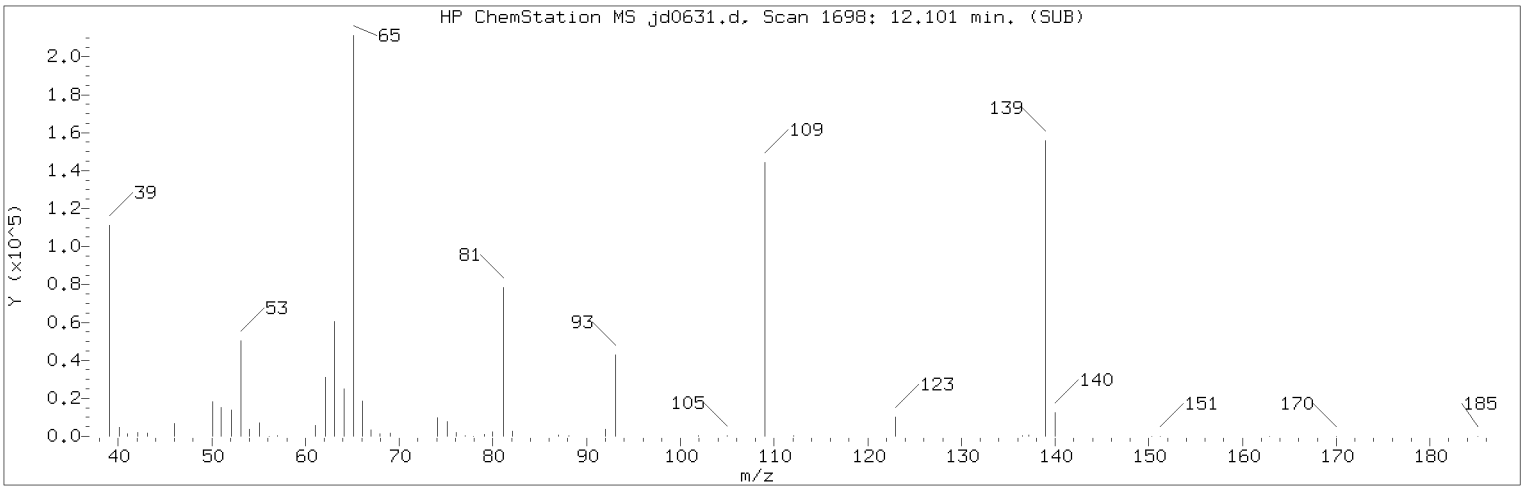
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:36 knk25316

Sample Name: SSTD12.5 Lab Sample ID: rvICV0648

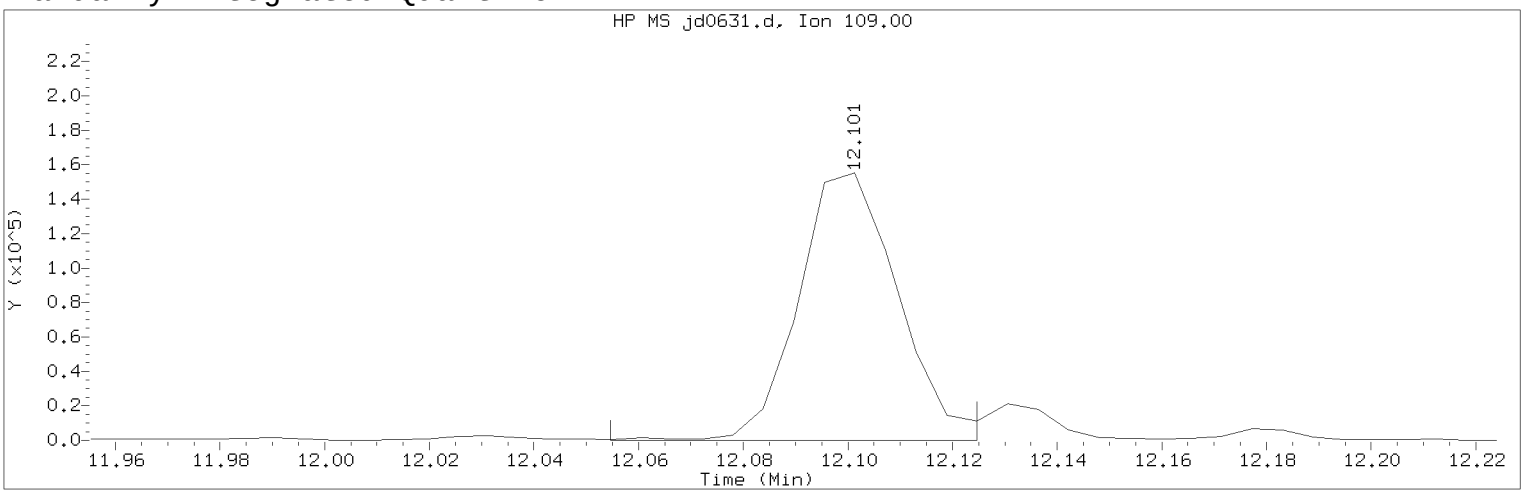
Compound Number : 55
Compound Name : N-Nitrosomorpholine
Scan Number : 1157
Retention Time (minutes) : 8.942
Quant Ion : 56.00
Area : 124989
On-column Amount (ng/ul) : 8.8022
Integration start scan : 1149 Integration stop scan: 1165
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 11:04.
Target 3.5 esignature user id: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0631.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 21:02 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:51 knk25316

Sample Name: SSTD12.5 Lab Sample ID: rvICV0648

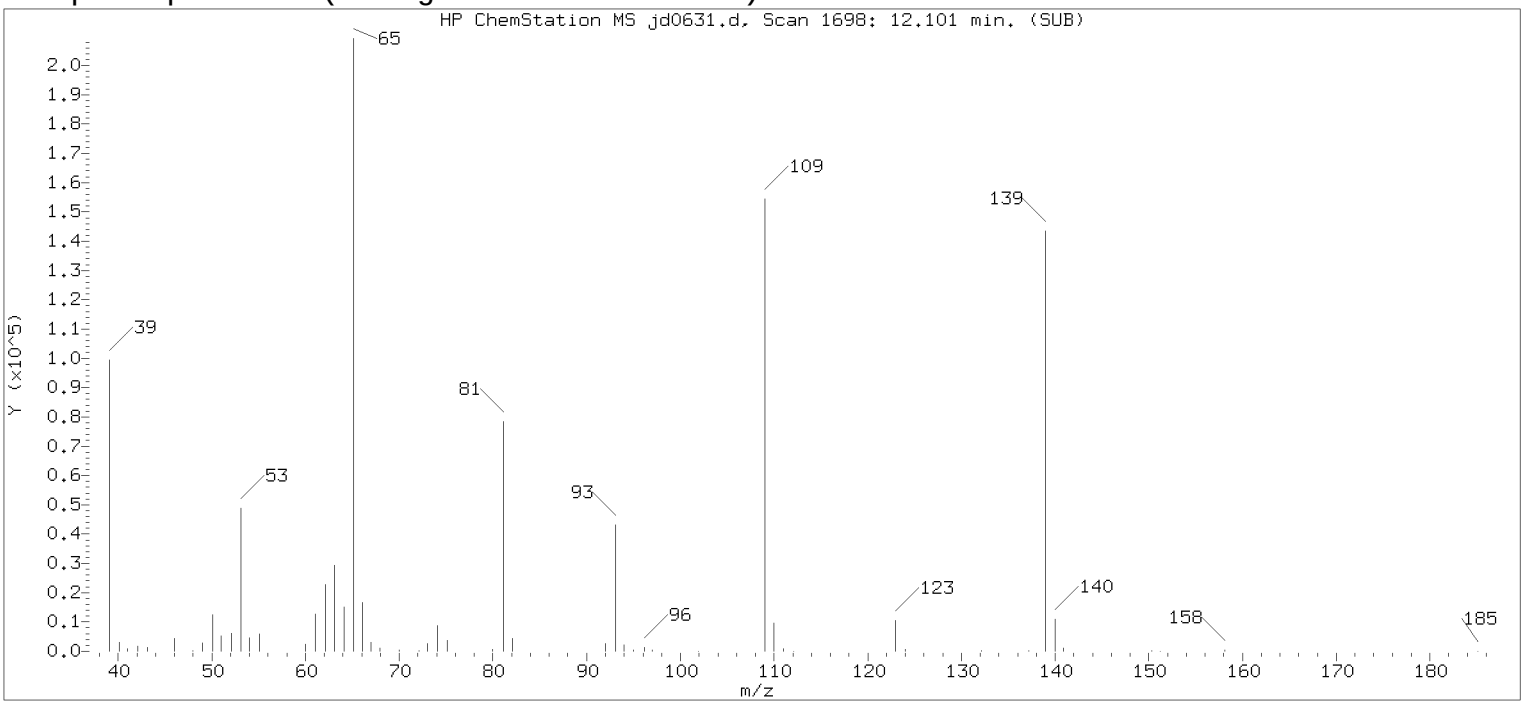
Compound Number : 126
Compound Name : 4-Nitrophenol
Scan Number : 1698
Retention Time (minutes) : 12.101
Quant Ion : 109.00
Area (flag) : 205311M
On-Column Amount (ng/ul) : 12.2473
Integration start scan : 1689 Integration stop scan: 1701
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

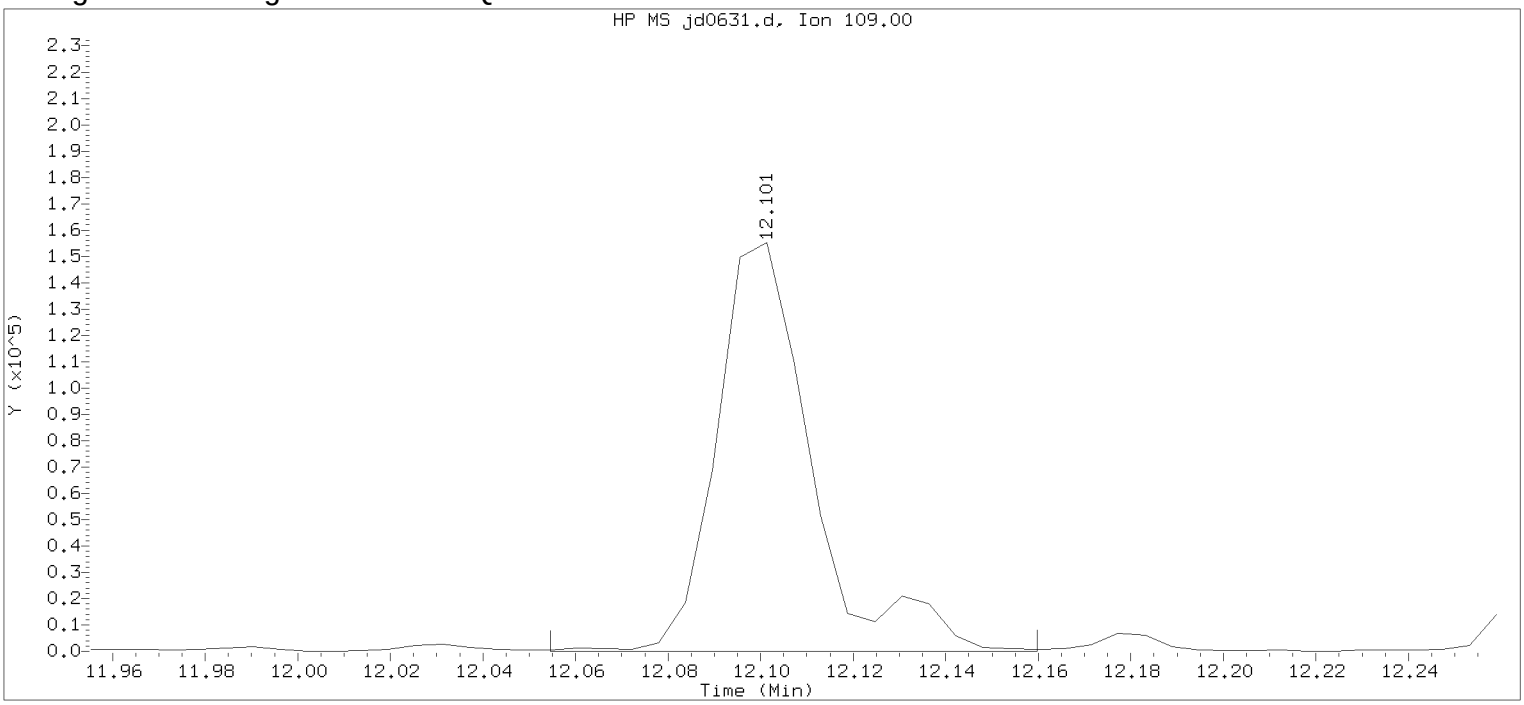
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 11:04.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0631.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 21:02 Analyst ID: knk25316

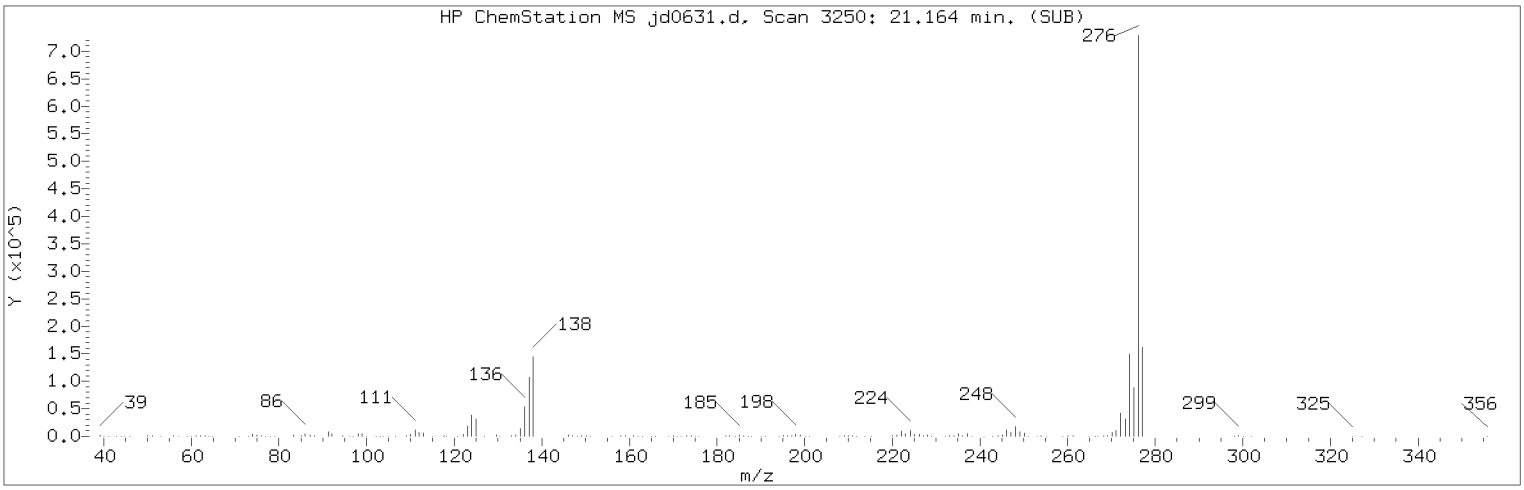
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:36 knk25316

Sample Name: SSTD12.5 Lab Sample ID: rvICV0648

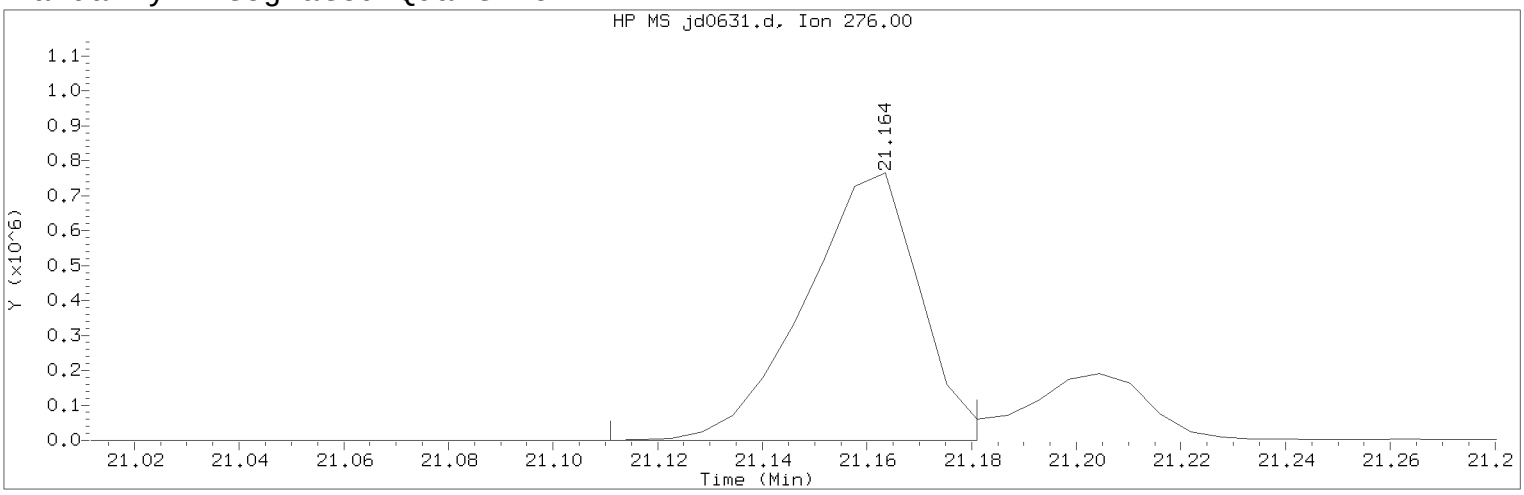
Compound Number : 126
Compound Name : 4-Nitrophenol
Scan Number : 1698
Retention Time (minutes) : 12.101
Quant Ion : 109.00
Area : 221924
On-column Amount (ng/ul) : 12.9811
Integration start scan : 1689 Integration stop scan: 1707
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 11:04.
Target 3.5 esignature user ID: knk25316

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr14.b/jd0631.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 21:02 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:51 knk25316

Sample Name: SSTD12.5 Lab Sample ID: rvICV0648

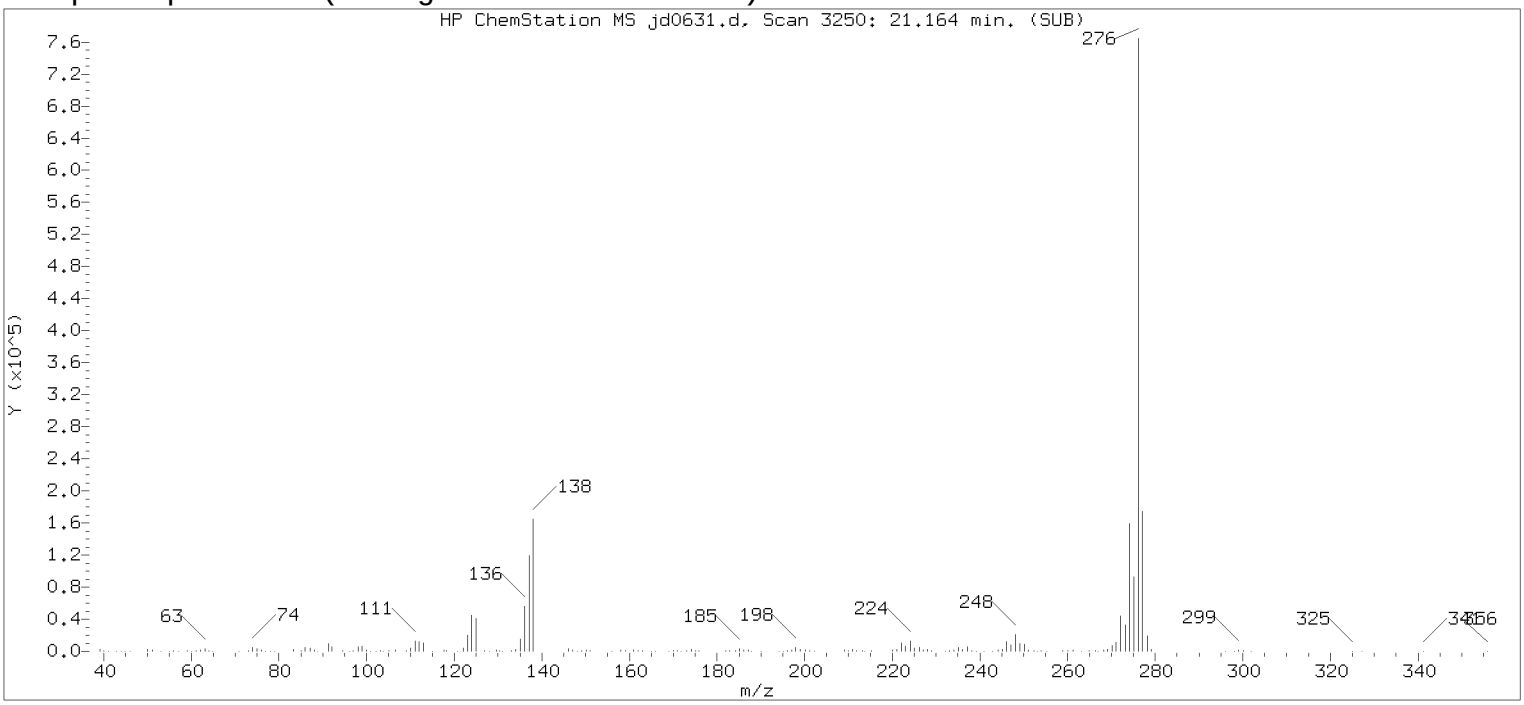
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3250
Retention Time (minutes) : 21.164
Quant Ion : 276.00
Area (flag) : 1161349M
On-Column Amount (ng/ul) : 12.1575
Integration start scan : 3240 Integration stop scan: 3252
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

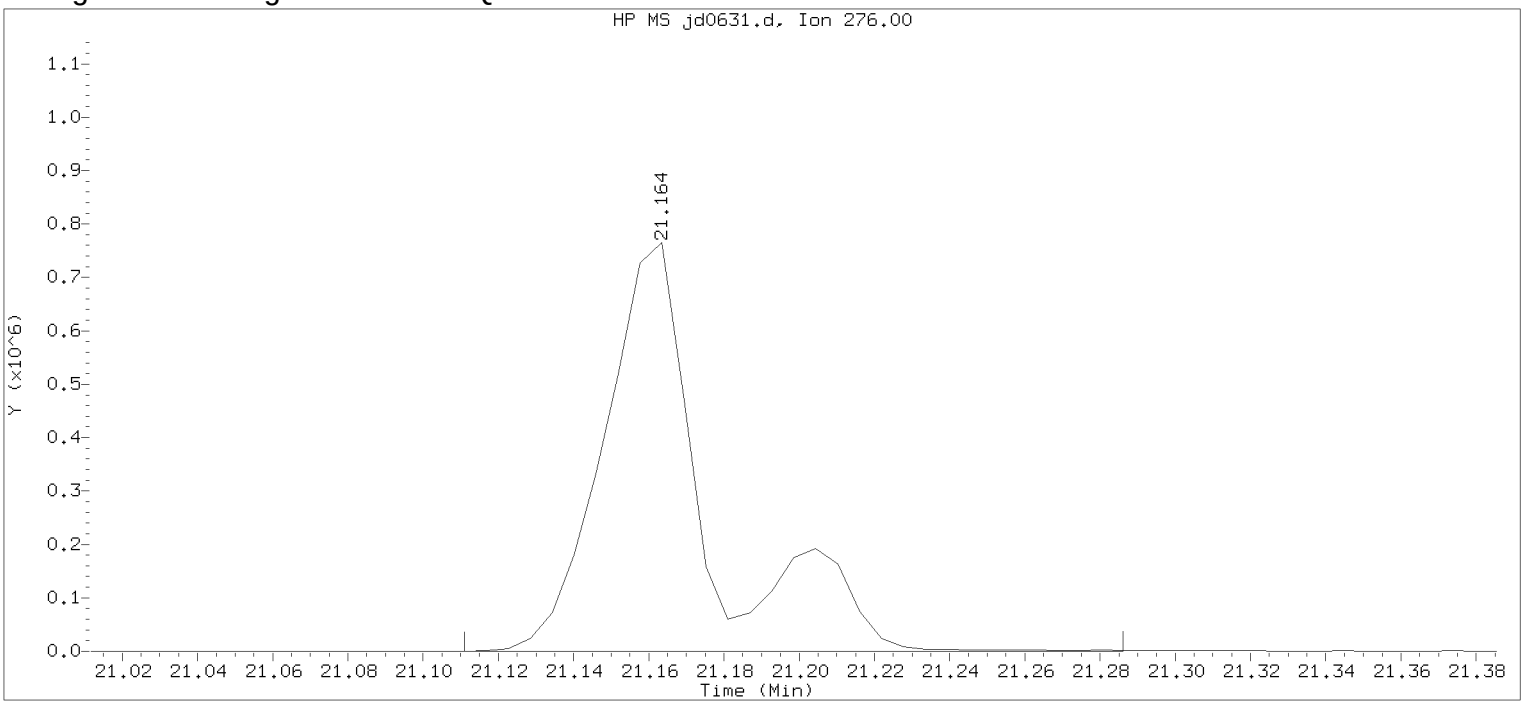
Analyst responsible for change: Digitally signed by Kira N. Klaassen on 04/17/2018 at 11:04.
Target 3.5 esignature user ID: knk25316

Secondary review performed and digitally signed by Chad A. Moline on 04/17/2018 at 11:18.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



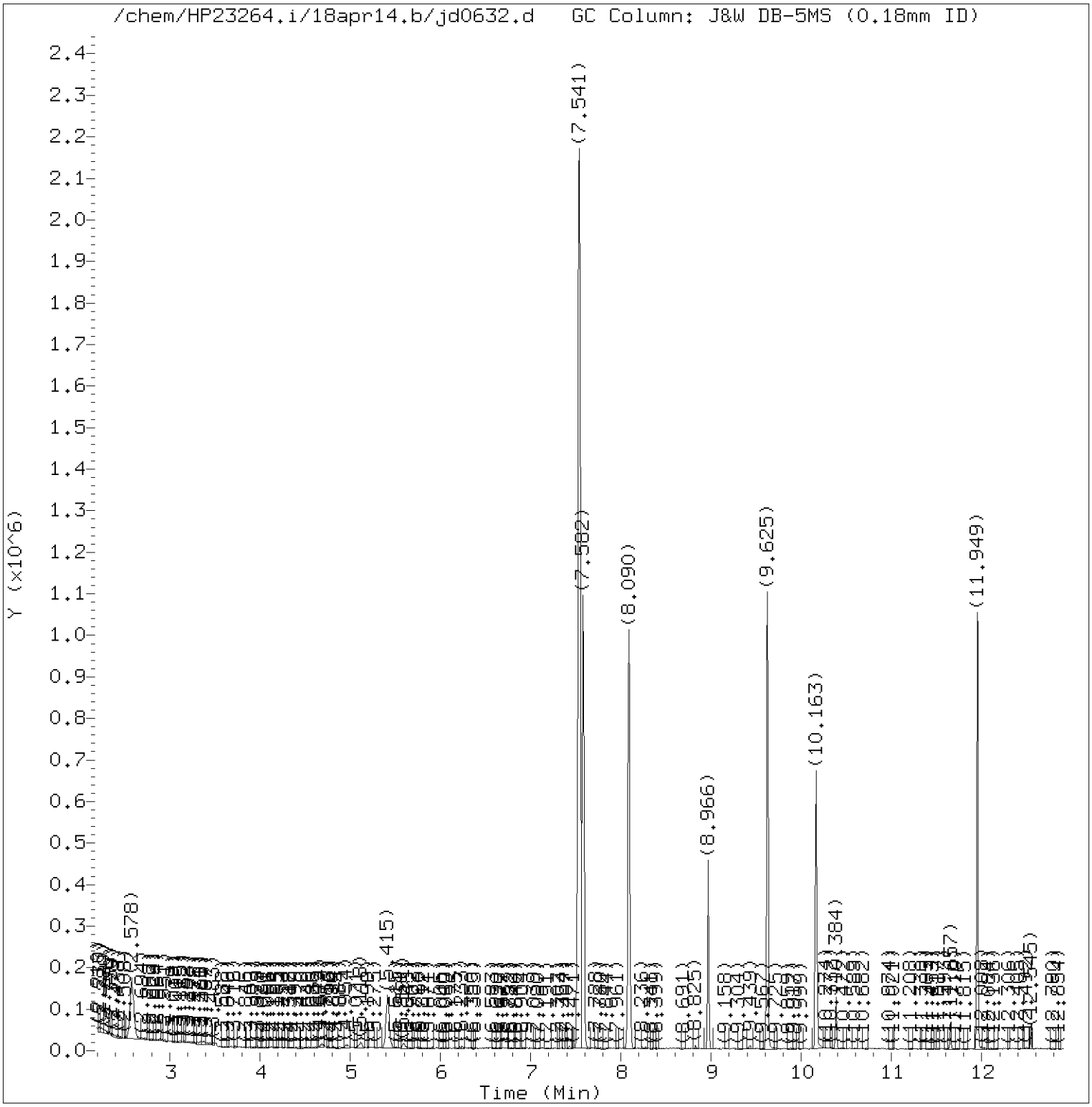
Data File: /chem/HP23264.i/18apr14.b/jd0631.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 21:02 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 15-APR-2018 13:21
Date, time and analyst ID of latest file update: 15-Apr-2018 13:36 knk25316

Sample Name: SSTD12.5 Lab Sample ID: rvICV0648

Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3250
Retention Time (minutes) : 21.164
Quant Ion : 276.00
Area : 1457081
On-column Amount (ng/ul) : 15.2715
Integration start scan : 3240 Integration stop scan: 3270
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kira N. Klaassen on 04/17/2018 at 11:04.
Target 3.5 esignature user ID: knk25316



Total Ion Chromatogram (TIC)

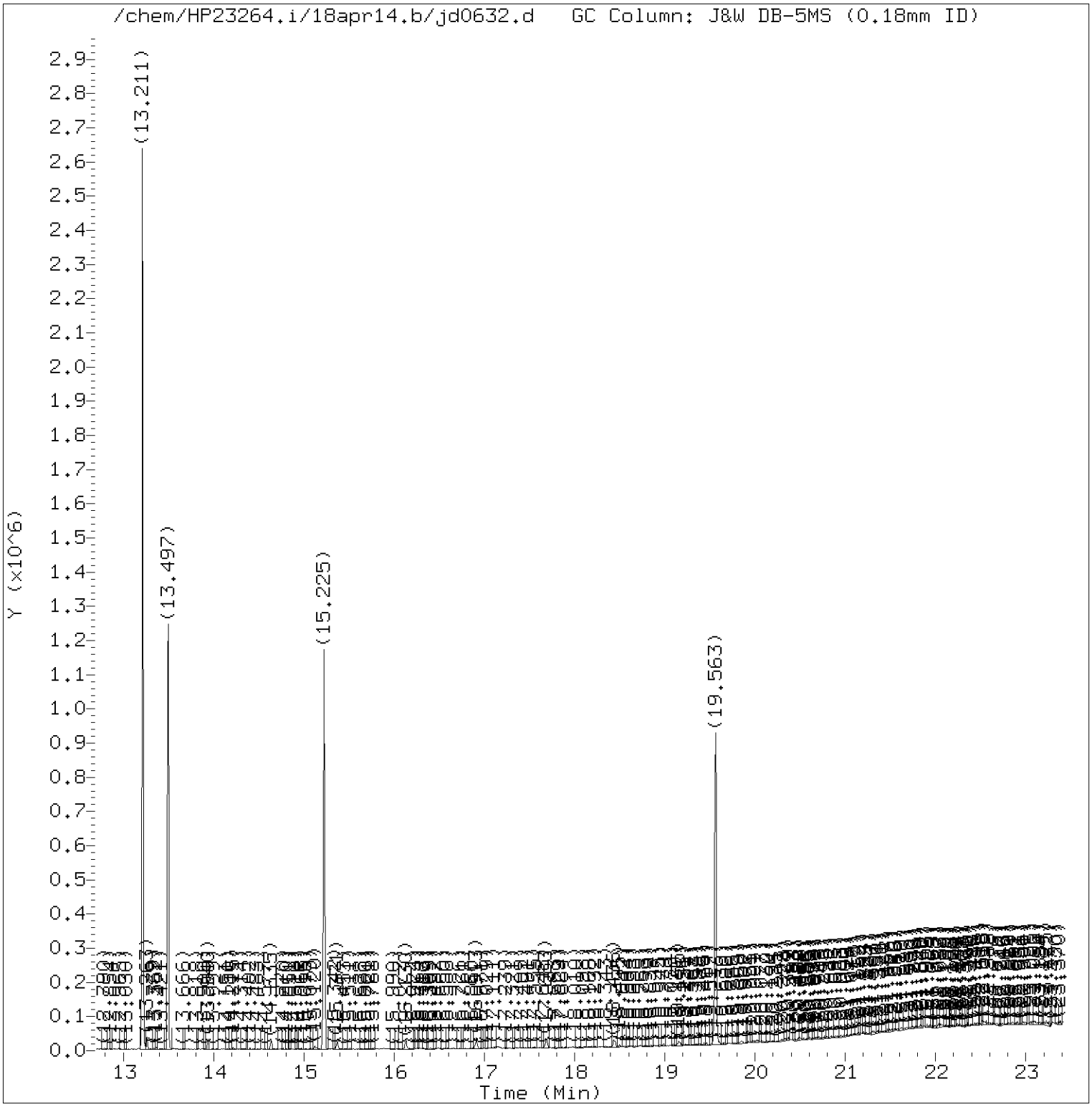
Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0632.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 21:32 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: basicvall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:51 knk25316

Sample Name: SSTD12.5 Lab Sample ID: rvBASICV0648

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 10:53.
Target 3.5 esignature user ID: knk25316



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0632.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 21:32 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: basicvall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:51 knk25316

Sample Name: SSTD12.5 Lab Sample ID: rvBASICV0648

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 10:53.
Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0632.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 21:32 Analyst ID: knk25316

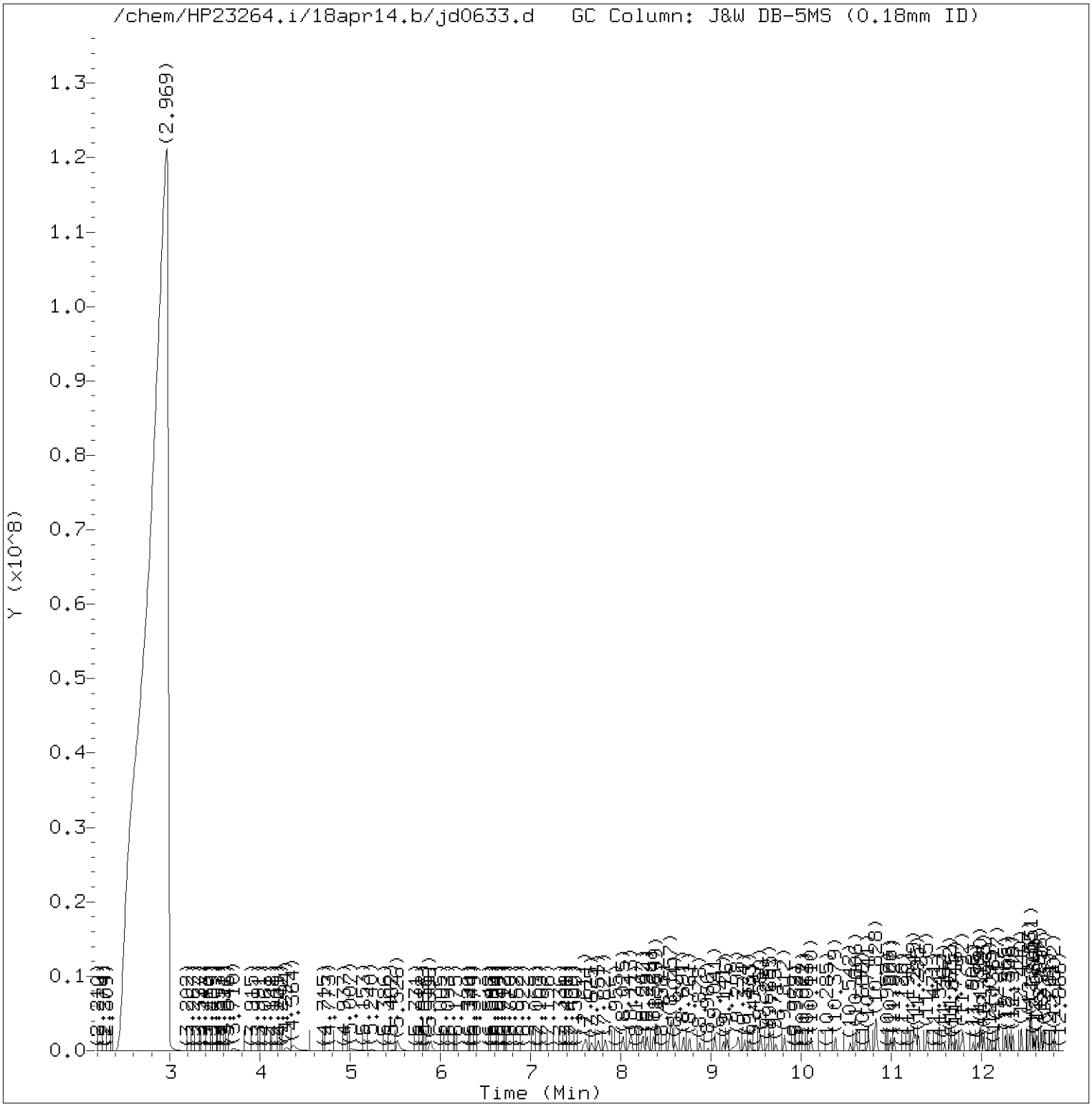
Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: basicvall1
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:51 knk25316

Sample Name: SSTD12.5 Lab Sample ID: rvBASICV0648

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
24) Benzaldehyde	(1)	7.541	77	990674	13.420
36)*1,4-Dichlorobenzene-d4	(1)	8.090	152	238597	5.000
76)*Naphthalene-d8	(2)	9.625	136	601249	5.000
86) Caprolactam	(2)	10.163	113	97148	6.191
122)*Acenaphthene-d10	(3)	11.949	164	216694	5.000
157) Atrazine	(4)	13.211	200	274256	14.032
165)*Phenanthrene-d10	(4)	13.497	188	423442	5.000
185)*Pyrene-d10	(5)	15.225	212	462094	5.000
215)*Perylene-d12	(6)	19.563	264	423774	5.000

* = Compound is an internal standard.

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 10:53.
Target 3.5 esignature user ID: knk25316



Total Ion Chromatogram (TIC)

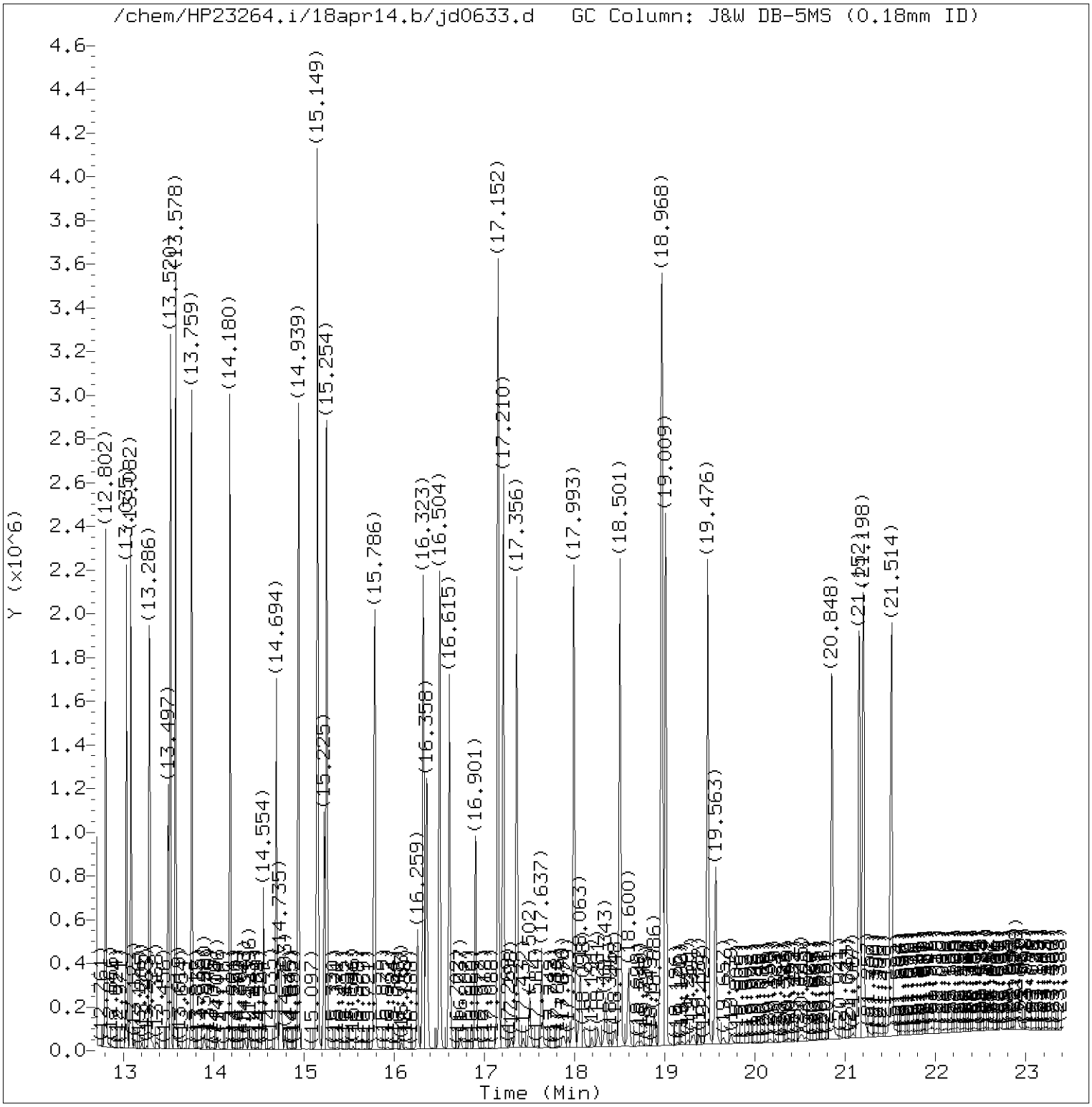
Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0633.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 22:02 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: icv5
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:51 knk25316

Sample Name: MSSPK1 Lab Sample ID: MS1809526A

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 10:53.
Target 3.5 esignature user ID: knk25316



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0633.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 22:02 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: icv5
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:51 knk25316

Sample Name: MSSPK1 Lab Sample ID: MS1809526A

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 10:53.
Target 3.5 esignature user ID: knk25316

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr14.b/jd0633.d Instrument ID: HP23264.i
Injection date and time: 14-APR-2018 22:02 Analyst ID: knk25316

Method used: /chem/HP23264.i/18apr14.b/rv8270c.m Sublist used: icv5
Calibration date and time: 17-APR-2018 10:50
Date, time and analyst ID of latest file update: 17-Apr-2018 10:51 knk25316

Sample Name: MSSPK1 Lab Sample ID: MS1809526A

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
36)*1,4-Dichlorobenzene-d4	(1)	8.090	152	177351	5.000
76)*Naphthalene-d8	(2)	9.625	136	519892	5.000
108) 1-Chloronaphthalene	(3)	11.295	162	735950	13.083
122)*Acenaphthene-d10	(3)	11.955	164	212308	5.000
132) 2,3,4,6-Tetrachlorophenol	(3)	12.306	232	262810	13.117
165)*Phenanthrene-d10	(4)	13.497	188	382628	5.000
185)*Pyrene-d10	(5)	15.225	212	414673	5.000
215)*Perylene-d12	(6)	19.563	264	373998	5.000

* = Compound is an internal standard.

Digitally signed by Kira N. Klaassen
on 04/17/2018 at 10:53.
Target 3.5 esignature user ID: knk25316

Data File: /chem/HP23264.i/18apr15.b/jd0640.d

Date : 15-APR-2018 15:40

Client ID: DFTPP12.5

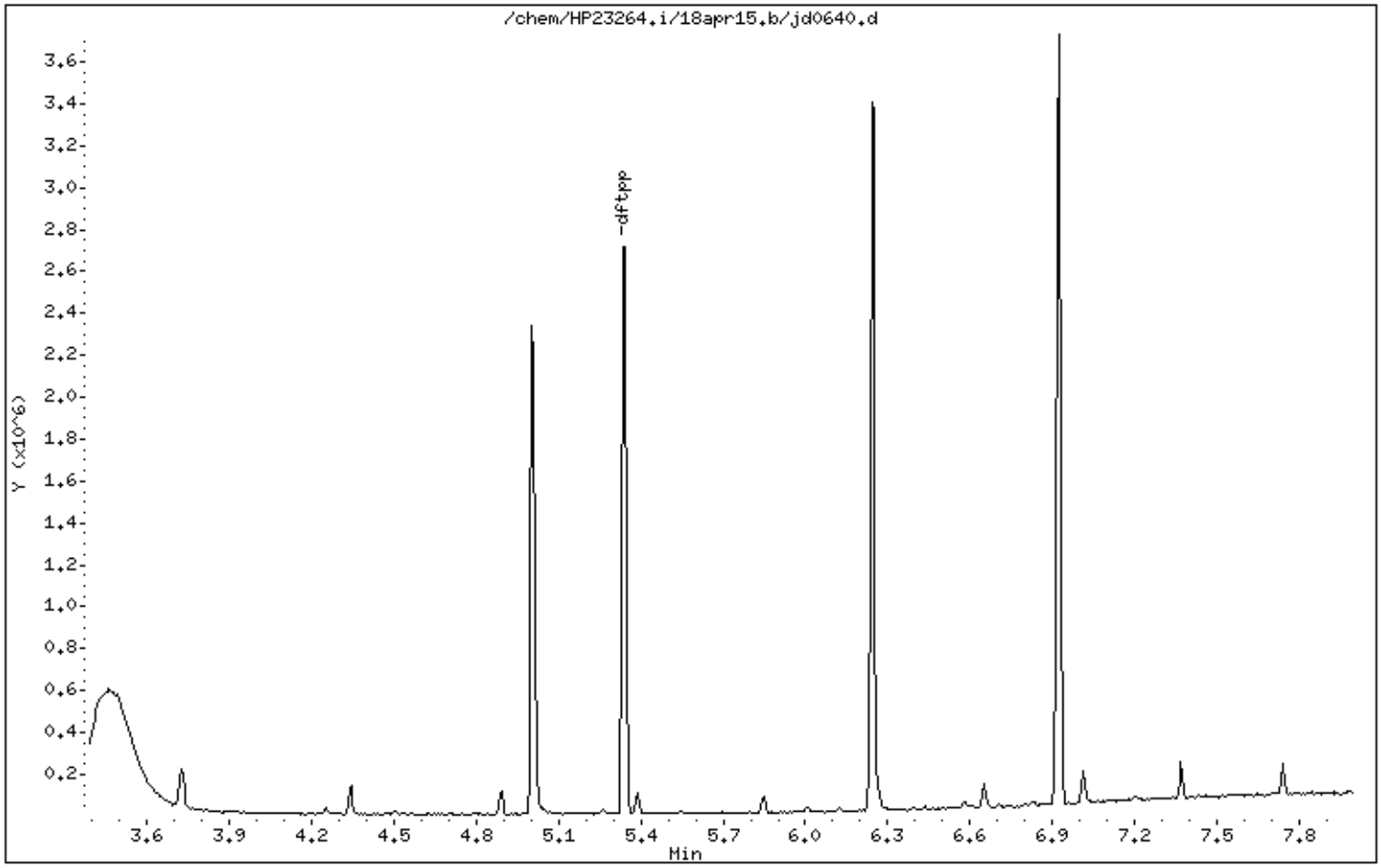
Instrument: HP23264.i

Sample Info: DFTPP12.5;DFTPP0878;1;3;DFTPP;

Operator: bhs10208

Column phase: DB-5MS

Column diameter: 0.18



Digitally signed by Brandon H. Smith on 04/15/2018 at 16:38.
Target 3.5 esignature user ID: bhs10208

Data File: /chem/HP23264.i/18apr15.b/jd0640.d

Date : 15-APR-2018 15:40

Client ID: DFTPP12.5

Instrument: HP23264.i

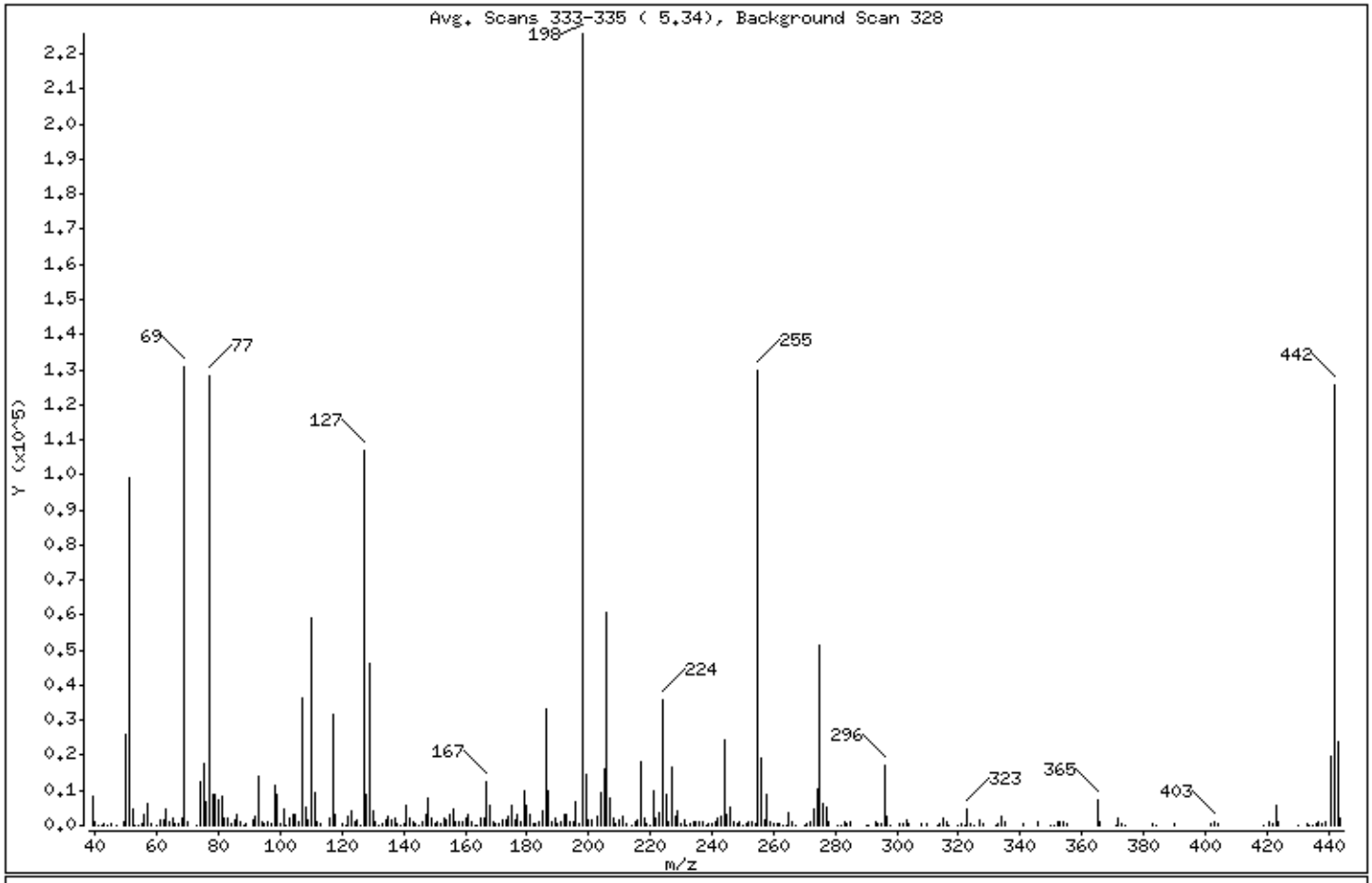
Sample Info: DFTPP12.5;DFTPP0878;1;3;DFTPP;

Operator: bhs10208

Column phase: DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	44.00
68	Less than 2.00% of mass 69	0.91 (1.58)
69	Mass 69 relative abundance	57.98
70	Less than 2.00% of mass 69	0.37 (0.64)
127	40.00 - 60.00% of mass 198	47.33
197	Less than 1.00% of mass 198	0.23
199	5.00 - 9.00% of mass 198	6.34
275	10.00 - 30.00% of mass 198	22.73
365	Greater than 1.00% of mass 198	3.16
441	Present, but less than mass 443	8.77
442	40.00 - 99.99% of mass 198	55.71
443	17.00 - 23.00% of mass 442	10.47 (18.80)

Digitally signed by Brandon H. Smith on 04/15/2018 at 16:38.
Target 3.5 esignature user ID: bhs10208

Data File: /chem/HP23264.i/18apr15.b/jd0640.d

Date : 15-APR-2018 15:40

Client ID: DFTPP12.5 Instrument: HP23264.i

Sample Info: DFTPP12.5;DFTPP0878;1;3;DFTPP;

Operator: bhs10208

Column phase: DB-5MS Column diameter: 0.18

Data File: jd0640.d
Spectrum: Avg. Scans 333-335 (5.34), Background Scan 328
Location of Maximum: 198.00
Number of points: 300

m/z	Y	m/z	Y	m/z	Y	m/z	Y
39.00	8420	124.00	1293	200.00	1540	282.00	132
40.00	967	125.00	1699	201.00	1587	283.00	874
41.00	14	126.00	184	203.00	2343	284.00	612
42.00	227	127.00	106880	204.00	9411	285.00	785
43.00	420	128.00	8742	205.00	15992	290.00	164
44.00	237	129.00	46128	206.00	60968	291.00	102
45.00	437	130.00	4088	207.00	8020	293.00	1043
47.00	133	131.00	845	208.00	2186	294.00	490
49.00	899	132.00	239	209.00	711	295.00	607
50.00	26024	133.00	295	210.00	1480	296.00	17320
51.00	99360	134.00	1653	211.00	2738	297.00	2401
52.00	4665	135.00	2738	212.00	621	298.00	106
53.00	42	136.00	1326	214.00	92	301.00	309
54.00	101	137.00	1905	215.00	1011	302.00	610
55.00	586	138.00	303	216.00	1505	303.00	1749
56.00	3198	139.00	249	217.00	18088	304.00	447
57.00	6420	140.00	475	218.00	1997	308.00	360
58.00	403	141.00	5717	219.00	261	310.00	400
60.00	131	142.00	1860	220.00	255	313.00	84
61.00	1542	143.00	1088	221.00	10076	314.00	673
62.00	1617	144.00	270	222.00	1817	315.00	1858
63.00	4570	145.00	228	223.00	3797	316.00	831
64.00	792	146.00	1182	224.00	36008	317.00	88
65.00	2265	147.00	3342	225.00	8833	320.00	126
66.00	278	148.00	7798	226.00	1069	321.00	538
67.00	380	149.00	1839	227.00	16864	322.00	227
68.00	2065	150.00	542	228.00	2350	323.00	4865
69.00	130936	151.00	781	229.00	3930	324.00	662
70.00	833	152.00	513	230.00	364	325.00	167
73.00	235	153.00	2043	231.00	1331	327.00	1408
74.00	12360	154.00	1543	232.00	83	328.00	406
75.00	17680	155.00	3075	233.00	283	332.00	145
76.00	6802	156.00	4658	234.00	1101	333.00	445
77.00	128464	157.00	925	235.00	1008	334.00	2452
78.00	8904	158.00	1146	236.00	1039	335.00	811

Digitally signed by Brandon H. Smith on 04/15/2018 at 16:38.
Target 3.5 esignature user ID: bhs10208

Data File: /chem/HP23264.i/18apr15.b/jd0640.d

Date : 15-APR-2018 15:40

Client ID: DFTPP12.5 Instrument: HP23264.i

Sample Info: DFTPP12.5;DFTPP0878;1;3;DFTPP;

Operator: bhs10208

Column phase: DB-5MS Column diameter: 0.18

Data File: jd0640.d
Spectrum: Avg. Scans 333-335 (5.34), Background Scan 328
Location of Maximum: 198.00
Number of points: 300

m/z	Y	m/z	Y	m/z	Y	m/z	Y
79.00	8693	159.00	953	237.00	1235	341.00	379
80.00	7286	160.00	1927	238.00	211	346.00	985
81.00	8097	161.00	2887	239.00	750	350.00	89
82.00	2062	162.00	813	240.00	610	351.00	203
83.00	1920	163.00	192	241.00	1181	352.00	1082
84.00	415	164.00	120	242.00	2053	353.00	881
85.00	1343	165.00	2296	243.00	2538	354.00	871
86.00	2919	166.00	2083	244.00	24616	355.00	401
87.00	1012	167.00	12280	245.00	3086	365.00	7143
88.00	256	168.00	5599	246.00	5179	366.00	1040
89.00	261	169.00	1237	247.00	1176	371.00	178
91.00	1812	170.00	375	248.00	408	372.00	2073
92.00	2342	171.00	597	249.00	1046	373.00	693
93.00	13889	172.00	1710	250.00	224	374.00	111
94.00	911	173.00	1407	251.00	414	383.00	618
95.00	295	174.00	2624	252.00	854	384.00	103
96.00	947	175.00	5454	253.00	960	390.00	323
97.00	476	176.00	1537	254.00	282	402.00	707
98.00	11432	177.00	3009	255.00	129840	403.00	809
99.00	9018	178.00	1263	256.00	19256	404.00	468
100.00	600	179.00	9703	257.00	1410	419.00	109
101.00	4522	180.00	5710	258.00	8587	421.00	835
102.00	162	181.00	3016	259.00	1294	422.00	429
103.00	2120	182.00	526	260.00	359	423.00	5602
104.00	3346	183.00	275	261.00	404	424.00	1070
105.00	3121	184.00	916	262.00	270	430.00	94
106.00	908	185.00	3920	263.00	141	433.00	302
107.00	36296	186.00	33184	264.00	137	434.00	238
108.00	5080	187.00	9620	265.00	3626	435.00	255
109.00	1379	188.00	1212	266.00	1089	436.00	643
110.00	59064	189.00	2173	267.00	84	437.00	797
111.00	9213	190.00	493	270.00	157	438.00	534
112.00	1187	191.00	1053	271.00	388	439.00	816
113.00	711	192.00	3302	272.00	864	441.00	19808
116.00	2068	193.00	3321	273.00	4415	442.00	125808

Digitally signed by Brandon H. Smith on 04/15/2018 at 16:38.
Target 3.5 esignature user ID: bhs10208

Data File: /chem/HP23264.i/18apr15.b/jd0640.d

Date : 15-APR-2018 15:40

Client ID: DFTPP12.5 Instrument: HP23264.i

Sample Info: DFTPP12.5;DFTPP0878;1;3;DFTPP;

Operator: bhs10208

Column phase: DB-5MS Column diameter: 0.18

Data File: jd0640.d
Spectrum: Avg. Scans 333-335 (5.34), Background Scan 328
Location of Maximum: 198.00
Number of points: 300

m/z	Y	m/z	Y	m/z	Y	m/z	Y
117.00	31632	194.00	1015	274.00	10627	443.00	23648
118.00	2923	195.00	1278	275.00	51320	444.00	1949
120.00	334	196.00	6623	276.00	6069		
121.00	189	197.00	529	277.00	5273		
122.00	2534	198.00	225792	278.00	1230		
123.00	4321	199.00	14323	281.00	9		

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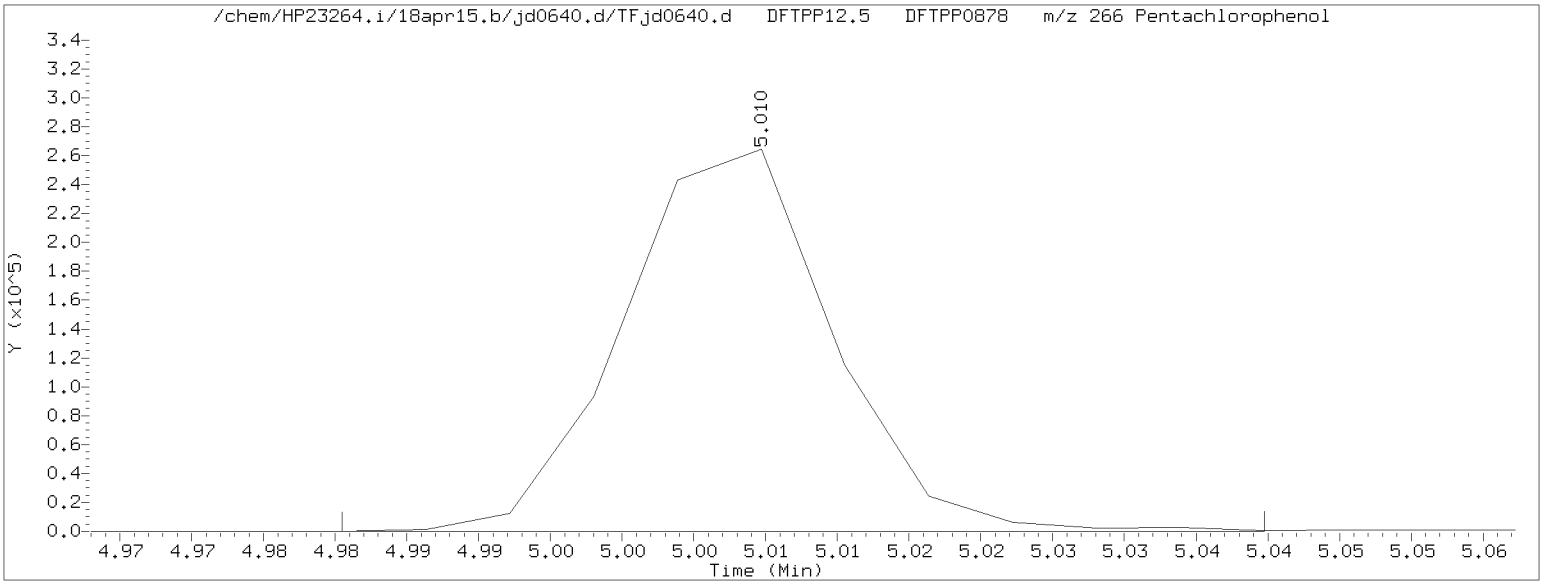
Target 3.5 esignature user ID: bhs10208

Assessment of GC Column Performance and Injection Port Inertness for

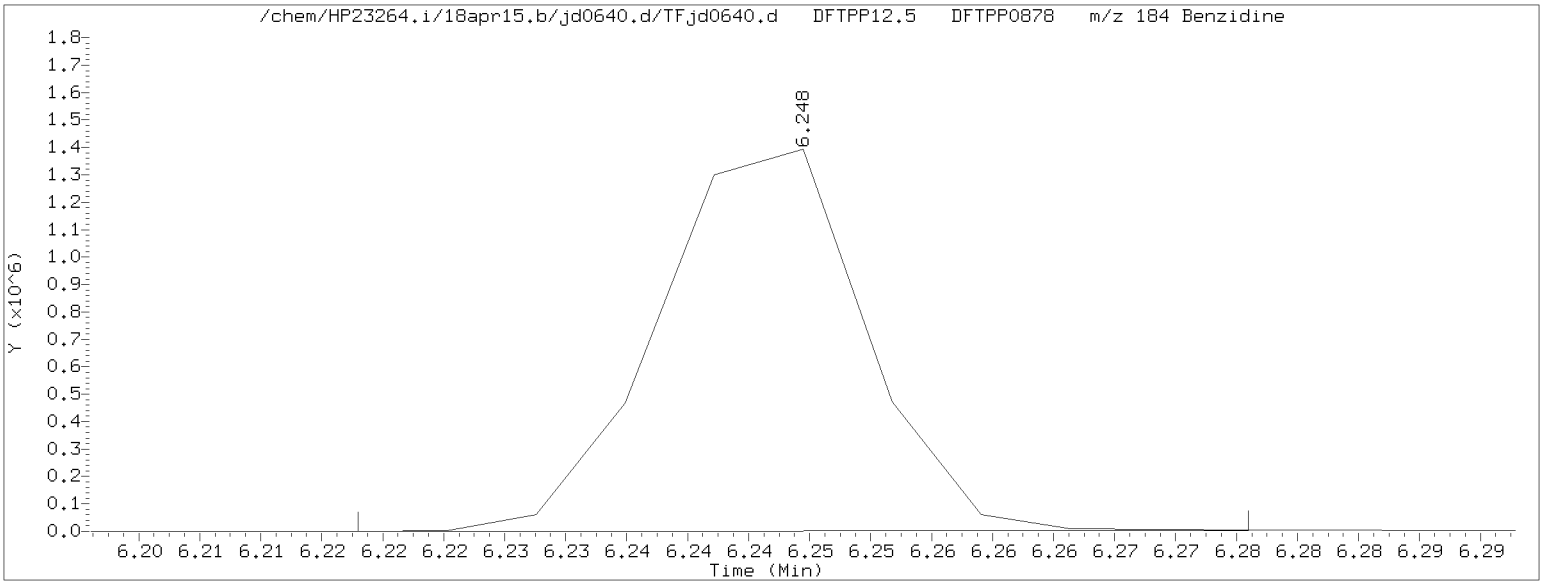
Instrument ID: HP23264.i Injection Date: 15-APR-2018 15:40 Operator: bhs10208



Pentachlorophenol EICP peak height = 264576 EICP peak height at 10% = 26458 Pentachlorophenol EICP area = 268172

Pentachlorophenol EICP peak apex (min.) = 5.010
RT at 10% of front half of EICP (min.) = 4.993 'Front' peak width (min.) = 0.0164666667
RT at 10% of back half of EICP (min.) = 5.021 'Tailing' peak width (min.) = 0.0115166667

$$\text{PCP tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0115166667}{0.0164666667} = 0.699$$



Benzidine EICP peak height = 1393945 EICP peak height at 10% = 139394 Benzidine EICP area = 1321164

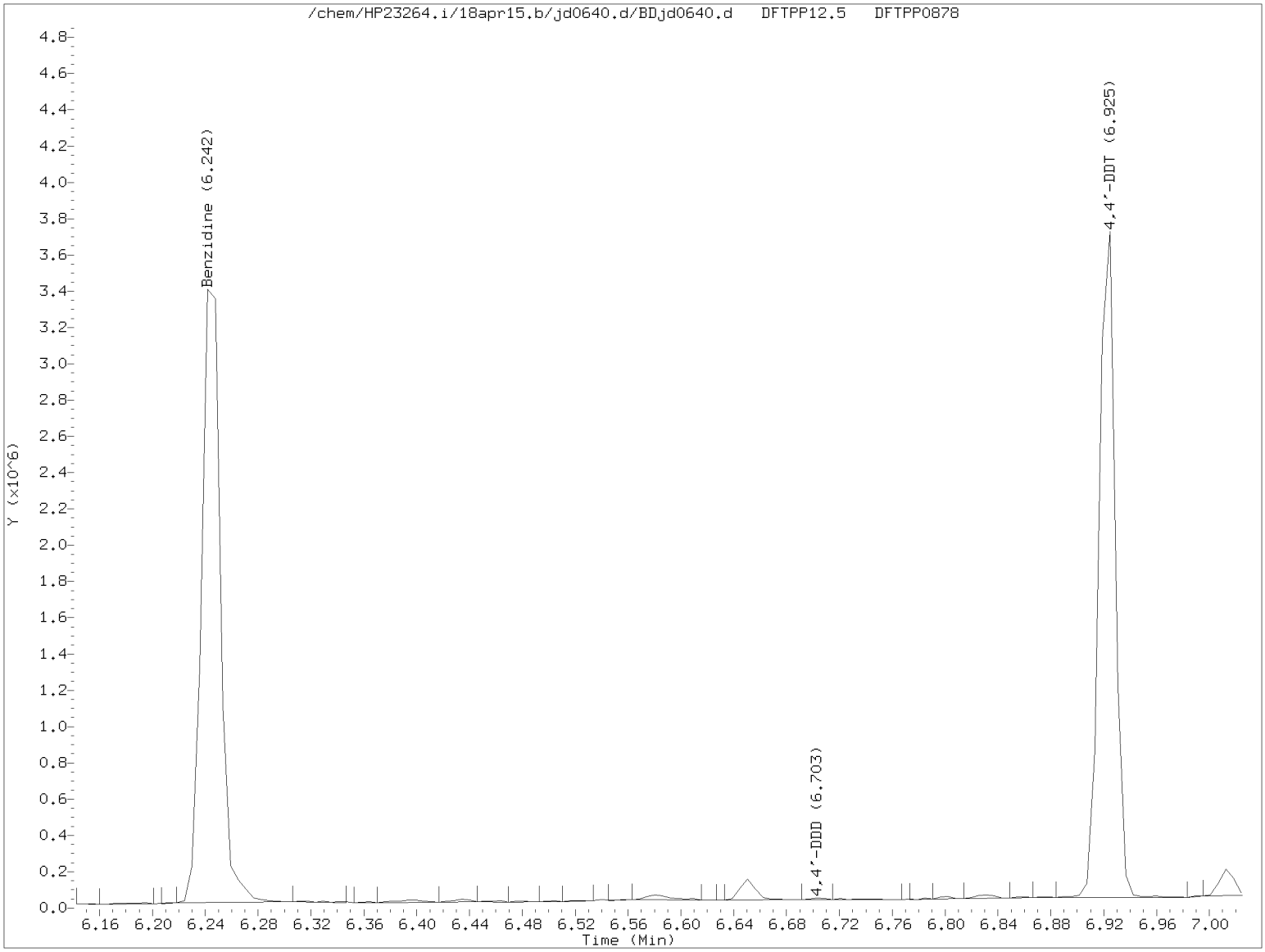
Benzidine EICP peak apex (min.) = 6.248
RT at 10% of front half of EICP (min.) = 6.231 'Front' peak width (min.) = 0.0163666667
RT at 10% of back half of EICP (min.) = 6.258 'Tailing' peak width (min.) = 0.0105000000

$$\text{Benzidine tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0105000000}{0.0163666667} = 0.642$$

Secondary review performed and digitally signed by Chad A. Moline on 04/18/2018 at 14:26. PARALLAX ID: cam01237

Assessment of GC Column Performance and Injection Port Inertness for

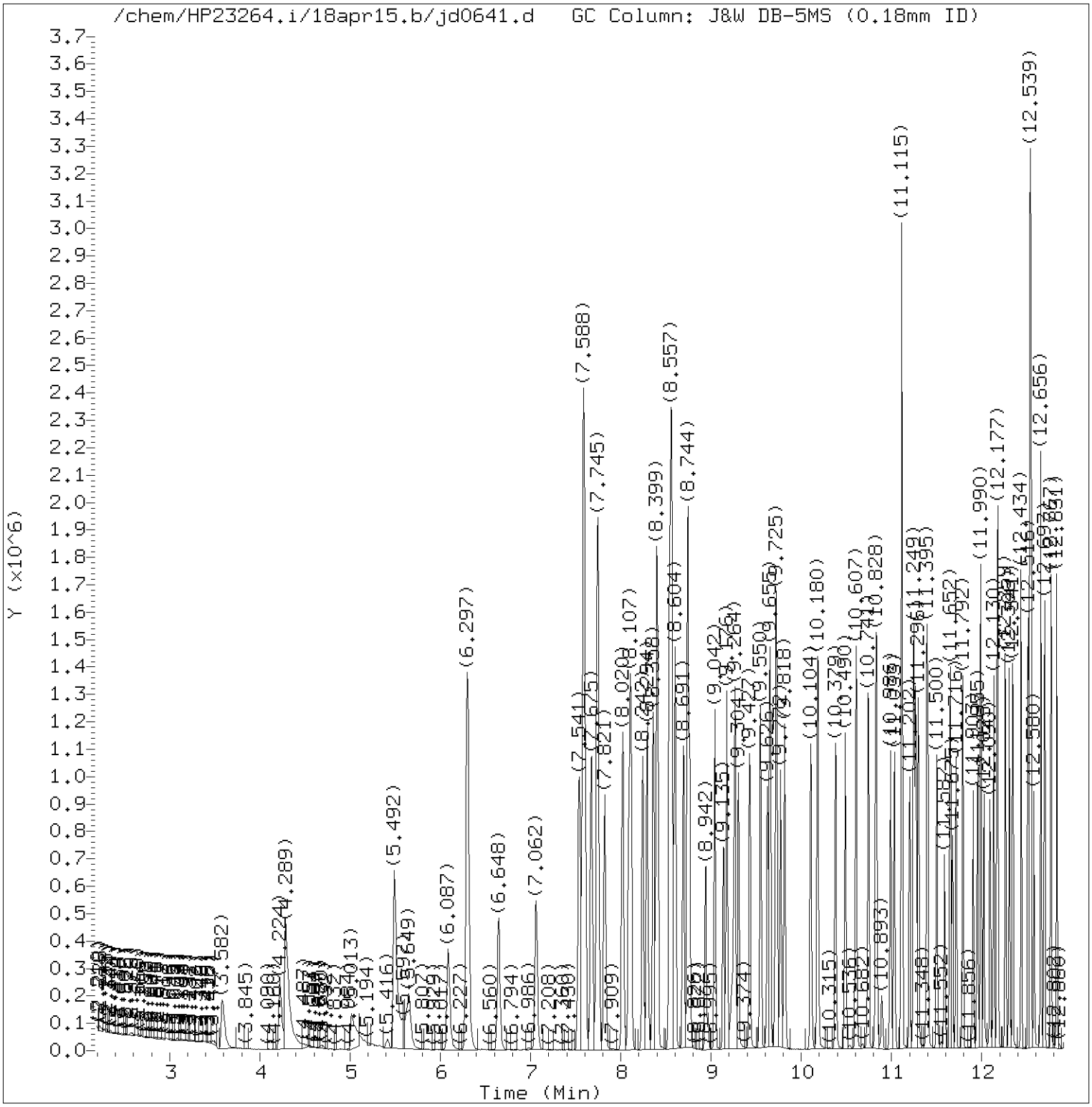
Instrument ID: HP23264.i Injection Date: 15-APR-2018 15:40 Operator: bhs10208



$$\% \text{ 4,4'-DDT breakdown} = \frac{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area}}{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area + 4,4'-DDT TIC area}} \times 100$$

$$\% \text{ 4,4'-DDT breakdown} = \frac{0 + 6561}{0 + 6561 + 3140044} \times 100 = 0.2$$

Secondary review performed and digitally signed by Chad A. Moline on 04/18/2018 at 14:26. PARALLAX ID: cam01237



Total Ion Chromatogram (TIC)

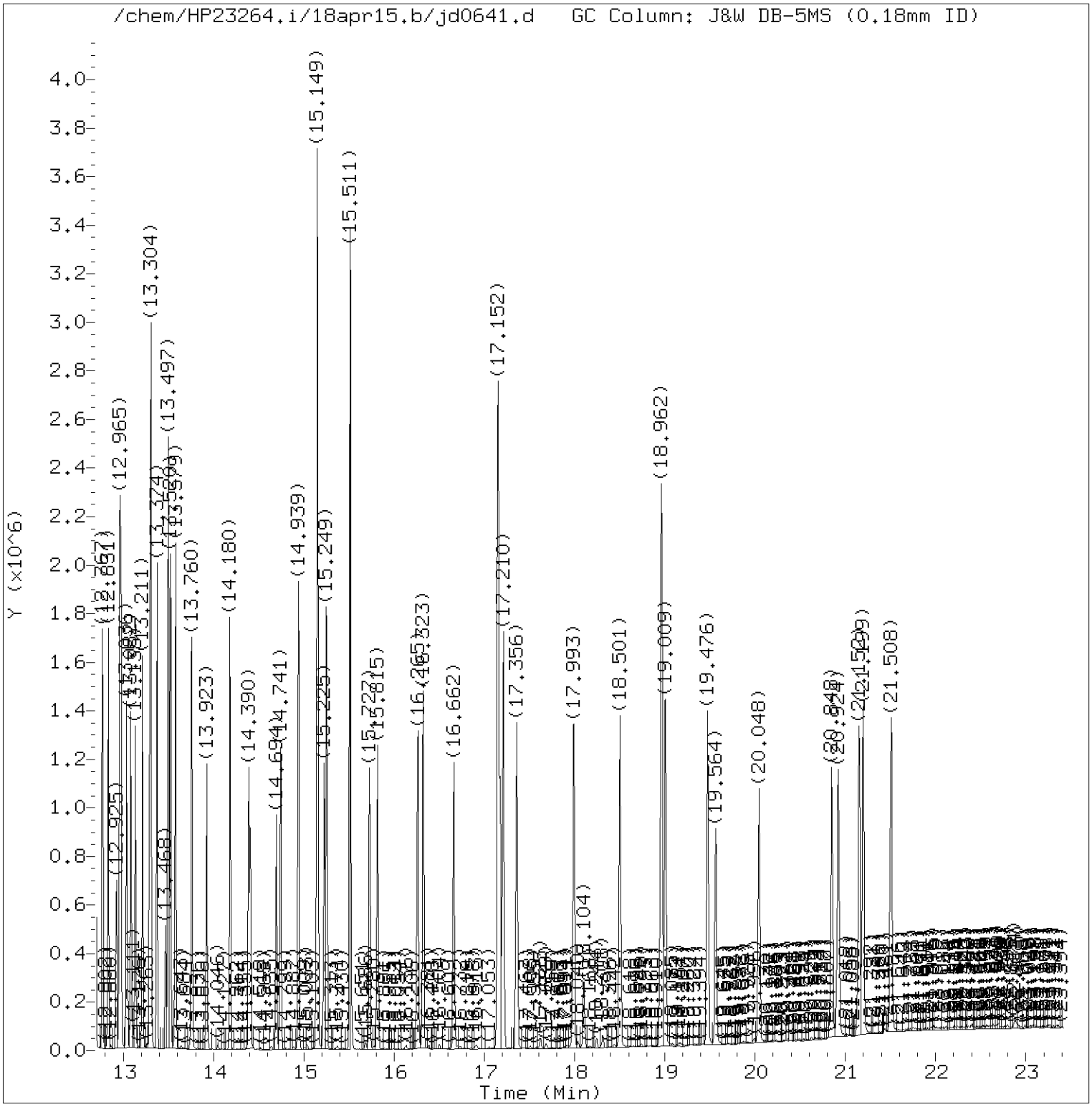
Target Revision 3.5

Data File: /chem/HP23264.i/18apr15.b/jd0641.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 15:56 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 16:36
Date, time and analyst ID of latest file update: 15-Apr-2018 16:36 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: rvSTD0968

Digitally signed by Brandon H. Smith
on 04/15/2018 at 16:38.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP23264.i/18apr15.b/jd0641.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 15:56 Analyst ID: bhs10208

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Calibration date and time: 15-APR-2018 16:36
Date, time and analyst ID of latest file update: 15-Apr-2018 16:36 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: rvSTD0968

Digitally signed by Brandon H. Smith
on 04/15/2018 at 16:38.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr15.b/jd0641.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 15:56 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 16:36
Date, time and analyst ID of latest file update: 15-Apr-2018 16:36 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
3) 1,4-Dioxane	(1)	3.582	88	206888	7.078
5) N-Nitrosodimethylamine	(1)	4.219	74	354743	7.646
6) Pyridine	(1)	4.283	79	603692	7.395
8) 2-Picoline	(1)	5.492	93	582037	7.426
11) N-Nitrosomethylethylamine	(1)	5.649	88	269077	7.630
12) Methyl methanesulfonate	(1)	6.087	80	322465	7.754
13)$2-Fluorophenol	(1)	6.297	112	891602	15.732
14) N-Nitrosodiethylamine	(1)	6.648	102	239604	7.866
18) Ethyl methanesulfonate	(1)	7.062	109	236269	8.039
24) Benzaldehyde	(1)	7.541	77	478307	8.107
26)$Phenol-d6	(1)	7.582	99	1219349	15.527
27) Phenol	(1)	7.605	94	651907	7.756
28) Aniline	(1)	7.669	93	803380	7.896
30) a-methylstyrene	(1)	7.734	118	147192	7.227
31) bis(2-Chloroethyl)ether	(1)	7.745	93	504566	7.779
32) 2-Chlorophenol	(1)	7.821	128	403226	7.949
34) 1,3-Dichlorobenzene	(1)	8.020	146	461156	8.130
36)*1,4-Dichlorobenzene-d4	(1)	8.090	152	190707	5.000
38) 1,4-Dichlorobenzene	(1)	8.113	146	462092	7.679
39) Benzyl alcohol	(1)	8.242	108	234347	7.509
41) 1,2-Dichlorobenzene	(1)	8.294	146	415865	7.952
44) 2-Methylphenol	(1)	8.358	108	366228	8.030
46) Indene	(1)	8.399	115	532597	7.209
48) bis(2-Chloroisopropyl)ether	(1)	8.411	45	585747	7.796
47) 2,2'-oxybis(1-Chloropropane)	(1)	8.411	45	585747	7.796
53) 4-Methylphenol	(1)	8.540	108	366707	7.966
51) N-Nitrosopyrrolidine	(1)	8.540	100	197693	7.959
54) N-Nitroso-di-n-propylamine	(1)	8.557	70	321041	7.981
52) Acetophenone	(1)	8.563	105	540512	7.759
56) o-Toluidine	(1)	8.604	106	614318	8.002
57) Hexachloroethane	(1)	8.691	117	176566	8.059
58)$Nitrobenzene-d5	(2)	8.744	82	976446	15.162
59) Nitrobenzene	(2)	8.761	77	490810	7.595
55) N-Nitrosomorpholine	(1)	8.942	56	72621	7.543
61) N-Nitrosopiperidine	(2)	8.942	114	167670	7.869
63) Isophorone	(2)	9.042	82	688349	7.526
64) 2-Nitrophenol	(2)	9.141	139	165541	7.705
65) 2,4-Dimethylphenol	(2)	9.176	107	337137	7.625
67) Benzoic acid	(2)	9.252	105	254952	9.535
66) O,O,O-Triethylphosphorothioate	(2)	9.269	198	135431	7.562

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/15/2018 at 16:38.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr15.b/jd0641.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 15:56 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 16:36
Date, time and analyst ID of latest file update: 15-Apr-2018 16:36 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
68) bis(2-Chloroethoxy)methane	(2)	9.304	93	385422	7.636
70) 2,4-Dichlorophenol	(2)	9.427	162	268775	7.533
72) 1,2,4-Trichlorobenzene	(2)	9.550	180	305149	7.554
76)*Naphthalene-d8	(2)	9.626	136	513260	5.000
78) Naphthalene	(2)	9.655	128	799539	7.667
79) 4-Chloroaniline	(2)	9.719	127	325418	7.518
80) 2,6-Dichlorophenol	(2)	9.725	162	256688	7.563
81) Hexachloropropene	(2)	9.772	213	236717	7.489
83) Hexachlorobutadiene	(2)	9.818	225	189818	7.753
84) Quinoline	(2)	10.104	129	483652	7.481
86) Caprolactam	(2)	10.180	113	95071	7.097
87) N-Nitrosodi-n-butylamine	(2)	10.186	84	282241	7.623
89) 4-Chloro-3-methylphenol	(2)	10.379	107	263684	7.055
90) Safrole	(2)	10.490	162	197717	7.152
91) 2-Methylnaphthalene	(2)	10.607	142	477511	7.681
92) 1-Methylnaphthalene	(2)	10.747	142	421106	7.696
95) Hexachlorocyclopentadiene	(3)	10.823	237	164613	7.559
96) 1,2,4,5-Tetrachlorobenzene	(3)	10.834	216	274998	7.813
97) cis-Isosafrole	(3)	10.893	162	34450	1.315
98) 2,4,6-Trichlorophenol	(3)	10.992	196	178037	7.808
100) 2,4,5-Trichlorophenol	(3)	11.033	196	199613	8.450
102)$2-Fluorobiphenyl	(3)	11.115	172	1016242	15.570
104) trans-Isosafrole	(3)	11.202	162	171240	6.160
105) 1,1'-Biphenyl	(3)	11.249	154	523608	7.683
107) 2-Chloronaphthalene	(3)	11.266	162	445244	7.484
108) 1-Chloronaphthalene	(3)	11.296	162	398680	7.396
109) Diphenyl ether	(3)	11.389	170	281119	7.574
110) 2-Nitroaniline	(3)	11.406	138	155056	8.459
111) 1,4-Naphthoquinone	(3)	11.500	158	189087	7.971
112) 1,4-Dinitrobenzene	(3)	11.587	168	83982	7.935
114) Dimethylphthalate	(3)	11.652	163	511031	7.742
116) 1,3-Dinitrobenzene	(3)	11.675	168	90335	7.565
117) 2,6-Dinitrotoluene	(3)	11.716	165	120913	7.882
118) Acenaphthylene	(3)	11.792	152	598549	7.761
120) 3-Nitroaniline	(3)	11.903	138	125203	8.054
122)*Acenaphthene-d10	(3)	11.955	164	202352	5.000
123) Acenaphthene	(3)	11.990	153	392396	7.856
125) 2,4-Dinitrophenol	(3)	12.025	184	120970	10.118
126) 4-Nitrophenol	(3)	12.090	109	102772	7.460
127) Pentachlorobenzene	(3)	12.130	250	200158	7.919

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on 04/15/2018 at 16:38.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr15.b/jd0641.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 15:56 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 16:36
Date, time and analyst ID of latest file update: 15-Apr-2018 16:36 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
128) 2,4-Dinitrotoluene	(3)	12.171	165	166130	7.670
129) Dibenzofuran	(3)	12.177	168	575911	7.856
131) 1-Naphthylamine	(3)	12.259	143	399961	7.167
132) 2,3,4,6-Tetrachlorophenol	(3)	12.306	232	150087	7.855
133) 2-Naphthylamine	(3)	12.341	143	396622	7.410
136) Diethylphthalate	(3)	12.434	149	507313	7.683
138) Thionazin	(3)	12.516	107	82424	7.635
139) Fluorene	(3)	12.528	166	470378	7.923
141) 4-Chlorophenyl-phenylether	(3)	12.539	204	235360	7.686
142) 4-Nitroaniline	(3)	12.545	138	137358	8.097
140) 5-Nitro-o-toluidine	(3)	12.545	152	148124	8.046
143) 4,6-Dinitro-2-methylphenol	(4)	12.580	198	113638	7.557
145) NDPA as diphenylamine	(4)	12.656	169	411589	7.574
144) N-Nitrosodiphenylamine	(4)	12.656	169	411589	7.578
146) 1,2-Diphenylhydrazine	(4)	12.697	77	602975	7.409
147)$2,4,6-Tribromophenol	(3)	12.773	330	143925	16.049
148) Tetraethyldithiopyrophosphate	(4)	12.831	97	114322	7.128
149) 1,3,5-Trinitrobenzene	(4)	12.925	213	67752	7.574
150) Diallate (peak 1)	(4)	12.954	86	201045	5.993
151) Phorate	(4)	12.965	75	368107	7.369
152) Phenacetin	(4)	12.977	108	313782	7.780
153) 4-Bromophenyl-phenylether	(4)	13.036	248	140178	7.261
154) Diallate (peak 2)	(4)	13.047	86	34964	1.246
155) Hexachlorobenzene	(4)	13.082	284	145611	7.447
156) Dimethoate	(4)	13.135	87	228765	7.354
157) Atrazine	(4)	13.211	200	143472	7.493
160) Pentachlorophenol	(4)	13.292	266	108993	7.365
161) 4-Aminobiphenyl	(4)	13.304	169	476933	7.444
162) Pentachloronitrobenzene	(4)	13.304	237	91060	7.534
164) Pronamide	(4)	13.374	173	253974	7.577
166) Dinoseb	(4)	13.497	211	158987	7.587
165)*Phenanthrene-d10	(4)	13.497	188	414832	5.000
167) Phenanthrene	(4)	13.520	178	704931	7.567
168) Anthracene	(4)	13.579	178	718035	7.593
169) Carbazole	(4)	13.760	167	643304	7.527
170) Methyl parathion	(4)	13.923	109	169492	7.175
174) Di-n-butylphthalate	(4)	14.180	149	836281	7.285
180) Parathion	(4)	14.390	109	108131	7.138
179) 4-Nitroquinoline-1-oxide	(4)	14.408	190	99335	7.591
181) Octachlorostyrene	(4)	14.694	308	52354	6.803

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on 04/15/2018 at 16:38.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr15.b/jd0641.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 15:56 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 16:36
Date, time and analyst ID of latest file update: 15-Apr-2018 16:36 bhs10208

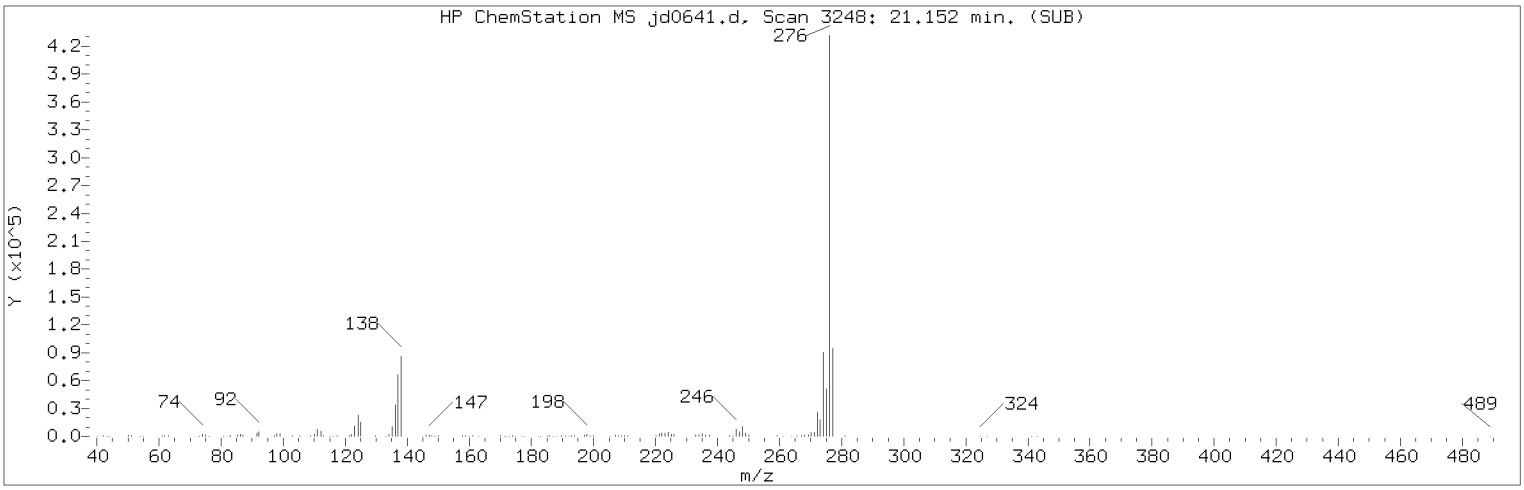
Sample Name: SSTD7.5 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
182) Isodrin	(4)	14.746	193	90814	7.208
183) Fluoranthene	(4)	14.939	202	809567	7.588
184) Benzidine	(5)	15.149	184	1502382	21.539
185)*Pyrene-d10	(5)	15.225	212	453318	5.000
187) Pyrene	(5)	15.254	202	830183	7.254
192)$Terphenyl-d14	(5)	15.511	244	1122961	14.609
193) p-Dimethylaminoazobenzene	(5)	15.727	225	137208	7.532
194) Chlorobenzilate	(5)	15.815	139	263016	7.067
196) 3,3'-Dimethylbenzidine	(5)	16.265	212	539369	7.313
198) Butylbenzylphthalate	(5)	16.323	149	399880	7.396
199) 2-Acetylaminofluorene	(5)	16.662	181	302797	6.603
201) Benzo(a)anthracene	(5)	17.152	228	817113	7.435
202) 3,3'-Dichlorobenzidine	(5)	17.152	252	289042	7.019
205) 4,4'-Methylenebis(2-chloroanil	(5)	17.175	231	161173	7.124
206) Chrysene	(5)	17.210	228	777678	7.478
207) bis(2-Ethylhexyl)phthalate	(5)	17.356	149	539759	6.970
208) 6-Methylchrysene	(5)	17.993	242	500074	6.972
209) Di-n-octylphthalate	(6)	18.501	149	978758	7.330
210) Benzo(b)fluoranthene	(6)	18.962	252	780700	7.637
211) 7,12-Dimethylbenz[a]anthracene	(6)	18.968	256	331767	7.562
212) Benzo(k)fluoranthene	(6)	19.009	252	756327	7.790
214) Benzo(a)pyrene	(6)	19.476	252	724309	7.653
215)*Perylene-d12	(6)	19.564	264	412229	5.000
216) 3-Methylcholanthrene	(6)	20.048	268	333296	7.452
217) Dibenz(a,h)acridine	(6)	20.848	279	550932	7.439
218) Dibenz(a,j)acridine	(6)	20.924	279	559561	7.440
219) Indeno(1,2,3-cd)pyrene	(6)	21.152	276	692201M	8.052
220) Dibenz(a,h)anthracene	(6)	21.199	278	649998	8.064
221) Benzo(g,h,i)perylene	(6)	21.508	276	728642	7.925
224) Isosafrole	(3)			205690	7.475
225) 2,4_2,6-Dinitrotoluenes	(3)			287043	15.552
222) Total Cresols	(1)			732935	15.997
228) Total PAHs	(6)			12149163	138.620
226) Diallate trans/cis	(4)			236009	7.238

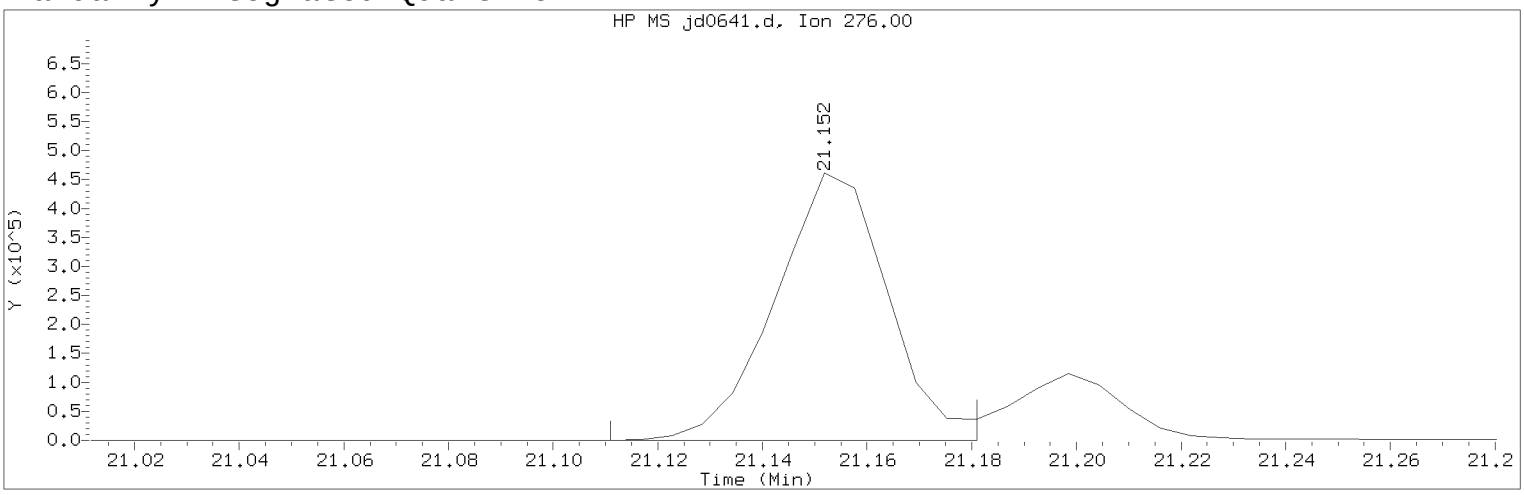
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/15/2018 at 16:38.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr15.b/jd0641.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 15:56 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 16:36
Date, time and analyst ID of latest file update: 15-Apr-2018 16:36 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: rvSTD0968

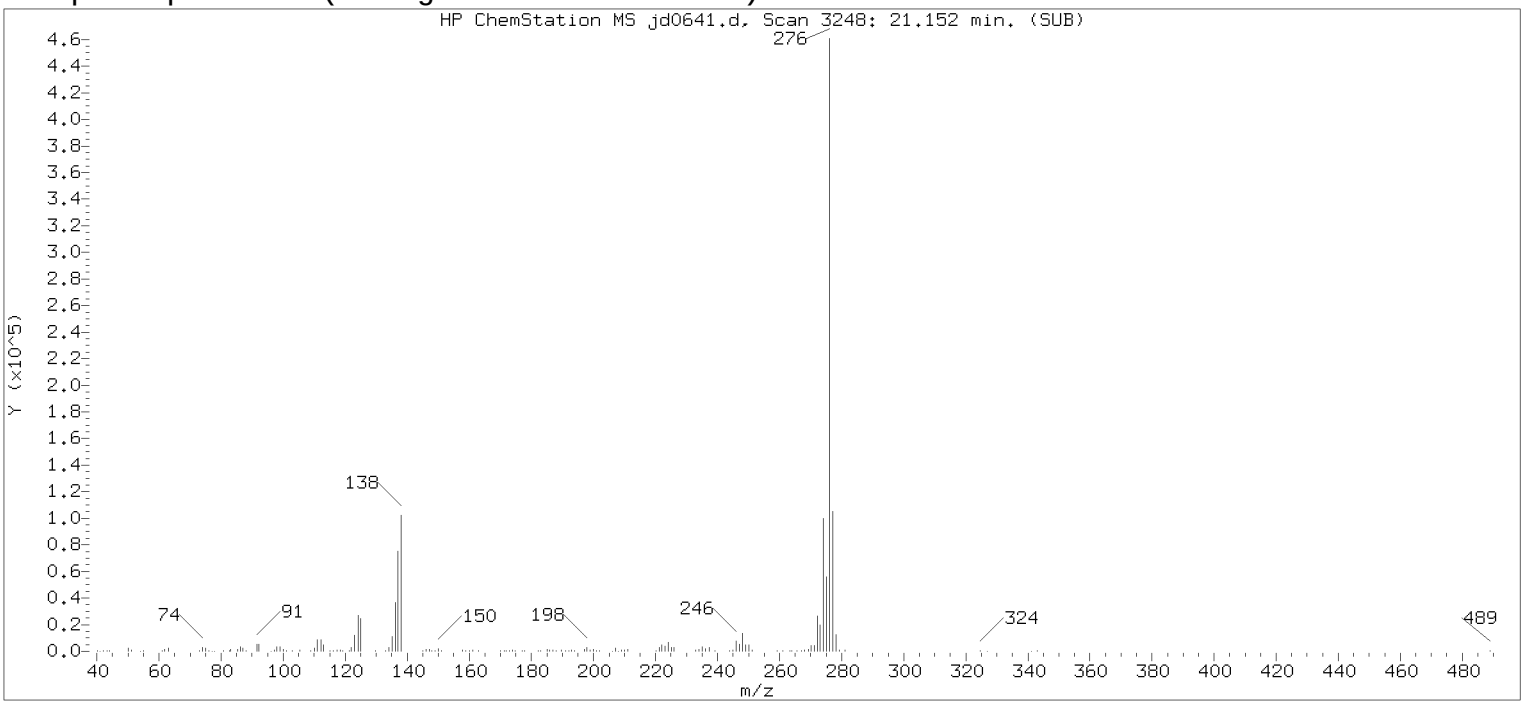
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3248
Retention Time (minutes) : 21.152
Quant Ion : 276.00
Area (flag) : 692201M
On-Column Amount (ng/ul) : 8.0516
Integration start scan : 3240 Integration stop scan: 3252
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

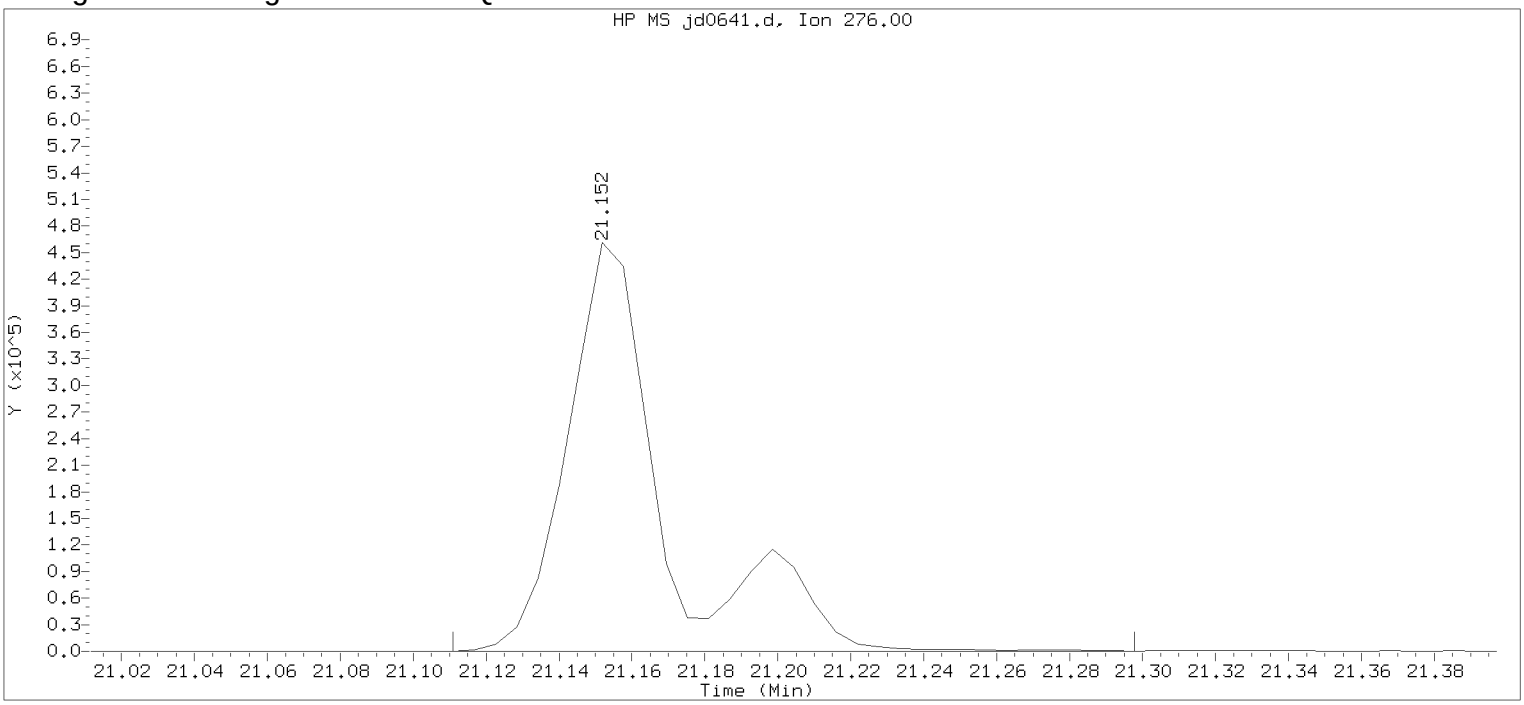
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 16:38.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/18/2018 at 14:26.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr15.b/jd0641.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 15:56 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 16:22
Date, time and analyst ID of latest file update: 15-Apr-2018 16:22 Automation

Sample Name: SSTD7.5 Lab Sample ID: rvSTD0968

Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3248
Retention Time (minutes) : 21.152
Quant Ion : 276.00
Area : 854311
On-column Amount (ng/ul) : 9.9373
Integration start scan : 3240 Integration stop scan: 3272
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 16:38.
Target 3.5 esignature user id: bhs1 Page 270 of 1243

Raw QC Data

Semivolatiles by GC/MS

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP23264.i/18apr15.b/jd0642.d
Data file Sample Info. Line: SBLKWR101;SBLKWR101;1;3;BLANK;;;
Date, time and analyst ID of latest file update: 15-Apr-2018 17:41 bhs10208

Injection date and time: **15-APR-2018 17:02**
Instrument ID: **HP23264.i** Batch: **18101WAR**

Blank Data file reference: **/chem/HP23264.i/18apr15.b/jd0642.d**

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: **QC101WRM**
Calibration date and time (Last Method Edit): 15-APR-2018 16:36
Mid Level Daily Calibration Standard Reference: **/chem/HP23264.i/18apr15.b/jd0641.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
36) 1,4-Dichlorobenzene-d4	8.090(0.000)	1011	152	182416 (-4)	5.00	
76) Naphthalene-d8	9.626(0.000)	1274	136	460408 (-10)	5.00	
122) Acenaphthene-d10	11.949(0.006)	1672	164	169284 (-16)	5.00	
165) Phenanthrene-d10	13.497(0.000)	1937	188	317916 (-23)	5.00	
185) Pyrene-d10	15.225(0.000)	2233	212	349352 (-23)	5.00	
215) Perylene-d12	19.564(0.000)	2976	264	331133 (-20)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
13) 2-Fluorophenol	(1)	6.297(0.000)	112	1368335	25.241	50%		10 - 82
26) Phenol-d6	(1)	7.582(0.000)	99	1465586	19.511	39%		10 - 71
58) Nitrobenzene-d5	(2)	8.738(0.001)	82	1119838	19.385	78%		30 - 111
102) 2-Fluorobiphenyl	(3)	11.114(0.000)	172	1096258	20.076	80%		39 - 105
147) 2,4,6-Tribromophenol	(3)	12.767(0.000)	330	311369	41.503	83%		21 - 134
192) Terphenyl-d14	(5)	15.517(0.000)	244	1393644	23.525	94%		27 - 116

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
24) Benzaldehyde	(1)			Not Detected					0.3
27) Phenol	(1)			Not Detected					0.1
31) bis(2-Chloroethyl)ether	(1)			Not Detected					0.1
32) 2-Chlorophenol	(1)			Not Detected					0.1
34) 1,3-Dichlorobenzene	(1)			Not Detected					0.1
38) 1,4-Dichlorobenzene	(1)			Not Detected					0.1
41) 1,2-Dichlorobenzene	(1)			Not Detected					0.1
44) 2-Methylphenol	(1)			Not Detected					0.1
47) 2,2'-oxybis(1-Chloropropane)	(1)			Not Detected					0.1
52) Acetophenone	(1)			Not Detected					0.1
53) 4-Methylphenol	(1)			Not Detected					0.1
54) N-Nitroso-di-n-propylamine	(1)			Not Detected					0.1
57) Hexachloroethane	(1)			Not Detected					0.3
59) Nitrobenzene	(2)			Not Detected					0.1
63) Isophorone	(2)			Not Detected					0.1
64) 2-Nitrophenol	(2)			Not Detected					0.1
65) 2,4-Dimethylphenol	(2)			Not Detected					0.1
68) bis(2-Chloroethoxy)methane	(2)			Not Detected					0.1
70) 2,4-Dichlorophenol	(2)			Not Detected					0.1
72) 1,2,4-Trichlorobenzene	(2)			Not Detected					0.1
78) Naphthalene	(2)			Not Detected					0.03
79) 4-Chloroaniline	(2)			Not Detected					0.5
83) Hexachlorobutadiene	(2)			Not Detected					0.1
86) Caprolactam	(2)			Not Detected					1
89) 4-Chloro-3-methylphenol	(2)			Not Detected					0.1
91) 2-Methylnaphthalene	(2)			Not Detected					0.03
92) 1-Methylnaphthalene	(2)			Not Detected					0.03

Digitally signed by Brandon H. Smith on 04/16/2018 at 07:31. Target 3.5 esignature user ID: bhs10208

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP23264.i/18apr15.b/jd0642.d
Injection date and time: **15-APR-2018 17:02**
Data file Sample Info. Line: SBLKWR101;SBLKWR101;1;3;BLANK;;;
Instrument ID: **HP23264.i** Batch: **18101WAR**
Date, time and analyst ID of latest file update: 15-Apr-2018 17:41 bhs10208

Blank Data file reference: **/chem/HP23264.i/18apr15.b/jd0642.d**

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: **QC101WRM**
Calibration date and time (Last Method Edit): 15-APR-2018 16:36
Mid Level Daily Calibration Standard Reference: **/chem/HP23264.i/18apr15.b/jd0641.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
95) Hexachlorocyclopentadiene	(3)			Not Detected					1
96) 1,2,4,5-Tetrachlorobenzene	(3)			Not Detected					0.1
98) 2,4,6-Trichlorophenol	(3)			Not Detected					0.1
100) 2,4,5-Trichlorophenol	(3)			Not Detected					0.1
105) 1,1'-Biphenyl	(3)			Not Detected					0.1
107) 2-Chloronaphthalene	(3)			Not Detected					0.1
110) 2-Nitroaniline	(3)			Not Detected					0.1
114) Dimethylphthalate	(3)			Not Detected					0.5
117) 2,6-Dinitrotoluene	(3)			Not Detected					0.1
118) Acenaphthylene	(3)			Not Detected					0.03
120) 3-Nitroaniline	(3)			Not Detected					0.1
123) Acenaphthene	(3)			Not Detected					0.03
125) 2,4-Dinitrophenol	(3)			Not Detected					3
126) 4-Nitrophenol	(3)			Not Detected					3
128) 2,4-Dinitrotoluene	(3)			Not Detected					0.3
129) Dibenzofuran	(3)			Not Detected					0.1
136) Diethylphthalate	(3)			Not Detected					0.5
139) Fluorene	(3)			Not Detected					0.03
141) 4-Chlorophenyl-phenylether	(3)			Not Detected					0.1
142) 4-Nitroaniline	(3)			Not Detected					0.1
143) 4,6-Dinitro-2-methylphenol	(4)			Not Detected					1
144) N-Nitrosodiphenylamine	(4)			Not Detected					0.1
153) 4-Bromophenyl-phenylether	(4)			Not Detected					0.1
155) Hexachlorobenzene	(4)			Not Detected					0.03
157) Atrazine	(4)			Not Detected					0.5
160) Pentachlorophenol	(4)			Not Detected					0.3
167) Phenanthrene	(4)			Not Detected					0.03
168) Anthracene	(4)			Not Detected					0.03
169) Carbazole	(4)			Not Detected					0.1
174) Di-n-butylphthalate	(4)			Not Detected					0.5
183) Fluoranthene	(4)			Not Detected					0.03
187) Pyrene	(5)			Not Detected					0.03
198) Butylbenzylphthalate	(5)			Not Detected					0.5
202) 3,3'-Dichlorobenzidine	(5)			Not Detected					0.5
201) Benzo(a)anthracene	(5)			Not Detected					0.03
206) Chrysene	(5)			Not Detected					0.03
207) bis(2-Ethylhexyl)phthalate	(5)			Not Detected					0.5
209) Di-n-octylphthalate	(6)			Not Detected					0.5
210) Benzo(b)fluoranthene	(6)			Not Detected					0.03
212) Benzo(k)fluoranthene	(6)			Not Detected					0.03
214) Benzo(a)pyrene	(6)			Not Detected					0.03
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

Digitally signed by Brandon H. Smith on 04/16/2018 at 07:31. Target 3.5 esignature user ID: bhs10208

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP23264.i/18apr15.b/jd0642.d
Injection date and time: **15-APR-2018 17:02**
Data file Sample Info. Line: SBLKWR101;SBLKWR101;1;3;BLANK;;;
Instrument ID: **HP23264.i** Batch: **18101WAR**
Date, time and analyst ID of latest file update: 15-Apr-2018 17:41 bhs10208

Blank Data file reference: **/chem/HP23264.i/18apr15.b/jd0642.d**

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: **QC101WRM**
Calibration date and time (Last Method Edit): 15-APR-2018 16:36
Mid Level Daily Calibration Standard Reference: **/chem/HP23264.i/18apr15.b/jd0641.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

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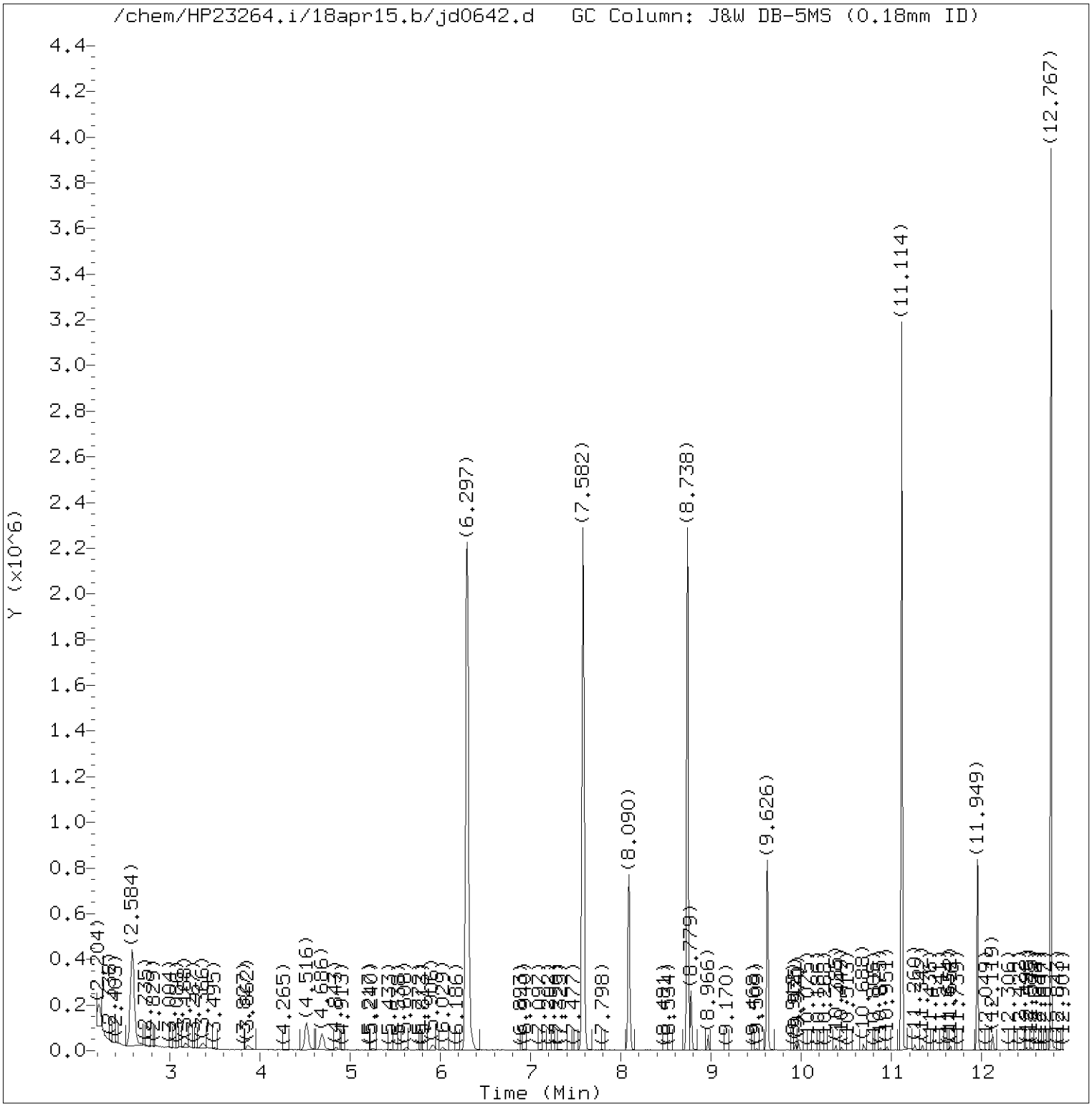
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 71

Digitally signed by Brandon H. Smith on 04/16/2018 at 07:31. Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/18/2018 at 14:26. PARALLAX ID: cam01237



Total Ion Chromatogram (TIC)

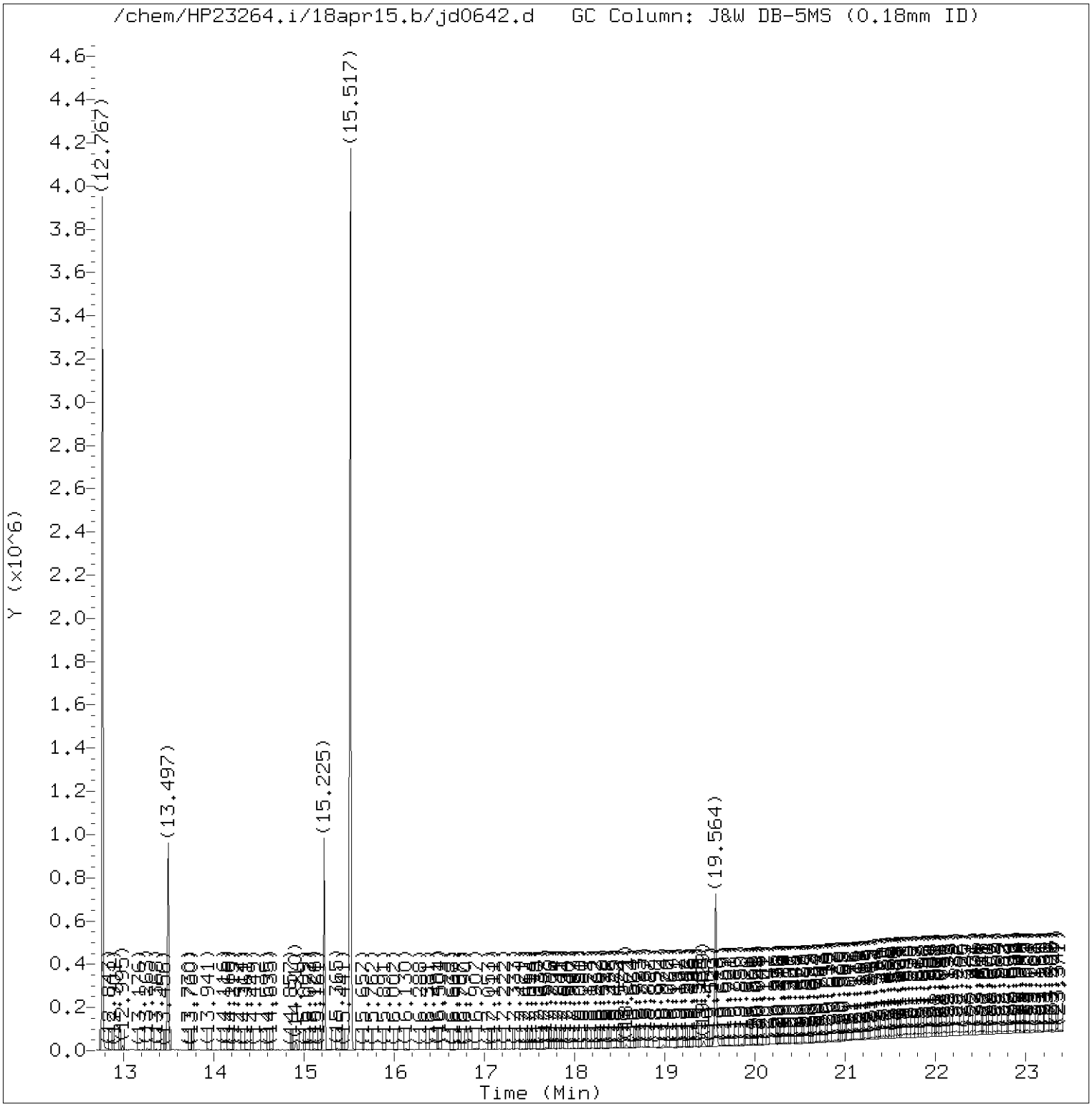
Target Revision 3.5

Data File: /chem/HP23264.i/18apr15.b/jd0642.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 17:02 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: QC101WRM
Calibration date and time: 15-APR-2018 16:36
Date, time and analyst ID of latest file update: 15-Apr-2018 17:41 bhs10208

Sample Name: SBLKWR101 Lab Sample ID: SBLKWR101

Digitally signed by Brandon H. Smith
on 04/16/2018 at 07:31.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP23264.i/18apr15.b/jd0642.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 17:02 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: QC101WRM
Calibration date and time: 15-APR-2018 16:36
Date, time and analyst ID of latest file update: 15-Apr-2018 17:41 bhs10208

Sample Name: SBLKWR101 Lab Sample ID: SBLKWR101

Digitally signed by Brandon H. Smith
on 04/16/2018 at 07:31.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr15.b/jd0642.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 17:02 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: QC101WRM
Calibration date and time: 15-APR-2018 16:36
Date, time and analyst ID of latest file update: 15-Apr-2018 17:41 bhs10208

Sample Name: SBLKWR101 Lab Sample ID: SBLKWR101

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
13)$2-Fluorophenol	(1)	6.297	112	1368335	25.241
26)$Phenol-d6	(1)	7.582	99	1465586	19.511
36)*1,4-Dichlorobenzene-d4	(1)	8.090	152	182416	5.000
58)$Nitrobenzene-d5	(2)	8.738	82	1119838	19.385
76)*Naphthalene-d8	(2)	9.626	136	460408	5.000
102)$2-Fluorobiphenyl	(3)	11.114	172	1096258	20.076
122)*Acenaphthene-d10	(3)	11.949	164	169284	5.000
147)$2,4,6-Tribromophenol	(3)	12.767	330	311369	41.503
165)*Phenanthrene-d10	(4)	13.497	188	317916	5.000
185)*Pyrene-d10	(5)	15.225	212	349352	5.000
192)$Terphenyl-d14	(5)	15.517	244	1393644	23.525
215)*Perylene-d12	(6)	19.564	264	331133	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/16/2018 at 07:31.
Target 3.5 esignature user ID: bhs10208

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

SBLKWE106

Data file: /chem/HP18831.i/18apr17.b/hd0755.d
Data file Sample Info. Line: SBLKWE106;SBLKWE106;1;3;BLANK;;;
Date, time and analyst ID of latest file update: 17-Apr-2018 15:19 bkc25363

Injection date and time: **17-APR-2018 08:49**
Instrument ID: **HP18831.i** Batch: **18106WAE**

Blank Data file reference: **/chem/HP18831.i/18apr17.b/hd0755.d**

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: **QC106WEM**
Calibration date and time (Last Method Edit): 17-APR-2018 07:01
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/18apr17.b/hd0751.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
26) 1,4-Dichlorobenzene-d4	6.019(0.000)	872	152	143464 (-18)	5.00	
67) Naphthalene-d8	7.960(0.000)	1205	136	526242 (-19)	5.00	
119) Acenaphthene-d10	10.729(0.000)	1680	164	255731 (-23)	5.00	
160) Phenanthrene-d10	12.728(0.006)	2023	188	525287 (-21)	5.00	
183) Pyrene-d10	14.529(0.006)	2332	212	538665 (-24)	5.00	
221) Perylene-d12	18.842(0.000)	3072	264	571177 (-22)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
12) 2-Fluorophenol	(1)	4.096(0.001)	112	911902	23.170	46%		10 - 82
18) Phenol-d6	(1)	5.559(0.000)	99	878939	16.825	34%		10 - 71
45) Nitrobenzene-d5	(2)	6.870(0.000)	82	915455	19.788	79%		30 - 111
97) 2-Fluorobiphenyl	(3)	9.715(0.000)	172	1536378	18.186	73%		39 - 105
141) 2,4,6-Tribromophenol	(3)	11.930(0.000)	330	522341	46.936	94%		21 - 134
187) Terphenyl-d14	(5)	14.850(0.000)	244	2261582	23.825	95%		27 - 116

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
17) Benzaldehyde	(1)			Not Detected					0.3
19) Phenol	(1)			Not Detected					0.1
23) bis(2-Chloroethyl)ether	(1)			Not Detected					0.1
24) 2-Chlorophenol	(1)			Not Detected					0.1
25) 1,3-Dichlorobenzene	(1)			Not Detected					0.1
27) 1,4-Dichlorobenzene	(1)			Not Detected					0.1
29) 1,2-Dichlorobenzene	(1)			Not Detected					0.1
32) 2-Methylphenol	(1)			Not Detected					0.1
34) 2,2'-oxybis(1-Chloropropane)	(1)			Not Detected					0.1
37) Acetophenone	(1)			Not Detected					0.1
38) 4-Methylphenol	(1)			Not Detected					0.1
39) N-Nitroso-di-n-propylamine	(1)			Not Detected					0.1
44) Hexachloroethane	(1)			Not Detected					0.3
46) Nitrobenzene	(2)			Not Detected					0.1
52) Isophorone	(2)			Not Detected					0.1
53) 2-Nitrophenol	(2)			Not Detected					0.1
55) 2,4-Dimethylphenol	(2)			Not Detected					0.1
58) bis(2-Chloroethoxy)methane	(2)			Not Detected					0.1
62) 2,4-Dichlorophenol	(2)			Not Detected					0.1
64) 1,2,4-Trichlorobenzene	(2)			Not Detected					0.1
69) Naphthalene	(2)			Not Detected					0.03
70) 4-Chloroaniline	(2)			Not Detected					0.5
74) Hexachlorobutadiene	(2)			Not Detected					0.1
79) Caprolactam	(2)			Not Detected					1
83) 4-Chloro-3-methylphenol	(2)			Not Detected					0.1
86) 2-Methylnaphthalene	(2)			Not Detected					0.03
87) 1-Methylnaphthalene	(2)			Not Detected					0.03

Digitally signed by Brandon K. Cordova on 04/17/2018 at 15:21. Target 3.5 esignature user ID: bkc25363

Data file: /chem/HP18831.i/18apr17.b/hd0755.d Injection date and time: **17-APR-2018 08:49**
Data file Sample Info. Line: SBLKWE106;SBLKWE106;1;3;BLANK;;; Instrument ID: **HP18831.i** Batch: **18106WAE**
Date, time and analyst ID of latest file update: 17-Apr-2018 15:19 bkc25363

Blank Data file reference: **/chem/HP18831.i/18apr17.b/hd0755.d**

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: **QC106WEM**
Calibration date and time (Last Method Edit): 17-APR-2018 07:01
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/18apr17.b/hd0751.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
88) Hexachlorocyclopentadiene	(3)			Not Detected					1
89) 1,2,4,5-Tetrachlorobenzene	(3)			Not Detected					0.1
94) 2,4,6-Trichlorophenol	(3)			Not Detected					0.1
96) 2,4,5-Trichlorophenol	(3)			Not Detected					0.1
99) 1,1'-Biphenyl	(3)			Not Detected					0.1
100) 2-Chloronaphthalene	(3)			Not Detected					0.1
105) 2-Nitroaniline	(3)			Not Detected					0.1
111) Dimethylphthalate	(3)			Not Detected					0.5
114) 2,6-Dinitrotoluene	(3)			Not Detected					0.1
115) Acenaphthylene	(3)			Not Detected					0.03
118) 3-Nitroaniline	(3)			Not Detected					0.1
120) Acenaphthene	(3)			Not Detected					0.03
121) 2,4-Dinitrophenol	(3)			Not Detected					3
122) 4-Nitrophenol	(3)			Not Detected					3
124) 2,4-Dinitrotoluene	(3)			Not Detected					0.3
125) Dibenzofuran	(3)			Not Detected					0.1
130) Diethylphthalate	(3)			Not Detected					0.5
132) Fluorene	(3)			Not Detected					0.03
133) 4-Chlorophenyl-phenylether	(3)			Not Detected					0.1
135) 4-Nitroaniline	(3)			Not Detected					0.1
136) 4,6-Dinitro-2-methylphenol	(4)			Not Detected					1
137) N-Nitrosodiphenylamine	(4)			Not Detected					0.1
149) 4-Bromophenyl-phenylether	(4)			Not Detected					0.1
151) Hexachlorobenzene	(4)			Not Detected					0.03
154) Atrazine	(4)			Not Detected					0.5
156) Pentachlorophenol	(4)			Not Detected					0.3
162) Phenanthrene	(4)			Not Detected					0.03
164) Anthracene	(4)			Not Detected					0.03
170) Carbazole	(4)			Not Detected					0.1
173) Di-n-butylphthalate	(4)			Not Detected					0.5
181) Fluoranthene	(4)			Not Detected					0.03
185) Pyrene	(5)			Not Detected					0.03
196) Butylbenzylphthalate	(5)			Not Detected					0.5
201) 3,3'-Dichlorobenzidine	(5)			Not Detected					0.5
204) Benzo(a)anthracene	(5)			Not Detected					0.03
205) Chrysene	(5)			Not Detected					0.03
207) bis(2-Ethylhexyl)phthalate	(5)			Not Detected					0.5
213) Di-n-octylphthalate	(6)			Not Detected					0.5
214) Benzo(b)fluoranthene	(6)			Not Detected					0.03
216) Benzo(k)fluoranthene	(6)			Not Detected					0.03
219) Benzo(a)pyrene	(6)			Not Detected					0.03
227) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
228) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
229) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

Digitally signed by Brandon K. Cordova on 04/17/2018 at 15:21. Target 3.5 esignature user ID: bkc25363

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP18831.i/18apr17.b/hd0755.d
Injection date and time: **17-APR-2018 08:49**
Data file Sample Info. Line: SBLKWE106;SBLKWE106;1;3;BLANK;;;
Instrument ID: **HP18831.i** Batch: **18106WAE**
Date, time and analyst ID of latest file update: 17-Apr-2018 15:19 bkc25363

Blank Data file reference: **/chem/HP18831.i/18apr17.b/hd0755.d**

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: **QC106WEM**
Calibration date and time (Last Method Edit): 17-APR-2018 07:01
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/18apr17.b/hd0751.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

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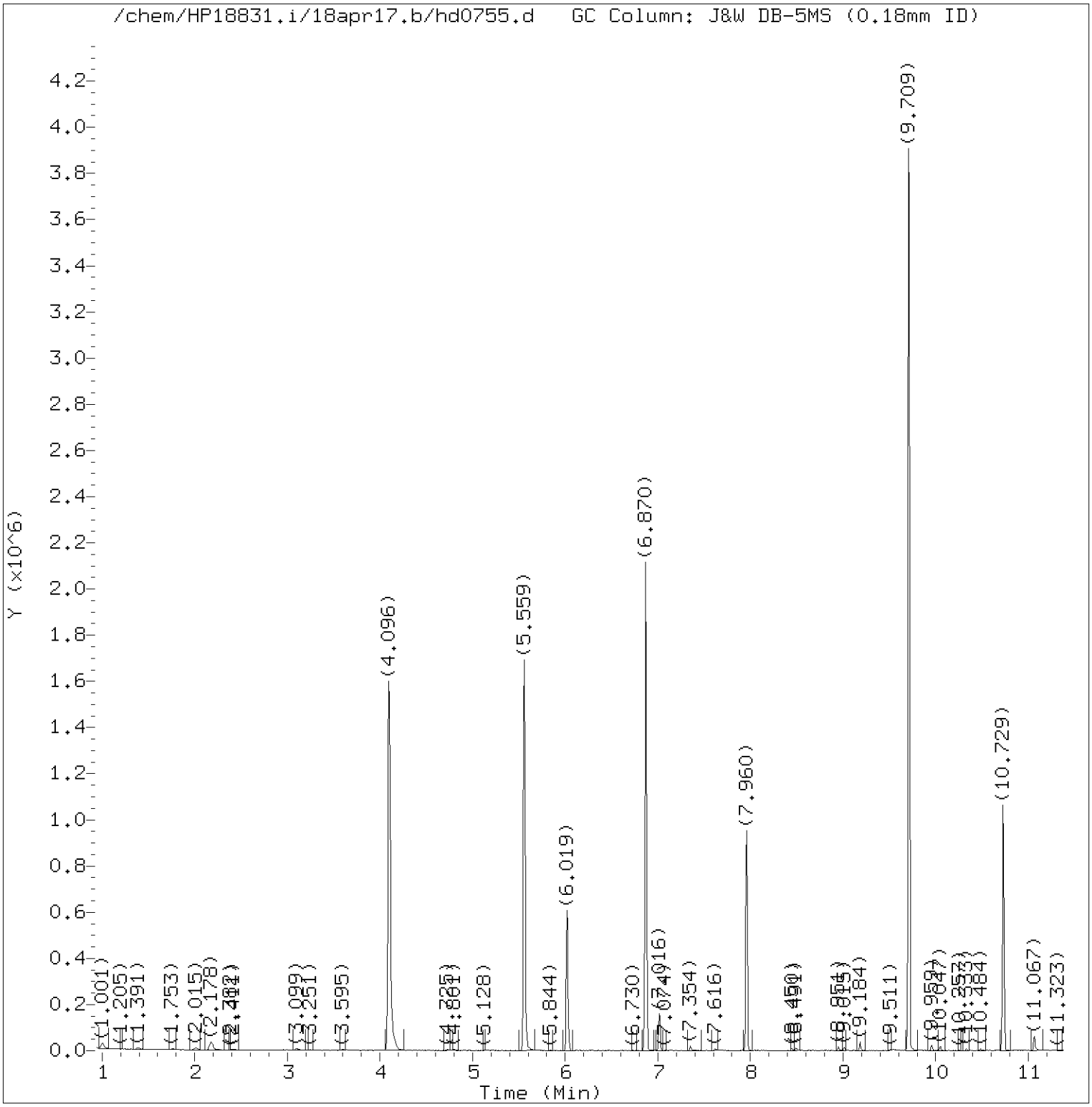
Total number of targets = 71

Digitally signed by Brandon K. Cordova on 04/17/2018 at 15:21. Target 3.5 esignature user ID: bkc25363

Secondary review performed and digitally signed by Matthew E. Barton on 04/18/2018 at 19:16. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

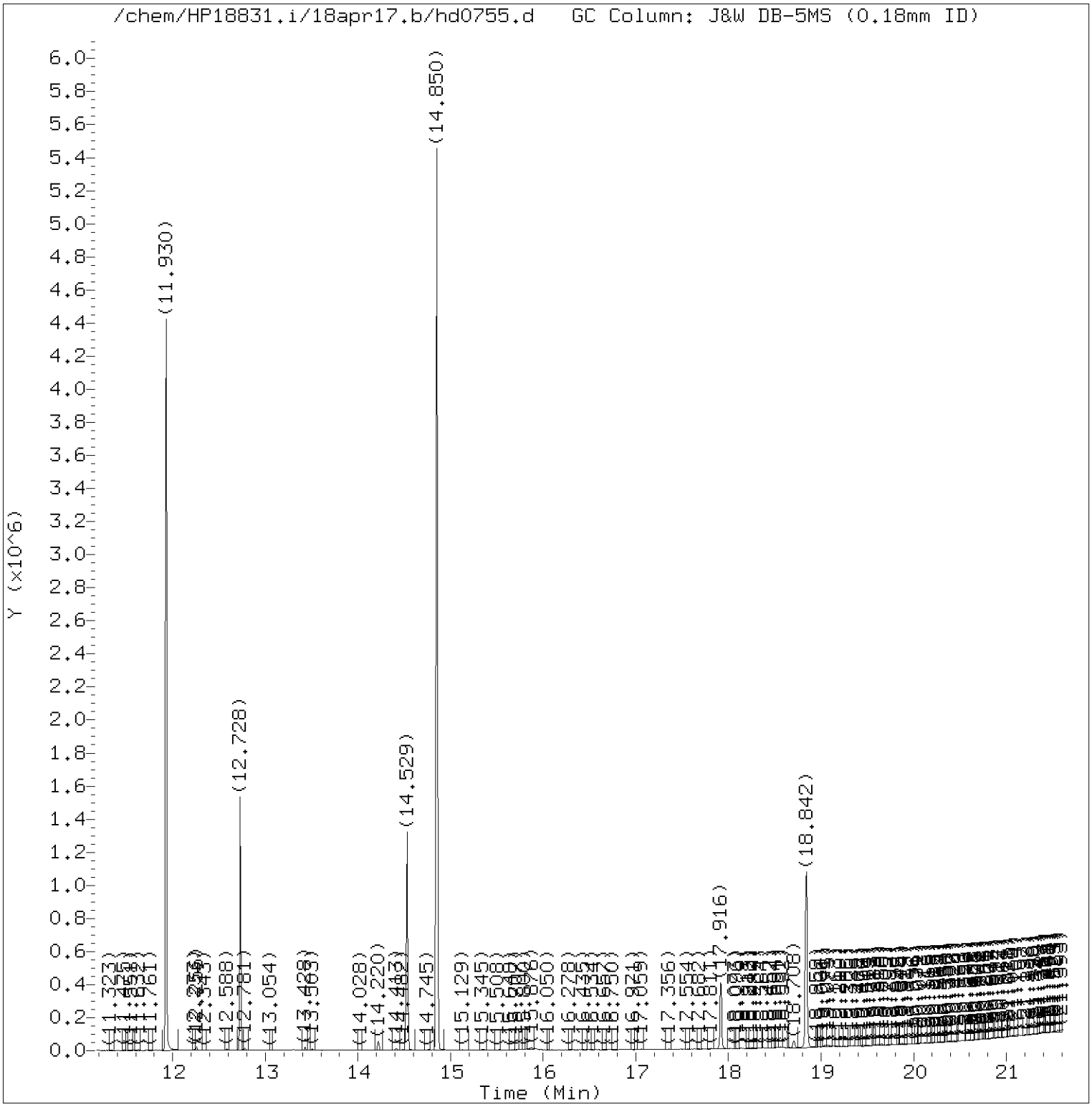
Target Revision 3.5

Data File: /chem/HP18831.i/18apr17.b/hd0755.d Instrument ID: HP18831.i
Injection date and time: 17-APR-2018 08:49 Analyst ID: bhs10208

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: QC106WEM
Calibration date and time: 17-APR-2018 07:01
Date, time and analyst ID of latest file update: 17-Apr-2018 15:19 bkc25363

Sample Name: SBLKWE106 Lab Sample ID: SBLKWE106

Digitally signed by Brandon K. Cordova
on 04/17/2018 at 15:21.
Target 3.5 esignature user ID: bkc25363



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/18apr17.b/hd0755.d Instrument ID: HP18831.i
Injection date and time: 17-APR-2018 08:49 Analyst ID: bhs10208

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: QC106WEM
Calibration date and time: 17-APR-2018 07:01
Date, time and analyst ID of latest file update: 17-Apr-2018 15:19 bkc25363

Sample Name: SBLKWE106 Lab Sample ID: SBLKWE106

Digitally signed by Brandon K. Cordova
on 04/17/2018 at 15:21.
Target 3.5 esignature user ID: bkc25363

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr17.b/hd0755.d Instrument ID: HP18831.i
Injection date and time: 17-APR-2018 08:49 Analyst ID: bhs10208

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: QC106WEM
Calibration date and time: 17-APR-2018 07:01
Date, time and analyst ID of latest file update: 17-Apr-2018 15:19 bkc25363

Sample Name: SBLKWE106 Lab Sample ID: SBLKWE106

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
12)$2-Fluorophenol	(1)	4.096	112	911902	23.170
18)$Phenol-d6	(1)	5.559	99	878939	16.825
26)*1,4-Dichlorobenzene-d4	(1)	6.019	152	143464	5.000
45)$Nitrobenzene-d5	(2)	6.870	82	915455	19.788
67)*Naphthalene-d8	(2)	7.960	136	526242	5.000
97)$2-Fluorobiphenyl	(3)	9.715	172	1536378	18.186
119)*Acenaphthene-d10	(3)	10.729	164	255731	5.000
141)$2,4,6-Tribromophenol	(3)	11.930	330	522341	46.936
160)*Phenanthrene-d10	(4)	12.728	188	525287	5.000
183)*Pyrene-d10	(5)	14.529	212	538665	5.000
187)$Terphenyl-d14	(5)	14.850	244	2261582	23.825
221)*Perylene-d12	(6)	18.842	264	571177	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon K. Cordova
on 04/17/2018 at 15:21.
Target 3.5 esignature user ID: bkc25363

T8101MS

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

9548790

Data file: /chem/HP23264.i/18apr15.b/jd0645.d
Data file Sample Info. Line: T8101MS;9548790;1;3;MS;;;
Date, time and analyst ID of latest file update: 18-Apr-2018 16:30 bkc25363

Injection date and time: **15-APR-2018 18:33**
Instrument ID: **HP23264.i** Batch: **18101WAR**

Blank Data file reference: **/chem/HP23264.i/18apr15.b/jd0642.d**

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: **20639M**
Calibration date and time (Last Method Edit): 18-APR-2018 16:26
Mid Level Daily Calibration Standard Reference: **/chem/HP23264.i/18apr15.b/jd0641.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 249 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
36) 1,4-Dichlorobenzene-d4	8.090(0.000)	1011	152	173362 (-9)	5.00	
76) Naphthalene-d8	9.626(0.000)	1274	136	463767 (-10)	5.00	
122) Acenaphthene-d10	11.955(0.000)	1673	164	190688 (-6)	5.00	
165) Phenanthrene-d10	13.497(0.000)	1937	188	358926 (-13)	5.00	
185) Pyrene-d10	15.225(0.000)	2233	212	387038 (-15)	5.00	
215) Perylene-d12	19.564(0.000)	2976	264	359688 (-13)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
13) 2-Fluorophenol	(1)			Not Detected		0%	*	10 - 82
26) Phenol-d6	(1)			Not Detected		0%	*	10 - 71
58) Nitrobenzene-d5	(2)			Not Detected		0%	*	30 - 111
102) 2-Fluorobiphenyl	(3)			Not Detected		0%	*	39 - 105
147) 2,4,6-Tribromophenol	(3)			Not Detected		0%	*	21 - 134
192) Terphenyl-d14	(5)			Not Detected		0%	*	27 - 116

 # = Retention Time outside QC limits. * = Surrogate Standard % recovery outside QC limits.

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
27) Phenol	(1)	7.605(-0.000)	94	144977	1.898	7.62			0.1
31) bis(2-Chloroethyl)ether	(1)	7.751(-0.000)	93	637480	10.812	43.42			0.1
32) 2-Chlorophenol	(1)	7.827(-0.000)	128	225496	4.890	19.64			0.1
34) 1,3-Dichlorobenzene	(1)	8.026(-0.000)	146	502125	9.738	39.11			0.1
38) 1,4-Dichlorobenzene	(1)	8.113(0.000)	146	512264	9.320	37.43			0.1
41) 1,2-Dichlorobenzene	(1)	8.294(0.000)	146	474202	9.975	40.06			0.1
44) 2-Methylphenol	(1)	8.364(-0.000)	108	169355	4.085	16.41			0.1
47) 2,2'-oxybis(1-Chloropropane)	(1)	8.411(0.000)	45	725480	10.622	42.66			0.1
53) 4-Methylphenol	(1)	8.540(0.000)	108	138205	3.303	13.26			0.1
54) N-Nitroso-di-n-propylamine	(1)	8.557(0.000)	70	429516	11.746	47.17			0.1
57) Hexachloroethane	(1)	8.691(0.000)	117	182670	9.172	36.83			0.3
59) Nitrobenzene	(2)	8.761(-0.000)	77	613535	10.507	42.20			0.1
63) Isophorone	(2)	9.042(-0.000)	82	997868	12.075	48.49			0.1
64) 2-Nitrophenol	(2)	9.141(-0.000)	139	209194	10.776	43.28			0.1
65) 2,4-Dimethylphenol	(2)	9.176(-0.000)	107	278621	6.974	28.01			0.1
68) bis(2-Chloroethoxy)methane	(2)	9.304(-0.000)	93	512485	11.237	45.13			0.1
70) 2,4-Dichlorophenol	(2)	9.433(-0.000)	162	163167	5.061	20.33			0.1
72) 1,2,4-Trichlorobenzene	(2)	9.550(-0.000)	180	372475	10.205	40.98			0.1
78) Naphthalene	(2)	9.655(0.000)	128	998632	10.598	42.56			0.03
79) 4-Chloroaniline	(2)	9.719(0.000)	127	320396	8.192	32.90			0.5
83) Hexachlorobutadiene	(2)	9.818(0.000)	225	205051	9.269	37.22			0.1
89) 4-Chloro-3-methylphenol	(2)	10.379(0.000)	107	153928	4.679	18.79			0.1
91) 2-Methylnaphthalene	(2)	10.606(0.000)	142	590507	10.513	42.22			0.03
95) Hexachlorocyclopentadiene	(3)	10.822(-0.000)	237	446301	21.761	87.39			1
98) 2,4,6-Trichlorophenol	(3)	10.986(0.000)	196	154081	7.183	28.85			0.1
100) 2,4,5-Trichlorophenol	(3)	11.033(-0.000)	196	188378	8.460	33.98			0.1

Digitally signed by Brandon K. Cordova on 04/18/2018 at 16:31. Target 3.5 esignature user ID: bkc25363

T8101MS Lancaster Laboratories, Inc. Analysis Summary for GC/MS Semivolatiles 9548790

Data file: /chem/HP23264.i/18apr15.b/jd0645.d
Injection date and time: **15-APR-2018 18:33**
Data file Sample Info. Line: T8101MS;9548790;1;3;MS;;;
Instrument ID: **HP23264.i** Batch: **18101WAR**
Date, time and analyst ID of latest file update: 18-Apr-2018 16:30 bkc25363

Blank Data file reference: **/chem/HP23264.i/18apr15.b/jd0642.d**

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: **20639M**
Calibration date and time (Last Method Edit): 18-APR-2018 16:26
Mid Level Daily Calibration Standard Reference: **/chem/HP23264.i/18apr15.b/jd0641.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 249 ml Volume Injected (Vi): 0.5 ul

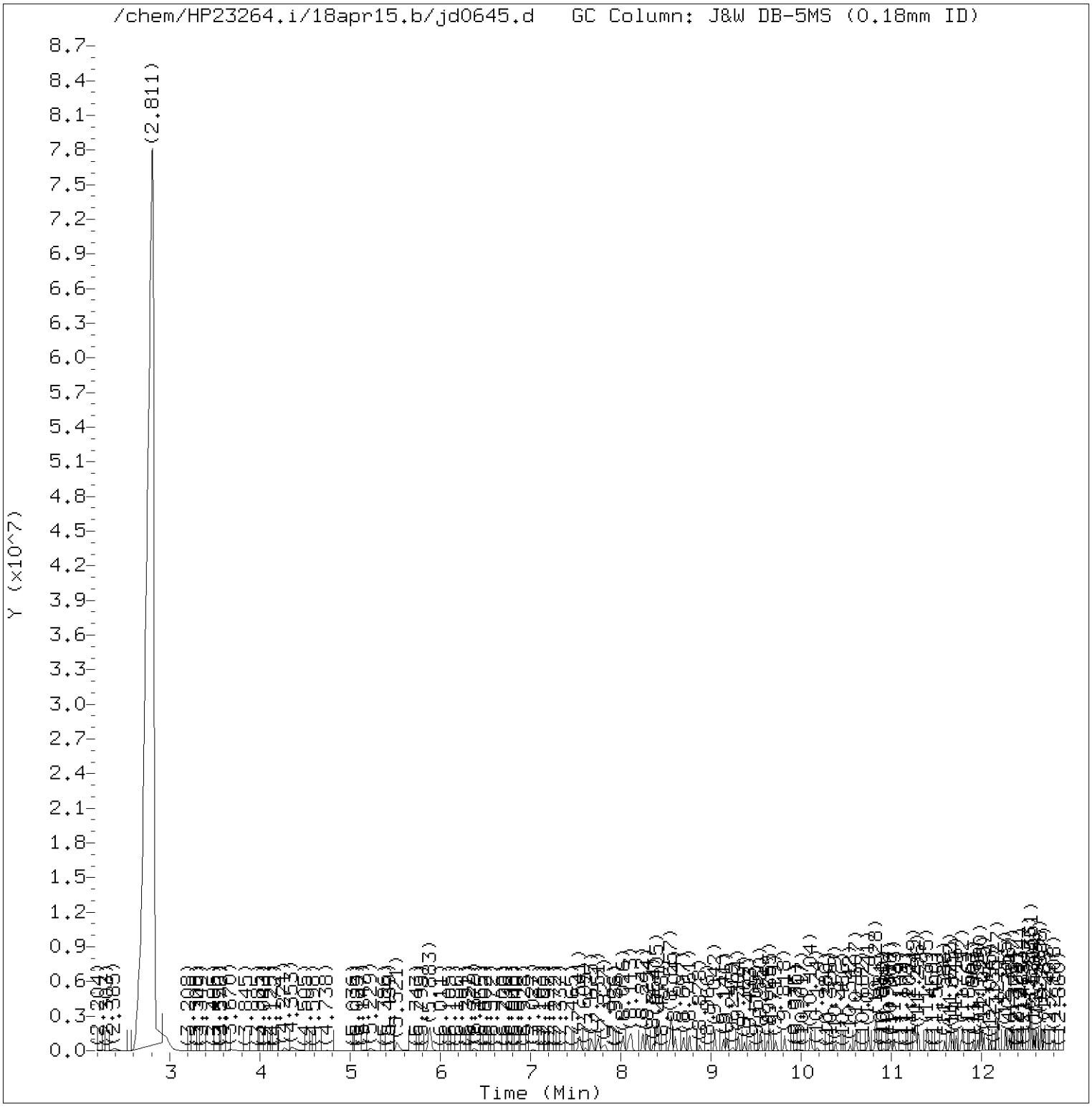
Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
107) 2-Chloronaphthalene	(3)	11.266(-0.000)	162	576217	10.321	41.45			0.1
110) 2-Nitroaniline	(3)	11.406(-0.000)	138	206045	11.932	47.92			0.1
114) Dimethylphthalate	(3)	11.652(-0.000)	163	630239	10.131	40.69			0.5
117) 2,6-Dinitrotoluene	(3)	11.716(-0.000)	165	160161	11.085	44.52			0.1
118) Acenaphthylene	(3)	11.792(-0.000)	152	889333	12.242	49.17			0.03
120) 3-Nitroaniline	(3)	11.903(-0.000)	138	143081	9.771	39.24			0.1
123) Acenaphthene	(3)	11.990(0.000)	153	550532	11.702	47.00			0.03
125) 2,4-Dinitrophenol	(3)	12.025(0.000)	184	178502	15.812	63.50			3
126) 4-Nitrophenol	(3)	12.095(-0.000)	109	101802	7.850	31.52			3
128) 2,4-Dinitrotoluene	(3)	12.171(0.000)	165	224724	11.009	44.21			0.3
129) Dibenzofuran	(3)	12.177(0.000)	168	780163	11.286	45.32			0.1
136) Diethylphthalate	(3)	12.434(0.000)	149	670641	10.783	43.31			0.5
139) Fluorene	(3)	12.528(0.000)	166	619808	11.082	44.51			0.03
141) 4-Chlorophenyl-phenylether	(3)	12.539(0.000)	204	291494	10.117	40.63			0.1
142) 4-Nitroaniline	(3)	12.551(-0.000)	138	160723	9.687	38.90			0.1
143) 4,6-Dinitro-2-methylphenol	(4)	12.580(-0.000)	198	140404	10.794	43.35			1
144) N-Nitrosodiphenylamine	(4)	12.656(-0.000)	169	546721	11.627	46.70			0.1
153) 4-Bromophenyl-phenylether	(4)	13.036(-0.000)	248	181220	10.849	43.57			0.1
155) Hexachlorobenzene	(4)	13.082(-0.000)	284	190511	11.261	45.22			0.03
160) Pentachlorophenol	(4)	13.292(-0.000)	266	108209	8.446	33.92			0.3
167) Phenanthrene	(4)	13.520(0.000)	178	911590	11.306	45.41			0.03
168) Anthracene	(4)	13.579(0.000)	178	940968	11.494	46.16			0.03
169) Carbazole	(4)	13.760(0.000)	167	916678	12.391	49.76			0.1
174) Di-n-butylphthalate	(4)	14.180(0.000)	149	1111001	11.185	44.92			0.5
183) Fluoranthene	(4)	14.939(0.000)	202	1013479	10.977	44.08			0.03
187) Pyrene	(5)	15.254(0.000)	202	1093408	11.191	44.94			0.03
198) Butylbenzylphthalate	(5)	16.323(0.000)	149	496322	10.752	43.18			0.5
202) 3,3'-Dichlorobenzidine	(5)	17.152(0.000)	252	201826	5.740	23.05			0.5
201) Benzo(a)anthracene	(5)	17.152(0.000)	228	989924	10.549	42.37			0.03
206) Chrysene	(5)	17.210(0.000)	228	956066	10.768	43.25			0.03
207) bis(2-Ethylhexyl)phthalate	(5)	17.362(-0.000)	149	665098	10.060	40.40			0.5
209) Di-n-octylphthalate	(6)	18.501(-0.000)	149	1212434	10.407	41.79			0.5
210) Benzo(b)fluoranthene	(6)	18.962(-0.000)	252	949893	10.649	42.77			0.03
212) Benzo(k)fluoranthene	(6)	19.009(-0.000)	252	900944	10.635	42.71			0.03
214) Benzo(a)pyrene	(6)	19.476(-0.000)	252	907043	10.983	44.11			0.03
219) Indeno(1,2,3-cd)pyrene	(6)	21.152(0.000)	276	787046M	10.492	42.14			0.03
220) Dibenz(a,h)anthracene	(6)	21.198(0.000)	278	801176	11.342	45.55			0.03
221) Benzo(g,h,i)perylene	(6)	21.514(-0.000)	276	855306	10.663	42.82			0.03

M = Compound was manually integrated.

Total number of targets = 64

Digitally signed by Brandon K. Cordova on 04/18/2018 at 16:31. Target 3.5 esignature user ID: bkc25363

Secondary review performed and digitally signed by Chad A. Moline on 04/19/2018 at 08:56. PARALLAX ID: cam01237



Total Ion Chromatogram (TIC)

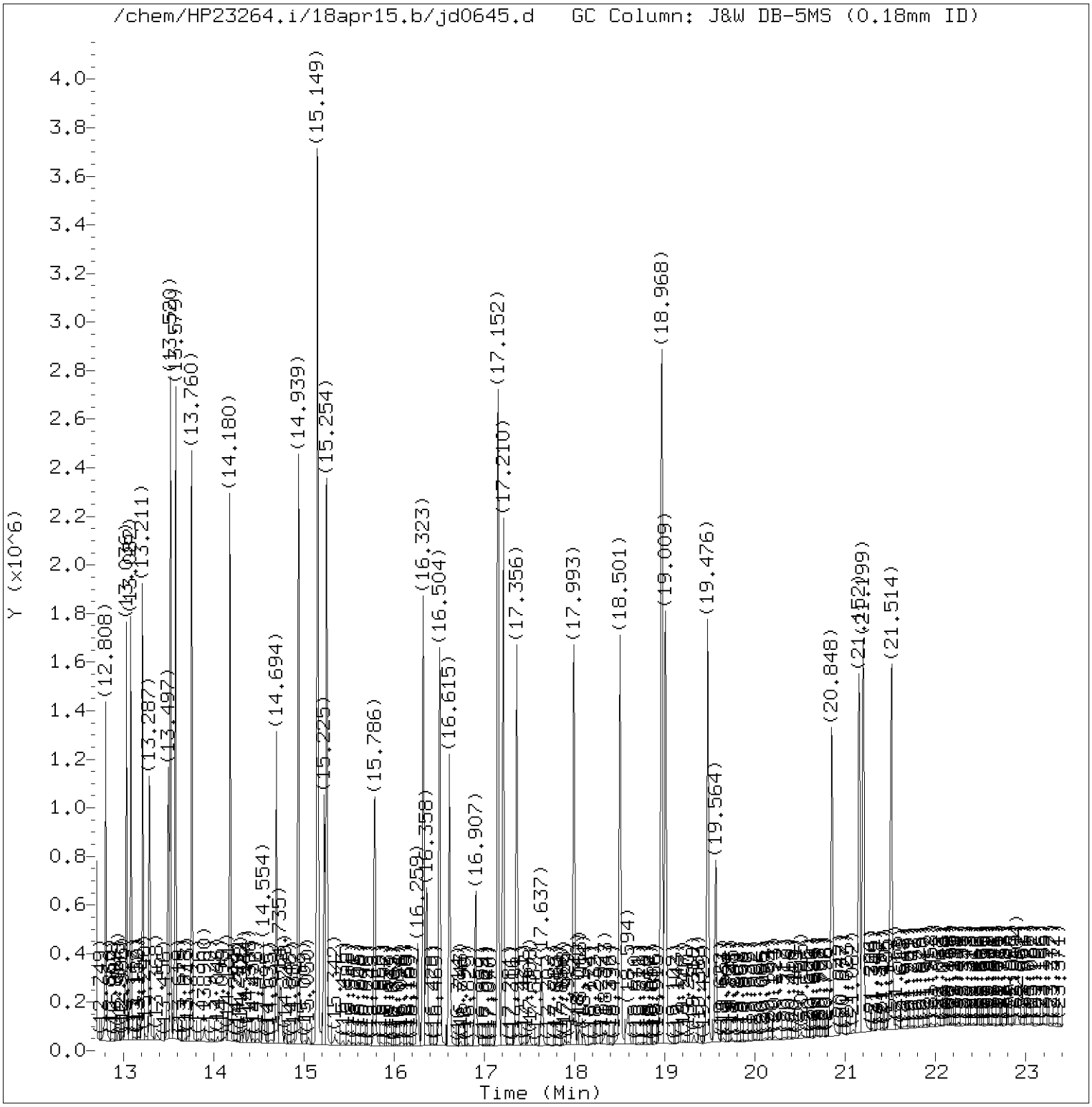
Target Revision 3.5

Data File: /chem/HP23264.i/18apr15.b/jd0645.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 18:33 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 18-APR-2018 16:26
Date, time and analyst ID of latest file update: 18-Apr-2018 16:30 bkc25363

Sample Name: T8101MS Lab Sample ID: 9548790

Digitally signed by Brandon K. Cordova
on 04/18/2018 at 16:31.
Target 3.5 esignature user ID: bkc25363



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP23264.i/18apr15.b/jd0645.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 18:33 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 18-APR-2018 16:26
Date, time and analyst ID of latest file update: 18-Apr-2018 16:30 bkc25363

Sample Name: T8101MS Lab Sample ID: 9548790

Digitally signed by Brandon K. Cordova
on 04/18/2018 at 16:31.
Target 3.5 esignature user ID: bkc25363

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr15.b/jd0645.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 18:33 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 18-APR-2018 16:26
Date, time and analyst ID of latest file update: 18-Apr-2018 16:30 bkc25363

Sample Name: T8101MS Lab Sample ID: 9548790

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
27) Phenol	(1)	7.605	94	144977	1.898
31) bis(2-Chloroethyl)ether	(1)	7.751	93	637480	10.812
32) 2-Chlorophenol	(1)	7.827	128	225496	4.890
34) 1,3-Dichlorobenzene	(1)	8.026	146	502125	9.738
36)*1,4-Dichlorobenzene-d4	(1)	8.090	152	173362	5.000
38) 1,4-Dichlorobenzene	(1)	8.113	146	512264	9.320
41) 1,2-Dichlorobenzene	(1)	8.294	146	474202	9.975
44) 2-Methylphenol	(1)	8.364	108	169355	4.085
47) 2,2'-oxybis(1-Chloropropane)	(1)	8.411	45	725480	10.622
53) 4-Methylphenol	(1)	8.540	108	138205	3.303
54) N-Nitroso-di-n-propylamine	(1)	8.557	70	429516	11.746
57) Hexachloroethane	(1)	8.691	117	182670	9.172
59) Nitrobenzene	(2)	8.761	77	613535	10.507
63) Isophorone	(2)	9.042	82	997868	12.075
64) 2-Nitrophenol	(2)	9.141	139	209194	10.776
65) 2,4-Dimethylphenol	(2)	9.176	107	278621	6.974
68) bis(2-Chloroethoxy)methane	(2)	9.304	93	512485	11.237
70) 2,4-Dichlorophenol	(2)	9.433	162	163167	5.061
72) 1,2,4-Trichlorobenzene	(2)	9.550	180	372475	10.205
76)*Naphthalene-d8	(2)	9.626	136	463767	5.000
78) Naphthalene	(2)	9.655	128	998632	10.598
79) 4-Chloroaniline	(2)	9.719	127	320396	8.192
83) Hexachlorobutadiene	(2)	9.818	225	205051	9.269
89) 4-Chloro-3-methylphenol	(2)	10.379	107	153928	4.679
91) 2-Methylnaphthalene	(2)	10.607	142	590507	10.513
95) Hexachlorocyclopentadiene	(3)	10.823	237	446301	21.761
98) 2,4,6-Trichlorophenol	(3)	10.986	196	154081	7.183
100) 2,4,5-Trichlorophenol	(3)	11.033	196	188378	8.460
107) 2-Chloronaphthalene	(3)	11.266	162	576217	10.321
110) 2-Nitroaniline	(3)	11.406	138	206045	11.932
114) Dimethylphthalate	(3)	11.652	163	630239	10.131
117) 2,6-Dinitrotoluene	(3)	11.716	165	160161	11.085
118) Acenaphthylene	(3)	11.792	152	889333	12.242
120) 3-Nitroaniline	(3)	11.903	138	143081	9.771
122)*Acenaphthene-d10	(3)	11.955	164	190688	5.000
123) Acenaphthene	(3)	11.990	153	550532	11.702
125) 2,4-Dinitrophenol	(3)	12.025	184	178502	15.812
126) 4-Nitrophenol	(3)	12.095	109	101802	7.850
128) 2,4-Dinitrotoluene	(3)	12.171	165	224724	11.009
129) Dibenzofuran	(3)	12.177	168	780163	11.286

* = Compound is an internal standard.

Digitally signed by Brandon K. Cordova
on 04/18/2018 at 16:31.
Target 3.5 esignature user ID: bkc25363

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr15.b/jd0645.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 18:33 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 18-APR-2018 16:26
Date, time and analyst ID of latest file update: 18-Apr-2018 16:30 bkc25363

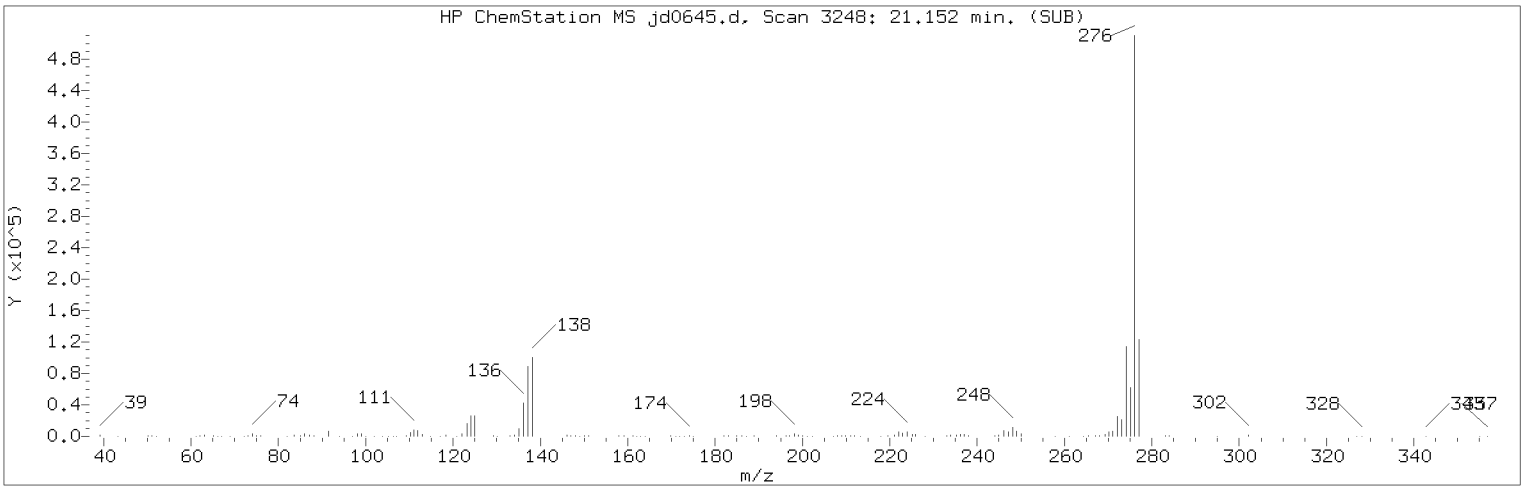
Sample Name: T8101MS Lab Sample ID: 9548790

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
136) Diethylphthalate	(3)	12.434	149	670641	10.783
139) Fluorene	(3)	12.528	166	619808	11.082
141) 4-Chlorophenyl-phenylether	(3)	12.539	204	291494	10.117
142) 4-Nitroaniline	(3)	12.551	138	160723	9.687
143) 4,6-Dinitro-2-methylphenol	(4)	12.580	198	140404	10.794
144) N-Nitrosodiphenylamine	(4)	12.656	169	546721	11.627
153) 4-Bromophenyl-phenylether	(4)	13.036	248	181220	10.849
155) Hexachlorobenzene	(4)	13.082	284	190511	11.261
160) Pentachlorophenol	(4)	13.292	266	108209	8.446
165)*Phenanthrene-d10	(4)	13.497	188	358926	5.000
167) Phenanthrene	(4)	13.520	178	911590	11.306
168) Anthracene	(4)	13.579	178	940968	11.494
169) Carbazole	(4)	13.760	167	916678	12.391
174) Di-n-butylphthalate	(4)	14.180	149	1111001	11.185
183) Fluoranthene	(4)	14.939	202	1013479	10.977
185)*Pyrene-d10	(5)	15.225	212	387038	5.000
187) Pyrene	(5)	15.254	202	1093408	11.191
198) Butylbenzylphthalate	(5)	16.323	149	496322	10.752
202) 3,3'-Dichlorobenzidine	(5)	17.152	252	201826	5.740
201) Benzo(a)anthracene	(5)	17.152	228	989924	10.549
206) Chrysene	(5)	17.210	228	956066	10.768
207) bis(2-Ethylhexyl)phthalate	(5)	17.362	149	665098	10.060
209) Di-n-octylphthalate	(6)	18.501	149	1212434	10.407
210) Benzo(b)fluoranthene	(6)	18.962	252	949893	10.649
212) Benzo(k)fluoranthene	(6)	19.009	252	900944	10.635
214) Benzo(a)pyrene	(6)	19.476	252	907043	10.983
215)*Perylene-d12	(6)	19.564	264	359688	5.000
219) Indeno(1,2,3-cd)pyrene	(6)	21.152	276	787046M	10.492
220) Dibenz(a,h)anthracene	(6)	21.199	278	801176	11.342
221) Benzo(g,h,i)perylene	(6)	21.514	276	855306	10.663

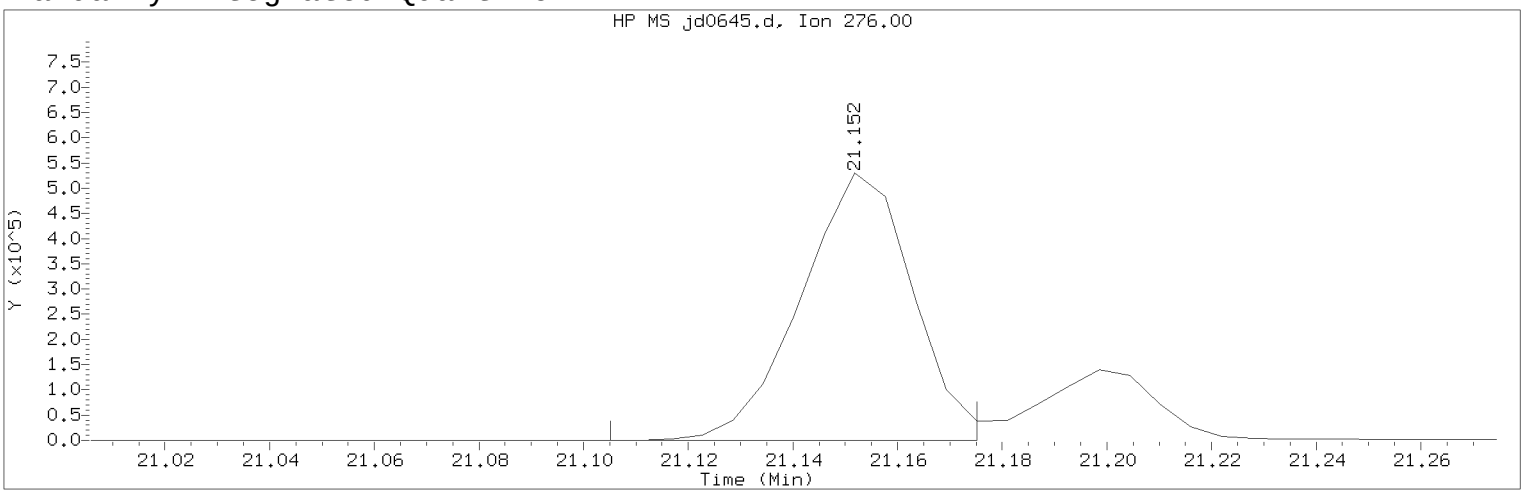
M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Brandon K. Cordova
on 04/18/2018 at 16:31.
Target 3.5 esignature user ID: bkc25363

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr15.b/jd0645.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 18:33 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 18-APR-2018 16:26
Date, time and analyst ID of latest file update: 18-Apr-2018 16:30 bkc25363

Sample Name: T8101MS Lab Sample ID: 9548790

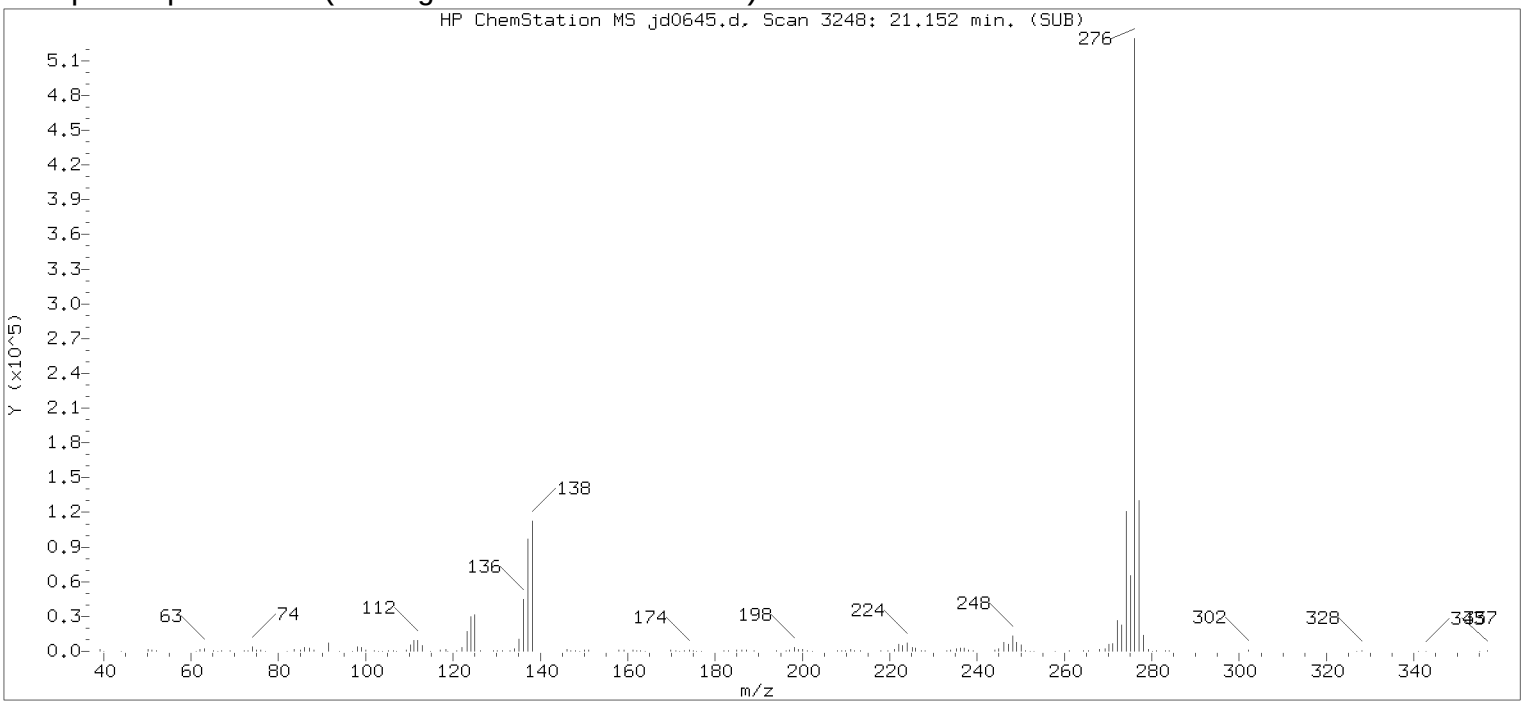
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3248
Retention Time (minutes) : 21.152
Quant Ion : 276.00
Area (flag) : 787046M
On-Column Amount (ng/ul) : 10.4921
Integration start scan : 3239 Integration stop scan: 3251
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

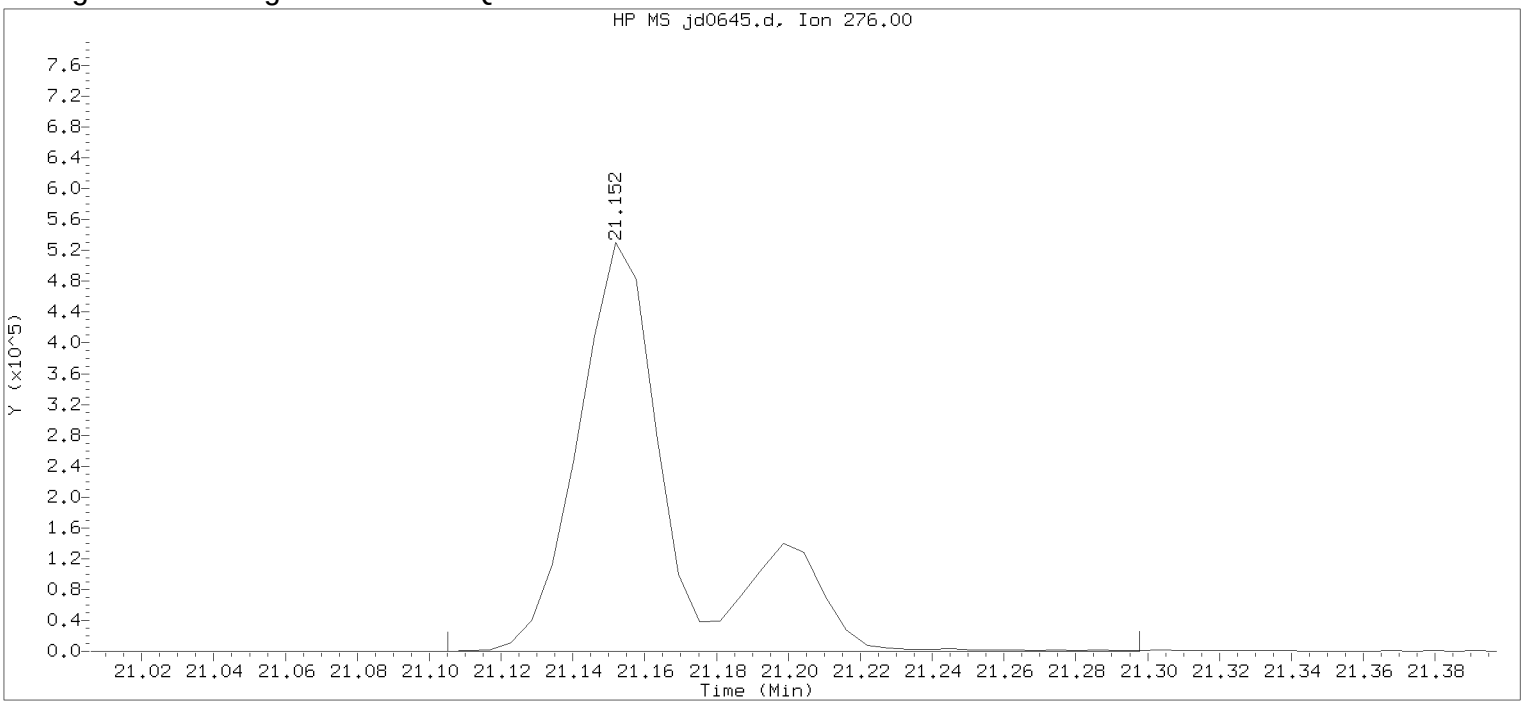
Analyst responsible for change: Digitally signed by Brandon K. Cordova on 04/18/2018 at 16:31.
Target 3.5 esignature user ID: bkc25363

Secondary review performed and digitally signed by Chad A. Moline on 04/19/2018 at 08:56.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr15.b/jd0645.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 18:33 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: QC101WRM
Calibration date and time: 17-APR-2018 11:44
Date, time and analyst ID of latest file update: 17-Apr-2018 11:52 knk25316

Sample Name: T8101MS Lab Sample ID: 9548790

Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3248
Retention Time (minutes) : 21.152
Quant Ion : 276.00
Area : 1003162
On-column Amount (ng/ul) : 13.3732
Integration start scan : 3239 Integration stop scan: 3272
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon K. Cordova on 04/18/2018 at 16:31.
Target 3.5 esignature user ID: bhs1 Page 361 of 1243

T8101MSD

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

9548791

Data file: /chem/HP23264.i/18apr15.b/jd0646.d
Data file Sample Info. Line: T8101MSD;9548791;1;3;MSD;;;
Date, time and analyst ID of latest file update: 18-Apr-2018 16:30 bkc25363

Injection date and time: **15-APR-2018 19:03**
Instrument ID: **HP23264.i** Batch: **18101WAR**

Blank Data file reference: **/chem/HP23264.i/18apr15.b/jd0642.d**

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: **20639M**
Calibration date and time (Last Method Edit): 18-APR-2018 16:26
Mid Level Daily Calibration Standard Reference: **/chem/HP23264.i/18apr15.b/jd0641.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 247 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
36) 1,4-Dichlorobenzene-d4	8.096(-0.006)	1012	152	184485 (-3)	5.00	
76) Naphthalene-d8	9.625(0.000)	1274	136	480473 (-6)	5.00	
122) Acenaphthene-d10	11.955(0.000)	1673	164	200373 (-1)	5.00	
165) Phenanthrene-d10	13.497(0.000)	1937	188	384243 (-7)	5.00	
185) Pyrene-d10	15.225(0.000)	2233	212	398262 (-12)	5.00	
215) Perylene-d12	19.564(0.000)	2976	264	381855 (-7)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
13) 2-Fluorophenol	(1)			Not Detected		0%	*	10 - 82
26) Phenol-d6	(1)			Not Detected		0%	*	10 - 71
58) Nitrobenzene-d5	(2)			Not Detected		0%	*	30 - 111
102) 2-Fluorobiphenyl	(3)			Not Detected		0%	*	39 - 105
147) 2,4,6-Tribromophenol	(3)			Not Detected		0%	*	21 - 134
192) Terphenyl-d14	(5)			Not Detected		0%	*	27 - 116

 # = Retention Time outside QC limits. * = Surrogate Standard % recovery outside QC limits.

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
27) Phenol	(1)	7.611(-0.000)	94	128899	1.585	6.42			0.1
31) bis(2-Chloroethyl)ether	(1)	7.751(-0.000)	93	669478	10.670	43.20			0.1
32) 2-Chlorophenol	(1)	7.827(-0.000)	128	213296	4.346	17.60			0.1
34) 1,3-Dichlorobenzene	(1)	8.026(-0.000)	146	465931	8.491	34.38			0.1
38) 1,4-Dichlorobenzene	(1)	8.113(0.000)	146	491929	8.430	34.13			0.1
41) 1,2-Dichlorobenzene	(1)	8.294(0.000)	146	462231	9.137	36.99			0.1
44) 2-Methylphenol	(1)	8.364(0.000)	108	185137	4.196	16.99			0.1
47) 2,2'-oxybis(1-Chloropropane)	(1)	8.411(0.000)	45	771338	10.612	42.96			0.1
53) 4-Methylphenol	(1)	8.539(0.000)	108	145894	3.276	13.26			0.1
54) N-Nitroso-di-n-propylamine	(1)	8.557(0.000)	70	454084	11.669	47.24			0.1
57) Hexachloroethane	(1)	8.697(0.000)	117	164781	7.775	31.48			0.3
59) Nitrobenzene	(2)	8.761(0.000)	77	640214	10.583	42.85			0.1
63) Isophorone	(2)	9.042(-0.000)	82	1059125	12.370	50.08			0.1
64) 2-Nitrophenol	(2)	9.141(-0.000)	139	216996	10.789	43.68			0.1
65) 2,4-Dimethylphenol	(2)	9.176(-0.000)	107	309928	7.488	30.32			0.1
68) bis(2-Chloroethoxy)methane	(2)	9.304(0.000)	93	538479	11.396	46.14			0.1
70) 2,4-Dichlorophenol	(2)	9.433(-0.000)	162	165969	4.969	20.12			0.1
72) 1,2,4-Trichlorobenzene	(2)	9.550(-0.000)	180	351926	9.307	37.68			0.1
78) Naphthalene	(2)	9.655(-0.000)	128	1011825	10.365	41.96			0.03
79) 4-Chloroaniline	(2)	9.719(-0.000)	127	338106	8.344	33.78			0.5
83) Hexachlorobutadiene	(2)	9.818(-0.000)	225	180473	7.874	31.88			0.1
89) 4-Chloro-3-methylphenol	(2)	10.379(-0.000)	107	172503	5.034	20.38			0.1
91) 2-Methylnaphthalene	(2)	10.606(-0.000)	142	607588	10.441	42.27			0.03
95) Hexachlorocyclopentadiene	(3)	10.822(0.000)	237	422660	19.612	79.40			1
98) 2,4,6-Trichlorophenol	(3)	10.986(0.000)	196	174321	7.733	31.31			0.1
100) 2,4,5-Trichlorophenol	(3)	11.033(0.000)	196	209302	8.946	36.22			0.1

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T8101MSD Lancaster Laboratories, Inc. Analysis Summary for GC/MS Semivolatiles 9548791

Data file: /chem/HP23264.i/18apr15.b/jd0646.d
Injection date and time: **15-APR-2018 19:03**
Data file Sample Info. Line: T8101MSD;9548791;1;3;MSD;;;
Instrument ID: **HP23264.i** Batch: **18101WAR**
Date, time and analyst ID of latest file update: 18-Apr-2018 16:30 bkc25363

Blank Data file reference: **/chem/HP23264.i/18apr15.b/jd0642.d**

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: **20639M**
Calibration date and time (Last Method Edit): 18-APR-2018 16:26
Mid Level Daily Calibration Standard Reference: **/chem/HP23264.i/18apr15.b/jd0641.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 247 ml Volume Injected (Vi): 0.5 ul

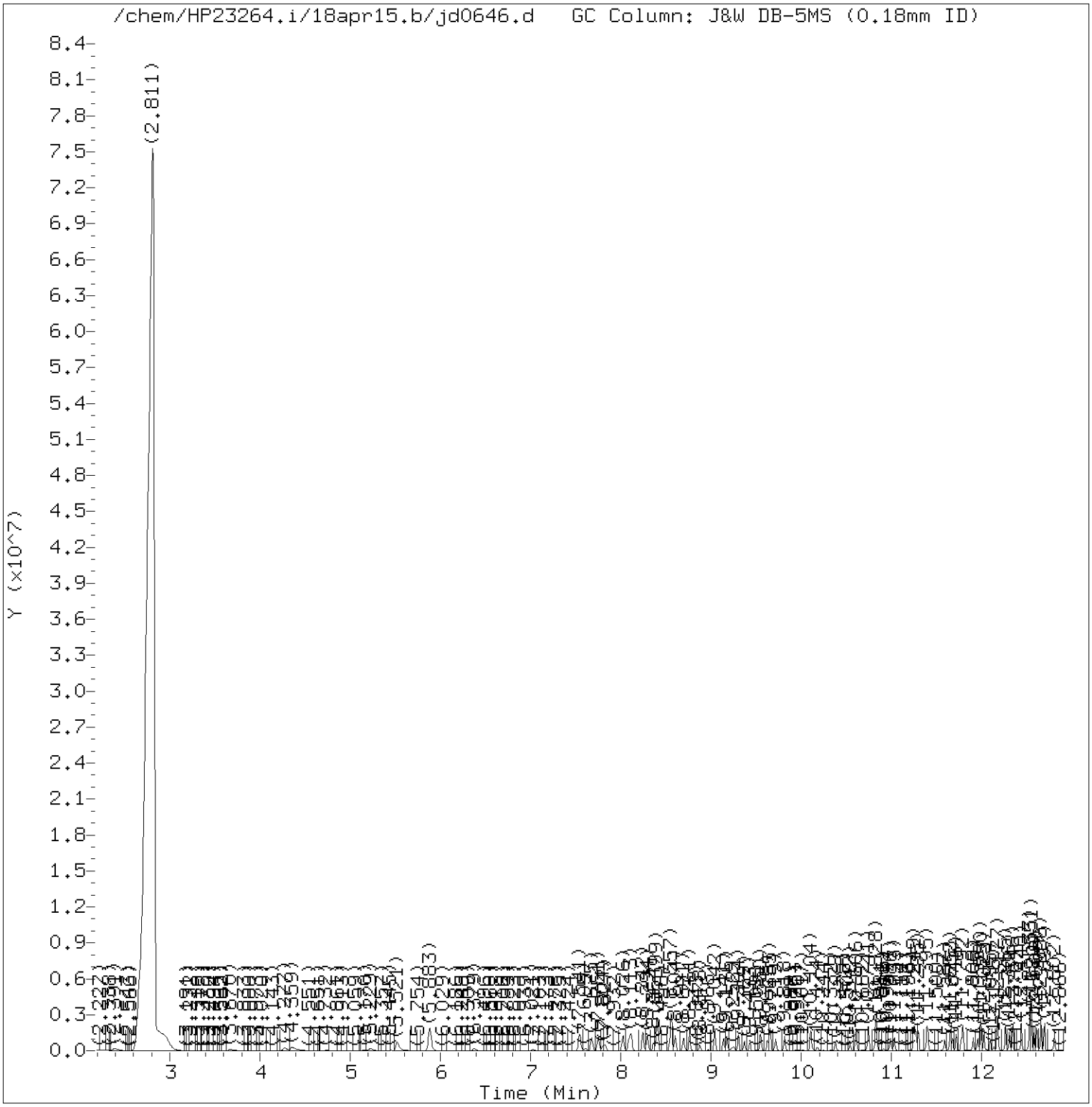
Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
107) 2-Chloronaphthalene	(3)	11.266(0.000)	162	630327	10.745	43.50			0.1
110) 2-Nitroaniline	(3)	11.406(0.000)	138	220774	12.167	49.26			0.1
114) Dimethylphthalate	(3)	11.652(0.000)	163	689741	10.551	42.72			0.5
117) 2,6-Dinitrotoluene	(3)	11.716(0.000)	165	172693	11.374	46.05			0.1
118) Acenaphthylene	(3)	11.792(0.000)	152	928394	12.162	49.24			0.03
120) 3-Nitroaniline	(3)	11.908(-0.000)	138	148702	9.664	39.13			0.1
123) Acenaphthene	(3)	11.990(-0.000)	153	585117	11.836	47.92			0.03
125) 2,4-Dinitrophenol	(3)	12.025(-0.000)	184	226261	19.074	77.22			3
126) 4-Nitrophenol	(3)	12.095(-0.000)	109	107887	7.917	32.05			3
128) 2,4-Dinitrotoluene	(3)	12.171(0.000)	165	246212	11.479	46.47			0.3
129) Dibenzofuran	(3)	12.177(-0.000)	168	831300	11.444	46.33			0.1
136) Diethylphthalate	(3)	12.434(-0.000)	149	697656	10.675	43.22			0.5
139) Fluorene	(3)	12.527(0.000)	166	671429	11.425	46.25			0.03
141) 4-Chlorophenyl-phenylether	(3)	12.539(-0.000)	204	319708	10.560	42.75			0.1
142) 4-Nitroaniline	(3)	12.551(-0.000)	138	175005	10.054	40.70			0.1
143) 4,6-Dinitro-2-methylphenol	(4)	12.580(0.000)	198	161988	11.633	47.10			1
144) N-Nitrosodiphenylamine	(4)	12.656(0.000)	169	598362	11.887	48.13			0.1
153) 4-Bromophenyl-phenylether	(4)	13.035(0.000)	248	202850	11.344	45.93			0.1
155) Hexachlorobenzene	(4)	13.082(0.000)	284	206031	11.376	46.06			0.03
160) Pentachlorophenol	(4)	13.292(0.000)	266	130419	9.509	38.50			0.3
167) Phenanthrene	(4)	13.520(0.000)	178	1027522	11.905	48.20			0.03
168) Anthracene	(4)	13.578(-0.000)	178	1012465	11.552	46.77			0.03
169) Carbazole	(4)	13.759(0.000)	167	987688	12.471	50.49			0.1
174) Di-n-butylphthalate	(4)	14.180(0.000)	149	1194100	11.230	45.46			0.5
183) Fluoranthene	(4)	14.939(-0.000)	202	1131539	11.448	46.35			0.03
187) Pyrene	(5)	15.254(-0.000)	202	1164535	11.583	46.89			0.03
198) Butylbenzylphthalate	(5)	16.323(-0.000)	149	562762	11.848	47.97			0.5
202) 3,3'-Dichlorobenzidine	(5)	17.152(-0.000)	252	232211	6.418	25.98			0.5
201) Benzo(a)anthracene	(5)	17.152(-0.000)	228	1105149	11.445	46.34			0.03
206) Chrysene	(5)	17.210(-0.000)	228	1056188	11.561	46.80			0.03
207) bis(2-Ethylhexyl)phthalate	(5)	17.356(-0.000)	149	728714	10.711	43.37			0.5
209) Di-n-octylphthalate	(6)	18.507(-0.000)	149	1368355	11.063	44.79			0.5
210) Benzo(b)fluoranthene	(6)	18.962(0.000)	252	1067777	11.276	45.65			0.03
212) Benzo(k)fluoranthene	(6)	19.009(0.000)	252	1028221	11.432	46.29			0.03
214) Benzo(a)pyrene	(6)	19.476(0.000)	252	1010121	11.522	46.65			0.03
219) Indeno(1,2,3-cd)pyrene	(6)	21.158(-0.000)	276	915006M	11.490	46.52			0.03
220) Dibenz(a,h)anthracene	(6)	21.198(0.000)	278	886590	11.823	47.86			0.03
221) Benzo(g,h,i)perylene	(6)	21.514(-0.000)	276	970295	11.395	46.13			0.03

M = Compound was manually integrated.

Total number of targets = 64

Digitally signed by Brandon K. Cordova on 04/18/2018 at 16:31. Target 3.5 esignature user ID: bkc25363

Secondary review performed and digitally signed by Chad A. Moline on 04/19/2018 at 08:56. PARALLAX ID: cam01237



Total Ion Chromatogram (TIC)

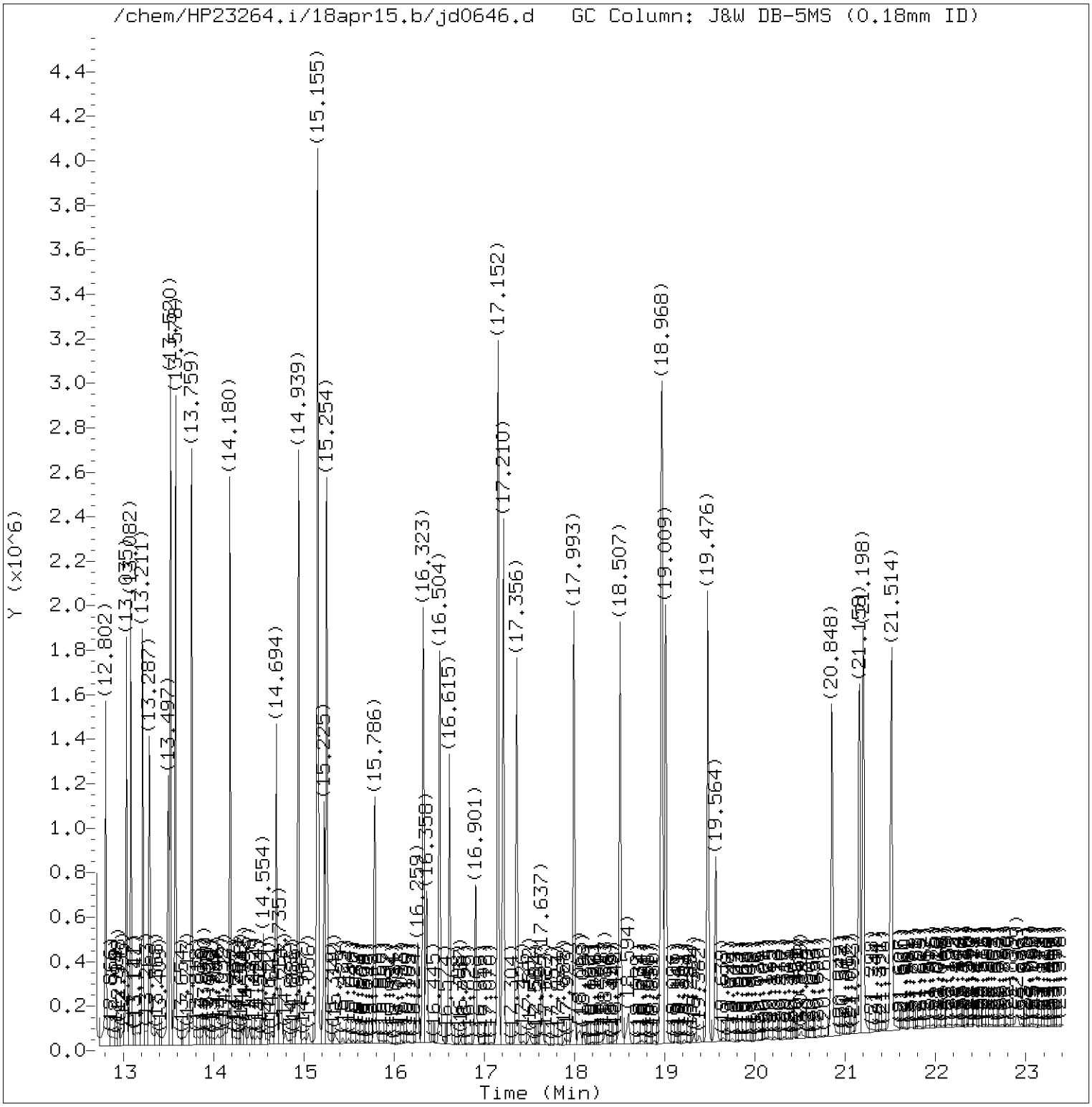
Target Revision 3.5

Data File: /chem/HP23264.i/18apr15.b/jd0646.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 19:03 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 18-APR-2018 16:26
Date, time and analyst ID of latest file update: 18-Apr-2018 16:30 bkc25363

Sample Name: T8101MSD Lab Sample ID: 9548791

Digitally signed by Brandon K. Cordova
on 04/18/2018 at 16:31.
Target 3.5 esignature user ID: bkc25363



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP23264.i/18apr15.b/jd0646.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 19:03 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 18-APR-2018 16:26
Date, time and analyst ID of latest file update: 18-Apr-2018 16:30 bkc25363

Sample Name: T8101MSD Lab Sample ID: 9548791

Digitally signed by Brandon K. Cordova
on 04/18/2018 at 16:31.
Target 3.5 esignature user ID: bkc25363

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr15.b/jd0646.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 19:03 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 18-APR-2018 16:26
Date, time and analyst ID of latest file update: 18-Apr-2018 16:30 bkc25363

Sample Name: T8101MSD Lab Sample ID: 9548791

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
27) Phenol	(1)	7.611	94	128899	1.585
31) bis(2-Chloroethyl)ether	(1)	7.751	93	669478	10.670
32) 2-Chlorophenol	(1)	7.827	128	213296	4.346
34) 1,3-Dichlorobenzene	(1)	8.026	146	465931	8.491
36)*1,4-Dichlorobenzene-d4	(1)	8.096	152	184485	5.000
38) 1,4-Dichlorobenzene	(1)	8.113	146	491929	8.430
41) 1,2-Dichlorobenzene	(1)	8.294	146	462231	9.137
44) 2-Methylphenol	(1)	8.364	108	185137	4.196
47) 2,2'-oxybis(1-Chloropropane)	(1)	8.411	45	771338	10.612
53) 4-Methylphenol	(1)	8.539	108	145894	3.276
54) N-Nitroso-di-n-propylamine	(1)	8.557	70	454084	11.669
57) Hexachloroethane	(1)	8.697	117	164781	7.775
59) Nitrobenzene	(2)	8.761	77	640214	10.583
63) Isophorone	(2)	9.042	82	1059125	12.370
64) 2-Nitrophenol	(2)	9.141	139	216996	10.789
65) 2,4-Dimethylphenol	(2)	9.176	107	309928	7.488
68) bis(2-Chloroethoxy)methane	(2)	9.304	93	538479	11.396
70) 2,4-Dichlorophenol	(2)	9.433	162	165969	4.969
72) 1,2,4-Trichlorobenzene	(2)	9.550	180	351926	9.307
76)*Naphthalene-d8	(2)	9.625	136	480473	5.000
78) Naphthalene	(2)	9.655	128	1011825	10.365
79) 4-Chloroaniline	(2)	9.719	127	338106	8.344
83) Hexachlorobutadiene	(2)	9.818	225	180473	7.874
89) 4-Chloro-3-methylphenol	(2)	10.379	107	172503	5.034
91) 2-Methylnaphthalene	(2)	10.606	142	607588	10.441
95) Hexachlorocyclopentadiene	(3)	10.822	237	422660	19.612
98) 2,4,6-Trichlorophenol	(3)	10.986	196	174321	7.733
100) 2,4,5-Trichlorophenol	(3)	11.033	196	209302	8.946
107) 2-Chloronaphthalene	(3)	11.266	162	630327	10.745
110) 2-Nitroaniline	(3)	11.406	138	220774	12.167
114) Dimethylphthalate	(3)	11.652	163	689741	10.551
117) 2,6-Dinitrotoluene	(3)	11.716	165	172693	11.374
118) Acenaphthylene	(3)	11.792	152	928394	12.162
120) 3-Nitroaniline	(3)	11.909	138	148702	9.664
122)*Acenaphthene-d10	(3)	11.955	164	200373	5.000
123) Acenaphthene	(3)	11.990	153	585117	11.836
125) 2,4-Dinitrophenol	(3)	12.025	184	226261	19.074
126) 4-Nitrophenol	(3)	12.095	109	107887	7.917
128) 2,4-Dinitrotoluene	(3)	12.171	165	246212	11.479
129) Dibenzofuran	(3)	12.177	168	831300	11.444

* = Compound is an internal standard.

Digitally signed by Brandon K. Cordova
on 04/18/2018 at 16:31.
Target 3.5 esignature user ID: bkc25363

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr15.b/jd0646.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 19:03 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 18-APR-2018 16:26
Date, time and analyst ID of latest file update: 18-Apr-2018 16:30 bkc25363

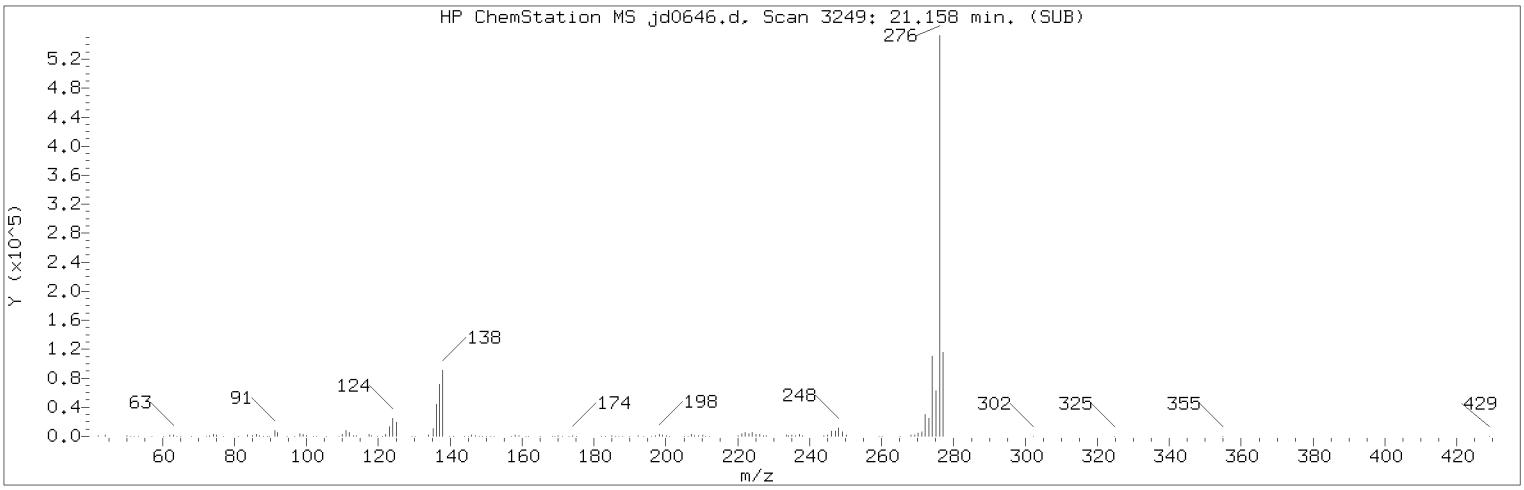
Sample Name: T8101MSD Lab Sample ID: 9548791

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
136) Diethylphthalate	(3)	12.434	149	697656	10.675
139) Fluorene	(3)	12.527	166	671429	11.425
141) 4-Chlorophenyl-phenylether	(3)	12.539	204	319708	10.560
142) 4-Nitroaniline	(3)	12.551	138	175005	10.054
143) 4,6-Dinitro-2-methylphenol	(4)	12.580	198	161988	11.633
144) N-Nitrosodiphenylamine	(4)	12.656	169	598362	11.887
153) 4-Bromophenyl-phenylether	(4)	13.035	248	202850	11.344
155) Hexachlorobenzene	(4)	13.082	284	206031	11.376
160) Pentachlorophenol	(4)	13.292	266	130419	9.509
165)*Phenanthrene-d10	(4)	13.497	188	384243	5.000
167) Phenanthrene	(4)	13.520	178	1027522	11.905
168) Anthracene	(4)	13.578	178	1012465	11.552
169) Carbazole	(4)	13.759	167	987688	12.471
174) Di-n-butylphthalate	(4)	14.180	149	1194100	11.230
183) Fluoranthene	(4)	14.939	202	1131539	11.448
185)*Pyrene-d10	(5)	15.225	212	398262	5.000
187) Pyrene	(5)	15.254	202	1164535	11.583
198) Butylbenzylphthalate	(5)	16.323	149	562762	11.848
202) 3,3'-Dichlorobenzidine	(5)	17.152	252	232211	6.418
201) Benzo(a)anthracene	(5)	17.152	228	1105149	11.445
206) Chrysene	(5)	17.210	228	1056188	11.561
207) bis(2-Ethylhexyl)phthalate	(5)	17.356	149	728714	10.711
209) Di-n-octylphthalate	(6)	18.507	149	1368355	11.063
210) Benzo(b)fluoranthene	(6)	18.962	252	1067777	11.276
212) Benzo(k)fluoranthene	(6)	19.009	252	1028221	11.432
214) Benzo(a)pyrene	(6)	19.476	252	1010121	11.522
215)*Perylene-d12	(6)	19.564	264	381855	5.000
219) Indeno(1,2,3-cd)pyrene	(6)	21.158	276	915006M	11.490
220) Dibenz(a,h)anthracene	(6)	21.198	278	886590	11.823
221) Benzo(g,h,i)perylene	(6)	21.514	276	970295	11.395

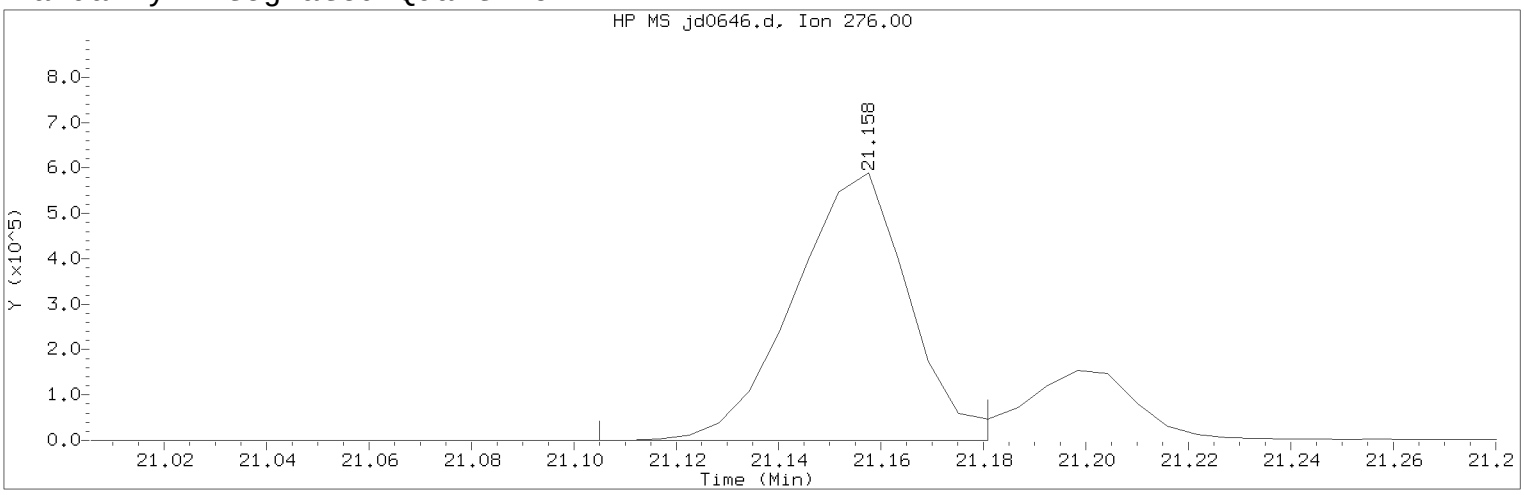
M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Brandon K. Cordova
on 04/18/2018 at 16:31.
Target 3.5 esignature user ID: bkc25363

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr15.b/jd0646.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 19:03 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 18-APR-2018 16:26
Date, time and analyst ID of latest file update: 18-Apr-2018 16:30 bkc25363

Sample Name: T8101MSD Lab Sample ID: 9548791

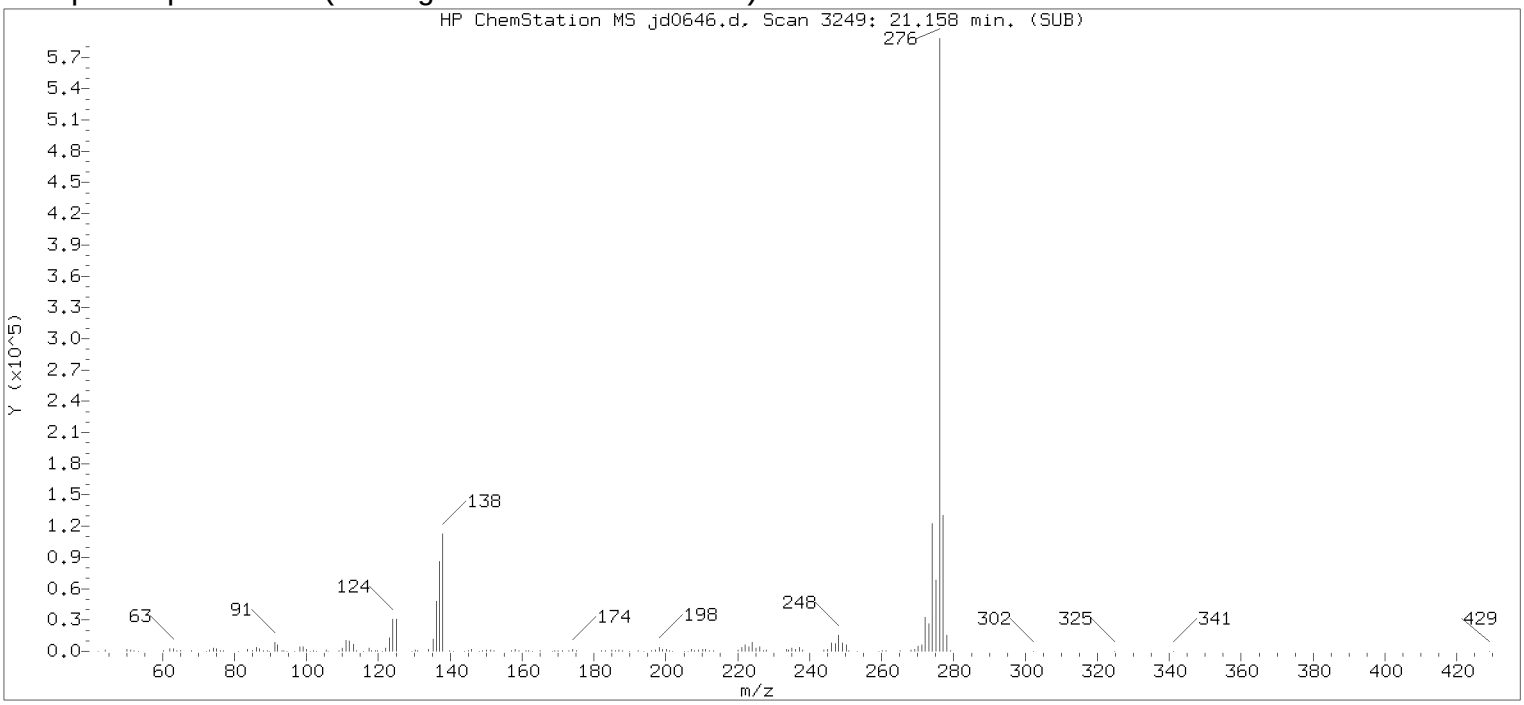
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3249
Retention Time (minutes) : 21.158
Quant Ion : 276.00
Area (flag) : 915006M
On-Column Amount (ng/ul) : 11.4898
Integration start scan : 3239 Integration stop scan: 3252
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

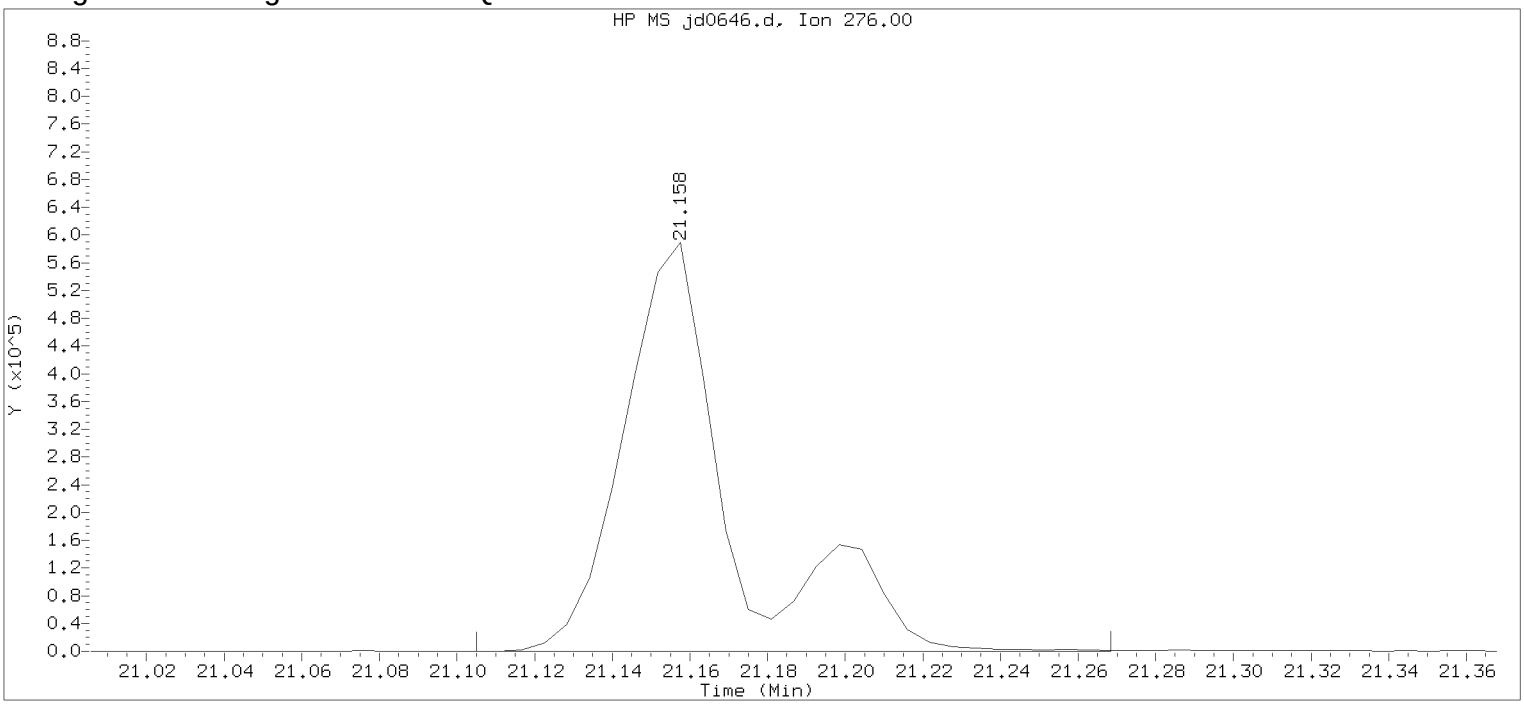
Analyst responsible for change: Digitally signed by Brandon K. Cordova on 04/18/2018 at 16:31.
Target 3.5 esignature user ID: bkc25363

Secondary review performed and digitally signed by Chad A. Moline on 04/19/2018 at 08:56.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr15.b/jd0646.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 19:03 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: QC101WRM
Calibration date and time: 17-APR-2018 11:44
Date, time and analyst ID of latest file update: 17-Apr-2018 11:52 knk25316

Sample Name: T8101MSD Lab Sample ID: 9548791

Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3249
Retention Time (minutes) : 21.158
Quant Ion : 276.00
Area : 1140233
On-column Amount (ng/ul) : 14.3180
Integration start scan : 3239 Integration stop scan: 3267
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon K. Cordova on 04/18/2018 at 16:31.
Target 3.5 esignature user ID: bhs10208

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

101WRLCS

Data file: /chem/HP23264.i/18apr15.b/jd0643.d
Data file Sample Info. Line: 101WRLCS;101WRLCS;1;3;LCS;;;
Date, time and analyst ID of latest file update: 19-Apr-2018 10:30 hbz01996

Injection date and time: **15-APR-2018 17:32**
Instrument ID: **HP23264.i** Batch: **18101WAR**

Blank Data file reference: **/chem/HP23264.i/18apr15.b/jd0642.d**

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: **QC101WRM**
Calibration date and time (Last Method Edit): 17-APR-2018 11:44
Mid Level Daily Calibration Standard Reference: **/chem/HP23264.i/18apr15.b/jd0641.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
36) 1,4-Dichlorobenzene-d4	8.096(-0.006)	1012	152	178226 (-7)	5.00	
76) Naphthalene-d8	9.626(0.000)	1274	136	438622 (-15)	5.00	
122) Acenaphthene-d10	11.955(0.000)	1673	164	186192 (-8)	5.00	
165) Phenanthrene-d10	13.497(0.000)	1937	188	357630 (-14)	5.00	
185) Pyrene-d10	15.225(0.000)	2233	212	393918 (-13)	5.00	
215) Perylene-d12	19.564(0.000)	2976	264	357195 (-13)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
13) 2-Fluorophenol	(1)			Not Detected		0%	*	10 - 82
26) Phenol-d6	(1)			Not Detected		0%	*	10 - 71
58) Nitrobenzene-d5	(2)			Not Detected		0%	*	30 - 111
102) 2-Fluorobiphenyl	(3)			Not Detected		0%	*	39 - 105
147) 2,4,6-Tribromophenol	(3)			Not Detected		0%	*	21 - 134
192) Terphenyl-d14	(5)			Not Detected		0%	*	27 - 116

 # = Retention Time outside QC limits. * = Surrogate Standard % recovery outside QC limits.

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
24) Benzaldehyde	(1)	7.541(0.000)	77	595869	10.806	43.23			0.3
27) Phenol	(1)	7.605(0.000)	94	485784	6.185	24.74			0.1
31) bis(2-Chloroethyl)ether	(1)	7.751(-0.000)	93	660631	10.899	43.60			0.1
32) 2-Chlorophenol	(1)	7.827(-0.000)	128	515189	10.867	43.47			0.1
34) 1,3-Dichlorobenzene	(1)	8.026(-0.000)	146	506805	9.560	38.24			0.1
38) 1,4-Dichlorobenzene	(1)	8.113(0.000)	146	530930	9.394	37.58			0.1
41) 1,2-Dichlorobenzene	(1)	8.294(0.000)	146	504718	10.327	41.31			0.1
44) 2-Methylphenol	(1)	8.364(0.000)	108	454484	10.663	42.65			0.1
47) 2,2'-oxybis(1-Chloropropane)	(1)	8.411(0.000)	45	762240	10.855	43.42			0.1
52) Acetophenone	(1)	8.563(0.000)	105	705479	10.737	42.95			0.1
53) 4-Methylphenol	(1)	8.539(0.000)	108	430317	10.003	40.01			0.1
54) N-Nitroso-di-n-propylamine	(1)	8.557(0.000)	70	428060	11.387	45.55			0.1
57) Hexachloroethane	(1)	8.697(0.000)	117	185104	9.040	36.16			0.3
59) Nitrobenzene	(2)	8.761(-0.000)	77	619402	11.216	44.86			0.1
63) Isophorone	(2)	9.042(-0.000)	82	971193	12.426	49.70			0.1
64) 2-Nitrophenol	(2)	9.141(-0.000)	139	214320	11.673	46.69			0.1
65) 2,4-Dimethylphenol	(2)	9.176(-0.000)	107	369838	9.788	39.15			0.1
68) bis(2-Chloroethoxy)methane	(2)	9.304(0.000)	93	515745	11.957	47.83			0.1
70) 2,4-Dichlorophenol	(2)	9.433(-0.000)	162	341750	11.209	44.84			0.1
72) 1,2,4-Trichlorobenzene	(2)	9.550(-0.000)	180	361392	10.469	41.88			0.1
78) Naphthalene	(2)	9.655(-0.000)	128	1003954	11.265	45.06			0.03
79) 4-Chloroaniline	(2)	9.719(-0.000)	127	327388	8.851	35.40			0.5
83) Hexachlorobutadiene	(2)	9.818(-0.000)	225	205307	9.812	39.25			0.1
86) Caprolactam	(2)	10.180(-0.000)	113	39289	3.432	13.73		J	1
89) 4-Chloro-3-methylphenol	(2)	10.379(-0.000)	107	362923	11.154	44.61			0.1
91) 2-Methylnaphthalene	(2)	10.606(-0.000)	142	606708	11.421	45.68			0.03

Digitally signed by Holly B. Ziegler on 04/19/2018 at 10:31. Target 3.5 esignature user ID: hbz01996

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

101WRLCS

Data file: /chem/HP23264.i/18apr15.b/jd0643.d
Injection date and time: **15-APR-2018 17:32**
Data file Sample Info. Line: 101WRLCS;101WRLCS;1;3;LCS;;;
Instrument ID: **HP23264.i** Batch: **18101WAR**
Date, time and analyst ID of latest file update: 19-Apr-2018 10:30 hbz01996

Blank Data file reference: **/chem/HP23264.i/18apr15.b/jd0642.d**

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: **QC101WRM**
Calibration date and time (Last Method Edit): 17-APR-2018 11:44
Mid Level Daily Calibration Standard Reference: **/chem/HP23264.i/18apr15.b/jd0641.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
92) 1-Methylnaphthalene	(2)	10.747(-0.000)	142	566879	12.123	48.49			0.03
95) Hexachlorocyclopentadiene	(3)	10.822(0.000)	237	411973	20.572	82.29			1
96) 1,2,4,5-Tetrachlorobenzene	(3)	10.834(0.000)	216	343747	10.611	42.45			0.1
98) 2,4,6-Trichlorophenol	(3)	10.992(0.000)	196	251525	12.008	48.03			0.1
100) 2,4,5-Trichlorophenol	(3)	11.033(0.000)	196	289785	13.329	53.32			0.1
105) 1,1'-Biphenyl	(3)	11.249(0.000)	154	678987	10.709	42.84			0.1
107) 2-Chloronaphthalene	(3)	11.266(0.000)	162	576648	10.578	42.31			0.1
110) 2-Nitroaniline	(3)	11.406(0.000)	138	207260	12.293	49.17			0.1
114) Dimethylphthalate	(3)	11.652(0.000)	163	638756	10.515	42.06			0.5
117) 2,6-Dinitrotoluene	(3)	11.716(0.000)	165	162136	11.492	45.97			0.1
118) Acenaphthylene	(3)	11.792(0.000)	152	881769	12.431	49.73			0.03
120) 3-Nitroaniline	(3)	11.908(-0.000)	138	146038	10.214	40.86			0.1
123) Acenaphthene	(3)	11.990(-0.000)	153	540818	11.774	47.09			0.03
125) 2,4-Dinitrophenol	(3)	12.025(-0.000)	184	269771	24.474	97.90			3
126) 4-Nitrophenol	(3)	12.095(-0.000)	109	105377	8.321	33.29			3
128) 2,4-Dinitrotoluene	(3)	12.171(0.000)	165	241810	12.132	48.53			0.3
129) Dibenzofuran	(3)	12.177(-0.000)	168	785712	11.640	46.56			0.1
136) Diethylphthalate	(3)	12.434(-0.000)	149	699949	11.526	46.10			0.5
139) Fluorene	(3)	12.528(0.000)	166	635839	11.643	46.57			0.03
141) 4-Chlorophenyl-phenylether	(3)	12.539(-0.000)	204	312322	11.102	44.41			0.1
142) 4-Nitroaniline	(3)	12.551(-0.000)	138	172291	10.682	42.73			0.1
143) 4,6-Dinitro-2-methylphenol	(4)	12.580(0.000)	198	165799	12.793	51.17			1
144) N-Nitrosodiphenylamine	(4)	12.656(0.000)	169	561856	11.992	47.97			0.1
153) 4-Bromophenyl-phenylether	(4)	13.036(0.000)	248	188099	11.302	45.21			0.1
155) Hexachlorobenzene	(4)	13.082(0.000)	284	205237	12.175	48.70			0.03
157) Atrazine	(4)	13.211(0.000)	200	206450	12.507	50.03			0.5
160) Pentachlorophenol	(4)	13.292(0.000)	266	167041	13.085	52.34			0.3
167) Phenanthrene	(4)	13.520(0.000)	178	972314	12.103	48.41			0.03
168) Anthracene	(4)	13.578(-0.000)	178	1012079	12.407	49.63			0.03
169) Carbazole	(4)	13.760(-0.000)	167	977031	13.254	53.02			0.1
174) Di-n-butylphthalate	(4)	14.180(0.000)	149	1200231	12.127	48.51			0.5
183) Fluoranthene	(4)	14.939(-0.000)	202	1137979	12.370	49.48			0.03
187) Pyrene	(5)	15.254(-0.000)	202	1211002	12.178	48.71			0.03
198) Butylbenzylphthalate	(5)	16.323(-0.000)	149	531290	11.308	45.23			0.5
202) 3,3'-Dichlorobenzidine	(5)	17.152(-0.000)	252	263880	7.374	29.50			0.5
201) Benzo(a)anthracene	(5)	17.152(-0.000)	228	1122883	11.757	47.03			0.03
206) Chrysene	(5)	17.210(-0.000)	228	1058841	11.718	46.87			0.03
207) bis(2-Ethylhexyl)phthalate	(5)	17.362(-0.000)	149	765557	11.377	45.51			0.5
209) Di-n-octylphthalate	(6)	18.501(0.000)	149	1421403	12.286	49.14			0.5
210) Benzo(b)fluoranthene	(6)	18.962(0.000)	252	1070750	12.088	48.35			0.03
212) Benzo(k)fluoranthene	(6)	19.009(0.000)	252	1055897	12.551	50.20			0.03
214) Benzo(a)pyrene	(6)	19.476(0.000)	252	1045664	12.750	51.00			0.03
219) Indeno(1,2,3-cd)pyrene	(6)	21.158(-0.000)	276	949716M	12.749	51.00			0.03
220) Dibenz(a,h)anthracene	(6)	21.198(-0.000)	278	895014	12.759	51.04			0.03
221) Benzo(g,h,i)perylene	(6)	21.514(-0.000)	276	1000054	12.555	50.22			0.03

M = Compound was manually integrated.

Digitally signed by Holly B. Ziegler on 04/19/2018 at 10:31. Target 3.5 esignature user ID: hbz01996

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP23264.i/18apr15.b/jd0643.d
Data file Sample Info. Line: 101WRLCS;101WRLCS;1;3;LCS;;;
Date, time and analyst ID of latest file update: 19-Apr-2018 10:30 hbz01996

Injection date and time: **15-APR-2018 17:32**
Instrument ID: **HP23264.i** Batch: **18101WAR**

Blank Data file reference: **/chem/HP23264.i/18apr15.b/jd0642.d**

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: **QC101WRM**
Calibration date and time (Last Method Edit): 17-APR-2018 11:44
Mid Level Daily Calibration Standard Reference: **/chem/HP23264.i/18apr15.b/jd0641.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

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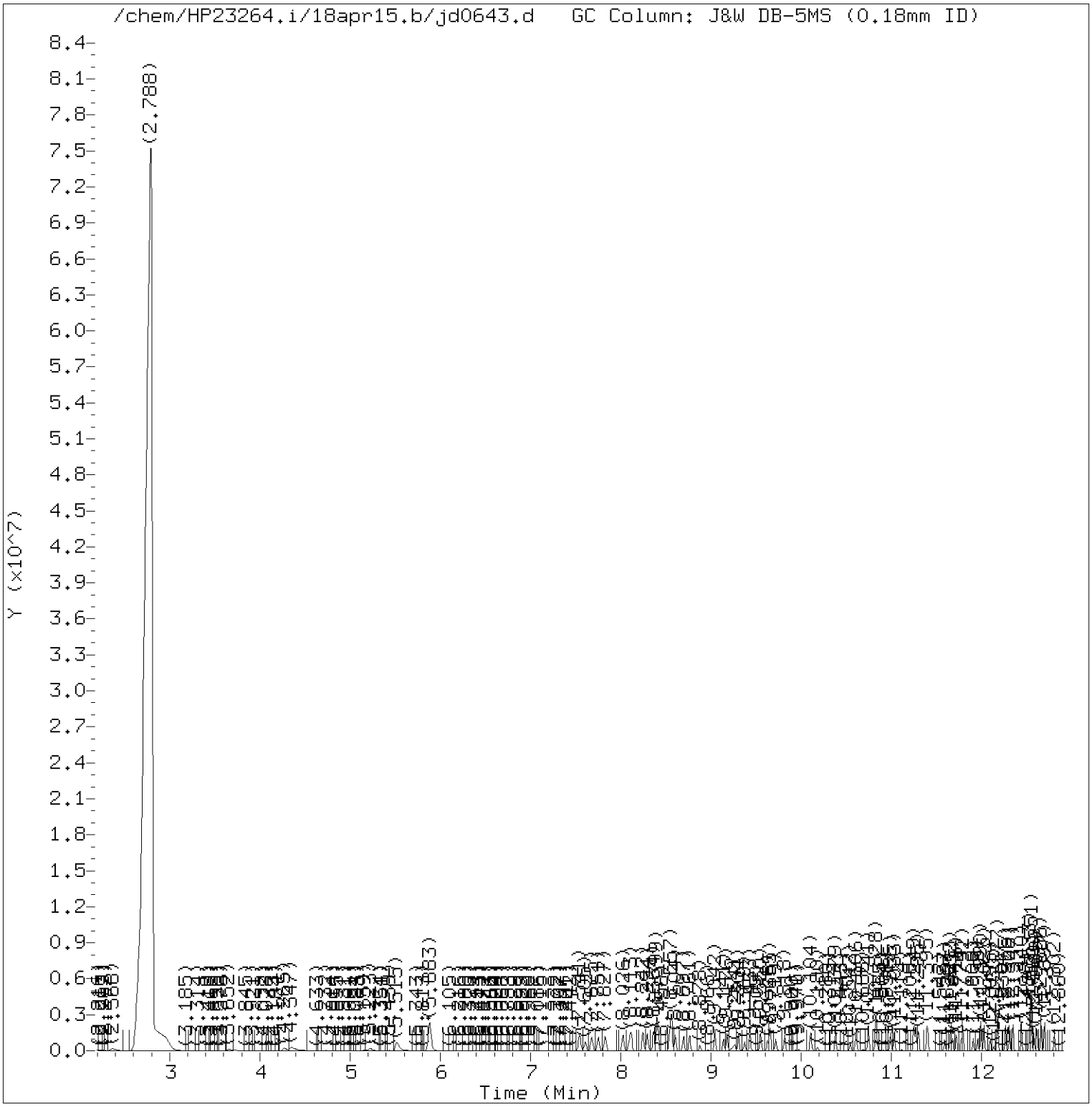
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 71

Digitally signed by Holly B. Ziegler on 04/19/2018 at 10:31. Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 04/24/2018 at 07:44. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

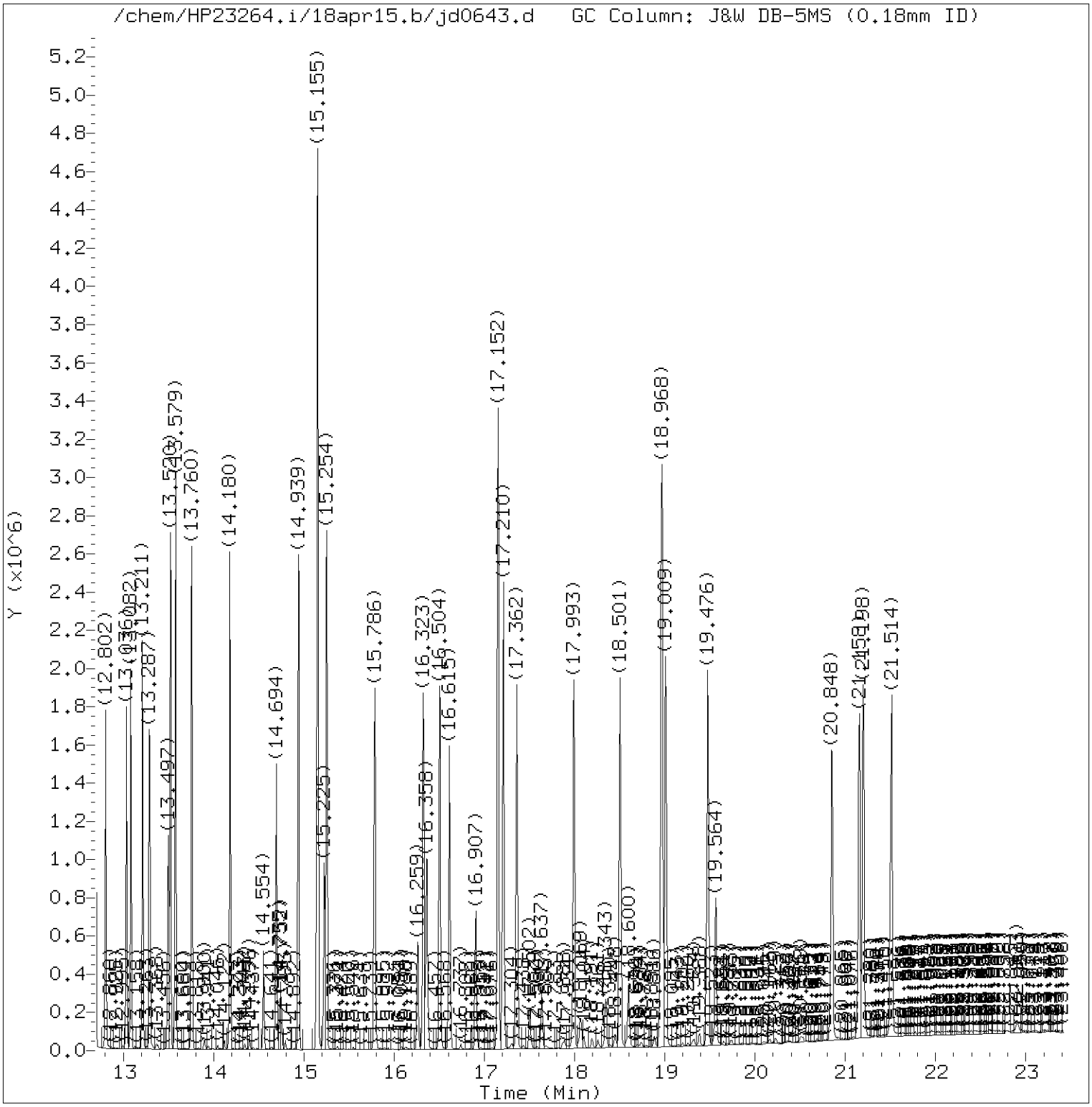
Target Revision 3.5

Data File: /chem/HP23264.i/18apr15.b/jd0643.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 17:32 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: QC101WRM
Calibration date and time: 17-APR-2018 11:44
Date, time and analyst ID of latest file update: 19-Apr-2018 10:30 hbz01996

Sample Name: 101WRLCS Lab Sample ID: 101WRLCS

Digitally signed by Holly B. Ziegler
on 04/19/2018 at 10:31.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP23264.i/18apr15.b/jd0643.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 17:32 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: QC101WRM
Calibration date and time: 17-APR-2018 11:44
Date, time and analyst ID of latest file update: 19-Apr-2018 10:30 hbz01996

Sample Name: 101WRLCS Lab Sample ID: 101WRLCS

Digitally signed by Holly B. Ziegler
on 04/19/2018 at 10:31.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr15.b/jd0643.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 17:32 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: QC101WRM
Calibration date and time: 17-APR-2018 11:44
Date, time and analyst ID of latest file update: 19-Apr-2018 10:30 hbz01996

Sample Name: 101WRLCS Lab Sample ID: 101WRLCS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
24) Benzaldehyde	(1)	7.541	77	595869	10.806
27) Phenol	(1)	7.605	94	485784	6.185
31) bis(2-Chloroethyl)ether	(1)	7.751	93	660631	10.899
32) 2-Chlorophenol	(1)	7.827	128	515189	10.867
34) 1,3-Dichlorobenzene	(1)	8.026	146	506805	9.560
36)*1,4-Dichlorobenzene-d4	(1)	8.096	152	178226	5.000
38) 1,4-Dichlorobenzene	(1)	8.113	146	530930	9.394
41) 1,2-Dichlorobenzene	(1)	8.294	146	504718	10.327
44) 2-Methylphenol	(1)	8.364	108	454484	10.663
47) 2,2'-oxybis(1-Chloropropane)	(1)	8.411	45	762240	10.855
53) 4-Methylphenol	(1)	8.539	108	430317	10.003
54) N-Nitroso-di-n-propylamine	(1)	8.557	70	428060	11.387
52) Acetophenone	(1)	8.563	105	705479	10.737
57) Hexachloroethane	(1)	8.697	117	185104	9.040
59) Nitrobenzene	(2)	8.761	77	619402	11.216
63) Isophorone	(2)	9.042	82	971193	12.426
64) 2-Nitrophenol	(2)	9.141	139	214320	11.673
65) 2,4-Dimethylphenol	(2)	9.176	107	369838	9.788
68) bis(2-Chloroethoxy)methane	(2)	9.304	93	515745	11.957
70) 2,4-Dichlorophenol	(2)	9.433	162	341750	11.209
72) 1,2,4-Trichlorobenzene	(2)	9.550	180	361392	10.469
76)*Naphthalene-d8	(2)	9.626	136	438622	5.000
78) Naphthalene	(2)	9.655	128	1003954	11.265
79) 4-Chloroaniline	(2)	9.719	127	327388	8.851
83) Hexachlorobutadiene	(2)	9.818	225	205307	9.812
86) Caprolactam	(2)	10.180	113	39289	3.432
89) 4-Chloro-3-methylphenol	(2)	10.379	107	362923	11.154
91) 2-Methylnaphthalene	(2)	10.606	142	606708	11.421
92) 1-Methylnaphthalene	(2)	10.747	142	566879	12.123
95) Hexachlorocyclopentadiene	(3)	10.823	237	411973	20.572
96) 1,2,4,5-Tetrachlorobenzene	(3)	10.834	216	343747	10.611
98) 2,4,6-Trichlorophenol	(3)	10.992	196	251525	12.008
100) 2,4,5-Trichlorophenol	(3)	11.033	196	289785	13.329
105) 1,1'-Biphenyl	(3)	11.249	154	678987	10.709
107) 2-Chloronaphthalene	(3)	11.266	162	576648	10.578
110) 2-Nitroaniline	(3)	11.406	138	207260	12.293
114) Dimethylphthalate	(3)	11.652	163	638756	10.515
117) 2,6-Dinitrotoluene	(3)	11.716	165	162136	11.492
118) Acenaphthylene	(3)	11.792	152	881769	12.431
120) 3-Nitroaniline	(3)	11.909	138	146038	10.214

* = Compound is an internal standard.

Digitally signed by Holly B. Ziegler
on 04/19/2018 at 10:31.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP23264.i/18apr15.b/jd0643.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 17:32 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: QC101WRM
Calibration date and time: 17-APR-2018 11:44
Date, time and analyst ID of latest file update: 19-Apr-2018 10:30 hbz01996

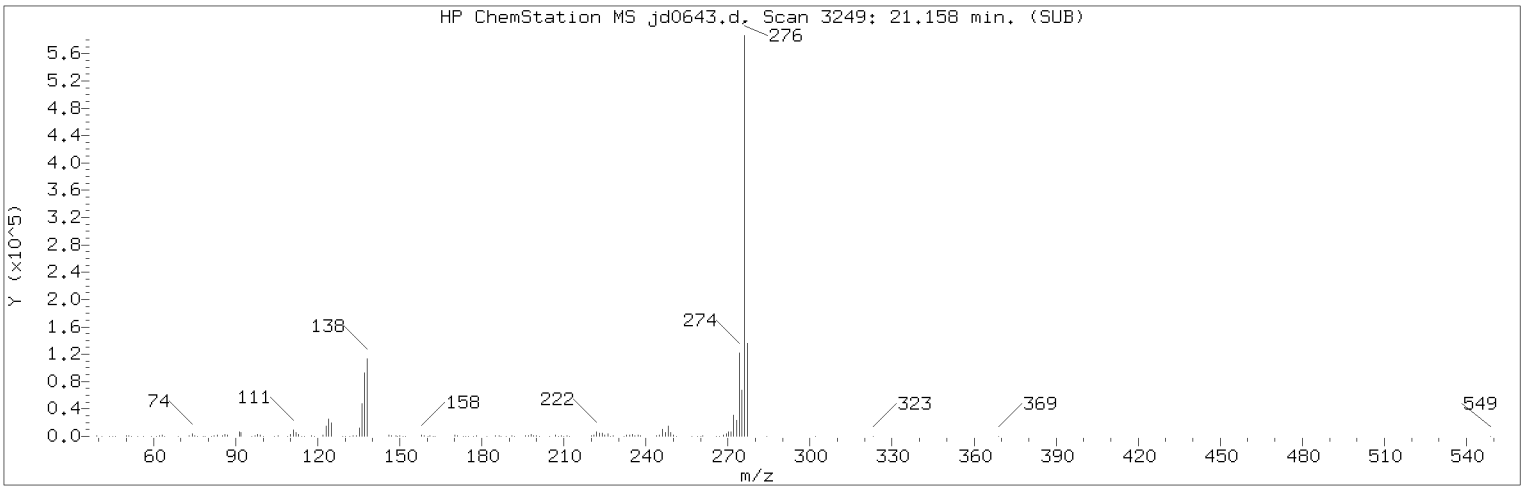
Sample Name: 101WRLCS Lab Sample ID: 101WRLCS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
122)*Acenaphthene-d10	(3)	11.955	164	186192	5.000
123) Acenaphthene	(3)	11.990	153	540818	11.774
125) 2,4-Dinitrophenol	(3)	12.025	184	269771	24.474
126) 4-Nitrophenol	(3)	12.095	109	105377	8.321
128) 2,4-Dinitrotoluene	(3)	12.171	165	241810	12.132
129) Dibenzofuran	(3)	12.177	168	785712	11.640
136) Diethylphthalate	(3)	12.434	149	699949	11.526
139) Fluorene	(3)	12.528	166	635839	11.643
141) 4-Chlorophenyl-phenylether	(3)	12.539	204	312322	11.102
142) 4-Nitroaniline	(3)	12.551	138	172291	10.682
143) 4,6-Dinitro-2-methylphenol	(4)	12.580	198	165799	12.793
144) N-Nitrosodiphenylamine	(4)	12.656	169	561856	11.992
153) 4-Bromophenyl-phenylether	(4)	13.036	248	188099	11.302
155) Hexachlorobenzene	(4)	13.082	284	205237	12.175
157) Atrazine	(4)	13.211	200	206450	12.507
160) Pentachlorophenol	(4)	13.292	266	167041	13.085
165)*Phenanthrene-d10	(4)	13.497	188	357630	5.000
167) Phenanthrene	(4)	13.520	178	972314	12.103
168) Anthracene	(4)	13.579	178	1012079	12.407
169) Carbazole	(4)	13.760	167	977031	13.254
174) Di-n-butylphthalate	(4)	14.180	149	1200231	12.127
183) Fluoranthene	(4)	14.939	202	1137979	12.370
185)*Pyrene-d10	(5)	15.225	212	393918	5.000
187) Pyrene	(5)	15.254	202	1211002	12.178
198) Butylbenzylphthalate	(5)	16.323	149	531290	11.308
202) 3,3'-Dichlorobenzidine	(5)	17.152	252	263880	7.374
201) Benzo(a)anthracene	(5)	17.152	228	1122883	11.757
206) Chrysene	(5)	17.210	228	1058841	11.718
207) bis(2-Ethylhexyl)phthalate	(5)	17.362	149	765557	11.377
209) Di-n-octylphthalate	(6)	18.501	149	1421403	12.286
210) Benzo(b)fluoranthene	(6)	18.962	252	1070750	12.088
212) Benzo(k)fluoranthene	(6)	19.009	252	1055897	12.551
214) Benzo(a)pyrene	(6)	19.476	252	1045664	12.750
215)*Perylene-d12	(6)	19.564	264	357195	5.000
219) Indeno(1,2,3-cd)pyrene	(6)	21.158	276	949716M	12.749
220) Dibenz(a,h)anthracene	(6)	21.198	278	895014	12.759
221) Benzo(g,h,i)perylene	(6)	21.514	276	1000054	12.555

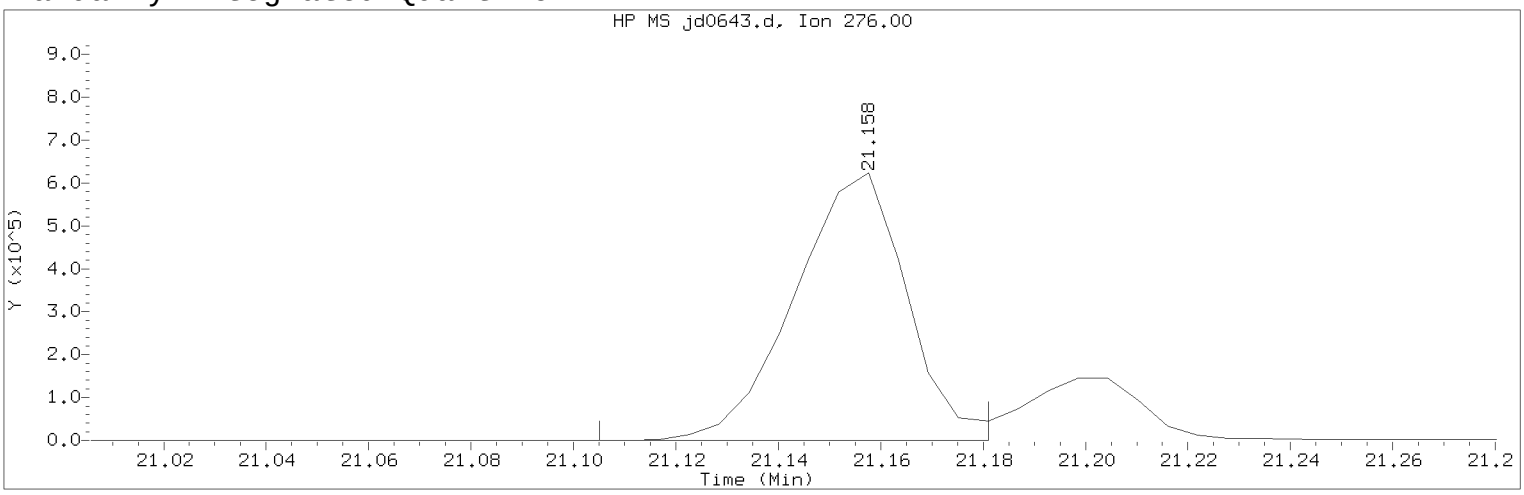
M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Holly B. Ziegler
on 04/19/2018 at 10:31.
Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP23264.i/18apr15.b/jd0643.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 17:32 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: QC101WRM
Calibration date and time: 17-APR-2018 11:44
Date, time and analyst ID of latest file update: 19-Apr-2018 10:30 hbz01996

Sample Name: 101WRLCS Lab Sample ID: 101WRLCS

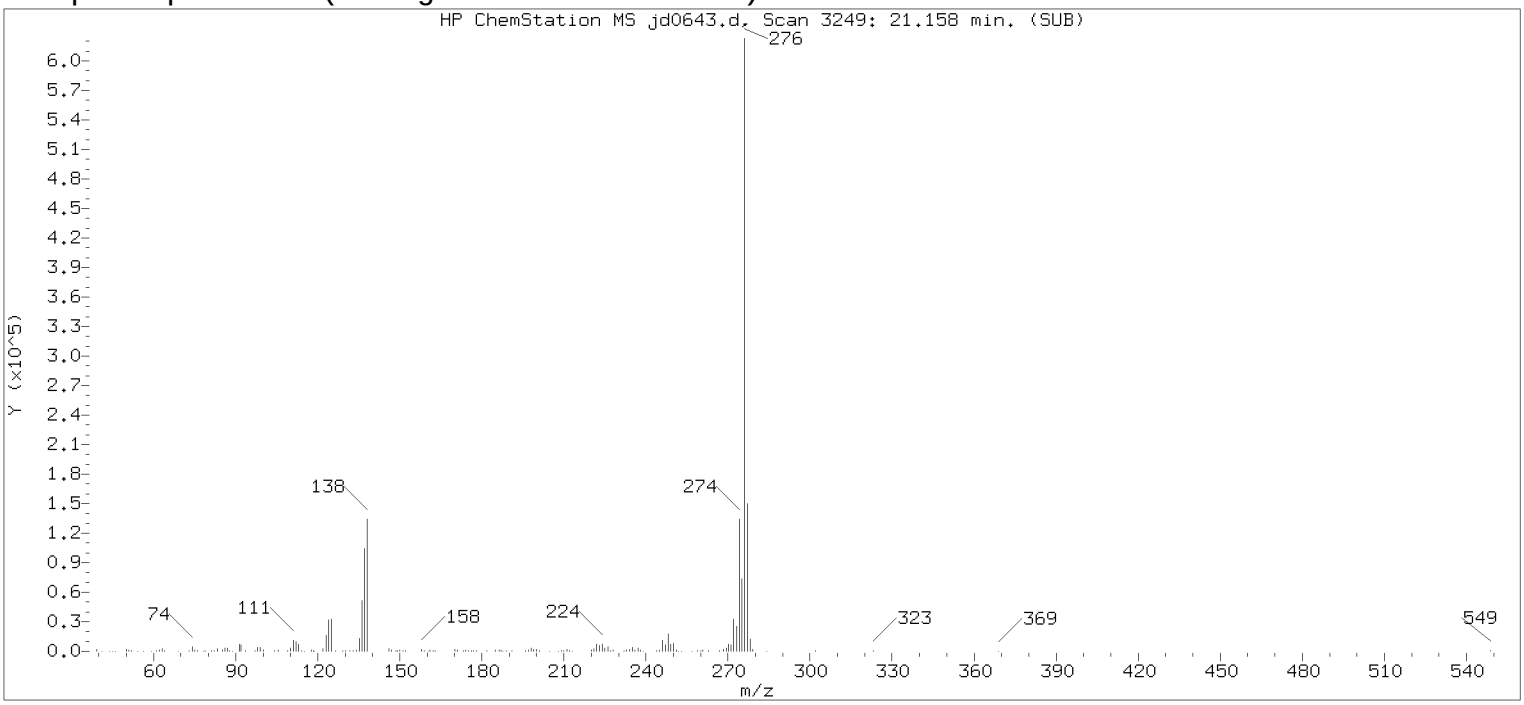
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3249
Retention Time (minutes) : 21.158
Quant Ion : 276.00
Area (flag) : 949716M
On-Column Amount (ng/ul) : 12.7490
Integration start scan : 3239 Integration stop scan: 3252
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

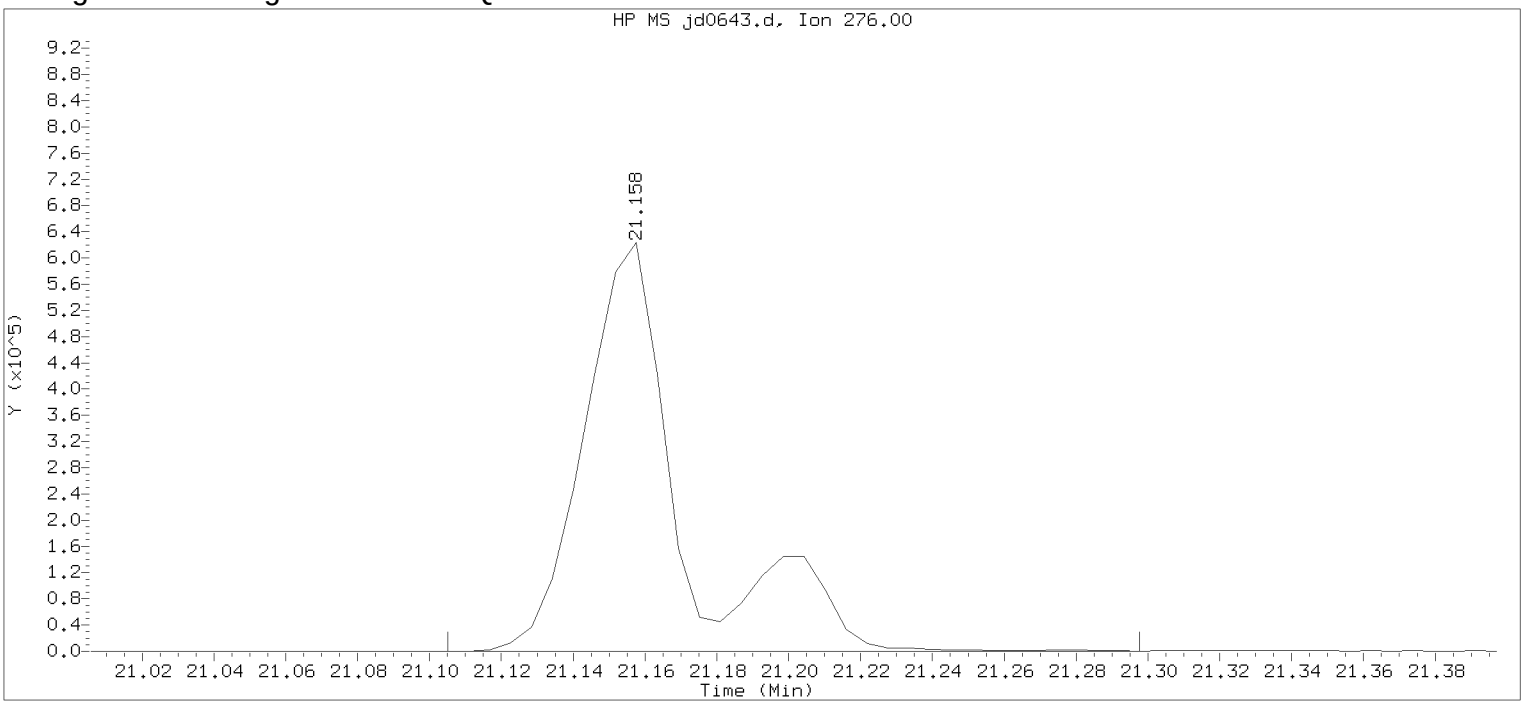
Analyst responsible for change: Digitally signed by Holly B. Ziegler on 04/19/2018 at 10:31.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 04/24/2018 at 07:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP23264.i/18apr15.b/jd0643.d Instrument ID: HP23264.i
Injection date and time: 15-APR-2018 17:32 Analyst ID: bhs10208

Method used: /chem/HP23264.i/18apr15.b/rv8270c.m Sublist used: QC101WRM
Calibration date and time: 17-APR-2018 11:44
Date, time and analyst ID of latest file update: 17-Apr-2018 11:52 knk25316

Sample Name: 101WRLCS Lab Sample ID: 101WRLCS

Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3249
Retention Time (minutes) : 21.158
Quant Ion : 276.00
Area : 1175320
On-column Amount (ng/ul) : 15.7775
Integration start scan : 3239 Integration stop scan: 3272
Y at integration start : 0 Y at integration end: 0

Digitally signed by Holly B. Ziegler on 04/19/2018 at 10:31.
Target 3.5 esignature user id: bhs1 has been verified.

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

106WELCS

Data file: /chem/HP18831.i/18apr17.b/hd0756.d
Data file Sample Info. Line: 106WELCS;106WELCS;1;3;LCS;;;
Date, time and analyst ID of latest file update: 17-Apr-2018 15:19 bkc25363

Injection date and time: **17-APR-2018 09:17**
Instrument ID: **HP18831.i** Batch: **18106WAE**

Blank Data file reference: **/chem/HP18831.i/18apr17.b/hd0755.d**

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: **QC106WEM**
Calibration date and time (Last Method Edit): 17-APR-2018 07:01
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/18apr17.b/hd0751.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
26) 1,4-Dichlorobenzene-d4	6.025(-0.006)	873	152	146887 (-16)	5.00	
67) Naphthalene-d8	7.960(0.000)	1205	136	535851 (-18)	5.00	
119) Acenaphthene-d10	10.735(-0.006)	1681	164	267081 (-19)	5.00	
160) Phenanthrene-d10	12.728(0.006)	2023	188	519777 (-22)	5.00	
183) Pyrene-d10	14.529(0.006)	2332	212	564550 (-21)	5.00	
221) Perylene-d12	18.842(0.000)	3072	264	580359 (-21)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
12) 2-Fluorophenol	(1)	4.125(-0.003)	112	1151191	28.568	57%		10 - 82
18) Phenol-d6	(1)	5.571(-0.001)	99	1144327	21.395	43%		10 - 71
45) Nitrobenzene-d5	(2)	6.876(-0.001)	82	966338	20.513	82%		30 - 111
97) 2-Fluorobiphenyl	(3)	9.715(0.000)	172	1721931	19.517	78%		39 - 105
141) 2,4,6-Tribromophenol	(3)	11.935(0.000)	330	551021	47.409	95%		21 - 134
187) Terphenyl-d14	(5)	14.856(0.000)	244	2279601	22.914	92%		27 - 116

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
17) Benzaldehyde	(1)	5.378(-0.000)	77	386026	11.569	46.27			0.3
19) Phenol	(1)	5.588(-0.000)	94	331551	5.378	21.51			0.1
23) bis(2-Chloroethyl)ether	(1)	5.687(-0.000)	93	484052	10.824	43.30			0.1
24) 2-Chlorophenol	(1)	5.716(-0.001)	128	453603	10.813	43.25			0.1
25) 1,3-Dichlorobenzene	(1)	5.932(-0.000)	146	336006	7.250	29.00			0.1
27) 1,4-Dichlorobenzene	(1)	6.048(0.000)	146	349678	7.543	30.17			0.1
29) 1,2-Dichlorobenzene	(1)	6.264(0.001)	146	349355	7.819	31.28			0.1
32) 2-Methylphenol	(1)	6.480(0.001)	108	412926	10.618	42.47			0.1
34) 2,2'-oxybis(1-Chloropropane)	(1)	6.503(0.001)	45	554523	10.286	41.15			0.1
37) Acetophenone	(1)	6.660(0.000)	105	669437	11.556	46.22			0.1
38) 4-Methylphenol	(1)	6.725(0.001)	108	436677	9.789	39.15			0.1
39) N-Nitroso-di-n-propylamine	(1)	6.690(0.001)	70	371497	10.995	43.98			0.1
44) Hexachloroethane	(1)	6.765(0.001)	117	116607	6.165	24.66			0.3
46) Nitrobenzene	(2)	6.900(0.000)	77	511924	10.935	43.74			0.1
52) Isophorone	(2)	7.284(-0.000)	82	992770	11.912	47.65			0.1
53) 2-Nitrophenol	(2)	7.389(0.000)	139	233171	12.085	48.34			0.1
55) 2,4-Dimethylphenol	(2)	7.529(0.000)	107	441196	10.527	42.11			0.1
58) bis(2-Chloroethoxy)methane	(2)	7.675(0.000)	93	631216	11.908	47.63			0.1
62) 2,4-Dichlorophenol	(2)	7.780(-0.000)	162	410954	11.742	46.97			0.1
64) 1,2,4-Trichlorobenzene	(2)	7.890(-0.000)	180	299369	7.780	31.12			0.1
69) Naphthalene	(2)	7.989(-0.000)	128	1075267	9.157	36.63			0.03
70) 4-Chloroaniline	(2)	8.124(-0.000)	127	452416	9.352	37.41			0.5
74) Hexachlorobutadiene	(2)	8.223(-0.000)	225	153412	6.564	26.26			0.1
79) Caprolactam	(2)	8.642(0.000)	113	42188	4.028	16.11			1
83) 4-Chloro-3-methylphenol	(2)	8.945(0.000)	107	420090	11.687	46.75			0.1
86) 2-Methylnaphthalene	(2)	9.091(-0.000)	142	690059	8.712	34.85			0.03
87) 1-Methylnaphthalene	(2)	9.243(-0.000)	142	676504	9.371	37.49			0.03

Digitally signed by Brandon K. Cordova on 04/17/2018 at 15:22. Target 3.5 esignature user ID: bkc25363

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP18831.i/18apr17.b/hd0756.d
Injection date and time: **17-APR-2018 09:17**
Data file Sample Info. Line: 106WELCS;106WELCS;1;3;LCS;;;
Instrument ID: **HP18831.i** Batch: **18106WAE**
Date, time and analyst ID of latest file update: 17-Apr-2018 15:19 bkc25363

Blank Data file reference: **/chem/HP18831.i/18apr17.b/hd0755.d**

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: **QC106WEM**
Calibration date and time (Last Method Edit): 17-APR-2018 07:01
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/18apr17.b/hd0751.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
88) Hexachlorocyclopentadiene	(3)	9.353(0.000)	237	198426	8.128	32.51			1
89) 1,2,4,5-Tetrachlorobenzene	(3)	9.359(0.000)	216	300021	7.472	29.89			0.1
94) 2,4,6-Trichlorophenol	(3)	9.569(0.000)	196	314526	12.237	48.95			0.1
96) 2,4,5-Trichlorophenol	(3)	9.622(0.000)	196	334632	12.617	50.47			0.1
99) 1,1'-Biphenyl	(3)	9.855(0.000)	154	868802	9.751	39.00			0.1
100) 2-Chloronaphthalene	(3)	9.855(0.000)	162	651266	8.538	34.15			0.1
105) 2-Nitroaniline	(3)	10.059(0.000)	138	290897	13.115	52.46			0.1
111) Dimethylphthalate	(3)	10.408(-0.000)	163	696728	8.006	32.02			0.5
114) 2,6-Dinitrotoluene	(3)	10.478(-0.000)	165	226714	12.290	49.16			0.1
115) Acenaphthylene	(3)	10.502(0.000)	152	1267466	11.236	44.94			0.03
118) 3-Nitroaniline	(3)	10.723(-0.000)	138	226950	11.678	46.71			0.1
120) Acenaphthene	(3)	10.781(0.000)	153	789578	10.233	40.93			0.03
121) 2,4-Dinitrophenol	(3)	10.898(0.000)	184	277280	28.862	115.45			3
122) 4-Nitrophenol	(3)	11.067(0.000)	109	81906	6.715	26.86		J	3
124) 2,4-Dinitrotoluene	(3)	11.108(0.000)	165	314113	12.823	51.29			0.3
125) Dibenzofuran	(3)	11.067(0.000)	168	1080561	10.331	41.33			0.1
130) Diethylphthalate	(3)	11.545(0.000)	149	882258	10.447	41.79			0.5
132) Fluorene	(3)	11.597(0.000)	166	876700	10.250	41.00			0.03
133) 4-Chlorophenyl-phenylether	(3)	11.644(0.000)	204	378925	9.128	36.51			0.1
135) 4-Nitroaniline	(3)	11.667(0.000)	138	204156	10.297	41.19			0.1
136) 4,6-Dinitro-2-methylphenol	(4)	11.714(-0.000)	198	181198	14.280	57.12			1
137) N-Nitrosodiphenylamine	(4)	11.819(-0.000)	169	850699	12.476	49.90			0.1
149) 4-Bromophenyl-phenylether	(4)	12.262(-0.000)	248	258388	10.417	41.67			0.1
151) Hexachlorobenzene	(4)	12.297(-0.000)	284	294936	11.666	46.66			0.03
154) Atrazine	(4)	12.501(-0.000)	200	308228	14.202	56.81			0.5
156) Pentachlorophenol	(4)	12.536(-0.000)	266	195826	12.479	49.92			0.3
162) Phenanthrene	(4)	12.757(-0.000)	178	1443591	11.923	47.69			0.03
164) Anthracene	(4)	12.816(-0.000)	178	1475111	11.934	47.74			0.03
170) Carbazole	(4)	13.031(-0.000)	167	1437642	13.019	52.08			0.1
173) Di-n-butylphthalate	(4)	13.521(-0.000)	149	1642260	11.433	45.73			0.5
181) Fluoranthene	(4)	14.249(-0.000)	202	1787513	12.580	50.32			0.03
185) Pyrene	(5)	14.558(-0.000)	202	1836859	12.289	49.16			0.03
196) Butylbenzylphthalate	(5)	15.677(-0.000)	149	682223	10.379	41.52			0.5
201) 3,3'-Dichlorobenzidine	(5)	16.482(-0.000)	252	448766	8.534	34.14			0.5
204) Benzo(a)anthracene	(5)	16.458(-0.000)	228	1730369	12.479	49.92			0.03
205) Chrysene	(5)	16.517(-0.000)	228	1676333	12.659	50.63			0.03
207) bis(2-Ethylhexyl)phthalate	(5)	16.715(-0.000)	149	1145024	11.900	47.60			0.5
213) Di-n-octylphthalate	(6)	17.846(0.000)	149	2049829	11.452	45.81			0.5
214) Benzo(b)fluoranthene	(6)	18.248(-0.000)	252	1766112	12.118	48.47			0.03
216) Benzo(k)fluoranthene	(6)	18.300(-0.000)	252	1781896	12.986	51.94			0.03
219) Benzo(a)pyrene	(6)	18.755(0.000)	252	1668667	12.442	49.77			0.03
227) Indeno(1,2,3-cd)pyrene	(6)	20.416(0.000)	276	1551339	11.716	46.86			0.03
228) Dibenz(a,h)anthracene	(6)	20.468(-0.000)	278	1660692	12.194	48.78			0.03
229) Benzo(g,h,i)perylene	(6)	20.766(-0.000)	276	1611352	11.564	46.26			0.03

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Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP18831.i/18apr17.b/hd0756.d
Injection date and time: **17-APR-2018 09:17**
Data file Sample Info. Line: 106WELCS;106WELCS;1;3;LCS;;;
Instrument ID: **HP18831.i** Batch: **18106WAE**
Date, time and analyst ID of latest file update: 17-Apr-2018 15:19 bkc25363

Blank Data file reference: **/chem/HP18831.i/18apr17.b/hd0755.d**

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: **QC106WEM**
Calibration date and time (Last Method Edit): 17-APR-2018 07:01
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/18apr17.b/hd0751.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

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Total number of targets = 71

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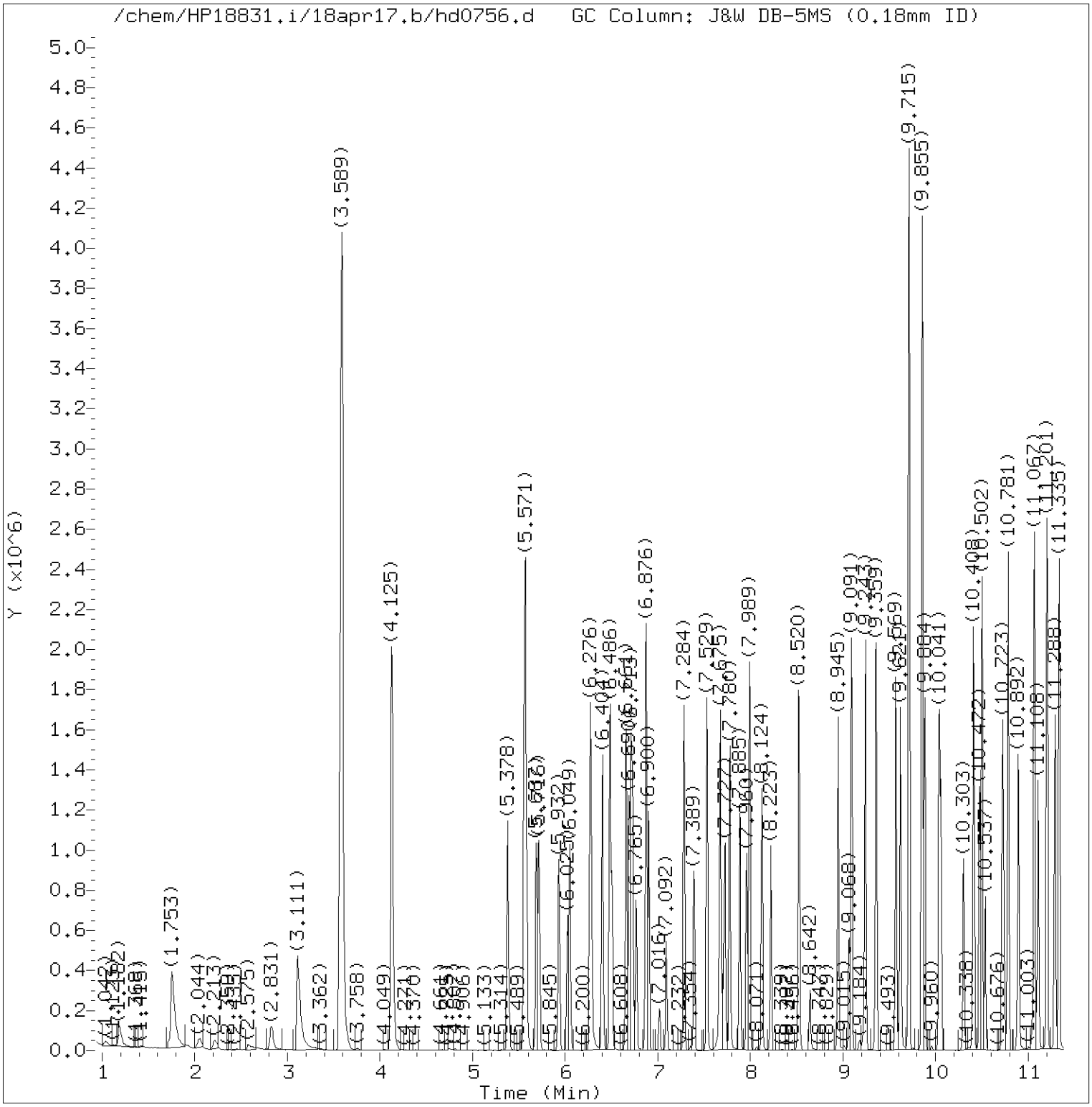
Secondary review performed and digitally signed by Matthew E. Barton on 04/18/2018 at 19:16. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/18apr17.b/hd0756.d Instrument ID: HP18831.i
Injection date and time: 17-APR-2018 09:17 Analyst ID: bhs10208

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: QC106WEM
Calibration date and time: 17-APR-2018 07:01
Date, time and analyst ID of latest file update: 17-Apr-2018 15:19 bkc25363

Sample Name: 106WELCS Lab Sample ID: 106WELCS

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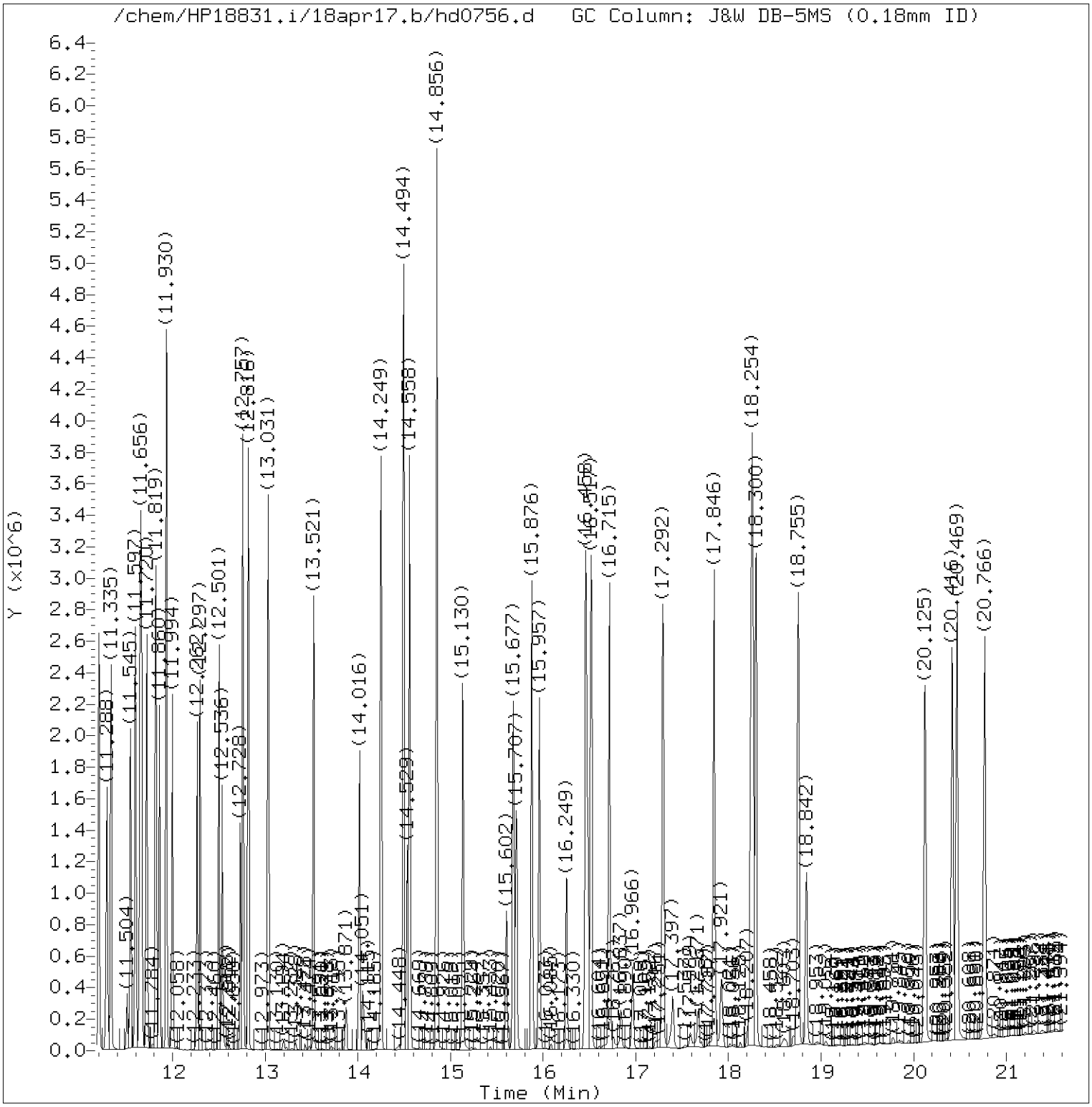
on 04/17/2018 at 15:22.
Target 3.5 esignature user ID: bkc25363



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/18apr17.b/hd0756.d Instrument ID: HP18831.i
Injection date and time: 17-APR-2018 09:17 Analyst ID: bhs10208

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: QC106WEM
Calibration date and time: 17-APR-2018 07:01
Date, time and analyst ID of latest file update: 17-Apr-2018 15:19 bkc25363

Sample Name: 106WELCS Lab Sample ID: 106WELCS

Digitally signed by Brandon K. Cordova
on 04/17/2018 at 15:22.
Target 3.5 esignature user ID: bkc25363

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr17.b/hd0756.d Instrument ID: HP18831.i
Injection date and time: 17-APR-2018 09:17 Analyst ID: bhs10208

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: QC106WEM
Calibration date and time: 17-APR-2018 07:01
Date, time and analyst ID of latest file update: 17-Apr-2018 15:19 bkc25363

Sample Name: 106WELCS Lab Sample ID: 106WELCS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
12)$2-Fluorophenol	(1)	4.125	112	1151191	28.568
17) Benzaldehyde	(1)	5.378	77	386026	11.569
18)$Phenol-d6	(1)	5.571	99	1144327	21.395
19) Phenol	(1)	5.588	94	331551	5.378
23) bis(2-Chloroethyl)ether	(1)	5.687	93	484052	10.824
24) 2-Chlorophenol	(1)	5.716	128	453603	10.813
25) 1,3-Dichlorobenzene	(1)	5.932	146	336006	7.250
26)*1,4-Dichlorobenzene-d4	(1)	6.025	152	146887	5.000
27) 1,4-Dichlorobenzene	(1)	6.049	146	349678	7.543
29) 1,2-Dichlorobenzene	(1)	6.264	146	349355	7.819
32) 2-Methylphenol	(1)	6.480	108	412926	10.618
34) 2,2'-oxybis(1-Chloropropane)	(1)	6.503	45	554523	10.286
37) Acetophenone	(1)	6.661	105	669437	11.556
39) N-Nitroso-di-n-propylamine	(1)	6.690	70	371497	10.995
38) 4-Methylphenol	(1)	6.725	108	436677	9.789
44) Hexachloroethane	(1)	6.765	117	116607	6.165
45)$Nitrobenzene-d5	(2)	6.876	82	966338	20.513
46) Nitrobenzene	(2)	6.900	77	511924	10.935
52) Isophorone	(2)	7.284	82	992770	11.912
53) 2-Nitrophenol	(2)	7.389	139	233171	12.085
55) 2,4-Dimethylphenol	(2)	7.529	107	441196	10.527
58) bis(2-Chloroethoxy)methane	(2)	7.675	93	631216	11.908
62) 2,4-Dichlorophenol	(2)	7.780	162	410954	11.742
64) 1,2,4-Trichlorobenzene	(2)	7.890	180	299369	7.780
67)*Naphthalene-d8	(2)	7.960	136	535851	5.000
69) Naphthalene	(2)	7.989	128	1075267	9.157
70) 4-Chloroaniline	(2)	8.124	127	452416	9.352
74) Hexachlorobutadiene	(2)	8.223	225	153412	6.564
79) Caprolactam	(2)	8.642	113	42188	4.028
83) 4-Chloro-3-methylphenol	(2)	8.945	107	420090	11.687
86) 2-Methylnaphthalene	(2)	9.091	142	690059	8.712
87) 1-Methylnaphthalene	(2)	9.243	142	676504	9.371
88) Hexachlorocyclopentadiene	(3)	9.353	237	198426	8.128
89) 1,2,4,5-Tetrachlorobenzene	(3)	9.359	216	300021	7.472
94) 2,4,6-Trichlorophenol	(3)	9.569	196	314526	12.237
96) 2,4,5-Trichlorophenol	(3)	9.621	196	334632	12.617
97)$2-Fluorobiphenyl	(3)	9.715	172	1721931	19.517
99) 1,1'-Biphenyl	(3)	9.855	154	868802	9.751
100) 2-Chloronaphthalene	(3)	9.855	162	651266	8.538
105) 2-Nitroaniline	(3)	10.059	138	290897	13.115

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 04/17/2018 at 15:22.
Target 3.5 esignature user ID: bkc25363

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr17.b/hd0756.d Instrument ID: HP18831.i
Injection date and time: 17-APR-2018 09:17 Analyst ID: bhs10208

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: QC106WEM
Calibration date and time: 17-APR-2018 07:01
Date, time and analyst ID of latest file update: 17-Apr-2018 15:19 bkc25363

Sample Name: 106WELCS Lab Sample ID: 106WELCS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
111) Dimethylphthalate	(3)	10.408	163	696728	8.006
114) 2,6-Dinitrotoluene	(3)	10.478	165	226714	12.290
115) Acenaphthylene	(3)	10.502	152	1267466	11.236
118) 3-Nitroaniline	(3)	10.723	138	226950	11.678
119)*Acenaphthene-d10	(3)	10.735	164	267081	5.000
120) Acenaphthene	(3)	10.781	153	789578	10.233
121) 2,4-Dinitrophenol	(3)	10.898	184	277280	28.862
122) 4-Nitrophenol	(3)	11.067	109	81906	6.715
125) Dibenzofuran	(3)	11.067	168	1080561	10.331
124) 2,4-Dinitrotoluene	(3)	11.108	165	314113	12.823
130) Diethylphthalate	(3)	11.545	149	882258	10.447
132) Fluorene	(3)	11.597	166	876700	10.250
133) 4-Chlorophenyl-phenylether	(3)	11.644	204	378925	9.128
135) 4-Nitroaniline	(3)	11.667	138	204156	10.297
136) 4,6-Dinitro-2-methylphenol	(4)	11.714	198	181198	14.280
137) N-Nitrosodiphenylamine	(4)	11.819	169	850699	12.476
141)$2,4,6-Tribromophenol	(3)	11.935	330	551021	47.409
149) 4-Bromophenyl-phenylether	(4)	12.262	248	258388	10.417
151) Hexachlorobenzene	(4)	12.297	284	294936	11.666
154) Atrazine	(4)	12.501	200	308228	14.202
156) Pentachlorophenol	(4)	12.536	266	195826	12.479
160)*Phenanthrene-d10	(4)	12.728	188	519777	5.000
162) Phenanthrene	(4)	12.757	178	1443591	11.923
164) Anthracene	(4)	12.816	178	1475111	11.934
170) Carbazole	(4)	13.031	167	1437642	13.019
173) Di-n-butylphthalate	(4)	13.521	149	1642260	11.433
181) Fluoranthene	(4)	14.249	202	1787513	12.580
183)*Pyrene-d10	(5)	14.529	212	564550	5.000
185) Pyrene	(5)	14.558	202	1836859	12.289
187)$Terphenyl-d14	(5)	14.856	244	2279601	22.914
196) Butylbenzylphthalate	(5)	15.677	149	682223	10.379
204) Benzo(a)anthracene	(5)	16.458	228	1730369	12.479
201) 3,3'-Dichlorobenzidine	(5)	16.482	252	448766	8.534
205) Chrysene	(5)	16.517	228	1676333	12.659
207) bis(2-Ethylhexyl)phthalate	(5)	16.715	149	1145024	11.900
213) Di-n-octylphthalate	(6)	17.846	149	2049829	11.452
214) Benzo(b)fluoranthene	(6)	18.248	252	1766112	12.118
216) Benzo(k)fluoranthene	(6)	18.300	252	1781896	12.986
219) Benzo(a)pyrene	(6)	18.755	252	1668667	12.442
221)*Perylene-d12	(6)	18.842	264	580359	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 04/17/2018 at 15:22.
Target 3.5 esignature user ID: bkc25363

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr17.b/hd0756.d Instrument ID: HP18831.i
Injection date and time: 17-APR-2018 09:17 Analyst ID: bhs10208

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: QC106WEM
Calibration date and time: 17-APR-2018 07:01
Date, time and analyst ID of latest file update: 17-Apr-2018 15:19 bkc25363

Sample Name: 106WELCS Lab Sample ID: 106WELCS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
227) Indeno(1,2,3-cd)pyrene	(6)	20.416	276	1551339	11.716
228) Dibenz(a,h)anthracene	(6)	20.469	278	1660692	12.194
229) Benzo(g,h,i)perylene	(6)	20.766	276	1611352	11.564

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on 04/17/2018 at 15:22.
Target 3.5 esignature user ID: bkc25363

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

106WELCSD

Data file: /chem/HP18831.i/18apr17.b/hd0757.d
Data file Sample Info. Line: 106WELCSD;106WELCSD;1;3;LCSD;;;
Date, time and analyst ID of latest file update: 17-Apr-2018 15:20 bkc25363

Injection date and time: **17-APR-2018 09:44**
Instrument ID: **HP18831.i** Batch: **18106WAE**

Blank Data file reference: **/chem/HP18831.i/18apr17.b/hd0755.d**

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: **QC106WEM**
Calibration date and time (Last Method Edit): 17-APR-2018 07:01
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/18apr17.b/hd0751.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
26) 1,4-Dichlorobenzene-d4	6.025(-0.006)	873	152	146011 (-17)	5.00	
67) Naphthalene-d8	7.960(0.000)	1205	136	528972 (-19)	5.00	
119) Acenaphthene-d10	10.735(-0.006)	1681	164	258426 (-22)	5.00	
160) Phenanthrene-d10	12.728(0.006)	2023	188	517819 (-22)	5.00	
183) Pyrene-d10	14.529(0.006)	2332	212	558046 (-22)	5.00	
221) Perylene-d12	18.842(0.000)	3072	264	579180 (-21)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
12) 2-Fluorophenol	(1)	4.125(-0.003)	112	1055970	26.362	53%		10 - 82
18) Phenol-d6	(1)	5.571(-0.001)	99	1048385	19.719	39%		10 - 71
45) Nitrobenzene-d5	(2)	6.870(0.000)	82	878359	18.888	76%		30 - 111
97) 2-Fluorobiphenyl	(3)	9.715(0.000)	172	1569648	18.387	74%		39 - 105
141) 2,4,6-Tribromophenol	(3)	11.930(0.001)	330	529691	47.100	94%		21 - 134
187) Terphenyl-d14	(5)	14.856(0.000)	244	2172761	22.094	88%		27 - 116

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
17) Benzaldehyde	(1)	5.378(-0.000)	77	344514	10.386	41.55			0.3
19) Phenol	(1)	5.588(-0.000)	94	303247	4.948	19.79			0.1
23) bis(2-Chloroethyl)ether	(1)	5.687(-0.000)	93	430685	9.689	38.76			0.1
24) 2-Chlorophenol	(1)	5.716(-0.001)	128	416369	9.985	39.94			0.1
25) 1,3-Dichlorobenzene	(1)	5.932(-0.000)	146	343614	7.459	29.83			0.1
27) 1,4-Dichlorobenzene	(1)	6.048(0.000)	146	352764	7.655	30.62			0.1
29) 1,2-Dichlorobenzene	(1)	6.264(0.001)	146	348071	7.837	31.35			0.1
32) 2-Methylphenol	(1)	6.480(0.001)	108	373675	9.666	38.66			0.1
34) 2,2'-oxybis(1-Chloropropane)	(1)	6.503(0.001)	45	499524	9.322	37.29			0.1
37) Acetophenone	(1)	6.660(0.000)	105	602072	10.455	41.82			0.1
38) 4-Methylphenol	(1)	6.725(0.001)	108	397062	8.954	35.82			0.1
39) N-Nitroso-di-n-propylamine	(1)	6.690(0.001)	70	335422	9.987	39.95			0.1
44) Hexachloroethane	(1)	6.765(0.001)	117	124553	6.624	26.50			0.3
46) Nitrobenzene	(2)	6.900(-0.000)	77	459876	9.951	39.81			0.1
52) Isophorone	(2)	7.284(-0.000)	82	899211	10.929	43.72			0.1
53) 2-Nitrophenol	(2)	7.389(-0.000)	139	218469	11.471	45.88			0.1
55) 2,4-Dimethylphenol	(2)	7.529(0.000)	107	399094	9.647	38.59			0.1
58) bis(2-Chloroethoxy)methane	(2)	7.675(0.000)	93	563062	10.760	43.04			0.1
62) 2,4-Dichlorophenol	(2)	7.780(-0.000)	162	383327	11.095	44.38			0.1
64) 1,2,4-Trichlorobenzene	(2)	7.890(-0.000)	180	316608	8.335	33.34			0.1
69) Naphthalene	(2)	7.989(-0.000)	128	1046471	9.027	36.11			0.03
70) 4-Chloroaniline	(2)	8.124(-0.000)	127	432716	9.061	36.25			0.5
74) Hexachlorobutadiene	(2)	8.223(-0.000)	225	178799	7.750	31.00			0.1
79) Caprolactam	(2)	8.642(0.000)	113	39073	3.779	15.12			1
83) 4-Chloro-3-methylphenol	(2)	8.945(0.000)	107	387847	10.931	43.72			0.1
86) 2-Methylnaphthalene	(2)	9.091(-0.000)	142	696056	8.902	35.61			0.03
87) 1-Methylnaphthalene	(2)	9.243(-0.000)	142	677272	9.504	38.02			0.03

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Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP18831.i/18apr17.b/hd0757.d
Injection date and time: **17-APR-2018 09:44**
Data file Sample Info. Line: 106WELCSD;106WELCSD;1;3;LCSD;;;
Instrument ID: **HP18831.i** Batch: **18106WAE**
Date, time and analyst ID of latest file update: 17-Apr-2018 15:20 bkc25363

Blank Data file reference: **/chem/HP18831.i/18apr17.b/hd0755.d**

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: **QC106WEM**
Calibration date and time (Last Method Edit): 17-APR-2018 07:01
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/18apr17.b/hd0751.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
88) Hexachlorocyclopentadiene	(3)	9.353(0.000)	237	242482	10.265	41.06			1
89) 1,2,4,5-Tetrachlorobenzene	(3)	9.359(0.000)	216	337114	8.677	34.71			0.1
94) 2,4,6-Trichlorophenol	(3)	9.569(0.000)	196	291997	11.741	46.96			0.1
96) 2,4,5-Trichlorophenol	(3)	9.621(0.000)	196	309856	12.074	48.30			0.1
99) 1,1'-Biphenyl	(3)	9.855(0.000)	154	878945	10.195	40.78			0.1
100) 2-Chloronaphthalene	(3)	9.855(0.000)	162	664526	9.004	36.02			0.1
105) 2-Nitroaniline	(3)	10.059(0.000)	138	257520	11.999	48.00			0.1
111) Dimethylphthalate	(3)	10.402(0.000)	163	590988	7.018	28.07			0.5
114) 2,6-Dinitrotoluene	(3)	10.472(0.000)	165	210152	11.774	47.10			0.1
115) Acenaphthylene	(3)	10.502(0.000)	152	1201409	11.007	44.03			0.03
118) 3-Nitroaniline	(3)	10.717(0.000)	138	213438	11.351	45.40			0.1
120) Acenaphthene	(3)	10.781(0.000)	153	778434	10.426	41.71			0.03
121) 2,4-Dinitrophenol	(3)	10.892(0.000)	184	256514	27.595	110.38			3
122) 4-Nitrophenol	(3)	11.067(0.000)	109	73695	6.244	24.98		J	3
124) 2,4-Dinitrotoluene	(3)	11.108(0.000)	165	281738	11.886	47.55			0.3
125) Dibenzofuran	(3)	11.067(0.000)	168	1044288	10.319	41.28			0.1
130) Diethylphthalate	(3)	11.545(0.000)	149	798803	9.776	39.10			0.5
132) Fluorene	(3)	11.597(0.000)	166	852450	10.300	41.20			0.03
133) 4-Chlorophenyl-phenylether	(3)	11.644(0.000)	204	388584	9.674	38.70			0.1
135) 4-Nitroaniline	(3)	11.667(0.000)	138	194546	10.141	40.57			0.1
136) 4,6-Dinitro-2-methylphenol	(4)	11.714(-0.000)	198	169709	13.425	53.70			1
137) N-Nitrosodiphenylamine	(4)	11.819(-0.000)	169	774345	11.399	45.60			0.1
149) 4-Bromophenyl-phenylether	(4)	12.262(-0.000)	248	250920	10.154	40.62			0.1
151) Hexachlorobenzene	(4)	12.297(-0.000)	284	273968	10.877	43.51			0.03
154) Atrazine	(4)	12.501(-0.000)	200	284003	13.136	52.54			0.5
156) Pentachlorophenol	(4)	12.536(-0.000)	266	180335	11.535	46.14			0.3
162) Phenanthrene	(4)	12.757(-0.000)	178	1312485	10.881	43.53			0.03
164) Anthracene	(4)	12.816(-0.000)	178	1338237	10.868	43.47			0.03
170) Carbazole	(4)	13.031(-0.000)	167	1298808	11.806	47.22			0.1
173) Di-n-butylphthalate	(4)	13.521(-0.000)	149	1466614	10.249	40.99			0.5
181) Fluoranthene	(4)	14.249(-0.000)	202	1621993	11.458	45.83			0.03
185) Pyrene	(5)	14.558(-0.000)	202	1669204	11.298	45.19			0.03
196) Butylbenzylphthalate	(5)	15.677(-0.000)	149	574532	8.842	35.37			0.5
201) 3,3'-Dichlorobenzidine	(5)	16.482(-0.000)	252	439298	8.451	33.81			0.5
204) Benzo(a)anthracene	(5)	16.458(-0.000)	228	1584587	11.561	46.25			0.03
205) Chrysene	(5)	16.517(-0.000)	228	1548796	11.832	47.33			0.03
207) bis(2-Ethylhexyl)phthalate	(5)	16.715(-0.000)	149	1068534	11.235	44.94			0.5
213) Di-n-octylphthalate	(6)	17.846(-0.000)	149	1891780	10.591	42.36			0.5
214) Benzo(b)fluoranthene	(6)	18.248(-0.000)	252	1622348	11.154	44.62			0.03
216) Benzo(k)fluoranthene	(6)	18.300(-0.000)	252	1634413	11.935	47.74			0.03
219) Benzo(a)pyrene	(6)	18.755(-0.000)	252	1508260	11.269	45.08			0.03
227) Indeno(1,2,3-cd)pyrene	(6)	20.422(-0.000)	276	1423293	10.771	43.08			0.03
228) Dibenz(a,h)anthracene	(6)	20.468(-0.000)	278	1515545	11.151	44.60			0.03
229) Benzo(g,h,i)perylene	(6)	20.766(-0.000)	276	1473314	10.595	42.38			0.03

Digitally signed by Brandon K. Cordova on 04/17/2018 at 15:22. Target 3.5 esignature user ID: bkc25363

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP18831.i/18apr17.b/hd0757.d
Injection date and time: **17-APR-2018 09:44**
Data file Sample Info. Line: 106WELCSD;106WELCSD;1;3;LCSD;;;
Instrument ID: **HP18831.i** Batch: **18106WAE**
Date, time and analyst ID of latest file update: 17-Apr-2018 15:20 bkc25363

Blank Data file reference: **/chem/HP18831.i/18apr17.b/hd0755.d**

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: **QC106WEM**
Calibration date and time (Last Method Edit): 17-APR-2018 07:01
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/18apr17.b/hd0751.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

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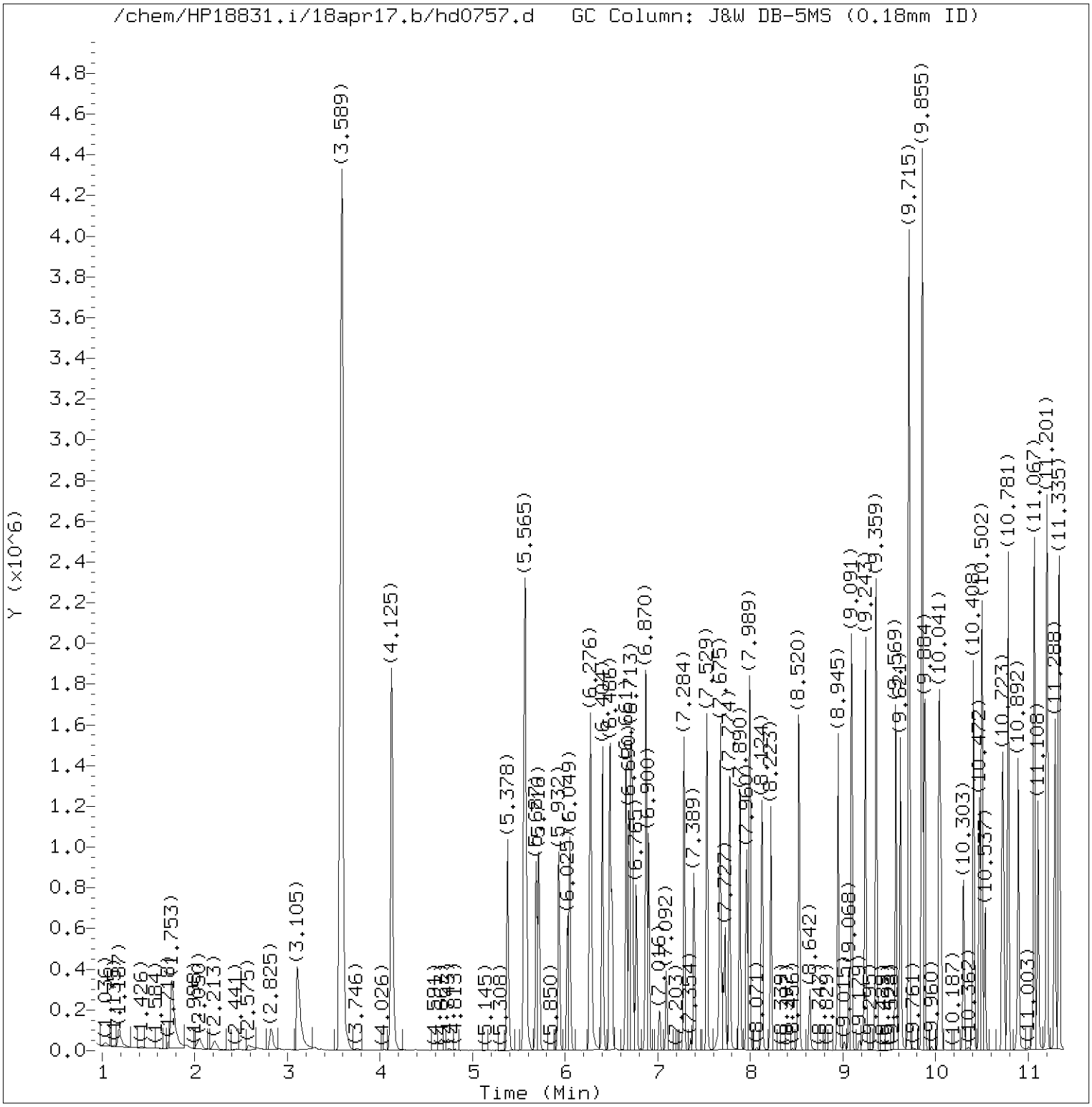
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 71

Digitally signed by Brandon K. Cordova on 04/17/2018 at 15:22. Target 3.5 esignature user ID: bkc25363

Secondary review performed and digitally signed by Matthew E. Barton on 04/18/2018 at 19:16. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

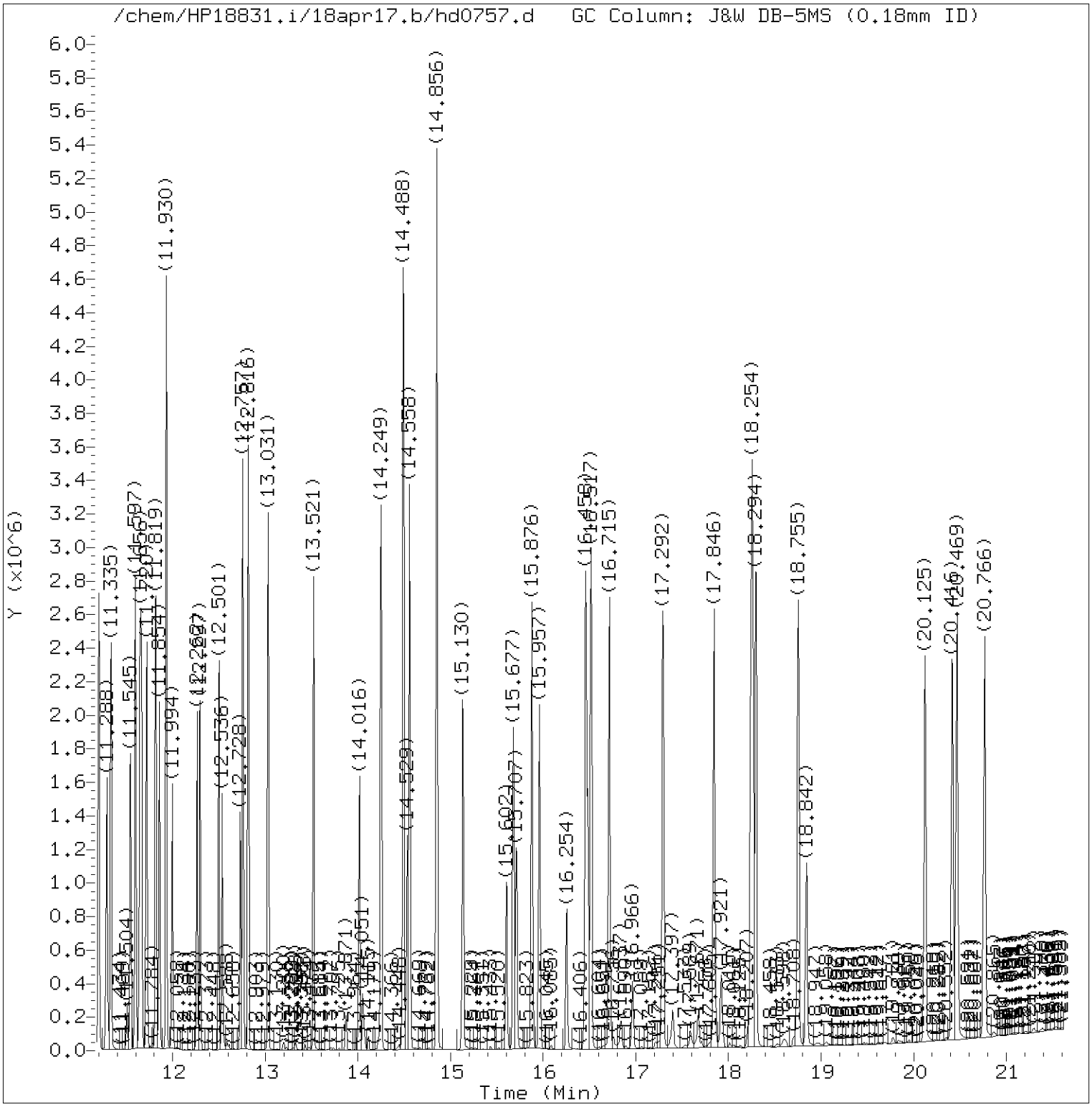
Target Revision 3.5

Data File: /chem/HP18831.i/18apr17.b/hd0757.d Instrument ID: HP18831.i
Injection date and time: 17-APR-2018 09:44 Analyst ID: bhs10208

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: QC106WEM
Calibration date and time: 17-APR-2018 07:01
Date, time and analyst ID of latest file update: 17-Apr-2018 15:20 bkc25363

Sample Name: 106WELCSD Lab Sample ID: 106WELCSD

Digitally signed by Brandon K. Cordova
on 04/17/2018 at 15:22.
Target 3.5 esignature user ID: bkc25363



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/18apr17.b/hd0757.d Instrument ID: HP18831.i
Injection date and time: 17-APR-2018 09:44 Analyst ID: bhs10208

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: QC106WEM
Calibration date and time: 17-APR-2018 07:01
Date, time and analyst ID of latest file update: 17-Apr-2018 15:20 bkc25363

Sample Name: 106WELCSD Lab Sample ID: 106WELCSD

Digitally signed by Brandon K. Cordova
on 04/17/2018 at 15:22.
Target 3.5 esignature user ID: bkc25363

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr17.b/hd0757.d Instrument ID: HP18831.i
Injection date and time: 17-APR-2018 09:44 Analyst ID: bhs10208

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: QC106WEM
Calibration date and time: 17-APR-2018 07:01
Date, time and analyst ID of latest file update: 17-Apr-2018 15:20 bkc25363

Sample Name: 106WELCSD Lab Sample ID: 106WELCSD

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
12)$2-Fluorophenol	(1)	4.125	112	1055970	26.362
17) Benzaldehyde	(1)	5.378	77	344514	10.386
18)$Phenol-d6	(1)	5.571	99	1048385	19.719
19) Phenol	(1)	5.588	94	303247	4.948
23) bis(2-Chloroethyl)ether	(1)	5.687	93	430685	9.689
24) 2-Chlorophenol	(1)	5.716	128	416369	9.985
25) 1,3-Dichlorobenzene	(1)	5.932	146	343614	7.459
26)*1,4-Dichlorobenzene-d4	(1)	6.025	152	146011	5.000
27) 1,4-Dichlorobenzene	(1)	6.049	146	352764	7.655
29) 1,2-Dichlorobenzene	(1)	6.264	146	348071	7.837
32) 2-Methylphenol	(1)	6.480	108	373675	9.666
34) 2,2'-oxybis(1-Chloropropane)	(1)	6.503	45	499524	9.322
37) Acetophenone	(1)	6.661	105	602072	10.455
39) N-Nitroso-di-n-propylamine	(1)	6.690	70	335422	9.987
38) 4-Methylphenol	(1)	6.725	108	397062	8.954
44) Hexachloroethane	(1)	6.765	117	124553	6.624
45)$Nitrobenzene-d5	(2)	6.870	82	878359	18.888
46) Nitrobenzene	(2)	6.900	77	459876	9.951
52) Isophorone	(2)	7.284	82	899211	10.929
53) 2-Nitrophenol	(2)	7.389	139	218469	11.471
55) 2,4-Dimethylphenol	(2)	7.529	107	399094	9.647
58) bis(2-Chloroethoxy)methane	(2)	7.675	93	563062	10.760
62) 2,4-Dichlorophenol	(2)	7.780	162	383327	11.095
64) 1,2,4-Trichlorobenzene	(2)	7.890	180	316608	8.335
67)*Naphthalene-d8	(2)	7.960	136	528972	5.000
69) Naphthalene	(2)	7.989	128	1046471	9.027
70) 4-Chloroaniline	(2)	8.124	127	432716	9.061
74) Hexachlorobutadiene	(2)	8.223	225	178799	7.750
79) Caprolactam	(2)	8.642	113	39073	3.779
83) 4-Chloro-3-methylphenol	(2)	8.945	107	387847	10.931
86) 2-Methylnaphthalene	(2)	9.091	142	696056	8.902
87) 1-Methylnaphthalene	(2)	9.243	142	677272	9.504
88) Hexachlorocyclopentadiene	(3)	9.353	237	242482	10.265
89) 1,2,4,5-Tetrachlorobenzene	(3)	9.359	216	337114	8.677
94) 2,4,6-Trichlorophenol	(3)	9.569	196	291997	11.741
96) 2,4,5-Trichlorophenol	(3)	9.621	196	309856	12.074
97)$2-Fluorobiphenyl	(3)	9.715	172	1569648	18.387
99) 1,1'-Biphenyl	(3)	9.855	154	878945	10.195
100) 2-Chloronaphthalene	(3)	9.855	162	664526	9.004
105) 2-Nitroaniline	(3)	10.059	138	257520	11.999

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon K. Cordova
on 04/17/2018 at 15:22.
Target 3.5 esignature user ID: bkc25363

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr17.b/hd0757.d Instrument ID: HP18831.i
Injection date and time: 17-APR-2018 09:44 Analyst ID: bhs10208

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: QC106WEM
Calibration date and time: 17-APR-2018 07:01
Date, time and analyst ID of latest file update: 17-Apr-2018 15:20 bkc25363

Sample Name: 106WELCSD Lab Sample ID: 106WELCSD

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
111) Dimethylphthalate	(3)	10.403	163	590988	7.018
114) 2,6-Dinitrotoluene	(3)	10.472	165	210152	11.774
115) Acenaphthylene	(3)	10.502	152	1201409	11.007
118) 3-Nitroaniline	(3)	10.717	138	213438	11.351
119)*Acenaphthene-d10	(3)	10.735	164	258426	5.000
120) Acenaphthene	(3)	10.781	153	778434	10.426
121) 2,4-Dinitrophenol	(3)	10.892	184	256514	27.595
122) 4-Nitrophenol	(3)	11.067	109	73695	6.244
125) Dibenzofuran	(3)	11.067	168	1044288	10.319
124) 2,4-Dinitrotoluene	(3)	11.108	165	281738	11.886
130) Diethylphthalate	(3)	11.545	149	798803	9.776
132) Fluorene	(3)	11.597	166	852450	10.300
133) 4-Chlorophenyl-phenylether	(3)	11.644	204	388584	9.674
135) 4-Nitroaniline	(3)	11.667	138	194546	10.141
136) 4,6-Dinitro-2-methylphenol	(4)	11.714	198	169709	13.425
137) N-Nitrosodiphenylamine	(4)	11.819	169	774345	11.399
141)$2,4,6-Tribromophenol	(3)	11.930	330	529691	47.100
149) 4-Bromophenyl-phenylether	(4)	12.262	248	250920	10.154
151) Hexachlorobenzene	(4)	12.297	284	273968	10.877
154) Atrazine	(4)	12.501	200	284003	13.136
156) Pentachlorophenol	(4)	12.536	266	180335	11.535
160)*Phenanthrene-d10	(4)	12.728	188	517819	5.000
162) Phenanthrene	(4)	12.757	178	1312485	10.881
164) Anthracene	(4)	12.816	178	1338237	10.868
170) Carbazole	(4)	13.031	167	1298808	11.806
173) Di-n-butylphthalate	(4)	13.521	149	1466614	10.249
181) Fluoranthene	(4)	14.249	202	1621993	11.458
183)*Pyrene-d10	(5)	14.529	212	558046	5.000
185) Pyrene	(5)	14.558	202	1669204	11.298
187)$Terphenyl-d14	(5)	14.856	244	2172761	22.094
196) Butylbenzylphthalate	(5)	15.677	149	574532	8.842
204) Benzo(a)anthracene	(5)	16.458	228	1584587	11.561
201) 3,3'-Dichlorobenzidine	(5)	16.482	252	439298	8.451
205) Chrysene	(5)	16.517	228	1548796	11.832
207) bis(2-Ethylhexyl)phthalate	(5)	16.715	149	1068534	11.235
213) Di-n-octylphthalate	(6)	17.846	149	1891780	10.591
214) Benzo(b)fluoranthene	(6)	18.248	252	1622348	11.154
216) Benzo(k)fluoranthene	(6)	18.300	252	1634413	11.935
219) Benzo(a)pyrene	(6)	18.755	252	1508260	11.269
221)*Perylene-d12	(6)	18.842	264	579180	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon K. Cordova
on 04/17/2018 at 15:22.
Target 3.5 esignature user ID: bkc25363

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/18apr17.b/hd0757.d Instrument ID: HP18831.i
Injection date and time: 17-APR-2018 09:44 Analyst ID: bhs10208

Method used: /chem/HP18831.i/18apr17.b/rv8270c.m Sublist used: QC106WEM
Calibration date and time: 17-APR-2018 07:01
Date, time and analyst ID of latest file update: 17-Apr-2018 15:20 bkc25363

Sample Name: 106WELCSD Lab Sample ID: 106WELCSD

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
227) Indeno(1,2,3-cd)pyrene	(6)	20.422	276	1423293	10.771
228) Dibenz(a,h)anthracene	(6)	20.469	278	1515545	11.151
229) Benzo(g,h,i)perylene	(6)	20.766	276	1473314	10.595

Digitally signed by Brandon K. Cordova
on 04/17/2018 at 15:22.
Target 3.5 esignature user ID: bkc25363

Extraction/Distillation/Digestion Logs

Semivolatiles by GC/MS

Organic Extraction Batchlog Assigned to: 26557 Logan Brosemer Reviewed by: [illegible] 4/15/18 Start Date: 4-12-18 Start time: 9:30

18101WAR026

Tech 1: LMB 26557 Tech 2: _____

Dept: 26	Prep Analysis: 00813 BNA Water Extraction										TCL SW846 8270C MINI
QC	Sample Code	Amt (mL)	SS/IS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH <2	pH >11	BC	Comments
9548790MS	T8101	249	SS1809626A	1.0	MS1810126B (B) ~~MS1810126D~~	1.0 1.0	1	✓	✓	153A	Tan Cloudy
9548791MSD	T8101	247	SS1809626A	1.0	MS1810126B (B) ~~MS1810126D~~	1.0 1.0	1	✓	✓	153a	Tan Cloudy
BLANKA	SBLKWR101	250	SS1809626A	1.0	—	—	1	✓	✓	Z	Tap H_2O
LCSA	101WRLCS	250	SS1809626A	1.0	MS1810126B (B) ~~MS1810126D~~	1.0 1.0	1	✓	✓	Z	Tap H_2O

Solvent Used	Lot No.
10N NaOH	4708B00
Methylene Chloride	181347
Sodium Sulfate	18101B
Sulfuric Acid	177436

LMB 26557 4/12/18

(B) MS1809526B

Spike Solutions:
MS1810126B — MINI SEP. LCS SPIKE #1
~~MS1810126D~~ — MINI SEP. LCS SPIKE #2
SS1809626A — MINI SEP. BNA SURROGATE

Witness: _____

Sample #	Sample Code	Amt (mL)	SS/IS Sol.	Amt (mL)	FV (mL)	pH <2	pH >11	BC	Comments	Analyses	List	Due Date	Prio
1 9548789BKG	T8101	246	SS1809626A	1.0	1	✓	✓	153 A	Tan cloudy	14240	20639	04/19/2018	N
2 9548797	T8103	247	SS1809626A	1.0	1	✓	✓	153 A	Tan cloudy	14240	20639	04/19/2018	N
3 9548799	T8105	247	SS1809626A	1.0	1	✓	✓	153 A	Clear	14240	20639	04/19/2018	N
4 9552016	--EFF	248	SS1809626A	1.0	1	✓	✓	153A	Clear	14240	20810	04/23/2018	N
5 9553408	CHA53	237	SS1809626A	1.0	1	✓	✓	153 A	Clear	14240	20664	04/23/2018	N
6 9553410	CHAF1	245	SS1809626A	1.0	1	✓	✓	153 A	clear	14240	20664	04/23/2018	N
7 9553411	CHA52	238	SS1809626A	1.0	1	✓	✓	153 A	Tan cloudy	14240	20664	04/23/2018	N
8 9553412	CH511	237	SS1809626A	1.0	1	✓	✓	153 A	Tan Cloudy	14240	20664	04/23/2018	N
9 9553413	CH512	241	SS1809626A	1.0	1	✓	✓	153 A	Tan Cloudy	14240	20664	04/23/2018	N
10 9553414	CH513	224	SS1809626A	1.0	1	✓	✓	153 A	Tan Cloudy	14240	20664	04/23/2018	N
11 9553415	CHA59	247	SS1809626A	1.0	1	✓	✓	153 A	Tan TInT	14240	20664	04/23/2018	N
12 9553416	CHA61	238	SS1809626A	1.0	1	✓	✓	153 A	Tan TInT	14240	20664	04/23/2018	N
13 9553417	CHAFB	241	SS1809626A	1.0	1	✓	✓	153 A	Clear	14240	20664	04/23/2018	N
14 9553418	CHA54	237	SS1809626A	1.0	1	✓	✓	153 A	Clear	14240	20664	04/23/2018	N
15 9553582	324C9	250	SS1809626A	1.0	1	✓	✓	153 A	Orange Cloudy	14240	21564	04/23/2018	N
16 9553583	325C8	249	SS1809626A	1.0	1	✓	✓	153 A	Tan cloudy	14240	21564	04/23/2018	N
17 9553584	402B9	248	SS1809626A	1.0	1	✓	✓	153 A	Tan Cloudy	14240	21564	04/23/2018	N

Bench#	Bench#	Bench#								
Rack ID:	—	Work Station	Tumble	Micro Temp 100?	✓	R-VAP ID 5	90 C	R-VAP ID 6	90 C	R-VAP ID C
Internal Standard	NVE STD08.8	Balance #	25996			S-bath ID C	S-bath ID C	N-Evap C	M-vap C	18101WAR026

DF = Dilution Factor FV = Final Volume

Documented temps are NIST corrected.

rganic Extraction Batchlog

18106WAE026

Assigned to: 11067 Osvaldo Sanchez

Reviewed by: [illegible] 10208 4/12/18

Start Date: 4/16/18

Start time: 16:30

Tech 1: OS11067

Tech 2: Kwozn

Dept: 26	Prep Analysis: 00813 BNA Water Extraction										TCL SW846 8270C MINI
QC	Sample Code	Amt mL	SS/IS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH <2	pH >11	BC	Comments
BLANKA	SBLKWE106	250	SS1809626A	1.0	—	—	1	✓	✓	7	TAP H2O
LCSA	106WELCS	250	SS1809626A	1.0	MS1810126B MS1810126D	1.0 1.0	1	✓	✓		TAP H2O
LCSDA	106WELCSD	250	SS1809626A	1.0	MS1810126B MS1810126D	1.0 1.0	1	✓	✓		TAP H2O

Solvent Used	Lot No.
10N NaOH	4708B00
Methylene Chloride	180784
Sodium Sulfate	181059
Sulfuric Acid	179162

Spike Solutions: Witness:

MS1810126B MINI SEP. LCS SPIKE #1

MS1810126D MINI SEP. LCS SPIKE #2

SS1809626A MINI SEP. BNA SURROGATE

	Sample #		Sample Code	Amt mL	SS/IS Sol.	Amt (mL)	FV (mL)	pH <2	pH >11	BC	Comments	Analyses	List	Due Date	Prio
1	9548789BKGR		T8101	250	SS1809626A	1.0	1	✓	✓	153B	Tan tint	14240	20639	04/19/2018	N
2	9548797	R	T8103	249	SS1809626A	1.0	1	✓	✓	153B	Tan tint	14240	20639	04/19/2018	N
3	9548799	R	T8105	248	SS1809626A	1.0	1	✓	✓	153B	Clear	14240	20639	04/19/2018	N
4	9552016	R	--EFF	248	SS1809626A	1.0	1	✓	✓	153B	Clear	14240	20810	04/23/2018	N
5	9553408	R	CHA53	233	SS1809626A	1.0	1	✓	✓	153B	Clear	14240	20664	04/23/2018	N
6	9553410	R	CHAF1	234	SS1809626A	1.0	1	✓	✓	153B	Clear	14240	20664	04/23/2018	N
7	9553411	R	CHA52	238	SS1809626A	1.0	1	✓	✓	153B	Yellow tint	14240	20664	04/23/2018	N
8	9553412	R	CH511	233	SS1809626A	1.0	1	✓	✓	153B	Yellow tint	14240	20664	04/23/2018	N
9	9553413	R	CH512	229	SS1809626A	1.0	1	✓	✓	153B	Yellow tint	14240	20664	04/23/2018	N
10	9553414	R	CH513	222	SS1809626A	1.0	1	✓	✓	153B	Yellow tint	14240	20664	04/23/2018	N
11	9553415	R	CHA59	232	SS1809626A	1.0	1	✓	✓	153B	Yellow tint	14240	20664	04/23/2018	N
12	9553416	R	CHA61	227	SS1809626A	1.0	1	✓	✓	153B	Clear	14240	20664	04/23/2018	N
13	9553417	R	CHAFB	245	SS1809626A	1.0	1	✓	✓	153B	Clear	14240	20664	04/23/2018	N
14	9553418	R	CHA54	241	SS1809626A	1.0	1	✓	✓	153B	Clear	14240	20664	04/23/2018	N

NIA
Kwozn
4/16/18

Bench# 4	Bench# 5	Bench#		
Rack ID:		Work Station	tumble	Micro Temp 100? ✓
Internal Standard	RVISTD 1038	Balance #	25996	

R-VAP ID 6	90 C	R-VAP ID 4	90 C	~~R-VAP ID~~	~~C~~		
~~S-bath ID~~	~~C~~	~~S-bath ID~~	~~C~~	~~N-Evap~~	~~C~~	~~M-vap~~	~~C~~

18106WAE026

DF = Dilution Factor FV = Final Volume

Documented temps are NIST corrected.

Metals in Liquid Data

Case Narrative/Conformance Summary

Metals in Liquid

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Case Narrative/Conformance Summary

CLIENT: Stantec
SDG: ATH81

ICP Metals

Fraction: Metals in Liquid

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
9548789	NY-MW-55	X		1	Background/Unspiked
9548790	NY-MW-55MS	X		1	Matrix Spike
9548791	NY-MW-55MSD	X		1	Matrix Spike Duplicate
9548792	NY-MW-55DUP	X		1	Duplicate
9548793	NY-MW-55	X		1	Background/
9548794	NY-MW-55MS	X		1	Matrix Spike
9548795	NY-MW-55MSD	X		1	Matrix Spike Duplicate
9548796	NY-MW-55DUP	X		1	Duplicate
9548797	NY-MW-55DUP	X		1	Field Duplicate Sample
9548798	NY-MW-55DUP	X		1	Field Duplicate Sample
9548799	EB-20180406	X		1	Equipment Blank

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

Method Blank

For noncompliant preparation/method blanks, corrective action is not required if the sample is ND or > 10 times the blank concentration, unless otherwise specified in the method or by the client.

Case Narrative/Conformance Summary

CLIENT: Stantec
SDG: ATH81

ICP Metals

Fraction: Metals in Liquid

MS/MSD

Method defined actions are taken for any failed matrix QC.

Batch#: 181000184802 (Sample number(s): 9548793-9548796, 9548798, UNSPK: 9548793, BKG: 9548793)
The recovery(ies) for the following analyte(s) in the MS and MSD exceeded the acceptance window indicating a positive bias: Iron

Batch#: 181000184801 (Sample number(s): 9548789-9548792, 9548797, 9548799, UNSPK: 9548789, BKG: 9548789)
The recovery(ies) for the following analyte(s) in the MS were below the acceptance window: Manganese
The recovery(ies) for the following analyte(s) in the MS exceeded the acceptance window indicating a positive bias: Magnesium
The recovery(ies) for the following analyte(s) in the MS and MSD exceeded the acceptance window indicating a positive bias: Calcium, Iron, Sodium

Sample Duplicate

Batch#: 181000184802 (Sample number(s): 9548793-9548796, 9548798, UNSPK: 9548793, BKG: 9548793)
The duplicate RPD for the following analyte(s) is outside the acceptance window: Copper

Batch#: 181000184801 (Sample number(s): 9548789-9548792, 9548797, 9548799, UNSPK: 9548789, BKG: 9548789)
The duplicate RPD for the following analyte(s) is outside the acceptance window: Lead, Nickel

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

The instrument detection limits (IDLs) are used for determining the U flags on the initial and continuing calibration blanks. The highest IDL is selected when multiple instruments are used for an analysis. The method detection limits (MDLs) are used for determining all other U flags.

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Case Narrative/Conformance Summary

CLIENT: Stantec
SDG: ATH81

ICP Metals

Fraction: Metals in Liquid

Abbreviation Key

BKG – Background	AF - Cold Vapor Atomic Fluorescence
DUP – Duplicate	U - Below MDL
MS - Matrix Spike	B - Below LOQ
MSD - Matrix Spike Dup	N - Matrix Spike out of specifications
B – Blank	* - Duplicate out of specifications
Q - Laboratory Control Sample	E - Matrix Effects exist as proven by Serial Dilution or Spiked Dilution
Y - Laboratory Control Sample Duplicate	A - Post Digestion Spike
P - ICP Atomic Emission Spectrometer	L - Serial Dilution
MS - ICP Mass Spectrometry	R - Internal Standard Relative Intensity OOS
CV - Cold Vapor	NR - Not Required

Sample Data

Metals in Liquid

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: ATH81
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9548789BKG % Solids: 0.0
Concentration Units: UG/L Date Received: 04/09/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	893			P
7440-36-0	Antimony	8.7	U		P
7440-38-2	Arsenic	9.6	U		P
7440-39-3	Barium	289			P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	1.8	U		P
7440-70-2	Calcium	51100			P
7440-47-3	Chromium	3.5	B		P
7440-48-4	Cobalt	5.7			P
7440-50-8	Copper	10.9			P
7439-89-6	Iron	16000			P
7439-92-1	Lead	6.1	B		P
7439-95-4	Magnesium	16500			P
7439-96-5	Manganese	1700			P
7439-97-6	Mercury	0.050	U		CV
7440-02-0	Nickel	4.0	U		P
7440-09-7	Potassium	4650			P
7782-49-2	Selenium	9.3	U		P
7440-22-4	Silver	2.4	U		P
7440-23-5	Sodium	94800			P
7440-28-0	Thallium	13.7	U		P
7440-62-2	Vanadium	5.4			P
7440-66-6	Zinc	32.7			P

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence
NR = Not Required

CONCENTRATION QUALIFIERS:
U = Below MDL,
B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: ATH81
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9548790MS % Solids: 0.0
Concentration Units: UG/L Date Received: 04/09/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2920			P
7440-36-0	Antimony	530			P
7440-38-2	Arsenic	148			P
7440-39-3	Barium	2360			P
7440-41-7	Beryllium	52.5			P
7440-43-9	Cadmium	49.8			P
7440-70-2	Calcium	61100			P
7440-47-3	Chromium	202			P
7440-48-4	Cobalt	505			P
7440-50-8	Copper	268			P
7439-89-6	Iron	18800			P
7439-92-1	Lead	148			P
7439-95-4	Magnesium	19300			P
7439-96-5	Manganese	2070			P
7439-97-6	Mercury	0.94			CV
7440-02-0	Nickel	506			P
7440-09-7	Potassium	15500			P
7782-49-2	Selenium	149			P
7440-22-4	Silver	53.1			P
7440-23-5	Sodium	138000			P
7440-28-0	Thallium	149			P
7440-62-2	Vanadium	540			P
7440-66-6	Zinc	504			P

Comments:

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U = Below MDL,
MS = ICP Mass Spectrometry	B = Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	
NR = Not Required	

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: ATH81
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9548791MSD % Solids: 0.0
Concentration Units: UG/L Date Received: 04/09/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2790			P
7440-36-0	Antimony	534			P
7440-38-2	Arsenic	145			P
7440-39-3	Barium	2300			P
7440-41-7	Beryllium	51.3			P
7440-43-9	Cadmium	50.0			P
7440-70-2	Calcium	58600			P
7440-47-3	Chromium	197			P
7440-48-4	Cobalt	509			P
7440-50-8	Copper	262			P
7439-89-6	Iron	18900			P
7439-92-1	Lead	149			P
7439-95-4	Magnesium	18800			P
7439-96-5	Manganese	2080			P
7439-97-6	Mercury	0.93			CV
7440-02-0	Nickel	506			P
7440-09-7	Potassium	15100			P
7782-49-2	Selenium	145			P
7440-22-4	Silver	51.8			P
7440-23-5	Sodium	131000			P
7440-28-0	Thallium	149			P
7440-62-2	Vanadium	529			P
7440-66-6	Zinc	505			P

Comments:

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U = Below MDL,
MS = ICP Mass Spectrometry	B = Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	
NR = Not Required	

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: ATH81
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9548792DUP % Solids: 0.0
Concentration Units: UG/L Date Received: 04/09/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	927			P
7440-36-0	Antimony	8.7	U		P
7440-38-2	Arsenic	9.6	U		P
7440-39-3	Barium	296			P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	1.8	U		P
7440-70-2	Calcium	53300			P
7440-47-3	Chromium	3.8	B		P
7440-48-4	Cobalt	6.0			P
7440-50-8	Copper	9.1	B		P
7439-89-6	Iron	16400			P
7439-92-1	Lead	6.0	U		P
7439-95-4	Magnesium	17200			P
7439-96-5	Manganese	1750			P
7439-97-6	Mercury	0.050	U		CV
7440-02-0	Nickel	4.1	B		P
7440-09-7	Potassium	4760			P
7782-49-2	Selenium	9.3	U		P
7440-22-4	Silver	2.4	U		P
7440-23-5	Sodium	99200			P
7440-28-0	Thallium	13.7	U		P
7440-62-2	Vanadium	4.8	B		P
7440-66-6	Zinc	32.4			P

Comments:

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U = Below MDL,
MS = ICP Mass Spectrometry	B = Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	
NR = Not Required	

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: ATH81
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9548793BKG % Solids: 0.0
Concentration Units: UG/L Date Received: 04/09/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	89.4	U		P
7440-36-0	Antimony	8.7	U		P
7440-38-2	Arsenic	9.6	U		P
7440-39-3	Barium	246			P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	1.8	U		P
7440-70-2	Calcium	49700			P
7440-47-3	Chromium	3.3	U		P
7440-48-4	Cobalt	3.3	B		P
7440-50-8	Copper	4.8	B		P
7439-89-6	Iron	15300			P
7439-92-1	Lead	6.0	U		P
7439-95-4	Magnesium	15900			P
7439-96-5	Manganese	1680			P
7439-97-6	Mercury	0.050	U		CV
7440-02-0	Nickel	4.0	U		P
7440-09-7	Potassium	4520			P
7782-49-2	Selenium	9.3	U		P
7440-22-4	Silver	2.4	U		P
7440-23-5	Sodium	94600			P
7440-28-0	Thallium	13.7	U		P
7440-62-2	Vanadium	1.6	U		P
7440-66-6	Zinc	13.2	B		P

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence
NR = Not Required

CONCENTRATION QUALIFIERS:
U = Below MDL,
B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: ATH81
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9548794MS % Solids: 0.0
Concentration Units: UG/L Date Received: 04/09/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2170			P
7440-36-0	Antimony	547			P
7440-38-2	Arsenic	151			P
7440-39-3	Barium	2320			P
7440-41-7	Beryllium	52.0			P
7440-43-9	Cadmium	52.1			P
7440-70-2	Calcium	54200			P
7440-47-3	Chromium	208			P
7440-48-4	Cobalt	528			P
7440-50-8	Copper	274			P
7439-89-6	Iron	16600			P
7439-92-1	Lead	151			P
7439-95-4	Magnesium	18100			P
7439-96-5	Manganese	2190			P
7439-97-6	Mercury	0.85			CV
7440-02-0	Nickel	531			P
7440-09-7	Potassium	15400			P
7782-49-2	Selenium	152			P
7440-22-4	Silver	54.1			P
7440-23-5	Sodium	106000			P
7440-28-0	Thallium	149			P
7440-62-2	Vanadium	528			P
7440-66-6	Zinc	526			P

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence
NR = Not Required

CONCENTRATION QUALIFIERS:
U = Below MDL,
B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: ATH81
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9548795MSD % Solids: 0.0
Concentration Units: UG/L Date Received: 04/09/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2250			P
7440-36-0	Antimony	541			P
7440-38-2	Arsenic	152			P
7440-39-3	Barium	2280			P
7440-41-7	Beryllium	51.3			P
7440-43-9	Cadmium	51.7			P
7440-70-2	Calcium	53800			P
7440-47-3	Chromium	207			P
7440-48-4	Cobalt	522			P
7440-50-8	Copper	271			P
7439-89-6	Iron	16700			P
7439-92-1	Lead	147			P
7439-95-4	Magnesium	18000			P
7439-96-5	Manganese	2140			P
7439-97-6	Mercury	0.93			CV
7440-02-0	Nickel	525			P
7440-09-7	Potassium	15400			P
7782-49-2	Selenium	154			P
7440-22-4	Silver	51.8			P
7440-23-5	Sodium	107000			P
7440-28-0	Thallium	149			P
7440-62-2	Vanadium	521			P
7440-66-6	Zinc	521			P

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence
NR = Not Required

CONCENTRATION QUALIFIERS:
U = Below MDL,
B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: ATH81
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9548796DUP % Solids: 0.0
Concentration Units: UG/L Date Received: 04/09/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	89.4	U		P
7440-36-0	Antimony	8.7	U		P
7440-38-2	Arsenic	9.6	U		P
7440-39-3	Barium	243			P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	1.8	U		P
7440-70-2	Calcium	51400			P
7440-47-3	Chromium	3.3	U		P
7440-48-4	Cobalt	3.5	B		P
7440-50-8	Copper	4.0	U		P
7439-89-6	Iron	15600			P
7439-92-1	Lead	6.0	U		P
7439-95-4	Magnesium	16300			P
7439-96-5	Manganese	1660			P
7439-97-6	Mercury	0.050	U		CV
7440-02-0	Nickel	4.0	U		P
7440-09-7	Potassium	4700			P
7782-49-2	Selenium	9.3	U		P
7440-22-4	Silver	2.4	U		P
7440-23-5	Sodium	96600			P
7440-28-0	Thallium	13.7	U		P
7440-62-2	Vanadium	1.6	U		P
7440-66-6	Zinc	14.0	B		P

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence
NR = Not Required

CONCENTRATION QUALIFIERS:
U = Below MDL,
B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: ATH81
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9548797 % Solids: 0.0
Concentration Units: UG/L Date Received: 04/09/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7100			P
7440-36-0	Antimony	8.7	U		P
7440-38-2	Arsenic	9.6	U		P
7440-39-3	Barium	294			P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	1.8	U		P
7440-70-2	Calcium	51800			P
7440-47-3	Chromium	9.5	B		P
7440-48-4	Cobalt	5.3			P
7440-50-8	Copper	7.6	B		P
7439-89-6	Iron	20900			P
7439-92-1	Lead	7.0	B		P
7439-95-4	Magnesium	16900			P
7439-96-5	Manganese	1700			P
7439-97-6	Mercury	0.050	U		CV
7440-02-0	Nickel	5.9	B		P
7440-09-7	Potassium	5160			P
7782-49-2	Selenium	9.3	U		P
7440-22-4	Silver	2.4	U		P
7440-23-5	Sodium	103000			P
7440-28-0	Thallium	13.7	U		P
7440-62-2	Vanadium	9.2			P
7440-66-6	Zinc	31.7			P

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence
NR = Not Required

CONCENTRATION QUALIFIERS:
U = Below MDL,
B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: ATH81
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9548798 % Solids: 0.0
Concentration Units: UG/L Date Received: 04/09/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	89.4	U		P
7440-36-0	Antimony	8.7	U		P
7440-38-2	Arsenic	9.6	U		P
7440-39-3	Barium	244			P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	1.8	U		P
7440-70-2	Calcium	50600			P
7440-47-3	Chromium	3.3	U		P
7440-48-4	Cobalt	3.6	B		P
7440-50-8	Copper	4.0	U		P
7439-89-6	Iron	15600			P
7439-92-1	Lead	6.0	U		P
7439-95-4	Magnesium	16100			P
7439-96-5	Manganese	1670			P
7439-97-6	Mercury	0.051	B		CV
7440-02-0	Nickel	4.0	U		P
7440-09-7	Potassium	4590			P
7782-49-2	Selenium	9.3	U		P
7440-22-4	Silver	2.4	U		P
7440-23-5	Sodium	95100			P
7440-28-0	Thallium	13.7	U		P
7440-62-2	Vanadium	1.6	U		P
7440-66-6	Zinc	13.8	B		P

Comments:

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U = Below MDL,
MS = ICP Mass Spectrometry	B = Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	
NR = Not Required	

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: ATH81
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9548799 % Solids: 0.0
Concentration Units: UG/L Date Received: 04/09/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	200			P
7440-36-0	Antimony	8.7	U		P
7440-38-2	Arsenic	9.6	U		P
7440-39-3	Barium	2.1	B		P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	1.8	U		P
7440-70-2	Calcium	60.0	U		P
7440-47-3	Chromium	3.3	U		P
7440-48-4	Cobalt	1.7	U		P
7440-50-8	Copper	4.0	U		P
7439-89-6	Iron	80.5	U		P
7439-92-1	Lead	6.0	U		P
7439-95-4	Magnesium	37.4	U		P
7439-96-5	Manganese	1.6	U		P
7439-97-6	Mercury	0.050	U		CV
7440-02-0	Nickel	4.0	U		P
7440-09-7	Potassium	179	U		P
7782-49-2	Selenium	9.3	U		P
7440-22-4	Silver	2.4	U		P
7440-23-5	Sodium	321	U		P
7440-28-0	Thallium	13.7	U		P
7440-62-2	Vanadium	1.6	U		P
7440-66-6	Zinc	6.5	U		P

Comments:

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

Quality Control and Calibration Summary Forms

Metals in Liquid

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QUALITY CONTROL REFERENCE LIST

SDG No.: ATH81
Matrix: WATER

Analyte	Batch Number	Lab Sample ID
Aluminum	181000184801	9548789BKG
Antimony		9548790MS
Arsenic		9548791MSD
Barium		9548792DUP
Beryllium		9548797
Cadmium		9548799
Calcium		P10084AB
Chromium		P10084AQ
Cobalt		
Copper		
Iron		
Lead		
Magnesium		
Manganese		
Nickel		
Potassium		
Selenium		
Silver		
Sodium		
Thallium		
Vanadium		
Zinc		

LEGEND:

BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY CONTROL REFERENCE LIST

SDG No.: ATH81
Matrix: WATER

Analyte	Batch Number	Lab Sample ID
Aluminum	181000184802	9548793BKG
Antimony		9548794MS
Arsenic		9548795MSD
Barium		9548796DUP
Beryllium		9548798
Cadmium		P10084BB
Calcium		P10084BQ
Chromium		
Cobalt		
Copper		
Iron		
Lead		
Magnesium		
Manganese		
Nickel		
Potassium		
Selenium		
Silver		
Sodium		
Thallium		
Vanadium		
Zinc		

LEGEND:

BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

QUALITY CONTROL REFERENCE LIST

SDG No.: ATH81
Matrix: WATER

Analyte	Batch Number	Lab Sample ID
Mercury	181010571304	9548789BKG
		9548790MS
		9548791MSD
		9548792DUP
		9548797
		9548799
		P10171DB
		P10171DQ

LEGEND:

BKG = Background	B = Blank
DUP = Duplicate	Q = Laboratory Control Sample
MS = Matrix Spike	Y = Laboratory Control Sample Duplicate
MSD = Matrix Spike Duplicate	

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QUALITY CONTROL REFERENCE LIST

SDG No.: ATH81
Matrix: WATER

Analyte	Batch Number	Lab Sample ID
Mercury	181030571304	9548793BKG
		9548794MS
		9548795MSD
		9548796DUP
		9548798
		P10371DB
		P10371DQ

LEGEND:

BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: ATH81

Method: P
Run Name: 1810506T72
Calibration Date(s): 4/15/2018 - 04/16/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Aluminum		30000.0	29834.60	99.4	25000.0	25121.68	100.5	25000.0	26068.76	104.3
Antimony		600.0	601.03	100.2	500.0	490.90	98.2	500.0	504.29	100.9
Arsenic		600.0	585.52	97.6	500.0	486.98	97.4	500.0	504.21	100.8
Barium										
Beryllium										
Cadmium		600.0	582.72	97.1	500.0	486.27	97.3	500.0	501.37	100.3
Calcium		30000.0	29971.94	99.9	25000.0	25631.12	102.5	25000.0	26363.70	105.5
Chromium		600.0	568.38	94.7	500.0	482.09	96.4	500.0	500.60	100.1
Cobalt		600.0	575.93	96.0	500.0	488.49	97.7	500.0	505.16	101.0
Copper		600.0	586.75	97.8	500.0	497.05	99.4	500.0	522.57	104.5
Iron		30000.0	29066.14	96.9	25000.0	24544.90	98.2	25000.0	24932.67	99.7
Lead										
Magnesium		30000.0	29973.42	99.9	25000.0	25425.80	101.7	25000.0	26070.12	104.3
Manganese		600.0	586.60	97.8	500.0	496.67	99.3	500.0	527.63	105.5
Nickel		600.0	579.89	96.6	500.0	485.26	97.1	500.0	498.59	99.7
Potassium		30000.0	29623.00	98.7	25000.0	25484.32	101.9	25000.0	27207.90	108.8
Selenium		600.0	571.61	95.3	500.0	478.79	95.8	500.0	487.27	97.5
Silver										
Sodium		30000.0	28352.84	94.5	25000.0	25088.64	100.4	25000.0	27306.46	109.2
Thallium										
Vanadium										
Zinc		600.0	575.66	95.9	500.0	483.95	96.8	500.0	494.60	98.9

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: ATH81

Method: P
Run Name: 1810506T72
Calibration Date(s): 4/15/2018 - 04/16/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Aluminum					25000.0	24754.89	99.0			
Antimony					500.0	487.62	97.5			
Arsenic					500.0	489.10	97.8			
Barium										
Beryllium										
Cadmium					500.0	485.91	97.2			
Calcium					25000.0	25030.66	100.1			
Chromium					500.0	481.80	96.4			
Cobalt					500.0	489.52	97.9			
Copper					500.0	503.45	100.7			
Iron					25000.0	23625.73	94.5			
Lead										
Magnesium					25000.0	24639.32	98.6			
Manganese					500.0	505.38	101.1			
Nickel					500.0	484.26	96.9			
Potassium					25000.0	26488.18	106.0			
Selenium					500.0	477.76	95.6			
Silver										
Sodium					25000.0	26101.28	104.4			
Thallium										
Vanadium										
Zinc					500.0	480.94	96.2			

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: ATH81

Method: P
Run Name: 1810602T72
Calibration Date(s): 04/16/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Aluminum		30000.0	29581.43	98.6	25000.0	24613.98	98.5	25000.0	24587.43	98.3
Antimony		600.0	615.99	102.7	500.0	494.06	98.8	500.0	498.92	99.8
Arsenic		600.0	601.25	100.2	500.0	492.34	98.5	500.0	506.40	101.3
Barium		600.0	605.06	100.8	500.0	511.20	102.2	500.0	510.52	102.1
Beryllium		600.0	571.52	95.3	500.0	484.51	96.9	500.0	480.62	96.1
Cadmium		600.0	599.33	99.9	500.0	491.50	98.3	500.0	503.40	100.7
Calcium		30000.0	29549.45	98.5	25000.0	24434.81	97.7	25000.0	24288.02	97.2
Chromium		600.0	575.09	95.8	500.0	486.51	97.3	500.0	492.55	98.5
Cobalt		600.0	591.87	98.6	500.0	497.70	99.5	500.0	502.99	100.6
Copper		600.0	592.18	98.7	500.0	503.63	100.7	500.0	506.41	101.3
Iron		30000.0	28931.69	96.4	25000.0	24027.15	96.1	25000.0	24165.44	96.7
Lead		600.0	595.14	99.2	500.0	485.42	97.1	500.0	500.89	100.2
Magnesium		30000.0	29666.20	98.9	25000.0	24492.68	98.0	25000.0	24494.13	98.0
Manganese		600.0	589.15	98.2	500.0	507.45	101.5	500.0	500.94	100.2
Nickel		600.0	600.16	100.0	500.0	490.14	98.0	500.0	504.10	100.8
Potassium		30000.0	29241.56	97.5	25000.0	24521.61	98.1	25000.0	24356.72	97.4
Selenium		600.0	596.93	99.5	500.0	481.28	96.3	500.0	497.56	99.5
Silver		600.0	598.49	99.7	500.0	509.92	102.0	500.0	501.96	100.4
Sodium		30000.0	28188.60	94.0	25000.0	24657.47	98.6	25000.0	24620.70	98.5
Thallium		600.0	598.23	99.7	500.0	495.47	99.1	500.0	503.57	100.7
Vanadium		600.0	591.02	98.5	500.0	504.53	100.9	500.0	501.59	100.3
Zinc		600.0	593.25	98.9	500.0	485.07	97.0	500.0	501.96	100.4

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: ATH81

Method: P
Run Name: 1810602T72
Calibration Date(s): 04/16/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Aluminum					25000.0	24601.72	98.4			
Antimony					500.0	505.19	101.0			
Arsenic					500.0	505.19	101.0			
Barium					500.0	511.74	102.3			
Beryllium					500.0	489.36	97.9			
Cadmium					500.0	502.00	100.4			
Calcium					25000.0	24378.76	97.5			
Chromium					500.0	497.58	99.5			
Cobalt					500.0	503.98	100.8			
Copper					500.0	517.09	103.4			
Iron					25000.0	23890.39	95.6			
Lead					500.0	499.03	99.8			
Magnesium					25000.0	24441.78	97.8			
Manganese					500.0	508.36	101.7			
Nickel					500.0	502.55	100.5			
Potassium					25000.0	24950.56	99.8			
Selenium					500.0	495.43	99.1			
Silver					500.0	510.11	102.0			
Sodium					25000.0	25018.04	100.1			
Thallium					500.0	505.58	101.1			
Vanadium					500.0	509.14	101.8			
Zinc					500.0	501.15	100.2			

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: ATH81

Method: P
Run Name: 1810701T74
Calibration Date(s): 04/17/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper		600.0	597.72	99.6	500.0	510.12	102.0	500.0	522.05	104.4
Iron										
Lead										
Magnesium										
Manganese										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Thallium										
Vanadium										
Zinc										

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: ATH81

Method: P
Run Name: 1810701T74
Calibration Date(s): 04/17/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper					500.0	509.04	101.8			
Iron										
Lead										
Magnesium										
Manganese										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Thallium										
Vanadium										
Zinc										

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: ATH81

Method: P
Run Name: 1810703T72
Calibration Date(s): 04/17/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Aluminum										
Antimony										
Arsenic										
Barium		600.0	623.53	103.9	500.0	523.71	104.7	500.0	509.34	101.9
Beryllium		600.0	591.32	98.6	500.0	500.12	100.0	500.0	483.10	96.6
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead		600.0	599.98	100.0	500.0	503.11	100.6	500.0	493.83	98.8
Magnesium										
Manganese		600.0	618.16	103.0	500.0	523.04	104.6	500.0	509.28	101.9
Nickel										
Potassium										
Selenium										
Silver		600.0	624.68	104.1	500.0	518.83	103.8	500.0	510.21	102.0
Sodium										
Thallium		600.0	585.40	97.6	500.0	503.08	100.6	500.0	493.53	98.7
Vanadium		600.0	593.96	99.0	500.0	502.74	100.5	500.0	489.48	97.9
Zinc										

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: ATH81

Method: P
Run Name: 1810703T72
Calibration Date(s): 04/17/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Aluminum										
Antimony										
Arsenic										
Barium					500.0	516.77	103.4			
Beryllium					500.0	497.23	99.4			
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead					500.0	500.22	100.0			
Magnesium										
Manganese					500.0	513.34	102.7			
Nickel										
Potassium										
Selenium										
Silver					500.0	512.63	102.5			
Sodium										
Thallium					500.0	504.94	101.0			
Vanadium					500.0	499.20	99.8			
Zinc										

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: ATH81

Method: P
Run Name: 1810906T73
Calibration Date(s): 04/19/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead										
Magnesium										
Manganese										
Nickel										
Potassium										
Selenium										
Silver		600.0	595.34	99.2	500.0	490.79	98.2	500.0	490.36	98.1
Sodium										
Thallium										
Vanadium										
Zinc										

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: ATH81

Method: CV
Run Name: 1810201M07
Calibration Date(s): 04/12/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Mercury		2.5	2.45	98.0	1.0	1.04	104.0	1.0	1.02	102.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: ATH81

Method: CV
Run Name: 1810201M07
Calibration Date(s): 04/12/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Mercury					1.0	1.00	100.0	1.0	1.00	100.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: ATH81

Method: CV
Run Name: 1810201M07
Calibration Date(s): 04/12/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Mercury					1.0	1.01	101.0			

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: ATH81

Method: CV
Run Name: 1810601M07
Calibration Date(s): 04/16/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Mercury		2.5	2.31	92.4	1.0	0.98	98.0	1.0	0.99	99.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: ATH81

Method: CV
Run Name: 1810601M07
Calibration Date(s): 04/16/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Mercury					1.0	0.99	99.0	1.0	0.96	96.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: ATH81

Method: CV
Run Name: 1810601M07
Calibration Date(s): 04/16/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Mercury					1.0	1.03	103.0	1.0	0.96	96.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: ATH81

Method: CV
Run Name: 1810601M07
Calibration Date(s): 04/16/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Mercury					1.0	0.96	96.0			

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: ATH81

Method: P
Run Name: 1810506T72
Calibration Date(s): 4/15/2018 - 04/16/2018
Concentration Units: UG/L

Analyte	Mass	True	Initial Found	Initial %R	Final Found	Final %R
Aluminum		200.0	149.25	74.6	137.43	68.7
Antimony		20.0	25.09	125.5	25.97	129.9
Arsenic		20.0	18.79	94.0	18.08	90.4
Barium						
Beryllium						
Cadmium		5.0	5.10	102.0	5.11	102.2
Calcium		200.0	209.97	105.0	200.73	100.4
Chromium		15.0	15.01	100.1	15.40	102.7
Cobalt		5.0	5.19	103.8	5.19	103.8
Copper		10.0	14.42	144.2	12.96	129.6
Iron		200.0	225.14	112.6	197.15	98.6
Lead						
Magnesium		100.0	95.33	95.3	104.76	104.8
Manganese		5.0	5.17	103.4	5.37	107.4
Nickel		10.0	10.18	101.8	10.22	102.2
Potassium		500.0	525.01	105.0	426.26	85.3
Selenium		20.0	21.92	109.6	20.78	103.9
Silver						
Sodium		1000.0	990.72	99.1	1133.13	113.3
Thallium						
Vanadium						
Zinc		20.0	19.77	98.9	19.73	98.7

Control limits: 50% - 150%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: ATH81

Method: P
Run Name: 1810602T72
Calibration Date(s): 04/16/2018
Concentration Units: UG/L

Analyte	Mass	True	Initial Found	Initial %R	Final Found	Final %R
Aluminum		200.0	210.54	105.3	100.59	50.3
Antimony		20.0	22.69	113.5	24.29	121.5
Arsenic		20.0	21.63	108.2	22.08	110.4
Barium		5.0	5.27	105.4	5.20	104.0
Beryllium		5.0	5.77	115.4	5.69	113.8
Cadmium		5.0	5.25	105.0	5.44	108.8
Calcium		200.0	188.41	94.2	194.15	97.1
Chromium		15.0	16.35	109.0	15.69	104.6
Cobalt		5.0	5.29	105.8	5.19	103.8
Copper		10.0	18.40	184.0	13.01	130.1
Iron		200.0	193.79	96.9	192.47	96.2
Lead		15.0	19.05	127.0	18.79	125.3
Magnesium		100.0	105.93	105.9	106.53	106.5
Manganese		5.0	5.14	102.8	5.03	100.6
Nickel		10.0	10.88	108.8	11.39	113.9
Potassium		500.0	491.43	98.3	535.44	107.1
Selenium		20.0	19.95	99.8	19.00	95.0
Silver		5.0	2.58	51.6	5.99	119.8
Sodium		1000.0	805.98	80.6	959.00	95.9
Thallium		30.0	30.65	102.2	31.24	104.1
Vanadium		5.0	5.53	110.6	4.82	96.4
Zinc		20.0	19.99	100.0	20.42	102.1

Control limits: 50% - 150%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: ATH81

Method: P
Run Name: 1810701T74
Calibration Date(s): 04/17/2018
Concentration Units: UG/L

Analyte	Mass	True	Initial Found	Initial %R	Final Found	Final %R
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper		10.0	9.27	92.7	9.33	93.3
Iron						
Lead						
Magnesium						
Manganese						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Thallium						
Vanadium						
Zinc						

Control limits: 50% - 150%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: ATH81

Method: P
Run Name: 1810703T72
Calibration Date(s): 04/17/2018
Concentration Units: UG/L

Analyte	Mass	True	Initial Found	Initial %R	Final Found	Final %R
Aluminum						
Antimony						
Arsenic						
Barium		5.0	5.39	107.8	5.28	105.6
Beryllium		5.0	4.93	98.6	4.85	97.0
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead		15.0	17.66	117.7	17.63	117.5
Magnesium						
Manganese		5.0	5.48	109.6	5.56	111.2
Nickel						
Potassium						
Selenium						
Silver		5.0	2.95	59.0	3.28	65.6
Sodium						
Thallium		30.0	31.10	103.7	30.23	100.8
Vanadium		5.0	5.42	108.4	4.99	99.8
Zinc						

Control limits: 50% - 150%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: ATH81

Method: P
Run Name: 1810906T73
Calibration Date(s): 04/19/2018
Concentration Units: UG/L

Analyte	Mass	True	Initial Found	Initial %R	Final Found	Final %R
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Nickel						
Potassium						
Selenium						
Silver		5.0	4.04	80.8	3.67	73.4
Sodium						
Thallium						
Vanadium						
Zinc						

Control limits: 50% - 150%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: ATH81

Method: CV
Run Name: 1810201M07
Calibration Date(s): 04/12/2018
Concentration Units: UG/L

Analyte	Mass	True	Initial Found	Initial %R	Final Found	Final %R
Mercury		0.2	0.18	90.0	0.17	85.0

Control limits: 50% - 150%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: ATH81

Method: CV
Run Name: 1810601M07
Calibration Date(s): 04/16/2018
Concentration Units: UG/L

Analyte	Mass	True	Initial Found	Initial %R	Final Found	Final %R
Mercury		0.2	0.20	100.0	0.20	100.0

Control limits: 50% - 150%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: ATH81

Method: P
Run Name: 1810506T72
Calibration Date(s): 04/15/2018 - 04/16/2018
Preparation Blank Matrix: WATER

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Batch Number
Aluminum		91.3	U	-104	B	91.3	U	91.3	U		964.820		181000184802
Antimony		5.2	B	4.4	B	5.6	B	8.2	B		8.700	U	181000184802
Arsenic		3.3	U	3.3	U	3.3	U	3.3	U		9.600	U	181000184802
Barium													
Beryllium													
Cadmium		0.33	U	0.33	U	0.33	U	0.33	U		1.800	U	181000184802
Calcium		33.4	U	33.4	U	33.4	U	33.4	U		60.000	U	181000184802
Chromium		0.81	B	0.73	U	0.73	U	0.73	U		3.300	U	181000184802
Cobalt		0.42	U	0.42	U	0.42	U	0.42	U		1.700	U	181000184802
Copper		3.8	U	3.8	U	3.8	U	3.8	U		4.000	U	181000184802
Iron		33.4	U	33.4	U	33.4	U	33.4	U		80.500	U	181000184802
Lead													
Magnesium		16.7	U	16.7	U	16.7	U	16.7	U		37.400	U	181000184802
Manganese		0.83	U	0.83	U	0.83	U	0.83	U		6.820		181000184802
Nickel		0.94	U	0.94	U	0.94	U	0.94	U		4.000	U	181000184802
Potassium		127	U	127	U	135	B	127	U		179.000	U	181000184802
Selenium		6.7	U	6.7	U	6.7	U	6.7	U		9.300	U	181000184802
Silver													
Sodium		167	U	167	U	302	B	167	U		321.000	U	181000184802
Thallium													
Vanadium													
Zinc		2.0	U	2.0	U	2.0	U	2.0	U		6.500	U	181000184802

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below IDL/MDL
B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: ATH81

Method: P
Run Name: 1810602T72
Calibration Date(s): 04/16/2018
Preparation Blank Matrix: WATER

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Batch Number
Aluminum		132	B	126	B	91.3	U	117	B		89.400	U	181000184801
Antimony		6.4	B	3.6	U	3.6	B	3.6	U		8.700	U	181000184801
Arsenic		3.3	U	3.3	U	3.3	U	3.3	U		9.600	U	181000184801
Barium		0.33	U	0.33	U	0.33	U	0.33	U		0.850	U	181000184801
Beryllium		0.79	B	0.83	B	0.74	B	0.77	B		2.000	U	181000184801
Cadmium		0.33	U	0.33	U	0.33	U	0.33	U		1.800	U	181000184801
Calcium		33.4	U	33.4	U	33.4	U	33.4	U		60.000	U	181000184801
Chromium		1.1	B	0.73	U	0.73	U	1.0	B		3.300	U	181000184801
Cobalt		0.42	U	0.42	U	0.42	U	0.42	U		1.700	U	181000184801
Copper		6.3	B	3.8	U	4.7	B	6.5	B				
Iron		33.4	U	33.4	U	33.4	U	40.2	B		80.500	U	181000184801
Lead		4.1	U	4.4	B	4.1	U	4.1	U		6.000	U	181000184801
Magnesium		16.7	U	27.6	B	16.7	U	16.7	U		37.400	U	181000184801
Manganese		0.83	U	0.83	U	0.83	U	0.83	U		1.600	U	181000184801
Nickel		0.94	U	0.94	U	0.94	U	0.94	U		4.000	U	181000184801
Potassium		127	U	127	U	127	U	127	U		179.000	U	181000184801
Selenium		6.7	U	6.7	U	6.7	U	6.7	U		9.300	U	181000184801
Silver		2.2	U	2.2	U	2.2	U	-2.3	B		2.400	U	181000184801
Sodium		167	U	167	U	167	U	167	U		321.000	U	181000184801
Thallium		2.6	U	2.6	U	2.6	U	2.6	U		13.700	U	181000184801
Vanadium		1.1	U	1.1	U	1.1	U	1.1	U		1.600	U	181000184801
Zinc		2.0	U	2.0	U	2.0	U	2.0	U		6.500	U	181000184801

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below IDL/MDL
B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: ATH81

Method: P
Run Name: 1810701T74
Calibration Date(s): 04/17/2018
Preparation Blank Matrix: WATER

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Batch Number
Aluminum													
Antimony													
Arsenic													
Barium													
Beryllium													
Cadmium													
Calcium													
Chromium													
Cobalt													
Copper		3.8	U	3.8	U	3.8	U	3.8	U		4.000	U	181000184801
Iron													
Lead													
Magnesium													
Manganese													
Nickel													
Potassium													
Selenium													
Silver													
Sodium													
Thallium													
Vanadium													
Zinc													

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: ATH81

Method: P
Run Name: 1810703T72
Calibration Date(s): 04/17/2018
Preparation Blank Matrix: WATER

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Batch Number
Aluminum													
Antimony													
Arsenic													
Barium		0.33	U	0.33	U	0.33	U	0.33	U		0.850	U	181000184802
Beryllium		0.67	U	0.67	U	0.67	U	0.67	U		2.000	U	181000184802
Cadmium													
Calcium													
Chromium													
Cobalt													
Copper													
Iron													
Lead		4.1	U	4.1	U	4.1	U	4.1	U		6.000	U	181000184802
Magnesium													
Manganese		0.83	U	0.83	U	0.83	U	0.83	U				
Nickel													
Potassium													
Selenium													
Silver		-2.8	B	-2.8	B	-5.0		2.2	U				
Sodium													
Thallium		2.6	U	2.6	U	2.6	U	2.6	U		13.700	U	181000184802
Vanadium		1.1	U	1.1	U	1.1	U	1.1	U		1.600	U	181000184802
Zinc													

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: ATH81

Method: P
Run Name: 1810906T73
Calibration Date(s): 04/19/2018
Preparation Blank Matrix: WATER

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Batch Number
Aluminum													
Antimony													
Arsenic													
Barium													
Beryllium													
Cadmium													
Calcium													
Chromium													
Cobalt													
Copper													
Iron													
Lead													
Magnesium													
Manganese													
Nickel													
Potassium													
Selenium													
Silver		2.2	U	2.2	U	2.2	U				2.400	U	181000184802
Sodium													
Thallium													
Vanadium													
Zinc													

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below IDL/MDL
B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: ATH81

Method: CV
Run Name: 1810201M07
Calibration Date(s): 04/12/2018
Preparation Blank Matrix: WATER

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Batch Number
Mercury		0.050	U	0.050	U	0.050	U	0.050	U		-0.053	B	181010571304

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: ATH81

Method: CV
Run Name: 1810201M07
Calibration Date(s): 04/12/2018

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Batch Number
Mercury				0.050	U	0.050	U						

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: ATH81

Method: CV
Run Name: 1810601M07
Calibration Date(s): 04/16/2018
Preparation Blank Matrix: WATER

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Batch Number
Mercury		0.050	U	0.050	U	0.050	U	0.050	U		0.050	U	181030571304

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: ATH81

Method: CV
Run Name: 1810601M07
Calibration Date(s): 04/16/2018

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Batch Number
Mercury				0.050	U	0.050	U	0.050	U				

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: ATH81

Method: CV
Run Name: 1810601M07
Calibration Date(s): 04/16/2018

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Batch Number
Mercury				0.050	U								

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below IDL/MDL
B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 4A
ICP-AES INTERFERENCE CHECK SAMPLE
SDG No.: ATH81

Instrument ID: 16417
Run Name: 1810506T72
Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	%R	Initial Found Sol. AB	%R	Final Found Sol. A	%R	Final Found Sol. AB	%R
Aluminum	500000	500000	518711	103.7	527773.3	105.6	522653	104.5	520252.1	104.1
Antimony	0	600	4		605.9	101.0	4		595.6	99.3
Arsenic	0	100	3		101.4	101.4	1		94.6	94.6
Barium										
Beryllium										
Cadmium	0	1000	-1		927.4	92.7	-1		910.2	91.0
Calcium	500000	500000	516337	103.3	525193.2	105.0	521023	104.2	518887.2	103.8
Chromium	0	500	-1		472.6	94.5	-1		482.6	96.5
Cobalt	0	500	0		468.0	93.6	0		462.6	92.5
Copper	0	500	7		524.7	104.9	6		529.9	106.0
Iron	200000	200000	204411	102.2	206857.0	103.4	201402	100.7	199563.7	99.8
Lead										
Magnesium	500000	500000	499265	99.9	506666.0	101.3	497609	99.5	491509.1	98.3
Manganese	0	500	5		489.5	97.9	5		501.3	100.3
Nickel	0	1000	2		919.1	91.9	1		901.6	90.2
Potassium	0	0	53		25.1		-16		-27.5	
Selenium	0	550	2		512.4	93.2	1		494.2	89.9
Silver										
Sodium	0	0	103		52.9		181		187.3	
Thallium										
Vanadium										
Zinc	0	1000	-5		966.4	96.6	-5		942.8	94.3

Control Limits: All Metals 80%-120%

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QUALITY ASSURANCE SUMMARY
FORM 4A
ICP-AES INTERFERENCE CHECK SAMPLE
SDG No.: ATH81

Instrument ID: 16417
Run Name: 1810602T72
Concentration Units: ug/L

Analyte	True		Initial Found				Final Found			
	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Aluminum	500000	500000	503434	100.7	507173.4	101.4	504709	100.9	503844.5	100.8
Antimony	0	600	2		590.7	98.5	1		595.6	99.3
Arsenic	0	100	5		102.9	102.9	5		102.0	102.0
Barium	0	500	1		513.5	102.7	1		515.9	103.2
Beryllium	0	500	1		489.8	98.0	1		501.6	100.3
Cadmium	0	1000	-1		905.6	90.6	-1		914.8	91.5
Calcium	500000	500000	487376	97.5	489379.1	97.9	490637	98.1	492949.6	98.6
Chromium	0	500	1		474.9	95.0	0		485.0	97.0
Cobalt	0	500	0		459.9	92.0	0		464.8	93.0
Copper	0	500	11		528.8	105.8	8		535.3	107.1
Iron	200000	200000	199672	99.8	198798.2	99.4	199060	99.5	197004.5	98.5
Lead	0	550	7		506.4	92.1	9		517.0	94.0
Magnesium	500000	500000	474051	94.8	474202.1	94.8	475041	95.0	473996.6	94.8
Manganese	0	500	4		488.8	97.8	4		494.6	98.9
Nickel	0	1000	3		903.4	90.3	3		913.0	91.3
Potassium	0	0	49		80.5		92		61.1	
Selenium	0	550	-8		500.7	91.0	-3		508.8	92.5
Silver	0	200	-2		216.5	108.3	2		217.7	108.9
Sodium	0	0	-53		-8.9		43		15.9	
Thallium	0	100	7		94.8	94.8	6		95.4	95.4
Vanadium	0	500	0		496.4	99.3	-1		502.0	100.4
Zinc	0	1000	-5		948.3	94.8	-5		955.7	95.6

Control Limits: All Metals 80%-120%

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QUALITY ASSURANCE SUMMARY
FORM 4A
ICP-AES INTERFERENCE CHECK SAMPLE
SDG No.: ATH81

Instrument ID: 23745
Run Name: 1810701T74
Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	%R	Initial Found Sol. AB	%R	Final Found Sol. A	%R	Final Found Sol. AB	%R
Aluminum	500000	500000	481574	96.3	489148.8	97.8	493063	98.6	494822.4	99.0
Antimony										
Arsenic										
Barium										
Beryllium										
Cadmium										
Calcium	500000	500000	487476	97.5	494121.7	98.8	495902	99.2	497880.4	99.6
Chromium										
Cobalt										
Copper	0	500	-1		544.5	108.9	-3		546.0	109.2
Iron	200000	200000	191694	95.8	194570.1	97.3	194122	97.1	194228.5	97.1
Lead										
Magnesium	500000	500000	486577	97.3	503369.2	100.7	512778	102.6	500494.9	100.1
Manganese										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Thallium										
Vanadium										
Zinc										

Control Limits: All Metals 80%-120%

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QUALITY ASSURANCE SUMMARY
FORM 4A
ICP-AES INTERFERENCE CHECK SAMPLE
SDG No.: ATH81

Instrument ID: 16417
Run Name: 1810703T72
Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	%R	Initial Found Sol. AB	%R	Final Found Sol. A	%R	Final Found Sol. AB	%R
Aluminum	500000	500000	509428	101.9	523926.8	104.8	513102	102.6	515857.8	103.2
Antimony										
Arsenic										
Barium	0	500	1		532.0	106.4	1		521.9	104.4
Beryllium	0	500	0		516.3	103.3	0		505.5	101.1
Cadmium										
Calcium	500000	500000	494907	99.0	506743.7	101.3	494020	98.8	496569.1	99.3
Chromium										
Cobalt										
Copper										
Iron	200000	200000	205307	102.7	208169.7	104.1	203396	101.7	203252.5	101.6
Lead	0	550	3		521.5	94.8	3		517.6	94.1
Magnesium	500000	500000	481994	96.4	492737.2	98.5	479292	95.9	480369.4	96.1
Manganese	0	500	4		510.8	102.2	5		497.4	99.5
Nickel										
Potassium										
Selenium										
Silver	0	200	-1		225.5	112.8	-1		220.7	110.4
Sodium										
Thallium	0	100	6		93.8	93.8	6		95.0	95.0
Vanadium	0	500	-1		500.5	100.1	-1		488.2	97.6
Zinc										

Control Limits: All Metals 80%-120%

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QUALITY ASSURANCE SUMMARY
FORM 4A
ICP-AES INTERFERENCE CHECK SAMPLE
SDG No.: ATH81

Instrument ID: 18255
Run Name: 1810906T73
Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	%R	Initial Found Sol. AB	%R	Final Found Sol. A	%R	Final Found Sol. AB	%R
Aluminum	500000	500000	503576	100.7	508016.5	101.6	497424	99.5	500401.1	100.1
Antimony										
Arsenic										
Barium										
Beryllium										
Cadmium										
Calcium	500000	500000	490745	98.1	492731.0	98.5	484549	96.9	487400.9	97.5
Chromium										
Cobalt										
Copper										
Iron	200000	200000	199005	99.5	200073.7	100.0	195334	97.7	197212.4	98.6
Lead										
Magnesium	500000	500000	481274	96.3	482609.5	96.5	476088	95.2	477751.6	95.6
Manganese										
Nickel										
Potassium										
Selenium										
Silver	0	200	1		212.8	106.4	0		208.8	104.4
Sodium										
Thallium										
Vanadium										
Zinc										

Control Limits: All Metals 80%-120%

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QUALITY ASSURANCE SUMMARY
FORM 5A(MS/MSD)
MATRIX SPIKE/MATRIX SPIKE DUPLICATE
SDG No.: ATH81
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 9548789BKG Matrix Spike Lab Sample ID: 9548790MS Matrix Spike Duplicate Lab Sample ID: 9548791MSD
Batch Number(s): 181000184801, 181010571304

		BKG Sample		MS Sample		MSD Sample		MS Spike	MSD Spike		MS		MSD				Control Limit		
Analyte	Mass	Result	C	Result	C	Result	C	Added	Added	Units	%R	Q	%R	Q	RPD	Q	%R	RPD	M
Aluminum		893.1800		2918.7900		2792.4400		2000.0000	2000.0000	UG/L	101		95		4		75 - 125	20	P
Antimony		8.7000	U	529.9300		533.5100		500.0000	500.0000	UG/L	106		107		1		75 - 125	20	P
Arsenic		9.6000	U	147.9400		144.9900		150.0000	150.0000	UG/L	99		97		2		75 - 125	20	P
Barium		288.7600		2362.8000		2300.1900		2000.0000	2000.0000	UG/L	104		101		3		75 - 125	20	P
Beryllium		2.0000	U	52.4700		51.2500		50.0000	50.0000	UG/L	105		103		2		82 - 112	20	P
Cadmium		1.8000	U	49.7600		49.9500		50.0000	50.0000	UG/L	100		100		0		75 - 125	20	P
Calcium		51098.5200		61138.3600		58561.7700		4000.0000	4000.0000	UG/L	251		187		4			20	P
Chromium		3.5400	B	201.5100		197.1600		200.0000	200.0000	UG/L	99		97		2		75 - 125	20	P
Cobalt		5.6700		505.3600		508.8700		500.0000	500.0000	UG/L	100		101		1		80 - 118	20	P
Copper		10.9200		267.5100		261.7600		250.0000	250.0000	UG/L	103		100		2		75 - 125	20	P
Iron		15970.2500		18842.0800		18894.6500		1000.0000	1000.0000	UG/L	287		292		0			20	P
Lead		6.0600	B	148.0600		148.6200		150.0000	150.0000	UG/L	95		95		0		75 - 125	20	P
Magnesium		16456.5500		19287.4400		18842.6100		2000.0000	2000.0000	UG/L	142		119		2			20	P
Manganese		1701.3100		2071.3200		2082.6300		500.0000	500.0000	UG/L	74	N	76		1		75 - 125	20	P
Mercury		0.0500	U	0.9425		0.9300		1.0000	1.0000	UG/L	94		93		1		80 - 120	20	CV
Nickel		4.0000	U	505.5000		506.4700		500.0000	500.0000	UG/L	101		101		0		75 - 125	20	P
Potassium		4651.5900		15484.8900		15138.0600		10000.0000	10000.0000	UG/L	108		105		2		75 - 125	20	P
Selenium		9.3000	U	148.5300		145.2300		150.0000	150.0000	UG/L	99		97		2		75 - 125	20	P
Silver		2.4000	U	53.0600		51.8000		50.0000	50.0000	UG/L	106		104		2		75 - 125	20	P
Sodium		94785.4400		138416.9400		131233.3000		10000.0000	10000.0000	UG/L	436		364		5			20	P
Thallium		13.7000	U	148.9800		149.4600		150.0000	150.0000	UG/L	99		100		0		75 - 125	20	P
Vanadium		5.4000		539.8200		529.1000		500.0000	500.0000	UG/L	107		105		2		75 - 125	20	P
Zinc		32.7400		504.1700		504.9500		500.0000	500.0000	UG/L	94		94		0		75 - 125	20	P

Note: Results shown are reported on an as-received basis.
If Matrix Spike/ Matrix Spike Duplicate were out of specification, see Post Digestion Spike form.

METHODS:
P = ICP Atomic Emission Spectrometer CV = Cold Vapor
MS = ICP Mass Spectrometry AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below MDL, B= Below LOQ
FLAGS:
N = Matrix Spike OOS, * = Duplicate OOS

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QUALITY ASSURANCE SUMMARY
FORM 5A(MS/MSD)
MATRIX SPIKE/MATRIX SPIKE DUPLICATE
SDG No.: ATH81
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 9548793BKG Matrix Spike Lab Sample ID: 9548794MS Matrix Spike Duplicate Lab Sample ID: 9548795MSD
Batch Number(s): 181000184802, 181030571304

		BKG Sample		MS Sample		MSD Sample		MS Spike	MSD Spike		MS		MSD				Control Limit		
Analyte	Mass	Result	C	Result	C	Result	C	Added	Added	Units	%R	Q	%R	Q	RPD	Q	%R	RPD	M
Aluminum		89.4000	U	2165.7300		2252.5100		2000.0000	2000.0000	UG/L	108		113		4		75 - 125	20	P
Antimony		8.7000	U	546.8300		541.3900		500.0000	500.0000	UG/L	109		108		1		75 - 125	20	P
Arsenic		9.6000	U	151.2200		151.7100		150.0000	150.0000	UG/L	101		101		0		75 - 125	20	P
Barium		245.7800		2322.4600		2277.6700		2000.0000	2000.0000	UG/L	104		102		2		75 - 125	20	P
Beryllium		2.0000	U	52.0000		51.3400		50.0000	50.0000	UG/L	104		103		1		82 - 112	20	P
Cadmium		1.8000	U	52.0600		51.7000		50.0000	50.0000	UG/L	104		103		1		75 - 125	20	P
Calcium		49705.9700		54229.5700		53847.0700		4000.0000	4000.0000	UG/L	113		104		1			20	P
Chromium		3.3000	U	207.7700		207.0200		200.0000	200.0000	UG/L	104		104		0		75 - 125	20	P
Cobalt		3.2500	B	528.1100		522.4800		500.0000	500.0000	UG/L	105		104		1		80 - 118	20	P
Copper		4.7500	B	273.9600		271.2000		250.0000	250.0000	UG/L	108		107		1		75 - 125	20	P
Iron		15285.5100		16601.1900		16710.4800		1000.0000	1000.0000	UG/L	132		142		1			20	P
Lead		6.0000	U	150.7900		146.8500		150.0000	150.0000	UG/L	101		98		3		75 - 125	20	P
Magnesium		15880.5600		18066.6200		18014.5700		2000.0000	2000.0000	UG/L	109		107		0			20	P
Manganese		1679.1900		2185.2400		2144.7900		500.0000	500.0000	UG/L	101		93		2		75 - 125	20	P
Mercury		0.0500	U	0.8480		0.9348		1.0000	1.0000	UG/L	85		93		10		80 - 120	20	CV
Nickel		4.0000	U	531.0700		524.6100		500.0000	500.0000	UG/L	106		105		1		75 - 125	20	P
Potassium		4520.7900		15360.5000		15377.1800		10000.0000	10000.0000	UG/L	108		109		0		75 - 125	20	P
Selenium		9.3000	U	152.3500		153.5200		150.0000	150.0000	UG/L	102		102		1		75 - 125	20	P
Silver		2.4000	U	54.0800		51.8100		50.0000	50.0000	UG/L	108		104		4		75 - 125	20	P
Sodium		94562.7200		105971.5400		106588.0700		10000.0000	10000.0000	UG/L	114		120		1			20	P
Thallium		13.7000	U	148.9500		148.9100		150.0000	150.0000	UG/L	99		99		0		75 - 125	20	P
Vanadium		1.6000	U	528.2000		521.4900		500.0000	500.0000	UG/L	106		104		1		75 - 125	20	P
Zinc		13.2100	B	526.2300		520.5800		500.0000	500.0000	UG/L	103		101		1		75 - 125	20	P

Note: Results shown are reported on an as-received basis.
If Matrix Spike/ Matrix Spike Duplicate were out of specification, see Post Digestion Spike form.

METHODS:
P = ICP Atomic Emission Spectrometer CV = Cold Vapor
MS = ICP Mass Spectrometry AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below MDL, B= Below LOQ
FLAGS:
N = Matrix Spike OOS, * = Duplicate OOS

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QUALITY ASSURANCE SUMMARY
FORM 5B
POST DIGEST SPIKE SAMPLE RECOVERY
SDG No.: ATH81
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 9548789BKG

Analyte	Mass	Sample Result(SR)	C	Spike Added(SA)	Spiked Sample Result(SSR)	C	SRR %R	Spiked Sample Duplicate(SSD)	C	SSD %R	M
Manganese		1701.3100		60.0000	1738.2300		62	NA	U	NA	P

Comments:

Note: Results shown are reported on an as-received basis.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below MDL
B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 6
DUPLICATES
SDG No.: ATH81
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 9548789BKG Duplicate Lab Sample ID: 9548792DUP
Batch Number(s): 181000184801, 181010571304
Concentration Units: UG/L

Analyte	Mass	Control Limit	Samples (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		200.0	893.1800		926.5200		4		P
Antimony			8.7000	U	8.7000	U			P
Arsenic			9.6000	U	9.6000	U			P
Barium			288.7600		295.8900		2		P
Beryllium			2.0000	U	2.0000	U			P
Cadmium			1.8000	U	1.8000	U			P
Calcium			51098.5200		53259.4500		4		P
Chromium			3.5400	B	3.8000	B	7		P
Cobalt		5.0	5.6700		5.9900		5		P
Copper		10.0	10.9200		9.1200	B	18		P
Iron			15970.2500		16424.6100		3		P
Lead			6.0600	B	6.0000	U	200		P
Magnesium			16456.5500		17167.6200		4		P
Manganese			1701.3100		1749.5100		3		P
Mercury			0.0500	U	0.0500	U			CV
Nickel			4.0000	U	4.1300	B	200		P
Potassium			4651.5900		4762.9800		2		P
Selenium			9.3000	U	9.3000	U			P
Silver			2.4000	U	2.4000	U			P
Sodium			94785.4400		99183.8000		5		P
Thallium			13.7000	U	13.7000	U			P
Vanadium		5.0	5.4000		4.7500	B	13		P
Zinc		20.0	32.7400		32.3900		1		P

NOTE: An asterisk (*) in column "Q" indicates poor duplicate precision (RPD > 20% OR |(S) - (D)| > LOQ for values < 5x LOQ).
The data are considered to be valid because the laboratory control sample is within the control limits. See the Laboratory Control Sample.

Note: Results shown are reported on an as-received basis.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below MDL
B= Below LOQ

FLAGS:
* = Duplicate Out of Spec

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QUALITY ASSURANCE SUMMARY
FORM 6
DUPLICATES
SDG No.: ATH81
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 9548793BKG Duplicate Lab Sample ID: 9548796DUP
Batch Number(s): 181000184802, 181030571304
Concentration Units: UG/L

Analyte	Mass	Control Limit	Samples (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum			89.4000	U	89.4000	U			P
Antimony			8.7000	U	8.7000	U			P
Arsenic			9.6000	U	9.6000	U			P
Barium			245.7800		242.6000		1		P
Beryllium			2.0000	U	2.0000	U			P
Cadmium			1.8000	U	1.8000	U			P
Calcium			49705.9700		51404.8200		3		P
Chromium			3.3000	U	3.3000	U			P
Cobalt			3.2500	B	3.5300	B	8		P
Copper			4.7500	B	4.0000	U	200		P
Iron			15285.5100		15601.8300		2		P
Lead			6.0000	U	6.0000	U			P
Magnesium			15880.5600		16323.8800		3		P
Manganese			1679.1900		1657.3600		1		P
Mercury			0.0500	U	0.0500	U			CV
Nickel			4.0000	U	4.0000	U			P
Potassium			4520.7900		4697.3100		4		P
Selenium			9.3000	U	9.3000	U			P
Silver			2.4000	U	2.4000	U			P
Sodium			94562.7200		96571.4300		2		P
Thallium			13.7000	U	13.7000	U			P
Vanadium			1.6000	U	1.6000	U			P
Zinc			13.2100	B	14.0200	B	6		P

NOTE: An asterisk (*) in column "Q" indicates poor duplicate precision (RPD > 20% OR |(S) - (D)| > LOQ for values < 5x LOQ).
The data are considered to be valid because the laboratory control sample is within the control limits. See the Laboratory Control Sample.

Note: Results shown are reported on an as-received basis.

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	FLAGS:
AF = Cold Vapor Atomic Fluorescence	* = Duplicate Out of Spec

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QUALITY ASSURANCE SUMMARY
FORM 7
LABORATORY CONTROL SAMPLE
SDG No.: ATH81
Matrix: WATER

Analyte	Mass	Batch Number	Units	True	Found	C	Control Limits (%)	%R	M	In Spec
Aluminum		181000184801	UG/L	2000.000	2074.610		80 - 120	104	P	Yes
Antimony		181000184801	UG/L	500.000	532.170		90 - 117	106	P	Yes
Arsenic		181000184801	UG/L	150.000	144.100		80 - 120	96	P	Yes
Barium		181000184801	UG/L	2000.000	2106.570		87 - 111	105	P	Yes
Beryllium		181000184801	UG/L	50.000	51.730		86 - 110	103	P	Yes
Cadmium		181000184801	UG/L	50.000	51.520		90 - 111	103	P	Yes
Calcium		181000184801	UG/L	4000.000	4035.370		88 - 112	101	P	Yes
Chromium		181000184801	UG/L	200.000	203.290		87 - 110	102	P	Yes
Cobalt		181000184801	UG/L	500.000	522.310		90 - 111	104	P	Yes
Copper		181000184801	UG/L	250.000	264.650		90 - 115	106	P	Yes
Iron		181000184801	UG/L	1000.000	978.060		80 - 114	98	P	Yes
Lead		181000184801	UG/L	150.000	161.320		87 - 113	108	P	Yes
Magnesium		181000184801	UG/L	2000.000	2036.840		88 - 114	102	P	Yes
Manganese		181000184801	UG/L	500.000	533.800		90 - 112	107	P	Yes
Mercury		181010571304	UG/L	1.000	0.922		80 - 114	92	CV	Yes
Nickel		181000184801	UG/L	500.000	527.720		90 - 114	106	P	Yes
Potassium		181000184801	UG/L	10000.000	10081.960		88 - 112	101	P	Yes
Selenium		181000184801	UG/L	150.000	148.100		80 - 120	99	P	Yes
Silver		181000184801	UG/L	50.000	52.790		80 - 120	106	P	Yes
Sodium		181000184801	UG/L	10000.000	10016.620		87 - 112	100	P	Yes
Thallium		181000184801	UG/L	150.000	155.440		80 - 120	104	P	Yes
Vanadium		181000184801	UG/L	500.000	530.770		89 - 114	106	P	Yes
Zinc		181000184801	UG/L	500.000	502.550		89 - 111	101	P	Yes

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below MDL
B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 7
LABORATORY CONTROL SAMPLE
SDG No.: ATH81
Matrix: WATER

Analyte	Mass	Batch Number	Units	True	Found	C	Control Limits (%)	%R	M	In Spec
Aluminum		181000184802	UG/L	2000.000	2225.110		80 - 120	111	P	Yes
Antimony		181000184802	UG/L	500.000	525.390		90 - 117	105	P	Yes
Arsenic		181000184802	UG/L	150.000	143.700		80 - 120	96	P	Yes
Barium		181000184802	UG/L	2000.000	2133.320		87 - 111	107	P	Yes
Beryllium		181000184802	UG/L	50.000	51.600		86 - 110	103	P	Yes
Cadmium		181000184802	UG/L	50.000	51.040		90 - 111	102	P	Yes
Calcium		181000184802	UG/L	4000.000	4156.000		88 - 112	104	P	Yes
Chromium		181000184802	UG/L	200.000	199.570		87 - 110	100	P	Yes
Cobalt		181000184802	UG/L	500.000	516.840		90 - 111	103	P	Yes
Copper		181000184802	UG/L	250.000	261.040		90 - 115	104	P	Yes
Iron		181000184802	UG/L	1000.000	992.370		80 - 114	99	P	Yes
Lead		181000184802	UG/L	150.000	158.820		87 - 113	106	P	Yes
Magnesium		181000184802	UG/L	2000.000	2089.850		88 - 114	104	P	Yes
Manganese		181000184802	UG/L	500.000	543.920		90 - 112	109	P	Yes
Mercury		181030571304	UG/L	1.000	0.908		80 - 114	91	CV	Yes
Nickel		181000184802	UG/L	500.000	524.090		90 - 114	105	P	Yes
Potassium		181000184802	UG/L	10000.000	10279.110		88 - 112	103	P	Yes
Selenium		181000184802	UG/L	150.000	149.380		80 - 120	100	P	Yes
Silver		181000184802	UG/L	50.000	53.220		80 - 120	106	P	Yes
Sodium		181000184802	UG/L	10000.000	10237.470		87 - 112	102	P	Yes
Thallium		181000184802	UG/L	150.000	153.850		80 - 120	103	P	Yes
Vanadium		181000184802	UG/L	500.000	524.080		89 - 114	105	P	Yes
Zinc		181000184802	UG/L	500.000	503.270		89 - 111	101	P	Yes

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below MDL
B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 9
SERIAL DILUTIONS
SDG No.: ATH81
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 9548789BKG Serial Dilution Lab Sample ID: 9548789L
Batch Number(s): 181000184801
Concentration Units: UG/L

Analyte	Mass	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Diff.	Q	M
Aluminum		893.1800		1782.1500		100		P
Antimony		8.7000	U	43.5000	U			P
Arsenic		9.6000	U	48.0000	U			P
Barium		288.7600		281.7000		2		P
Beryllium		2.0000	U	10.0000	U			P
Cadmium		1.8000	U	9.0000	U			P
Calcium		51098.5200		50428.9000		1		P
Chromium		3.5400	B	16.5000	U	100		P
Cobalt		5.6700		8.5000	U	100		P
Copper		10.9200		20.0000	U	100		P
Iron		15970.2500		15732.1500		1		P
Lead		6.0600	B	30.0000	U	100		P
Magnesium		16456.5500		16339.2000		1		P
Manganese		1701.3100		1664.0500		2		P
Nickel		4.0000	U	20.0000	U			P
Potassium		4651.5900		4589.0000		1		P
Selenium		9.3000	U	46.5000	U			P
Silver		2.4000	U	12.0000	U			P
Sodium		94785.4400		92157.8000		3		P
Thallium		13.7000	U	68.5000	U			P
Vanadium		5.4000		8.0000	U	100		P
Zinc		32.7400		32.5000	U	100		P

NOTE: An E in column Q indicates the presence of a chemical or physical interference in the matrix when the % difference is greater than 10%. This applies only when (I) is greater than or equal to 50x MDL for ICP, 100x MDL for ICP-MS (6020), 50x MDL for ICP-MS (200.8), or 25x MDL for GFAA.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry

CONCENTRATION QUALIFIERS:
U= Below MDL
B= Below LOQ
FLAGS:
E = Matrix Effects exist as proven by Serial Dilution or Spiked Dilution

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QUALITY ASSURANCE SUMMARY
FORM 9
SERIAL DILUTIONS
SDG No.: ATH81
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 9548793BKG Serial Dilution Lab Sample ID: 9548793L
Batch Number(s): 181000184802
Concentration Units: UG/L

Analyte	Mass	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Diff.	Q	M
Aluminum		89.4000	U	447.0000	U			P
Antimony		8.7000	U	43.5000	U			P
Arsenic		9.6000	U	48.0000	U			P
Barium		245.7800		249.3500		1		P
Beryllium		2.0000	U	10.0000	U			P
Cadmium		1.8000	U	9.0000	U			P
Calcium		49705.9700		51762.6500		4		P
Chromium		3.3000	U	16.5000	U			P
Cobalt		3.2500	B	8.5000	U	100		P
Copper		4.7500	B	20.0000	U	100		P
Iron		15285.5100		15723.0500		3		P
Lead		6.0000	U	30.0000	U			P
Magnesium		15880.5600		16605.9000		5		P
Manganese		1679.1900		1691.3500		1		P
Nickel		4.0000	U	20.0000	U			P
Potassium		4520.7900		4809.9500		6		P
Selenium		9.3000	U	46.5000	U			P
Silver		2.4000	U	12.0000	U			P
Sodium		94562.7200		96699.3500		2		P
Thallium		13.7000	U	68.5000	U			P
Vanadium		1.6000	U	8.0000	U			P
Zinc		13.2100	B	32.5000	U	100		P

NOTE: An E in column Q indicates the presence of a chemical or physical interference in the matrix when the % difference is greater than 10%. This applies only when (I) is greater than or equal to 50x MDL for ICP, 100x MDL for ICP-MS (6020), 50x MDL for ICP-MS (200.8), or 25x MDL for GFAA.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry

CONCENTRATION QUALIFIERS:
U= Below MDL
B= Below LOQ
FLAGS:
E = Matrix Effects exist as proven by Serial Dilution or Spiked Dilution

QUALITY ASSURANCE SUMMARY
FORM 10
INSTRUMENT DETECTION LIMITS (QUARTERLY)
SDG No.: ATH81

Method: P
Instrument ID: 16417
Date: 04/2018

Analyte	Wavelength (nm)	Background	IDL (UG/L)
Aluminum	308.21		91.3
Antimony	206.83		3.6
Arsenic	189.04		3.3
Barium	455.40		0.33
Beryllium	313.04		0.67
Cadmium	226.50		0.33
Calcium	317.93		33.4
Chromium	267.72		0.73
Cobalt	228.62		0.42
Copper	327.40		3.2
Iron	261.19		33.4
Lead	220.35		4.1
Magnesium	285.21		16.7
Manganese	257.61		0.83
Nickel	231.60		0.94
Potassium	766.49		127
Selenium	196.09		6.7
Silver	328.06		2.2
Sodium	589.59		167
Thallium	190.86		2.6
Vanadium	292.40		1.1
Zinc	213.86		2.0

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 10
INSTRUMENT DETECTION LIMITS (QUARTERLY)
SDG No.: ATH81

Method: P
Instrument ID: 18255
Date: 04/2018

Analyte	Wavelength (nm)	Background	IDL (UG/L)
Aluminum			
Antimony			
Arsenic			
Barium			
Beryllium			
Cadmium			
Calcium			
Chromium			
Cobalt			
Copper			
Iron			
Lead			
Magnesium			
Manganese			
Nickel			
Potassium			
Selenium			
Silver	328.06		1.4
Sodium			
Thallium			
Vanadium			
Zinc			

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10
INSTRUMENT DETECTION LIMITS (QUARTERLY)
SDG No.: ATH81

Method: P
Instrument ID: 23745
Date: 04/2018

Analyte	Wavelength (nm)	Background	IDL (UG/L)
Aluminum			
Antimony			
Arsenic			
Barium			
Beryllium			
Cadmium			
Calcium			
Chromium			
Cobalt			
Copper	327.40		3.8
Iron			
Lead			
Magnesium			
Manganese			
Nickel			
Potassium			
Selenium			
Silver			
Sodium			
Thallium			
Vanadium			
Zinc			

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 10
INSTRUMENT DETECTION LIMITS (QUARTERLY)
SDG No.: ATH81

Method: CV
Instrument ID: 17384
Date: 01/2018

Analyte	Wavelength (nm)	Background	IDL (UG/L)
Mercury	254.00		0.050

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10 MDL
METHOD DETECTION LIMITS (ANNUALLY)
SDG No.: ATH81
Matrix: WATER

Method: P
Date: 06/2017

Analyte	Wavelength (nm)	Background	LOQ (UG/L)	MDL (UG/L)
Aluminum	308.21		200	89.4
Antimony	206.83		20.0	8.7
Arsenic	189.04		20.0	9.6
Barium	455.40		5.0	0.85
Beryllium	313.04		5.0	2.0
Cadmium	226.50		5.0	1.8
Calcium	317.93		200	60.0
Chromium	267.72		15.0	3.3
Cobalt	228.62		5.0	1.7
Copper	327.40		10.0	4.0
Iron	261.19		200	80.5
Lead	220.35		15.0	6.0
Magnesium	285.21		100	37.4
Manganese	257.61		5.0	1.6
Nickel	231.60		10.0	4.0
Potassium	766.49		500	179
Selenium	196.09		20.0	9.3
Silver	328.06		5.0	2.4
Sodium	589.59		1000	321
Thallium	190.86		30.0	13.7
Vanadium	292.40		5.0	1.6
Zinc	213.86		20.0	6.5

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10 MDL
METHOD DETECTION LIMITS (ANNUALLY)
SDG No.: ATH81
Matrix: WATER

Method: CV
Date: 06/2017

Analyte	Wavelength (nm)	Background	LOQ (UG/L)	MDL (UG/L)
Mercury	254.00		0.20	0.050

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: ATH81

Instrument ID: 16417
Date: 03/2018

Analyte	Wavelength (nm)	Interelement Correction Factor for: AL	CA	FE	MG	CO
Aluminum	308.21	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.83	0.0000000	0.0000000	-0.0000050	0.0000000	0.0000000
Arsenic	189.04	0.0000000	0.0000000	-0.0001540	0.0000000	0.0000000
Barium	455.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.50	0.0000000	0.0000000	0.0000710	0.0000000	0.0000000
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.62	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	327.40	0.0000000	0.0000000	0.0000610	0.0000000	0.0000000
Iron	261.19	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.35	0.0001970	0.0000000	0.0000360	0.0000000	0.0000000
Magnesium	285.21	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.0000000	0.0000000	-0.0000360	0.0000000	0.0000000
Selenium	196.09	0.0000000	0.0000000	0.0000120	0.0000000	0.0000000
Silver	328.06	0.0000200	0.0000000	-0.0000480	0.0000000	0.0000000
Thallium	190.86	0.0000000	0.0000000	0.0000000	0.0000000	0.0031350
Vanadium	292.40	0.0000000	0.0000000	0.0000140	0.0000000	0.0000000
Zinc	213.86	0.0000000	0.0000000	0.0000960	0.0000000	0.0000000

Comments:

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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: ATH81

Instrument ID: 16417
Date: 03/2018

Analyte	Wavelength (nm)	Interelement Correction Factor for: CR	CU	MO	NI	SI
Aluminum	308.21	0.0000000	0.0000000	0.0205000	0.0000000	0.0000000
Antimony	206.83	0.0024390	0.0000000	-0.0099950	0.0000000	0.0000000
Arsenic	189.04	0.0000000	0.0000000	0.0032000	0.0000000	0.0000000
Barium	455.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.50	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.62	0.0000000	0.0000000	0.0000000	0.0000000	-0.0000140
Copper	327.40	0.0000000	0.0000000	-0.0009900	0.0000000	0.0000000
Iron	261.19	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.35	0.0000000	0.0000000	-0.0018500	0.0000000	0.0000000
Magnesium	285.21	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.09	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.06	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.86	0.0000000	0.0000000	0.0000000	0.0000000	-0.0000460
Vanadium	292.40	0.0000000	0.0000000	-0.0132000	0.0000000	0.0000000
Zinc	213.86	0.0000000	0.0016990	0.0000000	0.0054500	0.0000000

Comments:

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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: ATH81

Instrument ID: 16417
Date: 03/2018

Analyte	Wavelength (nm)	Interelement Correction Factor for: TH	TI	V	W	ZR
Aluminum	308.21	0.0937470	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.83	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	189.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	455.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	313.04	0.0000000	0.0000000	-0.0019070	0.0000000	0.0000000
Cadmium	226.50	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	317.93	-0.0155900	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.62	0.0000000	0.0021900	0.0000000	0.0000000	0.0000000
Copper	327.40	0.0261930	-0.0058680	0.0000000	0.0000000	0.0000000
Iron	261.19	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.35	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	285.21	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.09	0.0000000	0.0000000	0.0000000	0.0098230	0.0000000
Silver	328.06	-0.0170090	0.0000000	0.0000000	0.0000000	0.0061460
Thallium	190.86	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.0014380	0.0006880	0.0000000	0.0000000	0.0000000
Zinc	213.86	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Comments:

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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: ATH81

Instrument ID: 18255
Date: 10/2017

Analyte	Wavelength (nm)	Interelement Correction Factor for: AL	CA	FE	MG	MN
Silver	328.06	0.0000000	0.0000000	-0.0000900	0.0000000	0.0000000

Comments:

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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: ATH81

Instrument ID: 18255
Date: 10/2017

Analyte	Wavelength (nm)	Interelement Correction Factor for: TH	TI	ZR	--	--
Silver	328.06	-0.0025090	-0.0005360	0.0040350		

Comments:

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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: ATH81

Instrument ID: 23745
Date: 02/2018

Analyte	Wavelength (nm)	Interelement Correction Factor for: AL	CA	FE	MG	CO
Copper	327.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0003790

Comments:

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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: ATH81

Instrument ID: 23745
Date: 02/2018

Analyte	Wavelength (nm)	Interelement Correction Factor for: MO	TH	TI	ZR	--
Copper	327.40	-0.0012790	0.0180700	-0.0042350	-0.0005910	

Comments:

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QUALITY ASSURANCE SUMMARY
FORM 12
LINEAR RANGES
SDG No.: ATH81

Method: P
Instrument ID: 16417
Date: 04/2018

Analyte	Wavelength (nm)	Integration Time (Sec.)	Concentration (ug/L)
Aluminum	308.21	10.00	600000.0
Antimony	206.83	10.00	20000.0
Arsenic	189.04	10.00	20000.0
Barium	455.4	10.00	5000.0
Beryllium	313.04	10.00	5000.0
Cadmium	226.5	10.00	20000.0
Calcium	317.93	10.00	600000.0
Chromium	267.72	10.00	20000.0
Cobalt	228.62	10.00	20000.0
Copper	327.4	10.00	20000.0
Iron	261.19	10.00	300000.0
Lead	220.35	10.00	20000.0
Magnesium	285.21	10.00	600000.0
Manganese	257.61	10.00	20000.0
Nickel	231.6	10.00	20000.0
Potassium	766.49	10.00	500000.0
Selenium	196.09	10.00	20000.0
Silver	328.06	10.00	10000.0
Sodium	589.59	10.00	500000.0
Thallium	190.86	10.00	20000.0
Vanadium	292.4	10.00	20000.0
Zinc	213.86	10.00	20000.0

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 12
LINEAR RANGES
SDG No.: ATH81

Method: P
Instrument ID: 18255
Date: 04/2018

Analyte	Wavelength (nm)	Integration Time (Sec.)	Concentration (ug/L)
Aluminum			
Antimony			
Arsenic			
Barium			
Beryllium			
Cadmium			
Calcium			
Chromium			
Cobalt			
Copper			
Iron			
Lead			
Magnesium			
Manganese			
Nickel			
Potassium			
Selenium			
Silver	328.06	10.00	10000.0
Sodium			
Thallium			
Vanadium			
Zinc			

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 12
LINEAR RANGES
SDG No.: ATH81

Method: P
Instrument ID: 23745
Date: 04/2018

Analyte	Wavelength (nm)	Integration Time (Sec.)	Concentration (ug/L)
Aluminum			
Antimony			
Arsenic			
Barium			
Beryllium			
Cadmium			
Calcium			
Chromium			
Cobalt			
Copper	327.4	10.00	20000.0
Iron			
Lead			
Magnesium			
Manganese			
Nickel			
Potassium			
Selenium			
Silver			
Sodium			
Thallium			
Vanadium			
Zinc			

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 13
PREPARATION LOG
SDG No.: ATH81

Method: P
Batch Number: 181000184801

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
9548797	04/11/2018	50.00	50
9548799	04/11/2018	50.00	50
9548789BKG	04/11/2018	50.00	50
9548792DUP	04/11/2018	50.00	50
9548791MSD	04/11/2018	50.00	50
9548790MS	04/11/2018	50.00	50
P10084AB	04/11/2018	50.00	50
P10084AQ	04/11/2018	1.00	1

METHODS:	LEGEND:
P = ICP Atomic Emission Spectrometer	BKG = Background
MS = ICP Mass Spectrometry	DUP = Duplicate
CV = Cold Vapor	MS = Matrix Spike
AF = Cold Vapor Atomic Fluorescence	MSD = Matrix Spike Duplicate
	B = Blank
	Q = Laboratory Control Sample
	Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 13
PREPARATION LOG
SDG No.: ATH81

Method: P
Batch Number: 181000184802

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
9548798	04/11/2018	50.00	50
9548793BKG	04/11/2018	50.00	50
9548796DUP	04/11/2018	50.00	50
9548795MSD	04/11/2018	50.00	50
9548794MS	04/11/2018	50.00	50
P10084BB	04/11/2018	50.00	50
P10084BQ	04/11/2018	1.00	1

METHODS:	LEGEND:
P = ICP Atomic Emission Spectrometer	BKG = Background
MS = ICP Mass Spectrometry	DUP = Duplicate
CV = Cold Vapor	MS = Matrix Spike
AF = Cold Vapor Atomic Fluorescence	MSD = Matrix Spike Duplicate
	B = Blank
	Q = Laboratory Control Sample
	Y = Laboratory Control Sample Duplicate

QUALITY ASSURANCE SUMMARY
FORM 13
PREPARATION LOG
SDG No.: ATH81

Method: CV
Batch Number: 181010571304

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
9548797	04/11/2018	40.00	40
9548799	04/11/2018	40.00	40
9548789BKG	04/11/2018	40.00	40
9548792DUP	04/11/2018	40.00	40
9548791MSD	04/11/2018	40.00	40
9548790MS	04/11/2018	40.00	40
P10171DB	04/11/2018	40.00	40
P10171DQ	04/11/2018	1.00	1

METHODS:	LEGEND:
P = ICP Atomic Emission Spectrometer	BKG = Background
MS = ICP Mass Spectrometry	DUP = Duplicate
CV = Cold Vapor	MS = Matrix Spike
AF = Cold Vapor Atomic Fluorescence	MSD = Matrix Spike Duplicate
	B = Blank
	Q = Laboratory Control Sample
	Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 13
PREPARATION LOG
SDG No.: ATH81

Method: CV
Batch Number: 181030571304

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
9548798	04/16/2018	40.00	40
9548793BKG	04/16/2018	40.00	40
9548796DUP	04/16/2018	40.00	40
9548795MSD	04/16/2018	40.00	40
9548794MS	04/16/2018	40.00	40
P10371DB	04/16/2018	40.00	40
P10371DQ	04/16/2018	1.00	1

METHODS:	LEGEND:
P = ICP Atomic Emission Spectrometer	BKG = Background
MS = ICP Mass Spectrometry	DUP = Duplicate
CV = Cold Vapor	MS = Matrix Spike
AF = Cold Vapor Atomic Fluorescence	MSD = Matrix Spike Duplicate
	B = Blank
	Q = Laboratory Control Sample
	Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: ATH81

Method: P
Instrument ID: 16417
Run Name: 1810506T72

Run Start Date: 04/15/2018
Run End Date: 04/16/2018

Lab Sample ID	D/F	Time	Analytes																												
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN							
S0	1.00	23:45	X	X	X			X	X	X	X	X	X		X	X		X	X	X		X			X							
S	1.00	23:48	X						X				X		X				X			X										
S	1.00	23:51			X			X			X	X				X		X		X					X							
S	1.00	23:55		X						X																						
ICV	1.00	23:58	X	X	X			X	X	X	X	X	X		X	X		X	X	X		X			X							
ICB	1.00	00:01	X	X	X			X	X	X	X	X	X		X	X		X	X	X		X			X							
LLC	1.00	00:05	X	X	X			X	X	X	X	X	X		X	X		X	X	X		X			X							
ICSA	1.00	00:08	X	X	X			X	X	X	X	X	X		X	X		X	X	X		X			X							
ICSAB	1.00	00:11	X	X	X			X	X	X	X	X	X		X	X		X	X	X		X			X							
CCV	1.00	00:14	X	X	X			X	X	X	X	X	X		X	X		X	X	X		X			X							
CCB	1.00	00:18	X	X	X			X	X	X	X	X	X		X	X		X	X	X		X			X							
P10084BB	1.00	00:21	X	X	X			X	X	X	X	X	X		X	X		X	X	X		X			X							
P10084BQ	1.00	00:24	X	X	X			X	X	X	X	X	X		X			X	X	X		X			X							
9548793BKG	1.00	00:28	X	X	X			X	X	X	X	X	X		X			X	X	X		X			X							
9548793A	1.00	00:31																														
9548796DUP	1.00	00:34	X	X	X			X	X	X	X	X	X		X			X	X	X		X			X							
9548794MS	1.00	00:38	X	X	X			X	X	X	X	X	X		X			X	X	X		X			X							
9548795MSD	1.00	00:41	X	X	X			X	X	X	X	X	X		X			X	X	X		X			X							
9548793L	5.00	00:44	X	X	X			X	X	X	X	X	X		X			X	X	X		X			X							
9548798	1.00	00:48	X	X	X			X	X	X	X	X	X		X			X	X	X		X			X							
ZZZZZZ	1.00	00:51																														
CCV	1.00	00:54	X	X	X			X	X	X	X	X	X		X	X		X	X	X		X			X							
CCB	1.00	00:58	X	X	X			X	X	X	X	X	X		X	X		X	X	X		X			X							
ZZZZZZ	1.00	01:01																														
ZZZZZZ	1.00	01:05																														
LLC	1.00	01:08	X	X	X			X	X	X	X	X	X		X	X		X	X	X		X			X							
ICSA	1.00	01:11	X	X	X			X	X	X	X	X	X		X	X		X	X	X		X			X							
ICSAB	1.00	01:14	X	X	X			X	X	X	X	X	X		X	X		X	X	X		X			X							
CCV	1.00	01:17	X	X	X			X	X	X	X	X	X		X	X		X	X	X		X			X							
CCB	1.00	01:21	X	X	X			X	X	X	X	X	X		X	X		X	X	X		X			X							

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: ATH81

Method: P
Instrument ID: 16417
Run Name: 1810602T72

Run Start Date: 04/16/2018
Run End Date: 04/16/2018

Lab Sample ID	D/F	Time	Analytes																												
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN							
S0	1.00	04:00	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X							
S	1.00	04:03	X						X				X		X				X			X										
S	1.00	04:07			X	X	X	X			X	X		X		X		X		X	X		X		X							
S	1.00	04:10		X						X														X								
ICV	1.00	04:13	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X							
ICB	1.00	04:17	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X							
LLC	1.00	04:20	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X							
ICSA	1.00	04:23	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X							
ICSAB	1.00	04:26	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X							
CCV	1.00	04:30	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X							
CCB	1.00	04:33	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X							
P10084AB	1.00	04:36	X	X	X	X	X	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X							
P10084AQ	1.00	04:40	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X							
9548789BKG	1.00	04:43	X	X	X	X	X	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X							
9548789A	1.00	04:46														X																
9548792DUP	1.00	04:50	X	X	X	X	X	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X							
9548790MS	1.00	04:53	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X							
9548791MSD	1.00	04:56	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X							
9548789L	5.00	05:00	X	X	X	X	X	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X							
ZZZZZZ	1.00	05:03																														
9548797	1.00	05:06	X	X	X	X	X	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X							
CCV	1.00	05:09	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X							
CCB	1.00	05:13	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X							
9548799	1.00	05:16	X	X	X	X	X	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X							
ZZZZZZ	1.00	05:19																														
ZZZZZZ	1.00	05:23																														
ZZZZZZ	1.00	05:26																														
ZZZZZZ	1.00	05:29																														
LLC	1.00	05:33	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X							
ICSA	1.00	05:36	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X							
ICSAB	1.00	05:39	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X							
CCV	1.00	05:42	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X							
CCB	1.00	05:46	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X							

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: ATH81

Method: P
Instrument ID: 23745
Run Name: 1810701T74

Run Start Date: 04/17/2018
Run End Date: 04/17/2018

Lab Sample ID	D/F	Time	Analytes																												
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN							
S0	1.00	00:33										X																				
S	1.00	00:37																														
S	1.00	00:41										X																				
S	1.00	00:45																														
ICV	1.00	00:48										X																				
ICB	1.00	00:52										X																				
LLC	1.00	00:56										X																				
ICSA	1.00	01:00										X																				
ICSAB	1.00	01:04										X																				
CCV	1.00	01:07										X																				
CCB	1.00	01:11										X																				
P10084AB	1.00	01:15										X																				
P10084AB	1.00	01:19																														
9548789BKG	1.00	01:22										X																				
9548789A	1.00	01:26																														
9548792DUP	1.00	01:30										X																				
9548789L	5.00	01:34										X																				
9548797	1.00	01:38										X																				
9548799	1.00	01:41										X																				
ZZZZZZ	1.00	01:45																														
ZZZZZZ	1.00	01:49																														
CCV	1.00	01:53										X																				
CCB	1.00	01:56										X																				
ZZZZZZ	1.00	02:00																														
ZZZZZZ	1.00	02:04																														
LLC	1.00	02:08										X																				
ICSA	1.00	02:12										X																				
ICSAB	1.00	02:15										X																				
CCV	1.00	02:19										X																				
CCB	1.00	02:23										X																				

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: ATH81

Method: P
Instrument ID: 16417
Run Name: 1810703T72

Run Start Date: 04/17/2018
Run End Date: 04/17/2018

Lab Sample ID	D/F	Time	Analytes																												
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN							
S0	1.00	05:22				X	X							X		X					X		X	X								
S	1.00	05:26																														
S	1.00	05:29				X	X							X		X					X		X									
S	1.00	05:32																						X								
ICV	1.00	05:35				X	X							X		X					X		X	X								
ICB	1.00	05:39				X	X							X		X					X		X	X								
LLC	1.00	05:42				X	X							X		X					X		X	X								
ICSA	1.00	05:45				X	X							X		X					X		X	X								
ICSAB	1.00	05:48				X	X							X		X					X		X	X								
CCV	1.00	05:52				X	X							X		X					X		X	X								
CCB	1.00	05:55				X	X							X		X					X		X	X								
P10084BB	1.00	05:58				X	X							X									X	X								
P10084BB	1.00	06:02																														
P10084BQ	1.00	06:05				X	X							X		X					X		X	X								
9548793BKG	1.00	06:08				X	X							X		X							X	X								
9548793A	1.00	06:12																														
9548796DUP	1.00	06:15				X	X							X		X							X	X								
9548794MS	1.00	06:18				X	X							X		X					X		X	X								
9548795MSD	1.00	06:22				X	X							X		X					X		X	X								
9548793L	5.00	06:25				X	X							X		X							X	X								
9548798	1.00	06:28				X	X							X		X							X	X								
CCV	1.00	06:32				X	X							X		X					X		X	X								
CCB	1.00	06:35				X	X							X		X					X		X	X								
ZZZZZZ	1.00	06:38																														
ZZZZZZ	5.00	06:42																														
ZZZZZZ	1.00	06:45																														
ZZZZZZ	1.00	06:49																														
ZZZZZZ	5.00	06:52																														
LLC	1.00	06:55				X	X							X		X					X		X	X								
ICSA	1.00	06:59				X	X							X		X					X		X	X								
ICSAB	1.00	07:02				X	X							X		X					X		X	X								
CCV	1.00	07:05				X	X							X		X					X		X	X								
CCB	1.00	07:08				X	X							X		X					X		X	X								

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
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- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
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- Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: ATH81

Method: P
Instrument ID: 18255
Run Name: 1810906T73

Run Start Date: 04/19/2018
Run End Date: 04/19/2018

Lab Sample ID	D/F	Time	Analytes																												
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN							
S0	1.00	11:57																			X											
S	1.00	12:00																														
S	1.00	12:03																			X											
S	1.00	12:07																														
ICV	1.00	12:10																			X											
ICB	1.00	12:13																			X											
LLC	1.00	12:17																			X											
ICSA	1.00	12:20																			X											
ICSAB	1.00	12:23																			X											
CCV	1.00	12:26																			X											
CCB	1.00	12:30																			X											
P10084BB	1.00	12:33																			X											
9548793BKG	1.00	12:36																			X											
9548793A	1.00	12:40																														
9548796DUP	1.00	12:43																			X											
9548793L	5.00	12:46																			X											
9548798	1.00	12:49																			X											
LLC	1.00	12:53																			X											
ICSA	1.00	12:56																			X											
ICSAB	1.00	12:59																			X											
CCV	1.00	13:02																			X											
CCB	1.00	13:05																			X											

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
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- L = Serial Dilution
- B = Blank
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- Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: ATH81

Method: CV
Instrument ID: 17384
Run Name: 1810201M07

Run Start Date: 04/12/2018
Run End Date: 04/12/2018

Lab Sample ID	D/F	Time	Analytes																												
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN							
S0	1.00	05:56															X															
S0.2	1.00	05:58															X															
S0.5	1.00	06:00															X															
S1.0	1.00	06:02															X															
S2.5	1.00	06:04															X															
S5.0	1.00	06:06															X															
ICV	1.00	06:08															X															
ICB	1.00	06:10															X															
CRA	1.00	06:12															X															
CCV	1.00	06:14															X															
CCB	1.00	06:16															X															
P10171DB	1.00	06:31															X															
P10171DQ	1.00	06:33															X															
9548789BKG	1.00	06:35															X															
9548792DUP	1.00	06:37															X															
9548790MS	1.00	06:39															X															
9548791MSD	1.00	06:41															X															
9548797	1.00	06:43															X															
9548799	1.00	06:46															X															
ZZZZZZ	1.00	06:48																														
ZZZZZZ	1.00	06:50																														
CCV	1.00	06:52															X															
CCB	1.00	06:54															X															
ZZZZZZ	1.00	06:56																														
ZZZZZZ	1.00	06:58																														
ZZZZZZ	1.00	07:00																														
ZZZZZZ	1.00	07:02																														
ZZZZZZ	1.00	07:04																														
ZZZZZZ	1.00	07:06																														
ZZZZZZ	1.00	07:08																														
ZZZZZZ	1.00	07:10																														
ZZZZZZ	1.00	07:12																														
ZZZZZZ	1.00	07:14																														
CCV	1.00	07:16															X															
CCB	1.00	07:18															X															
ZZZZZZ	1.00	07:20																														
ZZZZZZ	1.00	07:22																														
ZZZZZZ	1.00	07:24																														

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
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- L = Serial Dilution
- B = Blank
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- Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: ATH81

Method: CV
Instrument ID: 17384
Run Name: 1810201M07

Run Start Date: 04/12/2018
Run End Date: 04/12/2018

Lab Sample ID	D/F	Time	Analytes																												
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN							
ZZZZZZ	1.00	07:26																														
ZZZZZZ	1.00	07:28																														
ZZZZZZ	1.00	07:30																														
ZZZZZZ	1.00	07:32																														
ZZZZZZ	1.00	07:34																														
ZZZZZZ	1.00	07:36																														
ZZZZZZ	1.00	07:38																														
CCV	1.00	07:40															X															
CCB	1.00	07:42															X															
ZZZZZZ	1.00	07:44																														
ZZZZZZ	1.00	07:47																														
ZZZZZZ	1.00	07:49																														
ZZZZZZ	1.00	07:51																														
ZZZZZZ	1.00	07:53																														
ZZZZZZ	1.00	07:55																														
ZZZZZZ	1.00	07:57																														
ZZZZZZ	1.00	07:59																														
ZZZZZZ	1.00	08:01																														
CRA	1.00	08:03															X															
CCV	1.00	08:05															X															
CCB	1.00	08:07															X															

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: ATH81

Method: CV
Instrument ID: 17384
Run Name: 1810601M07

Run Start Date: 04/16/2018
Run End Date: 04/16/2018

Lab Sample ID	D/F	Time	Analytes																													
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN							
S0	1.00	07:03															X															
S0.2	1.00	07:05															X															
S0.5	1.00	07:07															X															
S1.0	1.00	07:09															X															
S2.5	1.00	07:11															X															
S5.0	1.00	07:13															X															
ICV	1.00	07:18															X															
ICB	1.00	07:22															X															
CRA	1.00	07:24															X															
CCV	1.00	07:26															X															
CCB	1.00	07:28															X															
P10371DB	1.00	07:30															X															
P10371DQ	1.00	07:32															X															
9548793BKG	1.00	07:34															X															
9548796DUP	1.00	07:36															X															
9548794MS	1.00	07:38															X															
9548795MSD	1.00	07:40															X															
9548798	1.00	07:42															X															
ZZZZZZ	1.00	07:44																														
ZZZZZZ	1.00	07:46																														
ZZZZZZ	1.00	07:49																														
CCV	1.00	07:51															X															
CCB	1.00	07:53															X															
ZZZZZZ	1.00	07:55																														
ZZZZZZ	1.00	07:57																														
ZZZZZZ	1.00	07:59																														
ZZZZZZ	1.00	08:01																														
ZZZZZZ	1.00	08:03																														
ZZZZZZ	1.00	08:05																														
ZZZZZZ	1.00	08:07																														
ZZZZZZ	1.00	08:09																														
ZZZZZZ	1.00	08:11																														
ZZZZZZ	1.00	08:13																														
CCV	1.00	08:15															X															
CCB	1.00	08:17															X															
ZZZZZZ	1.00	08:19																														
ZZZZZZ	1.00	08:21																														
ZZZZZZ	1.00	08:23																														

METHODS:
- P = ICP Atomic Emission Spectrometer
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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: ATH81

Method: CV
Instrument ID: 17384
Run Name: 1810601M07

Run Start Date: 04/16/2018
Run End Date: 04/16/2018

Lab Sample ID	D/F	Time	Analytes																												
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN							
ZZZZZZ	1.00	08:25																														
ZZZZZZ	1.00	08:27																														
ZZZZZZ	1.00	08:29																														
ZZZZZZ	1.00	08:31																														
ZZZZZZ	1.00	08:33																														
ZZZZZZ	1.00	08:35																														
ZZZZZZ	1.00	08:37																														
CCV	1.00	08:39															X															
CCB	1.00	08:41															X															
ZZZZZZ	1.00	08:43																														
ZZZZZZ	1.00	08:45																														
ZZZZZZ	1.04	08:48																														
ZZZZZZ	1.00	08:50																														
ZZZZZZ	1.00	08:52																														
ZZZZZZ	1.04	08:54																														
ZZZZZZ	1.00	08:56																														
ZZZZZZ	1.00	08:58																														
ZZZZZZ	1.00	09:00																														
ZZZZZZ	1.00	09:02																														
CCV	1.00	09:04															X															
CCB	1.00	09:06															X															
ZZZZZZ	1.00	09:08																														
ZZZZZZ	1.00	09:10																														
ZZZZZZ	1.00	09:12																														
ZZZZZZ	1.00	09:14																														
ZZZZZZ	1.00	09:16																														
ZZZZZZ	1.00	09:18																														
ZZZZZZ	1.00	09:21																														
ZZZZZZ	1.00	09:23																														
ZZZZZZ	1.00	09:25																														
ZZZZZZ	1.00	09:27																														
CCV	1.00	09:29															X															
CCB	1.00	09:31															X															
ZZZZZZ	1.00	09:33																														
ZZZZZZ	1.00	09:35																														
ZZZZZZ	1.00	09:37																														
ZZZZZZ	1.00	09:39																														
ZZZZZZ	1.00	09:41																														

METHODS:
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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: ATH81

Method: CV
Instrument ID: 17384
Run Name: 1810601M07

Run Start Date: 04/16/2018
Run End Date: 04/16/2018

Lab Sample ID	D/F	Time	Analytes																													
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN							
ZZZZZZ	1.00	09:43																														
CRA	1.00	09:45															X															
CCV	1.00	09:47															X															
CCB	1.00	09:49															X															

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Raw Data

Metals in Liquid

ICP Data

Metals in Liquid

ICP-AES Run Data Report

Reviewed By	Reviewed Date
Jonathan J Allen	04/16/2018 2:12AM
Tara L Snyder	04/19/2018 9:58AM

Verified By:	Verified Date
Tara L Snyder	04/19/2018 10:03AM

Data File Name 1810506T72.TXT
Run Name: 1810506T72

Method Reference Name(s):

Analyst Employee: 12403

Instrument Parameters:

Individual Integration Time: 10.00 sec Total Integration Time: 30.00 sec Rinse Time: 15.00 sec

Element	Analyte Name	Wavelength Value
AG	Silver	328.06
AL	Aluminum	308.21
AS	Arsenic	189.04
AU	Gold	242.80
B	Boron	249.67
BA	Barium	455.40
BE	Beryllium	313.04
CA	Calcium	317.93
CD	Cadmium	226.50
CO	Cobalt	228.62
CR	Chromium	267.72
CU	Copper	327.40
FE	Iron	261.19
K	Potassium	766.49
LI	Lithium	670.78
MG	Magnesium	285.21
MN	Manganese	257.61
MO	Molybdenum	202.03
NA	Sodium	589.59
NI	Nickel	231.60
P	Phosphorus	177.49
PB	Lead	220.35
SB	Antimony	206.83
SE	Selenium	196.09
SI	Silicon	251.60
SN	Tin	189.99
SR	Strontium	421.55
TE	Tellurium	214.28
TH	Thorium	401.91
TI	Titanium	334.94
TL	Thallium	190.86
V	Vanadium	292.40
W	Tungsten	207.91
Y1	Yttrium	224.31
Y2	Yttrium	371.03
ZN	Zinc	213.86
ZR	Zirconium	339.19

The TRACE ICP utilizes Yttrium as an internal standard to compensate for fluctuations in nebulization and plasma conditions. All Yttrium readings are expressed in counts.

LANCASTER LABORATORIES

Run Name: 1810506T72 Instrument ID: 16417

Tube: 1 Date/Time: 04/15/2018 23:45

Sample Number: **S0**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	0.000	-43.83333	32.007	-0.01011	-0.00623	-0.00583
AL	0.000	19.60000	13.969	0.20445	0.16378	0.21533
AS	0.000	2.72476	44.616	0.01165	0.01581	0.00592
B	0.000	-24.75000	24.231	-0.00011	-0.00007	-0.00008
BA	0.000	64.28333	23.345	0.00027	0.00020	0.00018
BE	0.000	-604.78333	1.156	-0.10140	-0.10203	-0.10369
CA	0.000	6.53333	11.754	0.00143	0.00113	0.00134
CD	0.000	-4.24370	20.371	-0.01504	-0.02138	-0.01553
CO	0.000	12.43463	20.560	0.04744	0.04227	0.06234
CR	0.000	-7.18333	49.194	-0.00002	-0.00001	-0.00004
CU	0.000	-106.25000	6.226	-0.01896	-0.01818	-0.01676
FE	0.000	-0.15000	329.993	-0.00014	0.00005	0.00000
K	0.000	142.46667	11.147	1.23902	1.45967	1.54443
LI	0.000	-118.93333	10.098	-0.02607	-0.02335	-0.02132
MG	0.000	-2.73333	70.598	-0.00038	-0.00027	-0.00098
MN	0.000	52.61667	19.543	0.00724	0.00882	0.01073
MO	0.000	-3.55784	3.738	-0.01408	-0.01432	-0.01512
NA	0.000	-393.25000	3.577	-0.07762	-0.08098	-0.07544
NI	0.000	14.77965	17.846	0.07213	0.05116	0.05751
P	0.000	1.35239	38.419	0.00008	0.00009	0.00016
PB	0.000	-2.93128	41.398	-0.00788	-0.01748	-0.01054
S	0.000	2.93128	9.390	0.00026	0.00023	0.00022
SB	0.000	-2.46494	105.212	-0.00021	-0.00041	0.00002
SE	0.000	1.35905	99.571	0.01182	0.00147	0.00333
SI	0.000	0.47000	366.623	-0.00005	-0.00016	0.00049
SN	0.000	5.45951	13.461	0.01928	0.02527	0.02227
SR	0.000	-231.63333	5.466	-0.00076	-0.00083	-0.00076
TH	0.000	-1.56667	85.118	-0.00008	-0.00026	-0.00060
TI	0.000	29.05000	19.376	0.00489	0.00587	0.00397
TL	0.000	1.93864	29.601	0.01043	0.00582	0.00746
V	0.000	1.28333	223.686	0.00024	0.00068	-0.00028
W	0.000	6.36088	23.499	0.00052	0.00064	0.00040
Y1	0.000	12259.83145	0.492	12260.83142	12199.01669	12319.64625
Y2A	0.000	295429.57674	2.102	301408.23939	295870.44098	289010.04983
Y2R	0.000	5040.00833	1.072	5086.70000	5052.52500	4980.80000
ZN	0.000	5.25299	7.119	0.02221	0.02240	0.01967
ZR	0.000	15.35000	23.233	0.00372	0.00231	0.00311

LANCASTER LABORATORIES

Run Name: 1810506T72

Instrument ID: 16417

Tube: 2

Date/Time: 04/15/2018 23:48

Sample Number: **S1**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AL	50.000	1615.24601	2.776	16.67529	15.78132	16.33846
CA	50.000	14556.81124	2.320	2.99252	2.85817	2.94364
FE	50.000	3392.48571	2.989	0.70101	0.66093	0.68782
K	50.000	13913.46388	2.360	142.98722	136.49002	140.80917
MG	50.000	21581.34639	2.474	4.43163	4.22546	4.38145
NA	50.000	36254.09568	2.911	7.48982	7.07108	7.34369
S	50.000	13113.32022	0.477	1.09677	1.09617	1.08745
SI	50.000	2199.02235	2.780	0.45299	0.42917	0.44646
Y1	50.000	11992.57015	0.245	11978.82612	11972.56738	12026.31695
Y2R	50.000	4967.59746	2.460	4879.67313	5107.12502	4915.99422

LANCASTER LABORATORIES

Run Name: 1810506T72

Instrument ID: 16417

Tube: 3

Date/Time: 04/15/2018 23:51

Sample Number: **S2**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	1.000	21094.35908	4.399	3.76436	3.66531	3.45210
AS	1.000	534.92794	1.737	2.24310	2.23205	2.17161
B	1.000	11315.00698	4.234	0.04036	0.03925	0.03712
BA	1.000	842486.51457	3.971	2.97225	2.95418	2.76458
BE	1.000	705844.92515	4.403	125.83862	122.82767	115.45259
CD	1.000	19227.70818	1.737	80.66968	80.17829	78.06573
CO	1.000	8262.96920	1.788	34.69529	34.44372	33.53249
CU	1.000	15879.61485	4.732	2.83871	2.76607	2.58761
LI	1.000	5240.27554	6.818	1.04612	1.03602	1.16873
MN	1.000	107789.74589	4.292	19.20462	18.74313	17.65535
NI	1.000	4244.88160	1.573	17.78760	17.68971	17.26706
P	1.000	575.93409	1.978	0.04849	0.04797	0.04666
PB	1.000	1599.43682	1.762	6.68989	6.69421	6.48989
SE	1.000	421.14744	1.479	1.75353	1.76426	1.71518
SR	1.000	1014646.71751	3.177	3.58330	3.51521	3.36657
TH	1.000	31.15310	4.458	0.00611	0.00666	0.00650
TL	1.000	1011.86176	1.976	4.23092	4.24640	4.09585
W	1.000	1754.01856	1.766	0.14718	0.14633	0.14238
Y1	1.000	12072.84470	0.776	12063.54210	11984.10871	12170.88329
Y2A	1.000	291102.73371	3.834	281864.92338	287941.12258	303502.15517
Y2R	1.000	4852.30303	7.468	5064.12111	5058.89687	4433.89111
ZN	1.000	12097.34353	1.695	50.64553	50.54422	49.12623

LANCASTER LABORATORIES

Run Name: 1810506T72

Instrument ID: 16417

Tube: 4

Date/Time: 04/15/2018 23:55

Sample Number: **S3**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
CR	1.000	15151.84815	0.915	0.05059	0.05088	0.05150
MO	1.000	4370.88401	2.408	18.25814	18.05279	17.42969
SB	1.000	846.73520	2.070	0.07034	0.07012	0.06775
SN	1.000	1278.67454	2.503	5.33570	5.29498	5.09093
TI	1.000	77534.34898	0.764	12.96314	13.01775	13.15644
V	1.000	22289.01099	0.791	3.72851	3.73832	3.78410
Y1	1.000	12202.37069	1.244	12093.45531	12137.86885	12375.78790
Y2A	1.000	297176.94342	0.951	299783.48806	297573.17276	294174.16944
Y2R	1.000	4963.12500	0.627	4927.30000	4983.65000	4978.42500
ZR	1.000	809.26667	0.725	0.16272	0.16208	0.16437

LANCASTER LABORATORIES

Run Name: 1810506T72

Instrument ID: 16417

Tube: 5

Date/Time: 04/15/2018 23:58

Sample Number: **ICV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.59288	12,461.21	0.772	0.59346	0.58804	0.59714
____ AL	29.83460	966.60	0.693	29.60510	30.00672	29.89197
____ AS	0.58552	313.23	1.898	0.59122	0.59262	0.57271
____ B	0.54600	6,968.83	1.139	0.54605	0.53976	0.55220
____ BA	0.59814	500,113.85	0.963	0.59845	0.59223	0.60374
____ BE	0.57067	398,674.02	0.771	0.57328	0.56559	0.57314
____ CA	29.97194	8,669.19	0.541	30.15817	29.86301	29.89465
____ CD	0.58272	11,259.35	1.131	0.58694	0.58610	0.57513
____ CO	0.57593	4,784.01	1.331	0.58155	0.57904	0.56720
____ CR	0.56838	8,360.89	0.724	0.56982	0.56374	0.57158
____ CU	0.58675	9,120.35	1.061	0.58335	0.58296	0.59393
____ FE	29.06614	1,973.11	1.518	28.61521	29.49703	29.08619
____ K	29.62300	8,234.76	0.342	29.55850	29.73970	29.57080
____ LI	0.57652	3,016.48	0.113	0.57577	0.57695	0.57684
____ MG	29.97342	12,869.23	0.229	30.02949	29.99386	29.89692
____ MN	0.58660	62,776.26	0.737	0.58559	0.58286	0.59133
____ MO	0.57072	2,473.27	1.058	0.57480	0.57357	0.56379
____ NA	28.35284	20,217.57	0.905	28.17689	28.64739	28.23423
____ NI	0.57989	2,469.83	1.016	0.58540	0.58059	0.57368
____ P	0.58896	340.65	1.585	0.59281	0.59575	0.57831
____ PB	0.57762	945.00	1.179	0.58367	0.57895	0.57024
____ S	29.41256	7,782.86	0.898	29.58520	29.54389	29.10860
____ SB	0.60103	501.95	1.402	0.61030	0.59896	0.59383
____ SE	0.57161	242.22	1.112	0.57784	0.57184	0.56514
____ SI	30.36012	1,327.09	0.264	30.29571	30.44999	30.33467
____ SN	0.56621	720.66	1.145	0.57068	0.56917	0.55878
____ SR	0.59137	599,380.95	1.592	0.58427	0.58779	0.60205
____ TH	0.52846	16.67	9.871	0.58670	0.51264	0.48604
____ TI	0.59474	44,796.06	0.785	0.59395	0.59052	0.59975
____ TL	0.58016	587.98	1.725	0.58727	0.58450	0.56872
____ V	0.59149	12,836.04	0.749	0.59010	0.58792	0.59644
____ W	0.60275	1,061.40	1.144	0.60722	0.60623	0.59481
____ Y1	12104.76229	12,104.76	0.733	12083.31470	12028.71954	12202.25262
____ Y2A	288622.25914	288,622.26	1.303	288940.11628	292215.19934	284711.46179
____ Y2R	4926.44477	4,926.44	0.306	4943.77119	4919.00459	4916.55851
____ ZN	0.57566	7,018.70	1.072	0.57980	0.57860	0.56857
____ ZR	0.56894	484.55	2.883	0.55005	0.57961	0.57715

LANCASTER LABORATORIES

Run Name: 1810506T72

Instrument ID: 16417

Tube: 6

Date/Time: 04/16/2018 00:01

Sample Number: **ICB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00215	-47.20	67.040	0.00169	0.00377	0.00100
____ AL	0.01626	19.57	112.810	0.02951	0.02395	-0.00468
____ AS	0.00076	3.12	78.942	0.00051	0.00033	0.00145
____ B	0.00134	-7.93	43.261	0.00201	0.00094	0.00108
____ BA	0.00025	262.97	18.478	0.00019	0.00027	0.00027
____ BE	0.00029	-568.15	8.353	0.00029	0.00032	0.00027
____ CA	-0.00217	5.27	1028.881	0.01098	-0.02797	0.01047
____ CD	0.00000	-4.46	2299.799	0.00004	0.00000	-0.00005
____ CO	-0.00018	10.87	83.913	-0.00021	-0.00002	-0.00030
____ CR	0.00081	4.38	30.070	0.00102	0.00085	0.00054
____ CU	0.00063	-119.75	266.673	-0.00006	-0.00060	0.00256
____ FE	0.02934	1.45	52.817	0.01719	0.02404	0.04679
____ K	0.09589	162.40	42.158	0.11127	0.05003	0.12638
____ LI	0.00914	-105.53	53.485	0.01038	0.00375	0.01329
____ MG	-0.00137	-3.35	114.137	-0.00078	-0.00019	-0.00315
____ MN	0.00003	54.10	105.782	0.00006	0.00004	-0.00001
____ MO	0.00016	-3.27	100.870	0.00023	-0.00002	0.00028
____ NA	0.01423	-396.50	281.399	0.06028	-0.00498	-0.01259
____ NI	-0.00001	14.63	6816.320	0.00049	-0.00027	-0.00025
____ P	-0.00022	1.21	191.907	0.00010	-0.00071	-0.00006
____ PB	0.00236	-4.67	37.319	0.00229	0.00152	0.00327
____ S	0.01467	6.81	20.307	0.01800	0.01374	0.01226
____ SB	0.00520	-3.14	9.747	0.00515	0.00471	0.00572
____ SE	0.00324	2.71	121.222	-0.00125	0.00492	0.00604
____ SI	0.04433	1.87	54.522	0.03967	0.07049	0.02283
____ SN	0.00056	6.13	65.591	0.00035	0.00098	0.00034
____ SR	0.00008	-215.11	21.479	0.00006	0.00010	0.00009
____ TH	0.08723	1.33	100.517	0.06154	0.18488	0.01526
____ TI	0.00023	45.03	155.717	0.00057	-0.00014	0.00026
____ TL	0.00207	4.02	66.180	0.00328	0.00235	0.00058
____ V	0.00050	14.72	10.736	0.00054	0.00044	0.00052
____ W	0.00018	6.63	305.391	0.00001	0.00081	-0.00027
____ Y1	12168.78307	12,168.78	0.816	12084.72469	12143.28570	12278.33882
____ Y2A	284267.35536	284,267.36	0.397	284827.12766	282966.86047	285008.07795
____ Y2R	4832.60833	4,832.61	1.433	4905.75000	4824.07500	4768.00000
____ ZN	-0.00003	4.95	275.169	0.00006	-0.00007	-0.00006
____ ZR	0.00553	22.42	160.938	0.01085	-0.00474	0.01048

LANCASTER LABORATORIES

Run Name: 1810506T72

Instrument ID: 16417

Tube: 7

Date/Time: 04/16/2018 00:05

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00558	-3.12	13.900	0.00617	0.00587	0.00470
____ AL	0.14925	24.07	44.335	0.19584	0.07351	0.17839
____ AS	0.01879	12.96	10.032	0.01688	0.01884	0.02065
____ B	0.04689	520.79	0.581	0.04682	0.04719	0.04666
____ BA	0.00515	4,436.54	2.607	0.00500	0.00520	0.00525
____ BE	0.00524	2,931.60	1.200	0.00517	0.00527	0.00528
____ CA	0.20997	65.38	5.207	0.22241	0.20190	0.20559
____ CD	0.00510	95.83	0.654	0.00508	0.00508	0.00514
____ CO	0.00519	56.37	1.242	0.00523	0.00521	0.00511
____ CR	0.01501	216.93	4.499	0.01492	0.01438	0.01572
____ CU	0.01442	132.14	1.859	0.01467	0.01414	0.01445
____ FE	0.22514	14.72	8.481	0.20700	0.22336	0.24506
____ K	0.52501	278.58	3.630	0.54645	0.51001	0.51856
____ LI	0.02203	-35.97	19.633	0.01704	0.02446	0.02459
____ MG	0.09533	37.72	3.404	0.09337	0.09907	0.09354
____ MN	0.00517	614.45	0.528	0.00514	0.00519	0.00518
____ MO	0.00935	37.31	0.438	0.00931	0.00939	0.00934
____ NA	0.99072	301.67	1.513	0.97711	1.00678	0.98828
____ NI	0.01018	58.80	6.503	0.00977	0.01094	0.00982
____ P	0.09846	59.15	2.661	0.09823	0.10119	0.09596
____ PB	0.01779	20.75	12.833	0.01561	0.02016	0.01761
____ S	0.49183	135.48	1.719	0.49747	0.49592	0.48211
____ SB	0.02509	14.08	4.435	0.02382	0.02558	0.02588
____ SE	0.02192	10.72	23.809	0.02740	0.02134	0.01702
____ SI	0.08895	3.83	30.955	0.06215	0.08754	0.11716
____ SN	0.02067	32.09	10.270	0.02310	0.01915	0.01977
____ SR	0.00524	5,078.93	1.109	0.00517	0.00528	0.00526
____ TH	0.18180	4.43	5.421	0.17144	0.19106	0.18291
____ TI	0.01009	800.27	1.510	0.01000	0.01026	0.01000
____ TL	0.03274	35.63	1.674	0.03211	0.03310	0.03301
____ V	0.00547	126.40	4.565	0.00521	0.00549	0.00571
____ W	0.01014	24.70	4.682	0.01067	0.00996	0.00977
____ Y1	12330.54732	12,330.55	0.127	12313.74638	12344.82979	12333.06579
____ Y2A	293223.57107	293,223.57	0.914	296311.00796	291500.82891	291858.87633
____ Y2R	4853.09167	4,853.09	1.259	4803.72500	4921.45000	4834.10000
____ ZN	0.01977	248.93	1.344	0.01999	0.01983	0.01947
____ ZR	0.05209	62.37	3.791	0.05432	0.05137	0.05057

LANCASTER LABORATORIES

Run Name: 1810506T72

Instrument ID: 16417

Tube: 8

Date/Time: 04/16/2018 00:08

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00219	-72.77	89.543	0.00439	0.00066	0.00151
____ AL	518.71070	15,135.07	1.019	524.00314	513.42968	518.69929
____ AS	0.00307	-14.66	151.129	-0.00180	0.00358	0.00742
____ B	-0.13609	3,950.18	4.912	-0.14051	-0.12840	-0.13936
____ BA	0.00085	693.32	3.073	0.00088	0.00085	0.00083
____ BE	0.00017	-588.24	11.129	0.00018	0.00015	0.00019
____ CA	516.33670	135,028.87	1.399	522.76307	508.51568	517.73135
____ CD	-0.00069	156.93	37.092	-0.00086	-0.00040	-0.00082
____ CO	-0.00008	10.58	452.691	-0.00049	0.00001	0.00023
____ CR	-0.00091	-18.54	83.218	-0.00009	-0.00106	-0.00158
____ CU	0.00744	154.86	33.988	0.00452	0.00905	0.00874
____ FE	204.41127	12,076.79	0.874	206.12098	202.55607	204.55676
____ K	0.05267	143.93	88.233	0.03331	0.01901	0.10570
____ LI	0.00860	-66.63	34.680	0.01023	0.01041	0.00516
____ MG	499.26514	187,955.86	1.334	506.05228	492.73573	499.00740
____ MN	0.00455	480.37	2.146	0.00444	0.00463	0.00458
____ MO	-0.00245	-13.36	21.390	-0.00289	-0.00187	-0.00260
____ NA	0.10251	-318.61	21.930	0.12847	0.08986	0.08921
____ NI	0.00153	-9.29	42.303	0.00145	0.00221	0.00092
____ P	0.01402	8.61	5.120	0.01483	0.01375	0.01348
____ PB	0.00069	168.13	330.436	0.00235	0.00162	-0.00190
____ S	0.09332	25.22	6.477	0.08670	0.09471	0.09855
____ SB	0.00412	-4.55	98.800	-0.00040	0.00526	0.00749
____ SE	0.00230	3.04	26.496	0.00256	0.00275	0.00161
____ SI	0.00709	0.27	306.638	-0.01796	0.01828	0.02095
____ SN	0.00663	12.60	17.270	0.00795	0.00597	0.00597
____ SR	-0.00189	24,202.23	22.767	-0.00234	-0.00148	-0.00185
____ TH	0.07645	5.31	126.040	0.18531	0.00205	0.04201
____ TI	-0.00245	-139.54	5.614	-0.00255	-0.00230	-0.00252
____ TL	0.00594	7.23	22.738	0.00747	0.00541	0.00493
____ V	-0.00018	56.21	201.041	-0.00054	-0.00022	0.00020
____ W	0.00592	15.04	30.733	0.00596	0.00408	0.00771
____ Y1	11079.06533	11,079.07	0.229	11050.02497	11090.69386	11096.47717
____ Y2A	257546.39338	257,546.39	0.641	259347.47024	256103.25728	257188.45262
____ Y2R	4612.67139	4,612.67	0.846	4583.61621	4657.01220	4597.38575
____ ZN	-0.00514	163.85	3.857	-0.00514	-0.00495	-0.00534
____ ZR	0.00465	20.34	183.452	-0.00513	0.00850	0.01059

LANCASTER LABORATORIES

Run Name: 1810506T72

Instrument ID: 16417

Tube: 9

Date/Time: 04/16/2018 00:11

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.21629	4,056.35	1.960	0.22114	0.21331	0.21441
____ AL	527.77332	15,125.78	0.422	525.62446	527.62350	530.07202
____ AS	0.10141	32.63	3.433	0.10312	0.10370	0.09741
____ B	-0.14708	3,923.36	7.951	-0.13384	-0.15599	-0.15141
____ BA	0.51102	383,256.69	2.576	0.52594	0.50105	0.50606
____ BE	0.50202	314,515.08	2.410	0.51549	0.49209	0.49847
____ CA	525.19324	134,871.01	0.613	522.87687	523.83016	528.87269
____ CD	0.92737	16,279.34	1.517	0.93805	0.93263	0.91142
____ CO	0.46798	3,498.86	1.398	0.47344	0.46976	0.46073
____ CR	0.47261	6,235.11	2.021	0.48334	0.46503	0.46947
____ CU	0.52466	7,331.64	1.978	0.53536	0.51465	0.52396
____ FE	206.85695	11,995.63	0.608	205.65122	206.75925	208.16039
____ K	0.02508	134.51	213.683	0.03446	-0.03258	0.07335
____ LI	0.00735	-71.43	42.061	0.00387	0.00979	0.00837
____ MG	506.66601	187,222.64	0.652	503.55800	506.30781	510.13223
____ MN	0.48946	46,991.16	2.514	0.50309	0.47917	0.48611
____ MO	-0.00306	-15.53	7.902	-0.00308	-0.00281	-0.00329
____ NA	0.05285	-346.28	62.654	0.02850	0.03950	0.09056
____ NI	0.91909	3,496.79	1.490	0.92735	0.92663	0.90328
____ P	0.01757	10.32	8.647	0.01882	0.01800	0.01588
____ PB	0.51066	908.43	2.297	0.51292	0.52109	0.49796
____ S	0.09031	24.12	2.171	0.08817	0.09074	0.09202
____ SB	0.60588	459.43	1.633	0.61147	0.61171	0.59446
____ SE	0.51238	194.54	1.825	0.51900	0.51646	0.50168
____ SI	0.02005	0.79	345.585	0.09752	-0.00136	-0.03601
____ SN	0.00853	14.57	13.630	0.00986	0.00770	0.00804
____ SR	-0.00212	24,437.41	37.654	-0.00120	-0.00266	-0.00250
____ TH	-0.00054	2.93	3741.990	0.02152	0.07753	-0.10069
____ TI	-0.00210	-116.23	9.045	-0.00211	-0.00228	-0.00190
____ TL	0.09371	88.29	0.750	0.09352	0.09449	0.09312
____ V	0.50162	9,921.60	2.353	0.51467	0.49169	0.49849
____ W	0.00312	28.44	23.145	0.00229	0.00342	0.00364
____ Y1	10905.53127	10,905.53	0.716	10865.83808	10855.28366	10995.47208
____ Y2A	258962.05828	258,962.06	2.182	252632.12392	263501.73611	260752.31481
____ Y2R	4532.16158	4,532.16	0.422	4554.25989	4521.37073	4520.85412
____ ZN	0.96643	10,764.68	1.696	0.97930	0.97202	0.94798
____ ZR	0.01134	21.99	82.960	0.00284	0.00973	0.02145

LANCASTER LABORATORIES

Run Name: 1810506T72

Instrument ID: 16417

Tube: 10

Date/Time: 04/16/2018 00:14

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.49729	10,388.65	5.084	0.47300	0.49542	0.52346
____ AL	25.12168	799.91	0.660	25.13484	24.94960	25.28059
____ AS	0.48698	263.29	0.402	0.48832	0.48788	0.48473
____ B	0.45702	5,830.41	6.125	0.42946	0.45618	0.48542
____ BA	0.50163	419,064.55	5.214	0.47610	0.50042	0.52837
____ BE	0.48048	335,185.98	5.711	0.45656	0.47445	0.51044
____ CA	25.63112	7,257.37	0.180	25.65859	25.65695	25.57781
____ CD	0.48627	9,479.27	0.637	0.48723	0.48877	0.48280
____ CO	0.48849	4,095.88	0.512	0.48798	0.49121	0.48629
____ CR	0.48209	7,084.98	4.878	0.46017	0.47917	0.50693
____ CU	0.49705	7,742.17	4.748	0.47449	0.49508	0.52156
____ FE	24.54490	1,633.43	0.430	24.65911	24.45077	24.52483
____ K	25.48432	6,951.62	0.279	25.46887	25.56189	25.42219
____ LI	0.49447	2,509.69	0.328	0.49560	0.49261	0.49520
____ MG	25.42580	10,688.94	0.166	25.39034	25.47236	25.41469
____ MN	0.49667	53,115.23	5.120	0.47220	0.49485	0.52296
____ MO	0.48283	2,110.49	0.532	0.48382	0.48475	0.47991
____ NA	25.08864	17,460.06	0.277	25.14997	25.01318	25.10278
____ NI	0.48526	2,087.61	0.417	0.48558	0.48710	0.48309
____ P	0.49119	286.87	0.753	0.49090	0.49503	0.48765
____ PB	0.48441	798.33	0.504	0.48240	0.48713	0.48370
____ S	24.10833	6,436.83	0.669	24.16533	24.23335	23.92633
____ SB	0.49090	412.12	0.643	0.48884	0.49454	0.48932
____ SE	0.47879	204.90	0.872	0.48012	0.48213	0.47411
____ SI	25.64243	1,096.83	0.149	25.60082	25.67612	25.65034
____ SN	0.47021	604.75	0.696	0.46947	0.47379	0.46738
____ SR	0.49821	504,593.91	4.758	0.47332	0.50079	0.52052
____ TH	0.56399	17.36	9.819	0.51107	0.62153	0.55938
____ TI	0.50280	37,844.23	5.044	0.47827	0.50120	0.52892
____ TL	0.48724	498.56	0.665	0.48883	0.48938	0.48351
____ V	0.50159	10,879.60	5.147	0.47706	0.49918	0.52852
____ W	0.49897	887.74	0.628	0.49786	0.50250	0.49654
____ Y1	12212.47000	12,212.47	0.403	12267.65329	12172.86885	12196.88787
____ Y2A	288861.87924	288,861.88	5.113	302978.94562	290088.78738	273517.90473
____ Y2R	4820.89344	4,820.89	0.616	4837.53249	4838.52712	4786.62070
____ ZN	0.48395	5,954.25	0.661	0.48535	0.48621	0.48029
____ ZR	0.47315	401.69	0.761	0.47718	0.47025	0.47201

LANCASTER LABORATORIES

Run Name: 1810506T72

Instrument ID: 16417

Tube: 11

Date/Time: 04/16/2018 00:18

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00130	-49.33	153.840	-0.00094	0.00196	0.00287
____ AL	-0.10378	15.28	66.433	-0.03134	-0.16860	-0.11142
____ AS	-0.00159	1.86	27.740	-0.00109	-0.00192	-0.00175
____ B	0.00164	-5.48	32.382	0.00109	0.00167	0.00215
____ BA	0.00020	232.82	25.208	0.00021	0.00015	0.00025
____ BE	0.00035	-539.50	4.069	0.00035	0.00036	0.00033
____ CA	0.00533	7.40	96.949	-0.00060	0.00776	0.00882
____ CD	0.00003	-3.96	578.631	0.00007	0.00014	-0.00014
____ CO	0.00008	13.02	366.757	-0.00006	0.00042	-0.00012
____ CR	0.00040	-1.48	69.078	0.00023	0.00025	0.00072
____ CU	0.00218	-116.68	113.181	0.00484	-0.00003	0.00174
____ FE	0.00462	-0.20	184.556	0.01225	0.00617	-0.00457
____ K	-0.02286	127.18	108.463	-0.02864	-0.04427	0.00431
____ LI	0.00347	-132.48	104.092	0.00128	0.00764	0.00149
____ MG	0.01204	2.27	49.780	0.01092	0.01851	0.00668
____ MN	-0.00001	50.18	149.271	-0.00003	0.00001	-0.00003
____ MO	0.00020	-3.10	237.026	-0.00034	0.00038	0.00057
____ NA	-0.00348	-398.88	619.849	0.01653	-0.02633	-0.00064
____ NI	-0.00004	14.52	1027.543	-0.00050	0.00025	0.00013
____ P	-0.00031	1.16	911.027	0.00096	-0.00357	0.00168
____ PB	0.00404	-1.97	4.828	0.00427	0.00394	0.00392
____ S	0.00944	5.42	64.825	0.01632	0.00738	0.00461
____ SB	0.00439	-3.84	35.853	0.00620	0.00341	0.00356
____ SE	0.00292	2.58	124.526	-0.00125	0.00456	0.00545
____ SI	0.03015	1.23	53.704	0.01394	0.04632	0.03019
____ SN	0.00066	6.27	125.615	0.00102	0.00124	-0.00029
____ SR	0.00011	-197.89	21.164	0.00013	0.00011	0.00008
____ TH	0.04072	-0.18	189.346	-0.04806	0.07936	0.09086
____ TI	0.00021	44.27	33.726	0.00015	0.00020	0.00029
____ TL	0.00198	3.94	23.210	0.00221	0.00145	0.00229
____ V	0.00057	14.92	90.489	0.00104	0.00063	0.00002
____ W	0.00051	7.21	19.919	0.00044	0.00046	0.00062
____ Y1	12181.96932	12,181.97	0.346	12183.53399	12223.33234	12139.04163
____ Y2A	289070.67926	289,070.68	0.489	288836.29568	290586.04111	287789.70100
____ Y2R	4708.10833	4,708.11	0.587	4713.72500	4732.52500	4678.07500
____ ZN	-0.00005	4.70	244.178	0.00008	-0.00008	-0.00015
____ ZR	0.00616	20.52	56.807	0.00343	0.00495	0.01011

LANCASTER LABORATORIES

Run Name: 1810506T72 Instrument ID: 16417

Tube: 12 Date/Time: 04/16/2018 00:21

Sample Number: **PBW** Class: **** Batch: 181000184802

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00170	-39.27	116.790	-0.00005	0.00129	0.00385
____ AL	0.96482	49.23	6.816	0.91585	1.03956	0.93905
____ AS	0.00060	3.10	348.388	0.00014	0.00286	-0.00121
____ B	0.00180	-3.27	6.490	0.00168	0.00192	0.00181
____ BA	0.00009	133.85	5.998	0.00008	0.00009	0.00009
____ BE	0.00032	-560.72	5.844	0.00030	0.00032	0.00033
____ CA	0.00723	8.22	92.479	-0.00040	0.01209	0.01000
____ CD	-0.00001	-4.80	1222.390	0.00001	0.00012	-0.00017
____ CO	-0.00036	9.61	51.229	-0.00055	-0.00018	-0.00034
____ CR	0.00075	3.62	21.826	0.00058	0.00090	0.00077
____ CU	0.00374	-94.68	78.993	0.00645	0.00417	0.00059
____ FE	0.01600	0.57	161.507	-0.01376	0.03279	0.02898
____ K	-0.04962	124.12	207.139	0.06887	-0.10302	-0.11470
____ LI	0.00655	-120.20	18.914	0.00769	0.00523	0.00672
____ MG	0.00825	0.72	73.366	0.00868	0.01409	0.00200
____ MN	0.00682	782.15	1.910	0.00667	0.00692	0.00687
____ MO	-0.00014	-4.70	240.083	0.00013	-0.00050	-0.00004
____ NA	0.05118	-372.67	52.185	0.02150	0.07327	0.05877
____ NI	0.00027	16.23	79.239	0.00034	0.00044	0.00003
____ P	-0.00012	1.31	307.791	-0.00016	-0.00044	0.00026
____ PB	0.00488	-0.54	57.082	0.00169	0.00608	0.00686
____ S	0.00521	4.42	101.925	-0.00013	0.00527	0.01049
____ SB	0.00623	-2.31	11.356	0.00664	0.00541	0.00663
____ SE	0.00052	1.60	774.531	-0.00286	0.00495	-0.00054
____ SI	0.03701	1.56	188.984	-0.00264	0.11777	-0.00410
____ SN	0.00117	7.09	3.134	0.00112	0.00119	0.00119
____ SR	0.00012	-186.73	8.232	0.00013	0.00011	0.00012
____ TH	0.03497	-0.37	287.370	-0.05155	0.01126	0.14522
____ TI	0.00026	47.75	33.405	0.00016	0.00033	0.00029
____ TL	-0.00034	1.61	314.908	-0.00103	0.00090	-0.00090
____ V	0.00044	11.85	67.825	0.00010	0.00063	0.00058
____ W	-0.00053	5.63	180.267	-0.00106	-0.00111	0.00057
____ Y1	12495.11209	12,495.11	0.429	12486.31558	12446.50345	12552.51724
____ Y2A	289148.47128	289,148.47	1.813	295175.72944	285660.29900	286609.38538
____ Y2R	4862.67500	4,862.68	0.370	4847.75000	4857.62500	4882.65000
____ ZN	0.00398	54.88	1.856	0.00392	0.00406	0.00394
____ ZR	-0.00179	14.78	420.437	0.00524	-0.00088	-0.00974

LANCASTER LABORATORIES

Run Name: 1810506T72 Instrument ID: 16417

Tube: 13 Date/Time: 04/16/2018 00:24

Sample Number: **LCSW** Class: **** Batch: 181000184802

Initial Vol: 1.00 Final Vol: 1.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.05363	1,230.17	5.404	0.05671	0.05096	0.05322
____ AL	2.22511	90.78	0.529	2.22611	2.23634	2.21286
____ AS	0.14370	84.59	0.821	0.14447	0.14234	0.14429
____ B	1.87112	21,639.50	2.984	1.93333	1.82532	1.85472
____ BA	2.04808	1,748,873.65	3.722	2.12754	1.97558	2.04112
____ BE	0.05082	34,886.74	2.548	0.05227	0.04978	0.05039
____ CA	4.15600	1,205.72	0.436	4.16001	4.17177	4.13622
____ CD	0.05104	1,003.75	1.651	0.05202	0.05053	0.05058
____ CO	0.51684	4,407.38	1.251	0.52383	0.51558	0.51109
____ CR	0.19957	2,994.05	2.476	0.20491	0.19516	0.19865
____ CU	0.26104	3,850.97	2.243	0.26718	0.25552	0.26041
____ FE	0.99237	67.38	2.518	1.02104	0.98091	0.97517
____ K	10.27911	2,938.06	0.811	10.31749	10.33640	10.18344
____ LI	1.00410	5,342.26	0.363	1.00071	1.00796	1.00363
____ MG	2.08985	894.88	1.092	2.06642	2.11201	2.09113
____ MN	0.52719	57,636.62	2.798	0.54357	0.51497	0.52301
____ MO	1.97301	8,760.49	1.372	2.00338	1.96421	1.95144
____ NA	10.23747	7,010.23	0.836	10.22416	10.32894	10.15929
____ NI	0.52409	2,289.83	1.409	0.53256	0.52068	0.51903
____ P	1.00574	594.39	1.470	1.02135	1.00393	0.99195
____ PB	0.15959	249.57	1.279	0.16063	0.16090	0.15724
____ S	1.01193	277.06	1.082	1.02392	1.00940	1.00246
____ SB	0.52539	434.68	1.642	0.53480	0.52353	0.51785
____ SE	0.14938	65.11	1.760	0.14696	0.15218	0.14899
____ SI	1.11272	49.77	3.760	1.06441	1.13642	1.13734
____ SN	3.88748	5,031.50	1.201	3.94058	3.86896	3.85289
____ SR	1.03529	1,064,776.64	3.237	1.07290	1.00859	1.02437
____ TH	0.01995	-0.85	409.350	0.09389	-0.06773	0.03370
____ TI	1.02897	79,150.31	2.609	1.05915	1.00773	1.02004
____ TL	0.15245	161.08	2.880	0.15591	0.15393	0.14751
____ V	0.52830	11,264.50	2.599	0.54350	0.51678	0.52463
____ W	-0.00170	13.98	8.799	-0.00153	-0.00181	-0.00177
____ Y1	12388.93764	12,388.94	1.141	12227.69615	12491.27487	12447.84188
____ Y2A	294931.76864	294,931.77	2.252	287815.44850	300963.61074	296016.24668
____ Y2R	4909.13469	4,909.13	0.290	4915.14653	4892.85358	4919.40395
____ ZN	0.50327	6,247.65	1.352	0.51056	0.50215	0.49709
____ ZR	0.98230	787.34	1.158	0.96964	0.99167	0.98559

LANCASTER LABORATORIES

Run Name: 1810506T72 Instrument ID: 16417

Tube: 14 Date/Time: 04/16/2018 00:28

Sample Number: **9548793** Class: U*** Batch: 181000184802

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00096	-53.27	138.613	-0.00041	0.00104	0.00226
____ AL	0.05754	20.39	293.831	-0.13677	0.17104	0.13834
____ AS	-0.00120	0.53	103.476	-0.00020	-0.00081	-0.00258
____ B	0.07656	1,248.00	2.341	0.07807	0.07703	0.07458
____ BA	0.24638	199,253.56	1.307	0.24897	0.24739	0.24277
____ BE	0.00029	-558.80	6.018	0.00027	0.00031	0.00030
____ CA	49.70597	13,996.47	0.937	49.18723	49.84229	50.08838
____ CD	0.00001	9.76	1244.889	-0.00005	0.00011	-0.00004
____ CO	0.00325	37.88	9.301	0.00329	0.00353	0.00293
____ CR	0.00104	7.73	45.487	0.00131	0.00050	0.00133
____ CU	0.00475	-81.45	45.014	0.00629	0.00564	0.00231
____ FE	15.28551	1,016.92	1.724	14.98589	15.38915	15.48148
____ K	4.52079	1,340.19	2.346	4.42959	4.63718	4.49562
____ LI	0.01101	-91.91	8.891	0.01214	0.01049	0.01040
____ MG	15.88056	6,658.47	1.124	15.68142	15.93404	16.02622
____ MN	1.68223	174,003.67	1.498	1.70203	1.69077	1.65387
____ MO	0.00090	-0.04	16.946	0.00080	0.00083	0.00108
____ NA	94.56272	66,680.15	1.188	93.28099	95.02756	95.37960
____ NI	0.00114	16.94	27.330	0.00135	0.00078	0.00129
____ P	0.00318	3.14	59.940	0.00537	0.00208	0.00207
____ PB	-0.00142	0.67	53.357	-0.00175	-0.00055	-0.00194
____ S	9.96822	2,616.16	0.425	9.94257	10.01706	9.94502
____ SB	0.00534	-3.04	76.749	0.00805	0.00063	0.00735
____ SE	-0.00049	1.20	546.256	-0.00122	0.00247	-0.00271
____ SI	8.11180	345.04	1.406	7.98962	8.13038	8.21541
____ SN	0.00088	6.44	129.299	-0.00043	0.00163	0.00144
____ SR	0.31415	307,750.71	2.497	0.32122	0.31553	0.30571
____ TH	-0.01308	-1.59	465.362	-0.06728	-0.02474	0.05278
____ TI	0.00146	133.70	14.571	0.00122	0.00164	0.00152
____ TL	0.00221	3.74	65.074	0.00110	0.00170	0.00384
____ V	0.00067	19.30	20.649	0.00053	0.00081	0.00067
____ W	-0.00001	6.33	3672.976	0.00139	-0.00068	-0.00073
____ Y1	11990.51559	11,990.52	0.702	12084.80487	11922.80579	11963.93610
____ Y2A	279123.27300	279,123.27	1.029	276841.60560	278177.79813	282350.41528
____ Y2R	4803.04868	4,803.05	1.148	4866.10701	4763.82247	4779.21657
____ ZN	0.01321	180.23	1.118	0.01306	0.01321	0.01335
____ ZR	0.01405	24.92	64.313	0.01951	0.01902	0.00362

LANCASTER LABORATORIES

Run Name: 1810506T72 Instrument ID: 16417

Tube: 15 Date/Time: 04/16/2018 00:31

Sample Number: **9548793** Class: UP** Batch: 181000184802

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.02360	506.49	8.140	0.02234	0.02581	0.02265
____ AL	1.08108	51.88	0.071	1.08159	1.08144	1.08020
____ AS	0.51987	269.85	0.580	0.52328	0.51756	0.51876
____ B	0.27157	3,396.60	1.798	0.26727	0.27057	0.27688
____ BA	0.29706	240,409.94	0.920	0.29396	0.29812	0.29910
____ BE	0.02096	13,327.49	1.077	0.02070	0.02102	0.02114
____ CA	50.78787	14,139.12	0.878	51.26424	50.38003	50.71934
____ CD	0.05099	961.15	0.349	0.05113	0.05106	0.05079
____ CO	0.10591	860.43	0.720	0.10677	0.10562	0.10533
____ CR	0.20130	2,860.99	1.341	0.19835	0.20191	0.20364
____ CU	0.51210	7,563.09	1.052	0.50673	0.51208	0.51750
____ FE	15.69221	1,032.19	0.567	15.76122	15.72351	15.59189
____ K	6.67943	1,893.84	1.858	6.82268	6.61057	6.60505
____ LI	1.00371	5,168.61	0.792	1.00833	0.99452	1.00827
____ MG	16.86748	6,992.27	0.879	17.02826	16.73638	16.83780
____ MN	1.72312	178,366.33	1.082	1.70310	1.72627	1.73999
____ MO	0.20356	851.02	0.690	0.20517	0.20262	0.20288
____ NA	95.67253	66,713.62	0.286	95.98897	95.51045	95.51816
____ NI	0.15460	646.25	0.481	0.15544	0.15435	0.15401
____ P	1.05628	590.10	1.025	1.06832	1.05313	1.04737
____ PB	0.49896	780.95	0.786	0.50346	0.49628	0.49715
____ S	11.01866	2,824.20	0.766	11.11609	10.97019	10.96970
____ SB	0.41553	334.71	0.719	0.41744	0.41707	0.41208
____ SE	0.78834	319.30	0.427	0.78703	0.79216	0.78583
____ SI	9.17394	385.99	1.400	9.31430	9.06230	9.14521
____ SN	0.59373	730.90	0.771	0.59882	0.59244	0.58993
____ SR	0.33291	326,351.07	1.051	0.32962	0.33659	0.33251
____ TH	0.07500	1.26	69.692	0.05909	0.13338	0.03254
____ TI	0.10671	7,800.53	1.237	0.10527	0.10697	0.10787
____ TL	1.00887	987.15	0.664	1.01572	1.00857	1.00233
____ V	0.10748	2,232.93	0.747	0.10704	0.10700	0.10841
____ W	0.00000	8.55	9948.249	0.00095	-0.00030	-0.00066
____ Y1	11710.75194	11,710.75	0.599	11790.84898	11680.83558	11660.57126
____ Y2A	279334.44121	279,334.44	1.506	284034.05316	278048.55097	275920.71952
____ Y2R	4749.01836	4,749.02	0.578	4717.53344	4767.82865	4761.69298
____ ZN	0.13295	1,590.97	0.646	0.13394	0.13238	0.13253
____ ZR	0.98149	763.15	1.191	0.98907	0.96803	0.98736

LANCASTER LABORATORIES

Run Name: 1810506T72 Instrument ID: 16417

Tube: 16 Date/Time: 04/16/2018 00:34

Sample Number: **9548796** Class: D*** Batch: 181000184802

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00229	-38.95	57.393	0.00319	0.00078	0.00291
____ AL	0.06040	20.06	135.648	-0.00301	0.03130	0.15290
____ AS	-0.00002	1.08	3583.508	-0.00063	-0.00041	0.00097
____ B	0.07664	1,239.40	3.372	0.07617	0.07433	0.07943
____ BA	0.25059	199,707.11	0.902	0.24852	0.25025	0.25300
____ BE	0.00026	-573.39	6.074	0.00024	0.00027	0.00026
____ CA	51.40482	14,083.27	1.077	50.77040	51.79173	51.65233
____ CD	0.00002	9.90	630.632	-0.00003	0.00017	-0.00008
____ CO	0.00353	38.58	10.997	0.00337	0.00325	0.00397
____ CR	0.00183	18.68	28.715	0.00226	0.00199	0.00124
____ CU	0.00313	-89.81	73.661	0.00151	0.00576	0.00210
____ FE	15.60183	1,009.99	0.434	15.52570	15.62483	15.65497
____ K	4.69731	1,350.03	1.223	4.73648	4.72412	4.63134
____ LI	0.00565	-117.35	96.998	0.00870	0.00893	-0.00068
____ MG	16.32388	6,660.01	0.552	16.22596	16.40354	16.34214
____ MN	1.70801	174,098.02	0.818	1.70050	1.69939	1.72413
____ MO	0.00063	-1.15	51.001	0.00070	0.00028	0.00092
____ NA	96.57143	66,275.40	0.157	96.43305	96.54773	96.73349
____ NI	0.00134	17.03	60.552	0.00073	0.00103	0.00226
____ P	0.00276	2.78	53.508	0.00128	0.00423	0.00277
____ PB	-0.00282	-1.29	92.874	-0.00576	-0.00076	-0.00193
____ S	10.41436	2,626.41	0.714	10.48373	10.42352	10.33585
____ SB	0.00573	-2.62	56.173	0.00800	0.00713	0.00205
____ SE	0.00363	2.79	85.809	0.00677	0.00360	0.00053
____ SI	8.32060	344.41	0.814	8.24507	8.34089	8.37584
____ SN	0.00116	6.53	102.887	-0.00005	0.00235	0.00119
____ SR	0.31988	308,812.22	1.887	0.31291	0.32311	0.32361
____ TH	0.02334	-0.38	361.356	0.07202	-0.07404	0.07204
____ TI	0.00148	133.29	12.215	0.00139	0.00169	0.00137
____ TL	0.00299	4.34	28.122	0.00255	0.00396	0.00246
____ V	0.00057	18.16	66.254	0.00067	0.00088	0.00015
____ W	0.00079	7.39	220.853	-0.00100	0.00247	0.00090
____ Y1	11522.19104	11,522.19	0.539	11568.91598	11451.64418	11546.01298
____ Y2A	275043.91517	275,043.92	0.911	277402.98135	275313.45769	272415.30646
____ Y2R	4673.60845	4,673.61	0.369	4692.84145	4659.52405	4668.45985
____ ZN	0.01402	182.90	1.728	0.01422	0.01410	0.01375
____ ZR	0.00994	22.54	65.964	0.00917	0.01684	0.00380

LANCASTER LABORATORIES

Run Name: 1810506T72 Instrument ID: 16417

Tube: 17 Date/Time: 04/16/2018 00:38

Sample Number: **9548794** Class: R*** Batch: 181000184802

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.05477	1,164.52	4.879	0.05610	0.05652	0.05170
____ AL	2.16573	84.99	1.743	2.17096	2.12563	2.20060
____ AS	0.15122	81.47	3.988	0.15817	0.14807	0.14741
____ B	2.04272	22,328.43	0.847	2.05685	2.04788	2.02342
____ BA	2.35687	1,865,511.57	1.603	2.39483	2.35649	2.31930
____ BE	0.05362	34,160.61	0.657	0.05390	0.05374	0.05323
____ CA	54.22957	14,929.85	0.403	54.35246	54.35912	53.97714
____ CD	0.05206	969.62	1.503	0.05291	0.05190	0.05137
____ CO	0.52811	4,203.64	1.062	0.53402	0.52743	0.52287
____ CR	0.20777	2,889.02	1.356	0.21068	0.20757	0.20505
____ CU	0.27396	3,749.78	1.067	0.27578	0.27059	0.27552
____ FE	16.60119	1,079.75	0.757	16.53892	16.74589	16.51878
____ K	15.36050	4,135.39	1.083	15.40230	15.50190	15.17729
____ LI	1.03624	5,283.07	0.897	1.03370	1.04654	1.02847
____ MG	18.06662	7,407.06	0.369	18.10159	18.10856	17.98973
____ MN	2.21818	224,606.83	0.773	2.22813	2.22802	2.19839
____ MO	2.06837	8,573.82	1.289	2.09819	2.06011	2.04681
____ NA	105.97154	73,133.95	0.373	106.41141	105.64548	105.85773
____ NI	0.53107	2,163.68	1.186	0.53810	0.52914	0.52596
____ P	1.07950	595.49	1.078	1.09293	1.07226	1.07333
____ PB	0.15592	238.19	0.897	0.15733	0.15589	0.15453
____ S	11.30932	2,862.33	1.184	11.45292	11.28708	11.18796
____ SB	0.54683	422.46	0.853	0.55162	0.54657	0.54230
____ SE	0.15235	62.03	2.344	0.15642	0.14973	0.15091
____ SI	9.20988	384.60	1.133	9.16948	9.32841	9.13174
____ SN	4.06631	4,912.97	1.577	4.13544	4.05478	4.00872
____ SR	1.35962	1,298,186.23	1.605	1.35828	1.38208	1.33849
____ TH	-0.02495	-1.89	525.063	-0.05003	0.11676	-0.14156
____ TI	1.08592	77,415.24	0.599	1.09200	1.08671	1.07905
____ TL	0.15478	152.30	1.913	0.15810	0.15384	0.15240
____ V	0.55717	11,016.98	0.657	0.56052	0.55771	0.55326
____ W	-0.00113	14.30	66.451	-0.00038	-0.00188	-0.00113
____ Y1	11564.50159	11,564.50	0.163	11570.34841	11579.71637	11543.44000
____ Y2A	273243.57915	273,243.58	0.874	273340.60847	270808.94511	275581.18386
____ Y2R	4697.30861	4,697.31	0.053	4695.98027	4700.20447	4695.74107
____ ZN	0.52623	6,114.46	1.072	0.53235	0.52512	0.52123
____ ZR	1.01943	779.58	0.379	1.02240	1.02083	1.01506

LANCASTER LABORATORIES

Run Name: 1810506T72 Instrument ID: 16417

Tube: 18 Date/Time: 04/16/2018 00:41

Sample Number: **9548795** Class: M*** Batch: 181000184802

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.05667	1,171.95	1.422	0.05605	0.05758	0.05639
____ AL	2.25251	87.36	1.574	2.21255	2.28018	2.26480
____ AS	0.15171	82.23	1.468	0.15349	0.15243	0.14921
____ B	2.06657	22,572.97	0.851	2.05153	2.08592	2.06226
____ BA	2.38896	1,889,715.58	1.849	2.38080	2.43663	2.34944
____ BE	0.05364	34,152.23	0.901	0.05334	0.05420	0.05339
____ CA	53.84707	14,744.30	0.344	53.66636	54.03646	53.83840
____ CD	0.05170	969.71	1.219	0.05214	0.05197	0.05098
____ CO	0.52248	4,187.95	0.944	0.52597	0.52464	0.51684
____ CR	0.20702	2,876.98	0.299	0.20652	0.20771	0.20683
____ CU	0.27120	3,740.62	0.727	0.27087	0.27332	0.26942
____ FE	16.71048	1,080.91	0.442	16.67390	16.79555	16.66199
____ K	15.37718	4,117.34	0.277	15.42635	15.35090	15.35428
____ LI	1.03568	5,251.60	0.154	1.03707	1.03603	1.03395
____ MG	18.01457	7,345.75	0.209	18.00493	18.05619	17.98258
____ MN	2.21636	224,281.84	0.883	2.19859	2.23732	2.21318
____ MO	2.03923	8,511.67	1.096	2.05236	2.05190	2.01343
____ NA	106.58807	73,163.86	0.547	107.23277	106.43268	106.09877
____ NI	0.52461	2,152.34	0.848	0.52759	0.52675	0.51950
____ P	1.07878	599.24	1.197	1.09092	1.08021	1.06521
____ PB	0.15234	234.48	1.791	0.15546	0.15121	0.15036
____ S	10.94347	2,789.05	0.749	10.98567	10.99568	10.84905
____ SB	0.54139	421.18	1.828	0.55009	0.54347	0.53063
____ SE	0.15352	62.92	2.107	0.15063	0.15701	0.15292
____ SI	9.12004	378.78	0.371	9.12497	9.15118	9.08396
____ SN	3.99296	4,857.91	1.126	4.01485	4.02281	3.94124
____ SR	1.36842	1,305,742.45	1.735	1.34114	1.38443	1.37968
____ TH	0.05919	0.76	19.714	0.06809	0.06350	0.04598
____ TI	1.07781	76,789.51	0.716	1.07341	1.08672	1.07329
____ TL	0.15242	151.05	2.055	0.15440	0.15405	0.14881
____ V	0.55713	11,019.60	0.722	0.55363	0.56152	0.55623
____ W	-0.00192	12.98	39.512	-0.00276	-0.00169	-0.00130
____ Y1	11644.79291	11,644.79	0.449	11702.08446	11599.70006	11632.59422
____ Y2A	273081.96957	273,081.97	1.349	277085.35976	269833.49868	272327.05026
____ Y2R	4671.90082	4,671.90	0.505	4678.69596	4645.64632	4691.36018
____ ZN	0.52058	6,091.12	0.971	0.52390	0.52308	0.51476
____ ZR	1.01051	771.87	0.252	1.00862	1.01340	1.00951

LANCASTER LABORATORIES

Run Name: 1810506T72 Instrument ID: 16417

Tube: 19 Date/Time: 04/16/2018 00:44

Sample Number: **9548793** Class: UL** Batch: 181000184802

Initial Vol: 50.00 Final Vol: 50.00 DF: 5.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00140	-43.11	70.590	0.00221	0.00167	0.00030
____ AL	0.02637	19.22	134.201	0.06306	-0.00755	0.02359
____ AS	-0.00157	1.50	106.495	-0.00034	-0.00090	-0.00348
____ B	0.02047	289.00	2.201	0.02022	0.02020	0.02099
____ BA	0.05139	41,479.16	0.310	0.05122	0.05153	0.05143
____ BE	0.00027	-572.39	6.371	0.00028	0.00027	0.00025
____ CA	10.35253	2,875.98	0.240	10.35437	10.32677	10.37646
____ CD	-0.00001	-1.73	669.582	0.00002	-0.00012	0.00006
____ CO	0.00067	17.14	6.892	0.00062	0.00069	0.00070
____ CR	0.00074	3.39	46.532	0.00041	0.00071	0.00110
____ CU	0.00245	-112.60	72.330	0.00058	0.00267	0.00410
____ FE	3.14461	206.11	0.350	3.13517	3.15671	3.14194
____ K	0.96199	385.10	7.379	0.88221	0.98559	1.01816
____ LI	0.00429	-127.87	113.357	0.00044	0.00975	0.00268
____ MG	3.32118	1,367.99	0.522	3.30265	3.32387	3.33701
____ MN	0.35054	36,184.80	0.548	0.34889	0.35265	0.35006
____ MO	0.00064	-1.16	57.104	0.00060	0.00102	0.00030
____ NA	19.33987	13,079.59	0.379	19.26070	19.35366	19.40526
____ NI	-0.00023	12.79	129.657	-0.00033	0.00011	-0.00045
____ P	-0.00019	1.19	1041.810	0.00174	-0.00009	-0.00223
____ PB	0.00319	-0.96	44.077	0.00279	0.00202	0.00474
____ S	2.08320	538.99	0.028	2.08323	2.08378	2.08260
____ SB	0.00523	-3.03	33.842	0.00387	0.00723	0.00459
____ SE	0.00052	1.53	399.027	0.00278	-0.00134	0.00014
____ SI	1.64126	68.55	2.079	1.66161	1.60188	1.66029
____ SN	0.00071	6.11	81.874	0.00072	0.00012	0.00128
____ SR	0.06588	64,098.62	0.240	0.06573	0.06605	0.06586
____ TH	0.02260	-0.68	133.031	0.04582	0.03334	-0.01136
____ TI	0.00076	82.75	15.154	0.00082	0.00063	0.00084
____ TL	0.00026	2.04	398.333	-0.00083	0.00039	0.00120
____ V	0.00013	5.47	310.445	-0.00007	-0.00014	0.00061
____ W	0.00004	6.21	2215.347	-0.00055	0.00111	-0.00043
____ Y1	11771.57735	11,771.58	0.231	11798.97072	11771.05121	11744.71012
____ Y2A	278230.29092	278,230.29	0.402	279520.48634	277607.59494	277562.79147
____ Y2R	4717.58752	4,717.59	1.111	4747.55245	4748.15627	4657.05384
____ ZN	0.00297	43.36	4.973	0.00286	0.00290	0.00314
____ ZR	0.00388	18.12	204.586	-0.00221	0.00100	0.01286

LANCASTER LABORATORIES

Run Name: 1810506T72 Instrument ID: 16417

Tube: 20 Date/Time: 04/16/2018 00:48

Sample Number: **9548798** Class: **** Batch: 181000184802

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00328	-43.46	27.689	0.00245	0.00314	0.00424
____ AL	0.02982	19.30	303.923	-0.05530	0.01965	0.12511
____ AS	-0.00098	0.59	312.485	-0.00266	-0.00282	0.00255
____ B	0.07550	1,211.92	1.066	0.07628	0.07555	0.07467
____ BA	0.24691	194,515.47	1.017	0.24657	0.24958	0.24459
____ BE	0.00023	-586.70	8.839	0.00021	0.00023	0.00025
____ CA	50.56370	13,837.91	0.478	50.48222	50.83574	50.37315
____ CD	0.00005	10.32	393.688	0.00026	-0.00001	-0.00011
____ CO	0.00363	39.06	12.946	0.00355	0.00320	0.00413
____ CR	0.00286	32.75	11.266	0.00296	0.00250	0.00312
____ CU	0.00214	-77.10	44.858	0.00319	0.00192	0.00131
____ FE	15.55706	1,005.91	0.666	15.44606	15.57384	15.65127
____ K	4.59273	1,321.27	2.056	4.50303	4.69126	4.58391
____ LI	0.00645	-112.86	77.348	0.01214	0.00439	0.00282
____ MG	16.05804	6,544.23	0.545	16.00036	16.15877	16.01498
____ MN	1.69307	170,592.30	0.954	1.68869	1.71095	1.67956
____ MO	0.00053	-1.58	61.413	0.00049	0.00087	0.00023
____ NA	95.13828	65,211.27	0.154	95.23596	94.96938	95.20951
____ NI	0.00118	16.24	37.748	0.00142	0.00066	0.00144
____ P	0.00176	2.21	57.849	0.00063	0.00261	0.00202
____ PB	-0.00327	-1.99	43.764	-0.00254	-0.00235	-0.00492
____ S	10.37504	2,596.24	1.223	10.50596	10.36656	10.25261
____ SB	0.00557	-2.72	18.442	0.00471	0.00528	0.00670
____ SE	0.00174	2.02	151.996	0.00417	0.00211	-0.00107
____ SI	8.16315	337.54	0.994	8.25409	8.13717	8.09820
____ SN	0.00056	5.76	93.808	0.00100	0.00070	-0.00002
____ SR	0.31521	300,853.93	1.265	0.31881	0.31589	0.31093
____ TH	0.09164	1.75	63.591	0.02478	0.11850	0.13163
____ TI	0.00155	136.64	7.370	0.00158	0.00142	0.00165
____ TL	0.00157	2.95	27.040	0.00172	0.00189	0.00109
____ V	0.00051	18.78	80.406	0.00095	0.00015	0.00042
____ W	0.00056	6.96	18.917	0.00047	0.00068	0.00053
____ Y1	11432.87021	11,432.87	0.224	11459.33660	11408.33150	11430.94253
____ Y2A	271890.79130	271,890.79	1.121	272727.84392	268512.31812	274432.21186
____ Y2R	4668.23292	4,668.23	1.141	4725.76378	4658.31834	4620.61666
____ ZN	0.01383	179.18	1.705	0.01397	0.01396	0.01356
____ ZR	-0.00195	16.24	292.721	0.00395	-0.00236	-0.00743

LANCASTER LABORATORIES

Run Name: 1810506T72 Instrument ID: 16417

Tube: 21 Date/Time: 04/16/2018 00:51

Sample Number: **9549945** Class: **** Batch: 181000184802

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00040	-43.65	314.121	-0.00002	-0.00178	0.00062
____ AL	0.00603	17.27	2000.193	-0.07050	0.14501	-0.05643
____ AS	-0.00040	2.06	422.310	-0.00139	0.00154	-0.00134
____ B	0.16248	1,498.67	0.753	0.16374	0.16242	0.16129
____ BA	0.03413	23,571.55	0.262	0.03421	0.03403	0.03416
____ BE	0.00005	-614.55	8.867	0.00005	0.00005	0.00005
____ CA	1055.36616	254,676.95	0.533	1057.94864	1059.23687	1048.91298
____ CD	0.00079	9.03	16.495	0.00083	0.00089	0.00064
____ CO	0.00057	13.34	73.979	0.00016	0.00101	0.00056
____ CR	0.00417	44.48	16.686	0.00379	0.00497	0.00375
____ CU	0.03830	337.25	3.275	0.03685	0.03898	0.03906
____ FE	0.10878	6.24	20.401	0.08727	0.13160	0.10749
____ K	12.34622	3,157.97	0.732	12.25094	12.35687	12.43085
____ LI	0.13636	531.91	3.526	0.13827	0.13089	0.13992
____ MG	230.98281	86,729.11	0.311	231.13513	231.61268	230.20063
____ MN	0.16396	14,493.36	0.324	0.16414	0.16336	0.16438
____ MO	0.00263	6.20	19.953	0.00322	0.00221	0.00246
____ NA	1551.24853	1,014,300.85	1.234	1543.07177	1573.11716	1537.55667
____ NI	0.00574	32.38	20.850	0.00547	0.00705	0.00470
____ P	0.01844	9.95	8.174	0.01995	0.01844	0.01693
____ PB	0.00542	0.30	46.040	0.00481	0.00329	0.00816
____ S	279.74661	61,617.53	2.120	284.74763	281.29633	273.19589
____ SB	0.00744	-1.02	40.825	0.01085	0.00501	0.00646
____ SE	-0.00410	-0.31	79.738	-0.00254	-0.00190	-0.00786
____ SI	7.18244	281.68	1.050	7.15497	7.26776	7.12459
____ SN	0.00087	5.40	68.103	0.00019	0.00121	0.00121
____ SR	4.22508	3,506,854.77	0.886	4.18193	4.24450	4.24883
____ TH	-0.04737	-2.79	93.790	-0.03017	-0.09783	-0.01411
____ TI	-0.00849	-503.48	2.321	-0.00870	-0.00831	-0.00846
____ TL	0.00179	2.82	92.405	0.00129	0.00364	0.00044
____ V	-0.00065	-12.58	70.057	-0.00117	-0.00035	-0.00042
____ W	-0.00010	5.11	1625.263	0.00168	-0.00160	-0.00039
____ Y1	10074.13448	10,074.13	0.524	10068.63514	10024.27830	10129.49000
____ Y2A	237879.33814	237,879.34	0.253	237639.95017	238564.45183	237433.61244
____ Y2R	4428.20056	4,428.20	0.430	4450.19453	4417.04908	4417.35806
____ ZN	0.00806	86.09	4.345	0.00827	0.00825	0.00765
____ ZR	0.00993	18.83	122.464	0.01297	0.02030	-0.00346

LANCASTER LABORATORIES

Run Name: 1810506T72

Instrument ID: 16417

Tube: 22

Date/Time: 04/16/2018 00:54

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.52287	10,459.97	1.098	0.52061	0.52940	0.51861
____ AL	26.06876	791.19	0.300	26.11316	25.97860	26.11453
____ AS	0.50421	261.29	4.777	0.53168	0.49424	0.48671
____ B	0.49146	5,943.94	1.753	0.48337	0.50052	0.49049
____ BA	0.52886	421,522.26	1.680	0.52967	0.53731	0.51959
____ BE	0.50735	337,781.31	0.984	0.50196	0.51182	0.50827
____ CA	26.36370	7,123.52	0.906	26.58096	26.40204	26.10809
____ CD	0.50137	9,369.37	4.893	0.52963	0.48898	0.48551
____ CO	0.50516	4,060.27	4.874	0.53348	0.49315	0.48885
____ CR	0.50060	7,018.87	0.823	0.50033	0.50485	0.49662
____ CU	0.52257	7,734.41	1.139	0.51599	0.52757	0.52415
____ FE	24.93267	1,583.17	0.238	24.99509	24.92591	24.87700
____ K	27.20790	7,073.80	0.593	27.27741	27.32271	27.02359
____ LI	0.51949	2,523.46	0.617	0.52157	0.51580	0.52109
____ MG	26.07012	10,458.19	0.872	26.30733	26.04897	25.85405
____ MN	0.52763	53,829.51	1.315	0.52246	0.53551	0.52492
____ MO	0.49240	2,063.29	5.035	0.52101	0.47890	0.47728
____ NA	27.30646	18,169.37	0.310	27.39608	27.22758	27.29571
____ NI	0.49859	2,055.96	4.881	0.52662	0.48635	0.48281
____ P	0.51439	287.96	4.648	0.54187	0.50290	0.49840
____ PB	0.49742	785.89	5.091	0.52665	0.48330	0.48230
____ S	24.80266	6,348.71	4.586	26.10985	24.25973	24.03842
____ SB	0.50429	406.13	4.565	0.53086	0.49186	0.49015
____ SE	0.48727	199.96	4.240	0.51112	0.47477	0.47592
____ SI	26.32722	1,074.69	0.898	26.57178	26.31028	26.09959
____ SN	0.48197	594.10	4.980	0.50965	0.46933	0.46692
____ SR	0.52906	510,990.36	1.385	0.52594	0.53743	0.52380
____ TH	0.49448	14.42	18.825	0.54223	0.55401	0.38721
____ TI	0.52679	37,825.34	1.231	0.52246	0.53424	0.52366
____ TL	0.50382	494.10	5.421	0.53498	0.49244	0.48404
____ V	0.52609	10,887.84	0.968	0.52357	0.53195	0.52275
____ W	0.52007	886.51	5.300	0.55152	0.50856	0.50012
____ Y1	11720.90079	11,720.90	3.569	11239.53860	11995.76236	11927.40142
____ Y2A	275130.99600	275,131.00	1.181	277852.84810	271533.64424	276006.49567
____ Y2R	4600.58559	4,600.59	0.198	4604.66973	4606.93945	4590.14759
____ ZN	0.49460	5,833.92	4.812	0.52199	0.48283	0.47897
____ ZR	0.50185	401.87	1.808	0.51228	0.49586	0.49740

LANCASTER LABORATORIES

Run Name: 1810506T72

Instrument ID: 16417

Tube: 23

Date/Time: 04/16/2018 00:58

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00162	-47.10	39.474	0.00233	0.00109	0.00144
____ AL	-0.01446	17.50	357.853	0.00800	-0.07365	0.02226
____ AS	-0.00130	1.98	145.238	-0.00340	-0.00074	0.00024
____ B	0.00349	15.58	11.117	0.00307	0.00383	0.00356
____ BA	0.00019	221.68	29.125	0.00013	0.00023	0.00021
____ BE	0.00030	-567.02	6.185	0.00029	0.00032	0.00029
____ CA	0.01017	8.43	30.812	0.01378	0.00819	0.00854
____ CD	0.00014	-1.77	40.407	0.00009	0.00020	0.00012
____ CO	0.00005	12.50	17.397	0.00004	0.00004	0.00005
____ CR	0.00053	0.42	42.642	0.00033	0.00049	0.00077
____ CU	0.00204	-112.38	116.568	-0.00037	0.00211	0.00439
____ FE	0.01289	0.33	72.183	0.02328	0.01006	0.00533
____ K	0.13470	163.48	90.646	0.27521	0.07443	0.05445
____ LI	0.00825	-104.23	12.255	0.00938	0.00795	0.00743
____ MG	0.00691	0.15	84.230	0.01252	0.00090	0.00731
____ MN	-0.00004	46.43	67.208	-0.00007	-0.00004	-0.00001
____ MO	-0.00007	-4.24	174.001	-0.00017	-0.00013	0.00007
____ NA	0.30238	-180.58	6.919	0.31390	0.27823	0.31500
____ NI	0.00001	14.48	3083.163	0.00024	-0.00034	0.00013
____ P	-0.00082	0.85	127.672	-0.00197	-0.00057	0.00008
____ PB	0.00153	-5.94	44.004	0.00229	0.00105	0.00123
____ S	0.04317	14.16	1.356	0.04317	0.04258	0.04375
____ SB	0.00555	-2.79	52.735	0.00742	0.00218	0.00704
____ SE	0.00403	2.99	82.251	0.00052	0.00711	0.00445
____ SI	0.05515	2.20	47.076	0.02529	0.07234	0.06782
____ SN	0.00062	6.11	79.386	0.00036	0.00031	0.00118
____ SR	0.00018	-123.10	16.906	0.00016	0.00021	0.00017
____ TH	0.05326	0.22	102.825	0.11581	0.03008	0.01390
____ TI	0.00025	46.62	35.190	0.00027	0.00033	0.00015
____ TL	0.00105	2.94	97.031	0.00222	0.00032	0.00063
____ V	0.00041	11.70	76.977	0.00058	0.00060	0.00005
____ W	0.00042	6.94	96.047	0.00085	0.00037	0.00004
____ Y1	11974.59825	11,974.60	0.319	11998.89278	11930.58600	11994.31598
____ Y2A	286090.57037	286,090.57	0.943	284882.48005	284208.85971	289180.37135
____ Y2R	4568.57500	4,568.58	0.623	4598.90000	4542.45000	4564.37500
____ ZN	-0.00007	4.34	322.585	-0.00004	-0.00032	0.00014
____ ZR	0.00005	15.93	6041.851	0.00032	-0.00803	0.00786

LANCASTER LABORATORIES

Run Name: 1810506T72 Instrument ID: 16417

Tube: 24 Date/Time: 04/16/2018 01:01

Sample Number: **9549946** Class: **** Batch: 181000184802

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00154	-50.35	93.542	0.00070	0.00321	0.00072
____ AL	0.07642	20.72	136.063	-0.01315	0.19046	0.05196
____ AS	-0.00191	1.63	126.503	-0.00425	-0.00206	0.00058
____ B	0.04906	518.36	0.396	0.04924	0.04886	0.04909
____ BA	0.02231	18,189.39	0.787	0.02238	0.02245	0.02212
____ BE	0.00027	-574.46	17.707	0.00024	0.00033	0.00025
____ CA	182.63805	49,764.49	0.970	182.17639	184.59505	181.14270
____ CD	0.00009	-2.47	40.691	0.00009	0.00013	0.00006
____ CO	0.00007	11.87	78.630	0.00010	0.00010	0.00001
____ CR	0.00302	36.09	5.892	0.00284	0.00305	0.00319
____ CU	0.01025	16.53	37.076	0.00952	0.00686	0.01435
____ FE	0.07333	4.29	30.860	0.07584	0.09460	0.04955
____ K	3.72925	1,103.37	2.401	3.66224	3.83097	3.69455
____ LI	0.02356	-26.98	6.753	0.02220	0.02531	0.02317
____ MG	27.74291	11,348.73	1.173	27.66356	28.10059	27.46457
____ MN	0.04873	5,113.81	0.642	0.04901	0.04878	0.04839
____ MO	0.00297	8.69	9.755	0.00330	0.00274	0.00289
____ NA	23.06567	15,591.95	1.410	22.86213	23.44068	22.89419
____ NI	0.00116	18.95	77.242	0.00020	0.00132	0.00196
____ P	0.01582	10.14	5.287	0.01490	0.01653	0.01602
____ PB	0.00821	4.67	15.572	0.00851	0.00932	0.00681
____ S	104.49259	26,854.19	1.432	105.83762	104.75872	102.88144
____ SB	0.00837	-0.42	13.408	0.00713	0.00868	0.00931
____ SE	0.00081	1.62	316.208	0.00291	0.00159	-0.00206
____ SI	5.47869	227.69	0.496	5.46145	5.51004	5.46457
____ SN	0.00169	7.31	55.830	0.00250	0.00192	0.00065
____ SR	0.45317	443,195.95	1.469	0.45772	0.45626	0.44553
____ TH	0.06101	0.45	175.622	0.04481	0.17532	-0.03711
____ TI	0.00117	112.80	8.381	0.00105	0.00123	0.00121
____ TL	0.00128	2.86	153.985	-0.00070	0.00323	0.00130
____ V	0.00054	13.64	32.516	0.00067	0.00060	0.00034
____ W	-0.00046	5.29	155.738	-0.00045	0.00025	-0.00119
____ Y1	11753.75492	11,753.75	0.884	11692.92978	11694.60771	11873.72729
____ Y2A	280468.71591	280,468.72	0.547	278967.35510	280405.56478	282033.22785
____ Y2R	4692.62554	4,692.63	0.917	4729.22493	4645.22718	4703.42452
____ ZN	0.00380	49.79	7.710	0.00393	0.00401	0.00346
____ ZR	0.00180	17.96	283.250	0.00570	-0.00397	0.00368

LANCASTER LABORATORIES

Run Name: 1810506T72 Instrument ID: 16417

Tube: 25 Date/Time: 04/16/2018 01:05

Sample Number: **9549947** Class: **** Batch: 181000184802

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00217	-42.35	51.936	0.00102	0.00328	0.00221
____ AL	-0.05002	16.98	119.681	-0.07636	0.01850	-0.09221
____ AS	-0.00289	1.19	116.524	-0.00357	0.00077	-0.00586
____ B	0.00306	11.07	13.042	0.00305	0.00346	0.00266
____ BA	0.00101	934.00	3.938	0.00097	0.00102	0.00105
____ BE	0.00037	-536.78	6.178	0.00040	0.00036	0.00036
____ CA	0.05218	20.25	21.346	0.06305	0.05268	0.04079
____ CD	-0.00001	-4.61	2310.735	-0.00004	0.00013	-0.00011
____ CO	-0.00019	10.97	97.763	-0.00039	-0.00005	-0.00011
____ CR	0.00072	3.30	26.660	0.00087	0.00050	0.00079
____ CU	0.00190	-113.05	133.733	0.00363	-0.00101	0.00307
____ FE	0.00951	0.12	320.087	-0.02117	0.03972	0.00998
____ K	-0.00323	132.32	5447.353	0.14729	-0.19627	0.03930
____ LI	0.00068	-147.13	535.761	0.00324	-0.00346	0.00225
____ MG	0.01168	2.10	95.878	-0.00082	0.01507	0.02080
____ MN	0.00041	98.02	12.828	0.00041	0.00046	0.00035
____ MO	0.00037	-2.43	52.725	0.00041	0.00015	0.00053
____ NA	0.17454	-274.93	12.442	0.14982	0.18324	0.19055
____ NI	0.00045	16.87	35.695	0.00037	0.00035	0.00064
____ P	0.00075	1.81	235.850	0.00220	0.00128	-0.00122
____ PB	0.00249	-4.56	35.665	0.00344	0.00168	0.00235
____ S	0.05091	16.73	35.875	0.07199	0.04066	0.04007
____ SB	0.00502	-3.35	45.387	0.00256	0.00706	0.00543
____ SE	-0.00065	1.10	641.926	-0.00380	0.00405	-0.00218
____ SI	0.01004	0.39	486.987	0.05004	0.02452	-0.04445
____ SN	-0.00039	5.01	183.309	-0.00029	-0.00114	0.00027
____ SR	0.00030	0.03	20.726	0.00037	0.00030	0.00024
____ TH	0.06804	0.68	95.080	0.01815	0.14113	0.04484
____ TI	0.00023	46.75	23.066	0.00022	0.00028	0.00018
____ TL	0.00003	1.98	837.298	0.00020	-0.00026	0.00015
____ V	0.00047	13.82	58.167	0.00020	0.00046	0.00074
____ W	0.00029	6.97	119.766	-0.00004	0.00064	0.00026
____ Y1	12372.19542	12,372.20	0.634	12372.88698	12450.23883	12293.46046
____ Y2A	297314.48939	297,314.49	1.860	303378.73011	296015.50066	292549.23740
____ Y2R	4705.50833	4,705.51	0.312	4721.90000	4701.12500	4693.50000
____ ZN	0.00190	28.79	6.281	0.00201	0.00192	0.00177
____ ZR	0.00190	18.35	175.980	0.00255	0.00487	-0.00172

LANCASTER LABORATORIES

Run Name: 1810506T72

Instrument ID: 16417

Tube: 26

Date/Time: 04/16/2018 01:08

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00619	-5.85	7.117	0.00587	0.00669	0.00601
____ AL	0.13743	23.07	44.058	0.19635	0.14056	0.07538
____ AS	0.01808	12.41	28.570	0.01909	0.02266	0.01248
____ B	0.04975	531.32	3.063	0.05125	0.04980	0.04820
____ BA	0.00532	4,406.29	3.040	0.00547	0.00534	0.00515
____ BE	0.00535	2,896.12	2.203	0.00546	0.00537	0.00523
____ CA	0.20073	60.60	4.125	0.20614	0.19119	0.20485
____ CD	0.00511	94.85	1.753	0.00511	0.00502	0.00520
____ CO	0.00519	55.66	4.436	0.00536	0.00527	0.00492
____ CR	0.01540	214.10	4.434	0.01567	0.01590	0.01462
____ CU	0.01296	121.96	6.846	0.01284	0.01215	0.01391
____ FE	0.19715	12.40	9.787	0.19279	0.21825	0.18041
____ K	0.42626	244.10	26.030	0.54042	0.31882	0.41954
____ LI	0.02582	-15.23	15.378	0.02255	0.03024	0.02466
____ MG	0.10476	40.40	3.719	0.10405	0.10128	0.10897
____ MN	0.00537	610.87	2.344	0.00551	0.00531	0.00528
____ MO	0.00947	37.34	3.586	0.00914	0.00982	0.00944
____ NA	1.13313	390.57	2.905	1.14457	1.15881	1.09603
____ NI	0.01022	58.20	4.319	0.00974	0.01031	0.01061
____ P	0.09835	58.31	1.279	0.09852	0.09952	0.09702
____ PB	0.01836	21.37	5.896	0.01715	0.01922	0.01872
____ S	0.50676	137.67	0.781	0.50370	0.50536	0.51123
____ SB	0.02597	14.65	6.021	0.02768	0.02463	0.02559
____ SE	0.02078	10.09	7.164	0.01952	0.02039	0.02242
____ SI	0.09273	3.86	28.042	0.06423	0.11517	0.09878
____ SN	0.01914	29.73	4.540	0.01843	0.01889	0.02011
____ SR	0.00541	5,047.41	2.190	0.00552	0.00542	0.00529
____ TH	0.22446	5.63	7.943	0.22204	0.24337	0.20796
____ TI	0.01055	803.32	2.664	0.01084	0.01053	0.01028
____ TL	0.03007	32.45	1.353	0.03019	0.03040	0.02961
____ V	0.00571	128.08	4.705	0.00541	0.00580	0.00592
____ W	0.00963	23.49	4.806	0.00943	0.01016	0.00930
____ Y1	12169.46330	12,169.46	1.028	12302.51024	12151.66384	12054.21583
____ Y2A	281968.55761	281,968.56	2.565	275247.33511	281037.06782	289621.26989
____ Y2R	4698.34167	4,698.34	1.533	4687.97500	4632.05000	4775.00000
____ ZN	0.01973	245.13	1.439	0.01940	0.01992	0.01986
____ ZR	0.04774	58.77	12.131	0.04399	0.04482	0.05441

LANCASTER LABORATORIES

Run Name: 1810506T72

Instrument ID: 16417

Tube: 27

Date/Time: 04/16/2018 01:11

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00272	-64.15	50.885	0.00306	0.00120	0.00390
____ AL	522.65291	14,195.30	0.453	522.90417	524.88612	520.16844
____ AS	0.00147	-14.72	369.164	-0.00152	-0.00180	0.00773
____ B	-0.13695	3,805.33	6.073	-0.13295	-0.14651	-0.13138
____ BA	0.00086	686.25	4.767	0.00082	0.00086	0.00090
____ BE	0.00021	-554.35	17.101	0.00018	0.00022	0.00025
____ CA	521.02260	126,807.93	0.921	522.52194	524.89289	515.65297
____ CD	-0.00058	151.68	34.328	-0.00038	-0.00060	-0.00078
____ CO	0.00034	13.36	91.053	0.00039	0.00063	0.00001
____ CR	-0.00143	-25.07	23.199	-0.00116	-0.00133	-0.00180
____ CU	0.00581	136.09	23.403	0.00655	0.00664	0.00424
____ FE	201.40237	11,091.93	0.782	201.45894	202.94849	199.79968
____ K	-0.01615	117.59	292.741	-0.05948	0.03426	-0.02322
____ LI	0.00310	-88.92	69.368	0.00411	0.00456	0.00063
____ MG	497.60914	174,445.44	0.815	499.33016	500.52138	492.97587
____ MN	0.00470	486.97	2.996	0.00482	0.00454	0.00473
____ MO	-0.00297	-14.99	26.151	-0.00279	-0.00231	-0.00383
____ NA	0.18063	-247.02	3.216	0.17679	0.18731	0.17778
____ NI	0.00122	-9.74	43.782	0.00111	0.00075	0.00181
____ P	0.01490	8.81	14.319	0.01341	0.01395	0.01734
____ PB	0.00370	165.77	128.062	-0.00177	0.00627	0.00660
____ S	0.11814	30.30	7.212	0.12102	0.12484	0.10855
____ SB	0.00425	-4.30	71.486	0.00257	0.00242	0.00775
____ SE	0.00064	2.33	821.324	0.00518	-0.00511	0.00185
____ SI	0.02548	0.96	141.712	0.06276	-0.00934	0.02303
____ SN	0.00865	14.50	20.444	0.00730	0.01066	0.00800
____ SR	-0.00103	24,222.84	63.667	-0.00078	-0.00178	-0.00054
____ TH	0.09952	5.56	30.478	0.08812	0.07654	0.13390
____ TI	-0.00259	-146.60	3.631	-0.00270	-0.00253	-0.00255
____ TL	0.00654	7.57	29.634	0.00515	0.00571	0.00875
____ V	-0.00057	47.99	44.825	-0.00086	-0.00045	-0.00039
____ W	0.00653	15.55	13.704	0.00745	0.00648	0.00567
____ Y1	10753.80854	10,753.81	0.411	10744.77675	10714.77913	10801.86976
____ Y2A	253745.80296	253,745.80	1.710	249019.88072	257548.37641	254669.15176
____ Y2R	4294.10688	4,294.11	0.512	4302.91151	4269.09618	4310.31294
____ ZN	-0.00464	161.33	1.399	-0.00459	-0.00471	-0.00461
____ ZR	0.00616	20.77	50.887	0.00915	0.00644	0.00290

LANCASTER LABORATORIES

Run Name: 1810506T72

Instrument ID: 16417

Tube: 28

Date/Time: 04/16/2018 01:14

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.21954	3,926.23	2.960	0.21419	0.21764	0.22677
____ AL	520.25211	14,031.06	0.627	517.36889	519.59575	523.79169
____ AS	0.09462	30.02	3.924	0.09890	0.09235	0.09259
____ B	-0.11928	3,844.51	2.324	-0.12079	-0.11608	-0.12096
____ BA	0.52190	374,862.47	1.722	0.51152	0.52711	0.52706
____ BE	0.51333	308,023.97	1.445	0.50499	0.51582	0.51919
____ CA	518.88718	125,414.26	0.458	517.86085	517.19423	521.60645
____ CD	0.91017	15,980.91	1.987	0.93093	0.89788	0.90169
____ CO	0.46262	3,460.43	1.675	0.47125	0.45627	0.46033
____ CR	0.48255	6,097.07	1.139	0.47686	0.48298	0.48782
____ CU	0.52988	7,109.29	1.250	0.52277	0.53588	0.53101
____ FE	199.56370	10,921.41	0.729	198.49098	198.98158	201.21853
____ K	-0.02748	114.07	197.194	-0.08996	0.00688	0.00063
____ LI	0.00359	-86.34	100.386	-0.00046	0.00478	0.00644
____ MG	491.50909	171,238.69	0.428	490.31661	490.27378	493.93687
____ MN	0.50127	46,089.91	1.425	0.49315	0.50406	0.50659
____ MO	-0.00224	-12.35	14.559	-0.00200	-0.00261	-0.00211
____ NA	0.18731	-240.91	21.942	0.23017	0.18353	0.14823
____ NI	0.90161	3,432.39	2.017	0.92261	0.89092	0.89130
____ P	0.01775	10.41	6.684	0.01894	0.01657	0.01772
____ PB	0.50411	893.89	2.191	0.51680	0.49664	0.49889
____ S	0.12167	31.61	4.327	0.12728	0.11684	0.12088
____ SB	0.59555	451.71	2.158	0.60720	0.58176	0.59769
____ SE	0.49423	187.82	1.023	0.48999	0.49288	0.49983
____ SI	0.02789	1.01	225.009	-0.02536	0.01195	0.09707
____ SN	0.00949	15.67	5.682	0.00897	0.01005	0.00945
____ SR	-0.00053	23,883.43	57.773	-0.00086	-0.00027	-0.00044
____ TH	0.06951	4.60	221.426	0.00606	-0.04253	0.24500
____ TI	-0.00214	-114.29	4.653	-0.00205	-0.00225	-0.00213
____ TL	0.09547	89.88	4.639	0.10054	0.09348	0.09238
____ V	0.51075	9,673.61	1.442	0.50231	0.51402	0.51591
____ W	0.00252	27.08	56.045	0.00276	0.00379	0.00100
____ Y1	10911.47524	10,911.48	1.591	10715.11031	11044.72833	10974.58708
____ Y2A	247971.45532	247,971.46	1.985	253435.55335	246596.75282	243882.05980
____ Y2R	4263.72387	4,263.72	0.873	4289.35278	4280.79384	4221.02500
____ ZN	0.94282	10,504.37	2.098	0.96564	0.93065	0.93216
____ ZR	0.00211	16.82	408.693	0.00773	0.00641	-0.00781

LANCASTER LABORATORIES

Run Name: 1810506T72

Instrument ID: 16417

Tube: 29

Date/Time: 04/16/2018 01:17

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.49964	10,319.33	1.761	0.50939	0.49230	0.49722
____ AL	24.75489	755.38	1.608	25.14291	24.77429	24.34748
____ AS	0.48910	259.88	1.304	0.49155	0.49388	0.48186
____ B	0.47363	5,884.90	1.507	0.48063	0.46636	0.47391
____ BA	0.50884	417,522.72	1.166	0.51365	0.50221	0.51066
____ BE	0.48787	334,326.31	1.970	0.49788	0.47871	0.48702
____ CA	25.03066	6,794.56	2.199	25.38396	25.31146	24.39656
____ CD	0.48591	9,305.14	1.274	0.49138	0.48717	0.47919
____ CO	0.48952	4,032.56	1.425	0.49555	0.49113	0.48188
____ CR	0.48180	6,953.74	1.420	0.48938	0.47610	0.47991
____ CU	0.50345	7,626.14	1.395	0.51155	0.49974	0.49906
____ FE	23.62573	1,507.68	1.191	23.75160	23.82228	23.30331
____ K	26.48818	6,920.62	2.214	26.83163	26.82173	25.81117
____ LI	0.50921	2,481.58	0.979	0.51081	0.51319	0.50362
____ MG	24.63932	9,929.91	1.883	24.93680	24.87656	24.10460
____ MN	0.50538	53,080.77	1.686	0.51508	0.49913	0.50191
____ MO	0.47943	2,058.78	1.324	0.48538	0.48016	0.47274
____ NA	26.10128	17,428.41	0.940	26.17327	26.30246	25.82812
____ NI	0.48426	2,046.89	1.585	0.49157	0.48495	0.47627
____ P	0.49095	281.69	1.679	0.49732	0.49390	0.48164
____ PB	0.48317	781.63	1.108	0.48775	0.48447	0.47728
____ S	24.04551	6,307.35	0.855	24.23048	24.08176	23.82430
____ SB	0.48762	402.14	1.513	0.49217	0.49158	0.47910
____ SE	0.47776	200.88	0.901	0.48236	0.47709	0.47382
____ SI	24.67267	1,011.69	1.619	24.92178	24.88433	24.21191
____ SN	0.46809	591.47	1.447	0.47346	0.47033	0.46048
____ SR	0.50939	506,443.89	1.124	0.51264	0.50278	0.51276
____ TH	0.37974	10.89	15.857	0.44368	0.32411	0.37142
____ TI	0.50712	37,487.76	1.444	0.51536	0.50135	0.50467
____ TL	0.48780	490.41	1.444	0.49216	0.49156	0.47967
____ V	0.50702	10,798.00	1.473	0.51562	0.50217	0.50327
____ W	0.50142	876.31	1.324	0.50713	0.50298	0.49413
____ Y1	11998.41399	11,998.41	0.468	11937.38140	12009.99400	12047.86656
____ Y2A	283250.25629	283,250.26	1.523	279757.55814	288072.61273	281920.59801
____ Y2R	4621.53129	4,621.53	0.854	4610.42791	4588.80396	4665.36199
____ ZN	0.48094	5,812.81	1.260	0.48626	0.48222	0.47435
____ ZR	0.47503	379.55	0.931	0.47507	0.47944	0.47059

LANCASTER LABORATORIES

Run Name: 1810506T72

Instrument ID: 16417

Tube: 30

Date/Time: 04/16/2018 01:21

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00241	-49.28	82.012	0.00020	0.00400	0.00304
____ AL	-0.06045	16.13	151.713	0.04543	-0.11166	-0.11511
____ AS	-0.00104	2.15	251.827	-0.00365	-0.00103	0.00157
____ B	0.00280	7.62	16.397	0.00326	0.00278	0.00234
____ BA	0.00014	171.75	21.153	0.00011	0.00013	0.00017
____ BE	0.00031	-551.52	9.021	0.00030	0.00028	0.00034
____ CA	-0.01966	0.20	84.850	-0.03261	-0.02555	-0.00083
____ CD	0.00002	-4.13	1055.492	-0.00009	0.00020	-0.00006
____ CO	-0.00011	11.36	183.975	-0.00003	-0.00035	0.00004
____ CR	0.00049	-0.17	82.611	0.00096	0.00021	0.00030
____ CU	0.00085	-105.92	450.737	0.00508	-0.00243	-0.00010
____ FE	0.01025	0.17	134.871	-0.00348	0.01007	0.02417
____ K	0.01882	132.80	334.601	-0.05354	0.04867	0.06134
____ LI	0.00869	-101.15	44.095	0.01188	0.00976	0.00444
____ MG	0.00618	-0.15	71.875	0.00224	0.01099	0.00531
____ MN	0.00002	52.15	306.911	0.00002	0.00008	-0.00004
____ MO	-0.00007	-4.30	99.751	-0.00013	0.00001	-0.00011
____ NA	0.01138	-373.32	242.895	-0.00299	-0.00612	0.04326
____ NI	0.00013	15.17	148.920	-0.00009	0.00025	0.00023
____ P	-0.00142	0.51	91.813	-0.00041	-0.00096	-0.00290
____ PB	0.00367	-2.55	20.715	0.00394	0.00281	0.00426
____ S	0.01886	7.89	70.000	0.02346	0.02914	0.00397
____ SB	0.00817	-0.59	19.395	0.00759	0.00996	0.00695
____ SE	-0.00165	0.65	164.788	-0.00477	0.00027	-0.00046
____ SI	0.04306	1.70	55.861	0.01611	0.06235	0.05072
____ SN	-0.00036	4.95	252.575	0.00026	0.00006	-0.00139
____ SR	0.00010	-201.41	14.969	0.00008	0.00011	0.00010
____ TH	0.11009	1.95	123.006	-0.03452	0.23391	0.13088
____ TI	0.00013	36.98	116.082	0.00029	-0.00001	0.00011
____ TL	0.00050	2.42	177.666	0.00091	0.00110	-0.00052
____ V	0.00053	15.87	41.939	0.00050	0.00076	0.00032
____ W	-0.00013	6.07	177.229	0.00014	-0.00029	-0.00024
____ Y1	12130.96504	12,130.97	0.509	12120.98832	12074.86872	12197.03807
____ Y2A	280865.23246	280,865.23	0.531	281489.45183	279162.39174	281943.85382
____ Y2R	4525.10833	4,525.11	0.874	4492.92500	4513.12500	4569.27500
____ ZN	0.00003	5.55	177.184	0.00002	0.00007	-0.00002
____ ZR	0.00496	21.40	264.925	0.01812	-0.00816	0.00492

ICP-AES Run Data Report

Reviewed By	Reviewed Date
Jonathan J Allen	04/16/2018 7:07AM

Data File Name 1810602T72.TXT
Run Name: 1810602T72

Method Reference Name(s):

Verified By:	Verified Date
Parker D Lindstrom	04/16/2018 3:01PM
Tara L Snyder	04/19/2018 12:18PM

Analyst Employee: 12403

Instrument Parameters:

Individual Integration Time: 10.00 sec Total Integration Time: 30.00 sec Rinse Time: 15.00 sec

Element	Analyte Name	Wavelength Value
AG	Silver	328.06
AL	Aluminum	308.21
AS	Arsenic	189.04
AU	Gold	242.80
B	Boron	249.67
BA	Barium	455.40
BE	Beryllium	313.04
CA	Calcium	317.93
CD	Cadmium	226.50
CO	Cobalt	228.62
CR	Chromium	267.72
CU	Copper	327.40
FE	Iron	261.19
K	Potassium	766.49
LI	Lithium	670.78
MG	Magnesium	285.21
MN	Manganese	257.61
MO	Molybdenum	202.03
NA	Sodium	589.59
NI	Nickel	231.60
P	Phosphorus	177.49
PB	Lead	220.35
SB	Antimony	206.83
SE	Selenium	196.09
SI	Silicon	251.60
SN	Tin	189.99
SR	Strontium	421.55
TE	Tellurium	214.28
TH	Thorium	401.91
TI	Titanium	334.94
TL	Thallium	190.86
V	Vanadium	292.40
W	Tungsten	207.91
Y1	Yttrium	224.31
Y2	Yttrium	371.03
ZN	Zinc	213.86
ZR	Zirconium	339.19

The TRACE ICP utilizes Yttrium as an internal standard to compensate for fluctuations in nebulization and plasma conditions. All Yttrium readings are expressed in counts.

LANCASTER LABORATORIES

Run Name: 1810602T72

Instrument ID: 16417

Tube: 1

Date/Time: 04/16/2018 04:00

Sample Number: **S0**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	0.000	-48.60000	19.391	-0.00874	-0.00730	-0.01075
AL	0.000	18.80000	16.394	0.25783	0.18565	0.21807
AS	0.000	2.26119	21.878	0.01097	0.00713	0.01046
B	0.000	-0.76667	627.325	-0.00002	0.00002	-0.00001
BA	0.000	109.93333	24.121	0.00036	0.00052	0.00033
BE	0.000	-418.48333	8.995	-0.08310	-0.06944	-0.07818
CA	0.000	4.08333	70.312	0.00096	0.00163	0.00028
CD	0.000	-2.70740	34.953	-0.00928	-0.00891	-0.01598
CO	0.000	11.50843	29.445	0.03650	0.04458	0.06423
CR	0.000	-0.81667	392.293	0.00000	0.00001	-0.00002
CU	0.000	-94.75000	8.202	-0.01890	-0.01605	-0.01729
FE	0.000	2.01667	93.644	0.00022	0.00098	0.00021
K	0.000	121.98333	21.777	1.63411	1.07234	1.58718
LI	0.000	-129.45000	12.337	-0.02611	-0.03314	-0.03189
MG	0.000	0.71667	214.067	0.00004	0.00057	-0.00011
MN	0.000	80.11667	59.508	0.01123	0.02469	0.00824
MO	0.000	-4.34946	25.700	-0.02269	-0.01899	-0.01333
NA	0.000	-391.08333	1.559	-0.09123	-0.09067	-0.09338
NI	0.000	11.57824	4.492	0.04920	0.04640	0.05072
P	0.000	0.53572	193.386	0.00000	0.00015	-0.00001
PB	0.000	-4.28001	81.261	-0.01653	-0.00415	-0.03327
S	0.000	5.01457	13.134	0.00038	0.00049	0.00040
SB	0.000	-3.88951	44.404	-0.00021	-0.00028	-0.00049
SE	0.000	2.18168	71.464	0.01300	0.00160	0.01293
SI	0.000	2.23667	79.568	0.00094	0.00011	0.00053
SN	0.000	4.97493	33.477	0.02840	0.02010	0.01444
SR	0.000	-160.21667	39.180	-0.00074	-0.00032	-0.00071
TH	0.000	1.83333	127.651	-0.00019	0.00087	0.00061
TI	0.000	47.10000	28.367	0.00790	0.01140	0.00666
TL	0.000	2.10531	103.895	0.01629	-0.00144	0.01172
V	0.000	12.01667	38.903	0.00142	0.00208	0.00312
W	0.000	6.64967	28.322	0.00073	0.00042	0.00052
Y1	0.000	11868.43100	0.533	11841.28510	11823.30438	11940.70351
Y2A	0.000	272093.14213	0.109	271761.93634	272183.02387	272334.46618
Y2R	0.000	4262.17500	0.423	4276.02500	4268.70000	4241.80000
ZN	0.000	6.38669	17.861	0.02177	0.02761	0.03130
ZR	0.000	13.91667	31.198	0.00229	0.00319	0.00433

LANCASTER LABORATORIES

Run Name: 1810602T72

Instrument ID: 16417

Tube: 2

Date/Time: 04/16/2018 04:03

Sample Number: **S1**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AL	50.000	1405.66470	0.716	17.15387	17.15719	16.94367
CA	50.000	12454.64399	0.756	3.05315	3.00890	3.02080
FE	50.000	2697.42093	0.073	0.65545	0.65626	0.65540
K	50.000	13828.57156	0.601	169.22354	167.69849	167.31545
MG	50.000	18324.15811	0.638	4.48724	4.43818	4.43786
NA	50.000	35800.34889	0.659	8.74953	8.71964	8.63871
S	50.000	12099.87037	0.872	1.04297	1.02654	1.02838
SI	50.000	1866.22062	0.738	0.45738	0.45090	0.45270
Y1	50.000	11717.65106	0.429	11694.84767	11775.26779	11682.83773
Y2R	50.000	4113.76597	0.438	4094.98002	4130.91790	4115.40000

LANCASTER LABORATORIES

Run Name: 1810602T72

Instrument ID: 16417

Tube: 3

Date/Time: 04/16/2018 04:07

Sample Number: **S2**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	1.000	21090.01863	2.165	3.97623	3.90804	3.80843
AS	1.000	505.20542	1.858	2.12347	2.09383	2.04653
B	1.000	11667.29861	1.903	0.04395	0.04310	0.04231
BA	1.000	840334.81078	0.834	3.13393	3.09943	3.08318
BE	1.000	687227.10683	3.131	131.29900	126.31272	123.43921
CD	1.000	17918.22260	1.489	74.99375	74.32601	72.83915
CO	1.000	8071.03472	1.623	33.81088	33.50066	32.75746
CU	1.000	14982.72135	2.219	2.82603	2.77684	2.70389
LI	1.000	4909.71025	2.350	1.16856	1.11943	1.16355
MN	1.000	109642.90228	2.100	20.66782	20.30064	19.81920
NI	1.000	3902.41583	1.431	16.31206	16.20297	15.86900
P	1.000	584.00600	1.540	0.04891	0.04844	0.04746
PB	1.000	1488.65322	1.456	6.21838	6.18830	6.05039
SE	1.000	386.47795	1.492	1.61769	1.60298	1.57107
SR	1.000	1032111.10190	2.894	3.92218	3.82158	3.70163
TH	1.000	23.12486	1.500	0.00537	0.00551	0.00538
TL	1.000	954.92364	1.896	4.00714	3.96965	3.86295
W	1.000	1781.65197	1.774	0.14928	0.14820	0.14431
Y1	1.000	12098.69984	0.399	12072.13465	12069.51288	12154.45200
Y2A	1.000	270619.37199	1.687	266137.95681	270454.24403	275265.91512
Y2R	1.000	4268.16805	1.201	4248.30034	4326.36672	4229.83710
ZN	1.000	10891.79312	1.302	45.55930	45.08761	44.39406

LANCASTER LABORATORIES

Run Name: 1810602T72

Instrument ID: 16417

Tube: 4

Date/Time: 04/16/2018 04:10

Sample Number: **S3**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
CR	1.000	13691.27230	0.789	0.04979	0.04946	0.05024
MO	1.000	4007.48665	1.544	16.57474	16.39043	16.07547
SB	1.000	833.34431	2.294	0.06929	0.06842	0.06626
SN	1.000	1146.33587	1.190	4.71733	4.69788	4.61271
TI	1.000	73011.69380	0.840	13.29527	13.17128	13.39406
V	1.000	21883.71414	0.580	3.98490	3.95818	4.00420
Y1	1.000	12258.24789	0.606	12239.18498	12195.30682	12340.25187
Y2A	1.000	274757.90230	0.845	276977.03912	274949.27056	272347.39721
Y2R	1.000	4253.70833	0.323	4269.32500	4243.55000	4248.25000
ZR	1.000	710.55000	1.013	0.16860	0.16524	0.16728

LANCASTER LABORATORIES

Run Name: 1810602T72

Instrument ID: 16417

Tube: 5

Date/Time: 04/16/2018 04:13

Sample Number: **ICV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.59849	12,648.50	3.347	0.57674	0.61619	0.60255
____ AL	29.58143	848.38	0.535	29.57364	29.42731	29.74335
____ AS	0.60125	297.45	0.525	0.60395	0.59778	0.60203
____ B	0.54015	7,175.49	3.056	0.52146	0.55276	0.54622
____ BA	0.60506	508,465.54	2.233	0.58947	0.61227	0.61343
____ BE	0.57152	391,596.82	3.184	0.55201	0.58803	0.57450
____ CA	29.54945	7,429.83	1.091	29.87737	29.23285	29.53814
____ CD	0.59933	10,567.29	1.098	0.60693	0.59562	0.59545
____ CO	0.59187	4,702.35	1.079	0.59925	0.58815	0.58822
____ CR	0.57509	7,745.79	3.364	0.55439	0.59271	0.57817
____ CU	0.59218	8,780.01	2.719	0.57391	0.60429	0.59834
____ FE	28.93169	1,586.76	0.516	28.76906	28.96311	29.06290
____ K	29.24156	8,201.89	0.785	29.27845	28.99594	29.45029
____ LI	0.60432	2,879.63	0.400	0.60527	0.60157	0.60611
____ MG	29.66620	10,989.27	0.758	29.80510	29.40661	29.78688
____ MN	0.58915	64,626.00	2.926	0.57017	0.60384	0.59345
____ MO	0.59210	2,298.29	1.181	0.60017	0.58828	0.58785
____ NA	28.18860	20,215.38	0.182	28.24412	28.14293	28.17876
____ NI	0.60016	2,300.38	0.999	0.60703	0.59743	0.59602
____ P	0.60310	346.06	0.752	0.60766	0.59858	0.60306
____ PB	0.59514	887.09	1.522	0.60434	0.58623	0.59486
____ S	29.30170	7,187.13	0.921	29.60620	29.09256	29.20635
____ SB	0.61599	495.27	1.669	0.62783	0.60938	0.61076
____ SE	0.59693	227.60	1.206	0.60358	0.58929	0.59793
____ SI	29.91312	1,127.49	0.992	30.07715	29.57070	30.09151
____ SN	0.58917	656.59	1.316	0.59802	0.58357	0.58592
____ SR	0.59849	621,881.63	2.714	0.57997	0.60521	0.61030
____ TH	0.61350	14.89	15.262	0.54083	0.71916	0.58050
____ TI	0.59686	42,929.29	2.954	0.57797	0.61288	0.59974
____ TL	0.59823	560.47	1.279	0.60691	0.59248	0.59529
____ V	0.59102	12,768.13	2.914	0.57300	0.60731	0.59274
____ W	0.61558	1,078.42	1.318	0.62485	0.60982	0.61205
____ Y1	11879.99680	11,880.00	0.677	11789.11559	11908.79593	11942.07888
____ Y2A	270694.33639	270,694.34	2.922	279690.40119	264830.64784	267561.96013
____ Y2R	4147.04200	4,147.04	0.721	4143.58411	4178.50020	4119.04168
____ ZN	0.59325	6,377.04	1.094	0.60074	0.58961	0.58941
____ ZR	0.58631	432.79	3.536	0.59199	0.56332	0.60361

LANCASTER LABORATORIES

Run Name: 1810602T72

Instrument ID: 16417

Tube: 6

Date/Time: 04/16/2018 04:17

Sample Number: **ICB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00210	-49.17	172.757	-0.00626	-0.00035	0.00032
____ AL	0.13246	21.70	82.271	0.03563	0.11129	0.25048
____ AS	0.00280	3.67	53.004	0.00213	0.00450	0.00177
____ B	0.00052	5.20	50.915	0.00021	0.00069	0.00065
____ BA	0.00020	275.62	0.853	0.00019	0.00020	0.00020
____ BE	0.00079	-380.27	0.611	0.00079	0.00079	0.00078
____ CA	-0.00471	3.27	148.317	-0.01102	-0.00589	0.00279
____ CD	-0.00001	-4.89	647.553	0.00001	-0.00007	0.00004
____ CO	-0.00002	11.44	191.828	0.00002	-0.00005	-0.00003
____ CR	0.00109	-1.10	32.211	0.00141	0.00072	0.00115
____ CU	0.00633	-115.92	73.886	0.01127	0.00198	0.00572
____ FE	-0.00442	-0.60	1119.753	0.03052	0.01732	-0.06111
____ K	0.10419	147.68	53.134	0.11280	0.15474	0.04503
____ LI	-0.02003	-117.60	13.885	-0.01907	-0.02316	-0.01785
____ MG	0.00907	0.97	8.215	0.00967	0.00823	0.00930
____ MN	-0.00029	47.83	21.133	-0.00036	-0.00028	-0.00024
____ MO	-0.00002	-3.31	1779.231	-0.00041	0.00004	0.00031
____ NA	-0.11604	-385.67	11.957	-0.10769	-0.10837	-0.13206
____ NI	0.00043	13.31	221.318	0.00007	-0.00029	0.00151
____ P	-0.00130	-0.21	103.843	-0.00041	-0.00286	-0.00065
____ PB	0.00366	-1.88	18.335	0.00397	0.00411	0.00289
____ S	0.00322	5.85	30.334	0.00252	0.00434	0.00281
____ SB	0.00637	-0.52	24.060	0.00461	0.00741	0.00711
____ SE	-0.00048	2.01	207.281	-0.00156	0.00040	-0.00028
____ SI	0.03082	1.05	92.419	0.04478	0.04964	-0.00195
____ SN	0.00169	6.90	114.021	0.00143	0.00374	-0.00009
____ SR	0.00023	-144.95	7.639	0.00024	0.00021	0.00024
____ TH	-0.12256	-0.77	135.995	-0.31384	-0.00855	-0.04528
____ TI	-0.00015	36.63	71.523	-0.00019	-0.00022	-0.00003
____ TL	0.00116	3.21	64.870	0.00186	0.00036	0.00126
____ V	-0.00023	3.13	244.757	0.00036	-0.00074	-0.00030
____ W	-0.00010	6.53	911.216	-0.00119	0.00044	0.00044
____ Y1	11963.85082	11,963.85	0.322	12006.09773	11954.88669	11930.56803
____ Y2A	271849.73625	271,849.74	1.958	266068.93688	272935.09615	276545.17573
____ Y2R	4152.66667	4,152.67	0.827	4188.90000	4120.57500	4148.52500
____ ZN	0.00065	13.52	10.219	0.00058	0.00067	0.00070
____ ZR	0.01170	17.30	59.781	0.01977	0.00745	0.00787

LANCASTER LABORATORIES

Run Name: 1810602T72

Instrument ID: 16417

Tube: 7

Date/Time: 04/16/2018 04:20

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00258	-11.01	26.120	0.00273	0.00184	0.00316
____ AL	0.21054	24.40	48.007	0.29844	0.10010	0.23309
____ AS	0.02163	13.20	10.624	0.02418	0.01973	0.02097
____ B	0.04767	554.70	0.973	0.04746	0.04734	0.04820
____ BA	0.00527	4,461.72	1.162	0.00531	0.00520	0.00530
____ BE	0.00577	2,996.92	0.873	0.00574	0.00575	0.00583
____ CA	0.18841	51.25	5.447	0.17665	0.19554	0.19303
____ CD	0.00525	89.65	3.652	0.00537	0.00535	0.00503
____ CO	0.00529	54.65	3.320	0.00525	0.00514	0.00548
____ CR	0.01635	201.55	2.318	0.01675	0.01600	0.01628
____ CU	0.01840	130.98	10.056	0.01819	0.02034	0.01666
____ FE	0.19379	10.42	4.186	0.20124	0.19499	0.18515
____ K	0.49143	255.12	15.764	0.57661	0.47250	0.42518
____ LI	-0.00288	-35.25	130.054	0.00112	-0.00629	-0.00347
____ MG	0.10593	37.08	8.952	0.11064	0.11215	0.09502
____ MN	0.00514	632.23	0.408	0.00512	0.00514	0.00516
____ MO	0.00989	35.96	4.775	0.01039	0.00945	0.00983
____ NA	0.80598	286.43	4.426	0.84164	0.77029	0.80601
____ NI	0.01088	54.21	8.131	0.01186	0.01064	0.01014
____ P	0.09939	58.66	1.694	0.10044	0.09745	0.10029
____ PB	0.01905	21.30	14.193	0.01648	0.02187	0.01880
____ S	0.47659	124.34	1.453	0.48459	0.47264	0.47256
____ SB	0.02269	13.06	8.965	0.02463	0.02286	0.02057
____ SE	0.01995	9.87	7.217	0.02159	0.01891	0.01935
____ SI	0.06852	2.52	77.639	0.12912	0.02958	0.04685
____ SN	0.01878	26.28	3.754	0.01922	0.01797	0.01915
____ SR	0.00549	5,233.97	0.915	0.00544	0.00549	0.00554
____ TH	0.06179	3.07	107.142	0.07338	-0.00944	0.12144
____ TI	0.01021	767.93	2.293	0.01002	0.01014	0.01047
____ TL	0.03065	31.34	5.360	0.03034	0.03242	0.02918
____ V	0.00553	129.80	2.889	0.00544	0.00572	0.00544
____ W	0.01033	25.35	11.331	0.01140	0.00908	0.01050
____ Y1	12123.97924	12,123.98	0.689	12054.47187	12216.60638	12100.85948
____ Y2A	266198.69836	266,198.70	0.795	267572.11538	267261.85345	263762.12625
____ Y2R	4153.44167	4,153.44	1.247	4200.67500	4161.62500	4098.02500
____ ZN	0.01999	224.21	1.143	0.02025	0.01987	0.01985
____ ZR	0.05011	49.78	4.909	0.04901	0.05293	0.04840

LANCASTER LABORATORIES

Run Name: 1810602T72

Instrument ID: 16417

Tube: 8

Date/Time: 04/16/2018 04:23

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00151	-80.70	86.657	-0.00001	-0.00208	-0.00243
____ AL	503.43352	13,257.13	0.414	501.19530	503.78153	505.32372
____ AS	0.00540	-12.39	35.500	0.00632	0.00320	0.00669
____ B	-0.20432	3,269.57	2.507	-0.19871	-0.20875	-0.20550
____ BA	0.00082	708.07	4.396	0.00079	0.00081	0.00086
____ BE	0.00066	-413.57	1.840	0.00065	0.00067	0.00066
____ CA	487.37620	113,387.74	0.376	486.71833	485.96556	489.44471
____ CD	-0.00110	133.10	26.741	-0.00081	-0.00140	-0.00109
____ CO	-0.00007	10.01	540.200	0.00027	0.00000	-0.00049
____ CR	0.00071	-5.49	48.774	0.00031	0.00089	0.00094
____ CU	0.01142	139.12	9.321	0.01044	0.01255	0.01127
____ FE	199.67219	9,749.76	0.238	199.15785	200.09767	199.76103
____ K	0.04859	126.35	47.234	0.07230	0.04699	0.02648
____ LI	-0.02156	-87.36	9.095	-0.02272	-0.02266	-0.01929
____ MG	474.05122	157,776.43	0.424	473.02615	472.76086	476.36664
____ MN	0.00423	483.74	0.944	0.00427	0.00419	0.00422
____ MO	-0.00329	-14.74	8.499	-0.00321	-0.00306	-0.00360
____ NA	-0.05349	-324.73	38.049	-0.07008	-0.05960	-0.03078
____ NI	0.00328	-3.05	28.475	0.00335	0.00232	0.00419
____ P	0.01659	9.24	11.879	0.01592	0.01881	0.01505
____ PB	0.00655	158.53	73.184	0.01102	0.00714	0.00149
____ S	0.09074	25.08	1.777	0.08905	0.09227	0.09089
____ SB	0.00231	-4.35	240.048	0.00557	0.00547	-0.00410
____ SE	-0.00823	-0.01	51.844	-0.00739	-0.00444	-0.01284
____ SI	0.03800	1.27	20.734	0.04199	0.02893	0.04310
____ SN	0.00931	14.06	26.593	0.01145	0.00989	0.00660
____ SR	-0.00100	24,922.31	38.808	-0.00056	-0.00128	-0.00118
____ TH	-0.08005	2.86	107.201	0.01872	-0.13629	-0.12257
____ TI	-0.00305	-153.38	5.170	-0.00323	-0.00294	-0.00298
____ TL	0.00692	7.88	28.507	0.00481	0.00872	0.00722
____ V	-0.00041	55.52	10.207	-0.00046	-0.00037	-0.00041
____ W	0.00572	15.11	19.837	0.00451	0.00588	0.00677
____ Y1	10937.81962	10,937.82	0.764	10920.86991	10864.08224	11028.50669
____ Y2A	241124.66931	241,124.67	0.896	238889.13690	241281.08466	243203.78638
____ Y2R	3964.19608	3,964.20	0.926	4001.92269	3962.08342	3928.58212
____ ZN	-0.00516	142.54	1.093	-0.00512	-0.00514	-0.00522
____ ZR	0.01576	20.56	66.299	0.00828	0.02770	0.01130

LANCASTER LABORATORIES

Run Name: 1810602T72

Instrument ID: 16417

Tube: 9

Date/Time: 04/16/2018 04:26

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.21651	4,132.54	1.948	0.21257	0.22096	0.21600
____ AL	507.17342	13,155.58	0.238	507.15646	505.97451	508.38928
____ AS	0.10291	32.53	4.668	0.10592	0.10544	0.09737
____ B	-0.20201	3,301.45	5.253	-0.20810	-0.18976	-0.20818
____ BA	0.51348	388,183.15	2.816	0.51584	0.52662	0.49799
____ BE	0.48980	301,881.62	1.801	0.49078	0.49809	0.48053
____ CA	489.37910	112,145.16	0.466	487.00582	489.57771	491.55377
____ CD	0.90561	15,068.07	0.943	0.90817	0.91257	0.89608
____ CO	0.45988	3,416.55	1.201	0.46130	0.46455	0.45379
____ CR	0.47487	5,753.31	1.320	0.47521	0.48096	0.46844
____ CU	0.52879	7,017.17	2.154	0.53265	0.53775	0.51598
____ FE	198.79823	9,566.75	0.514	199.92512	197.93153	198.53805
____ K	0.08050	132.67	80.103	0.01605	0.14501	0.08044
____ LI	-0.02127	-84.91	7.083	-0.02289	-0.02102	-0.01991
____ MG	474.20205	155,479.52	0.343	472.95914	473.60169	476.04532
____ MN	0.48878	48,254.36	1.865	0.49120	0.49645	0.47870
____ MO	-0.00262	-12.54	39.496	-0.00229	-0.00379	-0.00180
____ NA	-0.00894	-289.26	125.475	0.00152	-0.02079	-0.00755
____ NI	0.90339	3,215.06	0.927	0.90626	0.90995	0.89396
____ P	0.01766	9.97	3.926	0.01843	0.01748	0.01708
____ PB	0.50635	847.94	1.061	0.51012	0.50873	0.50020
____ S	0.08982	25.29	9.307	0.09094	0.09757	0.08096
____ SB	0.59073	447.81	1.024	0.59132	0.59646	0.58440
____ SE	0.50074	177.96	0.333	0.50141	0.50196	0.49884
____ SI	0.00557	0.10	938.573	0.00761	0.05680	-0.04770
____ SN	0.00878	13.75	5.685	0.00825	0.00885	0.00924
____ SR	-0.00074	25,289.69	63.632	-0.00081	-0.00024	-0.00117
____ TH	-0.05872	3.20	305.420	-0.25754	-0.00952	0.09089
____ TI	-0.00303	-154.01	10.131	-0.00268	-0.00322	-0.00320
____ TL	0.09477	85.95	1.437	0.09630	0.09367	0.09435
____ V	0.49639	9,805.44	1.691	0.49760	0.50411	0.48746
____ W	0.00378	30.48	34.039	0.00525	0.00288	0.00320
____ Y1	11117.61709	11,117.62	0.408	11146.91425	11065.39752	11140.53951
____ Y2A	243477.78880	243,477.79	1.735	241432.62235	240664.10384	248336.64021
____ Y2R	3905.28942	3,905.29	0.757	3939.39394	3886.67432	3889.80000
____ ZN	0.94834	9,671.39	1.044	0.95171	0.95612	0.93720
____ ZR	0.01306	19.18	40.440	0.01394	0.01784	0.00739

LANCASTER LABORATORIES

Run Name: 1810602T72

Instrument ID: 16417

Tube: 10

Date/Time: 04/16/2018 04:30

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.50992	10,561.69	0.494	0.50982	0.51248	0.50745
____ AL	24.61398	703.60	0.595	24.46155	24.75370	24.62671
____ AS	0.49234	246.95	0.595	0.49105	0.49027	0.49569
____ B	0.46410	6,035.60	1.457	0.45677	0.47009	0.46545
____ BA	0.51120	422,193.65	0.712	0.50884	0.50938	0.51539
____ BE	0.48451	326,163.58	1.177	0.48669	0.48879	0.47803
____ CA	24.43481	6,096.89	0.729	24.22967	24.52372	24.55102
____ CD	0.49150	8,772.07	1.266	0.49803	0.48564	0.49084
____ CO	0.49770	4,004.75	1.021	0.50208	0.49213	0.49888
____ CR	0.48651	6,438.44	0.677	0.48457	0.49031	0.48465
____ CU	0.50363	7,339.45	1.360	0.50320	0.51068	0.49700
____ FE	24.02715	1,309.68	0.459	23.90020	24.09896	24.08228
____ K	24.52161	6,841.76	0.805	24.33161	24.72543	24.50778
____ LI	0.50262	2,372.08	1.014	0.49713	0.50721	0.50350
____ MG	24.49268	9,006.00	0.357	24.39730	24.56870	24.51203
____ MN	0.50745	54,719.36	1.017	0.50341	0.51326	0.50569
____ MO	0.48828	1,918.05	1.203	0.49326	0.48181	0.48977
____ NA	24.65747	17,503.68	0.332	24.61120	24.75210	24.60911
____ NI	0.49014	1,903.86	0.988	0.49449	0.48492	0.49100
____ P	0.50410	292.89	1.660	0.51130	0.49492	0.50609
____ PB	0.48542	731.40	1.596	0.49335	0.47788	0.48503
____ S	23.31186	5,789.07	1.292	23.56008	22.97670	23.39879
____ SB	0.49406	400.92	1.222	0.49960	0.48763	0.49494
____ SE	0.48128	186.24	1.275	0.48539	0.47423	0.48423
____ SI	24.46511	914.71	1.091	24.15822	24.64424	24.59287
____ SN	0.47694	539.02	1.255	0.48242	0.47055	0.47786
____ SR	0.50839	519,014.45	1.016	0.50249	0.51211	0.51055
____ TH	0.58474	14.10	7.854	0.54023	0.58204	0.63197
____ TI	0.50305	35,567.27	1.259	0.49724	0.50980	0.50210
____ TL	0.49547	470.32	0.937	0.50014	0.49086	0.49543
____ V	0.50453	10,720.74	0.857	0.50118	0.50941	0.50301
____ W	0.50855	902.96	1.329	0.51500	0.50152	0.50915
____ Y1	12026.17305	12,026.17	0.730	11964.45999	12126.62339	11987.43577
____ Y2A	265908.34323	265,908.34	0.652	267651.77387	264182.39203	265890.86379
____ Y2R	4113.75961	4,113.76	1.192	4169.10297	4096.46142	4075.71443
____ ZN	0.48507	5,280.16	1.331	0.49125	0.47837	0.48560
____ ZR	0.48744	361.76	0.908	0.48303	0.49189	0.48741

LANCASTER LABORATORIES

Run Name: 1810602T72

Instrument ID: 16417

Tube: 11

Date/Time: 04/16/2018 04:33

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00086	-40.32	250.524	0.00102	-0.00137	0.00292
____ AL	0.12622	22.00	75.636	0.04370	0.10418	0.23079
____ AS	-0.00065	1.98	511.599	0.00046	-0.00441	0.00199
____ B	0.00054	5.98	97.653	0.00113	0.00009	0.00041
____ BA	0.00018	256.08	41.468	0.00026	0.00017	0.00011
____ BE	0.00083	-343.12	6.850	0.00090	0.00081	0.00079
____ CA	0.02776	10.90	77.912	0.00281	0.03922	0.04124
____ CD	0.00022	-0.86	24.977	0.00027	0.00016	0.00023
____ CO	-0.00014	10.57	128.675	0.00002	-0.00035	-0.00011
____ CR	0.00066	-6.78	69.536	0.00061	0.00115	0.00023
____ CU	0.00283	-107.72	77.359	0.00191	0.00533	0.00125
____ FE	0.01574	0.52	231.992	-0.02573	0.04306	0.02989
____ K	0.11508	151.23	57.298	0.13107	0.04261	0.17154
____ LI	-0.01621	-99.67	9.495	-0.01483	-0.01592	-0.01787
____ MG	0.02755	7.85	88.656	0.00661	0.02167	0.05439
____ MN	-0.00026	50.32	40.870	-0.00014	-0.00030	-0.00034
____ MO	0.00022	-2.38	114.512	0.00050	0.00016	0.00000
____ NA	-0.12150	-391.03	27.357	-0.12410	-0.08704	-0.15336
____ NI	0.00055	13.94	18.598	0.00048	0.00067	0.00050
____ P	-0.00011	0.48	1243.204	-0.00165	0.00040	0.00092
____ PB	0.00436	-0.87	60.725	0.00147	0.00666	0.00495
____ S	0.00028	5.19	500.917	0.00137	0.00078	-0.00131
____ SB	0.00305	-3.30	48.742	0.00470	0.00182	0.00262
____ SE	-0.00408	0.68	63.397	-0.00110	-0.00541	-0.00574
____ SI	0.02400	0.80	163.710	-0.01586	0.06270	0.02516
____ SN	0.00103	6.24	16.916	0.00119	0.00105	0.00085
____ SR	0.00025	-115.33	24.931	0.00032	0.00022	0.00021
____ TH	0.02696	2.35	363.995	0.02873	-0.07205	0.12422
____ TI	-0.00017	34.18	111.714	-0.00012	-0.00038	-0.00001
____ TL	0.00116	3.25	98.600	0.00098	0.00239	0.00012
____ V	0.00016	15.95	200.991	0.00001	-0.00006	0.00051
____ W	0.00021	7.17	254.705	0.00006	-0.00024	0.00081
____ Y1	12107.89590	12,107.90	1.152	12265.33293	12058.67026	11999.68450
____ Y2A	267101.29310	267,101.29	0.995	264531.25000	266936.42241	269836.20690
____ Y2R	4168.20833	4,168.21	0.558	4180.80000	4182.45000	4141.37500
____ ZN	0.00062	13.29	9.777	0.00066	0.00055	0.00064
____ ZR	0.00828	20.20	44.875	0.00561	0.01253	0.00671

LANCASTER LABORATORIES

Run Name: 1810602T72 Instrument ID: 16417

Tube: 12 Date/Time: 04/16/2018 04:36

Sample Number: **PBW** Class: **** Batch: 181000184801

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00217	-45.55	17.967	-0.00257	-0.00214	-0.00179
____ AL	0.08144	20.37	143.314	-0.05240	0.16205	0.13467
____ AS	-0.00195	1.34	133.752	0.00102	-0.00385	-0.00301
____ B	0.00012	1.38	357.029	0.00054	-0.00030	0.00012
____ BA	0.00007	171.78	14.735	0.00008	0.00007	0.00006
____ BE	0.00081	-367.75	0.683	0.00082	0.00081	0.00082
____ CA	0.00565	5.98	32.468	0.00474	0.00777	0.00445
____ CD	0.00006	-3.74	231.271	0.00013	0.00015	-0.00010
____ CO	-0.00019	10.32	186.386	-0.00061	-0.00002	0.00005
____ CR	0.00187	9.55	38.003	0.00164	0.00129	0.00266
____ CU	0.00787	-100.93	18.318	0.00953	0.00696	0.00712
____ FE	0.02154	0.85	88.440	0.02788	0.03662	0.00013
____ K	0.05108	133.80	95.321	0.07529	-0.00497	0.08293
____ LI	-0.02200	-127.82	21.848	-0.01929	-0.01915	-0.02755
____ MG	0.00216	-1.62	70.117	0.00088	0.00383	0.00177
____ MN	0.00001	82.13	1119.268	0.00008	-0.00006	-0.00001
____ MO	0.00037	-1.82	24.373	0.00029	0.00036	0.00047
____ NA	-0.10359	-378.97	21.378	-0.12304	-0.07949	-0.10825
____ NI	0.00066	14.61	23.542	0.00071	0.00049	0.00079
____ P	0.00228	1.91	40.848	0.00289	0.00121	0.00275
____ PB	0.00481	-0.17	4.029	0.00498	0.00485	0.00460
____ S	-0.00322	4.38	106.478	0.00067	-0.00452	-0.00582
____ SB	0.00395	-2.60	53.831	0.00452	0.00160	0.00573
____ SE	-0.00041	2.09	259.810	-0.00162	-0.00003	0.00042
____ SI	-0.00685	-0.37	253.984	0.01322	-0.01779	-0.01599
____ SN	0.00068	5.94	58.190	0.00082	0.00024	0.00100
____ SR	0.00021	-158.62	9.106	0.00020	0.00024	0.00020
____ TH	-0.13838	-1.08	23.054	-0.17514	-0.12216	-0.11785
____ TI	0.00001	48.32	1208.984	-0.00007	0.00008	0.00000
____ TL	-0.00151	0.73	85.070	-0.00048	-0.00110	-0.00294
____ V	0.00034	15.35	67.228	0.00032	0.00059	0.00013
____ W	-0.00074	5.59	61.922	-0.00125	-0.00062	-0.00036
____ Y1	12294.77222	12,294.77	0.319	12311.03923	12323.28242	12249.99500
____ Y2A	276518.98209	276,518.98	0.937	279209.38329	276310.01326	274037.54973
____ Y2R	4179.27500	4,179.28	0.761	4182.17500	4209.52500	4146.12500
____ ZN	0.00150	23.25	9.654	0.00165	0.00136	0.00148
____ ZR	0.01452	18.80	52.427	0.02322	0.00908	0.01127

LANCASTER LABORATORIES

Run Name: 1810602T72 Instrument ID: 16417

Tube: 13 Date/Time: 04/16/2018 04:40

Sample Number: **LCSW** Class: **** Batch: 181000184801

Initial Vol: 1.00 Final Vol: 1.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.05279	1,213.24	4.889	0.05504	0.05334	0.04997
____ AL	2.07461	78.28	8.531	1.98018	1.96486	2.27879
____ AS	0.14410	79.33	0.664	0.14356	0.14353	0.14520
____ B	1.90564	22,558.69	3.221	1.90975	1.96486	1.84230
____ BA	2.10657	1,783,169.81	2.635	2.11961	2.15439	2.04570
____ BE	0.05173	34,241.53	2.853	0.05209	0.05299	0.05011
____ CA	4.03537	1,028.45	0.541	4.05345	4.01111	4.04154
____ CD	0.05152	936.58	0.763	0.05147	0.05193	0.05115
____ CO	0.52231	4,318.60	0.721	0.52178	0.52631	0.51883
____ CR	0.20329	2,748.57	3.237	0.20557	0.20844	0.19588
____ CU	0.26465	3,666.20	2.203	0.26516	0.27021	0.25859
____ FE	0.97806	54.35	3.426	0.98273	1.00898	0.94246
____ K	10.08196	2,929.49	1.259	10.22538	9.98395	10.03654
____ LI	1.05106	5,057.07	1.409	1.06010	1.03398	1.05911
____ MG	2.03684	761.29	0.550	2.03536	2.02645	2.04871
____ MN	0.53380	59,002.34	2.930	0.53657	0.54787	0.51695
____ MO	1.98364	7,996.10	0.766	1.98166	1.99972	1.96953
____ NA	10.01662	7,046.70	0.905	10.11859	9.94516	9.98612
____ NI	0.52772	2,103.49	0.613	0.52982	0.52934	0.52399
____ P	1.01262	602.44	0.799	1.01324	1.02038	1.00423
____ PB	0.16132	233.56	1.090	0.15952	0.16304	0.16139
____ S	0.96861	251.66	0.414	0.96601	0.97323	0.96659
____ SB	0.53217	430.11	0.962	0.53160	0.53755	0.52737
____ SE	0.14810	59.68	2.274	0.15192	0.14683	0.14555
____ SI	1.05791	41.28	2.263	1.03073	1.06714	1.07586
____ SN	3.91197	4,493.86	0.608	3.91139	3.93604	3.88847
____ SR	1.05452	1,096,972.29	1.859	1.05974	1.07098	1.03283
____ TH	0.03106	2.46	174.179	0.09056	0.01780	-0.01518
____ TI	1.03221	74,765.62	2.983	1.04087	1.05774	0.99802
____ TL	0.15544	154.12	0.790	0.15520	0.15678	0.15436
____ V	0.53077	11,116.21	2.886	0.53384	0.54432	0.51414
____ W	-0.00137	15.10	54.115	-0.00142	-0.00209	-0.00061
____ Y1	12324.71425	12,324.71	0.794	12436.96655	12257.91621	12279.26000
____ Y2A	272705.34925	272,705.35	2.359	271778.59748	266786.05769	279551.39257
____ Y2R	4180.99622	4,181.00	0.301	4172.72727	4195.45591	4174.80547
____ ZN	0.50255	5,577.41	0.888	0.50141	0.50747	0.49877
____ ZR	0.99289	694.59	0.417	0.99767	0.99055	0.99044

LANCASTER LABORATORIES

Run Name: 1810602T72 Instrument ID: 16417

Tube: 14 Date/Time: 04/16/2018 04:43

Sample Number: **9548789** Class: U*** Batch: 181000184801

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00072	-43.72	202.931	-0.00089	-0.00209	0.00082
____ AL	0.89318	43.87	8.691	0.82225	0.97610	0.88121
____ AS	-0.00098	0.32	236.589	-0.00319	-0.00118	0.00143
____ B	0.06705	1,254.57	3.464	0.06675	0.06489	0.06951
____ BA	0.28876	239,498.06	0.951	0.28661	0.28782	0.29185
____ BE	0.00106	-193.88	2.963	0.00106	0.00109	0.00103
____ CA	51.09852	13,082.67	0.352	50.89619	51.23940	51.15997
____ CD	0.00025	13.40	54.239	0.00023	0.00012	0.00039
____ CO	0.00567	56.80	7.218	0.00600	0.00521	0.00580
____ CR	0.00354	31.59	5.179	0.00352	0.00373	0.00337
____ CU	0.01789	71.48	7.228	0.01710	0.01938	0.01717
____ FE	15.97025	897.60	0.755	15.91477	16.10859	15.88741
____ K	4.65159	1,432.14	1.545	4.68315	4.56932	4.70231
____ LI	-0.02032	-118.42	18.124	-0.01635	-0.02098	-0.02362
____ MG	16.45655	6,225.92	0.389	16.38795	16.51484	16.46687
____ MN	1.70131	184,016.47	1.243	1.68813	1.69011	1.72570
____ MO	0.00058	-0.98	72.749	0.00107	0.00034	0.00033
____ NA	94.78544	70,034.79	0.557	94.49622	95.39443	94.46568
____ NI	0.00336	22.64	8.267	0.00368	0.00326	0.00315
____ P	0.05561	32.99	3.364	0.05770	0.05410	0.05503
____ PB	0.00606	12.87	37.731	0.00342	0.00744	0.00733
____ S	9.10656	2,279.71	1.717	9.26477	9.10287	8.95206
____ SB	0.00345	-3.03	69.747	0.00114	0.00595	0.00327
____ SE	-0.00140	1.74	309.206	0.00296	-0.00571	-0.00146
____ SI	8.15538	312.80	0.426	8.11937	8.15799	8.18877
____ SN	0.00059	5.73	263.514	0.00210	-0.00102	0.00070
____ SR	0.32126	329,318.05	0.633	0.31919	0.32134	0.32325
____ TH	-0.11077	-0.28	55.413	-0.08800	-0.18028	-0.06403
____ TI	0.01776	1,305.04	2.948	0.01753	0.01739	0.01836
____ TL	0.00081	2.58	284.347	-0.00167	0.00122	0.00286
____ V	0.00540	129.41	8.204	0.00507	0.00590	0.00522
____ W	-0.00088	5.78	114.014	-0.00201	-0.00013	-0.00049
____ Y1	12100.52272	12,100.52	1.158	11940.08792	12162.46877	12199.01148
____ Y2A	267024.49400	267,024.49	2.072	271424.56897	268836.95292	260811.96013
____ Y2R	4228.46822	4,228.47	0.577	4249.17763	4234.67452	4201.55252
____ ZN	0.03274	377.37	2.364	0.03356	0.03263	0.03202
____ ZR	0.01095	17.51	76.131	0.00470	0.02041	0.00774

LANCASTER LABORATORIES

Run Name: 1810602T72 Instrument ID: 16417

Tube: 15 Date/Time: 04/16/2018 04:46

Sample Number: **9548789** Class: UP** Batch: 181000184801

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.01761	497.35	6.117	0.01885	0.01693	0.01705
____ AL	2.10491	77.28	6.478	2.20570	2.15927	1.94976
____ AS	0.50929	258.54	0.880	0.51357	0.50968	0.50463
____ B	0.26153	3,482.96	2.558	0.26680	0.26379	0.25400
____ BA	0.33478	275,310.60	2.007	0.34056	0.33636	0.32741
____ BE	0.02114	13,197.90	1.867	0.02149	0.02122	0.02071
____ CA	51.20040	12,919.91	0.598	51.10335	50.95432	51.54355
____ CD	0.04934	897.92	0.725	0.04974	0.04923	0.04904
____ CO	0.10527	865.60	0.623	0.10603	0.10490	0.10488
____ CR	0.19840	2,605.03	2.103	0.20157	0.19997	0.19367
____ CU	0.52047	7,288.65	2.076	0.52947	0.52346	0.50849
____ FE	16.16047	895.12	0.743	16.23812	16.02215	16.22113
____ K	6.57068	1,944.62	1.151	6.60245	6.48434	6.62524
____ LI	1.01775	4,882.98	0.570	1.01235	1.01704	1.02388
____ MG	17.12397	6,384.50	0.688	17.04561	17.06678	17.25953
____ MN	1.73823	186,437.07	1.756	1.76555	1.74385	1.70530
____ MO	0.19588	776.09	0.916	0.19792	0.19519	0.19454
____ NA	95.48024	69,532.33	0.548	94.90348	95.61170	95.92554
____ NI	0.15146	601.86	0.606	0.15244	0.15062	0.15133
____ P	1.08507	636.86	0.603	1.09252	1.08242	1.08026
____ PB	0.49103	741.80	0.908	0.49614	0.48792	0.48904
____ S	9.82377	2,471.22	0.459	9.86904	9.77879	9.82348
____ SB	0.40330	331.15	0.415	0.40523	0.40233	0.40233
____ SE	0.76179	293.66	0.245	0.76349	0.76210	0.75979
____ SI	9.03506	341.68	0.925	8.99397	8.97994	9.13126
____ SN	0.57073	651.20	1.021	0.57676	0.57030	0.56512
____ SR	0.33386	339,330.19	0.618	0.33565	0.33433	0.33160
____ TH	-0.18645	-1.85	20.610	-0.14792	-0.22477	-0.18665
____ TI	0.12003	8,484.76	1.715	0.12164	0.12074	0.11771
____ TL	0.98047	938.08	0.892	0.99049	0.97435	0.97658
____ V	0.10931	2,290.23	1.963	0.11117	0.10980	0.10696
____ W	-0.00062	8.61	108.276	-0.00109	-0.00092	0.00015
____ Y1	12159.98632	12,159.99	0.526	12126.65468	12119.55040	12233.75387
____ Y2A	264791.52852	264,791.53	1.384	261969.49602	263471.15385	268933.93568
____ Y2R	4167.49468	4,167.49	0.219	4172.18015	4173.30568	4156.99820
____ ZN	0.14674	1,635.90	0.698	0.14789	0.14640	0.14592
____ ZR	0.99600	686.95	1.009	0.98492	0.99853	1.00454

LANCASTER LABORATORIES

Run Name: 1810602T72 Instrument ID: 16417

Tube: 16 Date/Time: 04/16/2018 04:50

Sample Number: **9548792** Class: D*** Batch: 181000184801

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00155	-52.74	46.628	-0.00165	-0.00221	-0.00078
____ AL	0.92652	44.96	10.151	0.87875	0.86594	1.03487
____ AS	0.00189	1.73	71.790	0.00157	0.00338	0.00072
____ B	0.06806	1,305.81	2.736	0.06622	0.06994	0.06804
____ BA	0.29589	250,335.48	1.681	0.29259	0.30161	0.29347
____ BE	0.00107	-187.95	2.234	0.00110	0.00107	0.00105
____ CA	53.25945	13,692.51	0.570	53.51076	52.92192	53.34567
____ CD	0.00019	12.92	3.117	0.00019	0.00020	0.00019
____ CO	0.00599	60.01	0.377	0.00597	0.00600	0.00601
____ CR	0.00380	35.82	16.733	0.00447	0.00373	0.00320
____ CU	0.01839	71.48	3.582	0.01912	0.01819	0.01785
____ FE	16.42461	926.94	0.938	16.60134	16.31914	16.35333
____ K	4.76298	1,469.85	2.008	4.83158	4.65375	4.80362
____ LI	-0.01787	-106.90	11.677	-0.01571	-0.01802	-0.01987
____ MG	17.16762	6,522.35	0.975	17.33939	17.00483	17.15864
____ MN	1.74951	193,027.88	1.872	1.72647	1.78699	1.73507
____ MO	0.00019	-2.56	92.179	0.00017	0.00002	0.00037
____ NA	99.18380	73,613.38	0.757	100.05073	98.73974	98.76093
____ NI	0.00413	25.82	17.614	0.00475	0.00333	0.00429
____ P	0.05329	31.98	5.011	0.05634	0.05141	0.05211
____ PB	0.00481	11.39	22.109	0.00412	0.00426	0.00603
____ S	9.26998	2,345.42	0.558	9.32948	9.24470	9.23574
____ SB	0.00352	-3.02	24.481	0.00402	0.00252	0.00401
____ SE	-0.00412	0.73	33.823	-0.00558	-0.00398	-0.00280
____ SI	8.31534	320.31	0.753	8.37643	8.31822	8.25137
____ SN	0.00076	5.99	40.597	0.00089	0.00041	0.00098
____ SR	0.32908	344,171.64	0.711	0.32737	0.32812	0.33174
____ TH	-0.13549	-0.80	38.881	-0.17801	-0.15189	-0.07656
____ TI	0.01597	1,201.78	3.642	0.01530	0.01620	0.01640
____ TL	0.00126	3.02	83.279	0.00245	0.00080	0.00051
____ V	0.00475	117.27	2.834	0.00483	0.00482	0.00459
____ W	-0.00099	5.61	41.458	-0.00110	-0.00054	-0.00134
____ Y1	12228.75865	12,228.76	0.407	12244.21399	12269.01448	12173.04748
____ Y2A	272399.64633	272,399.65	1.718	276336.28979	267225.96154	273636.68767
____ Y2R	4246.65921	4,246.66	0.124	4241.00379	4247.57887	4251.39498
____ ZN	0.03239	378.14	0.700	0.03264	0.03221	0.03230
____ ZR	0.01826	21.81	27.219	0.01288	0.02268	0.01920

LANCASTER LABORATORIES

Run Name: 1810602T72 Instrument ID: 16417

Tube: 17 Date/Time: 04/16/2018 04:53

Sample Number: **9548790** Class: R*** Batch: 181000184801

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.05306	1,164.69	0.293	0.05293	0.05324	0.05302
____ AL	2.91879	101.21	2.678	2.95405	2.82921	2.97313
____ AS	0.14794	77.01	2.352	0.14767	0.15154	0.14460
____ B	2.04944	23,722.04	1.262	2.02104	2.05566	2.07162
____ BA	2.36280	1,912,380.59	2.213	2.30264	2.38849	2.39725
____ BE	0.05247	33,219.74	0.868	0.05203	0.05243	0.05294
____ CA	61.13836	15,347.28	0.858	61.23141	60.57363	61.61003
____ CD	0.04976	890.26	1.073	0.04984	0.05025	0.04919
____ CO	0.50536	4,042.85	1.001	0.50516	0.51052	0.50041
____ CR	0.20151	2,605.21	1.406	0.19900	0.20093	0.20458
____ CU	0.26751	3,539.85	1.759	0.26524	0.26437	0.27292
____ FE	18.84208	1,037.99	0.589	18.75631	18.80254	18.96738
____ K	15.48489	4,401.46	1.078	15.57983	15.29214	15.58269
____ LI	1.03449	4,942.17	0.446	1.03296	1.03084	1.03967
____ MG	19.28744	7,157.66	0.722	19.35933	19.12687	19.37612
____ MN	2.07132	218,724.22	0.868	2.05610	2.06671	2.09115
____ MO	1.99244	7,769.93	1.092	1.99354	2.01362	1.97016
____ NA	138.41694	100,491.57	0.538	138.57696	137.60502	139.06884
____ NI	0.50550	1,947.26	1.190	0.50571	0.51141	0.49939
____ P	1.07532	618.86	0.700	1.07194	1.08394	1.07007
____ PB	0.14806	218.69	0.930	0.14942	0.14809	0.14667
____ S	7.31704	1,806.06	0.883	7.32760	7.37571	7.24782
____ SB	0.52993	414.08	1.149	0.52771	0.53681	0.52526
____ SE	0.14853	57.97	2.411	0.14963	0.15143	0.14453
____ SI	8.77658	331.55	2.106	8.89242	8.56338	8.87393
____ SN	3.85354	4,282.55	1.076	3.85023	3.89655	3.81383
____ SR	1.40110	1,396,245.58	1.078	1.40410	1.38472	1.41447
____ TH	-0.02250	1.60	303.416	-0.03683	0.05180	-0.08249
____ TI	1.05427	73,025.32	0.998	1.04406	1.05368	1.06507
____ TL	0.14898	142.67	1.561	0.14839	0.15155	0.14701
____ V	0.53982	10,822.32	0.905	0.53567	0.53860	0.54520
____ W	-0.00137	14.49	34.870	-0.00184	-0.00089	-0.00137
____ Y1	11923.34147	11,923.34	0.733	12013.24670	11838.58628	11918.19144
____ Y2A	260683.41639	260,683.42	1.068	263693.52159	260156.47841	258200.24917
____ Y2R	4149.21355	4,149.21	0.811	4161.08505	4175.31981	4111.23579
____ ZN	0.50417	5,429.99	0.933	0.50403	0.50895	0.49954
____ ZR	1.00477	695.53	1.024	0.99994	0.99780	1.01659

LANCASTER LABORATORIES

Run Name: 1810602T72 Instrument ID: 16417

Tube: 18 Date/Time: 04/16/2018 04:56

Sample Number: **9548791** Class: M*** Batch: 181000184801

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.05180	1,184.23	2.308	0.05277	0.05046	0.05216
____ AL	2.79244	100.00	3.491	2.68112	2.83364	2.86258
____ AS	0.14499	76.23	1.491	0.14318	0.14440	0.14738
____ B	1.98747	23,828.56	1.818	1.96591	1.96730	2.02919
____ BA	2.30019	1,927,018.12	1.662	2.28777	2.26971	2.34309
____ BE	0.05125	33,559.77	1.316	0.05085	0.05087	0.05202
____ CA	58.56177	15,062.19	0.644	58.62982	58.90045	58.15504
____ CD	0.04995	901.73	0.688	0.05010	0.04956	0.05020
____ CO	0.50887	4,107.24	0.712	0.51131	0.50471	0.51061
____ CR	0.19716	2,638.03	1.597	0.19623	0.19459	0.20068
____ CU	0.26176	3,573.82	2.285	0.25779	0.25884	0.26863
____ FE	18.89465	1,066.24	0.881	18.71728	19.04727	18.91938
____ K	15.13806	4,410.54	0.861	15.03178	15.28358	15.09880
____ LI	1.03618	5,071.01	0.127	1.03752	1.03611	1.03490
____ MG	18.84261	7,163.50	0.526	18.85525	18.93484	18.73774
____ MN	2.08263	227,614.04	1.463	2.06529	2.06480	2.11780
____ MO	1.99068	7,833.73	0.682	2.00271	1.97597	1.99335
____ NA	131.23330	97,583.27	0.410	130.69438	131.77104	131.23447
____ NI	0.50647	1,968.72	0.426	0.50739	0.50400	0.50801
____ P	1.07955	626.95	0.688	1.08600	1.07143	1.08121
____ PB	0.14862	221.53	2.153	0.15197	0.14559	0.14831
____ S	8.22783	2,048.70	0.599	8.26457	8.17178	8.24713
____ SB	0.53351	420.83	1.073	0.53781	0.52701	0.53570
____ SE	0.14523	57.24	1.111	0.14606	0.14337	0.14625
____ SI	9.06759	350.86	1.090	9.03134	9.17948	8.99195
____ SN	3.85954	4,328.30	0.529	3.87866	3.83805	3.86192
____ SR	1.36814	1,411,322.88	0.267	1.36443	1.37173	1.36828
____ TH	-0.04235	1.21	152.104	0.02956	-0.06183	-0.09477
____ TI	1.02685	73,617.19	1.463	1.01842	1.01794	1.04420
____ TL	0.14946	144.43	1.784	0.15219	0.14935	0.14686
____ V	0.52910	10,967.58	1.332	0.52718	0.52321	0.53691
____ W	-0.00112	15.07	68.522	-0.00182	-0.00030	-0.00126
____ Y1	12031.77012	12,031.77	0.496	12038.60038	12087.73903	11968.97096
____ Y2A	269829.96479	269,829.96	1.515	272551.55836	271809.76459	265128.57143
____ Y2R	4250.30267	4,250.30	0.261	4262.20363	4240.25035	4248.45402
____ ZN	0.50495	5,487.68	0.780	0.50788	0.50046	0.50649
____ ZR	0.99614	705.78	0.765	0.98736	1.00007	1.00099

LANCASTER LABORATORIES

Run Name: 1810602T72 Instrument ID: 16417

Tube: 19 Date/Time: 04/16/2018 05:00

Sample Number: **9548789** Class: UL** Batch: 181000184801

Initial Vol: 50.00 Final Vol: 50.00 DF: 5.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00196	-53.77	235.503	-0.00257	0.00293	-0.00622
____ AL	0.35643	28.26	13.455	0.30387	0.39781	0.36762
____ AS	-0.00061	1.74	277.349	-0.00073	-0.00226	0.00114
____ B	0.01639	292.52	1.364	0.01639	0.01617	0.01662
____ BA	0.05634	48,300.66	1.372	0.05559	0.05629	0.05713
____ BE	0.00087	-329.02	1.750	0.00087	0.00085	0.00088
____ CA	10.08578	2,569.75	0.460	10.11836	10.10631	10.03267
____ CD	0.00003	-1.49	415.638	-0.00004	-0.00006	0.00020
____ CO	0.00122	21.85	21.319	0.00143	0.00093	0.00129
____ CR	0.00156	5.43	46.220	0.00233	0.00090	0.00145
____ CU	0.00898	-72.97	73.401	0.00959	0.00211	0.01525
____ FE	3.14643	175.85	0.854	3.11686	3.15305	3.16939
____ K	0.91780	376.29	5.811	0.95124	0.94587	0.85629
____ LI	-0.01793	-108.03	15.974	-0.01464	-0.01989	-0.01926
____ MG	3.26784	1,225.32	1.192	3.31278	3.24383	3.24691
____ MN	0.33281	37,207.95	1.497	0.32784	0.33277	0.33781
____ MO	0.00030	-2.13	77.970	0.00038	0.00004	0.00048
____ NA	18.43156	13,250.17	0.692	18.55423	18.29973	18.44073
____ NI	0.00085	14.98	104.256	0.00055	0.00185	0.00015
____ P	0.01242	7.96	24.028	0.01050	0.01586	0.01090
____ PB	0.00278	-1.04	46.676	0.00330	0.00130	0.00373
____ S	1.69933	438.61	1.356	1.72524	1.69159	1.68116
____ SB	0.00557	-1.25	22.367	0.00503	0.00699	0.00468
____ SE	-0.00217	1.44	75.994	-0.00297	-0.00027	-0.00327
____ SI	1.61956	61.47	3.087	1.61667	1.67095	1.57107
____ SN	0.00128	6.66	108.589	0.00138	-0.00016	0.00262
____ SR	0.06277	66,078.86	1.347	0.06193	0.06274	0.06362
____ TH	-0.11728	-0.60	223.210	-0.12923	0.15027	-0.37286
____ TI	0.00351	304.17	9.655	0.00344	0.00321	0.00387
____ TL	-0.00106	1.09	144.097	-0.00283	-0.00020	-0.00016
____ V	0.00081	27.34	42.305	0.00120	0.00066	0.00057
____ W	-0.00053	6.08	175.138	0.00052	-0.00087	-0.00122
____ Y1	12354.23898	12,354.24	0.371	12321.15204	12334.99550	12406.56940
____ Y2A	275516.46773	275,516.47	1.393	279607.50995	274943.55106	271998.34218
____ Y2R	4190.08183	4,190.08	0.097	4188.91165	4194.61930	4186.71454
____ ZN	0.00630	79.67	2.653	0.00649	0.00621	0.00619
____ ZR	0.00635	13.98	266.984	-0.00059	-0.00603	0.02569

LANCASTER LABORATORIES

Run Name: 1810602T72 Instrument ID: 16417

Tube: 20 Date/Time: 04/16/2018 05:03

Sample Number: **9547585** Class: **** Batch: 181000184801

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00187	-34.35	73.518	-0.00198	-0.00044	-0.00317
____ AL	0.11527	20.96	119.640	0.03481	0.27452	0.03650
____ AS	-0.00056	2.04	232.457	-0.00206	0.00015	0.00023
____ B	6.60189	76,210.62	1.460	6.68415	6.49588	6.62565
____ BA	0.01429	11,917.36	0.545	0.01427	0.01437	0.01422
____ BE	0.00078	-378.95	1.188	0.00077	0.00077	0.00079
____ CA	14.33683	3,581.89	0.460	14.26754	14.39887	14.34408
____ CD	0.00011	-2.75	114.633	-0.00001	0.00024	0.00010
____ CO	0.00023	13.36	87.003	0.00005	0.00045	0.00019
____ CR	0.00139	2.98	23.510	0.00101	0.00157	0.00159
____ CU	0.01238	-35.59	19.968	0.01060	0.01133	0.01520
____ FE	0.06475	3.21	19.955	0.07317	0.04987	0.07121
____ K	6.20087	1,817.29	1.431	6.11636	6.29329	6.19295
____ LI	-0.01525	-93.92	32.997	-0.02099	-0.01318	-0.01159
____ MG	4.59152	1,690.18	0.444	4.58601	4.57447	4.61407
____ MN	0.01106	1,270.61	1.483	0.01107	0.01122	0.01089
____ MO	0.01129	41.64	2.316	0.01113	0.01159	0.01115
____ NA	130.62818	93,969.74	0.249	130.34046	130.98079	130.56328
____ NI	0.00221	20.50	23.785	0.00164	0.00267	0.00233
____ P	0.04524	27.07	3.297	0.04352	0.04619	0.04599
____ PB	0.00447	-0.68	48.841	0.00195	0.00559	0.00586
____ S	14.55544	3,658.41	0.454	14.57385	14.48215	14.61031
____ SB	0.00692	-0.16	24.652	0.00841	0.00729	0.00506
____ SE	-0.00559	0.09	17.266	-0.00603	-0.00448	-0.00625
____ SI	2.55859	95.35	1.637	2.51049	2.57832	2.58696
____ SN	0.00244	7.86	41.569	0.00325	0.00275	0.00130
____ SR	0.12032	121,846.21	1.255	0.12175	0.11874	0.12047
____ TH	-0.14836	-1.26	56.183	-0.11550	-0.08644	-0.24314
____ TI	0.00035	70.86	49.481	0.00052	0.00017	0.00037
____ TL	0.00002	2.06	3127.327	-0.00057	0.00052	0.00011
____ V	0.00017	7.69	102.736	0.00038	0.00008	0.00006
____ W	-0.00080	5.70	63.153	-0.00115	-0.00022	-0.00102
____ Y1	12157.95756	12,157.96	0.231	12176.36727	12171.83625	12125.66917
____ Y2A	266171.39147	266,171.39	1.391	262427.22149	269831.73077	266255.22215
____ Y2R	4111.91889	4,111.92	0.712	4140.54068	4113.19486	4082.02113
____ ZN	0.01643	185.45	0.508	0.01649	0.01634	0.01647
____ ZR	0.01070	15.58	67.942	0.00874	0.00461	0.01874

LANCASTER LABORATORIES

Run Name: 1810602T72 Instrument ID: 16417

Tube: 21 Date/Time: 04/16/2018 05:06

Sample Number: **9548797** Class: **** Batch: 181000184801

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00022	-42.88	900.637	-0.00160	0.00204	-0.00109
____ AL	7.09960	219.92	2.102	7.13499	7.22794	6.93586
____ AS	0.00100	0.85	138.458	0.00205	0.00152	-0.00057
____ B	0.07724	1,528.86	5.467	0.07778	0.07278	0.08118
____ BA	0.29391	245,264.21	2.420	0.29399	0.28676	0.30098
____ BE	0.00106	-198.27	1.201	0.00108	0.00106	0.00105
____ CA	51.77167	13,176.26	1.349	52.08020	52.26249	50.97232
____ CD	0.00001	13.37	788.776	-0.00005	0.00010	-0.00002
____ CO	0.00529	55.06	4.460	0.00546	0.00539	0.00502
____ CR	0.00949	111.43	4.704	0.00939	0.00910	0.00998
____ CU	0.01664	55.45	13.637	0.01886	0.01433	0.01673
____ FE	20.86539	1,163.64	1.236	20.99677	21.03123	20.56818
____ K	5.15876	1,565.74	2.355	5.22872	5.22907	5.01850
____ LI	-0.01664	-99.14	27.847	-0.02012	-0.01138	-0.01841
____ MG	16.88985	6,352.06	1.049	16.99606	16.98821	16.68527
____ MN	1.70297	185,328.68	2.509	1.70031	1.66163	1.74695
____ MO	0.00074	-0.34	40.678	0.00106	0.00046	0.00070
____ NA	102.85317	75,574.04	1.272	103.47763	103.73207	101.34983
____ NI	0.00591	31.92	10.626	0.00593	0.00527	0.00652
____ P	0.09574	56.51	1.250	0.09679	0.09600	0.09443
____ PB	0.00698	18.06	9.482	0.00704	0.00761	0.00629
____ S	8.86518	2,223.33	0.641	8.92731	8.81574	8.85249
____ SB	0.00505	-1.71	40.857	0.00410	0.00364	0.00742
____ SE	0.00252	3.27	50.691	0.00220	0.00143	0.00392
____ SI	15.15626	578.06	1.672	15.22599	15.36753	14.87528
____ SN	0.00237	7.76	22.263	0.00198	0.00216	0.00297
____ SR	0.33928	350,532.75	2.038	0.33881	0.33261	0.34641
____ TH	-0.09289	0.16	116.103	-0.18969	0.02336	-0.11235
____ TI	0.13040	9,348.55	2.665	0.13034	0.12695	0.13390
____ TL	0.00168	3.09	50.593	0.00097	0.00262	0.00144
____ V	0.00921	216.55	1.804	0.00908	0.00916	0.00940
____ W	-0.00105	5.31	37.664	-0.00084	-0.00150	-0.00080
____ Y1	12120.32669	12,120.33	0.057	12127.84094	12114.30654	12118.83258
____ Y2A	268739.92099	268,739.92	2.672	270939.57228	274562.66578	260717.52492
____ Y2R	4203.97182	4,203.97	1.116	4174.31582	4179.52870	4258.07094
____ ZN	0.03168	371.77	1.428	0.03215	0.03124	0.03164
____ ZR	0.01201	18.75	35.366	0.01573	0.01293	0.00738

LANCASTER LABORATORIES

Run Name: 1810602T72

Instrument ID: 16417

Tube: 22

Date/Time: 04/16/2018 05:09

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.50196	10,556.55	0.818	0.49763	0.50581	0.50244
____ AL	24.58743	704.97	1.273	24.73992	24.79503	24.22734
____ AS	0.50640	252.49	1.184	0.51330	0.50339	0.50251
____ B	0.46063	6,085.20	1.311	0.45377	0.46515	0.46297
____ BA	0.51052	427,612.50	1.661	0.50443	0.52020	0.50692
____ BE	0.48062	328,158.90	0.199	0.48063	0.47966	0.48157
____ CA	24.28802	6,079.66	1.351	24.18986	24.65415	24.02005
____ CD	0.50340	8,931.35	1.079	0.50894	0.49808	0.50318
____ CO	0.50299	4,023.36	1.275	0.51010	0.49764	0.50122
____ CR	0.49255	6,611.42	0.754	0.48909	0.49647	0.49207
____ CU	0.50641	7,467.67	0.375	0.50422	0.50763	0.50739
____ FE	24.16544	1,321.31	0.470	24.28372	24.15556	24.05705
____ K	24.35672	6,818.02	0.959	24.41671	24.55457	24.09887
____ LI	0.49954	2,364.98	0.730	0.50110	0.50215	0.49537
____ MG	24.49413	9,034.87	0.390	24.49055	24.59139	24.40044
____ MN	0.50094	54,788.58	0.889	0.49649	0.50540	0.50093
____ MO	0.50147	1,958.35	1.349	0.50849	0.49499	0.50092
____ NA	24.62070	17,531.86	0.376	24.52853	24.71385	24.61973
____ NI	0.50410	1,946.32	1.329	0.51117	0.49783	0.50331
____ P	0.49967	288.61	1.825	0.50989	0.49238	0.49673
____ PB	0.50089	750.07	0.362	0.50269	0.49907	0.50092
____ S	24.09182	5,947.54	1.155	24.34153	23.79179	24.14213
____ SB	0.49892	402.46	1.842	0.50884	0.49069	0.49724
____ SE	0.49756	191.26	1.891	0.50421	0.48679	0.50167
____ SI	24.53962	920.43	1.046	24.51401	24.80820	24.29667
____ SN	0.49316	553.91	0.785	0.49735	0.48971	0.49240
____ SR	0.50678	524,791.61	0.854	0.50569	0.51154	0.50310
____ TH	0.54075	13.24	25.411	0.42379	0.69208	0.50637
____ TI	0.50616	36,297.54	0.929	0.50143	0.51084	0.50620
____ TL	0.50357	475.16	1.450	0.51174	0.49768	0.50129
____ V	0.50159	10,804.72	0.677	0.49818	0.50497	0.50162
____ W	0.51051	901.40	1.788	0.52105	0.50509	0.50539
____ Y1	11955.67673	11,955.68	1.012	11875.21262	12094.80379	11897.01379
____ Y2A	269701.44143	269,701.44	0.743	271859.66512	267898.67110	269345.98806
____ Y2R	4126.63492	4,126.63	0.310	4133.14568	4111.91165	4134.84743
____ ZN	0.50196	5,430.58	1.107	0.50812	0.49732	0.50045
____ ZR	0.48022	356.52	1.074	0.48617	0.47736	0.47711

LANCASTER LABORATORIES

Run Name: 1810602T72

Instrument ID: 16417

Tube: 23

Date/Time: 04/16/2018 05:13

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00044	-40.63	745.008	0.00100	-0.00420	0.00187
____ AL	0.08471	20.33	176.536	0.19640	0.14292	-0.08519
____ AS	0.00044	2.45	933.014	0.00464	-0.00346	0.00012
____ B	0.00482	55.13	12.017	0.00470	0.00431	0.00545
____ BA	0.00016	241.20	7.410	0.00017	0.00016	0.00015
____ BE	0.00074	-405.75	2.276	0.00073	0.00076	0.00073
____ CA	-0.01750	-0.23	60.373	-0.02969	-0.01089	-0.01193
____ CD	-0.00004	-5.35	245.557	-0.00015	0.00000	0.00003
____ CO	-0.00007	10.89	249.105	0.00004	0.00002	-0.00027
____ CR	0.00072	-5.92	44.677	0.00101	0.00078	0.00038
____ CU	0.00473	-109.85	94.504	0.00231	0.00989	0.00199
____ FE	0.00431	-0.12	95.201	0.00006	0.00824	0.00460
____ K	0.07319	137.52	98.748	0.15575	0.02137	0.04245
____ LI	-0.02000	-116.13	16.918	-0.01649	-0.02027	-0.02324
____ MG	0.00254	-1.45	82.776	0.00036	0.00270	0.00456
____ MN	-0.00026	50.00	21.853	-0.00031	-0.00028	-0.00020
____ MO	0.00021	-2.39	105.024	-0.00004	0.00038	0.00028
____ NA	-0.11409	-379.77	26.150	-0.09439	-0.09946	-0.14841
____ NI	0.00088	14.85	61.542	0.00149	0.00068	0.00047
____ P	0.00189	1.61	13.196	0.00172	0.00218	0.00177
____ PB	0.00394	-1.45	32.181	0.00540	0.00325	0.00317
____ S	0.00057	5.13	1185.066	0.00828	-0.00436	-0.00221
____ SB	0.00359	-2.78	68.232	0.00470	0.00529	0.00078
____ SE	0.00265	3.14	232.082	0.00441	-0.00419	0.00774
____ SI	0.04086	1.42	46.672	0.02005	0.05750	0.04502
____ SN	0.00037	5.36	322.023	-0.00029	-0.00034	0.00173
____ SR	0.00019	-175.64	1.803	0.00019	0.00020	0.00019
____ TH	-0.05144	0.70	377.512	0.05773	-0.27564	0.06360
____ TI	-0.00013	36.95	117.697	-0.00013	0.00002	-0.00028
____ TL	-0.00022	1.88	610.816	0.00125	-0.00132	-0.00059
____ V	-0.00004	9.37	634.479	0.00018	-0.00029	-0.00001
____ W	0.00016	6.92	115.396	0.00001	0.00037	0.00011
____ Y1	11821.30938	11,821.31	0.984	11739.60467	11954.48537	11769.83810
____ Y2A	266704.21172	266,704.21	1.033	269853.61406	265516.08090	264742.94020
____ Y2R	4105.06667	4,105.07	0.681	4104.47500	4133.30000	4077.42500
____ ZN	0.00065	13.40	41.029	0.00053	0.00096	0.00047
____ ZR	0.00022	11.80	2350.912	-0.00034	0.00560	-0.00460

LANCASTER LABORATORIES

Run Name: 1810602T72 Instrument ID: 16417

Tube: 24 Date/Time: 04/16/2018 05:16

Sample Number: **9548799** Class: **** Batch: 181000184801

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00144	-44.77	137.226	-0.00371	-0.00046	-0.00015
____ AL	0.20033	24.20	26.220	0.25059	0.20458	0.14580
____ AS	0.00006	2.38	2116.275	-0.00119	0.00144	-0.00005
____ B	0.00450	54.60	2.917	0.00444	0.00464	0.00440
____ BA	0.00205	1,899.83	2.278	0.00209	0.00206	0.00200
____ BE	0.00075	-416.22	0.862	0.00076	0.00076	0.00075
____ CA	0.02772	11.62	36.795	0.01658	0.03660	0.03000
____ CD	0.00015	-2.16	32.554	0.00020	0.00010	0.00014
____ CO	-0.00006	11.46	260.644	-0.00001	-0.00023	0.00006
____ CR	0.00173	7.80	8.743	0.00186	0.00176	0.00156
____ CU	0.00743	-95.52	47.807	0.01146	0.00604	0.00478
____ FE	0.01658	0.58	217.838	0.04998	0.02153	-0.02176
____ K	0.00463	122.73	1629.794	-0.08235	0.04289	0.05336
____ LI	-0.02369	-138.35	11.436	-0.02682	-0.02217	-0.02208
____ MG	0.00870	0.85	35.577	0.00881	0.00555	0.01173
____ MN	0.00026	111.80	15.292	0.00022	0.00025	0.00030
____ MO	-0.00032	-4.62	50.008	-0.00020	-0.00026	-0.00050
____ NA	0.05177	-269.22	36.991	0.07314	0.03616	0.04602
____ NI	0.00084	15.35	38.193	0.00114	0.00050	0.00086
____ P	0.00178	1.61	73.445	0.00241	0.00028	0.00264
____ PB	0.00288	-3.11	46.324	0.00379	0.00135	0.00350
____ S	0.00140	5.58	135.077	0.00159	-0.00058	0.00318
____ SB	0.00419	-2.39	38.602	0.00267	0.00589	0.00401
____ SE	0.00127	2.76	274.948	0.00496	0.00087	-0.00201
____ SI	0.12869	4.86	51.487	0.20485	0.09697	0.08425
____ SN	-0.00072	4.35	122.606	-0.00002	-0.00043	-0.00171
____ SR	0.00075	416.70	2.429	0.00076	0.00073	0.00076
____ TH	-0.10385	-0.38	129.099	-0.25239	-0.06736	0.00820
____ TI	0.00003	50.58	361.635	0.00013	0.00000	-0.00005
____ TL	0.00057	2.74	56.771	0.00092	0.00053	0.00027
____ V	0.00025	14.84	71.680	0.00034	0.00037	0.00004
____ W	-0.00104	5.08	49.135	-0.00108	-0.00153	-0.00051
____ Y1	12342.24364	12,342.24	0.565	12300.38135	12422.71139	12303.63818
____ Y2A	281027.90672	281,027.91	0.363	281637.84814	281595.32493	279850.54708
____ Y2R	4246.24167	4,246.24	0.968	4290.07500	4208.55000	4240.10000
____ ZN	0.00146	22.95	12.104	0.00165	0.00130	0.00143
____ ZR	0.00242	11.90	188.366	0.00763	-0.00087	0.00051

LANCASTER LABORATORIES

Run Name: 1810602T72 Instrument ID: 16417

Tube: 25 Date/Time: 04/16/2018 05:19

Sample Number: **9549155** Class: **** Batch: 181000184801

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00028	-43.15	164.050	0.00029	0.00073	-0.00018
____ AL	1.99504	75.84	1.244	2.01926	1.99620	1.96967
____ AS	0.00225	3.21	119.402	0.00536	0.00066	0.00074
____ B	0.07077	940.91	1.883	0.07229	0.06984	0.07016
____ BA	0.02040	17,761.33	2.118	0.02065	0.02063	0.01990
____ BE	0.00078	-401.75	2.169	0.00078	0.00080	0.00077
____ CA	36.82286	9,464.58	1.548	37.18773	37.11486	36.16599
____ CD	0.00026	2.17	55.752	0.00030	0.00010	0.00037
____ CO	0.00147	24.53	15.047	0.00167	0.00123	0.00153
____ CR	0.00591	65.85	7.292	0.00604	0.00626	0.00543
____ CU	0.02383	186.58	8.411	0.02388	0.02180	0.02581
____ FE	2.75164	155.59	2.929	2.77500	2.81797	2.66196
____ K	1.83012	638.73	4.624	1.73344	1.89075	1.86617
____ LI	-0.01550	-97.61	27.386	-0.01205	-0.01422	-0.02024
____ MG	6.59724	2,504.85	1.118	6.61592	6.65989	6.51592
____ MN	0.07566	8,620.33	2.022	0.07647	0.07660	0.07389
____ MO	0.00184	4.04	23.751	0.00212	0.00133	0.00206
____ NA	19.28955	14,047.88	1.214	19.36798	19.47450	19.02616
____ NI	0.00580	34.30	9.575	0.00620	0.00603	0.00516
____ P	0.07889	47.04	2.623	0.08093	0.07895	0.07679
____ PB	0.01310	14.40	12.709	0.01329	0.01467	0.01135
____ S	22.48937	5,677.46	0.638	22.63671	22.48148	22.34991
____ SB	0.00476	-1.91	20.756	0.00371	0.00491	0.00567
____ SE	0.00455	4.00	71.019	0.00223	0.00318	0.00825
____ SI	6.77426	260.60	1.102	6.80421	6.82930	6.68928
____ SN	0.00246	7.92	19.126	0.00282	0.00264	0.00193
____ SR	0.17106	181,978.54	1.882	0.17326	0.17257	0.16737
____ TH	-0.01163	1.62	466.173	0.01824	0.02108	-0.07421
____ TI	0.08233	6,141.16	2.265	0.08388	0.08284	0.08026
____ TL	0.00117	2.99	59.606	0.00172	0.00039	0.00140
____ V	0.00703	171.39	1.333	0.00712	0.00703	0.00693
____ W	-0.00079	6.14	36.820	-0.00059	-0.00112	-0.00065
____ Y1	12217.59729	12,217.60	0.109	12204.47708	12217.09751	12231.21727
____ Y2A	278752.68015	278,752.68	1.655	275166.77719	277133.53780	283957.72546
____ Y2R	4240.70632	4,240.71	0.853	4233.27834	4208.83263	4280.00799
____ ZN	0.03902	436.16	1.083	0.03951	0.03877	0.03879
____ ZR	0.00714	18.40	79.735	0.00068	0.01143	0.00930

LANCASTER LABORATORIES

Run Name: 1810602T72 Instrument ID: 16417

Tube: 26 Date/Time: 04/16/2018 05:23

Sample Number: **9549156** Class: **** Batch: 181000184801

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00062	-43.59	100.911	-0.00002	-0.00057	-0.00127
____ AL	0.27796	26.31	29.040	0.19090	0.29267	0.35032
____ AS	0.00025	2.39	940.515	0.00296	-0.00151	-0.00069
____ B	0.02997	358.72	2.261	0.03023	0.02920	0.03047
____ BA	0.03722	31,875.36	0.695	0.03732	0.03693	0.03741
____ BE	0.00072	-433.31	5.360	0.00067	0.00075	0.00073
____ CA	101.51421	25,764.81	0.482	101.42323	102.04277	101.07664
____ CD	0.00005	-3.84	152.195	-0.00003	0.00005	0.00011
____ CO	0.00013	11.31	263.140	0.00046	0.00018	-0.00024
____ CR	0.00157	5.49	21.676	0.00159	0.00122	0.00191
____ CU	0.00992	-36.84	9.135	0.00953	0.01096	0.00928
____ FE	0.07303	3.75	44.358	0.04358	0.06778	0.10772
____ K	1.71348	601.00	2.595	1.72577	1.66417	1.75051
____ LI	0.00271	-8.62	95.673	0.00496	-0.00012	0.00329
____ MG	24.55241	9,233.23	0.568	24.41489	24.69378	24.54856
____ MN	0.05874	6,618.79	0.800	0.05916	0.05824	0.05883
____ MO	-0.00045	-4.97	57.426	-0.00031	-0.00029	-0.00074
____ NA	86.65880	63,681.92	0.676	86.23565	87.32767	86.41307
____ NI	0.00368	25.75	4.190	0.00383	0.00352	0.00370
____ P	0.07751	45.12	2.147	0.07866	0.07560	0.07828
____ PB	0.00311	-2.63	53.312	0.00233	0.00501	0.00199
____ S	78.45636	19,320.99	0.746	79.00511	78.52314	77.84082
____ SB	0.00156	-4.47	116.479	0.00365	0.00038	0.00065
____ SE	-0.00015	2.13	2855.192	-0.00396	0.00450	-0.00099
____ SI	12.04192	459.60	0.937	12.03925	12.15602	11.93048
____ SN	0.00027	5.30	24.140	0.00021	0.00026	0.00034
____ SR	0.26727	279,964.23	0.696	0.26828	0.26512	0.26840
____ TH	-0.05476	0.67	61.784	-0.03186	-0.09361	-0.03880
____ TI	0.00187	183.97	6.542	0.00194	0.00173	0.00194
____ TL	0.00243	3.86	83.395	0.00177	0.00081	0.00469
____ V	0.00031	17.49	60.034	0.00052	0.00014	0.00028
____ W	-0.00075	5.23	141.725	-0.00198	-0.00023	-0.00005
____ Y1	11925.80125	11,925.80	0.444	11973.80462	11869.09472	11934.50440
____ Y2A	274838.84550	274,838.85	0.637	274519.64523	276726.21021	273270.68106
____ Y2R	4207.26563	4,207.27	0.286	4220.11087	4196.23602	4205.45000
____ ZN	0.00424	52.09	1.587	0.00427	0.00429	0.00417
____ ZR	0.00620	16.12	84.712	0.01186	0.00149	0.00524

LANCASTER LABORATORIES

Run Name: 1810602T72 Instrument ID: 16417

Tube: 27 Date/Time: 04/16/2018 05:26

Sample Number: **9549157** Class: **** Batch: 181000184801

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00088	-36.91	254.578	-0.00168	0.00191	0.00240
____ AL	1.83952	69.62	6.453	1.83667	1.95962	1.72226
____ AS	0.00196	2.86	170.568	-0.00042	0.00577	0.00052
____ B	3.00833	33,920.28	3.209	2.92976	3.11608	2.97916
____ BA	0.08008	64,558.68	2.703	0.07839	0.08252	0.07933
____ BE	0.00073	-403.06	5.016	0.00076	0.00069	0.00074
____ CA	81.39921	20,322.66	0.206	81.59287	81.30204	81.30274
____ CD	0.00021	1.81	48.618	0.00032	0.00014	0.00015
____ CO	0.00077	16.52	10.023	0.00069	0.00078	0.00084
____ CR	0.00446	42.39	16.382	0.00362	0.00494	0.00482
____ CU	0.01715	91.95	18.288	0.02064	0.01625	0.01456
____ FE	3.47090	191.34	0.807	3.47837	3.43990	3.49444
____ K	4.67431	1,405.97	0.517	4.65374	4.66829	4.70090
____ LI	-0.01608	-97.64	28.347	-0.01278	-0.02128	-0.01418
____ MG	21.61716	7,988.29	0.043	21.61823	21.62587	21.60738
____ MN	0.20107	21,181.98	2.801	0.19664	0.20741	0.19916
____ MO	0.00190	4.11	13.615	0.00196	0.00213	0.00162
____ NA	427.64131	309,872.29	1.389	433.18323	421.37162	428.36909
____ NI	0.00395	25.67	18.131	0.00475	0.00370	0.00339
____ P	0.03083	17.84	11.331	0.03311	0.03256	0.02681
____ PB	0.00591	3.83	13.710	0.00682	0.00561	0.00528
____ S	37.51585	9,026.52	1.175	38.02246	37.30435	37.22076
____ SB	0.00416	-2.31	14.258	0.00380	0.00484	0.00383
____ SE	-0.00050	1.97	750.442	-0.00429	0.00321	-0.00042
____ SI	10.71789	401.82	0.921	10.82733	10.63565	10.69068
____ SN	0.00142	6.42	33.849	0.00162	0.00087	0.00176
____ SR	0.38110	377,137.19	2.790	0.37304	0.39315	0.37711
____ TH	0.00901	2.01	1789.908	-0.16857	0.04939	0.14620
____ TI	0.02541	1,793.65	3.618	0.02493	0.02647	0.02483
____ TL	0.00065	2.21	295.468	0.00177	-0.00157	0.00175
____ V	0.00400	96.38	9.932	0.00434	0.00357	0.00410
____ W	-0.00087	5.15	89.066	-0.00174	-0.00024	-0.00063
____ Y1	11649.19307	11,649.19	0.750	11550.38896	11681.20504	11715.98521
____ Y2A	259349.60949	259,349.61	2.976	265204.06977	250603.83598	262240.92272
____ Y2R	4132.69799	4,132.70	0.230	4143.07470	4130.66707	4124.35220
____ ZN	0.01439	159.95	2.345	0.01476	0.01410	0.01430
____ ZR	0.00153	14.85	913.625	0.01721	-0.00954	-0.00308

LANCASTER LABORATORIES

Run Name: 1810602T72 Instrument ID: 16417

Tube: 28 Date/Time: 04/16/2018 05:29

Sample Number: **9549158** Class: **** Batch: 181000184801

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00141	-46.58	120.982	-0.00041	-0.00337	-0.00044
____ AL	0.03560	19.68	72.458	0.01280	0.03040	0.06360
____ AS	-0.00020	2.24	307.979	-0.00091	0.00012	0.00019
____ B	0.00655	79.98	11.751	0.00621	0.00743	0.00601
____ BA	0.00046	512.85	0.756	0.00045	0.00046	0.00045
____ BE	0.00075	-418.05	1.871	0.00075	0.00074	0.00077
____ CA	0.04284	15.65	31.634	0.04231	0.02956	0.05665
____ CD	0.00003	-4.35	617.948	-0.00014	0.00020	0.00002
____ CO	-0.00032	9.28	141.106	0.00001	-0.00083	-0.00014
____ CR	0.00161	6.18	15.263	0.00154	0.00141	0.00188
____ CU	0.01152	-29.02	28.715	0.00899	0.01527	0.01030
____ FE	0.01507	0.50	195.229	0.00817	-0.01028	0.04732
____ K	0.04176	134.70	127.605	0.10295	0.01673	0.00560
____ LI	-0.01792	-111.05	21.868	-0.01659	-0.01483	-0.02233
____ MG	0.01244	2.28	39.196	0.01022	0.01803	0.00907
____ MN	0.00043	132.10	8.209	0.00046	0.00039	0.00044
____ MO	-0.00003	-3.45	1257.266	-0.00051	0.00015	0.00027
____ NA	0.25363	-120.02	12.005	0.27558	0.26645	0.21887
____ NI	0.00144	17.69	57.606	0.00219	0.00160	0.00055
____ P	0.00387	2.85	33.726	0.00382	0.00259	0.00520
____ PB	0.00380	-1.71	66.754	0.00442	0.00101	0.00597
____ S	0.01869	9.94	18.620	0.01616	0.01726	0.02266
____ SB	0.00396	-2.58	64.182	0.00610	0.00115	0.00464
____ SE	-0.00120	1.79	394.678	-0.00215	0.00394	-0.00540
____ SI	0.09248	3.49	43.726	0.12947	0.09865	0.04931
____ SN	0.00148	6.85	66.139	0.00208	0.00200	0.00035
____ SR	0.00031	-53.31	8.916	0.00032	0.00034	0.00028
____ TH	-0.09420	-0.15	137.728	0.00875	-0.23993	-0.05142
____ TI	-0.00003	47.05	503.301	0.00002	0.00008	-0.00017
____ TL	-0.00024	1.94	327.286	-0.00005	0.00044	-0.00112
____ V	0.00015	12.78	146.754	-0.00009	0.00034	0.00019
____ W	-0.00038	6.27	149.848	-0.00104	-0.00002	-0.00008
____ Y1	12294.26075	12,294.26	0.199	12266.32957	12304.94360	12311.50909
____ Y2A	282387.79288	282,387.79	1.339	284718.99867	284418.60080	278025.77918
____ Y2R	4286.80833	4,286.81	0.888	4319.95000	4245.25000	4295.22500
____ ZN	0.00279	37.54	2.694	0.00284	0.00270	0.00282
____ ZR	0.01339	20.08	41.949	0.01734	0.01585	0.00696

LANCASTER LABORATORIES

Run Name: 1810602T72

Instrument ID: 16417

Tube: 29

Date/Time: 04/16/2018 05:33

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00599	-12.80	36.519	0.00851	0.00484	0.00461
____ AL	0.10059	21.72	60.475	0.09206	0.16524	0.04448
____ AS	0.02208	13.35	7.279	0.02110	0.02393	0.02120
____ B	0.05046	599.03	0.259	0.05050	0.05056	0.05031
____ BA	0.00520	4,499.19	0.710	0.00524	0.00520	0.00517
____ BE	0.00569	3,000.60	0.732	0.00573	0.00569	0.00565
____ CA	0.19415	51.62	8.746	0.20917	0.17573	0.19754
____ CD	0.00544	92.47	1.955	0.00544	0.00554	0.00533
____ CO	0.00519	53.47	1.938	0.00522	0.00507	0.00526
____ CR	0.01569	196.77	1.028	0.01561	0.01587	0.01558
____ CU	0.01301	132.52	30.969	0.00968	0.01186	0.01749
____ FE	0.19247	10.28	13.065	0.17030	0.21979	0.18731
____ K	0.53544	265.53	16.595	0.61388	0.55348	0.43895
____ LI	0.00273	-8.38	206.577	0.00584	-0.00378	0.00612
____ MG	0.10653	37.07	4.284	0.10954	0.10128	0.10876
____ MN	0.00503	632.86	2.134	0.00506	0.00511	0.00491
____ MO	0.00998	36.10	1.913	0.00986	0.00988	0.01020
____ NA	0.95900	395.72	5.125	0.95378	0.91268	1.01055
____ NI	0.01139	55.86	4.264	0.01148	0.01086	0.01182
____ P	0.10275	60.27	0.958	0.10249	0.10383	0.10191
____ PB	0.01879	20.76	9.441	0.01776	0.01776	0.02083
____ S	0.49778	128.89	1.913	0.50847	0.49463	0.49023
____ SB	0.02429	14.32	4.534	0.02409	0.02329	0.02547
____ SE	0.01900	9.45	5.806	0.01962	0.01773	0.01966
____ SI	0.08458	3.10	34.881	0.05200	0.10949	0.09224
____ SN	0.02062	28.19	1.196	0.02070	0.02034	0.02082
____ SR	0.00542	5,268.50	0.645	0.00546	0.00540	0.00540
____ TH	0.26430	7.22	41.101	0.38008	0.24823	0.16461
____ TI	0.00991	762.11	2.622	0.01021	0.00972	0.00981
____ TL	0.03124	31.70	0.674	0.03135	0.03099	0.03137
____ V	0.00482	123.22	8.064	0.00512	0.00438	0.00497
____ W	0.00914	23.14	5.597	0.00862	0.00914	0.00964
____ Y1	12052.73708	12,052.74	0.354	12055.73099	12008.69991	12093.78035
____ Y2A	271640.25199	271,640.25	0.684	269518.48475	272433.93568	272968.33554
____ Y2R	4129.99167	4,129.99	0.582	4104.52500	4133.17500	4152.27500
____ ZN	0.02042	227.44	2.152	0.02084	0.02046	0.01996
____ ZR	0.04482	52.87	14.325	0.03913	0.04356	0.05178

LANCASTER LABORATORIES

Run Name: 1810602T72

Instrument ID: 16417

Tube: 30

Date/Time: 04/16/2018 05:36

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00238	-59.78	150.699	-0.00106	0.00609	0.00211
____ AL	504.70920	12,934.23	0.399	503.96292	506.99221	503.17248
____ AS	0.00530	-12.34	30.395	0.00348	0.00590	0.00653
____ B	-0.19885	3,341.77	0.803	-0.19982	-0.19700	-0.19971
____ BA	0.00082	714.98	6.051	0.00085	0.00084	0.00076
____ BE	0.00063	-434.67	2.573	0.00062	0.00062	0.00065
____ CA	490.63735	111,064.55	0.814	492.92123	492.96643	486.02440
____ CD	-0.00104	133.13	34.069	-0.00110	-0.00066	-0.00136
____ CO	0.00008	11.05	55.735	0.00011	0.00003	0.00008
____ CR	-0.00013	-15.77	263.731	0.00018	-0.00048	-0.00008
____ CU	0.00815	153.87	51.826	0.01094	0.00329	0.01021
____ FE	199.06034	9,461.90	0.270	199.19689	199.51559	198.46853
____ K	0.09237	134.11	32.944	0.05998	0.09677	0.12035
____ LI	-0.02253	-89.32	10.543	-0.02025	-0.02499	-0.02235
____ MG	475.04059	153,848.26	0.629	475.63865	477.68638	471.79673
____ MN	0.00435	500.67	0.836	0.00437	0.00437	0.00431
____ MO	-0.00306	-13.85	12.030	-0.00345	-0.00272	-0.00301
____ NA	0.04313	-250.39	50.428	0.06691	0.02426	0.03821
____ NI	0.00277	-4.77	44.879	0.00137	0.00321	0.00374
____ P	0.01646	9.14	9.021	0.01494	0.01791	0.01654
____ PB	0.00887	160.76	36.420	0.01260	0.00692	0.00709
____ S	0.09876	26.79	6.140	0.10465	0.09254	0.09910
____ SB	0.00087	-5.40	48.266	0.00071	0.00134	0.00055
____ SE	-0.00305	1.78	216.899	-0.00917	-0.00395	0.00397
____ SI	0.06160	2.07	16.419	0.05799	0.07303	0.05379
____ SN	0.00955	14.26	26.092	0.00960	0.00703	0.01201
____ SR	-0.00123	24,872.77	12.040	-0.00107	-0.00136	-0.00124
____ TH	0.08463	5.91	171.270	-0.03524	0.24571	0.04341
____ TI	-0.00321	-165.21	8.134	-0.00292	-0.00327	-0.00343
____ TL	0.00554	6.66	7.168	0.00520	0.00597	0.00543
____ V	-0.00099	49.16	41.473	-0.00053	-0.00131	-0.00113
____ W	0.00611	15.66	20.680	0.00754	0.00516	0.00563
____ Y1	10895.80531	10,895.81	0.314	10889.58250	10865.07997	10932.75345
____ Y2A	243407.43496	243,407.43	0.595	241735.36706	244187.25198	244299.68585
____ Y2R	3857.91170	3,857.91	1.517	3925.13983	3818.21136	3830.38392
____ ZN	-0.00498	143.11	7.226	-0.00487	-0.00469	-0.00538
____ ZR	0.01081	22.17	94.919	0.02130	0.00078	0.01036

LANCASTER LABORATORIES

Run Name: 1810602T72

Instrument ID: 16417

Tube: 31

Date/Time: 04/16/2018 05:39

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.21765	4,100.86	1.316	0.21773	0.22046	0.21474
____ AL	503.84449	12,748.27	0.520	503.94847	506.40893	501.17605
____ AS	0.10199	31.88	2.735	0.09937	0.10493	0.10167
____ B	-0.18648	3,363.33	1.312	-0.18378	-0.18710	-0.18856
____ BA	0.51589	384,002.99	1.177	0.51482	0.52243	0.51043
____ BE	0.50158	304,388.35	0.727	0.50542	0.50115	0.49816
____ CA	492.94961	110,149.54	0.389	493.48306	494.54479	490.82097
____ CD	0.91478	15,032.49	1.390	0.92944	0.90821	0.90668
____ CO	0.46480	3,410.93	1.474	0.47270	0.46059	0.46109
____ CR	0.48503	5,785.02	1.692	0.48499	0.49326	0.47684
____ CU	0.53534	6,981.26	0.819	0.53662	0.53894	0.53046
____ FE	197.00448	9,253.35	1.157	197.81402	198.76812	194.43128
____ K	0.06113	124.53	162.677	0.06881	0.15651	-0.04193
____ LI	-0.02351	-92.93	15.436	-0.02761	-0.02071	-0.02222
____ MG	473.99660	151,582.64	0.565	475.09889	475.94872	470.94220
____ MN	0.49456	48,068.29	0.966	0.49512	0.49903	0.48953
____ MO	-0.00308	-14.03	17.642	-0.00357	-0.00250	-0.00317
____ NA	0.01593	-265.55	162.729	-0.01027	0.04157	0.01648
____ NI	0.91302	3,210.17	1.407	0.92782	0.90638	0.90486
____ P	0.02095	11.60	16.049	0.01799	0.02026	0.02460
____ PB	0.51699	850.74	1.333	0.52493	0.51251	0.51353
____ S	0.09240	25.57	13.864	0.10218	0.09711	0.07790
____ SB	0.59555	446.05	1.369	0.60431	0.59417	0.58817
____ SE	0.50878	178.56	2.075	0.52088	0.50407	0.50141
____ SI	0.04873	1.59	106.081	0.03970	0.10433	0.00214
____ SN	0.00975	14.57	6.683	0.00972	0.00911	0.01041
____ SR	-0.00019	25,170.02	70.520	-0.00024	-0.00029	-0.00004
____ TH	-0.09101	2.50	83.230	-0.12096	-0.00487	-0.14721
____ TI	-0.00266	-127.55	1.778	-0.00270	-0.00266	-0.00261
____ TL	0.09538	85.43	1.021	0.09622	0.09431	0.09561
____ V	0.50203	9,761.06	1.052	0.50247	0.50708	0.49655
____ W	0.00329	29.44	75.693	0.00574	0.00077	0.00335
____ Y1	10982.65242	10,982.65	0.728	10913.63645	11070.32561	10963.99520
____ Y2A	239675.05094	239,675.05	1.096	239010.35454	237443.45238	242571.34590
____ Y2R	3808.91587	3,808.92	0.196	3816.33772	3801.38972	3809.02016
____ ZN	0.95567	9,624.40	1.526	0.97248	0.94643	0.94809
____ ZR	0.01019	15.93	102.644	0.02118	0.00037	0.00901

LANCASTER LABORATORIES

Run Name: 1810602T72

Instrument ID: 16417

Tube: 32

Date/Time: 04/16/2018 05:42

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.51011	10,568.45	1.640	0.51638	0.51334	0.50061
____ AL	24.60172	684.01	0.474	24.72305	24.59164	24.49046
____ AS	0.50519	254.16	0.873	0.50942	0.50553	0.50062
____ B	0.46697	6,035.20	0.980	0.46947	0.46975	0.46169
____ BA	0.51174	420,611.02	0.739	0.50972	0.50941	0.51611
____ BE	0.48936	327,833.50	1.144	0.49315	0.49200	0.48293
____ CA	24.37876	5,920.33	0.372	24.44241	24.27479	24.41906
____ CD	0.50200	8,985.41	0.294	0.50152	0.50366	0.50083
____ CO	0.50398	4,067.22	0.183	0.50463	0.50438	0.50293
____ CR	0.49758	6,553.29	0.759	0.50113	0.49799	0.49361
____ CU	0.51709	7,439.43	1.030	0.52287	0.51237	0.51604
____ FE	23.89039	1,267.30	0.846	23.92406	23.67353	24.07358
____ K	24.95056	6,772.51	0.667	25.05070	24.75839	25.04260
____ LI	0.51120	2,348.09	2.193	0.50607	0.50348	0.52406
____ MG	24.44178	8,745.72	0.935	24.56937	24.17793	24.57803
____ MN	0.50836	54,552.01	0.907	0.51225	0.50958	0.50327
____ MO	0.50094	1,973.66	0.189	0.50029	0.50202	0.50049
____ NA	25.01804	17,285.99	1.105	25.16266	24.69939	25.19208
____ NI	0.50255	1,957.62	0.164	0.50227	0.50348	0.50189
____ P	0.50482	294.18	0.125	0.50474	0.50548	0.50423
____ PB	0.49903	753.74	0.459	0.49782	0.50167	0.49759
____ S	24.08925	5,999.71	0.094	24.06590	24.11129	24.09057
____ SB	0.50519	411.27	0.719	0.50105	0.50671	0.50782
____ SE	0.49543	192.16	0.970	0.49364	0.49178	0.50088
____ SI	24.32792	885.23	0.417	24.31022	24.23654	24.43699
____ SN	0.48984	555.09	0.334	0.49100	0.48797	0.49056
____ SR	0.50965	517,776.02	0.663	0.51333	0.50667	0.50896
____ TH	0.43217	10.69	33.643	0.40613	0.58882	0.30154
____ TI	0.51251	36,061.37	0.576	0.51363	0.51475	0.50917
____ TL	0.50558	481.31	0.804	0.50686	0.50885	0.50103
____ V	0.50914	10,759.11	0.847	0.51348	0.50910	0.50485
____ W	0.51119	910.58	0.300	0.51104	0.51279	0.50973
____ Y1	12060.94397	12,060.94	0.653	12107.81297	12104.97500	11970.04393
____ Y2A	264622.09302	264,622.09	0.744	262911.04651	264182.47508	266772.75748
____ Y2R	4003.24318	4,003.24	0.717	3984.10721	4036.27021	3989.35213
____ ZN	0.50115	5,469.89	0.314	0.50099	0.50280	0.49967
____ ZR	0.48493	345.36	1.324	0.48290	0.47976	0.49212

LANCASTER LABORATORIES

Run Name: 1810602T72

Instrument ID: 16417

Tube: 33

Date/Time: 04/16/2018 05:46

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00234	-49.98	43.488	-0.00125	-0.00251	-0.00326
____ AL	0.11714	20.78	29.414	0.14191	0.13170	0.07779
____ AS	-0.00098	1.78	352.709	-0.00013	0.00197	-0.00479
____ B	0.00237	28.42	10.155	0.00261	0.00213	0.00236
____ BA	0.00013	218.32	35.372	0.00008	0.00017	0.00013
____ BE	0.00077	-395.73	2.148	0.00075	0.00077	0.00078
____ CA	0.00089	4.62	1615.986	-0.00210	-0.01175	0.01652
____ CD	0.00028	0.29	136.851	-0.00001	0.00072	0.00013
____ CO	0.00009	12.26	450.902	-0.00029	0.00047	0.00008
____ CR	0.00101	-2.22	24.200	0.00129	0.00085	0.00088
____ CU	0.00653	-118.38	19.715	0.00516	0.00672	0.00772
____ FE	0.04023	1.83	61.197	0.04217	0.01470	0.06382
____ K	-0.01515	112.17	47.474	-0.01870	-0.00688	-0.01989
____ LI	-0.02075	-118.50	15.900	-0.02437	-0.01791	-0.01998
____ MG	0.01253	2.20	91.202	0.01850	-0.00065	0.01973
____ MN	-0.00033	43.40	2.305	-0.00033	-0.00033	-0.00034
____ MO	-0.00018	-3.93	166.070	0.00011	-0.00016	-0.00048
____ NA	-0.08091	-352.27	38.631	-0.11374	-0.07748	-0.05151
____ NI	0.00093	15.26	63.056	0.00054	0.00064	0.00161
____ P	0.00155	1.43	80.017	0.00030	0.00278	0.00156
____ PB	0.00246	-3.62	58.951	0.00083	0.00293	0.00362
____ S	0.00605	6.55	201.779	0.00546	0.01855	-0.00585
____ SB	0.00309	-3.24	60.658	0.00107	0.00477	0.00342
____ SE	-0.00029	2.08	1341.767	-0.00158	0.00412	-0.00343
____ SI	0.05542	1.93	75.519	0.00718	0.07701	0.08205
____ SN	0.00077	5.88	119.878	0.00163	0.00089	-0.00021
____ SR	0.00019	-172.41	4.329	0.00020	0.00019	0.00020
____ TH	-0.13605	-1.00	54.999	-0.05693	-0.14554	-0.20568
____ TI	-0.00011	38.93	160.209	0.00000	-0.00032	-0.00002
____ TL	0.00007	2.18	2938.582	-0.00109	0.00236	-0.00107
____ V	0.00016	11.28	159.653	0.00038	-0.00012	0.00022
____ W	0.00013	6.95	336.640	0.00008	0.00060	-0.00028
____ Y1	11973.58488	11,973.58	0.441	11992.38694	11913.89638	12014.47132
____ Y2A	272302.41490	272,302.41	0.396	272298.15981	271227.20491	273381.87997
____ Y2R	4061.83333	4,061.83	0.540	4078.10000	4070.52500	4036.87500
____ ZN	0.00087	15.90	41.491	0.00061	0.00128	0.00071
____ ZR	0.01108	16.07	62.426	0.00404	0.01787	0.01133

ICP-AES Run Data Report

Reviewed By
Jonathan J Allen

Reviewed Date
04/17/2018 4:28AM

Data File Name 1810701T74.TXT
Run Name: 1810701T74

Method Reference Name(s):

Verified By:
Tara L Snyder

Verified Date
04/19/2018 12:18PM

Analyst Employee: 12403

Instrument Parameters:

Individual Integration Time: 10.00 sec Total Integration Time: 30.00 sec Rinse Time: 15.00 sec

Element	Analyte Name	Wavelength Value
AG	Silver	328.06
AL	Aluminum	308.21
AS	Arsenic	189.04
AU	Gold	242.80
B	Boron	249.67
BA	Barium	455.40
BE	Beryllium	313.04
CA	Calcium	317.93
CD	Cadmium	226.50
CO	Cobalt	228.62
CR	Chromium	267.72
CU	Copper	327.40
FE	Iron	261.19
K	Potassium	766.49
LI	Lithium	670.78
MG	Magnesium	285.21
MN	Manganese	257.61
MO	Molybdenum	202.03
NA	Sodium	589.59
NI	Nickel	231.60
P	Phosphorus	177.49
PB	Lead	220.35
S	Sulfur	182.00
SB	Antimony	206.83
SE	Selenium	196.09
SI	Silicon	251.60
SN	Tin	189.99
SR	Strontium	421.55
TE	Tellurium	214.28
TH	Thorium	401.91
TI	Titanium	334.94
TL	Thallium	190.86
V	Vanadium	292.40
W	Tungsten	207.91
Y1	Yttrium	224.31
Y2	Yttrium	371.03
ZN	Zinc	213.86
ZR	Zirconium	339.19

The TRACE ICP utilizes Yttrium as an internal standard to compensate for fluctuations in nebulization and plasma conditions. All Yttrium readings are expressed in counts.

LANCASTER LABORATORIES

Run Name: 1810701T74

Instrument ID: 23745

Tube: 1

Date/Time: 04/17/2018 00:33

Sample Number: **S0**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	0.000	-15.93744	57.529	-0.00462	-0.00444	-0.01129
AL	0.000	22.78333	9.777	0.17707	0.21337	0.20750
AS	0.000	0.25108	120.388	0.01780	-0.00086	0.00648
B	0.000	14.96951	18.675	0.00015	0.00012	0.00010
BA	0.000	200.99200	5.788	0.00159	0.00175	0.00178
BE	0.000	-62.05477	4.548	-0.02635	-0.02753	-0.02514
CA	0.000	17.66667	23.382	0.00348	0.00226	0.00355
CD	0.000	-1.71977	112.240	-0.10842	0.01096	-0.06374
CO	0.000	1.88197	24.491	0.04725	0.07605	0.05661
CR	0.000	4.89796	135.982	0.00001	0.00011	0.00001
CU	0.000	-14.11698	101.060	-0.00973	-0.00910	0.00098
FE	0.000	-0.76667	392.324	-0.00009	0.00039	-0.00075
K	0.000	126.36667	8.704	1.15586	0.99486	1.16675
LI	0.000	22.81667	32.658	0.00303	0.00546	0.00345
MG	0.000	-0.38333	1091.132	-0.00068	0.00083	-0.00037
MN	0.000	11.77890	17.770	0.00531	0.00569	0.00400
MO	0.000	0.11932	326.241	-0.00642	0.01839	-0.00011
NA	0.000	-343.81667	6.492	-0.06231	-0.05565	-0.06251
NI	0.000	3.67284	31.124	0.12908	0.07562	0.14477
P	0.000	-0.10887	159.035	-0.00014	-0.00012	0.00006
PB	0.000	-0.00741	3156.816	-0.02250	-0.00394	0.02701
S	0.000	-0.19775	79.011	-0.00022	-0.00002	-0.00013
SB	0.000	-1.08652	44.311	-0.00062	-0.00103	-0.00043
SE	0.000	-0.13776	534.398	-0.02291	0.01976	-0.00908
SI	0.000	-0.38333	1088.005	-0.00075	0.00012	0.00045
SN	0.000	1.08874	51.611	0.01432	0.04275	0.04775
SR	0.000	-92.32894	1.558	-0.00079	-0.00077	-0.00079
TH	0.000	13.10000	78.190	0.00245	0.00391	0.00040
TI	0.000	37.15032	3.764	0.01513	0.01630	0.01590
TL	0.000	-0.46883	88.005	-0.01596	-0.00129	-0.02744
V	0.000	-14.07583	43.080	-0.00579	-0.00347	-0.00859
W	0.000	-0.00800	1834.580	0.00000	0.00009	-0.00011
Y1	0.000	1574.40875	3.034	1629.31476	1551.48114	1542.43034
Y2A	0.000	117843.90690	4.408	123518.98305	113326.10558	116686.63208
Y2R	0.000	5720.03000	3.424	5831.17000	5835.02000	5493.90000
ZN	0.000	3.92170	5.585	0.13235	0.11944	0.12144
ZR	0.000	21.51667	20.095	0.00369	0.00307	0.00458

LANCASTER LABORATORIES

Run Name: 1810701T74

Instrument ID: 23745

Tube: 2

Date/Time: 04/17/2018 00:37

Sample Number: **S1**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AL	50.000	2007.57856	1.142	18.50687	18.89335	18.85965
CA	50.000	23632.90437	0.962	4.37804	4.46121	4.40488
FE	50.000	8145.17341	1.330	1.50904	1.54488	1.51069
K	50.000	11290.89976	1.246	104.59226	106.97039	104.81245
MG	50.000	33121.28968	1.227	6.11316	6.26497	6.18497
NA	50.000	39810.21220	1.114	7.36320	7.52658	7.42107
S	50.000	1601.97529	0.361	1.02723	1.02198	1.02914
SI	50.000	5395.67989	1.224	0.99825	1.02184	1.00379
Y1	50.000	1561.13985	5.069	1486.26183	1553.22357	1643.93414
Y2R	50.000	5354.22319	3.996	5601.20614	5236.72311	5224.74031

LANCASTER LABORATORIES

Run Name: 1810701T74

Instrument ID: 23745

Tube: 3

Date/Time: 04/17/2018 00:41

Sample Number: **S2**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	1.000	7601.23030	0.431	3.44161	3.41559	3.41649
AS	1.000	49.92661	0.868	1.70023	1.67550	1.70163
B	1.000	4632.36238	0.560	0.04200	0.04155	0.04167
BA	1.000	364766.31738	2.213	3.35745	3.21214	3.29091
BE	1.000	256298.91820	1.481	117.42796	114.26510	114.72088
CD	1.000	3285.65472	0.663	111.09732	112.22727	110.83980
CO	1.000	947.87900	0.742	31.98116	32.40927	32.01310
CU	1.000	5048.25111	0.496	2.28728	2.26943	2.26642
LI	1.000	3005.74035	0.485	0.54866	0.54936	0.55360
MN	1.000	33677.94162	0.447	15.21996	15.09518	15.20336
NI	1.000	456.90099	0.876	15.43605	15.64405	15.38908
P	1.000	76.11846	1.750	0.05106	0.05266	0.05112
PB	1.000	291.98365	1.568	9.79150	10.07706	9.82869
SE	1.000	82.07540	1.618	2.77262	2.83177	2.74338
SR	1.000	424089.65441	2.131	3.89163	3.73215	3.84034
TH	1.000	148.89359	4.037	0.02815	0.02604	0.02765
TL	1.000	108.44693	1.417	3.66602	3.73323	3.63063
W	1.000	244.30248	1.206	0.16456	0.16795	0.16443
Y1	1.000	1474.91629	0.755	1480.87113	1462.06212	1481.81564
Y2A	1.000	110981.74657	0.225	110733.46992	111232.48350	110979.28628
Y2R	1.000	5459.73119	1.170	5434.08049	5532.43351	5412.67957
ZN	1.000	2437.04649	1.223	81.67381	83.68434	82.50479

LANCASTER LABORATORIES

Run Name: 1810701T74

Instrument ID: 23745

Tube: 4

Date/Time: 04/17/2018 00:45

Sample Number: **S3**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
CR	1.000	6517.35100	0.604	0.05470	0.05536	0.05509
MO	1.000	775.66080	0.344	23.79665	23.74001	23.63579
SB	1.000	114.64694	0.898	0.07031	0.07066	0.06943
SN	1.000	151.90863	0.406	4.65992	4.62466	4.65381
TI	1.000	27236.27891	0.220	11.48276	11.53111	11.49383
V	1.000	7445.09262	0.615	3.12788	3.16568	3.13959
Y1	1.000	1634.73048	1.379	1657.53366	1612.44501	1634.21277
Y2A	1.000	118395.31610	2.489	118375.22415	115458.57457	121352.14957
Y2R	1.000	5445.38000	1.230	5437.88000	5515.79000	5382.47000
ZR	1.000	776.05000	0.597	0.14339	0.14169	0.14247

LANCASTER LABORATORIES

Run Name: 1810701T74

Instrument ID: 23745

Tube: 5

Date/Time: 04/17/2018 00:48

Sample Number: **ICV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.59735	4,792.64	0.488	0.59964	0.59835	0.59407
____ AL	30.11756	1,245.62	1.413	30.39557	29.62768	30.32944
____ AS	0.60341	32.69	1.035	0.60511	0.60862	0.59648
____ B	0.57549	3,015.23	0.516	0.57474	0.57876	0.57296
____ BA	0.62372	239,914.60	0.573	0.62578	0.62578	0.61959
____ BE	0.57503	155,340.59	0.012	0.57503	0.57509	0.57495
____ CA	29.38689	14,204.94	1.015	29.49205	29.05043	29.61819
____ CD	0.58998	2,125.51	0.261	0.58847	0.59155	0.58990
____ CO	0.57737	600.96	0.061	0.57703	0.57736	0.57773
____ CR	0.57450	3,698.72	0.436	0.57192	0.57693	0.57465
____ CU	0.59772	3,161.72	0.529	0.60100	0.59745	0.59470
____ FE	29.50119	4,919.06	1.430	29.72843	29.01441	29.76074
____ K	29.35750	6,817.79	0.318	29.31680	29.29126	29.46444
____ LI	0.60688	1,834.25	1.205	0.60928	0.59866	0.61269
____ MG	29.50118	20,035.40	1.344	29.68657	29.04607	29.77091
____ MN	0.60011	21,290.03	0.354	0.60162	0.59768	0.60103
____ MO	0.59021	451.80	0.398	0.58781	0.59032	0.59251
____ NA	28.50943	23,030.07	0.889	28.65305	28.21675	28.65848
____ NI	0.58913	295.10	0.117	0.58940	0.58965	0.58835
____ P	0.59544	49.37	0.928	0.59927	0.59793	0.58910
____ PB	0.57816	186.25	0.419	0.58080	0.57604	0.57765
____ S	30.38904	1,006.08	0.195	30.45489	30.33957	30.37265
____ SB	0.59762	67.37	1.228	0.60475	0.59009	0.59801
____ SE	0.60625	53.95	2.849	0.58713	0.62072	0.61091
____ SI	29.98482	3,306.42	1.667	30.18457	29.41593	30.35397
____ SN	0.58214	87.74	0.642	0.58483	0.58372	0.57787
____ SR	0.60528	270,966.16	0.299	0.60653	0.60610	0.60321
____ TH	0.60280	94.88	8.118	0.56924	0.58021	0.65895
____ TI	0.60483	16,277.65	0.060	0.60498	0.60442	0.60509
____ TL	0.58003	68.68	0.864	0.57745	0.58580	0.57683
____ V	0.59662	4,394.91	0.586	0.59592	0.60041	0.59352
____ W	0.58725	156.92	0.373	0.58693	0.58958	0.58523
____ Y1	1613.24757	1,613.25	3.744	1680.27863	1563.03826	1596.42581
____ Y2A	116884.39288	116,884.39	0.774	117240.04593	117557.06879	115856.06394
____ Y2R	5464.83237	5,464.83	4.342	5191.13532	5590.60751	5612.75429
____ ZN	0.58807	1,574.67	0.336	0.58632	0.59021	0.58766
____ ZR	0.58496	473.49	1.088	0.58573	0.57825	0.59091

LANCASTER LABORATORIES

Run Name: 1810701T74

Instrument ID: 23745

Tube: 6

Date/Time: 04/17/2018 00:52

Sample Number: **ICB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00046	-13.64	170.248	0.00026	-0.00131	-0.00034
____ AL	0.00688	22.13	792.566	0.00984	0.05982	-0.04904
____ AS	0.01229	0.35	72.606	0.00424	0.01074	0.02188
____ B	0.00152	22.49	79.725	0.00149	0.00274	0.00032
____ BA	0.00001	205.29	632.804	0.00007	0.00001	-0.00005
____ BE	-0.00008	-72.14	34.861	-0.00011	-0.00005	-0.00008
____ CA	0.00323	18.52	164.297	-0.00276	0.00737	0.00509
____ CD	0.00014	-1.24	207.437	0.00047	0.00004	-0.00009
____ CO	-0.00034	1.65	205.489	-0.00105	0.00033	-0.00029
____ CR	0.00019	6.35	117.574	0.00033	-0.00007	0.00029
____ CU	-0.00151	-12.20	121.768	-0.00309	0.00051	-0.00195
____ FE	0.00124	-0.58	2130.726	0.01201	-0.02882	0.02052
____ K	0.18599	163.58	36.407	0.10839	0.21654	0.23305
____ LI	-0.00361	11.63	381.198	0.01201	-0.00893	-0.01391
____ MG	0.00397	2.32	109.858	0.00243	0.00889	0.00058
____ MN	0.00001	12.41	2170.109	-0.00013	-0.00009	0.00025
____ MO	0.00075	0.73	122.981	0.00024	0.00182	0.00020
____ NA	0.02925	-303.90	124.357	0.05827	0.04101	-0.01155
____ NI	-0.00105	3.37	123.739	-0.00136	0.00038	-0.00216
____ P	0.00329	-0.26	68.297	0.00114	0.00311	0.00562
____ PB	-0.00071	-0.68	384.025	-0.00338	-0.00079	0.00205
____ S	0.00887	0.10	129.066	-0.00389	0.01824	0.01225
____ SB	0.00094	-0.96	376.464	-0.00284	0.00419	0.00148
____ SE	0.00687	-0.02	41.401	0.00407	0.00679	0.00975
____ SI	-0.01052	-1.49	29.504	-0.01329	-0.00717	-0.01109
____ SN	-0.00439	0.50	73.389	-0.00147	-0.00784	-0.00386
____ SR	-0.00002	-80.88	44.398	-0.00003	-0.00001	-0.00003
____ TH	-0.00164	12.10	2440.171	-0.00764	-0.03826	0.04099
____ TI	0.00005	39.01	611.291	0.00035	-0.00022	0.00001
____ TL	-0.00051	-0.37	744.199	0.00370	-0.00158	-0.00366
____ V	-0.00141	-16.33	111.487	-0.00129	-0.00305	0.00009
____ W	0.00124	0.33	115.016	0.00149	0.00253	-0.00029
____ Y1	1682.55566	1,682.56	2.430	1667.62298	1651.22650	1728.81749
____ Y2A	119264.75365	119,264.75	3.915	119781.16650	114358.83466	123654.25978
____ Y2R	5482.62667	5,482.63	2.309	5624.89000	5440.53000	5382.46000
____ ZN	-0.00048	2.84	48.777	-0.00040	-0.00075	-0.00030
____ ZR	-0.00531	16.65	55.051	-0.00516	-0.00247	-0.00831

LANCASTER LABORATORIES

Run Name: 1810701T74

Instrument ID: 23745

Tube: 7

Date/Time: 04/17/2018 00:56

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00658	35.29	12.469	0.00643	0.00584	0.00746
____ AL	0.22410	33.43	67.540	0.16411	0.39626	0.11194
____ AS	0.03235	1.44	18.033	0.03720	0.03398	0.02588
____ B	0.04828	260.79	2.601	0.04683	0.04887	0.04912
____ BA	0.00533	2,344.99	0.216	0.00534	0.00532	0.00532
____ BE	0.00479	1,290.93	2.028	0.00487	0.00481	0.00468
____ CA	0.20311	122.40	1.459	0.20052	0.20634	0.20246
____ CD	0.00510	16.97	1.619	0.00506	0.00504	0.00519
____ CO	0.00423	6.46	4.117	0.00409	0.00418	0.00443
____ CR	0.01344	94.84	3.642	0.01354	0.01290	0.01386
____ CU	0.00927	64.70	14.491	0.00994	0.01014	0.00772
____ FE	0.18692	32.45	6.301	0.19716	0.17405	0.18956
____ K	0.52314	255.28	5.954	0.48725	0.53898	0.54318
____ LI	0.01206	61.62	35.143	0.01436	0.00717	0.01466
____ MG	0.11074	80.00	2.163	0.10823	0.11300	0.11098
____ MN	0.00522	201.91	2.139	0.00530	0.00527	0.00509
____ MO	0.00993	7.85	5.245	0.01046	0.00943	0.00989
____ NA	1.03170	551.05	2.790	1.01956	1.01098	1.06457
____ NI	0.01005	8.86	18.452	0.01217	0.00917	0.00879
____ P	0.10199	8.09	1.144	0.10068	0.10292	0.10236
____ PB	0.01687	5.07	10.992	0.01487	0.01853	0.01723
____ S	0.52177	17.37	1.431	0.51982	0.53002	0.51547
____ SB	0.01939	1.25	19.684	0.01650	0.02372	0.01795
____ SE	0.02882	2.00	36.598	0.02025	0.04060	0.02561
____ SI	0.04561	5.07	48.892	0.02531	0.06947	0.04204
____ SN	0.01817	3.89	13.294	0.02092	0.01637	0.01723
____ SR	0.00524	2,361.15	0.611	0.00526	0.00525	0.00520
____ TH	0.19203	41.03	10.696	0.17378	0.18803	0.21427
____ TI	0.00989	313.98	3.149	0.00989	0.01021	0.00959
____ TL	0.03075	3.41	5.486	0.03030	0.02934	0.03262
____ V	0.00396	26.39	30.736	0.00437	0.00492	0.00259
____ W	0.01152	3.16	16.586	0.00944	0.01195	0.01319
____ Y1	1641.26961	1,641.27	4.684	1562.59565	1645.00467	1716.20851
____ Y2A	121277.91472	121,277.91	1.937	123989.31282	119858.67000	119985.76133
____ Y2R	5807.93333	5,807.93	2.760	5808.52000	5647.34000	5967.94000
____ ZN	0.01986	57.77	2.378	0.01980	0.01943	0.02036
____ ZR	0.03868	56.25	15.378	0.04542	0.03645	0.03416

LANCASTER LABORATORIES

Run Name: 1810701T74 Instrument ID: 23745

Tube: 8 Date/Time: 04/17/2018 01:00

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.07215	-583.07	2.784	-0.07073	-0.07127	-0.07445
____ AL	481.57378	20,361.20	0.665	479.35304	485.24712	480.12118
____ AS	0.02668	0.80	39.563	0.01514	0.02907	0.03584
____ B	-0.03549	1,083.58	7.433	-0.03254	-0.03763	-0.03630
____ BA	0.00083	485.99	0.747	0.00083	0.00082	0.00084
____ BE	-0.00024	-107.64	4.955	-0.00025	-0.00024	-0.00023
____ CA	487.47615	231,984.38	0.655	484.66911	490.95093	486.80840
____ CD	-0.00469	19.86	7.061	-0.00431	-0.00485	-0.00492
____ CO	0.00023	2.12	310.915	0.00078	-0.00058	0.00048
____ CR	-0.00597	-31.43	9.221	-0.00624	-0.00534	-0.00633
____ CU	-0.00142	56.08	121.197	-0.00338	-0.00019	-0.00068
____ FE	191.69350	31,753.49	0.349	191.37673	192.46120	191.24256
____ K	0.21884	172.01	58.640	0.36517	0.12548	0.16586
____ LI	0.00648	41.52	21.938	0.00811	0.00572	0.00560
____ MG	486.57691	302,369.65	7.851	522.90383	446.74055	490.08635
____ MN	0.00455	162.52	4.728	0.00480	0.00444	0.00441
____ MO	-0.00075	-0.44	32.190	-0.00056	-0.00068	-0.00103
____ NA	0.08030	-263.90	52.475	0.03246	0.09651	0.11192
____ NI	-0.00063	-4.07	215.961	-0.00219	0.00012	0.00019
____ P	0.01903	1.02	9.968	0.01793	0.01794	0.02122
____ PB	-0.00470	33.81	26.390	-0.00392	-0.00613	-0.00406
____ S	0.02981	0.76	50.549	0.04574	0.01578	0.02790
____ SB	0.00127	0.53	527.964	0.00302	0.00693	-0.00614
____ SE	0.01045	-0.80	47.584	0.00868	0.01606	0.00660
____ SI	0.01616	1.33	174.320	0.04869	-0.00041	0.00020
____ SN	-0.00065	1.00	448.318	-0.00279	-0.00181	0.00266
____ SR	0.00386	11,507.62	7.919	0.00399	0.00351	0.00407
____ TH	0.04871	19.14	86.897	0.07151	-0.00013	0.07475
____ TI	0.00234	93.82	8.388	0.00213	0.00252	0.00236
____ TL	-0.00367	-0.70	88.667	0.00006	-0.00591	-0.00514
____ V	-0.00227	4.65	54.930	-0.00309	-0.00288	-0.00083
____ W	0.00476	1.24	37.909	0.00385	0.00684	0.00359
____ Y1	1566.31027	1,566.31	0.358	1571.05319	1567.76563	1560.11199
____ Y2A	110117.99173	110,117.99	0.838	110199.21283	110997.38679	109157.37557
____ Y2R	5554.05971	5,554.06	7.991	5041.62670	5805.56442	5814.98801
____ ZN	0.00997	63.91	4.813	0.01042	0.01001	0.00946
____ ZR	-0.00546	17.44	36.189	-0.00319	-0.00643	-0.00677

LANCASTER LABORATORIES

Run Name: 1810701T74 Instrument ID: 23745

Tube: 9 Date/Time: 04/17/2018 01:04

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.14941	1,048.70	0.260	0.14906	0.14983	0.14934
____ AL	489.14876	20,351.08	0.428	491.51811	488.37806	487.55011
____ AS	0.12232	5.90	9.263	0.11012	0.13251	0.12432
____ B	-0.03490	1,054.44	9.099	-0.03792	-0.03520	-0.03159
____ BA	0.54790	189,331.86	0.322	0.54691	0.54994	0.54685
____ BE	0.52157	126,679.92	0.211	0.52139	0.52276	0.52057
____ CA	494.12167	231,157.28	0.818	498.60539	490.75780	493.00184
____ CD	0.94794	3,348.16	0.081	0.94720	0.94790	0.94873
____ CO	0.47908	483.55	0.040	0.47897	0.47930	0.47896
____ CR	0.49181	2,847.37	0.455	0.49057	0.49439	0.49046
____ CU	0.54454	2,623.81	0.311	0.54514	0.54263	0.54586
____ FE	194.57005	31,691.01	0.620	195.94746	194.06450	193.69820
____ K	0.16553	158.63	35.175	0.17409	0.21899	0.10349
____ LI	0.00417	34.24	93.396	0.00412	0.00810	0.00030
____ MG	503.36920	307,526.09	2.569	515.83637	490.01931	504.25191
____ MN	0.51562	16,457.42	0.193	0.51458	0.51656	0.51573
____ MO	0.00006	0.17	1190.864	-0.00022	0.00093	-0.00052
____ NA	0.08029	-261.40	15.278	0.06912	0.07834	0.09341
____ NI	0.95713	457.52	0.606	0.95077	0.96215	0.95846
____ P	0.02074	1.34	41.034	0.02679	0.02442	0.01101
____ PB	0.50263	192.03	0.218	0.50156	0.50375	0.50258
____ S	0.01492	0.28	43.048	0.00810	0.01580	0.02085
____ SB	0.60748	70.06	1.221	0.60055	0.61531	0.60658
____ SE	0.55850	46.82	0.997	0.55586	0.56489	0.55474
____ SI	0.00861	0.65	162.231	-0.00520	0.00829	0.02274
____ SN	0.00096	1.23	389.739	-0.00054	-0.00181	0.00523
____ SR	0.00392	11,137.03	6.329	0.00366	0.00415	0.00394
____ TH	0.09335	25.05	26.214	0.11929	0.07068	0.09008
____ TI	0.00247	98.04	14.374	0.00237	0.00287	0.00218
____ TL	0.07814	9.02	6.215	0.08210	0.07960	0.07273
____ V	0.52553	3,515.91	0.274	0.52477	0.52464	0.52720
____ W	0.00303	3.27	66.243	0.00482	0.00086	0.00340
____ Y1	1567.28542	1,567.29	0.766	1580.53575	1564.17421	1557.14628
____ Y2A	105097.67631	105,097.68	3.966	109183.26339	100851.73000	105258.03554
____ Y2R	5464.09270	5,464.09	1.298	5388.23941	5528.81931	5475.21939
____ ZN	1.01574	2,663.73	0.811	1.01048	1.01151	1.02524
____ ZR	-0.00380	19.22	121.460	-0.00700	0.00149	-0.00589

LANCASTER LABORATORIES

Run Name: 1810701T74

Instrument ID: 23745

Tube: 10

Date/Time: 04/17/2018 01:07

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.49758	3,764.60	0.141	0.49691	0.49831	0.49751
____ AL	25.37216	1,024.24	0.335	25.40352	25.27592	25.43705
____ AS	0.50515	26.55	2.782	0.50433	0.51960	0.49153
____ B	0.48231	2,387.30	0.955	0.48566	0.48421	0.47706
____ BA	0.52455	190,331.07	0.281	0.52387	0.52624	0.52353
____ BE	0.48486	123,535.50	0.122	0.48419	0.48510	0.48529
____ CA	24.48372	11,522.95	0.675	24.38201	24.39479	24.67437
____ CD	0.50080	1,753.19	0.398	0.49862	0.50253	0.50126
____ CO	0.49948	505.42	0.494	0.49667	0.50046	0.50131
____ CR	0.48476	2,944.39	0.652	0.48821	0.48200	0.48407
____ CU	0.51012	2,542.31	0.319	0.51096	0.51115	0.50824
____ FE	24.99478	4,058.38	0.577	24.84399	25.00922	25.13112
____ K	24.77324	5,616.09	0.938	24.75225	24.55200	25.01547
____ LI	0.51235	1,510.21	1.838	0.50284	0.52167	0.51253
____ MG	24.53243	16,230.14	0.275	24.55175	24.45733	24.58820
____ MN	0.50601	16,933.94	0.086	0.50608	0.50554	0.50640
____ MO	0.50680	377.07	0.635	0.50510	0.51051	0.50479
____ NA	24.88182	19,518.56	0.669	24.95453	24.69131	24.99960
____ NI	0.50321	245.48	0.123	0.50254	0.50332	0.50377
____ P	0.50330	40.49	1.004	0.50773	0.50437	0.49780
____ PB	0.48716	152.42	0.882	0.48347	0.49188	0.48613
____ S	25.02003	804.88	0.246	24.95096	25.04004	25.06909
____ SB	0.49335	53.76	3.205	0.47773	0.49298	0.50934
____ SE	0.50354	43.46	2.244	0.49421	0.50030	0.51610
____ SI	25.07680	2,690.89	0.121	25.05675	25.11166	25.06198
____ SN	0.48836	71.71	1.462	0.48414	0.49660	0.48433
____ SR	0.51159	215,994.49	0.191	0.51072	0.51264	0.51141
____ TH	0.48903	77.09	17.560	0.49334	0.40109	0.57267
____ TI	0.50927	12,932.97	0.189	0.50865	0.50878	0.51038
____ TL	0.49840	57.31	0.829	0.49949	0.49384	0.50188
____ V	0.50313	3,494.14	0.536	0.50427	0.50507	0.50005
____ W	0.49586	128.79	0.604	0.49258	0.49843	0.49658
____ Y1	1567.77674	1,567.78	2.350	1599.54806	1576.38182	1527.40035
____ Y2A	110244.68430	110,244.68	0.593	109941.59009	109797.04000	110995.42282
____ Y2R	5317.18949	5,317.19	0.959	5267.26511	5315.12856	5369.17481
____ ZN	0.50415	1,312.41	0.489	0.50136	0.50505	0.50604
____ ZR	0.49562	393.07	0.877	0.49937	0.49085	0.49664

LANCASTER LABORATORIES

Run Name: 1810701T74

Instrument ID: 23745

Tube: 11

Date/Time: 04/17/2018 01:11

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00102	-18.69	89.236	-0.00045	-0.00207	-0.00054
____ AL	-0.02540	22.63	377.169	-0.06143	-0.09796	0.08319
____ AS	0.01000	0.20	68.421	0.00771	0.01769	0.00460
____ B	0.00113	20.60	87.468	0.00163	0.00177	-0.00001
____ BA	-0.00001	196.42	609.382	-0.00003	0.00005	-0.00005
____ BE	-0.00007	-68.88	14.748	-0.00007	-0.00006	-0.00008
____ CA	0.01058	23.98	89.848	0.02007	0.01061	0.00106
____ CD	0.00009	-1.34	378.851	-0.00019	-0.00001	0.00048
____ CO	-0.00036	1.58	124.008	-0.00082	-0.00035	0.00008
____ CR	0.00026	6.82	398.328	0.00095	-0.00093	0.00076
____ CU	0.00041	-1.24	576.489	-0.00210	0.00255	0.00078
____ FE	0.00414	-0.12	56.289	0.00363	0.00210	0.00668
____ K	0.06942	149.15	37.074	0.03995	0.08087	0.08745
____ LI	-0.00021	23.28	1895.536	-0.00408	0.00378	-0.00032
____ MG	0.00775	5.30	54.460	0.01215	0.00737	0.00373
____ MN	-0.00010	8.17	127.810	0.00003	-0.00011	-0.00022
____ MO	0.00010	0.21	1101.268	-0.00116	0.00083	0.00063
____ NA	0.06151	-301.72	23.661	0.05917	0.07710	0.04827
____ NI	-0.00060	3.47	168.984	0.00023	-0.00030	-0.00173
____ P	0.00116	-0.43	229.738	0.00239	-0.00190	0.00298
____ PB	0.00022	-0.38	1151.882	0.00056	0.00258	-0.00248
____ S	0.00011	-0.20	654.277	0.00055	0.00053	-0.00075
____ SB	0.00072	-0.96	1043.153	-0.00335	0.00939	-0.00388
____ SE	0.00741	0.04	116.325	-0.00211	0.00967	0.01469
____ SI	-0.00950	-1.50	196.430	0.00365	-0.00129	-0.03087
____ SN	-0.00463	0.44	54.083	-0.00196	-0.00499	-0.00693
____ SR	-0.00003	-82.15	95.790	0.00000	-0.00003	-0.00005
____ TH	0.00507	14.03	996.554	0.05388	-0.04703	0.00836
____ TI	0.00013	40.92	126.268	0.00030	0.00000	0.00007
____ TL	-0.00329	-0.67	118.002	-0.00672	-0.00407	0.00092
____ V	-0.00101	-13.42	30.444	-0.00085	-0.00136	-0.00081
____ W	0.00271	0.71	49.049	0.00373	0.00121	0.00319
____ Y1	1620.28796	1,620.29	2.849	1596.59512	1590.77723	1673.49153
____ Y2A	118816.91111	118,816.91	1.023	118677.35265	117677.55733	120095.82337
____ Y2R	5958.42000	5,958.42	2.995	5774.94000	6131.35000	5968.97000
____ ZN	-0.00089	1.66	23.358	-0.00069	-0.00110	-0.00088
____ ZR	-0.00858	15.48	42.270	-0.01060	-0.01075	-0.00439

LANCASTER LABORATORIES

Run Name: 1810701T74 Instrument ID: 23745

Tube: 12 Date/Time: 04/17/2018 01:15

Sample Number: **PBW** Class: **** Batch: 181000184801

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00001	-11.01	)652.731	-0.00067	-0.00053	0.00117
____ AL	-0.01167	23.37	330.717	0.03288	-0.03333	-0.03455
____ AS	0.00601	-0.01	155.206	0.01448	0.00755	-0.00399
____ B	-0.00043	13.85	57.942	-0.00019	-0.00069	-0.00041
____ BA	0.00000	213.41	176.395	0.00000	0.00000	-0.00001
____ BE	-0.00006	-71.48	24.502	-0.00005	-0.00005	-0.00008
____ CA	0.00679	22.20	236.812	-0.01102	0.01112	0.02028
____ CD	0.00004	-1.58	415.920	-0.00006	0.00023	-0.00006
____ CO	-0.00079	1.15	76.392	-0.00018	-0.00138	-0.00081
____ CR	-0.00006	5.00	708.613	-0.00033	-0.00032	0.00046
____ CU	0.00096	1.50	154.376	0.00078	0.00252	-0.00042
____ FE	0.00401	-0.13	81.321	0.00421	0.00717	0.00065
____ K	0.13330	165.90	54.196	0.07267	0.11399	0.21323
____ LI	-0.00124	19.90	369.138	-0.00250	0.00384	-0.00507
____ MG	0.00671	4.58	46.358	0.01021	0.00564	0.00428
____ MN	0.00017	19.33	47.777	0.00016	0.00026	0.00010
____ MO	0.00009	0.20	692.589	-0.00064	0.00038	0.00054
____ NA	0.09043	-277.58	13.916	0.08050	0.10458	0.08619
____ NI	-0.00064	3.52	119.144	-0.00148	-0.00044	0.00000
____ P	0.00157	-0.41	304.064	0.00081	0.00668	-0.00278
____ PB	-0.00140	-0.90	39.453	-0.00111	-0.00106	-0.00204
____ S	0.01154	0.18	73.000	0.00451	0.02088	0.00924
____ SB	-0.00029	-1.09	266.556	-0.00116	0.00011	0.00020
____ SE	0.00556	-0.14	54.531	0.00250	0.00856	0.00561
____ SI	0.00038	-0.28	4640.255	-0.00330	0.01953	-0.01510
____ SN	-0.00240	0.79	89.533	-0.00312	-0.00410	0.00002
____ SR	-0.00002	-86.88	62.797	-0.00001	-0.00004	-0.00003
____ TH	0.00104	13.67	3985.929	-0.03855	-0.00274	0.04443
____ TI	-0.00020	34.69	155.772	-0.00011	0.00006	-0.00053
____ TL	-0.00365	-0.74	70.904	-0.00408	-0.00087	-0.00599
____ V	-0.00159	-19.20	22.619	-0.00200	-0.00135	-0.00142
____ W	0.00243	0.66	77.517	0.00452	0.00085	0.00192
____ Y1	1652.23704	1,652.24	1.848	1686.44314	1642.54766	1627.72030
____ Y2A	127788.98620	127,788.99	1.465	127357.92829	129838.70164	126170.32869
____ Y2R	5994.03000	5,994.03	1.363	5936.45000	6087.57000	5958.07000
____ ZN	0.00141	7.92	16.101	0.00123	0.00166	0.00133
____ ZR	-0.00885	15.30	71.661	-0.00313	-0.00775	-0.01567

LANCASTER LABORATORIES

Run Name: 1810701T74 Instrument ID: 23745

Tube: 13 Date/Time: 04/17/2018 01:19

Sample Number: **PBW** Class: **** Batch: 181000184801

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00006	-7.73	1383.605	-0.00066	-0.00022	0.00107
____ AL	-0.06089	21.15	236.006	0.10104	-0.17327	-0.11045
____ AS	0.00367	-0.16	142.946	0.00405	0.00871	-0.00175
____ B	0.00026	16.03	424.418	-0.00065	-0.00005	0.00146
____ BA	0.00003	210.89	54.214	0.00005	0.00003	0.00002
____ BE	-0.00008	-71.07	13.314	-0.00007	-0.00008	-0.00009
____ CA	0.00040	18.70	3422.473	-0.00611	-0.00892	0.01624
____ CD	0.00009	-1.40	96.007	0.00018	0.00004	0.00004
____ CO	0.00021	2.18	73.084	0.00037	0.00022	0.00005
____ CR	-0.00052	1.70	37.442	-0.00074	-0.00040	-0.00041
____ CU	0.00042	-4.58	384.076	-0.00144	0.00152	0.00120
____ FE	-0.00986	-2.63	154.652	-0.01683	0.00763	-0.02037
____ K	-0.00021	133.33	3195.560	-0.11597	0.07682	0.03852
____ LI	-0.00590	4.90	72.763	-0.00390	-0.00297	-0.01083
____ MG	0.00674	4.60	32.083	0.00548	0.00550	0.00924
____ MN	0.00029	22.30	32.751	0.00019	0.00029	0.00038
____ MO	0.00012	0.22	506.988	-0.00057	0.00060	0.00033
____ NA	0.05413	-311.43	47.503	0.04486	0.08319	0.03434
____ NI	0.00015	3.88	404.230	0.00046	-0.00056	0.00055
____ P	0.00546	-0.06	26.138	0.00427	0.00507	0.00705
____ PB	0.00040	-0.32	1170.300	0.00584	-0.00217	-0.00246
____ S	0.00664	0.01	175.819	0.00806	0.01752	-0.00568
____ SB	0.00073	-0.94	1074.594	0.00537	-0.00834	0.00516
____ SE	0.00596	-0.11	83.900	0.00143	0.01134	0.00512
____ SI	0.01210	1.15	102.443	0.00350	0.02632	0.00649
____ SN	-0.00434	0.49	44.408	-0.00436	-0.00625	-0.00240
____ SR	-0.00002	-80.26	228.475	0.00000	-0.00009	0.00002
____ TH	-0.03160	8.77	190.189	-0.10029	-0.00580	0.01129
____ TI	0.00043	48.85	65.629	0.00071	0.00045	0.00014
____ TL	-0.00171	-0.50	251.228	0.00306	-0.00525	-0.00294
____ V	-0.00097	-13.57	120.380	-0.00116	-0.00204	0.00028
____ W	0.00106	0.27	150.914	0.00188	0.00208	-0.00078
____ Y1	1629.85957	1,629.86	3.330	1615.04733	1584.53540	1689.99600
____ Y2A	117627.22948	117,627.23	1.539	117168.19541	119623.03393	116090.45908
____ Y2R	6027.04667	6,027.05	4.025	6043.21000	6261.17000	5776.76000
____ ZN	0.00136	7.69	6.920	0.00142	0.00141	0.00125
____ ZR	-0.01005	13.82	21.561	-0.00759	-0.01168	-0.01086

LANCASTER LABORATORIES

Run Name: 1810701T74 Instrument ID: 23745

Tube: 14 Date/Time: 04/17/2018 01:22

Sample Number: **9548789** Class: U*** Batch: 181000184801

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00659	-62.36	19.657	-0.00806	-0.00561	-0.00611
____ AL	1.10226	66.99	6.939	1.14646	1.01395	1.14639
____ AS	0.01811	0.54	32.013	0.01785	0.01244	0.02403
____ B	0.07795	490.72	1.121	0.07894	0.07758	0.07731
____ BA	0.29834	110,772.71	0.324	0.29743	0.29823	0.29935
____ BE	0.00019	2.32	11.408	0.00017	0.00017	0.00021
____ CA	52.22354	25,447.11	1.558	52.60989	52.77210	51.28864
____ CD	0.00017	2.23	175.846	-0.00013	0.00046	0.00018
____ CO	0.00556	7.53	4.610	0.00547	0.00535	0.00584
____ CR	0.00195	16.94	30.941	0.00241	0.00218	0.00127
____ CU	0.01092	56.94	9.004	0.00995	0.01092	0.01191
____ FE	16.60116	2,801.03	1.993	16.78768	16.79657	16.21922
____ K	4.78702	1,224.95	1.143	4.84279	4.78485	4.73343
____ LI	-0.00288	13.36	233.836	-0.00635	-0.00718	0.00488
____ MG	16.60067	11,419.94	1.743	16.72441	16.80760	16.26999
____ MN	1.70644	58,453.15	0.764	1.71319	1.69141	1.71471
____ MO	0.00062	0.59	180.682	0.00118	-0.00067	0.00136
____ NA	95.12022	78,390.06	1.469	96.01337	95.83693	93.51037
____ NI	0.00505	5.53	14.761	0.00451	0.00472	0.00590
____ P	0.06475	4.77	2.052	0.06465	0.06613	0.06348
____ PB	0.00733	1.94	50.456	0.00443	0.01149	0.00606
____ S	9.91565	319.14	0.220	9.91196	9.89588	9.93912
____ SB	0.00724	-0.05	111.263	-0.00193	0.01045	0.01321
____ SE	0.00703	-0.10	56.379	0.00373	0.01142	0.00593
____ SI	8.31440	925.02	1.969	8.28711	8.49001	8.16608
____ SN	-0.00326	0.62	79.737	-0.00104	-0.00262	-0.00612
____ SR	0.32244	140,071.91	0.358	0.32209	0.32150	0.32373
____ TH	-0.00948	11.13	80.596	-0.01145	-0.00105	-0.01594
____ TI	0.02136	589.04	4.299	0.02129	0.02048	0.02231
____ TL	-0.00634	-0.70	60.828	-0.00544	-0.00301	-0.01056
____ V	0.00534	34.68	9.905	0.00495	0.00595	0.00513
____ W	0.00101	0.33	290.227	0.00199	0.00333	-0.00229
____ Y1	1569.08279	1,569.08	1.042	1559.03480	1560.25597	1587.95761
____ Y2A	112829.82083	112,829.82	0.183	112643.84968	113051.22608	112794.38674
____ Y2R	5520.07638	5,520.08	1.882	5400.66826	5590.00000	5569.56088
____ ZN	0.03503	97.13	0.315	0.03501	0.03493	0.03515
____ ZR	-0.00530	16.51	287.101	0.01128	-0.01860	-0.00856

LANCASTER LABORATORIES

Run Name: 1810701T74 Instrument ID: 23745

Tube: 15 Date/Time: 04/17/2018 01:26

Sample Number: **9548789** Class: UP** Batch: 181000184801

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.01427	133.23	10.501	0.01600	0.01350	0.01331
____ AL	2.05274	112.71	10.708	2.02964	2.28319	1.84540
____ AS	0.52198	27.59	0.290	0.52027	0.52252	0.52315
____ B	0.27481	1,444.00	1.486	0.27057	0.27515	0.27872
____ BA	0.34180	129,341.40	0.512	0.34038	0.34126	0.34376
____ BE	0.02051	5,411.40	1.065	0.02036	0.02041	0.02076
____ CA	52.85926	27,402.85	0.392	52.90020	52.63456	53.04303
____ CD	0.05038	178.87	0.188	0.05040	0.05047	0.05028
____ CO	0.10588	109.33	0.947	0.10703	0.10518	0.10544
____ CR	0.19791	1,253.74	0.866	0.19794	0.19619	0.19961
____ CU	0.52339	2,680.96	1.341	0.51926	0.51942	0.53149
____ FE	17.01907	3,054.72	0.087	17.00258	17.03127	17.02335
____ K	6.77987	1,791.45	0.285	6.79362	6.78819	6.75778
____ LI	1.02960	3,324.90	2.250	1.03097	1.05205	1.00578
____ MG	17.44108	12,762.48	0.444	17.50817	17.35630	17.45876
____ MN	1.72265	59,988.48	0.698	1.71565	1.71576	1.73653
____ MO	0.20790	155.72	0.500	0.20837	0.20862	0.20671
____ NA	96.19557	84,340.62	0.194	96.40706	96.05636	96.12328
____ NI	0.15506	78.33	0.337	0.15563	0.15496	0.15460
____ P	1.09125	89.12	1.435	1.09042	1.10730	1.07602
____ PB	0.50148	156.36	0.459	0.49982	0.50052	0.50411
____ S	10.72524	347.12	1.072	10.74141	10.83130	10.60300
____ SB	0.40622	45.12	1.193	0.40261	0.40432	0.41173
____ SE	0.81473	70.58	0.785	0.81003	0.82201	0.81214
____ SI	9.34677	1,108.40	0.159	9.33271	9.36232	9.34528
____ SN	0.59692	87.96	1.619	0.59931	0.60517	0.58629
____ SR	0.33331	147,173.76	0.649	0.33165	0.33253	0.33575
____ TH	0.01258	15.12	114.711	0.02553	-0.00298	0.01518
____ TI	0.12535	3,340.35	1.218	0.12483	0.12415	0.12707
____ TL	0.97372	112.66	1.379	0.98832	0.97090	0.96192
____ V	0.10715	766.27	0.080	0.10711	0.10709	0.10725
____ W	0.00087	0.61	211.328	-0.00057	0.00295	0.00024
____ Y1	1577.44434	1,577.44	3.131	1550.99453	1634.41941	1546.91908
____ Y2A	114700.62045	114,700.62	2.618	117264.28000	111396.62135	115440.96000
____ Y2R	5871.93351	5,871.93	5.810	5793.61660	5576.74303	6245.44091
____ ZN	0.15543	412.24	0.720	0.15650	0.15552	0.15427
____ ZR	0.98469	824.61	0.049	0.98503	0.98413	0.98490

LANCASTER LABORATORIES

Run Name: 1810701T74 Instrument ID: 23745

Tube: 16 Date/Time: 04/17/2018 01:30

Sample Number: **9548792** Class: D*** Batch: 181000184801

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00608	-62.78	16.399	-0.00592	-0.00715	-0.00517
____ AL	1.06536	69.96	2.506	1.05265	1.04739	1.09604
____ AS	0.01157	0.18	68.306	0.00629	0.02065	0.00776
____ B	0.08091	519.40	1.657	0.08242	0.07986	0.08045
____ BA	0.31128	117,257.29	0.375	0.31060	0.31263	0.31060
____ BE	0.00023	14.40	18.469	0.00019	0.00024	0.00027
____ CA	55.18400	28,609.33	0.348	55.38962	55.15253	55.00986
____ CD	-0.00023	1.08	104.915	-0.00021	-0.00047	0.00000
____ CO	0.00579	7.79	4.887	0.00546	0.00597	0.00593
____ CR	0.00142	13.82	88.821	0.00176	0.00246	0.00002
____ CU	0.00912	54.15	17.487	0.00858	0.01091	0.00787
____ FE	17.69945	3,177.87	0.342	17.69739	17.76096	17.64001
____ K	5.18102	1,399.54	2.623	5.22275	5.29115	5.02916
____ LI	-0.00173	17.62	186.300	-0.00179	0.00152	-0.00492
____ MG	17.40724	12,740.90	0.563	17.52000	17.35979	17.34191
____ MN	1.78019	61,871.04	0.794	1.79114	1.78520	1.76424
____ MO	0.00100	0.88	68.750	0.00176	0.00042	0.00082
____ NA	100.17569	87,869.81	0.621	100.81655	100.13681	99.57370
____ NI	0.00387	4.94	37.273	0.00310	0.00298	0.00554
____ P	0.05881	4.29	3.494	0.05684	0.06094	0.05865
____ PB	0.00864	2.35	24.305	0.00727	0.01105	0.00759
____ S	10.24446	331.41	1.123	10.37216	10.21233	10.14890
____ SB	0.00612	-0.18	67.249	0.00258	0.01064	0.00515
____ SE	0.01019	0.17	43.968	0.01463	0.01026	0.00567
____ SI	8.67294	1,026.89	0.115	8.67041	8.66448	8.68391
____ SN	-0.00207	0.80	136.833	0.00118	-0.00398	-0.00342
____ SR	0.33631	148,255.10	0.319	0.33665	0.33718	0.33511
____ TH	0.04613	19.88	82.737	0.08997	0.02819	0.02025
____ TI	0.01961	551.60	2.488	0.02017	0.01925	0.01941
____ TL	-0.00428	-0.46	61.538	-0.00531	-0.00129	-0.00625
____ V	0.00334	21.46	23.434	0.00346	0.00251	0.00406
____ W	0.00169	0.52	25.426	0.00215	0.00129	0.00164
____ Y1	1577.06084	1,577.06	0.573	1583.84215	1566.80176	1580.53859
____ Y2A	114480.62519	114,480.63	0.492	113971.51116	115084.78825	114385.57616
____ Y2R	5874.69964	5,874.70	4.637	5634.85908	5818.40319	6170.83665
____ ZN	0.03601	100.34	1.981	0.03681	0.03577	0.03544
____ ZR	-0.01640	9.72	56.367	-0.01615	-0.02576	-0.00728

LANCASTER LABORATORIES

Run Name: 1810701T74 Instrument ID: 23745

Tube: 17 Date/Time: 04/17/2018 01:34

Sample Number: **9548789** Class: UL** Batch: 181000184801

Initial Vol: 50.00 Final Vol: 50.00 DF: 5.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00102	-18.17	78.240	-0.00064	-0.00048	-0.00193
____ AL	0.31215	33.50	37.339	0.39893	0.35786	0.17967
____ AS	0.01073	0.22	56.093	0.00384	0.01338	0.01497
____ B	0.01482	107.99	4.145	0.01420	0.01542	0.01483
____ BA	0.05854	22,302.75	1.017	0.05858	0.05911	0.05793
____ BE	-0.00001	-51.06	293.269	-0.00005	0.00000	0.00002
____ CA	10.54057	4,986.41	0.162	10.53929	10.52418	10.55825
____ CD	-0.00020	-1.73	125.880	-0.00009	-0.00002	-0.00049
____ CO	0.00060	2.54	78.413	0.00063	0.00011	0.00104
____ CR	0.00077	9.71	127.239	0.00112	-0.00034	0.00152
____ CU	0.00186	6.86	70.089	0.00336	0.00107	0.00114
____ FE	3.33386	543.50	1.074	3.37405	3.32214	3.30539
____ K	1.15043	373.79	5.595	1.18298	1.07628	1.19201
____ LI	-0.00513	5.98	182.877	0.00548	-0.01234	-0.00853
____ MG	3.38990	2,257.61	0.344	3.40320	3.38519	3.38131
____ MN	0.33748	11,789.55	1.110	0.33615	0.34171	0.33458
____ MO	0.00005	0.16	1665.926	0.00092	0.00005	-0.00082
____ NA	19.01005	14,871.23	0.647	19.13878	18.99773	18.89363
____ NI	0.00115	4.16	268.295	0.00155	0.00402	-0.00212
____ P	0.01118	0.41	29.004	0.01153	0.00778	0.01424
____ PB	0.00457	1.03	80.718	0.00261	0.00882	0.00227
____ S	1.90344	62.26	1.327	1.87828	1.90324	1.92879
____ SB	0.00798	-0.06	43.261	0.00837	0.00435	0.01123
____ SE	0.00405	-0.28	262.117	0.00850	-0.00806	0.01170
____ SI	1.62959	174.80	2.296	1.61659	1.67177	1.60042
____ SN	-0.00215	0.80	161.487	-0.00228	0.00138	-0.00554
____ SR	0.06362	28,115.19	0.989	0.06363	0.06425	0.06299
____ TH	-0.00315	11.58	1185.793	-0.00827	0.03647	-0.03765
____ TI	0.00469	160.21	3.190	0.00454	0.00484	0.00469
____ TL	0.00241	0.05	150.344	0.00146	0.00640	-0.00064
____ V	0.00034	-2.81	83.706	0.00046	0.00053	0.00001
____ W	0.00405	1.07	20.580	0.00437	0.00310	0.00468
____ Y1	1598.46109	1,598.46	1.826	1582.34902	1580.87722	1632.15705
____ Y2A	114965.23174	114,965.23	1.525	114666.62667	116848.56345	113380.50509
____ Y2R	5329.80012	5,329.80	1.770	5226.23950	5352.32953	5410.83133
____ ZN	0.00703	23.04	4.568	0.00716	0.00666	0.00726
____ ZR	-0.01306	10.41	13.961	-0.01107	-0.01464	-0.01348

LANCASTER LABORATORIES

Run Name: 1810701T74 Instrument ID: 23745

Tube: 18 Date/Time: 04/17/2018 01:38

Sample Number: **9548797** Class: **** Batch: 181000184801

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00748	-70.27	21.740	-0.00780	-0.00572	-0.00892
____ AL	7.13033	336.54	1.220	7.06514	7.09679	7.22906
____ AS	0.00882	0.02	25.868	0.00751	0.01145	0.00749
____ B	0.08323	547.69	1.670	0.08472	0.08299	0.08197
____ BA	0.30069	111,177.26	0.652	0.30279	0.30036	0.29891
____ BE	0.00020	7.06	7.239	0.00020	0.00019	0.00022
____ CA	53.03878	27,770.97	1.018	53.52740	53.12959	52.45934
____ CD	0.00004	2.77	705.322	-0.00027	0.00017	0.00021
____ CO	0.00566	7.81	6.918	0.00552	0.00610	0.00535
____ CR	0.00776	52.80	19.643	0.00667	0.00950	0.00712
____ CU	0.00759	37.99	40.823	0.00439	0.00779	0.01058
____ FE	21.81668	3,952.52	0.521	21.90813	21.85235	21.68954
____ K	5.30272	1,443.27	0.753	5.25995	5.30922	5.33900
____ LI	-0.00137	19.69	387.727	0.00224	0.00112	-0.00747
____ MG	17.01552	12,575.75	0.602	17.12978	16.98497	16.93183
____ MN	1.68654	57,530.38	0.349	1.69121	1.67993	1.68848
____ MO	0.00146	1.19	70.233	0.00231	0.00174	0.00032
____ NA	102.25271	90,573.77	0.655	102.85312	102.37531	101.52971
____ NI	0.00618	5.85	18.471	0.00604	0.00739	0.00512
____ P	0.10324	7.80	2.591	0.10541	0.10025	0.10406
____ PB	0.00451	1.48	68.352	0.00362	0.00794	0.00197
____ S	9.77900	310.55	0.199	9.79756	9.75880	9.78065
____ SB	0.00429	-0.35	18.253	0.00497	0.00343	0.00446
____ SE	0.01292	0.38	29.514	0.01615	0.00871	0.01391
____ SI	15.43624	1,845.27	0.480	15.51896	15.41358	15.37618
____ SN	-0.00262	0.71	184.696	-0.00720	-0.00311	0.00245
____ SR	0.33648	145,533.49	0.473	0.33832	0.33553	0.33559
____ TH	-0.00445	12.84	632.294	0.01875	0.00364	-0.03573
____ TI	0.13762	3,586.24	1.126	0.13788	0.13596	0.13903
____ TL	-0.00208	-0.21	68.769	-0.00373	-0.00114	-0.00138
____ V	0.00779	52.65	4.709	0.00812	0.00786	0.00739
____ W	0.00135	0.42	148.918	0.00090	-0.00040	0.00356
____ Y1	1548.20068	1,548.20	0.640	1549.58672	1537.66431	1557.35102
____ Y2A	112358.25327	112,358.25	0.615	112658.72905	112848.59169	111567.43907
____ Y2R	5929.56117	5,929.56	5.097	6221.60223	5948.99382	5618.08744
____ ZN	0.03480	96.18	0.724	0.03462	0.03508	0.03469
____ ZR	-0.01006	13.86	72.889	-0.01595	-0.01239	-0.00185

LANCASTER LABORATORIES

Run Name: 1810701T74 Instrument ID: 23745

Tube: 19 Date/Time: 04/17/2018 01:41

Sample Number: **9548799** Class: **** Batch: 181000184801

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00044	-8.30	388.791	0.00114	0.00171	-0.00152
____ AL	-0.05392	20.03	44.678	-0.08070	-0.03400	-0.04708
____ AS	0.01484	0.46	53.693	0.02105	0.01760	0.00586
____ B	0.00153	21.89	52.989	0.00089	0.00125	0.00244
____ BA	0.00219	1,024.51	1.557	0.00222	0.00215	0.00220
____ BE	-0.00005	-61.85	19.110	-0.00005	-0.00006	-0.00004
____ CA	0.03374	33.77	3.615	0.03240	0.03402	0.03479
____ CD	-0.00003	-1.79	380.723	0.00010	-0.00014	-0.00005
____ CO	-0.00069	1.20	45.236	-0.00047	-0.00105	-0.00056
____ CR	0.00002	4.99	7078.553	-0.00014	-0.00107	0.00126
____ CU	-0.00091	-4.91	161.758	0.00070	-0.00216	-0.00126
____ FE	-0.00674	-1.95	182.517	0.00049	-0.02093	0.00024
____ K	0.12005	150.92	67.083	0.21198	0.06192	0.08625
____ LI	-0.00349	11.60	48.378	-0.00191	-0.00329	-0.00527
____ MG	0.01513	10.00	53.128	0.00792	0.01368	0.02380
____ MN	0.00050	28.43	20.042	0.00046	0.00042	0.00061
____ MO	-0.00016	0.00	662.116	-0.00118	-0.00024	0.00094
____ NA	0.20853	-159.02	5.948	0.20325	0.19964	0.22270
____ NI	0.00141	4.41	75.619	0.00250	0.00038	0.00134
____ P	0.00274	-0.32	182.240	0.00555	-0.00302	0.00568
____ PB	-0.00082	-0.69	633.538	-0.00668	0.00095	0.00326
____ S	0.01117	0.16	209.083	-0.00705	0.00307	0.03749
____ SB	-0.00019	-1.02	5065.577	0.00090	0.00861	-0.01006
____ SE	0.01053	0.30	23.460	0.00834	0.01004	0.01320
____ SI	0.07027	7.57	29.683	0.07482	0.08847	0.04751
____ SN	-0.00084	1.00	178.401	-0.00138	0.00086	-0.00201
____ SR	0.00050	153.39	1.831	0.00051	0.00050	0.00049
____ TH	0.03800	17.63	154.686	-0.02478	0.04703	0.09176
____ TI	0.00030	44.40	44.335	0.00027	0.00044	0.00018
____ TL	-0.00005	-0.29	3355.896	-0.00162	-0.00022	0.00169
____ V	-0.00129	-14.75	41.578	-0.00168	-0.00151	-0.00068
____ W	0.00077	0.20	288.501	-0.00150	0.00086	0.00295
____ Y1	1597.81585	1,597.82	2.176	1586.52580	1636.83242	1570.08932
____ Y2A	115449.97350	115,449.97	1.117	115770.77767	116549.10090	114030.04193
____ Y2R	5551.77333	5,551.77	2.890	5724.30000	5524.04000	5406.98000
____ ZN	0.00128	7.35	20.664	0.00124	0.00104	0.00157
____ ZR	-0.01165	12.62	40.424	-0.01067	-0.00751	-0.01677

LANCASTER LABORATORIES

Run Name: 1810701T74 Instrument ID: 23745

Tube: 20 Date/Time: 04/17/2018 01:45

Sample Number: **9549155** Class: **** Batch: 181000184801

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00043	-16.61	168.791	-0.00122	0.00018	-0.00023
____ AL	2.02225	102.60	3.334	2.09513	1.96212	2.00951
____ AS	0.01337	0.36	48.652	0.01894	0.00622	0.01496
____ B	0.07432	390.47	2.221	0.07621	0.07355	0.07320
____ BA	0.02186	8,436.15	1.149	0.02199	0.02157	0.02201
____ BE	-0.00002	-52.90	63.155	-0.00001	-0.00003	-0.00004
____ CA	38.39014	18,327.25	1.705	38.93949	38.56480	37.66614
____ CD	0.00016	-0.50	106.940	0.00005	0.00035	0.00007
____ CO	0.00154	3.60	61.599	0.00244	0.00055	0.00161
____ CR	0.00414	31.14	19.866	0.00332	0.00412	0.00497
____ CU	0.01673	90.31	4.059	0.01751	0.01638	0.01629
____ FE	2.97323	491.18	1.303	2.96865	3.01406	2.93699
____ K	2.02914	576.98	2.828	2.07852	2.04271	1.96618
____ LI	-0.00539	5.53	43.611	-0.00806	-0.00366	-0.00444
____ MG	6.97429	4,704.23	1.165	7.04973	6.98487	6.88826
____ MN	0.08002	2,799.72	1.187	0.08029	0.07896	0.08080
____ MO	0.00242	1.89	37.039	0.00140	0.00278	0.00308
____ NA	20.38818	16,188.61	1.548	20.65275	20.47288	20.03890
____ NI	0.00606	6.44	13.826	0.00647	0.00509	0.00660
____ P	0.08384	6.21	1.924	0.08228	0.08373	0.08550
____ PB	0.00996	2.79	17.820	0.01191	0.00955	0.00843
____ S	23.92786	759.29	0.769	24.11443	23.74648	23.92268
____ SB	0.00398	-0.52	157.954	0.00327	-0.00192	0.01060
____ SE	0.00746	0.02	74.024	0.01381	0.00380	0.00477
____ SI	7.04128	766.49	1.564	7.13675	7.06627	6.92082
____ SN	-0.00202	0.79	202.444	-0.00398	-0.00474	0.00268
____ SR	0.17558	77,801.04	0.799	0.17626	0.17397	0.17651
____ TH	0.05312	19.29	151.054	-0.01837	0.03782	0.13990
____ TI	0.08679	2,324.68	1.702	0.08705	0.08520	0.08812
____ TL	-0.00281	-0.59	226.315	-0.00852	0.00405	-0.00396
____ V	0.00638	41.54	15.534	0.00694	0.00697	0.00524
____ W	0.00184	0.55	119.206	0.00006	0.00428	0.00117
____ Y1	1546.28316	1,546.28	2.327	1587.70831	1528.38955	1522.75163
____ Y2A	114821.64844	114,821.65	2.615	111545.61491	115475.79713	117443.53328
____ Y2R	5401.07486	5,401.07	1.197	5475.15454	5356.19628	5371.87375
____ ZN	0.03989	105.65	0.755	0.04015	0.03956	0.03995
____ ZR	-0.00997	13.73	123.278	-0.01012	0.00240	-0.02217

LANCASTER LABORATORIES

Run Name: 1810701T74 Instrument ID: 23745

Tube: 21 Date/Time: 04/17/2018 01:49

Sample Number: **9549156** Class: **** Batch: 181000184801

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00081	-2.26	166.660	0.00199	0.00112	-0.00067
____ AL	0.26239	35.09	36.827	0.31519	0.32113	0.15087
____ AS	0.01654	0.53	68.255	0.02441	0.00361	0.02160
____ B	0.02912	154.94	2.852	0.02986	0.02926	0.02822
____ BA	0.04012	15,363.71	0.930	0.04055	0.03990	0.03992
____ BE	-0.00009	-72.78	6.530	-0.00009	-0.00009	-0.00010
____ CA	105.45845	54,968.82	0.577	105.94102	105.65995	104.77439
____ CD	0.00021	-0.84	154.641	0.00057	-0.00005	0.00011
____ CO	-0.00097	0.90	212.028	0.00059	-0.00328	-0.00020
____ CR	-0.00040	2.45	199.282	0.00041	-0.00119	-0.00042
____ CU	0.00217	20.11	34.572	0.00223	0.00289	0.00139
____ FE	0.06879	11.61	34.969	0.04810	0.06309	0.09519
____ K	1.98380	621.90	4.388	1.99724	2.06334	1.89081
____ LI	0.01350	67.22	24.156	0.01102	0.01719	0.01227
____ MG	25.09577	18,506.41	0.471	25.21259	25.09828	24.97644
____ MN	0.06192	2,174.75	1.008	0.06257	0.06184	0.06133
____ MO	-0.00040	-0.16	309.428	0.00087	-0.00161	-0.00046
____ NA	89.08711	78,820.96	0.461	89.37616	89.26775	88.61743
____ NI	0.00449	5.71	5.430	0.00424	0.00473	0.00451
____ P	0.08149	5.91	7.405	0.08537	0.08456	0.07453
____ PB	-0.00017	-0.44	968.880	-0.00035	0.00154	-0.00169
____ S	85.34664	2,644.74	0.877	86.01522	84.53869	85.48602
____ SB	0.00198	-0.73	267.517	0.00774	0.00092	-0.00271
____ SE	0.00972	0.22	21.629	0.00883	0.00821	0.01212
____ SI	12.57380	1,502.20	0.213	12.57271	12.54759	12.60111
____ SN	-0.00354	0.56	113.403	-0.00237	-0.00024	-0.00801
____ SR	0.27281	122,184.92	0.910	0.27555	0.27215	0.27072
____ TH	-0.01550	11.09	343.655	0.02174	0.00826	-0.07650
____ TI	0.00553	182.58	2.012	0.00552	0.00565	0.00543
____ TL	0.00298	0.07	134.786	0.00500	-0.00165	0.00558
____ V	-0.00042	-8.78	246.931	0.00076	-0.00116	-0.00086
____ W	0.00028	0.07	665.828	-0.00034	0.00239	-0.00120
____ Y1	1509.79203	1,509.79	1.771	1540.44127	1497.70964	1491.22517
____ Y2A	115070.78743	115,070.79	3.403	118831.11022	115365.81367	111015.43839
____ Y2R	5927.36518	5,927.37	1.409	6022.01560	5864.01757	5896.06236
____ ZN	0.00459	15.21	1.084	0.00464	0.00454	0.00460
____ ZR	-0.00864	15.06	46.760	-0.00434	-0.00923	-0.01235

LANCASTER LABORATORIES

Run Name: 1810701T74

Instrument ID: 23745

Tube: 22

Date/Time: 04/17/2018 01:53

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.50777	3,992.16	1.574	0.51381	0.51079	0.49871
____ AL	25.95069	1,036.69	1.541	26.34829	25.95540	25.54840
____ AS	0.51325	27.62	2.129	0.50388	0.52525	0.51062
____ B	0.49480	2,543.49	1.711	0.49688	0.50204	0.48549
____ BA	0.53453	201,680.05	1.364	0.53703	0.54024	0.52632
____ BE	0.49433	130,973.08	1.266	0.49546	0.49994	0.48758
____ CA	25.17082	11,725.43	0.893	25.36748	25.21910	24.92588
____ CD	0.50823	1,821.81	0.774	0.50381	0.51134	0.50954
____ CO	0.50806	526.43	0.561	0.50509	0.51077	0.50831
____ CR	0.49412	3,121.11	1.517	0.49303	0.50210	0.48723
____ CU	0.52205	2,709.53	1.520	0.52321	0.52934	0.51359
____ FE	25.20892	4,051.38	1.367	25.45210	25.36003	24.81461
____ K	25.38206	5,692.73	1.151	25.53318	25.56765	25.04536
____ LI	0.52570	1,533.19	1.654	0.53232	0.52892	0.51585
____ MG	25.24591	16,531.35	0.780	25.42297	25.28093	25.03382
____ MN	0.51638	17,970.38	1.090	0.51777	0.52119	0.51019
____ MO	0.51447	391.94	0.700	0.51089	0.51809	0.51443
____ NA	25.59099	19,880.67	1.126	25.81385	25.69370	25.26542
____ NI	0.51229	255.83	0.830	0.50753	0.51573	0.51361
____ P	0.50687	41.73	0.927	0.50242	0.51178	0.50640
____ PB	0.49825	159.60	1.847	0.48763	0.50354	0.50358
____ S	25.58501	842.83	0.414	25.48305	25.69461	25.57739
____ SB	0.50487	56.42	2.737	0.49816	0.52076	0.49568
____ SE	0.52503	46.44	0.426	0.52761	0.52389	0.52359
____ SI	25.54108	2,713.16	1.059	25.83340	25.48980	25.30003
____ SN	0.50406	75.76	1.145	0.50057	0.51072	0.50090
____ SR	0.52083	228,675.46	1.247	0.52244	0.52637	0.51369
____ TH	0.53981	82.98	14.318	0.45194	0.57018	0.59730
____ TI	0.51868	13,697.41	1.157	0.51893	0.52454	0.51255
____ TL	0.50311	59.25	1.589	0.49536	0.51133	0.50265
____ V	0.51149	3,694.04	1.782	0.51520	0.51817	0.50111
____ W	0.50378	133.97	1.093	0.49742	0.50712	0.50680
____ Y1	1605.40195	1,605.40	3.552	1645.71124	1630.33729	1540.15731
____ Y2A	114670.41263	114,670.41	4.385	109627.72129	114700.36985	119683.14674
____ Y2R	5263.90655	5,263.91	1.784	5271.96682	5166.23480	5353.51804
____ ZN	0.51423	1,370.67	0.628	0.51088	0.51732	0.51448
____ ZR	0.50751	398.52	1.894	0.51563	0.51001	0.49690

LANCASTER LABORATORIES

Run Name: 1810701T74

Instrument ID: 23745

Tube: 23

Date/Time: 04/17/2018 01:56

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00026	-13.59	763.950	0.00154	0.00005	-0.00236
____ AL	0.07298	24.20	30.822	0.07813	0.04836	0.09246
____ AS	0.00929	0.16	120.636	0.01982	0.01056	-0.00250
____ B	0.00073	17.77	174.793	0.00087	0.00193	-0.00061
____ BA	0.00001	194.09	484.097	0.00006	-0.00004	0.00002
____ BE	-0.00004	-58.14	78.550	-0.00007	-0.00003	-0.00001
____ CA	0.00015	16.47	3496.174	-0.01194	0.01345	-0.00107
____ CD	0.00023	-0.82	95.344	-0.00001	0.00043	0.00028
____ CO	-0.00039	1.52	58.098	-0.00038	-0.00061	-0.00017
____ CR	0.00026	6.52	433.422	0.00039	-0.00092	0.00131
____ CU	-0.00154	-8.45	139.092	-0.00394	-0.00083	0.00016
____ FE	-0.00271	-1.15	498.471	-0.01462	-0.00551	0.01199
____ K	0.27037	177.22	18.269	0.25100	0.32652	0.23360
____ LI	0.00670	40.35	59.889	0.01109	0.00575	0.00324
____ MG	0.00929	5.82	19.626	0.01047	0.00719	0.01022
____ MN	-0.00001	10.68	955.715	0.00002	0.00005	-0.00009
____ MO	0.00058	0.58	133.623	0.00019	0.00147	0.00007
____ NA	0.03783	-287.32	75.908	0.03084	0.01326	0.06940
____ NI	0.00070	4.08	306.241	0.00229	0.00155	-0.00174
____ P	0.00684	0.03	31.534	0.00883	0.00455	0.00714
____ PB	-0.00049	-0.60	1158.861	0.00608	-0.00390	-0.00366
____ S	0.03755	1.04	19.493	0.04222	0.04131	0.02911
____ SB	0.00339	-0.62	210.076	0.01007	0.00419	-0.00410
____ SE	0.00716	0.03	144.120	0.00982	0.01588	-0.00423
____ SI	0.02013	1.91	117.191	-0.00415	0.02157	0.04296
____ SN	-0.00513	0.36	25.868	-0.00380	-0.00512	-0.00646
____ SR	-0.00007	-99.59	52.803	-0.00010	-0.00009	-0.00003
____ TH	0.03294	16.33	324.079	0.15267	-0.05231	-0.00154
____ TI	0.00030	43.71	96.404	0.00057	0.00034	-0.00001
____ TL	0.00015	-0.26	1221.494	0.00077	0.00158	-0.00190
____ V	-0.00156	-16.46	26.487	-0.00150	-0.00199	-0.00117
____ W	0.00086	0.20	323.211	0.00362	-0.00195	0.00091
____ Y1	1598.60463	1,598.60	4.260	1570.97987	1676.17251	1548.66151
____ Y2A	113632.69907	113,632.70	0.970	113143.41658	112859.21158	114895.46906
____ Y2R	5315.23333	5,315.23	5.502	5218.83000	5083.14000	5643.73000
____ ZN	-0.00045	2.80	61.678	-0.00013	-0.00063	-0.00058
____ ZR	-0.01128	12.13	49.131	-0.01356	-0.00496	-0.01532

LANCASTER LABORATORIES

Run Name: 1810701T74 Instrument ID: 23745

Tube: 24 Date/Time: 04/17/2018 02:00

Sample Number: **9549157** Class: **** Batch: 181000184801

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00090	-18.43	203.579	-0.00200	0.00121	-0.00190
____ AL	1.94935	98.78	3.766	1.97906	2.00324	1.86574
____ AS	0.01231	0.28	34.993	0.01513	0.00735	0.01443
____ B	3.16836	14,658.08	0.343	3.15584	3.17555	3.17367
____ BA	0.08572	31,320.14	0.435	0.08531	0.08603	0.08581
____ BE	-0.00003	-54.63	57.643	-0.00002	-0.00002	-0.00006
____ CA	84.00040	39,635.35	2.232	85.41804	84.70807	81.87510
____ CD	0.00016	-0.34	163.756	0.00004	-0.00002	0.00045
____ CO	0.00002	1.86	2126.580	-0.00041	-0.00002	0.00050
____ CR	0.00235	19.05	15.738	0.00277	0.00210	0.00217
____ CU	0.01000	58.95	13.728	0.01155	0.00895	0.00949
____ FE	3.65610	599.24	1.599	3.69962	3.67901	3.58967
____ K	5.14461	1,268.91	1.360	5.20178	5.16548	5.06657
____ LI	-0.00125	17.35	508.894	-0.00854	0.00328	0.00150
____ MG	22.09960	14,739.35	2.268	22.45436	22.31832	21.52612
____ MN	0.21282	7,152.06	0.884	0.21104	0.21479	0.21265
____ MO	0.00235	1.77	16.343	0.00222	0.00205	0.00279
____ NA	441.47562	354,275.83	2.809	444.58789	452.02610	427.81288
____ NI	0.00479	5.58	36.927	0.00644	0.00292	0.00501
____ P	0.03593	2.26	8.996	0.03912	0.03600	0.03266
____ PB	0.00623	1.56	43.542	0.00907	0.00367	0.00595
____ S	40.38364	1,222.39	0.705	40.58316	40.05759	40.51017
____ SB	0.00114	-0.78	739.790	-0.00141	-0.00569	0.01051
____ SE	0.00420	-0.24	341.770	-0.00071	-0.00706	0.02038
____ SI	11.22364	1,211.91	2.070	11.34808	11.36725	10.95559
____ SN	-0.00345	0.56	221.819	-0.01060	0.00463	-0.00438
____ SR	0.39523	168,663.48	0.354	0.39369	0.39643	0.39556
____ TH	0.03327	16.43	146.304	-0.02293	0.06094	0.06178
____ TI	0.03016	800.62	1.222	0.02975	0.03027	0.03046
____ TL	-0.00683	-0.96	53.469	-0.01103	-0.00447	-0.00498
____ V	0.00267	14.05	23.562	0.00338	0.00219	0.00244
____ W	-0.00049	-0.10	140.740	-0.00065	0.00026	-0.00109
____ Y1	1474.91712	1,474.92	2.309	1459.62005	1451.19584	1513.93548
____ Y2A	110569.21716	110,569.22	3.427	114632.99781	107133.81618	109940.83749
____ Y2R	5356.55361	5,356.55	2.369	5502.94764	5278.23095	5288.48225
____ ZN	0.01465	39.82	2.515	0.01447	0.01440	0.01507
____ ZR	-0.00171	19.55	432.337	0.00681	-0.00587	-0.00606

LANCASTER LABORATORIES

Run Name: 1810701T74 Instrument ID: 23745

Tube: 25 Date/Time: 04/17/2018 02:04

Sample Number: **9549158** Class: **** Batch: 181000184801

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00074	-3.31	28.023	0.00091	0.00051	0.00081
____ AL	0.14956	27.00	68.139	0.15243	0.25001	0.04625
____ AS	0.01327	0.37	53.938	0.00501	0.01706	0.01773
____ B	0.00579	42.41	6.840	0.00565	0.00624	0.00549
____ BA	0.00047	371.81	3.851	0.00049	0.00046	0.00046
____ BE	-0.00003	-56.76	92.757	0.00000	-0.00004	-0.00006
____ CA	0.04190	36.20	28.590	0.05215	0.04482	0.02873
____ CD	0.00000	-1.67	7510.396	-0.00006	-0.00009	0.00015
____ CO	-0.00085	1.03	37.802	-0.00100	-0.00108	-0.00048
____ CR	0.00115	12.15	123.564	-0.00043	0.00154	0.00232
____ CU	0.00488	20.60	29.947	0.00655	0.00381	0.00429
____ FE	0.00057	-0.68	737.432	0.00120	-0.00393	0.00445
____ K	0.25535	174.13	35.981	0.31912	0.29688	0.15004
____ LI	-0.00165	16.10	414.698	-0.00320	-0.00761	0.00584
____ MG	0.01557	9.98	21.161	0.01915	0.01488	0.01267
____ MN	0.00087	41.96	14.891	0.00072	0.00092	0.00096
____ MO	-0.00009	0.06	232.635	0.00011	-0.00007	-0.00032
____ NA	0.34107	-46.03	6.359	0.36605	0.32717	0.32998
____ NI	0.00113	4.23	100.638	0.00055	0.00040	0.00245
____ P	0.00608	-0.02	52.285	0.00388	0.00464	0.00972
____ PB	0.00343	0.67	72.638	0.00599	0.00327	0.00102
____ S	0.02656	0.67	42.168	0.03553	0.01401	0.03014
____ SB	0.00942	0.08	20.034	0.01100	0.00733	0.00994
____ SE	0.00039	-0.59	1416.222	0.00382	-0.00603	0.00338
____ SI	0.07451	7.67	28.234	0.07614	0.09468	0.05270
____ SN	-0.00355	0.59	45.901	-0.00542	-0.00249	-0.00273
____ SR	0.00004	-49.30	70.103	0.00002	0.00003	0.00007
____ TH	-0.00837	10.80	169.129	-0.02126	-0.01063	0.00678
____ TI	0.00013	39.66	426.602	-0.00002	-0.00032	0.00073
____ TL	-0.00024	-0.31	1689.706	0.00437	-0.00350	-0.00160
____ V	-0.00060	-10.15	101.159	0.00003	-0.00065	-0.00117
____ W	-0.00011	-0.03	380.419	-0.00030	-0.00041	0.00037
____ Y1	1583.14047	1,583.14	1.890	1608.28956	1591.09185	1550.03999
____ Y2A	115111.68140	115,111.68	0.680	115973.97807	114915.19960	114445.86653
____ Y2R	5302.29000	5,302.29	3.207	5490.04000	5258.11000	5158.72000
____ ZN	0.00269	10.96	19.638	0.00324	0.00263	0.00219
____ ZR	-0.00658	15.03	42.259	-0.00933	-0.00378	-0.00662

LANCASTER LABORATORIES

Run Name: 1810701T74

Instrument ID: 23745

Tube: 26

Date/Time: 04/17/2018 02:08

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00666	31.90	19.220	0.00792	0.00536	0.00670
____ AL	0.27416	32.33	28.609	0.36428	0.23684	0.22135
____ AS	0.03452	1.49	25.033	0.04441	0.03067	0.02847
____ B	0.05068	270.29	2.190	0.04950	0.05170	0.05085
____ BA	0.00543	2,361.77	1.668	0.00543	0.00533	0.00551
____ BE	0.00481	1,284.28	0.496	0.00480	0.00483	0.00479
____ CA	0.19729	107.38	7.600	0.21360	0.18409	0.19419
____ CD	0.00513	16.28	10.882	0.00553	0.00449	0.00537
____ CO	0.00487	6.77	15.746	0.00426	0.00573	0.00462
____ CR	0.01436	100.00	2.187	0.01465	0.01403	0.01440
____ CU	0.00933	71.24	12.063	0.01026	0.00808	0.00964
____ FE	0.19305	30.15	5.615	0.18064	0.19778	0.20071
____ K	0.70017	268.17	10.615	0.76735	0.62033	0.71284
____ LI	0.02052	79.18	36.428	0.02194	0.02718	0.01244
____ MG	0.11345	73.72	3.093	0.11745	0.11090	0.11200
____ MN	0.00527	200.44	2.053	0.00517	0.00524	0.00538
____ MO	0.00994	7.48	4.705	0.00941	0.01030	0.01010
____ NA	1.15134	588.82	1.253	1.14279	1.16799	1.14325
____ NI	0.01284	9.79	21.961	0.00998	0.01562	0.01292
____ P	0.09675	7.24	4.916	0.09541	0.09280	0.10203
____ PB	0.01340	3.73	19.751	0.01588	0.01371	0.01061
____ S	0.51679	16.37	2.973	0.51297	0.50370	0.53371
____ SB	0.02030	1.28	46.142	0.02898	0.02154	0.01037
____ SE	0.02856	1.86	31.750	0.03711	0.02950	0.01905
____ SI	0.05829	5.93	28.977	0.04093	0.05927	0.07467
____ SN	0.01734	3.59	13.555	0.01631	0.01567	0.02002
____ SR	0.00530	2,367.13	1.174	0.00533	0.00534	0.00523
____ TH	0.26341	46.22	10.753	0.27552	0.23104	0.28366
____ TI	0.01039	324.04	4.639	0.00983	0.01062	0.01070
____ TL	0.02960	3.11	7.664	0.03189	0.02735	0.02956
____ V	0.00407	27.70	21.899	0.00305	0.00471	0.00446
____ W	0.01107	2.88	8.270	0.01043	0.01065	0.01212
____ Y1	1560.89055	1,560.89	1.906	1549.11878	1538.82816	1594.72470
____ Y2A	120069.16021	120,069.16	4.936	125281.60415	121304.12176	113621.75474
____ Y2R	5222.97000	5,222.97	1.342	5175.78000	5189.60000	5303.53000
____ ZN	0.02148	59.07	5.542	0.02065	0.02284	0.02094
____ ZR	0.04593	56.88	7.816	0.04869	0.04723	0.04187

LANCASTER LABORATORIES

Run Name: 1810701T74 Instrument ID: 23745

Tube: 27 Date/Time: 04/17/2018 02:12

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.07226	-522.29	1.240	-0.07314	-0.07230	-0.07135
____ AL	493.06294	19,046.17	0.500	495.90637	491.79970	491.48276
____ AS	0.01365	0.10	9.337	0.01343	0.01502	0.01250
____ B	-0.04093	957.05	1.168	-0.04115	-0.04038	-0.04126
____ BA	0.00084	436.21	2.876	0.00083	0.00081	0.00086
____ BE	-0.00022	-91.25	1.167	-0.00022	-0.00022	-0.00022
____ CA	495.90226	215,342.19	0.536	498.92084	494.88580	493.90013
____ CD	-0.00509	17.08	8.399	-0.00553	-0.00468	-0.00506
____ CO	0.00092	2.52	97.243	-0.00003	0.00103	0.00176
____ CR	-0.00723	-34.85	12.865	-0.00826	-0.00697	-0.00646
____ CU	-0.00337	45.44	49.339	-0.00529	-0.00241	-0.00241
____ FE	194.12165	29,354.26	0.594	195.45158	193.40711	193.50625
____ K	0.26004	167.19	11.305	0.25651	0.29104	0.23257
____ LI	0.00168	24.99	210.557	0.00576	-0.00053	-0.00019
____ MG	512.77796	290,286.91	3.327	529.67009	513.10483	495.55895
____ MN	0.00447	142.03	0.908	0.00449	0.00442	0.00450
____ MO	-0.00068	-0.34	177.333	0.00007	-0.00208	-0.00004
____ NA	0.15869	-182.91	7.340	0.17130	0.14833	0.15642
____ NI	0.00312	-2.15	48.287	0.00155	0.00455	0.00326
____ P	0.02268	1.16	30.994	0.01545	0.02310	0.02949
____ PB	-0.00883	30.17	79.315	-0.00381	-0.01683	-0.00585
____ S	0.02764	0.62	58.375	0.01771	0.01895	0.04625
____ SB	0.00597	1.01	215.694	0.02081	-0.00079	-0.00212
____ SE	0.01085	-0.70	78.043	0.01787	0.01324	0.00144
____ SI	-0.00225	-0.51	570.189	0.00660	-0.01694	0.00360
____ SN	-0.00131	0.81	188.658	-0.00410	-0.00048	0.00064
____ SR	0.00365	10,329.36	4.711	0.00348	0.00383	0.00365
____ TH	0.08784	22.50	53.322	0.05331	0.14116	0.06906
____ TI	0.00342	107.89	4.837	0.00324	0.00356	0.00346
____ TL	-0.00015	-0.28	3962.982	-0.00674	0.00375	0.00256
____ V	-0.00127	11.02	93.288	-0.00256	-0.00102	-0.00023
____ W	0.00167	0.41	136.993	0.00230	0.00357	-0.00087
____ Y1	1413.78127	1,413.78	3.790	1475.61925	1384.45941	1381.26516
____ Y2A	98101.07123	98,101.07	0.929	98592.72619	98661.40403	97049.08348
____ Y2R	5071.85979	5,071.86	2.461	5211.84683	4972.23773	5031.49480
____ ZN	0.01012	58.45	5.128	0.00952	0.01036	0.01047
____ ZR	-0.00127	19.49	419.316	-0.00480	-0.00387	0.00486

LANCASTER LABORATORIES

Run Name: 1810701T74

Instrument ID: 23745

Tube: 28

Date/Time: 04/17/2018 02:15

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.14849	1,054.82	0.644	0.14836	0.14951	0.14761
____ AL	494.82242	19,643.60	0.562	494.50399	497.75016	492.21310
____ AS	0.12153	5.10	1.217	0.12323	0.12073	0.12062
____ B	-0.03886	1,044.34	8.711	-0.03588	-0.04254	-0.03817
____ BA	0.55464	193,407.24	0.138	0.55382	0.55477	0.55533
____ BE	0.53138	130,226.91	0.329	0.52953	0.53160	0.53301
____ CA	497.88038	222,137.73	0.656	495.93285	501.64849	496.05982
____ CD	0.96334	2,955.94	0.620	0.96408	0.95704	0.96891
____ CO	0.48859	428.48	0.370	0.48861	0.48677	0.49039
____ CR	0.49950	2,917.87	0.652	0.49682	0.49856	0.50312
____ CU	0.54603	2,649.59	0.729	0.54636	0.54189	0.54984
____ FE	194.22847	30,182.05	0.493	193.59718	195.33073	193.75750
____ K	0.25241	168.91	49.020	0.26078	0.37174	0.12470
____ LI	0.00541	35.82	74.977	0.00976	0.00472	0.00174
____ MG	500.49489	291,122.48	6.640	523.56112	515.52119	462.40235
____ MN	0.52253	16,829.08	0.339	0.52110	0.52198	0.52451
____ MO	-0.00032	-0.10	174.531	-0.00057	0.00032	-0.00072
____ NA	0.13693	-204.81	6.798	0.13271	0.13048	0.14760
____ NI	0.98370	408.69	0.614	0.98599	0.97684	0.98826
____ P	0.02582	1.54	11.336	0.02885	0.02561	0.02301
____ PB	0.51027	169.28	1.275	0.51200	0.50308	0.51573
____ S	0.02561	0.55	44.004	0.01271	0.03057	0.03354
____ SB	0.62498	62.63	1.479	0.62711	0.63298	0.61487
____ SE	0.57170	41.68	0.448	0.57373	0.56882	0.57256
____ SI	0.00250	-0.04	629.015	0.02055	-0.00843	-0.00461
____ SN	-0.00103	0.82	100.113	-0.00101	-0.00207	-0.00001
____ SR	0.00415	11,405.28	3.075	0.00422	0.00400	0.00422
____ TH	0.03553	16.16	143.034	0.00300	0.09410	0.00949
____ TI	0.00231	95.15	8.069	0.00212	0.00249	0.00231
____ TL	0.08977	9.00	6.358	0.08427	0.08938	0.09566
____ V	0.52822	3,564.87	0.265	0.52753	0.52729	0.52983
____ W	0.00531	3.41	93.823	0.01005	0.00576	0.00012
____ Y1	1361.89522	1,361.90	1.197	1363.77190	1377.18171	1344.73204
____ Y2A	106051.15400	106,051.15	4.198	108771.60000	108468.37897	100913.48303
____ Y2R	5213.40291	5,213.40	7.458	5106.28497	4889.37850	5644.54527
____ ZN	1.04251	2,374.69	0.459	1.04203	1.03798	1.04752
____ ZR	-0.00021	19.89	2136.617	0.00233	0.00238	-0.00533

LANCASTER LABORATORIES

Run Name: 1810701T74

Instrument ID: 23745

Tube: 29

Date/Time: 04/17/2018 02:19

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.50093	3,852.48	0.299	0.50106	0.50236	0.49937
____ AL	25.92758	1,035.78	1.926	26.43929	25.44129	25.90216
____ AS	0.49735	25.45	0.102	0.49696	0.49717	0.49792
____ B	0.48687	2,449.95	0.611	0.48892	0.48823	0.48346
____ BA	0.52765	194,718.76	0.775	0.53234	0.52481	0.52581
____ BE	0.48761	126,350.76	0.509	0.49009	0.48512	0.48761
____ CA	25.17108	11,731.55	0.542	25.17511	25.03261	25.30552
____ CD	0.50397	1,718.29	0.308	0.50563	0.50256	0.50374
____ CO	0.50475	497.40	0.550	0.50737	0.50184	0.50503
____ CR	0.49053	3,029.75	0.363	0.49085	0.49213	0.48861
____ CU	0.50904	2,583.93	0.307	0.50751	0.50898	0.51063
____ FE	25.14498	4,043.03	0.713	25.25043	24.93802	25.24648
____ K	25.67537	5,759.82	0.872	25.78777	25.41743	25.82093
____ LI	0.53077	1,548.28	1.577	0.53648	0.52116	0.53466
____ MG	25.15127	16,478.35	0.497	25.13160	25.03722	25.28499
____ MN	0.50910	17,326.65	0.351	0.51105	0.50753	0.50872
____ MO	0.51155	370.68	0.083	0.51170	0.51188	0.51108
____ NA	25.75617	20,022.04	0.614	25.75214	25.59996	25.91640
____ NI	0.50852	241.59	0.295	0.50928	0.50948	0.50679
____ P	0.51499	40.33	0.274	0.51641	0.51496	0.51359
____ PB	0.48935	149.16	1.144	0.49457	0.49004	0.48343
____ S	25.10925	786.79	0.474	24.98752	25.22561	25.11462
____ SB	0.49000	52.01	1.363	0.48240	0.49494	0.49266
____ SE	0.52184	43.91	1.150	0.51545	0.52736	0.52273
____ SI	25.65114	2,726.46	0.508	25.53366	25.62851	25.79127
____ SN	0.49827	71.22	0.683	0.49674	0.49589	0.50217
____ SR	0.51402	220,724.20	0.567	0.51725	0.51158	0.51322
____ TH	0.53163	81.79	10.450	0.57453	0.55148	0.46888
____ TI	0.51096	13,196.55	0.196	0.51178	0.50984	0.51127
____ TL	0.49823	55.82	1.164	0.49828	0.50400	0.49240
____ V	0.50302	3,552.67	0.729	0.50603	0.50409	0.49893
____ W	0.50155	126.86	0.518	0.50174	0.49887	0.50405
____ Y1	1526.91597	1,526.92	3.371	1507.15371	1585.33529	1488.25890
____ Y2A	112116.63142	112,116.63	3.265	112205.36356	108412.36000	115732.17070
____ Y2R	5266.29121	5,266.29	4.337	5002.57845	5398.99141	5397.30377
____ ZN	0.50956	1,291.90	0.205	0.51071	0.50866	0.50933
____ ZR	0.51050	400.69	2.592	0.51615	0.49538	0.51997

LANCASTER LABORATORIES

Run Name: 1810701T74

Instrument ID: 23745

Tube: 30

Date/Time: 04/17/2018 02:23

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00078	-15.04	217.029	0.00010	0.00030	-0.00274
____ AL	0.04570	22.27	141.887	0.11718	0.02923	-0.00932
____ AS	0.00781	0.08	120.975	0.00000	0.01831	0.00512
____ B	0.00188	22.57	95.634	0.00395	0.00106	0.00064
____ BA	0.00004	201.39	13.524	0.00004	0.00005	0.00004
____ BE	-0.00010	-71.79	49.672	-0.00015	-0.00009	-0.00006
____ CA	-0.00114	15.43	350.329	0.00003	0.00214	-0.00559
____ CD	0.00023	-0.87	81.483	0.00004	0.00041	0.00024
____ CO	0.00063	2.55	117.184	0.00030	0.00011	0.00147
____ CR	-0.00027	3.11	329.395	0.00042	0.00003	-0.00125
____ CU	-0.00159	-11.76	66.527	-0.00038	-0.00232	-0.00206
____ FE	-0.01397	-2.97	3.998	-0.01462	-0.01359	-0.01371
____ K	0.09350	133.77	155.583	0.26140	0.01380	0.00530
____ LI	0.00401	32.30	139.860	0.00396	-0.00157	0.00963
____ MG	0.00808	4.67	102.372	0.01580	0.00911	-0.00066
____ MN	-0.00003	10.03	214.906	-0.00011	0.00000	0.00001
____ MO	0.00049	0.49	59.467	0.00063	0.00068	0.00015
____ NA	0.00572	-304.73	257.232	-0.00456	-0.00085	0.02257
____ NI	0.00035	3.88	215.989	0.00108	-0.00044	0.00042
____ P	0.00469	-0.13	29.090	0.00330	0.00476	0.00603
____ PB	0.00143	0.02	232.125	-0.00241	0.00338	0.00333
____ S	0.00423	-0.06	209.220	0.00665	0.01162	-0.00558
____ SB	0.00623	-0.29	46.857	0.00338	0.00921	0.00609
____ SE	0.00360	-0.31	119.368	-0.00084	0.00772	0.00391
____ SI	0.01327	0.99	231.674	0.04675	0.00674	-0.01368
____ SN	-0.00145	0.90	151.695	-0.00014	-0.00022	-0.00399
____ SR	-0.00007	-96.61	60.058	-0.00013	-0.00005	-0.00005
____ TH	-0.00364	11.18	1335.903	-0.04741	0.04879	-0.01232
____ TI	0.00023	40.60	157.515	0.00059	-0.00011	0.00020
____ TL	-0.00196	-0.52	237.132	-0.00374	0.00331	-0.00544
____ V	-0.00094	-12.06	71.690	-0.00025	-0.00159	-0.00097
____ W	0.00101	0.25	163.559	0.00040	-0.00025	0.00287
____ Y1	1589.22277	1,589.22	0.956	1602.73830	1572.77296	1592.15705
____ Y2A	110421.97128	110,421.97	0.612	111078.69392	109729.62815	110457.59178
____ Y2R	5169.25333	5,169.25	5.212	4967.10000	5065.56000	5475.10000
____ ZN	-0.00041	2.88	27.625	-0.00028	-0.00050	-0.00045
____ ZR	-0.00661	14.75	26.923	-0.00551	-0.00866	-0.00565

ICP-AES Run Data Report

Reviewed By	Reviewed Date
Eric L Eby	04/19/2018 8:35AM
Suzanne M Will	04/17/2018 8:44AM
Tara L Snyder	04/19/2018 9:07AM

Verified By:	Verified Date
Tara L Snyder	04/19/2018 3:46PM

Data File Name 1810703T72.TXT
Run Name: 1810703T72

Method Reference Name(s):

Analyst Employee: 2992

Instrument Parameters:

Individual Integration Time: 10.00 sec Total Integration Time: 30.00 sec Rinse Time: 15.00 sec

Element	Analyte Name	Wavelength Value
AG	Silver	328.06
AL	Aluminum	308.21
AS	Arsenic	189.04
AU	Gold	242.80
B	Boron	249.67
BA	Barium	455.40
BE	Beryllium	313.04
CA	Calcium	317.93
CD	Cadmium	226.50
CO	Cobalt	228.62
CR	Chromium	267.72
CU	Copper	327.40
FE	Iron	261.19
K	Potassium	766.49
LI	Lithium	670.78
MG	Magnesium	285.21
MN	Manganese	257.61
MO	Molybdenum	202.03
NA	Sodium	589.59
NI	Nickel	231.60
P	Phosphorus	177.49
PB	Lead	220.35
SB	Antimony	206.83
SE	Selenium	196.09
SI	Silicon	251.60
SN	Tin	189.99
SR	Strontium	421.55
TE	Tellurium	214.28
TH	Thorium	401.91
TI	Titanium	334.94
TL	Thallium	190.86
V	Vanadium	292.40
W	Tungsten	207.91
Y1	Yttrium	224.31
Y2	Yttrium	371.03
ZN	Zinc	213.86
ZR	Zirconium	339.19

The TRACE ICP utilizes Yttrium as an internal standard to compensate for fluctuations in nebulization and plasma conditions. All Yttrium readings are expressed in counts.

LANCASTER LABORATORIES

Run Name: 1810703T72 Instrument ID: 16417

Tube: 1 Date/Time: 04/17/2018 05:22

Sample Number: **S0**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	0.000	-53.95000	18.104	-0.01103	-0.00763	-0.00971
AL	0.000	16.85000	26.794	0.22781	0.23565	0.35875
AS	0.000	0.91864	121.164	0.00277	-0.00017	0.00905
B	0.000	2.56667	116.201	0.00000	0.00000	0.00002
BA	0.000	133.25000	21.124	0.00048	0.00036	0.00056
BE	0.000	-492.00000	4.739	-0.09066	-0.08293	-0.08456
CA	0.000	3.15000	165.198	0.00071	-0.00049	0.00285
CD	0.000	-9.45047	16.446	-0.04729	-0.03509	-0.03707
CO	0.000	10.85809	17.038	0.04233	0.04029	0.05470
CR	0.000	9.35000	31.104	0.00003	0.00003	0.00004
CU	0.000	-96.68333	19.442	-0.01485	-0.02063	-0.01507
FE	0.000	1.53333	7.296	0.00052	0.00052	0.00046
K	0.000	127.91667	9.550	2.10203	1.87055	2.26582
LI	0.000	-109.48333	4.784	-0.03719	-0.03578	-0.03380
MG	0.000	-0.51667	349.105	0.00031	-0.00083	0.00002
MN	0.000	62.28333	6.339	0.01042	0.01056	0.01168
MO	0.000	-2.40349	39.890	-0.00775	-0.00786	-0.01481
NA	0.000	-322.86667	6.651	-0.11297	-0.10023	-0.10166
NI	0.000	12.49049	8.262	0.04855	0.05720	0.05212
P	0.000	1.04250	79.378	0.00007	0.00016	0.00003
PB	0.000	-3.70753	39.600	-0.01163	-0.02273	-0.01247
S	0.000	4.98440	27.364	0.00031	0.00042	0.00054
SB	0.000	-2.40701	57.833	-0.00010	-0.00017	-0.00033
SE	0.000	2.52130	60.774	0.01589	0.01251	0.00342
SI	0.000	-0.21000	188.312	0.00004	-0.00003	-0.00021
SN	0.000	5.69749	3.642	0.02346	0.02501	0.02355
SR	0.000	-182.73333	21.253	-0.00080	-0.00056	-0.00057
TH	0.000	0.76667	309.131	0.00065	0.00073	-0.00064
TI	0.000	40.23333	29.066	0.00725	0.00893	0.00487
TL	0.000	2.64426	54.687	0.00815	0.01813	0.00710
V	0.000	6.61667	104.814	-0.00023	0.00170	0.00197
W	0.000	5.66462	14.620	0.00040	0.00051	0.00053
Y1	0.000	11866.62873	0.436	11886.52943	11905.47017	11807.88659
Y2A	0.000	286060.72466	2.280	280489.45183	293235.07958	284457.64257
Y2R	0.000	3075.60000	0.536	3094.62500	3065.95000	3066.22500
ZN	0.000	1.67808	105.058	0.01303	-0.00126	0.00947
ZR	0.000	15.56667	4.399	0.00502	0.00530	0.00486

LANCASTER LABORATORIES

Run Name: 1810703T72

Instrument ID: 16417

Tube: 2

Date/Time: 04/17/2018 05:26

Sample Number: **S1**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AL	50.000	905.88506	0.374	15.05346	15.03840	14.94954
CA	50.000	7811.23559	0.353	2.58151	2.59933	2.58694
FE	50.000	1490.47773	0.321	0.49352	0.49584	0.49281
K	50.000	12620.61257	0.215	208.66749	209.31993	209.53009
MG	50.000	11090.22724	0.529	3.66569	3.69862	3.66423
NA	50.000	32538.15187	0.576	10.77442	10.85258	10.72997
S	50.000	13299.11156	0.908	1.17127	1.15810	1.15045
SI	50.000	999.32375	0.280	0.33050	0.33229	0.33098
Y1	50.000	11465.42168	0.106	11453.33267	11465.29048	11477.64189
Y2R	50.000	3016.81936	0.603	3037.57240	3003.59497	3009.29071

LANCASTER LABORATORIES

Run Name: 1810703T72

Instrument ID: 16417

Tube: 3

Date/Time: 04/17/2018 05:29

Sample Number: **S2**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	1.000	20692.36825	4.528	3.83873	3.51724	3.76128
AS	1.000	499.87562	1.253	2.15787	2.16828	2.11735
B	1.000	11188.76573	4.027	0.04139	0.03827	0.04055
BA	1.000	839942.92327	4.451	3.10491	2.85552	3.06480
BE	1.000	682793.62973	4.164	127.06762	116.92755	122.79242
CD	1.000	17427.22839	1.295	75.53433	75.33834	73.76536
CO	1.000	7888.76146	1.377	34.14004	34.18976	33.35757
CU	1.000	15069.29750	4.518	2.79295	2.56100	2.74222
LI	1.000	5042.34554	0.553	1.67959	1.66313	1.67873
MN	1.000	106395.12962	4.353	19.72745	18.12701	19.30473
NI	1.000	4399.50021	1.189	19.04767	19.01791	18.64425
P	1.000	560.29490	1.467	0.04861	0.04850	0.04734
PB	1.000	1428.12447	1.480	6.15645	6.21541	6.03713
SE	1.000	378.84133	1.693	1.64333	1.64406	1.59595
SR	1.000	1015322.47458	4.886	3.78469	3.43976	3.68654
TH	1.000	16.08489	23.958	0.00681	0.00459	0.00461
TL	1.000	959.62690	0.747	4.14877	4.13173	4.08902
W	1.000	1738.96046	1.388	0.15102	0.15019	0.14709
Y1	1.000	11637.02044	0.505	11678.18418	11569.72050	11663.15663
Y2A	1.000	279560.05122	4.360	270465.85610	293410.72613	274803.57143
Y2R	1.000	3012.58657	1.292	3023.08997	3045.18253	2969.48721
ZN	1.000	12891.83719	1.269	55.77090	55.82498	54.58156

LANCASTER LABORATORIES

Run Name: 1810703T72

Instrument ID: 16417

Tube: 4

Date/Time: 04/17/2018 05:32

Sample Number: **S3**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
CR	1.000	14260.86033	1.658	0.05064	0.05121	0.05232
MO	1.000	4371.44132	1.412	18.76029	18.28934	18.33119
SB	1.000	825.15354	1.618	0.07096	0.06882	0.06930
SN	1.000	1403.13608	1.261	6.00581	5.85818	5.91197
TI	1.000	74689.99808	1.864	13.26012	13.37296	13.74000
V	1.000	21850.88368	1.668	3.87760	3.92591	4.00755
Y1	1.000	11841.20989	1.047	11713.76348	11961.37807	11848.48812
Y2A	1.000	277558.36653	1.719	281632.04576	278734.66512	272308.38870
Y2R	1.000	3045.07500	0.786	3019.22500	3049.50000	3066.50000
ZR	1.000	448.18333	1.346	0.14856	0.14809	0.14492

LANCASTER LABORATORIES

Run Name: 1810703T72

Instrument ID: 16417

Tube: 5

Date/Time: 04/17/2018 05:35

Sample Number: **ICV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.62468	12,581.76	1.236	0.63186	0.62568	0.61652
____ AL	30.40074	555.36	0.768	30.18094	30.37523	30.64606
____ AS	0.60095	298.04	0.763	0.60366	0.60354	0.59566
____ B	0.60007	7,008.06	1.036	0.60620	0.60025	0.59377
____ BA	0.62353	507,331.58	1.141	0.62845	0.62677	0.61538
____ BE	0.59132	390,144.34	1.022	0.59827	0.58842	0.58728
____ CA	29.88311	4,646.33	0.496	29.86787	30.03840	29.74304
____ CD	0.60262	10,517.09	0.864	0.60800	0.60224	0.59761
____ CO	0.59052	4,655.94	1.044	0.59655	0.59077	0.58423
____ CR	0.57875	8,046.53	2.068	0.59033	0.57950	0.56642
____ CU	0.61870	8,938.19	1.162	0.62653	0.61718	0.61238
____ FE	29.75531	889.38	0.635	29.69715	29.60216	29.96662
____ K	29.56548	7,467.97	0.137	29.57514	29.52095	29.60034
____ LI	0.60108	3,029.20	0.779	0.60625	0.59714	0.59983
____ MG	30.26098	6,688.84	0.166	30.28732	30.29245	30.20318
____ MN	0.61816	63,723.82	1.171	0.62511	0.61870	0.61066
____ MO	0.58581	2,508.71	1.018	0.59223	0.58476	0.58045
____ NA	28.72944	18,493.31	0.486	28.60096	28.70926	28.87810
____ NI	0.60054	2,634.43	1.153	0.60669	0.60188	0.59305
____ P	0.60371	337.66	0.566	0.60763	0.60212	0.60139
____ PB	0.59998	875.51	1.052	0.60723	0.59697	0.59573
____ S	30.29473	8,151.83	0.733	30.49095	30.33948	30.05376
____ SB	0.60688	488.76	0.980	0.61150	0.60896	0.60017
____ SE	0.61034	231.60	0.407	0.60748	0.61191	0.61164
____ SI	30.44897	605.82	0.324	30.37201	30.56019	30.41470
____ SN	0.58050	800.50	1.554	0.58966	0.58023	0.57162
____ SR	0.62365	617,500.22	0.661	0.62840	0.62098	0.62157
____ TH	0.56664	9.71	15.903	0.57550	0.65199	0.47242
____ TI	0.59763	43,515.13	1.056	0.60337	0.59864	0.59087
____ TL	0.58540	559.84	1.024	0.59211	0.58353	0.58056
____ V	0.59396	12,679.13	1.104	0.60073	0.59350	0.58765
____ W	0.60143	1,044.35	1.045	0.60738	0.60205	0.59485
____ Y1	11602.34480	11,602.34	0.019	11600.16184	11604.51174	11602.36082
____ Y2A	270440.31441	270,440.31	0.480	269161.14257	270400.83056	271758.97010
____ Y2R	2998.33611	2,998.34	0.497	3007.70036	3006.14018	2981.16780
____ ZN	0.60096	7,761.90	0.971	0.60698	0.60058	0.59533
____ ZR	0.62010	291.67	0.625	0.62453	0.61733	0.61844

LANCASTER LABORATORIES

Run Name: 1810703T72

Instrument ID: 16417

Tube: 6

Date/Time: 04/17/2018 05:39

Sample Number: **ICB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00281	-59.58	202.015	0.00338	-0.00404	-0.00777
____ AL	0.03748	17.03	593.934	-0.00694	0.27895	-0.15957
____ AS	0.00132	1.59	59.753	0.00123	0.00214	0.00058
____ B	0.00210	16.87	13.108	0.00186	0.00204	0.00240
____ BA	0.00006	178.82	80.832	0.00001	0.00011	0.00005
____ BE	-0.00019	-462.20	5.610	-0.00019	-0.00018	-0.00020
____ CA	-0.00185	3.03	133.793	-0.00447	0.00046	-0.00154
____ CD	-0.00010	-10.25	246.293	-0.00009	0.00014	-0.00035
____ CO	0.00023	12.67	158.541	0.00009	0.00064	-0.00004
____ CR	-0.00059	0.63	112.136	0.00017	-0.00089	-0.00103
____ CU	0.00326	-97.63	248.003	-0.00572	0.00554	0.00995
____ FE	-0.03069	0.57	236.855	-0.09854	-0.03956	0.04603
____ K	0.14395	161.33	84.080	0.01399	0.16442	0.25345
____ LI	-0.02971	-130.82	7.771	-0.02848	-0.03237	-0.02828
____ MG	-0.01725	-4.02	43.747	-0.02376	-0.00898	-0.01901
____ MN	-0.00014	45.22	80.546	-0.00006	-0.00010	-0.00027
____ MO	0.00006	-1.47	133.766	-0.00001	0.00014	0.00005
____ NA	-0.18278	-327.88	20.291	-0.17701	-0.22242	-0.14892
____ NI	-0.00043	10.53	22.659	-0.00041	-0.00035	-0.00054
____ P	0.00015	1.13	793.549	0.00126	-0.00112	0.00032
____ PB	0.00122	-1.94	137.075	0.00020	0.00031	0.00314
____ S	0.00739	7.00	39.460	0.01075	0.00589	0.00553
____ SB	0.00229	-3.13	121.646	0.00526	0.00190	-0.00028
____ SE	0.00073	2.79	173.614	0.00020	-0.00019	0.00217
____ SI	0.03904	0.57	242.328	-0.04980	0.02841	0.13849
____ SN	-0.00044	5.07	168.087	0.00042	-0.00087	-0.00087
____ SR	0.00003	-181.17	20.821	0.00004	0.00003	0.00002
____ TH	-0.09633	-0.72	305.121	0.22638	-0.16668	-0.34867
____ TI	0.00016	50.32	55.390	0.00023	0.00017	0.00006
____ TL	-0.00022	2.42	264.948	-0.00089	0.00023	-0.00001
____ V	0.00039	11.75	137.904	-0.00010	0.00030	0.00095
____ W	0.00047	6.46	81.605	0.00016	0.00089	0.00035
____ Y1	11840.41729	11,840.42	0.263	11868.41370	11806.85035	11845.98781
____ Y2A	276896.58337	276,896.58	1.999	270788.30779	281576.50862	278324.93369
____ Y2R	3016.43333	3,016.43	0.630	3036.40000	2998.57500	3014.32500
____ ZN	-0.00018	-0.62	6.342	-0.00018	-0.00019	-0.00016
____ ZR	0.00405	14.92	544.884	-0.01591	0.00028	0.02779

LANCASTER LABORATORIES

Run Name: 1810703T72

Instrument ID: 16417

Tube: 7

Date/Time: 04/17/2018 05:42

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00295	14.67	26.366	0.00385	0.00253	0.00248
____ AL	0.17482	19.78	69.369	0.30639	0.06752	0.15054
____ AS	0.02207	12.05	2.551	0.02153	0.02265	0.02204
____ B	0.04959	548.99	0.677	0.04995	0.04930	0.04951
____ BA	0.00539	4,615.97	0.770	0.00541	0.00542	0.00534
____ BE	0.00493	2,997.51	0.580	0.00494	0.00495	0.00490
____ CA	0.21536	36.80	8.294	0.23491	0.21129	0.19988
____ CD	0.00536	86.31	4.097	0.00511	0.00548	0.00549
____ CO	0.00542	54.09	5.131	0.00537	0.00572	0.00517
____ CR	0.01406	208.84	5.701	0.01319	0.01476	0.01424
____ CU	0.01696	158.82	1.190	0.01673	0.01707	0.01709
____ FE	0.14482	5.92	12.290	0.16487	0.13088	0.13871
____ K	0.52935	258.28	9.269	0.56582	0.47357	0.54866
____ LI	-0.00142	11.52	86.036	-0.00002	-0.00199	-0.00226
____ MG	0.09987	22.18	11.198	0.08842	0.10043	0.11077
____ MN	0.00548	637.49	2.196	0.00539	0.00562	0.00543
____ MO	0.01011	42.23	2.385	0.00984	0.01030	0.01020
____ NA	0.82601	333.43	2.991	0.85452	0.81259	0.81091
____ NI	0.01049	58.87	3.169	0.01071	0.01065	0.01011
____ P	0.10258	59.01	1.836	0.10400	0.10329	0.10044
____ PB	0.01766	21.98	12.134	0.01786	0.01969	0.01542
____ S	0.50486	142.56	1.099	0.50783	0.50828	0.49846
____ SB	0.02224	13.41	10.308	0.02172	0.02474	0.02024
____ SE	0.02136	10.58	21.873	0.01876	0.01856	0.02675
____ SI	0.07761	1.37	101.597	0.08151	0.15444	-0.00312
____ SN	0.01989	33.26	2.841	0.02012	0.01925	0.02031
____ SR	0.00545	5,292.52	0.700	0.00540	0.00548	0.00545
____ TH	0.05075	1.53	50.928	0.07420	0.05501	0.02304
____ TI	0.01033	807.85	1.709	0.01047	0.01039	0.01013
____ TL	0.03110	32.62	3.194	0.03225	0.03052	0.03054
____ V	0.00542	124.80	6.317	0.00562	0.00503	0.00562
____ W	0.01086	24.85	2.600	0.01107	0.01096	0.01054
____ Y1	11760.45558	11,760.46	0.149	11771.45198	11769.61327	11740.30149
____ Y2A	276671.20709	276,671.21	0.695	278845.68106	275198.25581	275969.68439
____ Y2R	3023.05833	3,023.06	0.464	3034.12500	3027.77500	3007.27500
____ ZN	0.02133	278.83	1.236	0.02160	0.02132	0.02107
____ ZR	0.05125	38.42	19.798	0.05130	0.04108	0.06137

LANCASTER LABORATORIES

Run Name: 1810703T72 Instrument ID: 16417

Tube: 8 Date/Time: 04/17/2018 05:45

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00077	-68.27	303.283	0.00183	-0.00148	-0.00265
____ AL	509.42768	8,499.31	0.282	509.63027	510.75134	507.90144
____ AS	0.00580	-14.27	14.463	0.00669	0.00503	0.00566
____ B	0.02441	3,432.91	31.706	0.02464	0.03203	0.01656
____ BA	0.00075	671.47	6.810	0.00078	0.00078	0.00069
____ BE	-0.00030	-475.00	6.792	-0.00030	-0.00032	-0.00028
____ CA	494.90727	71,262.07	0.217	494.28778	496.14874	494.28530
____ CD	0.00004	312.61	340.490	0.00008	0.00017	-0.00012
____ CO	0.00018	11.16	209.798	0.00055	-0.00020	0.00018
____ CR	-0.00064	-0.06	96.872	-0.00106	0.00007	-0.00092
____ CU	0.00629	134.09	39.842	0.00341	0.00749	0.00796
____ FE	205.30736	5,452.31	0.392	206.23139	204.75239	204.93831
____ K	0.13761	152.07	24.968	0.10249	0.13919	0.17115
____ LI	-0.03104	-96.47	10.069	-0.02817	-0.03437	-0.03058
____ MG	481.99405	95,750.25	0.264	481.59011	483.41798	480.97405
____ MN	0.00446	472.27	3.495	0.00448	0.00460	0.00429
____ MO	-0.00249	-11.55	16.552	-0.00218	-0.00296	-0.00233
____ NA	-0.12768	-277.77	24.366	-0.15508	-0.13410	-0.09386
____ NI	-0.00544	-41.07	17.832	-0.00438	-0.00565	-0.00629
____ P	0.01293	7.69	16.844	0.01505	0.01070	0.01305
____ PB	0.00328	198.39	122.383	0.00752	-0.00047	0.00280
____ S	0.07347	22.99	9.003	0.06599	0.07584	0.07857
____ SB	0.00065	-4.96	584.855	0.00204	0.00357	-0.00366
____ SE	0.01096	6.98	65.760	0.00766	0.00599	0.01922
____ SI	0.10691	1.85	61.627	0.14267	0.14719	0.03088
____ SN	0.00720	14.43	15.402	0.00663	0.00848	0.00650
____ SR	-0.00193	24,323.30	35.471	-0.00184	-0.00130	-0.00266
____ TH	-0.04407	2.14	238.283	0.05707	-0.03672	-0.15256
____ TI	-0.00264	-140.16	17.435	-0.00281	-0.00299	-0.00212
____ TL	0.00597	7.73	35.156	0.00493	0.00460	0.00839
____ V	-0.00071	47.46	87.124	-0.00100	0.00000	-0.00112
____ W	0.00860	18.94	15.820	0.00746	0.00822	0.01010
____ Y1	10845.95556	10,845.96	0.669	10762.61774	10880.38392	10894.86503
____ Y2A	246634.45013	246,634.45	1.952	245985.42081	242178.18091	251739.74868
____ Y2R	2870.24381	2,870.24	0.432	2881.50938	2872.28261	2856.93945
____ ZN	0.00174	256.47	7.966	0.00179	0.00185	0.00159
____ ZR	0.01235	18.66	11.667	0.01399	0.01132	0.01173

LANCASTER LABORATORIES

Run Name: 1810703T72 Instrument ID: 16417

Tube: 9 Date/Time: 04/17/2018 05:48

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.22553	4,080.47	1.681	0.22974	0.22446	0.22239
____ AL	523.92677	8,555.50	0.407	522.90858	522.49655	526.37517
____ AS	0.10789	32.49	4.343	0.11012	0.11105	0.10251
____ B	0.03315	3,523.37	11.790	0.03655	0.03403	0.02888
____ BA	0.53196	390,061.81	0.787	0.53563	0.53283	0.52740
____ BE	0.51628	306,932.97	1.490	0.52386	0.51647	0.50849
____ CA	506.74369	71,393.05	0.802	503.72352	505.14564	511.36191
____ CD	0.94166	15,393.56	0.442	0.94350	0.94458	0.93690
____ CO	0.47356	3,436.81	0.227	0.47415	0.47421	0.47232
____ CR	0.47946	6,008.80	0.924	0.48438	0.47580	0.47820
____ CU	0.55147	7,193.37	0.674	0.55351	0.54718	0.55372
____ FE	208.16969	5,407.09	0.667	207.77646	207.02015	209.71245
____ K	0.06761	132.69	82.743	0.12000	0.00869	0.07415
____ LI	-0.02659	-73.11	22.427	-0.02197	-0.03333	-0.02448
____ MG	492.73716	95,706.58	0.821	489.76706	491.10150	497.34292
____ MN	0.51076	47,458.24	0.846	0.51558	0.50946	0.50724
____ MO	-0.00174	-8.42	20.265	-0.00209	-0.00174	-0.00139
____ NA	-0.10975	-261.11	54.602	-0.10705	-0.17098	-0.05122
____ NI	0.93094	3,732.82	0.386	0.93310	0.93292	0.92679
____ P	0.01470	8.49	26.359	0.01881	0.01417	0.01111
____ PB	0.52147	880.82	1.230	0.52485	0.52548	0.51407
____ S	0.07540	23.16	6.649	0.07429	0.07104	0.08088
____ SB	0.60337	451.19	0.680	0.60784	0.60249	0.59977
____ SE	0.54687	190.35	1.288	0.55366	0.54736	0.53960
____ SI	0.05733	0.87	62.693	0.03900	0.03425	0.09874
____ SN	0.00577	12.42	35.482	0.00547	0.00796	0.00389
____ SR	-0.00127	24,992.26	29.499	-0.00089	-0.00128	-0.00163
____ TH	0.01371	2.96	1067.056	0.14995	0.03206	-0.14088
____ TI	-0.00254	-132.20	5.530	-0.00256	-0.00266	-0.00239
____ TL	0.09383	85.91	2.367	0.09499	0.09523	0.09127
____ V	0.50054	9,786.87	0.906	0.50577	0.49777	0.49809
____ W	0.00373	29.74	55.763	0.00138	0.00534	0.00448
____ Y1	10689.49191	10,689.49	0.347	10731.04013	10677.79952	10659.63607
____ Y2A	243714.24232	243,714.24	0.893	241366.46786	244111.91186	245664.34725
____ Y2R	2810.88181	2,810.88	1.004	2840.88864	2806.85452	2784.90227
____ ZN	1.00431	12,113.88	0.555	1.00802	1.00701	0.99789
____ ZR	-0.00060	14.26	1375.915	-0.01003	0.00347	0.00478

LANCASTER LABORATORIES

Run Name: 1810703T72

Instrument ID: 16417

Tube: 10

Date/Time: 04/17/2018 05:52

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.51883	10,488.20	1.826	0.52935	0.51616	0.51097
____ AL	25.11651	454.02	0.102	25.14236	25.11592	25.09124
____ AS	0.51309	256.43	1.423	0.52151	0.50921	0.50854
____ B	0.50818	5,938.99	2.172	0.52066	0.49969	0.50420
____ BA	0.52371	427,235.67	1.161	0.53067	0.52105	0.51942
____ BE	0.50012	330,728.09	2.443	0.51387	0.49602	0.49049
____ CA	24.86387	3,803.45	0.647	24.67889	24.94152	24.97120
____ CD	0.50850	8,933.71	0.695	0.51173	0.50903	0.50473
____ CO	0.50879	4,040.75	0.827	0.51312	0.50852	0.50471
____ CR	0.48715	6,791.71	1.849	0.49659	0.48623	0.47864
____ CU	0.53125	7,652.40	1.568	0.54073	0.52793	0.52510
____ FE	24.61179	725.20	0.788	24.75721	24.68648	24.39168
____ K	25.14625	6,264.20	1.030	24.89947	25.12333	25.41595
____ LI	0.50914	2,526.03	1.368	0.51446	0.51170	0.50125
____ MG	24.92600	5,421.86	0.186	24.87499	24.96567	24.93732
____ MN	0.52304	54,063.94	1.759	0.53366	0.51744	0.51803
____ MO	0.49676	2,141.80	0.974	0.50147	0.49700	0.49180
____ NA	25.18638	15,918.26	0.117	25.15353	25.21046	25.19515
____ NI	0.50666	2,239.97	0.667	0.50991	0.50691	0.50316
____ P	0.51106	287.98	1.085	0.51554	0.51278	0.50486
____ PB	0.50311	738.35	1.019	0.50837	0.50282	0.49813
____ S	24.88059	6,742.08	0.576	25.03883	24.84324	24.75970
____ SB	0.49986	404.38	0.564	0.50305	0.49772	0.49881
____ SE	0.51106	195.67	1.119	0.51593	0.51249	0.50476
____ SI	24.87591	486.70	0.248	24.85009	24.83137	24.94628
____ SN	0.48770	678.08	1.126	0.49353	0.48694	0.48263
____ SR	0.52255	518,633.89	1.522	0.53105	0.52132	0.51528
____ TH	0.41481	7.21	11.518	0.40427	0.46698	0.37318
____ TI	0.50499	36,867.16	1.956	0.51639	0.49928	0.49928
____ TL	0.50308	484.87	0.774	0.50643	0.50401	0.49881
____ V	0.50274	10,757.19	1.814	0.51324	0.49812	0.49685
____ W	0.50422	882.68	0.589	0.50579	0.50607	0.50079
____ Y1	11682.53254	11,682.53	0.272	11684.76580	11713.19021	11649.64161
____ Y2A	271162.40786	271,162.41	1.601	266158.97735	273408.89407	273919.35216
____ Y2R	2948.51720	2,948.52	0.953	2980.94953	2931.71366	2932.88842
____ ZN	0.51156	6,652.04	0.721	0.51535	0.51135	0.50798
____ ZR	0.50462	235.18	1.260	0.49903	0.50329	0.51153

LANCASTER LABORATORIES

Run Name: 1810703T72

Instrument ID: 16417

Tube: 11

Date/Time: 04/17/2018 05:55

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00277	-43.13	71.501	-0.00055	-0.00435	-0.00341
____ AL	0.11515	18.07	78.052	0.21885	0.06698	0.05963
____ AS	0.00069	1.26	263.884	0.00272	-0.00074	0.00008
____ B	0.00116	5.63	96.745	0.00239	0.00020	0.00089
____ BA	0.00007	182.32	28.033	0.00008	0.00005	0.00007
____ BE	-0.00017	-442.12	4.123	-0.00017	-0.00016	-0.00018
____ CA	0.01706	5.98	195.307	0.01125	-0.01297	0.05291
____ CD	0.00003	-7.90	424.607	0.00005	0.00015	-0.00011
____ CO	0.00006	11.20	358.708	-0.00004	-0.00009	0.00031
____ CR	-0.00057	0.97	63.413	-0.00065	-0.00017	-0.00088
____ CU	0.00254	-122.08	112.306	-0.00046	0.00522	0.00286
____ FE	-0.06488	-0.47	176.982	-0.19609	0.01727	-0.01583
____ K	0.09829	147.63	91.073	0.06487	0.19971	0.03030
____ LI	-0.02385	-99.70	14.257	-0.01998	-0.02521	-0.02636
____ MG	0.00551	1.07	261.475	0.01181	0.01569	-0.01098
____ MN	-0.00009	50.50	32.337	-0.00009	-0.00006	-0.00011
____ MO	0.00005	-1.48	430.832	0.00019	-0.00019	0.00015
____ NA	-0.20697	-338.22	12.938	-0.17996	-0.23351	-0.20744
____ NI	-0.00036	10.77	130.719	-0.00021	-0.00088	0.00002
____ P	-0.00006	1.00	1910.861	-0.00094	-0.00043	0.00119
____ PB	0.00084	-2.46	235.428	0.00022	-0.00075	0.00304
____ S	-0.00154	4.50	274.548	0.00141	0.00036	-0.00640
____ SB	0.00271	-2.76	15.787	0.00273	0.00312	0.00227
____ SE	-0.00191	1.77	196.630	0.00208	-0.00242	-0.00539
____ SI	0.02405	0.27	209.586	-0.02656	0.02445	0.07426
____ SN	-0.00006	5.55	654.533	0.00034	-0.00037	-0.00013
____ SR	0.00004	-178.20	30.601	0.00004	0.00003	0.00005
____ TH	-0.13602	-1.32	77.528	-0.02223	-0.23046	-0.15535
____ TI	-0.00006	33.58	252.977	0.00009	-0.00024	-0.00005
____ TL	-0.00118	1.49	131.846	-0.00079	-0.00288	0.00014
____ V	0.00018	5.83	56.249	0.00028	0.00008	0.00017
____ W	0.00057	6.57	241.170	-0.00093	0.00178	0.00086
____ Y1	11715.23667	11,715.24	0.737	11741.50295	11618.81283	11785.39422
____ Y2A	273758.81715	273,758.82	0.417	273684.42487	274936.29568	272655.73090
____ Y2R	2967.76667	2,967.77	0.555	2980.02500	2974.22500	2949.05000
____ ZN	-0.00007	0.75	155.057	0.00002	-0.00004	-0.00018
____ ZR	0.00978	16.23	140.687	-0.00556	0.02100	0.01389

LANCASTER LABORATORIES

Run Name: 1810703T72 Instrument ID: 16417

Tube: 12 Date/Time: 04/17/2018 05:58

Sample Number: **PBW** Class: **** Batch: 181000184802

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00158	-39.30	153.211	0.00120	-0.00267	-0.00328
____ AL	0.95611	33.80	31.503	0.74346	1.30078	0.82409
____ AS	0.00202	1.97	138.832	0.00484	0.00197	-0.00076
____ B	0.00113	6.48	93.679	0.00123	0.00002	0.00213
____ BA	0.00003	160.10	86.027	0.00006	0.00001	0.00003
____ BE	-0.00019	-469.77	0.587	-0.00019	-0.00019	-0.00019
____ CA	0.14138	25.85	177.334	0.00377	0.43076	-0.01040
____ CD	-0.00005	-9.41	263.733	0.00010	-0.00013	-0.00012
____ CO	0.00006	11.40	257.655	-0.00007	0.00003	0.00021
____ CR	-0.00005	8.43	760.861	0.00006	0.00028	-0.00050
____ CU	0.00338	-93.03	112.326	-0.00098	0.00593	0.00520
____ FE	-0.01202	1.15	801.397	-0.10776	0.08495	-0.01327
____ K	0.13486	161.08	107.051	0.15359	0.26896	-0.01796
____ LI	-0.02381	-102.22	10.668	-0.02401	-0.02118	-0.02625
____ MG	0.16542	37.35	153.784	0.02163	0.45914	0.01549
____ MN	0.00677	786.68	1.710	0.00689	0.00676	0.00666
____ MO	-0.00009	-2.15	187.696	-0.00028	0.00008	-0.00008
____ NA	-0.16010	-316.48	12.845	-0.14249	-0.18270	-0.15511
____ NI	0.00070	15.77	77.639	0.00125	0.00016	0.00069
____ P	-0.00120	0.36	67.930	-0.00134	-0.00195	-0.00033
____ PB	0.00147	-1.43	116.175	0.00131	0.00326	-0.00015
____ S	-0.00165	4.58	142.896	0.00017	-0.00080	-0.00430
____ SB	0.00378	-1.90	38.579	0.00300	0.00288	0.00547
____ SE	0.00217	3.36	238.045	-0.00319	0.00259	0.00711
____ SI	0.07907	1.39	119.297	0.17865	-0.00894	0.06750
____ SN	0.00077	6.82	95.375	0.00028	0.00041	0.00160
____ SR	0.00007	-141.33	19.990	0.00005	0.00008	0.00008
____ TH	-0.08475	-0.55	187.456	0.09868	-0.17384	-0.17910
____ TI	0.00026	58.93	59.923	0.00038	0.00031	0.00008
____ TL	-0.00063	2.04	187.355	0.00029	-0.00022	-0.00196
____ V	0.00036	11.83	257.519	-0.00066	0.00059	0.00114
____ W	-0.00024	5.38	566.218	-0.00075	0.00128	-0.00124
____ Y1	11964.79857	11,964.80	0.437	12024.62876	11928.20006	11941.56690
____ Y2A	281520.51507	281,520.52	0.617	279796.29322	281495.93833	283269.31366
____ Y2R	3049.05000	3,049.05	0.972	3067.42500	3064.87500	3014.85000
____ ZN	0.00438	59.41	1.231	0.00440	0.00442	0.00432
____ ZR	-0.00468	11.53	396.419	-0.02604	0.00728	0.00473

LANCASTER LABORATORIES

Run Name: 1810703T72 Instrument ID: 16417

Tube: 13 Date/Time: 04/17/2018 06:02

Sample Number: **PBW** Class: **** Batch: 181000184802

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00241	-44.28	89.864	-0.00168	-0.00071	-0.00485
____ AL	0.84898	32.07	8.497	0.92556	0.78229	0.83910
____ AS	-0.00020	0.84	1084.992	-0.00251	0.00163	0.00030
____ B	0.00142	10.23	31.878	0.00133	0.00192	0.00103
____ BA	-0.00001	124.52	268.786	-0.00004	0.00002	-0.00002
____ BE	-0.00020	-487.58	8.932	-0.00021	-0.00020	-0.00018
____ CA	-0.01236	1.52	297.093	0.02611	-0.01615	-0.04702
____ CD	0.00003	-8.02	41.766	0.00003	0.00002	0.00005
____ CO	-0.00002	10.97	1323.570	0.00014	-0.00027	0.00008
____ CR	0.00020	12.40	52.017	0.00019	0.00010	0.00030
____ CU	0.00545	-78.92	40.759	0.00521	0.00336	0.00779
____ FE	-0.00404	1.42	1194.587	0.05115	-0.03814	-0.02513
____ K	0.04023	138.10	103.314	0.03150	0.08547	0.00373
____ LI	-0.02421	-105.12	8.629	-0.02187	-0.02587	-0.02490
____ MG	0.00525	1.02	232.754	-0.00886	0.01219	0.01242
____ MN	0.00648	776.92	2.094	0.00661	0.00648	0.00634
____ MO	0.00011	-1.25	330.604	0.00031	0.00036	-0.00032
____ NA	-0.17525	-329.05	23.284	-0.13180	-0.18119	-0.21276
____ NI	0.00040	14.61	74.651	0.00027	0.00019	0.00074
____ P	-0.00074	0.64	324.850	-0.00031	-0.00332	0.00142
____ PB	0.00159	-1.28	31.521	0.00122	0.00139	0.00216
____ S	-0.00144	4.70	124.975	-0.00097	-0.00342	0.00008
____ SB	0.00236	-3.17	167.831	0.00088	0.00685	-0.00065
____ SE	0.00288	3.69	60.572	0.00281	0.00467	0.00118
____ SI	0.10035	1.83	22.780	0.10364	0.12139	0.07602
____ SN	-0.00070	4.83	93.919	-0.00140	-0.00060	-0.00010
____ SR	0.00005	-168.86	7.023	0.00005	0.00004	0.00005
____ TH	-0.12241	-1.15	84.318	-0.09937	-0.03266	-0.23520
____ TI	0.00004	43.80	190.350	0.00001	-0.00002	0.00013
____ TL	-0.00165	1.06	33.737	-0.00229	-0.00130	-0.00136
____ V	0.00086	22.35	63.517	0.00042	0.00068	0.00147
____ W	-0.00051	4.98	88.283	-0.00072	-0.00080	0.00001
____ Y1	12140.86391	12,140.86	0.733	12106.40711	12074.25177	12241.93284
____ Y2A	289304.37666	289,304.38	0.418	288112.56631	289267.73873	290532.82493
____ Y2R	3074.40833	3,074.41	0.936	3107.57500	3059.42500	3056.22500
____ ZN	0.00401	55.37	4.637	0.00413	0.00410	0.00379
____ ZR	-0.00260	11.70	445.330	-0.01145	-0.00682	0.01048

LANCASTER LABORATORIES

Run Name: 1810703T72 Instrument ID: 16417

Tube: 14 Date/Time: 04/17/2018 06:05

Sample Number: **LCSW** Class: **** Batch: 181000184802

Initial Vol: 1.00 Final Vol: 1.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.05322	1,222.59	2.932	0.05419	0.05142	0.05404
____ AL	2.31427	59.43	3.364	2.33996	2.37603	2.22682
____ AS	0.15001	81.63	2.147	0.15301	0.15041	0.14661
____ B	1.93945	22,120.38	1.397	1.90828	1.95738	1.95269
____ BA	2.13332	1,814,146.23	2.289	2.07695	2.16201	2.16100
____ BE	0.05160	34,656.68	1.017	0.05099	0.05197	0.05182
____ CA	4.05903	648.39	0.954	4.10321	4.04293	4.03095
____ CD	0.05240	938.82	0.878	0.05266	0.05267	0.05187
____ CO	0.52389	4,301.36	0.787	0.52585	0.52667	0.51915
____ CR	0.19907	2,899.71	1.191	0.19679	0.20152	0.19891
____ CU	0.27163	3,852.81	2.685	0.26422	0.27879	0.27189
____ FE	0.94496	30.66	15.684	1.10923	0.90438	0.82126
____ K	10.14094	2,699.20	0.637	10.10186	10.10544	10.21553
____ LI	1.05026	5,381.37	1.076	1.06327	1.04462	1.04289
____ MG	2.04673	463.57	1.344	2.07539	2.04425	2.02056
____ MN	0.54392	58,627.29	0.989	0.53782	0.54801	0.54592
____ MO	1.99586	8,877.88	0.959	2.00904	2.00463	1.97392
____ NA	10.06879	6,480.91	0.434	10.11437	10.02725	10.06474
____ NI	0.53851	2,458.04	0.885	0.54105	0.54146	0.53301
____ P	1.01869	590.78	0.468	1.01628	1.02418	1.01560
____ PB	0.15882	227.17	2.402	0.16317	0.15724	0.15605
____ S	1.02622	291.73	0.022	1.02597	1.02639	1.02631
____ SB	0.52804	427.68	1.043	0.53163	0.53079	0.52170
____ SE	0.15411	62.01	2.440	0.15173	0.15844	0.15215
____ SI	1.11981	23.17	4.581	1.06129	1.14114	1.15699
____ SN	3.94097	5,608.61	0.875	3.96495	3.95650	3.90148
____ SR	1.06993	1,100,300.09	1.277	1.05420	1.07890	1.07667
____ TH	0.03493	1.31	388.295	0.15859	-0.11015	0.05636
____ TI	1.02255	77,812.19	0.973	1.01142	1.03058	1.02566
____ TL	0.15385	156.18	1.891	0.15453	0.15636	0.15066
____ V	0.52408	11,241.14	1.123	0.51728	0.52755	0.52740
____ W	-0.00127	14.43	46.207	-0.00067	-0.00185	-0.00129
____ Y1	12045.31899	12,045.32	0.423	12104.12540	12017.00240	12014.82917
____ Y2A	282749.83422	282,749.83	1.319	287031.99602	280210.79244	281006.71419
____ Y2R	3061.59043	3,061.59	0.152	3066.59672	3060.80610	3057.36847
____ ZN	0.51987	6,935.27	0.906	0.52341	0.52168	0.51452
____ ZR	1.03248	465.55	1.387	1.03980	1.04166	1.01597

LANCASTER LABORATORIES

Run Name: 1810703T72 Instrument ID: 16417

Tube: 15 Date/Time: 04/17/2018 06:08

Sample Number: **9548793** Class: U*** Batch: 181000184802

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00179	-35.40	58.339	-0.00300	-0.00123	-0.00115
____ AL	-0.11600	14.37	36.651	-0.14707	-0.13339	-0.06755
____ AS	0.00025	-0.37	389.266	-0.00020	0.00134	-0.00041
____ B	0.08835	1,231.46	1.481	0.08855	0.08695	0.08955
____ BA	0.24578	202,962.55	0.726	0.24390	0.24744	0.24601
____ BE	-0.00022	-473.64	7.019	-0.00020	-0.00021	-0.00023
____ CA	47.81490	7,553.54	2.988	48.24176	48.98169	46.22125
____ CD	0.00028	21.72	41.317	0.00041	0.00021	0.00021
____ CO	0.00351	37.64	5.576	0.00373	0.00335	0.00346
____ CR	0.00089	21.46	29.286	0.00059	0.00105	0.00102
____ CU	0.00658	-59.94	38.210	0.00932	0.00438	0.00603
____ FE	15.01138	459.85	3.404	15.28144	15.33074	14.42197
____ K	4.33678	1,222.55	3.106	4.40067	4.42765	4.18201
____ LI	-0.02377	-99.32	9.191	-0.02517	-0.02488	-0.02125
____ MG	15.33422	3,454.74	2.758	15.51276	15.63864	14.85125
____ MN	1.67919	175,518.60	0.348	1.67245	1.68257	1.68254
____ MO	0.00124	3.65	28.339	0.00098	0.00110	0.00164
____ NA	91.72371	60,522.40	2.856	92.84124	93.59913	88.73076
____ NI	0.00069	12.95	99.800	0.00092	-0.00008	0.00123
____ P	0.00314	2.79	43.769	0.00260	0.00470	0.00212
____ PB	-0.00300	2.04	6.261	-0.00288	-0.00290	-0.00322
____ S	10.20123	2,769.66	0.659	10.24339	10.23660	10.12371
____ SB	0.00117	-4.09	114.932	0.00041	0.00273	0.00038
____ SE	0.00550	4.61	37.667	0.00488	0.00381	0.00781
____ SI	7.74384	156.27	4.253	7.82850	8.02256	7.38047
____ SN	0.00069	6.57	178.276	0.00209	-0.00023	0.00022
____ SR	0.31464	315,963.28	0.425	0.31536	0.31547	0.31310
____ TH	-0.16096	-1.58	53.646	-0.25950	-0.09855	-0.12482
____ TI	0.00113	121.79	18.522	0.00091	0.00115	0.00133
____ TL	0.00000	2.27	)648.479	-0.00084	-0.00026	0.00111
____ V	0.00018	9.32	250.724	0.00067	0.00003	-0.00018
____ W	0.00092	7.30	80.392	0.00167	0.00020	0.00087
____ Y1	11686.67142	11,686.67	0.305	11694.26490	11717.92711	11647.82227
____ Y2A	274368.24474	274,368.24	0.599	275675.33223	272523.08970	274906.31229
____ Y2R	3051.07592	3,051.08	1.923	3035.71429	3001.59713	3115.91635
____ ZN	0.01448	206.45	0.973	0.01462	0.01449	0.01434
____ ZR	-0.00963	7.70	144.138	0.00585	-0.01378	-0.02095

LANCASTER LABORATORIES

Run Name: 1810703T72 Instrument ID: 16417

Tube: 16 Date/Time: 04/17/2018 06:12

Sample Number: **9548793** Class: UP** Batch: 181000184802

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.02003	482.94	18.152	0.02376	0.01650	0.01982
____ AL	0.99622	34.77	10.140	1.09878	0.89683	0.99306
____ AS	0.50148	255.36	2.096	0.50695	0.50813	0.48936
____ B	0.27346	3,314.13	1.613	0.27847	0.27015	0.27176
____ BA	0.28936	241,468.76	1.176	0.29329	0.28747	0.28732
____ BE	0.01954	12,792.56	1.290	0.01982	0.01933	0.01947
____ CA	47.30106	7,474.85	2.531	47.98449	45.91862	48.00007
____ CD	0.04932	895.30	2.184	0.04985	0.05002	0.04808
____ CO	0.10147	828.06	2.076	0.10278	0.10258	0.09904
____ CR	0.18990	2,713.28	1.164	0.19243	0.18834	0.18893
____ CU	0.50255	7,283.60	0.854	0.50362	0.50620	0.49782
____ FE	15.00476	459.80	2.976	15.29468	14.49055	15.22905
____ K	6.35339	1,732.72	2.145	6.42259	6.19639	6.44121
____ LI	0.99350	5,076.26	2.816	1.01310	0.96146	1.00595
____ MG	15.82293	3,565.83	2.418	16.10437	15.38726	15.97716
____ MN	1.69281	178,818.97	1.356	1.71914	1.67708	1.68221
____ MO	0.19501	854.25	2.157	0.19793	0.19691	0.19019
____ NA	91.51401	60,404.63	2.489	93.22407	88.92875	92.38920
____ NI	0.14937	679.36	2.126	0.15178	0.15056	0.14577
____ P	1.00965	577.72	2.045	1.02167	1.02146	0.98580
____ PB	0.48823	720.01	2.221	0.49791	0.49027	0.47651
____ S	10.85266	2,996.12	1.607	10.95000	10.95672	10.65127
____ SB	0.38750	318.98	2.153	0.39274	0.39188	0.37788
____ SE	0.78074	299.78	1.558	0.79086	0.78411	0.76725
____ SI	8.40771	169.84	2.286	8.46318	8.19385	8.56610
____ SN	0.57026	805.57	2.294	0.57694	0.57866	0.55519
____ SR	0.32786	332,651.10	0.949	0.33143	0.32640	0.32574
____ TH	0.02037	1.20	1135.813	0.24227	-0.21948	0.03833
____ TI	0.09907	7,428.80	1.226	0.10042	0.09807	0.09873
____ TL	0.97512	952.69	1.665	0.98462	0.98436	0.95636
____ V	0.09938	2,152.85	0.468	0.09991	0.09913	0.09909
____ W	-0.00069	7.01	28.018	-0.00068	-0.00050	-0.00089
____ Y1	11886.53313	11,886.53	1.393	11811.85052	11771.48141	12076.26747
____ Y2A	277292.87266	277,292.87	0.695	275085.63123	278143.31897	278649.66777
____ Y2R	3051.91722	3,051.92	1.836	3027.55296	3116.00540	3012.19330
____ ZN	0.13086	1,752.69	2.195	0.13273	0.13230	0.12755
____ ZR	0.96832	435.68	3.752	0.98010	0.92756	0.99731

LANCASTER LABORATORIES

Run Name: 1810703T72 Instrument ID: 16417

Tube: 17 Date/Time: 04/17/2018 06:15

Sample Number: **9548796** Class: D*** Batch: 181000184802

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00122	-43.54	209.446	-0.00417	0.00042	0.00009
____ AL	0.00477	16.79	2453.485	-0.07309	0.13943	-0.05203
____ AS	0.00333	1.19	35.996	0.00441	0.00355	0.00204
____ B	0.08512	1,211.89	1.429	0.08648	0.08474	0.08413
____ BA	0.24260	202,629.21	2.339	0.24849	0.24214	0.23717
____ BE	-0.00023	-489.39	12.218	-0.00026	-0.00022	-0.00021
____ CA	47.64795	7,601.94	0.691	47.89242	47.27371	47.77772
____ CD	0.00024	21.76	43.647	0.00035	0.00025	0.00014
____ CO	0.00354	38.56	3.136	0.00363	0.00342	0.00358
____ CR	0.00108	24.38	32.286	0.00125	0.00130	0.00068
____ CU	0.00344	-83.73	104.276	0.00757	0.00151	0.00123
____ FE	15.14734	468.61	1.165	15.34463	15.00471	15.09267
____ K	4.43171	1,258.83	1.571	4.35134	4.47057	4.47320
____ LI	-0.02733	-118.67	3.696	-0.02638	-0.02722	-0.02839
____ MG	15.28015	3,476.67	0.532	15.34106	15.18783	15.31155
____ MN	1.65736	175,218.92	2.275	1.69696	1.65325	1.62188
____ MO	0.00100	2.69	36.698	0.00139	0.00097	0.00065
____ NA	91.81974	61,186.83	0.499	92.22101	91.32059	91.91762
____ NI	0.00106	14.83	45.474	0.00162	0.00081	0.00076
____ P	0.00318	2.86	70.272	0.00475	0.00416	0.00062
____ PB	-0.00207	3.53	34.465	-0.00188	-0.00148	-0.00287
____ S	10.02855	2,771.27	0.609	10.06827	10.05919	9.95818
____ SB	0.00340	-2.29	47.274	0.00287	0.00521	0.00213
____ SE	0.00385	4.06	85.771	0.00707	0.00047	0.00401
____ SI	7.68337	156.62	2.347	7.84354	7.48809	7.71848
____ SN	0.00014	5.91	557.974	-0.00045	0.00106	-0.00018
____ SR	0.31215	317,113.75	1.136	0.31620	0.31060	0.30964
____ TH	-0.10138	-0.67	137.474	-0.26227	-0.01767	-0.02421
____ TI	0.00085	102.43	19.682	0.00104	0.00081	0.00071
____ TL	0.00057	2.87	177.092	0.00095	-0.00057	0.00134
____ V	0.00026	13.26	170.896	0.00006	0.00076	-0.00005
____ W	-0.00029	5.31	73.914	-0.00045	-0.00005	-0.00038
____ Y1	11894.54551	11,894.55	0.081	11905.68121	11888.26787	11889.68747
____ Y2A	277564.95255	277,564.95	1.494	272989.36877	278625.74751	281079.74138
____ Y2R	3080.17974	3,080.18	0.353	3091.63009	3070.00897	3078.90018
____ ZN	0.01426	207.38	0.325	0.01428	0.01421	0.01430
____ ZR	0.00313	14.70	304.503	0.00048	0.01368	-0.00479

LANCASTER LABORATORIES

Run Name: 1810703T72 Instrument ID: 16417

Tube: 18 Date/Time: 04/17/2018 06:18

Sample Number: **9548794** Class: R*** Batch: 181000184802

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.05408	1,189.04	3.154	0.05240	0.05402	0.05581
____ AL	2.10962	55.79	7.071	2.00071	2.04852	2.27963
____ AS	0.15301	79.54	1.945	0.15036	0.15243	0.15623
____ B	2.04315	22,916.31	0.889	2.04031	2.02657	2.06258
____ BA	2.32246	1,920,167.71	0.792	2.31685	2.30752	2.34302
____ BE	0.05200	33,956.90	0.947	0.05179	0.05164	0.05256
____ CA	51.14082	8,116.15	0.959	50.89708	51.70514	50.82023
____ CD	0.05120	917.52	0.971	0.05177	0.05094	0.05088
____ CO	0.51544	4,116.77	0.606	0.51890	0.51463	0.51281
____ CR	0.19794	2,802.92	0.815	0.19674	0.19730	0.19977
____ CU	0.27042	3,739.12	1.086	0.27066	0.26737	0.27323
____ FE	16.05539	493.98	0.551	16.13897	16.06432	15.96287
____ K	14.59951	3,834.05	1.453	14.42474	14.83548	14.53832
____ LI	1.05507	5,414.57	0.335	1.05315	1.05915	1.05291
____ MG	17.20495	3,894.26	0.345	17.16583	17.27319	17.17582
____ MN	2.18524	228,796.04	0.879	2.17754	2.17106	2.20711
____ MO	2.02338	8,755.65	0.624	2.03558	2.02419	2.01037
____ NA	101.94518	67,622.05	0.251	101.97978	102.18168	101.67407
____ NI	0.52350	2,322.56	0.802	0.52703	0.52462	0.51886
____ P	1.05482	595.08	0.777	1.06220	1.05627	1.04600
____ PB	0.15079	219.41	1.726	0.15259	0.15197	0.14781
____ S	11.12115	3,027.02	0.484	11.18317	11.09311	11.08719
____ SB	0.53274	419.65	0.565	0.53510	0.53377	0.52935
____ SE	0.16046	62.77	2.124	0.16420	0.15964	0.15753
____ SI	8.67802	176.71	1.562	8.54768	8.66809	8.81828
____ SN	3.97222	5,499.38	0.589	3.99484	3.97368	3.94814
____ SR	1.33857	1,340,464.03	0.345	1.33355	1.34262	1.33953
____ TH	0.03221	1.43	231.469	-0.05354	0.08178	0.06840
____ TI	1.03110	76,274.86	0.937	1.02675	1.02437	1.04217
____ TL	0.14895	146.88	1.135	0.14896	0.15064	0.14726
____ V	0.52820	11,015.12	0.884	0.52544	0.52557	0.53359
____ W	-0.00134	13.94	26.625	-0.00140	-0.00165	-0.00095
____ Y1	11718.09956	11,718.10	0.283	11696.69362	11756.36291	11701.24214
____ Y2A	274858.08416	274,858.08	0.740	276081.22924	275982.80731	272510.21595
____ Y2R	3065.00459	3,065.00	0.618	3086.50580	3050.81951	3057.68847
____ ZN	0.52797	6,868.69	0.694	0.53197	0.52717	0.52478
____ ZR	1.03551	467.33	1.337	1.04810	1.03775	1.02068

LANCASTER LABORATORIES

Run Name: 1810703T72 Instrument ID: 16417

Tube: 19 Date/Time: 04/17/2018 06:22

Sample Number: **9548795** Class: M*** Batch: 181000184802

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.05181	1,164.14	2.291	0.05302	0.05176	0.05065
____ AL	2.13145	55.49	6.289	2.02469	2.28189	2.08777
____ AS	0.14852	77.36	2.989	0.15189	0.14349	0.15019
____ B	2.00739	22,505.35	0.518	2.01931	2.00019	2.00267
____ BA	2.27767	1,881,802.93	1.346	2.31276	2.26419	2.25605
____ BE	0.05134	33,500.16	0.583	0.05169	0.05116	0.05118
____ CA	50.43211	7,923.92	0.679	50.80697	50.35337	50.13598
____ CD	0.05051	907.29	2.042	0.05167	0.04970	0.05016
____ CO	0.50773	4,063.08	1.504	0.51591	0.50079	0.50649
____ CR	0.19695	2,787.00	0.623	0.19835	0.19612	0.19636
____ CU	0.27088	3,718.51	1.015	0.27117	0.26799	0.27347
____ FE	16.10500	490.50	0.275	16.14931	16.10497	16.06073
____ K	14.53656	3,779.74	1.426	14.76827	14.47258	14.36885
____ LI	1.04501	5,309.31	0.346	1.04549	1.04837	1.04118
____ MG	17.01389	3,812.45	0.219	17.05544	17.00247	16.98376
____ MN	2.14479	224,408.25	0.538	2.15771	2.13552	2.14114
____ MO	1.98594	8,610.08	1.617	2.02129	1.95854	1.97798
____ NA	101.32830	66,535.87	0.360	101.70053	101.31258	100.97179
____ NI	0.51547	2,291.40	1.753	0.52538	0.50768	0.51334
____ P	1.03939	587.51	1.586	1.05618	1.02322	1.03878
____ PB	0.14685	214.27	1.597	0.14949	0.14501	0.14604
____ S	10.67593	2,911.63	1.560	10.85845	10.53230	10.63703
____ SB	0.52262	412.36	1.923	0.53313	0.51310	0.52162
____ SE	0.15419	60.53	2.732	0.15738	0.14942	0.15579
____ SI	8.47080	170.76	0.316	8.50147	8.45876	8.45216
____ SN	3.90852	5,421.60	1.633	3.97530	3.84810	3.90215
____ SR	1.32553	1,326,464.72	0.699	1.33452	1.31601	1.32605
____ TH	-0.03802	0.33	203.638	0.00174	0.01144	-0.12724
____ TI	1.01438	74,988.16	0.482	1.02003	1.01168	1.01145
____ TL	0.14891	147.11	1.543	0.15142	0.14840	0.14692
____ V	0.52149	10,868.98	0.513	0.52458	0.51999	0.51989
____ W	-0.00149	13.52	56.883	-0.00220	-0.00173	-0.00055
____ Y1	11741.84339	11,741.84	1.153	11634.45376	11893.96724	11697.10916
____ Y2A	274661.41089	274,661.41	0.369	273567.53831	275567.85714	274848.83721
____ Y2R	3034.22922	3,034.23	0.580	3019.64499	3029.28243	3053.76022
____ ZN	0.51933	6,769.82	1.622	0.52842	0.51177	0.51782
____ ZR	1.02105	454.86	0.152	1.02196	1.01926	1.02194

LANCASTER LABORATORIES

Run Name: 1810703T72 Instrument ID: 16417

Tube: 20 Date/Time: 04/17/2018 06:25

Sample Number: **9548793** Class: UL** Batch: 181000184802

Initial Vol: 50.00 Final Vol: 50.00 DF: 5.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00131	-54.25	138.947	-0.00043	-0.00340	-0.00010
____ AL	0.08997	18.23	248.796	-0.15105	0.12963	0.29132
____ AS	0.00103	1.16	173.950	-0.00063	0.00292	0.00080
____ B	0.02175	294.69	5.212	0.02127	0.02304	0.02094
____ BA	0.04987	42,190.41	3.066	0.04846	0.05150	0.04964
____ BE	-0.00018	-456.94	19.174	-0.00014	-0.00017	-0.00021
____ CA	9.50187	1,504.11	0.619	9.53342	9.53821	9.43398
____ CD	0.00007	-1.91	98.126	-0.00001	0.00010	0.00012
____ CO	0.00081	17.47	14.628	0.00092	0.00083	0.00069
____ CR	0.00009	10.42	562.866	-0.00015	0.00066	-0.00025
____ CU	0.00161	-98.03	134.089	0.00021	0.00410	0.00053
____ FE	3.10131	96.44	1.794	3.04469	3.15590	3.10333
____ K	0.95017	366.05	3.443	0.91391	0.95913	0.97748
____ LI	-0.02251	-94.94	14.964	-0.02538	-0.02336	-0.01880
____ MG	3.05888	688.57	0.535	3.07752	3.05227	3.04685
____ MN	0.33827	36,189.58	1.263	0.33380	0.34231	0.33871
____ MO	0.00071	1.41	58.936	0.00113	0.00070	0.00029
____ NA	18.11264	11,755.04	0.176	18.08625	18.10359	18.14806
____ NI	0.00019	13.00	20.083	0.00022	0.00021	0.00015
____ P	0.00038	1.28	828.435	0.00232	0.00205	-0.00324
____ PB	0.00066	-0.62	420.760	0.00308	0.00126	-0.00237
____ S	1.98897	559.26	0.566	1.98156	2.00192	1.98342
____ SB	0.00142	-3.93	173.046	0.00415	-0.00060	0.00070
____ SE	-0.00020	2.48	1190.772	-0.00106	-0.00209	0.00254
____ SI	1.50612	30.16	0.828	1.49466	1.50431	1.51939
____ SN	0.00086	7.00	58.614	0.00136	0.00089	0.00034
____ SR	0.06385	65,373.40	1.909	0.06256	0.06499	0.06399
____ TH	-0.03820	0.20	239.420	0.03263	-0.14144	-0.00578
____ TI	0.00088	105.30	65.838	0.00051	0.00154	0.00058
____ TL	-0.00056	2.06	186.979	-0.00006	0.00014	-0.00177
____ V	0.00025	11.55	117.681	-0.00009	0.00047	0.00037
____ W	-0.00002	5.73	1164.201	0.00021	-0.00032	0.00004
____ Y1	12015.56843	12,015.57	0.934	12143.96722	11966.66533	11936.07275
____ Y2A	280465.93407	280,465.93	1.261	284519.23077	278005.31561	278873.25581
____ Y2R	3042.90027	3,042.90	0.206	3049.85549	3037.65241	3041.19290
____ ZN	0.00305	45.91	2.439	0.00304	0.00297	0.00312
____ ZR	-0.00273	13.39	75.317	-0.00404	-0.00380	-0.00036

LANCASTER LABORATORIES

Run Name: 1810703T72 Instrument ID: 16417

Tube: 21 Date/Time: 04/17/2018 06:28

Sample Number: **9548798** Class: **** Batch: 181000184802

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00046	-46.20	280.966	-0.00040	-0.00179	0.00080
____ AL	-0.05906	15.59	78.850	-0.10773	-0.01494	-0.05450
____ AS	0.00032	-0.34	521.864	0.00212	-0.00119	0.00003
____ B	0.08634	1,214.55	1.726	0.08568	0.08805	0.08530
____ BA	0.24392	202,228.71	0.756	0.24281	0.24605	0.24291
____ BE	-0.00022	-476.04	4.788	-0.00023	-0.00021	-0.00021
____ CA	47.41682	7,504.62	0.338	47.29004	47.36356	47.59687
____ CD	0.00030	22.41	36.556	0.00018	0.00039	0.00033
____ CO	0.00324	35.88	5.373	0.00344	0.00312	0.00316
____ CR	0.00262	45.99	11.555	0.00229	0.00289	0.00267
____ CU	0.00301	-70.99	55.578	0.00232	0.00491	0.00179
____ FE	15.04261	461.67	0.576	14.94939	15.12064	15.05782
____ K	4.36676	1,232.27	2.898	4.22623	4.40240	4.47166
____ LI	-0.02235	-92.31	16.851	-0.02006	-0.02029	-0.02670
____ MG	15.32081	3,458.04	0.513	15.23351	15.38567	15.34326
____ MN	1.67326	175,594.03	0.634	1.66581	1.68541	1.66856
____ MO	0.00065	1.11	30.489	0.00069	0.00043	0.00081
____ NA	91.73860	60,644.63	0.106	91.62970	91.81807	91.76804
____ NI	0.00117	15.23	28.335	0.00092	0.00154	0.00103
____ P	0.00329	2.91	20.834	0.00260	0.00397	0.00330
____ PB	-0.00426	0.24	33.810	-0.00261	-0.00526	-0.00492
____ S	10.13651	2,782.83	1.367	10.29620	10.06512	10.04823
____ SB	0.00280	-2.77	18.814	0.00285	0.00330	0.00225
____ SE	0.00040	2.72	1114.045	0.00385	0.00190	-0.00456
____ SI	7.79692	157.66	1.182	7.74999	7.73770	7.90306
____ SN	0.00056	6.46	35.899	0.00033	0.00068	0.00068
____ SR	0.31187	314,438.73	1.231	0.30907	0.31625	0.31031
____ TH	-0.05281	0.10	84.508	-0.02403	-0.10422	-0.03018
____ TI	0.00109	119.48	9.540	0.00098	0.00110	0.00119
____ TL	0.00025	2.54	203.420	0.00016	-0.00021	0.00081
____ V	-0.00013	6.19	139.385	-0.00034	0.00001	-0.00007
____ W	0.00008	5.93	333.735	0.00041	-0.00011	-0.00005
____ Y1	11817.85066	11,817.85	0.623	11732.99531	11865.06640	11855.49025
____ Y2A	275465.29836	275,465.30	0.878	277214.03654	272705.52965	276476.32890
____ Y2R	3055.64048	3,055.64	0.600	3076.26696	3049.48593	3041.16856
____ ZN	0.01444	208.24	1.640	0.01469	0.01422	0.01442
____ ZR	-0.01048	9.74	92.310	-0.02150	-0.00650	-0.00343

LANCASTER LABORATORIES

Run Name: 1810703T72

Instrument ID: 16417

Tube: 22

Date/Time: 04/17/2018 06:32

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.51021	10,554.51	2.233	0.49863	0.52141	0.51057
____ AL	24.21399	456.38	1.145	24.46913	23.91887	24.25398
____ AS	0.50284	257.23	0.559	0.50562	0.50001	0.50290
____ B	0.49254	5,904.76	2.513	0.47900	0.50326	0.49536
____ BA	0.50934	426,022.86	1.395	0.50310	0.51707	0.50783
____ BE	0.48310	327,556.99	2.108	0.47481	0.49447	0.48003
____ CA	23.87161	3,802.01	0.295	23.95129	23.84553	23.81801
____ CD	0.49470	8,895.29	0.422	0.49619	0.49559	0.49231
____ CO	0.49703	4,040.33	0.652	0.49988	0.49772	0.49350
____ CR	0.47876	6,843.55	1.892	0.46839	0.48513	0.48276
____ CU	0.51805	7,667.35	2.606	0.50246	0.52573	0.52595
____ FE	24.05979	738.21	0.736	24.25464	23.90835	24.01639
____ K	24.12277	6,261.58	0.969	24.36519	24.10426	23.89884
____ LI	0.48549	2,508.48	0.956	0.49068	0.48406	0.48173
____ MG	24.10513	5,459.21	0.597	24.25855	23.97312	24.08370
____ MN	0.50928	53,970.27	2.272	0.49635	0.51865	0.51283
____ MO	0.48296	2,131.16	0.601	0.48485	0.48441	0.47961
____ NA	24.38441	16,037.46	0.859	24.62284	24.23072	24.29967
____ NI	0.49553	2,242.49	0.483	0.49691	0.49692	0.49277
____ P	0.50099	288.94	0.620	0.49932	0.50458	0.49909
____ PB	0.49383	741.56	0.534	0.49292	0.49681	0.49178
____ S	24.41398	6,771.09	0.320	24.43459	24.47973	24.32762
____ SB	0.48319	399.89	0.770	0.48540	0.48527	0.47889
____ SE	0.50384	197.45	0.783	0.50822	0.50271	0.50058
____ SI	24.10877	491.06	0.310	24.19495	24.06052	24.07084
____ SN	0.47931	682.16	0.225	0.48049	0.47908	0.47837
____ SR	0.50719	516,093.83	2.077	0.49576	0.51651	0.50928
____ TH	0.45564	8.15	38.648	0.50949	0.59851	0.25890
____ TI	0.48934	36,628.76	2.132	0.47846	0.49925	0.49030
____ TL	0.49353	486.90	1.030	0.49917	0.49211	0.48931
____ V	0.48948	10,740.03	2.126	0.47813	0.49857	0.49174
____ W	0.49120	880.25	0.679	0.49362	0.49257	0.48740
____ Y1	11956.87338	11,956.87	0.354	12005.35383	11927.70490	11937.56141
____ Y2A	278034.96823	278,034.97	2.023	284331.15053	273505.64784	276268.10631
____ Y2R	3069.58785	3,069.59	0.540	3067.89846	3086.95869	3053.90641
____ ZN	0.49921	6,644.06	0.388	0.50077	0.49982	0.49704
____ ZR	0.48005	235.03	1.975	0.47774	0.47194	0.49047

LANCASTER LABORATORIES

Run Name: 1810703T72

Instrument ID: 16417

Tube: 23

Date/Time: 04/17/2018 06:35

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00503	-49.48	50.903	-0.00258	-0.00483	-0.00769
____ AL	0.04568	17.02	277.543	-0.02720	-0.02782	0.19206
____ AS	0.00141	1.66	152.260	0.00388	-0.00010	0.00046
____ B	0.00306	27.45	18.844	0.00362	0.00247	0.00308
____ BA	0.00014	253.83	14.951	0.00013	0.00014	0.00017
____ BE	-0.00020	-473.87	13.701	-0.00017	-0.00020	-0.00022
____ CA	-0.01197	1.85	39.609	-0.01536	-0.01400	-0.00655
____ CD	0.00006	-7.46	232.875	0.00012	0.00017	-0.00010
____ CO	0.00019	12.46	44.054	0.00023	0.00024	0.00009
____ CR	-0.00073	-1.32	29.249	-0.00059	-0.00062	-0.00097
____ CU	0.00709	-105.03	53.801	0.00347	0.00672	0.01107
____ FE	-0.05848	-0.27	79.018	-0.00900	-0.06592	-0.10051
____ K	0.13990	161.33	41.813	0.10017	0.11245	0.20707
____ LI	-0.02338	-99.57	8.325	-0.02163	-0.02547	-0.02303
____ MG	0.00092	0.07	1633.283	0.01768	-0.00376	-0.01116
____ MN	-0.00001	60.50	359.973	-0.00004	-0.00001	0.00002
____ MO	0.00031	-0.35	11.011	0.00034	0.00033	0.00027
____ NA	-0.12179	-289.72	13.684	-0.10672	-0.13969	-0.11895
____ NI	-0.00021	11.65	240.659	-0.00009	-0.00076	0.00022
____ P	-0.00014	0.98	1049.612	0.00038	0.00097	-0.00175
____ PB	0.00161	-1.40	44.577	0.00078	0.00209	0.00194
____ S	0.00486	6.37	48.664	0.00303	0.00402	0.00754
____ SB	0.00265	-2.89	97.532	0.00432	-0.00033	0.00395
____ SE	-0.00068	2.28	222.870	-0.00213	-0.00079	0.00088
____ SI	0.08052	1.41	38.499	0.05411	0.11464	0.07280
____ SN	0.00034	6.23	43.798	0.00041	0.00017	0.00044
____ SR	0.00010	-120.05	6.743	0.00009	0.00010	0.00011
____ TH	-0.25665	-3.20	59.613	-0.12248	-0.22420	-0.42326
____ TI	-0.00004	36.20	323.049	0.00001	-0.00020	0.00007
____ TL	-0.00071	1.96	94.766	-0.00005	-0.00140	-0.00068
____ V	0.00072	14.20	62.813	0.00022	0.00111	0.00082
____ W	0.00098	7.44	42.696	0.00102	0.00055	0.00138
____ Y1	11970.41163	11,970.41	1.070	11898.17311	12118.35280	11894.70899
____ Y2A	282025.23612	282,025.24	0.785	282000.82891	284251.57493	279823.30452
____ Y2R	3034.93333	3,034.93	0.863	3064.92500	3023.30000	3016.57500
____ ZN	-0.00034	-2.69	28.492	-0.00024	-0.00044	-0.00033
____ ZR	0.00658	12.58	158.818	-0.00508	0.00972	0.01509

LANCASTER LABORATORIES

Run Name: 1810703T72 Instrument ID: 16417

Tube: 24 Date/Time: 04/17/2018 06:38

Sample Number: **9549945** Class: **** Batch: 181000184802

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00079	-27.64	186.731	0.00176	-0.00090	0.00150
____ AL	0.09036	17.55	125.835	0.21374	0.06754	-0.01021
____ AS	0.00217	1.74	228.582	-0.00177	0.00055	0.00772
____ B	0.15401	1,477.93	1.985	0.15531	0.15620	0.15052
____ BA	0.03311	23,872.07	2.069	0.03359	0.03340	0.03232
____ BE	-0.00039	-509.82	2.302	-0.00039	-0.00038	-0.00038
____ CA	973.27661	136,904.66	1.212	959.75659	981.45182	978.62142
____ CD	0.00072	3.82	28.809	0.00078	0.00088	0.00048
____ CO	0.00013	9.44	56.234	0.00010	0.00007	0.00020
____ CR	0.00370	53.12	4.580	0.00369	0.00387	0.00353
____ CU	0.03196	322.54	12.837	0.03177	0.03616	0.02796
____ FE	0.08860	4.05	30.204	0.11138	0.09530	0.05913
____ K	11.72767	2,941.47	1.488	11.54281	11.88949	11.75072
____ LI	0.10833	542.37	3.958	0.10490	0.11314	0.10695
____ MG	215.64083	45,000.60	1.055	213.08922	217.46018	216.37308
____ MN	0.15902	14,501.99	2.523	0.16218	0.16038	0.15451
____ MO	0.00208	6.36	5.563	0.00209	0.00196	0.00219
____ NA	1469.76028	926,362.46	1.112	1468.45855	1486.72074	1454.10154
____ NI	0.00433	27.41	15.265	0.00447	0.00490	0.00360
____ P	0.01692	9.21	15.101	0.01410	0.01760	0.01908
____ PB	0.00258	0.11	57.588	0.00215	0.00423	0.00135
____ S	273.56001	64,846.34	1.265	276.37207	274.61372	269.69424
____ SB	0.00383	-1.61	70.158	0.00669	0.00344	0.00136
____ SE	0.00276	3.07	221.624	0.00960	0.00087	-0.00219
____ SI	6.69737	128.66	1.458	6.63259	6.64981	6.80971
____ SN	0.00095	6.05	7.002	0.00102	0.00094	0.00089
____ SR	4.07249	3,534,946.30	1.644	4.12922	4.08964	3.99862
____ TH	0.03504	1.25	300.881	0.10374	-0.08634	0.08771
____ TI	-0.00853	-514.03	2.920	-0.00879	-0.00851	-0.00829
____ TL	-0.00022	1.83	747.918	-0.00188	0.00141	-0.00019
____ V	-0.00094	-12.00	11.632	-0.00102	-0.00081	-0.00097
____ W	0.00080	6.11	145.801	-0.00054	0.00158	0.00134
____ Y1	10221.25069	10,221.25	0.214	10204.39156	10213.33333	10246.02718
____ Y2A	238676.40158	238,676.40	2.085	234269.35216	237685.63123	244074.22134
____ Y2R	2903.91530	2,903.92	1.644	2959.02417	2876.82281	2875.89892
____ ZN	0.00810	93.47	3.610	0.00830	0.00824	0.00776
____ ZR	-0.00335	14.07	21.638	-0.00251	-0.00376	-0.00377

LANCASTER LABORATORIES

Run Name: 1810703T72 Instrument ID: 16417

Tube: 25 Date/Time: 04/17/2018 06:42

Sample Number: **9549945** Class: **** Batch: 181000184802

Initial Vol: 50.00 Final Vol: 50.00 DF: 5.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00207	-35.15	77.126	-0.00110	-0.00120	-0.00391
____ AL	0.03566	16.46	156.396	-0.01444	0.09576	0.02567
____ AS	0.00435	2.96	36.226	0.00370	0.00321	0.00615
____ B	0.03197	332.82	1.140	0.03210	0.03225	0.03156
____ BA	0.00664	5,379.30	1.148	0.00665	0.00670	0.00655
____ BE	-0.00029	-500.47	9.127	-0.00028	-0.00032	-0.00027
____ CA	185.11646	27,766.71	0.810	186.76561	184.74563	183.83816
____ CD	0.00008	-6.73	188.011	0.00008	0.00022	-0.00007
____ CO	0.00005	10.45	366.061	-0.00006	-0.00004	0.00024
____ CR	0.00112	23.76	74.917	0.00179	0.00018	0.00138
____ CU	0.00979	-9.27	47.465	0.00821	0.00614	0.01502
____ FE	-0.04895	0.02	174.363	0.04877	-0.10887	-0.08676
____ K	2.15575	643.94	3.145	2.22651	2.14939	2.09136
____ LI	-0.00064	14.89	475.488	-0.00122	0.00267	-0.00338
____ MG	43.15202	9,287.98	0.950	43.57996	43.11377	42.76233
____ MN	0.03201	3,267.46	1.424	0.03196	0.03249	0.03159
____ MO	0.00005	-1.43	717.755	0.00043	-0.00011	-0.00017
____ NA	312.06119	197,940.49	0.818	314.71626	309.62641	311.84091
____ NI	0.00002	11.85	980.694	0.00012	-0.00019	0.00012
____ P	0.00619	4.30	9.978	0.00673	0.00631	0.00552
____ PB	0.00297	0.56	60.858	0.00122	0.00483	0.00285
____ S	52.52536	13,621.41	0.498	52.82729	52.38385	52.36493
____ SB	0.00291	-2.46	101.455	0.00167	0.00629	0.00078
____ SE	0.00268	3.33	158.230	0.00284	-0.00164	0.00685
____ SI	1.34396	25.85	2.039	1.35918	1.31232	1.36039
____ SN	-0.00010	5.23	425.215	-0.00004	-0.00057	0.00030
____ SR	0.86869	831,841.99	1.039	0.87177	0.87577	0.85852
____ TH	-0.11686	-1.01	127.036	-0.06890	0.00169	-0.28336
____ TI	0.00037	62.85	46.672	0.00036	0.00019	0.00053
____ TL	-0.00058	1.90	265.614	0.00112	-0.00189	-0.00097
____ V	-0.00017	-1.04	289.712	0.00034	-0.00062	-0.00022
____ W	0.00031	5.85	86.665	0.00014	0.00061	0.00017
____ Y1	11178.79554	11,178.80	0.041	11182.41376	11180.30146	11173.67139
____ Y2A	263319.22399	263,319.22	1.045	262935.01984	260778.52183	266244.13029
____ Y2R	2924.74991	2,924.75	0.079	2927.24775	2924.28557	2922.71639
____ ZN	0.00148	19.88	1.704	0.00145	0.00150	0.00149
____ ZR	0.00045	12.53	2474.741	0.01158	-0.01057	0.00034

LANCASTER LABORATORIES

Run Name: 1810703T72 Instrument ID: 16417

Tube: 26 Date/Time: 04/17/2018 06:45

Sample Number: **9549946** Class: **** Batch: 181000184802

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00039	-29.37	645.394	-0.00215	0.00044	0.00288
____ AL	0.02762	16.83	310.344	0.01971	0.11700	-0.05386
____ AS	0.00340	2.60	93.433	0.00649	0.00014	0.00357
____ B	0.04861	535.19	0.654	0.04861	0.04829	0.04893
____ BA	0.02238	18,679.71	0.760	0.02254	0.02220	0.02238
____ BE	-0.00026	-507.43	11.975	-0.00023	-0.00028	-0.00028
____ CA	171.56217	26,241.00	0.108	171.34954	171.64370	171.69328
____ CD	-0.00003	-8.75	601.109	0.00019	-0.00019	-0.00010
____ CO	0.00001	10.15	2785.095	0.00010	-0.00025	0.00018
____ CR	0.00258	45.58	30.369	0.00299	0.00308	0.00168
____ CU	0.01054	47.45	33.111	0.01326	0.01174	0.00660
____ FE	0.05355	3.10	92.757	0.10792	0.04215	0.01057
____ K	3.56456	1,003.73	1.205	3.54795	3.61333	3.53241
____ LI	-0.01277	-45.11	27.602	-0.01370	-0.01574	-0.00888
____ MG	26.53098	5,830.59	0.287	26.46628	26.51195	26.61472
____ MN	0.04897	5,200.35	0.569	0.04908	0.04865	0.04917
____ MO	0.00322	12.15	15.973	0.00330	0.00369	0.00267
____ NA	22.46608	14,326.51	0.249	22.43277	22.43491	22.53056
____ NI	0.00120	17.48	36.383	0.00070	0.00153	0.00137
____ P	0.01448	9.11	7.619	0.01396	0.01575	0.01374
____ PB	0.00619	5.26	16.298	0.00615	0.00722	0.00521
____ S	106.02017	28,585.29	0.488	106.54705	105.99997	105.51349
____ SB	0.00376	-1.89	56.986	0.00225	0.00282	0.00622
____ SE	0.00172	3.11	164.760	-0.00024	0.00043	0.00498
____ SI	5.11808	100.85	1.686	5.20317	5.03059	5.12047
____ SN	0.00087	6.77	59.369	0.00029	0.00105	0.00127
____ SR	0.45614	457,196.94	0.194	0.45511	0.45665	0.45665
____ TH	0.00417	0.80	3031.563	-0.10457	-0.02569	0.14277
____ TI	0.00072	91.65	24.341	0.00090	0.00055	0.00069
____ TL	0.00009	2.45	1239.728	0.00138	-0.00089	-0.00021
____ V	0.00000	5.52	4470.013	0.00021	0.00029	-0.00050
____ W	0.00041	6.24	41.941	0.00021	0.00053	0.00050
____ Y1	11624.35871	11,624.36	0.303	11635.80842	11652.46556	11584.80216
____ Y2A	275651.14456	275,651.14	1.263	272399.40040	279324.43634	275229.59694
____ Y2R	2979.60859	2,979.61	0.421	2993.20679	2977.16827	2968.45072
____ ZN	0.00394	52.34	1.562	0.00400	0.00393	0.00387
____ ZR	-0.00542	12.88	270.929	0.00455	0.00146	-0.02227

LANCASTER LABORATORIES

Run Name: 1810703T72 Instrument ID: 16417

Tube: 27 Date/Time: 04/17/2018 06:49

Sample Number: **9549947** Class: **** Batch: 181000184802

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00327	-46.38	107.735	-0.00079	-0.00171	-0.00731
____ AL	-0.07252	15.03	80.375	-0.02630	-0.13801	-0.05326
____ AS	0.00115	1.54	310.824	-0.00245	0.00119	0.00471
____ B	0.00179	13.75	47.204	0.00269	0.00165	0.00102
____ BA	0.00093	939.10	3.290	0.00090	0.00096	0.00092
____ BE	-0.00022	-499.38	10.488	-0.00020	-0.00024	-0.00021
____ CA	0.04029	9.85	32.587	0.03993	0.05359	0.02734
____ CD	-0.00012	-10.78	83.774	-0.00023	-0.00008	-0.00004
____ CO	-0.00007	10.50	83.629	-0.00014	-0.00004	-0.00003
____ CR	-0.00058	0.88	97.056	-0.00040	-0.00121	-0.00013
____ CU	0.00682	-75.00	70.998	0.00529	0.00293	0.01224
____ FE	-0.04152	0.25	219.235	0.00909	-0.14659	0.01296
____ K	0.00215	126.55	3645.366	0.01591	-0.08225	0.07280
____ LI	-0.02720	-118.70	9.484	-0.02516	-0.02634	-0.03010
____ MG	-0.00554	-1.40	88.856	-0.00549	-0.00064	-0.01047
____ MN	0.00024	88.93	8.539	0.00026	0.00022	0.00025
____ MO	0.00002	-1.68	1693.500	-0.00022	-0.00001	0.00027
____ NA	0.04354	-180.42	72.100	0.07695	0.01465	0.03903
____ NI	0.00036	14.36	37.321	0.00048	0.00022	0.00037
____ P	0.00091	1.58	201.979	0.00274	-0.00092	0.00089
____ PB	0.00208	-0.73	74.373	0.00146	0.00094	0.00384
____ S	0.04386	17.39	14.668	0.05118	0.04128	0.03912
____ SB	0.00388	-1.84	83.242	0.00507	0.00634	0.00022
____ SE	0.00224	3.44	214.896	-0.00320	0.00594	0.00398
____ SI	0.04354	0.66	72.110	0.00730	0.06240	0.06091
____ SN	-0.00001	5.80	3065.550	-0.00031	-0.00009	0.00038
____ SR	0.00022	11.43	19.374	0.00020	0.00020	0.00027
____ TH	-0.16578	-1.80	119.043	-0.05842	-0.04539	-0.39354
____ TI	0.00031	64.32	21.465	0.00027	0.00027	0.00039
____ TL	-0.00183	0.87	33.796	-0.00191	-0.00241	-0.00118
____ V	0.00063	15.48	47.542	0.00092	0.00033	0.00063
____ W	-0.00025	5.37	620.479	0.00136	-0.00036	-0.00175
____ Y1	12099.68614	12,099.69	0.371	12062.24019	12149.45938	12087.35885
____ Y2A	287837.28448	287,837.28	0.542	289580.57029	287356.18369	286575.09947
____ Y2R	3029.35000	3,029.35	0.617	3050.77500	3016.45000	3020.82500
____ ZN	0.00188	26.80	7.869	0.00202	0.00173	0.00188
____ ZR	0.00235	12.73	240.944	-0.00083	-0.00101	0.00888

LANCASTER LABORATORIES

Run Name: 1810703T72 Instrument ID: 16417

Tube: 28 Date/Time: 04/17/2018 06:52

Sample Number: **9551130** Class: **** Batch: 181010184803

Initial Vol: 50.00 Final Vol: 50.00 DF: 5.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00137	-32.01	125.418	0.00326	0.00096	-0.00010
____ AL	0.01057	16.60	1354.478	-0.09667	0.17313	-0.04475
____ AS	-0.00158	-4.20	167.156	-0.00460	-0.00035	0.00022
____ B	0.03374	1,176.74	5.709	0.03151	0.03484	0.03485
____ BA	0.05346	44,899.37	1.446	0.05302	0.05435	0.05301
____ BE	-0.00025	-501.40	12.368	-0.00021	-0.00026	-0.00026
____ CA	27.04303	4,238.86	0.414	26.93032	27.15429	27.04450
____ CD	0.00090	84.81	9.468	0.00086	0.00099	0.00084
____ CO	0.01932	164.85	2.010	0.01968	0.01938	0.01891
____ CR	0.00129	27.47	29.632	0.00096	0.00170	0.00120
____ CU	0.00230	-68.28	146.121	-0.00152	0.00482	0.00360
____ FE	45.75296	1,368.21	0.269	45.67515	45.89460	45.68913
____ K	1.56746	517.83	5.679	1.48063	1.65850	1.56324
____ LI	-0.02503	-99.44	19.109	-0.02753	-0.01952	-0.02805
____ MG	18.16777	4,052.58	0.321	18.16280	18.22840	18.11213
____ MN	5.60958	594,835.38	1.566	5.53829	5.70773	5.58271
____ MO	-0.00058	-4.23	11.658	-0.00055	-0.00053	-0.00066
____ NA	50.39866	32,844.32	0.445	50.45170	50.59159	50.15267
____ NI	0.01211	58.89	4.605	0.01275	0.01178	0.01180
____ P	0.00952	6.43	28.806	0.01180	0.01029	0.00648
____ PB	-0.01762	1.55	7.298	-0.01873	-0.01621	-0.01792
____ S	11.14167	3,049.61	1.182	11.24979	11.18029	10.99494
____ SB	0.00141	-4.05	189.601	-0.00031	0.00006	0.00448
____ SE	0.00460	4.44	112.105	0.00019	0.00334	0.01026
____ SI	0.90457	17.91	8.025	0.98423	0.84217	0.88730
____ SN	0.00092	6.93	72.846	0.00017	0.00112	0.00146
____ SR	0.19515	204,036.92	1.484	0.19335	0.19849	0.19361
____ TH	-0.08834	-0.12	115.811	0.02942	-0.13905	-0.15537
____ TI	0.00117	126.21	19.556	0.00103	0.00143	0.00103
____ TL	0.00264	5.19	46.550	0.00331	0.00122	0.00340
____ V	0.00013	20.82	276.857	-0.00027	0.00023	0.00043
____ W	0.00130	7.93	31.236	0.00127	0.00091	0.00173
____ Y1	11783.57285	11,783.57	0.233	11814.34674	11761.42529	11774.94653
____ Y2A	278436.02263	278,436.02	1.193	281994.28050	275417.77409	277896.01329
____ Y2R	3020.93010	3,020.93	0.473	3037.33540	3014.35490	3011.10000
____ ZN	0.00303	98.63	7.958	0.00327	0.00304	0.00279
____ ZR	0.00474	15.40	230.308	-0.00764	0.00884	0.01303

LANCASTER LABORATORIES

Run Name: 1810703T72

Instrument ID: 16417

Tube: 29

Date/Time: 04/17/2018 06:55

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00328	-6.02	62.623	0.00564	0.00195	0.00225
____ AL	0.27415	20.87	60.983	0.29201	0.09876	0.43169
____ AS	0.02215	12.25	7.073	0.02256	0.02347	0.02042
____ B	0.04839	541.47	1.232	0.04902	0.04833	0.04783
____ BA	0.00528	4,575.58	0.615	0.00532	0.00527	0.00526
____ BE	0.00485	2,977.73	0.390	0.00486	0.00486	0.00483
____ CA	0.19188	31.70	15.910	0.15985	0.22064	0.19515
____ CD	0.00544	88.93	2.731	0.00557	0.00547	0.00528
____ CO	0.00516	52.72	1.608	0.00526	0.00512	0.00511
____ CR	0.01461	219.06	1.011	0.01476	0.01446	0.01463
____ CU	0.01473	156.76	13.674	0.01241	0.01578	0.01600
____ FE	0.13984	5.55	5.514	0.13380	0.13719	0.14853
____ K	0.54003	251.18	20.926	0.42977	0.53473	0.65560
____ LI	-0.00670	-14.42	76.521	-0.00124	-0.00743	-0.01141
____ MG	0.09023	19.30	6.078	0.09191	0.09468	0.08411
____ MN	0.00556	653.45	3.387	0.00553	0.00540	0.00577
____ MO	0.00984	41.60	2.751	0.01003	0.00953	0.00997
____ NA	0.94137	393.98	0.403	0.93700	0.94326	0.94385
____ NI	0.01031	58.84	8.536	0.01128	0.00956	0.01009
____ P	0.10148	59.17	0.437	0.10151	0.10191	0.10102
____ PB	0.01763	22.24	4.822	0.01857	0.01741	0.01692
____ S	0.52196	149.19	0.912	0.52734	0.52022	0.51831
____ SB	0.02202	13.41	8.312	0.02350	0.02259	0.01998
____ SE	0.02285	11.29	16.949	0.02571	0.02440	0.01844
____ SI	0.14036	2.52	14.875	0.15138	0.11628	0.15343
____ SN	0.01866	31.96	0.669	0.01872	0.01851	0.01873
____ SR	0.00535	5,254.49	0.396	0.00538	0.00534	0.00534
____ TH	0.12632	2.60	70.436	0.22659	0.09558	0.05679
____ TI	0.00988	782.74	2.349	0.01004	0.00961	0.00999
____ TL	0.03023	32.20	6.650	0.03245	0.02971	0.02854
____ V	0.00499	118.89	7.336	0.00463	0.00536	0.00497
____ W	0.00953	22.84	1.541	0.00936	0.00965	0.00957
____ Y1	11917.03198	11,917.03	0.214	11891.53393	11942.51424	11917.04777
____ Y2A	279671.03901	279,671.04	0.764	279366.10705	277702.24252	281944.76744
____ Y2R	2911.32500	2,911.33	0.834	2925.25000	2925.42500	2883.30000
____ ZN	0.02127	281.71	1.077	0.02141	0.02139	0.02101
____ ZR	0.04632	36.53	23.762	0.03505	0.04685	0.05705

LANCASTER LABORATORIES

Run Name: 1810703T72

Instrument ID: 16417

Tube: 30

Date/Time: 04/17/2018 06:59

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00119	-66.83	67.052	-0.00128	-0.00035	-0.00194
____ AL	513.10201	8,177.02	0.480	510.43008	515.28259	513.59335
____ AS	0.00434	-14.50	67.142	0.00735	0.00153	0.00414
____ B	0.03934	3,491.59	7.509	0.04156	0.03599	0.04047
____ BA	0.00079	691.51	1.371	0.00078	0.00080	0.00079
____ BE	-0.00032	-480.01	10.329	-0.00029	-0.00031	-0.00036
____ CA	494.02010	67,962.83	0.558	493.44408	497.02005	491.59616
____ CD	0.00067	313.76	20.121	0.00081	0.00055	0.00065
____ CO	0.00000	9.69	3249.467	0.00035	-0.00023	-0.00012
____ CR	-0.00097	-4.10	28.459	-0.00075	-0.00087	-0.00128
____ CU	0.00794	146.20	26.748	0.00893	0.00550	0.00938
____ FE	203.39646	5,164.56	0.471	202.40291	204.31230	203.47416
____ K	0.11343	139.84	137.083	0.10558	-0.03799	0.27271
____ LI	-0.03114	-92.88	9.634	-0.02900	-0.02985	-0.03457
____ MG	479.29193	90,997.69	0.551	478.56609	482.21879	477.09092
____ MN	0.00497	511.30	5.433	0.00470	0.00495	0.00524
____ MO	-0.00220	-10.18	37.067	-0.00200	-0.00150	-0.00310
____ NA	0.08726	-137.35	8.352	0.09012	0.07897	0.09267
____ NI	-0.00651	-44.27	5.082	-0.00663	-0.00676	-0.00613
____ P	0.01369	7.93	10.223	0.01233	0.01360	0.01513
____ PB	0.00341	194.13	114.525	-0.00071	0.00388	0.00707
____ S	0.08320	24.95	3.556	0.07981	0.08530	0.08447
____ SB	0.00020	-5.21	2973.695	-0.00657	0.00233	0.00485
____ SE	0.01462	8.08	59.927	0.02384	0.01359	0.00641
____ SI	0.04405	0.61	154.319	-0.02865	0.05477	0.10603
____ SN	0.00612	12.80	10.943	0.00634	0.00666	0.00537
____ SR	-0.00089	24,588.74	21.956	-0.00072	-0.00111	-0.00085
____ TH	-0.06042	1.80	92.184	-0.06474	-0.00269	-0.11383
____ TI	-0.00269	-141.49	3.896	-0.00272	-0.00278	-0.00258
____ TL	0.00554	7.20	27.981	0.00712	0.00403	0.00547
____ V	-0.00123	35.67	15.998	-0.00115	-0.00145	-0.00109
____ W	0.00749	16.86	7.215	0.00744	0.00698	0.00805
____ Y1	10639.22635	10,639.23	0.372	10682.37752	10630.59517	10604.70635
____ Y2A	242393.96952	242,393.97	0.280	242762.92247	242807.81975	241611.16634
____ Y2R	2742.13724	2,742.14	1.059	2775.28988	2721.13083	2729.99101
____ ZN	0.00245	257.69	6.339	0.00259	0.00248	0.00228
____ ZR	0.00862	16.06	102.658	0.01582	0.01132	-0.00126

LANCASTER LABORATORIES

Run Name: 1810703T72

Instrument ID: 16417

Tube: 31

Date/Time: 04/17/2018 07:02

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.22069	4,032.95	1.025	0.22328	0.21967	0.21911
____ AL	515.85783	8,193.56	0.260	517.29928	515.63408	514.64014
____ AS	0.10639	32.24	2.264	0.10371	0.10709	0.10837
____ B	0.03444	3,504.67	12.395	0.03937	0.03188	0.03208
____ BA	0.52194	387,617.88	1.378	0.52951	0.52110	0.51520
____ BE	0.50552	304,400.79	0.934	0.51061	0.50129	0.50466
____ CA	496.56910	68,077.56	0.120	497.18916	496.52216	495.99597
____ CD	0.93100	15,227.66	0.826	0.93786	0.93244	0.92269
____ CO	0.46914	3,407.60	0.845	0.47323	0.46886	0.46532
____ CR	0.46828	5,944.09	0.595	0.47119	0.46563	0.46801
____ CU	0.53859	7,126.90	1.190	0.54364	0.53138	0.54074
____ FE	203.25246	5,144.47	0.203	203.39174	203.57781	202.78784
____ K	0.01017	115.96	344.462	0.04225	-0.02720	0.01546
____ LI	-0.02983	-86.62	15.998	-0.02499	-0.02996	-0.03453
____ MG	480.36937	90,890.53	0.284	481.80824	480.20971	479.09015
____ MN	0.49743	46,813.87	0.849	0.50217	0.49406	0.49608
____ MO	-0.00261	-11.84	34.593	-0.00347	-0.00268	-0.00167
____ NA	0.02547	-173.57	29.844	0.01697	0.03161	0.02783
____ NI	0.92229	3,701.71	0.886	0.93026	0.92268	0.91393
____ P	0.01731	9.83	16.916	0.01668	0.02050	0.01474
____ PB	0.51759	872.31	2.660	0.52584	0.52524	0.50170
____ S	0.08272	25.00	4.183	0.08489	0.07873	0.08453
____ SB	0.59985	448.90	0.816	0.60446	0.60038	0.59471
____ SE	0.54795	190.86	0.191	0.54915	0.54745	0.54724
____ SI	-0.01523	-0.46	163.743	-0.02455	0.01302	-0.03415
____ SN	0.00621	12.98	21.147	0.00723	0.00473	0.00667
____ SR	-0.00139	24,572.61	18.327	-0.00114	-0.00165	-0.00138
____ TH	0.05354	3.38	162.487	0.04747	0.14340	-0.03026
____ TI	-0.00251	-132.03	5.362	-0.00258	-0.00235	-0.00260
____ TL	0.09498	86.97	3.982	0.09541	0.09853	0.09100
____ V	0.48824	9,670.39	0.897	0.49322	0.48501	0.48650
____ W	0.00352	29.23	31.980	0.00408	0.00222	0.00425
____ Y1	10698.43189	10,698.43	0.256	10684.14695	10681.08578	10730.06294
____ Y2A	246830.07510	246,830.08	0.232	246217.11398	246921.71968	247351.39165
____ Y2R	2733.13316	2,733.13	0.487	2737.92983	2743.38030	2718.08935
____ ZN	0.99340	11,989.01	0.837	1.00191	0.99299	0.98529
____ ZR	0.00556	17.04	182.104	0.01349	-0.00584	0.00903

LANCASTER LABORATORIES

Run Name: 1810703T72

Instrument ID: 16417

Tube: 32

Date/Time: 04/17/2018 07:05

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.51263	10,440.39	1.260	0.50959	0.50825	0.52005
____ AL	24.50314	430.39	1.083	24.59026	24.20510	24.71405
____ AS	0.51401	256.59	1.127	0.52067	0.51016	0.51119
____ B	0.49586	5,847.47	2.611	0.48516	0.49216	0.51025
____ BA	0.51677	425,399.29	1.000	0.51601	0.51202	0.52227
____ BE	0.49723	331,852.40	0.482	0.49498	0.49696	0.49975
____ CA	24.47675	3,634.43	0.358	24.56035	24.48430	24.38561
____ CD	0.50124	8,793.71	0.711	0.50386	0.50267	0.49718
____ CO	0.50780	4,027.54	0.772	0.51184	0.50755	0.50402
____ CR	0.47905	6,739.84	1.054	0.47484	0.47767	0.48465
____ CU	0.53158	7,741.75	2.299	0.52322	0.52590	0.54560
____ FE	24.05473	688.12	0.735	24.25861	23.94321	23.96238
____ K	25.72004	6,216.52	1.293	25.35354	25.80372	26.00286
____ LI	0.52547	2,529.55	0.279	0.52716	0.52464	0.52461
____ MG	24.32945	5,137.09	0.281	24.40702	24.27790	24.30345
____ MN	0.51334	53,544.60	1.533	0.50770	0.51000	0.52233
____ MO	0.49007	2,110.08	0.896	0.49390	0.49102	0.48528
____ NA	25.54704	15,674.76	0.390	25.63676	25.44000	25.56436
____ NI	0.50423	2,226.35	0.595	0.50738	0.50392	0.50140
____ P	0.50996	286.96	0.312	0.51174	0.50943	0.50870
____ PB	0.50022	732.76	0.605	0.50371	0.49860	0.49834
____ S	24.71446	6,688.04	0.734	24.86554	24.76464	24.51319
____ SB	0.49915	403.29	1.200	0.50547	0.49843	0.49355
____ SE	0.50833	194.36	0.857	0.50701	0.51320	0.50479
____ SI	24.16447	458.90	0.476	24.29439	24.12330	24.07571
____ SN	0.48279	670.40	0.912	0.48784	0.48075	0.47977
____ SR	0.51001	510,817.43	0.381	0.50779	0.51088	0.51137
____ TH	0.45548	7.59	37.881	0.62328	0.46460	0.27856
____ TI	0.50288	37,047.67	1.594	0.49700	0.49963	0.51201
____ TL	0.50494	486.03	0.989	0.51059	0.50310	0.50113
____ V	0.49920	10,780.98	1.417	0.49404	0.49629	0.50726
____ W	0.49905	872.56	0.443	0.50120	0.49919	0.49678
____ Y1	11666.64153	11,666.64	0.357	11714.42859	11637.91829	11647.57773
____ Y2A	273608.95514	273,608.96	1.215	276530.81279	274305.37975	269990.67288
____ Y2R	2861.90086	2,861.90	0.201	2859.86435	2868.38822	2857.45000
____ ZN	0.50803	6,596.84	0.629	0.51103	0.50839	0.50467
____ ZR	0.49526	225.32	1.458	0.48813	0.49509	0.50257

LANCASTER LABORATORIES

Run Name: 1810703T72

Instrument ID: 16417

Tube: 33

Date/Time: 04/17/2018 07:08

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00164	-38.97	14.748	-0.00141	-0.00161	-0.00189
____ AL	0.06148	16.95	358.234	-0.05112	-0.07970	0.31524
____ AS	0.00216	2.03	58.284	0.00103	0.00193	0.00352
____ B	0.00116	5.25	38.788	0.00166	0.00078	0.00103
____ BA	0.00011	221.43	120.949	0.00003	0.00025	0.00003
____ BE	-0.00013	-432.23	76.808	-0.00019	-0.00002	-0.00019
____ CA	0.00309	3.68	115.686	0.00195	0.00022	0.00709
____ CD	0.00004	-7.94	397.278	-0.00001	-0.00007	0.00020
____ CO	0.00031	13.31	98.381	0.00050	0.00048	-0.00004
____ CR	-0.00025	5.73	139.572	-0.00062	-0.00016	0.00005
____ CU	0.00228	-112.35	53.989	0.00087	0.00278	0.00317
____ FE	-0.10031	-1.50	4.162	-0.09677	-0.10492	-0.09925
____ K	0.02358	127.67	227.578	0.05636	0.05275	-0.03836
____ LI	-0.02482	-103.23	12.523	-0.02827	-0.02224	-0.02396
____ MG	0.00489	0.92	145.522	0.00277	0.01282	-0.00093
____ MN	0.00001	62.95	1206.769	-0.00008	0.00017	-0.00005
____ MO	0.00016	-1.03	137.307	0.00041	0.00007	0.00000
____ NA	-0.09488	-262.63	51.294	-0.04235	-0.13844	-0.10385
____ NI	-0.00021	11.55	185.091	0.00020	-0.00026	-0.00056
____ P	-0.00106	0.44	82.592	-0.00207	-0.00059	-0.00052
____ PB	0.00144	-1.66	88.356	0.00024	0.00277	0.00131
____ S	0.00384	6.03	121.680	0.00919	0.00054	0.00179
____ SB	0.00186	-3.49	130.262	0.00421	-0.00063	0.00201
____ SE	-0.00007	2.48	1315.600	0.00044	0.00054	-0.00120
____ SI	0.04949	0.76	70.881	0.08223	0.05377	0.01247
____ SN	0.00036	6.18	317.157	0.00148	0.00041	-0.00081
____ SR	0.00015	-77.68	67.342	0.00008	0.00026	0.00010
____ TH	-0.09004	-0.62	11.304	-0.07876	-0.09854	-0.09282
____ TI	-0.00004	36.72	591.434	-0.00022	0.00023	-0.00013
____ TL	0.00003	2.66	5727.181	-0.00154	0.00186	-0.00025
____ V	0.00003	4.10	587.091	-0.00010	0.00021	-0.00002
____ W	-0.00031	5.11	36.111	-0.00018	-0.00038	-0.00037
____ Y1	11845.94137	11,845.94	0.898	11800.75947	11769.64125	11967.42338
____ Y2A	283523.84094	283,523.84	0.669	282105.85212	282785.46512	285680.20557
____ Y2R	2929.85833	2,929.86	1.105	2940.05000	2955.90000	2893.62500
____ ZN	-0.00012	0.10	111.093	-0.00015	-0.00022	0.00003
____ ZR	-0.00311	11.63	84.955	-0.00614	-0.00123	-0.00198

ICP-AES Run Data Report

Reviewed By
Elaine F Stoltzfus

Reviewed Date
04/19/2018 2:25PM

Data File Name 1810906T73.TXT
Run Name: 1810906T73

Method Reference Name(s):

Verified By:
Tara L Snyder

Verified Date
04/19/2018 3:46PM

Analyst Employee: 943

Instrument Parameters:

Individual Integration Time: 10.00 sec Total Integration Time: 30.00 sec Rinse Time: 15.00 sec

Element	Analyte Name	Wavelength Value
AG	Silver	328.06
AL	Aluminum	308.21
AS	Arsenic	189.04
AU	Gold	242.80
B	Boron	249.67
BA	Barium	455.40
BE	Beryllium	313.04
CA	Calcium	317.93
CD	Cadmium	226.50
CO	Cobalt	228.62
CR	Chromium	267.72
CU	Copper	327.40
FE	Iron	261.19
K	Potassium	766.49
LI	Lithium	670.78
MG	Magnesium	285.21
MN	Manganese	257.61
MO	Molybdenum	202.03
NA	Sodium	589.59
NI	Nickel	231.60
P	Phosphorus	177.49
PB	Lead	220.35
SB	Antimony	206.83
SE	Selenium	196.09
SI	Silicon	251.60
SN	Tin	189.99
SR	Strontium	421.55
TE	Tellurium	214.28
TH	Thorium	401.91
TI	Titanium	334.94
TL	Thallium	190.86
V	Vanadium	292.40
W	Tungsten	207.91
Y1	Yttrium	224.31
Y2	Yttrium	371.03
ZN	Zinc	213.86
ZR	Zirconium	339.19

The TRACE ICP utilizes Yttrium as an internal standard to compensate for fluctuations in nebulization and plasma conditions. All Yttrium readings are expressed in counts.

LANCASTER LABORATORIES

Run Name: 1810906T73

Instrument ID: 18255

Tube: 1

Date/Time: 04/19/2018 11:57

Sample Number: **S0**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	0.000	-11.69914	8.525	-0.00316	-0.00303	-0.00267
AL	0.000	-0.98333	95.478	-0.00375	-0.04995	-0.01996
AS	0.000	0.88294	64.362	0.00821	0.00199	0.00441
B	0.000	6.63585	52.123	0.00001	0.00004	0.00005
BA	0.000	155.04476	5.927	0.00073	0.00081	0.00081
BE	0.000	135.74657	4.721	0.03259	0.03581	0.03450
CA	0.000	4.70000	23.990	0.00290	0.00177	0.00237
CD	0.000	-5.45755	67.213	-0.04924	-0.00900	-0.03185
CO	0.000	7.39653	11.303	0.04019	0.03435	0.04303
CR	0.000	-11.96782	31.730	-0.00008	-0.00005	-0.00005
CU	0.000	-9.15473	33.266	-0.00320	-0.00181	-0.00193
FE	0.000	1.98333	21.081	0.00075	0.00110	0.00112
K	0.000	20.85000	90.204	0.40984	0.11614	1.03526
LI	0.000	20.71667	76.640	0.01889	0.00322	0.00893
MG	0.000	2.06667	59.509	0.00135	0.00142	0.00032
MN	0.000	23.66384	18.670	0.00559	0.00723	0.00511
MO	0.000	-0.15326	88.872	-0.00054	-0.00159	-0.00025
NA	0.000	-3.38939	223.553	0.00217	-0.00185	-0.00539
NI	0.000	7.49988	32.710	0.05355	0.02709	0.04073
P	0.000	1.67923	32.638	0.00024	0.00013	0.00018
PB	0.000	-6.61908	10.016	-0.03075	-0.03678	-0.03678
S	0.000	1.57925	27.709	0.00014	0.00013	0.00022
SB	0.000	1.04954	94.252	0.00024	0.00009	0.00003
SE	0.000	-0.18883	373.746	-0.00659	-0.00033	0.00301
SI	0.000	0.81970	28.758	0.00049	0.00027	0.00046
SN	0.000	-0.33987	254.537	-0.00737	-0.00224	0.00331
SR	0.000	-138.22935	2.617	-0.00070	-0.00068	-0.00071
TH	0.000	-0.26667	514.401	-0.00090	0.00042	0.00007
TI	0.000	26.92592	8.239	0.00706	0.00718	0.00616
TL	0.000	1.68589	22.317	0.01138	0.00775	0.00803
V	0.000	-17.73727	15.016	-0.00383	-0.00517	-0.00445
W	0.000	1.99239	60.949	0.00020	0.00034	0.00009
Y1	0.000	9453.89421	10.181	8343.68071	10054.18018	9963.82173
Y2A	0.000	197878.68089	0.552	198603.79091	198410.25292	196621.99884
Y2R	0.000	2002.33485	0.091	2000.77273	2001.90909	2004.32273
ZN	0.000	7.56650	25.923	0.05140	0.04016	0.03034
ZR	0.000	-4.96667	20.724	-0.00300	-0.00247	-0.00197

LANCASTER LABORATORIES

Run Name: 1810906T73

Instrument ID: 18255

Tube: 2

Date/Time: 04/19/2018 12:00

Sample Number: **S1**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AL	50.000	806.55504	0.803	20.44338	20.13689	20.38681
CA	50.000	8109.69737	0.822	4.12538	4.06401	4.07101
FE	50.000	2144.50788	0.710	1.08772	1.07250	1.08184
K	50.000	8118.05954	1.083	206.99651	202.67282	203.98935
MG	50.000	13286.44104	0.942	6.76028	6.63423	6.69218
NA	50.000	22111.01765	0.976	11.25578	11.03899	11.13315
S	50.000	8334.22457	0.327	0.85861	0.86287	0.86394
SI	50.000	1561.53856	0.930	0.79512	0.78105	0.78461
Y1	50.000	9670.69428	0.216	9694.78769	9657.08640	9660.20876
Y2R	50.000	1984.44981	0.828	1965.65505	1991.58737	1996.10701

LANCASTER LABORATORIES

Run Name: 1810906T73

Instrument ID: 18255

Tube: 3

Date/Time: 04/19/2018 12:03

Sample Number: **S2**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	1.000	16487.79108	0.122	4.28239	4.29033	4.29229
AS	1.000	320.12534	0.548	1.64278	1.64152	1.65774
B	1.000	5092.17399	0.128	0.02652	0.02648	0.02646
BA	1.000	514233.52197	0.718	2.65281	2.68464	2.68738
BE	1.000	478380.99201	0.827	125.04418	124.99186	123.23702
CD	1.000	18251.36704	0.161	93.82014	93.84625	94.09425
CO	1.000	6093.32967	0.222	31.29629	31.33889	31.43232
CU	1.000	12232.20226	0.400	3.18897	3.18877	3.16680
LI	1.000	3022.10000	0.726	1.51427	1.50698	1.52863
MN	1.000	63378.97538	0.716	16.56289	16.54190	16.34875
NI	1.000	3691.66151	0.232	18.97118	18.97212	19.04782
P	1.000	378.78257	0.267	0.03889	0.03897	0.03909
PB	1.000	1476.10703	0.145	7.59374	7.58623	7.60786
SE	1.000	321.27568	1.572	1.63591	1.64079	1.68316
SR	1.000	569578.40401	0.620	2.97175	2.97514	2.94174
TH	1.000	25.21667	1.286	0.01263	0.01283	0.01250
TL	1.000	380.93114	0.213	1.95547	1.96330	1.96194
W	1.000	1326.49066	0.176	0.13670	0.13625	0.13662
Y1	1.000	9716.43688	0.237	9708.75222	9742.35153	9698.20689
Y2A	1.000	192239.66007	0.196	191905.34839	192164.30775	192649.32408
Y2R	1.000	1992.68939	0.421	1994.98636	1999.70000	1983.38182
ZN	1.000	10862.46445	0.221	55.77259	55.89955	56.02008

LANCASTER LABORATORIES

Run Name: 1810906T73

Instrument ID: 18255

Tube: 4

Date/Time: 04/19/2018 12:07

Sample Number: **S3**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
CR	1.000	13104.63275	0.172	0.06663	0.06668	0.06646
MO	1.000	3148.61443	0.127	16.02362	16.05493	16.01681
SB	1.000	647.12330	0.152	0.06584	0.06601	0.06584
SN	1.000	939.89866	0.070	4.78943	4.78448	4.78310
TI	1.000	47641.77179	0.283	12.06475	12.12714	12.12053
V	1.000	15064.05588	0.147	3.82529	3.82288	3.83363
Y1	1.000	9819.92737	0.183	9825.34298	9799.83653	9834.60261
Y2A	1.000	196799.31951	0.115	196715.48570	197055.11829	196627.35455
Y2R	1.000	1986.27727	0.195	1984.30909	1983.78182	1990.74091
ZR	1.000	318.81667	0.231	0.16016	0.16048	0.16089

LANCASTER LABORATORIES

Run Name: 1810906T73

Instrument ID: 18255

Tube: 5

Date/Time: 04/19/2018 12:10

Sample Number: **ICV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.59534	9,870.99	1.438	0.60505	0.59212	0.58886
____ AL	31.01582	499.05	1.846	31.43419	30.36338	31.24991
____ AS	0.58577	189.07	0.983	0.58866	0.58951	0.57914
____ B	0.56584	2,995.45	1.574	0.57448	0.56634	0.55669
____ BA	0.59838	310,390.78	1.245	0.60546	0.59906	0.59061
____ BE	0.56887	274,359.44	1.814	0.58068	0.56430	0.56162
____ CA	30.61504	4,970.28	1.670	30.80142	30.03657	31.00712
____ CD	0.57450	10,697.96	0.045	0.57474	0.57423	0.57453
____ CO	0.56671	3,520.56	0.103	0.56733	0.56664	0.56617
____ CR	0.56944	7,351.55	1.588	0.57843	0.56955	0.56034
____ CU	0.59048	7,240.22	1.363	0.59950	0.58791	0.58403
____ FE	30.34054	1,308.11	1.683	30.54217	29.75979	30.71966
____ K	30.35882	4,933.13	1.270	30.57686	29.91355	30.58605
____ LI	0.60551	1,830.46	1.141	0.60919	0.59754	0.60980
____ MG	30.71844	8,178.27	1.387	30.87224	30.23691	31.04618
____ MN	0.58613	37,453.92	1.440	0.59525	0.58454	0.57860
____ MO	0.56590	1,795.75	0.406	0.56543	0.56840	0.56387
____ NA	29.55034	13,054.63	1.516	29.67956	29.05194	29.91951
____ NI	0.57564	2,163.37	0.187	0.57539	0.57472	0.57682
____ P	0.57994	224.00	0.132	0.58080	0.57932	0.57970
____ PB	0.58363	865.48	0.255	0.58194	0.58475	0.58420
____ S	30.45912	5,180.04	0.261	30.51930	30.48924	30.36883
____ SB	0.57571	377.28	0.298	0.57760	0.57426	0.57527
____ SE	0.57731	186.56	0.484	0.58034	0.57484	0.57674
____ SI	30.93530	967.01	1.436	30.91685	30.50052	31.38855
____ SN	0.55715	526.46	0.297	0.55529	0.55847	0.55770
____ SR	0.58673	337,766.05	1.227	0.59461	0.58506	0.58051
____ TH	0.60112	15.43	1.380	0.59155	0.60632	0.60549
____ TI	0.59213	27,865.02	1.435	0.60124	0.59073	0.58442
____ TL	0.57675	224.20	0.948	0.57884	0.58087	0.57055
____ V	0.59032	8,773.33	1.398	0.59928	0.58862	0.58305
____ W	0.57939	782.52	0.038	0.57956	0.57914	0.57948
____ Y1	9875.43132	9,875.43	0.032	9878.09018	9872.00185	9876.20193
____ Y2A	193795.77853	193,795.78	1.204	191308.63945	194144.52983	195934.16630
____ Y2R	1982.93274	1,982.93	1.464	1977.69091	2014.23457	1956.87273
____ ZN	0.57671	6,398.69	0.045	0.57701	0.57654	0.57659
____ ZR	0.59089	197.15	2.602	0.58687	0.57792	0.60787

LANCASTER LABORATORIES

Run Name: 1810906T73

Instrument ID: 18255

Tube: 6

Date/Time: 04/19/2018 12:13

Sample Number: **ICB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00062	-6.55	61.008	-0.00081	-0.00087	-0.00018
____ AL	0.09891	0.65	81.474	0.01133	0.16993	0.11546
____ AS	0.00048	1.14	378.934	-0.00160	0.00127	0.00176
____ B	0.00066	10.37	26.216	0.00081	0.00071	0.00047
____ BA	0.00002	168.27	86.165	0.00002	0.00005	0.00000
____ BE	0.00007	174.72	9.526	0.00008	0.00007	0.00007
____ CA	-0.00269	4.33	178.956	0.00126	-0.00804	-0.00128
____ CD	0.00004	-5.78	80.492	0.00001	0.00004	0.00007
____ CO	0.00006	8.32	806.512	-0.00016	-0.00029	0.00065
____ CR	-0.00124	-10.32	11.127	-0.00123	-0.00110	-0.00138
____ CU	-0.00013	-15.93	494.993	-0.00086	0.00016	0.00031
____ FE	0.01693	2.75	85.810	0.02720	0.02328	0.00031
____ K	-0.02505	16.85	209.295	-0.01366	0.02075	-0.08224
____ LI	-0.00125	17.23	246.474	-0.00072	-0.00455	0.00153
____ MG	-0.00395	1.02	232.296	0.00576	-0.01248	-0.00513
____ MN	-0.00010	19.21	22.502	-0.00010	-0.00011	-0.00007
____ MO	0.00008	0.12	648.134	-0.00049	0.00015	0.00058
____ NA	0.02362	6.10	69.022	0.01880	0.04179	0.01027
____ NI	-0.00054	6.09	57.641	-0.00026	-0.00048	-0.00088
____ P	-0.00068	1.61	444.839	0.00274	-0.00309	-0.00170
____ PB	-0.00064	-4.23	100.731	-0.00012	-0.00044	-0.00137
____ S	0.00536	2.60	87.120	0.00843	0.00765	-0.00001
____ SB	0.00048	1.49	672.977	0.00229	-0.00322	0.00236
____ SE	0.00060	-0.07	589.105	-0.00150	0.00471	-0.00140
____ SI	0.02394	1.60	158.374	-0.00464	0.00950	0.06695
____ SN	0.00085	0.39	51.395	0.00101	0.00035	0.00117
____ SR	0.00004	-112.93	13.310	0.00003	0.00003	0.00004
____ TH	-0.03838	-1.43	68.354	-0.01062	-0.04174	-0.06276
____ TI	0.00023	38.36	61.331	0.00036	0.00009	0.00023
____ TL	0.00059	2.06	182.548	0.00133	-0.00064	0.00107
____ V	0.00041	-18.48	142.592	-0.00013	0.00102	0.00033
____ W	0.00020	2.37	545.527	-0.00093	0.00030	0.00123
____ Y1	10087.29059	10,087.29	0.454	10074.97776	10048.89919	10137.99483
____ Y2A	201707.28132	201,707.28	0.087	201660.75909	201902.10455	201558.98031
____ Y2R	2024.38485	2,024.38	1.416	2017.59545	1999.72727	2055.83182
____ ZN	-0.00013	6.72	98.310	0.00000	-0.00013	-0.00026
____ ZR	-0.00965	-4.30	32.430	-0.00721	-0.01318	-0.00856

LANCASTER LABORATORIES

Run Name: 1810906T73

Instrument ID: 18255

Tube: 7

Date/Time: 04/19/2018 12:17

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00404	68.42	4.516	0.00425	0.00392	0.00396
____ AL	0.39340	5.23	33.208	0.28686	0.35419	0.53916
____ AS	0.02045	7.72	10.462	0.02157	0.01798	0.02180
____ B	0.04713	256.68	1.186	0.04649	0.04749	0.04742
____ BA	0.00520	2,935.63	5.282	0.00501	0.00552	0.00508
____ BE	0.00497	2,599.04	5.199	0.00483	0.00527	0.00481
____ CA	0.21032	38.32	6.687	0.19803	0.20727	0.22566
____ CD	0.00511	90.29	0.271	0.00510	0.00511	0.00513
____ CO	0.00530	41.31	0.621	0.00526	0.00532	0.00531
____ CR	0.01305	179.25	4.485	0.01239	0.01330	0.01348
____ CU	0.01198	188.33	10.123	0.01337	0.01140	0.01116
____ FE	0.22604	11.65	7.862	0.24550	0.22194	0.21067
____ K	0.52807	104.93	9.159	0.54797	0.56330	0.47293
____ LI	0.02007	79.58	14.811	0.02097	0.02248	0.01675
____ MG	0.09862	28.10	2.699	0.09604	0.09846	0.10136
____ MN	0.00521	359.40	5.921	0.00503	0.00556	0.00503
____ MO	0.00974	31.17	1.948	0.00966	0.00959	0.00995
____ NA	1.03771	449.29	1.891	1.01972	1.03477	1.05862
____ NI	0.01005	46.37	2.882	0.01021	0.00971	0.01022
____ P	0.09924	40.19	3.178	0.10131	0.09561	0.10079
____ PB	0.01434	18.63	3.215	0.01382	0.01470	0.01448
____ S	0.50696	89.27	1.377	0.50046	0.50607	0.51434
____ SB	0.02078	14.88	8.027	0.01984	0.02270	0.01979
____ SE	0.01869	5.93	17.064	0.01895	0.01538	0.02174
____ SI	0.09246	3.68	21.813	0.07474	0.11440	0.08822
____ SN	0.01915	18.00	3.449	0.01885	0.01870	0.01991
____ SR	0.00510	2,881.55	4.917	0.00491	0.00538	0.00500
____ TH	0.17680	4.08	16.941	0.14960	0.17189	0.20890
____ TI	0.01010	514.43	3.883	0.00995	0.01055	0.00982
____ TL	0.03176	14.24	9.983	0.03062	0.03535	0.02933
____ V	0.00444	48.74	11.869	0.00431	0.00502	0.00398
____ W	0.00938	15.21	7.726	0.01021	0.00888	0.00905
____ Y1	10037.57924	10,037.58	0.806	9949.29008	10108.26496	10055.18268
____ Y2A	199169.88630	199,169.89	0.183	199406.37524	198750.55256	199352.73108
____ Y2R	1961.27424	1,961.27	0.180	1963.55000	1957.21364	1963.05909
____ ZN	0.02020	234.16	1.514	0.02037	0.01985	0.02038
____ ZR	0.03194	13.05	29.252	0.04227	0.02947	0.02409

LANCASTER LABORATORIES

Run Name: 1810906T73 Instrument ID: 18255

Tube: 8 Date/Time: 04/19/2018 12:20

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00081	-502.23	114.171	0.00085	-0.00013	0.00171
____ AL	503.57579	7,914.22	0.823	507.53740	503.91871	499.27126
____ AS	-0.00825	-9.53	61.781	-0.00610	-0.00457	-0.01407
____ B	-0.00851	494.90	10.043	-0.00939	-0.00768	-0.00846
____ BA	0.00045	345.98	7.166	0.00041	0.00047	0.00047
____ BE	-0.00011	70.95	16.972	-0.00012	-0.00009	-0.00012
____ CA	490.74535	74,401.51	0.907	494.32191	492.15095	485.76319
____ CD	0.00057	231.10	45.094	0.00028	0.00078	0.00064
____ CO	0.00039	8.85	126.155	0.00094	0.00016	0.00005
____ CR	-0.00009	4.26	321.931	0.00001	-0.00044	0.00014
____ CU	0.00079	100.80	85.179	0.00055	0.00027	0.00155
____ FE	199.00519	7,886.11	1.080	201.29474	198.69084	197.02998
____ K	-0.03056	15.15	79.628	-0.01475	-0.01835	-0.05859
____ LI	-0.00155	39.70	137.913	-0.00369	-0.00157	0.00060
____ MG	481.27369	116,068.53	0.958	484.74826	483.02676	476.04607
____ MN	0.00448	271.05	3.139	0.00441	0.00464	0.00439
____ MO	0.00027	-8.98	264.098	0.00031	-0.00046	0.00094
____ NA	0.03119	9.05	46.983	0.04471	0.03323	0.01562
____ NI	0.00278	9.34	25.218	0.00333	0.00199	0.00303
____ P	0.01276	5.78	6.123	0.01352	0.01196	0.01280
____ PB	0.00536	111.37	61.618	0.00728	0.00725	0.00155
____ S	0.01824	8.38	28.443	0.01983	0.02244	0.01244
____ SB	0.00751	14.49	43.795	0.01130	0.00583	0.00540
____ SE	0.00285	0.17	55.667	0.00104	0.00398	0.00354
____ SI	0.01376	1.20	46.684	0.02052	0.00774	0.01300
____ SN	-0.00033	-0.63	538.986	0.00160	-0.00073	-0.00185
____ SR	-0.00042	13,248.07	93.937	-0.00069	-0.00059	0.00003
____ TH	0.09605	4.41	14.160	0.08685	0.08962	0.11167
____ TI	-0.00668	-253.89	3.688	-0.00651	-0.00657	-0.00696
____ TL	0.01016	3.67	18.538	0.00959	0.00862	0.01226
____ V	0.00100	-12.08	25.485	0.00071	0.00110	0.00118
____ W	0.00036	10.09	323.532	-0.00096	0.00129	0.00076
____ Y1	8707.17036	8,707.17	0.390	8684.82579	8690.45568	8746.22961
____ Y2A	171579.87867	171,579.88	0.177	171325.64877	171498.71364	171915.27360
____ Y2R	1915.18720	1,915.19	0.309	1909.08183	1915.56108	1920.91869
____ ZN	0.00813	248.50	6.222	0.00755	0.00835	0.00849
____ ZR	0.02059	-7.22	26.743	0.02692	0.01694	0.01791

LANCASTER LABORATORIES

Run Name: 1810906T73 Instrument ID: 18255

Tube: 9 Date/Time: 04/19/2018 12:23

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.21279	2,628.44	0.545	0.21292	0.21389	0.21158
____ AL	508.01648	8,049.06	1.424	511.38540	512.95356	499.71049
____ AS	0.08745	17.99	1.647	0.08613	0.08723	0.08899
____ B	-0.00787	500.94	24.025	-0.00768	-0.00984	-0.00608
____ BA	0.50645	233,077.70	0.235	0.50767	0.50530	0.50637
____ BE	0.48415	207,292.88	0.424	0.48651	0.48273	0.48322
____ CA	492.73103	75,296.17	1.244	495.75533	496.75900	485.67875
____ CD	0.90216	14,988.07	0.076	0.90232	0.90140	0.90274
____ CO	0.44793	2,450.69	0.299	0.44937	0.44671	0.44772
____ CR	0.46903	5,374.86	0.434	0.47133	0.46748	0.46827
____ CU	0.50934	5,555.49	0.501	0.51211	0.50708	0.50885
____ FE	200.07367	7,989.94	1.518	201.53540	202.10282	196.58278
____ K	-0.05834	10.97	158.535	-0.03875	-0.15904	0.02279
____ LI	-0.00745	22.92	45.959	-0.00852	-0.00362	-0.01021
____ MG	482.60946	117,308.12	1.384	485.38200	487.45517	474.99121
____ MN	0.47529	26,974.58	0.395	0.47733	0.47489	0.47364
____ MO	-0.00073	-11.80	117.440	0.00023	-0.00141	-0.00102
____ NA	0.04684	15.91	40.473	0.02555	0.05307	0.06190
____ NI	0.89412	2,952.80	0.110	0.89422	0.89309	0.89505
____ P	0.01056	6.01	31.810	0.01007	0.00747	0.01413
____ PB	0.49524	762.68	0.449	0.49544	0.49292	0.49735
____ S	0.01406	8.18	6.685	0.01441	0.01299	0.01477
____ SB	0.58447	350.94	0.954	0.57809	0.58690	0.58842
____ SE	0.49524	142.07	0.651	0.49653	0.49762	0.49157
____ SI	0.02463	1.52	59.296	0.01716	0.04146	0.01527
____ SN	0.00037	-0.11	63.827	0.00064	0.00019	0.00028
____ SR	-0.00044	13,323.37	71.402	-0.00054	-0.00070	-0.00009
____ TH	0.08871	4.14	95.539	0.11852	0.15454	-0.00692
____ TI	-0.00665	-232.50	1.214	-0.00674	-0.00657	-0.00665
____ TL	0.09308	32.42	4.483	0.09460	0.08835	0.09627
____ V	0.48575	6,498.59	0.273	0.48723	0.48468	0.48534
____ W	-0.00417	17.59	61.297	-0.00130	-0.00622	-0.00498
____ Y1	8711.44702	8,711.45	0.176	8699.98457	8728.86504	8705.49144
____ Y2A	172005.43099	172,005.43	0.489	171375.42373	172961.30160	171679.56764
____ Y2R	1930.79619	1,930.80	0.981	1918.35755	1921.43687	1952.59417
____ ZN	0.97224	9,623.09	0.096	0.97253	0.97119	0.97299
____ ZR	0.02028	-7.58	59.804	0.02146	0.00760	0.03177

LANCASTER LABORATORIES

Run Name: 1810906T73

Instrument ID: 18255

Tube: 10

Date/Time: 04/19/2018 12:26

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.49079	8,128.77	0.425	0.49060	0.49296	0.48880
____ AL	25.69420	415.92	0.381	25.72756	25.77093	25.58412
____ AS	0.49390	158.06	0.795	0.49359	0.49015	0.49798
____ B	0.47128	2,503.57	0.558	0.46882	0.47405	0.47096
____ BA	0.49630	257,127.03	0.416	0.49661	0.49819	0.49410
____ BE	0.47595	229,276.10	0.128	0.47639	0.47620	0.47526
____ CA	25.43986	4,159.07	0.301	25.40715	25.38521	25.52723
____ CD	0.48981	9,000.71	0.168	0.49076	0.48934	0.48932
____ CO	0.48847	2,996.70	0.202	0.48745	0.48942	0.48853
____ CR	0.47587	6,135.33	0.489	0.47825	0.47575	0.47360
____ CU	0.49271	6,022.27	0.222	0.49306	0.49359	0.49149
____ FE	25.26221	1,098.08	0.214	25.23701	25.22520	25.32440
____ K	25.03693	4,098.00	0.812	25.08375	24.81443	25.21260
____ LI	0.49998	1,524.68	0.783	0.50057	0.49580	0.50356
____ MG	25.46944	6,829.58	0.473	25.38610	25.41476	25.60744
____ MN	0.48867	31,190.87	0.253	0.48818	0.49007	0.48775
____ MO	0.48128	1,508.39	0.153	0.48213	0.48087	0.48083
____ NA	25.34477	11,267.96	0.676	25.27241	25.22150	25.54039
____ NI	0.48995	1,819.14	0.123	0.48955	0.48966	0.49064
____ P	0.49035	187.15	0.130	0.49091	0.49049	0.48966
____ PB	0.49589	725.55	0.280	0.49485	0.49535	0.49747
____ S	25.02632	4,207.15	0.224	25.05070	24.96232	25.06594
____ SB	0.47694	308.70	0.510	0.47796	0.47869	0.47416
____ SE	0.48556	154.89	1.321	0.49295	0.48149	0.48222
____ SI	25.52142	802.26	0.047	25.51126	25.51847	25.53454
____ SN	0.47136	439.67	0.400	0.47211	0.46921	0.47275
____ SR	0.48355	277,984.31	0.506	0.48323	0.48614	0.48129
____ TH	0.45757	11.75	4.077	0.43786	0.45989	0.47495
____ TI	0.48886	22,979.79	0.133	0.48874	0.48955	0.48827
____ TL	0.49666	190.89	0.223	0.49627	0.49579	0.49791
____ V	0.48957	7,258.17	0.086	0.48909	0.48981	0.48982
____ W	-0.00027	9.73	253.550	0.00023	-0.00106	0.00001
____ Y1	9750.01290	9,750.01	0.091	9747.34625	9742.73445	9759.95801
____ Y2A	193522.46198	193,522.46	0.420	193167.04545	192947.96364	194452.37686
____ Y2R	1995.43030	1,995.43	0.717	2004.96364	2002.34545	1978.98182
____ ZN	0.49239	5,394.11	0.241	0.49358	0.49122	0.49238
____ ZR	0.49112	164.05	2.789	0.50620	0.47943	0.48774

LANCASTER LABORATORIES

Run Name: 1810906T73

Instrument ID: 18255

Tube: 11

Date/Time: 04/19/2018 12:30

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00014	-2.33	253.531	-0.00005	0.00016	-0.00053
____ AL	0.26021	3.23	11.996	0.27943	0.22419	0.27701
____ AS	-0.00172	0.41	52.193	-0.00255	-0.00186	-0.00076
____ B	0.00062	10.16	37.553	0.00036	0.00082	0.00069
____ BA	-0.00002	141.96	173.951	0.00002	-0.00006	-0.00003
____ BE	0.00006	165.62	38.779	0.00007	0.00003	0.00006
____ CA	0.00098	4.83	1070.706	0.00593	0.00804	-0.01104
____ CD	0.00011	-4.40	59.143	0.00009	0.00006	0.00019
____ CO	-0.00012	7.18	101.437	-0.00006	-0.00025	-0.00004
____ CR	-0.00089	-5.60	23.021	-0.00100	-0.00065	-0.00100
____ CU	-0.00136	-10.12	59.270	-0.00052	-0.00212	-0.00144
____ FE	0.01368	2.58	35.067	0.01533	0.00828	0.01744
____ K	0.01613	23.50	597.188	-0.09473	0.06368	0.07944
____ LI	0.00049	22.18	625.783	0.00393	-0.00189	-0.00058
____ MG	0.00456	3.30	150.598	-0.00191	0.01176	0.00382
____ MN	0.00002	23.80	343.272	-0.00001	-0.00003	0.00010
____ MO	0.00007	0.09	503.611	-0.00008	0.00049	-0.00019
____ NA	0.00803	-0.87	157.049	0.02015	-0.00501	0.00893
____ NI	-0.00037	6.75	108.014	-0.00017	-0.00082	-0.00011
____ P	-0.00028	1.66	252.069	-0.00016	-0.00102	0.00035
____ PB	-0.00049	-3.88	112.807	-0.00092	0.00013	-0.00067
____ S	-0.00219	1.30	309.390	0.00283	-0.00988	0.00050
____ SB	0.00321	3.32	65.027	0.00430	0.00080	0.00454
____ SE	0.00479	1.33	10.473	0.00460	0.00535	0.00441
____ SI	0.02376	1.57	142.941	0.00308	0.00525	0.06297
____ SN	0.00018	-0.26	368.155	0.00067	0.00043	-0.00056
____ SR	0.00002	-123.58	77.975	0.00003	0.00000	0.00002
____ TH	0.04392	0.72	50.879	0.02015	0.04713	0.06449
____ TI	0.00046	49.84	26.904	0.00046	0.00034	0.00059
____ TL	0.00184	2.55	61.730	0.00060	0.00207	0.00283
____ V	0.00046	-14.91	103.940	0.00050	-0.00004	0.00092
____ W	-0.00059	1.35	45.471	-0.00085	-0.00032	-0.00059
____ Y1	10083.00474	10,083.00	0.569	10064.89677	10147.19466	10036.92280
____ Y2A	201311.64422	201,311.64	1.011	199884.78951	203641.94466	200408.19849
____ Y2R	2002.69242	2,002.69	0.189	1998.43182	2005.69091	2003.95455
____ ZN	-0.00013	6.71	68.042	-0.00003	-0.00015	-0.00021
____ ZR	-0.01422	-4.12	10.545	-0.01446	-0.01559	-0.01262

LANCASTER LABORATORIES

Run Name: 1810906T73 Instrument ID: 18255

Tube: 12 Date/Time: 04/19/2018 12:33

Sample Number: **PBW** Class: **** Batch: 181000184802

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00074	-10.93	26.907	-0.00055	-0.00071	-0.00095
____ AL	1.19353	18.90	7.437	1.20393	1.27664	1.10002
____ AS	-0.00116	0.62	97.029	-0.00238	-0.00016	-0.00095
____ B	0.00114	13.31	19.322	0.00140	0.00100	0.00103
____ BA	0.00003	175.40	105.807	0.00006	0.00000	0.00004
____ BE	0.00003	154.59	91.323	0.00000	0.00004	0.00003
____ CA	0.00096	4.97	684.970	0.00337	0.00596	-0.00646
____ CD	0.00000	-6.58	5878.095	-0.00013	0.00012	0.00002
____ CO	-0.00012	7.24	107.017	-0.00022	0.00002	-0.00016
____ CR	-0.00061	-1.92	65.709	-0.00016	-0.00091	-0.00076
____ CU	-0.00025	-6.43	581.178	0.00060	0.00060	-0.00196
____ FE	0.03959	3.82	95.184	0.06347	-0.00385	0.05914
____ K	-0.02785	16.62	301.802	-0.03011	0.05730	-0.11073
____ LI	-0.00135	17.15	286.542	-0.00319	-0.00396	0.00310
____ MG	-0.00212	1.53	265.735	-0.00766	0.00360	-0.00230
____ MN	0.00632	454.46	1.122	0.00632	0.00639	0.00625
____ MO	-0.00047	-1.69	36.262	-0.00058	-0.00027	-0.00055
____ NA	0.01922	4.19	82.156	0.03523	0.01877	0.00366
____ NI	0.00041	9.85	173.188	0.00075	-0.00041	0.00089
____ P	0.00178	2.55	63.920	0.00104	0.00120	0.00309
____ PB	-0.00069	-3.68	229.460	-0.00072	-0.00227	0.00091
____ S	0.00408	2.41	58.196	0.00175	0.00650	0.00400
____ SB	0.00126	2.05	93.347	0.00215	0.00170	-0.00007
____ SE	0.00370	0.99	151.510	-0.00238	0.00481	0.00868
____ SI	0.03649	2.02	45.835	0.04733	0.01723	0.04491
____ SN	0.00092	0.46	82.676	0.00044	0.00052	0.00179
____ SR	0.00004	-113.80	24.036	0.00003	0.00003	0.00005
____ TH	0.00534	-0.28	573.352	-0.00847	-0.01593	0.04042
____ TI	0.00030	42.69	63.557	0.00014	0.00050	0.00025
____ TL	-0.00026	1.75	924.515	-0.00184	0.00250	-0.00144
____ V	0.00038	-17.65	92.604	0.00033	0.00005	0.00075
____ W	0.00084	3.40	153.251	-0.00049	0.00094	0.00207
____ Y1	10211.98589	10,211.99	0.636	10138.36920	10261.20485	10236.38363
____ Y2A	206408.08686	206,408.09	1.324	206920.85828	203456.08373	208847.31857
____ Y2R	2052.54091	2,052.54	1.093	2037.54091	2041.75909	2078.32273
____ ZN	0.00428	56.81	2.490	0.00440	0.00422	0.00420
____ ZR	-0.01070	-3.83	19.697	-0.00831	-0.01151	-0.01229

LANCASTER LABORATORIES

Run Name: 1810906T73 Instrument ID: 18255

Tube: 13 Date/Time: 04/19/2018 12:36

Sample Number: **9548793** Class: U*** Batch: 181000184802

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00022	-48.30	234.006	-0.00056	0.00038	-0.00049
____ AL	0.26047	3.21	33.478	0.16211	0.29100	0.32830
____ AS	0.00003	-0.47	6321.014	0.00186	-0.00136	-0.00042
____ B	0.07634	441.06	0.791	0.07681	0.07655	0.07566
____ BA	0.23670	121,026.57	0.540	0.23713	0.23526	0.23771
____ BE	0.00005	153.70	63.514	0.00004	0.00008	0.00002
____ CA	50.57172	8,180.98	0.103	50.54117	50.63189	50.54210
____ CD	-0.00002	17.32	403.735	-0.00011	0.00002	0.00003
____ CO	0.00324	27.24	5.808	0.00308	0.00345	0.00319
____ CR	-0.00089	-5.36	28.326	-0.00113	-0.00091	-0.00063
____ CU	-0.00055	2.38	53.894	-0.00089	-0.00038	-0.00038
____ FE	15.94297	689.91	0.391	16.00719	15.93914	15.88258
____ K	4.55897	757.08	1.620	4.64318	4.50526	4.52847
____ LI	0.00470	37.06	48.492	0.00208	0.00625	0.00577
____ MG	16.16158	4,304.90	0.350	16.10381	16.21691	16.16401
____ MN	1.61744	101,877.91	0.201	1.61813	1.61390	1.62030
____ MO	0.00014	0.61	224.540	0.00029	-0.00022	0.00036
____ NA	94.61903	41,739.44	0.150	94.78274	94.54553	94.52881
____ NI	0.00156	12.97	16.684	0.00126	0.00174	0.00168
____ P	-0.00417	0.18	49.334	-0.00541	-0.00179	-0.00529
____ PB	0.00992	-2.56	15.590	0.00919	0.00887	0.01169
____ S	10.31073	1,724.43	0.687	10.39046	10.28648	10.25527
____ SB	0.00412	3.87	27.145	0.00301	0.00525	0.00411
____ SE	0.00162	1.04	203.756	-0.00004	0.00542	-0.00052
____ SI	8.20168	256.16	1.050	8.10304	8.24028	8.26171
____ SN	0.00135	0.83	96.533	0.00142	0.00260	0.00001
____ SR	0.30123	171,910.25	0.409	0.30179	0.29981	0.30208
____ TH	0.01324	0.12	297.172	-0.00135	0.05781	-0.01673
____ TI	-0.00014	27.87	133.479	-0.00028	-0.00023	0.00008
____ TL	-0.01111	-2.37	7.905	-0.01054	-0.01067	-0.01212
____ V	0.00007	-15.20	345.758	-0.00013	0.00033	0.00000
____ W	0.00129	3.94	38.107	0.00119	0.00085	0.00182
____ Y1	9685.67978	9,685.68	0.884	9595.62125	9695.45273	9765.96536
____ Y2A	190973.32254	190,973.32	0.732	192429.86364	190845.84035	189644.26364
____ Y2R	1979.28150	1,979.28	0.880	1988.91065	1959.17450	1989.75934
____ ZN	0.01458	179.20	2.757	0.01504	0.01431	0.01439
____ ZR	-0.01411	-5.86	50.884	-0.00631	-0.02045	-0.01556

LANCASTER LABORATORIES

Run Name: 1810906T73 Instrument ID: 18255

Tube: 14 Date/Time: 04/19/2018 12:40

Sample Number: **9548793** Class: UP** Batch: 181000184802

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.01710	352.44	4.524	0.01682	0.01798	0.01651
____ AL	1.33660	20.76	8.638	1.41461	1.39121	1.20398
____ AS	0.49988	160.02	0.408	0.49909	0.50220	0.49836
____ B	0.26762	1,412.61	1.367	0.27008	0.26937	0.26341
____ BA	0.28185	144,469.69	0.941	0.28339	0.28338	0.27879
____ BE	0.01959	9,445.72	1.071	0.01976	0.01965	0.01936
____ CA	50.27526	8,211.02	0.132	50.35096	50.22821	50.24661
____ CD	0.04845	903.69	0.293	0.04831	0.04844	0.04859
____ CO	0.10109	625.38	0.833	0.10015	0.10177	0.10135
____ CR	0.19116	2,437.46	1.200	0.19264	0.19231	0.18852
____ CU	0.49103	5,833.95	1.099	0.49515	0.49302	0.48492
____ FE	16.07817	702.37	0.412	16.08951	16.13795	16.00704
____ K	6.51941	1,083.96	0.947	6.56278	6.54669	6.44876
____ LI	1.00122	3,036.78	0.344	1.00481	0.99793	1.00092
____ MG	16.81992	4,522.64	0.213	16.86123	16.79841	16.80012
____ MN	1.64663	103,793.27	1.136	1.65981	1.65487	1.62522
____ MO	0.19402	606.09	0.352	0.19324	0.19428	0.19452
____ NA	94.05264	41,885.83	0.176	94.07869	94.20348	93.87575
____ NI	0.14797	553.91	0.331	0.14741	0.14831	0.14818
____ P	0.99631	377.99	0.657	0.98973	1.00282	0.99638
____ PB	0.49101	710.43	0.324	0.48993	0.49283	0.49026
____ S	11.14513	1,873.77	0.364	11.09837	11.16599	11.17102
____ SB	0.39077	247.00	1.107	0.38751	0.39568	0.38911
____ SE	0.75081	242.25	1.399	0.74069	0.76166	0.75006
____ SI	9.00369	283.92	0.112	9.00046	8.99565	9.01496
____ SN	0.56774	529.25	0.236	0.56662	0.56922	0.56737
____ SR	0.31596	180,373.49	1.214	0.31883	0.31745	0.31161
____ TH	-0.02038	-0.53	236.190	0.02717	-0.01924	-0.06907
____ TI	0.09983	4,654.02	1.166	0.10074	0.10022	0.09852
____ TL	0.95281	363.30	0.319	0.95153	0.95628	0.95062
____ V	0.10130	1,441.93	1.149	0.10181	0.10212	0.09997
____ W	0.00064	4.93	176.496	0.00159	0.00095	-0.00062
____ Y1	9737.35767	9,737.36	0.392	9774.65886	9738.96830	9698.44584
____ Y2A	191130.70710	191,130.71	1.211	189794.90199	189793.21818	193804.00113
____ Y2R	1998.19688	1,998.20	0.330	1990.97161	1999.75943	2003.85960
____ ZN	0.13073	1,450.30	0.306	0.13032	0.13076	0.13112
____ ZR	0.98329	313.64	0.261	0.98578	0.98345	0.98065

LANCASTER LABORATORIES

Run Name: 1810906T73 Instrument ID: 18255

Tube: 15 Date/Time: 04/19/2018 12:43

Sample Number: **9548796** Class: D*** Batch: 181000184802

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00026	-39.63	201.273	0.00085	0.00012	-0.00018
____ AL	0.19574	2.24	32.297	0.26790	0.16925	0.15008
____ AS	-0.00068	-0.67	515.794	-0.00324	0.00329	-0.00208
____ B	0.07733	455.99	2.894	0.07984	0.07555	0.07661
____ BA	0.23672	124,005.19	2.118	0.24247	0.23330	0.23438
____ BE	0.00004	153.01	15.701	0.00004	0.00003	0.00004
____ CA	49.66362	8,260.62	0.995	49.35962	49.39717	50.23407
____ CD	0.00004	18.04	252.334	0.00003	-0.00005	0.00014
____ CO	0.00313	26.89	15.904	0.00363	0.00263	0.00313
____ CR	-0.00084	-4.81	9.135	-0.00088	-0.00088	-0.00075
____ CU	-0.00052	1.14	467.788	-0.00315	-0.00007	0.00166
____ FE	15.59399	693.88	1.200	15.45758	15.51700	15.80737
____ K	4.44521	759.34	2.798	4.38202	4.36514	4.58847
____ LI	0.00065	25.67	332.776	0.00179	-0.00185	0.00201
____ MG	15.89809	4,354.07	0.894	15.81796	15.81411	16.06220
____ MN	1.60239	103,408.07	1.971	1.63842	1.57951	1.58924
____ MO	0.00017	0.68	104.471	0.00020	0.00032	-0.00002
____ NA	92.88915	42,128.01	1.027	92.23479	92.44869	93.98395
____ NI	0.00162	13.35	18.634	0.00152	0.00196	0.00138
____ P	-0.00406	0.23	35.871	-0.00358	-0.00290	-0.00569
____ PB	0.00920	-3.41	14.593	0.00824	0.00862	0.01073
____ S	10.33774	1,748.38	0.420	10.30514	10.32107	10.38701
____ SB	0.00318	3.30	46.292	0.00394	0.00412	0.00148
____ SE	0.00173	1.09	81.533	0.00336	0.00098	0.00085
____ SI	7.97966	256.26	1.563	7.96597	7.86236	8.11064
____ SN	0.00129	0.79	102.872	0.00030	0.00077	0.00279
____ SR	0.30097	175,954.94	1.969	0.30776	0.29684	0.29831
____ TH	0.00689	-0.03	901.605	0.06491	0.01436	-0.05861
____ TI	-0.00023	24.40	24.704	-0.00024	-0.00028	-0.00017
____ TL	-0.01552	-4.08	15.616	-0.01683	-0.01273	-0.01701
____ V	-0.00002	-17.18	2909.771	0.00048	-0.00038	-0.00015
____ W	-0.00020	2.01	253.143	-0.00040	-0.00059	0.00038
____ Y1	9794.33434	9,794.33	0.352	9832.96033	9766.72724	9783.31547
____ Y2A	195699.83827	195,699.84	1.512	192284.45000	197462.71257	197352.35223
____ Y2R	2035.06687	2,035.07	1.069	2054.61336	2038.95196	2011.63528
____ ZN	0.01493	184.71	0.545	0.01486	0.01491	0.01502
____ ZR	-0.01034	-4.90	87.909	-0.01341	-0.01749	-0.00011

LANCASTER LABORATORIES

Run Name: 1810906T73 Instrument ID: 18255

Tube: 16 Date/Time: 04/19/2018 12:46

Sample Number: **9548793** Class: UL** Batch: 181000184802

Initial Vol: 50.00 Final Vol: 50.00 DF: 5.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00031	-13.11	126.749	-0.00006	-0.00076	-0.00010
____ AL	0.12064	0.98	91.857	0.07947	0.03630	0.24614
____ AS	0.00092	0.96	333.661	-0.00241	0.00365	0.00152
____ B	0.01590	100.46	2.054	0.01573	0.01569	0.01627
____ BA	0.04958	26,395.59	0.845	0.04991	0.04972	0.04911
____ BE	0.00002	144.06	37.673	0.00002	0.00002	0.00001
____ CA	10.38144	1,719.08	0.248	10.40571	10.35441	10.38421
____ CD	-0.00003	-1.84	216.482	-0.00009	-0.00003	0.00003
____ CO	0.00067	11.86	21.052	0.00079	0.00070	0.00051
____ CR	-0.00127	-10.55	27.409	-0.00163	-0.00123	-0.00094
____ CU	-0.00076	-10.97	52.885	-0.00104	-0.00094	-0.00030
____ FE	3.32338	148.57	1.701	3.37033	3.26062	3.33917
____ K	0.91646	171.78	5.513	0.88704	0.97481	0.88755
____ LI	0.00000	21.38	3154.929	0.00120	-0.00123	0.00001
____ MG	3.34371	910.38	0.808	3.36718	3.31418	3.34977
____ MN	0.33573	21,936.72	0.476	0.33749	0.33535	0.33436
____ MO	-0.00021	-0.77	82.555	-0.00041	-0.00006	-0.00017
____ NA	19.44635	8,733.54	0.366	19.46045	19.36914	19.50946
____ NI	-0.00019	7.13	196.102	-0.00062	0.00008	-0.00003
____ P	-0.00028	1.68	775.519	0.00090	0.00105	-0.00279
____ PB	0.00158	-3.78	116.576	0.00202	0.00316	-0.00044
____ S	2.10682	360.30	0.811	2.08859	2.10941	2.12246
____ SB	0.00234	2.70	66.740	0.00415	0.00134	0.00154
____ SE	0.00068	0.12	61.156	0.00031	0.00059	0.00113
____ SI	1.69562	54.59	3.113	1.72687	1.63469	1.72532
____ SN	0.00051	0.06	22.718	0.00053	0.00060	0.00038
____ SR	0.06262	36,932.14	0.551	0.06302	0.06244	0.06241
____ TH	0.00248	-0.32	1061.580	0.02618	0.00702	-0.02577
____ TI	0.00033	44.61	29.301	0.00044	0.00031	0.00025
____ TL	-0.00318	0.58	54.318	-0.00512	-0.00182	-0.00259
____ V	0.00064	-11.90	38.776	0.00040	0.00089	0.00063
____ W	0.00052	2.82	213.668	0.00179	0.00001	-0.00024
____ Y1	9868.14437	9,868.14	0.844	9955.19974	9859.94366	9789.28970
____ Y2A	197937.74429	197,937.74	0.481	198139.51718	196900.36153	198773.35417
____ Y2R	2015.92121	2,015.92	0.352	2012.02273	2024.11818	2011.62273
____ ZN	0.00321	46.26	7.104	0.00317	0.00301	0.00346
____ ZR	-0.01256	-4.68	33.652	-0.01701	-0.01207	-0.00860

LANCASTER LABORATORIES

Run Name: 1810906T73 Instrument ID: 18255

Tube: 17 Date/Time: 04/19/2018 12:49

Sample Number: **9548798** Class: **** Batch: 181000184802

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol Symbol: S

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00009	-45.13	388.653	0.00021	-0.00001	-0.00047
____ AL	0.18178	2.01	81.081	0.34350	0.05503	0.14680
____ AS	-0.00027	-0.50	1144.028	-0.00298	0.00311	-0.00094
____ B	0.07485	436.76	0.446	0.07449	0.07491	0.07515
____ BA	0.23420	121,215.87	0.772	0.23214	0.23494	0.23551
____ BE	0.00005	158.18	18.449	0.00004	0.00005	0.00006
____ CA	48.42670	8,083.05	0.722	48.04375	48.72958	48.50677
____ CD	0.00008	18.23	154.199	0.00003	0.00021	-0.00001
____ CO	0.00341	28.59	11.767	0.00379	0.00343	0.00299
____ CR	0.00093	18.00	18.358	0.00113	0.00085	0.00082
____ CU	-0.00067	3.75	143.371	-0.00139	-0.00105	0.00042
____ FE	15.24853	680.94	0.775	15.12064	15.35362	15.27132
____ K	4.37631	750.50	1.626	4.30014	4.44108	4.38771
____ LI	-0.00044	22.38	472.846	0.00160	-0.00251	-0.00039
____ MG	15.51444	4,263.75	0.415	15.45494	15.58275	15.50562
____ MN	1.58535	101,079.89	0.984	1.56872	1.58765	1.59967
____ MO	0.00050	1.74	63.344	0.00018	0.00051	0.00081
____ NA	90.25990	41,075.14	0.517	89.81310	90.74374	90.22285
____ NI	0.00210	15.15	22.790	0.00239	0.00155	0.00237
____ P	-0.00368	0.35	67.347	-0.00098	-0.00584	-0.00421
____ PB	0.00932	-2.93	6.431	0.00996	0.00923	0.00877
____ S	10.22377	1,731.26	0.681	10.29742	10.15915	10.21474
____ SB	0.00121	2.07	82.714	0.00086	0.00043	0.00235
____ SE	0.00190	1.13	210.851	-0.00248	0.00282	0.00536
____ SI	7.86947	253.60	0.828	7.86798	7.80509	7.93535
____ SN	0.00027	-0.17	148.920	0.00003	0.00005	0.00072
____ SR	0.29655	171,271.02	0.865	0.29399	0.29653	0.29912
____ TH	0.02616	0.47	259.654	0.09515	0.02394	-0.04062
____ TI	-0.00019	25.81	14.941	-0.00021	-0.00019	-0.00016
____ TL	-0.01028	-2.08	19.513	-0.00989	-0.01245	-0.00849
____ V	-0.00001	-16.43	4166.760	-0.00068	0.00021	0.00043
____ W	-0.00082	1.20	16.861	-0.00087	-0.00093	-0.00067
____ Y1	9806.82896	9,806.83	1.113	9680.96333	9864.61214	9874.91142
____ Y2A	193320.86176	193,320.86	0.683	194845.61675	192556.41396	192560.55458
____ Y2R	2041.90748	2,041.91	0.705	2058.52068	2034.10225	2033.09951
____ ZN	0.01449	179.87	1.358	0.01472	0.01435	0.01441
____ ZR	-0.01393	-5.67	30.034	-0.01444	-0.01784	-0.00951

LANCASTER LABORATORIES

Run Name: 1810906T73

Instrument ID: 18255

Tube: 18

Date/Time: 04/19/2018 12:53

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00367	64.93	12.473	0.00403	0.00315	0.00383
____ AL	0.41119	5.80	26.088	0.43991	0.50119	0.29249
____ AS	0.01732	6.81	10.143	0.01858	0.01531	0.01805
____ B	0.04621	259.55	0.898	0.04651	0.04574	0.04639
____ BA	0.00506	2,948.44	0.638	0.00508	0.00502	0.00508
____ BE	0.00475	2,567.99	0.495	0.00476	0.00473	0.00477
____ CA	0.21502	41.03	1.269	0.21227	0.21773	0.21505
____ CD	0.00512	92.14	3.288	0.00525	0.00493	0.00517
____ CO	0.00471	38.35	3.480	0.00490	0.00462	0.00461
____ CR	0.01304	184.56	3.502	0.01321	0.01252	0.01339
____ CU	0.01176	187.36	17.597	0.01045	0.01414	0.01068
____ FE	0.24191	12.95	6.608	0.23403	0.26030	0.23139
____ K	0.51940	108.75	15.984	0.51911	0.60256	0.43652
____ LI	0.01965	82.28	14.552	0.01941	0.02262	0.01692
____ MG	0.09666	28.97	6.054	0.09399	0.10337	0.09263
____ MN	0.00508	362.45	1.789	0.00515	0.00512	0.00498
____ MO	0.00929	30.30	6.673	0.00996	0.00916	0.00874
____ NA	1.05382	479.04	1.999	1.07609	1.03420	1.05118
____ NI	0.00948	45.10	1.024	0.00938	0.00950	0.00957
____ P	0.09849	40.70	2.270	0.10101	0.09676	0.09769
____ PB	0.01493	19.92	7.442	0.01509	0.01595	0.01375
____ S	0.51074	91.70	0.270	0.51030	0.50963	0.51228
____ SB	0.02104	15.34	5.873	0.02079	0.02238	0.01995
____ SE	0.02067	6.71	20.134	0.02385	0.01596	0.02219
____ SI	0.09866	4.06	33.847	0.12561	0.06130	0.10907
____ SN	0.01951	18.70	2.795	0.02014	0.01923	0.01917
____ SR	0.00501	2,915.65	0.455	0.00501	0.00498	0.00503
____ TH	0.16183	3.88	33.072	0.18101	0.10136	0.20311
____ TI	0.00989	519.66	2.551	0.01005	0.00960	0.01003
____ TL	0.03015	13.89	7.177	0.02773	0.03189	0.03083
____ V	0.00513	60.90	11.312	0.00579	0.00486	0.00473
____ W	0.00969	15.92	7.052	0.01045	0.00914	0.00948
____ Y1	10236.42087	10,236.42	1.080	10110.50671	10317.43566	10281.32025
____ Y2A	205275.82924	205,275.83	0.378	205091.19563	206126.45618	204609.83592
____ Y2R	2059.13636	2,059.14	1.030	2036.02727	2077.69545	2063.68636
____ ZN	0.02014	238.05	1.960	0.02059	0.01984	0.01998
____ ZR	0.03492	14.38	7.215	0.03231	0.03512	0.03734

LANCASTER LABORATORIES

Run Name: 1810906T73

Instrument ID: 18255

Tube: 19

Date/Time: 04/19/2018 12:56

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00032	-495.19	350.335	-0.00055	-0.00007	0.00157
____ AL	497.42376	7,800.88	0.295	497.70089	498.73146	495.83892
____ AS	-0.00932	-9.65	7.652	-0.00954	-0.00990	-0.00852
____ B	-0.00606	492.56	26.992	-0.00668	-0.00420	-0.00729
____ BA	0.00050	364.61	5.245	0.00049	0.00053	0.00048
____ BE	-0.00011	70.17	25.202	-0.00008	-0.00011	-0.00014
____ CA	484.54897	73,347.18	0.214	484.87927	485.38098	483.38666
____ CD	0.00076	230.11	4.024	0.00079	0.00075	0.00073
____ CO	0.00006	7.06	291.406	0.00017	0.00012	-0.00013
____ CR	-0.00023	2.65	208.101	0.00007	0.00002	-0.00078
____ CU	0.00058	91.74	229.565	-0.00067	0.00200	0.00043
____ FE	195.33422	7,733.47	0.325	195.71124	195.68986	194.60157
____ K	-0.02827	15.48	222.392	-0.09427	0.03092	-0.02147
____ LI	-0.00328	34.32	95.184	-0.00495	0.00032	-0.00521
____ MG	476.08750	114,674.18	0.125	476.43816	476.42455	475.39980
____ MN	0.00435	262.48	0.800	0.00433	0.00439	0.00434
____ MO	-0.00022	-10.22	161.526	-0.00039	0.00019	-0.00045
____ NA	0.06892	25.12	8.663	0.07572	0.06649	0.06454
____ NI	0.00233	8.00	10.755	0.00208	0.00235	0.00258
____ P	0.01182	5.50	20.148	0.01321	0.01317	0.00907
____ PB	0.00327	108.55	30.117	0.00222	0.00343	0.00417
____ S	0.01264	7.51	43.677	0.01061	0.01889	0.00842
____ SB	0.00981	15.64	35.088	0.00641	0.00973	0.01330
____ SE	0.01578	4.00	64.895	0.02609	0.01563	0.00562
____ SI	0.03342	1.78	85.298	0.06592	0.01264	0.02170
____ SN	0.00000	-0.36	3068.812	-0.00071	0.00224	-0.00153
____ SR	-0.00026	13,055.29	112.885	-0.00024	0.00002	-0.00056
____ TH	0.07136	3.74	19.883	0.08134	0.05512	0.07761
____ TI	-0.00635	-238.22	4.338	-0.00611	-0.00665	-0.00628
____ TL	0.00943	3.46	32.929	0.00617	0.01236	0.00977
____ V	0.00189	-0.68	44.790	0.00253	0.00220	0.00093
____ W	-0.00116	8.21	162.259	0.00068	-0.00108	-0.00306
____ Y1	8721.82864	8,721.83	0.315	8690.16121	8736.00672	8739.31800
____ Y2A	170278.33531	170,278.34	1.137	169637.35455	168744.69621	172452.95518
____ Y2R	1911.29940	1,911.30	0.206	1912.24495	1906.97127	1914.68196
____ ZN	0.00796	244.22	3.540	0.00823	0.00766	0.00798
____ ZR	0.02016	-7.52	28.597	0.01471	0.02620	0.01957

LANCASTER LABORATORIES

Run Name: 1810906T73

Instrument ID: 18255

Tube: 20

Date/Time: 04/19/2018 12:59

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.20883	2,556.09	0.044	0.20882	0.20893	0.20875
____ AL	500.40106	7,930.74	1.004	494.61621	503.66534	502.92163
____ AS	0.08521	17.42	2.863	0.08721	0.08591	0.08249
____ B	-0.00701	493.06	32.498	-0.00443	-0.00875	-0.00785
____ BA	0.49885	227,643.56	0.248	0.49914	0.49749	0.49991
____ BE	0.48358	205,300.82	0.067	0.48361	0.48324	0.48389
____ CA	487.40089	74,543.00	0.812	482.83929	489.91477	489.44860
____ CD	0.90303	14,966.48	0.625	0.90954	0.89970	0.89983
____ CO	0.44944	2,453.60	0.434	0.45167	0.44862	0.44804
____ CR	0.46696	5,306.13	0.100	0.46746	0.46653	0.46690
____ CU	0.50315	5,435.50	0.152	0.50352	0.50227	0.50367
____ FE	197.21240	7,885.84	1.050	194.83936	198.14630	198.65155
____ K	0.02053	23.36	120.881	0.04310	-0.00604	0.02452
____ LI	-0.00485	30.26	24.927	-0.00613	-0.00374	-0.00466
____ MG	477.75156	116,261.25	0.895	472.85507	480.73688	479.66273
____ MN	0.47460	26,710.22	0.129	0.47479	0.47392	0.47509
____ MO	-0.00050	-11.01	140.669	-0.00111	0.00026	-0.00064
____ NA	0.05571	19.70	1.940	0.05676	0.05577	0.05460
____ NI	0.89318	2,943.39	0.520	0.89846	0.89134	0.88974
____ P	0.00737	4.95	18.391	0.00845	0.00585	0.00782
____ PB	0.49792	762.82	0.957	0.50325	0.49641	0.49408
____ S	0.01395	8.11	35.859	0.00961	0.01943	0.01282
____ SB	0.57999	347.38	0.717	0.58470	0.57685	0.57842
____ SE	0.48843	139.86	1.309	0.49453	0.48899	0.48177
____ SI	0.03431	1.82	50.945	0.04595	0.01421	0.04276
____ SN	0.00187	1.14	141.236	0.00012	0.00491	0.00058
____ SR	-0.00032	13,124.07	122.020	0.00012	-0.00047	-0.00062
____ TH	0.05783	3.34	88.911	0.03577	0.11659	0.02112
____ TI	-0.00670	-232.68	8.204	-0.00606	-0.00703	-0.00701
____ TL	0.09212	32.05	4.182	0.08983	0.08996	0.09656
____ V	0.48416	6,421.77	0.137	0.48412	0.48351	0.48484
____ W	-0.00496	16.45	63.798	-0.00861	-0.00341	-0.00287
____ Y1	8692.82353	8,692.82	0.963	8604.31634	8703.51496	8770.63929
____ Y2A	170553.66208	170,553.66	0.165	170291.17786	170850.40030	170519.40807
____ Y2R	1931.56791	1,931.57	0.846	1949.78079	1918.18545	1926.73749
____ ZN	0.96716	9,550.88	0.641	0.97387	0.96165	0.96597
____ ZR	0.01441	-9.79	21.844	0.01090	0.01698	0.01536

LANCASTER LABORATORIES

Run Name: 1810906T73

Instrument ID: 18255

Tube: 21

Date/Time: 04/19/2018 13:02

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.49036	8,168.77	0.464	0.49131	0.49201	0.48776
____ AL	25.60207	418.12	0.210	25.65398	25.54664	25.60560
____ AS	0.49202	158.71	0.927	0.49728	0.48966	0.48912
____ B	0.47188	2,521.98	0.237	0.47271	0.47233	0.47061
____ BA	0.49463	257,833.70	0.244	0.49525	0.49540	0.49324
____ BE	0.47578	230,597.18	0.340	0.47735	0.47586	0.47412
____ CA	25.22366	4,160.88	0.656	25.10397	25.41253	25.15447
____ CD	0.48843	9,047.01	0.749	0.49220	0.48490	0.48817
____ CO	0.48724	3,013.04	1.011	0.49225	0.48240	0.48707
____ CR	0.47615	6,176.57	0.353	0.47767	0.47642	0.47435
____ CU	0.49294	6,075.60	0.654	0.48934	0.49557	0.49391
____ FE	25.23460	1,106.75	1.005	25.03721	25.52046	25.14613
____ K	24.70750	4,080.75	0.871	24.82110	24.84207	24.45934
____ LI	0.49699	1,529.33	1.023	0.49301	0.50272	0.49523
____ MG	25.23494	6,827.85	0.670	25.16392	25.42803	25.11289
____ MN	0.48961	31,440.69	0.193	0.49036	0.48992	0.48855
____ MO	0.47951	1,514.87	0.861	0.48426	0.47748	0.47679
____ NA	25.02866	11,227.59	0.690	25.01036	25.20984	24.86576
____ NI	0.48838	1,827.80	0.900	0.49293	0.48415	0.48806
____ P	0.48989	188.40	1.057	0.49508	0.48472	0.48986
____ PB	0.49330	727.42	0.949	0.49673	0.48797	0.49520
____ S	24.96987	4,231.21	0.607	25.12489	24.82207	24.96265
____ SB	0.47428	309.50	0.289	0.47579	0.47311	0.47394
____ SE	0.48753	156.75	1.580	0.49594	0.48082	0.48582
____ SI	25.35561	804.20	1.056	25.26624	25.65666	25.14391
____ SN	0.46835	440.34	0.928	0.47249	0.46383	0.46872
____ SR	0.48262	279,142.81	0.291	0.48368	0.48314	0.48102
____ TH	0.51238	13.28	6.680	0.55175	0.49565	0.48974
____ TI	0.48944	23,147.91	0.154	0.49026	0.48878	0.48928
____ TL	0.49139	190.40	0.606	0.49462	0.48877	0.49077
____ V	0.49008	7,312.57	0.299	0.48917	0.49177	0.48929
____ W	-0.00126	8.52	15.219	-0.00115	-0.00114	-0.00148
____ Y1	9828.17446	9,828.17	0.656	9762.82586	9891.76707	9829.93045
____ Y2A	194707.94414	194,707.94	0.154	194368.42678	194933.35748	194822.04817
____ Y2R	2013.38030	2,013.38	0.430	2012.66364	2005.10909	2022.36818
____ ZN	0.49156	5,428.03	0.654	0.49515	0.48894	0.49059
____ ZR	0.48695	165.25	0.645	0.48344	0.48952	0.48788

LANCASTER LABORATORIES

Run Name: 1810906T73

Instrument ID: 18255

Tube: 22

Date/Time: 04/19/2018 13:05

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00050	-8.98	125.128	0.00017	-0.00108	-0.00059
____ AL	0.15966	1.60	51.070	0.21975	0.06684	0.19239
____ AS	0.00018	1.05	1715.850	-0.00329	0.00137	0.00245
____ B	0.00042	9.13	23.998	0.00050	0.00031	0.00047
____ BA	0.00003	169.87	70.826	0.00001	0.00003	0.00005
____ BE	0.00003	155.20	18.757	0.00003	0.00004	0.00003
____ CA	0.00246	5.10	442.963	-0.00968	0.01135	0.00571
____ CD	0.00009	-4.77	50.040	0.00004	0.00013	0.00010
____ CO	0.00015	8.90	199.163	0.00050	-0.00004	0.00000
____ CR	-0.00125	-10.41	15.831	-0.00108	-0.00147	-0.00119
____ CU	-0.00165	-13.68	43.312	-0.00246	-0.00109	-0.00141
____ FE	0.03848	3.68	53.435	0.05167	0.01479	0.04897
____ K	-0.02057	17.53	334.729	0.00552	-0.09867	0.03143
____ LI	-0.00146	16.35	437.233	0.00443	-0.00822	-0.00058
____ MG	0.00108	2.37	737.858	0.00475	0.00650	-0.00803
____ MN	0.00006	26.07	192.052	0.00016	-0.00005	0.00005
____ MO	0.00014	0.29	80.228	0.00002	0.00015	0.00024
____ NA	0.03459	11.06	59.066	0.01606	0.05650	0.03122
____ NI	-0.00045	6.46	118.278	-0.00017	-0.00011	-0.00107
____ P	0.00039	1.93	105.069	-0.00004	0.00044	0.00077
____ PB	-0.00081	-4.49	109.782	-0.00184	-0.00035	-0.00024
____ S	0.00117	1.89	379.604	-0.00046	0.00621	-0.00223
____ SB	0.00186	2.42	84.385	0.00360	0.00141	0.00056
____ SE	0.00259	0.60	51.873	0.00269	0.00388	0.00120
____ SI	0.03220	1.84	42.664	0.04734	0.02054	0.02871
____ SN	0.00052	0.07	200.456	0.00116	0.00109	-0.00069
____ SR	0.00003	-116.31	90.767	0.00005	0.00000	0.00004
____ TH	0.04396	0.72	109.484	0.09935	0.01244	0.02008
____ TI	0.00026	39.81	10.899	0.00023	0.00026	0.00028
____ TL	-0.00102	1.43	87.882	-0.00194	-0.00097	-0.00015
____ V	0.00062	-12.34	29.497	0.00056	0.00048	0.00083
____ W	-0.00061	1.32	138.015	-0.00156	0.00008	-0.00036
____ Y1	10130.68233	10,130.68	0.210	10138.33724	10106.68211	10147.02764
____ Y2A	200676.67443	200,676.67	0.407	201589.99728	200019.08964	200420.93636
____ Y2R	2010.39546	2,010.40	0.340	2002.95455	2016.40455	2011.82727
____ ZN	-0.00005	7.70	162.821	-0.00009	-0.00009	0.00004
____ ZR	-0.01686	-4.98	40.667	-0.02468	-0.01402	-0.01188

Mercury Data

Metals in Liquid

eurofins | Lancaster Laboratories Environmental

Mercury Run Data Report

Data File Name:	1810201.M07
Run Name:	1810201M07
Instrument No.:	17384
Element:	Hg

Analyst Employee ID: 354

Reviewed By	Reviewed Date
Damary Valentin	04/12/2018 10:14AM

Verified By:	Verified Date
Eric L Eby	04/12/2018 1:37PM

Method Reference Name(s):

SW-846 7470A

LANCASTER LABORATORIES

Run Name: 1810201M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

1 Burn Date/Time: 04/12/2018 05:56

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0		1	1	1.00

AVG (ppb)	Intensity
0.0000	211.0

2 Burn Date/Time: 04/12/2018 05:58

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0.2		1	1	1.00

AVG (ppb)	Intensity
0.0000	1594.0

3 Burn Date/Time: 04/12/2018 06:00

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0.5		1	1	1.00

AVG (ppb)	Intensity
0.0000	3653.0

4 Burn Date/Time: 04/12/2018 06:02

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S1.0		1	1	1.00

AVG (ppb)	Intensity
0.0000	6651.0

5 Burn Date/Time: 04/12/2018 06:04

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S2.5		1	1	1.00

AVG (ppb)	Intensity
0.0000	16605.0

6 Burn Date/Time: 04/12/2018 06:06

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S5.0		1	1	1.00

AVG (ppb)	Intensity
0.0000	32122.0

CorrelationCoefficient = 1.00000
Slope = 6381.7504500000
Y-Intercept = 353.9826400000

LANCASTER LABORATORIES

Run Name: 1810201M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

7 Burn Date/Time: 04/12/2018 06:08

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
ICV		1	1	1.00

AVG (ppb)	Intensity
2.4542	16017.0

8 Burn Date/Time: 04/12/2018 06:10

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
ICB		1	1	1.00

AVG (ppb)	Intensity
-0.0407	92.0

9 Burn Date/Time: 04/12/2018 06:12

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CRA		1	1	1.00

AVG (ppb)	Intensity
0.1775	1485.0

10 Burn Date/Time: 04/12/2018 06:14

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 1		1	1	1.00

AVG (ppb)	Intensity
1.0388	6983.0

11 Burn Date/Time: 04/12/2018 06:16

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 1		1	1	1.00

AVG (ppb)	Intensity
-0.0331	141.0

12 Burn Date/Time: 04/12/2018 06:31

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	181010571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0534	11.0		

LANCASTER LABORATORIES

Run Name: 1810201M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

13 Burn Date/Time: 04/12/2018 06:33

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	181010571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9221	6238.0		

14 Burn Date/Time: 04/12/2018 06:35

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9548789	U*********	40	40	1.00	181010571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0498	34.0		

15 Burn Date/Time: 04/12/2018 06:37

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9548792	D*********	40	40	1.00	181010571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0481	45.0		

16 Burn Date/Time: 04/12/2018 06:39

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9548790	R*********	40	40	1.00	181010571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9425	6368.0		

17 Burn Date/Time: 04/12/2018 06:41

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9548791	M*********	40	40	1.00	181010571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9300	6288.0		

18 Burn Date/Time: 04/12/2018 06:43

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9548797	**********	40	40	1.00	181010571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0555	-2.0		

LANCASTER LABORATORIES

Run Name: 1810201M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

19 Burn Date/Time: 04/12/2018 06:46

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9548799	**********	40	40	1.00	181010571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0511	26.0		

20 Burn Date/Time: 04/12/2018 06:48

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	181010571305

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0425	81.0		

21 Burn Date/Time: 04/12/2018 06:50

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	181010571305

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.8997	6095.0		

22 Burn Date/Time: 04/12/2018 06:52

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 2		1	1	1.00

AVG (ppb)	Intensity
1.0232	6883.0

23 Burn Date/Time: 04/12/2018 06:54

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 2		1	1	1.00

AVG (ppb)	Intensity
-0.0357	124.0

24 Burn Date/Time: 04/12/2018 06:56

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9543292	U*********	40	40	1.00	181010571305

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0519	21.0		

LANCASTER LABORATORIES

Run Name: 1810201M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

25 Burn Date/Time: 04/12/2018 06:58

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9543292	D*********	40	40	1.00	181010571305

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0481	45.0		

26 Burn Date/Time: 04/12/2018 07:00

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9543292	R*********	4	40	1.00	181010571305

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.6921	11153.0		

27 Burn Date/Time: 04/12/2018 07:02

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9543292	M*********	4	40	1.00	181010571305

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.6998	11202.0		

28 Burn Date/Time: 04/12/2018 07:04

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9528898	**********	40	40	1.00	181010571305

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0633	-52.0		

29 Burn Date/Time: 04/12/2018 07:06

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9543022	**********	40	40	1.00	181010571305

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0509	27.0		

30 Burn Date/Time: 04/12/2018 07:08

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9543290	U*1*******	40	40	1.00	181010571305

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0489	40.0		

LANCASTER LABORATORIES

Run Name: 1810201M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

31 Burn Date/Time: 04/12/2018 07:10

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9543290	R*1*******	4	40	1.00	181010571305

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.6890	11133.0		

32 Burn Date/Time: 04/12/2018 07:12

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9543930	**********	40	40	1.00	181010571305

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0555	-2.0		

33 Burn Date/Time: 04/12/2018 07:14

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9544015	**********	40	40	1.00	181010571305

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0509	27.0		

34 Burn Date/Time: 04/12/2018 07:16

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 3		1	1	1.00

AVG (ppb)	Intensity
1.0034	6757.0

35 Burn Date/Time: 04/12/2018 07:18

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 3		1	1	1.00

AVG (ppb)	Intensity
-0.0364	120.0

36 Burn Date/Time: 04/12/2018 07:20

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9544118	**********	40	40	1.00	181010571305

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0519	21.0		

LANCASTER LABORATORIES

Run Name: 1810201M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

37 Burn Date/Time: 04/12/2018 07:22

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9545793	U*2*******	40	40	1.00	181010571305

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0509	27.0		

38 Burn Date/Time: 04/12/2018 07:24

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9545793	R*2*******	4	40	1.00	181010571305

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.6404	10823.0		

39 Burn Date/Time: 04/12/2018 07:26

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9545895	**********	40	40	1.00	181010571305

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0630	-50.0		

40 Burn Date/Time: 04/12/2018 07:28

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9546545	**********	40	40	1.00	181010571305

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0489	40.0		

41 Burn Date/Time: 04/12/2018 07:30

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9546548	**********	40	40	1.00	181010571305

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0506	29.0		

42 Burn Date/Time: 04/12/2018 07:32

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9546551	**********	40	40	1.00	181010571305

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0379	110.0		

LANCASTER LABORATORIES

Run Name: 1810201M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

43 Burn Date/Time: 04/12/2018 07:34

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9546554	**********	40	40	1.00	181010571305

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0498	34.0		

44 Burn Date/Time: 04/12/2018 07:36

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9546558	**********	40	40	1.00	181010571305

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0472	51.0		

45 Burn Date/Time: 04/12/2018 07:38

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9547097	**********	40	40	1.00	181010571305

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0503	31.0		

46 Burn Date/Time: 04/12/2018 07:40

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 4		1	1	1.00

AVG (ppb)	Intensity
1.0000	6735.0

47 Burn Date/Time: 04/12/2018 07:42

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 4		1	1	1.00

AVG (ppb)	Intensity
-0.0353	127.0

48 Burn Date/Time: 04/12/2018 07:44

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9547100	**********	40	40	1.00	181010571305

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0519	21.0		

LANCASTER LABORATORIES

Run Name: 1810201M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

49 Burn Date/Time: 04/12/2018 07:47

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9548326	**********	40	40	1.00	181010571305

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0505	30.0		

50 Burn Date/Time: 04/12/2018 07:49

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9548615	**********	40	40	1.00	181010571305

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0478	47.0		

51 Burn Date/Time: 04/12/2018 07:51

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	1	1	1.00	180940479202

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0531	13.0		

52 Burn Date/Time: 04/12/2018 07:53

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	180940479202

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.8396	5711.0		

53 Burn Date/Time: 04/12/2018 07:55

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSWD	**********	1	1	1.00	180940479202

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.8488	5770.0		

54 Burn Date/Time: 04/12/2018 07:57

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9537764	**********	1	1	1.00	180940479202

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0608	-36.0		

LANCASTER LABORATORIES

Run Name: 1810201M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

55 Burn Date/Time: 04/12/2018 07:59

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9537767	**********	1	1	1.00	180940479202

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0563	-7.0		

56 Burn Date/Time: 04/12/2018 08:01

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9537770	**********	1	1	1.00	180940479202

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0577	-16.0		

57 Burn Date/Time: 04/12/2018 08:03

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CRA		1	1	1.00

AVG (ppb)	Intensity
0.1734	1459.0

58 Burn Date/Time: 04/12/2018 08:05

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 5		1	1	1.00

AVG (ppb)	Intensity
1.0081	6787.0

59 Burn Date/Time: 04/12/2018 08:07

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 5		1	1	1.00

AVG (ppb)	Intensity
-0.0340	135.0

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Mercury Run Data Report

Data File Name:	1810601.M07
Run Name:	1810601M07
Instrument No.:	17384
Element:	Hg

Analyst Employee ID: 354

Reviewed By	Reviewed Date
Damary Valentin	04/16/2018 10:18AM

Verified By:	Verified Date
Parker D Lindstrom	04/16/2018 7:29PM

Method Reference Name(s):

SW-846 7470A

LANCASTER LABORATORIES

Run Name: 1810601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

1 Burn Date/Time: 04/16/2018 07:03

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0		1	1	1.00

AVG (ppb)	Intensity
0.0000	71.0

2 Burn Date/Time: 04/16/2018 07:05

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0.2		1	1	1.00

AVG (ppb)	Intensity
0.0000	1670.0

3 Burn Date/Time: 04/16/2018 07:07

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0.5		1	1	1.00

AVG (ppb)	Intensity
0.0000	3871.0

4 Burn Date/Time: 04/16/2018 07:09

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S1.0		1	1	1.00

AVG (ppb)	Intensity
0.0000	6987.0

5 Burn Date/Time: 04/16/2018 07:11

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S2.5		1	1	1.00

AVG (ppb)	Intensity
0.0000	18419.0

6 Burn Date/Time: 04/16/2018 07:13

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S5.0		1	1	1.00

AVG (ppb)	Intensity
0.0000	36045.0

CorrelationCoefficient = 1.00000
Slope = 7198.8643800000
Y-Intercept = 138.9079600000

LANCASTER LABORATORIES

Run Name: 1810601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

7 Burn Date/Time: 04/16/2018 07:18

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
ICV		1	1	1.00

AVG (ppb)	Intensity
2.3135	16795.0

8 Burn Date/Time: 04/16/2018 07:22

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
ICB		1	1	1.00

AVG (ppb)	Intensity
-0.0135	39.0

9 Burn Date/Time: 04/16/2018 07:24

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CRA		1	1	1.00

AVG (ppb)	Intensity
0.1993	1571.0

10 Burn Date/Time: 04/16/2018 07:26

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 1		1	1	1.00

AVG (ppb)	Intensity
0.9817	7205.0

11 Burn Date/Time: 04/16/2018 07:28

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 1		1	1	1.00

AVG (ppb)	Intensity
-0.0100	64.0

12 Burn Date/Time: 04/16/2018 07:30

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	181030571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0335	377.0		

LANCASTER LABORATORIES

Run Name: 1810601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

13 Burn Date/Time: 04/16/2018 07:32

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	181030571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9077	6672.0		

14 Burn Date/Time: 04/16/2018 07:34

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9548793	U*********	40	40	1.00	181030571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0336	378.0		

15 Burn Date/Time: 04/16/2018 07:36

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9548796	D*********	40	40	1.00	181030571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0308	358.0		

16 Burn Date/Time: 04/16/2018 07:38

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9548794	R*********	40	40	1.00	181030571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.8480	6242.0		

17 Burn Date/Time: 04/16/2018 07:40

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9548795	M*********	40	40	1.00	181030571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9348	6867.0		

18 Burn Date/Time: 04/16/2018 07:42

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9548798	**********	40	40	1.00	181030571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0514	506.0		

LANCASTER LABORATORIES

Run Name: 1810601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

19 Burn Date/Time: 04/16/2018 07:44

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9551181	**********	40	40	1.00	181030571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.3422	2600.0		

20 Burn Date/Time: 04/16/2018 07:46

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9551182	**********	40	40	1.00	181030571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.3170	2419.0		

21 Burn Date/Time: 04/16/2018 07:49

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9551184	**********	40	40	1.00	181030571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0280	338.0		

22 Burn Date/Time: 04/16/2018 07:51

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 2		1	1	1.00

AVG (ppb)	Intensity
0.9854	7232.0

23 Burn Date/Time: 04/16/2018 07:53

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 2		1	1	1.00

AVG (ppb)	Intensity
-0.0107	59.0

24 Burn Date/Time: 04/16/2018 07:55

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9551185	**********	40	40	1.00	181030571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0436	450.0		

LANCASTER LABORATORIES

Run Name: 1810601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

25 Burn Date/Time: 04/16/2018 07:57

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9551186	**********	40	40	1.00	181030571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0440	453.0		

26 Burn Date/Time: 04/16/2018 07:59

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9551187	**********	40	40	1.00	181030571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0505	500.0		

27 Burn Date/Time: 04/16/2018 08:01

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9551189	**********	40	40	1.00	181030571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0640	597.0		

28 Burn Date/Time: 04/16/2018 08:03

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9551190	**********	40	40	1.00	181030571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0519	510.0		

29 Burn Date/Time: 04/16/2018 08:05

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9551191	**********	40	40	1.00	181030571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.2101	1649.0		

30 Burn Date/Time: 04/16/2018 08:07

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9551192	**********	40	40	1.00	181030571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.3416	2596.0		

LANCASTER LABORATORIES

Run Name: 1810601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

31 Burn Date/Time: 04/16/2018 08:09

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9551270	**********	40	40	1.00	181030571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0033	112.0		

32 Burn Date/Time: 04/16/2018 08:11

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9551271	**********	40	40	1.00	181030571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0045	104.0		

33 Burn Date/Time: 04/16/2018 08:13

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9551274	**********	40	40	1.00	181030571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0152	27.0		

34 Burn Date/Time: 04/16/2018 08:15

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 3		1	1	1.00

AVG (ppb)	Intensity
0.9920	7279.0

35 Burn Date/Time: 04/16/2018 08:17

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 3		1	1	1.00

AVG (ppb)	Intensity
-0.0092	70.0

36 Burn Date/Time: 04/16/2018 08:19

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9551275	**********	40	40	1.00	181030571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0070	86.0		

LANCASTER LABORATORIES

Run Name: 1810601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

37 Burn Date/Time: 04/16/2018 08:21

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9555580	**********	40	40	1.00	181030571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0106	60.0		

38 Burn Date/Time: 04/16/2018 08:23

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9555581	**********	40	40	1.00	181030571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0007	131.0		

39 Burn Date/Time: 04/16/2018 08:25

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9555582	**********	40	40	1.00	181030571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0024	119.0		

40 Burn Date/Time: 04/16/2018 08:27

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9555584	**********	40	40	1.00	181030571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0013	127.0		

41 Burn Date/Time: 04/16/2018 08:29

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	181030571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0446	457.0		

42 Burn Date/Time: 04/16/2018 08:31

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	181030571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9653	7087.0		

LANCASTER LABORATORIES

Run Name: 1810601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

43 Burn Date/Time: 04/16/2018 08:33

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9553043	U*********	40	40	1.00	181030571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0253	318.0		

44 Burn Date/Time: 04/16/2018 08:35

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9553043	D*********	40	40	1.00	181030571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0400	424.0		

45 Burn Date/Time: 04/16/2018 08:37

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9553043	R*********	4	40	1.00	181030571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.6450	11981.0		

46 Burn Date/Time: 04/16/2018 08:39

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 4		1	1	1.00

AVG (ppb)	Intensity
0.9596	7046.0

47 Burn Date/Time: 04/16/2018 08:41

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 4		1	1	1.00

AVG (ppb)	Intensity
-0.0102	63.0

48 Burn Date/Time: 04/16/2018 08:43

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9553043	M*********	4	40	1.00	181030571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.7188	12513.0		

LANCASTER LABORATORIES

Run Name: 1810601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

49 Burn Date/Time: 04/16/2018 08:45

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9540173	**********	40	40	1.00	181030571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0298	351.0		

50 Burn Date/Time: 04/16/2018 08:48

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9548328	**********	1	40	1.04	181030571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0382	411.0		

51 Burn Date/Time: 04/16/2018 08:50

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9548832	U*1*******	40	40	1.00	181030571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0398	423.0		

52 Burn Date/Time: 04/16/2018 08:52

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9548832	R*1*******	4	40	1.00	181030571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.6554	12056.0		

53 Burn Date/Time: 04/16/2018 08:54

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9551493	**********	1	40	1.04	181030571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0164	254.0		

54 Burn Date/Time: 04/16/2018 08:56

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9553046	**********	40	40	1.00	181030571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0475	478.0		

LANCASTER LABORATORIES

Run Name: 1810601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

55 Burn Date/Time: 04/16/2018 08:58

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9553049	**********	40	40	1.00	181030571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0625	586.0		

56 Burn Date/Time: 04/16/2018 09:00

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9553052	**********	40	40	1.00	181030571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0548	531.0		

57 Burn Date/Time: 04/16/2018 09:02

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9553175	**********	40	40	1.00	181030571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0373	405.0		

58 Burn Date/Time: 04/16/2018 09:04

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 5		1	1	1.00

AVG (ppb)	Intensity
1.0266	7528.0

59 Burn Date/Time: 04/16/2018 09:06

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 5		1	1	1.00

AVG (ppb)	Intensity
-0.0090	71.0

60 Burn Date/Time: 04/16/2018 09:08

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9553559	U*2*******	40	40	1.00	181030571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0387	415.0		

LANCASTER LABORATORIES

Run Name: 1810601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

61 Burn Date/Time: 04/16/2018 09:10

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9553559	R*2*******	4	40	1.00	181030571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.5780	11499.0		

62 Burn Date/Time: 04/16/2018 09:12

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9553577	**********	40	40	1.00	181030571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0210	-15.0		

63 Burn Date/Time: 04/16/2018 09:14

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9553734	**********	40	40	1.00	181030571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0507	501.0		

64 Burn Date/Time: 04/16/2018 09:16

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	181030571303

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0118	51.0		

65 Burn Date/Time: 04/16/2018 09:18

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	181030571303

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.8753	6439.0		

66 Burn Date/Time: 04/16/2018 09:21

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9553721	U*********	40	40	1.00	181030571303

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.1158	970.0		

LANCASTER LABORATORIES

Run Name: 1810601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

67 Burn Date/Time: 04/16/2018 09:23

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9553721	D*********	40	40	1.00	181030571303

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.1465	1191.0		

68 Burn Date/Time: 04/16/2018 09:25

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9553721	R*********	4	40	1.00	181030571303

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.5782	11500.0		

69 Burn Date/Time: 04/16/2018 09:27

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9553721	M*********	4	40	1.00	181030571303

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.6071	11708.0		

70 Burn Date/Time: 04/16/2018 09:29

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 6		1	1	1.00

AVG (ppb)	Intensity
0.9592	7043.0

71 Burn Date/Time: 04/16/2018 09:31

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 6		1	1	1.00

AVG (ppb)	Intensity
-0.0117	52.0

72 Burn Date/Time: 04/16/2018 09:33

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9553724	**********	40	40	1.00	181030571303

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0060	179.0		

LANCASTER LABORATORIES

Run Name: 1810601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

73 Burn Date/Time: 04/16/2018 09:35

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9553727	**********	40	40	1.00	181030571303

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0040	107.0		

74 Burn Date/Time: 04/16/2018 09:37

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	181030571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0108	58.0		

75 Burn Date/Time: 04/16/2018 09:39

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	181030571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.8523	6273.0		

76 Burn Date/Time: 04/16/2018 09:41

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSWD	**********	1	1	1.00	181030571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.8393	6180.0		

77 Burn Date/Time: 04/16/2018 09:43

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9552486	**********	40	40	1.00	181030571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0154	25.0		

78 Burn Date/Time: 04/16/2018 09:45

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CRA		1	1	1.00

AVG (ppb)	Intensity
0.2048	1611.0

LANCASTER LABORATORIES

Run Name: 1810601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

79 Burn Date/Time: 04/16/2018 09:47

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 7		1	1	1.00

AVG (ppb)	Intensity
0.9610	7056.0

80 Burn Date/Time: 04/16/2018 09:49

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 7		1	1	1.00

AVG (ppb)	Intensity
-0.0163	19.0

Extraction/Distillation/Digestion Logs

Metals in Liquid

LLENS Worksheet for 1848 SW846 Water

Batch# 18 100 01848 01

Start Time: 4/11/18 5:08 **End Time:** 4/11/18 8:52 **Hot Block:** Deena2

Pipette ID: W/1000

Spike/Reagent	Lot#	Volume Added(mL)
1:1 HCL	P18058B	5.00
1:1 HNO3	P18058A	2.00
ICP Spike 1A	1804014#16	1.00
ICP Spike 1B	1804016#16	1.00
LCS A1	1804014#16	1.00
LCS B1	1804016#16	1.00

Method Ref:

	SampleID	Date Due	ST	P	H	Balance	PH<2	BC	Vessel Lot#	Location ID	Comments
1)	PBW	.							1712272		Filtered Reagent H2O Lot# P18096H used
2)	LCSW	.							1712272		Filtered Reagent H2O Lot# P18096H used
3)	9547585	04/19/18 09:35	WW	N8			Y	800A	1712272	WMET10/A2	
4)	**9548789U**	04/19/18 15:17	WW	N8			Y	800A	1712272	WMET12/D10	
5)	**9548790R**	04/19/18 15:17	WW	N8			Y	800A	1712272	WMET12/C10	
6)	**9548791M**	04/19/18 15:17	WW	N8			Y	800A	1712272	WMET10/F3	
7)	**9548792D**	04/19/18 15:17	WW	N8			Y	800A	1712272	WMET12/E10	
8)	9548797FD	04/19/18 15:17	WW	N8			Y	800D	1712272	WMET10/D1	
9)	9548799EB	04/19/18 15:17	WW	N8			Y	800A	1712272	WMET10/C2	
10)	9549155	04/19/18 16:37	WW	N8			Y	800A	1712272	WMET10/E3	Do not use as QC
11)	9549156	04/19/18 16:37	WW	N8			Y	800A	1712272	WMET10/D3	Do not use as QC
12)	9549157	04/19/18 16:37	WW	N8			Y	800A	1712272	WMET10/C3	Do not use as QC
13)	9549158FB	04/19/18 16:37	WW	N8			Y	800A	1712272	WMET10/B2	Do not use as QC

Prep Employee:1184 D/I _____

4/11/2018

v 1.1.0

Batch# 18 100 0184 801

LLENS Batch Chronology and Change Log - SW846 Water

	Operation	Instrument	Operation Date	ANALYST
1)	Batch Creation		4/10/18 11:58	1184
2)	Sample Vol		4/11/18 5:08	1184
3)	Final Vol	CLEAR	4/11/18 5:08	1184
4)	Trial		4/11/18 5:08	1184
5)	Upload Prep	US19PCC06695	4/11/18 8:52	1184

Sample ID	Analysis	D	Operation	Measurement	Original Entry				Data Changed		
					Date/Time	Data	Units	Analyst	Date/Time	Analyst	Reason

Analysis: 1848 SW846 Water

Batch# 18 100 0184 801

Sample ID	Due Date	P	EPA#	SDG#	Initial Volume	Final Volume	Trial
PBW					50.0000	50.0000	1
LCSW					1.0000	1.0000	1
9547585	04/19/18	N8			50.0000	50.0000	1
9548789U	04/19/18	N8	T8101	ATH81-01BKG	50.0000	50.0000	1
9548790R	04/19/18	N8	T8101	ATH81-01MS	50.0000	50.0000	1
9548791M	04/19/18	N8	T8101	ATH81-01MSD	50.0000	50.0000	1
9548792D	04/19/18	N8	T8101	ATH81-01DUP	50.0000	50.0000	1
9548797FD	04/19/18	N8	T8103	ATH81-03FD	50.0000	50.0000	1
9548799EB	04/19/18	N8	T8105	ATH81-05EB	50.0000	50.0000	1
9549155	04/19/18	N8	66901	CS669-01	50.0000	50.0000	1
9549156	04/19/18	N8	66902	CS669-02	50.0000	50.0000	1
9549157	04/19/18	N8	66903	CS669-03	50.0000	50.0000	1
9549158FB	04/19/18	N8	669-4	CS669-04FB	50.0000	50.0000	1

LLENS Worksheet for 1848 SW846 Water

Batch# 18 100 01848 02

Start Time: 4/11/18 5:08 **End Time:** 4/11/18 8:52 **Hot Block:** Deena2

Pipette ID: W/1000

Spike/Reagent	Lot#	Volume Added(mL)
1:1 HCL	P18058B	5.00
1:1 HNO3	P18058A	2.00
ICP Spike 1A	1804014#16	1.00
ICP Spike 1B	1804016#16	1.00
LCS A1	1804014#16	1.00
LCS B1	1804016#16	1.00

Method Ref:

	SampleID	Date Due	ST	P	H	Balance	PH<2	BC	Vessel Lot#	Location ID	Comments
1)	PBW	.							1712272		
2)	LCSW	.							1712272		
3)	**9548793U**	04/19/18 15:17	WW	N8			Y	800A	1712272	WMET10/E2	
4)	**9548794R**	04/19/18 15:17	WW	N8			Y	800A	1712272	WMET10/F2	
5)	**9548795M**	04/19/18 15:17	WW	N8			Y	800A	1712272	WMET10/F1	
6)	**9548796D**	04/19/18 15:17	WW	N8			Y	800A	1712272	WMET10/D2	
7)	9548798FD	04/19/18 15:17	WW	N8			Y	800A	1712272	WMET10/E1	
8)	9549945	04/20/18 10:59	GW	N8			Y	800A	1712272	WMET10/B3	Do not use as QC
9)	9549946	04/20/18 10:59	GW	N8			Y	800A	1712272	WMET10/A3	Do not use as QC
10)	9549947EB	04/20/18 10:59	GW	N8			Y	800A	1712272	WMET10/F4	Do not use as QC

Prep Employee:1184 D/I _____

4/11/2018

v 1.1.0

Batch# 18 100 0184 802

LLENS Batch Chronology and Change Log - SW846 Water

	Operation	Instrument	Operation Date	ANALYST
1)	Batch Creation		4/10/18 14:44	1184
2)	Sample Vol		4/11/18 5:09	1184
3)	Final Vol	CLEAR	4/11/18 5:09	1184
4)	Trial		4/11/18 5:09	1184
5)	Upload Prep	US19PCC06695	4/11/18 8:53	1184

Sample ID	Analysis	D	Operation	Measurement	Original Entry				Data Changed		
					Date/Time	Data	Units	Analyst	Date/Time	Analyst	Reason

Analysis: 1848 SW846 Water

Batch# 18 100 0184 802

Sample ID	Due Date	P	EPA#	SDG#	Initial Volume	Final Volume	Trial
PBW					50.0000	50.0000	1
LCSW					1.0000	1.0000	1
9548793U	04/19/18	N8	T8102	ATH81-02BKG	50.0000	50.0000	1
9548794R	04/19/18	N8	T8102	ATH81-02MS	50.0000	50.0000	1
9548795M	04/19/18	N8	T8102	ATH81-02MSD	50.0000	50.0000	1
9548796D	04/19/18	N8	T8102	ATH81-02DUP	50.0000	50.0000	1
9548798FD	04/19/18	N8	T8104	ATH81-04FD	50.0000	50.0000	1
9549945	04/20/18	N8	1MW--	LVE04-01	50.0000	50.0000	1
9549946	04/20/18	N8	6MW--	LVE04-02	50.0000	50.0000	1
9549947EB	04/20/18	N8	EB001	LVE04-03EB	50.0000	50.0000	1

LLENS Worksheet for 5713 Hg SW846 Digest Water

Batch# 18 101 05713 04

Start Time: 4/11/18 23:00 **End Time:** 4/12/18 1:00 **Hot Block:** 10

Pipette ID: W/1000

Spike/Reagent	Lot#	Volume Added(mL)
5%K2S2O8	P18-094B	3.20
5%KMnO4	P18-096A	6.00
H2SO4	178260	2.00
HNO3	191695	1.00
LCS 40ppb Hg	P18-099B	1.00
NaCl/NH2OH.HCl	P18-086C	2.40
Spike 40ppb Hg	P18-099B	1.00

Method Ref:

	SampleID	Date Due	ST	P	H	Balance	PH<2	BC	Vessel Lot#	Location ID	Comments
1)	PBW	.							1712272		
2)	LCSW	.							1712272		
3)	**9548789U**	04/19/18 15:17	WW	N8			Y	801A	1712272	WMET16/D4	
4)	**9548790R**	04/19/18 15:17	WW	N8			Y	801A	1712272	WMET16/E4	
5)	**9548791M**	04/19/18 15:17	WW	N8			Y	801A	1712272	WMET16/B7	
6)	**9548792D**	04/19/18 15:17	WW	N8			Y	801A	1712272	WMET16/F5	
7)	9548797FD	04/19/18 15:17	WW	N8			Y	801A	1712272	WMET16/E5	
8)	9548799EB	04/19/18 15:17	WW	N8			Y	801A	1712272	WMET16/A9	

Prep Employee:862 D/I _____

4/12/2018

v 1.1.0

Batch# 18 101 0571 304

LLENS Batch Chronology and Change Log - Hg SW846 Digest Water

	Operation	Instrument	Operation Date	ANALYST
1)	Batch Creation		4/11/18 7:54	862
2)	Sample Vol		4/12/18 0:12	862
3)	Final Vol	CLEAR	4/12/18 0:12	862
4)	Trial		4/12/18 0:12	862
5)	Upload Prep	US19PCC06695	4/12/18 1:18	862

Sample ID	Analysis	D	Operation	Measurement	Original Entry				Data Changed		
					Date/Time	Data	Units	Analyst	Date/Time	Analyst	Reason

Analysis: 5713 Hg SW846 Digest Water

Batch# 18 101 0571 304

Sample ID	Due Date	P	EPA#	SDG#	Initial Volume	Dilution	Final Volume	Trial
PBW					40.0000		40.0000	1
LCSW					1.0000		1.0000	1
9548789U	04/19/18	N8	T8101	ATH81-01BKG	40.0000		40.0000	1
9548790R	04/19/18	N8	T8101	ATH81-01MS	40.0000		40.0000	1
9548791M	04/19/18	N8	T8101	ATH81-01MSD	40.0000		40.0000	1
9548792D	04/19/18	N8	T8101	ATH81-01DUP	40.0000		40.0000	1
9548797FD	04/19/18	N8	T8103	ATH81-03FD	40.0000		40.0000	1
9548799EB	04/19/18	N8	T8105	ATH81-05EB	40.0000		40.0000	1

LLENS Worksheet for 5713 Hg SW846 Digest Water

Batch# 18 103 05713 04

Start Time: 4/16/18 2:10 **End Time:** 4/16/18 4:10 **Hot Block:** 10

Pipette ID: W/1000
Reflux Cap Lot#: 1712272-8056-KA

Spike/Reagent	Lot#	Volume Added(mL)
5%K2S2O8	P-18-094B	3.20
5%KMnO4	P18-096A	6.00
H2SO4	178260	2.00
HNO3	191695	1.00
LCS 40ppb Hg	P18-099B	1.00
NaCl/NH2OH.HCl	P18=-086C	2.40
Spike 40ppb Hg	P18-099B	1.00

Method Ref:

	SampleID	Date Due	ST	P	H	Balance	PH<2	BC	Vessel Lot#	Location ID	Comments
1)	PBW	.									
2)	LCSW	.									
3)	**9548793U**	04/19/18 15:17	WW	N8			Y	801A	1712272	WMET16/A7	
4)	**9548794R**	04/19/18 15:17	WW	N8			Y	801A	1712272	WMET16/B5	
5)	**9548795M**	04/19/18 15:17	WW	N8			Y	801A	1712272	WMET16/C5	
6)	**9548796D**	04/19/18 15:17	WW	N8			Y	801A	1712272	WMET16/A8	
7)	9548798FD	04/19/18 15:17	WW	N8			Y	801A	1712272	WMET16/D5	
8)	9551181	04/20/18 19:15	WW	N8			Y	801A	1709027	WMET54/F9	Do not use as QC
9)	9551182	04/20/18 19:15	WW	N8			Y	801A	1709027	WMET17/C2	Do not use as QC
10)	9551184	04/20/18 19:15	WW	N8			Y	801A	1712272	WMET54/A8	Do not use as QC
11)	9551185	04/20/18 19:15	WW	N8			Y	801A	1712272	WMET54/F1	Do not use as QC
12)	9551186FB	04/20/18 19:15	WW	N8			Y	801A	1712272	WMET54/A6	Do not use as QC
13)	9551187FB	04/20/18 19:15	WW	N8			Y	801A	1712272	WMET54/A7	Do not use as QC
14)	9551189	04/20/18 19:15	WW	N8			Y	801A	1712272	WMET54/A5	Do not use as QC
15)	9551190	04/20/18 19:15	WW	N8			Y	801A	1712272	WMET54/B6	Do not use as QC
16)	9551191	04/20/18 19:15	WW	N8			Y	801A	1709027	WMET17/F4	Do not use as QC
17)	9551192	04/20/18 19:15	WW	N8			Y	801A	1709027	WMET17/C3	Do not use as QC
18)	9551270	04/20/18 19:10	WW	N8			Y	801A	1712272	WMET54/A9	
19)	9551271	04/20/18 19:10	WW	N8			Y	801A	1709027	WMET17/D5	
20)	9551274	04/20/18 19:10	WW	N8			Y	801A	1709027	WMET17/F5	
21)	9551275	04/20/18 19:10	WW	N8			Y	801A	1709027	WMET17/B5	
22)	9555580	04/19/18 18:30	WW	S5			Y	801A	1709027	WMET22/D4	
23)	9555581	04/19/18 18:30	WW	S5			Y	801A	1709027	WMET17/C8	

Prep Employee:277 D/I _____

4/16/2018

v 1.1.0

	SampleID	Date Due	ST	P	H	Balance	PH<2	BC	Vessel Lot#	Location ID	Comments
24)	9555582	04/19/18 18:30	WW	S5			Y	801A	1709027	WMET22/C7	
25)	9555584	04/19/18 18:30	WW	S5			Y	801A	1709027	WMET22/B7	

Batch# 18 103 0571 304

LLENS Batch Chronology and Change Log - Hg SW846 Digest Water

	Operation	Instrument	Operation Date	ANALYST
1)	Batch Creation		4/13/18 12:12	277
2)	Sample Vol		4/16/18 2:13	277
3)	Final Vol	CLEAR	4/16/18 2:13	277
4)	Trial		4/16/18 2:13	277
5)	Upload Prep	US19PCC0678	4/16/18 4:29	277

Sample ID	Analysis	D	Operation	Measurement	Original Entry				Data Changed		
					Date/Time	Data	Units	Analyst	Date/Time	Analyst	Reason

Analysis: 5713 Hg SW846 Digest Water

Batch# 18 103 0571 304

Sample ID	Due Date	P	EPA#	SDG#	Initial Volume	Dilution	Final Volume	Trial
PBW					40.0000		40.0000	1
LCSW					1.0000		1.0000	1
9548793U	04/19/18	N8	T8102	ATH81-02BKG	40.0000		40.0000	1
9548794R	04/19/18	N8	T8102	ATH81-02MS	40.0000		40.0000	1
9548795M	04/19/18	N8	T8102	ATH81-02MSD	40.0000		40.0000	1
9548796D	04/19/18	N8	T8102	ATH81-02DUP	40.0000		40.0000	1
9548798FD	04/19/18	N8	T8104	ATH81-04FD	40.0000		40.0000	1
9551181	04/20/18	N8	C2601	CR026-01	40.0000		40.0000	1
9551182	04/20/18	N8	C2602	CR026-02	40.0000		40.0000	1
9551184	04/20/18	N8	C2604	CR026-04	40.0000		40.0000	1
9551185	04/20/18	N8	C2605	CR026-05	40.0000		40.0000	1
9551186FB	04/20/18	N8	C2606	CR026-06FB	40.0000		40.0000	1
9551187FB	04/20/18	N8	C2607	CR026-07FB	40.0000		40.0000	1
9551189	04/20/18	N8	C2609	CR026-09	40.0000		40.0000	1
9551190	04/20/18	N8	C2610	CR026-10	40.0000		40.0000	1
9551191	04/20/18	N8	C2611	CR026-11	40.0000		40.0000	1
9551192	04/20/18	N8	C2612	CR026-12	40.0000		40.0000	1
9551270	04/20/18	N8	CSW01		40.0000		40.0000	1
9551271	04/20/18	N8	CSW02		40.0000		40.0000	1
9551274	04/20/18	N8	CSW05		40.0000		40.0000	1
9551275	04/20/18	N8	CSW06		40.0000		40.0000	1
9555580	04/19/18	S5	600AP		40.0000		40.0000	1
9555581	04/19/18	S5	METPE		40.0000		40.0000	1
9555582	04/19/18	S5	820AP		40.0000		40.0000	1
9555584	04/19/18	S5	910AP		40.0000		40.0000	1

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5700 StdCal	H18093H	Hg 0.1mg/L Cal	15	4-10-18	H18-093B	0.20ml	1	6	191195
2	↓	I	↓	↓	↓	↓	0.50	↓	↓	↓
3	↓	J	Hg 1.0mg/L Cal	↓	↓	H18-093A	0.20	↓	↓	↓
4	↓	K	↓	↓	↓	↓	0.25	↓	↓	↓
5	↓	L	↓	↓	↓	↓	0.50	↓	↓	↓
6	↓	M	—	—	—	—	—	↓	↓	↓
7	ICV	N	Hg 1.0mg/L Cont	15	4-10-18	H18-093C	0.25ml	↓	↓	↓
8	CCV	O	Hg 1.0mg/L Cal	↓	↓	H18-093A	0.20	↓	↓	↓
9	CRA	P	Hg 0.1mg/L Cont	↓	↓	H18-093D	0.20	↓	↓	↓
10	Hg 1.0mg/L InterCal	H18094A	Hg 10mg/L Cal	15	7-02-18	H18-002C	1.0ml	—	—	—
11	0.1mg/L InterCal	B	1.0mg/L Cal	15	4-11-18	H18-094A	↓	—	—	—
12	1.0mg/L InterCont	C	10mg/L Cont	16	11-08-18	M2HG157392	↓	—	—	—
13	0.1mg/L InterCont	D	1.0mg/L Cont	15	4-11-18	H18-094C	↓	—	—	—
14	Hg 5701 ICV	E	↓	↓	↓	↓	0.25ml	↓	↓	↓
15	CCV	F	Hg 1.0mg/L Cal	↓	↓	H18-094A	0.10	↓	↓	↓
16	CCV	G	↓	↓	↓	↓	0.10	↓	↓	↓
17	CCV	H	↓	↓	↓	↓	0.10	↓	↓	↓
18	CRA	I	Hg 0.1mg/L Cont	↓	↓	H18-094D	0.20	↓	↓	↓
19	Std Cal	J	Hg 0.1mg/L Cal	↓	↓	H18-094B	0.20	↓	↓	↓
20	↓	K	↓	↓	↓	↓	0.50	↓	↓	↓

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
16-Inorganic Ventures
XX – Other (footnote Manuf.)

a

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Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
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	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2ml H_2SO_4	4	175000	3.2ml [illegible] 1ml KMnO4		H18-0340 H18-0472	100	0.2ug/L	DL354	4-03-18	4-10-18	RT
2								0.50				
3							200	1000				
4							100	2.5				
5								5.0				
6								0.0				
7								2.5				
8							200	1.0				
9							100	0.2				
10				To volume 15% HNO3		H18-015A	10	1.0	DL354	4-04-18	4-11-18	RT
11								0.1				
12								1.0				
13								0.1				
14				5ml Aqua Regia 15ml KMnO4		H18-0340 H18-0472	100	2.5ug/L				
15								1.0				
16								1.0				
17								1.0				
18								0.2				
19								0.2				
20								0.5				

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

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	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5701 StdCal	H18-094L	Hg 1.0mg/L Cal	15	4-11-18	H18-094A	0.10 ml			
2		M					0.25			
3		N					0.50			
4		O								
5	ICV	P	Hg 1.0mg/L Cont	15	4-11-18	H18-094C	0.25ml			
6	Aqua Regia	Q						15	6	191695
7	Hg 1.0mg/L InterCal	H18-096A	Hg 10mg/L Cal	15	7-02-18	H18-002C	1.0 ml			
8	0.1mg/L InterCal	B	1.0mg/L Cal	15	4-13-18	H18-096A				
9	1.0mg/L InterCont	C	10mg/L Cont	16	11-08-18	M2HG657382				
10	0.1mg/L InterCont	D	1.0mg/L Cont	15	4-13-18	H18-096C				
11	Hg 5700 ICV	E					0.25ml	1	6	191695
12	CCV	F	Hg 1.0mg/L Cal			H18-096A	0.20			
13	CRA	G	Hg 0.1mg/L Cont			H18-096D	0.20			
14	Std Cal	H	Hg 0.1mg/L Cal			H18-096B	0.20			
15		I					0.50			
16		J	Hg 1.0mg/L Cal			H18-096A	0.20			
17		K					0.25			
18		L					0.50			
19		m								
20	ICV	N	Hg 1.0mg/L Cont	15	4-13-18	H18-096C	0.25ml			

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Effective date : 02 Feb 2017 | Effective

	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1				5ml Aqua Regia		H18-0940						
2				15ml Amnd		H18-047R	100	1.0 ugl	DU354	4-04-18	4-11-18	RT
3								2.5				
4								5.0				
5								0.0				
6	45	6	186704					2.5				
7				③ ~~3.2ml H2SO4~~		~~H18-0340~~	60	1:3			4-4-18	
8				~~6ml HMnO4~~		~~H18-047R~~	10	1.0	DU354	4-06-18	4-13-18	RT
9				To volume 15%	HNO3	H18-015A		0.1				
10								1.0				
11	2ml H2SO4	4	178260	3.2ml H2SO4		H18-0340		0.1				
12				6ml HMnO4		H18-047R	100	2.5 ugl				
13							200	1.0				
14							100	0.2				
15								0.2				
16								0.5				
17							200	1.0				
18							100	2.5				
19								5.0				
20								0.0				
								2.5				

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = $Al(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

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b

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	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg-5700 CCV	H18-096O	H18-1.0mg/L Cal	15	4-13-18	H18-096A	0.20ml	1	6	191695
2	CCA	P	Hg-0.1mg/L Cont			H18-096D	0.20			
3	ICV	Q	Hg-1.0mg/L Cont			H18-096C	0.25			
4	ICV	R					0.25			
5	Hg-5700 ICV	EE	Hg-1.0mg/L Cont			H18-096C	0.25			
6	CCV	FF	Hg-1.0mg/L Cal			H18-096A	0.20			
7	CCA	GG	Hg-0.1mg/L Cont			H18-096D	0.20			
8	Std Cal	HH	Hg-0.1mg/L Cal			H18-096B	0.20			
9		II					0.50			
10		JJ	Hg-1.0mg/L Cal			H18-096A	0.20			
11		KK					0.25			
12		LL					0.50			
13		MM								
14	ICV	NN	Hg-1.0mg/L Cont	15	4-13-18	H18-096C	0.25ml			
15	CCV	OO	Hg-1.0mg/L Cal			H18-096A	0.20			
16	CCA	PP	Hg-0.1mg/L Cont			H18-096D	0.20			
17	Stannous Chloride	H18-099A	$SnCl_2$	4	3-09-19	175798 #7	200.02			
18		B				#7+8	200.02			
19		C				#8	200.04			
20	Hg-1.0mg/L Inter Cal	H18-100A	Hg-10mg/L Cal	15	7-02-18	H18-002C	1.0ml			

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	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2mlH2SO4	4	178260	3.2mlK2S2O8 1mlKMnO4		H18-034D H18-047R	200	1.0ug/L	DN354	4-06-18	4-13-18	RT
2	↓	↓	↓	↓	↓	↓	100	0.2	↓	↓	↓	↓
3							↓	2.5				
4	✓	✓	✓	✓	✓	✓	✓	2.5 ✓				
5							100	2.5				
6							200	1.0				
7							100	0.2				
8							↓	0.2				
9							✓	0.5				
10							200	1.0				
11							100	2.5				
12							↓	5.0				
13							↓	0.0				
14							✓	2.5				
15							200	1.0				
16	✓	✓	✓	✓	✓	✓	100	0.2 ✓	✓	✓	✓	✓
17	200	6	186764	—		—	200	10.1	DN354	4-09-18	10-09-18	RT
18	↓	↓	↓				↓	↓	↓	↓	↓	↓
19	✓	✓	✓				✓	✓	✓	✓	✓	✓
20	—			To volume 16/H1103		H18-015A	10	10	DN354	4-10-18	4-17-18	RT

Footnotes

Key (••) – Other Used

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C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

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	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 0.1mg/L Inter Cal	H18100B	Hg 1.0mg/L Cal	15	4-17-18	H18-100A	1.0mL			
2	1.0mg/L Inter Cont	C	1.0mg/L Cont	16	11-08-18	M2HG157392				
3	0.1mg/L Inter Cont	D	1.0mg/L Cont	5	4-17-18	H18-100C				
4	Hg 5700 ICV	E					0.25 ml	1	4	191695
5	CCV	F	Hg 1.0mg/L Cal			H18-100A	0.20			
6	CRA	G	Hg 0.1mg/L Cont			H18-100D	0.20			
7	Std Cal	H	Hg 0.1mg/L Cal			H18-100B	0.20			
8		I					0.50			
9		J	Hg 1.0mg/L Cal			H18-100A	0.20			
10		K					0.25			
11		L					0.50			
12		M								
13	ICV	N	Hg 1.0mg/L Cont	15	4-17-18	H18-100C	0.25ml			
14	CCV	O	Hg 1.0mg/L Cal			H18-100A	0.20			
15	CRA	P	Hg 0.1mg/L Cont			H18-100D	0.20			
16	ICV	Q	Hg 1.0mg/L Cont			H18-100C	0.25			
17	Hg 1.0mg/L Inter Cal	H18102A	Hg 1.0mg/L Cal	15	7-02-18	H18-002C	1.0ml			
18	0.1mg/L Inter Cal	B	1.0mg/L Cal	15	4-19-18	H18-102A				
19	1.0mg/L Inter Cont	C	1.0mg/L Cont	16	11-08-18	M2HG157392				
20	0.1mg/L Inter Cont	D	1.0mg/L Cont	15	4-19-18	H18-102C				

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14 – EMD
15 – Prepared in house
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XX – Other (footnote Manuf.)

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	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1				To w/w/0.15%	HNO3	H18-015A	10	0.1	DW354	4-10-18	4-17-18	RT
2								1.0				
3								0.1				
4	2ml H2SO4	4	17-3260	3.2ml H2SO4		H18-034D	100	2.5 µg/L				
5				6ml KMnO4		H18-047A	200	1.0				
6							100	0.2				
7								0.2				
8								0.5				
9							200	1.0				
10							100	2.5				
11								5.0				
12								0.0				
13								2.5				
14							200	1.0				
15							100	0.2				
16							100	2.5			4-12-18 DW354	
17				To w/w/0.15%	HNO3	H18-015A	10	1.0	DW354	4-12-18	4-19-18 ③	RT
18								0.1				
19								1.0				
20								0.1				

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

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b

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	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5701 ICV	H18102E	Hg 1.0 mg/L Cont	15	4-19-18	H18-102C	0.25ml			
2	CCV	F	Hg 1.0 mg/L Cal			H18-102A	0.10			
3	CCV	G					0.10			
4	CCV	H					0.10			
5	CRA	I	Hg 0.1 mg/L Cont			H18-102D	0.20			
6	Std Cal	J	Hg 0.1 mg/L Cal			H18-102B	0.20			
7		K					0.50			
8		L	Hg 1.0 mg/L Cal			H18-102A	0.10			
9		M					0.25			
10		N					0.50			
11		O								
12	ICV	P	Hg 1.0 mg/L Cont	15	4-19-18	H18-102C	0.25ml			
13	Aqua Regia	Q						15	6	1911695
14	Permanganate	R	Kmno4	6	10-23-18	177909 #2	100.01g			
15		S					100.02g			
16	Hg 1.0 mg/L Inter Cal	H18103A	Hg 10 mg/L Cal	15	7-02-18	H18-002C	1.0ml			
17	0.1 mg/L Inter Cal	B	1.0 mg/L Cal	15	4-20-18	H18-103A				
18	1.0 mg/L Inter Cont	C	10 mg/L Cont	16	11-08-18	M2HG157390A				
19	0.1 mg/L Inter Cont	D	1.0 mg/L Cont	15	4-20-18	H18-103C				
20	Hg 5700 ICV	E					0.25ml	1	6	1911695

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	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1				5ml Aqua Regia 15ml KMnO4		H18-1020 H18-0490	100	2.5ug/L	DL354	4-12-18	4-19-18	RT
2								1.0				
3								1.0				
4								1.0				
5								0.2				
6								0.2				
7								0.5				
8								1.0				
9								2.5				
10								5.0				
11								0.0				
12								2.5				
13	45	6	180764				60	1.3			4-12-18	
14							2000	5%			6-12-18	
15												
16				To volume 0.15% HNO3		H18-015A	10	1.0	DL354	4-13-18	4-20-18	RT
17								0.1				
18								1.0				
19								0.1				
20	2ml H2SO4	4	178260	3.2ml Na2S2O8 6ml KMnO4		H18-1020 H18-0490	100	2.5ug/L				

Footnotes

Key (••) – Other Used

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B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
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	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name DV354 4-13-18	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5700 ③ ICCV	H18/03F	Hg 1.0mg/L Cal	15	4-26-18	H18-103A	0.20 ml	1	16	191695
2	CRA	G	Hg 0.1mg/L Cont			H18-103D	0.20			
3	Std Cal	H	Hg 0.1mg/L Cal			H18-103B	0.20			
4		I	↓			↓	0.50			
5		J	Hg 1.0mg/L Cal			H18-103A	0.20			
6		K					0.25			
7		L	↓	↓	↓	↓	0.50 ↓			
8	↓	M								
9	ICV	N	Hg 1.0mg/L Cont	15	4-20-18	H18-103C	0.25 ml			
10	CCV	O	Hg 1.0mg/L Cal			H18-103A	0.20			
11	↓ CRA	↓ P	Hg 0.1mg/L Cont	↓	↓	H18-103D	0.20 ↓	↓	↓	↓
12	~~Hg 5700 ICV~~									
13	~~CCV~~									
14	Hg 1.0mg/L InterCal	H18105A	Hg 1.0mg/L Cal	15	7-02-18	H18-002C	1.0 ml			
15	0.1mg/L InterCal	B	1.0mg/L Cal	15	4-22-18	H18-105A				
16	1.0mg/L InterCont	C	10mg/L Cont	16	11-03-18	MQHG675332				
17	↓ 0.1mg/L InterCont	D	↓ 1.0mg/L Cont	15	4-22-18	H18-105C	↓			
18	Hg 5700 ICV	E	↓			↓	0.25 ml	1	16	191695
19	CCV	F	Hg 1.0mg/L Cal			H18-105A	0.20			
20	↓ CRA	↓ G	Hg 0.1mg/L Cont	↓	↓	H18-105D	0.20 ↓	↓	↓	↓

4-15-18 DV354

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	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2ml H2SO4	4	178260	2.2ml K2S2O8 1ml KMnO4	08 04	H18-1020 H18-0490	200	1.0ug/L	DU354	4-13-18	4-20-18	RT
2	↓	↓	↓	↓	↓	↓	100	0.2	↓	↓	↓	↓
3							↓	0.2				
4							↓	0.5				
5							200	1.0				
6							100	2.5				
7							↓	5.0				
8								0.0				
9							↓	2.5				
10							200	1.0				
11	↓	↓	↓	↓	↓	↓	100	0.2	↓	↓	↓	↓
12												
13												DU354 4-15-18
14				To vol in 0.15	HNO3	H18-0154	10	1.0	DU354	4-15-18	4-22-18	RT
15				↓	↓	↓	↓	0.1				
16								1.0				
17				↓	↓	↓	↓	0.1				
18	2ml H2SO4	4	178260	2.2ml K2S2O8 1ml KMnO4		H18-1020 H18-0490	100	2.5ug/L				
19	↓	↓	↓	↓	↓	↓	200	1.0				
20	↓	↓	↓	↓	↓	↓	100	0.2				

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

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b

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Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017		Effective

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5700 Std Cal	H18105H	Hg 0.1mg/L Cal	15	4-22-18	H18-105B	0.20ml	1	6	191695
2		I					0.50			
3		J	Hg 1.0mg/L Cal			H18-105A	0.20			
4		K					0.25			
5		L					0.50			
6		M								
7	ICV	N	Hg 1.0mg/L Cont	15	4-22-18	H18-105C	0.25ml			
8	CCV	O	Hg 1.0mg/L Cal			H18-105A	0.20			
9	CRA	P	Hg 0.1mg/L Cont			H18-105D	0.20			
10	Hg 1.0mg/L Inter Cal	H18107A	Hg 10mg/L Cal	15	7-02-18	H18-002C	1.0ml			
11	0.1mg/L Inter Cal	B	1.0mg/L Cal	15	4-24-18	H18-107A				
12	1.0mg/L Inter Cont	C	10mg/L Cont	16	11-08-18	MBHG159262				
13	0.1mg/L Inter Cont	D	1.0mg/L Cont	15	4-24-18	H18-107C				
14	Hg 5700 ICV	E					0.25ml	1	6	191695
15	CCV	F	Hg 1.0mg/L Cal			H18-107A	0.20			
16	CRA	G	Hg 0.1mg/L Cont			H18-107D	0.20			
17	Std Cal	H	Hg 0.1mg/L Cal			H18-107B	0.20			
18		I					0.50			
19		J	Hg 1.0mg/L Cal			H18-107A	0.20			
20		K					0.25			

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
16-Inorganic Ventures
XX – Other (footnote Manuf.)

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	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2ml H_2SO_4	4	178260	3.2ml $K_2S_2O_8$ 1ml $KMnO_4$		H18-1020 H18-0723	100	0.2ug/L	DU354	4-15-18	4-22-18	RT
2							100	0.5				
3							200	1.0				
4							100	2.5				
5								5.0				
6								0.0				
7								2.5				
8							200	1.0				
9							100	0.2				
10				To volu/0.15%	HNO_3	H18-015A	10	1.0	DU354	4-17-18	4-24-18	RT
11								0.1				
12								1.0				
13								0.1				
14	2ml H_2SO_4	4	178260	3.2ml $K_2S_2O_8$ 1ml $KMnO_4$		H18-1020 H18-0723	100	2.5ug/L				
15							200	1.0				
16							100	0.2				
17								0.2				
18								0.5				
19							200	1.0				
20							100	2.5				

Footnotes

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	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot # DIGSY 4-17-18	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5700 Std Cal	H18071	Hg 1.0mg/L Cont	15	4-24-18	H18-107C (3) A	0.50ml	1	6	191695
2	↓	M						↓	↓	↓
3	ICV	N	Hg 1.0mg/L Cont	15	4-24-18	H18-107C	0.25ml			
4	CCV	O	Hg 1.0mg/L Cal	↓	↓	H18-107A	0.20			
5	CRA	P	Hg 0.1mg/L Cont			H18-107D	0.20			
6	Hg 1.0mg/L Inter Cal	H18109A	Hg 10mg/L Cal	15	7-02-18	H18-002C	1.0ml			
7	0.1mg/L Inter Cal	B	1.0mg/L Cal	15	4-26-18	H18-109A				
8	1.0mg/L Inter Cont	C	10mg/L Cont	16	11-08-18	M2HG657392				
9	0.1mg/L Inter Cont	D	1.0mg/L Cont	15	4-26-18	H18-109C				
10	Hg 5701 ICV	E					0.25ml			
11	CCV	F	Hg 1.0mg/L Cal			H18-109A	0.10			
12	CCV	G					0.10			
13	CCV	H					0.10			
14	CRA	I	Hg 0.1mg/L Cont			H18-109D	0.20			
15	Std Cal	J	Hg 0.1mg/L Cal			H18-109B	0.20			
16		K					0.50			
17		L	Hg 1.0mg/L Cal			H18-109A	0.10			
18		M					0.25			
19		N					0.50			
20		O								

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10 – Plasma Pure
11 – Solutions Plus
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	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2ml HCl	4	178210	3.2ml 525208 1ml Kimmay		H18-1028 H18-0726B	100	5.0ug/L	DJ354	4-17-18	4-24-18	RT
2								0.0				
3								2.5				
4							200	1.0				
5							100	0.2				
6				To volu 015	HNO3	H18-015A	10	1.0	DJ354	4-19-18	4-26-18	RT
7								0.1				
8								1.0				
9								0.1				
10				5ml Aqua Regia 15ml Kimmay		H18-1019 H18-0726B	100	2.5ug/L				
11								1.0				
12								1.0				
13								1.0				
14								0.2				
15								0.2				
16								0.5				
17								1.0				
18								2.5				
19								5.0				
20								0.0				

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