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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 04/19/18

SDG# ATH85-V.2

GROUP	SAMPLE NUMBERS
1934499	9570341-9570353

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: 05/22/2018**

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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Table of Contents for SDG# ATH85

1. Sample Reference List 3
2. Preservation Data 4
3. Methodology Summary/Reference 5
4. Analysis Reports / Field Chain of Custody 7
5. Volatiles by GC/MS Data 51
    a. Case Narrative/Conformance Summary 52
    b. Quality Control and Calibration Summary Forms 55
    c. Sample Data 79
    d. Standards Data 167
    e. Raw QC Data 344
6. Semivolatiles by GC/MS Data 367
    a. Case Narrative/Conformance Summary 368
    b. Quality Control and Calibration Summary Forms 371
    c. Sample Data 406
    d. Standards Data 430
    e. Raw QC Data 690
    f. Extraction/Distillation/Digestion Logs 712
7. Metals in Liquid Data 714
    a. Case Narrative/Conformance Summary 715
    b. Sample Data 718
    c. Quality Control and Calibration Summary Forms 726
    d. Raw Data 811
        i. ICP Data 812
        ii. ICP-MS Data 1038
        iii. Mercury Data 1087
    e. Extraction/Distillation/Digestion Logs 1114

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Sample Reference List for SDG Number ATH85
with a Data Package Type of I

11289 - Stantec

Project: Amtrak Wilmington

Lab Sample Number	Client Sample ID	Collection Date	Date Received
9570341	NY-MW-11R	04/19/2018 08:30	04/20/2018 17:55
9570342	NY-MW-11R	04/19/2018 08:30	04/20/2018 17:55
9570343	NY-MW-3	04/19/2018 12:54	04/20/2018 17:55
9570344	NY-MW-5	04/19/2018 09:35	04/20/2018 17:55
9570345	NY-MW-19	04/19/2018 12:05	04/20/2018 17:55
9570346	NY-MW-4	04/19/2018 13:40	04/20/2018 17:55
9570347	NY-MW-30	04/19/2018 09:25	04/20/2018 17:55
9570348	NY-MW-30	04/19/2018 09:25	04/20/2018 17:55
9570349	NY-MW-31	04/19/2018 11:55	04/20/2018 17:55
9570350	NY-MW-31	04/19/2018 11:55	04/20/2018 17:55
9570351	NY-MW-2	04/19/2018 13:35	04/20/2018 17:55
9570352	EB_20180419	04/19/2018 14:40	04/20/2018 17:55
9570353	Trip Blank	04/19/2018 00:00	04/20/2018 17:55

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Sample pH Log

SDG: ATH85

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
9570341	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/21/2018 1:16:04AM	24788
9570341	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/30/2018 7:15:49PM	10002
9570341	153A		N/A	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/20/2018 9:50:08PM	1201
9570341	153B		N/A	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/20/2018 9:50:04PM	1201
9570342	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/21/2018 1:04:37AM	24788
9570343	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/30/2018 7:15:46PM	10002
9570344	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/30/2018 7:15:46PM	10002
9570345	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/30/2018 7:15:46PM	10002
9570346	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/30/2018 7:15:46PM	10002
9570347	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/21/2018 1:20:35AM	24788
9570347	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/30/2018 7:15:47PM	10002
9570347	153A		N/A	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/20/2018 9:51:18PM	1201
9570347	153B		N/A	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/20/2018 9:51:26PM	1201
9570348	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/21/2018 1:17:35AM	24788
9570349	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/21/2018 1:22:21AM	24788
9570349	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/30/2018 7:15:47PM	10002
9570349	153A		N/A	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/20/2018 9:50:12PM	1201
9570349	153B		N/A	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/20/2018 9:50:17PM	1201
9570350	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/21/2018 1:08:23AM	24788
9570351	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/30/2018 7:15:47PM	10002
9570352	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/21/2018 1:06:23AM	24788
9570352	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/30/2018 7:15:47PM	10002
9570352	153A		N/A	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/20/2018 9:50:00PM	1201
9570352	153B		N/A	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/20/2018 9:48:53PM	1201
9570353	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	4/30/2018 7:15:47PM	10002

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
01750 Calcium
01754 Iron
01757 Magnesium
01762 Potassium
01767 Sodium

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.

06024 Antimony
06025 Arsenic
06026 Barium
06027 Beryllium
06028 Cadmium
06031 Chromium
06032 Cobalt
06033 Copper
06035 Lead

06037 Manganese
06039 Nickel
06041 Selenium
06042 Silver
06045 Thallium
06048 Vanadium
06049 Zinc

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

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 6020, September 1994.

06050 ICPMS-Water, 3020A - U3

The sample is digested with nitric acid.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 3020A, July 1992

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

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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: May 15, 2018 17:01

Project: Amtrak Wilmington

Account #: 11289
Group Number: 1934499
SDG: ATH85
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-11R Grab Groundwater	04/19/2018 08:30	9570341
NY-MW-11R Filtered Grab Groundwater	04/19/2018 08:30	9570342
NY-MW-3 Grab Groundwater	04/19/2018 12:54	9570343
NY-MW-5 Grab Groundwater	04/19/2018 09:35	9570344
NY-MW-19 Grab Groundwater	04/19/2018 12:05	9570345
NY-MW-4 Grab Groundwater	04/19/2018 13:40	9570346
NY-MW-30 Grab Groundwater	04/19/2018 09:25	9570347
NY-MW-30 Filtered Grab Groundwater	04/19/2018 09:25	9570348
NY-MW-31 Grab Groundwater	04/19/2018 11:55	9570349
NY-MW-31 Filtered Grab Groundwater	04/19/2018 11:55	9570350
NY-MW-2 Grab Groundwater	04/19/2018 13:35	9570351
EB_20180419 Grab Water	04/19/2018 14:40	9570352
Trip Blank Water	04/19/2018	9570353

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

Sample Description: **NY-MW-11R Grab Groundwater**
Amtrak Wilmington

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/20/2018 17:55
Collection Date/Time: 04/19/2018 08:30
SDG#: ATH85-01

Stantec
ELLE Sample #: WW 9570341
ELLE Group #: 1934499
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-11R Grab Groundwater**
Amtrak Wilmington

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/20/2018 17:55
Collection Date/Time: 04/19/2018 08:30
SDG#: ATH85-01

Stantec
ELLE Sample #: WW 9570341
ELLE Group #: 1934499
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	< 31	31	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	< 31	31	1
14240	N-Nitroso-di-n-propylamine	621-64-7	< 1	1	1

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Analysis Report

Sample Description: **NY-MW-11R Grab Groundwater**
Amtrak Wilmington

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/20/2018 17:55
Collection Date/Time: 04/19/2018 08:30
SDG#: ATH85-01

Stantec
ELLE Sample #: WW 9570341
ELLE Group #: 1934499
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
Metals	**SW-846 6010B**		**mg/l**	**mg/l**	
01743	Aluminum	7429-90-5	9.97	0.200	1
01750	Calcium	7440-70-2	64.2	0.200	1
01754	Iron	7439-89-6	10.6	0.200	1
01757	Magnesium	7439-95-4	45.4	0.100	1
01762	Potassium	7440-09-7	9.71	0.500	1
01767	Sodium	7440-23-5	494	5.00	5
	SW-846 6020		**mg/l**	**mg/l**	
06024	Antimony	7440-36-0	< 0.0010	0.0010	1
06025	Arsenic	7440-38-2	0.0032	0.0020	1
06026	Barium	7440-39-3	0.423	0.0020	1
06027	Beryllium	7440-41-7	< 0.00050	0.00050	1
06028	Cadmium	7440-43-9	< 0.00050	0.00050	1
06031	Chromium	7440-47-3	0.0126	0.0020	1
06032	Cobalt	7440-48-4	0.0099	0.00050	1
06033	Copper	7440-50-8	0.0126	0.0020	1
06035	Lead	7439-92-1	0.0275	0.0010	1
06037	Manganese	7439-96-5	0.557	0.0020	1
06039	Nickel	7440-02-0	0.0086	0.0020	1
06041	Selenium	7782-49-2	< 0.0020	0.0020	1
06042	Silver	7440-22-4	< 0.00050	0.00050	1
06045	Thallium	7440-28-0	< 0.00050	0.00050	1
06048	Vanadium	7440-62-2	0.0158	0.00050	1
06049	Zinc	7440-66-6	0.0847	0.0150	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: **NY-MW-11R Grab Groundwater Amtrak Wilmington**

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/20/2018 17:55
Collection Date/Time: 04/19/2018 08:30
SDG#: ATH85-01

Stantec
ELLE Sample #: WW 9570341
ELLE Group #: 1934499
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	W181201AA	04/30/2018 12:26	Nicole S Lamoreaux	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W181201AA	04/30/2018 12:26	Nicole S Lamoreaux	1
14240	TCL SW846 8270C MINI	SW-846 8270C	1	18113WAE026	04/25/2018 15:19	Brandon H Smith	1
00813	BNA Water Extraction	SW-846 3510C	1	18113WAE026	04/23/2018 18:40	Christine E Gleim	1
01743	Aluminum	SW-846 6010B	1	181130184807	05/02/2018 18:24	Cindy M Gehman	1
01750	Calcium	SW-846 6010B	1	181130184807	04/30/2018 11:57	Suzanne M Will	1
01754	Iron	SW-846 6010B	1	181130184807	04/30/2018 11:57	Suzanne M Will	1
01757	Magnesium	SW-846 6010B	1	181130184807	04/30/2018 11:57	Suzanne M Will	1
01762	Potassium	SW-846 6010B	1	181130184807	04/30/2018 11:57	Suzanne M Will	1
01767	Sodium	SW-846 6010B	1	181130184807	05/02/2018 02:48	Jonathan J Allen	5
06024	Antimony	SW-846 6020	1	181270605005A	05/11/2018 06:24	Choon Y Tian	1
06025	Arsenic	SW-846 6020	1	181270605005A	05/11/2018 06:24	Choon Y Tian	1
06026	Barium	SW-846 6020	1	181270605005D	05/11/2018 06:24	Choon Y Tian	1
06027	Beryllium	SW-846 6020	1	181270605005A	05/11/2018 06:24	Choon Y Tian	1
06028	Cadmium	SW-846 6020	1	181270605005A	05/11/2018 06:24	Choon Y Tian	1
06031	Chromium	SW-846 6020	1	181270605005A	05/11/2018 06:24	Choon Y Tian	1
06032	Cobalt	SW-846 6020	1	181270605005A	05/11/2018 06:24	Choon Y Tian	1
06033	Copper	SW-846 6020	1	181270605005A	05/11/2018 06:24	Choon Y Tian	1
06035	Lead	SW-846 6020	1	181270605005A	05/11/2018 06:24	Choon Y Tian	1
06037	Manganese	SW-846 6020	1	181270605005A	05/11/2018 06:24	Choon Y Tian	1
06039	Nickel	SW-846 6020	1	181270605005A	05/11/2018 06:24	Choon Y Tian	1
06041	Selenium	SW-846 6020	1	181270605005B	05/11/2018 06:24	Choon Y Tian	1
06042	Silver	SW-846 6020	1	181270605005A	05/11/2018 06:24	Choon Y Tian	1
06045	Thallium	SW-846 6020	1	181270605005A	05/11/2018 06:24	Choon Y Tian	1
06048	Vanadium	SW-846 6020	1	181270605005A	05/11/2018 06:24	Choon Y Tian	1
06049	Zinc	SW-846 6020	1	181270605005A	05/11/2018 06:24	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	181130571304	04/26/2018 07:38	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	181130184807	04/24/2018 23:22	Denise L Trimby	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	181270605005	05/08/2018 05:20	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	181130571304	04/25/2018 23:15	Annamaria Kuhns	1

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Analysis Report

Sample Description: **NY-MW-11R Filtered Grab Groundwater Amtrak Wilmington**

Project Name: **Amtrak Wilmington**

Stantec
ELLE Sample #: **WW 9570342**
ELLE Group #: **1934499**
Matrix: Groundwater

Submittal Date/Time: 04/20/2018 17:55
Collection Date/Time: 04/19/2018 08:30
SDG#: ATH85-02

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
01750	Calcium	7440-70-2	64.0	0.200	1
01754	Iron	7439-89-6	1.30	0.200	1
01757	Magnesium	7439-95-4	45.0	0.100	1
01762	Potassium	7440-09-7	9.17	0.500	1
01767	Sodium	7440-23-5	470	5.00	5
		SW-846 6020	**mg/l**	**mg/l**	
06024	Antimony	7440-36-0	< 0.0010	0.0010	1
06025	Arsenic	7440-38-2	< 0.0020	0.0020	1
06026	Barium	7440-39-3	0.364	0.0020	1
06027	Beryllium	7440-41-7	< 0.00050	0.00050	1
06028	Cadmium	7440-43-9	< 0.00050	0.00050	1
06031	Chromium	7440-47-3	< 0.0020	0.0020	1
06032	Cobalt	7440-48-4	0.0064	0.00050	1
06033	Copper	7440-50-8	< 0.0020	0.0020	1
06035	Lead	7439-92-1	< 0.0010	0.0010	1
06037	Manganese	7439-96-5	0.463	0.0020	1
06039	Nickel	7440-02-0	0.0032	0.0020	1
06041	Selenium	7782-49-2	< 0.0020	0.0020	1
06042	Silver	7440-22-4	< 0.00050	0.00050	1
06045	Thallium	7440-28-0	< 0.00050	0.00050	1
06048	Vanadium	7440-62-2	< 0.00050	0.00050	1
06049	Zinc	7440-66-6	0.0313	0.0150	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	181130184807	05/02/2018 18:27	Cindy M Gehman	1
01750	Calcium	SW-846 6010B	1	181130184807	04/30/2018 12:00	Suzanne M Will	1
01754	Iron	SW-846 6010B	1	181130184807	04/30/2018 12:00	Suzanne M Will	1
01757	Magnesium	SW-846 6010B	1	181130184807	04/30/2018 12:00	Suzanne M Will	1
01762	Potassium	SW-846 6010B	1	181130184807	04/30/2018 12:00	Suzanne M Will	1
01767	Sodium	SW-846 6010B	1	181130184807	05/02/2018 02:58	Jonathan J Allen	5
06024	Antimony	SW-846 6020	1	181270605005A	05/11/2018 06:27	Choon Y Tian	1
06025	Arsenic	SW-846 6020	1	181270605005A	05/11/2018 06:27	Choon Y Tian	1
06026	Barium	SW-846 6020	1	181270605005D	05/11/2018 06:27	Choon Y Tian	1

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Analysis Report

Sample Description: **NY-MW-11R Filtered Grab Groundwater**
Amtrak Wilmington

Stantec
ELLE Sample #: WW 9570342
ELLE Group #: 1934499
Matrix: Groundwater

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/20/2018 17:55
Collection Date/Time: 04/19/2018 08:30
SDG#: ATH85-02

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06027	Beryllium	SW-846 6020	1	181270605005A	05/11/2018 06:27	Choon Y Tian	1
06028	Cadmium	SW-846 6020	1	181270605005A	05/11/2018 06:27	Choon Y Tian	1
06031	Chromium	SW-846 6020	1	181270605005A	05/11/2018 06:27	Choon Y Tian	1
06032	Cobalt	SW-846 6020	1	181270605005A	05/11/2018 06:27	Choon Y Tian	1
06033	Copper	SW-846 6020	1	181270605005A	05/11/2018 06:27	Choon Y Tian	1
06035	Lead	SW-846 6020	1	181270605005A	05/11/2018 06:27	Choon Y Tian	1
06037	Manganese	SW-846 6020	1	181270605005A	05/11/2018 06:27	Choon Y Tian	1
06039	Nickel	SW-846 6020	1	181270605005A	05/11/2018 06:27	Choon Y Tian	1
06041	Selenium	SW-846 6020	1	181270605005B	05/11/2018 06:27	Choon Y Tian	1
06042	Silver	SW-846 6020	1	181270605005A	05/11/2018 06:27	Choon Y Tian	1
06045	Thallium	SW-846 6020	1	181270605005A	05/11/2018 06:27	Choon Y Tian	1
06048	Vanadium	SW-846 6020	1	181270605005A	05/11/2018 06:27	Choon Y Tian	1
06049	Zinc	SW-846 6020	1	181270605005A	05/11/2018 06:27	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	181130571304	04/26/2018 07:40	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	181130184807	04/24/2018 23:22	Denise L Trimby	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	181270605005	05/08/2018 05:20	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	181130571304	04/25/2018 23:15	Annamaria Kuhns	1

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Analysis Report

Sample Description: **NY-MW-3 Grab Groundwater**
Amtrak Wilmington

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/20/2018 17:55
Collection Date/Time: 04/19/2018 12:54
SDG#: ATH85-03

Stantec
ELLE Sample #: WW 9570343
ELLE Group #: 1934499
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	19	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	15	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	W181201AA	04/30/2018 12:50	Nicole S Lamoreaux	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W181201AA	04/30/2018 12:50	Nicole S Lamoreaux	1

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Analysis Report

Sample Description: **NY-MW-5 Grab Groundwater Amtrak Wilmington**

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/20/2018 17:55
Collection Date/Time: 04/19/2018 09:35
SDG#: ATH85-04

Stantec
ELLE Sample #: WW 9570344
ELLE Group #: 1934499
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

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	W181201AA	04/30/2018 13:14	Nicole S Lamoreaux	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W181201AA	04/30/2018 13:14	Nicole S Lamoreaux	1

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Analysis Report

Sample Description: **NY-MW-19 Grab Groundwater Amtrak Wilmington**

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/20/2018 17:55
Collection Date/Time: 04/19/2018 12:05
SDG#: ATH85-05

Stantec
ELLE Sample #: WW 9570345
ELLE Group #: 1934499
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	2	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	W181201AA	04/30/2018 13:38	Nicole S Lamoreaux	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W181201AA	04/30/2018 13:38	Nicole S Lamoreaux	1

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Analysis Report

Sample Description: **NY-MW-4 Grab Groundwater**
Amtrak Wilmington

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/20/2018 17:55
Collection Date/Time: 04/19/2018 13:40
SDG#: ATH85-06

Stantec
ELLE Sample #: WW 9570346
ELLE Group #: 1934499
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

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	W181201AA	04/30/2018 14:02	Nicole S Lamoreaux	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W181201AA	04/30/2018 14:02	Nicole S Lamoreaux	1

Sample Description: **NY-MW-30 Grab Groundwater Amtrak Wilmington**

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/20/2018 17:55
Collection Date/Time: 04/19/2018 09:25
SDG#: ATH85-07

Stantec
ELLE Sample #: **WW 9570347**
ELLE Group #: **1934499**
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	< 200	200	10
10335	Benzene	71-43-2	< 10	10	10
10335	Bromodichloromethane	75-27-4	< 10	10	10
10335	Bromoform	75-25-2	< 40	40	10
10335	Bromomethane	74-83-9	< 10	10	10
10335	2-Butanone	78-93-3	< 100	100	10
10335	Carbon Disulfide	75-15-0	< 50	50	10
10335	Carbon Tetrachloride	56-23-5	< 10	10	10
10335	Chlorobenzene	108-90-7	< 10	10	10
10335	Chloroethane	75-00-3	< 10	10	10
10335	Chloroform	67-66-3	< 10	10	10
10335	Chloromethane	74-87-3	< 10	10	10
10335	Dibromochloromethane	124-48-1	< 10	10	10
10335	1,1-Dichloroethane	75-34-3	< 10	10	10
10335	1,2-Dichloroethane	107-06-2	< 10	10	10
10335	1,1-Dichloroethene	75-35-4	< 10	10	10
10335	cis-1,2-Dichloroethene	156-59-2	91	10	10
10335	trans-1,2-Dichloroethene	156-60-5	< 10	10	10
10335	1,2-Dichloropropane	78-87-5	< 10	10	10
10335	cis-1,3-Dichloropropene	10061-01-5	< 10	10	10
10335	trans-1,3-Dichloropropene	10061-02-6	< 10	10	10
10335	Ethylbenzene	100-41-4	< 10	10	10
10335	2-Hexanone	591-78-6	< 100	100	10
10335	4-Methyl-2-pentanone	108-10-1	< 100	100	10
10335	Methylene Chloride	75-09-2	< 10	10	10
10335	Styrene	100-42-5	< 50	50	10
10335	1,1,2,2-Tetrachloroethane	79-34-5	< 10	10	10
10335	Tetrachloroethene	127-18-4	< 10	10	10
10335	Toluene	108-88-3	< 10	10	10
10335	1,1,1-Trichloroethane	71-55-6	< 10	10	10
10335	1,1,2-Trichloroethane	79-00-5	< 10	10	10
10335	Trichloroethene	79-01-6	7,700	100	100
10335	Vinyl Chloride	75-01-4	< 10	10	10
10335	Xylene (Total)	1330-20-7	< 10	10	10
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-30 Grab Groundwater**
Amtrak Wilmington

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/20/2018 17:55
Collection Date/Time: 04/19/2018 09:25
SDG#: ATH85-07

Stantec
ELLE Sample #: WW 9570347
ELLE Group #: 1934499
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

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Analysis Report

Sample Description: **NY-MW-30 Grab Groundwater**
Amtrak Wilmington

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/20/2018 17:55
Collection Date/Time: 04/19/2018 09:25
SDG#: ATH85-07

Stantec
ELLE Sample #: WW 9570347
ELLE Group #: 1934499
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
Metals	**SW-846 6010B**		**mg/l**	**mg/l**	
01743	Aluminum	7429-90-5	< 0.200	0.200	1
01750	Calcium	7440-70-2	43.9	0.200	1
01754	Iron	7439-89-6	0.871	0.200	1
01757	Magnesium	7439-95-4	18.9	0.100	1
01762	Potassium	7440-09-7	5.18	0.500	1
01767	Sodium	7440-23-5	61.5	1.00	1
	SW-846 6020		**mg/l**	**mg/l**	
06024	Antimony	7440-36-0	< 0.0010	0.0010	1
06025	Arsenic	7440-38-2	< 0.0020	0.0020	1
06026	Barium	7440-39-3	0.141	0.0020	1
06027	Beryllium	7440-41-7	< 0.00050	0.00050	1
06028	Cadmium	7440-43-9	< 0.00050	0.00050	1
06031	Chromium	7440-47-3	< 0.0020	0.0020	1
06032	Cobalt	7440-48-4	0.0104	0.00050	1
06033	Copper	7440-50-8	< 0.0020	0.0020	1
06035	Lead	7439-92-1	< 0.0010	0.0010	1
06037	Manganese	7439-96-5	1.38	0.0020	1
06039	Nickel	7440-02-0	0.0133	0.0020	1
06041	Selenium	7782-49-2	< 0.0020	0.0020	1
06042	Silver	7440-22-4	< 0.00050	0.00050	1
06045	Thallium	7440-28-0	< 0.00050	0.00050	1
06048	Vanadium	7440-62-2	< 0.00050	0.00050	1
06049	Zinc	7440-66-6	< 0.0150	0.0150	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.

Sample Description: **NY-MW-30 Grab Groundwater**
Amtrak Wilmington

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/20/2018 17:55
Collection Date/Time: 04/19/2018 09:25
SDG#: ATH85-07

Stantec
ELLE Sample #: WW 9570347
ELLE Group #: 1934499
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	W181201AA	04/30/2018 16:47	Nicole S Lamoreaux	10
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	W181201AA	04/30/2018 17:11	Nicole S Lamoreaux	100
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W181201AA	04/30/2018 16:47	Nicole S Lamoreaux	10
01163	GC/MS VOA Water Prep	SW-846 5030B	2	W181201AA	04/30/2018 17:11	Nicole S Lamoreaux	100
14240	TCL SW846 8270C MINI	SW-846 8270C	1	18113WAE026	04/25/2018 15:47	Brandon H Smith	1
00813	BNA Water Extraction	SW-846 3510C	1	18113WAE026	04/23/2018 18:40	Christine E Gleim	1
01743	Aluminum	SW-846 6010B	1	181130184807	05/04/2018 00:48	Jonathan J Allen	1
01750	Calcium	SW-846 6010B	1	181130184807	04/30/2018 12:10	Suzanne M Will	1
01754	Iron	SW-846 6010B	1	181130184807	04/30/2018 12:10	Suzanne M Will	1
01757	Magnesium	SW-846 6010B	1	181130184807	04/30/2018 12:10	Suzanne M Will	1
01762	Potassium	SW-846 6010B	1	181130184807	04/30/2018 12:10	Suzanne M Will	1
01767	Sodium	SW-846 6010B	1	181130184807	04/30/2018 12:10	Suzanne M Will	1
06024	Antimony	SW-846 6020	1	181270605005A	05/11/2018 06:30	Choon Y Tian	1
06025	Arsenic	SW-846 6020	1	181270605005A	05/11/2018 06:30	Choon Y Tian	1
06026	Barium	SW-846 6020	1	181270605005D	05/11/2018 06:30	Choon Y Tian	1
06027	Beryllium	SW-846 6020	1	181270605005A	05/11/2018 06:30	Choon Y Tian	1
06028	Cadmium	SW-846 6020	1	181270605005A	05/11/2018 06:30	Choon Y Tian	1
06031	Chromium	SW-846 6020	1	181270605005A	05/11/2018 06:30	Choon Y Tian	1
06032	Cobalt	SW-846 6020	1	181270605005A	05/11/2018 06:30	Choon Y Tian	1
06033	Copper	SW-846 6020	1	181270605005A	05/11/2018 06:30	Choon Y Tian	1
06035	Lead	SW-846 6020	1	181270605005A	05/11/2018 06:30	Choon Y Tian	1
06037	Manganese	SW-846 6020	1	181270605005A	05/11/2018 06:30	Choon Y Tian	1
06039	Nickel	SW-846 6020	1	181270605005A	05/11/2018 06:30	Choon Y Tian	1
06041	Selenium	SW-846 6020	1	181270605005B	05/11/2018 06:30	Choon Y Tian	1
06042	Silver	SW-846 6020	1	181270605005A	05/11/2018 06:30	Choon Y Tian	1
06045	Thallium	SW-846 6020	1	181270605005A	05/11/2018 06:30	Choon Y Tian	1
06048	Vanadium	SW-846 6020	1	181270605005A	05/11/2018 06:30	Choon Y Tian	1
06049	Zinc	SW-846 6020	1	181270605005A	05/11/2018 06:30	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	181130571304	04/26/2018 07:42	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	181130184807	04/24/2018 23:22	Denise L Trimby	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	181270605005	05/08/2018 05:20	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	181130571304	04/25/2018 23:15	Annamaria Kuhns	1

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Analysis Report

Sample Description: **NY-MW-30 Filtered Grab Groundwater**
Amtrak Wilmington

Stantec
ELLE Sample #: WW 9570348
ELLE Group #: 1934499
Matrix: Groundwater

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/20/2018 17:55
Collection Date/Time: 04/19/2018 09:25
SDG#: ATH85-08

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
01750	Calcium	7440-70-2	42.8	0.200	1
01754	Iron	7439-89-6	0.817	0.200	1
01757	Magnesium	7439-95-4	18.4	0.100	1
01762	Potassium	7440-09-7	5.03	0.500	1
01767	Sodium	7440-23-5	60.0	1.00	1
		SW-846 6020	**mg/l**	**mg/l**	
06024	Antimony	7440-36-0	< 0.0010	0.0010	1
06025	Arsenic	7440-38-2	< 0.0020	0.0020	1
06026	Barium	7440-39-3	0.142	0.0020	1
06027	Beryllium	7440-41-7	< 0.00050	0.00050	1
06028	Cadmium	7440-43-9	< 0.00050	0.00050	1
06031	Chromium	7440-47-3	< 0.0020	0.0020	1
06032	Cobalt	7440-48-4	0.0099	0.00050	1
06033	Copper	7440-50-8	< 0.0020	0.0020	1
06035	Lead	7439-92-1	< 0.0010	0.0010	1
06037	Manganese	7439-96-5	1.34	0.0020	1
06039	Nickel	7440-02-0	0.0120	0.0020	1
06041	Selenium	7782-49-2	< 0.0020	0.0020	1
06042	Silver	7440-22-4	< 0.00050	0.00050	1
06045	Thallium	7440-28-0	< 0.00050	0.00050	1
06048	Vanadium	7440-62-2	0.00051	0.00050	1
06049	Zinc	7440-66-6	< 0.0150	0.0150	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	181130184807	05/02/2018 18:40	Cindy M Gehman	1
01750	Calcium	SW-846 6010B	1	181130184807	04/30/2018 12:13	Suzanne M Will	1
01754	Iron	SW-846 6010B	1	181130184807	04/30/2018 12:13	Suzanne M Will	1
01757	Magnesium	SW-846 6010B	1	181130184807	04/30/2018 12:13	Suzanne M Will	1
01762	Potassium	SW-846 6010B	1	181130184807	04/30/2018 12:13	Suzanne M Will	1
01767	Sodium	SW-846 6010B	1	181130184807	04/30/2018 12:13	Suzanne M Will	1
06024	Antimony	SW-846 6020	1	181270605005A	05/11/2018 06:33	Choon Y Tian	1
06025	Arsenic	SW-846 6020	1	181270605005A	05/11/2018 06:33	Choon Y Tian	1
06026	Barium	SW-846 6020	1	181270605005D	05/11/2018 06:33	Choon Y Tian	1

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Analysis Report

Sample Description: **NY-MW-30 Filtered Grab Groundwater**
Amtrak Wilmington

Stantec
ELLE Sample #: WW 9570348
ELLE Group #: 1934499
Matrix: Groundwater

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/20/2018 17:55
Collection Date/Time: 04/19/2018 09:25
SDG#: ATH85-08

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06027	Beryllium	SW-846 6020	1	181270605005A	05/11/2018 06:33	Choon Y Tian	1
06028	Cadmium	SW-846 6020	1	181270605005A	05/11/2018 06:33	Choon Y Tian	1
06031	Chromium	SW-846 6020	1	181270605005A	05/11/2018 06:33	Choon Y Tian	1
06032	Cobalt	SW-846 6020	1	181270605005A	05/11/2018 06:33	Choon Y Tian	1
06033	Copper	SW-846 6020	1	181270605005A	05/11/2018 06:33	Choon Y Tian	1
06035	Lead	SW-846 6020	1	181270605005A	05/11/2018 06:33	Choon Y Tian	1
06037	Manganese	SW-846 6020	1	181270605005A	05/11/2018 06:33	Choon Y Tian	1
06039	Nickel	SW-846 6020	1	181270605005A	05/11/2018 06:33	Choon Y Tian	1
06041	Selenium	SW-846 6020	1	181270605005B	05/11/2018 06:33	Choon Y Tian	1
06042	Silver	SW-846 6020	1	181270605005A	05/11/2018 06:33	Choon Y Tian	1
06045	Thallium	SW-846 6020	1	181270605005A	05/11/2018 06:33	Choon Y Tian	1
06048	Vanadium	SW-846 6020	1	181270605005A	05/11/2018 06:33	Choon Y Tian	1
06049	Zinc	SW-846 6020	1	181270605005A	05/11/2018 06:33	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	181130571304	04/26/2018 07:44	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	181130184807	04/24/2018 23:22	Denise L Trimby	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	181270605005	05/08/2018 05:20	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	181130571304	04/25/2018 23:15	Annamaria Kuhns	1

Sample Description: **NY-MW-31 Grab Groundwater**
Amtrak Wilmington

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/20/2018 17:55
Collection Date/Time: 04/19/2018 11:55
SDG#: ATH85-09

Stantec
ELLE Sample #: WW 9570349
ELLE Group #: 1934499
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	< 400	400	20
10335	Benzene	71-43-2	< 20	20	20
10335	Bromodichloromethane	75-27-4	< 20	20	20
10335	Bromoform	75-25-2	< 80	80	20
10335	Bromomethane	74-83-9	< 20	20	20
10335	2-Butanone	78-93-3	< 200	200	20
10335	Carbon Disulfide	75-15-0	< 100	100	20
10335	Carbon Tetrachloride	56-23-5	< 20	20	20
10335	Chlorobenzene	108-90-7	< 20	20	20
10335	Chloroethane	75-00-3	< 20	20	20
10335	Chloroform	67-66-3	< 20	20	20
10335	Chloromethane	74-87-3	< 20	20	20
10335	Dibromochloromethane	124-48-1	< 20	20	20
10335	1,1-Dichloroethane	75-34-3	< 20	20	20
10335	1,2-Dichloroethane	107-06-2	< 20	20	20
10335	1,1-Dichloroethene	75-35-4	< 20	20	20
10335	cis-1,2-Dichloroethene	156-59-2	1,100	20	20
10335	trans-1,2-Dichloroethene	156-60-5	< 20	20	20
10335	1,2-Dichloropropane	78-87-5	< 20	20	20
10335	cis-1,3-Dichloropropene	10061-01-5	< 20	20	20
10335	trans-1,3-Dichloropropene	10061-02-6	< 20	20	20
10335	Ethylbenzene	100-41-4	< 20	20	20
10335	2-Hexanone	591-78-6	< 200	200	20
10335	4-Methyl-2-pentanone	108-10-1	< 200	200	20
10335	Methylene Chloride	75-09-2	< 20	20	20
10335	Styrene	100-42-5	< 100	100	20
10335	1,1,2,2-Tetrachloroethane	79-34-5	< 20	20	20
10335	Tetrachloroethene	127-18-4	< 20	20	20
10335	Toluene	108-88-3	< 20	20	20
10335	1,1,1-Trichloroethane	71-55-6	< 20	20	20
10335	1,1,2-Trichloroethane	79-00-5	< 20	20	20
10335	Trichloroethene	79-01-6	11,000	200	200
10335	Vinyl Chloride	75-01-4	< 20	20	20
10335	Xylene (Total)	1330-20-7	< 20	20	20
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-31 Grab Groundwater**
Amtrak Wilmington

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/20/2018 17:55
Collection Date/Time: 04/19/2018 11:55
SDG#: ATH85-09

Stantec
ELLE Sample #: WW 9570349
ELLE Group #: 1934499
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	< 31	31	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	< 31	31	1
14240	N-Nitroso-di-n-propylamine	621-64-7	< 1	1	1

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Analysis Report

Sample Description: **NY-MW-31 Grab Groundwater**
Amtrak Wilmington

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/20/2018 17:55
Collection Date/Time: 04/19/2018 11:55
SDG#: ATH85-09

Stantec
ELLE Sample #: WW 9570349
ELLE Group #: 1934499
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
Metals	**SW-846 6010B**		**mg/l**	**mg/l**	
01743	Aluminum	7429-90-5	0.427	0.200	1
01750	Calcium	7440-70-2	32.5	0.200	1
01754	Iron	7439-89-6	0.757	0.200	1
01757	Magnesium	7439-95-4	18.2	0.100	1
01762	Potassium	7440-09-7	3.90	0.500	1
01767	Sodium	7440-23-5	75.2	1.00	1
	SW-846 6020		**mg/l**	**mg/l**	
06024	Antimony	7440-36-0	< 0.0010	0.0010	1
06025	Arsenic	7440-38-2	< 0.0020	0.0020	1
06026	Barium	7440-39-3	0.123	0.0020	1
06027	Beryllium	7440-41-7	< 0.00050	0.00050	1
06028	Cadmium	7440-43-9	< 0.00050	0.00050	1
06031	Chromium	7440-47-3	< 0.0020	0.0020	1
06032	Cobalt	7440-48-4	0.0250	0.00050	1
06033	Copper	7440-50-8	< 0.0020	0.0020	1
06035	Lead	7439-92-1	< 0.0010	0.0010	1
06037	Manganese	7439-96-5	1.61	0.0020	1
06039	Nickel	7440-02-0	0.0073	0.0020	1
06041	Selenium	7782-49-2	< 0.0020	0.0020	1
06042	Silver	7440-22-4	< 0.00050	0.00050	1
06045	Thallium	7440-28-0	< 0.00050	0.00050	1
06048	Vanadium	7440-62-2	0.0015	0.00050	1
06049	Zinc	7440-66-6	0.0153	0.0150	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.

Sample Description: **NY-MW-31 Grab Groundwater**
Amtrak Wilmington

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/20/2018 17:55
Collection Date/Time: 04/19/2018 11:55
SDG#: ATH85-09

Stantec
ELLE Sample #: WW 9570349
ELLE Group #: 1934499
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	W181201AA	04/30/2018 17:35	Nicole S Lamoreaux	20
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	W181201AA	04/30/2018 17:59	Nicole S Lamoreaux	200
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W181201AA	04/30/2018 17:35	Nicole S Lamoreaux	20
01163	GC/MS VOA Water Prep	SW-846 5030B	2	W181201AA	04/30/2018 17:59	Nicole S Lamoreaux	200
14240	TCL SW846 8270C MINI	SW-846 8270C	1	18113WAE026	04/25/2018 16:15	Brandon H Smith	1
00813	BNA Water Extraction	SW-846 3510C	1	18113WAE026	04/23/2018 18:40	Christine E Gleim	1
01743	Aluminum	SW-846 6010B	1	181130184807	05/04/2018 00:29	Jonathan J Allen	1
01750	Calcium	SW-846 6010B	1	181130184807	04/30/2018 11:37	Suzanne M Will	1
01754	Iron	SW-846 6010B	1	181130184807	04/30/2018 11:37	Suzanne M Will	1
01757	Magnesium	SW-846 6010B	1	181130184807	04/30/2018 11:37	Suzanne M Will	1
01762	Potassium	SW-846 6010B	1	181130184807	04/30/2018 11:37	Suzanne M Will	1
01767	Sodium	SW-846 6010B	1	181130184807	04/30/2018 11:37	Suzanne M Will	1
06024	Antimony	SW-846 6020	1	181270605005A	05/11/2018 06:52	Choon Y Tian	1
06025	Arsenic	SW-846 6020	1	181270605005A	05/11/2018 06:52	Choon Y Tian	1
06026	Barium	SW-846 6020	1	181270605005D	05/11/2018 06:52	Choon Y Tian	1
06027	Beryllium	SW-846 6020	1	181270605005A	05/11/2018 06:52	Choon Y Tian	1
06028	Cadmium	SW-846 6020	1	181270605005A	05/11/2018 06:52	Choon Y Tian	1
06031	Chromium	SW-846 6020	1	181270605005A	05/11/2018 06:52	Choon Y Tian	1
06032	Cobalt	SW-846 6020	1	181270605005A	05/11/2018 06:52	Choon Y Tian	1
06033	Copper	SW-846 6020	1	181270605005A	05/11/2018 06:52	Choon Y Tian	1
06035	Lead	SW-846 6020	1	181270605005A	05/11/2018 06:52	Choon Y Tian	1
06037	Manganese	SW-846 6020	1	181270605005A	05/11/2018 06:52	Choon Y Tian	1
06039	Nickel	SW-846 6020	1	181270605005A	05/11/2018 06:52	Choon Y Tian	1
06041	Selenium	SW-846 6020	1	181270605005B	05/11/2018 06:52	Choon Y Tian	1
06042	Silver	SW-846 6020	1	181270605005A	05/11/2018 06:52	Choon Y Tian	1
06045	Thallium	SW-846 6020	1	181270605005A	05/11/2018 06:52	Choon Y Tian	1
06048	Vanadium	SW-846 6020	1	181270605005A	05/11/2018 06:52	Choon Y Tian	1
06049	Zinc	SW-846 6020	1	181270605005A	05/11/2018 06:52	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	181130571304	04/26/2018 07:51	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	181130184807	04/24/2018 23:22	Denise L Trimby	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	181270605005	05/08/2018 05:20	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	181130571304	04/25/2018 23:15	Annamaria Kuhns	1

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Analysis Report

Sample Description: **NY-MW-31 Filtered Grab Groundwater**
Amtrak Wilmington

Stantec
ELLE Sample #: WW 9570350
ELLE Group #: 1934499
Matrix: Groundwater

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/20/2018 17:55
Collection Date/Time: 04/19/2018 11:55
SDG#: ATH85-10

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
01750	Calcium	7440-70-2	30.9	0.200	1
01754	Iron	7439-89-6	< 0.200	0.200	1
01757	Magnesium	7439-95-4	17.4	0.100	1
01762	Potassium	7440-09-7	3.72	0.500	1
01767	Sodium	7440-23-5	72.7	1.00	1
		SW-846 6020	**mg/l**	**mg/l**	
06024	Antimony	7440-36-0	< 0.0010	0.0010	1
06025	Arsenic	7440-38-2	< 0.0020	0.0020	1
06026	Barium	7440-39-3	0.118	0.0020	1
06027	Beryllium	7440-41-7	< 0.00050	0.00050	1
06028	Cadmium	7440-43-9	< 0.00050	0.00050	1
06031	Chromium	7440-47-3	< 0.0020	0.0020	1
06032	Cobalt	7440-48-4	0.0247	0.00050	1
06033	Copper	7440-50-8	< 0.0020	0.0020	1
06035	Lead	7439-92-1	< 0.0010	0.0010	1
06037	Manganese	7439-96-5	1.67	0.0020	1
06039	Nickel	7440-02-0	0.0070	0.0020	1
06041	Selenium	7782-49-2	< 0.0020	0.0020	1
06042	Silver	7440-22-4	< 0.00050	0.00050	1
06045	Thallium	7440-28-0	< 0.00050	0.00050	1
06048	Vanadium	7440-62-2	< 0.00050	0.00050	1
06049	Zinc	7440-66-6	< 0.0150	0.0150	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	181130184807	05/02/2018 18:43	Cindy M Gehman	1
01750	Calcium	SW-846 6010B	1	181130184807	04/30/2018 12:16	Suzanne M Will	1
01754	Iron	SW-846 6010B	1	181130184807	04/30/2018 12:16	Suzanne M Will	1
01757	Magnesium	SW-846 6010B	1	181130184807	04/30/2018 12:16	Suzanne M Will	1
01762	Potassium	SW-846 6010B	1	181130184807	04/30/2018 12:16	Suzanne M Will	1
01767	Sodium	SW-846 6010B	1	181130184807	04/30/2018 12:16	Suzanne M Will	1
06024	Antimony	SW-846 6020	2	181270605005A	05/11/2018 06:36	Choon Y Tian	1
06025	Arsenic	SW-846 6020	2	181270605005A	05/11/2018 06:36	Choon Y Tian	1
06026	Barium	SW-846 6020	2	181270605005D	05/11/2018 06:36	Choon Y Tian	1

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Analysis Report

Sample Description: **NY-MW-31 Filtered Grab Groundwater**
Amtrak Wilmington

Stantec
ELLE Sample #: WW 9570350
ELLE Group #: 1934499
Matrix: Groundwater

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/20/2018 17:55
Collection Date/Time: 04/19/2018 11:55
SDG#: ATH85-10

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06027	Beryllium	SW-846 6020	2	181270605005A	05/11/2018 06:36	Choon Y Tian	1
06028	Cadmium	SW-846 6020	2	181270605005A	05/11/2018 06:36	Choon Y Tian	1
06031	Chromium	SW-846 6020	2	181270605005A	05/11/2018 06:36	Choon Y Tian	1
06032	Cobalt	SW-846 6020	2	181270605005A	05/11/2018 06:36	Choon Y Tian	1
06033	Copper	SW-846 6020	2	181270605005A	05/11/2018 06:36	Choon Y Tian	1
06035	Lead	SW-846 6020	2	181270605005A	05/11/2018 06:36	Choon Y Tian	1
06037	Manganese	SW-846 6020	2	181270605005A	05/11/2018 06:36	Choon Y Tian	1
06039	Nickel	SW-846 6020	2	181270605005A	05/11/2018 06:36	Choon Y Tian	1
06041	Selenium	SW-846 6020	2	181270605005B	05/11/2018 06:36	Choon Y Tian	1
06042	Silver	SW-846 6020	2	181270605005A	05/11/2018 06:36	Choon Y Tian	1
06045	Thallium	SW-846 6020	2	181270605005A	05/11/2018 06:36	Choon Y Tian	1
06048	Vanadium	SW-846 6020	2	181270605005A	05/11/2018 06:36	Choon Y Tian	1
06049	Zinc	SW-846 6020	2	181270605005A	05/11/2018 06:36	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	181130571304	04/26/2018 07:53	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	181130184807	04/24/2018 23:22	Denise L Trimby	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	181270605005	05/08/2018 05:20	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	181130571304	04/25/2018 23:15	Annamaria Kuhns	1

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Analysis Report

Sample Description: **NY-MW-2 Grab Groundwater**
Amtrak Wilmington

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/20/2018 17:55
Collection Date/Time: 04/19/2018 13:35
SDG#: ATH85-11

Stantec
ELLE Sample #: WW 9570351
ELLE Group #: 1934499
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	< 400	400	20
10335	Benzene	71-43-2	< 20	20	20
10335	Bromodichloromethane	75-27-4	< 20	20	20
10335	Bromoform	75-25-2	< 80	80	20
10335	Bromomethane	74-83-9	< 20	20	20
10335	2-Butanone	78-93-3	< 200	200	20
10335	Carbon Disulfide	75-15-0	< 100	100	20
10335	Carbon Tetrachloride	56-23-5	< 20	20	20
10335	Chlorobenzene	108-90-7	< 20	20	20
10335	Chloroethane	75-00-3	< 20	20	20
10335	Chloroform	67-66-3	< 20	20	20
10335	Chloromethane	74-87-3	< 20	20	20
10335	Dibromochloromethane	124-48-1	< 20	20	20
10335	1,1-Dichloroethane	75-34-3	< 20	20	20
10335	1,2-Dichloroethane	107-06-2	< 20	20	20
10335	1,1-Dichloroethene	75-35-4	38	20	20
10335	cis-1,2-Dichloroethene	156-59-2	7,900	200	200
10335	trans-1,2-Dichloroethene	156-60-5	56	20	20
10335	1,2-Dichloropropane	78-87-5	< 20	20	20
10335	cis-1,3-Dichloropropene	10061-01-5	< 20	20	20
10335	trans-1,3-Dichloropropene	10061-02-6	< 20	20	20
10335	Ethylbenzene	100-41-4	< 20	20	20
10335	2-Hexanone	591-78-6	< 200	200	20
10335	4-Methyl-2-pentanone	108-10-1	< 200	200	20
10335	Methylene Chloride	75-09-2	< 20	20	20
10335	Styrene	100-42-5	< 100	100	20
10335	1,1,2,2-Tetrachloroethane	79-34-5	< 20	20	20
10335	Tetrachloroethene	127-18-4	< 20	20	20
10335	Toluene	108-88-3	< 20	20	20
10335	1,1,1-Trichloroethane	71-55-6	< 20	20	20
10335	1,1,2-Trichloroethane	79-00-5	< 20	20	20
10335	Trichloroethene	79-01-6	13,000	200	200
10335	Vinyl Chloride	75-01-4	240	20	20
10335	Xylene (Total)	1330-20-7	< 20	20	20

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	W181201AA	04/30/2018 18:23	Nicole S Lamoreaux	20
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	W181201AA	04/30/2018 18:47	Nicole S Lamoreaux	200
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W181201AA	04/30/2018 18:23	Nicole S Lamoreaux	20
01163	GC/MS VOA Water Prep	SW-846 5030B	2	W181201AA	04/30/2018 18:47	Nicole S Lamoreaux	200

Sample Description: **EB_20180419 Grab Water Amtrak Wilmington**

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/20/2018 17:55
Collection Date/Time: 04/19/2018 14:40
SDG#: ATH85-12EB

Stantec
ELLE Sample #: **WW 9570352**
ELLE Group #: **1934499**
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
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_20180419 Grab Water Amtrak Wilmington**

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/20/2018 17:55
Collection Date/Time: 04/19/2018 14:40
SDG#: ATH85-12EB

Stantec
ELLE Sample #: **WW 9570352**
ELLE Group #: **1934499**
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

Sample Description: **EB_20180419 Grab Water Amtrak Wilmington**

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/20/2018 17:55
Collection Date/Time: 04/19/2018 14:40
SDG#: ATH85-12EB

Stantec
ELLE Sample #: WW 9570352
ELLE Group #: 1934499
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	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
01750	Calcium	7440-70-2	< 0.200	0.200	1
01754	Iron	7439-89-6	< 0.200	0.200	1
01757	Magnesium	7439-95-4	< 0.100	0.100	1
01762	Potassium	7440-09-7	< 0.500	0.500	1
01767	Sodium	7440-23-5	< 1.00	1.00	1
	SW-846 6020		**mg/l**	**mg/l**	
06024	Antimony	7440-36-0	< 0.0010	0.0010	1
06025	Arsenic	7440-38-2	< 0.0020	0.0020	1
06026	Barium	7440-39-3	< 0.0020	0.0020	1
06027	Beryllium	7440-41-7	< 0.00050	0.00050	1
06028	Cadmium	7440-43-9	< 0.00050	0.00050	1
06031	Chromium	7440-47-3	< 0.0020	0.0020	1
06032	Cobalt	7440-48-4	< 0.00050	0.00050	1
06033	Copper	7440-50-8	0.0063	0.0020	1
06035	Lead	7439-92-1	< 0.0010	0.0010	1
06037	Manganese	7439-96-5	< 0.0020	0.0020	1
06039	Nickel	7440-02-0	< 0.0020	0.0020	1
06041	Selenium	7782-49-2	< 0.0020	0.0020	1
06042	Silver	7440-22-4	< 0.00050	0.00050	1
06045	Thallium	7440-28-0	< 0.00050	0.00050	1
06048	Vanadium	7440-62-2	< 0.00050	0.00050	1
06049	Zinc	7440-66-6	< 0.0150	0.0150	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.

Sample Description: **EB_20180419 Grab Water Amtrak Wilmington**

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/20/2018 17:55
Collection Date/Time: 04/19/2018 14:40
SDG#: ATH85-12EB

Stantec
ELLE Sample #: **WW 9570352**
ELLE Group #: **1934499**
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	W181201AA	04/30/2018 12:02	Nicole S Lamoreaux	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W181201AA	04/30/2018 12:02	Nicole S Lamoreaux	1
14240	TCL SW846 8270C MINI	SW-846 8270C	1	18113WAE026	04/25/2018 17:11	Ashley R Transue	1
00813	BNA Water Extraction	SW-846 3510C	1	18113WAE026	04/23/2018 18:40	Christine E Gleim	1
01743	Aluminum	SW-846 6010B	1	181130184807	05/02/2018 18:46	Cindy M Gehman	1
01750	Calcium	SW-846 6010B	1	181130184807	04/30/2018 12:20	Suzanne M Will	1
01754	Iron	SW-846 6010B	1	181130184807	04/30/2018 12:20	Suzanne M Will	1
01757	Magnesium	SW-846 6010B	1	181130184807	04/30/2018 12:20	Suzanne M Will	1
01762	Potassium	SW-846 6010B	1	181130184807	04/30/2018 12:20	Suzanne M Will	1
01767	Sodium	SW-846 6010B	1	181130184807	04/30/2018 12:20	Suzanne M Will	1
06024	Antimony	SW-846 6020	1	181270605005A	05/11/2018 07:20	Choon Y Tian	1
06025	Arsenic	SW-846 6020	1	181270605005A	05/11/2018 07:20	Choon Y Tian	1
06026	Barium	SW-846 6020	1	181270605005D	05/11/2018 07:20	Choon Y Tian	1
06027	Beryllium	SW-846 6020	1	181270605005A	05/11/2018 07:20	Choon Y Tian	1
06028	Cadmium	SW-846 6020	1	181270605005A	05/11/2018 07:20	Choon Y Tian	1
06031	Chromium	SW-846 6020	1	181270605005A	05/11/2018 07:20	Choon Y Tian	1
06032	Cobalt	SW-846 6020	1	181270605005A	05/11/2018 07:20	Choon Y Tian	1
06033	Copper	SW-846 6020	1	181270605005A	05/11/2018 07:20	Choon Y Tian	1
06035	Lead	SW-846 6020	1	181270605005A	05/11/2018 07:20	Choon Y Tian	1
06037	Manganese	SW-846 6020	1	181270605005A	05/11/2018 07:20	Choon Y Tian	1
06039	Nickel	SW-846 6020	1	181270605005A	05/11/2018 07:20	Choon Y Tian	1
06041	Selenium	SW-846 6020	1	181270605005B	05/11/2018 07:20	Choon Y Tian	1
06042	Silver	SW-846 6020	1	181270605005A	05/11/2018 07:20	Choon Y Tian	1
06045	Thallium	SW-846 6020	1	181270605005A	05/11/2018 07:20	Choon Y Tian	1
06048	Vanadium	SW-846 6020	1	181270605005A	05/11/2018 07:20	Choon Y Tian	1
06049	Zinc	SW-846 6020	1	181270605005A	05/11/2018 07:20	Choon Y Tian	1
00259	Mercury	SW-846 7470A	1	181130571304	04/26/2018 07:55	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	181130184807	04/24/2018 23:22	Denise L Trimby	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	181270605005	05/08/2018 05:20	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	181130571304	04/25/2018 23:15	Annamaria Kuhns	1

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Analysis Report

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

Project Name: **Amtrak Wilmington**

Submittal Date/Time: 04/20/2018 17:55
Collection Date/Time: 04/19/2018
SDG#: ATH85-13TB

Stantec
ELLE Sample #: WW 9570353
ELLE Group #: 1934499
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	W181201AA	04/30/2018 11:38	Nicole S Lamoreaux	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W181201AA	04/30/2018 11:38	Nicole S Lamoreaux	1

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Quality Control Summary

Client Name: Stantec
Reported: 05/15/2018 17:01

Group Number: 1934499

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	LOQ
	ug/l	ug/l
Batch number: W181201AA	Sample number(s): 9570341,9570343-9570347,9570349,9570351-9570353	
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: 18113WAE026	Sample number(s): 9570341,9570347,9570349,9570352	
Acenaphthene	< 0.5	0.5
Acenaphthylene	< 0.5	0.5
Anthracene	< 0.5	0.5

*- Outside of specification
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Quality Control Summary

Client Name: Stantec
Reported: 05/15/2018 17:01

Group Number: 1934499

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

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Quality Control Summary

Client Name: Stantec
Reported: 05/15/2018 17:01

Group Number: 1934499

Method Blank (continued)

Analysis Name	Result	LOQ
	ug/l	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
	mg/l	mg/l
Batch number: 181130184807	Sample number(s): 9570341-9570342,9570347-9570350,9570352	
Aluminum	< 0.200	0.200
Calcium	< 0.200	0.200
Iron	< 0.200	0.200
Magnesium	< 0.100	0.100
Potassium	< 0.500	0.500
Sodium	< 1.00	1.00
Batch number: 181130571304	Sample number(s): 9570341-9570342,9570347-9570350,9570352	
Mercury	< 0.00020	0.00020
Batch number: 181270605005A	Sample number(s): 9570341-9570342,9570347-9570350,9570352	
Antimony	< 0.0010	0.0010
Arsenic	< 0.0020	0.0020
Beryllium	< 0.00050	0.00050
Cadmium	< 0.00050	0.00050
Chromium	< 0.0020	0.0020
Cobalt	< 0.00050	0.00050
Copper	< 0.0020	0.0020
Lead	< 0.0010	0.0010
Manganese	< 0.0020	0.0020
Nickel	< 0.0020	0.0020
Silver	< 0.00050	0.00050
Thallium	< 0.00050	0.00050
Vanadium	< 0.00050	0.00050
Zinc	< 0.0150	0.0150
Batch number: 181270605005B	Sample number(s): 9570341-9570342,9570347-9570350,9570352	
Selenium	< 0.0020	0.0020

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Quality Control Summary

Client Name: Stantec
Reported: 05/15/2018 17:01

Group Number: 1934499

Method Blank (continued)

Analysis Name	Result mg/l	LOQ mg/l
Batch number: 181270605005D	Sample number(s): 9570341-9570342,9570347-9570350,9570352	
Barium	< 0.0020	0.0020

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: W181201AA	Sample number(s): 9570341,9570343-9570347,9570349,9570351-9570353								
Acetone	150	168.38	150	198.74	112	132	54-157	17	30
Benzene	20	20.33	20	20.12	102	101	80-120	1	30
Bromodichloromethane	20	17.76	20	17.2	89	86	71-120	3	30
Bromoform	20	14.4	20	13.93	72	70	59-120	3	30
Bromomethane	20	19.15	20	18.86	96	94	58-130	2	30
2-Butanone	150	158.3	150	168.82	106	113	59-135	6	30
Carbon Disulfide	20	19.03	20	18.77	95	94	65-128	1	30
Carbon Tetrachloride	20	17.92	20	17.31	90	87	64-134	3	30
Chlorobenzene	20	18.88	20	18.81	94	94	80-120	0	30
Chloroethane	20	19.21	20	19.02	96	95	61-123	1	30
Chloroform	20	19.72	20	19.56	99	98	80-120	1	30
Chloromethane	20	18.54	20	18.17	93	91	63-120	2	30
Dibromochloromethane	20	16.76	20	16.08	84	80	71-120	4	30
1,1-Dichloroethane	20	20.09	20	20.42	100	102	80-120	2	30
1,2-Dichloroethane	20	19.15	20	18.98	96	95	73-124	1	30
1,1-Dichloroethene	20	22.96	20	21.67	115	108	80-131	6	30
cis-1,2-Dichloroethene	20	20.62	20	20.63	103	103	80-120	0	30
trans-1,2-Dichloroethene	20	21.09	20	20.8	105	104	80-120	1	30
1,2-Dichloropropane	20	20.51	20	20.01	103	100	80-120	2	30
cis-1,3-Dichloropropene	20	17.83	20	17.46	89	87	75-120	2	30
trans-1,3-Dichloropropene	20	16.54	20	16.28	83	81	76-120	2	30
Ethylbenzene	20	19.1	20	18.77	96	94	80-120	2	30
2-Hexanone	100	100.78	100	99.94	101	100	50-141	1	30
4-Methyl-2-pentanone	100	102.91	100	104.34	103	104	62-133	1	30
Methylene Chloride	20	21.15	20	21.09	106	105	80-120	0	30
Styrene	20	18.19	20	17.93	91	90	80-120	1	30
1,1,2,2-Tetrachloroethane	20	20.23	20	19.99	101	100	72-120	1	30
Tetrachloroethene	20	18.22	20	17.85	91	89	80-120	2	30
Toluene	20	19.62	20	19.39	98	97	80-120	1	30
1,1,1-Trichloroethane	20	18.55	20	18.88	93	94	67-126	2	30
1,1,2-Trichloroethane	20	19.96	20	19.65	100	98	80-120	2	30
Trichloroethene	20	19.73	20	19.61	99	98	80-120	1	30

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Quality Control Summary

Client Name: Stantec
Reported: 05/15/2018 17:01

Group Number: 1934499

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
Vinyl Chloride	20	18.64	20	18.75	93	94	68-120	1	30
Xylene (Total)	60	56.21	60	54.99	94	92	80-120	2	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: 18113WAE026	Sample number(s): 9570341,9570347,9570349,9570352								
Acenaphthene	50	43.17	50	44.02	86	88	49-123	2	30
Acenaphthylene	50	47.52	50	48.97	95	98	67-111	3	30
Anthracene	50	48.8	50	49.38	98	99	55-126	1	30
Benzo(a)anthracene	50	50.08	50	51.31	100	103	63-124	2	30
Benzo(a)pyrene	50	51.07	50	51.74	102	103	50-128	1	30
Benzo(b)fluoranthene	50	50.57	50	50.69	101	101	58-127	0	30
Benzo(g,h,i)perylene	50	49.68	50	49.92	99	100	51-124	0	30
Benzo(k)fluoranthene	50	52.22	50	52.75	104	105	63-123	1	30
4-Bromophenyl-phenylether	50	41.98	50	43.29	84	87	53-127	3	30
Butylbenzylphthalate	50	38.82	50	39.02	78	78	40-131	1	30
Di-n-butylphthalate	50	46.57	50	46.38	93	93	58-119	0	30
Carbazole	50	53.64	50	54.04	107	108	65-123	1	30
4-Chloro-3-methylphenol	50	51.03	50	51.67	102	103	50-130	1	30
4-Chloroaniline	50	45.33	50	44.72	91	89	33-106	1	30
bis(2-Chloroethoxy)methane	50	49.41	50	50.63	99	101	54-127	2	30
bis(2-Chloroethyl)ether	50	46.12	50	45.63	92	91	48-119	1	30
2-Chloronaphthalene	50	37.73	50	35.93	75	72	41-123	5	30
2-Chlorophenol	50	44.44	50	45.36	89	91	47-116	2	30
4-Chlorophenyl-phenylether	50	38.56	50	39.18	77	78	45-124	2	30
2,2'-oxybis(1-Chloropropane)	50	49.52	50	50.53	99	101	40-117	2	30
Chrysene	50	49.74	50	51.28	99	103	65-124	3	30
Dibenz(a,h)anthracene	50	51.65	50	52.29	103	105	53-132	1	30
Dibenzofuran	50	42.6	50	44.28	85	89	50-124	4	30
1,2-Dichlorobenzene	50	32.51	50	32.96	65	66	31-116	1	30
1,3-Dichlorobenzene	50	29.25	50	29.78	59	60	24-115	2	30
1,4-Dichlorobenzene	50	30.34	50	30.99	61	62	30-109	2	30
3,3'-Dichlorobenzidine	50	38.03	50	36.79	76	74	32-106	3	30
2,4-Dichlorophenol	50	50.27	50	51.03	101	102	53-126	1	30
Diethylphthalate	50	40.96	50	39.77	82	80	42-124	3	30
2,4-Dimethylphenol	50	43.94	50	44.85	88	90	41-103	2	30
Dimethylphthalate	50	26.25	50	23.53	53	47	19-119	11	30
4,6-Dinitro-2-methylphenol	50	50.21	50	50.72	100	101	50-132	1	30
2,4-Dinitrophenol	100	97.48	100	99.88	97	100	19-140	2	30
2,4-Dinitrotoluene	50	50.38	50	49.98	101	100	56-128	1	30
2,6-Dinitrotoluene	50	52.55	50	52.08	105	104	57-131	1	30
bis(2-Ethylhexyl)phthalate	50	47.69	50	49.22	95	98	52-132	3	30
Fluoranthene	50	52.48	50	52.68	105	105	61-123	0	30
Fluorene	50	44.45	50	44.98	89	90	48-124	1	30
Hexachlorobenzene	50	46.12	50	47.03	92	94	57-123	2	30

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Quality Control Summary

Client Name: Stantec
Reported: 05/15/2018 17:01

Group Number: 1934499

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
Hexachlorobutadiene	50	27.45	50	27.32	55	55	16-119	0	30
Hexachlorocyclopentadiene	100	34.25	100	34.4	34	34	10-104	0	30
Hexachloroethane	50	24.18	50	24.87	48	50	19-105	3	30
Indeno(1,2,3-cd)pyrene	50	49.25	50	50.01	99	100	52-127	2	30
Isophorone	50	52.96	50	53.67	106	107	49-129	1	30
2-Methylnaphthalene	50	38.15	50	39.15	76	78	42-120	3	30
2-Methylphenol	50	45.02	50	45.78	90	92	46-113	2	30
4-Methylphenol	50	42.74	50	43.82	85	88	42-115	3	30
Naphthalene	50	39.25	50	39.92	79	80	44-114	2	30
2-Nitroaniline	50	50.91	50	51.17	102	102	54-133	0	30
3-Nitroaniline	50	49.46	50	49.49	99	99	41-123	0	30
4-Nitroaniline	50	46.7	50	44.88	93	90	46-114	4	30
Nitrobenzene	50	49.1	50	50.59	98	101	43-128	3	30
2-Nitrophenol	50	48.65	50	49.1	97	98	58-125	1	30
4-Nitrophenol	50	30.01	50	31.01	60	62	10-96	3	30
N-Nitroso-di-n-propylamine	50	50.9	50	51.9	102	104	48-128	2	30
N-Nitrosodiphenylamine	50	49.33	50	50.31	99	101	55-128	2	30
Di-n-octylphthalate	50	50.17	50	50.76	100	102	51-134	1	30
Pentachlorophenol	50	44.38	50	45.61	89	91	50-127	3	30
Phenanthrene	50	47.9	50	48.15	96	96	54-122	1	30
Phenol	50	25.77	50	27.56	52	55	10-92	7	30
Pyrene	50	47.88	50	49.7	96	99	54-123	4	30
1,2,4-Trichlorobenzene	50	32.59	50	32.89	65	66	29-120	1	30
2,4,5-Trichlorophenol	50	52.59	50	52.98	105	106	59-129	1	30
2,4,6-Trichlorophenol	50	52.14	50	52.4	104	105	61-130	1	30
	mg/l	**mg/l**	**mg/l**	**mg/l**					
Batch number: 181130184807	Sample number(s): 9570341-9570342,9570347-9570350,9570352								
Aluminum	2.00	2.09			104		80-120		
Calcium	4.00	4.17			104		88-112		
Iron	1.00	1.06			106		80-114		
Magnesium	2.00	2.10			105		88-114		
Potassium	10	10.17			102		88-112		
Sodium	10	10.37			104		87-112		
Batch number: 181130571304	Sample number(s): 9570341-9570342,9570347-9570350,9570352								
Mercury	0.00100	0.000923			92		80-114		
Batch number: 181270605005A	Sample number(s): 9570341-9570342,9570347-9570350,9570352								
Antimony	0.00600	0.00525	0.00600	0.00560	87	93	80-120	7	20
Arsenic	0.0100	0.00898	0.0100	0.0100	90	100	80-120	11	20
Beryllium	0.00400	0.00418	0.00400	0.00423	105	106	90-112	1	20
Cadmium	0.00500	0.00513	0.00500	0.00503	103	101	84-120	2	20
Chromium	0.0500	0.0540	0.0500	0.0499	108	100	90-112	8	20
Cobalt	0.250	0.250	0.250	0.253	100	101	86-113	1	20

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Quality Control Summary

Client Name: Stantec
Reported: 05/15/2018 17:01

Group Number: 1934499

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
Copper	0.0500	0.0518	0.0500	0.0518	104	104	89-120	0	20
Lead	0.0150	0.0156	0.0150	0.0156	104	104	90-110	0	20
Manganese	0.0500	0.0507	0.0500	0.0497	101	99	89-120	2	20
Nickel	0.0500	0.0500	0.0500	0.0519	100	104	90-114	4	20
Silver	0.0500	0.0506	0.0500	0.0508	101	102	88-113	0	20
Thallium	0.00200	0.00206	0.00200	0.00194	103	97	80-120	6	20
Vanadium	0.0500	0.0515	0.0500	0.0494	103	99	90-112	4	20
Zinc	0.500	0.504	0.500	0.516	101	103	90-113	2	20
Batch number: 181270605005B	Sample number(s): 9570341-9570342,9570347-9570350,9570352								
Selenium	0.0100	0.0100	0.0100	0.0101	100	101	90-113	0	20
Batch number: 181270605005D	Sample number(s): 9570341-9570342,9570347-9570350,9570352								
Barium	0.0500	0.0479	0.0500	0.0516	96	103	80-120	8	20

MS/MSD

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: 181130184807	Sample number(s): 9570341-9570342,9570347-9570350,9570352 UNSPK: 9570349									
Aluminum	0.427	2.00	2.97	2.00	2.97	127*	127*	75-125	0	20
Calcium	32.54	4.00	36.43	4.00	36.17	97 (2)	91 (2)	75-125	1	20
Iron	0.757	1.00	1.89	1.00	1.87	113	111	75-125	1	20
Magnesium	18.24	2.00	20.11	2.00	19.88	93 (2)	82 (2)	75-125	1	20
Potassium	3.90	10	14.25	10	14.23	104	103	75-125	0	20
Sodium	75.24	10	84.73	10	83.99	95 (2)	88 (2)	75-125	1	20
Batch number: 181130571304	Sample number(s): 9570341-9570342,9570347-9570350,9570352 UNSPK: P570357									
Mercury	< 0.00020	0.00100	0.000900	0.00100	0.000898	90	90	80-120	0	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: 181130184807	Sample number(s): 9570341-9570342,9570347-9570350,9570352 BKG: 9570349			

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Quality Control Summary

Client Name: Stantec
Reported: 05/15/2018 17:01

Group Number: 1934499

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
Aluminum	0.427	0.645	41* (1)	20
Calcium	32.54	31.3	4	20
Iron	0.757	0.742	2 (1)	20
Magnesium	18.24	17.51	4	20
Potassium	3.90	3.75	4	20
Sodium	75.24	72.39	4	20
Batch number: 181130571304	Sample number(s): 9570341-9570342,9570347-9570350,9570352 BKG: P570357			
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: W181201AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9570341	97	103	99	96
9570343	98	105	98	97
9570344	97	104	98	94
9570345	97	102	98	96
9570346	97	103	99	96
9570347	97	104	98	96
9570349	98	105	99	97
9570351	98	105	99	96
9570352	97	104	98	96
9570353	97	103	98	96
Blank	96	104	98	96
LCS	98	104	99	99
LCSD	99	106	100	99
Limits:	80-120	80-120	80-120	80-120

Analysis Name: TCL SW846 8270C MINI
Batch number: 18113WAE026

	2-Fluorophenol	Phenol-d6	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
9570341	35	27	81	81	75	74
9570347	23	17	55	89	81	70
9570349	16	12	35	90	83	56
9570352	48	36	92	88	81	93
Blank	49	37	94	85	73	99

*- 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.

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Quality Control Summary

Client Name: Stantec
Reported: 05/15/2018 17:01

Group Number: 1934499

Surrogate Quality Control (continued)

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

Analysis Name: TCL SW846 8270C MINI
Batch number: 18113WAE026

	2-Fluorophenol	Phenol-d6	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
LCS	61	48	101	92	85	93
LCSD	66	51	100	94	82	96
Limits:	10-82	10-71	21-134	30-111	39-105	27-116

*- 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.

Environmental Analysis Request/Chain of Custody

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Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 11289 Group # 1934499 Sample # 9570341-53

COC # 529484

Client Information

Client: STANTEC

Acct. #:

Project Name/#: AMTRAK WILMINGTON

PWSID #:

Project Manager: PAUL MILLER

P.O. #: 213402043

Sampler: JAN ANDREE / JON ZERBE

Quote #:

State where samples were collected: DE

For Compliance: Yes ☐ No ☐

For Lab Use Only

FSC:

SCR#:

Preservation Codes

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

Remarks

Sample Identification	Collected Date	Collected Time	Grab	Composite	Soil	Sediment	Tissue	Water	Potable	Ground	Surface	NPDES	Other:	Total # of Containers	VOCs 8260	SVOCs 8270	METALS 6020	Remarks
NY-MW-11R	4/19/18	0830	X					X						7	X	X	X	
NY-MW-3	4/19/18	1254	X					X						3	X			
NY-MW-5	4/19/18	0935	X					X						3	X			
NY-MW-19	4/19/18	1205	X					X						3	X			
NY-MW-4	4/19/18	1340	X					X						3	X			
NY-MW-30	4/19/18	0925	X					X						7	X	X	X	
NY-MW-31	4/19/18	1155	X					X						7	X	X	X	
NY-MW-2	4/19/18	1335	X					X						3	X			
EB_20180419	4/19/18	1440	X					X						6	X	X	X	

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
[signature]	4/20/18	1104	[signature]	4/20/18	1104
[signature]	4-20-18	1755			
			[signature]	4-20-18	1755

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 0.0-0.1 °C

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Sample Administration Receipt Documentation Log

Doc Log ID: 214353

Group Number(s): ~~1934502~~ 1934499

Client: Stantec

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Timestamp:	04/20/2018 17:55
Number of Packages:	2	Number of Projects:	4
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:	No
Samples Chilled:	Yes	VOA Vial Headspace ≥ 6mm:	No
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	2
Samples Intact:	Yes	Trip Blank Type:	HCl
Missing Samples:	No	Air Quality Samples Present:	No
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Melvin Sanchez (8943) at 20:17 on 04/20/2018

Samples Chilled Details

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	DT131	0.0	DT	Wet	Y	Bagged	N
2	DT131	0.1	DT	Wet	Y	Bagged	N

Sample Date/Time Discrepancy Details

Sample ID on COC	Date/Time on Label	Comments
NY-MW-21	4/17/2018 09:15	

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.

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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.

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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: ATH85

GC/MS Volatiles

Fraction: Volatiles by GC/MS

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
9570341	NY-MW-11R	X		1	
9570343	NY-MW-3	X		1	
9570344	NY-MW-5	X		1	
9570345	NY-MW-19	X		1	
9570346	NY-MW-4	X		1	
9570347	NY-MW-30	X		10; 100	
9570349	NY-MW-31	X		20; 200	
9570351	NY-MW-2	X		20; 200	
9570352	EB_20180419	X		1	Equipment Blank
9570353	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:

MS/MSD

Matrix QC may not be included if site-specific QC were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, laboratory spike data (LCS) are provided.

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

Case Narrative/Conformance Summary

CLIENT: Stantec
SDG: ATH85

GC/MS Volatiles

Fraction: Volatiles by GC/MS

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

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Quality Control Reference List
GC/MS Volatiles

CLIENT: Stantec
SDG: ATH85

Fraction: Volatiles by GC/MS

Analysis	Batch Number	Sample Number	Analysis Date
VOCs- 5ml Water by 8260B	W181201AA	VBLKW03	04/30/2018 10:13:00
		LCSW03	04/30/2018 09:26:00
		LCDW03	04/30/2018 09:49:00
		9570341	04/30/2018 12:26:00
		9570343	04/30/2018 12:50:00
		9570344	04/30/2018 13:14:00
		9570345	04/30/2018 13:38:00
		9570346	04/30/2018 14:02:00
		9570347	04/30/2018 16:47:00
		9570347	04/30/2018 17:11:00
		9570349	04/30/2018 17:35:00
		9570349	04/30/2018 17:59:00
		9570351	04/30/2018 18:23:00
		9570351	04/30/2018 18:47:00
		9570352	04/30/2018 12:02:00
		9570353	04/30/2018 11:38:00

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Quality Control Summary
Method Blank
GC/MS Volatiles
SDG: ATH85
Matrix: LIQUID

Fraction: Volatiles by GC/MS

W181201AA / VBLKW03 **Analyte**	**Analysis Date**	**Blank Results**	**Units**	**MDL**	**LOQ**
Chloromethane	04/30/18	N.D.	ug/l	0.5	1
Vinyl Chloride	04/30/18	N.D.	ug/l	0.5	1
Bromomethane	04/30/18	N.D.	ug/l	0.5	1
Chloroethane	04/30/18	N.D.	ug/l	0.5	1
1,1-Dichloroethene	04/30/18	N.D.	ug/l	0.5	1
Acetone	04/30/18	N.D.	ug/l	6	20
Carbon Disulfide	04/30/18	N.D.	ug/l	1	5
Methylene Chloride	04/30/18	N.D.	ug/l	0.5	1
trans-1,2-Dichloroethene	04/30/18	N.D.	ug/l	0.5	1
1,1-Dichloroethane	04/30/18	N.D.	ug/l	0.5	1
2-Butanone	04/30/18	N.D.	ug/l	3	10
cis-1,2-Dichloroethene	04/30/18	N.D.	ug/l	0.5	1
Chloroform	04/30/18	N.D.	ug/l	0.5	1
1,1,1-Trichloroethane	04/30/18	N.D.	ug/l	0.5	1
Carbon Tetrachloride	04/30/18	N.D.	ug/l	0.5	1
Benzene	04/30/18	N.D.	ug/l	0.5	1
1,2-Dichloroethane	04/30/18	N.D.	ug/l	0.5	1
Trichloroethene	04/30/18	N.D.	ug/l	0.5	1
1,2-Dichloropropane	04/30/18	N.D.	ug/l	0.5	1
Bromodichloromethane	04/30/18	N.D.	ug/l	0.5	1
cis-1,3-Dichloropropene	04/30/18	N.D.	ug/l	0.5	1
4-Methyl-2-pentanone	04/30/18	N.D.	ug/l	3	10
Toluene	04/30/18	N.D.	ug/l	0.5	1
trans-1,3-Dichloropropene	04/30/18	N.D.	ug/l	0.5	1
1,1,2-Trichloroethane	04/30/18	N.D.	ug/l	0.5	1
Tetrachloroethene	04/30/18	N.D.	ug/l	0.5	1
2-Hexanone	04/30/18	N.D.	ug/l	3	10
Dibromochloromethane	04/30/18	N.D.	ug/l	0.5	1
Chlorobenzene	04/30/18	N.D.	ug/l	0.5	1
Ethylbenzene	04/30/18	N.D.	ug/l	0.5	1
Xylene (Total)	04/30/18	N.D.	ug/l	0.5	1
Styrene	04/30/18	N.D.	ug/l	1	5
Bromoform	04/30/18	N.D.	ug/l	0.5	4
1,1,2,2-Tetrachloroethane	04/30/18	N.D.	ug/l	0.5	1

Lancaster Laboratories Environmental

Quality Control Summary
Surrogates
GC/MS Volatiles
SDG: ATH85
Matrix: LIQUID

Fraction: Volatiles by GC/MS

W181201AA	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
VBLKW03	104	80 - 120	96	80 - 120	96	80 - 120	98	80 - 120
LCSW03	104	80 - 120	99	80 - 120	98	80 - 120	99	80 - 120
LCDW03	106	80 - 120	99	80 - 120	99	80 - 120	100	80 - 120
9570341	103	80 - 120	96	80 - 120	97	80 - 120	99	80 - 120
9570343	105	80 - 120	97	80 - 120	98	80 - 120	98	80 - 120
9570344	104	80 - 120	94	80 - 120	97	80 - 120	98	80 - 120
9570345	102	80 - 120	96	80 - 120	97	80 - 120	98	80 - 120
9570346	103	80 - 120	96	80 - 120	97	80 - 120	99	80 - 120
9570347	104	80 - 120	96	80 - 120	97	80 - 120	98	80 - 120
9570349	105	80 - 120	97	80 - 120	98	80 - 120	99	80 - 120
9570351	105	80 - 120	96	80 - 120	98	80 - 120	99	80 - 120
9570352	104	80 - 120	96	80 - 120	97	80 - 120	98	80 - 120
9570353	103	80 - 120	96	80 - 120	97	80 - 120	98	80 - 120

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

SDG: ATH85
Matrix: LIQUID

GC/MS Volatiles
Fraction: Volatiles by GC/MS

LCS: LCSW03 LCSD: LCDW03	Batch: **W181201AA** (Sample number(s): 9570341, 9570343-9570347, 9570349, 9570351-9570353)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Chloromethane	20	18.54	18.17	93	91	63-120	2	30
Vinyl Chloride	20	18.64	18.75	93	94	68-120	1	30
Bromomethane	20	19.15	18.86	96	94	58-130	2	30
Chloroethane	20	19.21	19.02	96	95	61-123	1	30
1,1-Dichloroethene	20	22.96	21.67	115	108	80-131	6	30
Acetone	150	168.38	198.74	112	132	54-157	17	30
Carbon Disulfide	20	19.03	18.77	95	94	65-128	1	30
Methylene Chloride	20	21.15	21.09	106	105	80-120	0	30
trans-1,2-Dichloroethene	20	21.09	20.8	105	104	80-120	1	30
1,1-Dichloroethane	20	20.09	20.42	100	102	80-120	2	30
2-Butanone	150	158.3	168.82	106	113	59-135	6	30
cis-1,2-Dichloroethene	20	20.62	20.63	103	103	80-120	0	30
Chloroform	20	19.72	19.56	99	98	80-120	1	30
1,1,1-Trichloroethane	20	18.55	18.88	93	94	67-126	2	30
Carbon Tetrachloride	20	17.92	17.31	90	87	64-134	3	30
Benzene	20	20.33	20.12	102	101	80-120	1	30
1,2-Dichloroethane	20	19.15	18.98	96	95	73-124	1	30
Trichloroethene	20	19.73	19.61	99	98	80-120	1	30
1,2-Dichloropropane	20	20.51	20.01	103	100	80-120	2	30
Bromodichloromethane	20	17.76	17.2	89	86	71-120	3	30
cis-1,3-Dichloropropene	20	17.83	17.46	89	87	75-120	2	30
4-Methyl-2-pentanone	100	102.9	104.34	103	104	62-133	1	30
Toluene	20	19.62	19.39	98	97	80-120	1	30
trans-1,3-Dichloropropene	20	16.54	16.28	83	81	76-120	2	30
1,1,2-Trichloroethane	20	19.96	19.65	100	98	80-120	2	30
Tetrachloroethene	20	18.22	17.85	91	89	80-120	2	30
2-Hexanone	100	100.78	99.94	101	100	50-141	1	30
Dibromochloromethane	20	16.76	16.08	84	80	71-120	4	30
Chlorobenzene	20	18.88	18.81	94	94	80-120	0	30
Ethylbenzene	20	19.1	18.77	96	94	80-120	2	30
Xylene (Total)	60	56.21	54.99	94	92	80-120	2	30
Styrene	20	18.19	17.93	91	90	80-120	1	30
Bromoform	20	14.4	13.93	72	70	59-120	3	30
1,1,2,2-Tetrachloroethane	20	20.23	19.99	101	100	72-120	1	30

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LOQ/MDL Summary
GC/MS Volatiles

SDG: ATH85

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

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: wa09t04.d BFB Injection Date: 04/09/18

Instrument ID: HP09137 BFB Injection Time: 10:21

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	16.49
75	30.0 - 60.0% of mass 95	47.07
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	0.00 (0.00)1
174	Greater than 50.0% of mass 95	79.13
175	5.0 - 9.0% of mass 174	5.85 (7.39)1
176	Greater than 95.0%, but less than 101.0% of mass 174	76.37 (96.52)1
177	5.0 - 9.0% of mass 176	5.07 (6.64)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	wa09i01.d	04/09/18	11:16
02	VSTD100	wa09i02.d	04/09/18	11:39
03	VSTD50	wa09i03.d	04/09/18	12:03
04	VSTD20	wa09i04.d	04/09/18	12:27
05	VSTD10	wa09i05.d	04/09/18	12:51
06	VSTD4	wa09i06.d	04/09/18	13:14
07	VSTD1	wa09i07.d	04/09/18	13:38
08	VSTD0.5	wa09m01.d	04/09/18	14:02
09	LCSWICV	wa09v01.d	04/09/18	14:26

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.:_ATH85___

Lab File ID: wa30t01.d BFB Injection Date: 04/30/18

Instrument ID: HP09137 BFB Injection Time: 07:52

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	16.10
75	30.0 - 60.0% of mass 95	46.74
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.96
173	Less than 2.0% of mass 174	0.20 (0.25)1
174	Greater than 50.0% of mass 95	79.32
175	5.0 - 9.0% of mass 174	5.68 (7.16)1
176	Greater than 95.0%, but less than 101.0% of mass 174	75.80 (95.56)1
177	5.0 - 9.0% of mass 176	5.06 (6.68)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	wa30c01.d	04/30/18	08:41
02	LCSW03	wa30l01.d	04/30/18	09:26
03	LCDW03	wa30l02.d	04/30/18	09:49
04	VBLKW03	wa30b01.d	04/30/18	10:13
05	9570353	wa30s01.d	04/30/18	11:38
06	9570352	wa30s02.d	04/30/18	12:02
07	9570341	wa30s03.d	04/30/18	12:26
08	9570343	wa30s04.d	04/30/18	12:50
09	9570344	wa30s05.d	04/30/18	13:14
10	9570345	wa30s06.d	04/30/18	13:38
11	9570346	wa30s07.d	04/30/18	14:02
12	9572336	wa30s08.d	04/30/18	14:25
13	9572337	wa30s09.d	04/30/18	14:49
14	9572338	wa30s10.d	04/30/18	15:12
15	9572335DL	wa30s11.d	04/30/18	15:36
16	9572334DL2	wa30s12.d	04/30/18	16:00
17	9572374DL	wa30s13.d	04/30/18	16:23
18	9570347	wa30s14.d	04/30/18	16:47
19	9570347DL	wa30s15.d	04/30/18	17:11
20	9570349	wa30s16.d	04/30/18	17:35
21	9570349DL	wa30s17.d	04/30/18	17:59
22	9570351	wa30s18.d	04/30/18	18:23

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.:_ATH85___

Lab File ID: wa30t01.d BFB Injection Date: 04/30/18

Instrument ID: HP09137 BFB Injection Time: 07:52

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	16.10
75	30.0 - 60.0% of mass 95	46.74
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.96
173	Less than 2.0% of mass 174	0.20 (0.25)1
174	Greater than 50.0% of mass 95	79.32
175	5.0 - 9.0% of mass 174	5.68 (7.16)1
176	Greater than 95.0%, but less than 101.0% of mass 174	75.80 (95.56)1
177	5.0 - 9.0% of mass 176	5.06 (6.68)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	9570351DL	wa30s19.d	04/30/18	18:47

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: HP09137 Calibration Date(s): 04/09/18 04/09/18

Heated Purge: (Y/N) Y Calibration Times: 11:16 13:38

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

LAB FILE ID: RRF 1 = wa09i07.d RRF 4 = wa09i06.d RRF 10= wa09i05.d
RRF 20= wa09i04.d RRF 50= wa09i03.d RRF100= wa09i02.d RRF300= wa09i01.d

COMPOUND	RRF 1	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	___ RRF	% RSD	CAL. METHOD
Dichlorodifluoromethane	0.2721	0.3103	0.3585	0.3384	0.3365	0.3501	0.3160	0.3260	9	AVG
Chloromethane	#0.3477	0.3398	0.3831	0.3527	0.3455	0.3527	0.3225	0.3492	5	AVG #
1,3-Butadiene	0.3013	0.2713	0.2630	0.2537	0.2387	0.2465	0.2356	0.2586	9	AVG
Vinyl Chloride	*0.2946	0.3450	0.3852	0.3652	0.3652	0.3755	0.3395	0.3529	9	AVG *
Bromomethane	0.2470	0.2582	0.2799	0.2543	0.2548	0.2607	0.2395	0.2564	5	AVG
Chloroethane	0.1962	0.2009	0.2295	0.2148	0.2163	0.2177	0.1993	0.2107	6	AVG
Dichlorofluoromethane	0.5372	0.4774	0.5357	0.4815	0.3677	0.3655	0.3425	0.4439	19	AVG
n-Pentane		0.4702	0.4327	0.4223	0.3934	0.3984	0.3822	0.4165	8	AVG
Trichlorofluoromethane	0.3079	0.3692	0.4240	0.4127	0.4135	0.4275	0.3918	0.3924	11	AVG
Ethanol	0.1668	0.0815	0.1110	0.0769	0.0750	0.0721	0.0619	0.0922	39	2NDDEG
Freon 123a	0.2942	0.3141	0.3012	0.2887	0.2796	0.2809	0.2699	0.2898	5	AVG
Acrolein		1.7852	1.8377	2.1376	2.1133	1.9293	2.3692	2.0287	11	AVG
1,1-Dichloroethene	*0.1995	0.2079	0.2206	0.2298	0.2222	0.2234	0.2263	0.2185	5	AVG *
1,1-Dichloroethene(2)	*0.0919	0.0989	0.1050	0.1068	0.1003	0.1057	0.1020	0.1015	5	AVG *
Acetone	0.9045	0.8275	0.8797	0.8594	0.8285	0.8445	0.8218	0.8523	4	AVG
Freon 113	0.1800	0.2059	0.2216	0.2413	0.2297	0.2369	0.2348	0.2215	10	AVG
2-Propanol	0.6084	0.5964	0.7274	0.4903	0.5168	0.5965		0.5893	14	AVG
Methyl Iodide	0.3764	0.4057	0.4420	0.4433	0.4315	0.4377	0.4339	0.4243	6	AVG
Carbon Disulfide	0.6141	0.6892	0.7451	0.7643	0.7416	0.7639	0.7289	0.7210	7	AVG
Allyl Chloride	0.3425	0.3422	0.3669	0.3641	0.3327	0.3563	0.3367	0.3488	4	AVG
Methyl Acetate	0.2604	0.2981	0.2895	0.2292	0.2291	0.2734	0.2070	0.2552	13	AVG
Methylene Chloride	0.2510	0.2501	0.2602	0.2618	0.2504	0.2529	0.2512	0.2539	2	AVG
t-Butyl alcohol	0.9519	1.1605	1.2596	1.0276	1.0148	1.1852	0.9216	1.0745	12	AVG
Acrylonitrile		0.1315	0.1594	0.1141	0.1192	0.1474	0.1090	0.1301	15	AVG
trans-1,2-Dichloroethene	0.2031	0.2340	0.2481	0.2542	0.2467	0.2528	0.2444	0.2405	7	AVG
Methyl Tertiary Butyl Ether	0.7581	0.8365	0.8593	0.8459	0.8168	0.8527	0.7374	0.8152	6	AVG
n-Hexane	0.2736	0.2625	0.2799	0.2958	0.2814	0.2882	0.2765	0.2797	4	AVG
1,1-Dichloroethane	#0.3594	0.3978	0.4282	0.4269	0.4175	0.4259	0.3999	0.4079	6	AVG #
di-Isopropyl ether	0.7548	0.7574	0.7893	0.7935	0.7563	0.7735	0.7207	0.7637	3	AVG
2-Chloro-1,3-butadiene	0.3125	0.3470	0.3749	0.3784	0.3723	0.3755	0.3629	0.3605	7	AVG
Ethyl t-butyl ether	0.6972	0.7759	0.7953	0.7910	0.7681	0.7837	0.7132	0.7606	5	AVG
cis-1,2-Dichloroethene	0.2327	0.2679	0.2820	0.2875	0.2736	0.2833	0.2726	0.2714	7	AVG
2-Butanone	0.1856	0.1943	0.2162	0.1630	0.1656	0.1999	0.1446	0.1813	14	AVG
2,2-Dichloropropane	0.2034	0.2215	0.2448	0.2433	0.2272	0.2201	0.1829	0.2204	10	AVG
Propionitrile	1.3253	1.2336	1.2664	1.4107	1.4683	1.3002	1.3983	1.3432	6	AVG
Methacrylonitrile	0.1412	0.1568	0.1687	0.1527	0.1471	0.1673	0.1408	0.1535	7	AVG
Bromochloromethane	0.1236	0.1345	0.1484	0.1430	0.1362	0.1449	0.1363	0.1381	6	AVG
Tetrahydrofuran	1.3553	1.1638	1.2922	1.6293	1.5226	1.3732	1.7177	1.4363	14	AVG
Chloroform	*0.3741	0.4111	0.4335	0.4416	0.4220	0.4319	0.4135	0.4182	5	AVG *
1,1,1-Trichloroethane	0.3125	0.3777	0.3947	0.3925	0.3758	0.3846	0.3677	0.3722	8	AVG
Cyclohexane	0.3296	0.3571	0.3808	0.4027	0.3923	0.3996	0.3891	0.3787	7	AVG
Cyclohexane(2)	0.2826	0.3264	0.3966	0.3666	0.3494	0.3619	0.3575	0.3487	10	AVG
Cyclohexane(3)	0.1143	0.1146	0.1223	0.1294	0.1265	0.1286	0.1263	0.1231	5	AVG
1,1-Dichloropropene	0.3007	0.3190	0.3357	0.3540	0.3416	0.3458	0.3348	0.3331	5	AVG
Carbon Tetrachloride	0.2339	0.2533	0.2799	0.2927	0.2989	0.3061	0.3083	0.2819	10	AVG
Isobutyl Alcohol	0.3930	0.3518	0.3748	0.3479	0.3423	0.3680	0.2893	0.3524	9	AVG
Benzene	0.9051	0.9815	1.0498	1.0473	1.0197	1.0304	0.9766	1.0015	5	AVG
1,2-Dichloroethane	0.3585	0.3633	0.3639	0.3524	0.3350	0.3486	0.3226	0.3492	4	AVG
1,2-Dichloroethane(2)	0.0332	0.0309	0.0361	0.0358	0.0352	0.0360	0.0335	0.0344	6	AVG
t-Amyl methyl ether	0.7326	0.7956	0.8455	0.8292	0.7821	0.8232	0.7491	0.7939	5	AVG
n-Heptane		0.2549	0.2397	0.2808	0.2416	0.2386	0.2496	0.2508	6	AVG
n-Butanol	0.3092	0.2993	0.3315	0.3487	0.3528	0.3433	0.3367	0.3316	6	AVG

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

FORM VI VOA

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

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

Instrument ID: HP09137 Calibration Date(s): 04/09/18 04/09/18

Heated Purge: (Y/N) Y Calibration Times: 11:16 13:38

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

LAB FILE ID: RRF 1 = wa09i07.d RRF 4 = wa09i06.d RRF 10= wa09i05.d
RRF 20= wa09i04.d RRF 50= wa09i03.d RRF100= wa09i02.d RRF300= wa09i01.d

COMPOUND	RRF 1	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	% RSD	CAL. METHOD
Trichloroethene	0.2344	0.2586	0.2763	0.2842	0.2693	0.2745	0.2639	0.2659	6	AVG
Methylcyclohexane	0.3216	0.3447	0.3752	0.3713	0.3478	0.3752	0.3663	0.3575	6	AVG
Methylcyclohexane(2)	0.1321	0.1629	0.1738	0.1827	0.1704	0.1774	0.1767	0.1680	10	AVG
1,2-Dichloropropane	*0.2259	0.2401	0.2641	0.2714	0.2546	0.2670	0.2520	0.2536	6	AVG *
Dibromomethane	0.1489	0.1748	0.1834	0.1771	0.1722	0.1809	0.1665	0.1720	7	AVG
1,4-Dioxane		0.0661	0.0905	0.1007	0.1034	0.0839	0.0989	0.0906	15	AVG
Methyl Methacrylate	0.2667	0.2770	0.2848	0.2750	0.2573	0.2824	0.2533	0.2709	5	AVG
Bromodichloromethane	0.2794	0.3176	0.3354	0.3424	0.3324	0.3428	0.3262	0.3252	7	AVG
2-Nitropropane	0.0849	0.0806	0.1017	0.0852	0.0874	0.1055	0.0848	0.0900	11	AVG
2-Chloroethyl Vinyl Ether	0.1805	0.2041	0.2160	0.2147	0.2093	0.2208	0.2006	0.2066	7	AVG
cis-1,3-Dichloropropene	0.3699	0.4037	0.4475	0.4440	0.4462	0.4576	0.4322	0.4287	7	AVG
4-Methyl-2-pentanone	0.3507	0.3531	0.4305	0.3650	0.3777	0.4067	0.3331	0.3738	9	AVG
Toluene	*0.7925	0.8582	0.8903	0.9307	0.8970	0.8988	0.8794	0.8781	5	AVG *
trans-1,3-Dichloropropene	0.4662	0.4781	0.5323	0.5395	0.5443	0.5583	0.5435	0.5232	7	AVG
Ethyl Methacrylate	0.5565	0.6053	0.6020	0.6251	0.6206	0.6302	0.5996	0.6056	4	AVG
1,1,2-Trichloroethane	0.3044	0.3457	0.3583	0.3535	0.3549	0.3542	0.3450	0.3451	5	AVG
Tetrachloroethene	0.3269	0.3433	0.3664	0.3730	0.3611	0.3660	0.3645	0.3573	5	AVG
1,3-Dichloropropane	0.5132	0.5709	0.5864	0.5977	0.5831	0.5835	0.5586	0.5705	5	AVG
2-Hexanone	0.3457	0.3870	0.4310	0.3823	0.3858	0.4128	0.3536	0.3855	8	AVG
Dibromochloromethane	0.2833	0.3224	0.3502	0.3646	0.3705	0.3855	0.3804	0.3510	10	AVG
1,2-Dibromoethane	0.3282	0.3695	0.3928	0.3905	0.3857	0.3914	0.3736	0.3760	6	AVG
Chlorobenzene	#0.9182	0.9856	1.0133	1.0434	1.0150	1.0310	0.9968	1.0005	4	AVG #
1,1,1,2-Tetrachloroethane	0.2524	0.3006	0.3280	0.3398	0.3393	0.3471	0.3423	0.3214	11	AVG
Ethylbenzene	*1.4855	1.5824	1.6702	1.7176	1.6632	1.6817	1.5723	1.6247	5	AVG *
m+p-Xylene	0.5912	0.6418	0.6766	0.6976	0.6800	0.6953	0.6656	0.6640	6	AVG
o-Xylene	0.5960	0.6353	0.6690	0.6915	0.6759	0.6985	0.6762	0.6632	5	AVG
Styrene	0.9860	1.0769	1.1342	1.1830	1.1701	1.2124	1.1690	1.1331	7	AVG
Bromoform	#0.1851	0.2305	0.2431	0.2556	0.2664	0.2905	0.2920	0.2519	15	AVG #
Isopropylbenzene	1.3829	1.5385	1.6525	1.6711	1.5987	1.6661	1.5335	1.5776	7	AVG
Cyclohexanone	0.4336	0.3580	0.4517	0.4514	0.4695	0.3401		0.4174	13	AVG
Bromobenzene	0.7484	0.8113	0.8319	0.8558	0.8552	0.8293	0.7881	0.8171	5	AVG
1,1,2,2-Tetrachloroethane	#1.0035	1.0868	1.0868	1.0807	1.0821	1.0568	0.9647	1.0516	5	AVG #
1,2,3-Trichloropropane	0.3349	0.3418	0.3354	0.3346	0.3367	0.3303	0.2983	0.3303	4	AVG
trans-1,4-Dichloro-2-butene	0.2479	0.2762	0.3004	0.3046	0.3113	0.3037	0.2795	0.2891	8	AVG
n-Propylbenzene	3.2551	3.4395	3.5998	3.6588	3.5415	3.4171	2.9806	3.4132	7	AVG
2-Chlorotoluene	0.7068	0.7359	0.7766	0.7951	0.7757	0.7573	0.7103	0.7511	5	AVG
4-Chlorotoluene	0.7497	0.7904	0.8178	0.8433	0.8252	0.8190	0.7821	0.8039	4	AVG
1,3,5-Trimethylbenzene	2.2922	2.4850	2.6715	2.6952	2.6124	2.6105	2.3853	2.5360	6	AVG
tert-Butylbenzene	0.5308	0.5241	0.5889	0.5963	0.5668	0.5750	0.5537	0.5622	5	AVG
Pentachloroethane	0.3505	0.4061	0.4335	0.4488	0.4579	0.4719	0.4696	0.4340	10	AVG
1,2,4-Trimethylbenzene	2.4128	2.6677	2.7954	2.8170	2.6910	2.7200	2.4620	2.6523	6	AVG
sec-Butylbenzene	2.6282	2.8698	3.0558	3.0803	2.9168	2.9265	2.6214	2.8712	6	AVG
1,3-Dichlorobenzene	1.5233	1.5350	1.6059	1.5905	1.5395	1.5571	1.4577	1.5441	3	AVG
p-Isopropyltoluene	2.3834	2.5487	2.7380	2.7200	2.5982	2.6656	2.4257	2.5828	5	AVG
1,4-Dichlorobenzene	1.5730	1.6220	1.6677	1.6587	1.5943	1.6186	1.5103	1.6064	3	AVG
1,2,3-Trimethylbenzene	2.5890	2.7329	2.9476	2.8663	2.6933	2.7789	2.5157	2.7320	5	AVG
Benzyl Chloride	1.8017	2.0150	2.1351	2.2379	2.2352	2.3310	2.1301	2.1266	8	AVG
1,3-Diethylbenzene	1.3878	1.5134	1.6463	1.6185	1.5046	1.5988	1.5086	1.5397	6	AVG
1,4-Diethylbenzene	1.4883	1.5790	1.7172	1.6660	1.5258	1.6431	1.5525	1.5960	5	AVG
1,2-Dichlorobenzene	1.4788	1.5453	1.5783	1.5753	1.5292	1.5780	1.4917	1.5395	3	AVG
n-Butylbenzene	1.1546	1.1989	1.2998	1.2686	1.2050	1.2614	1.2085	1.2281	4	AVG
1,2-Diethylbenzene	1.2421	1.3108	1.4012	1.3707	1.2736	1.3642	1.2896	1.3217	4	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: HP09137 Calibration Date(s): 04/09/18 04/09/18

Heated Purge: (Y/N) Y Calibration Times: 11:16 13:38

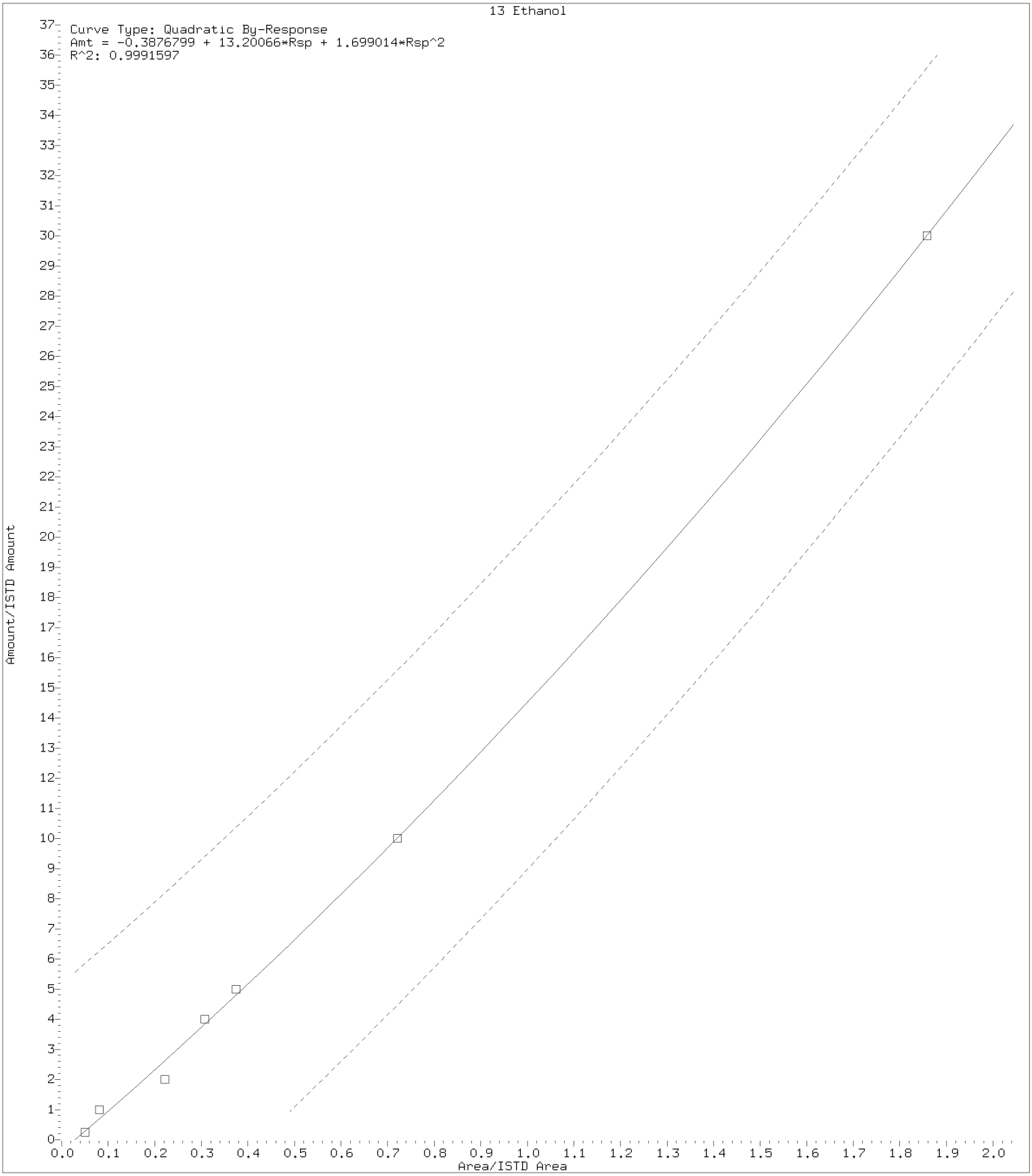
Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

LAB FILE ID: RRF 1 = wa09i07.d RRF 4 = wa09i06.d RRF 10= wa09i05.d
RRF 20= wa09i04.d RRF 50= wa09i03.d RRF100= wa09i02.d RRF300= wa09i01.d

COMPOUND	RRF 1	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	___ RRF	% RSD	CAL. METHOD
1,2-Dibromo-3-chloropropane	0.1753	0.2380	0.2387	0.2234	0.2303	0.2458	0.2153	0.2238	11	AVG
1,3,5-Trichlorobenzene	0.9652	0.9762	1.0478	0.9677	0.9486	0.9884	0.9569	0.9787	3	AVG
1,2,4-Trichlorobenzene	0.9213	0.9822	1.0628	0.9460	0.9675	0.9575	0.9501	0.9696	5	AVG
Hexachlorobutadiene	0.2983	0.2935	0.3096	0.2778	0.2771	0.2781	0.2772	0.2874	5	AVG
Naphthalene	3.4810	3.6370	3.8467	3.5039	3.5711	3.5091	3.0799	3.5184	7	AVG
1,2,3-Trichlorobenzene	0.9103	0.9185	1.0052	0.8857	0.9437	0.8784	0.9011	0.9204	5	AVG
2-Methylnaphthalene	1.7683	1.6433	2.0319	1.7497	2.1620	1.7729	1.8344	1.8518	10	AVG
Dibromofluoromethane	0.2245	0.2296	0.2305	0.2276	0.2263	0.2297	0.2272	0.2279	1	AVG
Dibromofluoromethane(2)	0.2294	0.2344	0.2354	0.2359	0.2314	0.2354	0.2321	0.2334	1	AVG
1,2-Dichloroethane-d4	0.0600	0.0624	0.0631	0.0589	0.0574	0.0607	0.0565	0.0598	4	AVG
1,2-Dichloroethane-d4(2)	0.2692	0.2804	0.2806	0.2758	0.2573	0.2663	0.2532	0.2689	4	AVG
1,2-Dichloroethane-d4(3)	0.0383	0.0394	0.0403	0.0382	0.0377	0.0396	0.0378	0.0388	3	AVG
Toluene-d8	1.2723	1.2671	1.2768	1.2866	1.2948	1.2778	1.2984	1.2820	1	AVG
Toluene-d8(2)	0.8394	0.8416	0.8444	0.8534	0.8735	0.8480	0.9476	0.8640	4	AVG
4-Bromofluorobenzene	0.4750	0.4818	0.4849	0.4846	0.4789	0.4921	0.4923	0.4842	1	AVG
4-Bromofluorobenzene(2)	0.3879	0.3905	0.3962	0.3954	0.3889	0.4038	0.4029	0.3951	2	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 Nicole S. Lamoreaux on 04/09/2018 at 14:28.
Target 3.5 esignature user ID: nsl01327

Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem2/HP09137.i/18apr09i.b/wa09i01.d VSTD300
/chem2/HP09137.i/18apr09i.b/wa09i02.d VSTD100
/chem2/HP09137.i/18apr09i.b/wa09i03.d VSTD050
/chem2/HP09137.i/18apr09i.b/wa09i04.d VSTD020
/chem2/HP09137.i/18apr09i.b/wa09i05.d VSTD010
/chem2/HP09137.i/18apr09i.b/wa09i06.d VSTD004
/chem2/HP09137.i/18apr09i.b/wa09i07.d VSTD001

Area Summary

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

Internal Standard Name	wa09i01.d	wa09i02.d	wa09i03.d	wa09i04.d	wa09i05.d	wa09i06.d	wa09i07.d	Avg. Area	%RSD	In Spec
t-Butyl alcohol-d10	143108	231548	166695	161544	254345	234031	149242	191502	24	Yes
Fluorobenzene	1075258	1063731	1055463	1044137	1023385	1028475	1026790	1045320	2	Yes
Chlorobenzene-d5	808620	825664	801369	808445	794952	799400	800980	805633	1	Yes
1,4-Dichlorobenzene-d4	466022	461030	413797	425782	424932	421063	415394	432574	5	Yes

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

RT Summary

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

Internal Standard Name	wa09i01.d	wa09i02.d	wa09i03.d	wa09i04.d	wa09i05.d	wa09i06.d	wa09i07.d	Avg. RT
t-Butyl alcohol-d10	2.764	2.786	2.776	2.773	2.780	2.773	2.776	2.776
Fluorobenzene	5.068	5.068	5.068	5.064	5.068	5.068	5.068	5.067
Chlorobenzene-d5	8.193	8.193	8.193	8.193	8.190	8.193	8.193	8.193
1,4-Dichlorobenzene-d4	10.070	10.070	10.070	10.067	10.067	10.070	10.067	10.069

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

Report generated on 04/09/2018 at 14:29.

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract:_____

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

Instrument ID: HP09137 ICV Date: 04/09/18 Time: 14:26

Lab File ID: wa09v01.d Init. Calib. Date(s): 04/09/18 04/09/18

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

	COMPOUND	$\overline{RRF}$	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT	
	Dichlorodifluoromethane	0.3260	0.3033	18.61	20	-7	
#	Chloromethane	0.3492	0.3371	19.31	20	-3	#
	1,3-Butadiene	0.2586	0.2725	21.08	20	5	
*	Vinyl Chloride	0.3529	0.3502	19.85	20	-1	*
	Bromomethane	0.2564	0.2561	19.98	20	0	
	Chloroethane	0.2107	0.2092	19.86	20	-1	
	Dichlorofluoromethane	0.4439	0.5077	22.88	20	14	
	n-Pentane	0.4165	0.4153	19.94	20	0	
	Trichlorofluoromethane	0.3924	0.4060	20.69	20	3	
	Ethanol	0.0922	0.0884	507.52	500	2	
	Freon 123a	0.2898	0.2957	20.41	20	2	
	Acrolein	2.0287	1.8477	136.62	150	-9	
*	1,1-Dichloroethene	0.2185	0.2433	22.27	20	11	*
	Acetone	0.8523	0.7973	140.32	150	-6	
	Freon 113	0.2215	0.2363	21.35	20	7	
	2-Propanol	0.5893	0.4763	121.22	150	-19	
	Methyl Iodide	0.4243	0.4253	20.04	20	0	
	Carbon Disulfide	0.7210	0.7354	20.40	20	2	
	Allyl Chloride	0.3488	0.3615	20.73	20	4	
	Methyl Acetate	0.2552	0.2202	17.26	20	-14	
	Methylene Chloride	0.2539	0.2569	20.24	20	1	
	t-Butyl alcohol	1.0745	1.0496	195.38	200	-2	
	Acrylonitrile	0.1301	0.1044	80.24	100	-20	
	trans-1,2-Dichloroethene	0.2405	0.2623	21.81	20	9	
	Methyl Tertiary Butyl Ether	0.8152	0.7930	19.45	20	-3	
	n-Hexane	0.2797	0.2740	19.59	20	-2	
#	1,1-Dichloroethane	0.4079	0.4283	21.00	20	5	#
	di-Isopropyl ether	0.7637	0.7513	19.68	20	-2	
	2-Chloro-1,3-butadiene	0.3605	0.3669	20.36	20	2	
	Ethyl t-butyl ether	0.7606	0.7336	19.29	20	-4	
	cis-1,2-Dichloroethene	0.2714	0.2959	21.81	20	9	
	2-Butanone	0.1813	0.1574	130.24	150	-13	
	2,2-Dichloropropane	0.2204	0.2372	21.52	20	8	
	Propionitrile	1.3432	1.4061	157.02	150	5	
	Methacrylonitrile	0.1535	0.1478	144.44	150	-4	
	Bromochloromethane	0.1381	0.1402	20.30	20	1	

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: HP09137 ICV Date: 04/09/18 Time: 14:26

Lab File ID: wa09v01.d Init. Calib. Date(s): 04/09/18 04/09/18

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	$\overline{RRF}$	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
Tetrahydrofuran	1.4363	1.4872	103.54	100	4
* Chloroform	0.4182	0.4320	20.66	20	3 *
1,1,1-Trichloroethane	0.3722	0.3816	20.50	20	3
Cyclohexane	0.3787	0.3858	20.37	20	2
1,1-Dichloropropene	0.3331	0.3442	20.67	20	3
Carbon Tetrachloride	0.2819	0.2935	20.83	20	4
Isobutyl Alcohol	0.3524	0.3290	466.69	500	-7
Benzene	1.0015	1.0435	20.84	20	4
1,2-Dichloroethane	0.3492	0.3427	19.63	20	-2
t-Amyl methyl ether	0.7939	0.7697	19.39	20	-3
n-Heptane	0.2508	0.2487	19.83	20	-1
n-Butanol	0.3316	0.3430	1034.34	1000	3
Trichloroethene	0.2659	0.2725	20.50	20	3
Methylcyclohexane	0.3575	0.3664	20.50	20	3
* 1,2-Dichloropropane	0.2536	0.2686	21.19	20	6 *
Dibromomethane	0.1720	0.1752	20.38	20	2
1,4-Dioxane	0.0906	0.1028	567.17	500	13
Methyl Methacrylate	0.2709	0.2565	18.94	20	-5
Bromodichloromethane	0.3252	0.3306	20.34	20	2
2-Nitropropane	0.0900	0.0768	17.06	20	-15
2-Chloroethyl Vinyl Ether	0.2066	0.1999	19.36	20	-3
cis-1,3-Dichloropropene	0.4287	0.4361	20.34	20	2
4-Methyl-2-pentanone	0.3738	0.3557	95.15	100	-5
* Toluene	0.8781	0.9109	20.75	20	4 *
trans-1,3-Dichloropropene	0.5232	0.5223	19.97	20	0
Ethyl Methacrylate	0.6056	0.5814	19.20	20	-4
1,1,2-Trichloroethane	0.3451	0.3576	20.72	20	4
Tetrachloroethene	0.3573	0.3737	20.92	20	5
1,3-Dichloropropane	0.5705	0.5843	20.48	20	2
2-Hexanone	0.3855	0.3592	93.18	100	-7
Dibromochloromethane	0.3510	0.3549	20.22	20	1
1,2-Dibromoethane	0.3760	0.3849	20.48	20	2
# Chlorobenzene	1.0005	1.0275	20.54	20	3 #
1,1,1,2-Tetrachloroethane	0.3214	0.3273	20.37	20	2
* Ethylbenzene	1.6247	1.6996	20.92	20	5 *
m+p-Xylene	0.6640	0.6900	41.56	40	4

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

page 2 of 3 FORM VII VOA

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract:_____

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

Instrument ID: HP09137 ICV Date: 04/09/18 Time: 14:26

Lab File ID: wa09v01.d Init. Calib. Date(s): 04/09/18 04/09/18

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	$\overline{RRF}$	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
o-Xylene	0.6632	0.6787	20.47	20	2
Styrene	1.1331	1.1807	20.84	20	4
# Bromoform	0.2519	0.2422	19.23	20	-4 #
Isopropylbenzene	1.5776	1.6454	20.86	20	4
Cyclohexanone	0.4174	0.3879	464.62	500	-7
Bromobenzene	0.8171	0.8570	20.98	20	5
# 1,1,2,2-Tetrachloroethane	1.0516	1.0712	20.37	20	2 #
1,2,3-Trichloropropane	0.3303	0.3433	20.79	20	4
trans-1,4-Dichloro-2-butene	0.2891	0.3129	108.25	100	8
n-Propylbenzene	3.4132	3.6261	21.25	20	6
2-Chlorotoluene	0.7511	0.7862	20.94	20	5
4-Chlorotoluene	0.8039	0.8313	20.68	20	3
1,3,5-Trimethylbenzene	2.5360	2.6415	20.83	20	4
tert-Butylbenzene	0.5622	0.5747	20.44	20	2
Pentachloroethane	0.4340	0.4379	20.18	20	1
1,2,4-Trimethylbenzene	2.6523	2.7451	20.70	20	3
sec-Butylbenzene	2.8712	3.0065	20.94	20	5
1,3-Dichlorobenzene	1.5441	1.5543	20.13	20	1
p-Isopropyltoluene	2.5828	2.6854	20.79	20	4
1,4-Dichlorobenzene	1.6064	1.6416	20.44	20	2
1,2,3-Trimethylbenzene	2.7320	2.8338	20.75	20	4
Benzyl Chloride	2.1266	2.0832	19.59	20	-2
1,3-Diethylbenzene	1.5397	1.5419	20.03	20	0
1,4-Diethylbenzene	1.5960	1.5906	19.93	20	0
1,2-Dichlorobenzene	1.5395	1.5606	20.27	20	1
n-Butylbenzene	1.2281	1.2067	19.65	20	-2
1,2-Diethylbenzene	1.3217	1.3084	19.80	20	-1
1,2-Dibromo-3-chloropropane	0.2238	0.2153	19.24	20	-4
1,3,5-Trichlorobenzene	0.9787	0.9364	19.14	20	-4
1,2,4-Trichlorobenzene	0.9696	0.8890	18.34	20	-8
Hexachlorobutadiene	0.2874	0.2567	17.87	20	-11
Naphthalene	3.5184	3.2938	18.72	20	-6
1,2,3-Trichlorobenzene	0.9204	0.8355	18.16	20	-9
2-Methylnaphthalene	1.8518	1.4693	15.87	20	-21

Average %Drift 5

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/HP09137.i/18apr09i.b/wa09i07.d
/chem2/HP09137.i/18apr09i.b/wa09i06.d
/chem2/HP09137.i/18apr09i.b/wa09i05.d
/chem2/HP09137.i/18apr09i.b/wa09i04.d
/chem2/HP09137.i/18apr09i.b/wa09i03.d
/chem2/HP09137.i/18apr09i.b/wa09i02.d
/chem2/HP09137.i/18apr09i.b/wa09i01.d

File /chem2/HP09137.i/18apr09i.b/wa09i03.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

/chem2/HP09137.i/18apr30a.b/wa30c01.d

RT Summary

Internal Standard Name	File ID: wa30c01.d	ICAL RT	In Spec
t-Butyl alcohol-d10	2.763	2.776	Yes
Fluorobenzene	5.067	5.068	Yes
Chlorobenzene-d5	8.193	8.193	Yes
1,4-Dichlorobenzene-d4	10.070	10.070	Yes

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

Area Summary

Internal Standard Name	File ID: wa30c01.d	ICAL Area	Low Limit	High Limit	In Spec
t-Butyl alcohol-d10	179067	166695	83348	333390	Yes
Fluorobenzene	828613	1055463	527732	2110926	Yes
Chlorobenzene-d5	653803	801369	400684	1602738	Yes
1,4-Dichlorobenzene-d4	353136	413797	206898	827594	Yes

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

Comments: _____

report generated on 04/30/2018 at 09:06

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

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

Instrument ID: HP09137 Calibration Date: 04/30/18 Time: 08:41

Lab File ID: wa30c01.d Init. Calib. Date(s): 04/09/18 04/09/18

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

	COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT	
	Dichlorodifluoromethane	0.3260	0.2305	35.35	50	-29	
#	Chloromethane	0.3492	0.3041	43.54	50	-13	#
	1,3-Butadiene	0.2586	0.2814	54.41	50	9	
*	Vinyl Chloride	0.3529	0.3257	46.15	50	-8	*
	Bromomethane	0.2564	0.2391	46.63	50	-7	
	Chloroethane	0.2107	0.2078	49.32	50	-1	
	n-Pentane	0.4165	0.3922	47.08	50	-6	
	Trichlorofluoromethane	0.3924	0.3985	50.78	50	2	
	Ethanol	0.0922	0.1078	1802.74	1250	44	
	Freon 123a	0.2898	0.2822	48.68	50	-3	
	Acrolein	2.0287	1.8264	450.14	500	-10	
*	1,1-Dichloroethene	0.2185	0.2293	52.47	50	5	*
*	1,1-Dichloroethene(2)	0.1015	0.1107	54.50	50	9	*
	Acetone	0.8523	0.9463	111.03	100	11	
	Freon 113	0.2215	0.2318	52.33	50	5	
	2-Propanol	0.5893	0.7517	318.88	250	28	
	Methyl Iodide	0.4243	0.4355	51.32	50	3	
	Carbon Disulfide	0.7210	0.7867	54.55	50	9	
	Allyl Chloride	0.3488	0.3354	48.08	50	-4	
	Methyl Acetate	0.2552	0.2868	56.17	50	12	
	Methylene Chloride	0.2539	0.2653	52.23	50	4	
	t-Butyl alcohol	1.0745	1.1428	265.90	250	6	
	Acrylonitrile	0.1301	0.1517	58.29	50	17	
	trans-1,2-Dichloroethene	0.2405	0.2521	52.42	50	5	
	Methyl Tertiary Butyl Ether	0.8152	0.5603	34.36	50	-31	
	n-Hexane	0.2797	0.2813	50.28	50	1	
#	1,1-Dichloroethane	0.4079	0.4212	51.63	50	3	#
	di-Isopropyl ether	0.7637	0.7396	48.43	50	-3	
	2-Chloro-1,3-butadiene	0.3605	0.3702	51.35	50	3	
	Ethyl t-butyl ether	0.7606	0.5867	38.57	50	-23	
	cis-1,2-Dichloroethene	0.2714	0.2858	52.66	50	5	
	2-Butanone	0.1813	0.2121	116.96	100	17	
	2,2-Dichloropropane	0.2204	0.1794	40.69	50	-19	
	Propionitrile	1.3432	1.4629	272.28	250	9	
	Methacrylonitrile	0.1535	0.1717	139.80	125	12	
	Bromochloromethane	0.1381	0.1439	52.11	50	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: HP09137 Calibration Date: 04/30/18 Time: 08:41

Lab File ID: wa30c01.d Init. Calib. Date(s): 04/09/18 04/09/18

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

	COMPOUND	$\overline{RRF}$	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT	
	Tetrahydrofuran	1.4363	1.3838	96.34	100	-4	
*	Chloroform	0.4182	0.4351	52.01	50	4	*
	1,1,1-Trichloroethane	0.3722	0.3440	46.21	50	-8	
	Cyclohexane	0.3787	0.3779	49.88	50	0	
	Cyclohexane(2)	0.3487	0.3322	47.64	50	-5	
	Cyclohexane(3)	0.1231	0.1173	47.62	50	-5	
	1,1-Dichloropropene	0.3331	0.3465	52.01	50	4	
	Carbon Tetrachloride	0.2819	0.2740	48.61	50	-3	
	Isobutyl Alcohol	0.3524	0.4047	717.64	625	15	
	Benzene	1.0015	1.0593	52.89	50	6	
	1,2-Dichloroethane	0.3492	0.3500	50.12	50	0	
	1,2-Dichloroethane(2)	0.0344	0.0357	51.82	50	4	
	t-Amyl methyl ether	0.7939	0.6270	39.49	50	-21	
	n-Heptane	0.2508	0.2077	41.39	50	-17	
	n-Butanol	0.3316	0.3512	1323.57	1250	6	
	Trichloroethene	0.2659	0.2748	51.68	50	3	
	Methylcyclohexane	0.3575	0.3203	44.81	50	-10	
	Methylcyclohexane(2)	0.1680	0.1527	45.45	50	-9	
*	1,2-Dichloropropane	0.2536	0.2713	53.49	50	7	*
	Dibromomethane	0.1720	0.1824	53.05	50	6	
	1,4-Dioxane	0.0906	0.1153	795.59	625	27	
	Methyl Methacrylate	0.2709	0.2798	51.64	50	3	
	Bromodichloromethane	0.3252	0.3241	49.84	50	0	
	2-Nitropropane	0.0900	0.0839	93.18	100	-7	
	2-Chloroethyl Vinyl Ether	0.2066	0.2196	53.15	50	6	
	cis-1,3-Dichloropropene	0.4287	0.4286	49.99	50	0	
	4-Methyl-2-pentanone	0.3738	0.4137	110.66	100	11	
*	Toluene	0.8781	0.8792	50.06	50	0	*
	trans-1,3-Dichloropropene	0.5232	0.4964	47.44	50	-5	
	Ethyl Methacrylate	0.6056	0.6035	49.83	50	0	
	1,1,2-Trichloroethane	0.3451	0.3520	51.00	50	2	
	Tetrachloroethene	0.3573	0.3333	46.64	50	-7	
	1,3-Dichloropropane	0.5705	0.5881	51.54	50	3	
	2-Hexanone	0.3855	0.4086	106.01	100	6	
	Dibromochloromethane	0.3510	0.3367	47.97	50	-4	
	1,2-Dibromoethane	0.3760	0.3843	51.11	50	2	

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: HP09137 Calibration Date: 04/30/18 Time: 08:41

Lab File ID: wa30c01.d Init. Calib. Date(s): 04/09/18 04/09/18

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

	COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT	
#	Chlorobenzene	1.0005	0.9869	49.32	50	-1	#
	1,1,1,2-Tetrachloroethane	0.3214	0.3107	48.35	50	-3	
*	Ethylbenzene	1.6247	1.6284	50.11	50	0	*
	m+p-Xylene	0.6640	0.6547	98.60	100	-1	
	o-Xylene	0.6632	0.6505	49.04	50	-2	
	Styrene	1.1331	1.1261	49.69	50	-1	
#	Bromoform	0.2519	0.2262	44.90	50	-10	#
	Isopropylbenzene	1.5776	1.4622	46.34	50	-7	
	Cyclohexanone	0.4174	0.3670	549.61	625	-12	
	Bromobenzene	0.8171	0.7893	48.30	50	-3	
#	1,1,2,2-Tetrachloroethane	1.0516	1.0922	51.93	50	4	#
	1,2,3-Trichloropropane	0.3303	0.3345	50.65	50	1	
	trans-1,4-Dichloro-2-butene	0.2891	0.2609	112.81	125	-10	
	n-Propylbenzene	3.4132	3.0791	45.11	50	-10	
	2-Chlorotoluene	0.7511	0.6885	45.83	50	-8	
	4-Chlorotoluene	0.8039	0.7503	46.66	50	-7	
	1,3,5-Trimethylbenzene	2.5360	2.2657	44.67	50	-11	
	tert-Butylbenzene	0.5622	0.4742	42.17	50	-16	
	Pentachloroethane	0.4340	0.3882	44.72	50	-11	
	1,2,4-Trimethylbenzene	2.6523	2.4232	45.68	50	-9	
	sec-Butylbenzene	2.8712	2.4090	41.95	50	-16	
	1,3-Dichlorobenzene	1.5441	1.4053	45.51	50	-9	
	p-Isopropyltoluene	2.5828	2.1367	41.36	50	-17	
	1,4-Dichlorobenzene	1.6064	1.4871	46.29	50	-7	
	1,2,3-Trimethylbenzene	2.7320	2.5863	47.33	50	-5	
	Benzyl Chloride	2.1266	1.8931	44.51	50	-11	
	1,3-Diethylbenzene	1.5397	1.2931	41.99	50	-16	
	1,4-Diethylbenzene	1.5960	1.3494	42.27	50	-15	
	1,2-Dichlorobenzene	1.5395	1.4513	47.13	50	-6	
	n-Butylbenzene	1.2281	0.9969	40.59	50	-19	
	1,2-Diethylbenzene	1.3217	1.1132	42.11	50	-16	
	1,2-Dibromo-3-chloropropane	0.2238	0.2293	51.23	50	2	
	1,3,5-Trichlorobenzene	0.9787	0.7764	39.66	50	-21	
	1,2,4-Trichlorobenzene	0.9696	0.7814	40.29	50	-19	
	Hexachlorobutadiene	0.2874	0.2445	42.54	50	-15	
	Naphthalene	3.5184	3.3937	48.23	50	-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: HP09137 Calibration Date: 04/30/18 Time: 08:41

Lab File ID: wa30c01.d Init. Calib. Date(s): 04/09/18 04/09/18

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: DB-624 ID: .18

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
1,2,3-Trichlorobenzene	0.9204	0.7487	40.67	50	-19
2-Methylnaphthalene	1.8518	1.3431	36.26	50	-27
Dibromofluoromethane	0.2279	0.2255	49.47	50	-1
Dibromofluoromethane(2)	0.2334	0.2325	49.81	50	0
1,2-Dichloroethane-d4	0.0598	0.0610	50.98	50	2
1,2-Dichloroethane-d4(2)	0.2689	0.2705	50.28	50	1
1,2-Dichloroethane-d4(3)	0.0388	0.0398	51.28	50	3
Toluene-d8	1.2820	1.2733	49.66	50	-1
Toluene-d8(2)	0.8640	0.8339	48.26	50	-3
4-Bromofluorobenzene	0.4842	0.4842	50.00	50	0
4-Bromofluorobenzene(2)	0.3951	0.3926	49.69	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.:_ATH85___

Lab File ID (Standard): wa30c01.d Date Analyzed: 04/30/18

Instrument ID: HP09137 Time Analyzed: 08:41

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	179067	2.763	828613	5.067	653803	8.193	353136	10.070
UPPER LIMIT	358134	3.263	1657226	5.567	1307606	8.693	706272	10.570
LOWER LIMIT	89534	2.263	414306	4.567	326902	7.693	176568	9.570
LAB SAMPLE ID								
01 LCSW03	166056	2.766	849457	5.070	658639	8.196	337249	10.070
02 LCDW03	158664	2.763	839483	5.067	655445	8.193	336743	10.070
03 VBLKW03	180604	2.767	824478	5.067	643957	8.193	324971	10.070
04 9570353	191866	2.766	824827	5.067	652082	8.196	322769	10.070
05 9570352	172719	2.763	812563	5.067	646633	8.193	330880	10.070
06 9570341	179857	2.763	803635	5.067	630212	8.193	313548	10.070
07 9570343	171546	2.763	811074	5.067	637962	8.193	314357	10.070
08 9570344	169800	2.763	805444	5.067	633139	8.193	313473	10.070
09 9570345	172000	2.763	811057	5.067	635541	8.193	314416	10.070
10 9570346	167889	2.760	806930	5.067	626843	8.193	312949	10.067
11 9572336	160004	2.763	799115	5.067	624475	8.193	308082	10.070
12 9572337	144111	2.779	783715	5.067	611958	8.193	297255	10.070
13 9572338	145342	2.770	795595	5.067	629856	8.193	314676	10.070
14 9572335DL	153934	2.760	791323	5.067	626265	8.193	306338	10.070
15 9572334DL2	156933	2.763	788681	5.067	622405	8.193	316044	10.070
16 9572374DL	154313	2.760	783286	5.067	625152	8.193	312626	10.070
17 9570347	152827	2.760	789964	5.067	629122	8.193	317007	10.070
18 9570347DL	154187	2.767	785302	5.067	623804	8.193	300484	10.070
19 9570349	158478	2.763	775721	5.067	616324	8.193	313653	10.070
20 9570349DL	156282	2.767	778335	5.067	616228	8.193	301400	10.070
21 9570351	157402	2.763	777263	5.067	615453	8.193	304559	10.070
22 9570351DL	153968	2.763	777380	5.067	612143	8.193	300693	10.067

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 1 of 1

FORM VIII VOA

Sample Data

Volatiles by GC/MS

A8501

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

9570341

Data file: /chem2/HP09137.i/18apr30a.b/wa30s03.d
Data file Sample Info. Line: A8501;9570341;1;0;;ATH85;;;wa30b01;
Date, time and analyst ID of latest file update: 30-Apr-2018 12:41 Automation

Injection date and time: **30-APR-2018 12:26**
Instrument ID: **HP09137.i** Batch: **W181201AA**

Blank Data file reference: **/chem2/HP09137.i/18apr30a.b/wa30b01.d**

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 30-APR-2018 10:55
Mid Level Daily Calibration Standard Reference: **/chem2/HP09137.i/18apr30a.b/wa30c01.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	2.763(0.000)	602	65	179857 (0)	250.00	
66) Fluorobenzene	5.067(0.000)	1320	96	803635 (-3)	50.00	
100) Chlorobenzene-d5	8.193(0.000)	2294	117	630212 (-4)	50.00	
131) 1,4-Dichlorobenzene-d4	10.070(0.000)	2879	152	313548 (-11)	50.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(2)	4.390(0.000)	113	177737	48.516	97%		80 - 120
57) 1,2-Dichloroethane-d4	(2)	4.724(0.001)	102	49467	51.426	103%		80 - 120
83) Toluene-d8	(3)	6.733(0.000)	98	796883	49.316	99%		80 - 120
114) 4-Bromofluorobenzene	(3)	9.191(0.000)	95	292980	48.004	96%		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 04/30/2018 at 14:41. Target 3.5 esignature user ID: nsl01327

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP09137.i/18apr30a.b/wa30s03.d Injection date and time: **30-APR-2018 12:26**
Data file Sample Info. Line: A8501;9570341;1;0;;ATH85;;;wa30b01; Instrument ID: **HP09137.i** Batch: **W181201AA**
Date, time and analyst ID of latest file update: 30-Apr-2018 12:41 Automation

Blank Data file reference: **/chem2/HP09137.i/18apr30a.b/wa30b01.d**

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 30-APR-2018 10:55
Mid Level Daily Calibration Standard Reference: **/chem2/HP09137.i/18apr30a.b/wa30c01.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**

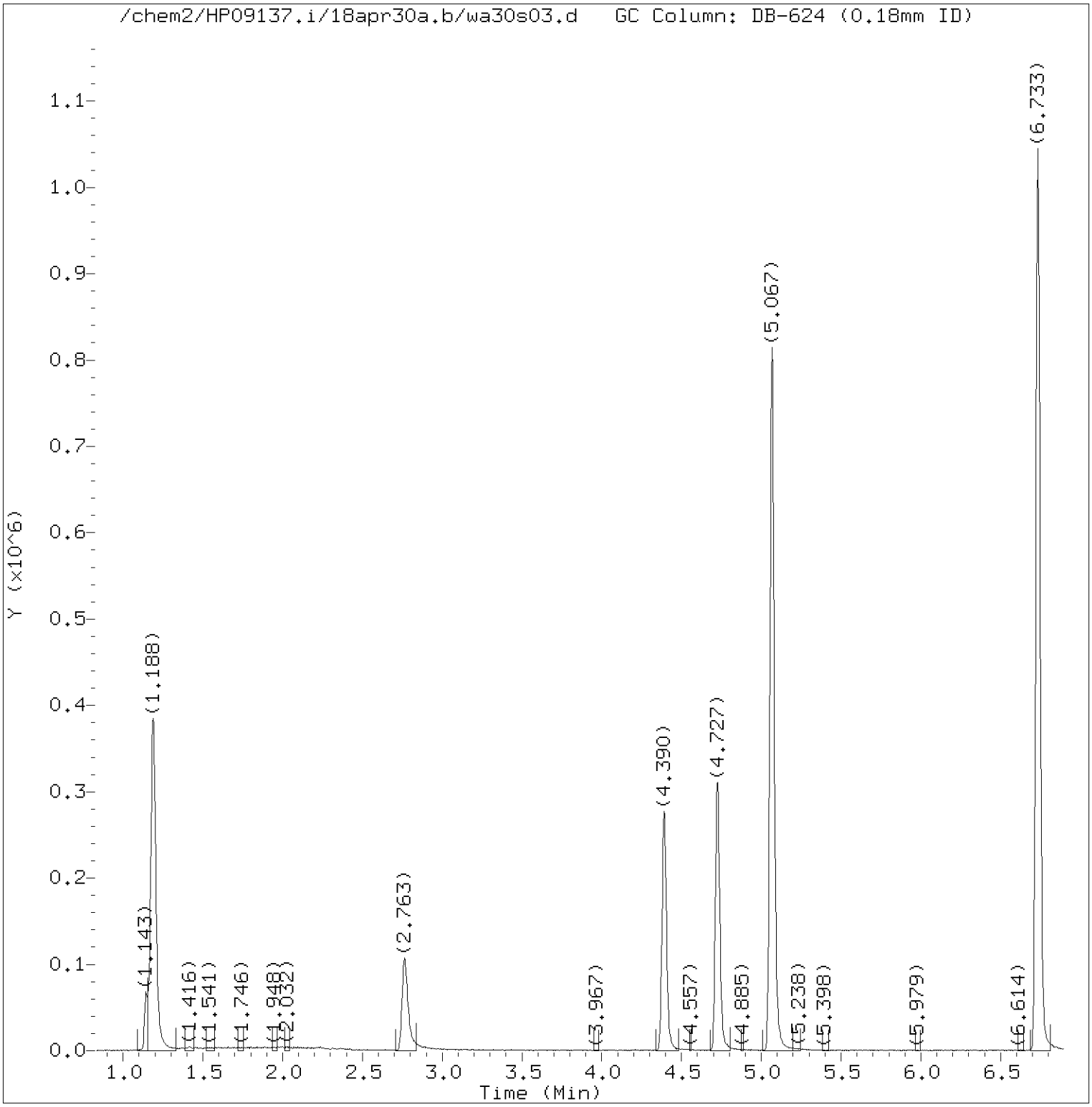
Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

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 04/30/2018 at 14:41. Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Sara E. Johnson on 04/30/2018 at 21:43. PARALLAX ID: sej02002



Total Ion Chromatogram (TIC)

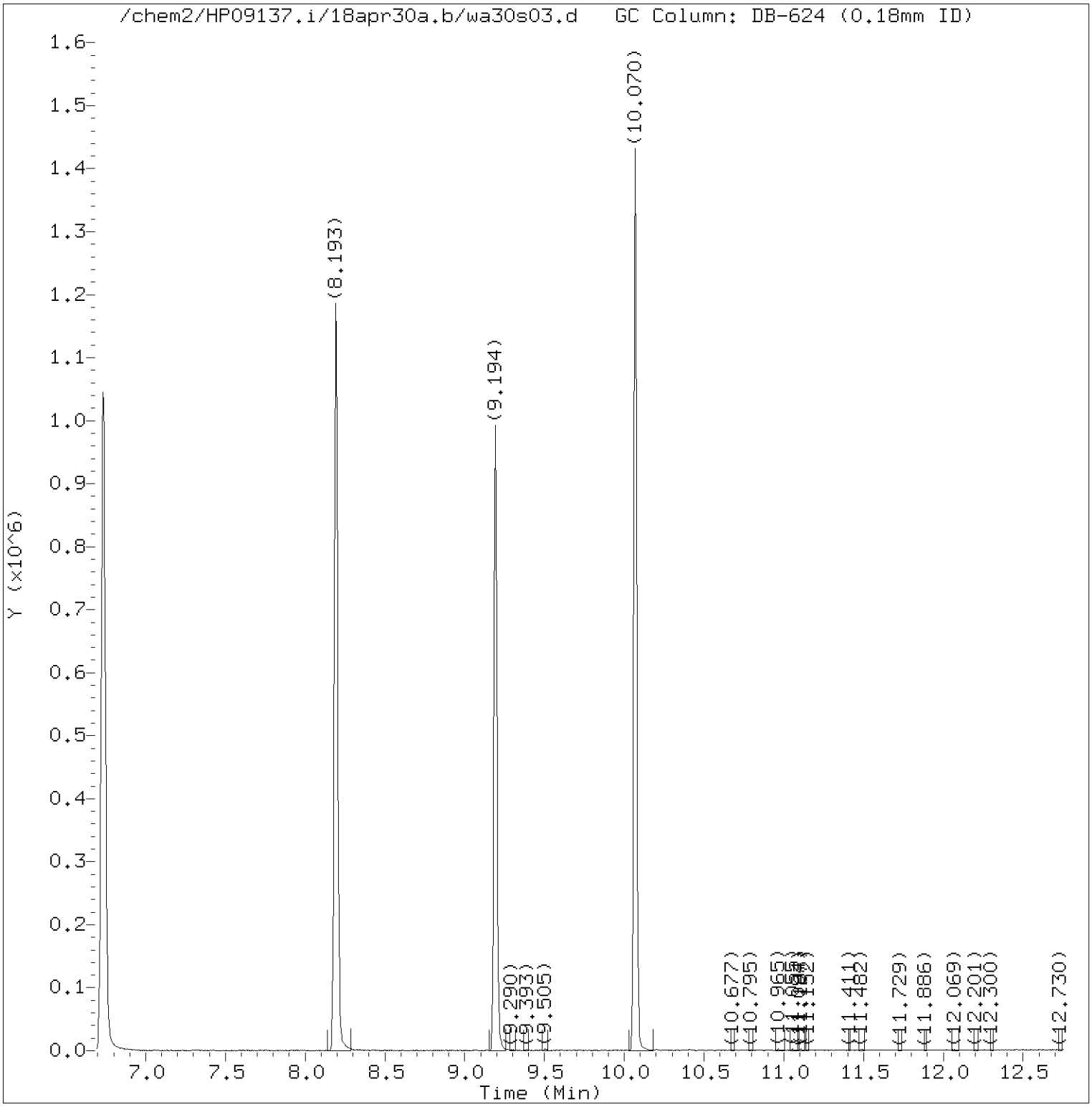
Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s03.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 12:26 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 12:41 Automation

Sample Name: A8501 Lab Sample ID: 9570341

Digitally signed by Nicole S. Lamoreaux
on 04/30/2018 at 14:41.
Target 3.5 esignature user ID: nsl01327



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s03.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 12:26 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 12:41 Automation

Sample Name: A8501 Lab Sample ID: 9570341

Digitally signed by Nicole S. Lamoreaux
on 04/30/2018 at 14:41.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s03.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 12:26 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 12:41 Automation

Sample Name: A8501 Lab Sample ID: 9570341

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
29)*t-Butyl alcohol-d10	(1)	2.763	65	179857	250.000
52)$Dibromofluoromethane	(2)	4.390	113	177737	48.516
57)$1,2-Dichloroethane-d4	(2)	4.724	102	49467	51.426
66)*Fluorobenzene	(2)	5.067	96	803635	50.000
83)$Toluene-d8	(3)	6.733	98	796883	49.316
100)*Chlorobenzene-d5	(3)	8.193	117	630212	50.000
114)$4-Bromofluorobenzene	(3)	9.191	95	292980	48.004
131)*1,4-Dichlorobenzene-d4	(4)	10.070	152	313548	50.000

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

Digitally signed by Nicole S. Lamoreaux
on 04/30/2018 at 14:41.
Target 3.5 esignature user ID: nsl01327

A8503 Lancaster Laboratories 9570343
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP09137.i/18apr30a.b/wa30s04.d Injection date and time: **30-APR-2018 12:50**
Data file Sample Info. Line: A8503;9570343;1;0;;ATH85;;;wa30b01; Instrument ID: **HP09137.i** Batch: **W181201AA**
Date, time and analyst ID of latest file update: 30-Apr-2018 13:05 Automation

Blank Data file reference: **/chem2/HP09137.i/18apr30a.b/wa30b01.d**

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 30-APR-2018 10:55
Mid Level Daily Calibration Standard Reference: **/chem2/HP09137.i/18apr30a.b/wa30c01.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	2.763(0.000)	602	65	171546 (-4)	250.00	
66) Fluorobenzene	5.067(0.000)	1320	96	811074 (-2)	50.00	
100) Chlorobenzene-d5	8.193(0.000)	2294	117	637962 (-2)	50.00	
131) 1,4-Dichlorobenzene-d4	10.070(0.000)	2879	152	314357 (-11)	50.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(2)	4.390(0.000)	113	180809	48.901	98%		80 - 120
57) 1,2-Dichloroethane-d4	(2)	4.724(0.001)	102	51010	52.544	105%		80 - 120
83) Toluene-d8	(3)	6.733(0.000)	98	801196	48.981	98%		80 - 120
114) 4-Bromofluorobenzene	(3)	9.191(0.000)	95	299796	48.524	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)			Not Detected					0.5	1
6) Vinyl Chloride	(2)	1.483(-0.000)	62	3445	0.602	0.60		J	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)	3.925(-0.000)	96	81556	18.527	18.53			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)	5.443(-0.000)	95	66499	15.419	15.42			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

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A8503 Lancaster Laboratories 9570343

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP09137.i/18apr30a.b/wa30s04.d Injection date and time: **30-APR-2018 12:50**
Data file Sample Info. Line: A8503;9570343;1;0;;ATH85;;;wa30b01; Instrument ID: **HP09137.i** Batch: **W181201AA**
Date, time and analyst ID of latest file update: 30-Apr-2018 13:05 Automation

Blank Data file reference: **/chem2/HP09137.i/18apr30a.b/wa30b01.d**

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 30-APR-2018 10:55
Mid Level Daily Calibration Standard Reference: **/chem2/HP09137.i/18apr30a.b/wa30c01.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**

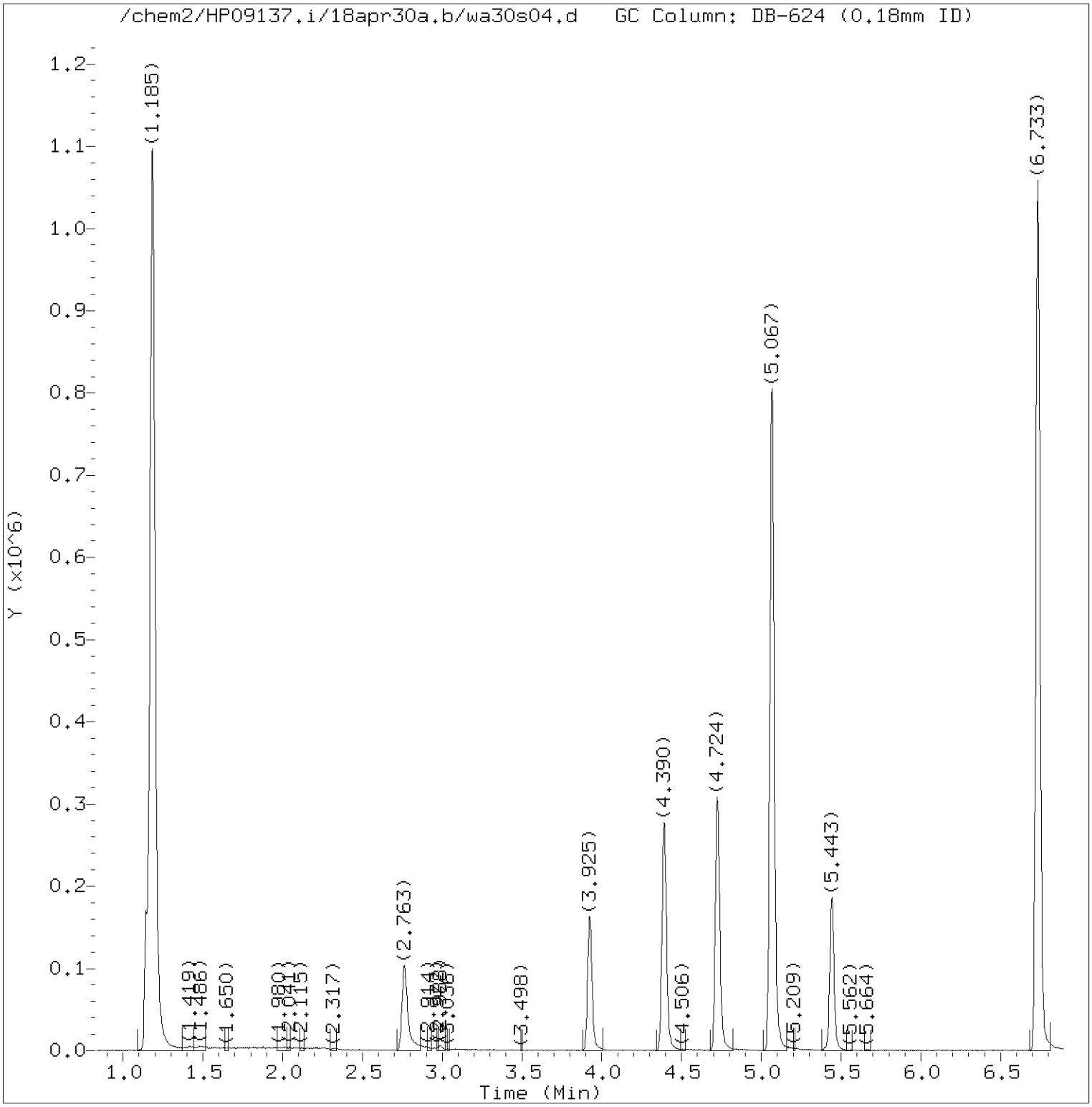
Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

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 04/30/2018 at 14:41. Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Sara E. Johnson on 04/30/2018 at 21:43. PARALLAX ID: sej02002



Total Ion Chromatogram (TIC)

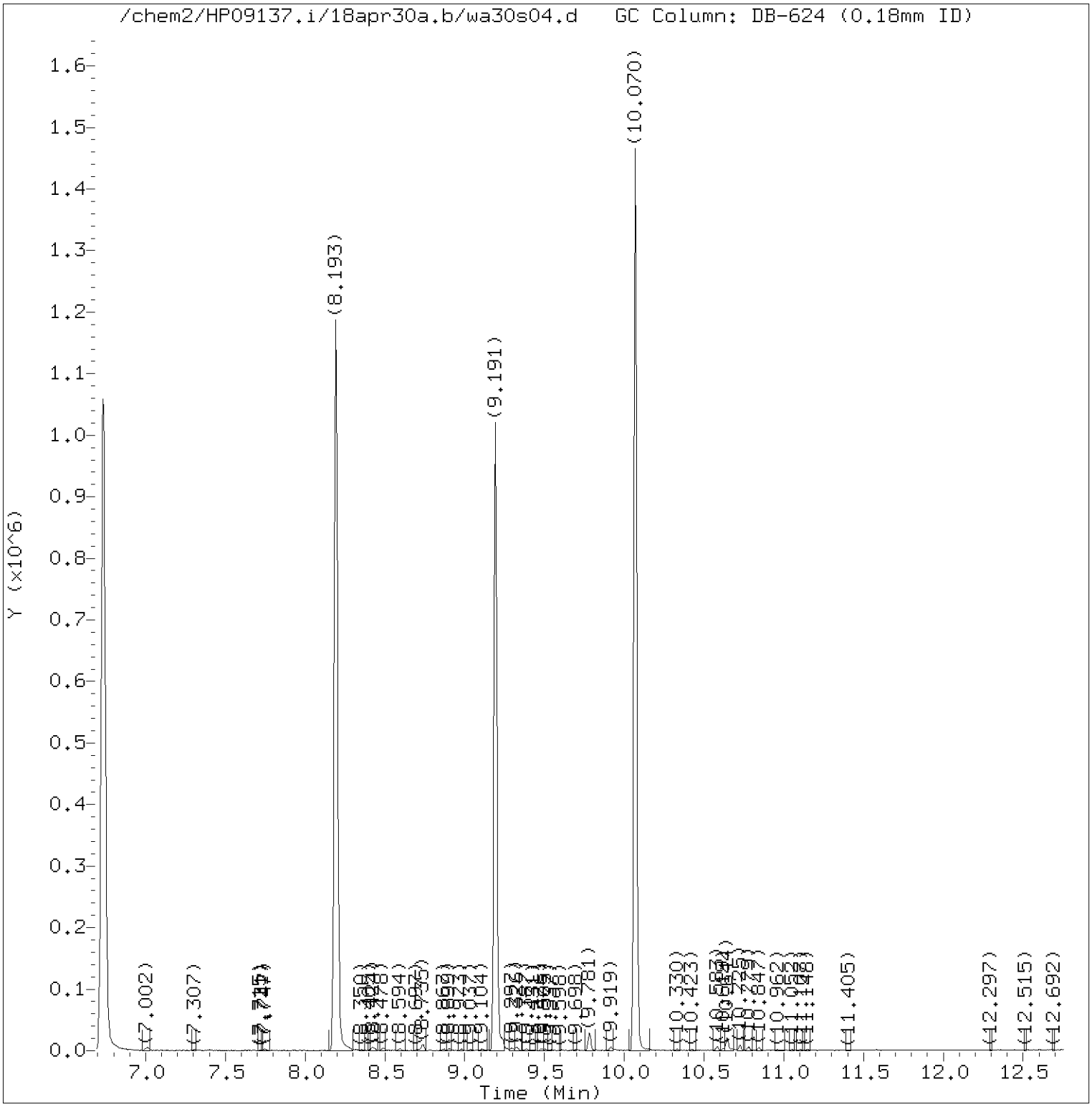
Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s04.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 12:50 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 13:05 Automation

Sample Name: A8503 Lab Sample ID: 9570343

Digitally signed by Nicole S. Lamoreaux
on 04/30/2018 at 14:41.
Target 3.5 esignature user ID: nsl01327



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s04.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 12:50 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 13:05 Automation

Sample Name: A8503 Lab Sample ID: 9570343

Digitally signed by Nicole S. Lamoreaux
on 04/30/2018 at 14:41.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s04.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 12:50 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 13:05 Automation

Sample Name: A8503 Lab Sample ID: 9570343

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
6) Vinyl Chloride	(2)	1.483	62	3445	0.602
29)*t-Butyl alcohol-d10	(1)	2.763	65	171546	250.000
42) cis-1,2-Dichloroethene	(2)	3.925	96	81556	18.527
52)$Dibromofluoromethane	(2)	4.390	113	180809	48.901
57)$1,2-Dichloroethane-d4	(2)	4.724	102	51010	52.544
66)*Fluorobenzene	(2)	5.067	96	811074	50.000
71) Trichloroethene	(2)	5.443	95	66499	15.419
83)$Toluene-d8	(3)	6.733	98	801196	48.981
100)*Chlorobenzene-d5	(3)	8.193	117	637962	50.000
114)$4-Bromofluorobenzene	(3)	9.191	95	299796	48.524
131)*1,4-Dichlorobenzene-d4	(4)	10.070	152	314357	50.000

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

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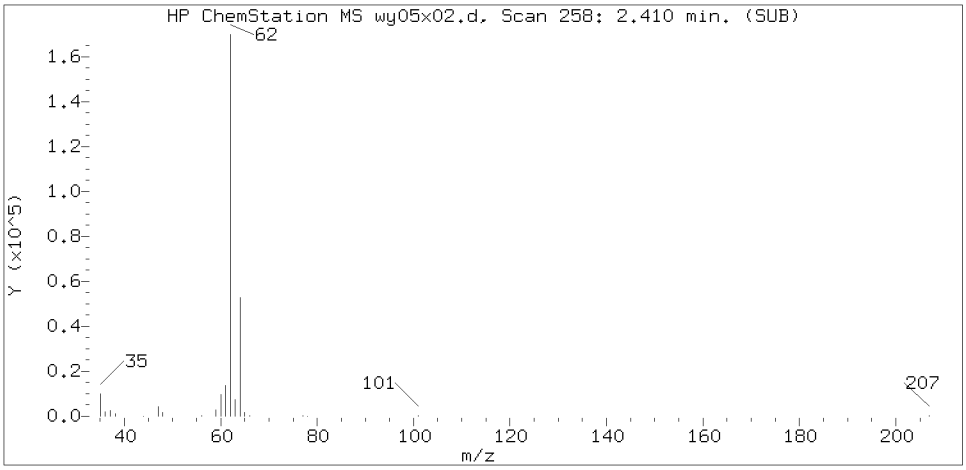
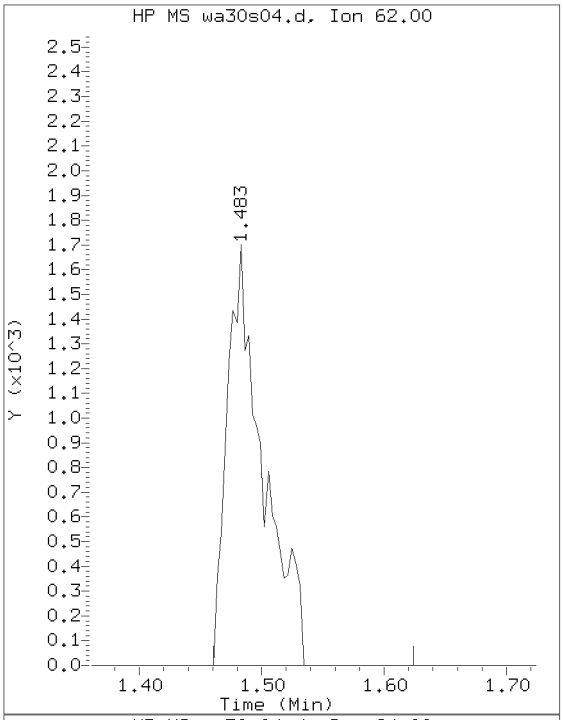
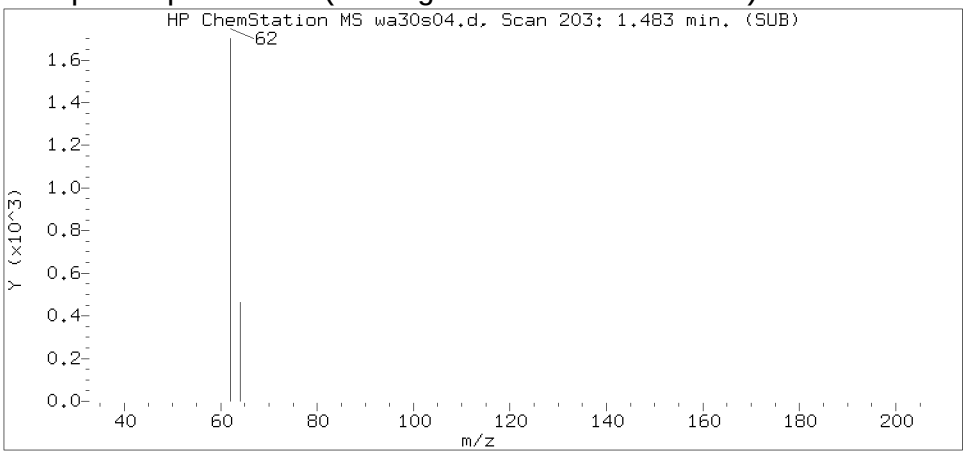
on 04/30/2018 at 14:41.
Target 3.5 esignature user ID: nsl01327

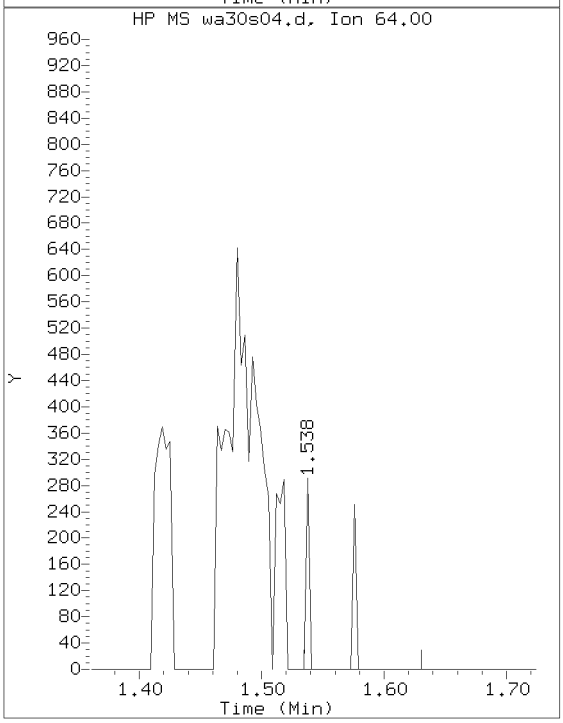
Reference Standard Spectrum for Vinyl Chloride



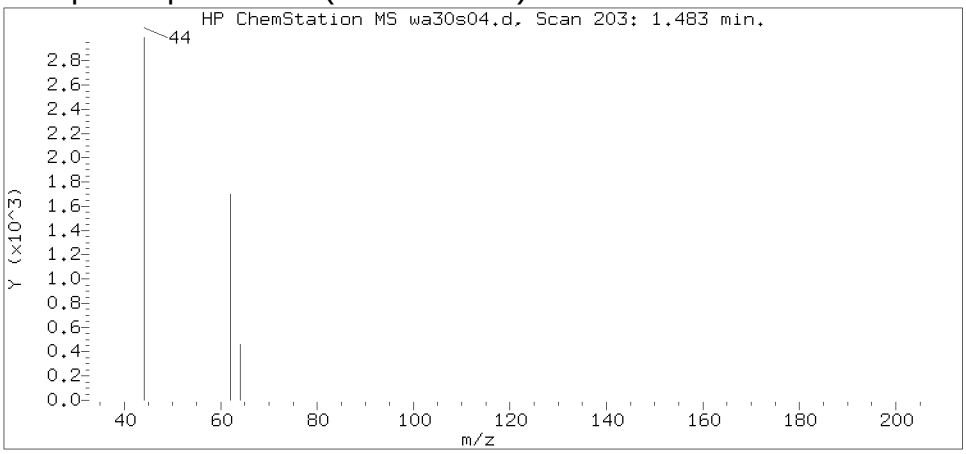


Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)



Data File: /chem2/HP09137.i/18apr30a.b/wa30s04.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 12:50 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 13:05 Automation

Sample Name: A8503 Lab Sample ID: 9570343

Compound Number : 6
Compound Name : Vinyl Chloride
Scan Number : 203
Retention Time (minutes): 1.483
Relative Retention Time :-0.00001
Quant Ion : 62.00
Area (flag) : 3445
On-Column Amount (ng) : 0.6020

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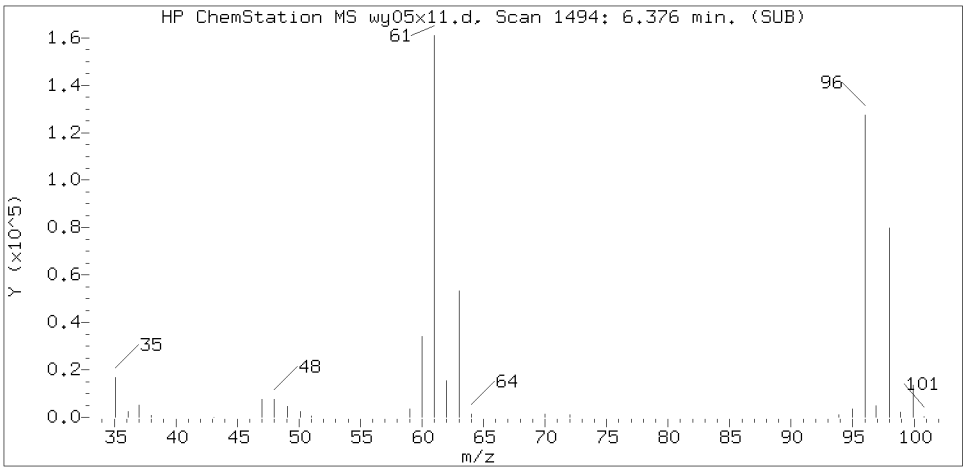
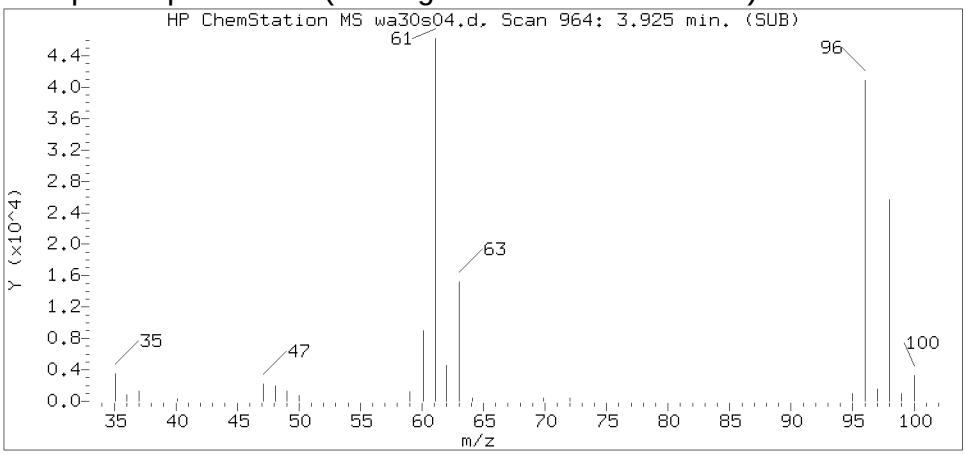
Target 3.5 esignature user ID: nsl01327

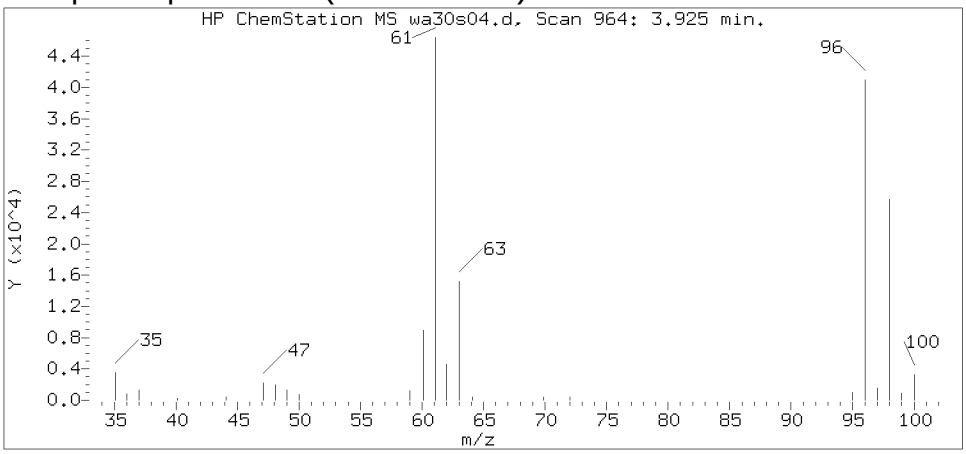
Reference Standard Spectrum for cis-1,2-Dichloroethene

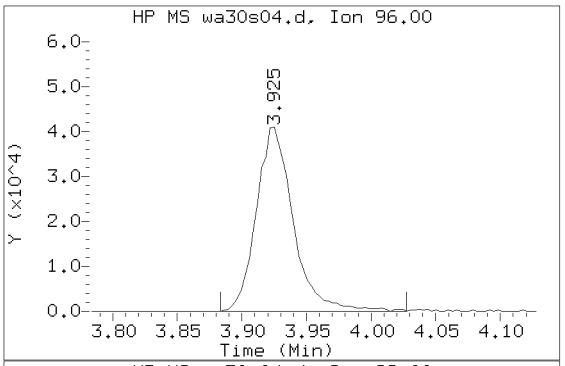


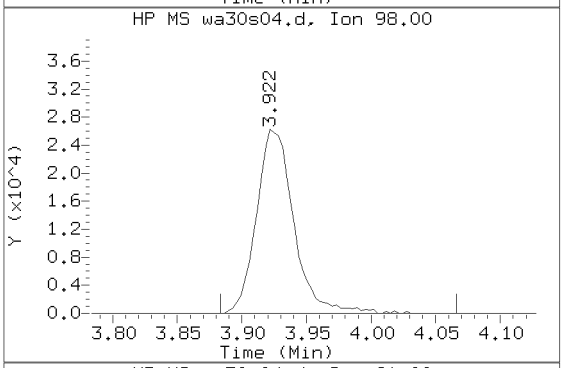
Sample Spectrum (Background Subtracted)

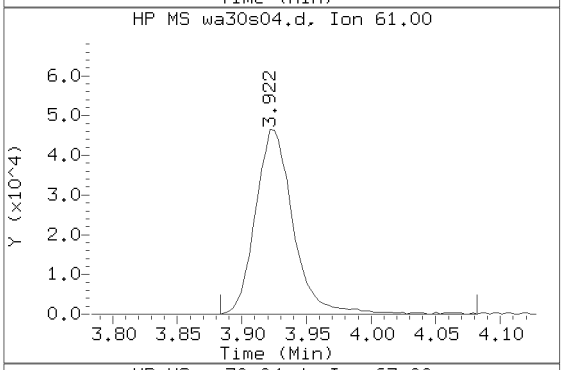


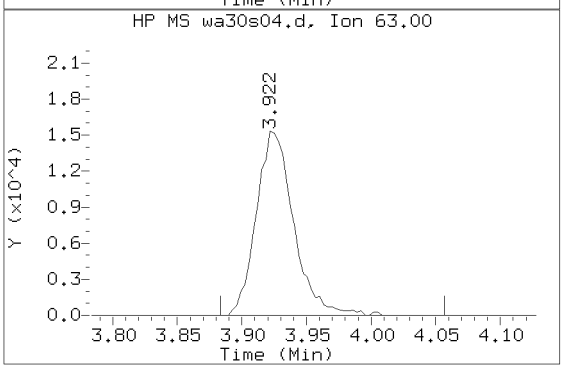
Sample Spectrum (Unaltered)











Data File: /chem2/HP09137.i/18apr30a.b/wa30s04.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 12:50 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 13:05 Automation

Sample Name: A8503 Lab Sample ID: 9570343

Compound Number : 42
Compound Name : cis-1,2-Dichloroethene
Scan Number : 964
Retention Time (minutes): 3.925
Relative Retention Time :-0.00000
Quant Ion : 96.00
Area (flag) : 81556
On-Column Amount (ng) : 18.5269

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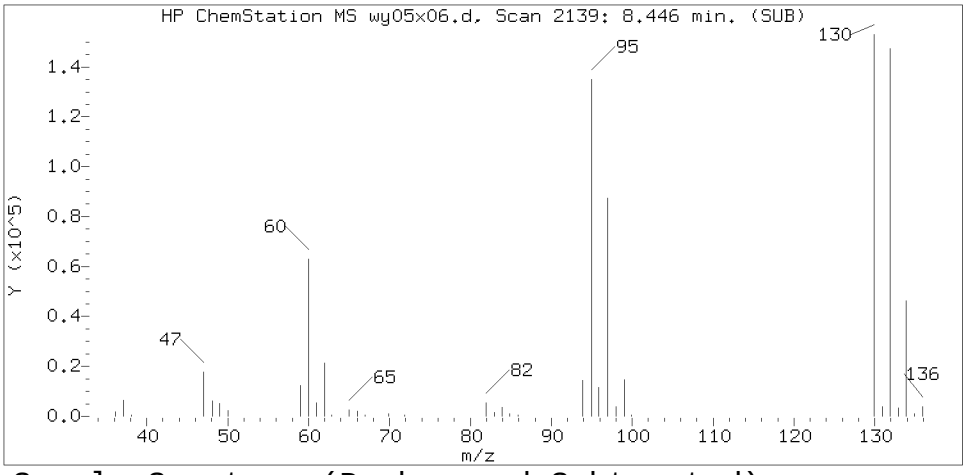
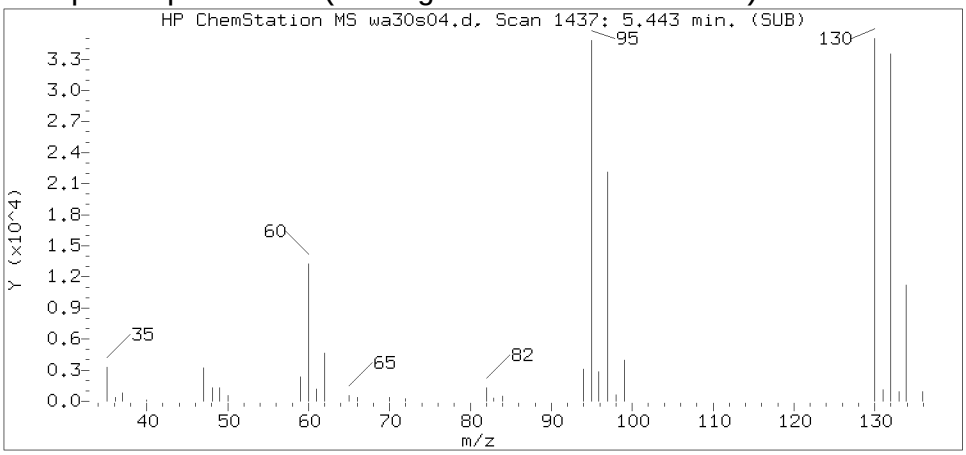
Target 3.5 esignature user ID: nsl01327

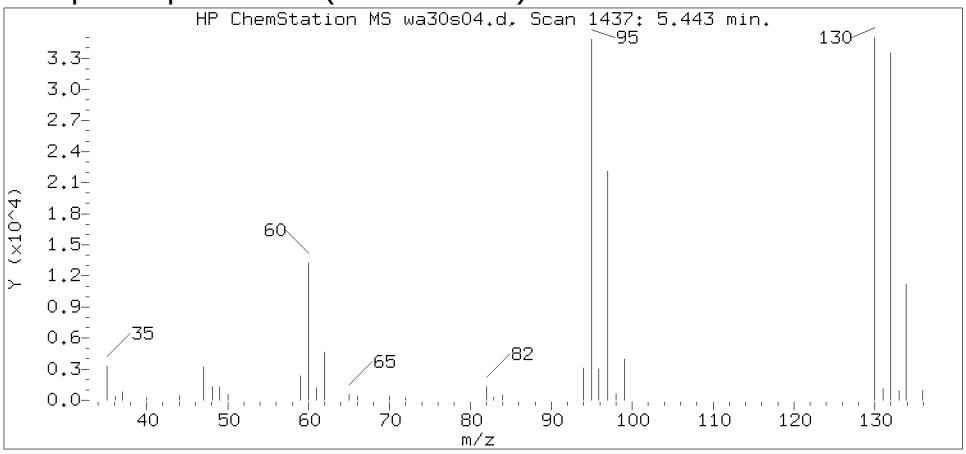
Reference Standard Spectrum for Trichloroethene

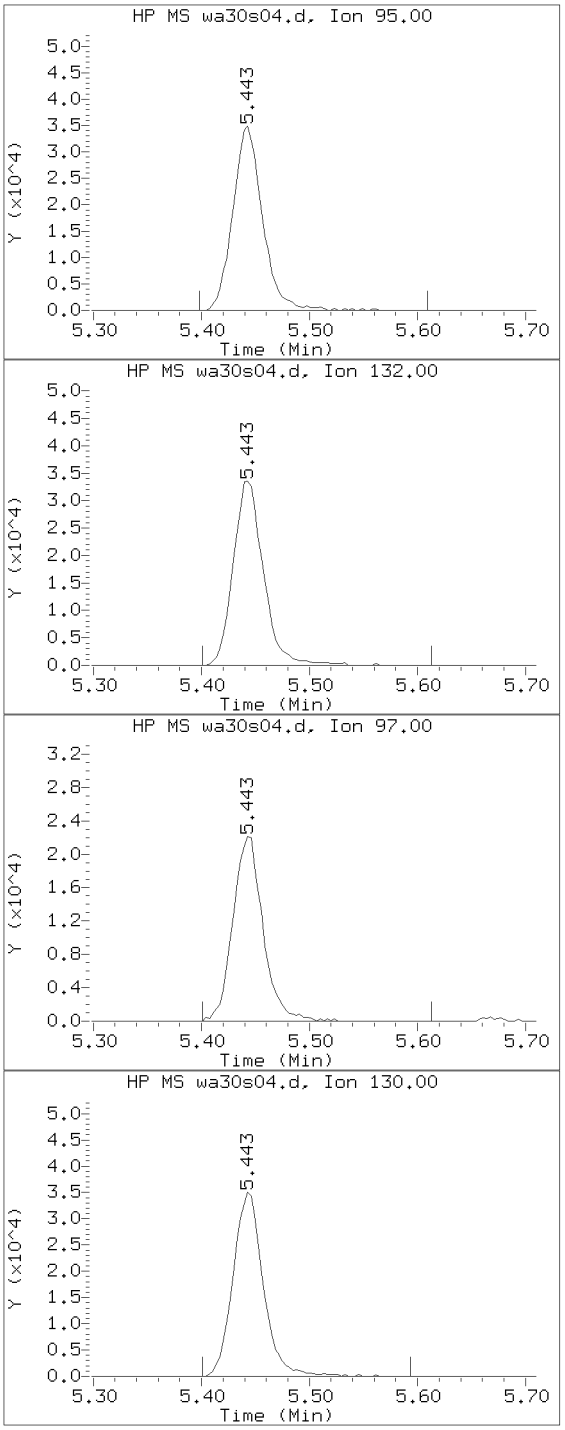


Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)





Data File: /chem2/HP09137.i/18apr30a.b/wa30s04.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 12:50 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 13:05 Automation

Sample Name: A8503 Lab Sample ID: 9570343

Compound Number : 71
Compound Name : Trichloroethene
Scan Number : 1437
Retention Time (minutes): 5.443
Relative Retention Time :-0.00000
Quant Ion : 95.00
Area (flag) : 66499
On-Column Amount (ng) : 15.4192

Digitally signed by Nicole S. Lamoreaux on 04/30/2018 at 14:41.
Target 3.5 esignature user ID: nsl01327

A8504 Lancaster Laboratories 9570344
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP09137.i/18apr30a.b/wa30s05.d Injection date and time: **30-APR-2018 13:14**
Data file Sample Info. Line: A8504;9570344;1;0;;ATH85;;;wa30b01; Instrument ID: **HP09137.i** Batch: **W181201AA**
Date, time and analyst ID of latest file update: 30-Apr-2018 13:29 Automation

Blank Data file reference: **/chem2/HP09137.i/18apr30a.b/wa30b01.d**

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 30-APR-2018 10:55
Mid Level Daily Calibration Standard Reference: **/chem2/HP09137.i/18apr30a.b/wa30c01.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	2.763(0.000)	602	65	169800 (-5)	250.00	
66) Fluorobenzene	5.067(0.000)	1320	96	805444 (-3)	50.00	
100) Chlorobenzene-d5	8.193(0.000)	2294	117	633139 (-3)	50.00	
131) 1,4-Dichlorobenzene-d4	10.070(0.000)	2879	152	313473 (-11)	50.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(2)	4.390(0.000)	113	178833	48.705	97%		80 - 120
57) 1,2-Dichloroethane-d4	(2)	4.727(0.000)	102	50113	51.980	104%		80 - 120
83) Toluene-d8	(3)	6.733(0.000)	98	798602	49.194	98%		80 - 120
114) 4-Bromofluorobenzene	(3)	9.191(0.000)	95	289536	47.221	94%		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)	2.369(-0.003)	58	6383	11.028	11.03		J	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 04/30/2018 at 14:41. Target 3.5 esignature user ID: nsl01327

A8504 Lancaster Laboratories 9570344

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP09137.i/18apr30a.b/wa30s05.d Injection date and time: **30-APR-2018 13:14**
Data file Sample Info. Line: A8504;9570344;1;0;;ATH85;;;wa30b01; Instrument ID: **HP09137.i** Batch: **W181201AA**
Date, time and analyst ID of latest file update: 30-Apr-2018 13:29 Automation

Blank Data file reference: **/chem2/HP09137.i/18apr30a.b/wa30b01.d**

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 30-APR-2018 10:55
Mid Level Daily Calibration Standard Reference: **/chem2/HP09137.i/18apr30a.b/wa30c01.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**

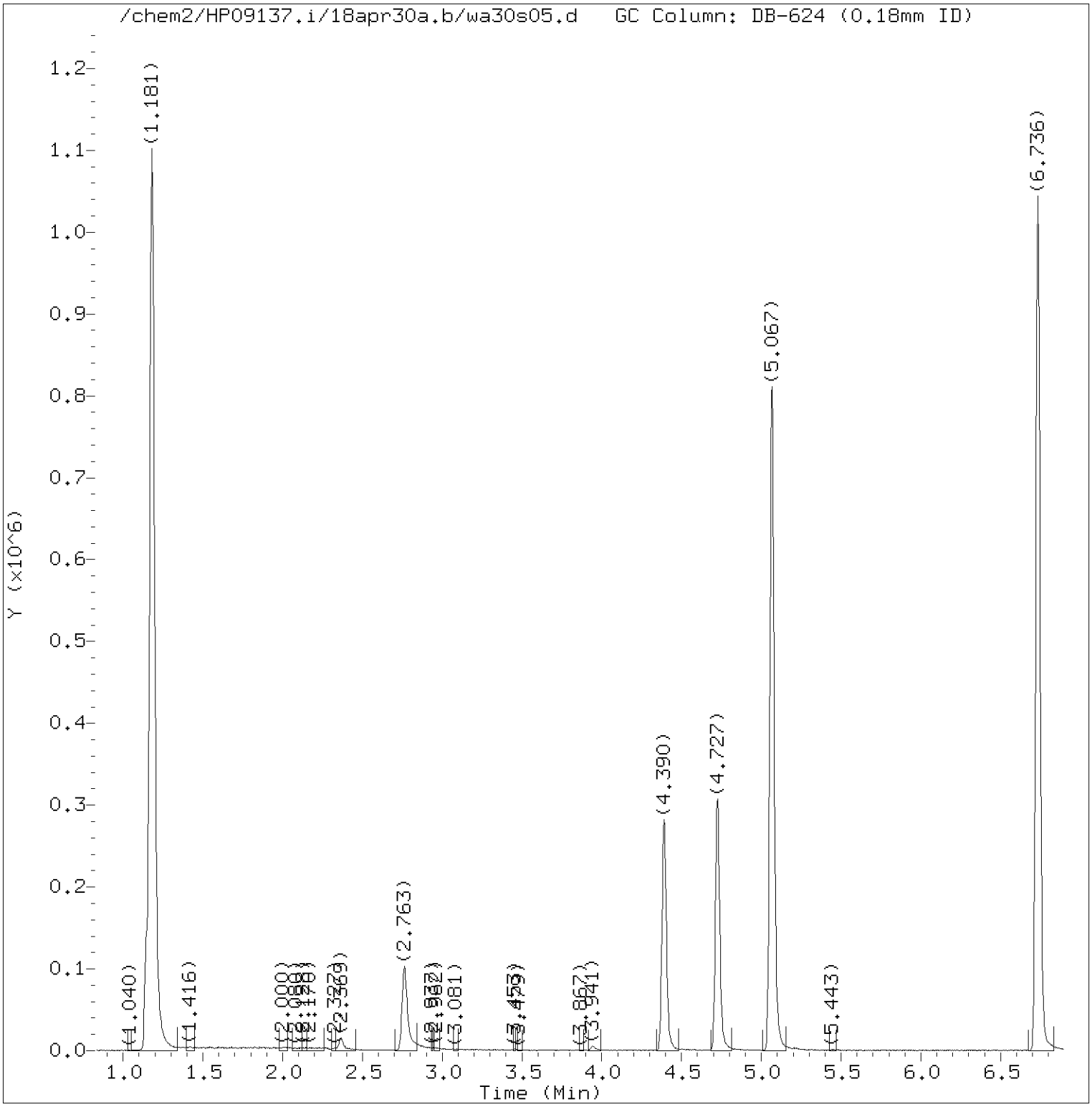
Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

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 04/30/2018 at 14:41. Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Sara E. Johnson on 04/30/2018 at 21:43. PARALLAX ID: sej02002



Total Ion Chromatogram (TIC)

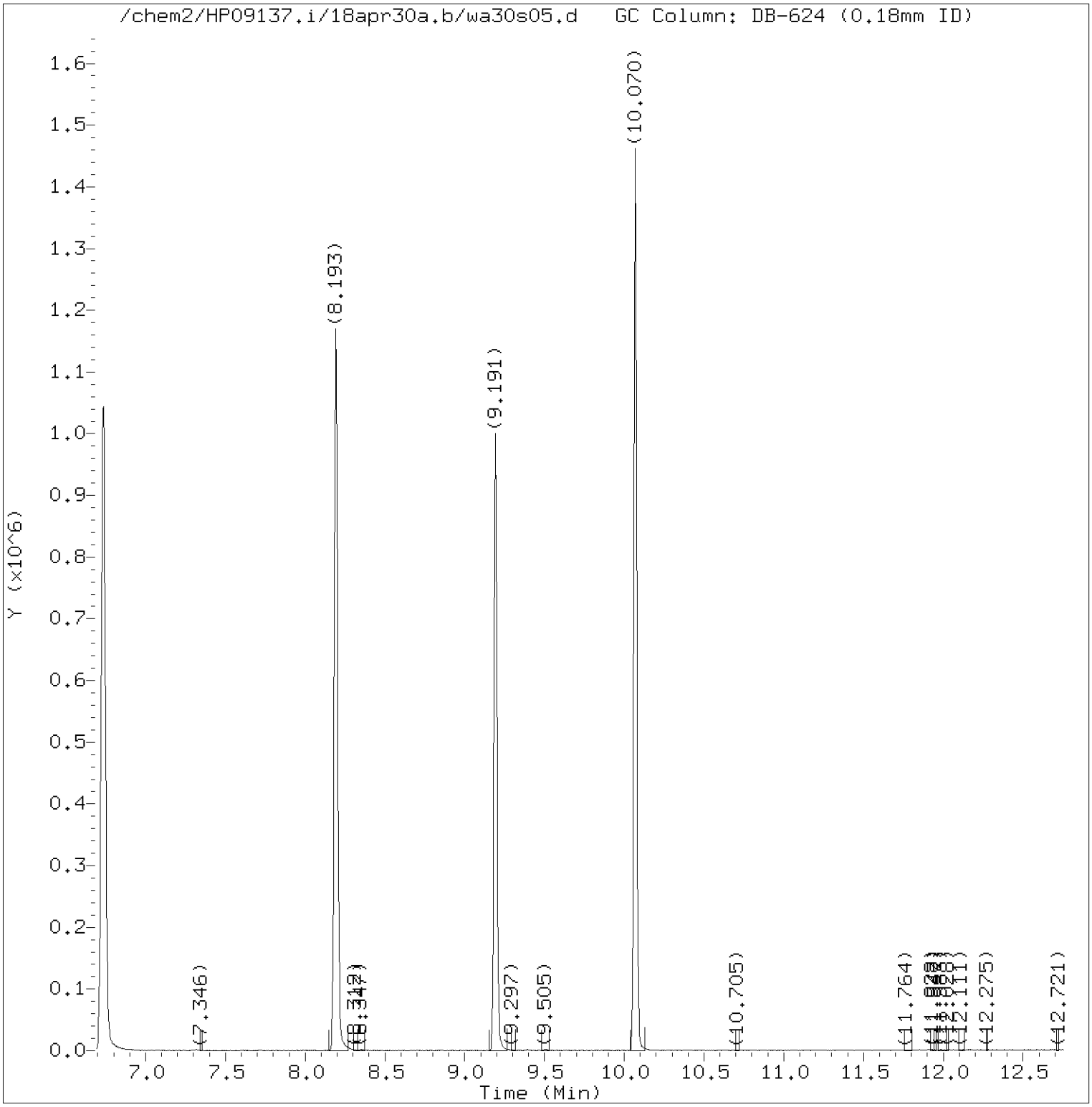
Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s05.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 13:14 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 13:29 Automation

Sample Name: A8504 Lab Sample ID: 9570344

Digitally signed by Nicole S. Lamoreaux
on 04/30/2018 at 14:41.
Target 3.5 esignature user ID: nsl01327



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s05.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 13:14 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 13:29 Automation

Sample Name: A8504 Lab Sample ID: 9570344

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on 04/30/2018 at 14:41.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s05.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 13:14 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 13:29 Automation

Sample Name: A8504 Lab Sample ID: 9570344

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
18) Acetone	(1)	2.369	58	6383	11.028
29)*t-Butyl alcohol-d10	(1)	2.763	65	169800	250.000
52)$Dibromofluoromethane	(2)	4.390	113	178833	48.705
57)$1,2-Dichloroethane-d4	(2)	4.727	102	50113	51.980
66)*Fluorobenzene	(2)	5.067	96	805444	50.000
83)$Toluene-d8	(3)	6.733	98	798602	49.194
100)*Chlorobenzene-d5	(3)	8.193	117	633139	50.000
114)$4-Bromofluorobenzene	(3)	9.191	95	289536	47.221
131)*1,4-Dichlorobenzene-d4	(4)	10.070	152	313473	50.000

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

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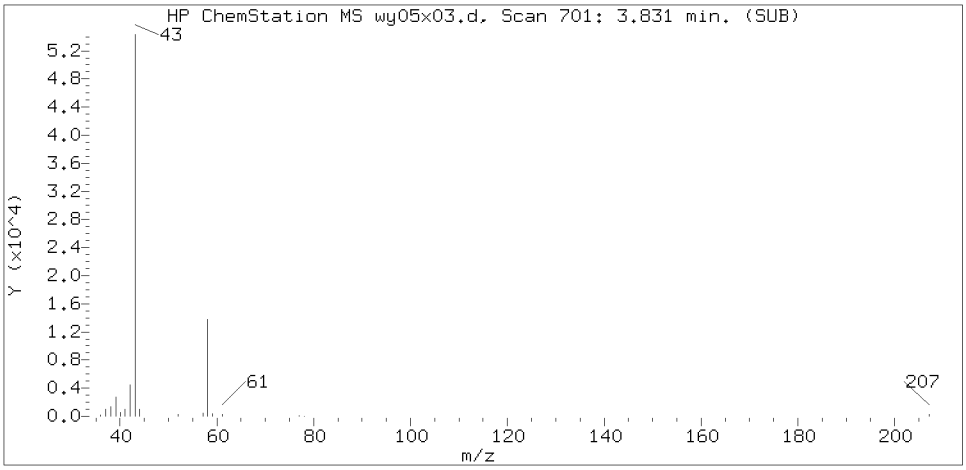
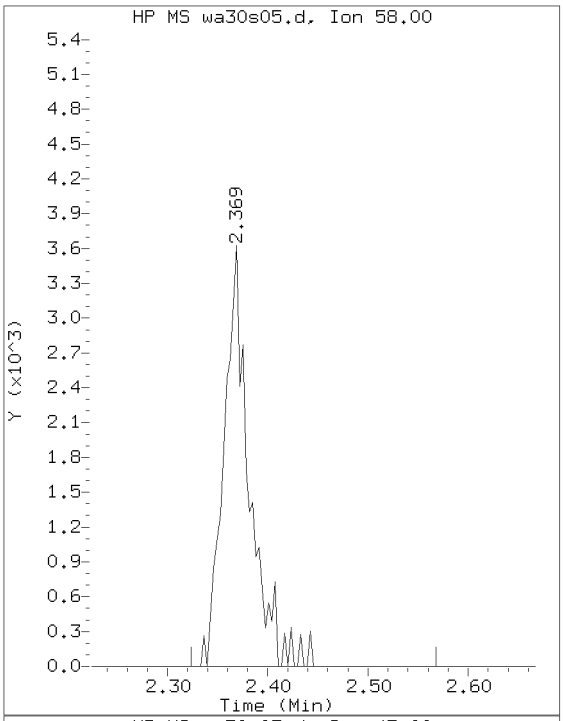
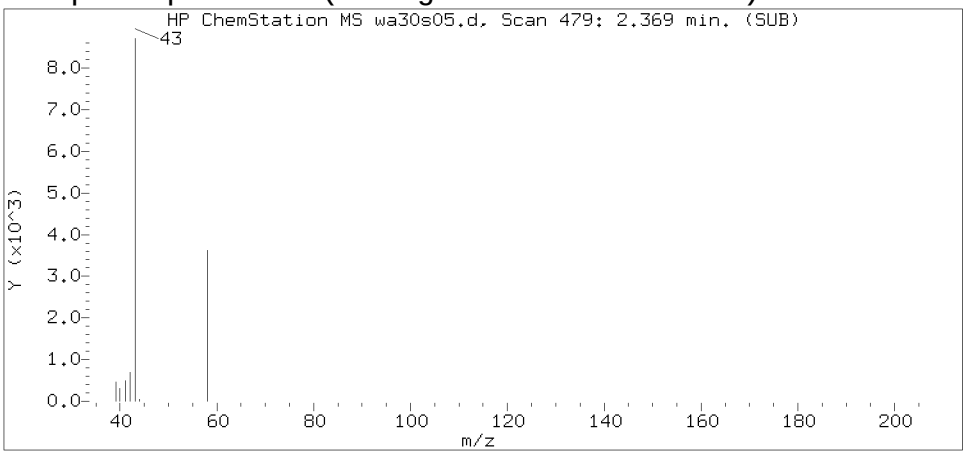
on 04/30/2018 at 14:41.
Target 3.5 esignature user ID: nsl01327

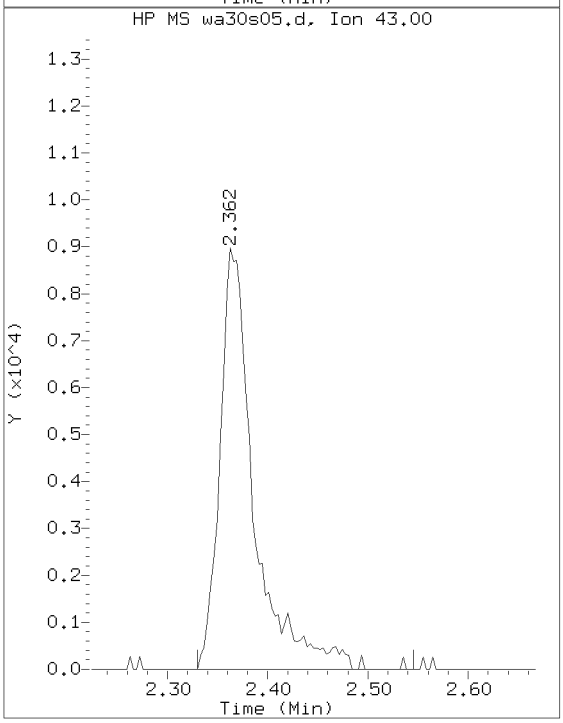
Reference Standard Spectrum for Acetone



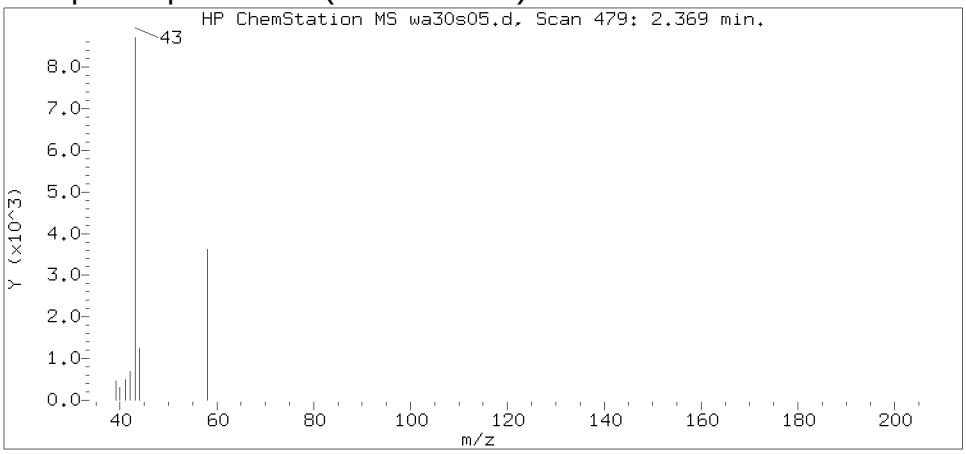


Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)



Data File: /chem2/HP09137.i/18apr30a.b/wa30s05.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 13:14 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 13:29 Automation

Sample Name: A8504 Lab Sample ID: 9570344

Compound Number : 18
Compound Name : Acetone
Scan Number : 479
Retention Time (minutes): 2.369
Relative Retention Time :-0.00349
Quant Ion : 58.00
Area (flag) : 6383
On-Column Amount (ng) : 11.0279

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Target 3.5 esignature user ID: nsl01327

A8505

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

9570345

Data file: /chem2/HP09137.i/18apr30a.b/wa30s06.d
Injection date and time: **30-APR-2018 13:38**
Data file Sample Info. Line: A8505;9570345;1;0;;ATH85;;;wa30b01;
Instrument ID: **HP09137.i** Batch: **W181201AA**
Date, time and analyst ID of latest file update: 30-Apr-2018 13:53 Automation

Blank Data file reference: **/chem2/HP09137.i/18apr30a.b/wa30b01.d**

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 30-APR-2018 10:55
Mid Level Daily Calibration Standard Reference: **/chem2/HP09137.i/18apr30a.b/wa30c01.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	2.763(0.000)	602	65	172000 (-4)	250.00	
66) Fluorobenzene	5.067(0.000)	1320	96	811057 (-2)	50.00	
100) Chlorobenzene-d5	8.193(0.000)	2294	117	635541 (-3)	50.00	
131) 1,4-Dichlorobenzene-d4	10.070(0.000)	2879	152	314416 (-11)	50.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(2)	4.390(0.000)	113	178707	48.334	97%		80 - 120
57) 1,2-Dichloroethane-d4	(2)	4.727(0.000)	102	49402	50.888	102%		80 - 120
83) Toluene-d8	(3)	6.733(0.000)	98	800046	49.097	98%		80 - 120
114) 4-Bromofluorobenzene	(3)	9.194(0.000)	95	294616	47.868	96%		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)	4.240(-0.000)	83	11606	1.711	1.71			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

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A8505 Lancaster Laboratories 9570345

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP09137.i/18apr30a.b/wa30s06.d Injection date and time: **30-APR-2018 13:38**
Data file Sample Info. Line: A8505;9570345;1;0;;ATH85;;;wa30b01; Instrument ID: **HP09137.i** Batch: **W181201AA**
Date, time and analyst ID of latest file update: 30-Apr-2018 13:53 Automation

Blank Data file reference: **/chem2/HP09137.i/18apr30a.b/wa30b01.d**

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 30-APR-2018 10:55
Mid Level Daily Calibration Standard Reference: **/chem2/HP09137.i/18apr30a.b/wa30c01.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**

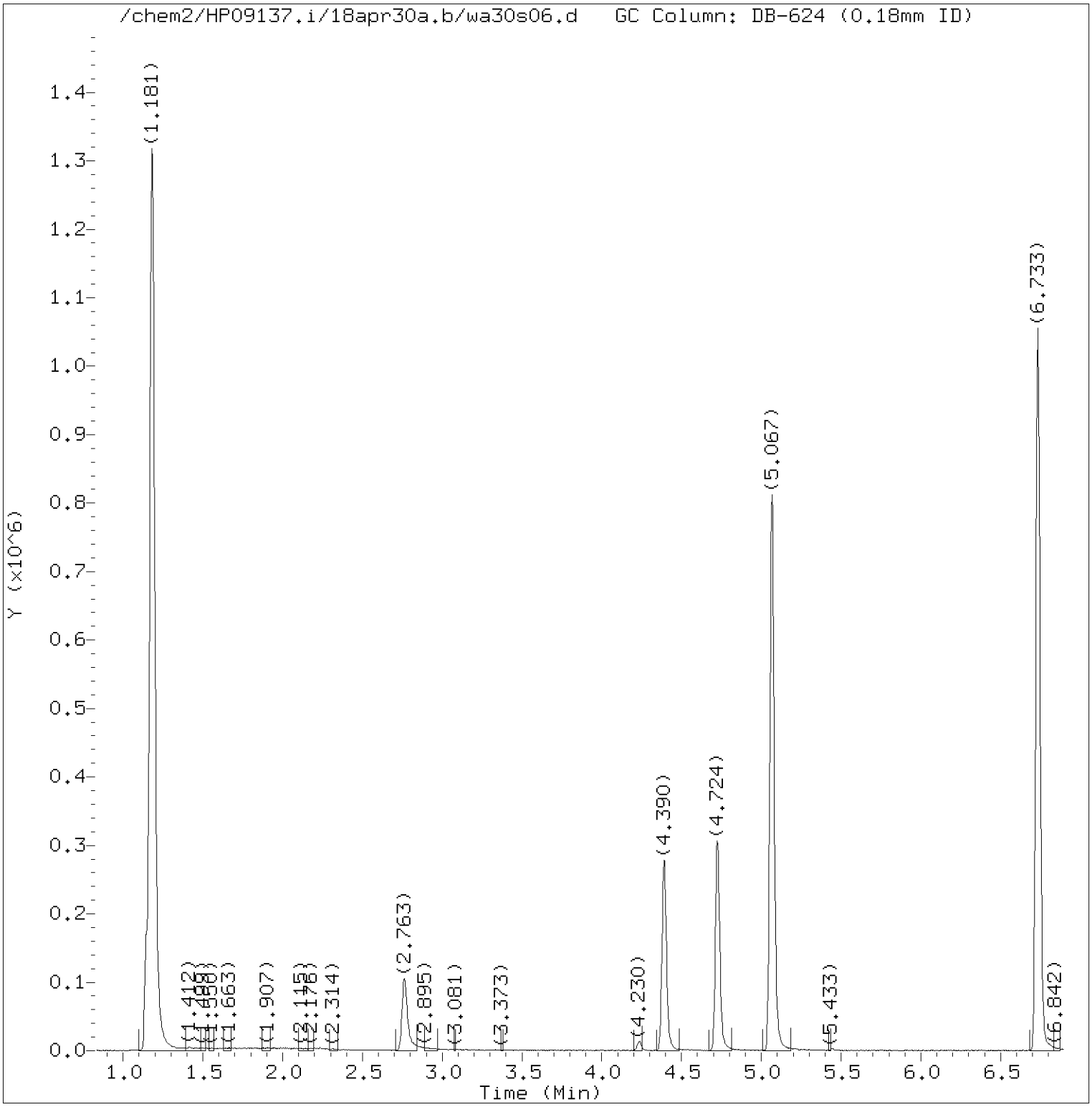
Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

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 04/30/2018 at 14:41. Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Sara E. Johnson on 04/30/2018 at 21:44. PARALLAX ID: sej02002



Total Ion Chromatogram (TIC)

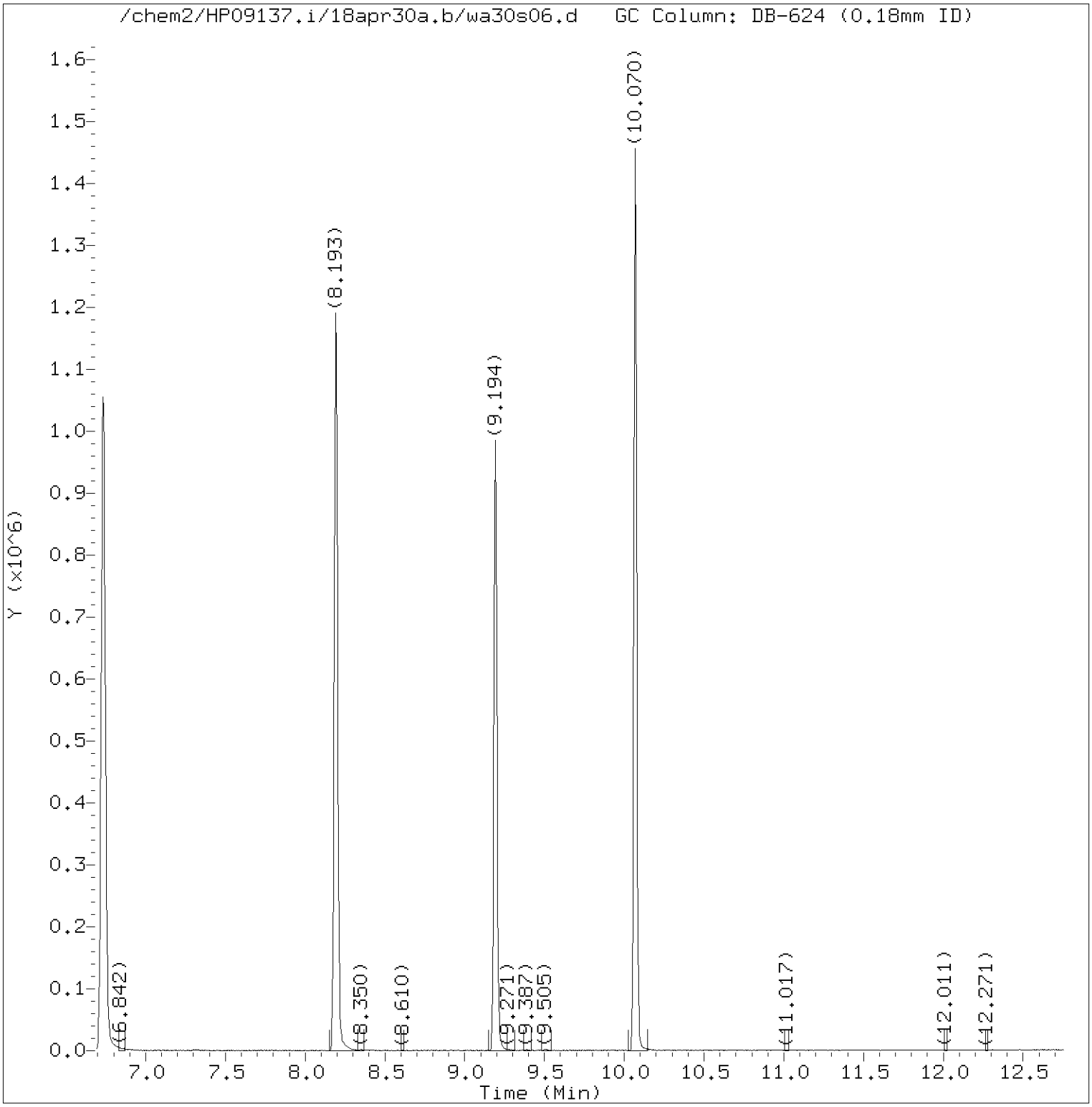
Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s06.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 13:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 13:53 Automation

Sample Name: A8505 Lab Sample ID: 9570345

Digitally signed by Nicole S. Lamoreaux
on 04/30/2018 at 14:41.
Target 3.5 esignature user ID: nsl01327



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s06.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 13:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 13:53 Automation

Sample Name: A8505 Lab Sample ID: 9570345

Digitally signed by Nicole S. Lamoreaux
on 04/30/2018 at 14:41.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s06.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 13:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 13:53 Automation

Sample Name: A8505 Lab Sample ID: 9570345

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
29)*t-Butyl alcohol-d10	(1)	2.763	65	172000	250.000
51) Chloroform	(2)	4.239	83	11606	1.711
52)$Dibromofluoromethane	(2)	4.390	113	178707	48.334
57)$1,2-Dichloroethane-d4	(2)	4.727	102	49402	50.888
66)*Fluorobenzene	(2)	5.067	96	811057	50.000
83)$Toluene-d8	(3)	6.733	98	800046	49.097
100)*Chlorobenzene-d5	(3)	8.193	117	635541	50.000
114)$4-Bromofluorobenzene	(3)	9.194	95	294616	47.868
131)*1,4-Dichlorobenzene-d4	(4)	10.070	152	314416	50.000

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

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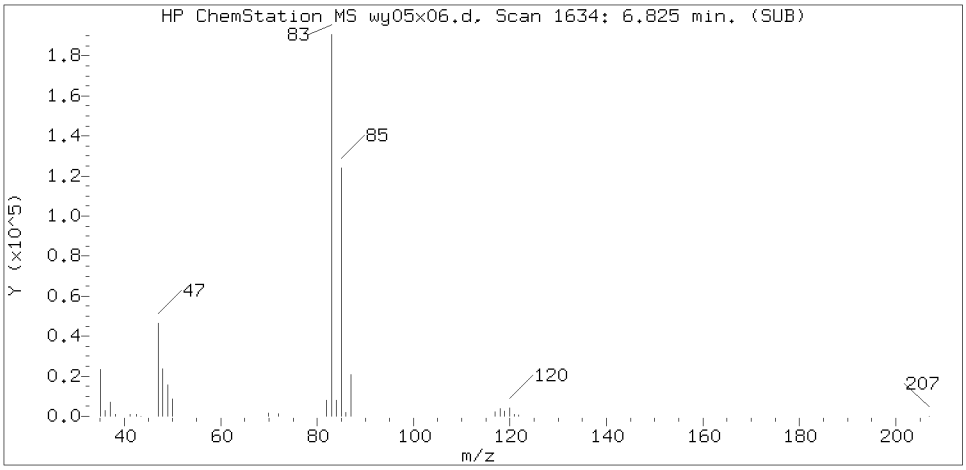
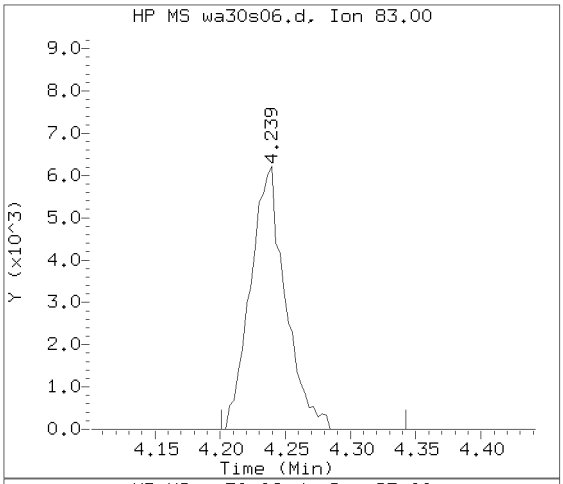
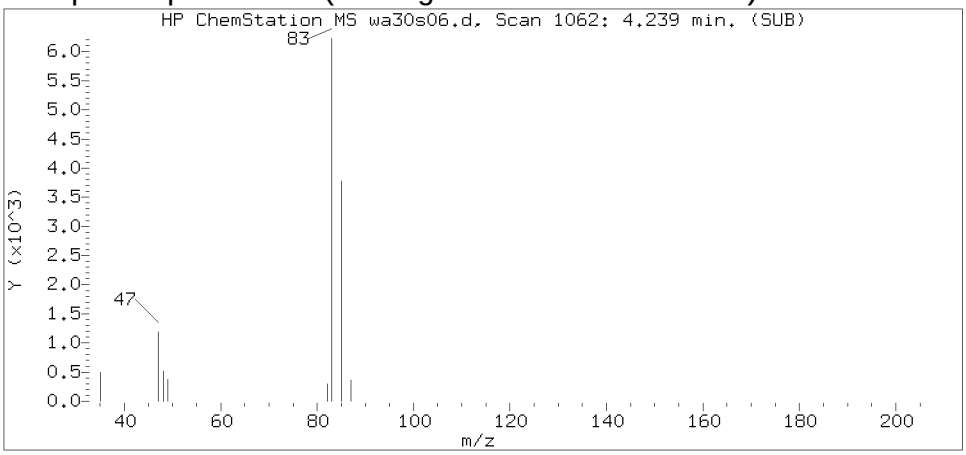
on 04/30/2018 at 14:41.
Target 3.5 esignature user ID: nsl01327

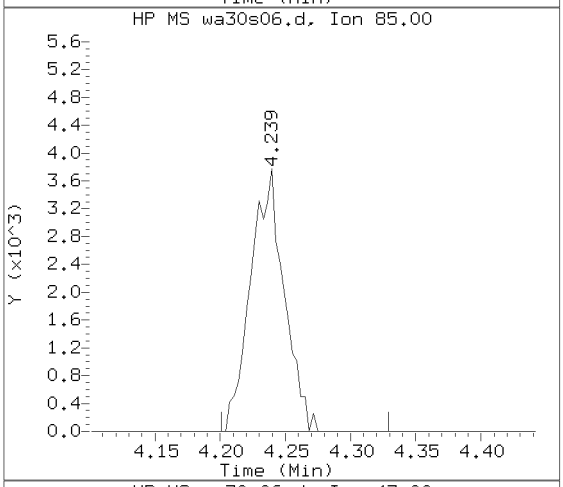
Reference Standard Spectrum for Chloroform



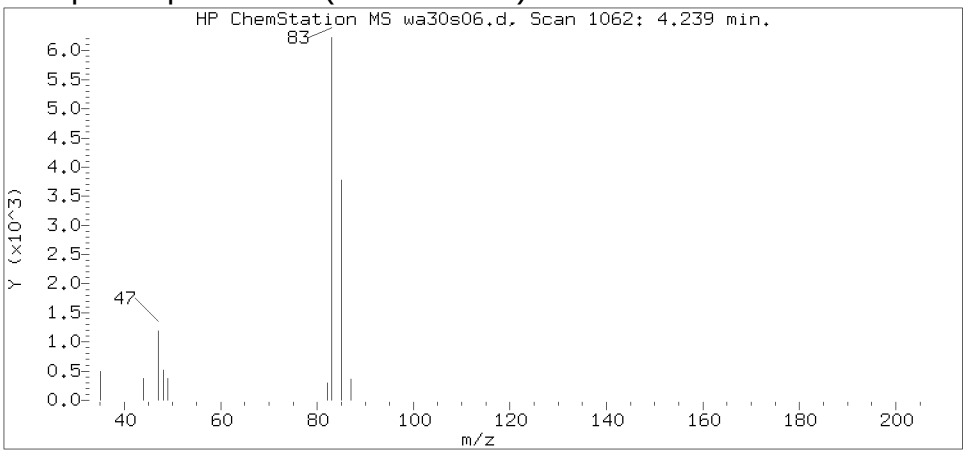


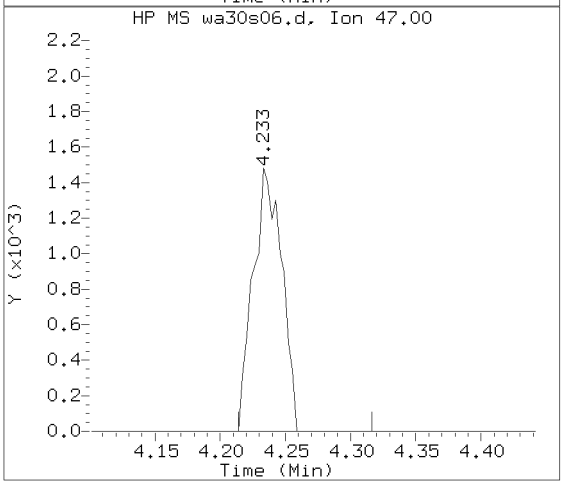
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP09137.i/18apr30a.b/wa30s06.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 13:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 13:53 Automation

Sample Name: A8505 Lab Sample ID: 9570345

Compound Number : 51
Compound Name : Chloroform
Scan Number : 1062
Retention Time (minutes): 4.239
Relative Retention Time :-0.00064
Quant Ion : 83.00
Area (flag) : 11606
On-Column Amount (ng) : 1.7108

Digitally signed by Nicole S. Lamoreaux on 04/30/2018 at 14:41.
Target 3.5 esignature user ID: nsl01327

A8506 Lancaster Laboratories 9570346
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP09137.i/18apr30a.b/wa30s07.d Injection date and time: **30-APR-2018 14:02**
Data file Sample Info. Line: A8506;9570346;1;0;;ATH85;;;wa30b01; Instrument ID: **HP09137.i** Batch: **W181201AA**
Date, time and analyst ID of latest file update: 30-Apr-2018 14:17 Automation

Blank Data file reference: **/chem2/HP09137.i/18apr30a.b/wa30b01.d**

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 30-APR-2018 10:55
Mid Level Daily Calibration Standard Reference: **/chem2/HP09137.i/18apr30a.b/wa30c01.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	2.760(0.003)	601	65	167889 (-6)	250.00	
66) Fluorobenzene	5.067(0.000)	1320	96	806930 (-3)	50.00	
100) Chlorobenzene-d5	8.193(0.000)	2294	117	626843 (-4)	50.00	
131) 1,4-Dichlorobenzene-d4	10.067(0.003)	2878	152	312949 (-11)	50.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(2)	4.390(0.000)	113	179273	48.735	97%		80 - 120
57) 1,2-Dichloroethane-d4	(2)	4.724(0.001)	102	49824	51.586	103%		80 - 120
83) Toluene-d8	(3)	6.733(0.000)	98	798442	49.678	99%		80 - 120
114) 4-Bromofluorobenzene	(3)	9.191(0.000)	95	292819	48.236	96%		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 Matthew S. Krause on 05/03/2018 at 14:17. Target 3.5 esignature user ID: msk07970

A8506 Lancaster Laboratories 9570346
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP09137.i/18apr30a.b/wa30s07.d Injection date and time: **30-APR-2018 14:02**
Data file Sample Info. Line: A8506;9570346;1;0;;ATH85;;;wa30b01; Instrument ID: **HP09137.i** Batch: **W181201AA**
Date, time and analyst ID of latest file update: 30-Apr-2018 14:17 Automation

Blank Data file reference: **/chem2/HP09137.i/18apr30a.b/wa30b01.d**

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 30-APR-2018 10:55
Mid Level Daily Calibration Standard Reference: **/chem2/HP09137.i/18apr30a.b/wa30c01.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**

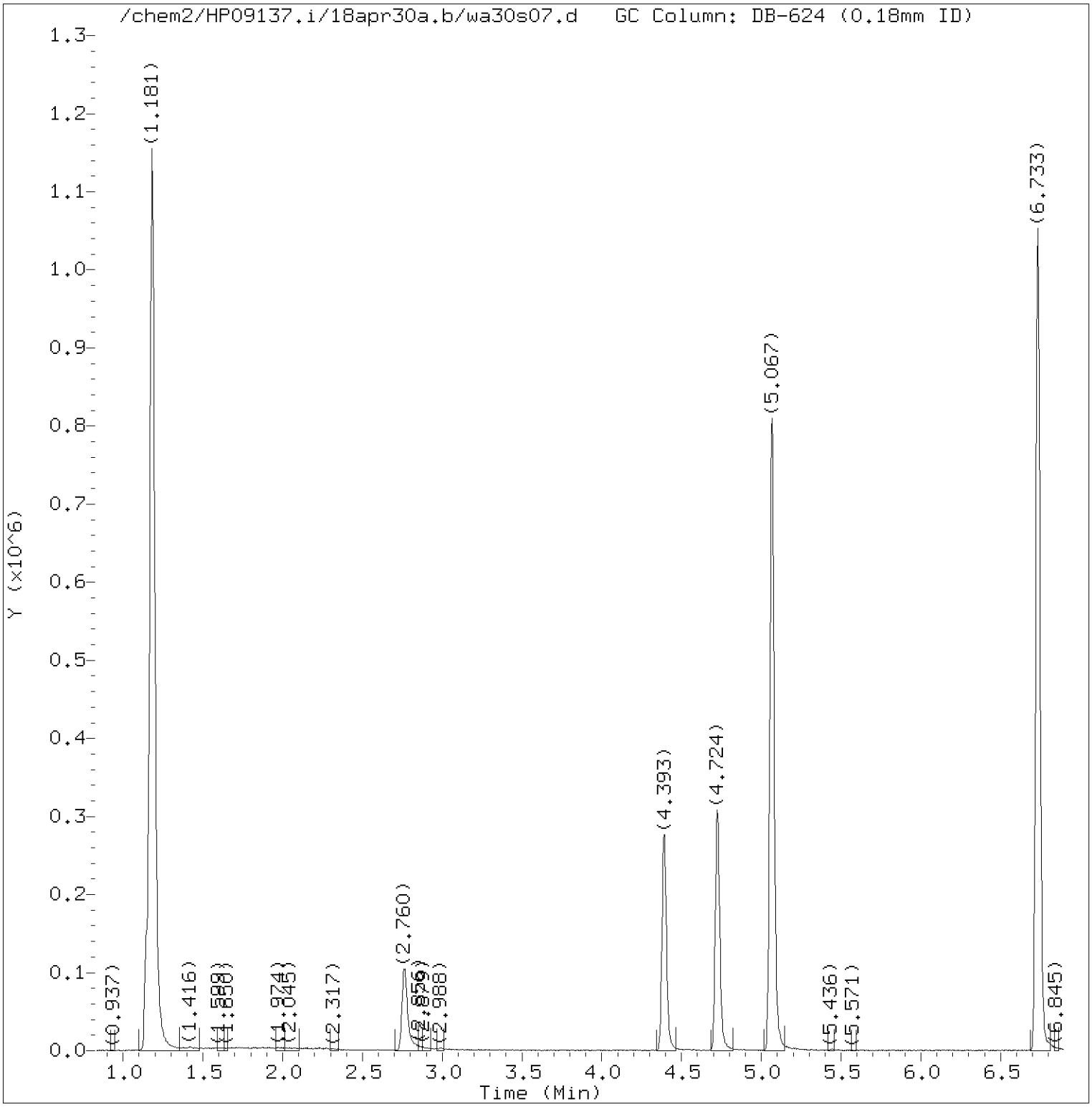
Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

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 Matthew S. Krause on 05/03/2018 at 14:17. Target 3.5 esignature user ID: msk07970

Secondary review performed and digitally signed by Kelly E. Keller on 05/21/2018 at 18:31. PARALLAX ID: kek01027



Total Ion Chromatogram (TIC)

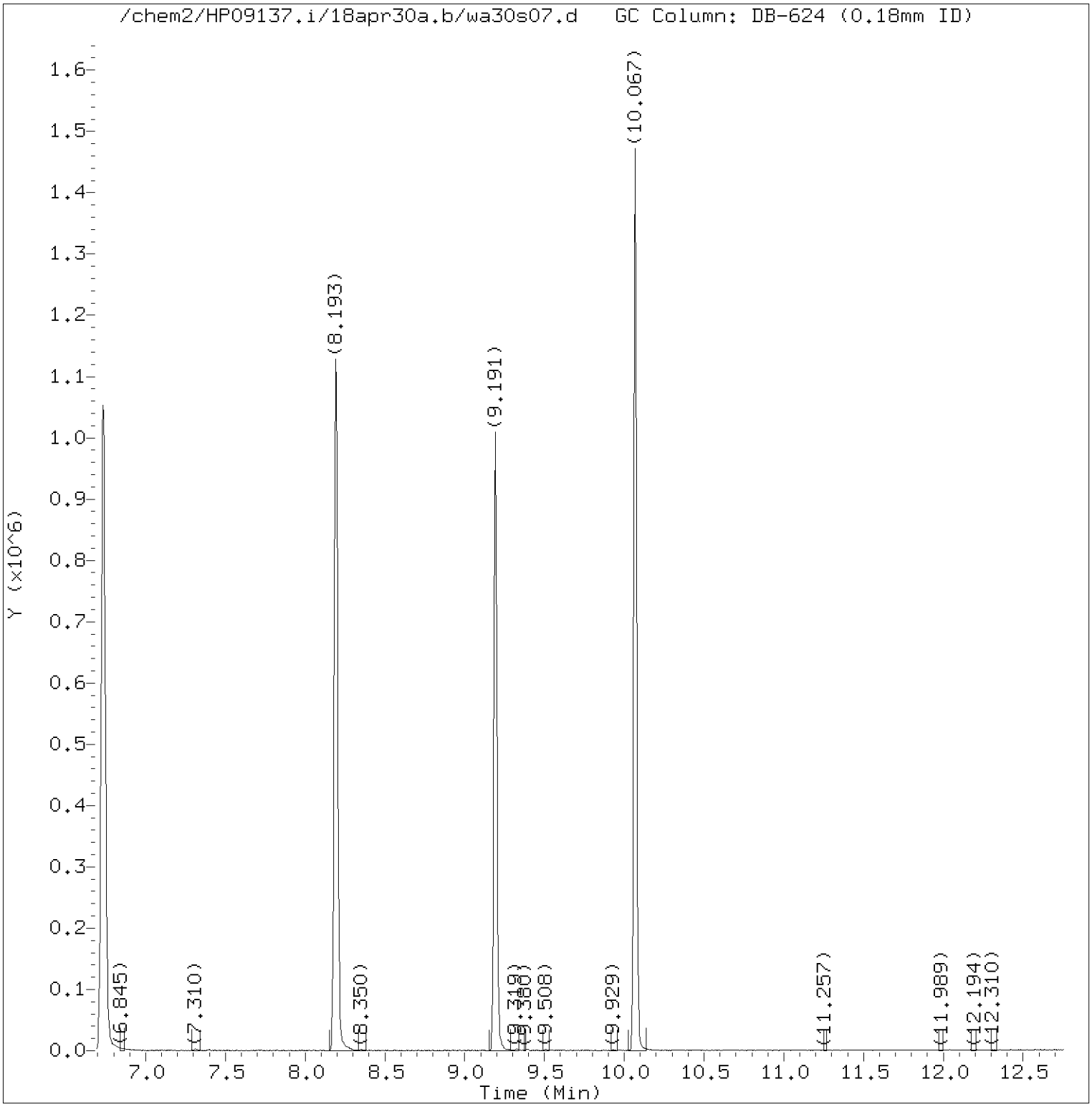
Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s07.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 14:02 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 14:17 Automation

Sample Name: A8506 Lab Sample ID: 9570346

Digitally signed by Matthew S. Krause
on 05/03/2018 at 14:17.
Target 3.5 esignature user ID: msk07970



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s07.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 14:02 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 14:17 Automation

Sample Name: A8506 Lab Sample ID: 9570346

Digitally signed by Matthew S. Krause
on 05/03/2018 at 14:17.
Target 3.5 esignature user ID: msk07970

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s07.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 14:02 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 14:17 Automation

Sample Name: A8506 Lab Sample ID: 9570346

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
29)*t-Butyl alcohol-d10	(1)	2.760	65	167889	250.000
52)$Dibromofluoromethane	(2)	4.390	113	179273	48.735
57)$1,2-Dichloroethane-d4	(2)	4.724	102	49824	51.586
66)*Fluorobenzene	(2)	5.067	96	806930	50.000
83)$Toluene-d8	(3)	6.733	98	798442	49.678
100)*Chlorobenzene-d5	(3)	8.193	117	626843	50.000
114)$4-Bromofluorobenzene	(3)	9.191	95	292819	48.236
131)*1,4-Dichlorobenzene-d4	(4)	10.067	152	312949	50.000

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

Digitally signed by Matthew S. Krause
on 05/03/2018 at 14:17.
Target 3.5 esignature user ID: msk07970

A8507 Lancaster Laboratories 9570347
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP09137.i/18apr30a.b/wa30s14.d Injection date and time: **30-APR-2018 16:47**
Data file Sample Info. Line: A8507;9570347;1;0;;ATH85;;;wa30b01; Instrument ID: **HP09137.i** Batch: **W181201AA**
Date, time and analyst ID of latest file update: 30-Apr-2018 17:30 kk10002

Blank Data file reference: **/chem2/HP09137.i/18apr30a.b/wa30b01.d**

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 30-APR-2018 10:55
Mid Level Daily Calibration Standard Reference: **/chem2/HP09137.i/18apr30a.b/wa30c01.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: **10.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 0.5 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
29) t-Butyl alcohol-d10	2.760(0.003)	601	65	152827 (-15)	250.00	
66) Fluorobenzene	5.067(0.000)	1320	96	789964 (-5)	50.00	
100) Chlorobenzene-d5	8.193(0.000)	2294	117	629122 (-4)	50.00	
131) 1,4-Dichlorobenzene-d4	10.070(0.000)	2879	152	317007 (-10)	50.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(2)	4.390(0.000)	113	174801	48.540	97%		80 - 120
57) 1,2-Dichloroethane-d4	(2)	4.724(0.001)	102	48965	51.784	104%		80 - 120
83) Toluene-d8	(3)	6.733(0.000)	98	791204	49.050	98%		80 - 120
114) 4-Bromofluorobenzene	(3)	9.194(0.000)	95	291302	47.812	96%		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					5	10
6) Vinyl Chloride	(2)	1.483(-0.000)	62	4343	0.779	7.79		J	5	10
8) Bromomethane	(2)			Not Detected					5	10
9) Chloroethane	(2)			Not Detected					5	10
17) 1,1-Dichloroethene	(2)			Not Detected					5	10
18) Acetone	(1)			Not Detected					60	200
23) Carbon Disulfide	(2)			Not Detected					10	50
28) Methylene Chloride	(2)			Not Detected					5	10
32) trans-1,2-Dichloroethene	(2)			Not Detected					5	10
36) 1,1-Dichloroethane	(2)			Not Detected					5	10
42) cis-1,2-Dichloroethene	(2)	3.928(-0.000)	96	38849	9.061	90.61			5	10
44) 2-Butanone	(2)			Not Detected					30	100
51) Chloroform	(2)			Not Detected					5	10
53) 1,1,1-Trichloroethane	(2)			Not Detected					5	10
56) Carbon Tetrachloride	(2)			Not Detected					5	10
60) Benzene	(2)			Not Detected					5	10
61) 1,2-Dichloroethane	(2)			Not Detected					5	10
71) Trichloroethene	(2)	5.443(0.000)	95	3262937	776.793	7767.93		E	5	10
73) 1,2-Dichloropropane	(2)			Not Detected					5	10
78) Bromodichloromethane	(2)			Not Detected					5	10
81) cis-1,3-Dichloropropene	(2)			Not Detected					5	10
82) 4-Methyl-2-pentanone	(2)			Not Detected					30	100
88) Toluene	(3)			Not Detected					5	10
89) trans-1,3-Dichloropropene	(3)			Not Detected					5	10
92) 1,1,2-Trichloroethane	(3)			Not Detected					5	10
93) Tetrachloroethene	(3)			Not Detected					5	10
96) 2-Hexanone	(3)			Not Detected					30	100
97) Dibromochloromethane	(3)			Not Detected					5	10
102) Chlorobenzene	(3)			Not Detected					5	10
104) Ethylbenzene	(3)			Not Detected					5	10
106) m+p-Xylene	(3)			Not Detected					5	10

E = Compound concentration above calibration range.

Digitally signed by Kevin Kelly on 04/30/2018 at 17:31. Target 3.5 esignature user ID: kk10002

A8507 Lancaster Laboratories 9570347
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP09137.i/18apr30a.b/wa30s14.d Injection date and time: **30-APR-2018 16:47**
Data file Sample Info. Line: A8507;9570347;1;0;;ATH85;;;wa30b01; Instrument ID: **HP09137.i** Batch: **W181201AA**
Date, time and analyst ID of latest file update: 30-Apr-2018 17:30 kk10002

Blank Data file reference: **/chem2/HP09137.i/18apr30a.b/wa30b01.d**

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 30-APR-2018 10:55
Mid Level Daily Calibration Standard Reference: **/chem2/HP09137.i/18apr30a.b/wa30c01.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: **10.00**

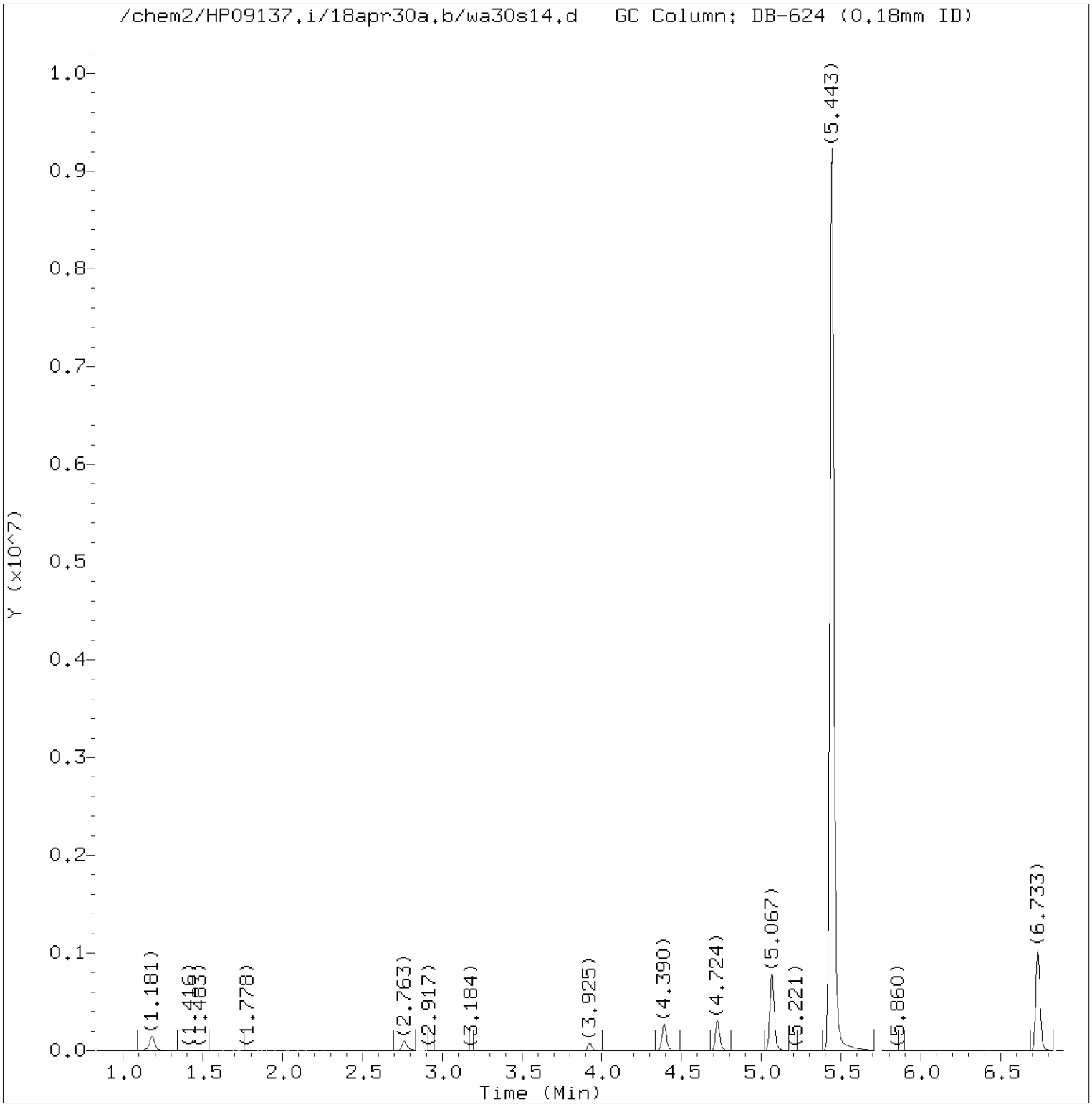
Volume Purged (Vt): 5 ml Sample Volume (Vo): 0.5 ml

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					5	10
108) Xylene (Total)	(3)				Not Detected					5	10
109) Styrene	(3)				Not Detected					10	50
110) Bromoform	(3)				Not Detected					5	40
116) 1,1,2,2-Tetrachloroethane	(4)				Not Detected					5	10

Total number of targets = 36

Digitally signed by Kevin Kelly on 04/30/2018 at 17:31. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Sara E. Johnson on 04/30/2018 at 21:51. PARALLAX ID: sej02002



Total Ion Chromatogram (TIC)

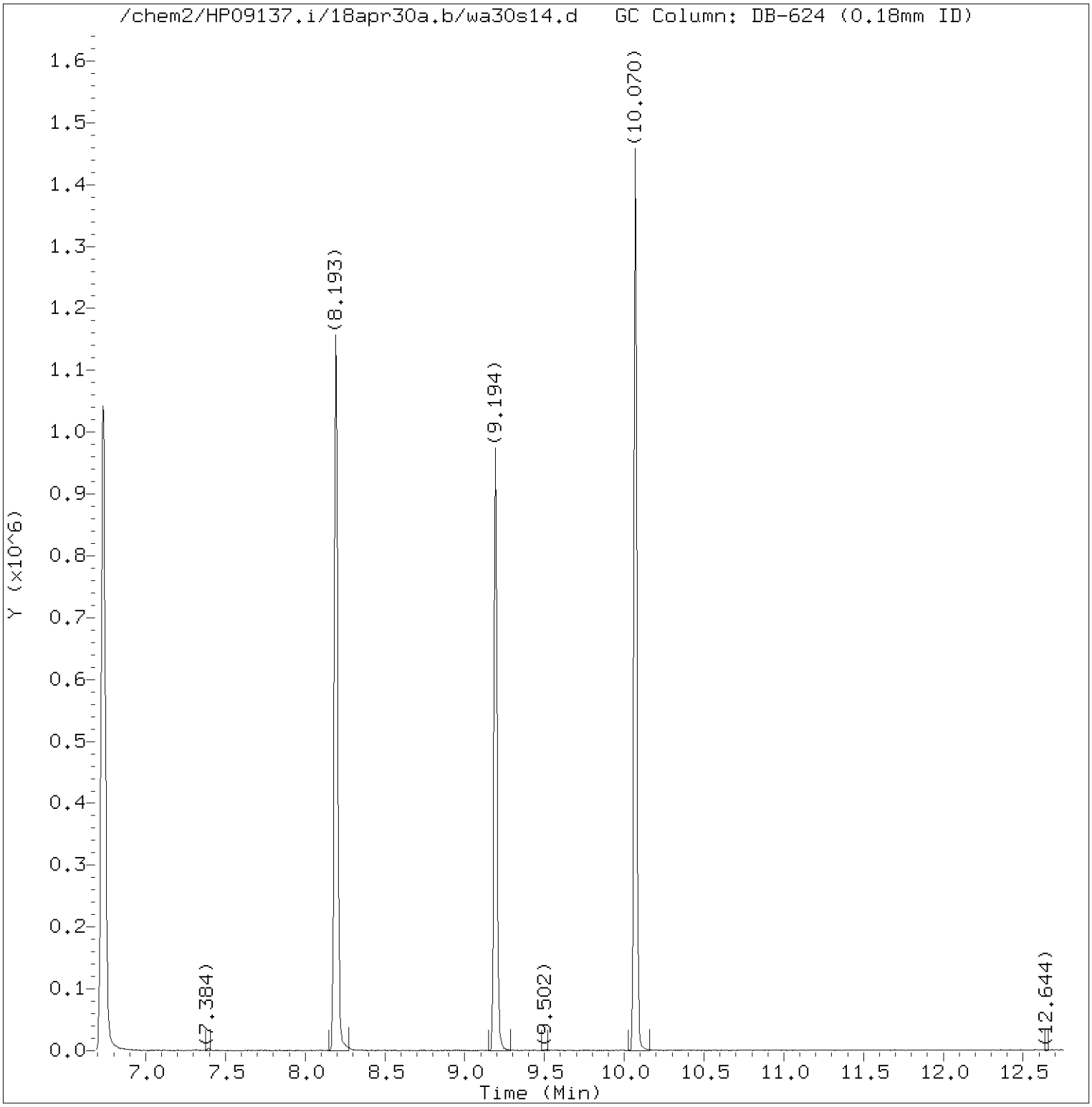
Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s14.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 16:47 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 17:30 kk10002

Sample Name: A8507 Lab Sample ID: 9570347

Digitally signed by Kevin Kelly
on 04/30/2018 at 17:31.
Target 3.5 esignature user ID: kk10002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s14.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 16:47 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 17:30 kk10002

Sample Name: A8507 Lab Sample ID: 9570347

Digitally signed by Kevin Kelly
on 04/30/2018 at 17:31.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s14.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 16:47 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 17:30 kk10002

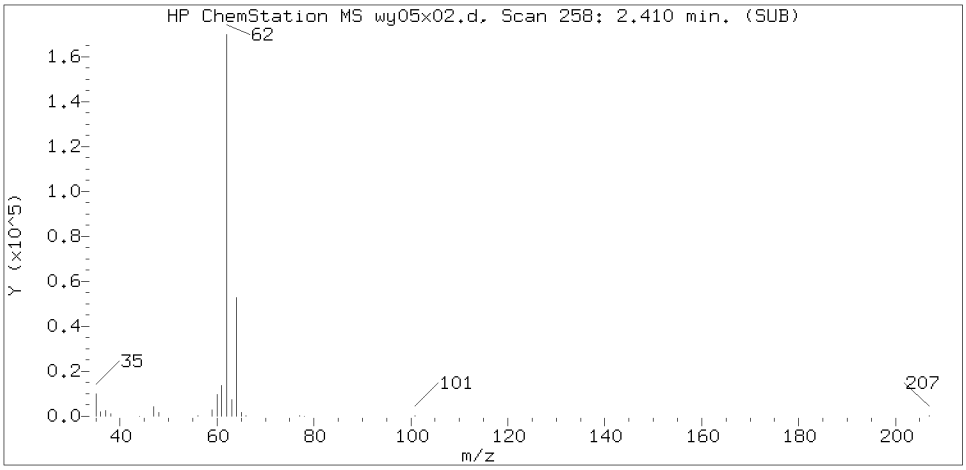
Sample Name: A8507 Lab Sample ID: 9570347

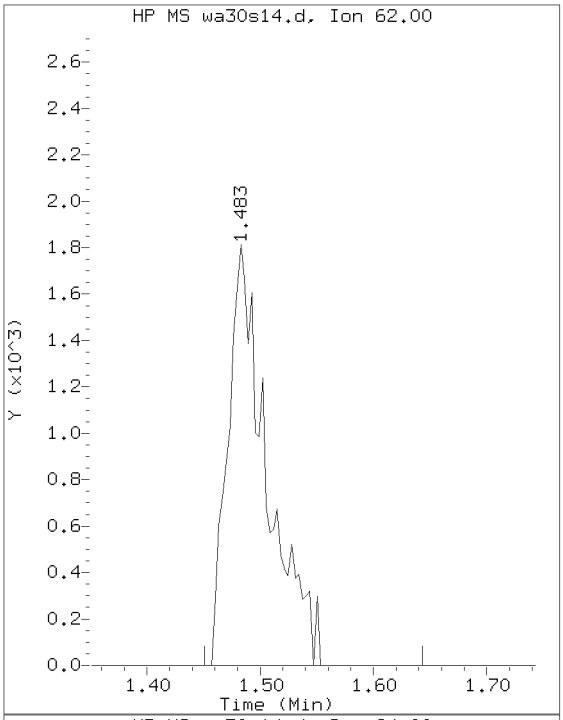
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
6) Vinyl Chloride	(2)	1.483	62	4343	0.779
29)*t-Butyl alcohol-d10	(1)	2.760	65	152827	250.000
42) cis-1,2-Dichloroethene	(2)	3.928	96	38849	9.061
52)$Dibromofluoromethane	(2)	4.390	113	174801	48.540
57)$1,2-Dichloroethane-d4	(2)	4.724	102	48965	51.784
66)*Fluorobenzene	(2)	5.067	96	789964	50.000
71) Trichloroethene	(2)	5.443	95	3262937	776.793
83)$Toluene-d8	(3)	6.733	98	791204	49.050
100)*Chlorobenzene-d5	(3)	8.193	117	629122	50.000
114)$4-Bromofluorobenzene	(3)	9.194	95	291302	47.812
131)*1,4-Dichlorobenzene-d4	(4)	10.070	152	317007	50.000

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

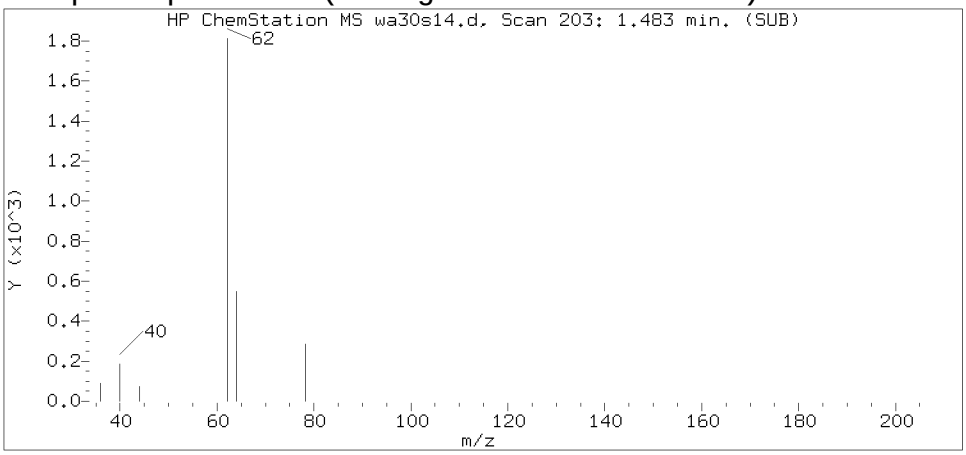
Digitally signed by Kevin Kelly
on 04/30/2018 at 17:31.
Target 3.5 esignature user ID: kk10002

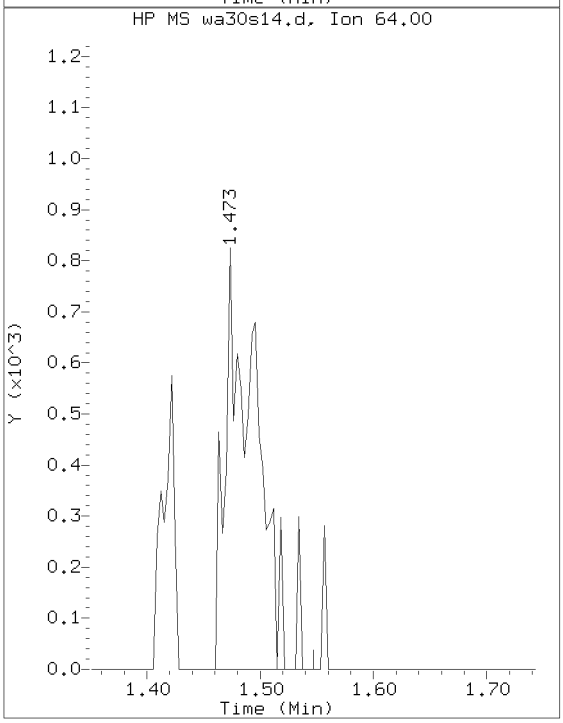
Reference Standard Spectrum for Vinyl Chloride



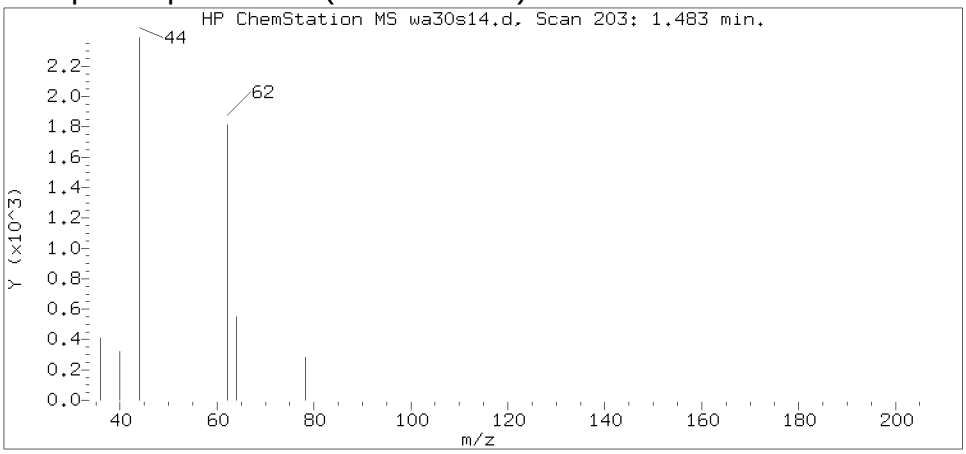


Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)



Data File: /chem2/HP09137.i/18apr30a.b/wa30s14.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 16:47 Analyst ID: nsl01327

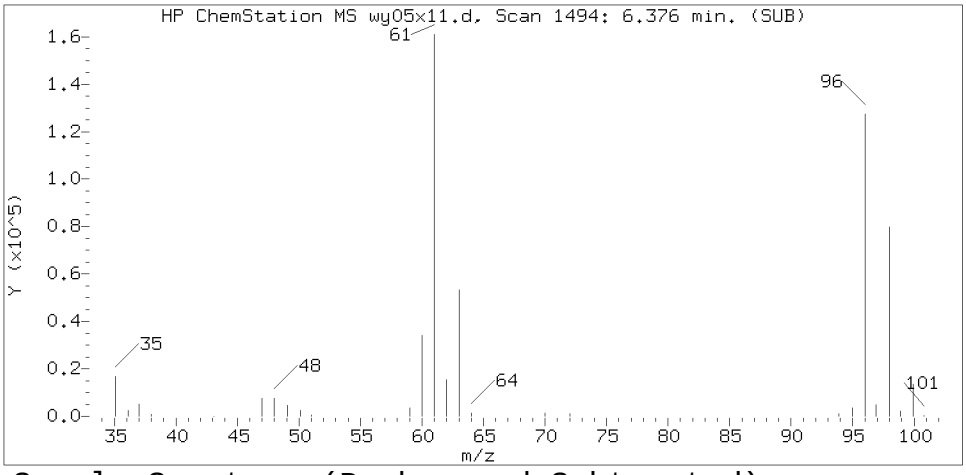
Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 17:30 kk10002

Sample Name: A8507 Lab Sample ID: 9570347

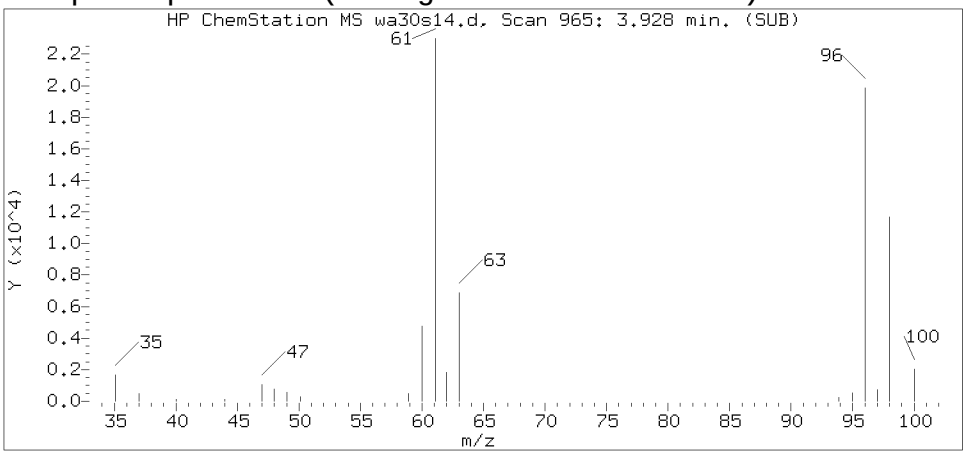
Compound Number : 6
Compound Name : Vinyl Chloride
Scan Number : 203
Retention Time (minutes): 1.483
Relative Retention Time :-0.00001
Quant Ion : 62.00
Area (flag) : 4343
On-Column Amount (ng) : 0.7790

Digitally signed by Kevin Kelly on 04/30/2018 at 17:31.
Target 3.5 esignature user ID: kk10002

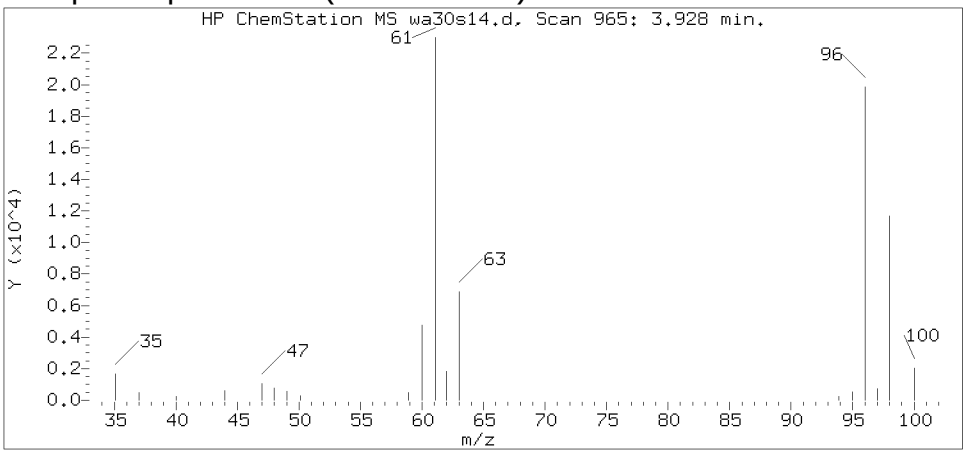
Reference Standard Spectrum for cis-1,2-Dichloroethene

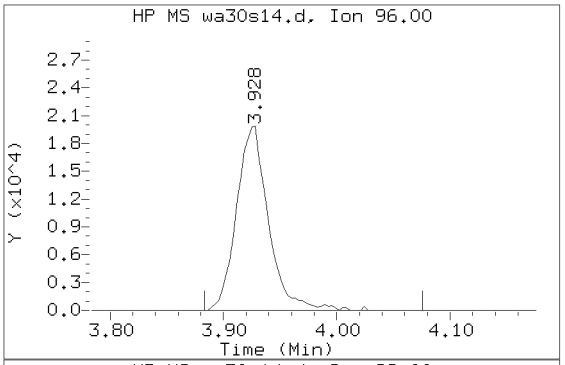


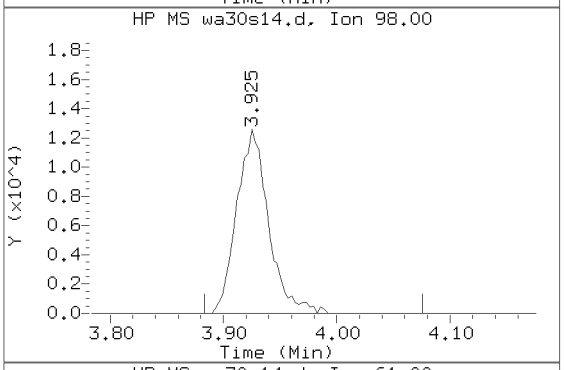
Sample Spectrum (Background Subtracted)

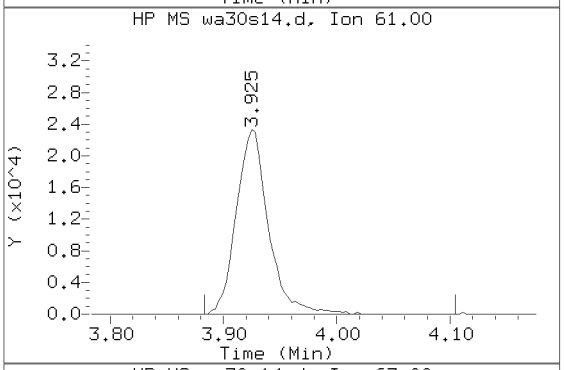


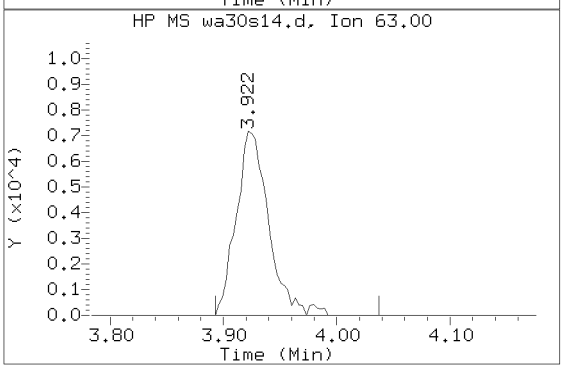
Sample Spectrum (Unaltered)











Data File: /chem2/HP09137.i/18apr30a.b/wa30s14.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 16:47 Analyst ID: nsl01327

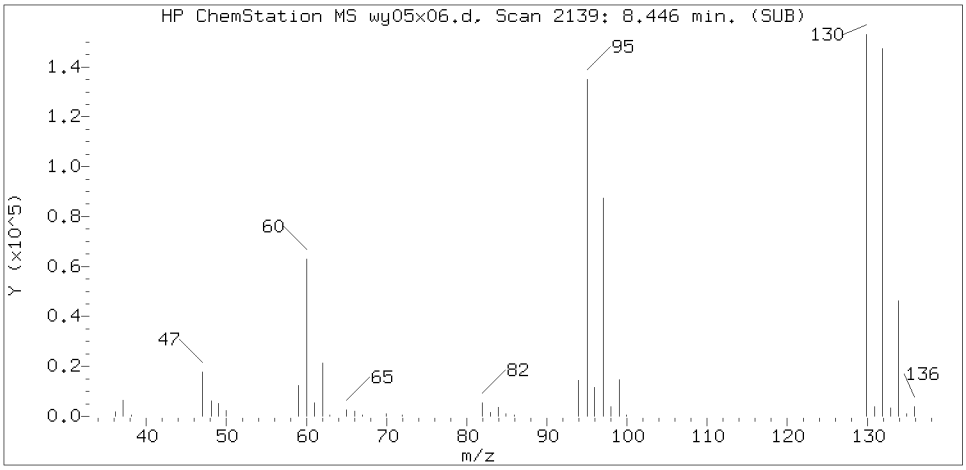
Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 17:30 kk10002

Sample Name: A8507 Lab Sample ID: 9570347

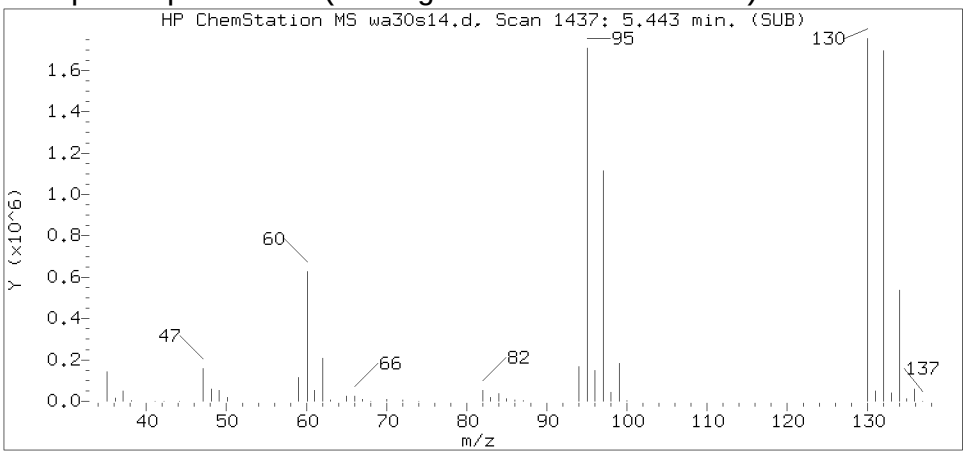
Compound Number : 42
Compound Name : cis-1,2-Dichloroethene
Scan Number : 965
Retention Time (minutes): 3.928
Relative Retention Time :-0.00063
Quant Ion : 96.00
Area (flag) : 38849
On-Column Amount (ng) : 9.0611

Digitally signed by Kevin Kelly on 04/30/2018 at 17:31.
Target 3.5 esignature user ID: kk10002

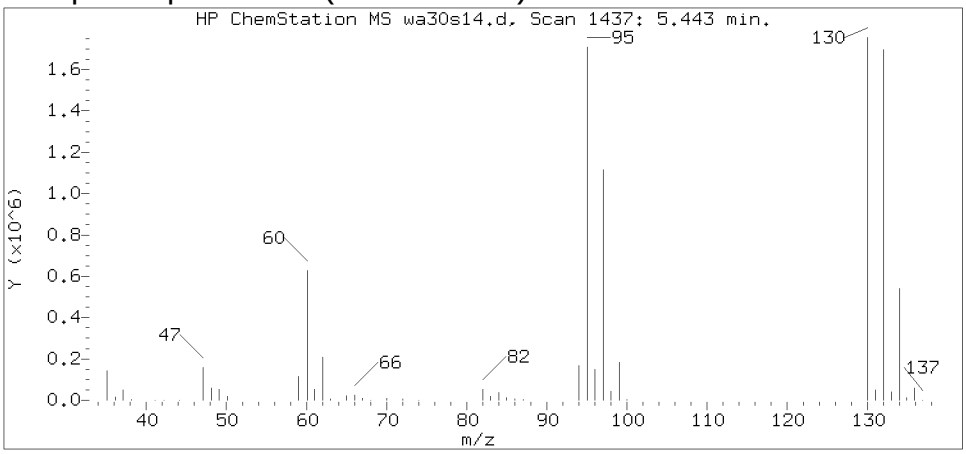
Reference Standard Spectrum for Trichloroethene

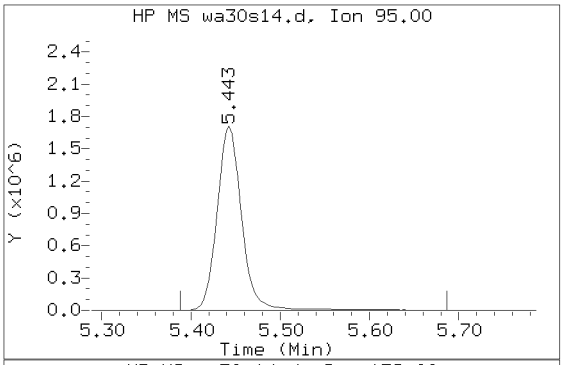


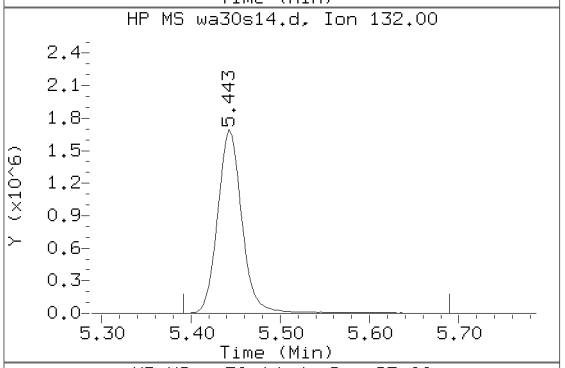
Sample Spectrum (Background Subtracted)

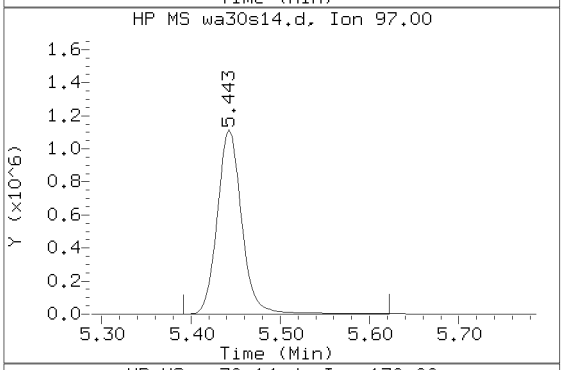


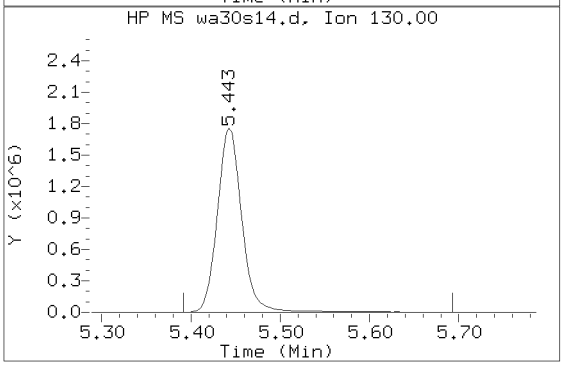
Sample Spectrum (Unaltered)











Data File: /chem2/HP09137.i/18apr30a.b/wa30s14.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 16:47 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 17:30 kk10002

Sample Name: A8507 Lab Sample ID: 9570347

Compound Number : 71
Compound Name : Trichloroethene
Scan Number : 1437
Retention Time (minutes): 5.443
Relative Retention Time : 0.00000
Quant Ion : 95.00
Area (flag) : 3262937
On-Column Amount (ng) : 776.7927

Digitally signed by Kevin Kelly on 04/30/2018 at 17:31.
Target 3.5 esignature user ID: kk10002

A8507DL

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

9570347DL

Data file: /chem2/HP09137.i/18apr30a.b/wa30s15.d Injection date and time: **30-APR-2018 17:11**
Data file Sample Info. Line: A8507DL;9570347DL;1;0;;ATH85;;;wa30b01; Instrument ID: **HP09137.i** Batch: **W181201AA**
Date, time and analyst ID of latest file update: 30-Apr-2018 17:29 kk10002

Blank Data file reference: **/chem2/HP09137.i/18apr30a.b/wa30b01.d**

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 30-APR-2018 10:55
Mid Level Daily Calibration Standard Reference: **/chem2/HP09137.i/18apr30a.b/wa30c01.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: **100.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 0.05 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
29) t-Butyl alcohol-d10	2.767(-0.003)	603	65	154187 (-14)	250.00	
66) Fluorobenzene	5.067(0.000)	1320	96	785302 (-5)	50.00	
100) Chlorobenzene-d5	8.193(0.000)	2294	117	623804 (-5)	50.00	
131) 1,4-Dichlorobenzene-d4	10.070(0.000)	2879	152	300484 (-15)	50.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(2)	4.390(0.000)	113	173597	48.492	97%		80 - 120
57) 1,2-Dichloroethane-d4	(2)	4.731(-0.001)	102	49249	52.394	105%		80 - 120
83) Toluene-d8	(3)	6.733(0.000)	98	780365	48.790	98%		80 - 120
114) 4-Bromofluorobenzene	(3)	9.191(0.000)	95	282542	46.770	94%		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					50	100
6) Vinyl Chloride	(2)			Not Detected					50	100
8) Bromomethane	(2)			Not Detected					50	100
9) Chloroethane	(2)			Not Detected					50	100
17) 1,1-Dichloroethene	(2)			Not Detected					50	100
18) Acetone	(1)			Not Detected					600	2000
23) Carbon Disulfide	(2)			Not Detected					100	500
28) Methylene Chloride	(2)			Not Detected					50	100
32) trans-1,2-Dichloroethene	(2)			Not Detected					50	100
36) 1,1-Dichloroethane	(2)			Not Detected					50	100
42) cis-1,2-Dichloroethene	(2)	3.925(-0.000)	96	3919	0.920	91.96		J	50	100
44) 2-Butanone	(2)			Not Detected					300	1000
51) Chloroform	(2)			Not Detected					50	100
53) 1,1,1-Trichloroethane	(2)			Not Detected					50	100
56) Carbon Tetrachloride	(2)			Not Detected					50	100
60) Benzene	(2)			Not Detected					50	100
61) 1,2-Dichloroethane	(2)			Not Detected					50	100
71) Trichloroethene	(2)	5.443(0.000)	95	322657	77.269	7726.95			50	100
73) 1,2-Dichloropropane	(2)			Not Detected					50	100
78) Bromodichloromethane	(2)			Not Detected					50	100
81) cis-1,3-Dichloropropene	(2)			Not Detected					50	100
82) 4-Methyl-2-pentanone	(2)			Not Detected					300	1000
88) Toluene	(3)			Not Detected					50	100
89) trans-1,3-Dichloropropene	(3)			Not Detected					50	100
92) 1,1,2-Trichloroethane	(3)			Not Detected					50	100
93) Tetrachloroethene	(3)			Not Detected					50	100
96) 2-Hexanone	(3)			Not Detected					300	1000
97) Dibromochloromethane	(3)			Not Detected					50	100
102) Chlorobenzene	(3)			Not Detected					50	100
104) Ethylbenzene	(3)			Not Detected					50	100
106) m+p-Xylene	(3)			Not Detected					50	100

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Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP09137.i/18apr30a.b/wa30s15.d Injection date and time: **30-APR-2018 17:11**
Data file Sample Info. Line: A8507DL;9570347DL;1;0;;ATH85;;;wa30b01; Instrument ID: **HP09137.i** Batch: **W181201AA**
Date, time and analyst ID of latest file update: 30-Apr-2018 17:29 kk10002

Blank Data file reference: **/chem2/HP09137.i/18apr30a.b/wa30b01.d**

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 30-APR-2018 10:55
Mid Level Daily Calibration Standard Reference: **/chem2/HP09137.i/18apr30a.b/wa30c01.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: **100.00**

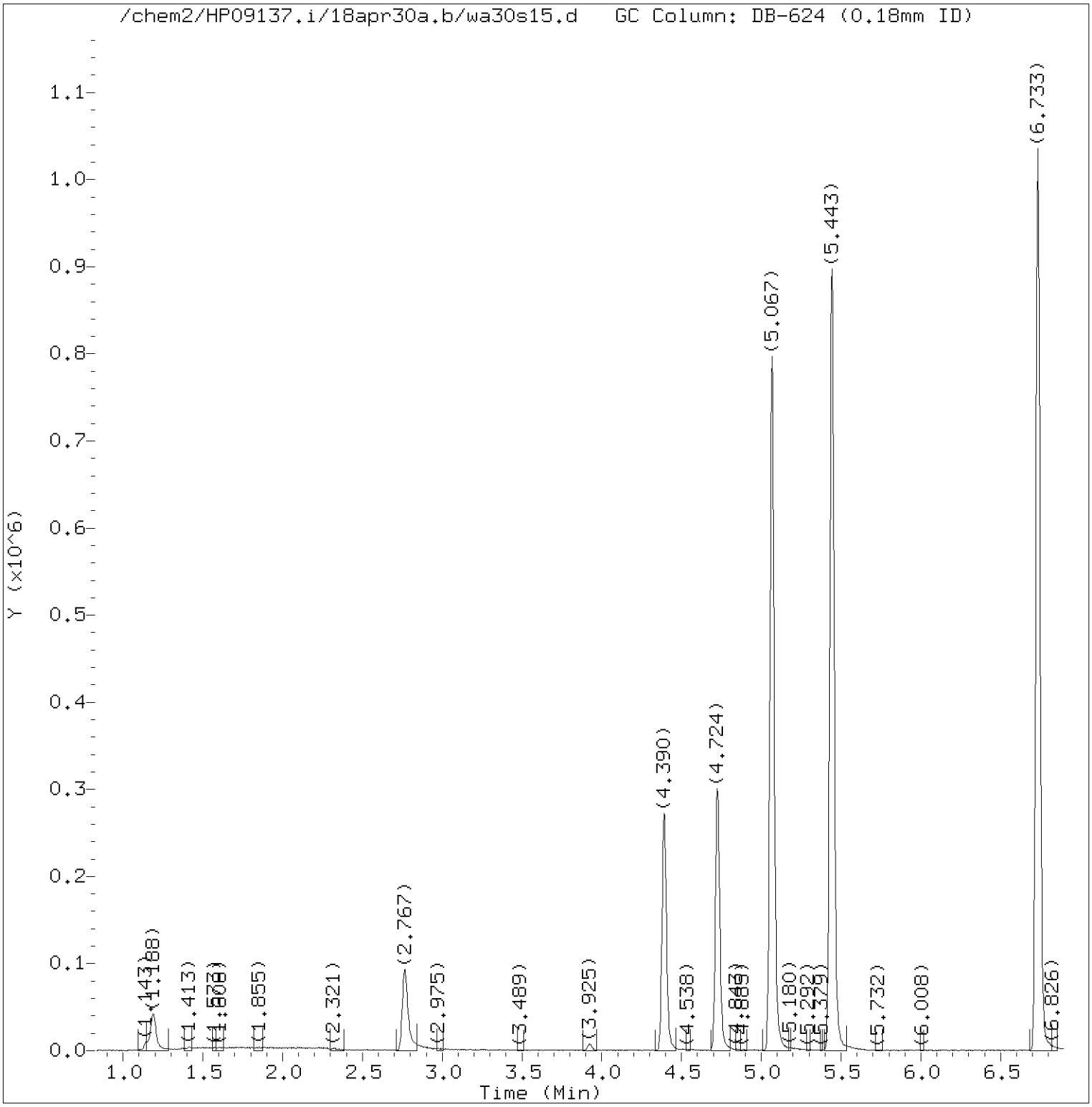
Volume Purged (Vt): 5 ml Sample Volume (Vo): 0.05 ml

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					50	100
108) Xylene (Total)	(3)				Not Detected					50	100
109) Styrene	(3)				Not Detected					100	500
110) Bromoform	(3)				Not Detected					50	400
116) 1,1,2,2-Tetrachloroethane	(4)				Not Detected					50	100

Total number of targets = 36

Digitally signed by Kevin Kelly on 04/30/2018 at 17:31. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Sara E. Johnson on 04/30/2018 at 21:51. PARALLAX ID: sej02002



Total Ion Chromatogram (TIC)

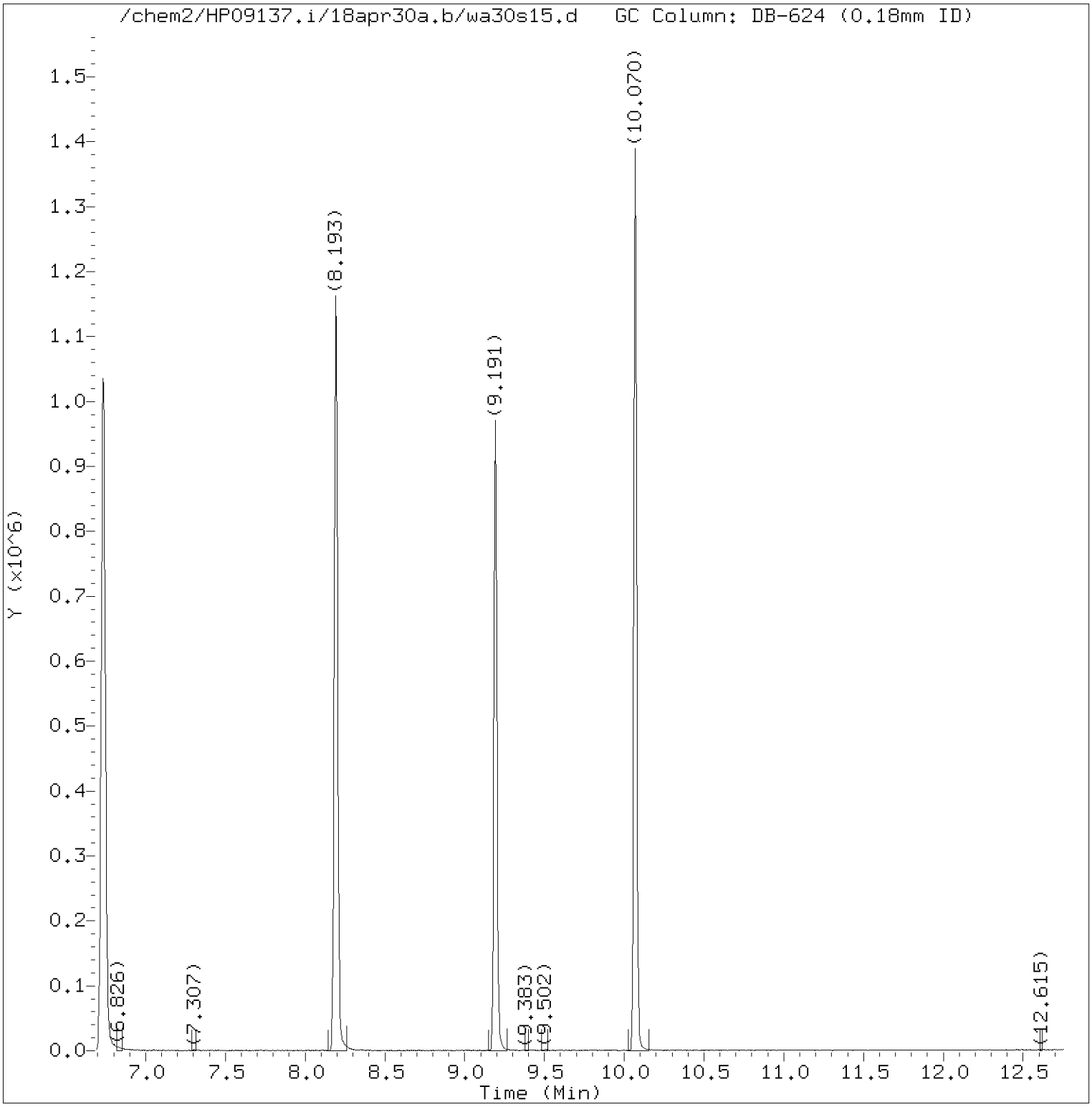
Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s15.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 17:11 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 17:29 kk10002

Sample Name: A8507DL Lab Sample ID: 9570347DL

Digitally signed by Kevin Kelly
on 04/30/2018 at 17:31.
Target 3.5 esignature user ID: kk10002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s15.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 17:11 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 17:29 kk10002

Sample Name: A8507DL Lab Sample ID: 9570347DL

Digitally signed by Kevin Kelly
on 04/30/2018 at 17:31.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s15.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 17:11 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 17:29 kk10002

Sample Name: A8507DL Lab Sample ID: 9570347DL

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
29)*t-Butyl alcohol-d10	(1)	2.767	65	154187	250.000
42) cis-1,2-Dichloroethene	(2)	3.925	96	3919	0.920
52)$Dibromofluoromethane	(2)	4.390	113	173597	48.492
57)$1,2-Dichloroethane-d4	(2)	4.731	102	49249	52.394
66)*Fluorobenzene	(2)	5.067	96	785302	50.000
71) Trichloroethene	(2)	5.443	95	322657	77.269
83)$Toluene-d8	(3)	6.733	98	780365	48.790
100)*Chlorobenzene-d5	(3)	8.193	117	623804	50.000
114)$4-Bromofluorobenzene	(3)	9.191	95	282542	46.770
131)*1,4-Dichlorobenzene-d4	(4)	10.070	152	300484	50.000

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

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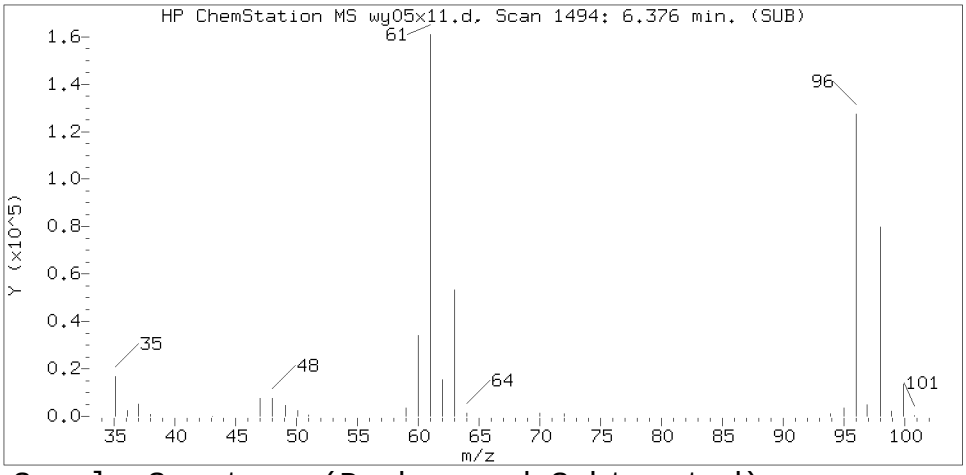
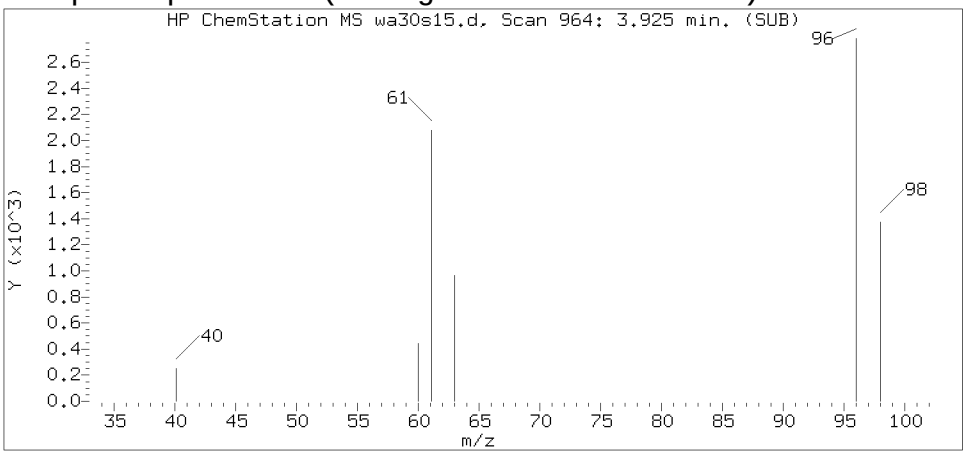
on 04/30/2018 at 17:31.
Target 3.5 esignature user ID: kk10002

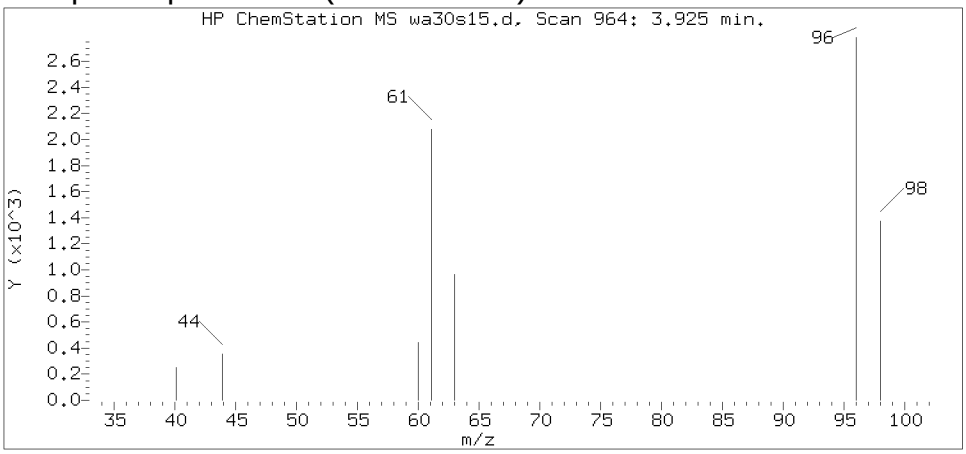
Reference Standard Spectrum for cis-1,2-Dichloroethene

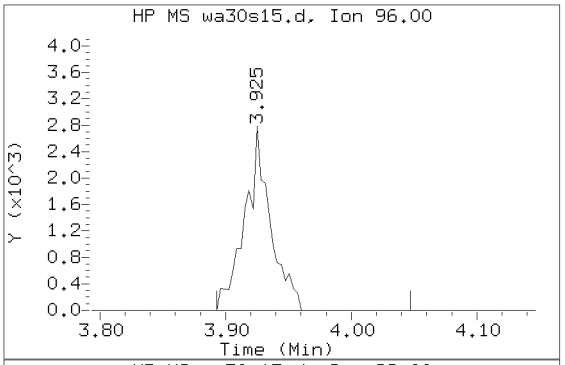


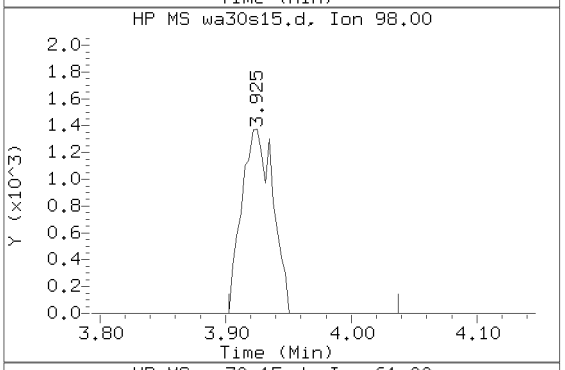
Sample Spectrum (Background Subtracted)

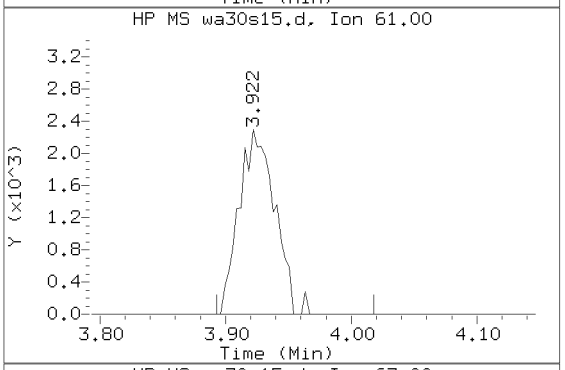


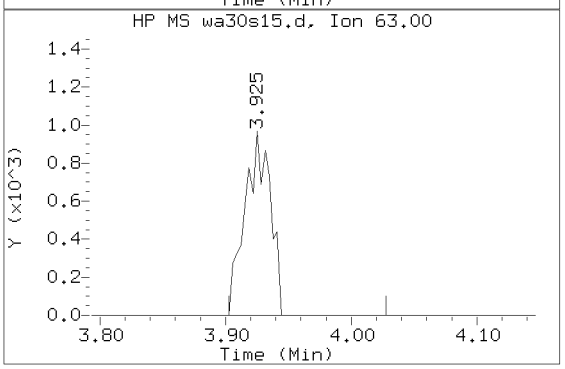
Sample Spectrum (Unaltered)











Data File: /chem2/HP09137.i/18apr30a.b/wa30s15.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 17:11 Analyst ID: nsl01327

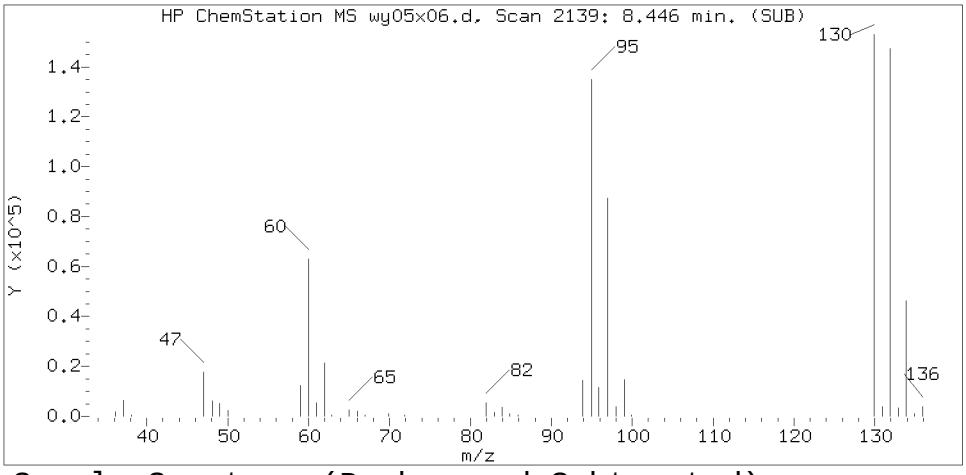
Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 17:29 kk10002

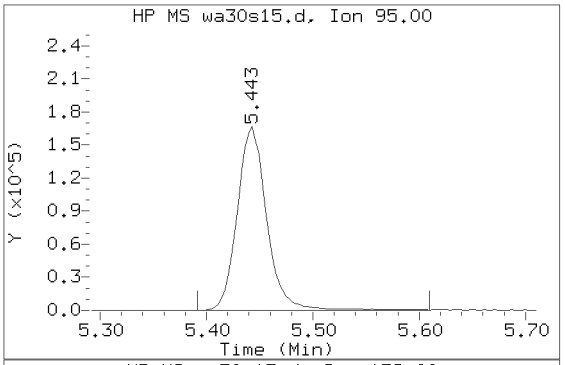
Sample Name: A8507DL Lab Sample ID: 9570347DL

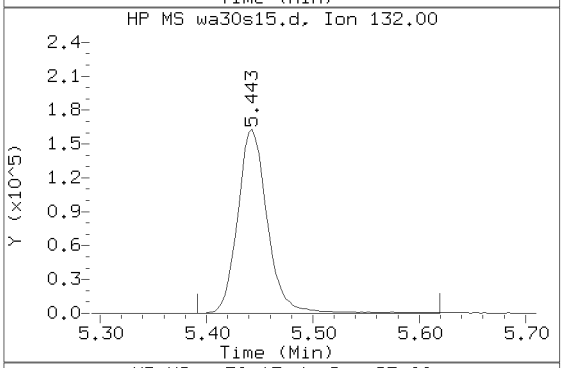
Compound Number : 42
Compound Name : cis-1,2-Dichloroethene
Scan Number : 964
Retention Time (minutes): 3.925
Relative Retention Time :-0.00001
Quant Ion : 96.00
Area (flag) : 3919
On-Column Amount (ng) : 0.9196

Digitally signed by Kevin Kelly on 04/30/2018 at 17:31.
Target 3.5 esignature user ID: kk10002

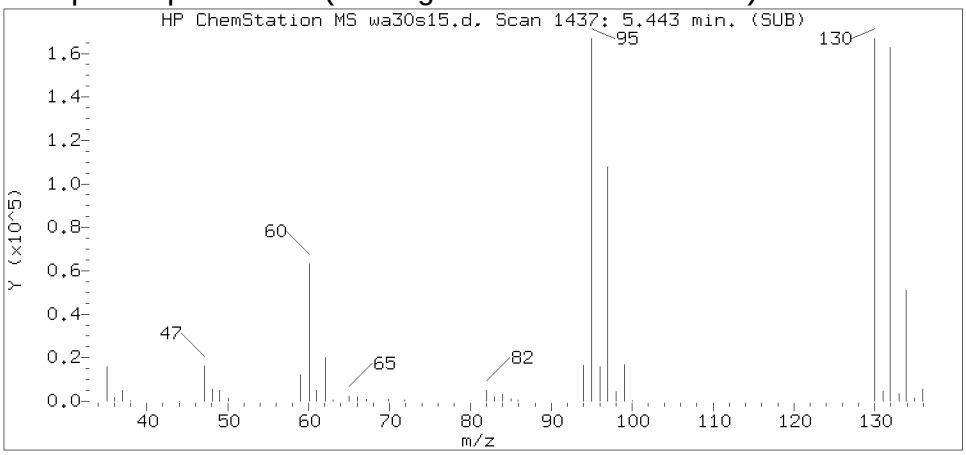
Reference Standard Spectrum for Trichloroethene

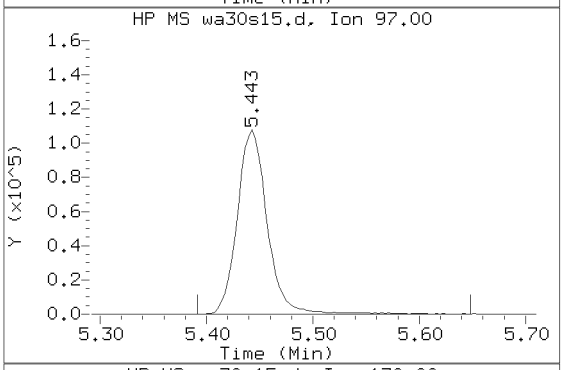




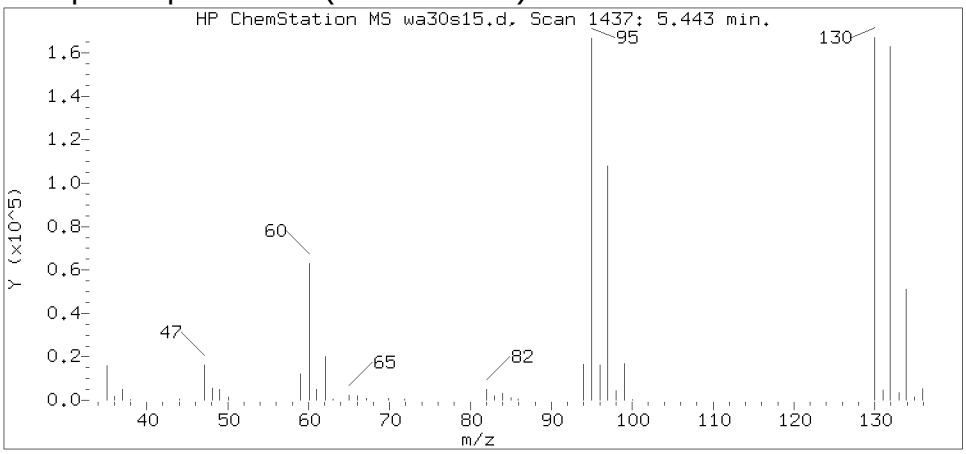


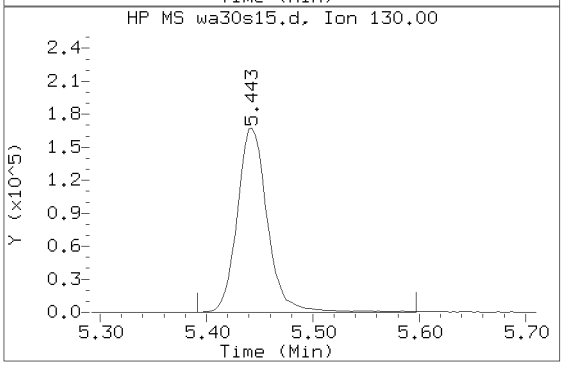
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP09137.i/18apr30a.b/wa30s15.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 17:11 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 17:29 kk10002

Sample Name: A8507DL Lab Sample ID: 9570347DL

Compound Number : 71
Compound Name : Trichloroethene
Scan Number : 1437
Retention Time (minutes): 5.443
Relative Retention Time : 0.00000
Quant Ion : 95.00
Area (flag) : 322657
On-Column Amount (ng) : 77.2695

Digitally signed by Kevin Kelly on 04/30/2018 at 17:31.
Target 3.5 esignature user ID: kk10002

A8509

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

9570349

Data file: /chem2/HP09137.i/18apr30a.b/wa30s16.d
Injection date and time: **30-APR-2018 17:35**
Data file Sample Info. Line: A8509;9570349;1;0;;ATH85;;;wa30b01;
Instrument ID: **HP09137.i** Batch: **W181201AA**
Date, time and analyst ID of latest file update: 30-Apr-2018 18:16 kk10002

Blank Data file reference: **/chem2/HP09137.i/18apr30a.b/wa30b01.d**

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 30-APR-2018 10:55
Mid Level Daily Calibration Standard Reference: **/chem2/HP09137.i/18apr30a.b/wa30c01.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: **20.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 0.25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
29) t-Butyl alcohol-d10	2.763(0.000)	602	65	158478 (-11)	250.00	
66) Fluorobenzene	5.067(0.000)	1320	96	775721 (-6)	50.00	
100) Chlorobenzene-d5	8.193(0.000)	2294	117	616324 (-6)	50.00	
131) 1,4-Dichlorobenzene-d4	10.070(0.000)	2879	152	313653 (-11)	50.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(2)	4.390(0.000)	113	173071	48.942	98%		80 - 120
57) 1,2-Dichloroethane-d4	(2)	4.724(0.001)	102	48685	52.433	105%		80 - 120
83) Toluene-d8	(3)	6.736(0.000)	98	784024	49.614	99%		80 - 120
114) 4-Bromofluorobenzene	(3)	9.191(0.000)	95	288938	48.409	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)			Not Detected					10	20
6) Vinyl Chloride	(2)			Not Detected					10	20
8) Bromomethane	(2)			Not Detected					10	20
9) Chloroethane	(2)			Not Detected					10	20
17) 1,1-Dichloroethene	(2)			Not Detected					10	20
18) Acetone	(1)			Not Detected					120	400
23) Carbon Disulfide	(2)			Not Detected					20	100
28) Methylene Chloride	(2)			Not Detected					10	20
32) trans-1,2-Dichloroethene	(2)			Not Detected					10	20
36) 1,1-Dichloroethane	(2)			Not Detected					10	20
42) cis-1,2-Dichloroethene	(2)	3.922(0.000)	96	224550	53.335	1066.71			10	20
44) 2-Butanone	(2)			Not Detected					60	200
51) Chloroform	(2)			Not Detected					10	20
53) 1,1,1-Trichloroethane	(2)			Not Detected					10	20
56) Carbon Tetrachloride	(2)			Not Detected					10	20
60) Benzene	(2)			Not Detected					10	20
61) 1,2-Dichloroethane	(2)			Not Detected					10	20
71) Trichloroethene	(2)	5.443(0.000)	95	2131519	516.758	10335.16		E	10	20
73) 1,2-Dichloropropane	(2)			Not Detected					10	20
78) Bromodichloromethane	(2)			Not Detected					10	20
81) cis-1,3-Dichloropropene	(2)			Not Detected					10	20
82) 4-Methyl-2-pentanone	(2)			Not Detected					60	200
88) Toluene	(3)			Not Detected					10	20
89) trans-1,3-Dichloropropene	(3)			Not Detected					10	20
92) 1,1,2-Trichloroethane	(3)			Not Detected					10	20
93) Tetrachloroethene	(3)			Not Detected					10	20
96) 2-Hexanone	(3)			Not Detected					60	200
97) Dibromochloromethane	(3)			Not Detected					10	20
102) Chlorobenzene	(3)			Not Detected					10	20
104) Ethylbenzene	(3)			Not Detected					10	20
106) m+p-Xylene	(3)			Not Detected					10	20

E = Compound concentration above calibration range.

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A8509 Lancaster Laboratories 9570349

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP09137.i/18apr30a.b/wa30s16.d Injection date and time: **30-APR-2018 17:35**
Data file Sample Info. Line: A8509;9570349;1;0;;ATH85;;;wa30b01; Instrument ID: **HP09137.i** Batch: **W181201AA**
Date, time and analyst ID of latest file update: 30-Apr-2018 18:16 kk10002

Blank Data file reference: **/chem2/HP09137.i/18apr30a.b/wa30b01.d**

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 30-APR-2018 10:55
Mid Level Daily Calibration Standard Reference: **/chem2/HP09137.i/18apr30a.b/wa30c01.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: **20.00**

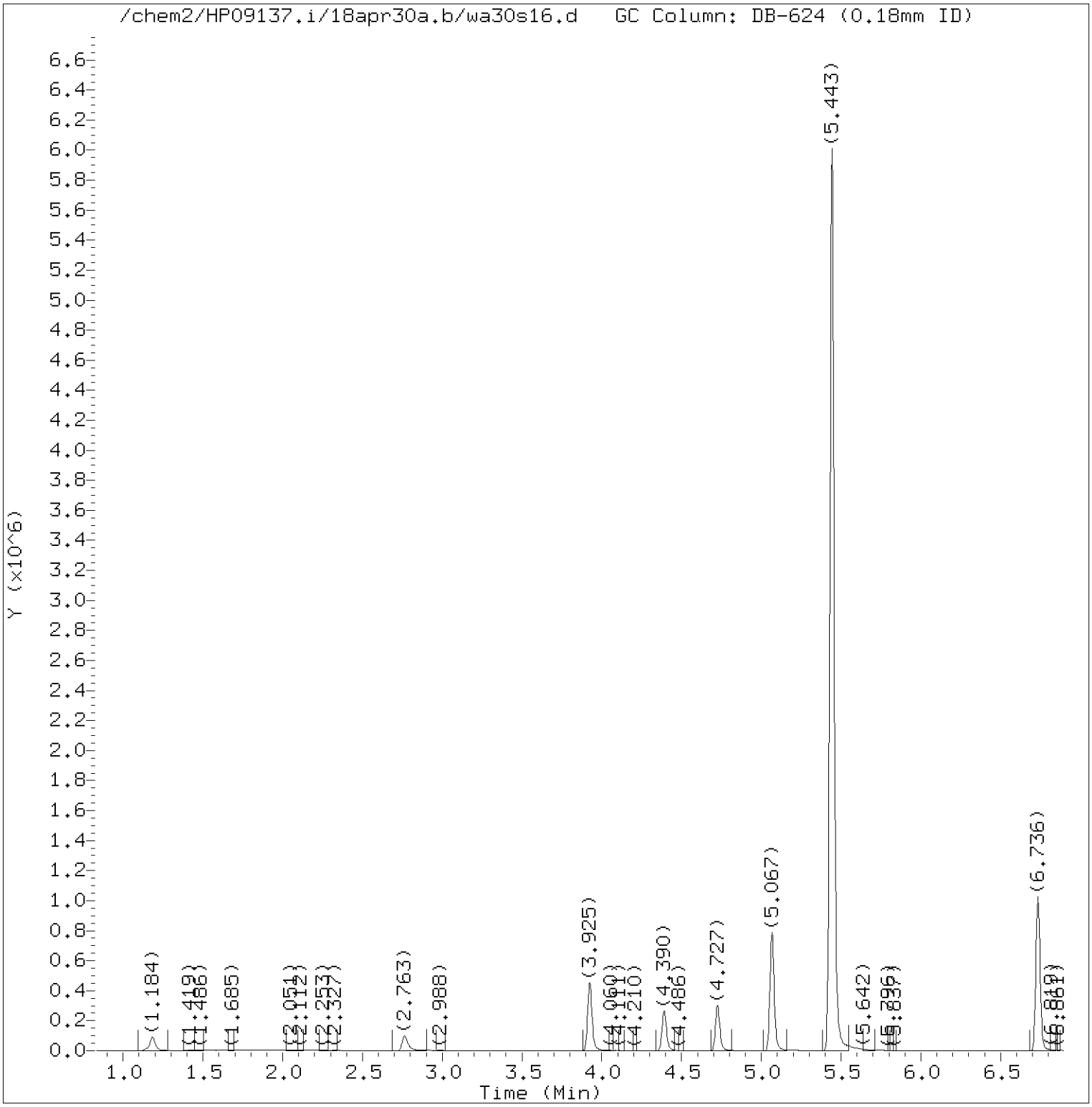
Volume Purged (Vt): 5 ml Sample Volume (Vo): 0.25 ml

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					10	20
108) Xylene (Total)	(3)				Not Detected					10	20
109) Styrene	(3)				Not Detected					20	100
110) Bromoform	(3)				Not Detected					10	80
116) 1,1,2,2-Tetrachloroethane	(4)				Not Detected					10	20

Total number of targets = 36

Digitally signed by Kevin Kelly on 04/30/2018 at 18:16. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Sara E. Johnson on 04/30/2018 at 21:51. PARALLAX ID: sej02002



Total Ion Chromatogram (TIC)

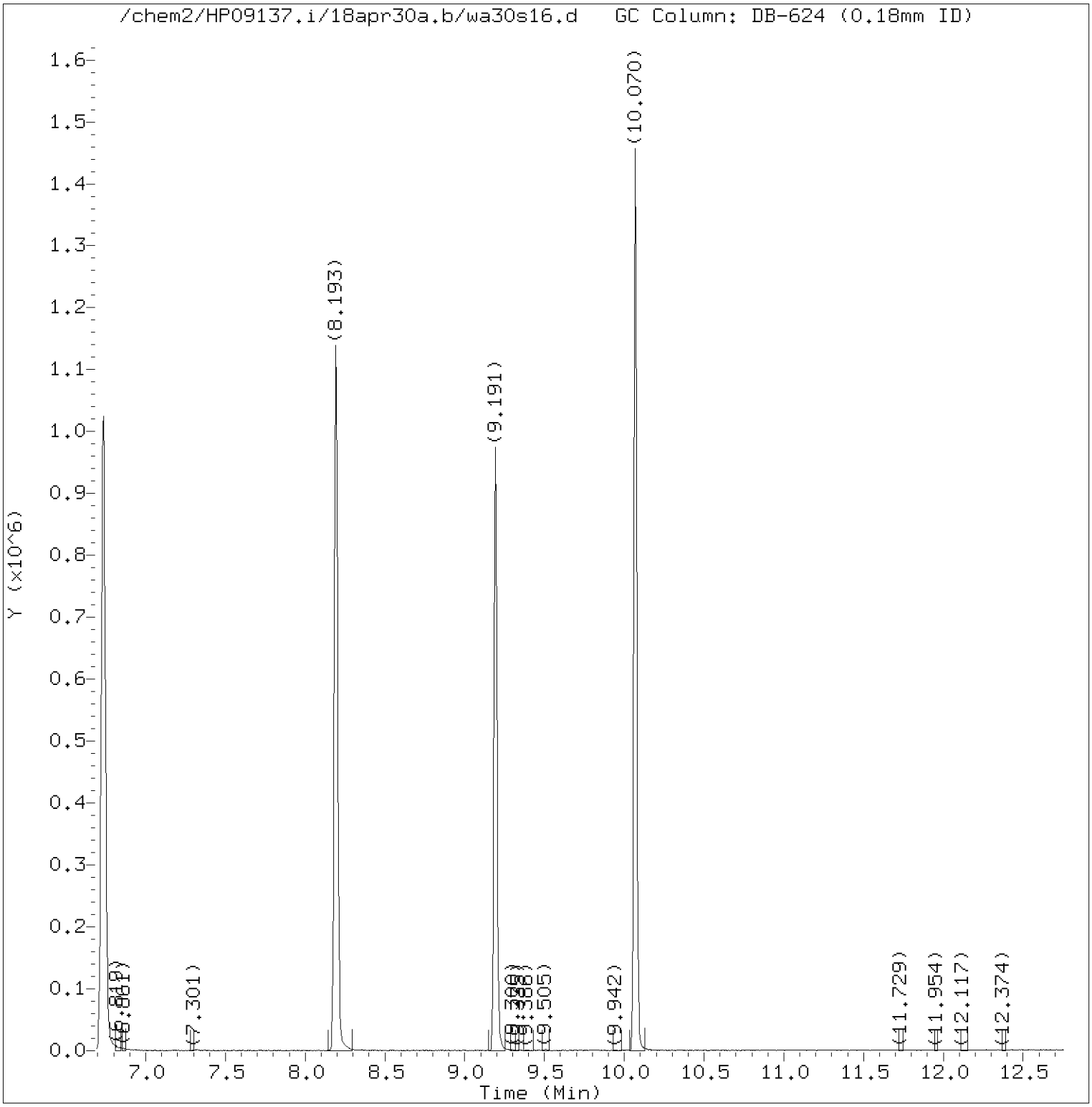
Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s16.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 17:35 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 18:16 kk10002

Sample Name: A8509 Lab Sample ID: 9570349

Digitally signed by Kevin Kelly
on 04/30/2018 at 18:16.
Target 3.5 esignature user ID: kk10002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s16.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 17:35 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 18:16 kk10002

Sample Name: A8509 Lab Sample ID: 9570349

Digitally signed by Kevin Kelly
on 04/30/2018 at 18:16.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s16.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 17:35 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 18:16 kk10002

Sample Name: A8509 Lab Sample ID: 9570349

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
29)*t-Butyl alcohol-d10	(1)	2.763	65	158478	250.000
42) cis-1,2-Dichloroethene	(2)	3.922	96	224550	53.335
52)$Dibromofluoromethane	(2)	4.390	113	173071	48.942
57)$1,2-Dichloroethane-d4	(2)	4.724	102	48685	52.433
66)*Fluorobenzene	(2)	5.067	96	775721	50.000
71) Trichloroethene	(2)	5.443	95	2131519	516.758
83)$Toluene-d8	(3)	6.736	98	784024	49.614
100)*Chlorobenzene-d5	(3)	8.193	117	616324	50.000
114)$4-Bromofluorobenzene	(3)	9.191	95	288938	48.409
131)*1,4-Dichlorobenzene-d4	(4)	10.070	152	313653	50.000

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

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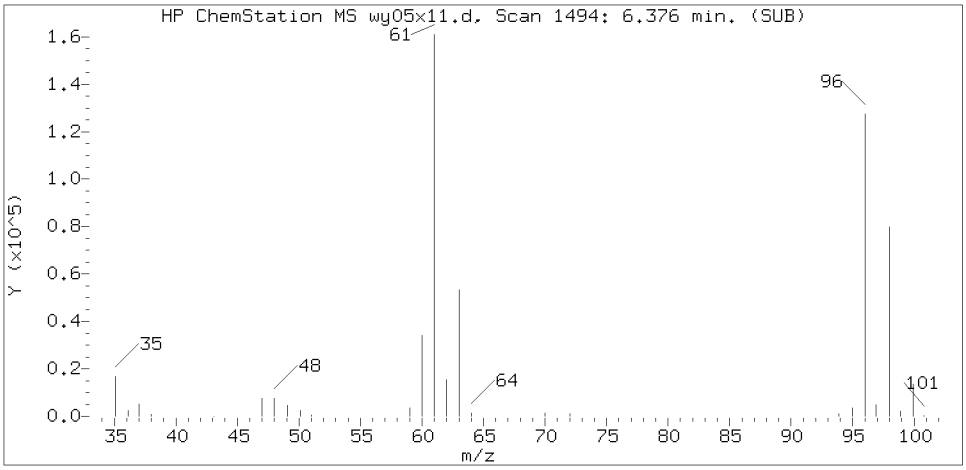
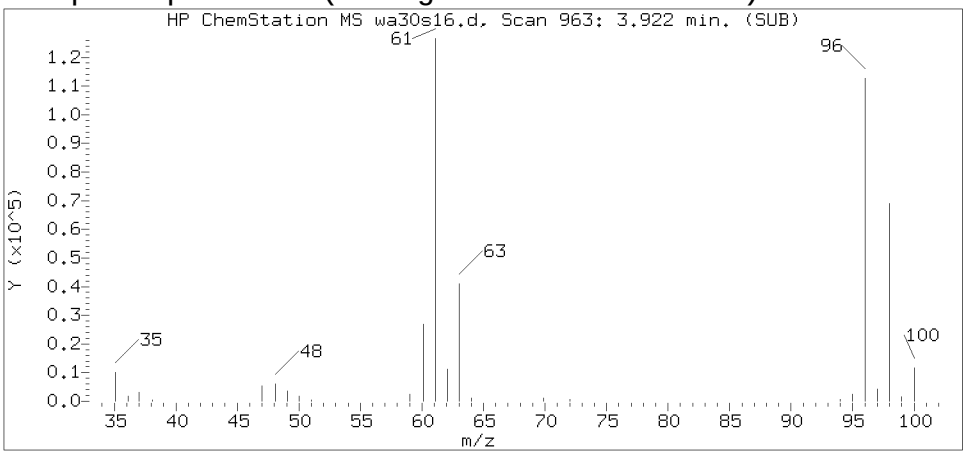
on 04/30/2018 at 18:16.
Target 3.5 esignature user ID: kk10002

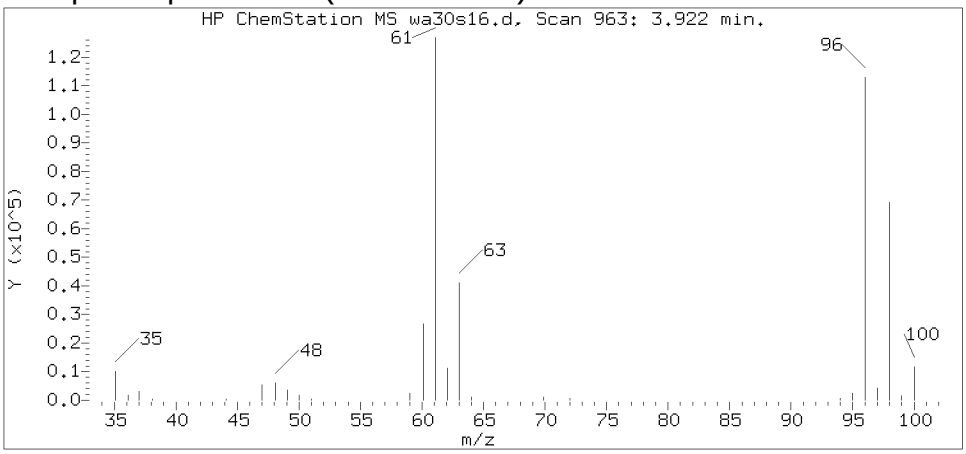
Reference Standard Spectrum for cis-1,2-Dichloroethene

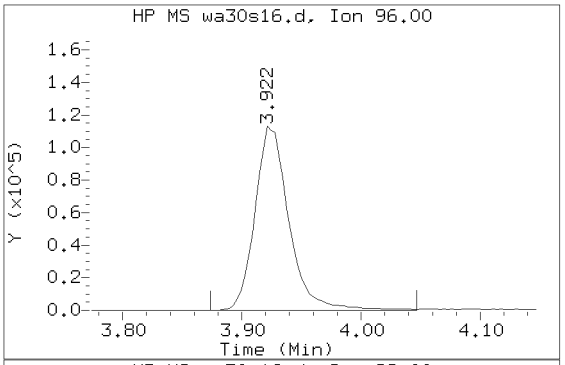


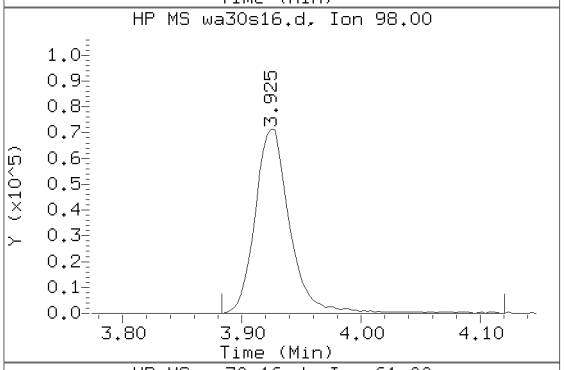
Sample Spectrum (Background Subtracted)

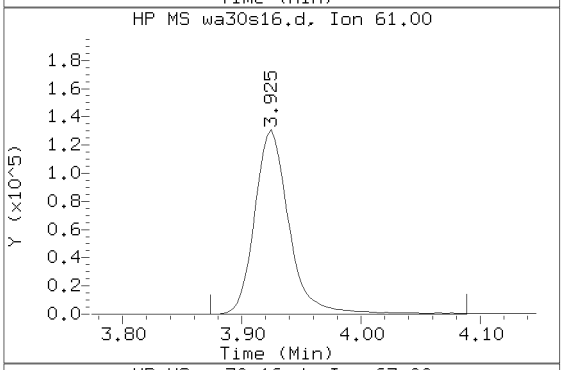


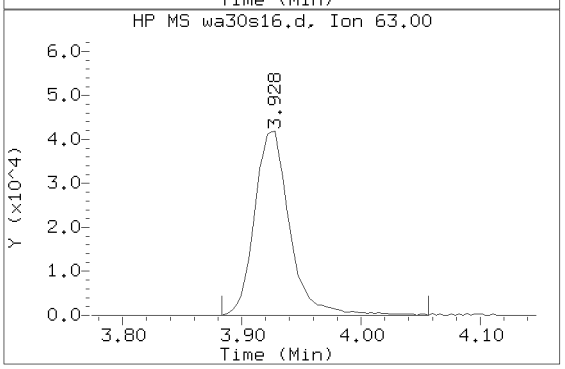
Sample Spectrum (Unaltered)











Data File: /chem2/HP09137.i/18apr30a.b/wa30s16.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 17:35 Analyst ID: nsl01327

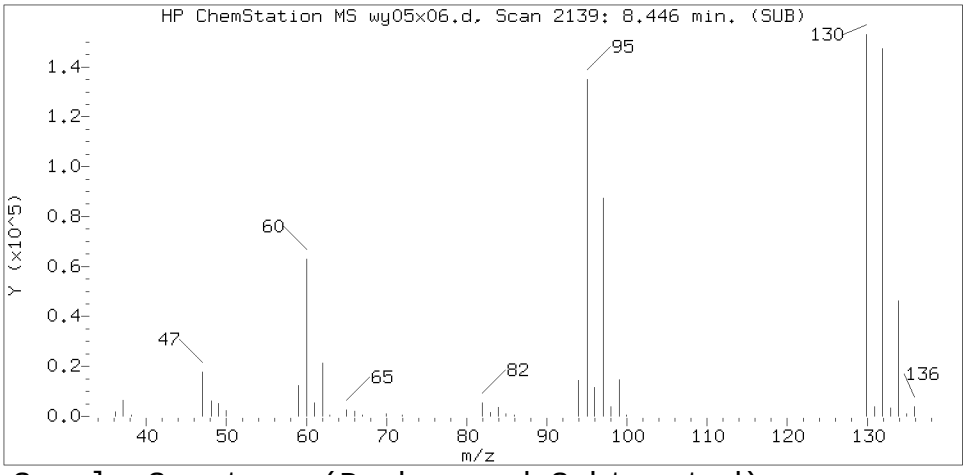
Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 18:16 kk10002

Sample Name: A8509 Lab Sample ID: 9570349

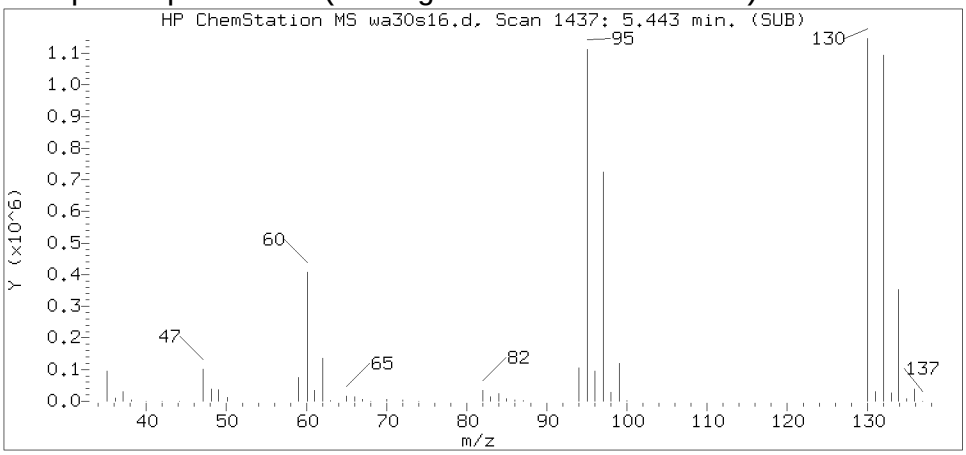
Compound Number : 42
Compound Name : cis-1,2-Dichloroethene
Scan Number : 963
Retention Time (minutes): 3.922
Relative Retention Time : 0.00063
Quant Ion : 96.00
Area (flag) : 224550
On-Column Amount (ng) : 53.3353

Digitally signed by Kevin Kelly on 04/30/2018 at 18:16.
Target 3.5 esignature user ID: kk10002

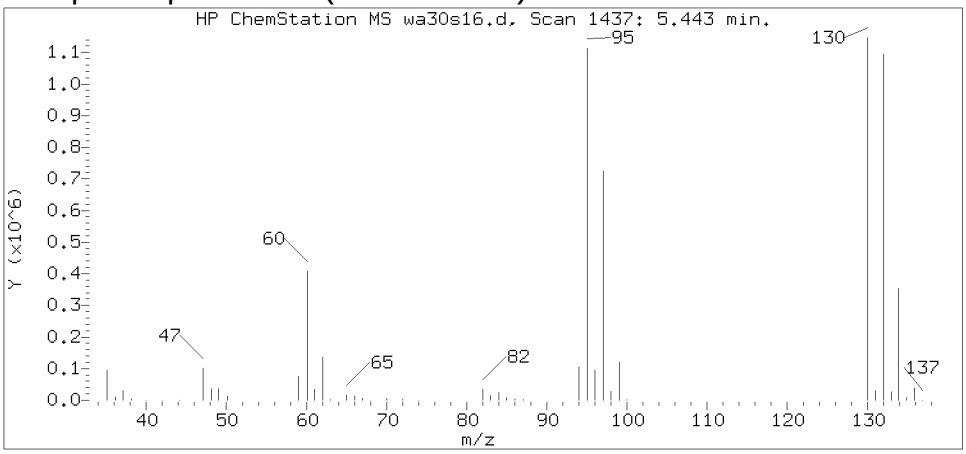
Reference Standard Spectrum for Trichloroethene

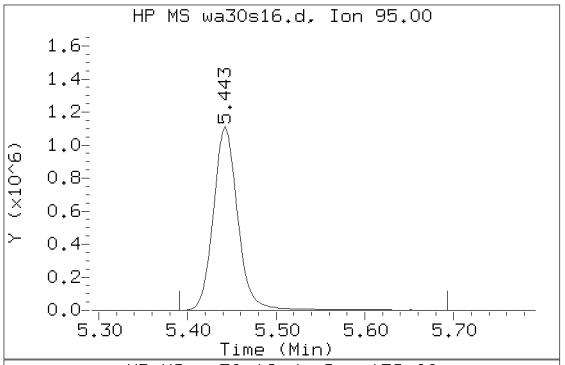


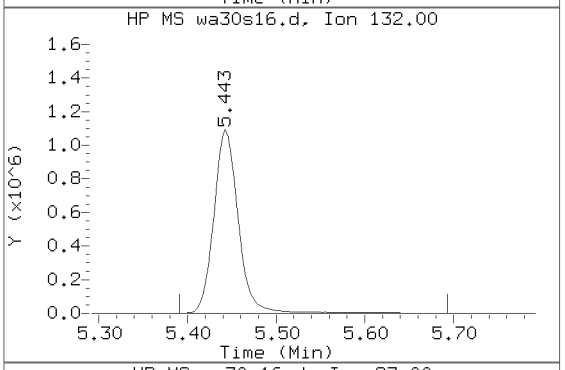
Sample Spectrum (Background Subtracted)

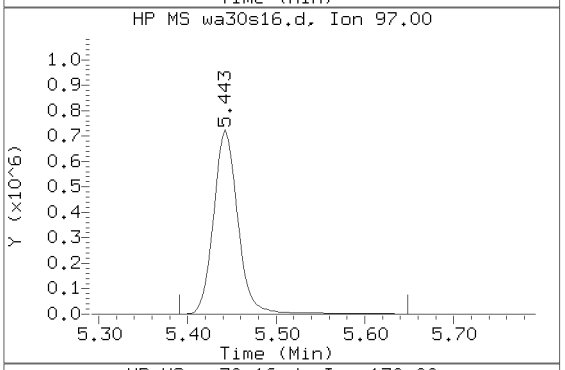


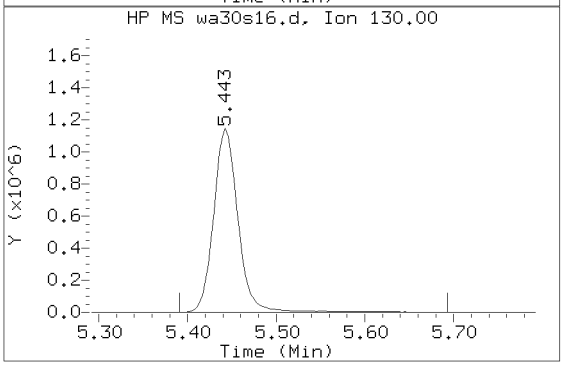
Sample Spectrum (Unaltered)











Data File: /chem2/HP09137.i/18apr30a.b/wa30s16.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 17:35 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 18:16 kk10002

Sample Name: A8509 Lab Sample ID: 9570349

Compound Number : 71
Compound Name : Trichloroethene
Scan Number : 1437
Retention Time (minutes): 5.443
Relative Retention Time : 0.00000
Quant Ion : 95.00
Area (flag) : 2131519
On-Column Amount (ng) : 516.7582

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Target 3.5 esignature user ID: kk10002

A8509DL

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

9570349DL

Data file: /chem2/HP09137.i/18apr30a.b/wa30s17.d Injection date and time: **30-APR-2018 17:59**
Data file Sample Info. Line: A8509DL;9570349DL;1;0;;ATH85;;;wa30b01; Instrument ID: **HP09137.i** Batch: **W181201AA**
Date, time and analyst ID of latest file update: 30-Apr-2018 18:15 Automation

Blank Data file reference: **/chem2/HP09137.i/18apr30a.b/wa30b01.d**

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 30-APR-2018 10:55
Mid Level Daily Calibration Standard Reference: **/chem2/HP09137.i/18apr30a.b/wa30c01.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: **200.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 0.025 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
29) t-Butyl alcohol-d10	2.767(-0.003)	603	65	156282 (-13)	250.00	
66) Fluorobenzene	5.067(0.000)	1320	96	778335 (-6)	50.00	
100) Chlorobenzene-d5	8.193(0.000)	2294	117	616228 (-6)	50.00	
131) 1,4-Dichlorobenzene-d4	10.070(0.000)	2879	152	301400 (-15)	50.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(2)	4.390(0.000)	113	173631	48.935	98%		80 - 120
57) 1,2-Dichloroethane-d4	(2)	4.727(0.000)	102	47823	51.333	103%		80 - 120
83) Toluene-d8	(3)	6.733(0.000)	98	775781	49.100	98%		80 - 120
114) 4-Bromofluorobenzene	(3)	9.191(0.000)	95	282475	47.333	95%		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					100	200
6) Vinyl Chloride	(2)			Not Detected					100	200
8) Bromomethane	(2)			Not Detected					100	200
9) Chloroethane	(2)			Not Detected					100	200
17) 1,1-Dichloroethene	(2)			Not Detected					100	200
18) Acetone	(1)			Not Detected					1200	4000
23) Carbon Disulfide	(2)			Not Detected					200	1000
28) Methylene Chloride	(2)			Not Detected					100	200
32) trans-1,2-Dichloroethene	(2)			Not Detected					100	200
36) 1,1-Dichloroethane	(2)			Not Detected					100	200
42) cis-1,2-Dichloroethene	(2)	3.925(-0.000)	96	23377	5.534	1106.78			100	200
44) 2-Butanone	(2)			Not Detected					600	2000
51) Chloroform	(2)			Not Detected					100	200
53) 1,1,1-Trichloroethane	(2)			Not Detected					100	200
56) Carbon Tetrachloride	(2)			Not Detected					100	200
60) Benzene	(2)			Not Detected					100	200
61) 1,2-Dichloroethane	(2)			Not Detected					100	200
71) Trichloroethene	(2)	5.443(-0.000)	95	220494	53.276	10655.30			100	200
73) 1,2-Dichloropropane	(2)			Not Detected					100	200
78) Bromodichloromethane	(2)			Not Detected					100	200
81) cis-1,3-Dichloropropene	(2)			Not Detected					100	200
82) 4-Methyl-2-pentanone	(2)			Not Detected					600	2000
88) Toluene	(3)			Not Detected					100	200
89) trans-1,3-Dichloropropene	(3)			Not Detected					100	200
92) 1,1,2-Trichloroethane	(3)			Not Detected					100	200
93) Tetrachloroethene	(3)			Not Detected					100	200
96) 2-Hexanone	(3)			Not Detected					600	2000
97) Dibromochloromethane	(3)			Not Detected					100	200
102) Chlorobenzene	(3)			Not Detected					100	200
104) Ethylbenzene	(3)			Not Detected					100	200
106) m+p-Xylene	(3)			Not Detected					100	200

Digitally signed by Kevin Kelly on 04/30/2018 at 18:16. Target 3.5 esignature user ID: kk10002

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP09137.i/18apr30a.b/wa30s17.d Injection date and time: **30-APR-2018 17:59**
Data file Sample Info. Line: A8509DL;9570349DL;1;0;;ATH85;;;wa30b01; Instrument ID: **HP09137.i** Batch: **W181201AA**
Date, time and analyst ID of latest file update: 30-Apr-2018 18:15 Automation

Blank Data file reference: **/chem2/HP09137.i/18apr30a.b/wa30b01.d**

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 30-APR-2018 10:55
Mid Level Daily Calibration Standard Reference: **/chem2/HP09137.i/18apr30a.b/wa30c01.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: **200.00**

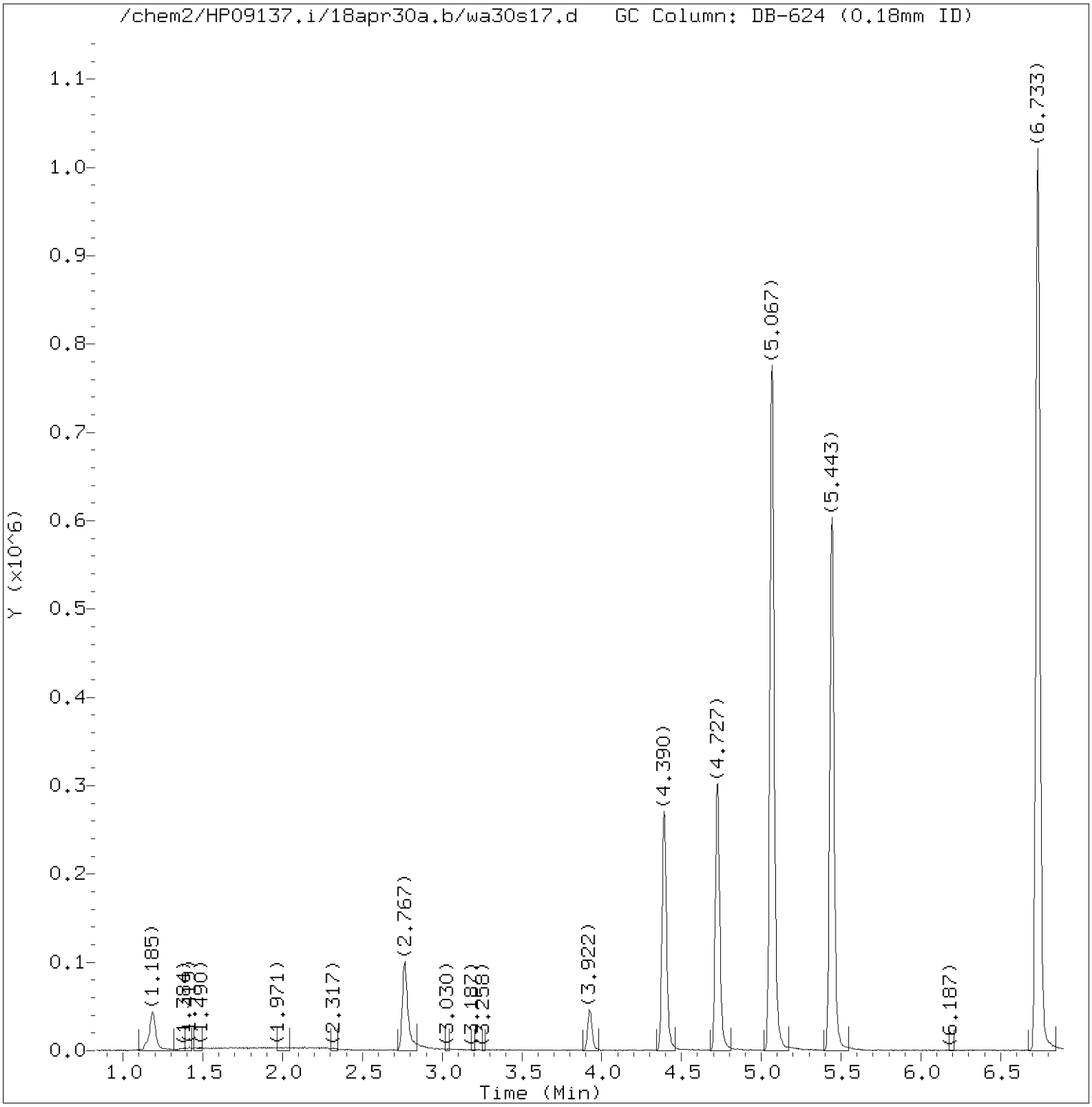
Volume Purged (Vt): 5 ml Sample Volume (Vo): 0.025 ml

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					100	200
108) Xylene (Total)	(3)				Not Detected					100	200
109) Styrene	(3)				Not Detected					200	1000
110) Bromoform	(3)				Not Detected					100	800
116) 1,1,2,2-Tetrachloroethane	(4)				Not Detected					100	200

Total number of targets = 36

Digitally signed by Kevin Kelly on 04/30/2018 at 18:16. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Sara E. Johnson on 04/30/2018 at 21:51. PARALLAX ID: sej02002



Total Ion Chromatogram (TIC)

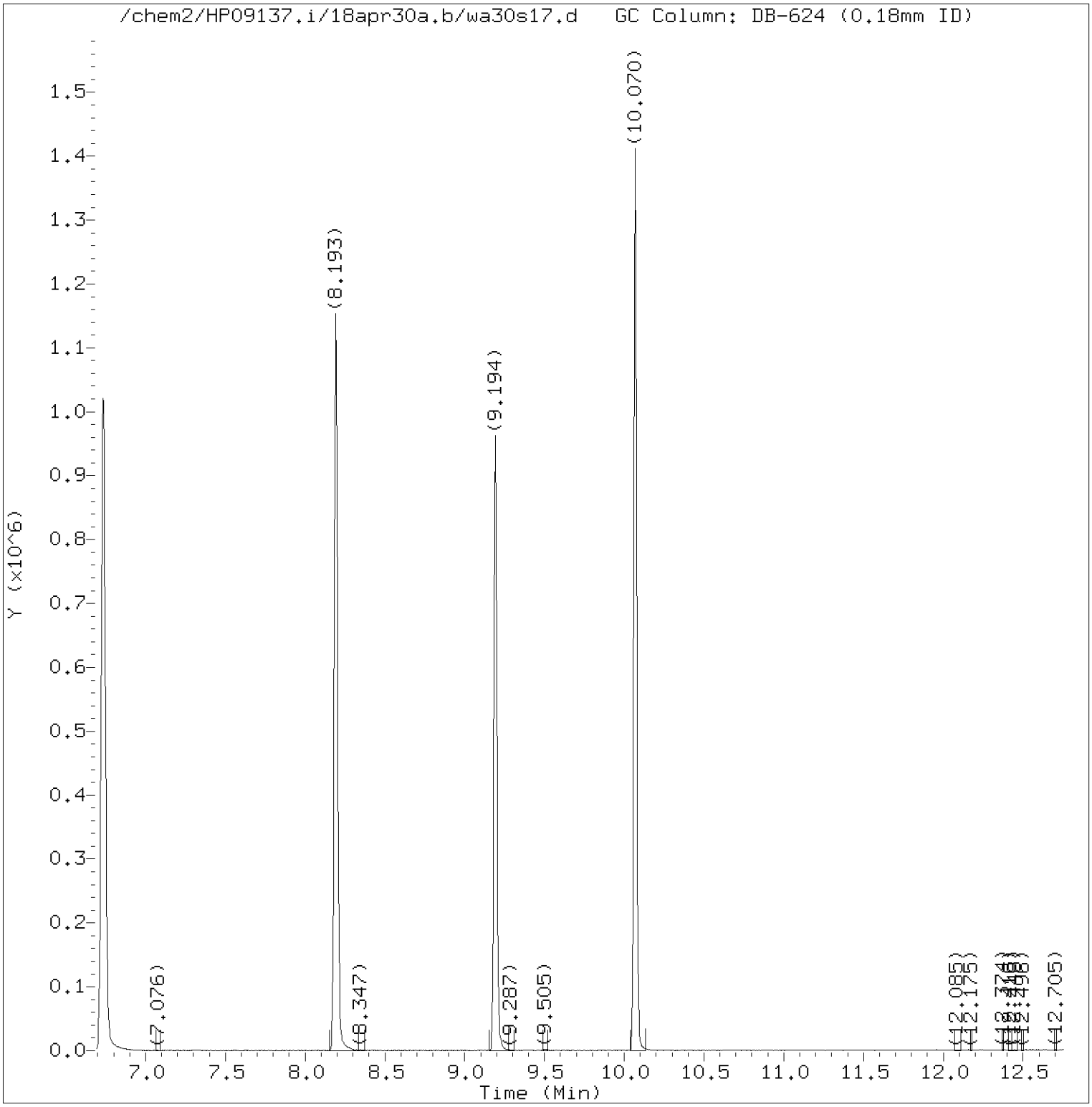
Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s17.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 17:59 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 18:15 Automation

Sample Name: A8509DL Lab Sample ID: 9570349DL

Digitally signed by Kevin Kelly
on 04/30/2018 at 18:16.
Target 3.5 esignature user ID: kk10002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s17.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 17:59 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 18:15 Automation

Sample Name: A8509DL Lab Sample ID: 9570349DL

Digitally signed by Kevin Kelly
on 04/30/2018 at 18:16.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s17.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 17:59 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 18:15 Automation

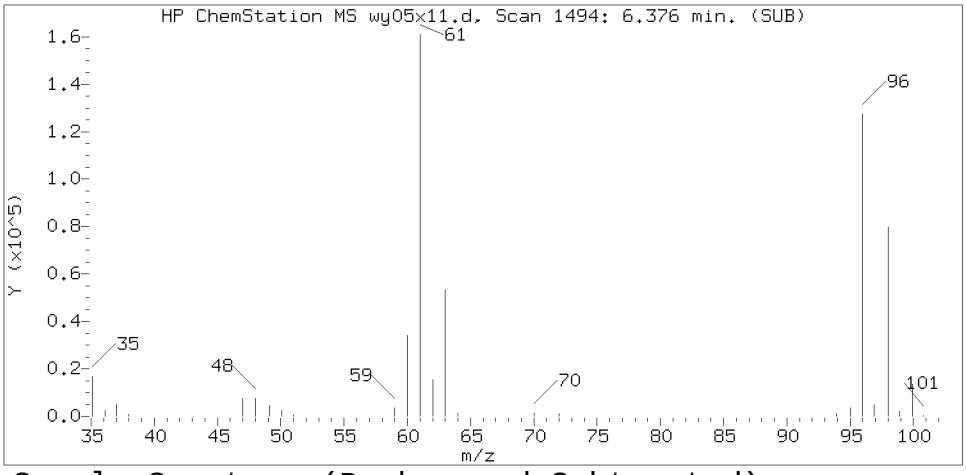
Sample Name: A8509DL Lab Sample ID: 9570349DL

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
29)*t-Butyl alcohol-d10	(1)	2.767	65	156282	250.000
42) cis-1,2-Dichloroethene	(2)	3.925	96	23377	5.534
52)$Dibromofluoromethane	(2)	4.390	113	173631	48.935
57)$1,2-Dichloroethane-d4	(2)	4.727	102	47823	51.333
66)*Fluorobenzene	(2)	5.067	96	778335	50.000
71) Trichloroethene	(2)	5.443	95	220494	53.276
83)$Toluene-d8	(3)	6.733	98	775781	49.100
100)*Chlorobenzene-d5	(3)	8.193	117	616228	50.000
114)$4-Bromofluorobenzene	(3)	9.191	95	282475	47.333
131)*1,4-Dichlorobenzene-d4	(4)	10.070	152	301400	50.000

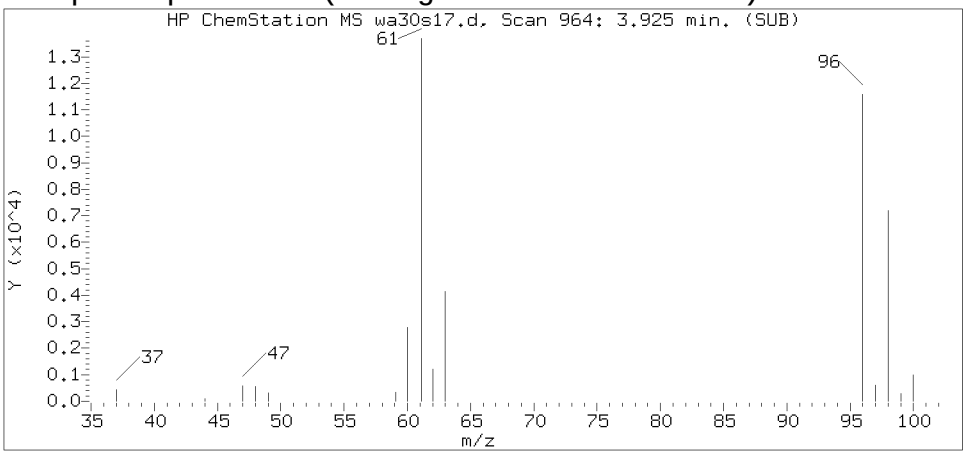
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin Kelly
on 04/30/2018 at 18:16.
Target 3.5 esignature user ID: kk10002

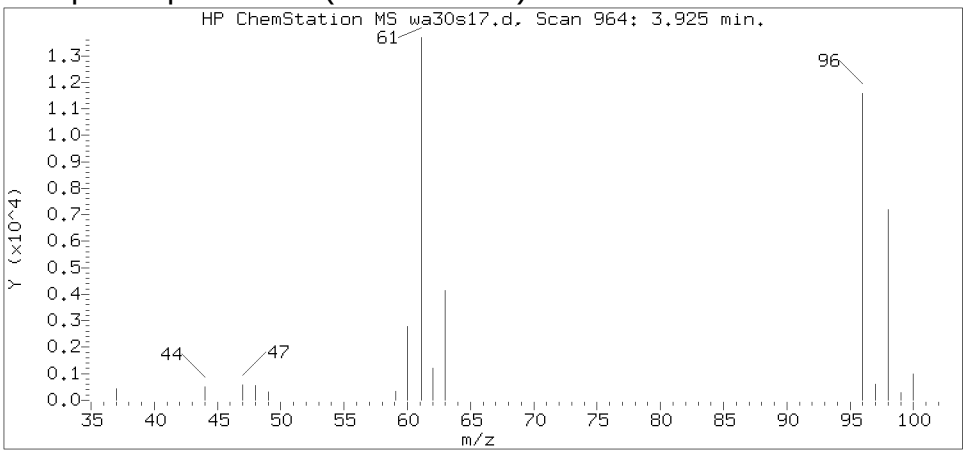
Reference Standard Spectrum for cis-1,2-Dichloroethene

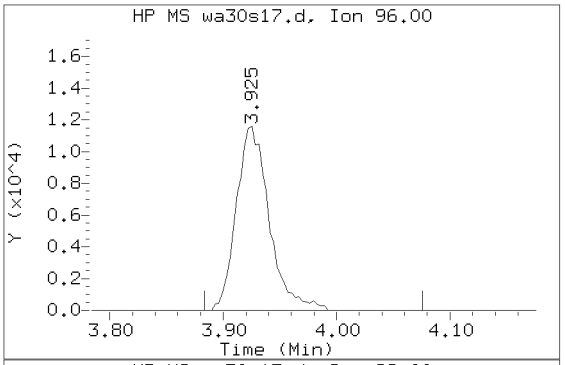


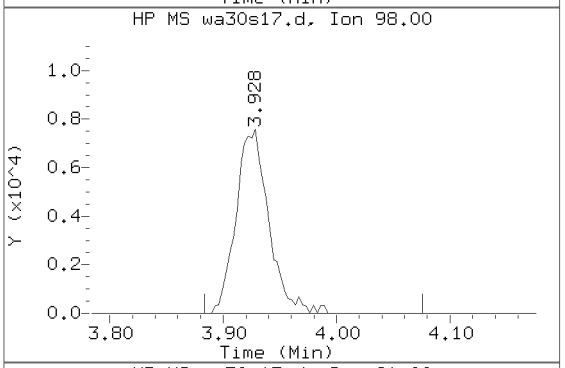
Sample Spectrum (Background Subtracted)

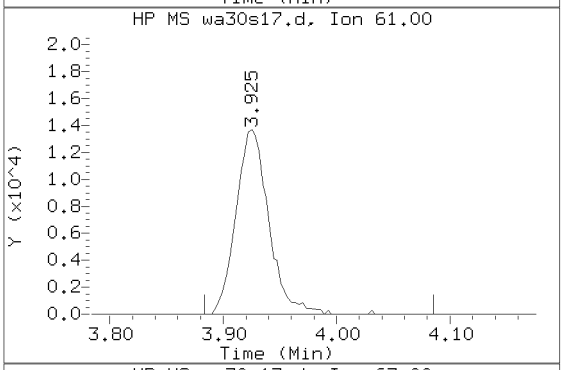


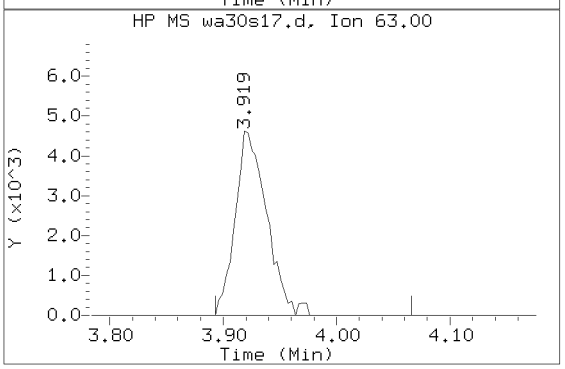
Sample Spectrum (Unaltered)











Data File: /chem2/HP09137.i/18apr30a.b/wa30s17.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 17:59 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 18:15 Automation

Sample Name: A8509DL Lab Sample ID: 9570349DL

Compound Number : 42
Compound Name : cis-1,2-Dichloroethene
Scan Number : 964
Retention Time (minutes): 3.925
Relative Retention Time :-0.00001
Quant Ion : 96.00
Area (flag) : 23377
On-Column Amount (ng) : 5.5339

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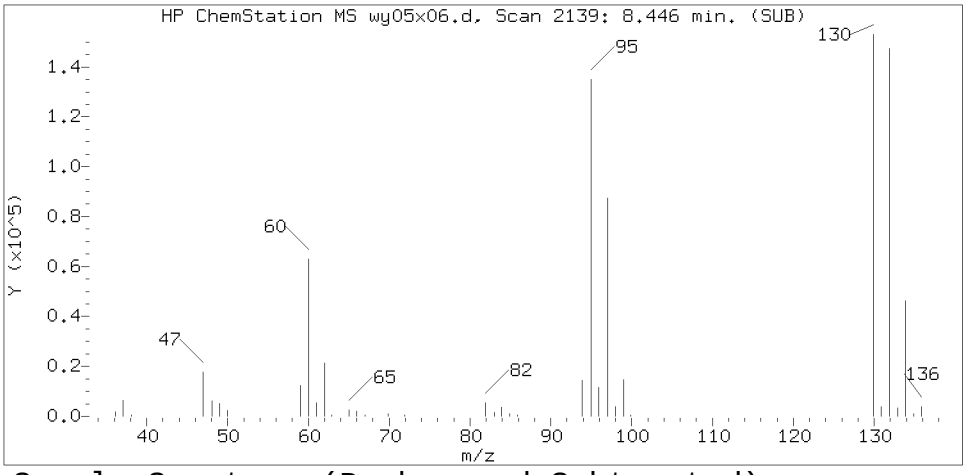
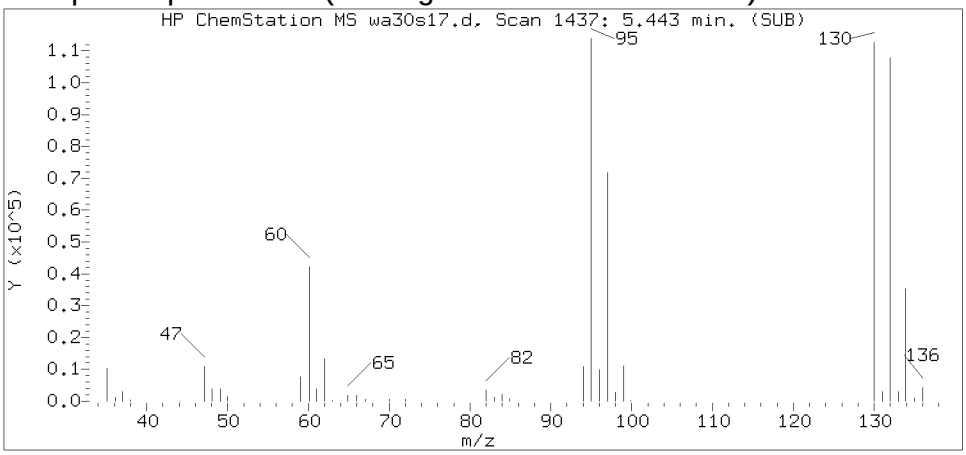
Target 3.5 esignature user ID: kk10002

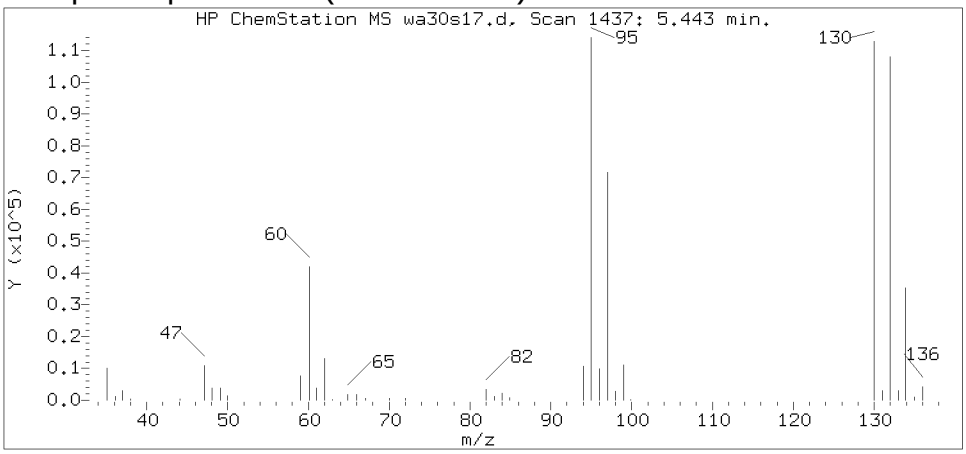
Reference Standard Spectrum for Trichloroethene

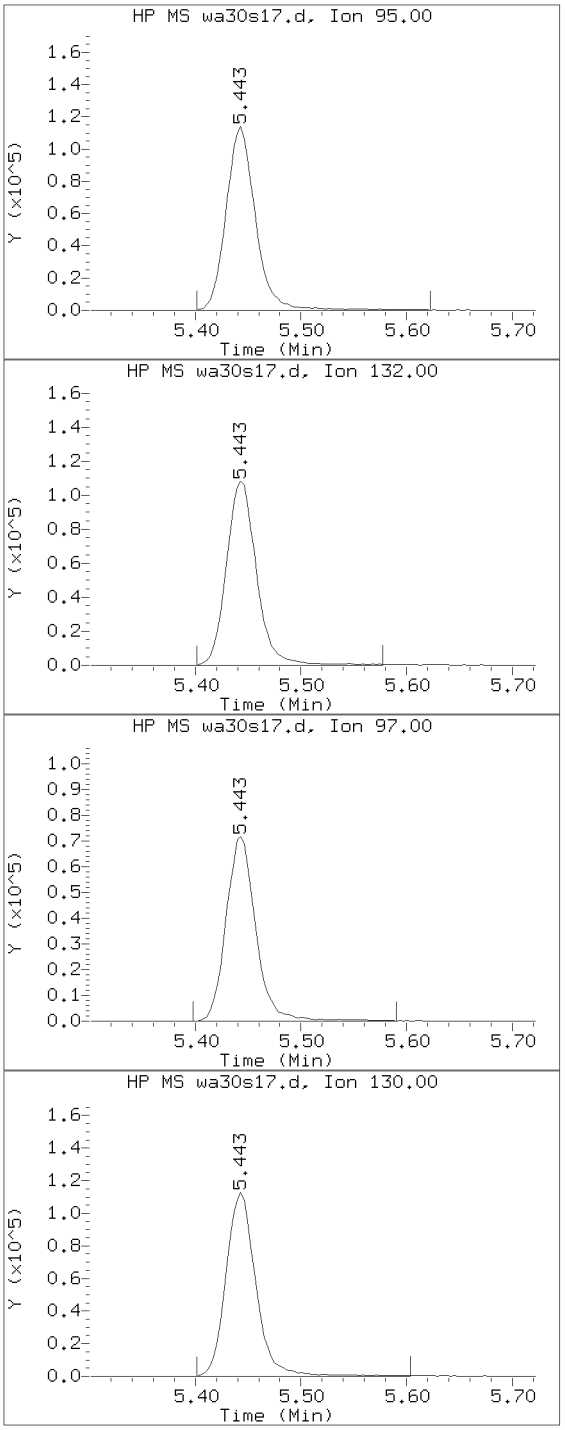


Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)





Data File: /chem2/HP09137.i/18apr30a.b/wa30s17.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 17:59 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 18:15 Automation

Sample Name: A8509DL Lab Sample ID: 9570349DL

Compound Number : 71
Compound Name : Trichloroethene
Scan Number : 1437
Retention Time (minutes): 5.443
Relative Retention Time :-0.00000
Quant Ion : 95.00
Area (flag) : 220494
On-Column Amount (ng) : 53.2765

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Target 3.5 esignature user ID: kk10002

A8511

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

9570351

Data file: /chem2/HP09137.i/18apr30a.b/wa30s18.d Injection date and time: **30-APR-2018 18:23**
Data file Sample Info. Line: A8511;9570351;1;0;;ATH85;;;wa30b01; Instrument ID: **HP09137.i** Batch: **W181201AA**
Date, time and analyst ID of latest file update: 30-Apr-2018 18:59 kk10002

Blank Data file reference: **/chem2/HP09137.i/18apr30a.b/wa30b01.d**

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 30-APR-2018 10:55
Mid Level Daily Calibration Standard Reference: **/chem2/HP09137.i/18apr30a.b/wa30c01.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: **20.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 0.25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
29) t-Butyl alcohol-d10	2.763(0.000)	602	65	157402 (-12)	250.00	
66) Fluorobenzene	5.067(0.000)	1320	96	777263 (-6)	50.00	
100) Chlorobenzene-d5	8.193(0.000)	2294	117	615453 (-6)	50.00	
131) 1,4-Dichlorobenzene-d4	10.070(0.000)	2879	152	304559 (-14)	50.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(2)	4.390(0.000)	113	174342	49.203	98%		80 - 120
57) 1,2-Dichloroethane-d4	(2)	4.724(0.001)	102	49074	52.748	105%		80 - 120
83) Toluene-d8	(3)	6.733(0.000)	98	777566	49.275	99%		80 - 120
114) 4-Bromofluorobenzene	(3)	9.191(0.000)	95	284696	47.766	96%		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					10	20
6) Vinyl Chloride	(2)	1.486(-0.000)	62	65513	11.942	238.85			10	20
8) Bromomethane	(2)			Not Detected					10	20
9) Chloroethane	(2)			Not Detected					10	20
17) 1,1-Dichloroethene	(2)	2.350(0.000)	96	6454	1.900	38.00			10	20
18) Acetone	(1)			Not Detected					120	400
23) Carbon Disulfide	(2)			Not Detected					20	100
28) Methylene Chloride	(2)			Not Detected					10	20
32) trans-1,2-Dichloroethene	(2)	2.991(-0.000)	96	10434	2.791	55.82			10	20
36) 1,1-Dichloroethane	(2)			Not Detected					10	20
42) cis-1,2-Dichloroethene	(2)	3.925(-0.000)	96	1612705	382.291	7645.82		E	10	20
44) 2-Butanone	(2)			Not Detected					60	200
51) Chloroform	(2)			Not Detected					10	20
53) 1,1,1-Trichloroethane	(2)			Not Detected					10	20
56) Carbon Tetrachloride	(2)			Not Detected					10	20
60) Benzene	(2)			Not Detected					10	20
61) 1,2-Dichloroethane	(2)			Not Detected					10	20
71) Trichloroethene	(2)	5.443(0.000)	95	2609253	631.323	12626.47		E	10	20
73) 1,2-Dichloropropane	(2)			Not Detected					10	20
78) Bromodichloromethane	(2)			Not Detected					10	20
81) cis-1,3-Dichloropropene	(2)			Not Detected					10	20
82) 4-Methyl-2-pentanone	(2)			Not Detected					60	200
88) Toluene	(3)			Not Detected					10	20
89) trans-1,3-Dichloropropene	(3)			Not Detected					10	20
92) 1,1,2-Trichloroethane	(3)			Not Detected					10	20
93) Tetrachloroethene	(3)			Not Detected					10	20
96) 2-Hexanone	(3)			Not Detected					60	200
97) Dibromochloromethane	(3)			Not Detected					10	20
102) Chlorobenzene	(3)			Not Detected					10	20
104) Ethylbenzene	(3)			Not Detected					10	20
106) m+p-Xylene	(3)			Not Detected					10	20

E = Compound concentration above calibration range.

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A8511 Lancaster Laboratories 9570351
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP09137.i/18apr30a.b/wa30s18.d Injection date and time: **30-APR-2018 18:23**
Data file Sample Info. Line: A8511;9570351;1;0;;ATH85;;;wa30b01; Instrument ID: **HP09137.i** Batch: **W181201AA**
Date, time and analyst ID of latest file update: 30-Apr-2018 18:59 kk10002

Blank Data file reference: **/chem2/HP09137.i/18apr30a.b/wa30b01.d**

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 30-APR-2018 10:55
Mid Level Daily Calibration Standard Reference: **/chem2/HP09137.i/18apr30a.b/wa30c01.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: **20.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 0.25 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					10	20
108) Xylene (Total)	(3)				Not Detected					10	20
109) Styrene	(3)				Not Detected					20	100
110) Bromoform	(3)				Not Detected					10	80
116) 1,1,2,2-Tetrachloroethane	(4)				Not Detected					10	20

Total number of targets = 36

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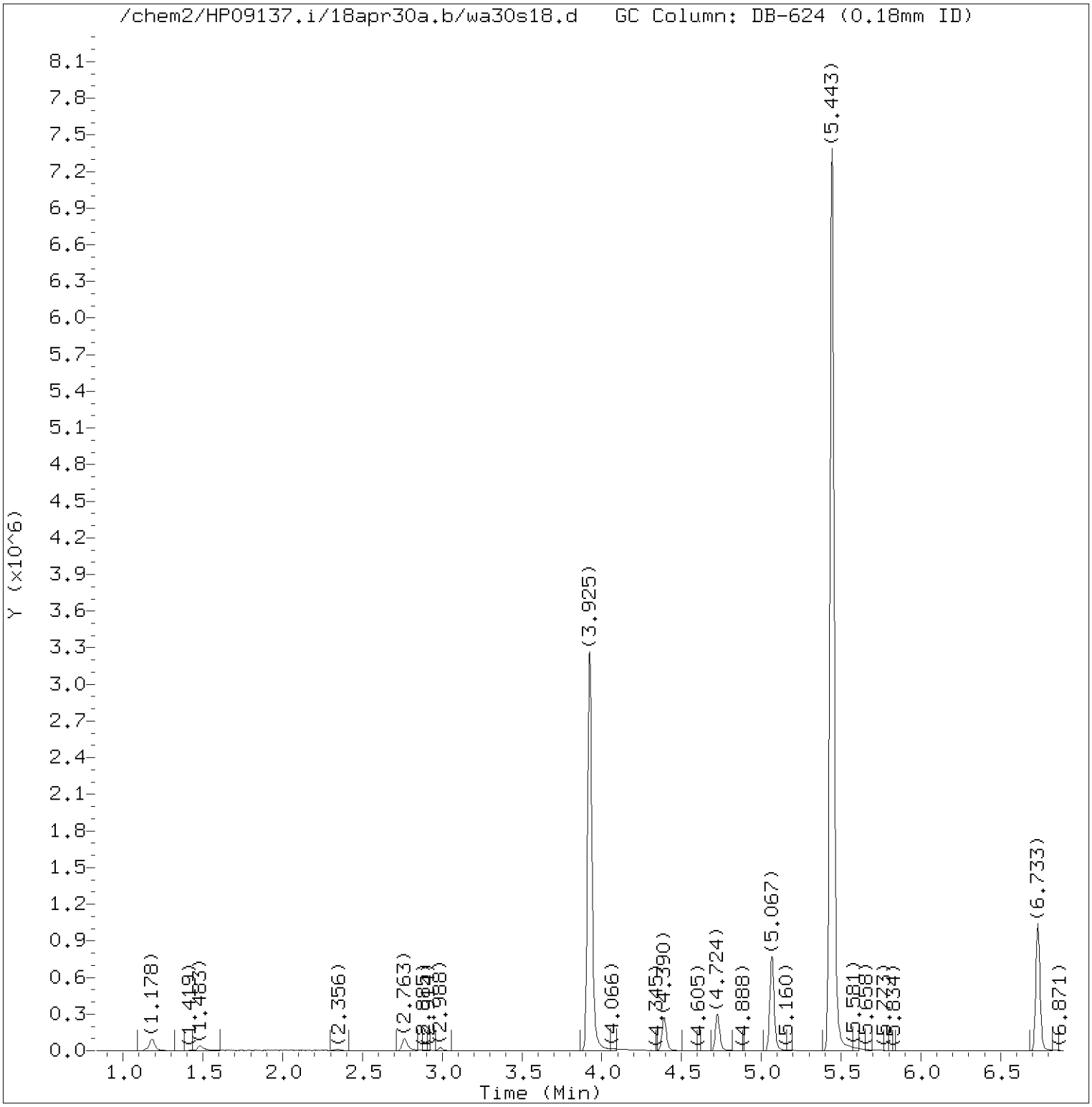
Secondary review performed and digitally signed by Sara E. Johnson on 04/30/2018 at 21:52. PARALLAX ID: sej02002



Total Ion Chromatogram (TIC)

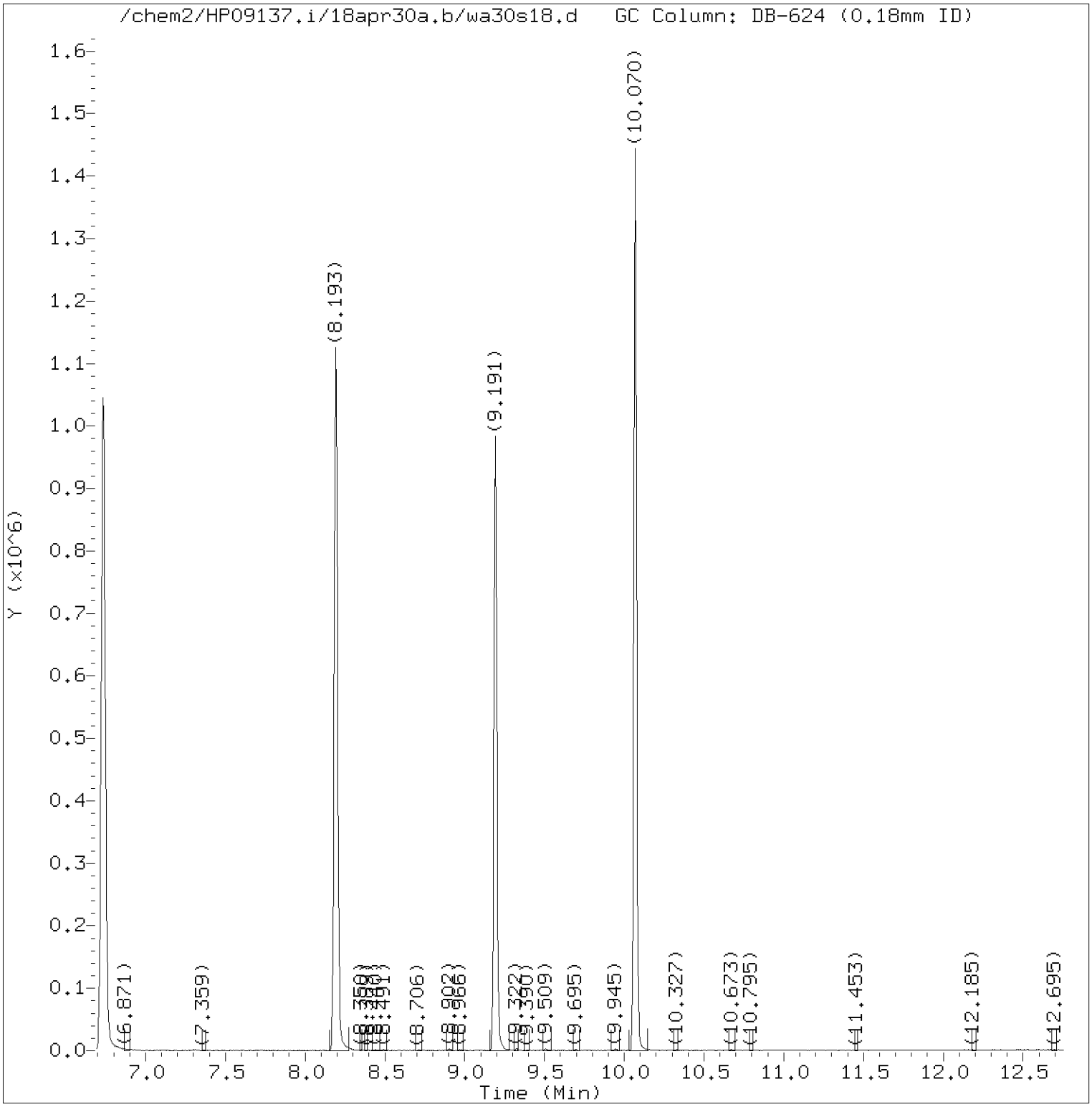
Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s18.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 18:23 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 18:59 kk10002

Sample Name: A8511 Lab Sample ID: 9570351

Digitally signed by Kevin Kelly
on 04/30/2018 at 19:04.
Target 3.5 esignature user ID: kk10002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s18.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 18:23 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 18:59 kk10002

Sample Name: A8511 Lab Sample ID: 9570351

Digitally signed by Kevin Kelly
on 04/30/2018 at 19:04.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s18.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 18:23 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 18:59 kk10002

Sample Name: A8511 Lab Sample ID: 9570351

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
6) Vinyl Chloride	(2)	1.486	62	65513	11.942
17) 1,1-Dichloroethene	(2)	2.349	96	6454	1.900
29)*t-Butyl alcohol-d10	(1)	2.763	65	157402	250.000
32) trans-1,2-Dichloroethene	(2)	2.991	96	10434	2.791
42) cis-1,2-Dichloroethene	(2)	3.925	96	1612705	382.291
52)$Dibromofluoromethane	(2)	4.390	113	174342	49.203
57)$1,2-Dichloroethane-d4	(2)	4.724	102	49074	52.748
66)*Fluorobenzene	(2)	5.067	96	777263	50.000
71) Trichloroethene	(2)	5.443	95	2609253	631.323
83)$Toluene-d8	(3)	6.733	98	777566	49.275
100)*Chlorobenzene-d5	(3)	8.193	117	615453	50.000
114)$4-Bromofluorobenzene	(3)	9.191	95	284696	47.766
131)*1,4-Dichlorobenzene-d4	(4)	10.070	152	304559	50.000

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

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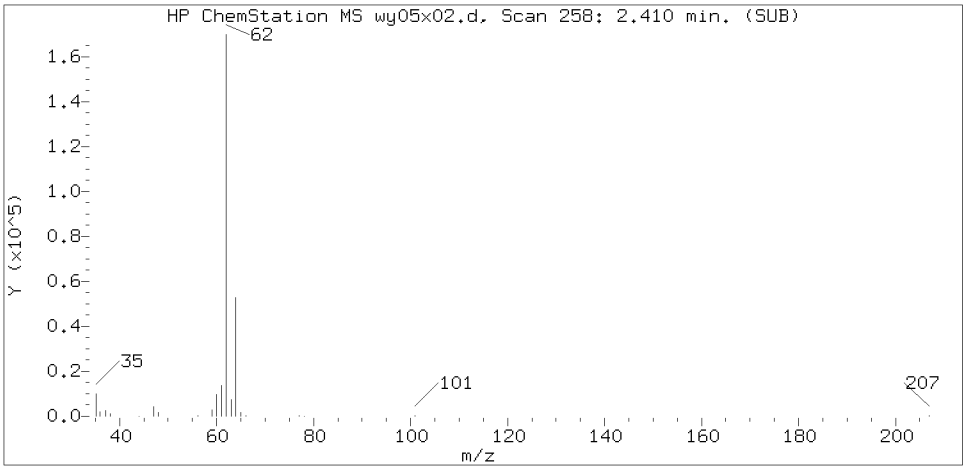
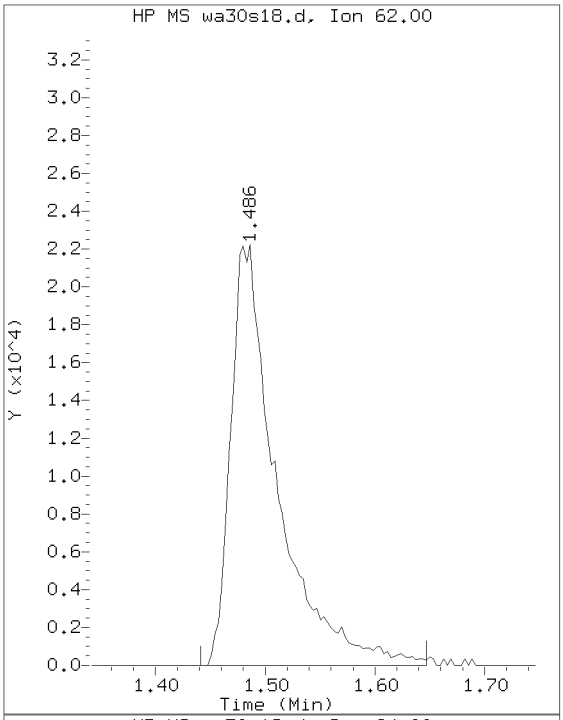
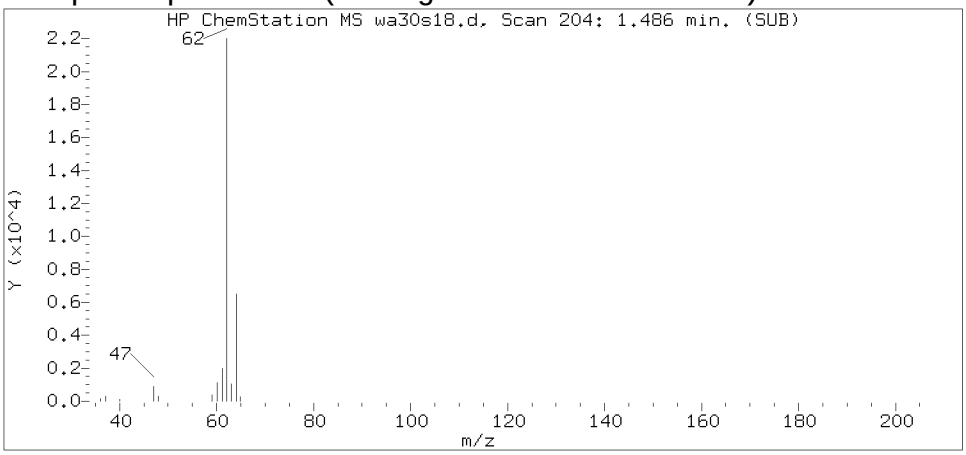
on 04/30/2018 at 19:04.
Target 3.5 esignature user ID: kk10002

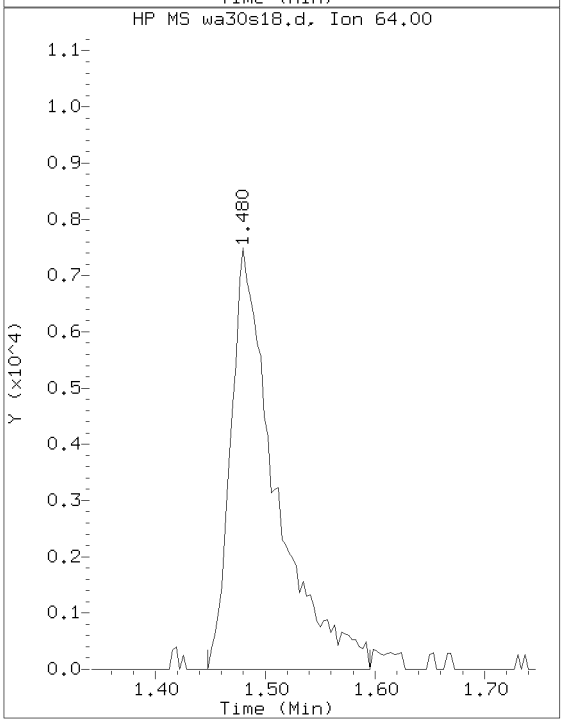
Reference Standard Spectrum for Vinyl Chloride



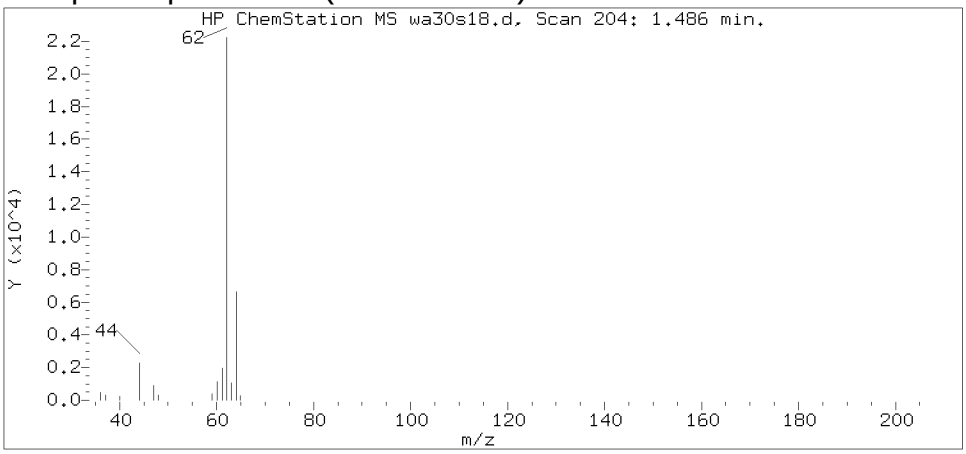


Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)



Data File: /chem2/HP09137.i/18apr30a.b/wa30s18.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 18:23 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 18:59 kk10002

Sample Name: A8511 Lab Sample ID: 9570351

Compound Number : 6
Compound Name : Vinyl Chloride
Scan Number : 204
Retention Time (minutes): 1.486
Relative Retention Time :-0.00066
Quant Ion : 62.00
Area (flag) : 65513
On-Column Amount (ng) : 11.9423

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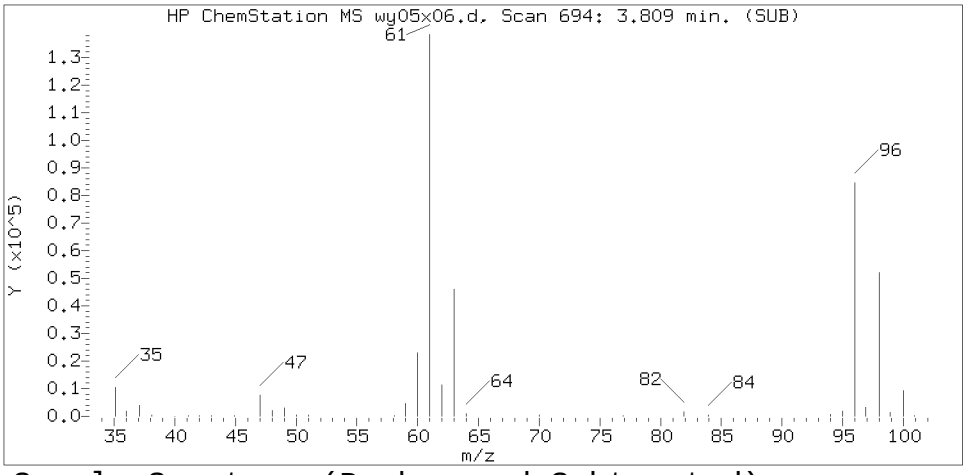
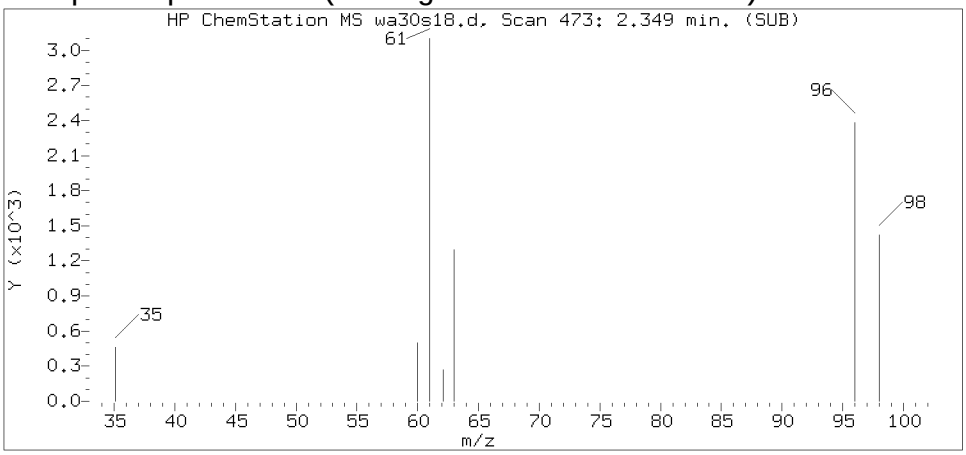
Target 3.5 esignature user ID: kk10002

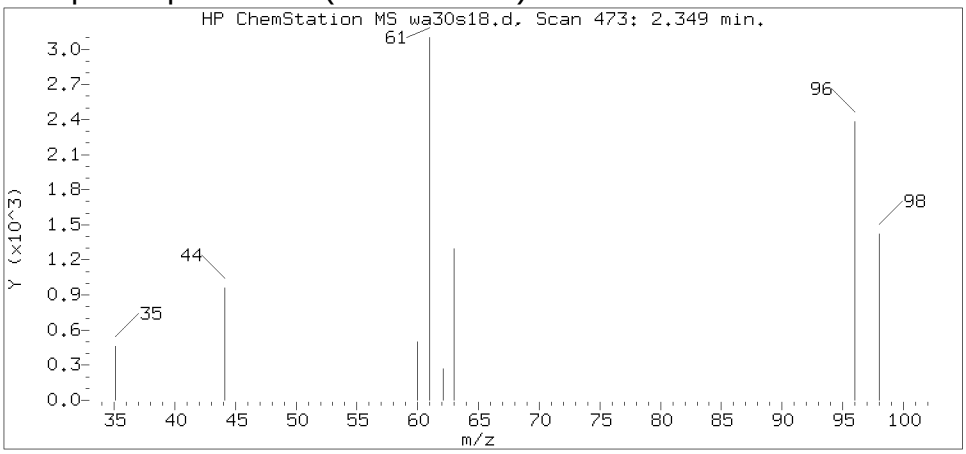
Reference Standard Spectrum for 1,1-Dichloroethene

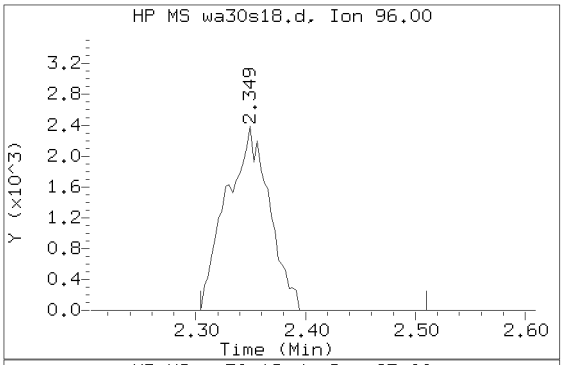


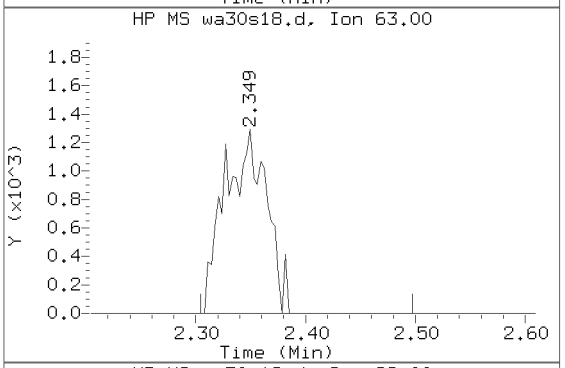
Sample Spectrum (Background Subtracted)

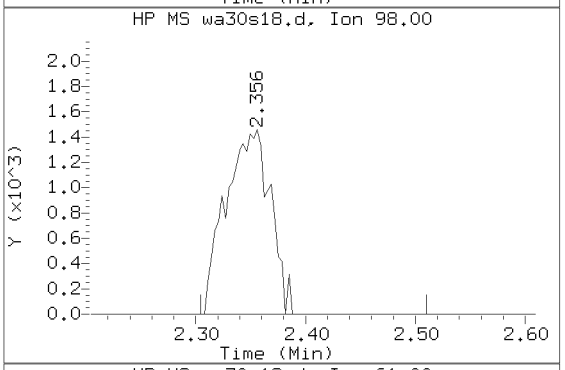


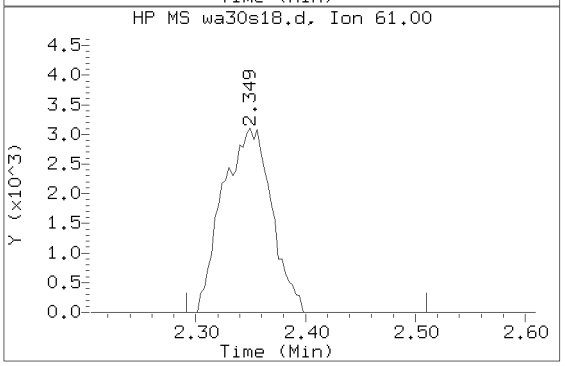
Sample Spectrum (Unaltered)











Data File: /chem2/HP09137.i/18apr30a.b/wa30s18.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 18:23 Analyst ID: nsl01327

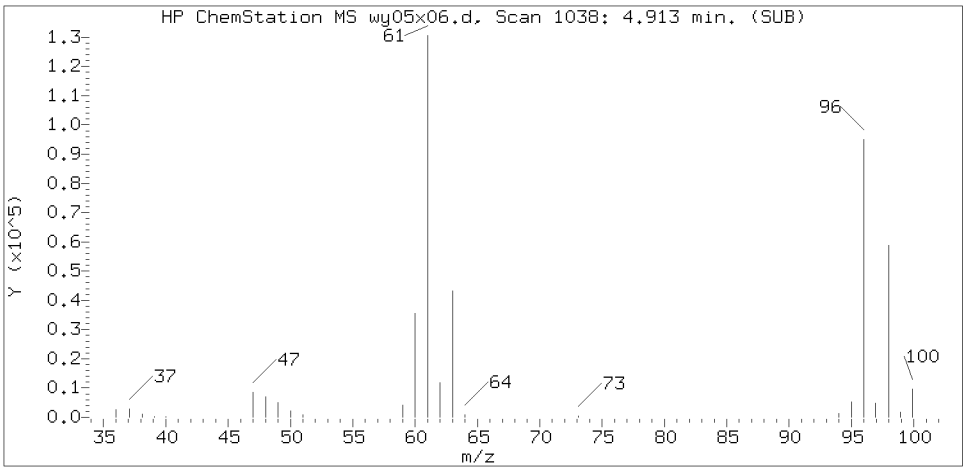
Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 18:59 kk10002

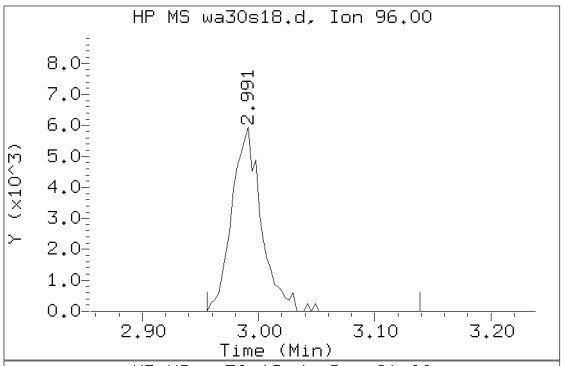
Sample Name: A8511 Lab Sample ID: 9570351

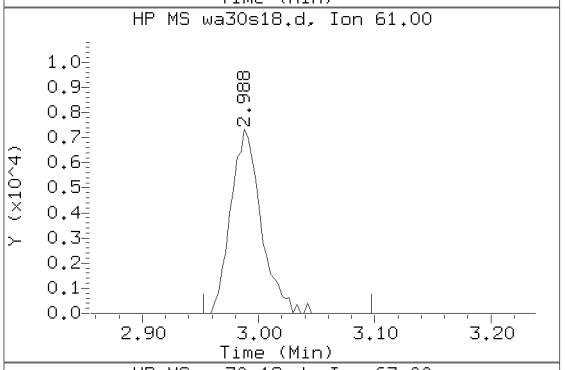
Compound Number : 17
Compound Name : 1,1-Dichloroethene
Scan Number : 473
Retention Time (minutes): 2.349
Relative Retention Time : 0.00061
Quant Ion : 96.00
Area (flag) : 6454
On-Column Amount (ng) : 1.9000

Digitally signed by Kevin Kelly on 04/30/2018 at 19:04.
Target 3.5 esignature user ID: kk10002

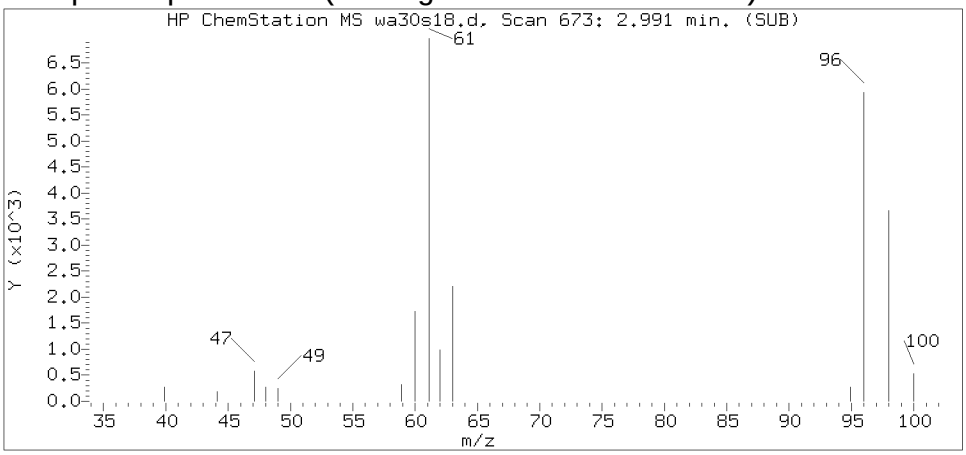
Reference Standard Spectrum for trans-1,2-Dichloroethene

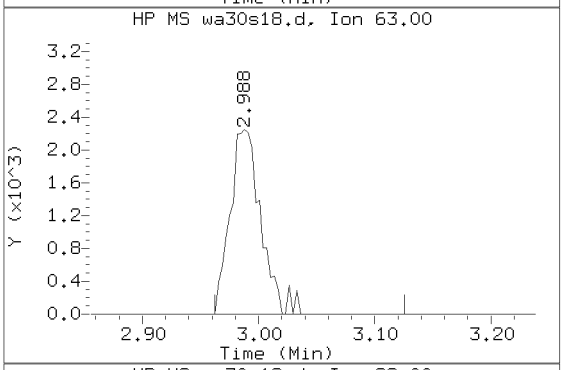




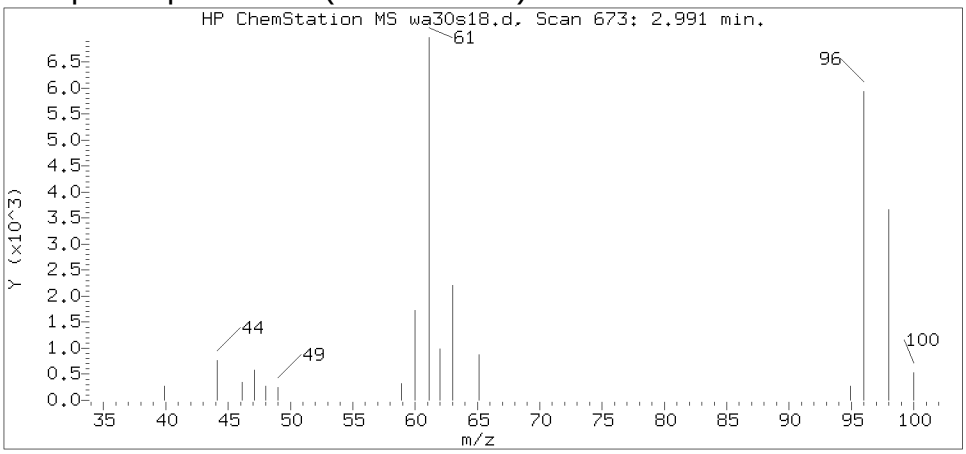


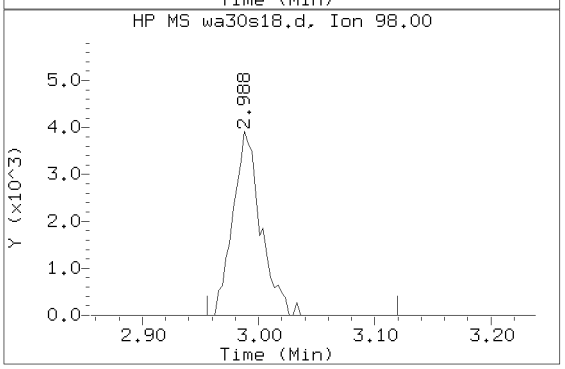
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP09137.i/18apr30a.b/wa30s18.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 18:23 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 18:59 kk10002

Sample Name: A8511 Lab Sample ID: 9570351

Compound Number : 32
Compound Name : trans-1,2-Dichloroethene
Scan Number : 673
Retention Time (minutes): 2.991
Relative Retention Time :-0.00065
Quant Ion : 96.00
Area (flag) : 10434
On-Column Amount (ng) : 2.7910

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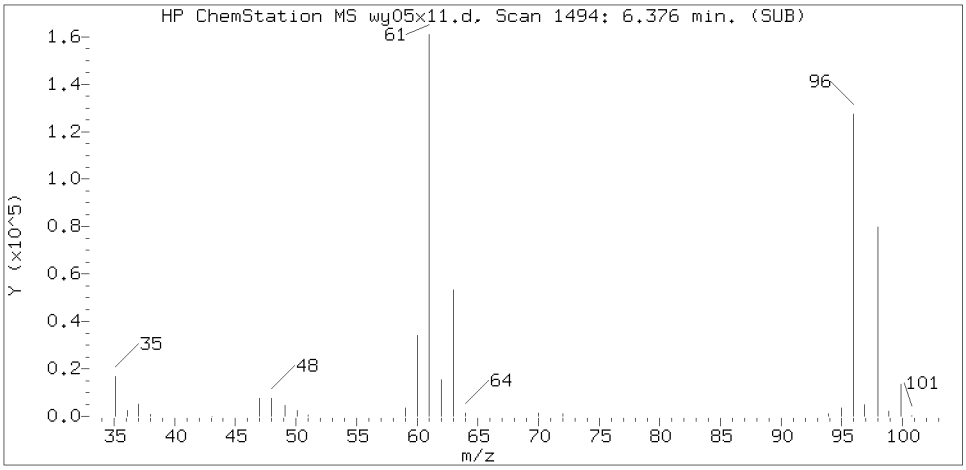
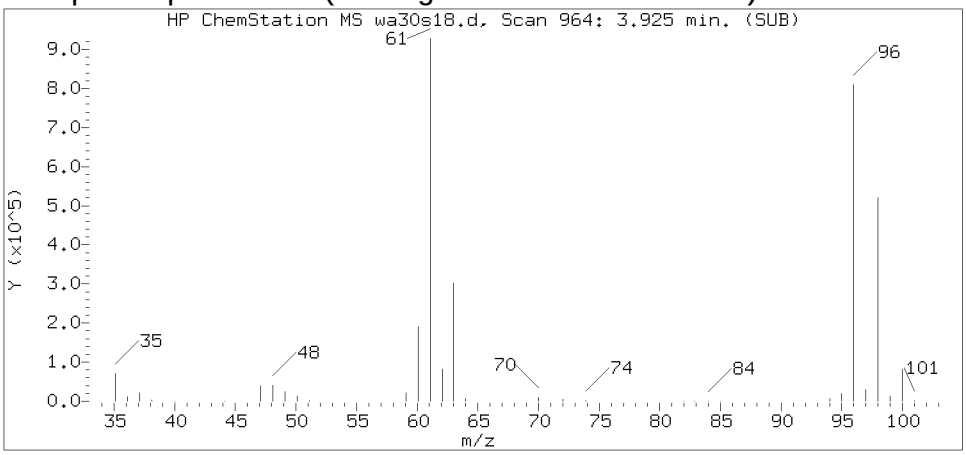
Target 3.5 esignature user ID: kk10002

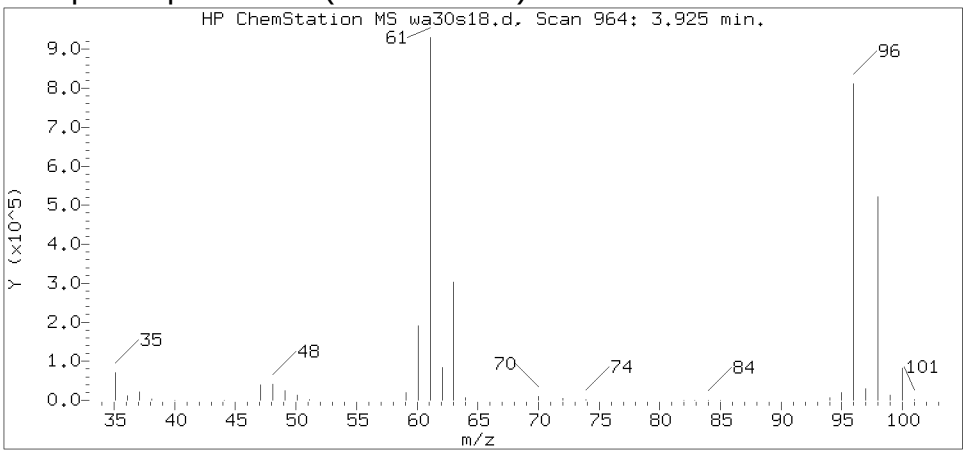
Reference Standard Spectrum for cis-1,2-Dichloroethene

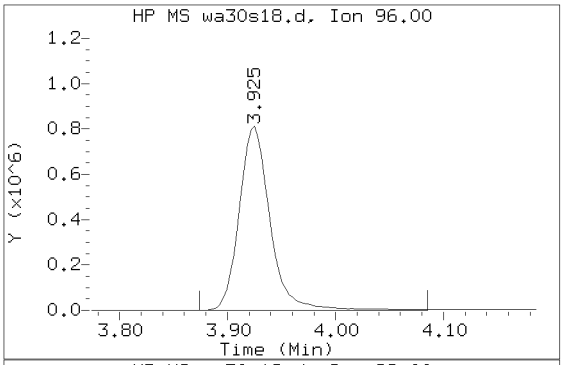


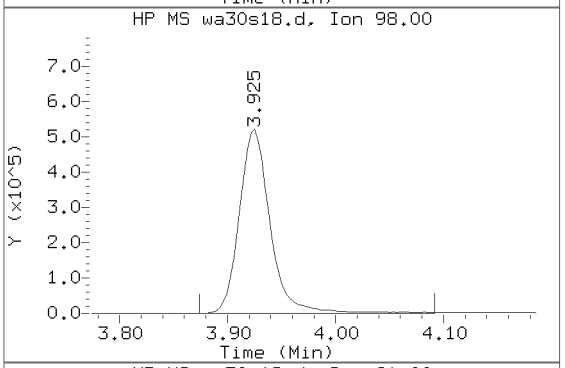
Sample Spectrum (Background Subtracted)

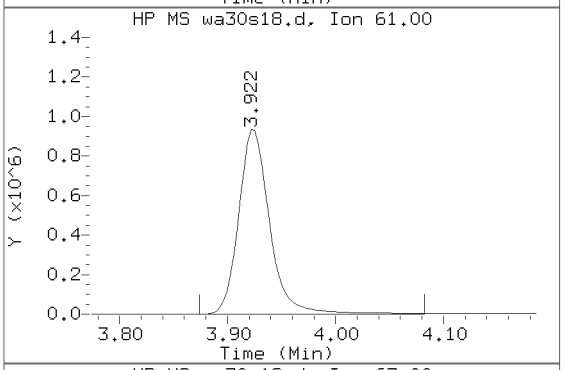


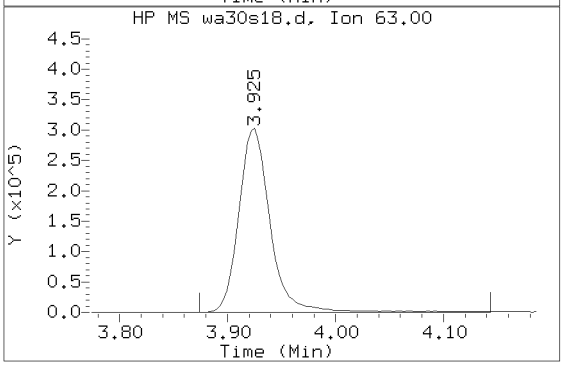
Sample Spectrum (Unaltered)











Data File: /chem2/HP09137.i/18apr30a.b/wa30s18.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 18:23 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 18:59 kk10002

Sample Name: A8511 Lab Sample ID: 9570351

Compound Number : 42
Compound Name : cis-1,2-Dichloroethene
Scan Number : 964
Retention Time (minutes): 3.925
Relative Retention Time :-0.00001
Quant Ion : 96.00
Area (flag) : 1612705
On-Column Amount (ng) : 382.2911

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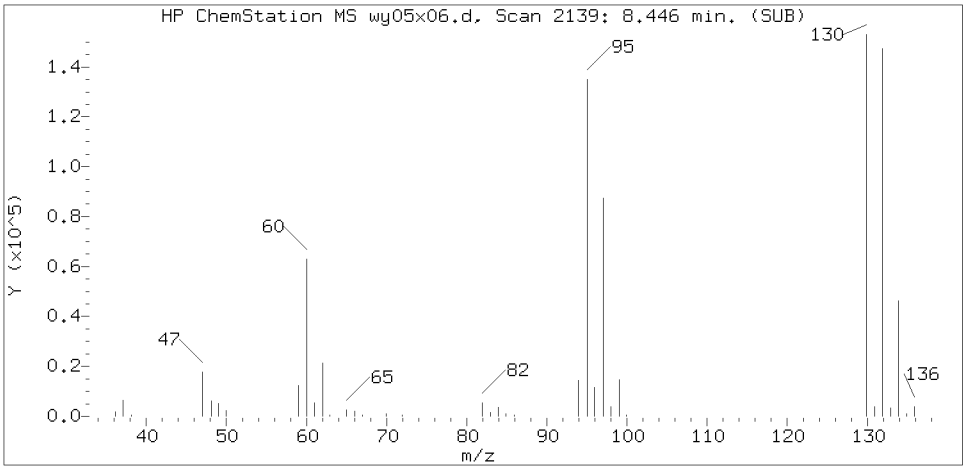
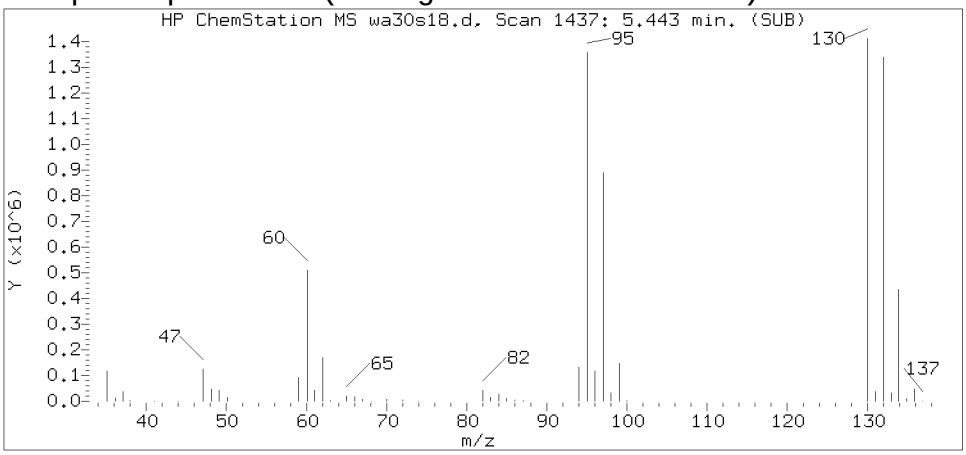
Target 3.5 esignature user ID: kk10002

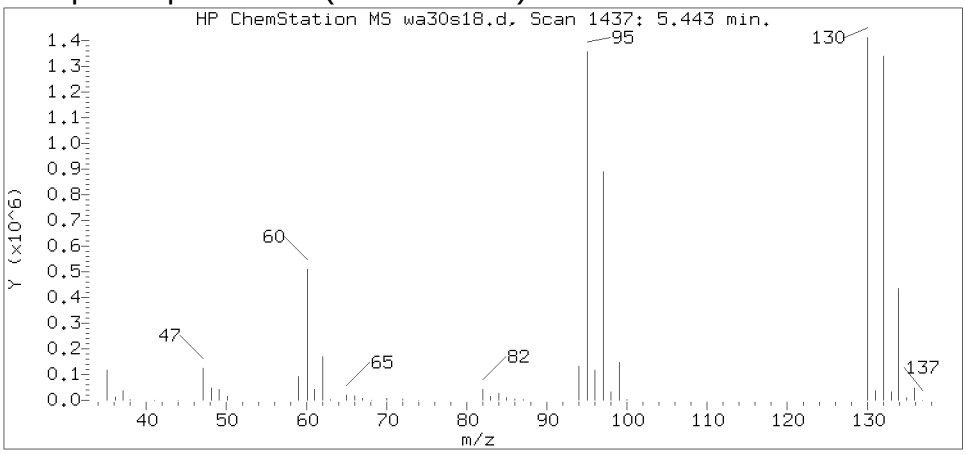
Reference Standard Spectrum for Trichloroethene

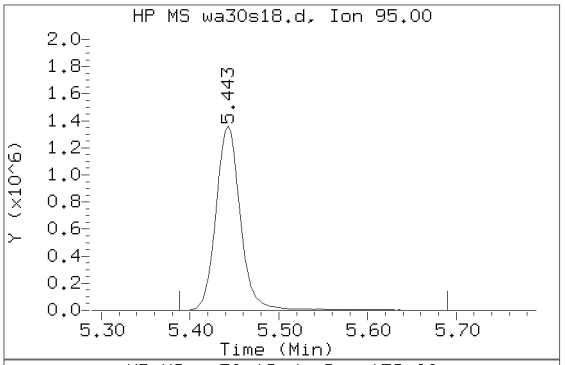


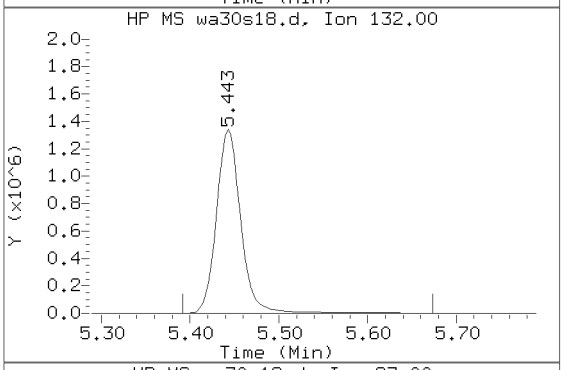
Sample Spectrum (Background Subtracted)

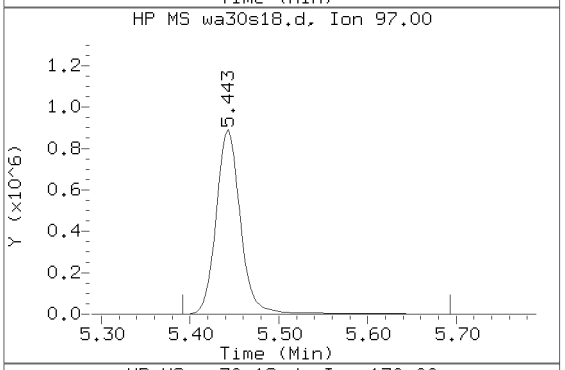


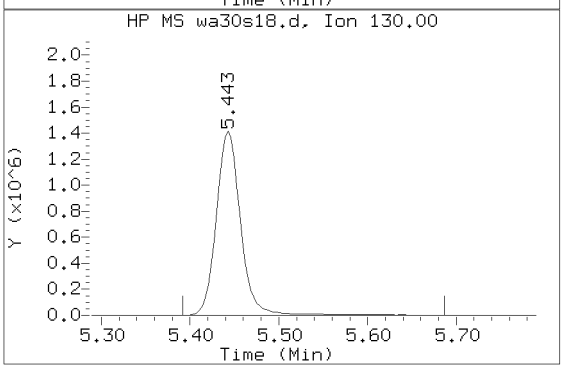
Sample Spectrum (Unaltered)











Data File: /chem2/HP09137.i/18apr30a.b/wa30s18.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 18:23 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 18:59 kk10002

Sample Name: A8511 Lab Sample ID: 9570351

Compound Number : 71
Compound Name : Trichloroethene
Scan Number : 1437
Retention Time (minutes): 5.443
Relative Retention Time : 0.00000
Quant Ion : 95.00
Area (flag) : 2609253
On-Column Amount (ng) : 631.3235

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Target 3.5 esignature user ID: kk10002

A8511DL

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

9570351DL

Data file: /chem2/HP09137.i/18apr30a.b/wa30s19.d Injection date and time: **30-APR-2018 18:47**
Data file Sample Info. Line: A8511DL;9570351DL;1;0;;ATH85;;;wa30b01; Instrument ID: **HP09137.i** Batch: **W181201AA**
Date, time and analyst ID of latest file update: 30-Apr-2018 19:02 Automation

Blank Data file reference: **/chem2/HP09137.i/18apr30a.b/wa30b01.d**

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 30-APR-2018 10:55
Mid Level Daily Calibration Standard Reference: **/chem2/HP09137.i/18apr30a.b/wa30c01.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: **200.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 0.025 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
29) t-Butyl alcohol-d10	2.763(0.000)	602	65	153968 (-14)	250.00	
66) Fluorobenzene	5.067(0.000)	1320	96	777380 (-6)	50.00	
100) Chlorobenzene-d5	8.193(0.000)	2294	117	612143 (-6)	50.00	
131) 1,4-Dichlorobenzene-d4	10.067(0.003)	2878	152	300693 (-15)	50.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(2)	4.390(0.000)	113	173787	49.039	98%		80 - 120
57) 1,2-Dichloroethane-d4	(2)	4.727(0.000)	102	48236	51.840	104%		80 - 120
83) Toluene-d8	(3)	6.733(0.000)	98	764068	48.681	97%		80 - 120
114) 4-Bromofluorobenzene	(3)	9.191(0.000)	95	280941	47.390	95%		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					100	200
6) Vinyl Chloride	(2)	1.480(0.000)	62	6977	1.272	254.34			100	200
8) Bromomethane	(2)			Not Detected					100	200
9) Chloroethane	(2)			Not Detected					100	200
17) 1,1-Dichloroethene	(2)			Not Detected					100	200
18) Acetone	(1)			Not Detected					1200	4000
23) Carbon Disulfide	(2)			Not Detected					200	1000
28) Methylene Chloride	(2)			Not Detected					100	200
32) trans-1,2-Dichloroethene	(2)			Not Detected					100	200
36) 1,1-Dichloroethane	(2)			Not Detected					100	200
42) cis-1,2-Dichloroethene	(2)	3.925(-0.000)	96	166232	39.399	7879.89			100	200
44) 2-Butanone	(2)			Not Detected					600	2000
51) Chloroform	(2)			Not Detected					100	200
53) 1,1,1-Trichloroethane	(2)			Not Detected					100	200
56) Carbon Tetrachloride	(2)			Not Detected					100	200
60) Benzene	(2)			Not Detected					100	200
61) 1,2-Dichloroethane	(2)			Not Detected					100	200
71) Trichloroethene	(2)	5.443(0.000)	95	260631	63.052	12610.37			100	200
73) 1,2-Dichloropropane	(2)			Not Detected					100	200
78) Bromodichloromethane	(2)			Not Detected					100	200
81) cis-1,3-Dichloropropene	(2)			Not Detected					100	200
82) 4-Methyl-2-pentanone	(2)			Not Detected					600	2000
88) Toluene	(3)			Not Detected					100	200
89) trans-1,3-Dichloropropene	(3)			Not Detected					100	200
92) 1,1,2-Trichloroethane	(3)			Not Detected					100	200
93) Tetrachloroethene	(3)			Not Detected					100	200
96) 2-Hexanone	(3)			Not Detected					600	2000
97) Dibromochloromethane	(3)			Not Detected					100	200
102) Chlorobenzene	(3)			Not Detected					100	200
104) Ethylbenzene	(3)			Not Detected					100	200
106) m+p-Xylene	(3)			Not Detected					100	200

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Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP09137.i/18apr30a.b/wa30s19.d Injection date and time: **30-APR-2018 18:47**
Data file Sample Info. Line: A8511DL;9570351DL;1;0;;ATH85;;;wa30b01; Instrument ID: **HP09137.i** Batch: **W181201AA**
Date, time and analyst ID of latest file update: 30-Apr-2018 19:02 Automation

Blank Data file reference: **/chem2/HP09137.i/18apr30a.b/wa30b01.d**

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 30-APR-2018 10:55
Mid Level Daily Calibration Standard Reference: **/chem2/HP09137.i/18apr30a.b/wa30c01.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: **200.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 0.025 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					100	200
108) Xylene (Total)	(3)				Not Detected					100	200
109) Styrene	(3)				Not Detected					200	1000
110) Bromoform	(3)				Not Detected					100	800
116) 1,1,2,2-Tetrachloroethane	(4)				Not Detected					100	200

Total number of targets = 36

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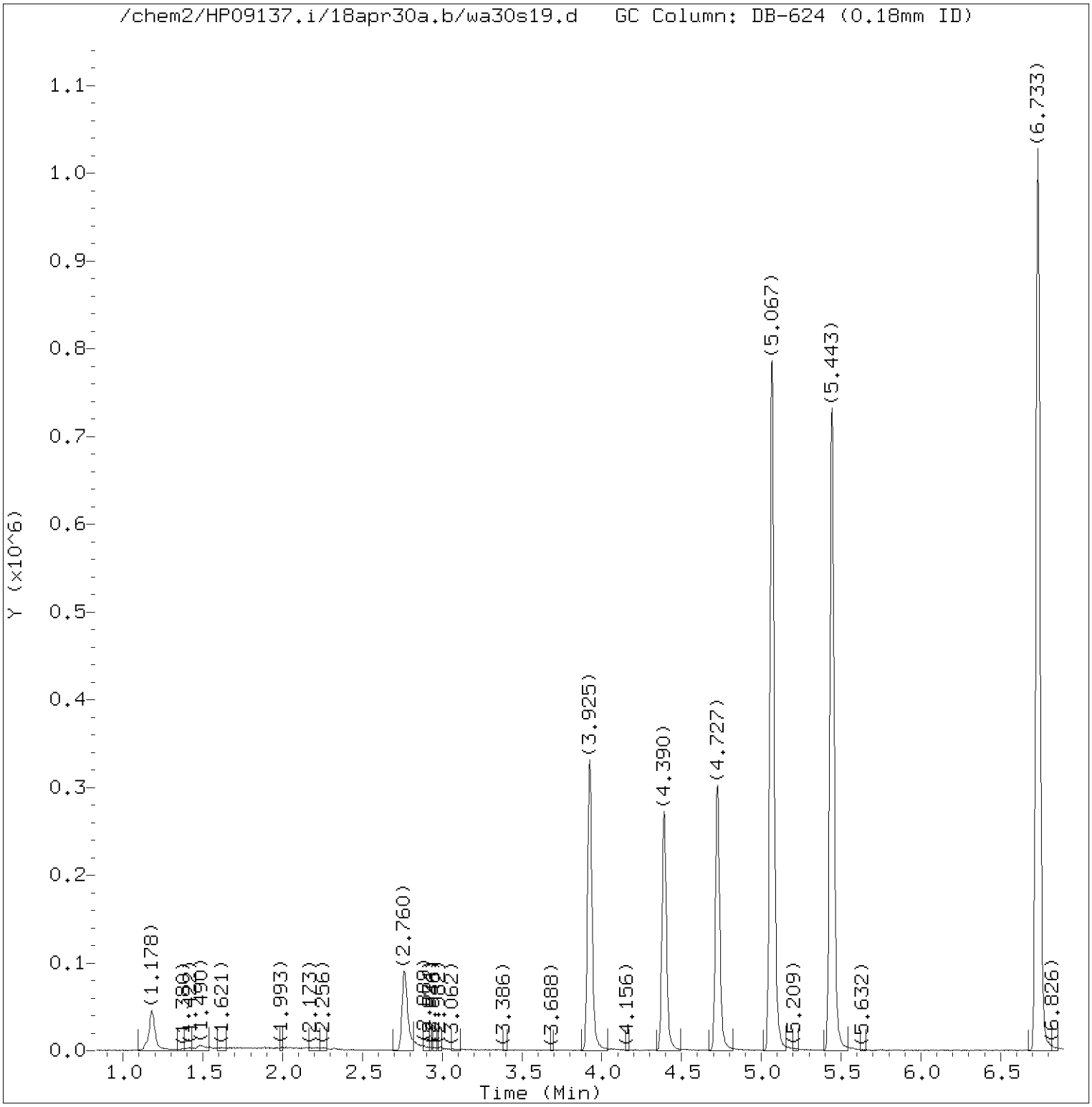
Secondary review performed and digitally signed by Kelly E. Keller on 05/21/2018 at 18:32. PARALLAX ID: kek01027



Total Ion Chromatogram (TIC)

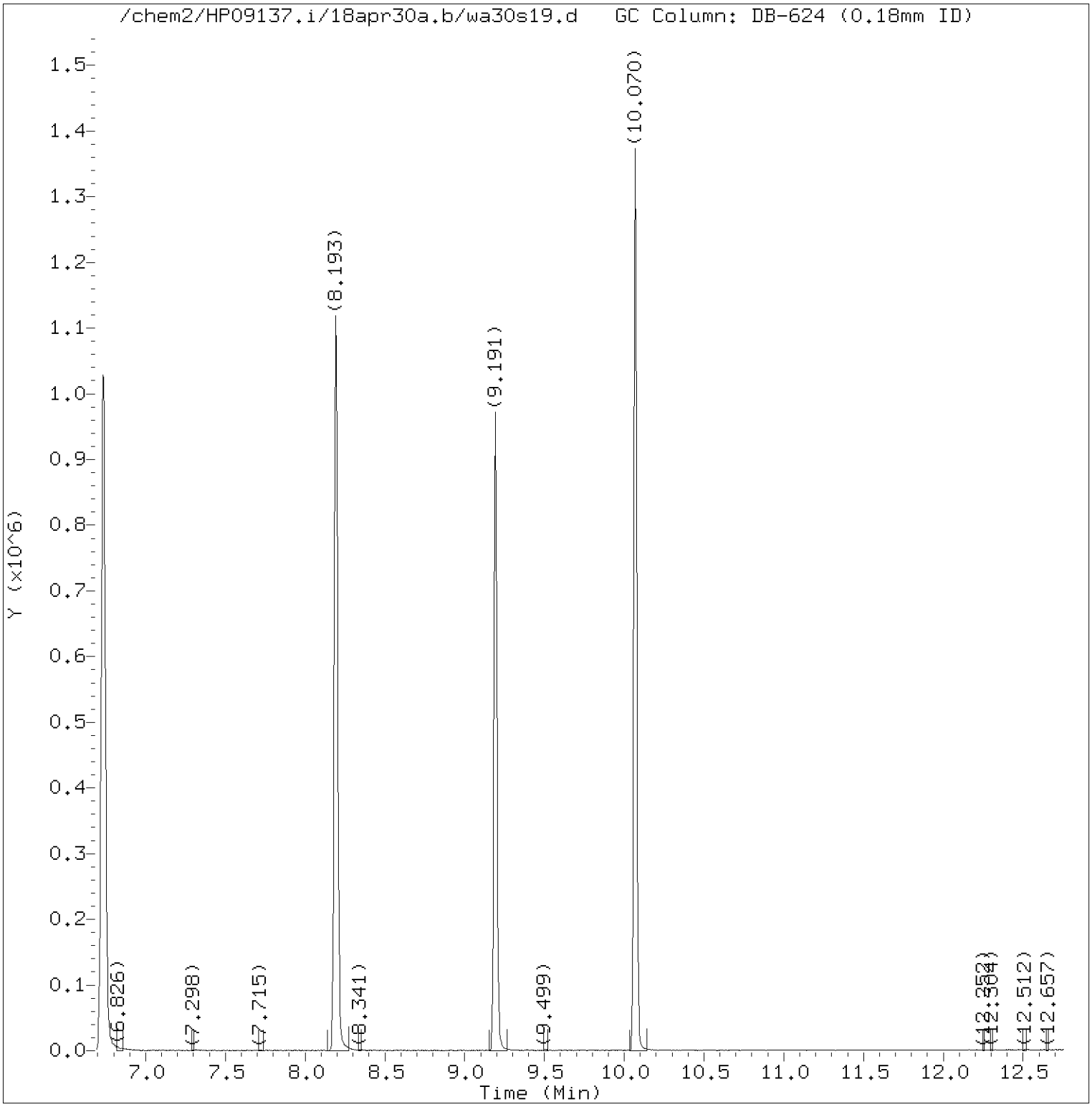
Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s19.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 18:47 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 19:02 Automation

Sample Name: A8511DL Lab Sample ID: 9570351DL

Digitally signed by Matthew S. Krause
on 05/03/2018 at 14:17.
Target 3.5 esignature user ID: msk07970



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s19.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 18:47 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 19:02 Automation

Sample Name: A8511DL Lab Sample ID: 9570351DL

Digitally signed by Matthew S. Krause
on 05/03/2018 at 14:17.
Target 3.5 esignature user ID: msk07970

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s19.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 18:47 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 19:02 Automation

Sample Name: A8511DL Lab Sample ID: 9570351DL

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
6) Vinyl Chloride	(2)	1.480	62	6977	1.272
29)*t-Butyl alcohol-d10	(1)	2.763	65	153968	250.000
42) cis-1,2-Dichloroethene	(2)	3.925	96	166232	39.399
52)$Dibromofluoromethane	(2)	4.390	113	173787	49.039
57)$1,2-Dichloroethane-d4	(2)	4.727	102	48236	51.840
66)*Fluorobenzene	(2)	5.067	96	777380	50.000
71) Trichloroethene	(2)	5.443	95	260631	63.052
83)$Toluene-d8	(3)	6.733	98	764068	48.681
100)*Chlorobenzene-d5	(3)	8.193	117	612143	50.000
114)$4-Bromofluorobenzene	(3)	9.191	95	280941	47.390
131)*1,4-Dichlorobenzene-d4	(4)	10.067	152	300693	50.000

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

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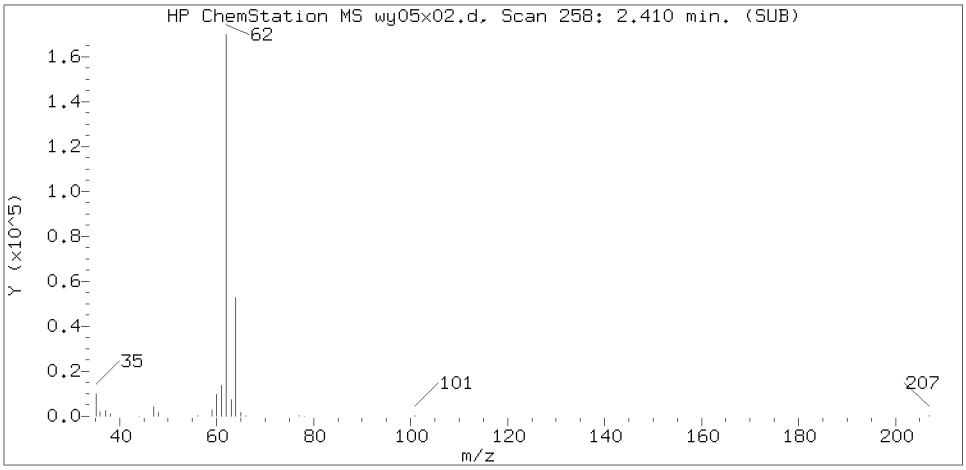
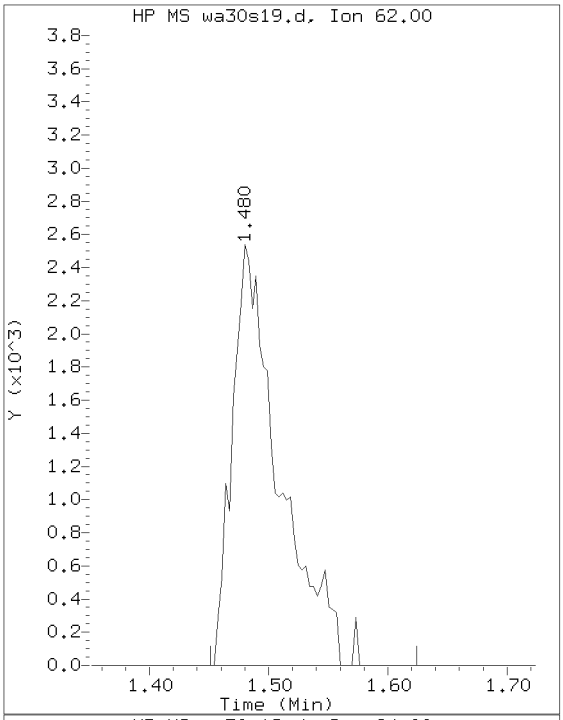
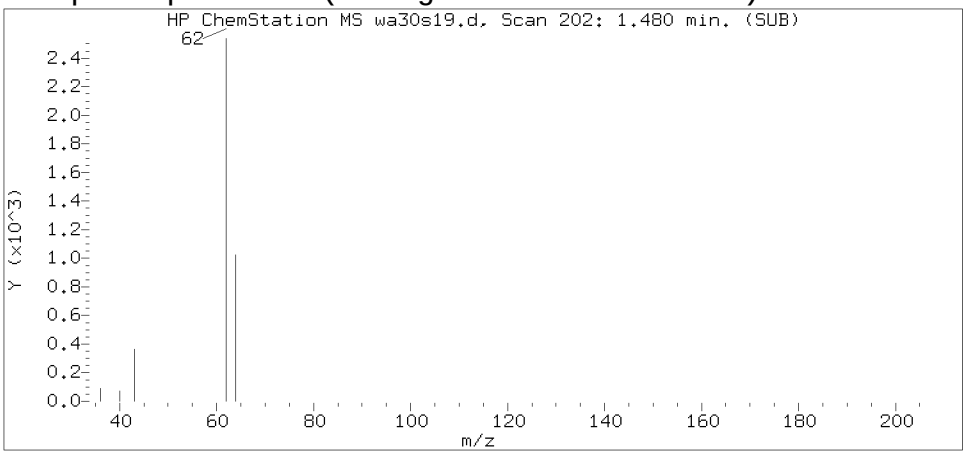
on 05/03/2018 at 14:17.
Target 3.5 esignature user ID: msk07970

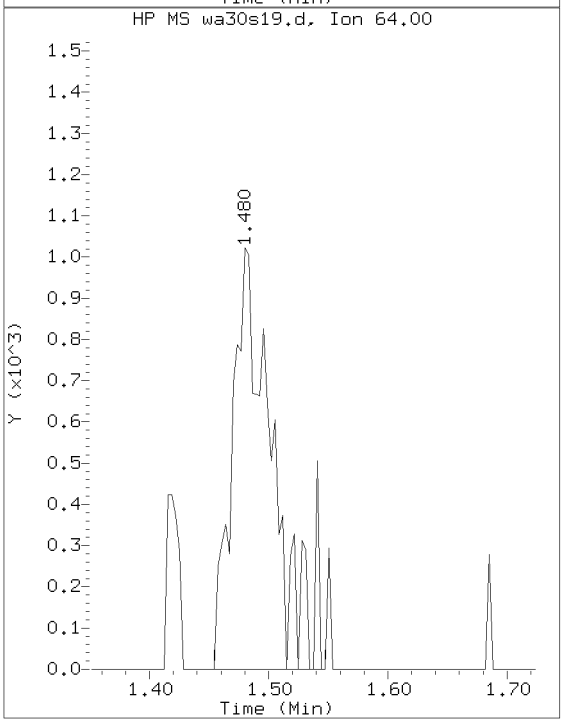
Reference Standard Spectrum for Vinyl Chloride



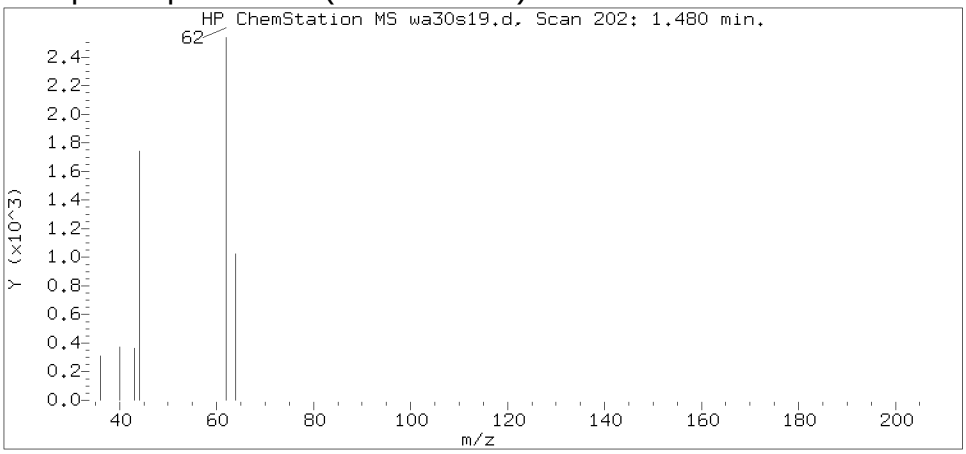


Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)



Data File: /chem2/HP09137.i/18apr30a.b/wa30s19.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 18:47 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 19:02 Automation

Sample Name: A8511DL Lab Sample ID: 9570351DL

Compound Number : 6
Compound Name : Vinyl Chloride
Scan Number : 202
Retention Time (minutes): 1.480
Relative Retention Time : 0.00060
Quant Ion : 62.00
Area (flag) : 6977
On-Column Amount (ng) : 1.2717

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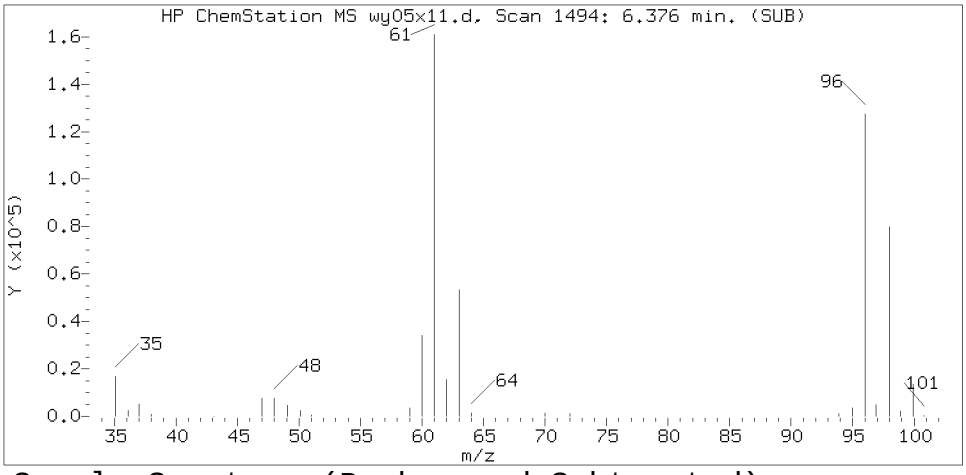
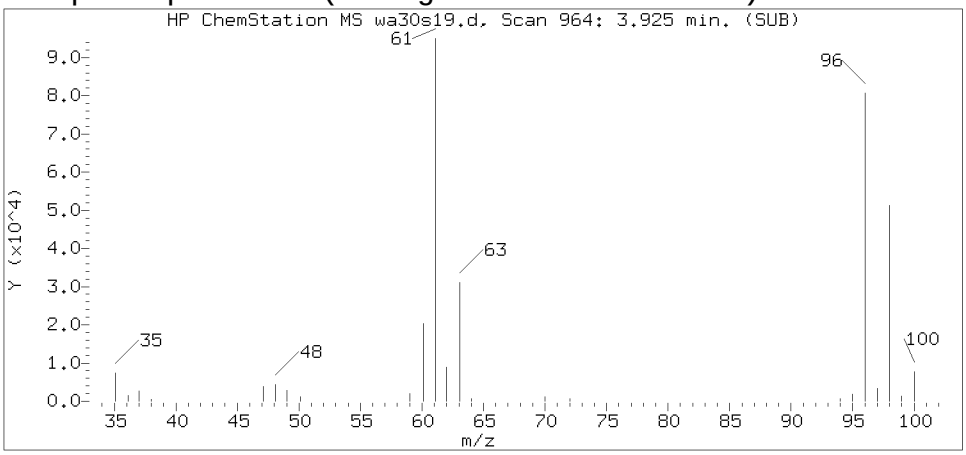
Target 3.5 esignature user ID: msk07970

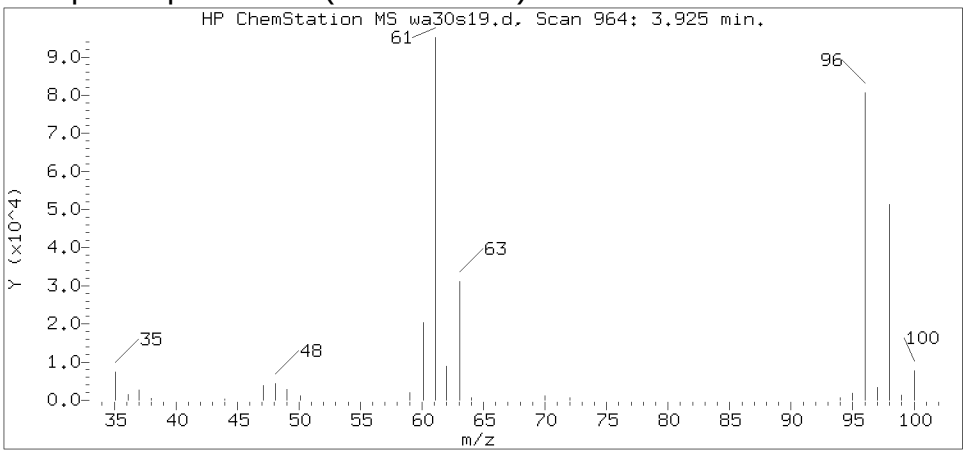
Reference Standard Spectrum for cis-1,2-Dichloroethene

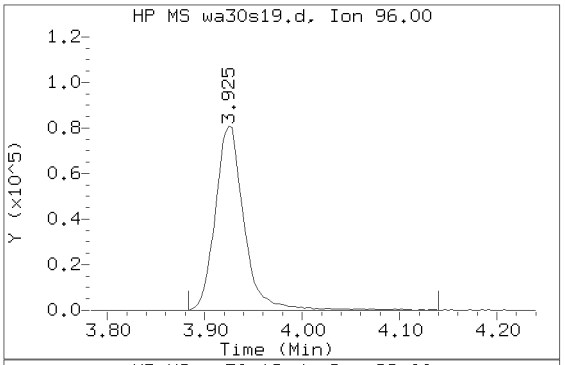


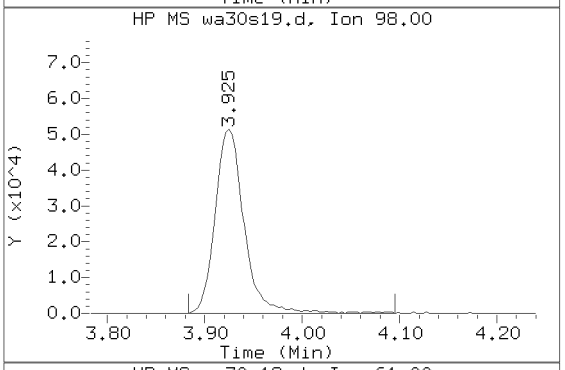
Sample Spectrum (Background Subtracted)

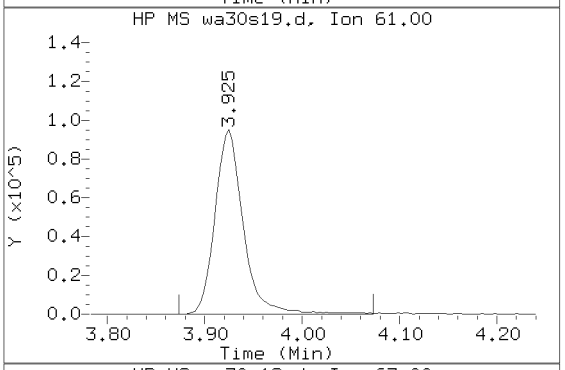


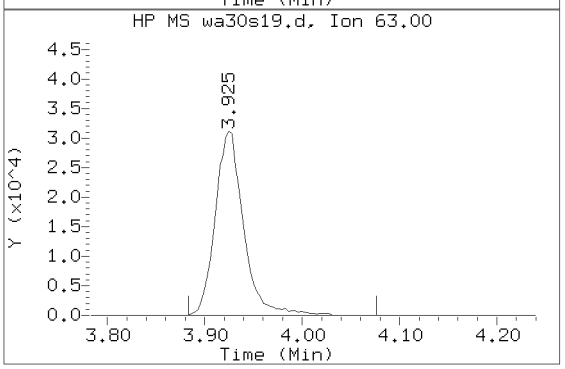
Sample Spectrum (Unaltered)











Data File: /chem2/HP09137.i/18apr30a.b/wa30s19.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 18:47 Analyst ID: nsl01327

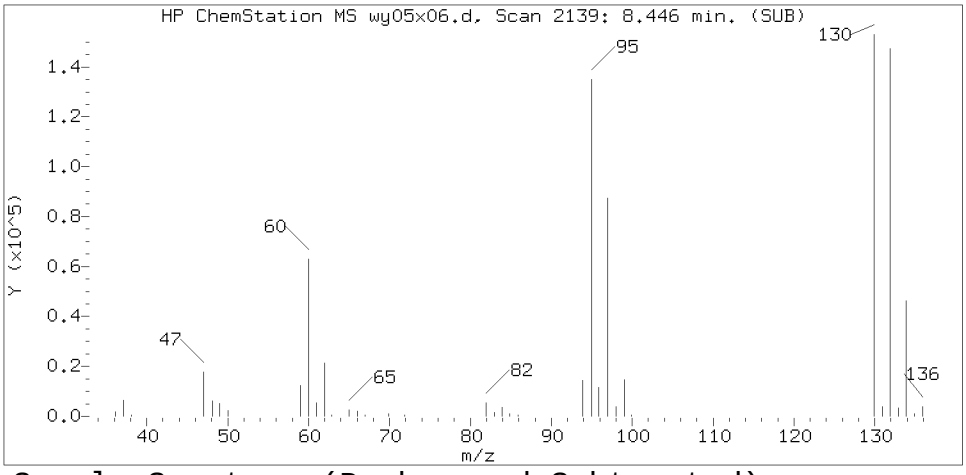
Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 19:02 Automation

Sample Name: A8511DL Lab Sample ID: 9570351DL

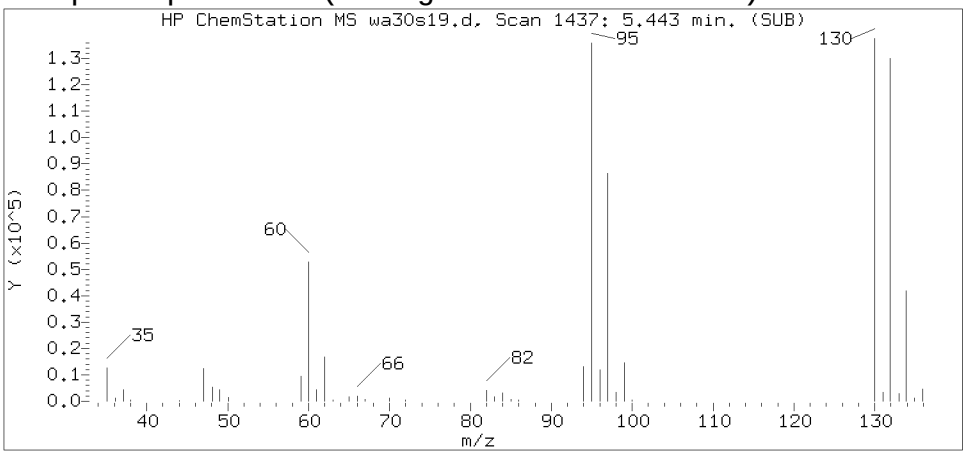
Compound Number : 42
Compound Name : cis-1,2-Dichloroethene
Scan Number : 964
Retention Time (minutes): 3.925
Relative Retention Time :-0.00001
Quant Ion : 96.00
Area (flag) : 166232
On-Column Amount (ng) : 39.3995

Digitally signed by Matthew S. Krause on 05/03/2018 at 14:17.
Target 3.5 esignature user ID: msk07970

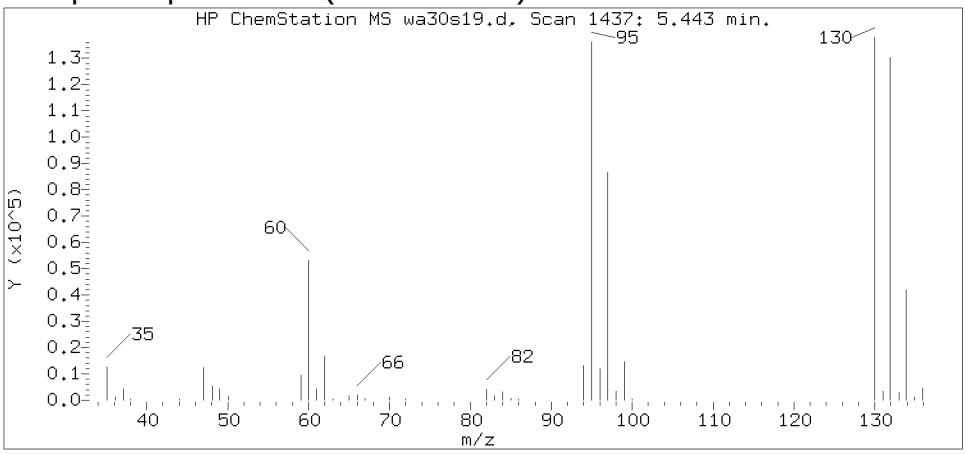
Reference Standard Spectrum for Trichloroethene

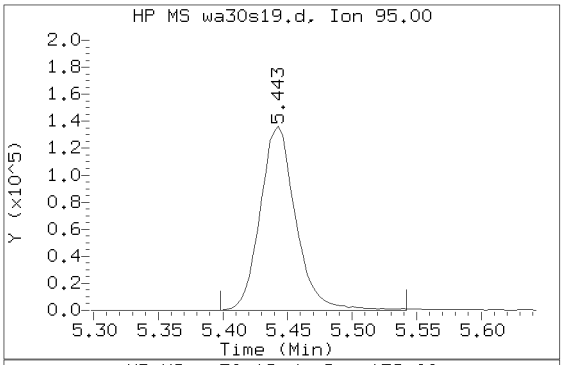


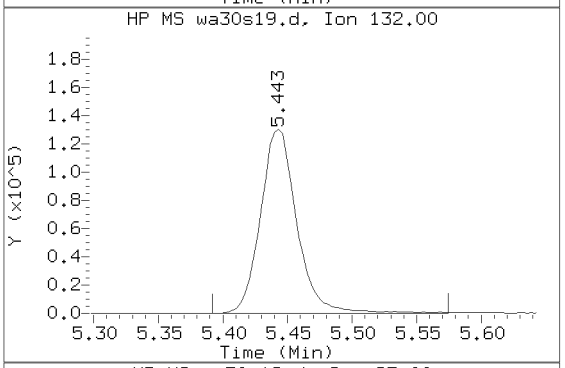
Sample Spectrum (Background Subtracted)

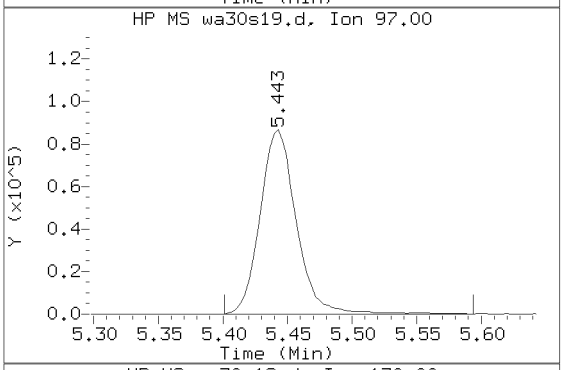


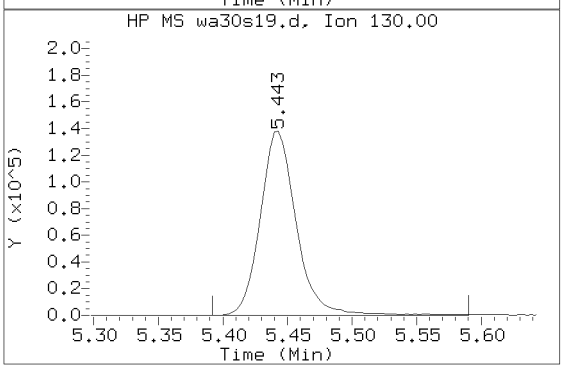
Sample Spectrum (Unaltered)











Data File: /chem2/HP09137.i/18apr30a.b/wa30s19.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 18:47 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 19:02 Automation

Sample Name: A8511DL Lab Sample ID: 9570351DL

Compound Number : 71
Compound Name : Trichloroethene
Scan Number : 1437
Retention Time (minutes): 5.443
Relative Retention Time : 0.00000
Quant Ion : 95.00
Area (flag) : 260631
On-Column Amount (ng) : 63.0518

Digitally signed by Matthew S. Krause on 05/03/2018 at 14:17.
Target 3.5 esignature user ID: msk07970

A8512

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

9570352

Data file: /chem2/HP09137.i/18apr30a.b/wa30s02.d
Injection date and time: **30-APR-2018 12:02**
Data file Sample Info. Line: A8512;9570352;1;0;;ATH85;;;wa30b01;
Instrument ID: **HP09137.i** Batch: **W181201AA**
Date, time and analyst ID of latest file update: 30-Apr-2018 12:17 Automation

Blank Data file reference: **/chem2/HP09137.i/18apr30a.b/wa30b01.d**

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 30-APR-2018 10:55
Mid Level Daily Calibration Standard Reference: **/chem2/HP09137.i/18apr30a.b/wa30c01.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	2.763(0.000)	602	65	172719 (-4)	250.00	
66) Fluorobenzene	5.067(0.000)	1320	96	812563 (-2)	50.00	
100) Chlorobenzene-d5	8.193(0.000)	2294	117	646633 (-1)	50.00	
131) 1,4-Dichlorobenzene-d4	10.070(0.000)	2879	152	330880 (-6)	50.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(2)	4.390(0.000)	113	180046	48.606	97%		80 - 120
57) 1,2-Dichloroethane-d4	(2)	4.724(0.001)	102	50718	52.147	104%		80 - 120
83) Toluene-d8	(3)	6.736(0.000)	98	811068	48.919	98%		80 - 120
114) 4-Bromofluorobenzene	(3)	9.194(0.000)	95	300308	47.955	96%		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 04/30/2018 at 14:41. Target 3.5 esignature user ID: nsl01327

A8512 Lancaster Laboratories 9570352

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP09137.i/18apr30a.b/wa30s02.d Injection date and time: **30-APR-2018 12:02**
Data file Sample Info. Line: A8512;9570352;1;0;;ATH85;;;wa30b01; Instrument ID: **HP09137.i** Batch: **W181201AA**
Date, time and analyst ID of latest file update: 30-Apr-2018 12:17 Automation

Blank Data file reference: **/chem2/HP09137.i/18apr30a.b/wa30b01.d**

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 30-APR-2018 10:55
Mid Level Daily Calibration Standard Reference: **/chem2/HP09137.i/18apr30a.b/wa30c01.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**

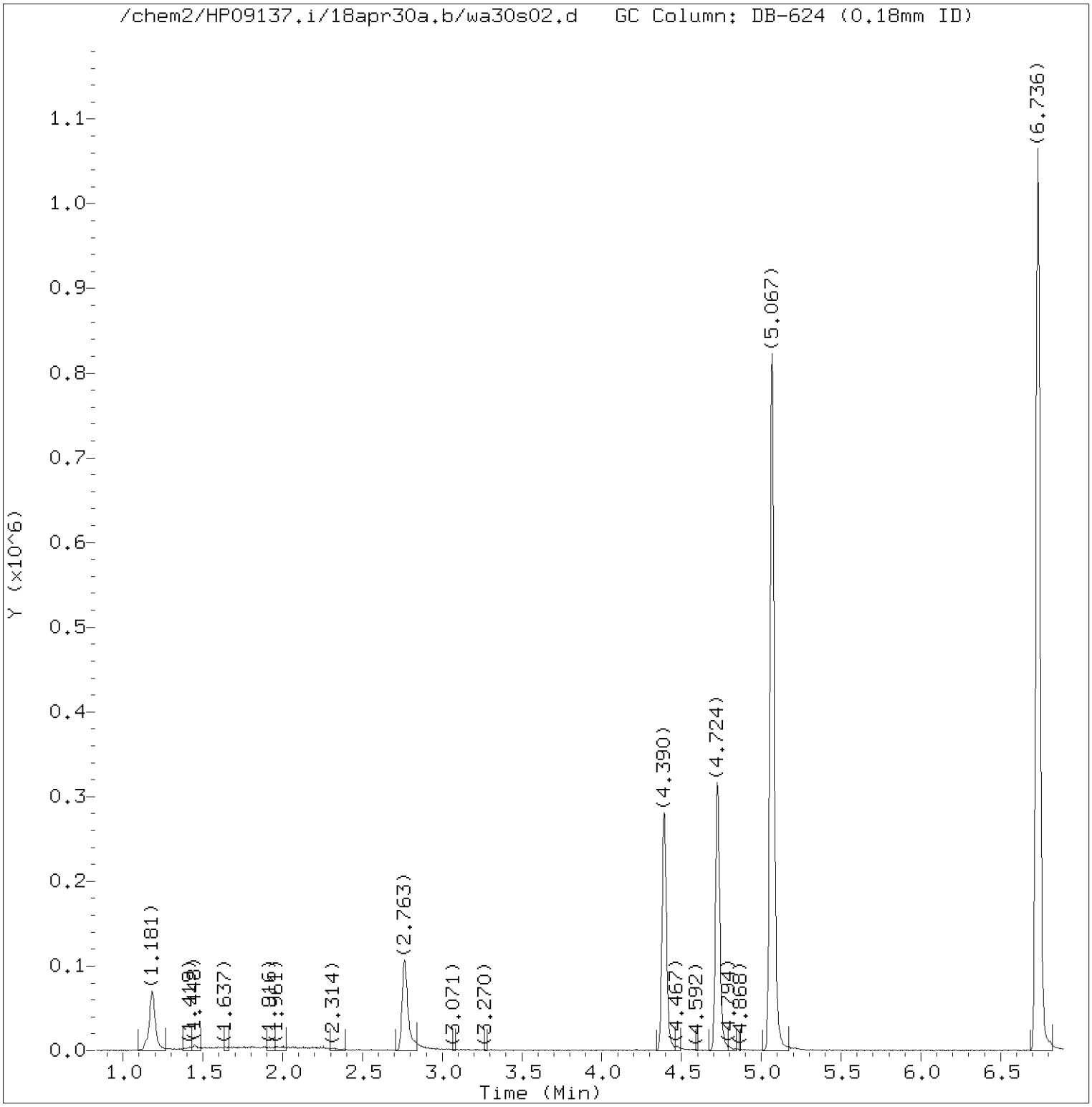
Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

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 04/30/2018 at 14:41. Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Sara E. Johnson on 04/30/2018 at 21:43. PARALLAX ID: sej02002



Total Ion Chromatogram (TIC)

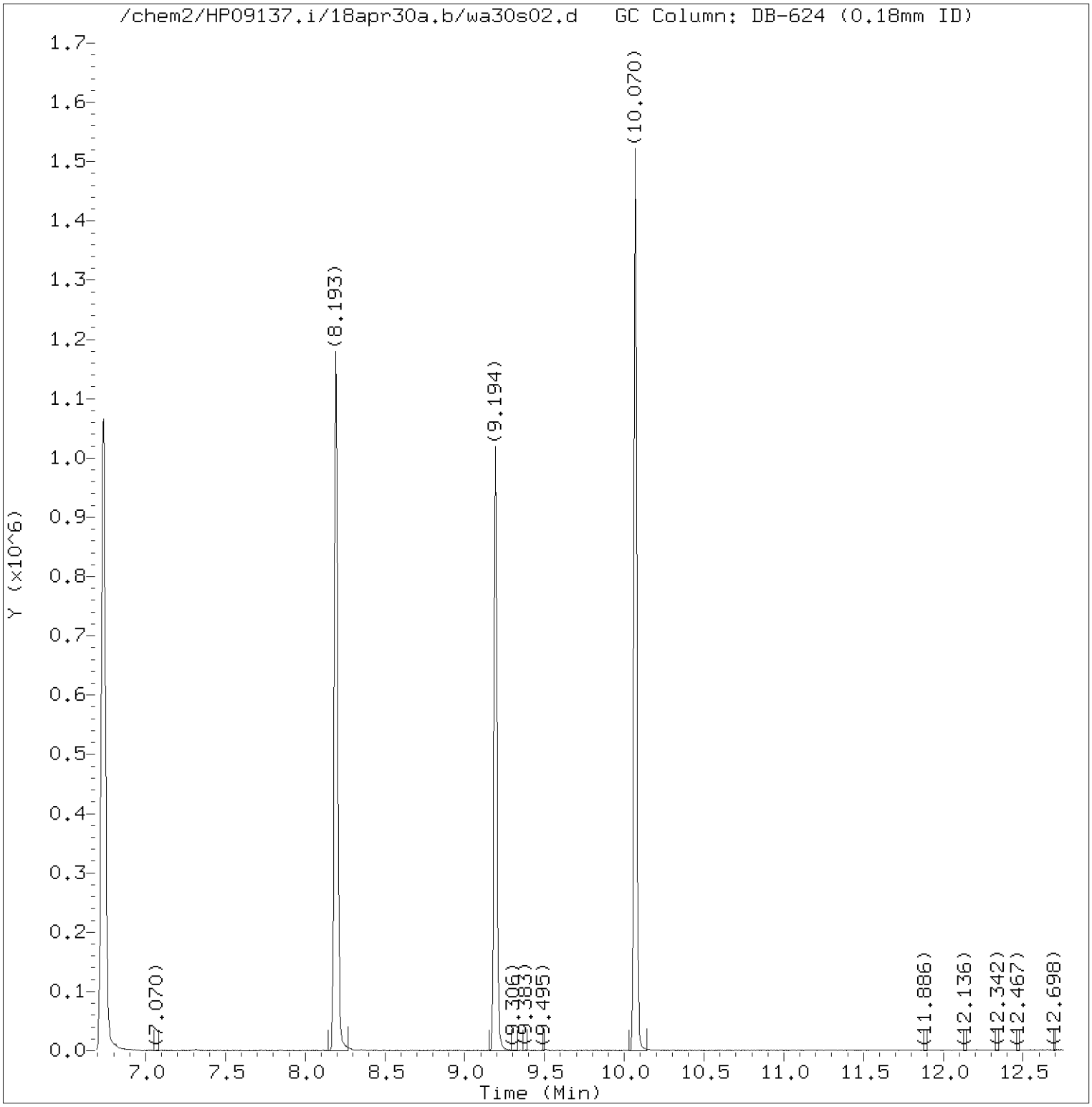
Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s02.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 12:02 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 12:17 Automation

Sample Name: A8512 Lab Sample ID: 9570352

Digitally signed by Nicole S. Lamoreaux
on 04/30/2018 at 14:41.
Target 3.5 esignature user ID: nsl01327



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s02.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 12:02 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 12:17 Automation

Sample Name: A8512 Lab Sample ID: 9570352

Digitally signed by Nicole S. Lamoreaux
on 04/30/2018 at 14:41.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s02.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 12:02 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 12:17 Automation

Sample Name: A8512 Lab Sample ID: 9570352

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
29)*t-Butyl alcohol-d10	(1)	2.763	65	172719	250.000
52)$Dibromofluoromethane	(2)	4.390	113	180046	48.606
57)$1,2-Dichloroethane-d4	(2)	4.724	102	50718	52.147
66)*Fluorobenzene	(2)	5.067	96	812563	50.000
83)$Toluene-d8	(3)	6.736	98	811068	48.919
100)*Chlorobenzene-d5	(3)	8.193	117	646633	50.000
114)$4-Bromofluorobenzene	(3)	9.194	95	300308	47.955
131)*1,4-Dichlorobenzene-d4	(4)	10.070	152	330880	50.000

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

Digitally signed by Nicole S. Lamoreaux
on 04/30/2018 at 14:41.
Target 3.5 esignature user ID: nsl01327

A8513

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

9570353

Data file: /chem2/HP09137.i/18apr30a.b/wa30s01.d
Injection date and time: **30-APR-2018 11:38**
Data file Sample Info. Line: A8513;9570353;1;0;;ATH85;;;wa30b01;
Instrument ID: **HP09137.i** Batch: **W181201AA**
Date, time and analyst ID of latest file update: 30-Apr-2018 11:53 Automation

Blank Data file reference: **/chem2/HP09137.i/18apr30a.b/wa30b01.d**

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 30-APR-2018 10:55
Mid Level Daily Calibration Standard Reference: **/chem2/HP09137.i/18apr30a.b/wa30c01.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	2.767(-0.003)	603	65	191866 (7)	250.00	
66) Fluorobenzene	5.067(0.000)	1320	96	824827 (0)	50.00	
100) Chlorobenzene-d5	8.196(-0.003)	2295	117	652082 (0)	50.00	
131) 1,4-Dichlorobenzene-d4	10.070(0.000)	2879	152	322769 (-9)	50.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(2)	4.393(-0.001)	113	183112	48.698	97%		80 - 120
57) 1,2-Dichloroethane-d4	(2)	4.727(0.000)	102	50990	51.647	103%		80 - 120
83) Toluene-d8	(3)	6.736(0.000)	98	821689	49.146	98%		80 - 120
114) 4-Bromofluorobenzene	(3)	9.194(0.000)	95	303957	48.133	96%		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 04/30/2018 at 14:41. Target 3.5 esignature user ID: nsl01327

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP09137.i/18apr30a.b/wa30s01.d Injection date and time: **30-APR-2018 11:38**
Data file Sample Info. Line: A8513;9570353;1;0;;ATH85;;;wa30b01; Instrument ID: **HP09137.i** Batch: **W181201AA**
Date, time and analyst ID of latest file update: 30-Apr-2018 11:53 Automation

Blank Data file reference: **/chem2/HP09137.i/18apr30a.b/wa30b01.d**

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: **10438**
Calibration date and time (Last Method Edit): 30-APR-2018 10:55
Mid Level Daily Calibration Standard Reference: **/chem2/HP09137.i/18apr30a.b/wa30c01.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**

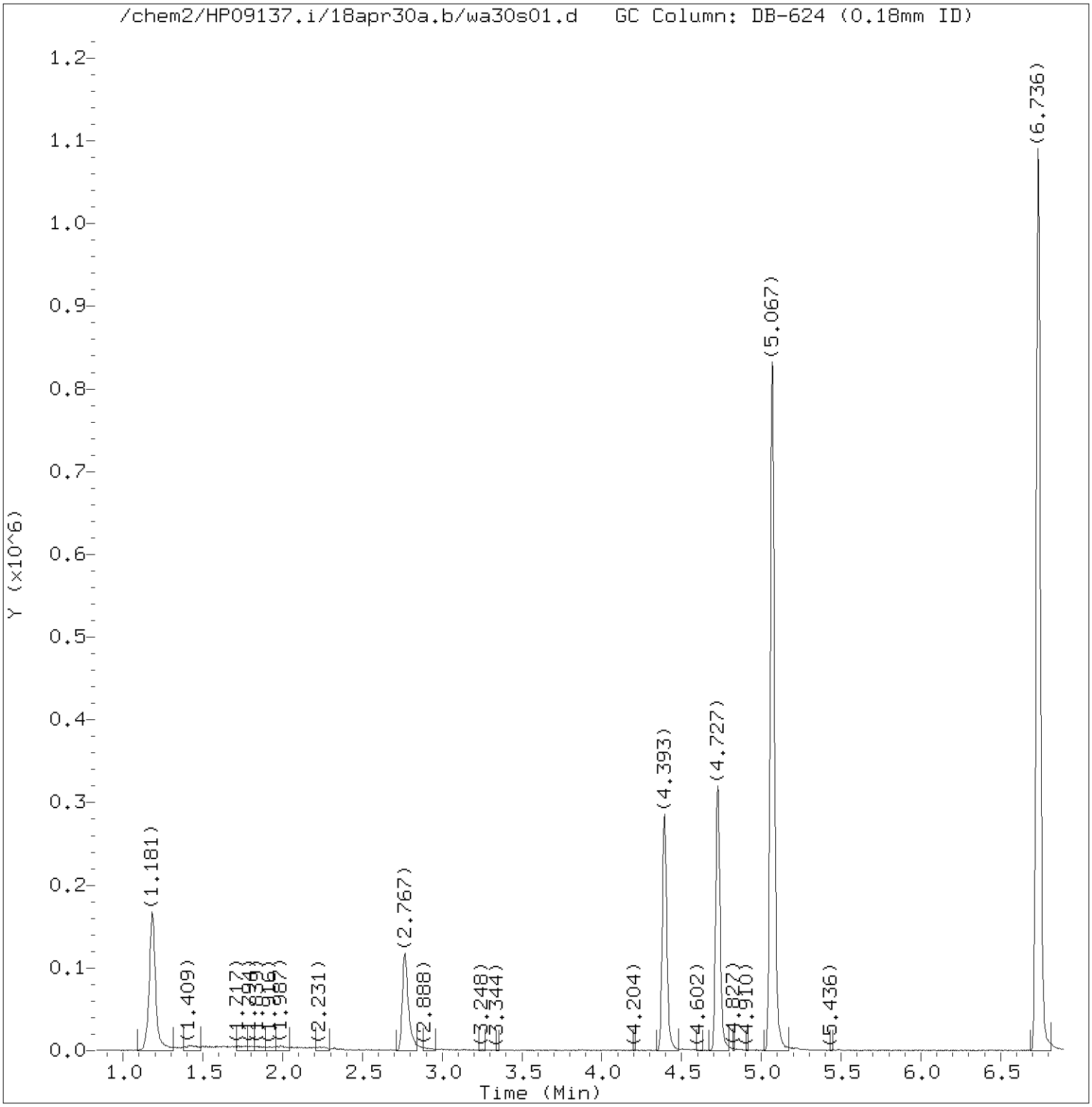
Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

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 04/30/2018 at 14:41. Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Sara E. Johnson on 04/30/2018 at 21:43. PARALLAX ID: sej02002



Total Ion Chromatogram (TIC)

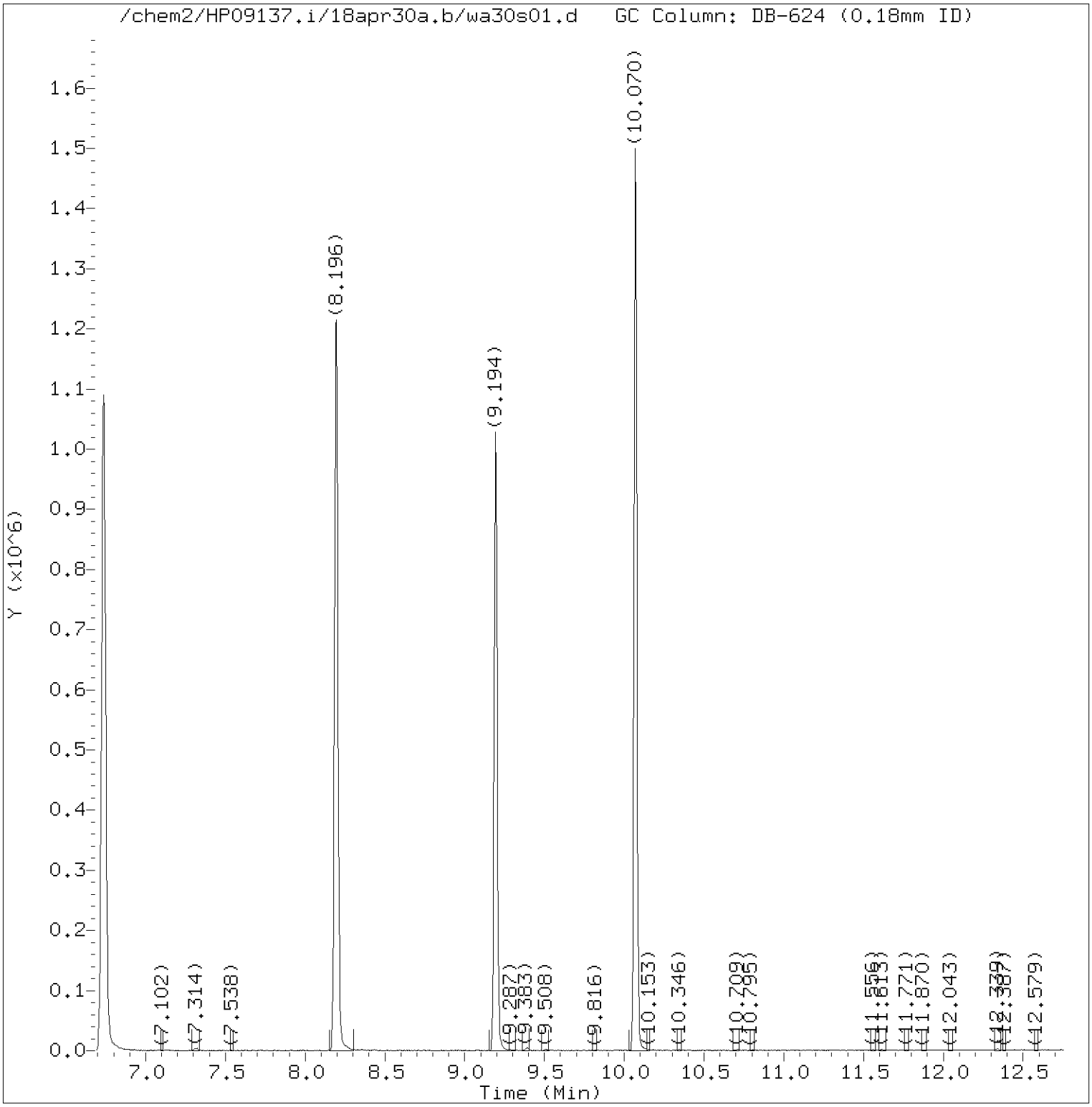
Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s01.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 11:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 11:53 Automation

Sample Name: A8513 Lab Sample ID: 9570353

Digitally signed by Nicole S. Lamoreaux
on 04/30/2018 at 14:41.
Target 3.5 esignature user ID: nsl01327



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s01.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 11:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 11:53 Automation

Sample Name: A8513 Lab Sample ID: 9570353

Digitally signed by Nicole S. Lamoreaux
on 04/30/2018 at 14:41.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30s01.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 11:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 10438
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 11:53 Automation

Sample Name: A8513 Lab Sample ID: 9570353

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
29)*t-Butyl alcohol-d10	(1)	2.767	65	191866	250.000
52)$Dibromofluoromethane	(2)	4.393	113	183112	48.698
57)$1,2-Dichloroethane-d4	(2)	4.727	102	50990	51.647
66)*Fluorobenzene	(2)	5.067	96	824827	50.000
83)$Toluene-d8	(3)	6.736	98	821689	49.146
100)*Chlorobenzene-d5	(3)	8.196	117	652082	50.000
114)$4-Bromofluorobenzene	(3)	9.194	95	303957	48.133
131)*1,4-Dichlorobenzene-d4	(4)	10.070	152	322769	50.000

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

Digitally signed by Nicole S. Lamoreaux
on 04/30/2018 at 14:41.
Target 3.5 esignature user ID: nsl01327

Standards Data

Volatiles by GC/MS

Lancaster Laboratories
Volatiles
Runlog for Agilent GC/MS System HP09137 **HP #18**

Data Directory Path is - D:\DATA\18apr09i\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
nsl01327	WA09T02.D	50NGBFB	04/09/2018	09:51		
nsl01327	WA09T03.D	50NGBFB	04/09/2018	10:04		
nsl01327	WA09T04.D	50NGBFB	04/09/2018	10:21		
nsl01327	WA09X05.D	CLNBLK	04/09/2018	10:52		
nsl01327	WA09I01.D	VSTD300	04/09/2018	11:16		
nsl01327	WA09I02.D	VSTD100	04/09/2018	11:39		
nsl01327	WA09I03.D	VSTD050	04/09/2018	12:03		
nsl01327	WA09I04.D	VSTD020	04/09/2018	12:27		
nsl01327	WA09I05.D	VSTD010	04/09/2018	12:51		
nsl01327	WA09I06.D	VSTD004	04/09/2018	13:14		
nsl01327	WA09I07.D	VSTD001	04/09/2018	13:38		
nsl01327	WA09M01.D	VSTD0.5	04/09/2018	14:02		
nsl01327	WA09V01.D	LCSWICV	04/09/2018	14:26	W180991AA	

Lancaster Laboratories
Volatiles
Runlog for Agilent GC/MS System HP09137 **HP #18**

Data Directory Path is - D:\DATA\18APR30A\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
NSL01327	WA30T01.D	50NGBFB	04/30/2018	07:52		
nsl01327	WA30BA1.D	VBLKW03	04/30/2018	08:18	W181201AA	
nsl01327	WA30C01.D	VSTD050	04/30/2018	08:41	W181201AA	
nsl01327	WA30L01.D	LCSW03	04/30/2018	09:26	W181201AA	
nsl01327	WA30L02.D	LCDW03	04/30/2018	09:49	W181201AA	
nsl01327	WA30B01.D	VBLKW03	04/30/2018	10:13	W181201AA	
nsl01327	WA30S01.D	9570353	04/30/2018	11:38	W181201AA	
nsl01327	WA30S02.D	9570352	04/30/2018	12:02	W181201AA	
nsl01327	WA30S03.D	9570341	04/30/2018	12:26	W181201AA	
nsl01327	WA30S04.D	9570343	04/30/2018	12:50	W181201AA	
nsl01327	WA30S05.D	9570344	04/30/2018	13:14	W181201AA	
nsl01327	WA30S06.D	9570345	04/30/2018	13:38	W181201AA	
nsl01327	WA30S07.D	9570346	04/30/2018	14:02	W181201AA	
nsl01327	WA30S08.D	9572336	04/30/2018	14:25	W181201AA	
nsl01327	WA30S09.D	9572337	04/30/2018	14:49	W181201AA	
nsl01327	WA30S10.D	9572338	04/30/2018	15:12	W181201AA	
nsl01327	WA30S11.D	9572335DL	04/30/2018	15:36	W181201AA	10
nsl01327	WA30S12.D	9572334DL	04/30/2018	16:00	W181201AA	1000
nsl01327	WA30S13.D	9572374DL	04/30/2018	16:23	W181201AA	10
nsl01327	WA30S14.D	9570347	04/30/2018	16:47	W181201AA	10
nsl01327	WA30S15.D	9570347DL	04/30/2018	17:11	W181201AA	100
nsl01327	WA30S16.D	9570349	04/30/2018	17:35	W181201AA	20
nsl01327	WA30S17.D	9570349DL	04/30/2018	17:59	W181201AA	200
nsl01327	WA30S18.D	9570351	04/30/2018	18:23	W181201AA	20
nsl01327	WA30S19.D	9570351DL	04/30/2018	18:47	W181201AA	200

Data File: /chem2/HP09137.i/18apr09i.b/wa09t04.d

Date : 09-APR-2018 10:21

Client ID: BFBFeb13-18

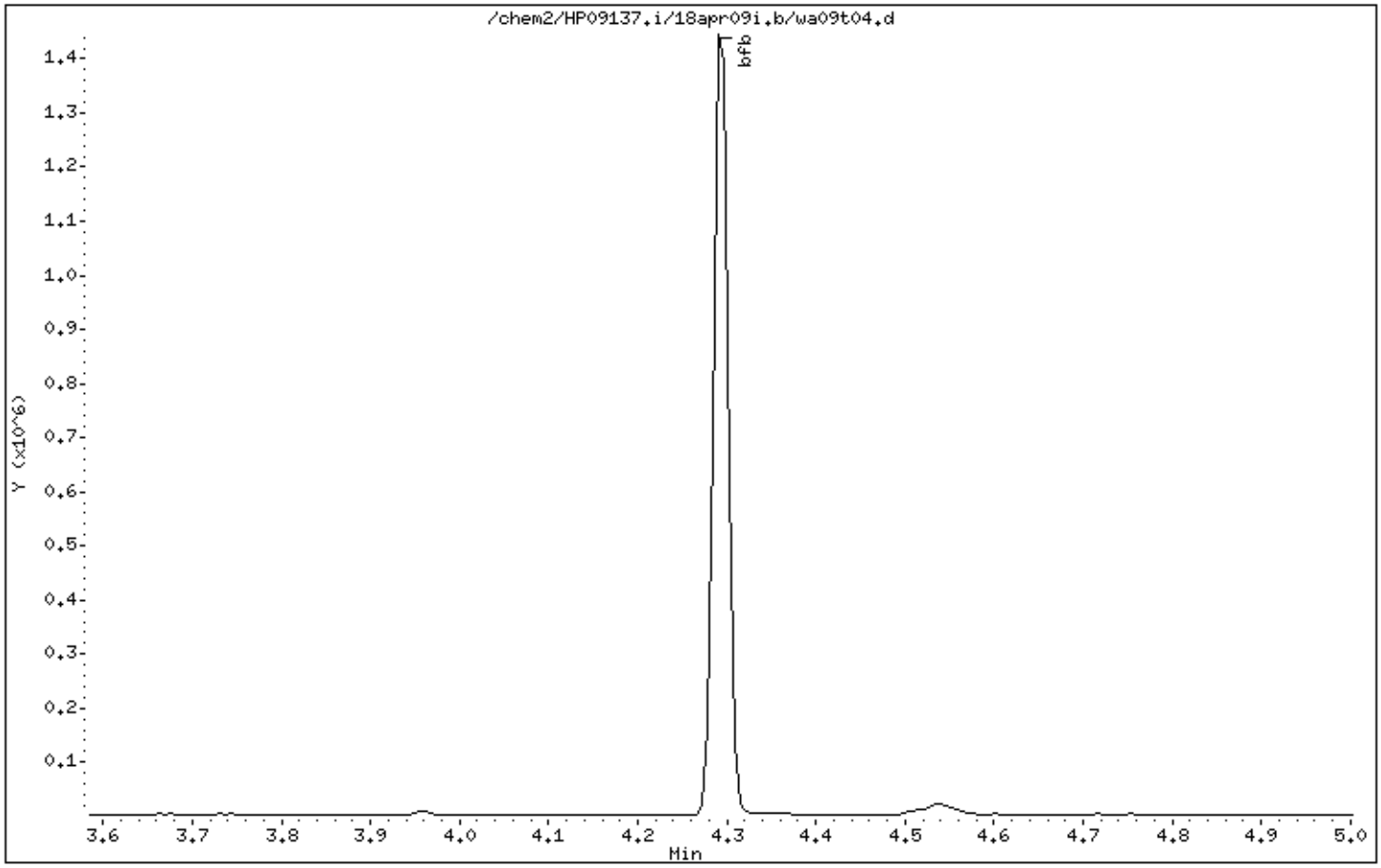
Instrument: HP09137.i

Sample Info: BFBFeb13-18;50NGBFB;1;3;;;;;;

Operator: nsl01327

Column phase: DB-624

Column diameter: 0.18



Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:09.
Target 3.5 esignature user ID: nsl01327

Data File: /chem2/HP09137.i/18apr09i.b/wa09t04.d

Date : 09-APR-2018 10:21

Client ID: BFBFeb13-18

Instrument: HP09137.i

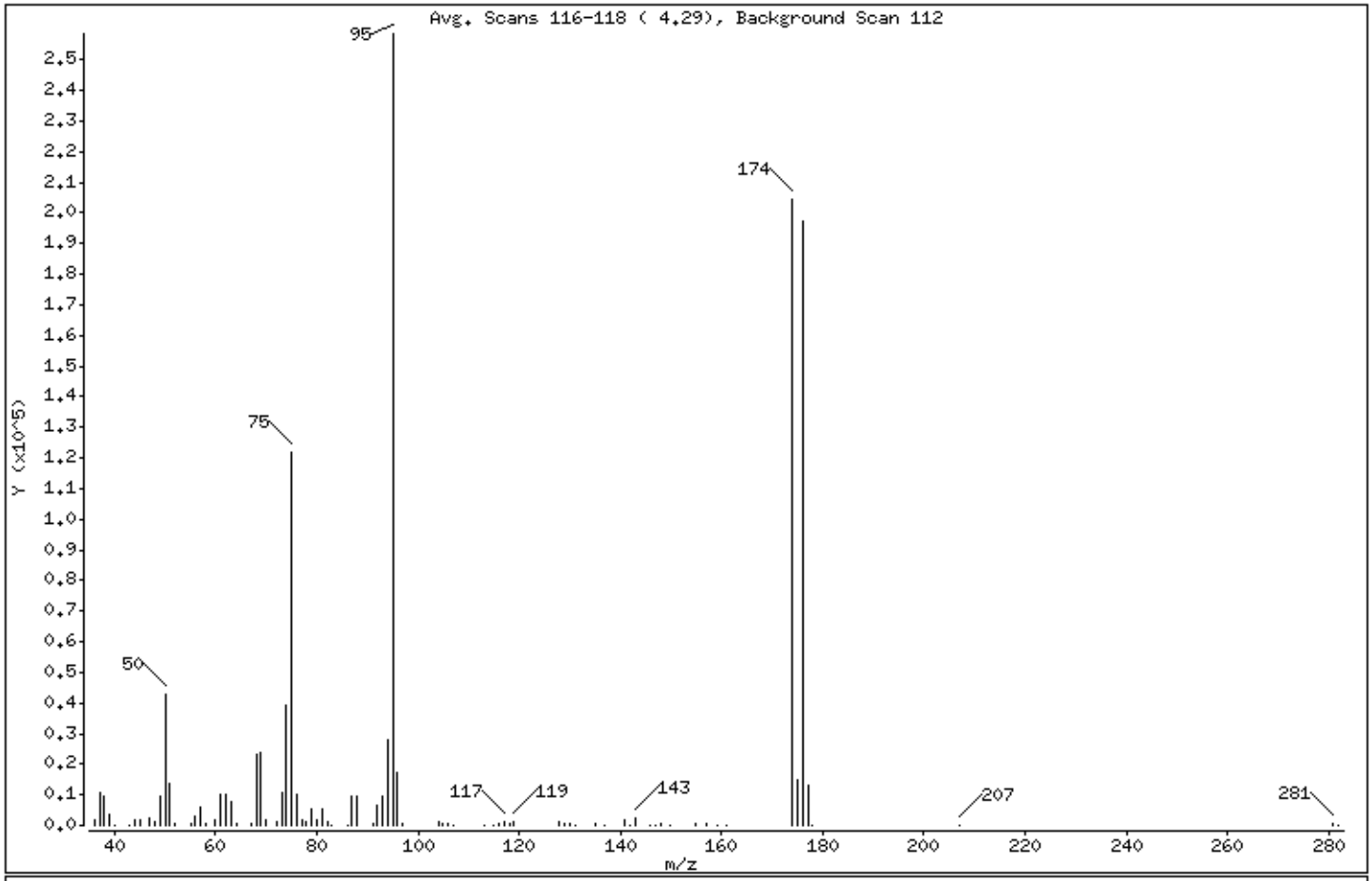
Sample Info: BFBFeb13-18;50NGBFB;1;3;;;;;;

Operator: nsl01327

Column phase: DB-624

Column diameter: 0.18

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	16.49
75	30.00 - 60.00% of mass 95	47.07
96	5.00 - 9.00% of mass 95	6.69
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 100.00% of mass 95	79.13
175	5.00 - 9.00% of mass 174	5.85 (7.39)
176	95.00 - 101.00% of mass 174	76.37 (96.52)
177	5.00 - 9.00% of mass 176	5.07 (6.64)

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:09.
Target 3.5 esignature user ID: nsl01327

Data File: /chem2/HP09137.i/18apr09i.b/wa09t04.d

Date : 09-APR-2018 10:21

Client ID: BFBFeb13-18 Instrument: HP09137.i

Sample Info: BFBFeb13-18;50NGBFB;1;3;;;;;;

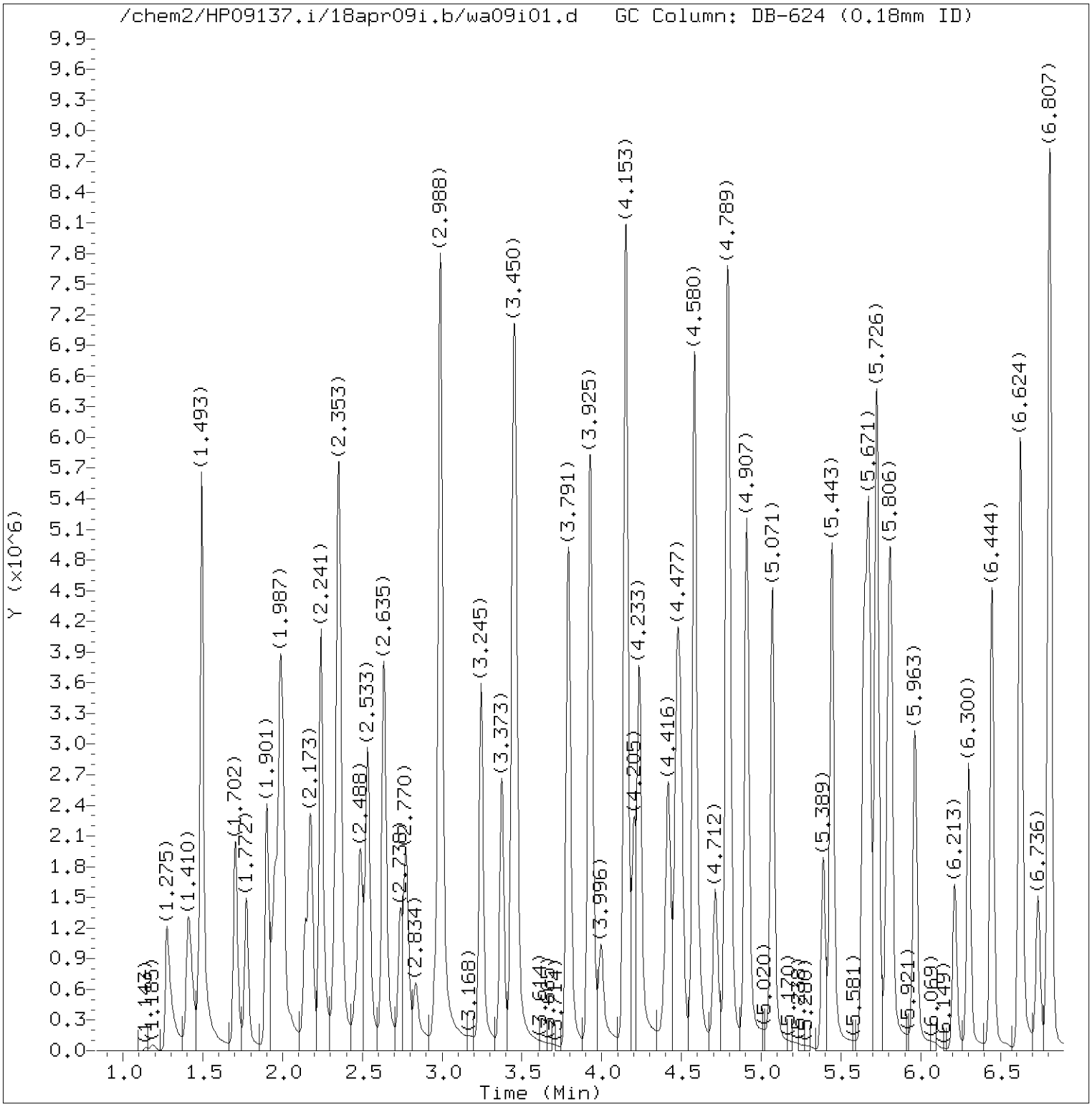
Operator: nsl01327

Column phase: DB-624 Column diameter: 0.18

Data File: wa09t04.d
Spectrum: Avg. Scans 116-118 (4.29), Background Scan 112
Location of Maximum: 95.00
Number of points: 84

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1990	64.00	822	93.00	9347	142.00	195
37.00	10511	67.00	690	94.00	28104	143.00	2163
38.00	9573	68.00	23016	95.00	258432	146.00	260
39.00	3371	69.00	23752	96.00	17296	147.00	91
40.00	105	70.00	1847	97.00	566	148.00	563
43.00	87	72.00	1216	104.00	953	150.00	275
44.00	1504	73.00	10404	105.00	427	155.00	560
45.00	1921	74.00	39040	106.00	818	157.00	415
47.00	2601	75.00	121664	107.00	205	159.00	263
48.00	1268	76.00	10347	113.00	85	161.00	228
49.00	9445	77.00	1519	115.00	229	174.00	204480
50.00	42616	78.00	936	116.00	732	175.00	15108
51.00	13522	79.00	5089	117.00	1303	176.00	197376
52.00	581	80.00	1658	118.00	811	177.00	13109
55.00	719	81.00	5333	119.00	1170	178.00	260
56.00	3218	82.00	1106	128.00	904	207.00	63
57.00	6011	83.00	86	129.00	329	281.00	557
58.00	314	86.00	220	130.00	744	282.00	192
60.00	2053	87.00	9769	131.00	250		
61.00	10354	88.00	9360	135.00	299		
62.00	9956	91.00	882	137.00	245		
63.00	7818	92.00	6395	141.00	2007		

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:09.
Target 3.5 esignature user ID: nsl01327



Total Ion Chromatogram (TIC)

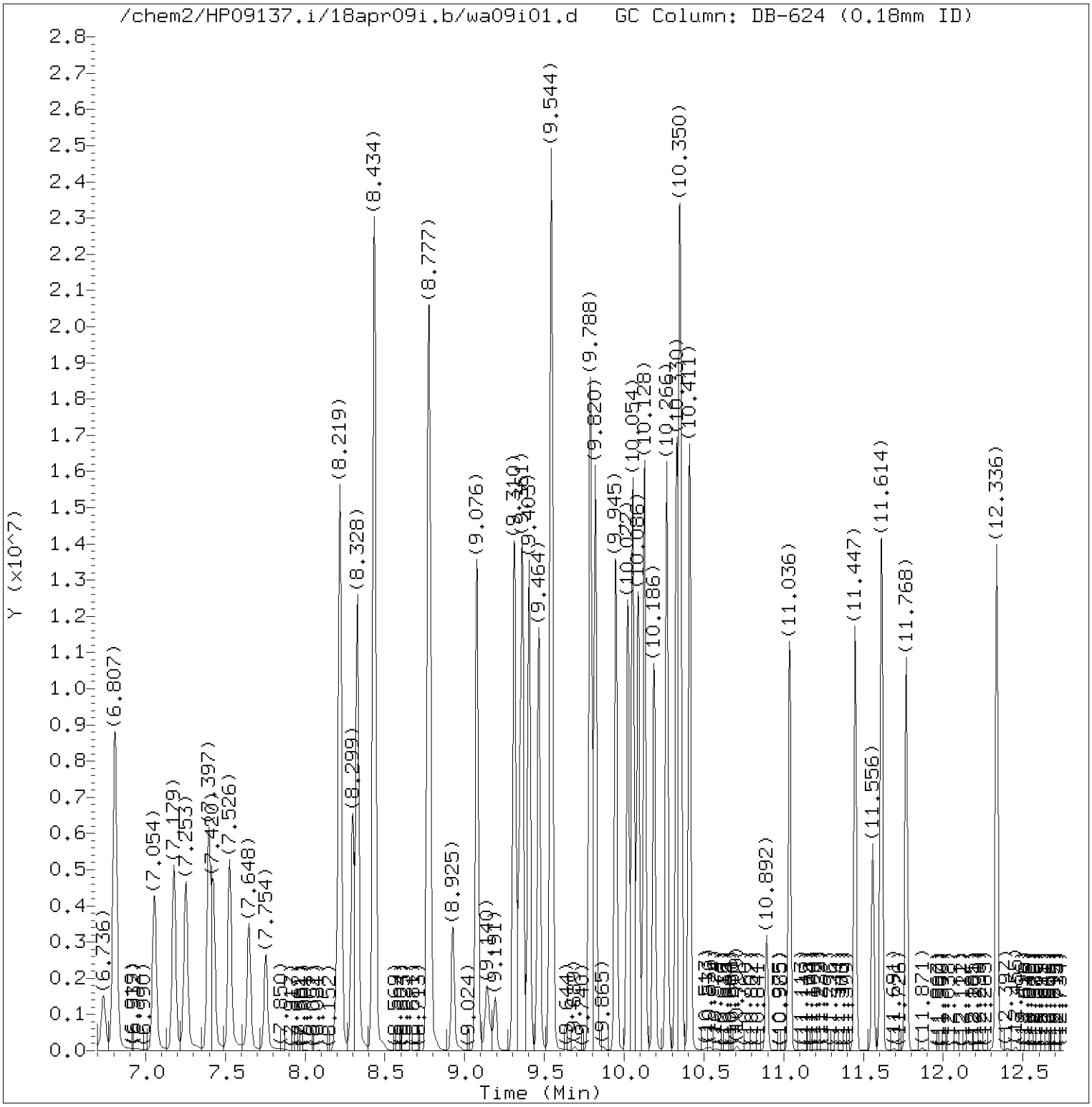
Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 11:16 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD300 Lab Sample ID: VSTD300

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:06.
Target 3.5 esignature user ID: nsl01327



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 11:16 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD300 Lab Sample ID: VSTD300

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:06.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 11:16 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD300 Lab Sample ID: VSTD300

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
3) Dichlorodifluoromethane	(2)	1.275	85	2038657	290.813
4) Chloromethane	(2)	1.410	50	2080641	277.094
6) Vinyl Chloride	(2)	1.487	62	2190310	288.617
5) 1,3-Butadiene	(2)	1.493	39	1519739	273.281
8) Bromomethane	(2)	1.702	94	1545149	280.283
9) Chloroethane	(2)	1.772	64	1286002	283.860
10) Dichlorofluoromethane	(2)	1.901	67	2209406	231.439
12) Trichlorofluoromethane	(2)	1.952	101	2527804	299.559
11) n-Pentane	(2)	1.994	43	2465602	275.244
13) Ethanol	(1)	2.055	45	265888	7501.520
15) Freon 123a	(2)	2.173	67	1741392	279.407
16) Acrolein	(1)	2.241	56	4068579	3503.505
17) 1,1-Dichloroethene	(2)	2.347	96	1459742	310.638
17) 1,1-Dichloroethene	(2)	2.347	63	658347	301.509
19) Freon 113	(2)	2.353	101	1515076	318.137
18) Acetone	(1)	2.363	58	282268	578.580
21) 2-Propanol	(1)	2.472	45	373111M	1106.057
22) Methyl Iodide	(2)	2.488	142	2799385	306.758
23) Carbon Disulfide	(2)	2.533	76	4702767	303.284
25) Allyl Chloride	(2)	2.632	41	2172406	289.631
27) Methyl Acetate	(2)	2.648	43	1335499	243.304
29)*t-Butyl alcohol-d10	(1)	2.764	65	143108	250.000
28) Methylene Chloride	(2)	2.773	84	1620501M	296.757
30) t-Butyl alcohol	(1)	2.838	59	791338	1286.596
31) Acrylonitrile	(2)	2.956	53	703044	251.301
32) trans-1,2-Dichloroethene	(2)	2.988	96	1576872	304.905
33) Methyl Tertiary Butyl Ether	(2)	2.992	73	4757545	271.366
34) n-Hexane	(2)	3.245	57	1784120	296.617
36) 1,1-Dichloroethane	(2)	3.373	63	2580099	294.099
38) di-Isopropyl ether	(2)	3.444	45	4649572	283.124
39) 2-Chloro-1,3-butadiene	(2)	3.463	53	2340967	301.972
40) Ethyl t-butyl ether	(2)	3.791	59	4601239M	281.298
42) cis-1,2-Dichloroethene	(2)	3.925	96	1758434	301.315
45) 2,2-Dichloropropane	(2)	3.925	77	1179758	248.864
44) 2-Butanone	(2)	3.941	43	1866156	478.588
47) Propionitrile	(1)	3.996	54	1200605	1561.429
43) 1,2-Dichloroethene (Total)	(2)		96	3335306	606.220
48) Methacrylonitrile	(2)	4.150	67	2271060	687.844

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

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:06.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 11:16 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD300 Lab Sample ID: VSTD300

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
49) Bromochloromethane	(2)	4.156	128	879577	296.141
50) Tetrahydrofuran	(1)	4.205	71	589973	717.556
51) Chloroform	(2)	4.237	83	2667782	296.610
52)$Dibromofluoromethane	(2)	4.391	113	244332	49.846
52)$Dibromofluoromethane	(2)	4.391	111	249609	49.721
53) 1,1,1-Trichloroethane	(2)	4.416	97	2372389	296.386
54) Cyclohexane	(2)	4.481	56	2510231	308.191
54) Cyclohexane	(2)	4.481	84	2306323	307.546
54) Cyclohexane	(2)	4.481	69	814786	307.648
55) 1,1-Dichloropropene	(2)	4.580	75	2159804	301.526
56) Carbon Tetrachloride	(2)	4.583	117	1989011	328.114
58) Isobutyl Alcohol	(1)	4.712	41	621077	3078.401
57)$1,2-Dichloroethane-d4	(2)	4.728	102	60701	47.163
57)$1,2-Dichloroethane-d4	(2)	4.724	65	272305	47.079
57)$1,2-Dichloroethane-d4	(2)	4.724	104	40606	48.708
60) Benzene	(2)	4.789	78	6300650	292.553
61) 1,2-Dichloroethane	(2)	4.801	62	2081457	277.177
61) 1,2-Dichloroethane	(2)	4.805	98	215830	291.685
65) t-Amyl methyl ether	(2)	4.907	73	4832752	283.071
66)*Fluorobenzene	(2)	5.068	96	1075258	50.000
67) n-Heptane	(2)	5.071	43	1610523	298.539
69) n-Butanol	(1)	5.389	56	1445589	7614.736
71) Trichloroethene	(2)	5.443	95	1702563	297.779
72) Methylcyclohexane	(2)	5.645	83	2363313	307.432
72) Methylcyclohexane	(2)	5.645	98	1139899	315.519
73) 1,2-Dichloropropane	(2)	5.674	63	1625729	298.108
74) Dibromomethane	(2)	5.793	93	1074125	290.451
76) Methyl Methacrylate	(2)	5.812	69	1634064	280.470
75) 1,4-Dioxane	(1)	5.819	88	212311M	4094.352
78) Bromodichloromethane	(2)	5.963	83	2104227	300.924
79) 2-Nitropropane	(2)	6.213	41	1094651	565.436
80) 2-Chloroethyl Vinyl Ether	(2)	6.300	63	1294298	291.373
81) cis-1,3-Dichloropropene	(2)	6.444	75	2788230	302.422
82) 4-Methyl-2-pentanone	(2)	6.624	43	4297653M	534.594
83)$Toluene-d8	(3)	6.736	98	1049940	50.641
83)$Toluene-d8	(3)	6.736	100	766248	54.838
88) Toluene	(3)	6.807	92	4266675	300.437
89) trans-1,3-Dichloropropene	(3)	7.054	75	2637053	311.670

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

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:06.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 11:16 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD300 Lab Sample ID: VSTD300

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
91) Ethyl Methacrylate	(3)	7.179	69	2909237	297.036
90) 1,3-Dichloropropene (total)	(3)		100	5425283	614.092
92) 1,1,2-Trichloroethane	(3)	7.253	97	1673815	299.862
93) Tetrachloroethene	(3)	7.397	166	1768430	306.016
94) 1,3-Dichloropropane	(3)	7.426	76	2710174	293.740
96) 2-Hexanone	(3)	7.526	43	3431190	550.414
97) Dibromochloromethane	(3)	7.648	129	1845775	325.165
99) 1,2-Dibromoethane	(3)	7.754	107	1812555	298.106
100)*Chlorobenzene-d5	(3)	8.193	117	808620	50.000
102) Chlorobenzene	(3)	8.219	112	4836067	298.888
103) 1,1,1,2-Tetrachloroethane	(3)	8.299	131	1660628	319.526
104) Ethylbenzene	(3)	8.328	91	7628290	290.322
106) m+p-Xylene	(3)	8.434	106	6458222	601.412
107) o-Xylene	(3)	8.771	106	3280614	305.869
109) Styrene	(3)	8.780	104	5671543	309.501
108) Xylene (Total)	(3)		106	9738836	907.281
110) Bromoform	(3)	8.925	173	1416728	347.768
111) Isopropylbenzene	(3)	9.076	105	7440259	291.618
112) Cyclohexanone	(1)	9.143	55	732988A	3067.746
114)$4-Bromofluorobenzene	(3)	9.191	95	398087	50.835
114)$4-Bromofluorobenzene	(3)	9.194	174	325808	50.991
115) Bromobenzene	(4)	9.310	156	2203624	289.336
116) 1,1,2,2-Tetrachloroethane	(4)	9.313	83	2697392	275.198
117) 1,2,3-Trichloropropane	(4)	9.345	110	834083	270.948
118) trans-1,4-Dichloro-2-butene	(4)	9.361	53	1953890	725.205
119) n-Propylbenzene	(4)	9.403	91	8334226	261.978
120) 2-Chlorotoluene	(4)	9.464	126	1985983	283.690
122) 1,3,5-Trimethylbenzene	(4)	9.541	105	6669685	282.174
121) 4-Chlorotoluene	(4)	9.547	126	2186748	291.850
124) tert-Butylbenzene	(4)	9.785	134	1548349	295.466
125) Pentachloroethane	(4)	9.794	167	1312924	324.544
126) 1,2,4-Trimethylbenzene	(4)	9.820	105	6884036	278.478
127) sec-Butylbenzene	(4)	9.945	105	7329722	273.893
129) 1,3-Dichlorobenzene	(4)	10.022	146	4076019	283.215
130) p-Isopropyltoluene	(4)	10.054	119	6782483	281.748
131)*1,4-Dichlorobenzene-d4	(4)	10.070	152	466022	50.000
133) 1,4-Dichlorobenzene	(4)	10.086	146	4223016	282.060
134) 1,2,3-Trimethylbenzene	(4)	10.128	105	7034292	276.254

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

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:06.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 11:16 Analyst ID: nsl01327

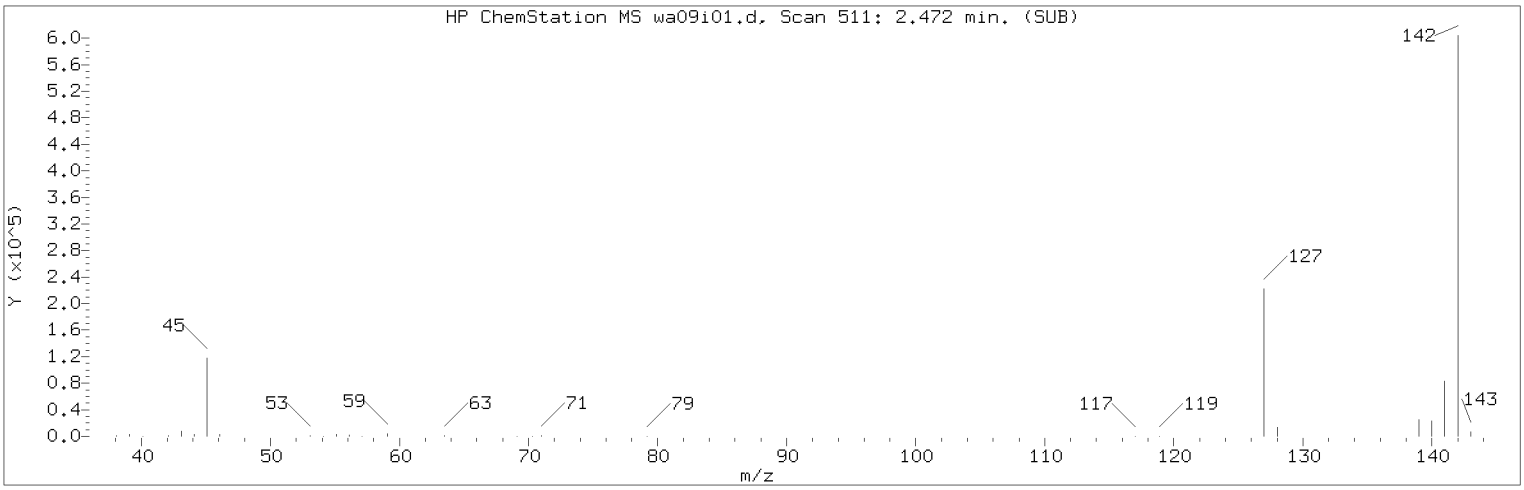
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD300 Lab Sample ID: VSTD300

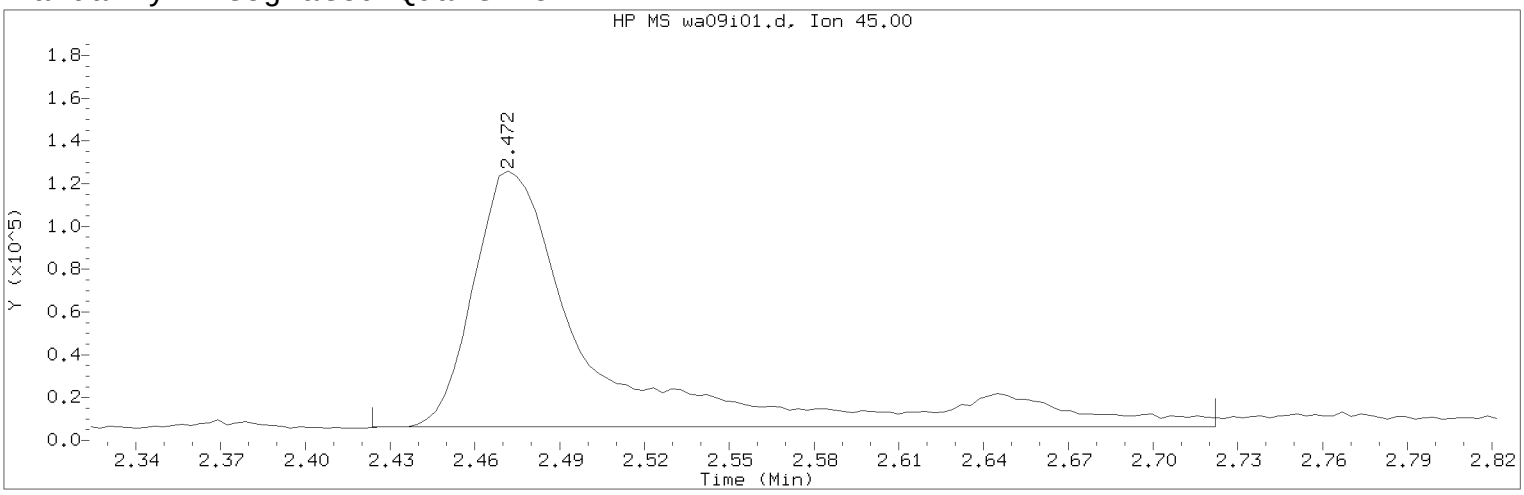
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
135) Benzyl Chloride	(4)	10.186	91	5955940	300.493
136) 1,3-Diethylbenzene	(4)	10.266	119	4218281	293.938
137) 1,4-Diethylbenzene	(4)	10.327	119	4341011	291.826
139) n-Butylbenzene	(4)	10.346	92	3379266	295.219
138) 1,2-Dichlorobenzene	(4)	10.353	146	4171010	290.683
140) 1,2-Diethylbenzene	(4)	10.411	119	3605887	292.707
141) Diethylbenzene (total)	(4)		100	12165179	878.472
142) 1,2-Dibromo-3-chloropropane	(4)	10.892	75	601896	288.550
144) 1,3,5-Trichlorobenzene	(4)	11.036	180	2675542	293.308
146) 1,2,4-Trichlorobenzene	(4)	11.447	180	2656741	293.968
147) Hexachlorobutadiene	(4)	11.559	225	775079	289.381
148) Naphthalene	(4)	11.614	128	8611713	262.609
149) 1,2,3-Trichlorobenzene	(4)	11.768	180	2519491	293.696
150) 2-Methylnaphthalene	(4)	12.336	142	5129337	297.188

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:06.
Target 3.5 esignature user ID: nsl01327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 11:16 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD300 Lab Sample ID: VSTD300

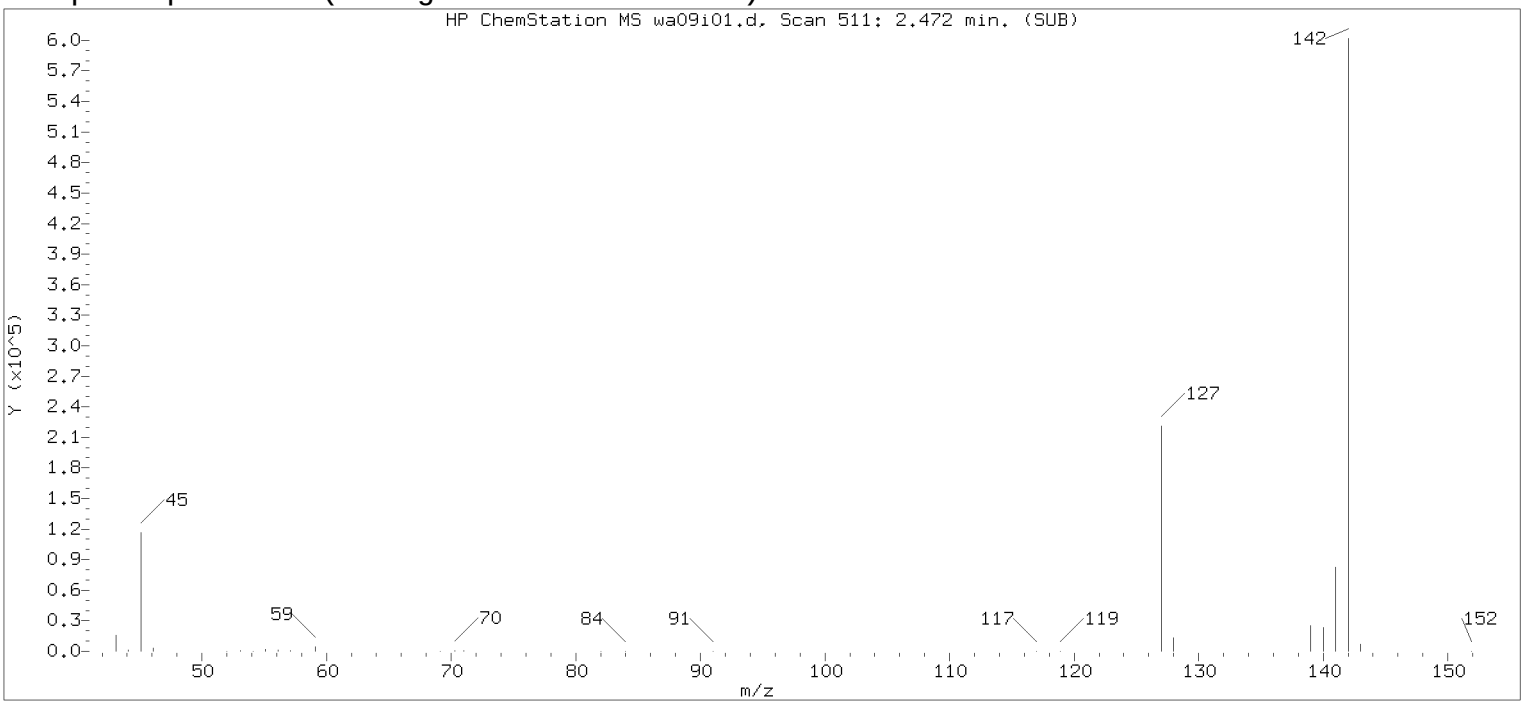
Compound Number : 21
Compound Name : 2-Propanol
Scan Number : 511
Retention Time (minutes): 2.472
Quant Ion : 45.00
Area (flag) : 373111M
On-Column Amount (ng) : 1106.0570
Integration start scan : 495 Integration stop scan: 588
Y at integration start : 6149 Y at integration end: 6149

Reason for manual integration: improper integration

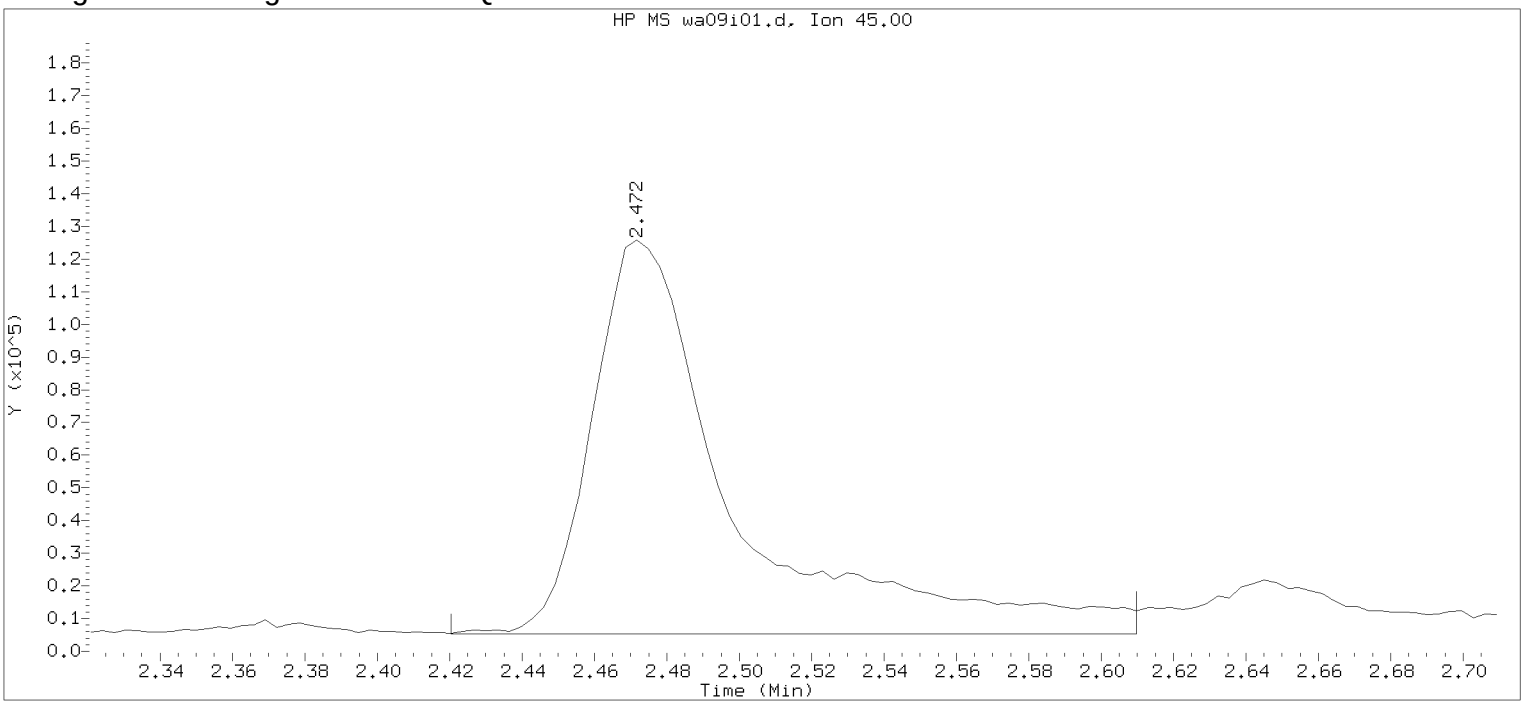
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:06.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:55.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 11:16 Analyst ID: nsl01327

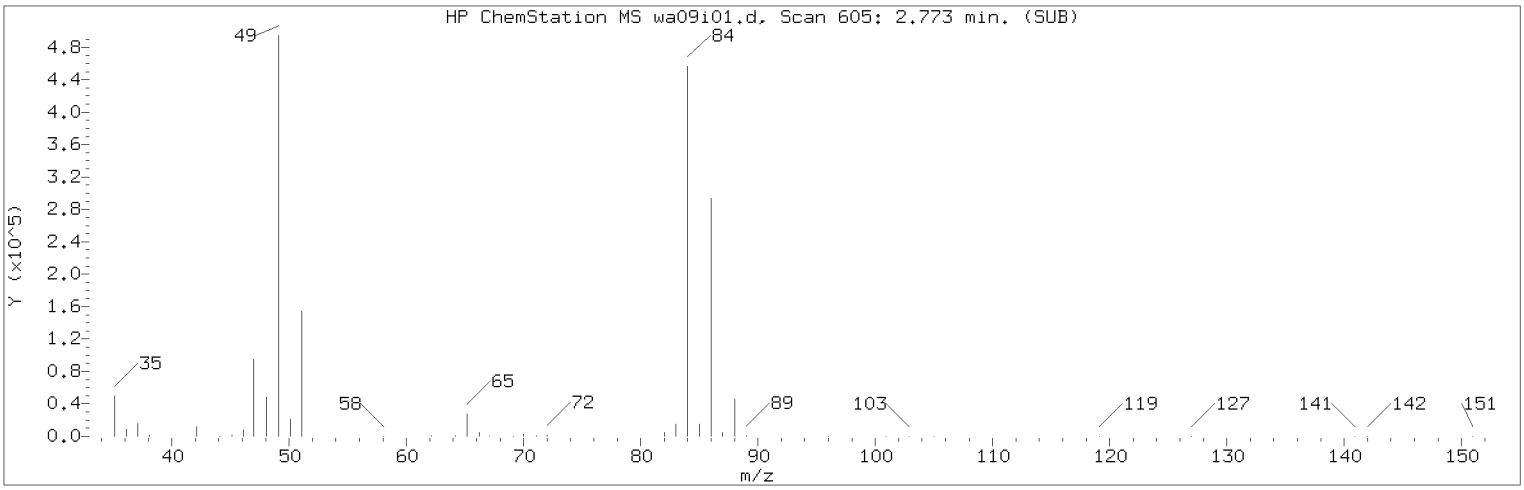
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 11:31
Date, time and analyst ID of latest file update: 09-Apr-2018 11:31 Automation

Sample Name: VSTD300 Lab Sample ID: VSTD300

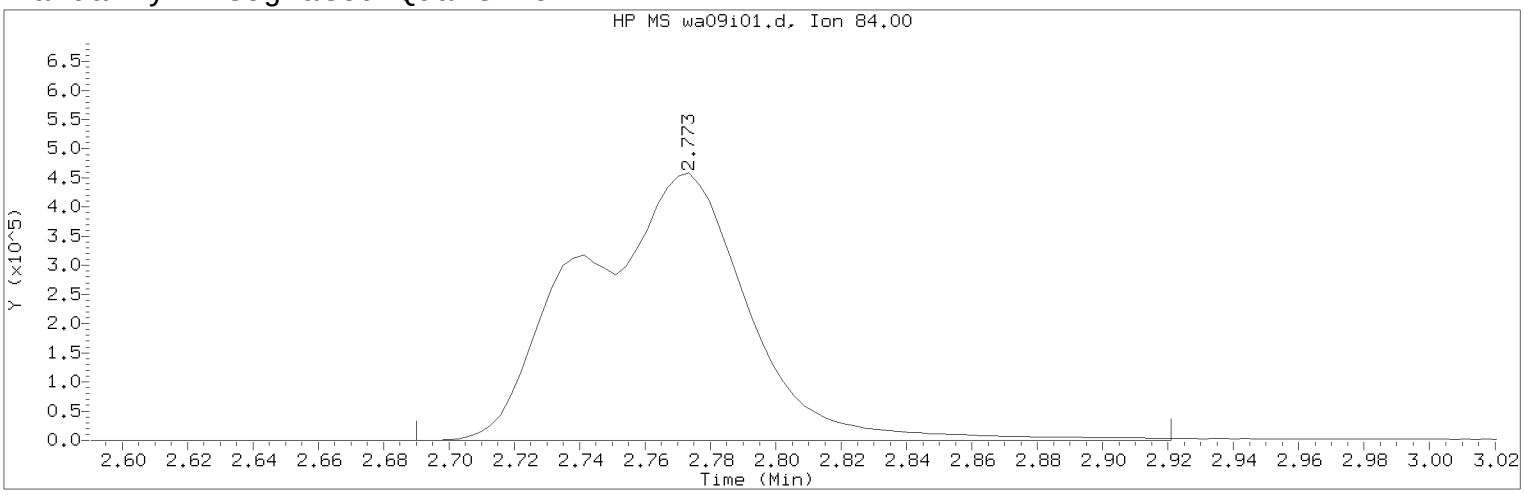
Compound Number : 21
Compound Name : 2-Propanol
Scan Number : 511
Retention Time (minutes): 2.472
Quant Ion : 45.00
Area : 326498
On-column Amount (ng) : 1027.3448
Integration start scan : 494 Integration stop scan: 553
Y at integration start : 5397 Y at integration end: 5397

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:06.
Target 3.5 esignature user id: 1327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 11:16 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD300 Lab Sample ID: VSTD300

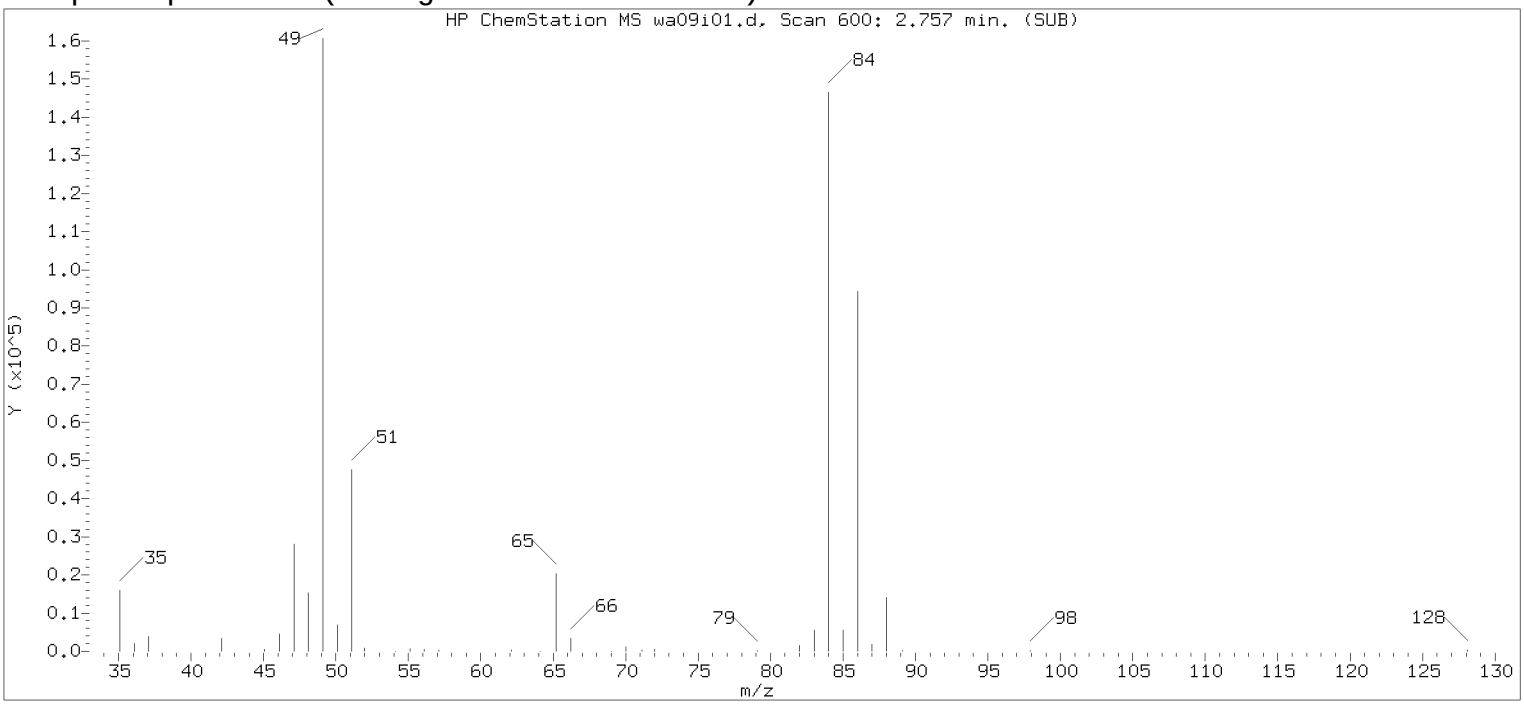
Compound Number : 28
Compound Name : Methylene Chloride
Scan Number : 605
Retention Time (minutes): 2.773
Quant Ion : 84.00
Area (flag) : 1620501M
On-Column Amount (ng) : 296.7566
Integration start scan : 578 Integration stop scan: 650
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

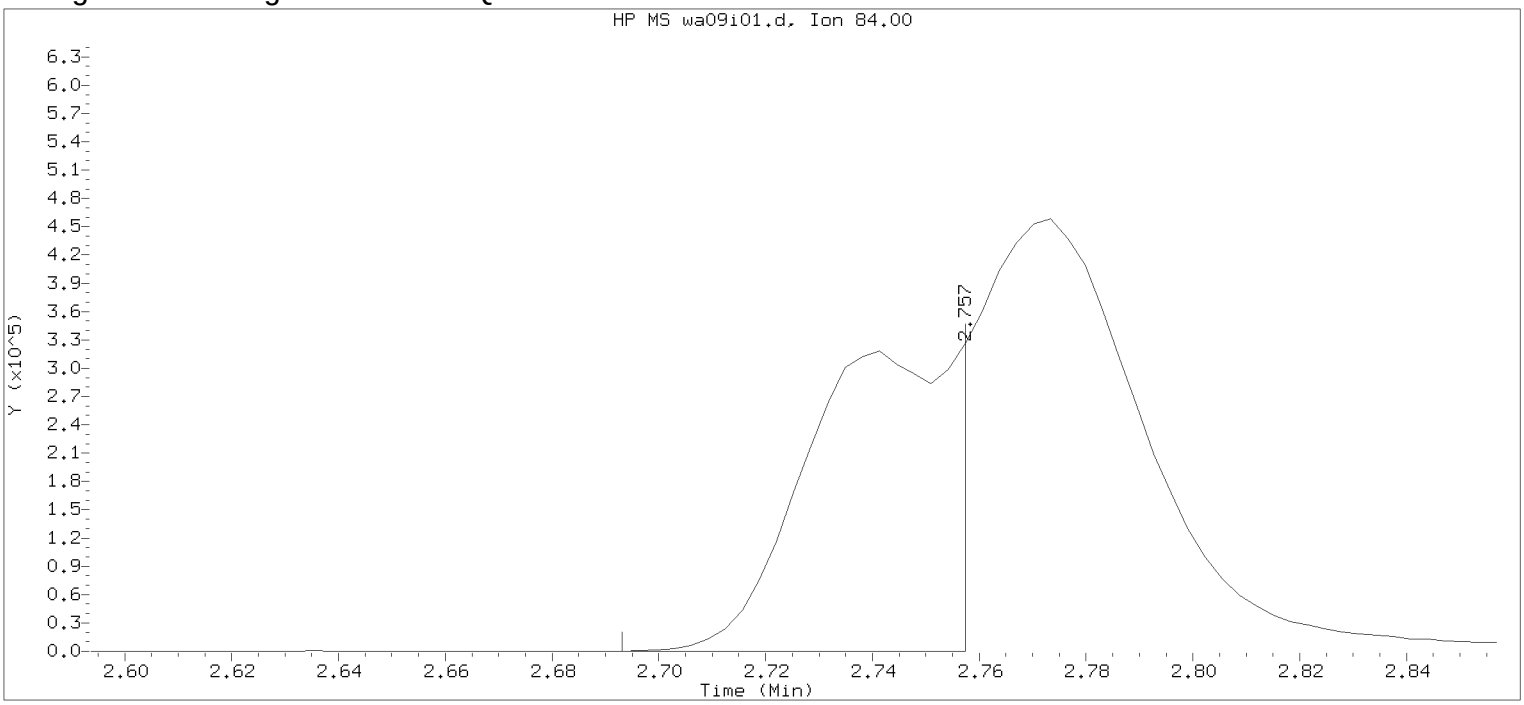
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:06.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:55.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 11:16 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 11:31
Date, time and analyst ID of latest file update: 09-Apr-2018 11:31 Automation

Sample Name: VSTD300 Lab Sample ID: VSTD300

Compound Number : 28
Compound Name : Methylene Chloride
Scan Number : 600
Retention Time (minutes): 2.757
Quant Ion : 84.00
Area : 617728
On-column Amount (ng) : 124.5995
Integration start scan : 579 Integration stop scan: 599
Y at integration start : 0 Y at integration end: 0

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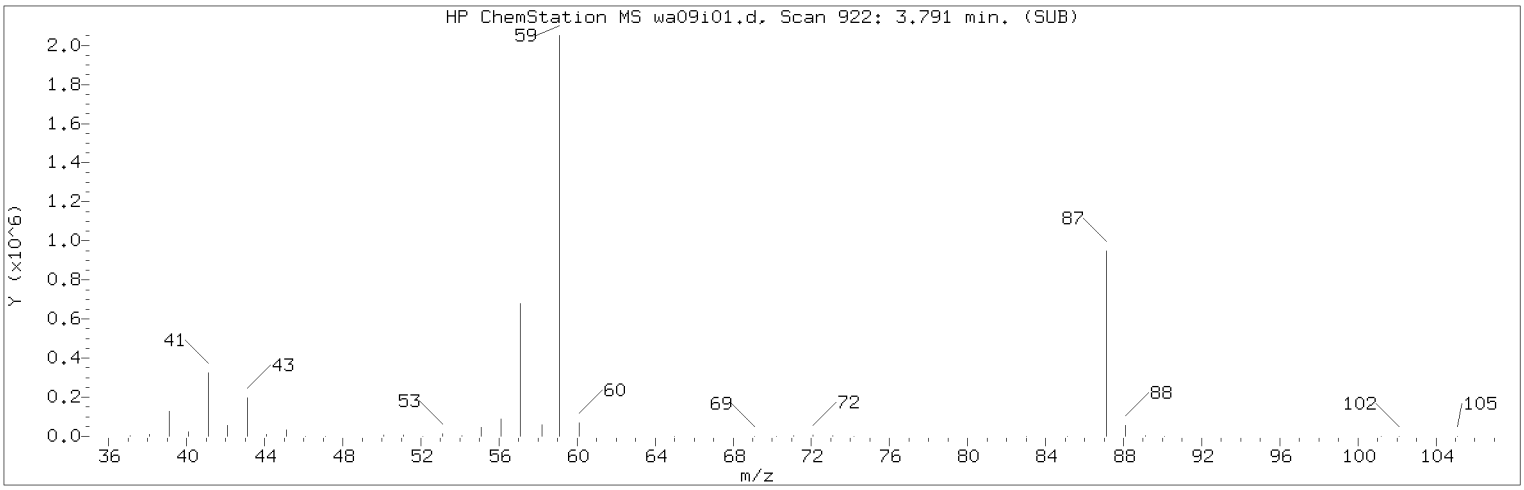
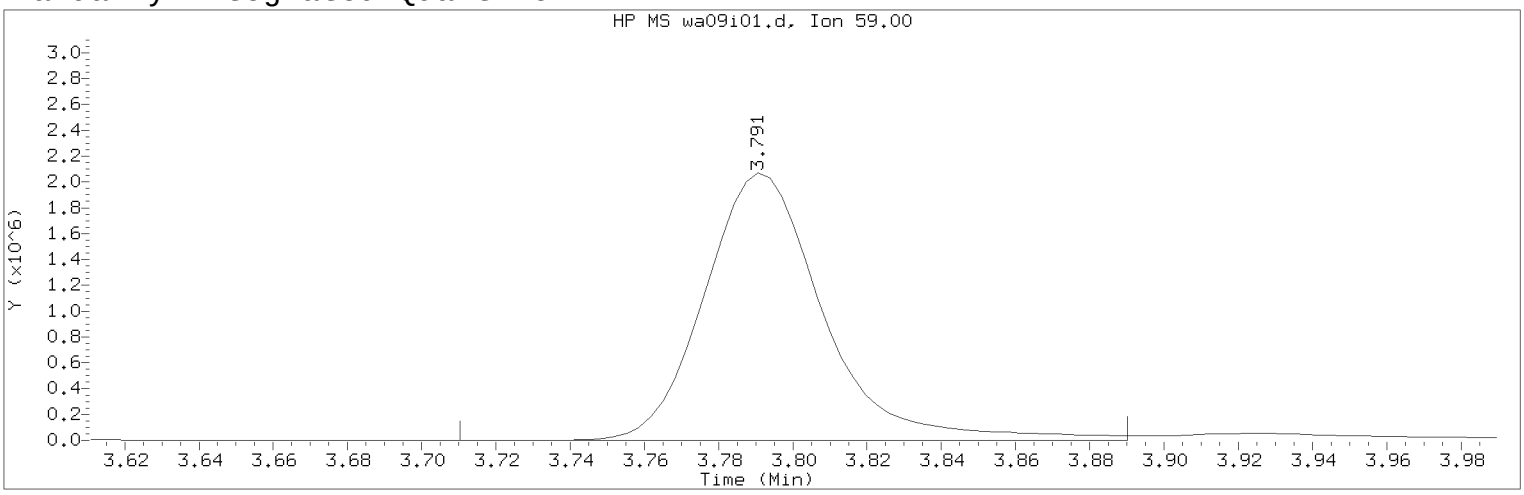
Target 3.5 esignature user id: 1327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 11:16 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD300 Lab Sample ID: VSTD300

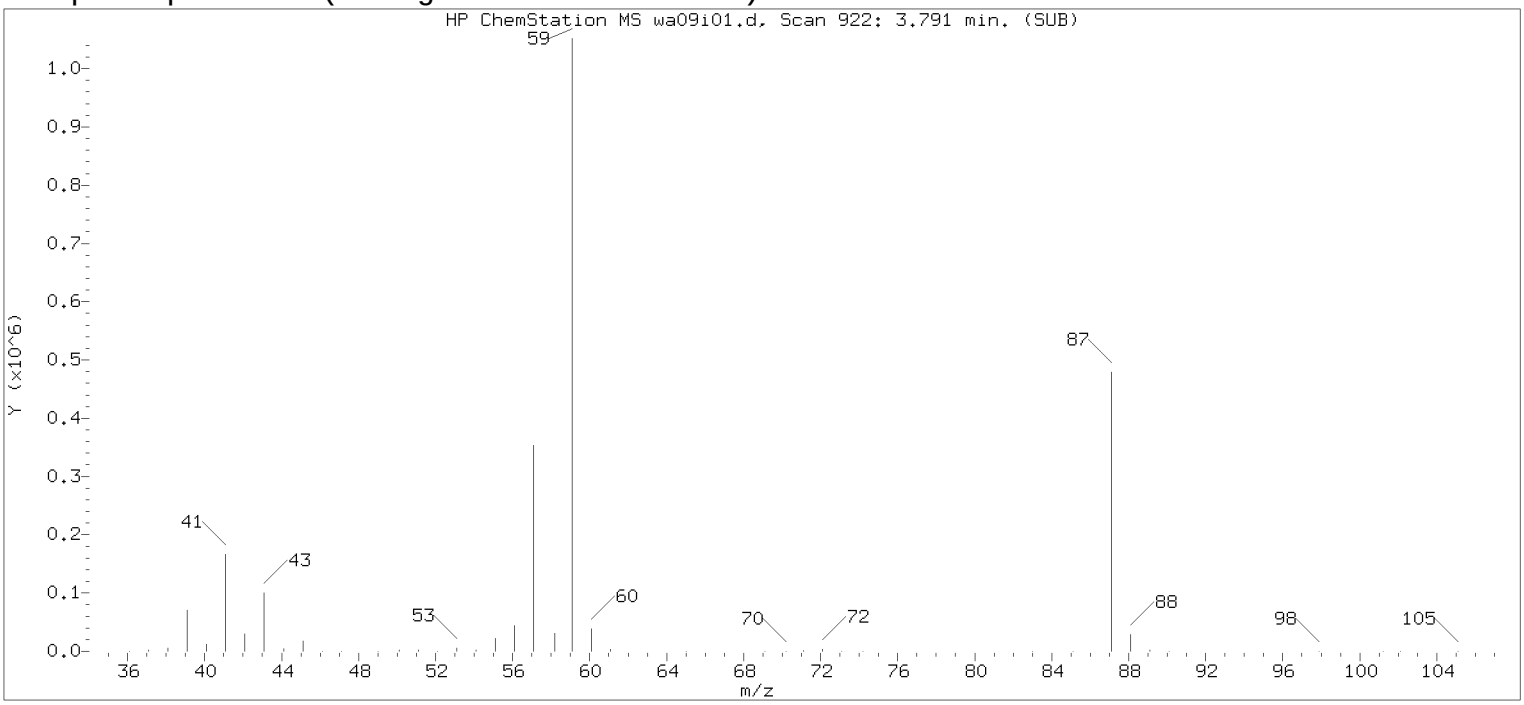
Compound Number : 40
Compound Name : Ethyl t-butyl ether
Scan Number : 922
Retention Time (minutes): 3.791
Quant Ion : 59.00
Area (flag) : 4601239M
On-Column Amount (ng) : 281.2976
Integration start scan : 896 Integration stop scan: 952
Y at integration start : 977 Y at integration end: 977

Reason for manual integration: improper integration

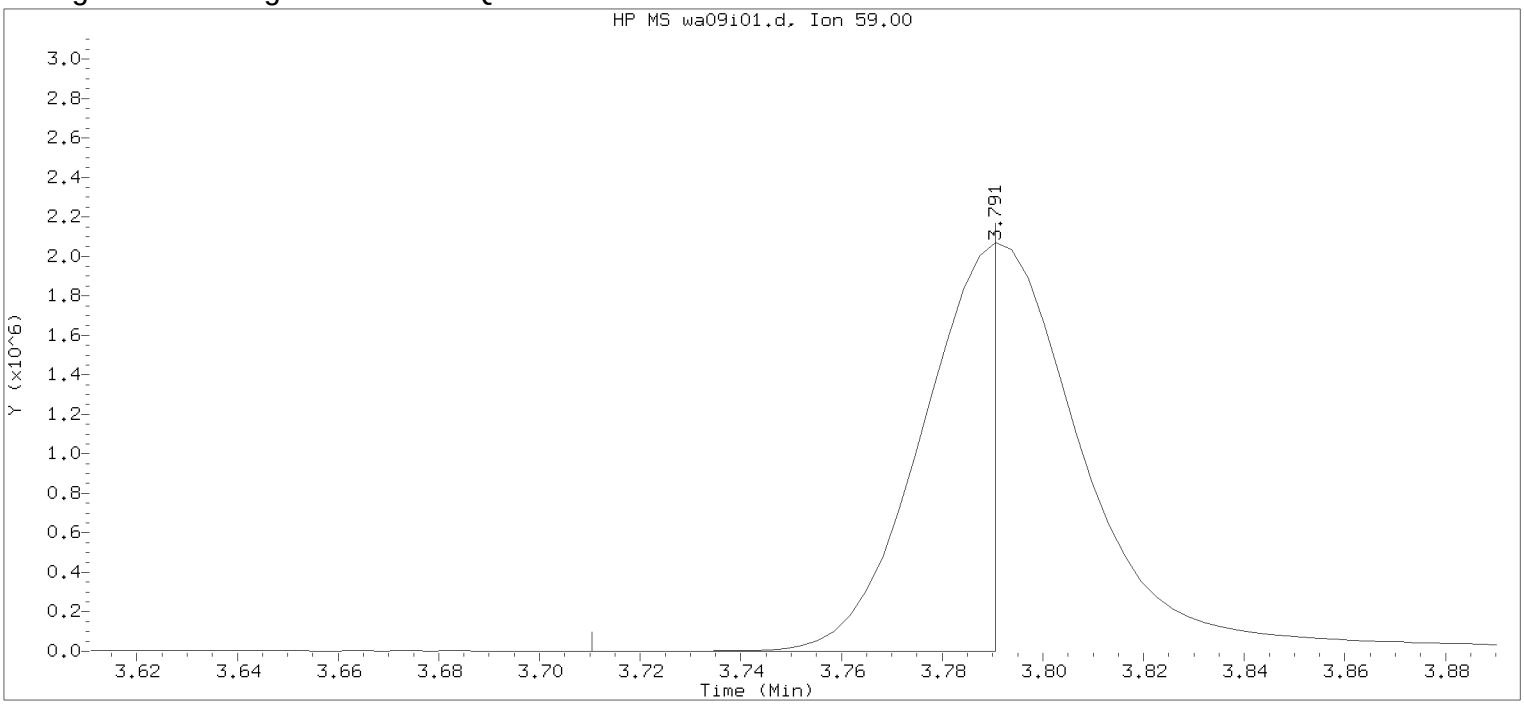
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:06.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:55.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 11:16 Analyst ID: nsl01327

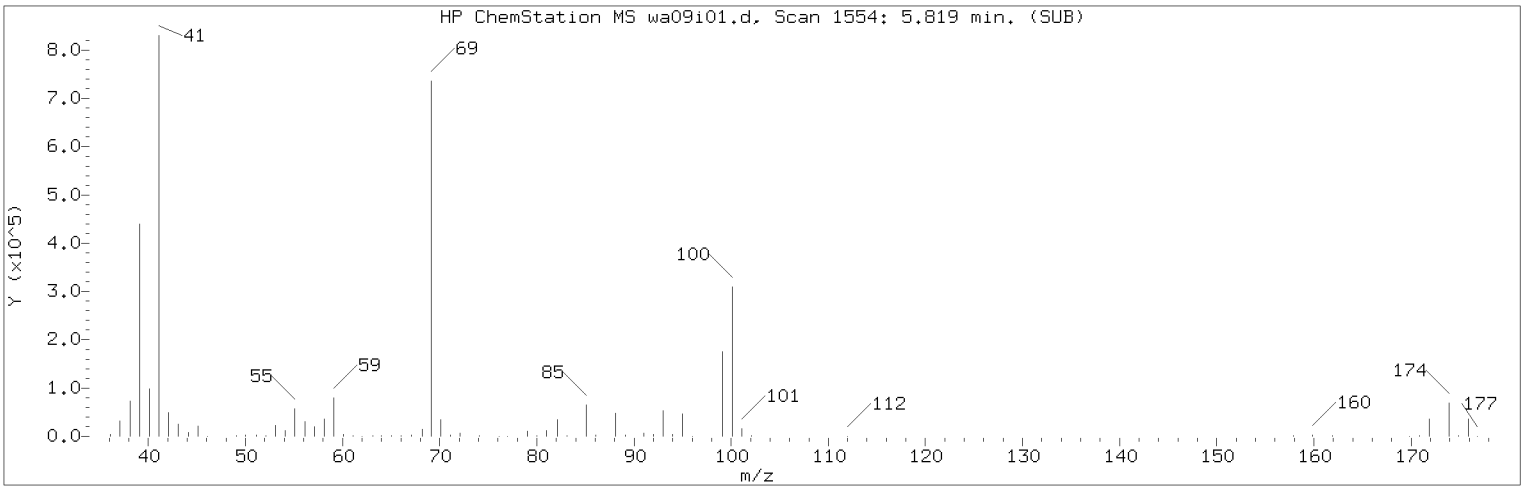
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 11:31
Date, time and analyst ID of latest file update: 09-Apr-2018 11:31 Automation

Sample Name: VSTD300 Lab Sample ID: VSTD300

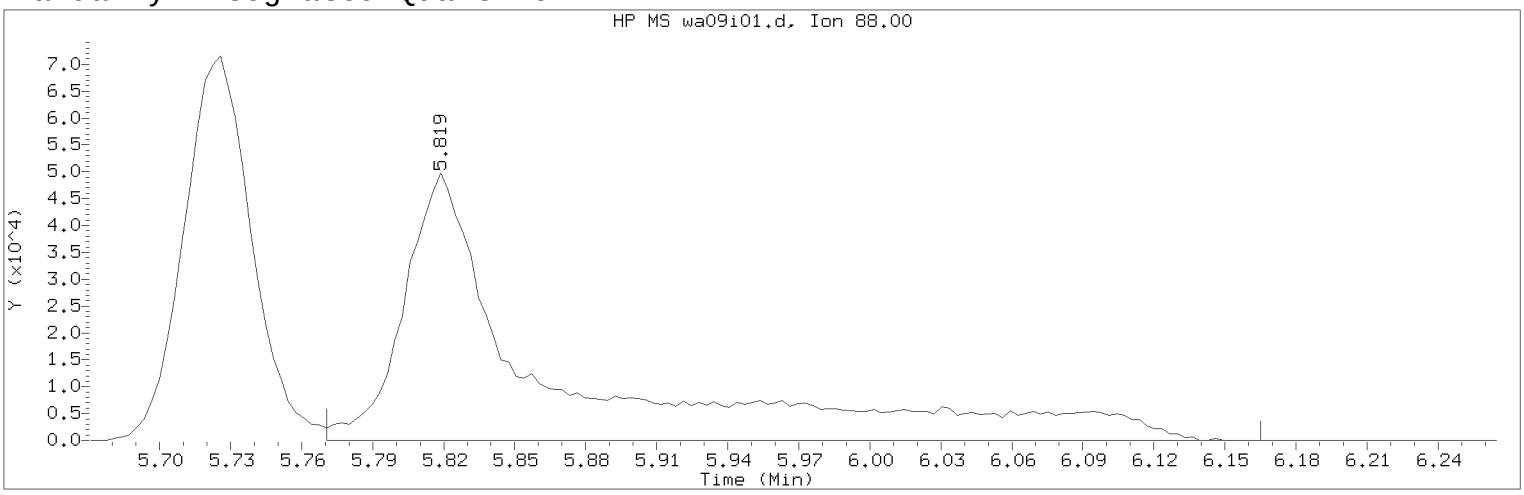
Compound Number : 40
Compound Name : Ethyl t-butyl ether
Scan Number : 922
Retention Time (minutes): 3.791
Quant Ion : 59.00
Area : 2035989
On-column Amount (ng) : 126.1561
Integration start scan : 896 Integration stop scan: 921
Y at integration start : 994 Y at integration end: 994

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:06.
Target 3.5 esignature user id: 1327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 11:16 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD300 Lab Sample ID: VSTD300

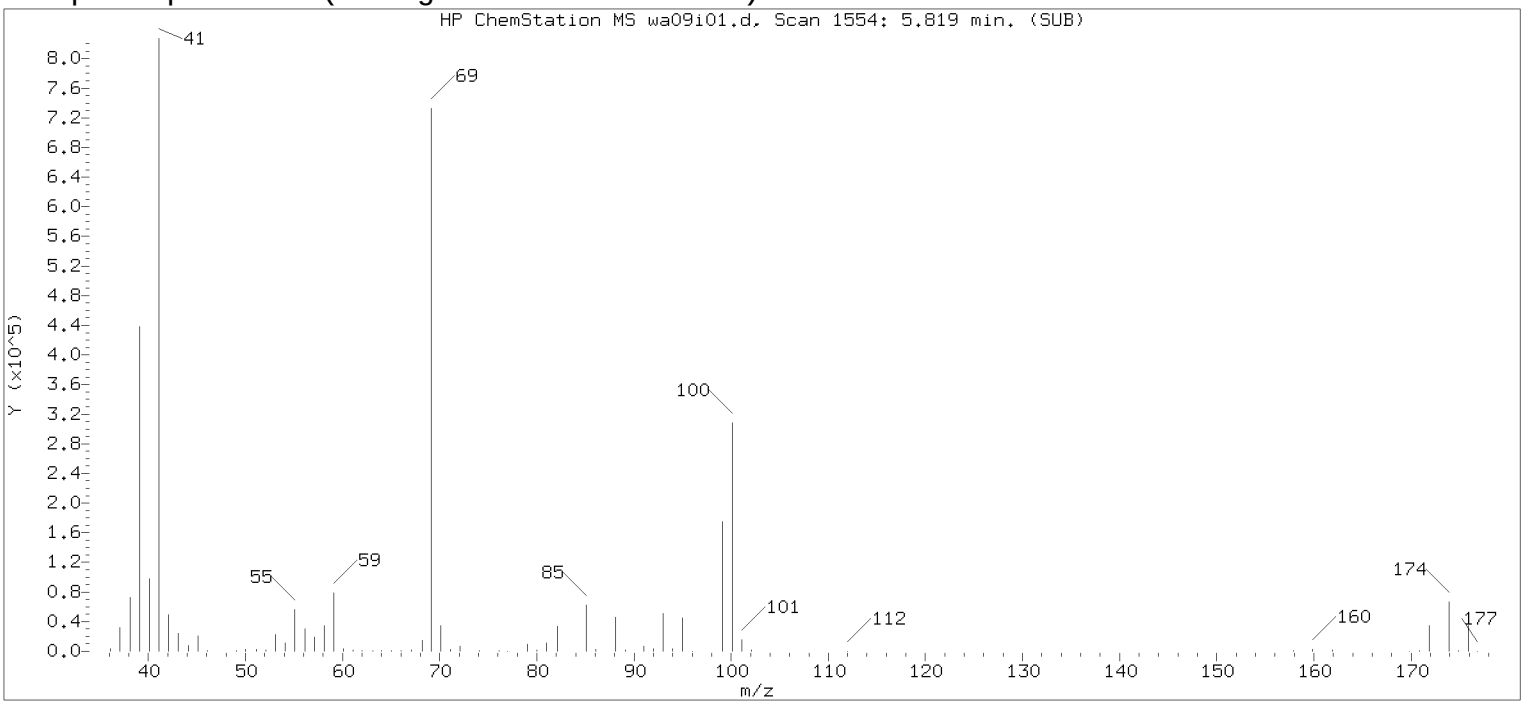
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 1554
Retention Time (minutes): 5.819
Quant Ion : 88.00
Area (flag) : 212311M
On-Column Amount (ng) : 4094.3520
Integration start scan : 1538 Integration stop scan: 1661
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

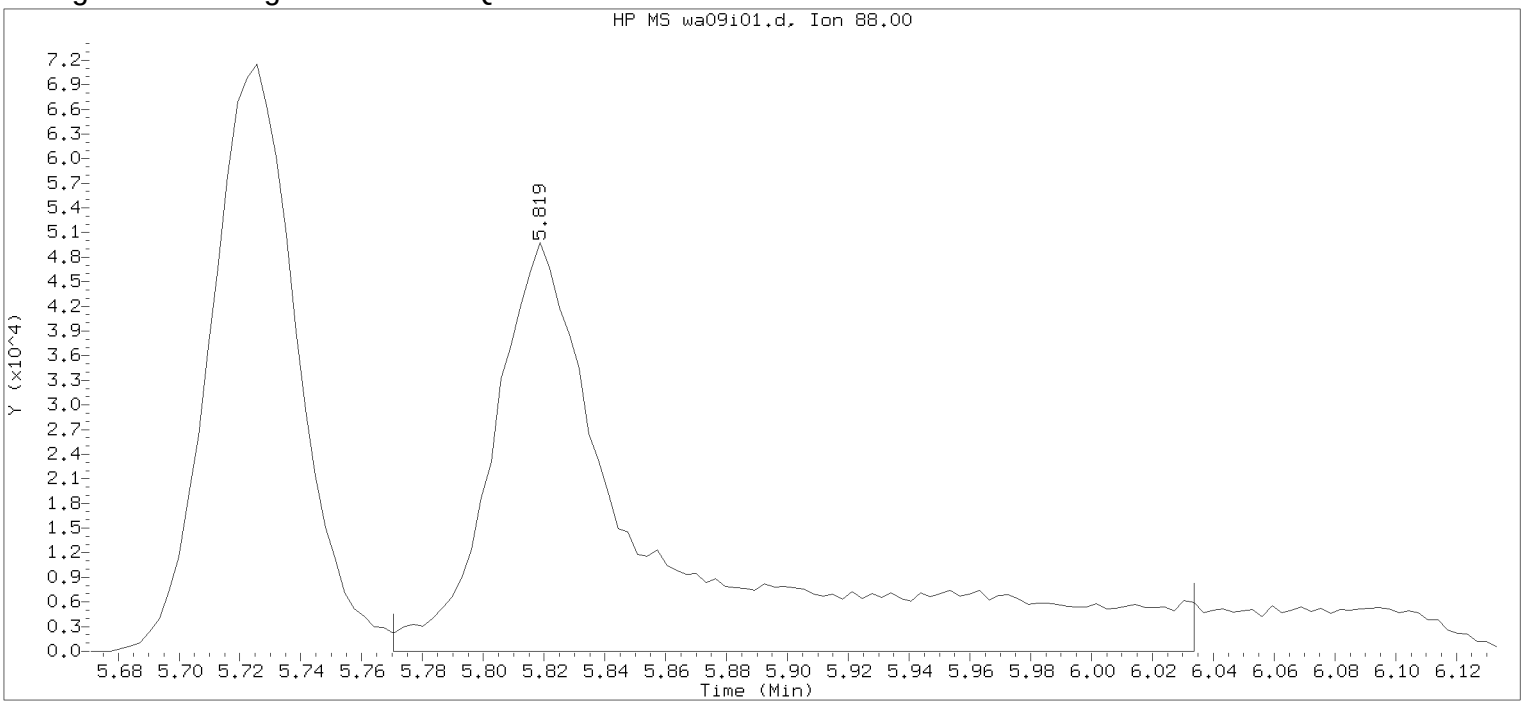
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:06.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:55.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 11:16 Analyst ID: nsl01327

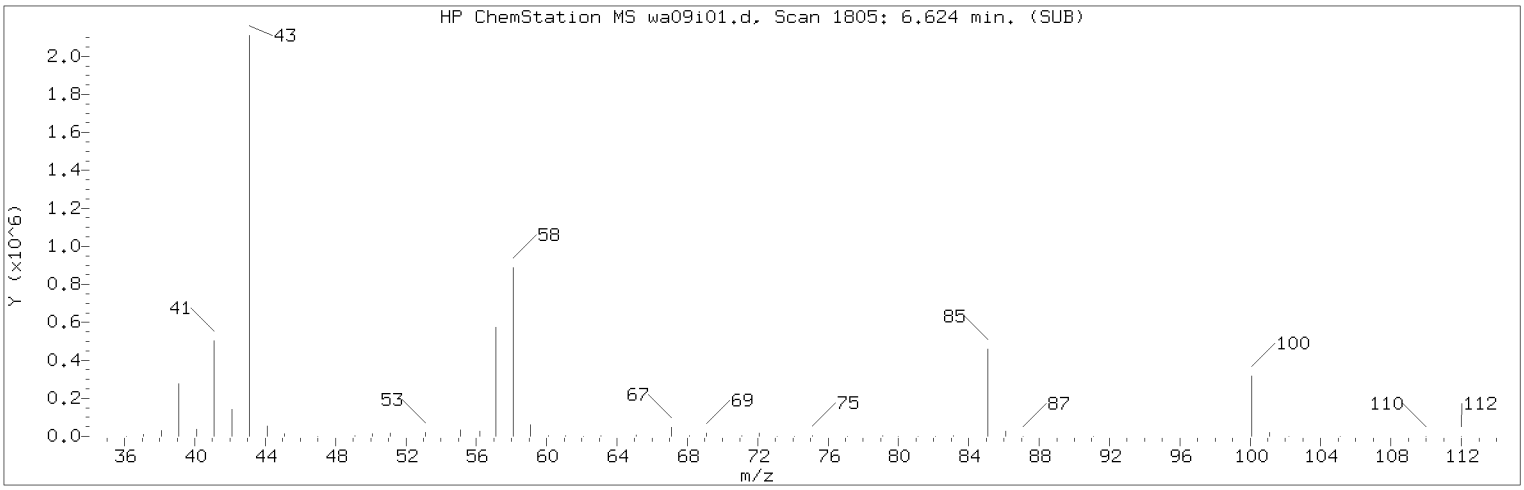
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 11:31
Date, time and analyst ID of latest file update: 09-Apr-2018 11:31 Automation

Sample Name: VSTD300 Lab Sample ID: VSTD300

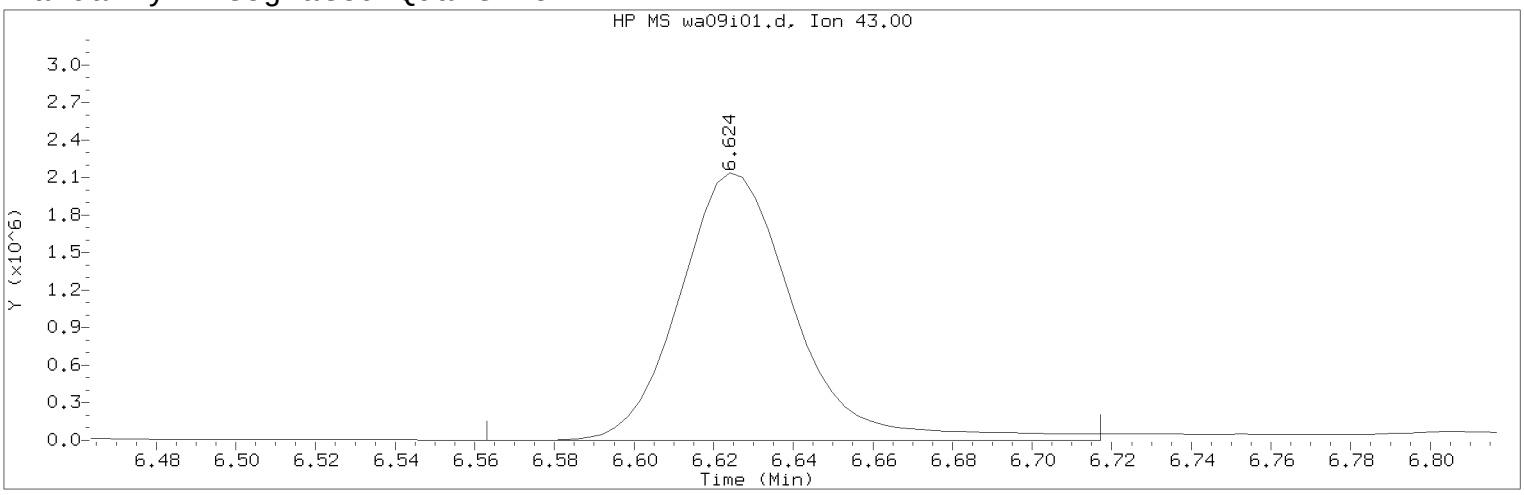
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 1554
Retention Time (minutes): 5.819
Quant Ion : 88.00
Area : 185973
On-column Amount (ng) : 4036.8700
Integration start scan : 1538 Integration stop scan: 1620
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:06.
Target 3.5 esignature user id: 1327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 11:16 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD300 Lab Sample ID: VSTD300

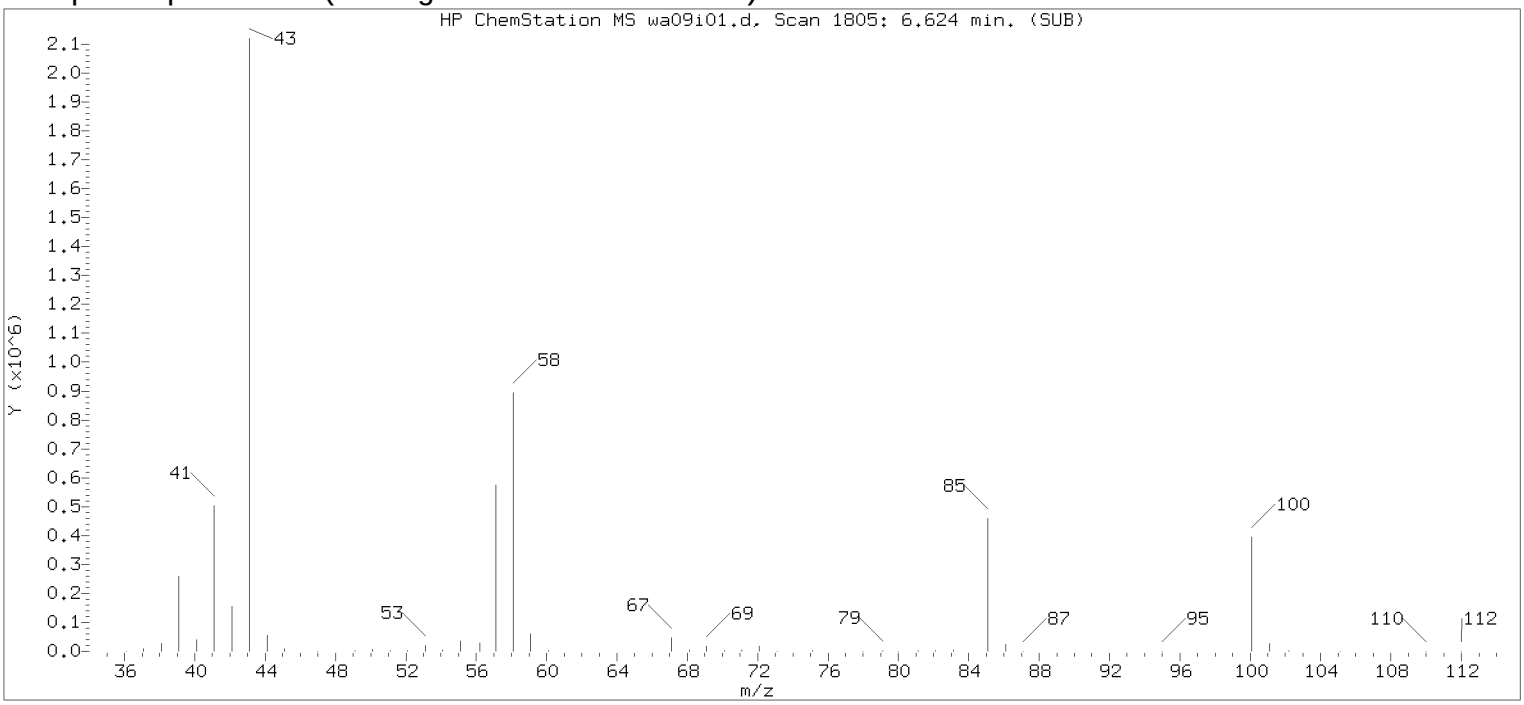
Compound Number : 82
Compound Name : 4-Methyl-2-pentanone
Scan Number : 1805
Retention Time (minutes): 6.624
Quant Ion : 43.00
Area (flag) : 4297653M
On-Column Amount (ng) : 534.5944
Integration start scan : 1785 Integration stop scan: 1833
Y at integration start : 860 Y at integration end: 860

Reason for manual integration: improper integration

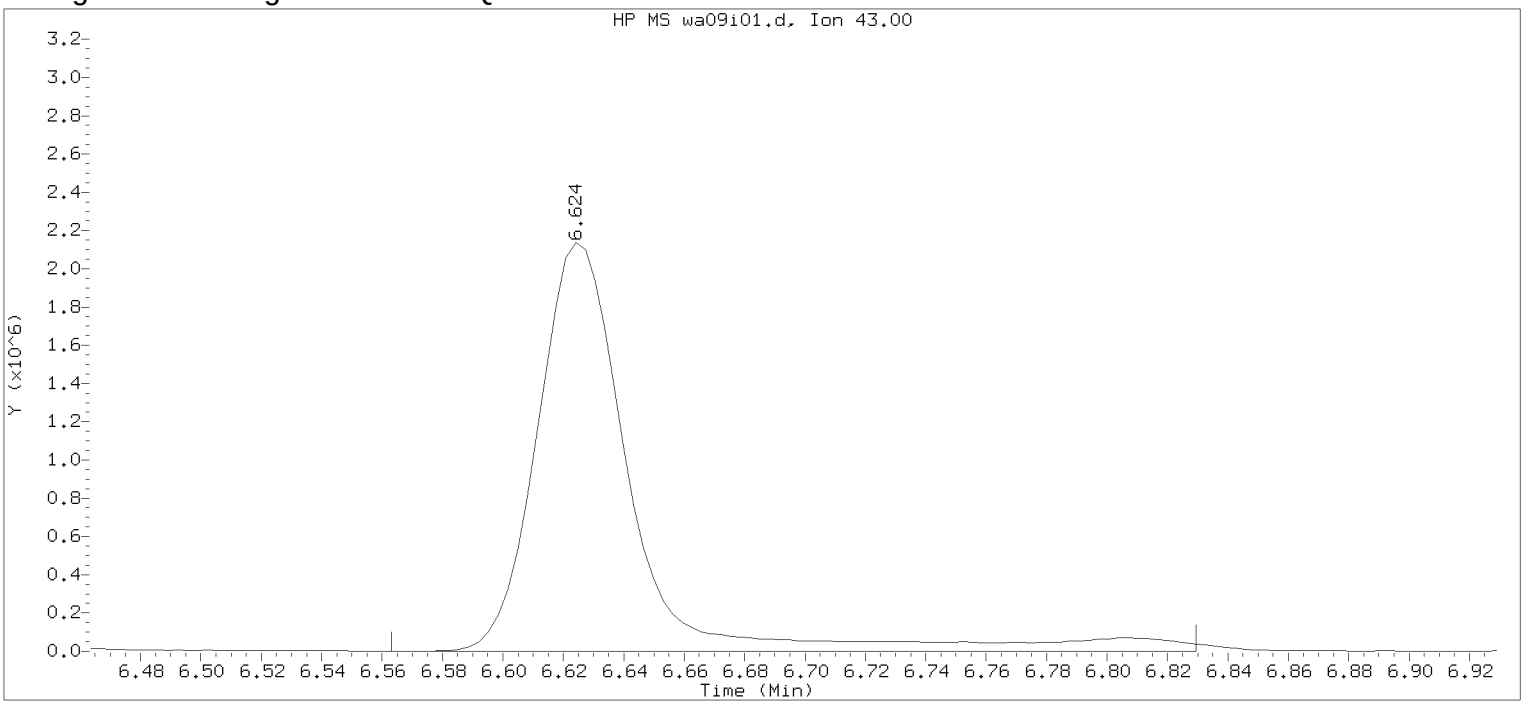
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:06.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:55.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 11:16 Analyst ID: nsl01327

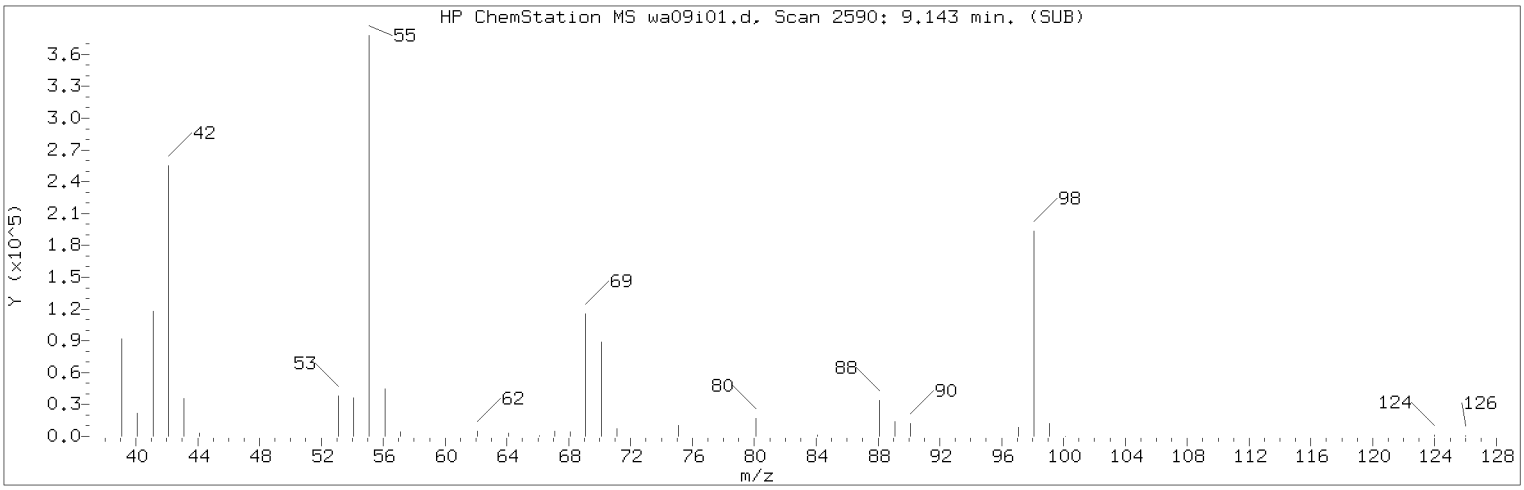
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 11:31
Date, time and analyst ID of latest file update: 09-Apr-2018 11:31 Automation

Sample Name: VSTD300 Lab Sample ID: VSTD300

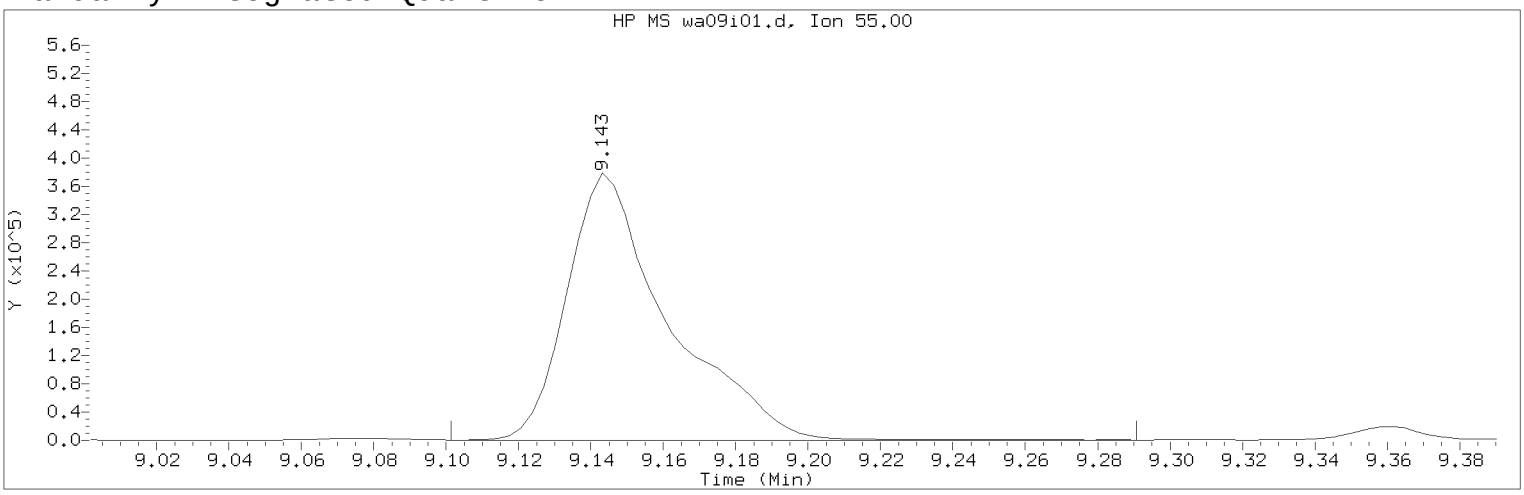
Compound Number : 82
Compound Name : 4-Methyl-2-pentanone
Scan Number : 1805
Retention Time (minutes): 6.624
Quant Ion : 43.00
Area : 4635677
On-column Amount (ng) : 515.8310
Integration start scan : 1785 Integration stop scan: 1868
Y at integration start : 860 Y at integration end: 860

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:06.
Target 3.5 esignature user id: nsl01327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 11:16 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD300 Lab Sample ID: VSTD300

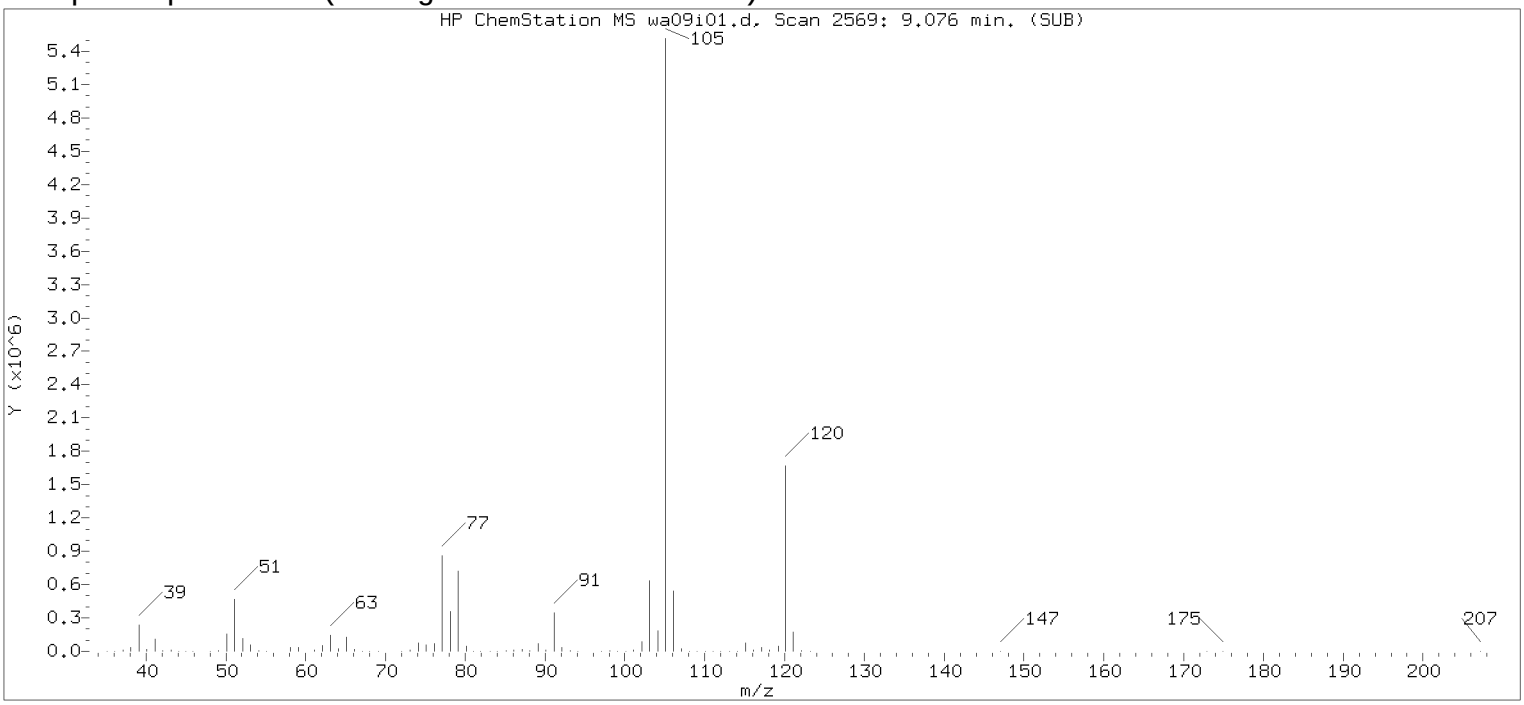
Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 2590
Retention Time (minutes): 9.143
Quant Ion : 55.00
Area (flag) : 732988A
On-Column Amount (ng) : 3067.7460
Integration start scan : 2576 Integration stop scan: 2635
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

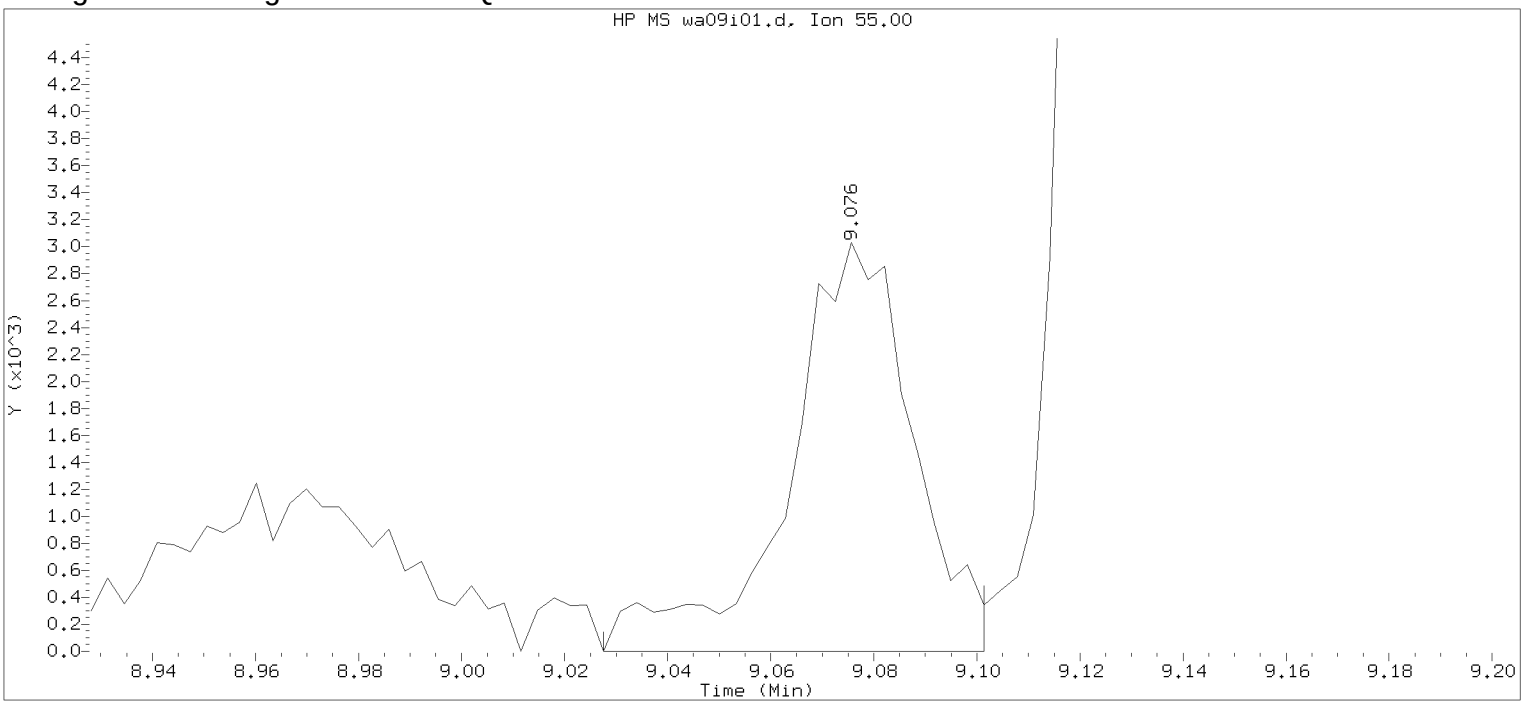
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:06.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:55.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



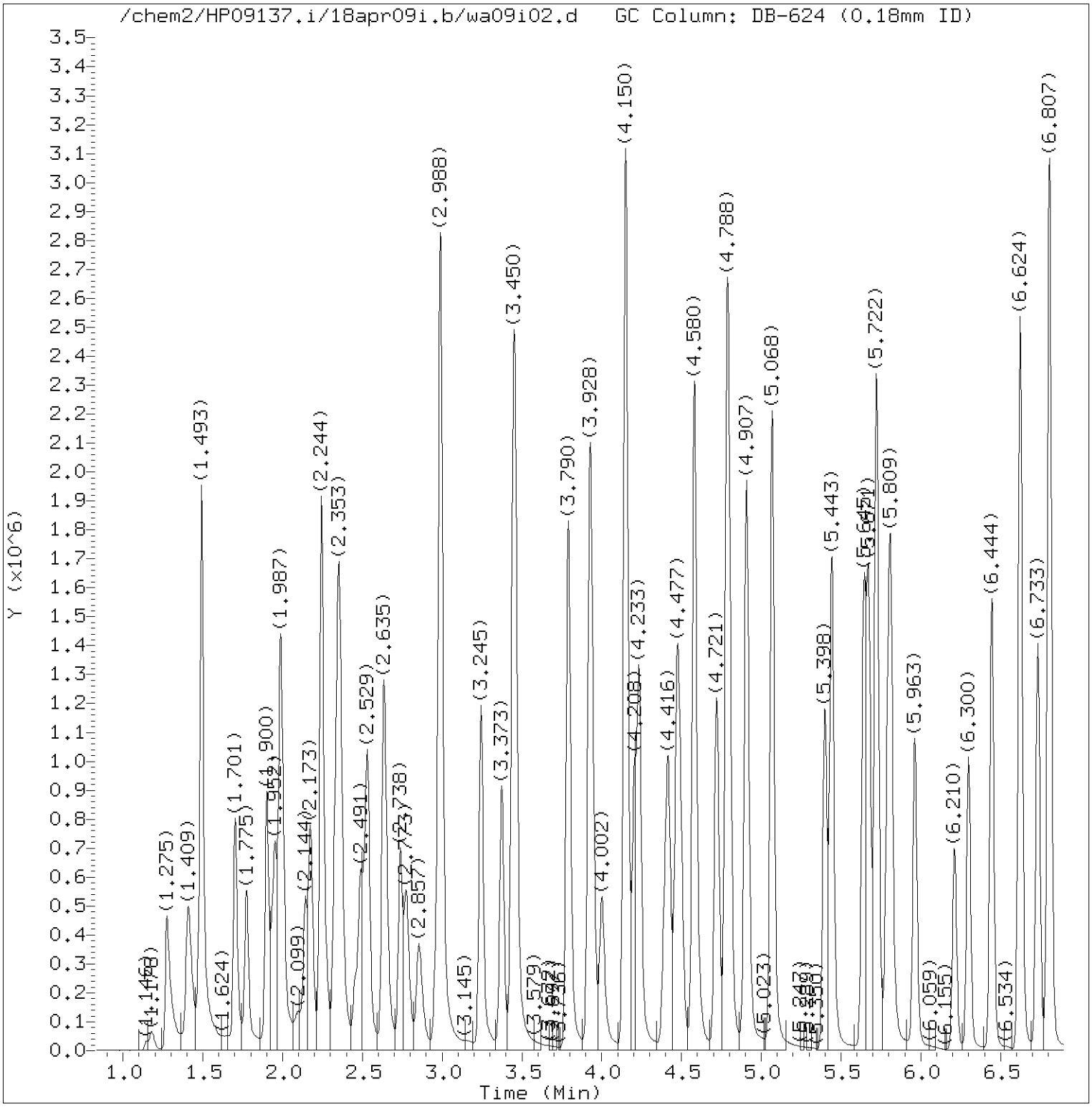
Data File: /chem2/HP09137.i/18apr09i.b/wa09i01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 11:16 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 11:31
Date, time and analyst ID of latest file update: 09-Apr-2018 11:31 Automation

Sample Name: VSTD300 Lab Sample ID: VSTD300

Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 2569
Retention Time (minutes): 9.076
Quant Ion : 55.00
Area : 5052
On-column Amount (ng) : 34.2415
Integration start scan : 2553 Integration stop scan: 2576
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:06.
Target 3.5 esignature user id: 1327



Total Ion Chromatogram (TIC)

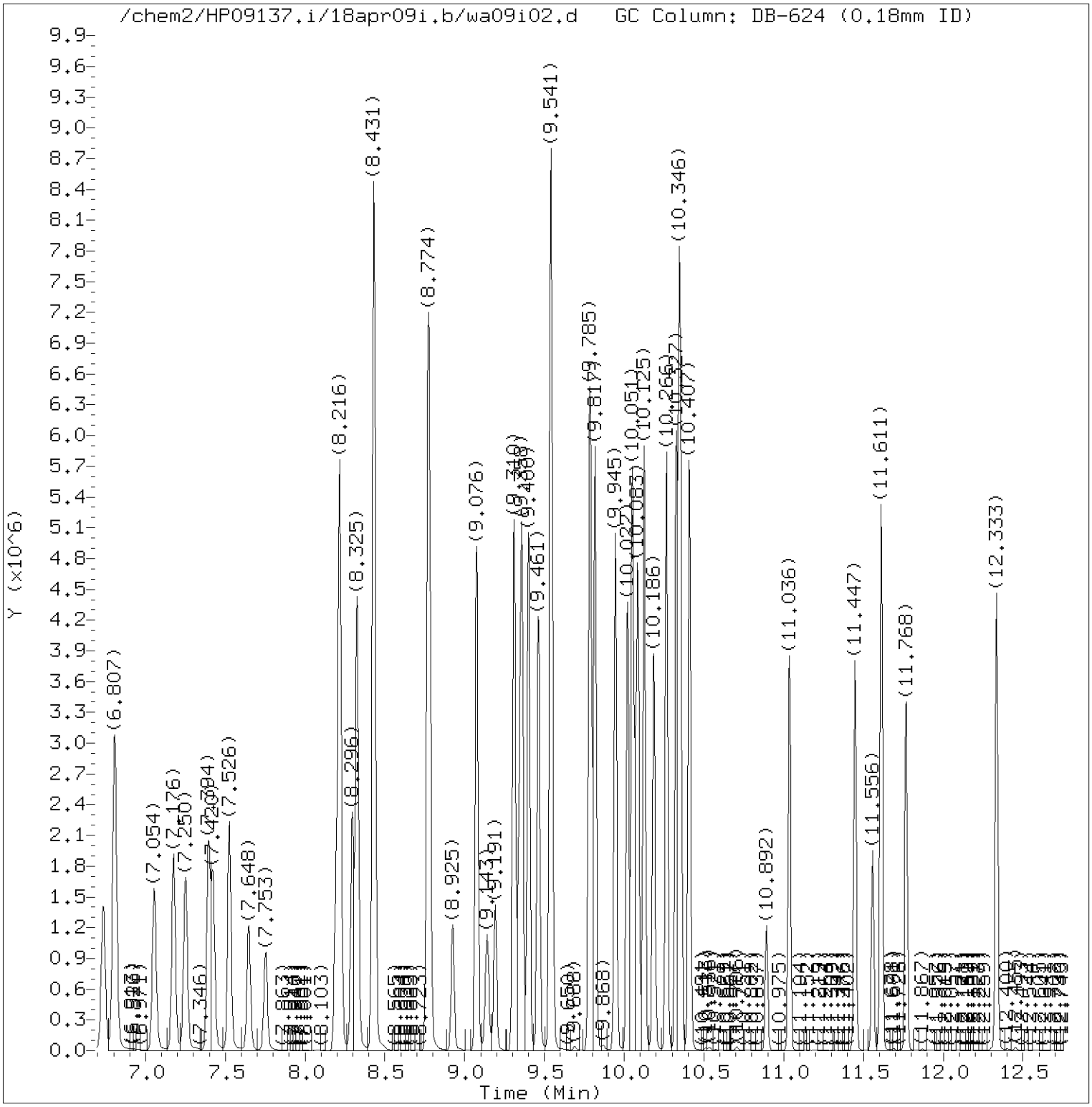
Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i02.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 11:39 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD100 Lab Sample ID: VSTD100

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:06.
Target 3.5 esignature user ID: nsl01327



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i02.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 11:39 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD100 Lab Sample ID: VSTD100

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:06.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i02.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 11:39 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD100 Lab Sample ID: VSTD100

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
3) Dichlorodifluoromethane	(2)	1.275	85	744751	107.390
4) Chloromethane	(2)	1.409	50	750436	101.024
6) Vinyl Chloride	(2)	1.483	62	798843	106.404
5) 1,3-Butadiene	(2)	1.493	39	524327	95.307
8) Bromomethane	(2)	1.701	94	554689	101.708
9) Chloroethane	(2)	1.775	64	463088	103.326
10) Dichlorofluoromethane	(2)	1.900	67	777551	82.332
12) Trichlorofluoromethane	(2)	1.952	101	909589	108.960
11) n-Pentane	(2)	1.990	43	847643	95.651
13) Ethanol	(1)	2.103	45	166839	2495.535
15) Freon 123a	(2)	2.173	67	597705	96.941
16) Acrolein	(1)	2.244	56	1786873	950.991
17) 1,1-Dichloroethene	(2)	2.346	96	475235	102.227
17) 1,1-Dichloroethene	(2)	2.343	63	224926	104.128
19) Freon 113	(2)	2.353	101	504021	106.982
18) Acetone	(1)	2.369	58	156430	198.173
22) Methyl Iodide	(2)	2.488	142	931187	103.146
21) 2-Propanol	(1)	2.507	45	276239M	506.113
23) Carbon Disulfide	(2)	2.533	76	1625252	105.949
25) Allyl Chloride	(2)	2.632	41	757941	102.146
27) Methyl Acetate	(2)	2.651	43	581619	107.109
28) Methylene Chloride	(2)	2.738	84	538074	99.603
29)*t-Butyl alcohol-d10	(1)	2.786	65	231548	250.000
30) t-Butyl alcohol	(1)	2.857	59	548851	551.515
31) Acrylonitrile	(2)	2.959	53	313487	113.269
32) trans-1,2-Dichloroethene	(2)	2.988	96	537925	105.141
33) Methyl Tertiary Butyl Ether	(2)	2.991	73	1814048	104.593
34) n-Hexane	(2)	3.245	57	613166	103.046
36) 1,1-Dichloroethane	(2)	3.373	63	906106	104.404
38) di-Isopropyl ether	(2)	3.444	45	1645644	101.293
39) 2-Chloro-1,3-butadiene	(2)	3.460	53	798932	104.175
40) Ethyl t-butyl ether	(2)	3.790	59	1667300	103.035
42) cis-1,2-Dichloroethene	(2)	3.925	96	602801	104.412
45) 2,2-Dichloropropane	(2)	3.925	77	468176	99.830
44) 2-Butanone	(2)	3.945	43	850598	220.505
47) Propionitrile	(1)	4.002	54	602108	483.971
43) 1,2-Dichloroethene (Total)	(2)		96	1140726	209.552
48) Methacrylonitrile	(2)	4.147	67	889948	272.463

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

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:06.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i02.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 11:39 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD100 Lab Sample ID: VSTD100

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
49) Bromochloromethane	(2)	4.153	128	308227	104.900
50) Tetrahydrofuran	(1)	4.204	71	254372	191.212
51) Chloroform	(2)	4.237	83	918754	103.256
52)$Dibromofluoromethane	(2)	4.391	113	244306	50.381
52)$Dibromofluoromethane	(2)	4.391	111	250389	50.417
53) 1,1,1-Trichloroethane	(2)	4.416	97	818194	103.326
54) Cyclohexane	(2)	4.477	56	850232	105.518
54) Cyclohexane	(2)	4.480	84	769946	103.784
54) Cyclohexane	(2)	4.477	69	273697	104.463
55) 1,1-Dichloropropene	(2)	4.580	75	735694	103.822
56) Carbon Tetrachloride	(2)	4.583	117	651202	108.588
58) Isobutyl Alcohol	(1)	4.718	41	425998M	1304.999
57)$1,2-Dichloroethane-d4	(2)	4.727	102	64516	50.670
57)$1,2-Dichloroethane-d4	(2)	4.727	65	283245	49.501
57)$1,2-Dichloroethane-d4	(2)	4.727	104	42168	51.130
60) Benzene	(2)	4.785	78	2192202	102.892
61) 1,2-Dichloroethane	(2)	4.801	62	741727	99.842
61) 1,2-Dichloroethane	(2)	4.804	98	76648	104.709
65) t-Amyl methyl ether	(2)	4.907	73	1751274	103.690
66)*Fluorobenzene	(2)	5.068	96	1063731	50.000
67) n-Heptane	(2)	5.071	43	507620	95.116
69) n-Butanol	(1)	5.398	56	794865	2587.773
71) Trichloroethene	(2)	5.440	95	583951	103.240
72) Methylcyclohexane	(2)	5.645	83	798234	104.963
72) Methylcyclohexane	(2)	5.642	98	377491	105.620
73) 1,2-Dichloropropane	(2)	5.671	63	568039	105.289
74) Dibromomethane	(2)	5.790	93	384778	105.174
76) Methyl Methacrylate	(2)	5.812	69	600802	104.239
75) 1,4-Dioxane	(1)	5.835	88	97157M	1158.003
78) Bromodichloromethane	(2)	5.963	83	729255	105.420
79) 2-Nitropropane	(2)	6.213	41	449010	234.447
80) 2-Chloroethyl Vinyl Ether	(2)	6.300	63	469731	106.892
81) cis-1,3-Dichloropropene	(2)	6.444	75	973608	106.745
82) 4-Methyl-2-pentanone	(2)	6.624	43	1730319M	217.571
83)$Toluene-d8	(3)	6.733	98	1055061	49.837
83)$Toluene-d8	(3)	6.736	100	700151	49.073
88) Toluene	(3)	6.807	92	1484206	102.353
89) trans-1,3-Dichloropropene	(3)	7.054	75	922001	106.721

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

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:06.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i02.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 11:39 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD100 Lab Sample ID: VSTD100

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
91) Ethyl Methacrylate	(3)	7.176	69	1040651	104.058
92) 1,1,2-Trichloroethane	(3)	7.250	97	584916	102.624
90) 1,3-Dichloropropene (total)	(3)		100	1895609	213.466
93) Tetrachloroethene	(3)	7.394	166	604410	102.431
94) 1,3-Dichloropropane	(3)	7.423	76	963550	102.278
96) 2-Hexanone	(3)	7.526	43	1363305	214.180
97) Dibromochloromethane	(3)	7.648	129	636535	109.822
99) 1,2-Dibromoethane	(3)	7.753	107	646301	104.101
100)*Chlorobenzene-d5	(3)	8.193	117	825664	50.000
102) Chlorobenzene	(3)	8.219	112	1702590	103.055
103) 1,1,1,2-Tetrachloroethane	(3)	8.296	131	573255	108.025
104) Ethylbenzene	(3)	8.325	91	2777080	103.510
106) m+p-Xylene	(3)	8.431	106	2296303	209.425
107) o-Xylene	(3)	8.768	106	1153409	105.319
109) Styrene	(3)	8.780	104	2001994	106.995
108) Xylene (Total)	(3)		106	3449712	314.744
110) Bromoform	(3)	8.925	173	479749	115.334
111) Isopropylbenzene	(3)	9.076	105	2751298	105.610
112) Cyclohexanone	(1)	9.143	55	393773	1018.571
114)$4-Bromofluorobenzene	(3)	9.191	95	406274	50.809
114)$4-Bromofluorobenzene	(3)	9.191	174	333443	51.109
115) Bromobenzene	(4)	9.307	156	764662	101.487
116) 1,1,2,2-Tetrachloroethane	(4)	9.313	83	974478	100.496
117) 1,2,3-Trichloropropane	(4)	9.342	110	304586	100.015
118) trans-1,4-Dichloro-2-butene	(4)	9.358	53	699993	262.622
119) n-Propylbenzene	(4)	9.400	91	3150749	100.113
120) 2-Chlorotoluene	(4)	9.461	126	698260	100.824
122) 1,3,5-Trimethylbenzene	(4)	9.538	105	2407058	102.938
121) 4-Chlorotoluene	(4)	9.547	126	755127	101.873
124) tert-Butylbenzene	(4)	9.785	134	530158	102.264
125) Pentachloroethane	(4)	9.794	167	435097	108.717
126) 1,2,4-Trimethylbenzene	(4)	9.817	105	2508002	102.554
127) sec-Butylbenzene	(4)	9.945	105	2698410	101.924
129) 1,3-Dichlorobenzene	(4)	10.022	146	1435765	100.842
130) p-Isopropyltoluene	(4)	10.051	119	2457826	103.205
131)*1,4-Dichlorobenzene-d4	(4)	10.070	152	461030	50.000
133) 1,4-Dichlorobenzene	(4)	10.086	146	1492455	100.762
134) 1,2,3-Trimethylbenzene	(4)	10.125	105	2562342	101.719

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

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:06.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i02.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 11:39 Analyst ID: nsl01327

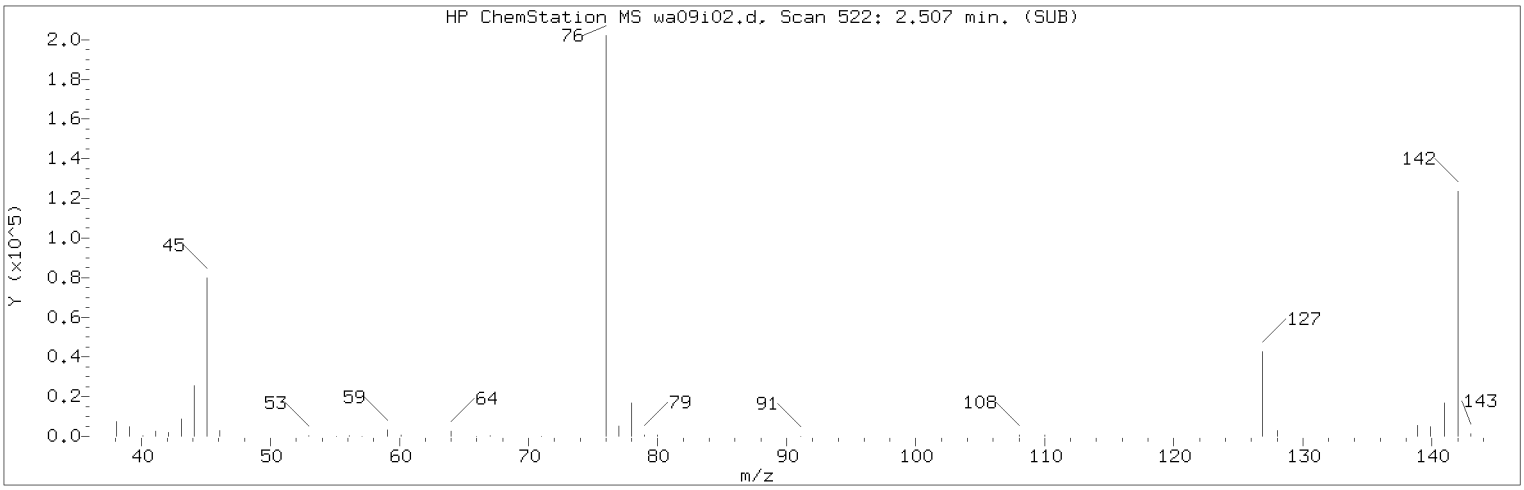
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD100 Lab Sample ID: VSTD100

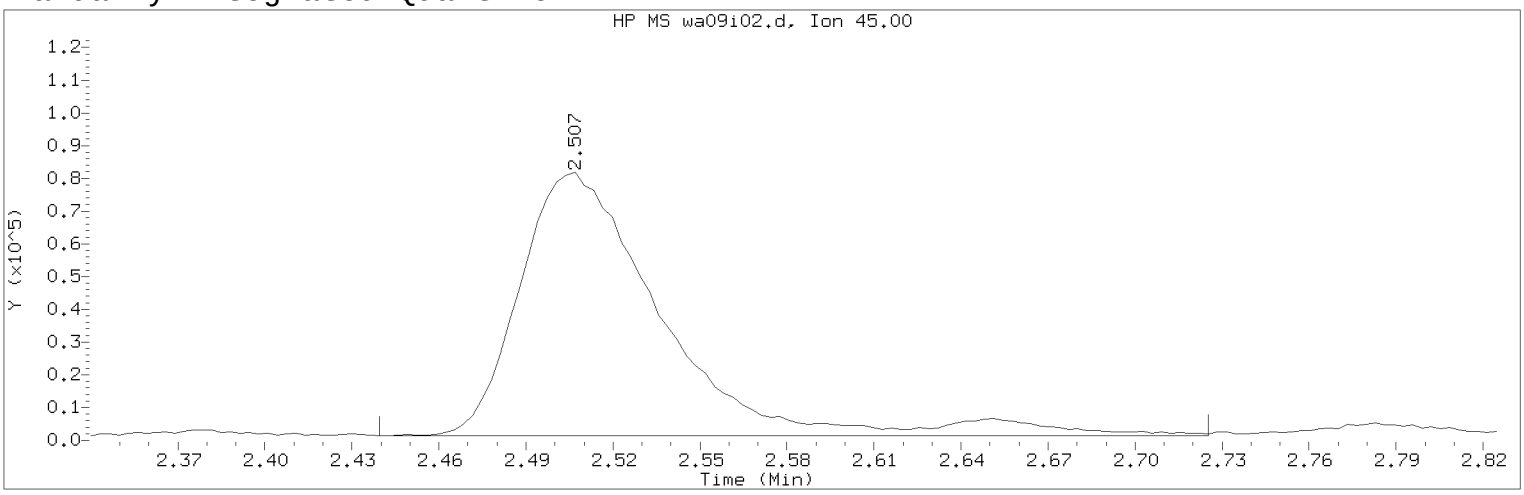
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
135) Benzyl Chloride	(4)	10.186	91	2149328	109.614
136) 1,3-Diethylbenzene	(4)	10.266	119	1474155	103.834
137) 1,4-Diethylbenzene	(4)	10.327	119	1515062	102.953
139) n-Butylbenzene	(4)	10.343	92	1163089	102.710
138) 1,2-Dichlorobenzene	(4)	10.353	146	1455008	102.499
140) 1,2-Diethylbenzene	(4)	10.407	119	1257839	103.210
141) Diethylbenzene (total)	(4)		100	4247056	309.998
142) 1,2-Dibromo-3-chloropropane	(4)	10.892	75	226608	109.813
144) 1,3,5-Trichlorobenzene	(4)	11.036	180	911395	100.994
146) 1,2,4-Trichlorobenzene	(4)	11.447	180	882882	98.749
147) Hexachlorobutadiene	(4)	11.556	225	256426	96.775
148) Naphthalene	(4)	11.611	128	3235566	99.735
149) 1,2,3-Trichlorobenzene	(4)	11.768	180	809892	95.431
150) 2-Methylnaphthalene	(4)	12.333	142	1634716	95.739

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:06.
Target 3.5 esignature user ID: nsl01327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i02.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 11:39 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD100 Lab Sample ID: VSTD100

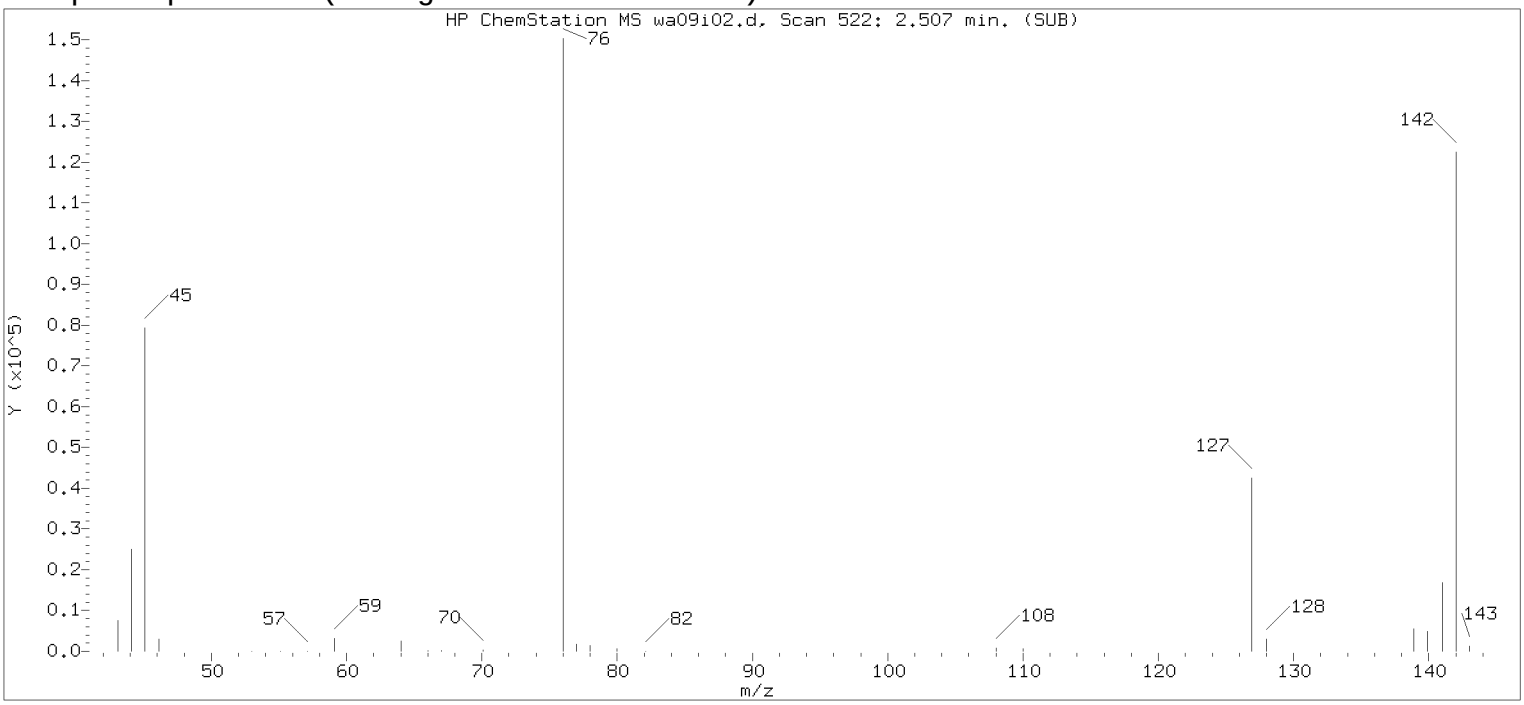
Compound Number : 21
Compound Name : 2-Propanol
Scan Number : 522
Retention Time (minutes): 2.507
Quant Ion : 45.00
Area (flag) : 276239M
On-Column Amount (ng) : 506.1128
Integration start scan : 500 Integration stop scan: 589
Y at integration start : 1348 Y at integration end: 1348

Reason for manual integration: improper integration

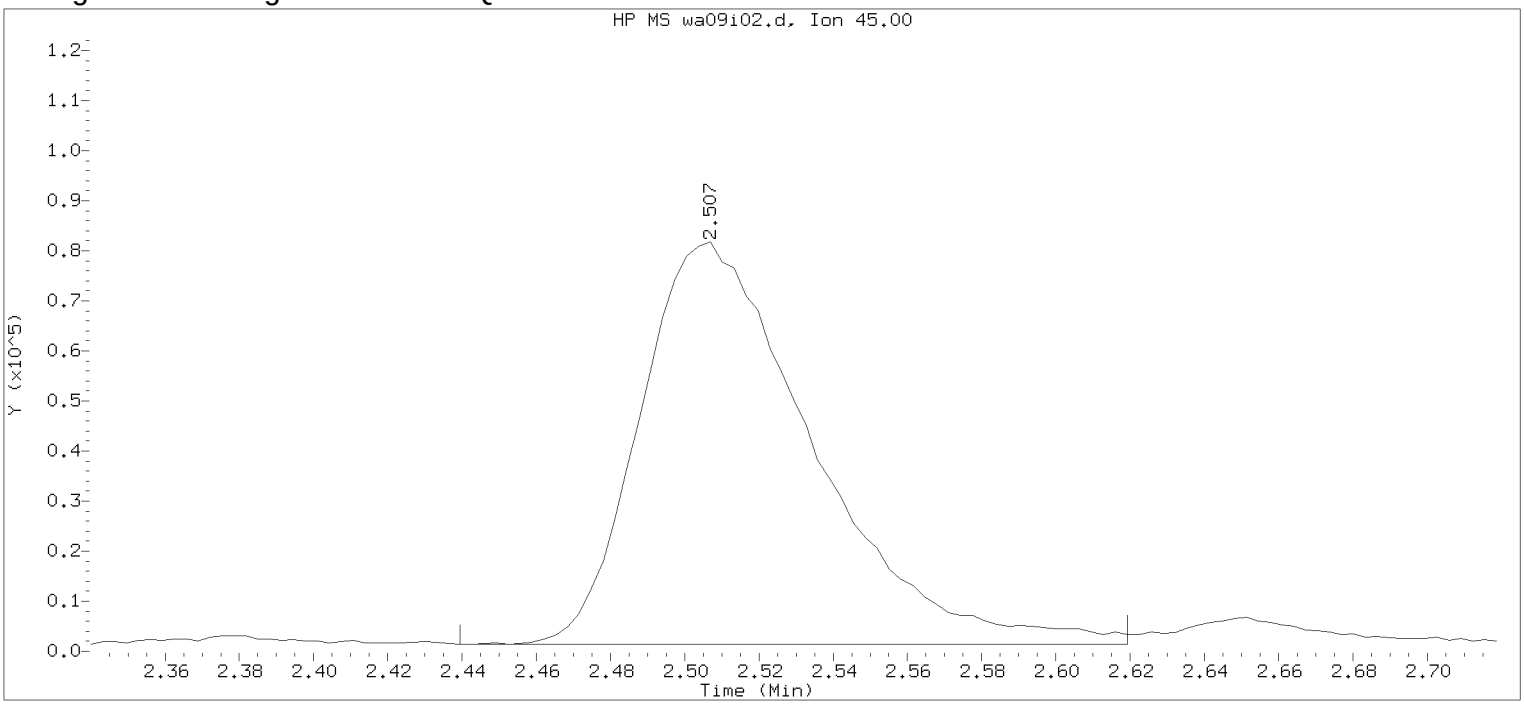
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:06.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:55.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i02.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 11:39 Analyst ID: nsl01327

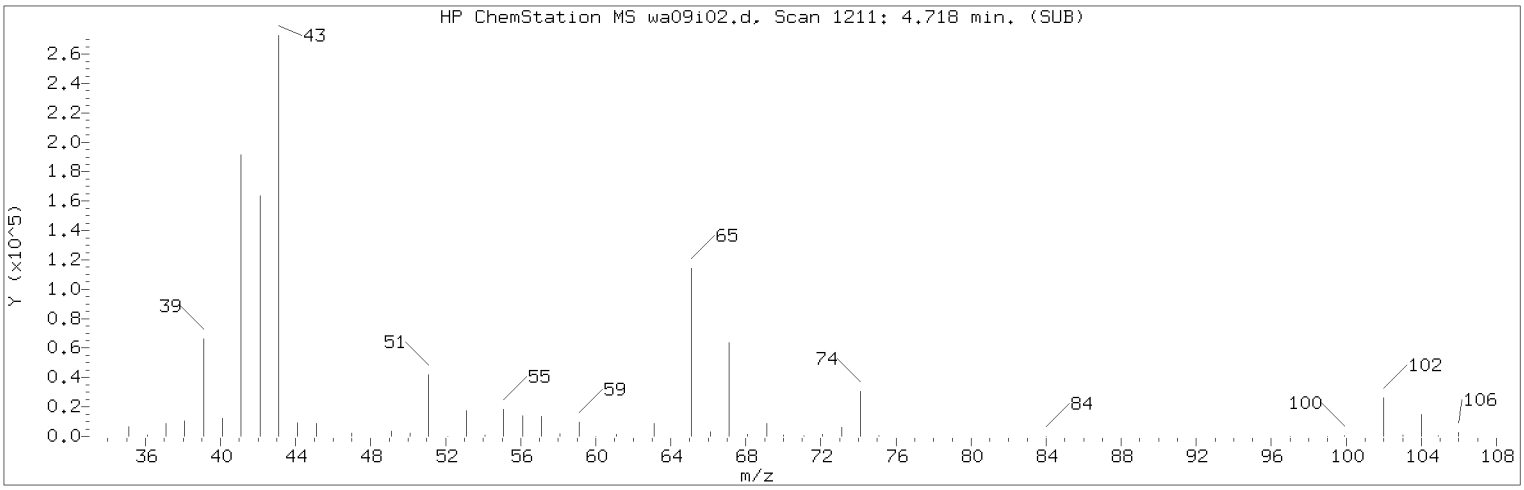
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 11:55
Date, time and analyst ID of latest file update: 09-Apr-2018 11:55 Automation

Sample Name: VSTD100 Lab Sample ID: VSTD100

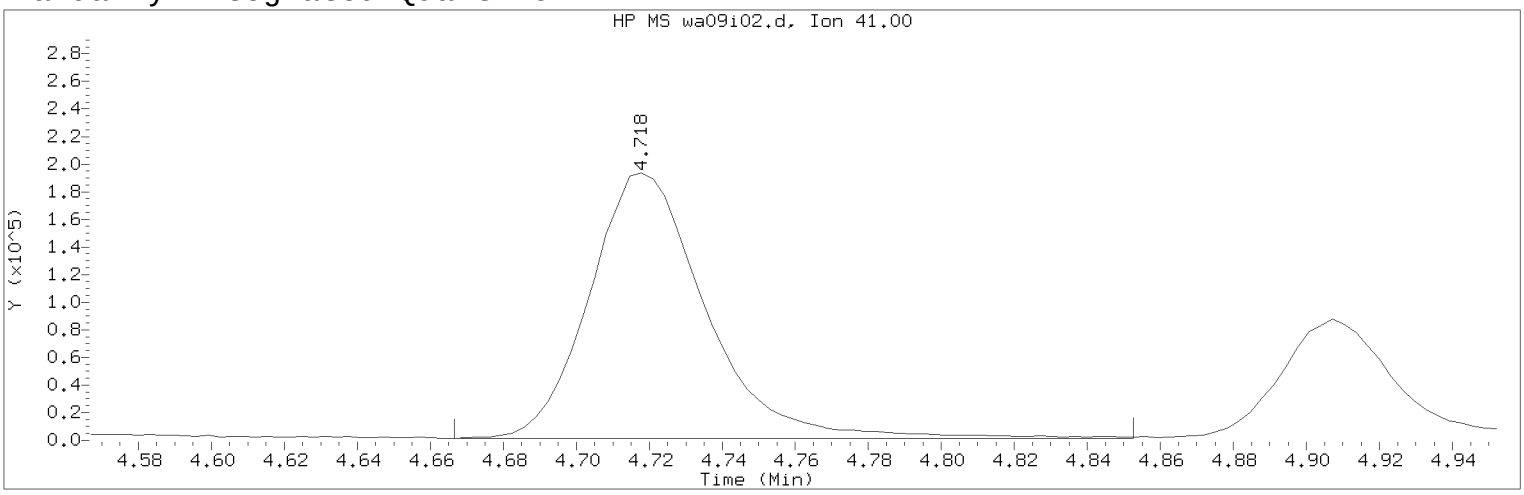
Compound Number : 21
Compound Name : 2-Propanol
Scan Number : 522
Retention Time (minutes): 2.507
Quant Ion : 45.00
Area : 260516
On-column Amount (ng) : 506.4809
Integration start scan : 500 Integration stop scan: 556
Y at integration start : 1348 Y at integration end: 1348

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:06.
Target 3.5 esignature user id: 1327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i02.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 11:39 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD100 Lab Sample ID: VSTD100

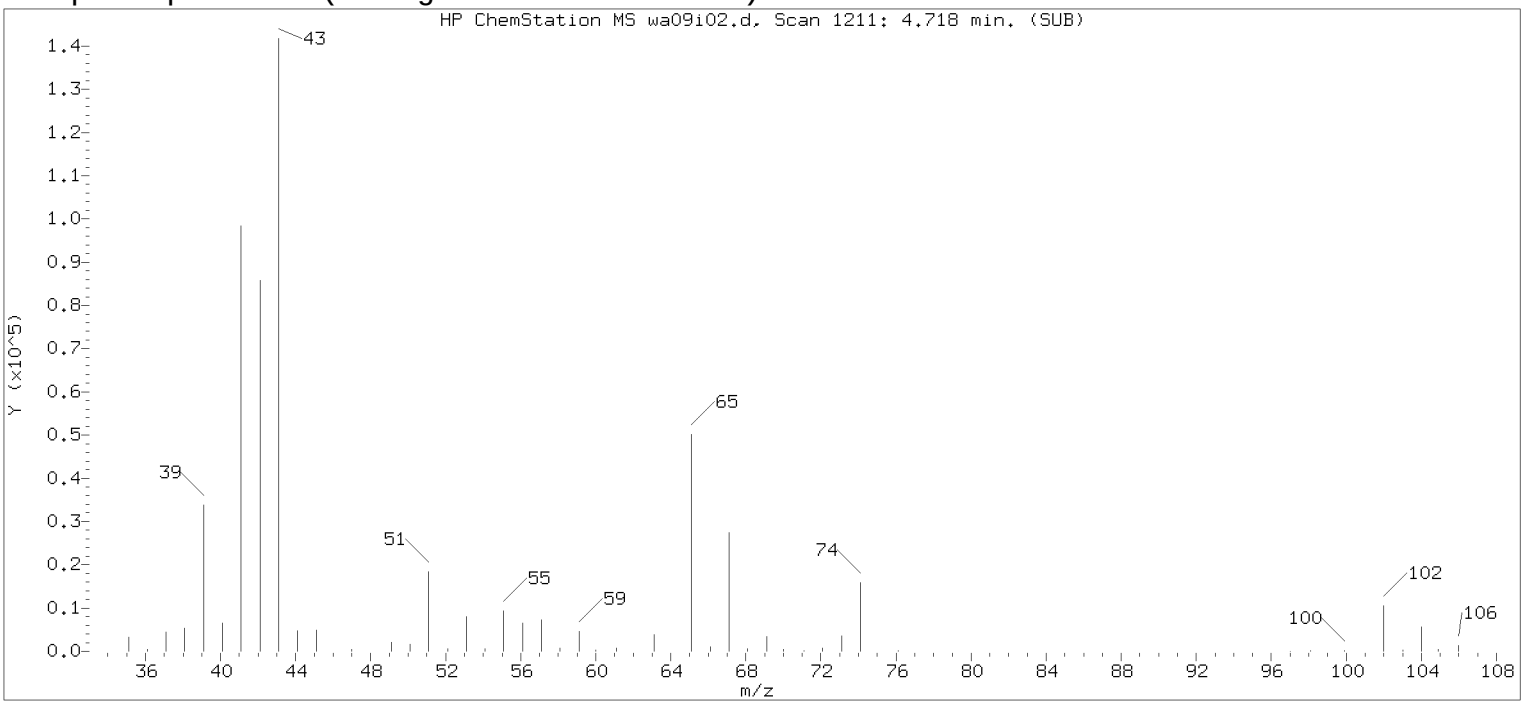
Compound Number : 58
Compound Name : Isobutyl Alcohol
Scan Number : 1211
Retention Time (minutes): 4.718
Quant Ion : 41.00
Area (flag) : 425998M
On-Column Amount (ng) : 1304.9992
Integration start scan : 1194 Integration stop scan: 1252
Y at integration start : 1572 Y at integration end: 1572

Reason for manual integration: improper integration

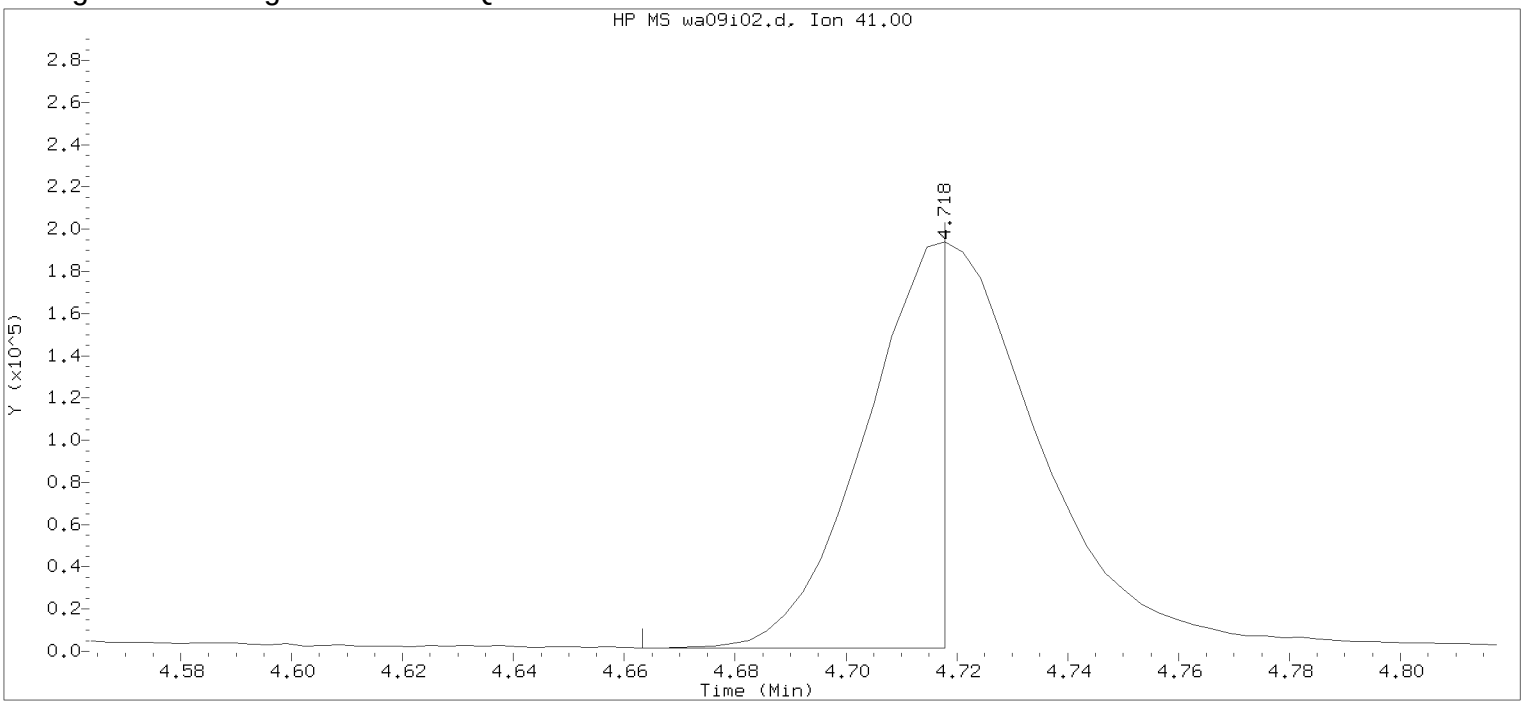
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:06.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:55.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i02.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 11:39 Analyst ID: nsl01327

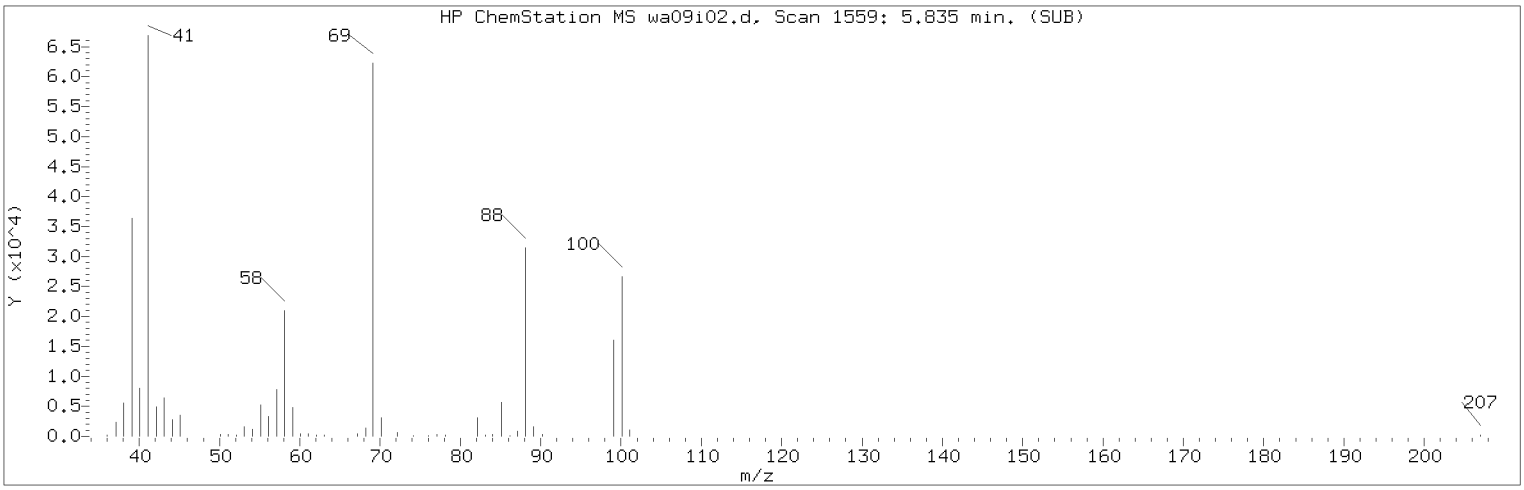
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 11:55
Date, time and analyst ID of latest file update: 09-Apr-2018 11:55 Automation

Sample Name: VSTD100 Lab Sample ID: VSTD100

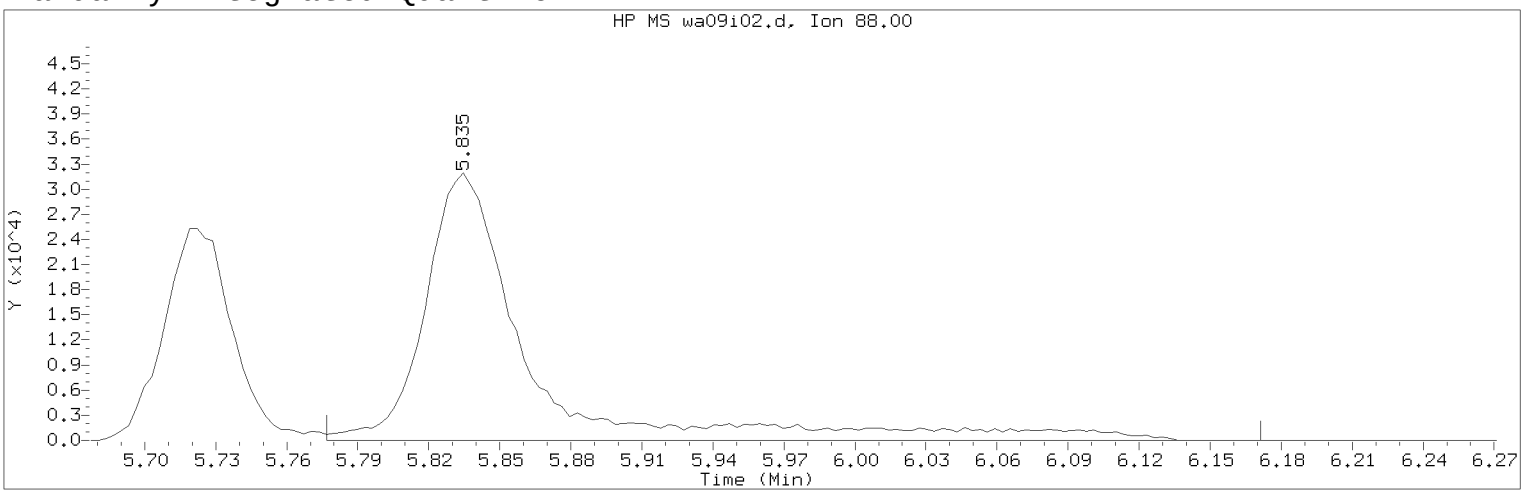
Compound Number : 58
Compound Name : Isobutyl Alcohol
Scan Number : 1211
Retention Time (minutes): 4.718
Quant Ion : 41.00
Area : 186847
On-column Amount (ng) : 581.1291
Integration start scan : 1193 Integration stop scan: 1210
Y at integration start : 1579 Y at integration end: 1579

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:06.
Target 3.5 esignature user ID: 1207

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i02.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 11:39 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD100 Lab Sample ID: VSTD100

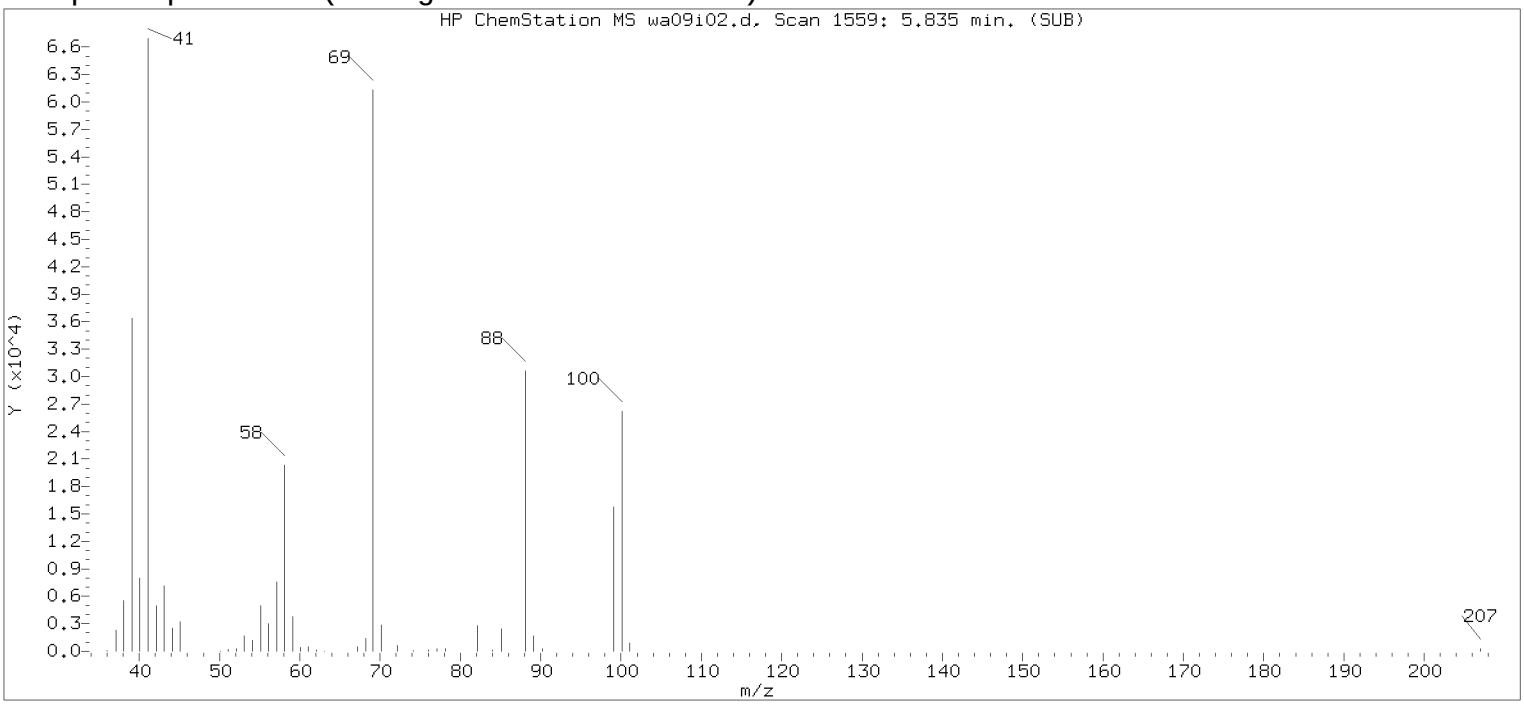
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 1559
Retention Time (minutes): 5.835
Quant Ion : 88.00
Area (flag) : 97157M
On-Column Amount (ng) : 1158.0029
Integration start scan : 1540 Integration stop scan: 1663
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

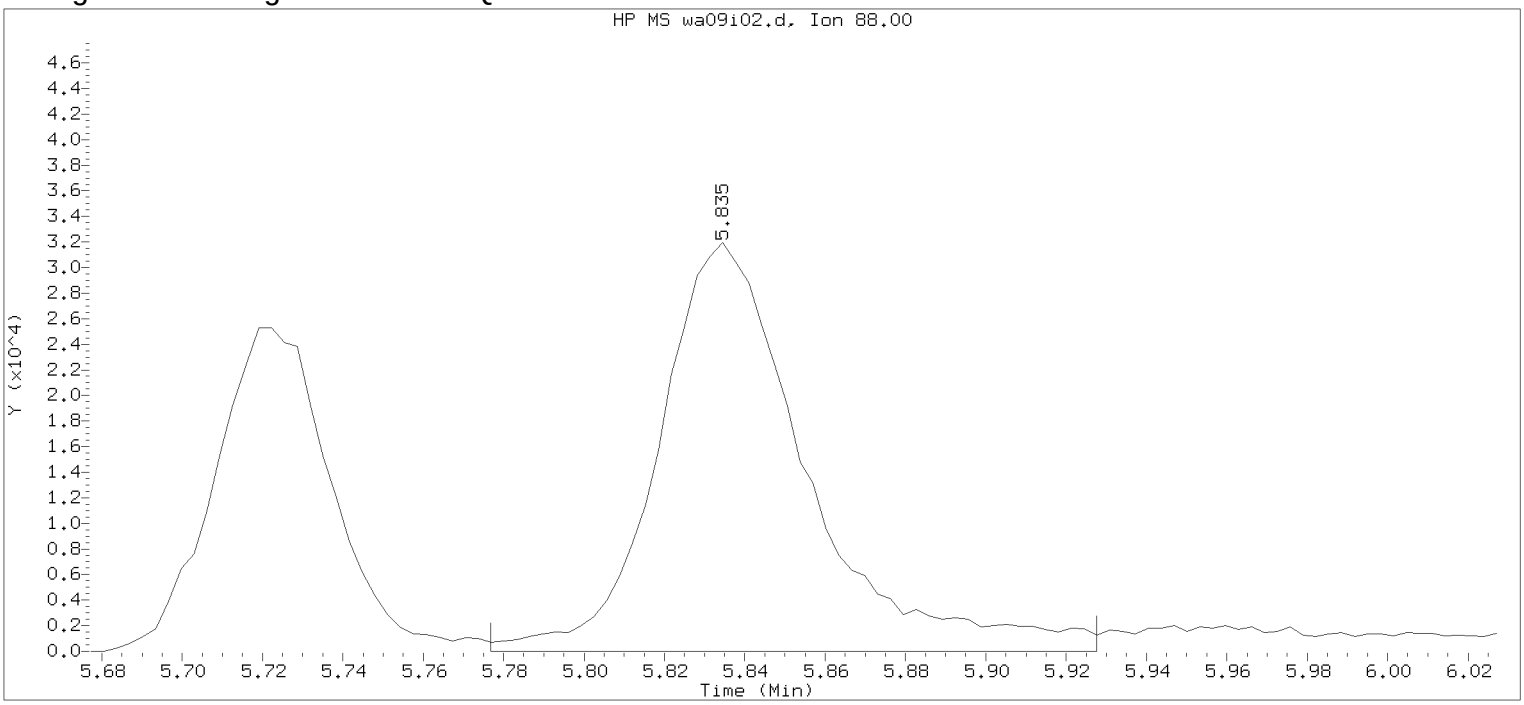
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:06.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:55.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i02.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 11:39 Analyst ID: nsl01327

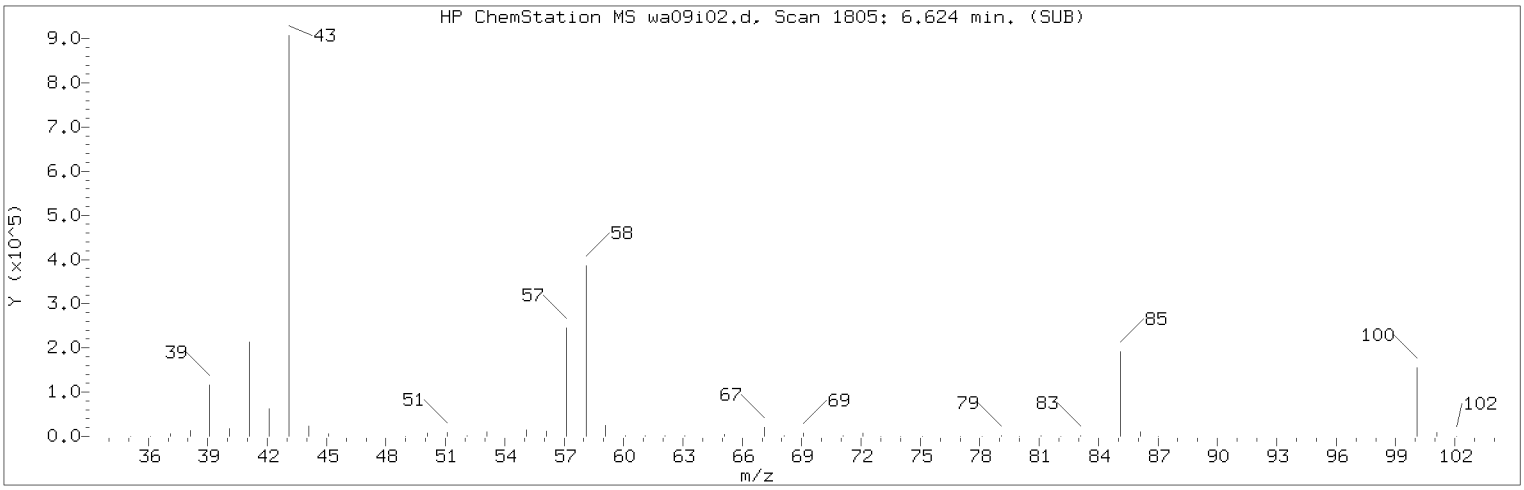
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 11:55
Date, time and analyst ID of latest file update: 09-Apr-2018 11:55 Automation

Sample Name: VSTD100 Lab Sample ID: VSTD100

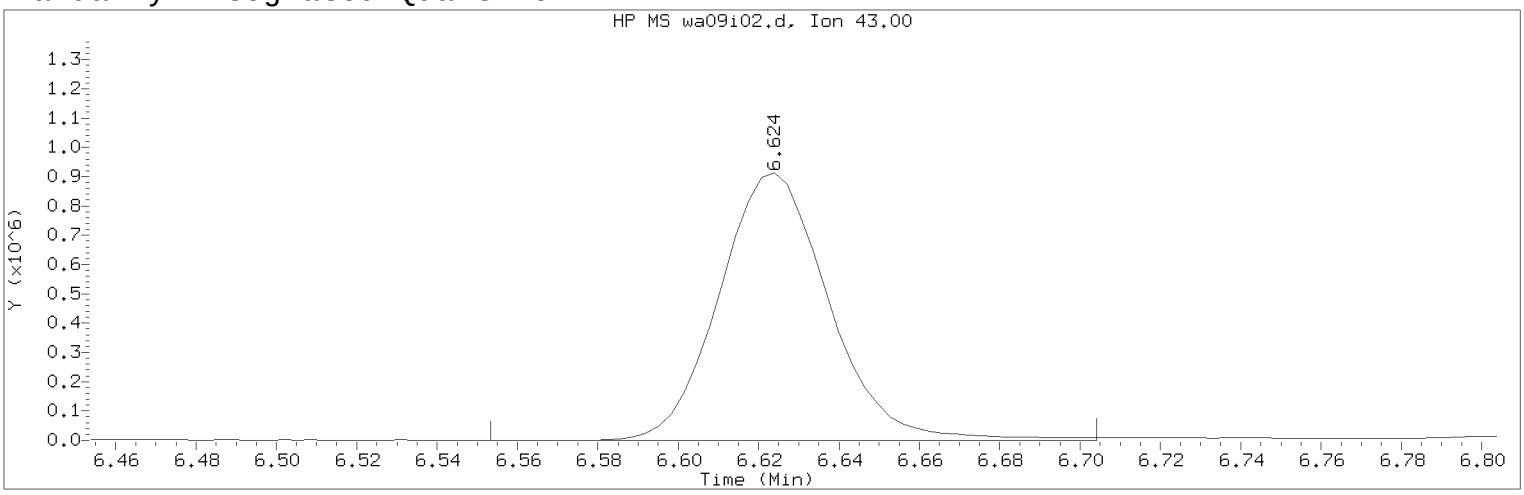
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 1559
Retention Time (minutes): 5.835
Quant Ion : 88.00
Area : 81439
On-column Amount (ng) : 1129.7311
Integration start scan : 1540 Integration stop scan: 1587
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:06.
Target 3.5 esignature user id: 1185 meaning: 127

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i02.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 11:39 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD100 Lab Sample ID: VSTD100

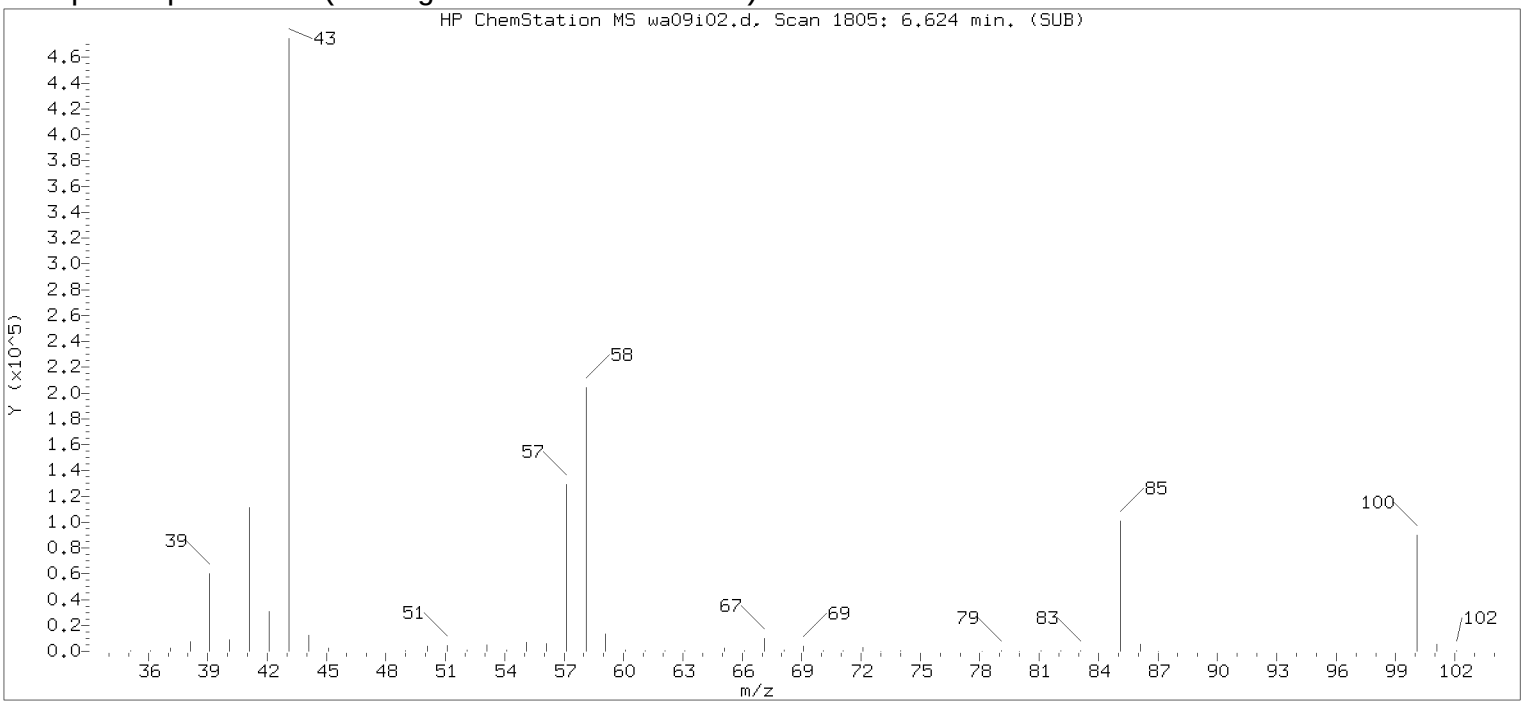
Compound Number : 82
Compound Name : 4-Methyl-2-pentanone
Scan Number : 1805
Retention Time (minutes): 6.624
Quant Ion : 43.00
Area (flag) : 1730319M
On-Column Amount (ng) : 217.5705
Integration start scan : 1782 Integration stop scan: 1829
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

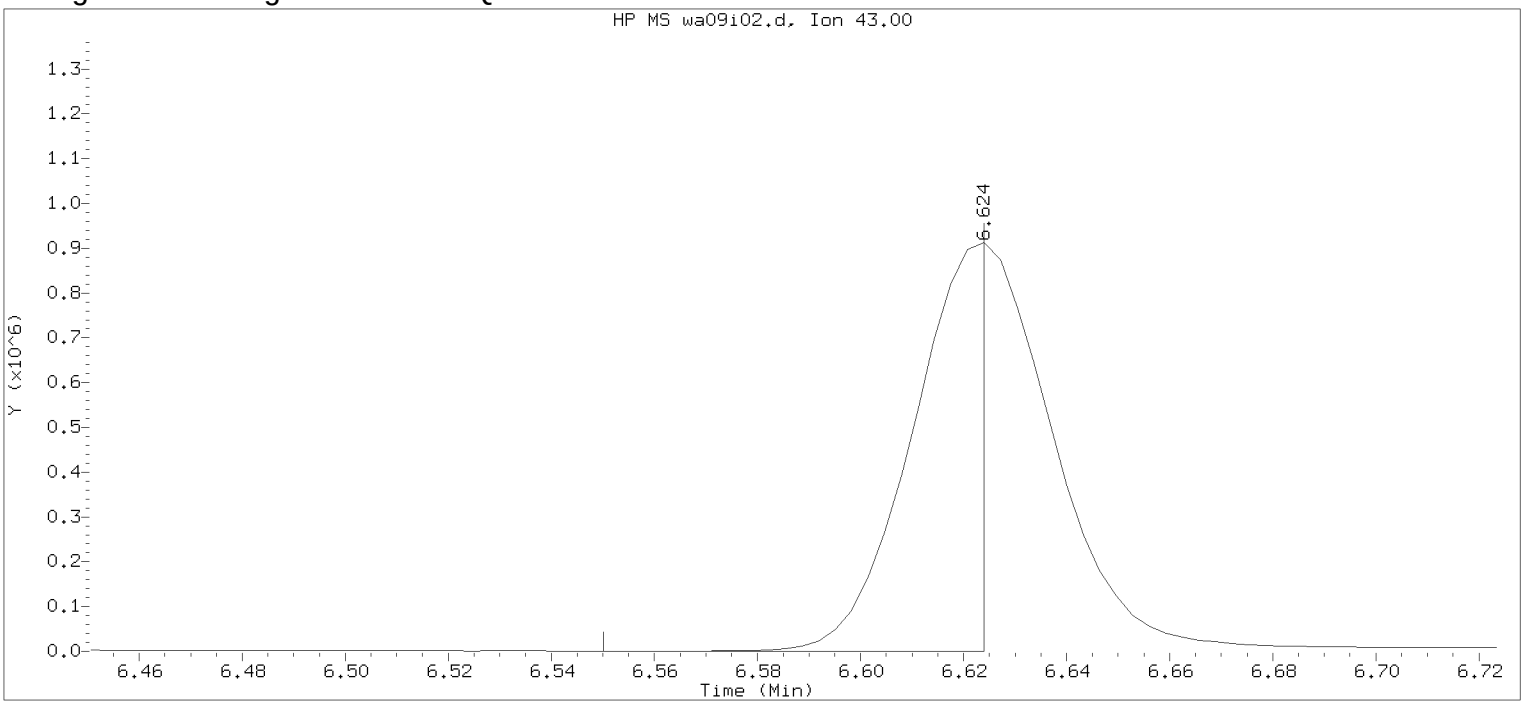
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:06.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:55.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



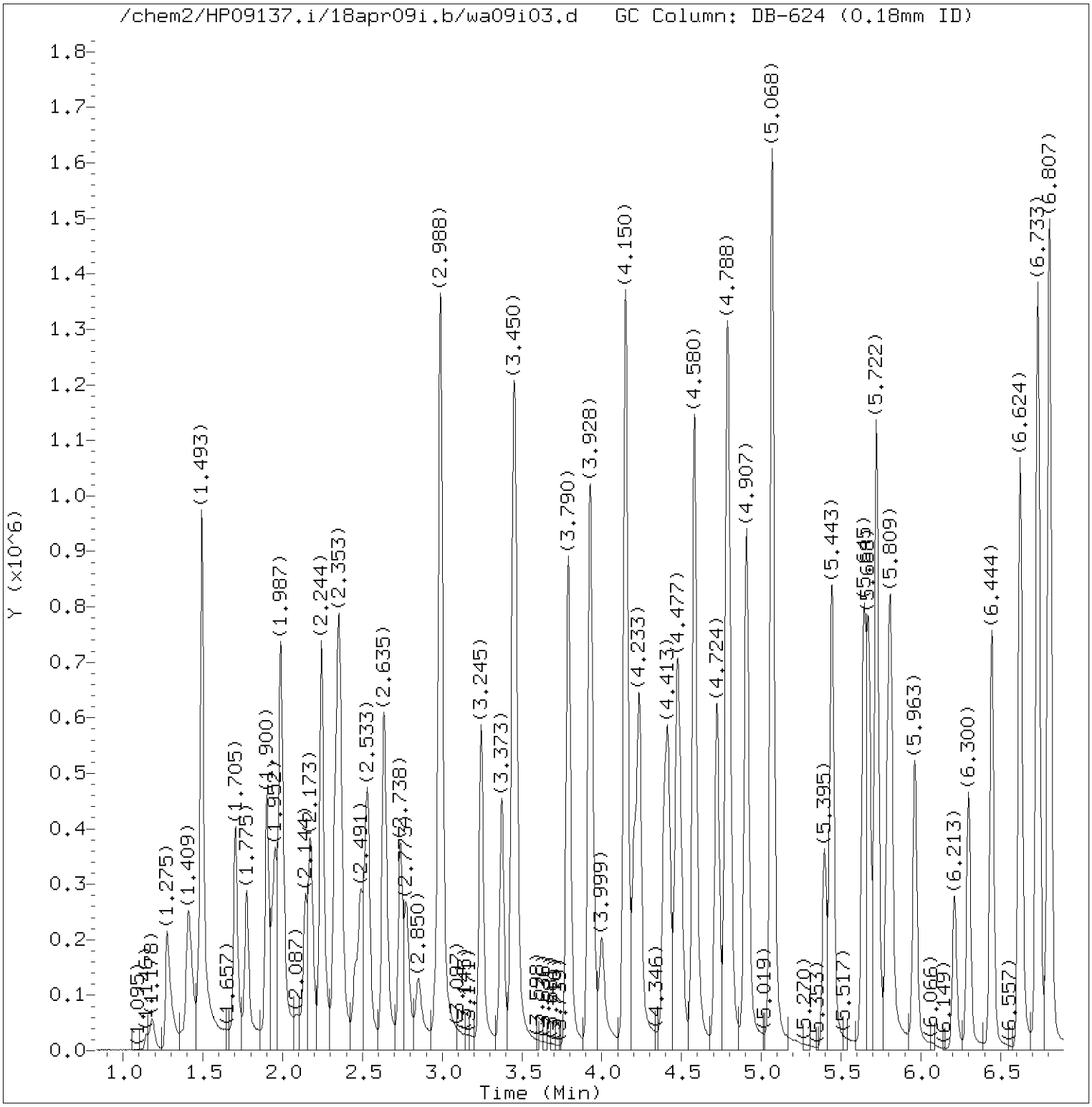
Data File: /chem2/HP09137.i/18apr09i.b/wa09i02.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 11:39 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 11:55
Date, time and analyst ID of latest file update: 09-Apr-2018 11:55 Automation

Sample Name: VSTD100 Lab Sample ID: VSTD100

Compound Number : 82
Compound Name : 4-Methyl-2-pentanone
Scan Number : 1805
Retention Time (minutes): 6.624
Quant Ion : 43.00
Area : 848071
On-column Amount (ng) : 104.3083
Integration start scan : 1781 Integration stop scan: 1804
Y at integration start : 516 Y at integration end: 516

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:06.
Target 3.5 esignature user id: 1185 meaning: Reviewed



Total Ion Chromatogram (TIC)

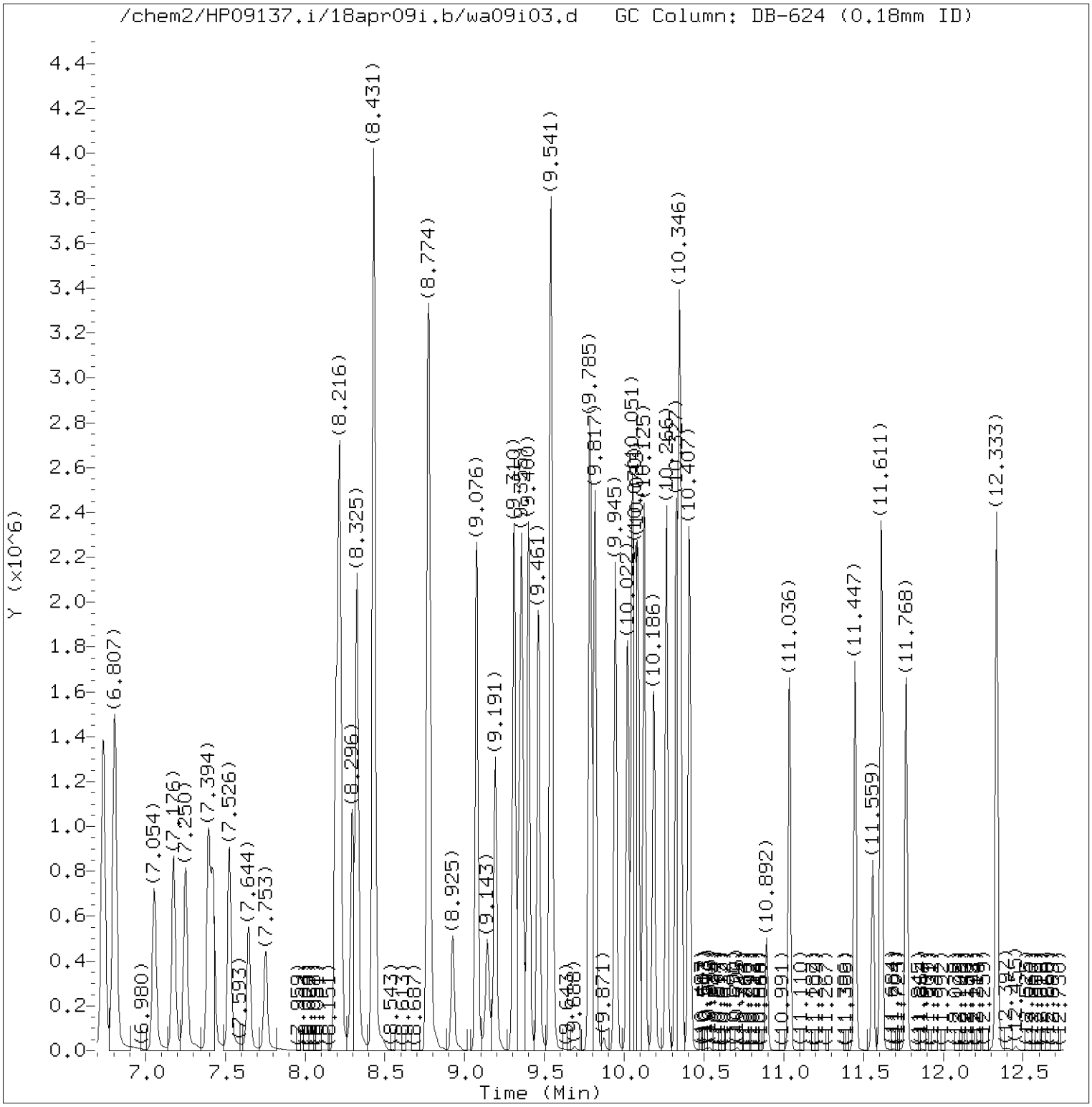
Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i03.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 12:03 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD050 Lab Sample ID: VSTD050

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i03.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 12:03 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD050 Lab Sample ID: VSTD050

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i03.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 12:03 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
3) Dichlorodifluoromethane	(2)	1.275	85	355149	51.612
4) Chloromethane	(2)	1.409	50	364676	49.477
6) Vinyl Chloride	(2)	1.486	62	385502	51.750
5) 1,3-Butadiene	(2)	1.493	39	251954	46.156
8) Bromomethane	(2)	1.705	94	268931	49.698
9) Chloroethane	(2)	1.775	64	228286	51.335
10) Dichlorofluoromethane	(2)	1.900	67	388052	41.411
12) Trichlorofluoromethane	(2)	1.952	101	436403	52.686
11) n-Pentane	(2)	1.990	43	415263	47.227
13) Ethanol	(1)	2.103	45	62474	1201.044
15) Freon 123a	(2)	2.173	67	295116	48.240
16) Acrolein	(1)	2.244	56	704548	520.849
17) 1,1-Dichloroethene	(2)	2.330	96	234534	50.846
17) 1,1-Dichloroethene	(2)	2.330	63	105903	49.411
19) Freon 113	(2)	2.353	101	242418	51.858
18) Acetone	(1)	2.369	58	55241	97.209
22) Methyl Iodide	(2)	2.488	142	455458	50.845
21) 2-Propanol	(1)	2.500	45	86140	219.223
23) Carbon Disulfide	(2)	2.533	76	782777	51.428
25) Allyl Chloride	(2)	2.632	41	351195M	47.700
27) Methyl Acetate	(2)	2.651	43	241828	44.883
28) Methylene Chloride	(2)	2.738	84	264287	49.306
29)*t-Butyl alcohol-d10	(1)	2.776	65	166695	250.000
30) t-Butyl alcohol	(1)	2.853	59	169164	236.118
31) Acrylonitrile	(2)	2.963	53	125851	45.829
32) trans-1,2-Dichloroethene	(2)	2.988	96	260420	51.299
33) Methyl Tertiary Butyl Ether	(2)	2.991	73	862090	50.095
34) n-Hexane	(2)	3.245	57	296982	50.300
36) 1,1-Dichloroethane	(2)	3.373	63	440614	51.166
38) di-Isopropyl ether	(2)	3.444	45	798209	49.516
39) 2-Chloro-1,3-butadiene	(2)	3.463	53	392988	51.644
40) Ethyl t-butyl ether	(2)	3.790	59	810677	50.490
42) cis-1,2-Dichloroethene	(2)	3.925	96	288814	50.418
45) 2,2-Dichloropropane	(2)	3.928	77	239758	51.524
44) 2-Butanone	(2)	3.941	43	349554	91.327
47) Propionitrile	(1)	4.002	54	244758	273.275
43) 1,2-Dichloroethene (Total)	(2)		96	549234	101.717
48) Methacrylonitrile	(2)	4.147	67	388254	119.797

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

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i03.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 12:03 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
49) Bromochloromethane	(2)	4.153	128	143709	49.292
50) Tetrahydrofuran	(1)	4.208	71	101526	106.009
51) Chloroform	(2)	4.236	83	445380	50.447
52)$Dibromofluoromethane	(2)	4.394	113	238885	49.649
52)$Dibromofluoromethane	(2)	4.394	111	244230	49.562
53) 1,1,1-Trichloroethane	(2)	4.419	97	396655	50.484
54) Cyclohexane	(2)	4.477	56	414070	51.790
54) Cyclohexane	(2)	4.477	84	368776	50.098
54) Cyclohexane	(2)	4.477	69	133531	51.364
55) 1,1-Dichloropropene	(2)	4.580	75	360524	51.276
56) Carbon Tetrachloride	(2)	4.583	117	315525	53.026
58) Isobutyl Alcohol	(1)	4.715	41	142647	606.993
57)$1,2-Dichloroethane-d4	(2)	4.724	102	60562	47.938
57)$1,2-Dichloroethane-d4	(2)	4.727	65	271525	47.825
57)$1,2-Dichloroethane-d4	(2)	4.727	104	39793	48.628
60) Benzene	(2)	4.785	78	1076240	50.909
61) 1,2-Dichloroethane	(2)	4.801	62	353556	47.964
61) 1,2-Dichloroethane	(2)	4.804	98	37186	51.198
65) t-Amyl methyl ether	(2)	4.907	73	825434M	49.255
66)*Fluorobenzene	(2)	5.068	96	1055463	50.000
67) n-Heptane	(2)	5.071	43	255006	48.156
69) n-Butanol	(1)	5.395	56	294056	1329.785
71) Trichloroethene	(2)	5.443	95	284205	50.640
72) Methylcyclohexane	(2)	5.642	83	367121	48.653
72) Methylcyclohexane	(2)	5.645	98	179853	50.716
73) 1,2-Dichloropropane	(2)	5.674	63	268742	50.203
74) Dibromomethane	(2)	5.793	93	181754	50.069
76) Methyl Methacrylate	(2)	5.812	69	271544	47.482
75) 1,4-Dioxane	(1)	5.835	88	43110M	713.727
78) Bromodichloromethane	(2)	5.963	83	350810	51.110
79) 2-Nitropropane	(2)	6.213	41	184483	97.081
80) 2-Chloroethyl Vinyl Ether	(2)	6.300	63	220888	50.659
81) cis-1,3-Dichloropropene	(2)	6.444	75	470908	52.034
82) 4-Methyl-2-pentanone	(2)	6.624	43	797322	101.041
83)$Toluene-d8	(3)	6.733	98	1037625	50.500
83)$Toluene-d8	(3)	6.733	100	700003	50.550
88) Toluene	(3)	6.807	92	718808	51.073
89) trans-1,3-Dichloropropene	(3)	7.054	75	436164	52.016

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

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i03.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 12:03 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
91) Ethyl Methacrylate	(3)	7.176	69	497298	51.234
92) 1,1,2-Trichloroethane	(3)	7.250	97	284437	51.418
90) 1,3-Dichloropropene (total)	(3)		100	907072	104.050
93) Tetrachloroethene	(3)	7.394	166	289345	50.523
94) 1,3-Dichloropropane	(3)	7.423	76	467298	51.106
96) 2-Hexanone	(3)	7.526	43	618291	100.081
97) Dibromochloromethane	(3)	7.648	129	296886	52.775
99) 1,2-Dibromoethane	(3)	7.753	107	309105	51.298
100)*Chlorobenzene-d5	(3)	8.193	117	801369	50.000
102) Chlorobenzene	(3)	8.219	112	813421	50.728
103) 1,1,1,2-Tetrachloroethane	(3)	8.296	131	271893	52.789
104) Ethylbenzene	(3)	8.325	91	1332847	51.185
106) m+p-Xylene	(3)	8.431	106	1089803	102.404
107) o-Xylene	(3)	8.767	106	541665	50.959
109) Styrene	(3)	8.780	104	937687	51.633
108) Xylene (Total)	(3)		106	1631468	153.364
110) Bromoform	(3)	8.925	173	213498	52.882
111) Isopropylbenzene	(3)	9.076	105	1281118	50.667
112) Cyclohexanone	(1)	9.143	55	195664	703.032
114)$4-Bromofluorobenzene	(3)	9.191	95	383744	49.447
114)$4-Bromofluorobenzene	(3)	9.191	174	311655	49.218
115) Bromobenzene	(4)	9.307	156	353874	52.328
116) 1,1,2,2-Tetrachloroethane	(4)	9.313	83	447778	51.450
117) 1,2,3-Trichloropropane	(4)	9.342	110	139306	50.964
118) trans-1,4-Dichloro-2-butene	(4)	9.358	53	321988	134.592
119) n-Propylbenzene	(4)	9.400	91	1465474	51.880
120) 2-Chlorotoluene	(4)	9.461	126	320989	51.639
122) 1,3,5-Trimethylbenzene	(4)	9.538	105	1081013	51.506
121) 4-Chlorotoluene	(4)	9.544	126	341465	51.325
124) tert-Butylbenzene	(4)	9.785	134	234553	50.408
125) Pentachloroethane	(4)	9.794	167	189493	52.753
126) 1,2,4-Trimethylbenzene	(4)	9.817	105	1113534	50.731
127) sec-Butylbenzene	(4)	9.945	105	1206943	50.792
129) 1,3-Dichlorobenzene	(4)	10.022	146	637029	49.849
130) p-Isopropyltoluene	(4)	10.051	119	1075129	50.298
131)*1,4-Dichlorobenzene-d4	(4)	10.070	152	413797	50.000
133) 1,4-Dichlorobenzene	(4)	10.086	146	659728	49.625
134) 1,2,3-Trimethylbenzene	(4)	10.125	105	1114475	49.292

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

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i03.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 12:03 Analyst ID: nsl01327

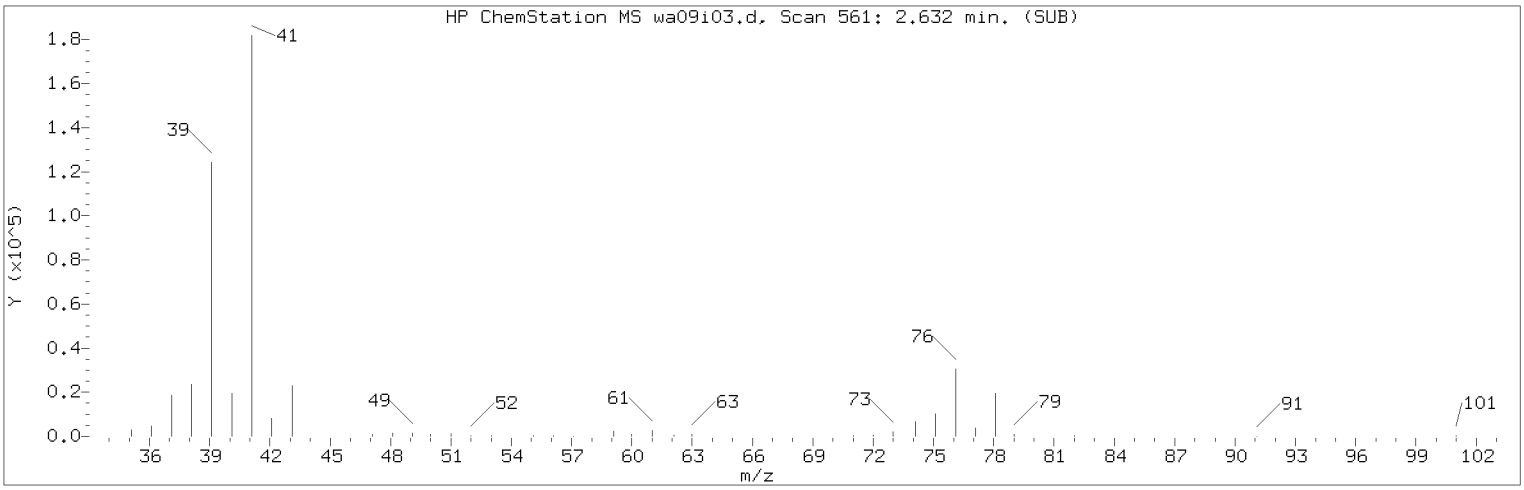
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD050 Lab Sample ID: VSTD050

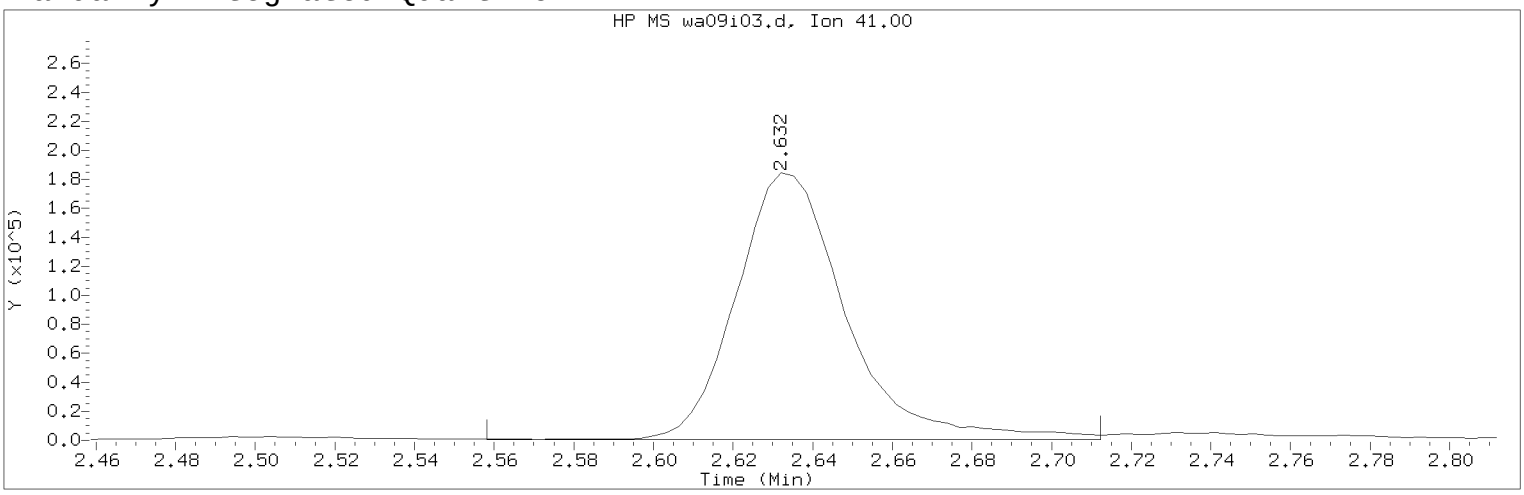
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
135) Benzyl Chloride	(4)	10.186	91	924919	52.554
136) 1,3-Diethylbenzene	(4)	10.266	119	622606	48.860
137) 1,4-Diethylbenzene	(4)	10.327	119	631355	47.800
139) n-Butylbenzene	(4)	10.343	92	498626	49.059
138) 1,2-Dichlorobenzene	(4)	10.353	146	632790	49.666
140) 1,2-Diethylbenzene	(4)	10.407	119	526996	48.178
141) Diethylbenzene (total)	(4)		100	1780957	144.838
142) 1,2-Dibromo-3-chloropropane	(4)	10.892	75	95294	51.450
144) 1,3,5-Trichlorobenzene	(4)	11.036	180	392524	48.462
146) 1,2,4-Trichlorobenzene	(4)	11.447	180	400339	49.888
147) Hexachlorobutadiene	(4)	11.559	225	114661	48.212
148) Naphthalene	(4)	11.611	128	1477713	50.749
149) 1,2,3-Trichlorobenzene	(4)	11.768	180	390504	51.266
150) 2-Methylnaphthalene	(4)	12.336	142	894610	58.374

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i03.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 12:03 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD050 Lab Sample ID: VSTD050

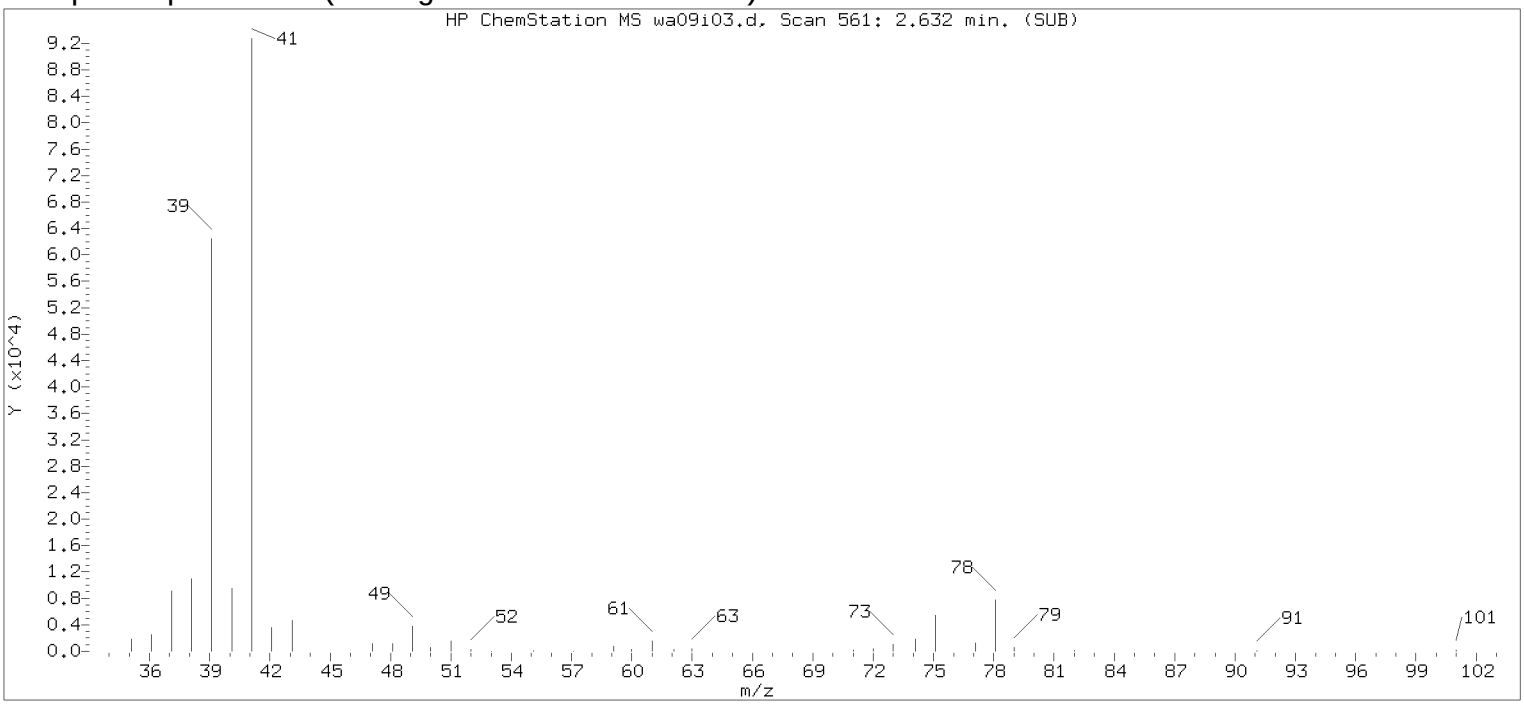
Compound Number : 25
Compound Name : Allyl Chloride
Scan Number : 561
Retention Time (minutes): 2.632
Quant Ion : 41.00
Area (flag) : 351195M
On-Column Amount (ng) : 47.7004
Integration start scan : 537 Integration stop scan: 585
Y at integration start : 621 Y at integration end: 621

Reason for manual integration: improper integration

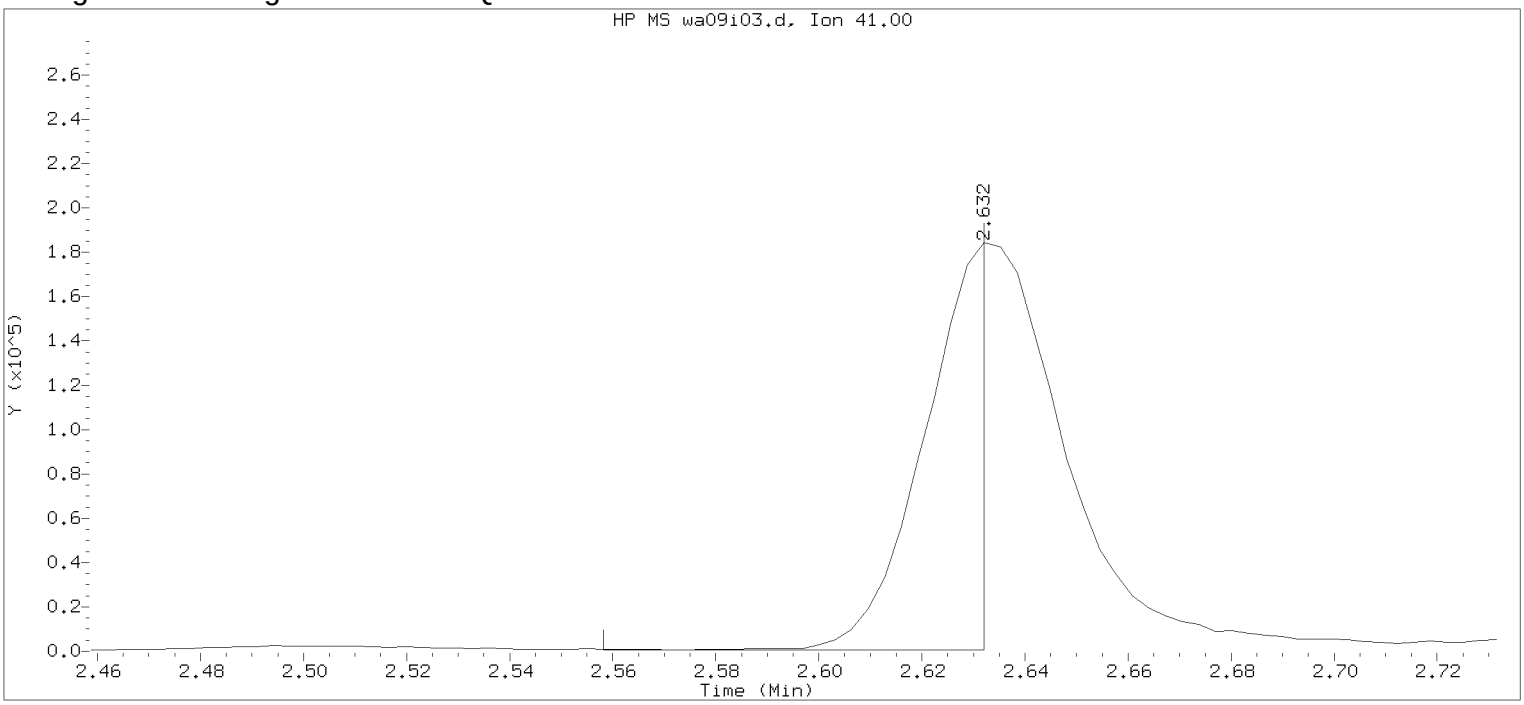
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:55.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i03.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 12:03 Analyst ID: nsl01327

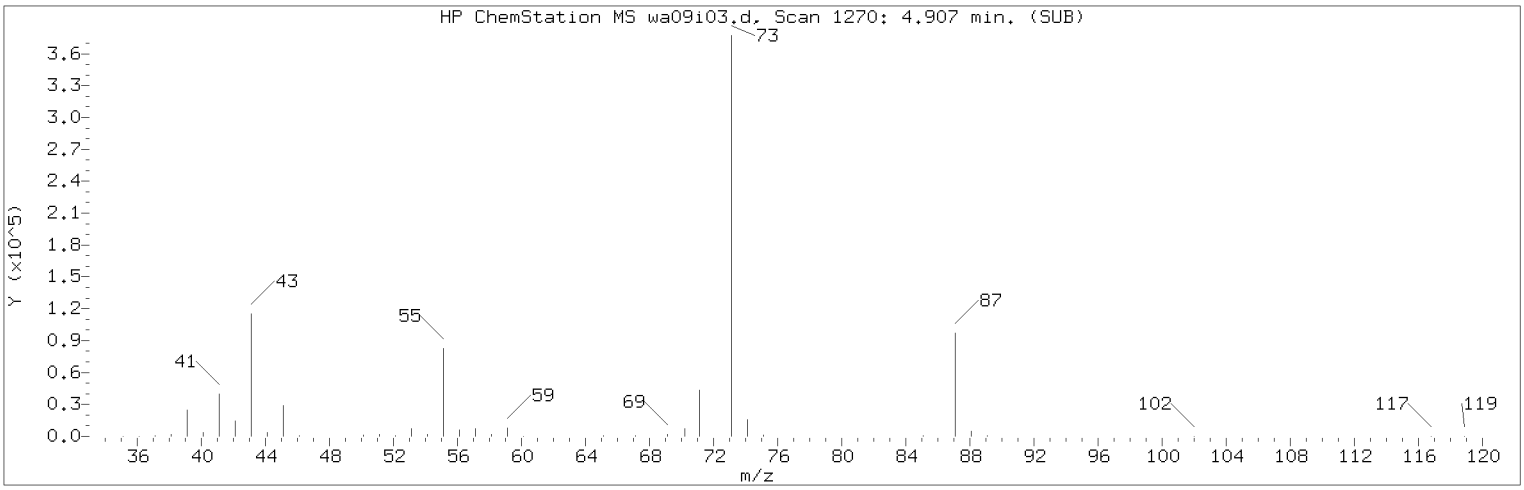
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 12:19
Date, time and analyst ID of latest file update: 09-Apr-2018 12:19 Automation

Sample Name: VSTD050 Lab Sample ID: VSTD050

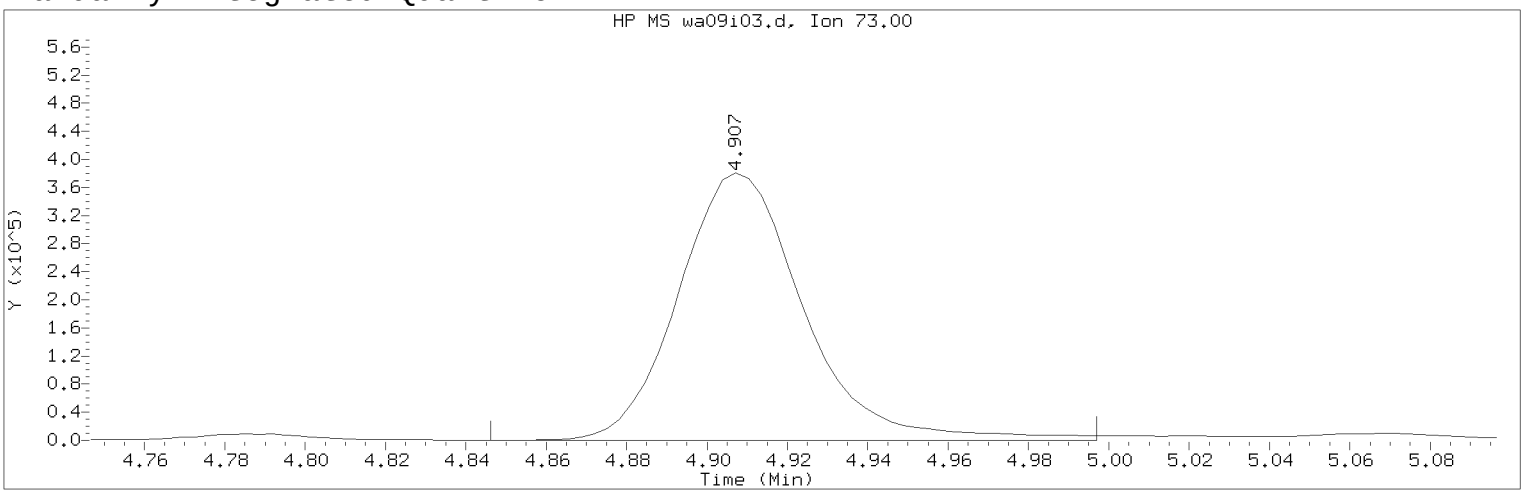
Compound Number : 25
Compound Name : Allyl Chloride
Scan Number : 561
Retention Time (minutes): 2.632
Quant Ion : 41.00
Area : 141982
On-column Amount (ng) : 18.9229
Integration start scan : 537 Integration stop scan: 560
Y at integration start : 661 Y at integration end: 661

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i03.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 12:03 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD050 Lab Sample ID: VSTD050

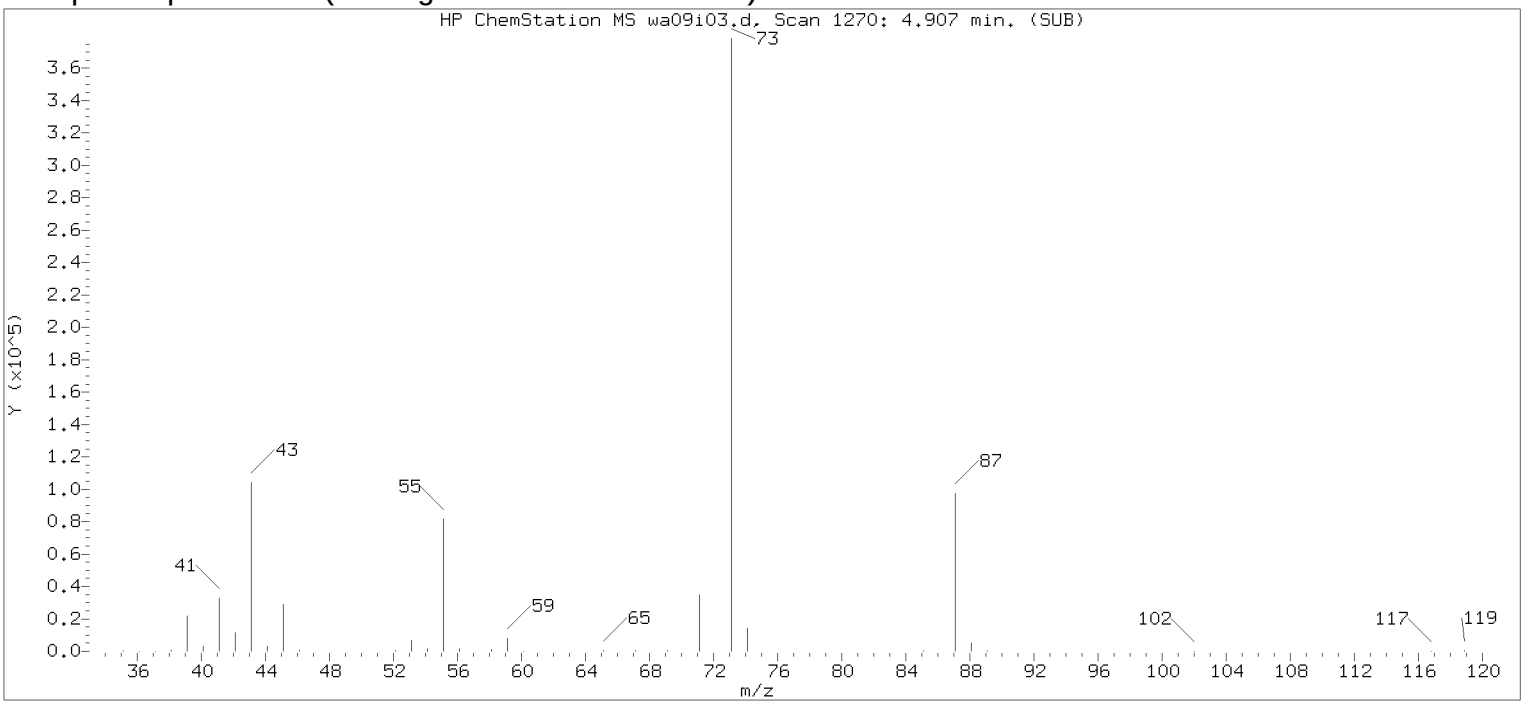
Compound Number : 65
Compound Name : t-Amyl methyl ether
Scan Number : 1270
Retention Time (minutes): 4.907
Quant Ion : 73.00
Area (flag) : 825434M
On-Column Amount (ng) : 49.2554
Integration start scan : 1250 Integration stop scan: 1297
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

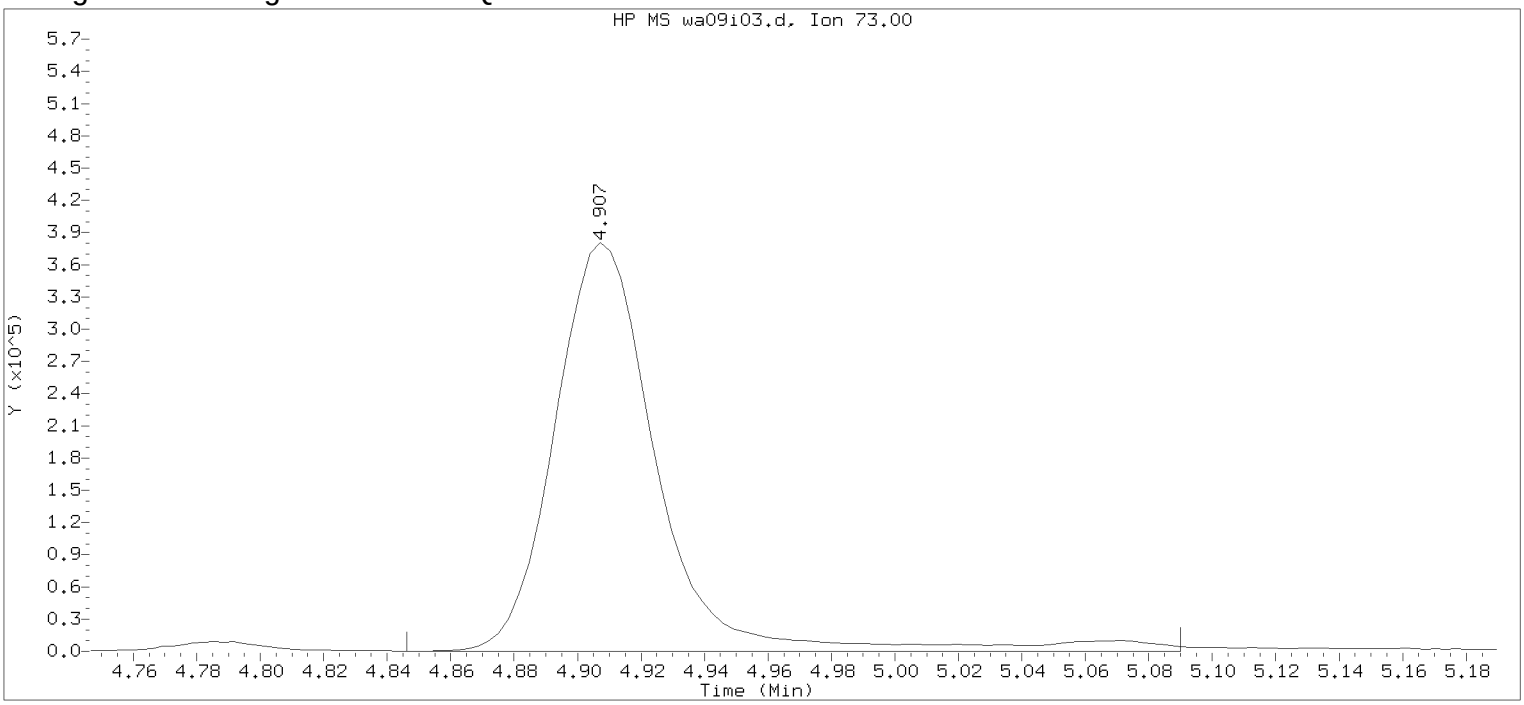
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:55.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i03.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 12:03 Analyst ID: nsl01327

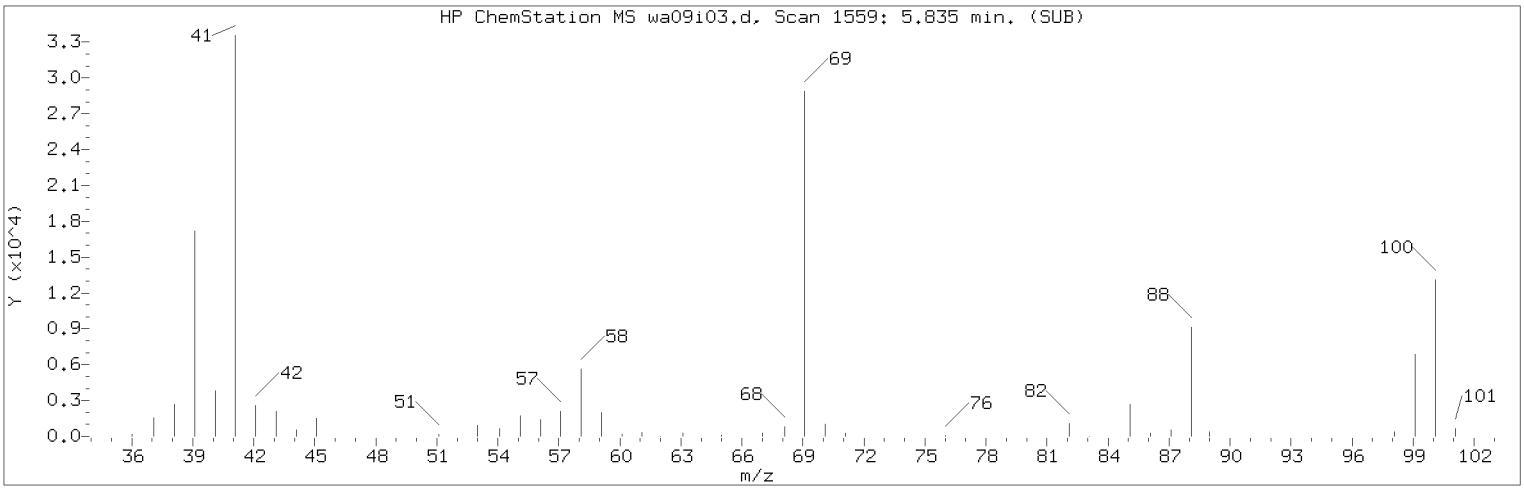
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 12:19
Date, time and analyst ID of latest file update: 09-Apr-2018 12:19 Automation

Sample Name: VSTD050 Lab Sample ID: VSTD050

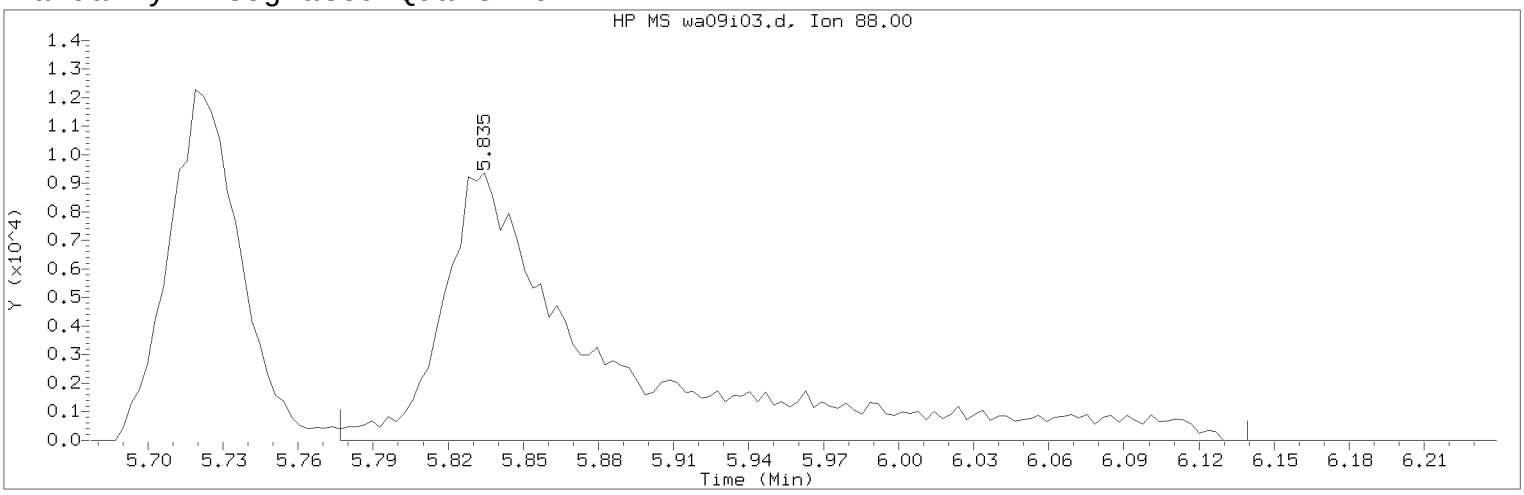
Compound Number : 65
Compound Name : t-Amyl methyl ether
Scan Number : 1270
Retention Time (minutes): 4.907
Quant Ion : 73.00
Area : 863297
On-column Amount (ng) : 51.4796
Integration start scan : 1250 Integration stop scan: 1326
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1185 meaning: 127

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i03.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 12:03 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD050 Lab Sample ID: VSTD050

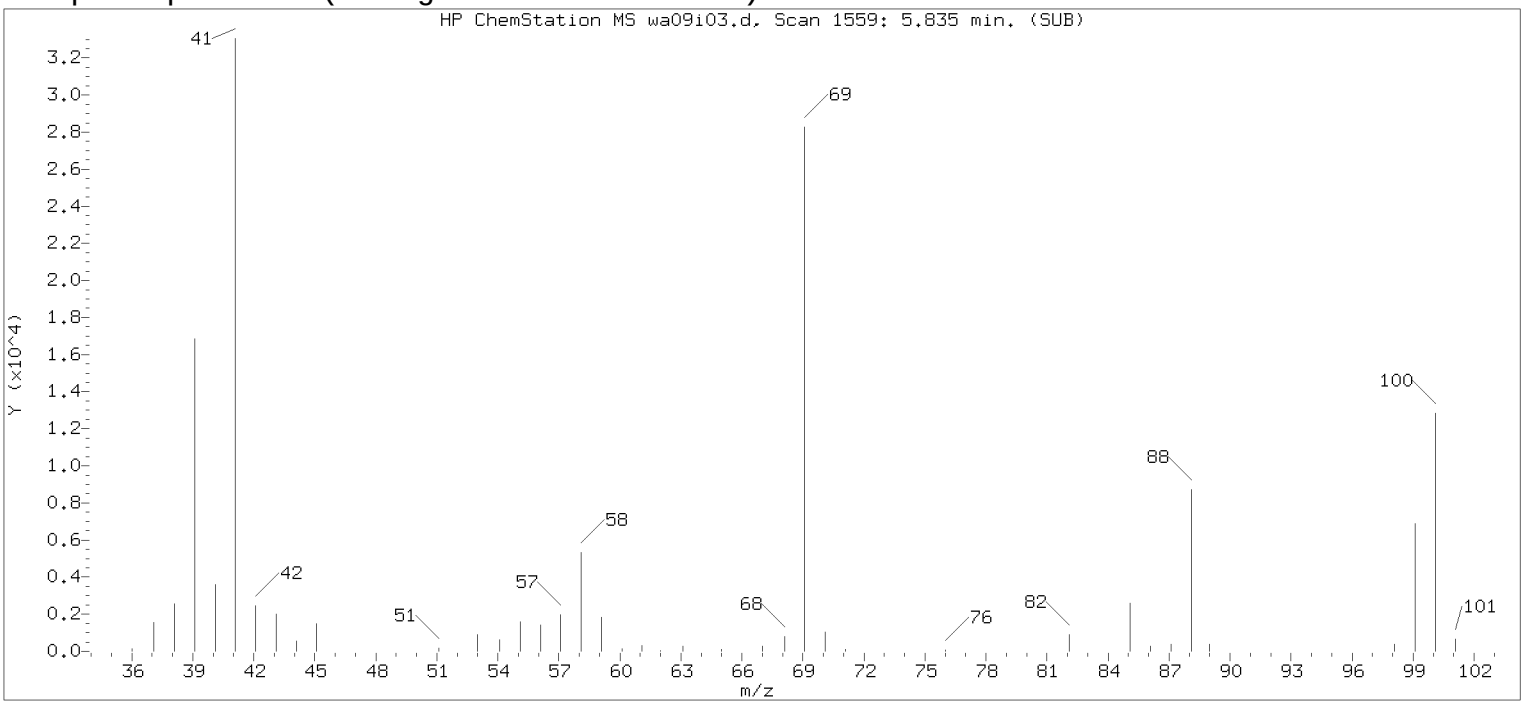
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 1559
Retention Time (minutes): 5.835
Quant Ion : 88.00
Area (flag) : 43110M
On-Column Amount (ng) : 713.7269
Integration start scan : 1540 Integration stop scan: 1653
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

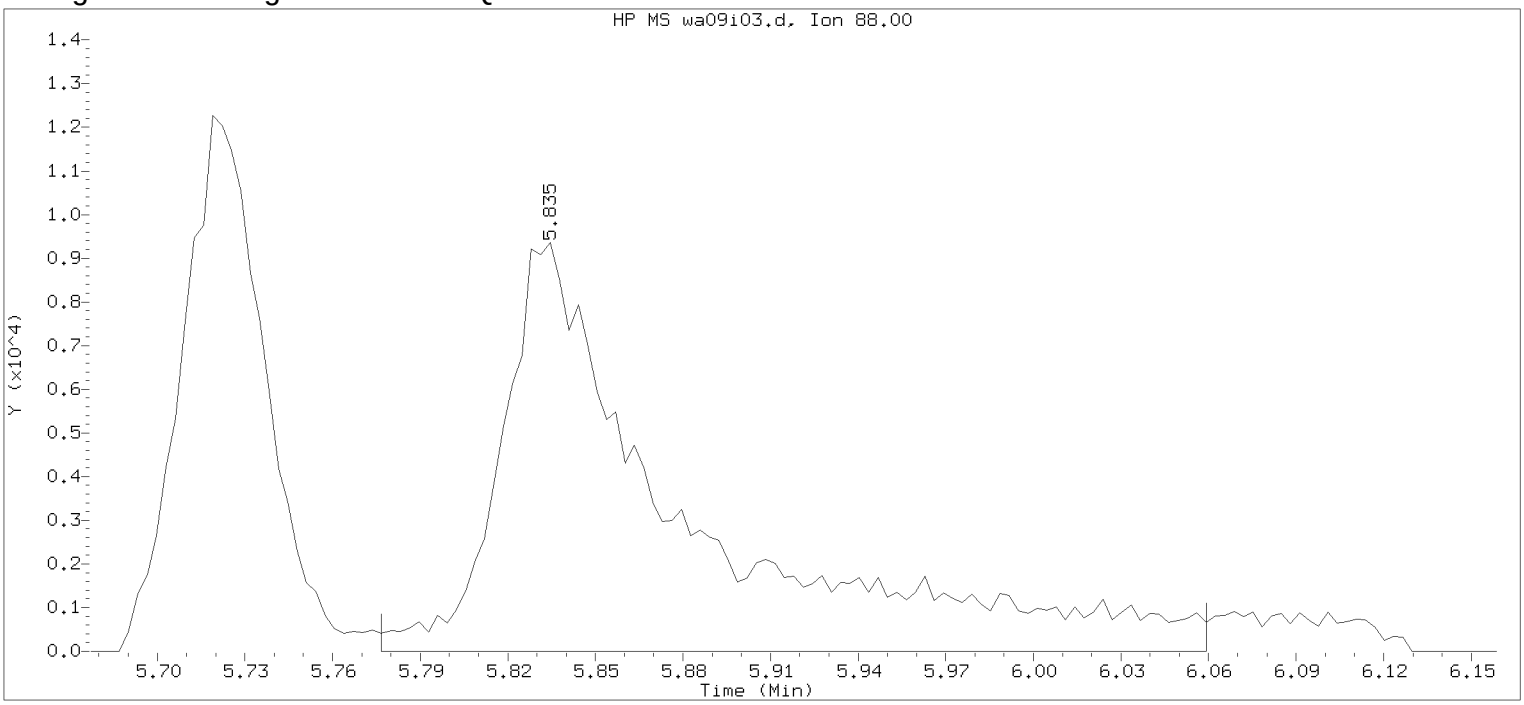
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:55.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



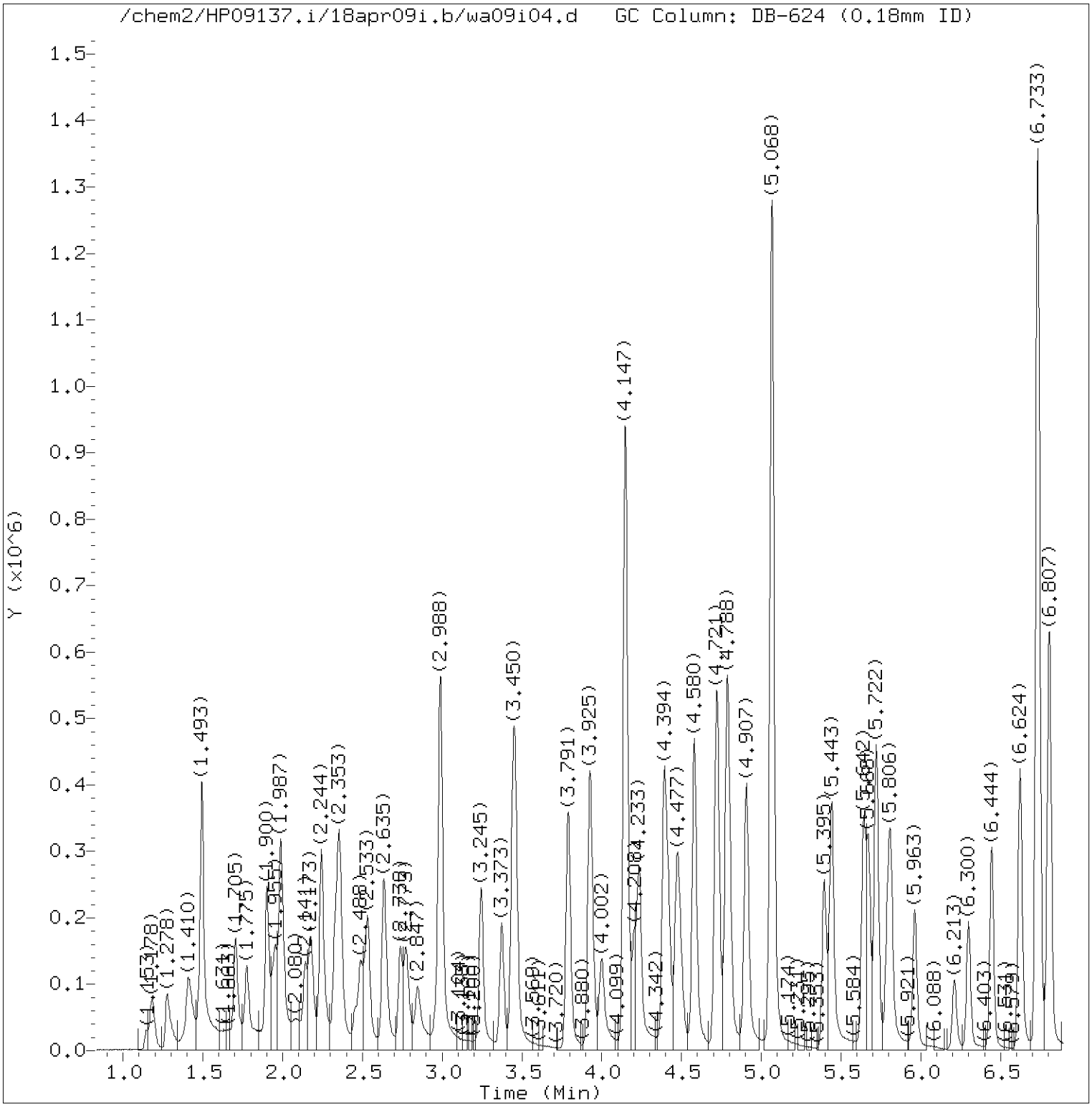
Data File: /chem2/HP09137.i/18apr09i.b/wa09i03.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 12:03 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 12:19
Date, time and analyst ID of latest file update: 09-Apr-2018 12:19 Automation

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 1559
Retention Time (minutes): 5.835
Quant Ion : 88.00
Area : 40230
On-column Amount (ng) : 757.5128
Integration start scan : 1540 Integration stop scan: 1628
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1185 meaning: 2017



Total Ion Chromatogram (TIC)

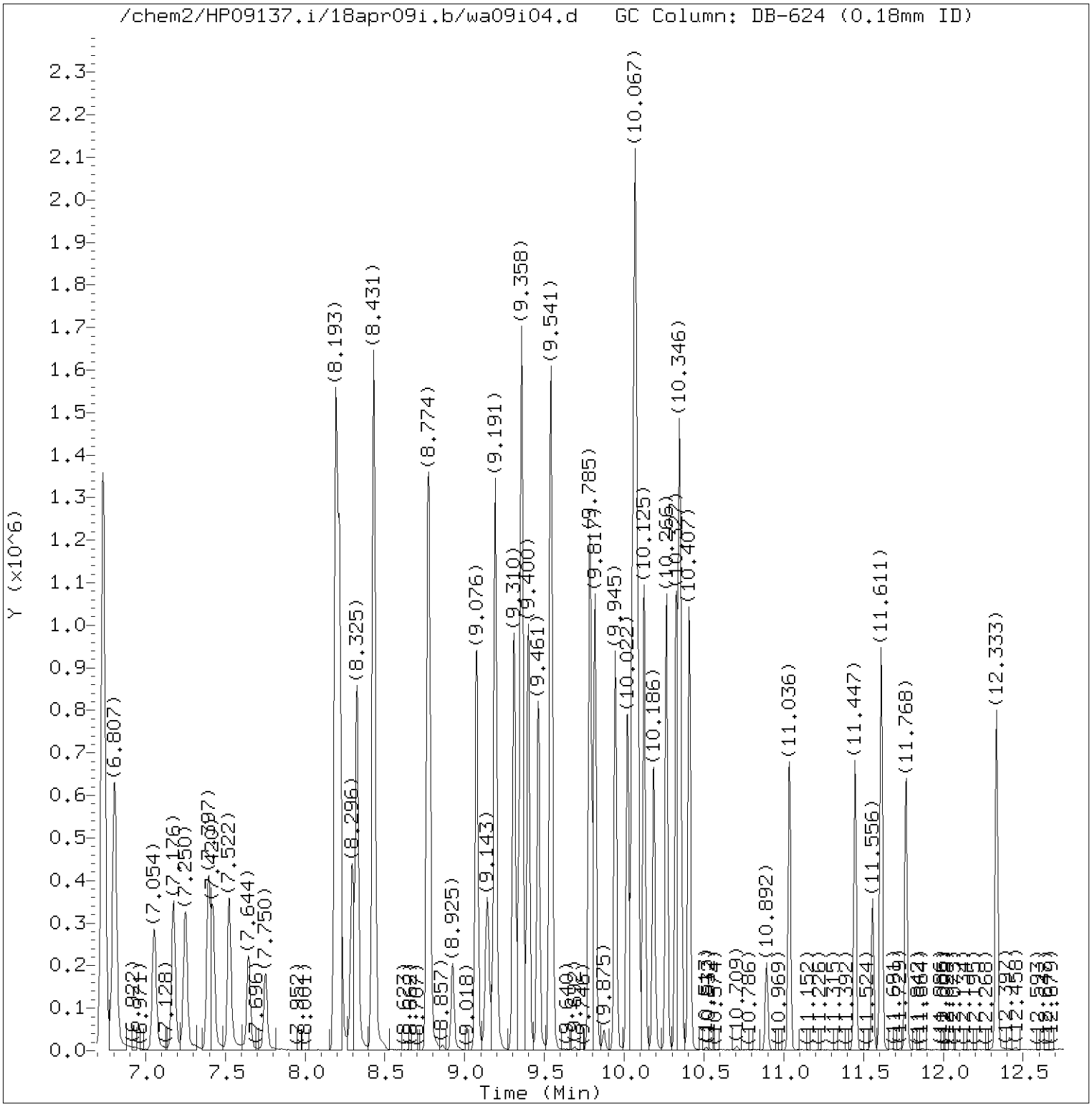
Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i04.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 12:27 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD020 Lab Sample ID: VSTD020

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i04.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 12:27 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD020 Lab Sample ID: VSTD020

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i04.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 12:27 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD020 Lab Sample ID: VSTD020

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
3) Dichlorodifluoromethane	(2)	1.275	85	141333	20.762
4) Chloromethane	(2)	1.410	50	147318	20.204
6) Vinyl Chloride	(2)	1.483	62	152528	20.698
5) 1,3-Butadiene	(2)	1.493	39	105956	19.621
8) Bromomethane	(2)	1.702	94	106210	19.840
9) Chloroethane	(2)	1.775	64	89704	20.391
10) Dichlorofluoromethane	(2)	1.900	67	201113	21.695
12) Trichlorofluoromethane	(2)	1.949	101	172379	21.037
11) n-Pentane	(2)	1.990	43	176373M	20.276
13) Ethanol	(1)	2.090	45	49691	961.820
15) Freon 123a	(2)	2.176	67	120569	19.922
16) Acrolein	(1)	2.244	56	276247	210.732
17) 1,1-Dichloroethene	(2)	2.330	96	95959	21.029
17) 1,1-Dichloroethene	(2)	2.330	63	44594	21.032
19) Freon 113	(2)	2.353	101	100764	21.789
18) Acetone	(1)	2.369	58	22212	40.333
22) Methyl Iodide	(2)	2.488	142	185129	20.891
21) 2-Propanol	(1)	2.491	45	63361	166.393
23) Carbon Disulfide	(2)	2.533	76	319232	21.201
25) Allyl Chloride	(2)	2.635	41	152049	20.876
27) Methyl Acetate	(2)	2.651	43	95740	17.962
28) Methylene Chloride	(2)	2.738	84	109321	20.616
29)*t-Butyl alcohol-d10	(1)	2.773	65	161544	250.000
30) t-Butyl alcohol	(1)	2.847	59	132808	191.284
31) Acrylonitrile	(2)	2.966	53	47664	17.545
32) trans-1,2-Dichloroethene	(2)	2.988	96	106159	21.139
33) Methyl Tertiary Butyl Ether	(2)	2.991	73	353294	20.752
34) n-Hexane	(2)	3.245	57	123522	21.148
36) 1,1-Dichloroethane	(2)	3.373	63	178312	20.931
38) di-Isopropyl ether	(2)	3.444	45	331427	20.783
39) 2-Chloro-1,3-butadiene	(2)	3.463	53	158028	20.992
40) Ethyl t-butyl ether	(2)	3.791	59	330370	20.799
45) 2,2-Dichloropropane	(2)	3.922	77	101631	22.078
42) cis-1,2-Dichloroethene	(2)	3.925	96	120087	21.191
44) 2-Butanone	(2)	3.941	43	136173	35.963
47) Propionitrile	(1)	4.002	54	182307	210.038
43) 1,2-Dichloroethene (Total)	(2)		96	226246	42.330
48) Methacrylonitrile	(2)	4.147	67	318830	99.443

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

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i04.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 12:27 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD020 Lab Sample ID: VSTD020

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
49) Bromochloromethane	(2)	4.153	128	59705	20.701
50) Tetrahydrofuran	(1)	4.201	71	42112	45.374
51) Chloroform	(2)	4.237	83	184456	21.120
52)$Dibromofluoromethane	(2)	4.391	113	237652	49.928
52)$Dibromofluoromethane	(2)	4.394	111	246349	50.535
53) 1,1,1-Trichloroethane	(2)	4.416	97	163918	21.089
54) Cyclohexane	(2)	4.474	56	168183	21.264
54) Cyclohexane	(2)	4.477	84	153122	21.027
54) Cyclohexane	(2)	4.477	69	54026	21.007
55) 1,1-Dichloropropene	(2)	4.580	75	147864	21.258
56) Carbon Tetrachloride	(2)	4.583	117	122264	20.770
58) Isobutyl Alcohol	(1)	4.711	41	112407	493.567
57)$1,2-Dichloroethane-d4	(2)	4.724	102	61481	49.193
57)$1,2-Dichloroethane-d4	(2)	4.724	65	287921	51.263
57)$1,2-Dichloroethane-d4	(2)	4.728	104	39885	49.269
60) Benzene	(2)	4.785	78	437389	20.914
61) 1,2-Dichloroethane	(2)	4.805	62	147173	20.182
61) 1,2-Dichloroethane	(2)	4.801	98	14973	20.839
65) t-Amyl methyl ether	(2)	4.907	73	346299	20.889
66)*Fluorobenzene	(2)	5.064	96	1044137	50.000
67) n-Heptane	(2)	5.071	43	117258	22.384
69) n-Butanol	(1)	5.395	56	225289	1051.291
71) Trichloroethene	(2)	5.443	95	118692	21.378
72) Methylcyclohexane	(2)	5.642	83	155096	20.777
72) Methylcyclohexane	(2)	5.645	98	76305	21.750
73) 1,2-Dichloropropane	(2)	5.671	63	113336	21.402
74) Dibromomethane	(2)	5.793	93	73954	20.594
76) Methyl Methacrylate	(2)	5.809	69	114837	20.298
75) 1,4-Dioxane	(1)	5.831	88	32521M	555.584
78) Bromodichloromethane	(2)	5.963	83	143001	21.060
79) 2-Nitropropane	(2)	6.210	41	71162	37.854
80) 2-Chloroethyl Vinyl Ether	(2)	6.297	63	89656	20.785
81) cis-1,3-Dichloropropene	(2)	6.444	75	185424	20.711
82) 4-Methyl-2-pentanone	(2)	6.621	43	304930	39.061
83)$Toluene-d8	(3)	6.733	98	1040146	50.179
83)$Toluene-d8	(3)	6.733	100	689950	49.388
88) Toluene	(3)	6.807	92	300983	21.198
89) trans-1,3-Dichloropropene	(3)	7.054	75	174448	20.622

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

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i04.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 12:27 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD020 Lab Sample ID: VSTD020

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
91) Ethyl Methacrylate	(3)	7.176	69	202141	20.643
92) 1,1,2-Trichloroethane	(3)	7.250	97	114299	20.481
90) 1,3-Dichloropropene (total)	(3)		100	359872	41.333
93) Tetrachloroethene	(3)	7.394	166	120633	20.879
94) 1,3-Dichloropropane	(3)	7.423	76	193290	20.954
96) 2-Hexanone	(3)	7.522	43	247263	39.673
97) Dibromochloromethane	(3)	7.648	129	117892	20.773
99) 1,2-Dibromoethane	(3)	7.754	107	126275	20.773
100)*Chlorobenzene-d5	(3)	8.193	117	808445	50.000
102) Chlorobenzene	(3)	8.219	112	337427	20.859
103) 1,1,1,2-Tetrachloroethane	(3)	8.296	131	109891	21.149
104) Ethylbenzene	(3)	8.325	91	555422	21.143
106) m+p-Xylene	(3)	8.431	106	451161	42.023
107) o-Xylene	(3)	8.768	106	223611	20.853
109) Styrene	(3)	8.780	104	382569	20.882
108) Xylene (Total)	(3)		106	674772	62.876
110) Bromoform	(3)	8.925	173	82670	20.298
111) Isopropylbenzene	(3)	9.076	105	540397	21.185
112) Cyclohexanone	(1)	9.143	55	145858	540.787
114)$4-Bromofluorobenzene	(3)	9.191	95	391786	50.041
114)$4-Bromofluorobenzene	(3)	9.191	174	319651	50.039
115) Bromobenzene	(4)	9.307	156	145748	20.945
116) 1,1,2,2-Tetrachloroethane	(4)	9.310	83	184052	20.552
117) 1,2,3-Trichloropropane	(4)	9.342	110	56979	20.259
118) trans-1,4-Dichloro-2-butene	(4)	9.358	53	259385	105.372
119) n-Propylbenzene	(4)	9.400	91	623142	21.439
120) 2-Chlorotoluene	(4)	9.461	126	135418	21.172
122) 1,3,5-Trimethylbenzene	(4)	9.534	105	459022	21.255
121) 4-Chlorotoluene	(4)	9.544	126	143627	20.980
124) tert-Butylbenzene	(4)	9.782	134	101565	21.213
125) Pentachloroethane	(4)	9.794	167	76440	20.681
126) 1,2,4-Trimethylbenzene	(4)	9.817	105	479763	21.242
127) sec-Butylbenzene	(4)	9.945	105	524611	21.456
129) 1,3-Dichlorobenzene	(4)	10.019	146	270875	20.600
130) p-Isopropyltoluene	(4)	10.051	119	463257	21.063
131)*1,4-Dichlorobenzene-d4	(4)	10.067	152	425782	50.000
133) 1,4-Dichlorobenzene	(4)	10.086	146	282492	20.651
134) 1,2,3-Trimethylbenzene	(4)	10.125	105	488166	20.983

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

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i04.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 12:27 Analyst ID: nsl01327

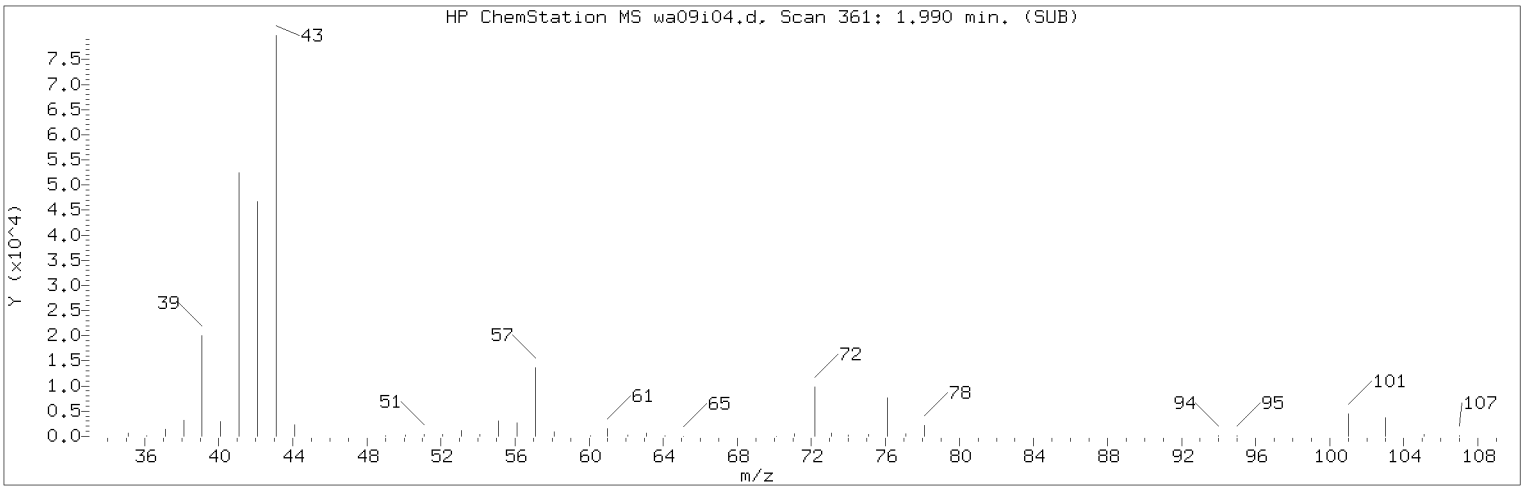
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD020 Lab Sample ID: VSTD020

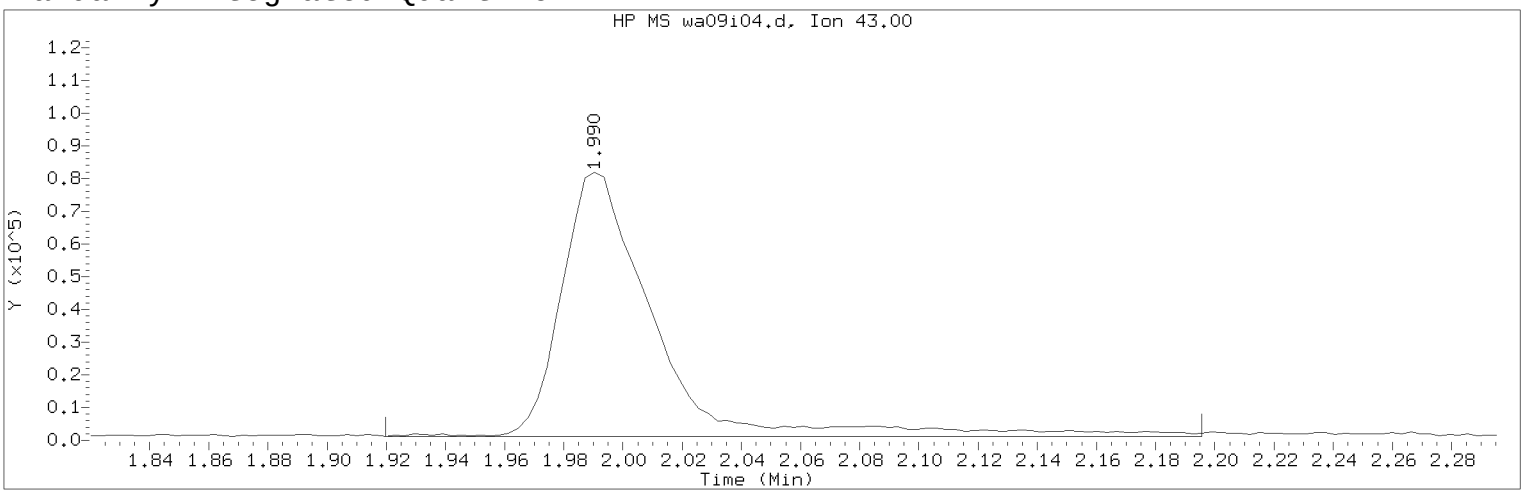
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
135) Benzyl Chloride	(4)	10.186	91	381146	21.047
136) 1,3-Diethylbenzene	(4)	10.266	119	275656	21.024
137) 1,4-Diethylbenzene	(4)	10.324	119	283740	20.877
139) n-Butylbenzene	(4)	10.343	92	216055	20.659
138) 1,2-Dichlorobenzene	(4)	10.353	146	268296	20.465
140) 1,2-Diethylbenzene	(4)	10.407	119	233442	20.741
141) Diethylbenzene (total)	(4)		100	792838	62.641
142) 1,2-Dibromo-3-chloropropane	(4)	10.892	75	38040	19.960
144) 1,3,5-Trichlorobenzene	(4)	11.036	180	164820	19.776
146) 1,2,4-Trichlorobenzene	(4)	11.447	180	161116	19.512
147) Hexachlorobutadiene	(4)	11.559	225	47316	19.335
148) Naphthalene	(4)	11.611	128	596759	19.918
149) 1,2,3-Trichlorobenzene	(4)	11.768	180	150840	19.245
150) 2-Methylnaphthalene	(4)	12.333	142	297997	18.897

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i04.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 12:27 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD020 Lab Sample ID: VSTD020

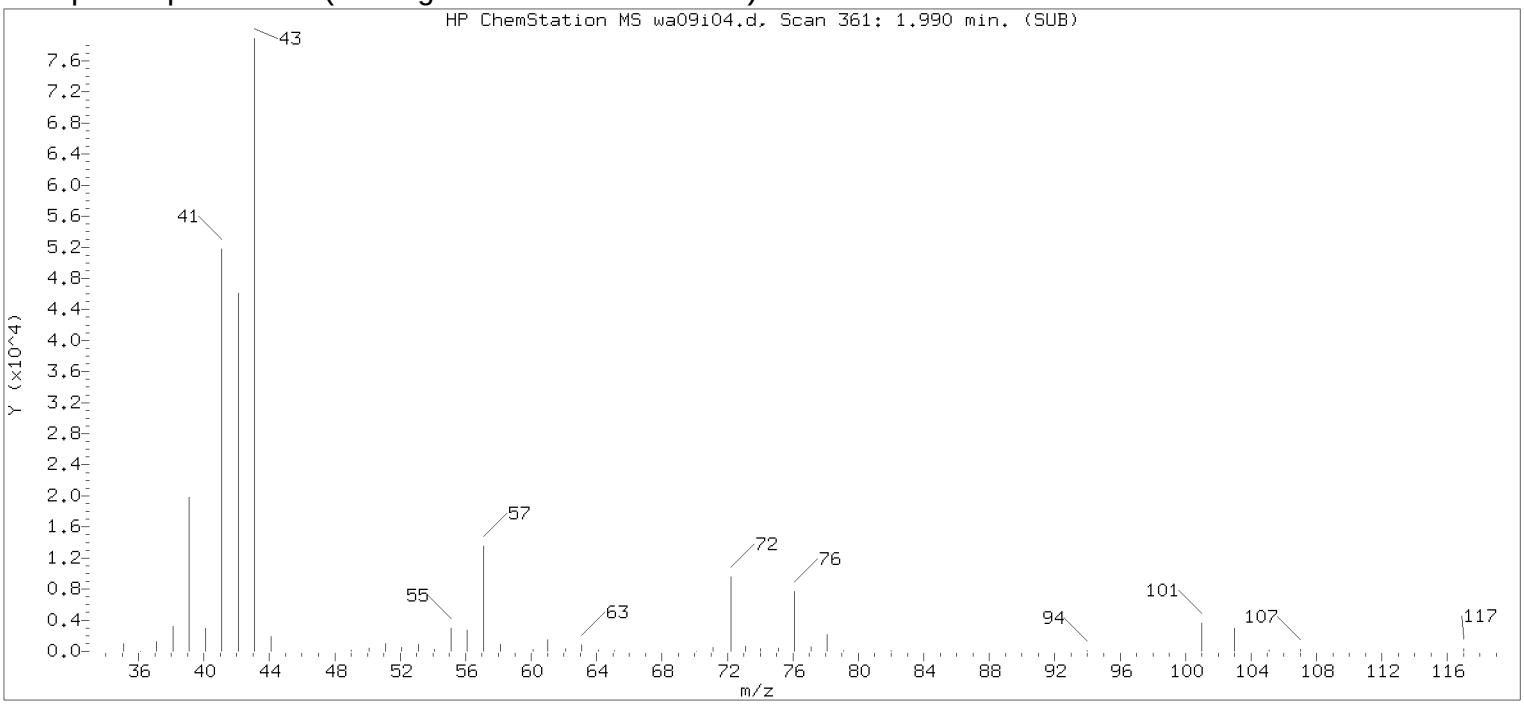
Compound Number : 11
Compound Name : n-Pentane
Scan Number : 361
Retention Time (minutes): 1.990
Quant Ion : 43.00
Area (flag) : 176373M
On-Column Amount (ng) : 20.2760
Integration start scan : 338 Integration stop scan: 424
Y at integration start : 1228 Y at integration end: 1228

Reason for manual integration: improper integration

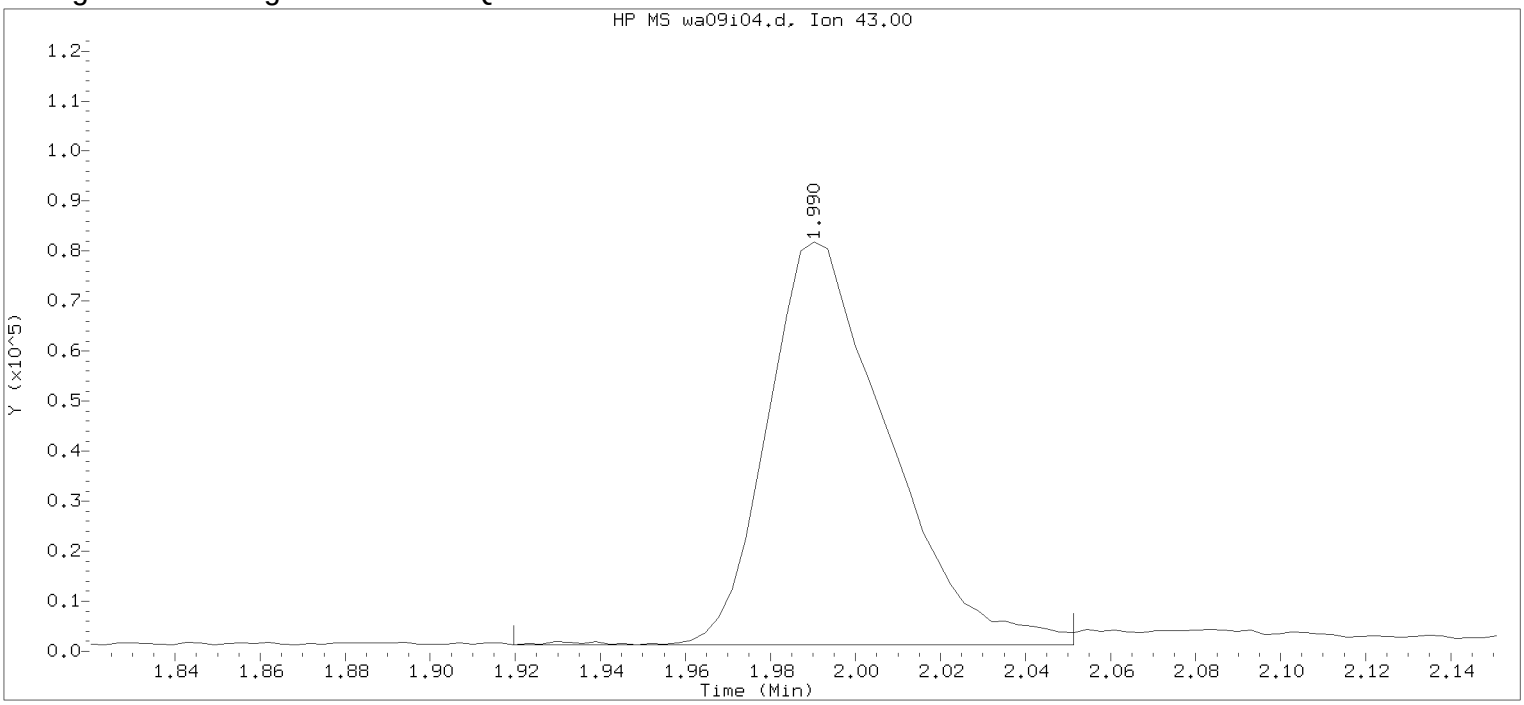
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:55.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i04.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 12:27 Analyst ID: nsl01327

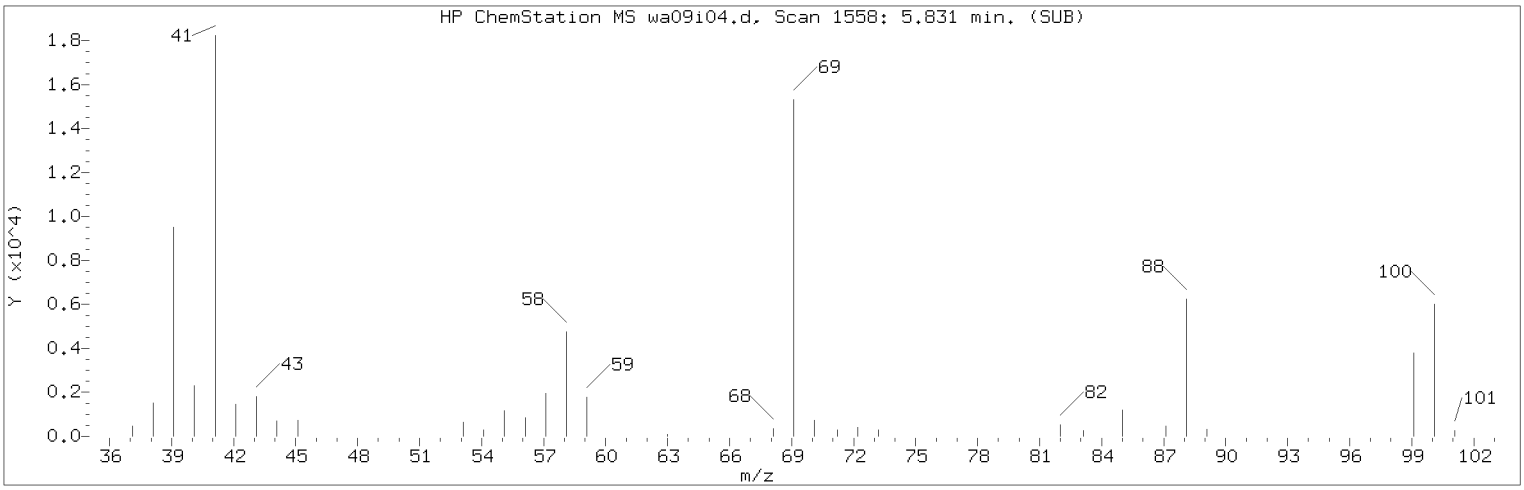
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 12:42
Date, time and analyst ID of latest file update: 09-Apr-2018 12:43 Automation

Sample Name: VSTD020 Lab Sample ID: VSTD020

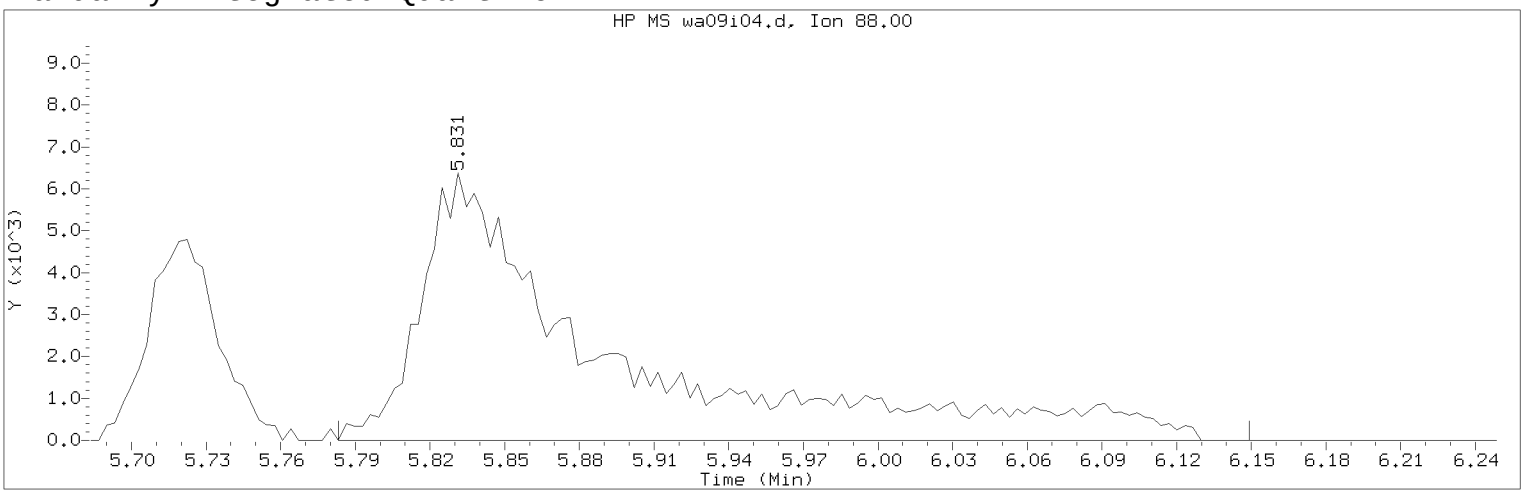
Compound Number : 11
Compound Name : n-Pentane
Scan Number : 361
Retention Time (minutes): 1.990
Quant Ion : 43.00
Area : 159100
On-column Amount (ng) : 19.5983
Integration start scan : 338 Integration stop scan: 379
Y at integration start : 1228 Y at integration end: 1228

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i04.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 12:27 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:02 nsl01327

Sample Name: VSTD020 Lab Sample ID: VSTD020

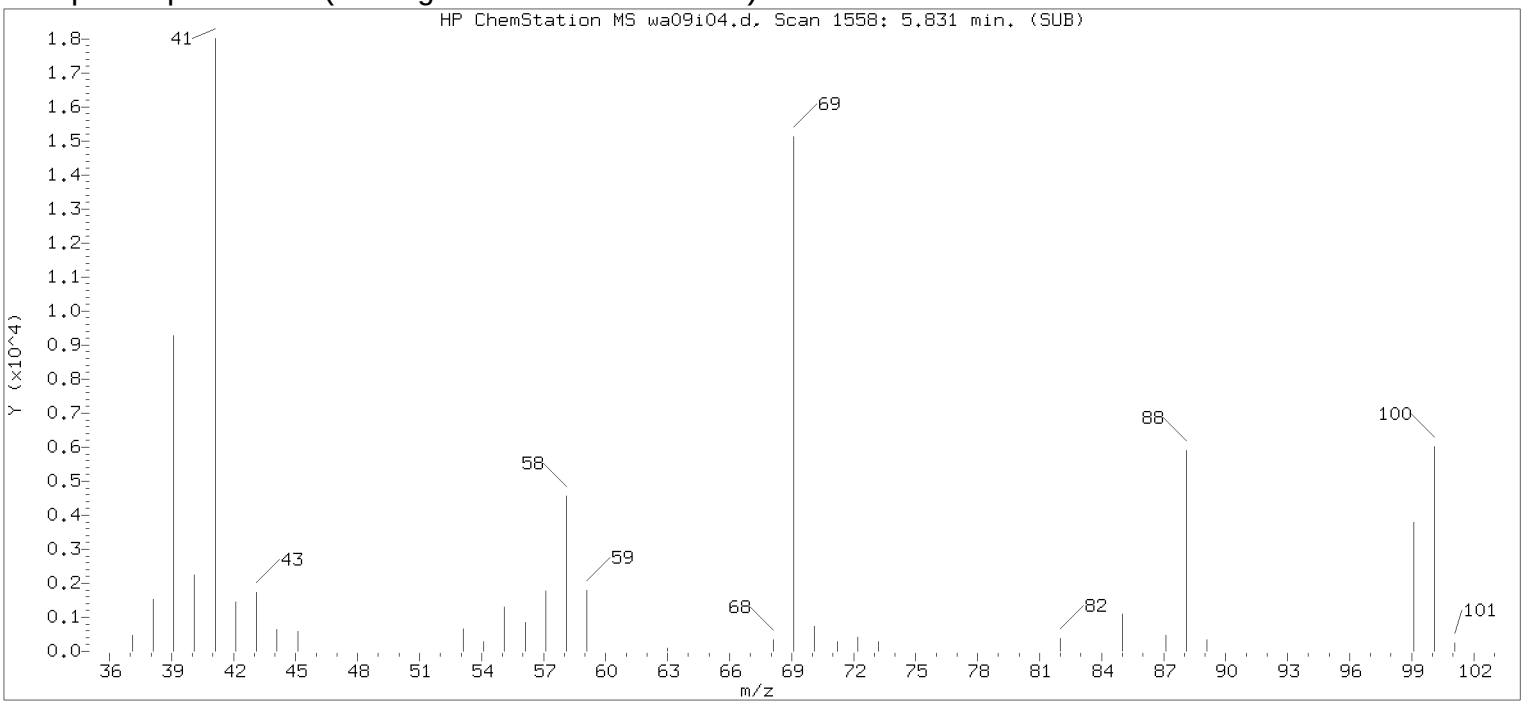
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 1558
Retention Time (minutes): 5.831
Quant Ion : 88.00
Area (flag) : 32521M
On-Column Amount (ng) : 555.5839
Integration start scan : 1542 Integration stop scan: 1656
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

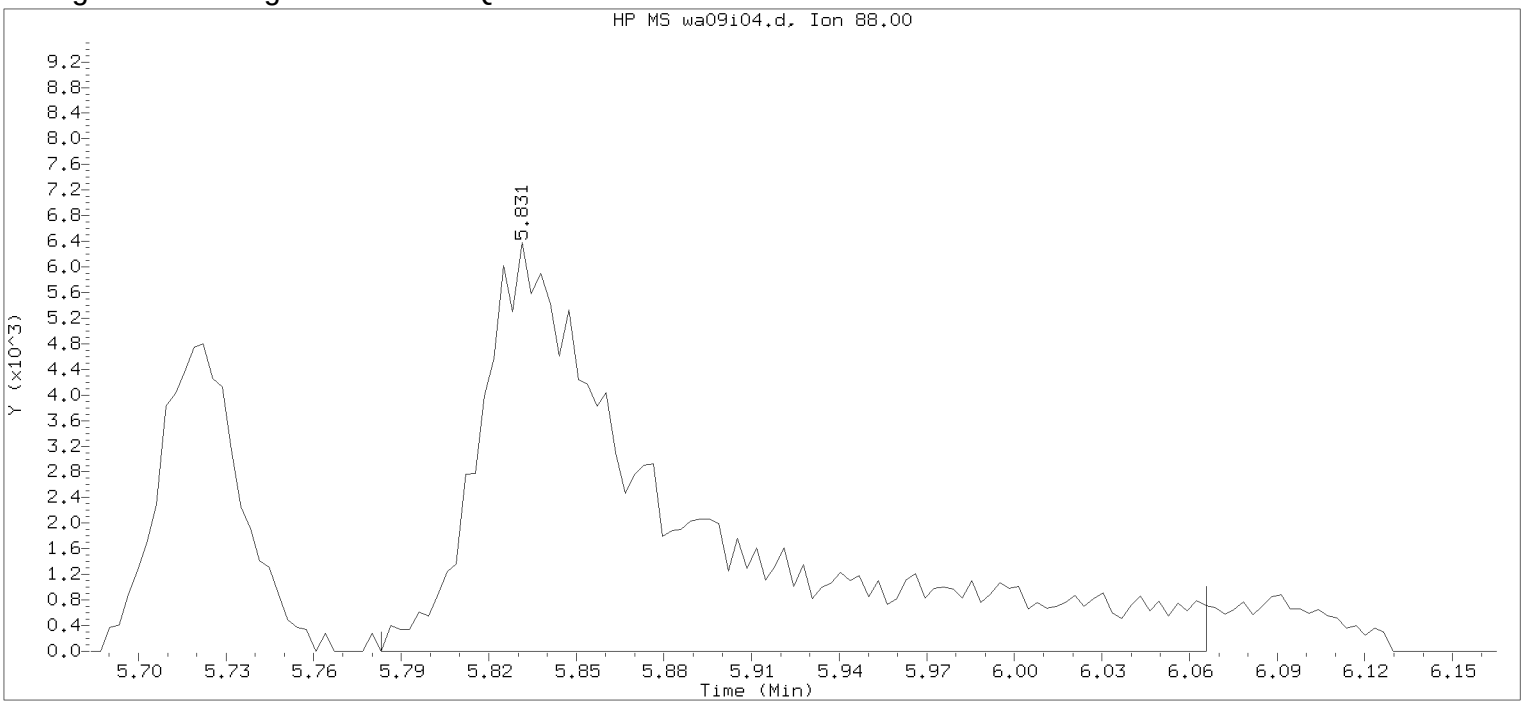
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:55.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



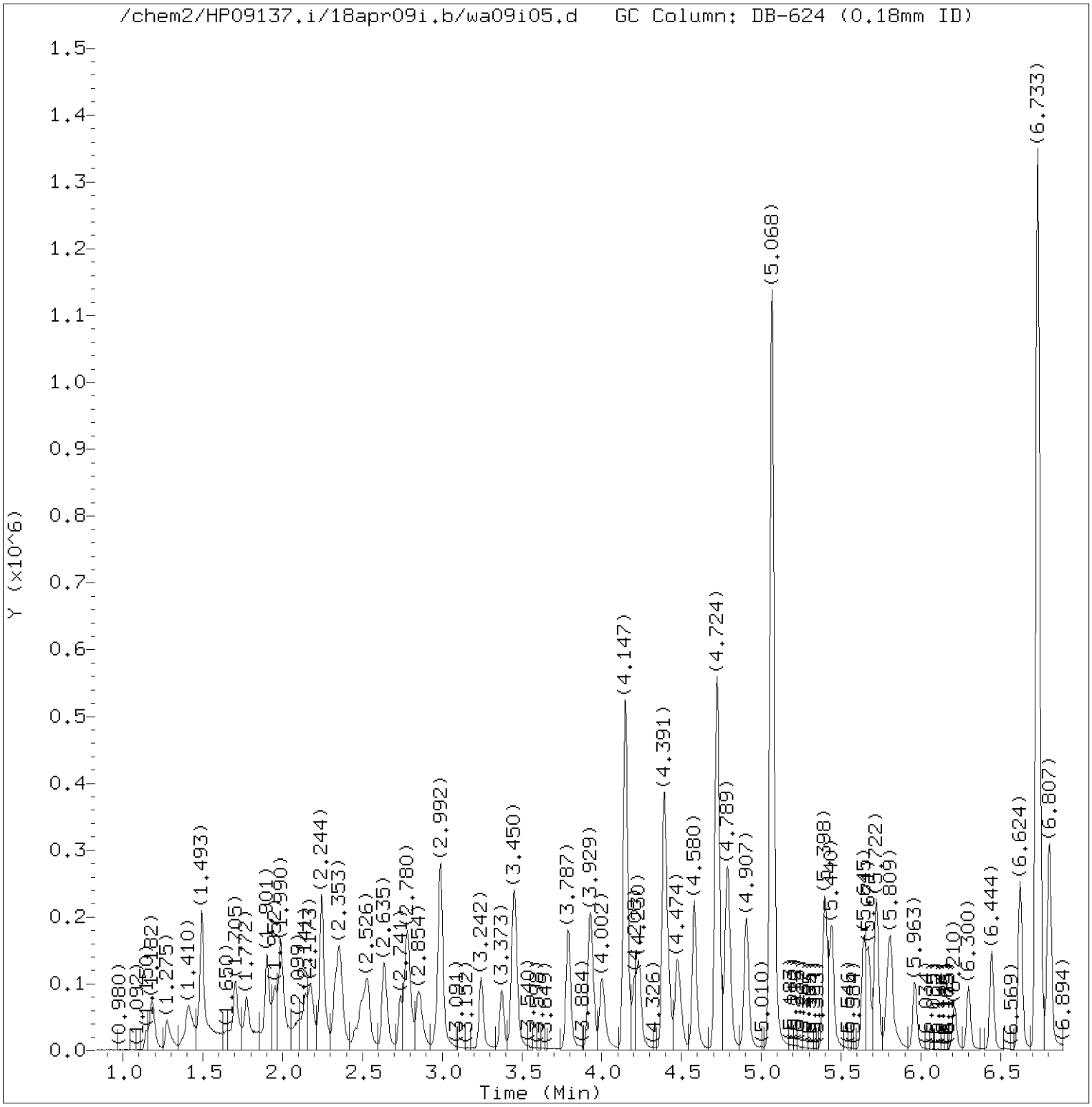
Data File: /chem2/HP09137.i/18apr09i.b/wa09i04.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 12:27 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 12:42
Date, time and analyst ID of latest file update: 09-Apr-2018 12:43 Automation

Sample Name: VSTD020 Lab Sample ID: VSTD020

Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 1558
Retention Time (minutes): 5.831
Quant Ion : 88.00
Area : 30336
On-column Amount (ng) : 493.9715
Integration start scan : 1542 Integration stop scan: 1630
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1327



Total Ion Chromatogram (TIC)

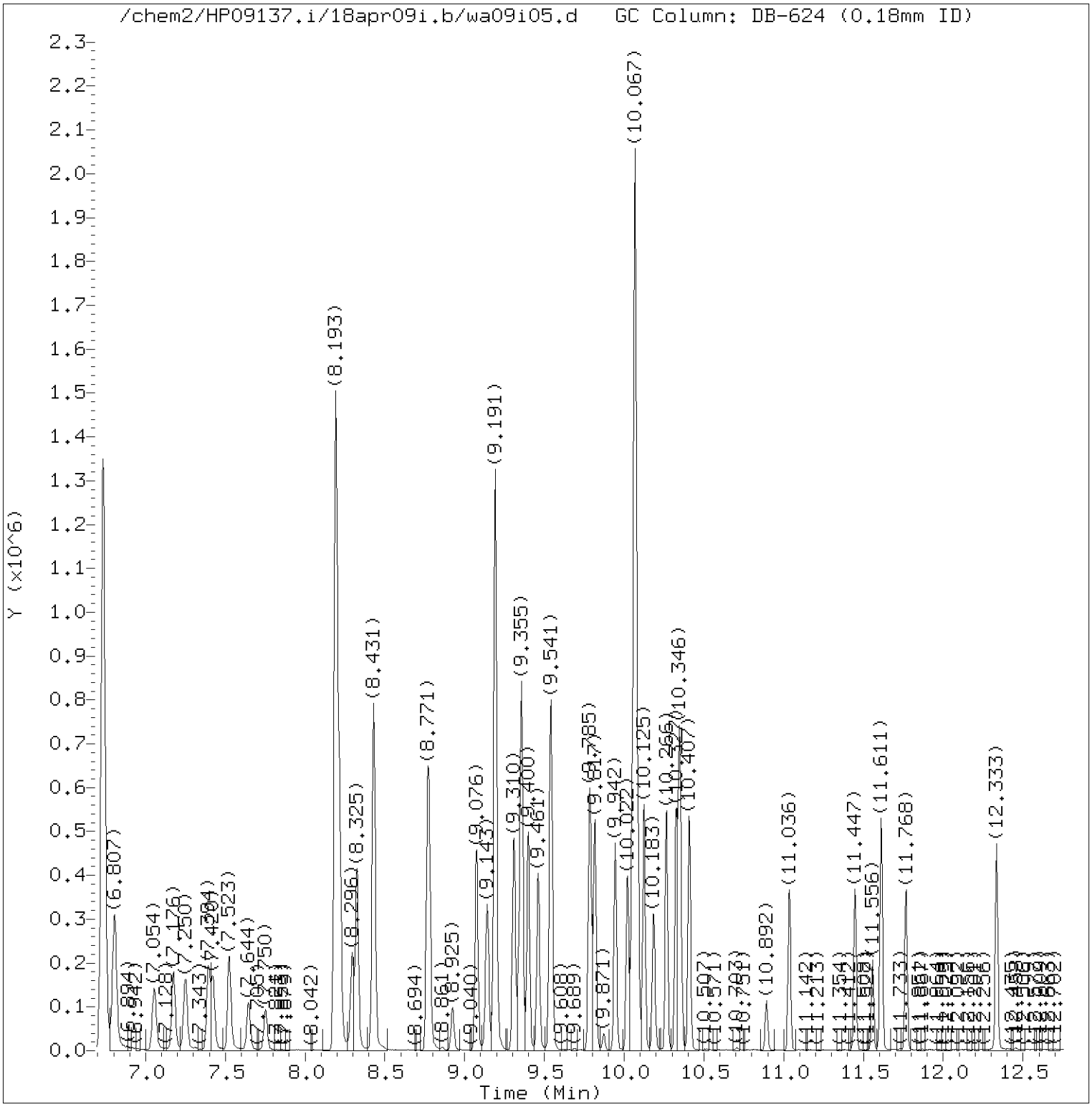
Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i05.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 12:51 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i05.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 12:51 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i05.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 12:51 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
3) Dichlorodifluoromethane	(2)	1.275	85	73376	10.998
4) Chloromethane	(2)	1.413	50	78411	10.972
6) Vinyl Chloride	(2)	1.483	62	78845	10.916
5) 1,3-Butadiene	(2)	1.493	39	53840	10.172
8) Bromomethane	(2)	1.702	94	57281	10.917
9) Chloroethane	(2)	1.775	64	46966	10.892
10) Dichlorofluoromethane	(2)	1.904	67	109641	12.067
12) Trichlorofluoromethane	(2)	1.952	101	86789	10.806
11) n-Pentane	(2)	1.990	43	88574	10.389
13) Ethanol	(1)	2.112	45	56440	662.463
15) Freon 123a	(2)	2.173	67	61657	10.394
16) Acrolein	(1)	2.244	56	186960	90.584
17) 1,1-Dichloroethene	(2)	2.337	96	45142	10.093
17) 1,1-Dichloroethene	(2)	2.327	63	21491	10.341
19) Freon 113	(2)	2.356	101	45349	10.005
18) Acetone	(1)	2.372	58	17899	20.643
22) Methyl Iodide	(2)	2.488	142	90460	10.415
21) 2-Propanol	(1)	2.507	45	74007	123.439
23) Carbon Disulfide	(2)	2.533	76	152500	10.333
25) Allyl Chloride	(2)	2.632	41	75100	10.520
27) Methyl Acetate	(2)	2.651	43	59257	11.343
28) Methylene Chloride	(2)	2.738	84	53257	10.247
29)*t-Butyl alcohol-d10	(1)	2.780	65	254345	250.000
30) t-Butyl alcohol	(1)	2.860	59	128148M	117.228
31) Acrylonitrile	(2)	2.966	53	32618	12.250
32) trans-1,2-Dichloroethene	(2)	2.988	96	50785	10.318
33) Methyl Tertiary Butyl Ether	(2)	2.992	73	175871	10.540
34) n-Hexane	(2)	3.245	57	57289	10.007
36) 1,1-Dichloroethane	(2)	3.373	63	87635	10.496
38) di-Isopropyl ether	(2)	3.444	45	161554	10.336
39) 2-Chloro-1,3-butadiene	(2)	3.460	53	76724	10.399
40) Ethyl t-butyl ether	(2)	3.787	59	162779	10.456
45) 2,2-Dichloropropane	(2)	3.922	77	50095	11.103
42) cis-1,2-Dichloroethene	(2)	3.925	96	57709	10.390
44) 2-Butanone	(2)	3.945	43	88482	23.842
47) Propionitrile	(1)	4.002	54	128836	94.276
43) 1,2-Dichloroethene (Total)	(2)		96	108494	20.707
48) Methacrylonitrile	(2)	4.147	67	172641	54.939

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

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i05.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 12:51 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
49) Bromochloromethane	(2)	4.153	128	30367	10.742
50) Tetrahydrofuran	(1)	4.205	71	26294	17.994
51) Chloroform	(2)	4.233	83	88731	10.365
52)$Dibromofluoromethane	(2)	4.391	113	235932	50.572
52)$Dibromofluoromethane	(2)	4.391	111	240932	50.426
53) 1,1,1-Trichloroethane	(2)	4.420	97	80779	10.603
54) Cyclohexane	(2)	4.481	56	77945	10.055
54) Cyclohexane	(2)	4.481	84	81167	11.372
54) Cyclohexane	(2)	4.474	69	25040	9.934
55) 1,1-Dichloropropene	(2)	4.580	75	68711	10.079
56) Carbon Tetrachloride	(2)	4.580	117	57282	9.928
58) Isobutyl Alcohol	(1)	4.718	41	95340	265.886
57)$1,2-Dichloroethane-d4	(2)	4.724	102	64620	52.753
57)$1,2-Dichloroethane-d4	(2)	4.724	65	287181	52.168
57)$1,2-Dichloroethane-d4	(2)	4.724	104	41254	51.994
60) Benzene	(2)	4.785	78	214870	10.483
61) 1,2-Dichloroethane	(2)	4.801	62	74481	10.421
61) 1,2-Dichloroethane	(2)	4.798	98	7396	10.502
65) t-Amyl methyl ether	(2)	4.907	73	173054	10.650
67) n-Heptane	(2)	5.068	43	49057	9.555
66)*Fluorobenzene	(2)	5.068	96	1023385	50.000
69) n-Butanol	(1)	5.401	56	168643	499.826
71) Trichloroethene	(2)	5.443	95	56548	10.392
72) Methylcyclohexane	(2)	5.642	83	76803	10.497
72) Methylcyclohexane	(2)	5.639	98	35575	10.346
73) 1,2-Dichloropropane	(2)	5.671	63	54059	10.415
74) Dibromomethane	(2)	5.793	93	37544	10.667
76) Methyl Methacrylate	(2)	5.809	69	58300	10.514
75) 1,4-Dioxane	(1)	5.844	88	23010	249.672
78) Bromodichloromethane	(2)	5.963	83	68655	10.316
79) 2-Nitropropane	(2)	6.207	41	41631	22.594
80) 2-Chloroethyl Vinyl Ether	(2)	6.300	63	44207	10.456
81) cis-1,3-Dichloropropene	(2)	6.444	75	91602	10.439
82) 4-Methyl-2-pentanone	(2)	6.624	43	176228	23.033
83)$Toluene-d8	(3)	6.733	98	1015029	49.799
83)$Toluene-d8	(3)	6.733	100	671290	48.868
88) Toluene	(3)	6.804	92	141553	10.139
89) trans-1,3-Dichloropropene	(3)	7.054	75	84630	10.174

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

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i05.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 12:51 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
91) Ethyl Methacrylate	(3)	7.176	69	95720	9.941
92) 1,1,2-Trichloroethane	(3)	7.250	97	56973	10.382
90) 1,3-Dichloropropene (total)	(3)		100	176232	20.613
93) Tetrachloroethene	(3)	7.394	166	58261	10.255
94) 1,3-Dichloropropane	(3)	7.423	76	93235	10.279
96) 2-Hexanone	(3)	7.523	43	137049	22.363
97) Dibromochloromethane	(3)	7.644	129	55684	9.978
99) 1,2-Dibromoethane	(3)	7.750	107	62457	10.449
100)*Chlorobenzene-d5	(3)	8.190	117	794952	50.000
102) Chlorobenzene	(3)	8.219	112	161107	10.128
103) 1,1,1,2-Tetrachloroethane	(3)	8.296	131	52143	10.205
104) Ethylbenzene	(3)	8.325	91	265541	10.280
106) m+p-Xylene	(3)	8.431	106	215150	20.380
107) o-Xylene	(3)	8.768	106	106370	10.088
109) Styrene	(3)	8.777	104	180326	10.010
108) Xylene (Total)	(3)		106	321520	30.468
110) Bromoform	(3)	8.925	173	38653	9.651
111) Isopropylbenzene	(3)	9.072	105	262737	10.475
112) Cyclohexanone	(1)	9.143	55	114889	270.546
114)$4-Bromofluorobenzene	(3)	9.191	95	385468	50.070
114)$4-Bromofluorobenzene	(3)	9.191	174	314924	50.135
115) Bromobenzene	(4)	9.307	156	70703	10.181
116) 1,1,2,2-Tetrachloroethane	(4)	9.313	83	92363	10.334
117) 1,2,3-Trichloropropane	(4)	9.342	110	28508	10.156
118) trans-1,4-Dichloro-2-butene	(4)	9.355	53	127641	51.956
119) n-Propylbenzene	(4)	9.400	91	305935	10.547
120) 2-Chlorotoluene	(4)	9.461	126	66002	10.340
122) 1,3,5-Trimethylbenzene	(4)	9.538	105	227045	10.534
121) 4-Chlorotoluene	(4)	9.544	126	69498	10.172
124) tert-Butylbenzene	(4)	9.782	134	50051	10.475
125) Pentachloroethane	(4)	9.794	167	36844	9.988
126) 1,2,4-Trimethylbenzene	(4)	9.817	105	237574	10.540
127) sec-Butylbenzene	(4)	9.945	105	259700	10.643
129) 1,3-Dichlorobenzene	(4)	10.022	146	136478	10.400
130) p-Isopropyltoluene	(4)	10.051	119	232692	10.601
131)*1,4-Dichlorobenzene-d4	(4)	10.067	152	424932	50.000
133) 1,4-Dichlorobenzene	(4)	10.086	146	141733	10.382
134) 1,2,3-Trimethylbenzene	(4)	10.125	105	250505	10.789

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

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i05.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 12:51 Analyst ID: nsl01327

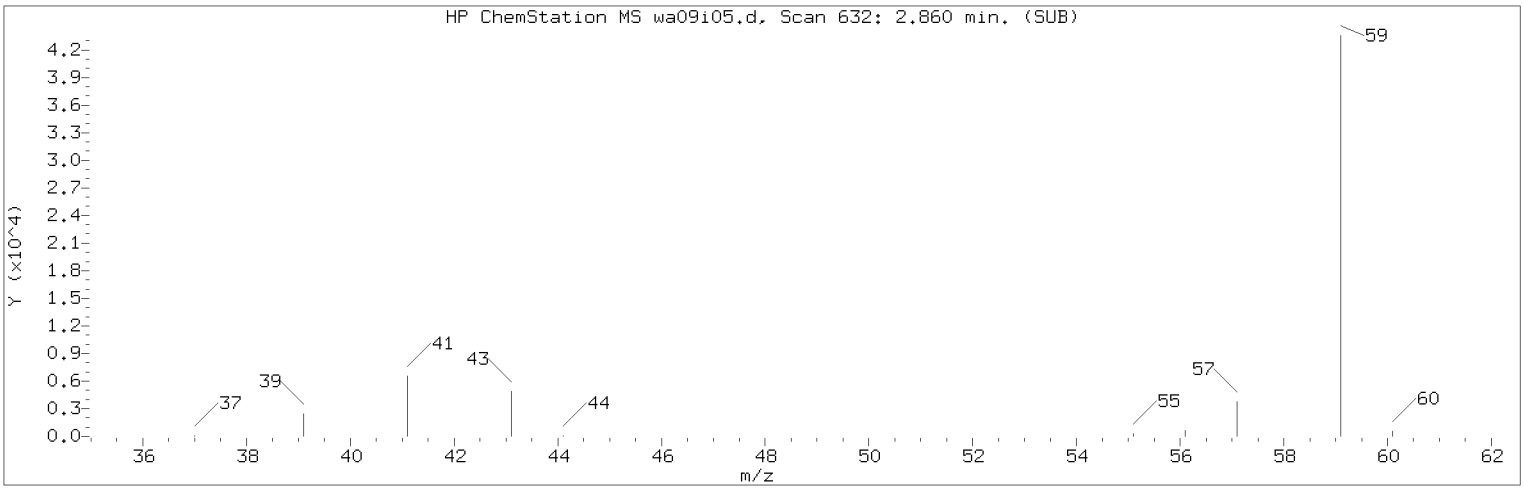
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD010 Lab Sample ID: VSTD010

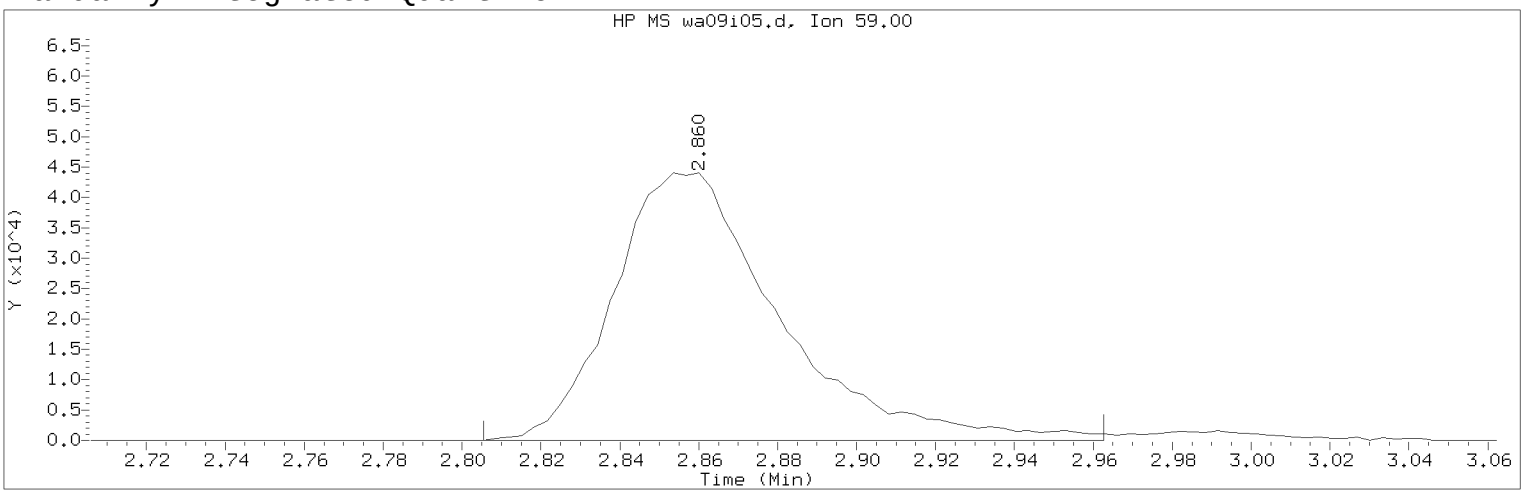
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
135) Benzyl Chloride	(4)	10.183	91	181455	10.040
136) 1,3-Diethylbenzene	(4)	10.266	119	139911	10.692
137) 1,4-Diethylbenzene	(4)	10.324	119	145938	10.759
139) n-Butylbenzene	(4)	10.343	92	110468	10.584
138) 1,2-Dichlorobenzene	(4)	10.353	146	134133	10.252
140) 1,2-Diethylbenzene	(4)	10.407	119	119082	10.601
141) Diethylbenzene (total)	(4)		100	404931	32.053
142) 1,2-Dibromo-3-chloropropane	(4)	10.892	75	20283	10.664
144) 1,3,5-Trichlorobenzene	(4)	11.036	180	89049	10.706
146) 1,2,4-Trichlorobenzene	(4)	11.447	180	90327	10.961
147) Hexachlorobutadiene	(4)	11.559	225	26308	10.772
148) Naphthalene	(4)	11.611	128	326919	10.933
149) 1,2,3-Trichlorobenzene	(4)	11.768	180	85425	10.921
150) 2-Methylnaphthalene	(4)	12.333	142	172686	10.973

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i05.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 12:51 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:02
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD010 Lab Sample ID: VSTD010

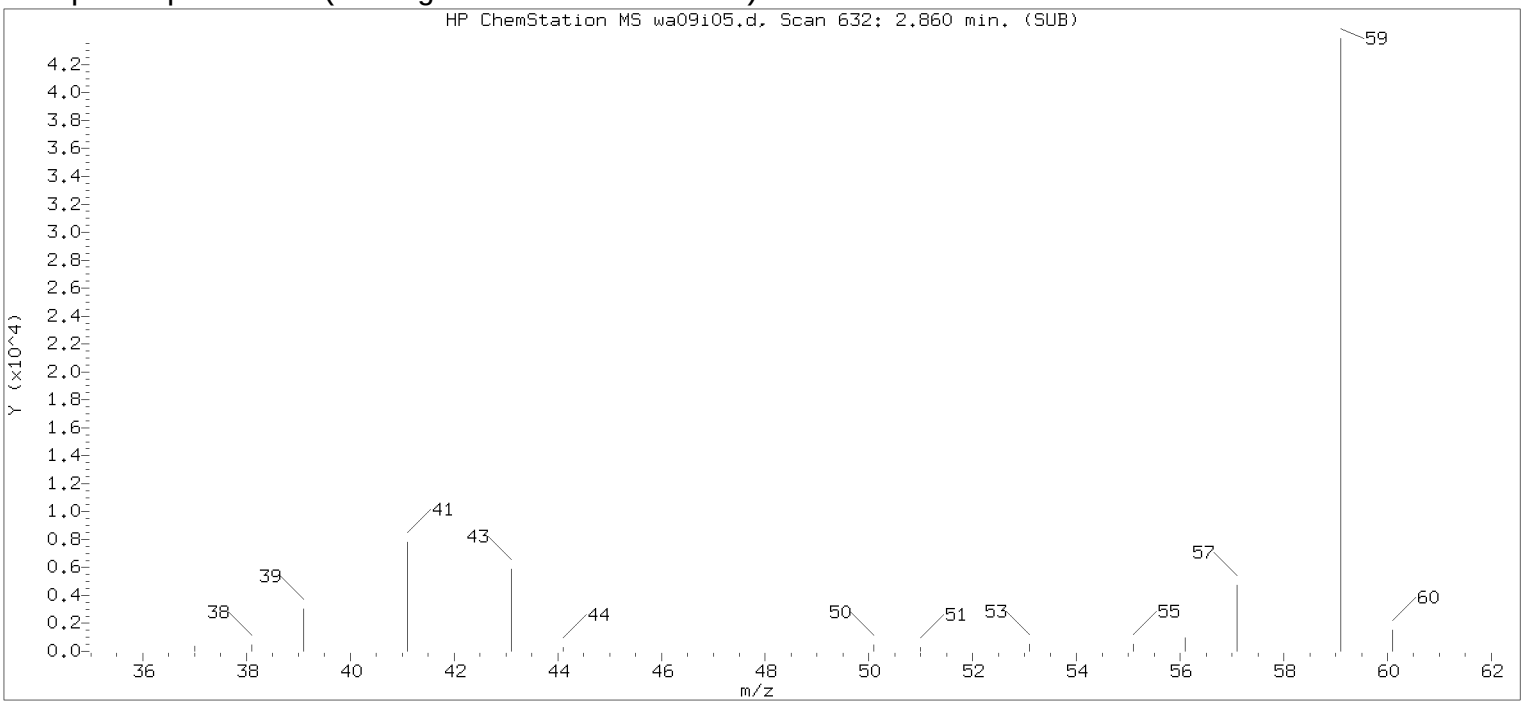
Compound Number : 30
Compound Name : t-Butyl alcohol
Scan Number : 632
Retention Time (minutes): 2.860
Quant Ion : 59.00
Area (flag) : 128148M
On-Column Amount (ng) : 117.2284
Integration start scan : 614 Integration stop scan: 663
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

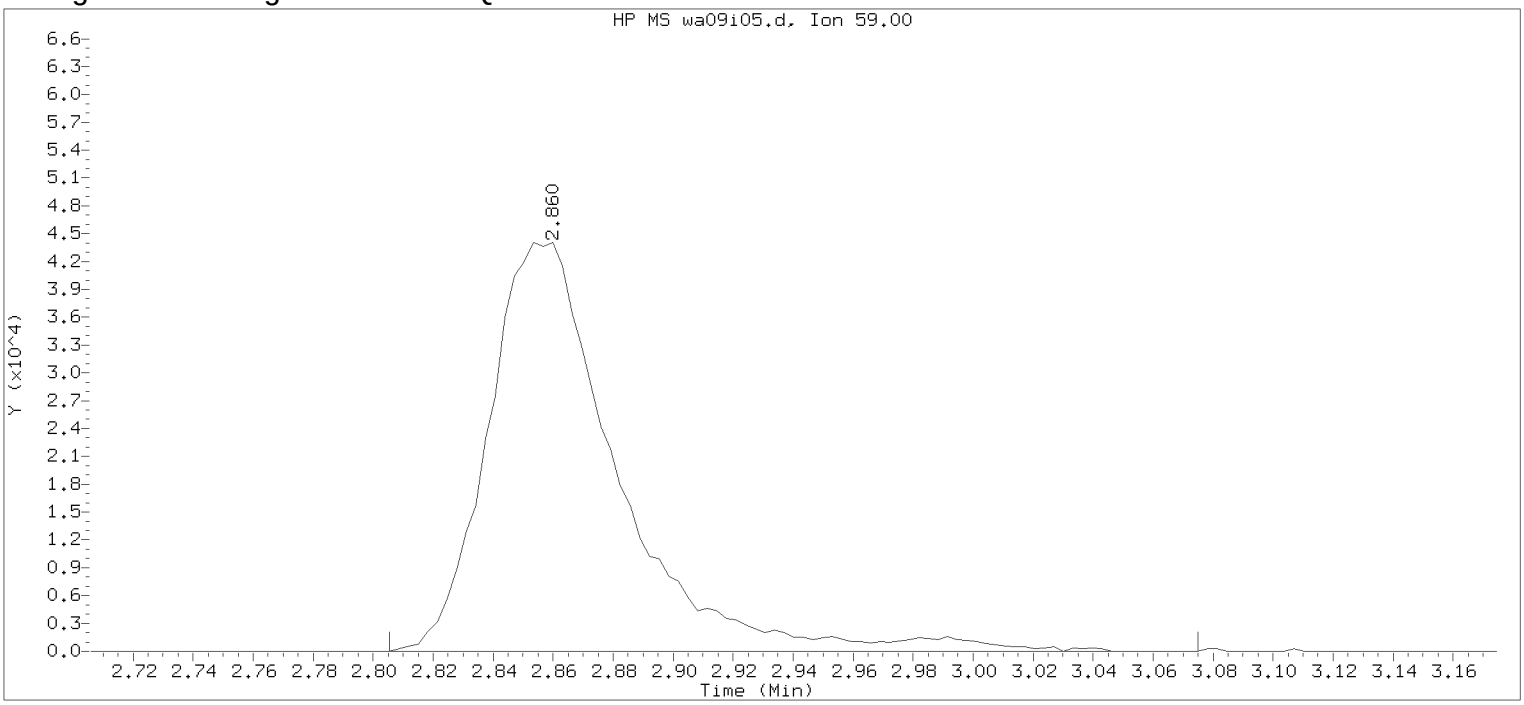
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:55.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



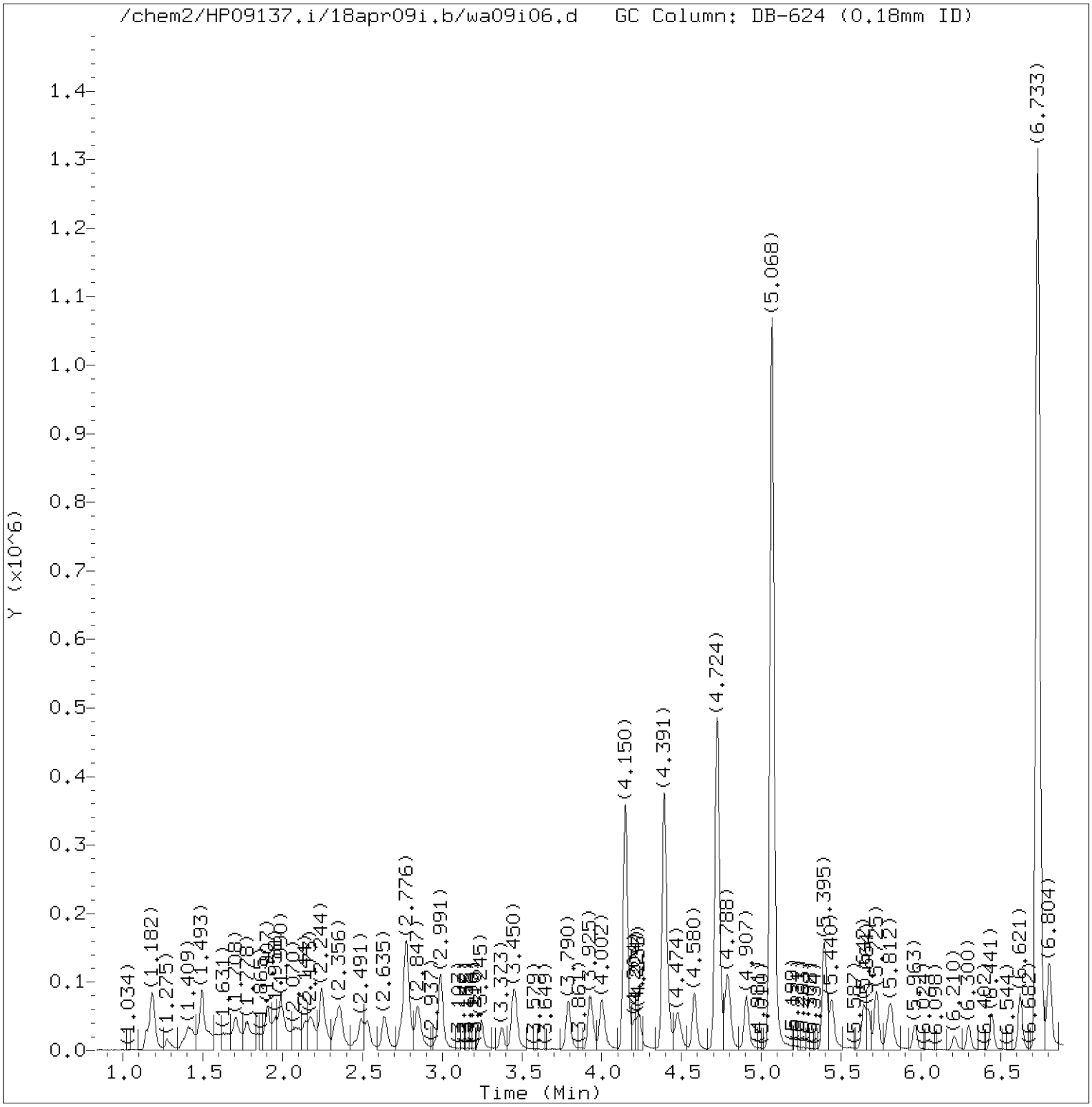
Data File: /chem2/HP09137.i/18apr09i.b/wa09i05.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 12:51 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 13:06
Date, time and analyst ID of latest file update: 09-Apr-2018 13:06 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compound Number : 30
Compound Name : t-Butyl alcohol
Scan Number : 632
Retention Time (minutes): 2.860
Quant Ion : 59.00
Area : 131978
On-column Amount (ng) : 119.0893
Integration start scan : 614 Integration stop scan: 698
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1327



Total Ion Chromatogram (TIC)

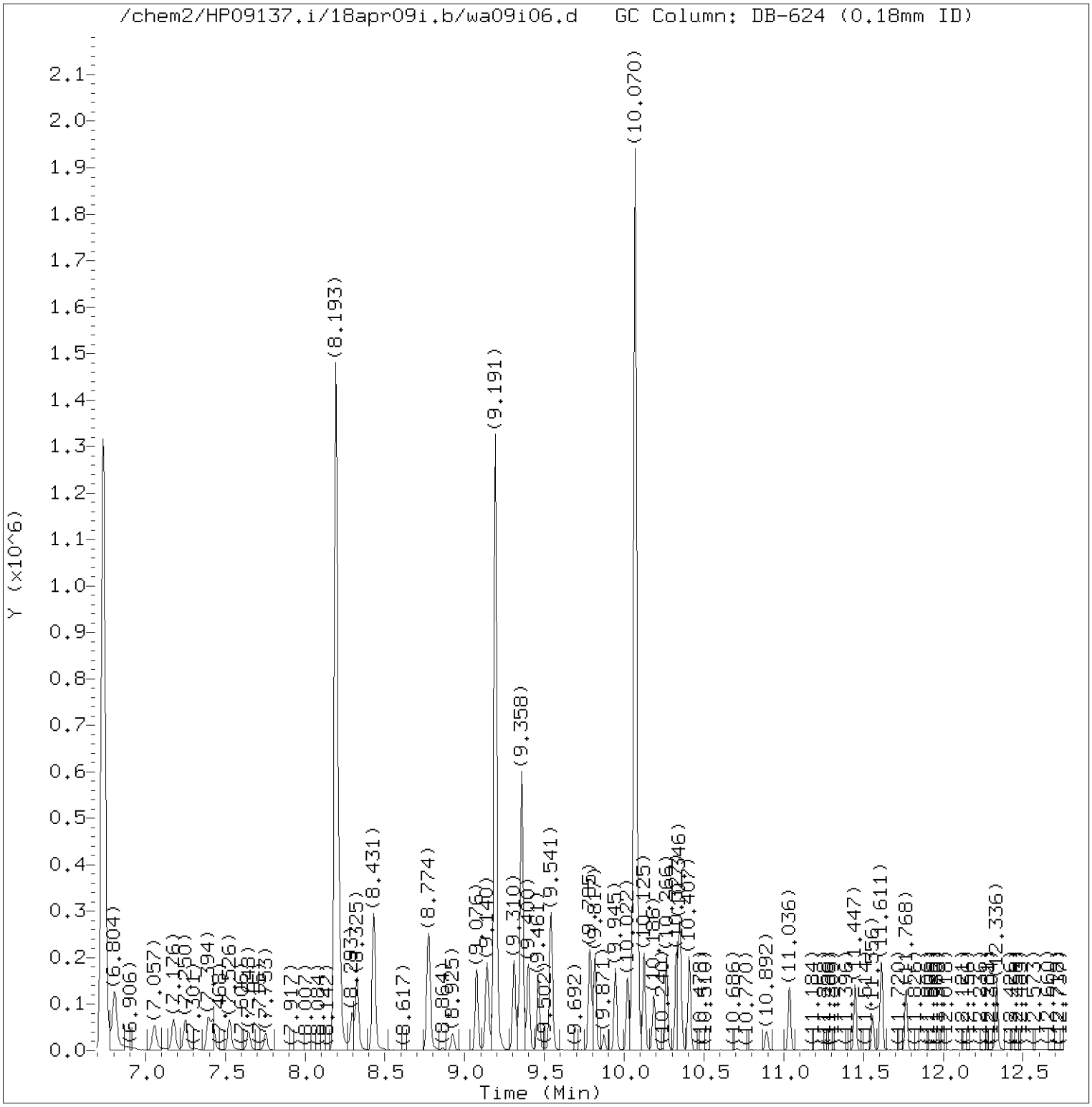
Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i06.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:14 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD004 Lab Sample ID: VSTD004

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i06.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:14 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD004 Lab Sample ID: VSTD004

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i06.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:14 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD004 Lab Sample ID: VSTD004

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
3) Dichlorodifluoromethane	(2)	1.275	85	25530	3.808
4) Chloromethane	(2)	1.409	50	27960	3.893
6) Vinyl Chloride	(2)	1.483	62	28388	3.911
5) 1,3-Butadiene	(2)	1.496	39	22326M	4.197
8) Bromomethane	(2)	1.708	94	21246	4.029
9) Chloroethane	(2)	1.778	64	16528	3.814
10) Dichlorofluoromethane	(2)	1.900	67	39276	4.301
12) Trichlorofluoromethane	(2)	1.955	101	30376	3.763
11) n-Pentane	(2)	1.987	43	38686	4.515
13) Ethanol	(1)	2.083	45	19062	185.911
15) Freon 123a	(2)	2.170	67	25841	4.335
16) Acrolein	(1)	2.244	56	66847	35.199
17) 1,1-Dichloroethene	(2)	2.346	96	17108	3.806
17) 1,1-Dichloroethene	(2)	2.337	63	8139	3.897
19) Freon 113	(2)	2.353	101	16943	3.720
18) Acetone	(1)	2.372	58	6197	7.767
21) 2-Propanol	(1)	2.491	45	44667	80.969
22) Methyl Iodide	(2)	2.491	142	33382	3.824
23) Carbon Disulfide	(2)	2.533	76	56708	3.823
25) Allyl Chloride	(2)	2.635	41	28159	3.925
27) Methyl Acetate	(2)	2.651	43	24524	4.671
28) Methylene Chloride	(2)	2.741	84	20574	3.939
29)*t-Butyl alcohol-d10	(1)	2.773	65	234031	250.000
30) t-Butyl alcohol	(1)	2.847	59	86913	86.408
31) Acrylonitrile	(2)	2.963	53	10819	4.043
32) trans-1,2-Dichloroethene	(2)	2.991	96	19256	3.893
33) Methyl Tertiary Butyl Ether	(2)	2.991	73	68828	4.104
34) n-Hexane	(2)	3.245	57	21599M	3.754
36) 1,1-Dichloroethane	(2)	3.373	63	32734	3.901
38) di-Isopropyl ether	(2)	3.444	45	62316	3.967
39) 2-Chloro-1,3-butadiene	(2)	3.463	53	28547	3.850
40) Ethyl t-butyl ether	(2)	3.790	59	63836	4.080
45) 2,2-Dichloropropane	(2)	3.922	77	18228M	4.020
42) cis-1,2-Dichloroethene	(2)	3.925	96	22039	3.948
44) 2-Butanone	(2)	3.941	43	31974	8.573
47) Propionitrile	(1)	4.002	54	92386	73.471
43) 1,2-Dichloroethene (Total)	(2)		96	41295	7.841
48) Methacrylonitrile	(2)	4.147	67	129048	40.863

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

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i06.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:14 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD004 Lab Sample ID: VSTD004

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
49) Bromochloromethane	(2)	4.156	128	11063	3.894
50) Tetrahydrofuran	(1)	4.204	71	8716	6.482
51) Chloroform	(2)	4.236	83	33822	3.931
52)$Dibromofluoromethane	(2)	4.391	113	236165	50.371
52)$Dibromofluoromethane	(2)	4.391	111	241025	50.196
53) 1,1,1-Trichloroethane	(2)	4.416	97	31074	4.059
54) Cyclohexane	(2)	4.480	56	29383	3.772
54) Cyclohexane	(2)	4.477	84	26858	3.744
54) Cyclohexane	(2)	4.474	69	9428	3.722
55) 1,1-Dichloropropene	(2)	4.580	75	26243M	3.830
56) Carbon Tetrachloride	(2)	4.586	117	20842	3.595
58) Isobutyl Alcohol	(1)	4.715	41	65858	199.608
57)$1,2-Dichloroethane-d4	(2)	4.731	102	64185	52.139
57)$1,2-Dichloroethane-d4	(2)	4.727	65	288335	52.118
57)$1,2-Dichloroethane-d4	(2)	4.727	104	40530	50.829
60) Benzene	(2)	4.785	78	80753	3.920
61) 1,2-Dichloroethane	(2)	4.801	62	29891	4.161
61) 1,2-Dichloroethane	(2)	4.804	98	2546	3.597
65) t-Amyl methyl ether	(2)	4.907	73	65463	4.009
66)*Fluorobenzene	(2)	5.068	96	1028475	50.000
67) n-Heptane	(2)	5.071	43	20969	4.064
69) n-Butanol	(1)	5.398	56	112060	360.953
71) Trichloroethene	(2)	5.440	95	21276	3.890
72) Methylcyclohexane	(2)	5.642	83	28358	3.857
72) Methylcyclohexane	(2)	5.645	98	13401	3.878
73) 1,2-Dichloropropane	(2)	5.674	63	19754	3.787
74) Dibromomethane	(2)	5.790	93	14385	4.067
76) Methyl Methacrylate	(2)	5.812	69	22789	4.089
75) 1,4-Dioxane	(1)	5.835	88	12380M	145.990
78) Bromodichloromethane	(2)	5.963	83	26131	3.907
79) 2-Nitropropane	(2)	6.210	41	13256	7.159
80) 2-Chloroethyl Vinyl Ether	(2)	6.297	63	16789	3.951
81) cis-1,3-Dichloropropene	(2)	6.447	75	33212	3.766
82) 4-Methyl-2-pentanone	(2)	6.621	43	58104	7.556
83)$Toluene-d8	(3)	6.733	98	1012940	49.420
83)$Toluene-d8	(3)	6.733	100	672797	48.705
88) Toluene	(3)	6.810	92	54881	3.909
89) trans-1,3-Dichloropropene	(3)	7.054	75	30576	3.655

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

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i06.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:14 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD004 Lab Sample ID: VSTD004

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
91) Ethyl Methacrylate	(3)	7.176	69	38708	3.998
92) 1,1,2-Trichloroethane	(3)	7.250	97	22108	4.006
90) 1,3-Dichloropropene (total)	(3)		100	63788	7.422
93) Tetrachloroethene	(3)	7.394	166	21957	3.843
94) 1,3-Dichloropropane	(3)	7.423	76	36512	4.003
96) 2-Hexanone	(3)	7.526	43	49505	8.033
97) Dibromochloromethane	(3)	7.648	129	20621	3.675
99) 1,2-Dibromoethane	(3)	7.750	107	23631	3.931
100)*Chlorobenzene-d5	(3)	8.193	117	799400	50.000
102) Chlorobenzene	(3)	8.219	112	63029	3.940
103) 1,1,1,2-Tetrachloroethane	(3)	8.299	131	19227	3.742
104) Ethylbenzene	(3)	8.325	91	101200	3.896
106) m+p-Xylene	(3)	8.431	106	82093	7.733
107) o-Xylene	(3)	8.767	106	40628	3.832
109) Styrene	(3)	8.780	104	68872	3.802
108) Xylene (Total)	(3)		106	122721	11.565
110) Bromoform	(3)	8.925	173	14740	3.660
111) Isopropylbenzene	(3)	9.076	105	98387	3.901
112) Cyclohexanone	(1)	9.140	55	67032	171.552
114)$4-Bromofluorobenzene	(3)	9.191	95	385130	49.748
114)$4-Bromofluorobenzene	(3)	9.191	174	312137	49.415
115) Bromobenzene	(4)	9.310	156	27328	3.971
116) 1,1,2,2-Tetrachloroethane	(4)	9.313	83	36608	4.134
117) 1,2,3-Trichloropropane	(4)	9.342	110	11515	4.140
118) trans-1,4-Dichloro-2-butene	(4)	9.358	53	93033	38.217
119) n-Propylbenzene	(4)	9.400	91	115861	4.031
120) 2-Chlorotoluene	(4)	9.461	126	24788	3.919
122) 1,3,5-Trimethylbenzene	(4)	9.538	105	83707	3.920
121) 4-Chlorotoluene	(4)	9.547	126	26624	3.933
124) tert-Butylbenzene	(4)	9.785	134	17653	3.728
125) Pentachloroethane	(4)	9.794	167	13678	3.742
126) 1,2,4-Trimethylbenzene	(4)	9.817	105	89861	4.023
127) sec-Butylbenzene	(4)	9.945	105	96670	3.998
129) 1,3-Dichlorobenzene	(4)	10.022	146	51706	3.976
130) p-Isopropyltoluene	(4)	10.051	119	85854	3.947
131)*1,4-Dichlorobenzene-d4	(4)	10.070	152	421063	50.000
133) 1,4-Dichlorobenzene	(4)	10.086	146	54636	4.039
134) 1,2,3-Trimethylbenzene	(4)	10.125	105	92059	4.001

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

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i06.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:14 Analyst ID: nsl01327

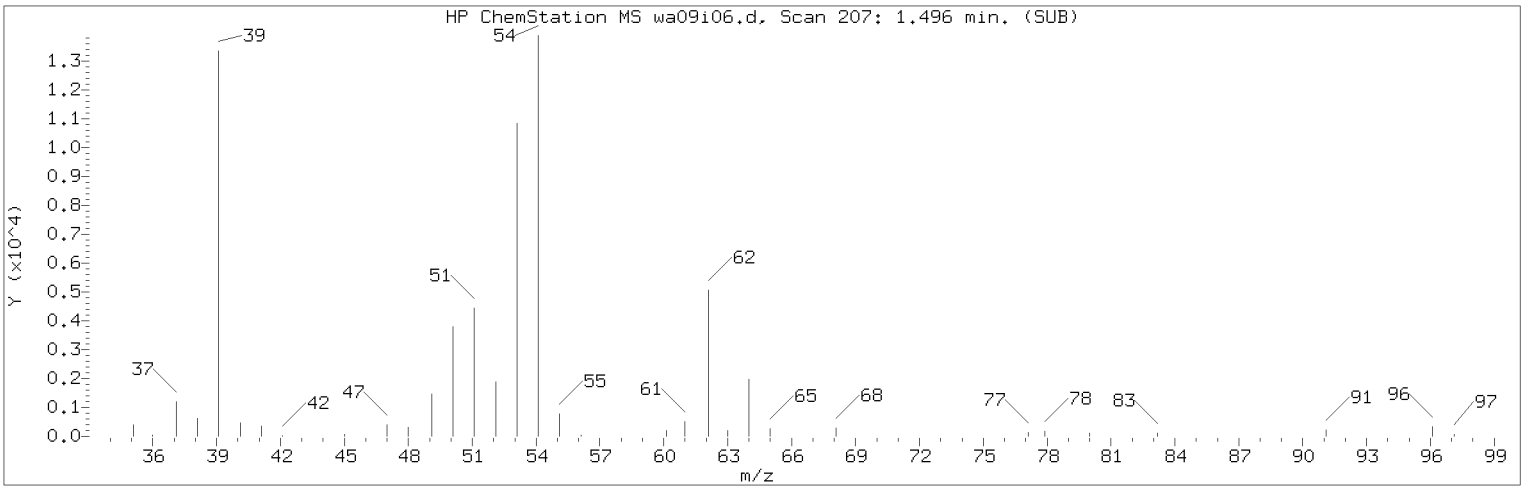
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD004 Lab Sample ID: VSTD004

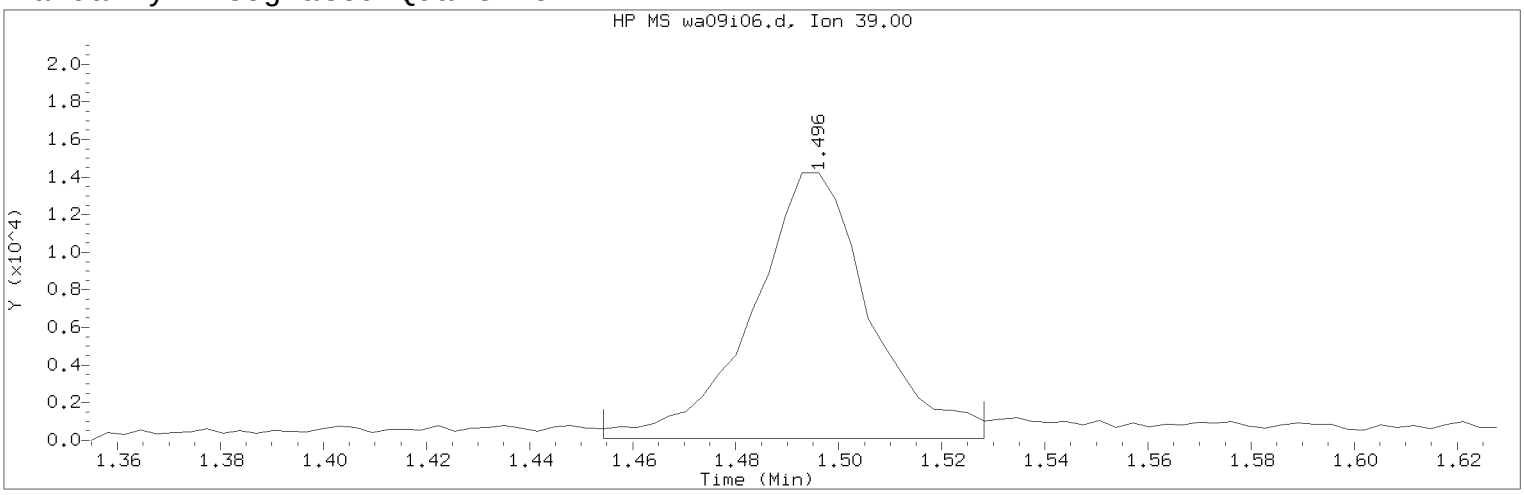
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
135) Benzyl Chloride	(4)	10.186	91	67876	3.790
136) 1,3-Diethylbenzene	(4)	10.266	119	50980	3.932
137) 1,4-Diethylbenzene	(4)	10.327	119	53189	3.957
139) n-Butylbenzene	(4)	10.343	92	40386	3.905
138) 1,2-Dichlorobenzene	(4)	10.353	146	52052	4.015
140) 1,2-Diethylbenzene	(4)	10.407	119	44156	3.967
141) Diethylbenzene (total)	(4)		100	148325	11.856
142) 1,2-Dibromo-3-chloropropane	(4)	10.889	75	8018	4.254
144) 1,3,5-Trichlorobenzene	(4)	11.036	180	32885	3.990
146) 1,2,4-Trichlorobenzene	(4)	11.447	180	33087	4.052
147) Hexachlorobutadiene	(4)	11.556	225	9888	4.086
148) Naphthalene	(4)	11.614	128	122512	4.135
149) 1,2,3-Trichlorobenzene	(4)	11.768	180	30941	3.992
150) 2-Methylnaphthalene	(4)	12.336	142	55356	3.550

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i06.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:14 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD004 Lab Sample ID: VSTD004

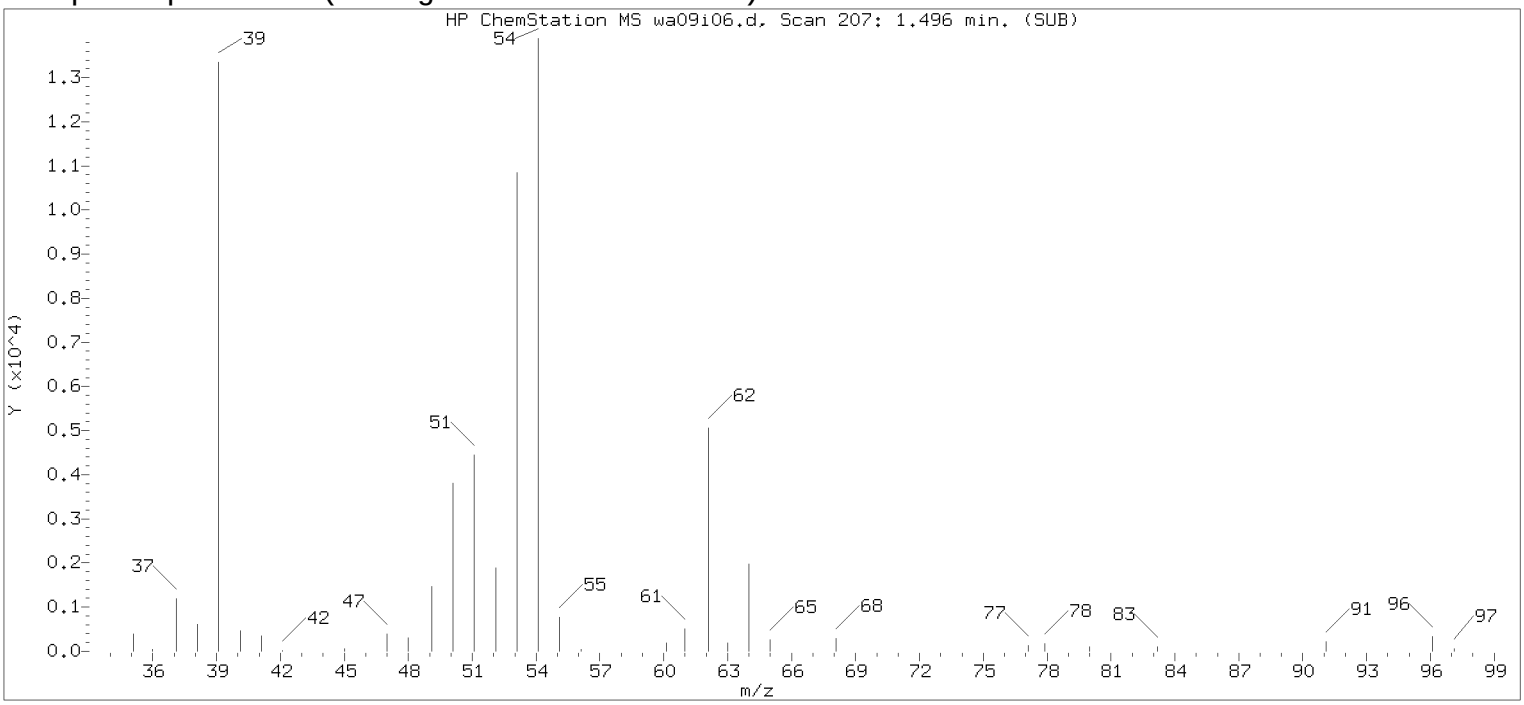
Compound Number : 5
Compound Name : 1,3-Butadiene
Scan Number : 207
Retention Time (minutes): 1.496
Quant Ion : 39.00
Area (flag) : 22326M
On-Column Amount (ng) : 4.1973
Integration start scan : 193 Integration stop scan: 216
Y at integration start : 113 Y at integration end: 113

Reason for manual integration: improper integration

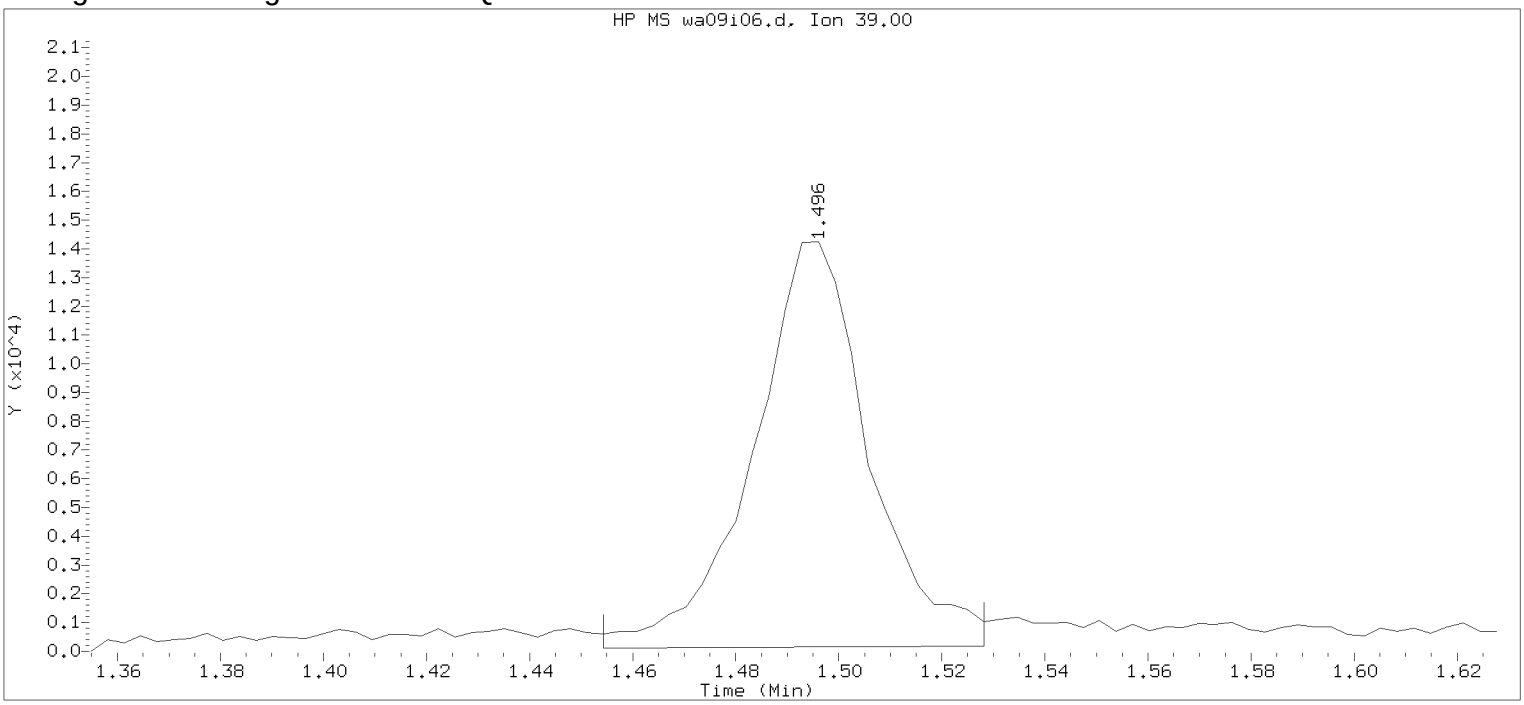
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:57.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i06.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:14 Analyst ID: nsl01327

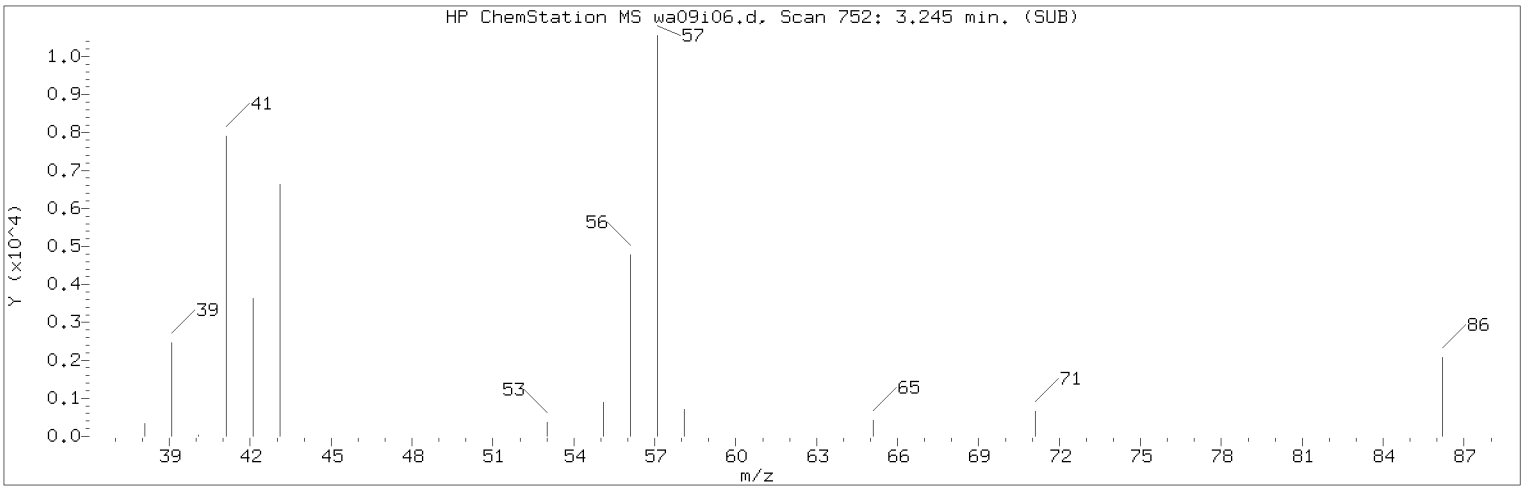
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 13:30
Date, time and analyst ID of latest file update: 09-Apr-2018 13:30 Automation

Sample Name: VSTD004 Lab Sample ID: VSTD004

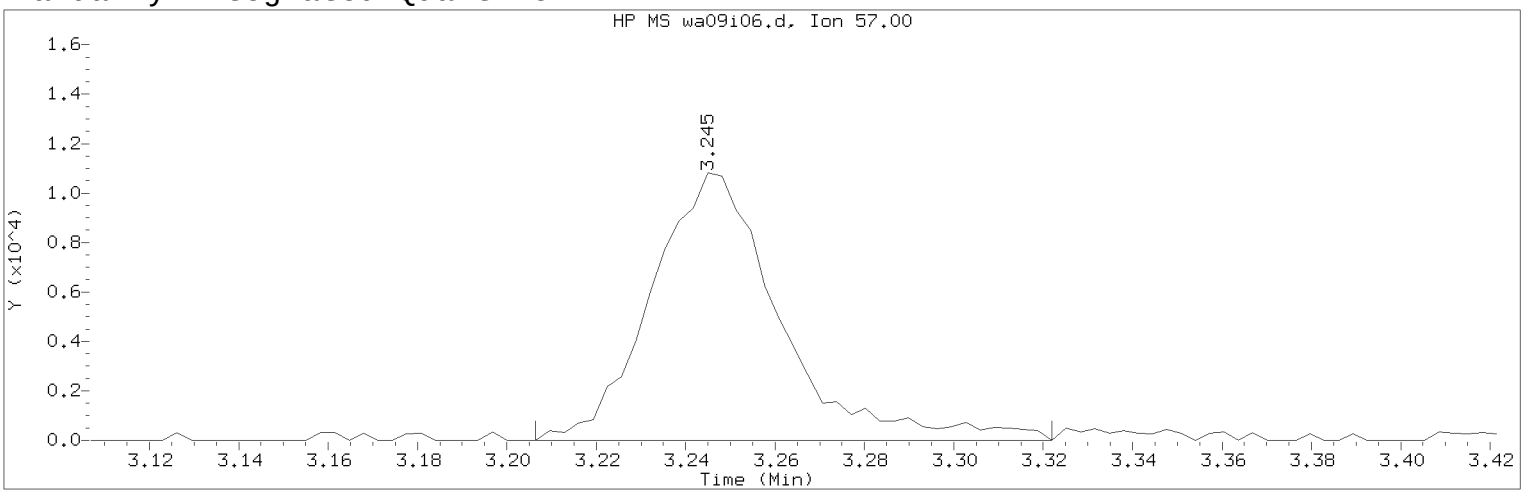
Compound Number : 5
Compound Name : 1,3-Butadiene
Scan Number : 207
Retention Time (minutes): 1.496
Quant Ion : 39.00
Area : 22066
On-column Amount (ng) : 4.2749
Integration start scan : 193 Integration stop scan: 216
Y at integration start : 113 Y at integration end: 169

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: 1327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i06.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:14 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD004 Lab Sample ID: VSTD004

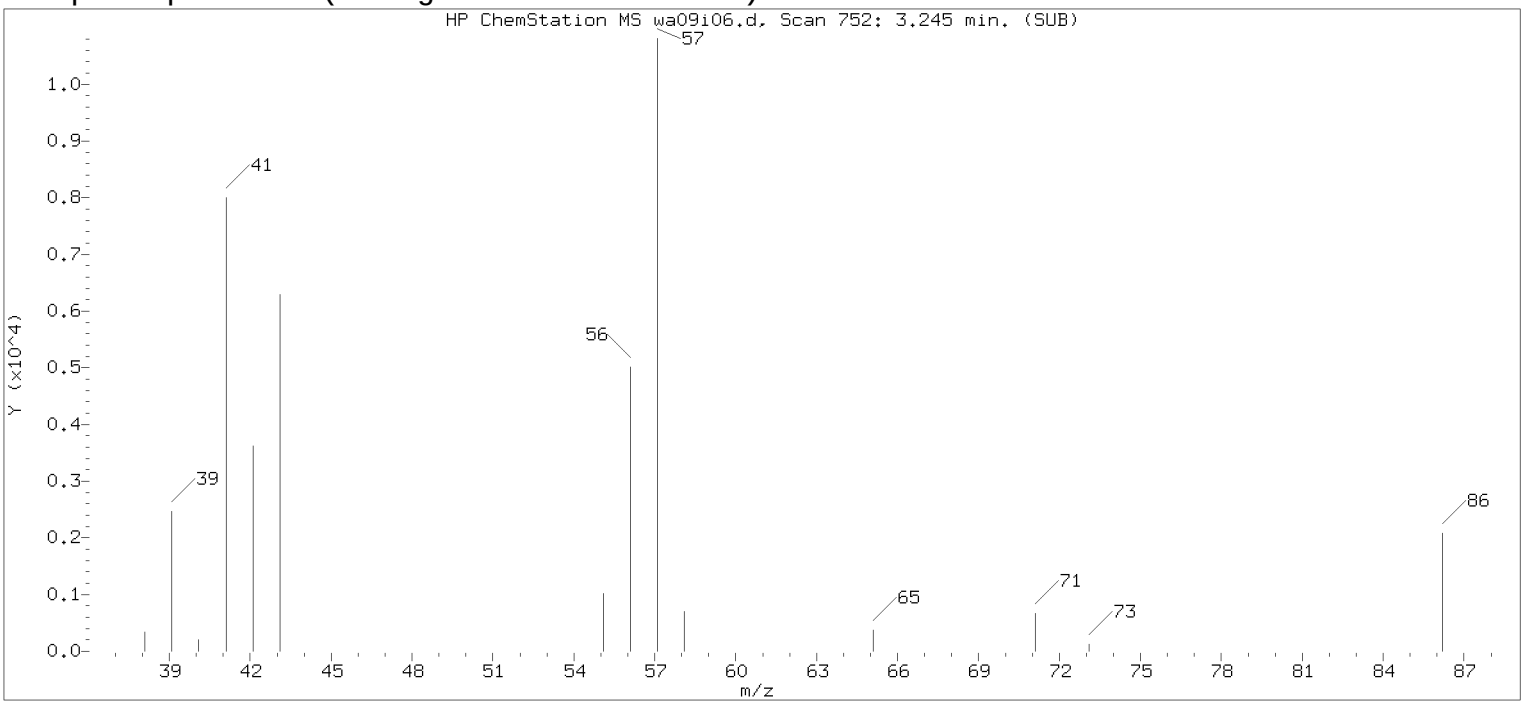
Compound Number : 34
Compound Name : n-Hexane
Scan Number : 752
Retention Time (minutes): 3.245
Quant Ion : 57.00
Area (flag) : 21599M
On-Column Amount (ng) : 3.7543
Integration start scan : 739 Integration stop scan: 775
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

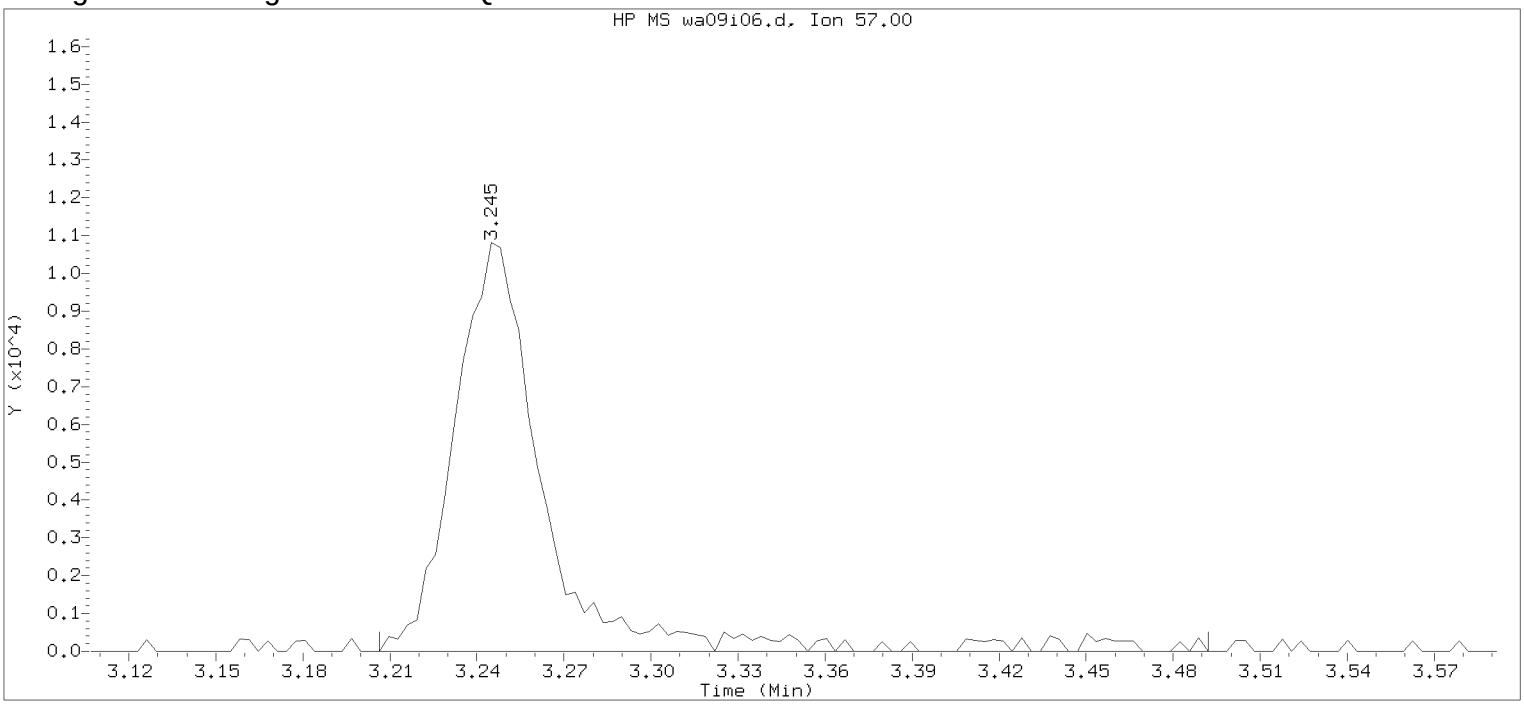
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:57.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i06.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:14 Analyst ID: nsl01327

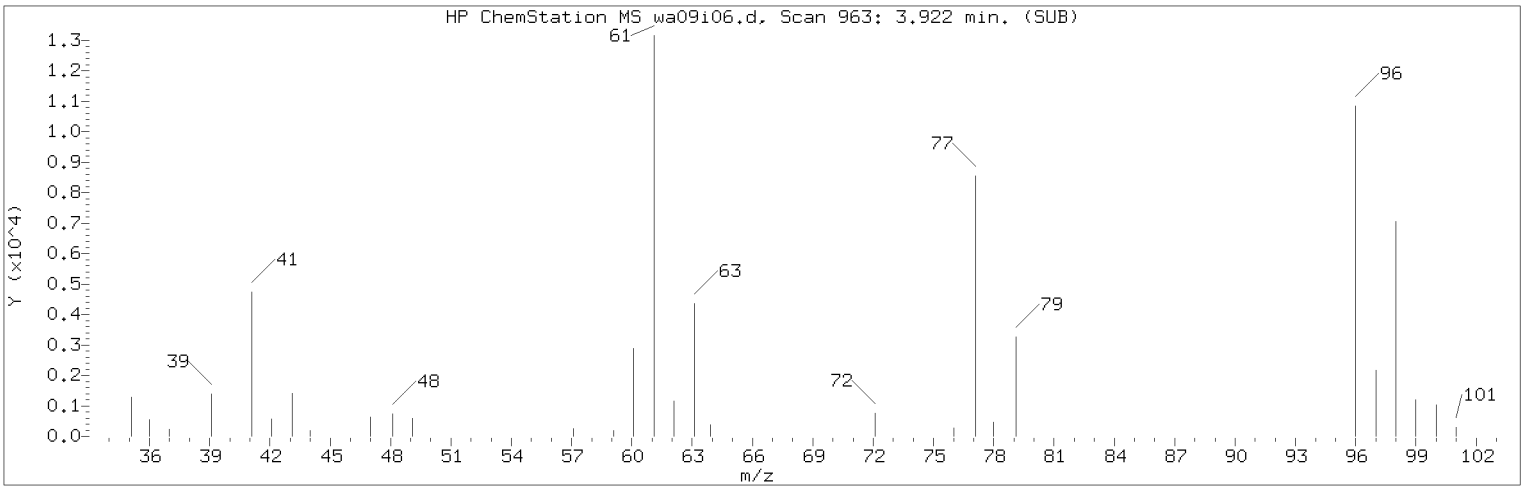
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 13:30
Date, time and analyst ID of latest file update: 09-Apr-2018 13:30 Automation

Sample Name: VSTD004 Lab Sample ID: VSTD004

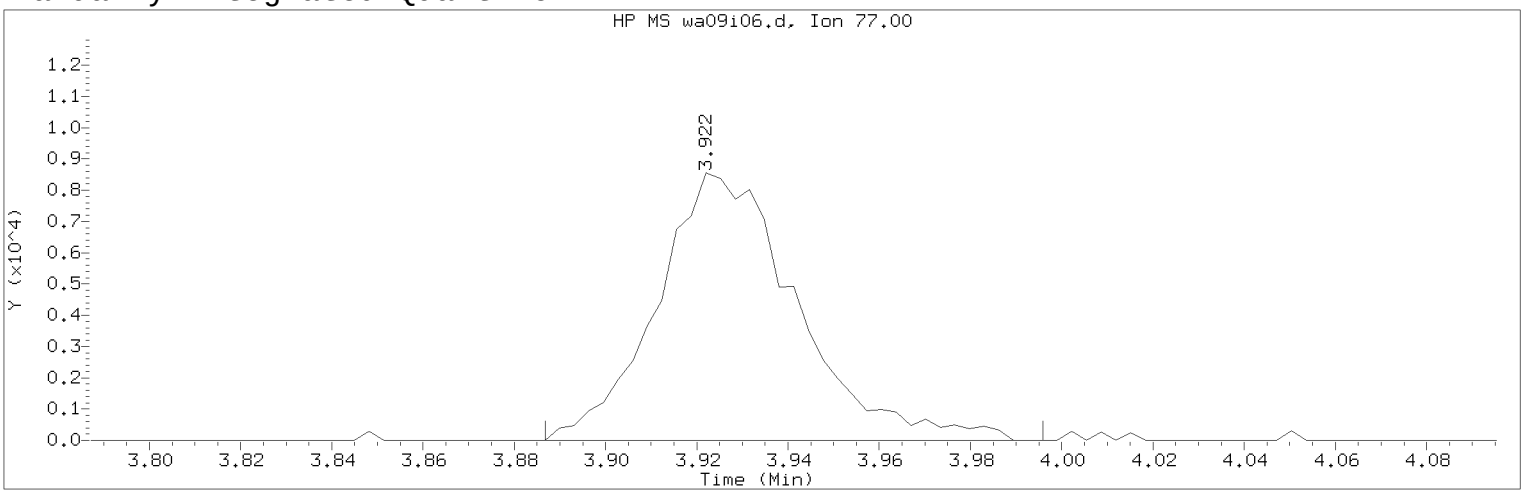
Compound Number : 34
Compound Name : n-Hexane
Scan Number : 752
Retention Time (minutes): 3.245
Quant Ion : 57.00
Area : 23476
On-column Amount (ng) : 4.0115
Integration start scan : 739 Integration stop scan: 828
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1185 meaning: Reviewed

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i06.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:14 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD004 Lab Sample ID: VSTD004

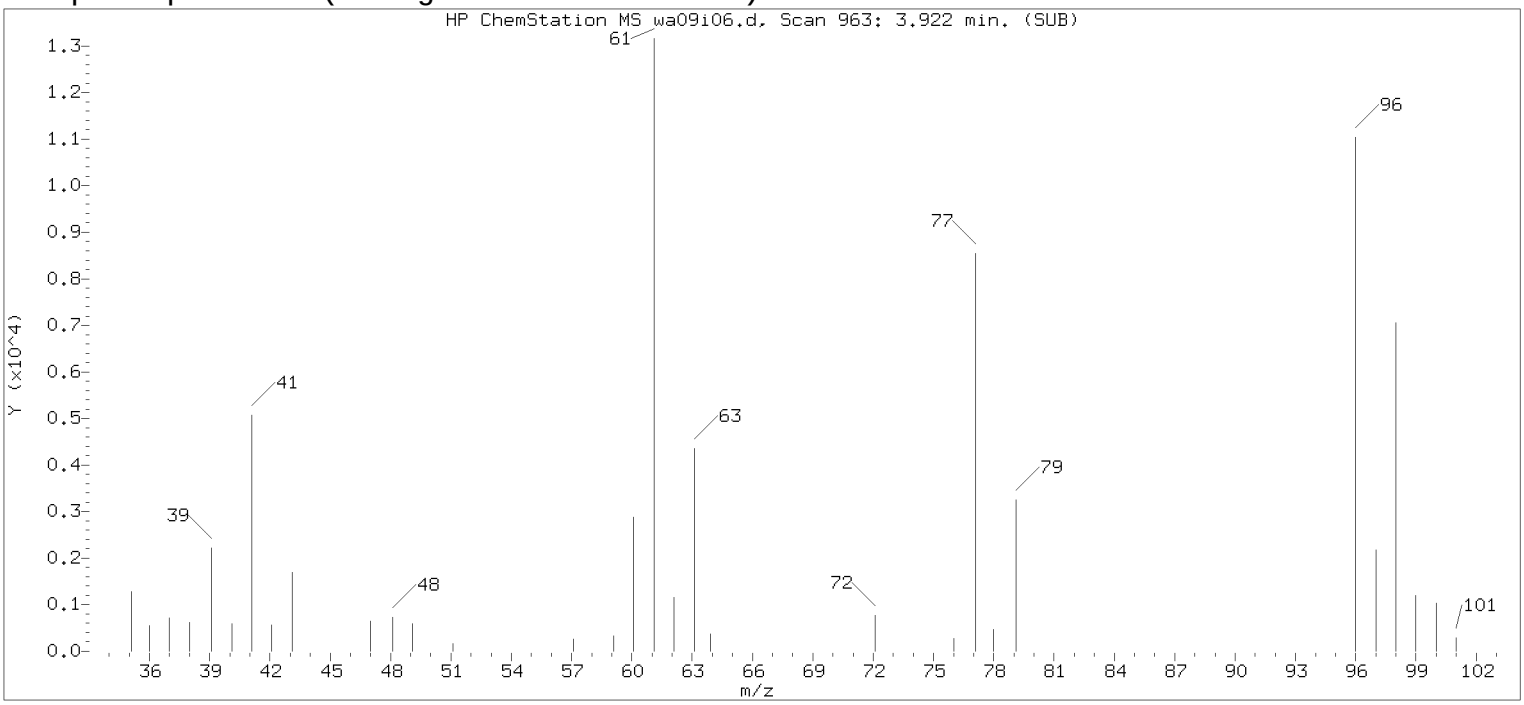
Compound Number : 45
Compound Name : 2,2-Dichloropropane
Scan Number : 963
Retention Time (minutes): 3.922
Quant Ion : 77.00
Area (flag) : 18228M
On-Column Amount (ng) : 4.0200
Integration start scan : 951 Integration stop scan: 985
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

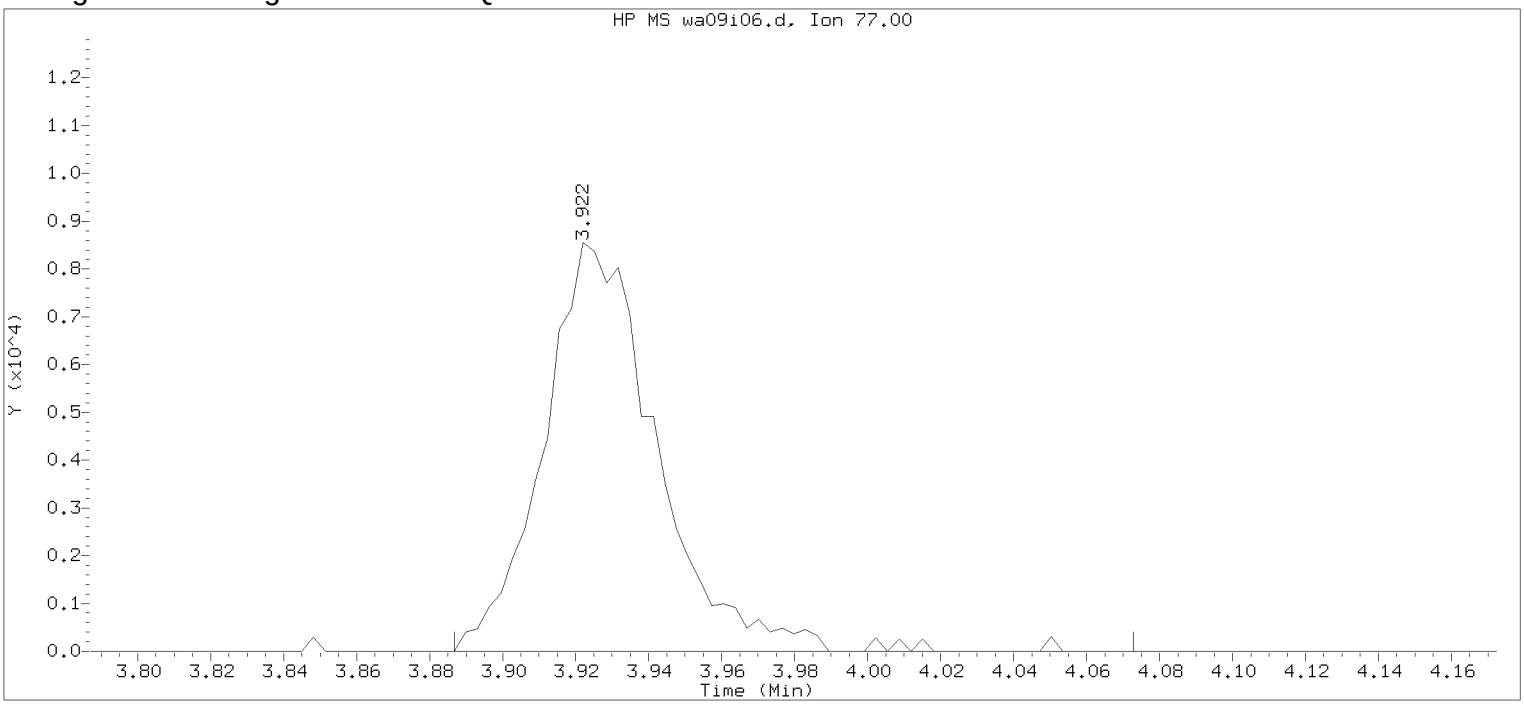
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:57.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i06.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:14 Analyst ID: nsl01327

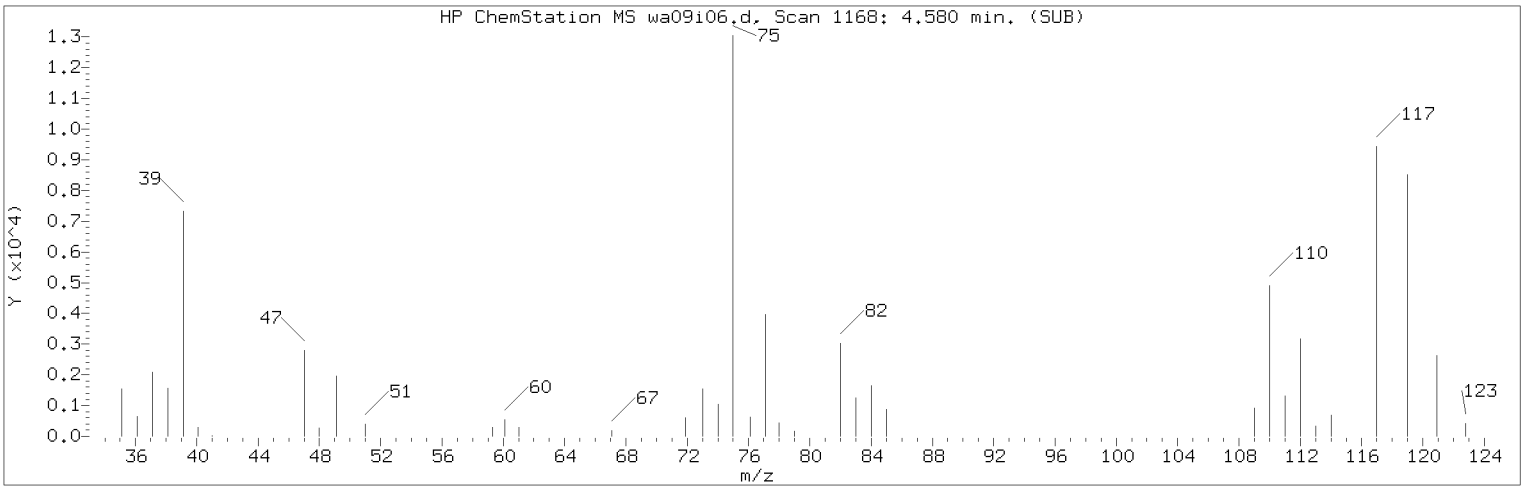
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 13:30
Date, time and analyst ID of latest file update: 09-Apr-2018 13:30 Automation

Sample Name: VSTD004 Lab Sample ID: VSTD004

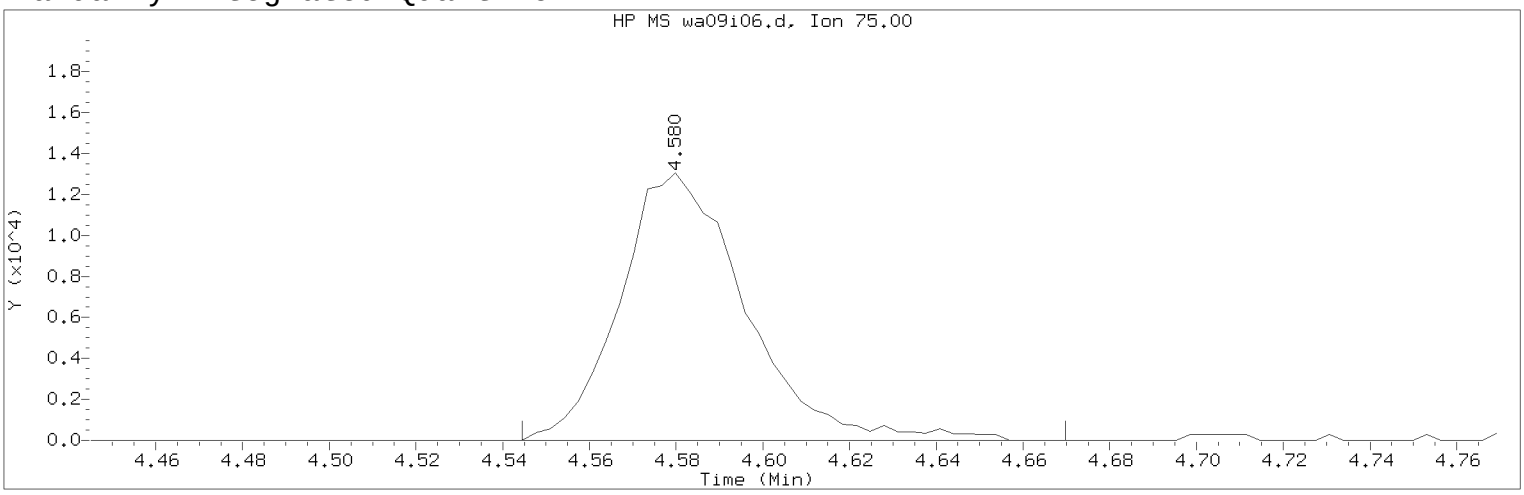
Compound Number : 45
Compound Name : 2,2-Dichloropropane
Scan Number : 963
Retention Time (minutes): 3.922
Quant Ion : 77.00
Area : 18440
On-column Amount (ng) : 4.0073
Integration start scan : 951 Integration stop scan: 1009
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1185 meaning: Review

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i06.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:14 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD004 Lab Sample ID: VSTD004

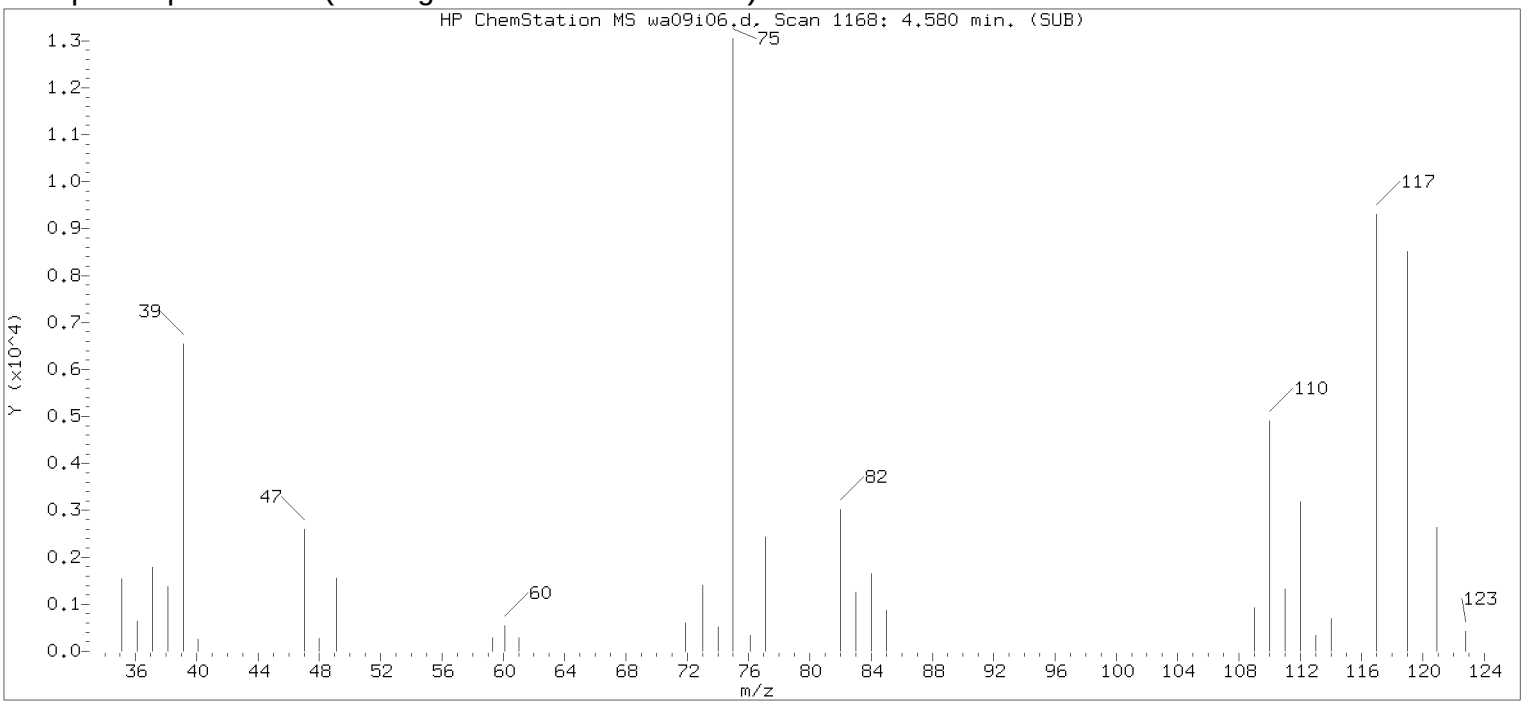
Compound Number : 55
Compound Name : 1,1-Dichloropropene
Scan Number : 1168
Retention Time (minutes): 4.580
Quant Ion : 75.00
Area (flag) : 26243M
On-Column Amount (ng) : 3.8304
Integration start scan : 1156 Integration stop scan: 1195
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

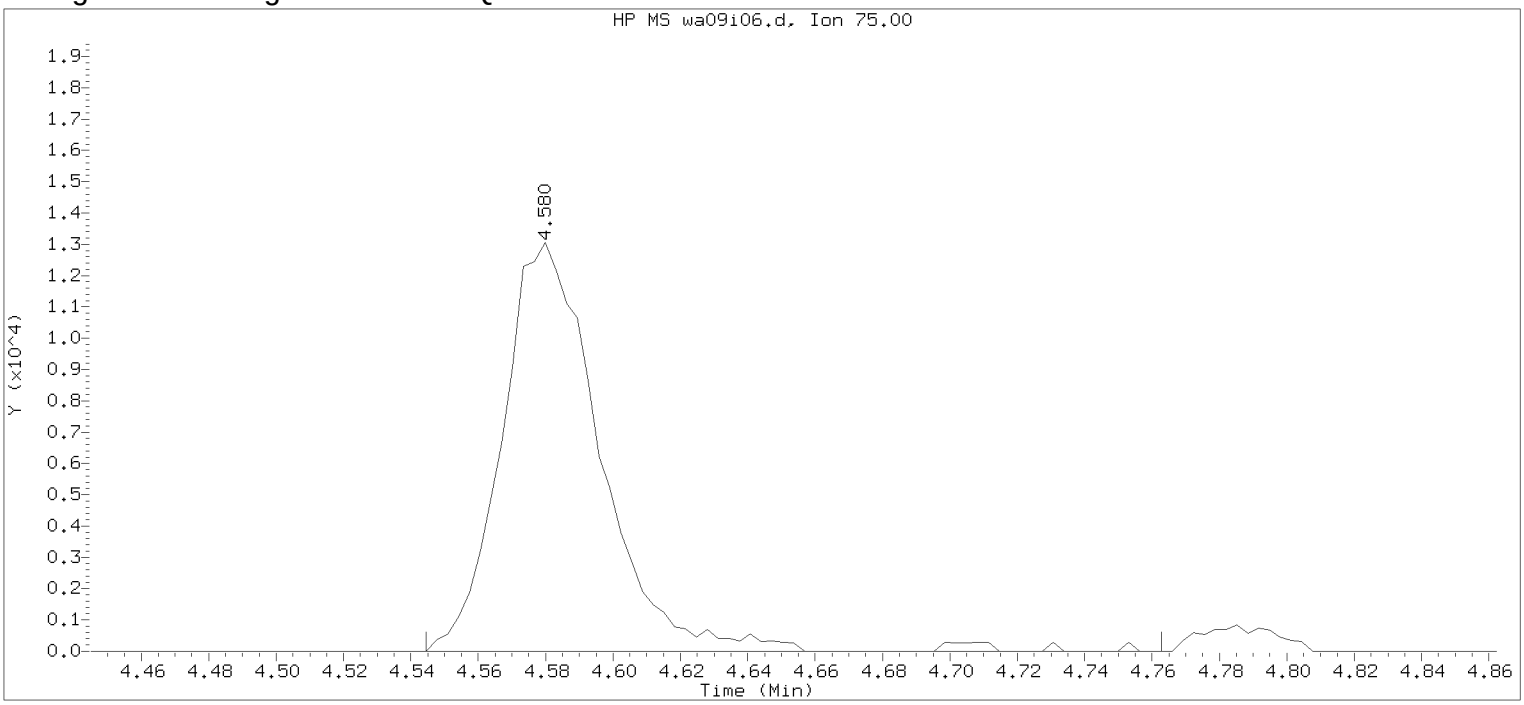
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:57.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i06.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:14 Analyst ID: nsl01327

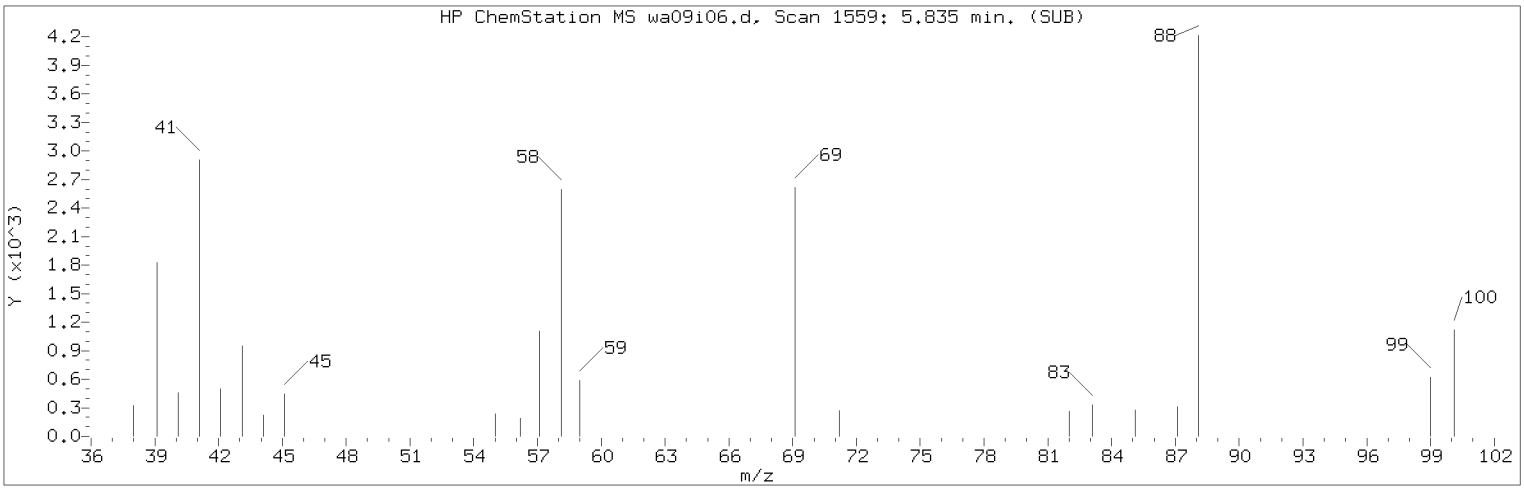
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 13:30
Date, time and analyst ID of latest file update: 09-Apr-2018 13:30 Automation

Sample Name: VSTD004 Lab Sample ID: VSTD004

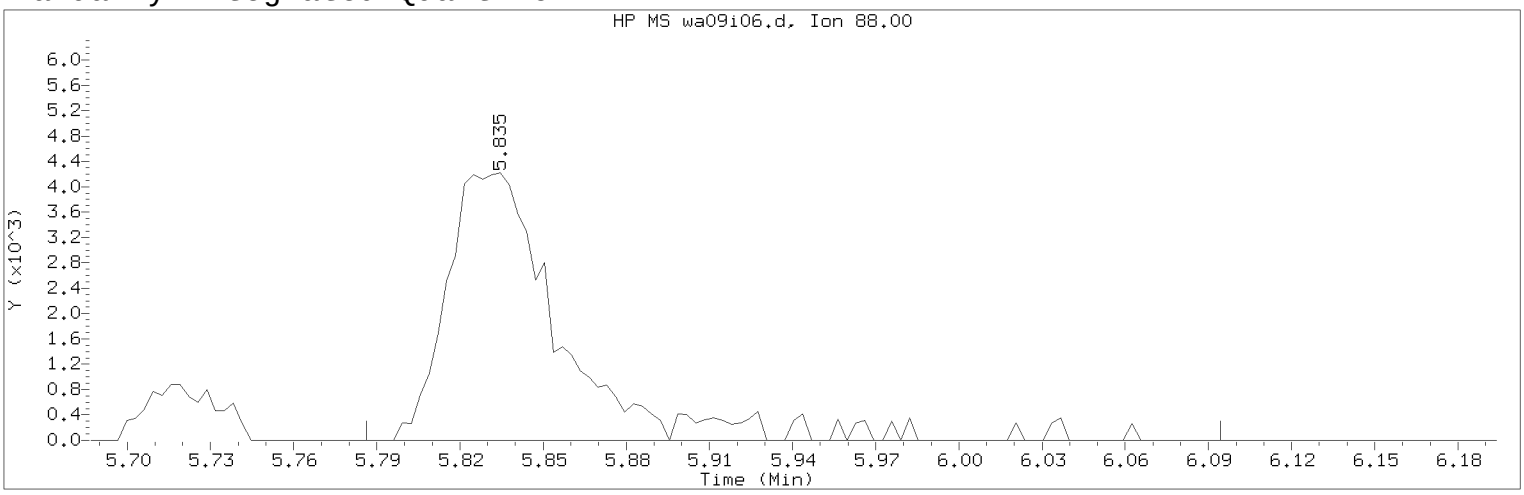
Compound Number : 55
Compound Name : 1,1-Dichloropropene
Scan Number : 1168
Retention Time (minutes): 4.580
Quant Ion : 75.00
Area : 26622
On-column Amount (ng) : 3.8151
Integration start scan : 1156 Integration stop scan: 1224
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1185 meaning: Reviewed

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i06.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:14 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD004 Lab Sample ID: VSTD004

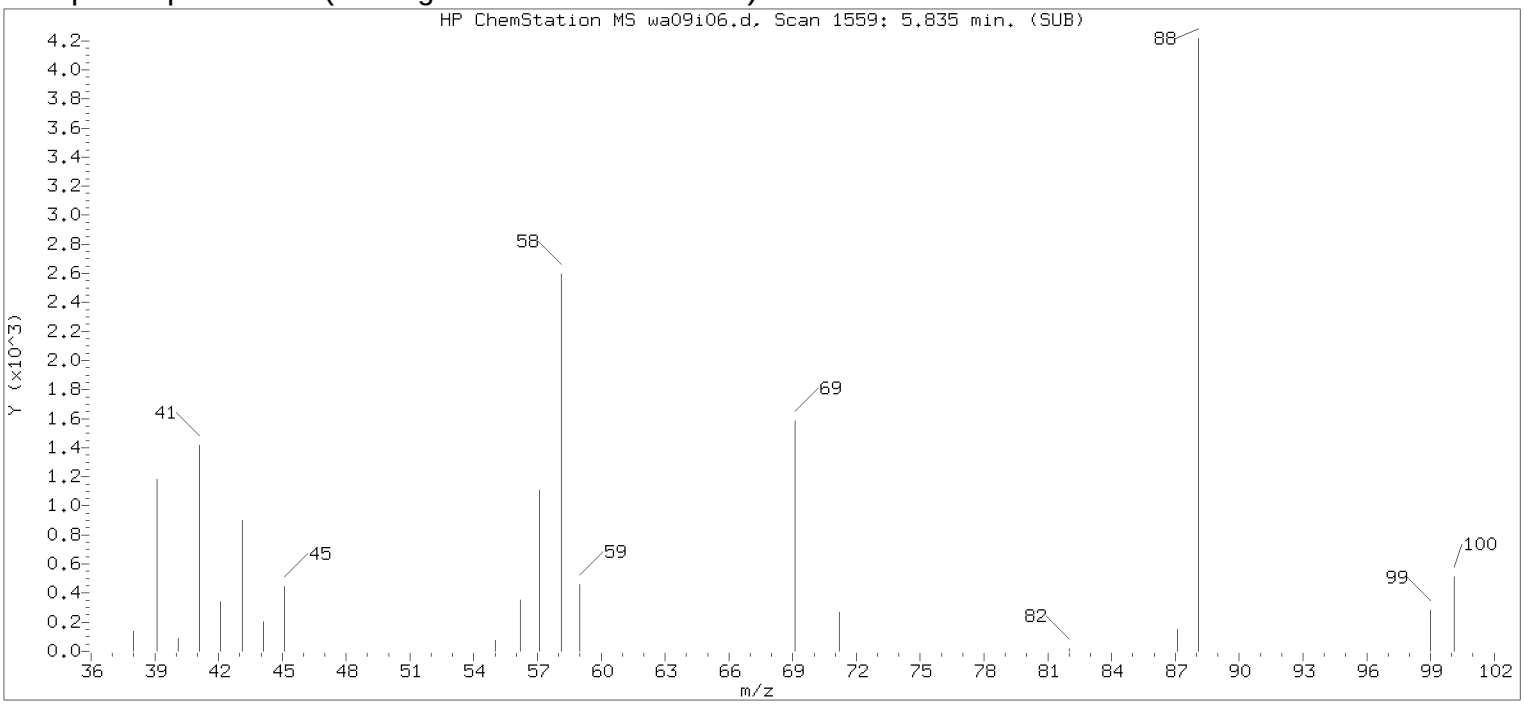
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 1559
Retention Time (minutes): 5.835
Quant Ion : 88.00
Area (flag) : 12380M
On-Column Amount (ng) : 145.9903
Integration start scan : 1543 Integration stop scan: 1639
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

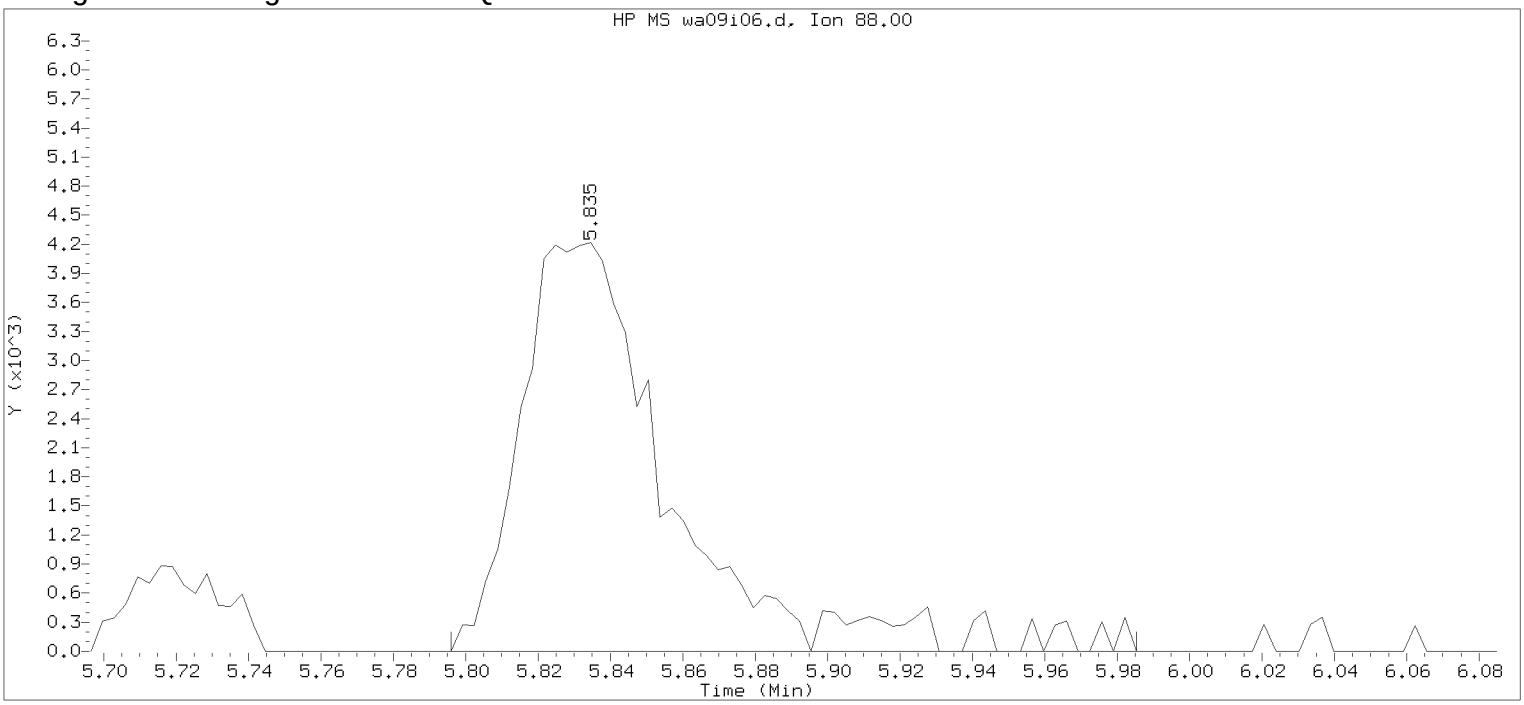
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:57.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



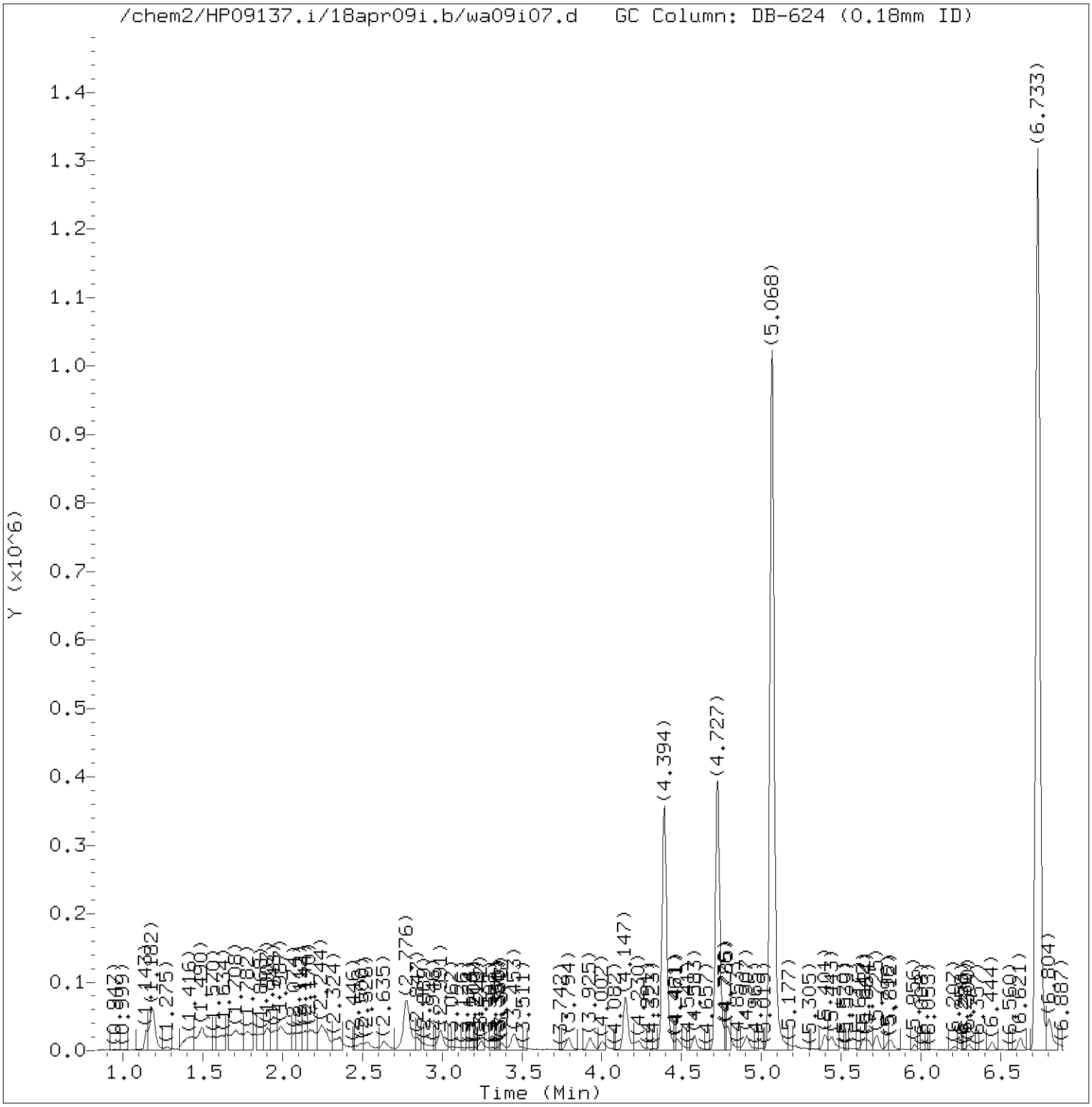
Data File: /chem2/HP09137.i/18apr09i.b/wa09i06.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:14 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 13:30
Date, time and analyst ID of latest file update: 09-Apr-2018 13:30 Automation

Sample Name: VSTD004 Lab Sample ID: VSTD004

Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 1559
Retention Time (minutes): 5.835
Quant Ion : 88.00
Area : 12155
On-column Amount (ng) : 145.4742
Integration start scan : 1546 Integration stop scan: 1605
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1185 meaning: 1257



Total Ion Chromatogram (TIC)

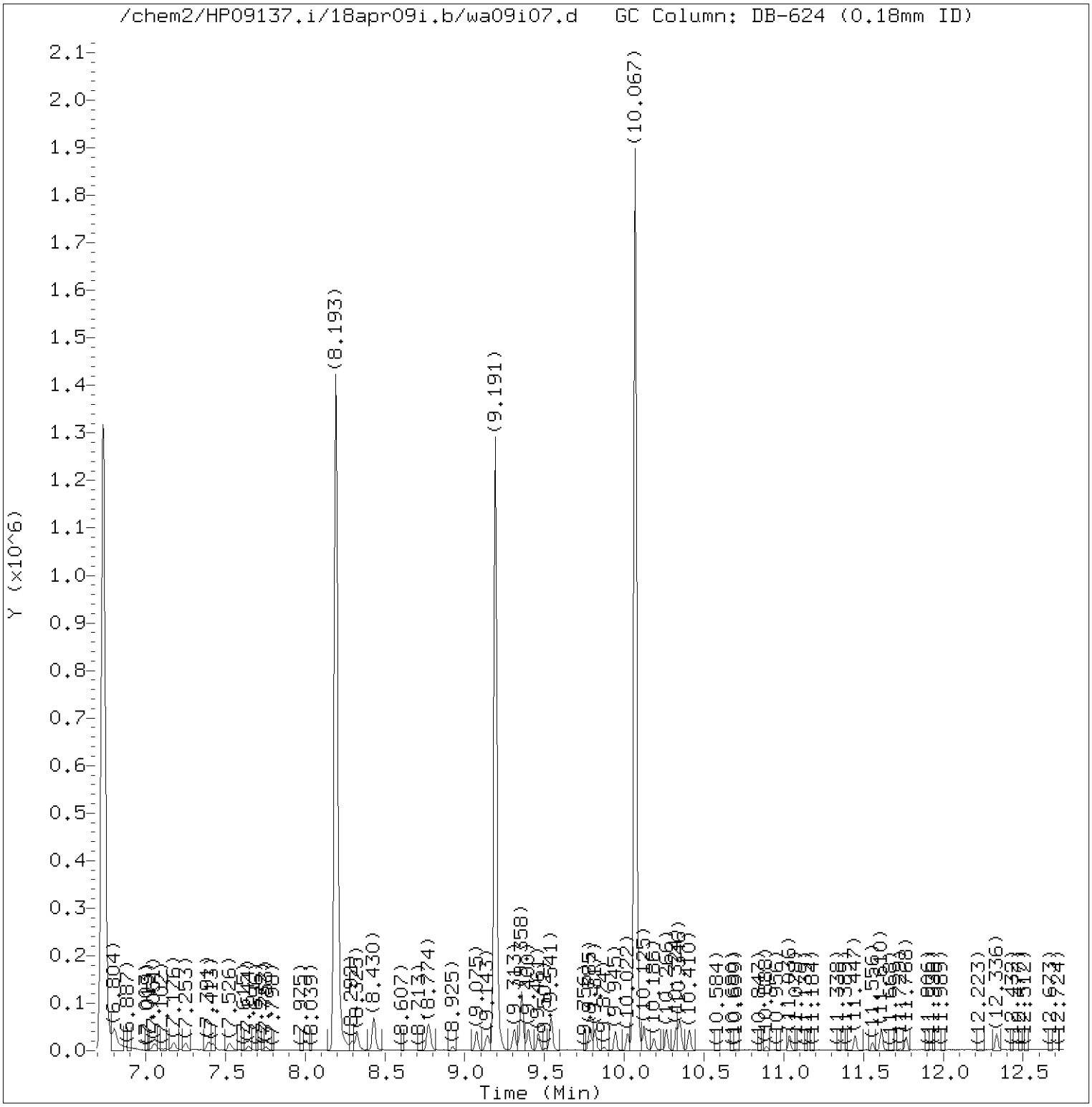
Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD001 Lab Sample ID: VSTD001

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD001 Lab Sample ID: VSTD001

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
3) Dichlorodifluoromethane	(2)	1.271	85	5588	0.835
4) Chloromethane	(2)	1.406	50	7141	0.996
6) Vinyl Chloride	(2)	1.490	62	6049	0.835
5) 1,3-Butadiene	(2)	1.496	39	6188M	1.165
8) Bromomethane	(2)	1.708	94	5073	0.964
9) Chloroethane	(2)	1.778	64	4030	0.932
10) Dichlorofluoromethane	(2)	1.904	67	11032	1.210
12) Trichlorofluoromethane	(2)	1.952	101	6324	0.785
11) n-Pentane	(2)	1.993	43	12517	1.463
13) Ethanol	(1)	2.086	45	6984M	54.207
15) Freon 123a	(2)	2.180	67	6042M	1.015
16) Acrolein	(1)	2.244	56	18742	13.790
17) 1,1-Dichloroethene	(2)	2.337	96	4097	0.913
17) 1,1-Dichloroethene	(2)	2.334	63	1888	0.905
19) Freon 113	(2)	2.362	101	3696	0.813
18) Acetone	(1)	2.372	58	1212M	2.123
22) Methyl Iodide	(2)	2.491	142	7729	0.887
21) 2-Propanol	(1)	2.500	45	8152	20.648
23) Carbon Disulfide	(2)	2.532	76	12612M	0.852
25) Allyl Chloride	(2)	2.635	41	7034	0.982
27) Methyl Acetate	(2)	2.651	43	5347	1.020
28) Methylene Chloride	(2)	2.744	84	5154M	0.988
29)*t-Butyl alcohol-d10	(1)	2.776	65	167487M	250.000
30) t-Butyl alcohol	(1)	2.847	59	12755M	17.719
31) Acrylonitrile	(2)	2.966	53	1954M	0.731
32) trans-1,2-Dichloroethene	(2)	2.991	96	4170	0.844
33) Methyl Tertiary Butyl Ether	(2)	2.991	73	15568M	0.930
34) n-Hexane	(2)	3.248	57	5618M	0.978
36) 1,1-Dichloroethane	(2)	3.376	63	7380	0.881
38) di-Isopropyl ether	(2)	3.447	45	15501M	0.988
39) 2-Chloro-1,3-butadiene	(2)	3.460	53	6417M	0.867
40) Ethyl t-butyl ether	(2)	3.794	59	14317	0.917
42) cis-1,2-Dichloroethene	(2)	3.925	96	4779	0.858
45) 2,2-Dichloropropane	(2)	3.932	77	4176	0.922
44) 2-Butanone	(2)	3.951	43	7624	2.048
47) Propionitrile	(1)	4.009	54	17758	19.733
43) 1,2-Dichloroethene (Total)	(2)		96	8949	1.702
48) Methacrylonitrile	(2)	4.147	67	29002	9.199

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

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
49) Bromochloromethane	(2)	4.153	128	2539	0.895
50) Tetrahydrofuran	(1)	4.211	71	1816	1.887
51) Chloroform	(2)	4.236	83	7682	0.894
52)$Dibromofluoromethane	(2)	4.394	113	230546	49.254
52)$Dibromofluoromethane	(2)	4.394	111	235584	49.143
53) 1,1,1-Trichloroethane	(2)	4.419	97	6418M	0.840
54) Cyclohexane	(2)	4.474	56	6768M	0.870
54) Cyclohexane	(2)	4.474	84	5803	0.810
54) Cyclohexane	(2)	4.487	69	2348	0.928
55) 1,1-Dichloropropene	(2)	4.583	75	6175M	0.903
56) Carbon Tetrachloride	(2)	4.583	117	4804M	0.830
58) Isobutyl Alcohol	(1)	4.715	41	13166	55.759
57)$1,2-Dichloroethane-d4	(2)	4.727	102	61629	50.144
57)$1,2-Dichloroethane-d4	(2)	4.724	65	276412	50.045
57)$1,2-Dichloroethane-d4	(2)	4.731	104	39359	49.441
60) Benzene	(2)	4.785	78	18586M	0.904
61) 1,2-Dichloroethane	(2)	4.801	62	7363	1.027
61) 1,2-Dichloroethane	(2)	4.801	98	682	0.965
65) t-Amyl methyl ether	(2)	4.907	73	15044	0.923
66)*Fluorobenzene	(2)	5.068	96	1026790	50.000
67) n-Heptane	(2)	5.071	43	8505	1.651
69) n-Butanol	(1)	5.401	56	20717	93.244
71) Trichloroethene	(2)	5.446	95	4813	0.882
72) Methylcyclohexane	(2)	5.642	83	6605	0.900
72) Methylcyclohexane	(2)	5.642	98	2712	0.786
73) 1,2-Dichloropropane	(2)	5.677	63	4640	0.891
74) Dibromomethane	(2)	5.786	93	3057	0.866
76) Methyl Methacrylate	(2)	5.815	69	5477	0.984
75) 1,4-Dioxane	(1)	5.847	88	1803	29.709
78) Bromodichloromethane	(2)	5.960	83	5737	0.859
79) 2-Nitropropane	(2)	6.210	41	3489M	1.887
80) 2-Chloroethyl Vinyl Ether	(2)	6.297	63	3707	0.874
81) cis-1,3-Dichloropropene	(2)	6.444	75	7596	0.863
82) 4-Methyl-2-pentanone	(2)	6.621	43	14402	1.876
83)$Toluene-d8	(3)	6.733	98	1019127	49.624
83)$Toluene-d8	(3)	6.733	100	672370	48.578
88) Toluene	(3)	6.804	92	12696	0.903
89) trans-1,3-Dichloropropene	(3)	7.057	75	7469	0.891

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

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
91) Ethyl Methacrylate	(3)	7.179	69	8915	0.919
92) 1,1,2-Trichloroethane	(3)	7.246	97	4877	0.882
90) 1,3-Dichloropropene (total)	(3)		100	15065	1.754
93) Tetrachloroethene	(3)	7.397	166	5237	0.915
94) 1,3-Dichloropropane	(3)	7.423	76	8222	0.900
96) 2-Hexanone	(3)	7.526	43	11076	1.794
97) Dibromochloromethane	(3)	7.644	129	4539	0.807
99) 1,2-Dibromoethane	(3)	7.757	107	5258	0.873
100)*Chlorobenzene-d5	(3)	8.193	117	800980	50.000
102) Chlorobenzene	(3)	8.219	112	14709	0.918
103) 1,1,1,2-Tetrachloroethane	(3)	8.296	131	4043	0.785
104) Ethylbenzene	(3)	8.328	91	23797	0.914
106) m+p-Xylene	(3)	8.430	106	18940	1.781
107) o-Xylene	(3)	8.771	106	9548	0.899
109) Styrene	(3)	8.783	104	15796	0.870
108) Xylene (Total)	(3)		106	28488	2.679
110) Bromoform	(3)	8.928	173	2965	0.735
111) Isopropylbenzene	(3)	9.075	105	22153	0.877
112) Cyclohexanone	(1)	9.143	55	14524M	51.939
114)$4-Bromofluorobenzene	(3)	9.191	95	380486	49.051
114)$4-Bromofluorobenzene	(3)	9.194	174	310716	49.093
115) Bromobenzene	(4)	9.310	156	6218	0.916
116) 1,1,2,2-Tetrachloroethane	(4)	9.313	83	8337	0.954
117) 1,2,3-Trichloropropane	(4)	9.342	110	2782	1.014
118) trans-1,4-Dichloro-2-butene	(4)	9.361	53	20595	8.576
119) n-Propylbenzene	(4)	9.400	91	27043	0.954
120) 2-Chlorotoluene	(4)	9.461	126	5872	0.941
122) 1,3,5-Trimethylbenzene	(4)	9.538	105	19043	0.904
121) 4-Chlorotoluene	(4)	9.547	126	6228	0.933
124) tert-Butylbenzene	(4)	9.785	134	4410	0.944
125) Pentachloroethane	(4)	9.794	167	2912	0.808
126) 1,2,4-Trimethylbenzene	(4)	9.820	105	20045	0.910
127) sec-Butylbenzene	(4)	9.945	105	21835	0.915
129) 1,3-Dichlorobenzene	(4)	10.022	146	12655	0.986
130) p-Isopropyltoluene	(4)	10.051	119	19801	0.923
131)*1,4-Dichlorobenzene-d4	(4)	10.067	152	415394	50.000
133) 1,4-Dichlorobenzene	(4)	10.086	146	13068	0.979
134) 1,2,3-Trimethylbenzene	(4)	10.125	105	21509	0.948

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

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

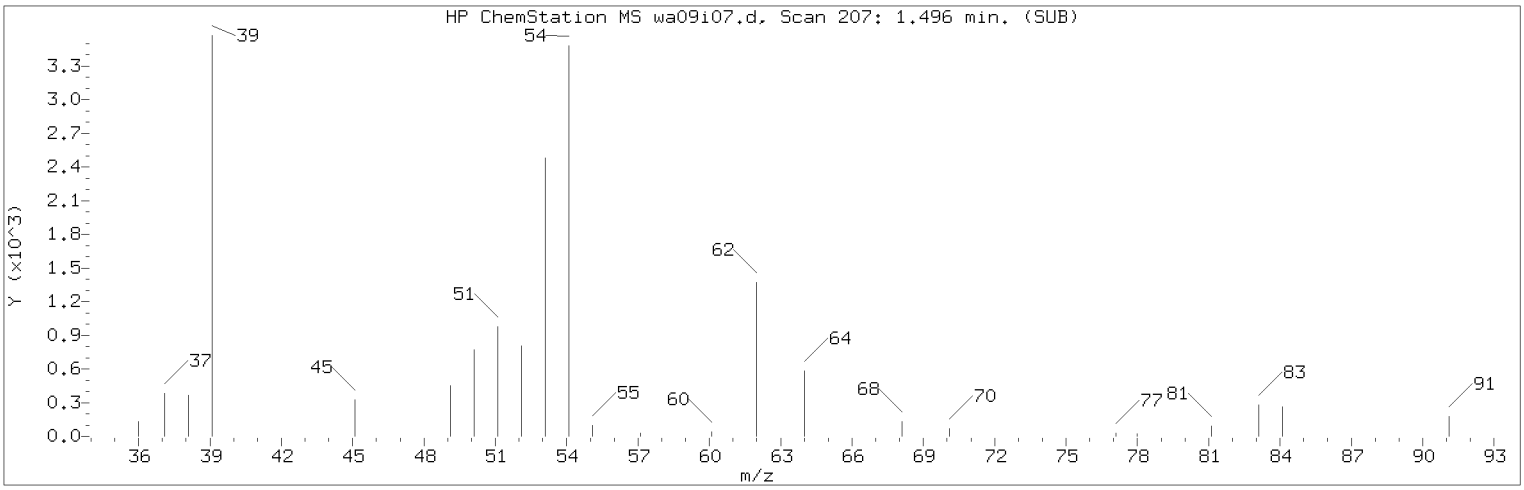
Sample Name: VSTD001 Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
135) Benzyl Chloride	(4)	10.186	91	14968	0.847
136) 1,3-Diethylbenzene	(4)	10.266	119	11530	0.901
137) 1,4-Diethylbenzene	(4)	10.324	119	12365	0.933
139) n-Butylbenzene	(4)	10.343	92	9592M	0.940
138) 1,2-Dichlorobenzene	(4)	10.353	146	12286	0.961
140) 1,2-Diethylbenzene	(4)	10.407	119	10319	0.940
141) Diethylbenzene (total)	(4)		100	34214	2.774
142) 1,2-Dibromo-3-chloropropane	(4)	10.888	75	1456	0.783
144) 1,3,5-Trichlorobenzene	(4)	11.036	180	8019	0.986
146) 1,2,4-Trichlorobenzene	(4)	11.447	180	7654	0.950
147) Hexachlorobutadiene	(4)	11.556	225	2478	1.038
148) Naphthalene	(4)	11.610	128	28920	0.989
149) 1,2,3-Trichlorobenzene	(4)	11.765	180	7563	0.989
150) 2-Methylnaphthalene	(4)	12.336	142	14691	0.955

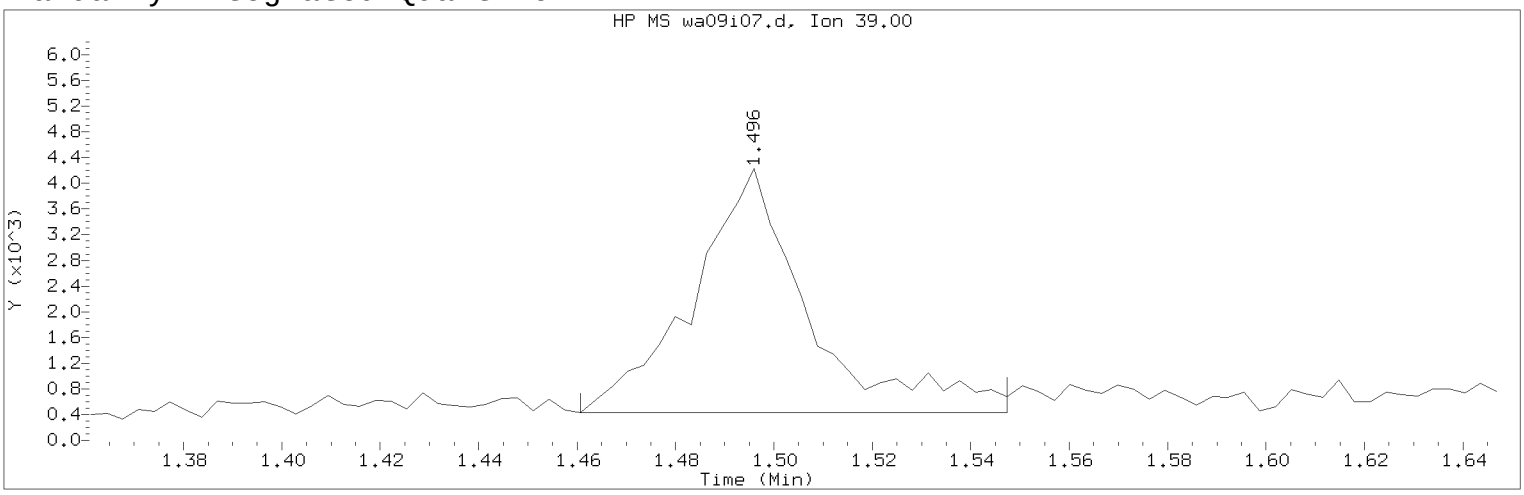
M = Compound was manually integrated.

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD001 Lab Sample ID: VSTD001

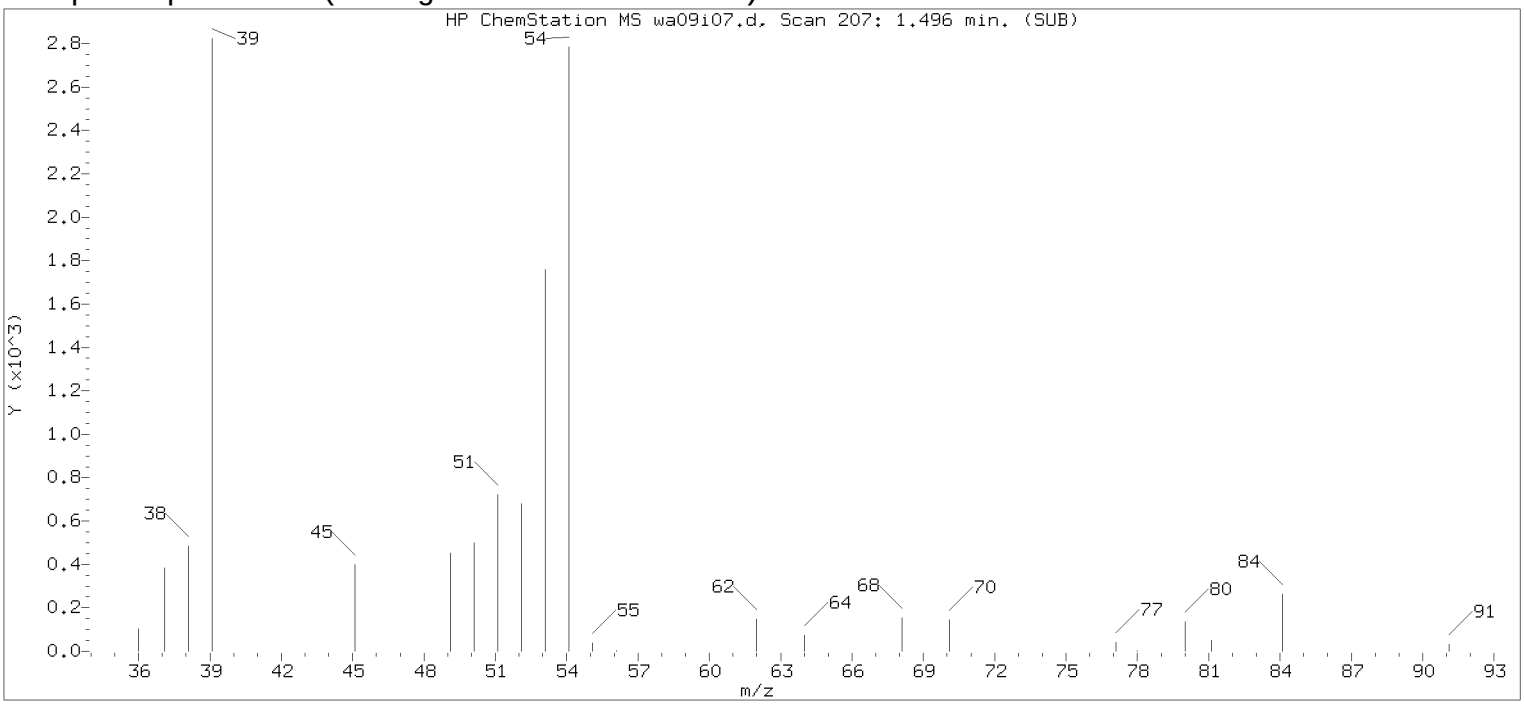
Compound Number : 5
Compound Name : 1,3-Butadiene
Scan Number : 207
Retention Time (minutes): 1.496
Quant Ion : 39.00
Area (flag) : 6188M
On-Column Amount (ng) : 1.1653
Integration start scan : 195 Integration stop scan: 222
Y at integration start : 434 Y at integration end: 434

Reason for manual integration: improper integration

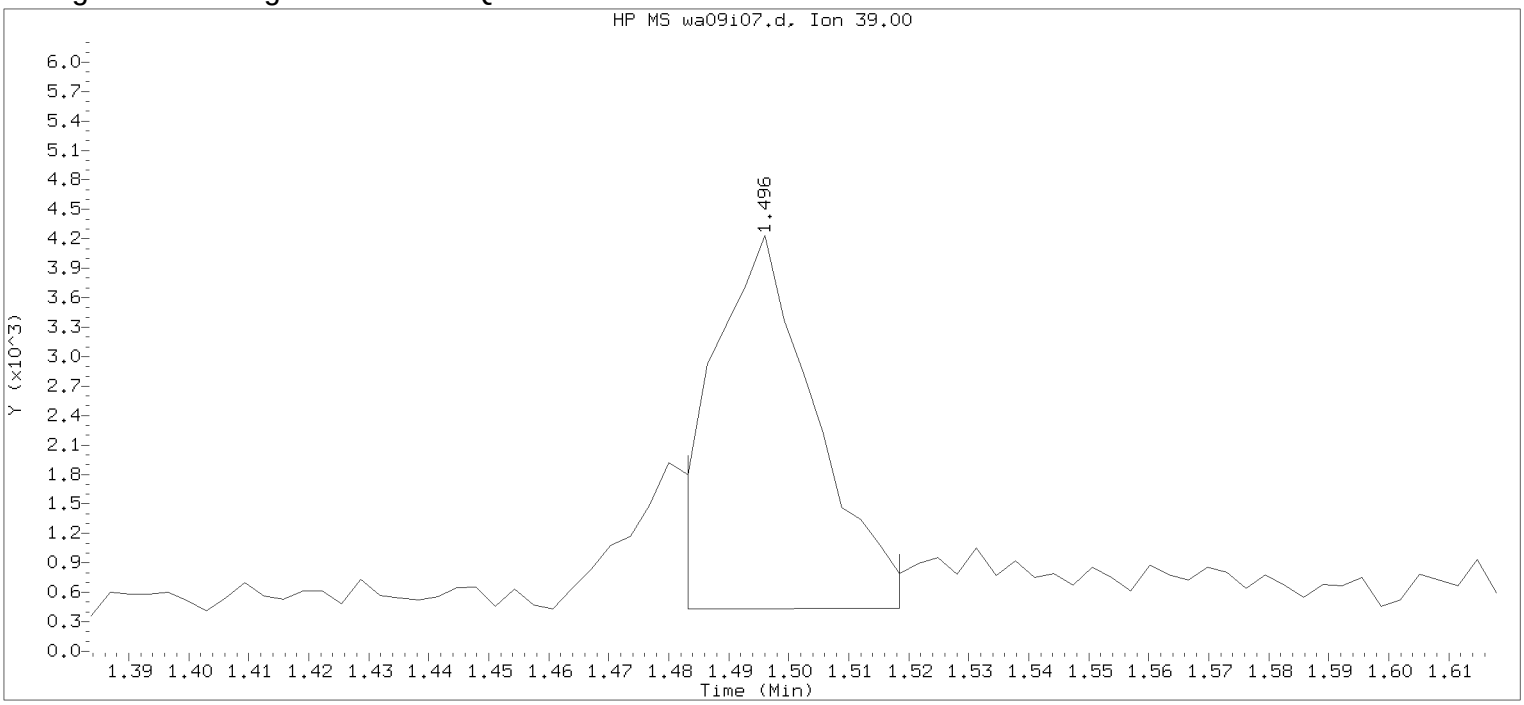
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:57.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

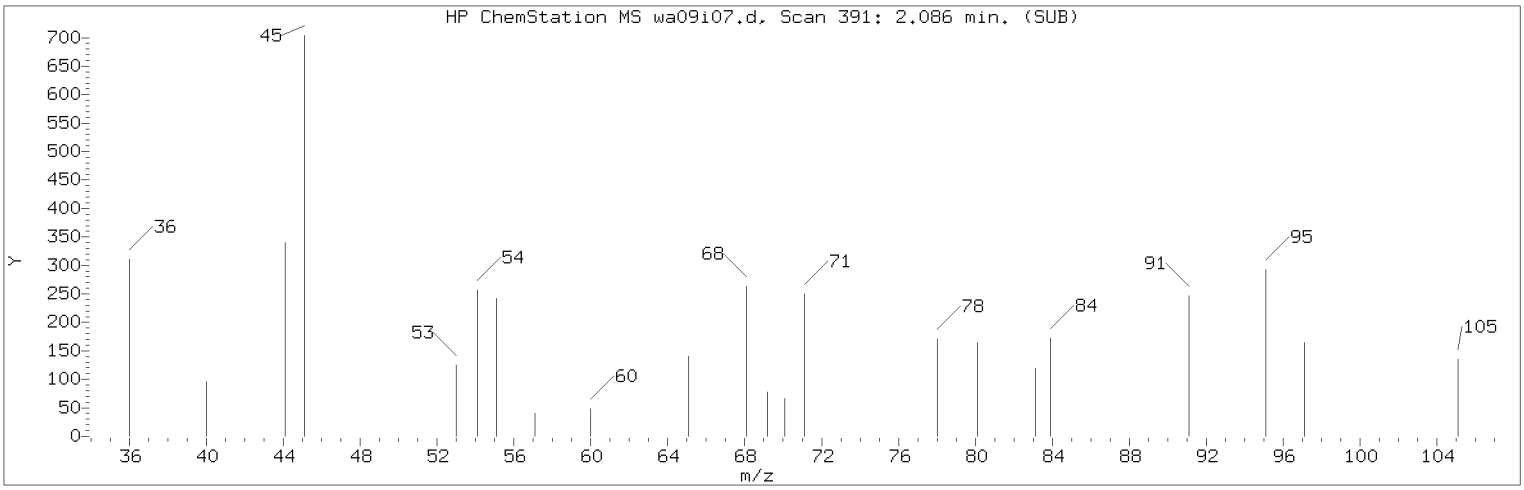
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 13:54
Date, time and analyst ID of latest file update: 09-Apr-2018 13:54 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

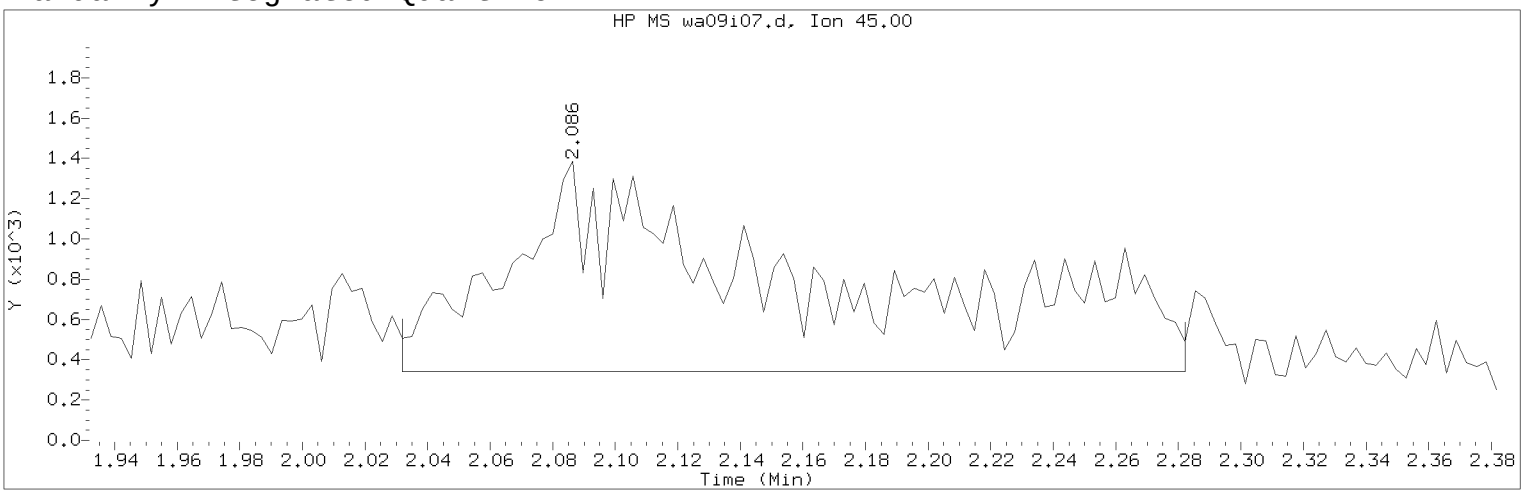
Compound Number : 5
Compound Name : 1,3-Butadiene
Scan Number : 207
Retention Time (minutes): 1.496
Quant Ion : 39.00
Area : 4437
On-column Amount (ng) : 0.8785
Integration start scan : 202 Integration stop scan: 213
Y at integration start : 430 Y at integration end: 441

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD001 Lab Sample ID: VSTD001

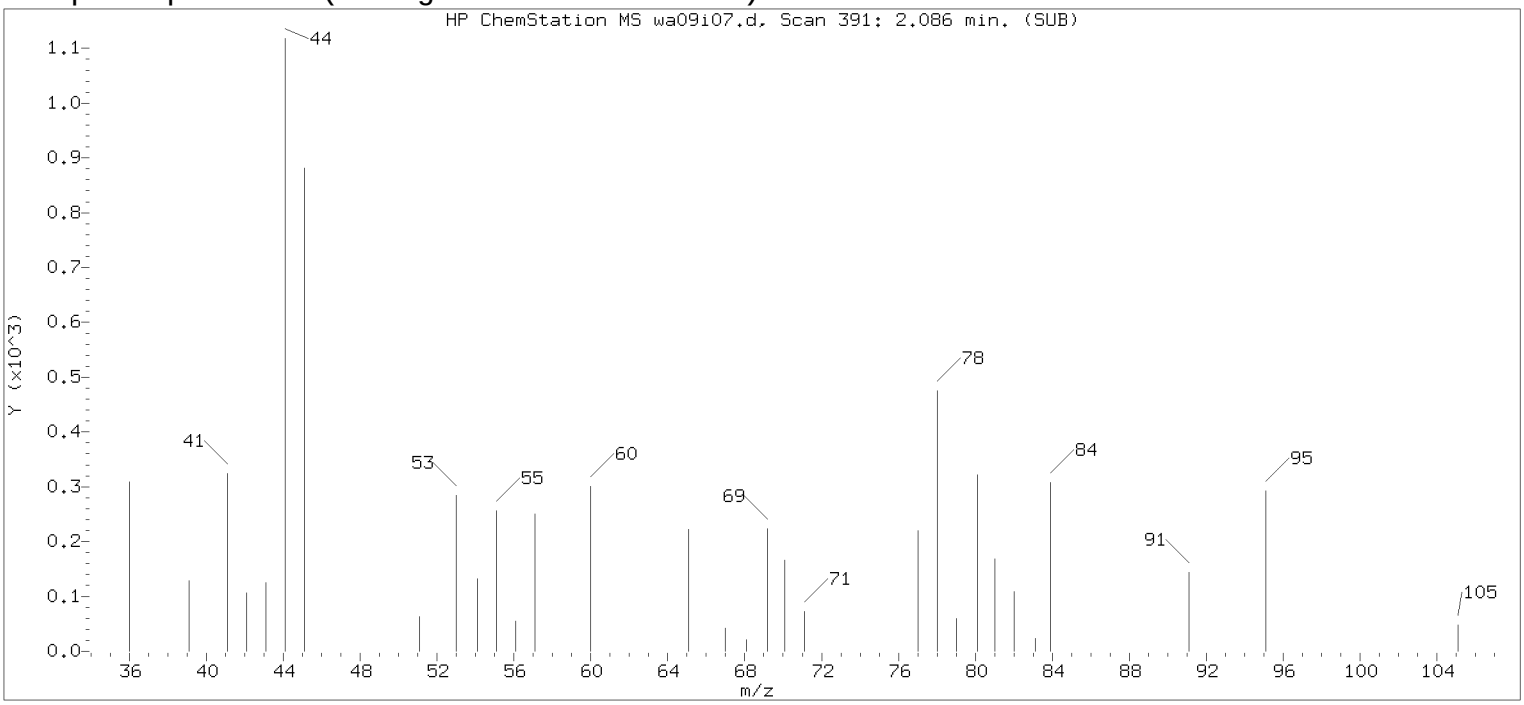
Compound Number : 13
Compound Name : Ethanol
Scan Number : 391
Retention Time (minutes): 2.086
Quant Ion : 45.00
Area (flag) : 6984M
On-Column Amount (ng) : 54.2074
Integration start scan : 373 Integration stop scan: 451
Y at integration start : 342 Y at integration end: 342

Reason for manual integration: improper integration

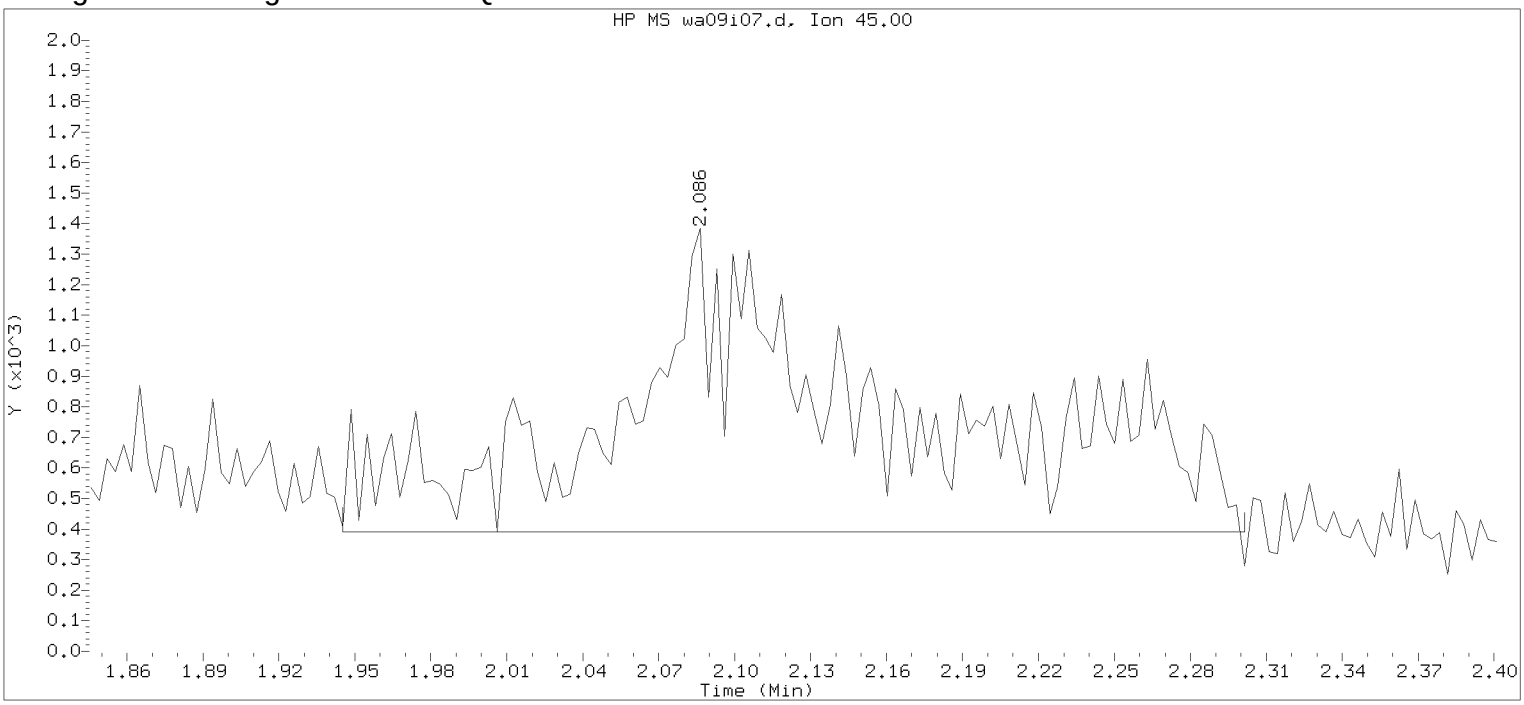
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:57.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

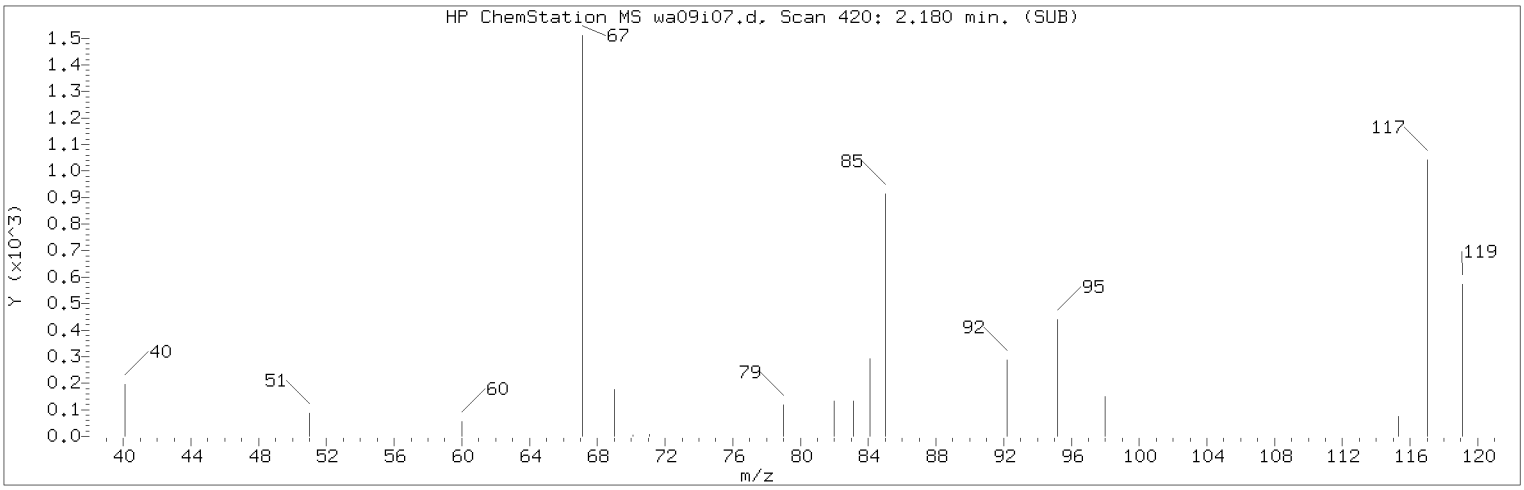
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 13:54
Date, time and analyst ID of latest file update: 09-Apr-2018 13:54 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

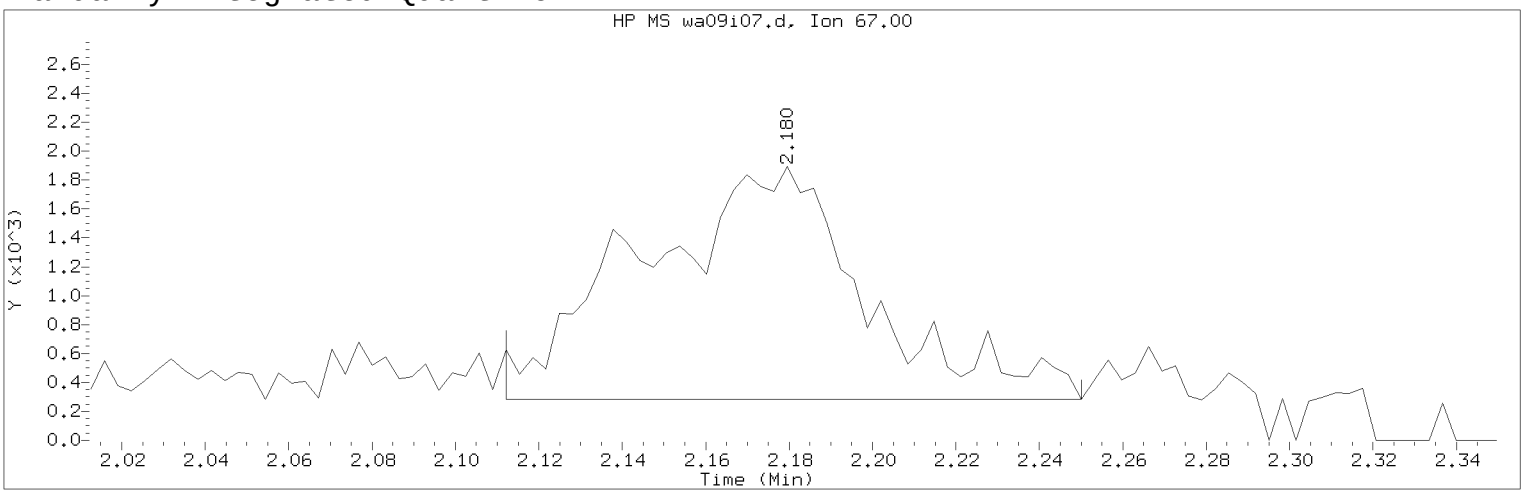
Compound Number : 13
Compound Name : Ethanol
Scan Number : 391
Retention Time (minutes): 2.086
Quant Ion : 45.00
Area : 7551
On-column Amount (ng) : 158.7035
Integration start scan : 346 Integration stop scan: 457
Y at integration start : 390 Y at integration end: 390

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1285 meaning: 2007

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD001 Lab Sample ID: VSTD001

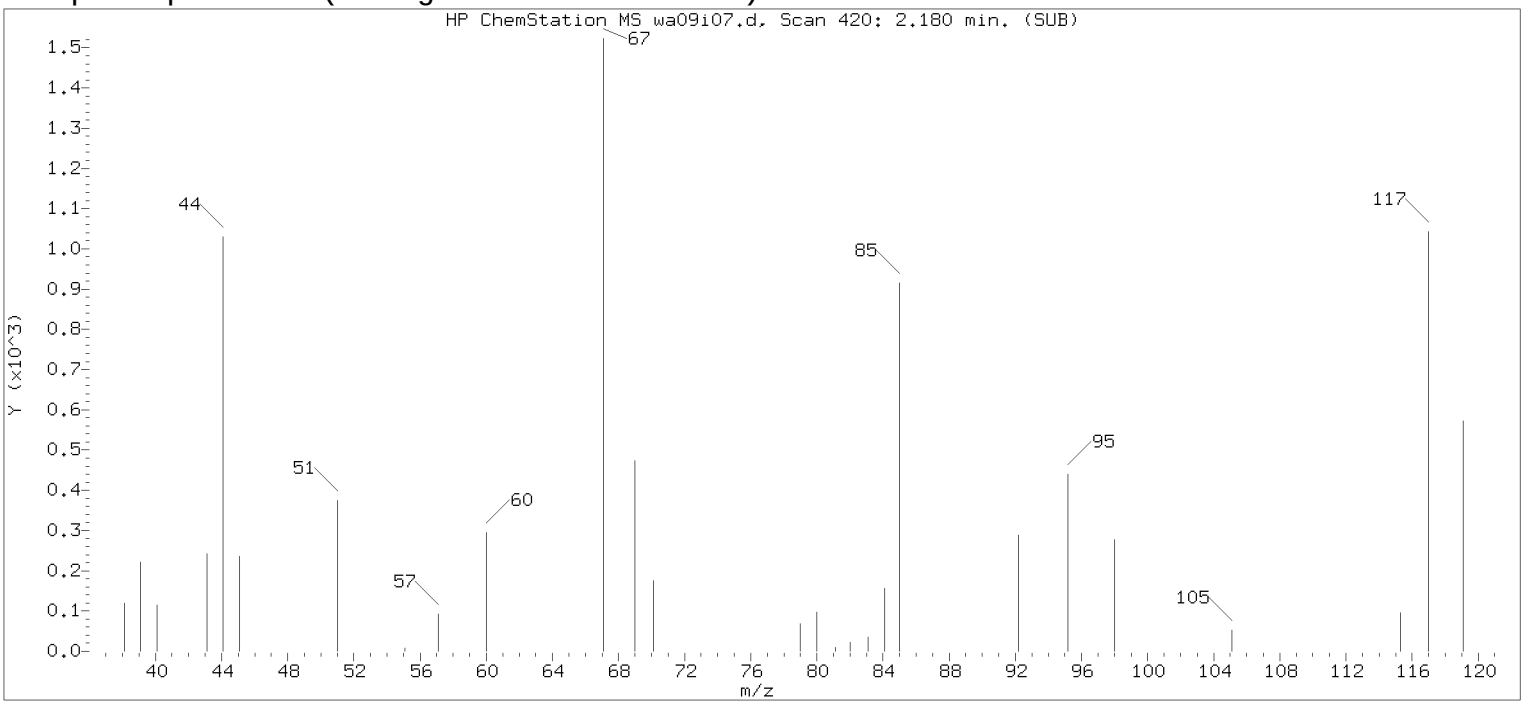
Compound Number : 15
Compound Name : Freon 123a
Scan Number : 420
Retention Time (minutes): 2.180
Quant Ion : 67.00
Area (flag) : 6042M
On-Column Amount (ng) : 1.0152
Integration start scan : 398 Integration stop scan: 441
Y at integration start : 285 Y at integration end: 285

Reason for manual integration: improper integration

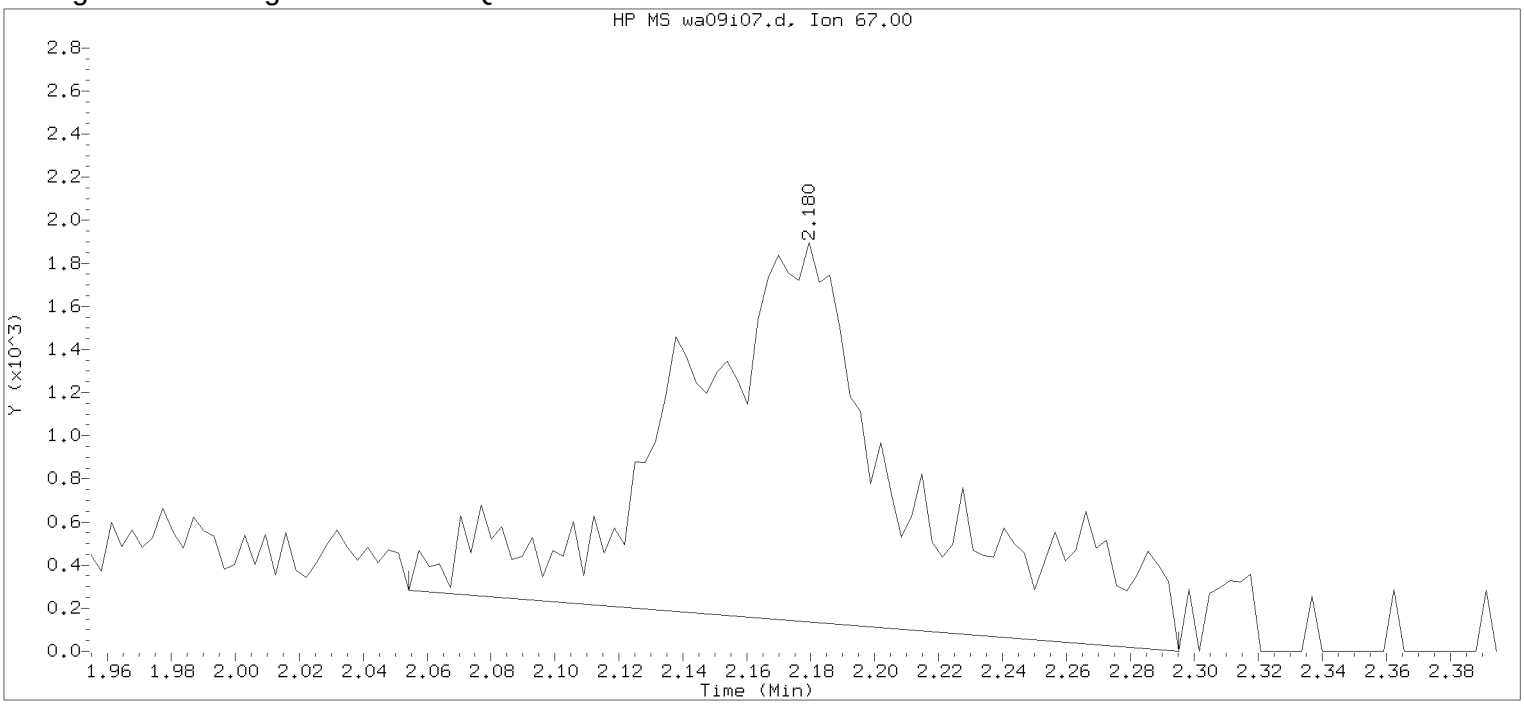
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:57.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

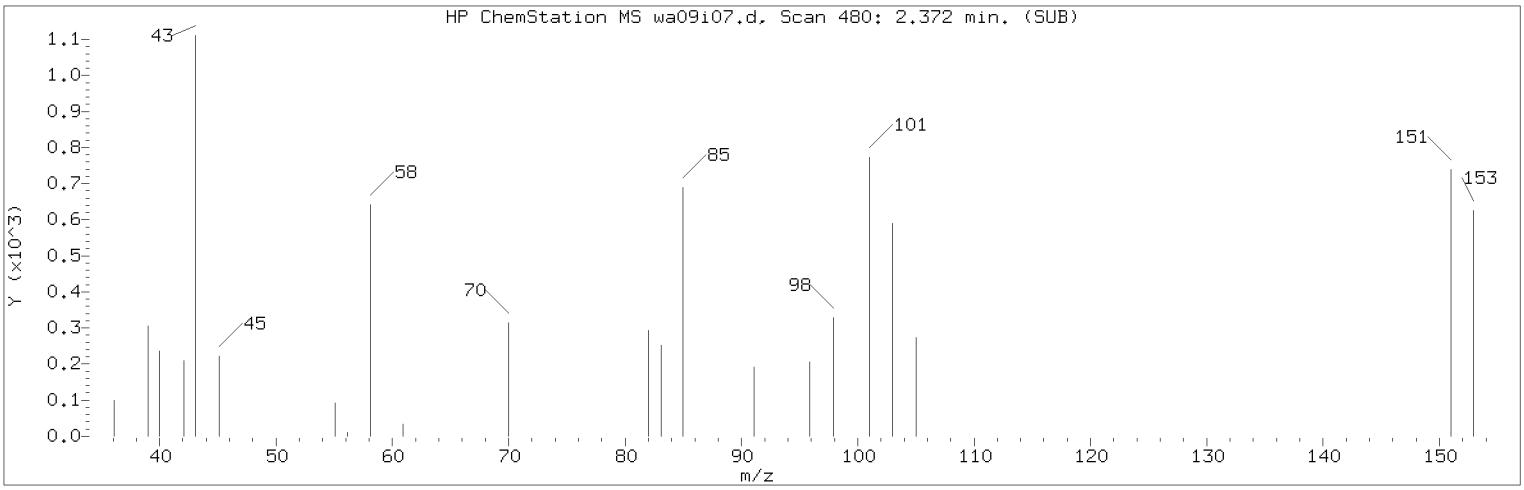
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 13:54
Date, time and analyst ID of latest file update: 09-Apr-2018 13:54 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

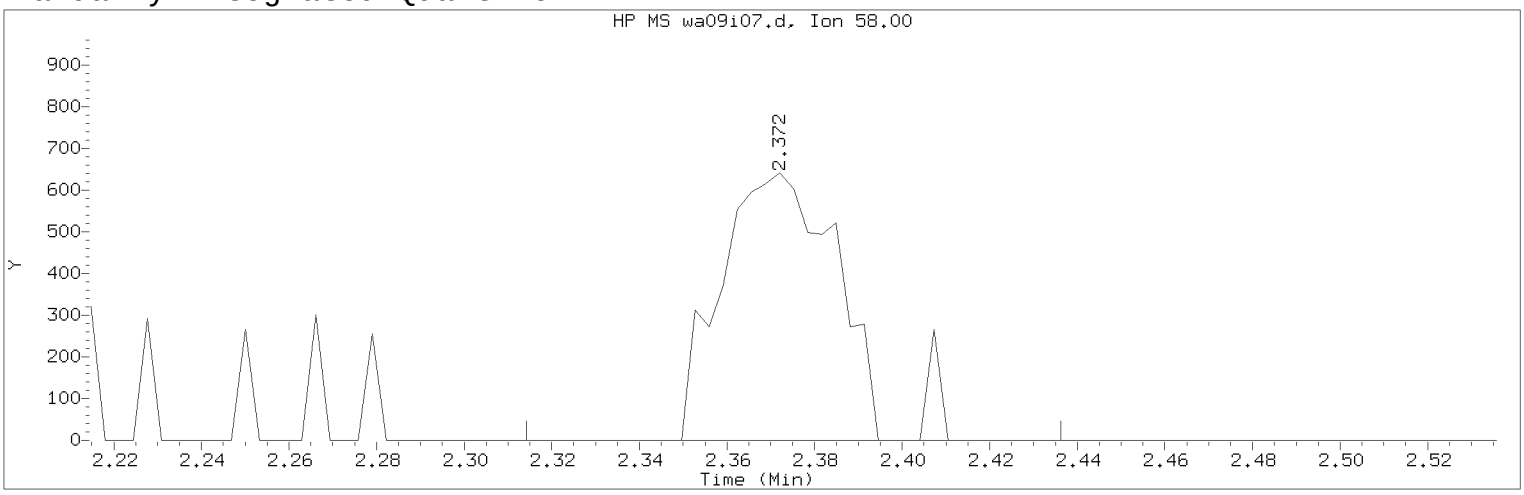
Compound Number : 15
Compound Name : Freon 123a
Scan Number : 420
Retention Time (minutes): 2.180
Quant Ion : 67.00
Area : 9064
On-column Amount (ng) : 1.4200
Integration start scan : 380 Integration stop scan: 455
Y at integration start : 284 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1185 meaning: Reviewed

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD001 Lab Sample ID: VSTD001

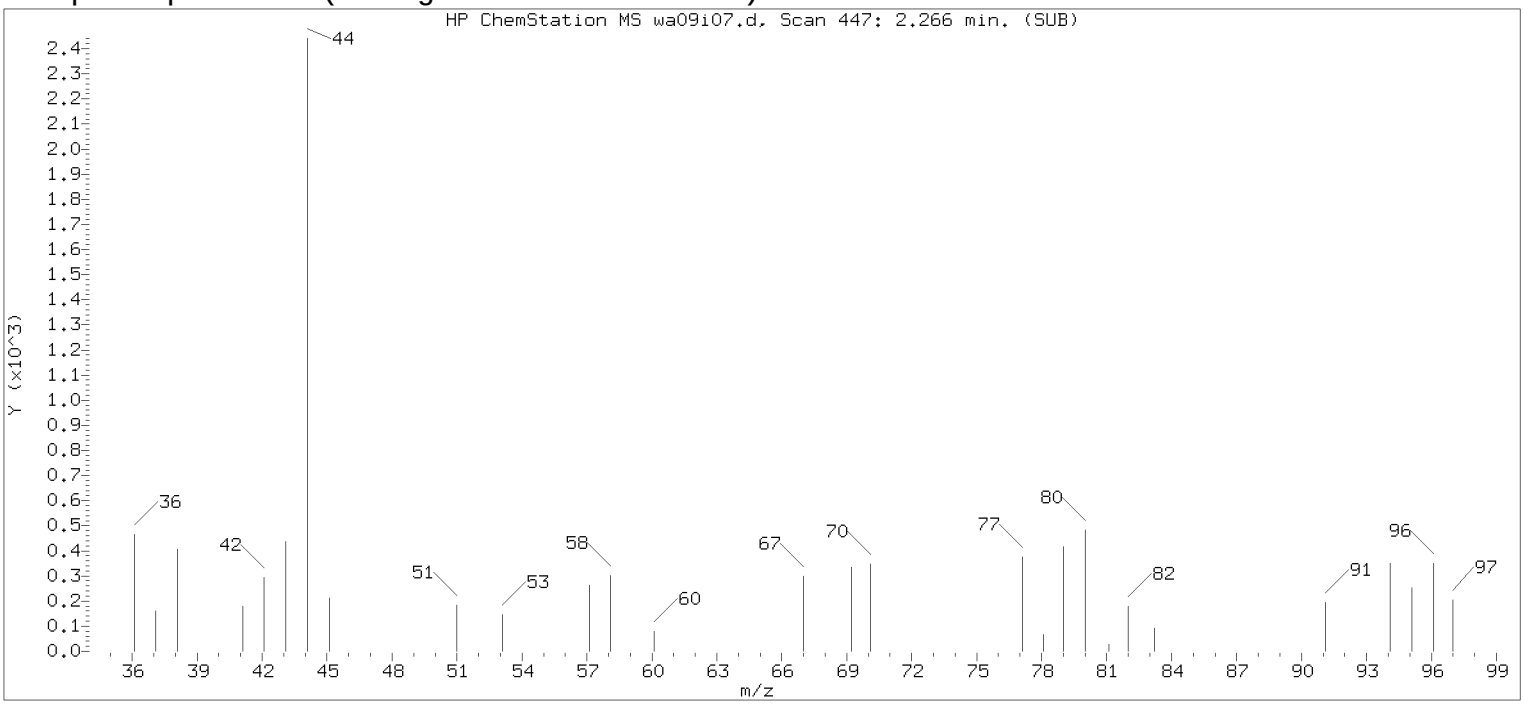
Compound Number : 18
Compound Name : Acetone
Scan Number : 480
Retention Time (minutes): 2.372
Quant Ion : 58.00
Area (flag) : 1212M
On-Column Amount (ng) : 2.1227
Integration start scan : 461 Integration stop scan: 499
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

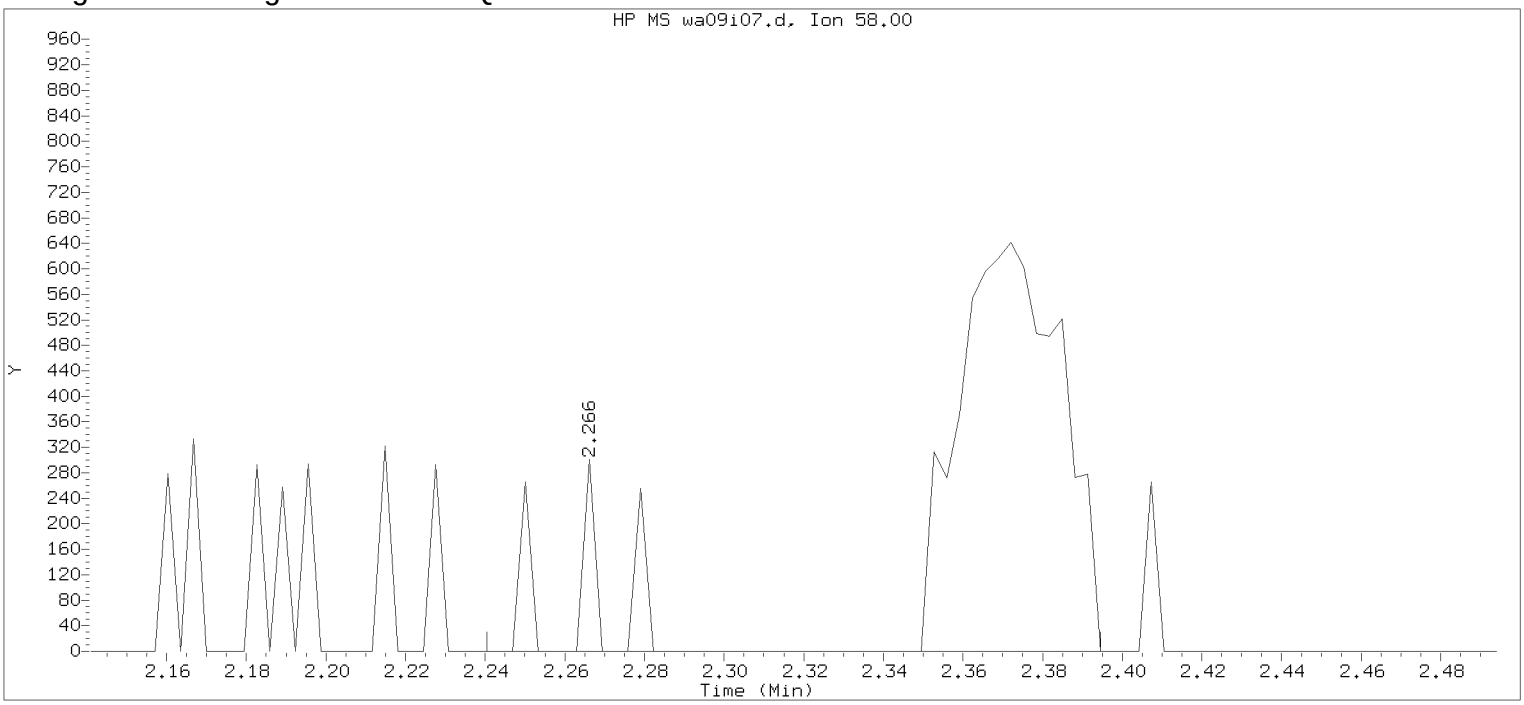
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:57.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

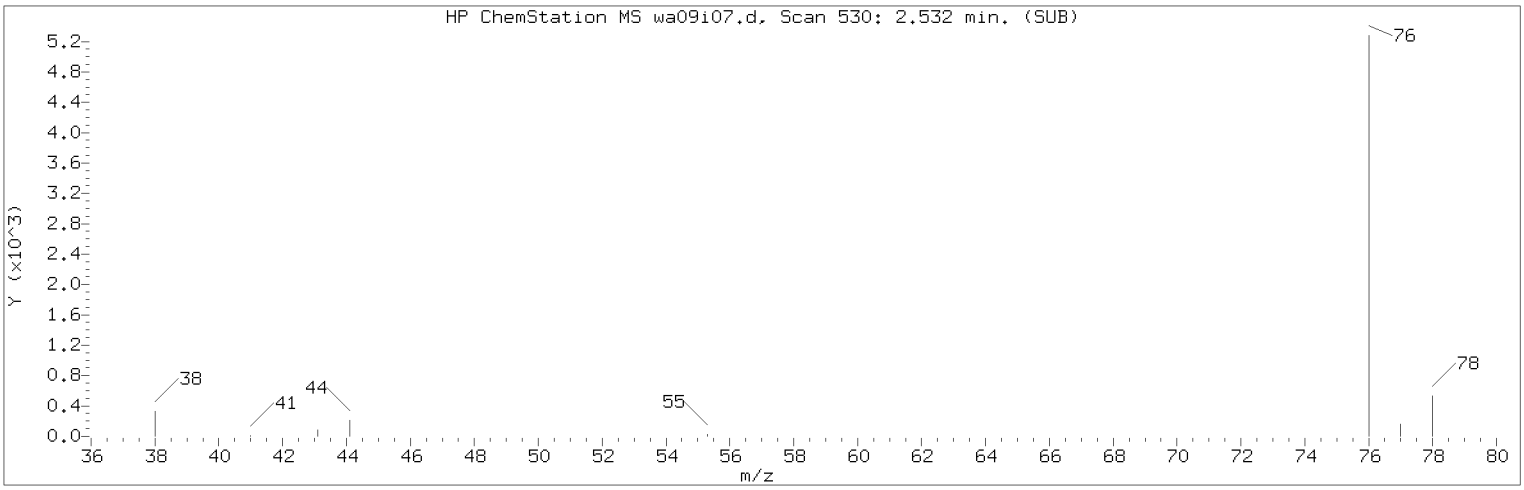
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 13:54
Date, time and analyst ID of latest file update: 09-Apr-2018 13:54 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

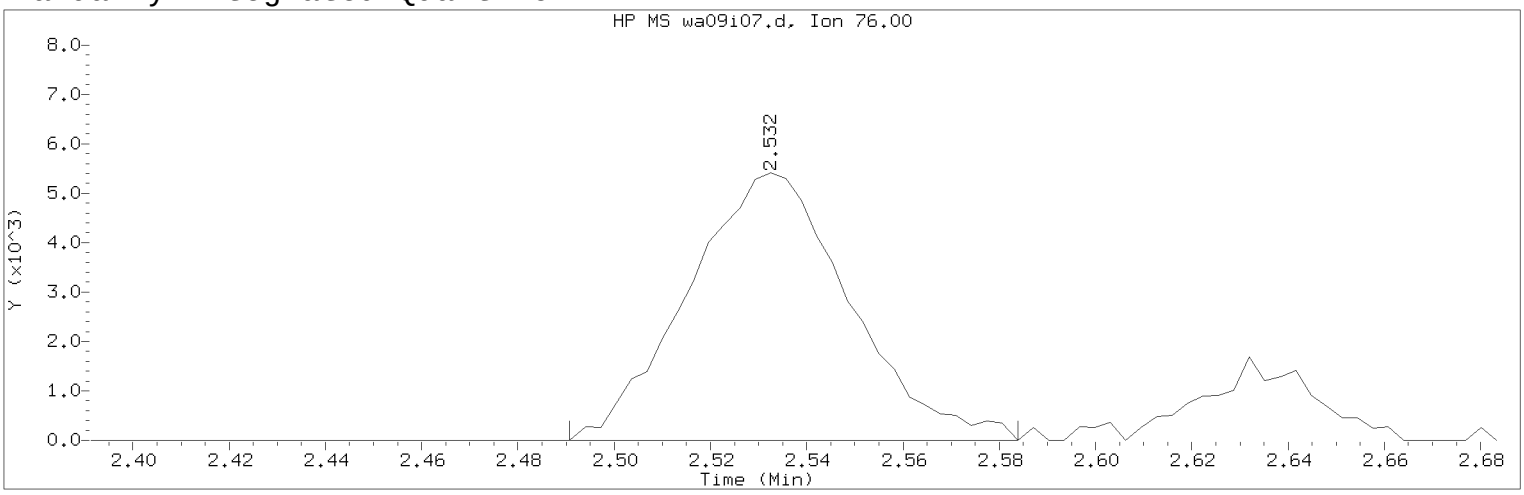
Compound Number : 18
Compound Name : Acetone
Scan Number : 447
Retention Time (minutes): 2.266
Quant Ion : 58.00
Area : 1319
On-column Amount (ng) : 2.5099
Integration start scan : 438 Integration stop scan: 486
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD001 Lab Sample ID: VSTD001

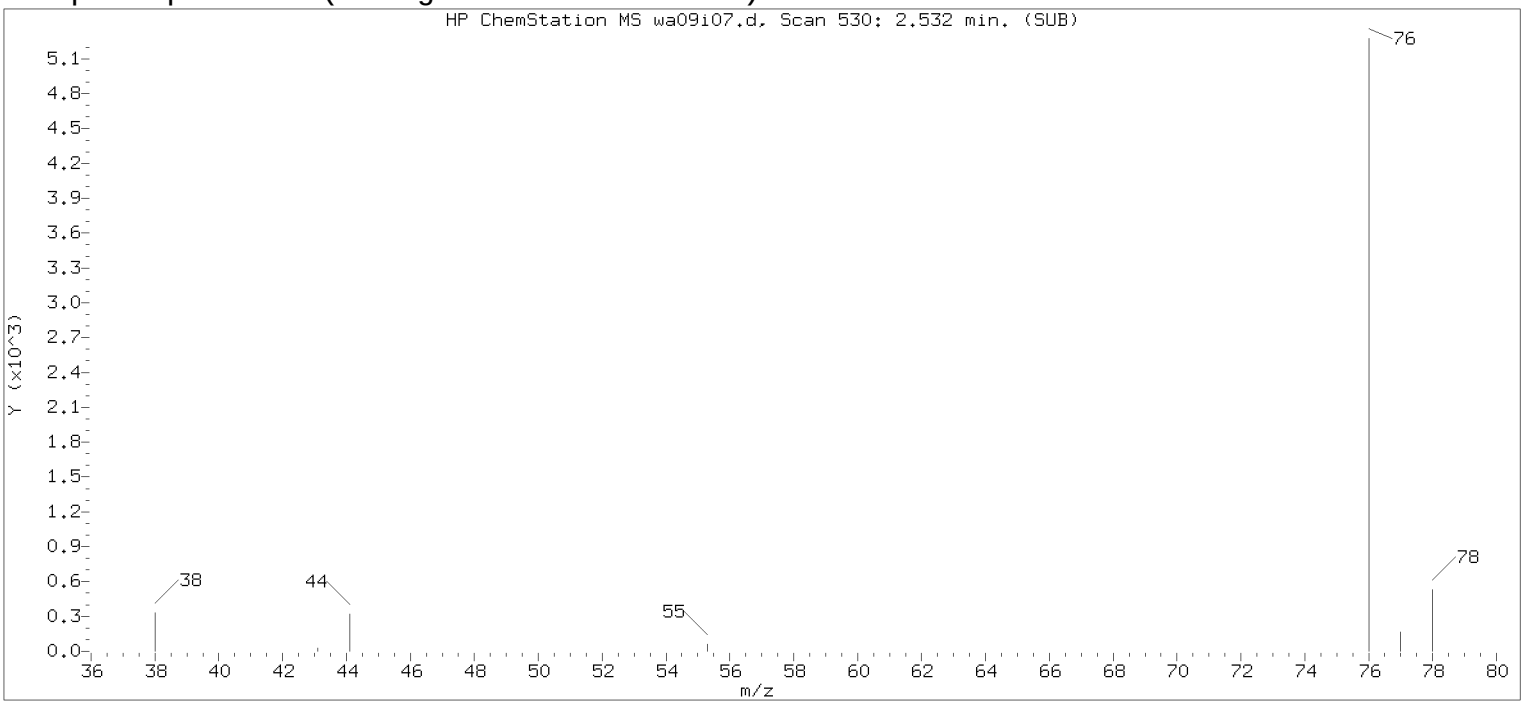
Compound Number : 23
Compound Name : Carbon Disulfide
Scan Number : 530
Retention Time (minutes): 2.532
Quant Ion : 76.00
Area (flag) : 12612M
On-Column Amount (ng) : 0.8517
Integration start scan : 516 Integration stop scan: 545
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

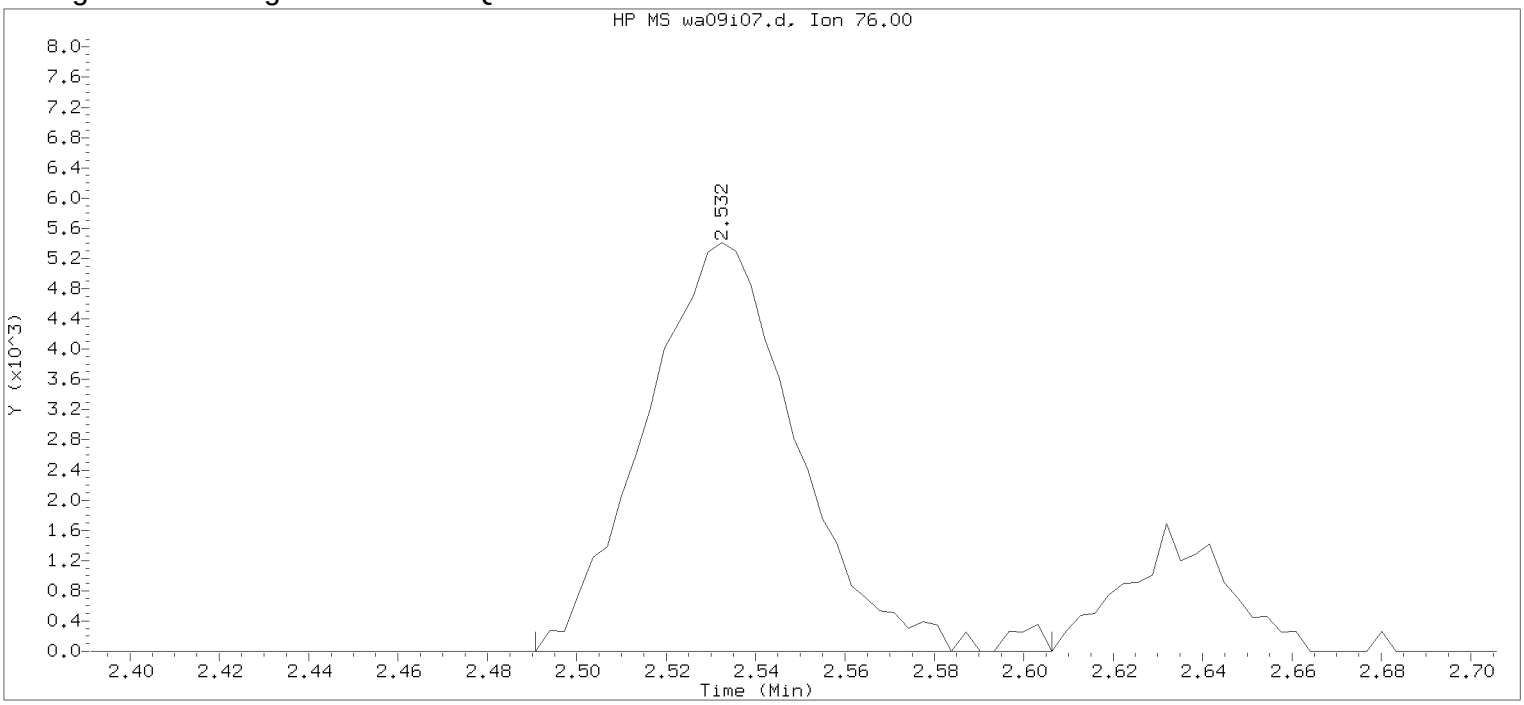
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:57.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

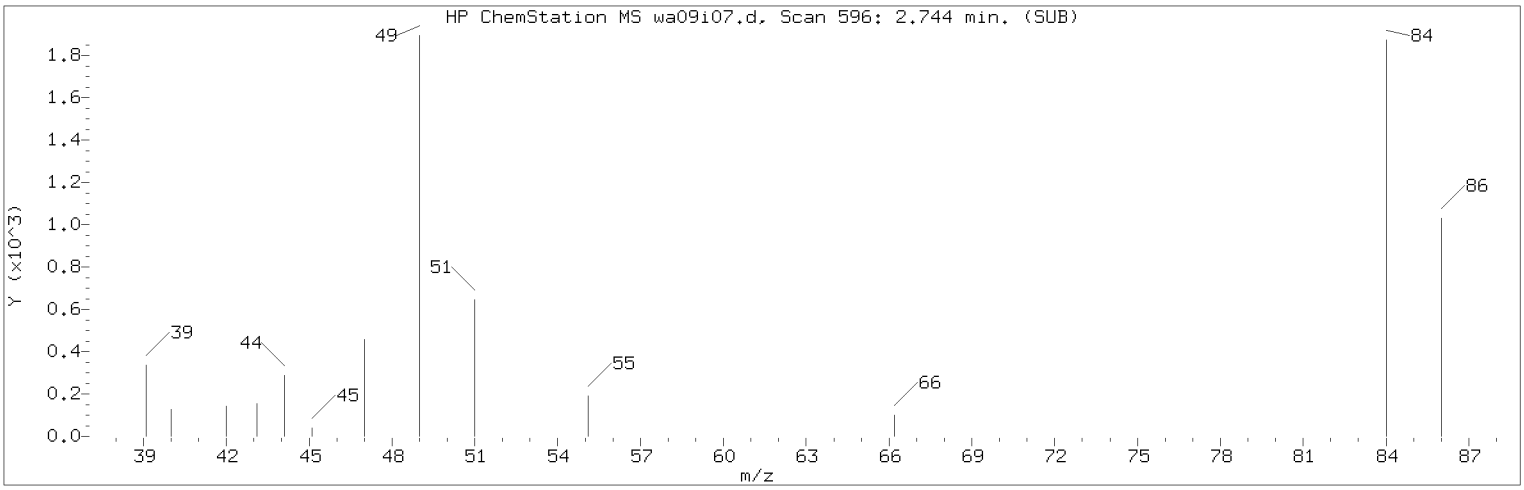
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 13:54
Date, time and analyst ID of latest file update: 09-Apr-2018 13:54 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

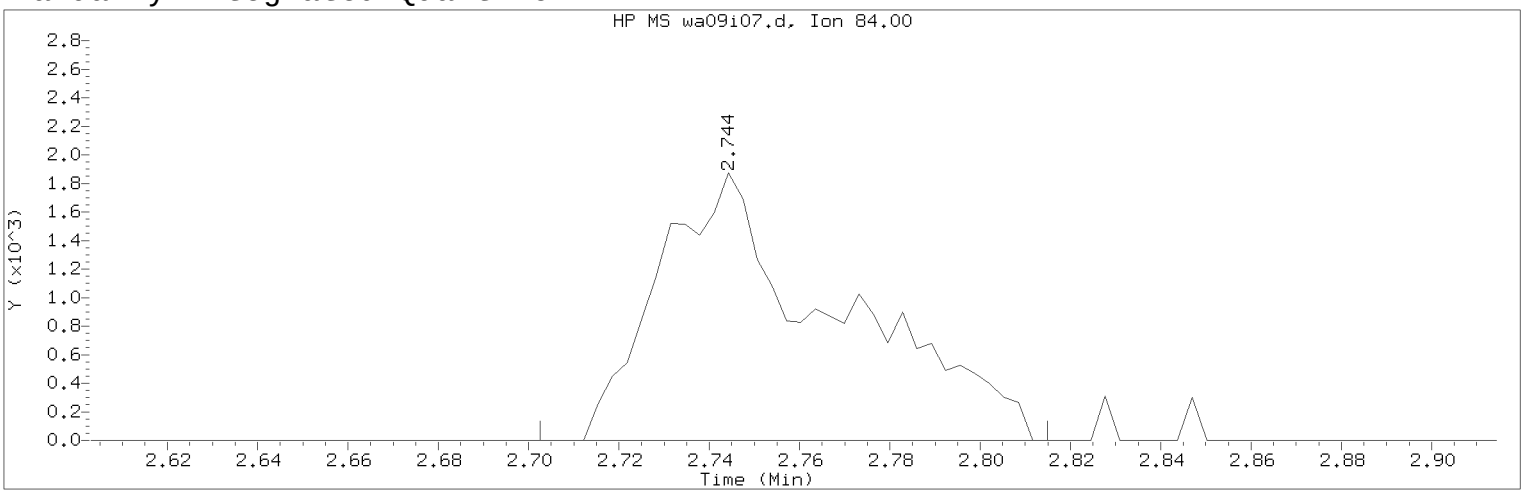
Compound Number : 23
Compound Name : Carbon Disulfide
Scan Number : 530
Retention Time (minutes): 2.532
Quant Ion : 76.00
Area : 12832
On-column Amount (ng) : 0.8648
Integration start scan : 516 Integration stop scan: 552
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1185 meaning: 1267

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD001 Lab Sample ID: VSTD001

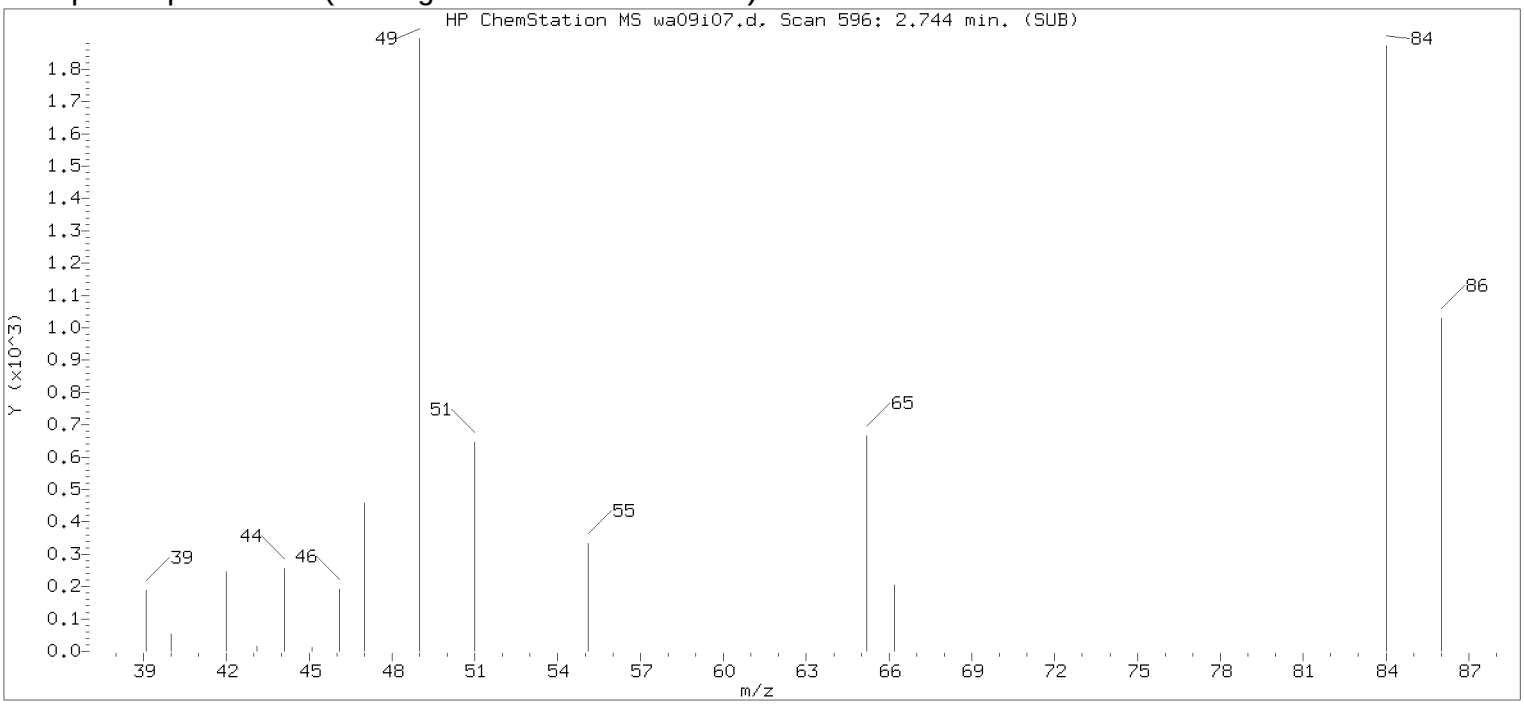
Compound Number : 28
Compound Name : Methylene Chloride
Scan Number : 596
Retention Time (minutes): 2.744
Quant Ion : 84.00
Area (flag) : 5154M
On-Column Amount (ng) : 0.9884
Integration start scan : 582 Integration stop scan: 617
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

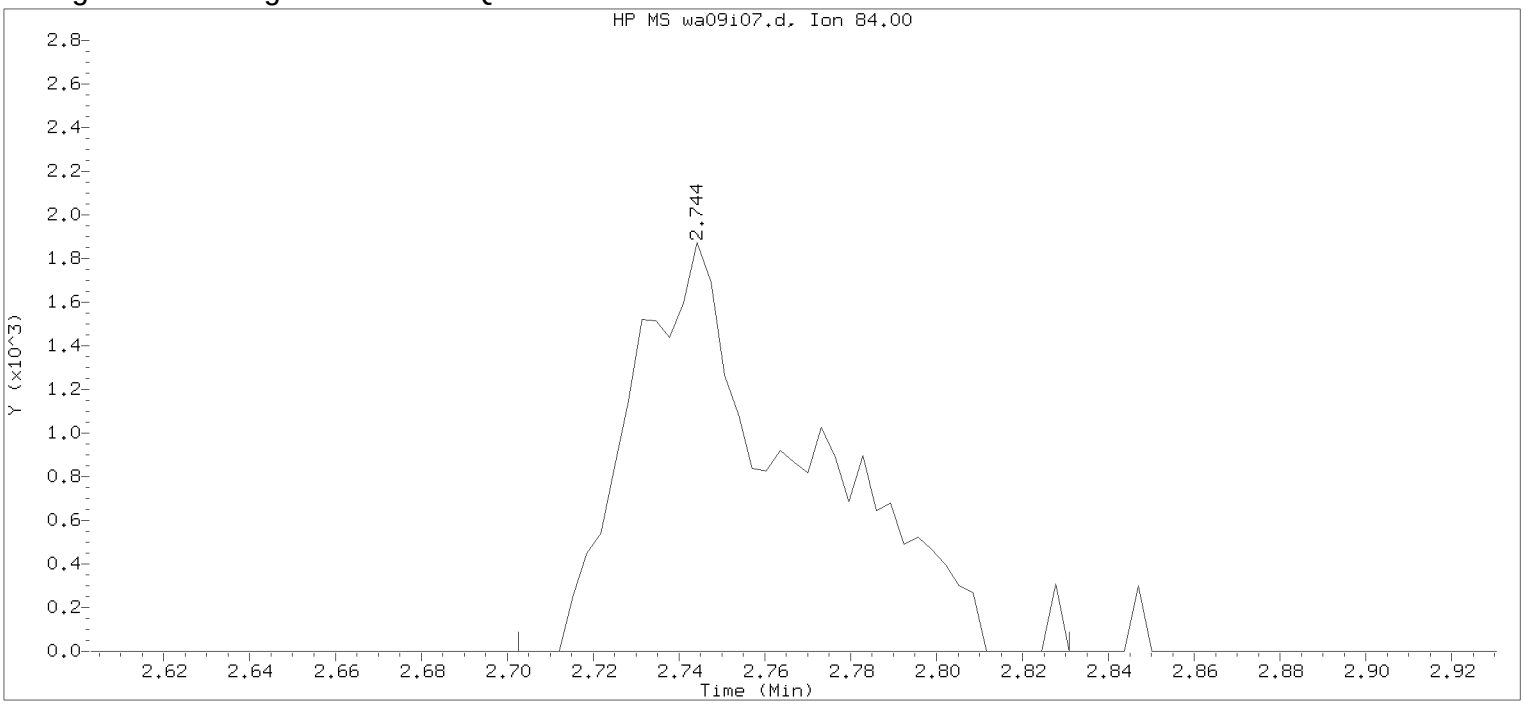
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:57.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

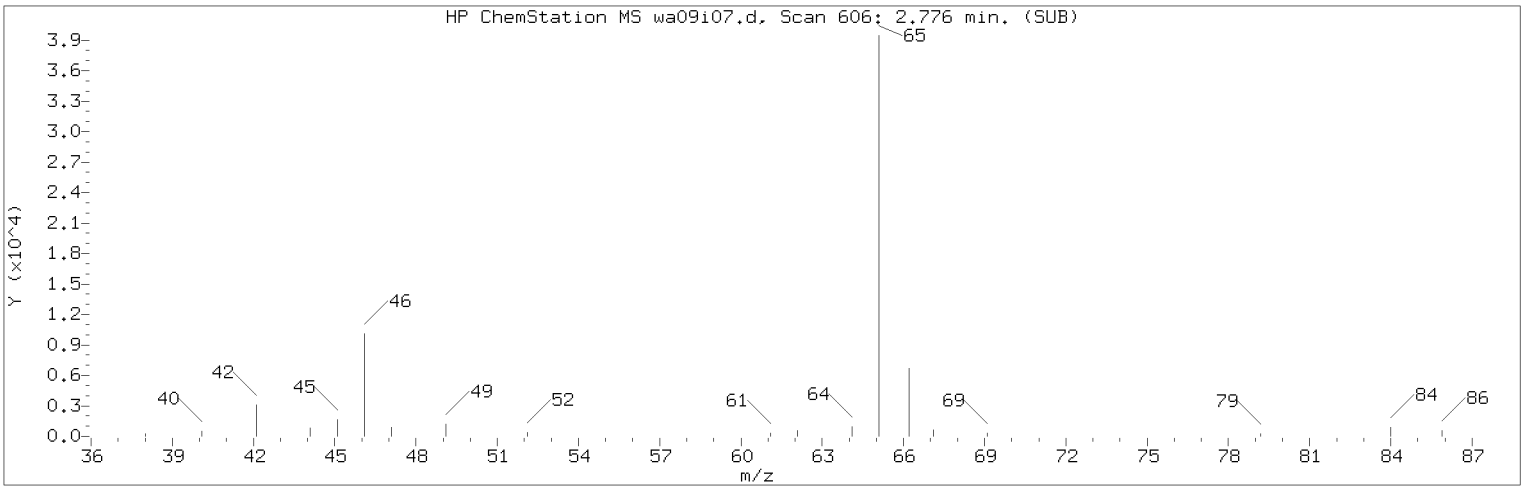
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 13:54
Date, time and analyst ID of latest file update: 09-Apr-2018 13:54 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

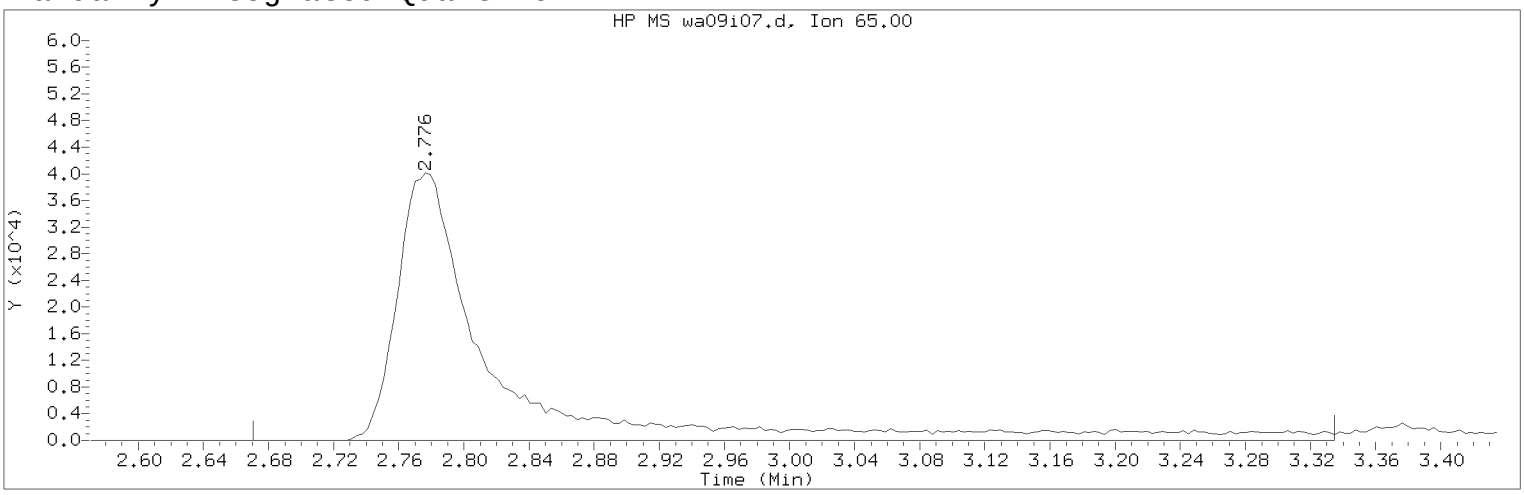
Compound Number : 28
Compound Name : Methylene Chloride
Scan Number : 596
Retention Time (minutes): 2.744
Quant Ion : 84.00
Area : 5213
On-column Amount (ng) : 0.9981
Integration start scan : 582 Integration stop scan: 622
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD001 Lab Sample ID: VSTD001

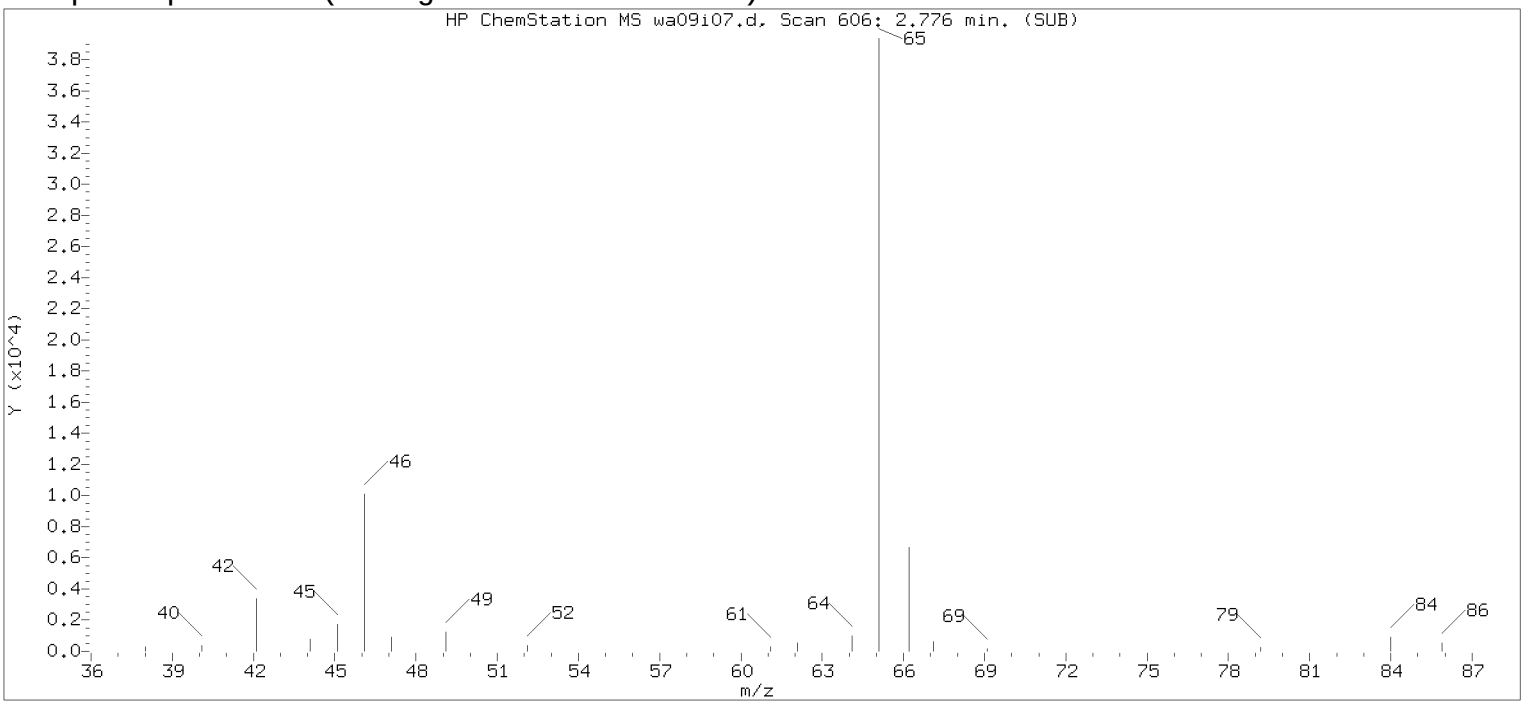
Compound Number : 29
Compound Name : t-Butyl alcohol-d10
Scan Number : 606
Retention Time (minutes): 2.776
Quant Ion : 65.00
Area (flag) : 167487M
On-Column Amount (ng) : 250.0000
Integration start scan : 572 Integration stop scan: 779
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

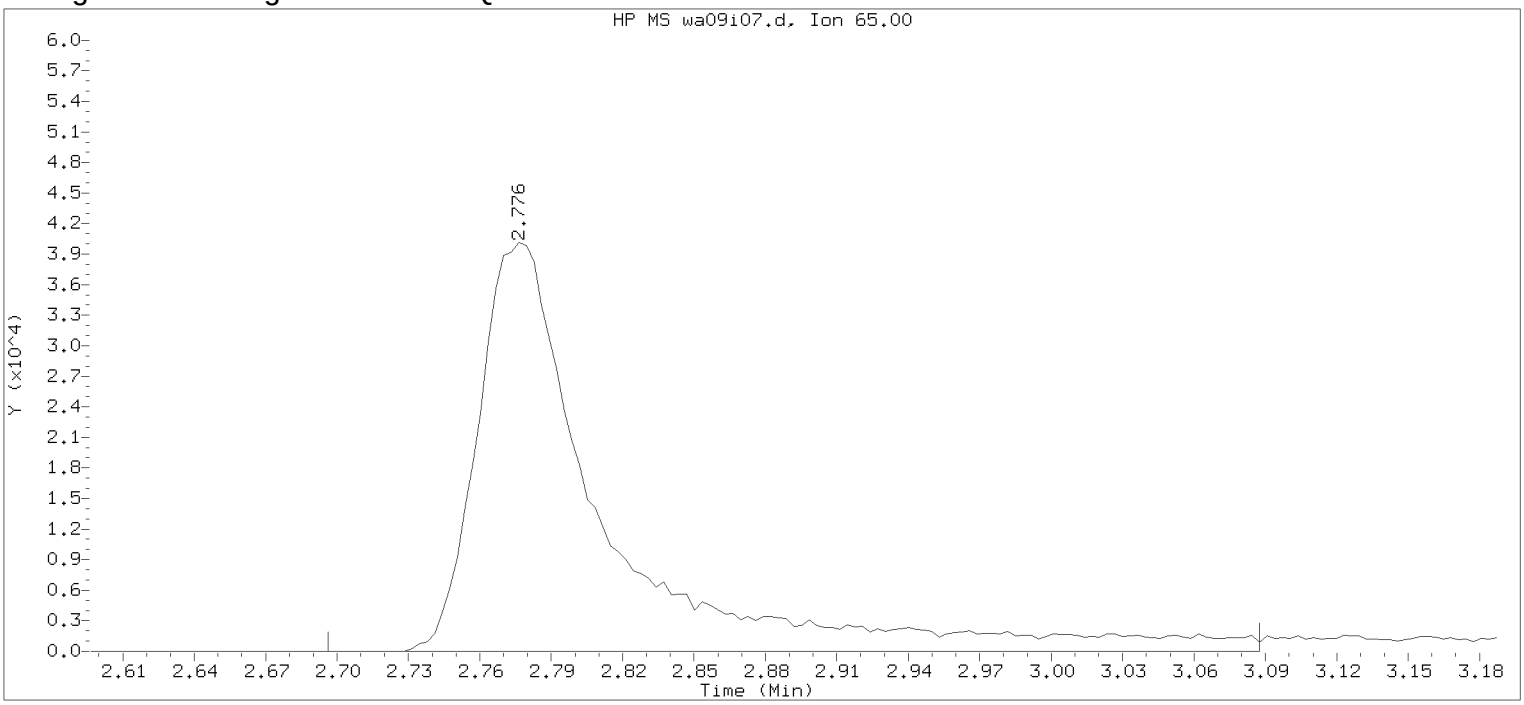
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:57.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

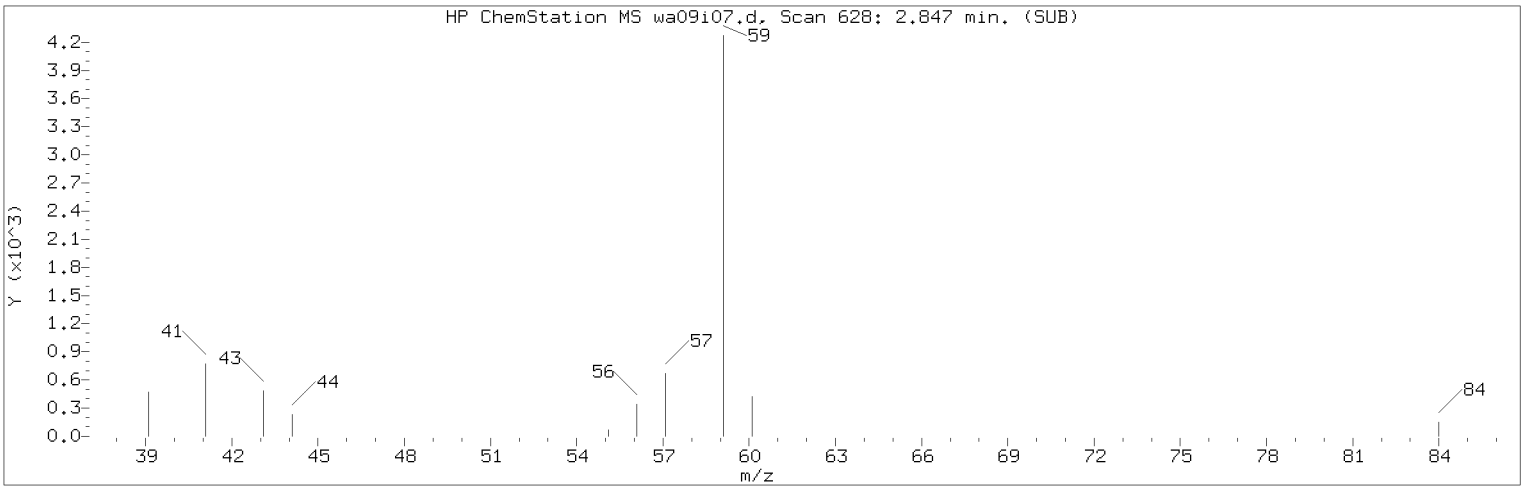
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 13:54
Date, time and analyst ID of latest file update: 09-Apr-2018 13:54 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

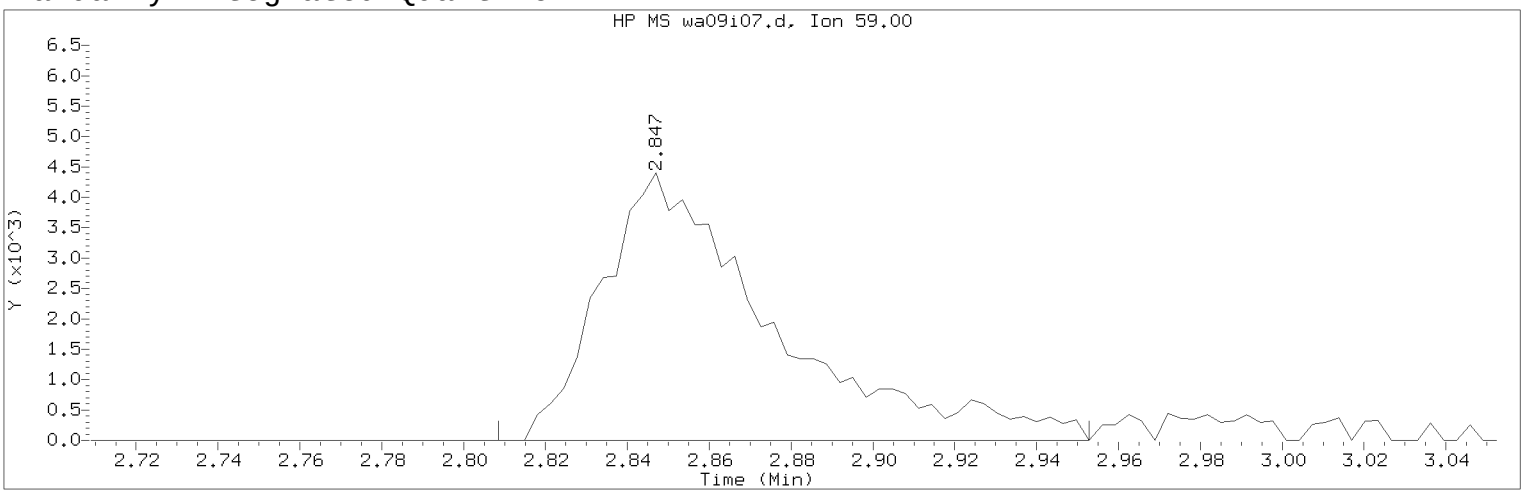
Compound Number : 29
Compound Name : t-Butyl alcohol-d10
Scan Number : 606
Retention Time (minutes): 2.776
Quant Ion : 65.00
Area : 149242
On-column Amount (ng) : 250.0000
Integration start scan : 580 Integration stop scan: 702
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD001 Lab Sample ID: VSTD001

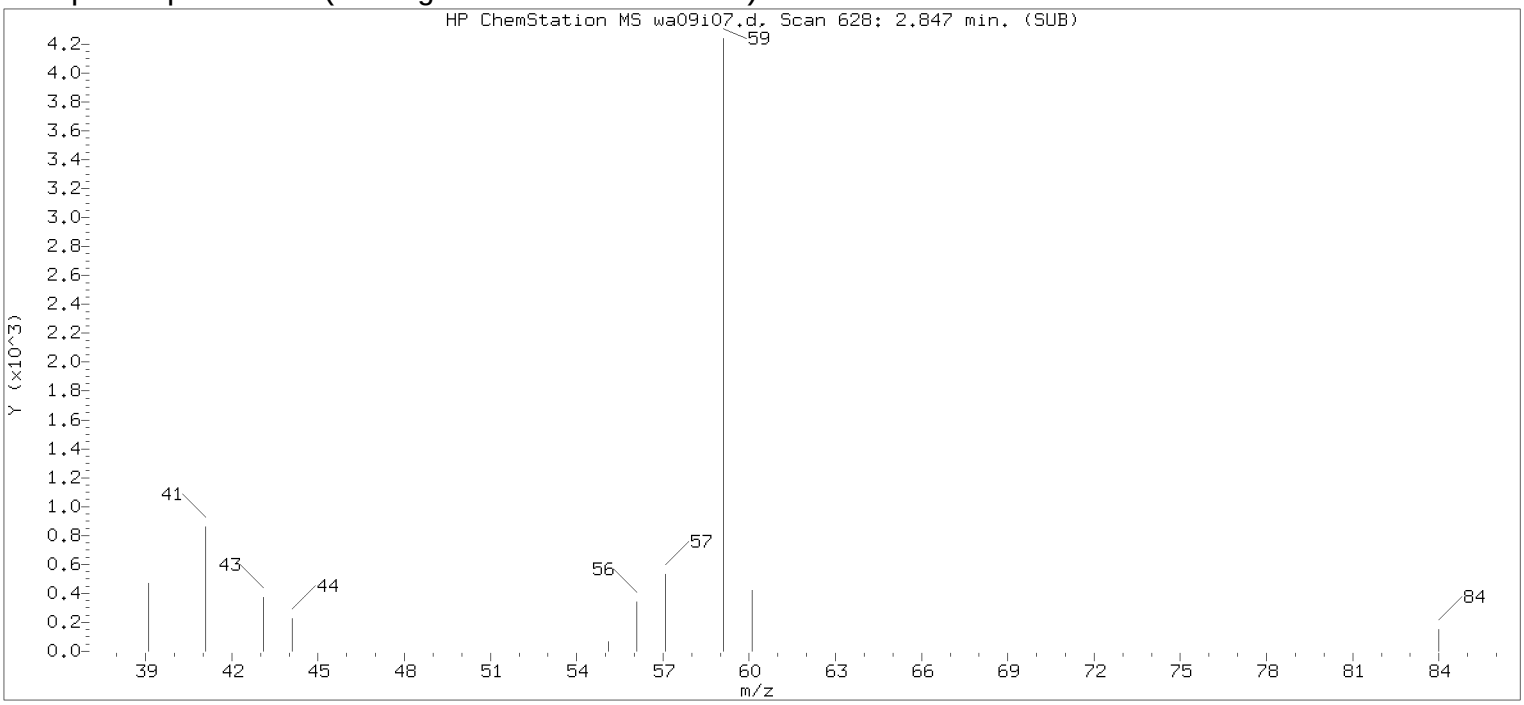
Compound Number : 30
Compound Name : t-Butyl alcohol
Scan Number : 628
Retention Time (minutes): 2.847
Quant Ion : 59.00
Area (flag) : 12755M
On-Column Amount (ng) : 17.7192
Integration start scan : 615 Integration stop scan: 660
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

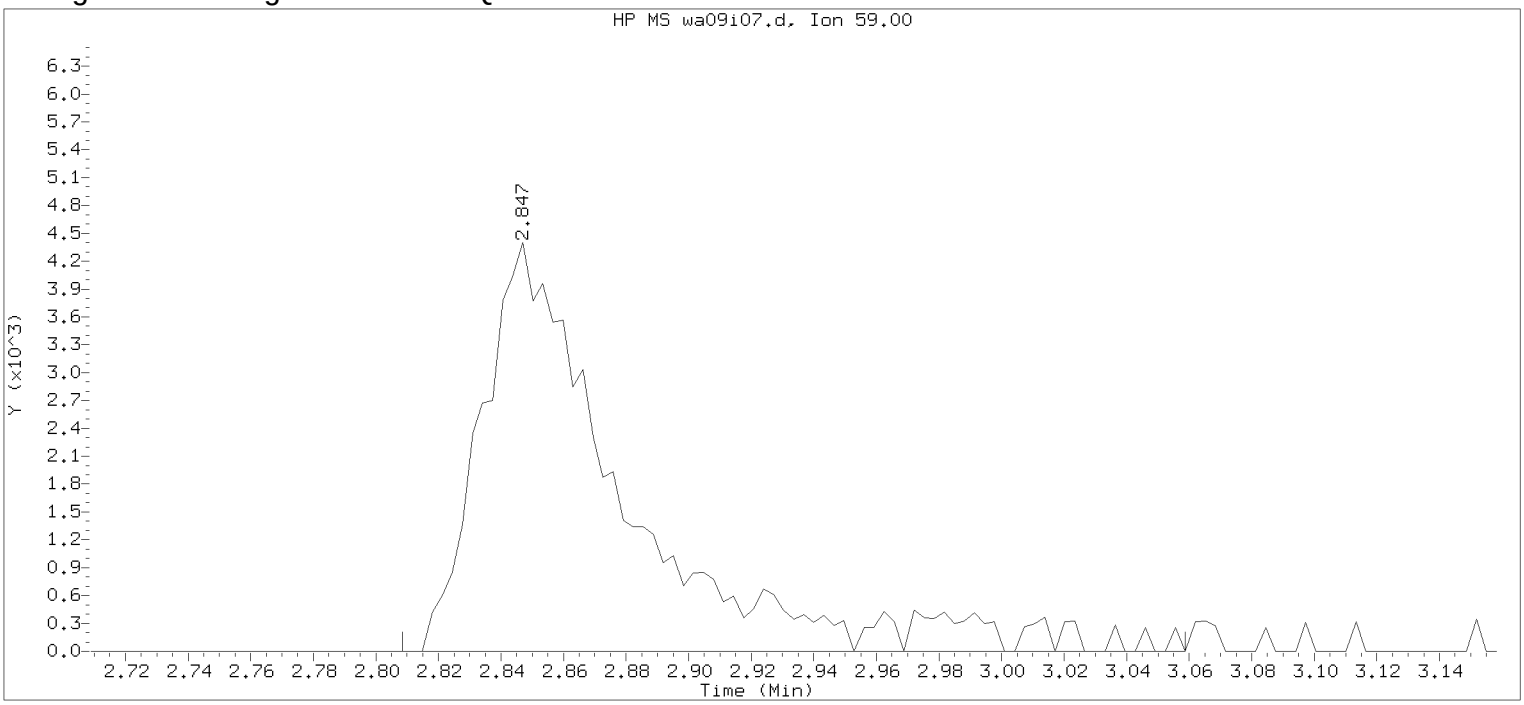
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:57.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

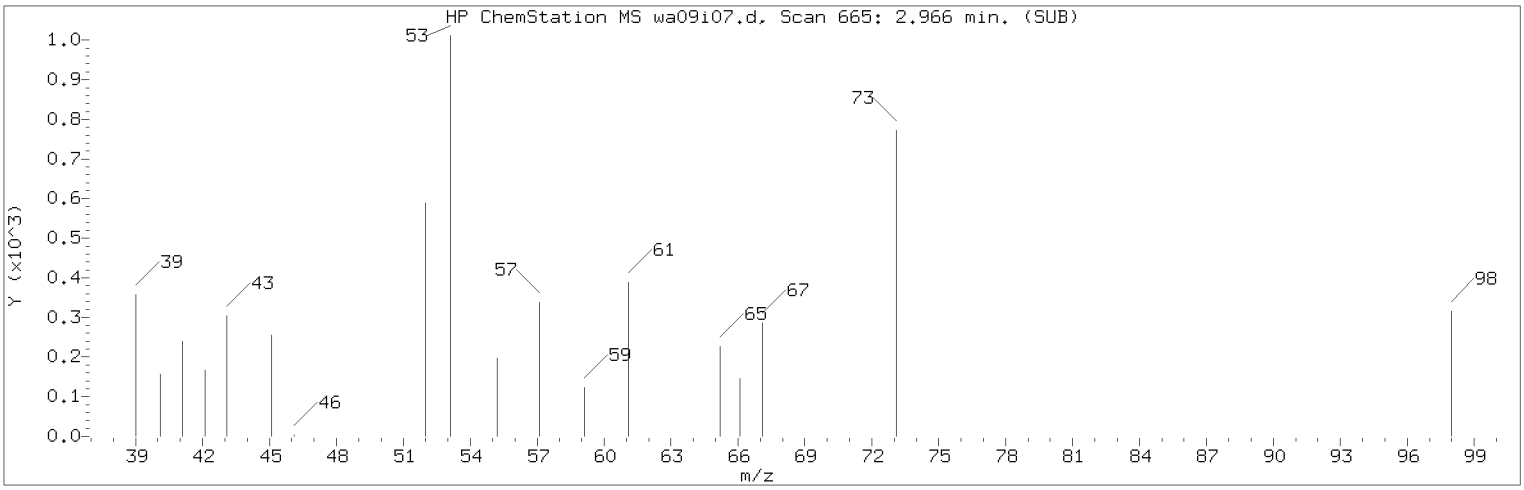
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 13:54
Date, time and analyst ID of latest file update: 09-Apr-2018 13:54 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

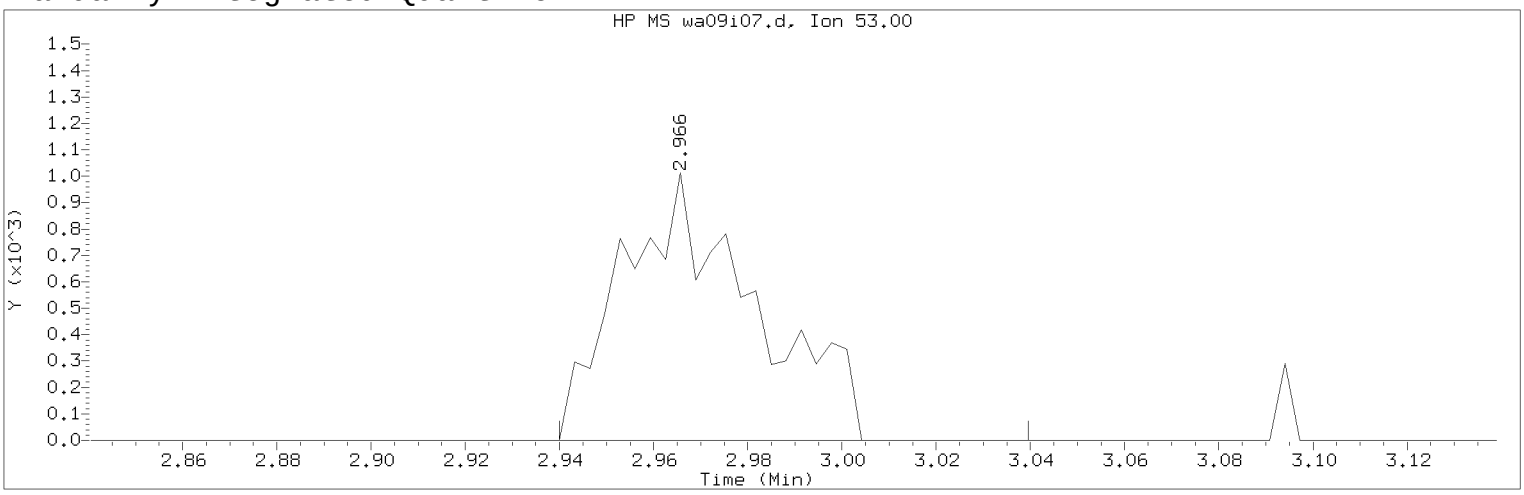
Compound Number : 30
Compound Name : t-Butyl alcohol
Scan Number : 628
Retention Time (minutes): 2.847
Quant Ion : 59.00
Area : 14075
On-column Amount (ng) : 21.3006
Integration start scan : 615 Integration stop scan: 693
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD001 Lab Sample ID: VSTD001

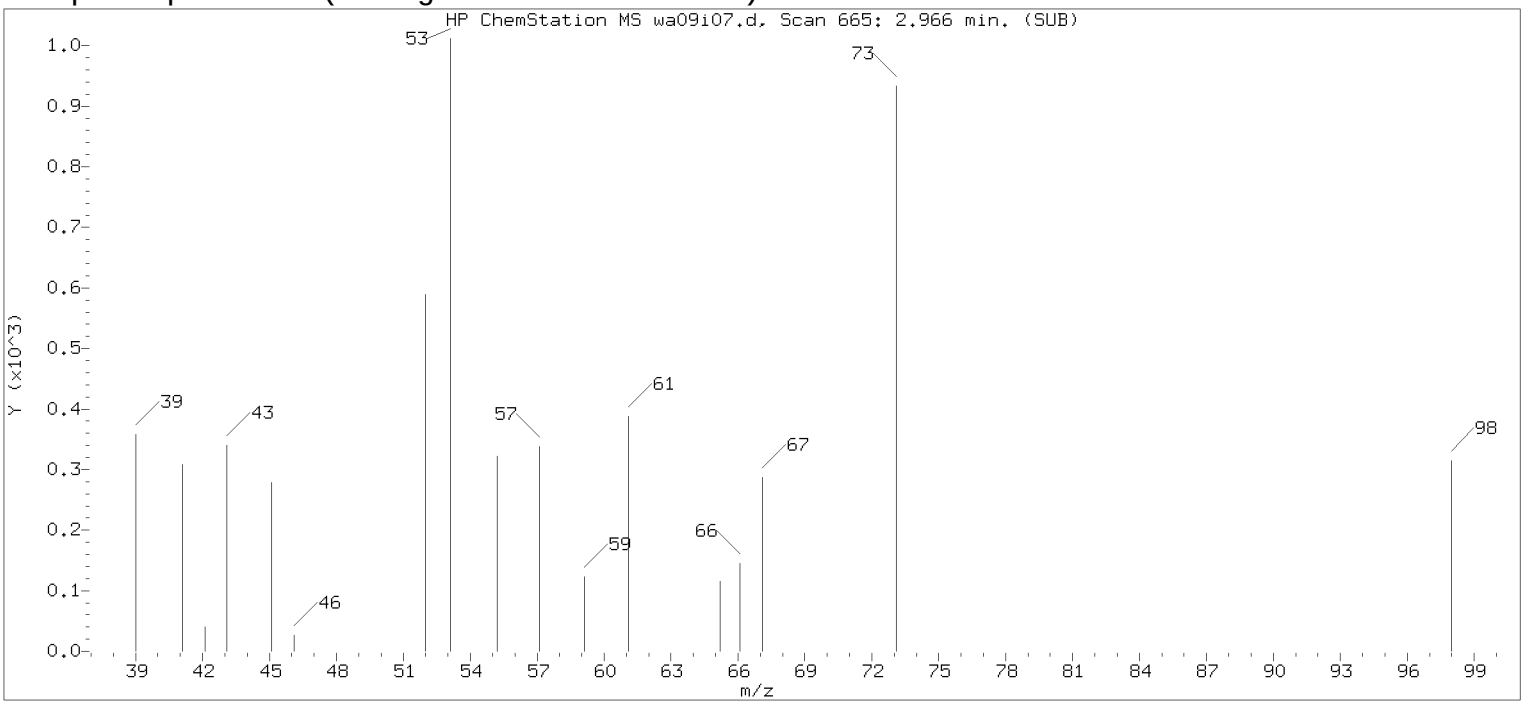
Compound Number : 31
Compound Name : Acrylonitrile
Scan Number : 665
Retention Time (minutes): 2.966
Quant Ion : 53.00
Area (flag) : 1954M
On-Column Amount (ng) : 0.7314
Integration start scan : 656 Integration stop scan: 687
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

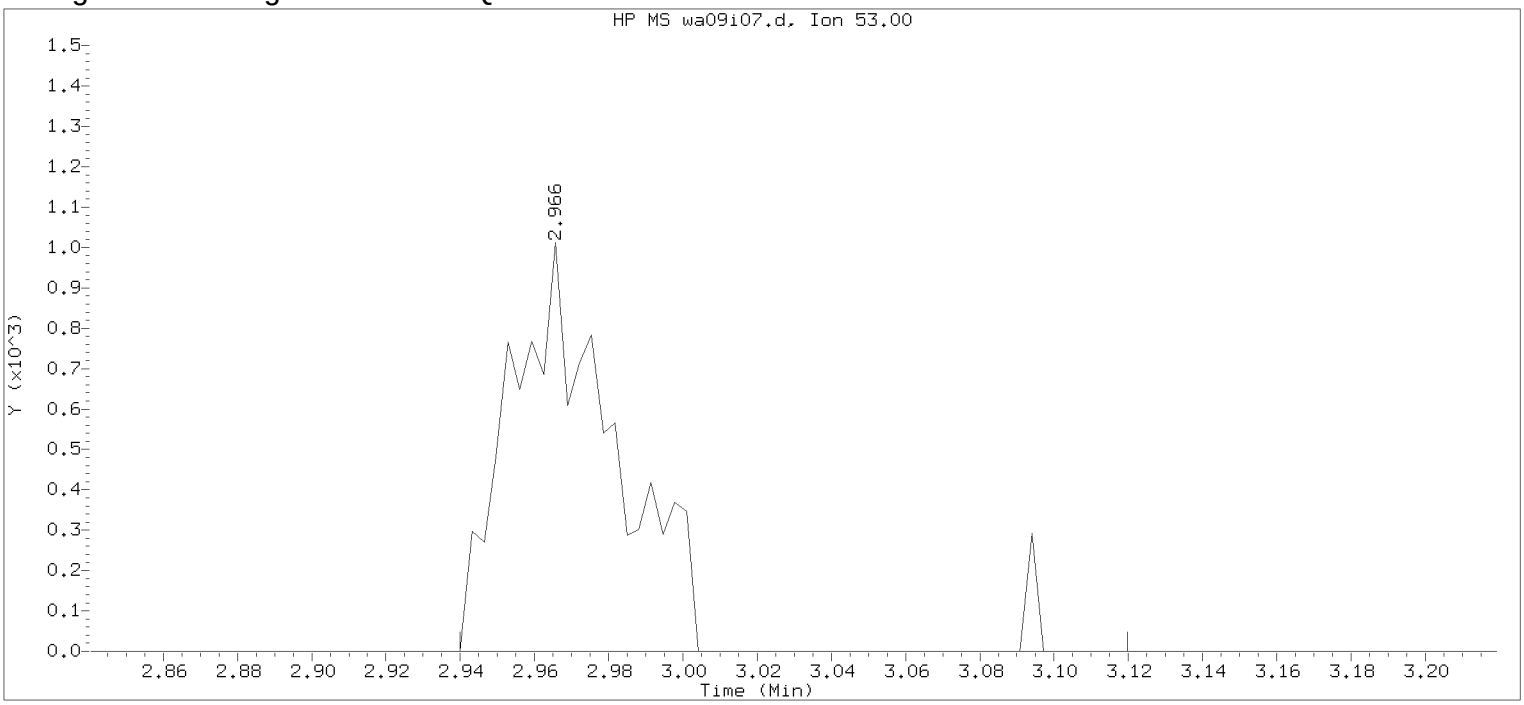
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:57.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

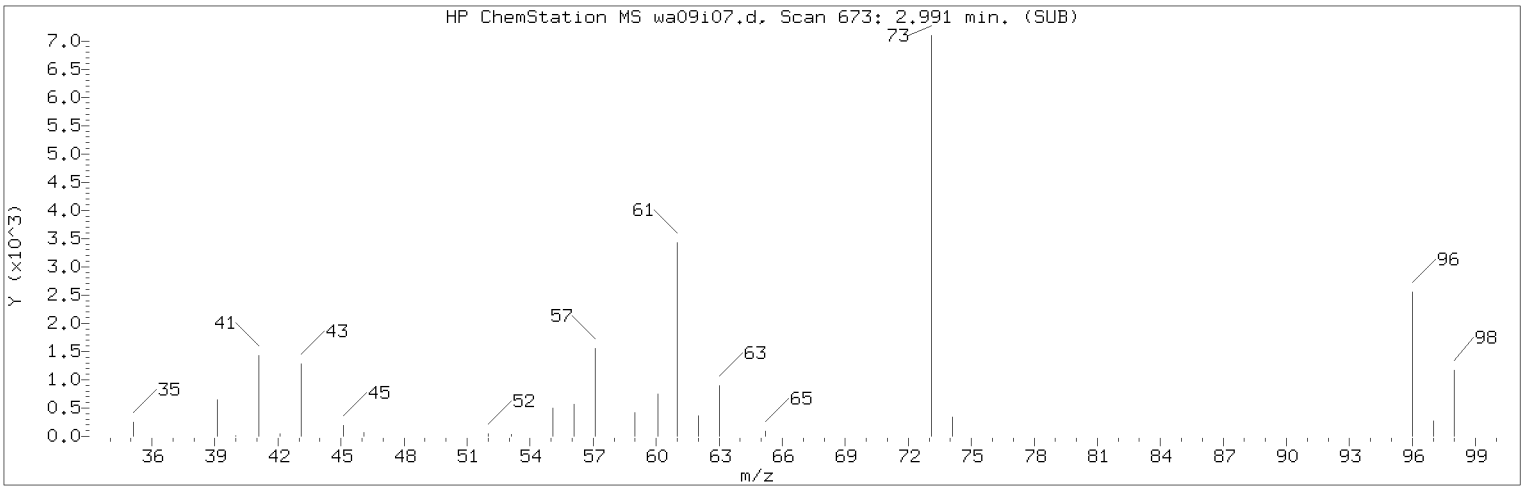
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 13:54
Date, time and analyst ID of latest file update: 09-Apr-2018 13:54 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

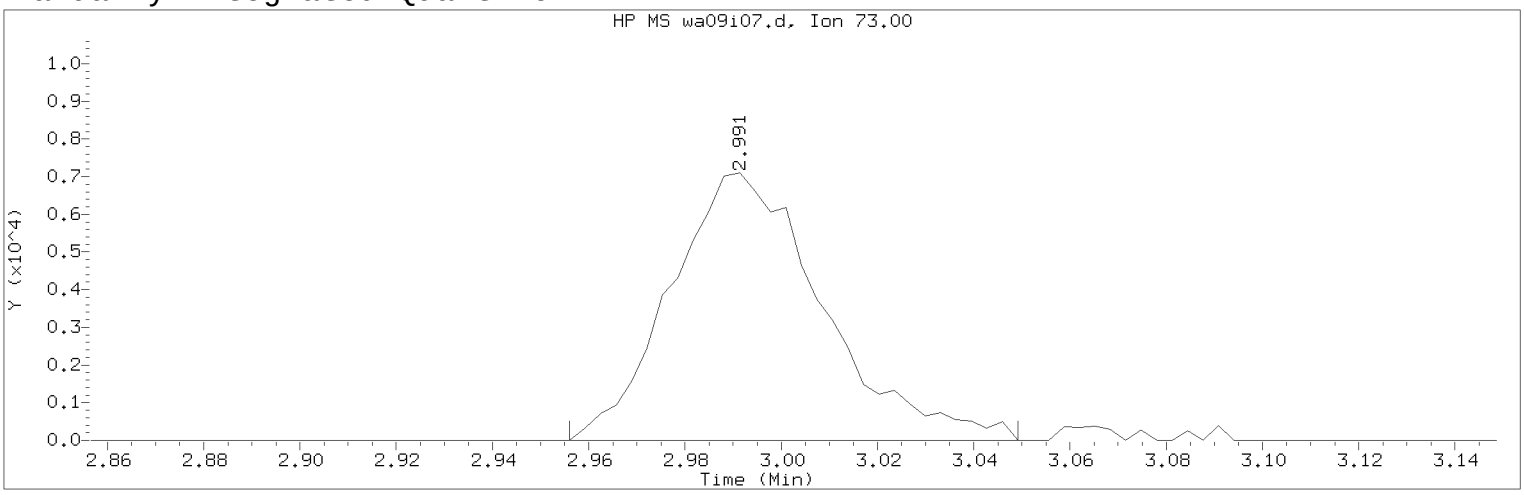
Compound Number : 31
Compound Name : Acrylonitrile
Scan Number : 665
Retention Time (minutes): 2.966
Quant Ion : 53.00
Area : 2010
On-column Amount (ng) : 0.7801
Integration start scan : 656 Integration stop scan: 712
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1485 meaning: Reviewed

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD001 Lab Sample ID: VSTD001

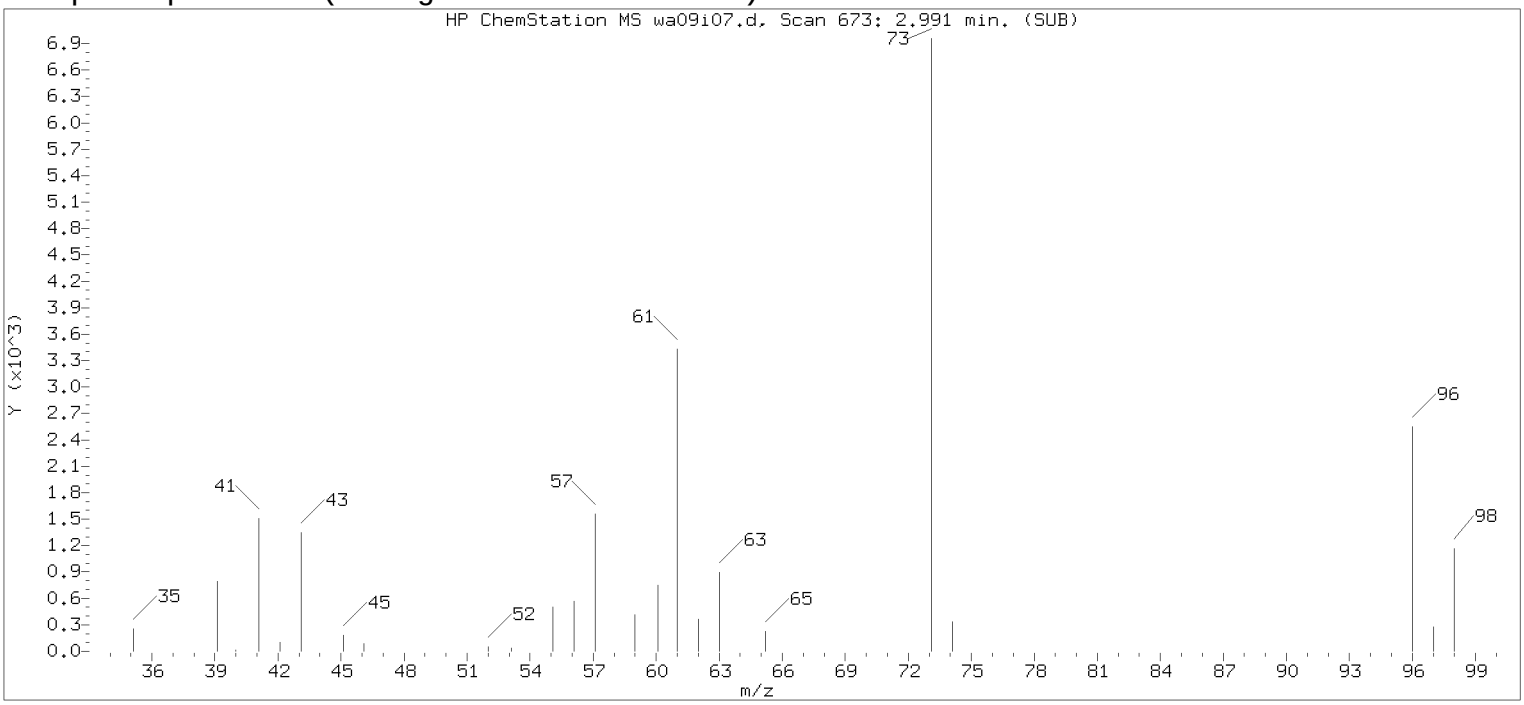
Compound Number : 33
Compound Name : Methyl Tertiary Butyl Ether
Scan Number : 673
Retention Time (minutes): 2.991
Quant Ion : 73.00
Area (flag) : 15568M
On-Column Amount (ng) : 0.9299
Integration start scan : 661 Integration stop scan: 690
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

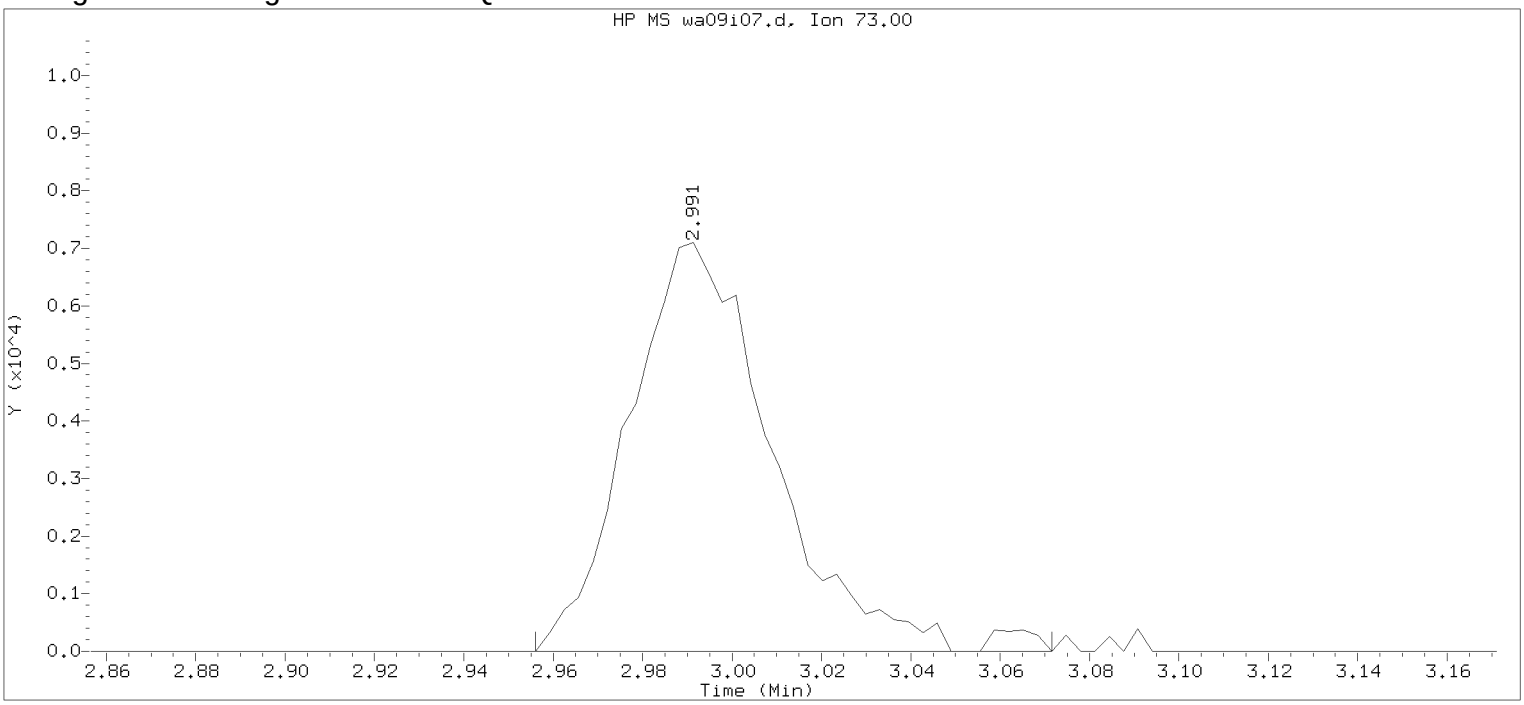
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:57.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

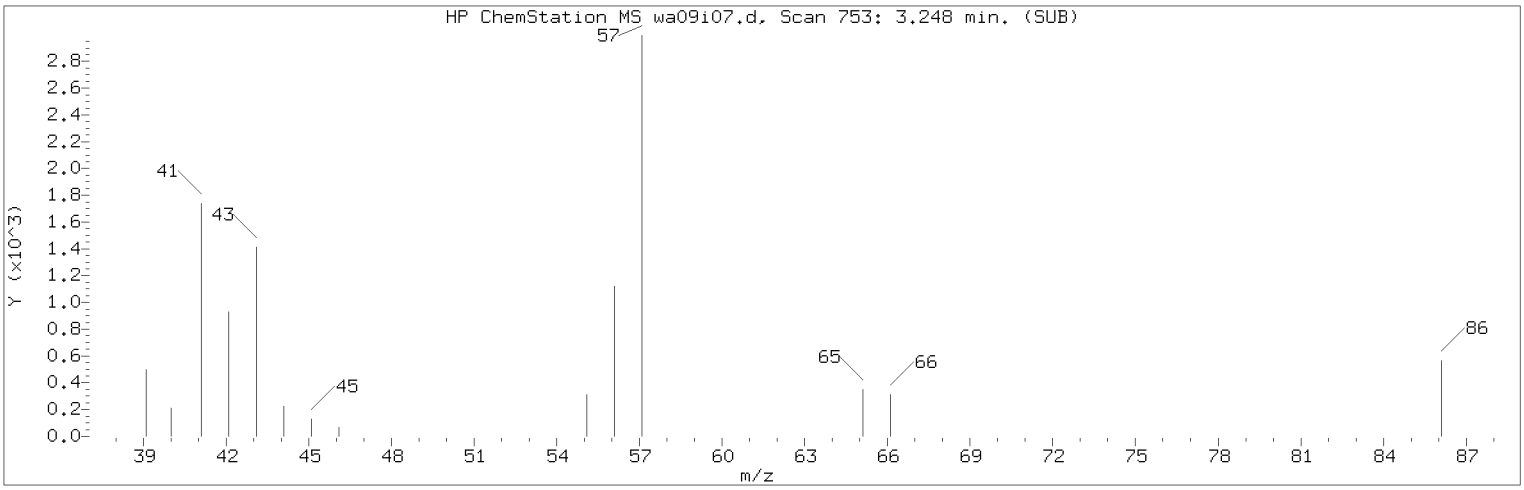
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 13:54
Date, time and analyst ID of latest file update: 09-Apr-2018 13:54 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

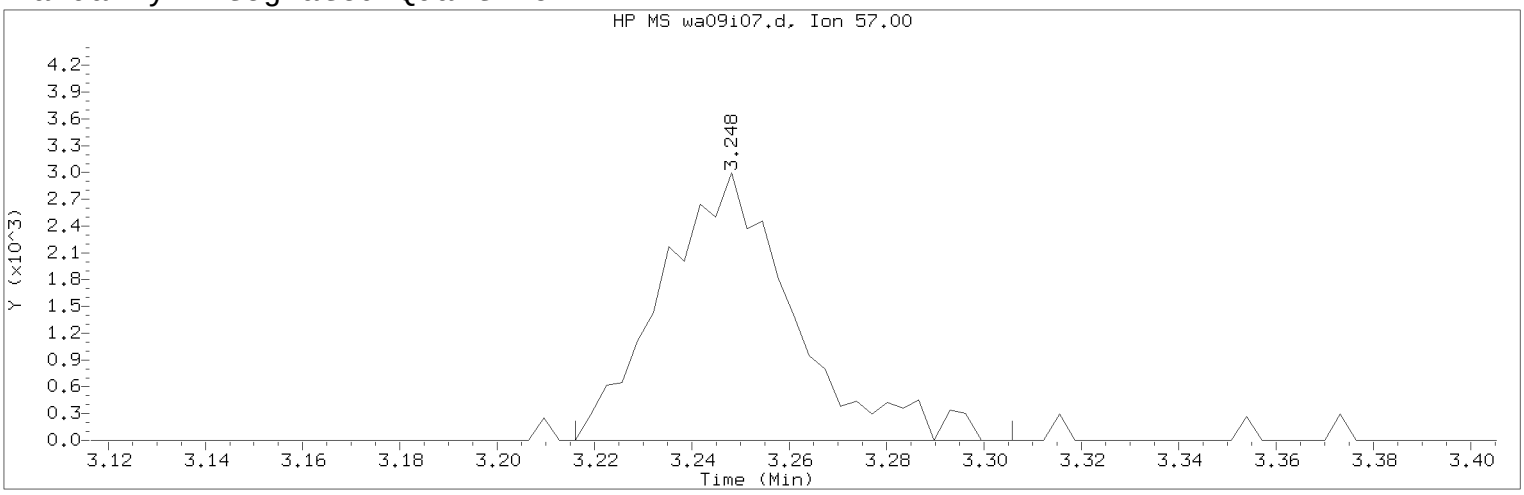
Compound Number : 33
Compound Name : Methyl Tertiary Butyl Ether
Scan Number : 673
Retention Time (minutes): 2.991
Quant Ion : 73.00
Area : 15830
On-column Amount (ng) : 0.9435
Integration start scan : 661 Integration stop scan: 697
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD001 Lab Sample ID: VSTD001

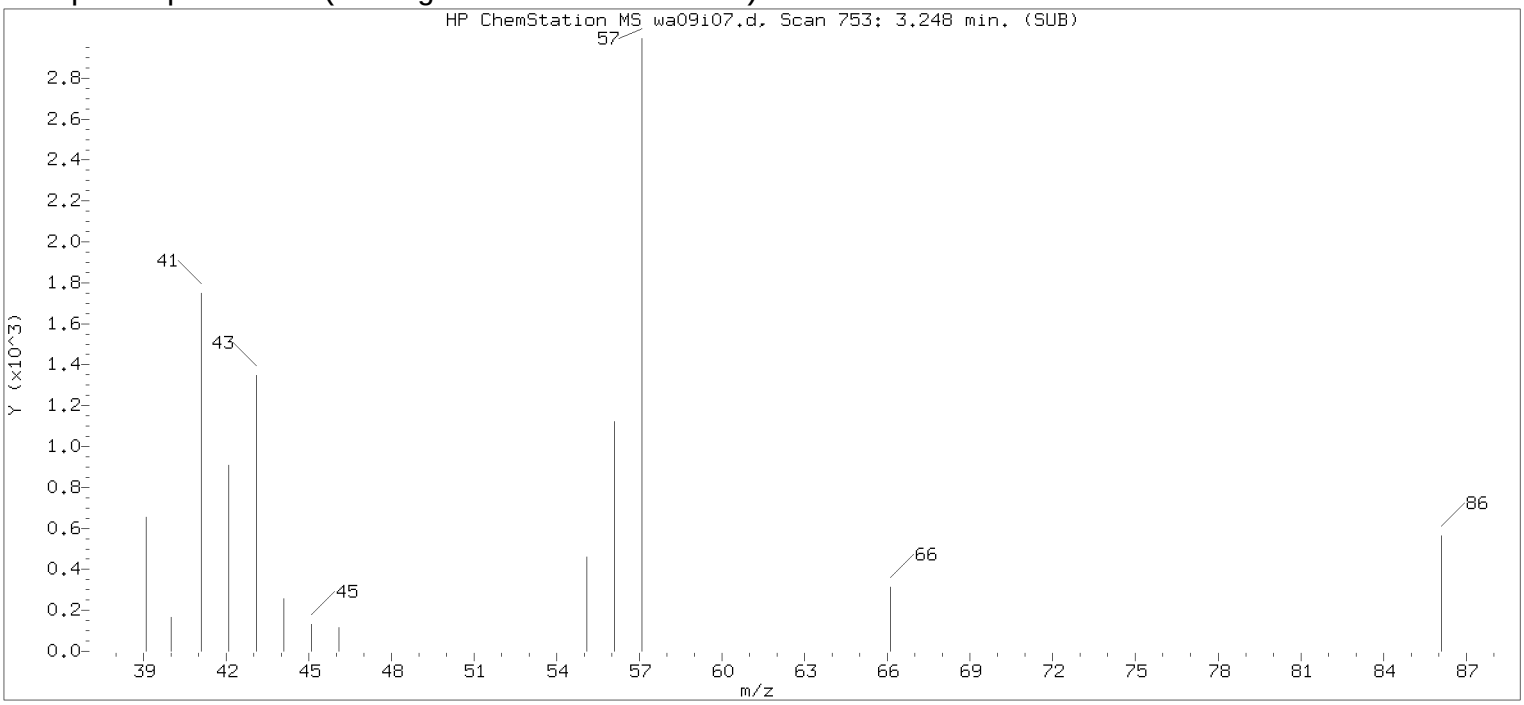
Compound Number : 34
Compound Name : n-Hexane
Scan Number : 753
Retention Time (minutes): 3.248
Quant Ion : 57.00
Area (flag) : 5618M
On-Column Amount (ng) : 0.9781
Integration start scan : 742 Integration stop scan: 770
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

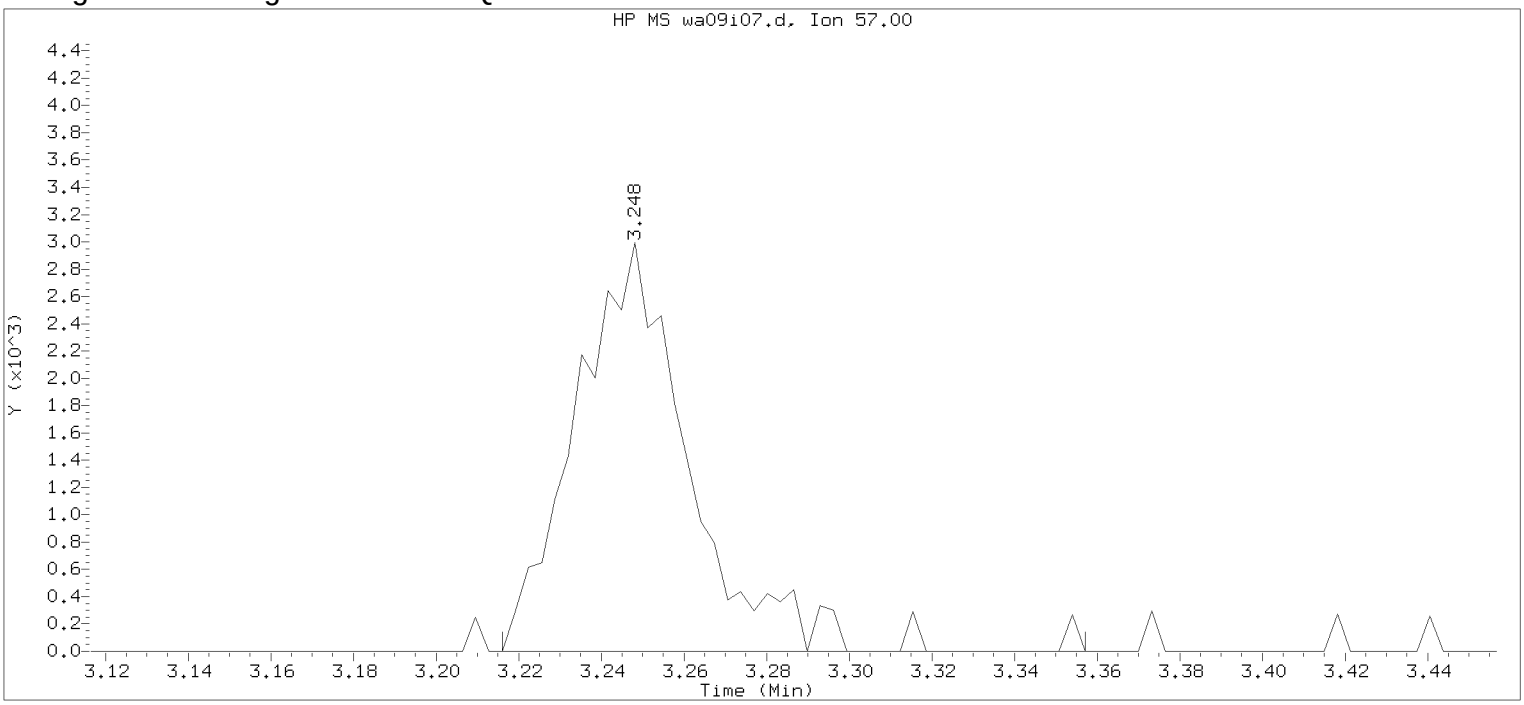
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:57.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

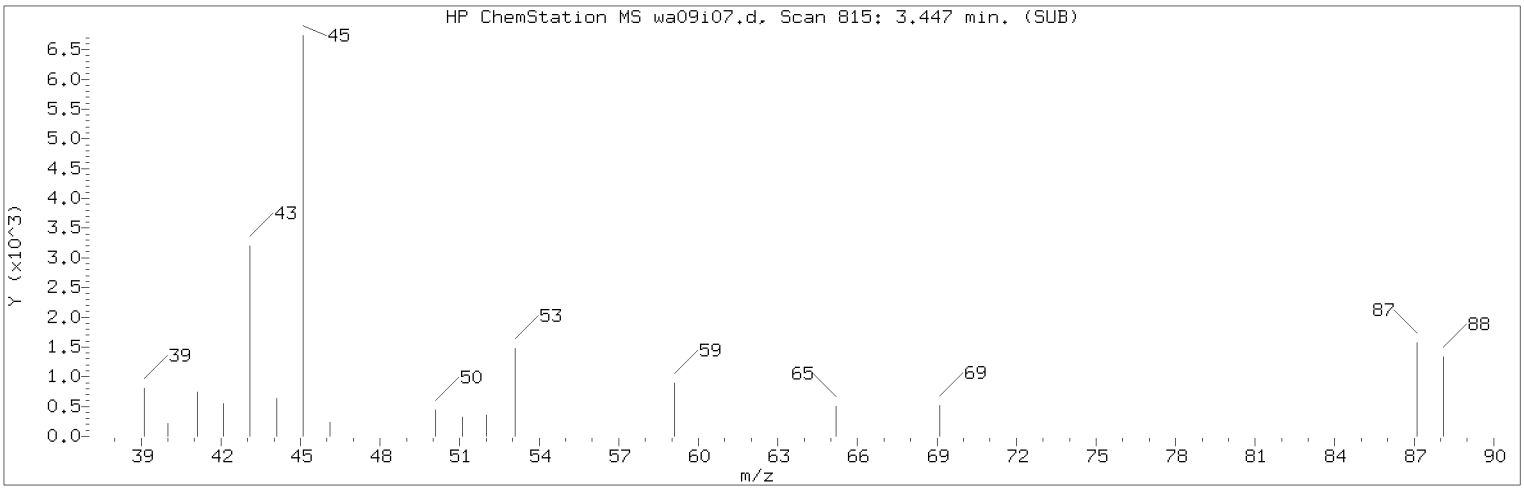
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 13:54
Date, time and analyst ID of latest file update: 09-Apr-2018 13:54 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

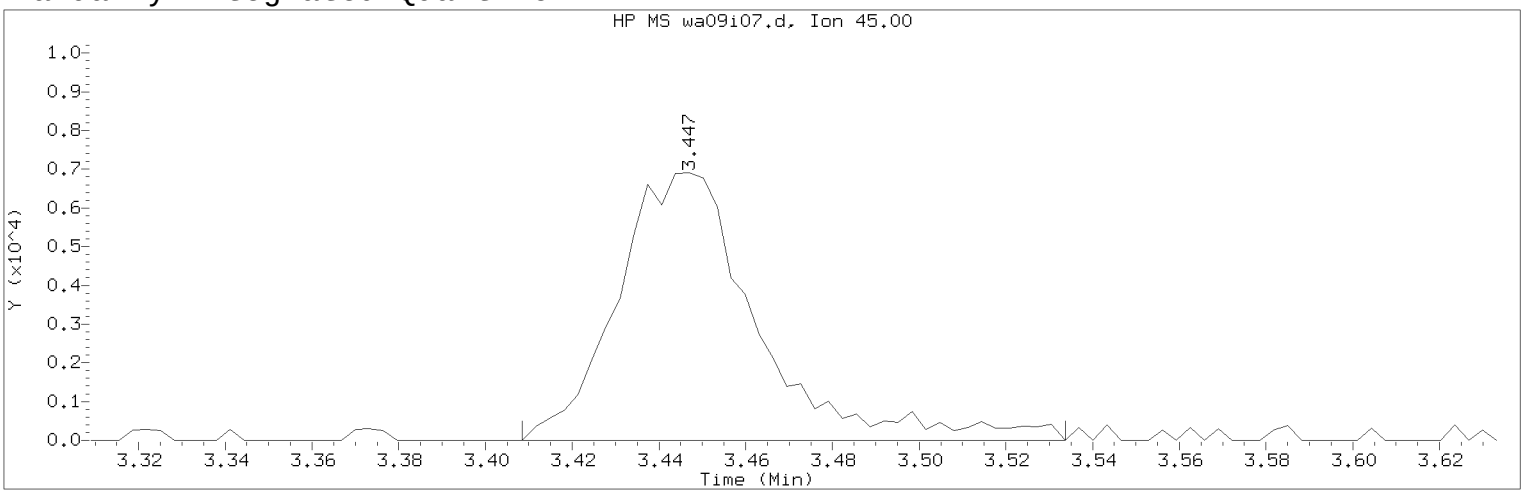
Compound Number : 34
Compound Name : n-Hexane
Scan Number : 753
Retention Time (minutes): 3.248
Quant Ion : 57.00
Area : 5726
On-column Amount (ng) : 0.9828
Integration start scan : 742 Integration stop scan: 786
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: nsl01327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD001 Lab Sample ID: VSTD001

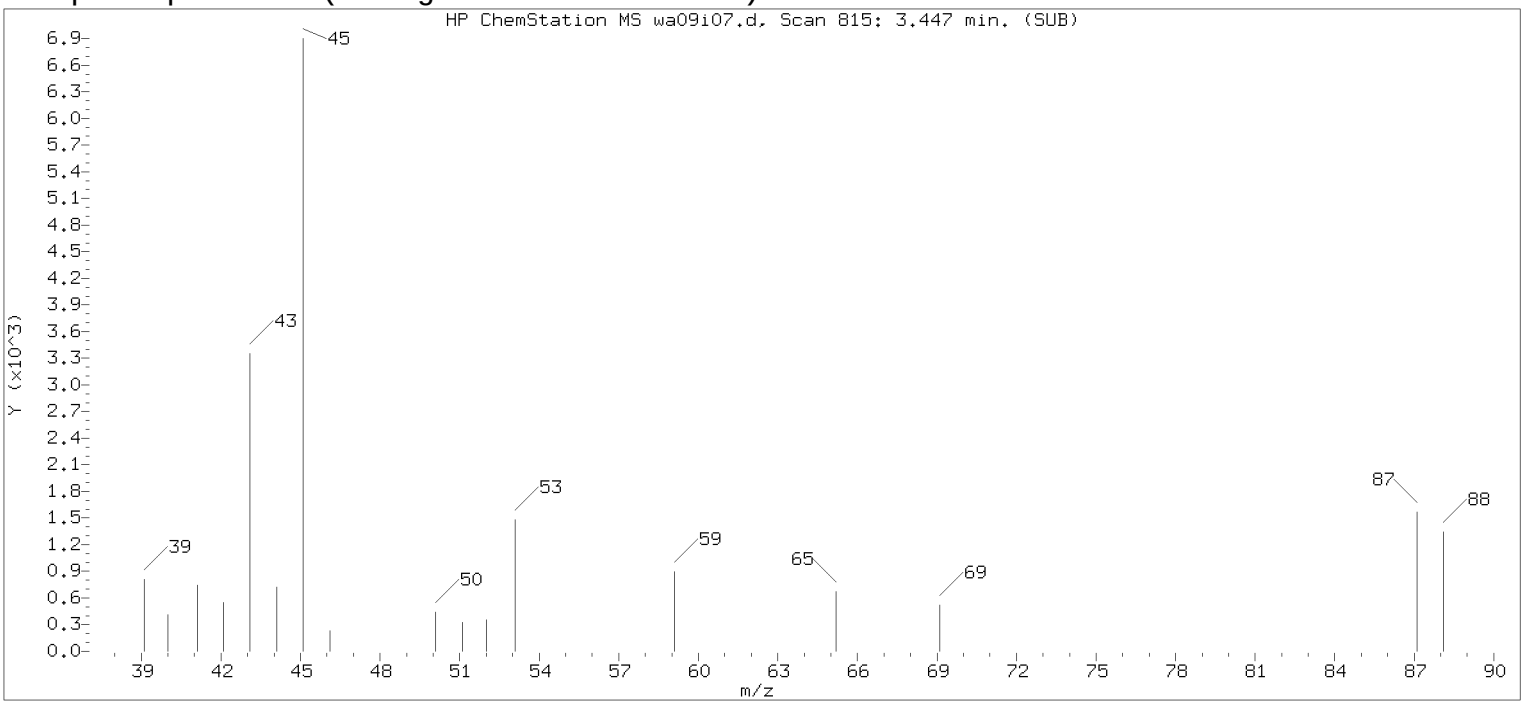
Compound Number : 38
Compound Name : di-Isopropyl ether
Scan Number : 815
Retention Time (minutes): 3.447
Quant Ion : 45.00
Area (flag) : 15501M
On-Column Amount (ng) : 0.9884
Integration start scan : 802 Integration stop scan: 841
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

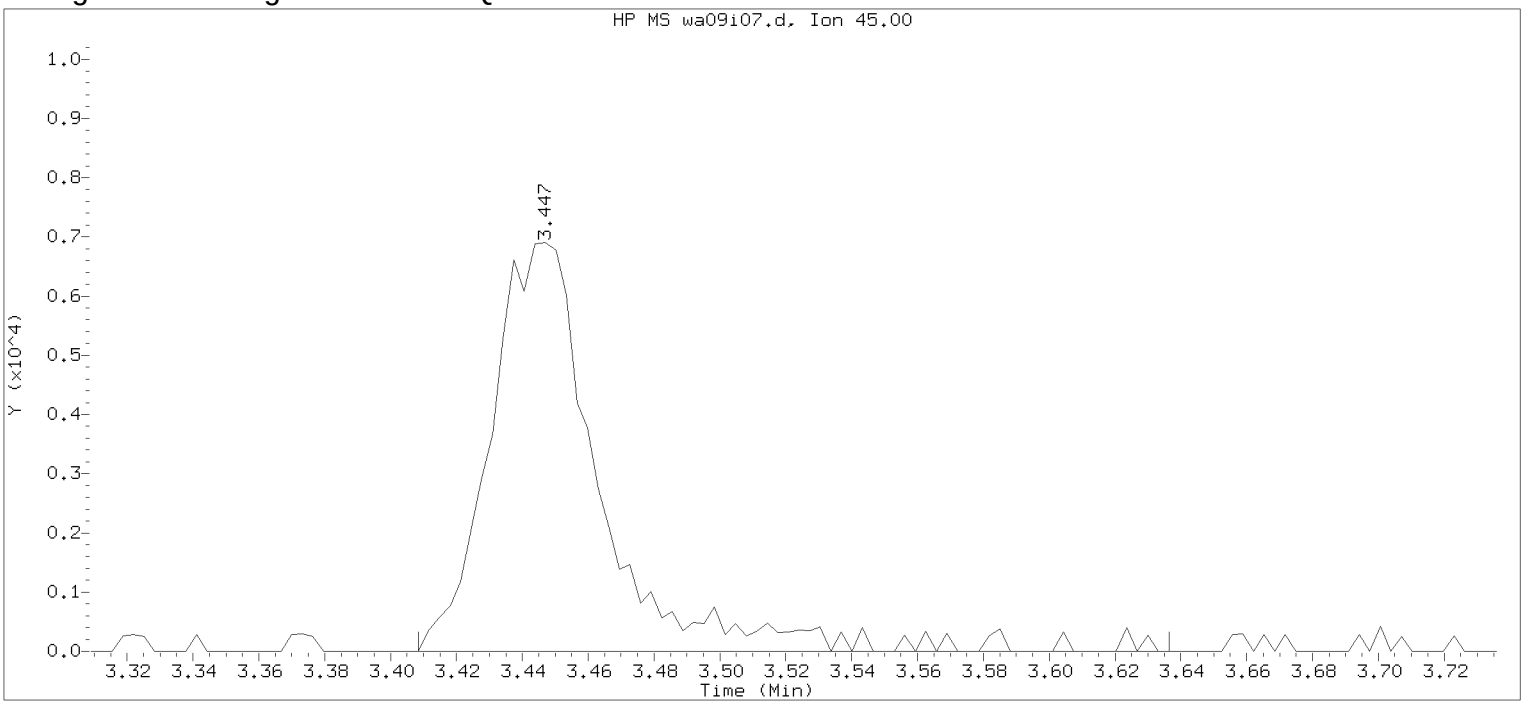
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:57.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

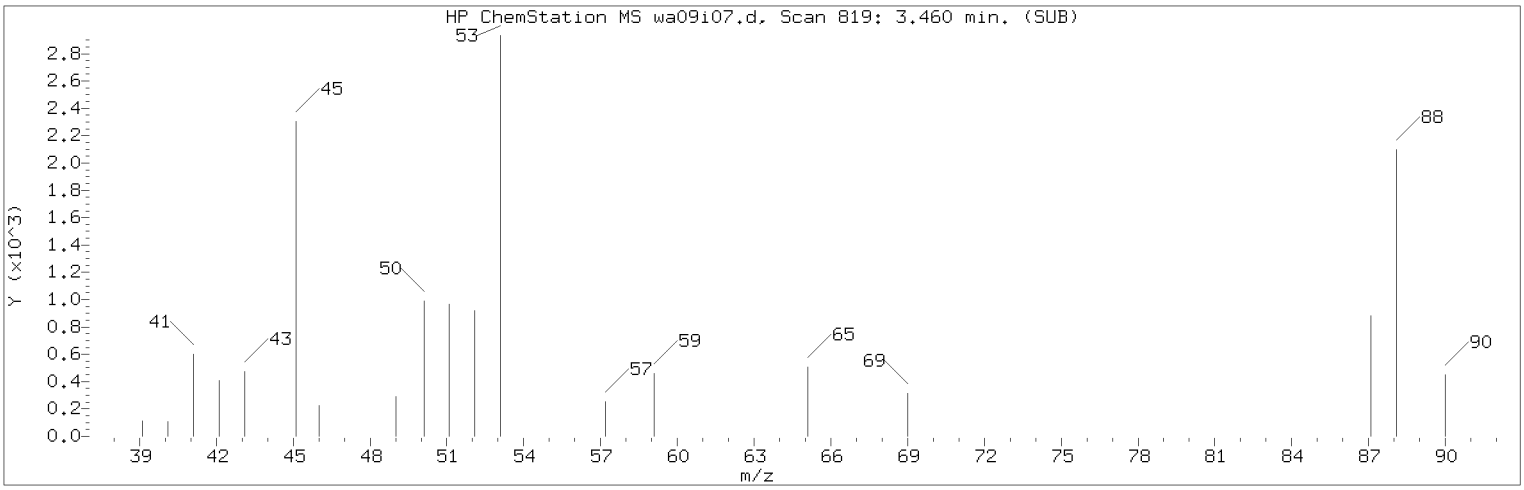
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 13:54
Date, time and analyst ID of latest file update: 09-Apr-2018 13:54 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

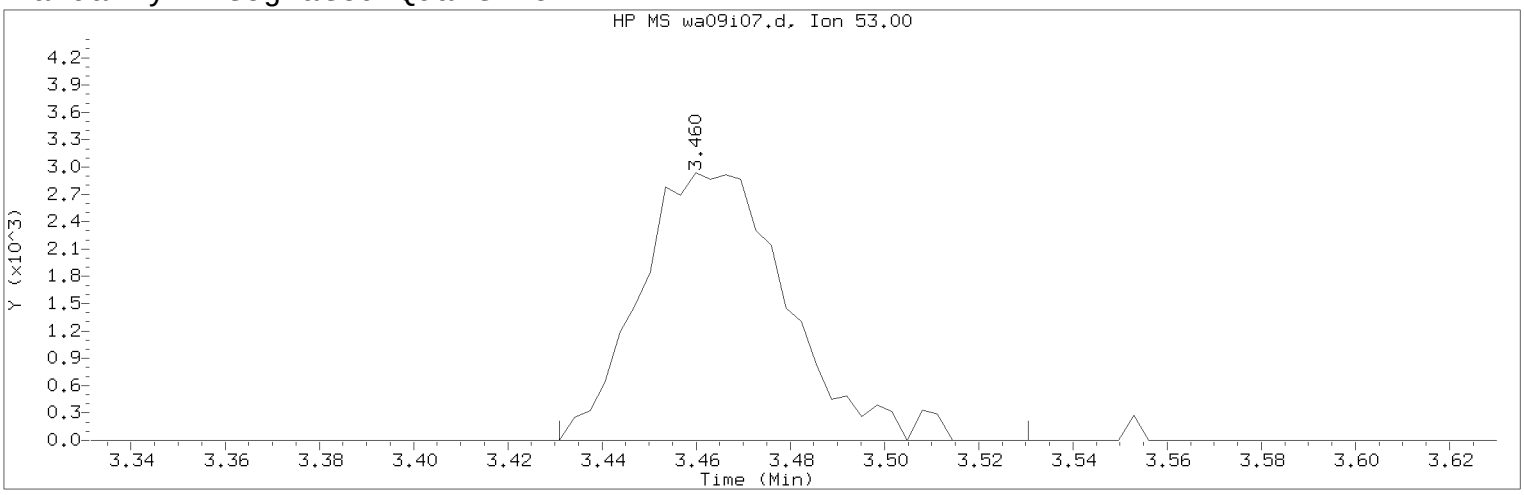
Compound Number : 38
Compound Name : di-Isopropyl ether
Scan Number : 815
Retention Time (minutes): 3.447
Quant Ion : 45.00
Area : 16126
On-column Amount (ng) : 1.0225
Integration start scan : 802 Integration stop scan: 873
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD001 Lab Sample ID: VSTD001

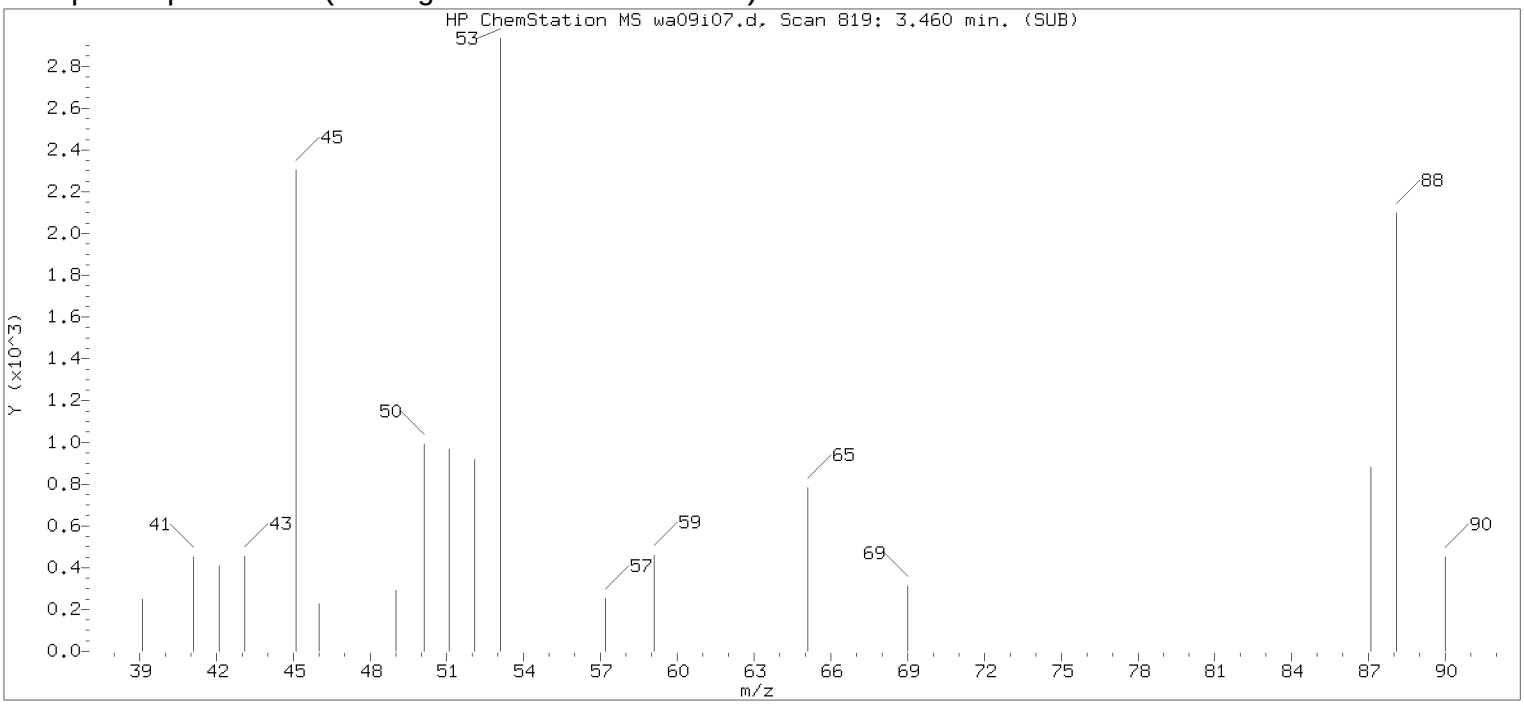
Compound Number : 39
Compound Name : 2-Chloro-1,3-butadiene
Scan Number : 819
Retention Time (minutes): 3.460
Quant Ion : 53.00
Area (flag) : 6417M
On-Column Amount (ng) : 0.8668
Integration start scan : 809 Integration stop scan: 840
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

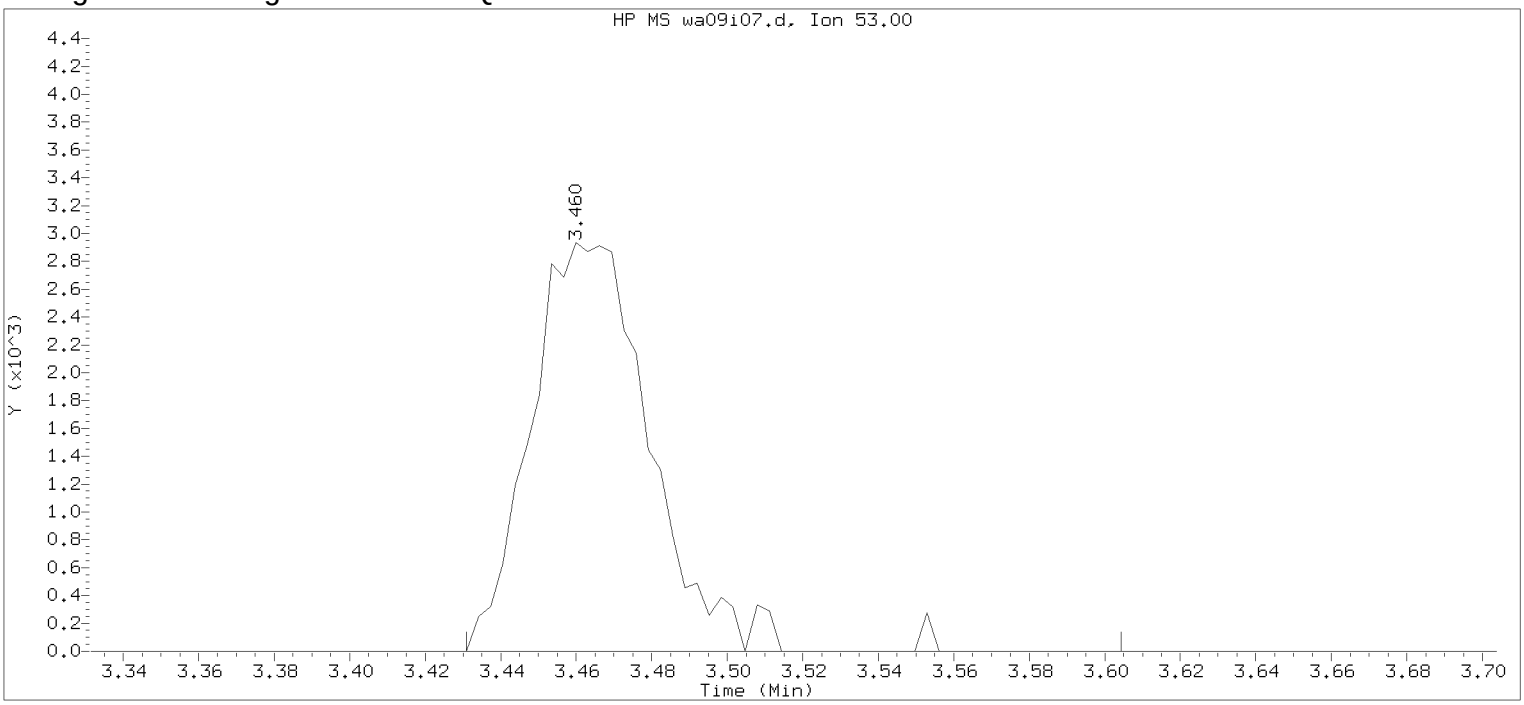
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:57.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

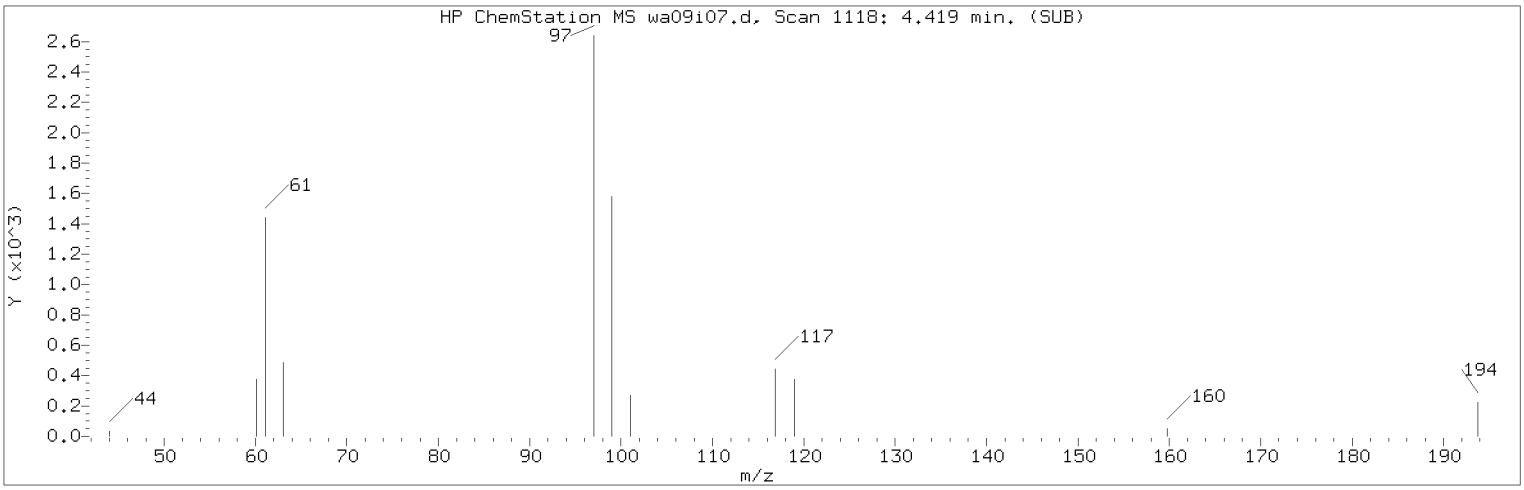
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 13:54
Date, time and analyst ID of latest file update: 09-Apr-2018 13:54 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

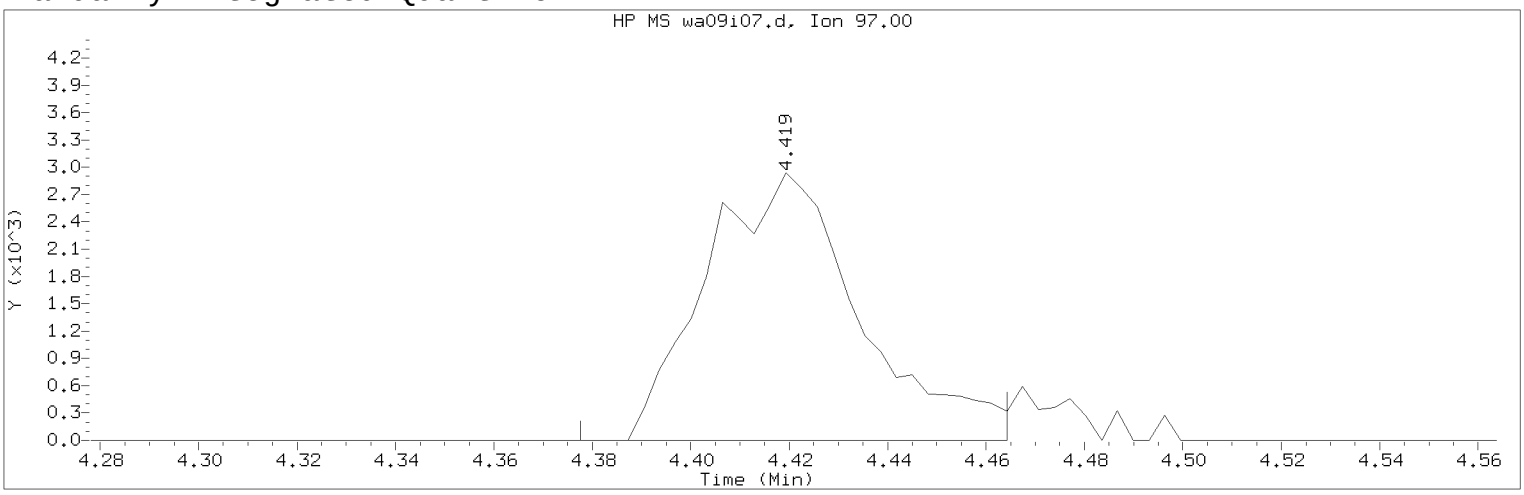
Compound Number : 39
Compound Name : 2-Chloro-1,3-butadiene
Scan Number : 819
Retention Time (minutes): 3.460
Quant Ion : 53.00
Area : 6471
On-column Amount (ng) : 0.8732
Integration start scan : 809 Integration stop scan: 863
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1185 meaning: Reviewed

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD001 Lab Sample ID: VSTD001

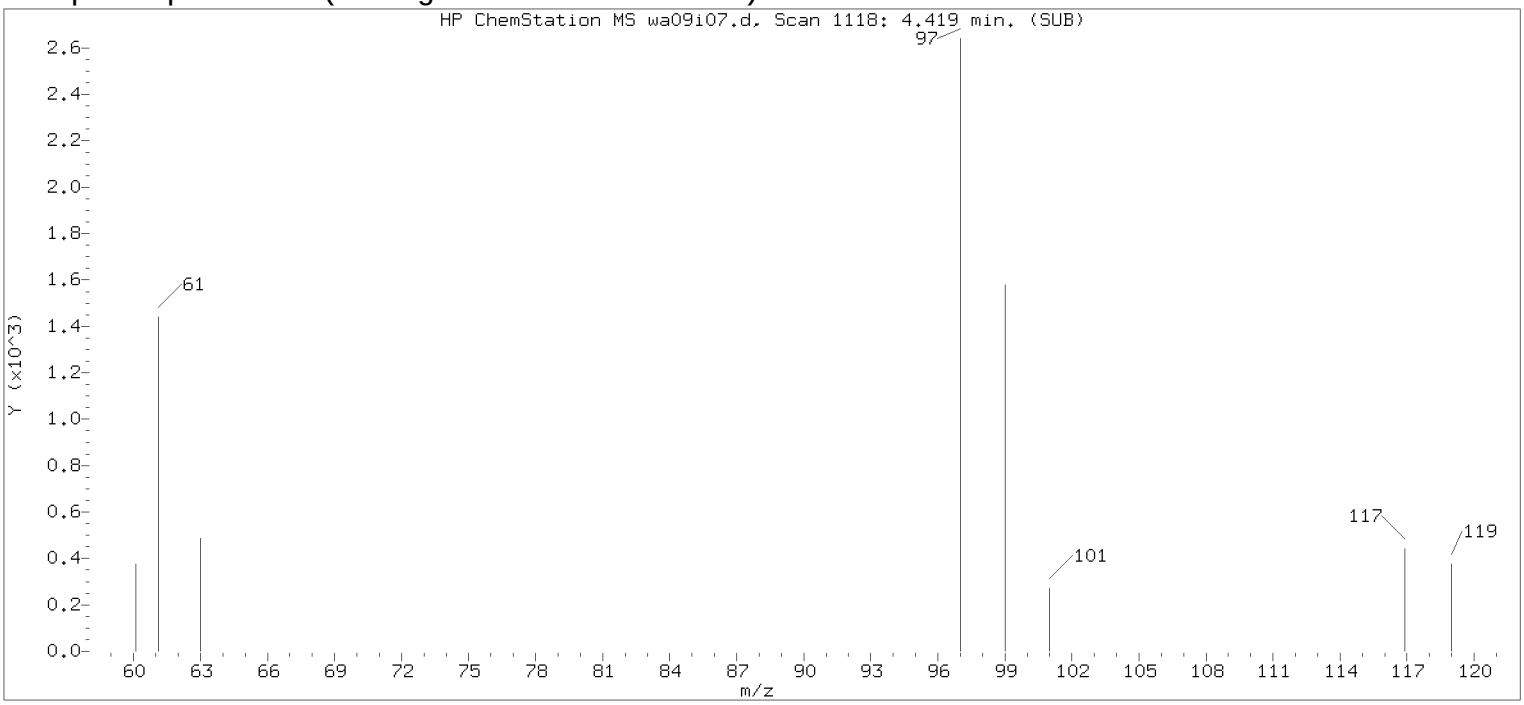
Compound Number : 53
Compound Name : 1,1,1-Trichloroethane
Scan Number : 1118
Retention Time (minutes): 4.419
Quant Ion : 97.00
Area (flag) : 6418M
On-Column Amount (ng) : 0.8397
Integration start scan : 1104 Integration stop scan: 1131
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

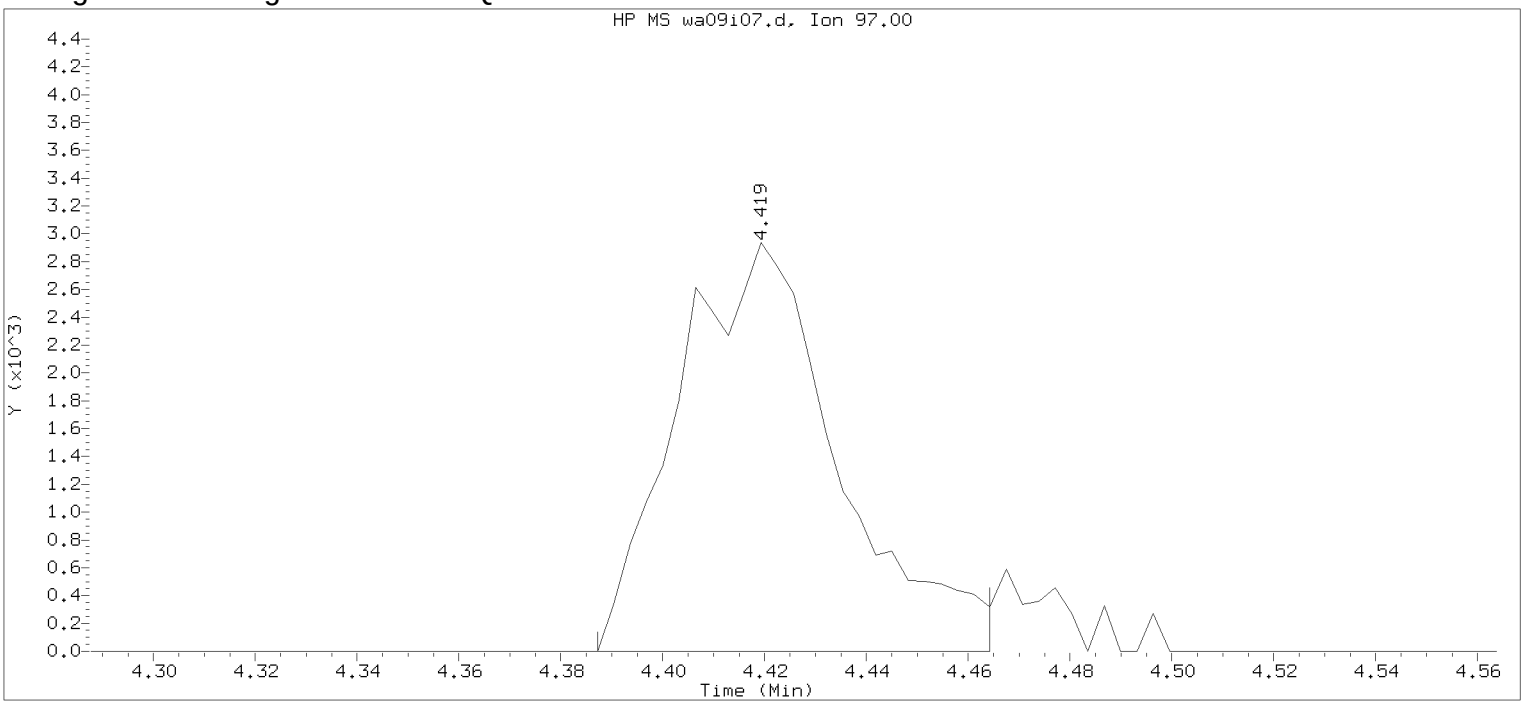
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:57.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

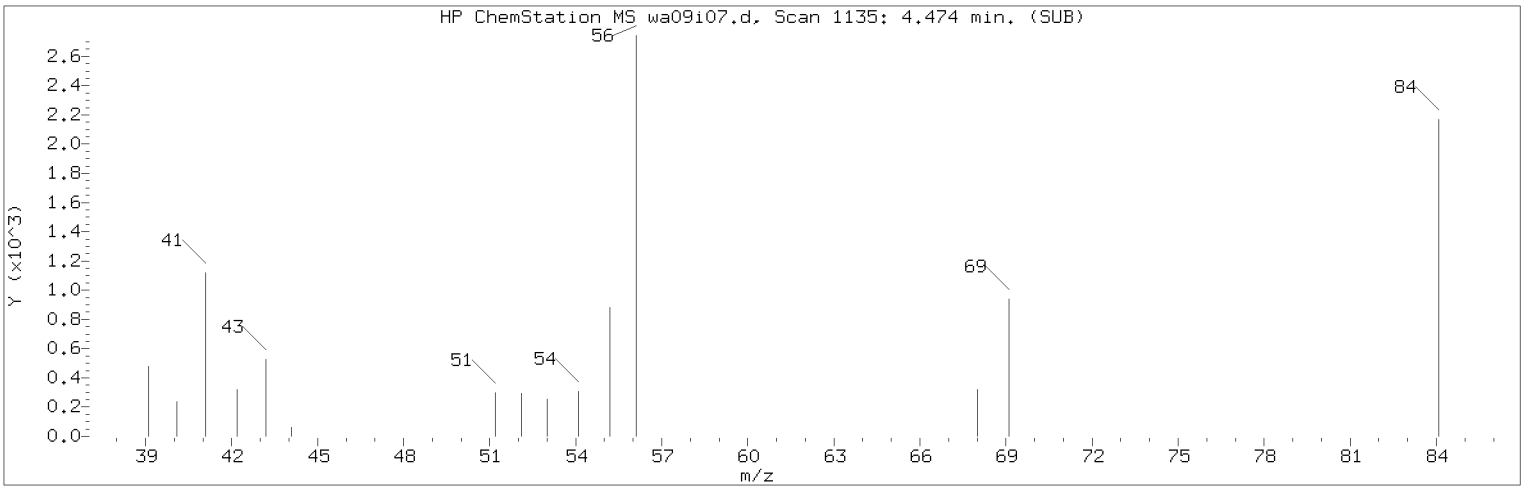
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 13:54
Date, time and analyst ID of latest file update: 09-Apr-2018 13:54 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

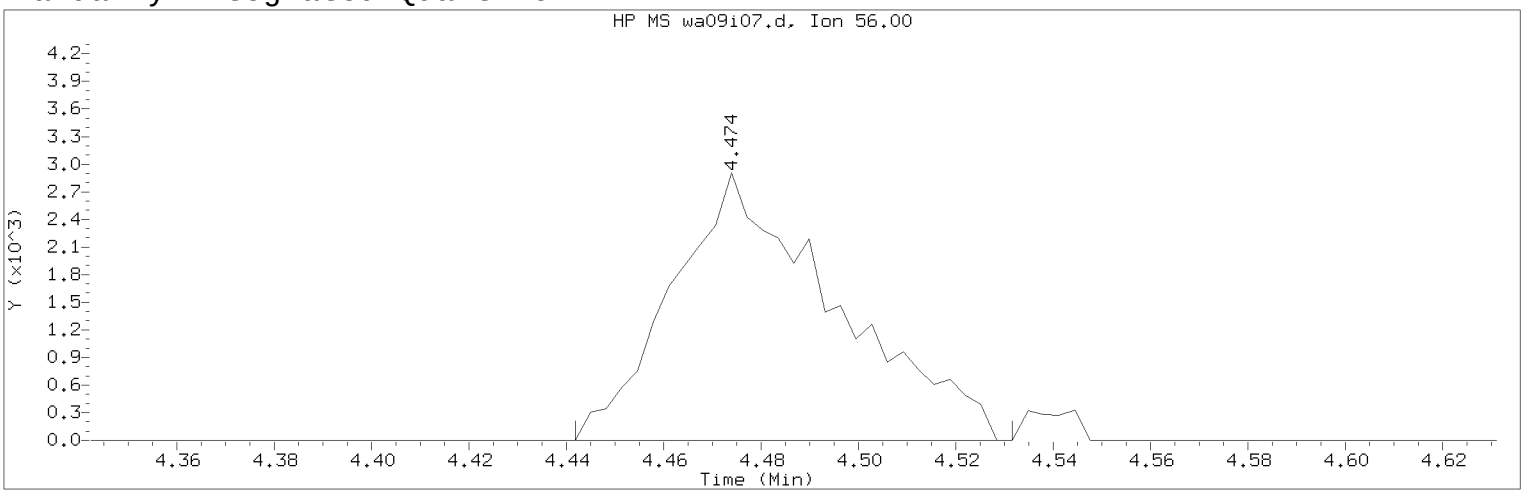
Compound Number : 53
Compound Name : 1,1,1-Trichloroethane
Scan Number : 1118
Retention Time (minutes): 4.419
Quant Ion : 97.00
Area : 6388
On-column Amount (ng) : 0.8362
Integration start scan : 1107 Integration stop scan: 1131
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD001 Lab Sample ID: VSTD001

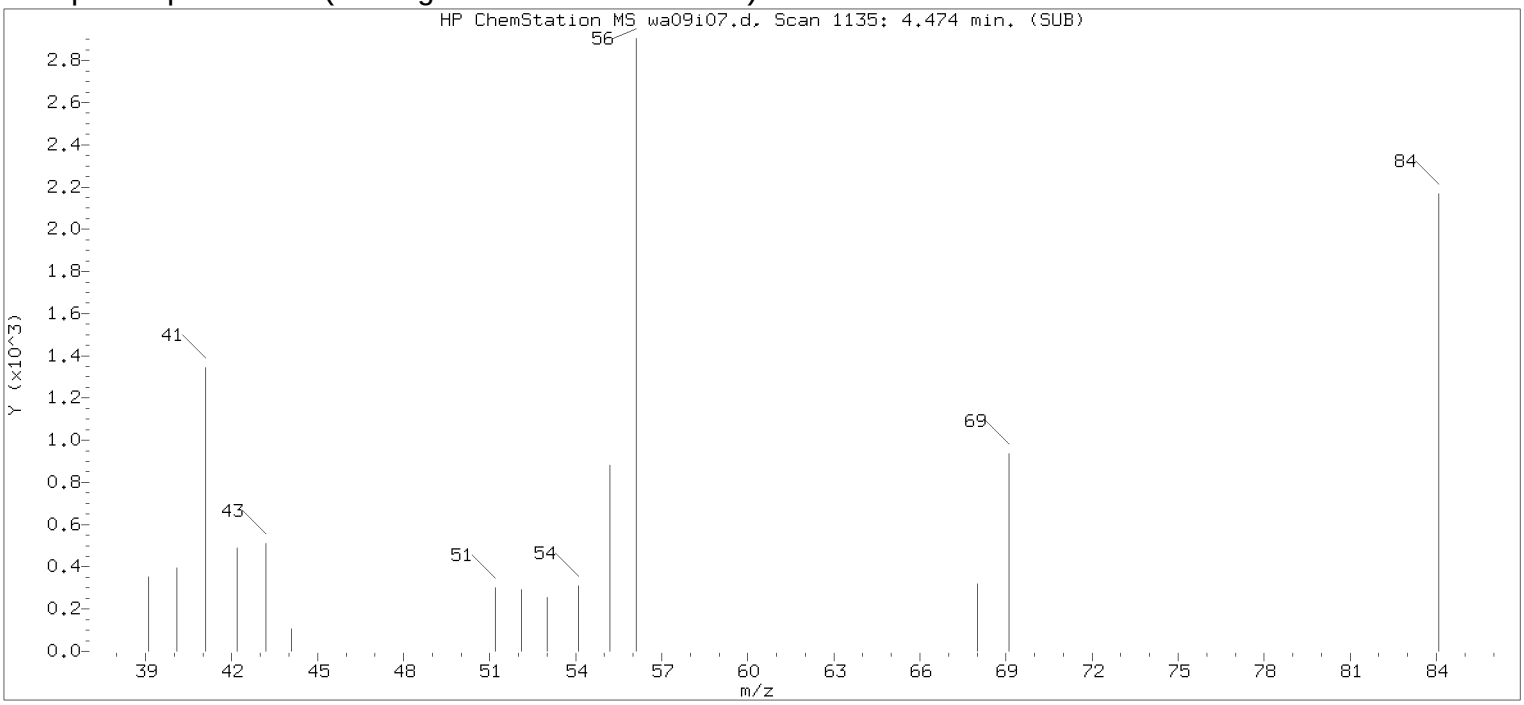
Compound Number : 54
Compound Name : Cyclohexane
Scan Number : 1135
Retention Time (minutes): 4.474
Quant Ion : 56.00
Area (flag) : 6768M
On-Column Amount (ng) : 0.8702
Integration start scan : 1124 Integration stop scan: 1152
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

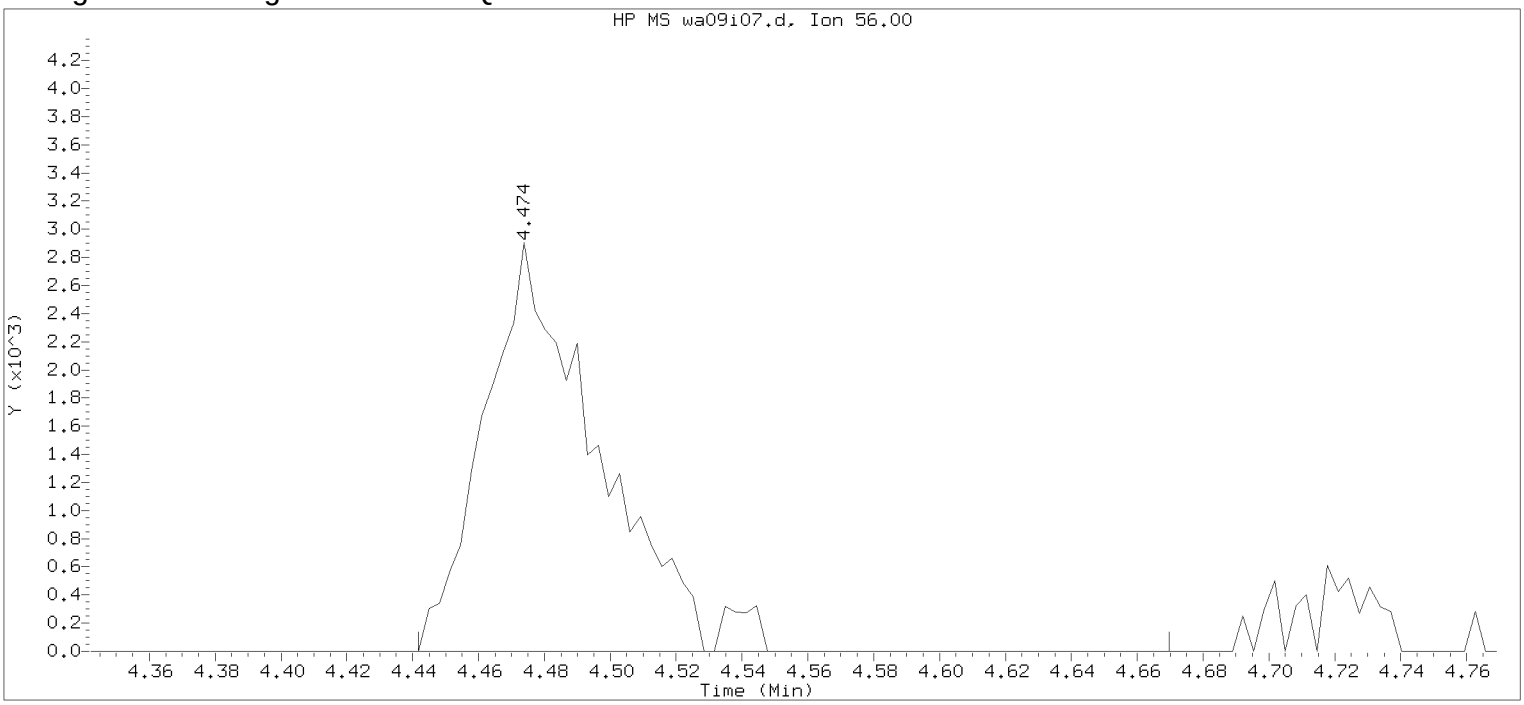
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:57.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

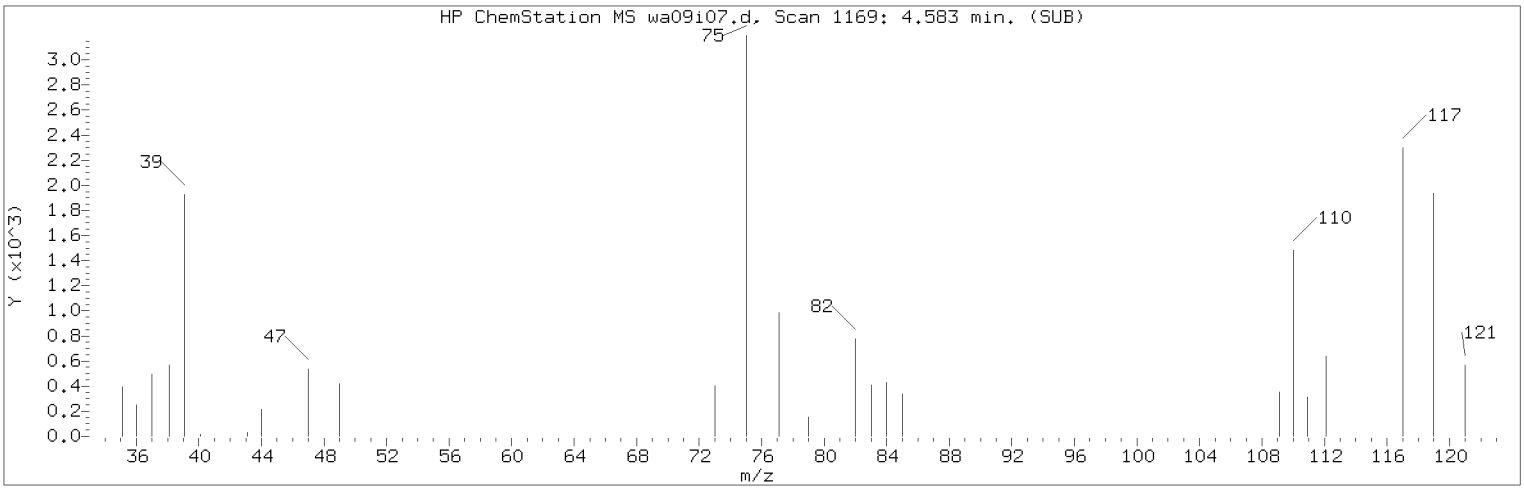
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 13:54
Date, time and analyst ID of latest file update: 09-Apr-2018 13:54 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

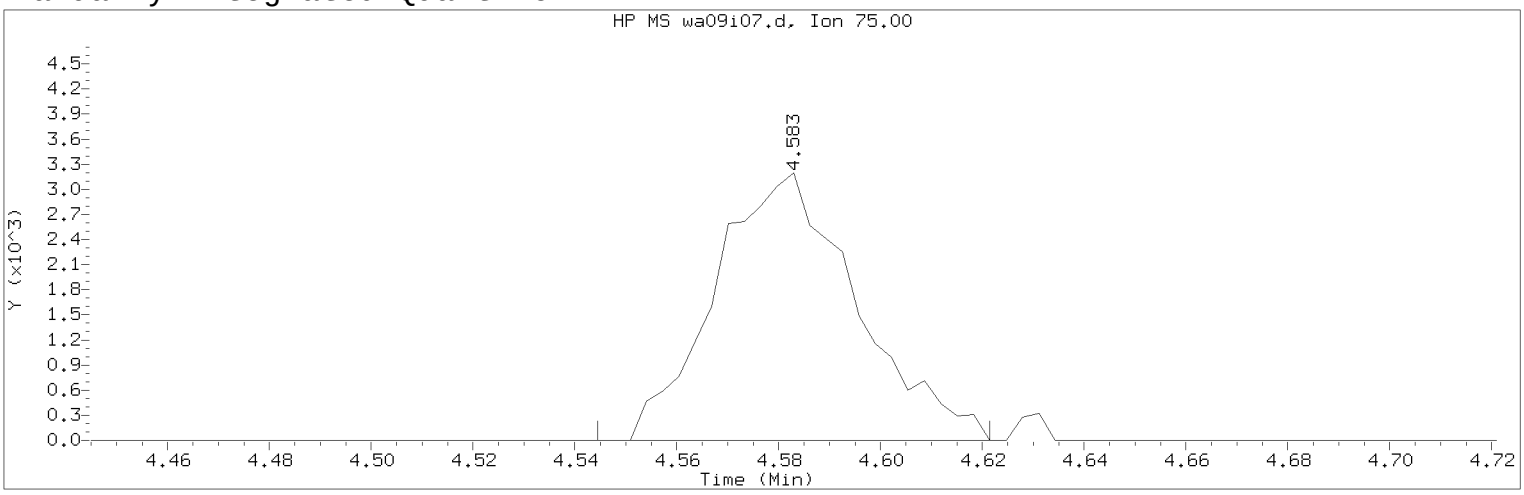
Compound Number : 54
Compound Name : Cyclohexane
Scan Number : 1135
Retention Time (minutes): 4.474
Quant Ion : 56.00
Area : 6999
On-column Amount (ng) : 0.8961
Integration start scan : 1124 Integration stop scan: 1195
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1185 meaning: 1327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD001 Lab Sample ID: VSTD001

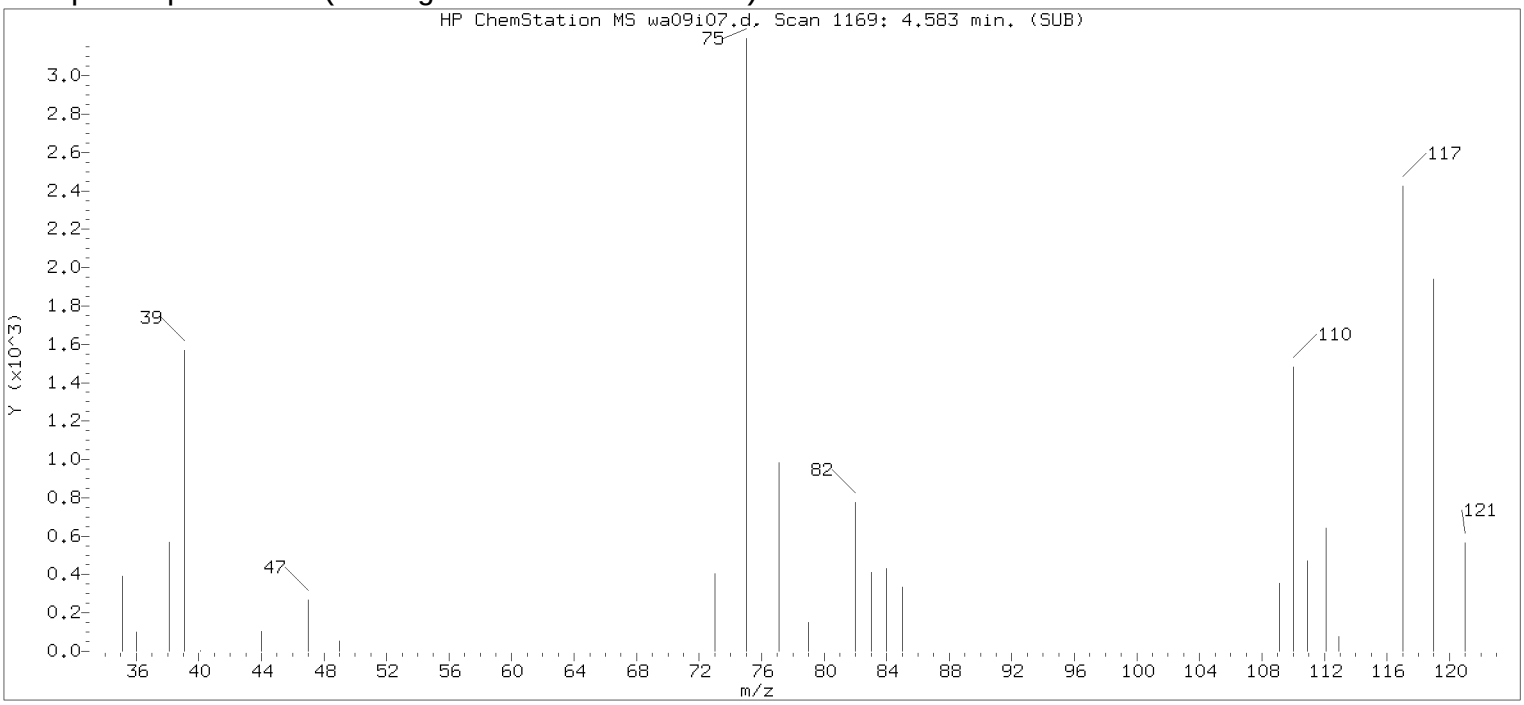
Compound Number : 55
Compound Name : 1,1-Dichloropropene
Scan Number : 1169
Retention Time (minutes): 4.583
Quant Ion : 75.00
Area (flag) : 6175M
On-Column Amount (ng) : 0.9028
Integration start scan : 1156 Integration stop scan: 1180
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

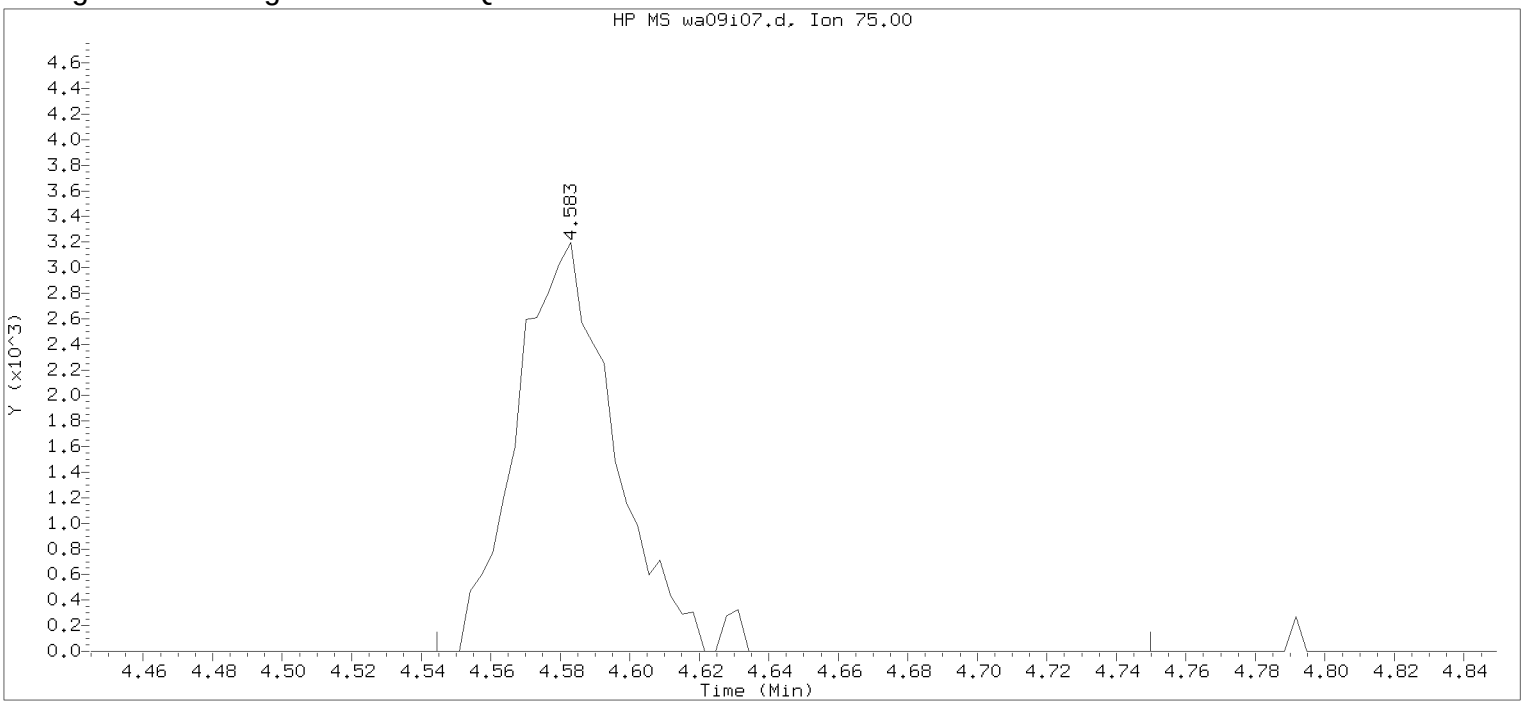
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:57.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

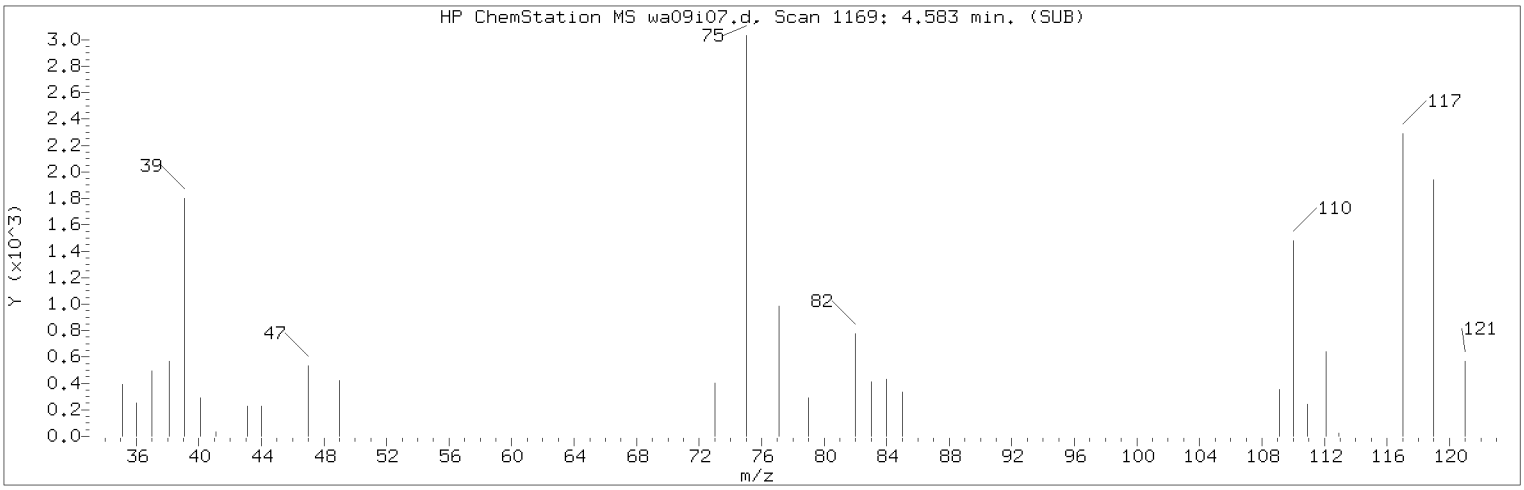
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 13:54
Date, time and analyst ID of latest file update: 09-Apr-2018 13:54 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

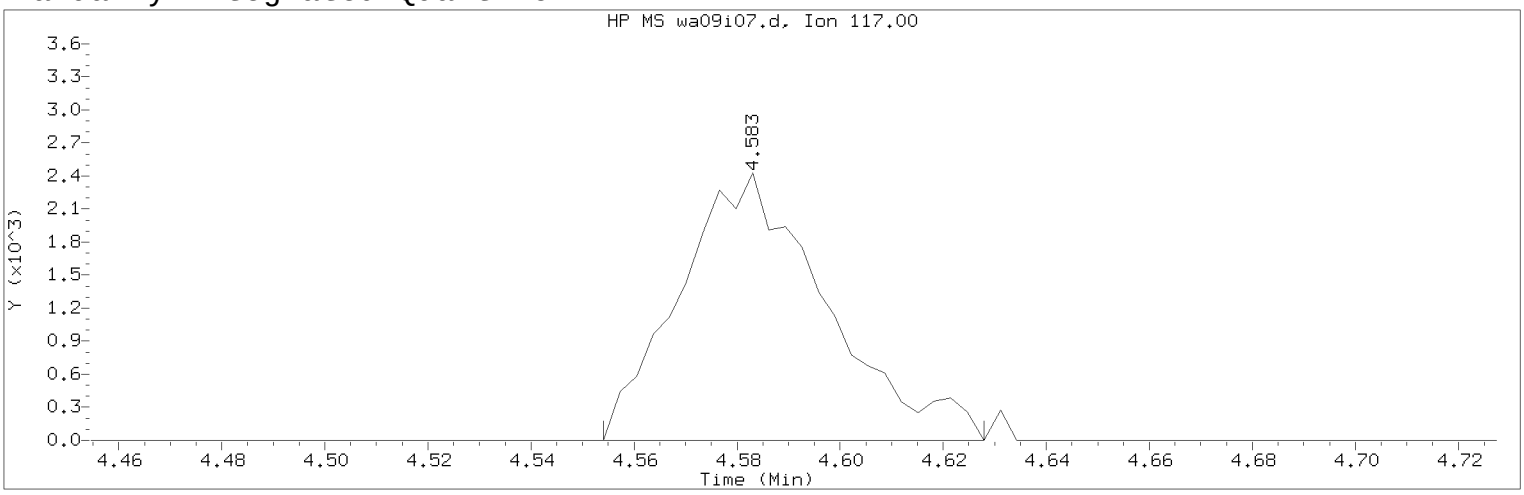
Compound Number : 55
Compound Name : 1,1-Dichloropropene
Scan Number : 1169
Retention Time (minutes): 4.583
Quant Ion : 75.00
Area : 6291
On-column Amount (ng) : 0.9158
Integration start scan : 1156 Integration stop scan: 1220
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1485 meaning: Reviewed

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD001 Lab Sample ID: VSTD001

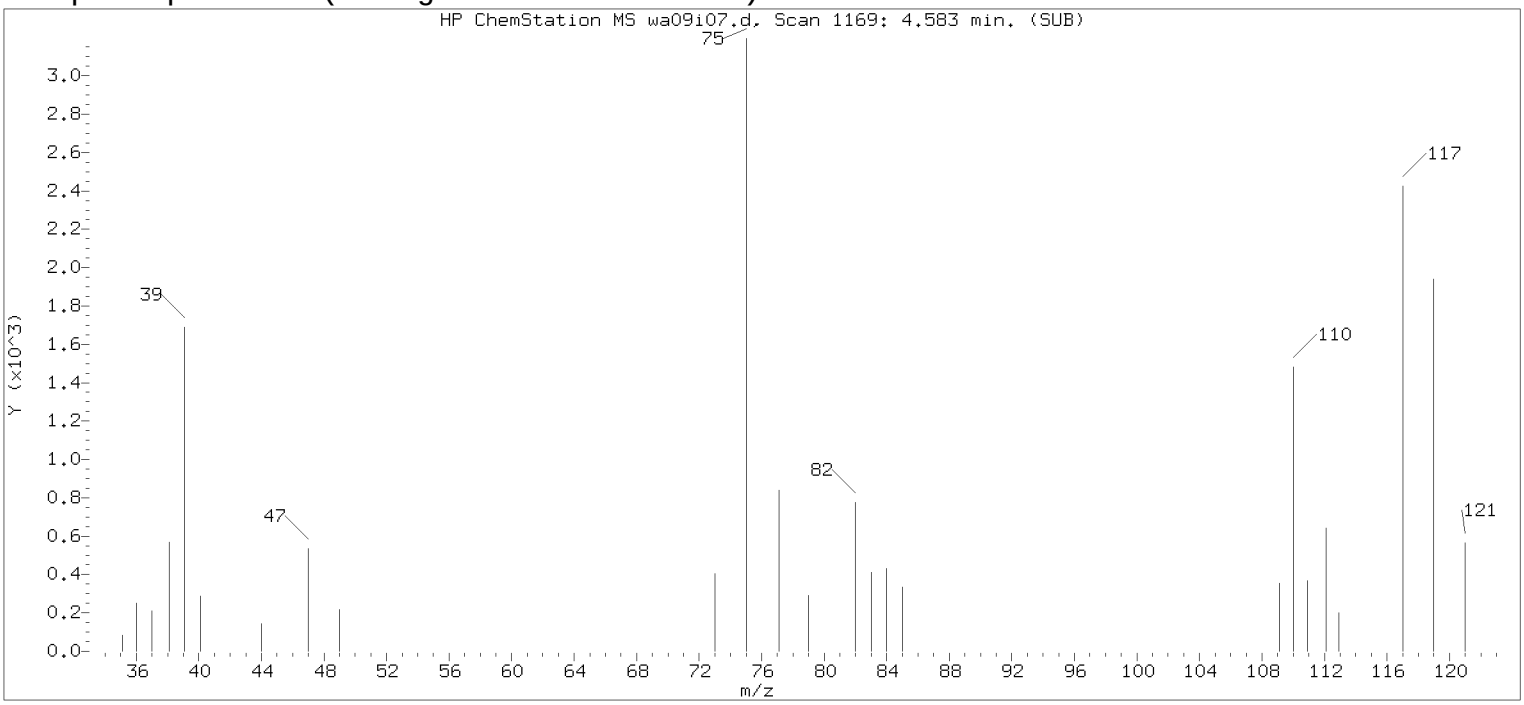
Compound Number : 56
Compound Name : Carbon Tetrachloride
Scan Number : 1169
Retention Time (minutes): 4.583
Quant Ion : 117.00
Area (flag) : 4804M
On-Column Amount (ng) : 0.8299
Integration start scan : 1159 Integration stop scan: 1182
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

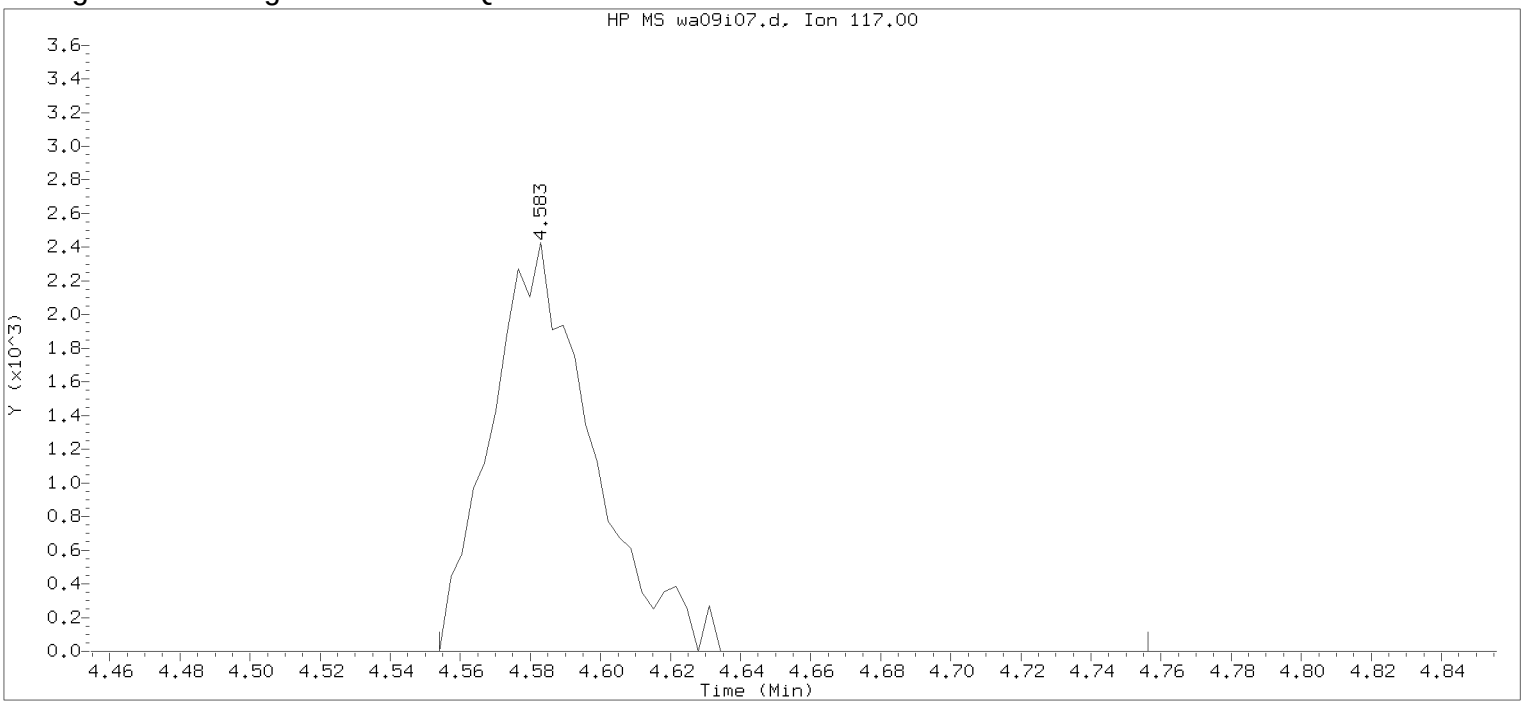
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:57.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

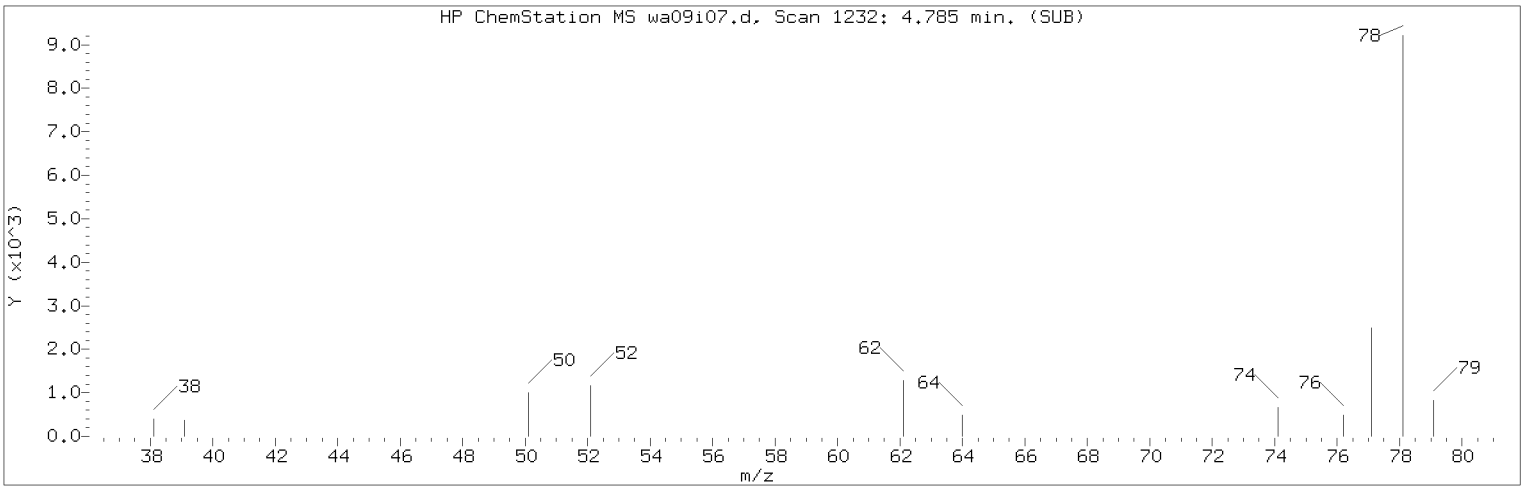
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 13:54
Date, time and analyst ID of latest file update: 09-Apr-2018 13:54 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

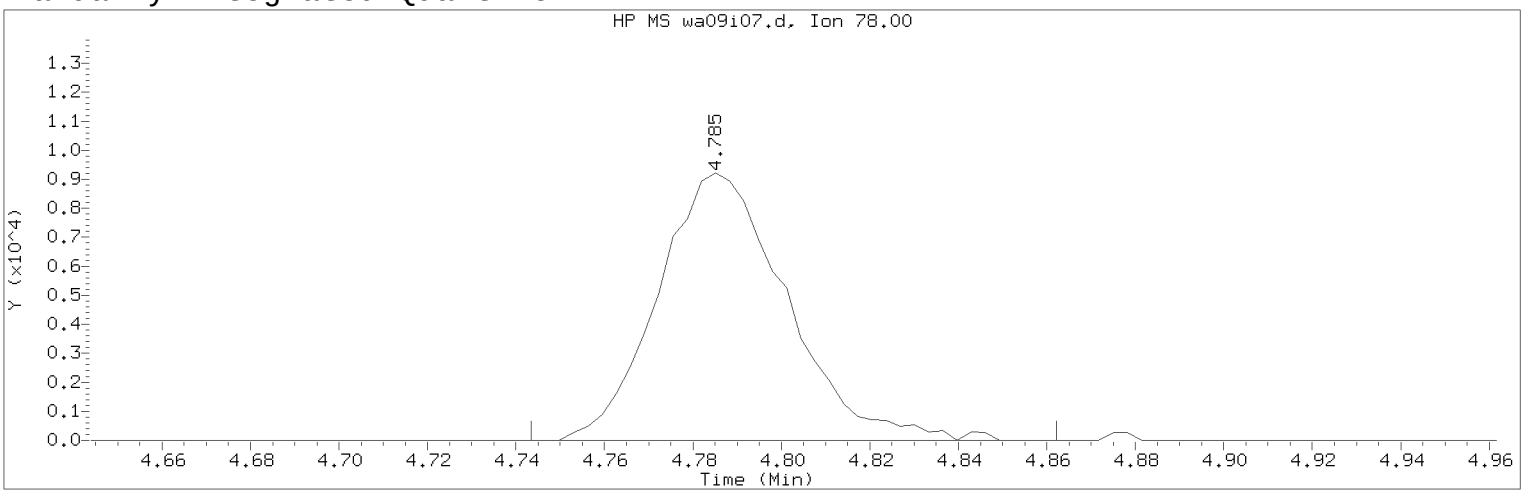
Compound Number : 56
Compound Name : Carbon Tetrachloride
Scan Number : 1169
Retention Time (minutes): 4.583
Quant Ion : 117.00
Area : 4856
On-column Amount (ng) : 0.8379
Integration start scan : 1159 Integration stop scan: 1222
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD001 Lab Sample ID: VSTD001

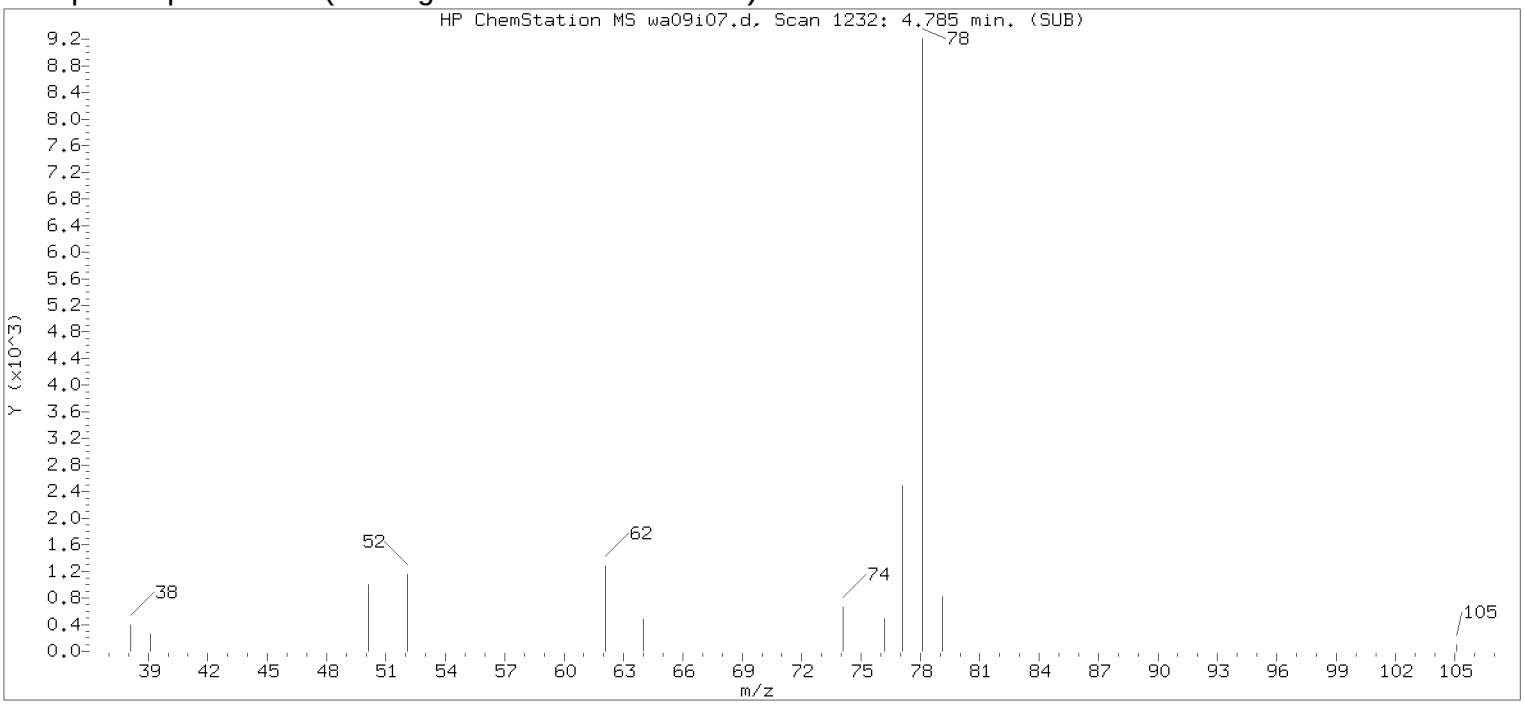
Compound Number : 60
Compound Name : Benzene
Scan Number : 1232
Retention Time (minutes): 4.785
Quant Ion : 78.00
Area (flag) : 18586M
On-Column Amount (ng) : 0.9037
Integration start scan : 1218 Integration stop scan: 1255
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

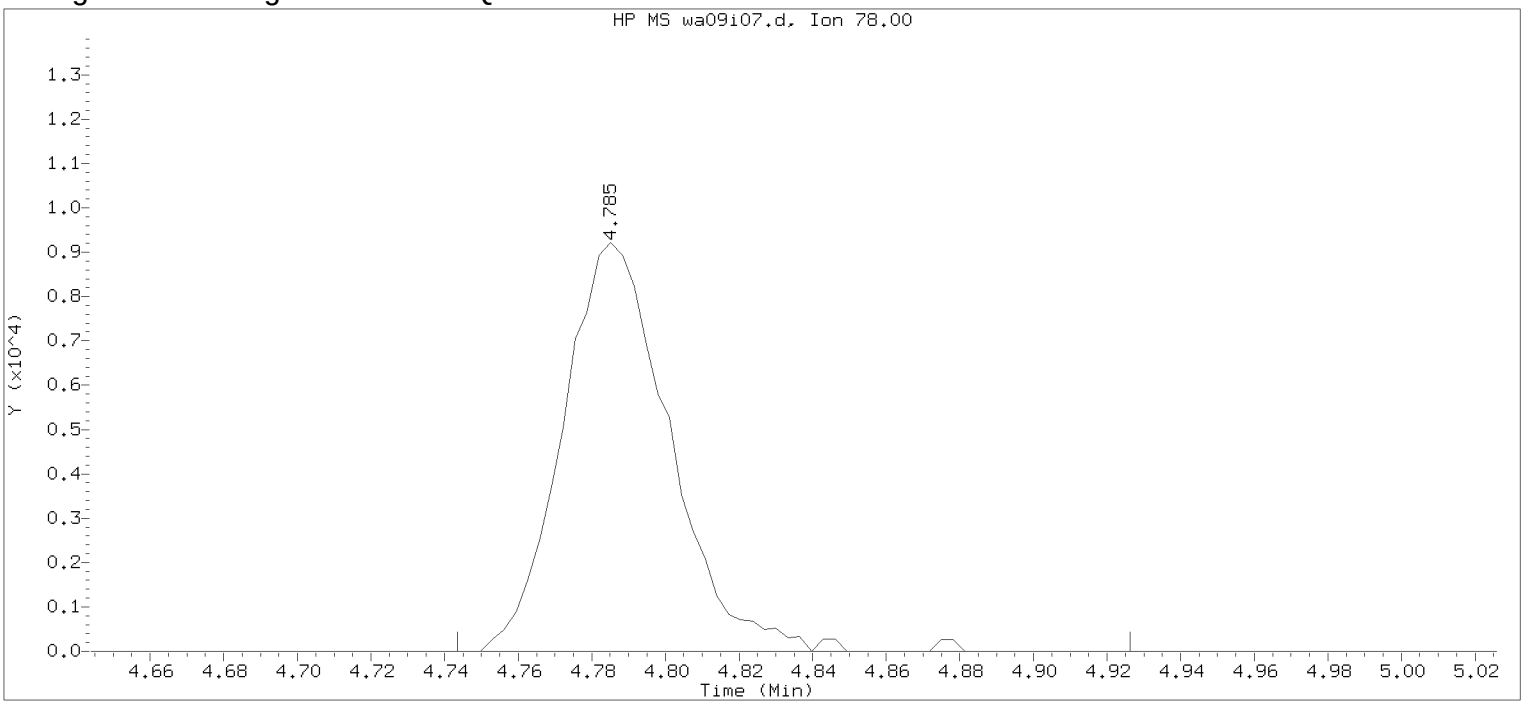
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:57.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

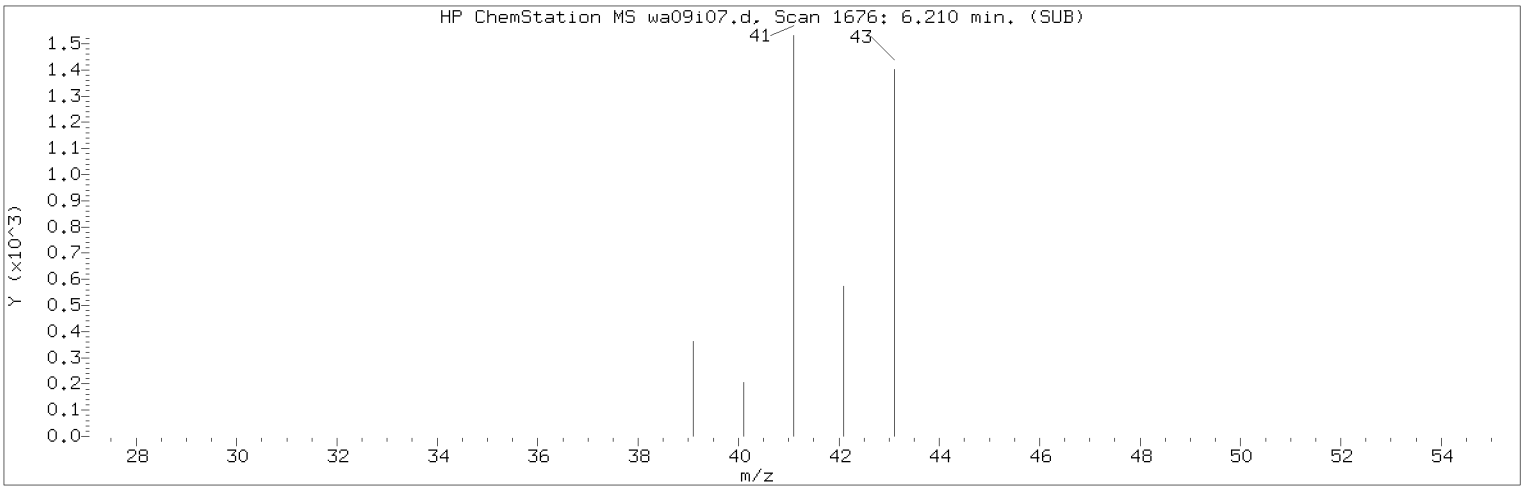
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 13:54
Date, time and analyst ID of latest file update: 09-Apr-2018 13:54 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

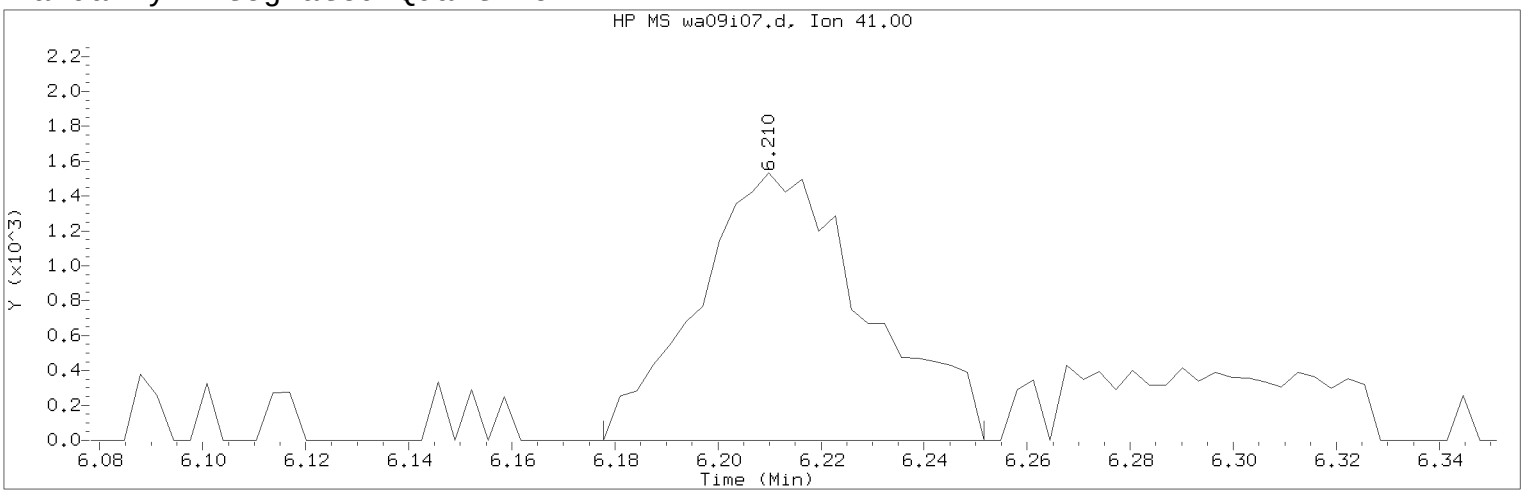
Compound Number : 60
Compound Name : Benzene
Scan Number : 1232
Retention Time (minutes): 4.785
Quant Ion : 78.00
Area : 18687
On-column Amount (ng) : 0.9080
Integration start scan : 1218 Integration stop scan: 1275
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1185 meaning: Page 127 of 1139

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD001 Lab Sample ID: VSTD001

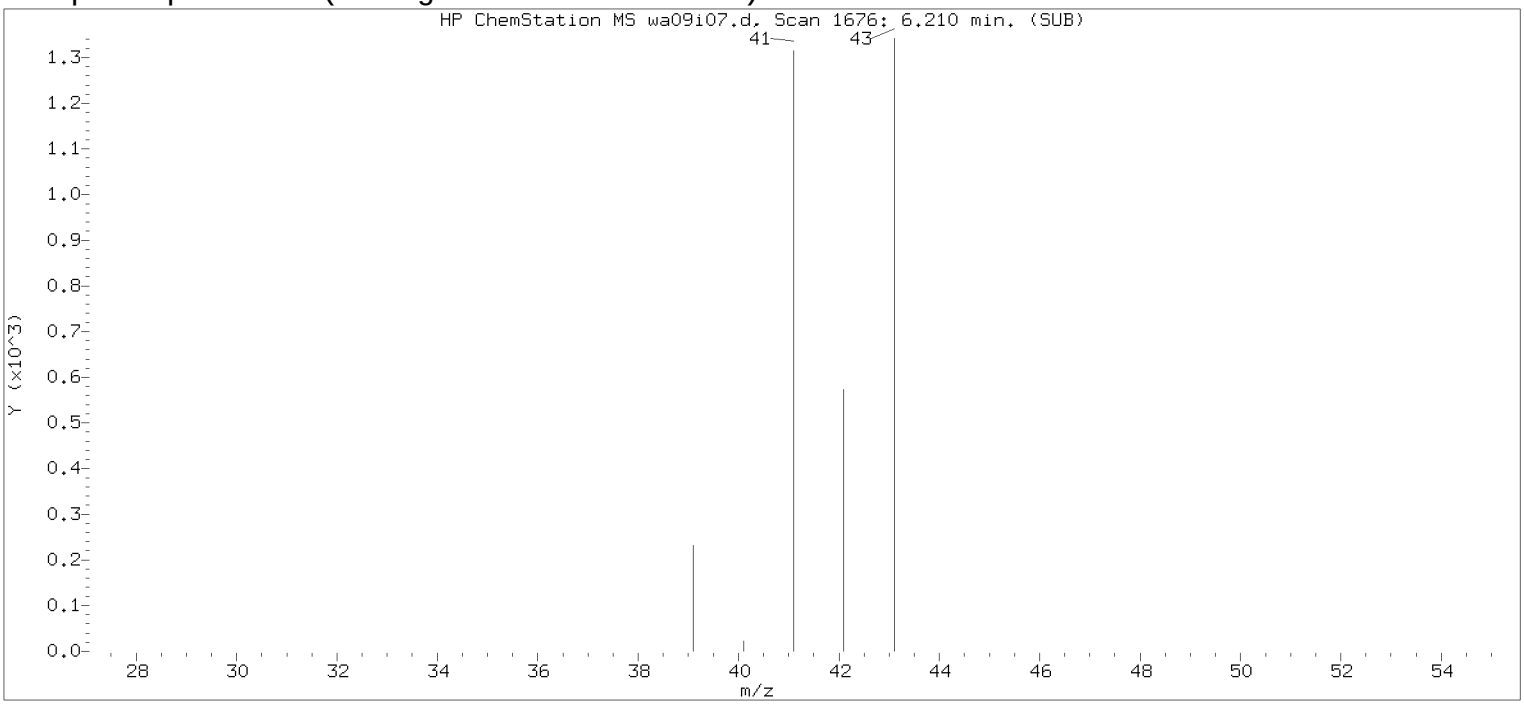
Compound Number : 79
Compound Name : 2-Nitropropane
Scan Number : 1676
Retention Time (minutes): 6.210
Quant Ion : 41.00
Area (flag) : 3489M
On-Column Amount (ng) : 1.8873
Integration start scan : 1665 Integration stop scan: 1688
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

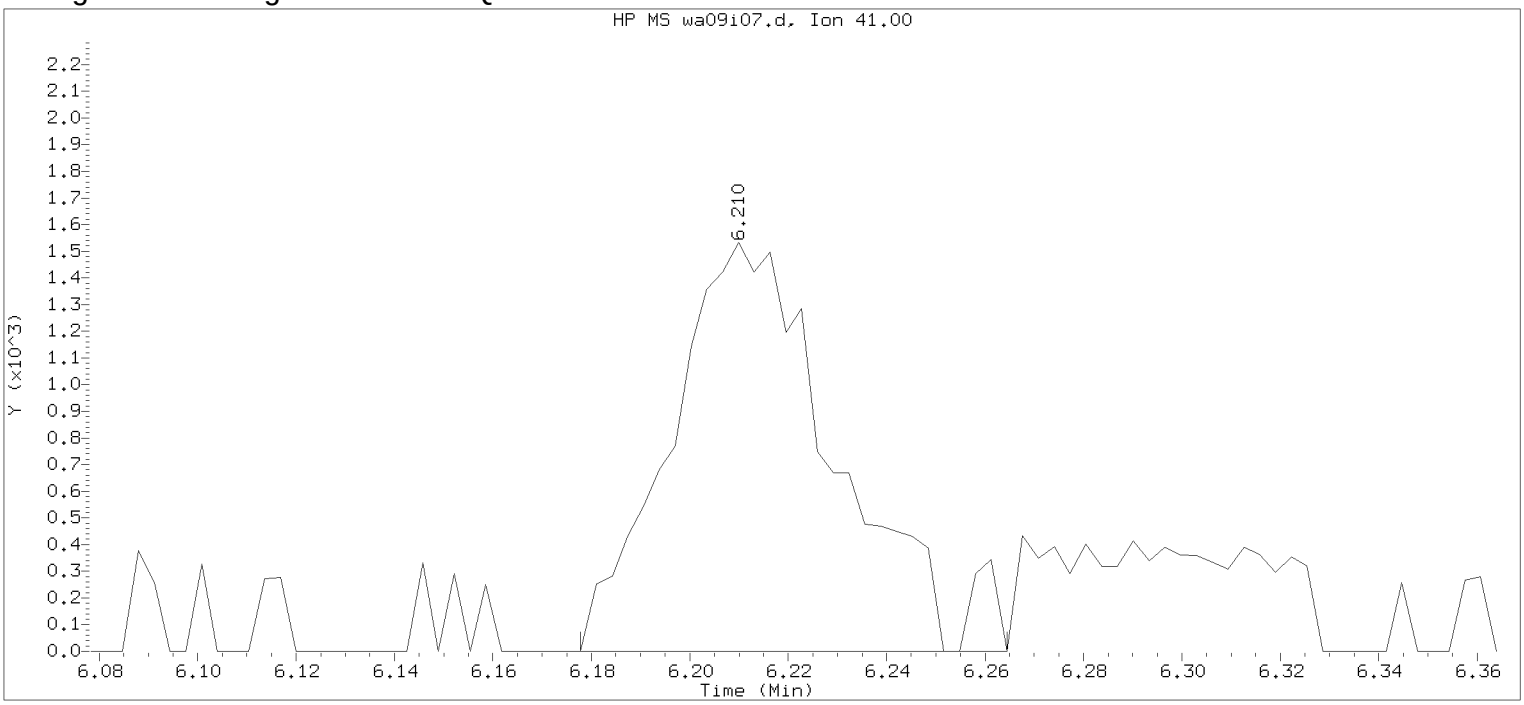
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:57.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

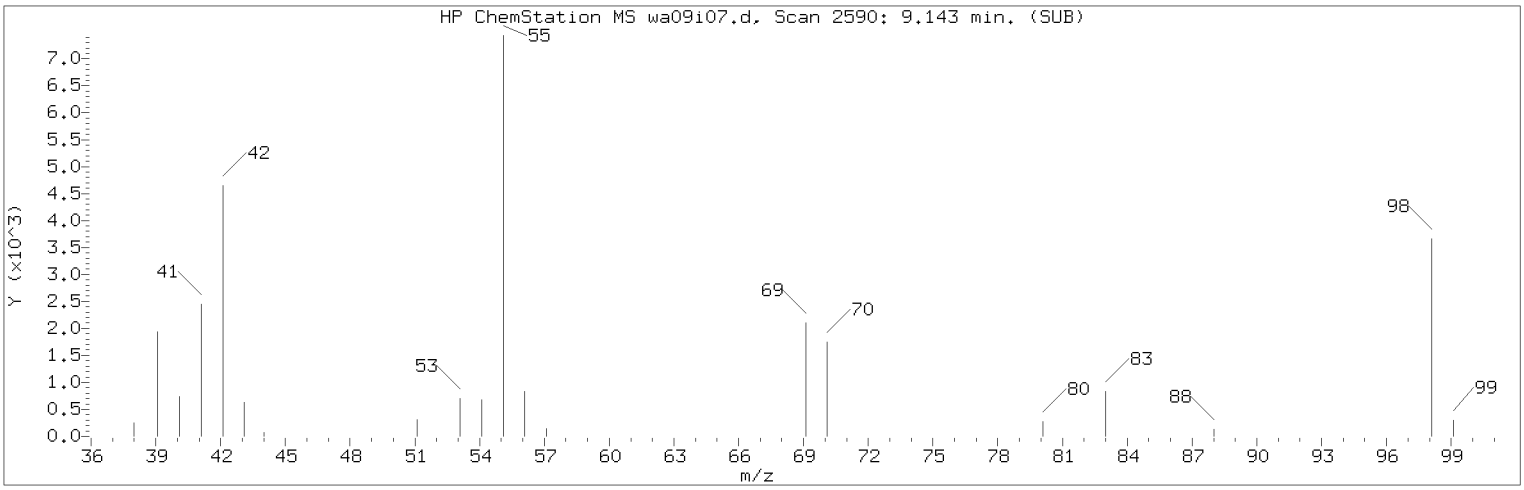
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 13:54
Date, time and analyst ID of latest file update: 09-Apr-2018 13:54 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

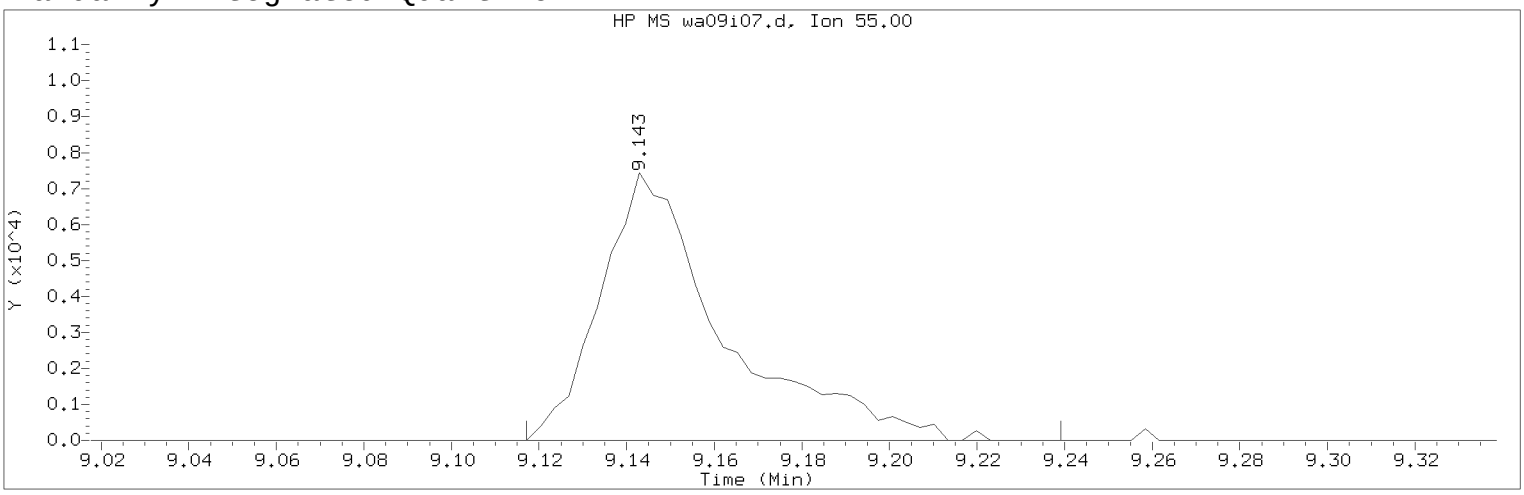
Compound Number : 79
Compound Name : 2-Nitropropane
Scan Number : 1676
Retention Time (minutes): 6.210
Quant Ion : 41.00
Area : 3611
On-column Amount (ng) : 1.9444
Integration start scan : 1665 Integration stop scan: 1692
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD001 Lab Sample ID: VSTD001

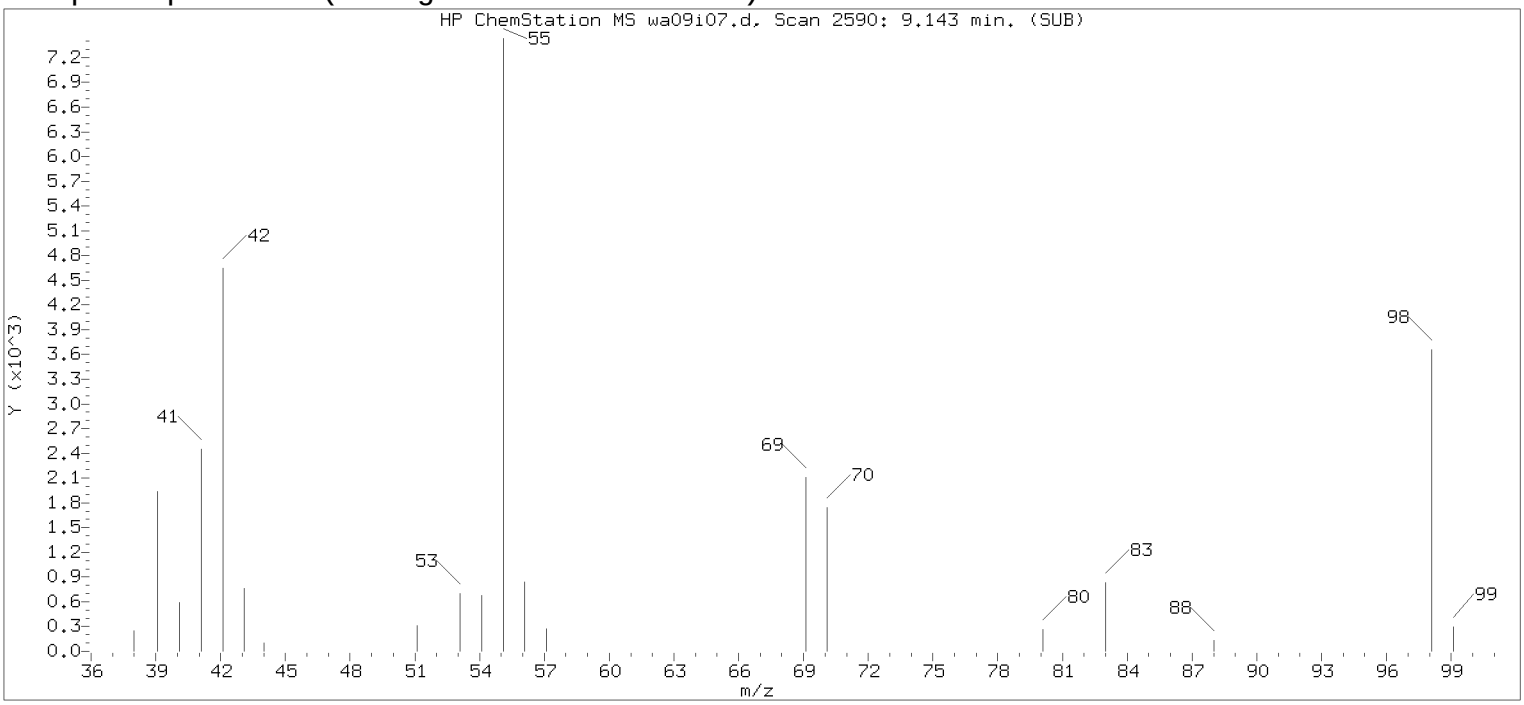
Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 2590
Retention Time (minutes): 9.143
Quant Ion : 55.00
Area (flag) : 14524M
On-Column Amount (ng) : 51.9388
Integration start scan : 2581 Integration stop scan: 2619
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

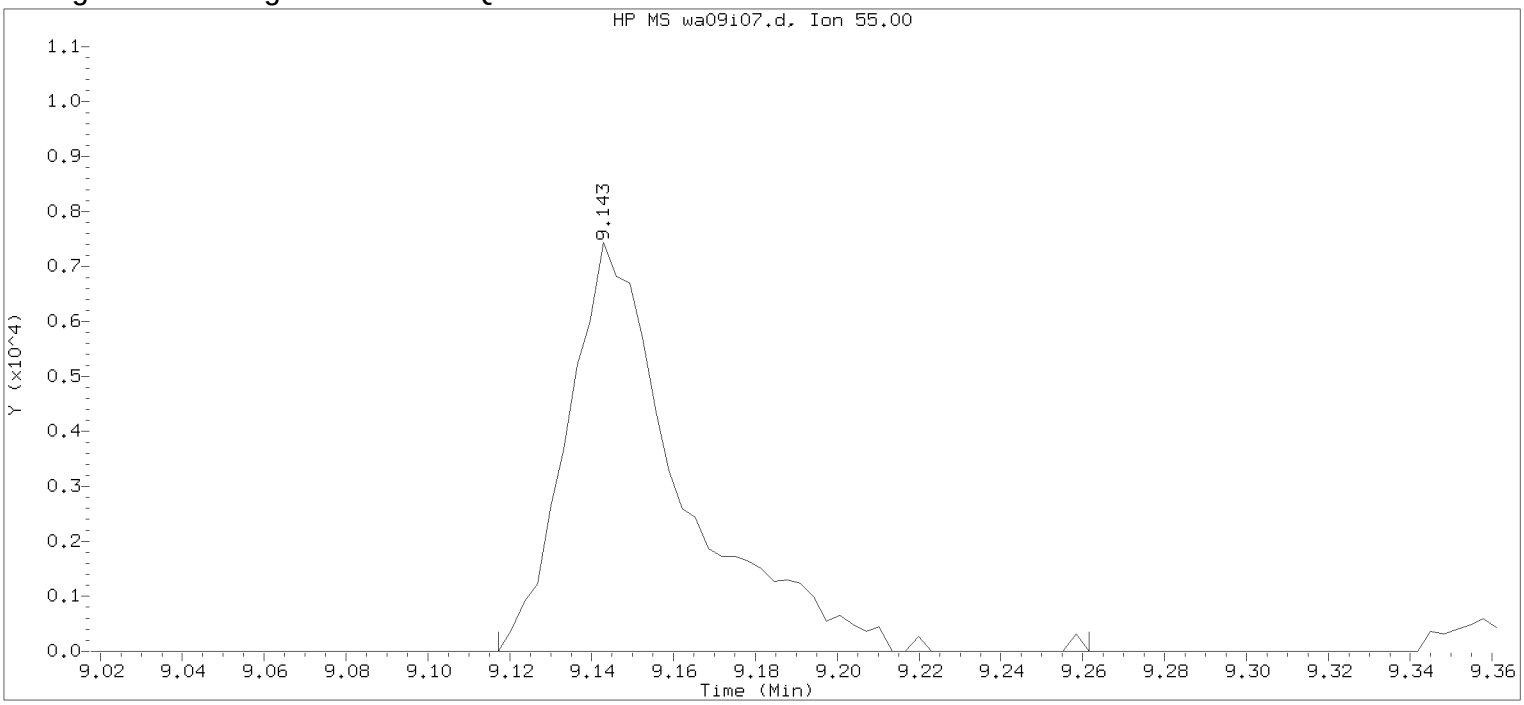
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:57.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

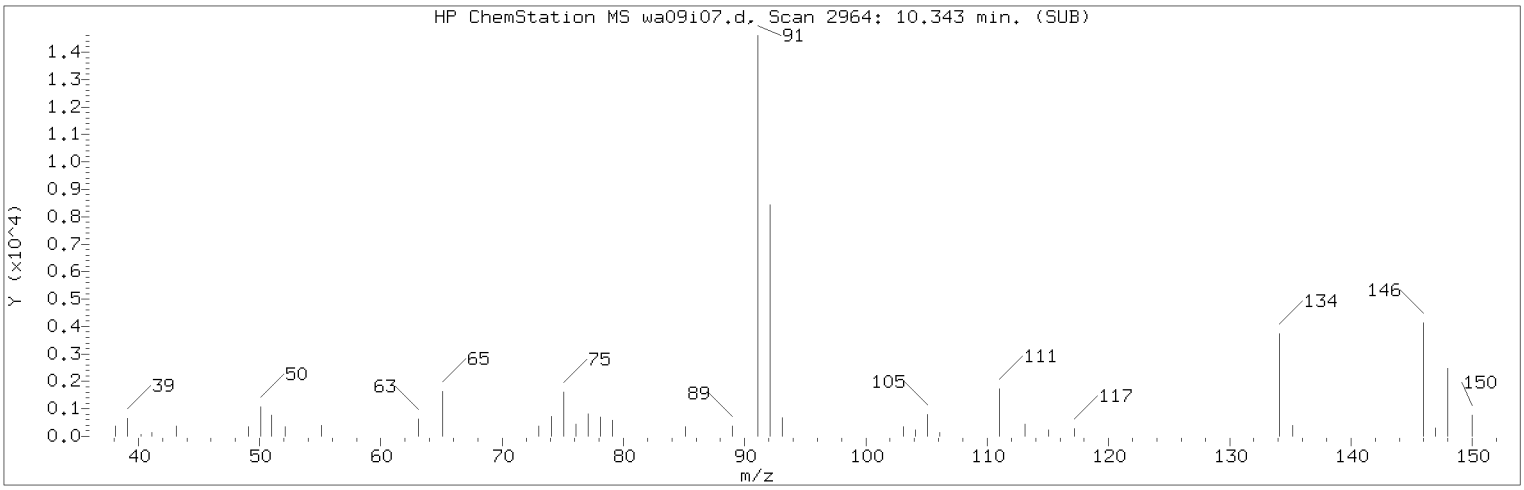
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 13:54
Date, time and analyst ID of latest file update: 09-Apr-2018 13:54 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

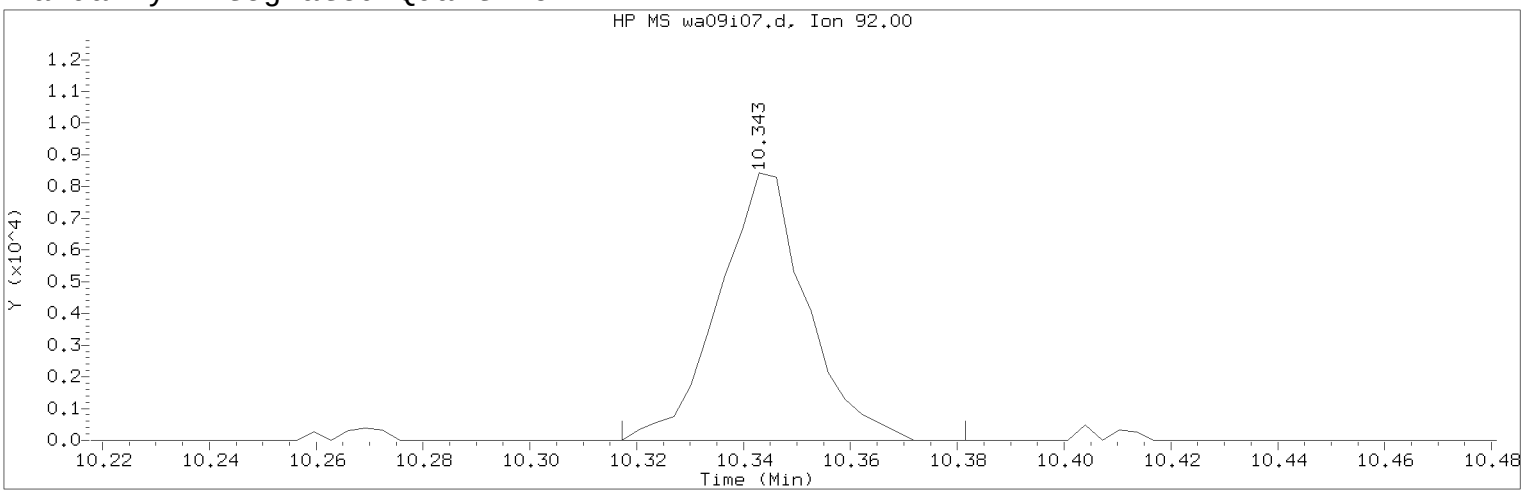
Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 2590
Retention Time (minutes): 9.143
Quant Ion : 55.00
Area : 14585
On-column Amount (ng) : 57.2754
Integration start scan : 2581 Integration stop scan: 2626
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1185 meaning: 1267

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:03
Date, time and analyst ID of latest file update: 09-Apr-2018 15:03 nsl01327

Sample Name: VSTD001 Lab Sample ID: VSTD001

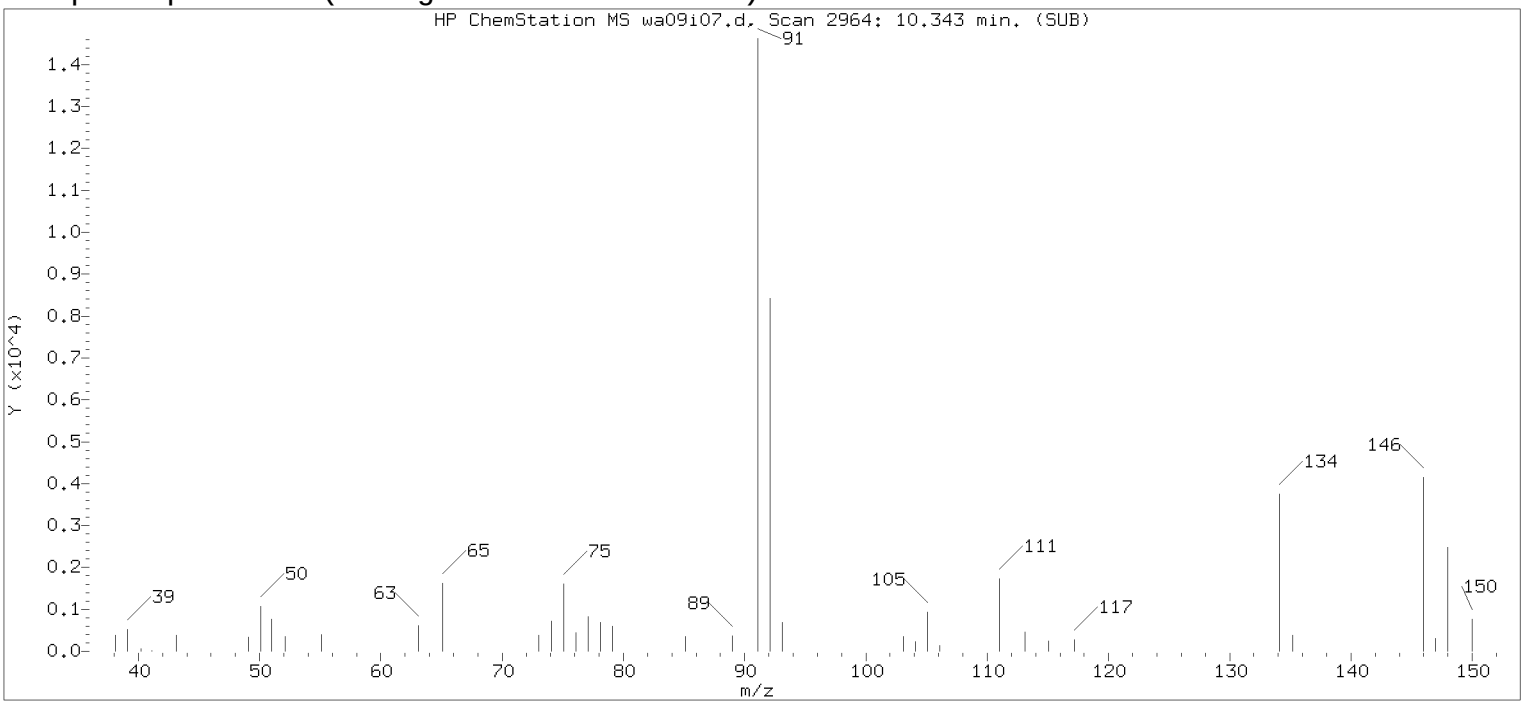
Compound Number : 139
Compound Name : n-Butylbenzene
Scan Number : 2964
Retention Time (minutes): 10.343
Quant Ion : 92.00
Area (flag) : 9592M
On-Column Amount (ng) : 0.9401
Integration start scan : 2955 Integration stop scan: 2975
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

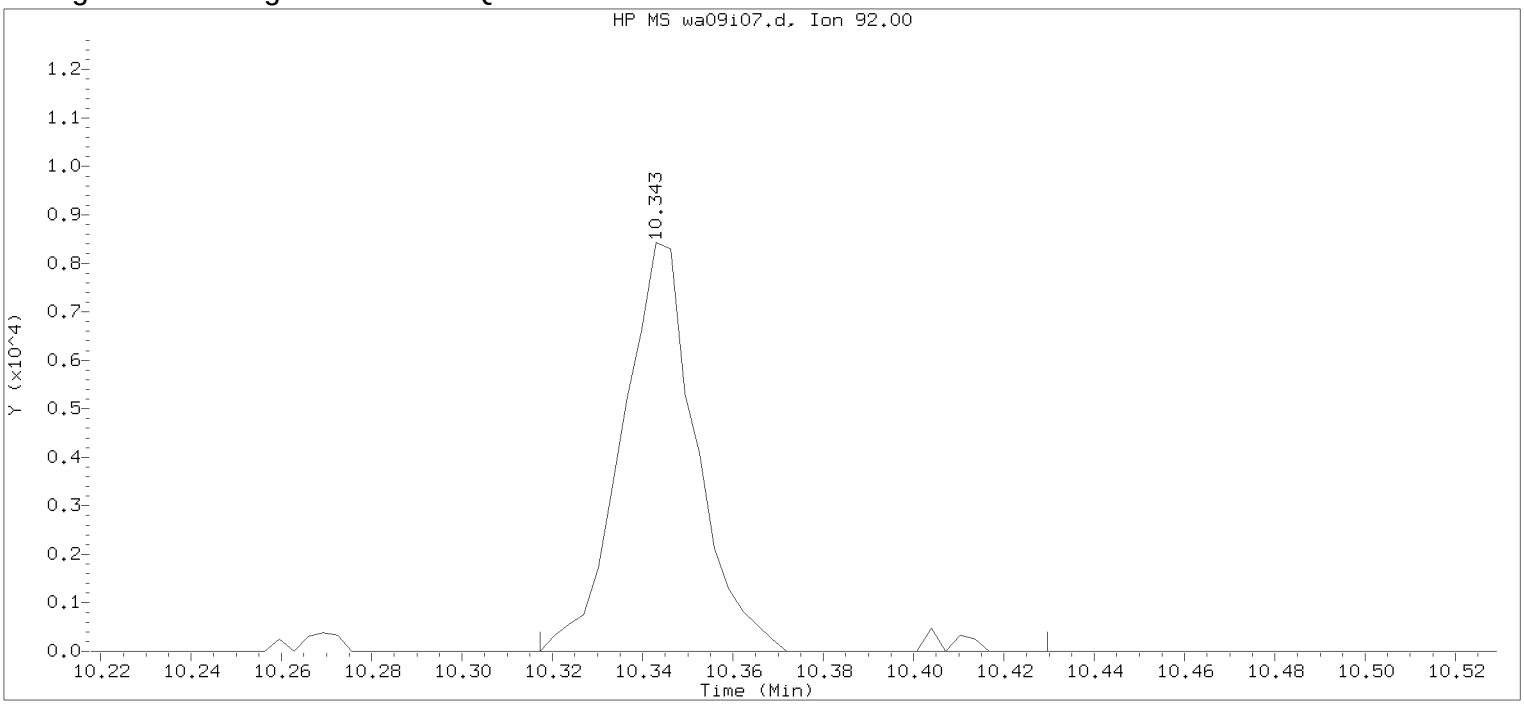
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 19:57.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



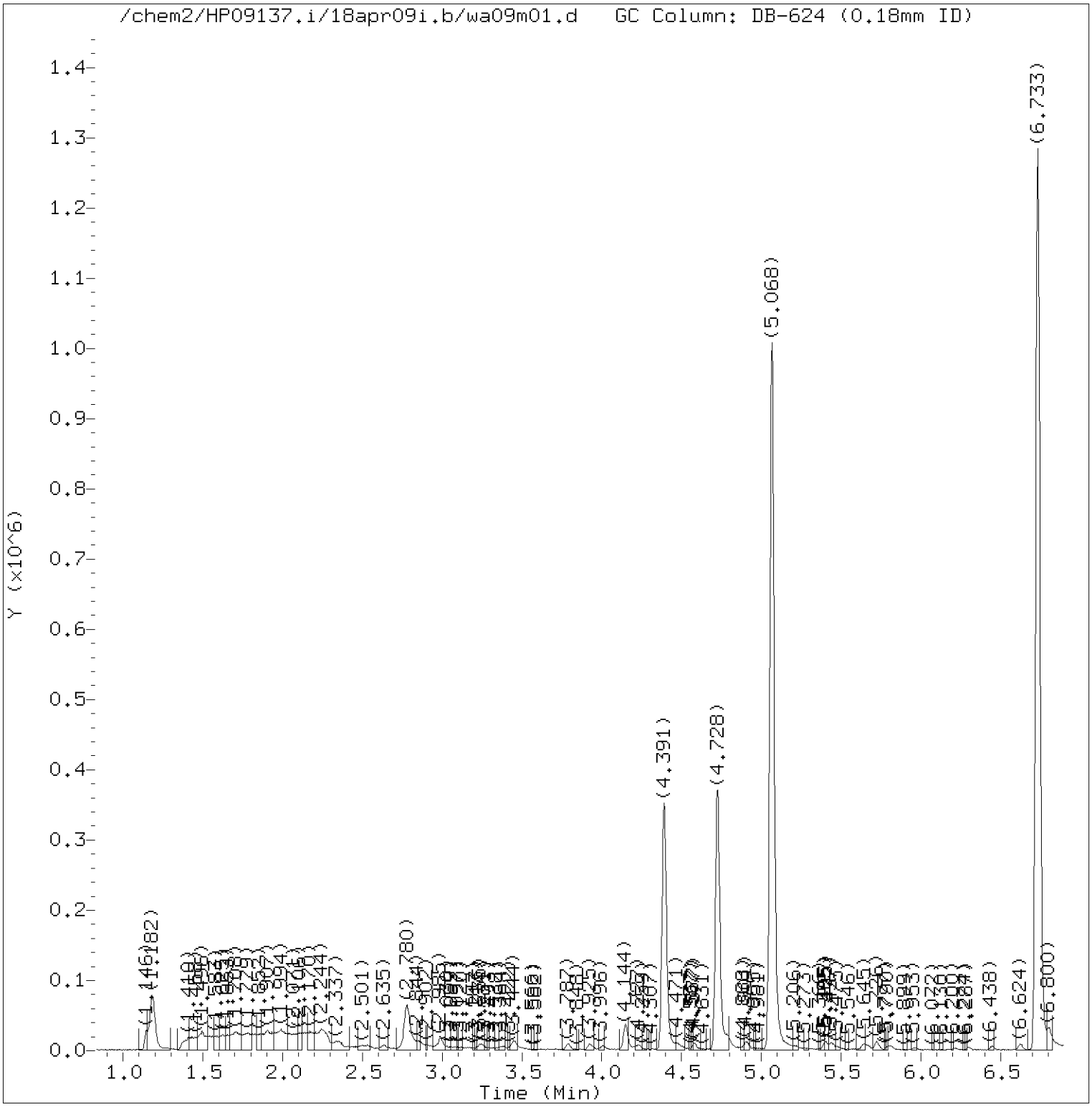
Data File: /chem2/HP09137.i/18apr09i.b/wa09i07.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 13:38 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 13:54
Date, time and analyst ID of latest file update: 09-Apr-2018 13:54 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compound Number : 139
Compound Name : n-Butylbenzene
Scan Number : 2964
Retention Time (minutes): 10.343
Quant Ion : 92.00
Area : 9795
On-column Amount (ng) : 0.9574
Integration start scan : 2955 Integration stop scan: 2990
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1327



Total Ion Chromatogram (TIC)

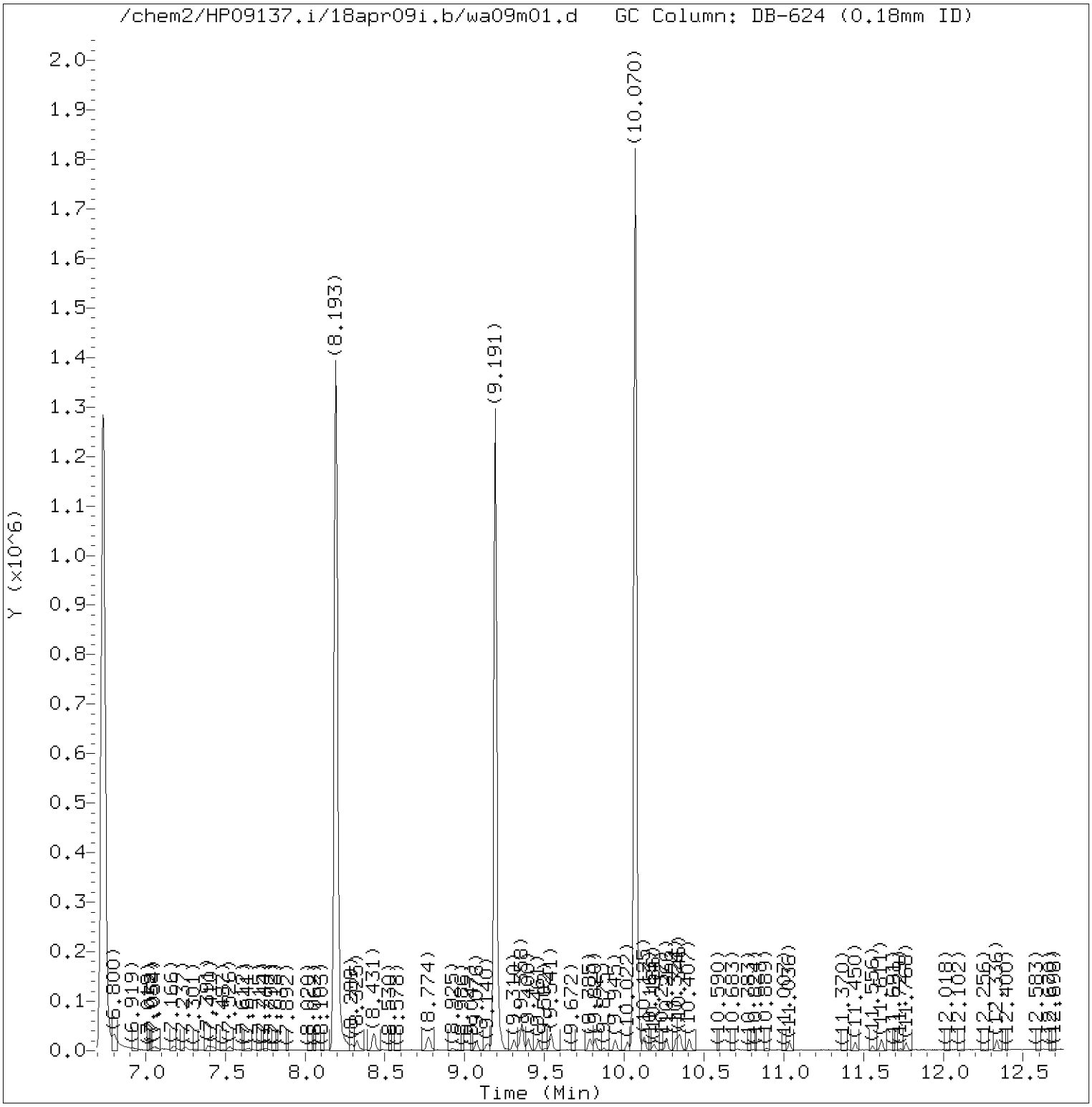
Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09m01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 14:02 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:05
Date, time and analyst ID of latest file update: 09-Apr-2018 15:06 nsl01327

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09m01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 14:02 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:05
Date, time and analyst ID of latest file update: 09-Apr-2018 15:06 nsl01327

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09m01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 14:02 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:05
Date, time and analyst ID of latest file update: 09-Apr-2018 15:06 nsl01327

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
3) Dichlorodifluoromethane	(2)	1.268	85	2353	0.352
4) Chloromethane	(2)	1.406	50	3785	0.529
6) Vinyl Chloride	(2)	1.483	62	3191	0.441
5) 1,3-Butadiene	(2)	1.496	39	3611	0.681
8) Bromomethane	(2)	1.714	94	3162	0.602
9) Chloroethane	(2)	1.772	64	2074	0.480
10) Dichlorofluoromethane	(2)	1.907	67	6010	0.661
12) Trichlorofluoromethane	(2)	1.949	101	2924	0.364
11) n-Pentane	(2)	1.990	43	6152	0.721
13) Ethanol	(1)	2.099	45	5611M	47.049
15) Freon 123a	(2)	2.176	67	8213	1.383
16) Acrolein	(1)	2.244	56	8881	7.710
17) 1,1-Dichloroethene	(2)	2.343	96	2058	0.460
19) Freon 113	(2)	2.350	101	1811	0.399
18) Acetone	(1)	2.379	58	483M	0.998
22) Methyl Iodide	(2)	2.488	142	3596	0.414
21) 2-Propanol	(1)	2.504	45	3645	10.893
23) Carbon Disulfide	(2)	2.529	76	6645	0.450
25) Allyl Chloride	(2)	2.635	41	5377	0.752
27) Methyl Acetate	(2)	2.658	43	4093	0.783
28) Methylene Chloride	(2)	2.744	84	2631	0.506
29)*t-Butyl alcohol-d10	(1)	2.780	65	141957	250.000
30) t-Butyl alcohol	(1)	2.850	59	5436M	8.910
31) Acrylonitrile	(2)	2.972	53	912M	0.342
33) Methyl Tertiary Butyl Ether	(2)	2.992	73	7673	0.459
32) trans-1,2-Dichloroethene	(2)	2.995	96	2162	0.439
34) n-Hexane	(2)	3.245	57	3205	0.559
36) 1,1-Dichloroethane	(2)	3.380	63	3553	0.425
38) di-Isopropyl ether	(2)	3.444	45	8478	0.542
39) 2-Chloro-1,3-butadiene	(2)	3.460	53	3379	0.457
40) Ethyl t-butyl ether	(2)	3.791	59	6895	0.442
45) 2,2-Dichloropropane	(2)	3.925	77	2088	0.462
42) cis-1,2-Dichloroethene	(2)	3.929	96	2481	0.446
44) 2-Butanone	(2)	3.948	43	4554M	1.226
47) Propionitrile	(1)	4.006	54	7309	9.583
43) 1,2-Dichloroethene (Total)	(2)		96	4643	0.885
48) Methacrylonitrile	(2)	4.153	67	13574	4.315
49) Bromochloromethane	(2)	4.156	128	1120	0.396

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

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09m01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 14:02 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:05
Date, time and analyst ID of latest file update: 09-Apr-2018 15:06 nsl01327

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50) Tetrahydrofuran	(1)	4.208	71	772	0.947
51) Chloroform	(2)	4.240	83	3945	0.460
52)$Dibromofluoromethane	(2)	4.394	113	227036	48.609
53) 1,1,1-Trichloroethane	(2)	4.423	97	3364	0.441
54) Cyclohexane	(2)	4.484	56	3656	0.471
55) 1,1-Dichloropropene	(2)	4.577	75	2955	0.433
56) Carbon Tetrachloride	(2)	4.583	117	2281	0.395
58) Isobutyl Alcohol	(1)	4.718	41	7651	38.230
57)$1,2-Dichloroethane-d4	(2)	4.728	102	60763	49.547
60) Benzene	(2)	4.782	78	9076	0.442
61) 1,2-Dichloroethane	(2)	4.801	62	3868	0.541
65) t-Amyl methyl ether	(2)	4.904	73	7649	0.470
67) n-Heptane	(2)	5.068	43	6002	1.168
66)*Fluorobenzene	(2)	5.068	96	1024564	50.000
69) n-Butanol	(1)	5.405	56	10460	55.545
71) Trichloroethene	(2)	5.443	95	2520	0.463
72) Methylcyclohexane	(2)	5.642	83	3505	0.479
73) 1,2-Dichloropropane	(2)	5.668	63	2281	0.439
74) Dibromomethane	(2)	5.796	93	1258	0.357
76) Methyl Methacrylate	(2)	5.815	69	2242M	0.404
75) 1,4-Dioxane	(1)	5.838	88	275	5.346
78) Bromodichloromethane	(2)	5.963	83	2768	0.415
79) 2-Nitropropane	(2)	6.216	41	1941	1.052
80) 2-Chloroethyl Vinyl Ether	(2)	6.303	63	1609	0.380
81) cis-1,3-Dichloropropene	(2)	6.447	75	3629	0.413
82) 4-Methyl-2-pentanone	(2)	6.624	43	7617	0.994
83)$Toluene-d8	(3)	6.733	98	1009322	49.337
88) Toluene	(3)	6.807	92	6627	0.473
89) trans-1,3-Dichloropropene	(3)	7.054	75	3354	0.402
91) Ethyl Methacrylate	(3)	7.179	69	4278	0.443
92) 1,1,2-Trichloroethane	(3)	7.250	97	2184	0.397
90) 1,3-Dichloropropene (total)	(3)		100	6983	0.815
93) Tetrachloroethene	(3)	7.388	166	2591	0.454
94) 1,3-Dichloropropane	(3)	7.426	76	4102	0.451
96) 2-Hexanone	(3)	7.526	43	6350	1.032
97) Dibromochloromethane	(3)	7.644	129	2180	0.389
99) 1,2-Dibromoethane	(3)	7.750	107	2506	0.418
100)*Chlorobenzene-d5	(3)	8.193	117	797877	50.000

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

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09m01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 14:02 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:05
Date, time and analyst ID of latest file update: 09-Apr-2018 15:06 nsl01327

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
102) Chlorobenzene	(3)	8.216	112	7259	0.455
103) 1,1,1,2-Tetrachloroethane	(3)	8.293	131	2190	0.427
104) Ethylbenzene	(3)	8.325	91	12507	0.482
106) m+p-Xylene	(3)	8.427	106	9641	0.910
107) o-Xylene	(3)	8.771	106	4517	0.427
109) Styrene	(3)	8.784	104	7550	0.418
108) Xylene (Total)	(3)		106	14158	1.337
110) Bromoform	(3)	8.928	173	1553	0.386
111) Isopropylbenzene	(3)	9.076	105	11510	0.457
112) Cyclohexanone	(1)	9.146	55	6409	27.041
114)$4-Bromofluorobenzene	(3)	9.191	95	373720	48.366
116) 1,1,2,2-Tetrachloroethane	(4)	9.310	83	3989	0.463
115) Bromobenzene	(4)	9.310	156	3225	0.482
117) 1,2,3-Trichloropropane	(4)	9.342	110	1131	0.418
118) trans-1,4-Dichloro-2-butene	(4)	9.358	53	9460	3.994
119) n-Propylbenzene	(4)	9.400	91	14127	0.505
120) 2-Chlorotoluene	(4)	9.464	126	2858	0.464
122) 1,3,5-Trimethylbenzene	(4)	9.538	105	10117	0.487
121) 4-Chlorotoluene	(4)	9.544	126	2953	0.448
124) tert-Butylbenzene	(4)	9.785	134	2336	0.507
125) Pentachloroethane	(4)	9.794	167	1419	0.399
126) 1,2,4-Trimethylbenzene	(4)	9.817	105	10853	0.499
127) sec-Butylbenzene	(4)	9.945	105	12058	0.513
129) 1,3-Dichlorobenzene	(4)	10.025	146	6173	0.488
130) p-Isopropyltoluene	(4)	10.048	119	10945	0.517
131)*1,4-Dichlorobenzene-d4	(4)	10.070	152	409638	50.000
133) 1,4-Dichlorobenzene	(4)	10.086	146	6519	0.495
134) 1,2,3-Trimethylbenzene	(4)	10.125	105	11319	0.506
135) Benzyl Chloride	(4)	10.186	91	7403	0.425
136) 1,3-Diethylbenzene	(4)	10.266	119	6448	0.511
137) 1,4-Diethylbenzene	(4)	10.327	119	6683	0.511
139) n-Butylbenzene	(4)	10.343	92	5335	0.530
138) 1,2-Dichlorobenzene	(4)	10.353	146	6011	0.477
140) 1,2-Diethylbenzene	(4)	10.411	119	5553	0.513
141) Diethylbenzene (total)	(4)		100	18684	1.535
142) 1,2-Dibromo-3-chloropropane	(4)	10.889	75	765	0.417
144) 1,3,5-Trichlorobenzene	(4)	11.036	180	4268	0.532
146) 1,2,4-Trichlorobenzene	(4)	11.450	180	4351	0.548

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

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09m01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 14:02 Analyst ID: nsl01327

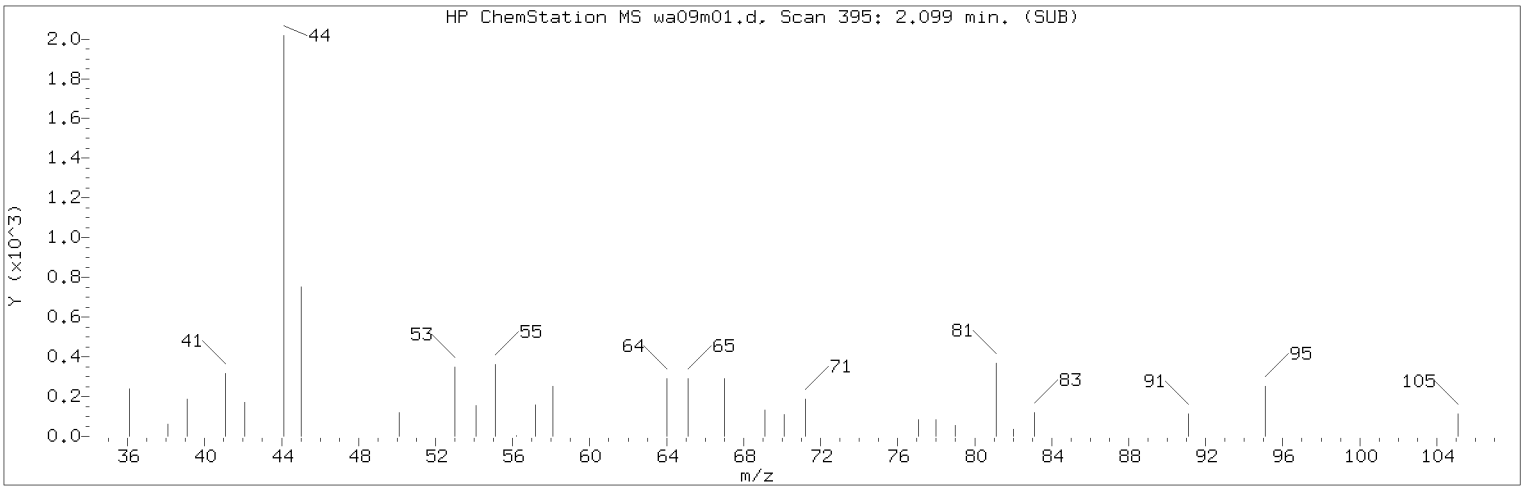
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:05
Date, time and analyst ID of latest file update: 09-Apr-2018 15:06 nsl01327

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

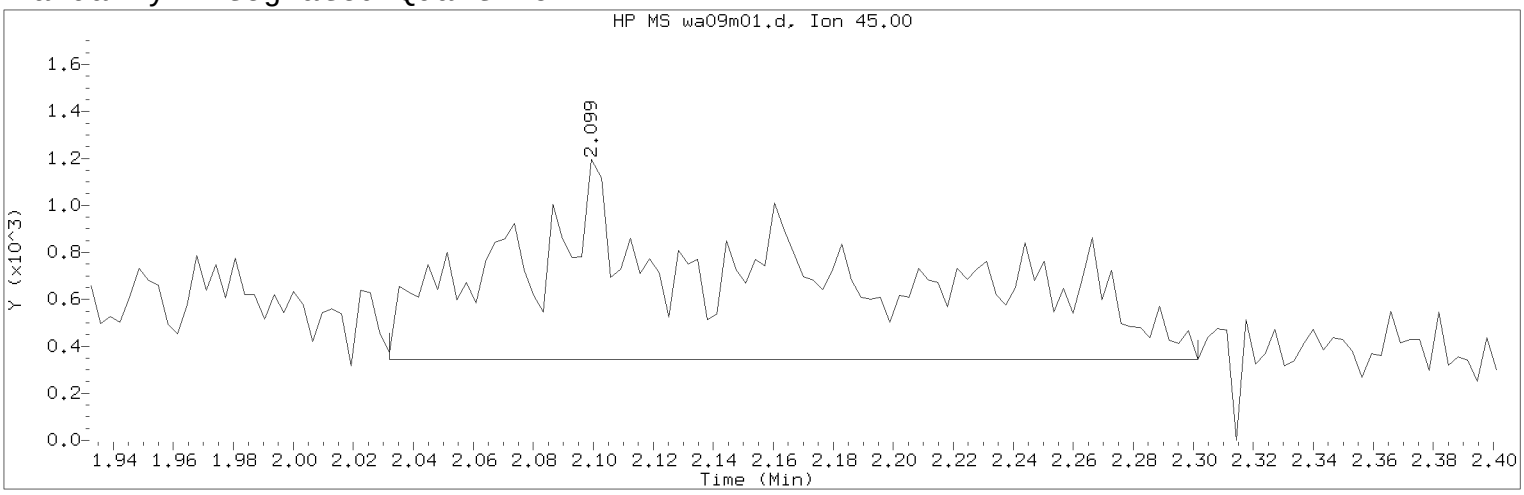
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
147) Hexachlorobutadiene	(4)	11.559	225	1448	0.615
148) Naphthalene	(4)	11.611	128	14753	0.512
149) 1,2,3-Trichlorobenzene	(4)	11.768	180	4029	0.534
150) 2-Methylnaphthalene	(4)	12.339	142	8357	0.551

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09m01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 14:02 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:05
Date, time and analyst ID of latest file update: 09-Apr-2018 15:06 nsl01327

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

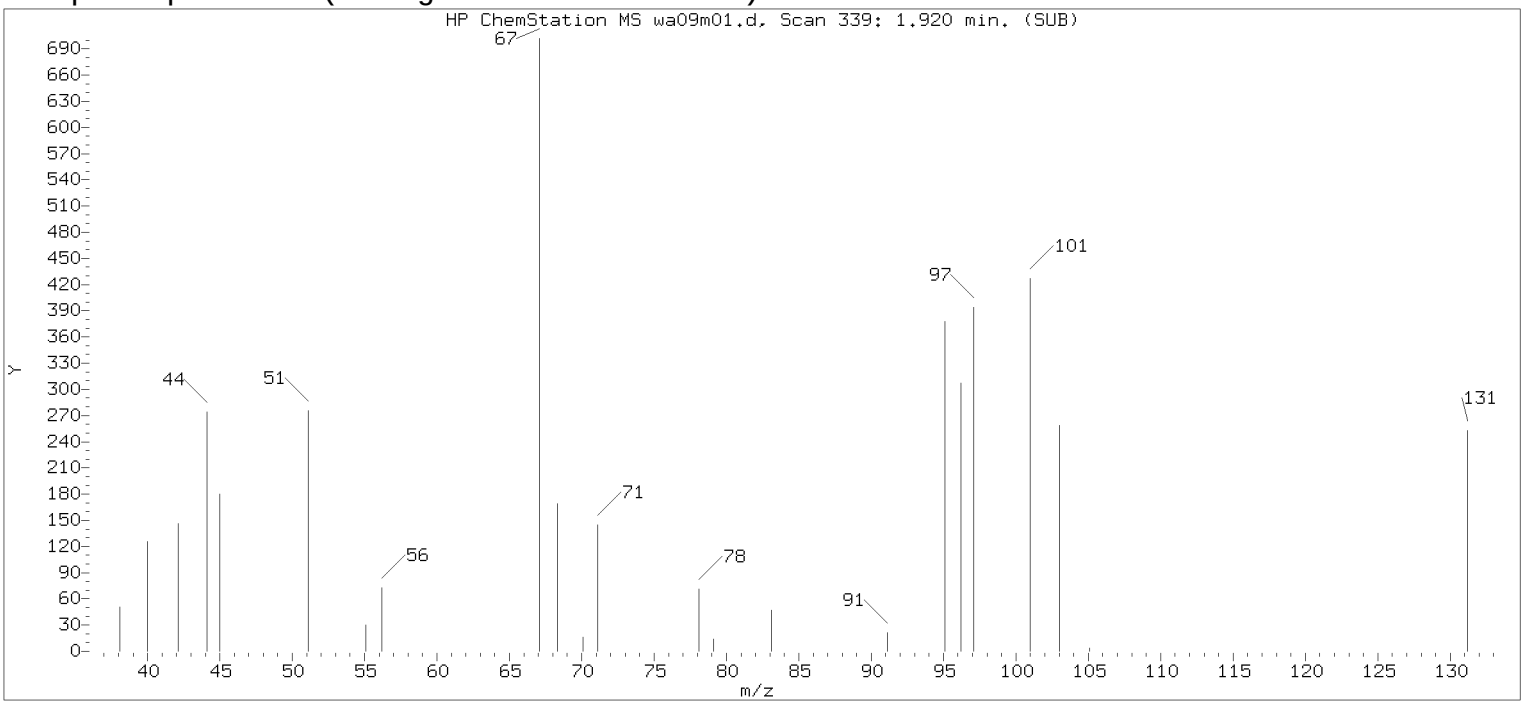
Compound Number : 13
Compound Name : Ethanol
Scan Number : 395
Retention Time (minutes): 2.099
Quant Ion : 45.00
Area (flag) : 5611M
On-Column Amount (ng) : 47.0493
Integration start scan : 373 Integration stop scan: 457
Y at integration start : 344 Y at integration end: 344

Reason for manual integration: improper integration

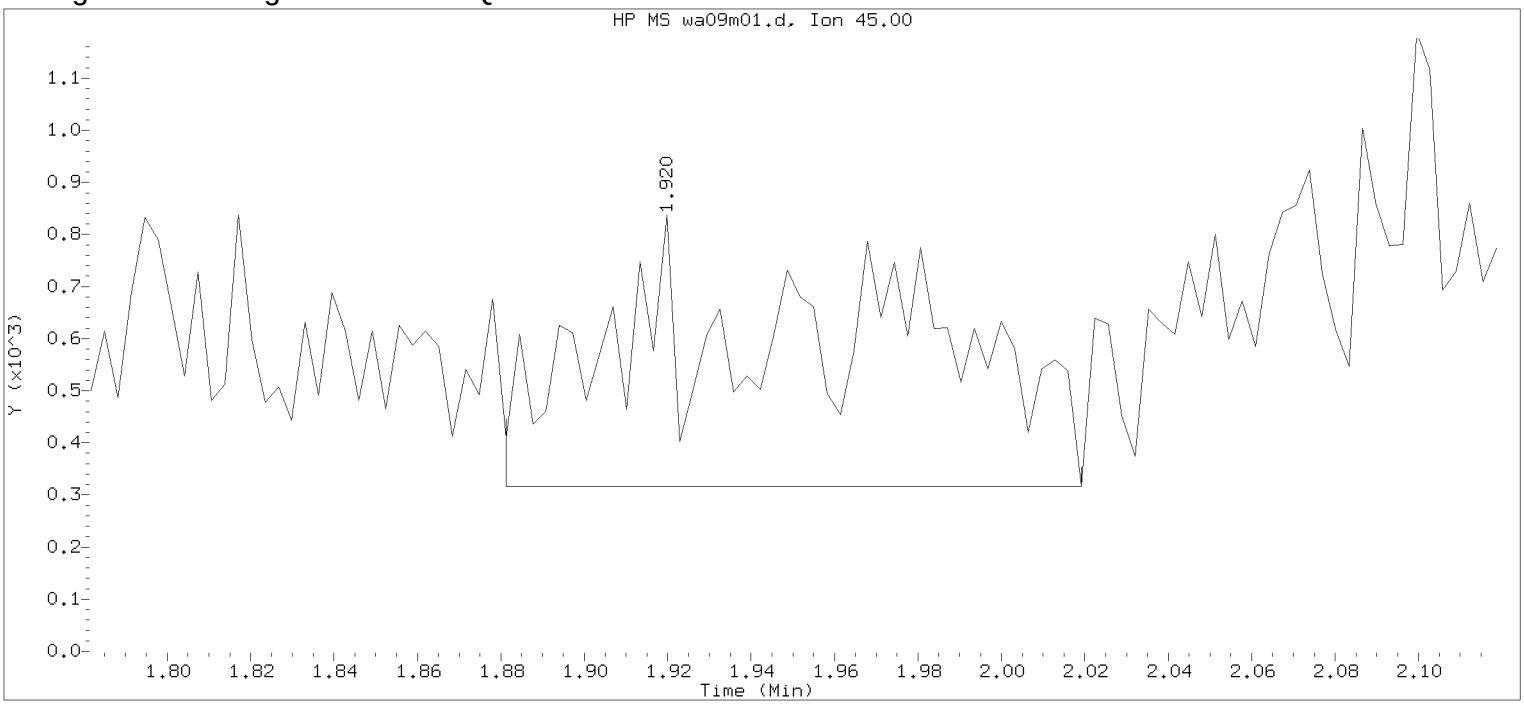
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 20:00.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09m01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 14:02 Analyst ID: nsl01327

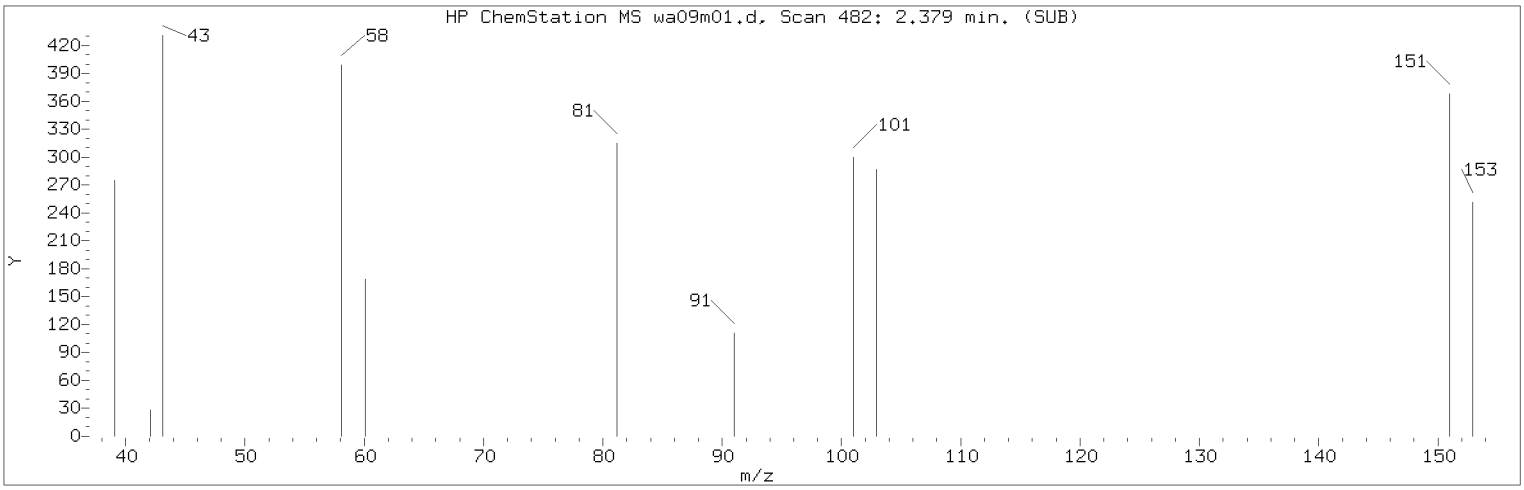
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 14:13
Date, time and analyst ID of latest file update: 09-Apr-2018 14:17 Automation

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

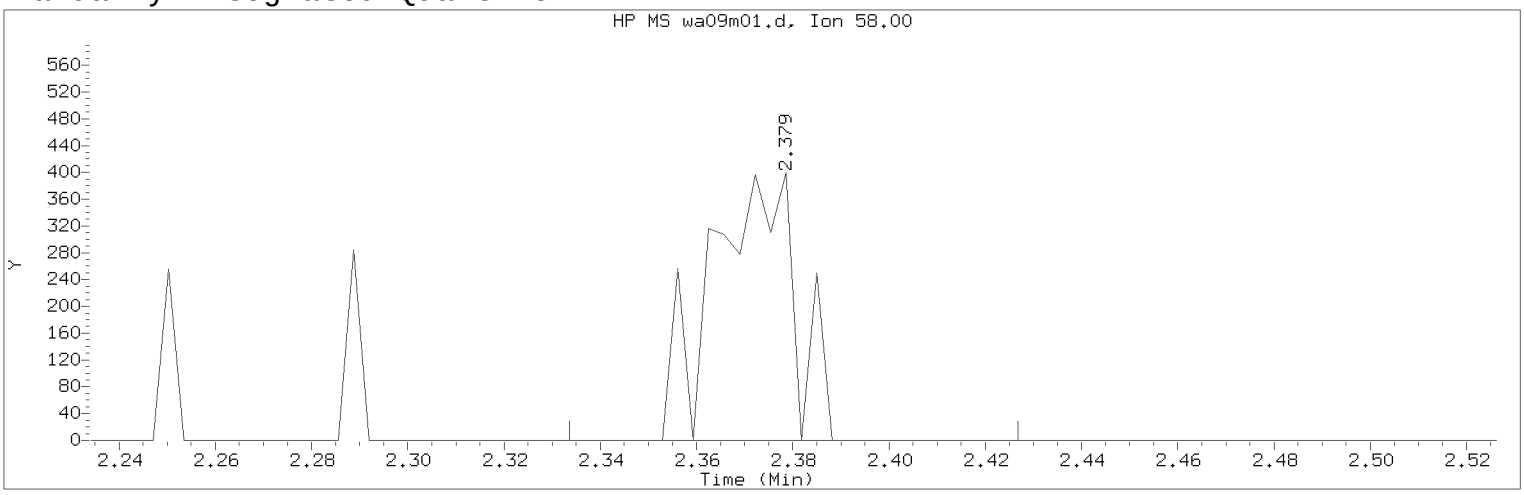
Compound Number : 13
Compound Name : Ethanol
Scan Number : 339
Retention Time (minutes): 1.920
Quant Ion : 45.00
Area : 2207
On-column Amount (ng) : 39.9750
Integration start scan : 326 Integration stop scan: 369
Y at integration start : 317 Y at integration end: 317

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09m01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 14:02 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:05
Date, time and analyst ID of latest file update: 09-Apr-2018 15:06 nsl01327

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

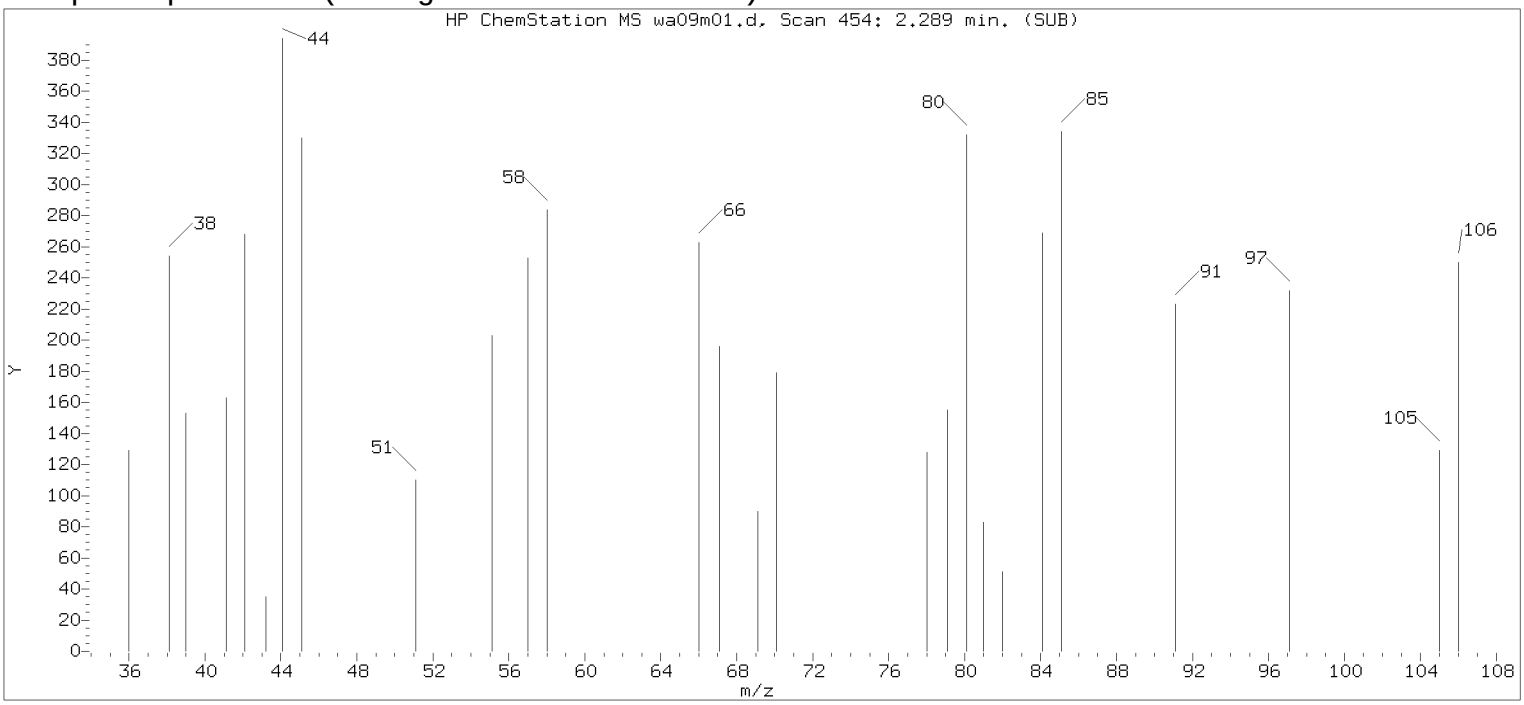
Compound Number : 18
Compound Name : Acetone
Scan Number : 482
Retention Time (minutes): 2.379
Quant Ion : 58.00
Area (flag) : 483M
On-Column Amount (ng) : 0.9981
Integration start scan : 467 Integration stop scan: 496
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

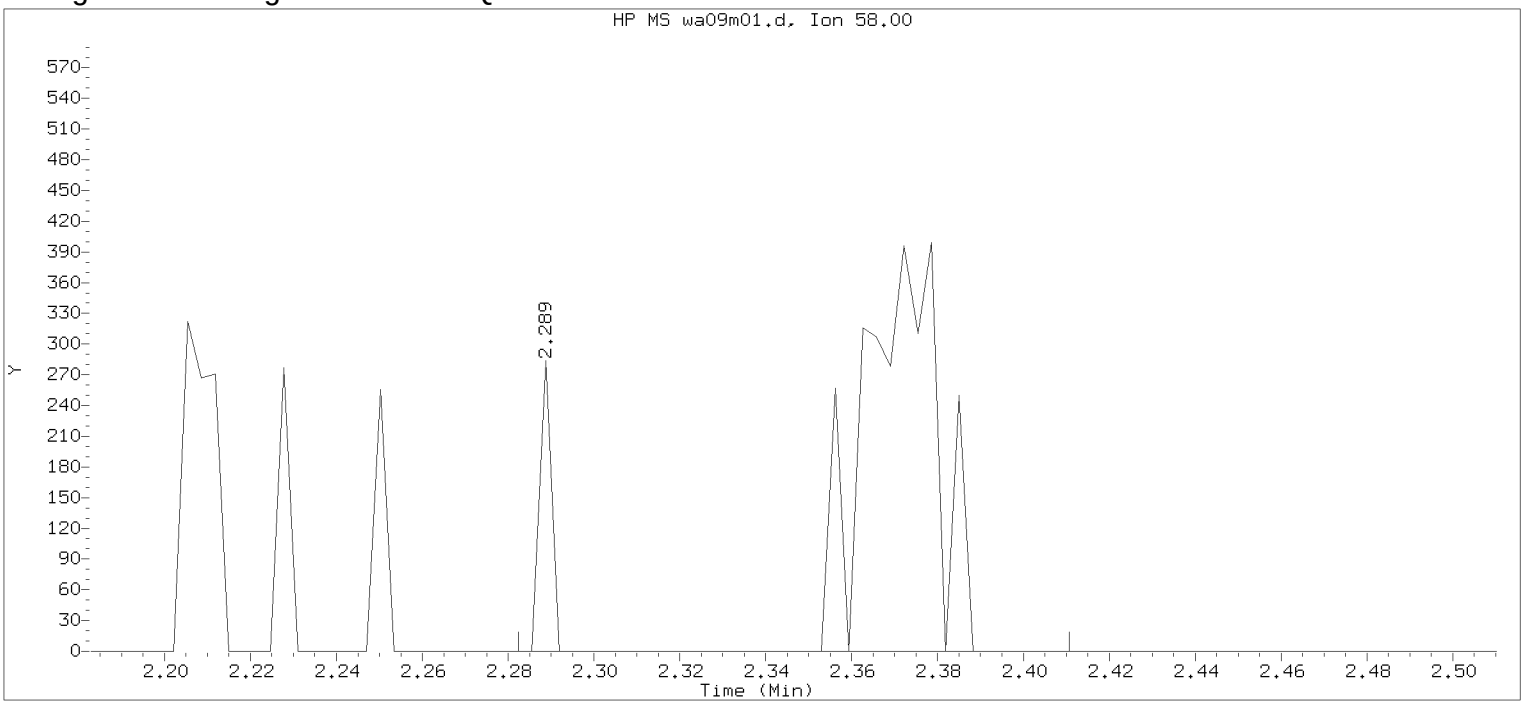
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 20:00.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09m01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 14:02 Analyst ID: nsl01327

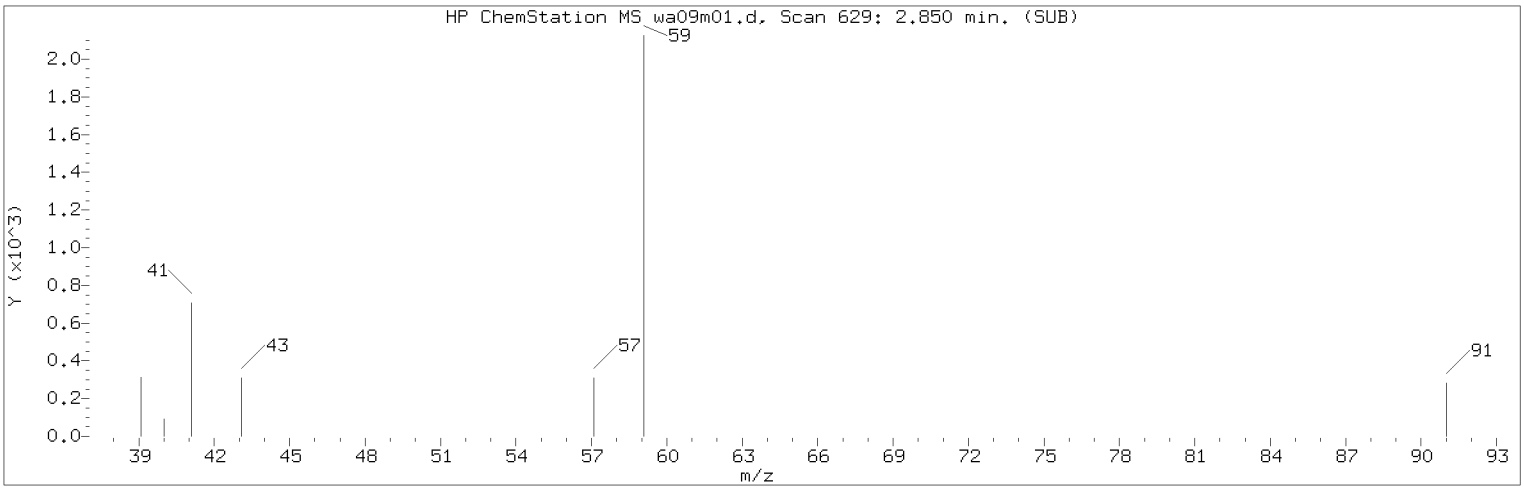
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 14:13
Date, time and analyst ID of latest file update: 09-Apr-2018 14:17 Automation

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

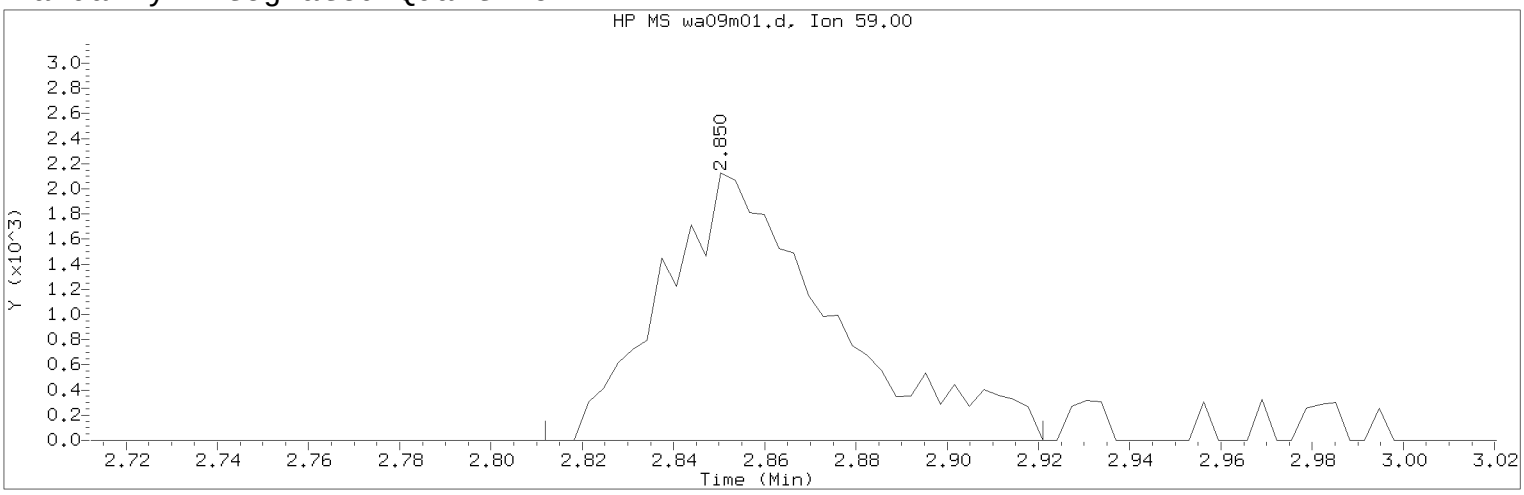
Compound Number : 18
Compound Name : Acetone
Scan Number : 454
Retention Time (minutes): 2.289
Quant Ion : 58.00
Area : 538
On-column Amount (ng) : 1.0925
Integration start scan : 451 Integration stop scan: 491
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09m01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 14:02 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:05
Date, time and analyst ID of latest file update: 09-Apr-2018 15:06 nsl01327

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

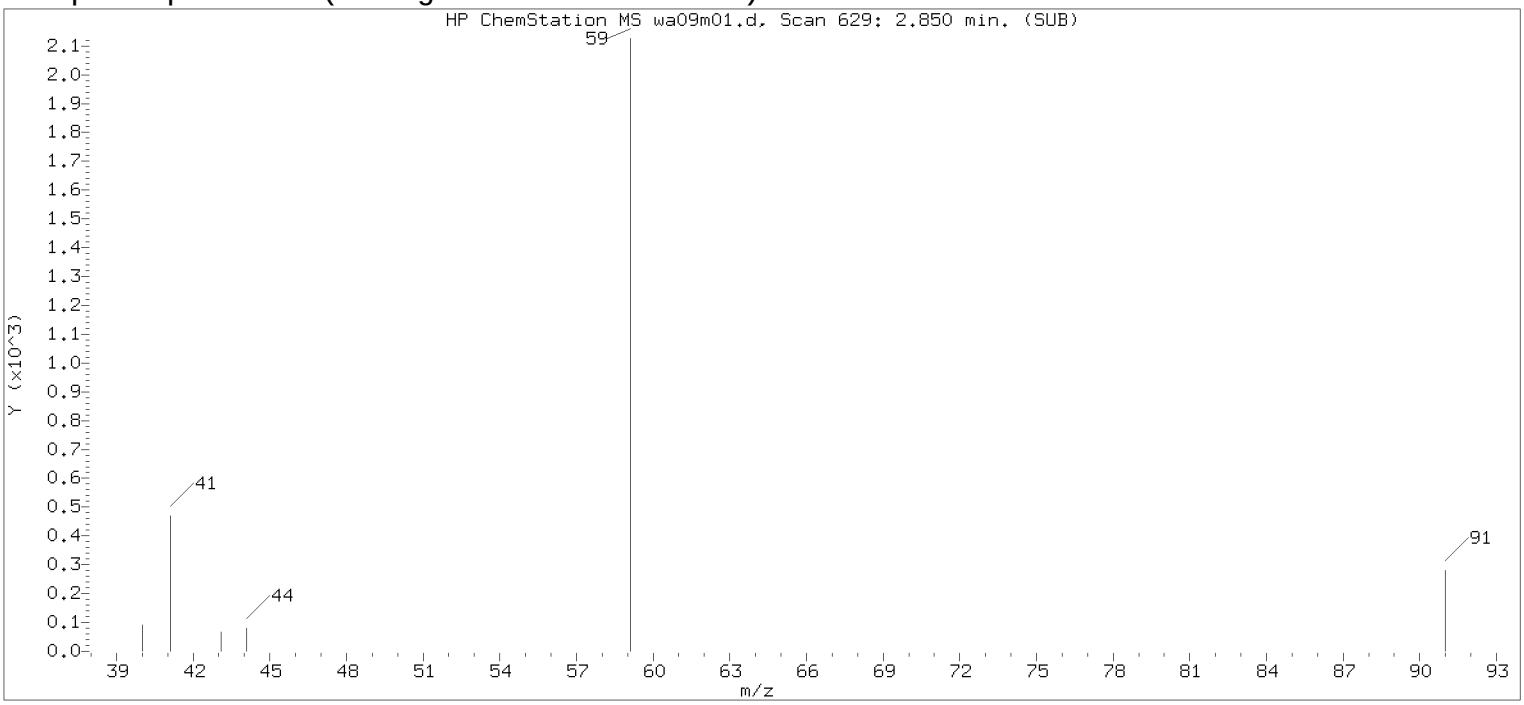
Compound Number : 30
Compound Name : t-Butyl alcohol
Scan Number : 629
Retention Time (minutes): 2.850
Quant Ion : 59.00
Area (flag) : 5436M
On-Column Amount (ng) : 8.9098
Integration start scan : 616 Integration stop scan: 650
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

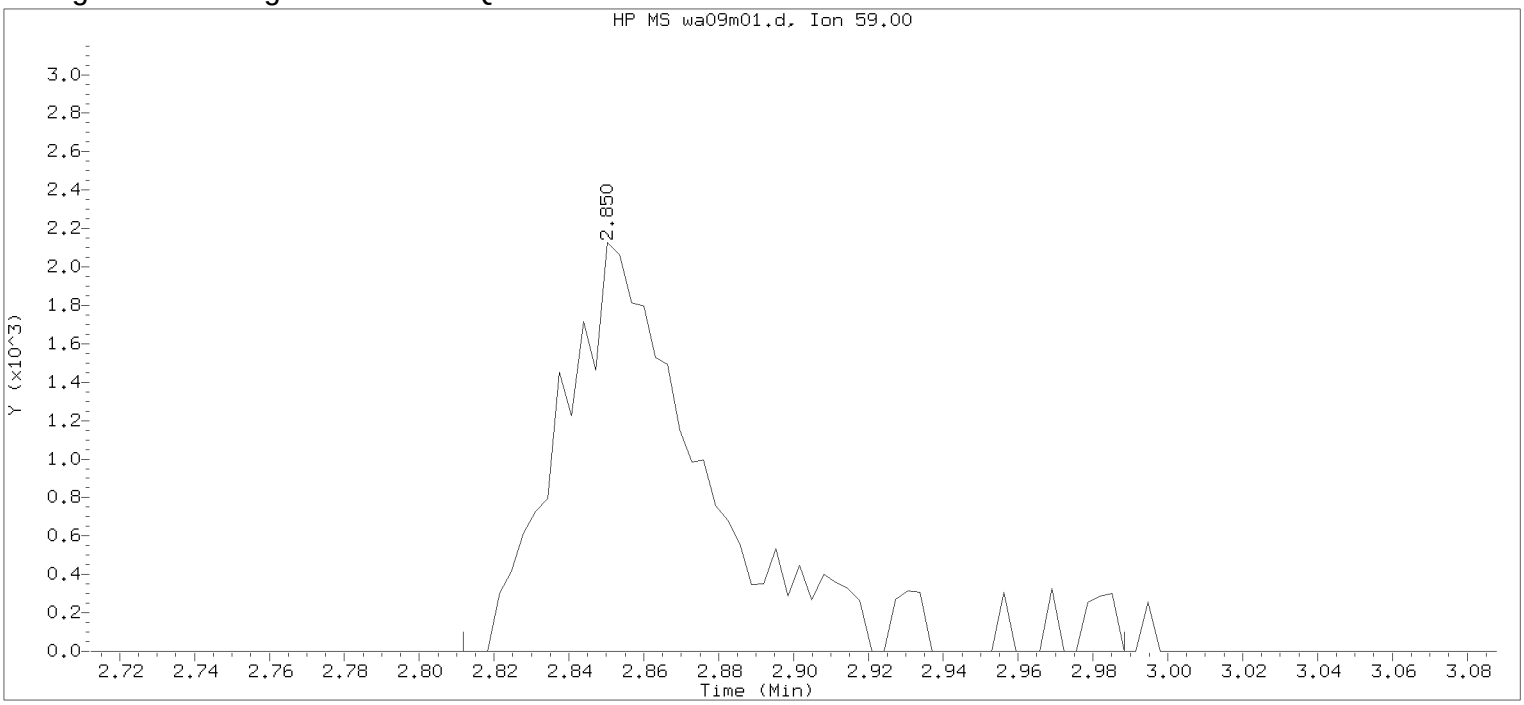
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 20:00.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09m01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 14:02 Analyst ID: nsl01327

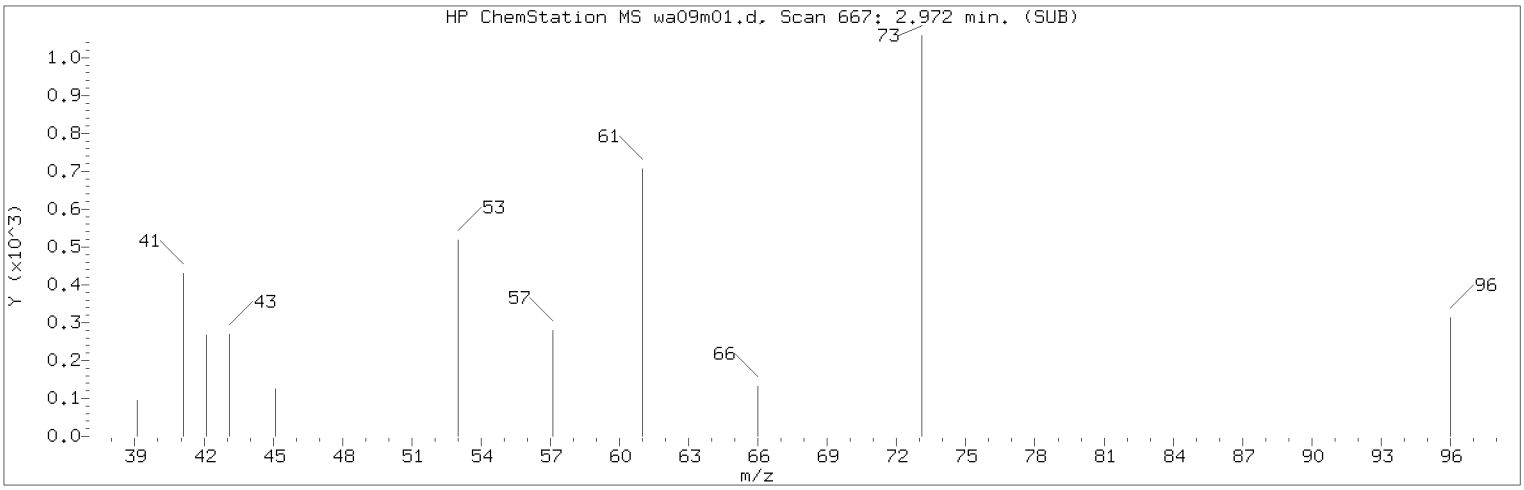
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 14:13
Date, time and analyst ID of latest file update: 09-Apr-2018 14:17 Automation

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

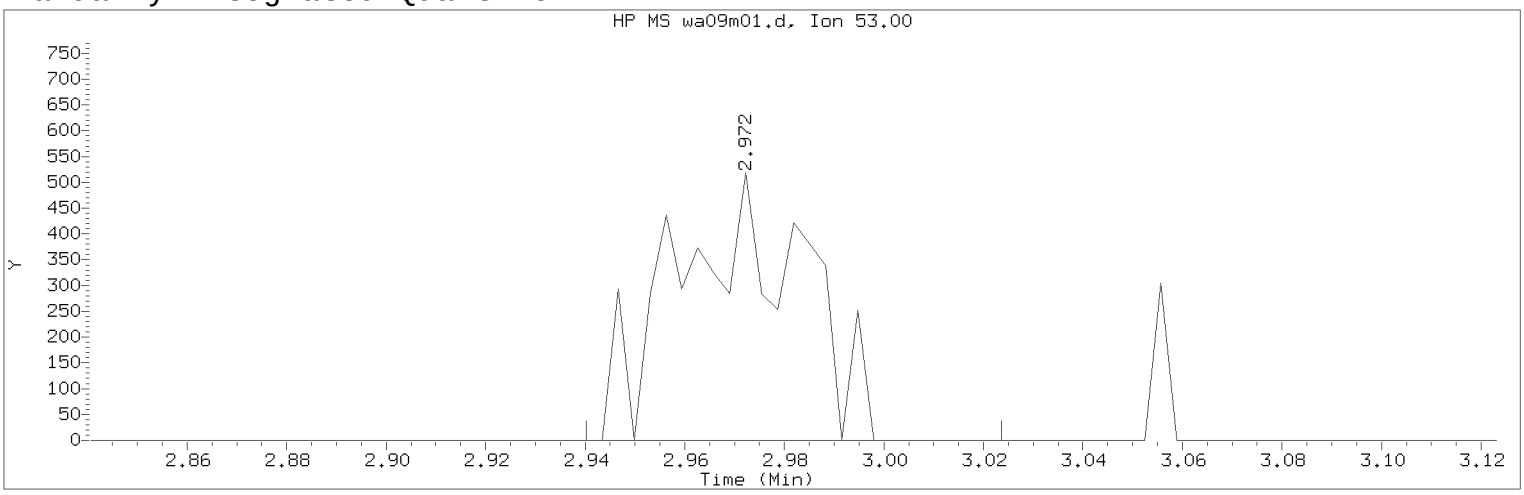
Compound Number : 30
Compound Name : t-Butyl alcohol
Scan Number : 629
Retention Time (minutes): 2.850
Quant Ion : 59.00
Area : 5892
On-column Amount (ng) : 9.5108
Integration start scan : 616 Integration stop scan: 671
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09m01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 14:02 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:05
Date, time and analyst ID of latest file update: 09-Apr-2018 15:06 nsl01327

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

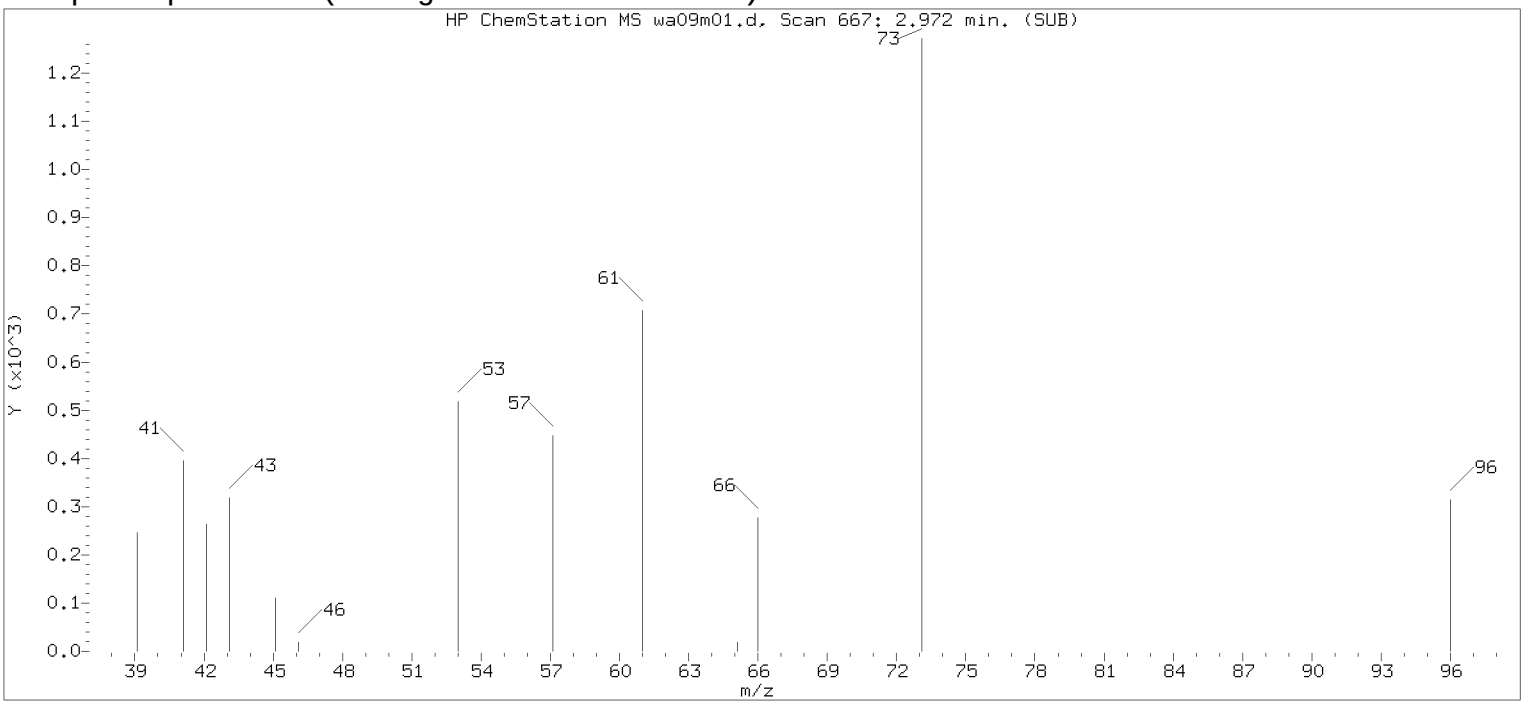
Compound Number : 31
Compound Name : Acrylonitrile
Scan Number : 667
Retention Time (minutes): 2.972
Quant Ion : 53.00
Area (flag) : 912M
On-Column Amount (ng) : 0.3421
Integration start scan : 656 Integration stop scan: 682
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

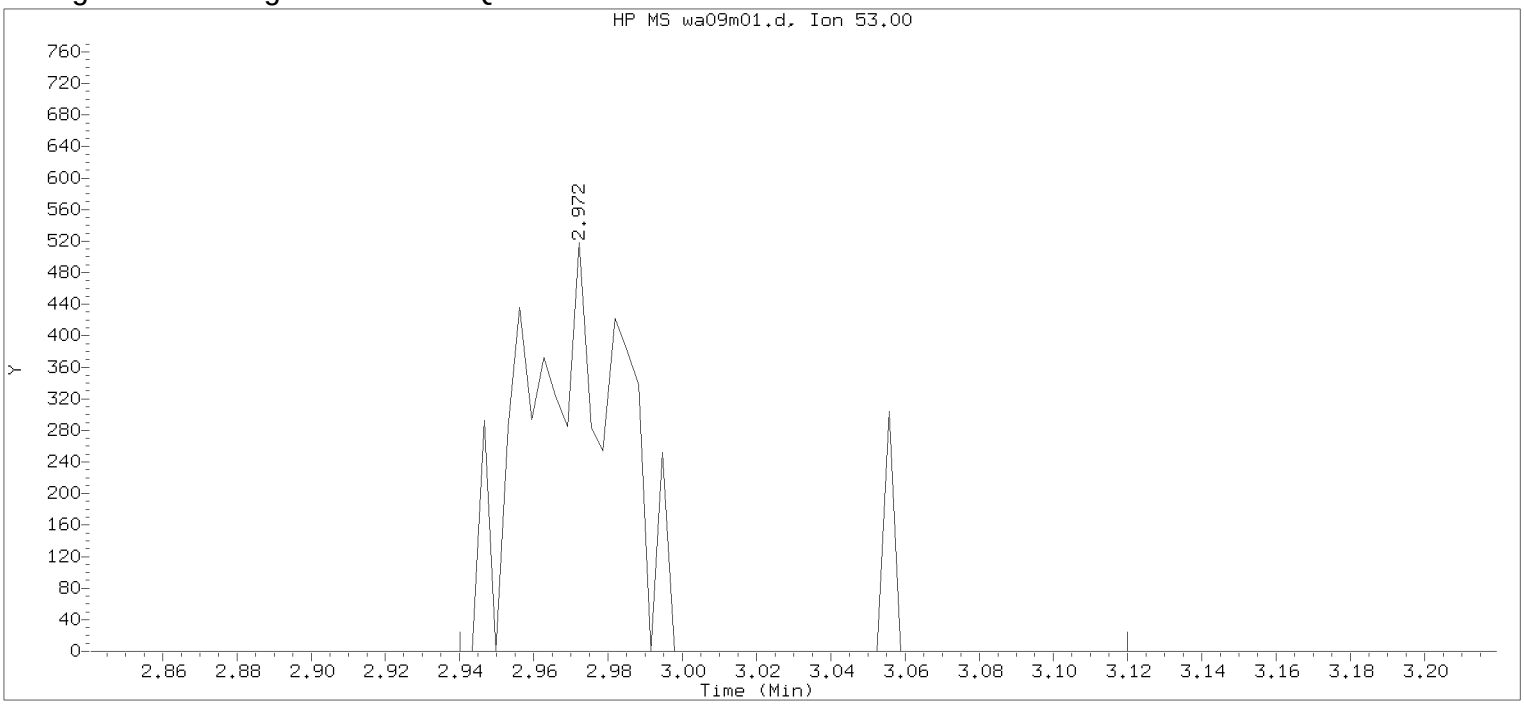
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 20:00.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09m01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 14:02 Analyst ID: nsl01327

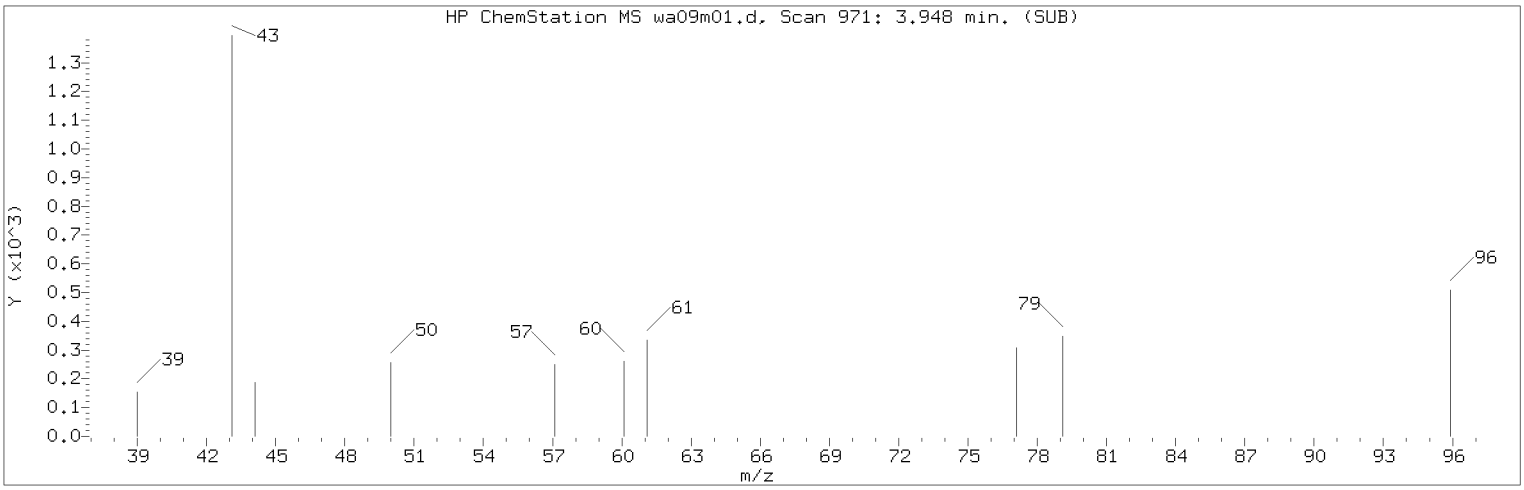
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 14:13
Date, time and analyst ID of latest file update: 09-Apr-2018 14:17 Automation

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

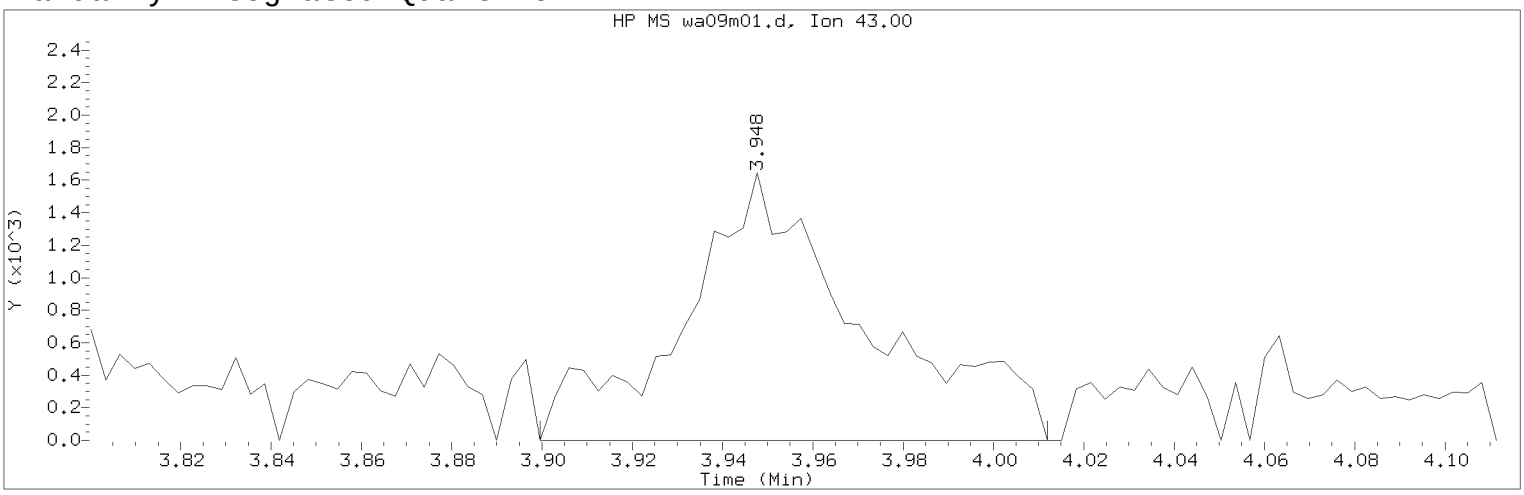
Compound Number : 31
Compound Name : Acrylonitrile
Scan Number : 667
Retention Time (minutes): 2.972
Quant Ion : 53.00
Area : 970
On-column Amount (ng) : 0.3786
Integration start scan : 656 Integration stop scan: 712
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09m01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 14:02 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:05
Date, time and analyst ID of latest file update: 09-Apr-2018 15:06 nsl01327

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

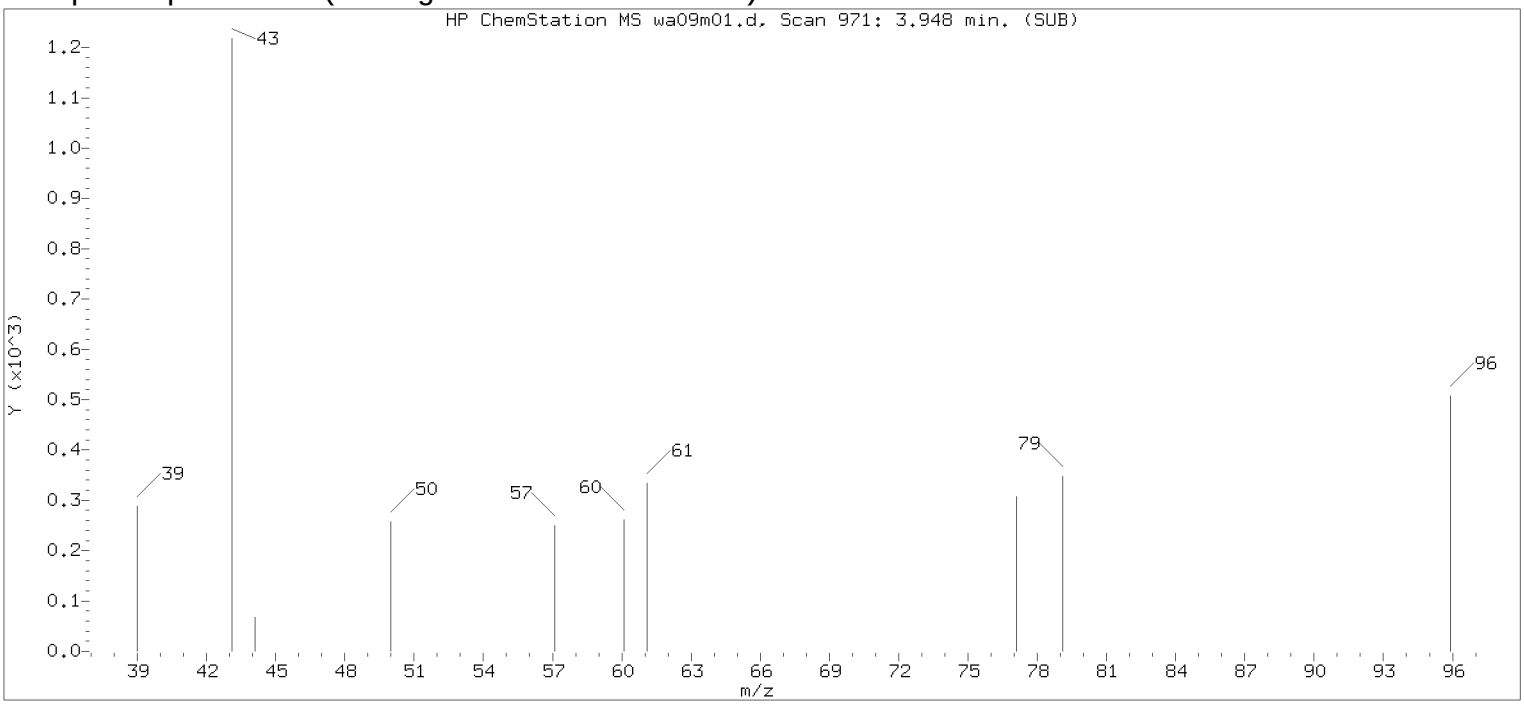
Compound Number : 44
Compound Name : 2-Butanone
Scan Number : 971
Retention Time (minutes): 3.948
Quant Ion : 43.00
Area (flag) : 4554M
On-Column Amount (ng) : 1.2257
Integration start scan : 955 Integration stop scan: 990
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

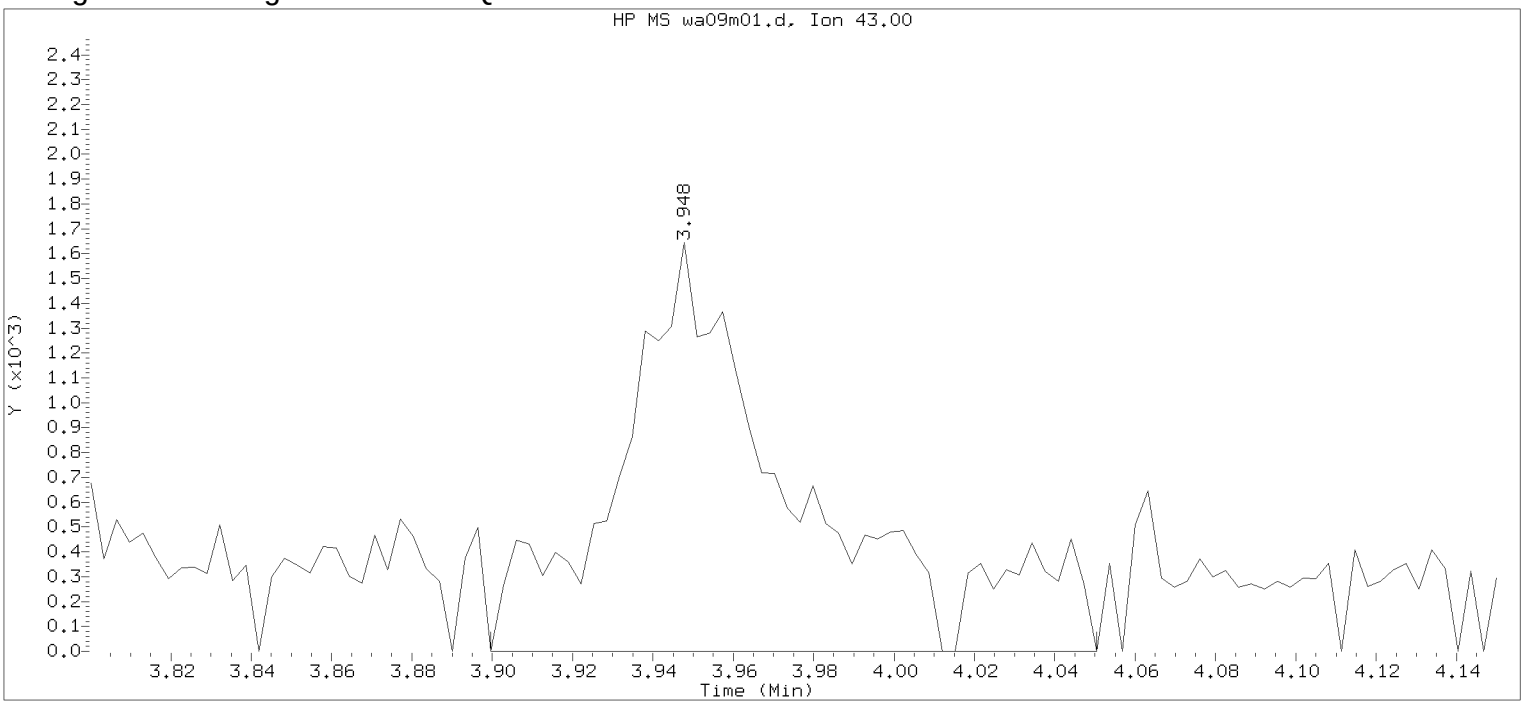
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 20:00.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09m01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 14:02 Analyst ID: nsl01327

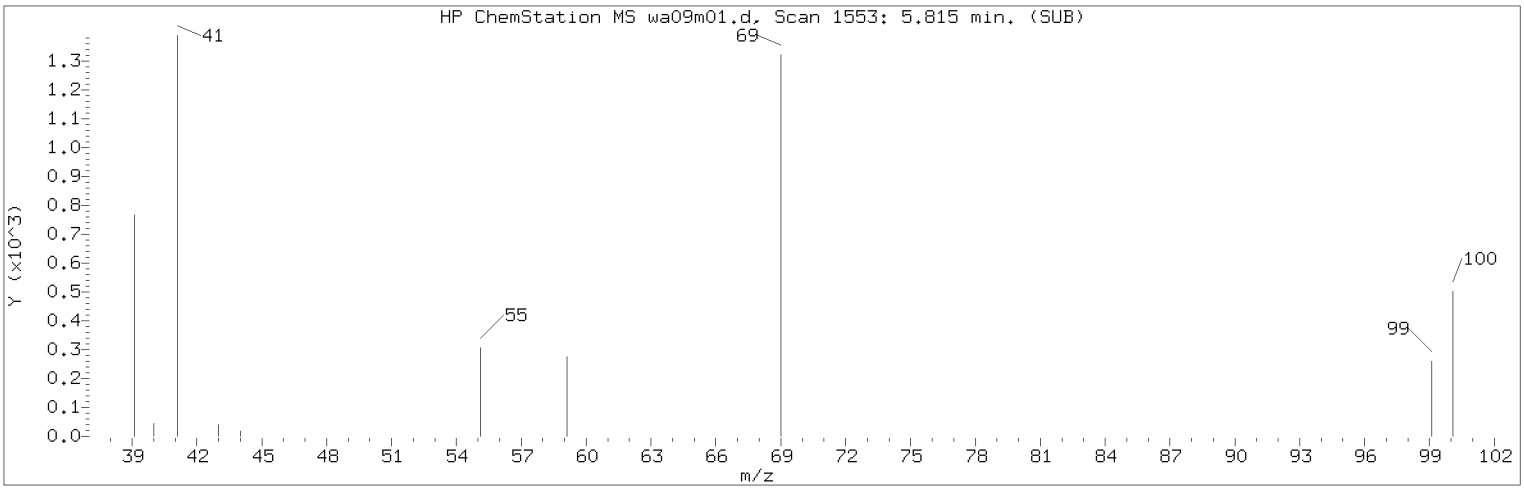
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 14:13
Date, time and analyst ID of latest file update: 09-Apr-2018 14:17 Automation

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

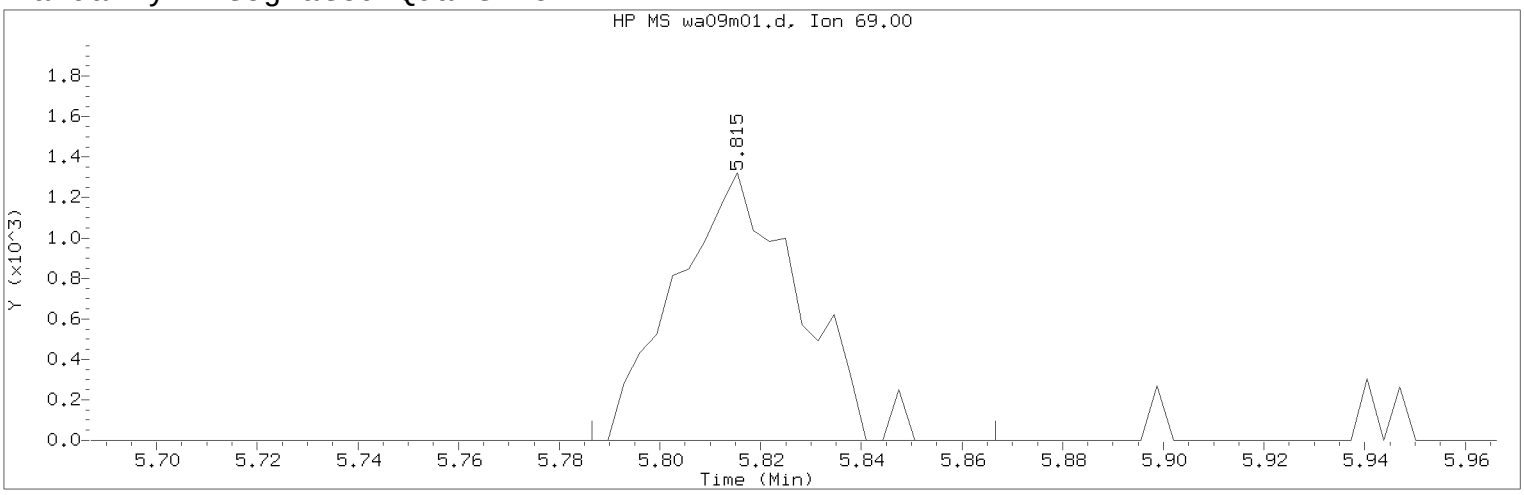
Compound Number : 44
Compound Name : 2-Butanone
Scan Number : 971
Retention Time (minutes): 3.948
Quant Ion : 43.00
Area : 5193
On-column Amount (ng) : 1.3978
Integration start scan : 955 Integration stop scan: 1002
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09m01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 14:02 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:05
Date, time and analyst ID of latest file update: 09-Apr-2018 15:06 nsl01327

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

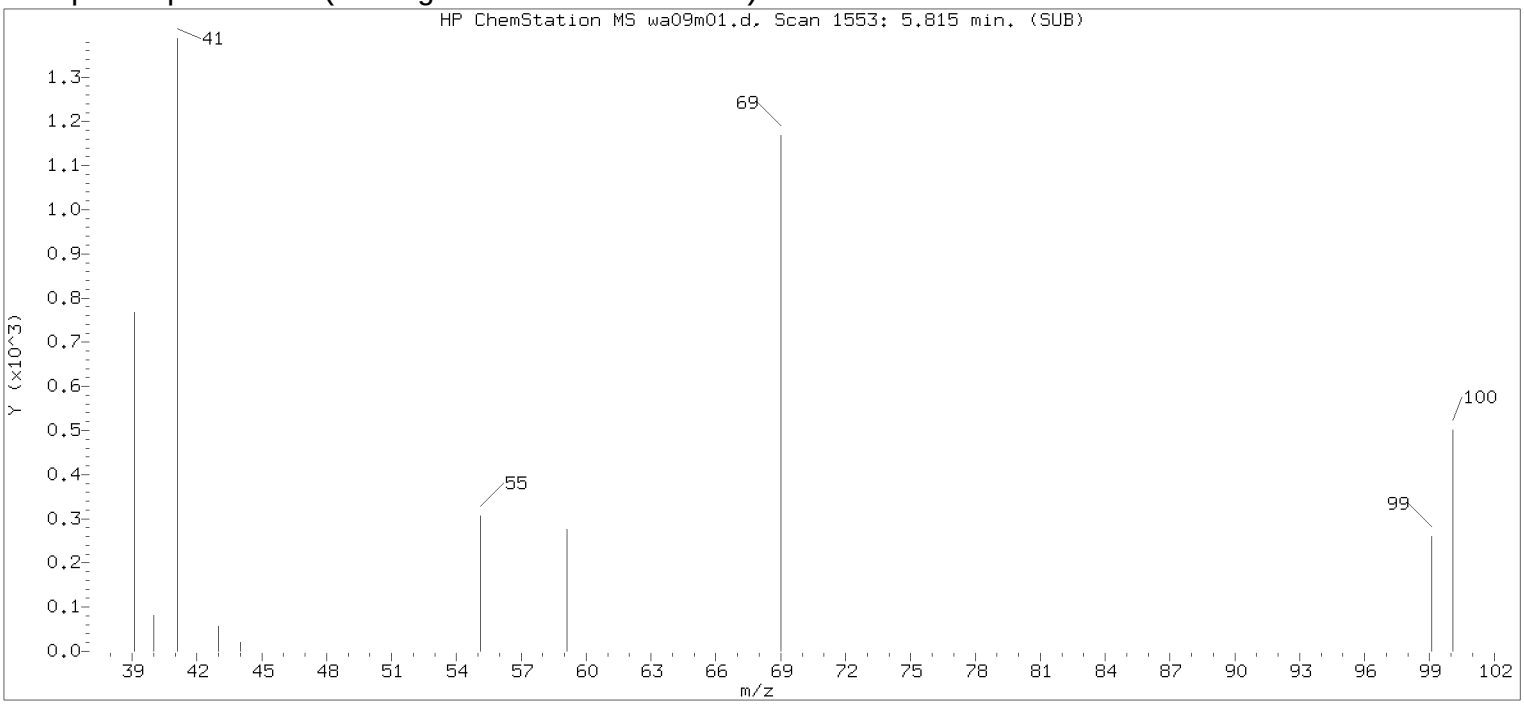
Compound Number : 76
Compound Name : Methyl Methacrylate
Scan Number : 1553
Retention Time (minutes): 5.815
Quant Ion : 69.00
Area (flag) : 2242M
On-Column Amount (ng) : 0.4039
Integration start scan : 1543 Integration stop scan: 1568
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

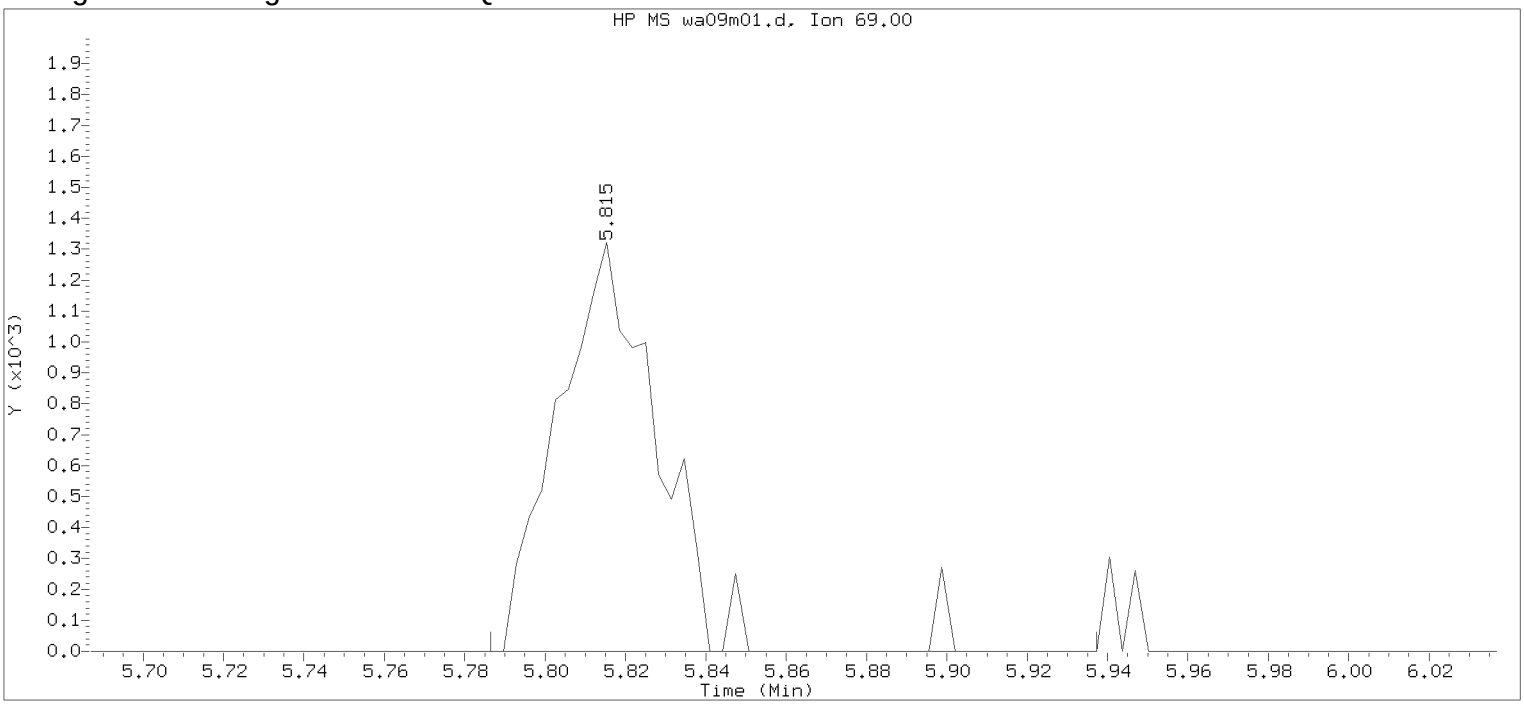
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 20:00.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



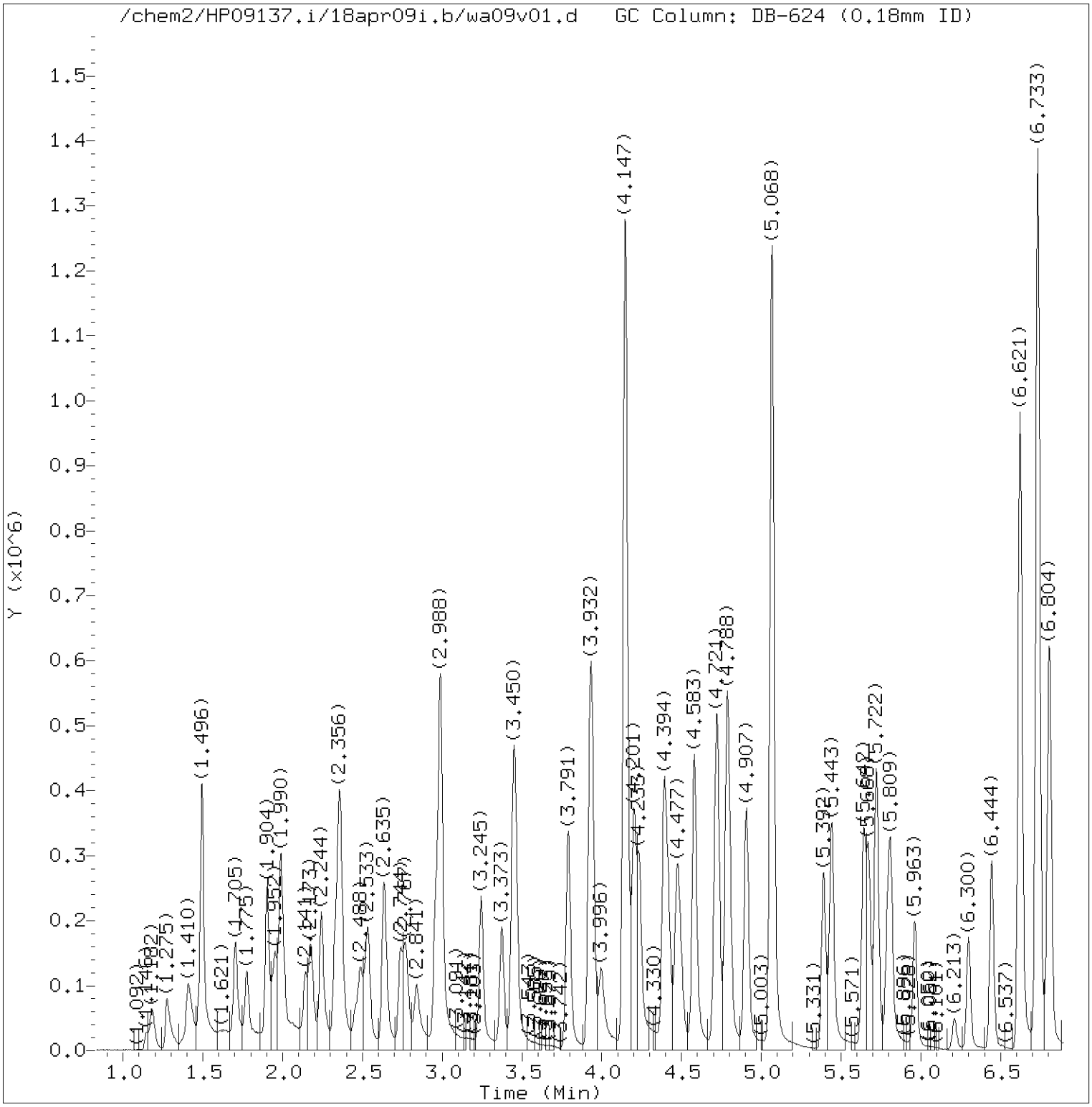
Data File: /chem2/HP09137.i/18apr09i.b/wa09m01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 14:02 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 14:13
Date, time and analyst ID of latest file update: 09-Apr-2018 14:17 Automation

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

Compound Number : 76
Compound Name : Methyl Methacrylate
Scan Number : 1553
Retention Time (minutes): 5.815
Quant Ion : 69.00
Area : 2294
On-column Amount (ng) : 0.4134
Integration start scan : 1543 Integration stop scan: 1590
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:07.
Target 3.5 esignature user id: 1327



Total Ion Chromatogram (TIC)

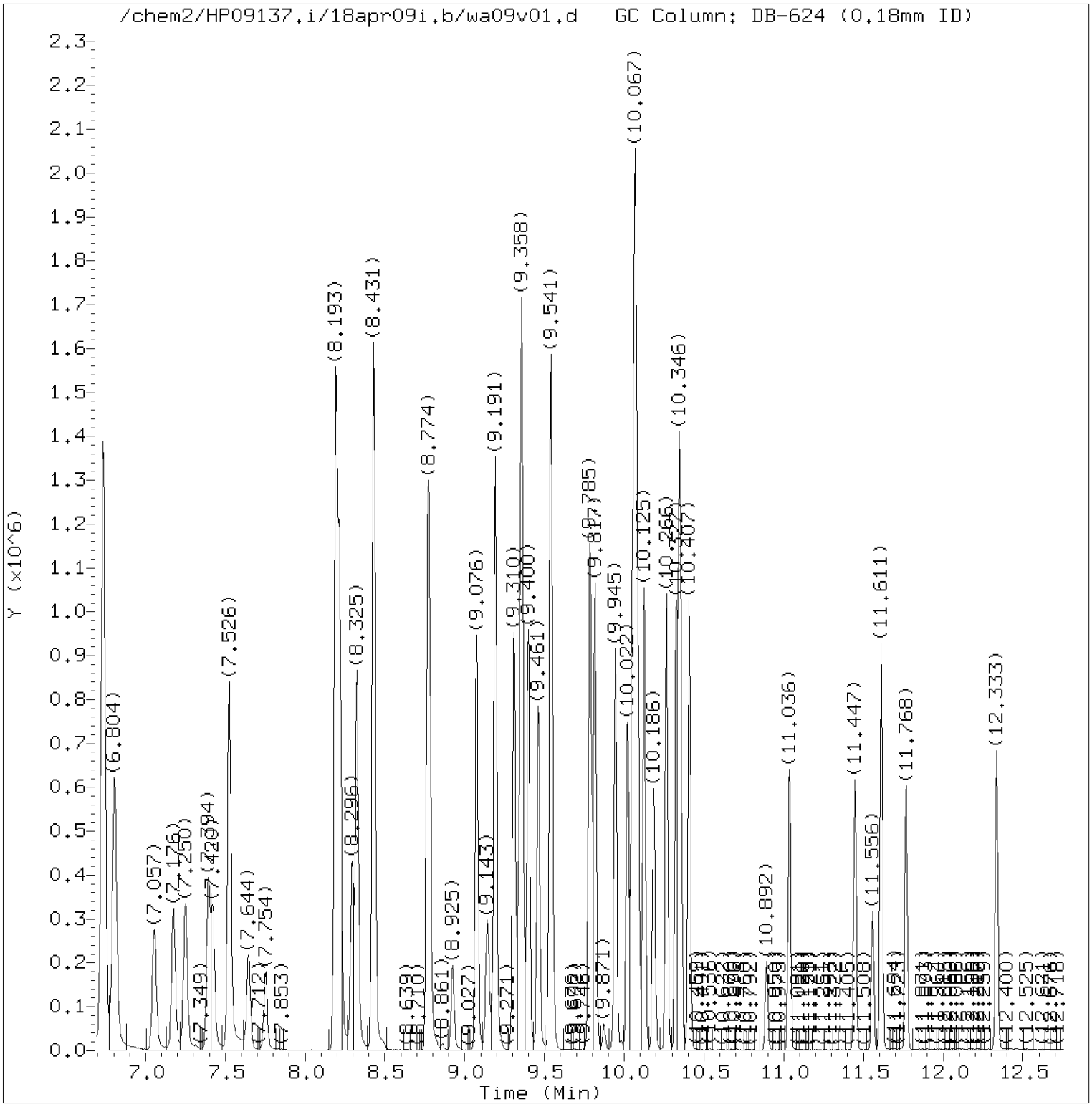
Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09v01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 14:26 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:05
Date, time and analyst ID of latest file update: 09-Apr-2018 15:05 nsl01327

Sample Name: LCSWICV Lab Sample ID: LCSWICV

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:09.
Target 3.5 esignature user ID: nsl01327



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09v01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 14:26 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:05
Date, time and analyst ID of latest file update: 09-Apr-2018 15:05 nsl01327

Sample Name: LCSWICV Lab Sample ID: LCSWICV

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:09.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09v01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 14:26 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:05
Date, time and analyst ID of latest file update: 09-Apr-2018 15:05 nsl01327

Sample Name: LCSWICV Lab Sample ID: LCSWICV

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
3) Dichlorodifluoromethane	(2)	1.275	85	126079	18.611
4) Chloromethane	(2)	1.410	50	140093	19.306
6) Vinyl Chloride	(2)	1.483	62	145549	19.846
5) 1,3-Butadiene	(2)	1.496	39	113259	21.075
8) Bromomethane	(2)	1.705	94	106449	19.981
9) Chloroethane	(2)	1.775	64	86946	19.859
10) Dichlorofluoromethane	(2)	1.904	67	211040	22.876
12) Trichlorofluoromethane	(2)	1.952	101	168733	20.692
11) n-Pentane	(2)	1.990	43	172616	19.940
13) Ethanol	(1)	2.061	45	28854M	507.521
15) Freon 123a	(2)	2.176	67	122924	20.410
16) Acrolein	(1)	2.244	56	180926M	136.615
17) 1,1-Dichloroethene	(2)	2.343	96	101135	22.271
19) Freon 113	(2)	2.353	101	98234	21.345
18) Acetone	(1)	2.366	58	78069	140.320
21) 2-Propanol	(1)	2.485	45	46635	121.224
22) Methyl Iodide	(2)	2.488	142	176756	20.043
23) Carbon Disulfide	(2)	2.536	76	305657	20.398
25) Allyl Chloride	(2)	2.632	41	150263	20.731
27) Methyl Acetate	(2)	2.648	43	91544	17.258
28) Methylene Chloride	(2)	2.738	84	106783	20.235
29)*t-Butyl alcohol-d10	(1)	2.767	65	163202	250.000
30) t-Butyl alcohol	(1)	2.841	59	137042	195.377
31) Acrylonitrile	(2)	2.959	53	216937	80.242
32) trans-1,2-Dichloroethene	(2)	2.985	96	109024	21.815
33) Methyl Tertiary Butyl Ether	(2)	2.991	73	329612	19.455
34) n-Hexane	(2)	3.245	57	113896	19.595
36) 1,1-Dichloroethane	(2)	3.373	63	178000	20.996
38) di-Isopropyl ether	(2)	3.444	45	312286	19.678
39) 2-Chloro-1,3-butadiene	(2)	3.463	53	152505	20.357
40) Ethyl t-butyl ether	(2)	3.791	59	304915	19.290
45) 2,2-Dichloropropane	(2)	3.922	77	98609	21.525
42) cis-1,2-Dichloroethene	(2)	3.925	96	122972	21.805
44) 2-Butanone	(2)	3.941	43	490772	130.241
47) Propionitrile	(1)	3.999	54	137684	157.016
43) 1,2-Dichloroethene (Total)	(2)		96	231996	43.620
48) Methacrylonitrile	(2)	4.147	67	460871	144.443
49) Bromochloromethane	(2)	4.153	128	58259	20.297

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

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:09.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09v01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 14:26 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:05
Date, time and analyst ID of latest file update: 09-Apr-2018 15:05 nsl01327

Sample Name: LCSWICV Lab Sample ID: LCSWICV

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50) Tetrahydrofuran	(1)	4.201	71	97084	103.540
51) Chloroform	(2)	4.237	83	179539	20.656
52)$Dibromofluoromethane	(2)	4.391	113	234624	49.531
53) 1,1,1-Trichloroethane	(2)	4.416	97	158595	20.503
54) Cyclohexane	(2)	4.477	56	160349	20.372
55) 1,1-Dichloropropene	(2)	4.583	75	143068	20.668
56) Carbon Tetrachloride	(2)	4.583	117	122011	20.828
58) Isobutyl Alcohol	(1)	4.708	41	107376	466.687
57)$1,2-Dichloroethane-d4	(2)	4.724	102	61224	49.225
60) Benzene	(2)	4.785	78	433728	20.840
61) 1,2-Dichloroethane	(2)	4.798	62	142431	19.627
65) t-Amyl methyl ether	(2)	4.907	73	319903	19.390
66)*Fluorobenzene	(2)	5.068	96	1039100	50.000
67) n-Heptane	(2)	5.071	43	103376	19.829
69) n-Butanol	(1)	5.389	56	223932	1034.343
71) Trichloroethene	(2)	5.440	95	113274	20.501
72) Methylcyclohexane	(2)	5.642	83	152297	20.501
73) 1,2-Dichloropropane	(2)	5.674	63	111651	21.186
74) Dibromomethane	(2)	5.790	93	72837	20.381
76) Methyl Methacrylate	(2)	5.812	69	106615	18.936
75) 1,4-Dioxane	(1)	5.825	88	33540M	567.171
78) Bromodichloromethane	(2)	5.963	83	137427	20.337
79) 2-Nitropropane	(2)	6.207	41	31920	17.062
80) 2-Chloroethyl Vinyl Ether	(2)	6.300	63	83092	19.357
81) cis-1,3-Dichloropropene	(2)	6.444	75	181252	20.343
82) 4-Methyl-2-pentanone	(2)	6.621	43	739209	95.151
83)$Toluene-d8	(3)	6.733	98	1033305	50.182
88) Toluene	(3)	6.807	92	292602	20.745
89) trans-1,3-Dichloropropene	(3)	7.057	75	167788	19.967
91) Ethyl Methacrylate	(3)	7.173	69	186758	19.199
92) 1,1,2-Trichloroethane	(3)	7.250	97	114871	20.721
90) 1,3-Dichloropropene (total)	(3)		100	349040	40.310
93) Tetrachloroethene	(3)	7.397	166	120058	20.918
94) 1,3-Dichloropropane	(3)	7.423	76	187684	20.482
96) 2-Hexanone	(3)	7.526	43	576925	93.184
97) Dibromochloromethane	(3)	7.644	129	114018	20.224
99) 1,2-Dibromoethane	(3)	7.754	107	123656	20.477
100)*Chlorobenzene-d5	(3)	8.193	117	803093	50.000

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

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:09.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09v01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 14:26 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:05
Date, time and analyst ID of latest file update: 09-Apr-2018 15:05 nsl01327

Sample Name: LCSWICV Lab Sample ID: LCSWICV

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
102) Chlorobenzene	(3)	8.219	112	330062	20.540
103) 1,1,1,2-Tetrachloroethane	(3)	8.296	131	105149	20.371
104) Ethylbenzene	(3)	8.325	91	545980	20.922
106) m+p-Xylene	(3)	8.431	106	443285	41.564
107) o-Xylene	(3)	8.768	106	218021	20.467
109) Styrene	(3)	8.780	104	379283	20.840
108) Xylene (Total)	(3)		106	661306	62.031
110) Bromoform	(3)	8.925	173	77806	19.231
111) Isopropylbenzene	(3)	9.076	105	528555	20.859
112) Cyclohexanone	(1)	9.143	55	126601	464.620
114)$4-Bromofluorobenzene	(3)	9.191	95	384866	49.485
115) Bromobenzene	(4)	9.307	156	144264	20.976
116) 1,1,2,2-Tetrachloroethane	(4)	9.313	83	180318	20.372
117) 1,2,3-Trichloropropane	(4)	9.345	110	57781	20.785
118) trans-1,4-Dichloro-2-butene	(4)	9.358	53	263378	108.252
119) n-Propylbenzene	(4)	9.400	91	610388	21.247
120) 2-Chlorotoluene	(4)	9.464	126	132351	20.936
122) 1,3,5-Trimethylbenzene	(4)	9.538	105	444654	20.832
121) 4-Chlorotoluene	(4)	9.547	126	139930	20.681
124) tert-Butylbenzene	(4)	9.782	134	96733	20.441
125) Pentachloroethane	(4)	9.794	167	73715	20.178
126) 1,2,4-Trimethylbenzene	(4)	9.817	105	462089	20.700
127) sec-Butylbenzene	(4)	9.945	105	506097	20.942
129) 1,3-Dichlorobenzene	(4)	10.022	146	261647	20.132
130) p-Isopropyltoluene	(4)	10.051	119	452034	20.794
131)*1,4-Dichlorobenzene-d4	(4)	10.067	152	420832	50.000
133) 1,4-Dichlorobenzene	(4)	10.086	146	276337	20.439
134) 1,2,3-Trimethylbenzene	(4)	10.125	105	477018	20.745
135) Benzyl Chloride	(4)	10.186	91	350668	19.592
136) 1,3-Diethylbenzene	(4)	10.266	119	259555	20.028
137) 1,4-Diethylbenzene	(4)	10.324	119	267747	19.932
139) n-Butylbenzene	(4)	10.343	92	203127	19.651
138) 1,2-Dichlorobenzene	(4)	10.353	146	262695	20.273
140) 1,2-Diethylbenzene	(4)	10.407	119	220255	19.799
141) Diethylbenzene (total)	(4)		100	747557	59.760
142) 1,2-Dibromo-3-chloropropane	(4)	10.892	75	36244	19.241
144) 1,3,5-Trichlorobenzene	(4)	11.036	180	157624	19.135
146) 1,2,4-Trichlorobenzene	(4)	11.447	180	149640	18.336

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

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:09.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr09i.b/wa09v01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 14:26 Analyst ID: nsl01327

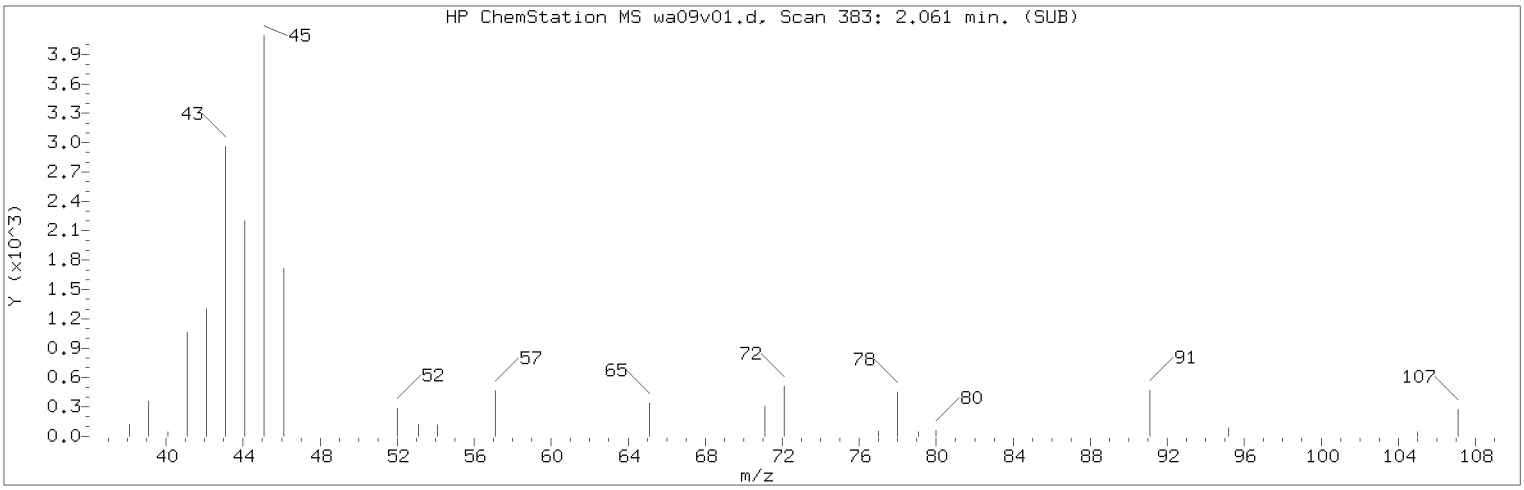
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:05
Date, time and analyst ID of latest file update: 09-Apr-2018 15:05 nsl01327

Sample Name: LCSWICV Lab Sample ID: LCSWICV

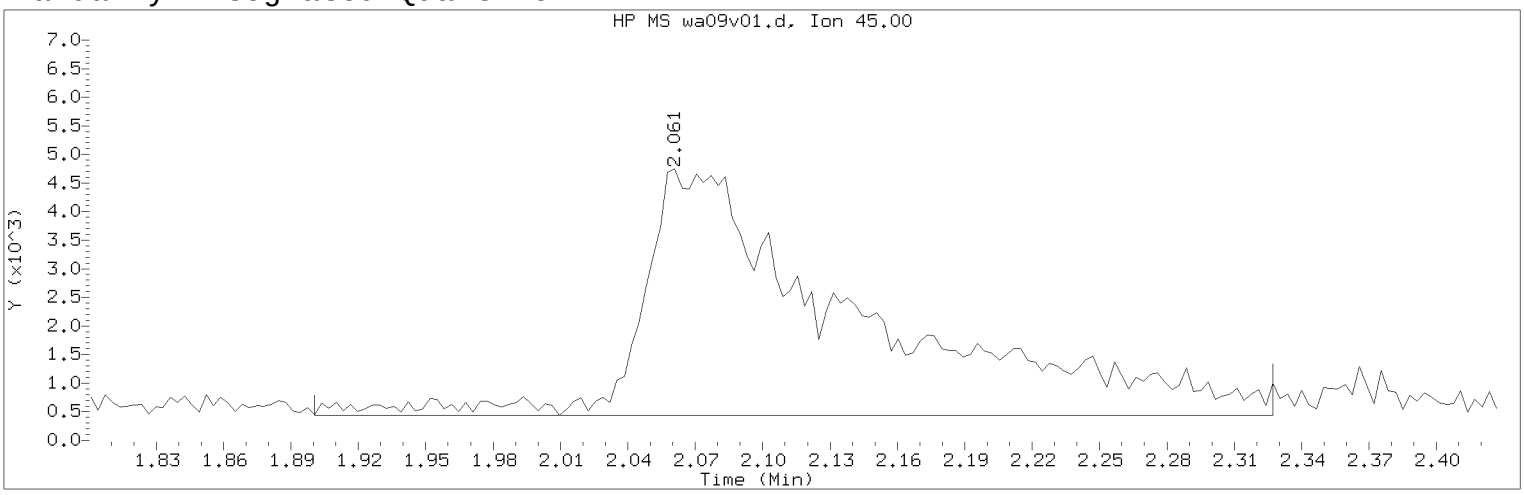
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
147) Hexachlorobutadiene	(4)	11.559	225	43211	17.866
148) Naphthalene	(4)	11.611	128	554460	18.724
149) 1,2,3-Trichlorobenzene	(4)	11.768	180	140647	18.156
150) 2-Methylnaphthalene	(4)	12.333	142	247339	15.869

Digitally signed by Nicole S. Lamoreaux
on 04/09/2018 at 15:09.
Target 3.5 esignature user ID: nsl01327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09v01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 14:26 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:05
Date, time and analyst ID of latest file update: 09-Apr-2018 15:05 nsl01327

Sample Name: LCSWICV Lab Sample ID: LCSWICV

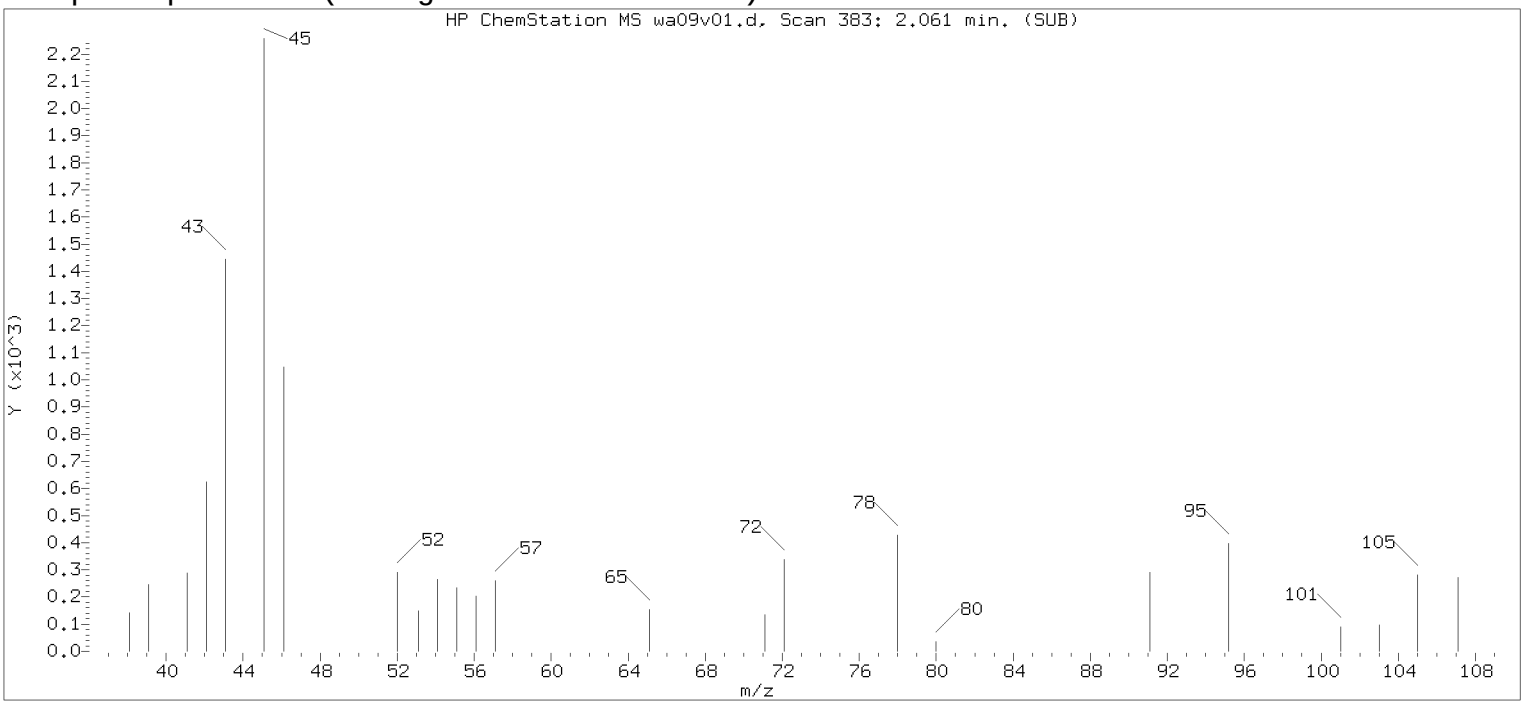
Compound Number : 13
Compound Name : Ethanol
Scan Number : 383
Retention Time (minutes): 2.061
Quant Ion : 45.00
Area (flag) : 28854M
On-Column Amount (ng) : 507.5205
Integration start scan : 332 Integration stop scan: 465
Y at integration start : 439 Y at integration end: 439

Reason for manual integration: improper integration

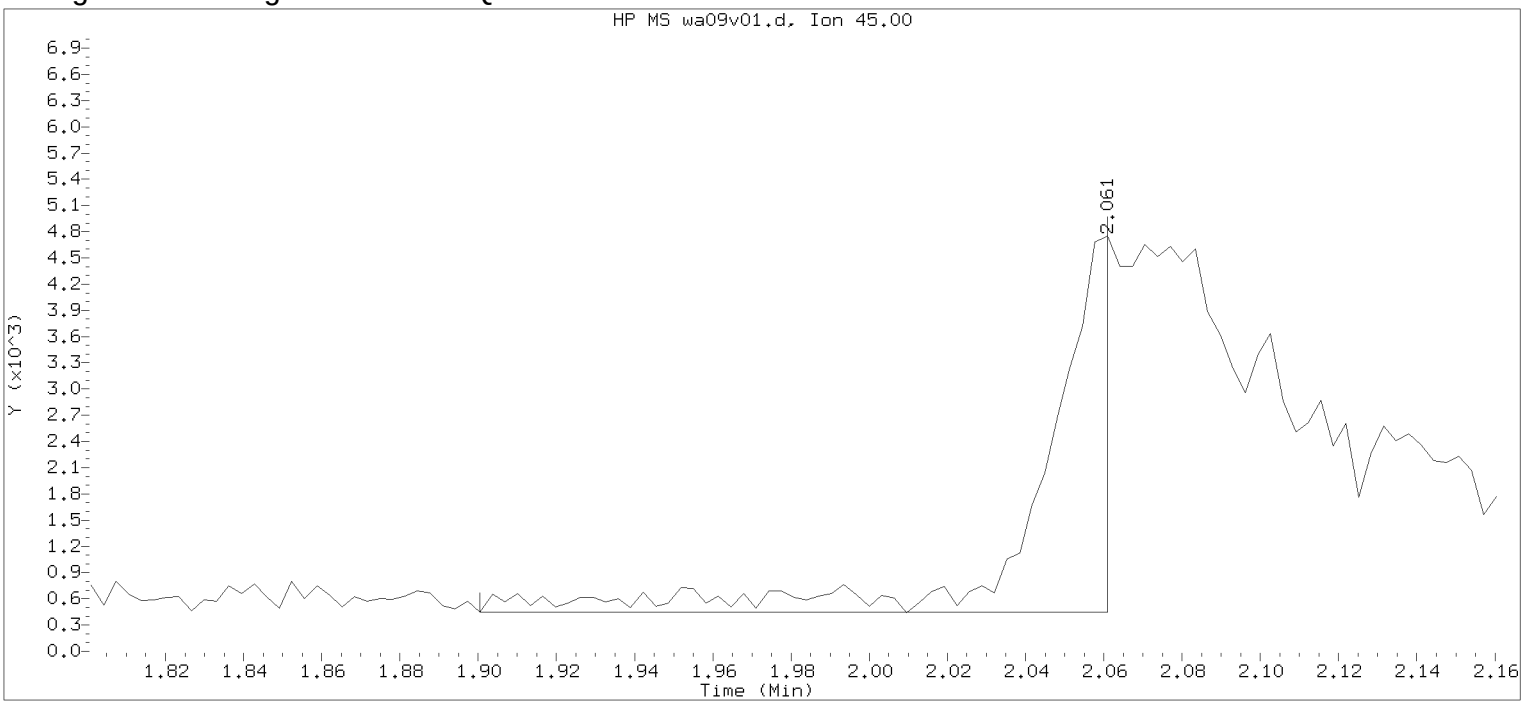
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:09.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 20:10.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09v01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 14:26 Analyst ID: nsl01327

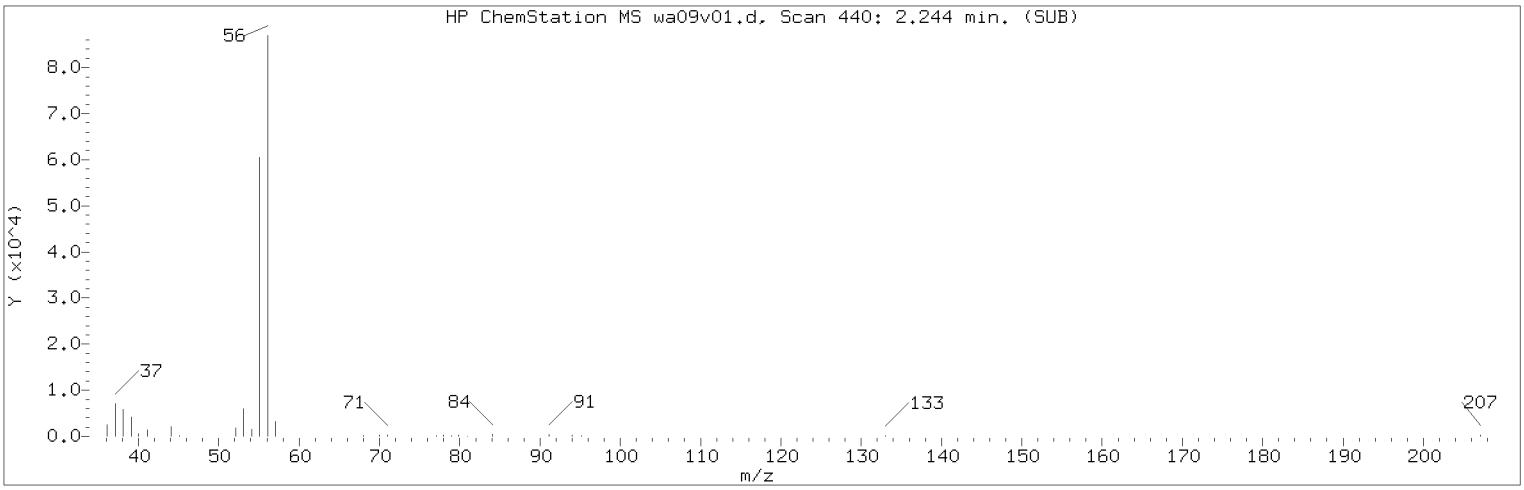
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 14:21
Date, time and analyst ID of latest file update: 09-Apr-2018 14:41 Automation

Sample Name: LCSWICV Lab Sample ID: LCSWICV

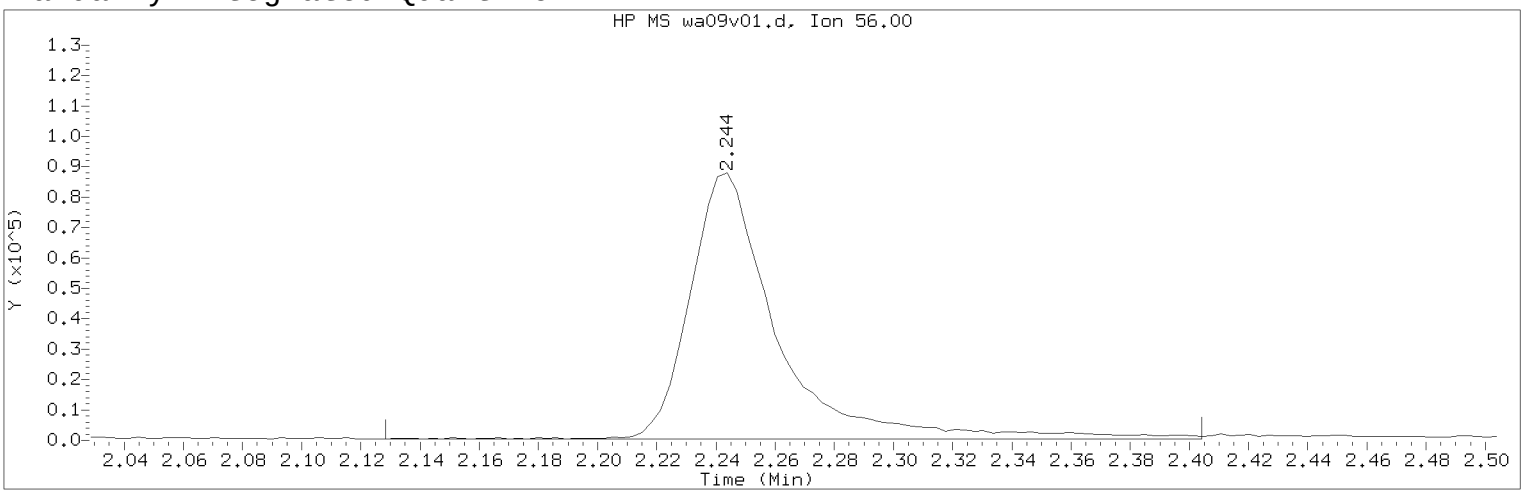
Compound Number : 13
Compound Name : Ethanol
Scan Number : 383
Retention Time (minutes): 2.061
Quant Ion : 45.00
Area : 4879
On-column Amount (ng) : 2.1372
Integration start scan : 332 Integration stop scan: 382
Y at integration start : 451 Y at integration end: 451

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:09.
Target 3.5 esignature user id: 1327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09v01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 14:26 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:05
Date, time and analyst ID of latest file update: 09-Apr-2018 15:05 nsl01327

Sample Name: LCSWICV Lab Sample ID: LCSWICV

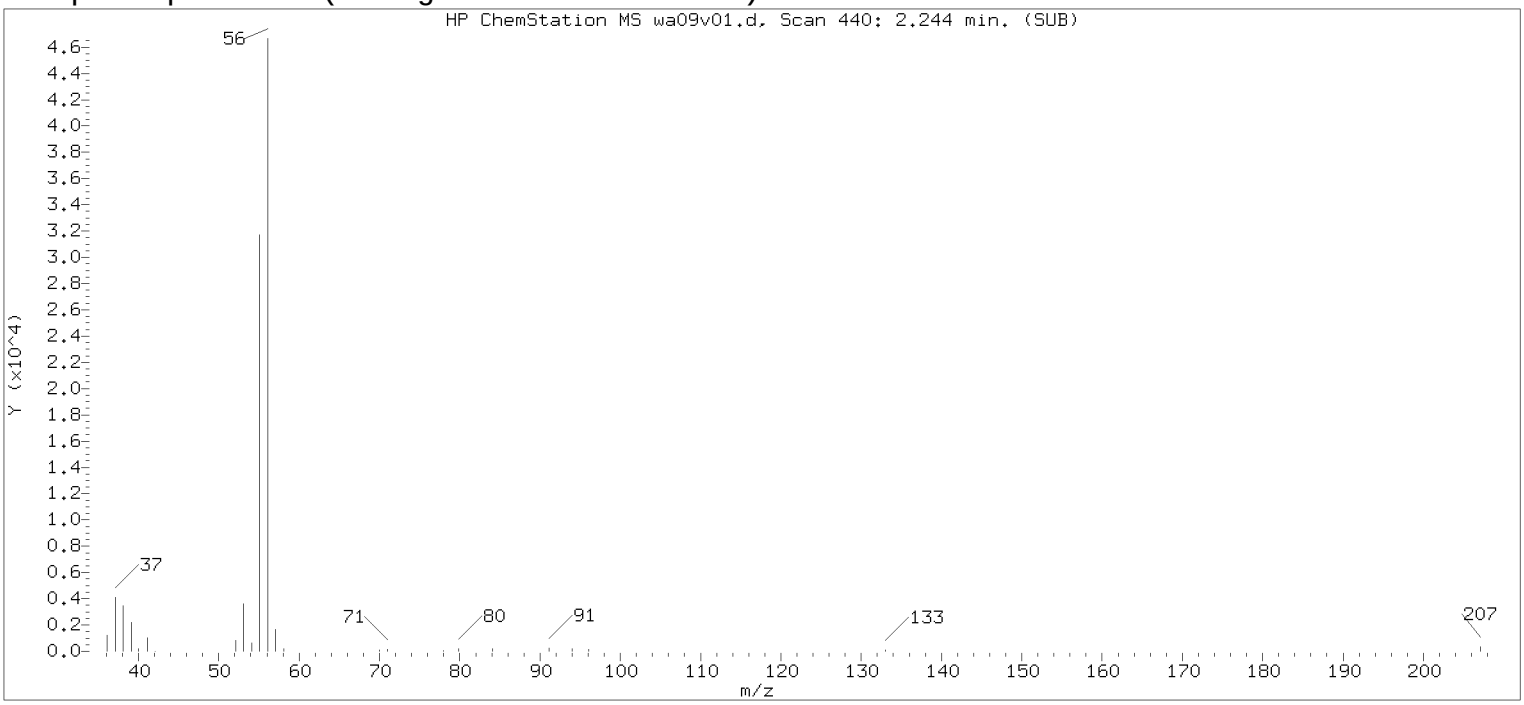
Compound Number : 16
Compound Name : Acrolein
Scan Number : 440
Retention Time (minutes): 2.244
Quant Ion : 56.00
Area (flag) : 180926M
On-Column Amount (ng) : 136.6153
Integration start scan : 403 Integration stop scan: 489
Y at integration start : 403 Y at integration end: 403

Reason for manual integration: improper integration

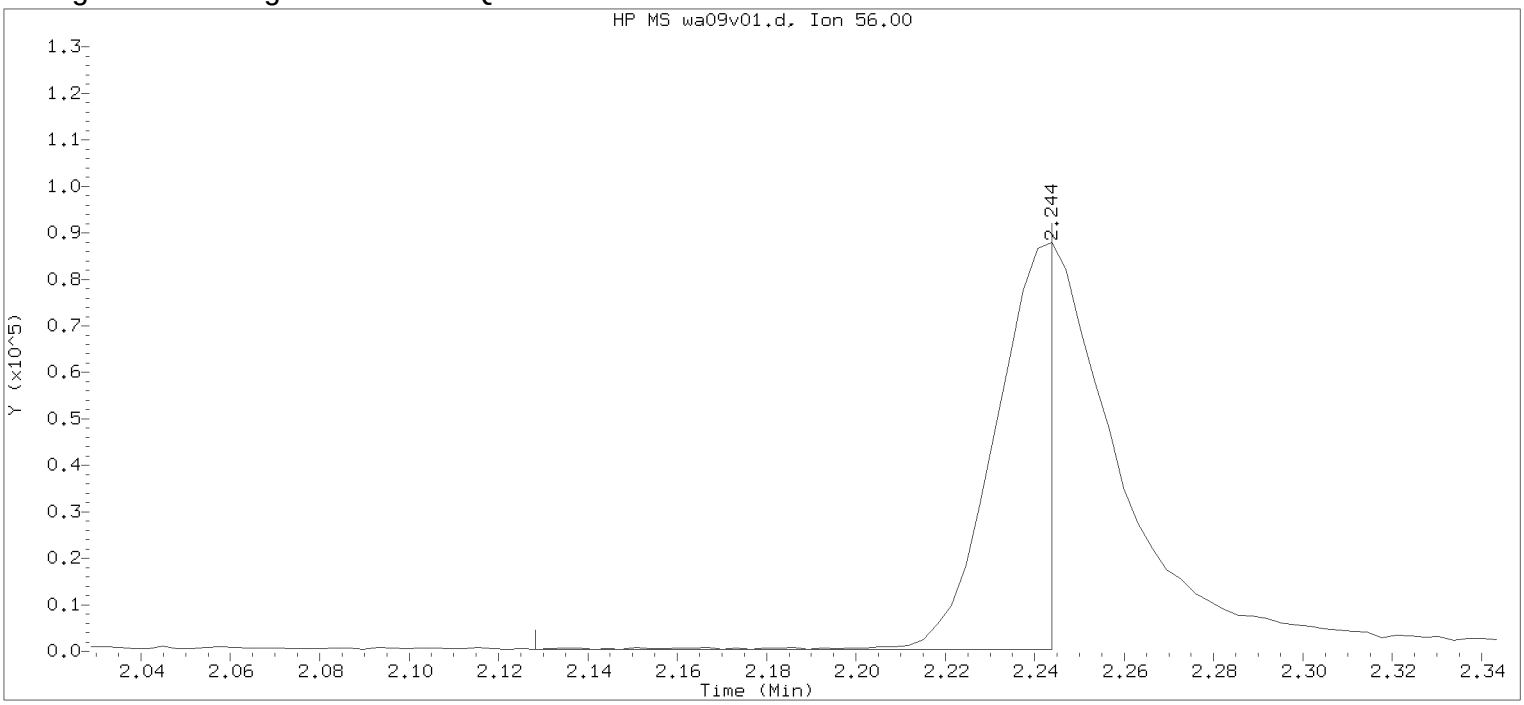
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:09.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 20:10.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09v01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 14:26 Analyst ID: nsl01327

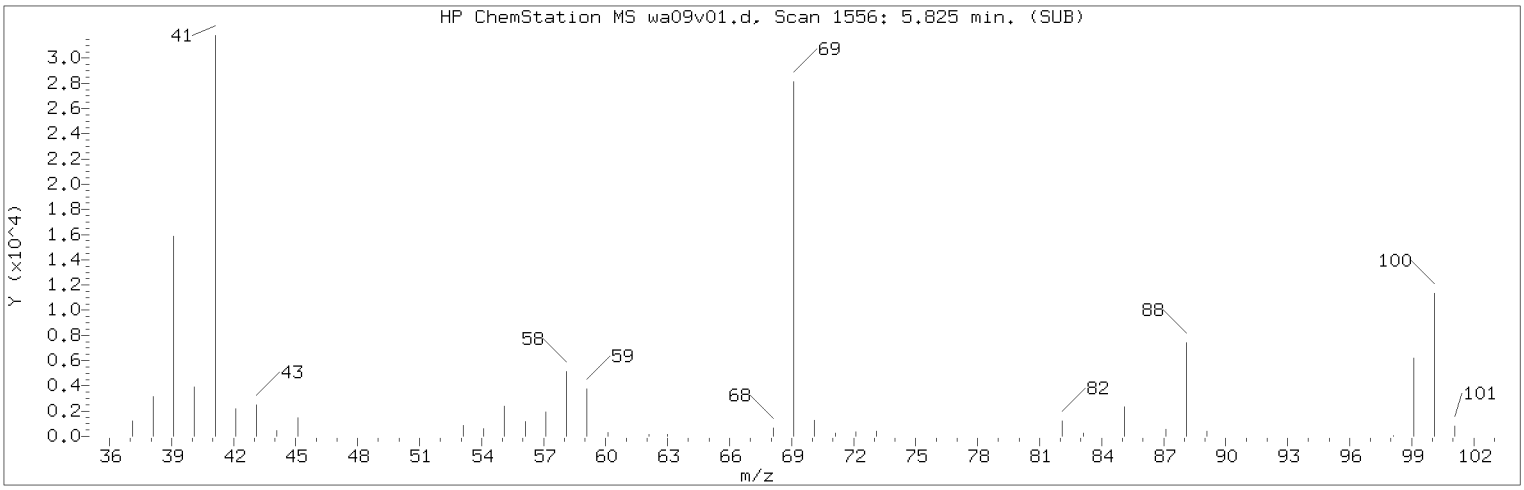
Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 14:21
Date, time and analyst ID of latest file update: 09-Apr-2018 14:41 Automation

Sample Name: LCSWICV Lab Sample ID: LCSWICV

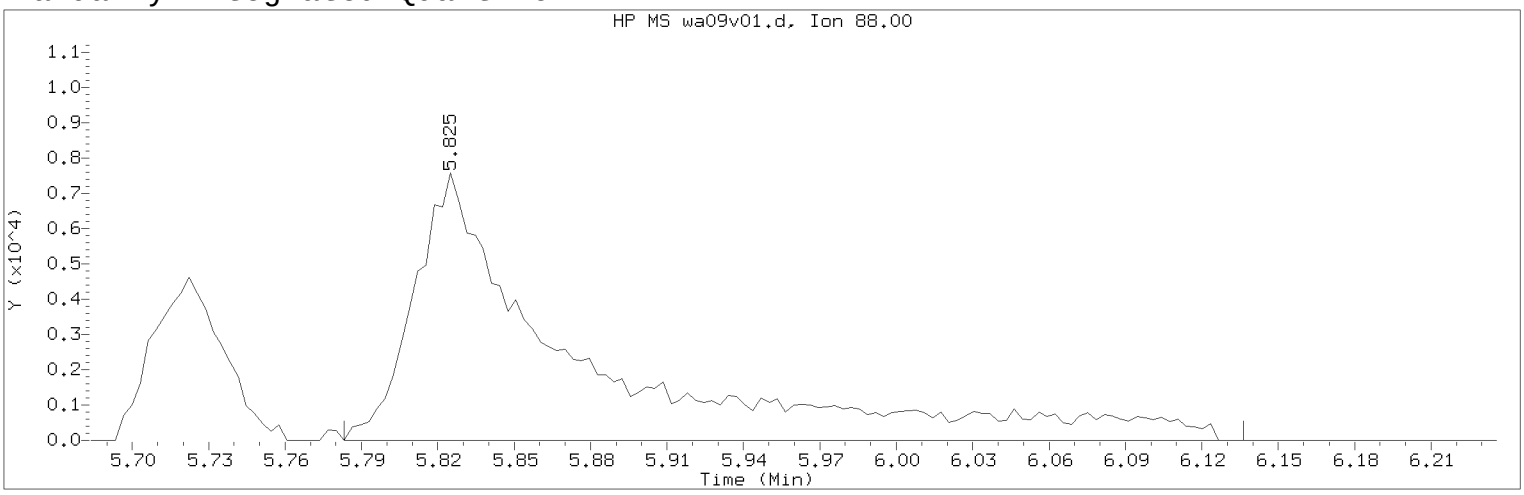
Compound Number : 16
Compound Name : Acrolein
Scan Number : 440
Retention Time (minutes): 2.244
Quant Ion : 56.00
Area : 74759
On-column Amount (ng) : 56.4496
Integration start scan : 403 Integration stop scan: 439
Y at integration start : 423 Y at integration end: 423

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:09.
Target 3.5 esignature user id: 1327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09v01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 14:26 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 15:05
Date, time and analyst ID of latest file update: 09-Apr-2018 15:05 nsl01327

Sample Name: LCSWICV Lab Sample ID: LCSWICV

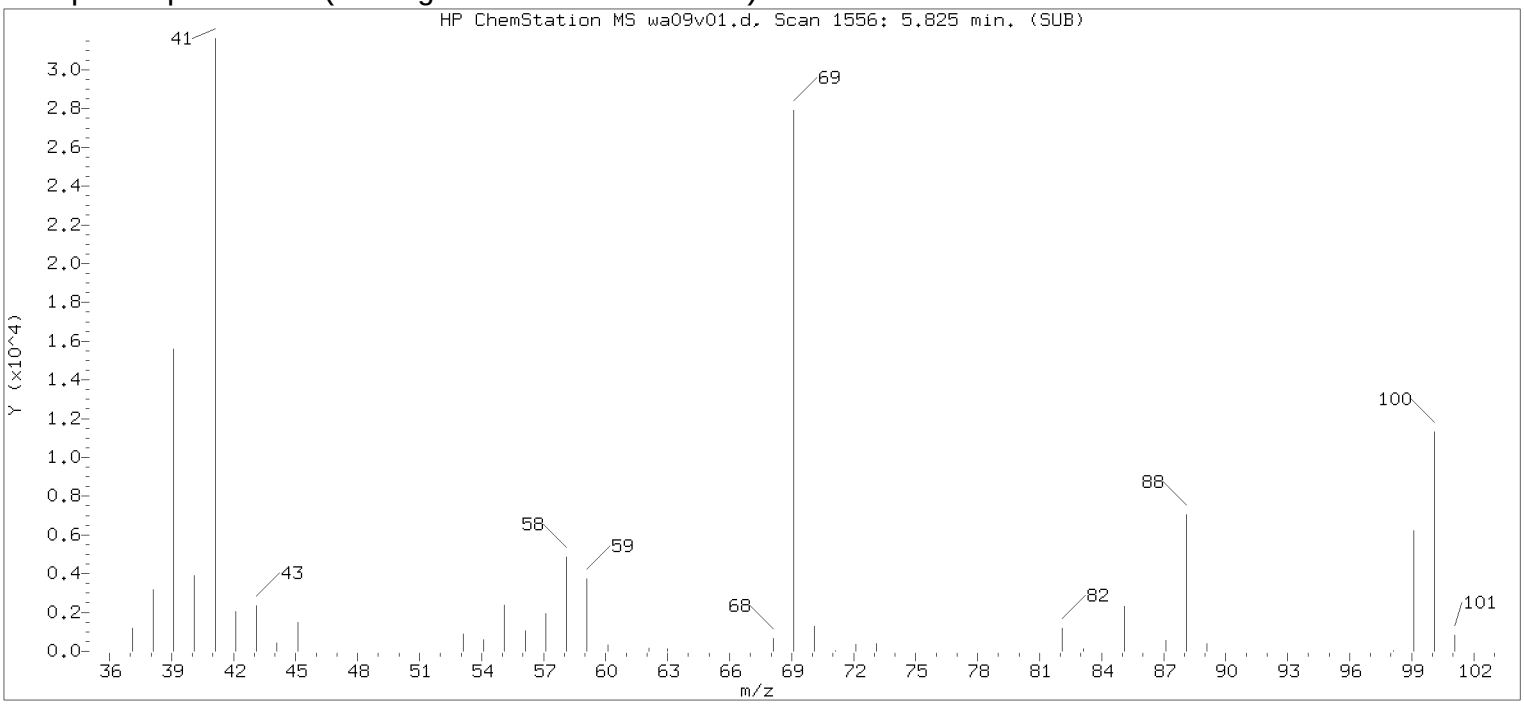
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 1556
Retention Time (minutes): 5.825
Quant Ion : 88.00
Area (flag) : 33540M
On-Column Amount (ng) : 567.1712
Integration start scan : 1542 Integration stop scan: 1652
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

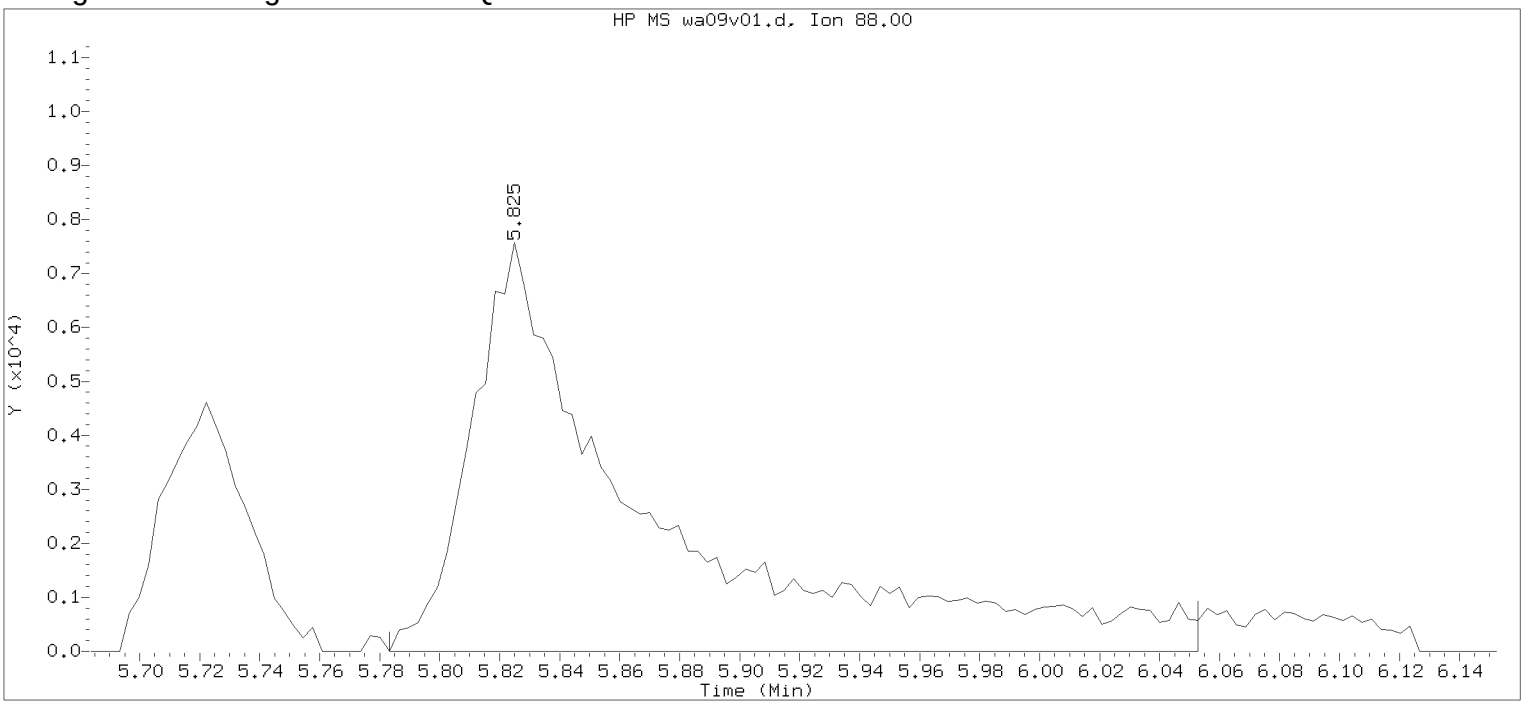
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:09.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Marla S. Brewer on 04/11/2018 at 20:10.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr09i.b/wa09v01.d Instrument ID: HP09137.i
Injection date and time: 09-APR-2018 14:26 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr09i.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 09-APR-2018 14:21
Date, time and analyst ID of latest file update: 09-Apr-2018 14:41 Automation

Sample Name: LCSWICV Lab Sample ID: LCSWICV

Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 1556
Retention Time (minutes): 5.825
Quant Ion : 88.00
Area : 30973
On-column Amount (ng) : 523.7618
Integration start scan : 1542 Integration stop scan: 1626
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/09/2018 at 15:09.
Target 3.5 esignature user id: nsl01327

Data File: /chem2/HP09137.i/18apr30a.b/wa30t01.d

Date : 30-APR-2018 07:52

Client ID: BFBFeb13-18

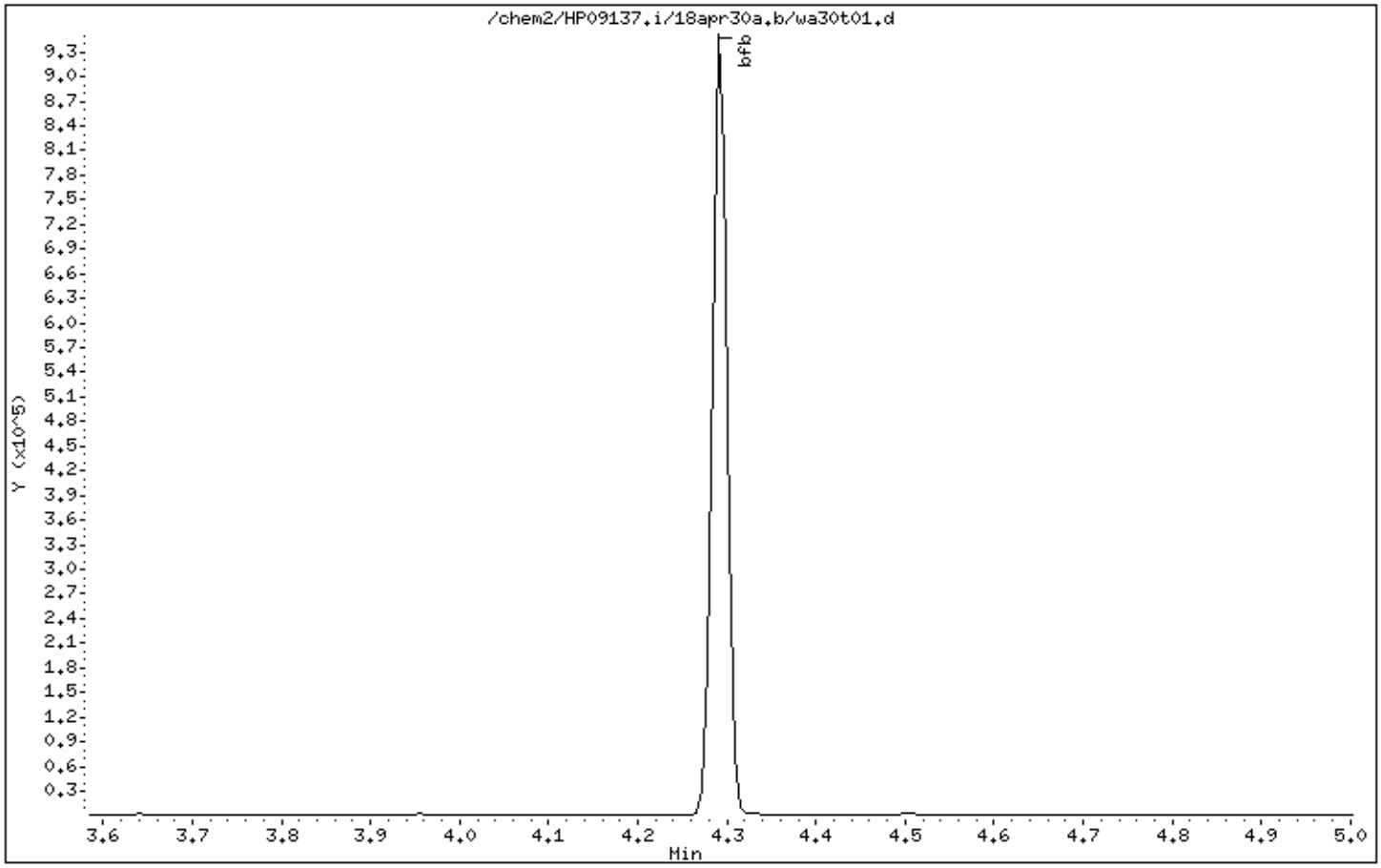
Instrument: HP09137.i

Sample Info: BFBFeb13-18;50NGBFB;1;3;;;;;;

Operator: NSL01327

Column phase: DB-624

Column diameter: 0.18



Digitally signed by Nicole S. Lamoreaux on 04/30/2018 at 09:08.
Target 3.5 esignature user ID: nsl01327

Data File: /chem2/HP09137.i/18apr30a.b/wa30t01.d

Date : 30-APR-2018 07:52

Client ID: BFBFeb13-18

Instrument: HP09137.i

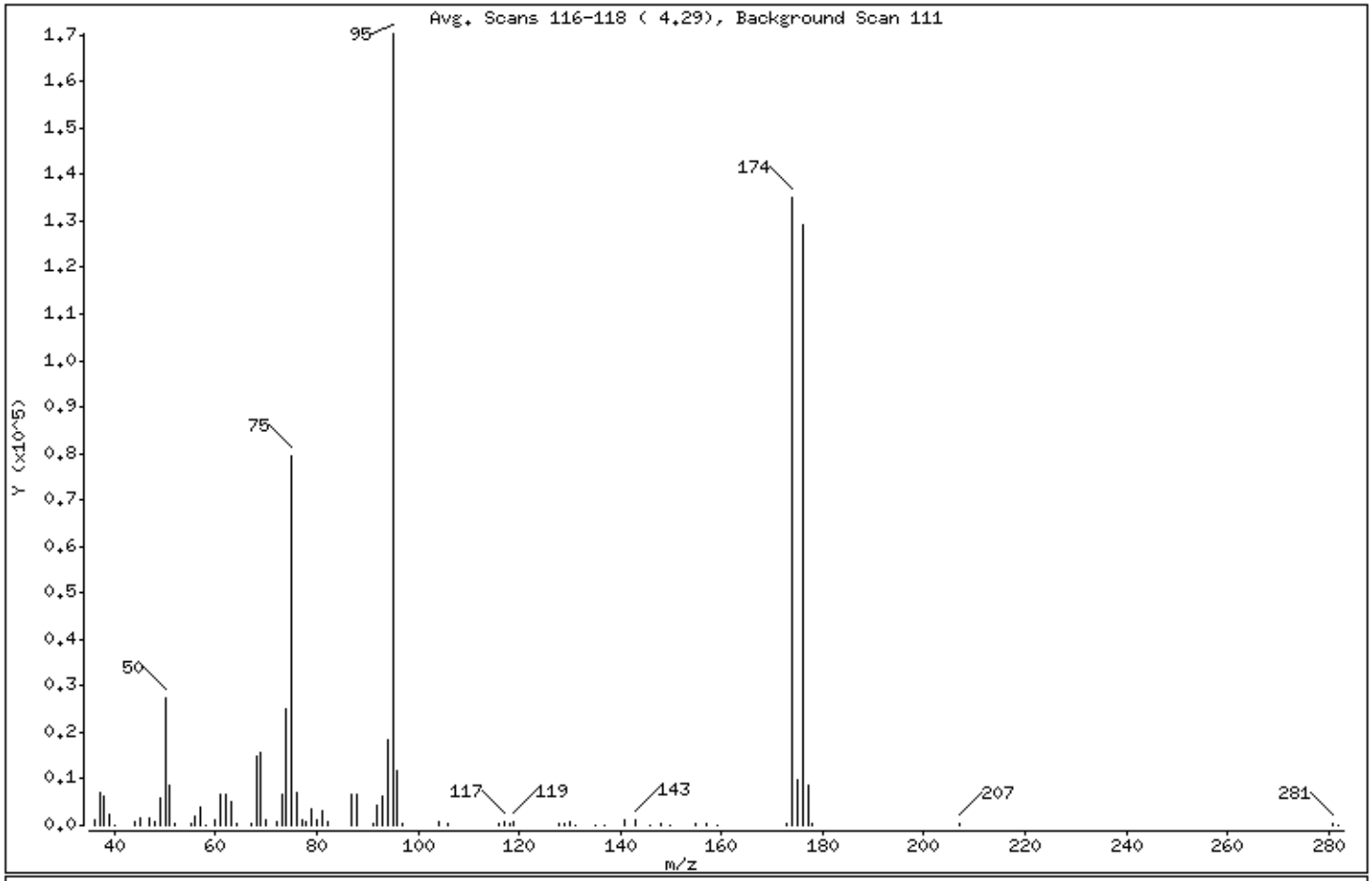
Sample Info: BFBFeb13-18;50NGBFB;1;3;;;;;;

Operator: NSL01327

Column phase: DB-624

Column diameter: 0.18

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	16.10
75	30.00 - 60.00% of mass 95	46.74
96	5.00 - 9.00% of mass 95	6.96
173	Less than 2.00% of mass 174	0.20 (0.25)
174	50.00 - 100.00% of mass 95	79.32
175	5.00 - 9.00% of mass 174	5.68 (7.16)
176	95.00 - 101.00% of mass 174	75.80 (95.56)
177	5.00 - 9.00% of mass 176	5.06 (6.68)

Digitally signed by Nicole S. Lamoreaux on 04/30/2018 at 09:08.
Target 3.5 esignature user ID: nsl01327

Data File: /chem2/HP09137.i/18apr30a.b/wa30t01.d

Date : 30-APR-2018 07:52

Client ID: BFBFeb13-18

Instrument: HP09137.i

Sample Info: BFBFeb13-18;50NGBFB;1;3;;;;;;

Operator: NSL01327

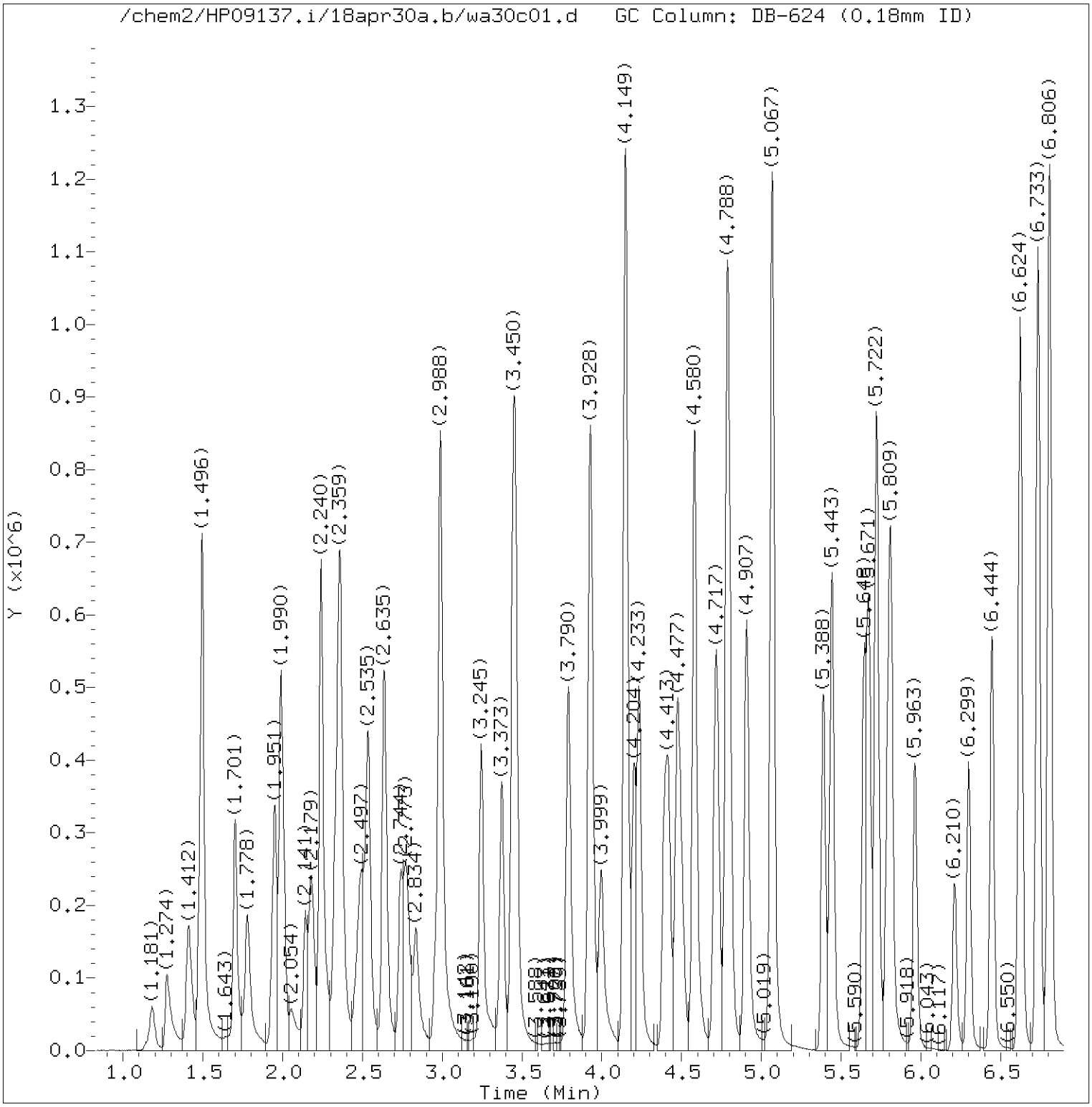
Column phase: DB-624

Column diameter: 0.18

Data File: wa30t01.d
Spectrum: Avg. Scans 116-118 (4.29), Background Scan 111
Location of Maximum: 95.00
Number of points: 75

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1241	62.00	6550	88.00	6636	137.00	184
37.00	6867	63.00	5260	91.00	527	141.00	1131
38.00	6334	64.00	489	92.00	4127	143.00	1324
39.00	2382	67.00	392	93.00	6425	146.00	109
40.00	151	68.00	14836	94.00	18552	148.00	411
44.00	711	69.00	15665	95.00	170304	150.00	92
45.00	1371	70.00	1149	96.00	11859	155.00	304
47.00	1760	72.00	751	97.00	358	157.00	257
48.00	817	73.00	6551	104.00	656	159.00	87
49.00	5757	74.00	25240	106.00	563	173.00	336
50.00	27416	75.00	79624	116.00	510	174.00	135104
51.00	8724	76.00	7105	117.00	901	175.00	9675
52.00	430	77.00	998	118.00	501	176.00	129120
55.00	271	78.00	634	119.00	741	177.00	8622
56.00	2061	79.00	3466	128.00	532	178.00	284
57.00	3760	80.00	1062	129.00	242	207.00	228
58.00	85	81.00	3232	130.00	591	281.00	546
60.00	1269	82.00	694	131.00	111	282.00	94
61.00	6707	87.00	6553	135.00	88		

Digitally signed by Nicole S. Lamoreaux on 04/30/2018 at 09:08.
Target 3.5 esignature user ID: nsl01327



Total Ion Chromatogram (TIC)

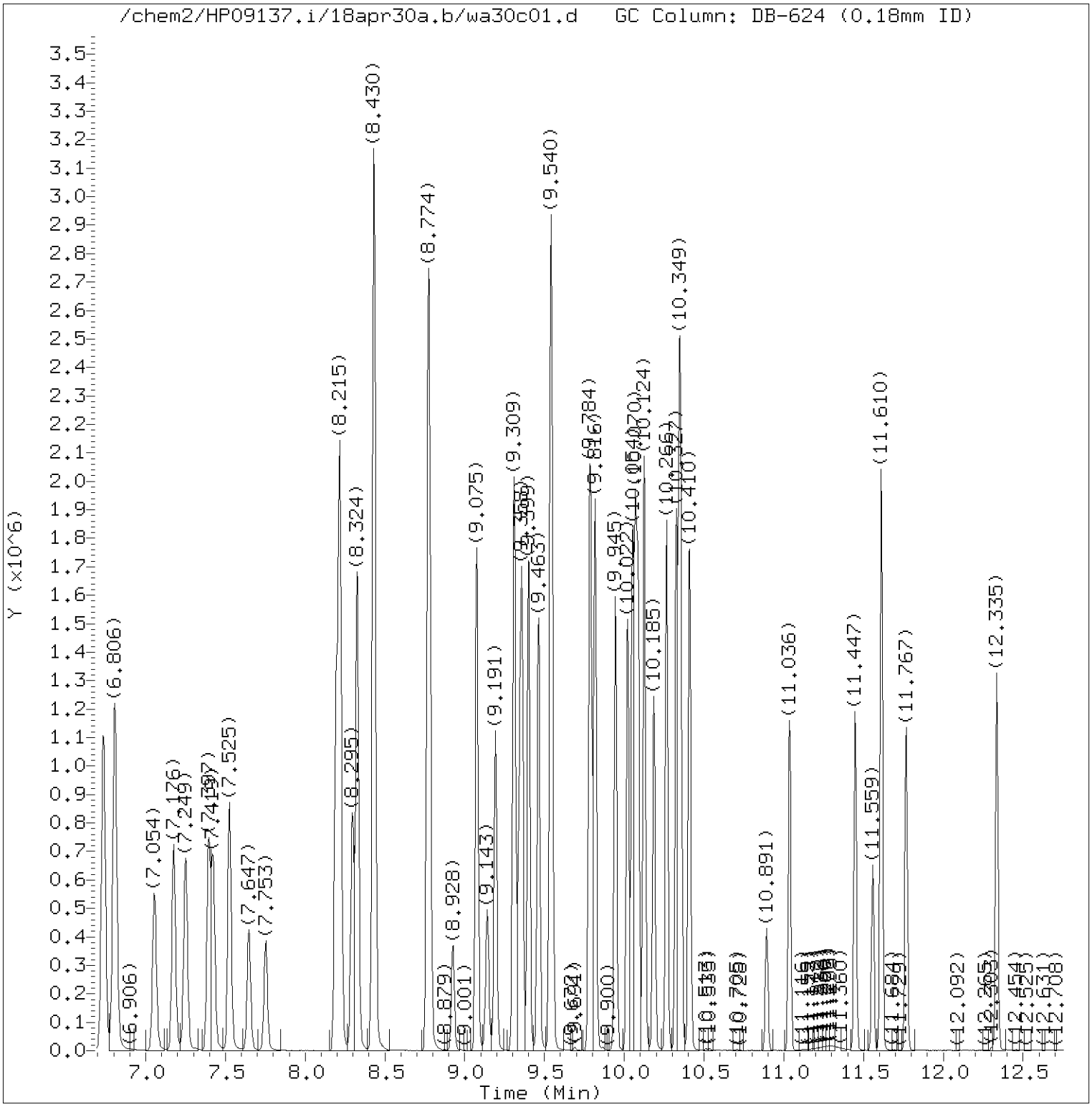
Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30c01.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 08:41 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 8260W-D
Calibration date and time: 30-APR-2018 10:52
Date, time and analyst ID of latest file update: 30-Apr-2018 10:52 nsl01327

Sample Name: VSTD050 Lab Sample ID: VSTD050

Digitally signed by Nicole S. Lamoreaux
on 04/30/2018 at 10:54.
Target 3.5 esignature user ID: nsl01327



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30c01.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 08:41 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 8260W-D
Calibration date and time: 30-APR-2018 10:52
Date, time and analyst ID of latest file update: 30-Apr-2018 10:52 nsl01327

Sample Name: VSTD050 Lab Sample ID: VSTD050

Digitally signed by Nicole S. Lamoreaux
on 04/30/2018 at 10:54.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30c01.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 08:41 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 8260W-D
Calibration date and time: 30-APR-2018 10:52
Date, time and analyst ID of latest file update: 30-Apr-2018 10:52 nsl01327

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
3) Dichlorodifluoromethane	(2)	1.274	85	190982	35.353
4) Chloromethane	(2)	1.412	50	251946	43.541
6) Vinyl Chloride	(2)	1.483	62	269921	46.154
5) 1,3-Butadiene	(2)	1.496	39	233152	54.405
8) Bromomethane	(2)	1.701	94	198098	46.630
9) Chloroethane	(2)	1.778	64	172180	49.318
12) Trichlorofluoromethane	(2)	1.948	101	330208	50.779
11) n-Pentane	(2)	1.990	43	325014	47.082
13) Ethanol	(1)	2.054	45	96521	1802.741
15) Freon 123a	(2)	2.179	67	233805	48.681
16) Acrolein	(1)	2.240	56	654089	450.138
17) 1,1-Dichloroethene	(2)	2.353	96	190026	52.475
17) 1,1-Dichloroethene	(2)	2.353	63	91706	54.501
18) Acetone	(1)	2.359	58	67779	111.031
19) Freon 113	(2)	2.359	101	192050	52.330
21) 2-Propanol	(1)	2.478	45	134599	318.882
22) Methyl Iodide	(2)	2.494	142	360872	51.315
23) Carbon Disulfide	(2)	2.535	76	651860	54.552
25) Allyl Chloride	(2)	2.635	41	277911	48.081
27) Methyl Acetate	(2)	2.648	43	237609	56.173
28) Methylene Chloride	(2)	2.738	84	219795M	52.231
29)*t-Butyl alcohol-d10	(1)	2.763	65	179067	250.000
30) t-Butyl alcohol	(1)	2.837	59	204636	265.895
31) Acrylonitrile	(2)	2.959	53	125672	58.292
32) trans-1,2-Dichloroethene	(2)	2.988	96	208925	52.423
33) Methyl Tertiary Butyl Ether	(2)	2.991	73	464267	34.364
34) n-Hexane	(2)	3.245	57	233068M	50.282
36) 1,1-Dichloroethane	(2)	3.373	63	349031	51.628
38) di-Isopropyl ether	(2)	3.444	45	612842	48.425
39) 2-Chloro-1,3-butadiene	(2)	3.463	53	306780	51.352
40) Ethyl t-butyl ether	(2)	3.790	59	486185	38.570
42) cis-1,2-Dichloroethene	(2)	3.925	96	236813	52.658
45) 2,2-Dichloropropane	(2)	3.925	77	148655	40.692
44) 2-Butanone	(2)	3.941	43	351462	116.964
47) Propionitrile	(1)	3.999	54	261965	272.279
43) 1,2-Dichloroethene (Total)	(2)		96	445738	105.080
48) Methacrylonitrile	(2)	4.146	67	355698	139.799
49) Bromochloromethane	(2)	4.153	128	119266	52.108

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

Digitally signed by Nicole S. Lamoreaux
on 04/30/2018 at 10:54.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30c01.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 08:41 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 8260W-D
Calibration date and time: 30-APR-2018 10:52
Date, time and analyst ID of latest file update: 30-Apr-2018 10:52 nsl01327

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50) Tetrahydrofuran	(1)	4.201	71	99115	96.341
51) Chloroform	(2)	4.236	83	360501	52.012
52)$Dibromofluoromethane	(2)	4.390	113	186865	49.470
52)$Dibromofluoromethane	(2)	4.390	111	192684	49.807
53) 1,1,1-Trichloroethane	(2)	4.419	97	285032	46.209
54) Cyclohexane	(2)	4.477	56	313104	49.883
54) Cyclohexane	(2)	4.480	84	275281	47.635
54) Cyclohexane	(2)	4.477	69	97192	47.621
55) 1,1-Dichloropropene	(2)	4.583	75	287114	52.015
56) Carbon Tetrachloride	(2)	4.583	117	227059	48.606
58) Isobutyl Alcohol	(1)	4.708	41	181168	717.645
57)$1,2-Dichloroethane-d4	(2)	4.727	102	50567	50.984
57)$1,2-Dichloroethane-d4	(2)	4.727	65	224124	50.283
57)$1,2-Dichloroethane-d4	(2)	4.727	104	32946	51.283
60) Benzene	(2)	4.785	78	877789	52.890
61) 1,2-Dichloroethane	(2)	4.801	62	290017	50.116
61) 1,2-Dichloroethane	(2)	4.804	98	29550	51.823
65) t-Amyl methyl ether	(2)	4.910	73	519553	39.490
66)*Fluorobenzene	(2)	5.067	96	828613	50.000
67) n-Heptane	(2)	5.070	43	172065	41.389
69) n-Butanol	(1)	5.391	56	314404	1323.568
71) Trichloroethene	(2)	5.443	95	227704	51.680
72) Methylcyclohexane	(2)	5.642	83	265433	44.807
72) Methylcyclohexane	(2)	5.645	98	126543	45.452
73) 1,2-Dichloropropane	(2)	5.674	63	224786	53.488
74) Dibromomethane	(2)	5.792	93	151176	53.047
76) Methyl Methacrylate	(2)	5.812	69	231857	51.641
75) 1,4-Dioxane	(1)	5.821	88	51621	795.587
78) Bromodichloromethane	(2)	5.963	83	268554	49.838
79) 2-Nitropropane	(2)	6.210	41	139019	93.184
80) 2-Chloroethyl Vinyl Ether	(2)	6.299	63	181931	53.147
81) cis-1,3-Dichloropropene	(2)	6.444	75	355142	49.986
82) 4-Methyl-2-pentanone	(2)	6.624	43	685537	110.659
83)$Toluene-d8	(3)	6.736	98	832504	49.662
83)$Toluene-d8	(3)	6.733	100	545208	48.258
88) Toluene	(3)	6.806	92	574806	50.059
89) trans-1,3-Dichloropropene	(3)	7.057	75	324527	47.438
91) Ethyl Methacrylate	(3)	7.176	69	394602	49.830

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

Digitally signed by Nicole S. Lamoreaux
on 04/30/2018 at 10:54.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30c01.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 08:41 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 8260W-D
Calibration date and time: 30-APR-2018 10:52
Date, time and analyst ID of latest file update: 30-Apr-2018 10:52 nsl01327

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
92) 1,1,2-Trichloroethane	(3)	7.249	97	230161	50.997
90) 1,3-Dichloropropene (total)	(3)		100	679669	97.424
93) Tetrachloroethene	(3)	7.397	166	217927	46.641
94) 1,3-Dichloropropane	(3)	7.423	76	384490	51.540
96) 2-Hexanone	(3)	7.525	43	534304	106.006
97) Dibromochloromethane	(3)	7.647	129	220143	47.965
99) 1,2-Dibromoethane	(3)	7.753	107	251252	51.108
100)*Chlorobenzene-d5	(3)	8.193	117	653803	50.000
102) Chlorobenzene	(3)	8.218	112	645253	49.322
103) 1,1,1,2-Tetrachloroethane	(3)	8.295	131	203167	48.349
104) Ethylbenzene	(3)	8.328	91	1064652	50.114
106) m+p-Xylene	(3)	8.430	106	856052	98.595
107) o-Xylene	(3)	8.770	106	425313	49.044
109) Styrene	(3)	8.780	104	736233	49.690
108) Xylene (Total)	(3)		106	1281365	147.640
110) Bromoform	(3)	8.928	173	147906	44.904
111) Isopropylbenzene	(3)	9.075	105	955959	46.341
112) Cyclohexanone	(1)	9.143	55	164316A	549.605
114)$4-Bromofluorobenzene	(3)	9.191	95	316577	49.999
114)$4-Bromofluorobenzene	(3)	9.194	174	256711	49.691
115) Bromobenzene	(4)	9.309	156	278741	48.298
116) 1,1,2,2-Tetrachloroethane	(4)	9.313	83	385684	51.927
117) 1,2,3-Trichloropropane	(4)	9.342	110	118141	50.646
118) trans-1,4-Dichloro-2-butene	(4)	9.358	53	230310	112.807
119) n-Propylbenzene	(4)	9.399	91	1087358	45.106
120) 2-Chlorotoluene	(4)	9.463	126	243143	45.835
122) 1,3,5-Trimethylbenzene	(4)	9.537	105	800097	44.670
121) 4-Chlorotoluene	(4)	9.547	126	264945	46.664
124) tert-Butylbenzene	(4)	9.784	134	167461	42.171
125) Pentachloroethane	(4)	9.794	167	137102	44.724
126) 1,2,4-Trimethylbenzene	(4)	9.816	105	855706	45.681
127) sec-Butylbenzene	(4)	9.945	105	850695	41.950
129) 1,3-Dichlorobenzene	(4)	10.022	146	496279	45.506
130) p-Isopropyltoluene	(4)	10.051	119	754560	41.365
131)*1,4-Dichlorobenzene-d4	(4)	10.070	152	353136	50.000
133) 1,4-Dichlorobenzene	(4)	10.086	146	525162	46.289
134) 1,2,3-Trimethylbenzene	(4)	10.124	105	913304	47.333
135) Benzyl Chloride	(4)	10.185	91	668515	44.510

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

Digitally signed by Nicole S. Lamoreaux
on 04/30/2018 at 10:54.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30c01.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 08:41 Analyst ID: nsl01327

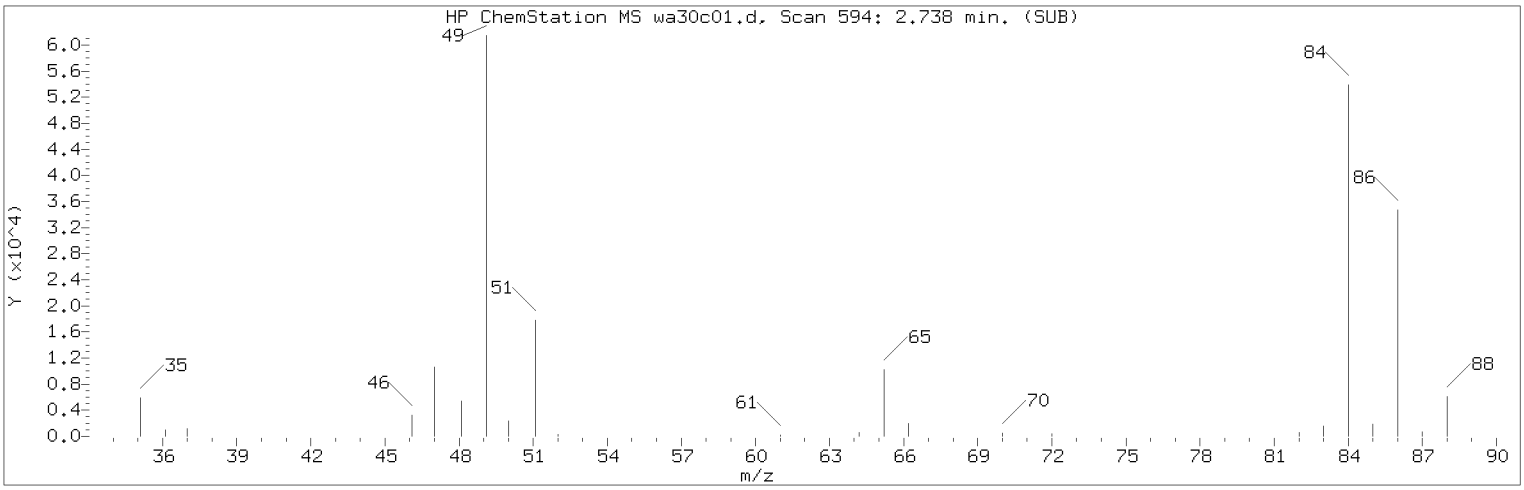
Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 8260W-D
Calibration date and time: 30-APR-2018 10:52
Date, time and analyst ID of latest file update: 30-Apr-2018 10:52 nsl01327

Sample Name: VSTD050 Lab Sample ID: VSTD050

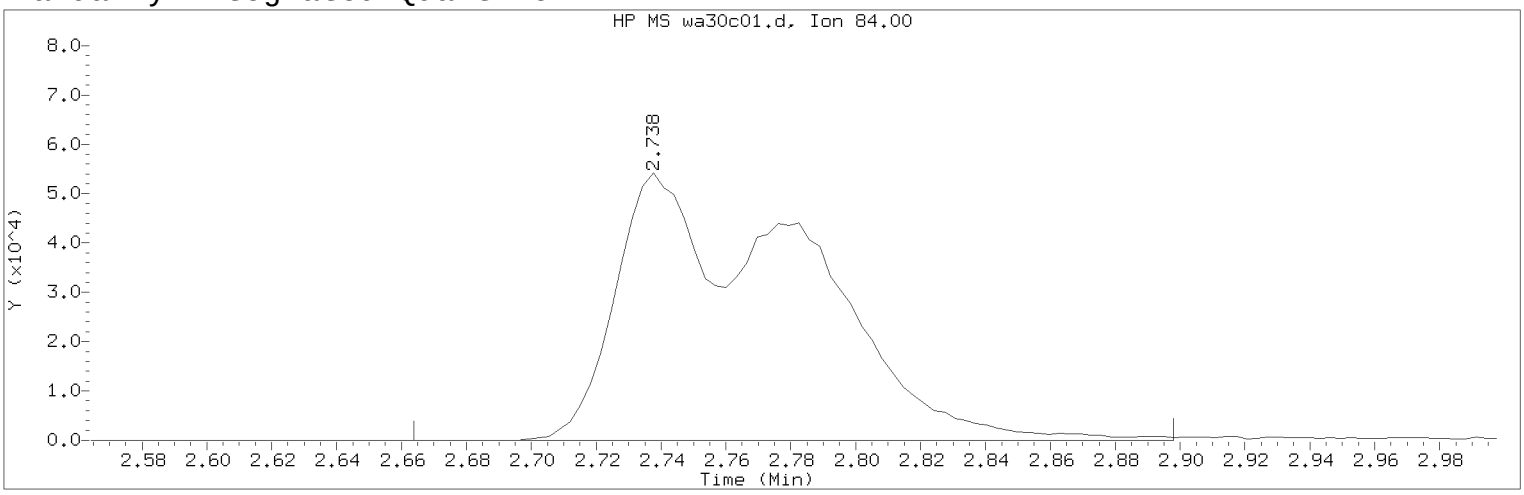
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
136) 1,3-Diethylbenzene	(4)	10.266	119	456637	41.991
137) 1,4-Diethylbenzene	(4)	10.327	119	476520	42.275
139) n-Butylbenzene	(4)	10.343	92	352052	40.588
138) 1,2-Dichlorobenzene	(4)	10.352	146	512504	47.135
140) 1,2-Diethylbenzene	(4)	10.410	119	393119	42.112
141) Diethylbenzene (total)	(4)		100	1326276	126.378
142) 1,2-Dibromo-3-chloropropane	(4)	10.891	75	80969	51.225
144) 1,3,5-Trichlorobenzene	(4)	11.036	180	274158	39.662
146) 1,2,4-Trichlorobenzene	(4)	11.447	180	275933	40.292
147) Hexachlorobutadiene	(4)	11.559	225	86347	42.544
148) Naphthalene	(4)	11.610	128	1198444	48.228
149) 1,2,3-Trichlorobenzene	(4)	11.767	180	264381	40.671
150) 2-Methylnaphthalene	(4)	12.335	142	474291	36.264

Digitally signed by Nicole S. Lamoreaux
on 04/30/2018 at 10:54.
Target 3.5 esignature user ID: nsl01327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr30a.b/wa30c01.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 08:41 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 8260W-D
Calibration date and time: 30-APR-2018 10:52
Date, time and analyst ID of latest file update: 30-Apr-2018 10:52 nsl01327

Sample Name: VSTD050 Lab Sample ID: VSTD050

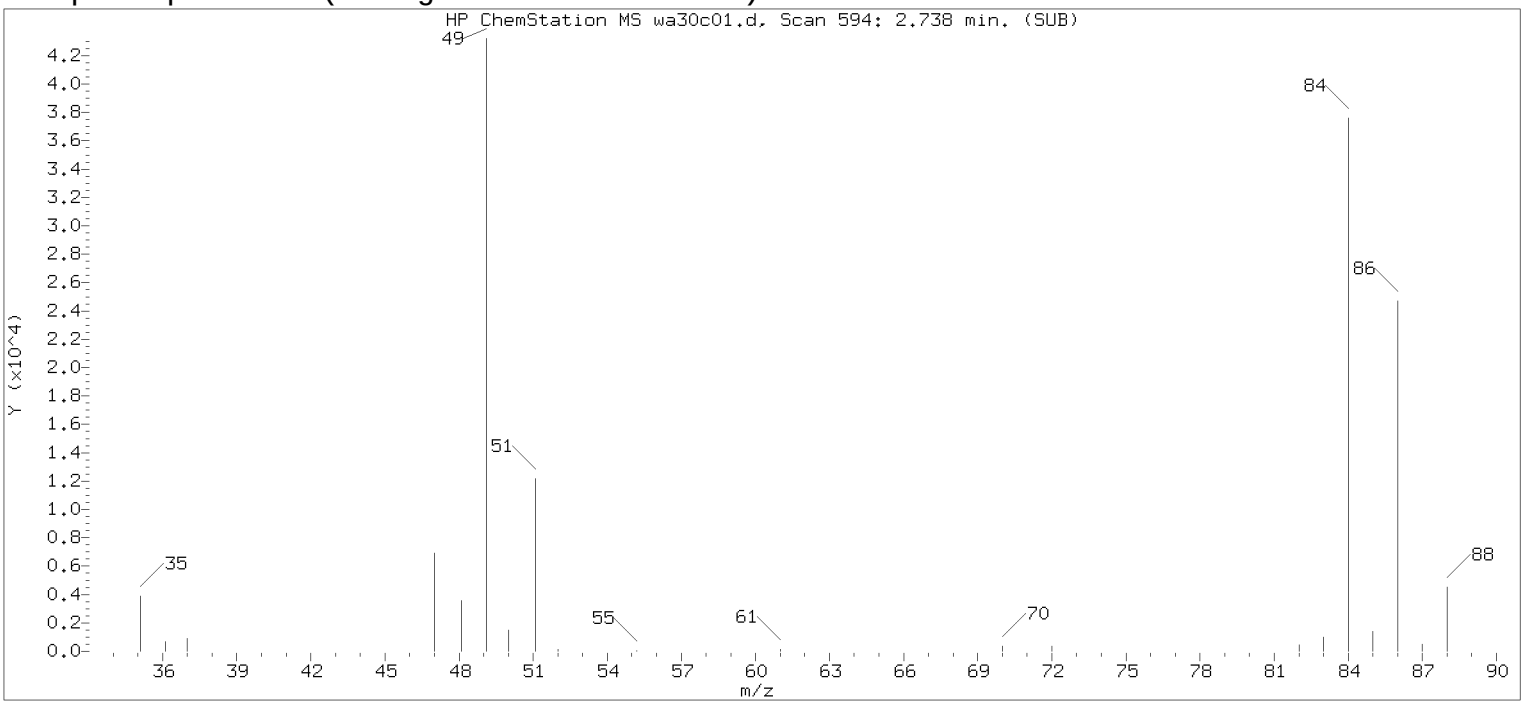
Compound Number : 28
Compound Name : Methylene Chloride
Scan Number : 594
Retention Time (minutes): 2.738
Quant Ion : 84.00
Area (flag) : 219795M
On-Column Amount (ng) : 52.2312
Integration start scan : 570 Integration stop scan: 643
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

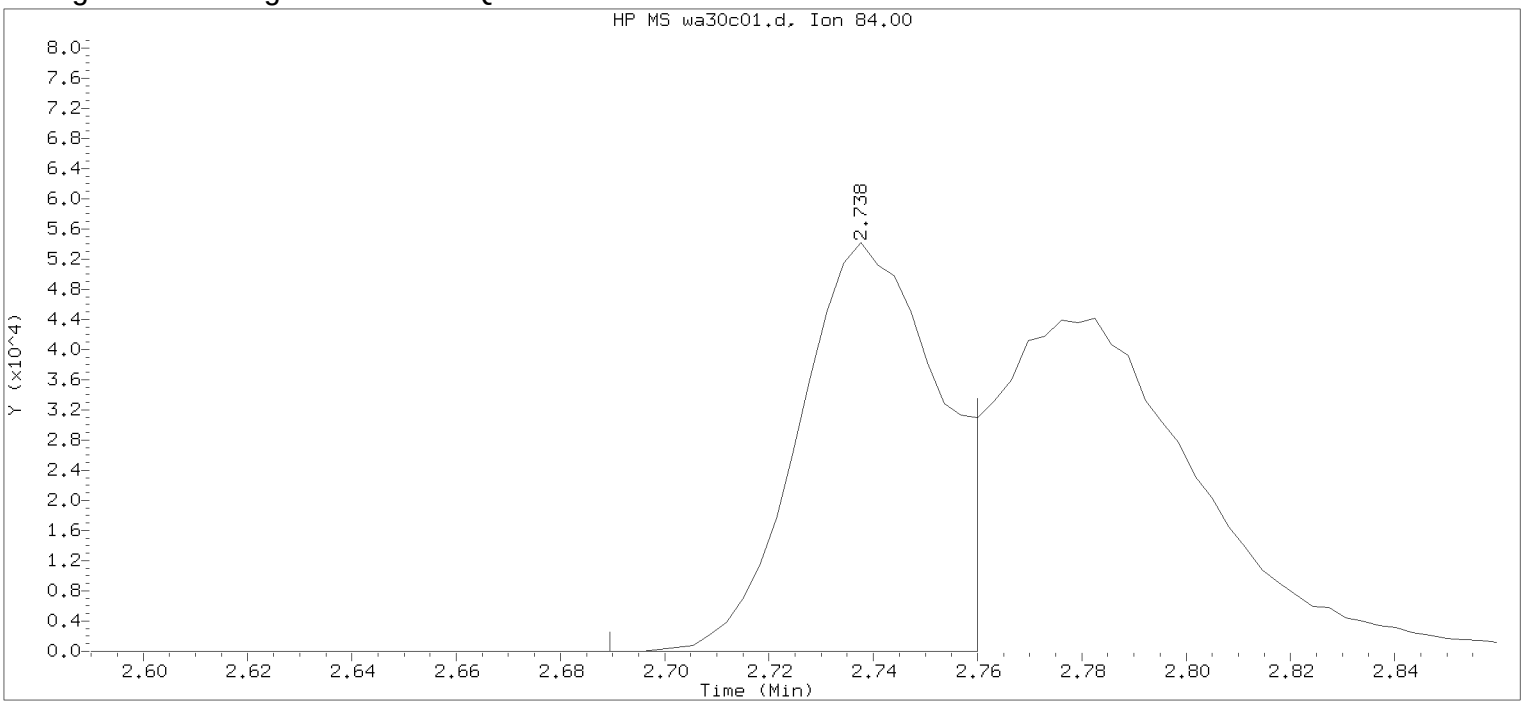
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/30/2018 at 10:54.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Sara E. Johnson on 04/30/2018 at 21:40.
PARALLAX ID: sej02002

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr30a.b/wa30c01.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 08:41 Analyst ID: nsl01327

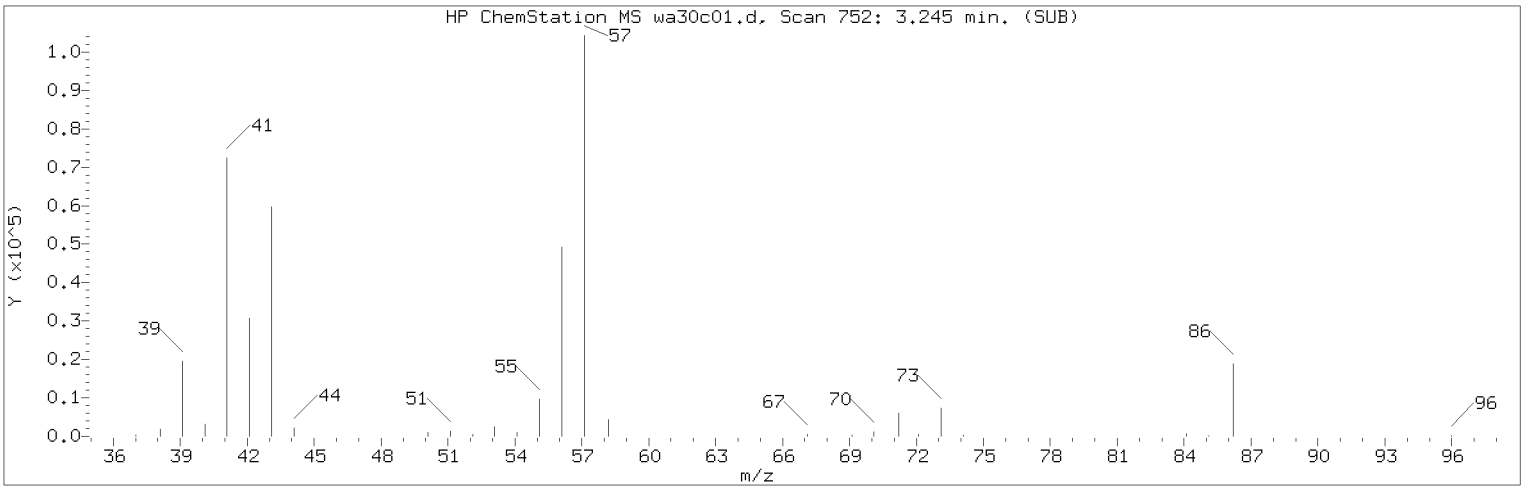
Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 30-APR-2018 08:57
Date, time and analyst ID of latest file update: 30-Apr-2018 08:57 Automation

Sample Name: VSTD050 Lab Sample ID: VSTD050

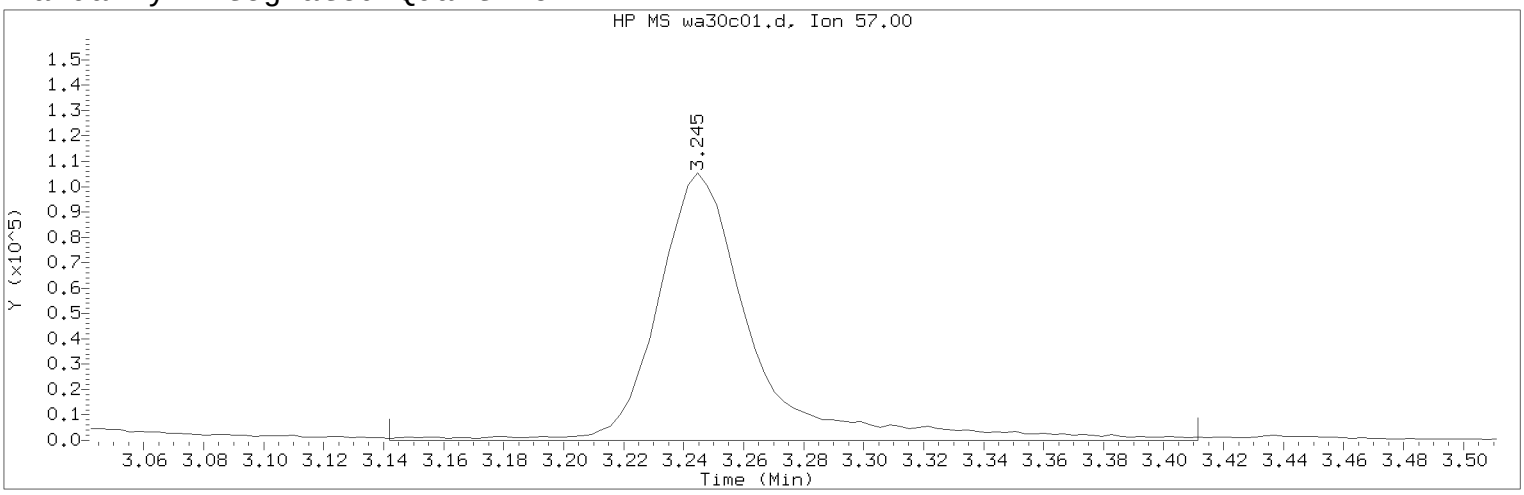
Compound Number : 28
Compound Name : Methylene Chloride
Scan Number : 594
Retention Time (minutes): 2.738
Quant Ion : 84.00
Area : 100505
On-column Amount (ng) : 23.8836
Integration start scan : 578 Integration stop scan: 600
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/30/2018 at 10:54.
Target 3.5 esignature user id: nsl01327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr30a.b/wa30c01.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 08:41 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 8260W-D
Calibration date and time: 30-APR-2018 10:52
Date, time and analyst ID of latest file update: 30-Apr-2018 10:52 nsl01327

Sample Name: VSTD050 Lab Sample ID: VSTD050

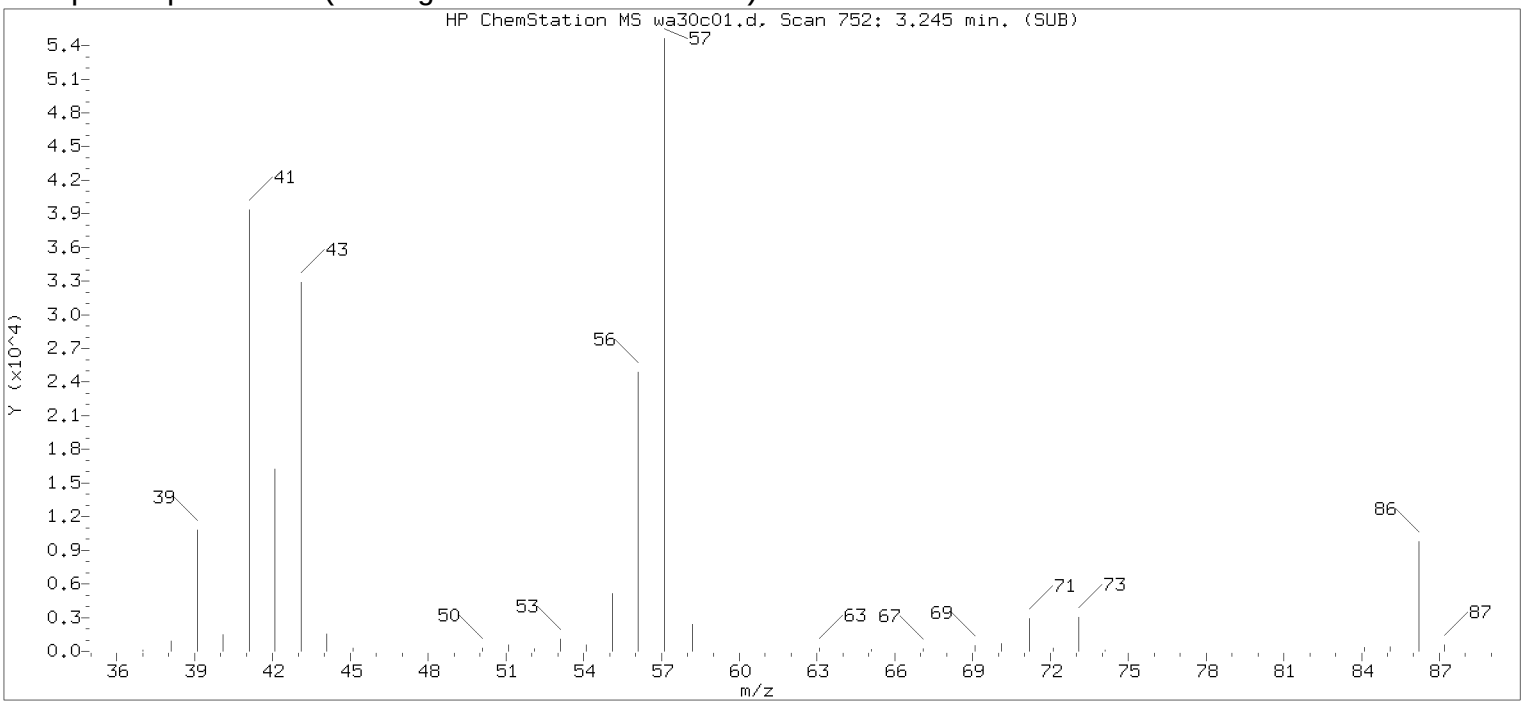
Compound Number : 34
Compound Name : n-Hexane
Scan Number : 752
Retention Time (minutes): 3.245
Quant Ion : 57.00
Area (flag) : 233068M
On-Column Amount (ng) : 50.2824
Integration start scan : 719 Integration stop scan: 803
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

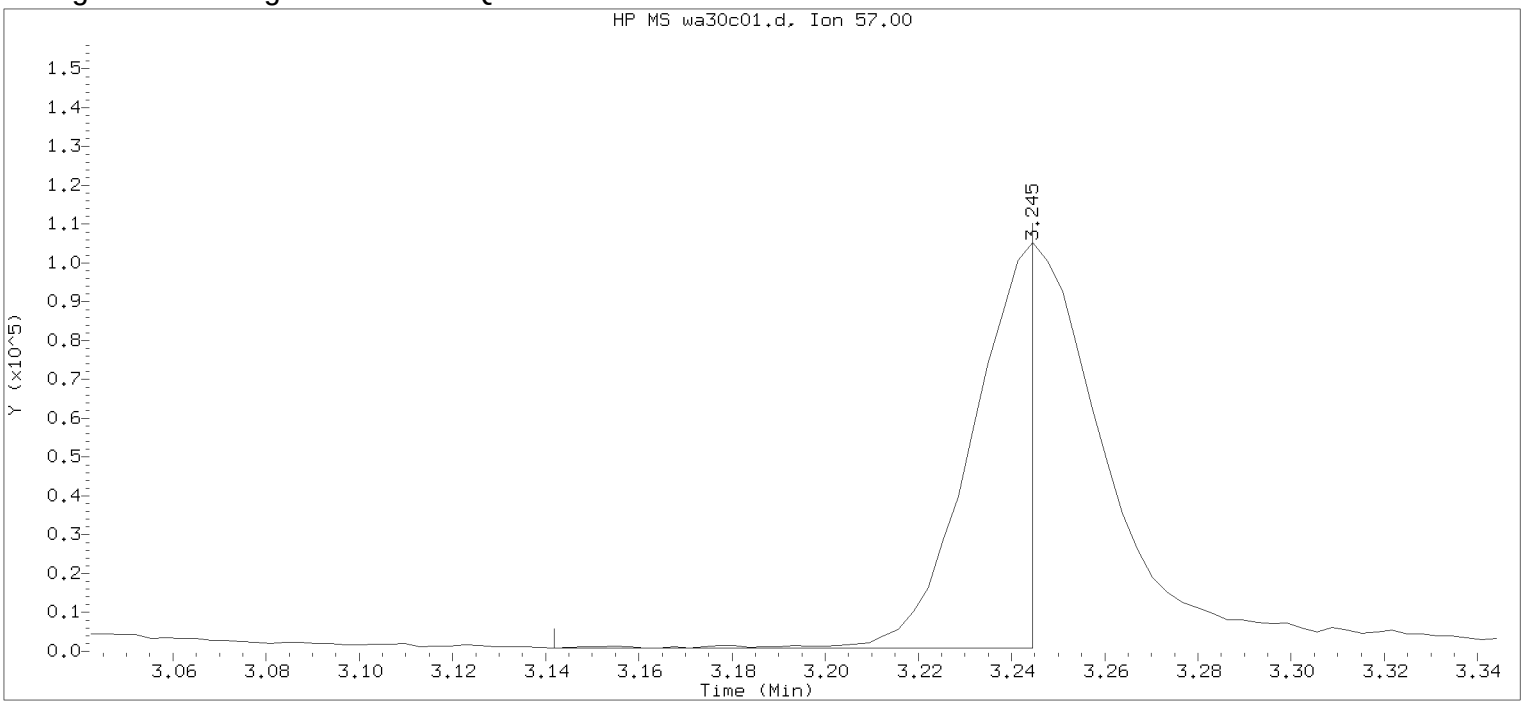
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/30/2018 at 10:54.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Sara E. Johnson on 04/30/2018 at 21:40.
PARALLAX ID: sej02002

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr30a.b/wa30c01.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 08:41 Analyst ID: nsl01327

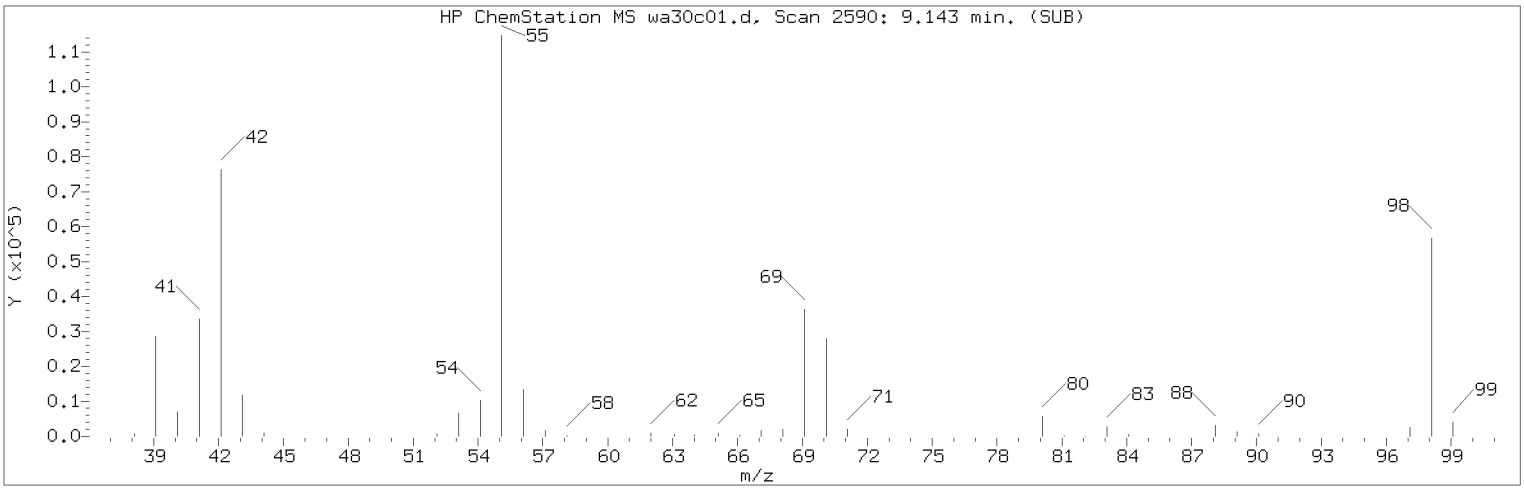
Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 30-APR-2018 08:57
Date, time and analyst ID of latest file update: 30-Apr-2018 08:57 Automation

Sample Name: VSTD050 Lab Sample ID: VSTD050

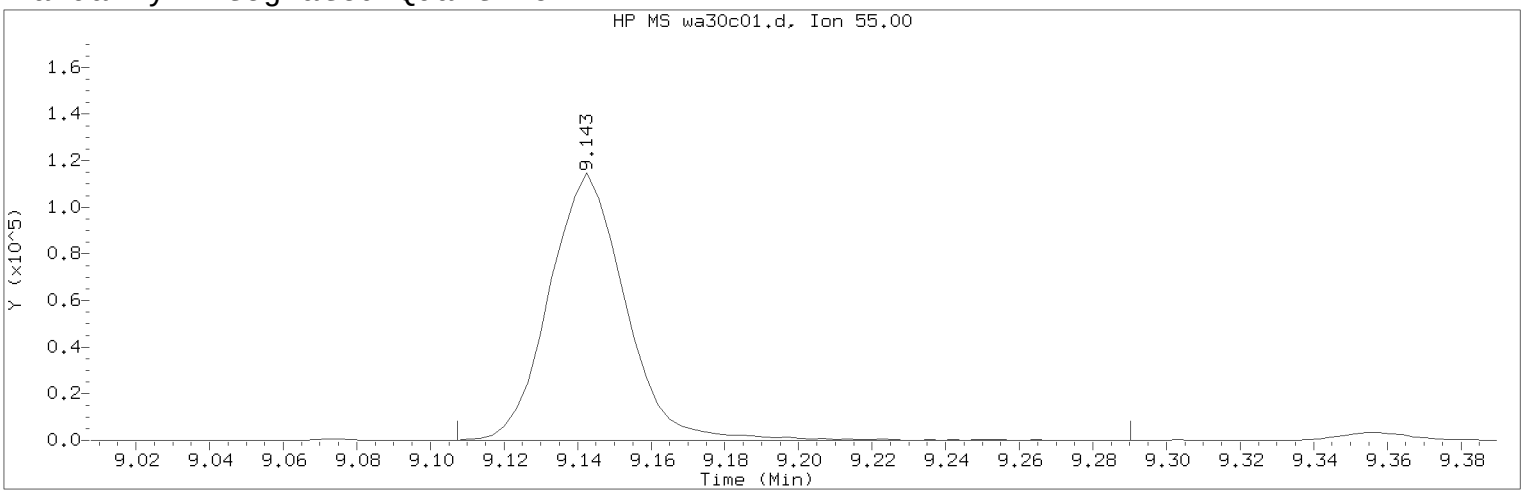
Compound Number : 34
Compound Name : n-Hexane
Scan Number : 752
Retention Time (minutes): 3.245
Quant Ion : 57.00
Area : 91639
On-column Amount (ng) : 19.7705
Integration start scan : 719 Integration stop scan: 751
Y at integration start : 855 Y at integration end: 855

Digitally signed by Nicole S. Lamoreaux on 04/30/2018 at 10:54.
Target 3.5 esignature user id: 85 meaning: 27

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr30a.b/wa30c01.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 08:41 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 8260W-D
Calibration date and time: 30-APR-2018 10:52
Date, time and analyst ID of latest file update: 30-Apr-2018 10:52 nsl01327

Sample Name: VSTD050 Lab Sample ID: VSTD050

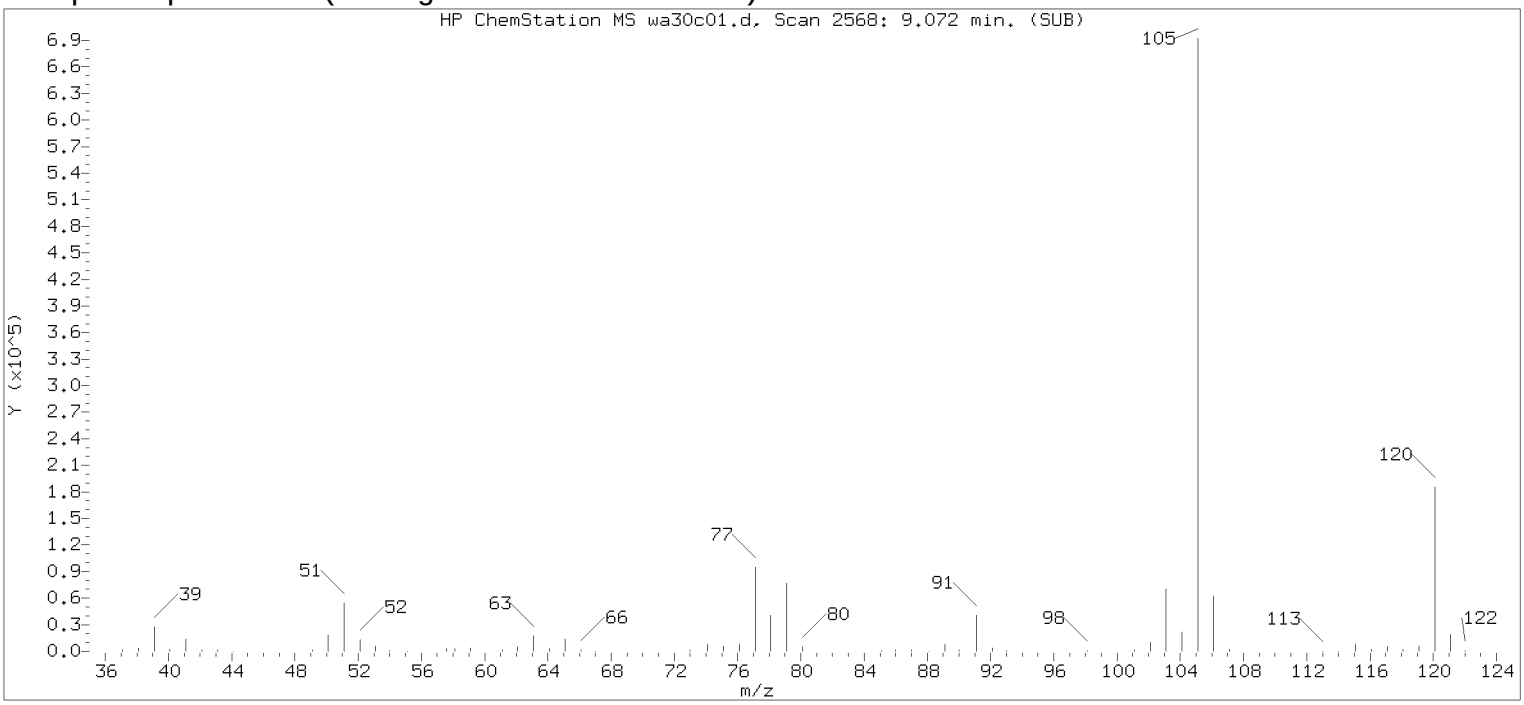
Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 2590
Retention Time (minutes): 9.143
Quant Ion : 55.00
Area (flag) : 164316A
On-Column Amount (ng) : 549.6051
Integration start scan : 2578 Integration stop scan: 2635
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

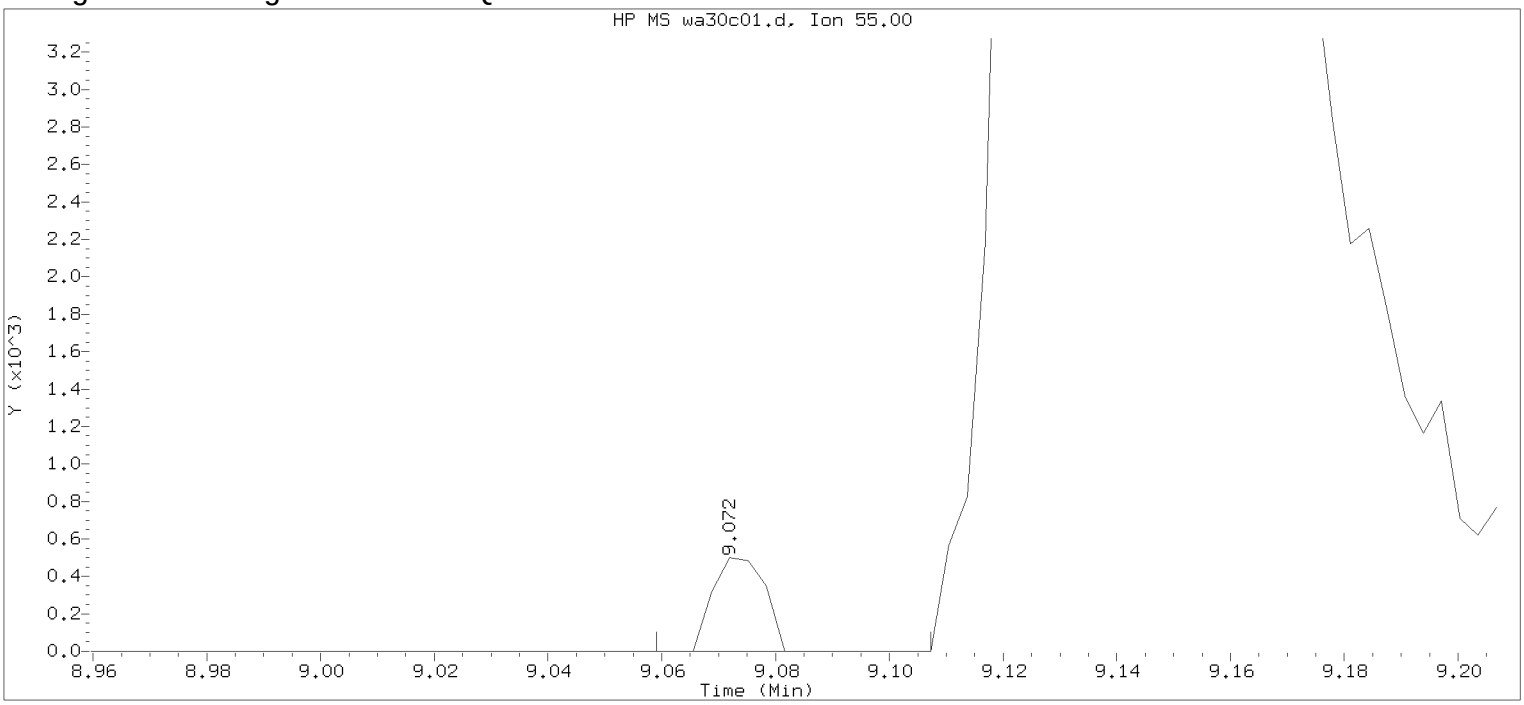
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/30/2018 at 10:54.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Sara E. Johnson on 04/30/2018 at 21:40.
PARALLAX ID: sej02002

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr30a.b/wa30c01.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 08:41 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 30-APR-2018 08:57
Date, time and analyst ID of latest file update: 30-Apr-2018 08:57 Automation

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 2568
Retention Time (minutes): 9.072
Quant Ion : 55.00
Area : 318
On-column Amount (ng) : 1.0645
Integration start scan : 2563 Integration stop scan: 2578
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/30/2018 at 10:54.
Target 3.5 esignature user id: 1327

Raw QC Data

Volatiles by GC/MS

VBLKW03 Lancaster Laboratories Analysis Summary for GC/MS Volatiles VBLKW03

Data file: /chem2/HP09137.i/18apr30a.b/wa30b01.d Injection date and time: **30-APR-2018 10:13**
Data file Sample Info. Line: VBLKW03;VBLKW03;1;3;;;;;; Instrument ID: **HP09137.i** Batch: **W181201AA**
Date, time and analyst ID of latest file update: 30-Apr-2018 10:54 nsl01327

Blank Data file reference: **/chem2/HP09137.i/18apr30a.b/wa30b01.d**

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: **8260W-D**
Calibration date and time (Last Method Edit): 30-APR-2018 10:52
Mid Level Daily Calibration Standard Reference: **/chem2/HP09137.i/18apr30a.b/wa30c01.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	2.767(-0.003)	603	65	180604 (1)	250.00	
66) Fluorobenzene	5.067(0.000)	1320	96	824478 (0)	50.00	
100) Chlorobenzene-d5	8.193(0.000)	2294	117	643957 (-2)	50.00	
131) 1,4-Dichlorobenzene-d4	10.070(0.000)	2879	152	324971 (-8)	50.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(2)	4.390(0.000)	113	180628	48.058	96%		80 - 120
57) 1,2-Dichloroethane-d4	(2)	4.727(0.000)	102	51412	52.096	104%		80 - 120
83) Toluene-d8	(3)	6.733(0.000)	98	812626	49.217	98%		80 - 120
114) 4-Bromofluorobenzene	(3)	9.191(0.000)	95	298974	47.941	96%		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)			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
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
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
38) di-Isopropyl ether	(2)			Not Detected					0.5	1
39) 2-Chloro-1,3-butadiene	(2)			Not Detected					1	5
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

Digitally signed by Matthew S. Krause on 05/03/2018 at 14:17. Target 3.5 esignature user ID: msk07970

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

VBLKW03

Data file: /chem2/HP09137.i/18apr30a.b/wa30b01.d
Injection date and time: **30-APR-2018 10:13**
Data file Sample Info. Line: VBLKW03;VBLKW03;1;3;;;;;;
Instrument ID: **HP09137.i** Batch: **W181201AA**
Date, time and analyst ID of latest file update: 30-Apr-2018 10:54 nsl01327

Blank Data file reference: **/chem2/HP09137.i/18apr30a.b/wa30b01.d**

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: **8260W-D**
Calibration date and time (Last Method Edit): 30-APR-2018 10:52
Mid Level Daily Calibration Standard Reference: **/chem2/HP09137.i/18apr30a.b/wa30c01.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)			Not Detected					3	10
45) 2,2-Dichloropropane	(2)			Not Detected					0.5	1
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
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
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
99) 1,2-Dibromoethane	(3)			Not Detected					0.5	1
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
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

Digitally signed by Matthew S. Krause on 05/03/2018 at 14:17. Target 3.5 esignature user ID: msk07970

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

VBLKW03

Data file: /chem2/HP09137.i/18apr30a.b/wa30b01.d
Data file Sample Info. Line: VBLKW03;VBLKW03;1;3;;;;;;
Date, time and analyst ID of latest file update: 30-Apr-2018 10:54 nsl01327

Injection date and time: **30-APR-2018 10:13**
Instrument ID: **HP09137.i** Batch: **W181201AA**

Blank Data file reference: **/chem2/HP09137.i/18apr30a.b/wa30b01.d**

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: **8260W-D**
Calibration date and time (Last Method Edit): 30-APR-2018 10:52
Mid Level Daily Calibration Standard Reference: **/chem2/HP09137.i/18apr30a.b/wa30c01.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**

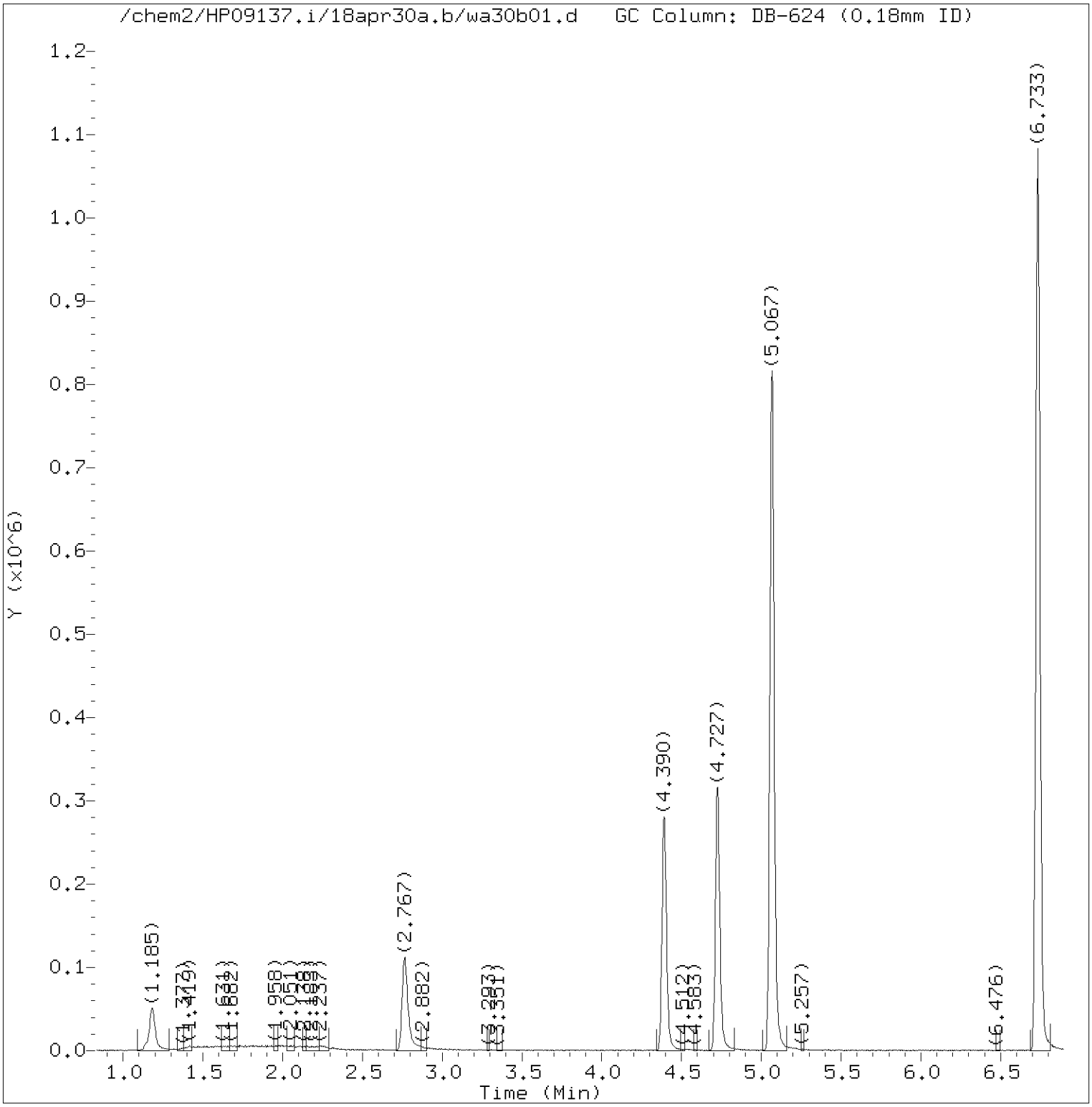
Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
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 = 109

Digitally signed by Matthew S. Krause on 05/03/2018 at 14:17. Target 3.5 esignature user ID: msk07970

Secondary review performed and digitally signed by Kelly E. Keller on 05/21/2018 at 18:32. PARALLAX ID: kek01027



Total Ion Chromatogram (TIC)

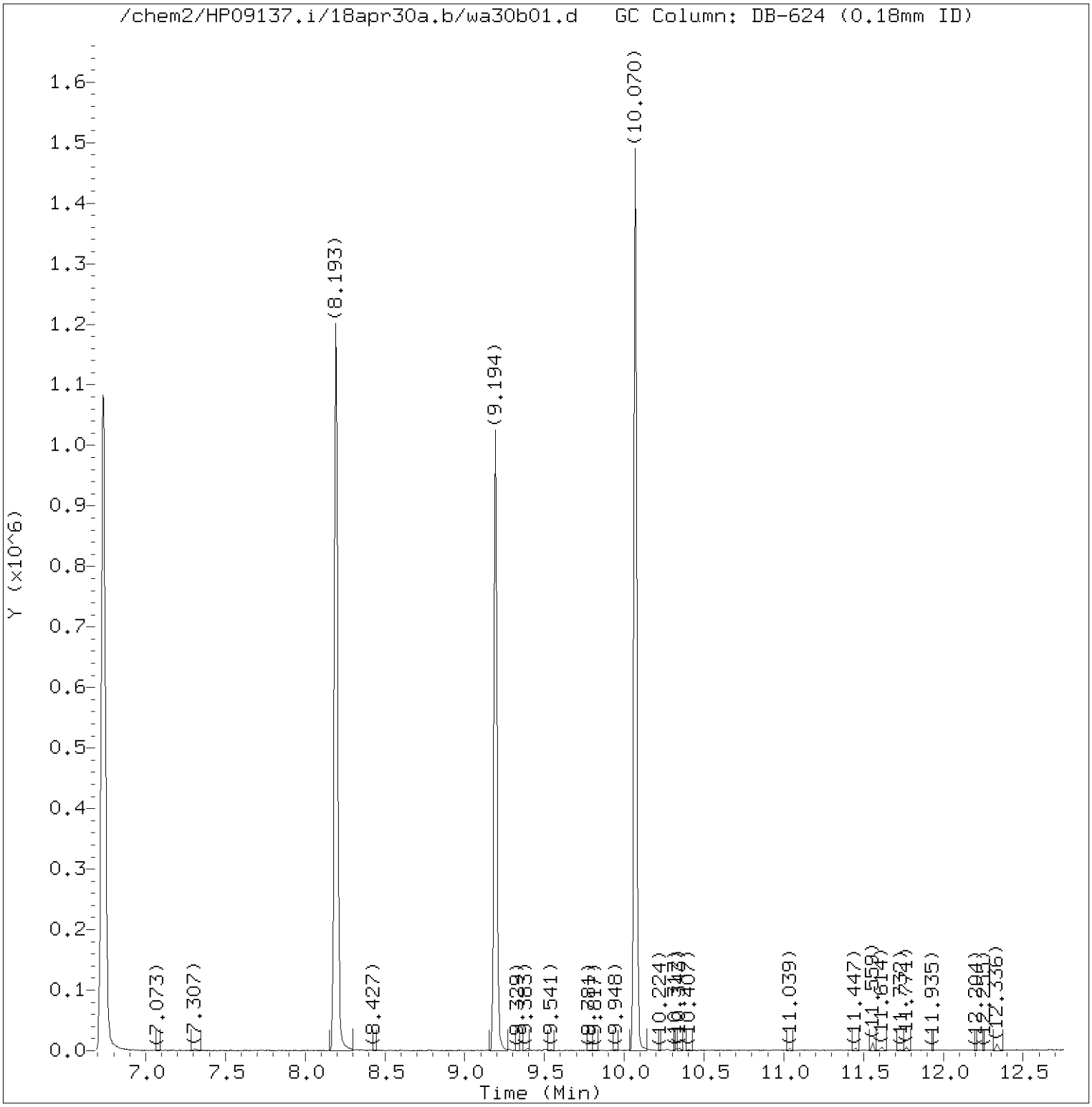
Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30b01.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 10:13 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 8260W-D
Calibration date and time: 30-APR-2018 10:52
Date, time and analyst ID of latest file update: 30-Apr-2018 10:54 nsl01327

Sample Name: VBLKW03 Lab Sample ID: VBLKW03

Digitally signed by Matthew S. Krause
on 05/03/2018 at 14:17.
Target 3.5 esignature user ID: msk07970



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30b01.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 10:13 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 8260W-D
Calibration date and time: 30-APR-2018 10:52
Date, time and analyst ID of latest file update: 30-Apr-2018 10:54 nsl01327

Sample Name: VBLKW03 Lab Sample ID: VBLKW03

Digitally signed by Matthew S. Krause
on 05/03/2018 at 14:17.
Target 3.5 esignature user ID: msk07970

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30b01.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 10:13 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 8260W-D
Calibration date and time: 30-APR-2018 10:52
Date, time and analyst ID of latest file update: 30-Apr-2018 10:54 nsl01327

Sample Name: VBLKW03 Lab Sample ID: VBLKW03

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
29)*t-Butyl alcohol-d10	(1)	2.767	65	180604	250.000
52)$Dibromofluoromethane	(2)	4.390	113	180628	48.058
57)$1,2-Dichloroethane-d4	(2)	4.727	102	51412	52.096
66)*Fluorobenzene	(2)	5.067	96	824478	50.000
83)$Toluene-d8	(3)	6.733	98	812626	49.217
100)*Chlorobenzene-d5	(3)	8.193	117	643957	50.000
114)$4-Bromofluorobenzene	(3)	9.191	95	298974	47.941
131)*1,4-Dichlorobenzene-d4	(4)	10.070	152	324971	50.000

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

Digitally signed by Matthew S. Krause
on 05/03/2018 at 14:17.
Target 3.5 esignature user ID: msk07970

LCSW03 Lancaster Laboratories LCSW03

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP09137.i/18apr30a.b/wa30l01.d Injection date and time: **30-APR-2018 09:26**
Data file Sample Info. Line: LCSW03;LCSW03;1;3;LCS;;;;wa30b01; Instrument ID: **HP09137.i** Batch: **W181201AA**
Date, time and analyst ID of latest file update: 30-Apr-2018 10:57 nsl01327

Blank Data file reference: **/chem2/HP09137.i/18apr30a.b/wa30b01.d**

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: **W18120**
Calibration date and time (Last Method Edit): 30-APR-2018 10:55
Mid Level Daily Calibration Standard Reference: **/chem2/HP09137.i/18apr30a.b/wa30c01.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	2.766(-0.003)	603	65	166056 (-7)	250.00	
66) Fluorobenzene	5.070(-0.003)	1321	96	849457 (3)	50.00	
100) Chlorobenzene-d5	8.196(-0.003)	2295	117	658639 (1)	50.00	
131) 1,4-Dichlorobenzene-d4	10.070(0.000)	2879	152	337249 (-4)	50.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(2)	4.393(0.000)	113	189690	48.985	98%		80 - 120
57) 1,2-Dichloroethane-d4	(2)	4.727(0.001)	102	53078	52.203	104%		80 - 120
83) Toluene-d8	(3)	6.736(0.000)	98	840113	49.748	99%		80 - 120
114) 4-Bromofluorobenzene	(3)	9.194(0.000)	95	316458	49.613	99%		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)	1.412(0.000)	50	109968	18.538	18.54			0.5	1
5) 1,3-Butadiene	(2)	1.496(0.000)	39	99058	22.548	22.55			1	5
6) Vinyl Chloride	(2)	1.483(0.000)	62	111732	18.637	18.64			0.5	1
8) Bromomethane	(2)	1.701(0.000)	94	83413	19.153	19.15			0.5	1
9) Chloroethane	(2)	1.778(0.000)	64	68766	19.214	19.21			0.5	1
17) 1,1-Dichloroethene	(2)	2.352(0.000)	96	85253	22.965	22.96			0.5	1
18) Acetone	(1)	2.362(-0.000)	58	95317	168.377	168.38			6	20
23) Carbon Disulfide	(2)	2.535(0.000)	76	233170	19.034	19.03			1	5
28) Methylene Chloride	(2)	2.779(-0.007)	84	91248M	21.152	21.15			0.5	1
32) trans-1,2-Dichloroethene	(2)	2.988(0.000)	96	86160	21.088	21.09			0.5	1
36) 1,1-Dichloroethane	(2)	3.373(0.000)	63	139250	20.092	20.09			0.5	1
42) cis-1,2-Dichloroethene	(2)	3.925(0.000)	96	95073	20.622	20.62			0.5	1
44) 2-Butanone	(2)	3.941(0.000)	43	487624	158.296	158.30			3	10
51) Chloroform	(2)	4.239(-0.000)	83	140114	19.719	19.72			0.5	1
53) 1,1,1-Trichloroethane	(2)	4.419(0.000)	97	117320	18.553	18.55			0.5	1
56) Carbon Tetrachloride	(2)	4.583(0.000)	117	85837	17.924	17.92			0.5	1
60) Benzene	(2)	4.788(-0.000)	78	345977	20.335	20.33			0.5	1
61) 1,2-Dichloroethane	(2)	4.804(-0.000)	62	113629	19.154	19.15			0.5	1
71) Trichloroethene	(2)	5.443(0.000)	95	89122	19.731	19.73			0.5	1
73) 1,2-Dichloropropane	(2)	5.674(0.000)	63	88362	20.510	20.51			0.5	1
78) Bromodichloromethane	(2)	5.966(0.000)	83	98127	17.763	17.76			0.5	1
81) cis-1,3-Dichloropropene	(2)	6.447(0.000)	75	129852	17.828	17.83			0.5	1
82) 4-Methyl-2-pentanone	(2)	6.624(0.000)	43	653540	102.905	102.91			3	10
88) Toluene	(3)	6.806(0.000)	92	226912	19.616	19.62			0.5	1
89) trans-1,3-Dichloropropene	(3)	7.060(-0.000)	75	114006	16.542	16.54			0.5	1
92) 1,1,2-Trichloroethane	(3)	7.252(-0.000)	97	90773	19.965	19.96			0.5	1
93) Tetrachloroethene	(3)	7.397(0.000)	166	85761	18.220	18.22			0.5	1
96) 2-Hexanone	(3)	7.525(0.000)	43	511741	100.784	100.78			3	10
97) Dibromochloromethane	(3)	7.647(0.000)	129	77476	16.757	16.76			0.5	1
102) Chlorobenzene	(3)	8.222(-0.000)	112	248778	18.877	18.88			0.5	1
104) Ethylbenzene	(3)	8.327(0.000)	91	408795	19.101	19.10			0.5	1

M = Compound was manually integrated.

Digitally signed by Nicole S. Lamoreaux on 04/30/2018 at 10:57. Target 3.5 esignature user ID: nsl01327

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

LCSW03

Data file: /chem2/HP09137.i/18apr30a.b/wa30l01.d Injection date and time: **30-APR-2018 09:26**
Data file Sample Info. Line: LCSW03;LCSW03;1;3;LCS;;;;wa30b01; Instrument ID: **HP09137.i** Batch: **W181201AA**
Date, time and analyst ID of latest file update: 30-Apr-2018 10:57 nsl01327

Blank Data file reference: **/chem2/HP09137.i/18apr30a.b/wa30b01.d**

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: **W18120**
Calibration date and time (Last Method Edit): 30-APR-2018 10:55
Mid Level Daily Calibration Standard Reference: **/chem2/HP09137.i/18apr30a.b/wa30c01.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
106) m+p-Xylene	(3)	8.430(0.000)	106	331333	37.881	37.88			0.5	1
107) o-Xylene	(3)	8.770(0.000)	106	160135	18.330	18.33			0.5	1
108) Xylene (Total)	(3)		106	491468	56.211	56.21			0.5	1
109) Styrene	(3)	8.783(0.000)	104	271461	18.187	18.19			1	5
110) Bromoform	(3)	8.928(0.000)	173	47771	14.397	14.40			0.5	4
116) 1,1,2,2-Tetrachloroethane	(4)	9.313(0.000)	83	143504	20.231	20.23			0.5	1

Total number of targets = 37

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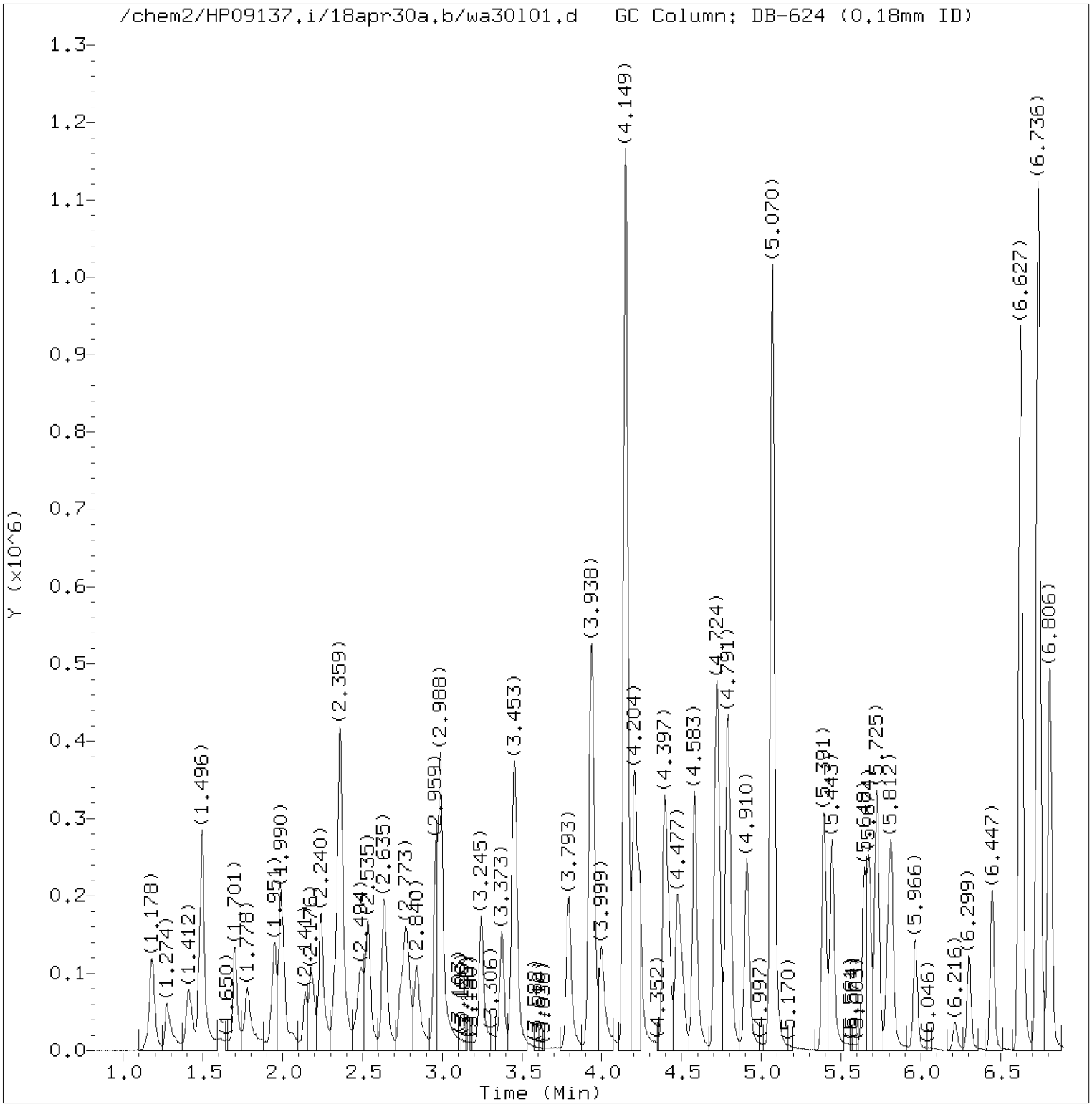
Secondary review performed and digitally signed by Sara E. Johnson on 04/30/2018 at 21:40. PARALLAX ID: sej02002



Total Ion Chromatogram (TIC)

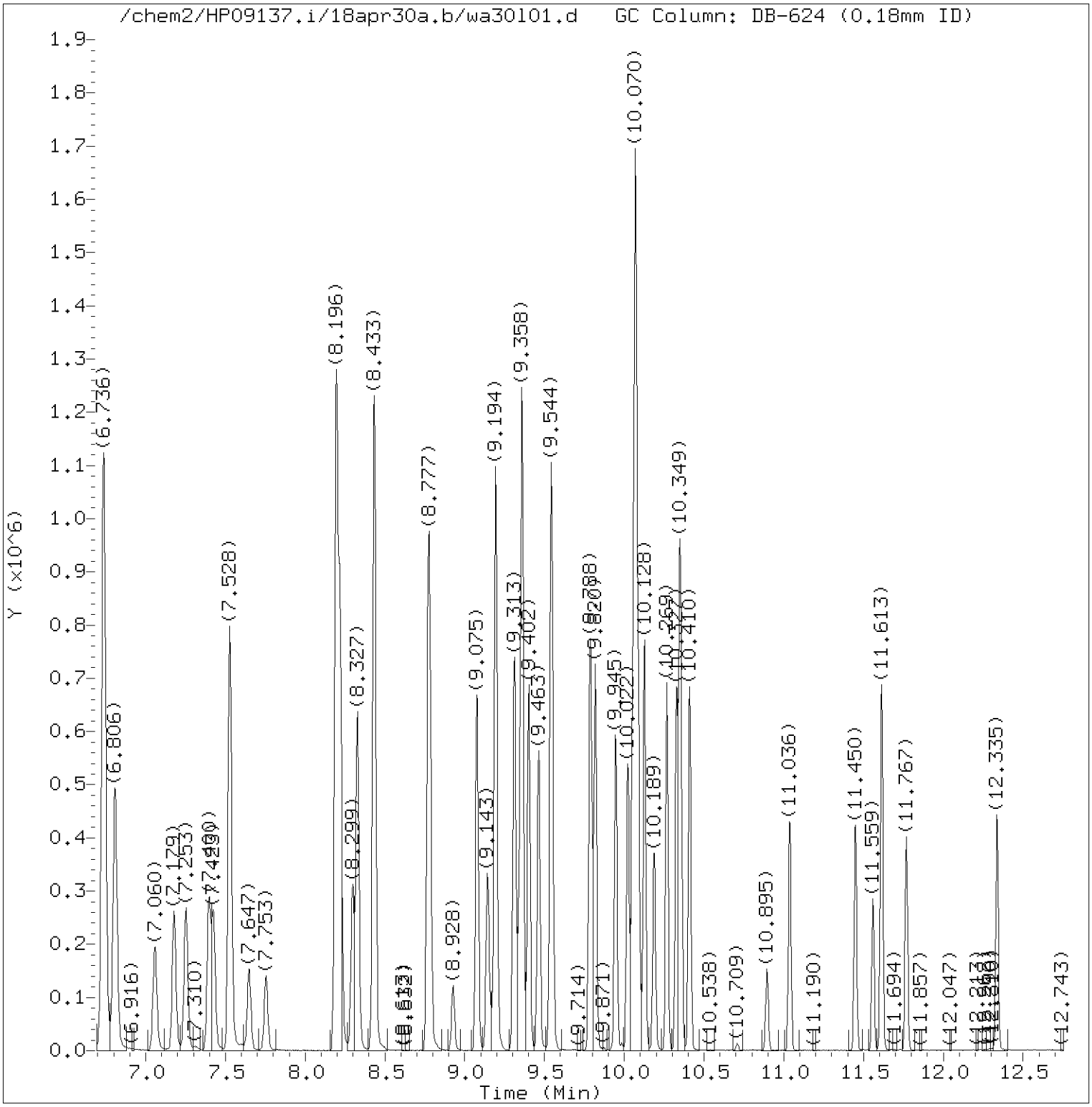
Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30l01.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 09:26 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: W18120
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 10:57 nsl01327

Sample Name: LCSW03 Lab Sample ID: LCSW03

Digitally signed by Nicole S. Lamoreaux
on 04/30/2018 at 10:57.
Target 3.5 esignature user ID: nsl01327



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30l01.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 09:26 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: W18120
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 10:57 nsl01327

Sample Name: LCSW03 Lab Sample ID: LCSW03

Digitally signed by Nicole S. Lamoreaux
on 04/30/2018 at 10:57.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30l01.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 09:26 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: W18120
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 10:57 nsl01327

Sample Name: LCSW03 Lab Sample ID: LCSW03

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Chloromethane	(2)	1.412	50	109968	18.538
6) Vinyl Chloride	(2)	1.483	62	111732	18.637
5) 1,3-Butadiene	(2)	1.496	39	99058	22.548
8) Bromomethane	(2)	1.701	94	83413	19.153
9) Chloroethane	(2)	1.778	64	68766	19.214
17) 1,1-Dichloroethene	(2)	2.353	96	85253	22.965
18) Acetone	(1)	2.362	58	95317	168.377
23) Carbon Disulfide	(2)	2.535	76	233170	19.034
29)*t-Butyl alcohol-d10	(1)	2.766	65	166056	250.000
28) Methylene Chloride	(2)	2.779	84	91248M	21.152
32) trans-1,2-Dichloroethene	(2)	2.988	96	86160	21.088
36) 1,1-Dichloroethane	(2)	3.373	63	139250	20.092
42) cis-1,2-Dichloroethene	(2)	3.925	96	95073	20.622
44) 2-Butanone	(2)	3.941	43	487624	158.296
51) Chloroform	(2)	4.239	83	140114	19.719
52)$Dibromofluoromethane	(2)	4.393	113	189690	48.985
53) 1,1,1-Trichloroethane	(2)	4.419	97	117320	18.553
56) Carbon Tetrachloride	(2)	4.583	117	85837	17.924
57)$1,2-Dichloroethane-d4	(2)	4.727	102	53078	52.203
60) Benzene	(2)	4.788	78	345977	20.335
61) 1,2-Dichloroethane	(2)	4.804	62	113629	19.154
66)*Fluorobenzene	(2)	5.070	96	849457	50.000
71) Trichloroethene	(2)	5.443	95	89122	19.731
73) 1,2-Dichloropropane	(2)	5.674	63	88362	20.510
78) Bromodichloromethane	(2)	5.966	83	98127	17.763
81) cis-1,3-Dichloropropene	(2)	6.447	75	129852	17.828
82) 4-Methyl-2-pentanone	(2)	6.624	43	653540	102.905
83)$Toluene-d8	(3)	6.736	98	840113	49.748
88) Toluene	(3)	6.806	92	226912	19.616
89) trans-1,3-Dichloropropene	(3)	7.060	75	114006	16.542
92) 1,1,2-Trichloroethane	(3)	7.253	97	90773	19.965
93) Tetrachloroethene	(3)	7.397	166	85761	18.220
96) 2-Hexanone	(3)	7.525	43	511741	100.784
97) Dibromochloromethane	(3)	7.647	129	77476	16.757
100)*Chlorobenzene-d5	(3)	8.196	117	658639	50.000
102) Chlorobenzene	(3)	8.222	112	248778	18.877
104) Ethylbenzene	(3)	8.327	91	408795	19.101
106) m+p-Xylene	(3)	8.430	106	331333	37.881

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

Digitally signed by Nicole S. Lamoreaux
on 04/30/2018 at 10:57.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30l01.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 09:26 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: W18120
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 10:57 nsl01327

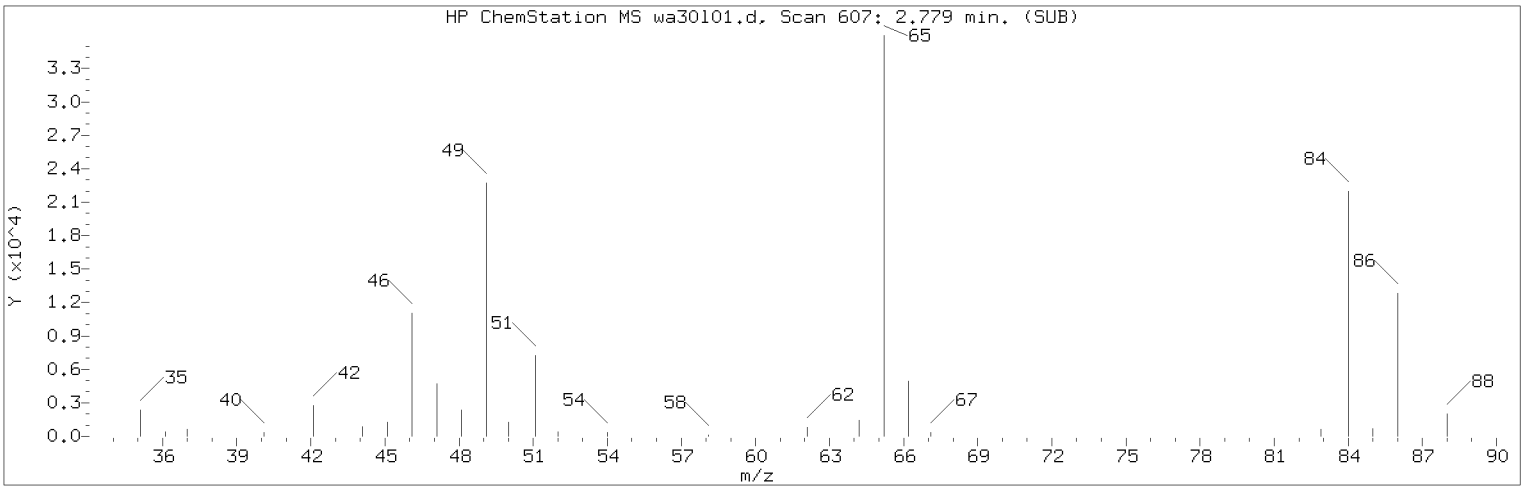
Sample Name: LCSW03 Lab Sample ID: LCSW03

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
107) o-Xylene	(3)	8.770	106	160135	18.330
109) Styrene	(3)	8.783	104	271461	18.187
108) Xylene (Total)	(3)		106	491468	56.211
110) Bromoform	(3)	8.928	173	47771	14.397
114)$4-Bromofluorobenzene	(3)	9.194	95	316458	49.613
116) 1,1,2,2-Tetrachloroethane	(4)	9.313	83	143504	20.231
131)*1,4-Dichlorobenzene-d4	(4)	10.070	152	337249	50.000

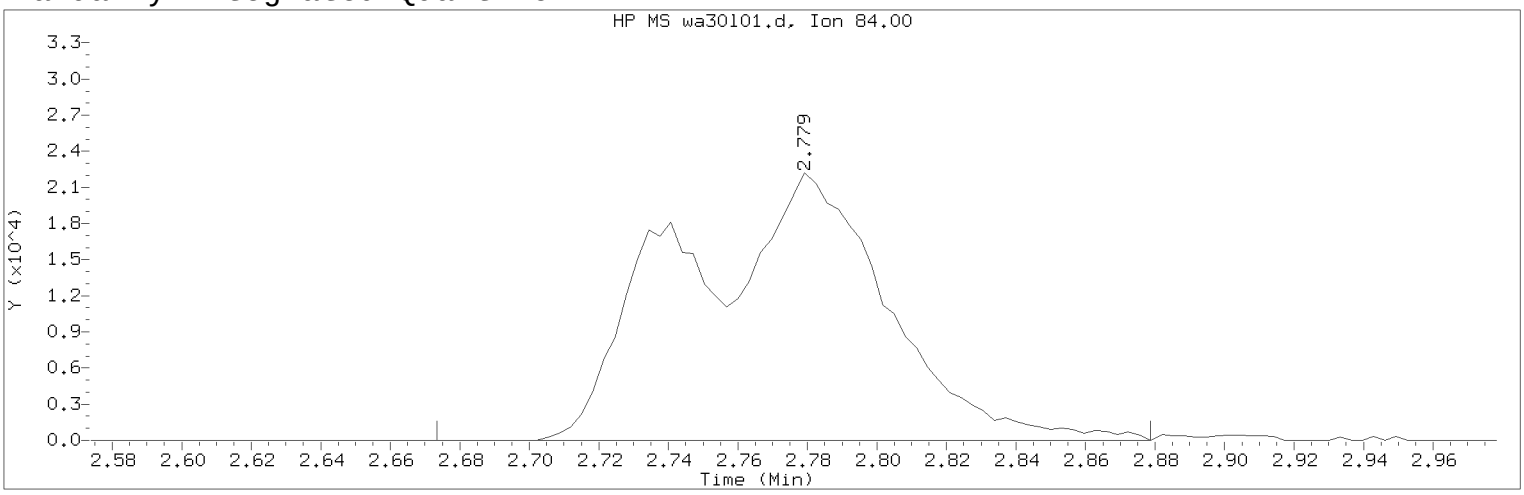
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Nicole S. Lamoreaux
on 04/30/2018 at 10:57.
Target 3.5 esignature user ID: nsl01327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr30a.b/wa30l01.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 09:26 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: W18120
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 10:57 nsl01327

Sample Name: LCSW03 Lab Sample ID: LCSW03

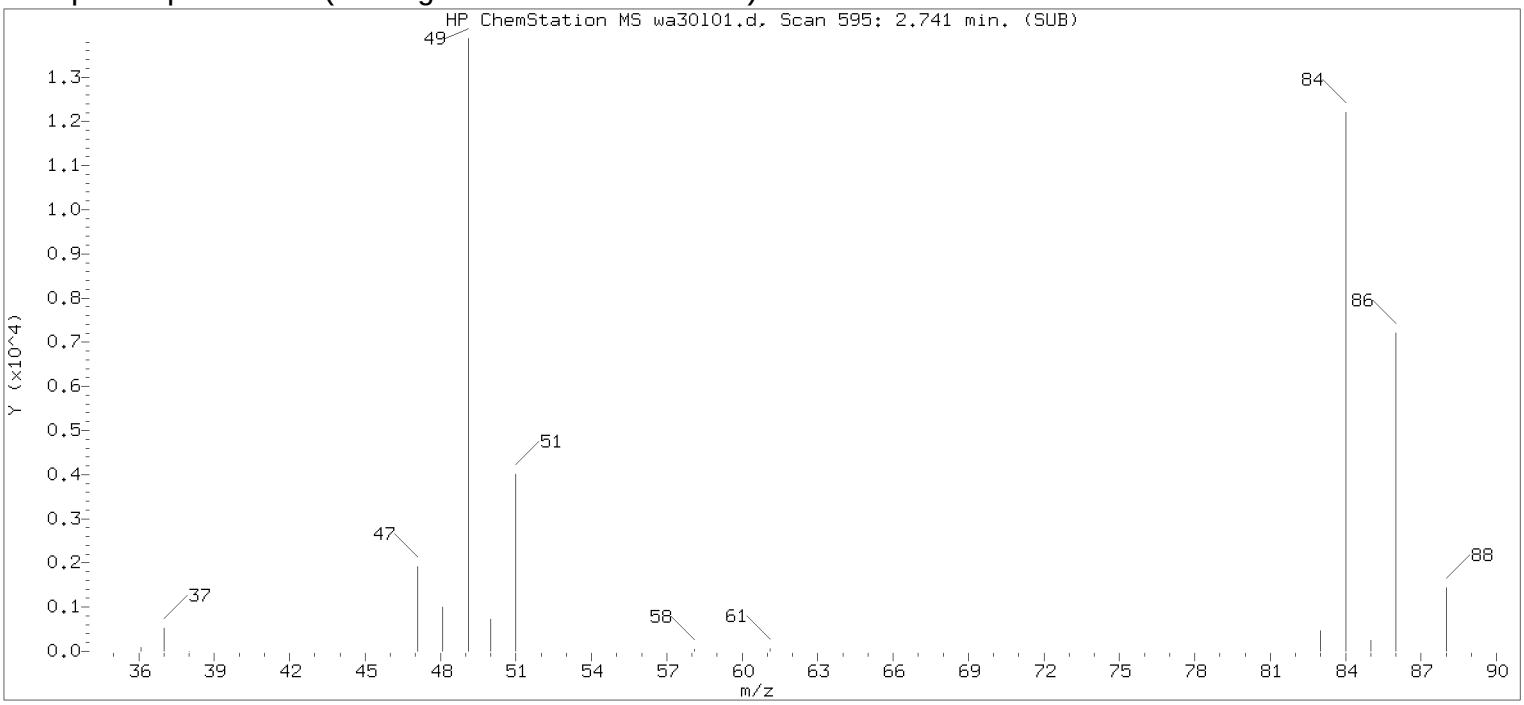
Compound Number : 28
Compound Name : Methylene Chloride
Scan Number : 607
Retention Time (minutes): 2.779
Quant Ion : 84.00
Area (flag) : 91248M
On-Column Amount (ng) : 21.1517
Integration start scan : 573 Integration stop scan: 637
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

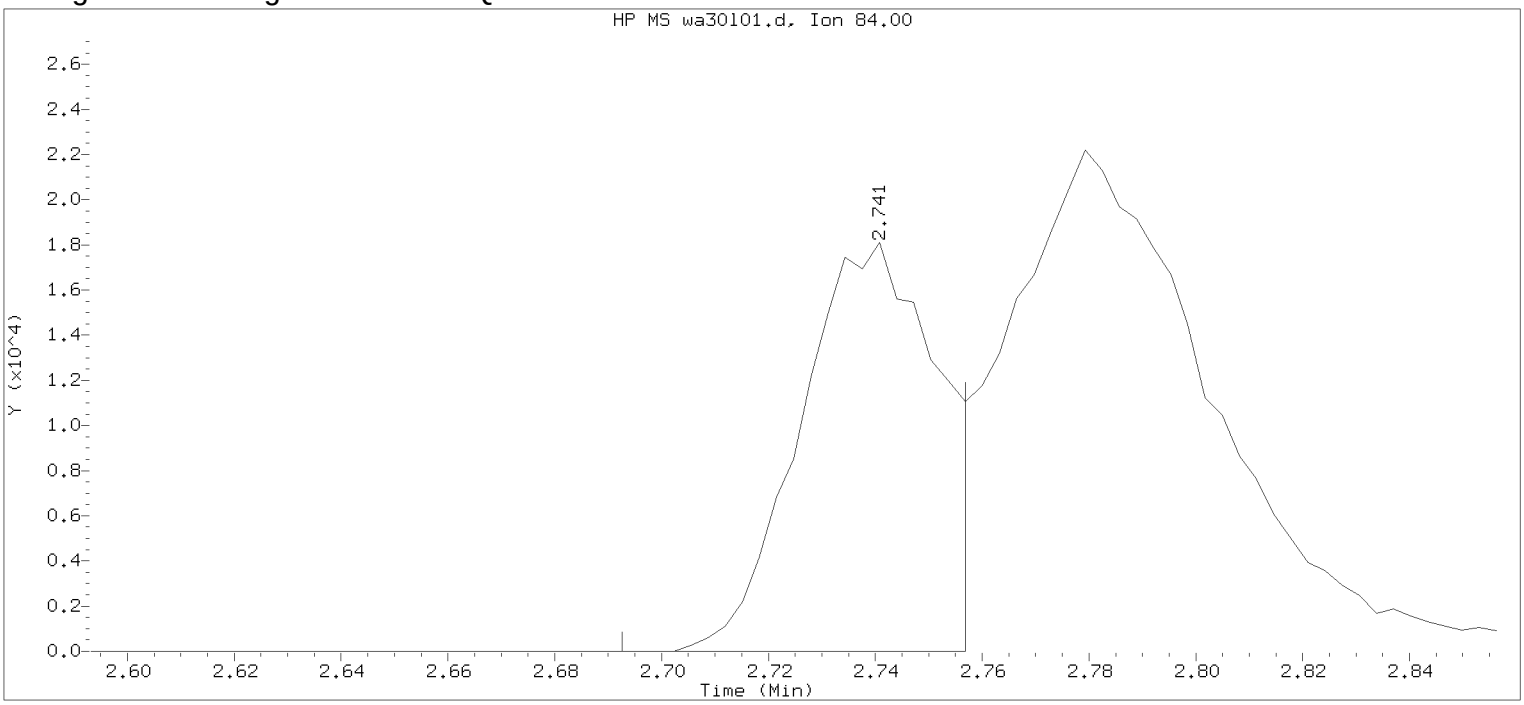
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/30/2018 at 10:57.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Sara E. Johnson on 04/30/2018 at 21:40.
PARALLAX ID: sej02002

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr30a.b/wa30l01.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 09:26 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 30-APR-2018 09:05
Date, time and analyst ID of latest file update: 30-Apr-2018 09:41 Automation

Sample Name: LCSW03 Lab Sample ID: LCSW03

Compound Number : 28
Compound Name : Methylene Chloride
Scan Number : 595
Retention Time (minutes): 2.741
Quant Ion : 84.00
Area : 31741
On-column Amount (ng) : 7.3578
Integration start scan : 579 Integration stop scan: 599
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/30/2018 at 10:57.
Target 3.5 esignature user id: 1327

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

LCDW03

Data file: /chem2/HP09137.i/18apr30a.b/wa30l02.d
Injection date and time: **30-APR-2018 09:49**
Data file Sample Info. Line: LCDW03;LCDW03;1;3;LCSD;;;;wa30b01;
Instrument ID: **HP09137.i** Batch: **W181201AA**
Date, time and analyst ID of latest file update: 30-Apr-2018 10:57 nsl01327

Blank Data file reference: **/chem2/HP09137.i/18apr30a.b/wa30b01.d**

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: **W18120**
Calibration date and time (Last Method Edit): 30-APR-2018 10:55
Mid Level Daily Calibration Standard Reference: **/chem2/HP09137.i/18apr30a.b/wa30c01.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	2.763(0.000)	602	65	158664 (-11)	250.00	
66) Fluorobenzene	5.067(0.000)	1320	96	839483 (1)	50.00	
100) Chlorobenzene-d5	8.193(0.000)	2294	117	655445 (0)	50.00	
131) 1,4-Dichlorobenzene-d4	10.070(0.000)	2879	152	336743 (-5)	50.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(2)	4.390(0.000)	113	189185	49.435	99%		80 - 120
57) 1,2-Dichloroethane-d4	(2)	4.724(0.001)	102	53131	52.876	106%		80 - 120
83) Toluene-d8	(3)	6.733(0.000)	98	839656	49.963	100%		80 - 120
114) 4-Bromofluorobenzene	(3)	9.194(0.000)	95	314034	49.473	99%		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)	1.406(0.001)	50	106507	18.168	18.17			0.5	1
5) 1,3-Butadiene	(2)	1.496(-0.000)	39	102308	23.564	23.56			1	5
6) Vinyl Chloride	(2)	1.483(-0.000)	62	111067	18.746	18.75			0.5	1
8) Bromomethane	(2)	1.701(-0.000)	94	81174	18.860	18.86			0.5	1
9) Chloroethane	(2)	1.781(-0.000)	64	67287	19.024	19.02			0.5	1
17) 1,1-Dichloroethene	(2)	2.346(0.001)	96	79492	21.667	21.67			0.5	1
18) Acetone	(1)	2.362(-0.001)	58	107497	198.739	198.74			6	20
23) Carbon Disulfide	(2)	2.535(-0.000)	76	227175	18.765	18.77			1	5
28) Methylene Chloride	(2)	2.776(-0.007)	84	89900M	21.087	21.09			0.5	1
32) trans-1,2-Dichloroethene	(2)	2.985(0.000)	96	83981	20.799	20.80			0.5	1
36) 1,1-Dichloroethane	(2)	3.373(-0.000)	63	139853	20.419	20.42			0.5	1
42) cis-1,2-Dichloroethene	(2)	3.925(-0.000)	96	93994	20.630	20.63			0.5	1
44) 2-Butanone	(2)	3.938(0.000)	43	513932	168.819	168.82			3	10
51) Chloroform	(2)	4.233(0.000)	83	137373	19.563	19.56			0.5	1
53) 1,1,1-Trichloroethane	(2)	4.416(0.000)	97	117993	18.881	18.88			0.5	1
56) Carbon Tetrachloride	(2)	4.580(0.000)	117	81941	17.314	17.31			0.5	1
60) Benzene	(2)	4.785(-0.000)	78	338325	20.121	20.12			0.5	1
61) 1,2-Dichloroethane	(2)	4.801(-0.000)	62	111298	18.984	18.98			0.5	1
71) Trichloroethene	(2)	5.443(0.000)	95	87533	19.609	19.61			0.5	1
73) 1,2-Dichloropropane	(2)	5.670(0.000)	63	85202	20.011	20.01			0.5	1
78) Bromodichloromethane	(2)	5.963(0.000)	83	93925	17.205	17.20			0.5	1
81) cis-1,3-Dichloropropene	(2)	6.447(-0.000)	75	125649	17.456	17.46			0.5	1
82) 4-Methyl-2-pentanone	(2)	6.624(0.000)	43	654884	104.342	104.34			3	10
88) Toluene	(3)	6.803(0.000)	92	223200	19.390	19.39			0.5	1
89) trans-1,3-Dichloropropene	(3)	7.057(-0.000)	75	111680	16.284	16.28			0.5	1
92) 1,1,2-Trichloroethane	(3)	7.249(-0.000)	97	88923	19.653	19.65			0.5	1
93) Tetrachloroethene	(3)	7.397(-0.000)	166	83606	17.849	17.85			0.5	1
96) 2-Hexanone	(3)	7.525(-0.000)	43	504977	99.937	99.94			3	10
97) Dibromochloromethane	(3)	7.647(-0.000)	129	73967	16.076	16.08			0.5	1
102) Chlorobenzene	(3)	8.218(0.000)	112	246655	18.807	18.81			0.5	1
104) Ethylbenzene	(3)	8.324(0.000)	91	399745	18.769	18.77			0.5	1

M = Compound was manually integrated.

Digitally signed by Nicole S. Lamoreaux on 04/30/2018 at 10:58. Target 3.5 esignature user ID: nsl01327

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

LCDW03

Data file: /chem2/HP09137.i/18apr30a.b/wa30l02.d Injection date and time: **30-APR-2018 09:49**
Data file Sample Info. Line: LCDW03;LCDW03;1;3;LCSD;;;;wa30b01; Instrument ID: **HP09137.i** Batch: **W181201AA**
Date, time and analyst ID of latest file update: 30-Apr-2018 10:57 nsl01327

Blank Data file reference: **/chem2/HP09137.i/18apr30a.b/wa30b01.d**

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: **W18120**
Calibration date and time (Last Method Edit): 30-APR-2018 10:55
Mid Level Daily Calibration Standard Reference: **/chem2/HP09137.i/18apr30a.b/wa30c01.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**

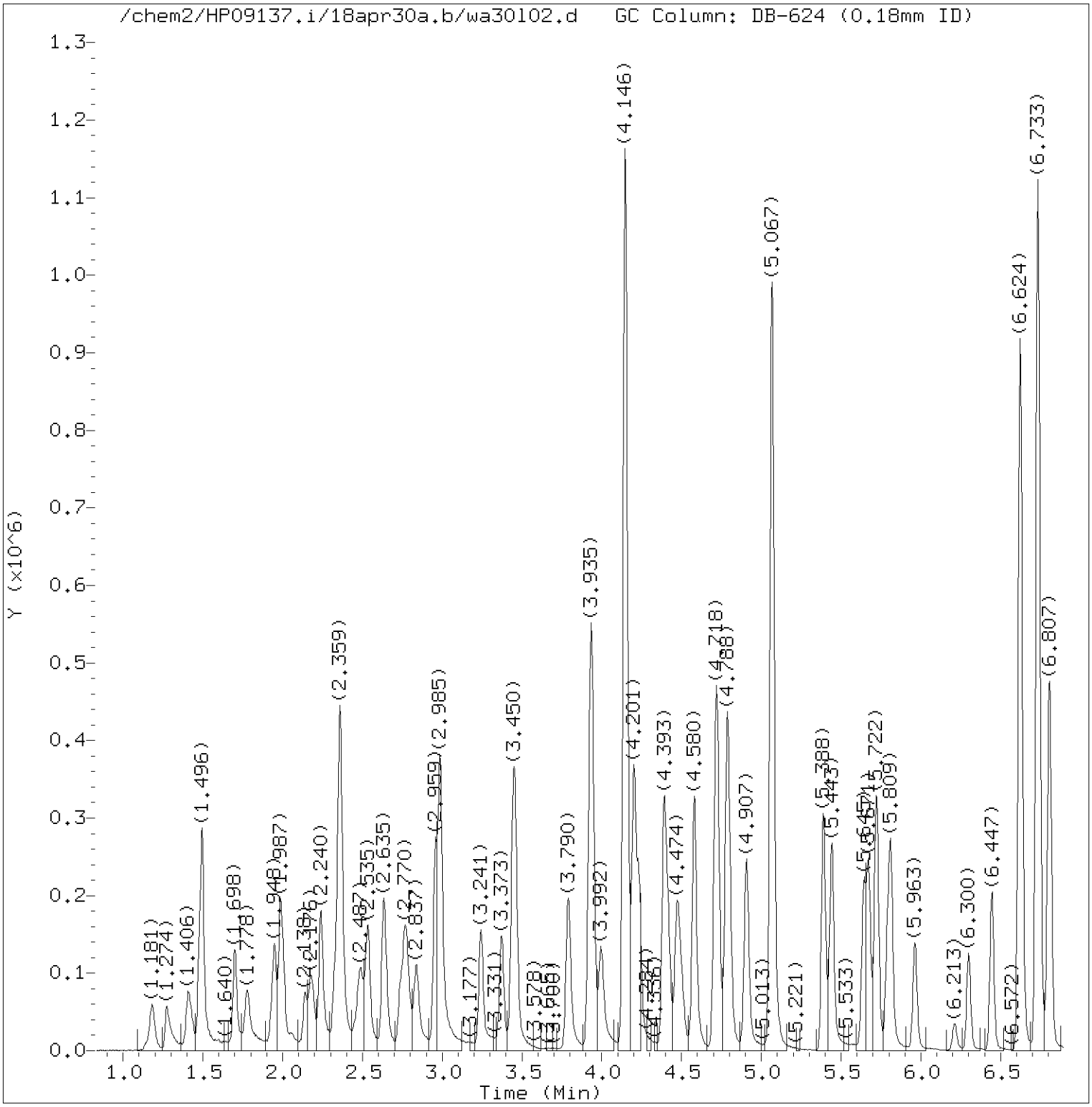
Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
106) m+p-Xylene	(3)	8.430(0.000)	106	321623	36.950	36.95			0.5	1
107) o-Xylene	(3)	8.767(0.000)	106	156824	18.039	18.04			0.5	1
108) Xylene (Total)	(3)		106	478447	54.989	54.99			0.5	1
109) Styrene	(3)	8.780(0.000)	104	266354	17.932	17.93			1	5
110) Bromoform	(3)	8.928(0.000)	173	46010	13.934	13.93			0.5	4
116) 1,1,2,2-Tetrachloroethane	(4)	9.313(-0.000)	83	141600	19.993	19.99			0.5	1

Total number of targets = 37

Digitally signed by Nicole S. Lamoreaux on 04/30/2018 at 10:58. Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Sara E. Johnson on 04/30/2018 at 21:40. PARALLAX ID: sej02002



Total Ion Chromatogram (TIC)

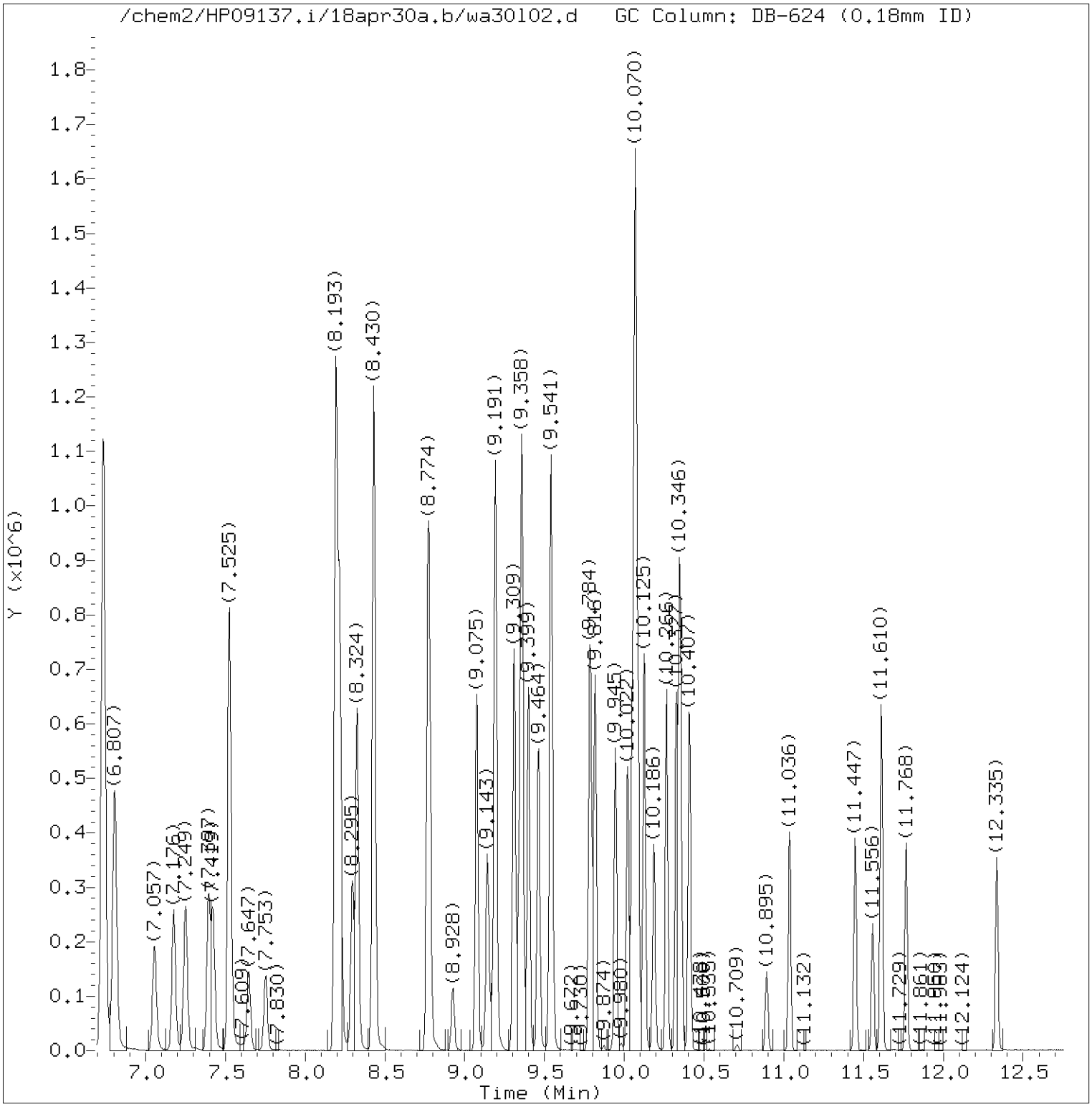
Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30l02.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 09:49 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: W18120
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 10:57 nsl01327

Sample Name: LCDW03 Lab Sample ID: LCDW03

Digitally signed by Nicole S. Lamoreaux
on 04/30/2018 at 10:58.
Target 3.5 esignature user ID: nsl01327



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30l02.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 09:49 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: W18120
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 10:57 nsl01327

Sample Name: LCDW03 Lab Sample ID: LCDW03

Digitally signed by Nicole S. Lamoreaux
on 04/30/2018 at 10:58.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30l02.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 09:49 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: W18120
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 10:57 nsl01327

Sample Name: LCDW03 Lab Sample ID: LCDW03

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Chloromethane	(2)	1.406	50	106507	18.168
6) Vinyl Chloride	(2)	1.483	62	111067	18.746
5) 1,3-Butadiene	(2)	1.496	39	102308	23.564
8) Bromomethane	(2)	1.701	94	81174	18.860
9) Chloroethane	(2)	1.781	64	67287	19.024
17) 1,1-Dichloroethene	(2)	2.346	96	79492	21.667
18) Acetone	(1)	2.362	58	107497	198.739
23) Carbon Disulfide	(2)	2.535	76	227175	18.765
29)*t-Butyl alcohol-d10	(1)	2.763	65	158664	250.000
28) Methylene Chloride	(2)	2.776	84	89900M	21.087
32) trans-1,2-Dichloroethene	(2)	2.985	96	83981	20.799
36) 1,1-Dichloroethane	(2)	3.373	63	139853	20.419
42) cis-1,2-Dichloroethene	(2)	3.925	96	93994	20.630
44) 2-Butanone	(2)	3.938	43	513932	168.819
51) Chloroform	(2)	4.233	83	137373	19.563
52)$Dibromofluoromethane	(2)	4.390	113	189185	49.435
53) 1,1,1-Trichloroethane	(2)	4.416	97	117993	18.881
56) Carbon Tetrachloride	(2)	4.580	117	81941	17.314
57)$1,2-Dichloroethane-d4	(2)	4.724	102	53131	52.876
60) Benzene	(2)	4.785	78	338325	20.121
61) 1,2-Dichloroethane	(2)	4.801	62	111298	18.984
66)*Fluorobenzene	(2)	5.067	96	839483	50.000
71) Trichloroethene	(2)	5.443	95	87533	19.609
73) 1,2-Dichloropropane	(2)	5.671	63	85202	20.011
78) Bromodichloromethane	(2)	5.963	83	93925	17.205
81) cis-1,3-Dichloropropene	(2)	6.447	75	125649	17.456
82) 4-Methyl-2-pentanone	(2)	6.624	43	654884	104.342
83)$Toluene-d8	(3)	6.733	98	839656	49.963
88) Toluene	(3)	6.803	92	223200	19.390
89) trans-1,3-Dichloropropene	(3)	7.057	75	111680	16.284
92) 1,1,2-Trichloroethane	(3)	7.249	97	88923	19.653
93) Tetrachloroethene	(3)	7.397	166	83606	17.849
96) 2-Hexanone	(3)	7.525	43	504977	99.937
97) Dibromochloromethane	(3)	7.647	129	73967	16.076
100)*Chlorobenzene-d5	(3)	8.193	117	655445	50.000
102) Chlorobenzene	(3)	8.218	112	246655	18.807
104) Ethylbenzene	(3)	8.324	91	399745	18.769
106) m+p-Xylene	(3)	8.430	106	321623	36.950

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

Digitally signed by Nicole S. Lamoreaux
on 04/30/2018 at 10:58.
Target 3.5 esignature user ID: nsl01327

Quant Report

Target Revision 3.5

Data File: /chem2/HP09137.i/18apr30a.b/wa30l02.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 09:49 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: W18120
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 10:57 nsl01327

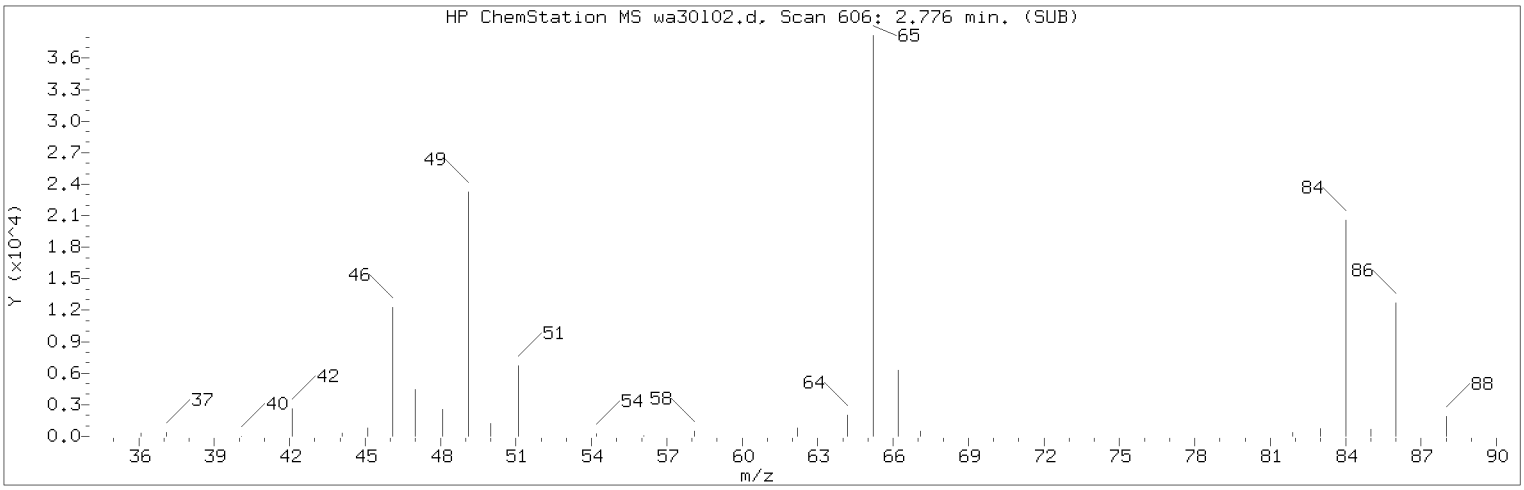
Sample Name: LCDW03 Lab Sample ID: LCDW03

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
107) o-Xylene	(3)	8.767	106	156824	18.039
109) Styrene	(3)	8.780	104	266354	17.932
108) Xylene (Total)	(3)		106	478447	54.989
110) Bromoform	(3)	8.928	173	46010	13.934
114)$4-Bromofluorobenzene	(3)	9.194	95	314034	49.473
116) 1,1,2,2-Tetrachloroethane	(4)	9.313	83	141600	19.993
131)*1,4-Dichlorobenzene-d4	(4)	10.070	152	336743	50.000

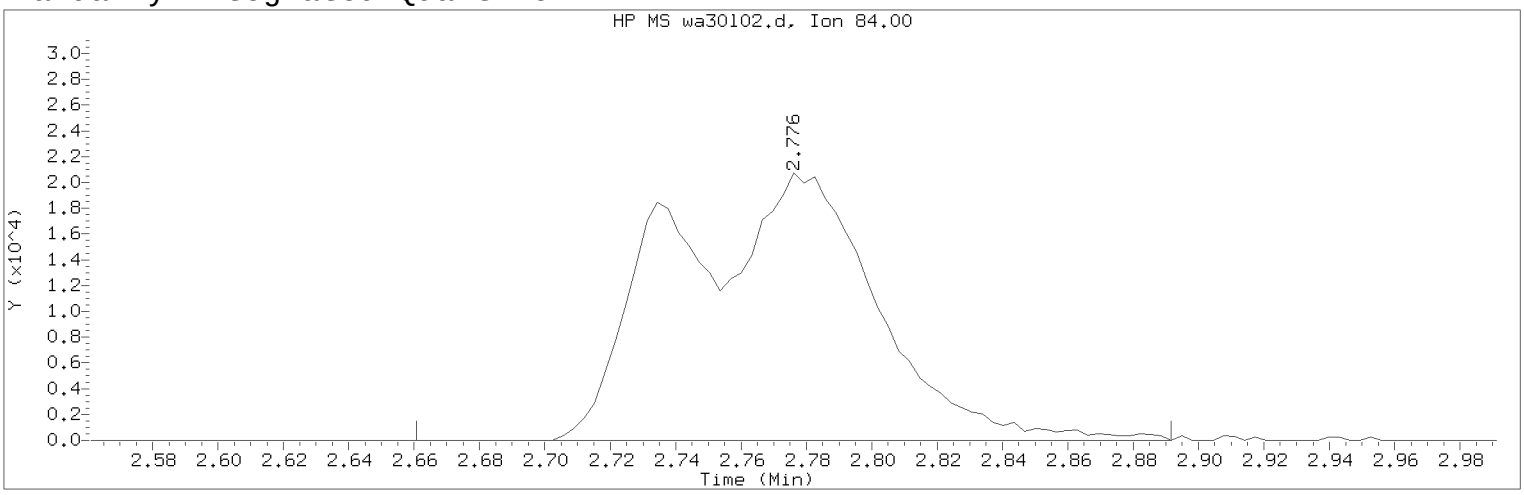
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Nicole S. Lamoreaux
on 04/30/2018 at 10:58.
Target 3.5 esignature user ID: nsl01327

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP09137.i/18apr30a.b/wa30l02.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 09:49 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: W18120
Calibration date and time: 30-APR-2018 10:55
Date, time and analyst ID of latest file update: 30-Apr-2018 10:57 nsl01327

Sample Name: LCDW03 Lab Sample ID: LCDW03

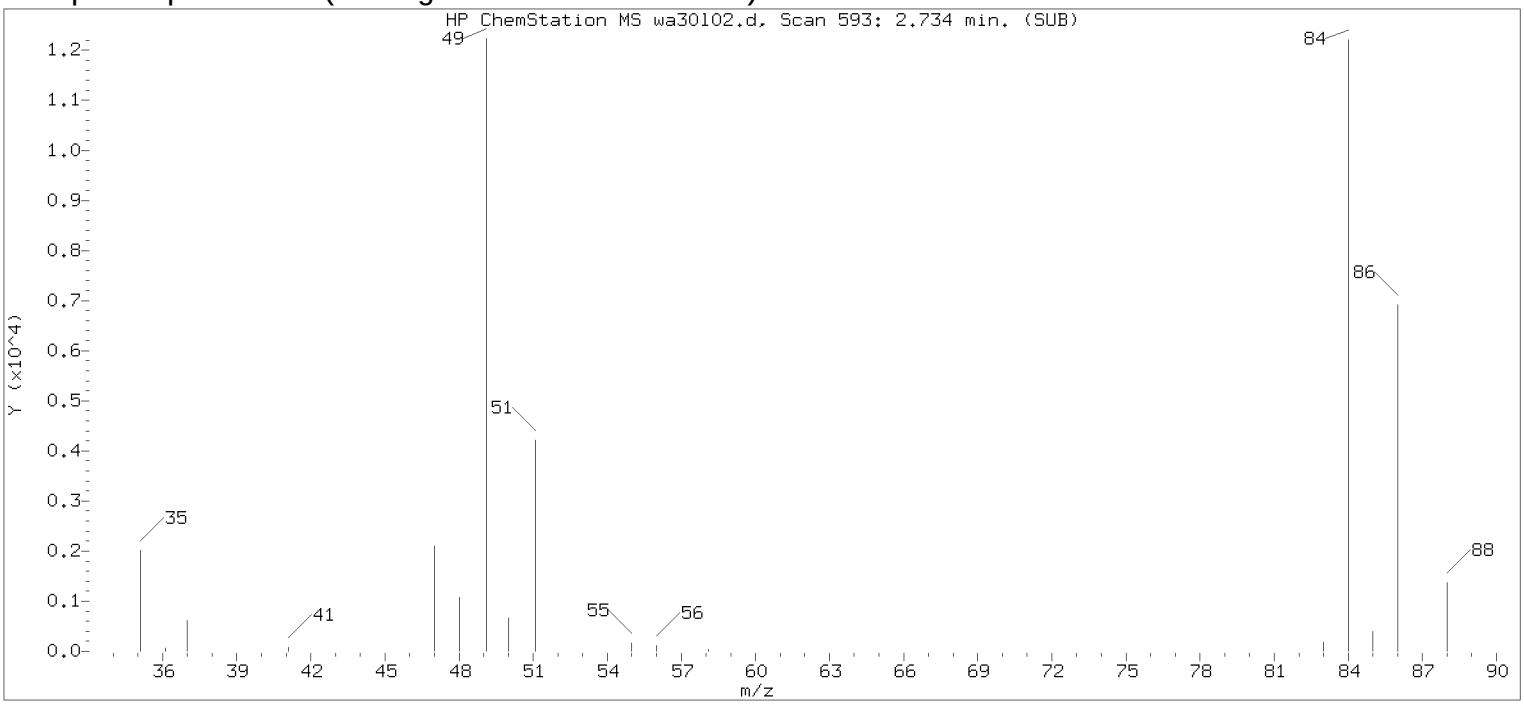
Compound Number : 28
Compound Name : Methylene Chloride
Scan Number : 606
Retention Time (minutes): 2.776
Quant Ion : 84.00
Area (flag) : 89900M
On-Column Amount (ng) : 21.0868
Integration start scan : 569 Integration stop scan: 641
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

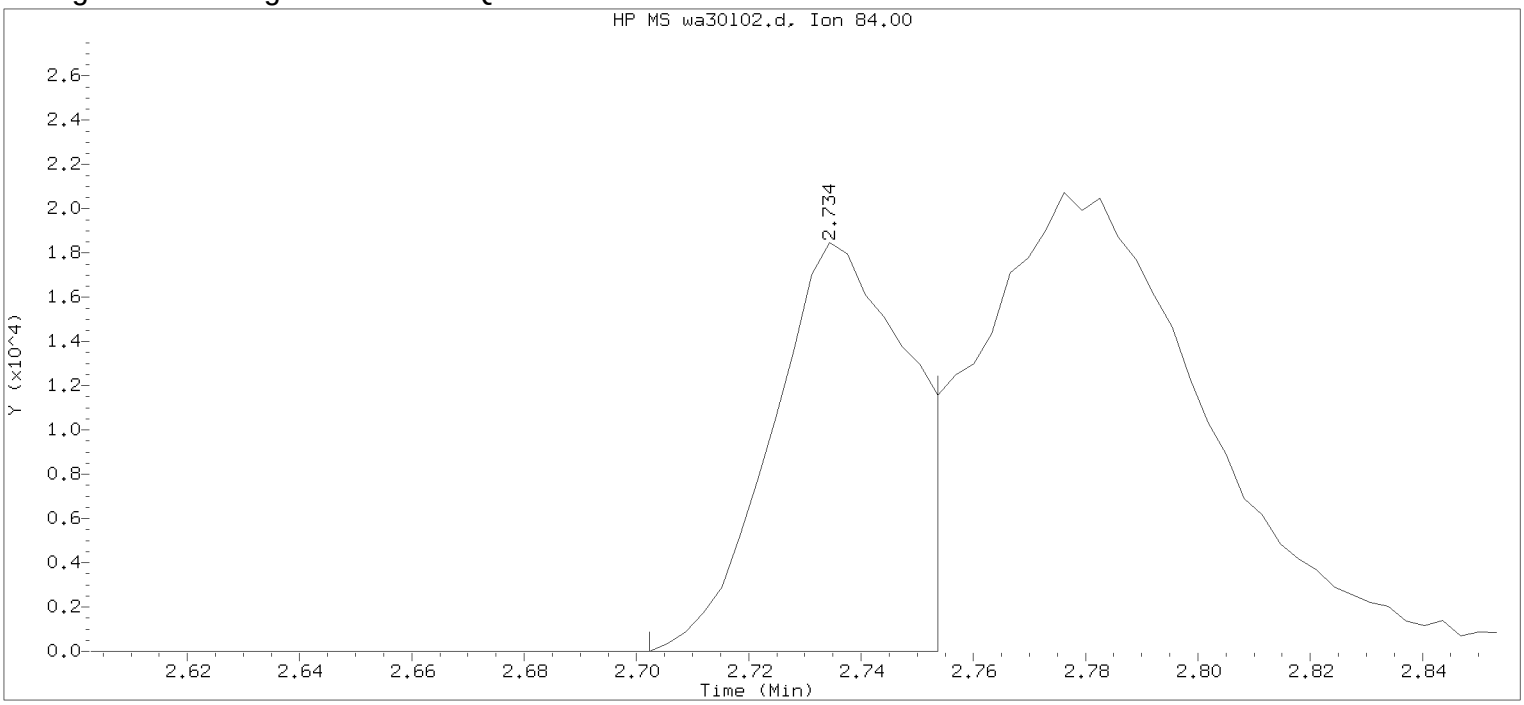
Analyst responsible for change: Digitally signed by Nicole S. Lamoreaux on 04/30/2018 at 10:58.
Target 3.5 esignature user ID: nsl01327

Secondary review performed and digitally signed by Sara E. Johnson on 04/30/2018 at 21:40.
PARALLAX ID: sej02002

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP09137.i/18apr30a.b/wa30l02.d Instrument ID: HP09137.i
Injection date and time: 30-APR-2018 09:49 Analyst ID: nsl01327

Method used: /chem2/HP09137.i/18apr30a.b/m8260b5.m Sublist used: 8260W
Calibration date and time: 30-APR-2018 09:05
Date, time and analyst ID of latest file update: 30-Apr-2018 10:05 Automation

Sample Name: LCDW03 Lab Sample ID: LCDW03

Compound Number : 28
Compound Name : Methylene Chloride
Scan Number : 593
Retention Time (minutes): 2.734
Quant Ion : 84.00
Area : 30835
On-column Amount (ng) : 7.2327
Integration start scan : 582 Integration stop scan: 598
Y at integration start : 0 Y at integration end: 0

Digitally signed by Nicole S. Lamoreaux on 04/30/2018 at 10:58.
Target 3.5 esignature user id: 1485 meaning: 367

Semivolatiles by GC/MS Data

Case Narrative/Conformance Summary

Semivolatiles by GC/MS

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Case Narrative/Conformance Summary

CLIENT: Stantec
SDG: ATH85

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
9570341	NY-MW-11R	X		1	
9570347	NY-MW-30	X		1	
9570349	NY-MW-31	X		1	
9570352	EB_20180419	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

Matrix QC may not be included if site-specific QC were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, laboratory spike data (LCS) are provided.

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

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Case Narrative/Conformance Summary

CLIENT: Stantec
SDG: ATH85

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

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: ATH85

Fraction: Semivolatiles by GC/MS

Analysis	Batch Number	Sample Number	Analysis Date
TCL SW846 8270C MINI	18113WAE026	SBLKWE113	04/25/2018 11:24:00
		113WELCS	04/25/2018 11:51:00
		113WELCSD	04/25/2018 12:59:00
		9570341	04/25/2018 15:19:00
		9570347	04/25/2018 15:47:00
		9570349	04/25/2018 16:15:00
		9570352	04/25/2018 17:11:00

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Quality Control Summary
Method Blank
GC/MS Semivolatiles
SDG: ATH85
Matrix: LIQUID

Fraction: Semivolatiles by GC/MS

18113WAE026 / SBLKWE113 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Phenol	04/25/18	N.D.	ug/l	0.5	1
bis(2-Chloroethyl)ether	04/25/18	N.D.	ug/l	0.5	1
2-Chlorophenol	04/25/18	N.D.	ug/l	0.5	1
1,3-Dichlorobenzene	04/25/18	N.D.	ug/l	0.5	1
1,4-Dichlorobenzene	04/25/18	N.D.	ug/l	0.5	1
1,2-Dichlorobenzene	04/25/18	N.D.	ug/l	0.5	1
2-Methylphenol	04/25/18	N.D.	ug/l	0.5	1
2,2'-oxybis(1-Chloropropane)	04/25/18	N.D.	ug/l	0.5	1
4-Methylphenol	04/25/18	N.D.	ug/l	0.5	1
N-Nitroso-di-n-propylamine	04/25/18	N.D.	ug/l	0.5	1
Hexachloroethane	04/25/18	N.D.	ug/l	1	5
Nitrobenzene	04/25/18	N.D.	ug/l	0.5	1
Isophorone	04/25/18	N.D.	ug/l	0.5	1
2-Nitrophenol	04/25/18	N.D.	ug/l	0.5	1
2,4-Dichlorophenol	04/25/18	N.D.	ug/l	0.5	1
2,4-Dimethylphenol	04/25/18	N.D.	ug/l	0.5	1
bis(2-Chloroethoxy)methane	04/25/18	N.D.	ug/l	0.5	1
1,2,4-Trichlorobenzene	04/25/18	N.D.	ug/l	0.5	1
Naphthalene	04/25/18	N.D.	ug/l	0.1	0.5
4-Chloroaniline	04/25/18	N.D.	ug/l	2	4
Hexachlorobutadiene	04/25/18	N.D.	ug/l	0.5	1
4-Chloro-3-methylphenol	04/25/18	N.D.	ug/l	0.5	1
2-Methylnaphthalene	04/25/18	N.D.	ug/l	0.1	0.5
Hexachlorocyclopentadiene	04/25/18	N.D.	ug/l	5	15
2,4,6-Trichlorophenol	04/25/18	N.D.	ug/l	0.5	1
2,4,5-Trichlorophenol	04/25/18	N.D.	ug/l	0.5	1
2-Chloronaphthalene	04/25/18	N.D.	ug/l	0.4	1
2-Nitroaniline	04/25/18	N.D.	ug/l	0.5	1
Dimethylphthalate	04/25/18	N.D.	ug/l	2	5
2,6-Dinitrotoluene	04/25/18	N.D.	ug/l	0.5	1
Acenaphthylene	04/25/18	N.D.	ug/l	0.1	0.5
4-Nitroaniline	04/25/18	N.D.	ug/l	0.5	1
3-Nitroaniline	04/25/18	N.D.	ug/l	0.5	1
Acenaphthene	04/25/18	N.D.	ug/l	0.1	0.5
2,4-Dinitrophenol	04/25/18	N.D.	ug/l	10	30
4-Nitrophenol	04/25/18	N.D.	ug/l	10	30
2,4-Dinitrotoluene	04/25/18	N.D.	ug/l	1	5
Dibenzofuran	04/25/18	N.D.	ug/l	0.5	1
Diethylphthalate	04/25/18	N.D.	ug/l	2	5
Fluorene	04/25/18	N.D.	ug/l	0.1	0.5
4-Chlorophenyl-phenylether	04/25/18	N.D.	ug/l	0.5	1
4,6-Dinitro-2-methylphenol	04/25/18	N.D.	ug/l	5	15
N-Nitrosodiphenylamine	04/25/18	N.D.	ug/l	0.5	1
4-Bromophenyl-phenylether	04/25/18	N.D.	ug/l	0.5	1
Hexachlorobenzene	04/25/18	N.D.	ug/l	0.1	0.5

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Quality Control Summary
Method Blank
GC/MS Semivolatiles
SDG: ATH85
Matrix: LIQUID

Fraction: Semivolatiles by GC/MS

18113WAE026 / SBLKWE113 **Analyte**	**Analysis Date**	**Blank Results**	**Units**	**MDL**	**LOQ**
Pentachlorophenol	04/25/18	N.D.	ug/l	1	5
Phenanthrene	04/25/18	N.D.	ug/l	0.1	0.5
Anthracene	04/25/18	N.D.	ug/l	0.1	0.5
Carbazole	04/25/18	N.D.	ug/l	0.5	1
Di-n-butylphthalate	04/25/18	N.D.	ug/l	2	5
Fluoranthene	04/25/18	N.D.	ug/l	0.1	0.5
Pyrene	04/25/18	N.D.	ug/l	0.1	0.5
Butylbenzylphthalate	04/25/18	N.D.	ug/l	2	5
3,3'-Dichlorobenzidine	04/25/18	N.D.	ug/l	2	5
Benzo(a)anthracene	04/25/18	N.D.	ug/l	0.1	0.5
Chrysene	04/25/18	N.D.	ug/l	0.1	0.5
bis(2-Ethylhexyl)phthalate	04/25/18	N.D.	ug/l	2	5
Di-n-octylphthalate	04/25/18	N.D.	ug/l	2	5
Benzo(b)fluoranthene	04/25/18	N.D.	ug/l	0.1	0.5
Benzo(k)fluoranthene	04/25/18	N.D.	ug/l	0.1	0.5
Benzo(a)pyrene	04/25/18	N.D.	ug/l	0.1	0.5
Indeno(1,2,3-cd)pyrene	04/25/18	N.D.	ug/l	0.1	0.5
Dibenz(a,h)anthracene	04/25/18	N.D.	ug/l	0.1	0.5
Benzo(g,h,i)perylene	04/25/18	N.D.	ug/l	0.1	0.5

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Quality Control Summary
Surrogates
GC/MS Semivolatiles
SDG: ATH85
Matrix: LIQUID

Fraction: Semivolatiles by GC/MS

18113WAE026	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
SBLKWE113	94	21 - 134	73	39 - 105	49	10 - 82	85	30 - 111	37	10 - 71	99	27 - 116
113WELCS	101	21 - 134	85	39 - 105	61	10 - 82	92	30 - 111	48	10 - 71	93	27 - 116
113WELCSD	100	21 - 134	82	39 - 105	66	10 - 82	94	30 - 111	51	10 - 71	96	27 - 116
9570341	81	21 - 134	75	39 - 105	35	10 - 82	81	30 - 111	27	10 - 71	74	27 - 116
9570347	55	21 - 134	81	39 - 105	23	10 - 82	89	30 - 111	17	10 - 71	70	27 - 116
9570349	35	21 - 134	83	39 - 105	16	10 - 82	90	30 - 111	12	10 - 71	56	27 - 116
9570352	92	21 - 134	81	39 - 105	48	10 - 82	88	30 - 111	36	10 - 71	93	27 - 116

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

SDG: ATH85
Matrix: LIQUID

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

LCS: 113WELCS LCSD: 113WELCSD	Batch: **18113WAE026** (Sample number(s): 9570341, 9570347, 9570349, 9570352)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Phenol	50	25.77	27.56	52	55	10-92	7	30
bis(2-Chloroethyl)ether	50	46.12	45.63	92	91	48-119	1	30
2-Chlorophenol	50	44.44	45.36	89	91	47-116	2	30
1,3-Dichlorobenzene	50	29.25	29.78	59	60	24-115	2	30
1,4-Dichlorobenzene	50	30.34	30.99	61	62	30-109	2	30
1,2-Dichlorobenzene	50	32.51	32.96	65	66	31-116	1	30
2-Methylphenol	50	45.02	45.78	90	92	46-113	2	30
2,2'-oxybis(1-Chloropropane)	50	49.52	50.53	99	101	40-117	2	30
4-Methylphenol	50	42.74	43.82	85	88	42-115	3	30
N-Nitroso-di-n-propylamine	50	50.9	51.9	102	104	48-128	2	30
Hexachloroethane	50	24.18	24.87	48	50	19-105	3	30
Nitrobenzene	50	49.1	50.59	98	101	43-128	3	30
Isophorone	50	52.96	53.67	106	107	49-129	1	30
2-Nitrophenol	50	48.65	49.1	97	98	58-125	1	30
2,4-Dichlorophenol	50	50.27	51.03	101	102	53-126	1	30
2,4-Dimethylphenol	50	43.94	44.85	88	90	41-103	2	30
bis(2-Chloroethoxy)methane	50	49.41	50.63	99	101	54-127	2	30
1,2,4-Trichlorobenzene	50	32.59	32.89	65	66	29-120	1	30
Naphthalene	50	39.25	39.92	79	80	44-114	2	30
4-Chloroaniline	50	45.33	44.72	91	89	33-106	1	30
Hexachlorobutadiene	50	27.45	27.32	55	55	16-119	0	30
4-Chloro-3-methylphenol	50	51.03	51.67	102	103	50-130	1	30
2-Methylnaphthalene	50	38.15	39.15	76	78	42-120	3	30
Hexachlorocyclopentadiene	100	34.25	34.4	34	34	10-104	0	30
2,4,6-Trichlorophenol	50	52.14	52.4	104	105	61-130	1	30
2,4,5-Trichlorophenol	50	52.59	52.98	105	106	59-129	1	30
2-Chloronaphthalene	50	37.73	35.93	75	72	41-123	5	30
2-Nitroaniline	50	50.91	51.17	102	102	54-133	0	30
Dimethylphthalate	50	26.25	23.53	53	47	19-119	11	30
2,6-Dinitrotoluene	50	52.55	52.08	105	104	57-131	1	30
Acenaphthylene	50	47.52	48.97	95	98	67-111	3	30
4-Nitroaniline	50	46.7	44.88	93	90	46-114	4	30
3-Nitroaniline	50	49.46	49.49	99	99	41-123	0	30
Acenaphthene	50	43.17	44.02	86	88	49-123	2	30
2,4-Dinitrophenol	100	97.48	99.88	97	100	19-140	2	30
4-Nitrophenol	50	30.01	31.01	60	62	10-96	3	30
2,4-Dinitrotoluene	50	50.38	49.98	101	100	56-128	1	30
Dibenzofuran	50	42.6	44.28	85	89	50-124	4	30
Diethylphthalate	50	40.96	39.77	82	80	42-124	3	30
Fluorene	50	44.45	44.98	89	90	48-124	1	30
4-Chlorophenyl-phenylether	50	38.56	39.18	77	78	45-124	2	30
4,6-Dinitro-2-methylphenol	50	50.21	50.72	100	101	50-132	1	30

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

SDG: ATH85
Matrix: LIQUID

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

LCS: 113WELCS LCSD: 113WELCSD	Batch: **18113WAE026** (Sample number(s): 9570341, 9570347, 9570349, 9570352)							
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	49.33	50.31	99	101	55-128	2	30
4-Bromophenyl-phenylether	50	41.98	43.29	84	87	53-127	3	30
Hexachlorobenzene	50	46.12	47.03	92	94	57-123	2	30
Pentachlorophenol	50	44.38	45.61	89	91	50-127	3	30
Phenanthrene	50	47.9	48.15	96	96	54-122	1	30
Anthracene	50	48.8	49.38	98	99	55-126	1	30
Carbazole	50	53.64	54.04	107	108	65-123	1	30
Di-n-butylphthalate	50	46.57	46.38	93	93	58-119	0	30
Fluoranthene	50	52.48	52.68	105	105	61-123	0	30
Pyrene	50	47.88	49.7	96	99	54-123	4	30
Butylbenzylphthalate	50	38.82	39.02	78	78	40-131	1	30
3,3'-Dichlorobenzidine	50	38.03	36.79	76	74	32-106	3	30
Benzo(a)anthracene	50	50.08	51.31	100	103	63-124	2	30
Chrysene	50	49.74	51.28	99	103	65-124	3	30
bis(2-Ethylhexyl)phthalate	50	47.69	49.22	95	98	52-132	3	30
Di-n-octylphthalate	50	50.17	50.76	100	102	51-134	1	30
Benzo(b)fluoranthene	50	50.57	50.69	101	101	58-127	0	30
Benzo(k)fluoranthene	50	52.22	52.75	104	105	63-123	1	30
Benzo(a)pyrene	50	51.07	51.74	102	103	50-128	1	30
Indeno(1,2,3-cd)pyrene	50	49.25	50.01	99	100	52-127	2	30
Dibenz(a,h)anthracene	50	51.65	52.29	103	105	53-132	1	30
Benzo(g,h,i)perylene	50	49.68	49.92	99	100	51-124	0	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: ld0410c.d DFTPP Injection Date: 04/11/18

Instrument ID: HP20296 DFTPP Injection Time: 07:24

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	45.0
68	Less than 2.0% of mass 69	0.74 (1.64)1
69	Mass 69 relative abundance	45.4
70	Less than 2.0% of mass 69	0.27 (0.59)1
127	40.0 - 60.0% of mass 198	48.3
197	Less than 1.0% of mass 198	0.37
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 30.0% of mass 198	21.7
365	Greater than 1.00% of mass 198	2.06
441	Present, and less than mass 443	9.78
442	Greater than 40.0 % of mass 198	64.0
443	17.0 - 23.0% of mass 442	12.0 (18.7)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	ld0411c.d	04/11/18	07:59
02	rvSTD0968 - SSTD.125	ld0412c.d	04/11/18	09:33
03	rvSTD0968 - SSTD30	ld0413c.d	04/11/18	10:01
04	rvSTD0968 - SSTD20	ld0414c.d	04/11/18	10:28
05	rvSTD0968 - SSTD12.5	ld0415c.d	04/11/18	10:56
06	rvSTD0968 - SSTD3.75	ld0416c.d	04/11/18	11:24
07	rvSTD0968 - SSTD1.25	ld0417c.d	04/11/18	11:52
08	rvSTD0968 - SSTD.25	ld0418c.d	04/11/18	12:20
09	rvMDL0968 - SSTD0.125	ld0419c.d	04/11/18	12:47
10	rvPAHMDL0968 - SSTD0.025	ld0420c.d	04/11/18	13:15
11	rvIVC0648 - SSTD12.5	ld0421c.d	04/11/18	13:43
12	rvBASICV0648 - SSTD12.5	ld0422c.d	04/11/18	14:11
13	ms1808526A - SSTD12.5	ld0423c.d	04/11/18	14:39

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: ld1010z.d DFTPP Injection Date: 04/25/18

Instrument ID: HP20296 DFTPP Injection Time: 10:15

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	49.7
68	Less than 2.0% of mass 69	0.83 (1.69)1
69	Mass 69 relative abundance	49.1
70	Less than 2.0% of mass 69	0.27 (0.56)1
127	40.0 - 60.0% of mass 198	49.0
197	Less than 1.0% of mass 198	0.9
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.66
275	10.0 - 30.0% of mass 198	22.6
365	Greater than 1.00% of mass 198	2.42
441	Present, and less than mass 443	9.48
442	Greater than 40.0 % of mass 198	61.3
443	17.0 - 23.0% of mass 442	12.4 (20.3)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	ld1011.d	04/25/18	10:32
02	SBLKWE113	ld1012.d	04/25/18	11:24
03	113WELCS	ld1013.d	04/25/18	11:51
04	113WELCSD	ld1014.d	04/25/18	12:59
05	9565349DL	ld1015.d	04/25/18	13:27
06	9570270	ld1017.d	04/25/18	14:23
07	9570341	ld1019.d	04/25/18	15:19
08	9570347	ld1020.d	04/25/18	15:47
09	9570349	ld1021.d	04/25/18	16:15
10	9570352	ld1022.d	04/25/18	17:11
11	9570355	ld1023.d	04/25/18	17:39
12	9570357	ld1024.d	04/25/18	18:07
13	9570359	ld1025.d	04/25/18	18:35
14	9570361	ld1026.d	04/25/18	19:03
15	9570363	ld1027.d	04/25/18	19:31
16	9570366	ld1028.d	04/25/18	19:59
17	9570368	ld1029.d	04/25/18	20:27
18	RVSTD0968	ld1030.d	04/25/18	20:54

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: ld1010z.d DFTPP Injection Date: 04/25/18

Instrument ID: HP20296 DFTPP Injection Time: 10:15

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	49.7
68	Less than 2.0% of mass 69	0.83 (1.69)1
69	Mass 69 relative abundance	49.1
70	Less than 2.0% of mass 69	0.27 (0.56)1
127	40.0 - 60.0% of mass 198	49.0
197	Less than 1.0% of mass 198	0.9
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.66
275	10.0 - 30.0% of mass 198	22.6
365	Greater than 1.00% of mass 198	2.42
441	Present, and less than mass 443	9.48
442	Greater than 40.0 % of mass 198	61.3
443	17.0 - 23.0% of mass 442	12.4 (20.3)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

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: HP20296 Calibration Date(s): 04/11/18 04/11/18

Calibration Times: 07:59 12:20

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID: RRF0.125 = ld0412c.d RRF0.25 = ld0418c.d RRF1.25 = ld0417c.d RRF3.75 = ld0416c.d
RRF7.5 = ld0411c.d RRF12.5 = ld0415c.d RRF20 = ld0414c.d RRF30 = ld0413c.d

COMPOUND		RRF0.125	RF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD	
1,4-Dioxane				0.688	0.598	0.661	0.648	0.660	0.678	0.656	5	AVG	
N-Nitrosodimethylamine				0.974	0.927	1.010	1.026	1.040	1.058	1.006	5	AVG	
Pyridine				1.788	1.662	1.751	1.780	1.825	1.852	1.776	4	AVG	
2-Picoline				1.799	1.686	1.782	1.829	1.863	1.863	1.804	4	AVG	
N-Nitrosomethylethylamine				0.707	0.664	0.720	0.733	0.752	0.745	0.720	4	AVG	
Methyl methanesulfonate				0.866	0.821	0.870	0.883	0.890	0.901	0.872	3	AVG	
N-Nitrosodiethylamine			0.473	0.663	0.647	0.702	0.718	0.739	0.731	0.668	14	AVG	
Ethyl methanesulfonate			0.639	0.741	0.696	0.735	0.757	0.760	0.761	0.727	6	AVG	
Benzaldehyde			0.283	1.299	1.300	1.416	1.382	1.398	1.356	1.205	34	1STDEG	
Phenol	*		1.590	2.002	2.045	2.134	2.184	2.189	2.172	2.045	10	AVG	*
Aniline			1.732	2.461	2.344	2.497	2.536	2.567	2.545	2.383	12	AVG	
a-methylstyrene				0.494	0.526	0.488	0.520	0.542	0.554	0.521	5	AVG	
bis(2-Chloroethyl)ether			1.141	1.606	1.540	1.592	1.612	1.621	1.597	1.530	11	AVG	
2-Chlorophenol			0.968	1.404	1.309	1.411	1.434	1.449	1.415	1.341	13	AVG	
1,3-Dichlorobenzene			1.062	1.600	1.533	1.571	1.616	1.616	1.600	1.514	13	AVG	
1,4-Dichlorobenzene	*		1.105	1.634	1.533	1.575	1.636	1.627	1.615	1.532	13	AVG	*
Benzyl alcohol				0.819	0.882	0.840	0.914	0.953	0.963	0.895	7	AVG	
1,2-Dichlorobenzene			1.085	1.521	1.440	1.519	1.563	1.558	1.527	1.459	12	AVG	
Indene				2.009	2.162	2.020	2.147	2.221	2.267	2.138	5	AVG	
2-Methylphenol			1.055	1.370	1.301	1.356	1.390	1.399	1.387	1.323	9	AVG	
2,2'-oxybis(1-Chloropropane)			1.745	2.374	2.155	2.223	2.270	2.273	2.250	2.184	9	AVG	
bis(2-Chloroisopropyl)ether			1.745	2.359	2.155	2.223	2.270	2.273	2.250	2.182	9	AVG	
N-Nitrosopyrrolidine			0.570	0.724	0.688	0.738	0.785	0.783	0.779	0.724	11	AVG	
Acetophenone			1.168	2.050	2.010	2.224	2.222	2.203	2.238	2.017	19	1STDEG	
4-Methylphenol			1.116	1.441	1.379	1.446	1.476	1.461	1.460	1.397	9	AVG	
Total Cresols			1.085	1.405	1.340	1.401	1.433	1.430	1.423	1.360	9	AVG	
N-Nitroso-di-n-propylamine	#		0.944	1.186	1.124	1.180	1.204	1.203	1.205	1.150	8	AVG	#
N-Nitrosomorpholine				0.959	0.912	0.970	0.983	0.973	0.968	0.961	3	AVG	
o-Toluidine			1.807	2.484	2.324	2.415	2.470	2.461	2.411	2.339	10	AVG	
Hexachloroethane				0.663	0.627	0.648	0.663	0.664	0.654	0.653	2	AVG	
Nitrobenzene			0.336	0.456	0.433	0.455	0.472	0.462	0.465	0.440	11	AVG	
N-Nitrosopiperidine			0.150	0.180	0.175	0.183	0.192	0.192	0.194	0.181	8	AVG	
Isophorone			0.623	0.772	0.747	0.779	0.819	0.818	0.824	0.769	9	AVG	
2-Nitrophenol	*		0.127	0.176	0.173	0.181	0.196	0.194	0.197	0.178	14	AVG	*
2,4-Dimethylphenol			0.304	0.392	0.370	0.393	0.405	0.403	0.400	0.381	9	AVG	
O,O,O-Triethylphosphorothioate				0.194	0.179	0.185	0.191	0.192	0.191	0.189	3	AVG	
bis(2-Chloroethoxy)methane			0.426	0.513	0.492	0.505	0.522	0.516	0.523	0.500	7	AVG	
Benzoic acid				0.127	0.184	0.184	0.232	0.256	0.269	0.209	26	1STDEG	
2,4-Dichlorophenol	*		0.225	0.302	0.286	0.307	0.322	0.318	0.317	0.297	11	AVG	*
1,2,4-Trichlorobenzene			0.260	0.346	0.322	0.337	0.353	0.348	0.347	0.331	10	AVG	
Naphthalene		0.874	0.851	1.121	1.031	1.079	1.110	1.103	1.096	1.033	11	AVG	
4-Chloroaniline			0.353	0.430	0.408	0.426	0.452	0.442	0.441	0.422	8	AVG	
2,6-Dichlorophenol			0.238	0.295	0.289	0.301	0.314	0.311	0.309	0.294	9	AVG	
Hexachloropropene				0.237	0.224	0.237	0.249	0.244	0.245	0.239	4	AVG	
Hexachlorobutadiene	*		0.150	0.212	0.200	0.209	0.210	0.211	0.211	0.200	11	AVG	*
Quinoline				0.650	0.626	0.641	0.682	0.676	0.675	0.658	3	AVG	
Caprolactam					0.087	0.095	0.098	0.096	0.093	0.094	5	AVG	
N-Nitrosodi-n-butylamine				0.277	0.275	0.286	0.372	0.366	0.371	0.324	15	1STDEG	
4-Chloro-3-methylphenol	*		0.250	0.324	0.319	0.335	0.351	0.350	0.349	0.326	11	AVG	*
Safrole				0.276	0.265	0.272	0.286	0.282	0.282	0.277	3	AVG	
2-Methylnaphthalene		0.580	0.571	0.754	0.685	0.707	0.740	0.728	0.727	0.686	10	AVG	
1-Methylnaphthalene		0.566	0.549	0.666	0.623	0.648	0.666	0.662	0.658	0.630	7	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: HP20296 Calibration Date(s): 04/11/18 04/11/18

Calibration Times: 07:59 12:20

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID: RRF0.125 = ld0412c.d RRF0.25 = ld0418c.d RRF1.25 = ld0417c.d RRF3.75 = ld0416c.d
RRF7.5 = ld0411c.d RRF12.5 = ld0415c.d RRF20 = ld0414c.d RRF30 = ld0413c.d

COMPOUND		RRF0.125	RRF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD	
Hexachlorocyclopentadiene	#			0.378	0.374	0.408	0.420	0.427	0.420	0.404	6	AVG	#
1,2,4,5-Tetrachlorobenzene			0.597	0.722	0.658	0.683	0.701	0.711	0.689	0.680	6	AVG	
cis-Isosafrole				0.590	0.547	0.587	0.600	0.636	0.610	0.595	5	AVG	
2,4,6-Trichlorophenol	*		0.323	0.414	0.412	0.436	0.455	0.475	0.474	0.427	12	AVG	*
2,4,5-Trichlorophenol			0.319	0.466	0.443	0.468	0.485	0.485	0.471	0.448	13	AVG	
trans-Isosafrole				0.641	0.603	0.625	0.647	0.668	0.655	0.640	4	AVG	
Isosafrole				0.632	0.593	0.618	0.639	0.662	0.648	0.632	4	AVG	
1,1'-Biphenyl			1.061	1.764	1.590	1.721	1.689	1.693	1.703	1.603	15	1STDEG	
2-Chloronaphthalene			1.126	1.471	1.356	1.331	1.343	1.433	1.477	1.362	9	AVG	
1-Chloronaphthalene			1.143	1.271	1.174	1.270	1.292	1.249	1.116	1.216	6	AVG	
Diphenyl ether			0.798	0.938	0.880	0.896	0.914	0.933	0.908	0.895	5	AVG	
2-Nitroaniline			0.315	0.385	0.383	0.408	0.430	0.438	0.432	0.399	11	AVG	
1,4-Naphthoquinone				0.500	0.505	0.534	0.564	0.572	0.555	0.538	6	AVG	
1,4-Dinitrobenzene				0.184	0.191	0.202	0.218	0.225	0.225	0.208	9	AVG	
Dimethylphthalate				1.590	1.494	1.507	1.555	1.567	1.443	1.526	4	AVG	
1,3-Dinitrobenzene				0.208	0.220	0.228	0.240	0.252	0.249	0.233	7	AVG	
2,6-Dinitrotoluene			0.239	0.319	0.323	0.334	0.348	0.357	0.350	0.324	12	AVG	
Acenaphthylene		1.622	1.596	2.001	1.883	1.962	2.022	2.059	2.003	1.894	10	AVG	
3-Nitroaniline			0.238	0.333	0.339	0.349	0.367	0.383	0.381	0.341	15	AVG	
Acenaphthene	*	1.323	1.225	1.414	1.314	1.338	1.376	1.401	1.352	1.343	4	AVG	*
2,4-Dinitrophenol	#				0.163	0.179	0.205	0.218	0.209	0.195	12	AVG	#
4-Nitrophenol	#				0.220	0.235	0.249	0.254	0.246	0.241	6	AVG	#
Pentachlorobenzene			0.495	0.577	0.543	0.557	0.571	0.583	0.558	0.555	5	AVG	
2,4-Dinitrotoluene				0.427	0.429	0.442	0.465	0.481	0.451	0.449	5	AVG	
2,4_2,6-Dinitrotoluenes			0.275	0.373	0.376	0.388	0.406	0.419	0.400	0.377	13	AVG	
Dibenzofuran			1.705	1.979	1.824	1.875	1.907	1.920	1.848	1.865	5	AVG	
1-Naphthylamine					1.253	1.266	1.350	1.393	1.374	1.327	5	AVG	
2,3,4,6-Tetrachlorophenol			0.238	0.344	0.351	0.357	0.376	0.391	0.385	0.349	15	AVG	
2-Naphthylamine					1.167	1.168	1.286	1.330	1.337	1.258	7	AVG	
Diethylphthalate				1.532	1.419	1.497	1.544	1.547	1.474	1.502	3	AVG	
Thionazin				0.256	0.243	0.253	0.266	0.264	0.252	0.256	3	AVG	
Fluorene		1.345	1.297	1.527	1.476	1.500	1.523	1.520	1.470	1.457	6	AVG	
4-Chlorophenyl-phenylether		0.691	0.655	0.782	0.707	0.725	0.731	0.738	0.718	0.718	5	AVG	
5-Nitro-o-toluidine			0.283	0.393	0.389	0.402	0.421	0.435	0.423	0.392	13	AVG	
4-Nitroaniline			0.261	0.354	0.342	0.357	0.368	0.374	0.360	0.345	11	AVG	
4,6-Dinitro-2-methylphenol					0.114	0.128	0.139	0.139	0.142	0.132	9	AVG	
N-Nitrosodiphenylamine (1)	*		0.546	0.643	0.612	0.600	0.627	0.621	0.634	0.612	5	AVG	*
NDPA as diphenylamine			0.546	0.643	0.612	0.600	0.627	0.621	0.634	0.612	5	AVG	
1,2-Diphenylhydrazine			0.754	0.903	0.843	0.855	0.889	0.861	0.873	0.854	6	AVG	
Tetraethyldithiopyrophosphate				0.154	0.139	0.144	0.151	0.144	0.145	0.146	4	AVG	
1,3,5-Trinitrobenzene					0.071	0.077	0.085	0.085	0.089	0.082	9	AVG	
Diallate (peak 1)				0.398	0.374	0.382	0.392	0.388	0.386	0.387	2	AVG	
Phorate			0.469	0.562	0.549	0.567	0.581	0.555	0.549	0.548	7	AVG	
Phenacetin			0.266	0.388	0.379	0.400	0.430	0.414	0.429	0.387	15	AVG	
4-Bromophenyl-phenylether			0.182	0.225	0.200	0.202	0.208	0.204	0.211	0.205	6	AVG	
Diallate (peak 2)				0.300	0.308	0.307	0.322	0.326	0.328	0.315	4	AVG	
Diallate trans/cis				0.381	0.362	0.369	0.380	0.378	0.376	0.374	2	AVG	
Hexachlorobenzene		0.220	0.195	0.223	0.201	0.205	0.212	0.205	0.212	0.209	5	AVG	
Dimethoate				0.304	0.314	0.332	0.347	0.335	0.344	0.329	5	AVG	
Atrazine				0.225	0.204	0.215	0.206	0.194	0.197	0.207	5	AVG	
Pentachlorophenol	*			0.108	0.115	0.123	0.138	0.138	0.143	0.128	11	AVG	*
4-Aminobiphenyl			0.562	0.721	0.677	0.700	0.756	0.718	0.740	0.696	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: HP20296 Calibration Date(s): 04/11/18 04/11/18

Calibration Times: 07:59 12:20

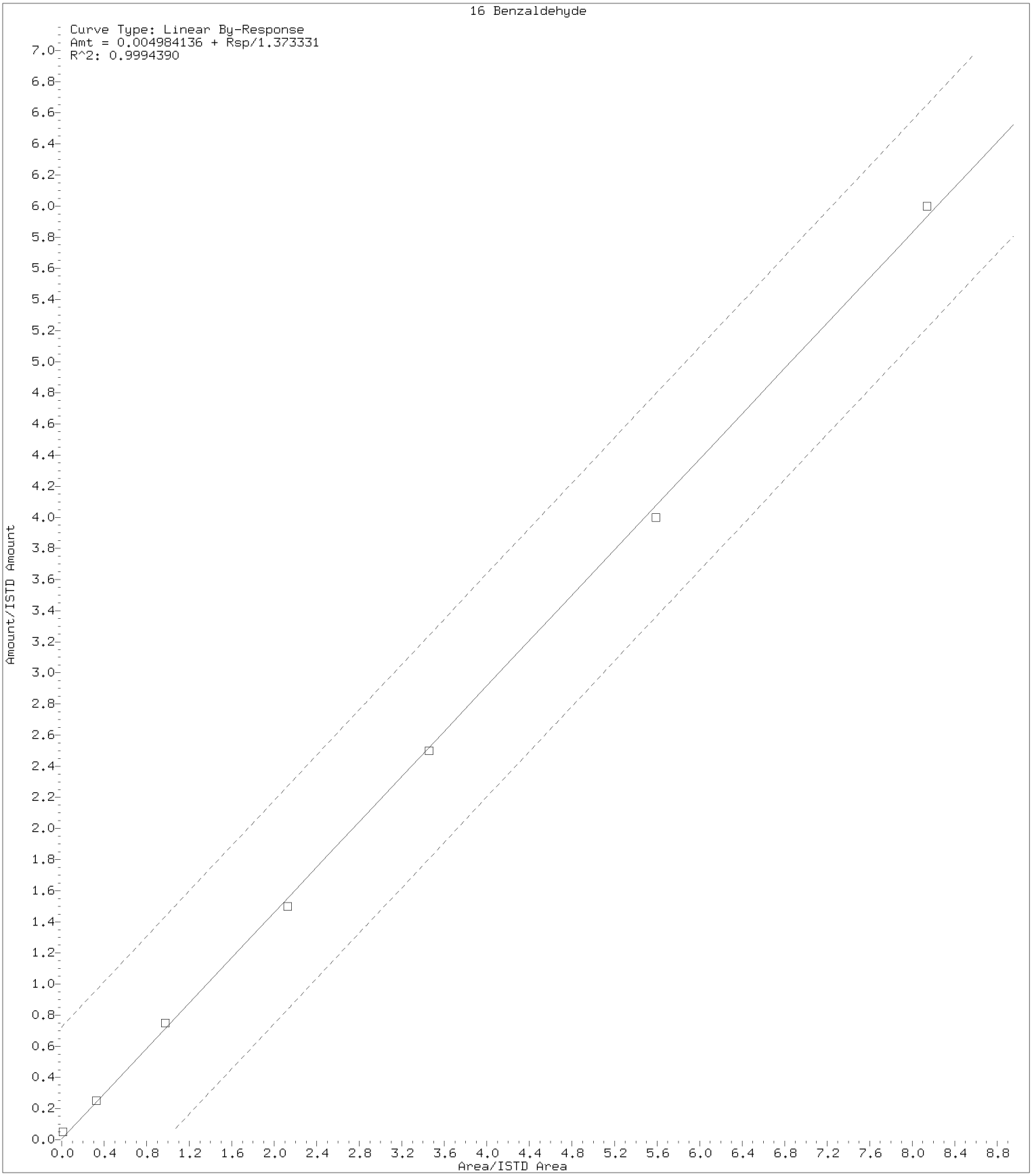
Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID:RRF0.125 = ld0412c.d RRF0.25 = ld0418c.d RRF1.25 = ld0417c.d RRF3.75 = ld0416c.d
RRF7.5 = ld0411c.d RRF12.5 = ld0415c.d RRF20 = ld0414c.d RRF30 = ld0413c.d

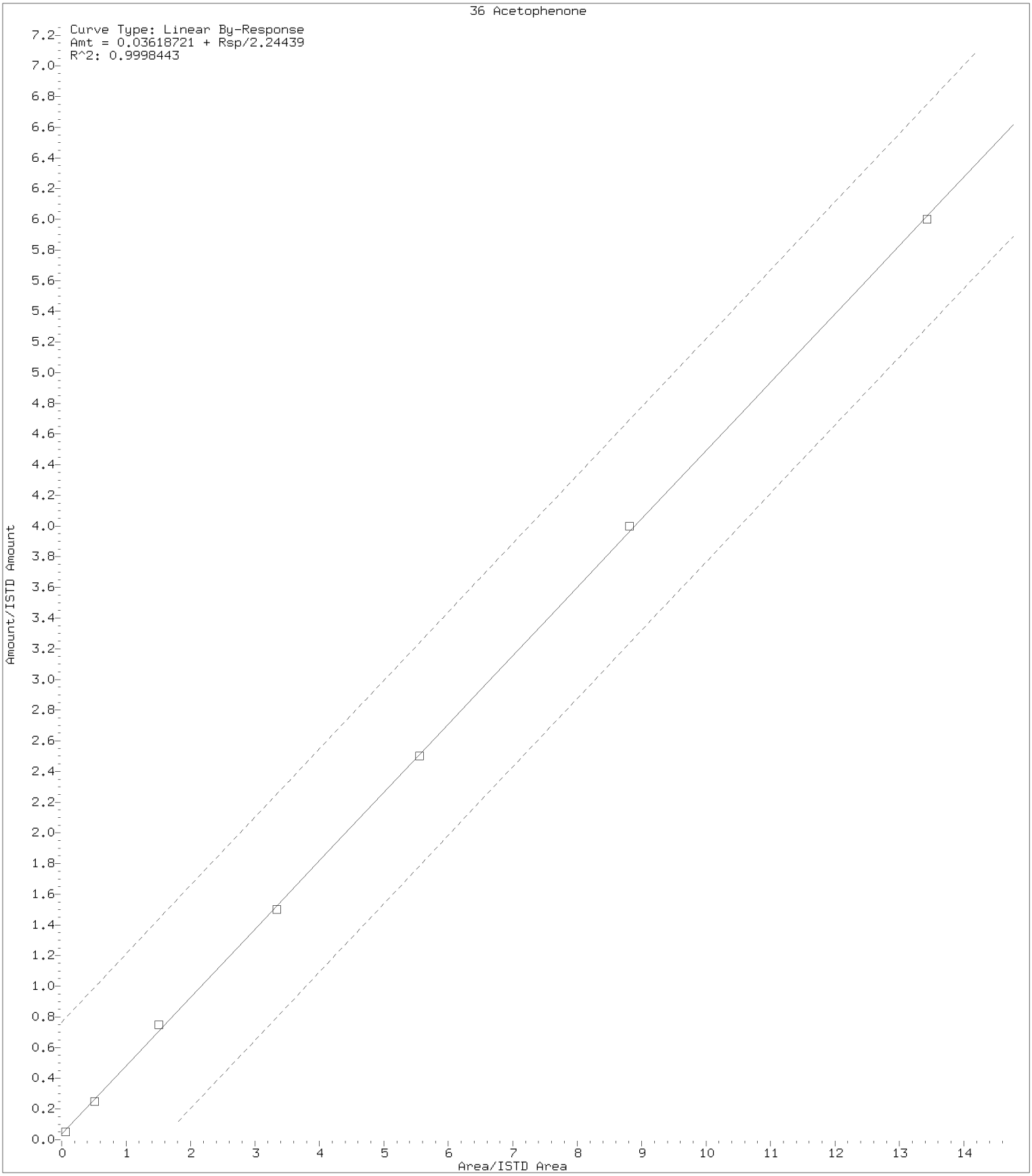
COMPOUND	RRF0.125	RRF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
Pentachloronitrobenzene			0.094	0.095	0.099	0.105	0.103	0.105	0.100	5	AVG
Pronamide			0.340	0.343	0.362	0.378	0.367	0.374	0.361	4	AVG
Dinoseb			0.166	0.180	0.202	0.228	0.229	0.239	0.207	14	AVG
Phenanthrene	1.094	1.010	1.175	1.081	1.097	1.137	1.129	1.164	1.111	5	AVG
Anthracene	1.017	0.950	1.177	1.099	1.126	1.173	1.143	1.154	1.105	7	AVG
Carbazole		0.845	0.994	0.939	0.983	1.042	1.011	1.036	0.979	7	AVG
Methyl parathion			0.216	0.228	0.253	0.270	0.266	0.274	0.251	10	AVG
Di-n-butylphthalate			1.239	1.244	1.301	1.377	1.353	1.390	1.317	5	AVG
Parathion			0.134	0.146	0.160	0.176	0.176	0.183	0.163	12	AVG
4-Nitroquinoline-1-oxide			0.084	0.098	0.120	0.140	0.142	0.153	0.123	22	1STDEG
Octachlorostyrene			0.082	0.075	0.072	0.077	0.079	0.084	0.078	6	AVG
Isodrin		0.133	0.146	0.127	0.133	0.140	0.137	0.140	0.137	5	AVG
Fluoranthene *	1.143	1.059	1.280	1.211	1.261	1.334	1.297	1.333	1.240	8	AVG *
Benzidine				0.683	0.727	0.771	0.747	0.756	0.737	5	AVG
Pyrene	1.257	1.210	1.336	1.228	1.266	1.310	1.283	1.286	1.272	3	AVG
p-Dimethylaminoazobenzene		0.135	0.171	0.183	0.202	0.221	0.219	0.227	0.194	17	1STDEG
Chlorobenzilate			0.360	0.357	0.376	0.398	0.389	0.394	0.379	5	AVG
3,3'-Dimethylbenzidine				0.711	0.810	0.876	0.879	0.881	0.831	9	AVG
Butylbenzylphthalate			0.540	0.549	0.589	0.625	0.617	0.626	0.591	7	AVG
2-Acetylaminofluorene			0.383	0.413	0.463	0.512	0.509	0.526	0.468	13	AVG
3,3'-Dichlorobenzidine			0.363	0.370	0.409	0.437	0.434	0.440	0.409	9	AVG
4,4'-Methylenebis(2-chloroanil				0.222	0.242	0.262	0.258	0.257	0.248	7	AVG
Benzo(a)anthracene	1.001	0.969	1.174	1.117	1.168	1.230	1.215	1.217	1.136	9	AVG
Chrysene	1.005	0.974	1.168	1.092	1.123	1.163	1.130	1.139	1.099	7	AVG
bis(2-Ethylhexyl)phthalate			0.749	0.770	0.828	0.888	0.881	0.894	0.835	8	AVG
6-Methylchrysene			0.758	0.717	0.761	0.797	0.792	0.818	0.774	5	AVG
Di-n-octylphthalate *			1.325	1.428	1.546	1.732	1.692	1.706	1.572	11	AVG *
Benzo(b)fluoranthene	1.118	1.057	1.276	1.201	1.233	1.322	1.279	1.318	1.226	8	AVG
7,12-Dimethylbenz[a]anthracene		0.385	0.471	0.489	0.525	0.565	0.550	0.555	0.506	13	AVG
Benzo(k)fluoranthene	1.061	1.059	1.251	1.171	1.186	1.251	1.206	1.189	1.172	6	AVG
Benzo(a)pyrene *	0.951	0.939	1.140	1.076	1.129	1.214	1.176	1.198	1.103	10	AVG *
3-Methylcholanthrene		0.445	0.515	0.500	0.543	0.581	0.568	0.579	0.533	9	AVG
Dibenz(a,h)acridine			0.918	0.860	0.915	0.980	0.967	0.983	0.937	5	AVG
Dibenz(a,j)acridine			0.911	0.892	0.940	1.003	0.981	0.984	0.952	5	AVG
Indeno(1,2,3-cd)pyrene	0.963	0.918	1.031	1.000	1.054	1.153	1.112	1.146	1.047	8	AVG
Dibenz(a,h)anthracene	0.913	0.909	1.089	1.023	1.102	1.170	1.133	1.145	1.060	10	AVG
Benzo(g,h,i)perylene	0.985	0.966	1.095	1.057	1.107	1.163	1.134	1.137	1.081	7	AVG
Total PAHs	1.001	0.960	1.122	1.056	1.088	1.151	1.109	1.101	1.074	6	AVG
2-Fluorophenol		0.993	1.396	1.337	1.434	1.465	1.479	1.479	1.369	13	AVG
Phenol-d6		1.364	1.857	1.776	1.840	1.912	1.917	1.901	1.795	11	AVG
Nitrobenzene-d5		0.338	0.446	0.423	0.441	0.461	0.456	0.454	0.431	10	AVG
2-Fluorobiphenyl		1.368	1.662	1.529	1.574	1.584	1.608	1.557	1.554	6	AVG
2,4,6-Tribromophenol			0.175	0.169	0.173	0.181	0.190	0.187	0.179	5	AVG
Terphenyl-d14		0.713	0.847	0.778	0.807	0.839	0.817	0.813	0.802	6	AVG

Average %RSD 8

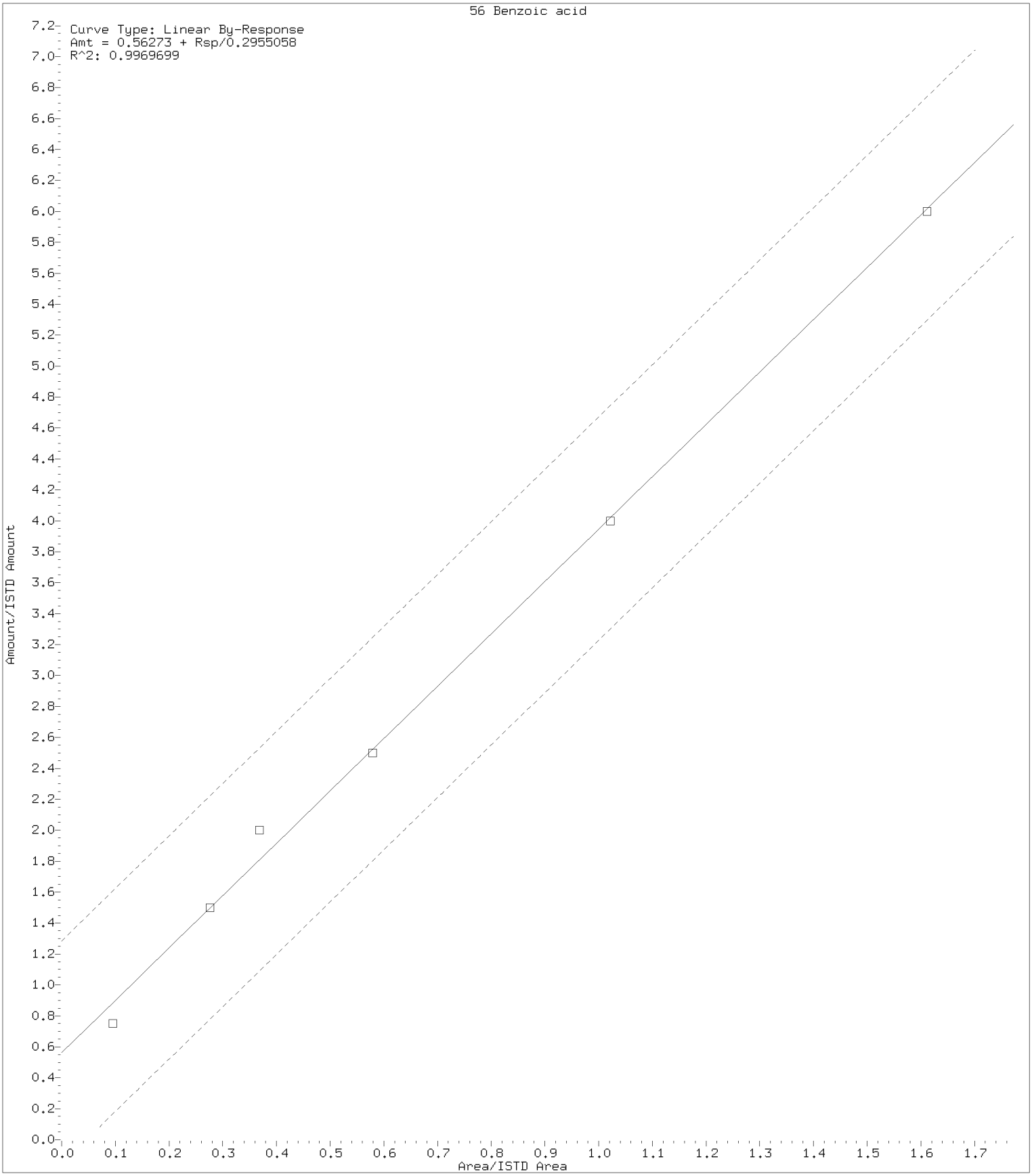
4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.
Benzidine Levels in the 5,15,30,50,80,120 standards are 15,45,90,150,240,360 ng/ul, respectively.
Benzoic acid and 2,4-Dinitrophenol are at 15 ng/ul, 30 ng/ul,40 ng/ul in the 5,15,30 standards.



Digitally signed by Brandon H. Smith on 04/13/2018 at 09:54.
Target 3.5 esignature user ID: bhs10208



Digitally signed by Brandon H. Smith on 04/13/2018 at 09:54.
Target 3.5 esignature user ID: bhs10208



Digitally signed by Brandon H. Smith on 04/13/2018 at 09:54.
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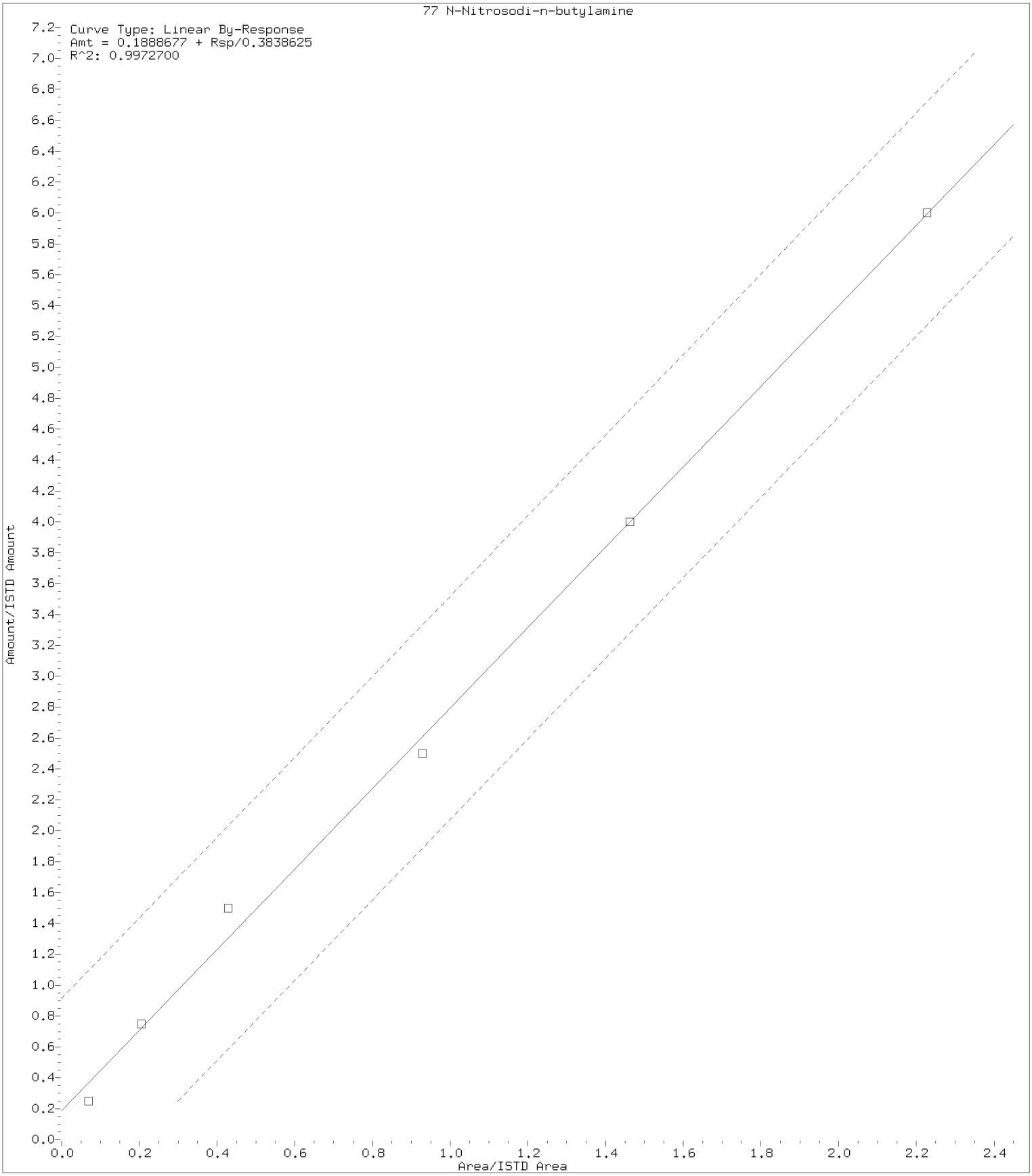

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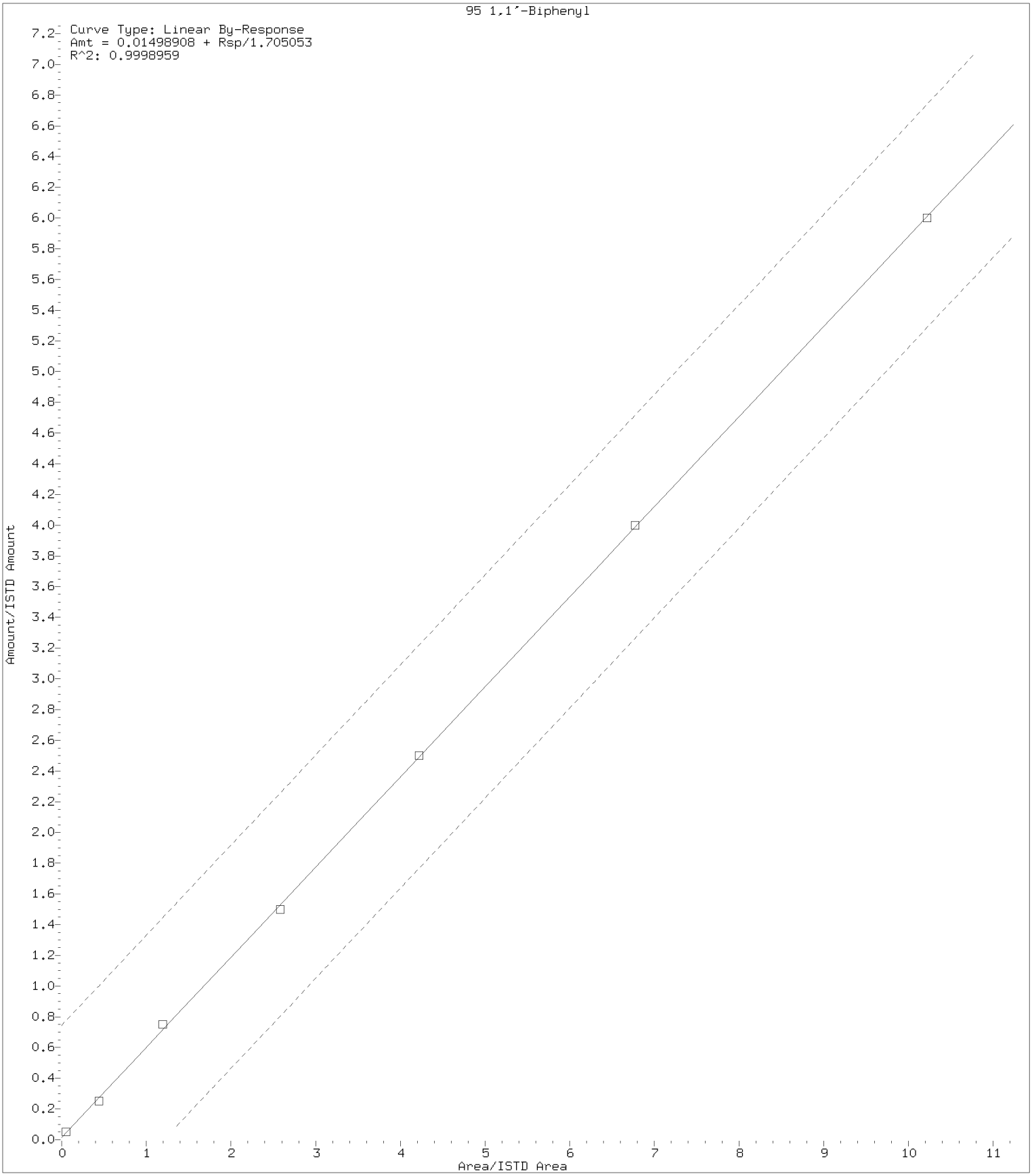
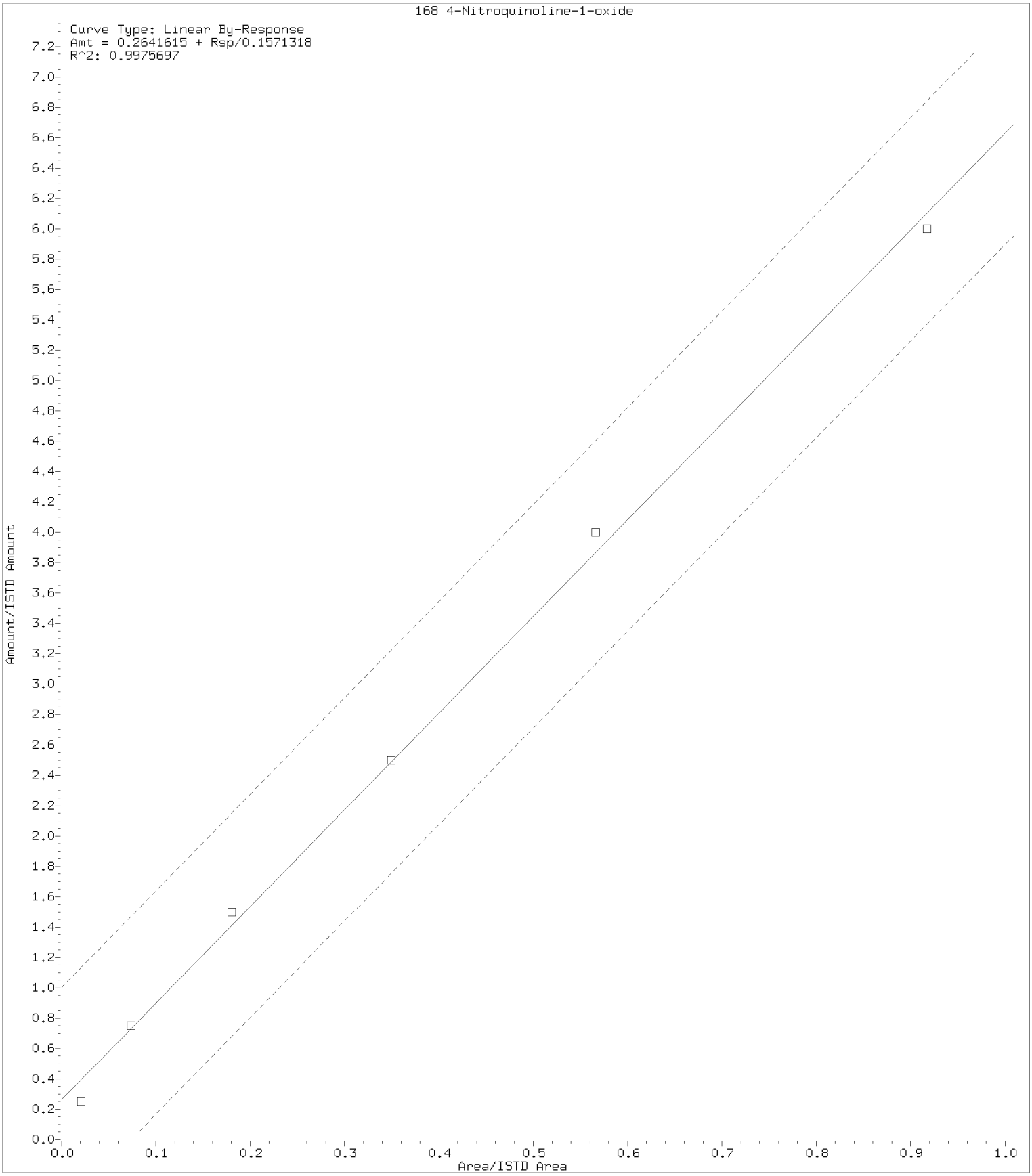
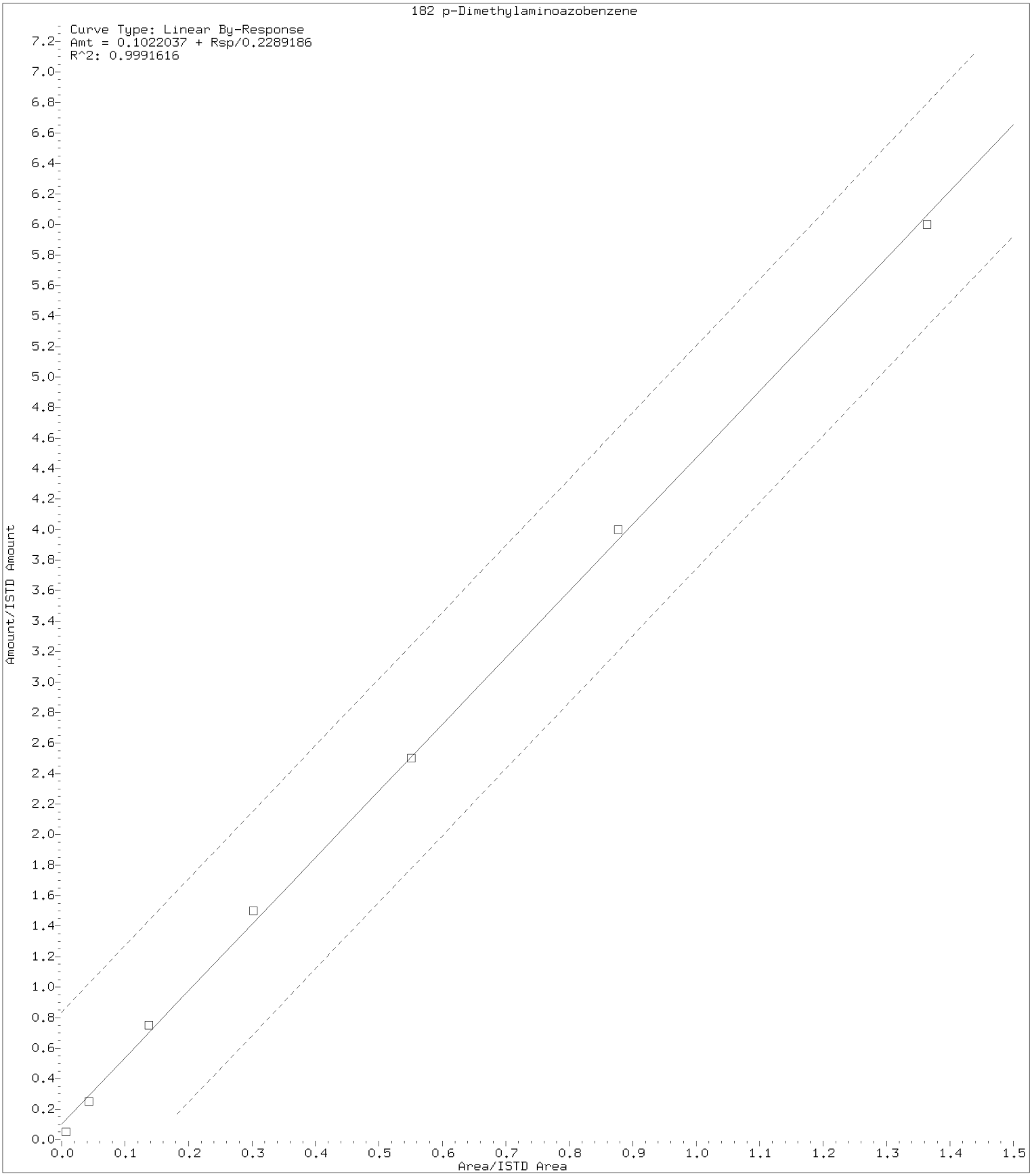
Target 3.5 esignature user ID: bhs10208



Digitally signed by Brandon H. Smith on 04/13/2018 at 09:54.
Target 3.5 esignature user ID: bhs10208



Digitally signed by Brandon H. Smith on 04/13/2018 at 09:54.
Target 3.5 esignature user ID: bhs10208



Digitally signed by Brandon H. Smith on 04/13/2018 at 09:54.
Target 3.5 esignature user ID: bhs10208

Internal Standard
Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP20296.i/18apr11c.b/ld0411c.d SSTD7.5
/chem/HP20296.i/18apr11c.b/ld0412c.d SSTD0.125
/chem/HP20296.i/18apr11c.b/ld0413c.d SSTD30
/chem/HP20296.i/18apr11c.b/ld0414c.d SSTD20
/chem/HP20296.i/18apr11c.b/ld0415c.d SSTD12.5
/chem/HP20296.i/18apr11c.b/ld0416c.d SSTD3.75
/chem/HP20296.i/18apr11c.b/ld0417c.d SSTD1.25
/chem/HP20296.i/18apr11c.b/ld0418c.d SSTD0.25

Area Summary

File ID:

Internal Standard Name	ld0411c.d	ld0412c.d	ld0413c.d	ld0414c.d	ld0415c.d	ld0416c.d	ld0417c.d	ld0418c.d	Avg. Area	%RSD	In Spec
1,4-Dichlorobenzene-d4	219894	221518	207168	208633	211752	216782	201608	222764	213765	4	Yes
Naphthalene-d8	846034	870407	794008	806501	809618	836121	777233	854282	824276	4	Yes
Acenaphthene-d10	428685	427128	408206	404834	421078	423913	396437	434850	418141	3	Yes
Phenanthrene-d10	847674	822379	799312	834359	827855	834383	772431	841978	822546	3	Yes
Pyrene-d10	871903	846867	842063	853041	857467	864135	801267	858274	849377	3	Yes
Perylene-d12	795930	751073	782499	781042	765986	779646	727312	762573	768258	3	Yes

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

RT Summary

File ID:

Internal Standard Name	ld0411c.d	ld0412c.d	ld0413c.d	ld0414c.d	ld0415c.d	ld0416c.d	ld0417c.d	ld0418c.d	Avg. RT
1,4-Dichlorobenzene-d4	6.968	6.968	6.969	6.968	6.969	6.969	6.968	6.969	6.969
Naphthalene-d8	8.958	8.953	8.958	8.958	8.958	8.953	8.953	8.953	8.956
Acenaphthene-d10	11.788	11.788	11.793	11.793	11.793	11.788	11.788	11.788	11.790
Phenanthrene-d10	13.718	13.718	13.724	13.718	13.719	13.719	13.713	13.713	13.718
Pyrene-d10	15.778	15.772	15.778	15.778	15.778	15.778	15.772	15.772	15.776
Perylene-d12	20.377	20.378	20.383	20.378	20.378	20.378	20.378	20.378	20.378

Comments:_____

_____

Report generated on 04/13/2018 at 08:56

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP20296

Method: SW-846 8270C MINI File ID: ld0421c.d

ICV SAMPLE ID: rvIVC0648 BATCH: 18APR11026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
1,4-Dioxane	12.50	14.75	18	20	YES
N-Nitrosodimethylamine	12.50	12.03	-4	20	YES
Pyridine	12.50	11.71	-6	20	YES
2-Picoline	12.50	11.76	-6	20	YES
N-Nitrosomethylethylamine	12.50	11.60	-7	20	YES
Methyl methanesulfonate	12.50	12.08	-3	20	YES
N-Nitrosodiethylamine	12.50	12.32	-1	20	YES
Ethyl methanesulfonate	12.50	12.05	-4	20	YES
Phenol	12.50	12.61	1	20	YES
Aniline	12.50	12.41	-1	20	YES
bis(2-Chloroethyl)ether	12.50	12.16	-3	20	YES
2-Chlorophenol	12.50	12.60	1	20	YES
1,3-Dichlorobenzene	12.50	12.48	0	20	YES
1,4-Dichlorobenzene	12.50	12.75	2	20	YES
Benzyl alcohol	12.50	13.62	9	20	YES
1,2-Dichlorobenzene	12.50	12.77	2	20	YES
Indene	12.50	15.33	23	20	NO*
2-Methylphenol	12.50	12.35	-1	20	YES
2,2'-oxybis(1-Chloropropane	12.50	12.20	-2	20	YES
bis(2-Chloroisopropyl)ether	12.50	12.21	-2	20	YES
N-Nitrosopyrrolidine	12.50	12.24	-2	20	YES
Acetophenone	12.50	11.73	-6	20	YES
4-Methylphenol	12.50	12.27	-2	20	YES
N-Nitroso-di-n-propylamine	12.50	12.27	-2	20	YES
N-Nitrosomorpholine	12.50	11.85	-5	20	YES
o-Toluidine	12.50	12.17	-3	20	YES
Total Cresols	25.00	24.62	-2	20	YES
Hexachloroethane	12.50	11.70	-6	20	YES
Nitrobenzene	12.50	12.30	-2	20	YES
N-Nitrosopiperidine	12.50	12.03	-4	20	YES
Isophorone	12.50	12.92	3	20	YES
2-Nitrophenol	12.50	13.04	4	20	YES
2,4-Dimethylphenol	12.50	11.00	-12	20	YES
bis(2-Chloroethoxy)methane	12.50	12.42	-1	20	YES
O,O,O-Triethylphosphorothio	12.50	12.15	-3	20	YES
2,4-Dichlorophenol	12.50	12.70	2	20	YES
1,2,4-Trichlorobenzene	12.50	12.62	1	20	YES

NC = Could not calculate

Comments: _____*%D<50%, non-ccc, ok to run except for DOD_____

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP20296

Method: SW-846 8270C MINI File ID: ld0421c.d

ICV SAMPLE ID: rvIVC0648 BATCH: 18APR11026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Naphthalene	12.50	12.56	0	20	YES
4-Chloroaniline	12.50	12.67	1	20	YES
2,6-Dichlorophenol	12.50	12.47	0	20	YES
Hexachloropropene	12.50	12.73	2	20	YES
Hexachlorobutadiene	12.50	12.53	0	20	YES
Quinoline	12.50	12.47	0	20	YES
N-Nitrosodi-n-butylamine	12.50	9.96	-20	20	YES
4-Chloro-3-methylphenol	12.50	12.98	4	20	YES
Safrole	12.50	12.04	-4	20	YES
2-Methylnaphthalene	12.50	12.70	2	20	YES
1-Methylnaphthalene	12.50	12.86	3	20	YES
Hexachlorocyclopentadiene	25.00	26.54	6	20	YES
1,2,4,5-Tetrachlorobenzene	12.50	12.03	-4	20	YES
cis-Isosafrole	1.50	1.55	3	20	YES
2,4,6-Trichlorophenol	12.50	12.78	2	20	YES
2,4,5-Trichlorophenol	12.50	12.84	3	20	YES
trans-Isosafrole	11.00	11.03	0	20	YES
1,1'-Biphenyl	12.50	12.07	-3	20	YES
2-Chloronaphthalene	12.50	12.43	-1	20	YES
Isosafrole	12.50	12.58	1	20	YES
2-Nitroaniline	12.50	12.57	1	20	YES
1,4-Naphthoquinone	15.63	15.52	-1	20	YES
1,4-Dinitrobenzene	12.50	12.42	-1	20	YES
Dimethylphthalate	12.50	11.91	-5	20	YES
1,3-Dinitrobenzene	12.50	12.30	-2	20	YES
2,6-Dinitrotoluene	12.50	12.66	1	20	YES
Acenaphthylene	12.50	13.73	10	20	YES
3-Nitroaniline	12.50	12.99	4	20	YES
Acenaphthene	12.50	12.76	2	20	YES
2,4-Dinitrophenol	25.00	25.56	2	20	YES
4-Nitrophenol	12.50	12.14	-3	20	YES
Pentachlorobenzene	12.50	12.06	-4	20	YES
2,4-Dinitrotoluene	12.50	12.30	-2	20	YES
Dibenzofuran	12.50	12.18	-3	20	YES
2,4_2,6-Dinitrotoluenes	25.00	24.96	0	20	YES
1-Naphthylamine	25.00	23.37	-7	20	YES
2-Naphthylamine	25.00	24.28	-3	20	YES

NC = Could not calculate

Comments: _____

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP20296

Method: SW-846 8270C MINI File ID: ld0421c.d

ICV SAMPLE ID: rvIVC0648 BATCH: 18APR11026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Diethylphthalate	12.50	11.96	-4	20	YES
Thionazin	12.50	12.26	-2	20	YES
Fluorene	12.50	12.17	-3	20	YES
4-Chlorophenyl-phenylether	12.50	11.87	-5	20	YES
5-Nitro-o-toluidine	12.50	12.96	4	20	YES
4-Nitroaniline	12.50	12.58	1	20	YES
4,6-Dinitro-2-methylphenol	12.50	12.21	-2	20	YES
N-Nitrosodiphenylamine	12.50	11.99	-4	20	YES
NDPA as diphenylamine	12.50	11.99	-4	20	YES
1,2-Diphenylhydrazine	12.50	12.21	-2	20	YES
Tetraethyldithiopyrophospha	12.50	11.67	-7	20	YES
1,3,5-Trinitrobenzene	12.50	11.96	-4	20	YES
Diallate (peak 1)	9.38	8.16	-13	20	YES
Phorate	12.50	11.94	-4	20	YES
Phenacetin	12.50	12.59	1	20	YES
4-Bromophenyl-phenylether	12.50	11.38	-9	20	YES
Diallate (peak 2)	3.13	3.28	5	20	YES
Hexachlorobenzene	12.50	11.45	-8	20	YES
Diallate trans/cis	12.50	11.44	-8	20	YES
Dimethoate	12.50	12.61	1	20	YES
Pentachlorophenol	12.50	13.34	7	20	YES
4-Aminobiphenyl	12.50	13.88	11	20	YES
Pentachloronitrobenzene	12.50	11.79	-6	20	YES
Pronamide	12.50	11.66	-7	20	YES
Dinoseb	12.50	12.08	-3	20	YES
Phenanthrene	12.50	11.92	-5	20	YES
Anthracene	12.50	12.18	-3	20	YES
Carbazole	12.50	12.58	1	20	YES
Methyl parathion	12.50	13.20	6	20	YES
Di-n-butylphthalate	12.50	12.13	-3	20	YES
Parathion	12.50	12.83	3	20	YES
4-Nitroquinoline-1-oxide	150.00	141.86	-5	20	YES
Isodrin	12.50	11.50	-8	20	YES
Fluoranthene	12.50	12.10	-3	20	YES
Benzidine	62.50	58.82	-6	20	YES
Pyrene	12.50	11.83	-5	20	YES
p-Dimethylaminoazobenzene	12.50	13.43	7	20	YES

NC = Could not calculate

Comments: _____

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP20296

Method: SW-846 8270C MINI File ID: ld0421c.d

ICV SAMPLE ID: rvIVC0648 BATCH: 18APR11026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Chlorobenzilate	12.50	12.54	0	20	YES
3,3'-Dimethylbenzidine	25.00	22.55	-10	20	YES
Butylbenzylphthalate	12.50	12.47	0	20	YES
2-Acetylaminofluorene	12.50	12.45	0	20	YES
3,3'-Dichlorobenzidine	12.50	12.79	2	20	YES
Benzo(a)anthracene	12.50	12.58	1	20	YES
Chrysene	12.50	12.26	-2	20	YES
4,4'-Methylenebis(2-chloroa	12.50	11.91	-5	20	YES
bis(2-Ethylhexyl)phthalate	12.50	12.59	1	20	YES
6-Methylchrysene	12.50	12.04	-4	20	YES
Di-n-octylphthalate	12.50	12.57	1	20	YES
Benzo(b)fluoranthene	12.50	12.27	-2	20	YES
7,12-Dimethylbenz[a]anthrac	12.50	12.70	2	20	YES
Benzo(k)fluoranthene	12.50	12.22	-2	20	YES
Benzo(a)pyrene	12.50	12.60	1	20	YES
3-Methylcholanthrene	12.50	13.65	9	20	YES
Dibenz(a,h)acridine	12.50	12.04	-4	20	YES
Dibenz(a,j)acridine	12.50	11.01	-12	20	YES
Indeno(1,2,3-cd)pyrene	12.50	12.42	-1	20	YES
Dibenz(a,h)anthracene	12.50	12.83	3	20	YES
Benzo(g,h,i)perylene	12.50	12.02	-4	20	YES
Total PAHs	225.00	224.00	0	20	YES

NC = Could not calculate

Comments:

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP20296

Method: SW-846 8270C MINI File ID: ld0422c.d

ICV SAMPLE ID: rvBASICV0648 BATCH: 18APR11026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Benzaldehyde	12.50	12.41	-1	20	YES
Caprolactam	12.50	12.02	-4	20	YES
Atrazine	12.50	12.95	4	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: HP20296

Method: SW-846 8270C MINI File ID: ld0423c.d

ICV SAMPLE ID: ms1808526A BATCH: 18APR11026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
1,4-Dioxane	12.50	12.11	-3	20	YES
Benzoic acid	25.00	26.05	4	20	YES
1-Chloronaphthalene	12.50	12.84	3	20	YES
Diphenyl ether	12.50	13.19	6	20	YES
2,3,4,6-Tetrachlorophenol	12.50	14.05	12	20	YES

NC = Could not calculate

Comments: _____

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

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

Instrument ID: HP20296 Calibration Date: 04/25/18 Time: 10:32

Lab File ID: ld1011.d Init. Calib. Date(s): 04/11/18 04/11/18

Init. Calib. Times(s): 07:59 12:20

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	$\overline{RRF}$	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
1,4-Dioxane	0.656	0.643	7.360	7.5	-2
N-Nitrosodimethylamine	1.006	0.964	7.190	7.5	-4
Pyridine	1.776	1.507	6.360	7.5	-15
2-Picoline	1.804	1.706	7.100	7.5	-5
N-Nitrosomethylethylamine	0.720	0.721	7.510	7.5	0
Methyl methanesulfonate	0.872	0.907	7.800	7.5	4
N-Nitrosodiethylamine	0.668	0.704	7.910	7.5	5
Ethyl methanesulfonate	0.727	0.747	7.710	7.5	3
Benzaldehyde	1.205	1.357	7.430	7.5	-1
* Phenol	2.045	1.997	7.320	7.5	-2*
Aniline	2.383	2.445	7.690	7.5	3
a-methylstyrene	0.521	0.492	7.080	7.5	-6
bis(2-Chloroethyl)ether	1.530	1.589	7.790	7.5	4
2-Chlorophenol	1.341	1.381	7.720	7.5	3
1,3-Dichlorobenzene	1.514	1.589	7.870	7.5	5
* 1,4-Dichlorobenzene	1.532	1.593	7.800	7.5	4*
Benzyl alcohol	0.895	0.750	6.290	7.5	-16
1,2-Dichlorobenzene	1.459	1.534	7.880	7.5	5
Indene	2.138	1.996	7.000	7.5	-7
2-Methylphenol	1.322	1.370	7.770	7.5	4
2,2'-oxybis(1-Chloropropane)	2.184	2.560	8.790	7.5	17
bis(2-Chloroisopropyl)ether	2.182	2.560	8.800	7.5	17
N-Nitrosopyrrolidine	0.724	0.801	8.300	7.5	11
Acetophenone	2.016	2.224	7.610	7.5	2
4-Methylphenol	1.397	1.453	7.800	7.5	4
Total Cresols	1.360	1.411	15.570	15.0	4
# N-Nitroso-di-n-propylamine	1.150	1.301	8.490	7.5	13#
N-Nitrosomorpholine	0.961	1.019	7.950	7.5	6
o-Toluidine	2.339	2.451	7.860	7.5	5
Hexachloroethane	0.653	0.662	7.600	7.5	1
Nitrobenzene	0.440	0.482	8.220	7.5	10
N-Nitrosopiperidine	0.181	0.188	7.810	7.5	4
Isophorone	0.769	0.825	8.050	7.5	7
* 2-Nitrophenol	0.178	0.186	7.850	7.5	5*
2,4-Dimethylphenol	0.381	0.402	7.910	7.5	6
O,O,O-Triethylphosphorothioate	0.189	0.194	7.710	7.5	3

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: HP20296 Calibration Date: 04/25/18 Time: 10:32

Lab File ID: ld1011.d Init. Calib. Date(s): 04/11/18 04/11/18

Init. Calib. Times(s): 07:59 12:20

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
bis(2-Chloroethoxy)methane	0.500	0.516	7.740	7.5	3
Benzoic acid	0.208	0.139	7.530	10.0	-25
* 2,4-Dichlorophenol	0.297	0.318	8.030	7.5	7*
1,2,4-Trichlorobenzene	0.331	0.351	7.960	7.5	6
Naphthalene	1.033	1.083	7.860	7.5	5
4-Chloroaniline	0.422	0.427	7.600	7.5	1
2,6-Dichlorophenol	0.294	0.311	7.940	7.5	6
Hexachloropropene	0.239	0.249	7.800	7.5	4
* Hexachlorobutadiene	0.200	0.220	8.230	7.5	10*
Quinoline	0.658	0.657	7.490	7.5	0
Caprolactam	0.094	0.101	8.110	7.5	8
N-Nitrosodi-n-butylamine	0.324	0.305	6.900	7.5	-8
* 4-Chloro-3-methylphenol	0.326	0.345	7.960	7.5	6*
Safrole	0.277	0.285	7.700	7.5	3
2-Methylnaphthalene	0.686	0.727	7.940	7.5	6
1-Methylnaphthalene	0.630	0.659	7.850	7.5	5
# Hexachlorocyclopentadiene	0.404	0.385	7.130	7.5	-5#
1,2,4,5-Tetrachlorobenzene	0.680	0.713	7.860	7.5	5
cis-Isosafrole	0.595	0.578	1.240	1.3	-3
* 2,4,6-Trichlorophenol	0.427	0.448	7.870	7.5	5*
2,4,5-Trichlorophenol	0.448	0.463	7.740	7.5	3
trans-Isosafrole	0.640	0.640	6.230	6.2	0
Isosafrole	0.632	0.630	7.470	7.5	0
1,1'-Biphenyl	1.603	1.737	7.710	7.5	3
2-Chloronaphthalene	1.362	1.297	7.140	7.5	-5
1-Chloronaphthalene	1.216	1.264	7.800	7.5	4
Diphenyl ether	0.895	0.902	7.550	7.5	1
2-Nitroaniline	0.399	0.402	7.560	7.5	1
1,4-Naphthoquinone	0.538	0.530	7.390	7.5	-1
1,4-Dinitrobenzene	0.208	0.211	7.610	7.5	1
Dimethylphthalate	1.526	1.556	7.640	7.5	2
1,3-Dinitrobenzene	0.233	0.236	7.600	7.5	1
2,6-Dinitrotoluene	0.324	0.340	7.870	7.5	5
Acenaphthylene	1.894	1.976	7.820	7.5	4
3-Nitroaniline	0.341	0.349	7.670	7.5	2
* Acenaphthene	1.343	1.365	7.630	7.5	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: HP20296 Calibration Date: 04/25/18 Time: 10:32

Lab File ID: ld1011.d Init. Calib. Date(s): 04/11/18 04/11/18

Init. Calib. Times(s): 07:59 12:20

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
# 2,4-Dinitrophenol	0.195	0.183	9.400	10.0	-6#
# 4-Nitrophenol	0.241	0.220	6.860	7.5	-9#
Pentachlorobenzene	0.555	0.580	7.840	7.5	5
2,4-Dinitrotoluene	0.449	0.460	7.680	7.5	2
2,4_2,6-Dinitrotoluenes	0.377	0.400	15.550	15.0	4
Dibenzofuran	1.865	1.910	7.680	7.5	2
1-Naphthylamine	1.327	1.233	6.970	7.5	-7
2,3,4,6-Tetrachlorophenol	0.349	0.365	7.860	7.5	5
2-Naphthylamine	1.258	1.052	6.270	7.5	-16
Diethylphthalate	1.502	1.474	7.360	7.5	-2
Thionazin	0.256	0.247	7.240	7.5	-4
Fluorene	1.457	1.552	7.990	7.5	6
4-Chlorophenyl-phenylether	0.718	0.758	7.910	7.5	5
5-Nitro-o-toluidine	0.392	0.411	7.860	7.5	5
4-Nitroaniline	0.345	0.362	7.880	7.5	5
4,6-Dinitro-2-methylphenol	0.132	0.129	7.310	7.5	-3
* N-Nitrosodiphenylamine (1)	0.612	0.614	7.530	7.5	0*
NDPA as diphenylamine	0.612	0.614	7.530	7.5	0
1,2-Diphenylhydrazine	0.854	0.872	7.660	7.5	2
Tetraethyldithiopyrophosphate	0.146	0.145	7.410	7.5	-1
1,3,5-Trinitrobenzene	0.082	0.082	7.510	7.5	0
Diallate (peak 1)	0.387	0.385	6.190	6.2	-1
Phorate	0.548	0.814	11.150	7.5	49
Phenacetin	0.387	0.389	7.540	7.5	0
4-Bromophenyl-phenylether	0.205	0.212	7.790	7.5	4
Diallate (peak 2)	0.315	0.305	1.230	1.3	-3
Diallate trans/cis	0.374	0.371	7.430	7.5	-1
Hexachlorobenzene	0.209	0.215	7.690	7.5	3
Dimethoate	0.329	0.320	7.290	7.5	-3
Atrazine	0.207	0.210	7.590	7.5	1
* Pentachlorophenol	0.128	0.109	6.430	7.5	-14*
4-Aminobiphenyl	0.696	0.644	6.930	7.5	-8
Pentachloronitrobenzene	0.100	0.104	7.800	7.5	4
Pronamide	0.361	0.361	7.510	7.5	0
Dinoseb	0.207	0.200	7.220	7.5	-4
Phenanthrene	1.111	1.116	7.540	7.5	0

(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: HP20296 Calibration Date: 04/25/18 Time: 10:32

Lab File ID: ld1011.d Init. Calib. Date(s): 04/11/18 04/11/18

Init. Calib. Times(s): 07:59 12:20

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Anthracene	1.105	1.136	7.710	7.5	3
Carbazole	0.979	0.987	7.570	7.5	1
Methyl parathion	0.251	0.250	7.460	7.5	0
Di-n-butylphthalate	1.317	1.274	7.250	7.5	-3
Parathion	0.163	0.159	7.320	7.5	-2
4-Nitroquinoline-1-oxide	0.123	0.088	5.530	7.5	-26
Octachlorostyrene	0.078	0.075	7.220	7.5	-4
Isodrin	0.137	0.135	7.410	7.5	-1
* Fluoranthene	1.240	1.279	7.730	7.5	3*
Benzidine	0.737	0.694	21.180	22.5	-6
Pyrene	1.272	1.268	7.480	7.5	0
p-Dimethylaminoazobenzene	0.194	0.201	7.110	7.5	-5
Chlorobenzilate	0.379	0.372	7.370	7.5	-2
3,3'-Dimethylbenzidine	0.831	0.748	6.750	7.5	-10
Butylbenzylphthalate	0.591	0.577	7.330	7.5	-2
2-Acetylaminofluorene	0.468	0.457	7.320	7.5	-2
3,3'-Dichlorobenzidine	0.409	0.400	7.340	7.5	-2
4,4'-Methylenebis(2-chloroanil	0.248	0.239	7.230	7.5	-4
Benzo(a)anthracene	1.136	1.183	7.810	7.5	4
Chrysene	1.099	1.151	7.860	7.5	5
bis(2-Ethylhexyl)phthalate	0.835	0.812	7.290	7.5	-3
6-Methylchrysene	0.774	0.773	7.490	7.5	0
* Di-n-octylphthalate	1.572	1.511	7.210	7.5	-4*
Benzo(b)fluoranthene	1.226	1.262	7.720	7.5	3
7,12-Dimethylbenz[a]anthracene	0.506	0.496	7.360	7.5	-2
Benzo(k)fluoranthene	1.172	1.215	7.770	7.5	4
* Benzo(a)pyrene	1.103	1.166	7.930	7.5	6*
3-Methylcholanthrene	0.533	0.534	7.510	7.5	0
Dibenz(a,h)acridine	0.937	0.917	7.340	7.5	-2
Dibenz(a,j)acridine	0.952	0.936	7.380	7.5	-2
Indeno(1,2,3-cd)pyrene	1.047	1.116	7.990	7.5	7
Dibenz(a,h)anthracene	1.060	1.101	7.790	7.5	4
Benzo(g,h,i)perylene	1.081	1.119	7.770	7.5	4
Total PAHs	1.074	1.073	140.170	135.0	4
2-Fluorophenol	1.369	1.393	15.270	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: HP20296 Calibration Date: 04/25/18 Time: 10:32

Lab File ID: ld1011.d Init. Calib. Date(s): 04/11/18 04/11/18

Init. Calib. Times(s): 07:59 12:20

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Phenol-d6	1.795	1.864	15.570	15.0	4
Nitrobenzene-d5	0.431	0.468	16.270	15.0	8
2-Fluorobiphenyl	1.554	1.576	15.210	15.0	1
2,4,6-Tribromophenol	0.179	0.187	15.620	15.0	4
Terphenyl-d14	0.802	0.806	15.070	15.0	0
			Average %Drift:		5

FORM VII SV-1

Continuing Calibration
Internal Standard Area and Retention Time
Summary

Initial Calibration Standards:

/chem/HP20296.i/18apr11c.b/ld0411c.d **
/chem/HP20296.i/18apr11c.b/ld0412c.d
/chem/HP20296.i/18apr11c.b/ld0413c.d
/chem/HP20296.i/18apr11c.b/ld0414c.d
/chem/HP20296.i/18apr11c.b/ld0415c.d
/chem/HP20296.i/18apr11c.b/ld0416c.d
/chem/HP20296.i/18apr11c.b/ld0417c.d
/chem/HP20296.i/18apr11c.b/ld0418c.d

** indicates the Mid Level Calibration Standard.

Mid Level Calibration Standard is used for comparison.

Current Continuing Calibration Standard:

/chem/HP20296.i/18apr25.b/ld1011.d

Area Summary

File ID:

Internal Standard Name	ld1011.d	ICAL Area	Low Limit	High Limit	In Spec
1,4-Dichlorobenzene-d4	205340	219894	109947	439788	Yes
Naphthalene-d8	791654	846034	423017	1692068	Yes
Acenaphthene-d10	419329	428685	214342	857370	Yes
Phenanthrene-d10	862368	847674	423837	1695348	Yes
Pyrene-d10	904445	871903	435952	1743806	Yes
Perylene-d12	836244	795930	397965	1591860	Yes

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

RT Summary

File ID:

Internal Standard Name	ld1011.d	ICAL RT	In Spec
1,4-Dichlorobenzene-d4	6.565	6.968	No
Naphthalene-d8	8.544	8.958	No
Acenaphthene-d10	11.379	11.788	No
Phenanthrene-d10	13.325	13.718	No
Pyrene-d10	15.299	15.778	No
Perylene-d12	19.803	20.377	No

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

Comments: * Column maintenance

BB 10208
4/25/18

Report generated on 04/25/2018 at 11:04

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): ld1011.d Date Analyzed: 04/25/18

Instrument ID: HP20296 Time Analyzed: 10:32

		IS1(DCB)		IS2(NPT)		IS3(ANT)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	205340	6.565	791654	8.544	419329	11.379
	UPPER LIMIT	410680	7.065	1583308	9.044	838658	11.879
	LOWER LIMIT	102670	6.065	395827	8.044	209665	10.879
	LLI SAMPLE NO.						
01	SBLKWE113	163257	6.565	598890	8.544	304251	11.379
02	113WELCS	171321	6.565	642233	8.544	329008	11.384
03	113WELCSD	156744	6.570	583633	8.549	299916	11.384
04	9565349DL	175284	6.565	662764	8.544	337879	11.379
05	9570270	173710	6.565	664285	8.544	337605	11.378
06	9570341	167291	6.565	620272	8.544	318056	11.379
07	9570347	160123	6.565	589251	8.544	300341	11.384
08	9570349	163194	6.565	616894	8.544	315583	11.384
09	9570352	153358	6.565	563690	8.549	285802	11.384
10	9570355	161302	6.565	588182	8.544	298758	11.384
11	9570357	164104	6.565	622964	8.544	318319	11.384
12	9570359	160377	6.565	600998	8.544	310828	11.384
13	9570361	163851	6.565	612072	8.544	311061	11.384
14	9570363	168690	6.565	632747	8.544	319431	11.384
15	9570366	160091	6.565	600081	8.544	302877	11.384
16	9570368	167055	6.565	620484	8.544	314369	11.379
17	RVSTD0968	190816	6.565	731691	8.549	386588	11.384

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): ld1011.d Date Analyzed: 04/25/18

Instrument ID: HP20296 Time Analyzed: 10:32

		IS4(PHN)		IS5(PYR)		IS6(PRY)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	862368	13.325	904445	15.299	836244	19.803
	UPPER LIMIT	1724736	13.825	1808890	15.799	1672488	20.303
	LOWER LIMIT	431184	12.825	452223	14.799	418122	19.303
	LLI SAMPLE NO.						
01	SBLKWE113	589147	13.326	605968	15.299	535396	19.803
02	113WELCS	654185	13.326	711392	15.299	637314	19.803
03	113WELCSD	594422	13.331	632041	15.304	574269	19.808
04	9565349DL	678324	13.326	685101	15.299	616621	19.803
05	9570270	671192	13.325	701691	15.304	644032	19.803
06	9570341	639451	13.326	661843	15.299	619822	19.803
07	9570347	597996	13.325	611442	15.299	561934	19.803
08	9570349	622278	13.325	645398	15.299	589331	19.808
09	9570352	568110	13.331	572226	15.304	525712	19.808
10	9570355	594811	13.326	614823	15.299	559293	19.808
11	9570357	629179	13.326	648774	15.299	587522	19.803
12	9570359	611654	13.325	608133	15.299	576564	19.808
13	9570361	620384	13.325	640633	15.299	580307	19.808
14	9570363	635971	13.325	667884	15.299	603248	19.803
15	9570366	606487	13.325	623324	15.299	570772	19.803
16	9570368	629355	13.326	645709	15.299	589277	19.803
17	RVSTD0968	795477	13.331	824126	15.305	765287	19.808

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: ATH85

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

A8501

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

9570341

Data file: /chem/HP20296.i/18apr25.b/ld1019.d
Data file Sample Info. Line: A8501;9570341;1;0;SAMPLE;;;
Date, time and analyst ID of latest file update: 25-Apr-2018 16:27 art12405

Injection date and time: **25-APR-2018 15:19**
Instrument ID: **HP20296.i** Batch: **18113WAE**

Blank Data file reference: **/chem/HP20296.i/18apr25.b/ld1012.d**

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: **20639M**
Calibration date and time (Last Method Edit): 25-APR-2018 11:05
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/18apr25.b/ld1011.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): 245 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.565(0.000)	912	152	167291 (-19)	5.00	
65) Naphthalene-d8	8.544(0.000)	1282	136	620272 (-22)	5.00	
113) Acenaphthene-d10	11.379(0.000)	1812	164	318056 (-24)	5.00	
153) Phenanthrene-d10	13.326(0.000)	2176	188	639451 (-26)	5.00	
175) Pyrene-d10	15.299(0.000)	2545	212	661843 (-27)	5.00	
213) Perylene-d12	19.803(0.000)	3387	264	619822 (-26)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
11) 2-Fluorophenol	(1)	4.714(0.000)	112	790543	17.258	35%		10 - 82
17) Phenol-d6	(1)	6.158(0.000)	99	815448	13.575	27%		10 - 71
44) Nitrobenzene-d5	(2)	7.447(0.000)	82	1081180	20.210	81%		30 - 111
93) 2-Fluorobiphenyl	(3)	10.325(0.000)	172	1858851	18.800	75%		39 - 105
135) 2,4,6-Tribromophenol	(3)	12.480(0.000)	330	460277	40.372	81%		21 - 134
179) Terphenyl-d14	(5)	15.604(0.000)	244	1963533	18.499	74%		27 - 116

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
18) Phenol	(1)			Not Detected					0.1
22) bis(2-Chloroethyl)ether	(1)			Not Detected					0.1
23) 2-Chlorophenol	(1)			Not Detected					0.1
24) 1,3-Dichlorobenzene	(1)			Not Detected					0.1
26) 1,4-Dichlorobenzene	(1)			Not Detected					0.1
28) 1,2-Dichlorobenzene	(1)			Not Detected					0.1
31) 2-Methylphenol	(1)			Not Detected					0.1
33) 2,2'-oxybis(1-Chloropropane)	(1)			Not Detected					0.1
37) 4-Methylphenol	(1)			Not Detected					0.1
38) N-Nitroso-di-n-propylamine	(1)			Not Detected					0.1
43) Hexachloroethane	(1)			Not Detected					0.3
45) Nitrobenzene	(2)			Not Detected					0.1
50) Isophorone	(2)			Not Detected					0.1
51) 2-Nitrophenol	(2)			Not Detected					0.1
53) 2,4-Dimethylphenol	(2)			Not Detected					0.1
55) bis(2-Chloroethoxy)methane	(2)			Not Detected					0.1
60) 2,4-Dichlorophenol	(2)			Not Detected					0.1
62) 1,2,4-Trichlorobenzene	(2)			Not Detected					0.1
66) Naphthalene	(2)			Not Detected					0.03
67) 4-Chloroaniline	(2)			Not Detected					0.5
71) Hexachlorobutadiene	(2)			Not Detected					0.1
80) 4-Chloro-3-methylphenol	(2)			Not Detected					0.1
83) 2-Methylnaphthalene	(2)			Not Detected					0.03
85) Hexachlorocyclopentadiene	(3)			Not Detected					1
90) 2,4,6-Trichlorophenol	(3)			Not Detected					0.1
92) 2,4,5-Trichlorophenol	(3)			Not Detected					0.1
96) 2-Chloronaphthalene	(3)			Not Detected					0.1

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A8501 Lancaster Laboratories, Inc. 9570341
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/18apr25.b/ld1019.d
Data file Sample Info. Line: A8501;9570341;1;0;SAMPLE;;;
Date, time and analyst ID of latest file update: 25-Apr-2018 16:27 art12405

Injection date and time: **25-APR-2018 15:19**
Instrument ID: **HP20296.i** Batch: **18113WAE**

Blank Data file reference: **/chem/HP20296.i/18apr25.b/ld1012.d**

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: **20639M**
Calibration date and time (Last Method Edit): 25-APR-2018 11:05
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/18apr25.b/ld1011.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): 245 ml Volume Injected (Vi): 1 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-Nitroaniline	(3)			Not Detected					0.1
106) Dimethylphthalate	(3)			Not Detected					0.5
108) 2,6-Dinitrotoluene	(3)			Not Detected					0.1
109) Acenaphthylene	(3)			Not Detected					0.03
112) 3-Nitroaniline	(3)			Not Detected					0.1
114) Acenaphthene	(3)			Not Detected					0.03
115) 2,4-Dinitrophenol	(3)			Not Detected					3
116) 4-Nitrophenol	(3)			Not Detected					3
118) 2,4-Dinitrotoluene	(3)			Not Detected					0.3
119) Dibenzofuran	(3)			Not Detected					0.1
124) Diethylphthalate	(3)			Not Detected					0.5
126) Fluorene	(3)			Not Detected					0.03
127) 4-Chlorophenyl-phenylether	(3)			Not Detected					0.1
129) 4-Nitroaniline	(3)			Not Detected					0.1
130) 4,6-Dinitro-2-methylphenol	(4)			Not Detected					1
131) N-Nitrosodiphenylamine	(4)			Not Detected					0.1
143) 4-Bromophenyl-phenylether	(4)			Not Detected					0.1
145) Hexachlorobenzene	(4)			Not Detected					0.03
149) Pentachlorophenol	(4)			Not Detected					0.3
155) Phenanthrene	(4)			Not Detected					0.03
157) Anthracene	(4)			Not Detected					0.03
163) Carbazole	(4)			Not Detected					0.1
165) Di-n-butylphthalate	(4)			Not Detected					0.5
173) Fluoranthene	(4)			Not Detected					0.03
177) Pyrene	(5)			Not Detected					0.03
188) Butylbenzylphthalate	(5)			Not Detected					0.5
193) 3,3'-Dichlorobenzidine	(5)			Not Detected					0.5
195) Benzo(a)anthracene	(5)			Not Detected					0.03
196) Chrysene	(5)			Not Detected					0.03
199) bis(2-Ethylhexyl)phthalate	(5)			Not Detected					0.5
205) Di-n-octylphthalate	(6)			Not Detected					0.5
206) Benzo(b)fluoranthene	(6)			Not Detected					0.03
208) Benzo(k)fluoranthene	(6)			Not Detected					0.03
211) 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

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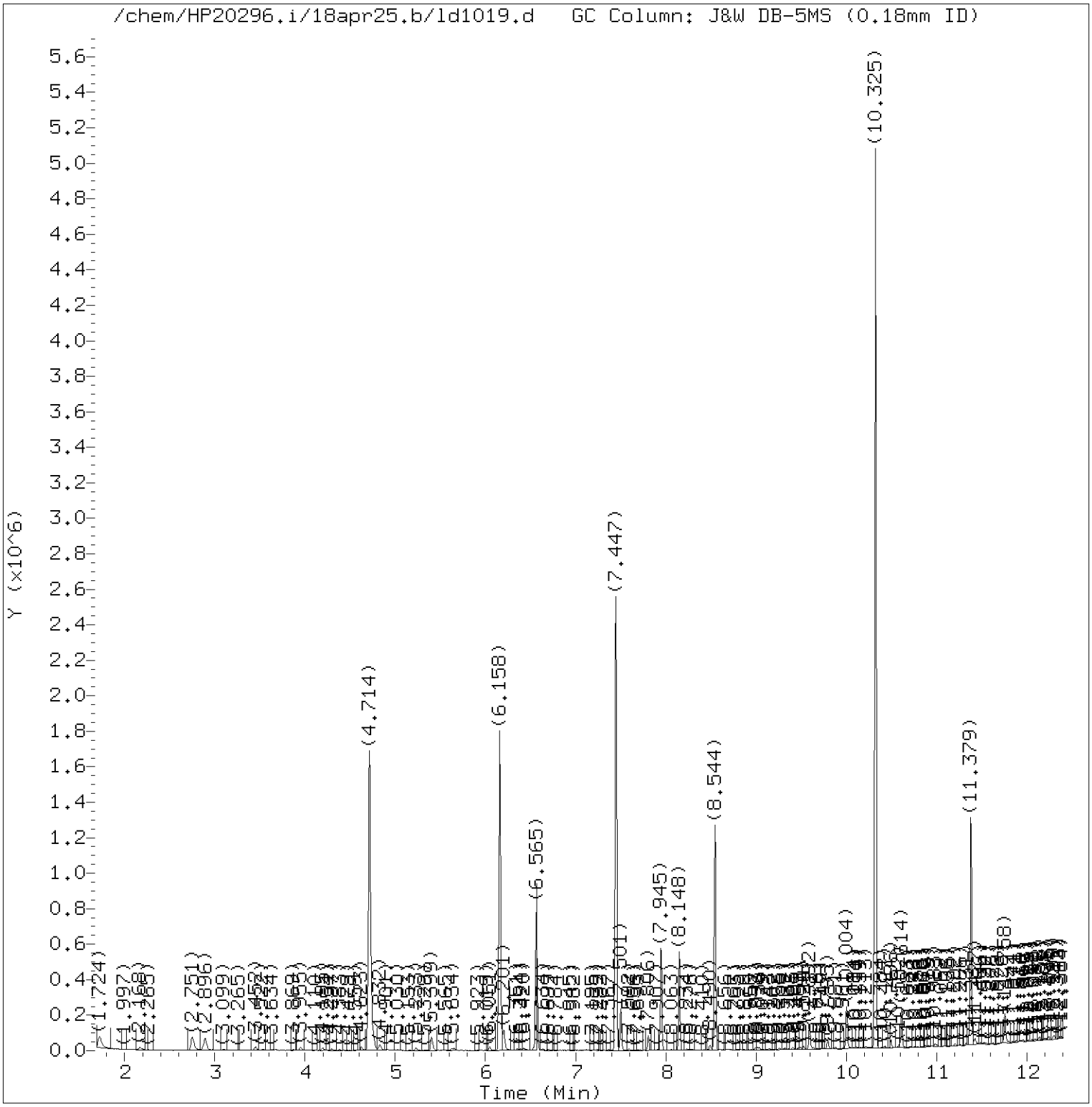
Secondary review performed and digitally signed by Holly B. Ziegler on 04/29/2018 at 13:53. PARALLAX ID: hb01996



Total Ion Chromatogram (TIC)

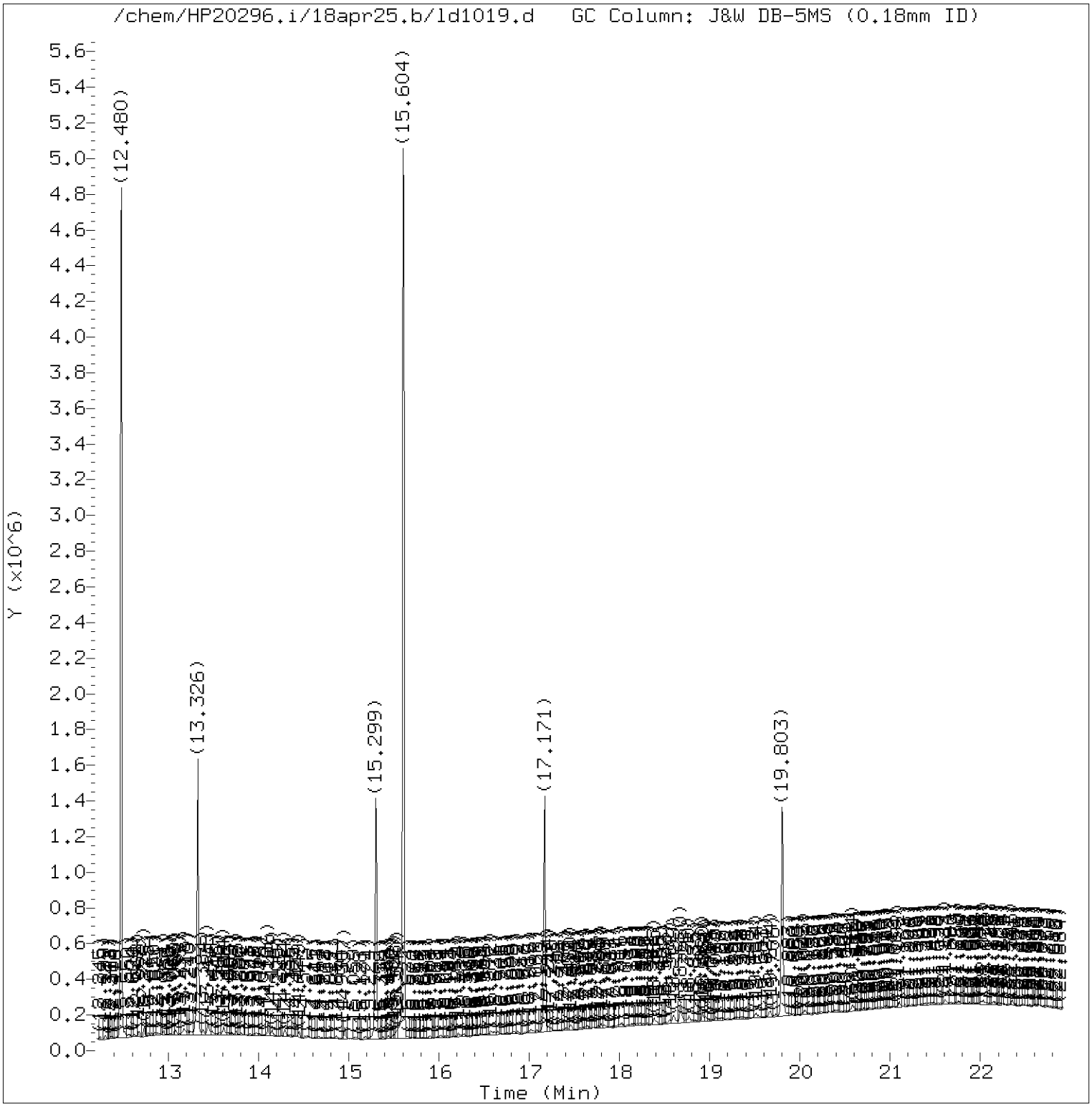
Target Revision 3.5

Data File: /chem/HP20296.i/18apr25.b/ld1019.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 15:19 Analyst ID: bhs10208

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 25-APR-2018 11:05
Date, time and analyst ID of latest file update: 25-Apr-2018 16:27 art12405

Sample Name: A8501 Lab Sample ID: 9570341

Digitally signed by Ashley R. Transue
on 04/25/2018 at 22:30.
Target 3.5 esignature user ID: art12405



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/18apr25.b/ld1019.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 15:19 Analyst ID: bhs10208

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 25-APR-2018 11:05
Date, time and analyst ID of latest file update: 25-Apr-2018 16:27 art12405

Sample Name: A8501 Lab Sample ID: 9570341

Digitally signed by Ashley R. Transue
on 04/25/2018 at 22:30.
Target 3.5 esignature user ID: art12405

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr25.b/ld1019.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 15:19 Analyst ID: bhs10208

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 25-APR-2018 11:05
Date, time and analyst ID of latest file update: 25-Apr-2018 16:27 art12405

Sample Name: A8501 Lab Sample ID: 9570341

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
11)$2-Fluorophenol	(1)	4.714	112	790543	17.258
17)$Phenol-d6	(1)	6.158	99	815448	13.575
25)*1,4-Dichlorobenzene-d4	(1)	6.565	152	167291	5.000
44)$Nitrobenzene-d5	(2)	7.447	82	1081180	20.210
65)*Naphthalene-d8	(2)	8.544	136	620272	5.000
93)$2-Fluorobiphenyl	(3)	10.325	172	1858851	18.800
113)*Acenaphthene-d10	(3)	11.379	164	318056	5.000
135)$2,4,6-Tribromophenol	(3)	12.480	330	460277	40.372
153)*Phenanthrene-d10	(4)	13.326	188	639451	5.000
175)*Pyrene-d10	(5)	15.299	212	661843	5.000
179)$Terphenyl-d14	(5)	15.604	244	1963533	18.499
213)*Perylene-d12	(6)	19.803	264	619822	5.000

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

Digitally signed by Ashley R. Transue
on 04/25/2018 at 22:30.
Target 3.5 esignature user ID: art12405

A8507 Lancaster Laboratories, Inc. 9570347
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/18apr25.b/ld1020.d
Data file Sample Info. Line: A8507;9570347;1;0;SAMPLE;;;
Date, time and analyst ID of latest file update: 25-Apr-2018 16:58 art12405

Injection date and time: **25-APR-2018 15:47**
Instrument ID: **HP20296.i** Batch: **18113WAE**

Blank Data file reference: **/chem/HP20296.i/18apr25.b/ld1012.d**

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: **20639M**
Calibration date and time (Last Method Edit): 25-APR-2018 11:05
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/18apr25.b/ld1011.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): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.565(0.000)	912	152	160123 (-22)	5.00	
65) Naphthalene-d8	8.544(0.000)	1282	136	589251 (-26)	5.00	
113) Acenaphthene-d10	11.384(-0.005)	1813	164	300341 (-28)	5.00	
153) Phenanthrene-d10	13.325(0.000)	2176	188	597996 (-31)	5.00	
175) Pyrene-d10	15.299(0.000)	2545	212	611442 (-32)	5.00	
213) Perylene-d12	19.803(0.000)	3387	264	561934 (-33)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
11) 2-Fluorophenol	(1)	4.714(0.000)	112	505105	11.520	23%		10 - 82
17) Phenol-d6	(1)	6.158(0.000)	99	483518	8.410	17%		10 - 71
44) Nitrobenzene-d5	(2)	7.447(0.000)	82	1136337	22.359	89%		30 - 111
93) 2-Fluorobiphenyl	(3)	10.325(0.000)	172	1893157	20.276	81%		39 - 105
135) 2,4,6-Tribromophenol	(3)	12.480(0.001)	330	296871	27.575	55%		21 - 134
179) Terphenyl-d14	(5)	15.604(0.000)	244	1706217	17.400	70%		27 - 116

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
18) Phenol	(1)			Not Detected					0.1
22) bis(2-Chloroethyl)ether	(1)			Not Detected					0.1
23) 2-Chlorophenol	(1)			Not Detected					0.1
24) 1,3-Dichlorobenzene	(1)			Not Detected					0.1
26) 1,4-Dichlorobenzene	(1)			Not Detected					0.1
28) 1,2-Dichlorobenzene	(1)			Not Detected					0.1
31) 2-Methylphenol	(1)			Not Detected					0.1
33) 2,2'-oxybis(1-Chloropropane)	(1)			Not Detected					0.1
37) 4-Methylphenol	(1)			Not Detected					0.1
38) N-Nitroso-di-n-propylamine	(1)			Not Detected					0.1
43) Hexachloroethane	(1)			Not Detected					0.3
45) Nitrobenzene	(2)			Not Detected					0.1
50) Isophorone	(2)			Not Detected					0.1
51) 2-Nitrophenol	(2)			Not Detected					0.1
53) 2,4-Dimethylphenol	(2)			Not Detected					0.1
55) bis(2-Chloroethoxy)methane	(2)			Not Detected					0.1
60) 2,4-Dichlorophenol	(2)			Not Detected					0.1
62) 1,2,4-Trichlorobenzene	(2)			Not Detected					0.1
66) Naphthalene	(2)			Not Detected					0.03
67) 4-Chloroaniline	(2)			Not Detected					0.5
71) Hexachlorobutadiene	(2)			Not Detected					0.1
80) 4-Chloro-3-methylphenol	(2)			Not Detected					0.1
83) 2-Methylnaphthalene	(2)			Not Detected					0.03
85) Hexachlorocyclopentadiene	(3)			Not Detected					1
90) 2,4,6-Trichlorophenol	(3)			Not Detected					0.1
92) 2,4,5-Trichlorophenol	(3)			Not Detected					0.1
96) 2-Chloronaphthalene	(3)			Not Detected					0.1

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Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/18apr25.b/ld1020.d
Injection date and time: **25-APR-2018 15:47**
Data file Sample Info. Line: A8507;9570347;1;0;SAMPLE;;;
Instrument ID: **HP20296.i** Batch: **18113WAE**
Date, time and analyst ID of latest file update: 25-Apr-2018 16:58 art12405

Blank Data file reference: **/chem/HP20296.i/18apr25.b/ld1012.d**

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: **20639M**
Calibration date and time (Last Method Edit): 25-APR-2018 11:05
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/18apr25.b/ld1011.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)

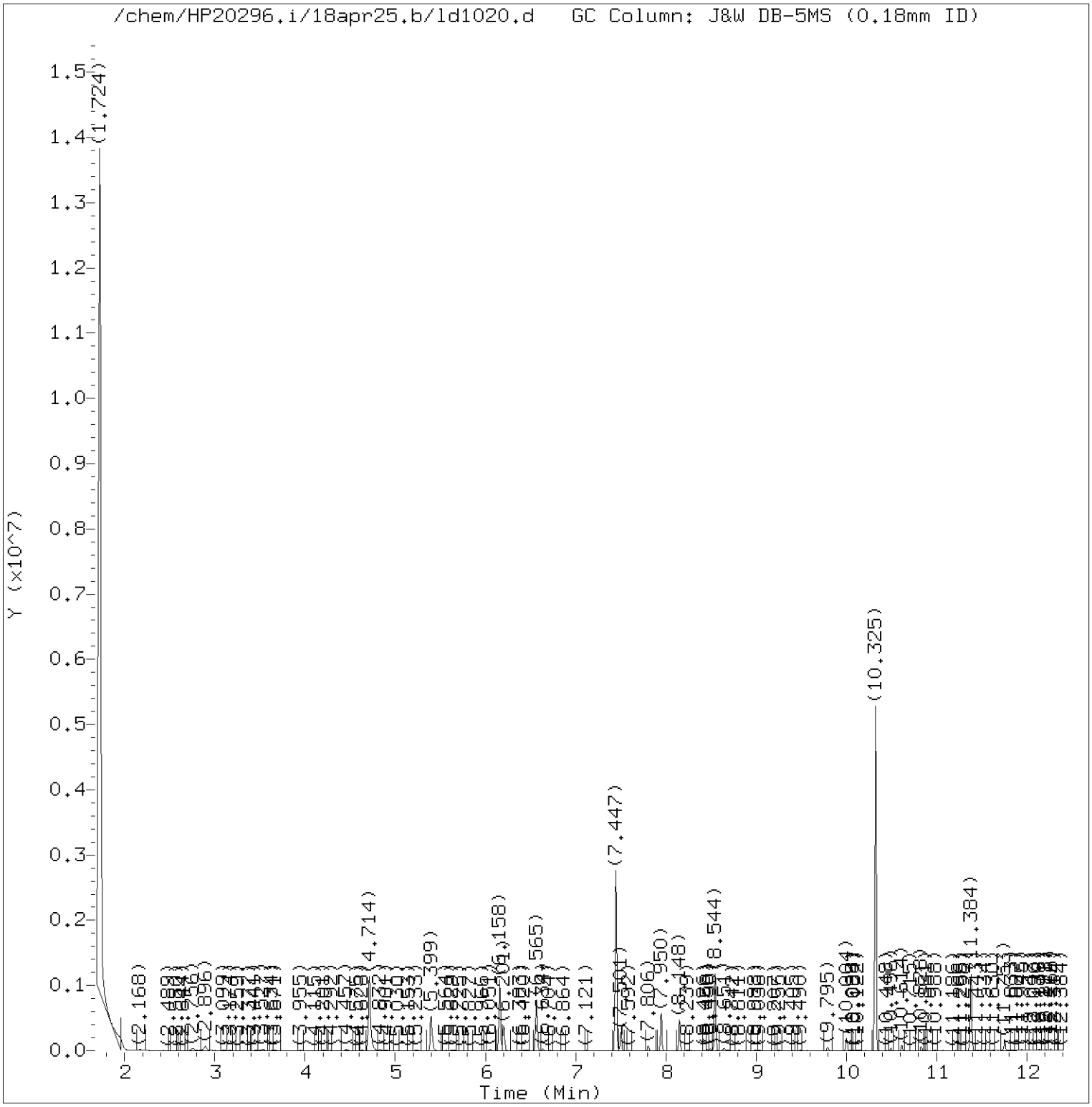
Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 249 ml Volume Injected (Vi): 1 ul

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
100) 2-Nitroaniline	(3)			Not Detected					0.1
106) Dimethylphthalate	(3)			Not Detected					0.5
108) 2,6-Dinitrotoluene	(3)			Not Detected					0.1
109) Acenaphthylene	(3)			Not Detected					0.03
112) 3-Nitroaniline	(3)			Not Detected					0.1
114) Acenaphthene	(3)			Not Detected					0.03
115) 2,4-Dinitrophenol	(3)			Not Detected					3
116) 4-Nitrophenol	(3)			Not Detected					3
118) 2,4-Dinitrotoluene	(3)			Not Detected					0.3
119) Dibenzofuran	(3)			Not Detected					0.1
124) Diethylphthalate	(3)			Not Detected					0.5
126) Fluorene	(3)			Not Detected					0.03
127) 4-Chlorophenyl-phenylether	(3)			Not Detected					0.1
129) 4-Nitroaniline	(3)			Not Detected					0.1
130) 4,6-Dinitro-2-methylphenol	(4)			Not Detected					1
131) N-Nitrosodiphenylamine	(4)			Not Detected					0.1
143) 4-Bromophenyl-phenylether	(4)			Not Detected					0.1
145) Hexachlorobenzene	(4)			Not Detected					0.03
149) Pentachlorophenol	(4)			Not Detected					0.3
155) Phenanthrene	(4)			Not Detected					0.03
157) Anthracene	(4)			Not Detected					0.03
163) Carbazole	(4)			Not Detected					0.1
165) Di-n-butylphthalate	(4)			Not Detected					0.5
173) Fluoranthene	(4)			Not Detected					0.03
177) Pyrene	(5)			Not Detected					0.03
188) Butylbenzylphthalate	(5)			Not Detected					0.5
193) 3,3'-Dichlorobenzidine	(5)			Not Detected					0.5
195) Benzo(a)anthracene	(5)			Not Detected					0.03
196) Chrysene	(5)			Not Detected					0.03
199) bis(2-Ethylhexyl)phthalate	(5)			Not Detected					0.5
205) Di-n-octylphthalate	(6)			Not Detected					0.5
206) Benzo(b)fluoranthene	(6)			Not Detected					0.03
208) Benzo(k)fluoranthene	(6)			Not Detected					0.03
211) 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 Ashley R. Transue on 04/25/2018 at 22:31. Target 3.5 esignature user ID: art12405

Secondary review performed and digitally signed by Holly B. Ziegler on 04/29/2018 at 13:53. PARALLAX ID: hb01996



Total Ion Chromatogram (TIC)

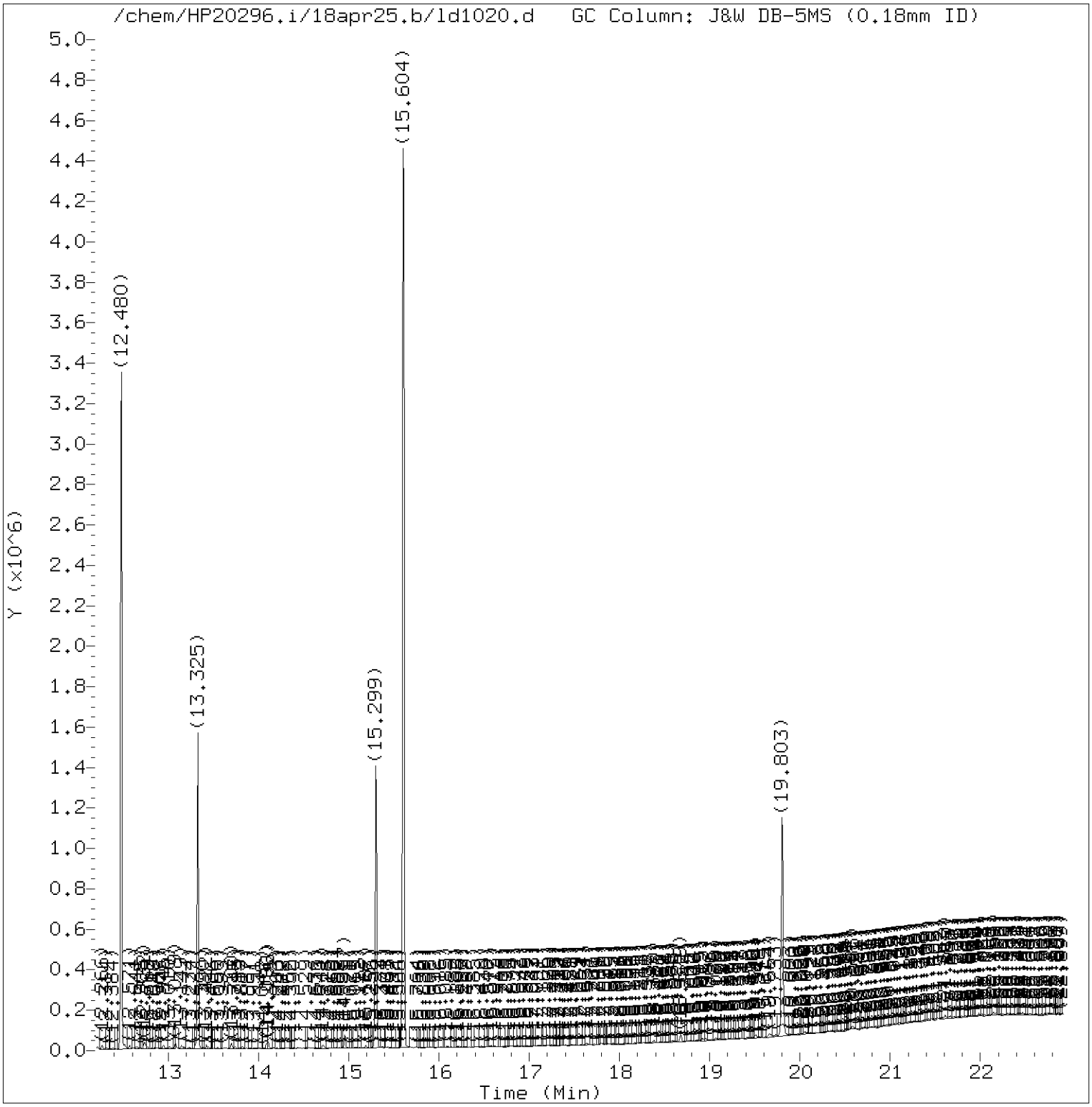
Target Revision 3.5

Data File: /chem/HP20296.i/18apr25.b/ld1020.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 15:47 Analyst ID: bhs10208

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 25-APR-2018 11:05
Date, time and analyst ID of latest file update: 25-Apr-2018 16:58 art12405

Sample Name: A8507 Lab Sample ID: 9570347

Digitally signed by Ashley R. Transue
on 04/25/2018 at 22:31.
Target 3.5 esignature user ID: art12405



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/18apr25.b/ld1020.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 15:47 Analyst ID: bhs10208

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 25-APR-2018 11:05
Date, time and analyst ID of latest file update: 25-Apr-2018 16:58 art12405

Sample Name: A8507 Lab Sample ID: 9570347

Digitally signed by Ashley R. Transue
on 04/25/2018 at 22:31.
Target 3.5 esignature user ID: art12405

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr25.b/ld1020.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 15:47 Analyst ID: bhs10208

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 25-APR-2018 11:05
Date, time and analyst ID of latest file update: 25-Apr-2018 16:58 art12405

Sample Name: A8507 Lab Sample ID: 9570347

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
11)$2-Fluorophenol	(1)	4.714	112	505105	11.520
17)$Phenol-d6	(1)	6.158	99	483518	8.410
25)*1,4-Dichlorobenzene-d4	(1)	6.565	152	160123	5.000
44)$Nitrobenzene-d5	(2)	7.447	82	1136337	22.359
65)*Naphthalene-d8	(2)	8.544	136	589251	5.000
93)$2-Fluorobiphenyl	(3)	10.325	172	1893157	20.276
113)*Acenaphthene-d10	(3)	11.384	164	300341	5.000
135)$2,4,6-Tribromophenol	(3)	12.480	330	296871	27.575
153)*Phenanthrene-d10	(4)	13.325	188	597996	5.000
175)*Pyrene-d10	(5)	15.299	212	611442	5.000
179)$Terphenyl-d14	(5)	15.604	244	1706217	17.400
213)*Perylene-d12	(6)	19.803	264	561934	5.000

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

Digitally signed by Ashley R. Transue
on 04/25/2018 at 22:31.
Target 3.5 esignature user ID: art12405

A8509 Lancaster Laboratories, Inc. 9570349
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/18apr25.b/ld1021.d
Data file Sample Info. Line: A8509;9570349;1;0;SAMPLE;;;
Date, time and analyst ID of latest file update: 25-Apr-2018 17:14 art12405

Injection date and time: **25-APR-2018 16:15**
Instrument ID: **HP20296.i** Batch: **18113WAE**

Blank Data file reference: **/chem/HP20296.i/18apr25.b/ld1012.d**

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: **20639M**
Calibration date and time (Last Method Edit): 25-APR-2018 16:49
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/18apr25.b/ld1011.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): 243 ml Volume Injected (Vi): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.565(0.000)	912	152	163194 (-21)	5.00	
65) Naphthalene-d8	8.544(0.000)	1282	136	616894 (-22)	5.00	
113) Acenaphthene-d10	11.384(-0.005)	1813	164	315583 (-25)	5.00	
153) Phenanthrene-d10	13.325(0.000)	2176	188	622278 (-28)	5.00	
175) Pyrene-d10	15.299(0.000)	2545	212	645398 (-29)	5.00	
213) Perylene-d12	19.808(-0.005)	3388	264	589331 (-30)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
11) 2-Fluorophenol	(1)	4.714(0.000)	112	357183	7.993	16%		10 - 82
17) Phenol-d6	(1)	6.158(0.000)	99	342441	5.844	12%		10 - 71
44) Nitrobenzene-d5	(2)	7.447(0.000)	82	1198803	22.531	90%		30 - 111
93) 2-Fluorobiphenyl	(3)	10.325(0.000)	172	2030108	20.692	83%		39 - 105
135) 2,4,6-Tribromophenol	(3)	12.480(0.001)	330	195889	17.317	35%		21 - 134
179) Terphenyl-d14	(5)	15.604(0.000)	244	1458449	14.091	56%		27 - 116

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
18) Phenol	(1)			Not Detected					0.1
22) bis(2-Chloroethyl)ether	(1)			Not Detected					0.1
23) 2-Chlorophenol	(1)			Not Detected					0.1
24) 1,3-Dichlorobenzene	(1)			Not Detected					0.1
26) 1,4-Dichlorobenzene	(1)			Not Detected					0.1
28) 1,2-Dichlorobenzene	(1)			Not Detected					0.1
31) 2-Methylphenol	(1)			Not Detected					0.1
33) 2,2'-oxybis(1-Chloropropane)	(1)			Not Detected					0.1
37) 4-Methylphenol	(1)			Not Detected					0.1
38) N-Nitroso-di-n-propylamine	(1)			Not Detected					0.1
43) Hexachloroethane	(1)			Not Detected					0.3
45) Nitrobenzene	(2)			Not Detected					0.1
50) Isophorone	(2)			Not Detected					0.1
51) 2-Nitrophenol	(2)			Not Detected					0.1
53) 2,4-Dimethylphenol	(2)			Not Detected					0.1
55) bis(2-Chloroethoxy)methane	(2)			Not Detected					0.1
60) 2,4-Dichlorophenol	(2)			Not Detected					0.1
62) 1,2,4-Trichlorobenzene	(2)	8.458(-0.000)	180	10970	0.269	1.11			0.1
66) Naphthalene	(2)			Not Detected					0.03
67) 4-Chloroaniline	(2)			Not Detected					0.5
71) Hexachlorobutadiene	(2)			Not Detected					0.1
80) 4-Chloro-3-methylphenol	(2)			Not Detected					0.1
83) 2-Methylnaphthalene	(2)			Not Detected					0.03
85) Hexachlorocyclopentadiene	(3)			Not Detected					1
90) 2,4,6-Trichlorophenol	(3)			Not Detected					0.1
92) 2,4,5-Trichlorophenol	(3)			Not Detected					0.1
96) 2-Chloronaphthalene	(3)			Not Detected					0.1

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Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/18apr25.b/ld1021.d
Injection date and time: **25-APR-2018 16:15**
Data file Sample Info. Line: A8509;9570349;1;0;SAMPLE;;;
Instrument ID: **HP20296.i** Batch: **18113WAE**
Date, time and analyst ID of latest file update: 25-Apr-2018 17:14 art12405

Blank Data file reference: **/chem/HP20296.i/18apr25.b/ld1012.d**

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: **20639M**
Calibration date and time (Last Method Edit): 25-APR-2018 16:49
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/18apr25.b/ld1011.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)

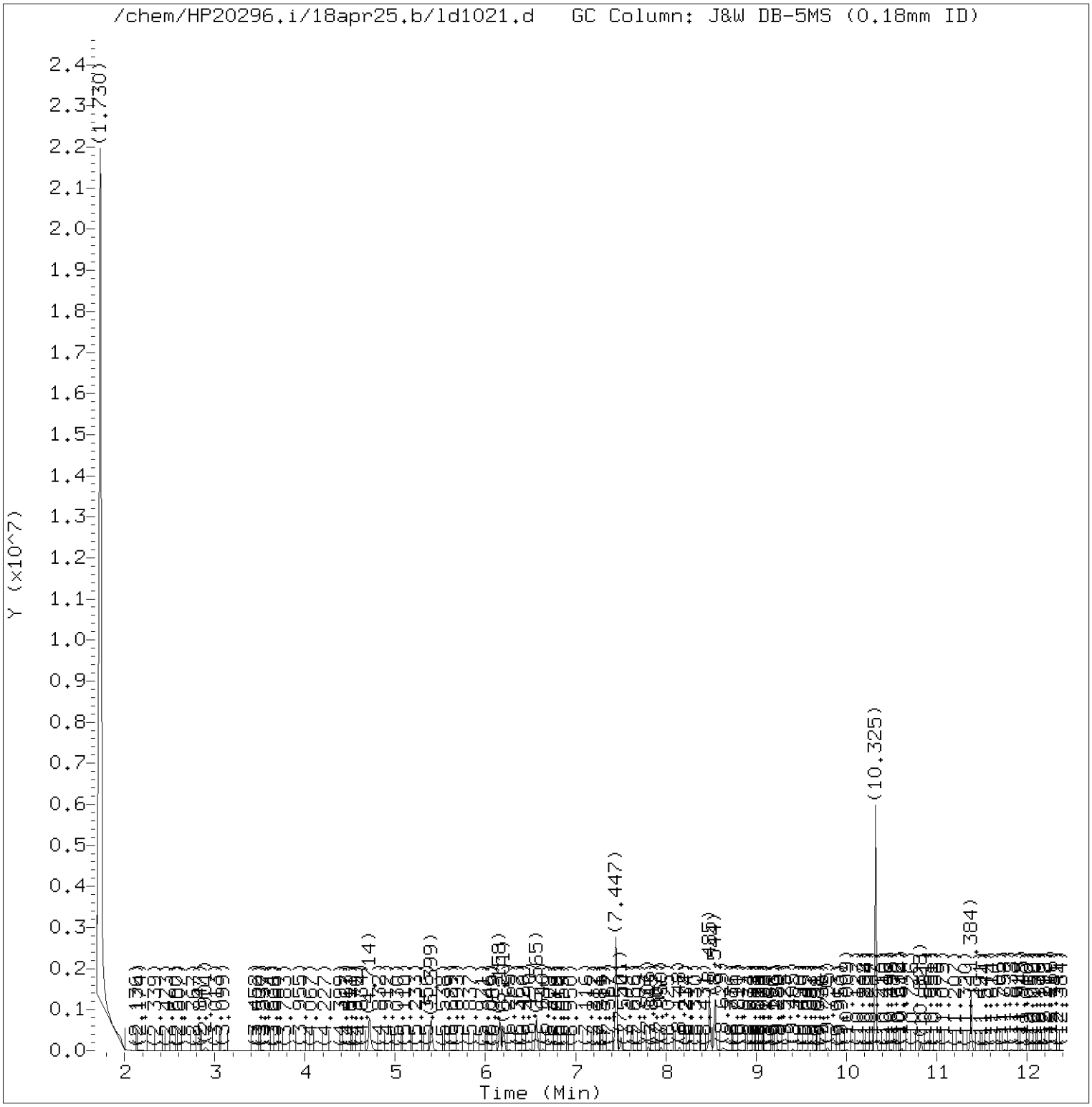
Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 243 ml Volume Injected (Vi): 1 ul

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
100) 2-Nitroaniline	(3)			Not Detected					0.1
106) Dimethylphthalate	(3)			Not Detected					0.5
108) 2,6-Dinitrotoluene	(3)			Not Detected					0.1
109) Acenaphthylene	(3)			Not Detected					0.03
112) 3-Nitroaniline	(3)			Not Detected					0.1
114) Acenaphthene	(3)			Not Detected					0.03
115) 2,4-Dinitrophenol	(3)			Not Detected					3
116) 4-Nitrophenol	(3)			Not Detected					3
118) 2,4-Dinitrotoluene	(3)			Not Detected					0.3
119) Dibenzofuran	(3)			Not Detected					0.1
124) Diethylphthalate	(3)			Not Detected					0.5
126) Fluorene	(3)			Not Detected					0.03
127) 4-Chlorophenyl-phenylether	(3)			Not Detected					0.1
129) 4-Nitroaniline	(3)			Not Detected					0.1
130) 4,6-Dinitro-2-methylphenol	(4)			Not Detected					1
131) N-Nitrosodiphenylamine	(4)			Not Detected					0.1
143) 4-Bromophenyl-phenylether	(4)			Not Detected					0.1
145) Hexachlorobenzene	(4)			Not Detected					0.03
149) Pentachlorophenol	(4)			Not Detected					0.3
155) Phenanthrene	(4)			Not Detected					0.03
157) Anthracene	(4)			Not Detected					0.03
163) Carbazole	(4)			Not Detected					0.1
165) Di-n-butylphthalate	(4)			Not Detected					0.5
173) Fluoranthene	(4)			Not Detected					0.03
177) Pyrene	(5)			Not Detected					0.03
188) Butylbenzylphthalate	(5)			Not Detected					0.5
193) 3,3'-Dichlorobenzidine	(5)			Not Detected					0.5
195) Benzo(a)anthracene	(5)			Not Detected					0.03
196) Chrysene	(5)			Not Detected					0.03
199) bis(2-Ethylhexyl)phthalate	(5)			Not Detected					0.5
205) Di-n-octylphthalate	(6)			Not Detected					0.5
206) Benzo(b)fluoranthene	(6)			Not Detected					0.03
208) Benzo(k)fluoranthene	(6)			Not Detected					0.03
211) 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 Ashley R. Transue on 04/25/2018 at 22:31. Target 3.5 esignature user ID: art12405

Secondary review performed and digitally signed by Holly B. Ziegler on 04/29/2018 at 13:53. PARALLAX ID: hb01996



Total Ion Chromatogram (TIC)

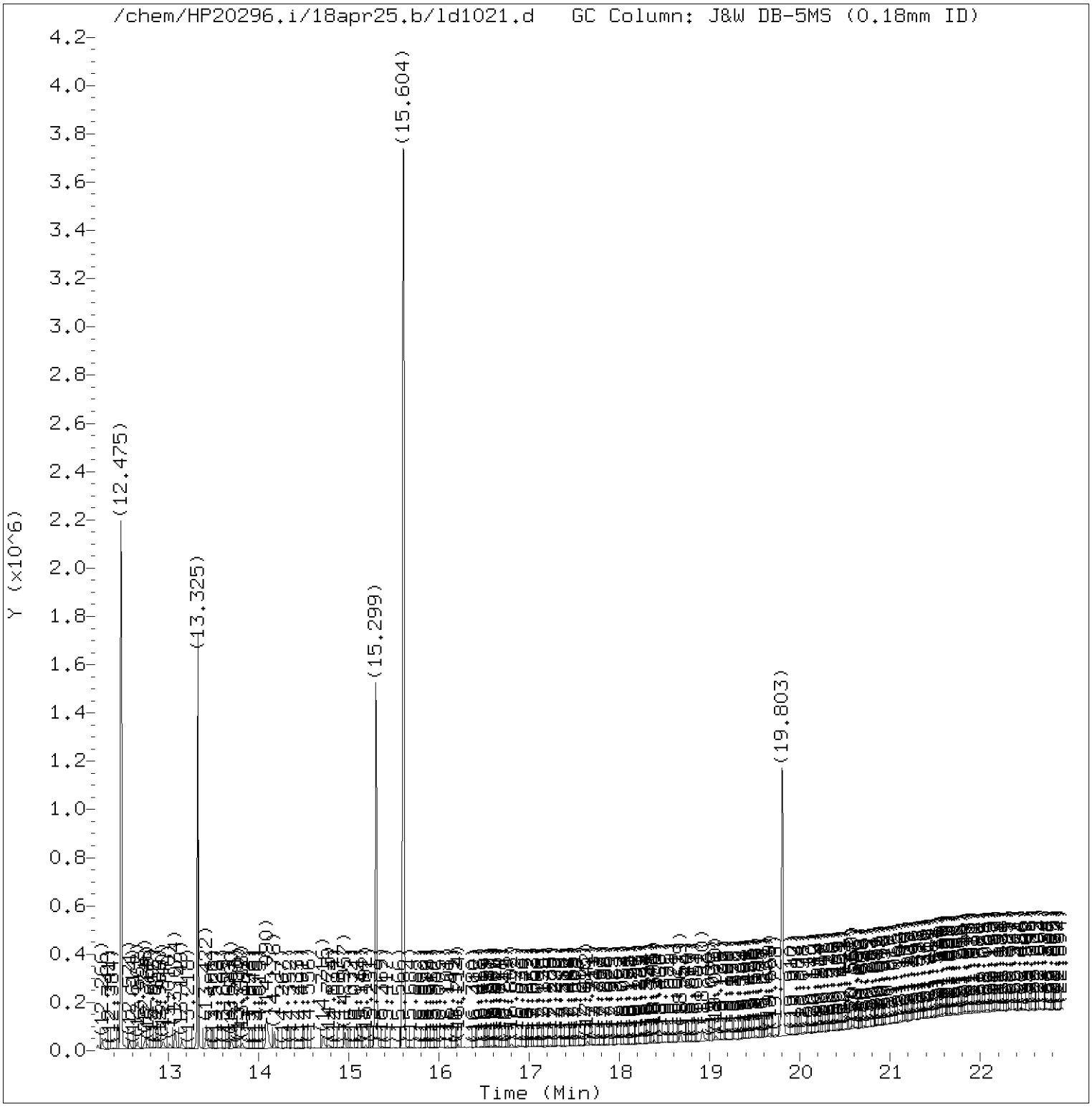
Target Revision 3.5

Data File: /chem/HP20296.i/18apr25.b/ld1021.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 16:15 Analyst ID: bhs10208

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 25-APR-2018 16:49
Date, time and analyst ID of latest file update: 25-Apr-2018 17:14 art12405

Sample Name: A8509 Lab Sample ID: 9570349

Digitally signed by Ashley R. Transue
on 04/25/2018 at 22:31.
Target 3.5 esignature user ID: art12405



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/18apr25.b/ld1021.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 16:15 Analyst ID: bhs10208

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 25-APR-2018 16:49
Date, time and analyst ID of latest file update: 25-Apr-2018 17:14 art12405

Sample Name: A8509 Lab Sample ID: 9570349

Digitally signed by Ashley R. Transue
on 04/25/2018 at 22:31.
Target 3.5 esignature user ID: art12405

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr25.b/ld1021.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 16:15 Analyst ID: bhs10208

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 25-APR-2018 16:49
Date, time and analyst ID of latest file update: 25-Apr-2018 17:14 art12405

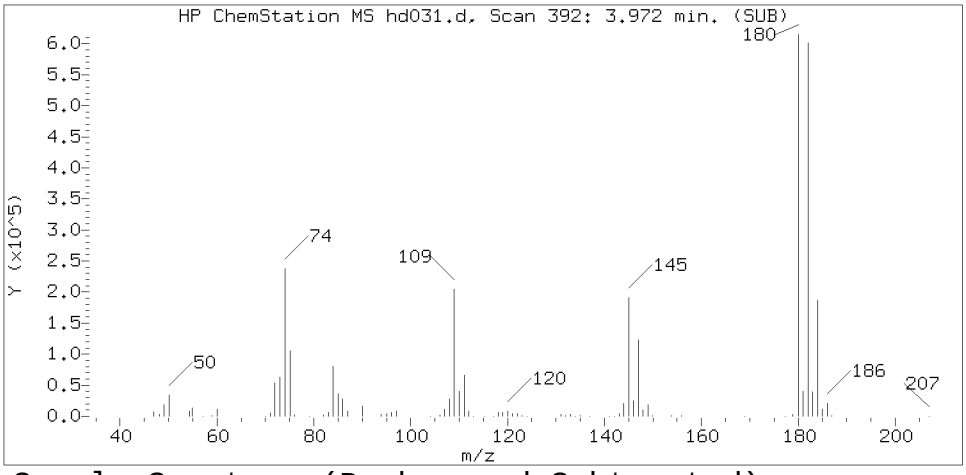
Sample Name: A8509 Lab Sample ID: 9570349

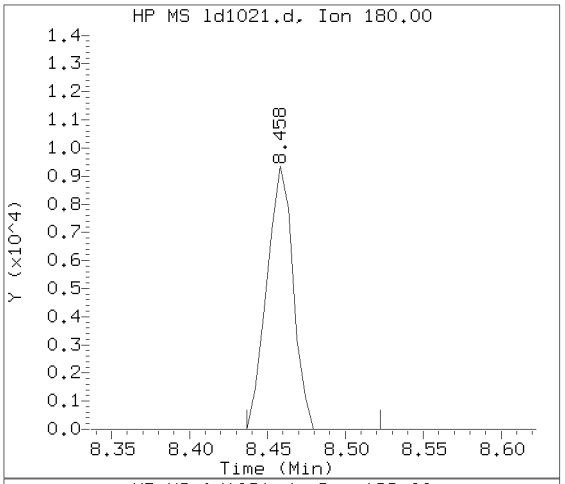
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
11)$2-Fluorophenol	(1)	4.714	112	357183	7.993
17)$Phenol-d6	(1)	6.158	99	342441	5.844
25)*1,4-Dichlorobenzene-d4	(1)	6.565	152	163194	5.000
44)$Nitrobenzene-d5	(2)	7.447	82	1198803	22.531
62) 1,2,4-Trichlorobenzene	(2)	8.458	180	10970	0.269
65)*Naphthalene-d8	(2)	8.544	136	616894	5.000
93)$2-Fluorobiphenyl	(3)	10.325	172	2030108	20.692
113)*Acenaphthene-d10	(3)	11.384	164	315583	5.000
135)$2,4,6-Tribromophenol	(3)	12.480	330	195889	17.317
153)*Phenanthrene-d10	(4)	13.325	188	622278	5.000
175)*Pyrene-d10	(5)	15.299	212	645398	5.000
179)$Terphenyl-d14	(5)	15.604	244	1458449	14.091
213)*Perylene-d12	(6)	19.808	264	589331	5.000

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

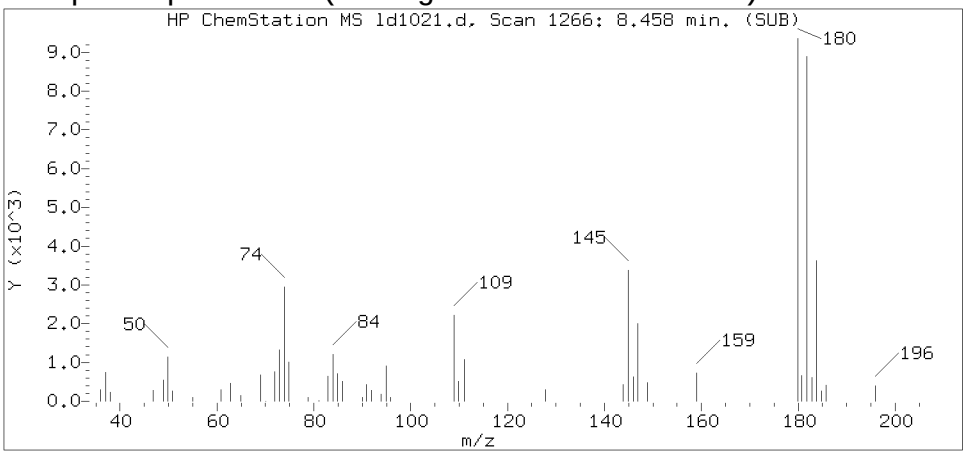
Digitally signed by Ashley R. Transue
on 04/25/2018 at 22:31.
Target 3.5 esignature user ID: art12405

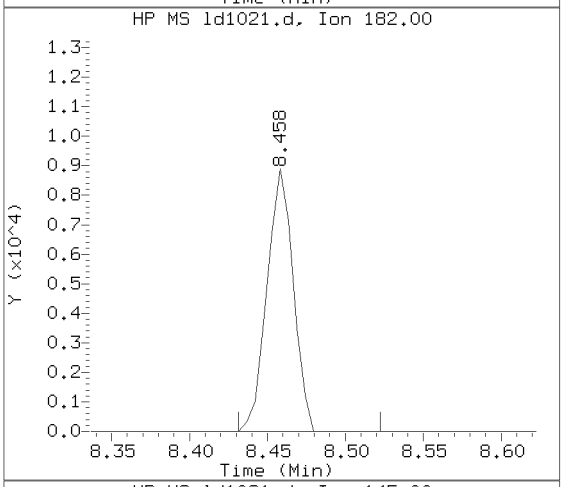
Reference Standard Spectrum for 1,2,4-Trichlorobenzene



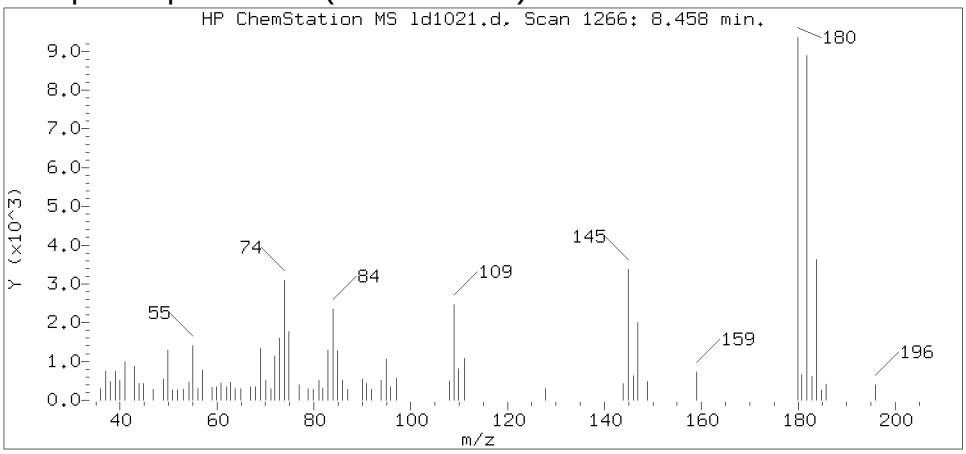


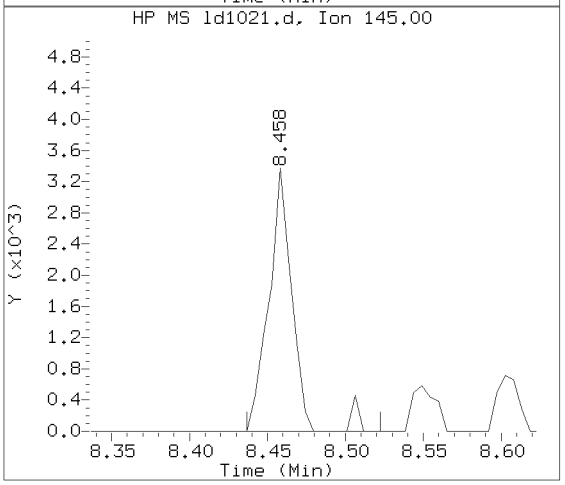
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP20296.i/18apr25.b/ld1021.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 16:15 Analyst ID: bhs10208

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 25-APR-2018 16:49
Date, time and analyst ID of latest file update: 25-Apr-2018 17:14 art12405

Sample Name: A8509 Lab Sample ID: 9570349

Compound Number : 62
Compound Name : 1,2,4-Trichlorobenzene
Scan Number : 1266
Retention Time (minutes) : 8.458
Relative Retention Time :-0.00000
Quant Ion : 180.00
Area (flag) : 10970
On-column Amount (ng/ul) : 0.2690

Digitally signed by Ashley R. Transue on 04/25/2018 at 22:31.
Target 3.5 esignature user ID: art12405

A8512 Lancaster Laboratories, Inc. 9570352
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/18apr25.b/ld1022.d
Data file Sample Info. Line: A8512;9570352;1;0;SAMPLE;;;
Date, time and analyst ID of latest file update: 25-Apr-2018 19:25 art12405

Injection date and time: **25-APR-2018 17:11**
Instrument ID: **HP20296.i** Batch: **18113WAE**

Blank Data file reference: **/chem/HP20296.i/18apr25.b/ld1012.d**

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: **20639M**
Calibration date and time (Last Method Edit): 25-APR-2018 16:49
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/18apr25.b/ld1011.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): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.565(0.000)	912	152	153358 (-25)	5.00	
65) Naphthalene-d8	8.549(-0.005)	1283	136	563690 (-29)	5.00	
113) Acenaphthene-d10	11.384(-0.005)	1813	164	285802 (-32)	5.00	
153) Phenanthrene-d10	13.331(-0.005)	2177	188	568110 (-34)	5.00	
175) Pyrene-d10	15.304(-0.005)	2546	212	572226 (-37)	5.00	
213) Perylene-d12	19.808(-0.005)	3388	264	525712 (-37)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
11) 2-Fluorophenol	(1)	4.714(0.000)	112	1009105	24.030	48%		10 - 82
17) Phenol-d6	(1)	6.158(0.000)	99	978371	17.768	36%		10 - 71
44) Nitrobenzene-d5	(2)	7.447(0.001)	82	1068149	21.971	88%		30 - 111
93) 2-Fluorobiphenyl	(3)	10.330(0.000)	172	1802701	20.289	81%		39 - 105
135) 2,4,6-Tribromophenol	(3)	12.486(0.000)	330	471436	46.018	92%		21 - 134
179) Terphenyl-d14	(5)	15.609(0.000)	244	2138632	23.304	93%		27 - 116

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
18) Phenol	(1)			Not Detected					0.1
22) bis(2-Chloroethyl)ether	(1)			Not Detected					0.1
23) 2-Chlorophenol	(1)			Not Detected					0.1
24) 1,3-Dichlorobenzene	(1)			Not Detected					0.1
26) 1,4-Dichlorobenzene	(1)			Not Detected					0.1
28) 1,2-Dichlorobenzene	(1)			Not Detected					0.1
31) 2-Methylphenol	(1)			Not Detected					0.1
33) 2,2'-oxybis(1-Chloropropane)	(1)			Not Detected					0.1
37) 4-Methylphenol	(1)			Not Detected					0.1
38) N-Nitroso-di-n-propylamine	(1)			Not Detected					0.1
43) Hexachloroethane	(1)			Not Detected					0.3
45) Nitrobenzene	(2)			Not Detected					0.1
50) Isophorone	(2)			Not Detected					0.1
51) 2-Nitrophenol	(2)			Not Detected					0.1
53) 2,4-Dimethylphenol	(2)			Not Detected					0.1
55) bis(2-Chloroethoxy)methane	(2)			Not Detected					0.1
60) 2,4-Dichlorophenol	(2)			Not Detected					0.1
62) 1,2,4-Trichlorobenzene	(2)			Not Detected					0.1
66) Naphthalene	(2)			Not Detected					0.03
67) 4-Chloroaniline	(2)			Not Detected					0.5
71) Hexachlorobutadiene	(2)			Not Detected					0.1
80) 4-Chloro-3-methylphenol	(2)			Not Detected					0.1
83) 2-Methylnaphthalene	(2)			Not Detected					0.03
85) Hexachlorocyclopentadiene	(3)			Not Detected					1
90) 2,4,6-Trichlorophenol	(3)			Not Detected					0.1
92) 2,4,5-Trichlorophenol	(3)			Not Detected					0.1
96) 2-Chloronaphthalene	(3)			Not Detected					0.1

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A8512 Lancaster Laboratories, Inc. 9570352
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/18apr25.b/ld1022.d Injection date and time: **25-APR-2018 17:11**
Data file Sample Info. Line: A8512;9570352;1;0;SAMPLE;;; Instrument ID: **HP20296.i** Batch: **18113WAE**
Date, time and analyst ID of latest file update: 25-Apr-2018 19:25 art12405

Blank Data file reference: **/chem/HP20296.i/18apr25.b/ld1012.d**

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: **20639M**
Calibration date and time (Last Method Edit): 25-APR-2018 16:49
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/18apr25.b/ld1011.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)

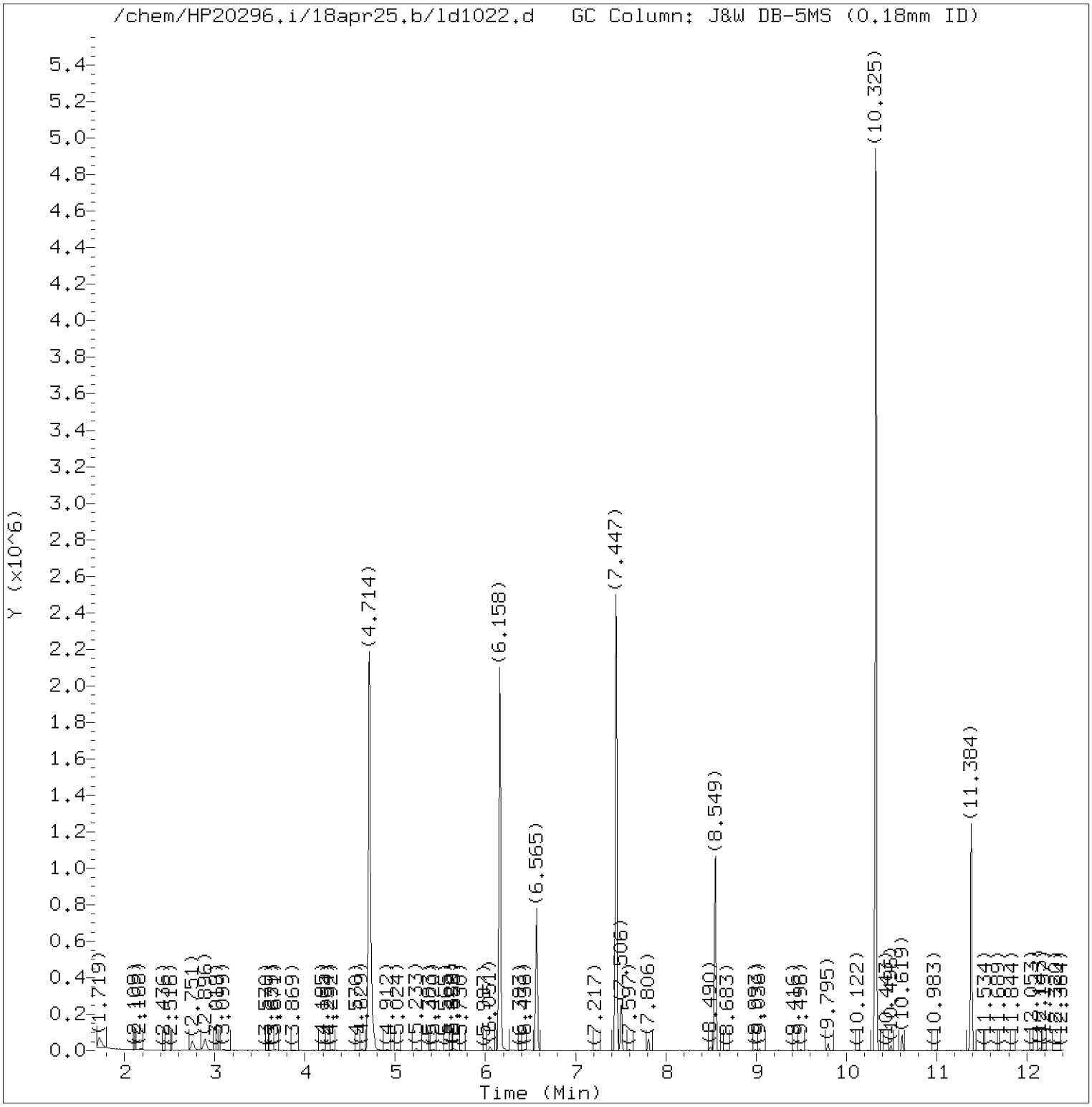
Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 1 ul

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
100) 2-Nitroaniline	(3)			Not Detected					0.1
106) Dimethylphthalate	(3)			Not Detected					0.5
108) 2,6-Dinitrotoluene	(3)			Not Detected					0.1
109) Acenaphthylene	(3)			Not Detected					0.03
112) 3-Nitroaniline	(3)			Not Detected					0.1
114) Acenaphthene	(3)			Not Detected					0.03
115) 2,4-Dinitrophenol	(3)			Not Detected					3
116) 4-Nitrophenol	(3)			Not Detected					3
118) 2,4-Dinitrotoluene	(3)			Not Detected					0.3
119) Dibenzofuran	(3)			Not Detected					0.1
124) Diethylphthalate	(3)			Not Detected					0.5
126) Fluorene	(3)			Not Detected					0.03
127) 4-Chlorophenyl-phenylether	(3)			Not Detected					0.1
129) 4-Nitroaniline	(3)			Not Detected					0.1
130) 4,6-Dinitro-2-methylphenol	(4)			Not Detected					1
131) N-Nitrosodiphenylamine	(4)			Not Detected					0.1
143) 4-Bromophenyl-phenylether	(4)			Not Detected					0.1
145) Hexachlorobenzene	(4)			Not Detected					0.03
149) Pentachlorophenol	(4)			Not Detected					0.3
155) Phenanthrene	(4)			Not Detected					0.03
157) Anthracene	(4)			Not Detected					0.03
163) Carbazole	(4)			Not Detected					0.1
165) Di-n-butylphthalate	(4)			Not Detected					0.5
173) Fluoranthene	(4)			Not Detected					0.03
177) Pyrene	(5)			Not Detected					0.03
188) Butylbenzylphthalate	(5)			Not Detected					0.5
193) 3,3'-Dichlorobenzidine	(5)			Not Detected					0.5
195) Benzo(a)anthracene	(5)			Not Detected					0.03
196) Chrysene	(5)			Not Detected					0.03
199) bis(2-Ethylhexyl)phthalate	(5)			Not Detected					0.5
205) Di-n-octylphthalate	(6)			Not Detected					0.5
206) Benzo(b)fluoranthene	(6)			Not Detected					0.03
208) Benzo(k)fluoranthene	(6)			Not Detected					0.03
211) 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 Ashley R. Transue on 04/25/2018 at 22:31. Target 3.5 esignature user ID: art12405

Secondary review performed and digitally signed by Holly B. Ziegler on 04/29/2018 at 13:53. PARALLAX ID: hb01996



Total Ion Chromatogram (TIC)

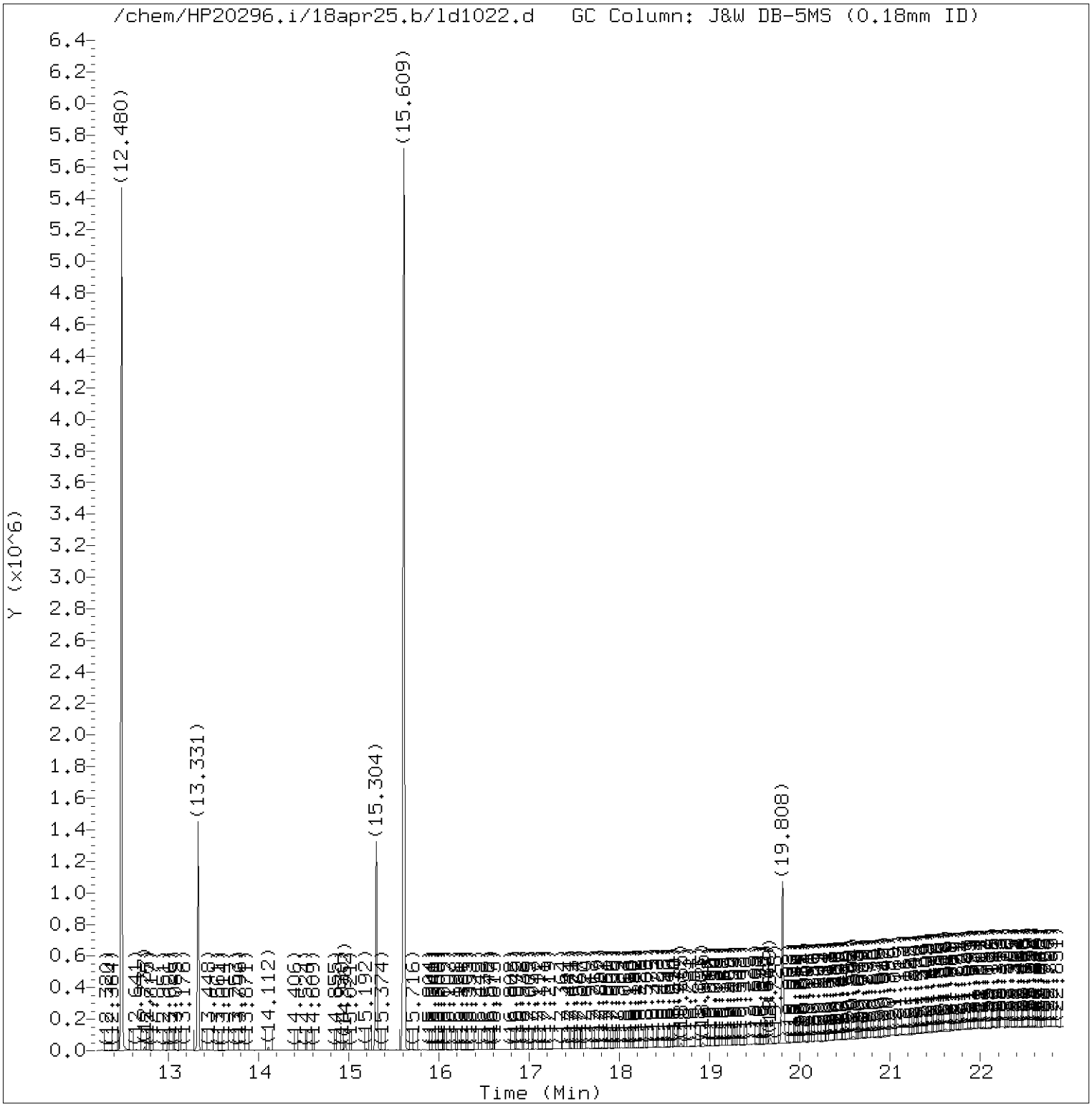
Target Revision 3.5

Data File: /chem/HP20296.i/18apr25.b/ld1022.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 17:11 Analyst ID: art12405

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 25-APR-2018 16:49
Date, time and analyst ID of latest file update: 25-Apr-2018 19:25 art12405

Sample Name: A8512 Lab Sample ID: 9570352

Digitally signed by Ashley R. Transue
on 04/25/2018 at 22:31.
Target 3.5 esignature user ID: art12405



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/18apr25.b/ld1022.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 17:11 Analyst ID: art12405

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 25-APR-2018 16:49
Date, time and analyst ID of latest file update: 25-Apr-2018 19:25 art12405

Sample Name: A8512 Lab Sample ID: 9570352

Digitally signed by Ashley R. Transue
on 04/25/2018 at 22:31.
Target 3.5 esignature user ID: art12405

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr25.b/ld1022.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 17:11 Analyst ID: art12405

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 25-APR-2018 16:49
Date, time and analyst ID of latest file update: 25-Apr-2018 19:25 art12405

Sample Name: A8512 Lab Sample ID: 9570352

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
11)$2-Fluorophenol	(1)	4.714	112	1009105	24.030
17)$Phenol-d6	(1)	6.158	99	978371	17.768
25)*1,4-Dichlorobenzene-d4	(1)	6.565	152	153358	5.000
44)$Nitrobenzene-d5	(2)	7.447	82	1068149	21.971
65)*Naphthalene-d8	(2)	8.549	136	563690	5.000
93)$2-Fluorobiphenyl	(3)	10.330	172	1802701	20.289
113)*Acenaphthene-d10	(3)	11.384	164	285802	5.000
135)$2,4,6-Tribromophenol	(3)	12.486	330	471436	46.018
153)*Phenanthrene-d10	(4)	13.331	188	568110	5.000
175)*Pyrene-d10	(5)	15.304	212	572226	5.000
179)$Terphenyl-d14	(5)	15.609	244	2138632	23.304
213)*Perylene-d12	(6)	19.808	264	525712	5.000

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

Digitally signed by Ashley R. Transue
on 04/25/2018 at 22:31.
Target 3.5 esignature user ID: art12405

Standards Data

Semivolatiles by GC/MS

SAMPLE INFORMATION SUMMARY

BATCH: /chem/HP20296.i/18apr11c.b

Data File	Injection Date	Sample Type	Dil Factor	Inst ID	Method	Method Batch
ld0410c.d	11-APR-2018 07:24	DFTPP	1.00	HP20296	rvdftpp8270c.m	18apr11c.b
ld0411c.d	11-APR-2018 07:59	Cal Level 5	1.00	HP20296	rv8270c.m	18apr11c.b
ld0412c.d	11-APR-2018 09:33	Cal Level 1	1.00	HP20296	rv8270c.m	18apr11c.b
ld0413c.d	11-APR-2018 10:01	Cal Level 8	1.00	HP20296	rv8270c.m	18apr11c.b
ld0414c.d	11-APR-2018 10:28	Cal Level 7	1.00	HP20296	rv8270c.m	18apr11c.b
ld0415c.d	11-APR-2018 10:56	Cal Level 6	1.00	HP20296	rv8270c.m	18apr11c.b
ld0416c.d	11-APR-2018 11:24	Cal Level 4	1.00	HP20296	rv8270c.m	18apr11c.b
ld0417c.d	11-APR-2018 11:52	Cal Level 3	1.00	HP20296	rv8270c.m	18apr11c.b
ld0418c.d	11-APR-2018 12:20	Cal Level 2	1.00	HP20296	rv8270c.m	18apr11c.b
ld0419c.d	11-APR-2018 12:47	MDL/LOQ	1.00	HP20296	rv8270c.m	18apr11c.b
ld0420c.d	11-APR-2018 13:15	MDL/LOQ	1.00	HP20296	rv8270c.m	18apr11c.b
ld0421c.d	11-APR-2018 13:43	ICV	1.00	HP20296	rv8270c.m	18apr11c.b
ld0422c.d	11-APR-2018 14:11	ICV	1.00	HP20296	rv8270c.m	18apr11c.b
ld0423c.d	11-APR-2018 14:39	ICV	1.00	HP20296	rv8270c.m	18apr11c.b

Data File	Matrix	Fraction	Lab Sample ID	Lab Prep Batch	Client Sample ID	Client Sample Group
ld0410c.d	LIQUID	SV	RVDFTPP0878	18apr11	DFTPP12.5	18apr11
ld0411c.d	LIQUID	SV	RVSTD0968	18apr11	SSTD7.5	18apr11
ld0412c.d	LIQUID	SV	rvSTD0968	18apr11	SSTD0.125	18apr11
ld0413c.d	LIQUID	SV	rvSTD0968	18apr11	SSTD30	18apr11
ld0414c.d	LIQUID	SV	rvSTD0968	18apr11	SSTD20	18apr11
ld0415c.d	LIQUID	SV	rvSTD0968	18apr11	SSTD12.5	18apr11
ld0416c.d	LIQUID	SV	rvSTD0968	18apr11	SSTD3.75	18apr11
ld0417c.d	LIQUID	SV	rvSTD0968	18apr11	SSTD1.25	18apr11
ld0418c.d	LIQUID	SV	rvSTD0968	18apr11	SSTD0.25	18apr11
ld0419c.d	LIQUID	SV	rvMDL0968	18apr11	SSTD0.125	18apr11
ld0420c.d	LIQUID	SV	rvPAHMDL0968	18apr11	SSTD0.025	18apr11
ld0421c.d	LIQUID	SV	rvIVC0648	18apr11	SSTD12.5	18apr11
ld0422c.d	LIQUID	SV	rvBASICV0648	18apr11	SSTD12.5	18apr11
ld0423c.d	LIQUID	SV	ms1808526A	18apr11	SSTD12.5	18apr11

Data File	Compound Sublist	Spike List File	Sample Ref #	QC Group Ref #	Init Cal Ref #	Batch Ref #
ld0410c.d	all.sub		202319802	202319815	200002637	202319801
ld0411c.d	all1.sub		202319811	202319813	202322173	202319810
ld0412c.d	all1.sub		202319825	202319815	202322173	202319810
ld0413c.d	all1.sub		202319827	202319815	202322173	202319810
ld0414c.d	all1.sub		202319829	202319815	202322173	202319810
ld0415c.d	all1.sub		202319831	202319815	202322173	202319810
ld0416c.d	all1.sub		202319834	202319815	202322173	202319810
ld0417c.d	all1.sub		202319837	202319815	202322173	202319810
ld0418c.d	all1.sub		202319840	202319815	202322173	202319810
ld0419c.d	mdlall1.sub		202319843	202319815	202322173	202319810
ld0420c.d	pahmdlall1.sub		202319845	202319815	202300936	202319810
ld0421c.d	icvall1.sub	ICV4X.spk	202319847	202319815	202322173	202319810
ld0422c.d	basicvall1.sub	ICV4X.spk	202319849	202319815	202322173	202319810
ld0423c.d	icvall5.sub	ICV4X.spk	202319852	202319815	202322173	202319810

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP20296 **HP #12**

Data Directory Path is - D:\data\18apr25\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
bhs10208	LD1010.D	RVDFTPP0878	04/25/2018	09:54		
bhs10208	LD1010z.D	RVDFTPP0878	04/25/2018	10:15		
bhs10208	LD1011.D	RVSTD0968	04/25/2018	10:32		
bhs10208	LD1012.D	SBLKWE113	04/25/2018	11:24	18113WAE	
bhs10208	LD1013.D	113WELCS	04/25/2018	11:51	18113WAE	
bhs10208	LD1014.D	113WELCSD	04/25/2018	12:59	18113WAE	
bhs10208	LD1015.D	9565349DL	04/25/2018	13:27	18110WAE	5
bhs10208	LD1016.D	9570269	04/25/2018	13:55	18113WAE	
bhs10208	LD1017.D	9570270	04/25/2018	14:23	18113WAE	
bhs10208	LD1018.D	9570271	04/25/2018	14:51	18113WAE	
bhs10208	LD1019.D	9570341	04/25/2018	15:19	18113WAE	
bhs10208	LD1020.D	9570347	04/25/2018	15:47	18113WAE	
bhs10208	LD1021.D	9570349	04/25/2018	16:15	18113WAE	
art12405	LD1022.D	9570352	04/25/2018	17:11	18113WAE	
art12405	LD1023.D	9570355	04/25/2018	17:39	18113WAE	
art12405	LD1024.D	9570357	04/25/2018	18:07	18113WAE	
art12405	LD1025.D	9570359	04/25/2018	18:35	18113WAE	
art12405	LD1026.D	9570361	04/25/2018	19:03	18113WAE	
art12405	LD1027.D	9570363	04/25/2018	19:31	18113WAE	
art12405	LD1028.D	9570366	04/25/2018	19:59	18113WAE	
art12405	LD1029.D	9570368	04/25/2018	20:27	18113WAE	
art12405	LD1030.D	RVSTD0968	04/25/2018	20:54		

Data File: /chem/HP20296.i/18apr11c.b/ld0410c.d

Date : 11-APR-2018 07:24

Client ID: DFTPP12.5

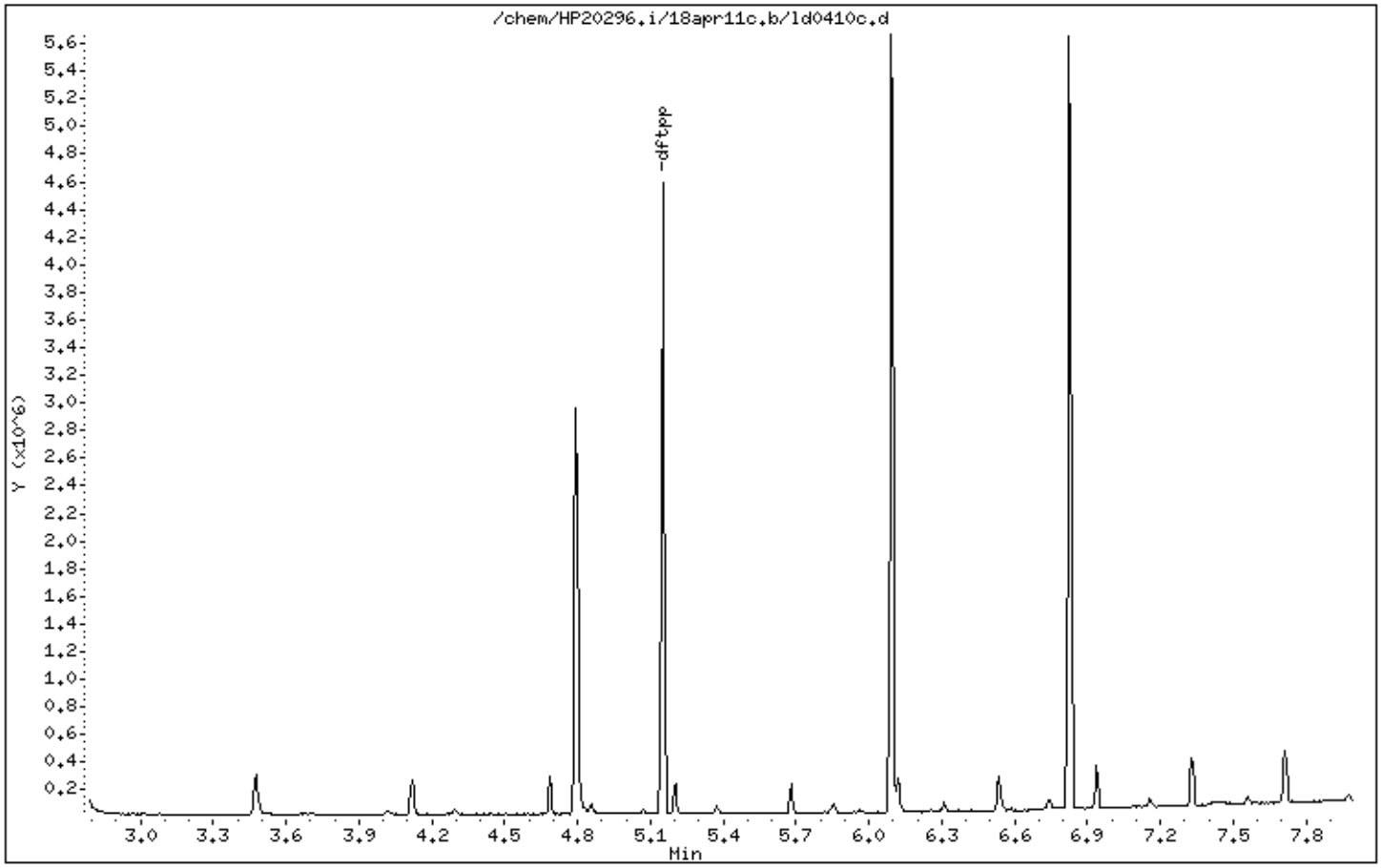
Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP0878;1;3;DFTPP;

Operator: hbz01996

Column phase: DB-5MS

Column diameter: 0.18



Digitally signed by Brandon H. Smith on 04/16/2018 at 09:41.
Target 3.5 esignature user ID: bhs10208

Data File: /chem/HP20296.i/18apr11c.b/ld0410c.d

Date : 11-APR-2018 07:24

Client ID: DFTPP12.5

Instrument: HP20296.i

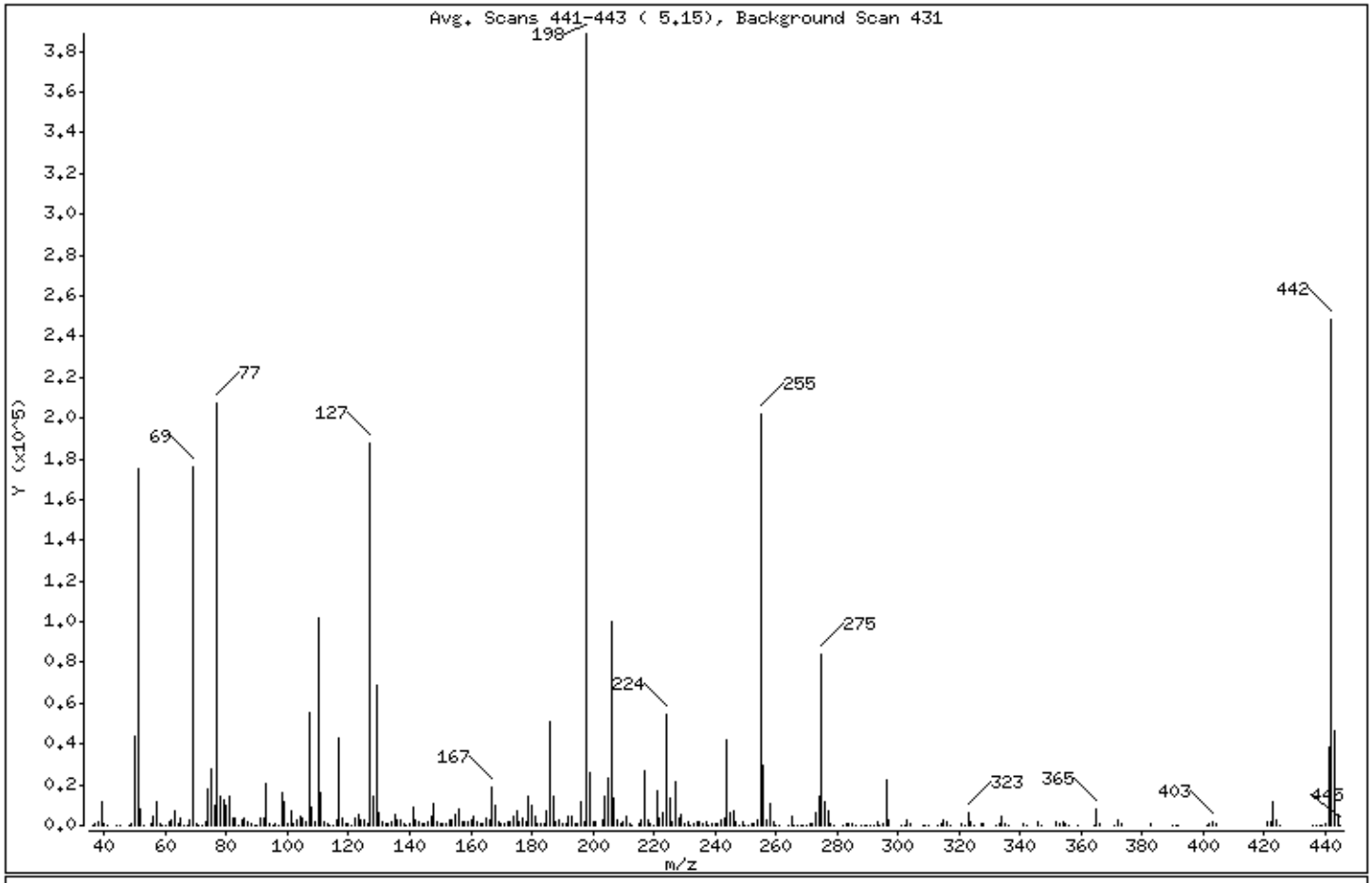
Sample Info: DFTPP12.5;RVDFTPP0878;1;3;DFTPP;

Operator: hbz01996

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	44.96
68	Less than 2.00% of mass 69	0.74 (1.64)
69	Mass 69 relative abundance	45.36
70	Less than 2.00% of mass 69	0.27 (0.59)
127	40.00 - 60.00% of mass 198	48.27
197	Less than 1.00% of mass 198	0.37
199	5.00 - 9.00% of mass 198	6.70
275	10.00 - 30.00% of mass 198	21.70
365	Greater than 1.00% of mass 198	2.06
441	Present, but less than mass 443	9.78
442	40.00 - 99.99% of mass 198	63.99
443	17.00 - 23.00% of mass 442	11.99 (18.74)

Digitally signed by Brandon H. Smith on 04/16/2018 at 09:41.
Target 3.5 esignature user ID: bhs10208

Data File: /chem/HP20296.i/18apr11c.b/ld0410c.d

Date : 11-APR-2018 07:24

Client ID: DFTPP12.5 Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP0878;1;3;DFTPP;

Operator: hbz01996

Column phase: DB-5MS Column diameter: 0.18

Data File: ld0410c.d
Spectrum: Avg. Scans 441-443 (5.15), Background Scan 431
Location of Maximum: 198.00
Number of points: 313

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	214	120.00	962	199.00	26048	284.00	514
37.00	650	121.00	328	200.00	1660	285.00	1051
38.00	1746	122.00	3191	201.00	2190	286.00	188
39.00	11925	123.00	5192	203.00	2768	288.00	102
40.00	712	124.00	2379	204.00	14270	289.00	277
41.00	322	125.00	2550	205.00	23384	290.00	87
44.00	259	126.00	764	206.00	100072	291.00	133
45.00	133	127.00	187520	207.00	13069	292.00	114
48.00	101	128.00	14220	208.00	2790	293.00	1758
49.00	1282	129.00	69144	209.00	945	294.00	388
50.00	43928	130.00	6355	210.00	1794	295.00	602
51.00	174656	131.00	1511	211.00	4035	296.00	22424
52.00	8368	132.00	740	212.00	505	297.00	3000
53.00	101	133.00	560	213.00	303	301.00	416
55.00	833	134.00	2115	215.00	1206	302.00	445
56.00	4778	135.00	5455	216.00	2451	303.00	2765
57.00	11760	136.00	2366	217.00	26768	304.00	640
58.00	481	137.00	2970	218.00	3060	308.00	285
59.00	419	138.00	590	219.00	480	309.00	116
60.00	245	139.00	370	220.00	116	310.00	304
61.00	2086	140.00	978	221.00	17056	313.00	229
62.00	2632	141.00	8976	222.00	3202	314.00	1127
63.00	7021	142.00	2891	223.00	6007	315.00	2312
64.00	1040	143.00	2009	224.00	54504	316.00	1357
65.00	3624	144.00	581	225.00	13673	317.00	225
66.00	430	145.00	651	226.00	1656	321.00	768
67.00	339	146.00	1821	227.00	21152	322.00	353
68.00	2886	147.00	4356	228.00	3175	323.00	6668
69.00	176256	148.00	10498	229.00	5175	324.00	1437
70.00	1039	149.00	1821	230.00	766	325.00	104
71.00	126	150.00	818	231.00	2063	327.00	1205
72.00	117	151.00	1268	232.00	158	328.00	562
73.00	1915	152.00	710	233.00	568	332.00	431
74.00	17608	153.00	2634	234.00	1369	333.00	615
75.00	27440	154.00	2418	235.00	1655	334.00	4210

Digitally signed by Brandon H. Smith on 04/16/2018 at 09:41.
Target 3.5 esignature user ID: bhs10208

Data File: /chem/HP20296.i/18apr11c.b/ld0410c.d

Date : 11-APR-2018 07:24

Client ID: DFTPP12.5 Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP0878;1;3;DFTPP;

Operator: hbz01996

Column phase: DB-5MS Column diameter: 0.18

Data File: ld0410c.d
Spectrum: Avg. Scans 441-443 (5.15), Background Scan 431
Location of Maximum: 198.00
Number of points: 313

m/z	Y	m/z	Y	m/z	Y	m/z	Y
76.00	9829	155.00	5733	236.00	1029	335.00	1001
77.00	206976	156.00	8109	237.00	1823	336.00	120
78.00	13974	157.00	1667	238.00	373	341.00	834
79.00	12894	158.00	1404	239.00	936	342.00	318
80.00	9439	159.00	1399	240.00	804	346.00	1638
81.00	14323	160.00	2681	241.00	1310	347.00	129
82.00	3201	161.00	4121	242.00	2944	352.00	1959
83.00	3298	162.00	1392	243.00	3178	353.00	1295
84.00	405	163.00	484	244.00	41600	354.00	1860
85.00	2658	164.00	645	245.00	5985	355.00	573
86.00	3714	165.00	3334	246.00	7457	356.00	112
87.00	1838	166.00	2844	247.00	1646	359.00	97
88.00	666	167.00	19104	248.00	425	364.00	166
89.00	349	168.00	9385	249.00	1555	365.00	8022
90.00	86	169.00	1643	250.00	333	366.00	1295
91.00	3186	170.00	560	251.00	373	371.00	416
92.00	3154	171.00	766	252.00	459	372.00	2682
93.00	20416	172.00	1644	253.00	1223	373.00	832
94.00	1336	173.00	2228	254.00	2490	383.00	780
95.00	389	174.00	4241	255.00	202176	390.00	362
96.00	949	175.00	7051	256.00	29616	391.00	287
97.00	185	176.00	2096	257.00	2804	392.00	128
98.00	16053	177.00	3243	258.00	10892	401.00	344
99.00	12005	178.00	1494	259.00	1634	402.00	961
100.00	1182	179.00	14302	260.00	394	403.00	1876
101.00	7436	180.00	9605	261.00	336	404.00	759
102.00	459	181.00	4199	264.00	334	421.00	1547
103.00	2494	182.00	1017	265.00	4240	422.00	1531
104.00	4525	183.00	447	266.00	406	423.00	11186
105.00	3821	184.00	1138	267.00	131	424.00	2786
106.00	1507	185.00	6963	268.00	95	425.00	406
107.00	55128	186.00	50680	269.00	105	436.00	108
108.00	8869	187.00	14237	270.00	277	437.00	136
109.00	1596	188.00	1746	271.00	486	438.00	393
110.00	101968	189.00	2939	272.00	723	439.00	183

Digitally signed by Brandon H. Smith on 04/16/2018 at 09:41.
Target 3.5 esignature user ID: bhs10208

Date : 11-APR-2018 07:24

Client ID: DFTPP12.5 Instrument: HP20296.i

Sample Info: DFTPP12.5;RVDFTPP0878;1;3;DFTPP;

Operator: hbz01996

Column phase: DB-5MS Column diameter: 0.18

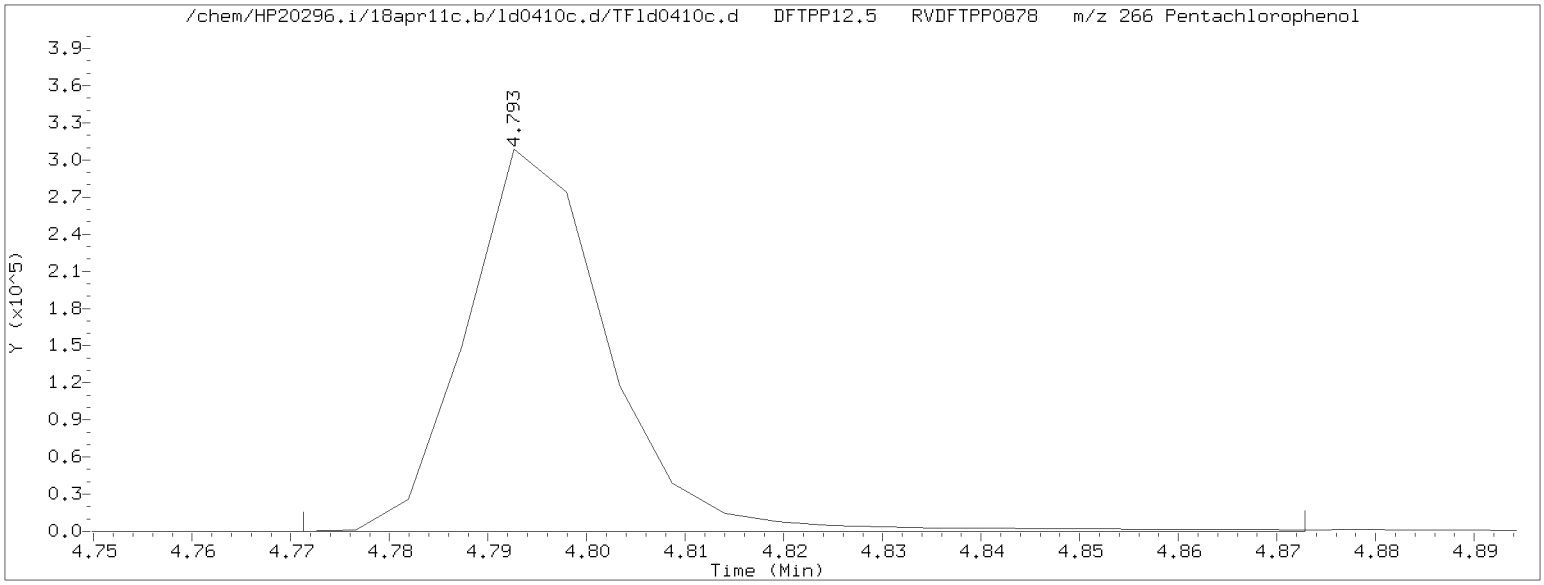
Data File: ld0410c.d
Spectrum: Avg. Scans 441-443 (5.15), Background Scan 431
Location of Maximum: 198.00
Number of points: 313

m/z	Y	m/z	Y	m/z	Y	m/z	Y
111.00	15833	190.00	682	273.00	5966	440.00	528
112.00	2146	191.00	1209	274.00	14719	441.00	38016
113.00	663	192.00	4178	275.00	84336	442.00	248640
114.00	85	193.00	4757	276.00	11776	443.00	46600
115.00	399	194.00	1023	277.00	6741	444.00	4503
116.00	3104	195.00	1016	278.00	1184	445.00	164
117.00	42984	196.00	11637	279.00	323		
118.00	3539	197.00	1427	282.00	151		
119.00	528	198.00	388608	283.00	924		

Digitally signed by Brandon H. Smith on 04/16/2018 at 09:41.
Target 3.5 esignature user ID: bhs10208

Assessment of GC Column Performance and Injection Port Inertness for

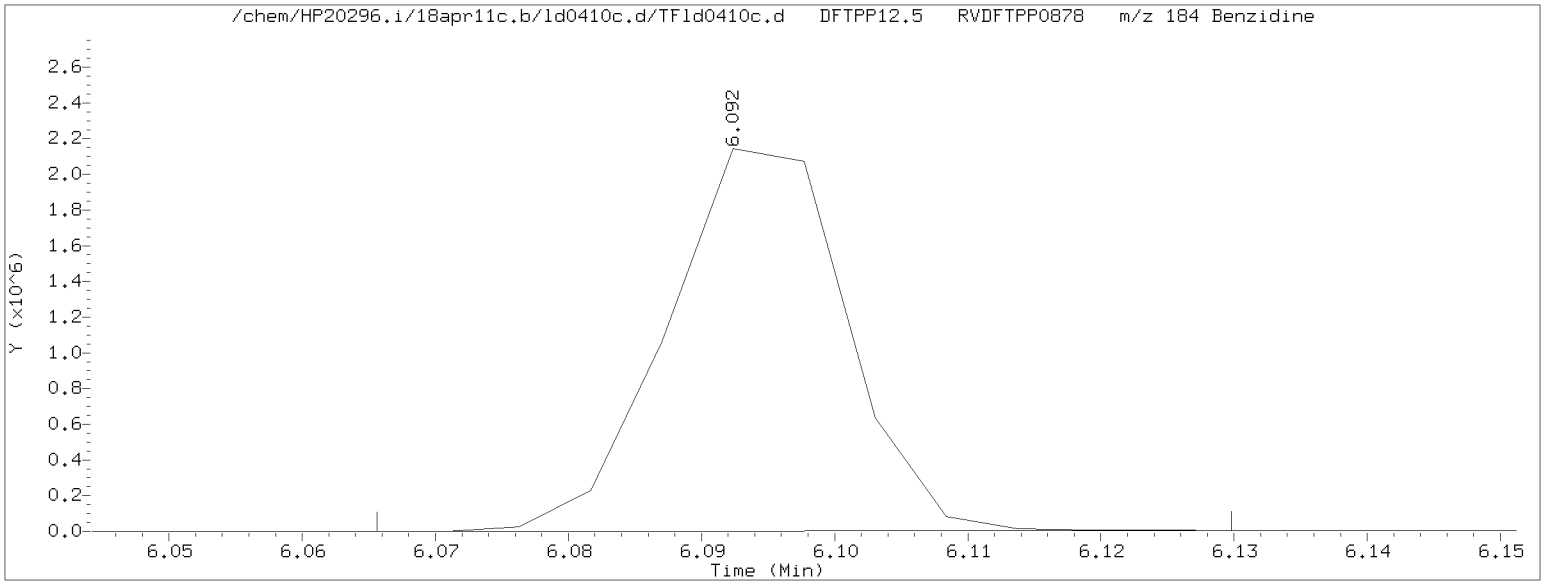
Instrument ID: HP20296.i Injection Date: 11-APR-2018 07:24 Operator: hbz01996



Pentachlorophenol EICP peak height = 308800 EICP peak height at 10% = 30880 Pentachlorophenol EICP area = 308021

Pentachlorophenol EICP peak apex (min.) = 4.793
RT at 10% of front half of EICP (min.) = 4.782 'Front' peak width (min.) = 0.0104500000
RT at 10% of back half of EICP (min.) = 4.810 'Tailing' peak width (min.) = 0.0177500000

PCP tailing factor = $\frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0177500000}{0.0104500000} = 1.699$



Benzidine EICP peak height = 2141262 EICP peak height at 10% = 214126 Benzidine EICP area = 2006523

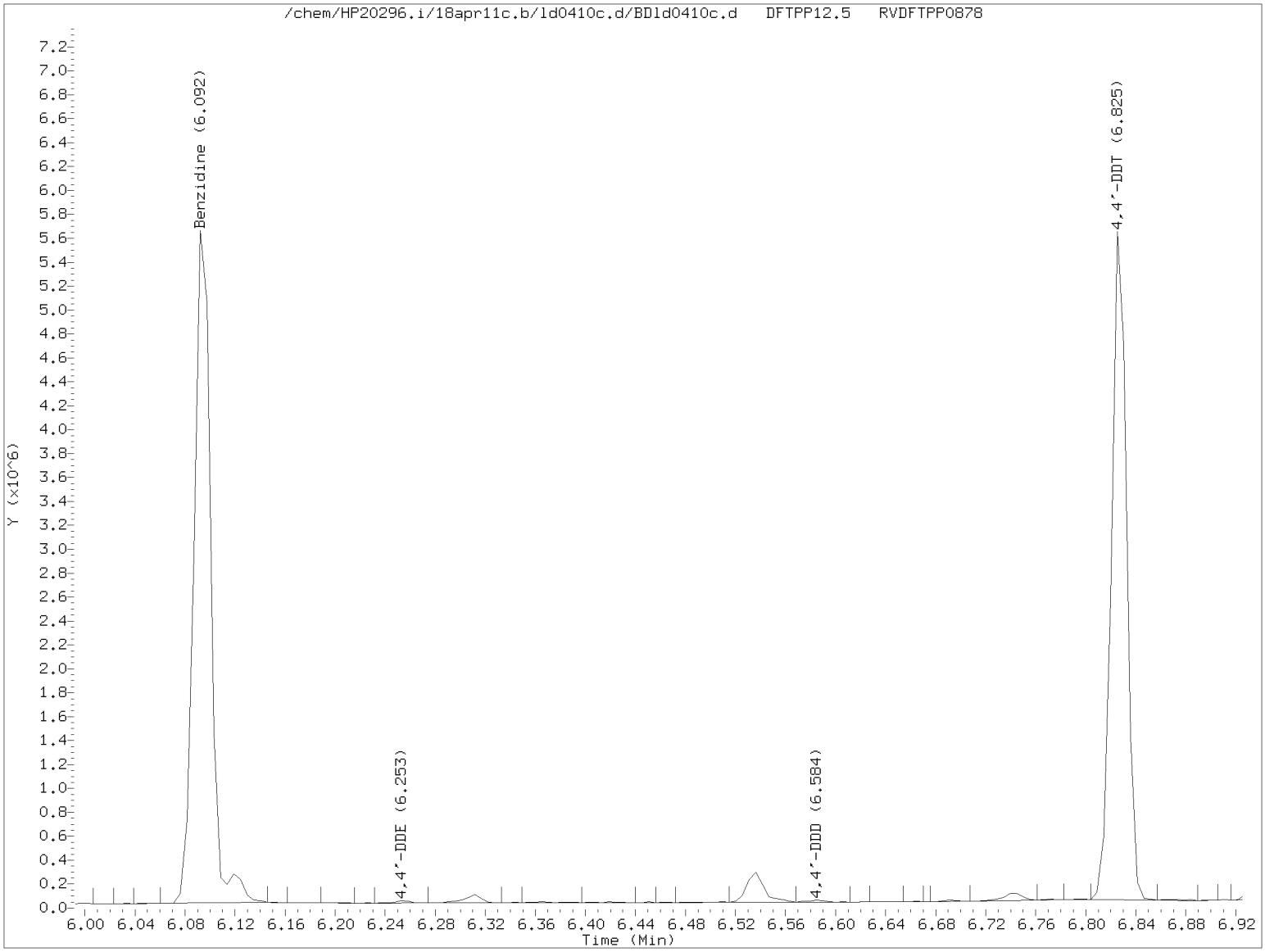
Benzidine EICP peak apex (min.) = 6.092
RT at 10% of front half of EICP (min.) = 6.081 'Front' peak width (min.) = 0.0111000000
RT at 10% of back half of EICP (min.) = 6.107 'Tailing' peak width (min.) = 0.0147166667

Benzidine tailing factor = $\frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0147166667}{0.0111000000} = 1.326$

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:42. PARALLAX ID: cam01237

Assessment of GC Column Performance and Injection Port Inertness for

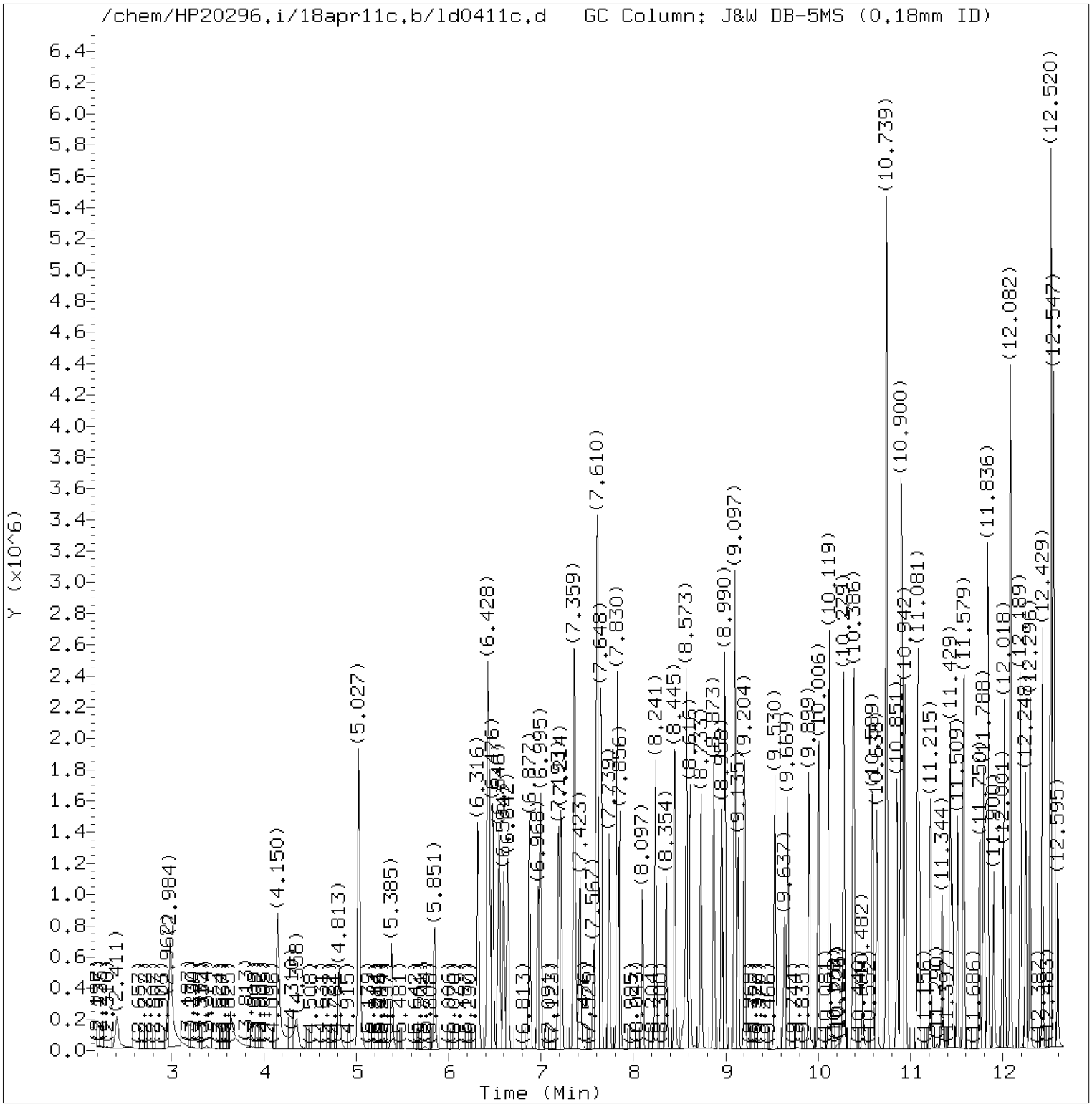
Instrument ID: HP20296.i Injection Date: 11-APR-2018 07:24 Operator: hbz01996



$$\% \text{ 4,4'-DDT breakdown} = \frac{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area}}{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area + 4,4'-DDT TIC area}} \times 100$$

$$\% \text{ 4,4'-DDT breakdown} = \frac{15587 + 17791}{15587 + 17791 + 4771824} \times 100 = 0.7$$

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:42. PARALLAX ID: cam01237



Total Ion Chromatogram (TIC)

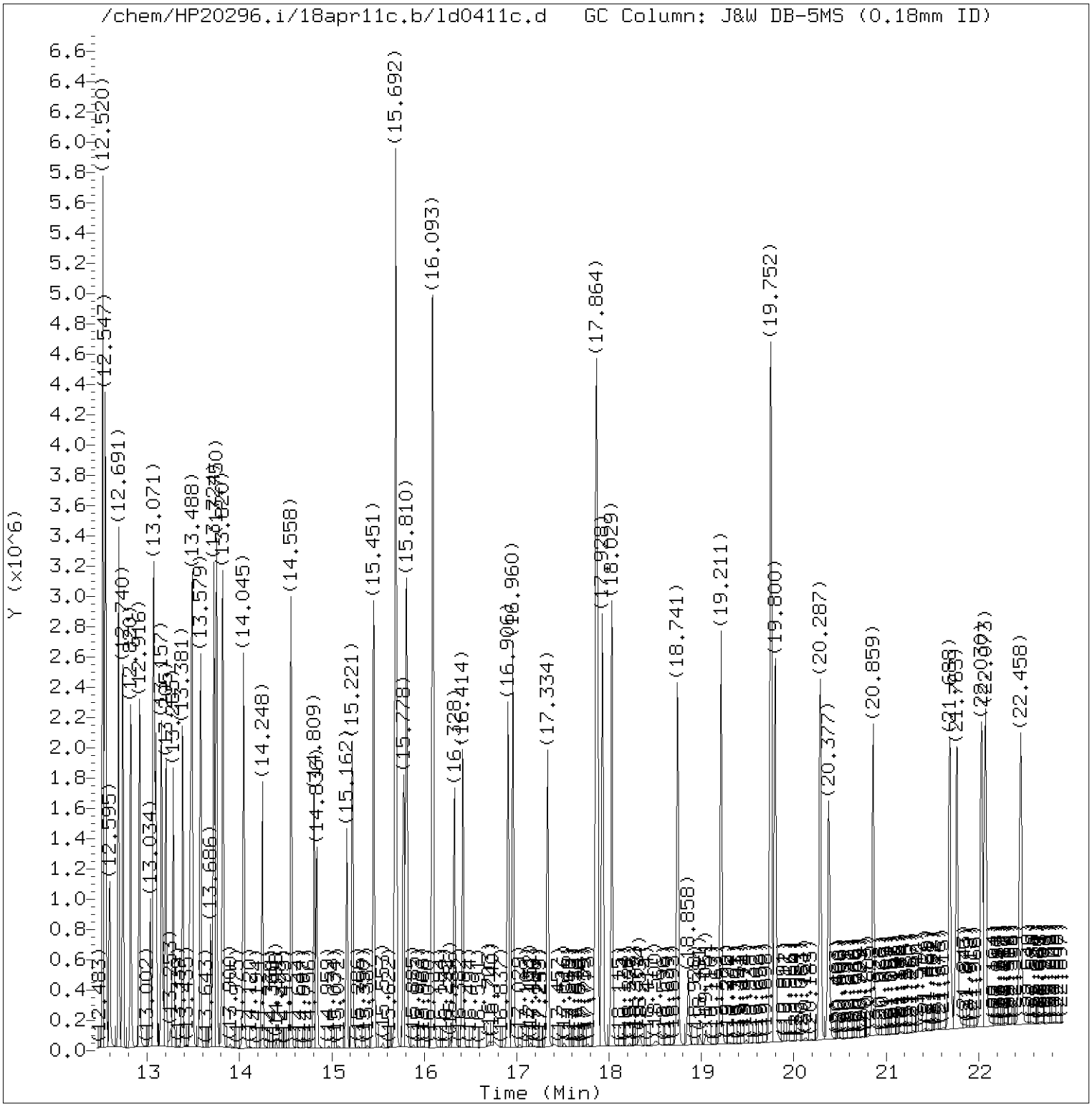
Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0411c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 07:59 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0968

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0411c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 07:59 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0968

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0411c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 07:59 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.411	88	217982	7.500
4) N-Nitrosodimethylamine	(1)	2.962	74	333201	7.500
5) Pyridine	(1)	2.989	79	577705	7.500
7) 2-Picoline	(1)	4.150	93	587778	7.500
8) N-Nitrosomethylethylamine	(1)	4.358	88	237486	7.500
9) Methyl methanesulfonate	(1)	4.813	80	287126	7.500
11)$2-Fluorophenol	(1)	5.027	112	945841	15.000
13) N-Nitrosodiethylamine	(1)	5.385	102	231651	7.500
15) Ethyl methanesulfonate	(1)	5.851	109	242352	7.500
16) Benzaldehyde	(1)	6.316	77	467030	7.500
17)$Phenol-d6	(1)	6.423	99	1213509	15.000
18) Phenol	(1)	6.444	94	704017	7.500
19) Aniline	(1)	6.476	93	823646	7.500
20) a-methylstyrene	(1)	6.551	118	160951	7.500
22) bis(2-Chloroethyl)ether	(1)	6.594	93	525270M	7.500
23) 2-Chlorophenol	(1)	6.642	128	465477	7.500
24) 1,3-Dichlorobenzene	(1)	6.877	146	518250	7.500
25)*1,4-Dichlorobenzene-d4	(1)	6.968	152	219894	5.000
26) 1,4-Dichlorobenzene	(1)	6.995	146	519431	7.500
27) Benzyl alcohol	(1)	7.193	108	276998	7.500
28) 1,2-Dichlorobenzene	(1)	7.214	146	501023	7.500
30) Indene	(1)	7.359	115	666361	7.500
31) 2-Methylphenol	(1)	7.364	108	447101	7.500
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.423	45	733333	7.500
34) bis(2-Chloroisopropyl)ether	(1)	7.423	45	733333	7.500
35) N-Nitrosopyrrolidine	(1)	7.567	100	243305	7.500
36) Acetophenone	(1)	7.600	105	733625	7.500
37) 4-Methylphenol	(1)	7.610	108	476794	7.500
38) N-Nitroso-di-n-propylamine	(1)	7.616	70	389329	7.500
39) N-Nitrosomorpholine	(1)	7.642	56	320050	7.500
40) o-Toluidine	(1)	7.648	106	796456	7.500
42) Total Cresols	(1)			923895	15.000
43) Hexachloroethane	(1)	7.739	117	213835	7.500
44)$Nitrobenzene-d5	(2)	7.830	82	1120068	15.000
45) Nitrobenzene	(2)	7.856	77	576823	7.500
48) N-Nitrosopiperidine	(2)	8.097	114	231680	7.500
50) Isophorone	(2)	8.241	82	988371	7.500
51) 2-Nitrophenol	(2)	8.354	139	230200	7.500
53) 2,4-Dimethylphenol	(2)	8.445	107	498320	7.500
57) O,O,O-Triethylphosphorothioate	(2)	8.573	198	234627	7.500

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

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0411c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 07:59 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
56) Benzoic acid	(2)	8.578	105	311750	10.000
55) bis(2-Chloroethoxy)methane	(2)	8.616	93	640987	7.500
60) 2,4-Dichlorophenol	(2)	8.733	162	389151	7.500
62) 1,2,4-Trichlorobenzene	(2)	8.873	180	428199	7.500
65)*Naphthalene-d8	(2)	8.958	136	846034	5.000
66) Naphthalene	(2)	8.990	128	1369378	7.500
67) 4-Chloroaniline	(2)	9.097	127	540137	7.500
68) 2,6-Dichlorophenol	(2)	9.102	162	381866	7.500
69) Hexachloropropene	(2)	9.135	213	300172	7.500
71) Hexachlorobutadiene	(2)	9.204	225	264869	7.500
75) Quinoline	(2)	9.536	129	813359	7.500
76) Caprolactam	(2)	9.637	113	120307	7.500
77) N-Nitrosodi-n-butylamine	(2)	9.669	84	362783	7.500
80) 4-Chloro-3-methylphenol	(2)	9.899	107	425702	7.500
82) Safrole	(2)	10.006	162	344726	7.500
83) 2-Methylnaphthalene	(2)	10.119	142	897640	7.500
84) 1-Methylnaphthalene	(2)	10.279	142	822044	7.500
85) Hexachlorocyclopentadiene	(3)	10.375	237	262136	7.500
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.392	216	439043	7.500
88) cis-Isosafrole	(3)	10.482	162	64130	1.275
90) 2,4,6-Trichlorophenol	(3)	10.589	196	280628	7.500
92) 2,4,5-Trichlorophenol	(3)	10.638	196	301099	7.500
97) Isosafrole	(3)			397646	7.500
93)$2-Fluorobiphenyl	(3)	10.739	172	2023719	15.000
94) trans-Isosafrole	(3)	10.851	162	333516	6.225
95) 1,1'-Biphenyl	(3)	10.900	154	1106868	7.500
96) 2-Chloronaphthalene	(3)	10.910	162	855845	7.500
98) 1-Chloronaphthalene	(3)	10.942	162	816450	7.500
99) Diphenyl ether	(3)	11.081	170	576142	7.500
100) 2-Nitroaniline	(3)	11.098	138	262202	7.500
104) 1,4-Naphthoquinone	(3)	11.215	158	343508	7.500
105) 1,4-Dinitrobenzene	(3)	11.344	168	130078A	7.500
106) Dimethylphthalate	(3)	11.429	163	969316	7.500
107) 1,3-Dinitrobenzene	(3)	11.456	168	146796A	7.500
108) 2,6-Dinitrotoluene	(3)	11.509	165	214783	7.500
109) Acenaphthylene	(3)	11.579	152	1261562	7.500
112) 3-Nitroaniline	(3)	11.750	138	224394	7.500
113)*Acenaphthene-d10	(3)	11.788	164	428685	5.000
114) Acenaphthene	(3)	11.836	153	860432	7.500
115) 2,4-Dinitrophenol	(3)	11.900	184	153840	10.000

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

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0411c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 07:59 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120) 2,4_2,6-Dinitrotoluenes	(3)			498715	15.000
116) 4-Nitrophenol	(3)	12.001	109	150980	7.500
117) Pentachlorobenzene	(3)	12.018	250	357974	7.500
119) Dibenzofuran	(3)	12.082	168	1205707	7.500
118) 2,4-Dinitrotoluene	(3)	12.087	165	283932	7.500
121) 1-Naphthylamine	(3)	12.189	143	814127	7.500
122) 2,3,4,6-Tetrachlorophenol	(3)	12.248	232	229384	7.500
123) 2-Naphthylamine	(3)	12.296	143	750921	7.500
124) Diethylphthalate	(3)	12.429	149	962321	7.500
125) Thionazin	(3)	12.520	107	162580	7.500
126) Fluorene	(3)	12.520	166	964347	7.500
127) 4-Chlorophenyl-phenylether	(3)	12.542	204	466114	7.500
128) 5-Nitro-o-toluidine	(3)	12.547	152	258699	7.500
129) 4-Nitroaniline	(3)	12.558	138	229388	7.500
130) 4,6-Dinitro-2-methylphenol	(4)	12.595	198	162508	7.500
131) N-Nitrosodiphenylamine	(4)	12.691	169	762715	7.500
132) NDPA as diphenylamine	(4)	12.691	169	762715	7.500
134) 1,2-Diphenylhydrazine	(4)	12.740	77	1086688	7.500
135)$2,4,6-Tribromophenol	(3)	12.825	330	222268	15.000
137) Tetraethyldithiopyrophosphate	(4)	12.916	97	183233	7.500
146) Diallate trans/cis	(4)			469119	7.500
139) 1,3,5-Trinitrobenzene	(4)	13.034	213	98364	7.500
140) Diallate (peak 1)	(4)	13.066	86	402675	6.225
141) Phorate	(4)	13.077	75	721210	7.500
142) Phenacetin	(4)	13.098	108	508748	7.500
143) 4-Bromophenyl-phenylether	(4)	13.157	248	256706	7.500
144) Diallate (peak 2)	(4)	13.173	86	66444	1.275
145) Hexachlorobenzene	(4)	13.205	284	260514	7.500
147) Dimethoate	(4)	13.285	87	422660	7.500
148) Atrazine	(4)	13.387	200	272821	7.500
149) Pentachlorophenol	(4)	13.467	266	156591	7.500
151) Pentachloronitrobenzene	(4)	13.478	237	125575	7.500
150) 4-Aminobiphenyl	(4)	13.488	169	890155	7.500
152) Pronamide	(4)	13.579	173	460703	7.500
153)*Phenanthrene-d10	(4)	13.718	188	847674	5.000
154) Dinoseb	(4)	13.724	211	256926	7.500
155) Phenanthrene	(4)	13.750	178	1394297	7.500
157) Anthracene	(4)	13.820	178	1432349	7.500
163) Carbazole	(4)	14.045	167	1249511	7.500
164) Methyl parathion	(4)	14.248	109	321668	7.500

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

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0411c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 07:59 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
165) Di-n-butylphthalate	(4)	14.558	149	1654142	7.500
167) Parathion	(4)	14.804	109	203503	7.500
168) 4-Nitroquinoline-1-oxide	(4)	14.836	190	152875	7.500
169) Octachlorostyrene	(4)	15.162	308	92041	7.500
171) Isodrin	(4)	15.221	193	169601	7.500
173) Fluoranthene	(4)	15.451	202	1603710	7.500
174) Benzidine	(5)	15.692	184	2853827	22.500
175)*Pyrene-d10	(5)	15.778	212	871903	5.000
177) Pyrene	(5)	15.810	202	1655514	7.500
179)$Terphenyl-d14	(5)	16.093	244	2110890	15.000
182) p-Dimethylaminoazobenzene	(5)	16.328	225	263672	7.500
185) Chlorobenzilate	(5)	16.414	139	491277	7.500
187) 3,3'-Dimethylbenzidine	(5)	16.906	212	1059762	7.500
188) Butylbenzylphthalate	(5)	16.960	149	770750	7.500
191) 2-Acetylaminofluorene	(5)	17.334	181	605629	7.500
193) 3,3'-Dichlorobenzidine	(5)	17.853	252	535227	7.500
195) Benzo(a)anthracene	(5)	17.864	228	1527968	7.500
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.874	231	316789	7.500
196) Chrysene	(5)	17.928	228	1468906	7.500
199) bis(2-Ethylhexyl)phthalate	(5)	18.029	149	1083068	7.500
203) 6-Methylchrysene	(5)	18.741	242	995773	7.500
205) Di-n-octylphthalate	(6)	19.211	149	1846002	7.500
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.752	256	626398	7.500
206) Benzo(b)fluoranthene	(6)	19.752	252	1471661	7.500
208) Benzo(k)fluoranthene	(6)	19.800	252	1416403	7.500
211) Benzo(a)pyrene	(6)	20.287	252	1347641	7.500
213)*Perylene-d12	(6)	20.377	264	795930	5.000
215) 3-Methylcholanthrene	(6)	20.859	268	648743	7.500
217) Dibenz(a,h)acridine	(6)	21.688	279	1092313	7.500
218) Dibenz(a,j)acridine	(6)	21.768	279	1122303	7.500
222) Total PAHs	(6)			23389263	135.000
219) Indeno(1,2,3-cd)pyrene	(6)	22.030	276	1257954M	7.500
220) Dibenz(a,h)anthracene	(6)	22.073	278	1315620	7.500
221) Benzo(g,h,i)perylene	(6)	22.458	276	1321837	7.500

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

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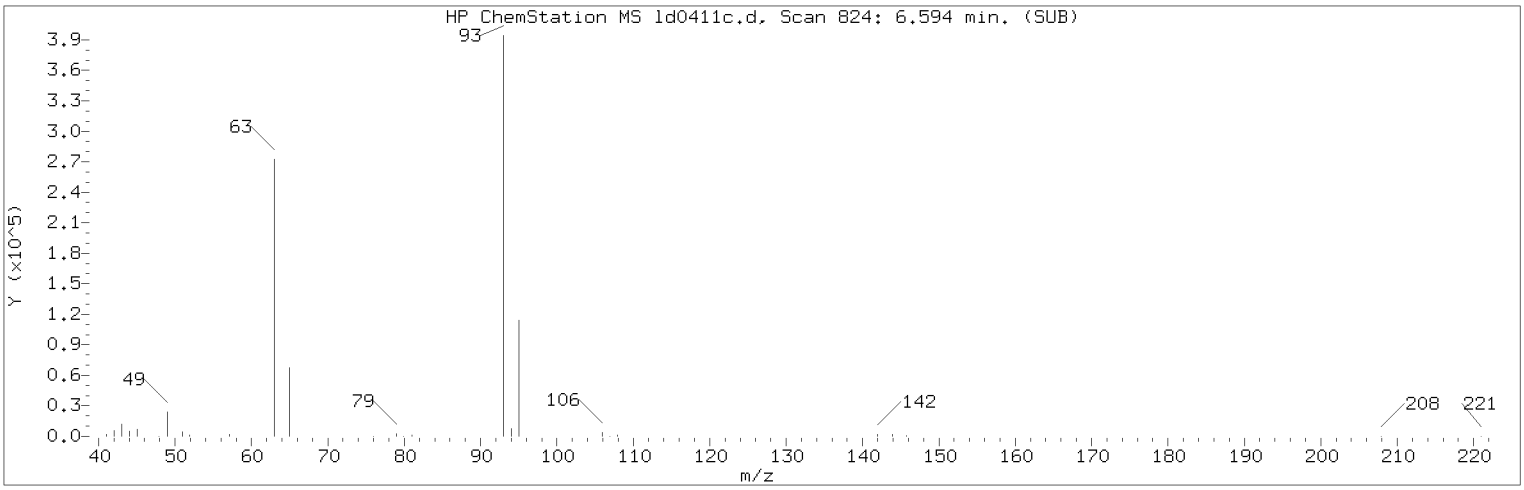
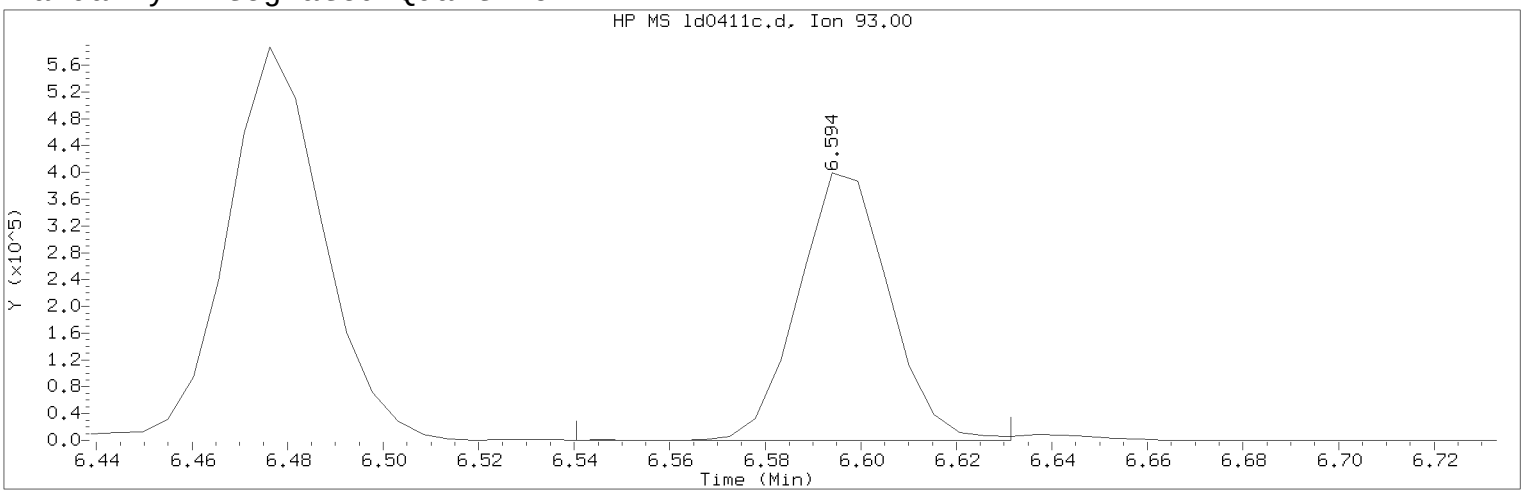
on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0411c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 07:59 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0968

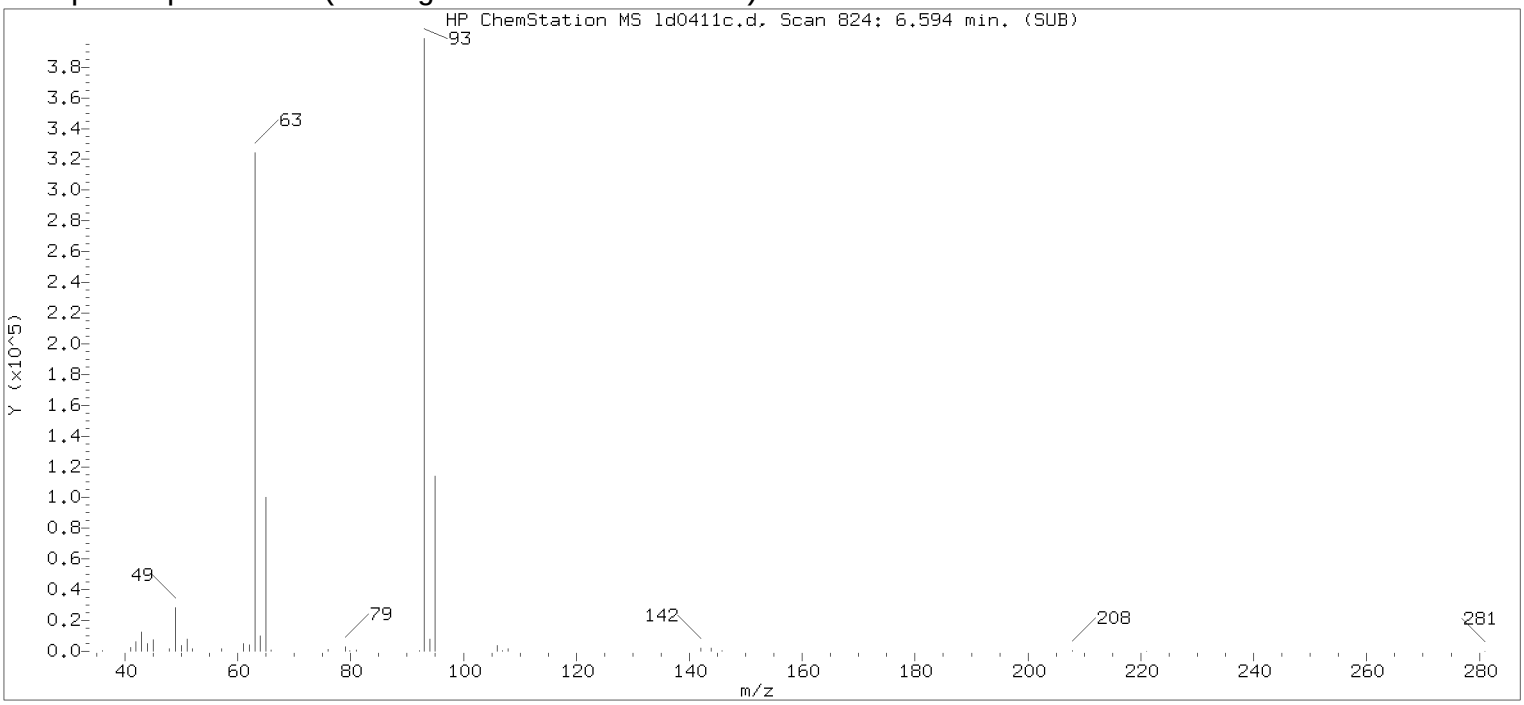
Compound Number : 22
Compound Name : bis(2-Chloroethyl)ether
Scan Number : 824
Retention Time (minutes) : 6.594
Quant Ion : 93.00
Area (flag) : 525270M
On-Column Amount (ng/ul) : 7.5000
Integration start scan : 813 Integration stop scan: 830
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

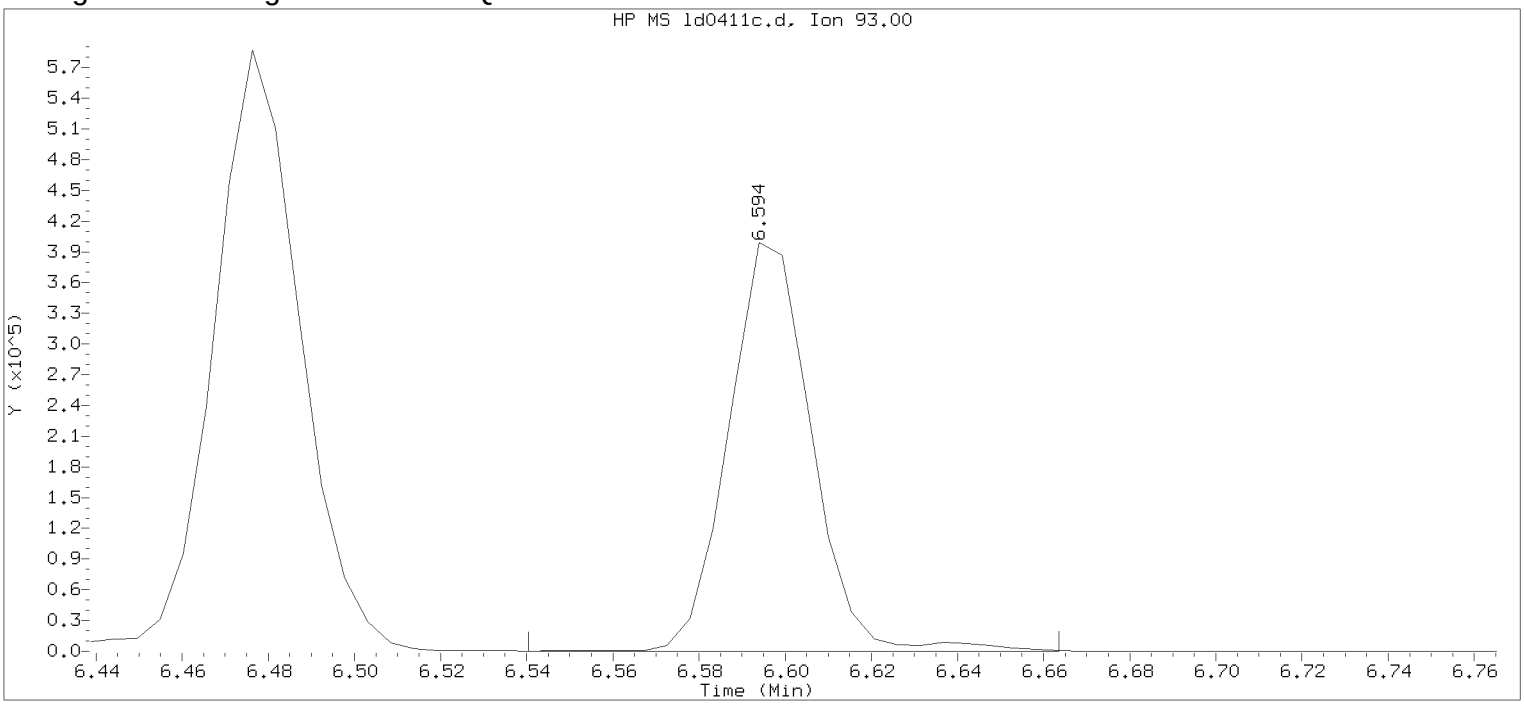
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0411c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 07:59 Analyst ID: hbz01996

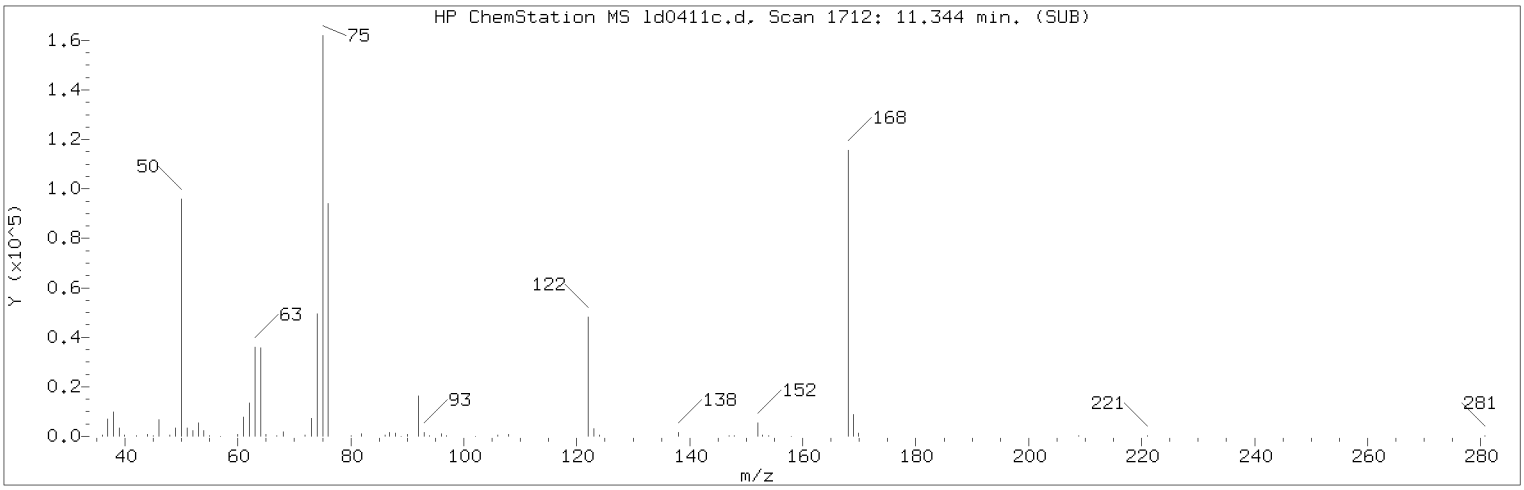
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:29
Date, time and analyst ID of latest file update: 11-Apr-2018 19:29 art12405

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0968

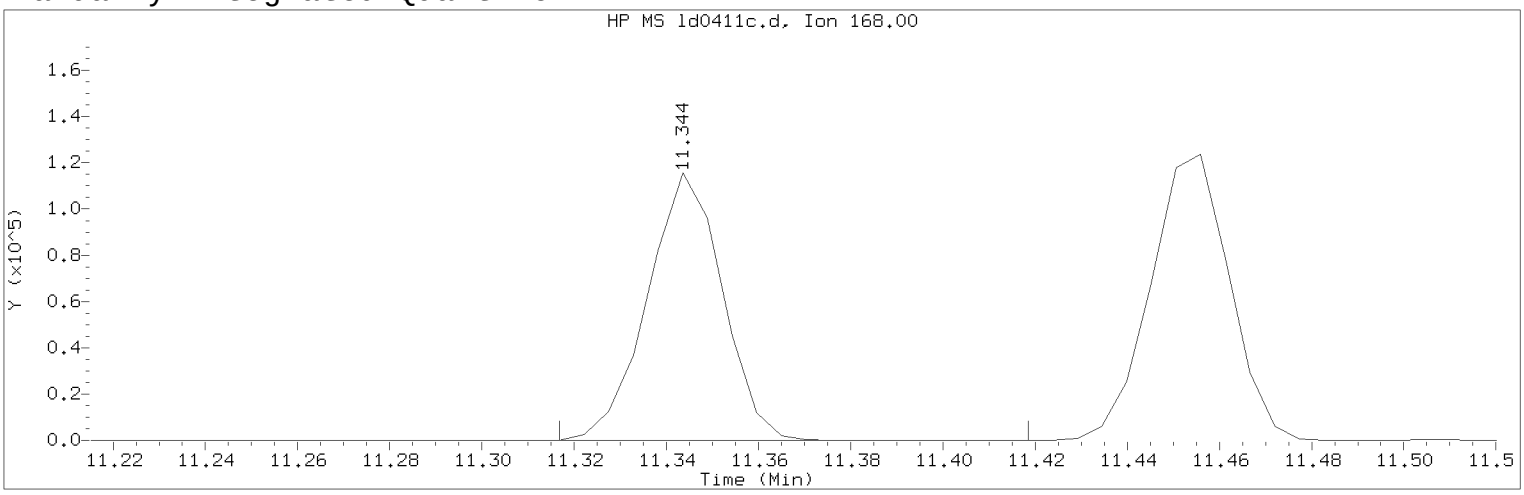
Compound Number : 22
Compound Name : bis(2-Chloroethyl)ether
Scan Number : 824
Retention Time (minutes) : 6.594
Quant Ion : 93.00
Area : 533902
On-column Amount (ng/ul) : 7.5408
Integration start scan : 813 Integration stop scan: 836
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user id: 1085 hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0411c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 07:59 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0968

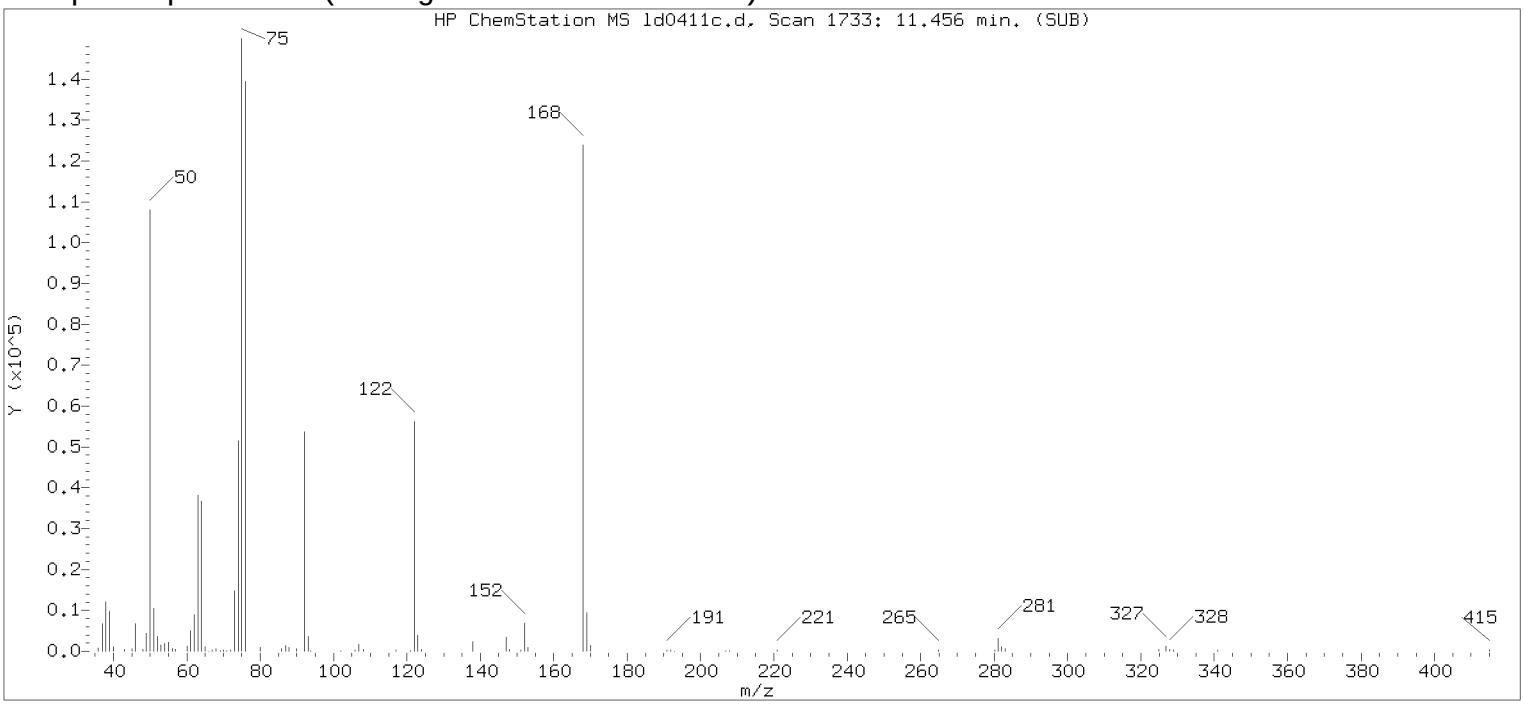
Compound Number : 105
Compound Name : 1,4-Dinitrobenzene
Scan Number : 1712
Retention Time (minutes) : 11.344
Quant Ion : 168.00
Area (flag) : 130078A
On-Column Amount (ng/ul) : 7.5000
Integration start scan : 1706 Integration stop scan: 1725
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

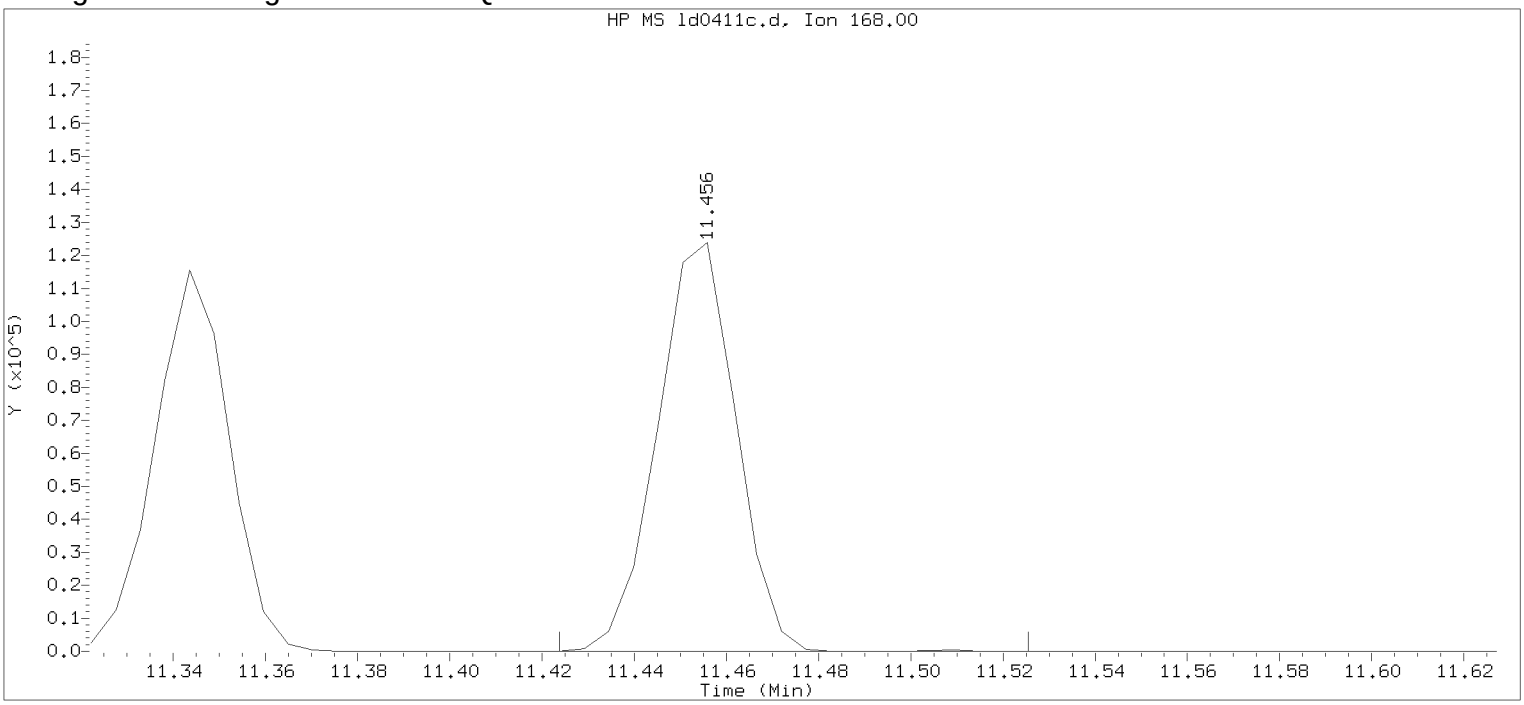
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0411c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 07:59 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:29
Date, time and analyst ID of latest file update: 11-Apr-2018 19:29 art12405

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0968

Compound Number : 105
Compound Name : 1,4-Dinitrobenzene
Scan Number : 1733
Retention Time (minutes) : 11.456
Quant Ion : 168.00
Area : 146800
On-column Amount (ng/ul) : 7.8485
Integration start scan : 1726 Integration stop scan: 1745
Y at integration start : 0 Y at integration end: 0

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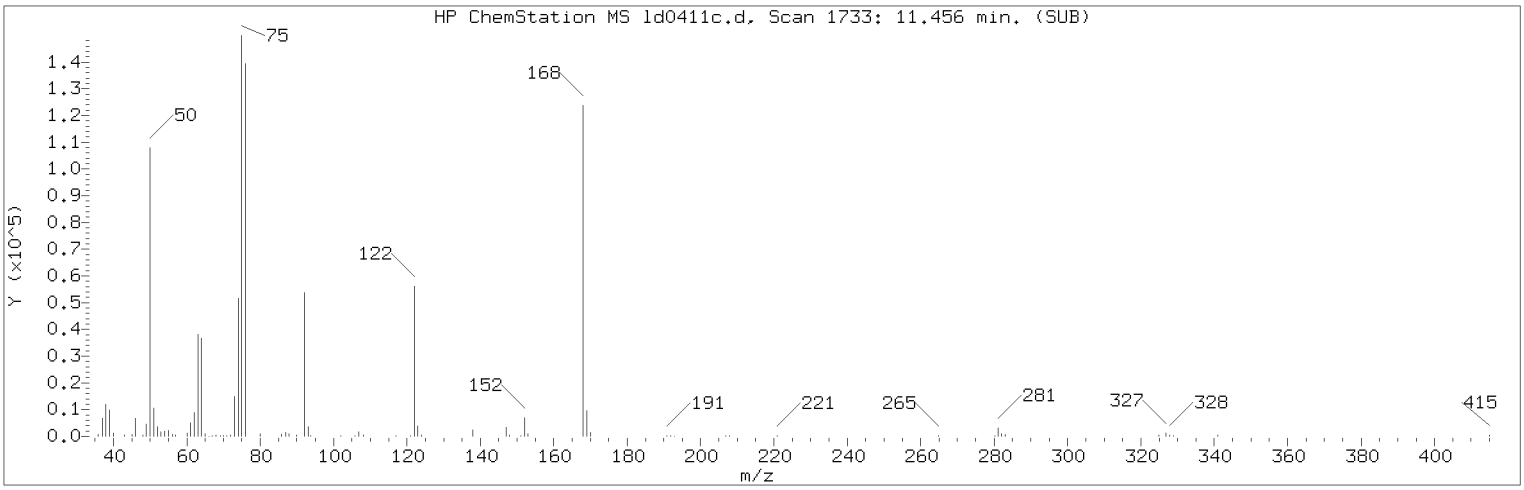
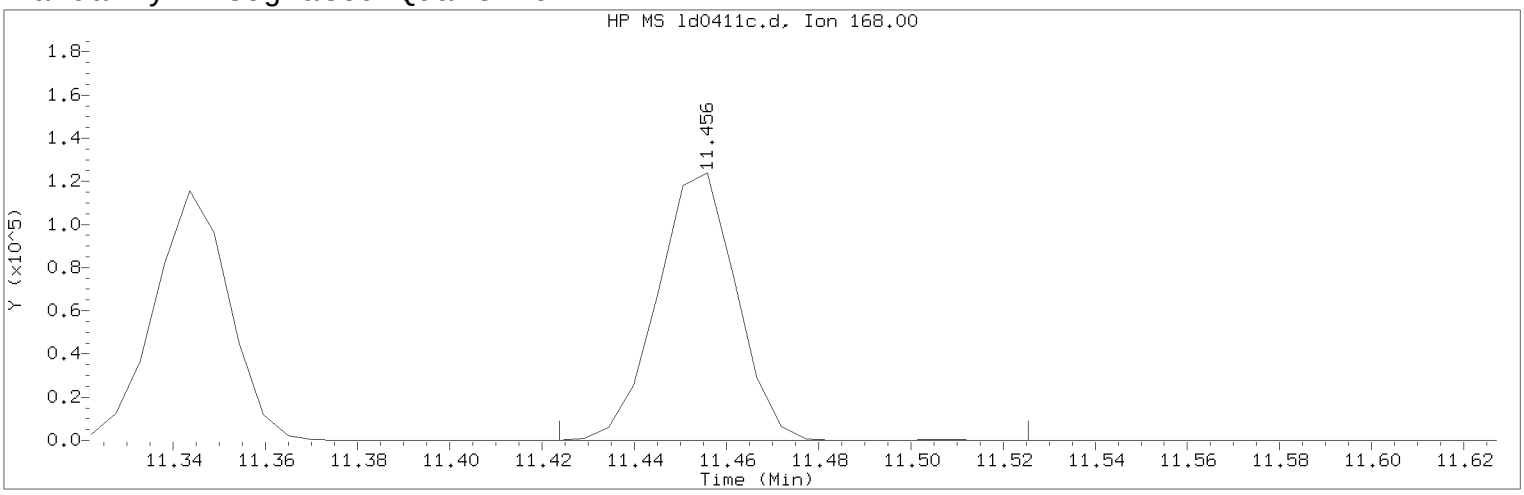
Target 3.5 esignature user ID: 1048

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0411c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 07:59 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0968

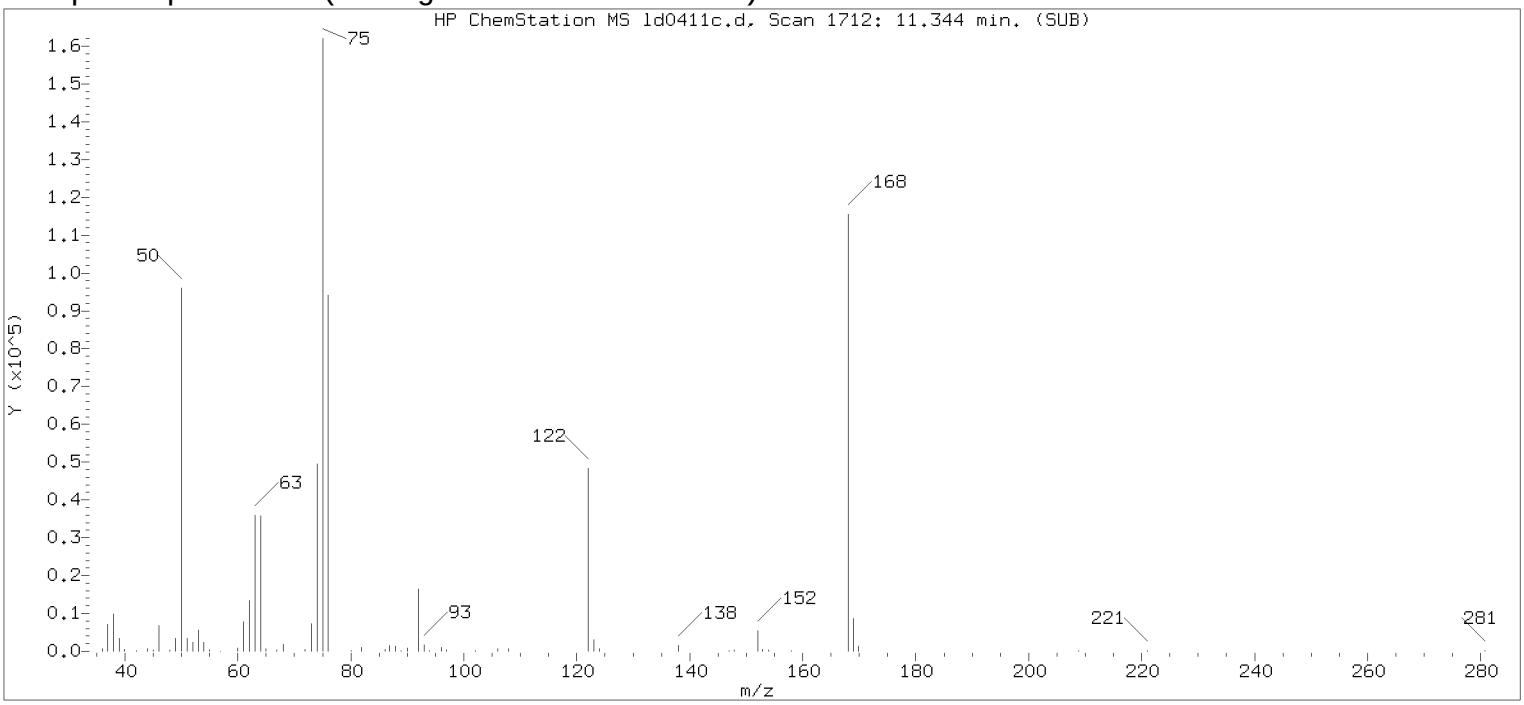
Compound Number : 107
Compound Name : 1,3-Dinitrobenzene
Scan Number : 1733
Retention Time (minutes) : 11.456
Quant Ion : 168.00
Area (flag) : 146796A
On-Column Amount (ng/ul) : 7.5000
Integration start scan : 1726 Integration stop scan: 1745
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

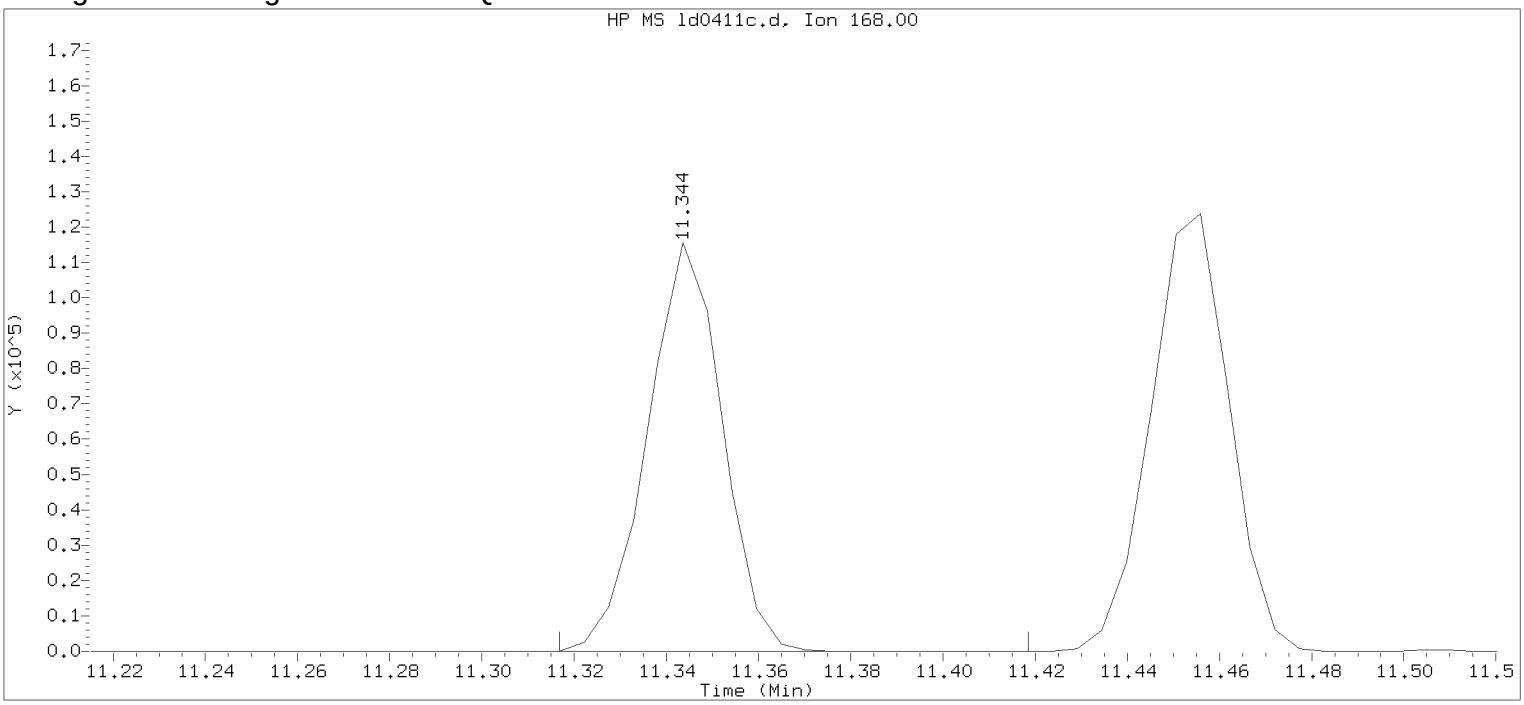
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0411c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 07:59 Analyst ID: hbz01996

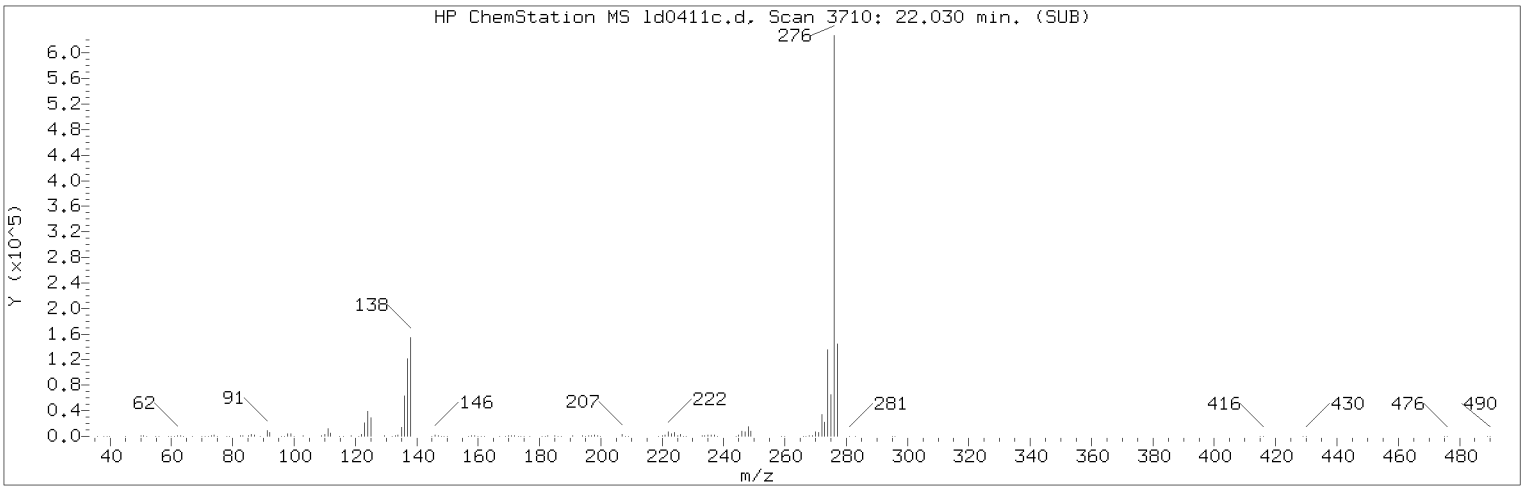
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:29
Date, time and analyst ID of latest file update: 11-Apr-2018 19:29 art12405

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0968

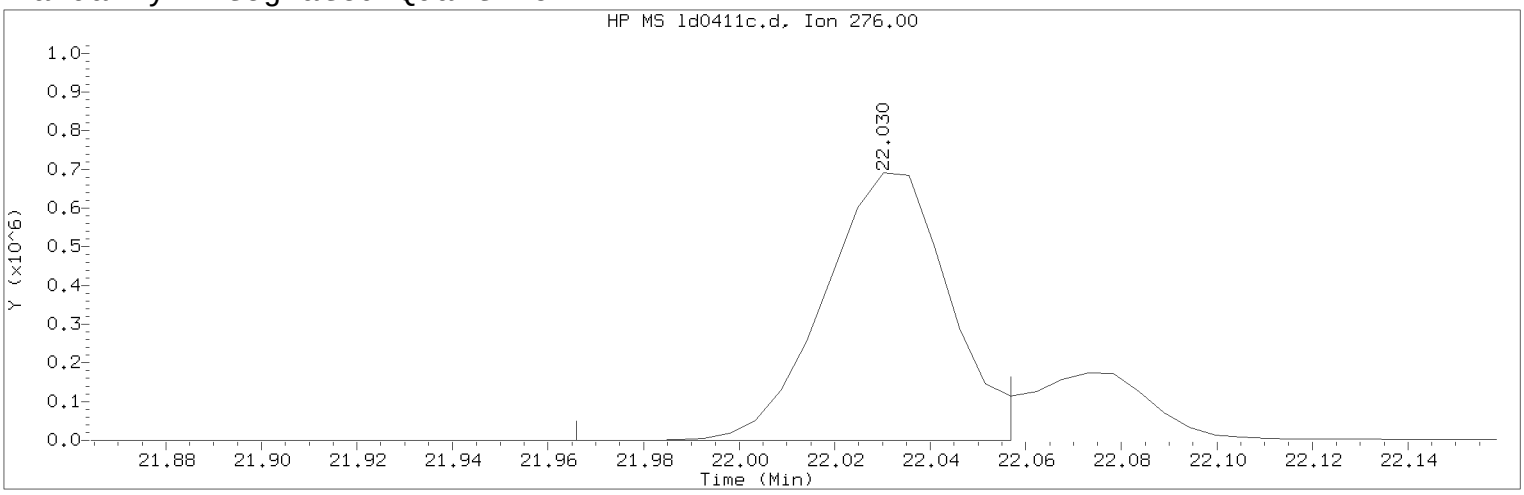
Compound Number : 107
Compound Name : 1,3-Dinitrobenzene
Scan Number : 1712
Retention Time (minutes) : 11.344
Quant Ion : 168.00
Area : 130074
On-column Amount (ng/ul) : 6.1516
Integration start scan : 1706 Integration stop scan: 1725
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user id: 1045

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0411c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 07:59 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0968

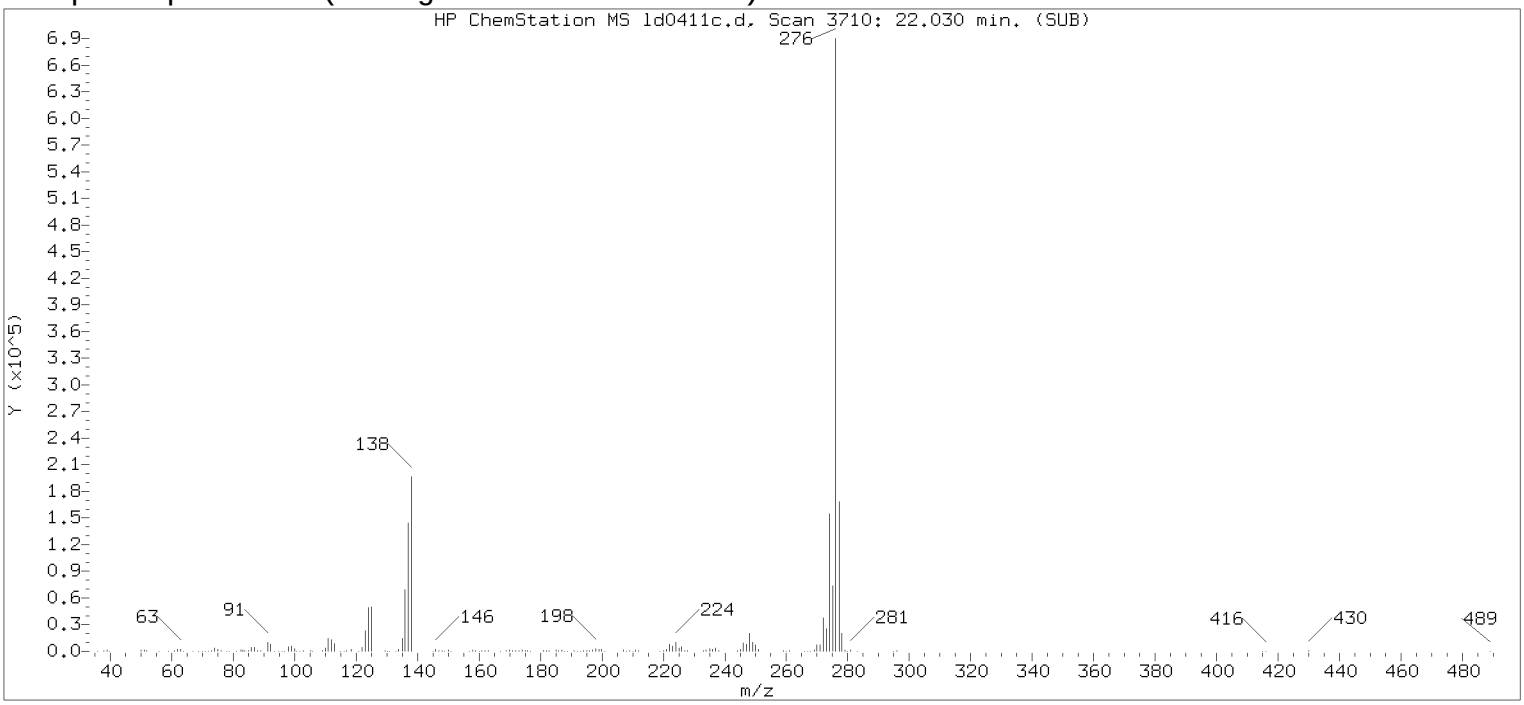
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3710
Retention Time (minutes) : 22.030
Quant Ion : 276.00
Area (flag) : 1257954M
On-Column Amount (ng/ul) : 7.5000
Integration start scan : 3697 Integration stop scan: 3714
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

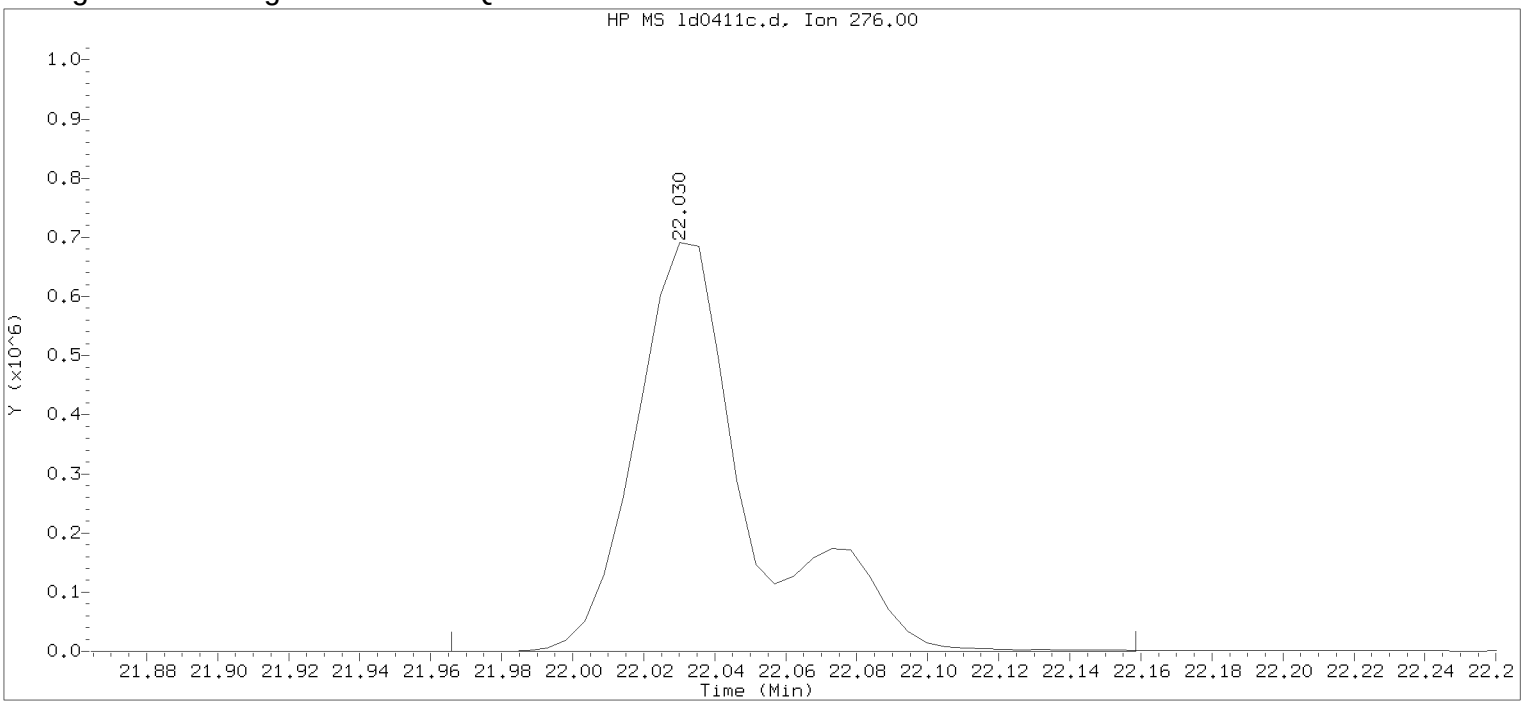
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



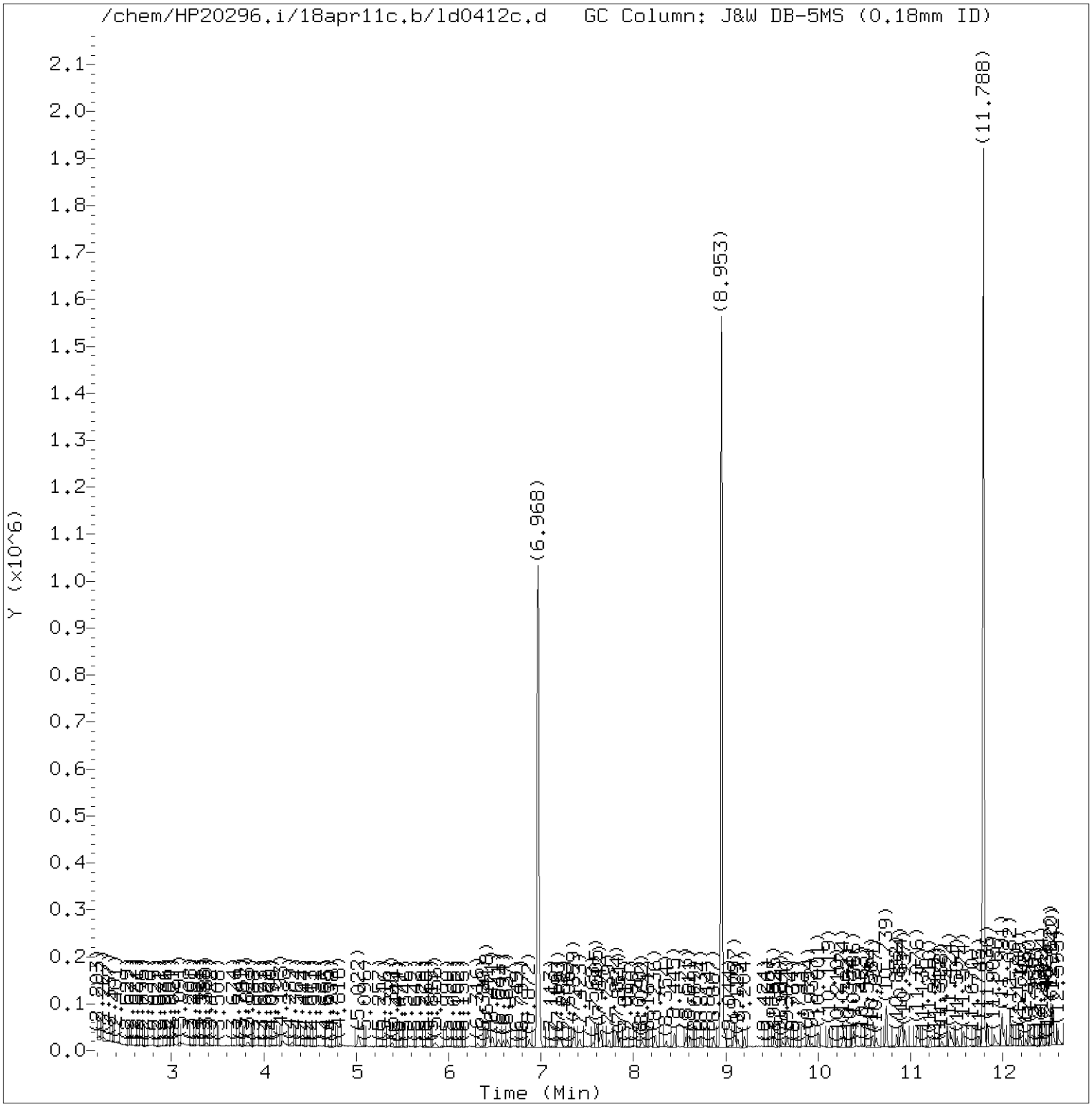
Data File: /chem/HP20296.i/18apr11c.b/ld0411c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 07:59 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:29
Date, time and analyst ID of latest file update: 11-Apr-2018 19:29 art12405

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0968

Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3710
Retention Time (minutes) : 22.030
Quant Ion : 276.00
Area : 1549553
On-column Amount (ng/ul) : 8.8069
Integration start scan : 3697 Integration stop scan: 3733
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: 1485 hbz01996



Total Ion Chromatogram (TIC)

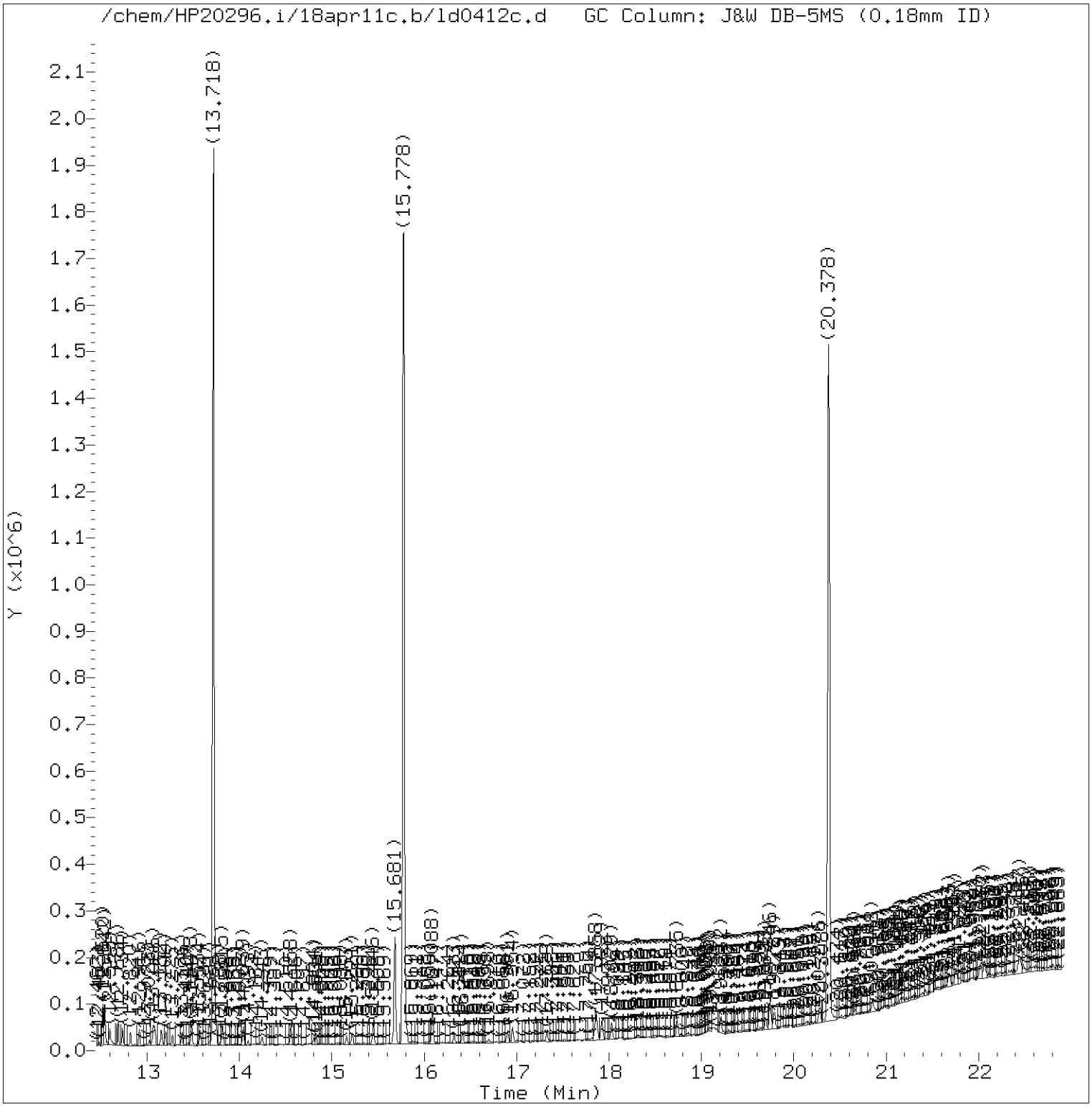
Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0412c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 09:33 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0412c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 09:33 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0412c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 09:33 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.428	88	2518	0.086
4) N-Nitrosodimethylamine	(1)	3.037	74	4401M	0.098
5) Pyridine	(1)	3.091	79	8646	0.111
7) 2-Picoline	(1)	4.203	93	7732	0.098
8) N-Nitrosomethylethylamine	(1)	4.364	88	2068M	0.065
9) Methyl methanesulfonate	(1)	4.824	80	3355	0.087
11)$2-Fluorophenol	(1)	5.022	112	11166	0.176
13) N-Nitrosodiethylamine	(1)	5.391	102	2576	0.083
15) Ethyl methanesulfonate	(1)	5.856	109	3301M	0.101
16) Benzaldehyde	(1)	6.316	77	1808	0.029
17)$Phenol-d6	(1)	6.418	99	16035	0.197
18) Phenol	(1)	6.439	94	8650	0.091
19) Aniline	(1)	6.476	93	10419	0.094
20) a-methylstyrene	(1)	6.551	118	2088M	0.097
22) bis(2-Chloroethyl)ether	(1)	6.594	93	6292	0.089
23) 2-Chlorophenol	(1)	6.637	128	5370	0.086
24) 1,3-Dichlorobenzene	(1)	6.872	146	5747	0.083
25)*1,4-Dichlorobenzene-d4	(1)	6.968	152	221518	5.000
26) 1,4-Dichlorobenzene	(1)	6.995	146	6388	0.092
27) Benzyl alcohol	(1)	7.193	108	3697	0.099
28) 1,2-Dichlorobenzene	(1)	7.220	146	5569	0.083
30) Indene	(1)	7.359	115	8442	0.094
31) 2-Methylphenol	(1)	7.364	108	6565	0.109
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.423	45	11159	0.113
34) bis(2-Chloroisopropyl)ether	(1)	7.423	45	11159	0.113
35) N-Nitrosopyrrolidine	(1)	7.568	100	3895	0.119
36) Acetophenone	(1)	7.594	105	7213M	0.073
37) 4-Methylphenol	(1)	7.600	108	6731	0.105
38) N-Nitroso-di-n-propylamine	(1)	7.605	70	5607	0.107
39) N-Nitrosomorpholine	(1)	7.632	56	5068	0.118
40) o-Toluidine	(1)	7.648	106	10638	0.099
42) Total Cresols	(1)			13296	0.214
43) Hexachloroethane	(1)	7.733	117	2667	0.093
44)$Nitrobenzene-d5	(2)	7.819	82	14962	0.195
45) Nitrobenzene	(2)	7.851	77	7020	0.089
48) N-Nitrosopiperidine	(2)	8.092	114	3499	0.110
50) Isophorone	(2)	8.236	82	13964	0.103
51) 2-Nitrophenol	(2)	8.354	139	2810	0.089
53) 2,4-Dimethylphenol	(2)	8.445	107	7132	0.104
57) O,O,O-Triethylphosphorothioate	(2)	8.573	198	3364	0.105

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 15:53.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0412c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 09:33 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
55) bis(2-Chloroethoxy)methane	(2)	8.611	93	9067	0.103
60) 2,4-Dichlorophenol	(2)	8.734	162	5725	0.107
62) 1,2,4-Trichlorobenzene	(2)	8.873	180	5698	0.097
65)*Naphthalene-d8	(2)	8.953	136	870407	5.000
66) Naphthalene	(2)	8.990	128	19025	0.112
67) 4-Chloroaniline	(2)	9.092	127	8746	0.118
68) 2,6-Dichlorophenol	(2)	9.103	162	5351	0.102
69) Hexachloropropene	(2)	9.135	213	3674	0.089
71) Hexachlorobutadiene	(2)	9.204	225	3654	0.101
75) Quinoline	(2)	9.525	129	12918	0.116
76) Caprolactam	(2)	9.616	113	1381	0.084
77) N-Nitrosodi-n-butylamine	(2)	9.670	84	5707M	0.115
80) 4-Chloro-3-methylphenol	(2)	9.894	107	6176	0.106
82) Safrole	(2)	10.001	162	5124	0.108
83) 2-Methylnaphthalene	(2)	10.119	142	12612	0.113
84) 1-Methylnaphthalene	(2)	10.274	142	12322	0.117
85) Hexachlorocyclopentadiene	(3)	10.376	237	3092	0.089
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.386	216	7149	0.123
88) cis-Isosafrole	(3)	10.488	162	928	0.019
90) 2,4,6-Trichlorophenol	(3)	10.584	196	4033	0.108
92) 2,4,5-Trichlorophenol	(3)	10.627	196	4203	0.105
97) Isosafrole	(3)			6215	0.118
93)$2-Fluorobiphenyl	(3)	10.739	172	32097	0.239
94) trans-Isosafrole	(3)	10.852	162	5287	0.099
95) 1,1'-Biphenyl	(3)	10.894	154	12448	0.085
96) 2-Chloronaphthalene	(3)	10.905	162	13616	0.120
98) 1-Chloronaphthalene	(3)	10.937	162	12537	0.116
99) Diphenyl ether	(3)	11.076	170	10395	0.136
100) 2-Nitroaniline	(3)	11.087	138	3486	0.100
104) 1,4-Naphthoquinone	(3)	11.210	158	3753	0.082
105) 1,4-Dinitrobenzene	(3)	11.344	168	1576A	0.091
106) Dimethylphthalate	(3)	11.424	163	14727	0.114
107) 1,3-Dinitrobenzene	(3)	11.445	168	1646A	0.084
108) 2,6-Dinitrotoluene	(3)	11.504	165	2766	0.097
109) Acenaphthylene	(3)	11.574	152	17319	0.113
112) 3-Nitroaniline	(3)	11.745	138	2767	0.093
113)*Acenaphthene-d10	(3)	11.788	164	427128	5.000
114) Acenaphthene	(3)	11.836	153	14126	0.124
115) 2,4-Dinitrophenol	(3)	11.905	184	4692	0.306
120) 2,4_2,6-Dinitrotoluenes	(3)			6291	0.190

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

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on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0412c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 09:33 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
116) 4-Nitrophenol	(3)	11.991	109	7888	0.393
117) Pentachlorobenzene	(3)	12.018	250	5614	0.118
119) Dibenzofuran	(3)	12.082	168	19939	0.124
118) 2,4-Dinitrotoluene	(3)	12.082	165	3525	0.093
121) 1-Naphthylamine	(3)	12.189	143	11896	0.110
122) 2,3,4,6-Tetrachlorophenol	(3)	12.248	232	2762	0.091
123) 2-Naphthylamine	(3)	12.290	143	12867	0.129
124) Diethylphthalate	(3)	12.424	149	15596	0.122
125) Thionazin	(3)	12.520	107	2550	0.118
126) Fluorene	(3)	12.520	166	14357	0.118
127) 4-Chlorophenyl-phenylether	(3)	12.542	204	7380	0.122
128) 5-Nitro-o-toluidine	(3)	12.542	152	3495	0.102
129) 4-Nitroaniline	(3)	12.547	138	2742	0.090
130) 4,6-Dinitro-2-methylphenol	(4)	12.595	198	6751	0.321
131) N-Nitrosodiphenylamine	(4)	12.686	169	11436	0.116
132) NDPA as diphenylamine	(4)	12.686	169	11436	0.116
134) 1,2-Diphenylhydrazine	(4)	12.734	77	15290	0.109
135)$2,4,6-Tribromophenol	(3)	12.820	330	3064	0.208
137) Tetraethyldithiopyrophosphate	(4)	12.916	97	2699	0.114
146) Diallate trans/cis	(4)			6647	0.110
139) 1,3,5-Trinitrobenzene	(4)	13.023	213	1083	0.085
140) Diallate (peak 1)	(4)	13.061	86	5584	0.089
141) Phorate	(4)	13.071	75	9311	0.100
142) Phenacetin	(4)	13.082	108	6395	0.097
143) 4-Bromophenyl-phenylether	(4)	13.157	248	3676	0.111
144) Diallate (peak 2)	(4)	13.178	86	1063M	0.021
145) Hexachlorobenzene	(4)	13.200	284	4515	0.129
147) Dimethoate	(4)	13.275	87	5009	0.092
148) Atrazine	(4)	13.376	200	3239	0.092
149) Pentachlorophenol	(4)	13.472	266	946	0.047
151) Pentachloronitrobenzene	(4)	13.483	237	1320	0.081
150) 4-Aminobiphenyl	(4)	13.488	169	12244	0.106
152) Pronamide	(4)	13.574	173	5193	0.087
153)*Phenanthrene-d10	(4)	13.718	188	822379	5.000
154) Dinoseb	(4)	13.740	211	1403M	0.042
155) Phenanthrene	(4)	13.745	178	22502	0.125
157) Anthracene	(4)	13.815	178	20900	0.119
163) Carbazole	(4)	14.045	167	18533	0.115
164) Methyl parathion	(4)	14.248	109	2957	0.071
165) Di-n-butylphthalate	(4)	14.558	149	22120	0.103

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Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0412c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 09:33 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
167) Parathion	(4)	14.804	109	2388	0.091
168) 4-Nitroquinoline-1-oxide	(4)	14.831	190	1199	0.061
169) Octachlorostyrene	(4)	15.163	308	1011	0.085
171) Isodrin	(4)	15.221	193	2897	0.132
173) Fluoranthene	(4)	15.446	202	23508	0.119
174) Benzidine	(5)	15.681	184	111099	0.902
175)*Pyrene-d10	(5)	15.772	212	846867	5.000
177) Pyrene	(5)	15.804	202	26623	0.125
179)$Terphenyl-d14	(5)	16.088	244	32387	0.237
182) p-Dimethylaminoazobenzene	(5)	16.323	225	3037	0.089
185) Chlorobenzilate	(5)	16.414	139	5933	0.093
187) 3,3'-Dimethylbenzidine	(5)	16.901	212	12556	0.091
188) Butylbenzylphthalate	(5)	16.954	149	9093	0.091
191) 2-Acetylaminofluorene	(5)	17.329	181	6765	0.086
193) 3,3'-Dichlorobenzidine	(5)	17.853	252	6633	0.096
195) Benzo(a)anthracene	(5)	17.864	228	21199	0.115
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.869	231	3700	0.090
196) Chrysene	(5)	17.922	228	21273	0.118
199) bis(2-Ethylhexyl)phthalate	(5)	18.029	149	12987	0.093
203) 6-Methylchrysene	(5)	18.735	242	13851	0.107
205) Di-n-octylphthalate	(6)	19.212	149	21295	0.092
206) Benzo(b)fluoranthene	(6)	19.741	252	20998	0.119
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.746	256	7051	0.089
208) Benzo(k)fluoranthene	(6)	19.789	252	19922	0.118
211) Benzo(a)pyrene	(6)	20.281	252	17853	0.114
213)*Perylene-d12	(6)	20.378	264	751073	5.000
215) 3-Methylcholanthrene	(6)	20.854	268	9860	0.121
217) Dibenz(a,h)acridine	(6)	21.683	279	16441	0.120
218) Dibenz(a,j)acridine	(6)	21.757	279	17171	0.122
222) Total PAHs	(6)			338255	2.119
219) Indeno(1,2,3-cd)pyrene	(6)	22.020	276	18076M	0.119
220) Dibenz(a,h)anthracene	(6)	22.068	278	17137	0.113
221) Benzo(g,h,i)perylene	(6)	22.442	276	18503	0.118

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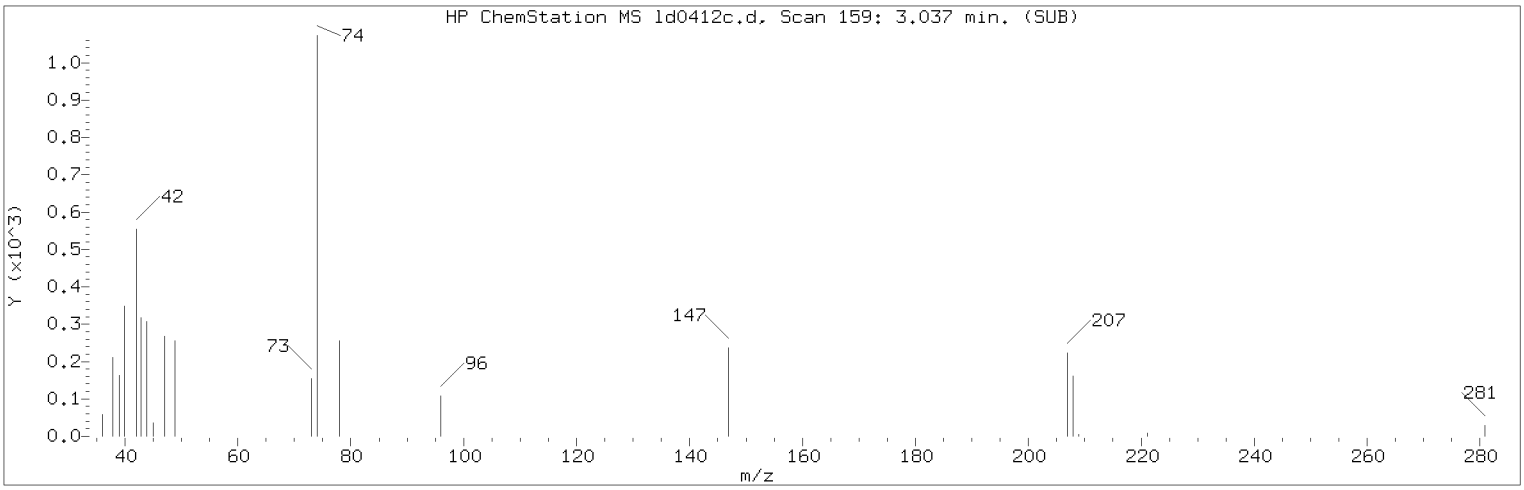
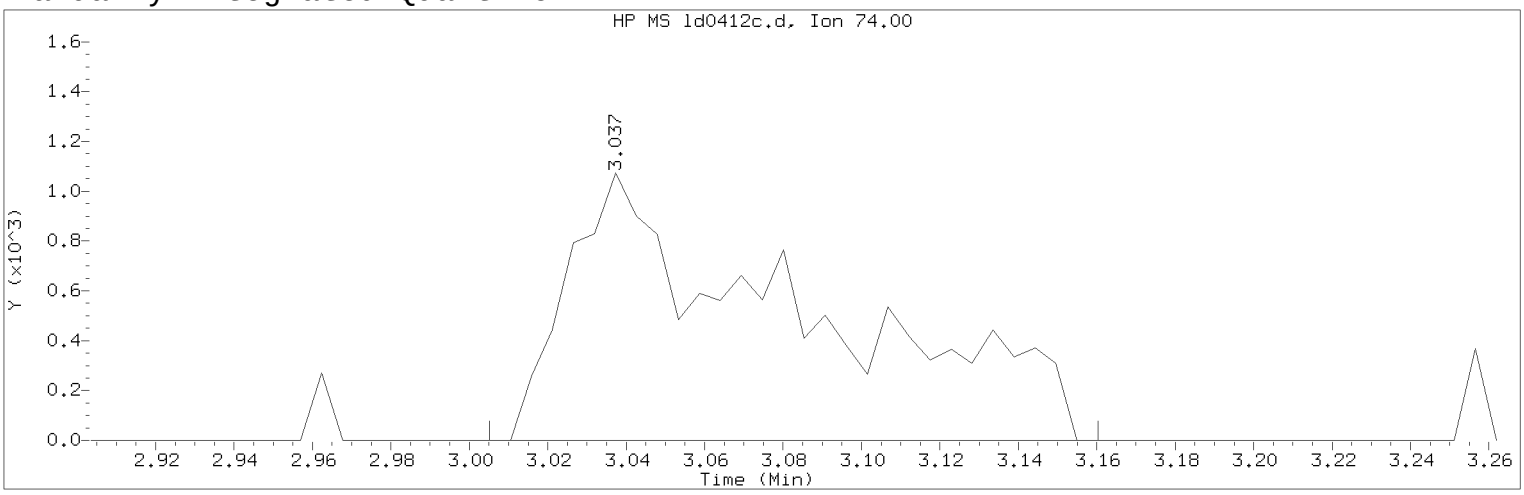
Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0412c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 09:33 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

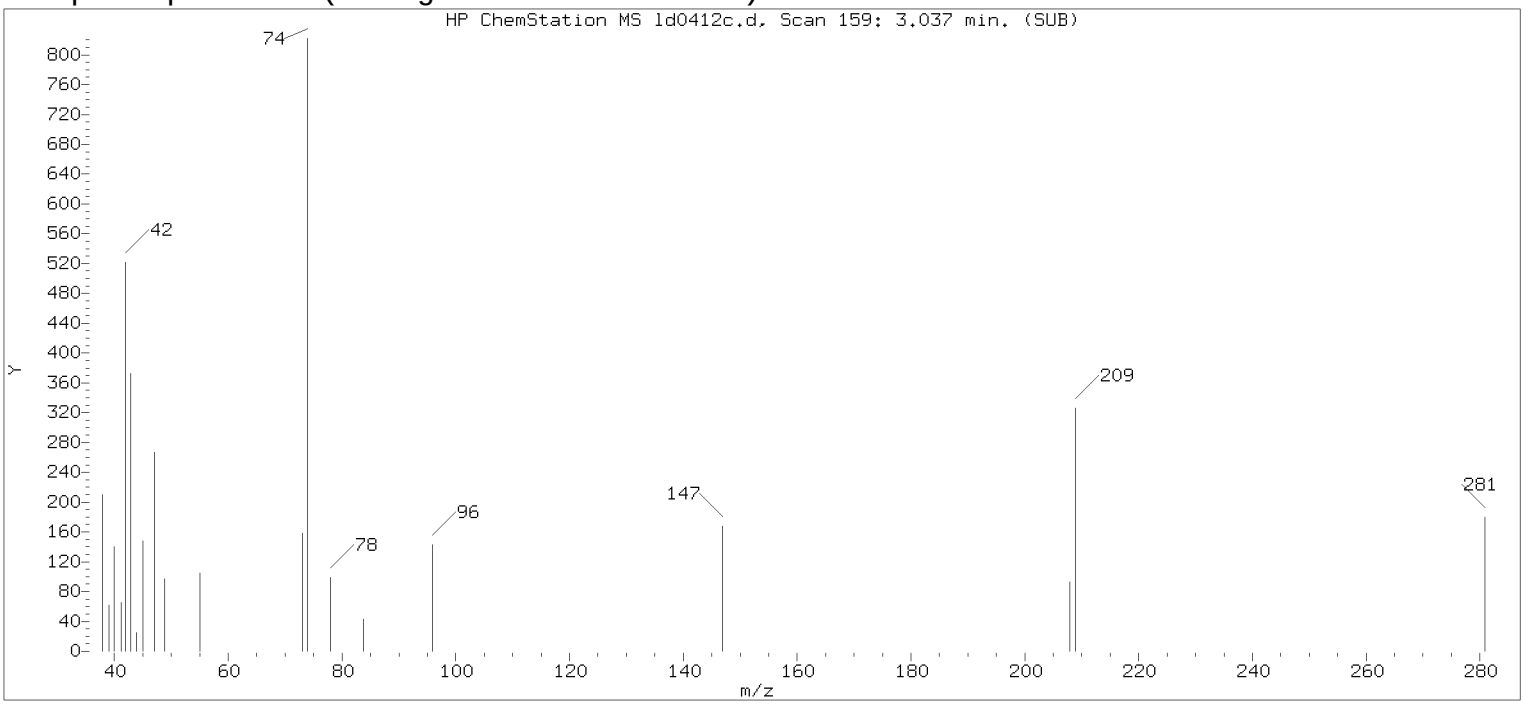
Compound Number : 4
Compound Name : N-Nitrosodimethylamine
Scan Number : 159
Retention Time (minutes) : 3.037
Quant Ion : 74.00
Area (flag) : 4401M
On-Column Amount (ng/ul) : 0.0983
Integration start scan : 152 Integration stop scan: 181
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

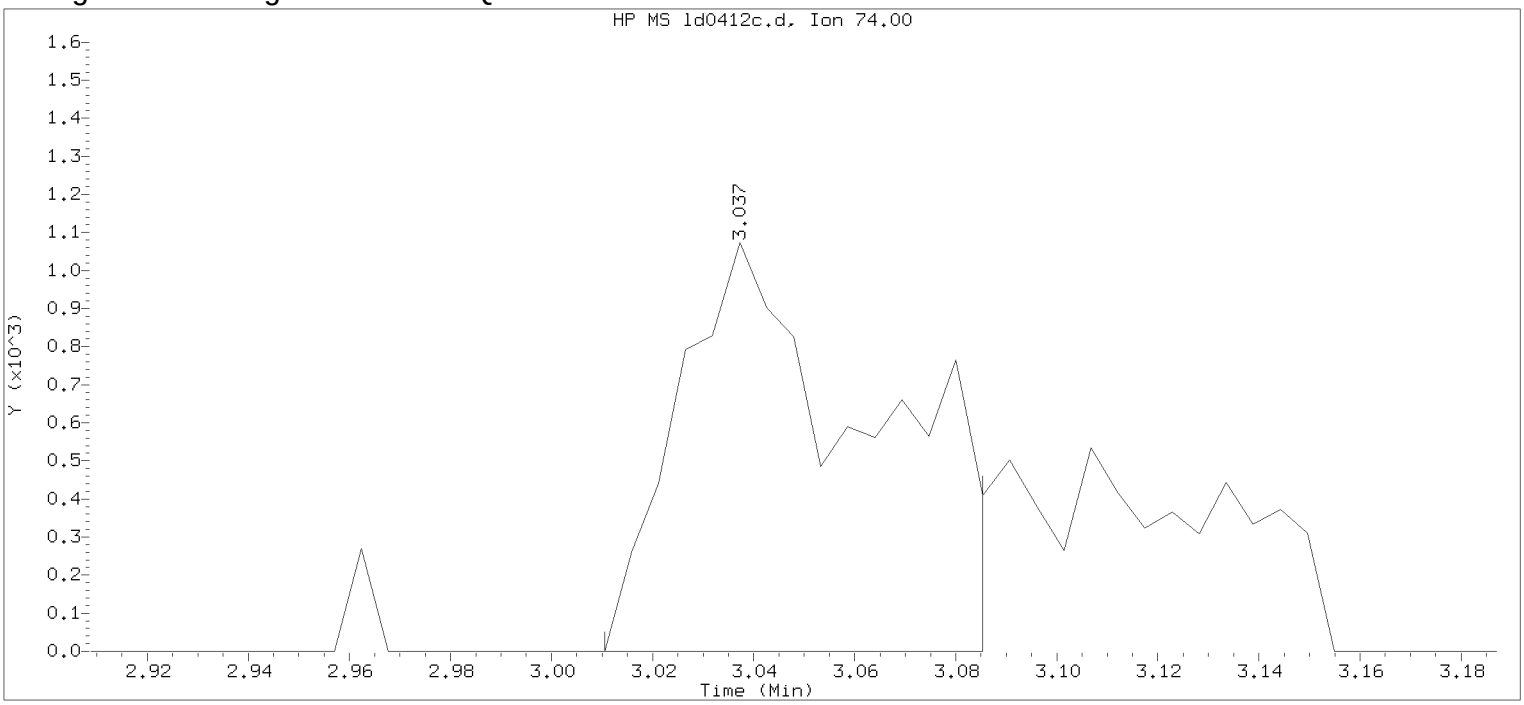
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0412c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 09:33 Analyst ID: hbz01996

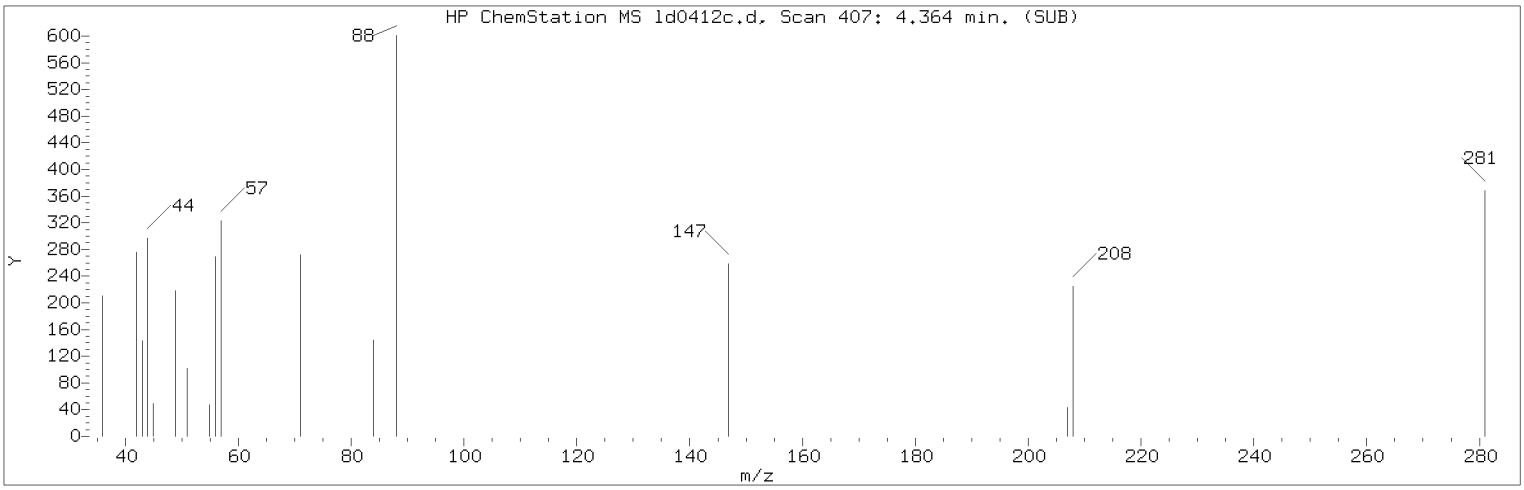
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

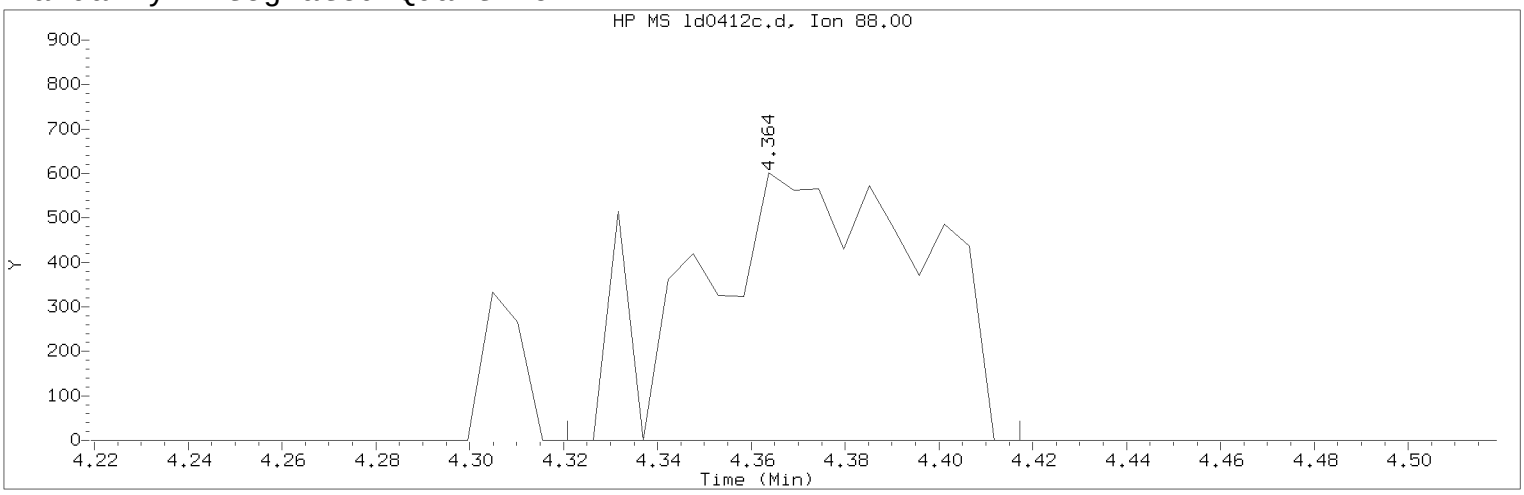
Compound Number : 4
Compound Name : N-Nitrosodimethylamine
Scan Number : 159
Retention Time (minutes) : 3.037
Quant Ion : 74.00
Area : 2874
On-column Amount (ng/ul) : 0.0645
Integration start scan : 153 Integration stop scan: 167
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user id: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0412c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 09:33 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

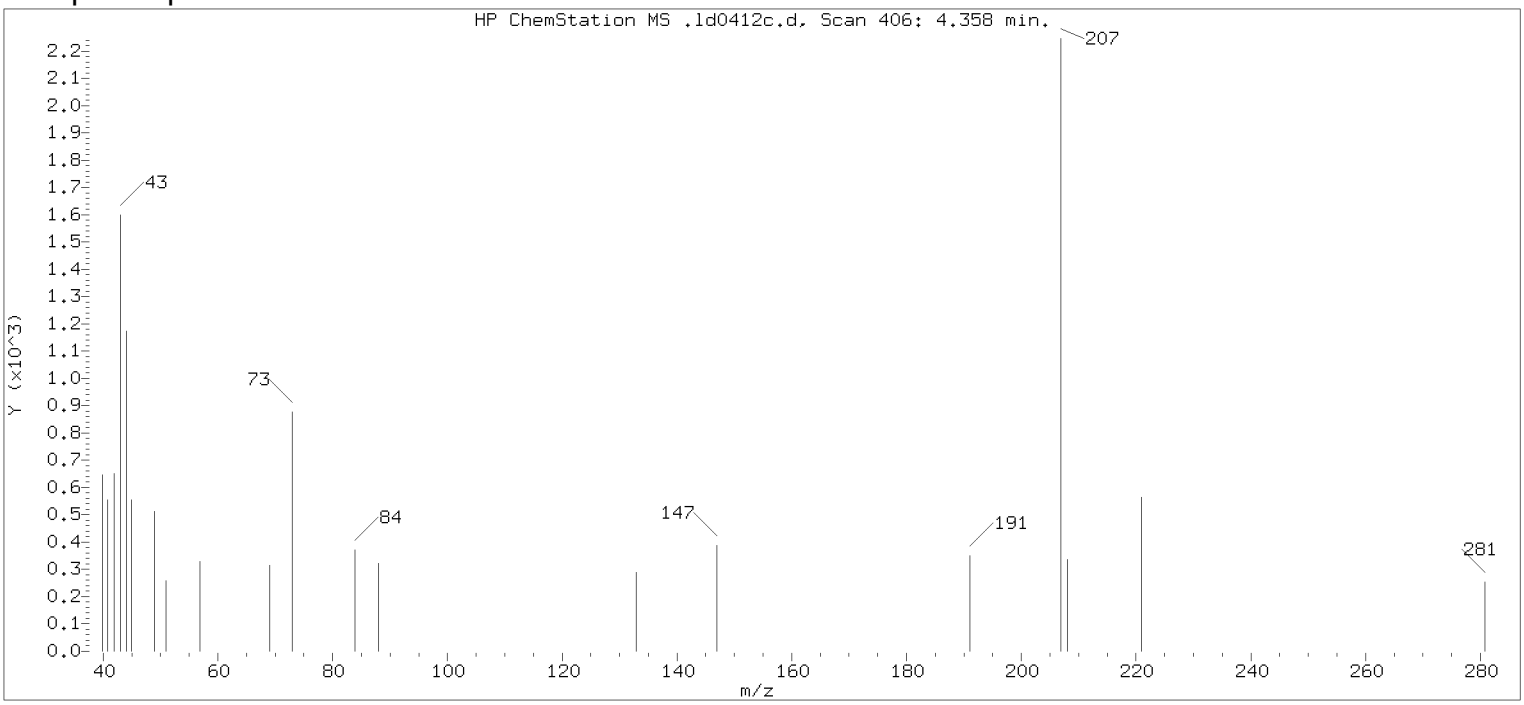
Compound Number : 8
Compound Name : N-Nitrosomethylethylamine
Scan Number : 407
Retention Time (minutes) : 4.364
Quant Ion : 88.00
Area (flag) : 2068M
On-Column Amount (ng/ul) : 0.0648
Integration start scan : 398 Integration stop scan: 416
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

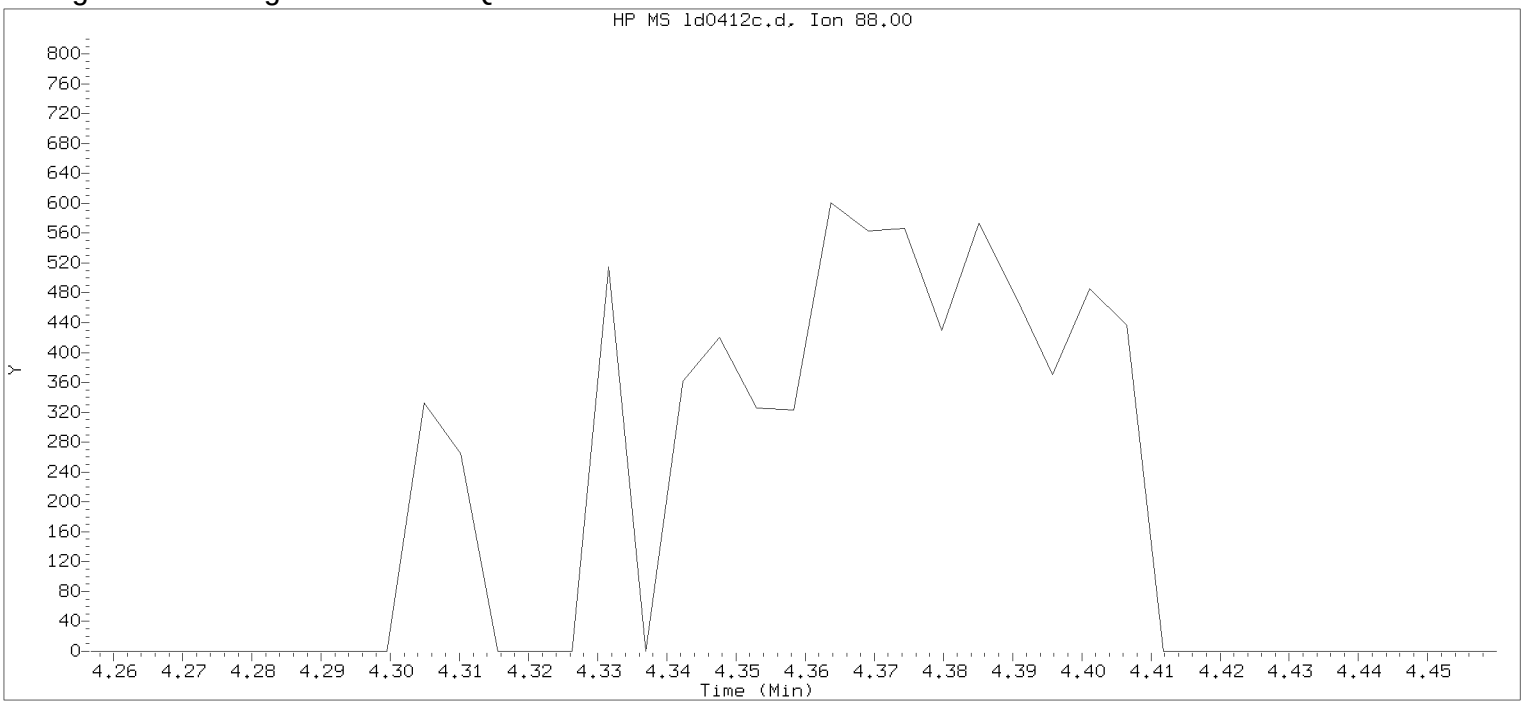
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0412c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 09:33 Analyst ID: hbz01996

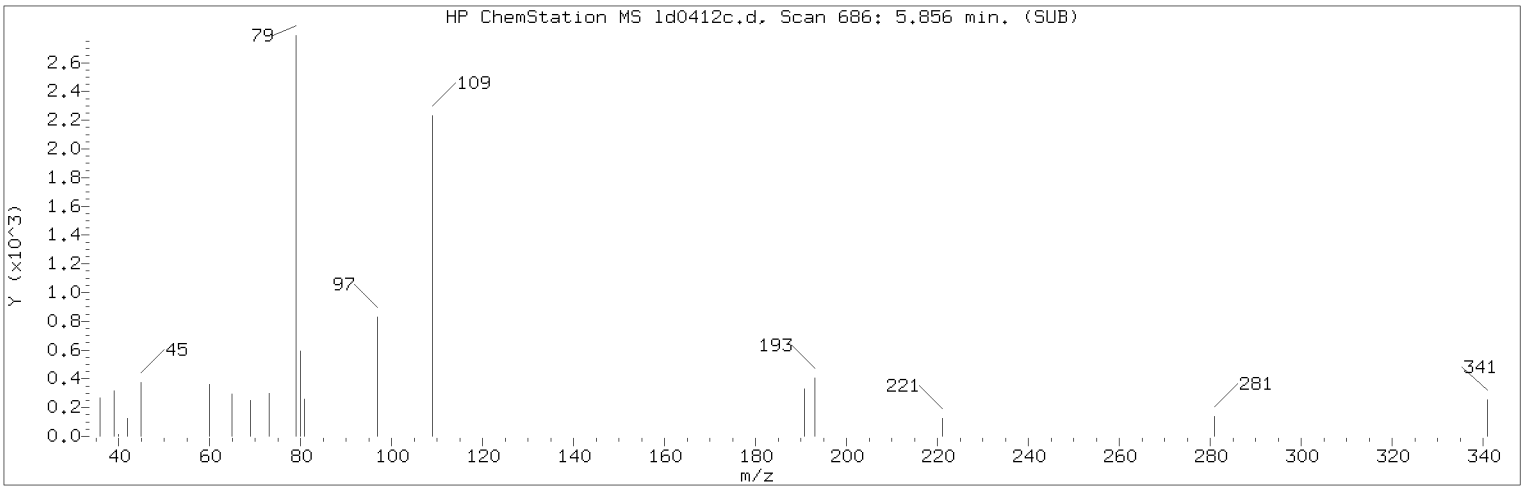
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

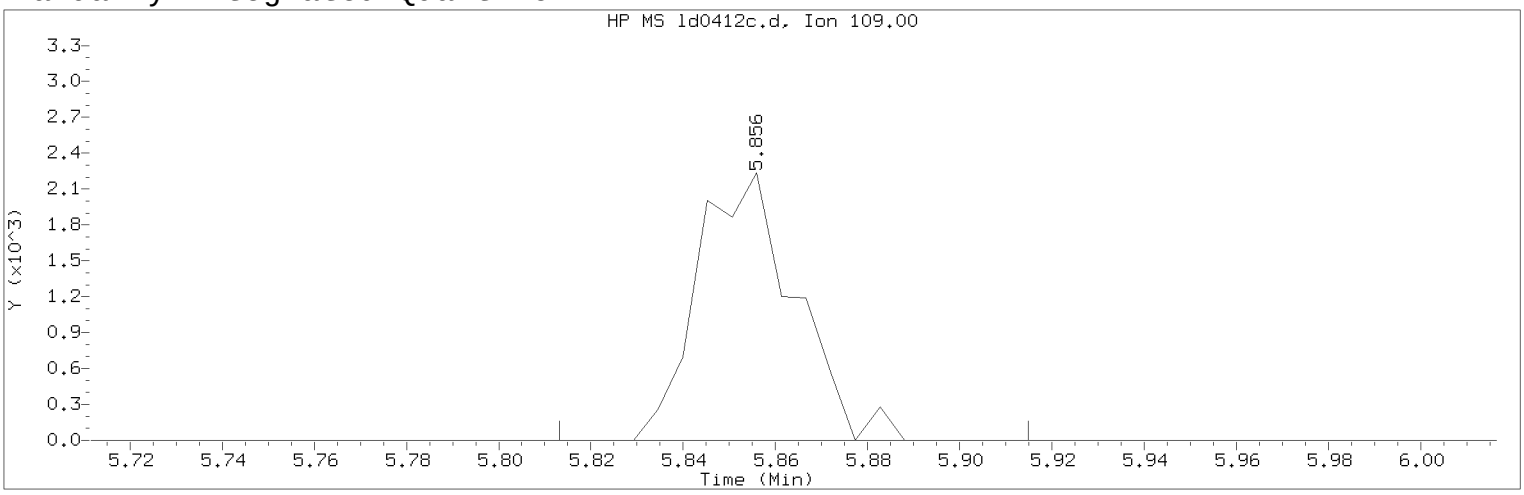
Compound Number : 8
Compound Name : N-Nitrosomethylethylamine
Expected RT (minutes) : 4.358
Quant Ion : 88.00

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0412c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 09:33 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

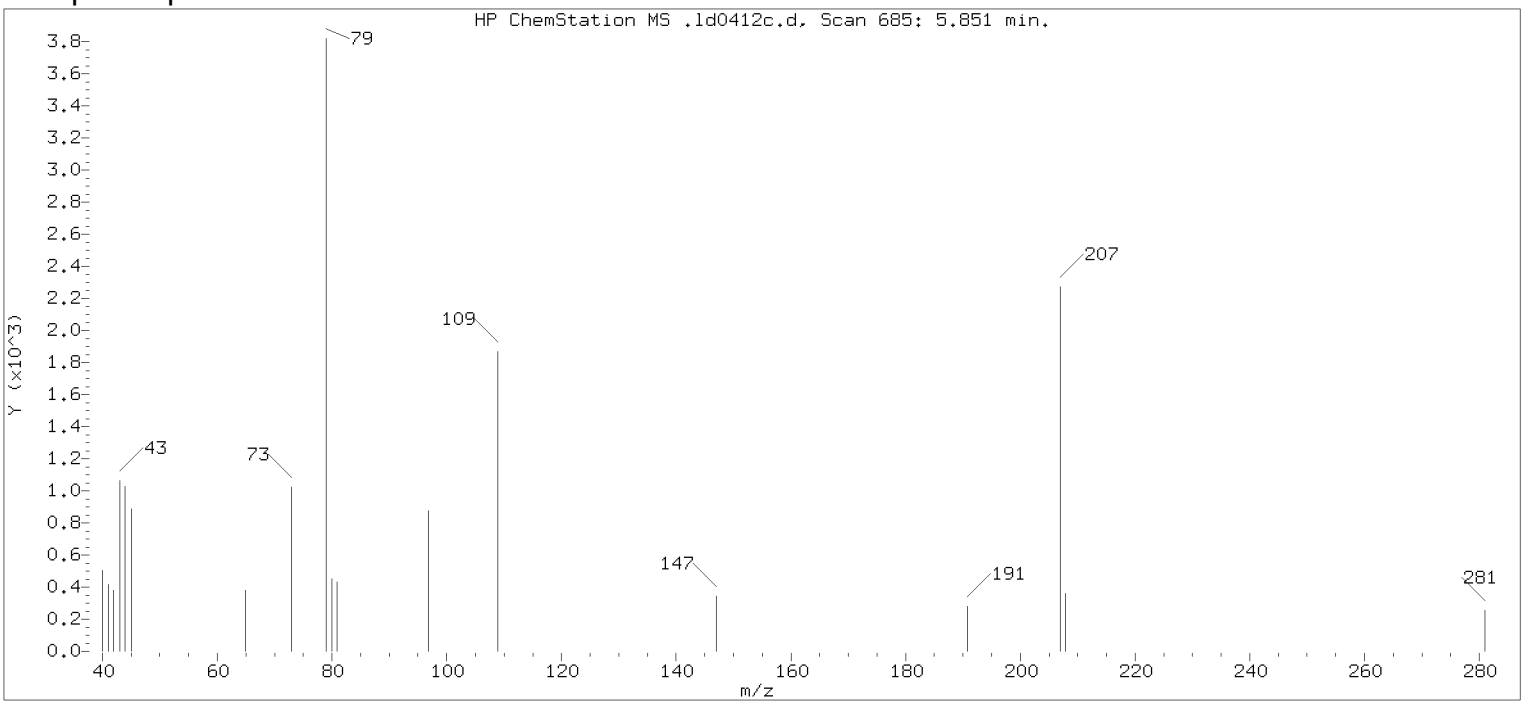
Compound Number : 15
Compound Name : Ethyl methanesulfonate
Scan Number : 686
Retention Time (minutes) : 5.856
Quant Ion : 109.00
Area (flag) : 3301M
On-Column Amount (ng/ul) : 0.1014
Integration start scan : 677 Integration stop scan: 696
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

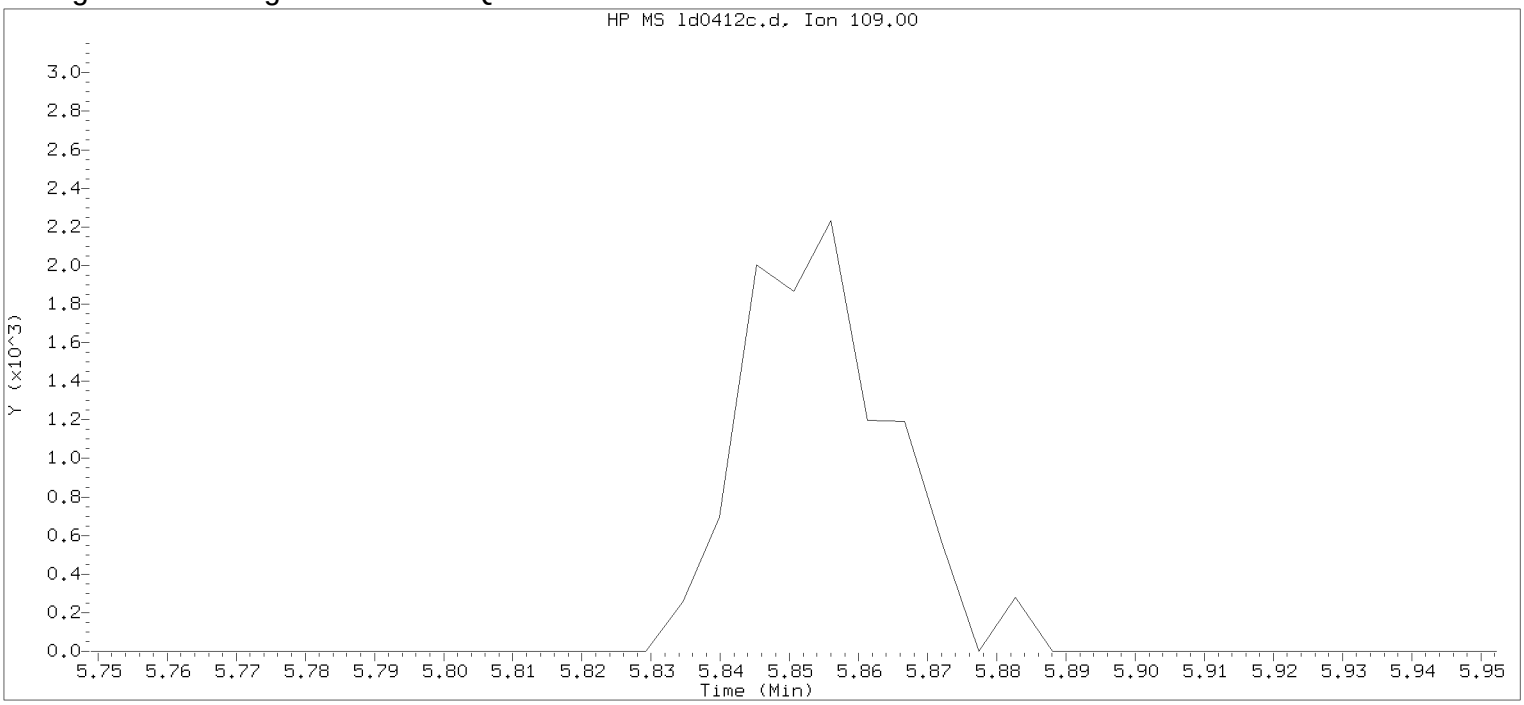
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0412c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 09:33 Analyst ID: hbz01996

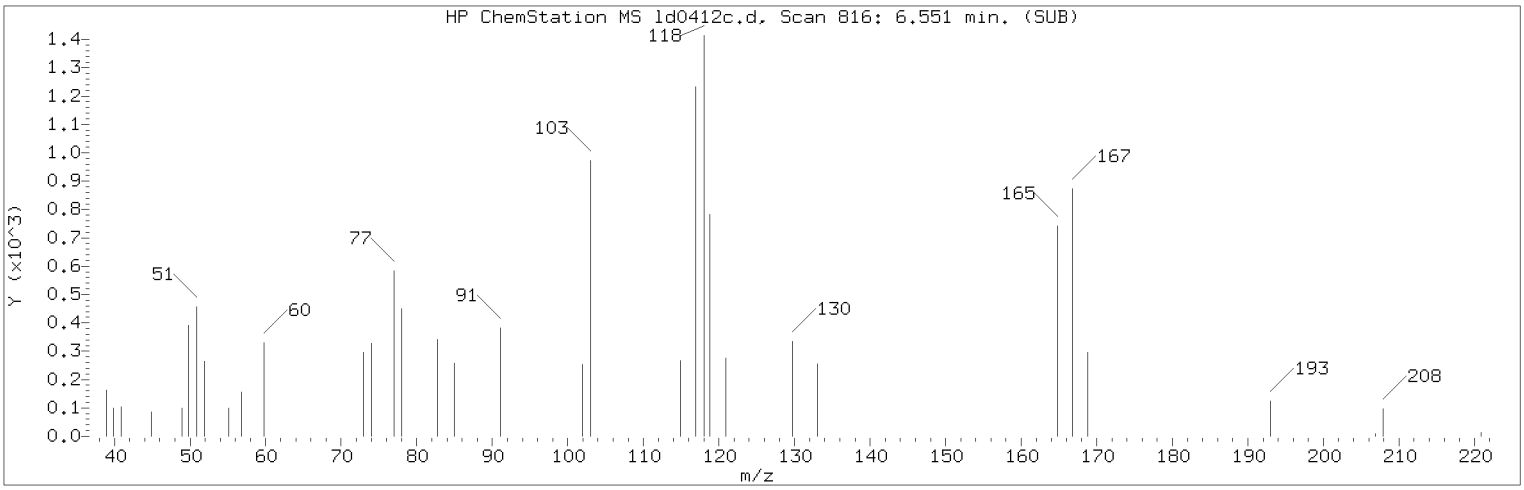
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

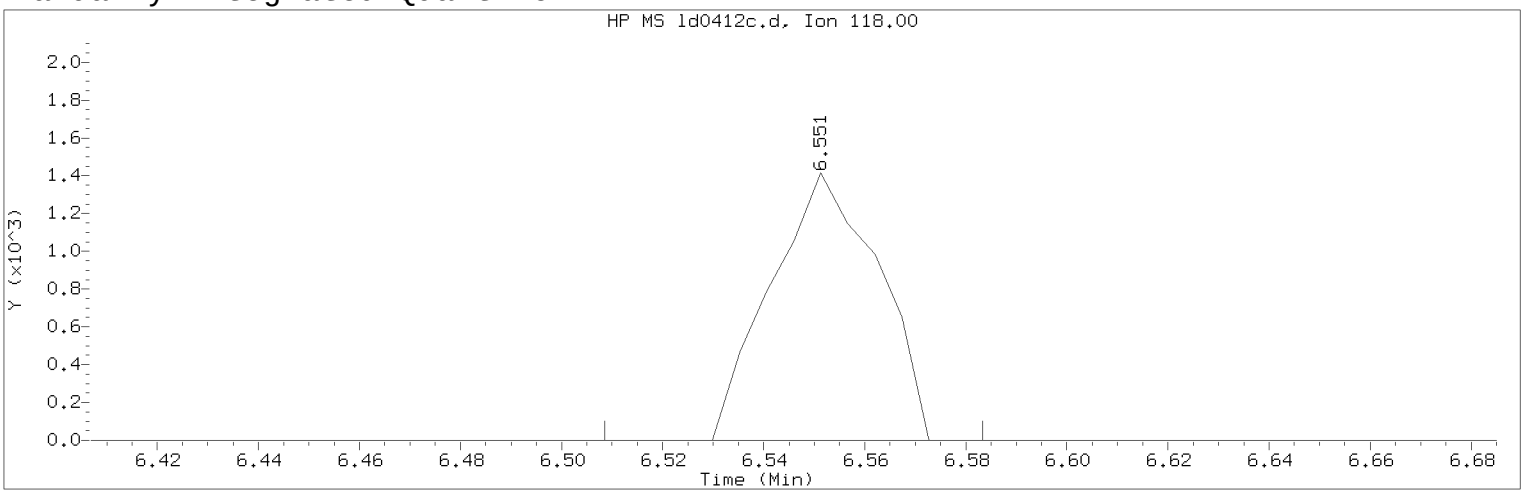
Compound Number : 15
Compound Name : Ethyl methanesulfonate
Expected RT (minutes) : 5.851
Quant Ion : 109.00

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0412c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 09:33 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

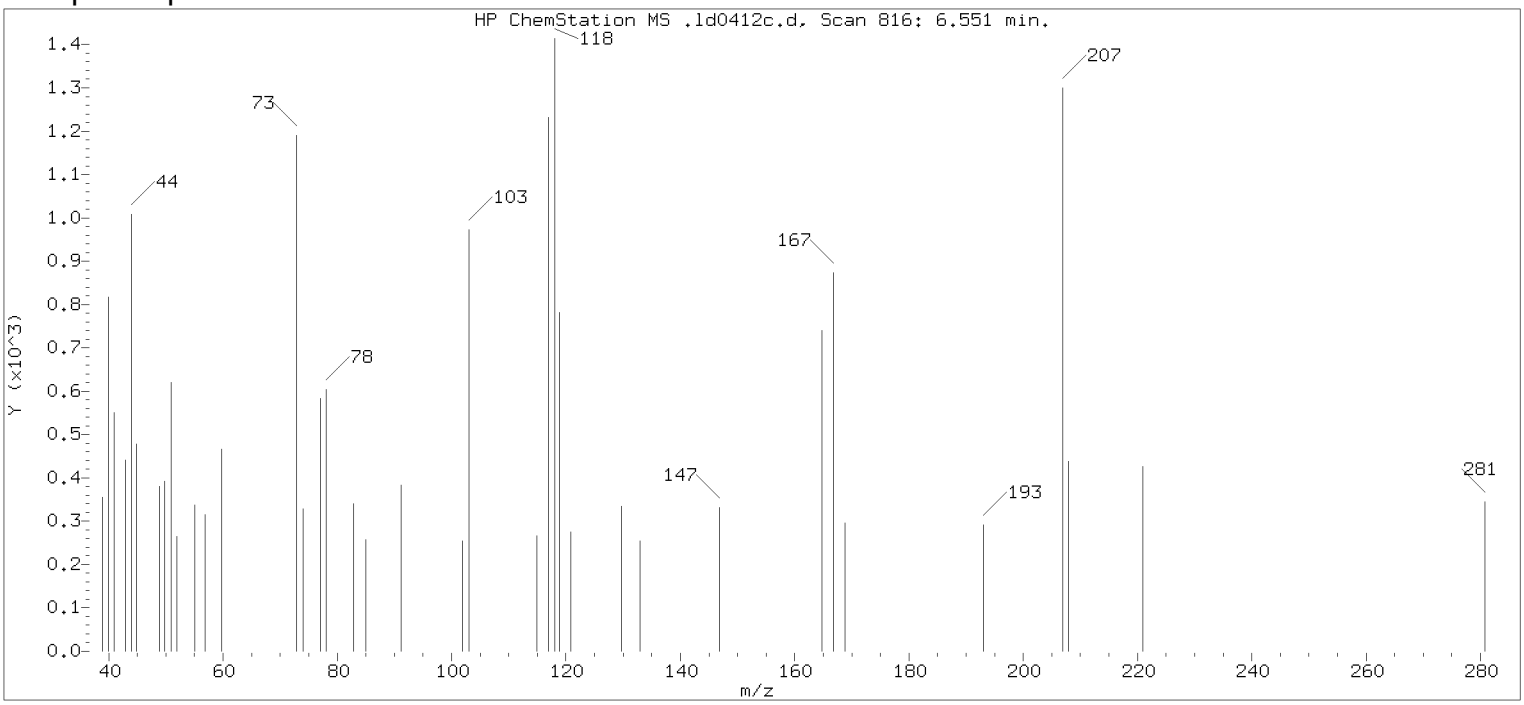
Compound Number : 20
Compound Name : a-methylstyrene
Scan Number : 816
Retention Time (minutes) : 6.551
Quant Ion : 118.00
Area (flag) : 2088M
On-Column Amount (ng/ul) : 0.0966
Integration start scan : 807 Integration stop scan: 821
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

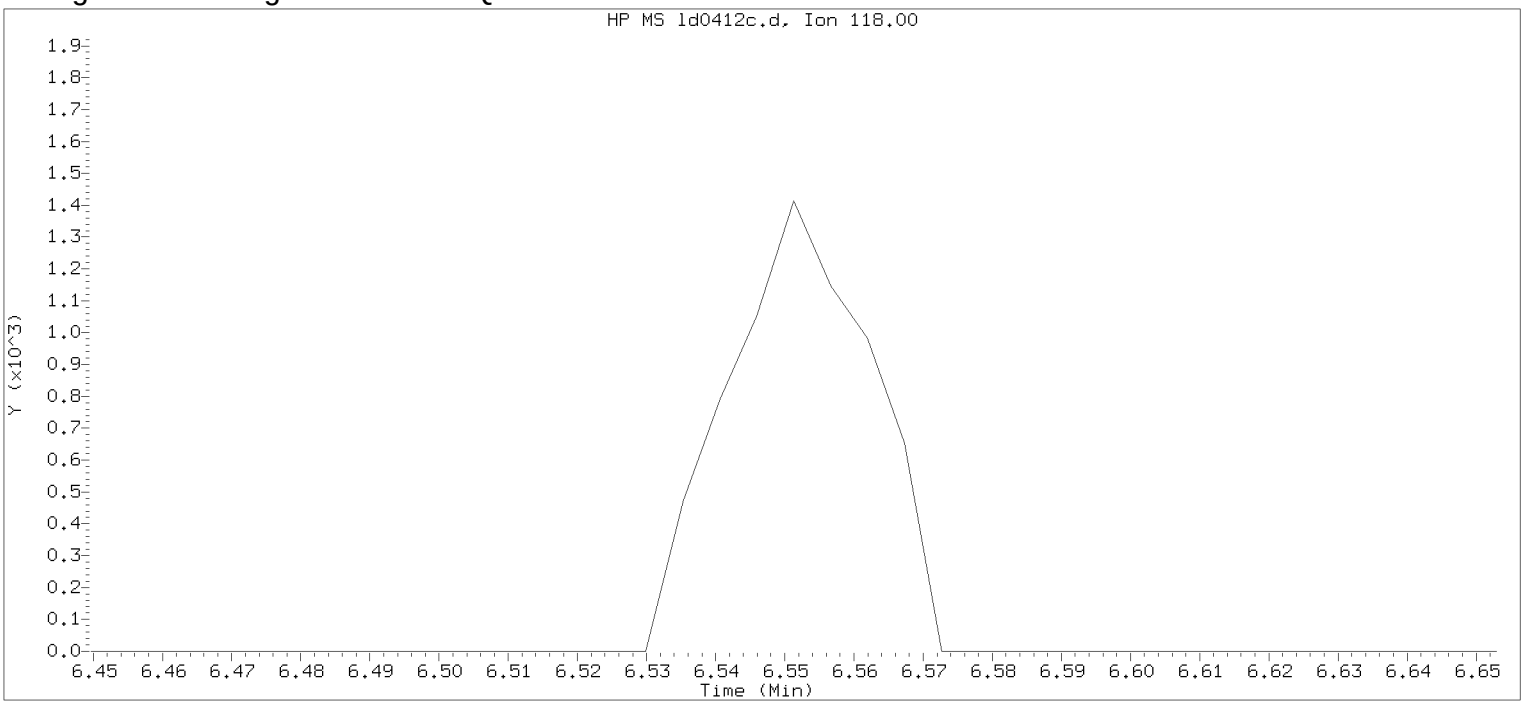
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0412c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 09:33 Analyst ID: hbz01996

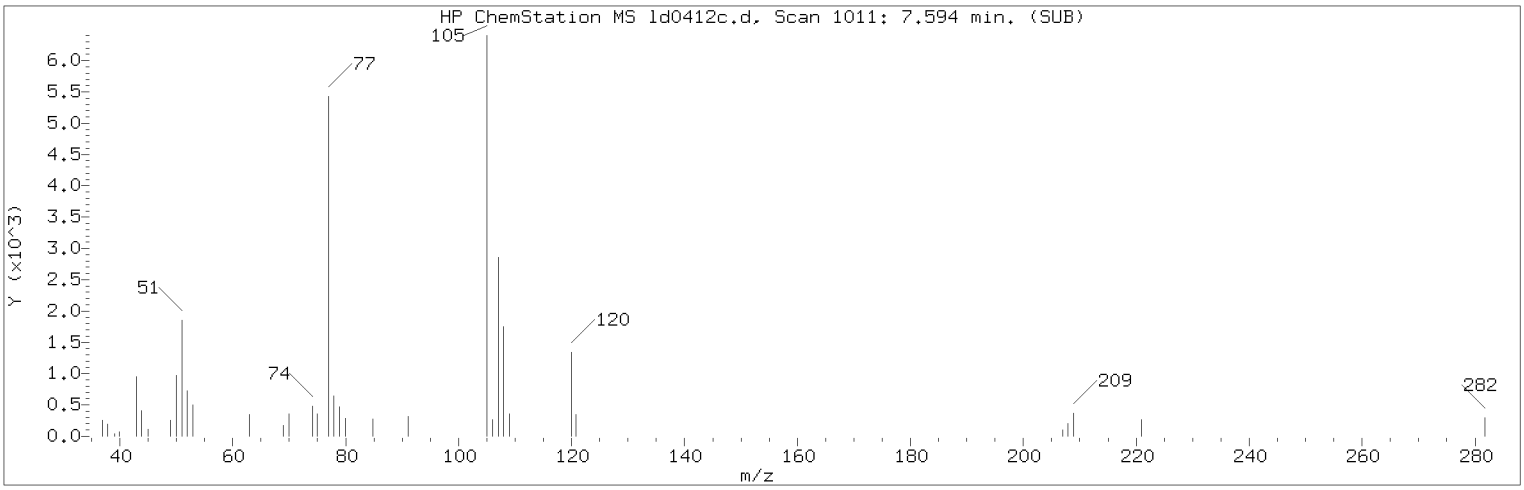
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

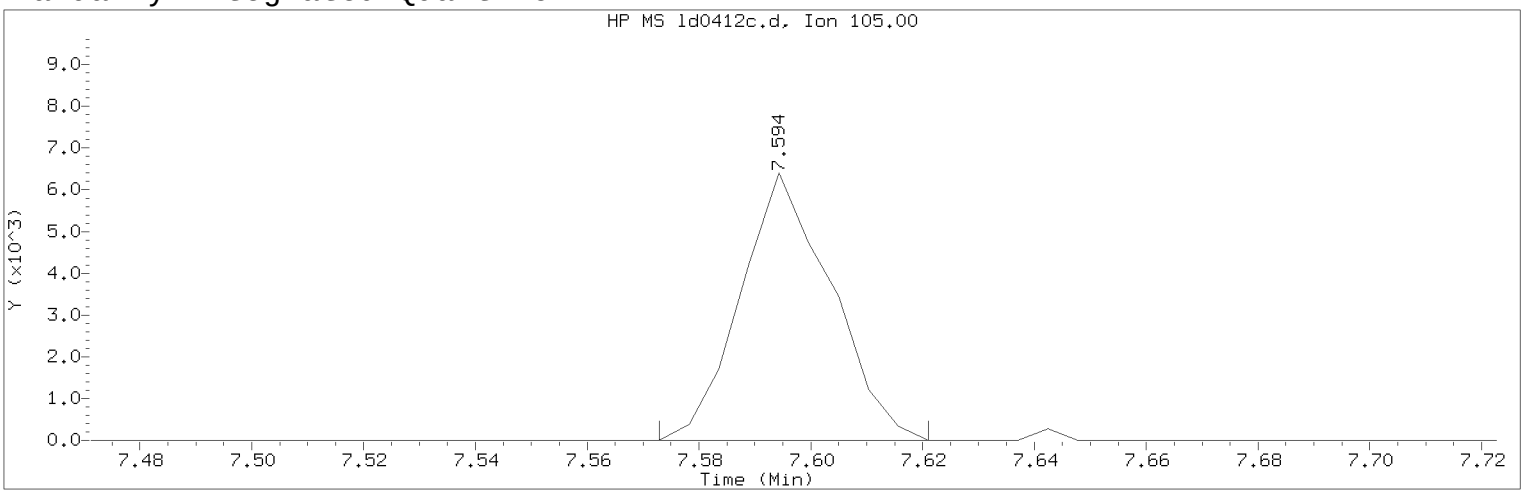
Compound Number : 20
Compound Name : a-methylstyrene
Expected RT (minutes) : 6.551
Quant Ion : 118.00

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user id: 1085 hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0412c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 09:33 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

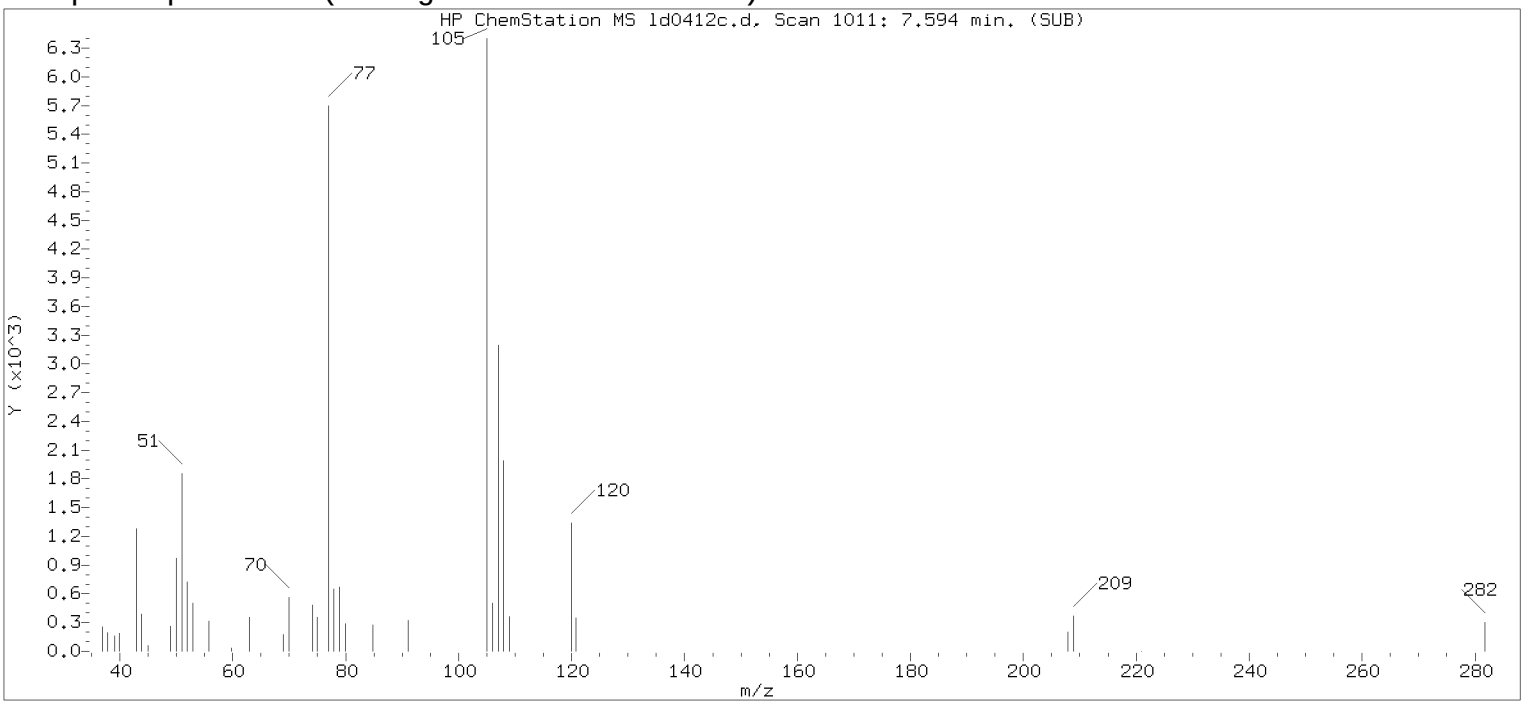
Compound Number : 36
Compound Name : Acetophenone
Scan Number : 1011
Retention Time (minutes) : 7.594
Quant Ion : 105.00
Area (flag) : 7213M
On-Column Amount (ng/ul) : 0.0732
Integration start scan : 1006 Integration stop scan: 1015
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

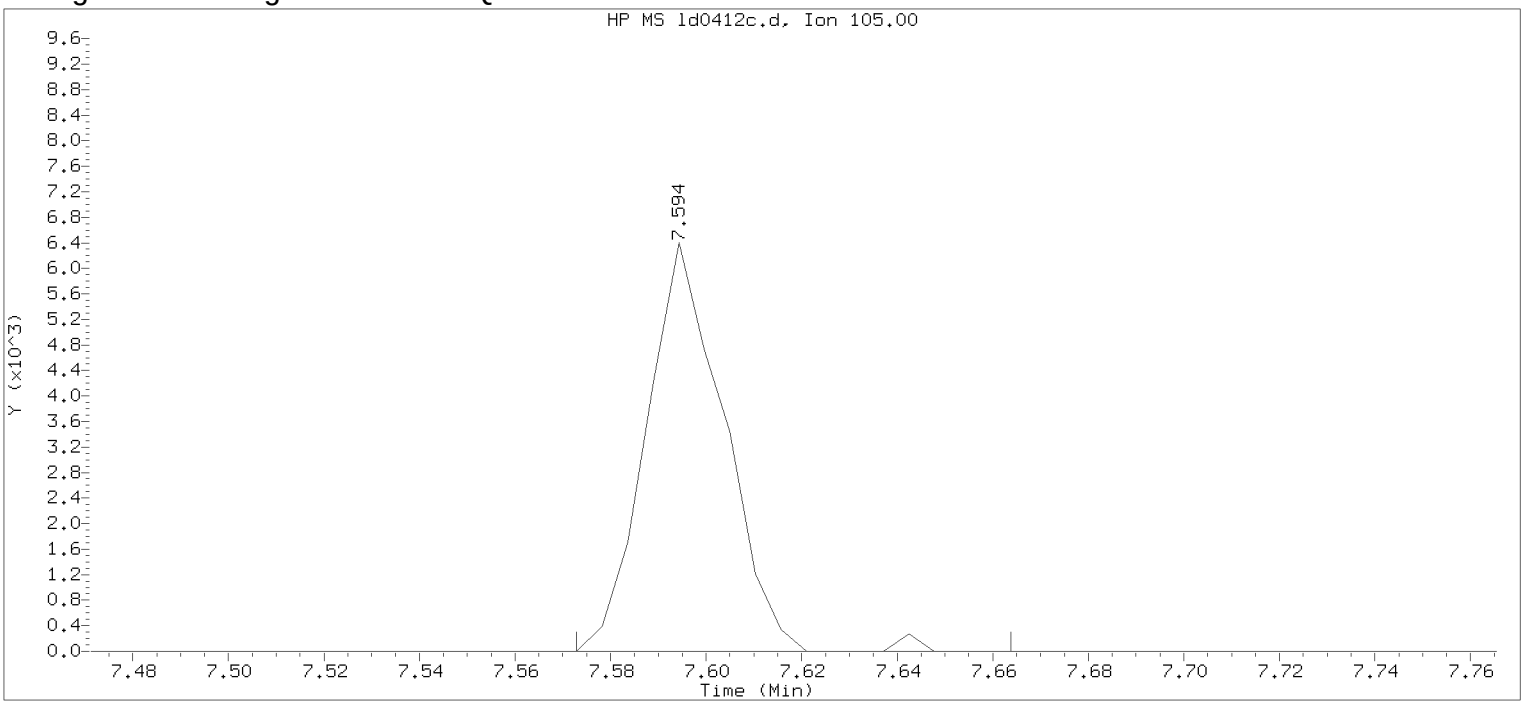
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0412c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 09:33 Analyst ID: hbz01996

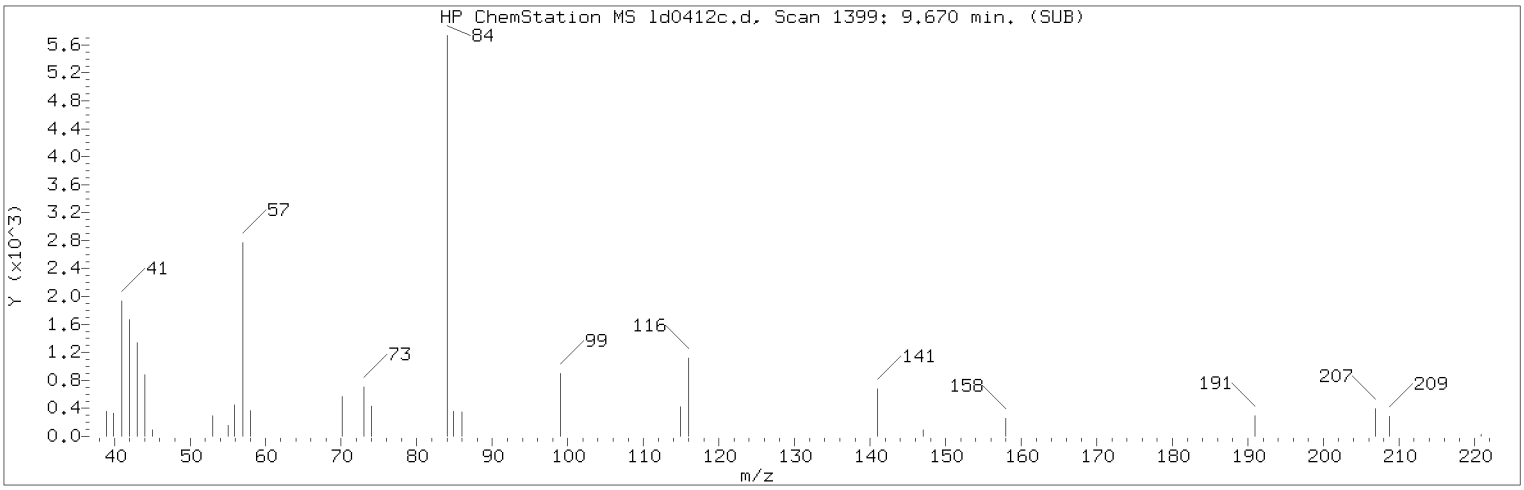
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

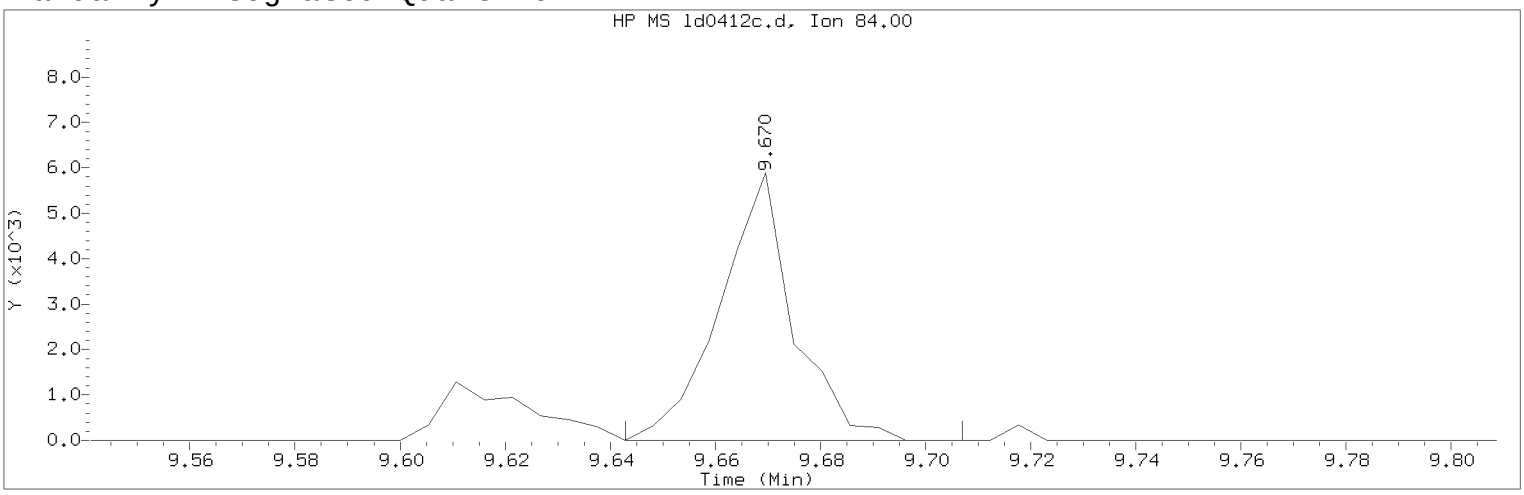
Compound Number : 36
Compound Name : Acetophenone
Scan Number : 1011
Retention Time (minutes) : 7.594
Quant Ion : 105.00
Area : 7300
On-column Amount (ng/ul) : 0.0782
Integration start scan : 1006 Integration stop scan: 1023
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user id: 1485 hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0412c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 09:33 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

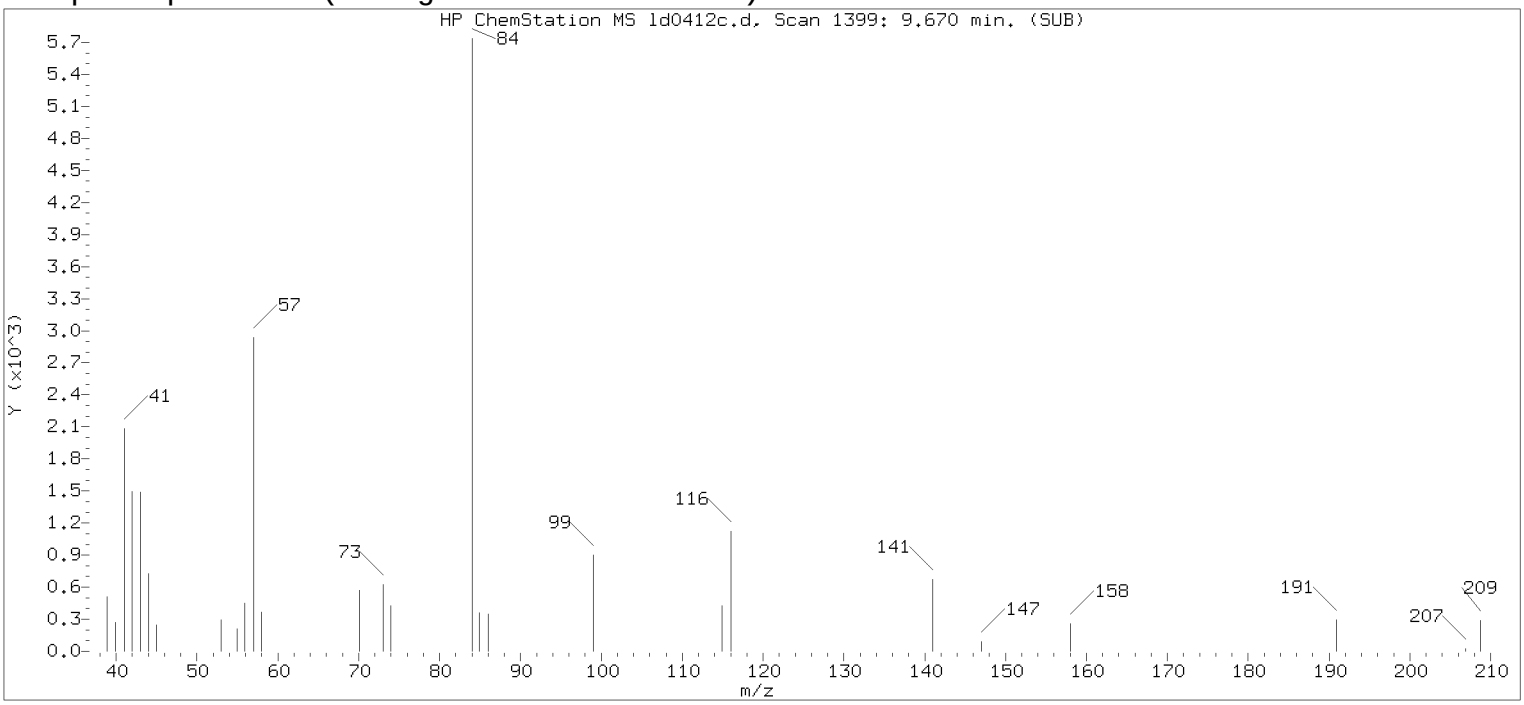
Compound Number : 77
Compound Name : N-Nitrosodi-n-butylamine
Scan Number : 1399
Retention Time (minutes) : 9.670
Quant Ion : 84.00
Area (flag) : 5707M
On-Column Amount (ng/ul) : 0.1147
Integration start scan : 1393 Integration stop scan: 1405
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

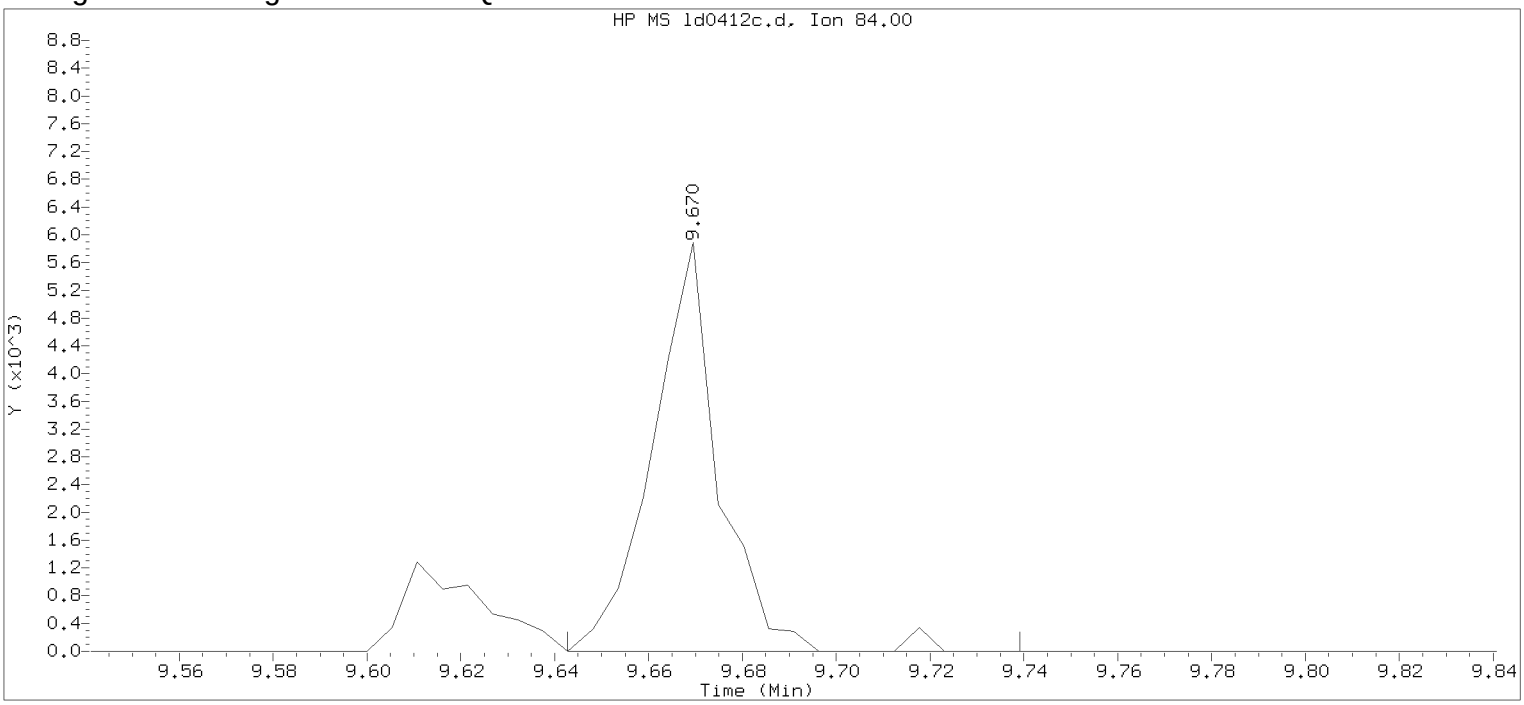
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0412c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 09:33 Analyst ID: hbz01996

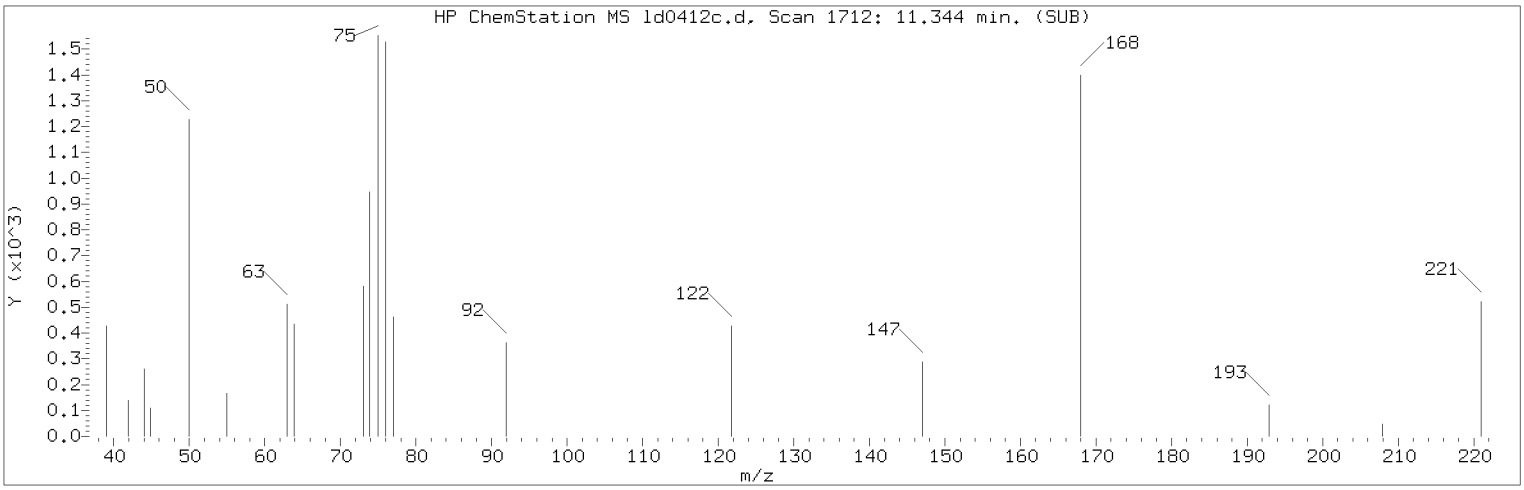
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

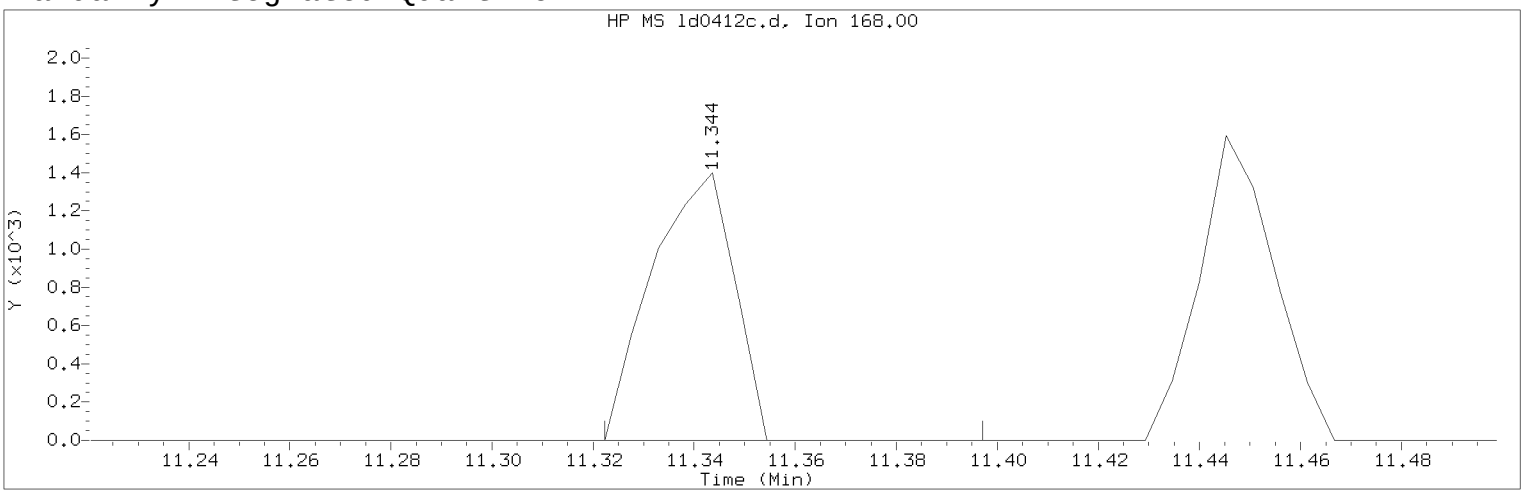
Compound Number : 77
Compound Name : N-Nitrosodi-n-butylamine
Scan Number : 1399
Retention Time (minutes) : 9.670
Quant Ion : 84.00
Area : 5816
On-column Amount (ng/ul) : 0.1040
Integration start scan : 1393 Integration stop scan: 1411
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: 1085

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0412c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 09:33 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

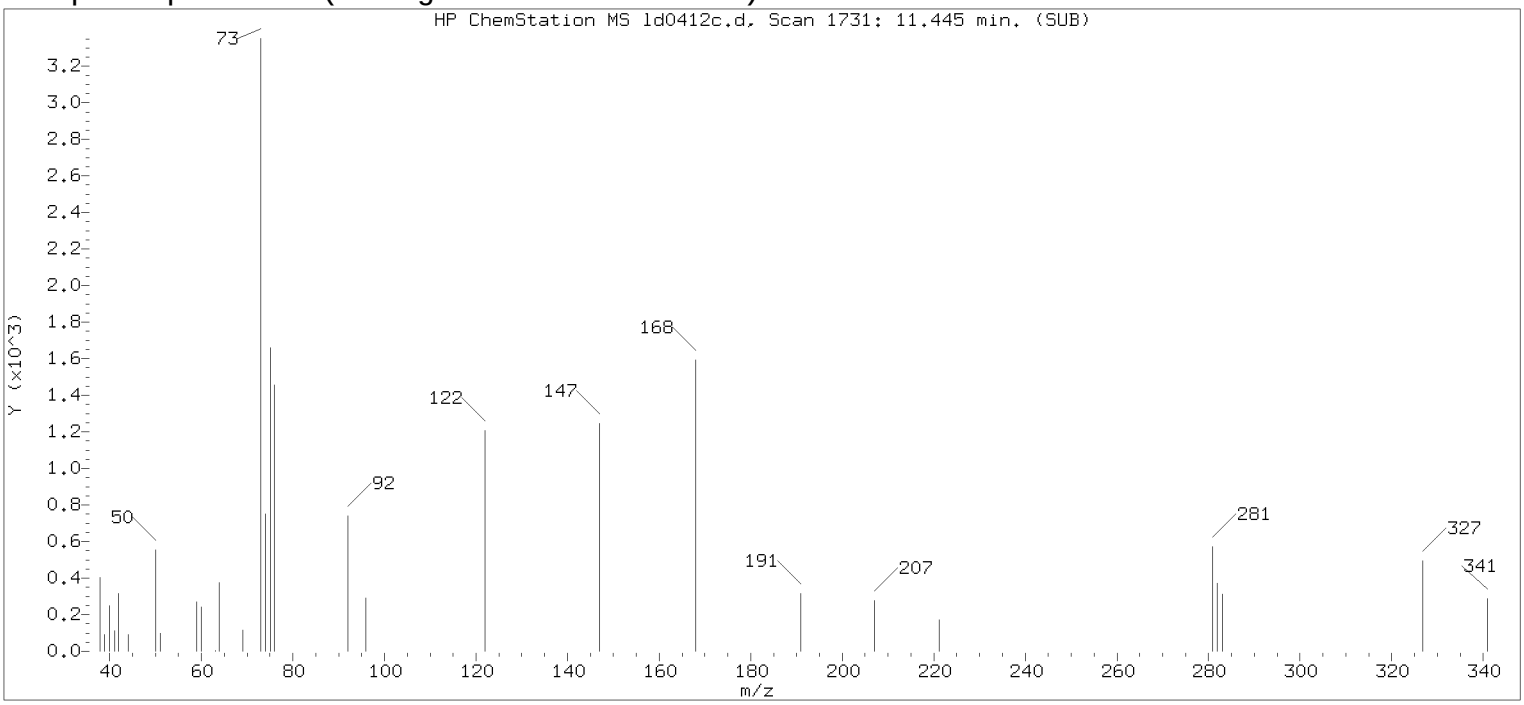
Compound Number : 105
Compound Name : 1,4-Dinitrobenzene
Scan Number : 1712
Retention Time (minutes) : 11.344
Quant Ion : 168.00
Area (flag) : 1576A
On-Column Amount (ng/ul) : 0.0912
Integration start scan : 1707 Integration stop scan: 1721
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

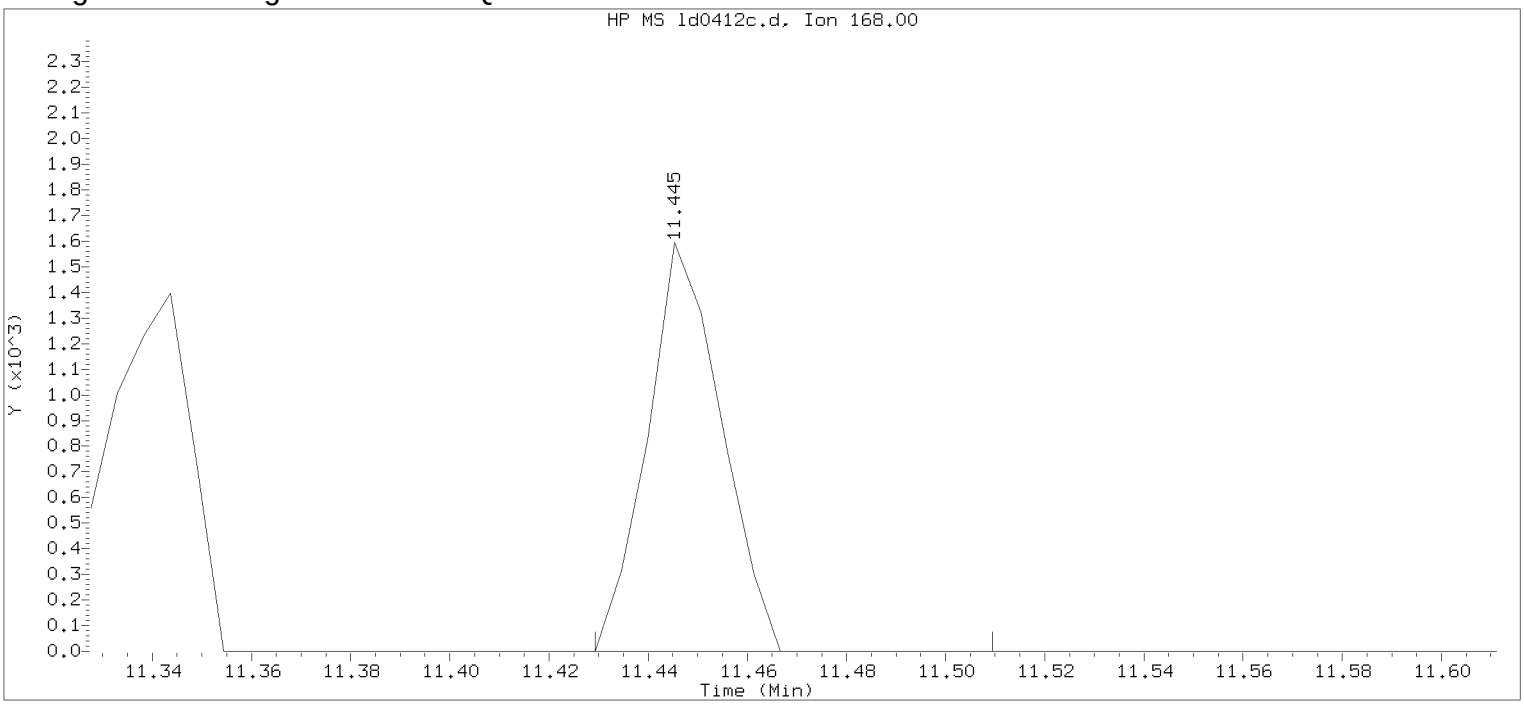
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0412c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 09:33 Analyst ID: hbz01996

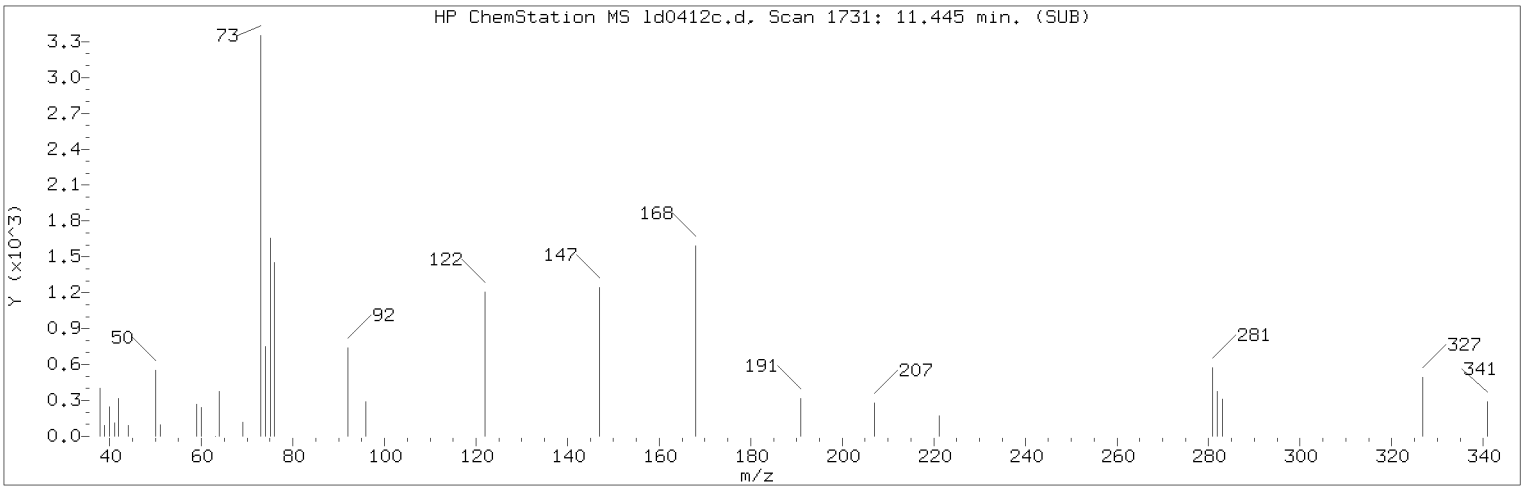
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

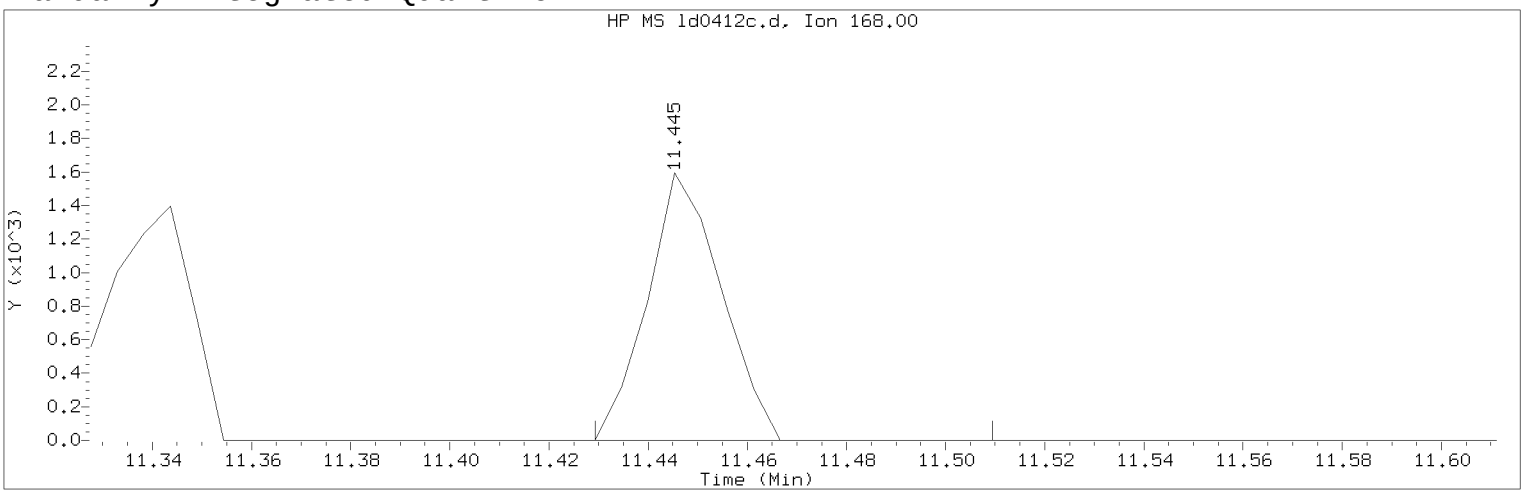
Compound Number : 105
Compound Name : 1,4-Dinitrobenzene
Scan Number : 1731
Retention Time (minutes) : 11.445
Quant Ion : 168.00
Area : 1646
On-column Amount (ng/ul) : 0.0868
Integration start scan : 1727 Integration stop scan: 1742
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user id: 1485 hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0412c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 09:33 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

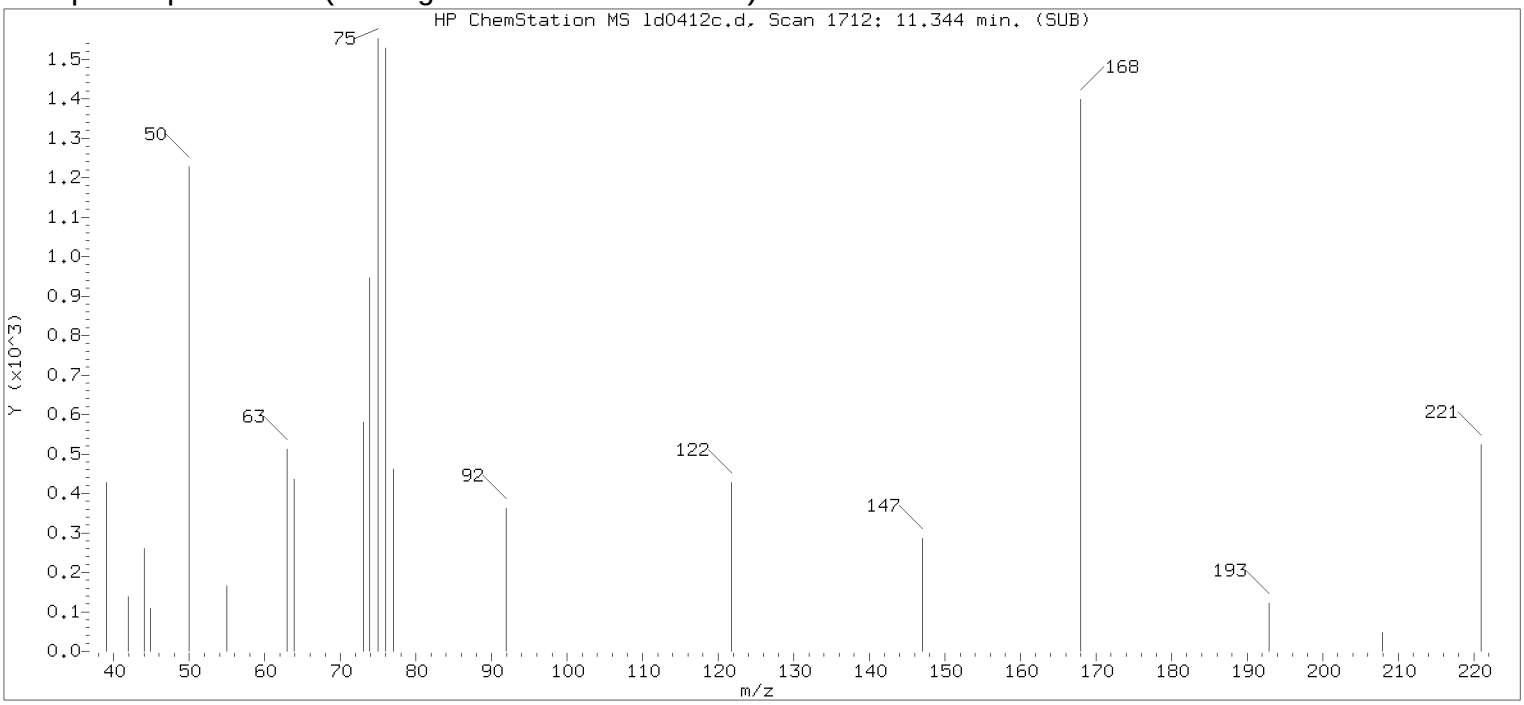
Compound Number : 107
Compound Name : 1,3-Dinitrobenzene
Scan Number : 1731
Retention Time (minutes) : 11.445
Quant Ion : 168.00
Area (flag) : 1646A
On-Column Amount (ng/ul) : 0.0844
Integration start scan : 1727 Integration stop scan: 1742
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

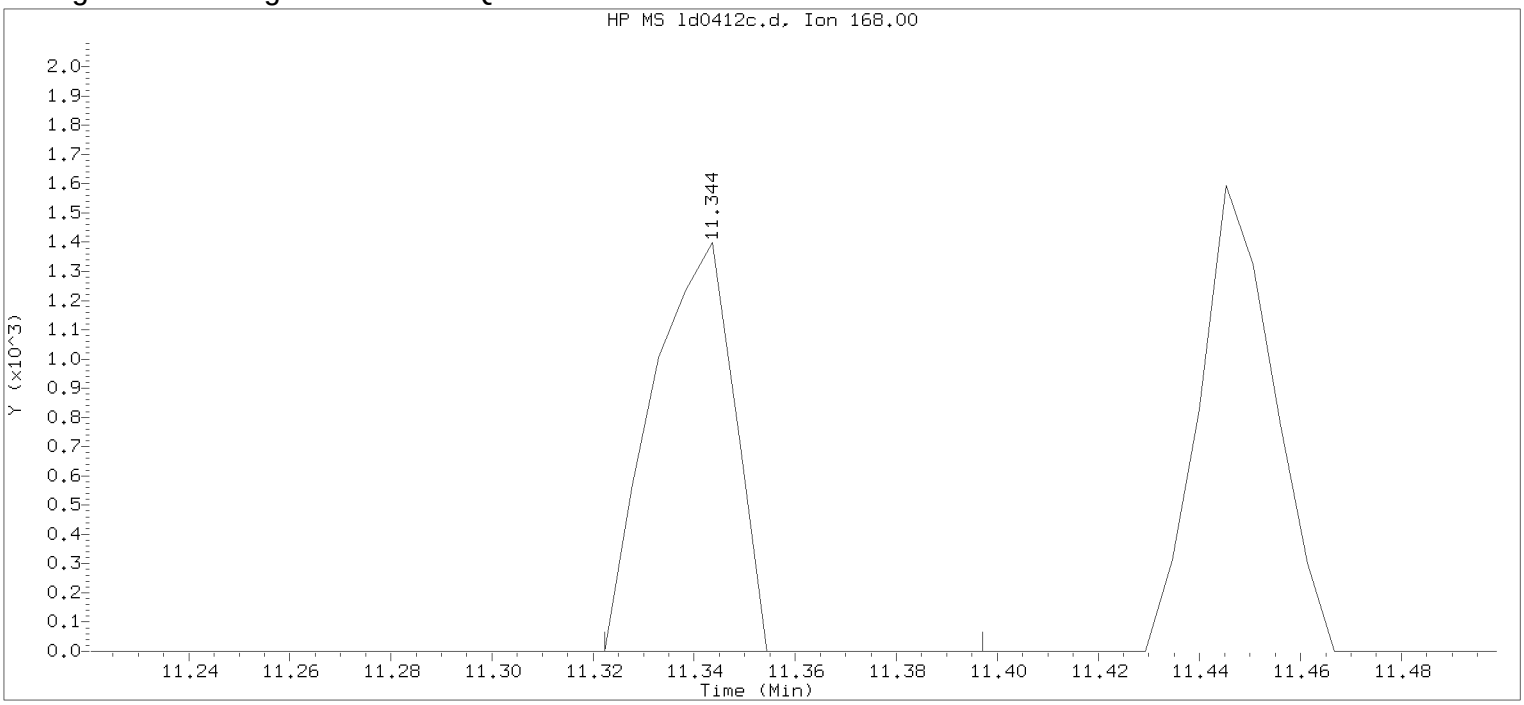
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0412c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 09:33 Analyst ID: hbz01996

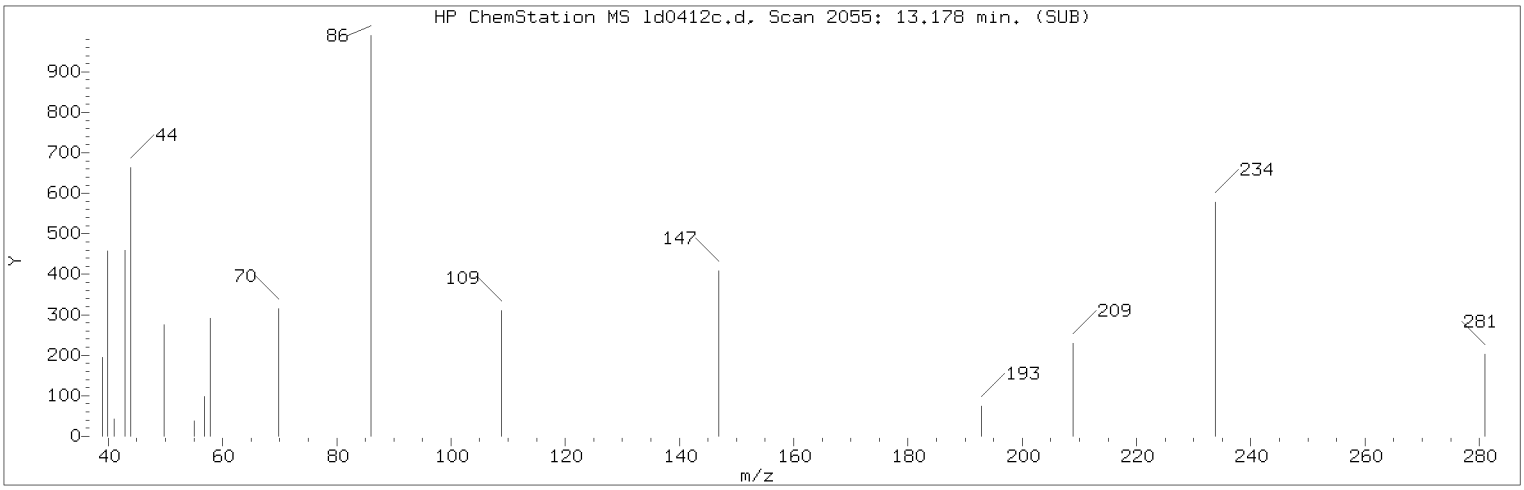
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

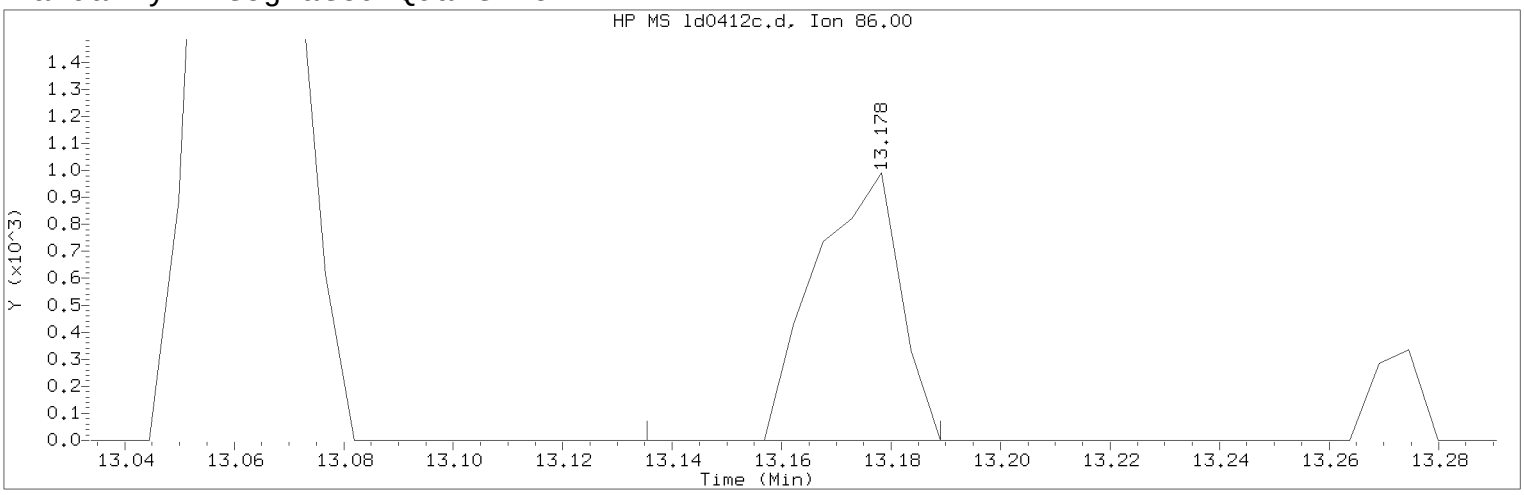
Compound Number : 107
Compound Name : 1,3-Dinitrobenzene
Scan Number : 1712
Retention Time (minutes) : 11.344
Quant Ion : 168.00
Area : 1576
On-column Amount (ng/ul) : 0.0766
Integration start scan : 1707 Integration stop scan: 1721
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user id: 1485 hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0412c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 09:33 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

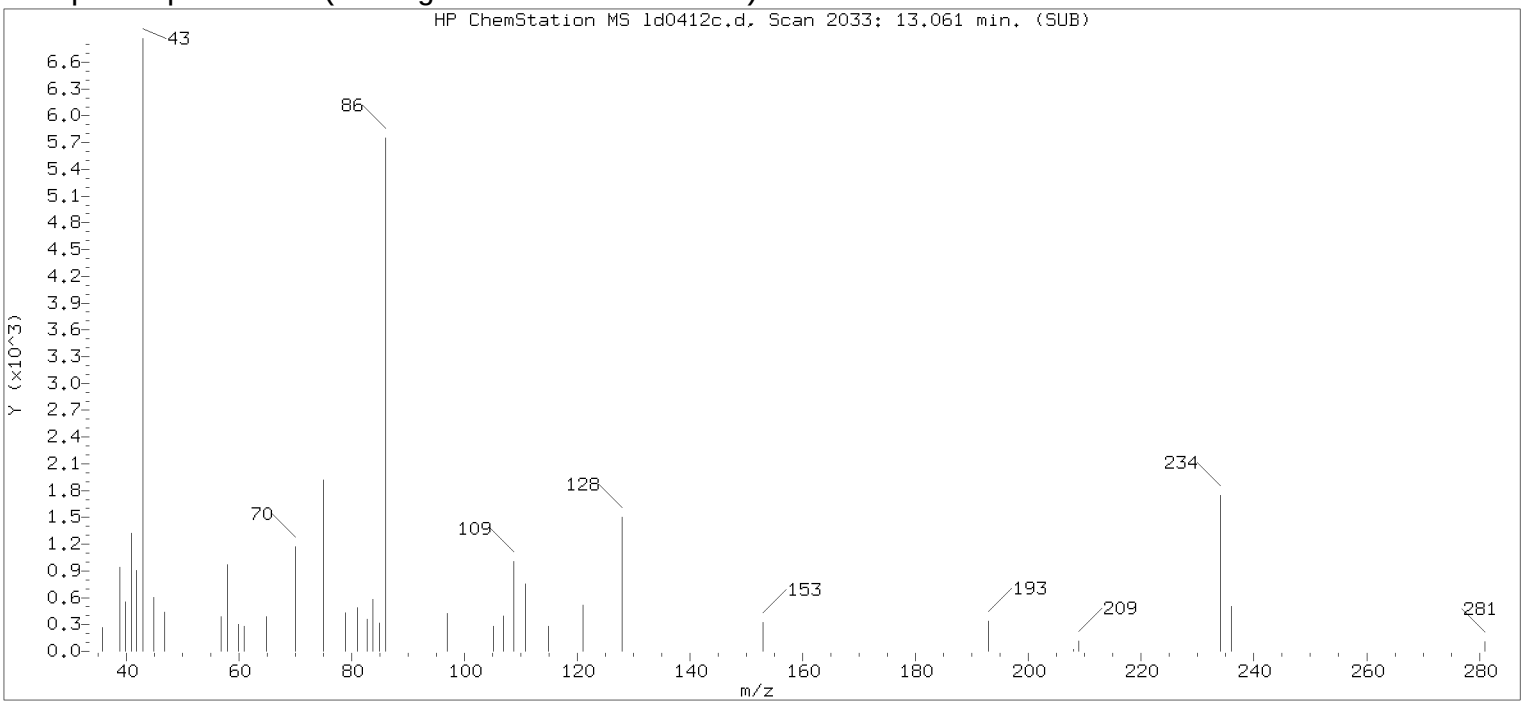
Compound Number : 144
Compound Name : Diallate (peak 2)
Scan Number : 2055
Retention Time (minutes) : 13.178
Quant Ion : 86.00
Area (flag) : 1063M
On-Column Amount (ng/ul) : 0.0210
Integration start scan : 2046 Integration stop scan: 2056
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

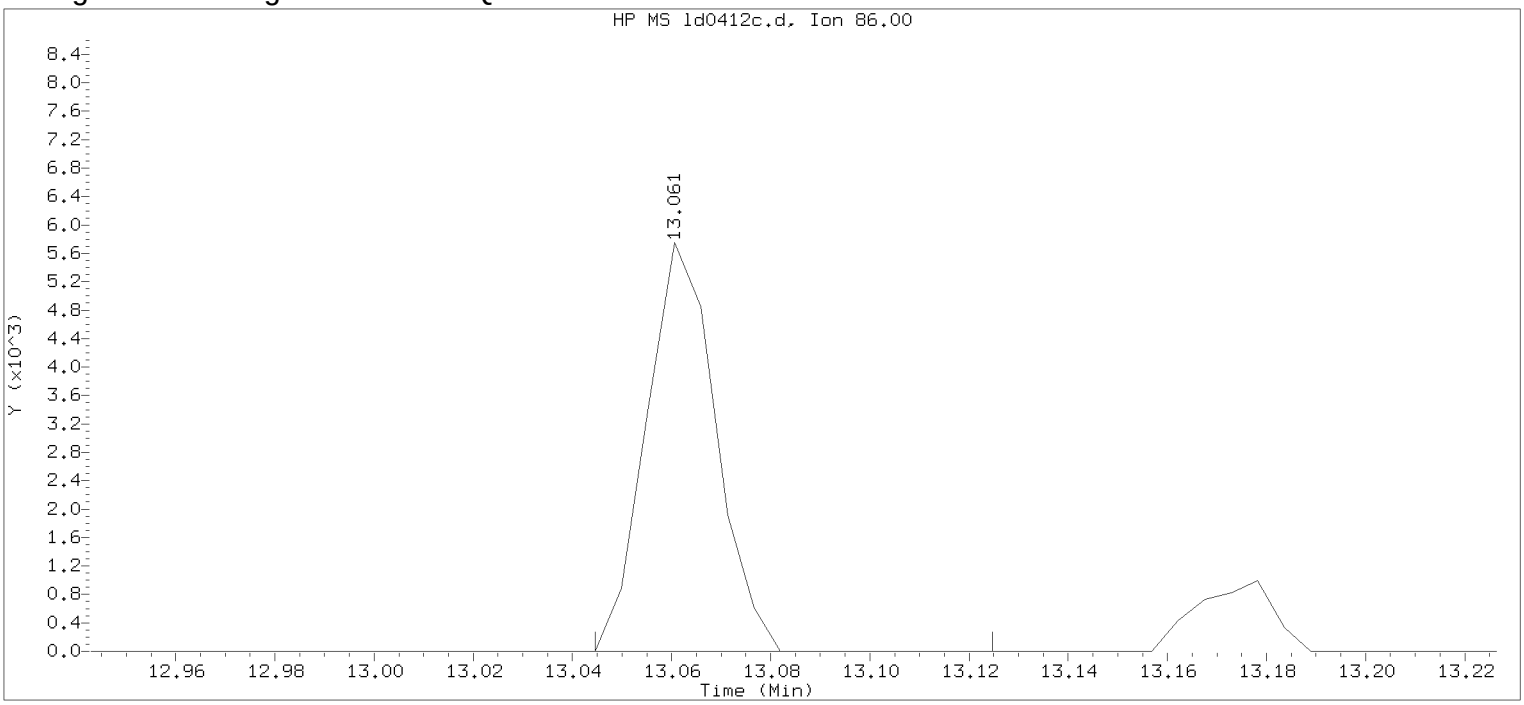
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0412c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 09:33 Analyst ID: hbz01996

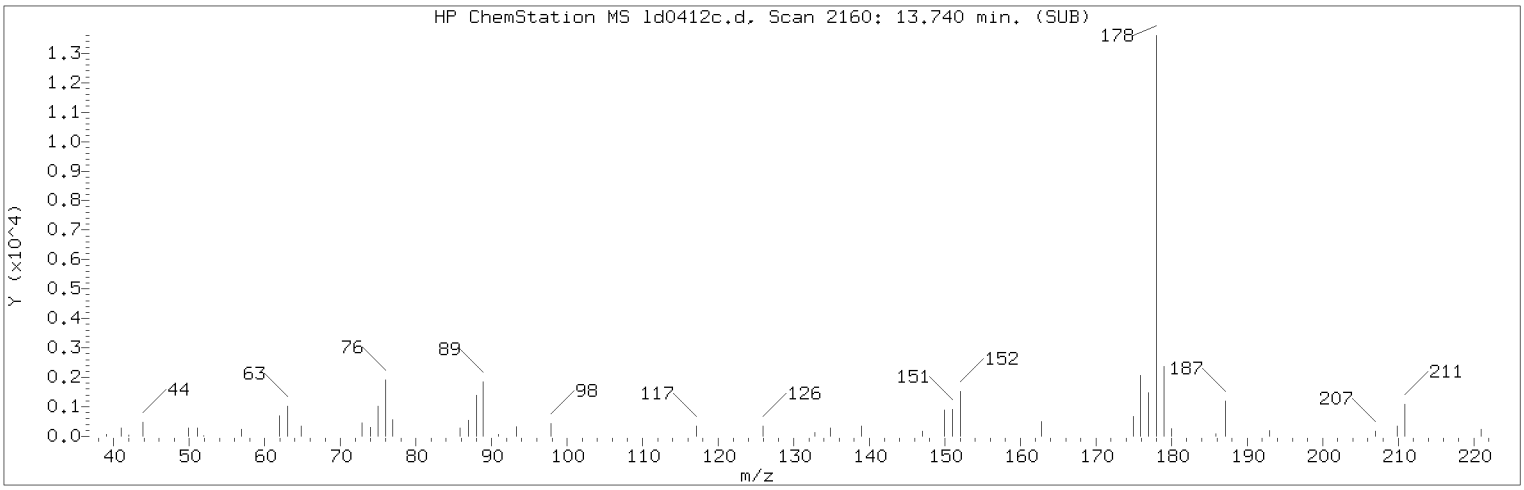
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

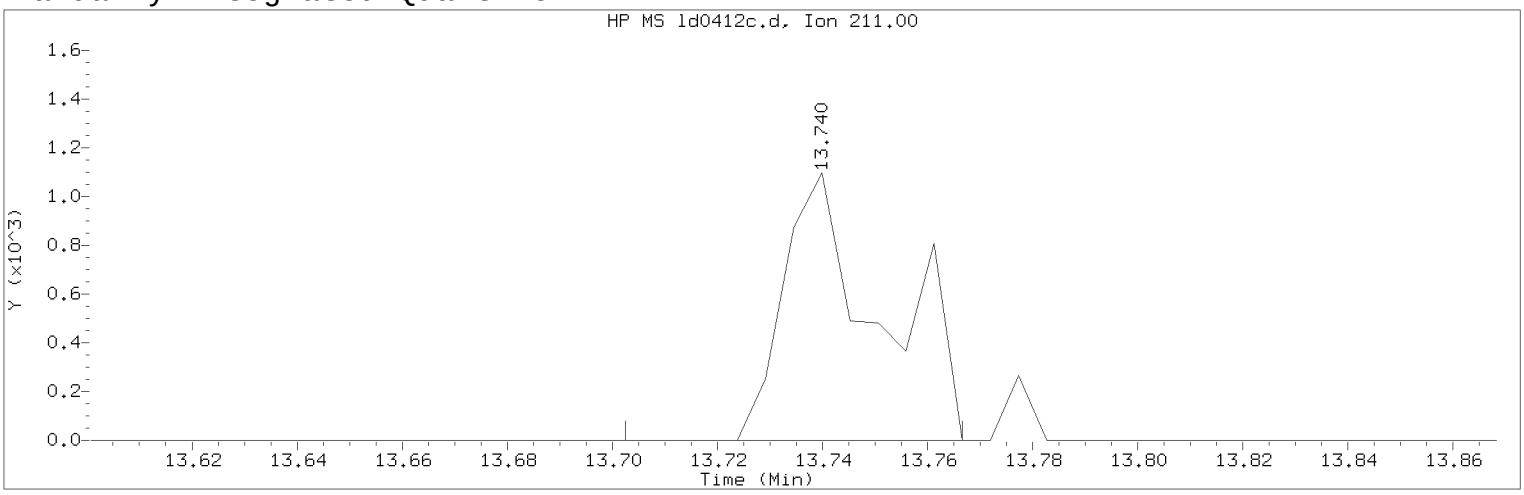
Compound Number : 144
Compound Name : Diallate (peak 2)
Scan Number : 2033
Retention Time (minutes) : 13.061
Quant Ion : 86.00
Area : 5584
On-column Amount (ng/ul) : 0.1060
Integration start scan : 2029 Integration stop scan: 2044
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user id: 1085

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0412c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 09:33 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

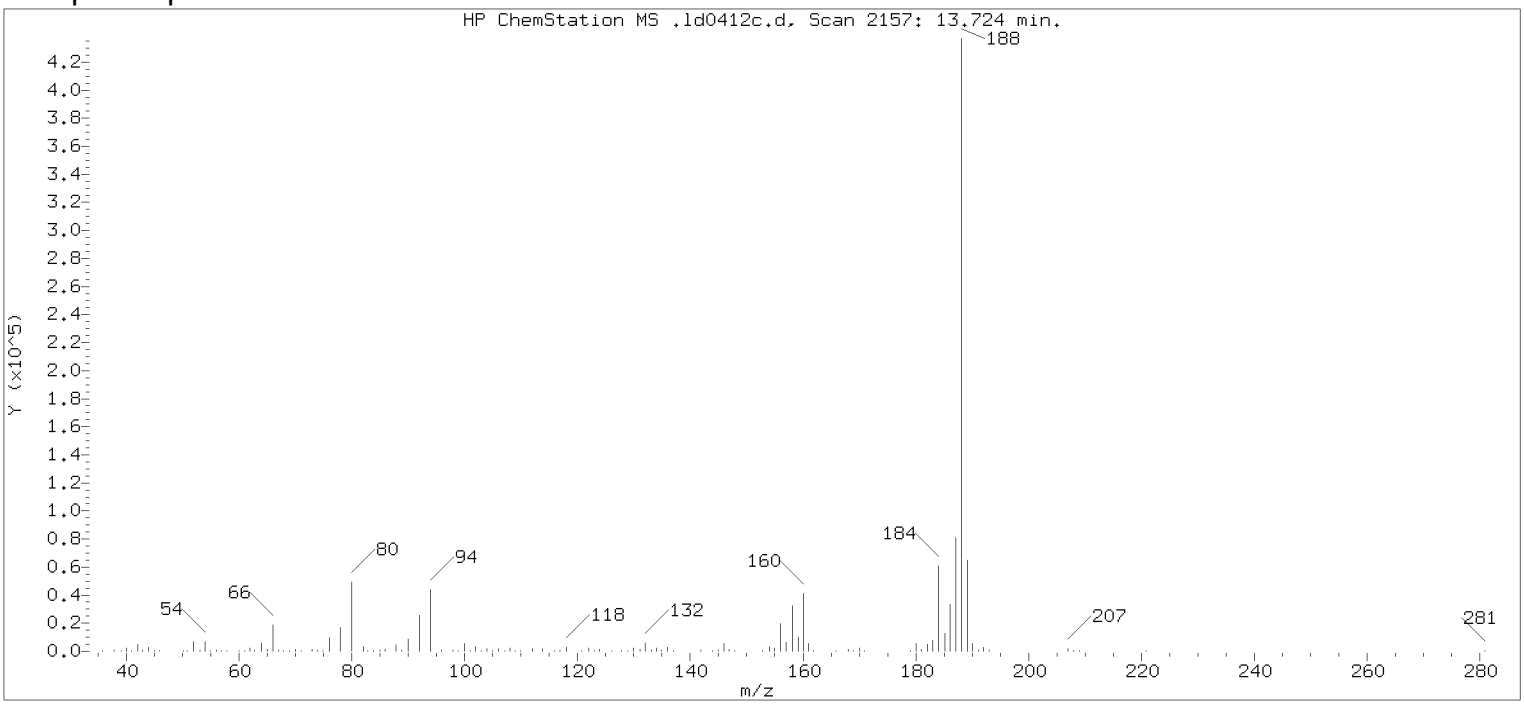
Compound Number : 154
Compound Name : Dinoseb
Scan Number : 2160
Retention Time (minutes) : 13.740
Quant Ion : 211.00
Area (flag) : 1403M
On-Column Amount (ng/ul) : 0.0422
Integration start scan : 2152 Integration stop scan: 2164
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

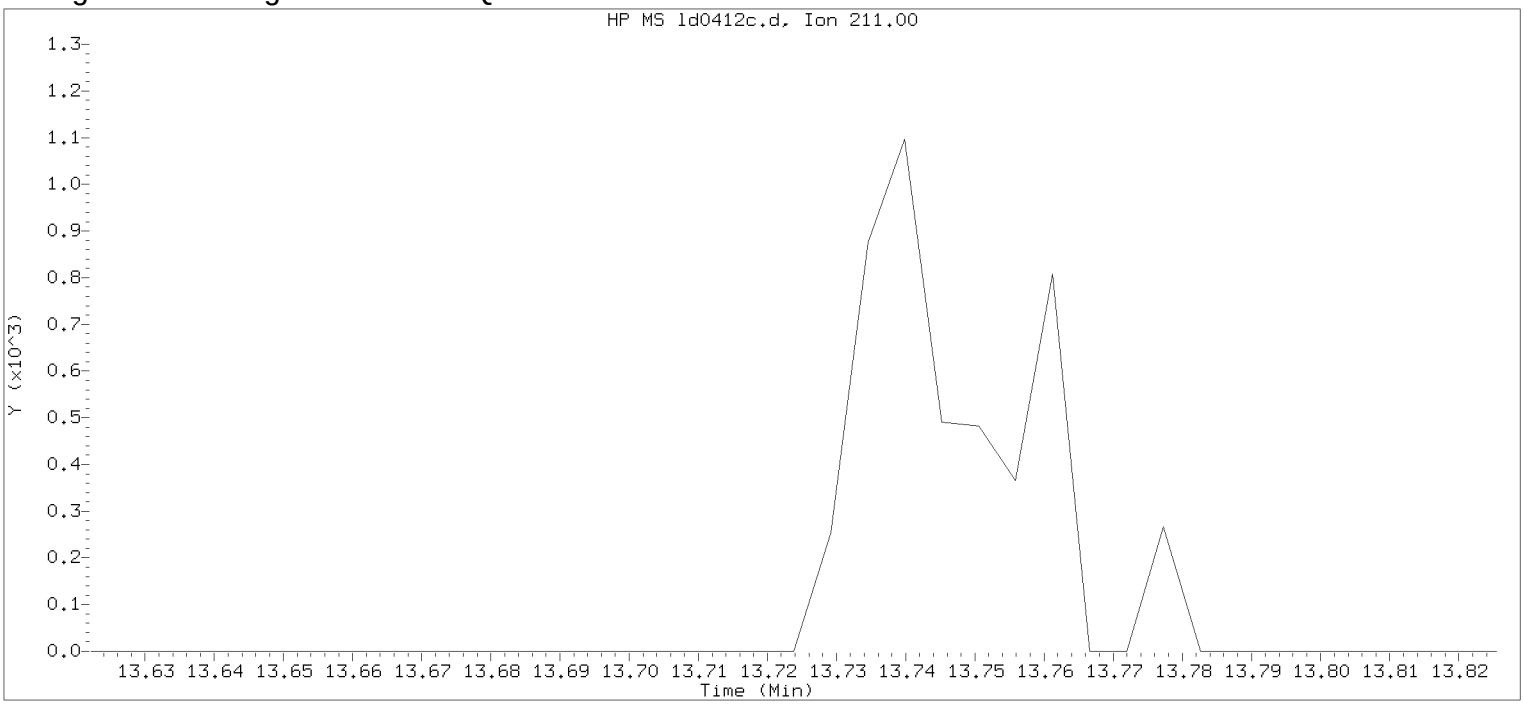
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0412c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 09:33 Analyst ID: hbz01996

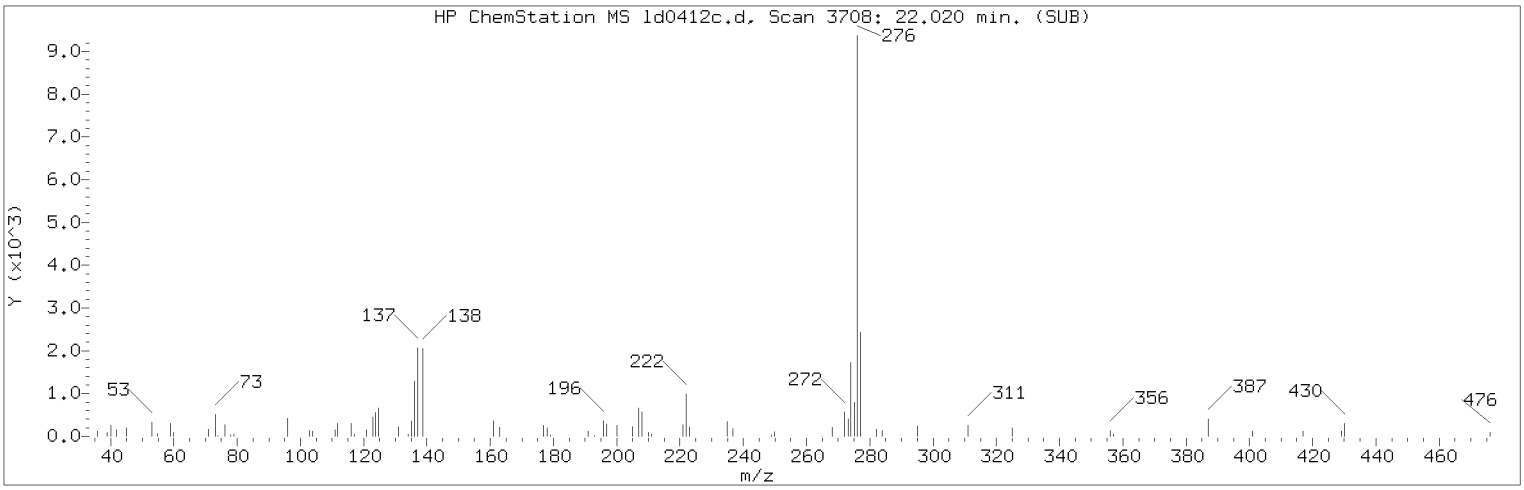
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

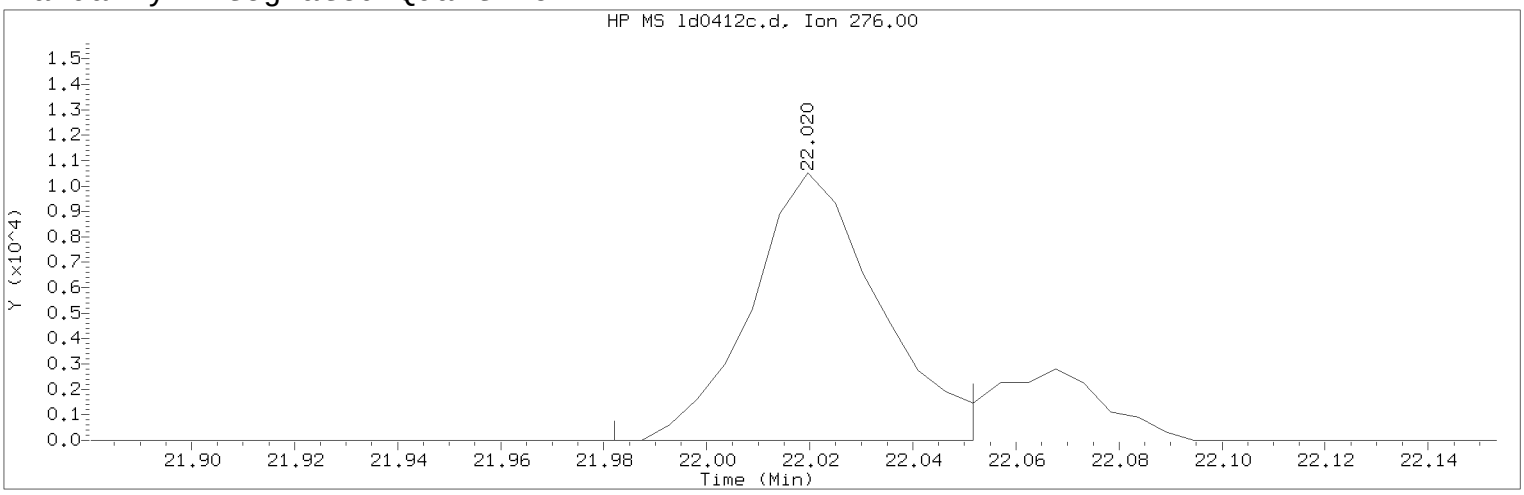
Compound Number : 154
Compound Name : Dinoseb
Expected RT (minutes) : 13.724
Quant Ion : 211.00

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: 1478

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0412c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 09:33 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

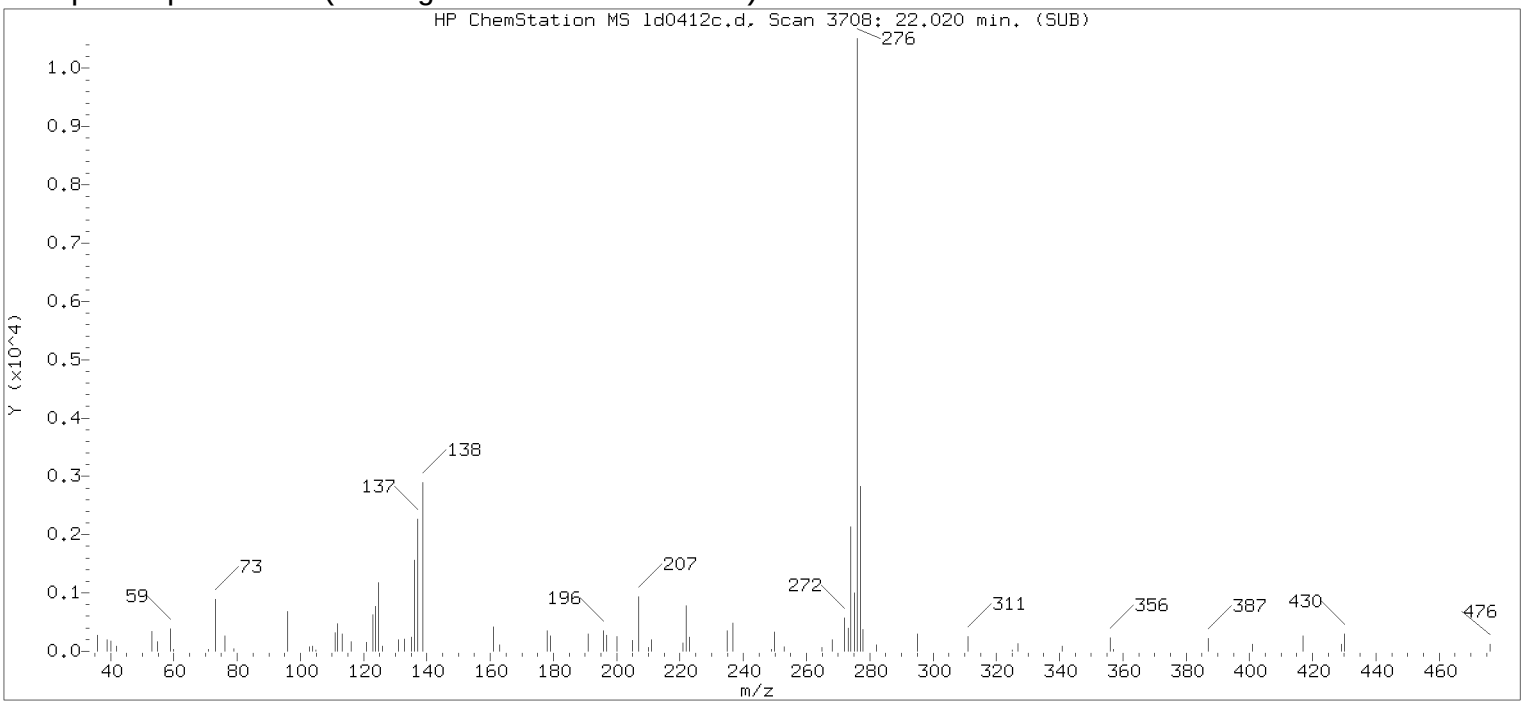
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3708
Retention Time (minutes) : 22.020
Quant Ion : 276.00
Area (flag) : 18076M
On-Column Amount (ng/ul) : 0.1194
Integration start scan : 3700 Integration stop scan: 3713
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

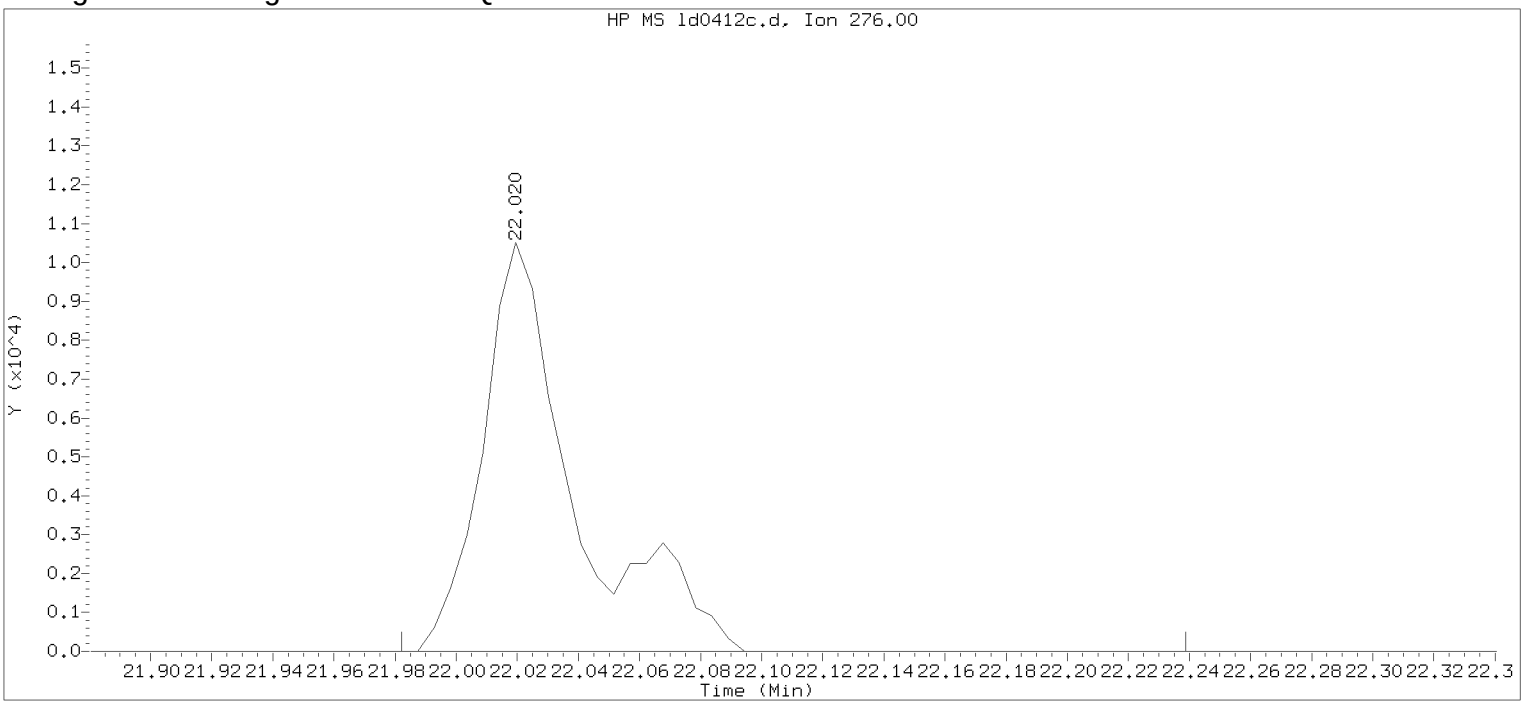
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



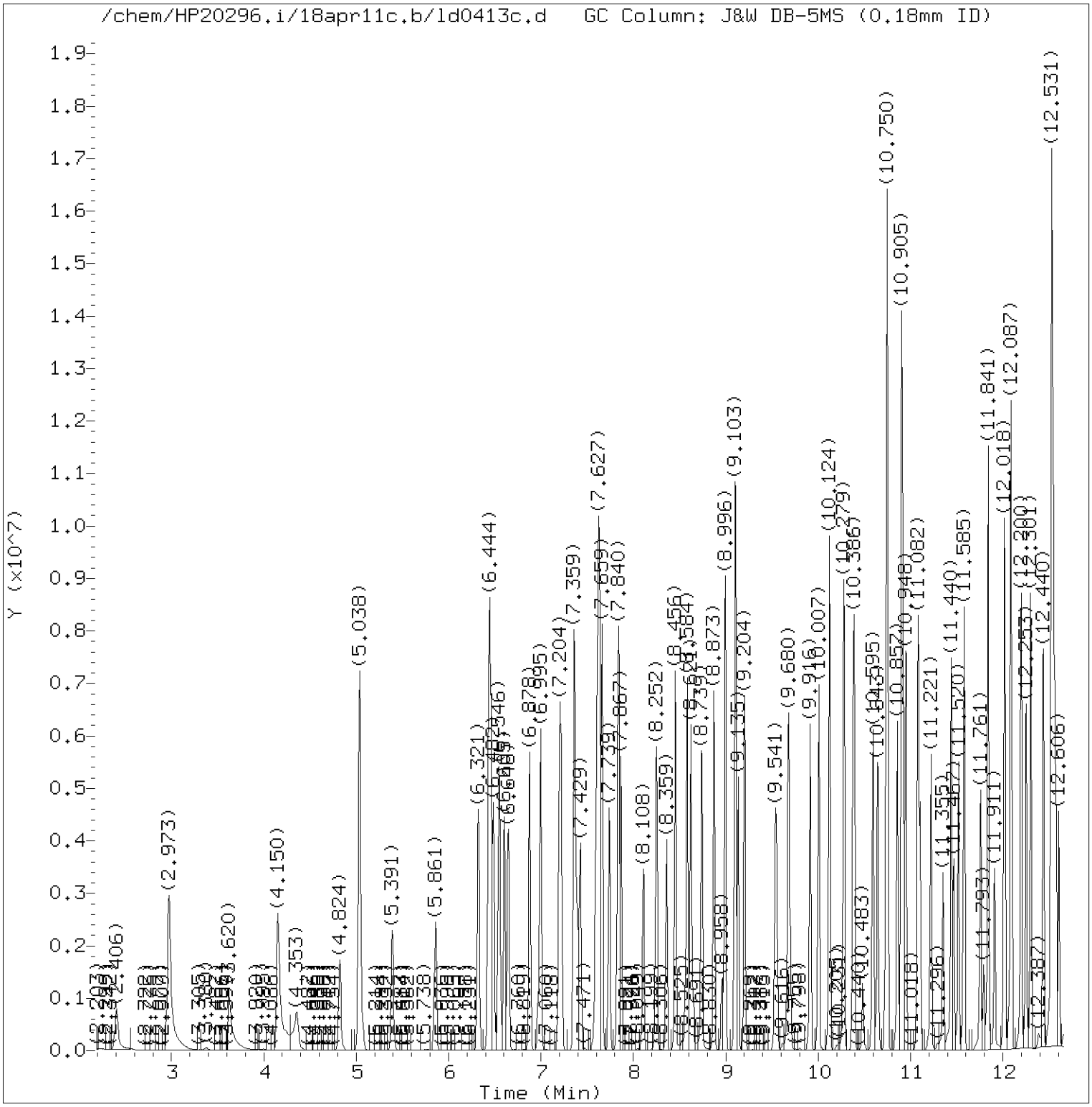
Data File: /chem/HP20296.i/18apr11c.b/ld0412c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 09:33 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.125 Lab Sample ID: rvSTD0968

Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3708
Retention Time (minutes) : 22.020
Quant Ion : 276.00
Area : 21912
On-column Amount (ng/ul) : 0.1270
Integration start scan : 3700 Integration stop scan: 3748
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user id: 1485 hbz01996



Total Ion Chromatogram (TIC)

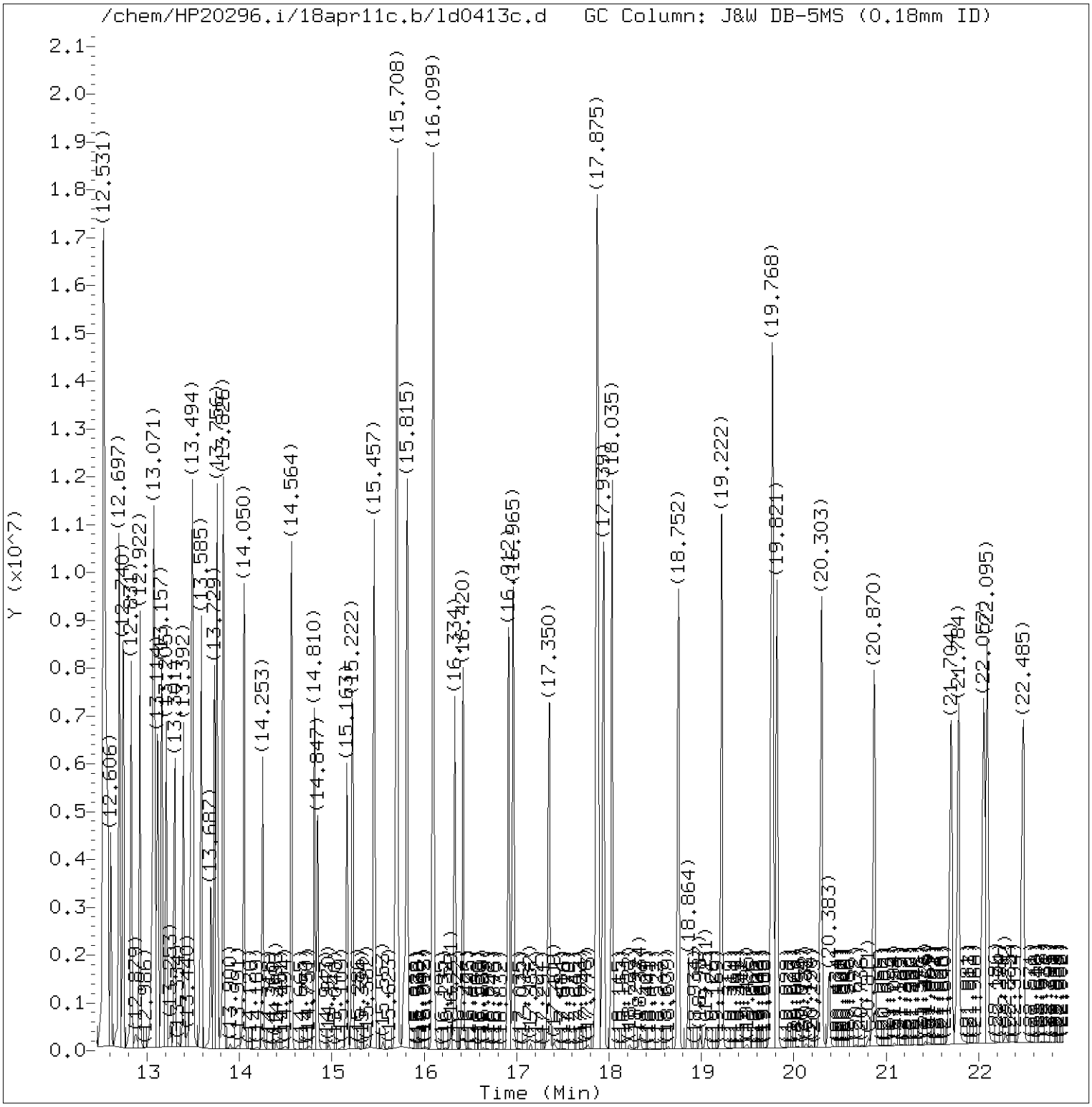
Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0413c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:01 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD30 Lab Sample ID: rvSTD0968

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0413c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:01 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD30 Lab Sample ID: rvSTD0968

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0413c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:01 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD30 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.406	88	843197	30.392
4) N-Nitrosodimethylamine	(1)	2.962	74	1314930	30.692
5) Pyridine	(1)	2.979	79	2301656	30.834
7) 2-Picoline	(1)	4.150	93	2315546	30.665
8) N-Nitrosomethylethylamine	(1)	4.353	88	925967	30.511
9) Methyl methanesulfonate	(1)	4.824	80	1119501	30.511
11)$2-Fluorophenol	(1)	5.038	112	3677169	60.934
13) N-Nitrosodiethylamine	(1)	5.391	102	908798	30.603
15) Ethyl methanesulfonate	(1)	5.861	109	946033	30.528
16) Benzaldehyde	(1)	6.321	77	1685843	30.000
17)$Phenol-d6	(1)	6.439	99	4725835	60.985
18) Phenol	(1)	6.461	94	2699814	30.262
19) Aniline	(1)	6.482	93	3163579	30.286
20) a-methylstyrene	(1)	6.551	118	688354	31.895
22) bis(2-Chloroethyl)ether	(1)	6.605	93	1985568	30.046
23) 2-Chlorophenol	(1)	6.648	128	1758393	30.036
24) 1,3-Dichlorobenzene	(1)	6.878	146	1988953	30.273
25)*1,4-Dichlorobenzene-d4	(1)	6.969	152	207168	5.000
26) 1,4-Dichlorobenzene	(1)	6.995	146	2007784	30.381
27) Benzyl alcohol	(1)	7.199	108	1197465	32.056
28) 1,2-Dichlorobenzene	(1)	7.220	146	1898276	30.081
30) Indene	(1)	7.359	115	2817861	31.726
31) 2-Methylphenol	(1)	7.375	108	1723793	30.342
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.429	45	2796772	30.179
34) bis(2-Chloroisopropyl)ether	(1)	7.429	45	2796772	30.179
35) N-Nitrosopyrrolidine	(1)	7.594	100	968109	30.815
36) Acetophenone	(1)	7.610	105	2781334	30.000
37) 4-Methylphenol	(1)	7.627	108	1814764	30.149
38) N-Nitroso-di-n-propylamine	(1)	7.637	70	1497881	30.311
40) o-Toluidine	(1)	7.659	106	2996457	29.975
42) Total Cresols	(1)			3538557	60.491
39) N-Nitrosomorpholine	(1)	7.664	56	1202908	29.960
43) Hexachloroethane	(1)	7.739	117	812726	30.128
44)$Nitrobenzene-d5	(2)	7.840	82	4323239	60.834
45) Nitrobenzene	(2)	7.867	77	2216952	30.353
48) N-Nitrosopiperidine	(2)	8.108	114	922717	30.887
50) Isophorone	(2)	8.252	82	3926402	30.849
51) 2-Nitrophenol	(2)	8.359	139	936165	31.200
53) 2,4-Dimethylphenol	(2)	8.456	107	1905409	30.276
57) O,O,O-Triethylphosphorothioate	(2)	8.584	198	907984	30.456

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

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0413c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:01 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD30 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
55) bis(2-Chloroethoxy)methane	(2)	8.621	93	2493378	30.533
56) Benzoic acid	(2)	8.653	105	1279179M	30.000
60) 2,4-Dichlorophenol	(2)	8.744	162	1511419	30.510
62) 1,2,4-Trichlorobenzene	(2)	8.873	180	1654622	30.434
65)*Naphthalene-d8	(2)	8.958	136	794008	5.000
66) Naphthalene	(2)	8.996	128	5220488	32.344
67) 4-Chloroaniline	(2)	9.103	127	2102691	30.545
68) 2,6-Dichlorophenol	(2)	9.108	162	1472357	30.401
69) Hexachloropropene	(2)	9.135	213	1169148	30.553
71) Hexachlorobutadiene	(2)	9.204	225	1004781	30.157
75) Quinoline	(2)	9.541	129	3215304	30.775
77) N-Nitrosodi-n-butylamine	(2)	9.680	84	1768188	30.000
76) Caprolactam	(2)	9.702	113	443497M	29.727
80) 4-Chloro-3-methylphenol	(2)	9.916	107	1663176	30.599
82) Safrole	(2)	10.012	162	1343460	30.561
83) 2-Methylnaphthalene	(2)	10.124	142	3461545	32.477
84) 1-Methylnaphthalene	(2)	10.279	142	3133760	31.628
85) Hexachlorocyclopentadiene	(3)	10.381	237	1029792	30.464
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.392	216	1687944	30.140
88) cis-Isosafrole	(3)	10.483	162	253947	5.199
90) 2,4,6-Trichlorophenol	(3)	10.595	196	1159881	31.225
92) 2,4,5-Trichlorophenol	(3)	10.649	196	1153054	30.081
97) Isosafrole	(3)			1585940	30.689
93)$2-Fluorobiphenyl	(3)	10.750	172	7626208	59.679
94) trans-Isosafrole	(3)	10.857	162	1331993	25.490
95) 1,1'-Biphenyl	(3)	10.905	154	4170989	30.000
96) 2-Chloronaphthalene	(3)	10.921	162	3617887	31.562
98) 1-Chloronaphthalene	(3)	10.953	162	2733102	28.066
99) Diphenyl ether	(3)	11.082	170	2224404	30.203
100) 2-Nitroaniline	(3)	11.103	138	1057586	30.859
104) 1,4-Naphthoquinone	(3)	11.221	158	1359202	30.571
105) 1,4-Dinitrobenzene	(3)	11.355	168	551320A	31.601
106) Dimethylphthalate	(3)	11.440	163	3534822	29.347
107) 1,3-Dinitrobenzene	(3)	11.467	168	609571MA	31.295
108) 2,6-Dinitrotoluene	(3)	11.520	165	856159	30.682
109) Acenaphthylene	(3)	11.585	152	4906592	32.270
112) 3-Nitroaniline	(3)	11.761	138	933785	31.327
113)*Acenaphthene-d10	(3)	11.793	164	408206	5.000
114) Acenaphthene	(3)	11.841	153	3310637	30.317
115) 2,4-Dinitrophenol	(3)	11.911	184	512408	32.299

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

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0413c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:01 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD30 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120) 2,4_2,6-Dinitrotoluenes	(3)			1961348	61.008
116) 4-Nitrophenol	(3)	12.018	109	601572	30.676
117) Pentachlorobenzene	(3)	12.023	250	1365555	30.023
119) Dibenzofuran	(3)	12.087	168	4525287	29.779
118) 2,4-Dinitrotoluene	(3)	12.098	165	1105189	30.325
121) 1-Naphthylamine	(3)	12.200	143	3366289	31.231
122) 2,3,4,6-Tetrachlorophenol	(3)	12.253	232	943272	31.149
123) 2-Naphthylamine	(3)	12.301	143	3273521	32.022
124) Diethylphthalate	(3)	12.440	149	3610382	29.773
126) Fluorene	(3)	12.526	166	3600101	30.665
125) Thionazin	(3)	12.531	107	618391	29.979
127) 4-Chlorophenyl-phenylether	(3)	12.547	204	1759094	30.287
128) 5-Nitro-o-toluidine	(3)	12.558	152	1035448	30.744
129) 4-Nitroaniline	(3)	12.574	138	880532	30.117
130) 4,6-Dinitro-2-methylphenol	(4)	12.606	198	681438	31.587
131) N-Nitrosodiphenylamine	(4)	12.697	169	3042917	30.842
132) NDPA as diphenylamine	(4)	12.697	169	3042917	30.842
134) 1,2-Diphenylhydrazine	(4)	12.740	77	4184961	30.312
135)$2,4,6-Tribromophenol	(3)	12.831	330	915372	62.342
137) Tetraethyldithiopyrophosphate	(4)	12.922	97	696516	30.117
146) Diallate trans/cis	(4)			1802887	30.301
139) 1,3,5-Trinitrobenzene	(4)	13.055	213	426345	32.082
140) Diallate (peak 1)	(4)	13.066	86	1535641	25.037
141) Phorate	(4)	13.082	75	2634716	29.521
142) Phenacetin	(4)	13.114	108	2057034	31.042
143) 4-Bromophenyl-phenylether	(4)	13.157	248	1013064	30.679
144) Diallate (peak 2)	(4)	13.173	86	267246	5.264
145) Hexachlorobenzene	(4)	13.210	284	1017646	29.995
147) Dimethoate	(4)	13.301	87	1647643	30.495
148) Atrazine	(4)	13.398	200	945383	28.729
149) Pentachlorophenol	(4)	13.473	266	684970	32.219
151) Pentachloronitrobenzene	(4)	13.489	237	505442	30.974
150) 4-Aminobiphenyl	(4)	13.494	169	3548632	30.830
152) Pronamide	(4)	13.585	173	1793247	30.472
153)*Phenanthrene-d10	(4)	13.724	188	799312	5.000
154) Dinoseb	(4)	13.729	211	1144773	32.494
155) Phenanthrene	(4)	13.756	178	5583835	31.230
157) Anthracene	(4)	13.826	178	5535771	31.506
163) Carbazole	(4)	14.050	167	4969725	30.796
164) Methyl parathion	(4)	14.253	109	1316372	31.223

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

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0413c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:01 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD30 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
165) Di-n-butylphthalate	(4)	14.564	149	6666427	30.993
167) Parathion	(4)	14.810	109	879624	32.041
168) 4-Nitroquinoline-1-oxide	(4)	14.847	190	733096	30.000
169) Octachlorostyrene	(4)	15.163	308	403649	32.257
171) Isodrin	(4)	15.222	193	671141	30.720
173) Fluoranthene	(4)	15.462	202	6394996	32.104
174) Benzidine	(5)	15.708	184	11458735	91.738
175)*Pyrene-d10	(5)	15.778	212	842063	5.000
177) Pyrene	(5)	15.815	202	6497355	30.383
179)$Terphenyl-d14	(5)	16.099	244	8210731	60.206
182) p-Dimethylaminoazobenzene	(5)	16.334	225	1148123	30.000
185) Chlorobenzilate	(5)	16.420	139	1990409	30.714
187) 3,3'-Dimethylbenzidine	(5)	16.912	212	4451885	31.256
188) Butylbenzylphthalate	(5)	16.965	149	3162723	30.905
191) 2-Acetylaminofluorene	(5)	17.350	181	2657663	31.909
193) 3,3'-Dichlorobenzidine	(5)	17.864	252	2225516	31.103
195) Benzo(a)anthracene	(5)	17.875	228	6146650	32.335
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.885	231	1298349	30.887
196) Chrysene	(5)	17.939	228	5752746	31.371
199) bis(2-Ethylhexyl)phthalate	(5)	18.035	149	4518546	31.153
203) 6-Methylchrysene	(5)	18.752	242	4135345	31.085
205) Di-n-octylphthalate	(6)	19.222	149	8009395	31.474
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.768	256	2604760	30.837
206) Benzo(b)fluoranthene	(6)	19.768	252	6188099	32.331
208) Benzo(k)fluoranthene	(6)	19.821	252	5580323	31.133
211) Benzo(a)pyrene	(6)	20.303	252	5625694	32.900
213)*Perylene-d12	(6)	20.383	264	782499	5.000
215) 3-Methylcholanthrene	(6)	20.870	268	2718940	30.955
217) Dibenz(a,h)acridine	(6)	21.704	279	4616558	31.081
218) Dibenz(a,j)acridine	(6)	21.784	279	4618062	30.680
222) Total PAHs	(6)			93032925	571.910
219) Indeno(1,2,3-cd)pyrene	(6)	22.057	276	5379987M	32.613
220) Dibenz(a,h)anthracene	(6)	22.095	278	5373947	32.608
221) Benzo(g,h,i)perylene	(6)	22.485	276	5340399	31.694

M = Compound was manually integrated.
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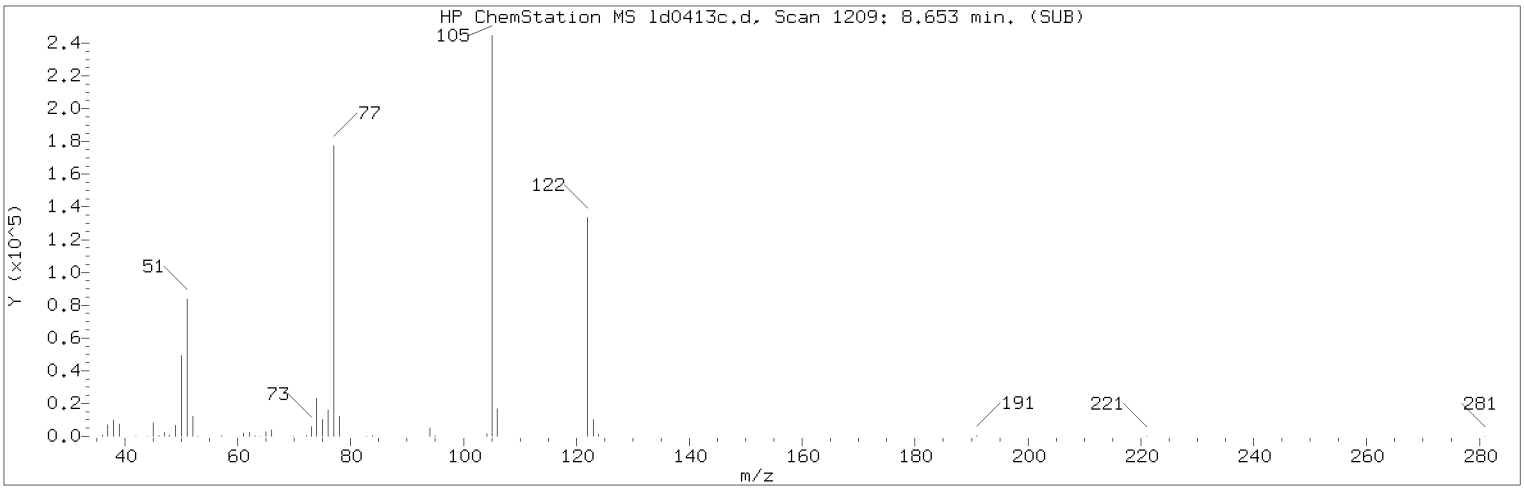
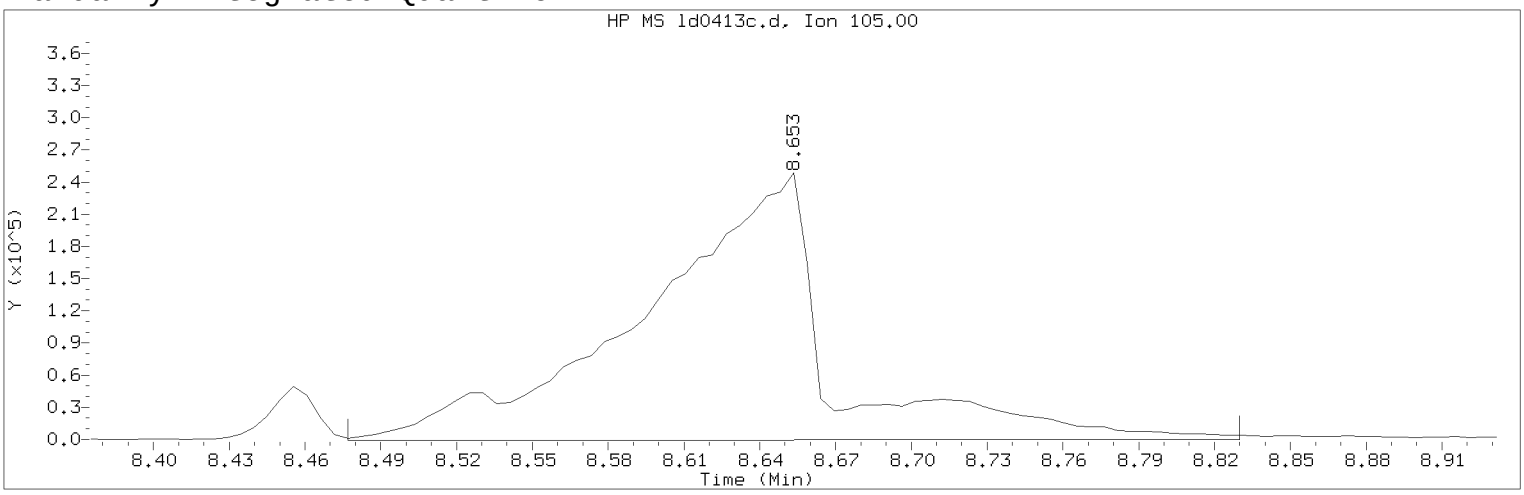
Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0413c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:01 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD30 Lab Sample ID: rvSTD0968

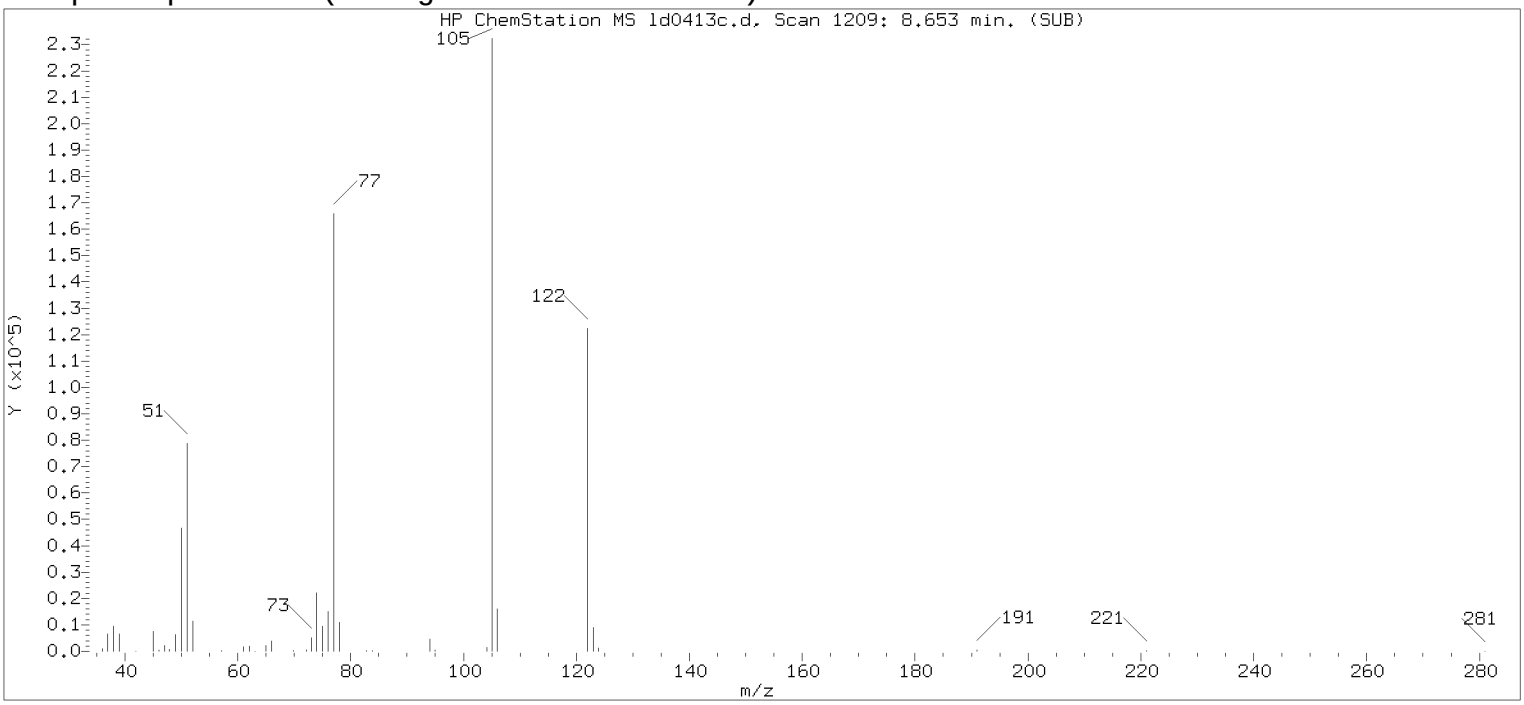
Compound Number : 56
Compound Name : Benzoic acid
Scan Number : 1209
Retention Time (minutes) : 8.653
Quant Ion : 105.00
Area (flag) : 1279179M
On-Column Amount (ng/ul) : 30.0000
Integration start scan : 1175 Integration stop scan: 1241
Y at integration start : -696 Y at integration end: -11

Reason for manual integration: improper integration

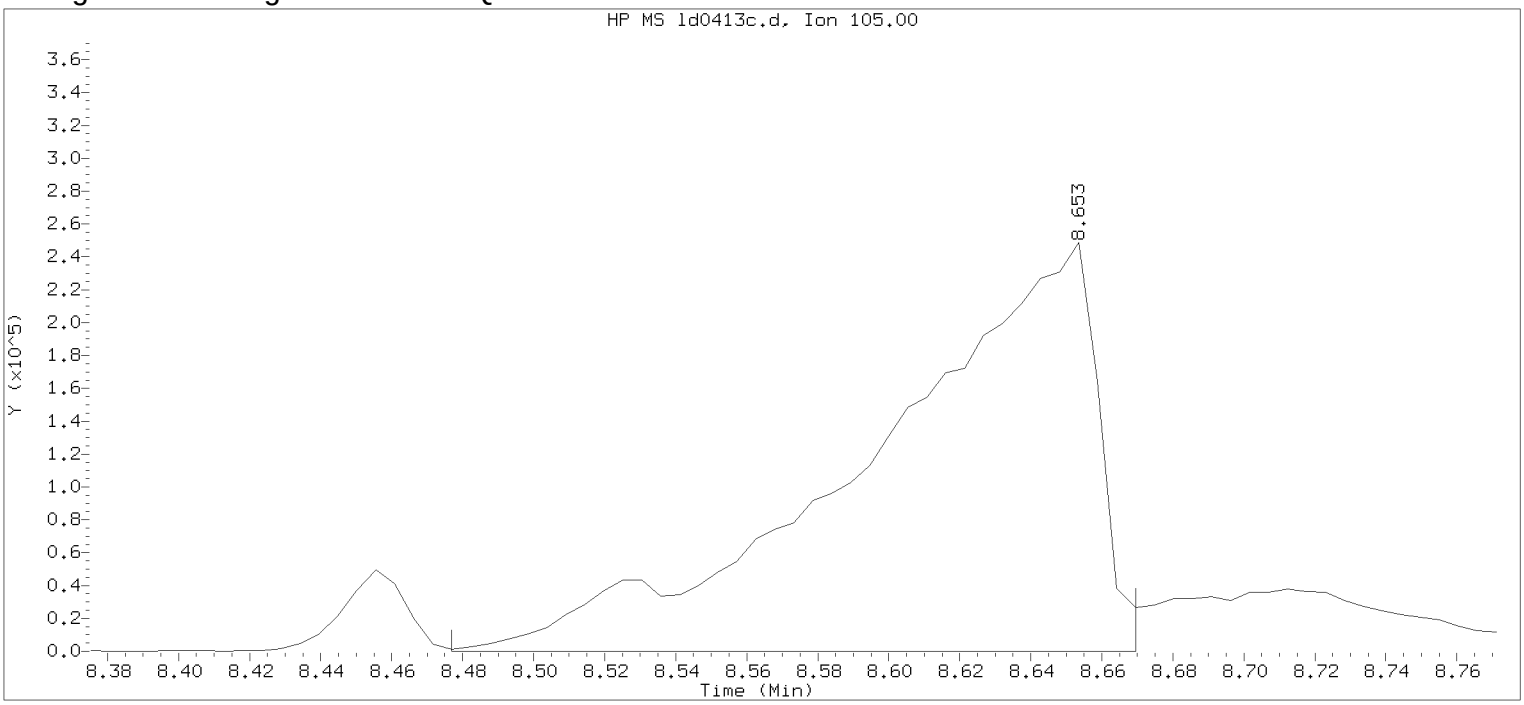
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0413c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:01 Analyst ID: hbz01996

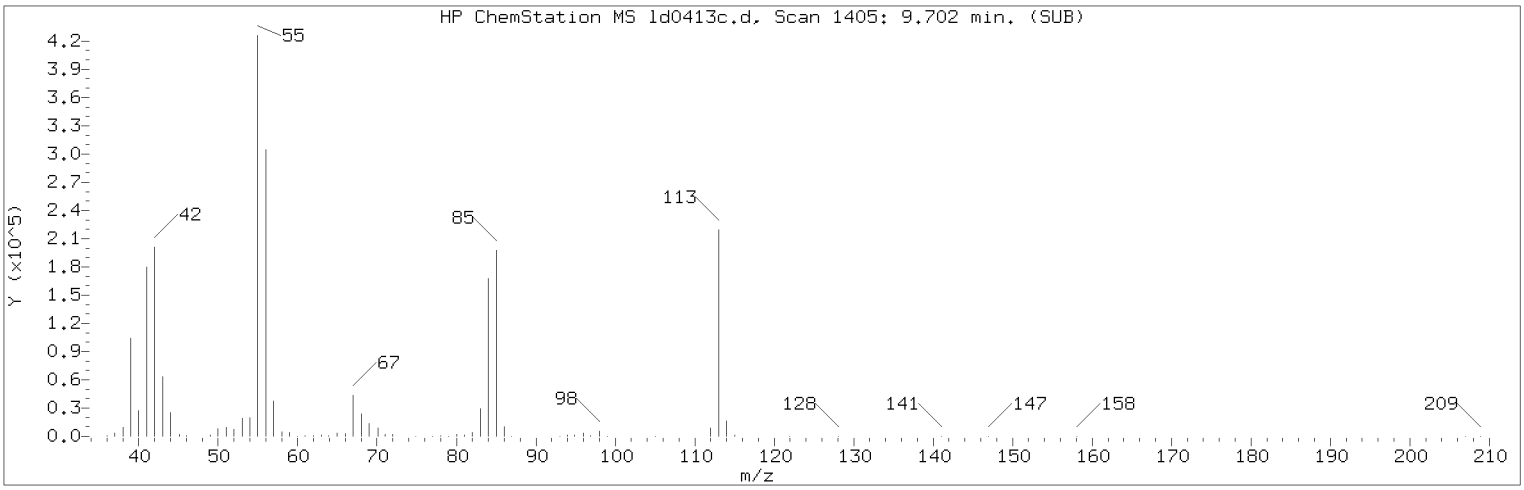
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD30 Lab Sample ID: rvSTD0968

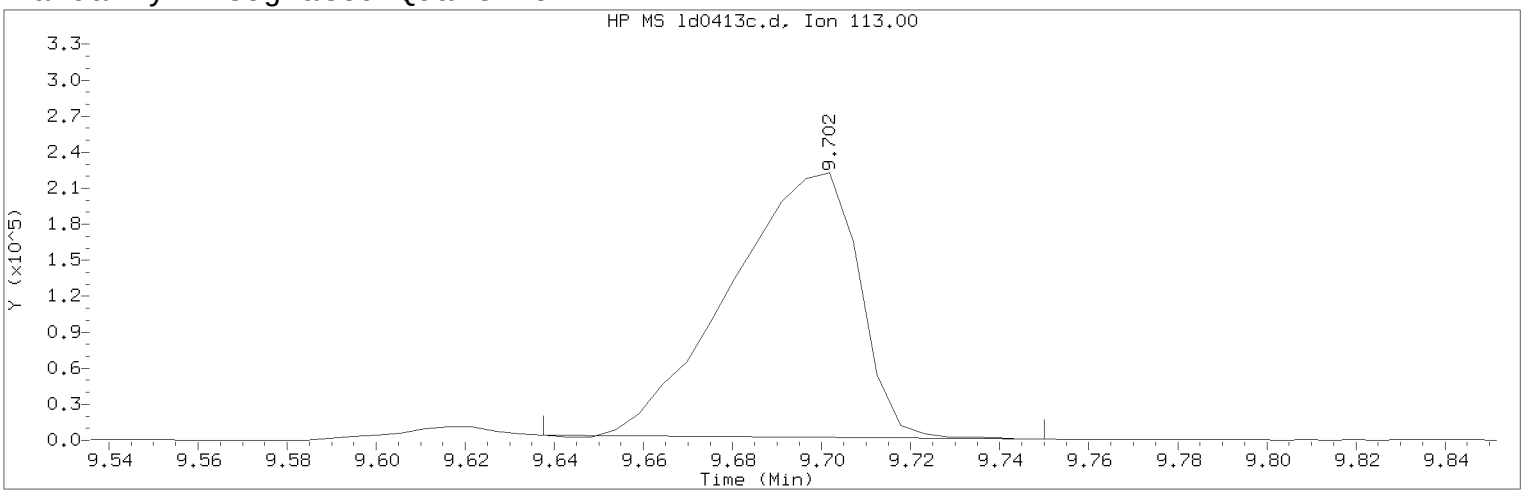
Compound Number : 56
Compound Name : Benzoic acid
Scan Number : 1209
Retention Time (minutes) : 8.653
Quant Ion : 105.00
Area : 1075934
On-column Amount (ng/ul) : 28.8657
Integration start scan : 1175 Integration stop scan: 1211
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user id: 1485 hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0413c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:01 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD30 Lab Sample ID: rvSTD0968

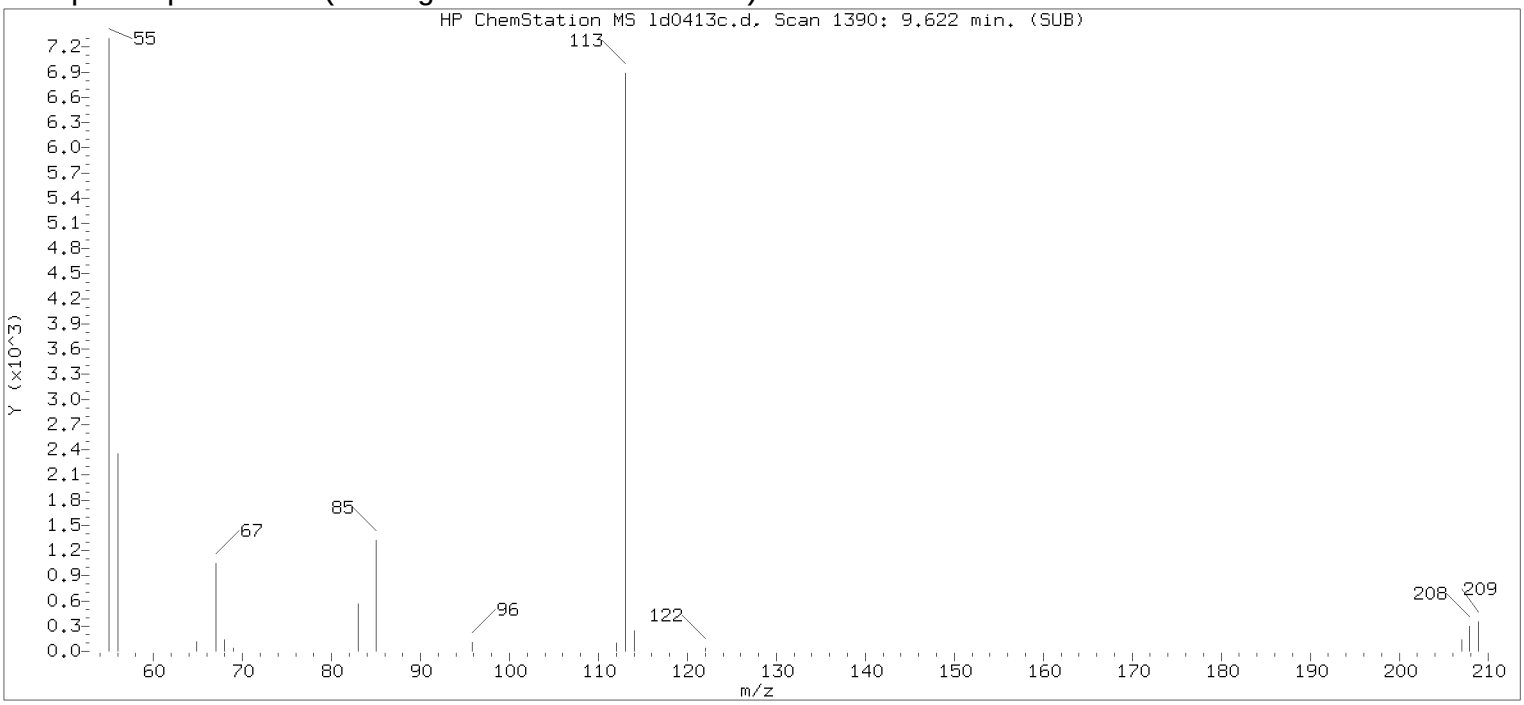
Compound Number : 76
Compound Name : Caprolactam
Scan Number : 1405
Retention Time (minutes) : 9.702
Quant Ion : 113.00
Area (flag) : 443497M
On-Column Amount (ng/ul) : 29.7272
Integration start scan : 1392 Integration stop scan: 1413
Y at integration start : 4109 Y at integration end: 860

Reason for manual integration: improper integration

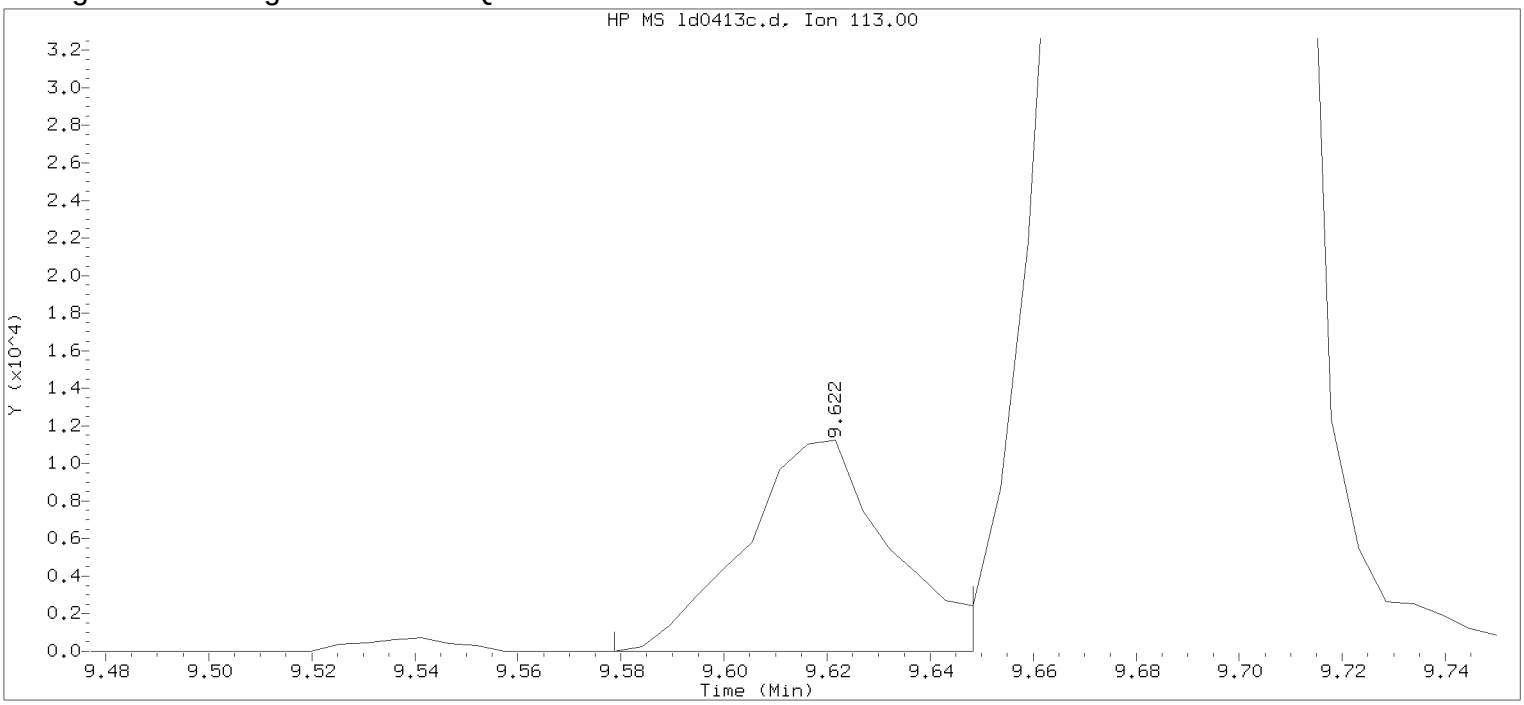
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0413c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:01 Analyst ID: hbz01996

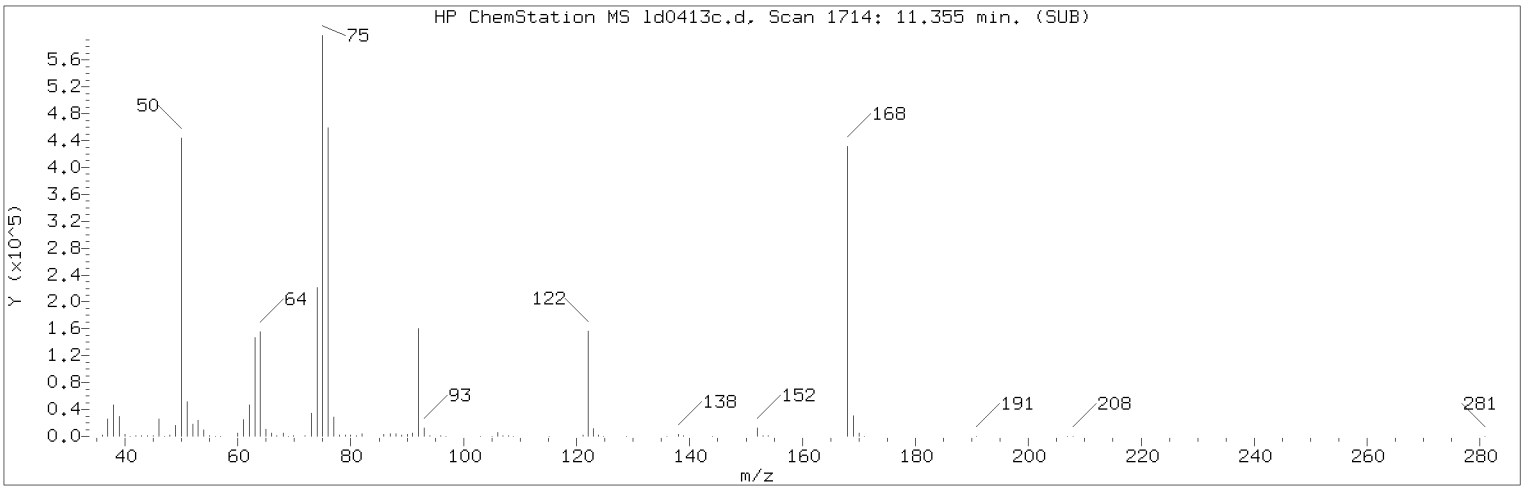
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD30 Lab Sample ID: rvSTD0968

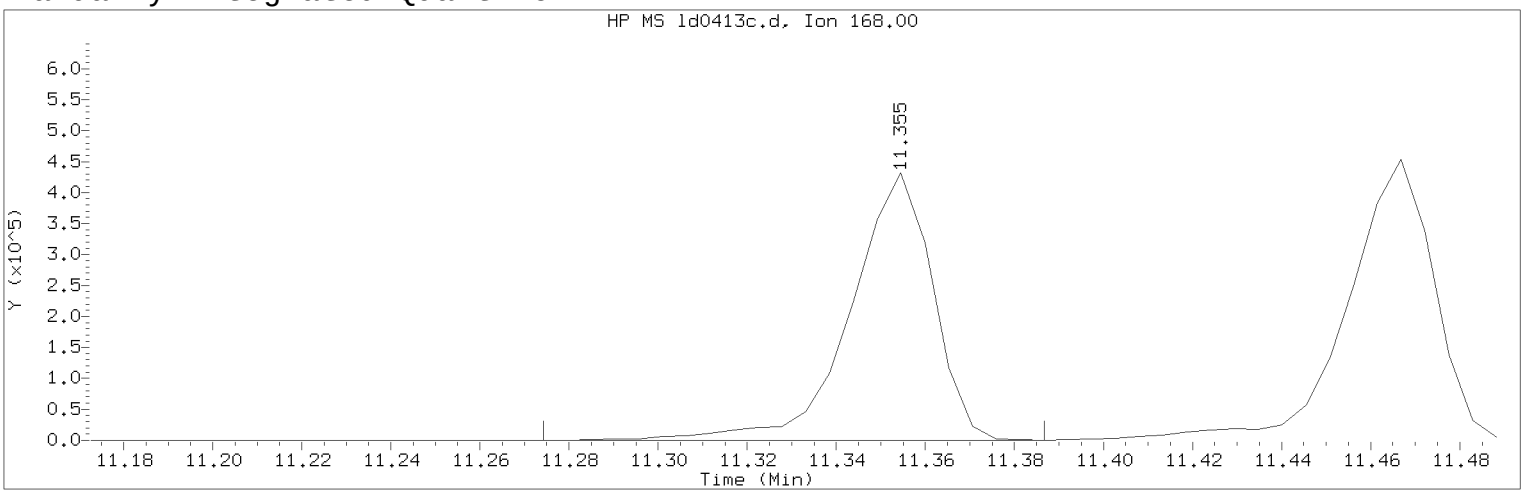
Compound Number : 76
Compound Name : Caprolactam
Scan Number : 1390
Retention Time (minutes) : 9.622
Quant Ion : 113.00
Area : 21743
On-column Amount (ng/ul) : 1.7347
Integration start scan : 1381 Integration stop scan: 1394
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user id: 1049

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0413c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:01 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD30 Lab Sample ID: rvSTD0968

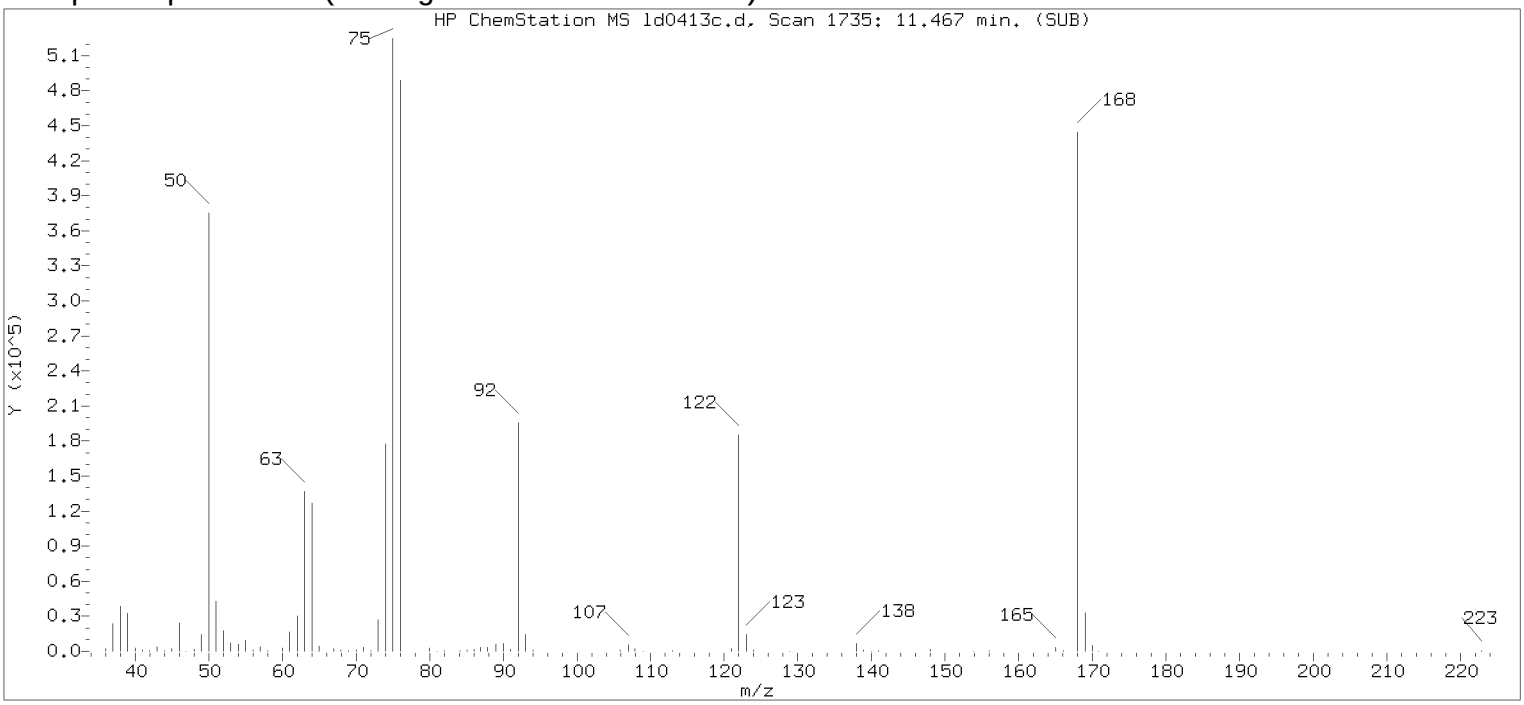
Compound Number : 105
Compound Name : 1,4-Dinitrobenzene
Scan Number : 1714
Retention Time (minutes) : 11.355
Quant Ion : 168.00
Area (flag) : 551320A
On-Column Amount (ng/ul) : 31.6010
Integration start scan : 1698 Integration stop scan: 1719
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

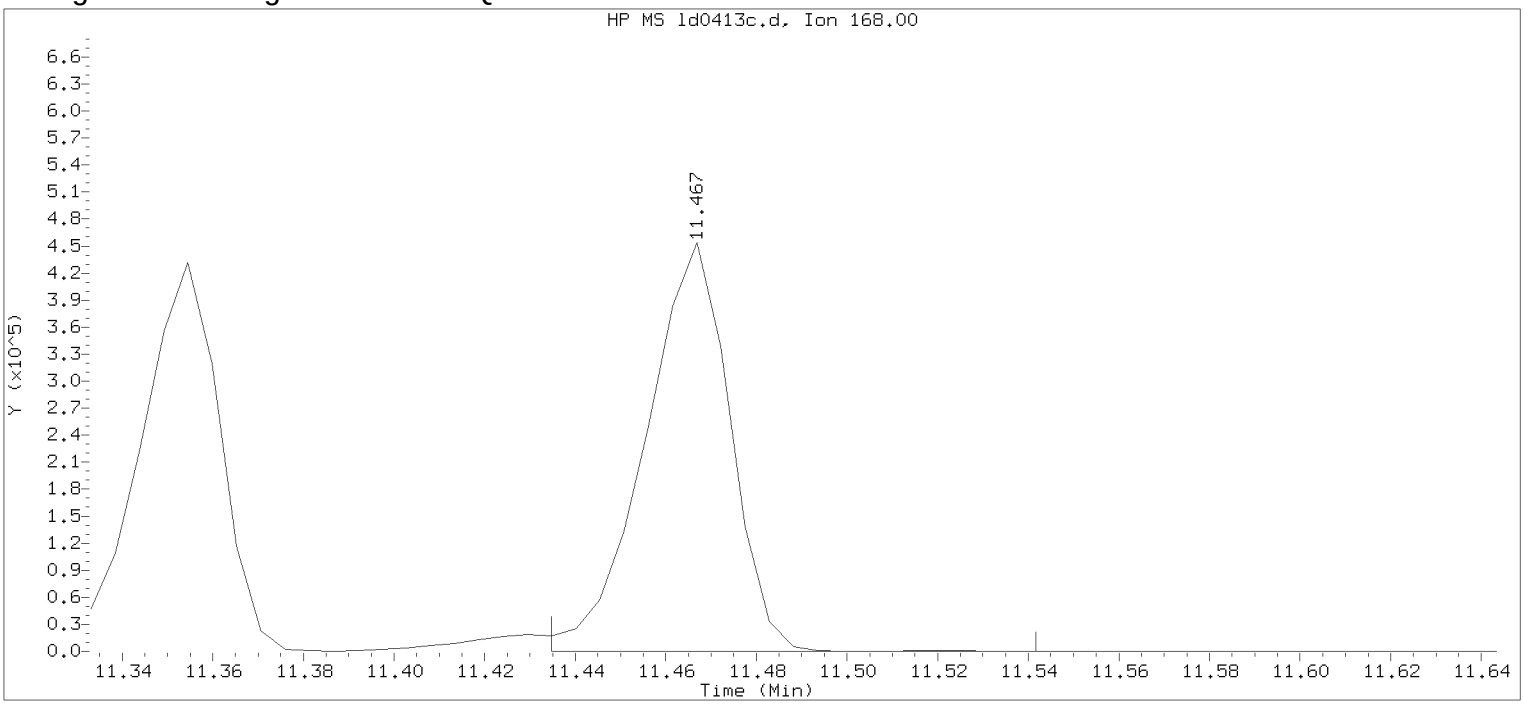
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0413c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:01 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD30 Lab Sample ID: rvSTD0968

Compound Number : 105
Compound Name : 1,4-Dinitrobenzene
Scan Number : 1735
Retention Time (minutes) : 11.467
Quant Ion : 168.00
Area : 586369
On-column Amount (ng/ul) : 31.9805
Integration start scan : 1728 Integration stop scan: 1748
Y at integration start : 0 Y at integration end: 0

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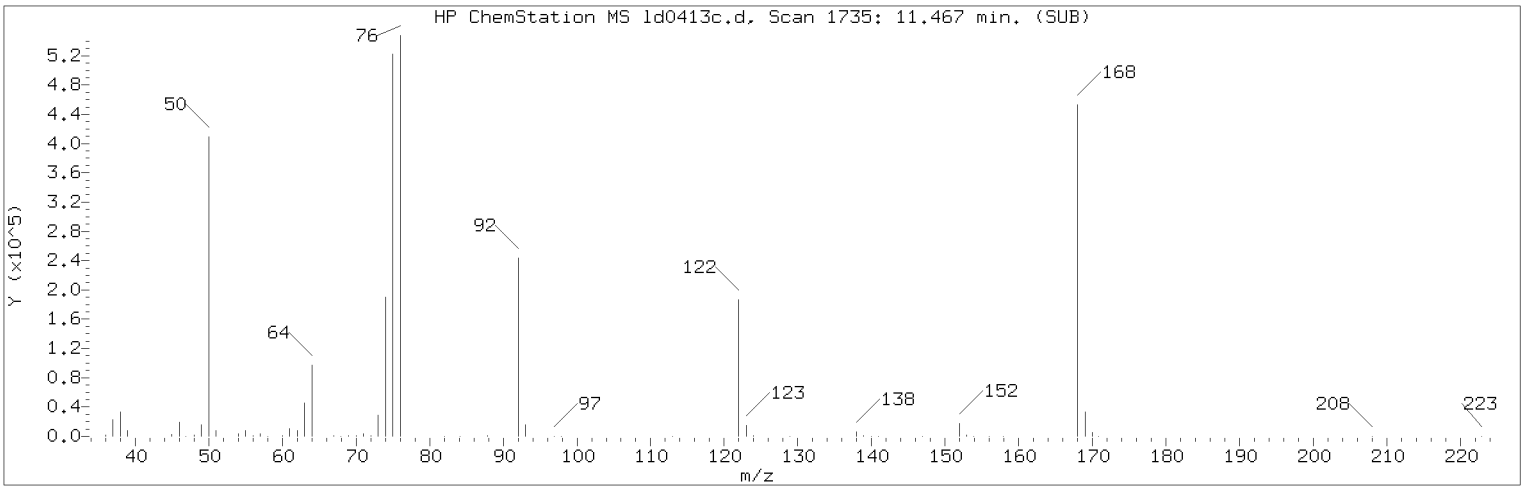
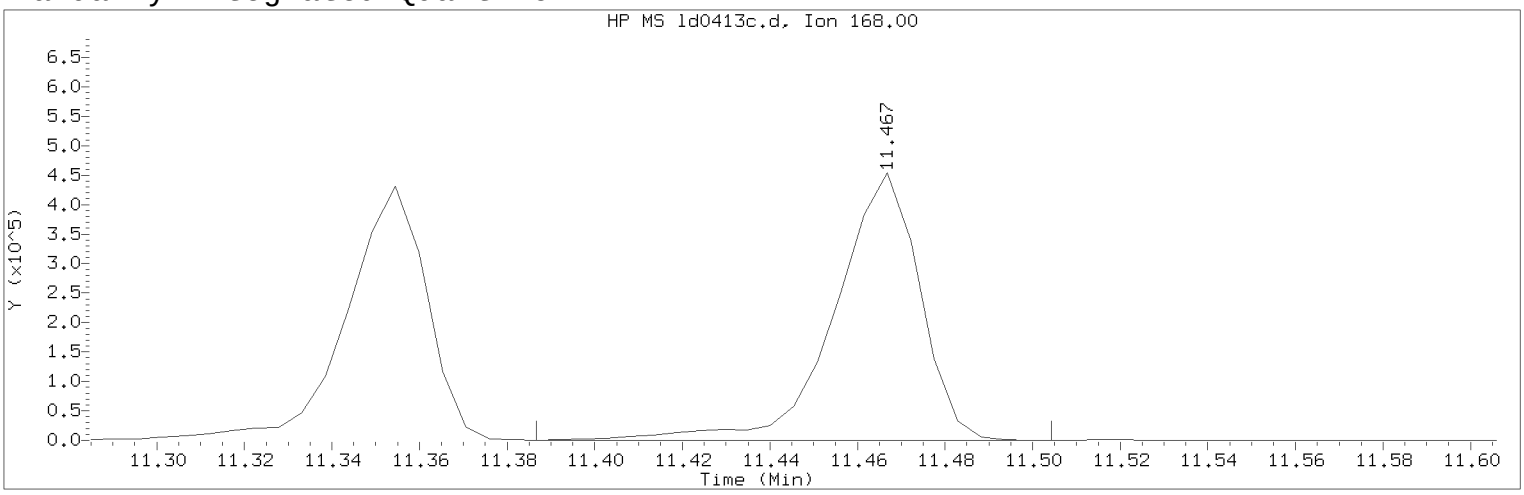
Target 3.5 esignature user id: 1485 Page 498 of 1139

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0413c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:01 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD30 Lab Sample ID: rvSTD0968

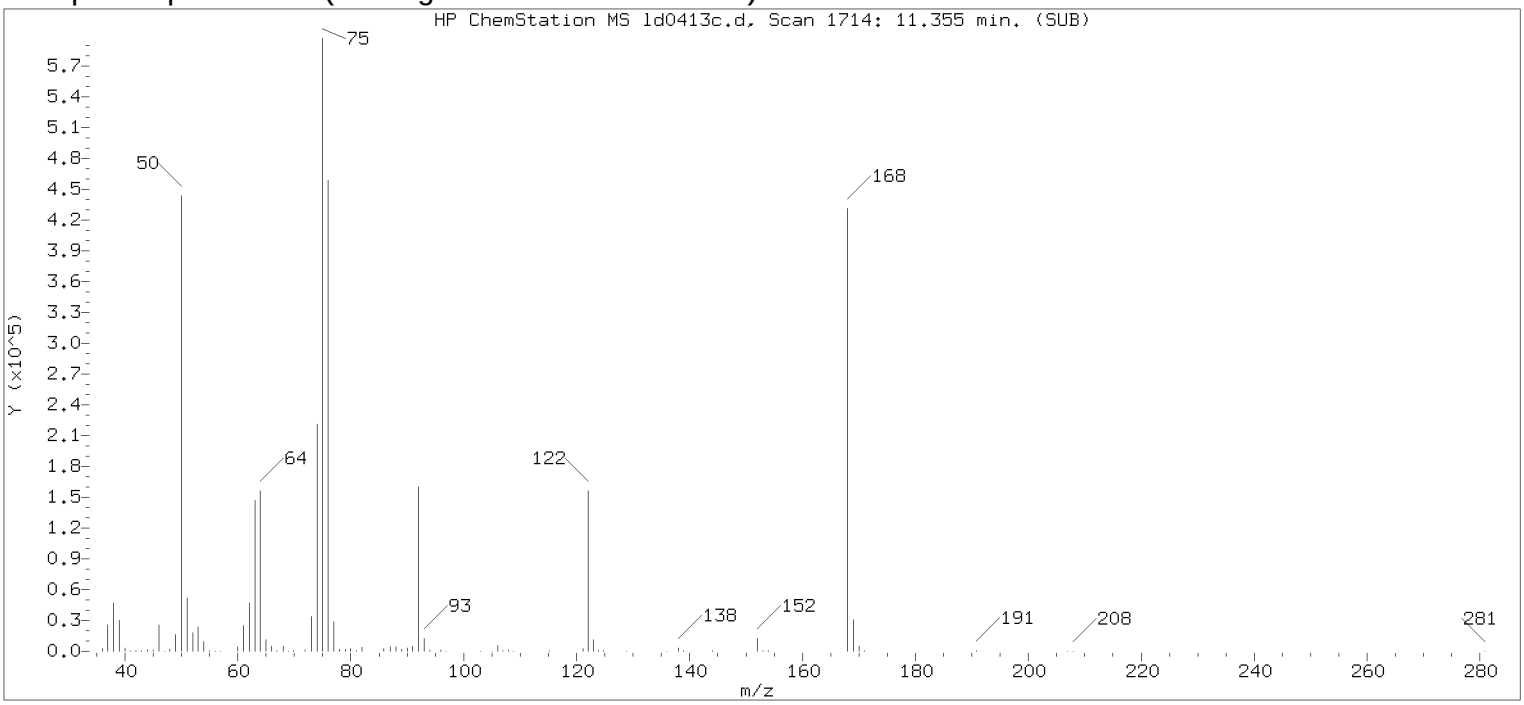
Compound Number : 107
Compound Name : 1,3-Dinitrobenzene
Scan Number : 1735
Retention Time (minutes) : 11.467
Quant Ion : 168.00
Area (flag) : 609571MA
On-Column Amount (ng/ul) : 31.2947
Integration start scan : 1719 Integration stop scan: 1741
Y at integration start : 355 Y at integration end: 0

Reason for manual integration: improper integration

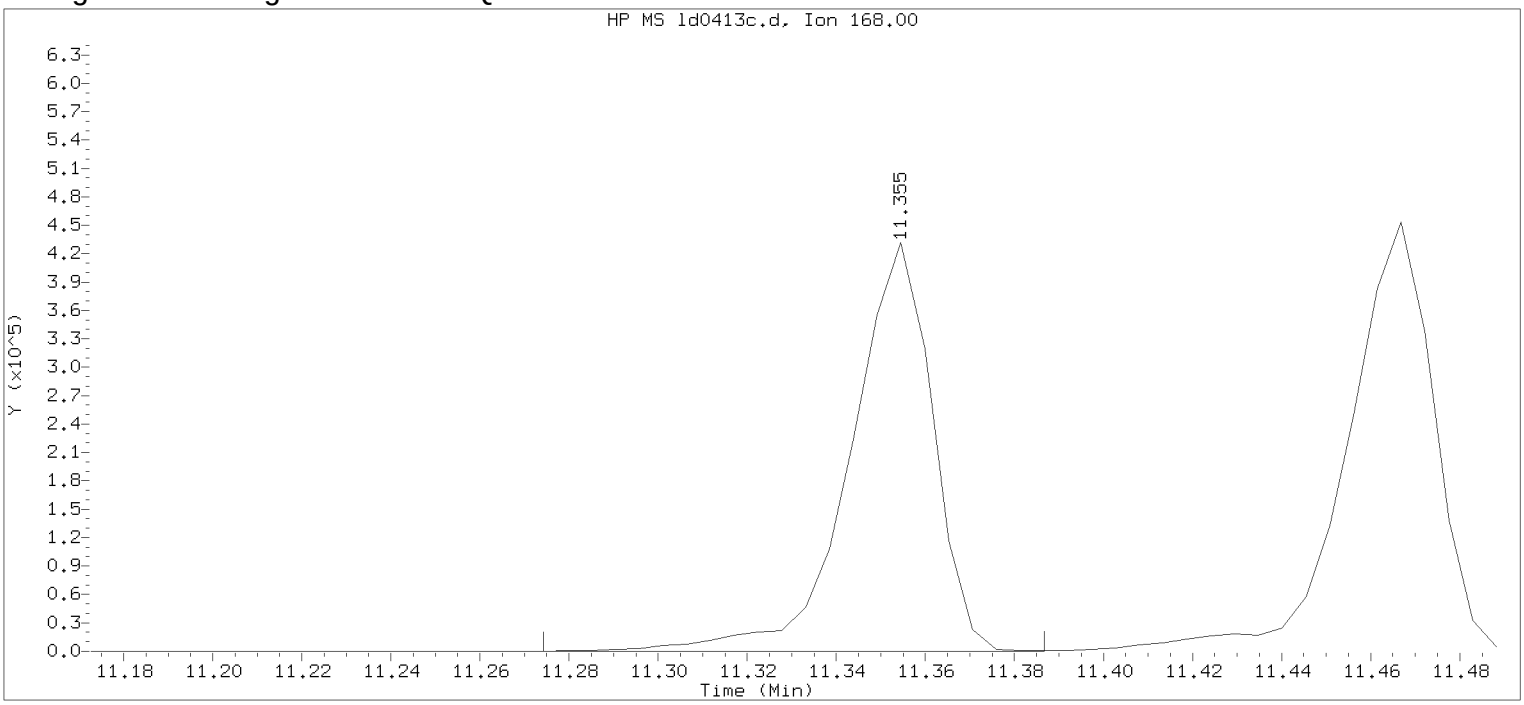
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0413c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:01 Analyst ID: hbz01996

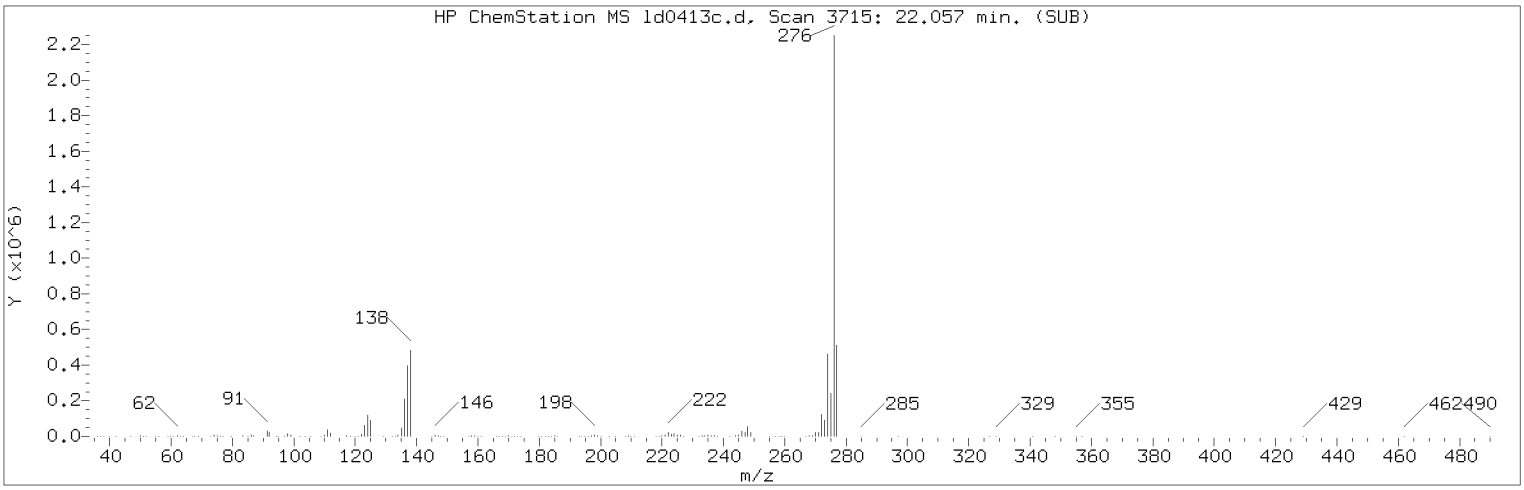
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD30 Lab Sample ID: rvSTD0968

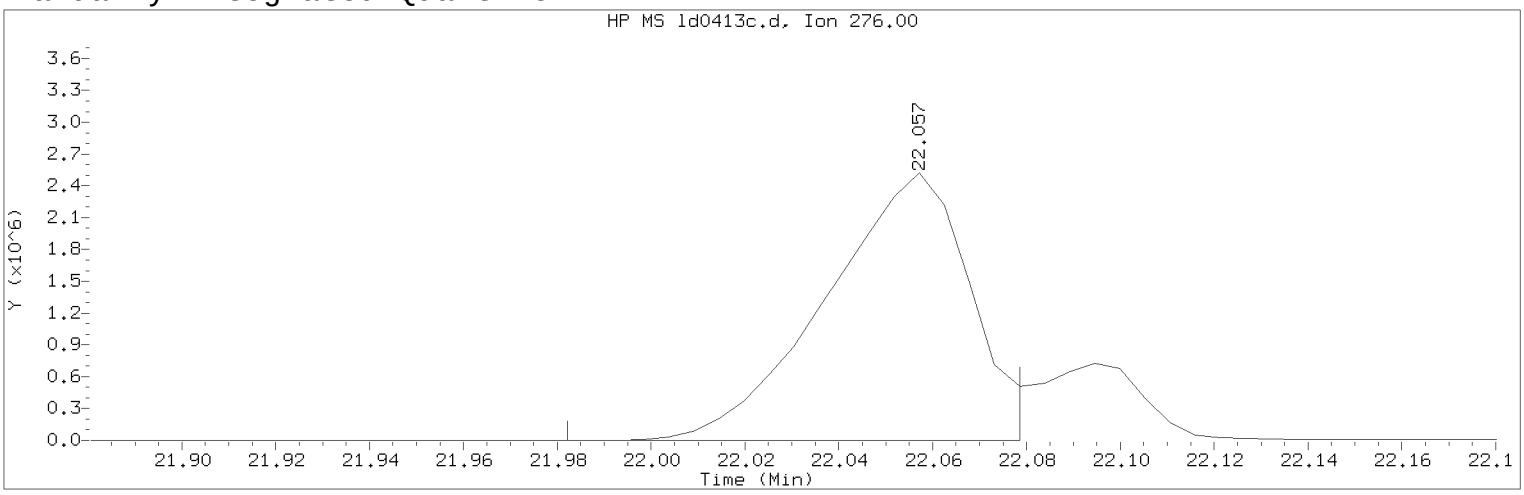
Compound Number : 107
Compound Name : 1,3-Dinitrobenzene
Scan Number : 1714
Retention Time (minutes) : 11.355
Quant Ion : 168.00
Area : 551302
On-column Amount (ng/ul) : 28.4678
Integration start scan : 1698 Integration stop scan: 1719
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user id: 1049

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0413c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:01 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD30 Lab Sample ID: rvSTD0968

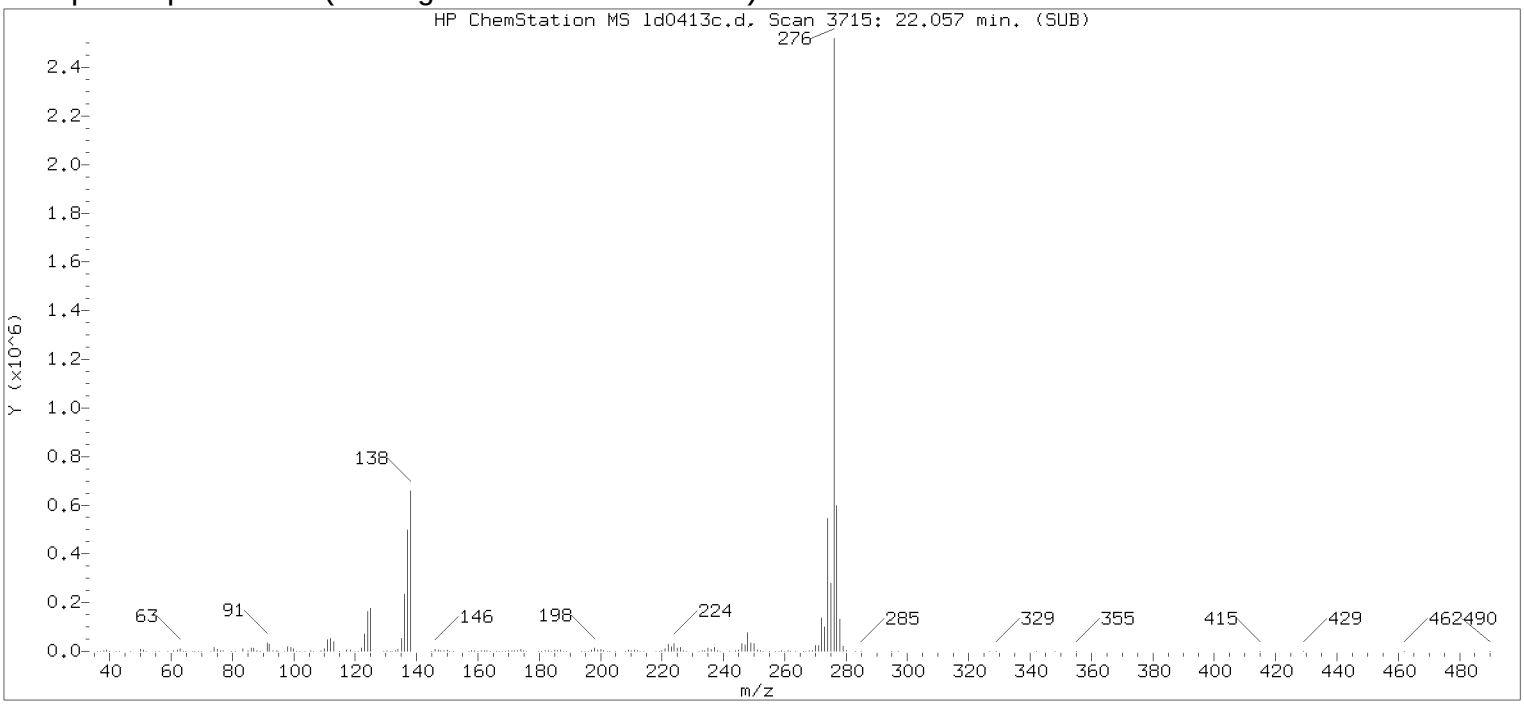
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3715
Retention Time (minutes) : 22.057
Quant Ion : 276.00
Area (flag) : 5379987M
On-Column Amount (ng/ul) : 32.6133
Integration start scan : 3700 Integration stop scan: 3718
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

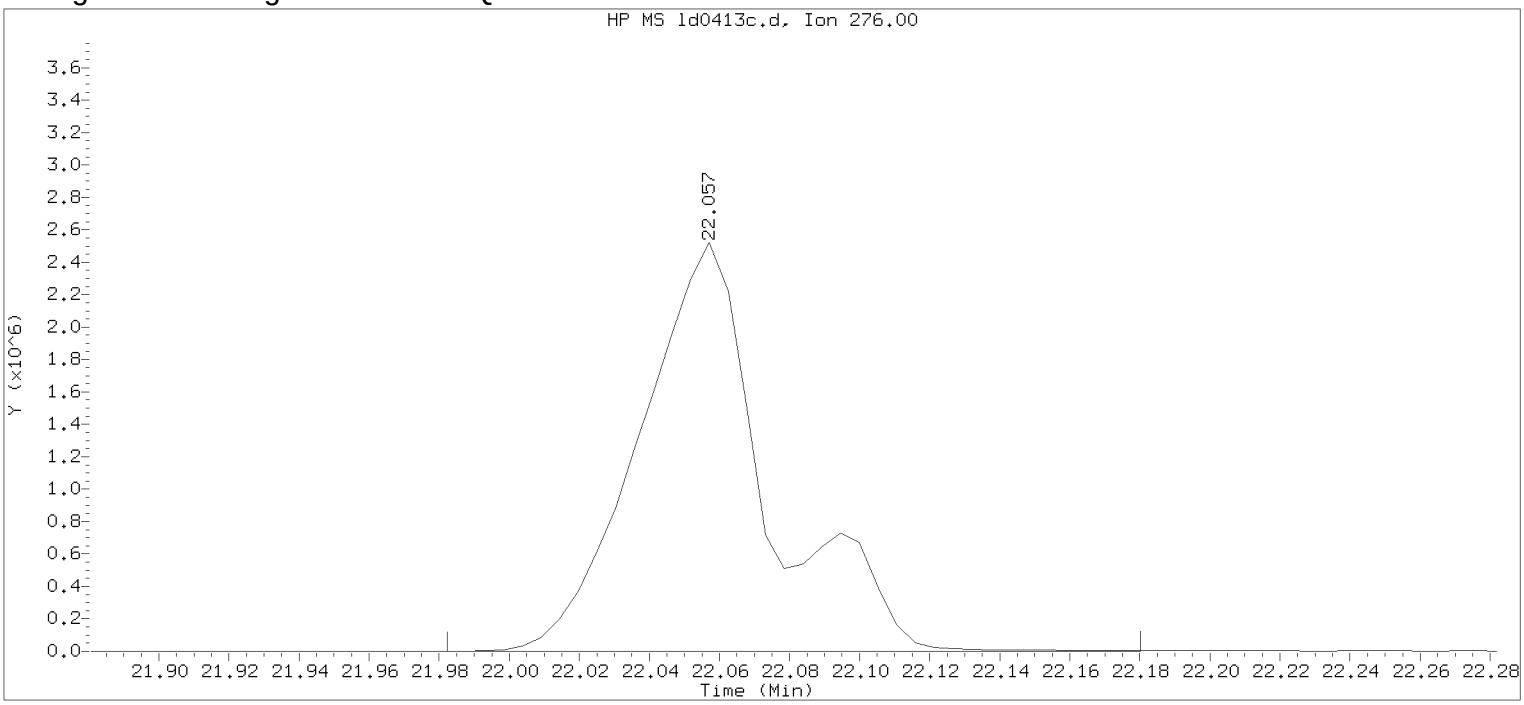
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



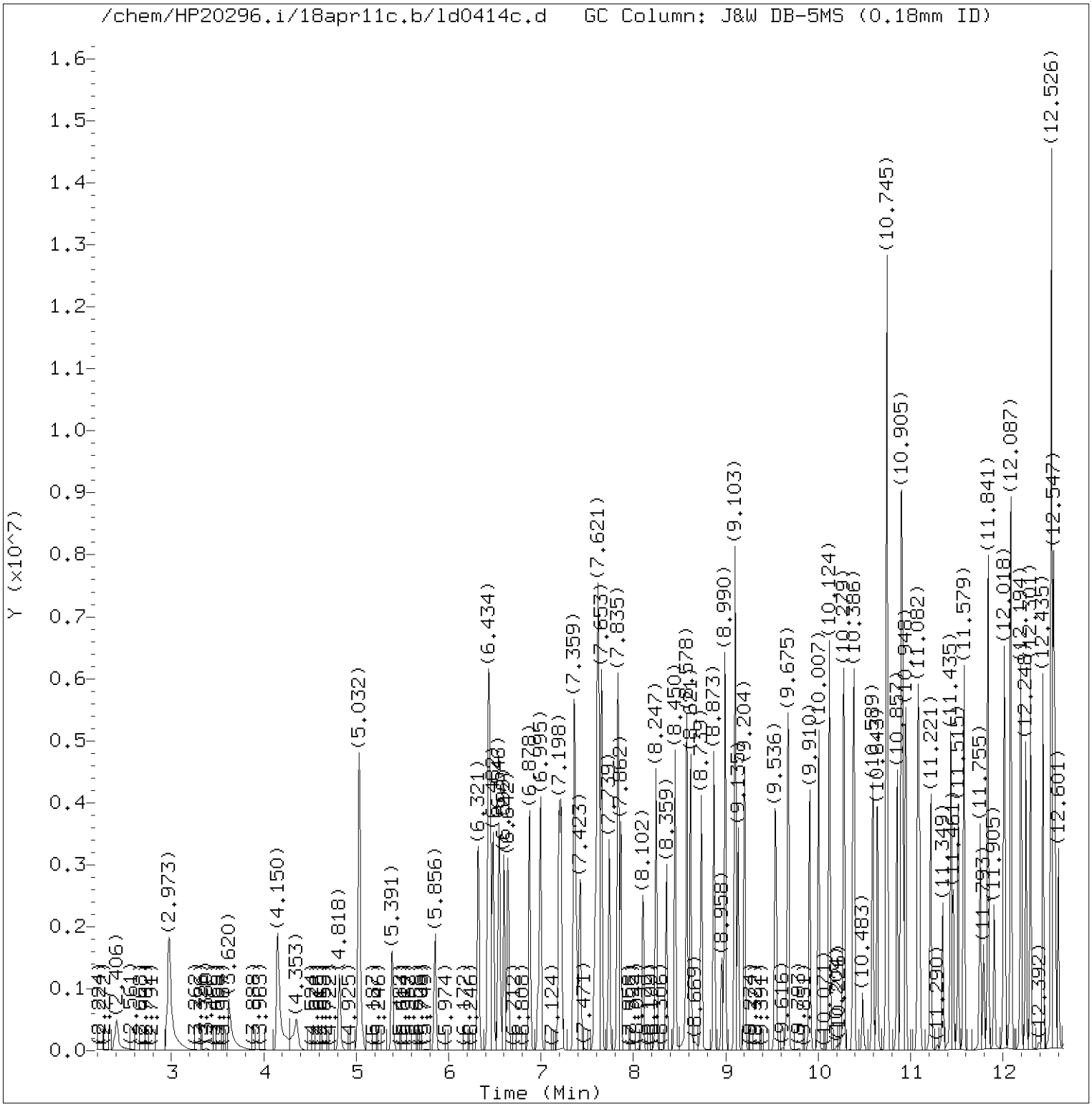
Data File: /chem/HP20296.i/18apr11c.b/ld0413c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:01 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD30 Lab Sample ID: rvSTD0968

Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3715
Retention Time (minutes) : 22.057
Quant Ion : 276.00
Area : 6436588
On-column Amount (ng/ul) : 35.0235
Integration start scan : 3700 Integration stop scan: 3737
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user id: bhs



Total Ion Chromatogram (TIC)

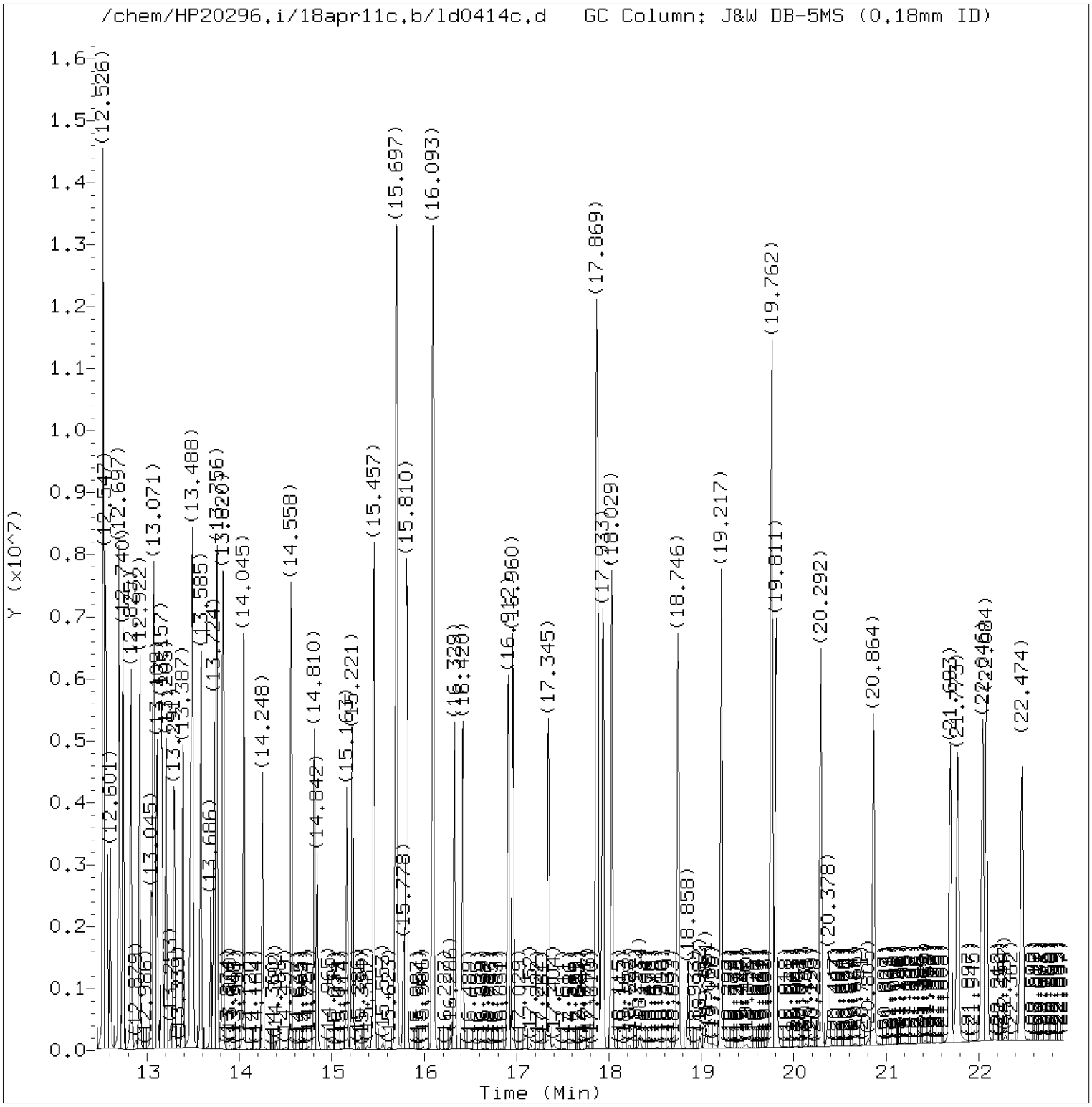
Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0414c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:28 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD20 Lab Sample ID: rvSTD0968

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0414c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:28 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD20 Lab Sample ID: rvSTD0968

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0414c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:28 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD20 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.406	88	550923	19.811
4) N-Nitrosodimethylamine	(1)	2.957	74	868311	20.083
5) Pyridine	(1)	2.978	79	1523199	20.174
7) 2-Picoline	(1)	4.150	93	1554351	20.291
8) N-Nitrosomethylethylamine	(1)	4.353	88	627356	20.348
9) Methyl methanesulfonate	(1)	4.818	80	742475	20.062
11)$2-Fluorophenol	(1)	5.032	112	2469045	40.416
13) N-Nitrosodiethylamine	(1)	5.391	102	616614	20.408
15) Ethyl methanesulfonate	(1)	5.856	109	633930	20.208
16) Benzaldehyde	(1)	6.321	77	1166276	20.310
17)$Phenol-d6	(1)	6.434	99	3200369	40.668
18) Phenol	(1)	6.455	94	1826386	20.217
19) Aniline	(1)	6.482	93	2142435	20.242
20) a-methylstyrene	(1)	6.551	118	452390	20.536
22) bis(2-Chloroethyl)ether	(1)	6.599	93	1352581	20.215
23) 2-Chlorophenol	(1)	6.642	128	1209011	20.335
24) 1,3-Dichlorobenzene	(1)	6.878	146	1348787	20.255
25)*1,4-Dichlorobenzene-d4	(1)	6.968	152	208633	5.000
26) 1,4-Dichlorobenzene	(1)	6.995	146	1358132	20.269
27) Benzyl alcohol	(1)	7.198	108	795106	20.743
28) 1,2-Dichlorobenzene	(1)	7.215	146	1300404	20.306
30) Indene	(1)	7.359	115	1853296	20.474
31) 2-Methylphenol	(1)	7.370	108	1167891	20.273
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.423	45	1896576	20.213
34) bis(2-Chloroisopropyl)ether	(1)	7.423	45	1896576	20.213
35) N-Nitrosopyrrolidine	(1)	7.584	100	653642	20.435
36) Acetophenone	(1)	7.605	105	1838672	19.809
37) 4-Methylphenol	(1)	7.621	108	1219195	20.075
38) N-Nitroso-di-n-propylamine	(1)	7.626	70	1004244	20.119
40) o-Toluidine	(1)	7.653	106	2054101	20.267
39) N-Nitrosomorpholine	(1)	7.653	56	811655	20.049
42) Total Cresols	(1)			2387086	40.348
43) Hexachloroethane	(1)	7.739	117	554404	20.270
44)$Nitrobenzene-d5	(2)	7.835	82	2941078	40.493
45) Nitrobenzene	(2)	7.862	77	1490896	20.064
48) N-Nitrosopiperidine	(2)	8.102	114	619026	20.265
50) Isophorone	(2)	8.247	82	2638736	20.272
51) 2-Nitrophenol	(2)	8.359	139	627002	20.378
53) 2,4-Dimethylphenol	(2)	8.450	107	1299606	20.219
57) O,O,O-Triethylphosphorothioate	(2)	8.578	198	619056	20.293

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

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0414c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:28 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD20 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
56) Benzoic acid	(2)	8.621	105	824270	20.346
55) bis(2-Chloroethoxy)methane	(2)	8.621	93	1665662	20.054
60) 2,4-Dichlorophenol	(2)	8.739	162	1025304	20.249
62) 1,2,4-Trichlorobenzene	(2)	8.873	180	1123189	20.225
65)*Naphthalene-d8	(2)	8.958	136	806501	5.000
66) Naphthalene	(2)	8.990	128	3559548	21.257
68) 2,6-Dichlorophenol	(2)	9.103	162	1003154	20.260
67) 4-Chloroaniline	(2)	9.103	127	1425471	20.256
69) Hexachloropropene	(2)	9.135	213	786015	20.148
71) Hexachlorobutadiene	(2)	9.204	225	680762	20.077
75) Quinoline	(2)	9.541	129	2179955	20.358
77) N-Nitrosodi-n-butylamine	(2)	9.675	84	1179937	20.292
76) Caprolactam	(2)	9.680	113	309039M	20.261
80) 4-Chloro-3-methylphenol	(2)	9.910	107	1128334	20.289
82) Safrole	(2)	10.007	162	910409	20.258
83) 2-Methylnaphthalene	(2)	10.124	142	2348740	21.245
84) 1-Methylnaphthalene	(2)	10.279	142	2134408	20.893
85) Hexachlorocyclopentadiene	(3)	10.376	237	691191	20.407
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.392	216	1151304	20.480
88) cis-Isosafrole	(3)	10.483	162	175018	3.539
90) 2,4,6-Trichlorophenol	(3)	10.589	196	769791	20.588
92) 2,4,5-Trichlorophenol	(3)	10.643	196	785232	20.432
97) Isosafrole	(3)			1072740	20.614
93)$2-Fluorobiphenyl	(3)	10.745	172	5206496	40.716
94) trans-Isosafrole	(3)	10.857	162	897722	17.075
95) 1,1'-Biphenyl	(3)	10.900	154	2741855	19.899
96) 2-Chloronaphthalene	(3)	10.916	162	2320484	20.273
98) 1-Chloronaphthalene	(3)	10.948	162	2023046	20.622
99) Diphenyl ether	(3)	11.082	170	1511412	20.457
100) 2-Nitroaniline	(3)	11.103	138	708796	20.561
104) 1,4-Naphthoquinone	(3)	11.221	158	925777	20.653
105) 1,4-Dinitrobenzene	(3)	11.349	168	364987A	20.717
106) Dimethylphthalate	(3)	11.435	163	2537714	20.813
107) 1,3-Dinitrobenzene	(3)	11.461	168	407713A	20.724
108) 2,6-Dinitrotoluene	(3)	11.515	165	577948	20.581
109) Acenaphthylene	(3)	11.579	152	3334818	21.546
112) 3-Nitroaniline	(3)	11.755	138	619836	20.635
113)*Acenaphthene-d10	(3)	11.793	164	404834	5.000
114) Acenaphthene	(3)	11.841	153	2267952	20.698
115) 2,4-Dinitrophenol	(3)	11.905	184	352569	21.544

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

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0414c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:28 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD20 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120) 2,4_2,6-Dinitrotoluenes	(3)			1356173	41.577
116) 4-Nitrophenol	(3)	12.007	109	410704	20.731
117) Pentachlorobenzene	(3)	12.018	250	944364	20.614
119) Dibenzofuran	(3)	12.082	168	3109790	20.419
118) 2,4-Dinitrotoluene	(3)	12.092	165	778225	20.996
121) 1-Naphthylamine	(3)	12.194	143	2256212	20.724
122) 2,3,4,6-Tetrachlorophenol	(3)	12.248	232	633870	20.724
123) 2-Naphthylamine	(3)	12.301	143	2154227	20.815
124) Diethylphthalate	(3)	12.435	149	2505250	20.547
125) Thionazin	(3)	12.526	107	427082	20.576
126) Fluorene	(3)	12.526	166	2462040	20.847
127) 4-Chlorophenyl-phenylether	(3)	12.547	204	1194748	20.551
128) 5-Nitro-o-toluidine	(3)	12.558	152	705058	20.725
129) 4-Nitroaniline	(3)	12.569	138	605025	20.569
130) 4,6-Dinitro-2-methylphenol	(4)	12.601	198	463447	20.383
131) N-Nitrosodiphenylamine	(4)	12.697	169	2072286	20.081
132) NDPA as diphenylamine	(4)	12.697	169	2072286	20.081
134) 1,2-Diphenylhydrazine	(4)	12.740	77	2872392	19.954
135)$2,4,6-Tribromophenol	(3)	12.825	330	615752	41.495
137) Tetraethyldithiopyrophosphate	(4)	12.922	97	481251	19.956
146) Diallate trans/cis	(4)			1260799	20.195
139) 1,3,5-Trinitrobenzene	(4)	13.050	213	285085	20.364
140) Diallate (peak 1)	(4)	13.066	86	1075700	16.734
141) Phorate	(4)	13.077	75	1851481	19.916
142) Phenacetin	(4)	13.109	108	1382862	19.995
143) 4-Bromophenyl-phenylether	(4)	13.157	248	680537	19.828
144) Diallate (peak 2)	(4)	13.173	86	185099	3.461
145) Hexachlorobenzene	(4)	13.205	284	684974	19.502
147) Dimethoate	(4)	13.291	87	1119529	19.900
148) Atrazine	(4)	13.392	200	649079	19.250
149) Pentachlorophenol	(4)	13.472	266	461828	20.533
151) Pentachloronitrobenzene	(4)	13.483	237	342864	20.086
150) 4-Aminobiphenyl	(4)	13.494	169	2395526	19.959
152) Pronamide	(4)	13.585	173	1225609	19.968
153)*Phenanthrene-d10	(4)	13.718	188	834359	5.000
154) Dinoseb	(4)	13.729	211	764270	20.515
155) Phenanthrene	(4)	13.756	178	3768058	20.142
157) Anthracene	(4)	13.825	178	3814740	20.593
163) Carbazole	(4)	14.045	167	3373725	20.018
164) Methyl parathion	(4)	14.248	109	888464	20.125

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

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0414c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:28 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

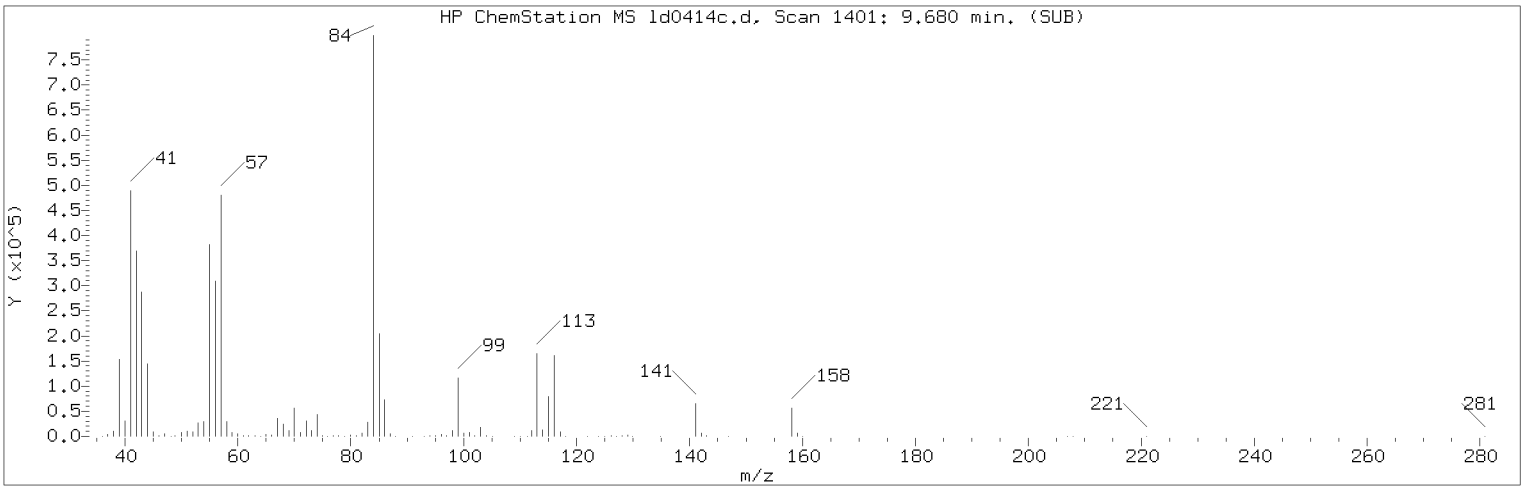
Sample Name: SSTD20 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
165) Di-n-butylphthalate	(4)	14.558	149	4516479	20.077
167) Parathion	(4)	14.810	109	587966	20.342
168) 4-Nitroquinoline-1-oxide	(4)	14.842	190	472482	19.524
169) Octachlorostyrene	(4)	15.163	308	263277	20.104
171) Isodrin	(4)	15.221	193	457091	20.029
173) Fluoranthene	(4)	15.457	202	4329796	20.611
174) Benzidine	(5)	15.703	184	7641973	60.262
175)*Pyrene-d10	(5)	15.778	212	853041	5.000
177) Pyrene	(5)	15.810	202	4376710	20.152
179)$Terphenyl-d14	(5)	16.099	244	5572921	40.225
182) p-Dimethylaminoazobenzene	(5)	16.329	225	748286	19.793
185) Chlorobenzilate	(5)	16.420	139	1328566	20.158
187) 3,3'-Dimethylbenzidine	(5)	16.912	212	2998314	20.513
188) Butylbenzylphthalate	(5)	16.960	149	2106242	20.210
191) 2-Acetylaminofluorene	(5)	17.345	181	1736169	20.381
193) 3,3'-Dichlorobenzidine	(5)	17.858	252	1481517	20.290
195) Benzo(a)anthracene	(5)	17.869	228	4145047	21.122
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.880	231	879651	20.433
196) Chrysene	(5)	17.933	228	3855937	20.562
199) bis(2-Ethylhexyl)phthalate	(5)	18.029	149	3004808	20.298
203) 6-Methylchrysene	(5)	18.746	242	2701478	20.030
205) Di-n-octylphthalate	(6)	19.217	149	5286424	20.534
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.762	256	1718827	20.256
206) Benzo(b)fluoranthene	(6)	19.762	252	3996785	20.683
208) Benzo(k)fluoranthene	(6)	19.811	252	3768607	20.788
211) Benzo(a)pyrene	(6)	20.292	252	3672874	21.119
213)*Perylene-d12	(6)	20.378	264	781042	5.000
215) 3-Methylcholanthrene	(6)	20.864	268	1773997	20.156
217) Dibenz(a,h)acridine	(6)	21.699	279	3020756	20.248
218) Dibenz(a,j)acridine	(6)	21.773	279	3064201	20.261
222) Total PAHs	(6)			62392273	374.975
219) Indeno(1,2,3-cd)pyrene	(6)	22.046	276	3474573M	20.815
220) Dibenz(a,h)anthracene	(6)	22.089	278	3538479	21.112
221) Benzo(g,h,i)perylene	(6)	22.474	276	3543161	20.790

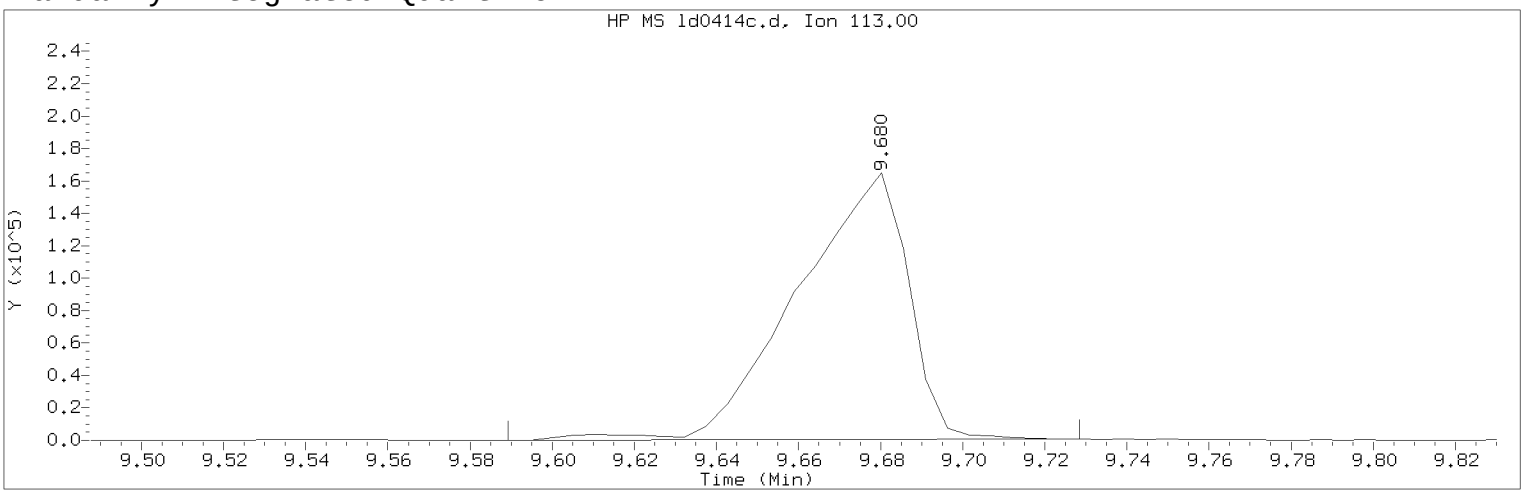
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0414c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:28 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD20 Lab Sample ID: rvSTD0968

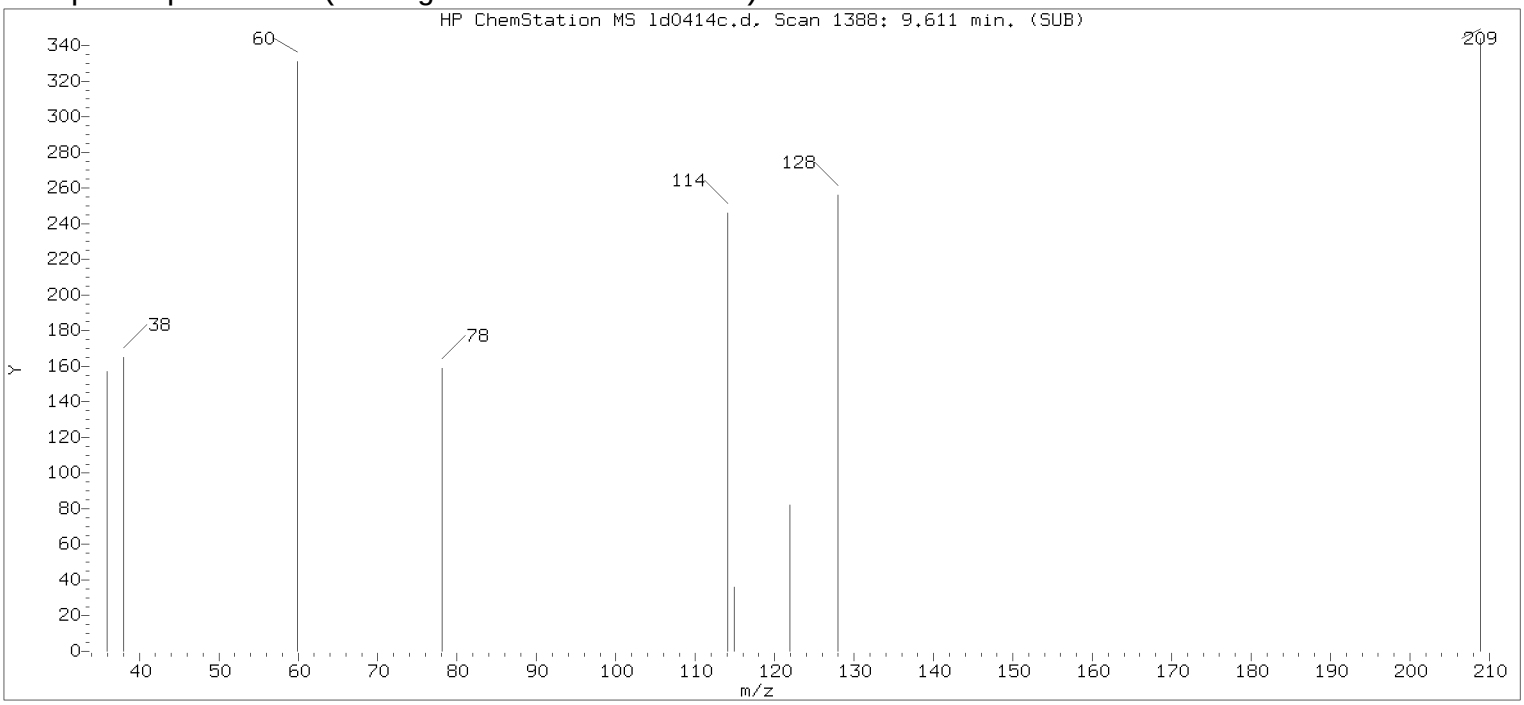
Compound Number : 76
Compound Name : Caprolactam
Scan Number : 1401
Retention Time (minutes) : 9.680
Quant Ion : 113.00
Area (flag) : 309039M
On-Column Amount (ng/ul) : 20.2608
Integration start scan : 1383 Integration stop scan: 1409
Y at integration start : 0 Y at integration end: 623

Reason for manual integration: improper integration

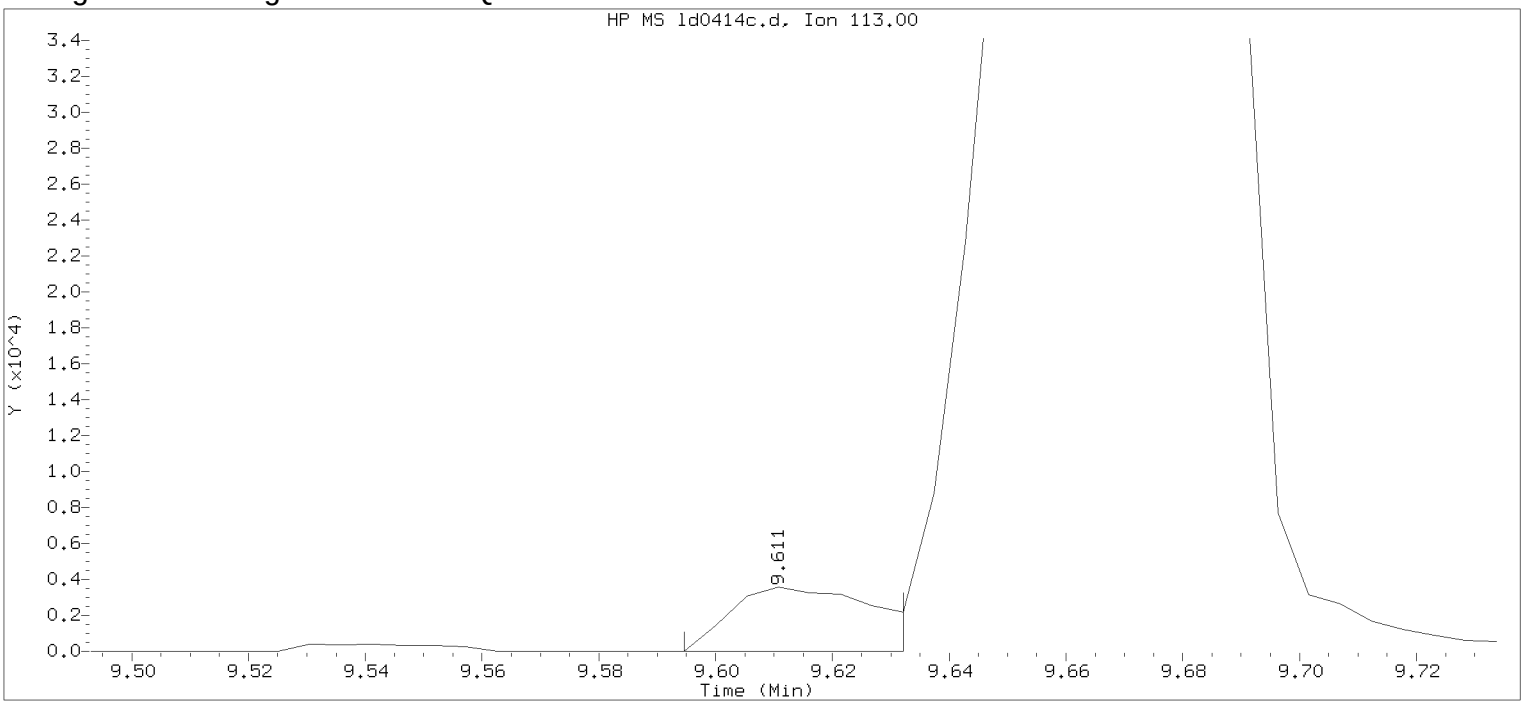
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0414c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:28 Analyst ID: hbz01996

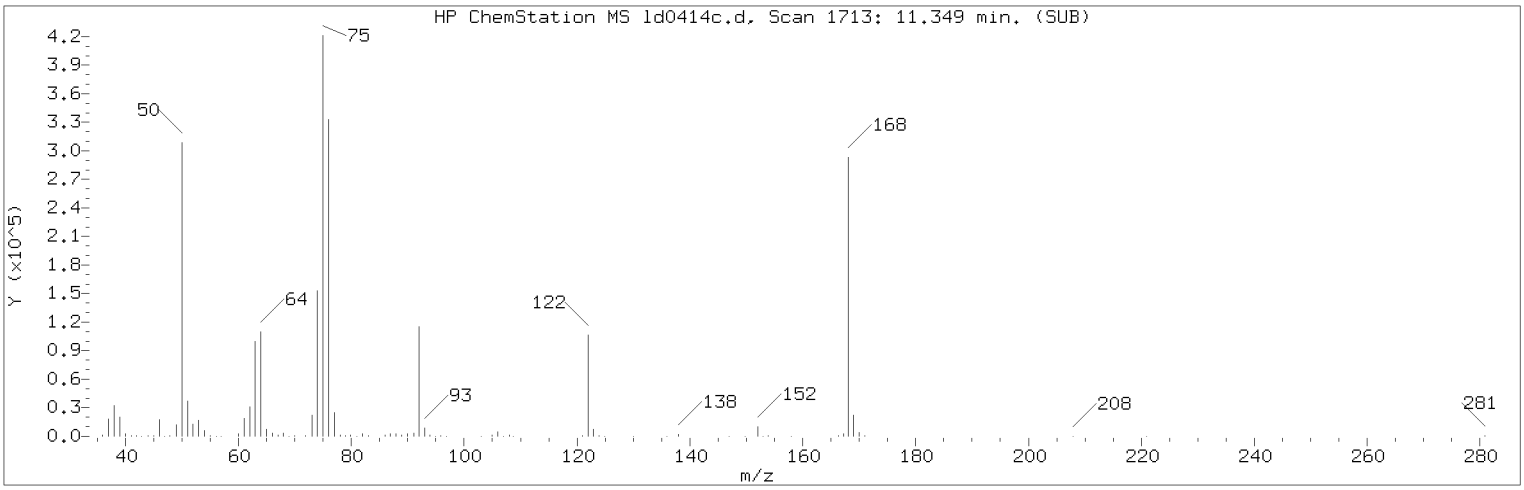
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD20 Lab Sample ID: rvSTD0968

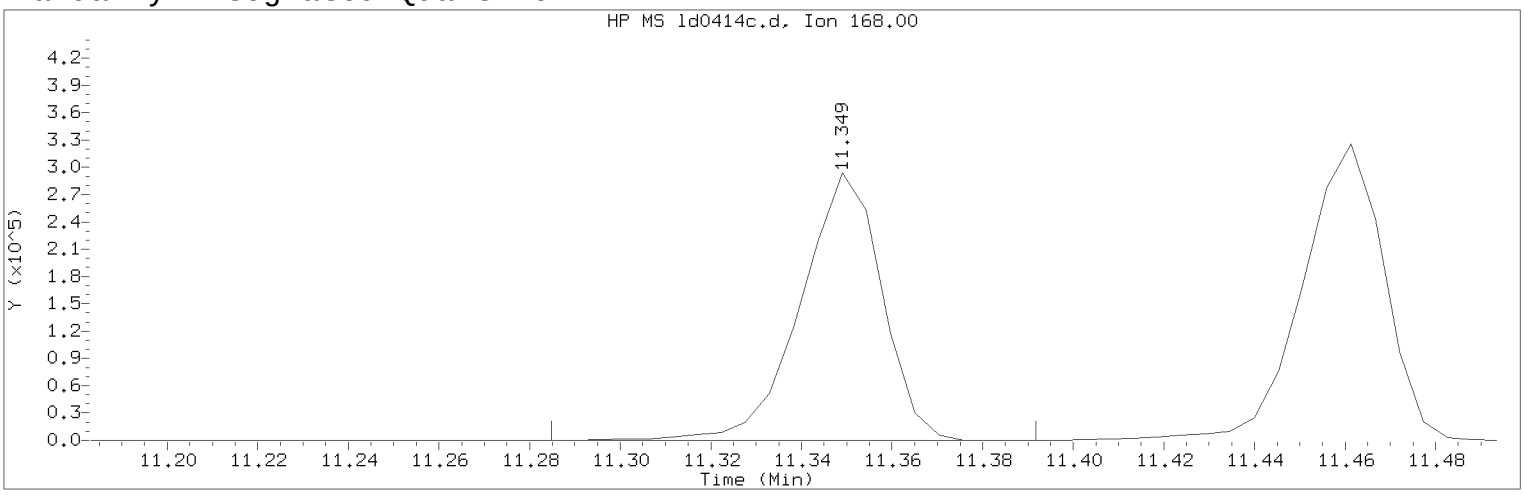
Compound Number : 76
Compound Name : Caprolactam
Scan Number : 1388
Retention Time (minutes) : 9.611
Quant Ion : 113.00
Area : 5801
On-column Amount (ng/ul) : 0.5987
Integration start scan : 1384 Integration stop scan: 1391
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user id: 1085 hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0414c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:28 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD20 Lab Sample ID: rvSTD0968

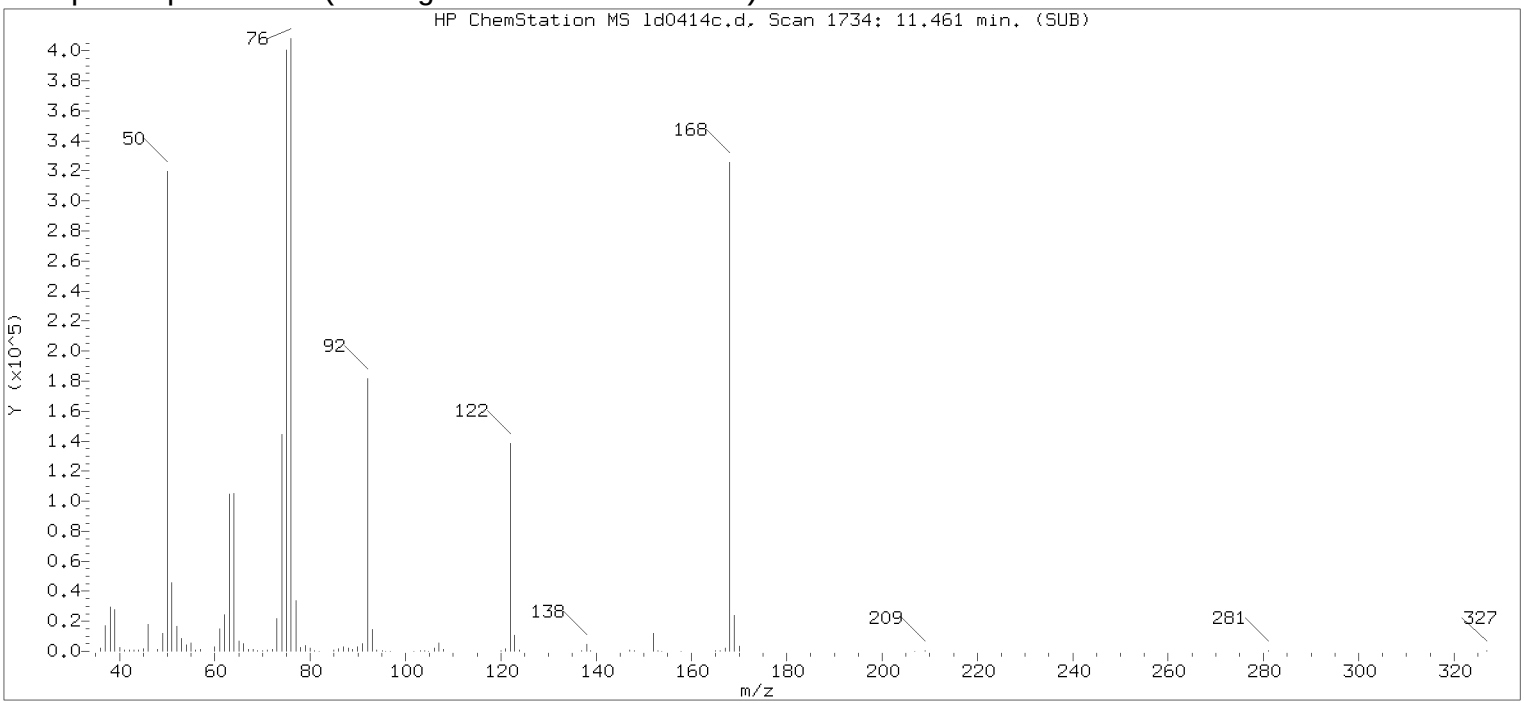
Compound Number : 105
Compound Name : 1,4-Dinitrobenzene
Scan Number : 1713
Retention Time (minutes) : 11.349
Quant Ion : 168.00
Area (flag) : 364987A
On-Column Amount (ng/ul) : 20.7168
Integration start scan : 1700 Integration stop scan: 1720
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

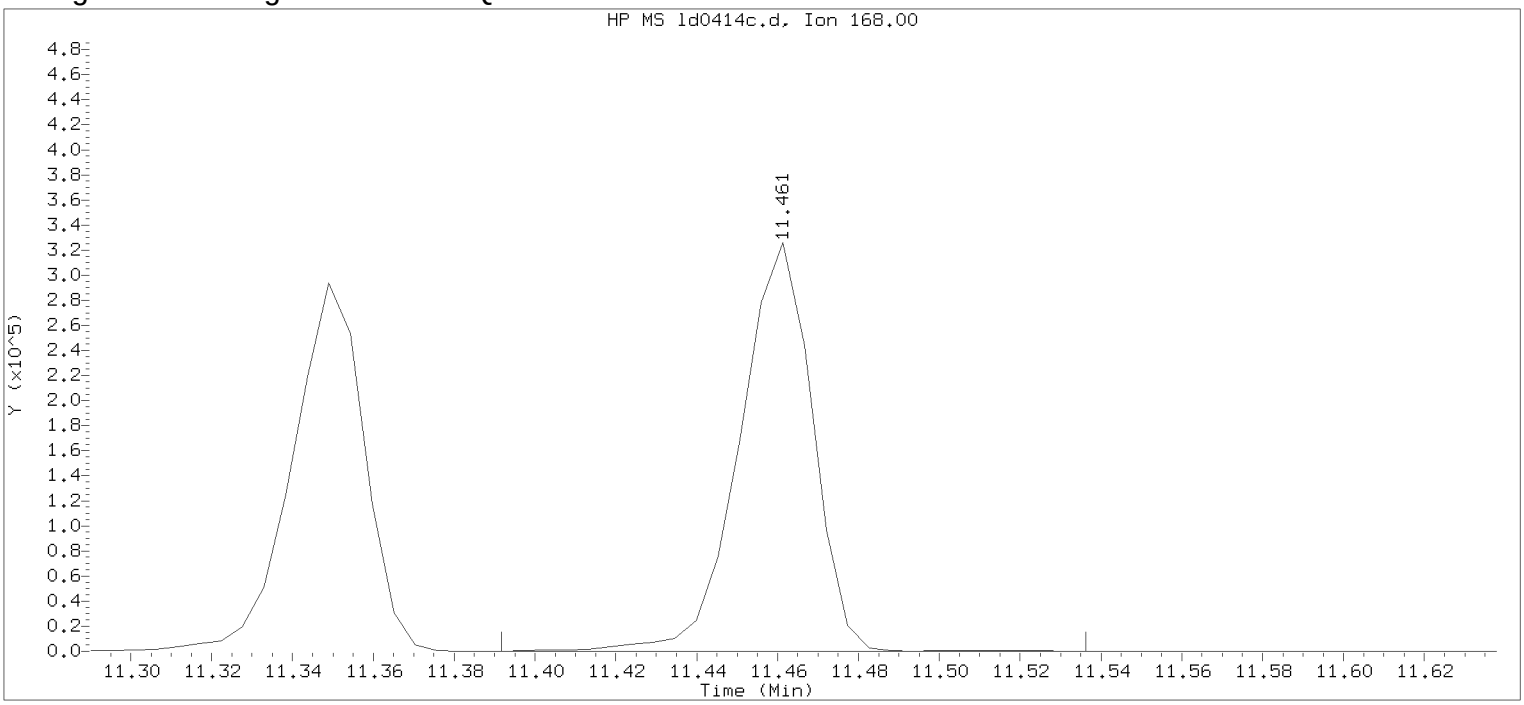
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0414c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:28 Analyst ID: hbz01996

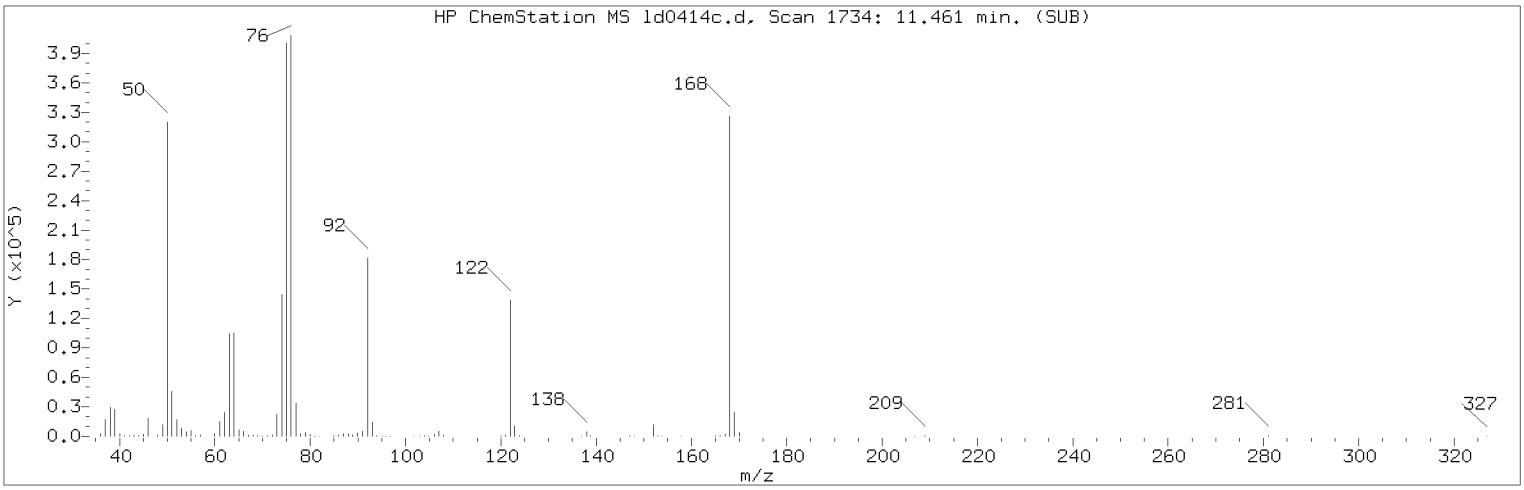
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD20 Lab Sample ID: rvSTD0968

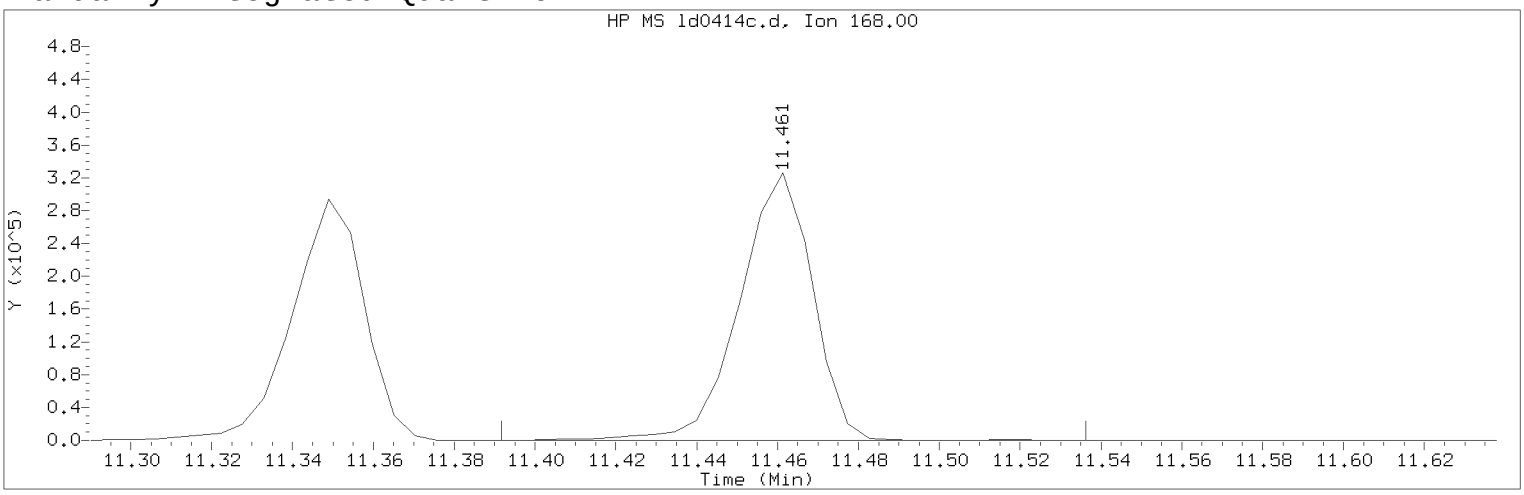
Compound Number : 105
Compound Name : 1,4-Dinitrobenzene
Scan Number : 1734
Retention Time (minutes) : 11.461
Quant Ion : 168.00
Area : 407726
On-column Amount (ng/ul) : 22.0018
Integration start scan : 1720 Integration stop scan: 1747
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user id: 1085 hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0414c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:28 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD20 Lab Sample ID: rvSTD0968

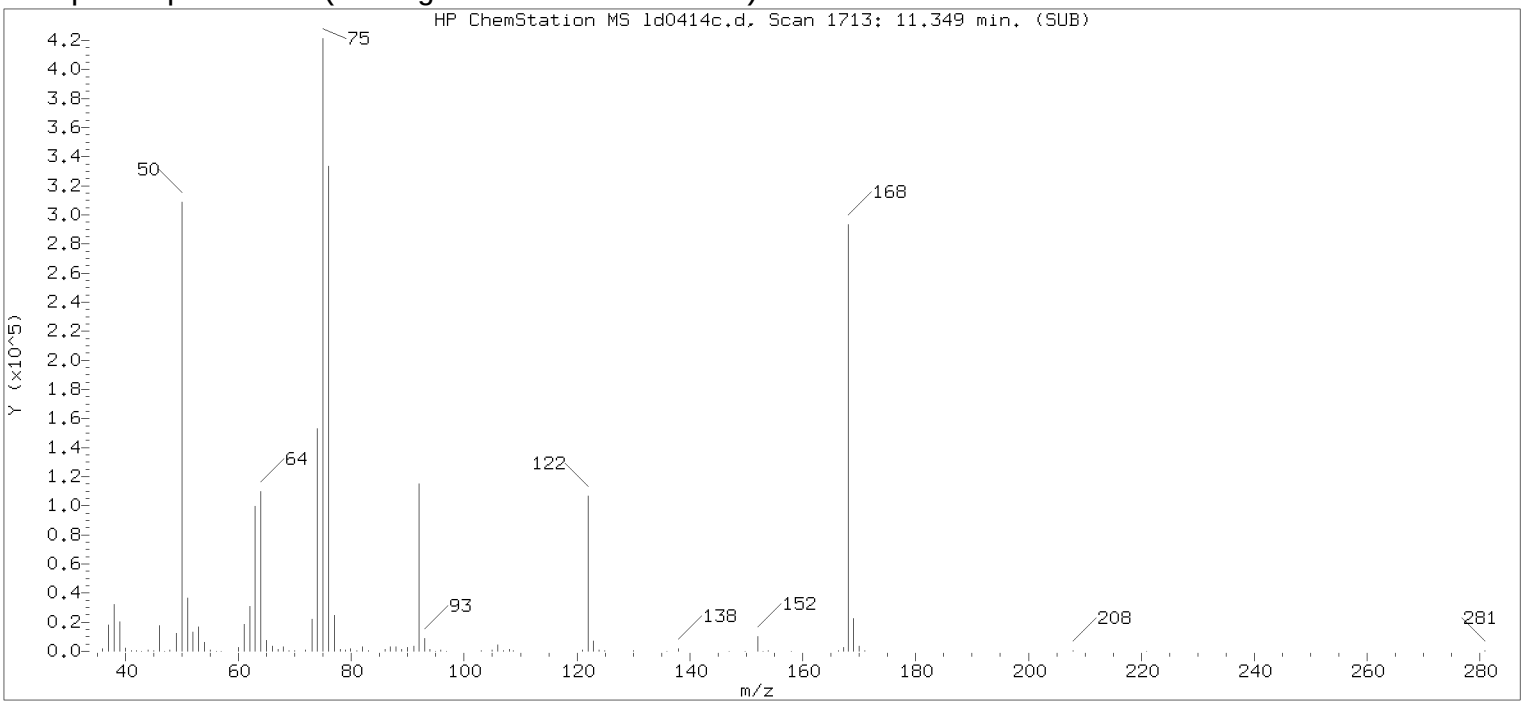
Compound Number : 107
Compound Name : 1,3-Dinitrobenzene
Scan Number : 1734
Retention Time (minutes) : 11.461
Quant Ion : 168.00
Area (flag) : 407713A
On-Column Amount (ng/ul) : 20.7239
Integration start scan : 1720 Integration stop scan: 1747
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

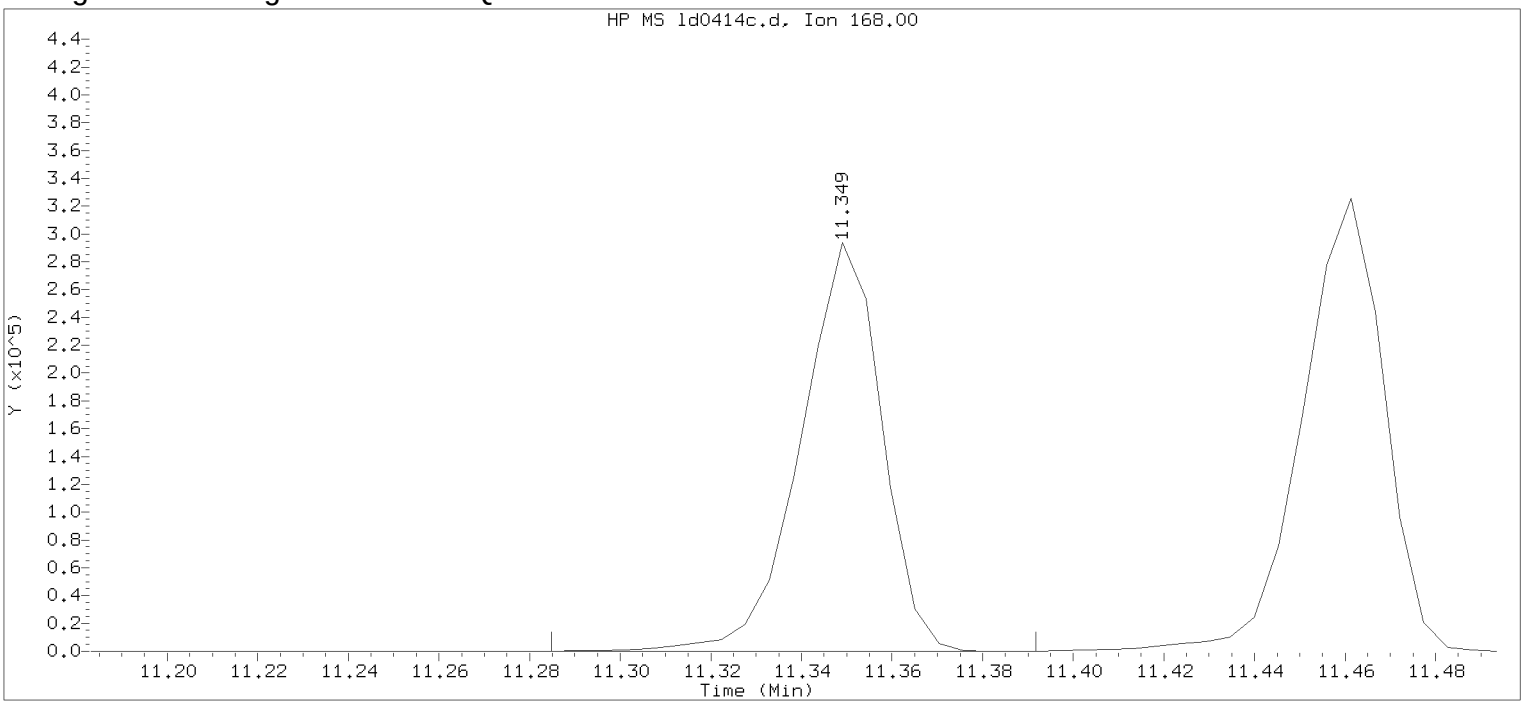
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0414c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:28 Analyst ID: hbz01996

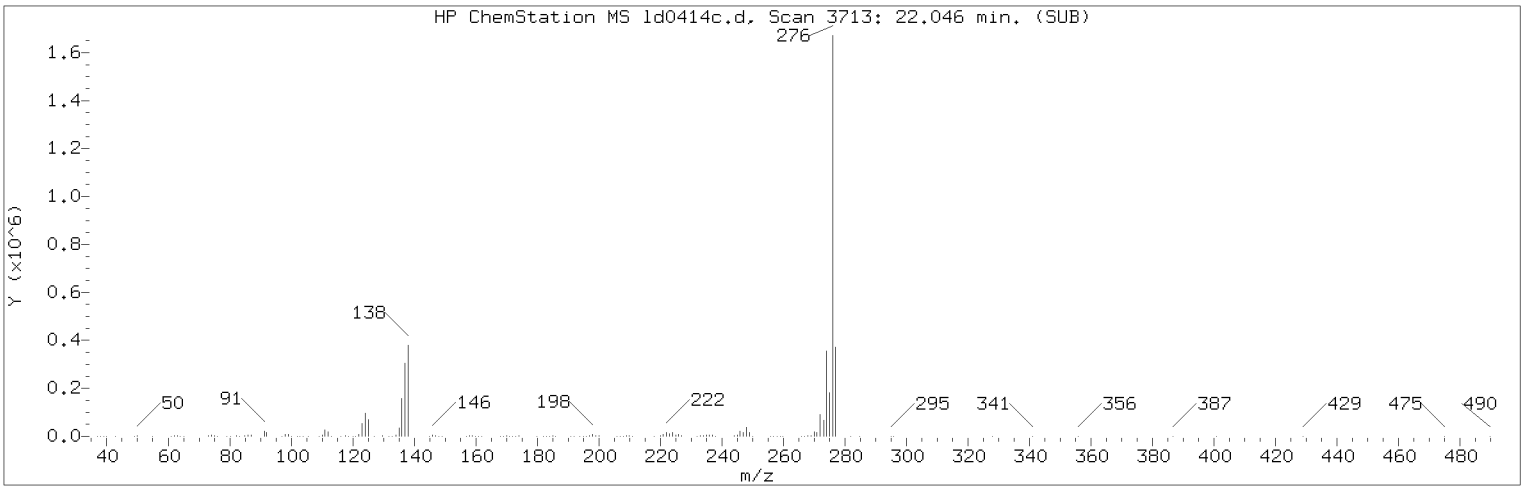
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD20 Lab Sample ID: rvSTD0968

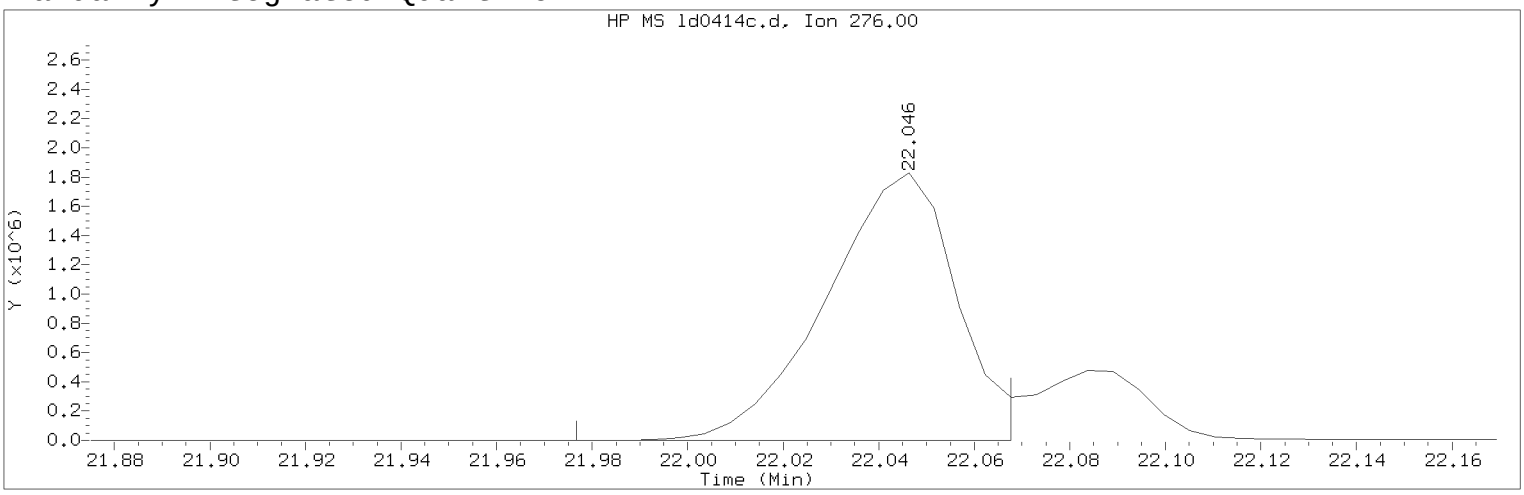
Compound Number : 107
Compound Name : 1,3-Dinitrobenzene
Scan Number : 1713
Retention Time (minutes) : 11.349
Quant Ion : 168.00
Area : 364974
On-column Amount (ng/ul) : 19.3442
Integration start scan : 1700 Integration stop scan: 1720
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: 1508

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0414c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:28 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD20 Lab Sample ID: rvSTD0968

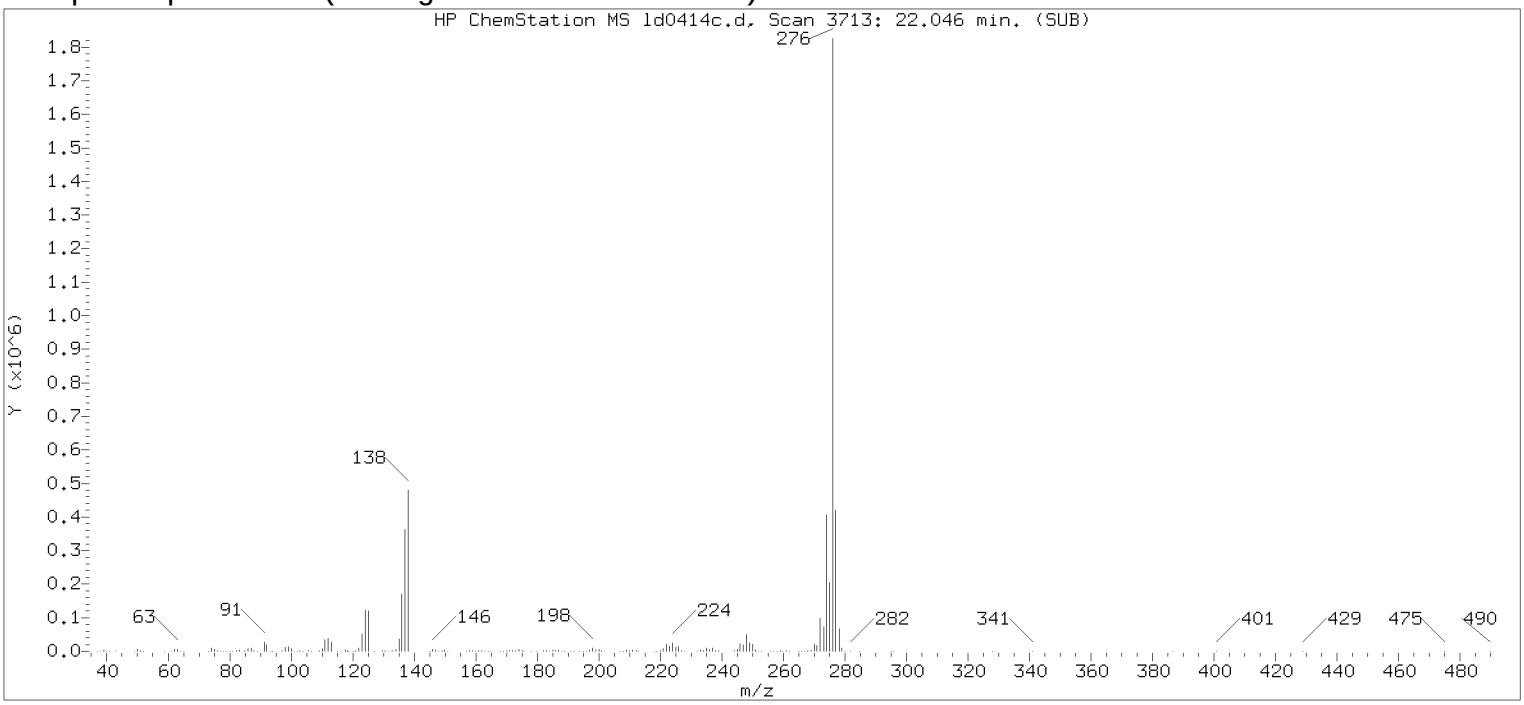
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3713
Retention Time (minutes) : 22.046
Quant Ion : 276.00
Area (flag) : 3474573M
On-Column Amount (ng/ul) : 20.8153
Integration start scan : 3699 Integration stop scan: 3716
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

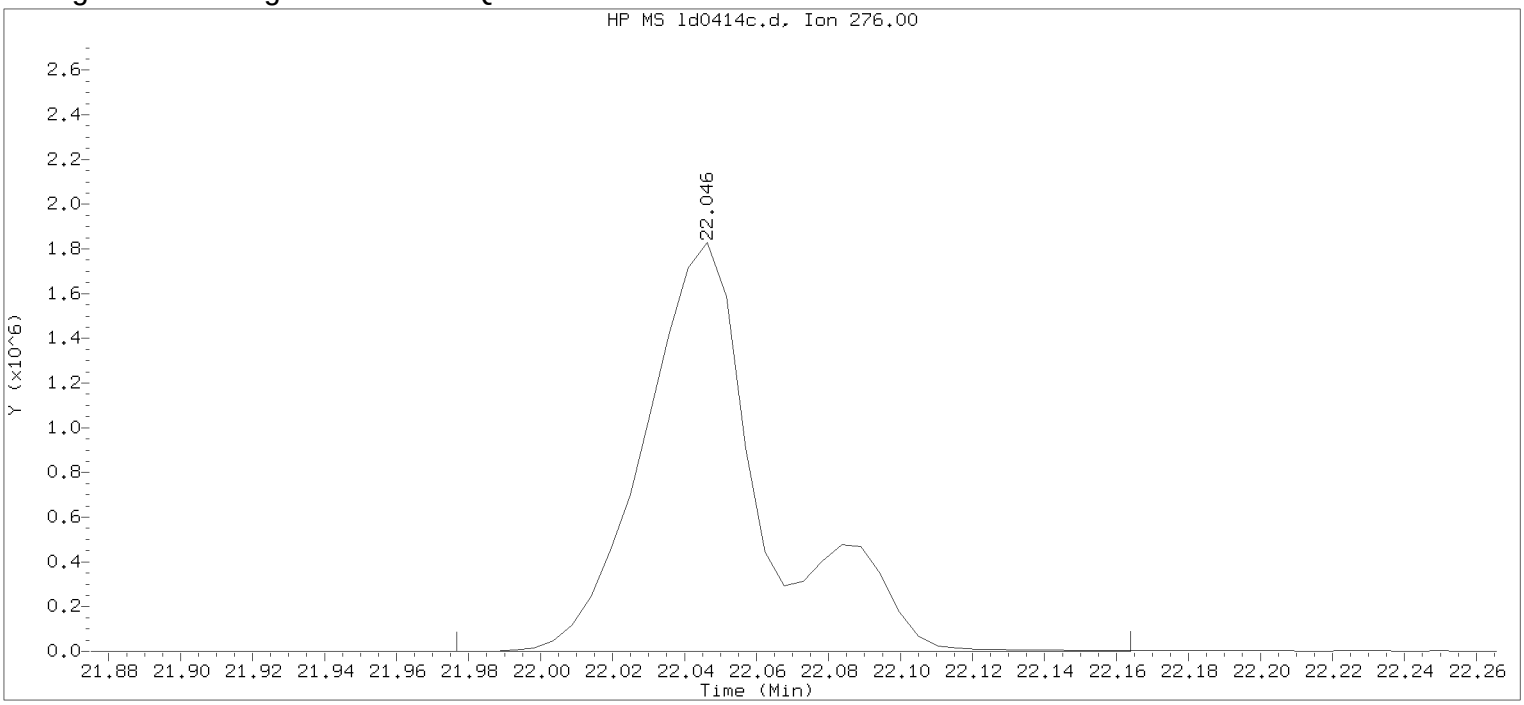
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



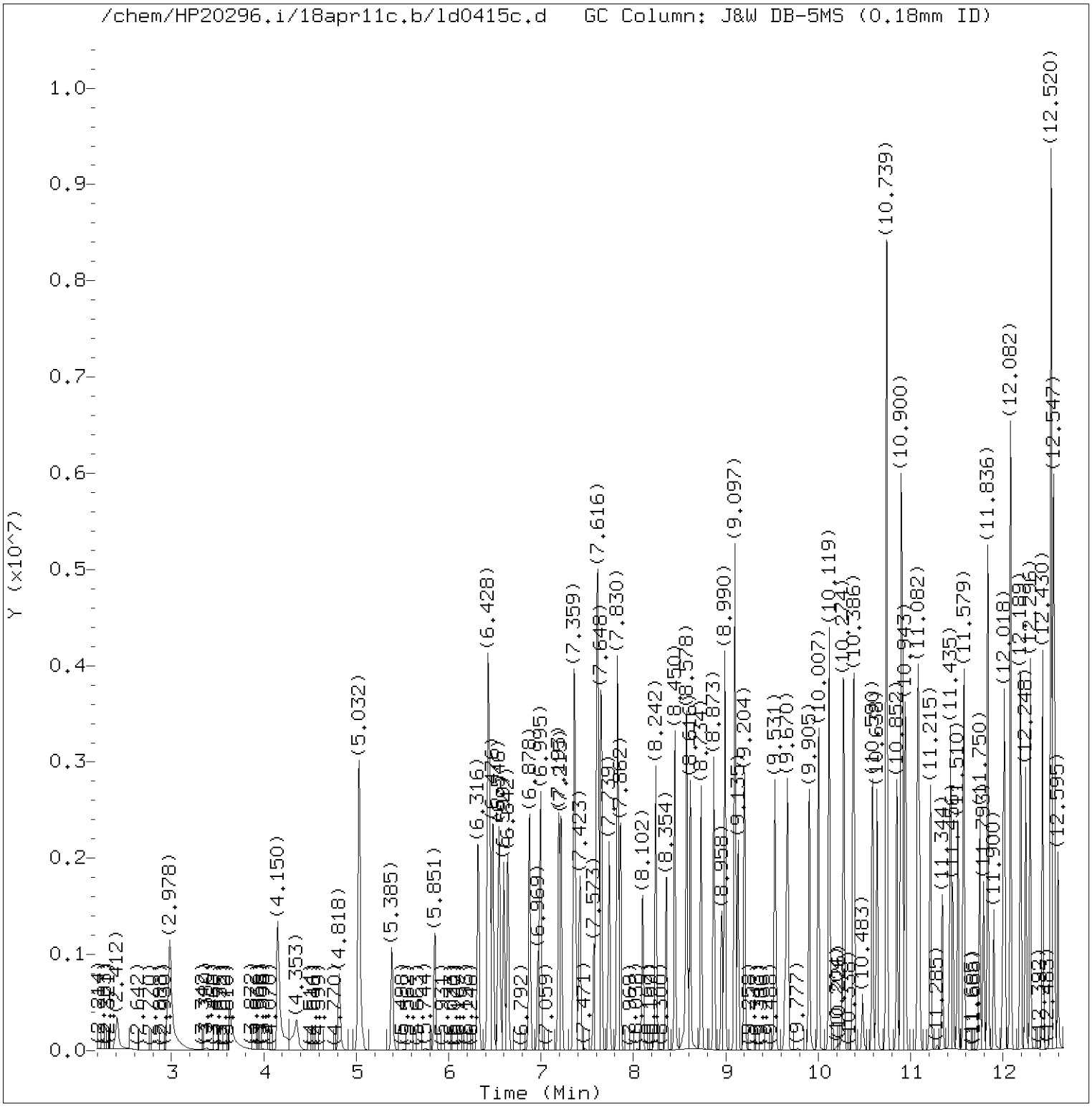
Data File: /chem/HP20296.i/18apr11c.b/ld0414c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:28 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD20 Lab Sample ID: rvSTD0968

Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3713
Retention Time (minutes) : 22.046
Quant Ion : 276.00
Area : 4223160
On-column Amount (ng/ul) : 22.6003
Integration start scan : 3699 Integration stop scan: 3734
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: 1085



Total Ion Chromatogram (TIC)

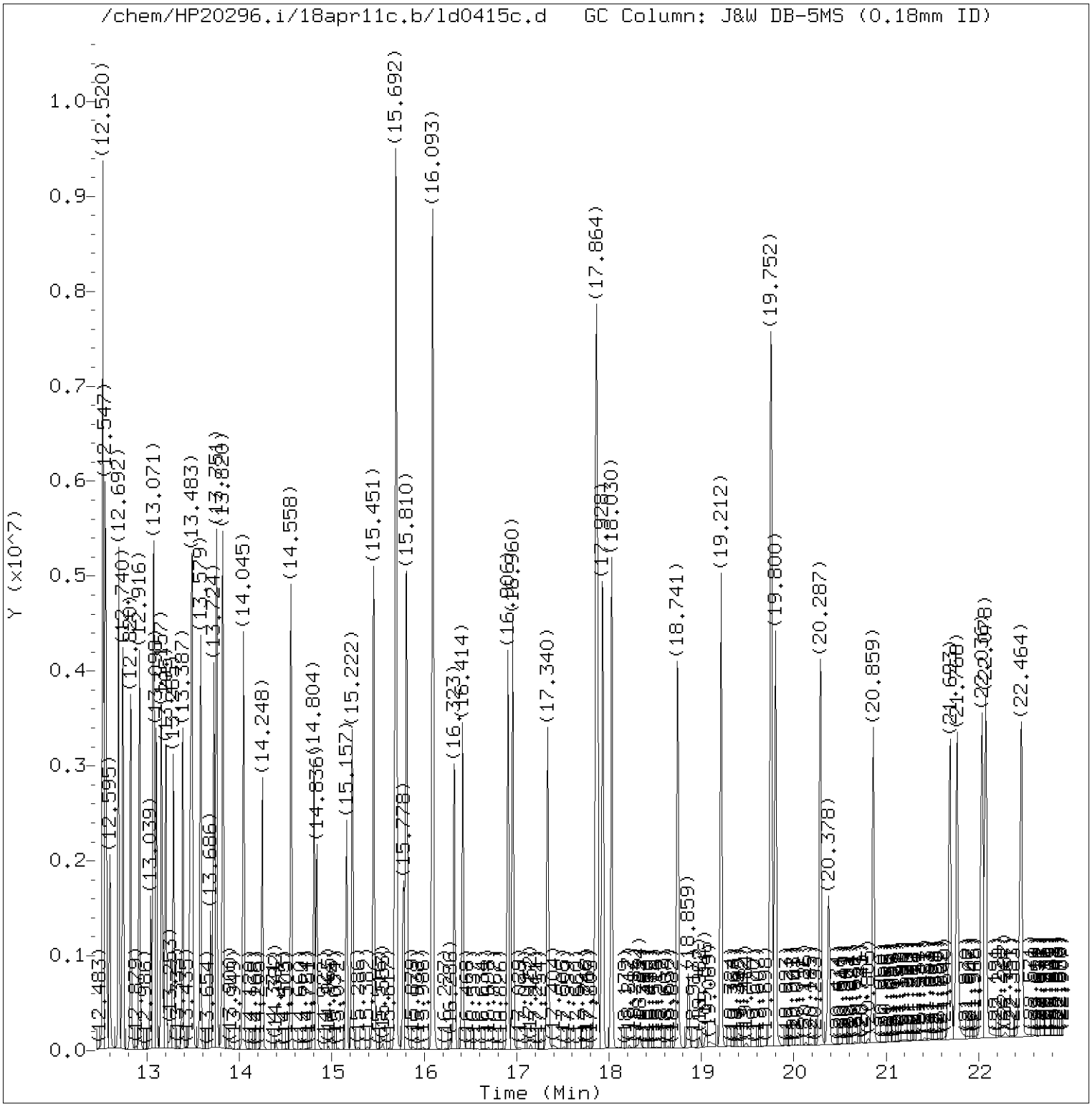
Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0415c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:56 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: rvSTD0968

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0415c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:56 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: rvSTD0968

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0415c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:56 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.412	88	343277	12.245
4) N-Nitrosodimethylamine	(1)	2.962	74	543010	12.405
5) Pyridine	(1)	2.984	79	942310	12.347
7) 2-Picoline	(1)	4.150	93	967983	12.463
8) N-Nitrosomethylethylamine	(1)	4.353	88	388091	12.426
9) Methyl methanesulfonate	(1)	4.813	80	467358	12.457
11)$2-Fluorophenol	(1)	5.032	112	1551518	25.017
13) N-Nitrosodiethylamine	(1)	5.385	102	379964	12.418
15) Ethyl methanesulfonate	(1)	5.851	109	400792	12.566
16) Benzaldehyde	(1)	6.316	77	731684	12.394
17)$Phenol-d6	(1)	6.428	99	2024132	25.256
18) Phenol	(1)	6.450	94	1156386	12.584
19) Aniline	(1)	6.482	93	1342572	12.499
20) a-methylstyrene	(1)	6.551	118	275509	12.366
22) bis(2-Chloroethyl)ether	(1)	6.599	93	853504	12.551
23) 2-Chlorophenol	(1)	6.642	128	758993	12.558
24) 1,3-Dichlorobenzene	(1)	6.878	146	855615	12.620
25)*1,4-Dichlorobenzene-d4	(1)	6.969	152	211752	5.000
26) 1,4-Dichlorobenzene	(1)	6.995	146	865912	12.674
27) Benzyl alcohol	(1)	7.193	108	483854	12.453
28) 1,2-Dichlorobenzene	(1)	7.220	146	827218	12.669
30) Indene	(1)	7.359	115	1136528	12.403
31) 2-Methylphenol	(1)	7.370	108	735994	12.566
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.423	45	1201938	12.591
34) bis(2-Chloroisopropyl)ether	(1)	7.423	45	1201938	12.591
35) N-Nitrosopyrrolidine	(1)	7.573	100	415378	12.720
36) Acetophenone	(1)	7.600	105	1176534	12.527
37) 4-Methylphenol	(1)	7.616	108	781622	12.635
38) N-Nitroso-di-n-propylamine	(1)	7.621	70	637449	12.562
39) N-Nitrosomorpholine	(1)	7.648	56	520245	12.621
40) o-Toluidine	(1)	7.653	106	1307419	12.657
42) Total Cresols	(1)			1517616	25.201
43) Hexachloroethane	(1)	7.739	117	351118	12.611
44)$Nitrobenzene-d5	(2)	7.830	82	1865065	25.432
45) Nitrobenzene	(2)	7.862	77	956325	12.739
48) N-Nitrosopiperidine	(2)	8.102	114	388510	12.627
50) Isophorone	(2)	8.242	82	1658622	12.644
51) 2-Nitrophenol	(2)	8.359	139	397185	12.767
53) 2,4-Dimethylphenol	(2)	8.450	107	820171	12.657
57) O,O,O-Triethylphosphorothioate	(2)	8.578	198	387362	12.612

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

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0415c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:56 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
56) Benzoic acid	(2)	8.595	105	468719	12.961
55) bis(2-Chloroethoxy)methane	(2)	8.616	93	1056918	12.632
60) 2,4-Dichlorophenol	(2)	8.734	162	651095	12.731
62) 1,2,4-Trichlorobenzene	(2)	8.873	180	714899	12.741
65)*Naphthalene-d8	(2)	8.958	136	809618	5.000
66) Naphthalene	(2)	8.990	128	2246678	13.183
67) 4-Chloroaniline	(2)	9.097	127	914674	12.833
68) 2,6-Dichlorophenol	(2)	9.103	162	634941	12.704
69) Hexachloropropene	(2)	9.135	213	504229	12.779
71) Hexachlorobutadiene	(2)	9.204	225	425515	12.501
75) Quinoline	(2)	9.536	129	1380558	12.756
76) Caprolactam	(2)	9.659	113	198292	12.835
77) N-Nitrosodi-n-butylamine	(2)	9.670	84	752237	13.273
80) 4-Chloro-3-methylphenol	(2)	9.905	107	711136	12.678
82) Safrole	(2)	10.007	162	579048	12.750
83) 2-Methylnaphthalene	(2)	10.119	142	1497089	13.279
84) 1-Methylnaphthalene	(2)	10.279	142	1348170	13.011
85) Hexachlorocyclopentadiene	(3)	10.376	237	441901	12.533
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.392	216	737628	12.586
88) cis-Isosafrole	(3)	10.483	162	107378	2.097
90) 2,4,6-Trichlorophenol	(3)	10.590	196	478567	12.354
92) 2,4,5-Trichlorophenol	(3)	10.638	196	510889	12.710
97) Isosafrole	(3)			673014	12.448
93)$2-Fluorobiphenyl	(3)	10.745	172	3335794	25.060
94) trans-Isosafrole	(3)	10.852	162	565636	10.351
95) 1,1'-Biphenyl	(3)	10.900	154	1778184	12.423
96) 2-Chloronaphthalene	(3)	10.911	162	1413643	12.024
98) 1-Chloronaphthalene	(3)	10.943	162	1359834	13.110
99) Diphenyl ether	(3)	11.082	170	962426	12.518
100) 2-Nitroaniline	(3)	11.098	138	453067	12.602
104) 1,4-Naphthoquinone	(3)	11.215	158	594110	12.681
105) 1,4-Dinitrobenzene	(3)	11.344	168	229135A	12.503
106) Dimethylphthalate	(3)	11.435	163	1636482	12.800
107) 1,3-Dinitrobenzene	(3)	11.456	168	253090A	12.401
108) 2,6-Dinitrotoluene	(3)	11.515	165	365821	12.518
109) Acenaphthylene	(3)	11.579	152	2128808	13.072
112) 3-Nitroaniline	(3)	11.750	138	385864	12.387
113)*Acenaphthene-d10	(3)	11.793	164	421078	5.000
114) Acenaphthene	(3)	11.836	153	1448303	12.666
115) 2,4-Dinitrophenol	(3)	11.905	184	215832	12.634

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

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0415c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:56 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120) 2,4_2,6-Dinitrotoluenes	(3)			855073	25.161
116) 4-Nitrophenol	(3)	12.002	109	262395	12.675
117) Pentachlorobenzene	(3)	12.018	250	600636	12.579
119) Dibenzofuran	(3)	12.082	168	2007396	12.629
118) 2,4-Dinitrotoluene	(3)	12.087	165	489252	12.642
121) 1-Naphthylamine	(3)	12.194	143	1421355	12.539
122) 2,3,4,6-Tetrachlorophenol	(3)	12.248	232	396135	12.464
123) 2-Naphthylamine	(3)	12.296	143	1353622	12.556
124) Diethylphthalate	(3)	12.430	149	1624883	12.733
126) Fluorene	(3)	12.520	166	1603449	12.939
125) Thionazin	(3)	12.526	107	279967	12.848
127) 4-Chlorophenyl-phenylether	(3)	12.542	204	769368	12.678
128) 5-Nitro-o-toluidine	(3)	12.553	152	443390	12.523
129) 4-Nitroaniline	(3)	12.563	138	387375	12.621
130) 4,6-Dinitro-2-methylphenol	(4)	12.595	198	288121	12.703
131) N-Nitrosodiphenylamine	(4)	12.692	169	1298424	12.635
132) NDPA as diphenylamine	(4)	12.692	169	1298424	12.635
134) 1,2-Diphenylhydrazine	(4)	12.740	77	1839236	12.781
135)$2,4,6-Tribromophenol	(3)	12.825	330	382026	24.813
137) Tetraethyldithiopyrophosphate	(4)	12.916	97	312735	12.923
146) Diallate trans/cis	(4)			787131	12.650
139) 1,3,5-Trinitrobenzene	(4)	13.039	213	176303	12.644
140) Diallate (peak 1)	(4)	13.066	86	673721	10.515
141) Phorate	(4)	13.077	75	1203177	12.903
142) Phenacetin	(4)	13.098	108	890698	12.856
143) 4-Bromophenyl-phenylether	(4)	13.157	248	429649	12.587
144) Diallate (peak 2)	(4)	13.173	86	113410	2.134
145) Hexachlorobenzene	(4)	13.205	284	439629	12.592
147) Dimethoate	(4)	13.285	87	718759	12.780
148) Atrazine	(4)	13.387	200	426688	12.690
149) Pentachlorophenol	(4)	13.467	266	286572	12.754
151) Pentachloronitrobenzene	(4)	13.478	237	217743	12.765
150) 4-Aminobiphenyl	(4)	13.489	169	1565620	12.979
152) Pronamide	(4)	13.579	173	781837	12.752
153)*Phenanthrene-d10	(4)	13.719	188	827855	5.000
154) Dinoseb	(4)	13.724	211	471187	12.684
155) Phenanthrene	(4)	13.751	178	2353941	12.645
157) Anthracene	(4)	13.820	178	2427163	13.058
163) Carbazole	(4)	14.045	167	2156503	12.795
164) Methyl parathion	(4)	14.248	109	558636	12.689

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

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0415c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:56 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

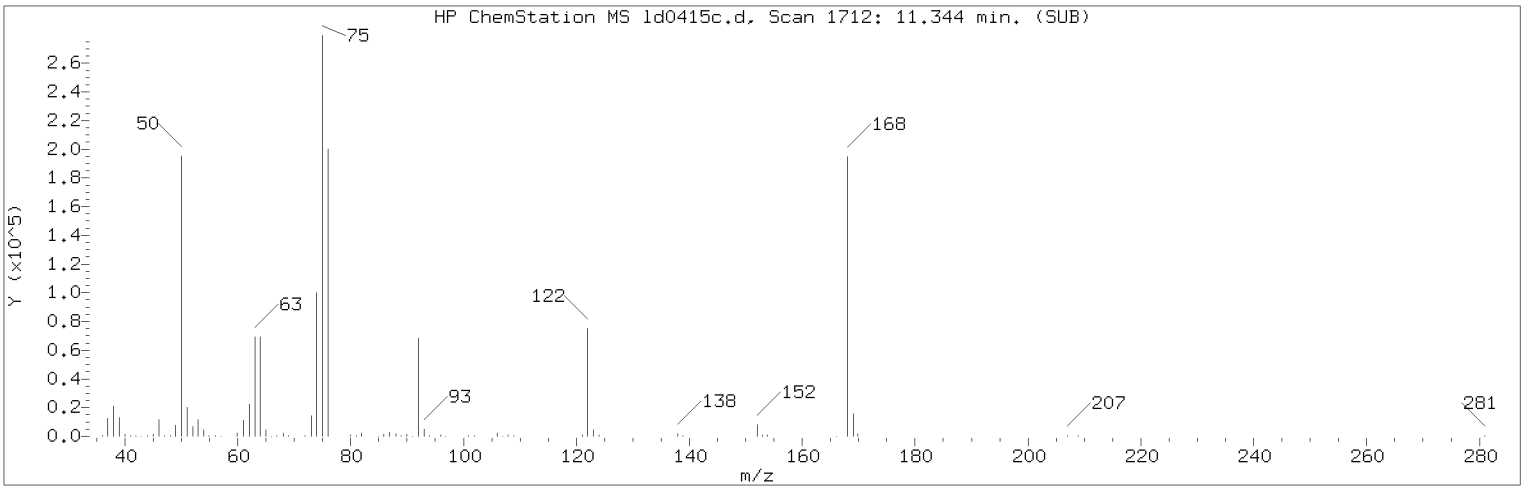
Sample Name: SSTD12.5 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
165) Di-n-butylphthalate	(4)	14.558	149	2849939	12.700
167) Parathion	(4)	14.804	109	364046	12.645
168) 4-Nitroquinoline-1-oxide	(4)	14.836	190	289404	12.769
169) Octachlorostyrene	(4)	15.157	308	160271	12.375
171) Isodrin	(4)	15.222	193	288730	12.687
173) Fluoranthene	(4)	15.451	202	2761164	13.091
174) Benzidine	(5)	15.692	184	4958640	38.540
175)*Pyrene-d10	(5)	15.778	212	857467	5.000
177) Pyrene	(5)	15.810	202	2807255	12.786
179)$Terphenyl-d14	(5)	16.093	244	3595323	25.608
182) p-Dimethylaminoazobenzene	(5)	16.329	225	472693	12.753
185) Chlorobenzilate	(5)	16.414	139	853683	12.787
187) 3,3'-Dimethylbenzidine	(5)	16.906	212	1877616	12.709
188) Butylbenzylphthalate	(5)	16.960	149	1339126	12.711
191) 2-Acetylaminofluorene	(5)	17.340	181	1097107	12.733
193) 3,3'-Dichlorobenzidine	(5)	17.853	252	936418	12.693
195) Benzo(a)anthracene	(5)	17.864	228	2637711	13.188
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.874	231	562322	12.867
196) Chrysene	(5)	17.928	228	2493235	13.075
199) bis(2-Ethylhexyl)phthalate	(5)	18.030	149	1902902	12.715
203) 6-Methylchrysene	(5)	18.741	242	1709431	12.582
205) Di-n-octylphthalate	(6)	19.212	149	3317041	12.972
206) Benzo(b)fluoranthene	(6)	19.752	252	2532431	13.181
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.757	256	1082306	12.875
208) Benzo(k)fluoranthene	(6)	19.805	252	2396337	13.271
211) Benzo(a)pyrene	(6)	20.287	252	2324318	13.386
213)*Perylene-d12	(6)	20.378	264	765986	5.000
215) 3-Methylcholanthrene	(6)	20.859	268	1112827	12.792
217) Dibenz(a,h)acridine	(6)	21.693	279	1876158	12.741
218) Dibenz(a,j)acridine	(6)	21.768	279	1921081	12.836
222) Total PAHs	(6)			39682853	235.651
219) Indeno(1,2,3-cd)pyrene	(6)	22.041	276	2208815M	13.282
220) Dibenz(a,h)anthracene	(6)	22.078	278	2240552	13.389
221) Benzo(g,h,i)perylene	(6)	22.464	276	2227434	13.153

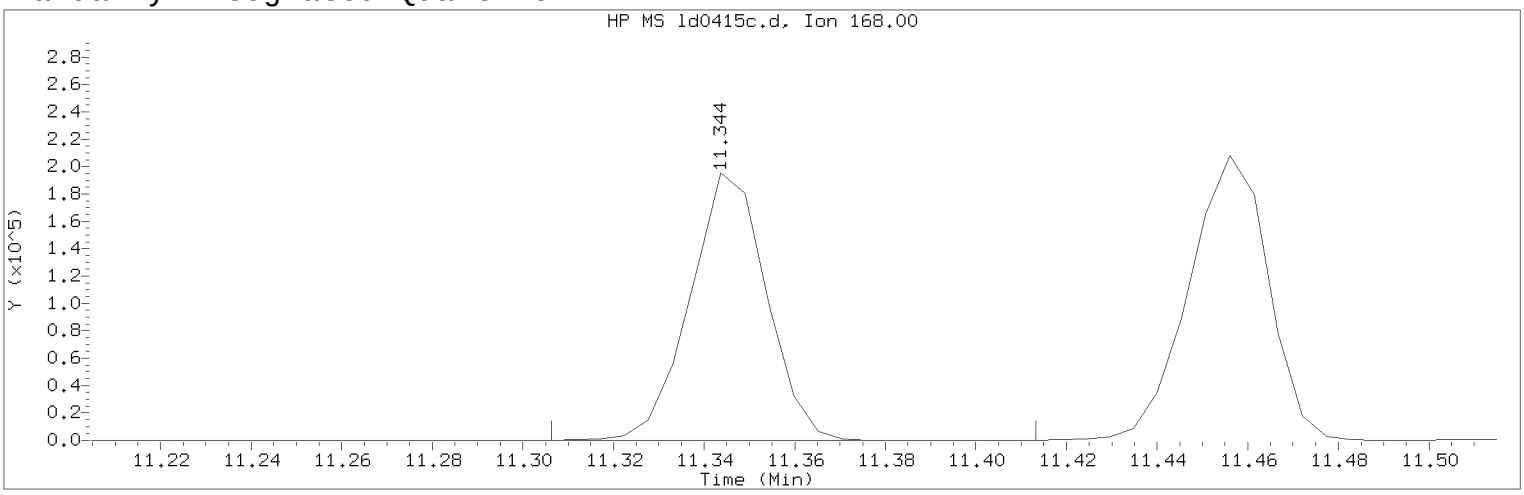
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0415c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:56 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: rvSTD0968

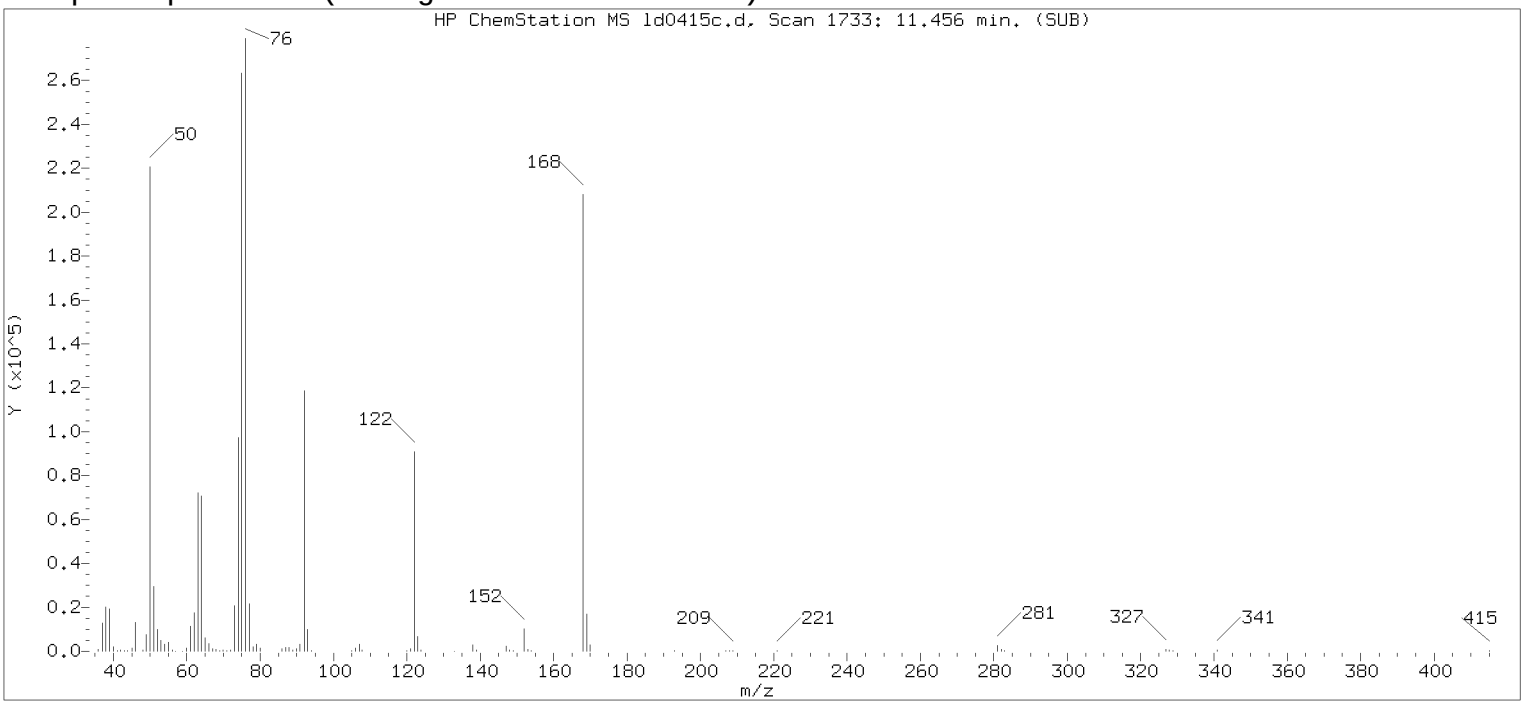
Compound Number : 105
Compound Name : 1,4-Dinitrobenzene
Scan Number : 1712
Retention Time (minutes) : 11.344
Quant Ion : 168.00
Area (flag) : 229135A
On-Column Amount (ng/ul) : 12.5031
Integration start scan : 1704 Integration stop scan: 1724
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

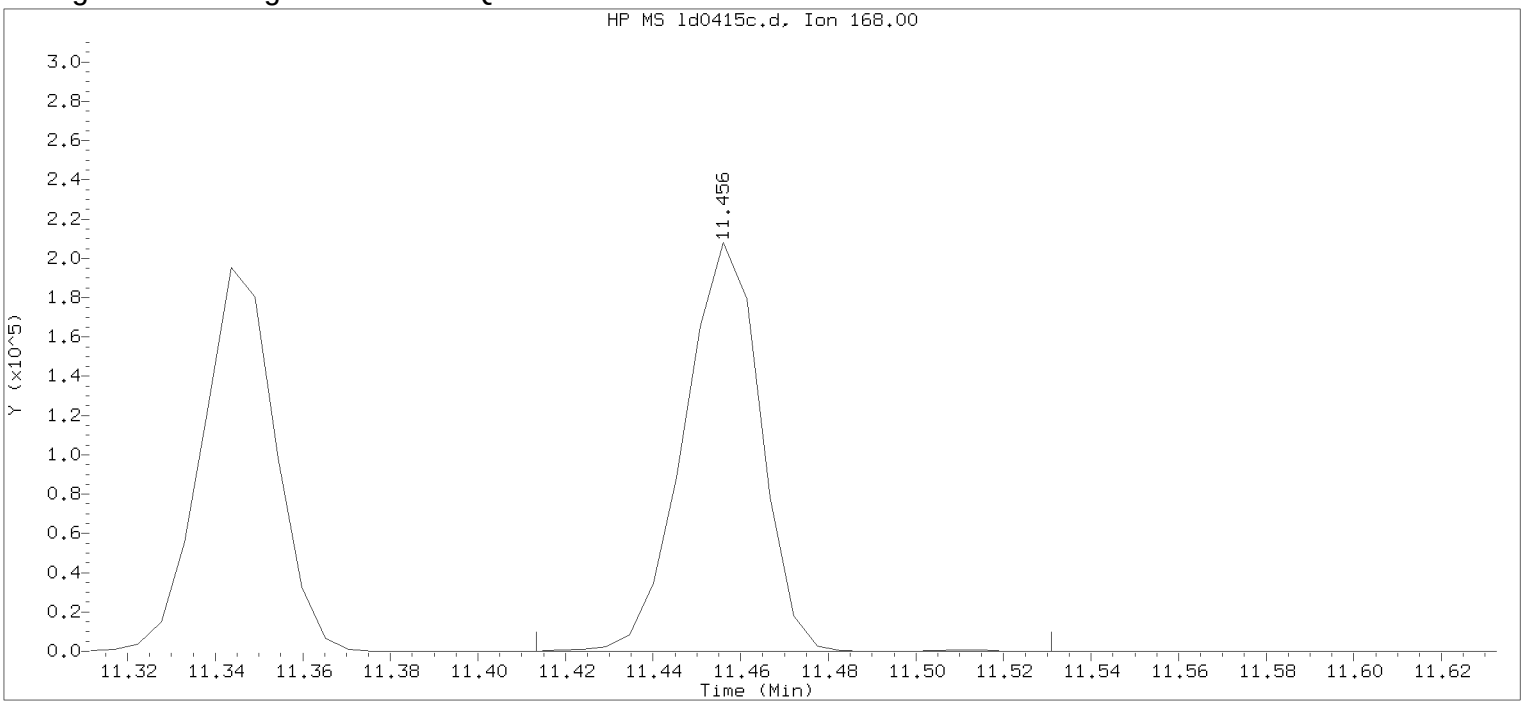
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0415c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:56 Analyst ID: hbz01996

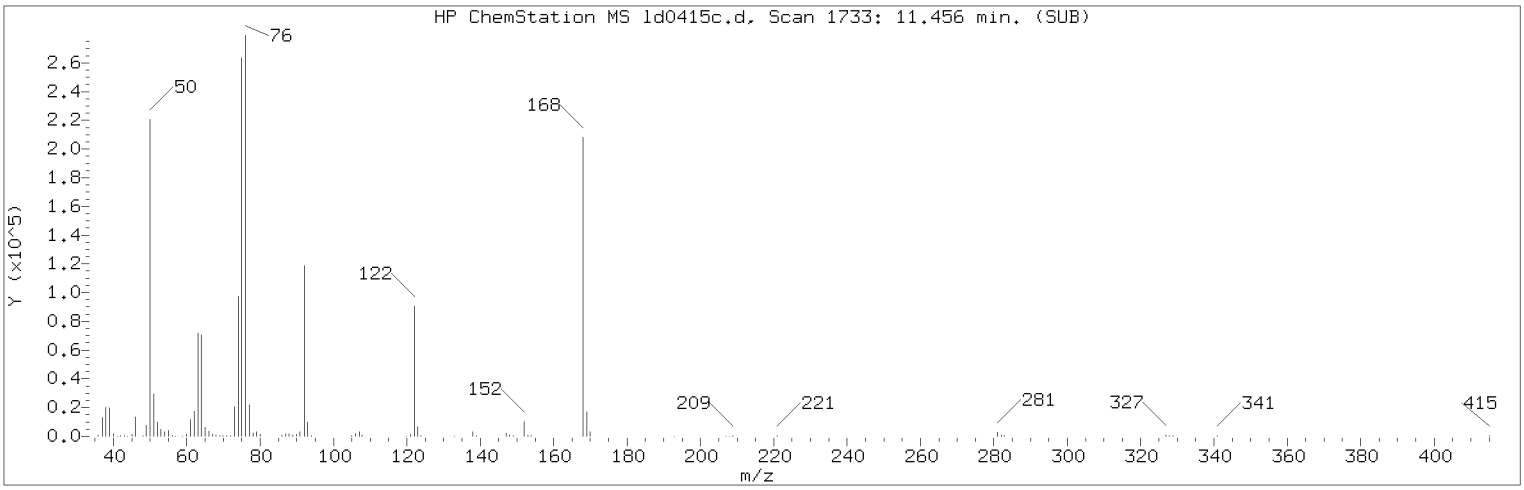
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD12.5 Lab Sample ID: rvSTD0968

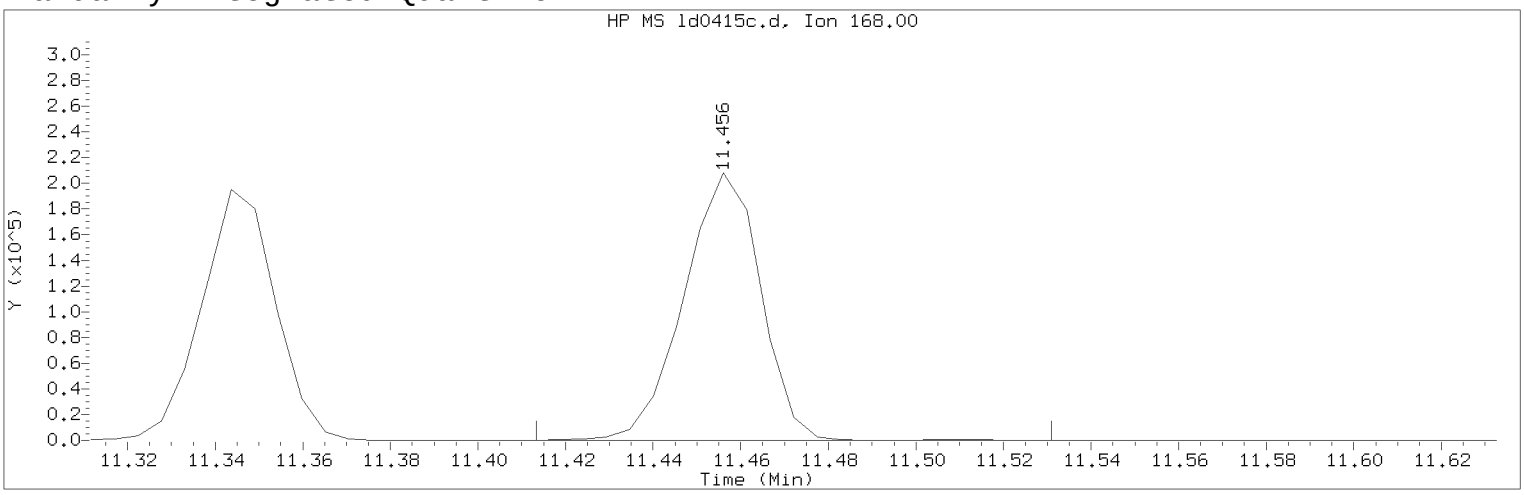
Compound Number : 105
Compound Name : 1,4-Dinitrobenzene
Scan Number : 1733
Retention Time (minutes) : 11.456
Quant Ion : 168.00
Area : 253098
On-column Amount (ng/ul) : 12.9237
Integration start scan : 1724 Integration stop scan: 1746
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user id: 1085 hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0415c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:56 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: rvSTD0968

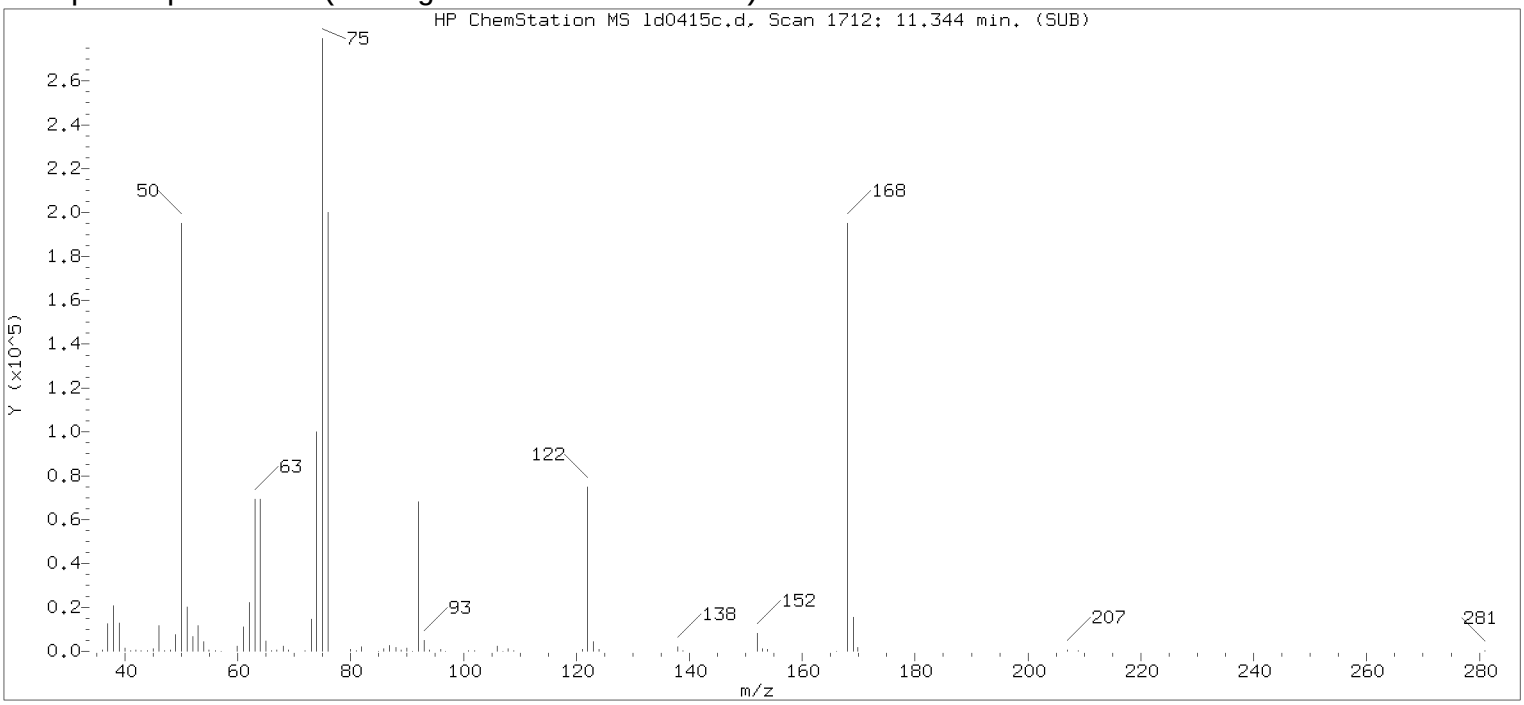
Compound Number : 107
Compound Name : 1,3-Dinitrobenzene
Scan Number : 1733
Retention Time (minutes) : 11.456
Quant Ion : 168.00
Area (flag) : 253090A
On-Column Amount (ng/ul) : 12.4009
Integration start scan : 1724 Integration stop scan: 1746
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

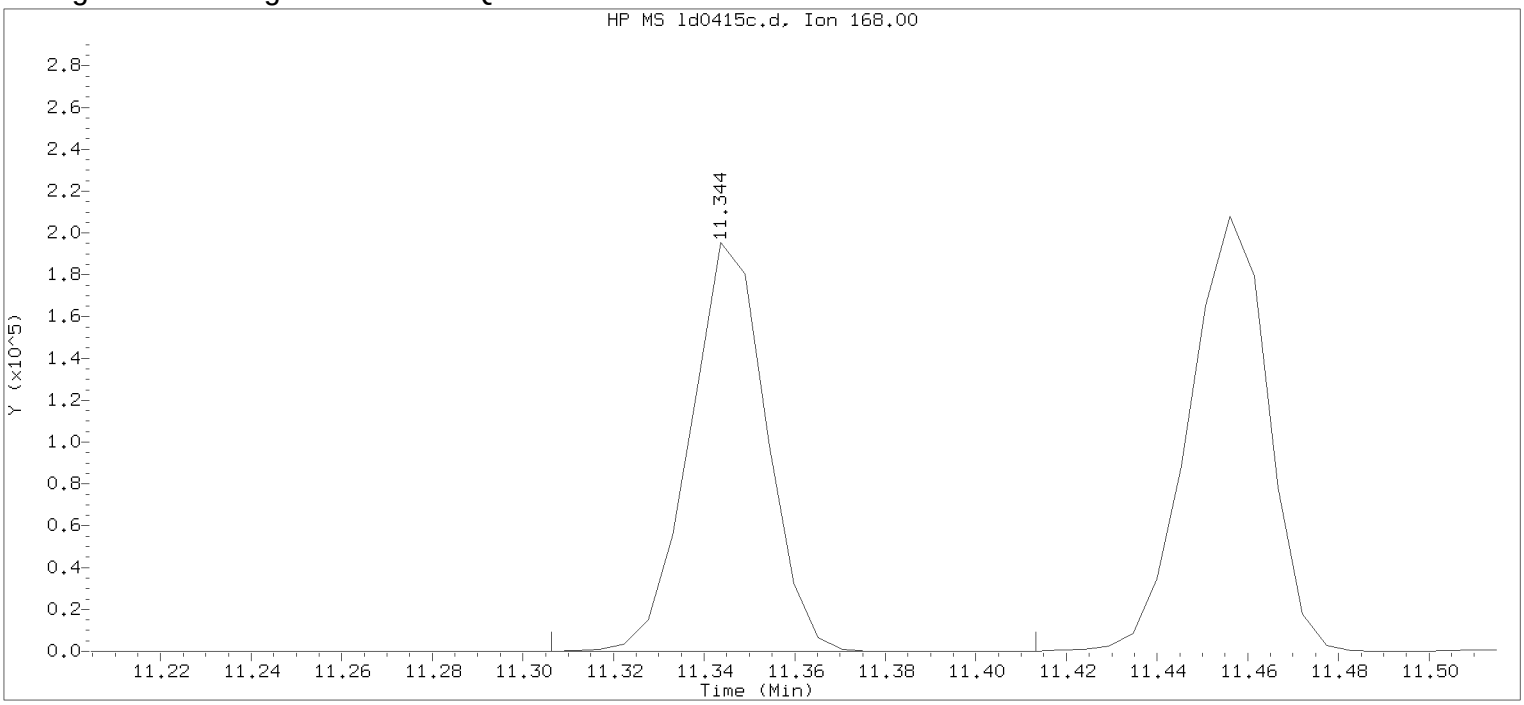
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0415c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:56 Analyst ID: hbz01996

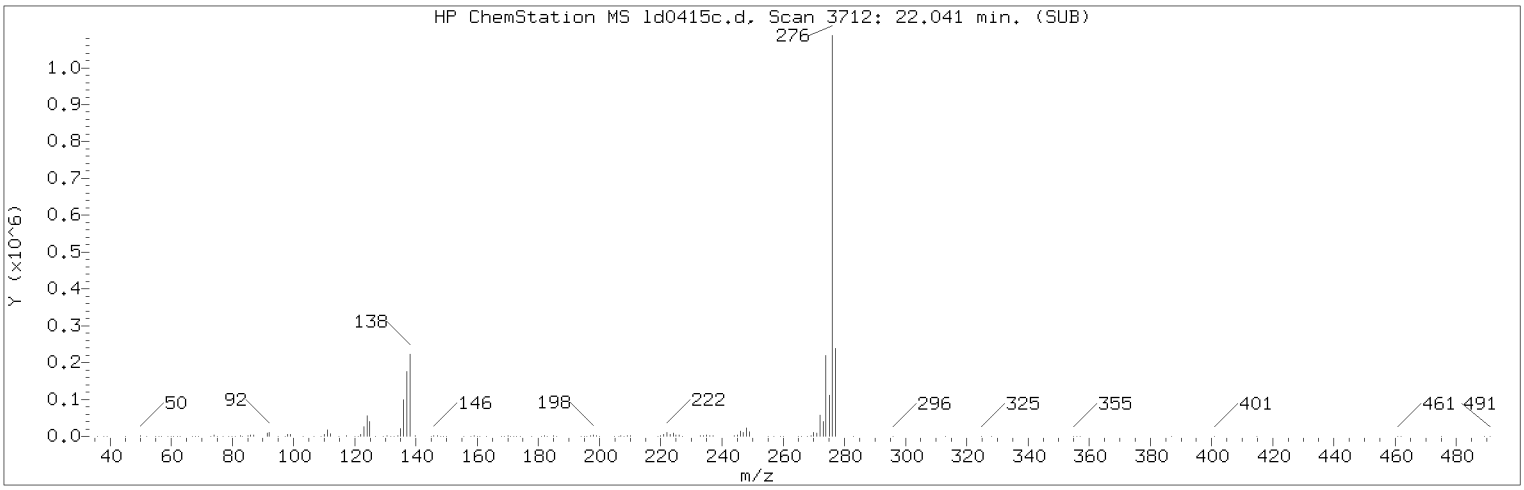
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD12.5 Lab Sample ID: rvSTD0968

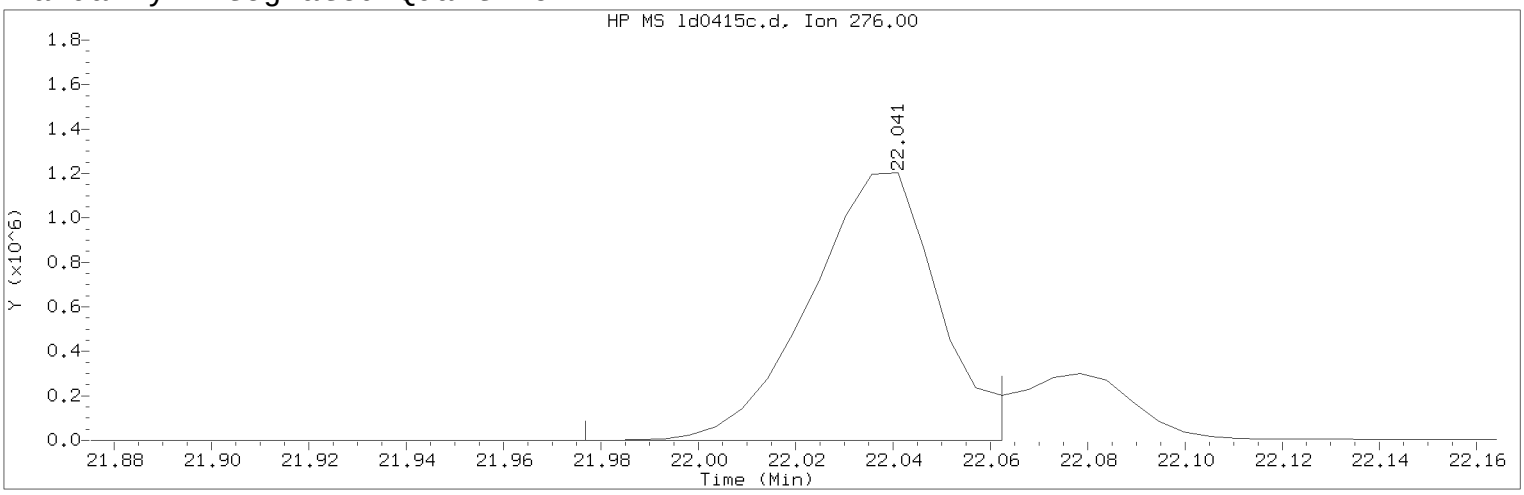
Compound Number : 107
Compound Name : 1,3-Dinitrobenzene
Scan Number : 1712
Retention Time (minutes) : 11.344
Quant Ion : 168.00
Area : 229128
On-column Amount (ng/ul) : 11.8949
Integration start scan : 1704 Integration stop scan: 1724
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: 1023

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0415c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:56 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: rvSTD0968

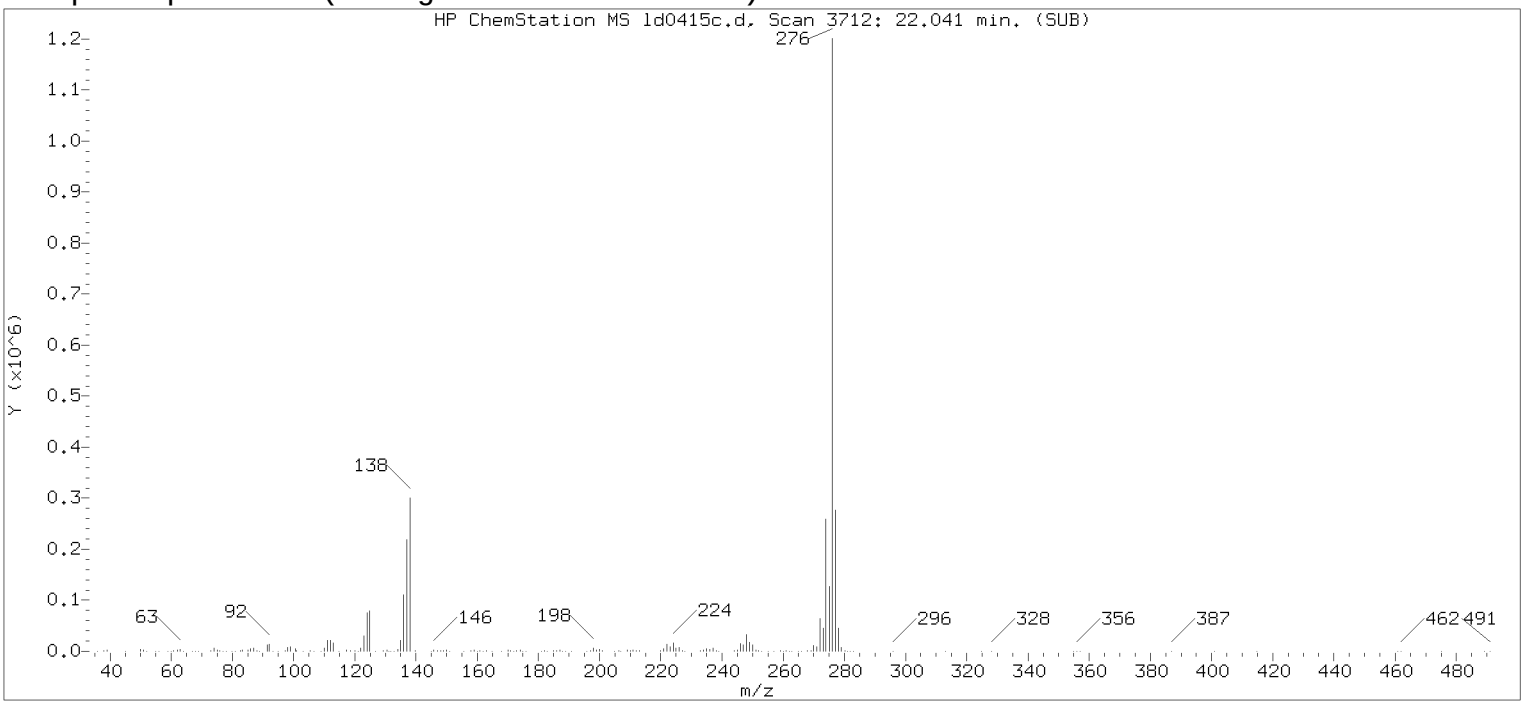
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3712
Retention Time (minutes) : 22.041
Quant Ion : 276.00
Area (flag) : 2208815M
On-Column Amount (ng/ul) : 13.2816
Integration start scan : 3699 Integration stop scan: 3715
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

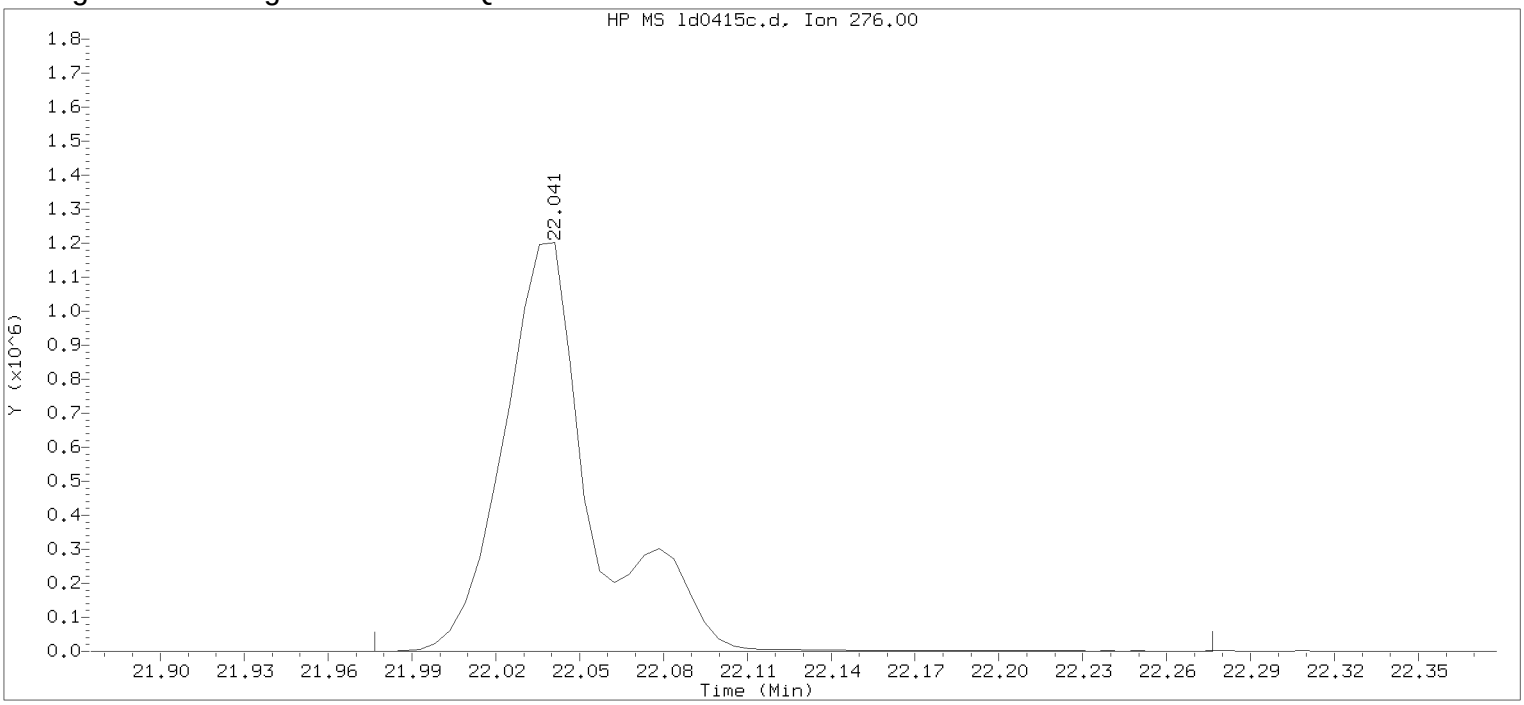
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



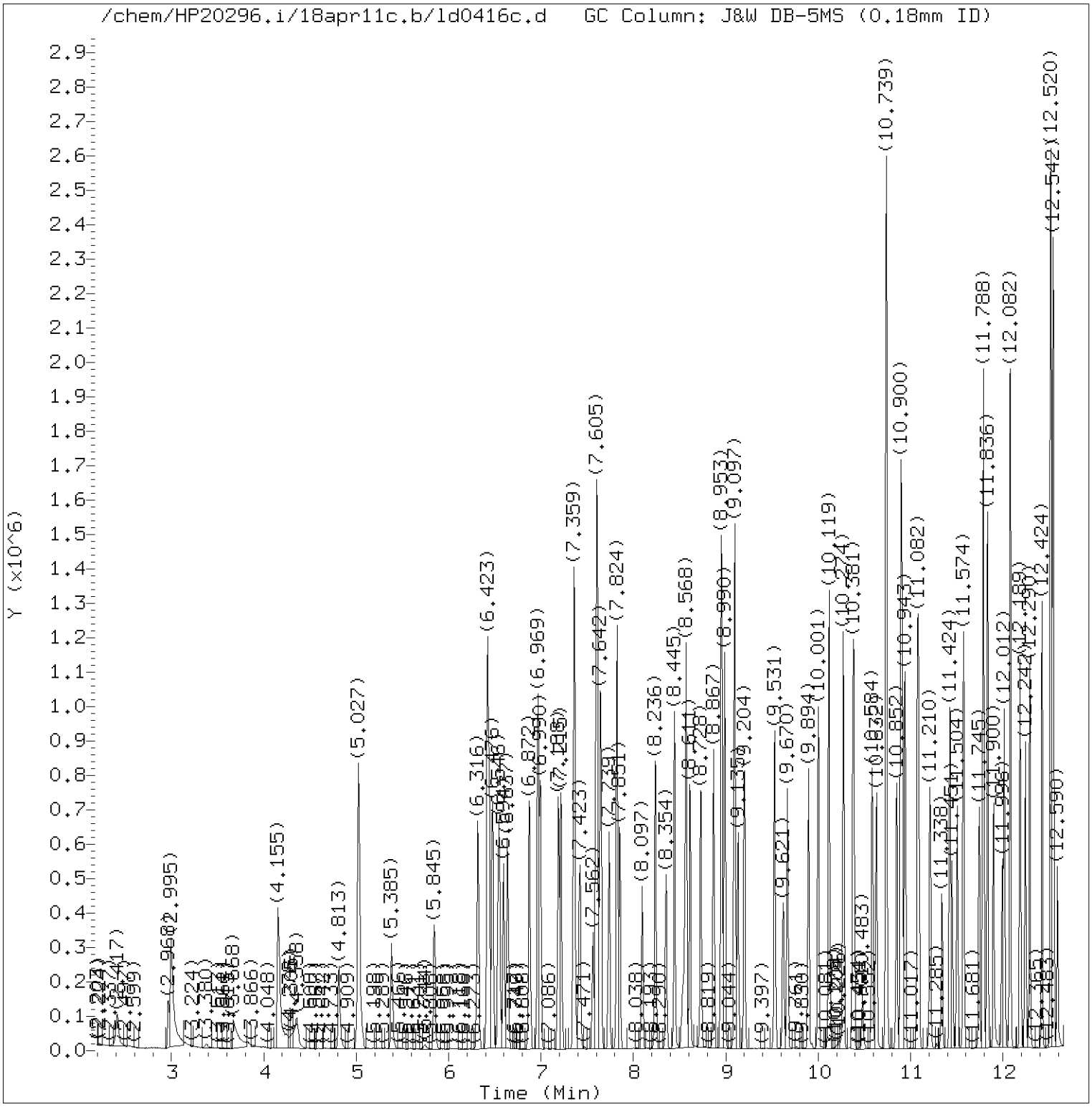
Data File: /chem/HP20296.i/18apr11c.b/ld0415c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 10:56 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD12.5 Lab Sample ID: rvSTD0968

Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3712
Retention Time (minutes) : 22.041
Quant Ion : 276.00
Area : 2680104
On-column Amount (ng/ul) : 14.2471
Integration start scan : 3699 Integration stop scan: 3755
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: 1528



Total Ion Chromatogram (TIC)

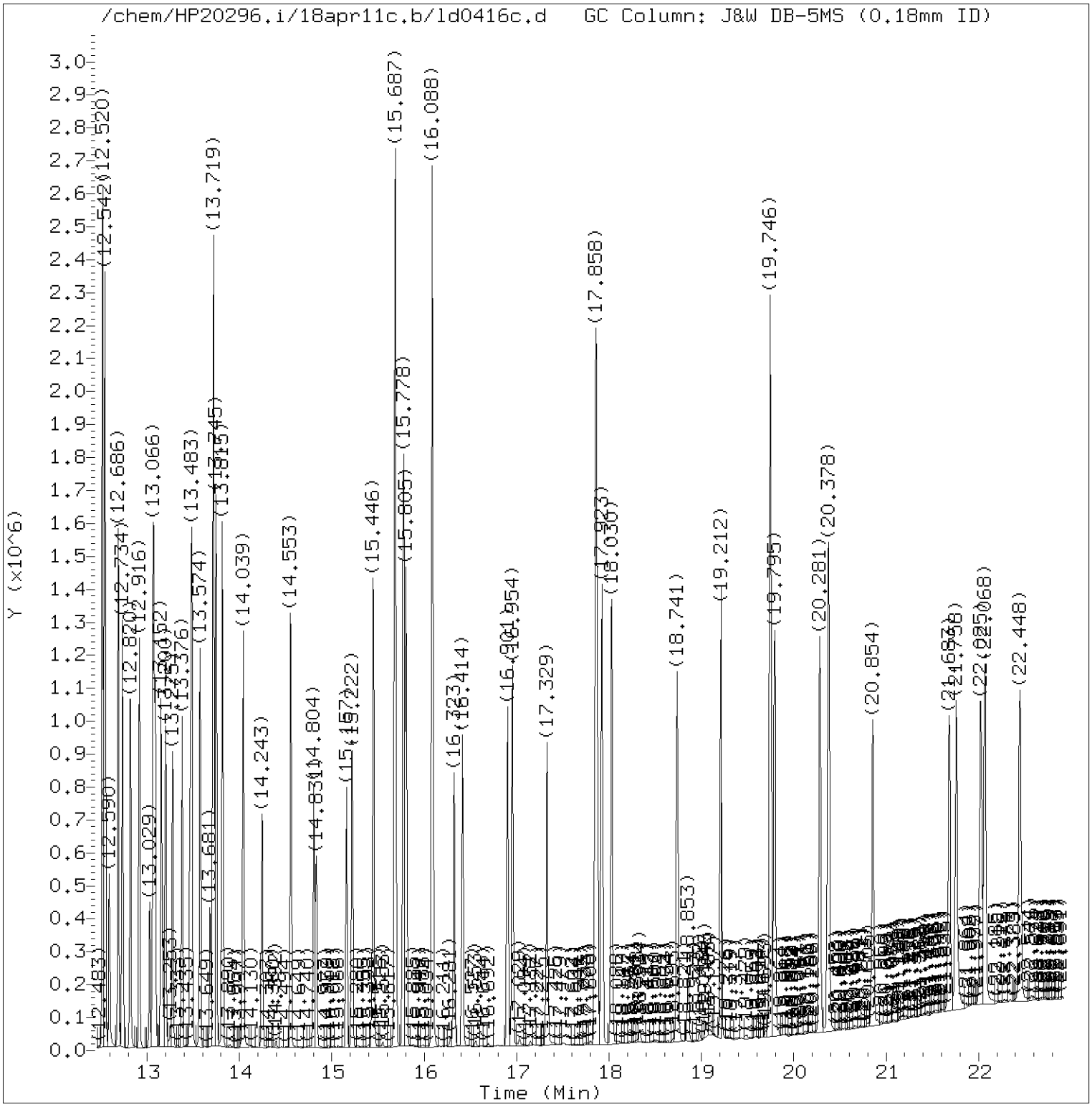
Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0416c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:24 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0968

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0416c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:24 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0968

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0416c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:24 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.417	88	97270M	3.456
4) N-Nitrosodimethylamine	(1)	2.962	74	150732	3.434
5) Pyridine	(1)	2.995	79	270200	3.513
7) 2-Picoline	(1)	4.155	93	274158	3.504
8) N-Nitrosomethylethylamine	(1)	4.358	88	108012	3.447
9) Methyl methanesulfonate	(1)	4.813	80	133421	3.526
11)$2-Fluorophenol	(1)	5.027	112	434884	6.970
13) N-Nitrosodiethylamine	(1)	5.385	102	105157	3.429
15) Ethyl methanesulfonate	(1)	5.845	109	113189	3.520
16) Benzaldehyde	(1)	6.316	77	211365	3.450
17)$Phenol-d6	(1)	6.423	99	577605	7.127
18) Phenol	(1)	6.439	94	332478	3.575
19) Aniline	(1)	6.476	93	381064	3.519
20) a-methylstyrene	(1)	6.551	118	85485	3.748
22) bis(2-Chloroethyl)ether	(1)	6.594	93	250443	3.627
23) 2-Chlorophenol	(1)	6.637	128	212812	3.497
24) 1,3-Dichlorobenzene	(1)	6.872	146	249168	3.621
25)*1,4-Dichlorobenzene-d4	(1)	6.969	152	216782	5.000
26) 1,4-Dichlorobenzene	(1)	6.995	146	249243	3.599
27) Benzyl alcohol	(1)	7.188	108	143342	3.632
28) 1,2-Dichlorobenzene	(1)	7.215	146	234054	3.548
30) Indene	(1)	7.354	115	351468	3.747
31) 2-Methylphenol	(1)	7.364	108	211447	3.569
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.423	45	350332	3.617
34) bis(2-Chloroisopropyl)ether	(1)	7.423	45	350332	3.617
35) N-Nitrosopyrrolidine	(1)	7.562	100	111908	3.421
36) Acetophenone	(1)	7.594	105	326868	3.614
38) N-Nitroso-di-n-propylamine	(1)	7.610	70	182754	3.562
37) 4-Methylphenol	(1)	7.610	108	224243	3.581
39) N-Nitrosomorpholine	(1)	7.637	56	148215	3.557
40) o-Toluidine	(1)	7.648	106	377825	3.607
42) Total Cresols	(1)			435690	7.150
43) Hexachloroethane	(1)	7.739	117	101866	3.608
44)$Nitrobenzene-d5	(2)	7.824	82	530449	7.098
45) Nitrobenzene	(2)	7.851	77	271302	3.547
48) N-Nitrosopiperidine	(2)	8.097	114	109534	3.504
50) Isophorone	(2)	8.242	82	468175	3.511
51) 2-Nitrophenol	(2)	8.354	139	108439	3.444
53) 2,4-Dimethylphenol	(2)	8.445	107	231778	3.517
56) Benzoic acid	(2)	8.568	105	231105M	7.811

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 15:53.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0416c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:24 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
57) O,O,O-Triethylphosphorothioate	(2)	8.573	198	112259	3.579
55) bis(2-Chloroethoxy)methane	(2)	8.611	93	308734	3.607
60) 2,4-Dichlorophenol	(2)	8.734	162	179204	3.459
62) 1,2,4-Trichlorobenzene	(2)	8.867	180	201763	3.532
65)*Naphthalene-d8	(2)	8.953	136	836121	5.000
66) Naphthalene	(2)	8.990	128	646580	3.686
67) 4-Chloroaniline	(2)	9.097	127	256050	3.530
68) 2,6-Dichlorophenol	(2)	9.097	162	180986	3.553
69) Hexachloropropene	(2)	9.135	213	140345	3.501
71) Hexachlorobutadiene	(2)	9.204	225	125549	3.606
75) Quinoline	(2)	9.531	129	392401	3.556
76) Caprolactam	(2)	9.621	113	54428	3.474
77) N-Nitrosodi-n-butylamine	(2)	9.670	84	172154	3.930
80) 4-Chloro-3-methylphenol	(2)	9.894	107	200203	3.511
82) Safrole	(2)	10.001	162	166384	3.586
83) 2-Methylnaphthalene	(2)	10.119	142	429669	3.700
84) 1-Methylnaphthalene	(2)	10.274	142	390682	3.667
85) Hexachlorocyclopentadiene	(3)	10.376	237	118886	3.422
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.386	216	209332	3.587
88) cis-Isosafrole	(3)	10.483	162	29561	0.585
90) 2,4,6-Trichlorophenol	(3)	10.584	196	131104	3.433
92) 2,4,5-Trichlorophenol	(3)	10.632	196	140983	3.534
97) Isosafrole	(3)			188586	3.518
93)$2-Fluorobiphenyl	(3)	10.739	172	972065	7.302
94) trans-Isosafrole	(3)	10.852	162	159025	2.933
95) 1,1'-Biphenyl	(3)	10.894	154	505511	3.624
96) 2-Chloronaphthalene	(3)	10.911	162	431005	3.663
98) 1-Chloronaphthalene	(3)	10.943	162	373121	3.607
99) Diphenyl ether	(3)	11.076	170	279705	3.640
100) 2-Nitroaniline	(3)	11.092	138	121862	3.437
104) 1,4-Naphthoquinone	(3)	11.210	158	160480	3.467
105) 1,4-Dinitrobenzene	(3)	11.344	168	60701A	3.373
106) Dimethylphthalate	(3)	11.429	163	474935	3.702
107) 1,3-Dinitrobenzene	(3)	11.451	168	69941A	3.468
108) 2,6-Dinitrotoluene	(3)	11.510	165	102550	3.536
109) Acenaphthylene	(3)	11.574	152	598671	3.668
112) 3-Nitroaniline	(3)	11.745	138	107657	3.492
113)*Acenaphthene-d10	(3)	11.788	164	423913	5.000
114) Acenaphthene	(3)	11.836	153	417608	3.647
115) 2,4-Dinitrophenol	(3)	11.900	184	103377	6.260

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

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0416c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:24 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120) 2,4_2,6-Dinitrotoluenes	(3)			239014	7.085
116) 4-Nitrophenol	(3)	11.996	109	69937	3.428
117) Pentachlorobenzene	(3)	12.018	250	172560	3.621
119) Dibenzofuran	(3)	12.076	168	579980	3.649
118) 2,4-Dinitrotoluene	(3)	12.082	165	136464	3.549
121) 1-Naphthylamine	(3)	12.189	143	398346	3.540
122) 2,3,4,6-Tetrachlorophenol	(3)	12.242	232	111550	3.536
123) 2-Naphthylamine	(3)	12.290	143	371079	3.480
124) Diethylphthalate	(3)	12.424	149	451021	3.556
125) Thionazin	(3)	12.515	107	77339	3.568
126) Fluorene	(3)	12.520	166	469205	3.759
127) 4-Chlorophenyl-phenylether	(3)	12.542	204	224880	3.692
128) 5-Nitro-o-toluidine	(3)	12.542	152	123614	3.521
129) 4-Nitroaniline	(3)	12.553	138	108847	3.566
130) 4,6-Dinitro-2-methylphenol	(4)	12.590	198	71262	3.226
131) N-Nitrosodiphenylamine	(4)	12.686	169	382764	3.706
132) NDPA as diphenylamine	(4)	12.686	169	382764	3.706
134) 1,2-Diphenylhydrazine	(4)	12.734	77	527610	3.660
135)$2,4,6-Tribromophenol	(3)	12.820	330	107417	7.037
137) Tetraethyldithiopyrophosphate	(4)	12.916	97	87231	3.610
146) Diallate trans/cis	(4)			226828	3.643
139) 1,3,5-Trinitrobenzene	(4)	13.029	213	44335	3.258
140) Diallate (peak 1)	(4)	13.061	86	194060	3.026
141) Phorate	(4)	13.071	75	343413	3.673
142) Phenacetin	(4)	13.087	108	237413	3.465
143) 4-Bromophenyl-phenylether	(4)	13.152	248	125088	3.658
144) Diallate (peak 2)	(4)	13.173	86	32768	0.617
145) Hexachlorobenzene	(4)	13.200	284	125545	3.597
147) Dimethoate	(4)	13.275	87	196320	3.517
148) Atrazine	(4)	13.382	200	127874	3.769
149) Pentachlorophenol	(4)	13.462	266	72197	3.287
151) Pentachloronitrobenzene	(4)	13.478	237	59316	3.506
150) 4-Aminobiphenyl	(4)	13.483	169	423371	3.533
152) Pronamide	(4)	13.574	173	214439	3.523
153)*Phenanthrene-d10	(4)	13.719	188	834383	5.000
154) Dinoseb	(4)	13.724	211	112738	3.135
155) Phenanthrene	(4)	13.745	178	676165	3.627
157) Anthracene	(4)	13.815	178	688038	3.685
163) Carbazole	(4)	14.039	167	587720	3.514
164) Methyl parathion	(4)	14.243	109	142602	3.308

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$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0416c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:24 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

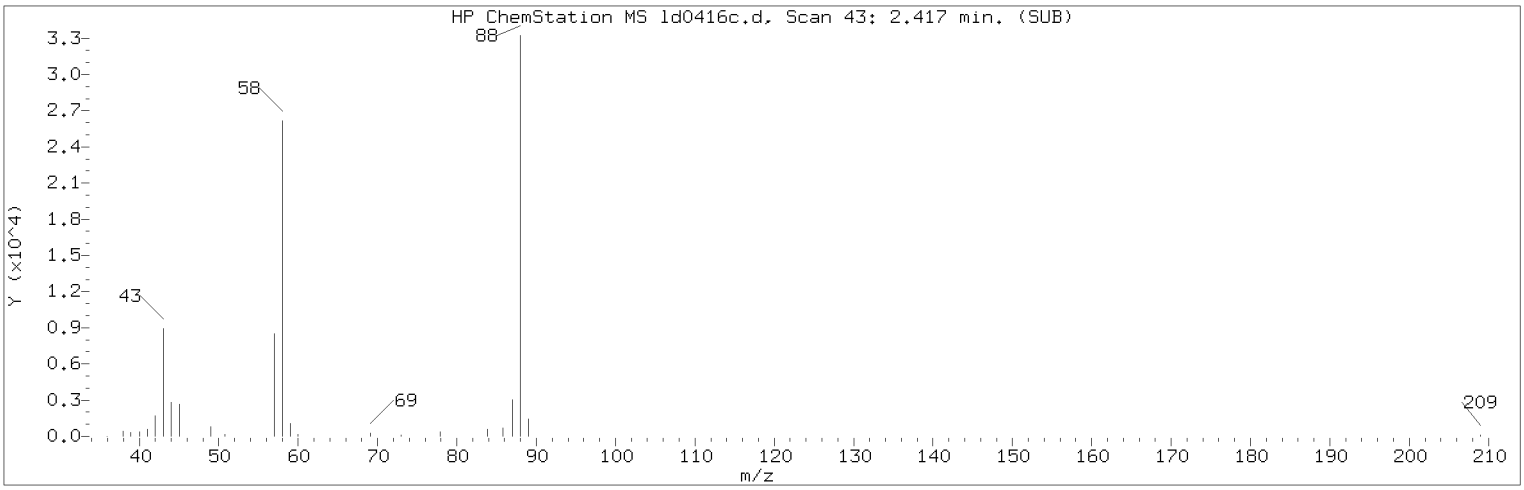
Sample Name: SSTD3.75 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
165) Di-n-butylphthalate	(4)	14.553	149	778295	3.499
167) Parathion	(4)	14.804	109	91374	3.253
168) 4-Nitroquinoline-1-oxide	(4)	14.831	190	61477	4.035
169) Octachlorostyrene	(4)	15.157	308	47094	3.635
171) Isodrin	(4)	15.222	193	79486	3.519
173) Fluoranthene	(4)	15.446	202	757906	3.595
174) Benzidine	(5)	15.687	184	1327791	10.428
175)*Pyrene-d10	(5)	15.778	212	864135	5.000
177) Pyrene	(5)	15.805	202	796146	3.623
179)$Terphenyl-d14	(5)	16.088	244	1008418	7.199
182) p-Dimethylaminoazobenzene	(5)	16.323	225	118907	3.839
185) Chlorobenzilate	(5)	16.414	139	231107	3.494
187) 3,3'-Dimethylbenzidine	(5)	16.901	212	461122	3.209
188) Butylbenzylphthalate	(5)	16.954	149	355577	3.422
191) 2-Acetylaminofluorene	(5)	17.329	181	267885	3.199
193) 3,3'-Dichlorobenzidine	(5)	17.853	252	239642	3.316
195) Benzo(a)anthracene	(5)	17.858	228	723930	3.617
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.869	231	144154	3.359
196) Chrysene	(5)	17.923	228	707477	3.693
199) bis(2-Ethylhexyl)phthalate	(5)	18.030	149	499327	3.390
203) 6-Methylchrysene	(5)	18.736	242	464826	3.460
205) Di-n-octylphthalate	(6)	19.212	149	835146	3.304
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.746	256	285763	3.415
206) Benzo(b)fluoranthene	(6)	19.746	252	702149	3.616
208) Benzo(k)fluoranthene	(6)	19.795	252	684852	3.730
211) Benzo(a)pyrene	(6)	20.281	252	629087	3.590
213)*Perylene-d12	(6)	20.378	264	779646	5.000
215) 3-Methylcholanthrene	(6)	20.854	268	292657	3.385
217) Dibenz(a,h)acridine	(6)	21.683	279	502824	3.427
218) Dibenz(a,j)acridine	(6)	21.758	279	521393	3.484
222) Total PAHs	(6)			11119721	65.568
219) Indeno(1,2,3-cd)pyrene	(6)	22.025	276	585027M	3.502
220) Dibenz(a,h)anthracene	(6)	22.068	278	598366	3.550
221) Benzo(g,h,i)perylene	(6)	22.448	276	618163	3.612

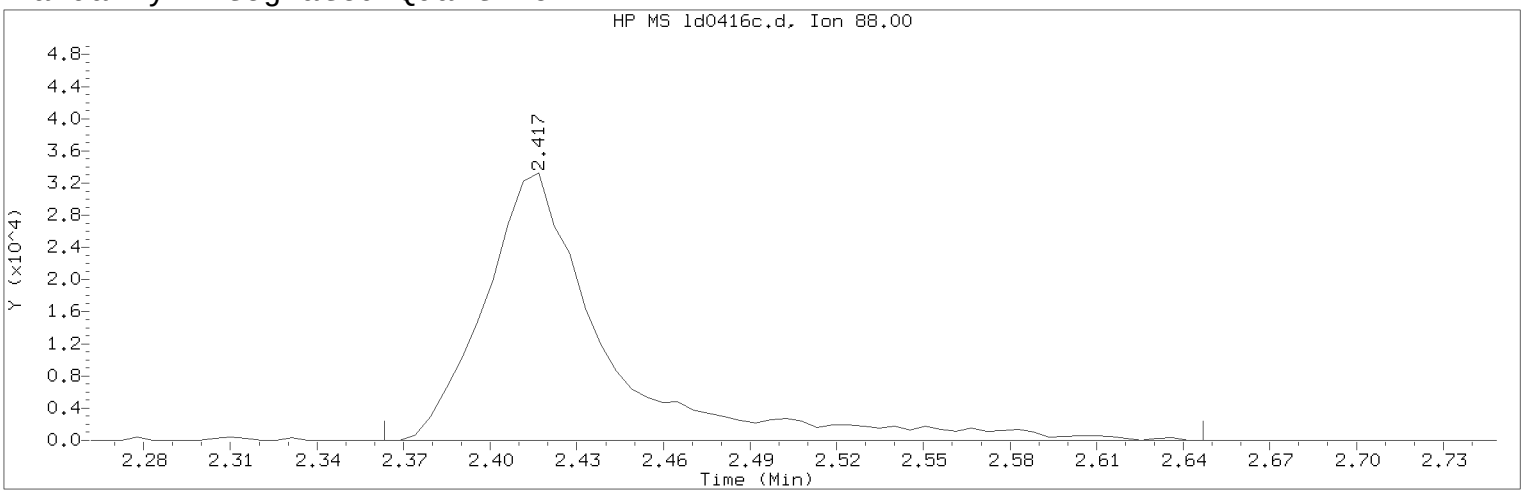
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0416c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:24 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0968

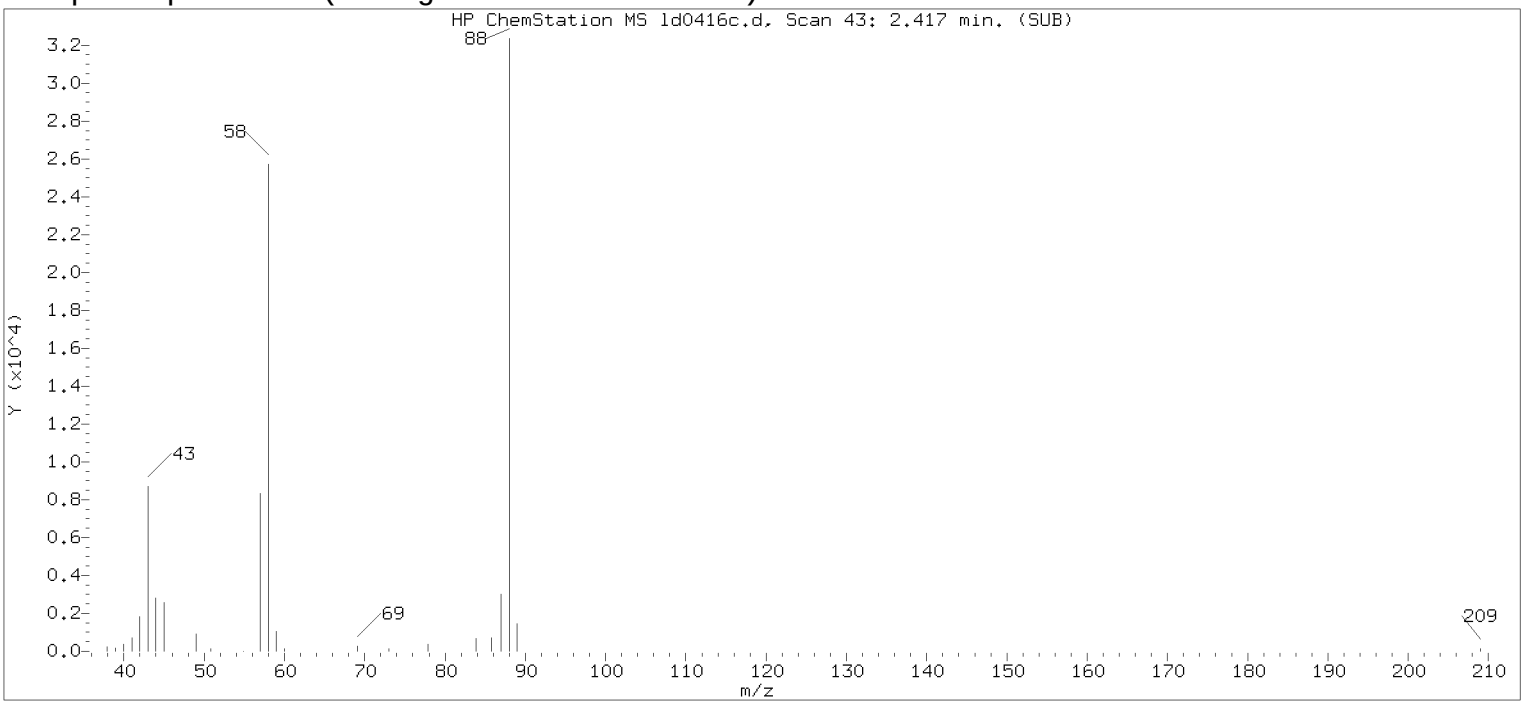
Compound Number : 1
Compound Name : 1,4-Dioxane
Scan Number : 43
Retention Time (minutes) : 2.417
Quant Ion : 88.00
Area (flag) : 97270M
On-Column Amount (ng/ul) : 3.4557
Integration start scan : 32 Integration stop scan: 85
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

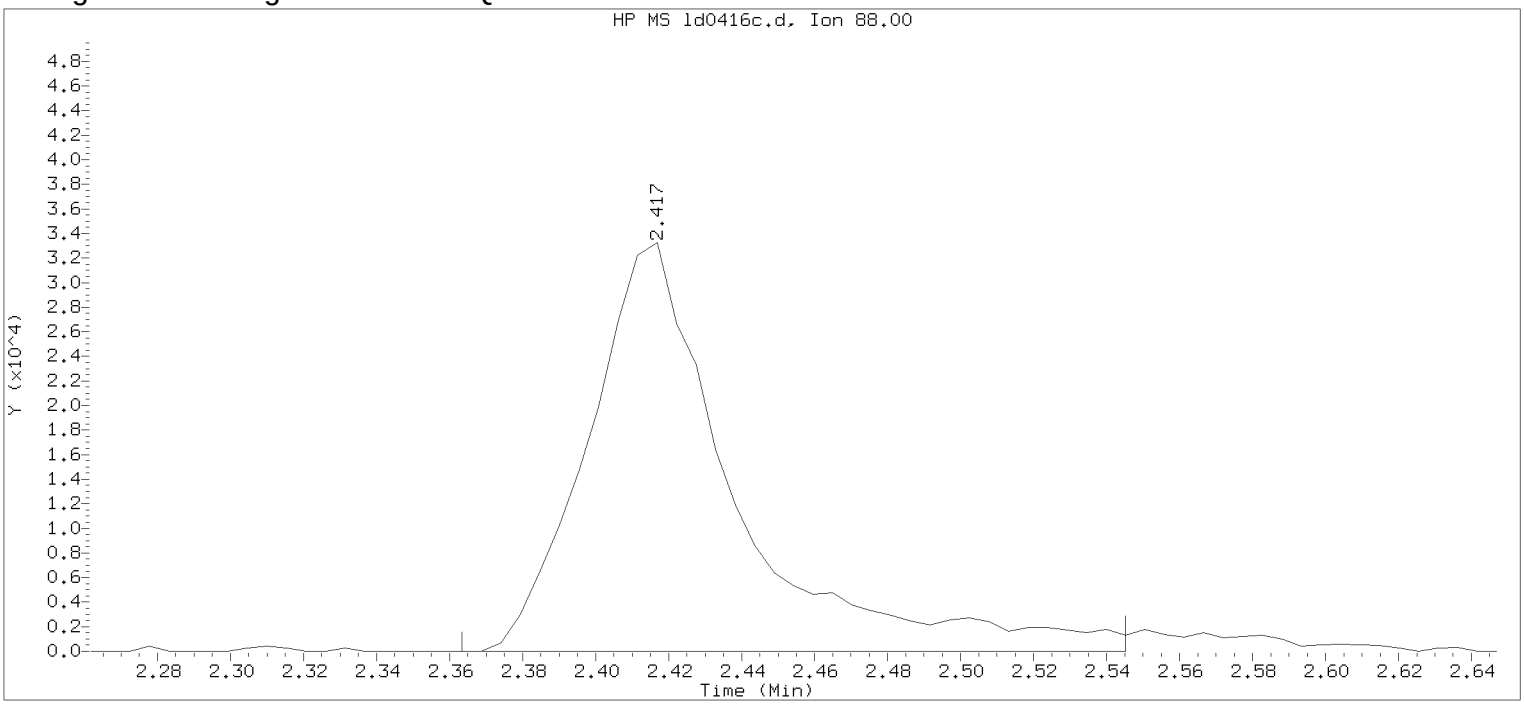
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0416c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:24 Analyst ID: hbz01996

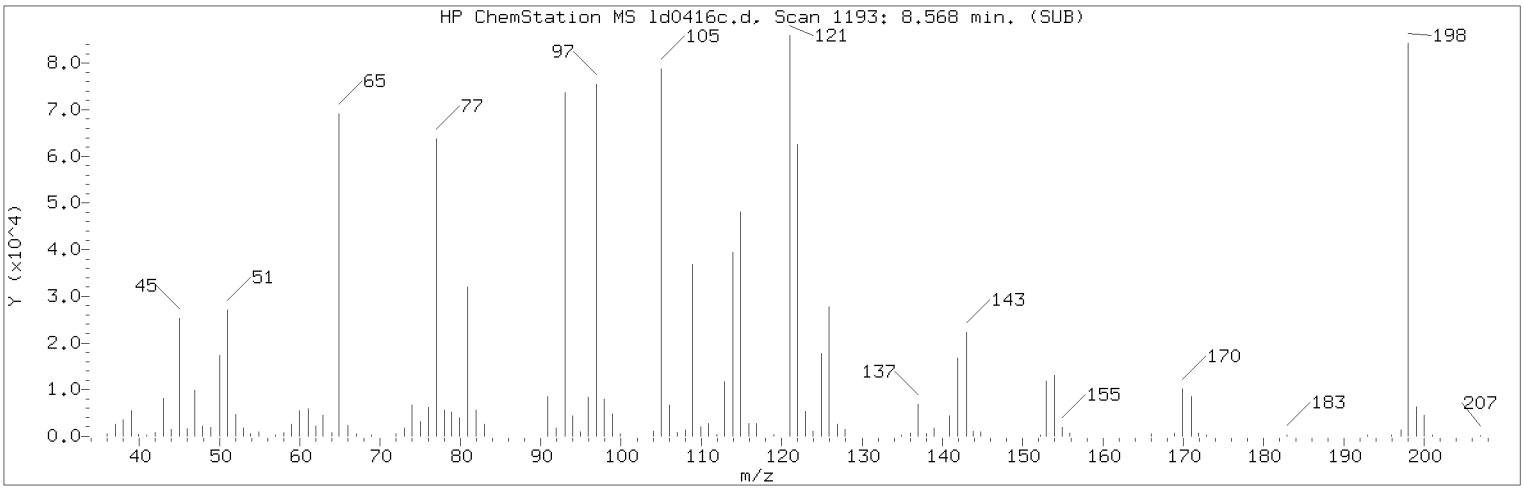
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0968

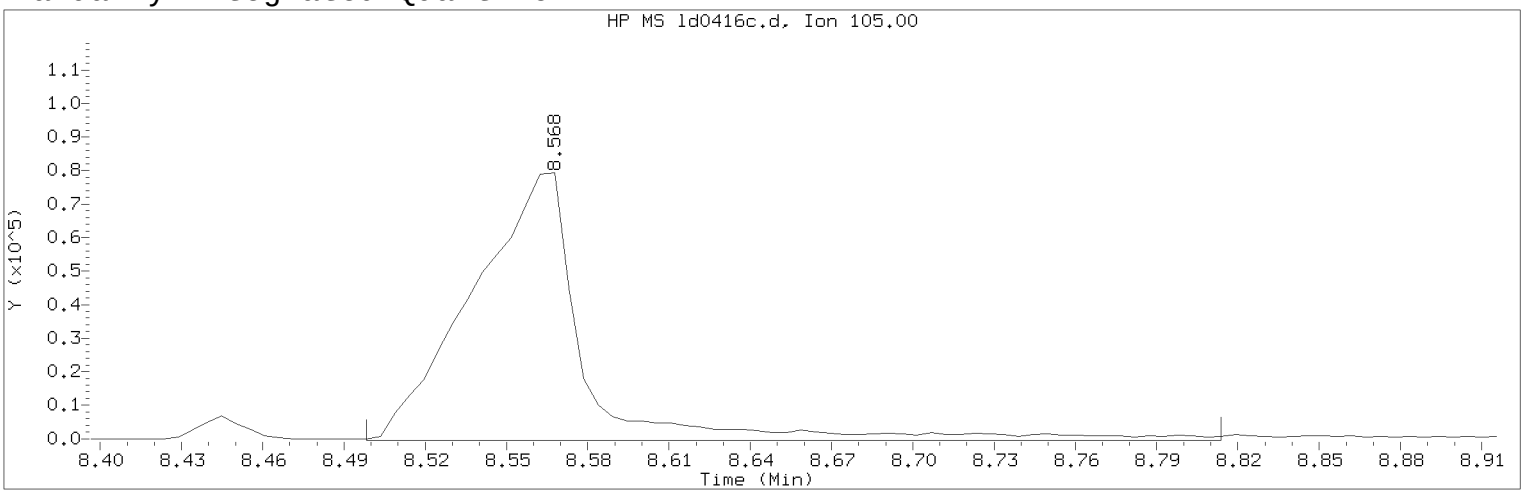
Compound Number : 1
Compound Name : 1,4-Dioxane
Scan Number : 43
Retention Time (minutes) : 2.417
Quant Ion : 88.00
Area : 92655
On-column Amount (ng/ul) : 3.3017
Integration start scan : 32 Integration stop scan: 66
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: 1085 hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0416c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:24 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0968

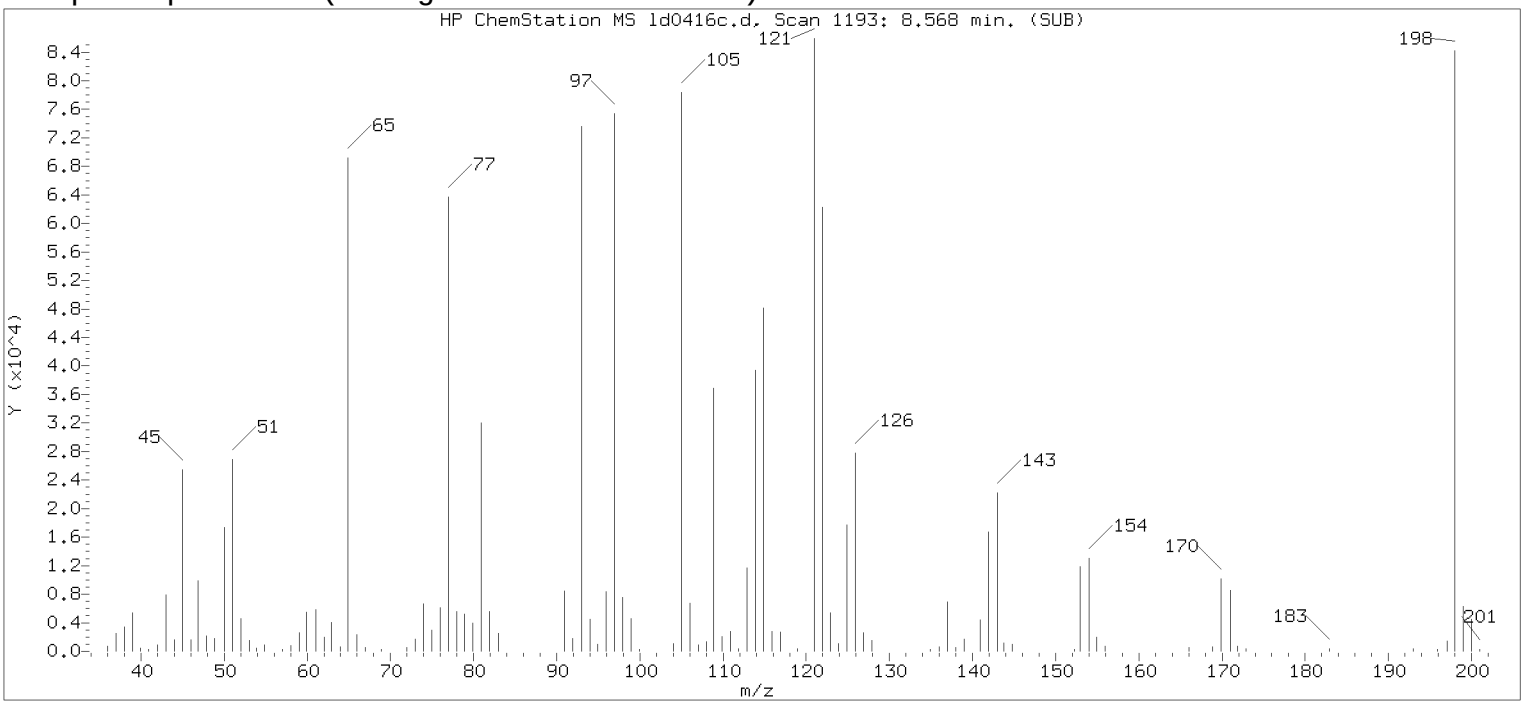
Compound Number : 56
Compound Name : Benzoic acid
Scan Number : 1193
Retention Time (minutes) : 8.568
Quant Ion : 105.00
Area (flag) : 231105M
On-Column Amount (ng/ul) : 7.8106
Integration start scan : 1179 Integration stop scan: 1238
Y at integration start : -454 Y at integration end: -454

Reason for manual integration: improper integration

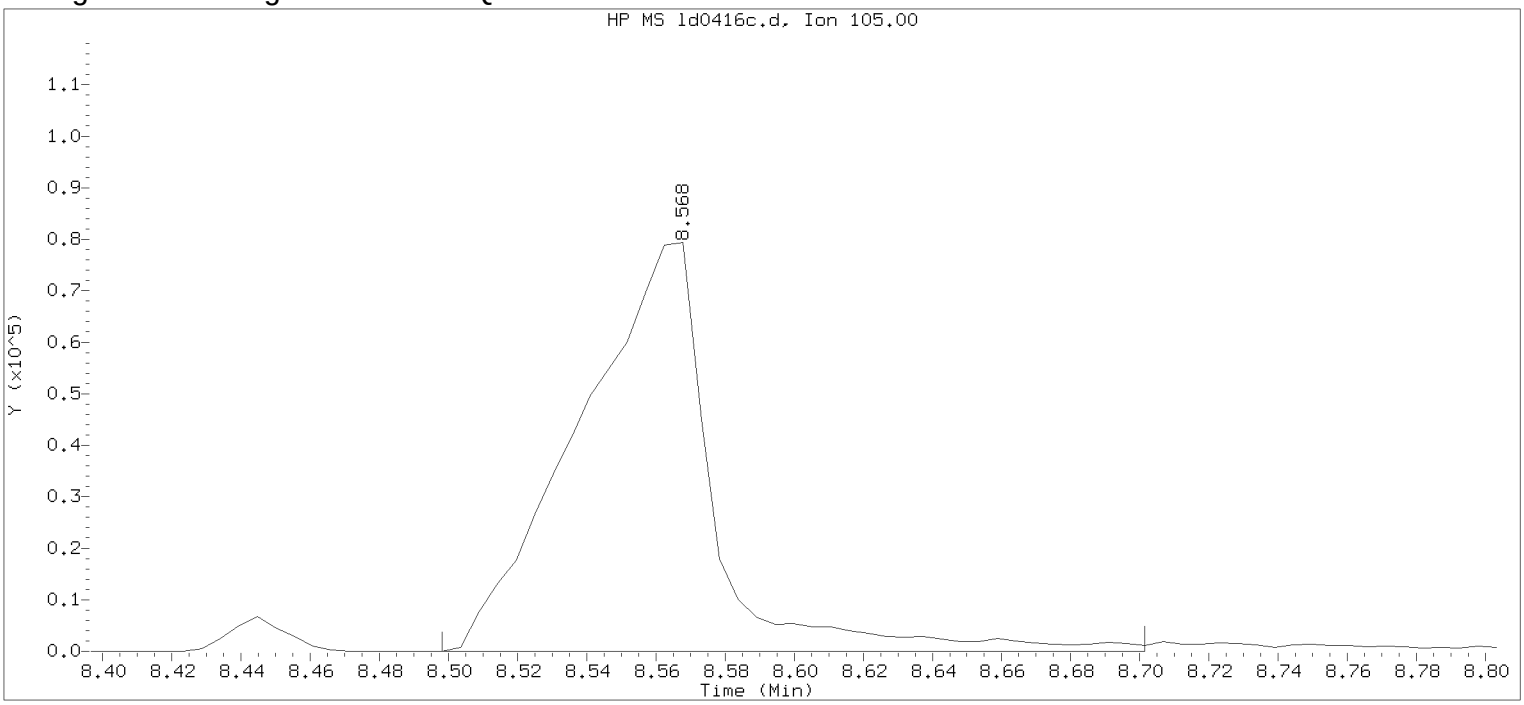
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0416c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:24 Analyst ID: hbz01996

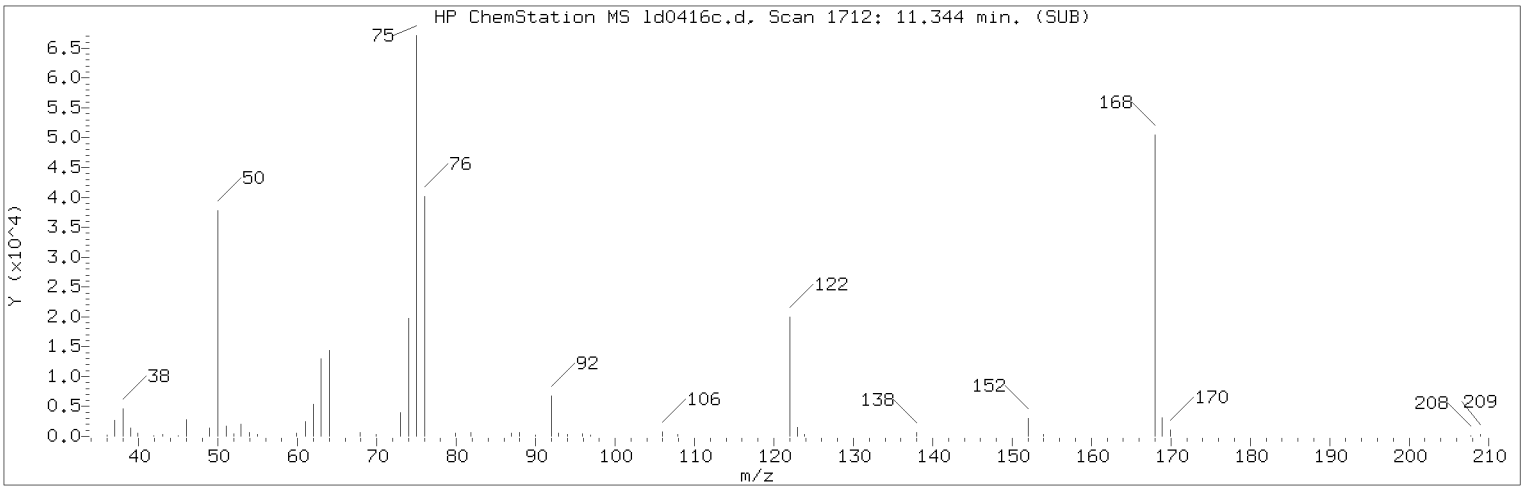
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0968

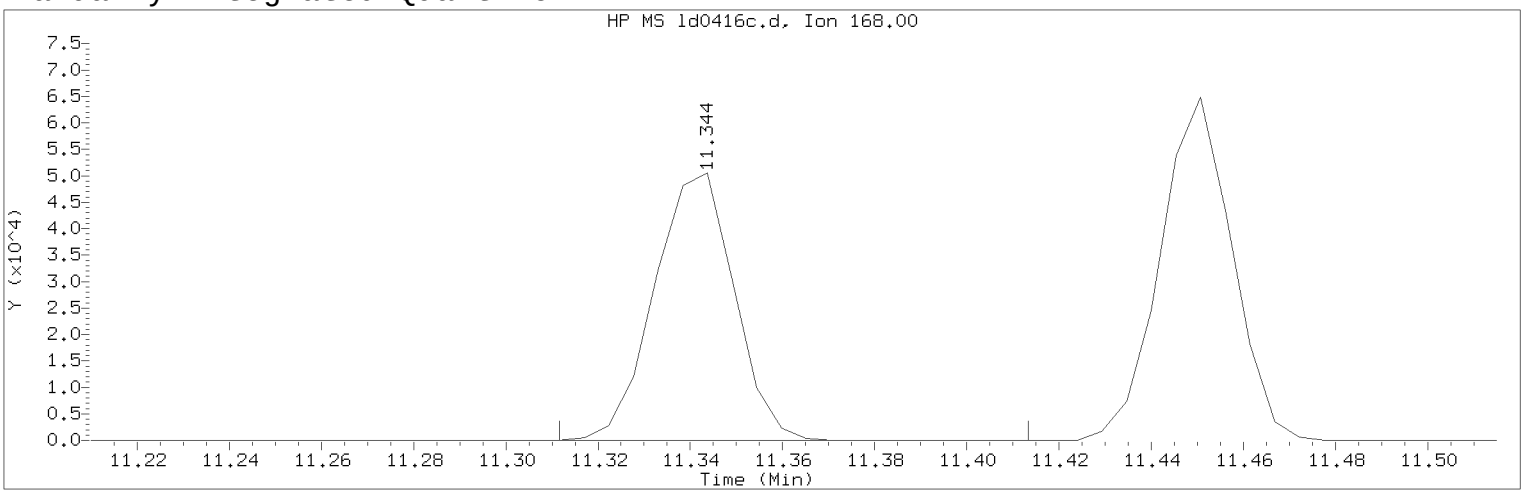
Compound Number : 56
Compound Name : Benzoic acid
Scan Number : 1193
Retention Time (minutes) : 8.568
Quant Ion : 105.00
Area : 215134
On-column Amount (ng/ul) : 7.0330
Integration start scan : 1179 Integration stop scan: 1217
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user id: 1085 hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0416c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:24 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0968

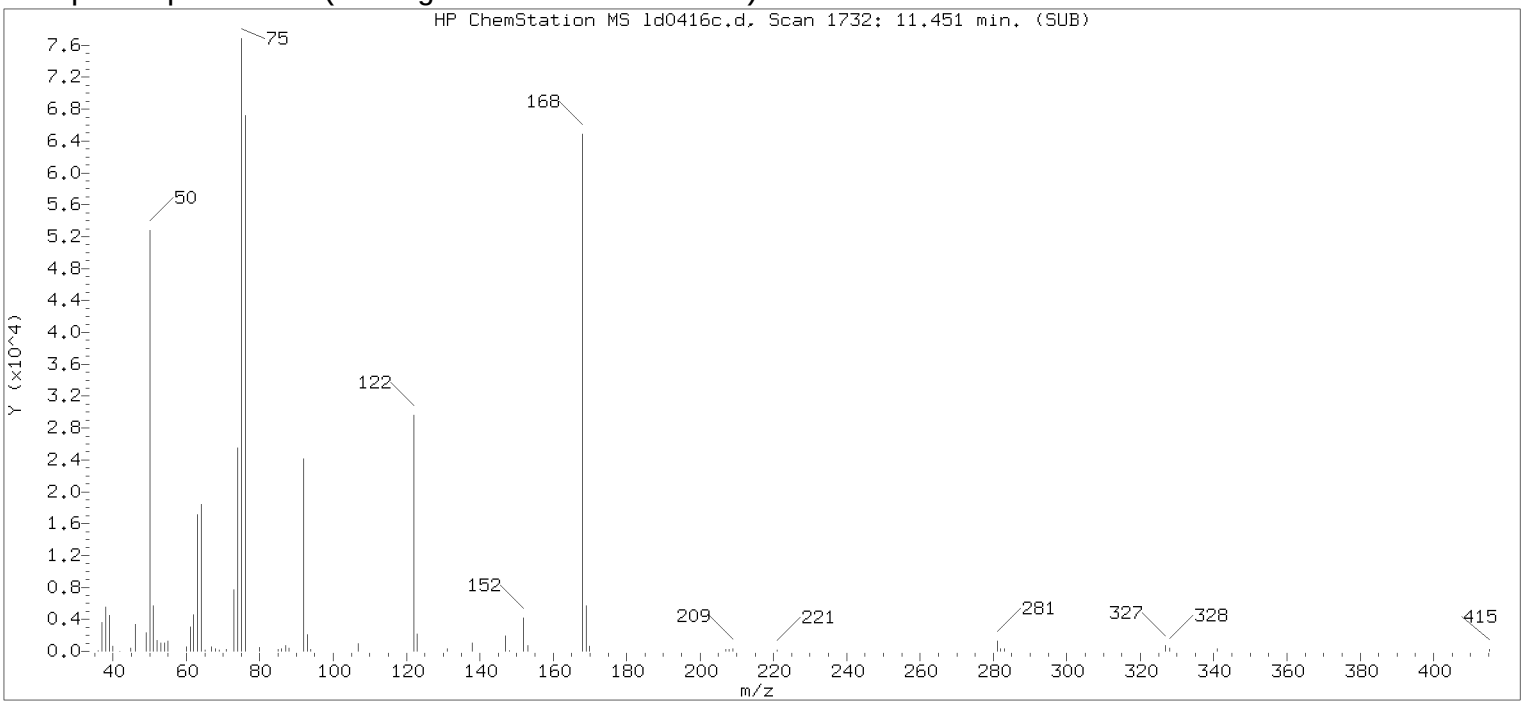
Compound Number : 105
Compound Name : 1,4-Dinitrobenzene
Scan Number : 1712
Retention Time (minutes) : 11.344
Quant Ion : 168.00
Area (flag) : 60701A
On-Column Amount (ng/ul) : 3.3728
Integration start scan : 1705 Integration stop scan: 1724
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

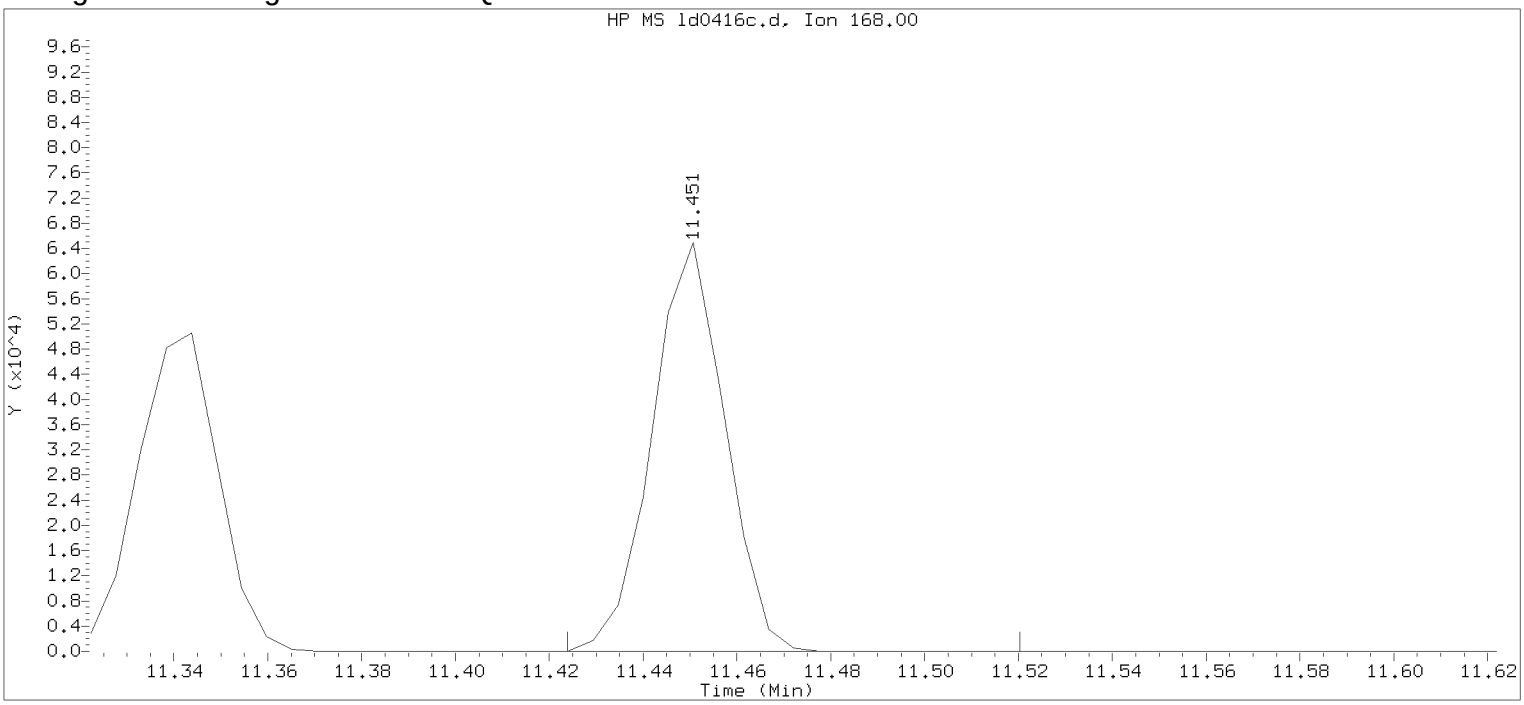
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0416c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:24 Analyst ID: hbz01996

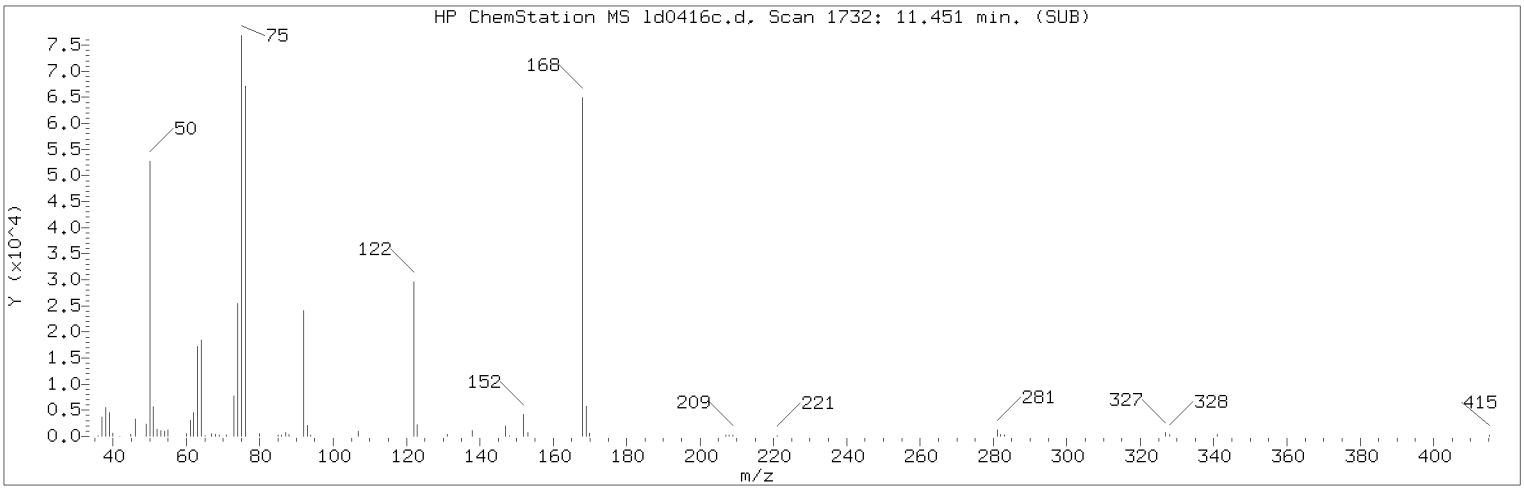
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0968

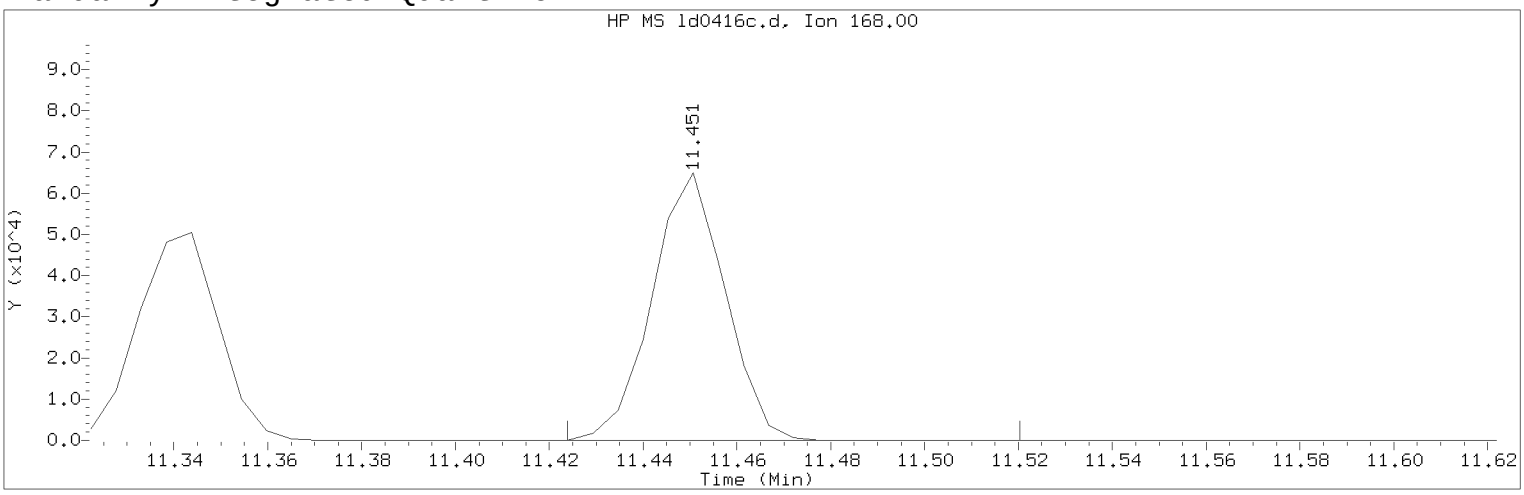
Compound Number : 105
Compound Name : 1,4-Dinitrobenzene
Scan Number : 1732
Retention Time (minutes) : 11.451
Quant Ion : 168.00
Area : 69941
On-column Amount (ng/ul) : 3.5390
Integration start scan : 1726 Integration stop scan: 1744
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: 1038

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0416c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:24 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0968

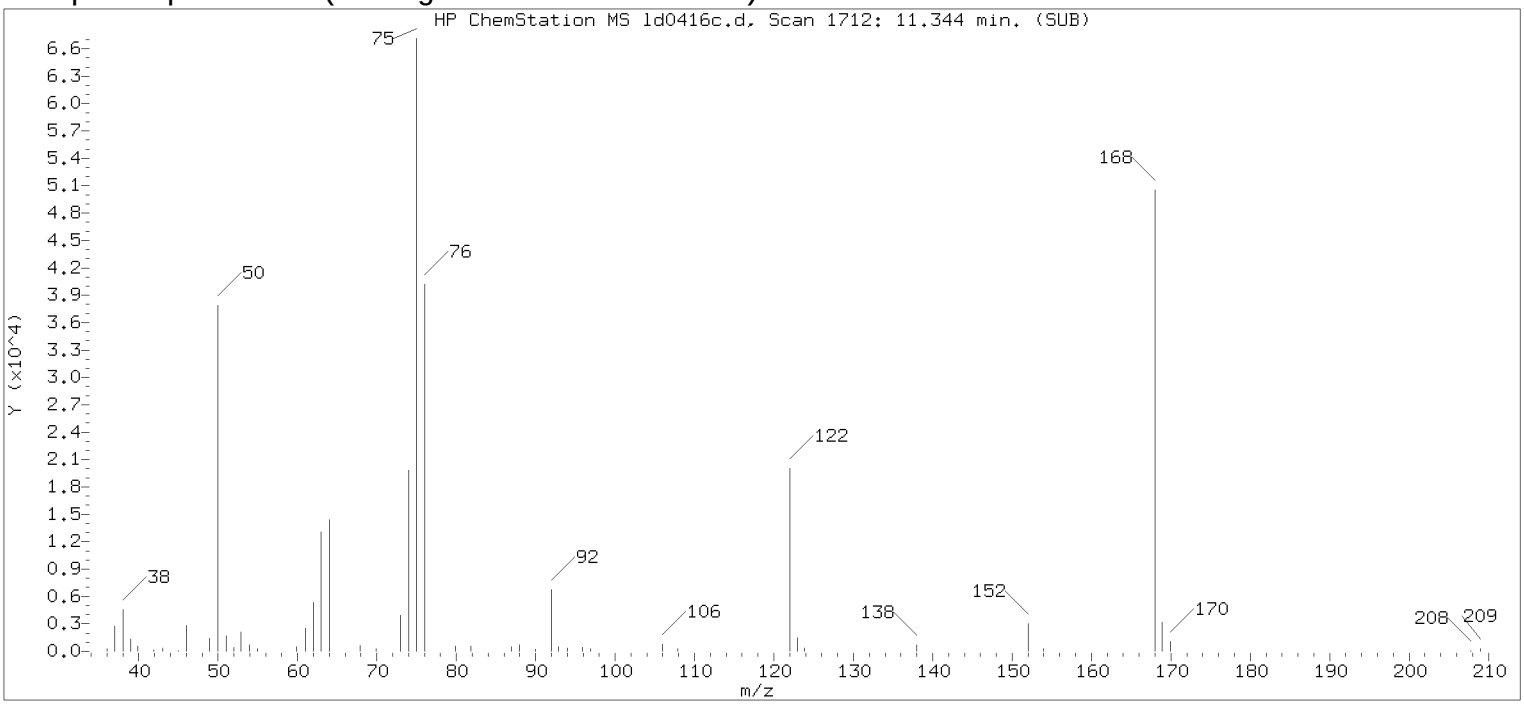
Compound Number : 107
Compound Name : 1,3-Dinitrobenzene
Scan Number : 1732
Retention Time (minutes) : 11.451
Quant Ion : 168.00
Area (flag) : 69941A
On-Column Amount (ng/ul) : 3.4680
Integration start scan : 1726 Integration stop scan: 1744
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

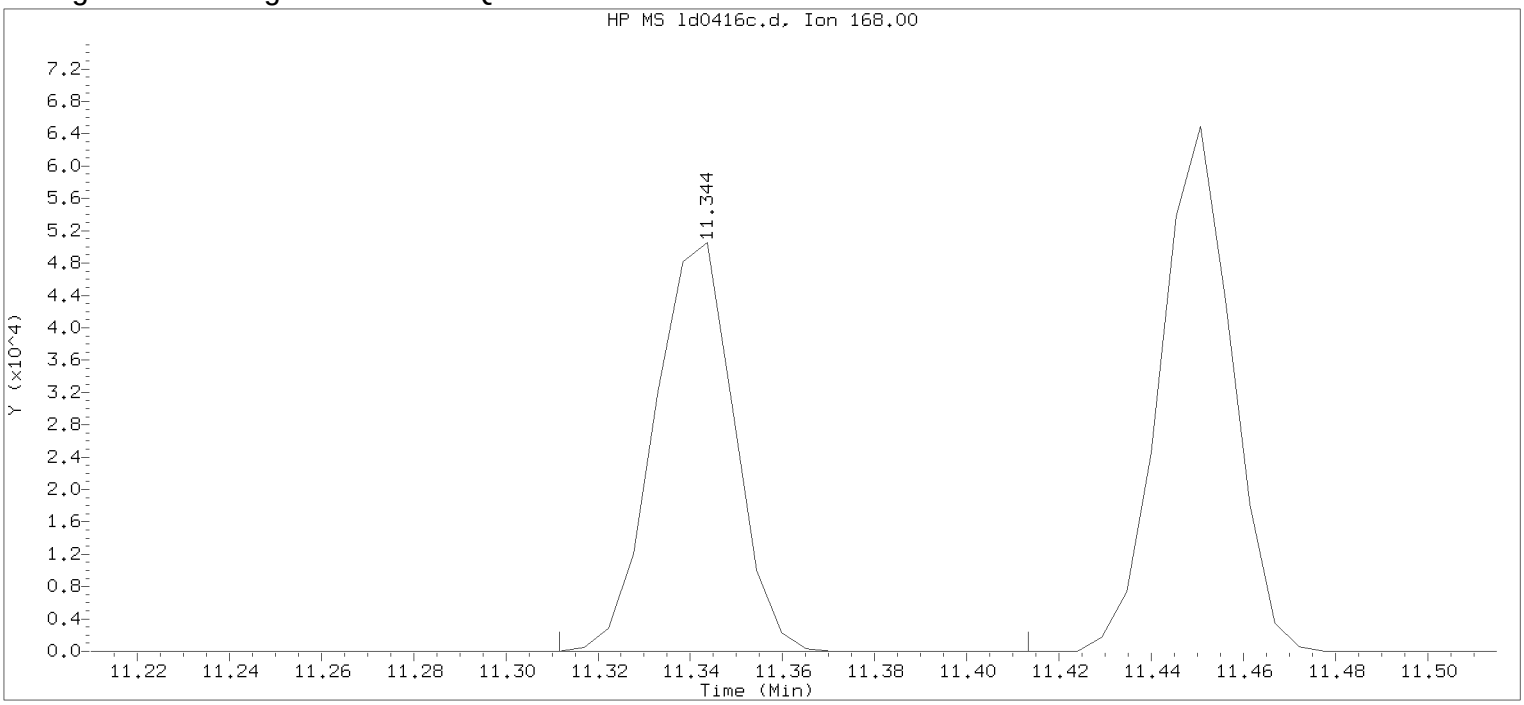
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0416c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:24 Analyst ID: hbz01996

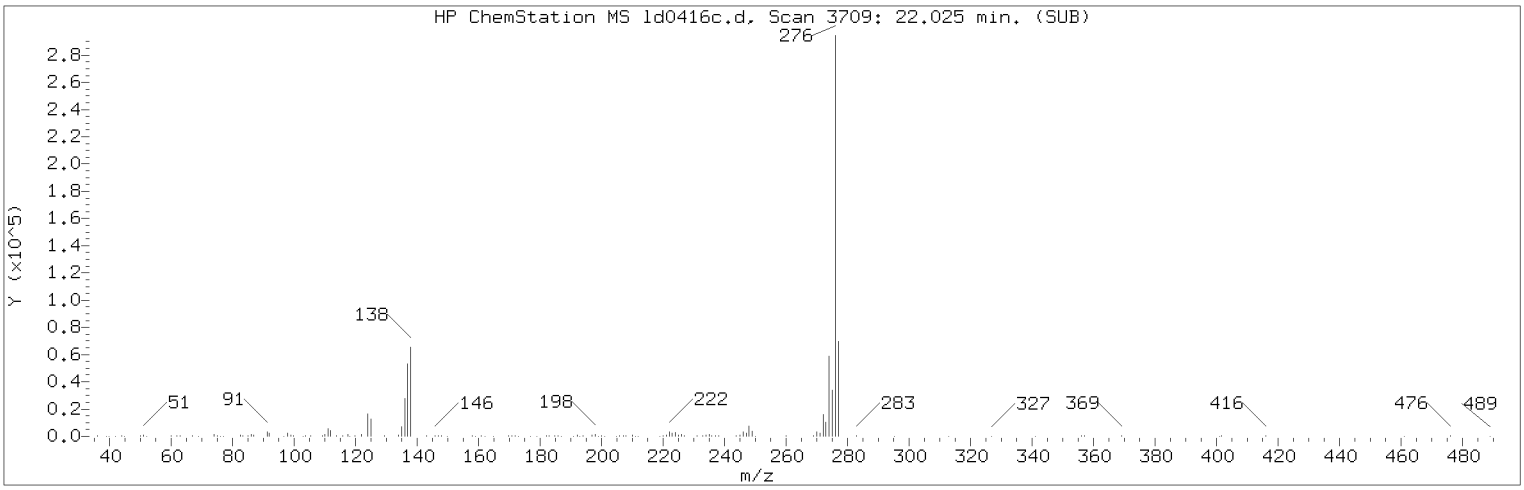
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0968

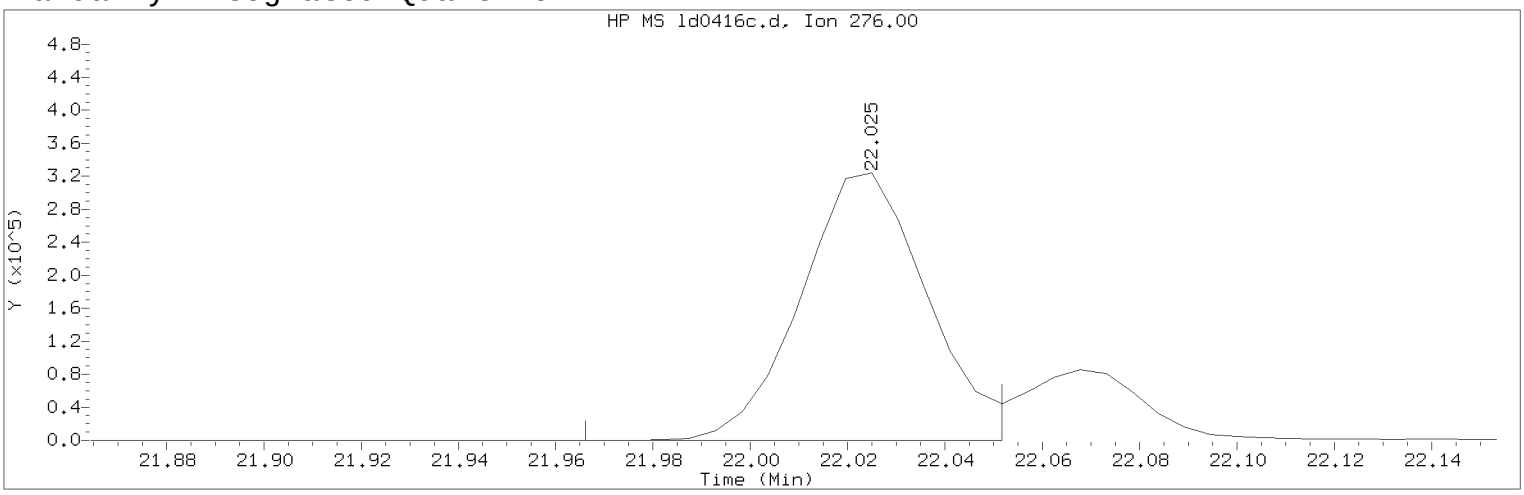
Compound Number : 107
Compound Name : 1,3-Dinitrobenzene
Scan Number : 1712
Retention Time (minutes) : 11.344
Quant Ion : 168.00
Area : 60701
On-column Amount (ng/ul) : 3.2787
Integration start scan : 1705 Integration stop scan: 1724
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user id: 1037

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0416c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:24 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0968

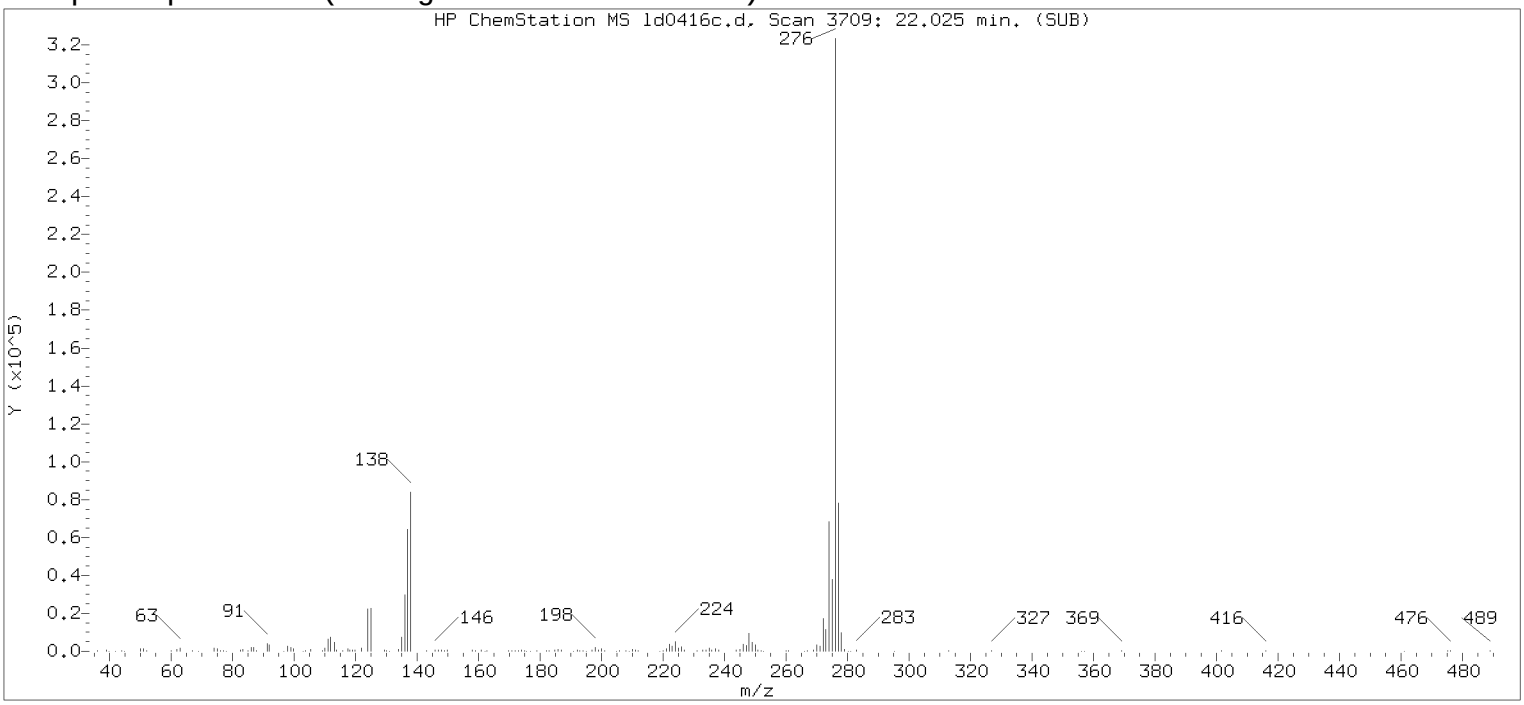
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3709
Retention Time (minutes) : 22.025
Quant Ion : 276.00
Area (flag) : 585027M
On-Column Amount (ng/ul) : 3.5019
Integration start scan : 3697 Integration stop scan: 3713
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

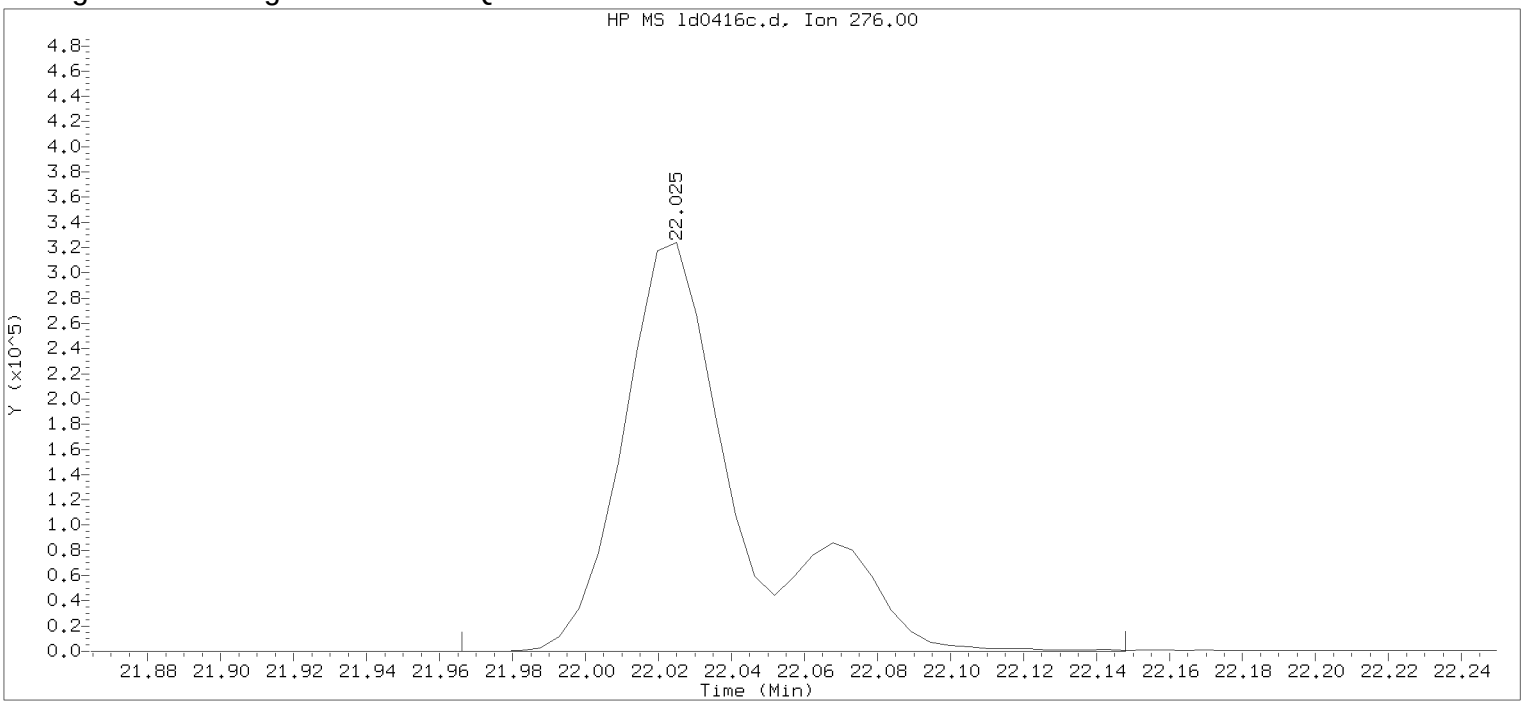
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



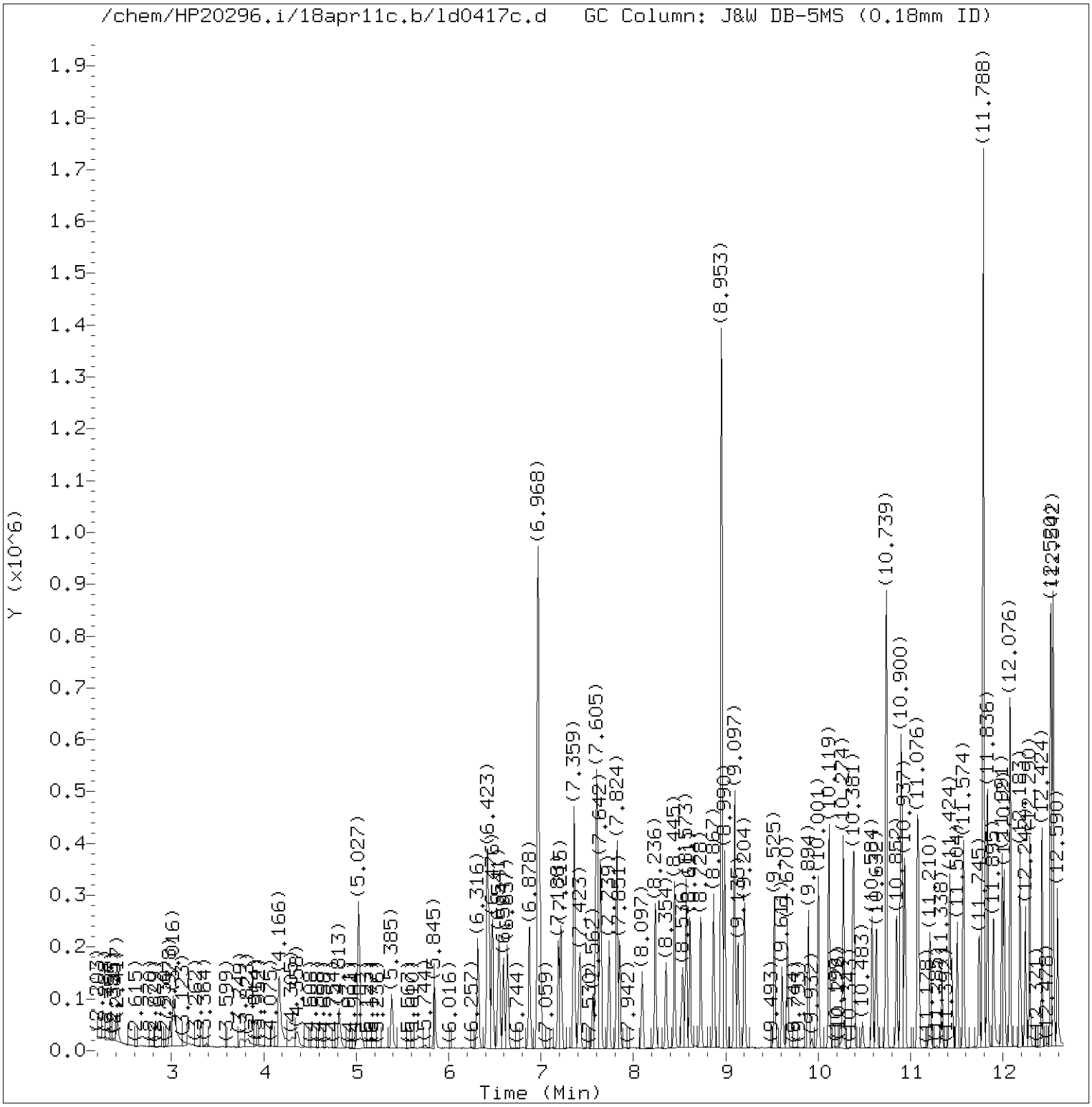
Data File: /chem/HP20296.i/18apr11c.b/ld0416c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:24 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD3.75 Lab Sample ID: rvSTD0968

Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3709
Retention Time (minutes) : 22.025
Quant Ion : 276.00
Area : 724870
On-column Amount (ng/ul) : 3.7476
Integration start scan : 3697 Integration stop scan: 3731
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:53.
Target 3.5 esignature user id: 1085 hbz01996



Total Ion Chromatogram (TIC)

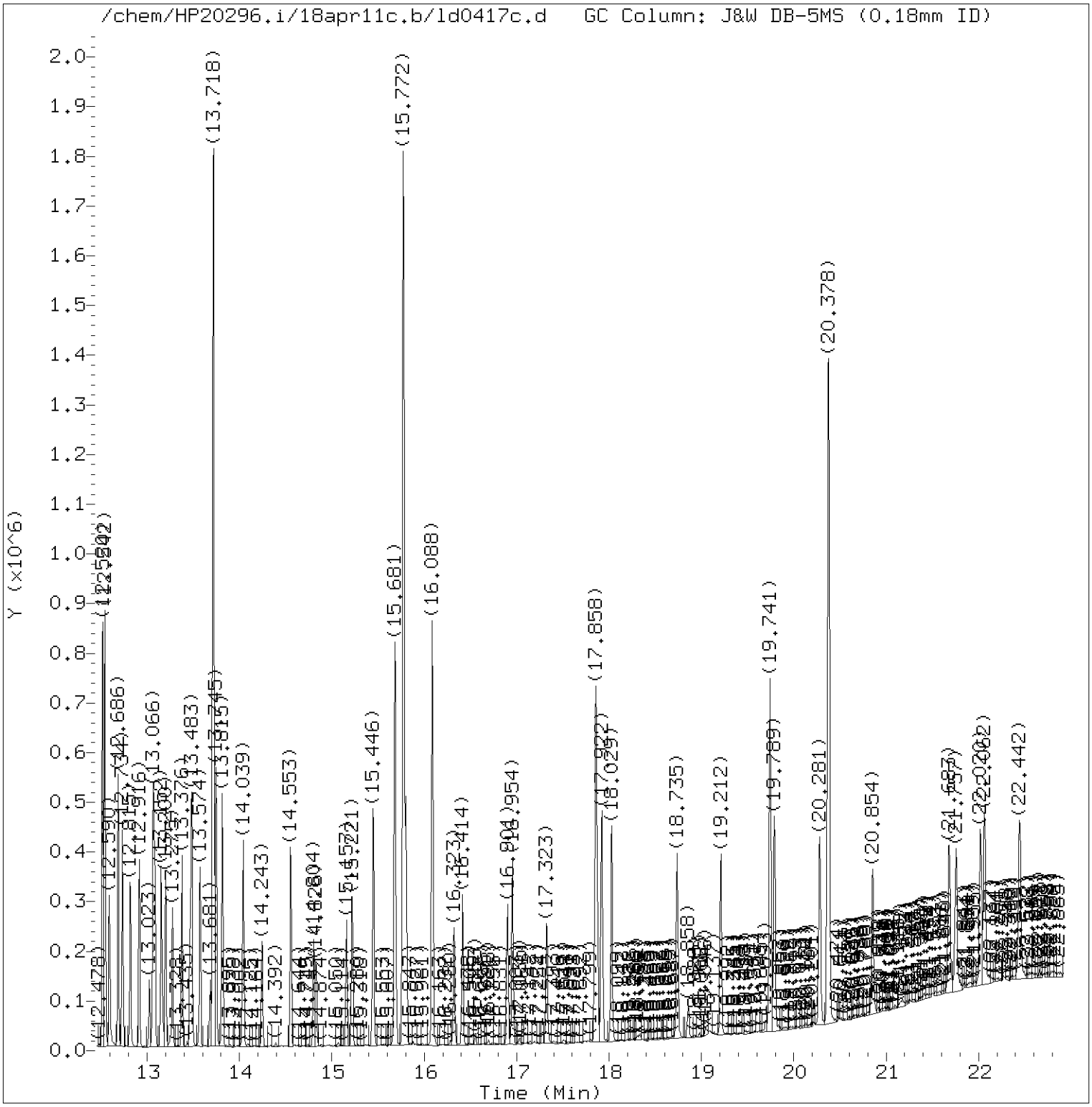
Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0417c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:52 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0417c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:52 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0417c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:52 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.417	88	34666	1.311
4) N-Nitrosodimethylamine	(1)	2.978	74	49074	1.210
5) Pyridine	(1)	3.016	79	90096	1.258
7) 2-Picoline	(1)	4.160	93	90683	1.247
8) N-Nitrosomethylethylamine	(1)	4.358	88	35649	1.228
9) Methyl methanesulfonate	(1)	4.813	80	43659	1.242
11)$2-Fluorophenol	(1)	5.027	112	140703	2.437
13) N-Nitrosodiethylamine	(1)	5.385	102	33400	1.183
15) Ethyl methanesulfonate	(1)	5.845	109	37329	1.248
16) Benzaldehyde	(1)	6.316	77	65451	1.136
17)$Phenol-d6	(1)	6.418	99	187215	2.487
18) Phenol	(1)	6.439	94	100919M	1.180
19) Aniline	(1)	6.476	93	124049	1.235
20) a-methylstyrene	(1)	6.551	118	24880	1.185
22) bis(2-Chloroethyl)ether	(1)	6.594	93	80940M	1.259
23) 2-Chlorophenol	(1)	6.637	128	70742	1.250
24) 1,3-Dichlorobenzene	(1)	6.878	146	80624	1.258
25)*1,4-Dichlorobenzene-d4	(1)	6.968	152	201608	5.000
26) 1,4-Dichlorobenzene	(1)	6.995	146	82362	1.274
27) Benzyl alcohol	(1)	7.188	108	41302	1.144
28) 1,2-Dichlorobenzene	(1)	7.215	146	76651	1.250
30) Indene	(1)	7.354	115	101263	1.175
31) 2-Methylphenol	(1)	7.364	108	69056	1.253
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.423	45	119640	1.314
34) bis(2-Chloroisopropyl)ether	(1)	7.423	45	118901M	1.308
35) N-Nitrosopyrrolidine	(1)	7.562	100	36477M	1.207
36) Acetophenone	(1)	7.594	105	103307	1.347
37) 4-Methylphenol	(1)	7.605	108	72610	1.247
38) N-Nitroso-di-n-propylamine	(1)	7.610	70	59779	1.252
39) N-Nitrosomorpholine	(1)	7.637	56	48342	1.248
40) o-Toluidine	(1)	7.648	106	125179	1.279
42) Total Cresols	(1)			141666	2.500
43) Hexachloroethane	(1)	7.733	117	33439	1.269
44)$Nitrobenzene-d5	(2)	7.824	82	173441	2.497
45) Nitrobenzene	(2)	7.851	77	88596	1.247
48) N-Nitrosopiperidine	(2)	8.097	114	35022	1.212
50) Isophorone	(2)	8.236	82	149916	1.216
51) 2-Nitrophenol	(2)	8.354	139	34123	1.179
53) 2,4-Dimethylphenol	(2)	8.445	107	76262	1.246
56) Benzoic acid	(2)	8.536	105	73904M	4.423

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 15:54.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0417c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:52 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
57) O,O,O-Triethylphosphorothioate	(2)	8.573	198	37650	1.284
55) bis(2-Chloroethoxy)methane	(2)	8.611	93	99630	1.252
60) 2,4-Dichlorophenol	(2)	8.734	162	58777	1.225
62) 1,2,4-Trichlorobenzene	(2)	8.867	180	67280	1.264
65)*Naphthalene-d8	(2)	8.953	136	777233	5.000
66) Naphthalene	(2)	8.990	128	217823	1.323
67) 4-Chloroaniline	(2)	9.092	127	83548	1.241
68) 2,6-Dichlorophenol	(2)	9.097	162	57396	1.218
69) Hexachloropropene	(2)	9.135	213	45963	1.236
71) Hexachlorobutadiene	(2)	9.204	225	41189	1.269
75) Quinoline	(2)	9.530	129	126222	1.234
76) Caprolactam	(2)	9.611	113	17966	1.234
77) N-Nitrosodi-n-butylamine	(2)	9.670	84	53761M	1.845
80) 4-Chloro-3-methylphenol	(2)	9.894	107	62932	1.197
82) Safrole	(2)	10.001	162	53579	1.244
83) 2-Methylnaphthalene	(2)	10.119	142	146464	1.340
84) 1-Methylnaphthalene	(2)	10.274	142	129490	1.299
85) Hexachlorocyclopentadiene	(3)	10.376	237	37419	1.167
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.386	216	71583	1.301
88) cis-Isosafrole	(3)	10.483	162	9941	0.211
90) 2,4,6-Trichlorophenol	(3)	10.584	196	41026	1.164
92) 2,4,5-Trichlorophenol	(3)	10.627	196	46179	1.240
97) Isosafrole	(3)			62670	1.250
93)$2-Fluorobiphenyl	(3)	10.739	172	329358	2.620
94) trans-Isosafrole	(3)	10.852	162	52729	1.039
95) 1,1'-Biphenyl	(3)	10.894	154	174850	1.361
96) 2-Chloronaphthalene	(3)	10.910	162	145782	1.312
98) 1-Chloronaphthalene	(3)	10.937	162	125934	1.293
99) Diphenyl ether	(3)	11.076	170	92976	1.286
100) 2-Nitroaniline	(3)	11.092	138	38117	1.165
104) 1,4-Naphthoquinone	(3)	11.210	158	49540	1.161
105) 1,4-Dinitrobenzene	(3)	11.338	168	18246A	1.109
106) Dimethylphthalate	(3)	11.424	163	157629	1.303
107) 1,3-Dinitrobenzene	(3)	11.451	168	20615A	1.116
108) 2,6-Dinitrotoluene	(3)	11.504	165	31588	1.178
109) Acenaphthylene	(3)	11.574	152	198335	1.292
112) 3-Nitroaniline	(3)	11.745	138	33049	1.162
113)*Acenaphthene-d10	(3)	11.788	164	396437	5.000
114) Acenaphthene	(3)	11.836	153	140135	1.300
115) 2,4-Dinitrophenol	(3)	11.900	184	39202	2.538

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

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on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0417c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:52 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120) 2,4_2,6-Dinitrotoluenes	(3)			73888	2.366
116) 4-Nitrophenol	(3)	11.991	109	41795	2.190
117) Pentachlorobenzene	(3)	12.018	250	57166	1.277
119) Dibenzofuran	(3)	12.076	168	196118	1.307
118) 2,4-Dinitrotoluene	(3)	12.082	165	42300	1.188
121) 1-Naphthylamine	(3)	12.183	143	130295	1.238
122) 2,3,4,6-Tetrachlorophenol	(3)	12.242	232	34083	1.170
123) 2-Naphthylamine	(3)	12.290	143	132645	1.330
124) Diethylphthalate	(3)	12.424	149	151801	1.275
125) Thionazin	(3)	12.515	107	25360	1.251
126) Fluorene	(3)	12.520	166	151329	1.290
127) 4-Chlorophenyl-phenylether	(3)	12.542	204	77457	1.343
128) 5-Nitro-o-toluidine	(3)	12.542	152	38984	1.197
129) 4-Nitroaniline	(3)	12.547	138	35082	1.232
130) 4,6-Dinitro-2-methylphenol	(4)	12.590	198	42223	2.065
131) N-Nitrosodiphenylamine	(4)	12.686	169	124158	1.290
132) NDPA as diphenylamine	(4)	12.686	169	124158	1.290
134) 1,2-Diphenylhydrazine	(4)	12.734	77	174399	1.297
135)$2,4,6-Tribromophenol	(3)	12.820	330	34720	2.443
137) Tetraethyldithiopyrophosphate	(4)	12.916	97	29747	1.316
146) Diallate trans/cis	(4)			73597	1.270
139) 1,3,5-Trinitrobenzene	(4)	13.023	213	13133M	1.043
140) Diallate (peak 1)	(4)	13.061	86	63739	1.067
141) Phorate	(4)	13.071	75	108609	1.254
142) Phenacetin	(4)	13.087	108	74844	1.191
143) 4-Bromophenyl-phenylether	(4)	13.152	248	43369	1.348
144) Diallate (peak 2)	(4)	13.173	86	9858	0.202
145) Hexachlorobenzene	(4)	13.200	284	43137	1.322
147) Dimethoate	(4)	13.275	87	58729	1.154
148) Atrazine	(4)	13.376	200	43456	1.359
149) Pentachlorophenol	(4)	13.462	266	20768M	1.053
151) Pentachloronitrobenzene	(4)	13.478	237	18098	1.170
150) 4-Aminobiphenyl	(4)	13.483	169	139326M	1.255
152) Pronamide	(4)	13.574	173	65695	1.179
153)*Phenanthrene-d10	(4)	13.713	188	772431	5.000
154) Dinoseb	(4)	13.724	211	32130	1.003
155) Phenanthrene	(4)	13.745	178	226892	1.305
157) Anthracene	(4)	13.815	178	227274	1.305
163) Carbazole	(4)	14.039	167	192011	1.242
164) Methyl parathion	(4)	14.243	109	41665	1.074

M = Compound was manually integrated.
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on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0417c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:52 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
165) Di-n-butylphthalate	(4)	14.553	149	239209	1.175
167) Parathion	(4)	14.804	109	25843	1.029
168) 4-Nitroquinoline-1-oxide	(4)	14.831	190	16127	1.985
169) Octachlorostyrene	(4)	15.157	308	15870	1.311
171) Isodrin	(4)	15.221	193	28283	1.334
173) Fluoranthene	(4)	15.446	202	247085	1.264
174) Benzidine	(5)	15.681	184	393183	3.330
175)*Pyrene-d10	(5)	15.772	212	801267	5.000
177) Pyrene	(5)	15.799	202	267607	1.304
179)$Terphenyl-d14	(5)	16.088	244	339478	2.594
182) p-Dimethylaminoazobenzene	(5)	16.323	225	34249	1.601
185) Chlorobenzilate	(5)	16.414	139	72078	1.187
187) 3,3'-Dimethylbenzidine	(5)	16.901	212	130267	0.978
188) Butylbenzylphthalate	(5)	16.954	149	108162	1.142
191) 2-Acetylaminofluorene	(5)	17.323	181	76800	1.025
193) 3,3'-Dichlorobenzidine	(5)	17.853	252	72729	1.110
195) Benzo(a)anthracene	(5)	17.858	228	235153	1.265
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.874	231	40837M	1.026
196) Chrysene	(5)	17.922	228	233997	1.307
199) bis(2-Ethylhexyl)phthalate	(5)	18.029	149	150085	1.122
203) 6-Methylchrysene	(5)	18.741	242	151764	1.224
205) Di-n-octylphthalate	(6)	19.212	149	241010	1.054
206) Benzo(b)fluoranthene	(6)	19.741	252	231955	1.276
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.746	256	85700	1.120
208) Benzo(k)fluoranthene	(6)	19.789	252	227381	1.316
211) Benzo(a)pyrene	(6)	20.281	252	207324	1.266
213)*Perylene-d12	(6)	20.378	264	727312	5.000
215) 3-Methylcholanthrene	(6)	20.854	268	93704	1.176
217) Dibenz(a,h)acridine	(6)	21.683	279	166856	1.224
218) Dibenz(a,j)acridine	(6)	21.757	279	165710	1.197
222) Total PAHs	(6)			3672969	23.167
219) Indeno(1,2,3-cd)pyrene	(6)	22.020	276	187484M	1.209
220) Dibenz(a,h)anthracene	(6)	22.062	278	198082	1.258
221) Benzo(g,h,i)perylene	(6)	22.442	276	199159	1.248

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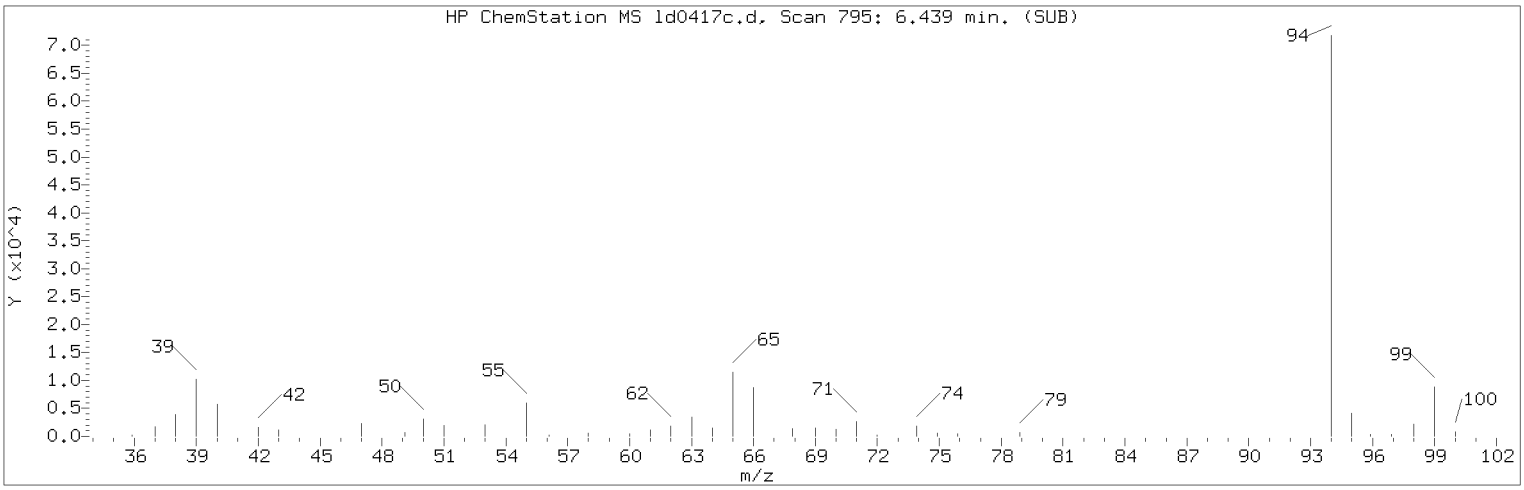
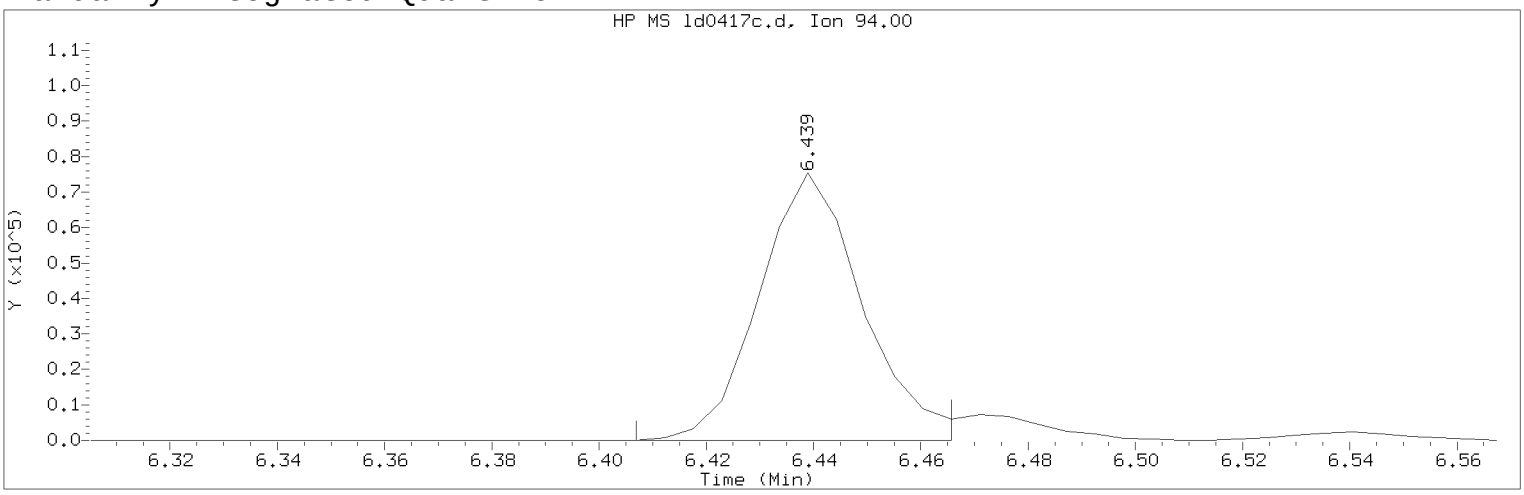
on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0417c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:52 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

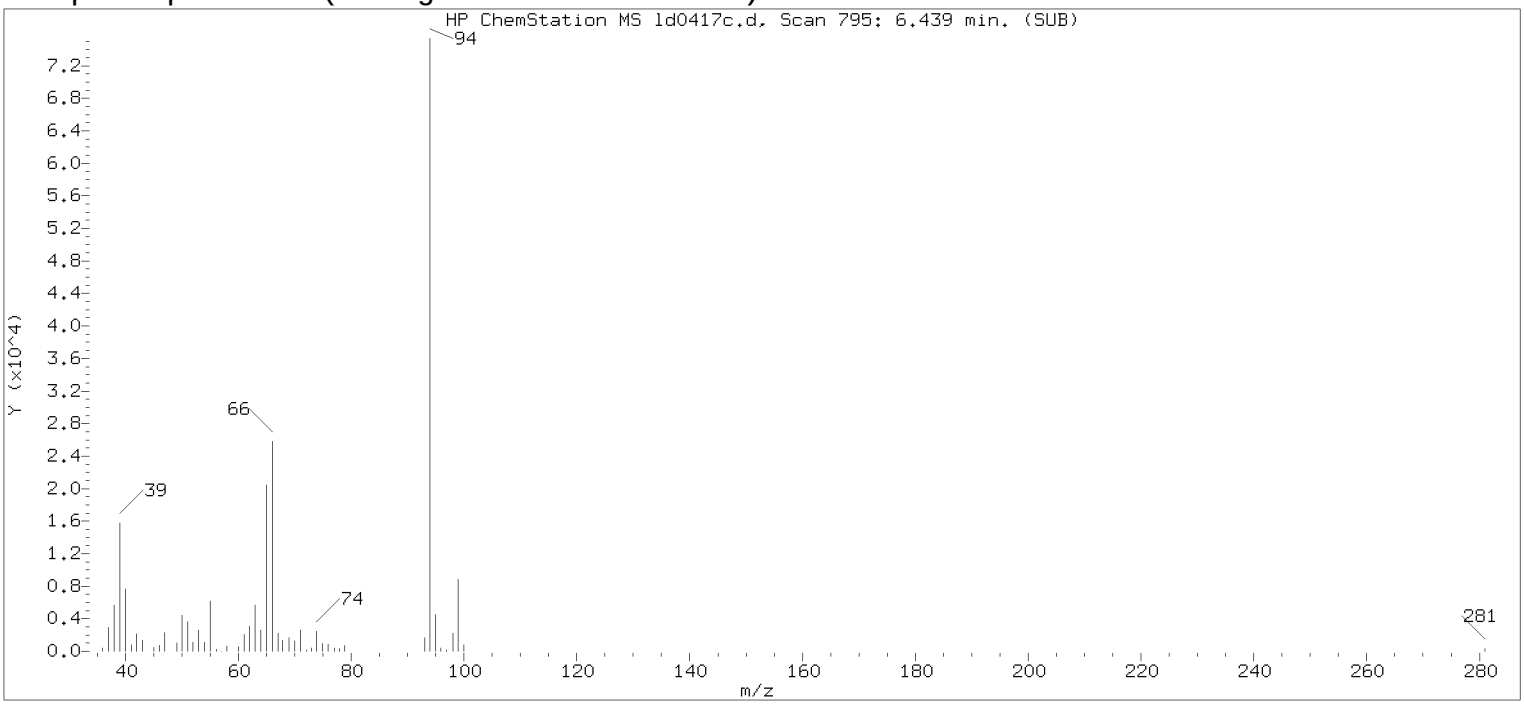
Compound Number : 18
Compound Name : Phenol
Scan Number : 795
Retention Time (minutes) : 6.439
Quant Ion : 94.00
Area (flag) : 100919M
On-Column Amount (ng/ul) : 1.1800
Integration start scan : 788 Integration stop scan: 799
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

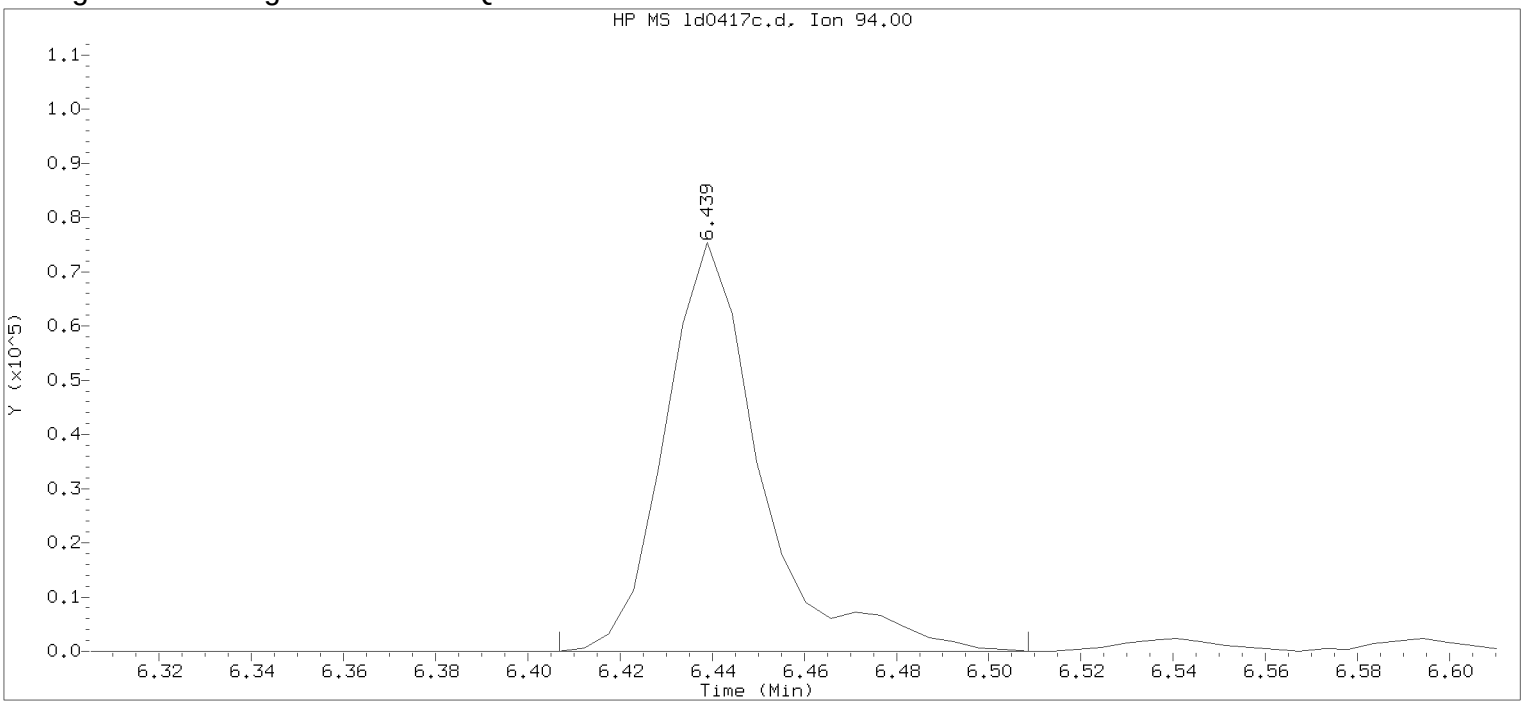
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0417c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:52 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

Compound Number : 18
Compound Name : Phenol
Scan Number : 795
Retention Time (minutes) : 6.439
Quant Ion : 94.00
Area : 108504
On-column Amount (ng/ul) : 1.3056
Integration start scan : 788 Integration stop scan: 807
Y at integration start : 0 Y at integration end: 0

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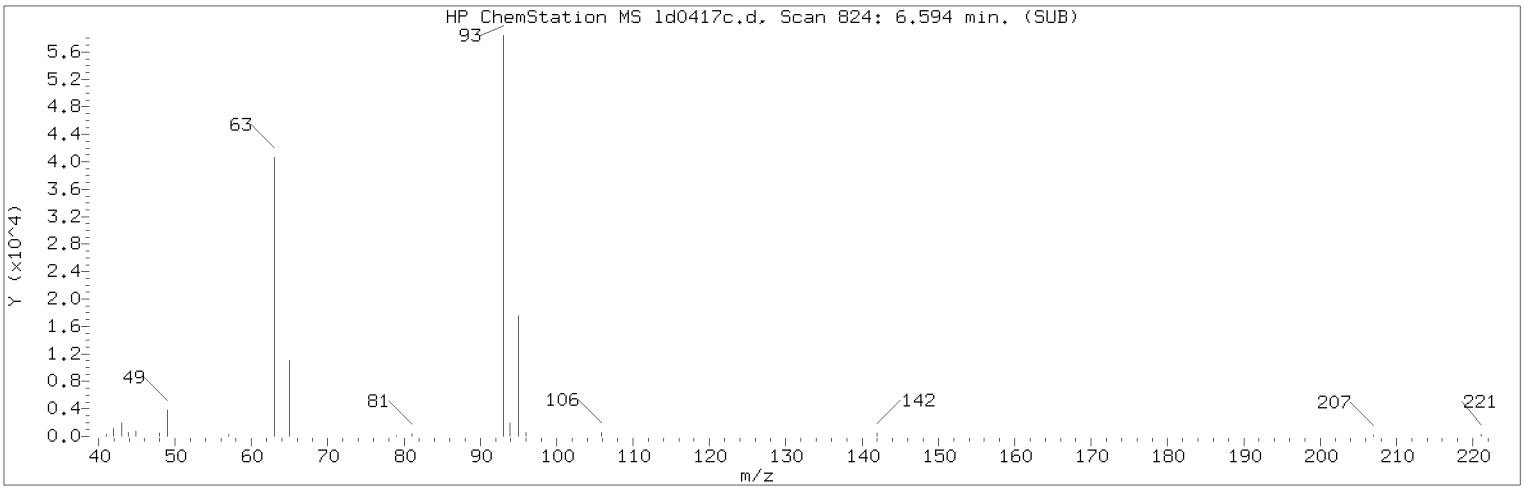
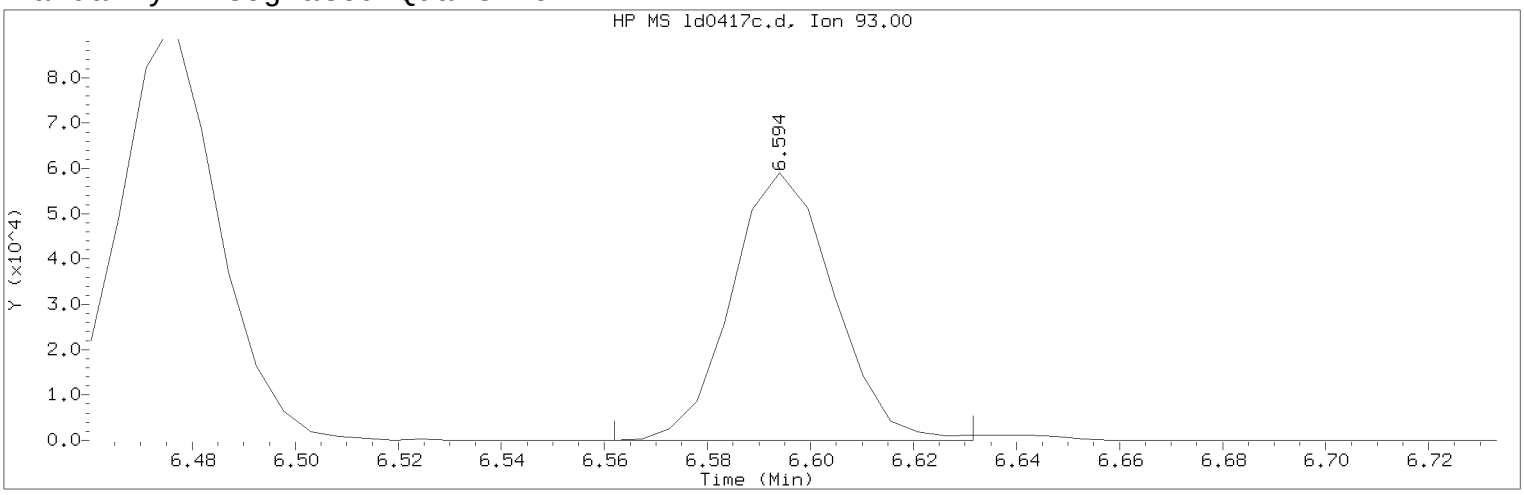
Target 3.5 esignature user id: 1085 Page 0207

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0417c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:52 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

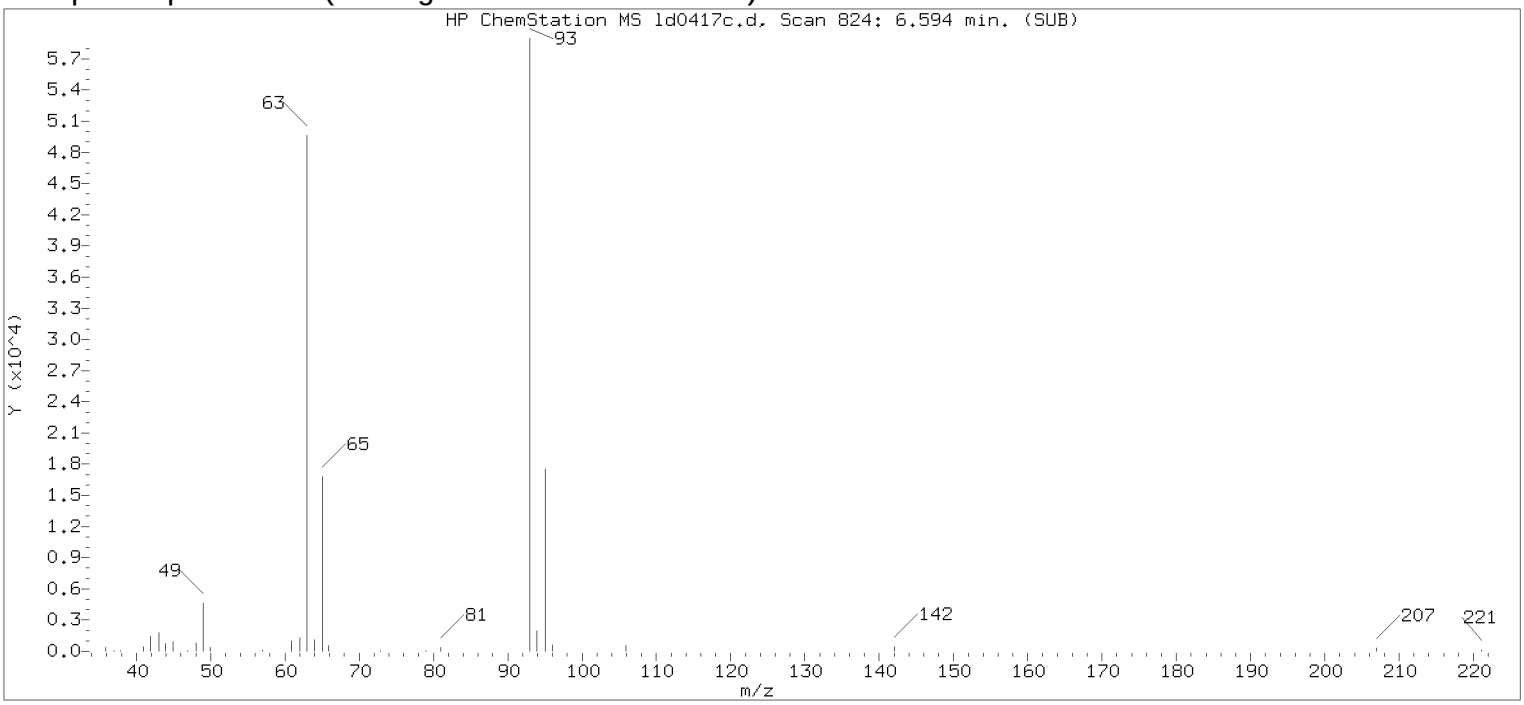
Compound Number : 22
Compound Name : bis(2-Chloroethyl)ether
Scan Number : 824
Retention Time (minutes) : 6.594
Quant Ion : 93.00
Area (flag) : 80940M
On-Column Amount (ng/ul) : 1.2586
Integration start scan : 817 Integration stop scan: 830
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

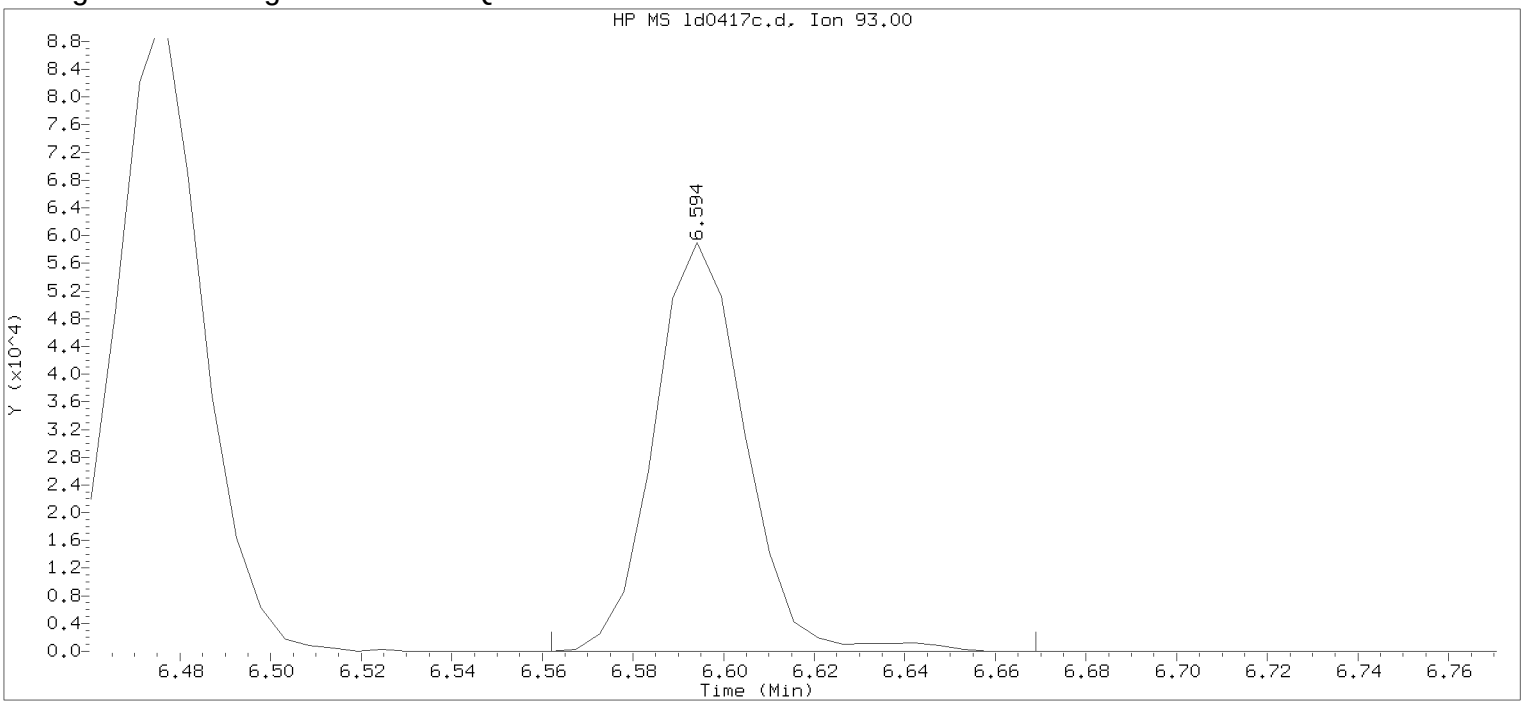
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0417c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:52 Analyst ID: hbz01996

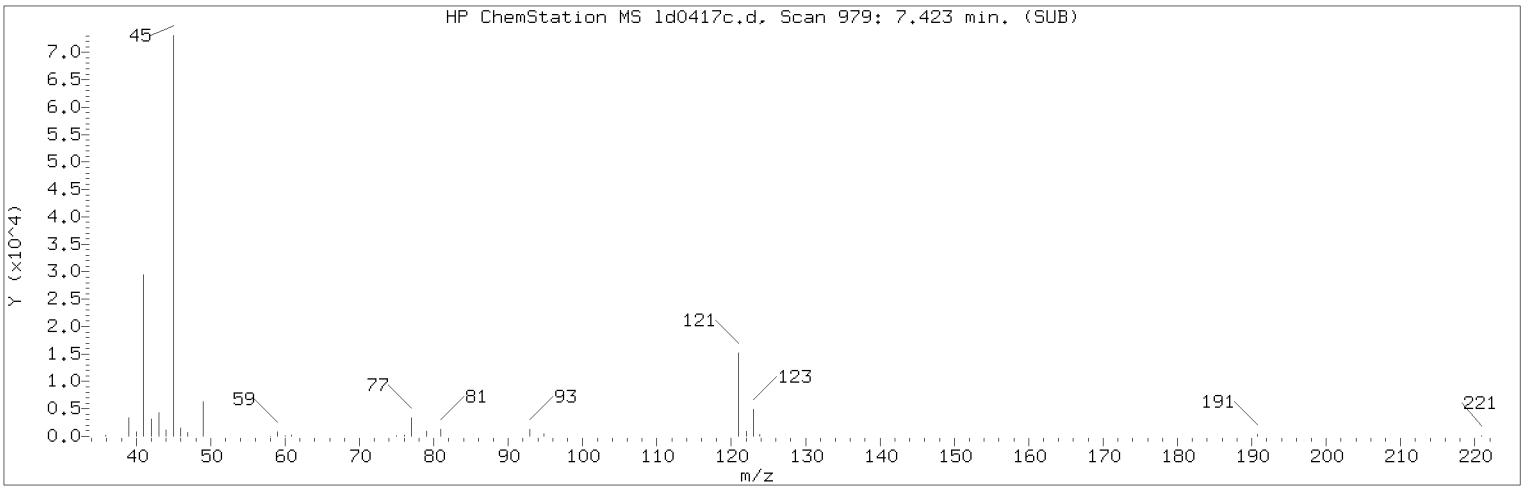
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

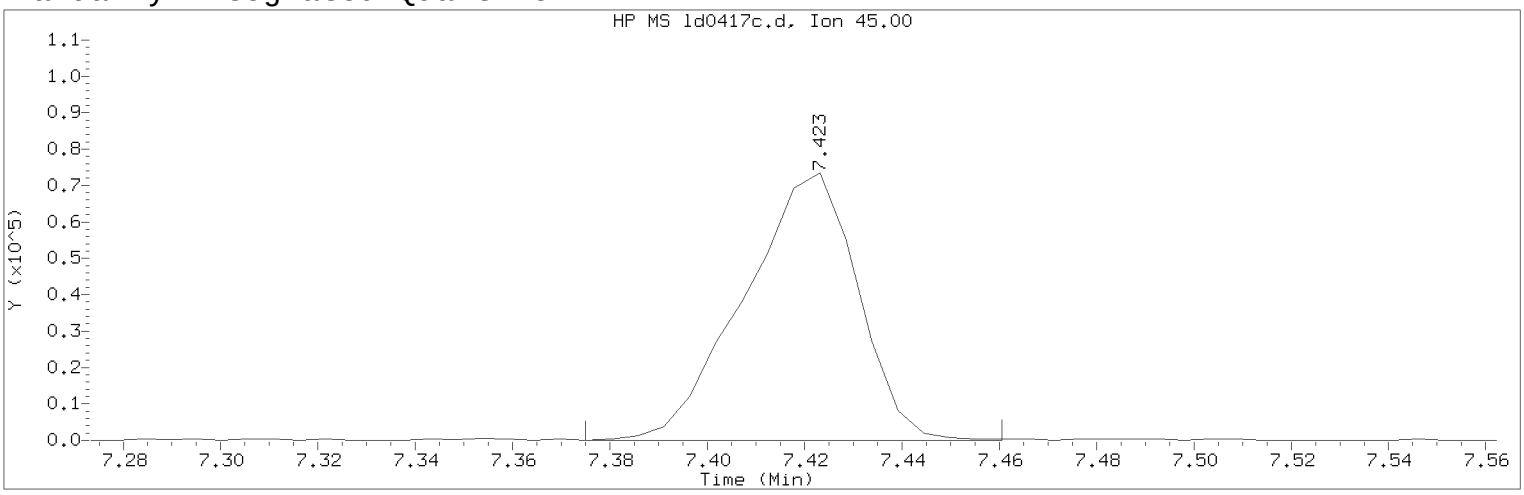
Compound Number : 22
Compound Name : bis(2-Chloroethyl)ether
Scan Number : 824
Retention Time (minutes) : 6.594
Quant Ion : 93.00
Area : 82049
On-column Amount (ng/ul) : 1.2843
Integration start scan : 817 Integration stop scan: 837
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: 1048

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0417c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:52 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

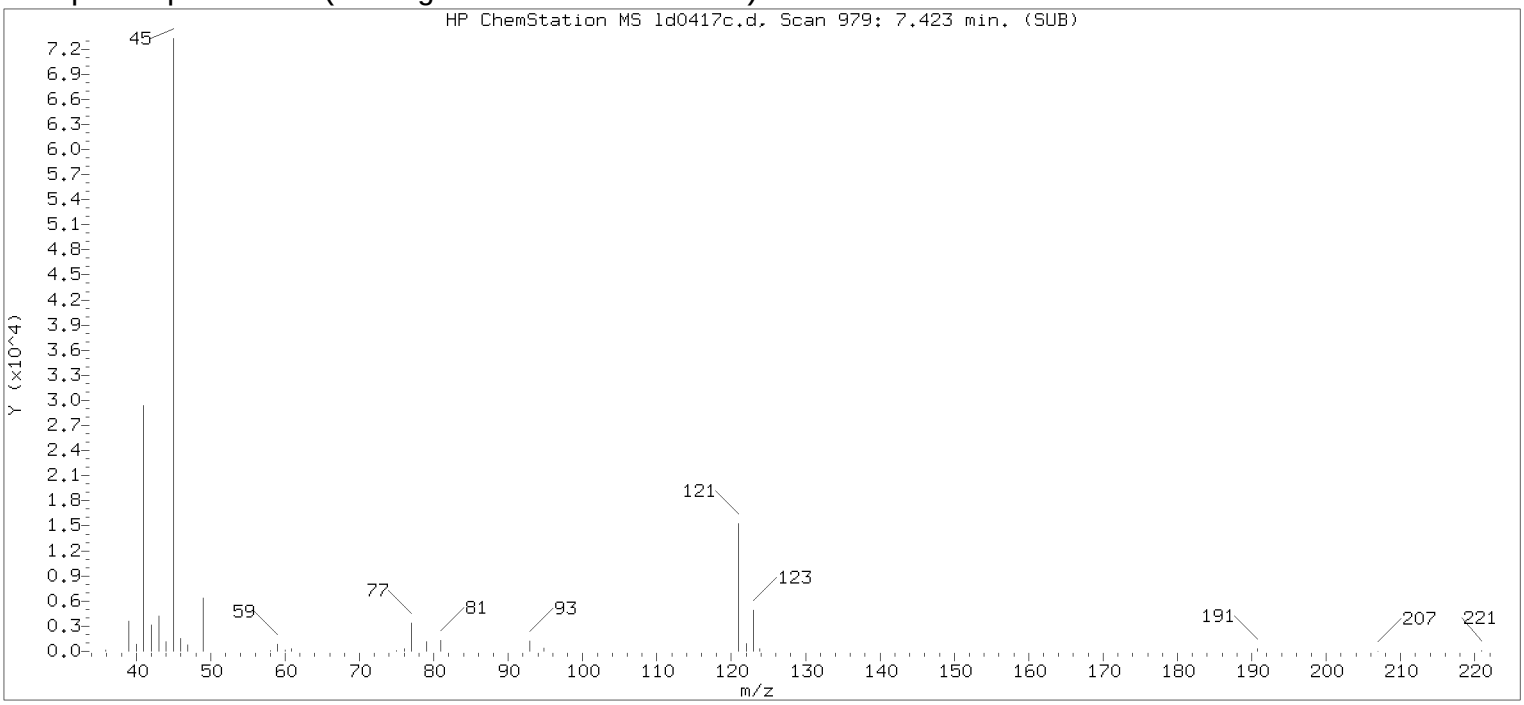
Compound Number : 34
Compound Name : bis(2-Chloroisopropyl)ether
Scan Number : 979
Retention Time (minutes) : 7.423
Quant Ion : 45.00
Area (flag) : 118901M
On-Column Amount (ng/ul) : 1.3077
Integration start scan : 969 Integration stop scan: 985
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

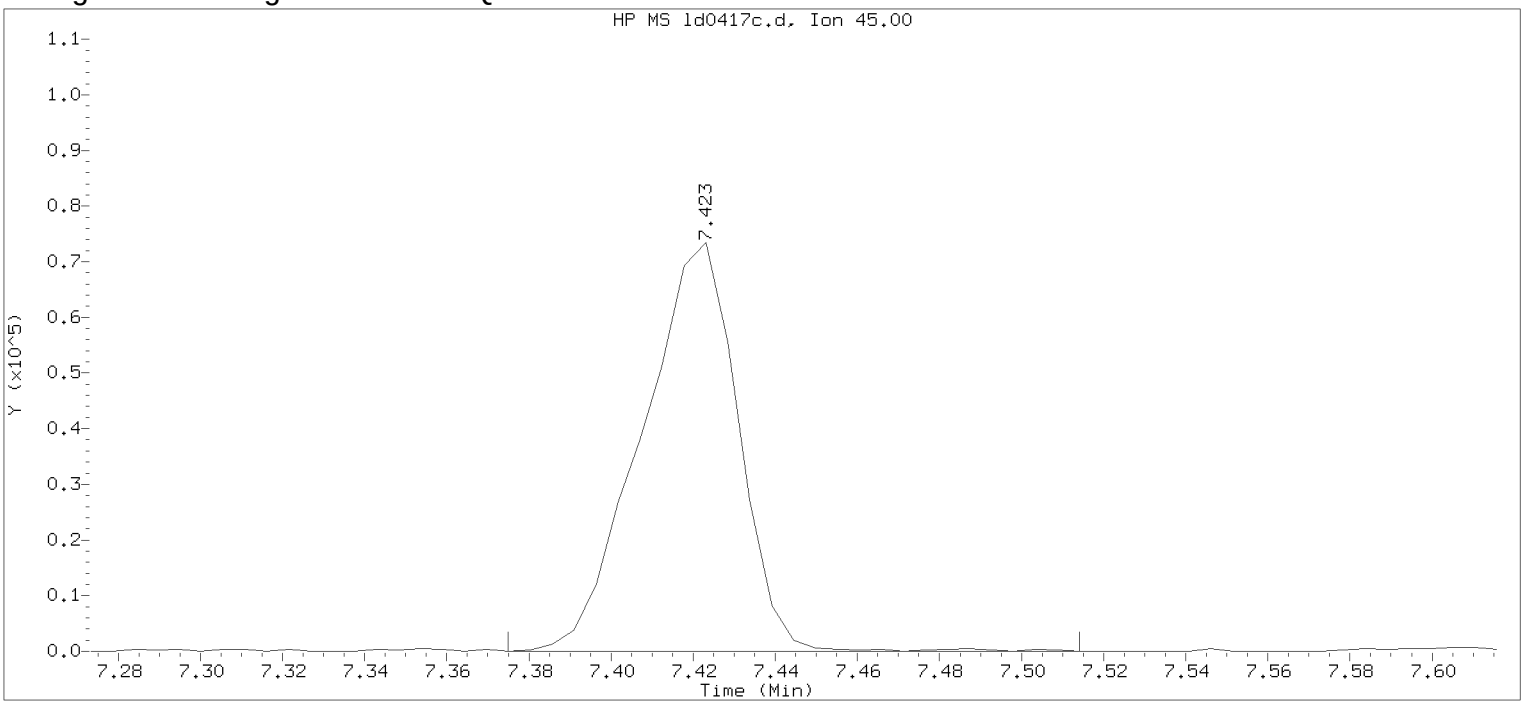
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0417c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:52 Analyst ID: hbz01996

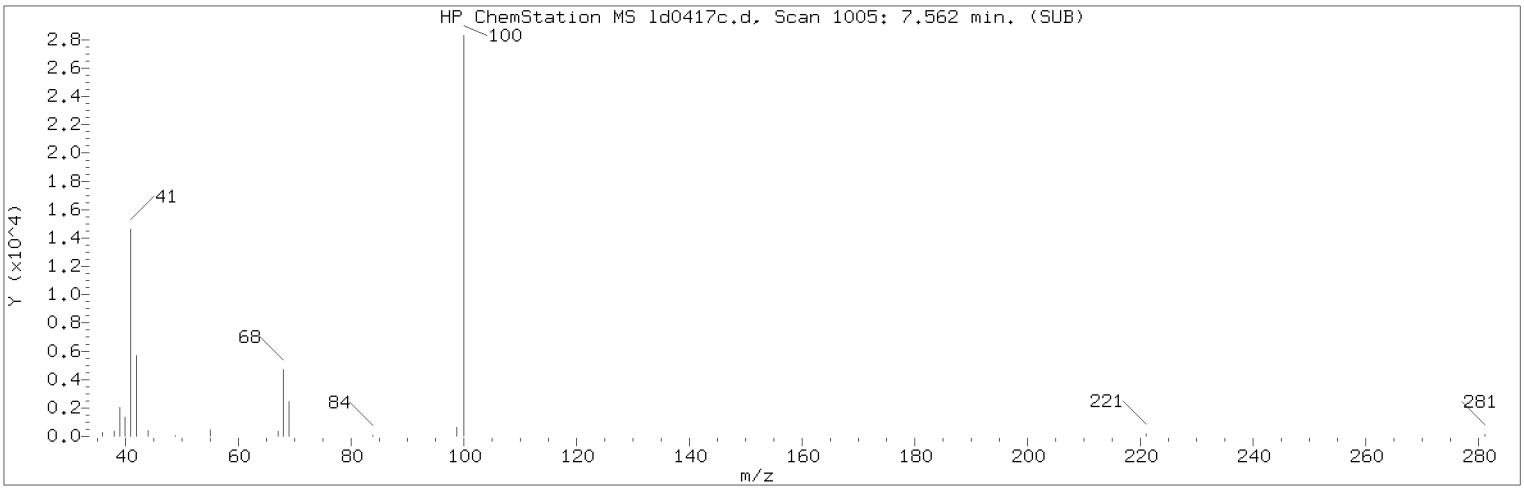
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

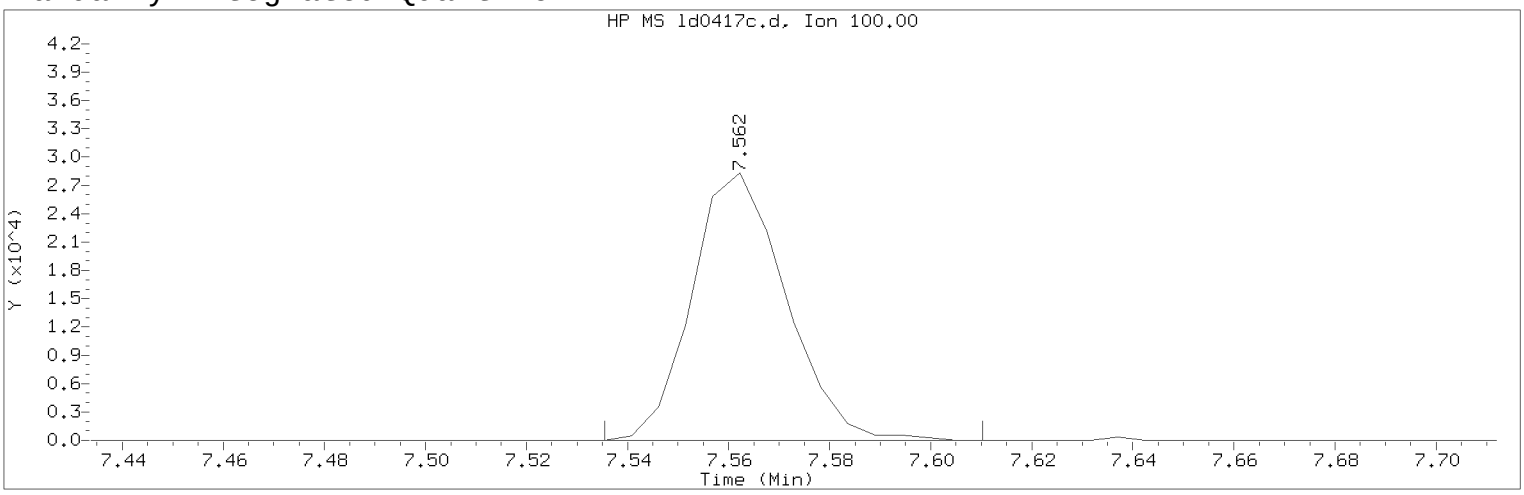
Compound Number : 34
Compound Name : bis(2-Chloroisopropyl)ether
Scan Number : 979
Retention Time (minutes) : 7.423
Quant Ion : 45.00
Area : 119640
On-column Amount (ng/ul) : 1.3792
Integration start scan : 969 Integration stop scan: 995
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: 1025

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0417c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:52 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

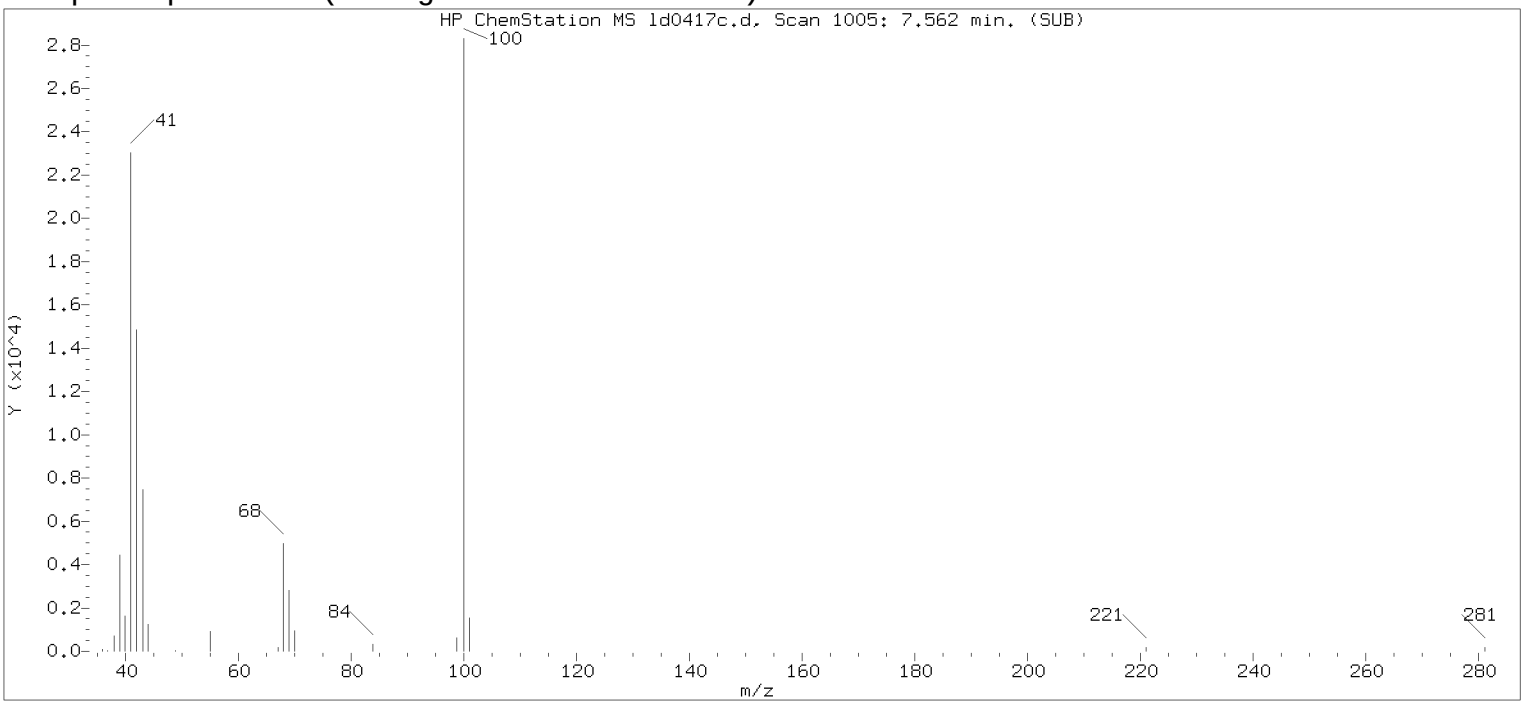
Compound Number : 35
Compound Name : N-Nitrosopyrrolidine
Scan Number : 1005
Retention Time (minutes) : 7.562
Quant Ion : 100.00
Area (flag) : 36477M
On-Column Amount (ng/ul) : 1.2072
Integration start scan : 999 Integration stop scan: 1013
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

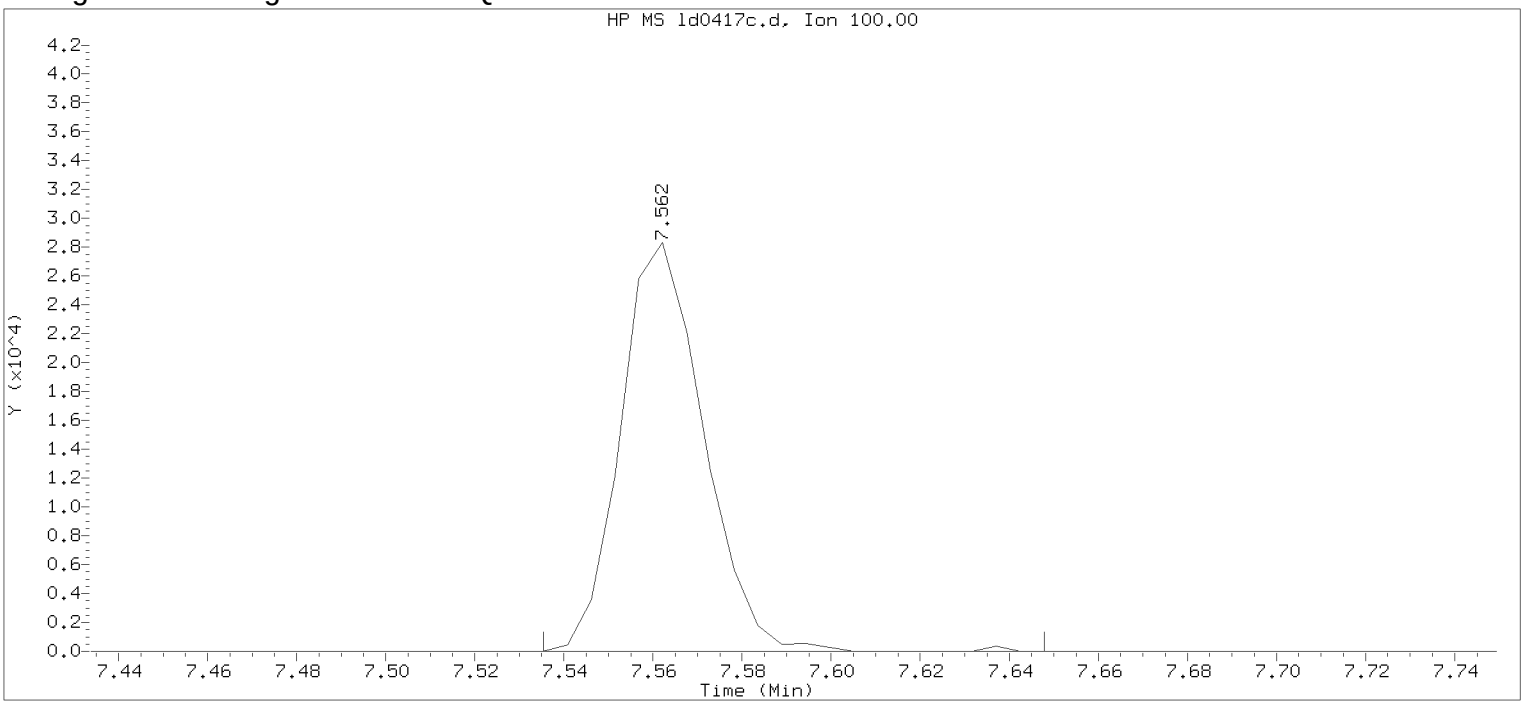
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0417c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:52 Analyst ID: hbz01996

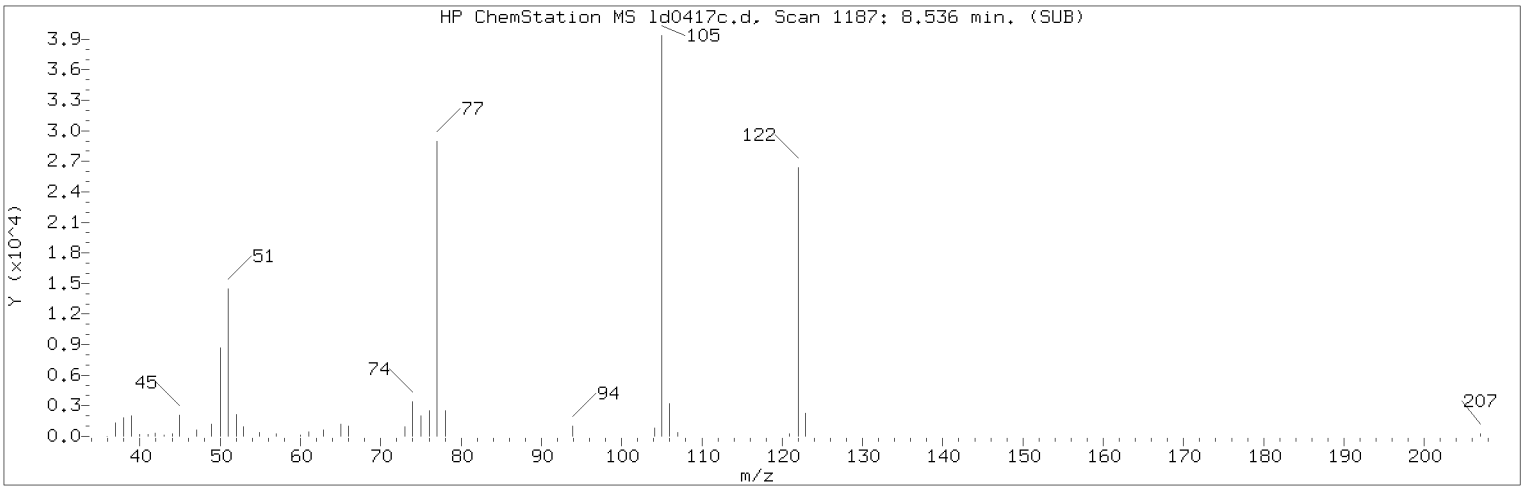
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

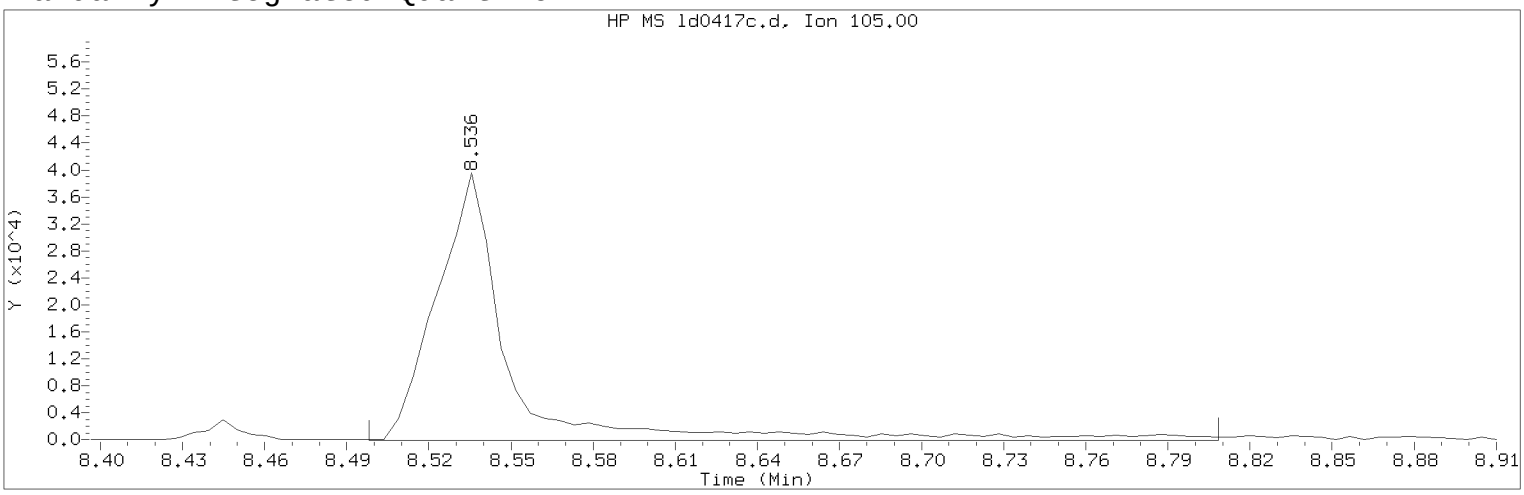
Compound Number : 35
Compound Name : N-Nitrosopyrrolidine
Scan Number : 1005
Retention Time (minutes) : 7.562
Quant Ion : 100.00
Area : 36591
On-column Amount (ng/ul) : 1.2491
Integration start scan : 999 Integration stop scan: 1020
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user id: 1085 hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0417c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:52 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

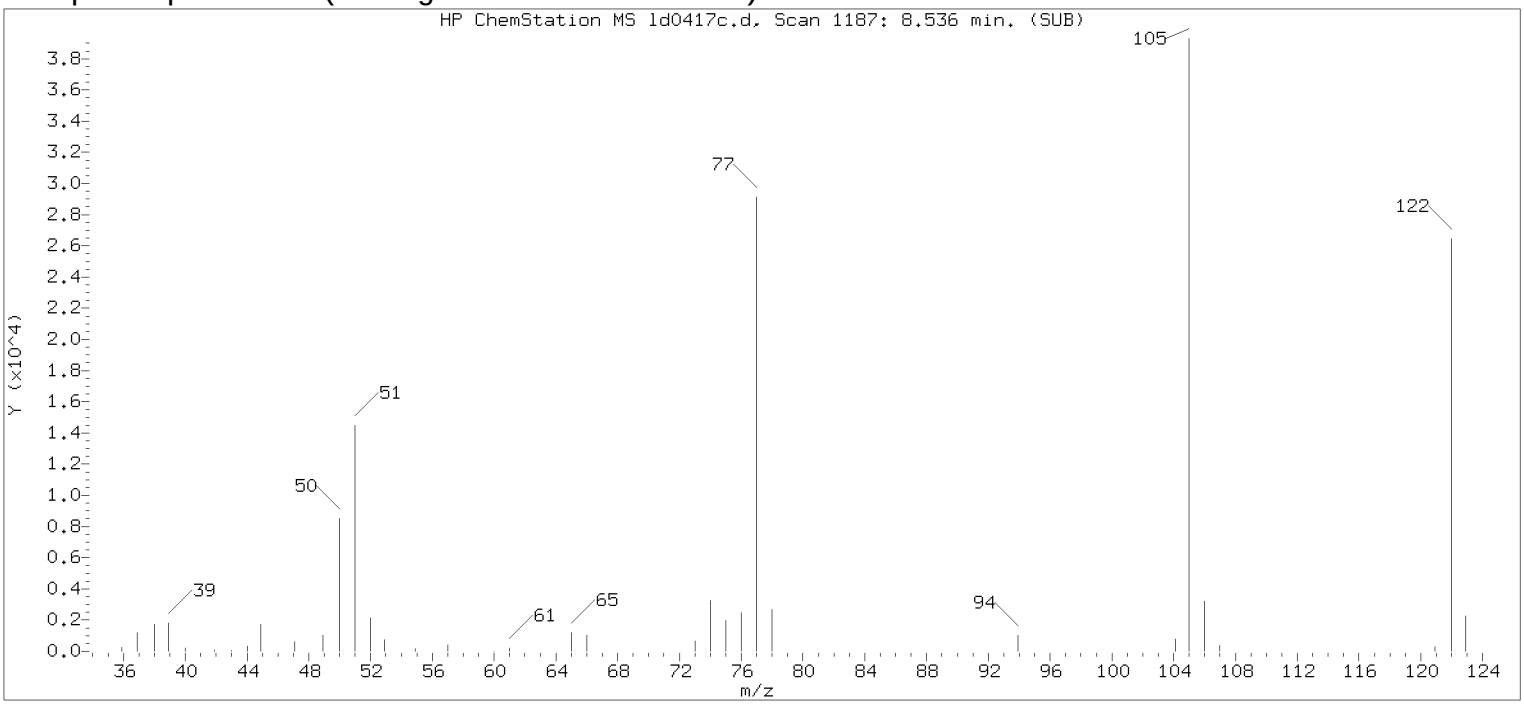
Compound Number : 56
Compound Name : Benzoic acid
Scan Number : 1187
Retention Time (minutes) : 8.536
Quant Ion : 105.00
Area (flag) : 73904M
On-Column Amount (ng/ul) : 4.4225
Integration start scan : 1179 Integration stop scan: 1237
Y at integration start : -66 Y at integration end: -66

Reason for manual integration: improper integration

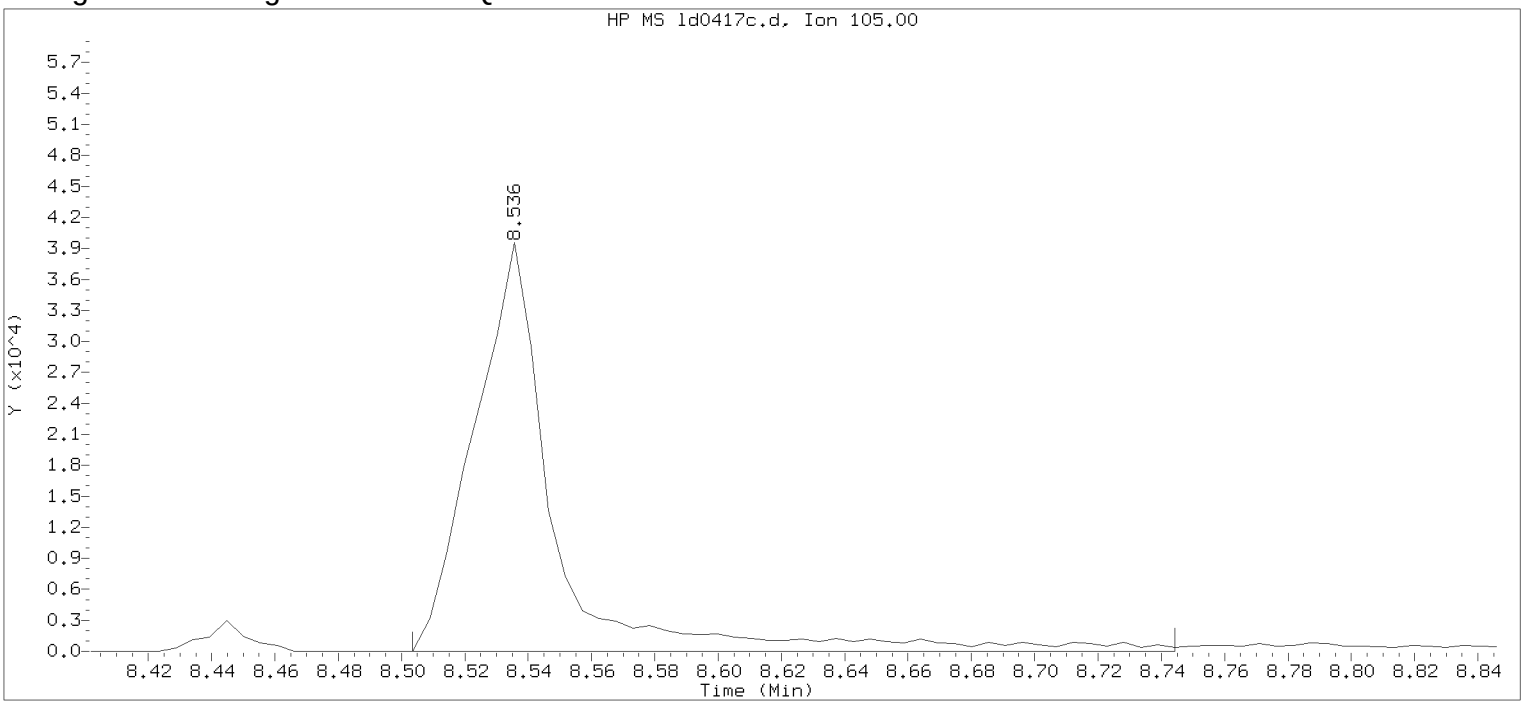
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0417c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:52 Analyst ID: hbz01996

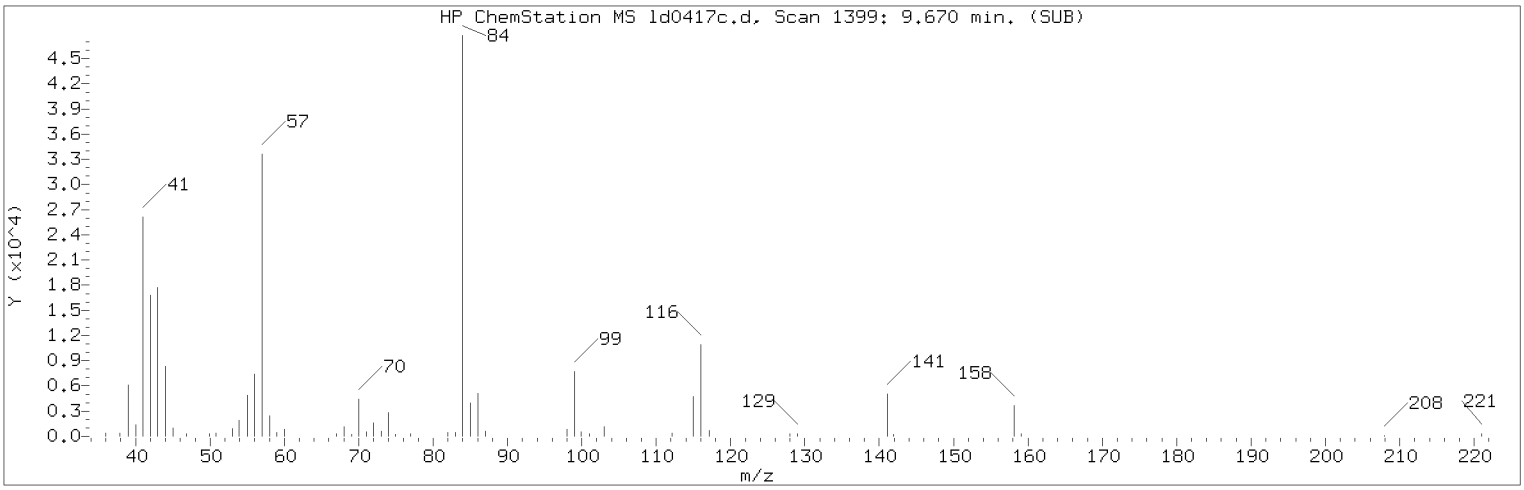
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

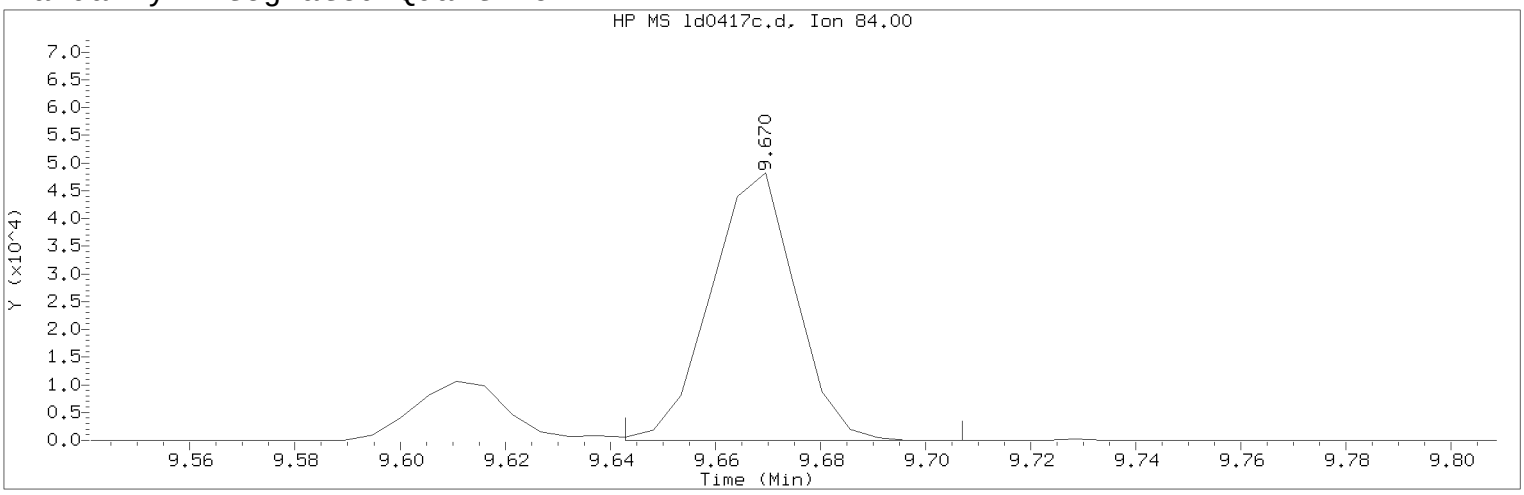
Compound Number : 56
Compound Name : Benzoic acid
Scan Number : 1187
Retention Time (minutes) : 8.536
Quant Ion : 105.00
Area : 70406
On-column Amount (ng/ul) : 3.7695
Integration start scan : 1180 Integration stop scan: 1225
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs1058

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0417c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:52 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

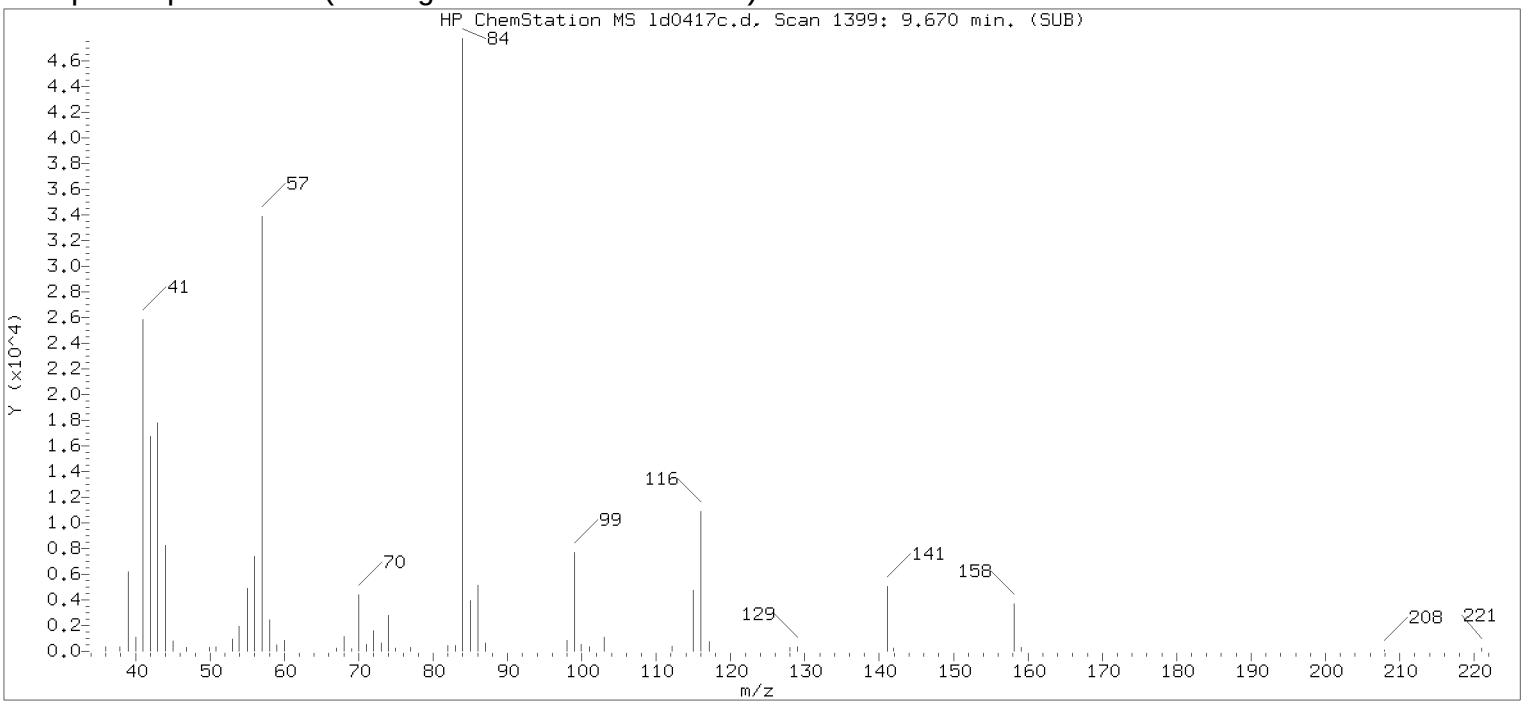
Compound Number : 77
Compound Name : N-Nitrosodi-n-butylamine
Scan Number : 1399
Retention Time (minutes) : 9.670
Quant Ion : 84.00
Area (flag) : 53761M
On-Column Amount (ng/ul) : 1.8453
Integration start scan : 1393 Integration stop scan: 1405
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

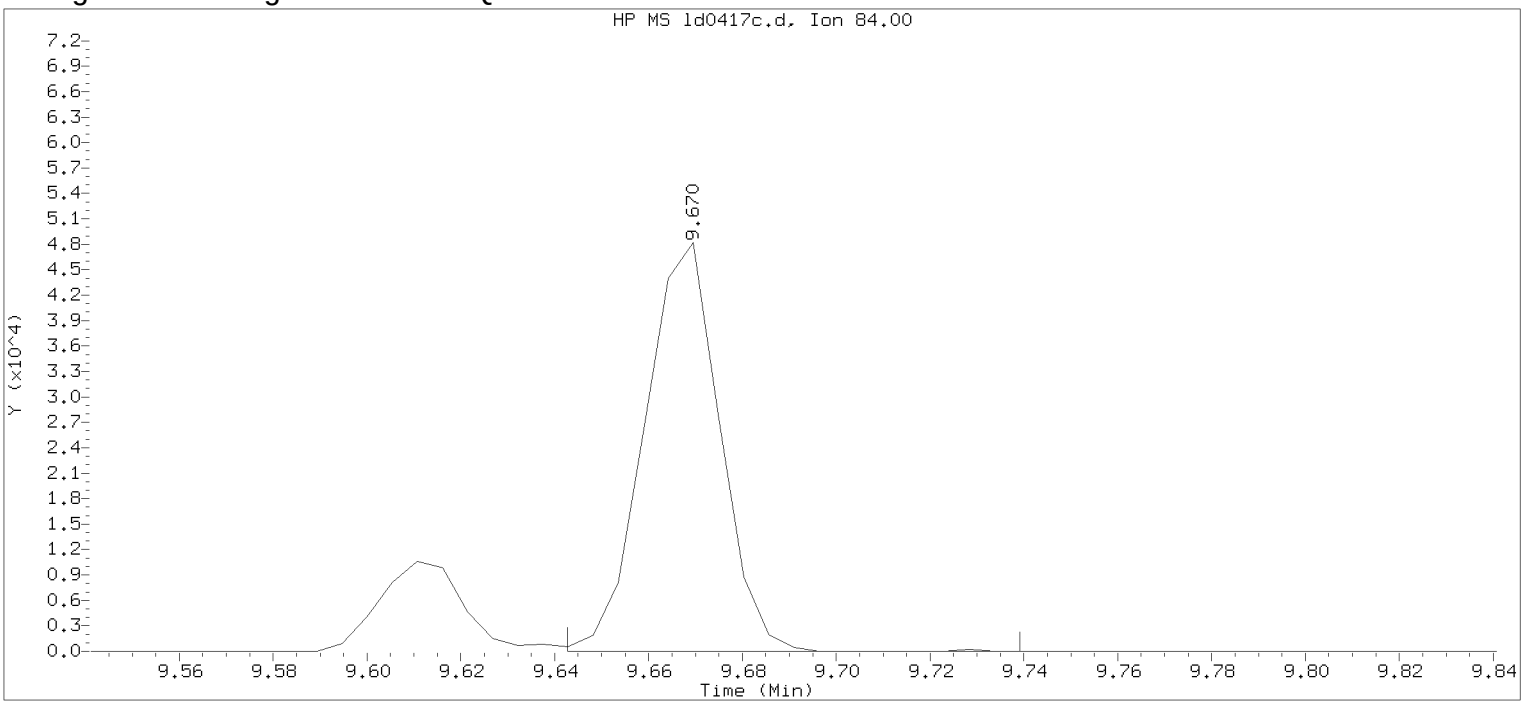
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0417c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:52 Analyst ID: hbz01996

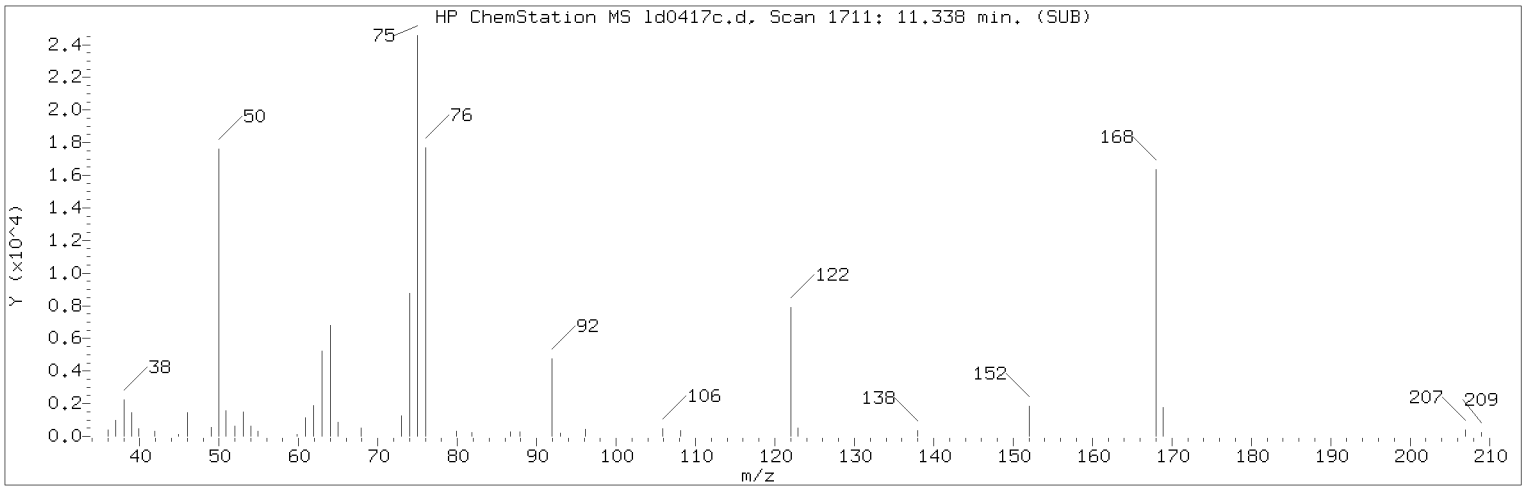
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

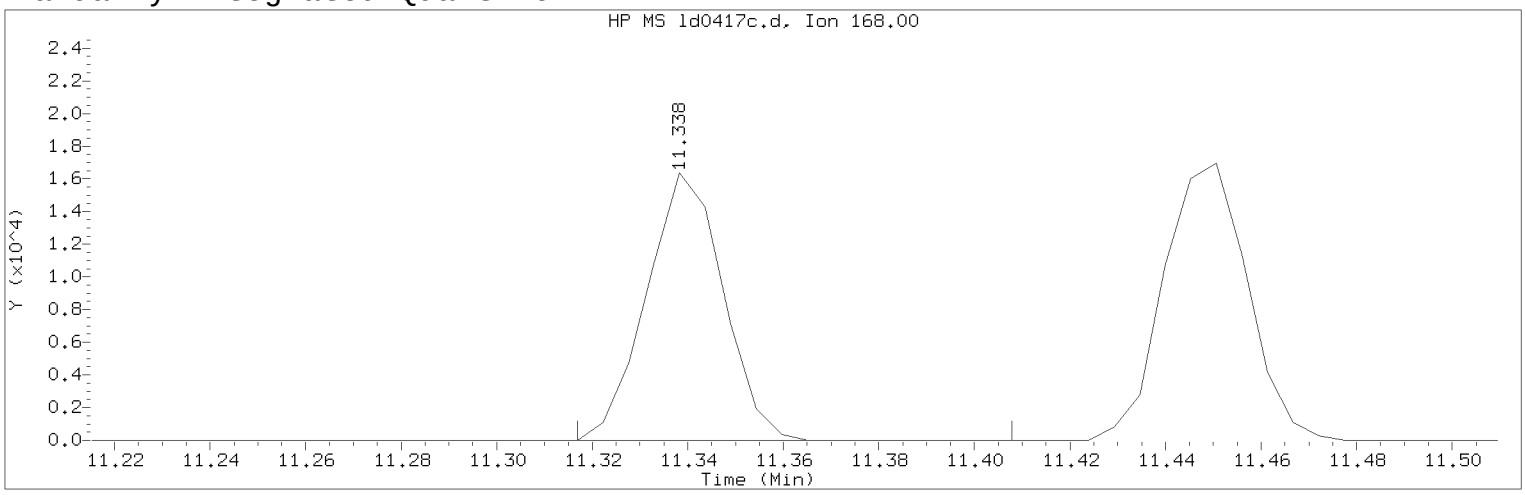
Compound Number : 77
Compound Name : N-Nitrosodi-n-butylamine
Scan Number : 1399
Retention Time (minutes) : 9.670
Quant Ion : 84.00
Area : 53753
On-column Amount (ng/ul) : 1.0664
Integration start scan : 1393 Integration stop scan: 1411
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: 1025

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0417c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:52 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

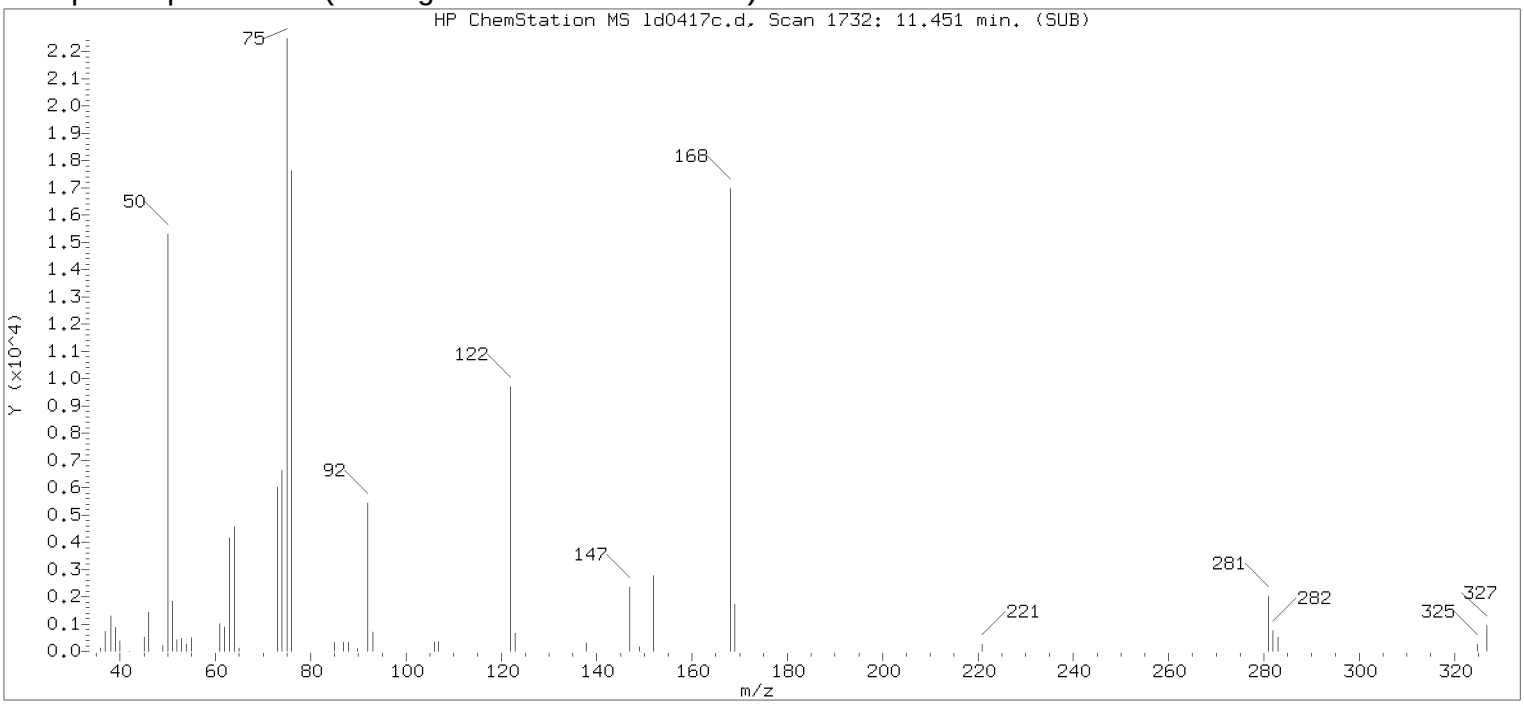
Compound Number : 105
Compound Name : 1,4-Dinitrobenzene
Scan Number : 1711
Retention Time (minutes) : 11.338
Quant Ion : 168.00
Area (flag) : 18246A
On-Column Amount (ng/ul) : 1.1086
Integration start scan : 1706 Integration stop scan: 1723
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

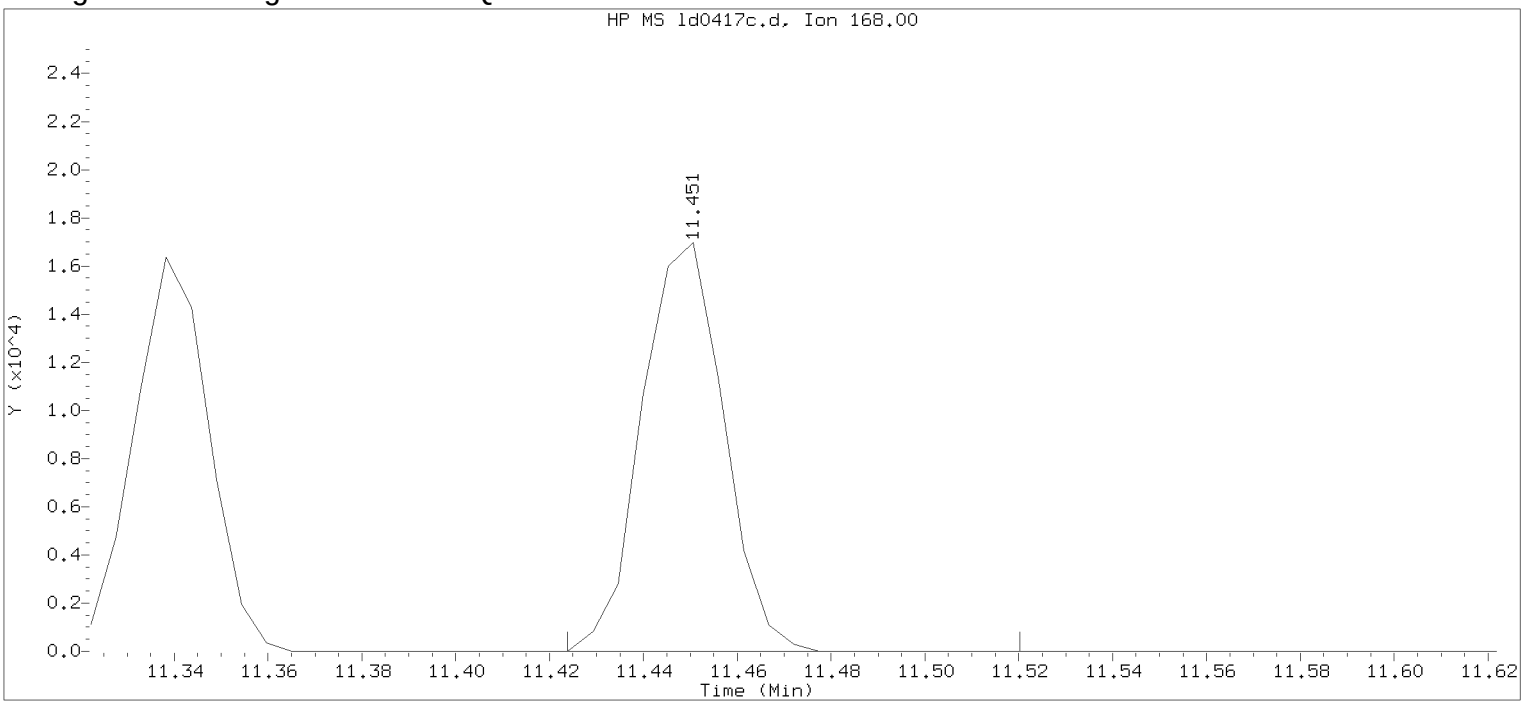
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0417c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:52 Analyst ID: hbz01996

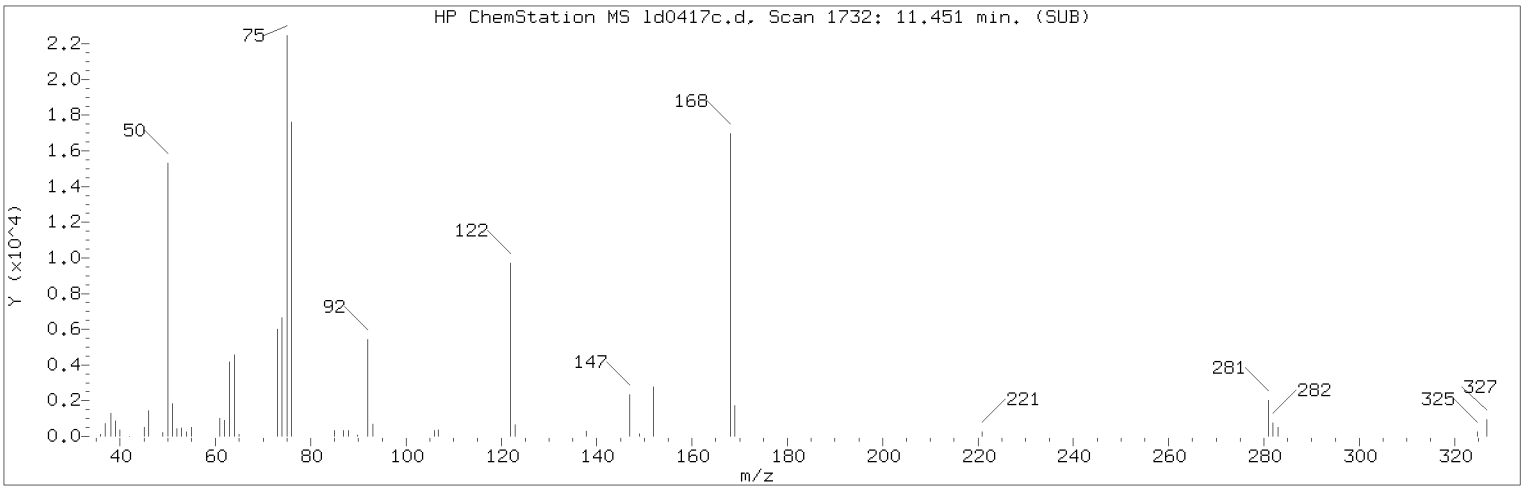
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

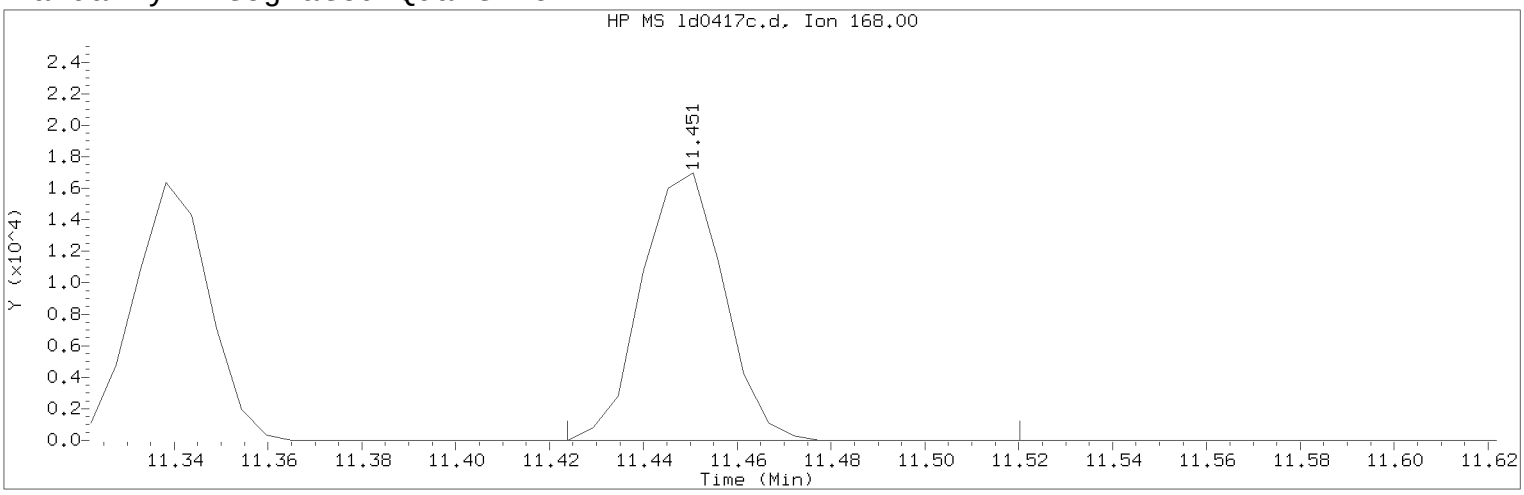
Compound Number : 105
Compound Name : 1,4-Dinitrobenzene
Scan Number : 1732
Retention Time (minutes) : 11.451
Quant Ion : 168.00
Area : 20615
On-column Amount (ng/ul) : 1.1241
Integration start scan : 1726 Integration stop scan: 1744
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user id: 1485 hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0417c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:52 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

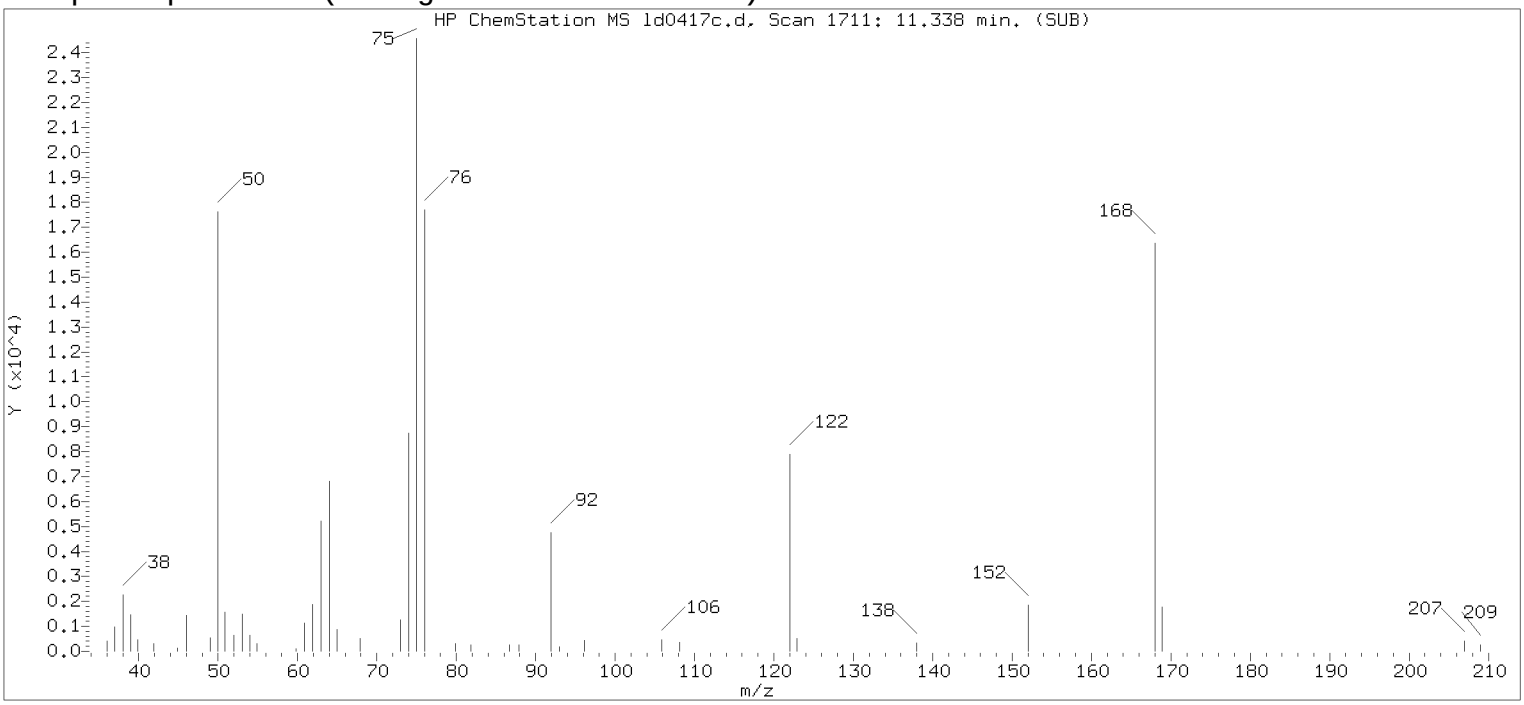
Compound Number : 107
Compound Name : 1,3-Dinitrobenzene
Scan Number : 1732
Retention Time (minutes) : 11.451
Quant Ion : 168.00
Area (flag) : 20615A
On-Column Amount (ng/ul) : 1.1164
Integration start scan : 1726 Integration stop scan: 1744
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

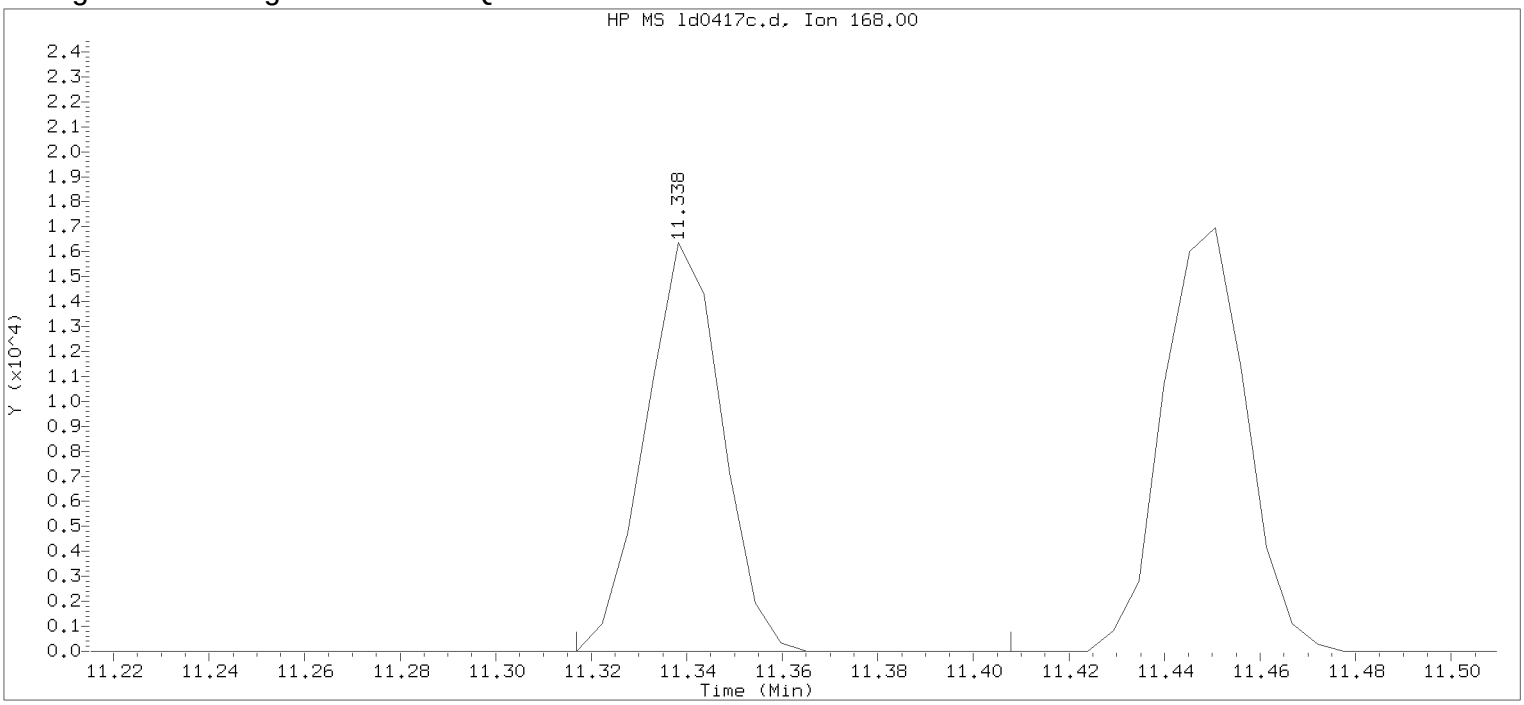
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0417c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:52 Analyst ID: hbz01996

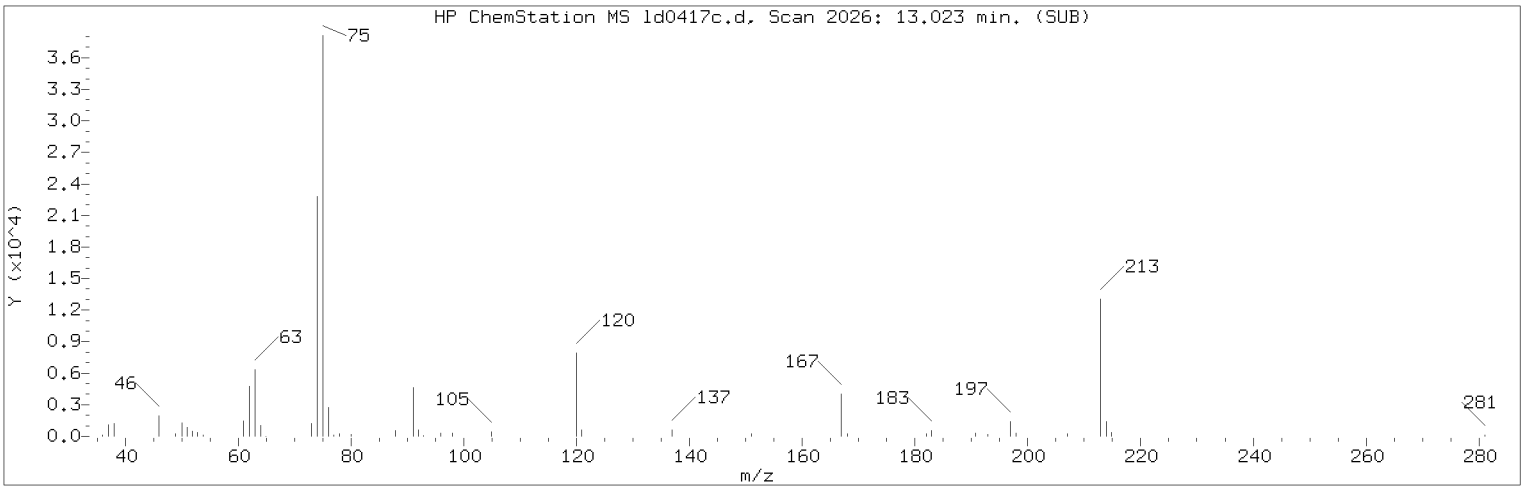
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

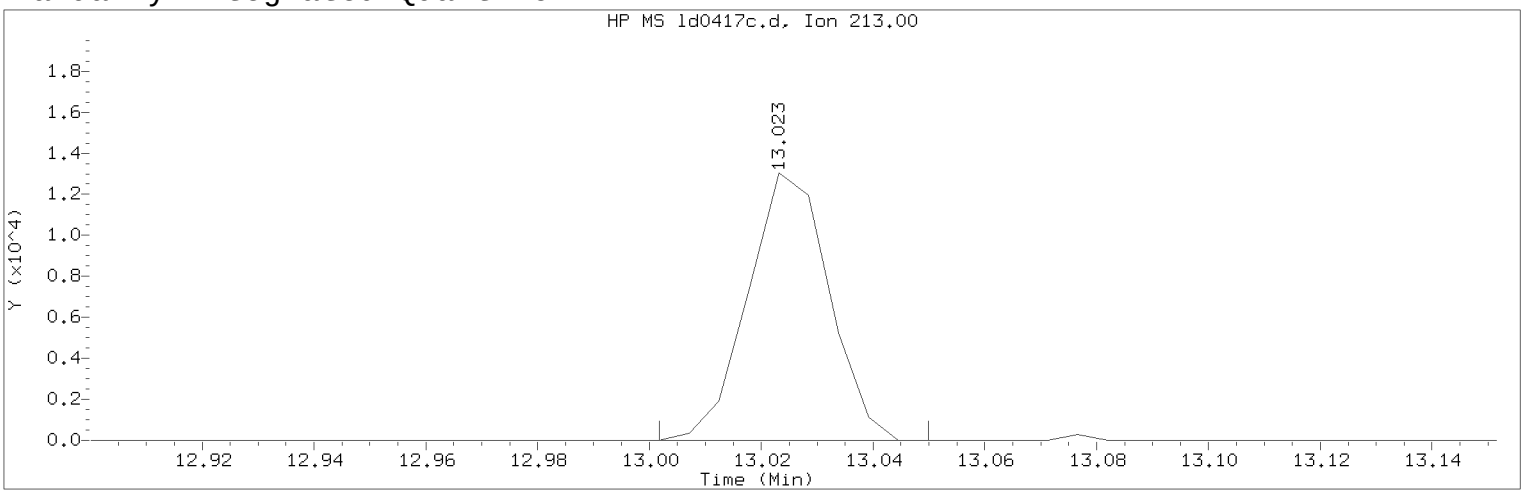
Compound Number : 107
Compound Name : 1,3-Dinitrobenzene
Scan Number : 1711
Retention Time (minutes) : 11.338
Quant Ion : 168.00
Area : 18245
On-column Amount (ng/ul) : 1.1086
Integration start scan : 1706 Integration stop scan: 1723
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user id: 1005

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0417c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:52 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

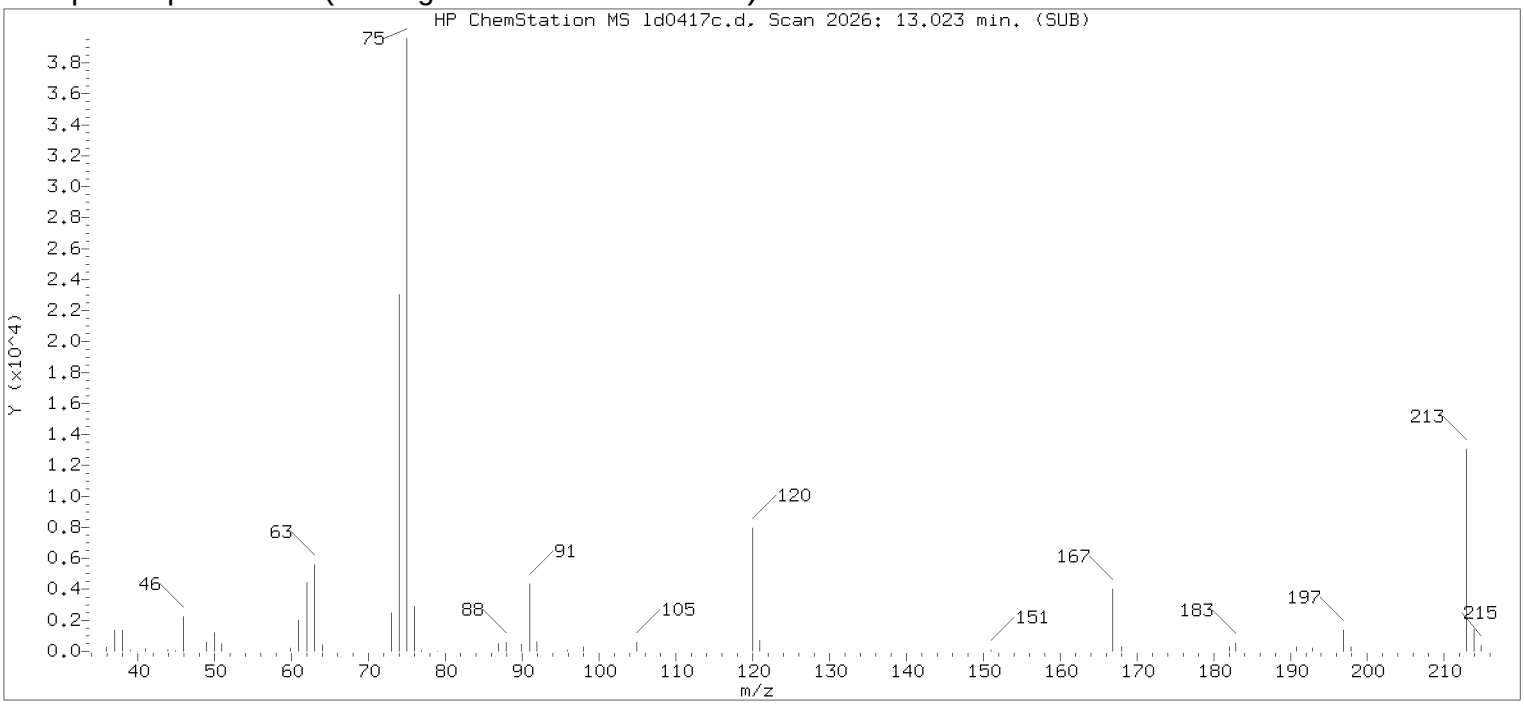
Compound Number : 139
Compound Name : 1,3,5-Trinitrobenzene
Scan Number : 2026
Retention Time (minutes) : 13.023
Quant Ion : 213.00
Area (flag) : 13133M
On-Column Amount (ng/ul) : 1.0425
Integration start scan : 2021 Integration stop scan: 2030
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

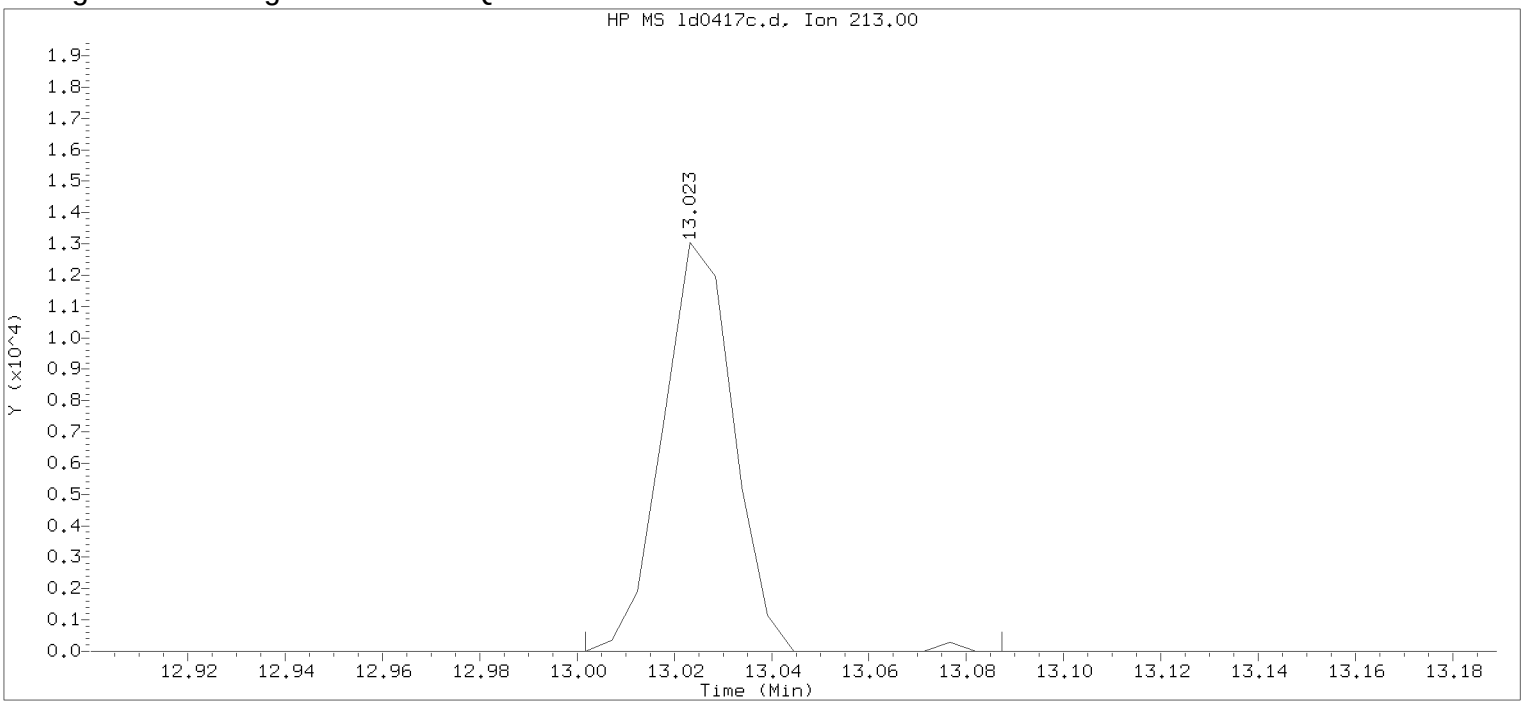
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0417c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:52 Analyst ID: hbz01996

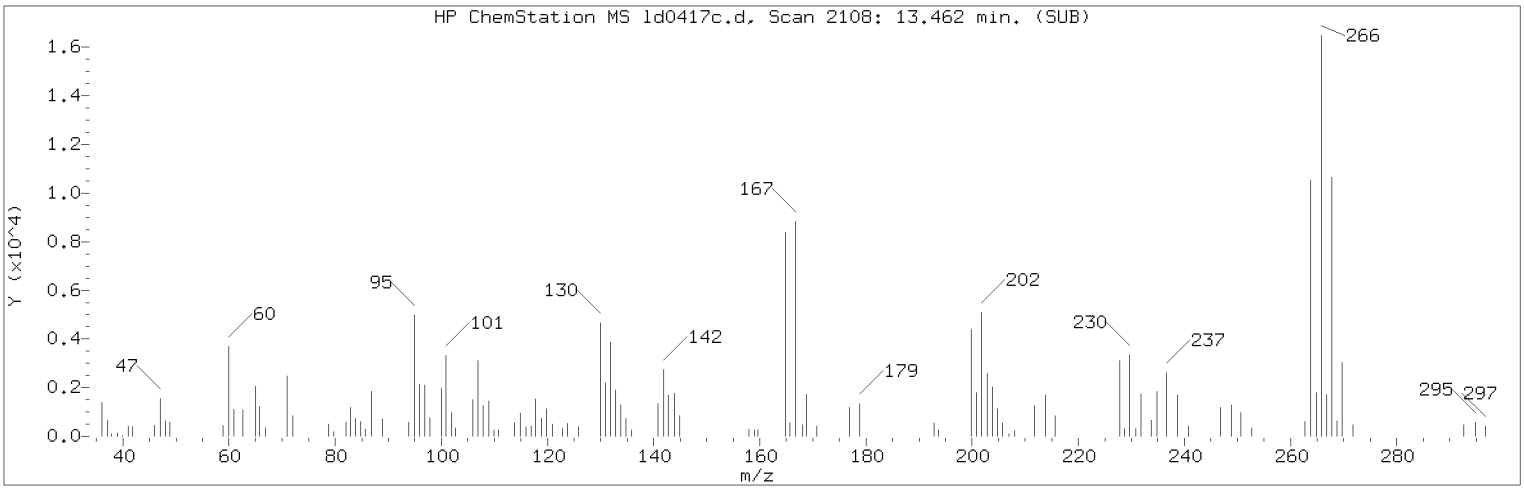
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

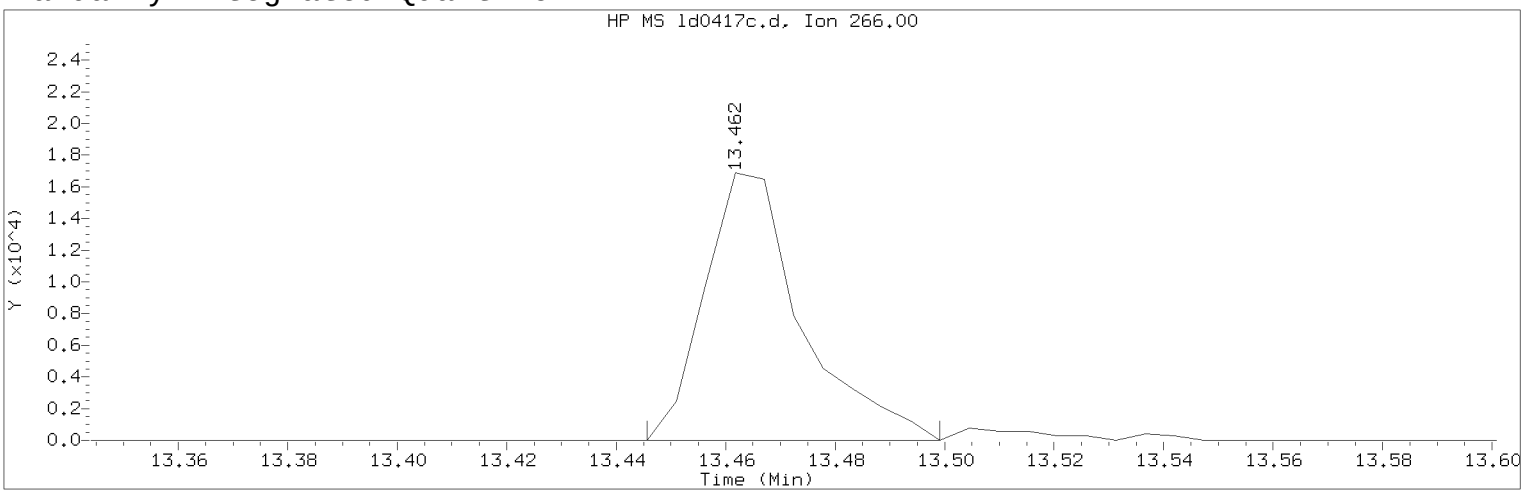
Compound Number : 139
Compound Name : 1,3,5-Trinitrobenzene
Scan Number : 2026
Retention Time (minutes) : 13.023
Quant Ion : 213.00
Area : 13223
On-column Amount (ng/ul) : 1.0497
Integration start scan : 2021 Integration stop scan: 2037
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user id: 1005

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0417c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:52 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

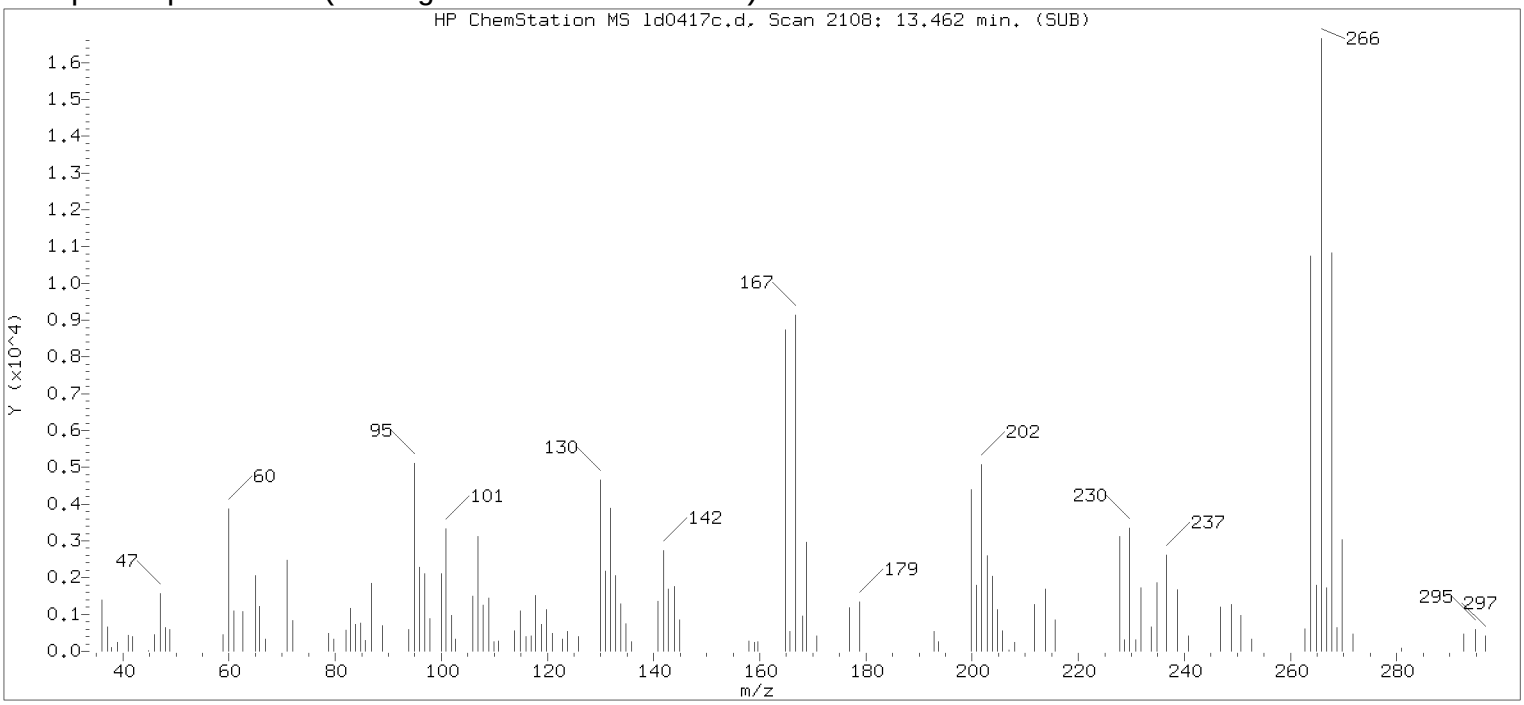
Compound Number : 149
Compound Name : Pentachlorophenol
Scan Number : 2108
Retention Time (minutes) : 13.462
Quant Ion : 266.00
Area (flag) : 20768M
On-Column Amount (ng/ul) : 1.0534
Integration start scan : 2104 Integration stop scan: 2114
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

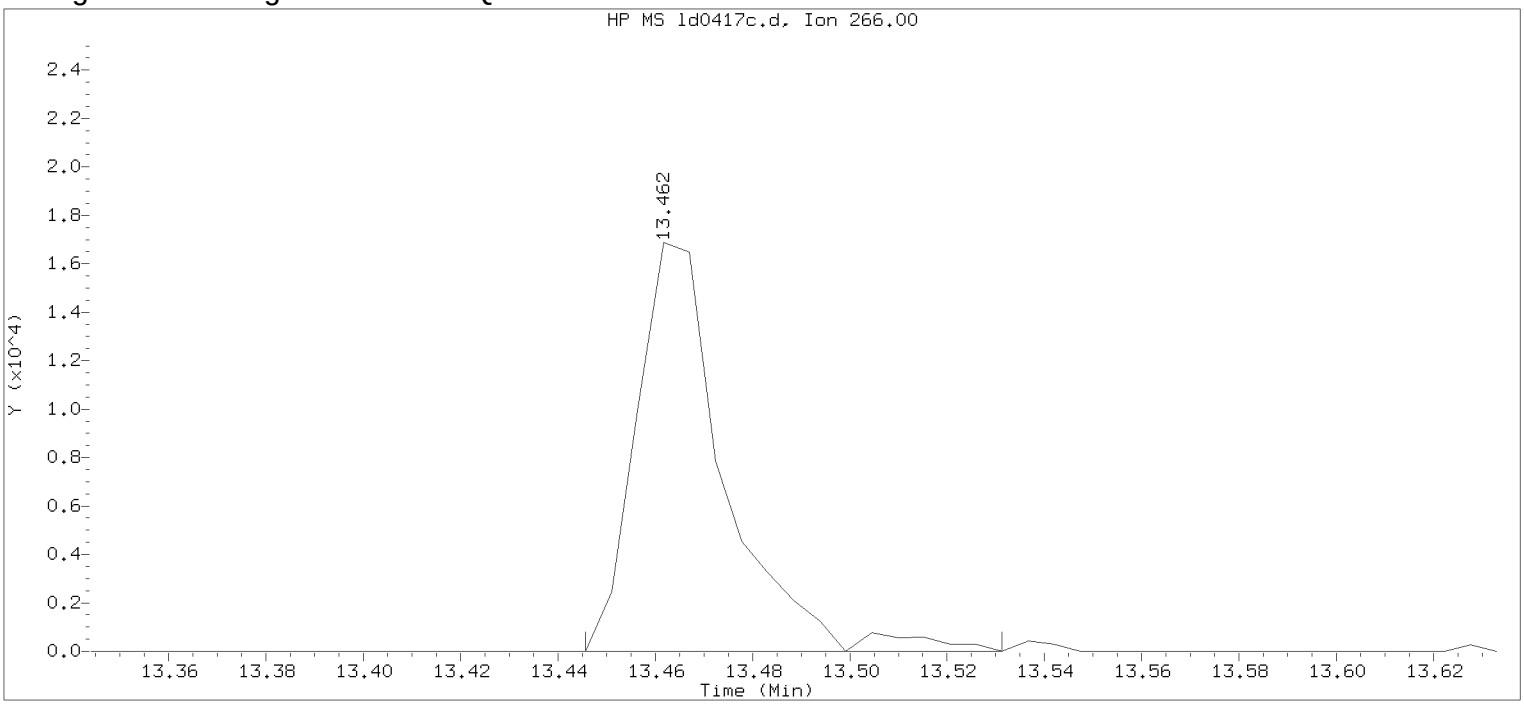
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0417c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:52 Analyst ID: hbz01996

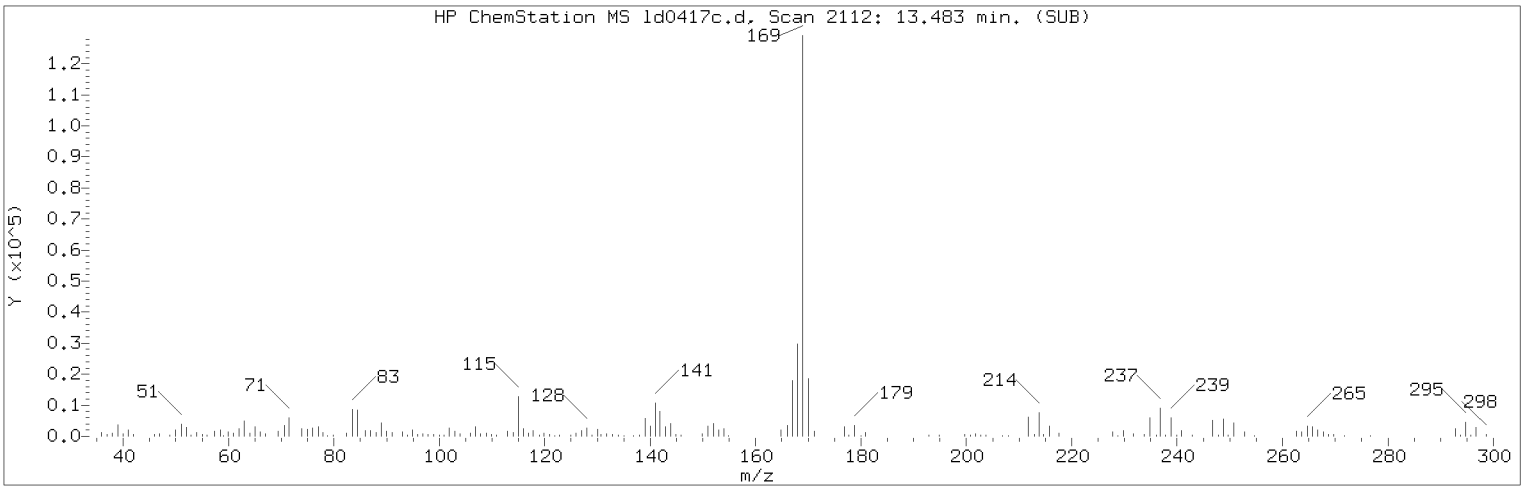
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

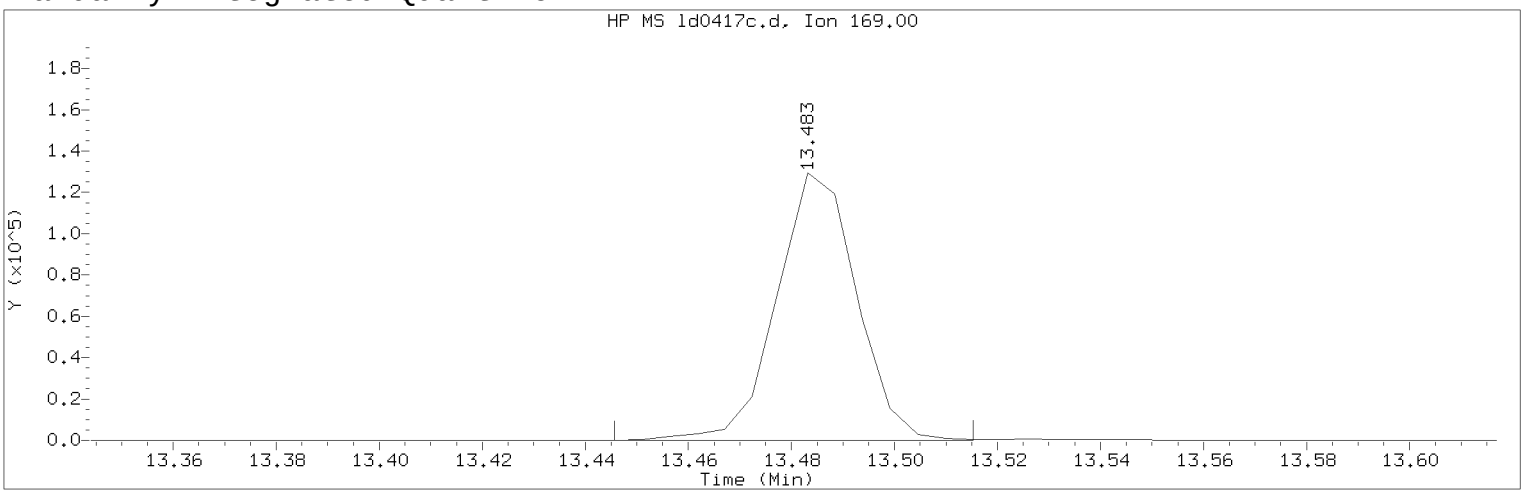
Compound Number : 149
Compound Name : Pentachlorophenol
Scan Number : 2108
Retention Time (minutes) : 13.462
Quant Ion : 266.00
Area : 21569
On-column Amount (ng/ul) : 1.0881
Integration start scan : 2104 Integration stop scan: 2120
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: 1068

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0417c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:52 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

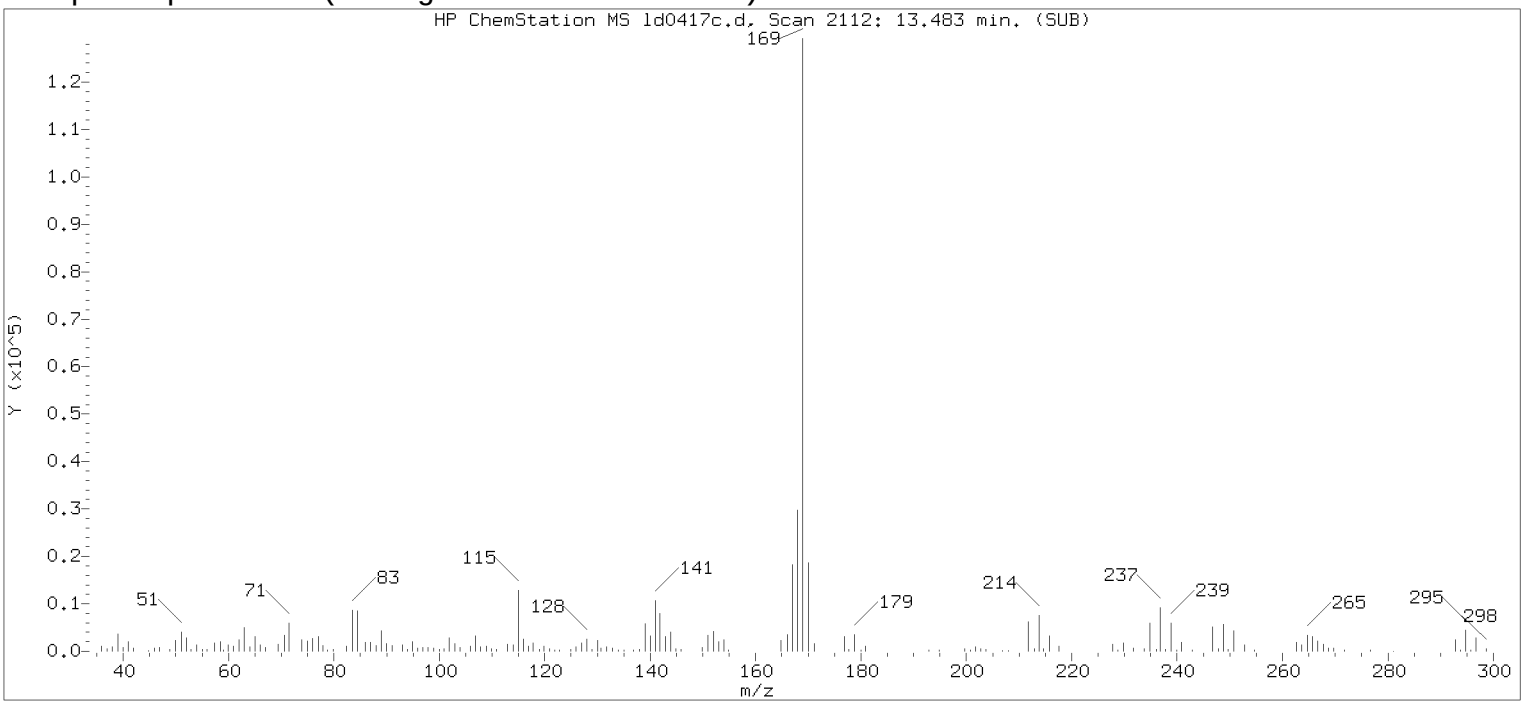
Compound Number : 150
Compound Name : 4-Aminobiphenyl
Scan Number : 2112
Retention Time (minutes) : 13.483
Quant Ion : 169.00
Area (flag) : 139326M
On-Column Amount (ng/ul) : 1.2548
Integration start scan : 2104 Integration stop scan: 2117
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

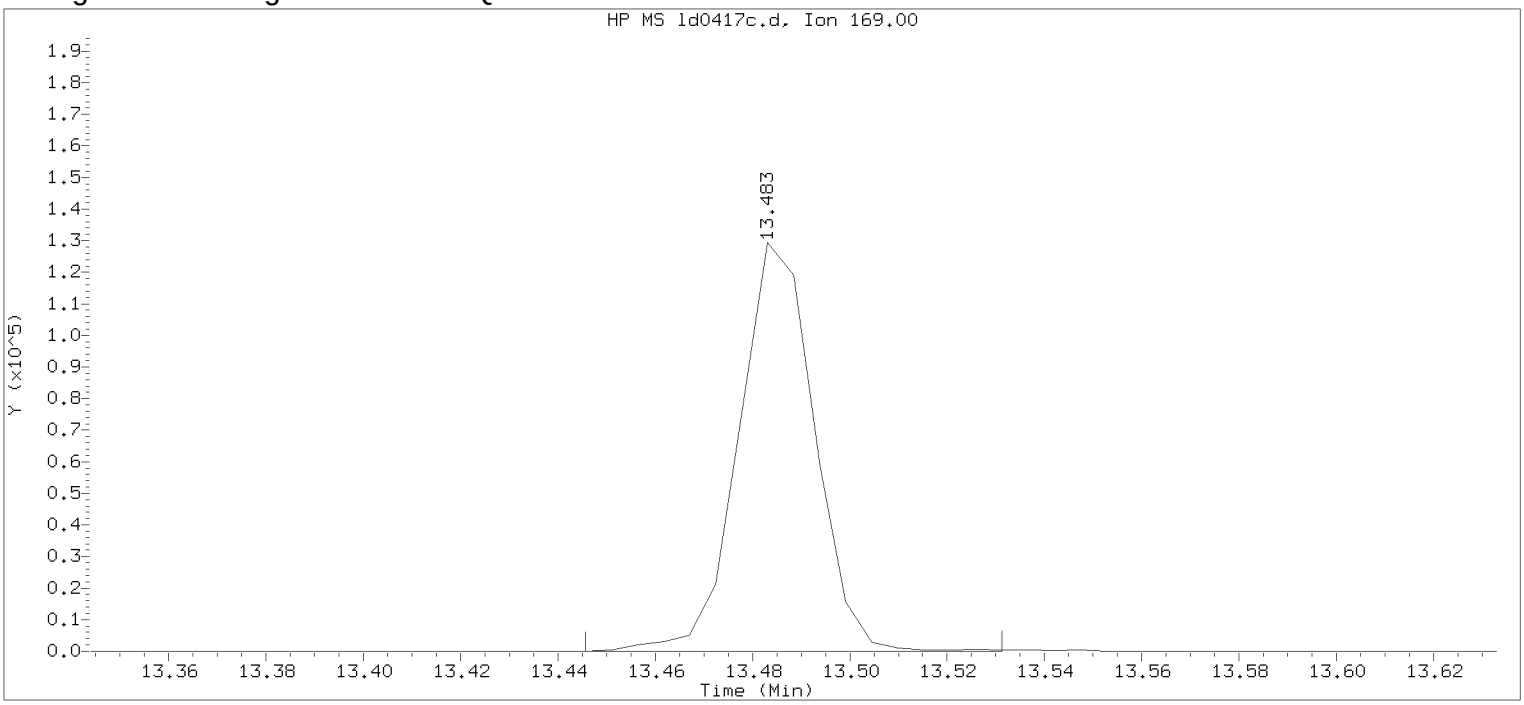
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0417c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:52 Analyst ID: hbz01996

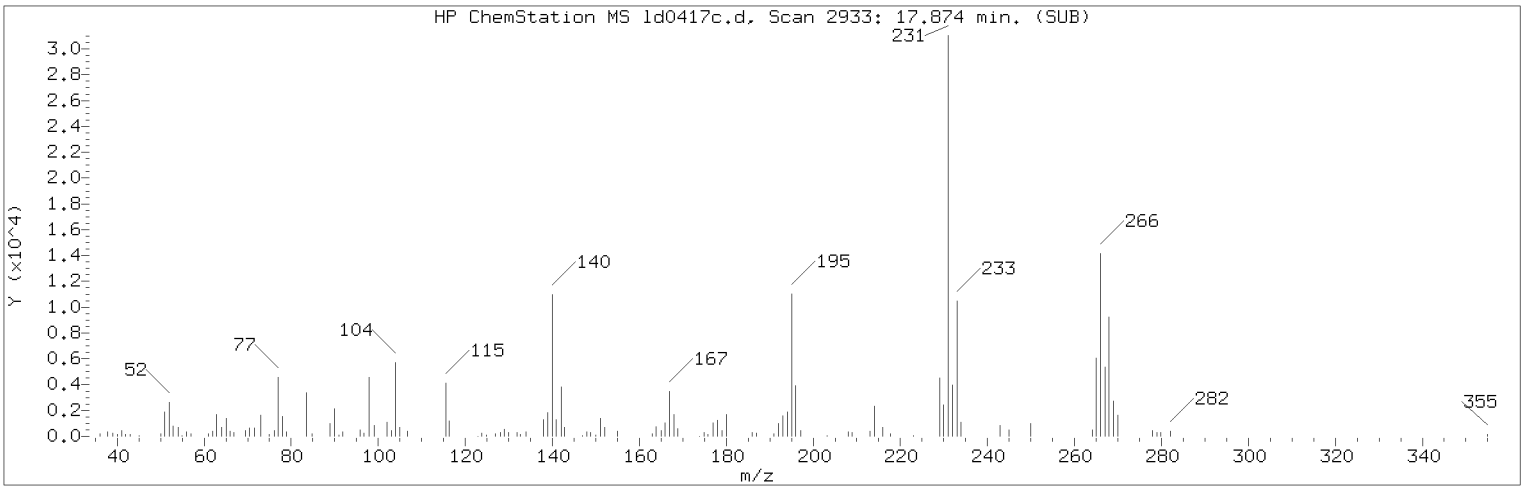
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

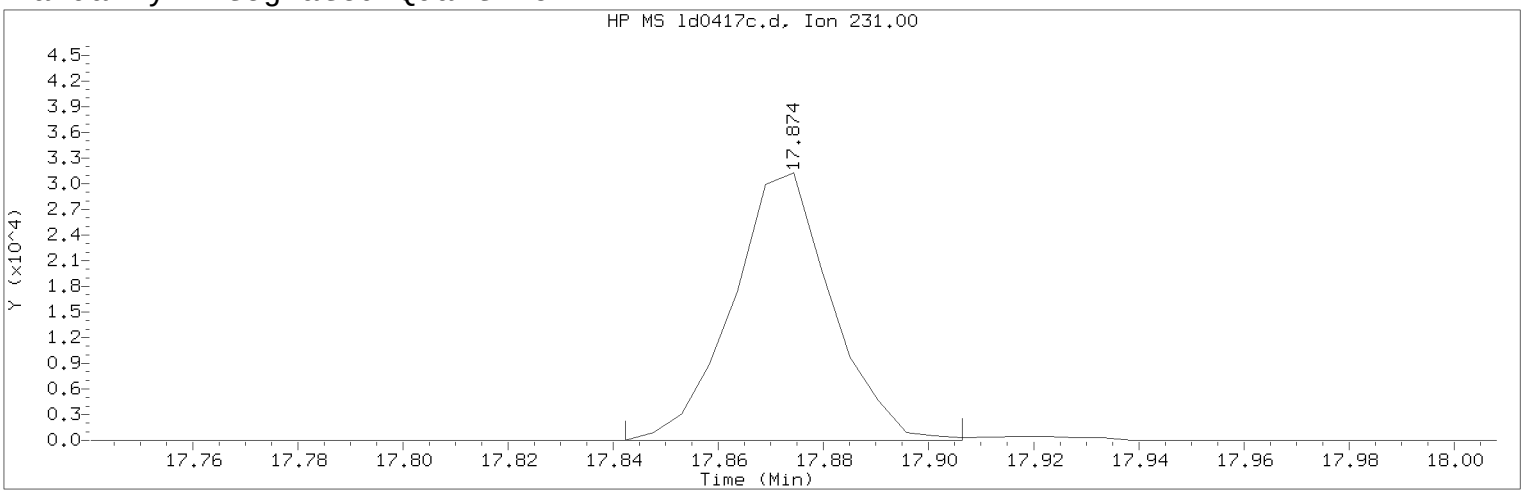
Compound Number : 150
Compound Name : 4-Aminobiphenyl
Scan Number : 2112
Retention Time (minutes) : 13.483
Quant Ion : 169.00
Area : 139727
On-column Amount (ng/ul) : 1.3058
Integration start scan : 2104 Integration stop scan: 2120
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: 1067

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0417c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:52 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

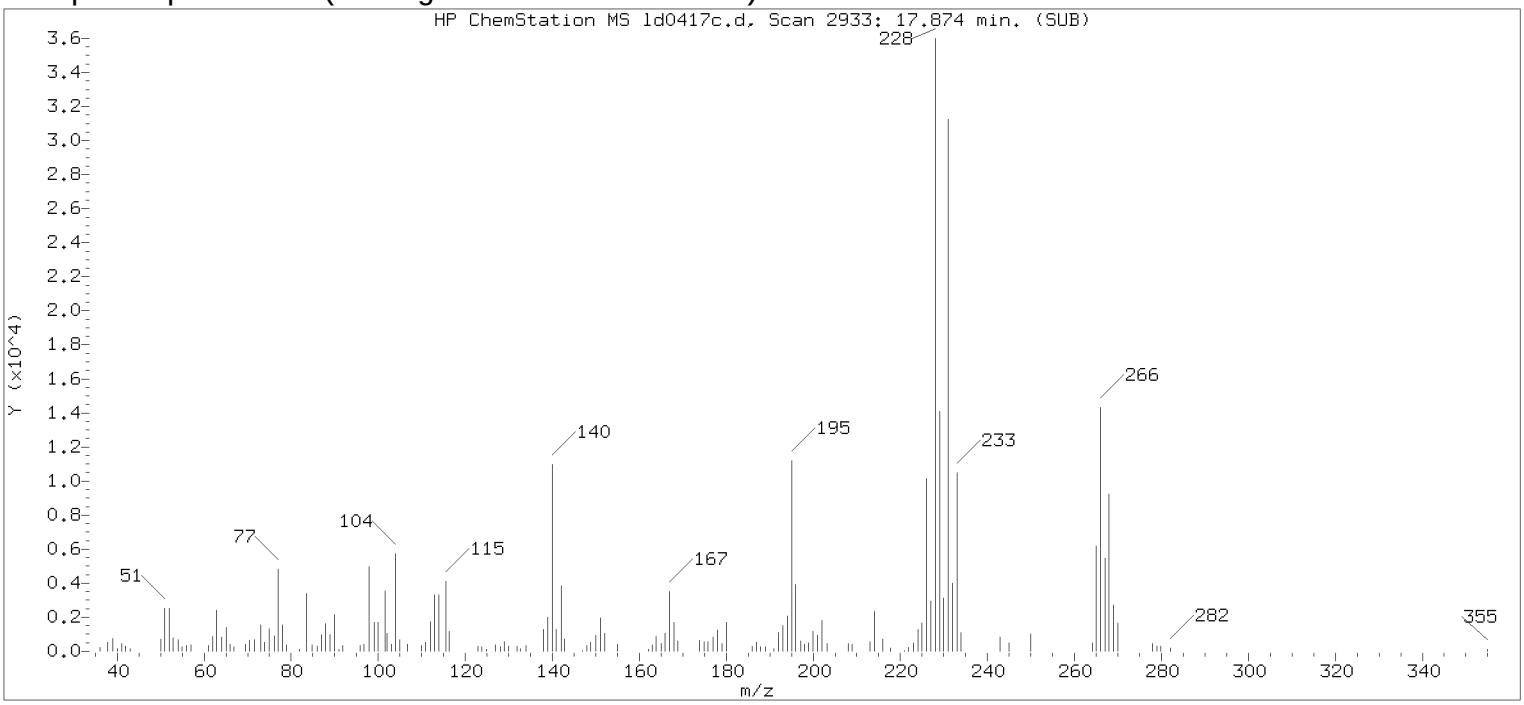
Compound Number : 198
Compound Name : 4,4'-Methylenebis(2-chloroanil
Scan Number : 2933
Retention Time (minutes) : 17.874
Quant Ion : 231.00
Area (flag) : 40837M
On-Column Amount (ng/ul) : 1.0261
Integration start scan : 2926 Integration stop scan: 2938
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

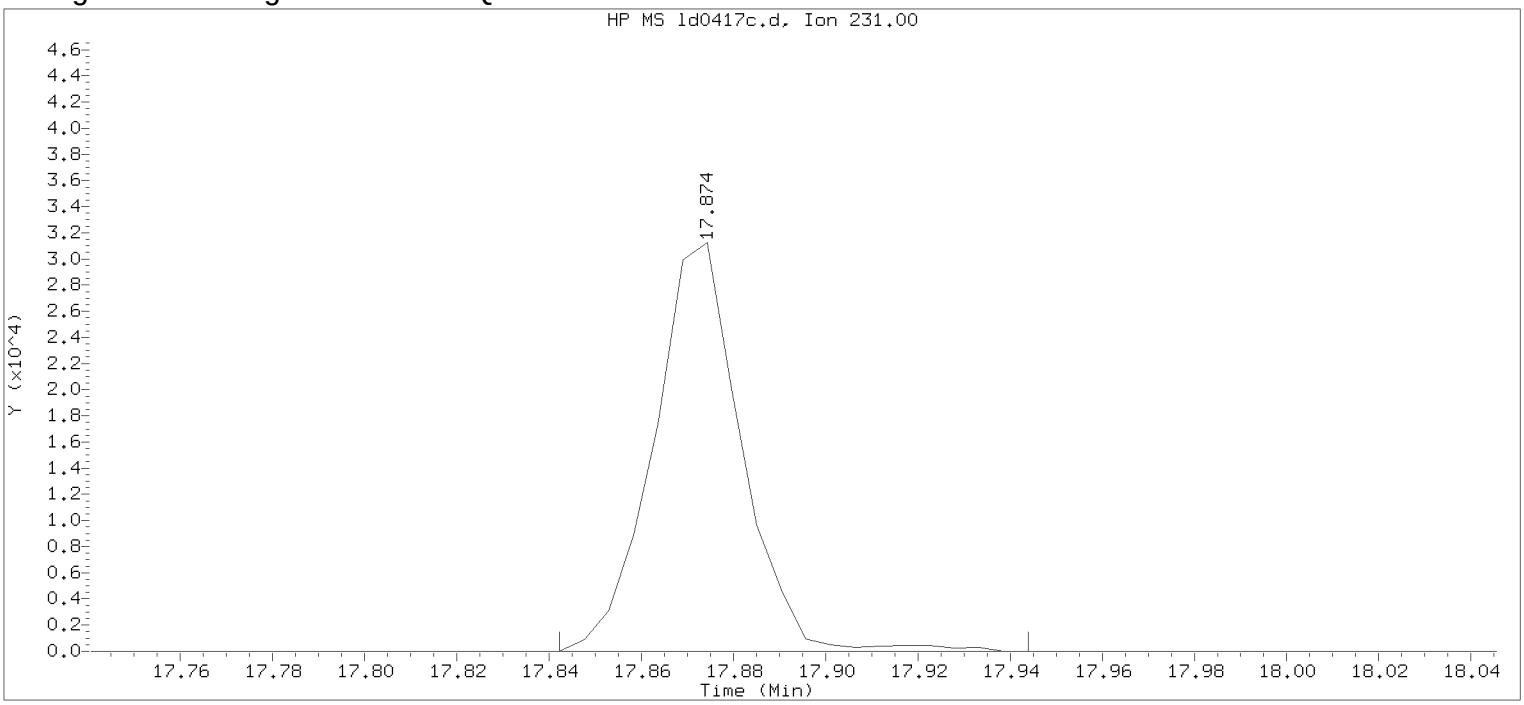
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0417c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:52 Analyst ID: hbz01996

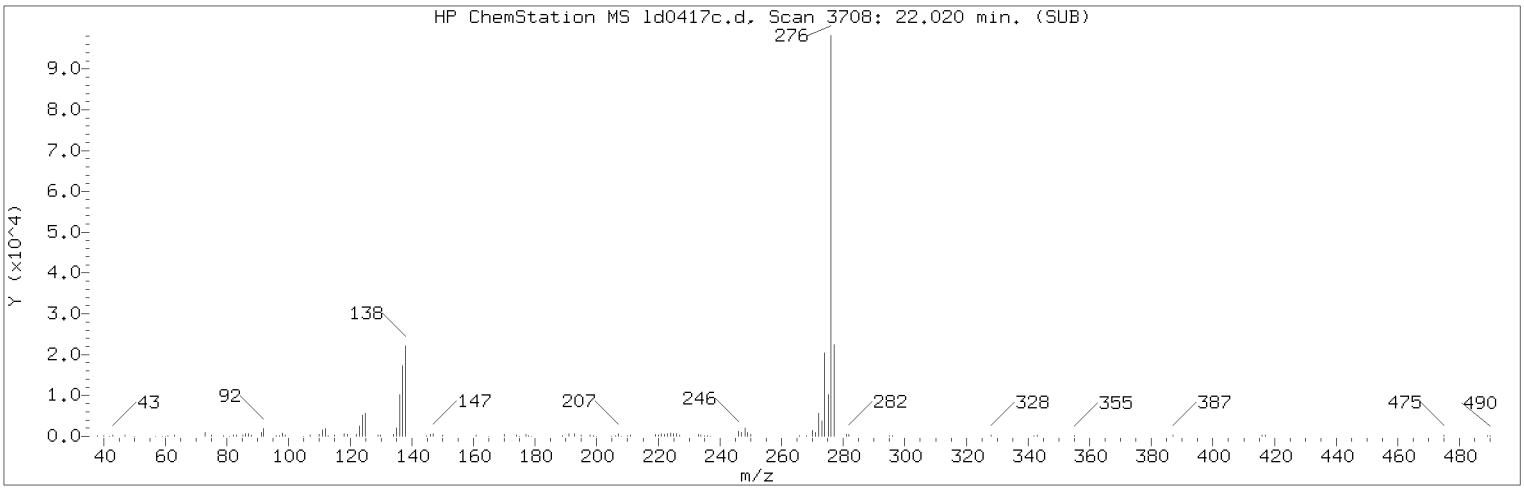
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

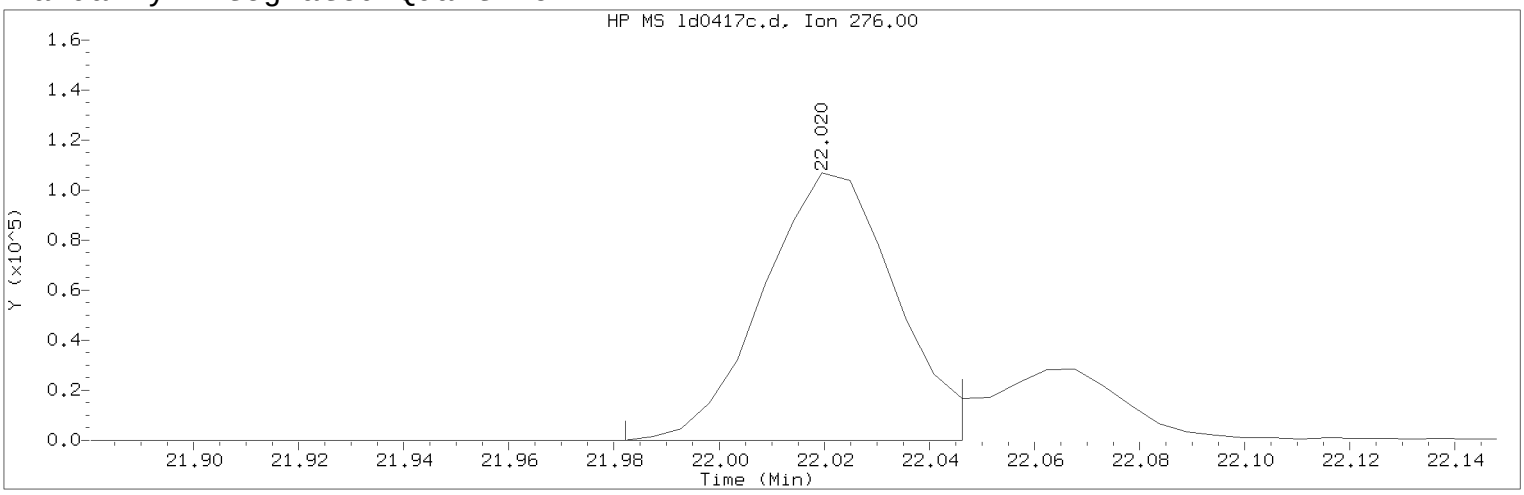
Compound Number : 198
Compound Name : 4,4'-Methylenebis(2-chloroanil
Scan Number : 2933
Retention Time (minutes) : 17.874
Quant Ion : 231.00
Area : 41420
On-column Amount (ng/ul) : 1.0408
Integration start scan : 2926 Integration stop scan: 2945
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user id: 1085 hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0417c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:52 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

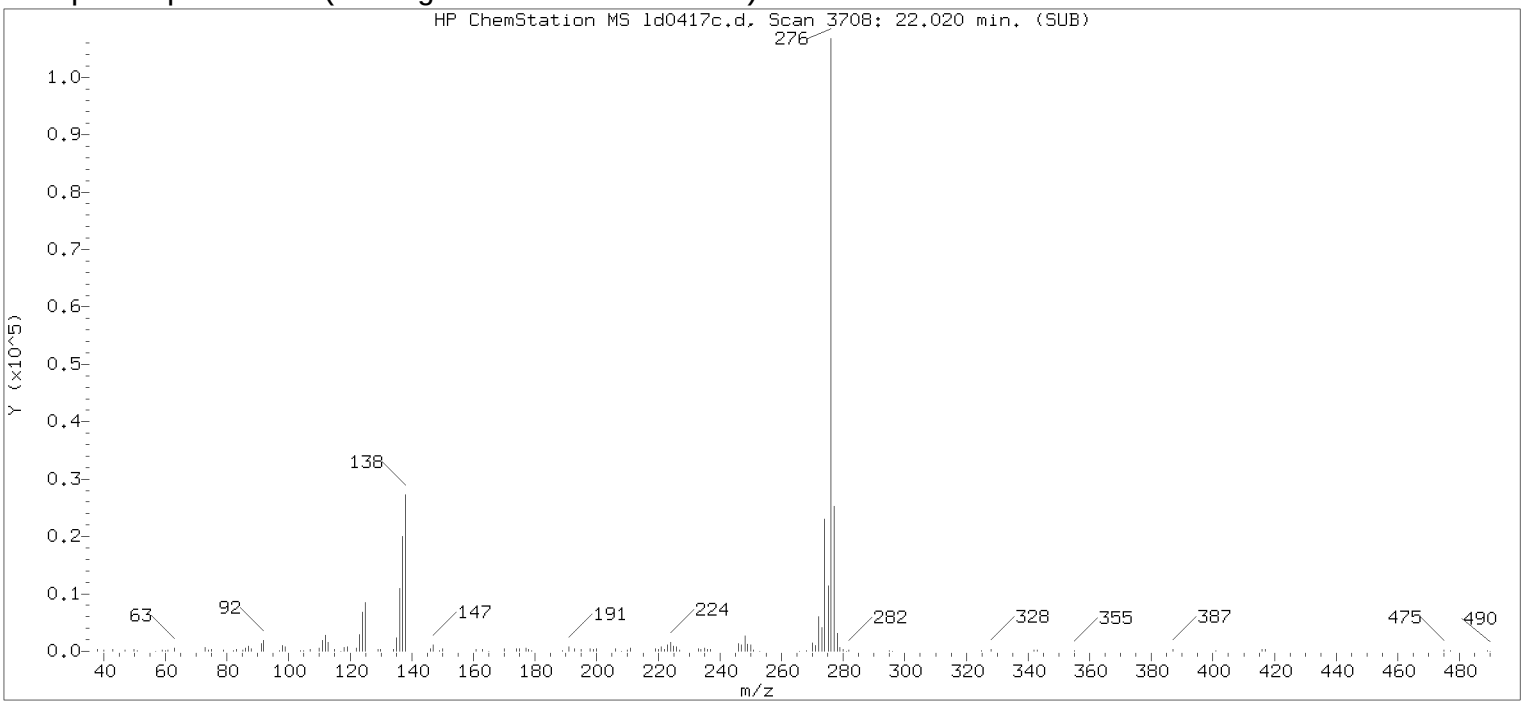
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3708
Retention Time (minutes) : 22.020
Quant Ion : 276.00
Area (flag) : 187484M
On-Column Amount (ng/ul) : 1.2095
Integration start scan : 3700 Integration stop scan: 3712
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

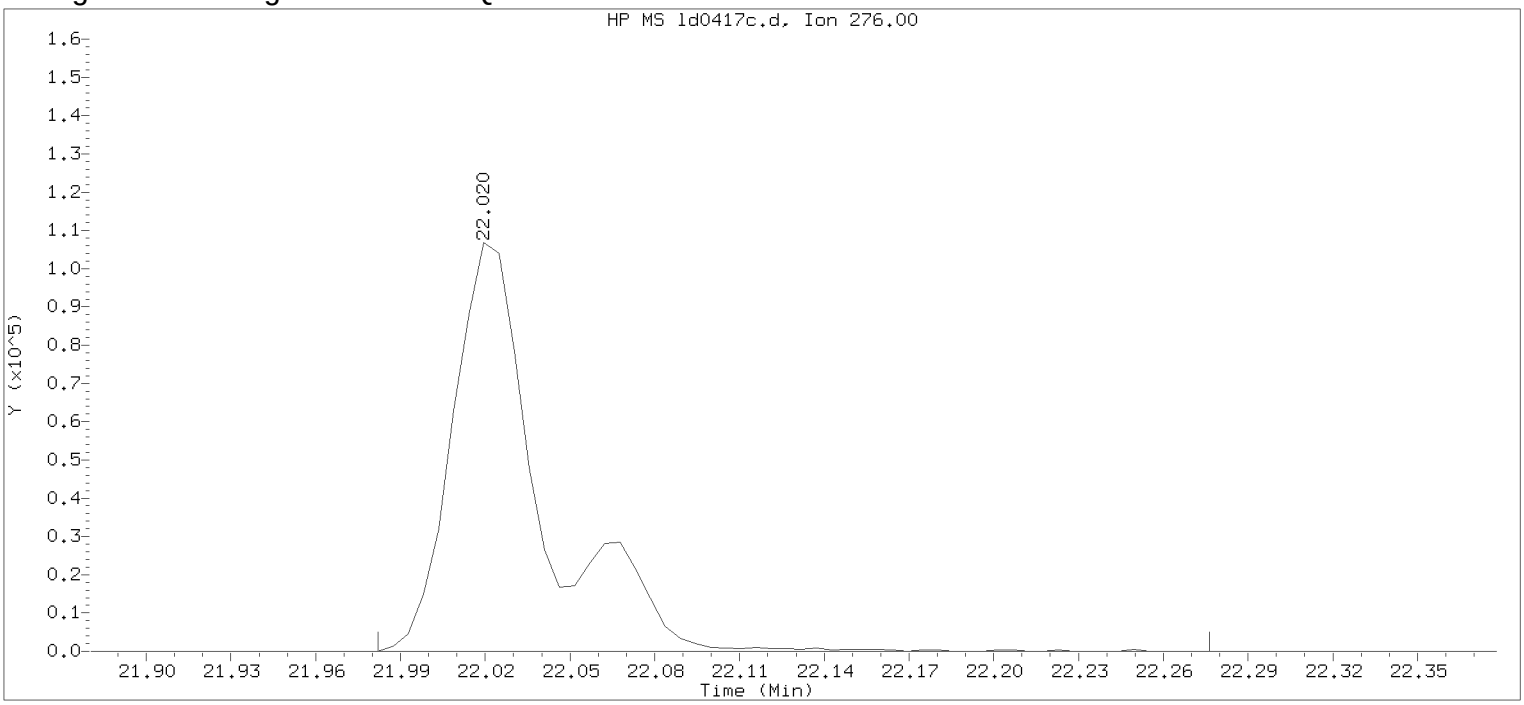
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



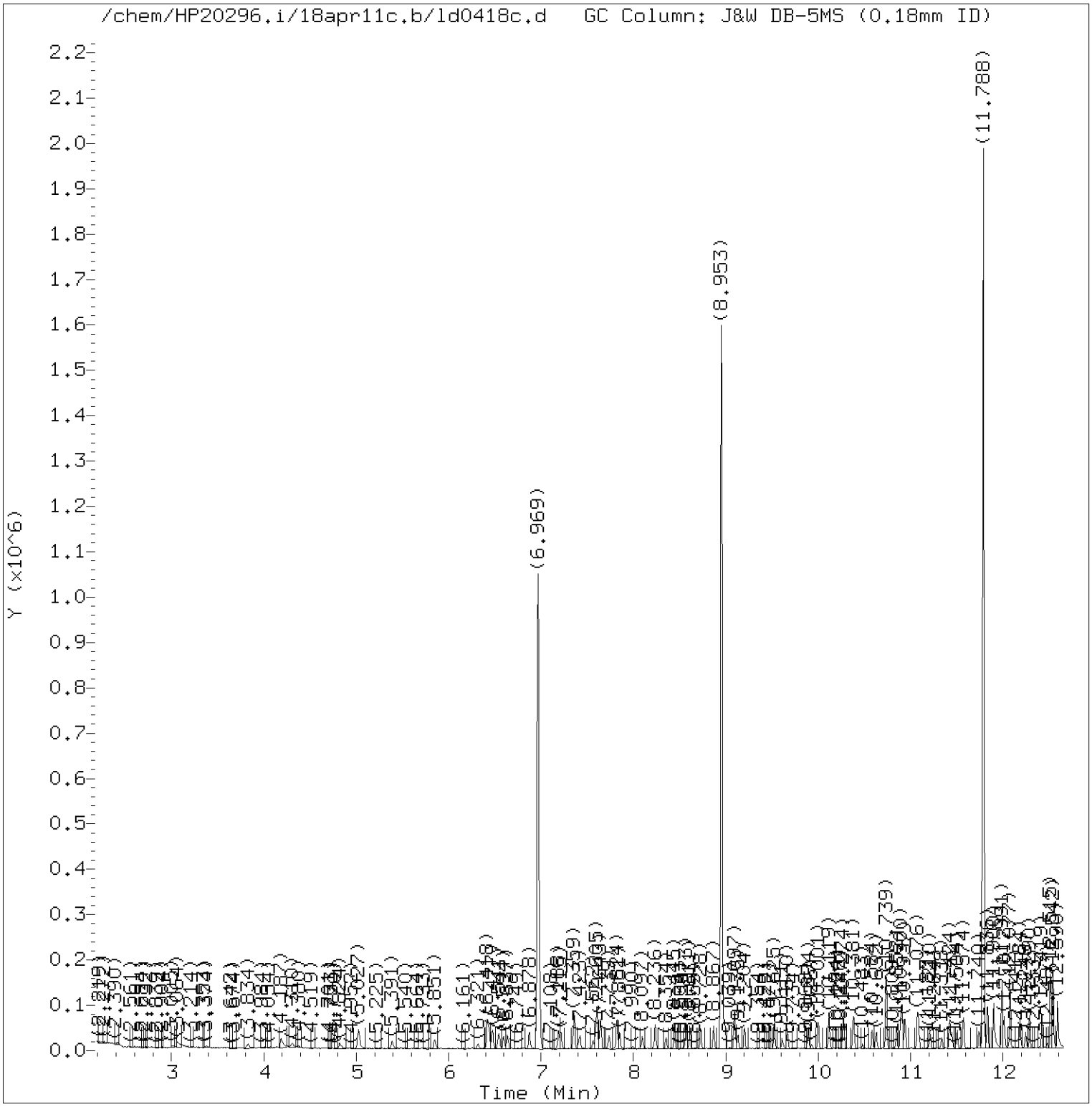
Data File: /chem/HP20296.i/18apr11c.b/ld0417c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 11:52 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD1.25 Lab Sample ID: rvSTD0968

Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3708
Retention Time (minutes) : 22.020
Quant Ion : 276.00
Area : 237343
On-column Amount (ng/ul) : 1.3023
Integration start scan : 3700 Integration stop scan: 3755
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: 1085



Total Ion Chromatogram (TIC)

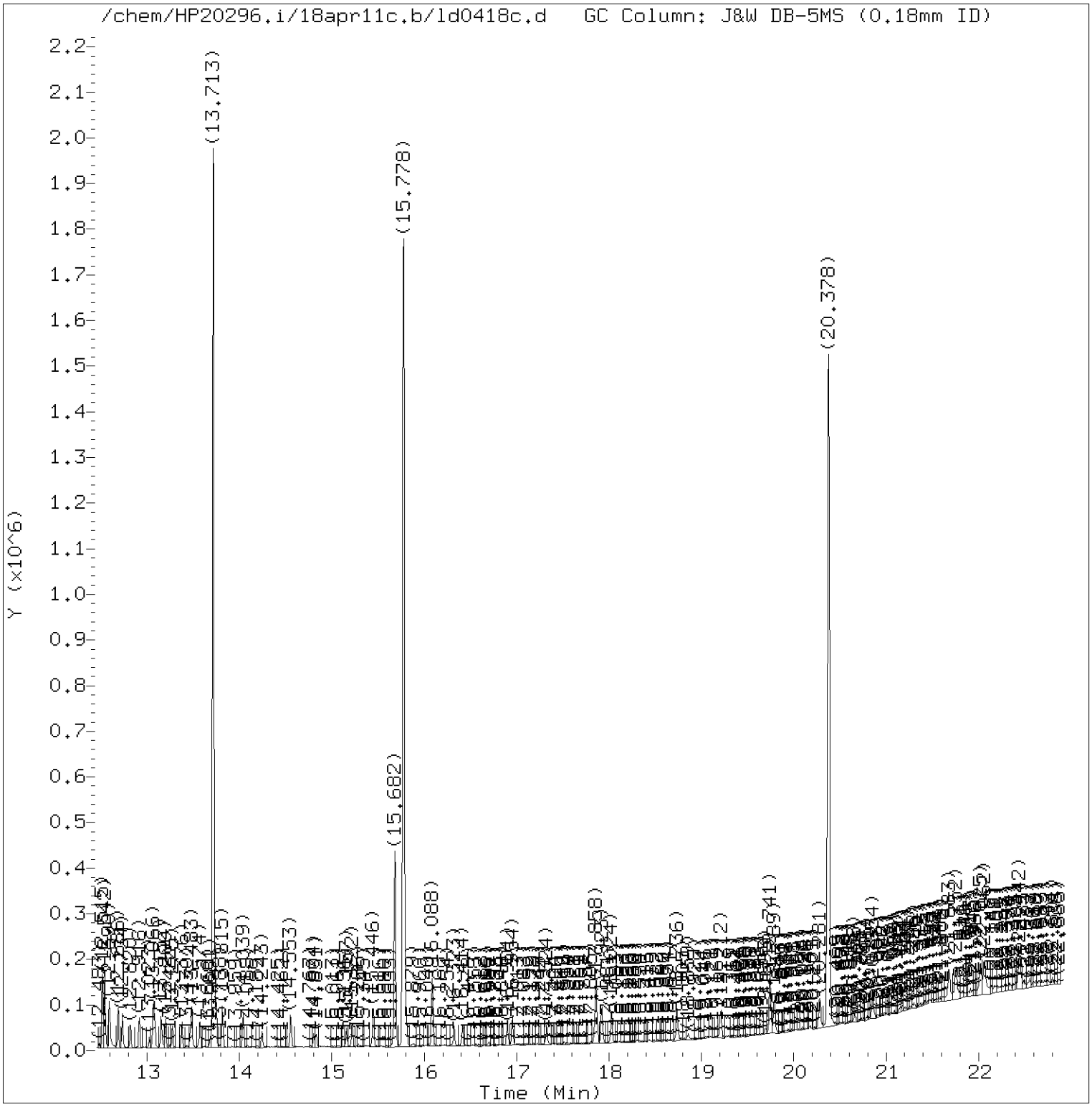
Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.433	88	4749	0.163
4) N-Nitrosodimethylamine	(1)	3.021	74	7616M	0.170
5) Pyridine	(1)	3.085	79	18173M	0.230
7) 2-Picoline	(1)	4.187	93	14709	0.183
8) N-Nitrosomethylethylamine	(1)	4.380	88	6058M	0.189
9) Methyl methanesulfonate	(1)	4.824	80	6375M	0.164
11)$2-Fluorophenol	(1)	5.027	112	22122	0.363
13) N-Nitrosodiethylamine	(1)	5.391	102	5266	0.177
15) Ethyl methanesulfonate	(1)	5.851	109	7115	0.220
16) Benzaldehyde	(1)	6.311	77	3152	0.076
17)$Phenol-d6	(1)	6.418	99	30382	0.380
18) Phenol	(1)	6.439	94	17715	0.194
19) Aniline	(1)	6.477	93	19290	0.182
20) a-methylstyrene	(1)	6.551	118	3554	0.153
22) bis(2-Chloroethyl)ether	(1)	6.594	93	12708M	0.186
23) 2-Chlorophenol	(1)	6.637	128	10778	0.180
24) 1,3-Dichlorobenzene	(1)	6.872	146	11832	0.175
25)*1,4-Dichlorobenzene-d4	(1)	6.969	152	222764	5.000
26) 1,4-Dichlorobenzene	(1)	6.995	146	12308	0.180
27) Benzyl alcohol	(1)	7.188	108	7963	0.200
28) 1,2-Dichlorobenzene	(1)	7.220	146	12087	0.186
30) Indene	(1)	7.354	115	15685	0.165
31) 2-Methylphenol	(1)	7.364	108	11749	0.199
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.423	45	19439	0.200
34) bis(2-Chloroisopropyl)ether	(1)	7.423	45	19439	0.200
35) N-Nitrosopyrrolidine	(1)	7.562	100	6350	0.197
36) Acetophenone	(1)	7.594	105	13010	0.311
37) 4-Methylphenol	(1)	7.605	108	12425	0.200
38) N-Nitroso-di-n-propylamine	(1)	7.610	70	10515	0.205
39) N-Nitrosomorpholine	(1)	7.637	56	9472	0.221
40) o-Toluidine	(1)	7.648	106	20130	0.193
42) Total Cresols	(1)			24174	0.399
43) Hexachloroethane	(1)	7.733	117	4915	0.169
44)$Nitrobenzene-d5	(2)	7.824	82	28860	0.392
45) Nitrobenzene	(2)	7.851	77	14349	0.191
48) N-Nitrosopiperidine	(2)	8.097	114	6424	0.208
50) Isophorone	(2)	8.236	82	26625	0.203
51) 2-Nitrophenol	(2)	8.354	139	5430	0.179
53) 2,4-Dimethylphenol	(2)	8.445	107	13003	0.200
56) Benzoic acid	(2)	8.546	105	1634M	2.846

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 15:54.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
57) O,O,O-Triethylphosphorothioate	(2)	8.573	198	6611	0.205
55) bis(2-Chloroethoxy)methane	(2)	8.611	93	18216	0.213
60) 2,4-Dichlorophenol	(2)	8.728	162	9617	0.190
62) 1,2,4-Trichlorobenzene	(2)	8.867	180	11103	0.197
65)*Naphthalene-d8	(2)	8.953	136	854282	5.000
66) Naphthalene	(2)	8.990	128	36359	0.206
67) 4-Chloroaniline	(2)	9.092	127	15074	0.209
68) 2,6-Dichlorophenol	(2)	9.097	162	10173	0.203
69) Hexachloropropene	(2)	9.135	213	6774	0.166
71) Hexachlorobutadiene	(2)	9.204	225	6403	0.187
75) Quinoline	(2)	9.525	129	24382	0.217
76) Caprolactam	(2)	9.611	113	2788	0.174
77) N-Nitrosodi-n-butylamine	(2)	9.670	84	9964M	1.096
80) 4-Chloro-3-methylphenol	(2)	9.894	107	10688	0.192
82) Safrole	(2)	10.001	162	9448	0.200
83) 2-Methylnaphthalene	(2)	10.119	142	24403	0.208
84) 1-Methylnaphthalene	(2)	10.274	142	23464	0.218
85) Hexachlorocyclopentadiene	(3)	10.376	237	6282	0.179
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.386	216	12972	0.219
88) cis-Isosafrole	(3)	10.483	162	1755	0.034
90) 2,4,6-Trichlorophenol	(3)	10.584	196	7032	0.189
92) 2,4,5-Trichlorophenol	(3)	10.627	196	6943	0.178
97) Isosafrole	(3)			11242	0.204
93)$2-Fluorobiphenyl	(3)	10.739	172	59491	0.440
94) trans-Isosafrole	(3)	10.852	162	9487	0.170
95) 1,1'-Biphenyl	(3)	10.894	154	23059	0.230
96) 2-Chloronaphthalene	(3)	10.905	162	24485	0.207
98) 1-Chloronaphthalene	(3)	10.937	162	24842	0.235
99) Diphenyl ether	(3)	11.076	170	17356	0.223
100) 2-Nitroaniline	(3)	11.087	138	6857	0.198
104) 1,4-Naphthoquinone	(3)	11.210	158	7732	0.165
105) 1,4-Dinitrobenzene	(3)	11.338	168	3262A	0.181
106) Dimethylphthalate	(3)	11.424	163	28591	0.215
107) 1,3-Dinitrobenzene	(3)	11.451	168	3118A	0.154
108) 2,6-Dinitrotoluene	(3)	11.504	165	5195	0.184
109) Acenaphthylene	(3)	11.574	152	34694	0.211
112) 3-Nitroaniline	(3)	11.745	138	5178	0.174
113)*Acenaphthene-d10	(3)	11.788	164	434850	5.000
114) Acenaphthene	(3)	11.836	153	26641	0.228
115) 2,4-Dinitrophenol	(3)	11.900	184	17662M	1.043

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

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120) 2,4_2,6-Dinitrotoluenes	(3)			11938	0.357
116) 4-Nitrophenol	(3)	11.991	109	15788M	0.754
117) Pentachlorobenzene	(3)	12.018	250	10761	0.223
119) Dibenzofuran	(3)	12.077	168	37074	0.229
118) 2,4-Dinitrotoluene	(3)	12.082	165	6743	0.173
121) 1-Naphthylamine	(3)	12.184	143	21246	0.184
122) 2,3,4,6-Tetrachlorophenol	(3)	12.248	232	5164	0.170
123) 2-Naphthylamine	(3)	12.290	143	23223	0.212
124) Diethylphthalate	(3)	12.424	149	27822	0.213
125) Thionazin	(3)	12.515	107	5268	0.237
126) Fluorene	(3)	12.520	166	28209	0.223
127) 4-Chlorophenyl-phenylether	(3)	12.542	204	14242	0.228
128) 5-Nitro-o-toluidine	(3)	12.542	152	6151M	0.180
129) 4-Nitroaniline	(3)	12.547	138	5679	0.189
130) 4,6-Dinitro-2-methylphenol	(4)	12.590	198	16584	0.744
131) N-Nitrosodiphenylamine	(4)	12.686	169	22983	0.223
132) NDPA as diphenylamine	(4)	12.686	169	22983	0.223
134) 1,2-Diphenylhydrazine	(4)	12.734	77	31737	0.221
135)$2,4,6-Tribromophenol	(3)	12.820	330	5635	0.362
137) Tetraethyldithiopyrophosphate	(4)	12.916	97	5094	0.207
146) Diallate trans/cis	(4)			13376	0.212
139) 1,3,5-Trinitrobenzene	(4)	13.023	213	1870	0.136
140) Diallate (peak 1)	(4)	13.061	86	11520	0.177
141) Phorate	(4)	13.071	75	19764	0.214
142) Phenacetin	(4)	13.082	108	11215	0.172
143) 4-Bromophenyl-phenylether	(4)	13.152	248	7664	0.223
144) Diallate (peak 2)	(4)	13.173	86	1856	0.035
145) Hexachlorobenzene	(4)	13.200	284	8203	0.233
147) Dimethoate	(4)	13.275	87	9216	0.166
148) Atrazine	(4)	13.376	200	5938	0.170
149) Pentachlorophenol	(4)	13.467	266	2709	0.126
151) Pentachloronitrobenzene	(4)	13.478	237	2636	0.156
150) 4-Aminobiphenyl	(4)	13.483	169	23642	0.202
152) Pronamide	(4)	13.574	173	10577	0.174
153)*Phenanthrene-d10	(4)	13.713	188	841978	5.000
154) Dinoseb	(4)	13.729	211	4630M	0.133
155) Phenanthrene	(4)	13.745	178	42538	0.227
157) Anthracene	(4)	13.815	178	40005M	0.215
163) Carbazole	(4)	14.039	167	35570	0.216
164) Methyl parathion	(4)	14.243	109	6566	0.155

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 15:54.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
165) Di-n-butylphthalate	(4)	14.558	149	41784	0.188
167) Parathion	(4)	14.799	109	3930	0.144
168) 4-Nitroquinoline-1-oxide	(4)	14.831	190	2488	1.415
169) Octachlorostyrene	(4)	15.163	308	2854	0.216
171) Isodrin	(4)	15.222	193	5594	0.243
173) Fluoranthene	(4)	15.446	202	44594	0.214
174) Benzidine	(5)	15.682	184	207079	1.637
175)*Pyrene-d10	(5)	15.772	212	858274	5.000
177) Pyrene	(5)	15.805	202	51918	0.238
179)$Terphenyl-d14	(5)	16.088	244	61187	0.445
182) p-Dimethylaminoazobenzene	(5)	16.323	225	5807	0.659
185) Chlorobenzilate	(5)	16.414	139	11797	0.181
187) 3,3'-Dimethylbenzidine	(5)	16.901	212	21670	0.152
188) Butylbenzylphthalate	(5)	16.954	149	16458	0.162
191) 2-Acetylaminofluorene	(5)	17.324	181	12069	0.150
193) 3,3'-Dichlorobenzidine	(5)	17.848	252	12622	0.180
195) Benzo(a)anthracene	(5)	17.858	228	41572	0.213
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.869	231	7492	0.176
196) Chrysene	(5)	17.923	228	41813	0.222
199) bis(2-Ethylhexyl)phthalate	(5)	18.024	149	23621	0.165
203) 6-Methylchrysene	(5)	18.736	242	26806	0.202
205) Di-n-octylphthalate	(6)	19.212	149	37249M	0.155
206) Benzo(b)fluoranthene	(6)	19.741	252	40317	0.216
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.746	256	14661	0.190
208) Benzo(k)fluoranthene	(6)	19.789	252	40363M	0.226
211) Benzo(a)pyrene	(6)	20.281	252	35793	0.213
213)*Perylene-d12	(6)	20.378	264	762573	5.000
215) 3-Methylcholanthrene	(6)	20.854	268	16952M	0.208
217) Dibenz(a,h)acridine	(6)	21.677	279	29703	0.208
218) Dibenz(a,j)acridine	(6)	21.752	279	30638	0.211
222) Total PAHs	(6)			659191	3.933
219) Indeno(1,2,3-cd)pyrene	(6)	22.025	276	35016M	0.219
220) Dibenz(a,h)anthracene	(6)	22.062	278	34653M	0.214
221) Benzo(g,h,i)perylene	(6)	22.442	276	36839M	0.223

M = Compound was manually integrated.
* = Compound is an internal standard.
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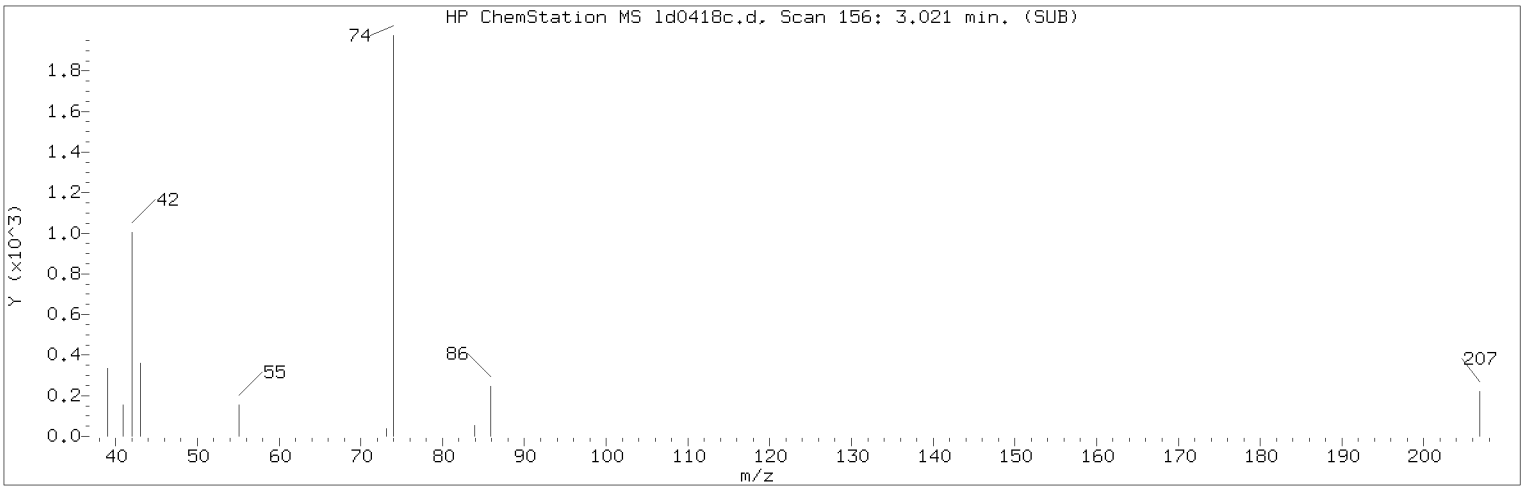
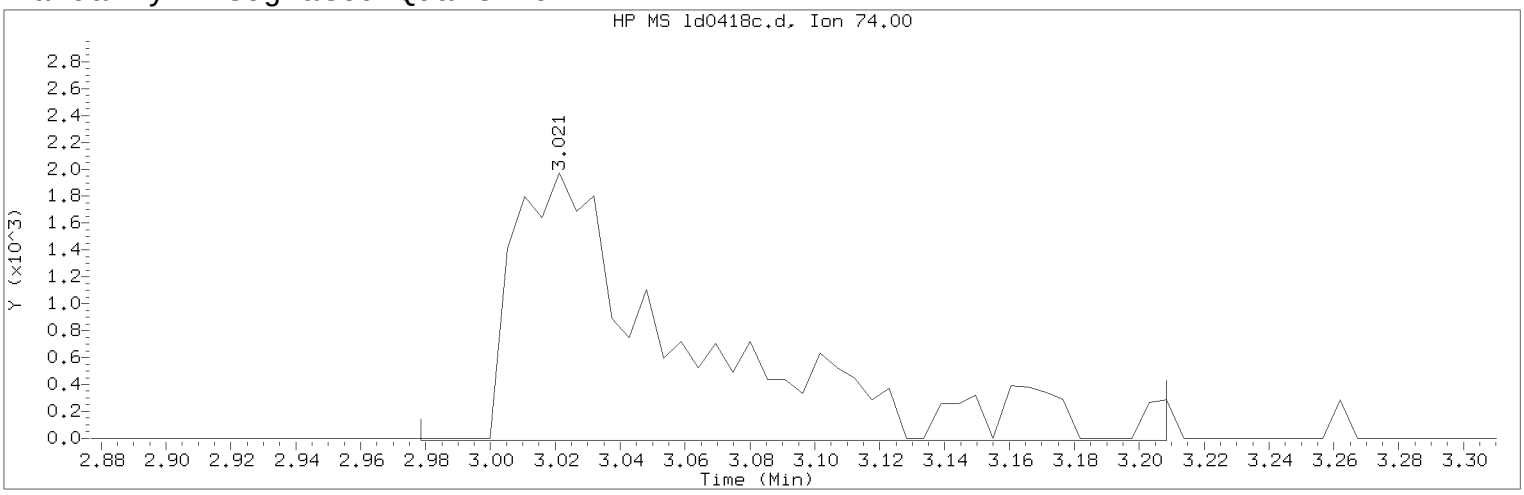
Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

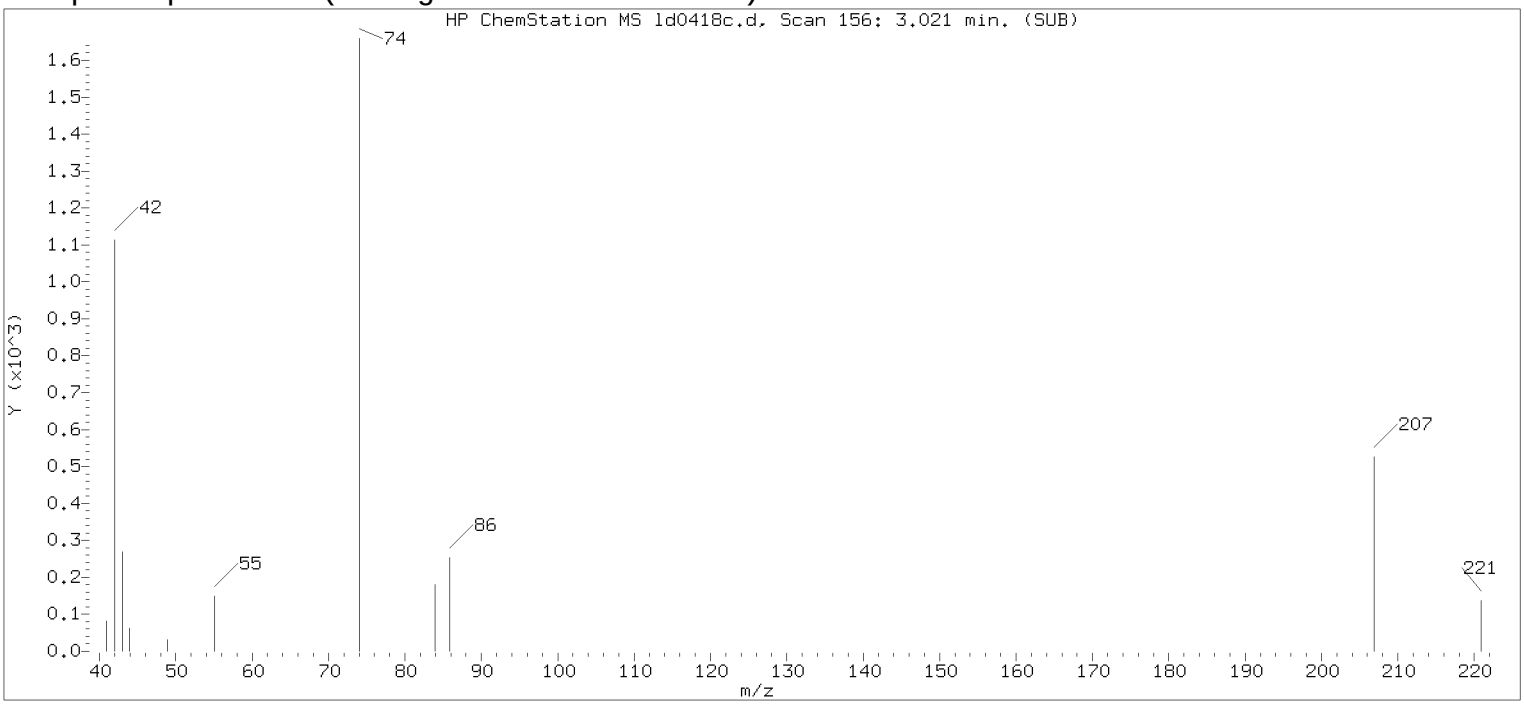
Compound Number : 4
Compound Name : N-Nitrosodimethylamine
Scan Number : 156
Retention Time (minutes) : 3.021
Quant Ion : 74.00
Area (flag) : 7616M
On-Column Amount (ng/ul) : 0.1700
Integration start scan : 147 Integration stop scan: 190
Y at integration start : -15 Y at integration end: -15

Reason for manual integration: improper integration

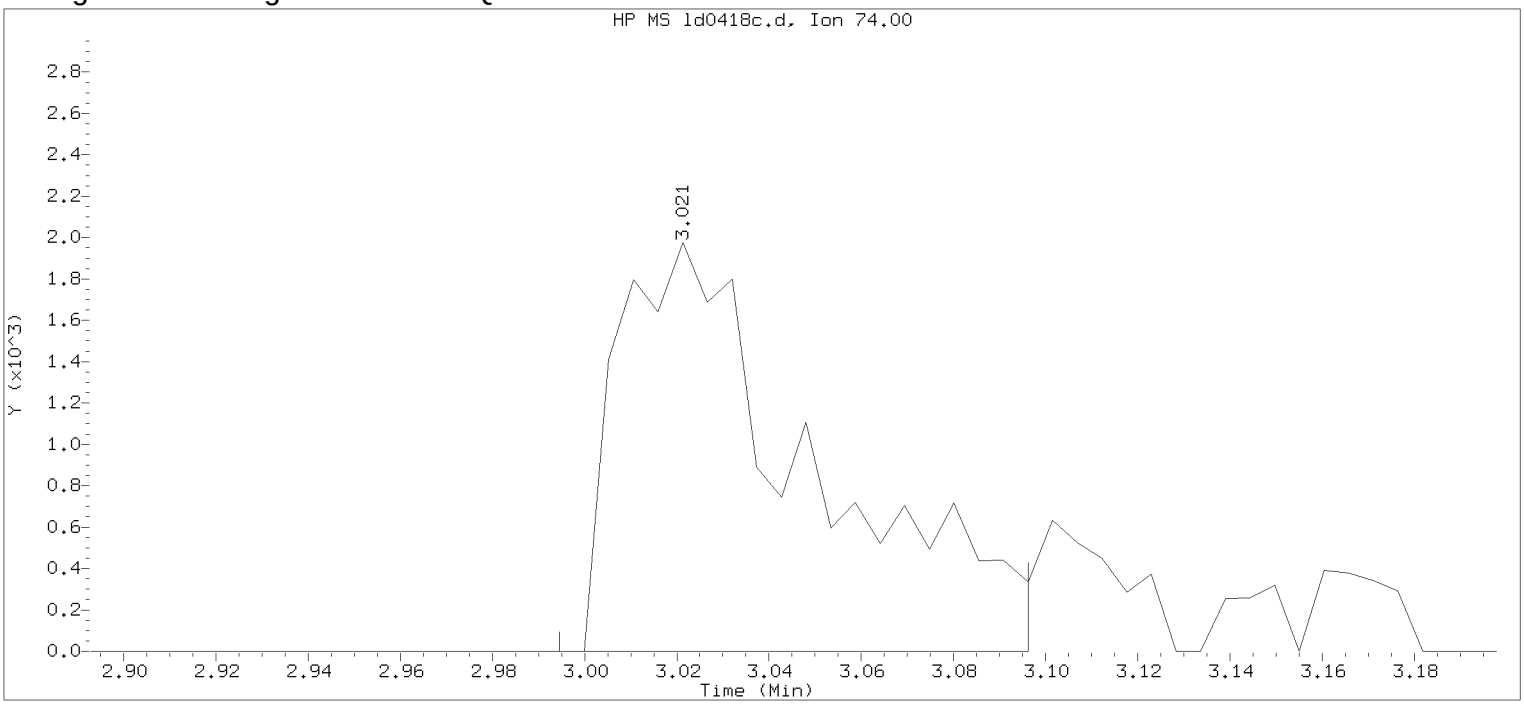
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

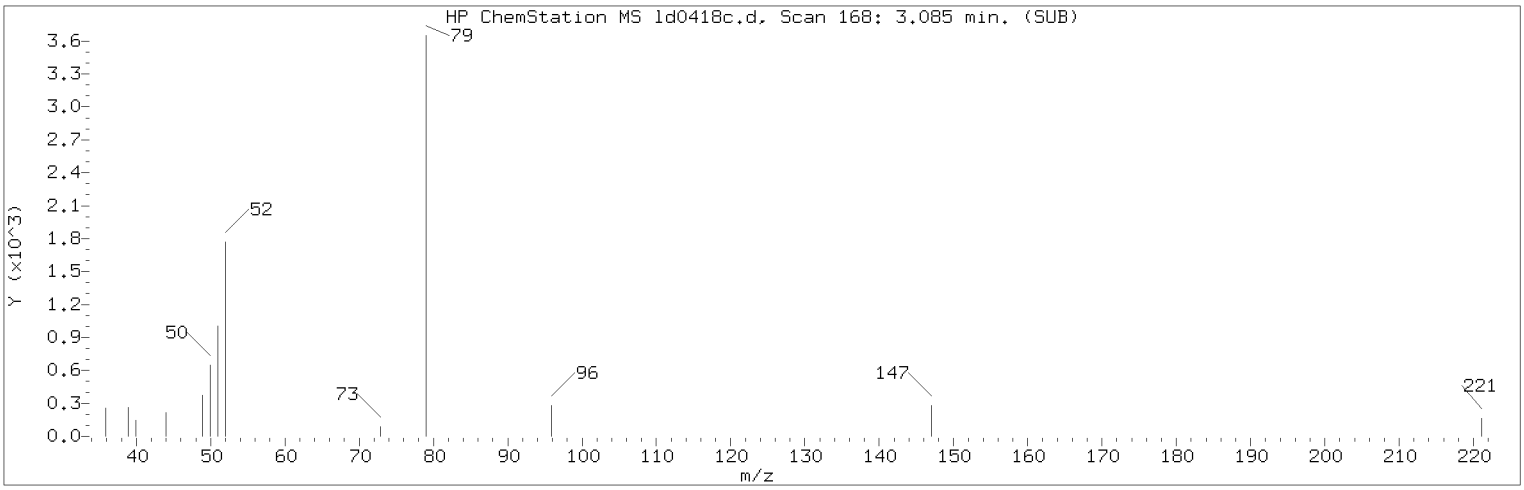
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

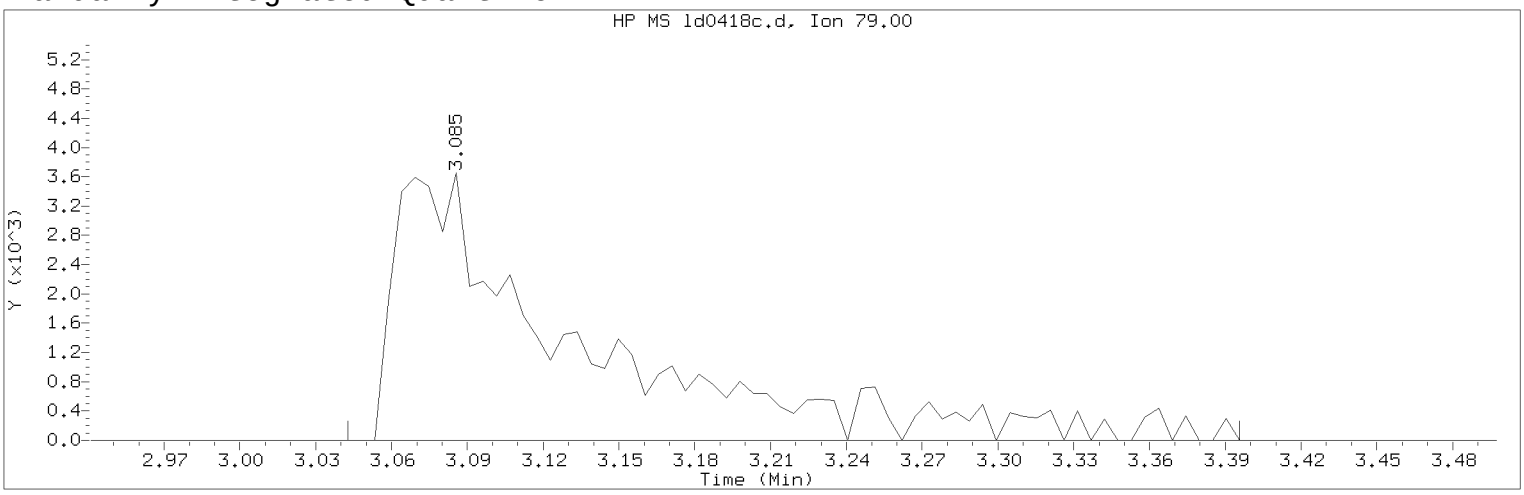
Compound Number : 4
Compound Name : N-Nitrosodimethylamine
Scan Number : 156
Retention Time (minutes) : 3.021
Quant Ion : 74.00
Area : 5729
On-column Amount (ng/ul) : 0.1279
Integration start scan : 150 Integration stop scan: 169
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user id: bhs0278

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

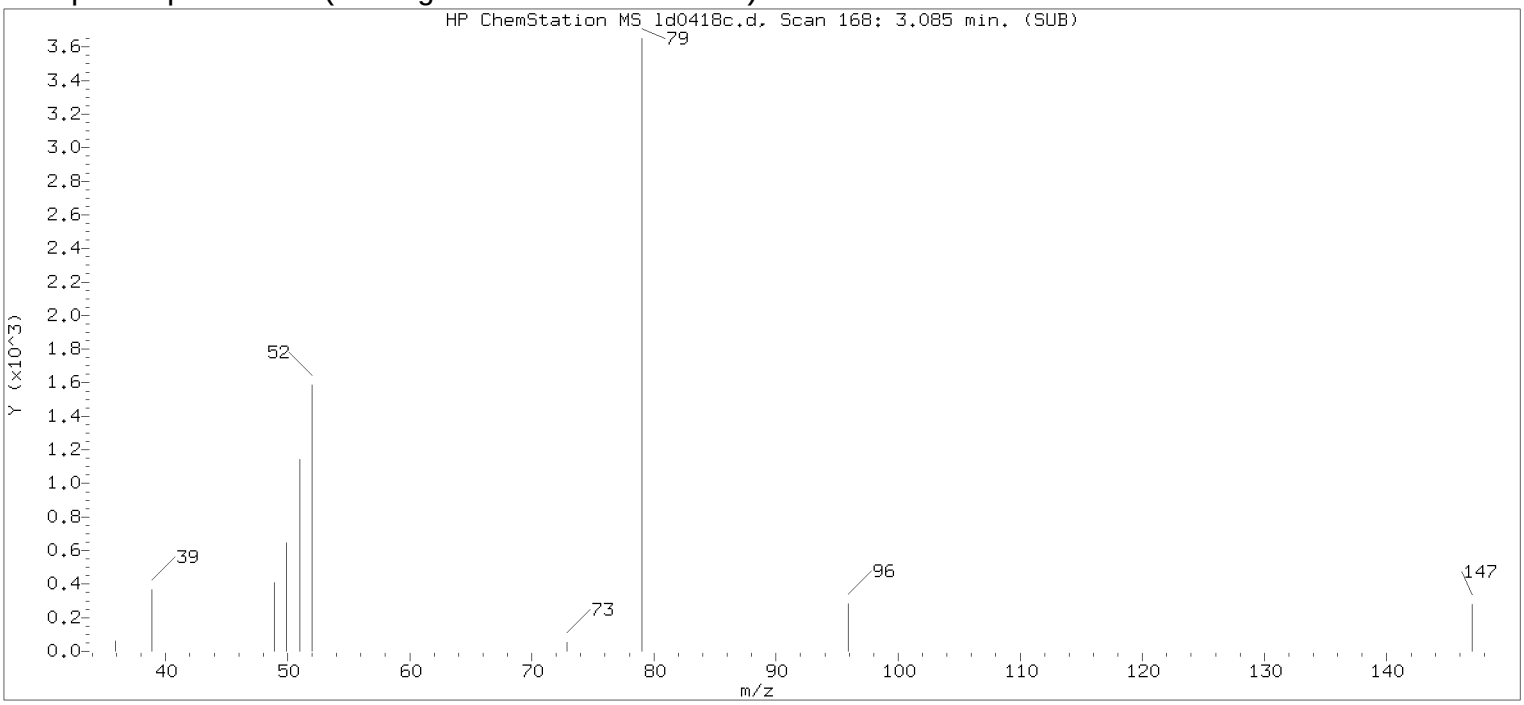
Compound Number : 5
Compound Name : Pyridine
Scan Number : 168
Retention Time (minutes) : 3.085
Quant Ion : 79.00
Area (flag) : 18173M
On-Column Amount (ng/ul) : 0.2296
Integration start scan : 159 Integration stop scan: 225
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

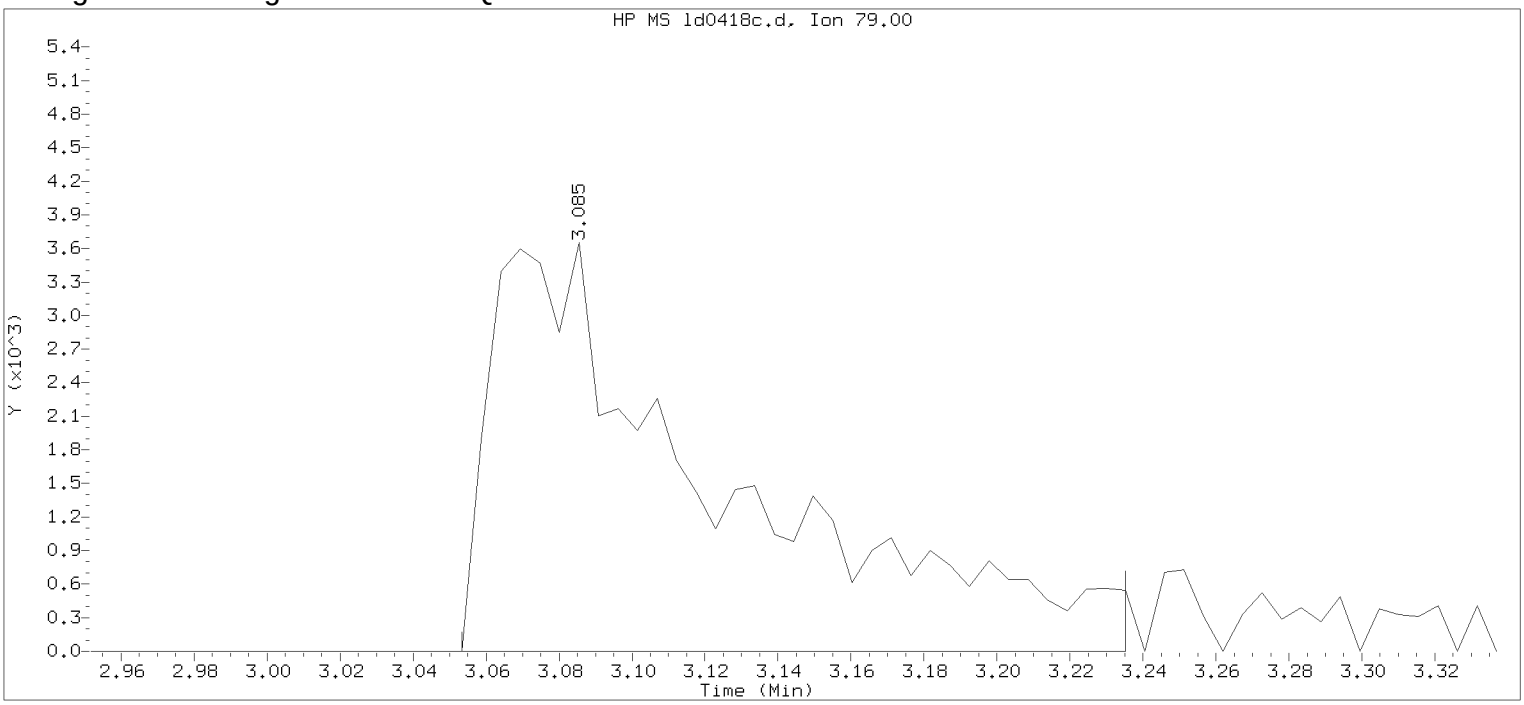
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

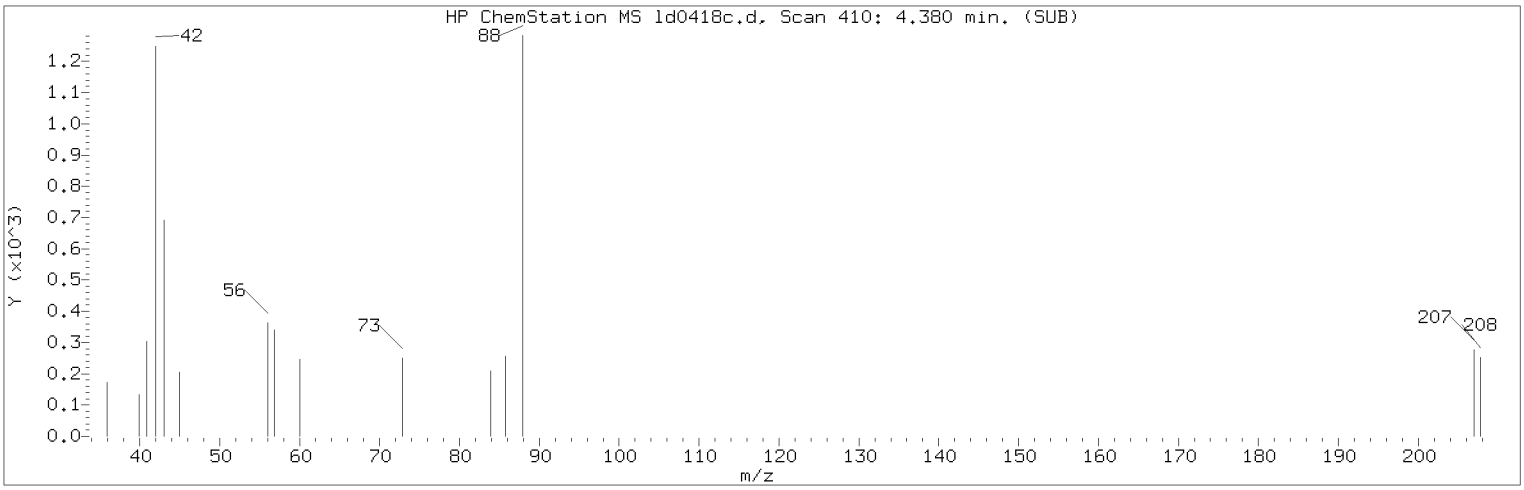
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

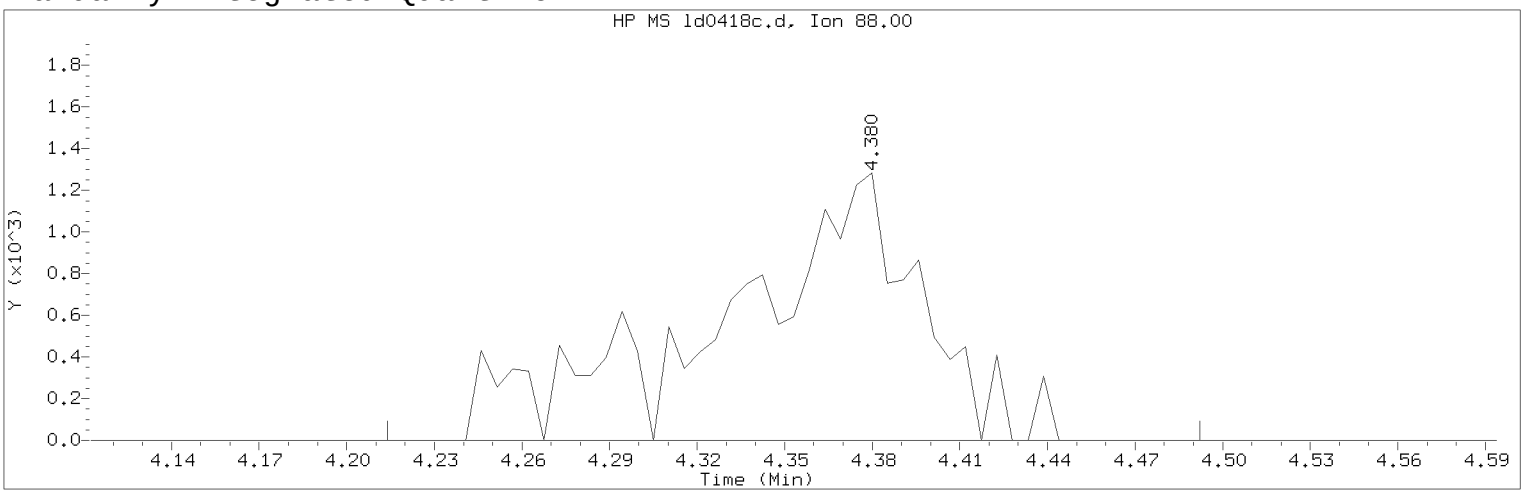
Compound Number : 5
Compound Name : Pyridine
Scan Number : 168
Retention Time (minutes) : 3.085
Quant Ion : 79.00
Area : 15672
On-column Amount (ng/ul) : 0.1980
Integration start scan : 161 Integration stop scan: 195
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user id: 1085 hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

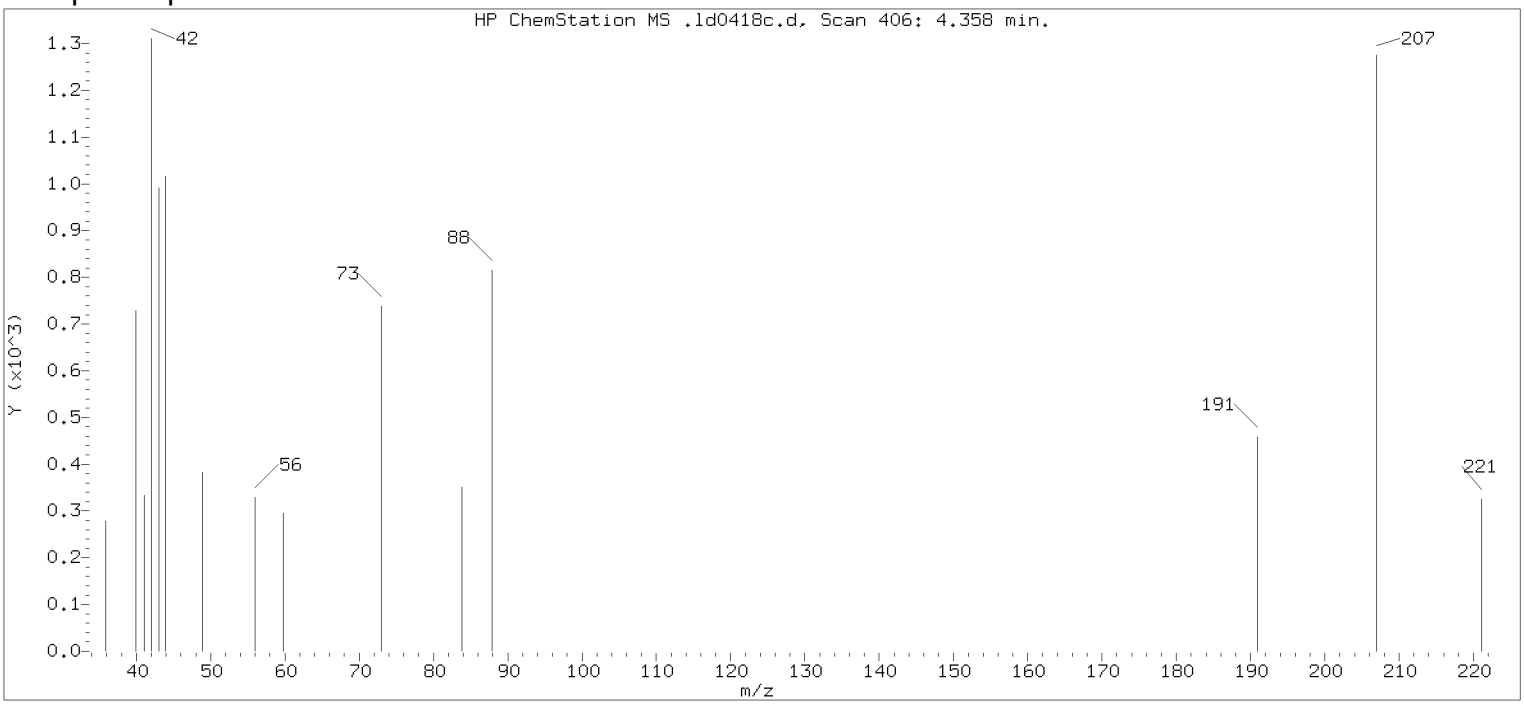
Compound Number : 8
Compound Name : N-Nitrosomethylethylamine
Scan Number : 410
Retention Time (minutes) : 4.380
Quant Ion : 88.00
Area (flag) : 6058M
On-Column Amount (ng/ul) : 0.1888
Integration start scan : 378 Integration stop scan: 430
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

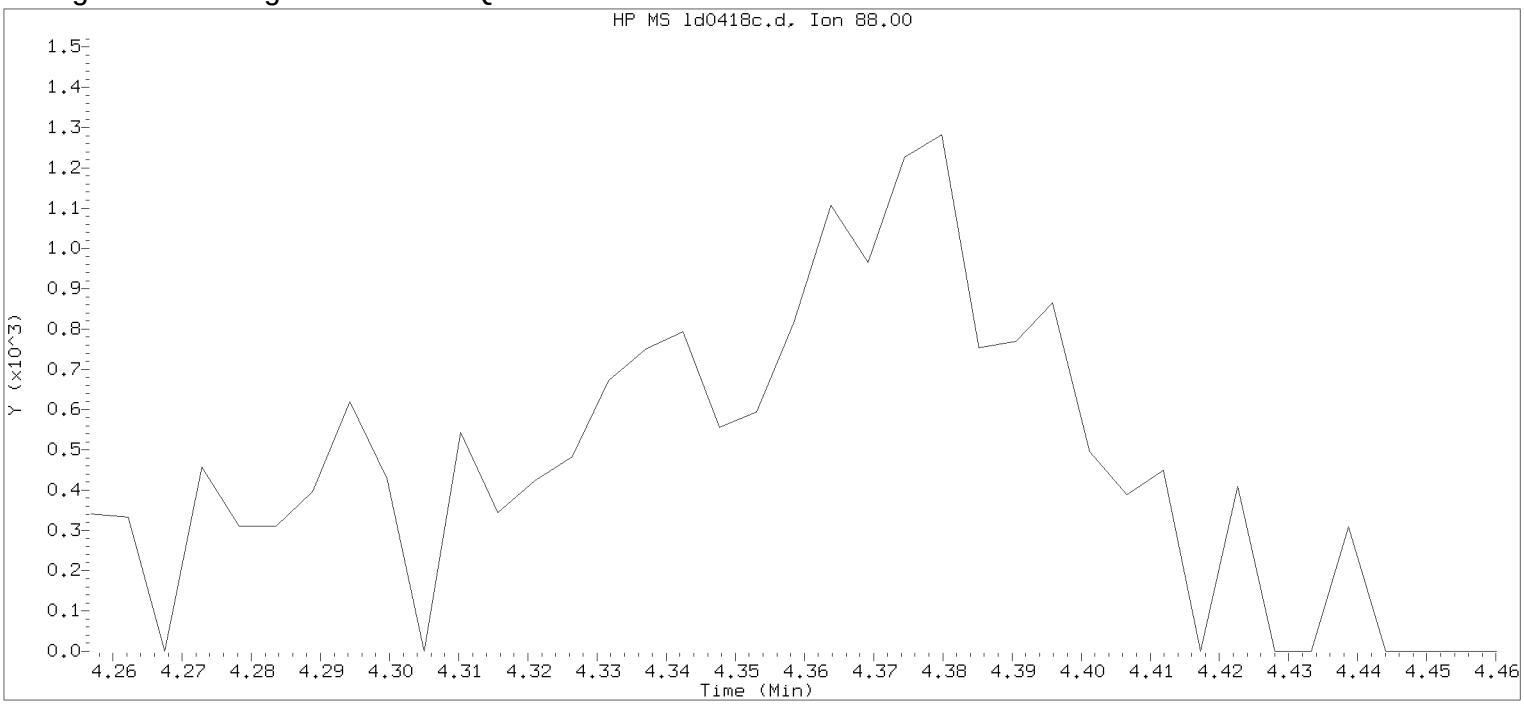
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

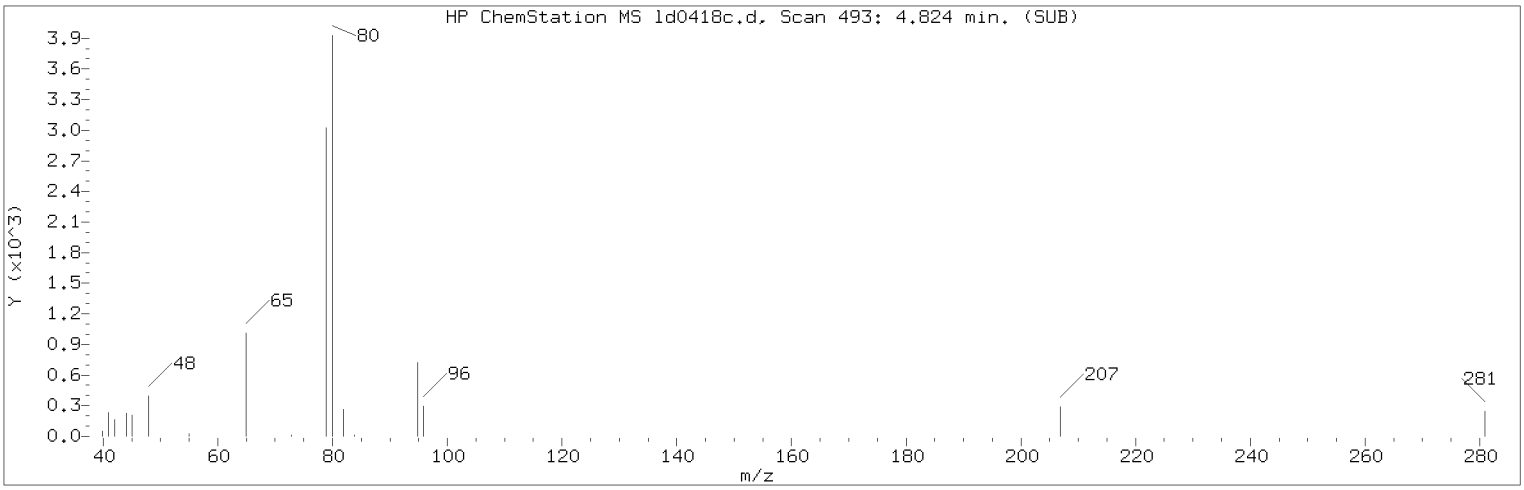
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

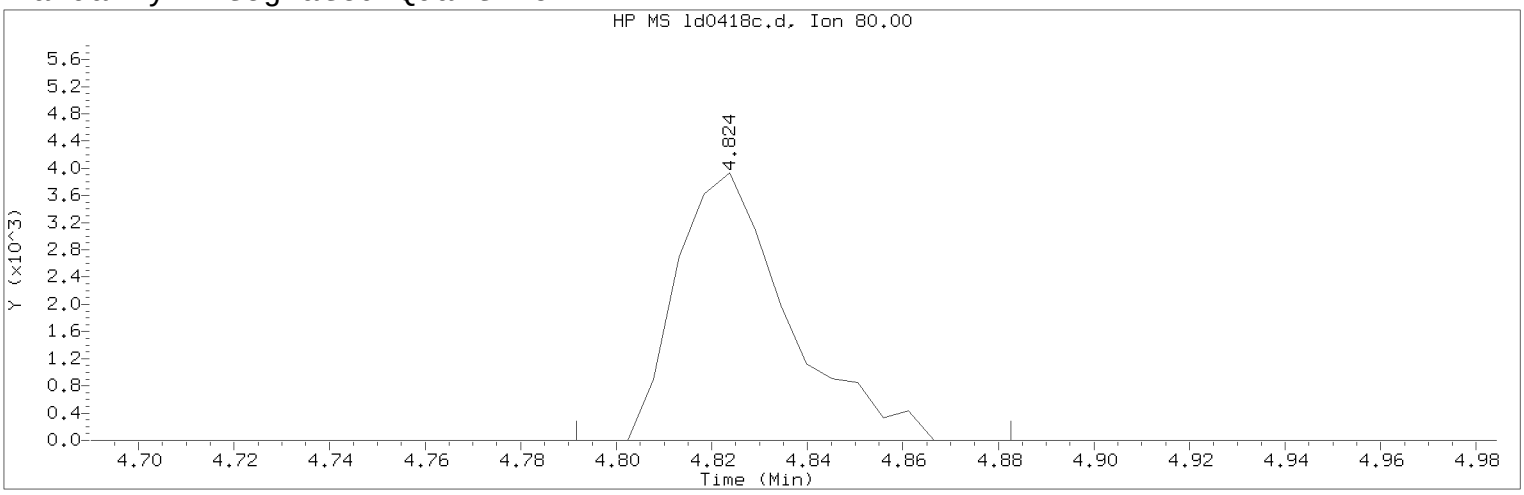
Compound Number : 8
Compound Name : N-Nitrosomethylethylamine
Expected RT (minutes) : 4.358
Quant Ion : 88.00

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user id: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

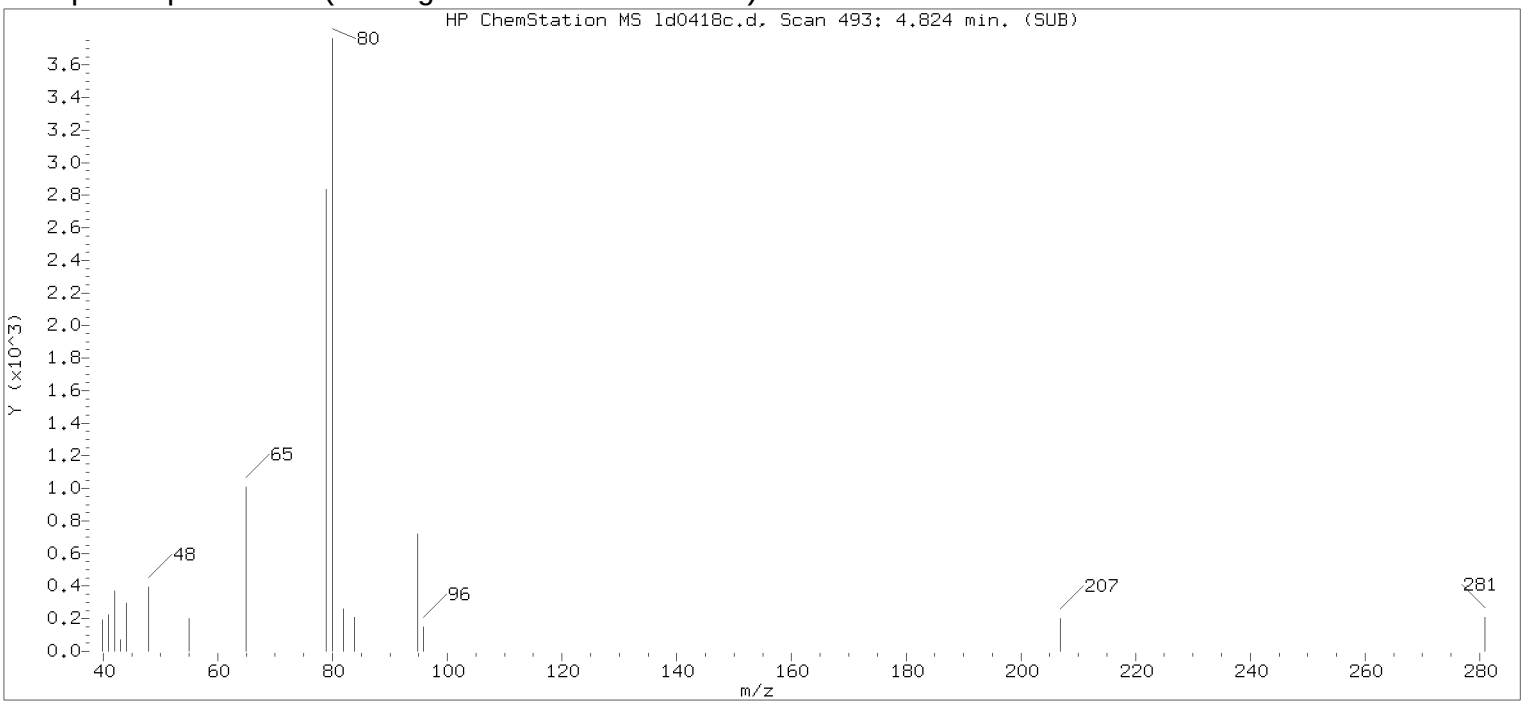
Compound Number : 9
Compound Name : Methyl methanesulfonate
Scan Number : 493
Retention Time (minutes) : 4.824
Quant Ion : 80.00
Area (flag) : 6375M
On-Column Amount (ng/ul) : 0.1641
Integration start scan : 486 Integration stop scan: 503
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

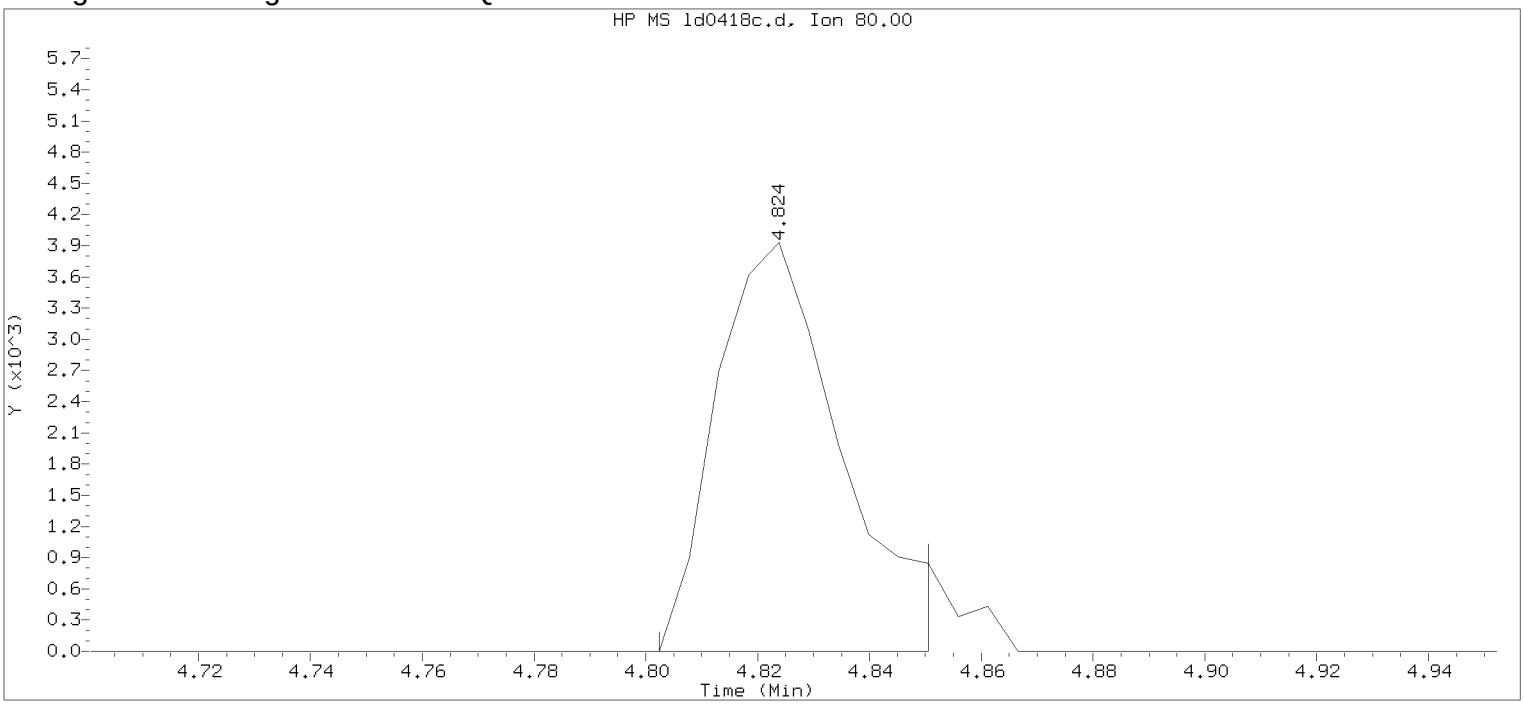
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

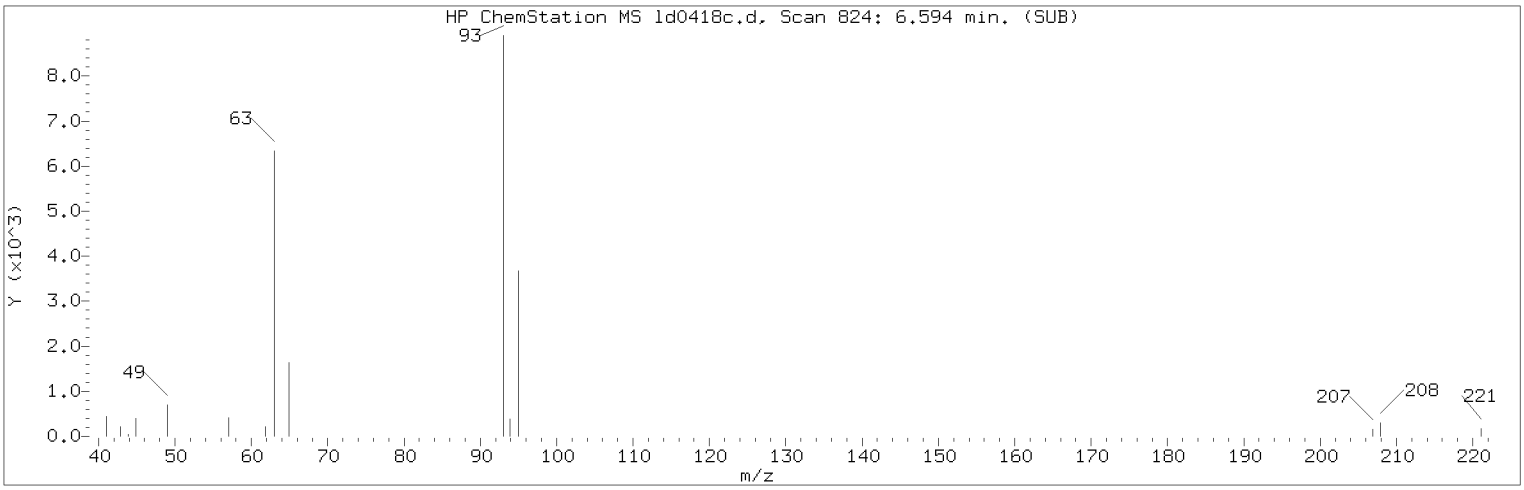
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

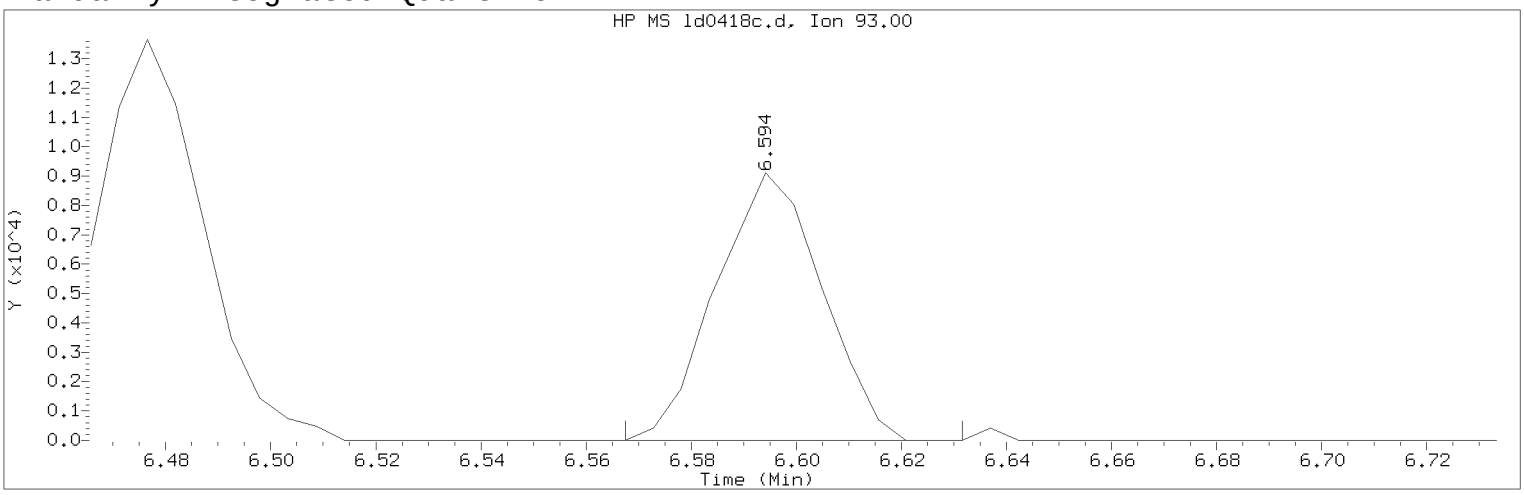
Compound Number : 9
Compound Name : Methyl methanesulfonate
Scan Number : 493
Retention Time (minutes) : 4.824
Quant Ion : 80.00
Area : 5993
On-column Amount (ng/ul) : 0.1543
Integration start scan : 488 Integration stop scan: 497
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user id: 1085 hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

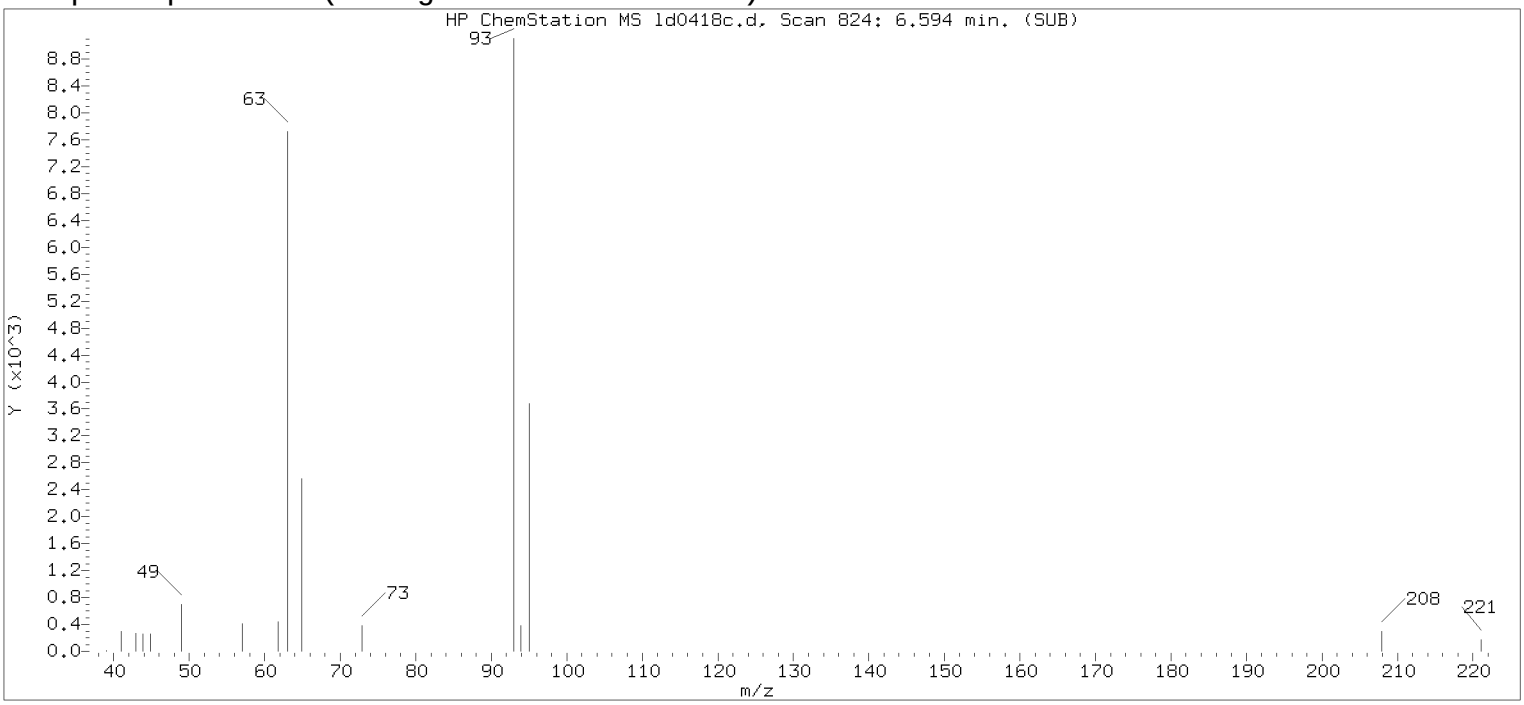
Compound Number : 22
Compound Name : bis(2-Chloroethyl)ether
Scan Number : 824
Retention Time (minutes) : 6.594
Quant Ion : 93.00
Area (flag) : 12708M
On-Column Amount (ng/ul) : 0.1864
Integration start scan : 818 Integration stop scan: 830
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

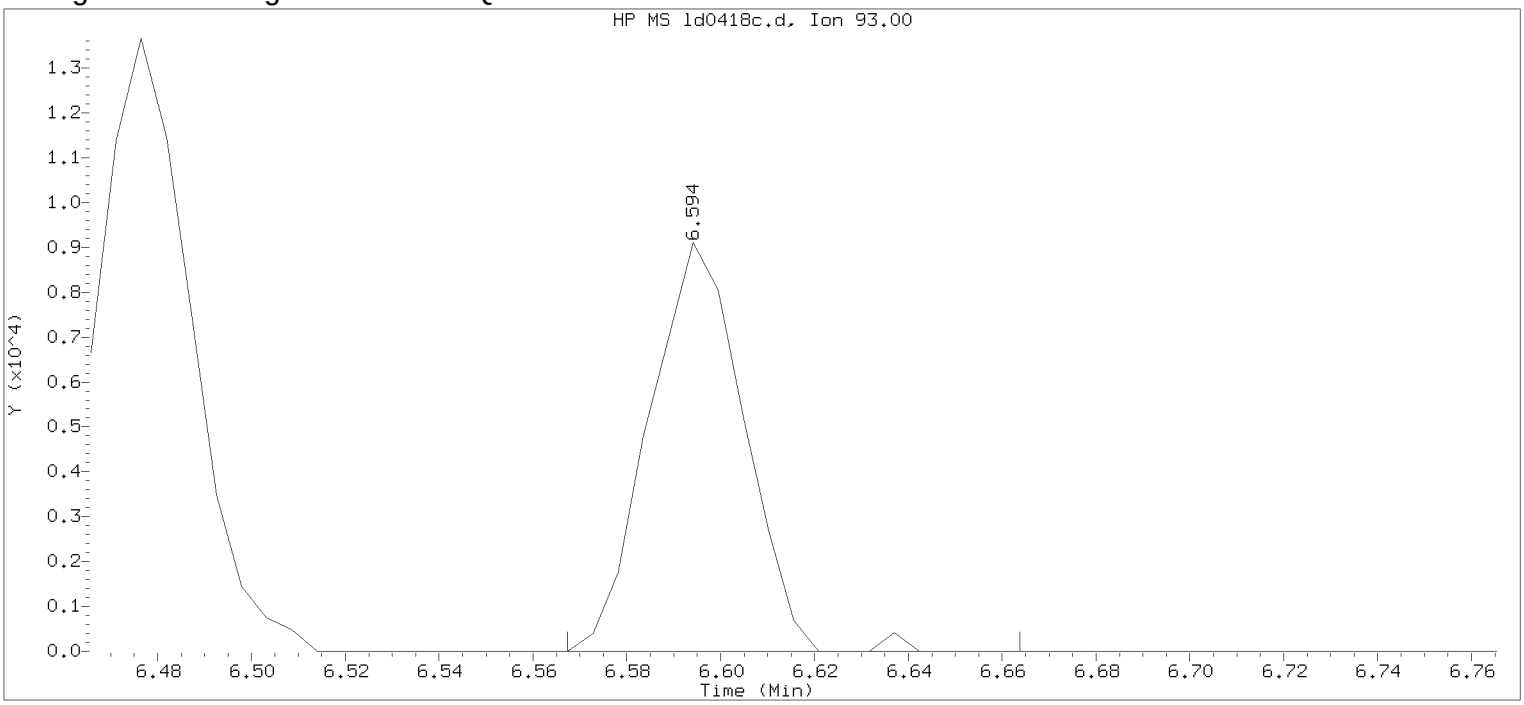
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

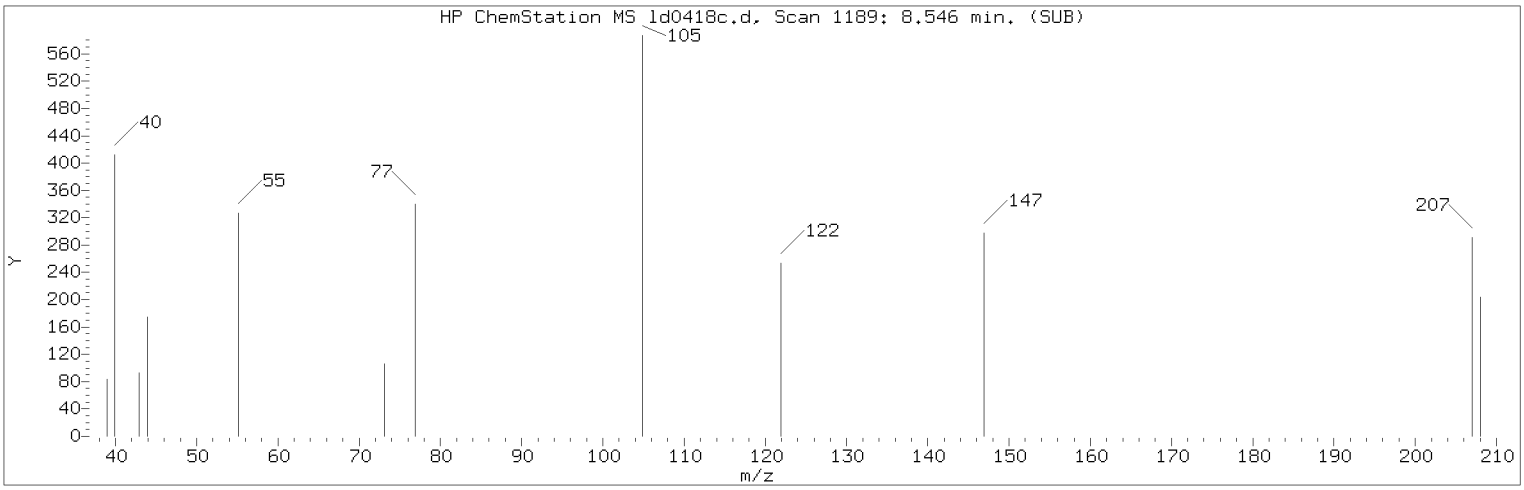
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

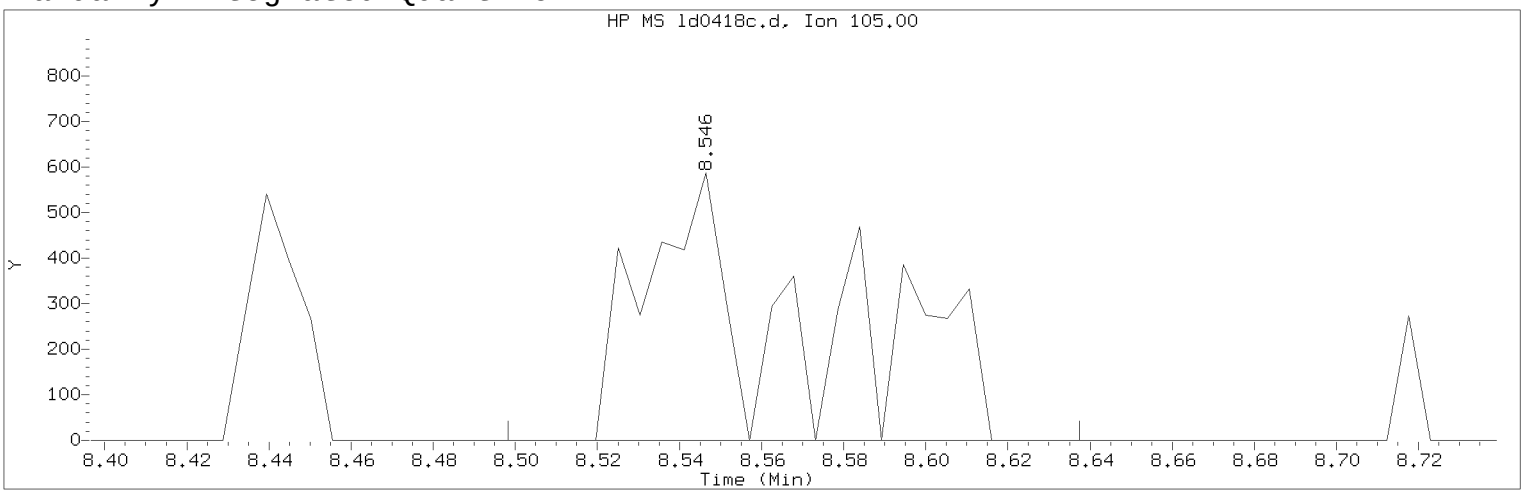
Compound Number : 22
Compound Name : bis(2-Chloroethyl)ether
Scan Number : 824
Retention Time (minutes) : 6.594
Quant Ion : 93.00
Area : 12839
On-column Amount (ng/ul) : 0.1873
Integration start scan : 818 Integration stop scan: 836
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user id: 1285

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

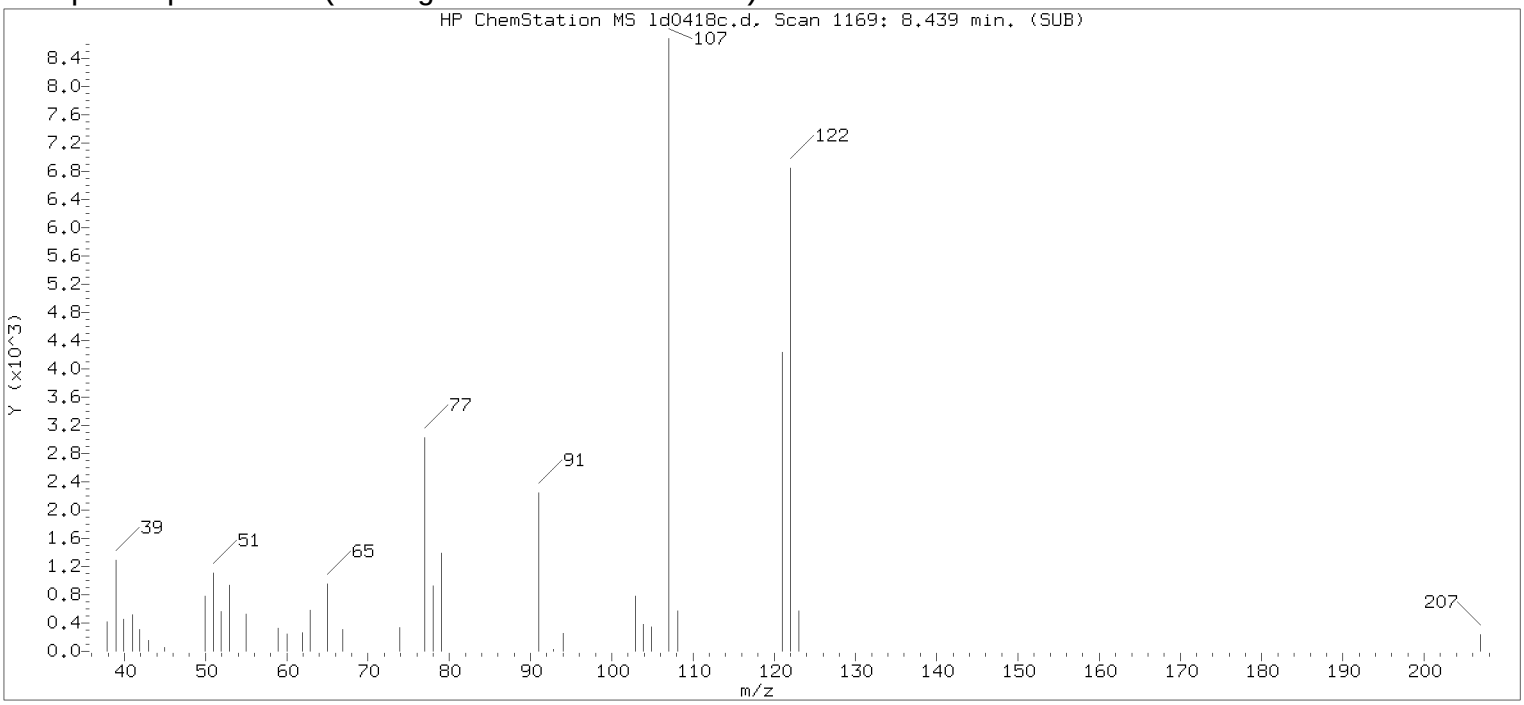
Compound Number : 56
Compound Name : Benzoic acid
Scan Number : 1189
Retention Time (minutes) : 8.546
Quant Ion : 105.00
Area (flag) : 1634M
On-Column Amount (ng/ul) : 2.8460
Integration start scan : 1179 Integration stop scan: 1205
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

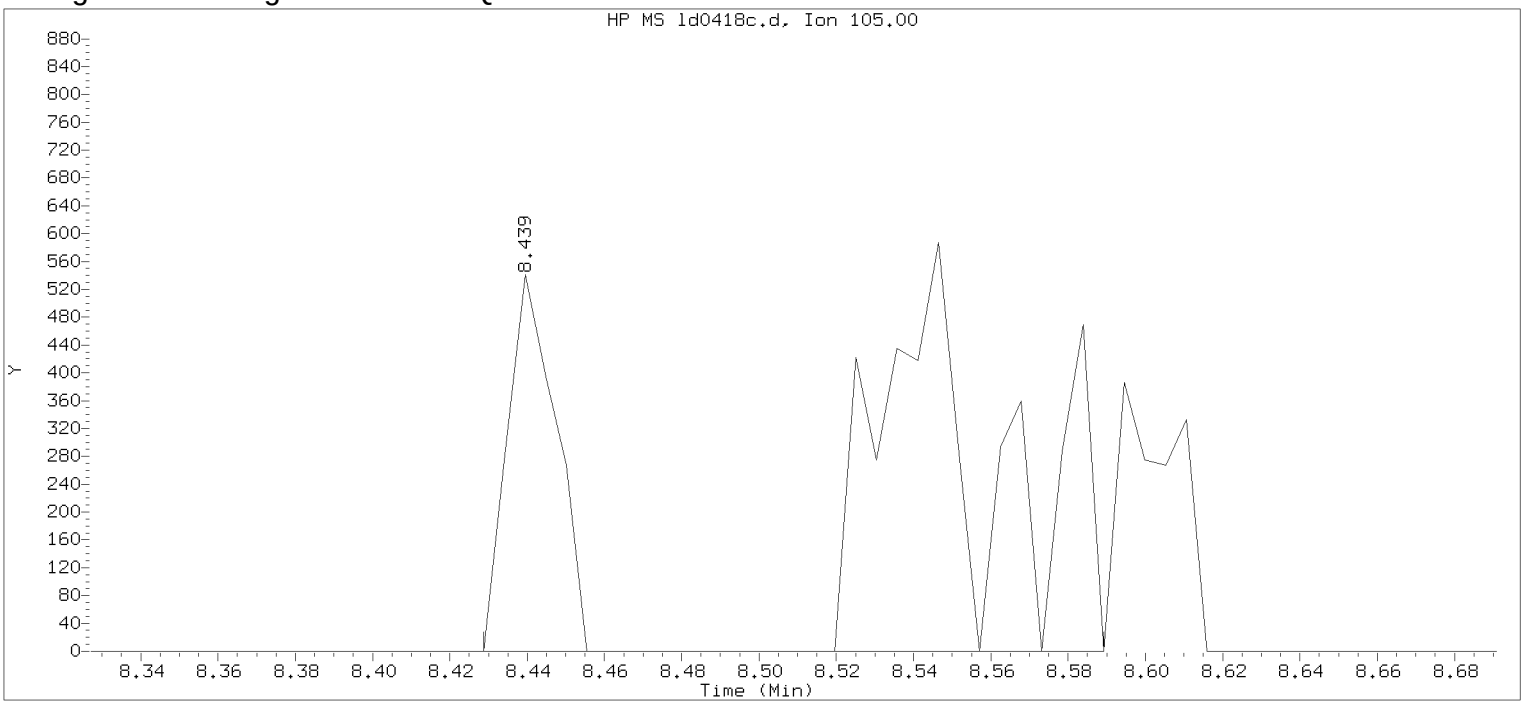
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

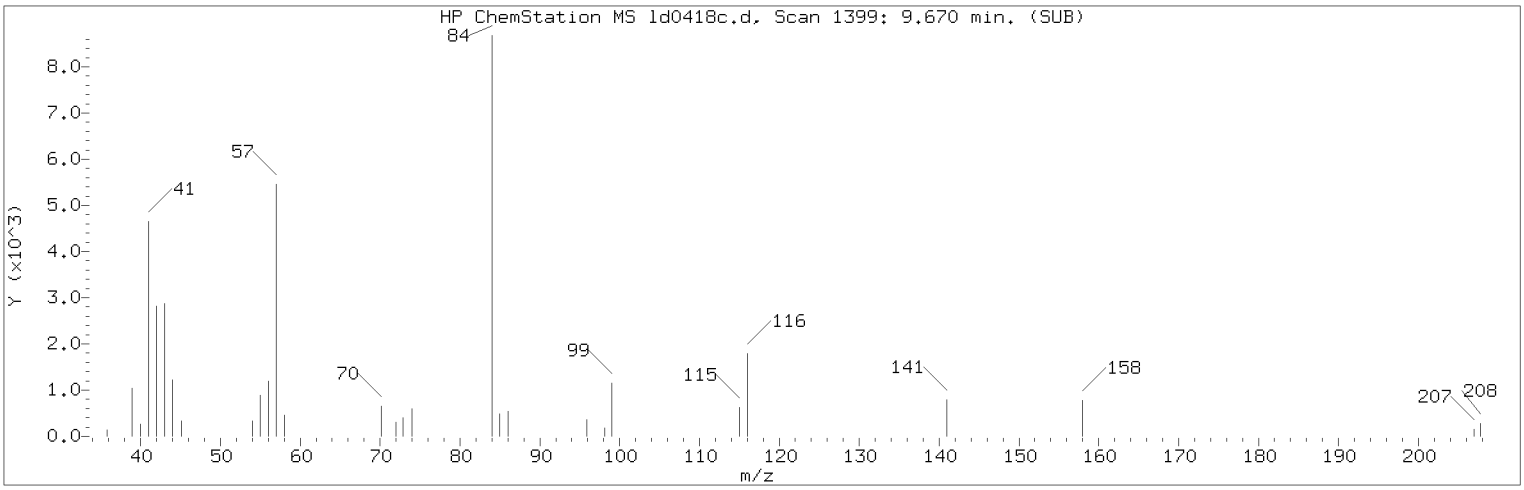
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

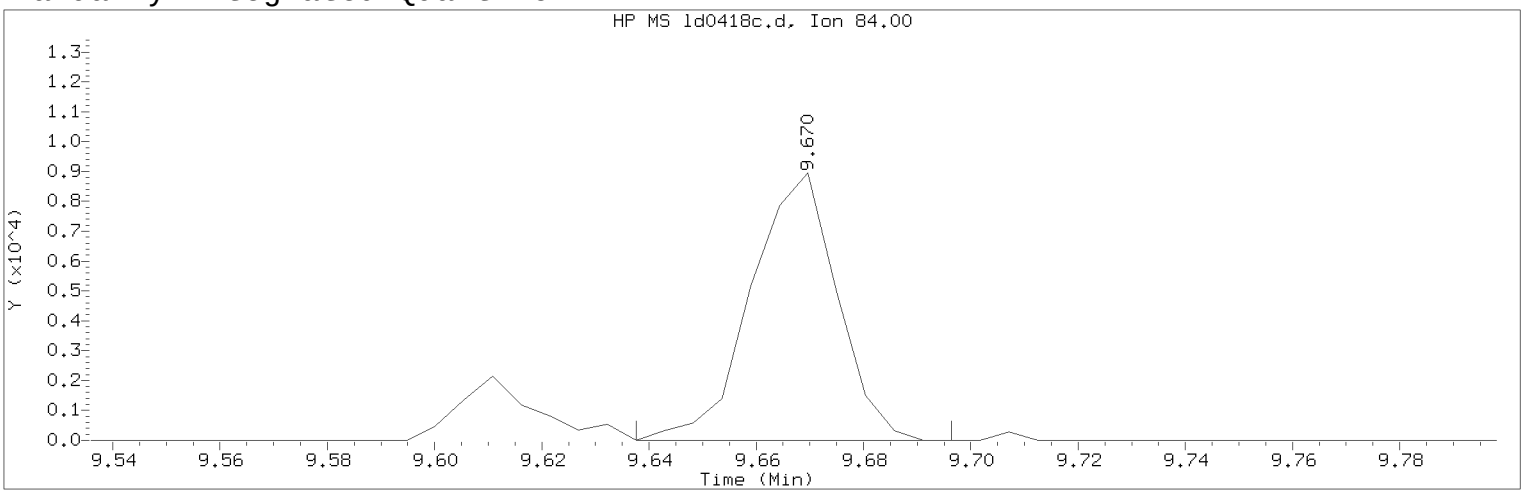
Compound Number : 56
Compound Name : Benzoic acid
Scan Number : 1169
Retention Time (minutes) : 8.439
Quant Ion : 105.00
Area : 1703
On-column Amount (ng/ul) : 2.0385
Integration start scan : 1166 Integration stop scan: 1196
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user id: bhs0288

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

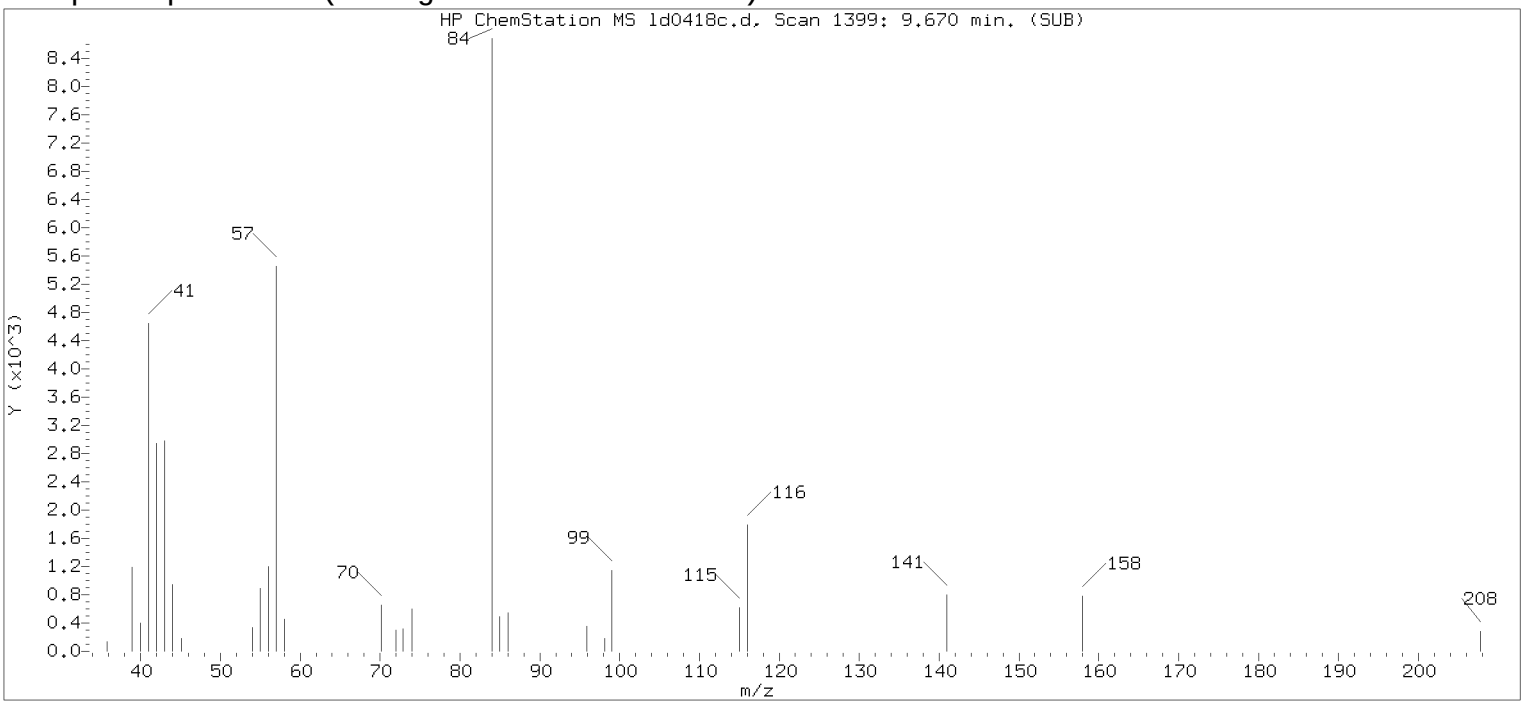
Compound Number : 77
Compound Name : N-Nitrosodi-n-butylamine
Scan Number : 1399
Retention Time (minutes) : 9.670
Quant Ion : 84.00
Area (flag) : 9964M
On-Column Amount (ng/ul) : 1.0963
Integration start scan : 1392 Integration stop scan: 1403
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

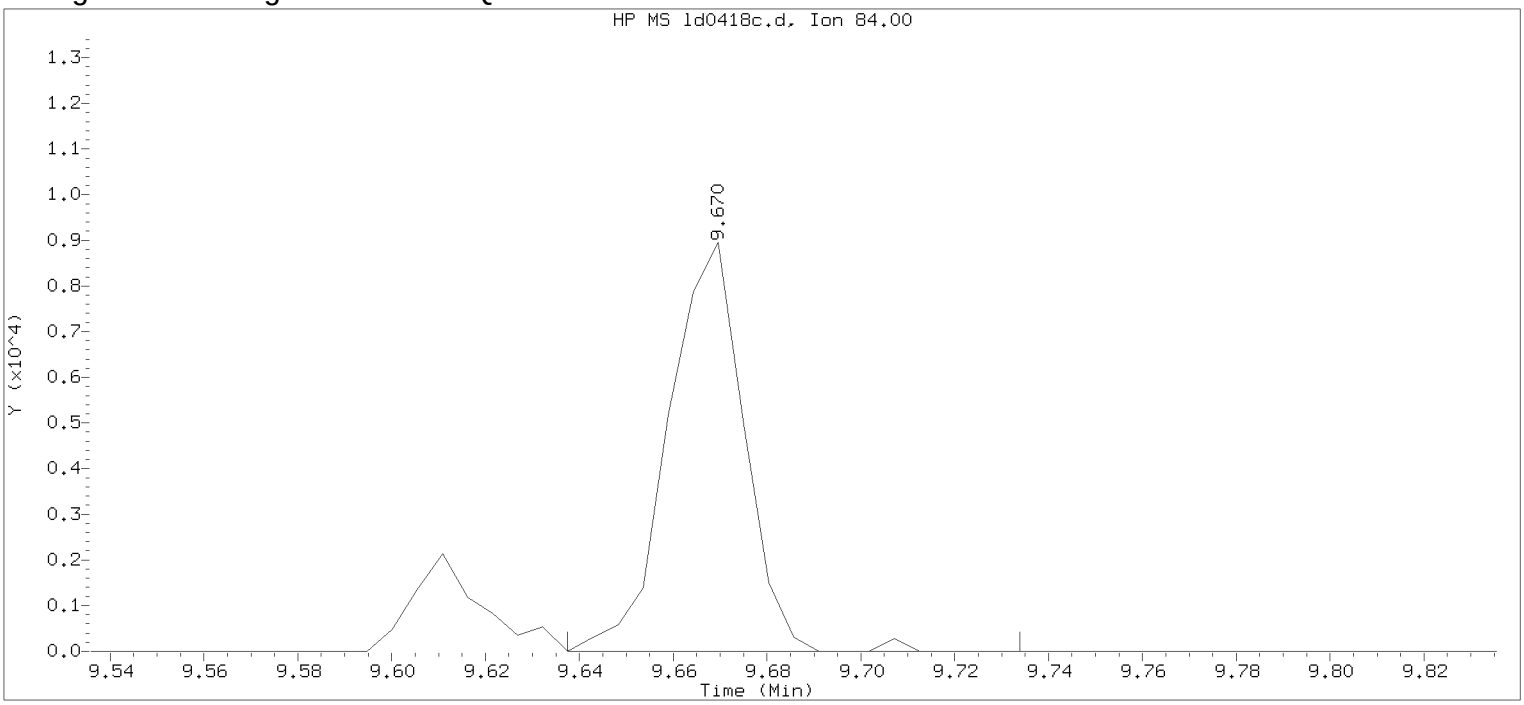
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

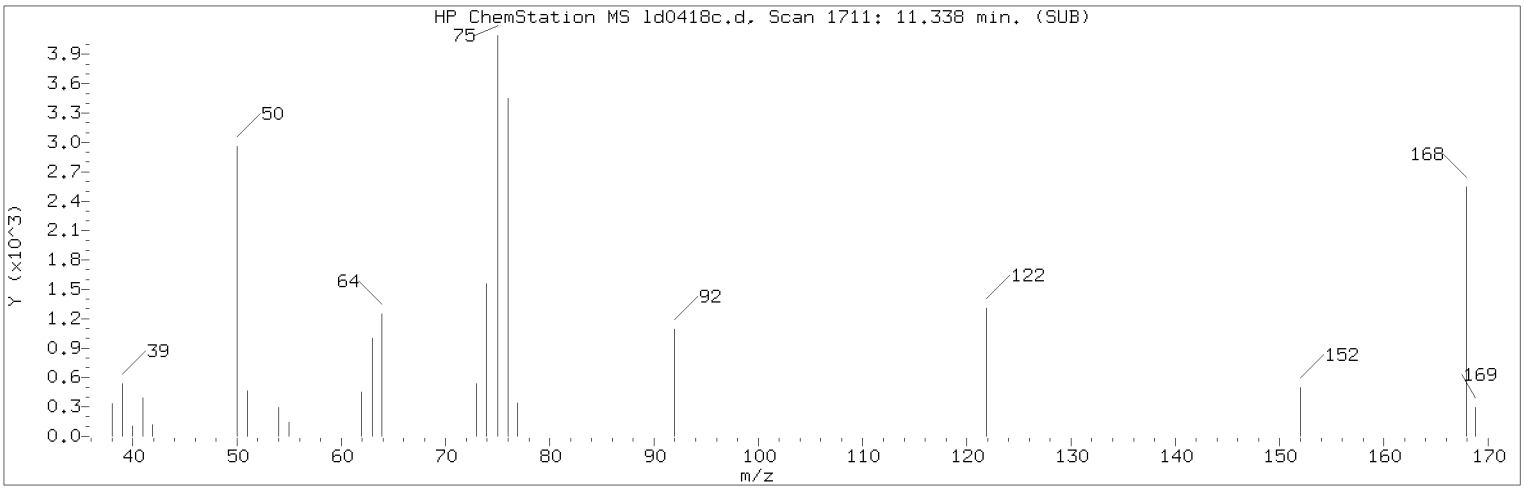
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

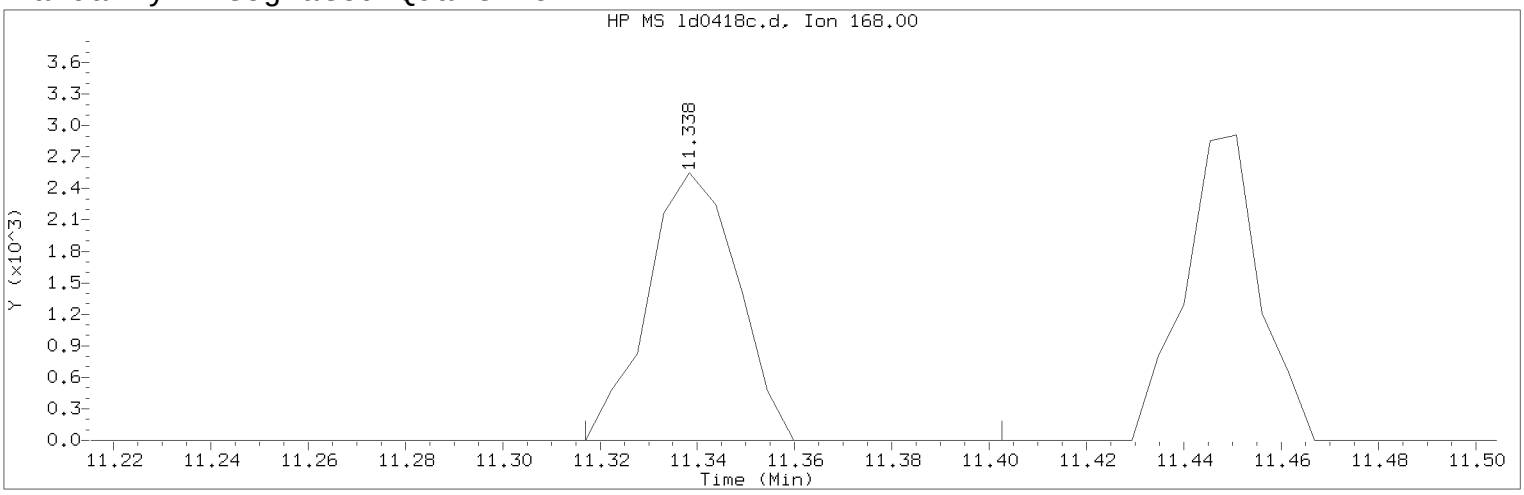
Compound Number : 77
Compound Name : N-Nitrosodi-n-butylamine
Scan Number : 1399
Retention Time (minutes) : 9.670
Quant Ion : 84.00
Area : 10054
On-column Amount (ng/ul) : 0.1815
Integration start scan : 1392 Integration stop scan: 1410
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: 1058

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

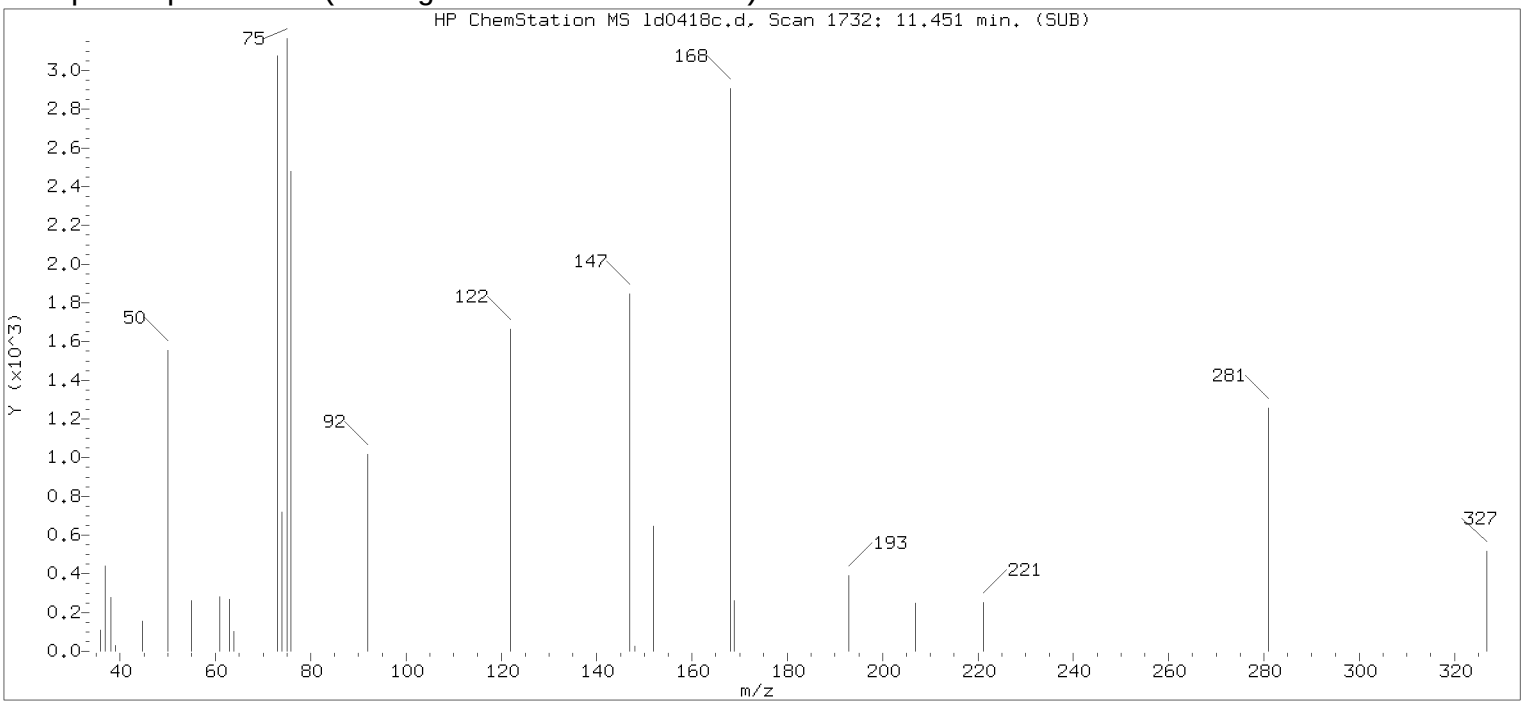
Compound Number : 105
Compound Name : 1,4-Dinitrobenzene
Scan Number : 1711
Retention Time (minutes) : 11.338
Quant Ion : 168.00
Area (flag) : 3262A
On-Column Amount (ng/ul) : 0.1807
Integration start scan : 1706 Integration stop scan: 1722
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

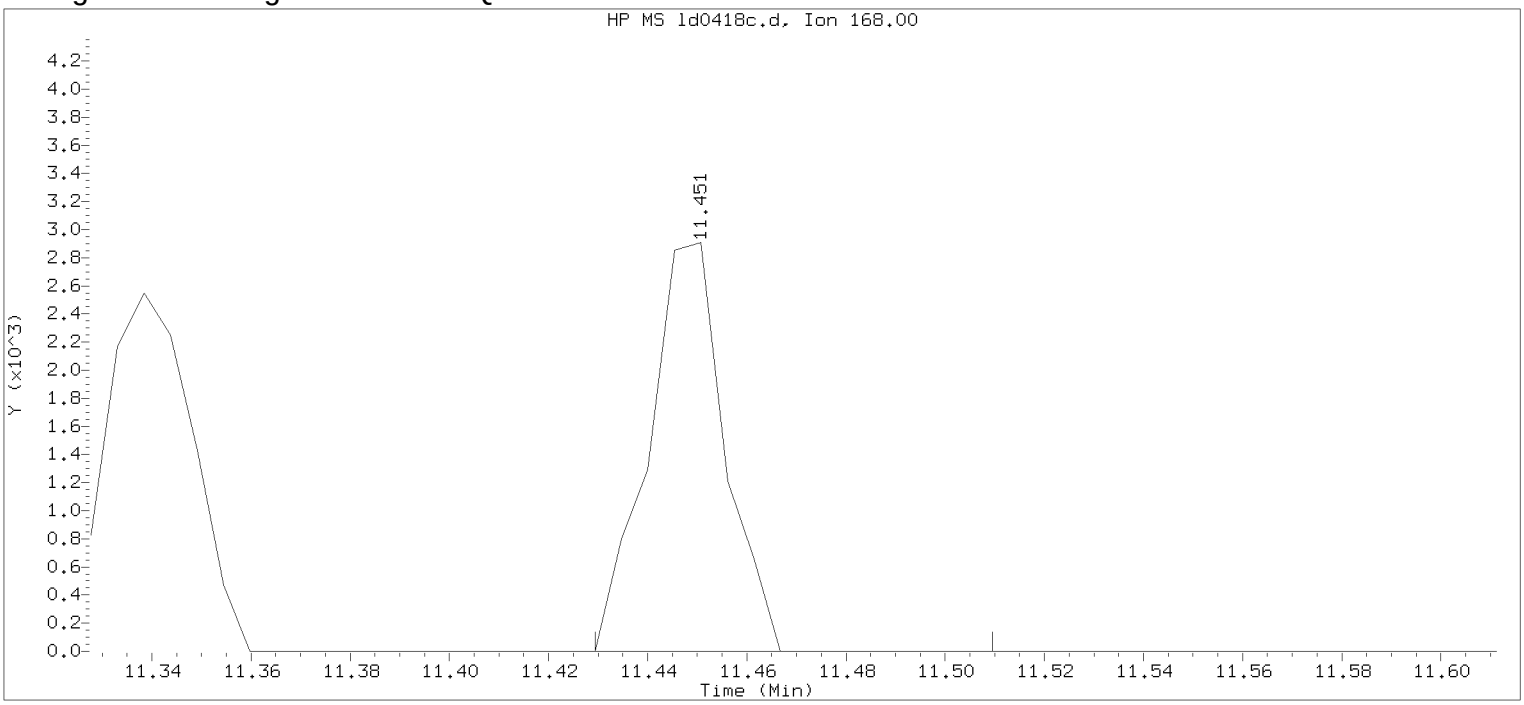
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

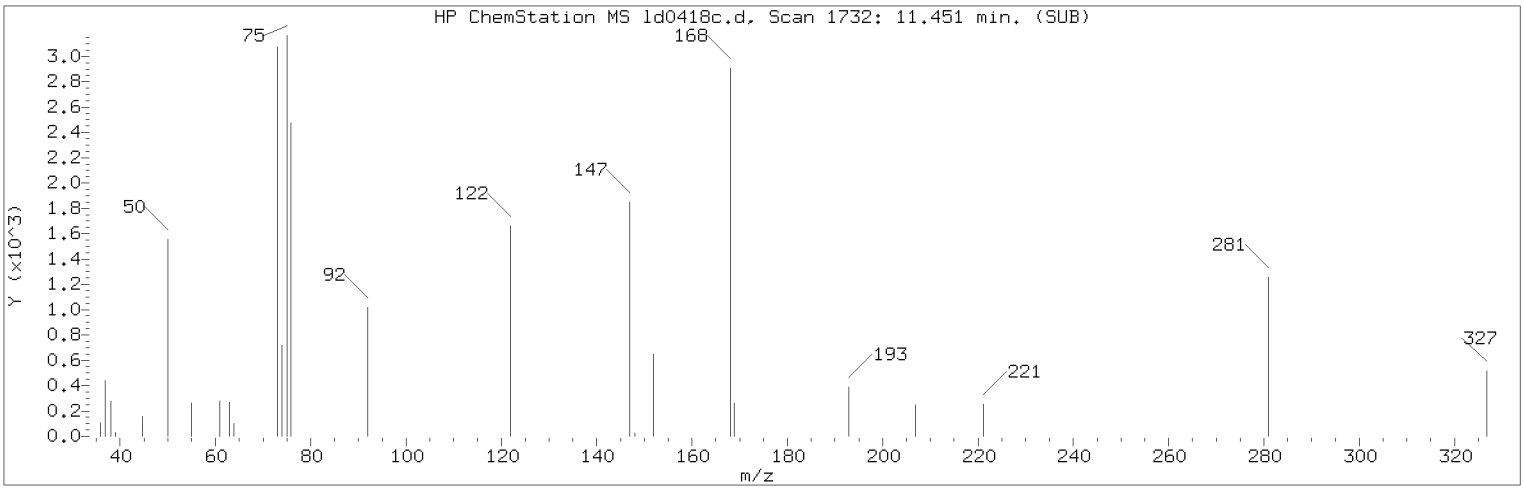
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

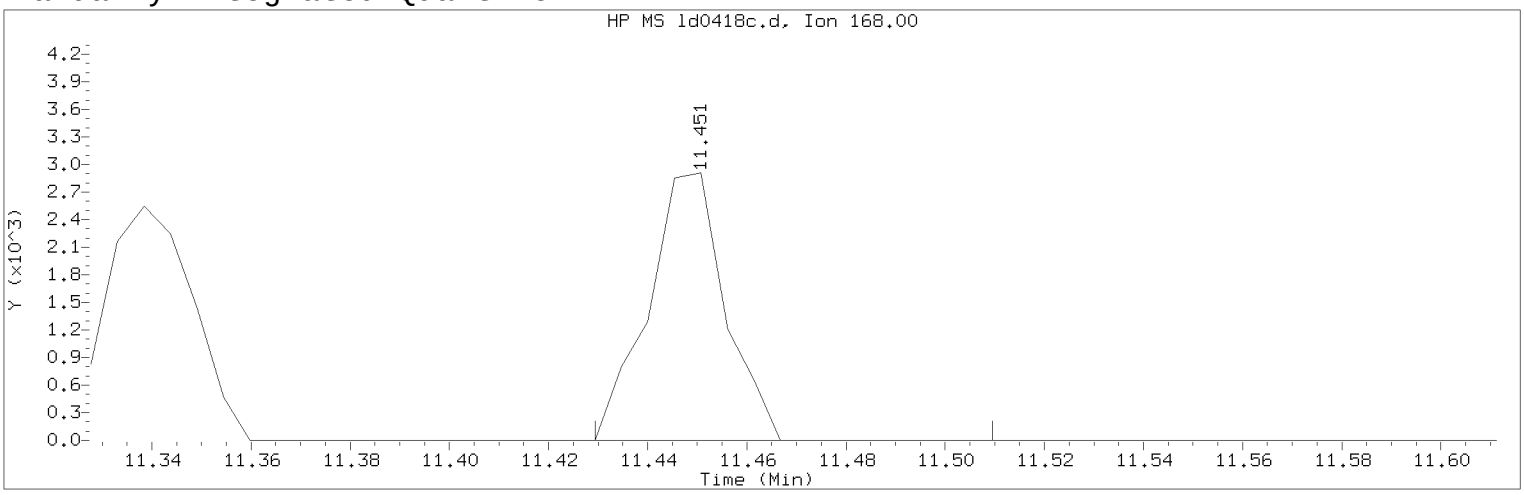
Compound Number : 105
Compound Name : 1,4-Dinitrobenzene
Scan Number : 1732
Retention Time (minutes) : 11.451
Quant Ion : 168.00
Area : 3118
On-column Amount (ng/ul) : 0.1550
Integration start scan : 1727 Integration stop scan: 1742
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: 1293

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

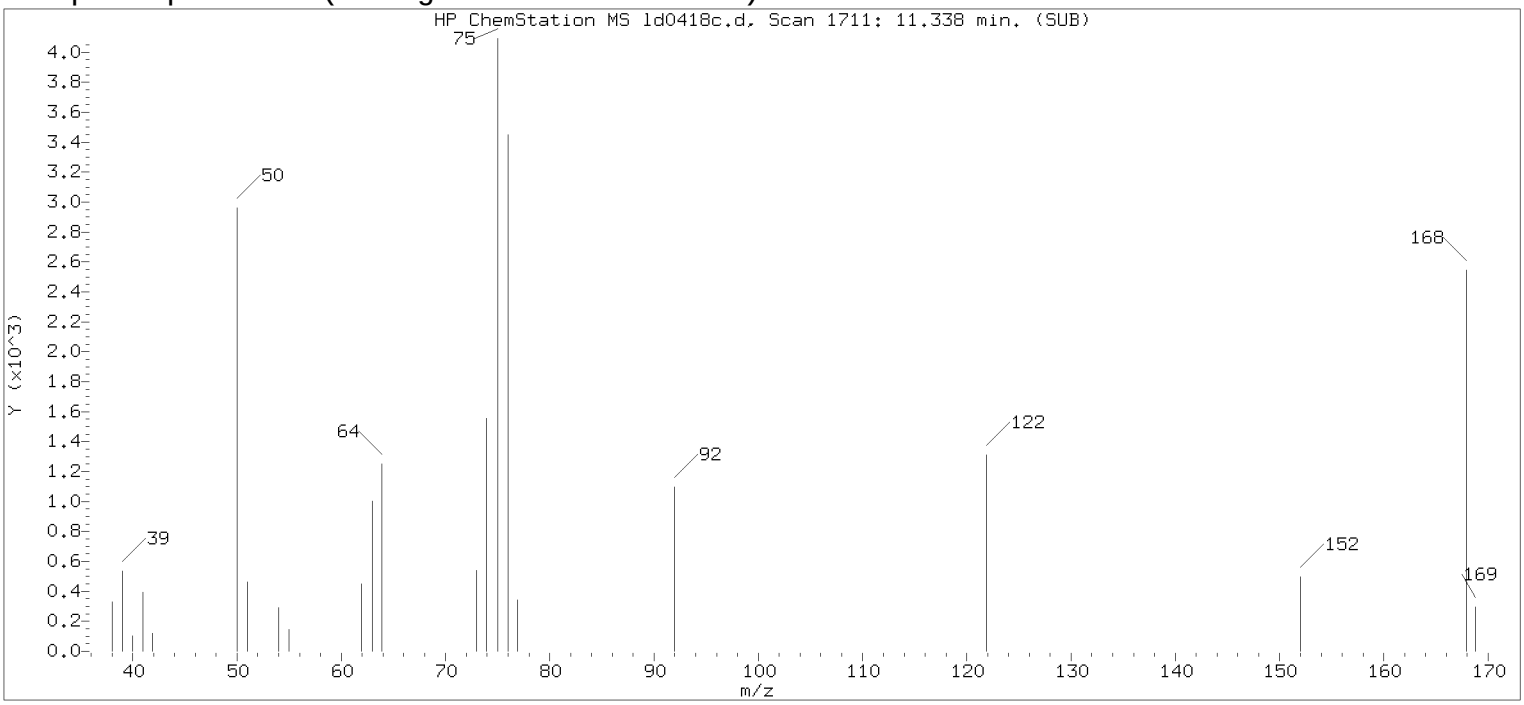
Compound Number : 107
Compound Name : 1,3-Dinitrobenzene
Scan Number : 1732
Retention Time (minutes) : 11.451
Quant Ion : 168.00
Area (flag) : 3118A
On-Column Amount (ng/ul) : 0.1539
Integration start scan : 1727 Integration stop scan: 1742
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

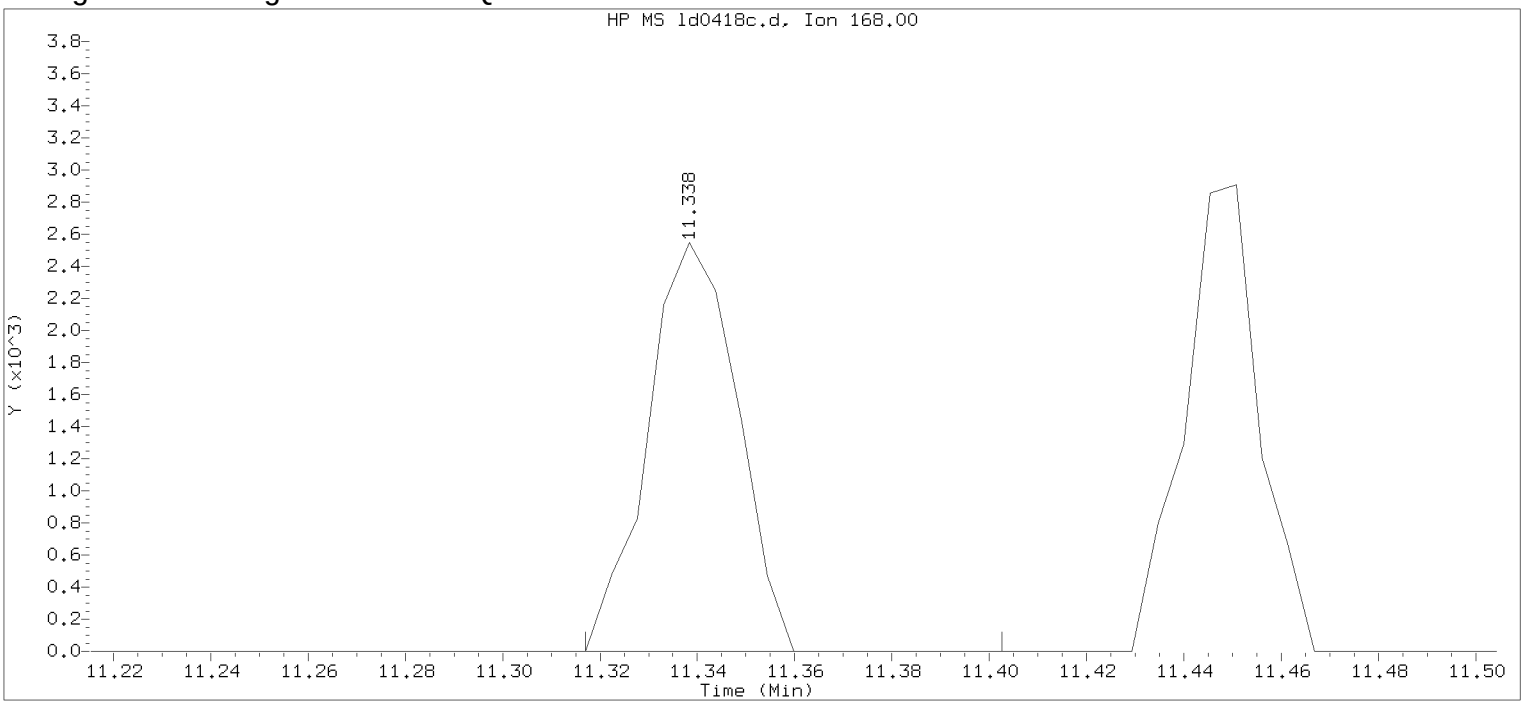
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

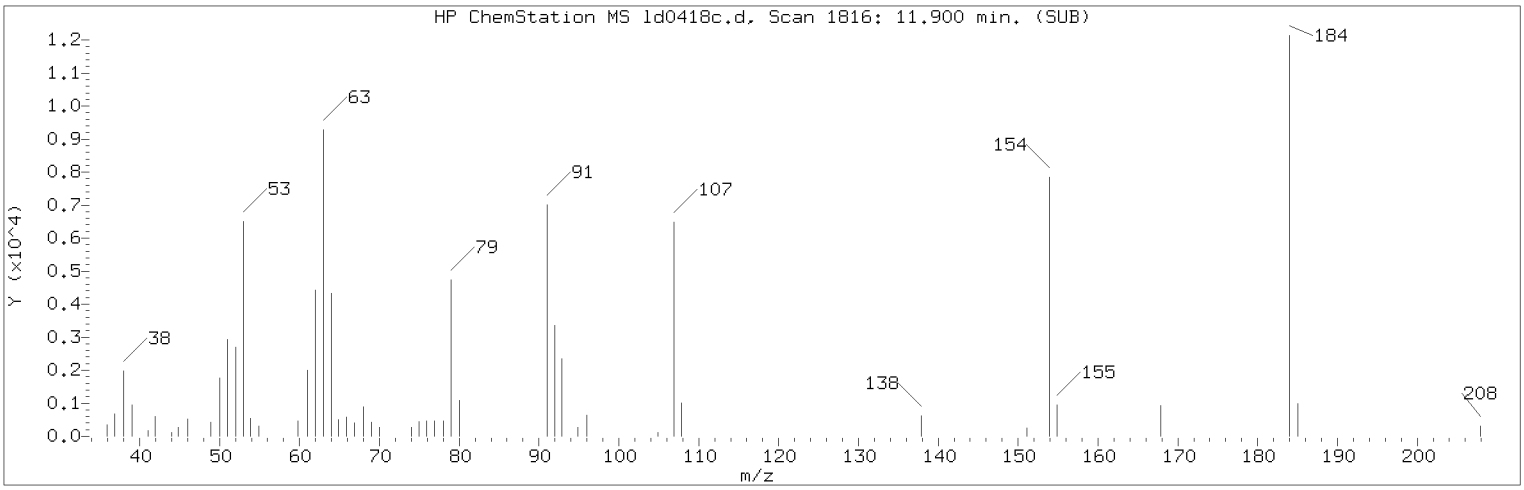
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

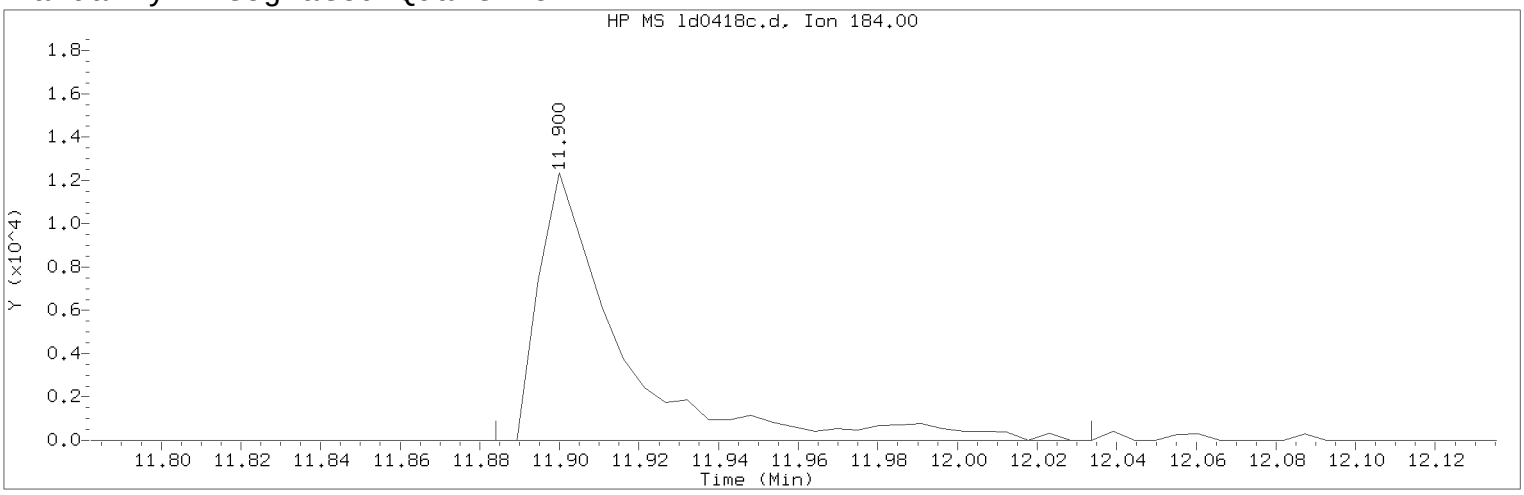
Compound Number : 107
Compound Name : 1,3-Dinitrobenzene
Scan Number : 1711
Retention Time (minutes) : 11.338
Quant Ion : 168.00
Area : 3262
On-column Amount (ng/ul) : 0.1807
Integration start scan : 1706 Integration stop scan: 1722
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user id: 1058

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

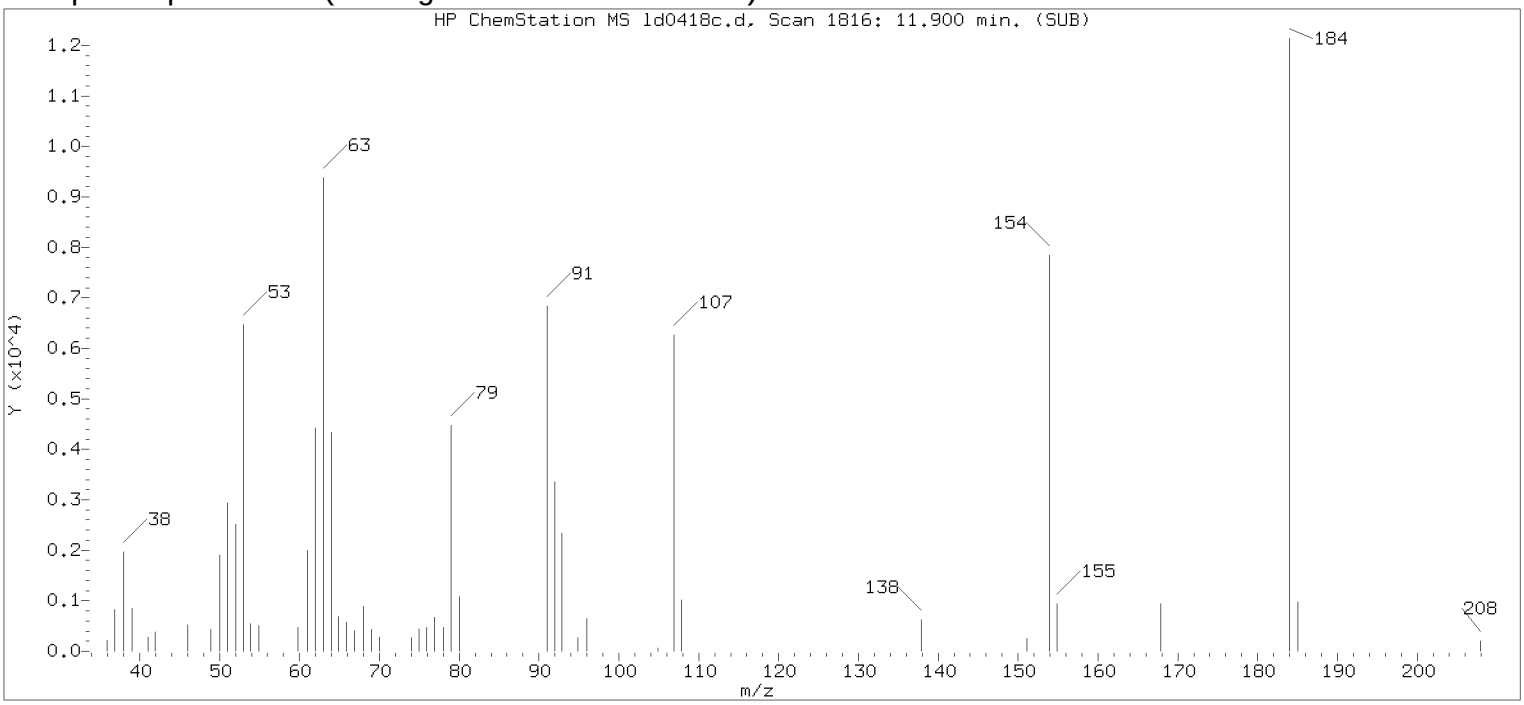
Compound Number : 115
Compound Name : 2,4-Dinitrophenol
Scan Number : 1816
Retention Time (minutes) : 11.900
Quant Ion : 184.00
Area (flag) : 17662M
On-Column Amount (ng/ul) : 1.0425
Integration start scan : 1812 Integration stop scan: 1840
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

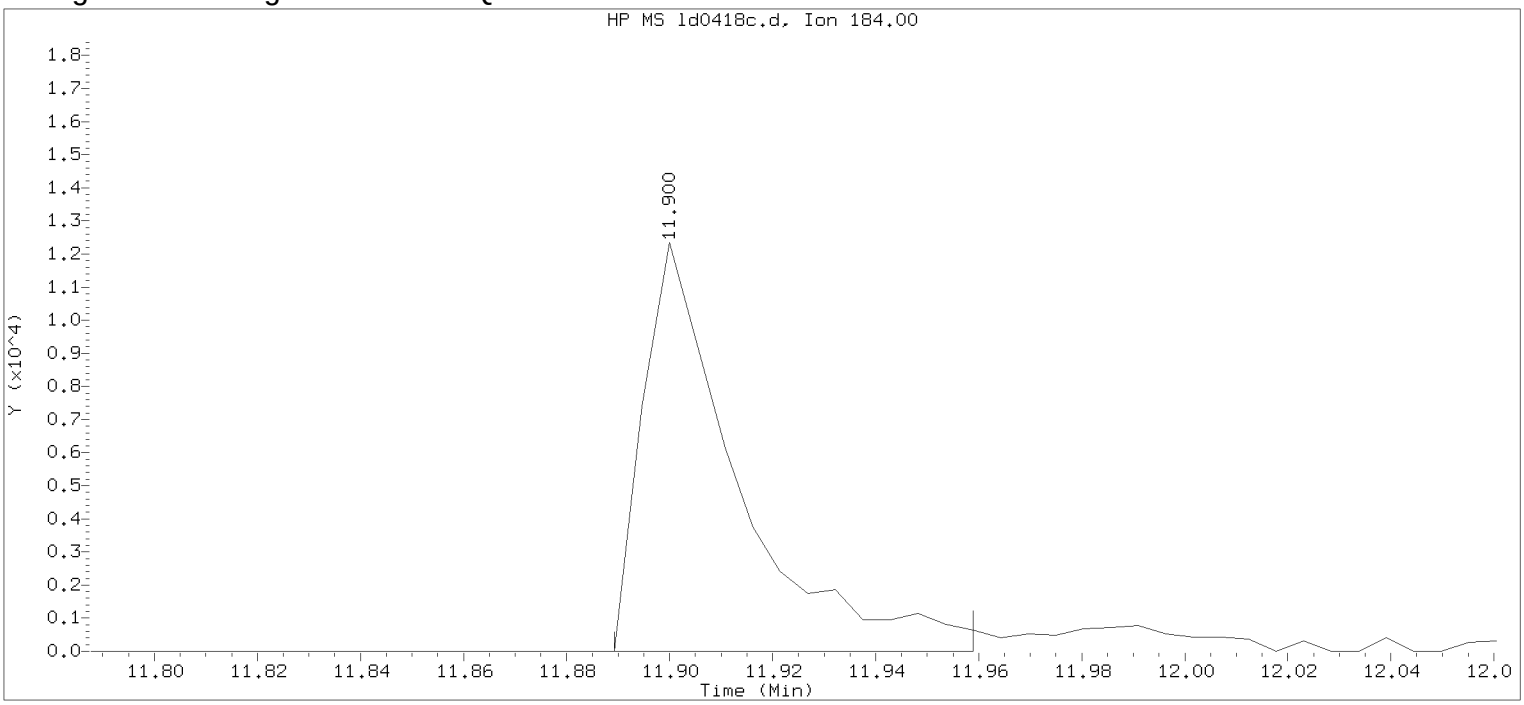
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

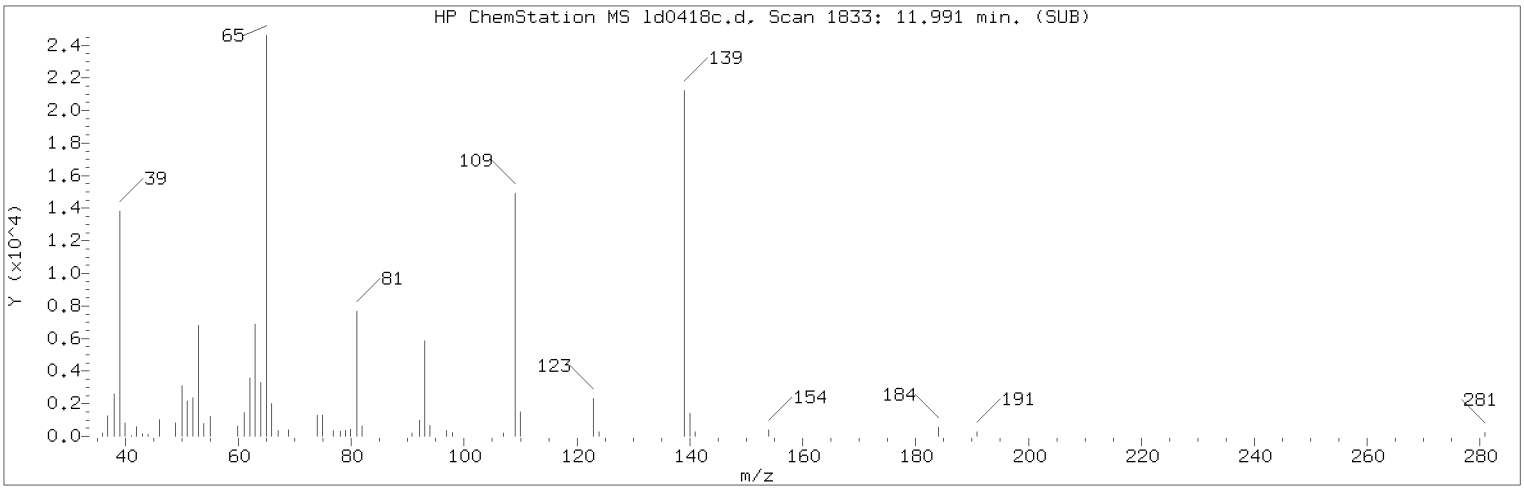
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

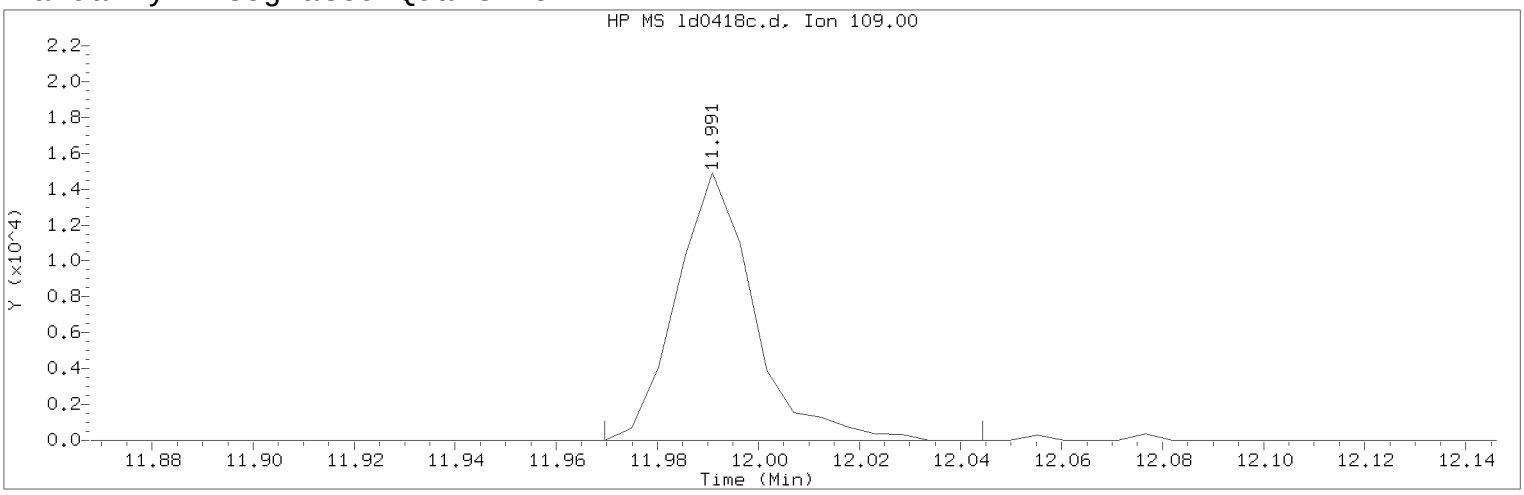
Compound Number : 115
Compound Name : 2,4-Dinitrophenol
Scan Number : 1816
Retention Time (minutes) : 11.900
Quant Ion : 184.00
Area : 15746
On-column Amount (ng/ul) : 0.9295
Integration start scan : 1813 Integration stop scan: 1826
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user id: 1050

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

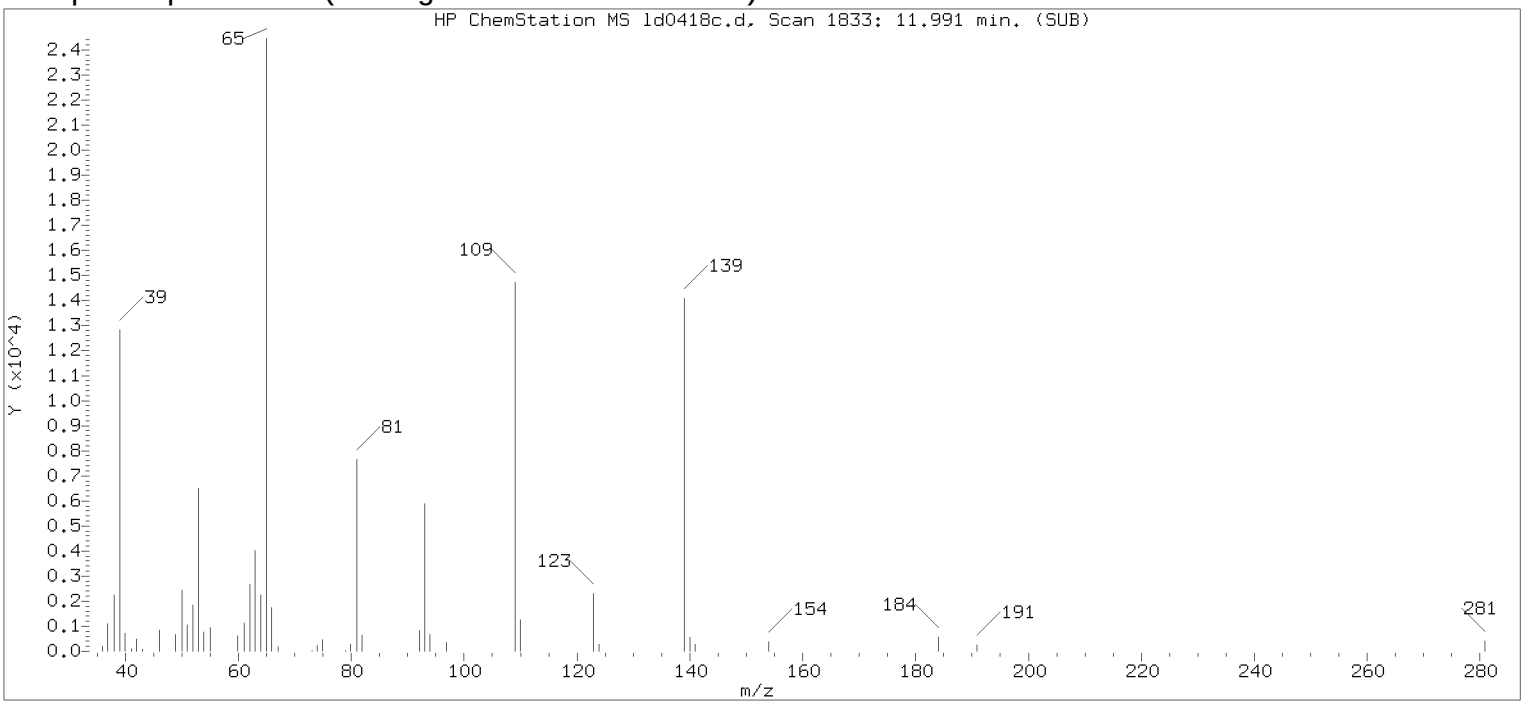
Compound Number : 116
Compound Name : 4-Nitrophenol
Scan Number : 1833
Retention Time (minutes) : 11.991
Quant Ion : 109.00
Area (flag) : 15788M
On-Column Amount (ng/ul) : 0.7543
Integration start scan : 1828 Integration stop scan: 1842
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

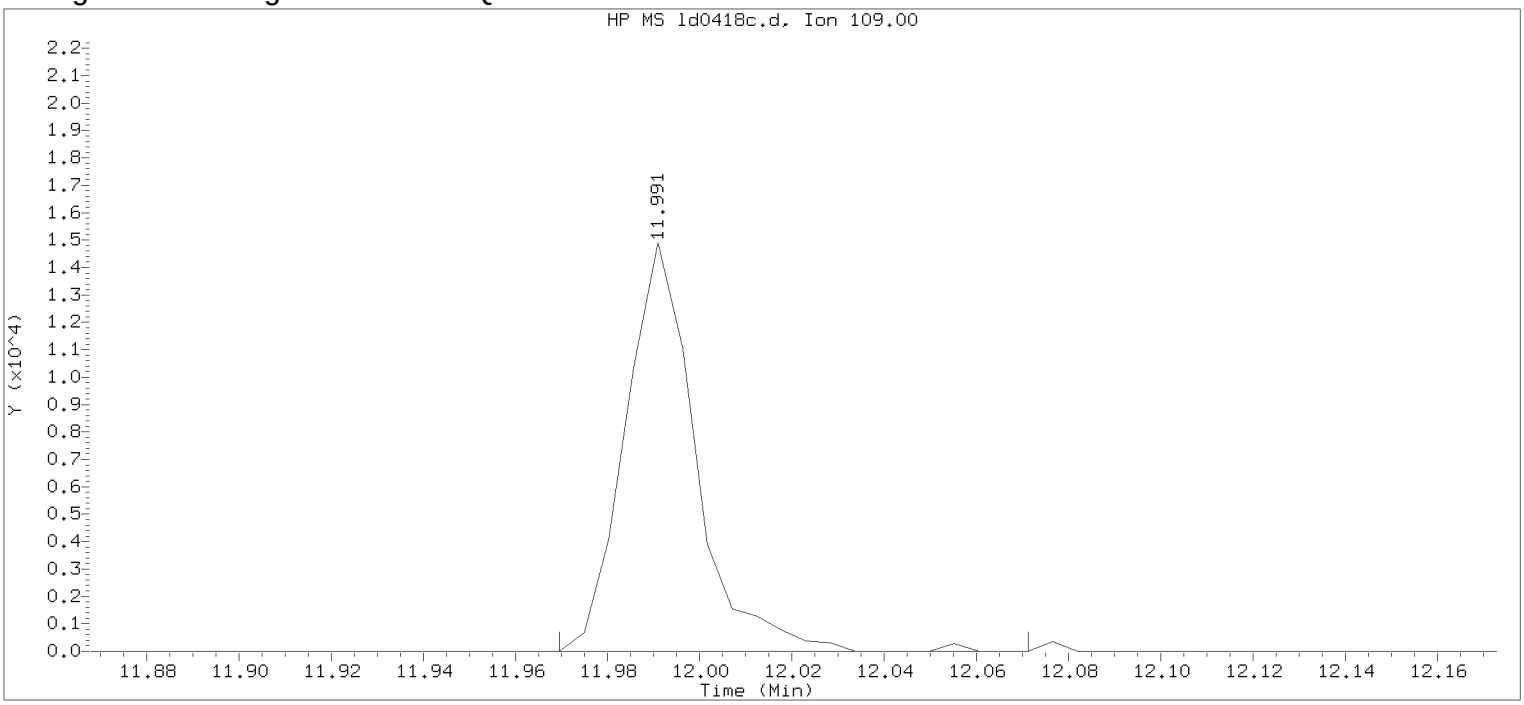
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

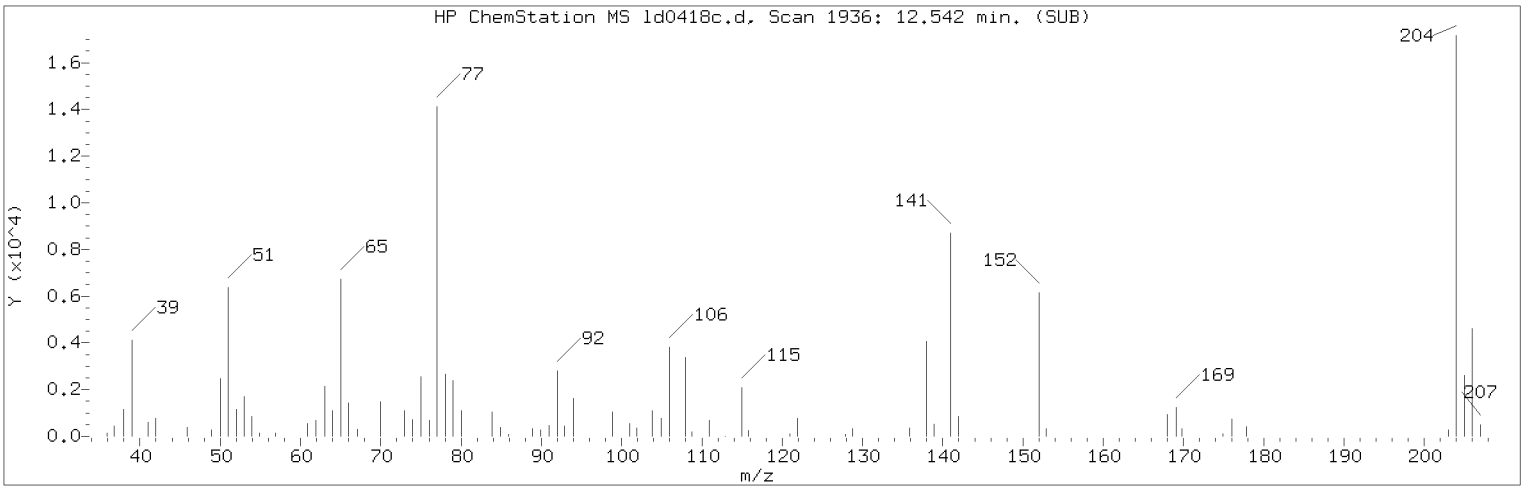
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

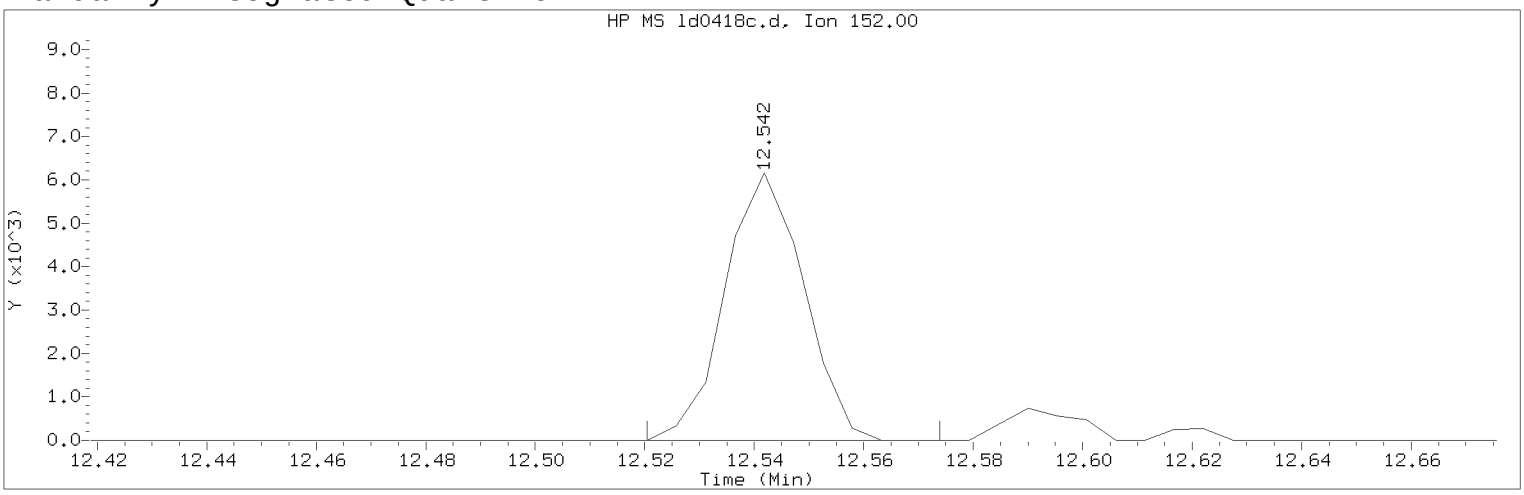
Compound Number : 116
Compound Name : 4-Nitrophenol
Scan Number : 1833
Retention Time (minutes) : 11.991
Quant Ion : 109.00
Area : 15879
On-column Amount (ng/ul) : 0.7587
Integration start scan : 1828 Integration stop scan: 1847
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user id: 1085 hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

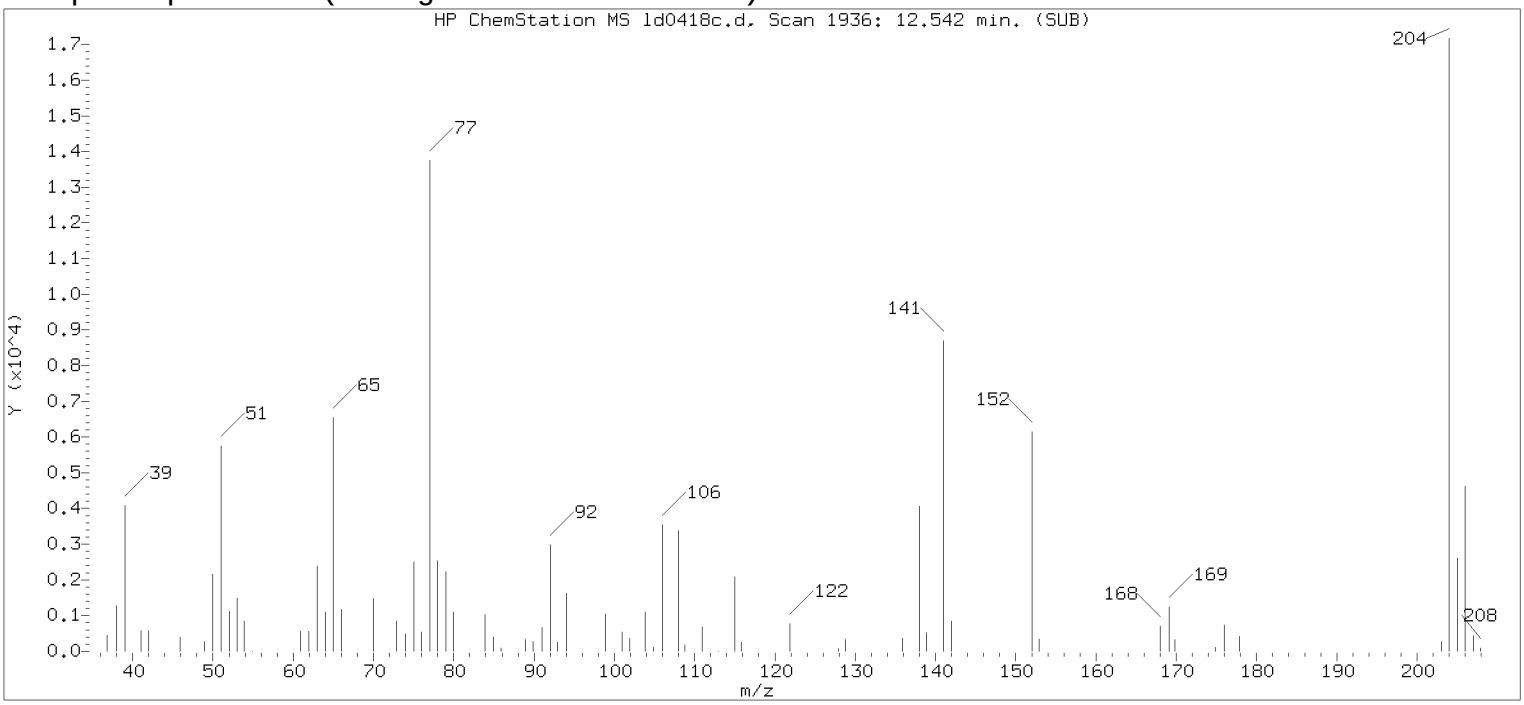
Compound Number : 128
Compound Name : 5-Nitro-o-toluidine
Scan Number : 1936
Retention Time (minutes) : 12.542
Quant Ion : 152.00
Area (flag) : 6151M
On-Column Amount (ng/ul) : 0.1802
Integration start scan : 1931 Integration stop scan: 1941
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

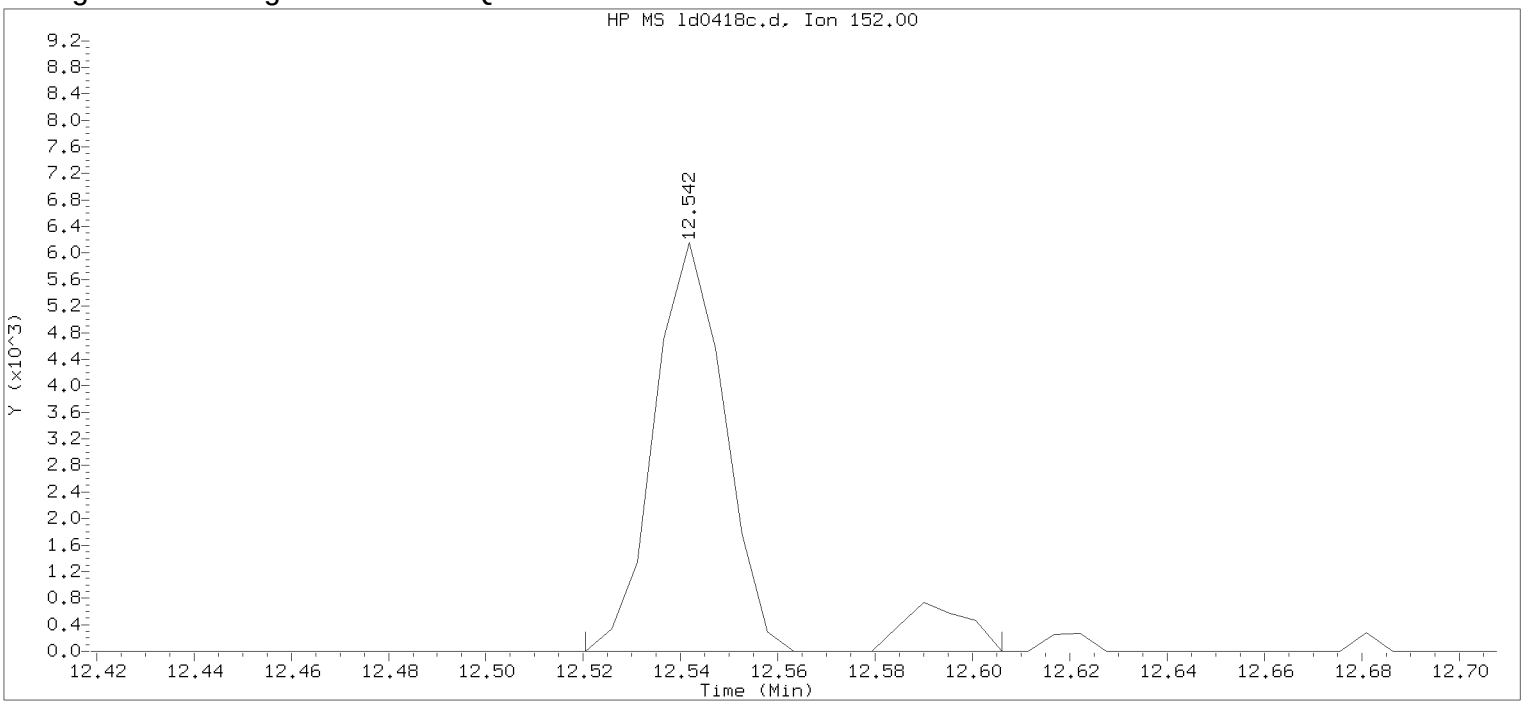
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

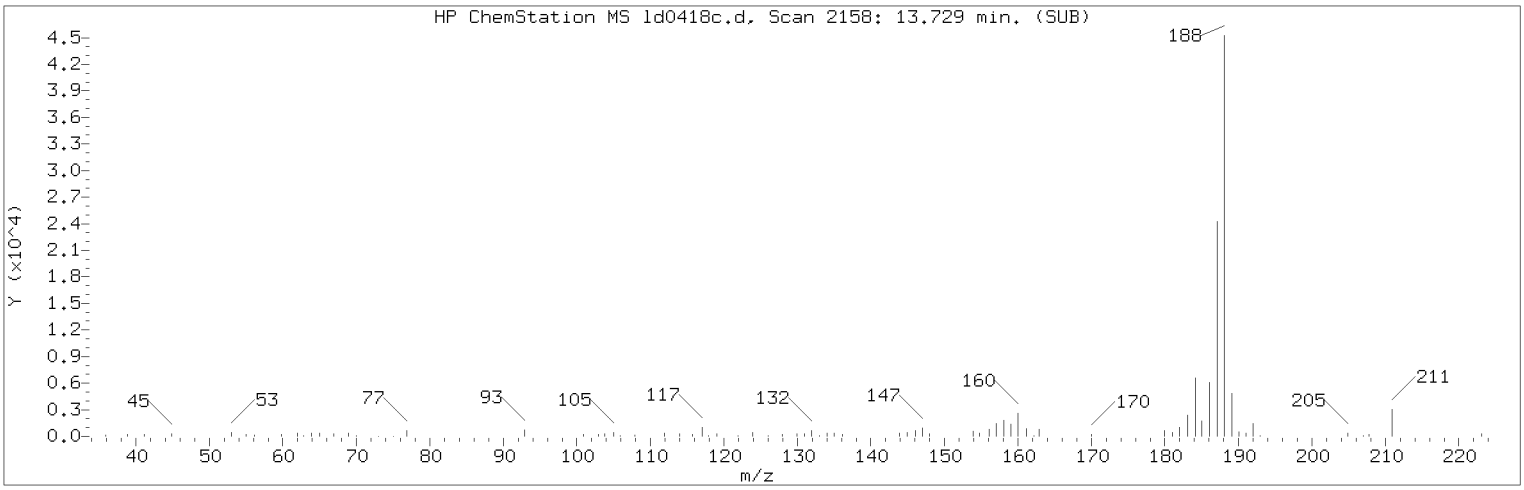
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

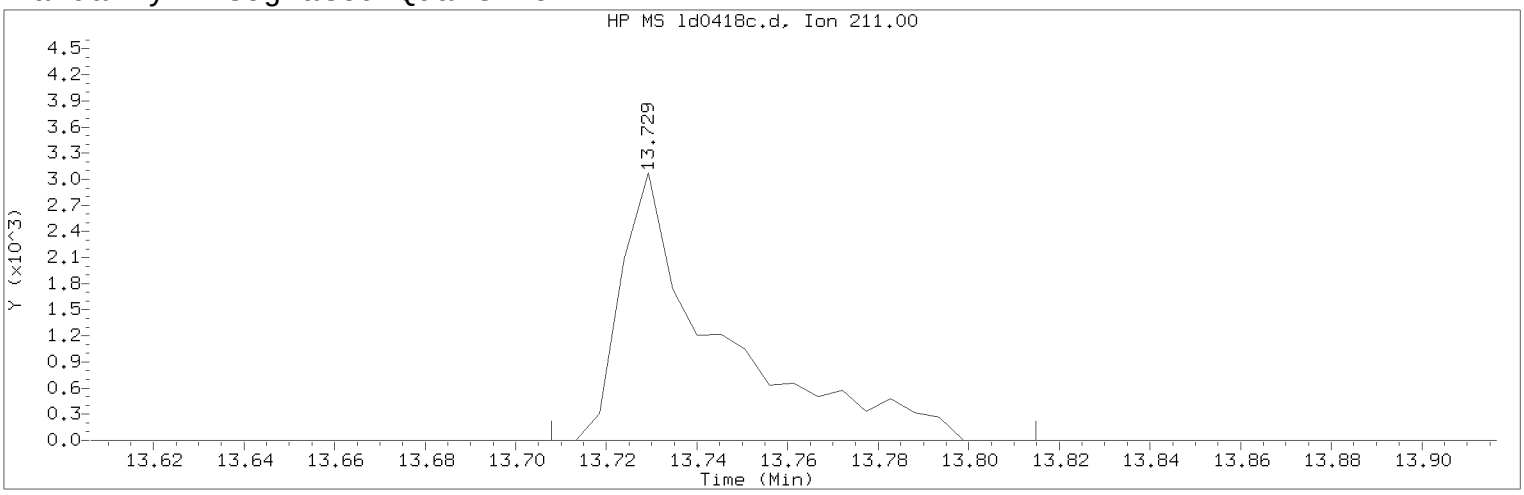
Compound Number : 128
Compound Name : 5-Nitro-o-toluidine
Scan Number : 1936
Retention Time (minutes) : 12.542
Quant Ion : 152.00
Area : 6840
On-column Amount (ng/ul) : 0.1982
Integration start scan : 1931 Integration stop scan: 1947
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user id: 1003

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

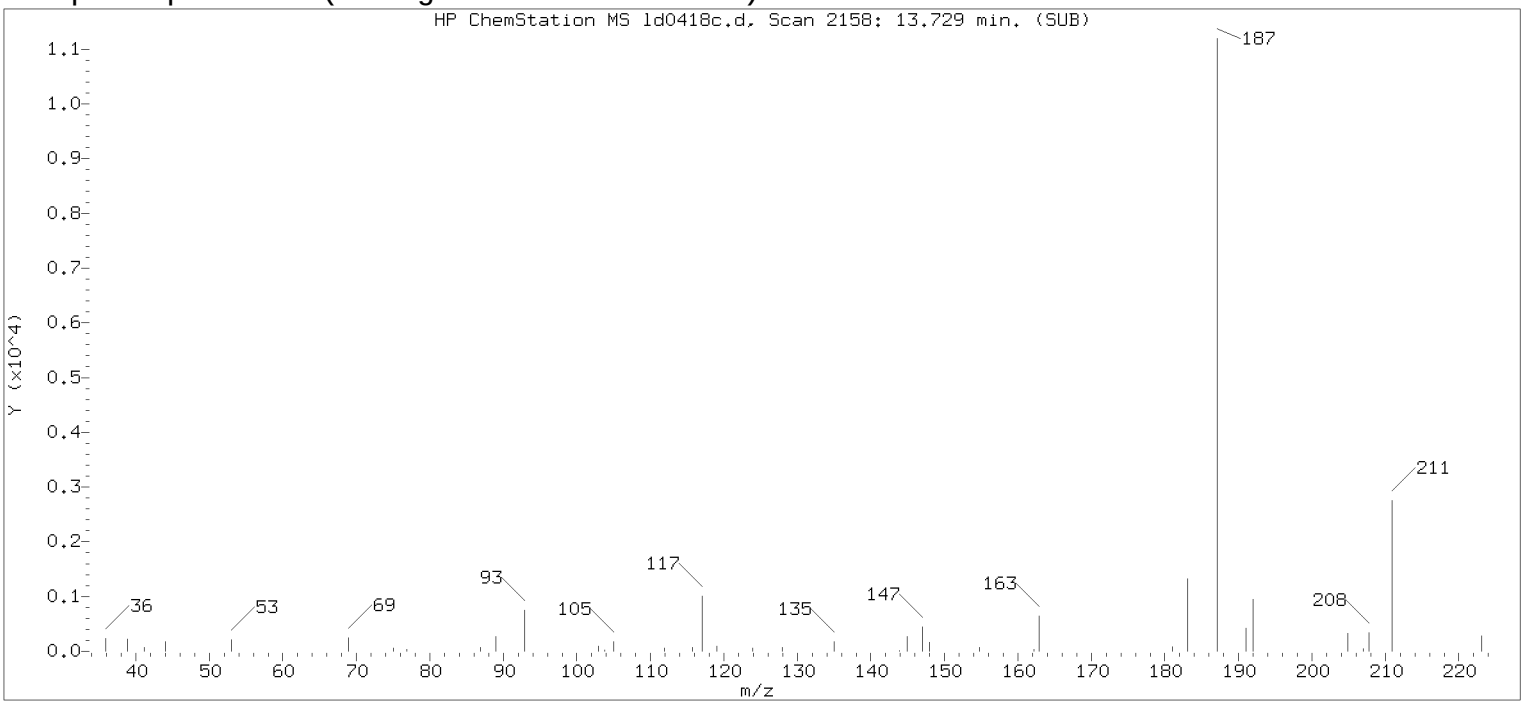
Compound Number : 154
Compound Name : Dinoseb
Scan Number : 2158
Retention Time (minutes) : 13.729
Quant Ion : 211.00
Area (flag) : 4630M
On-Column Amount (ng/ul) : 0.1326
Integration start scan : 2153 Integration stop scan: 2173
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

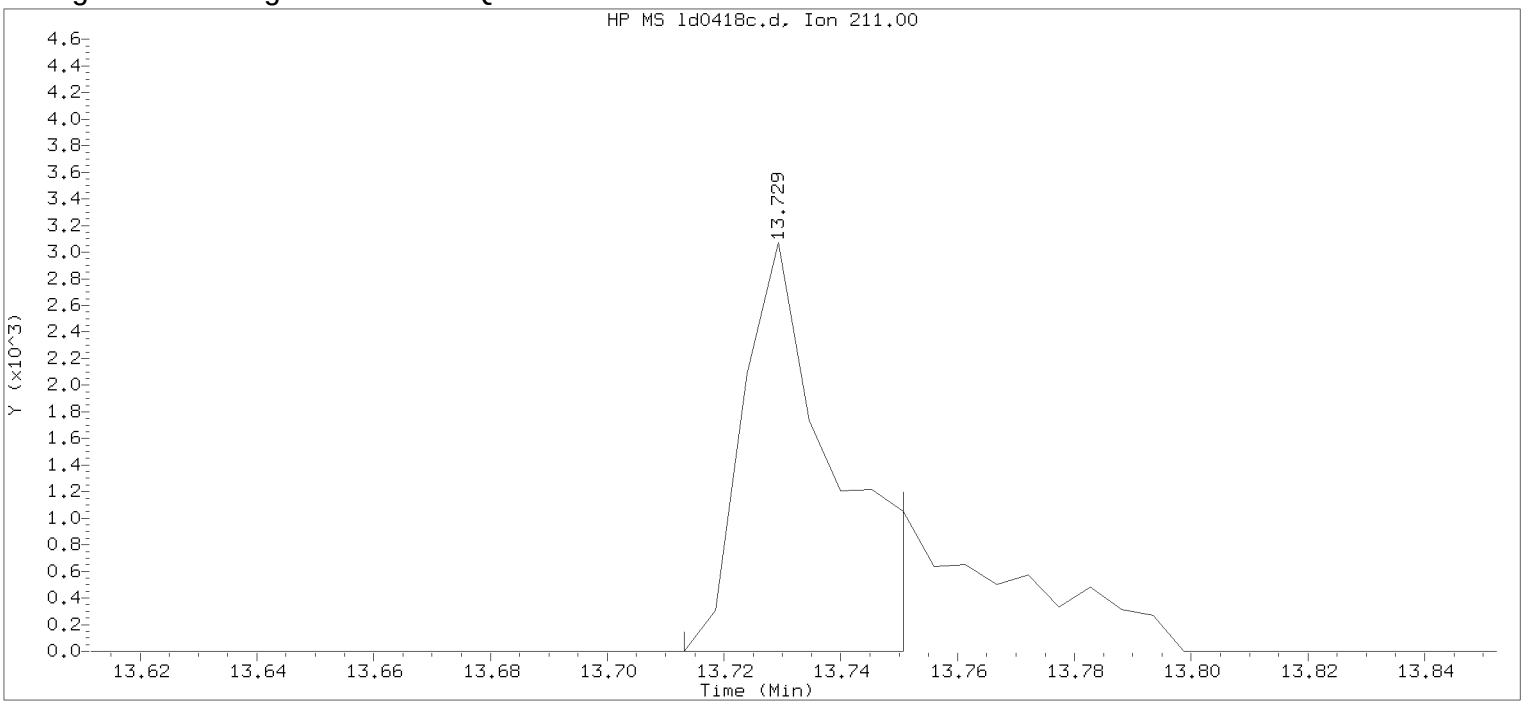
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

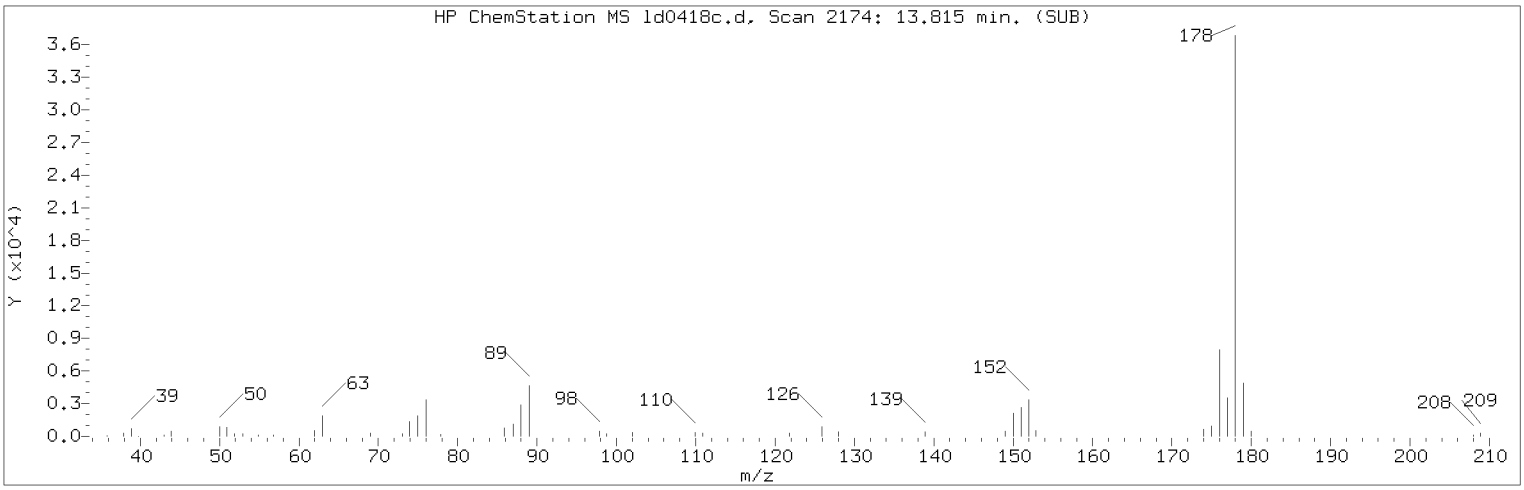
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

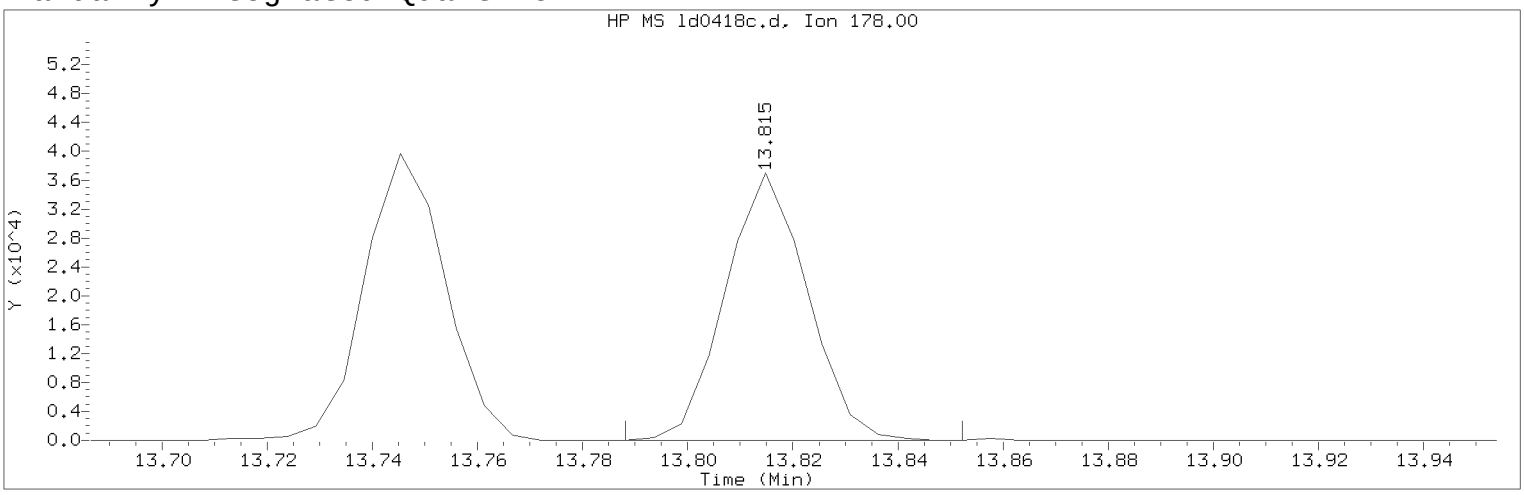
Compound Number : 154
Compound Name : Dinoseb
Scan Number : 2158
Retention Time (minutes) : 13.729
Quant Ion : 211.00
Area : 3256
On-column Amount (ng/ul) : 0.0933
Integration start scan : 2154 Integration stop scan: 2161
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user id: 1003

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

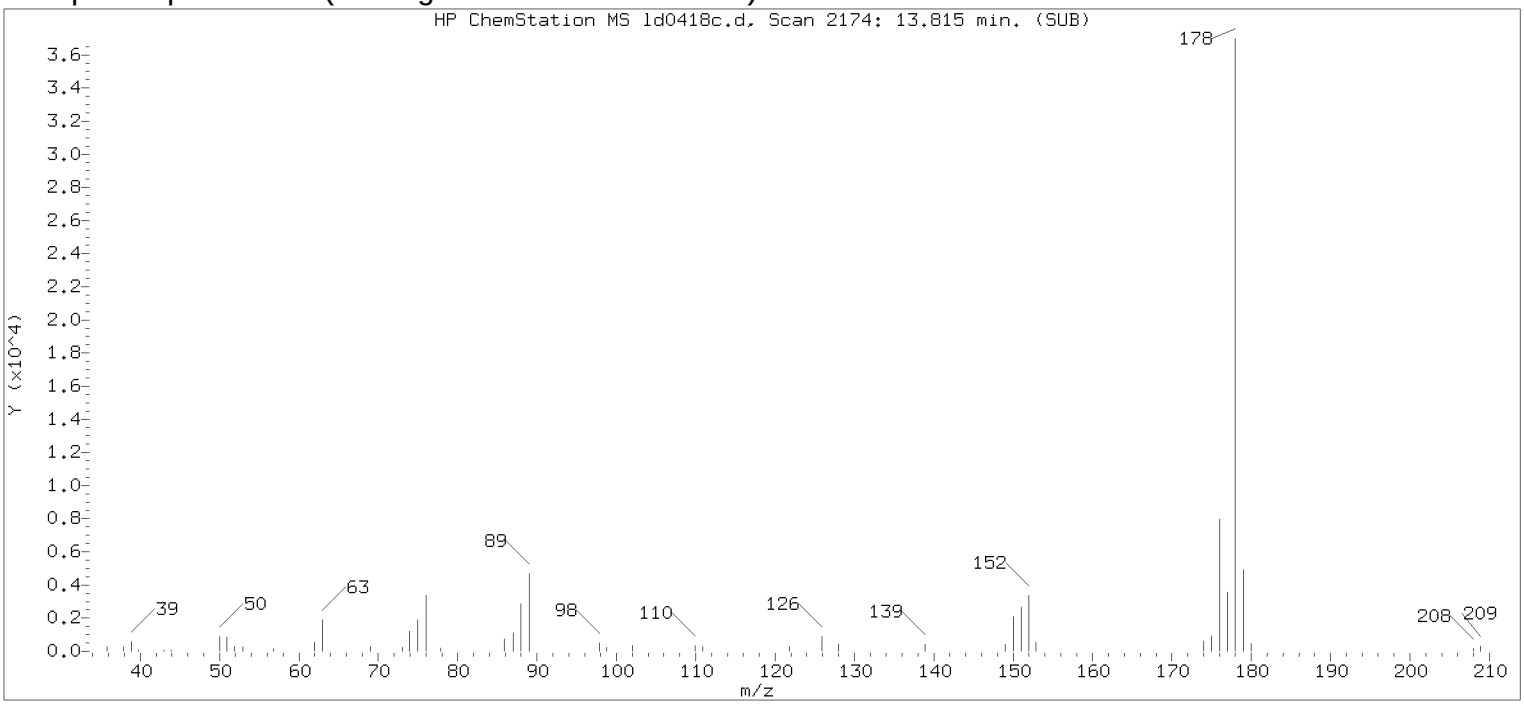
Compound Number : 157
Compound Name : Anthracene
Scan Number : 2174
Retention Time (minutes) : 13.815
Quant Ion : 178.00
Area (flag) : 40005M
On-Column Amount (ng/ul) : 0.2150
Integration start scan : 2168 Integration stop scan: 2180
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

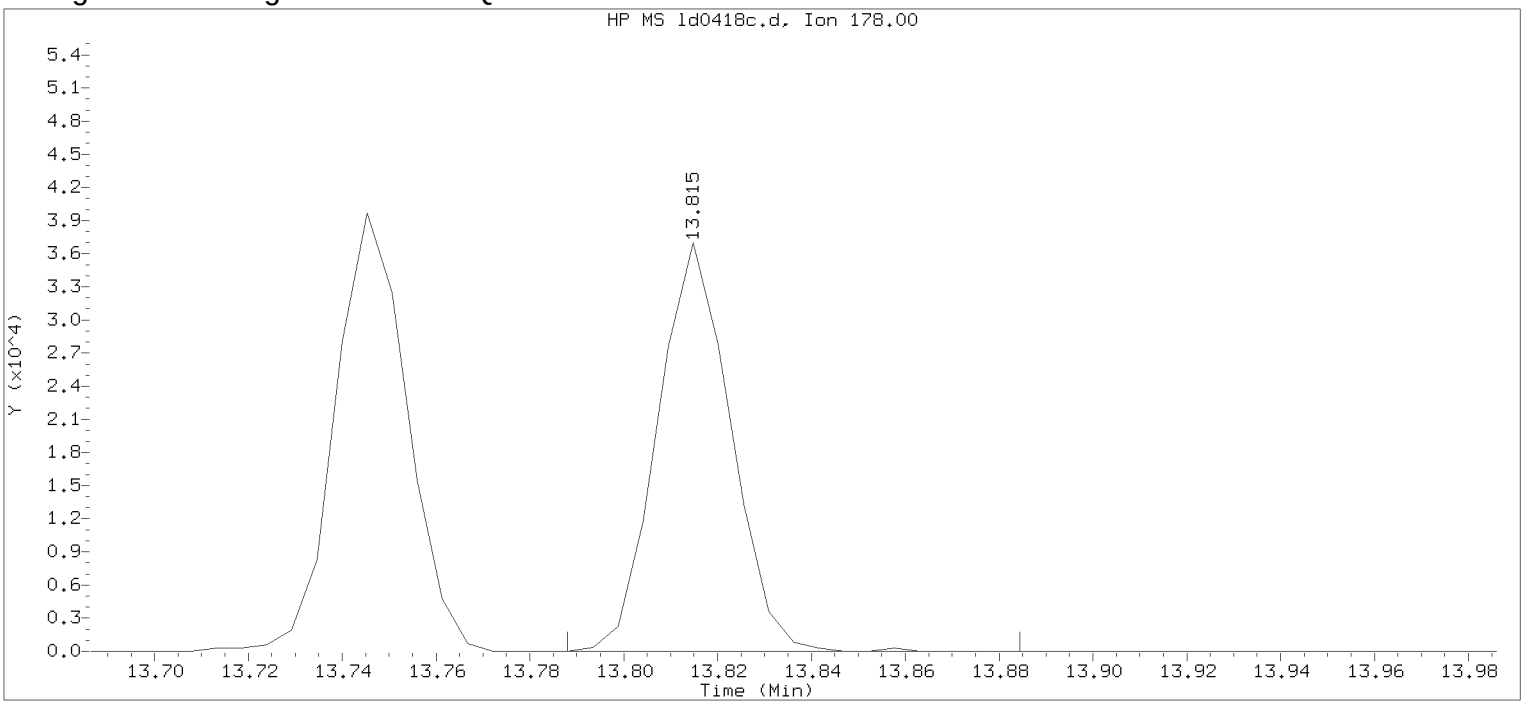
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

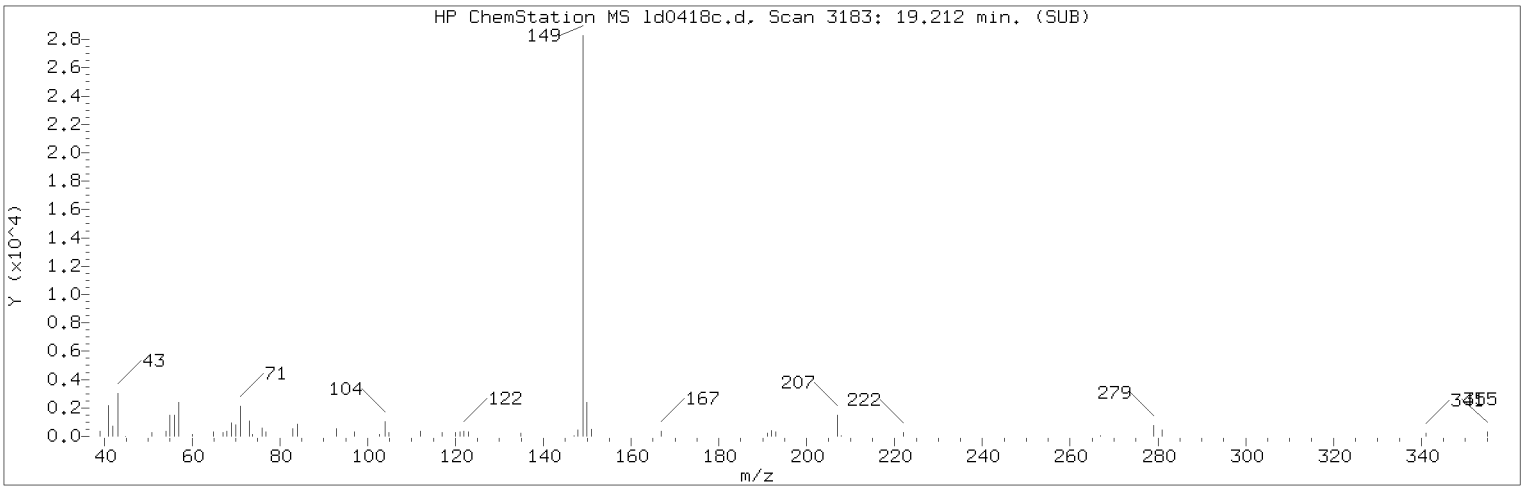
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

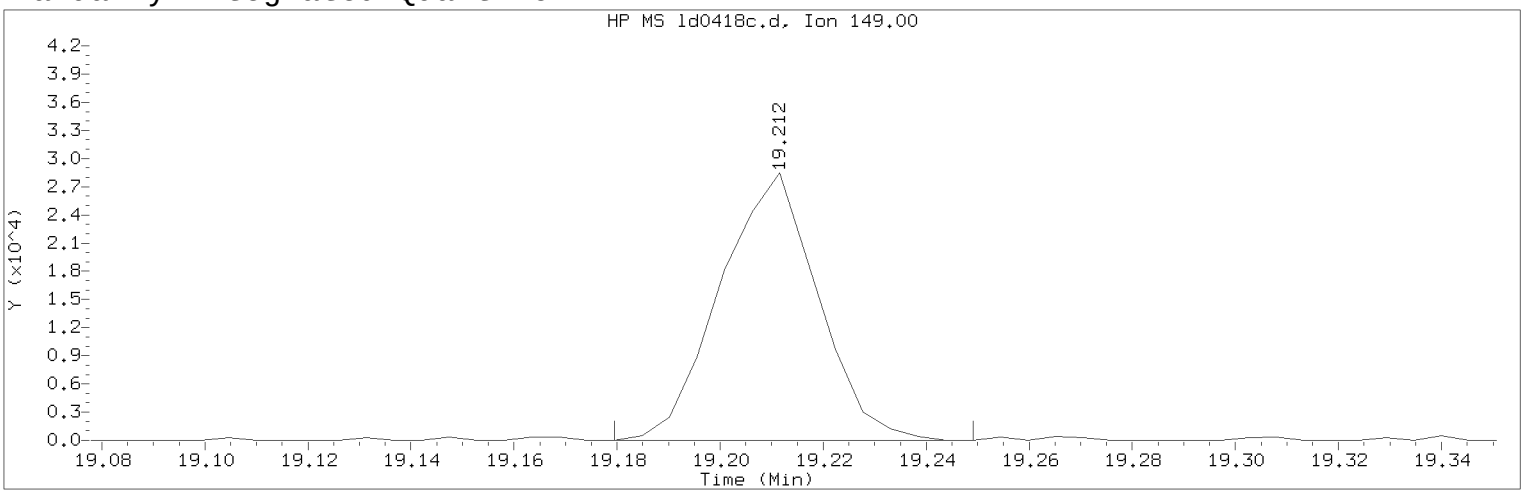
Compound Number : 157
Compound Name : Anthracene
Scan Number : 2174
Retention Time (minutes) : 13.815
Quant Ion : 178.00
Area : 40094
On-column Amount (ng/ul) : 0.2154
Integration start scan : 2168 Integration stop scan: 2186
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user id: 1003

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

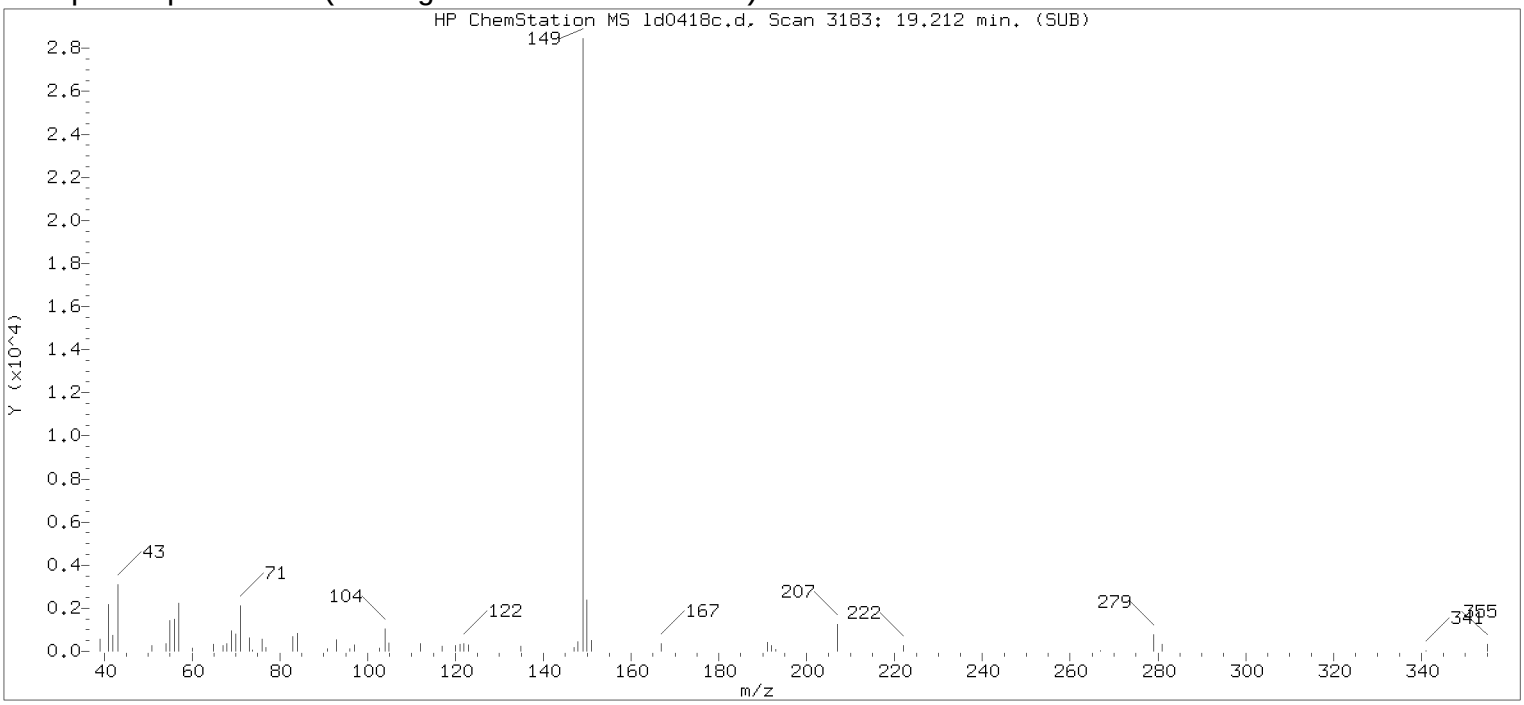
Compound Number : 205
Compound Name : Di-n-octylphthalate
Scan Number : 3183
Retention Time (minutes) : 19.212
Quant Ion : 149.00
Area (flag) : 37249M
On-Column Amount (ng/ul) : 0.1554
Integration start scan : 3176 Integration stop scan: 3189
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

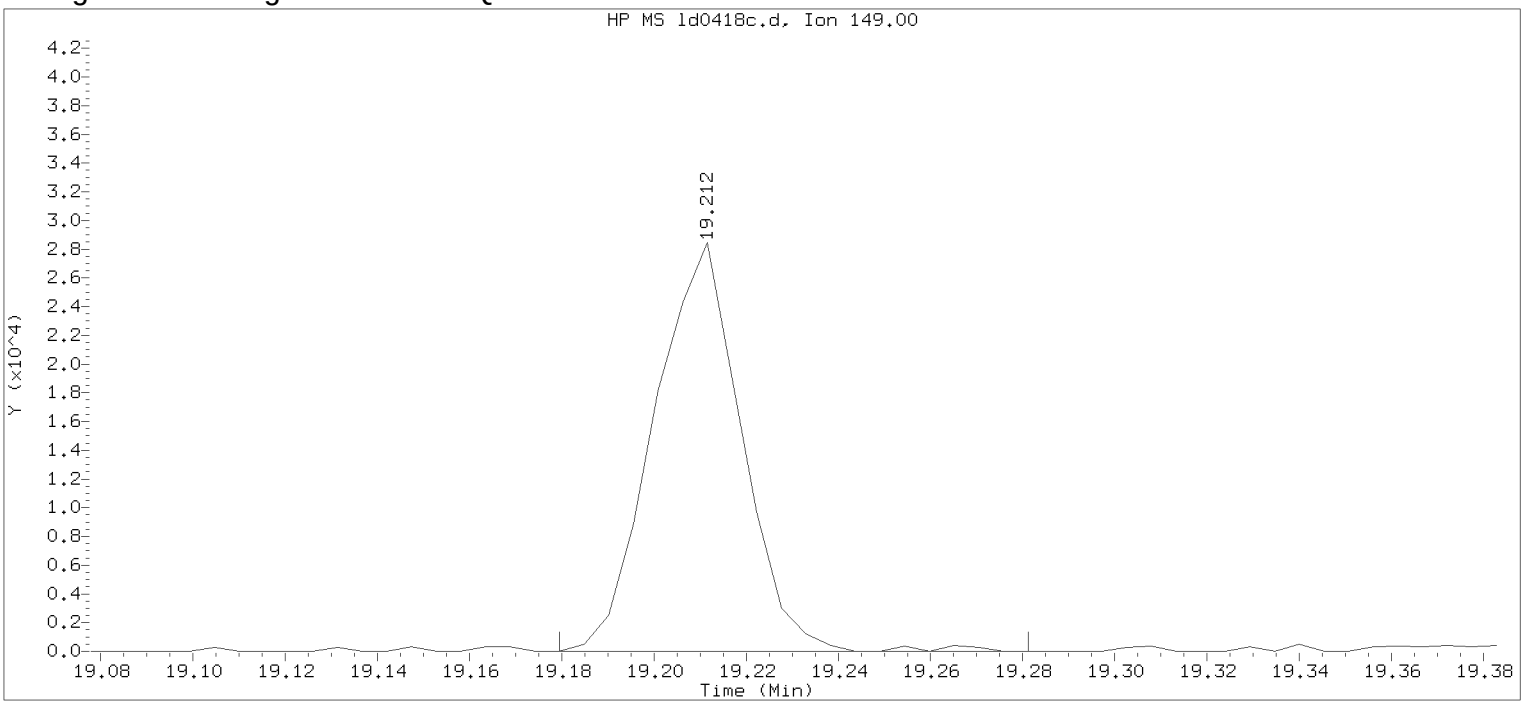
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

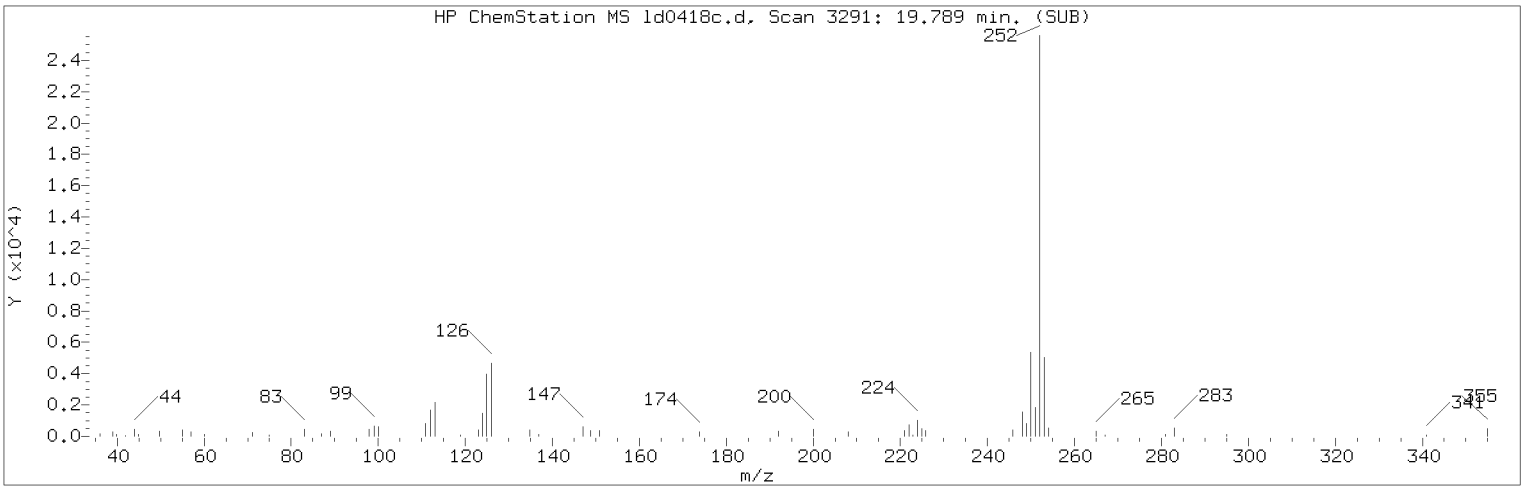
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

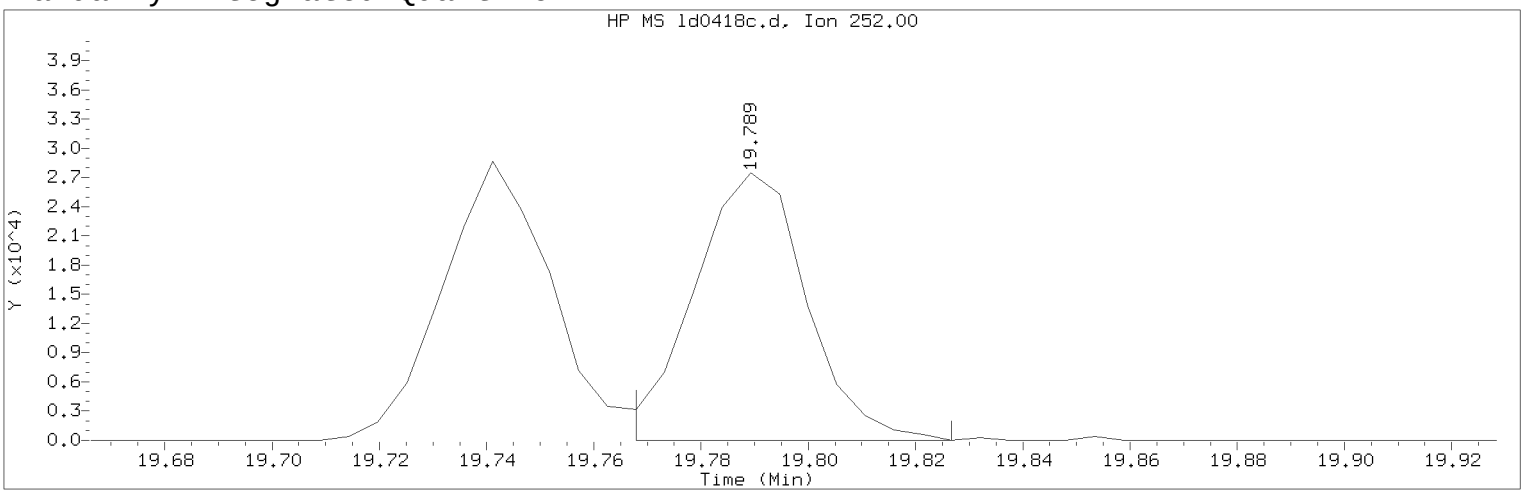
Compound Number : 205
Compound Name : Di-n-octylphthalate
Scan Number : 3183
Retention Time (minutes) : 19.212
Quant Ion : 149.00
Area : 37574
On-column Amount (ng/ul) : 0.1568
Integration start scan : 3176 Integration stop scan: 3195
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user id: 1085 hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

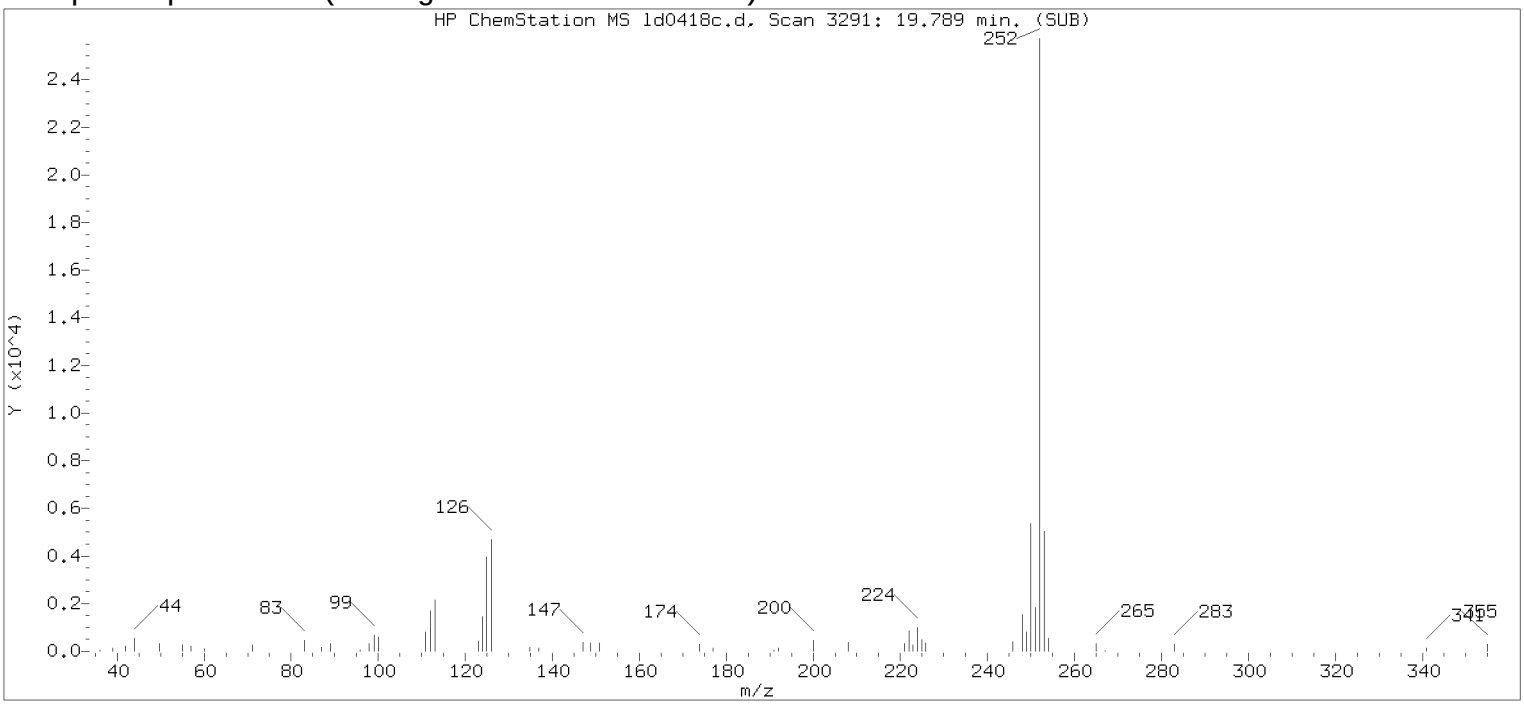
Compound Number : 208
Compound Name : Benzo(k)fluoranthene
Scan Number : 3291
Retention Time (minutes) : 19.789
Quant Ion : 252.00
Area (flag) : 40363M
On-Column Amount (ng/ul) : 0.2259
Integration start scan : 3286 Integration stop scan: 3297
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

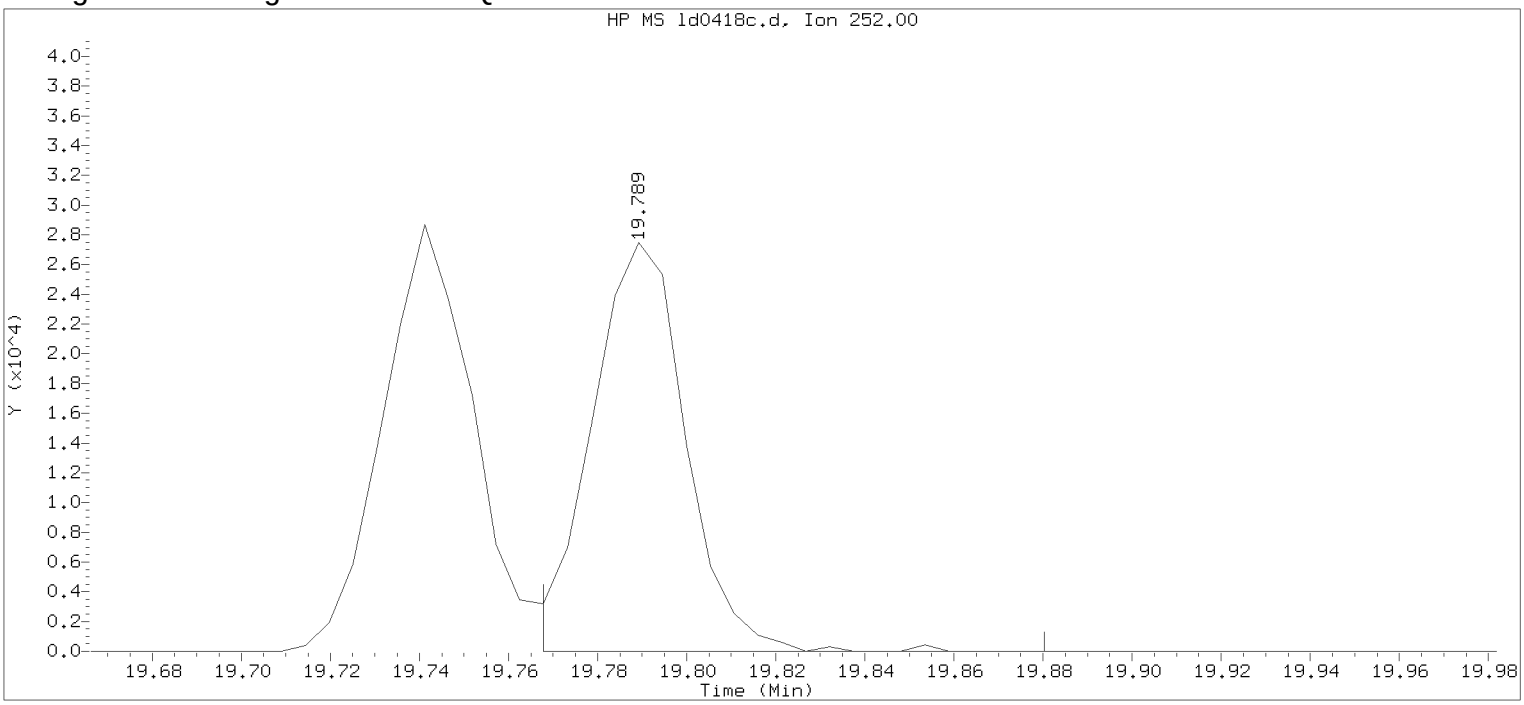
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

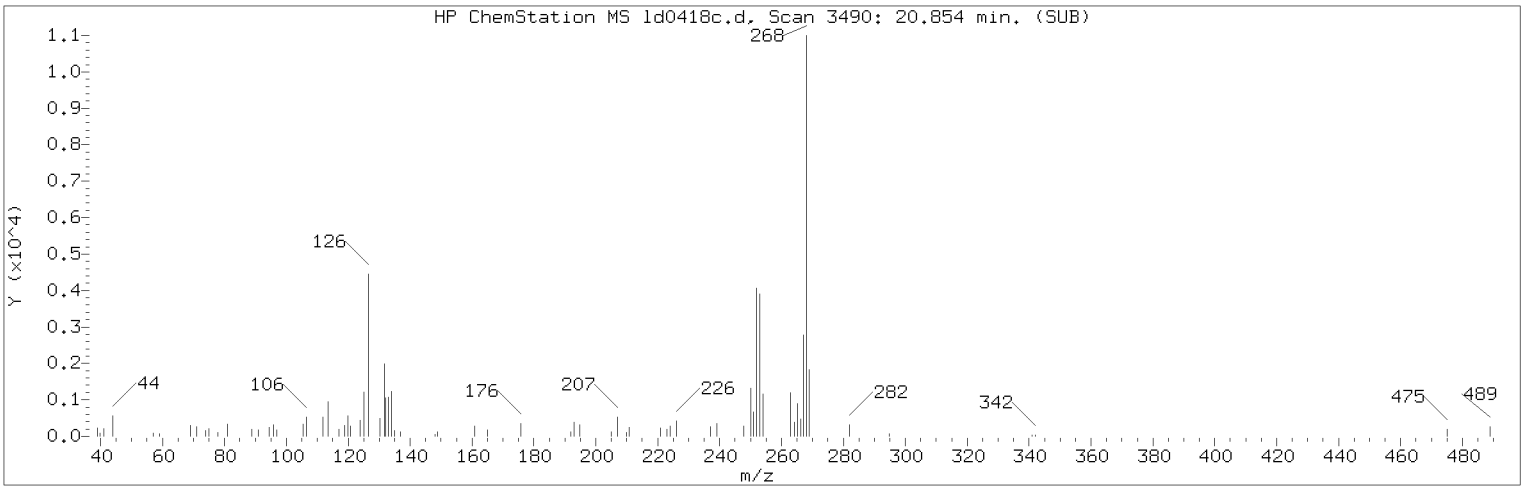
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

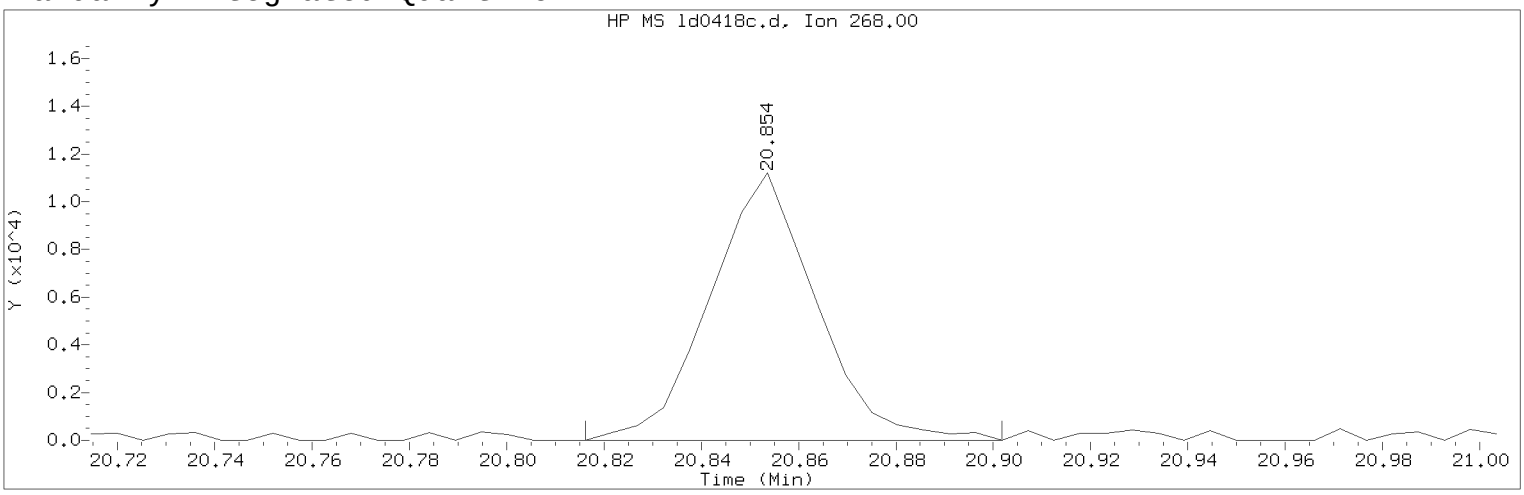
Compound Number : 208
Compound Name : Benzo(k)fluoranthene
Scan Number : 3291
Retention Time (minutes) : 19.789
Quant Ion : 252.00
Area : 40079
On-column Amount (ng/ul) : 0.2245
Integration start scan : 3286 Integration stop scan: 3307
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user id: 1085 hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

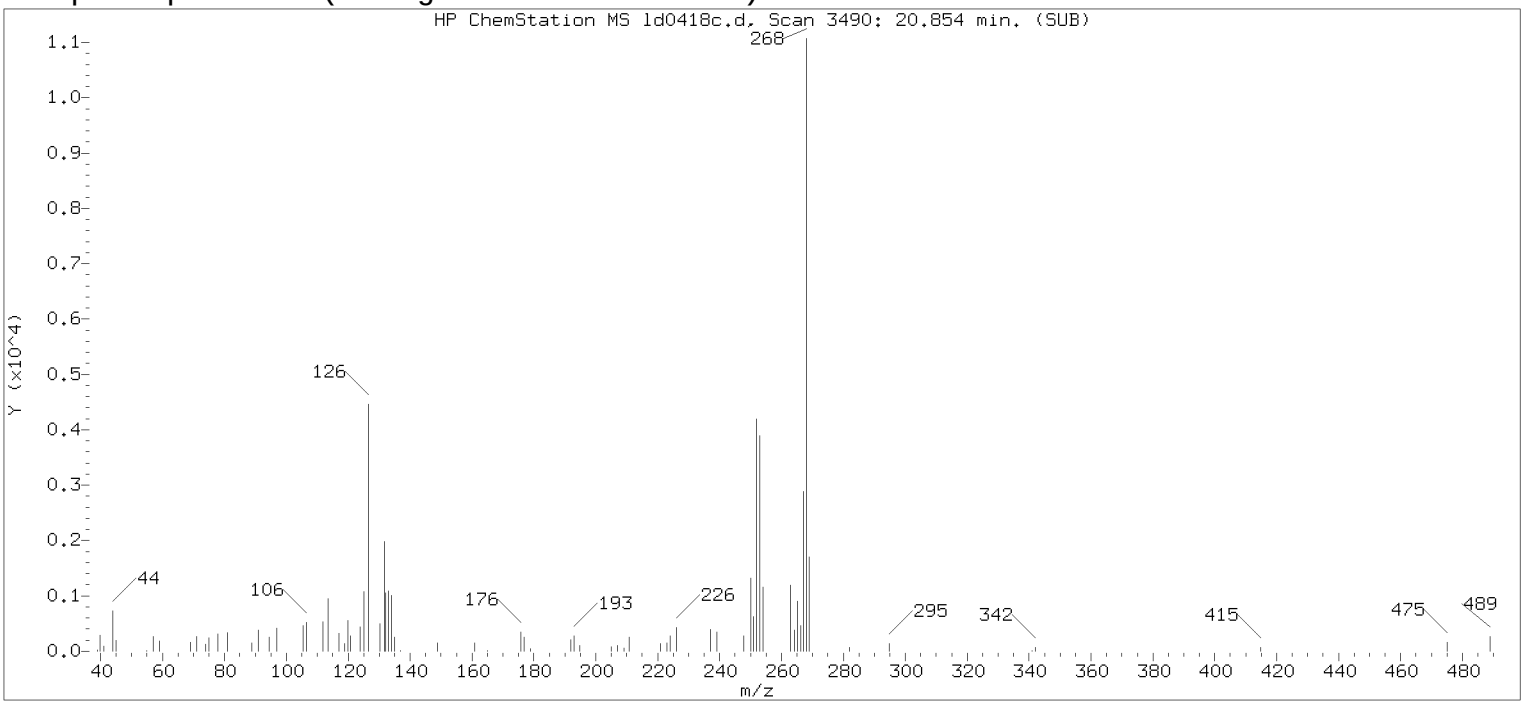
Compound Number : 215
Compound Name : 3-Methylcholanthrene
Scan Number : 3490
Retention Time (minutes) : 20.854
Quant Ion : 268.00
Area (flag) : 16952M
On-Column Amount (ng/ul) : 0.2085
Integration start scan : 3482 Integration stop scan: 3498
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

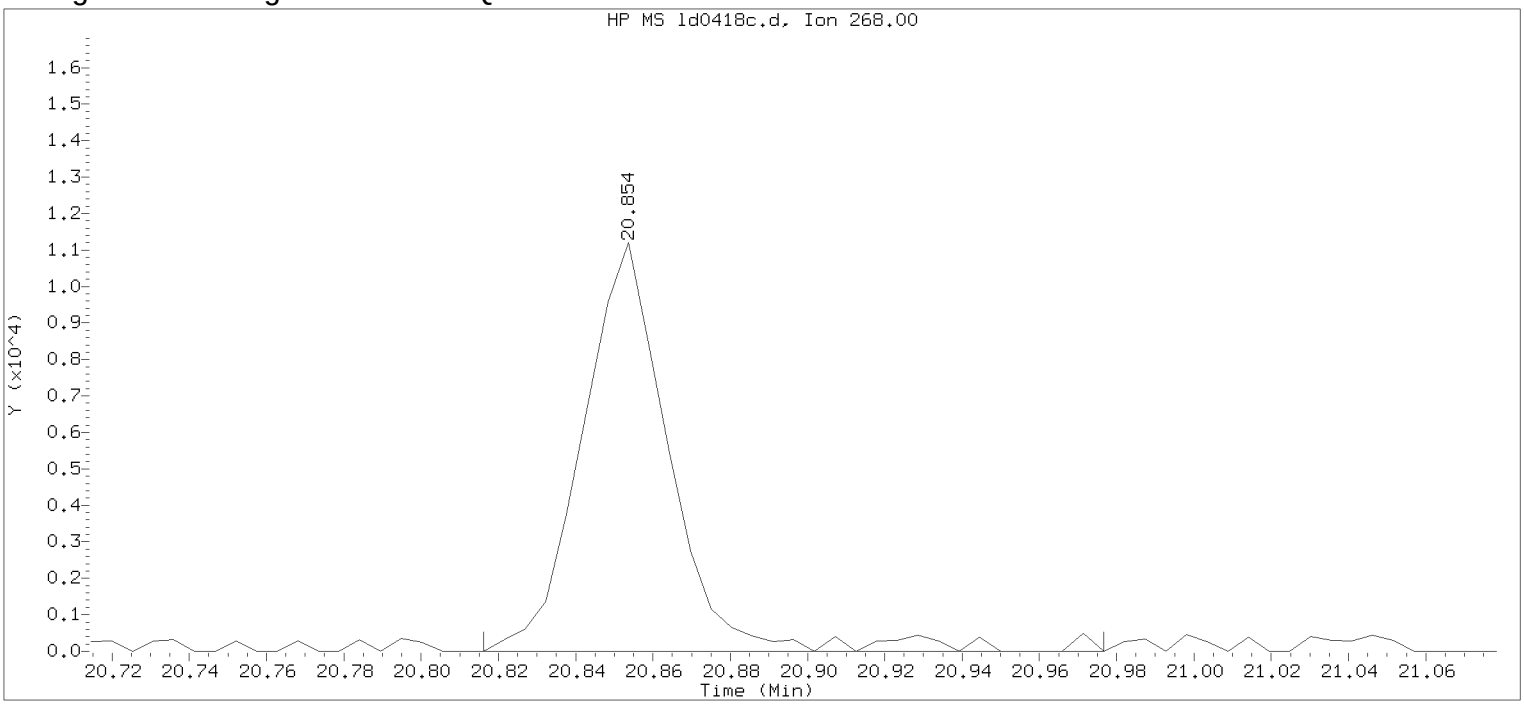
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54. Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

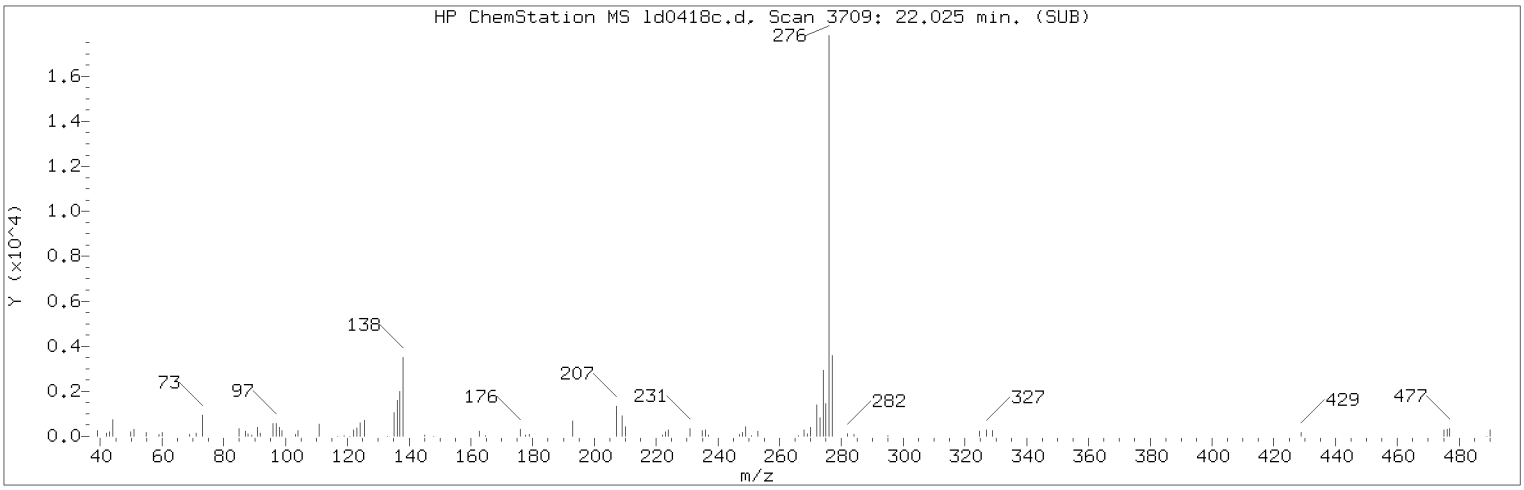
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

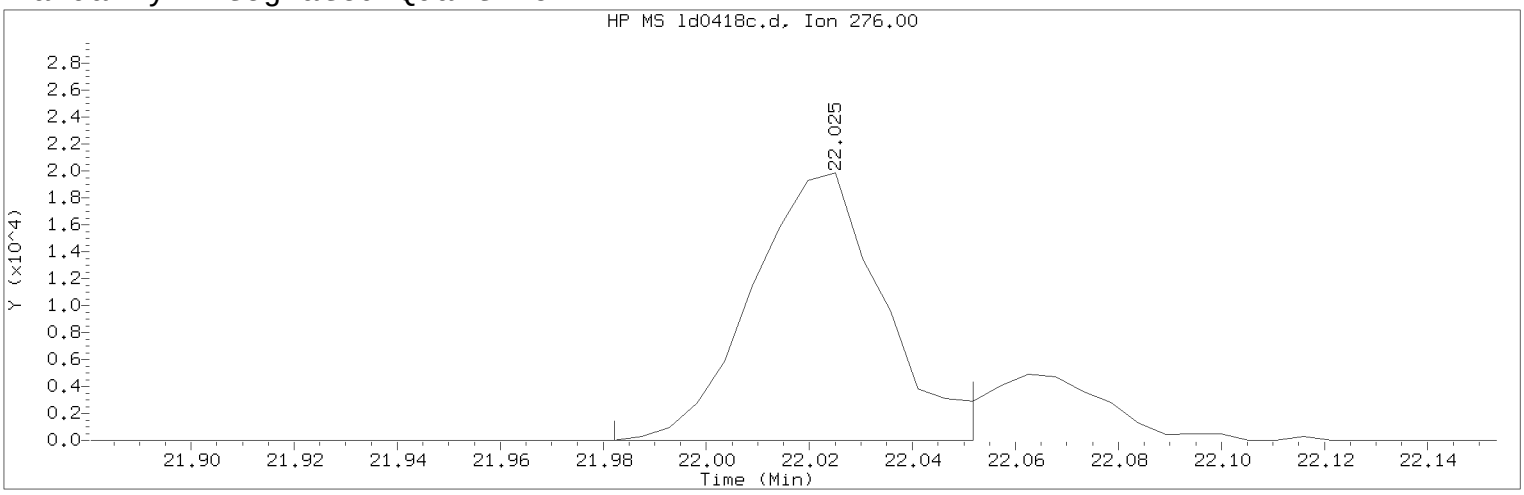
Compound Number : 215
Compound Name : 3-Methylcholanthrene
Scan Number : 3490
Retention Time (minutes) : 20.854
Quant Ion : 268.00
Area : 17784
On-column Amount (ng/ul) : 0.2175
Integration start scan : 3482 Integration stop scan: 3512
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user id: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

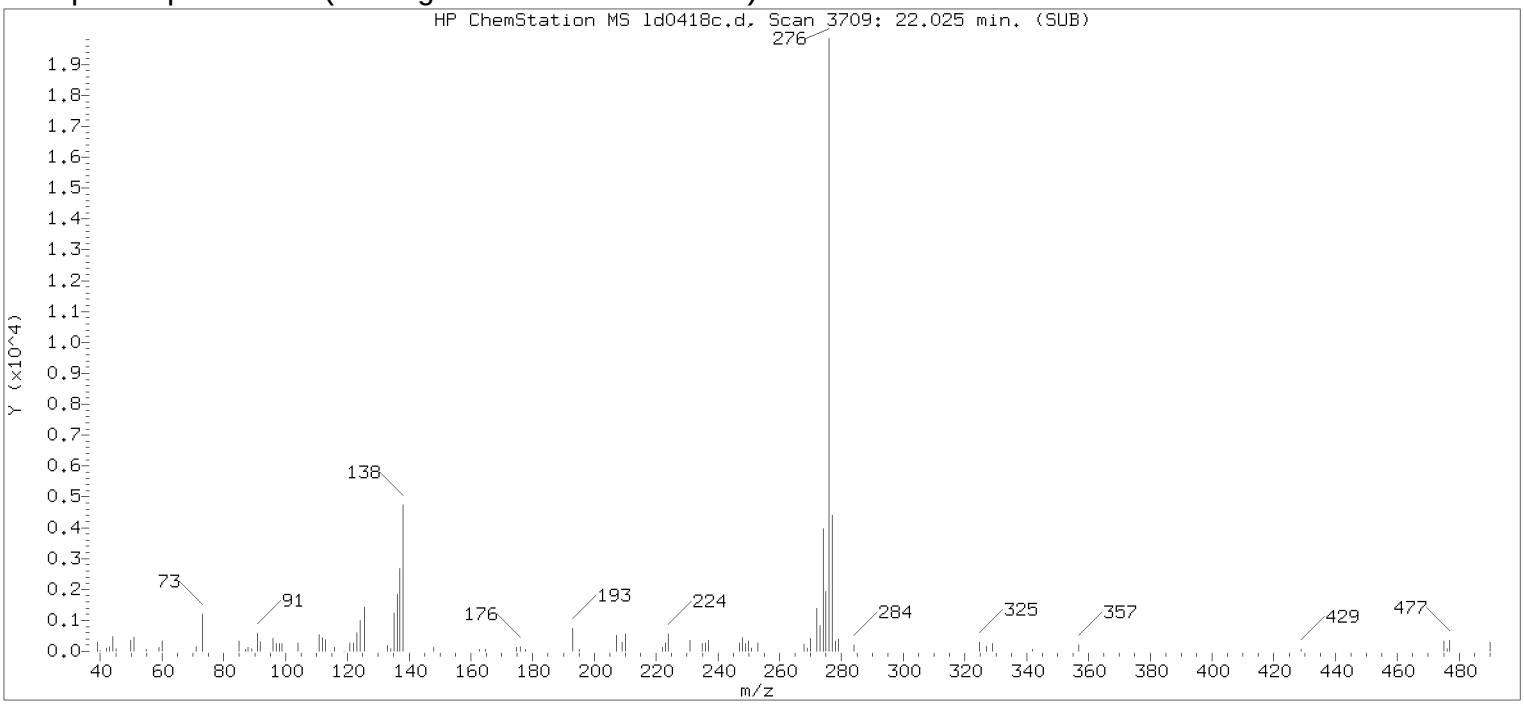
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3709
Retention Time (minutes) : 22.025
Quant Ion : 276.00
Area (flag) : 35016M
On-Column Amount (ng/ul) : 0.2192
Integration start scan : 3700 Integration stop scan: 3713
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

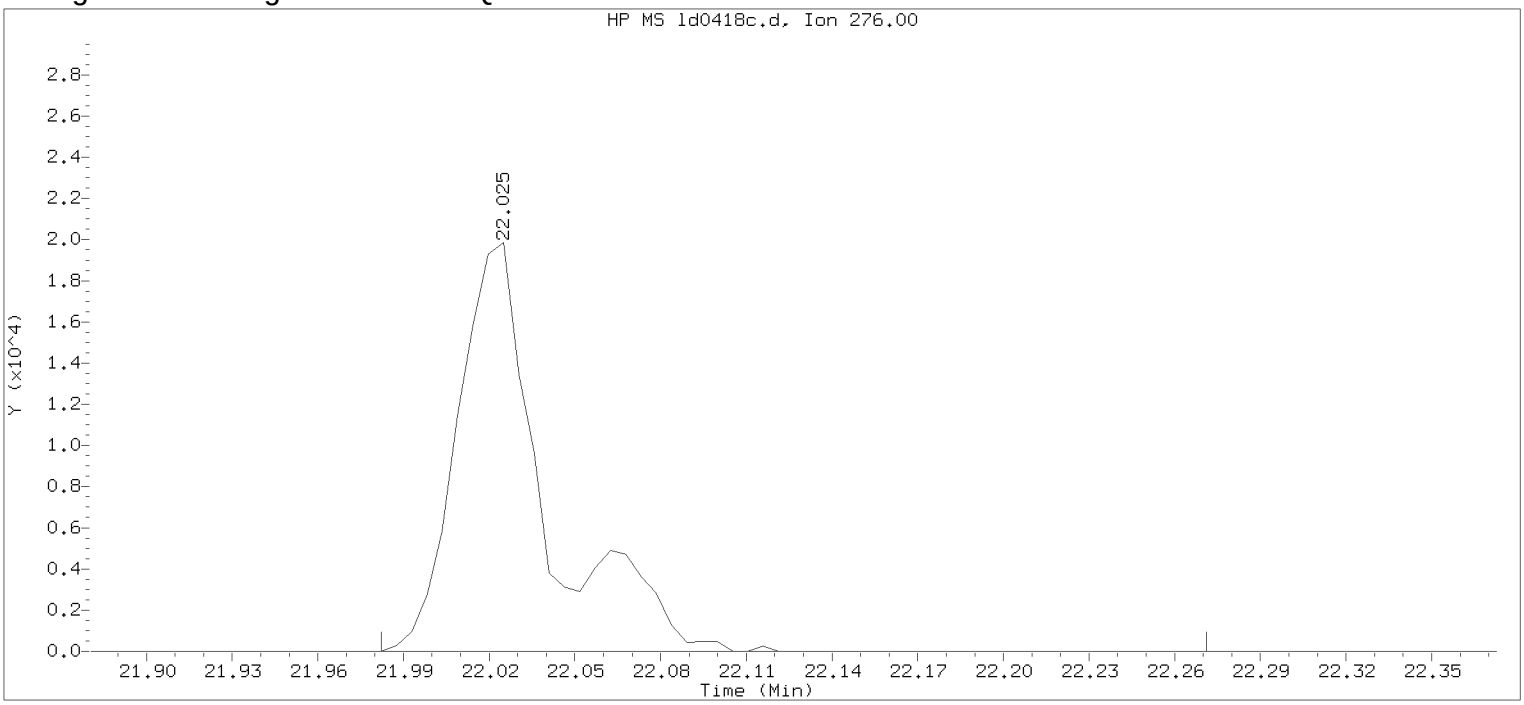
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

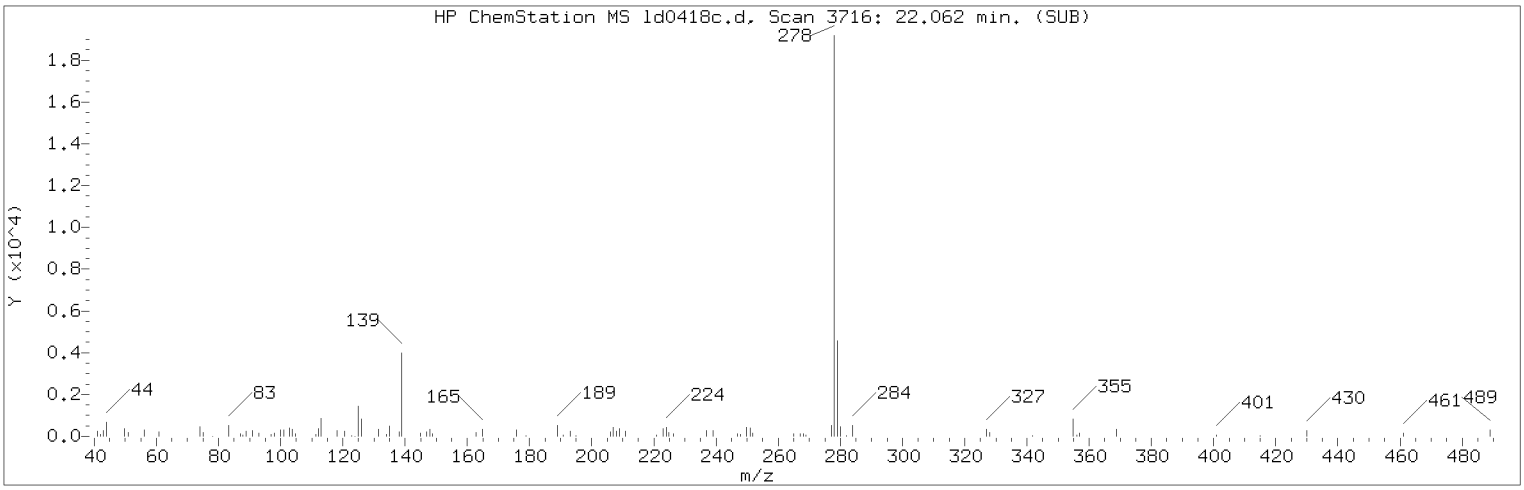
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

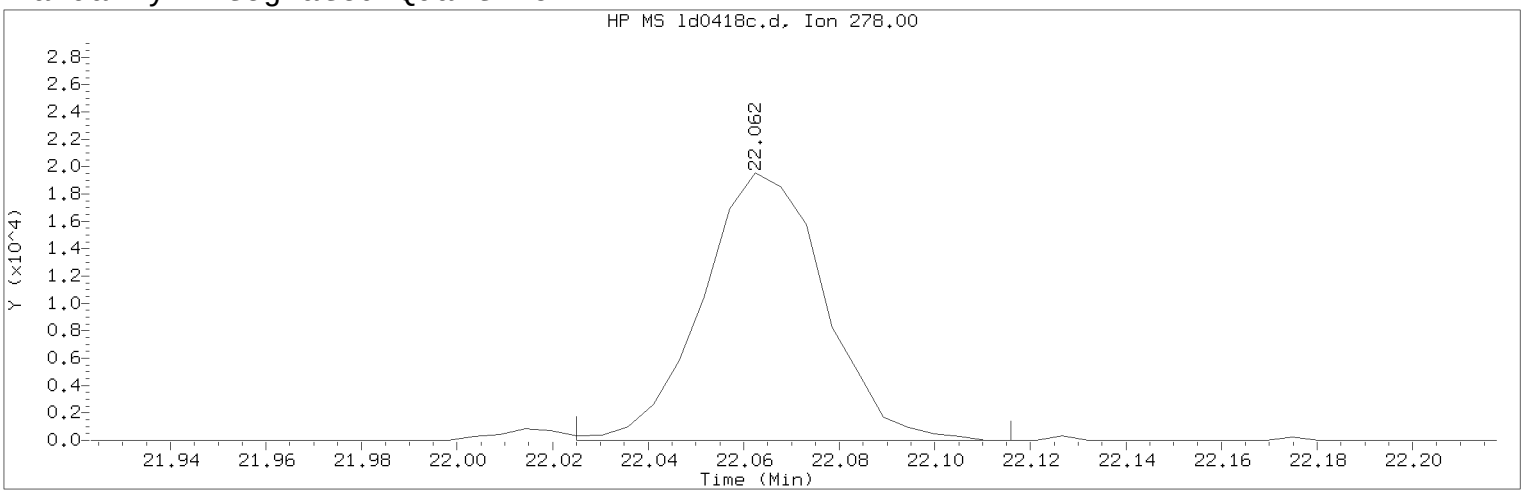
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3709
Retention Time (minutes) : 22.025
Quant Ion : 276.00
Area : 42411
On-column Amount (ng/ul) : 0.2172
Integration start scan : 3700 Integration stop scan: 3754
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user id: 1085 hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

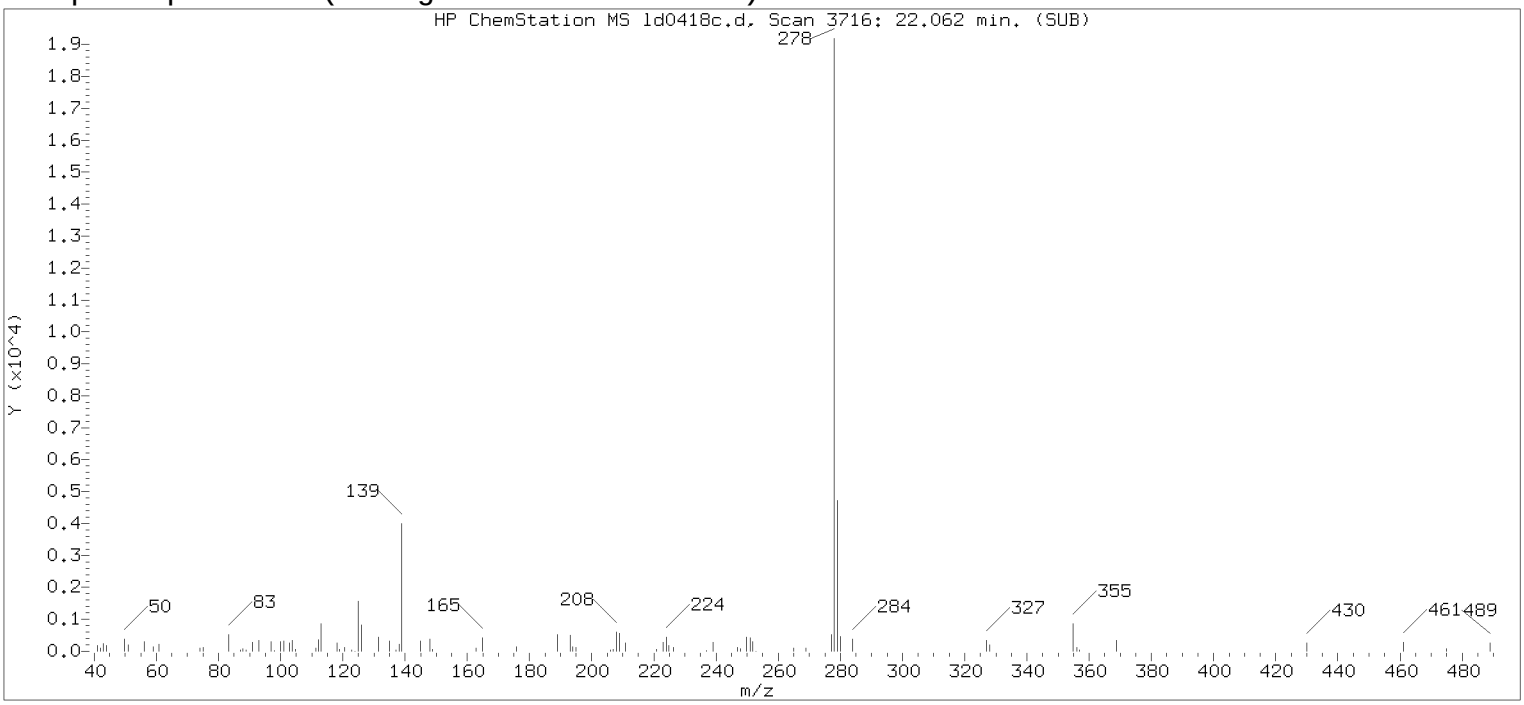
Compound Number : 220
Compound Name : Dibenz(a,h)anthracene
Scan Number : 3716
Retention Time (minutes) : 22.062
Quant Ion : 278.00
Area (flag) : 34653M
On-Column Amount (ng/ul) : 0.2143
Integration start scan : 3708 Integration stop scan: 3725
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

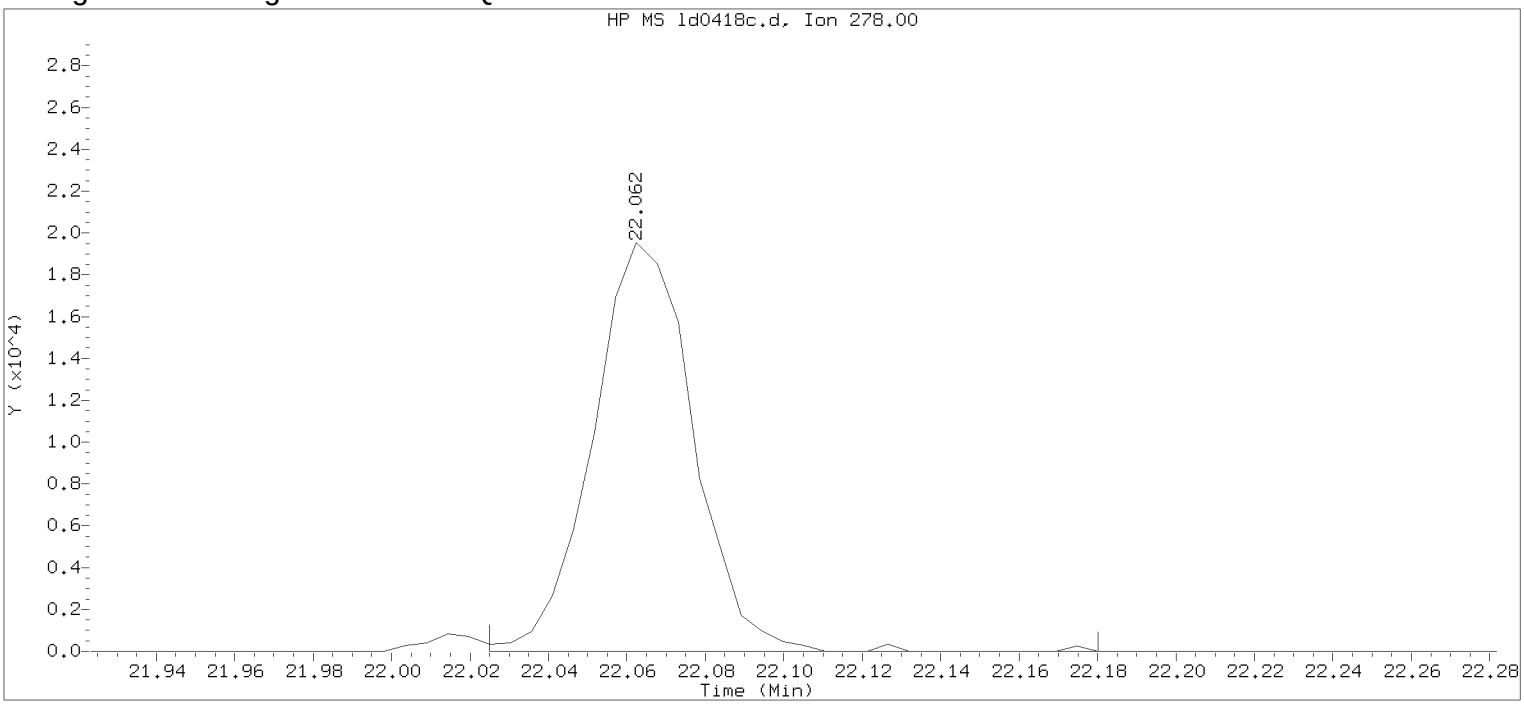
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

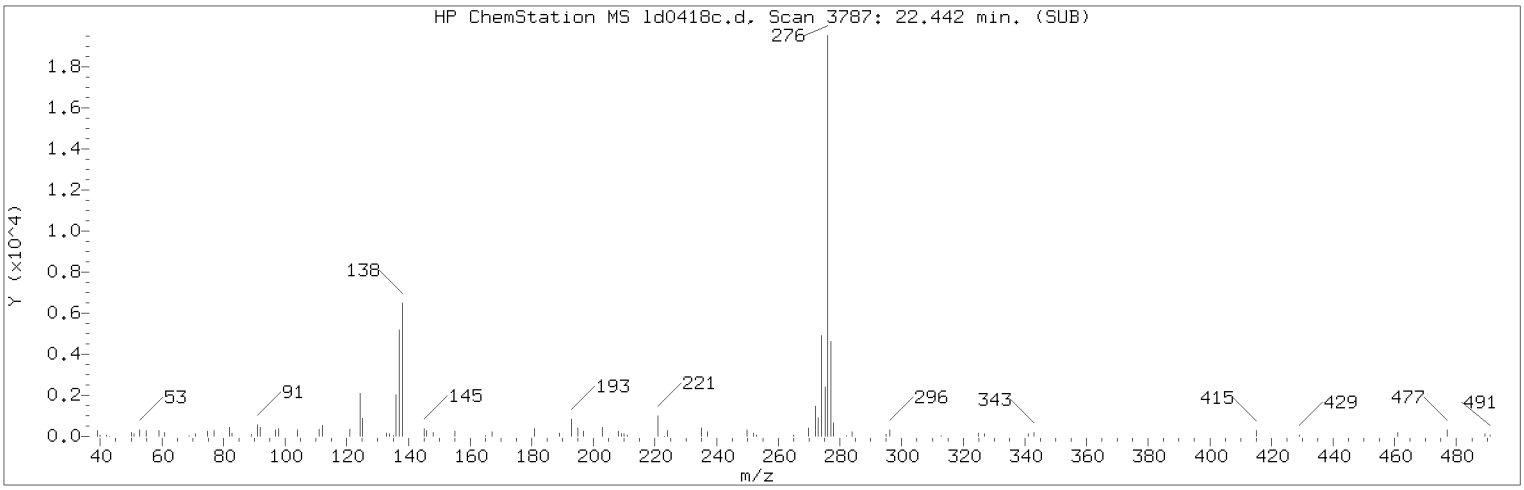
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

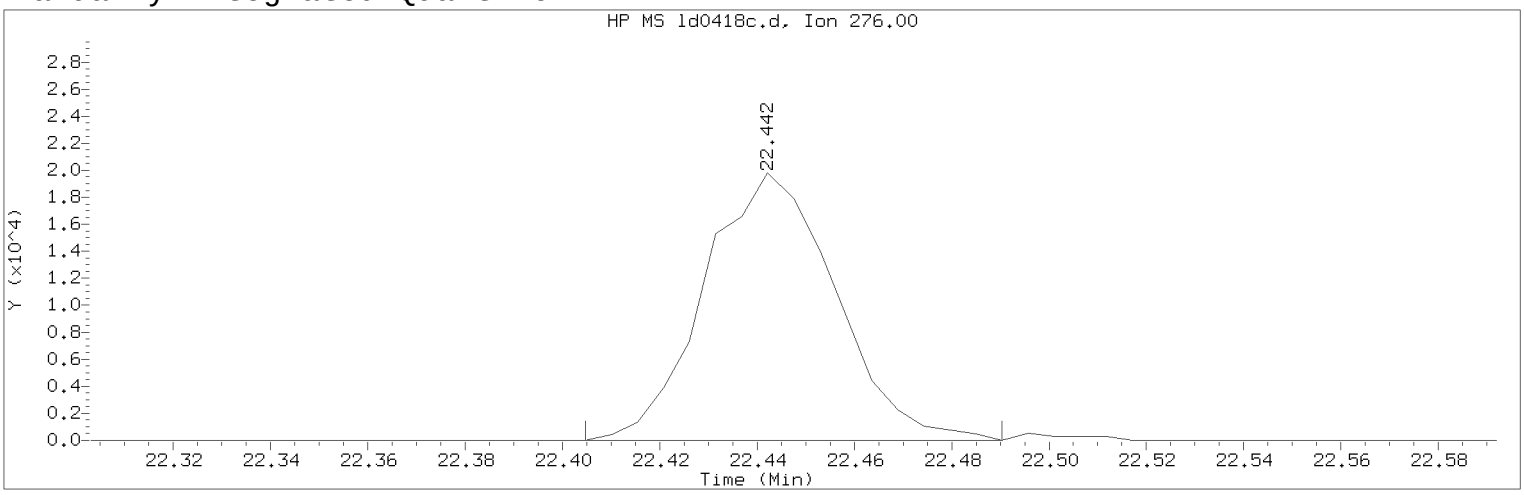
Compound Number : 220
Compound Name : Dibenz(a,h)anthracene
Scan Number : 3716
Retention Time (minutes) : 22.062
Quant Ion : 278.00
Area : 34789
On-column Amount (ng/ul) : 0.2150
Integration start scan : 3708 Integration stop scan: 3737
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: 1085 hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 15-APR-2018 15:38
Date, time and analyst ID of latest file update: 15-Apr-2018 15:38 bhs10208

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

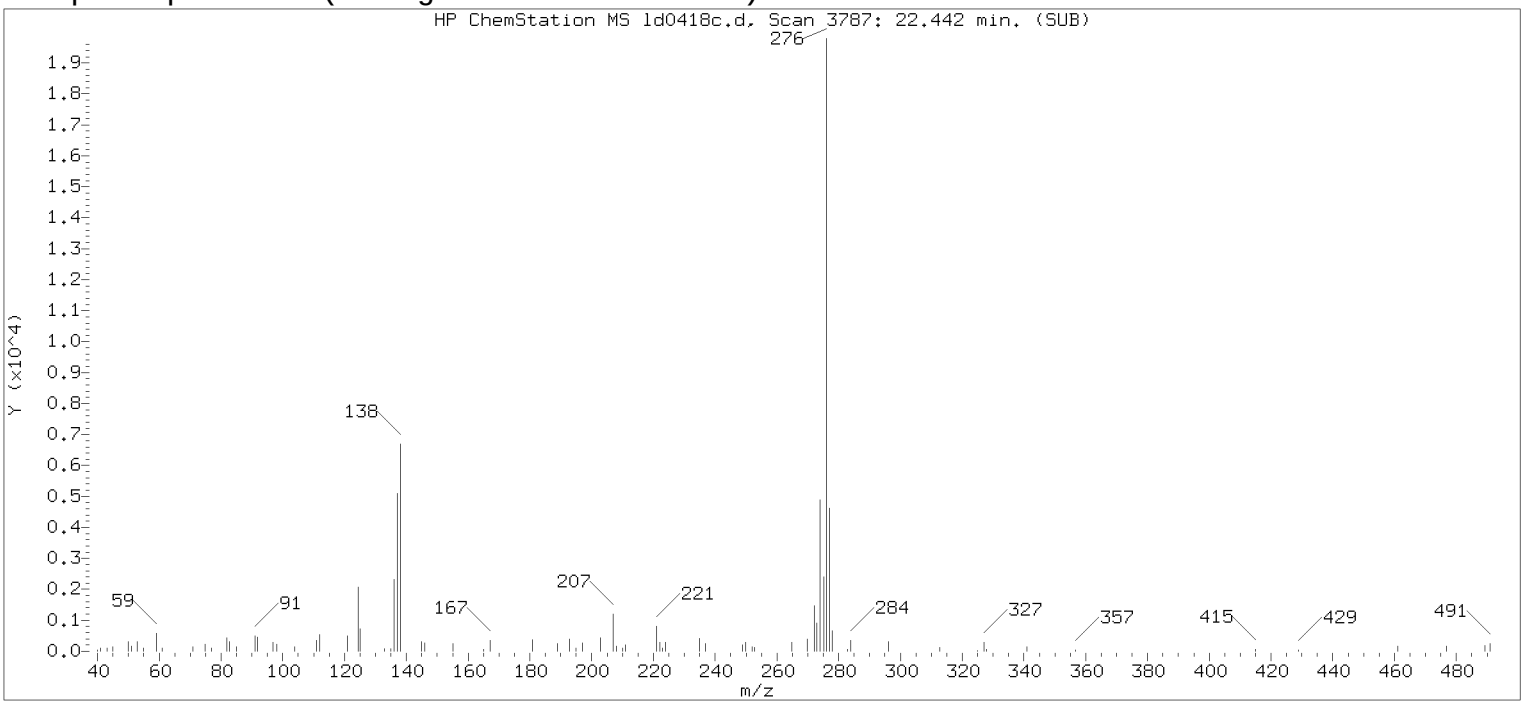
Compound Number : 221
Compound Name : Benzo(g,h,i)perylene
Scan Number : 3787
Retention Time (minutes) : 22.442
Quant Ion : 276.00
Area (flag) : 36839M
On-Column Amount (ng/ul) : 0.2235
Integration start scan : 3779 Integration stop scan: 3795
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

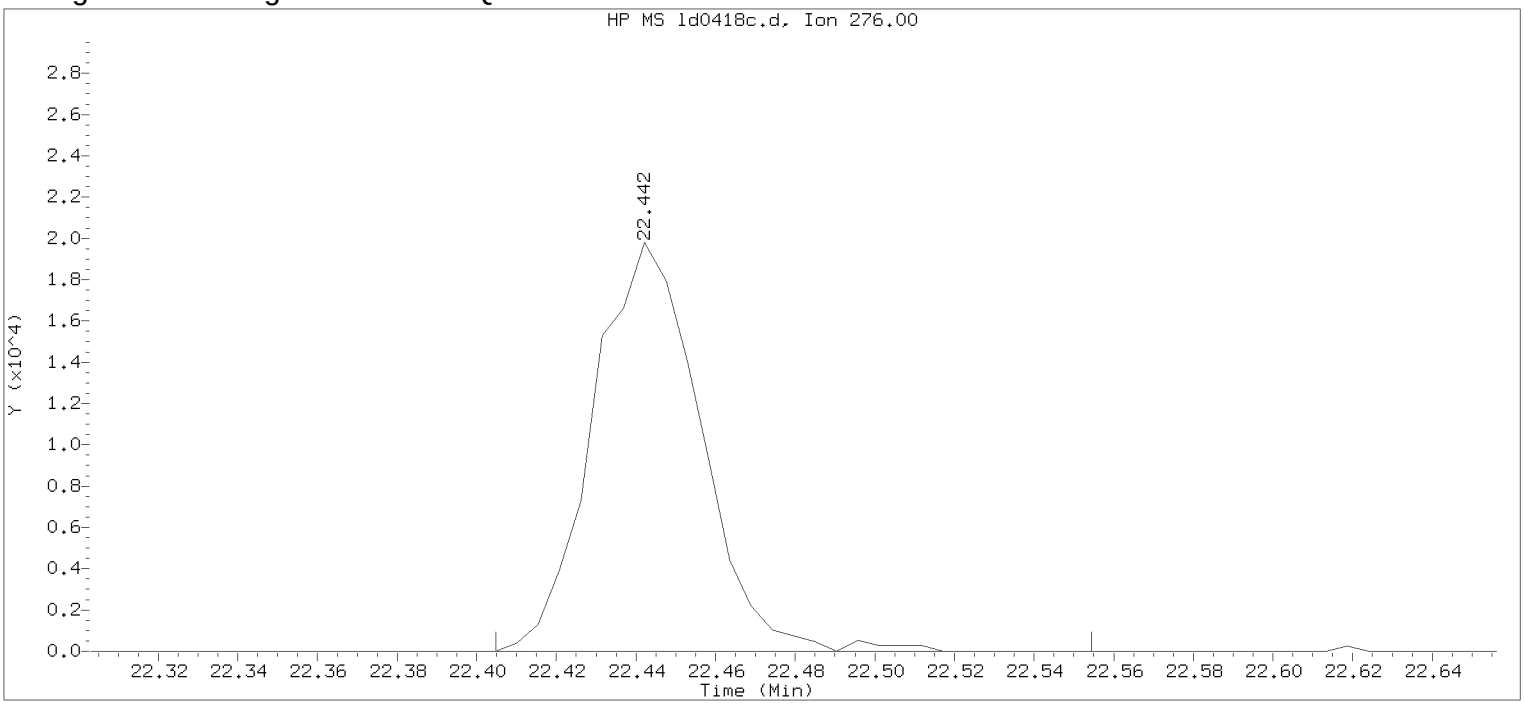
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



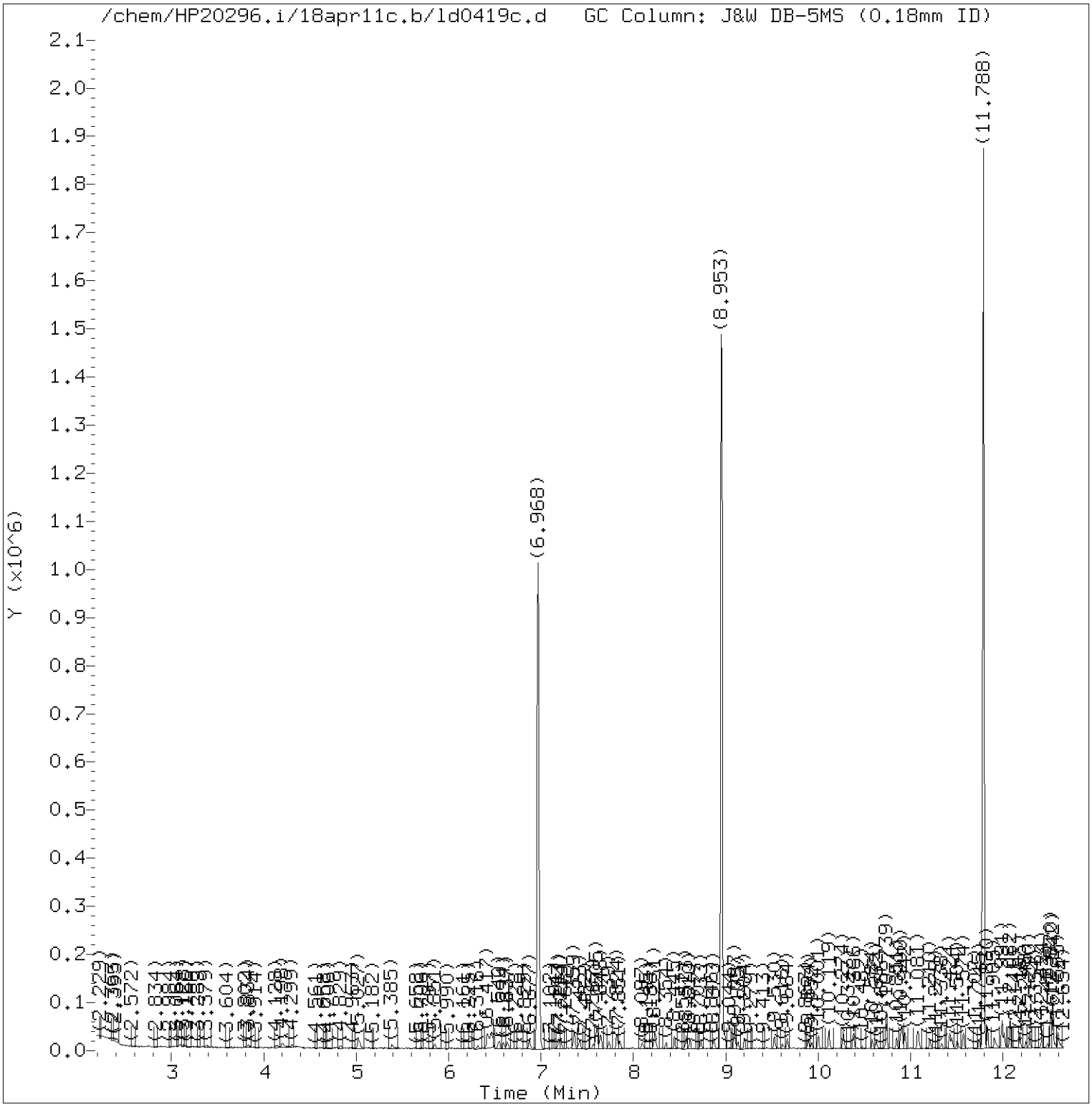
Data File: /chem/HP20296.i/18apr11c.b/ld0418c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:20 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: all1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.25 Lab Sample ID: rvSTD0968

Compound Number : 221
Compound Name : Benzo(g,h,i)perylene
Scan Number : 3787
Retention Time (minutes) : 22.442
Quant Ion : 276.00
Area : 37271
On-column Amount (ng/ul) : 0.2258
Integration start scan : 3779 Integration stop scan: 3807
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user id: 1085 Page 217 of 1139



Total Ion Chromatogram (TIC)

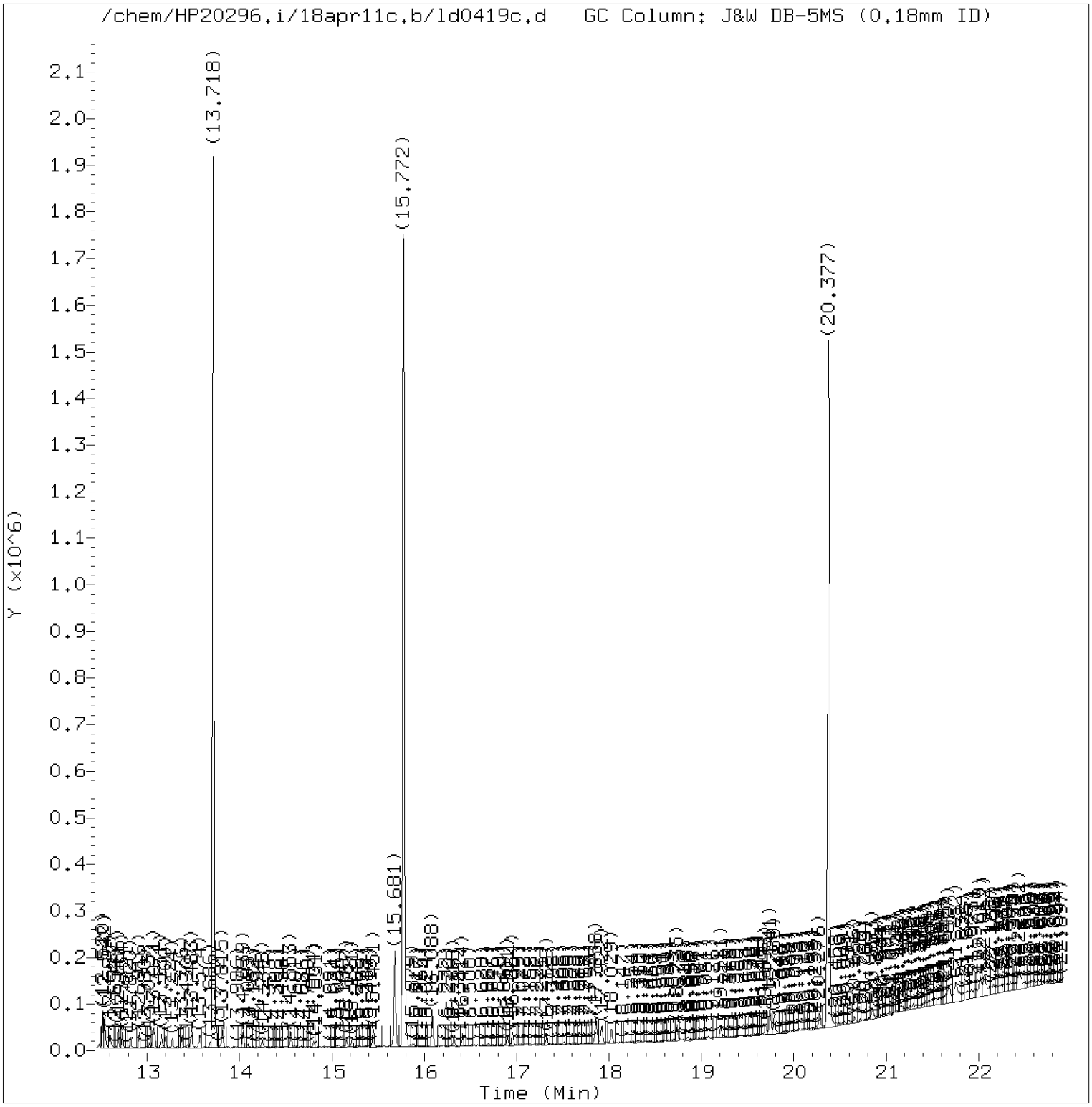
Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:41 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:41 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:41 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.433	88	3538M	0.123
4) N-Nitrosodimethylamine	(1)	3.042	74	3347	0.076
5) Pyridine	(1)	3.107	79	7626M	0.098
7) 2-Picoline	(1)	4.198	93	6683	0.084
8) N-Nitrosomethylethylamine	(1)	4.380	88	2517M	0.079
9) Methyl methanesulfonate	(1)	4.824	80	2936	0.077
11)$2-Fluorophenol	(1)	5.027	112	10387	0.172
13) N-Nitrosodiethylamine	(1)	5.396	102	2062	0.070
15) Ethyl methanesulfonate	(1)	5.856	109	2806	0.088
16) Benzaldehyde	(1)	6.316	77	1651M	0.052
17)$Phenol-d6	(1)	6.417	99	14721	0.186
18) Phenol	(1)	6.439	94	8341	0.093
19) Aniline	(1)	6.476	93	9272	0.088
20) a-methylstyrene	(1)	6.551	118	1653	0.072
22) bis(2-Chloroethyl)ether	(1)	6.594	93	5947	0.088
23) 2-Chlorophenol	(1)	6.637	128	5719	0.097
24) 1,3-Dichlorobenzene	(1)	6.877	146	6440	0.097
25)*1,4-Dichlorobenzene-d4	(1)	6.968	152	220096	5.000
26) 1,4-Dichlorobenzene	(1)	6.995	146	6333	0.094
27) Benzyl alcohol	(1)	7.193	108	3628	0.092
28) 1,2-Dichlorobenzene	(1)	7.214	146	5828	0.091
30) Indene	(1)	7.353	115	8170	0.087
31) 2-Methylphenol	(1)	7.364	108	5811	0.100
34) bis(2-Chloroisopropyl)ether	(1)	7.423	45	10907	0.114
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.423	45	10907	0.113
35) N-Nitrosopyrrolidine	(1)	7.567	100	3156	0.099
36) Acetophenone	(1)	7.594	105	6495	0.247
37) 4-Methylphenol	(1)	7.600	108	6660	0.108
38) N-Nitroso-di-n-propylamine	(1)	7.610	70	4500	0.089
39) N-Nitrosomorpholine	(1)	7.642	56	4189	0.099
40) o-Toluidine	(1)	7.648	106	9904	0.096
42) Total Cresols	(1)			12471	0.208
43) Hexachloroethane	(1)	7.739	117	2433	0.085
44)$Nitrobenzene-d5	(2)	7.824	82	13645	0.187
45) Nitrobenzene	(2)	7.856	77	7169	0.096
48) N-Nitrosopiperidine	(2)	8.097	114	3385	0.111
50) Isophorone	(2)	8.241	82	12518	0.096
51) 2-Nitrophenol	(2)	8.354	139	2446	0.081
53) 2,4-Dimethylphenol	(2)	8.445	107	6133	0.095
57) O,O,O-Triethylphosphorothioate	(2)	8.573	198	3130	0.098

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 15:54.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:41 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
55) bis(2-Chloroethoxy)methane	(2)	8.610	93	9139	0.108
60) 2,4-Dichlorophenol	(2)	8.733	162	4862	0.097
62) 1,2,4-Trichlorobenzene	(2)	8.873	180	5669	0.101
65)*Naphthalene-d8	(2)	8.953	136	847102	5.000
67) 4-Chloroaniline	(2)	9.092	127	7160	0.100
68) 2,6-Dichlorophenol	(2)	9.097	162	4401	0.088
69) Hexachloropropene	(2)	9.135	213	3612	0.089
71) Hexachlorobutadiene	(2)	9.204	225	3359	0.099
75) Quinoline	(2)	9.530	129	11421	0.102
76) Caprolactam	(2)	9.611	113	966M	0.061
77) N-Nitrosodi-n-butylamine	(2)	9.669	84	4709	1.017
80) 4-Chloro-3-methylphenol	(2)	9.894	107	5297	0.096
82) Safrole	(2)	10.001	162	4373	0.093
85) Hexachlorocyclopentadiene	(3)	10.375	237	2599	0.076
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.386	216	6659	0.116
88) cis-Isosafrole	(3)	10.477	162	835	0.017
90) 2,4,6-Trichlorophenol	(3)	10.589	196	3505	0.097
92) 2,4,5-Trichlorophenol	(3)	10.632	196	3775	0.100
97) Isosafrole	(3)			5144	0.096
93)$2-Fluorobiphenyl	(3)	10.739	172	28896	0.220
94) trans-Isosafrole	(3)	10.851	162	4309	0.080
95) 1,1'-Biphenyl	(3)	10.894	154	11008	0.151
98) 1-Chloronaphthalene	(3)	10.937	162	11401	0.111
99) Diphenyl ether	(3)	11.076	170	7965	0.105
100) 2-Nitroaniline	(3)	11.092	138	2952	0.088
104) 1,4-Naphthoquinone	(3)	11.210	158	3917	0.086
105) 1,4-Dinitrobenzene	(3)	11.344	168	1105M	0.063
106) Dimethylphthalate	(3)	11.424	163	13914	0.108
107) 1,3-Dinitrobenzene	(3)	11.445	168	1886M	0.096
108) 2,6-Dinitrotoluene	(3)	11.504	165	2517	0.092
112) 3-Nitroaniline	(3)	11.745	138	2327	0.081
113)*Acenaphthene-d10	(3)	11.788	164	422017	5.000
115) 2,4-Dinitrophenol	(3)	11.911	184	6095M	0.371
120) 2,4_2,6-Dinitrotoluenes	(3)			5389	0.168
116) 4-Nitrophenol	(3)	11.991	109	6718	0.331
117) Pentachlorobenzene	(3)	12.018	250	5134	0.110
119) Dibenzofuran	(3)	12.076	168	17625	0.112
118) 2,4-Dinitrotoluene	(3)	12.082	165	2872	0.076
121) 1-Naphthylamine	(3)	12.189	143	10745	0.096
122) 2,3,4,6-Tetrachlorophenol	(3)	12.253	232	2339	0.079

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 15:54.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:41 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
123) 2-Naphthylamine	(3)	12.290	143	11817	0.111
124) Diethylphthalate	(3)	12.424	149	13045	0.103
125) Thionazin	(3)	12.515	107	2382	0.110
127) 4-Chlorophenyl-phenylether	(3)	12.542	204	7058	0.116
128) 5-Nitro-o-toluidine	(3)	12.542	152	2449M	0.074
129) 4-Nitroaniline	(3)	12.547	138	2673	0.092
130) 4,6-Dinitro-2-methylphenol	(4)	12.595	198	6796M	0.310
131) N-Nitrosodiphenylamine	(4)	12.686	169	10715	0.106
132) NDPA as diphenylamine	(4)	12.686	169	10715	0.106
134) 1,2-Diphenylhydrazine	(4)	12.734	77	14921	0.106
135)$2,4,6-Tribromophenol	(3)	12.820	330	2540	0.168
137) Tetraethyldithiopyrophosphate	(4)	12.916	97	2437	0.101
146) Diallate trans/cis	(4)			6123	0.099
139) 1,3,5-Trinitrobenzene	(4)	13.023	213	1129	0.084
140) Diallate (peak 1)	(4)	13.060	86	5296	0.083
141) Phorate	(4)	13.071	75	8657	0.095
142) Phenacetin	(4)	13.082	108	5446	0.085
143) 4-Bromophenyl-phenylether	(4)	13.151	248	3605	0.106
144) Diallate (peak 2)	(4)	13.173	86	827	0.016
147) Dimethoate	(4)	13.269	87	4382	0.080
148) Atrazine	(4)	13.376	200	2955	0.086
149) Pentachlorophenol	(4)	13.467	266	856	0.041
151) Pentachloronitrobenzene	(4)	13.472	237	1054M	0.064
150) 4-Aminobiphenyl	(4)	13.483	169	11145	0.097
152) Pronamide	(4)	13.574	173	4616	0.077
153)*Phenanthrene-d10	(4)	13.718	188	827941	5.000
154) Dinoseb	(4)	13.734	211	1146M	0.033
163) Carbazole	(4)	14.039	167	17431	0.108
164) Methyl parathion	(4)	14.248	109	3032	0.073
165) Di-n-butylphthalate	(4)	14.553	149	20337	0.093
167) Parathion	(4)	14.804	109	1701	0.063
168) 4-Nitroquinoline-1-oxide	(4)	14.831	190	1100M	1.363
169) Octachlorostyrene	(4)	15.162	308	1507	0.116
171) Isodrin	(4)	15.216	193	2867M	0.127
174) Benzidine	(5)	15.681	184	98345	0.804
175)*Pyrene-d10	(5)	15.772	212	830374	5.000
179)$Terphenyl-d14	(5)	16.088	244	29397	0.221
182) p-Dimethylaminoazobenzene	(5)	16.323	225	2224	0.570
185) Chlorobenzilate	(5)	16.414	139	5530	0.088
187) 3,3'-Dimethylbenzidine	(5)	16.901	212	10209	0.074

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 15:54.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:41 bhs10208

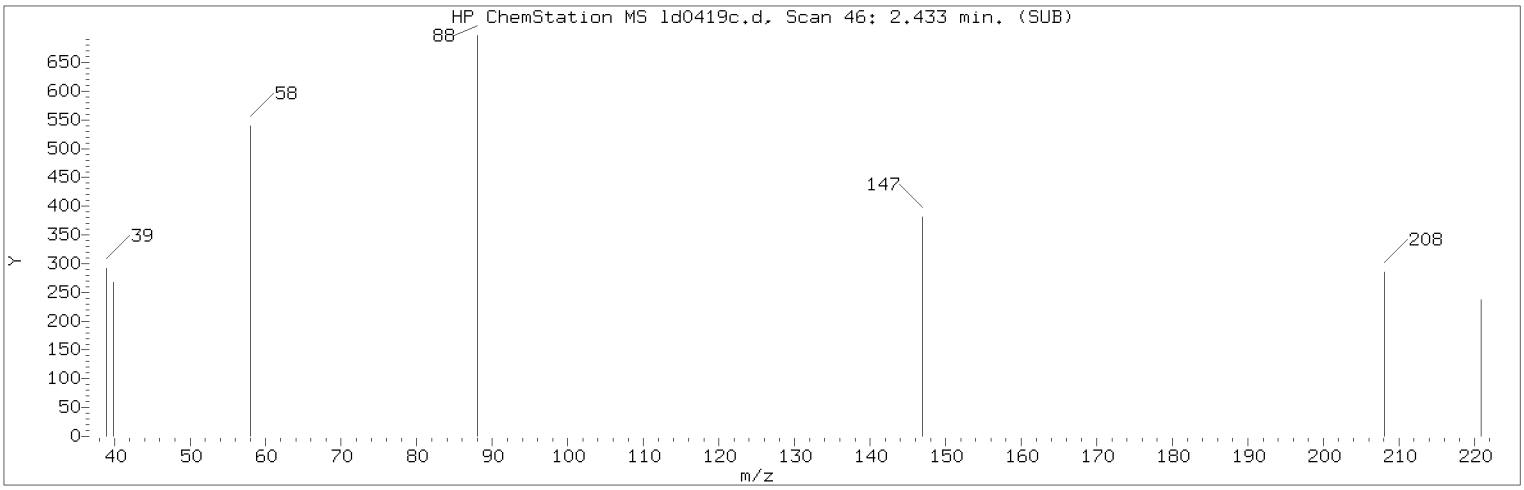
Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
188) Butylbenzylphthalate	(5)	16.954	149	8514	0.087
191) 2-Acetylaminofluorene	(5)	17.323	181	5831	0.075
193) 3,3'-Dichlorobenzidine	(5)	17.853	252	5961	0.088
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.869	231	3002	0.073
199) bis(2-Ethylhexyl)phthalate	(5)	18.029	149	11220	0.081
203) 6-Methylchrysene	(5)	18.735	242	11992	0.093
205) Di-n-octylphthalate	(6)	19.211	149	17883	0.077
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.741	256	6456	0.086
213)*Perylene-d12	(6)	20.377	264	741027	5.000
215) 3-Methylcholanthrene	(6)	20.853	268	8933	0.113
217) Dibenz(a,h)acridine	(6)	21.682	279	14185	0.102
218) Dibenz(a,j)acridine	(6)	21.757	279	14850	0.105

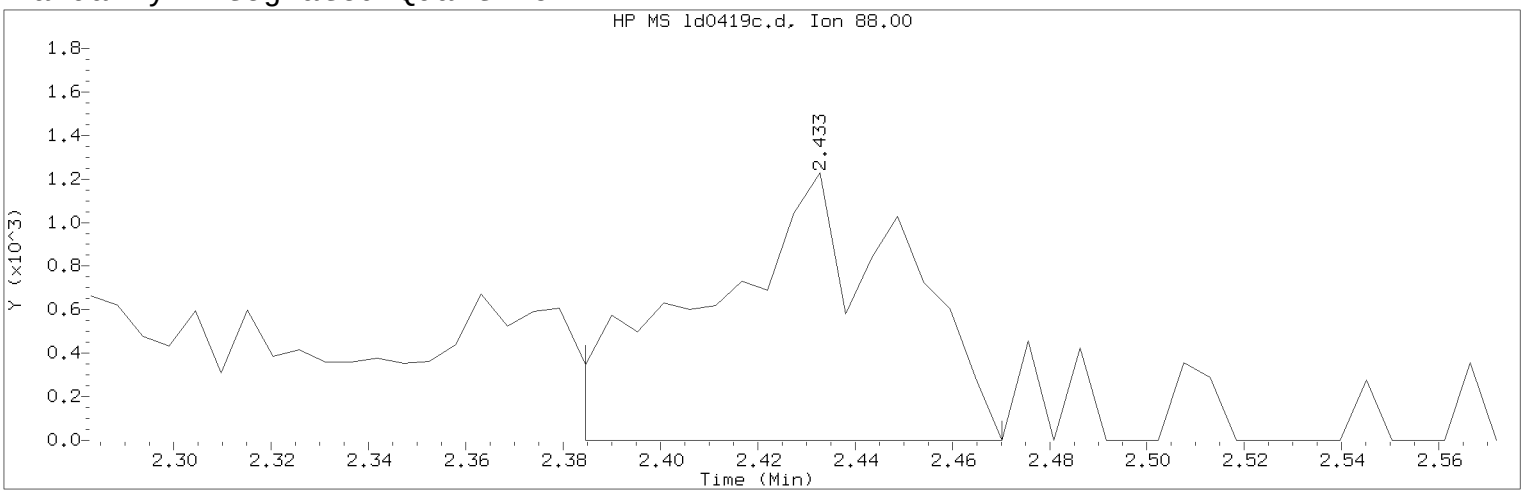
* = Compound is an internal standard.

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:41 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

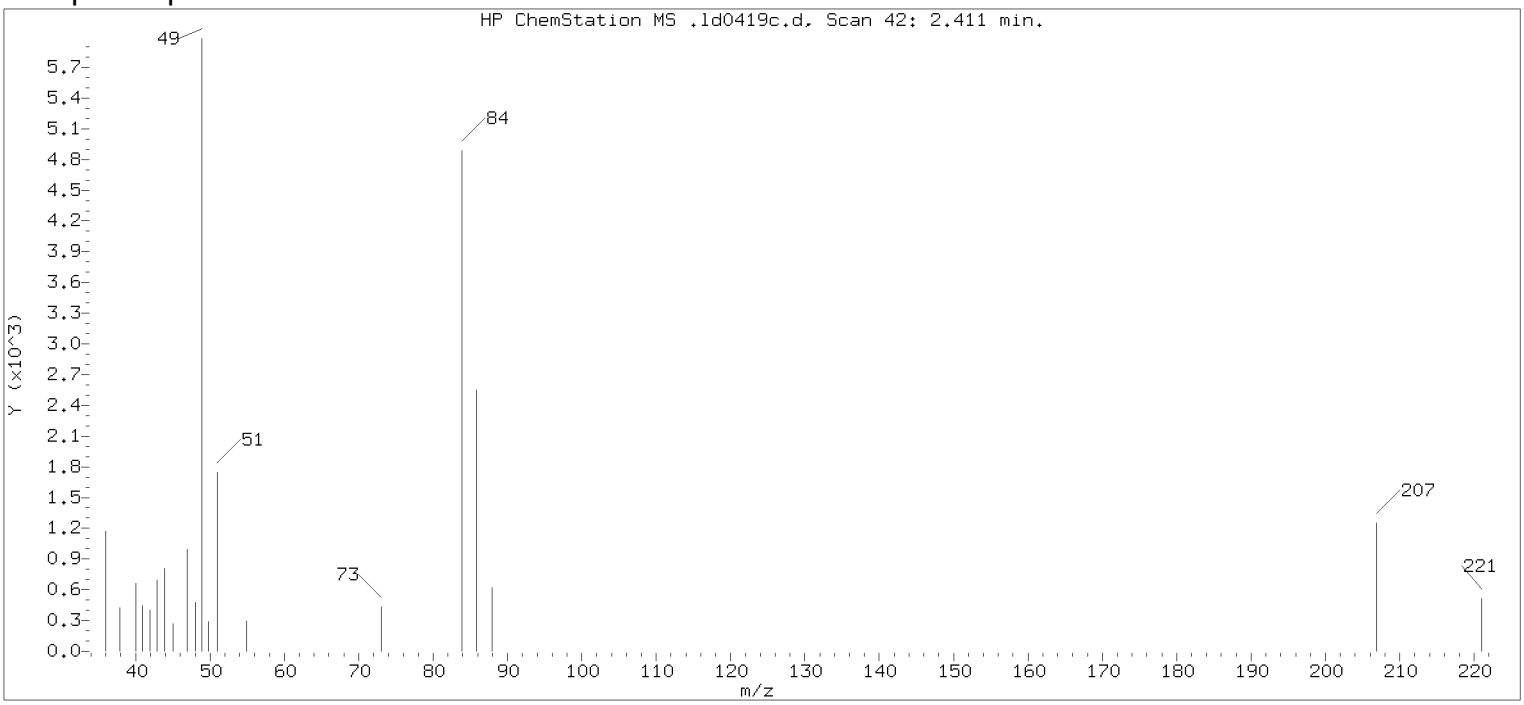
Compound Number : 1
Compound Name : 1,4-Dioxane
Scan Number : 46
Retention Time (minutes) : 2.433
Quant Ion : 88.00
Area (flag) : 3538M
On-Column Amount (ng/ul) : 0.1226
Integration start scan : 36 Integration stop scan: 52
Y at integration start : 0 Y at integration end: -1

Reason for manual integration: missed peak

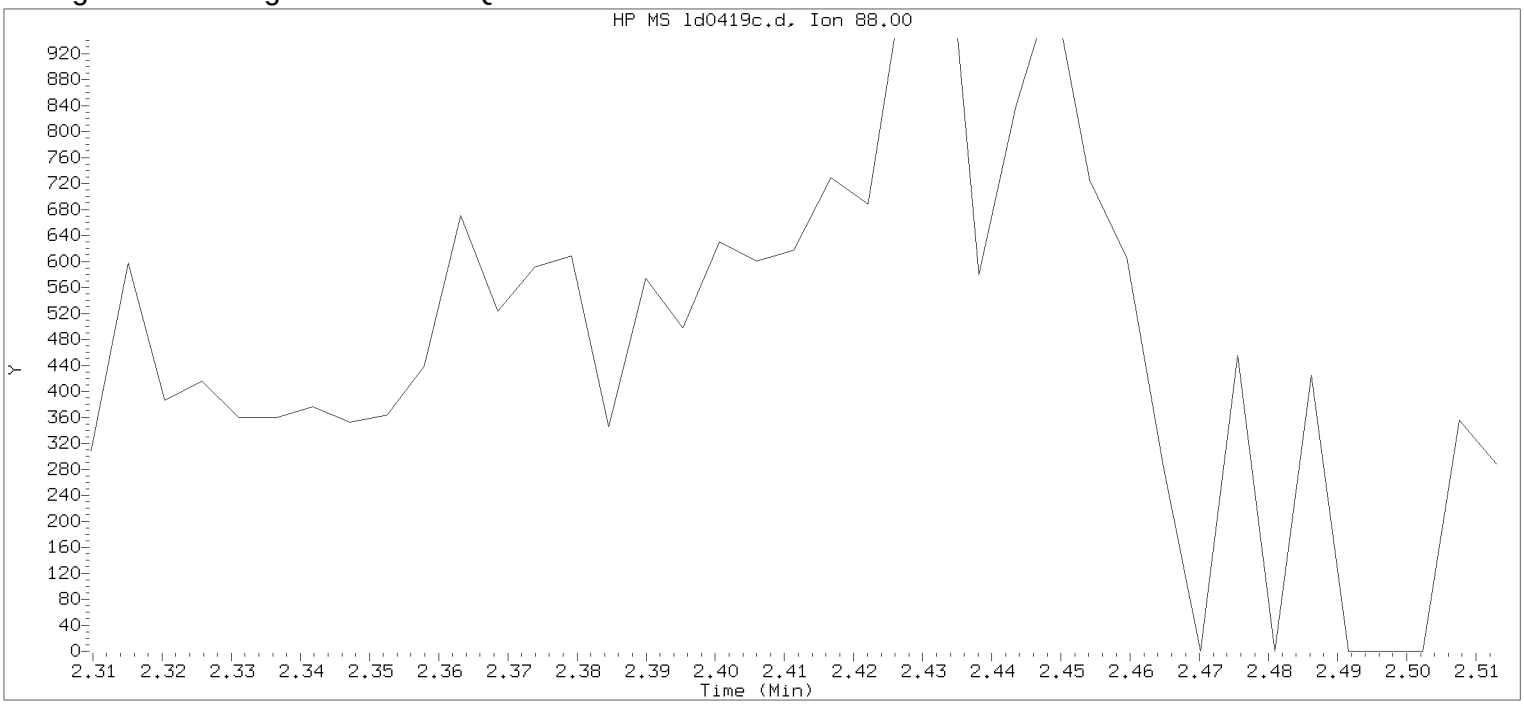
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

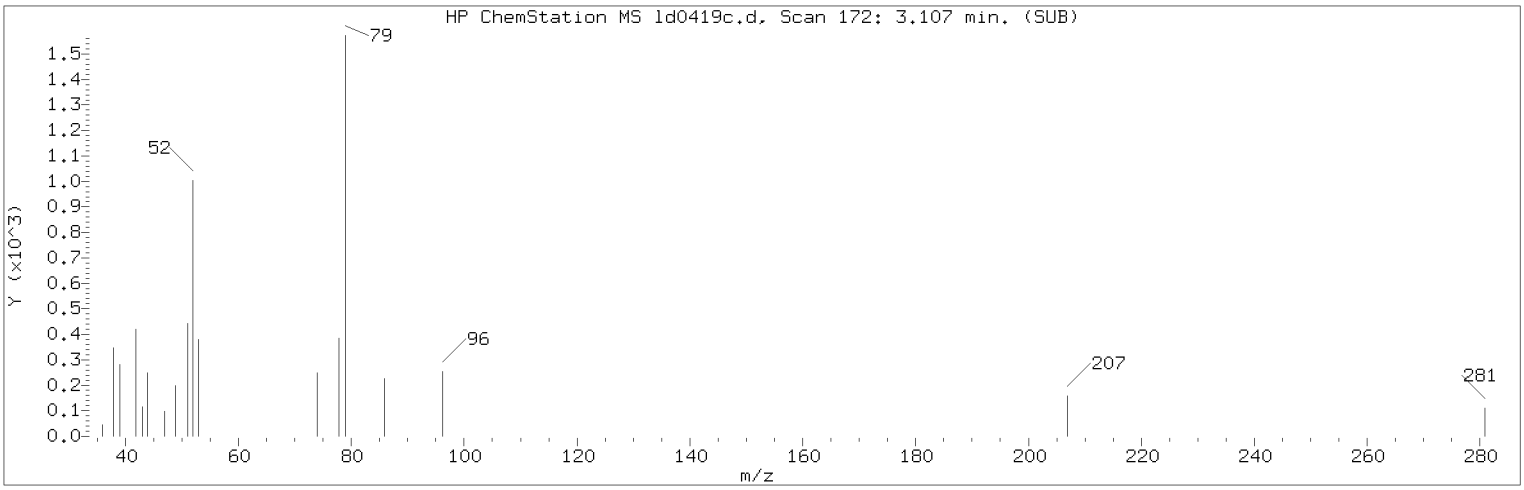
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

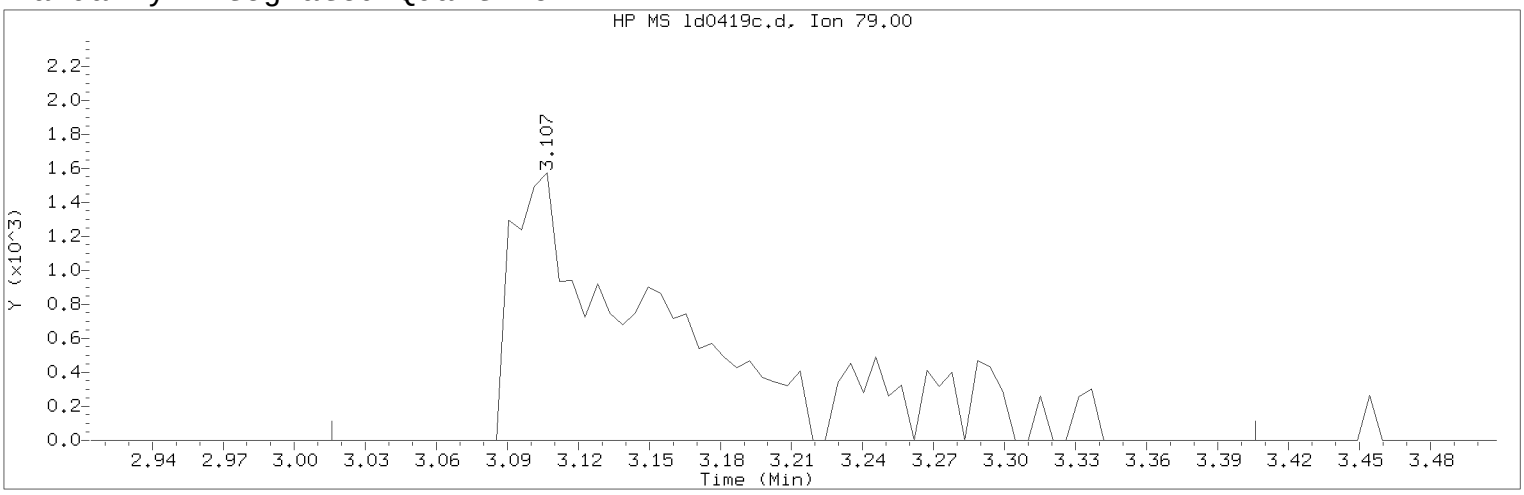
Compound Number : 1
Compound Name : 1,4-Dioxane
Expected RT (minutes) : 2.411
Quant Ion : 88.00

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user id: 1028

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:41 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

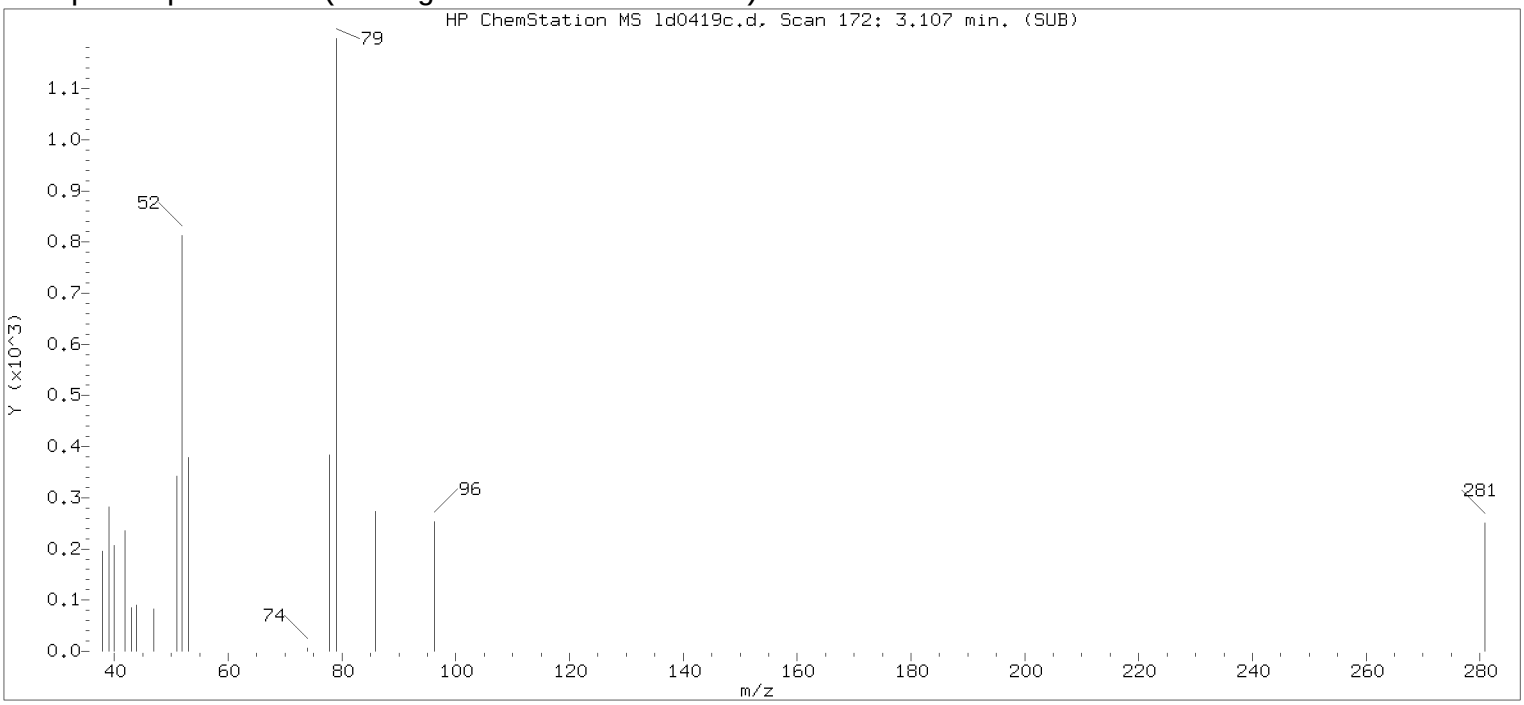
Compound Number : 5
Compound Name : Pyridine
Scan Number : 172
Retention Time (minutes) : 3.107
Quant Ion : 79.00
Area (flag) : 7626M
On-Column Amount (ng/ul) : 0.0975
Integration start scan : 154 Integration stop scan: 227
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

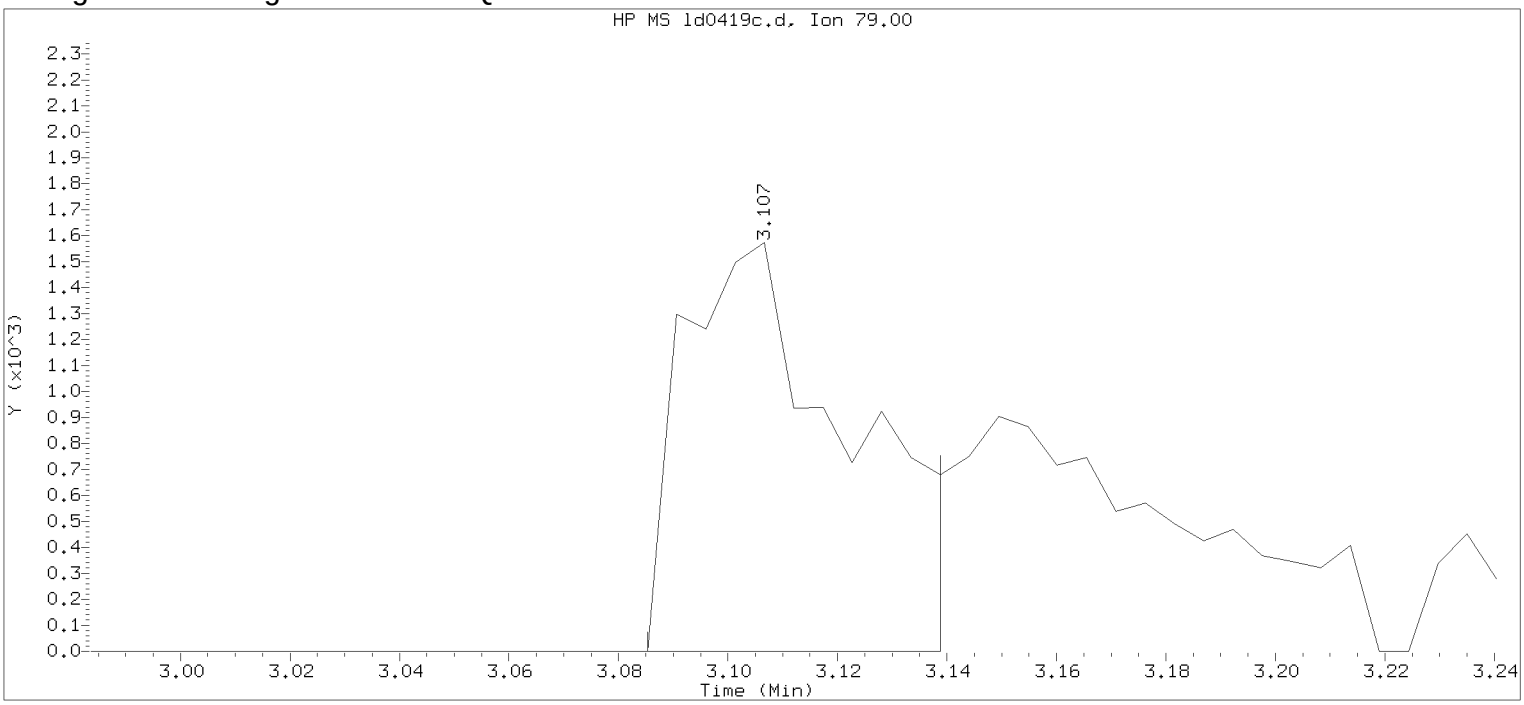
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

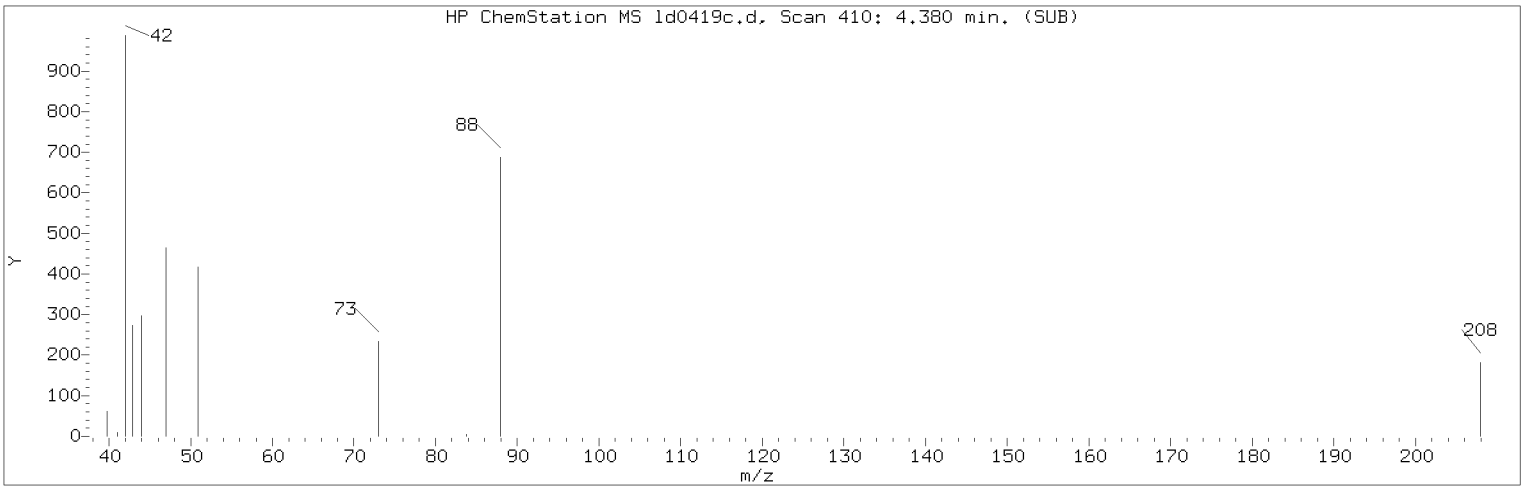
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

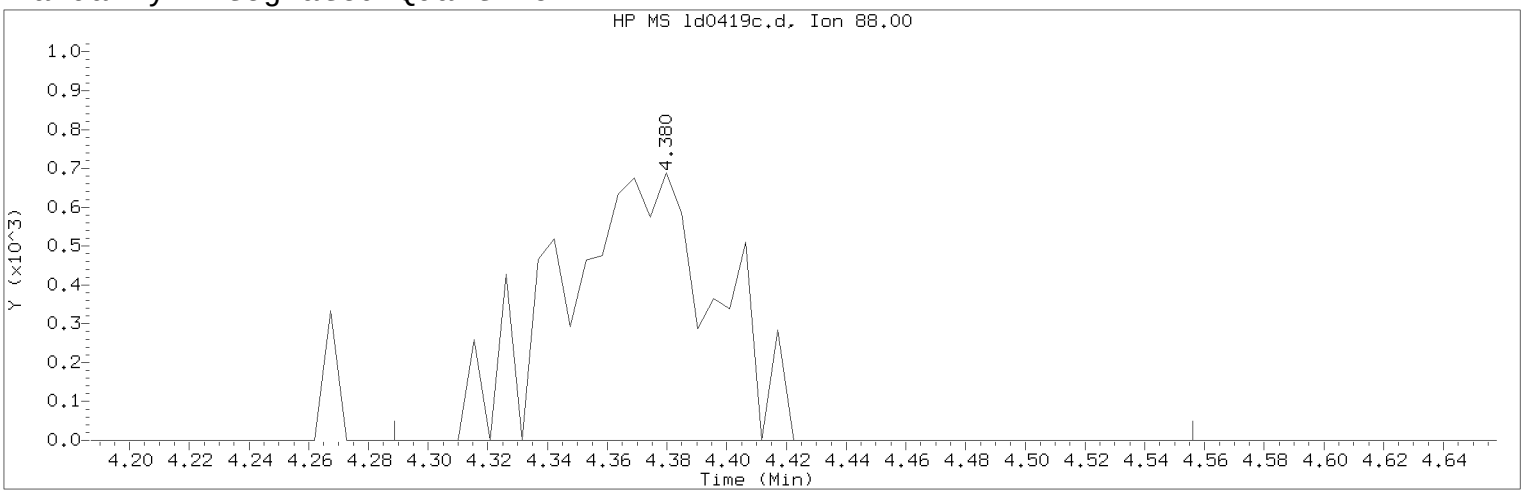
Compound Number : 5
Compound Name : Pyridine
Scan Number : 172
Retention Time (minutes) : 3.107
Quant Ion : 79.00
Area : 3279
On-column Amount (ng/ul) : 0.0419
Integration start scan : 167 Integration stop scan: 177
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user id: 1027

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:41 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

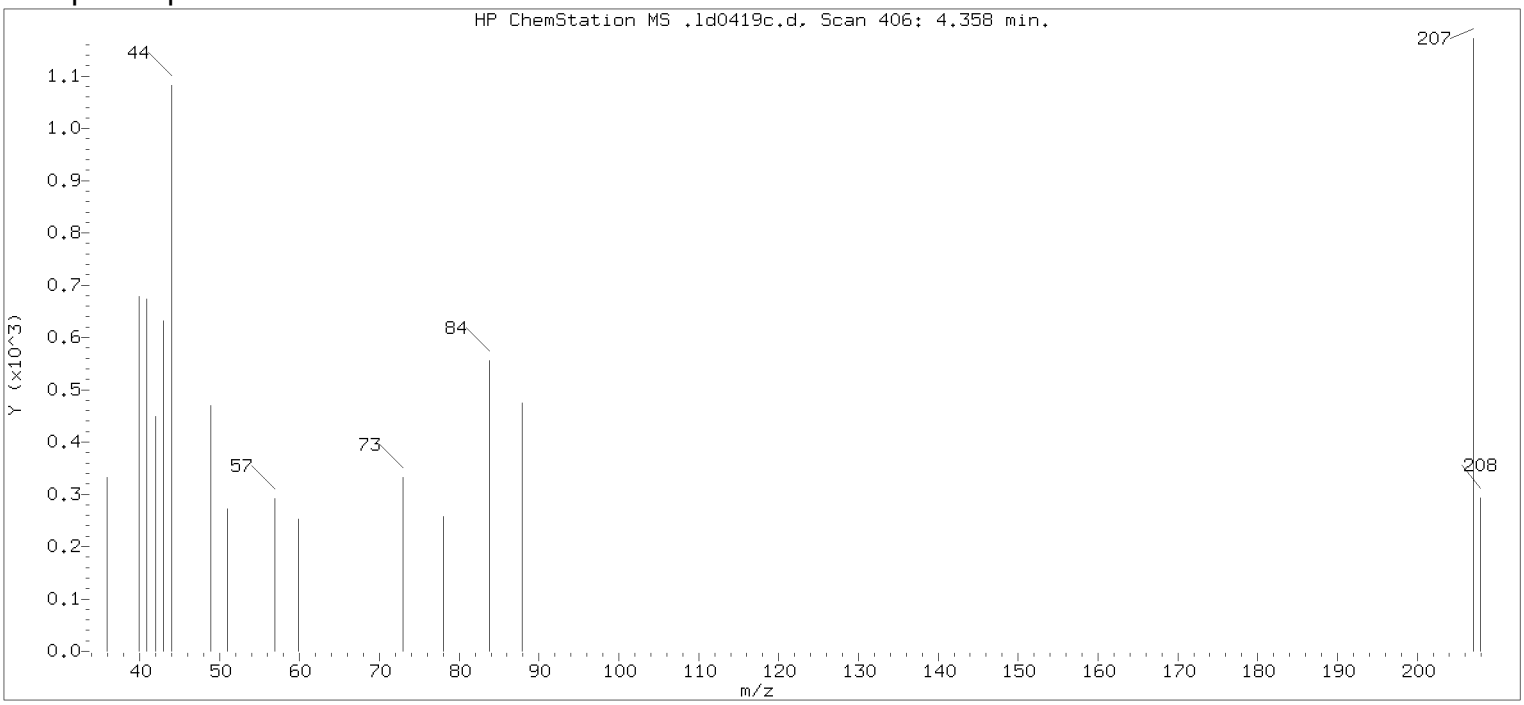
Compound Number : 8
Compound Name : N-Nitrosomethylethylamine
Scan Number : 410
Retention Time (minutes) : 4.380
Quant Ion : 88.00
Area (flag) : 2517M
On-Column Amount (ng/ul) : 0.0794
Integration start scan : 392 Integration stop scan: 442
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

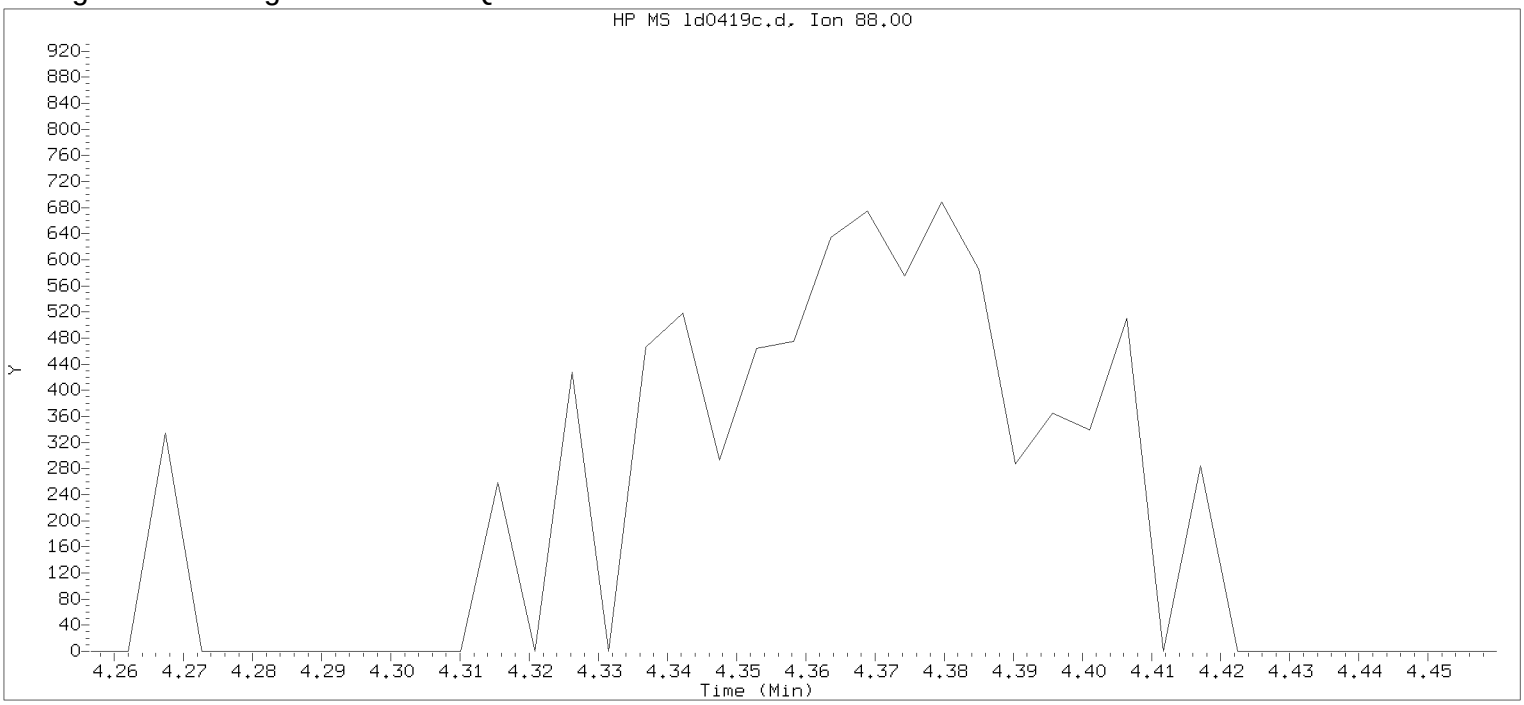
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

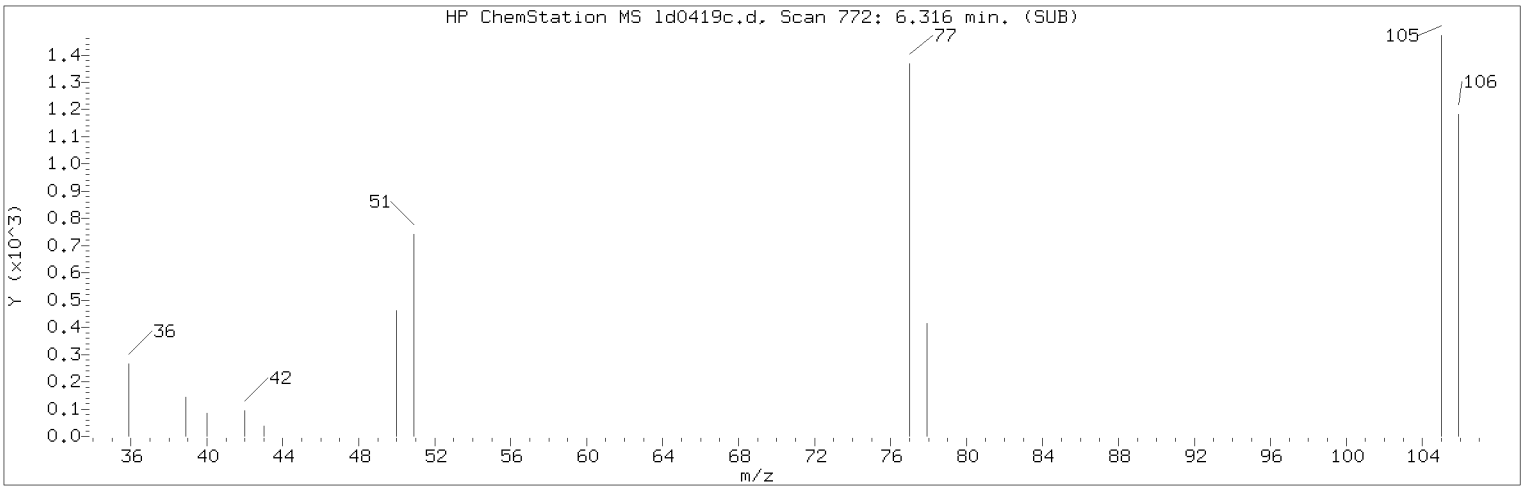
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

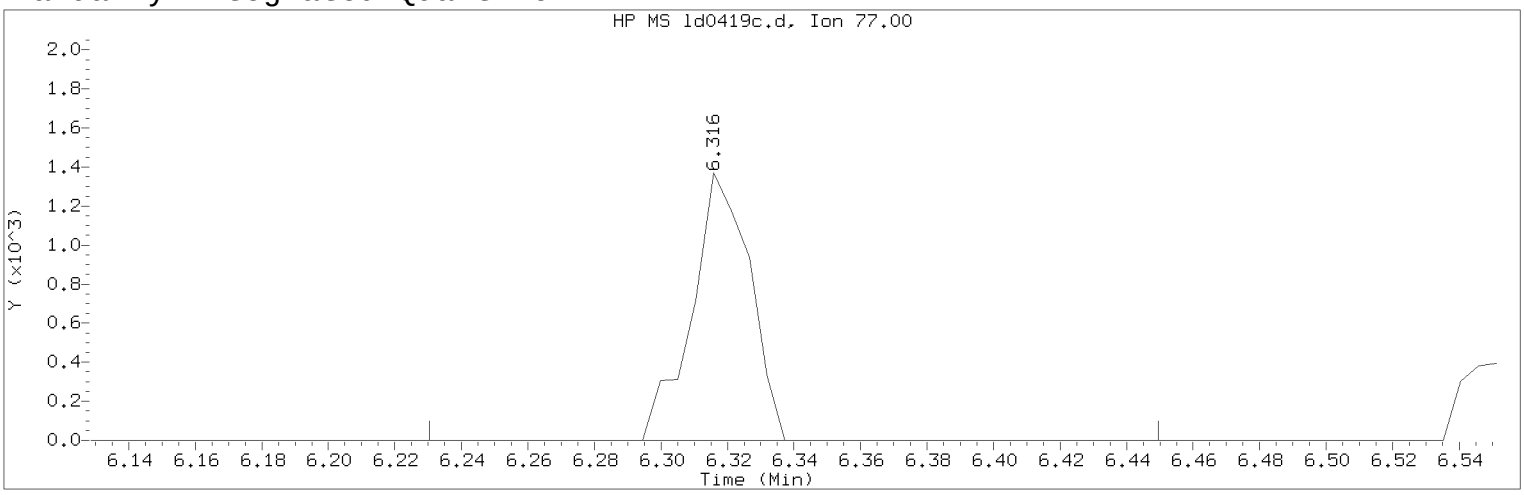
Compound Number : 8
Compound Name : N-Nitrosomethylethylamine
Expected RT (minutes) : 4.358
Quant Ion : 88.00

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user id: 1028

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:41 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

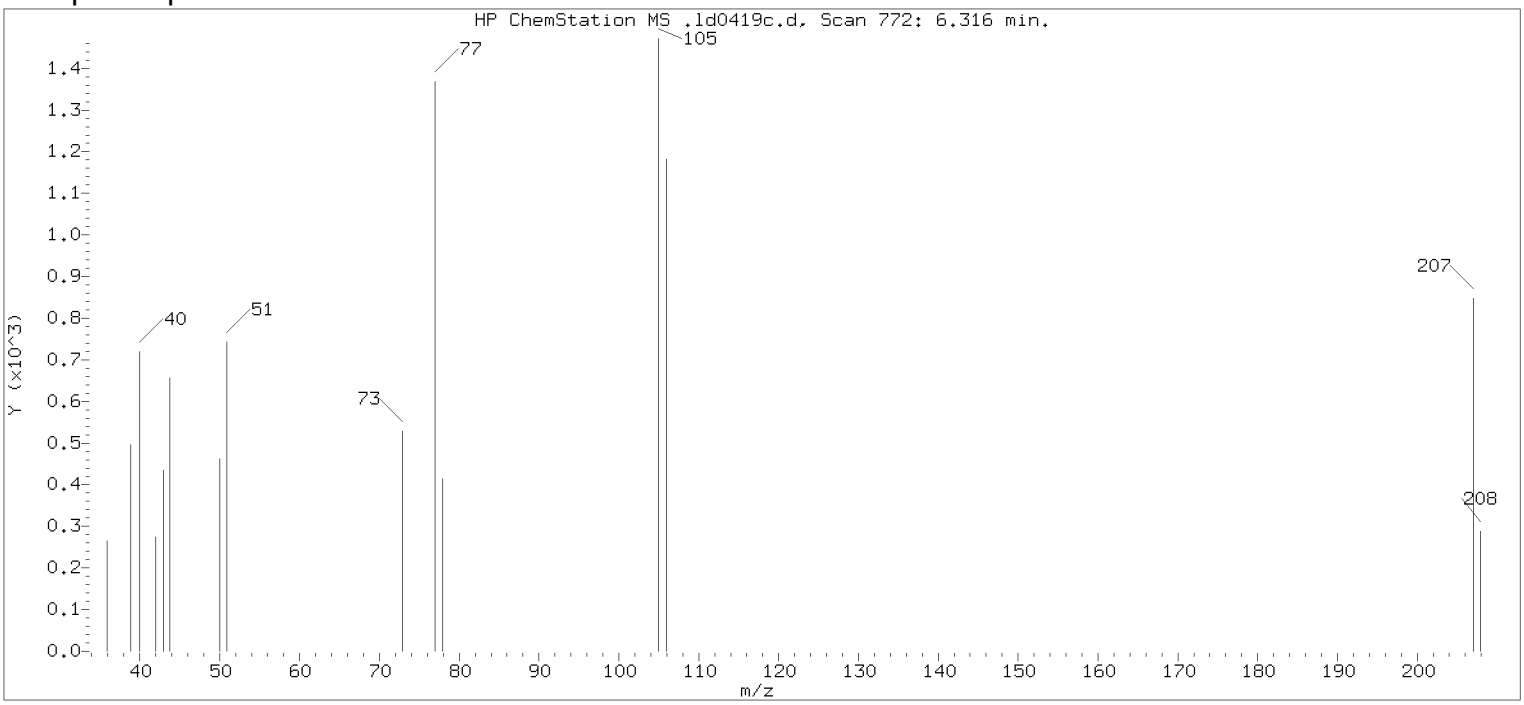
Compound Number : 16
Compound Name : Benzaldehyde
Scan Number : 772
Retention Time (minutes) : 6.316
Quant Ion : 77.00
Area (flag) : 1651M
On-Column Amount (ng/ul) : 0.0522
Integration start scan : 755 Integration stop scan: 796
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

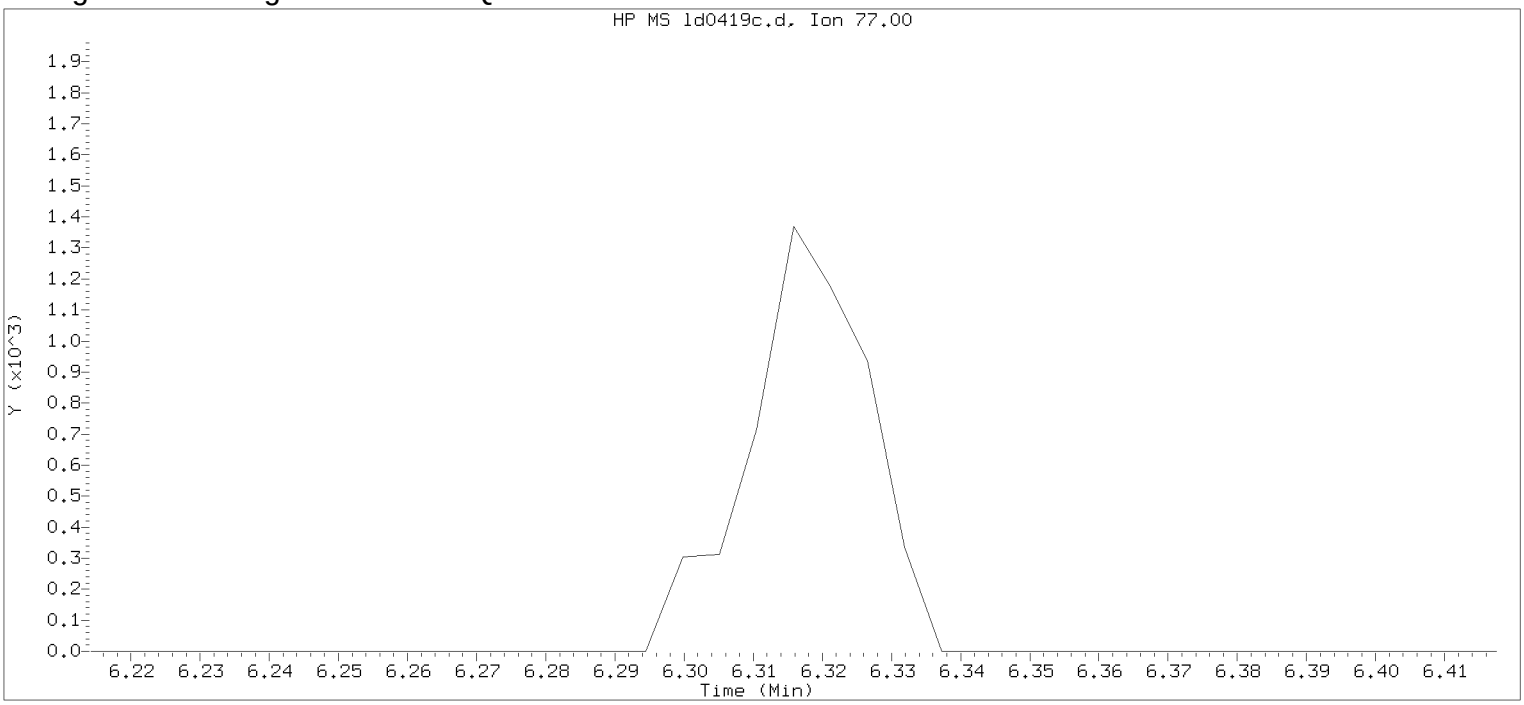
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

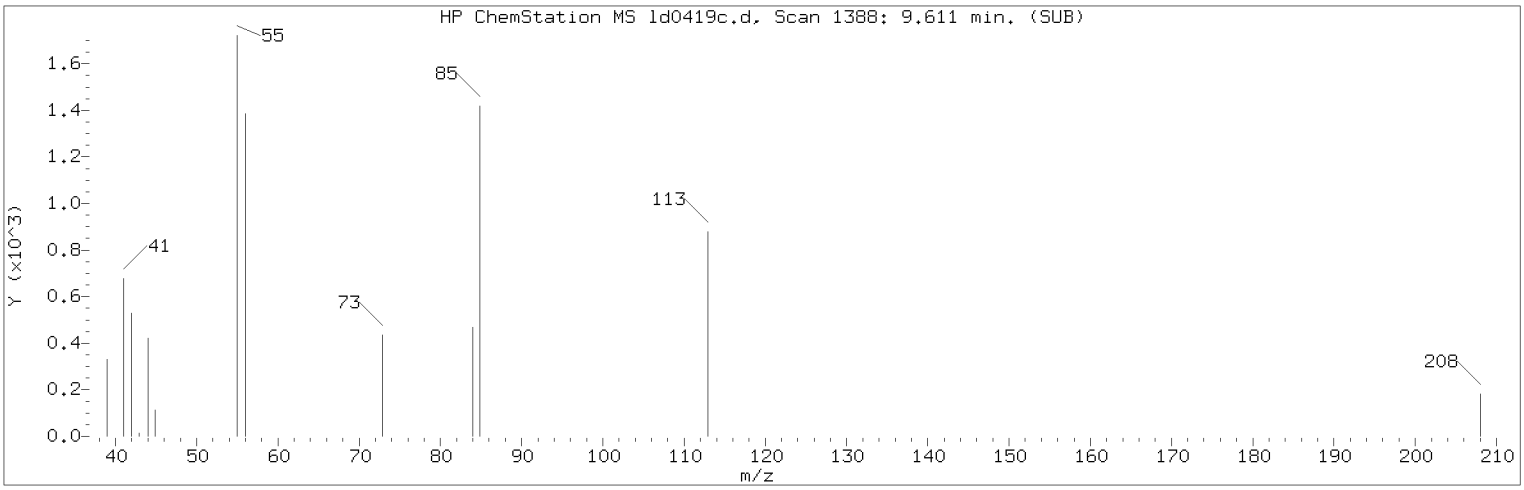
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

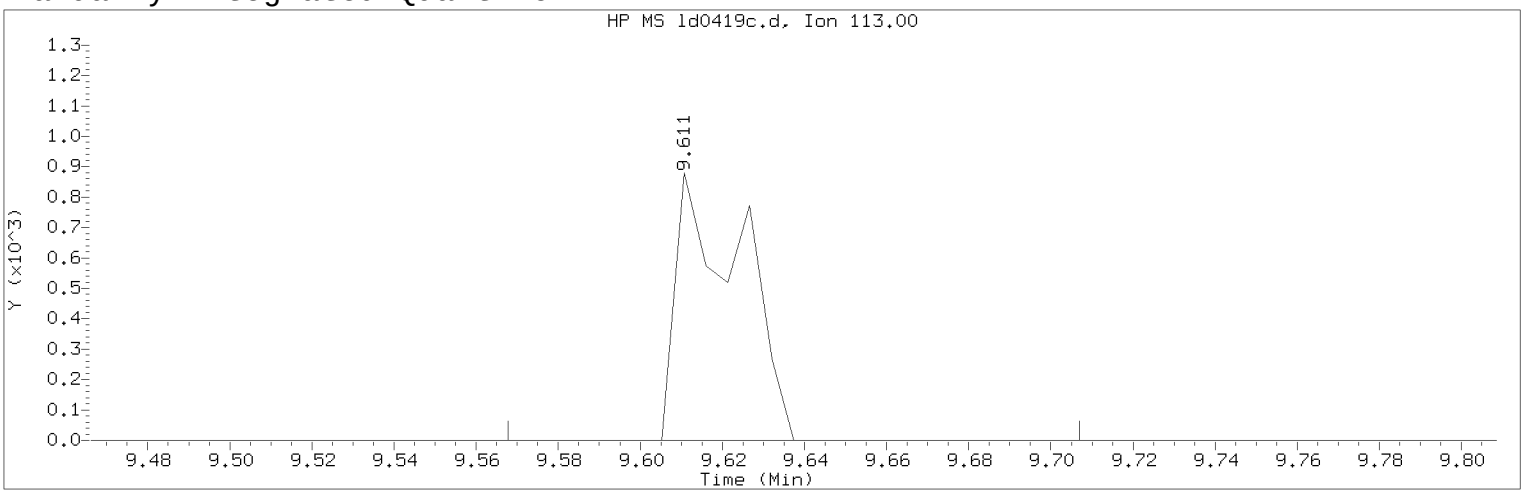
Compound Number : 16
Compound Name : Benzaldehyde
Expected RT (minutes) : 6.316
Quant Ion : 77.00

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: 1038

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:41 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

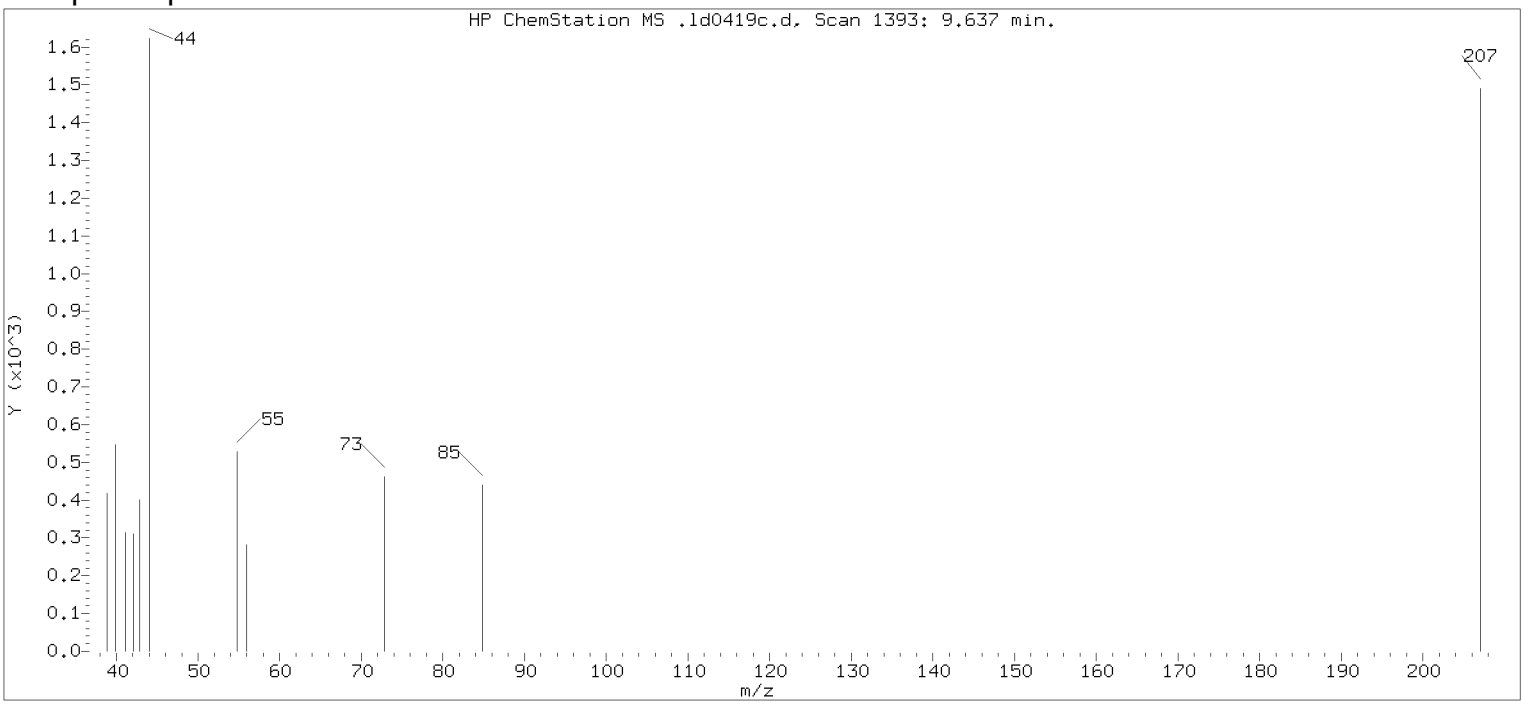
Compound Number : 76
Compound Name : Caprolactam
Scan Number : 1388
Retention Time (minutes) : 9.611
Quant Ion : 113.00
Area (flag) : 966M
On-Column Amount (ng/ul) : 0.0609
Integration start scan : 1379 Integration stop scan: 1405
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

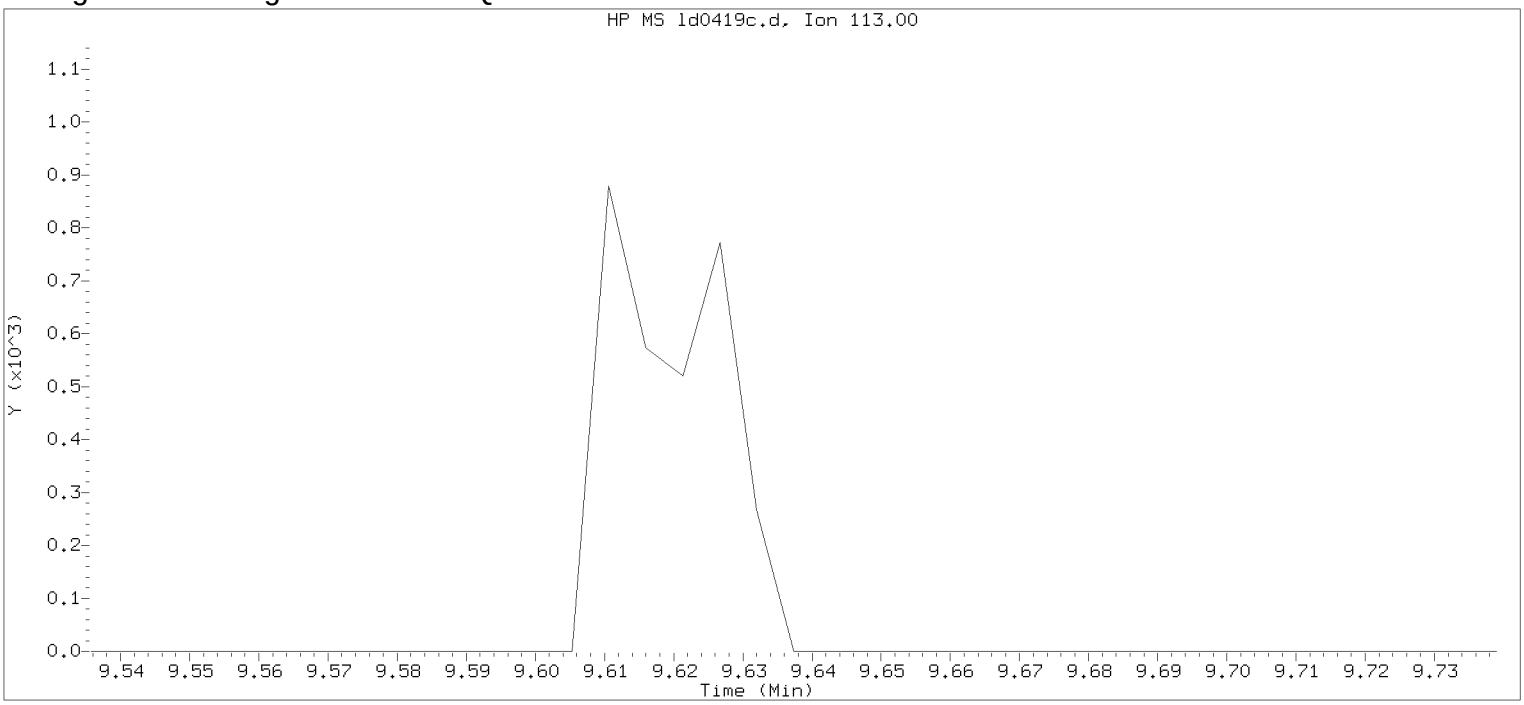
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

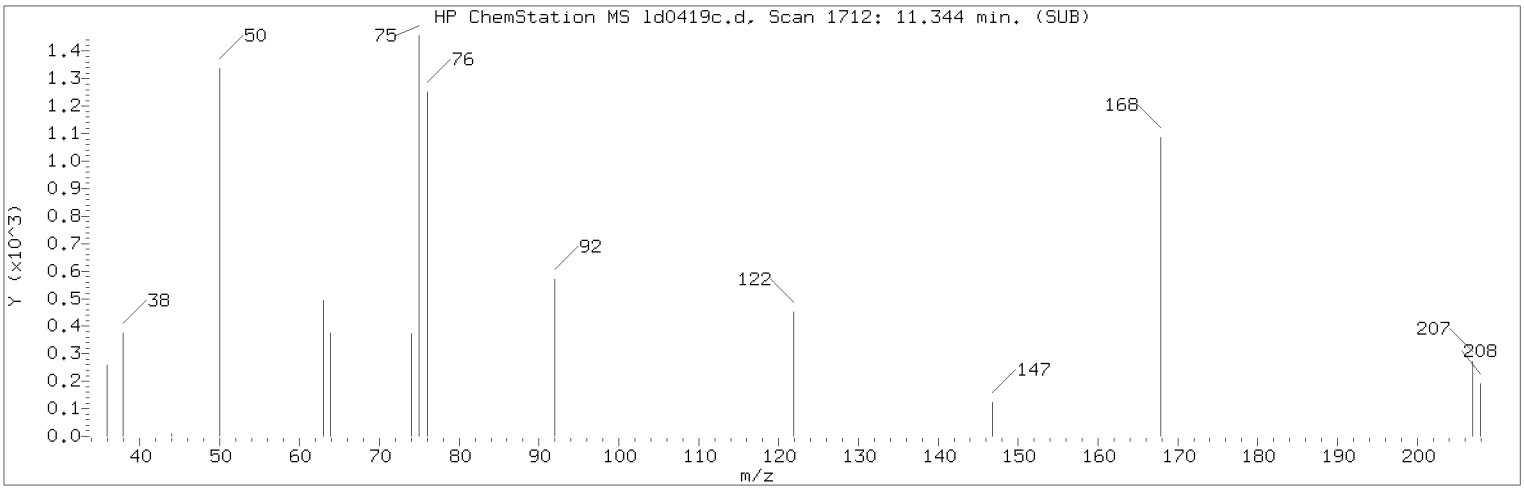
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

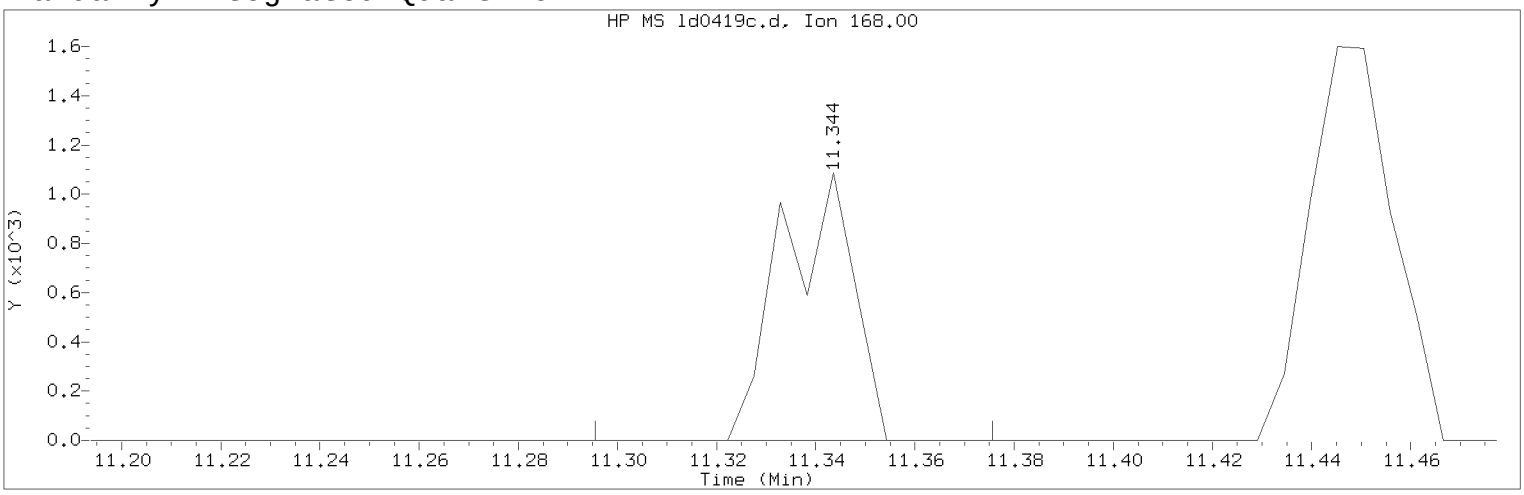
Compound Number : 76
Compound Name : Caprolactam
Expected RT (minutes) : 9.637
Quant Ion : 113.00

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: 1038

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:41 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

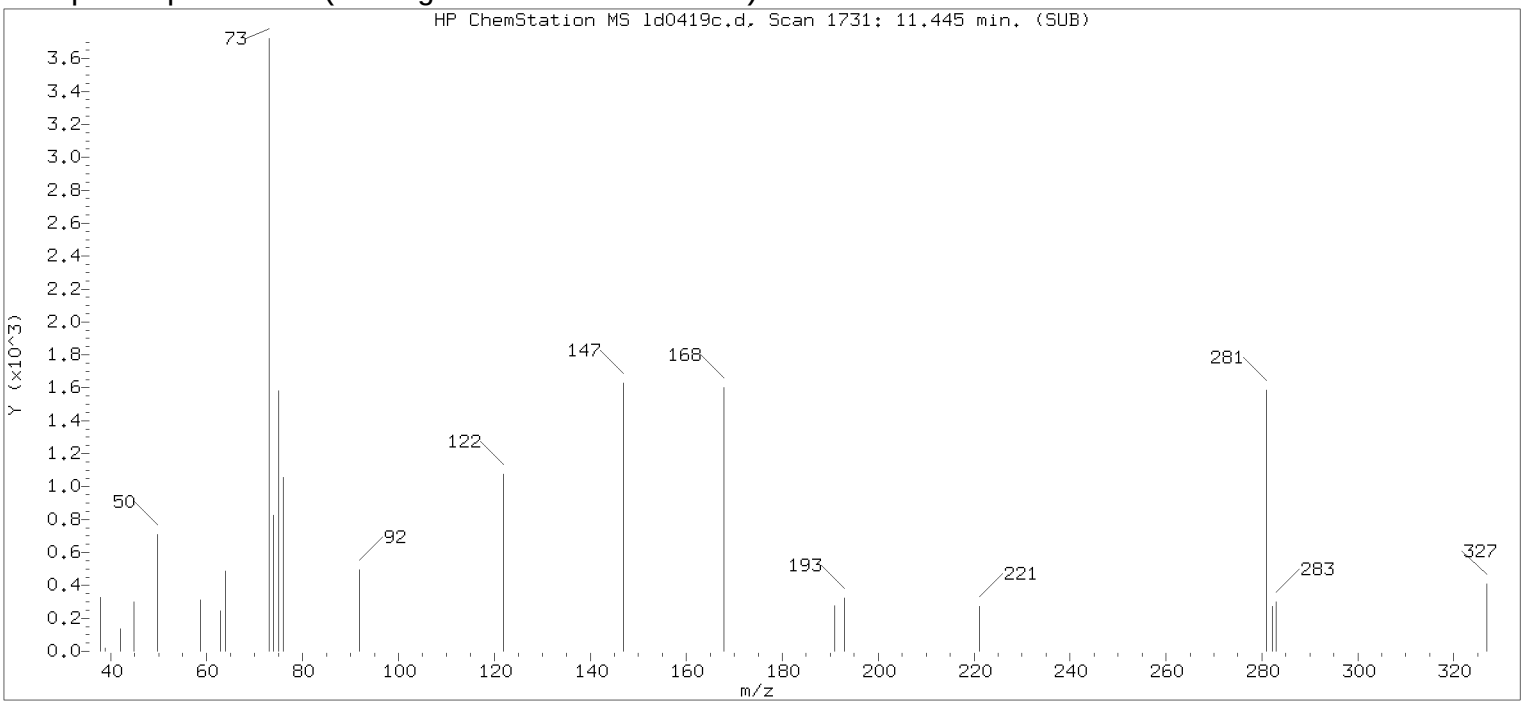
Compound Number : 105
Compound Name : 1,4-Dinitrobenzene
Scan Number : 1712
Retention Time (minutes) : 11.344
Quant Ion : 168.00
Area (flag) : 1105M
On-Column Amount (ng/ul) : 0.0631
Integration start scan : 1702 Integration stop scan: 1717
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

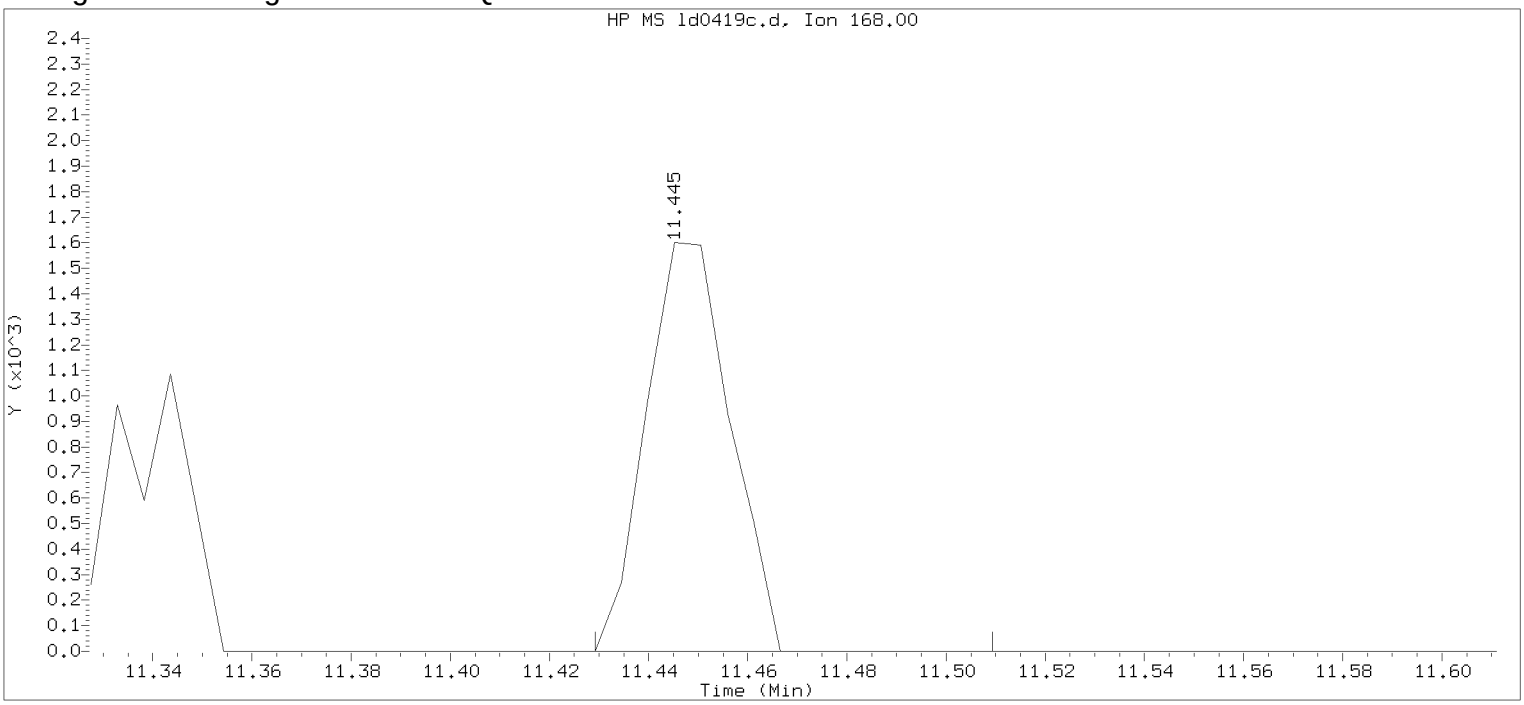
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

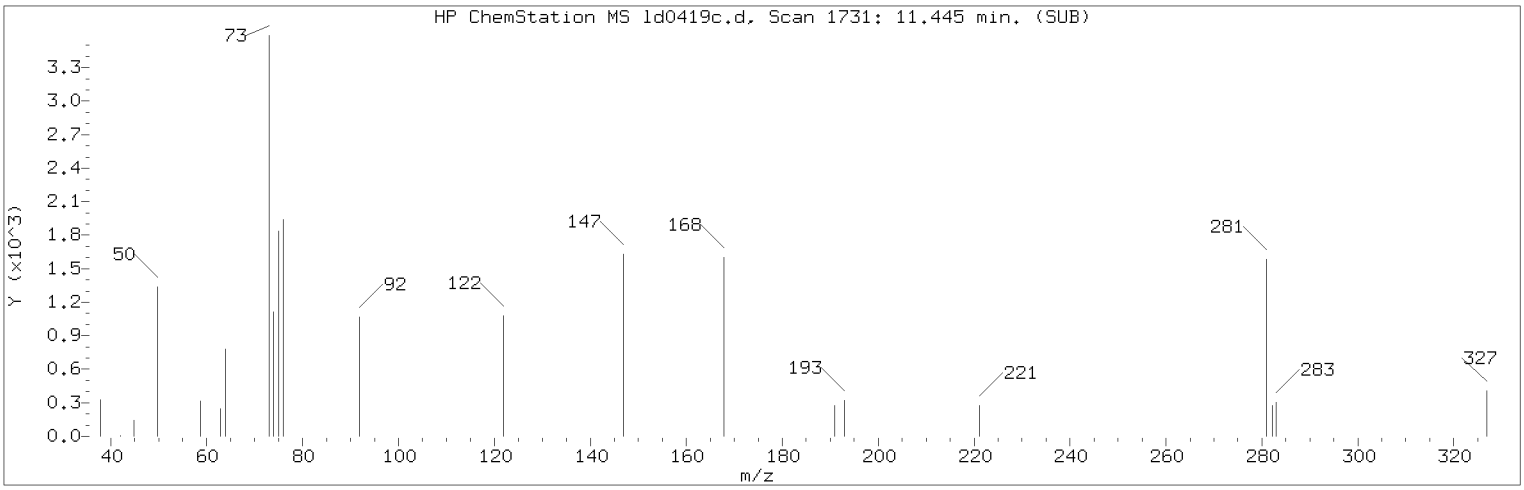
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

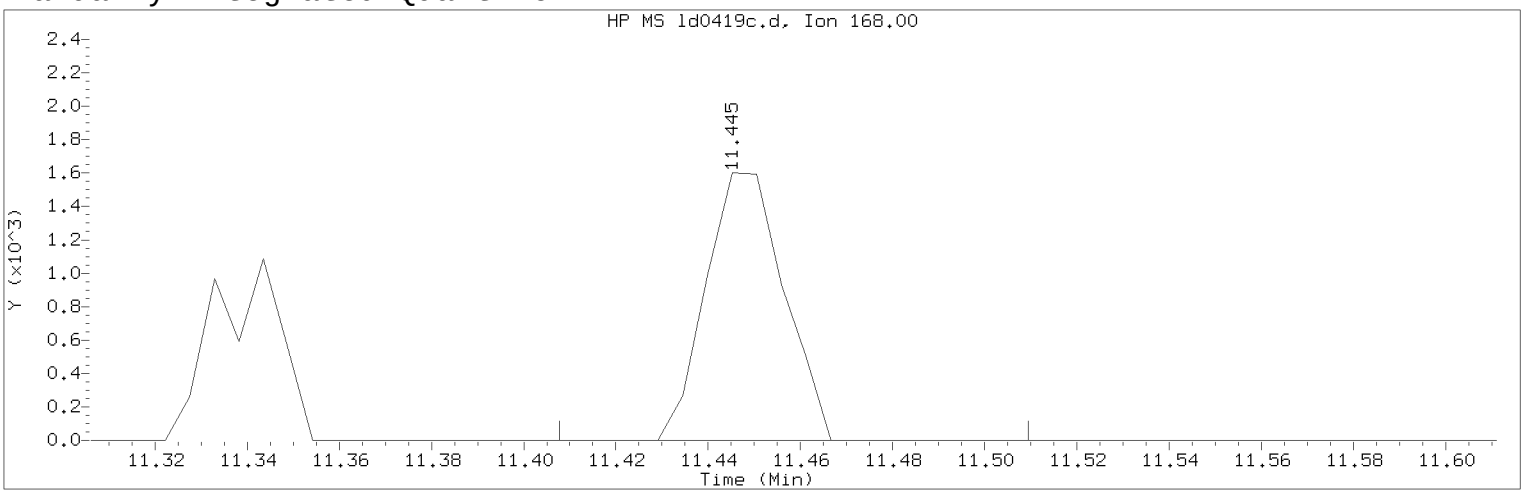
Compound Number : 105
Compound Name : 1,4-Dinitrobenzene
Scan Number : 1731
Retention Time (minutes) : 11.445
Quant Ion : 168.00
Area : 1886
On-column Amount (ng/ul) : 0.0966
Integration start scan : 1727 Integration stop scan: 1742
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user id: 1083

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:41 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

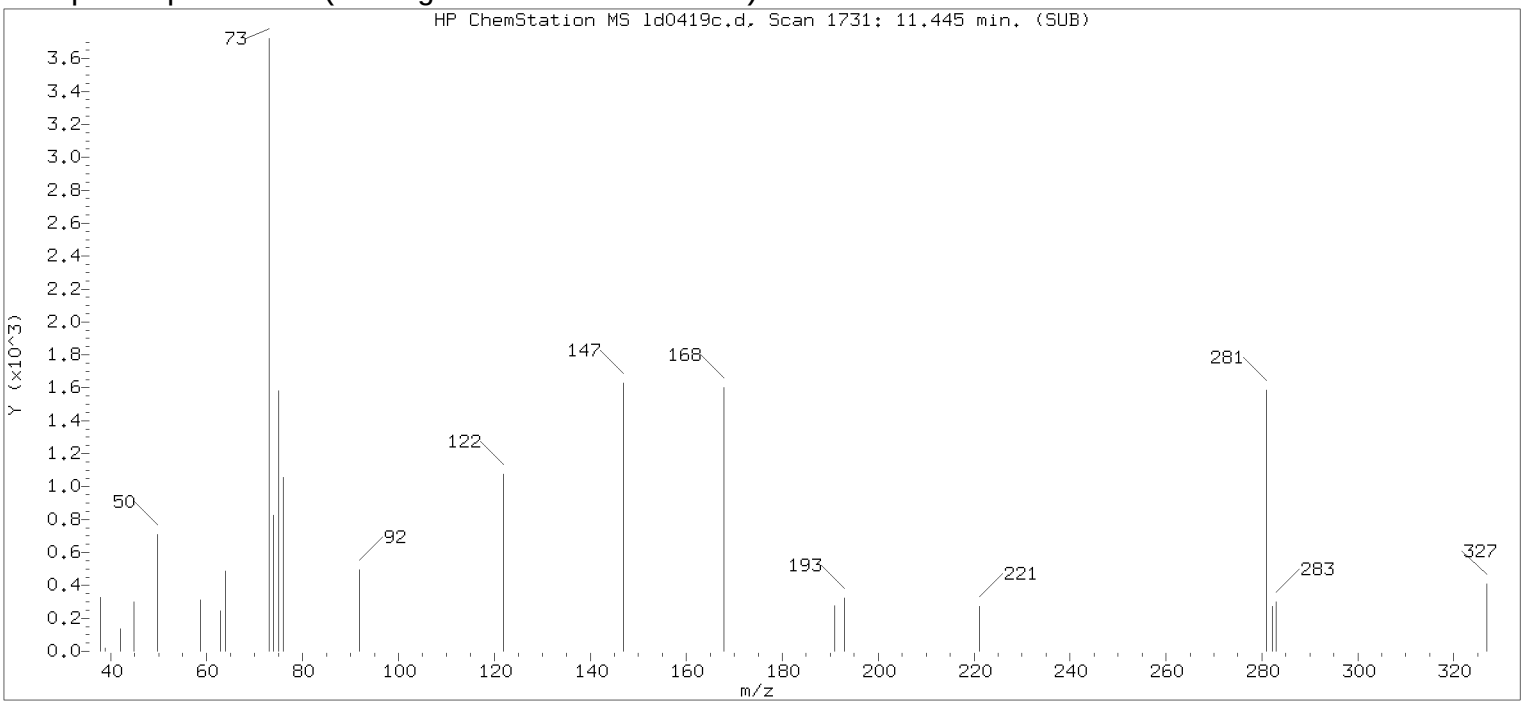
Compound Number : 107
Compound Name : 1,3-Dinitrobenzene
Scan Number : 1731
Retention Time (minutes) : 11.445
Quant Ion : 168.00
Area (flag) : 1886M
On-Column Amount (ng/ul) : 0.0959
Integration start scan : 1723 Integration stop scan: 1742
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

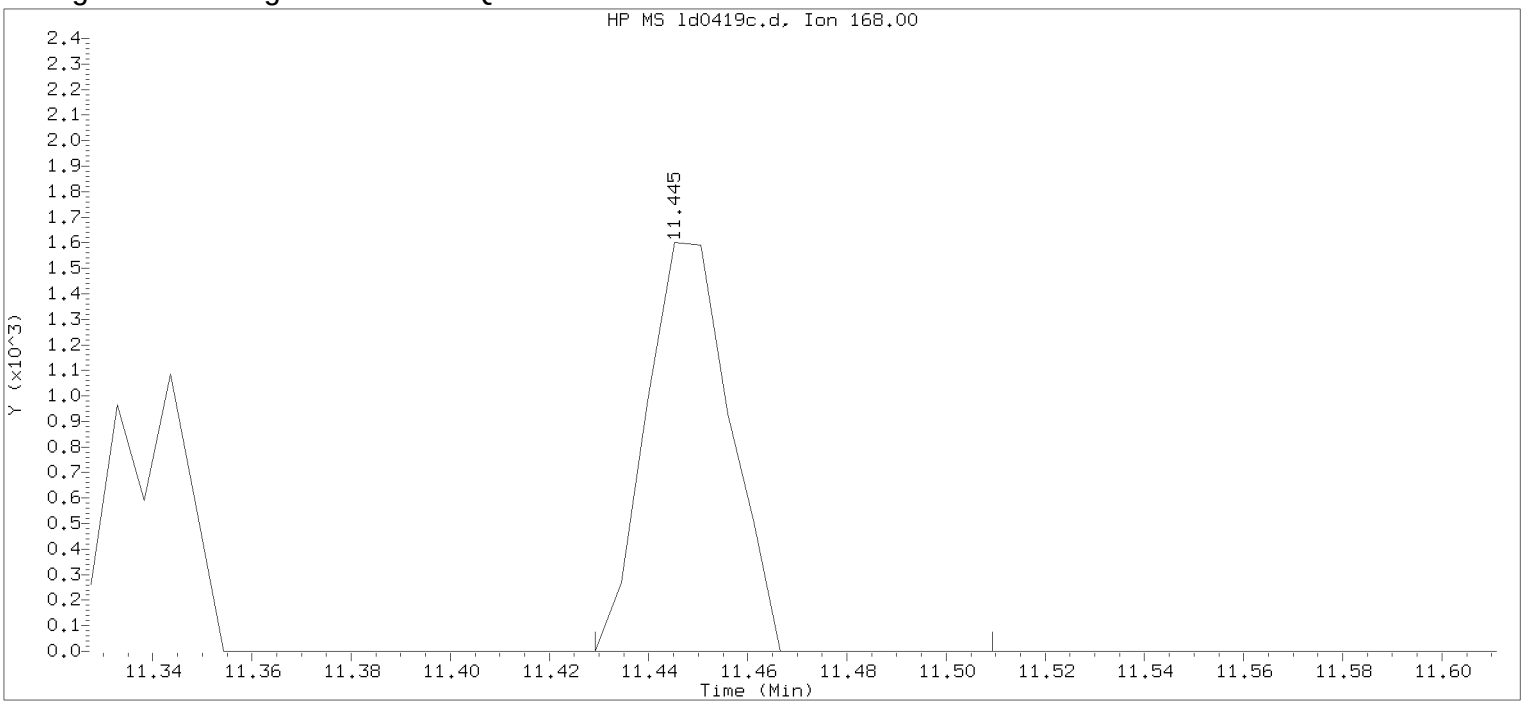
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

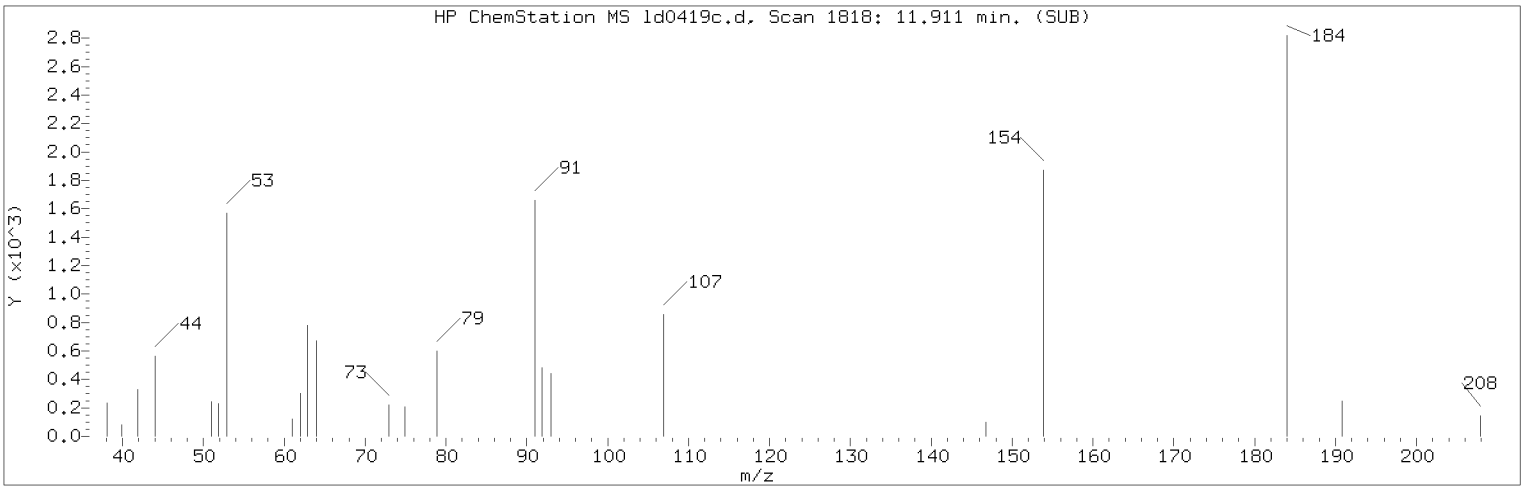
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

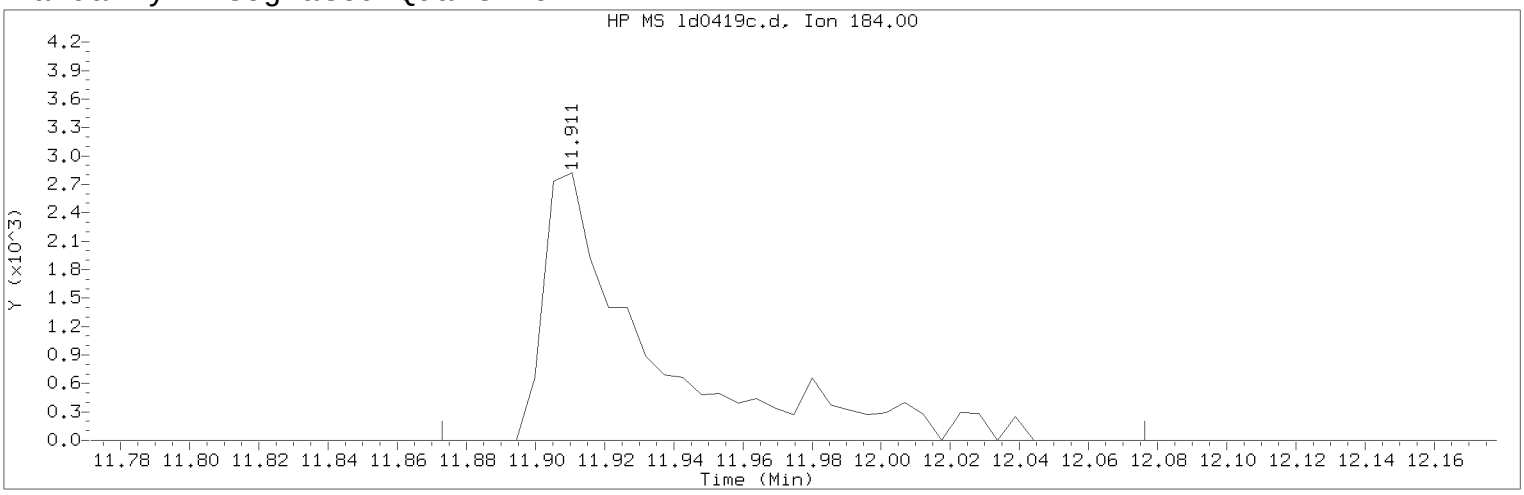
Compound Number : 107
Compound Name : 1,3-Dinitrobenzene
Scan Number : 1731
Retention Time (minutes) : 11.445
Quant Ion : 168.00
Area : 1886
On-column Amount (ng/ul) : 0.1077
Integration start scan : 1727 Integration stop scan: 1742
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user id: 1037

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:41 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

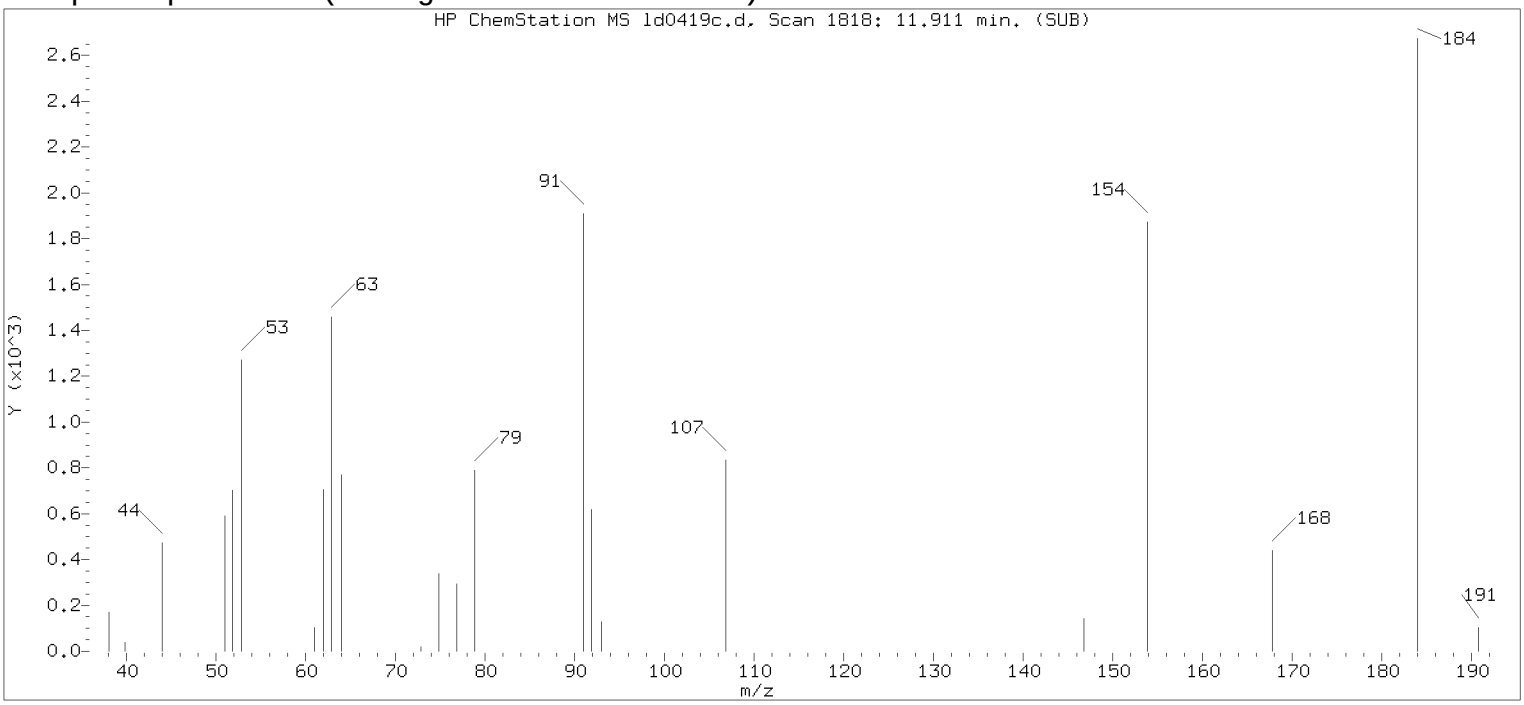
Compound Number : 115
Compound Name : 2,4-Dinitrophenol
Scan Number : 1818
Retention Time (minutes) : 11.911
Quant Ion : 184.00
Area (flag) : 6095M
On-Column Amount (ng/ul) : 0.3707
Integration start scan : 1810 Integration stop scan: 1848
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

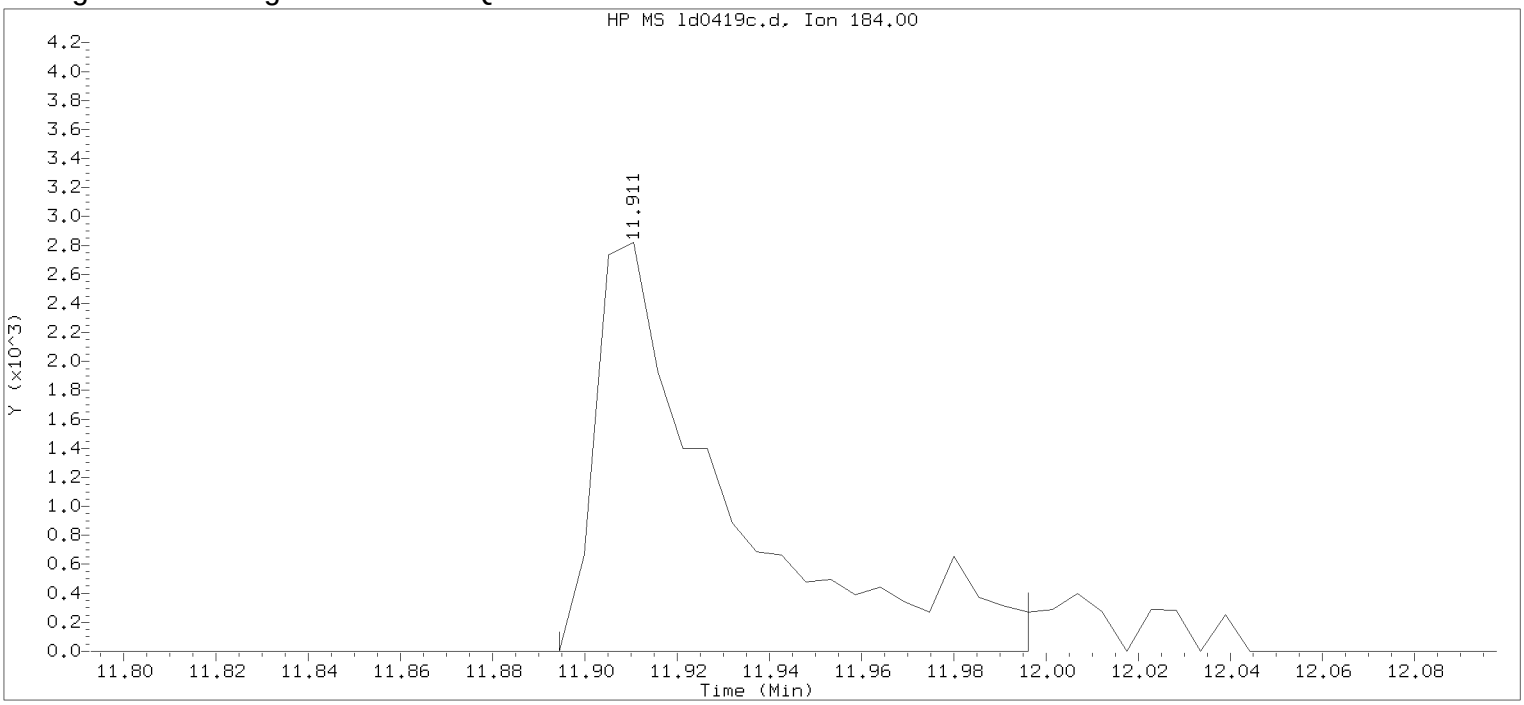
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

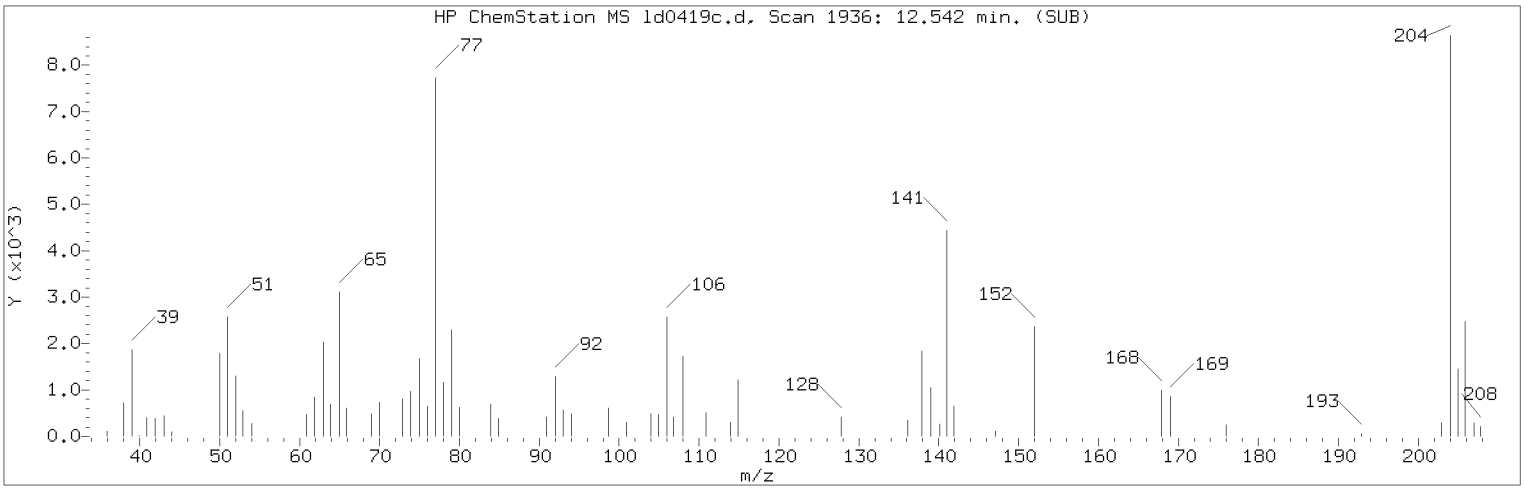
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

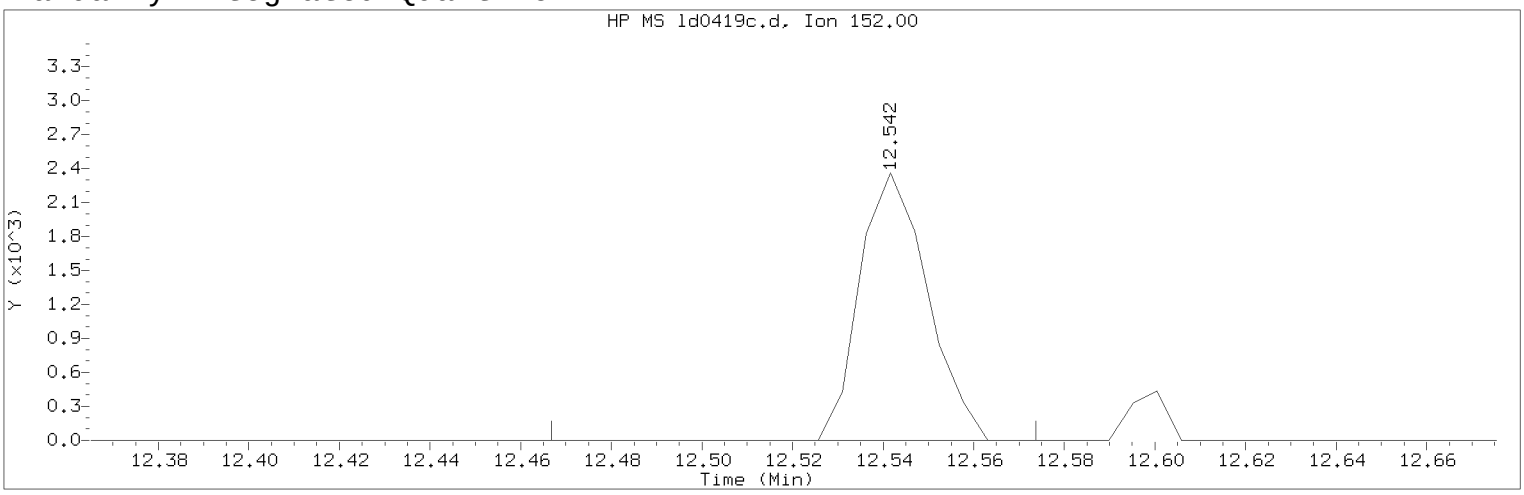
Compound Number : 115
Compound Name : 2,4-Dinitrophenol
Scan Number : 1818
Retention Time (minutes) : 11.911
Quant Ion : 184.00
Area : 5478
On-column Amount (ng/ul) : 0.3332
Integration start scan : 1814 Integration stop scan: 1833
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: 1038

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:41 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

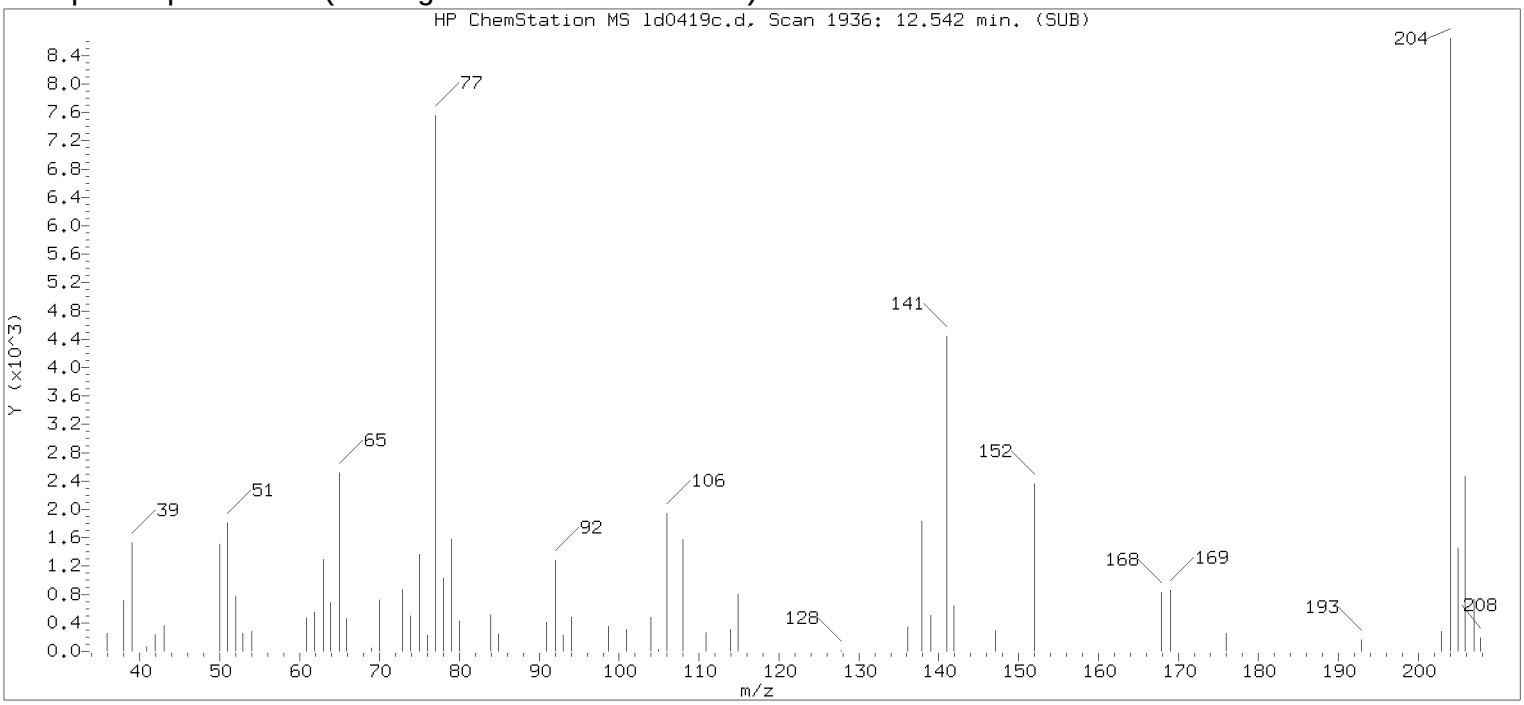
Compound Number : 128
Compound Name : 5-Nitro-o-toluidine
Scan Number : 1936
Retention Time (minutes) : 12.542
Quant Ion : 152.00
Area (flag) : 2449M
On-Column Amount (ng/ul) : 0.0739
Integration start scan : 1921 Integration stop scan: 1941
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

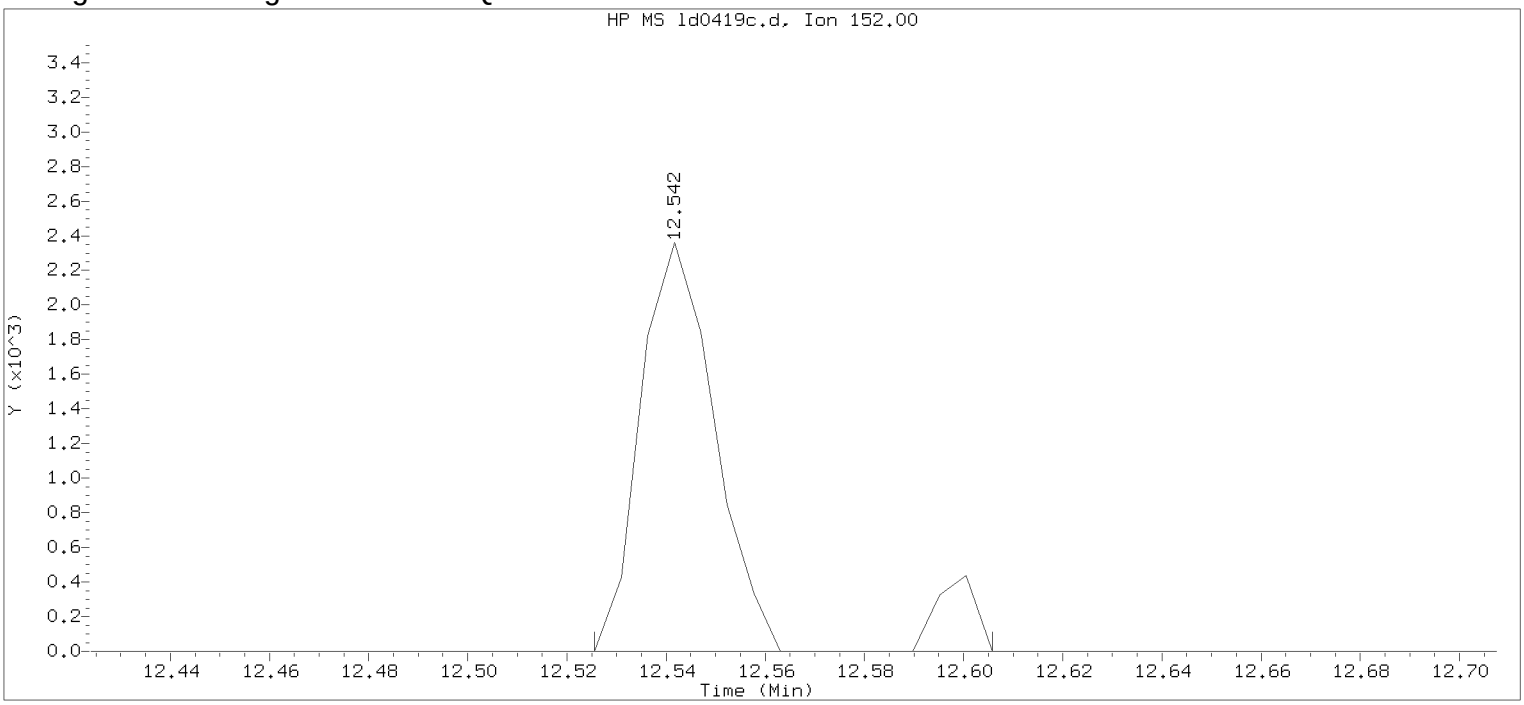
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

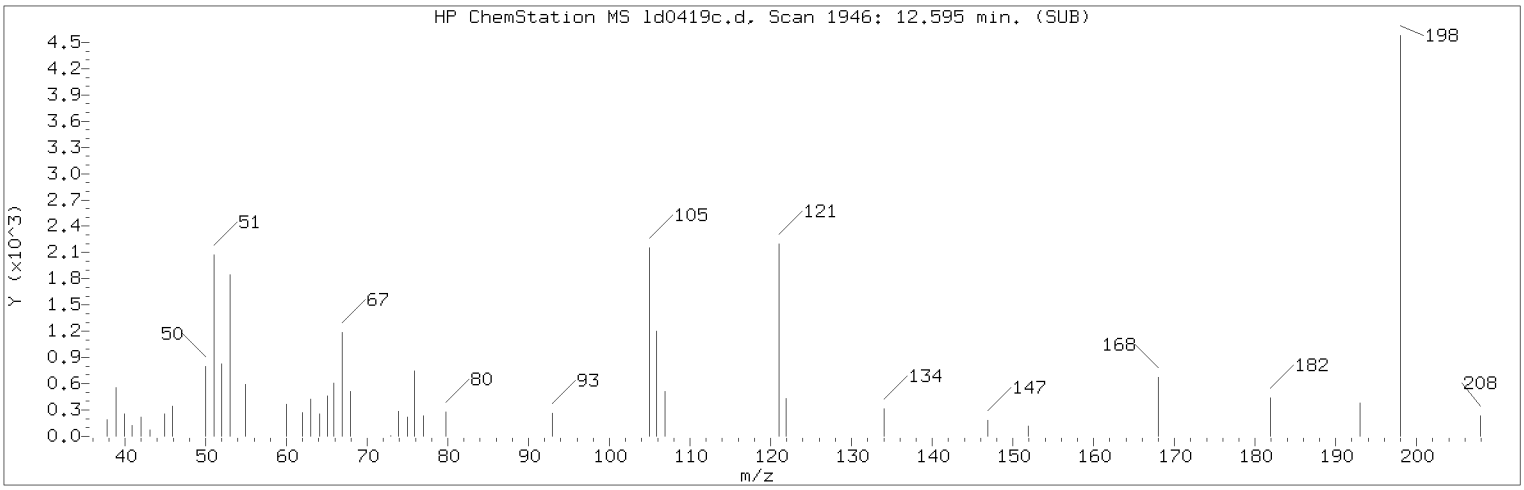
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

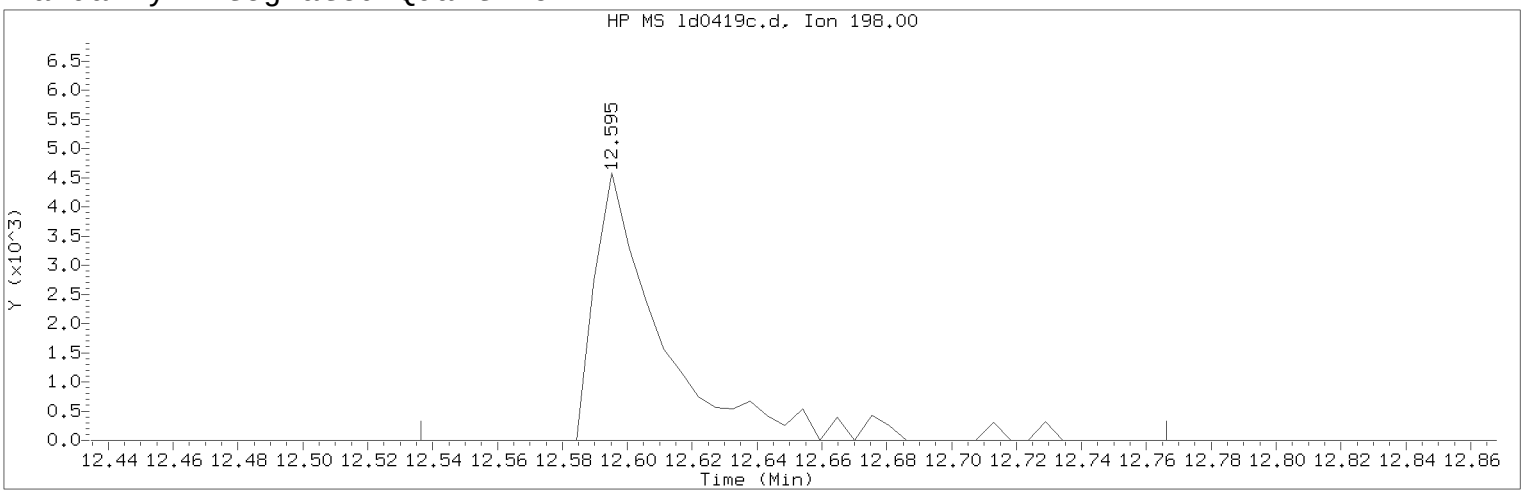
Compound Number : 128
Compound Name : 5-Nitro-o-toluidine
Scan Number : 1936
Retention Time (minutes) : 12.542
Quant Ion : 152.00
Area : 2695
On-column Amount (ng/ul) : 0.0804
Integration start scan : 1932 Integration stop scan: 1947
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: 1040

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:41 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

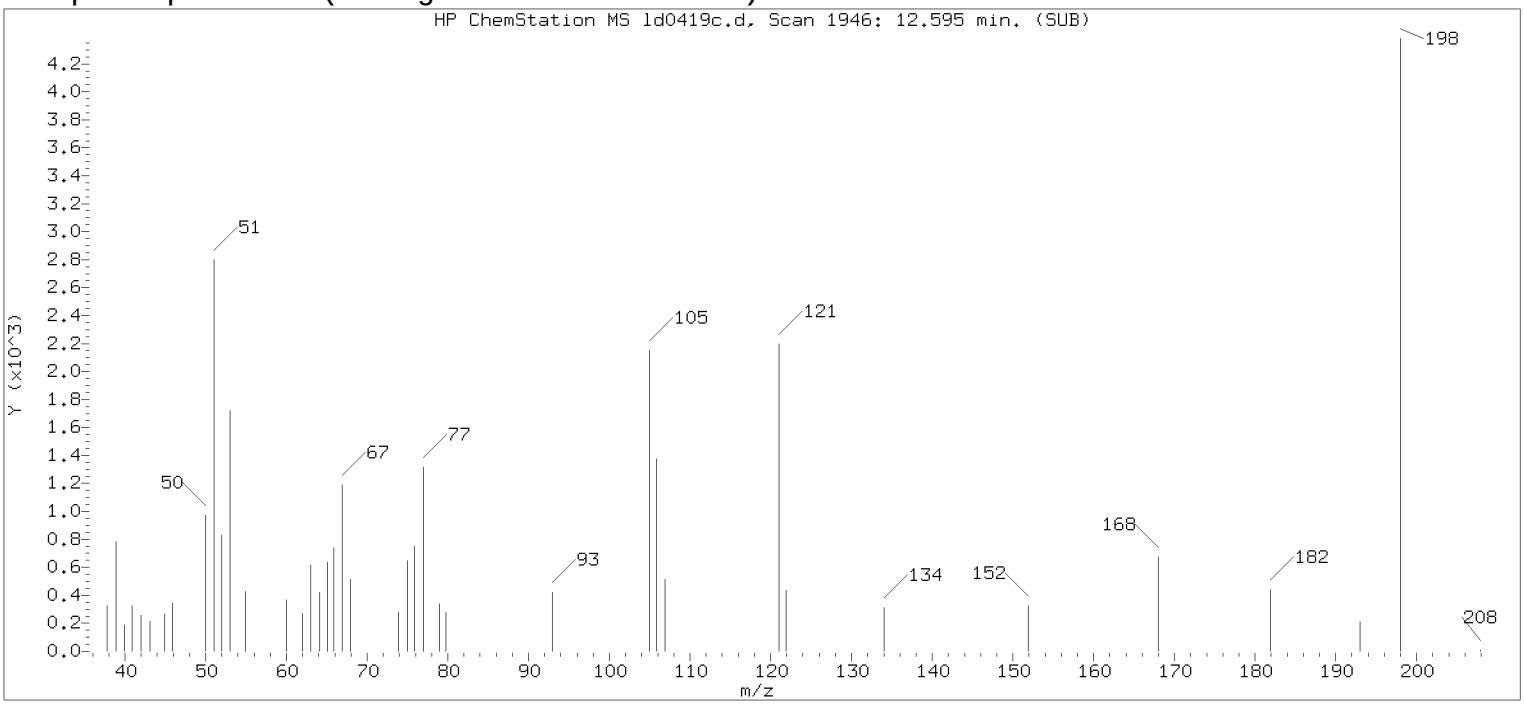
Compound Number : 130
Compound Name : 4,6-Dinitro-2-methylphenol
Scan Number : 1946
Retention Time (minutes) : 12.595
Quant Ion : 198.00
Area (flag) : 6796M
On-Column Amount (ng/ul) : 0.3101
Integration start scan : 1934 Integration stop scan: 1977
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

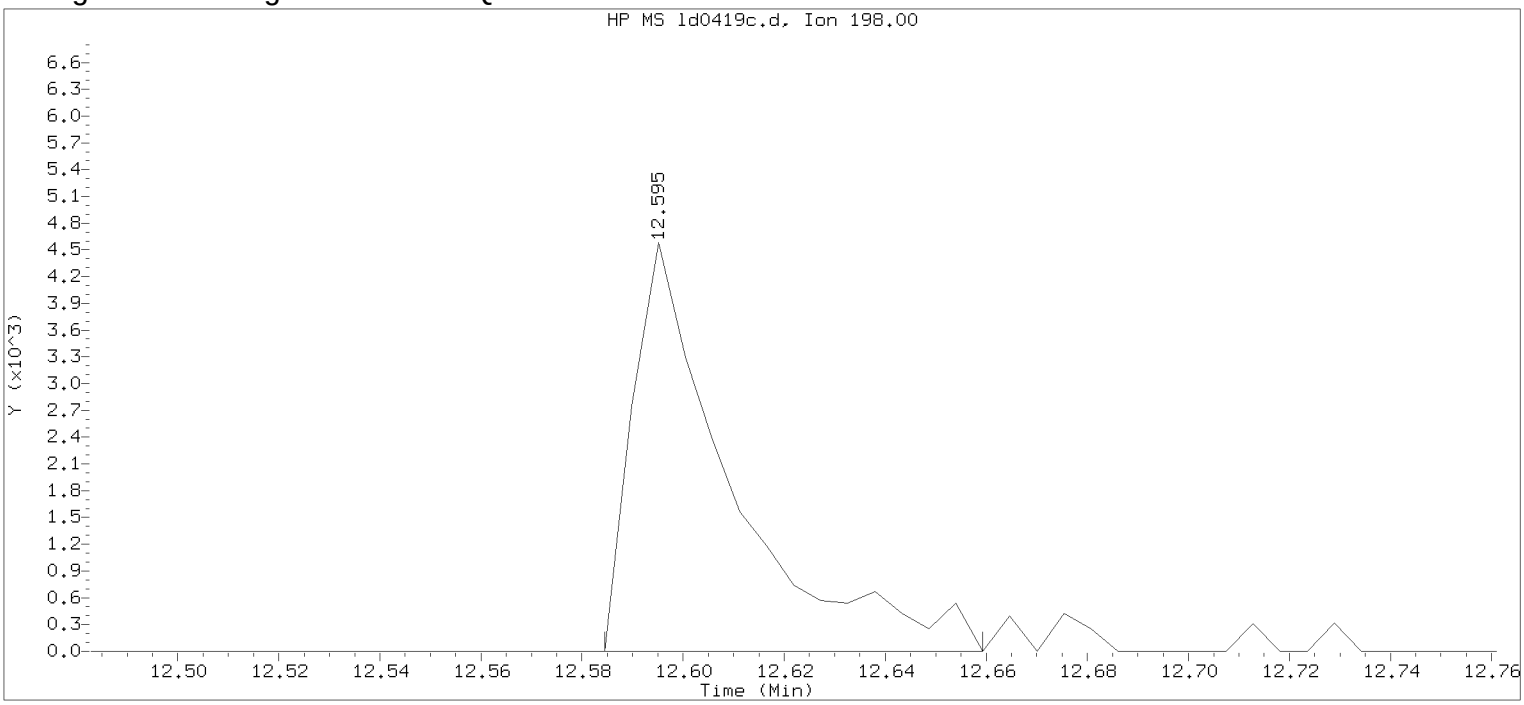
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

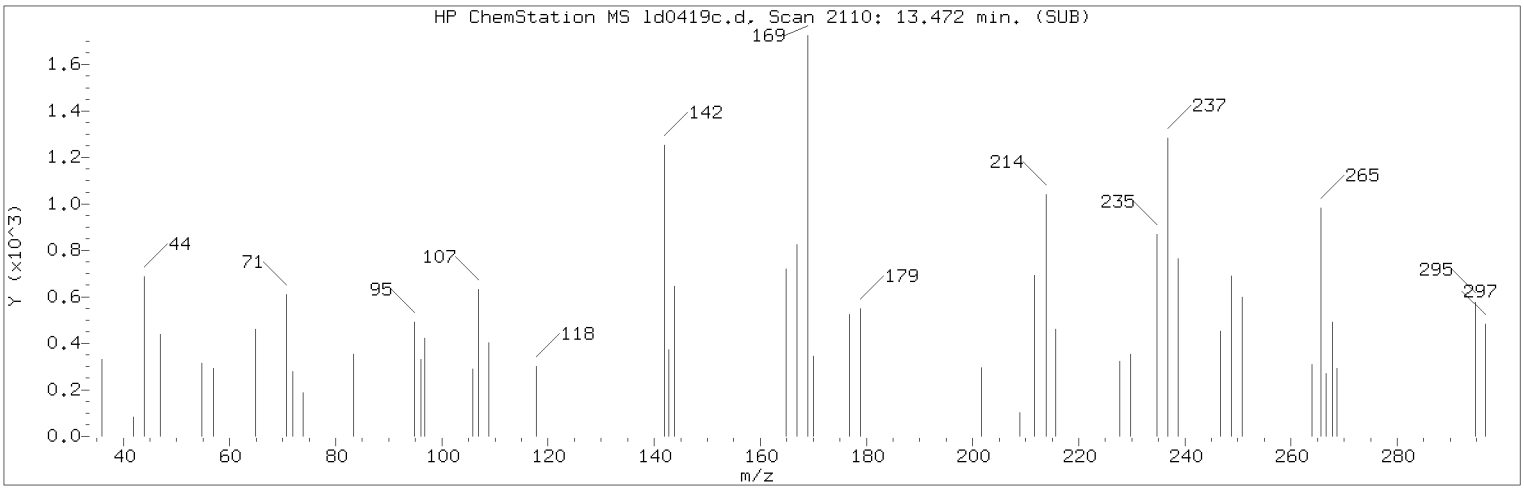
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

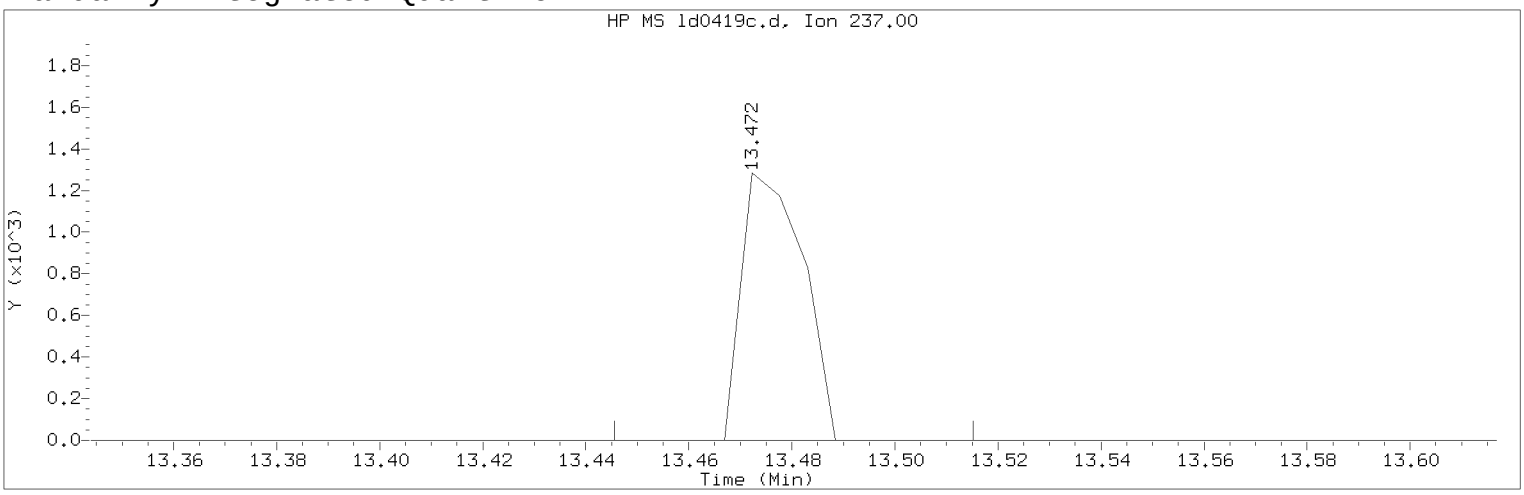
Compound Number : 130
Compound Name : 4,6-Dinitro-2-methylphenol
Scan Number : 1946
Retention Time (minutes) : 12.595
Quant Ion : 198.00
Area : 6250
On-column Amount (ng/ul) : 0.2852
Integration start scan : 1943 Integration stop scan: 1957
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: 1083

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:41 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

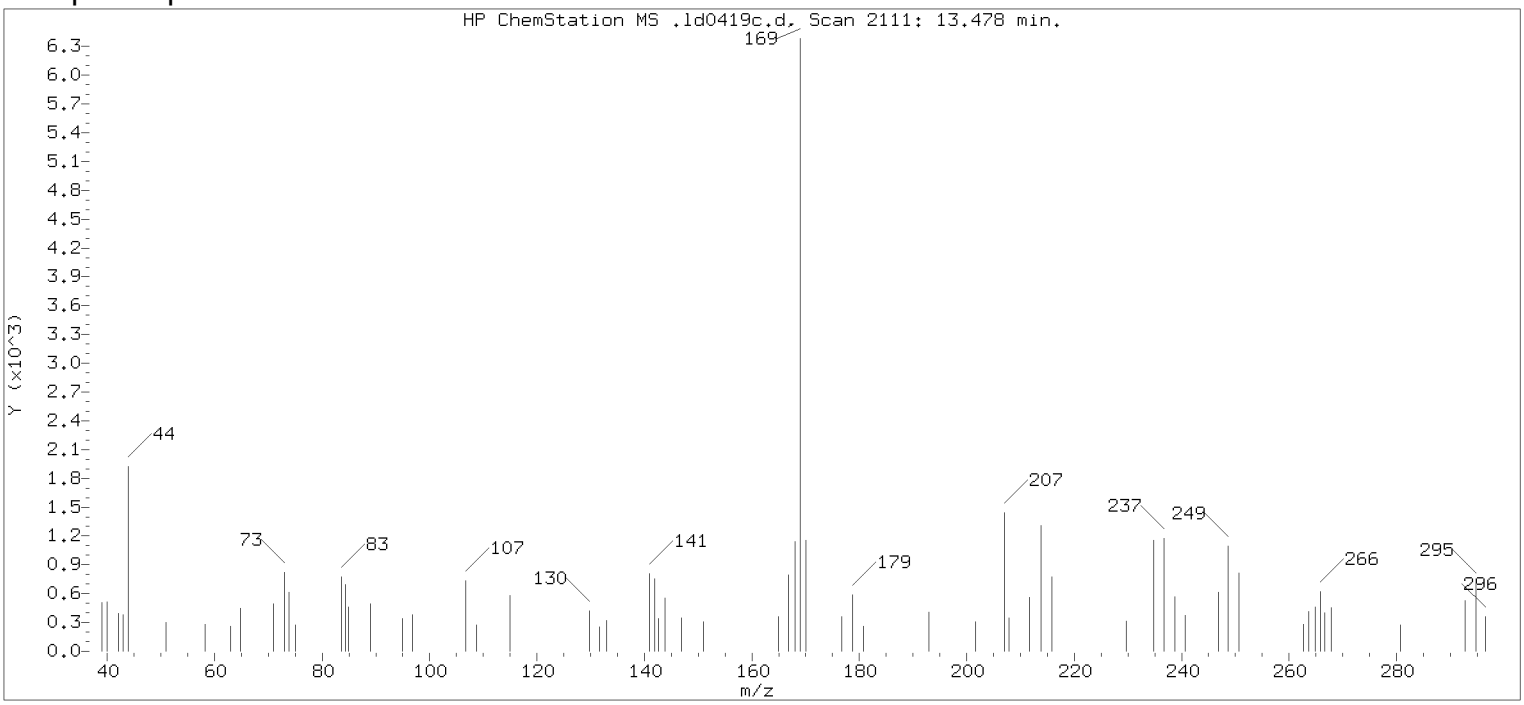
Compound Number : 151
Compound Name : Pentachloronitrobenzene
Scan Number : 2110
Retention Time (minutes) : 13.472
Quant Ion : 237.00
Area (flag) : 1054M
On-Column Amount (ng/ul) : 0.0636
Integration start scan : 2104 Integration stop scan: 2117
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

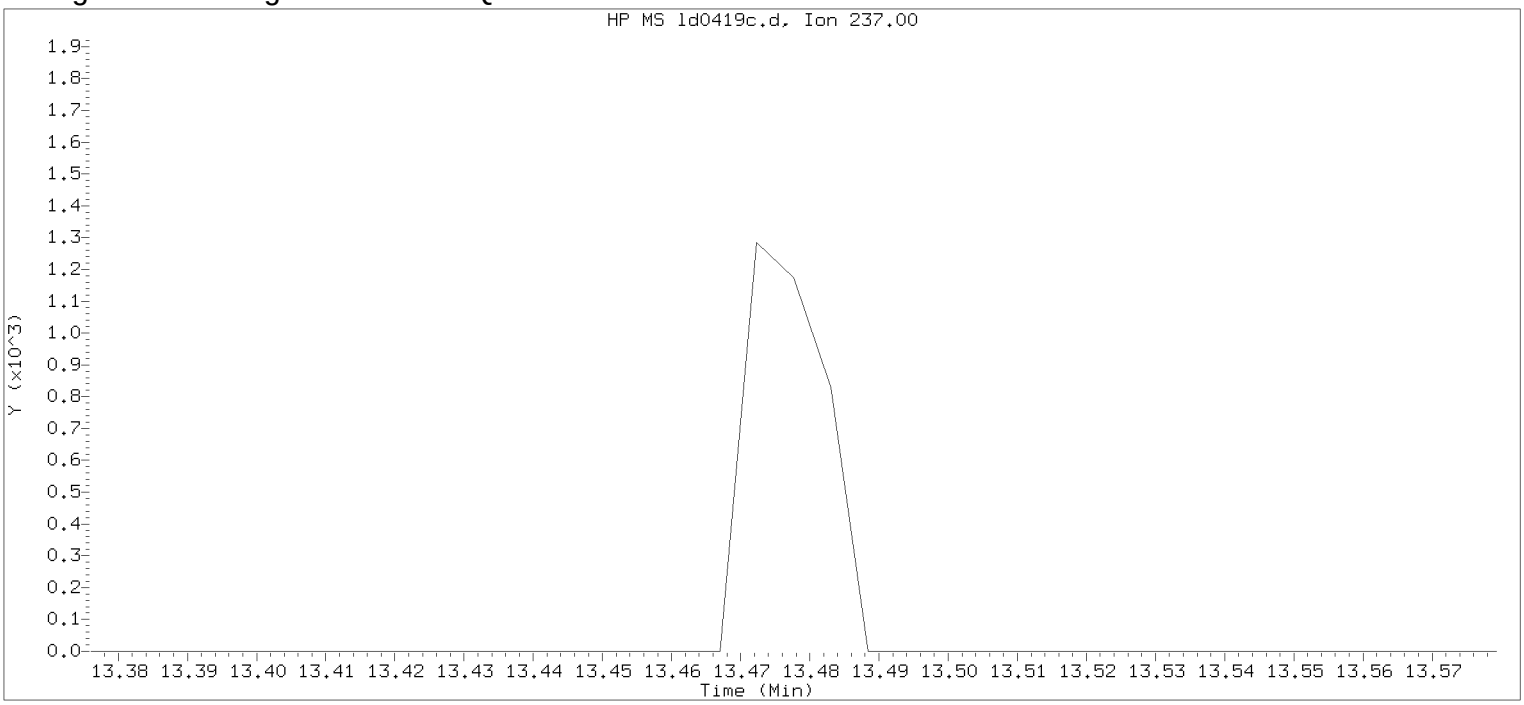
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

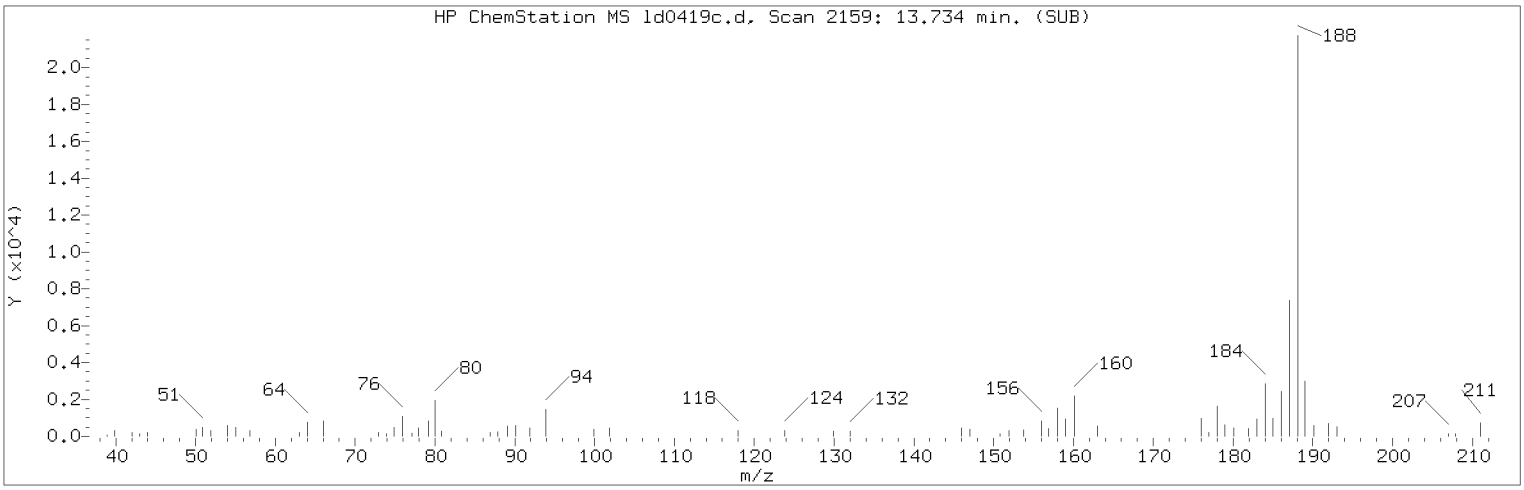
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

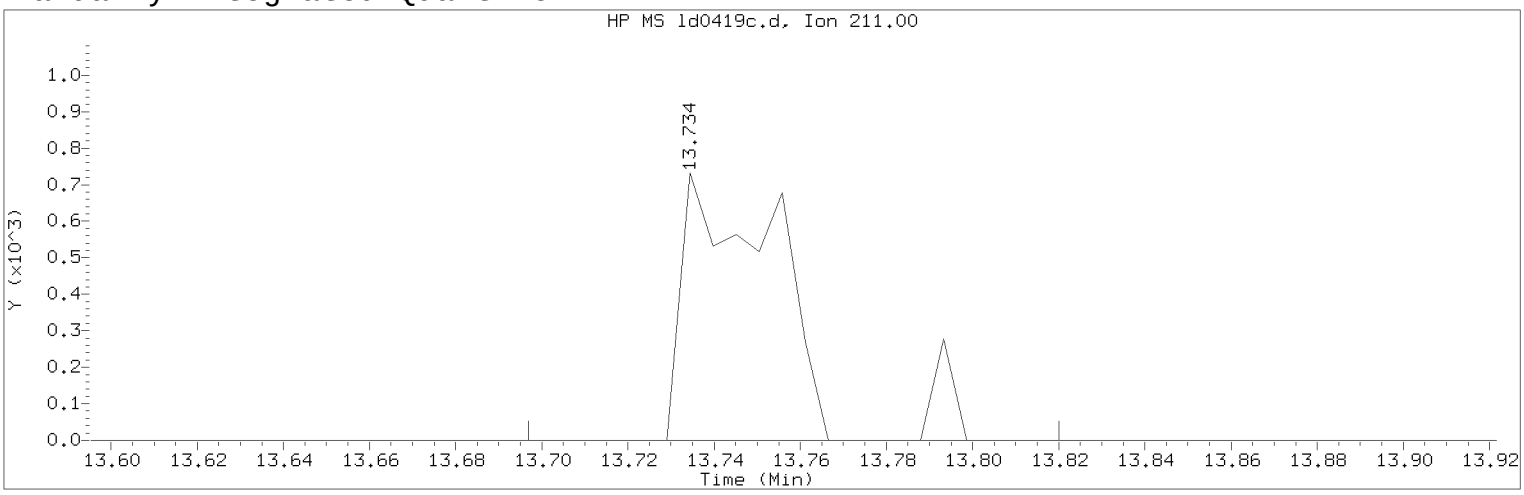
Compound Number : 151
Compound Name : Pentachloronitrobenzene
Expected RT (minutes) : 13.478
Quant Ion : 237.00

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: 1048

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:41 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

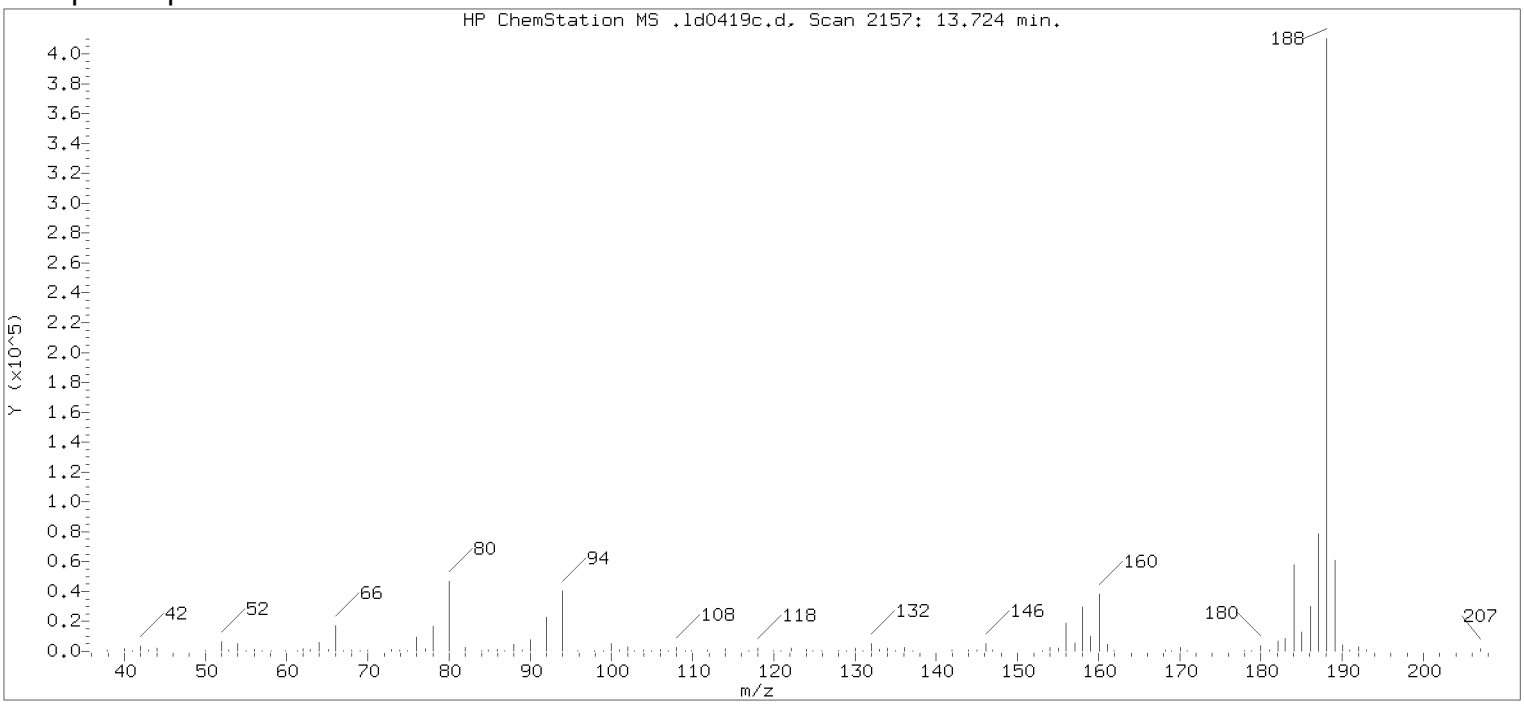
Compound Number : 154
Compound Name : Dinoseb
Scan Number : 2159
Retention Time (minutes) : 13.734
Quant Ion : 211.00
Area (flag) : 1146M
On-Column Amount (ng/ul) : 0.0334
Integration start scan : 2151 Integration stop scan: 2174
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

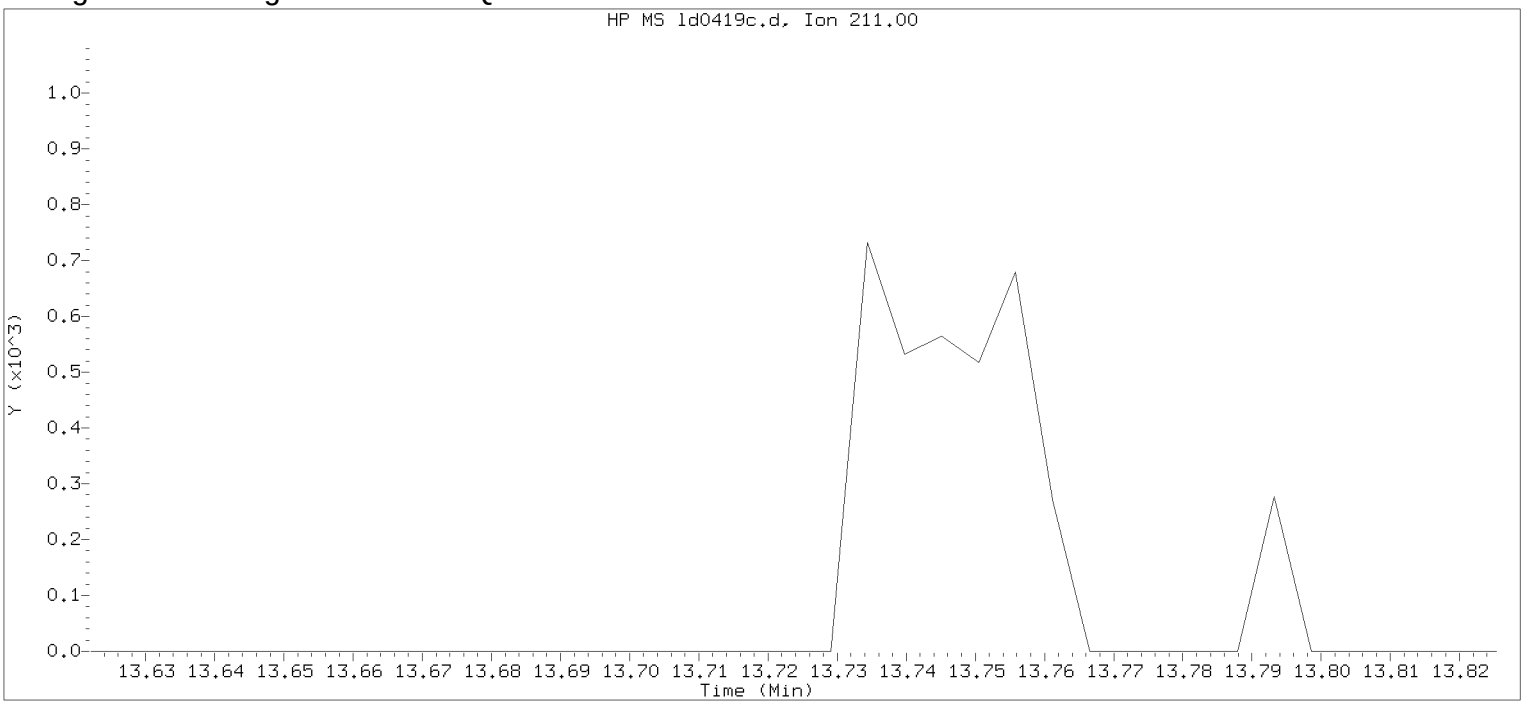
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

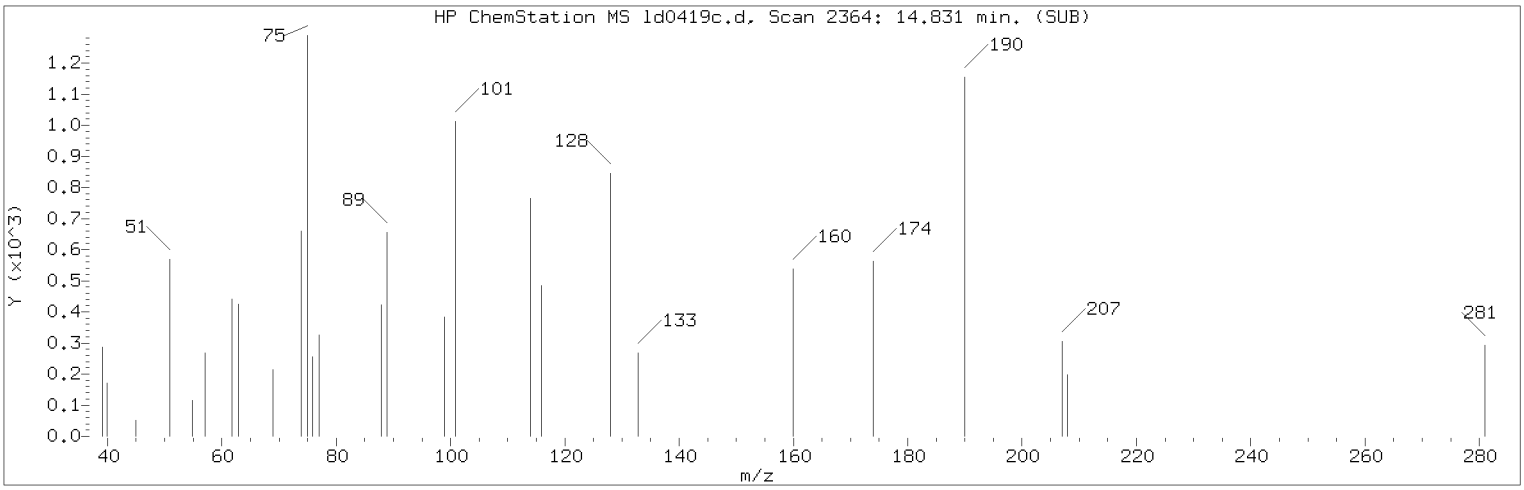
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

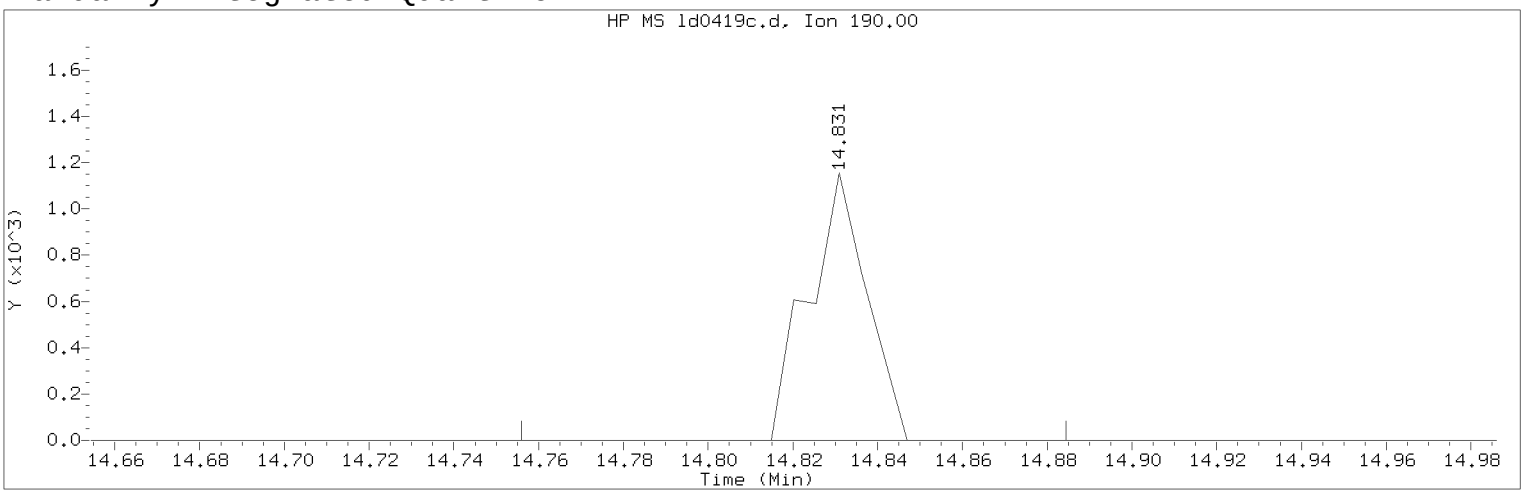
Compound Number : 154
Compound Name : Dinoseb
Expected RT (minutes) : 13.724
Quant Ion : 211.00

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: 1027

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:41 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

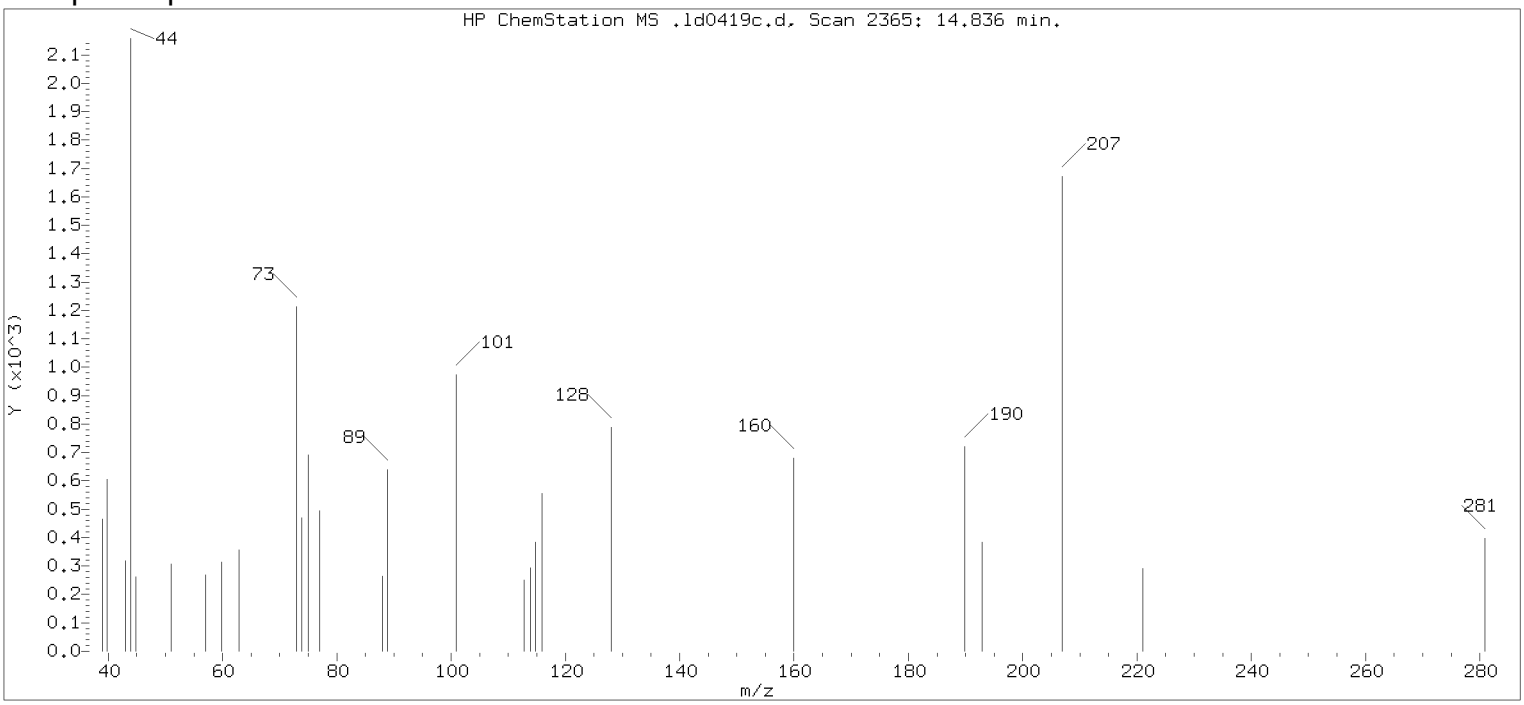
Compound Number : 168
Compound Name : 4-Nitroquinoline-1-oxide
Scan Number : 2364
Retention Time (minutes) : 14.831
Quant Ion : 190.00
Area (flag) : 1100M
On-Column Amount (ng/ul) : 1.3631
Integration start scan : 2349 Integration stop scan: 2373
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

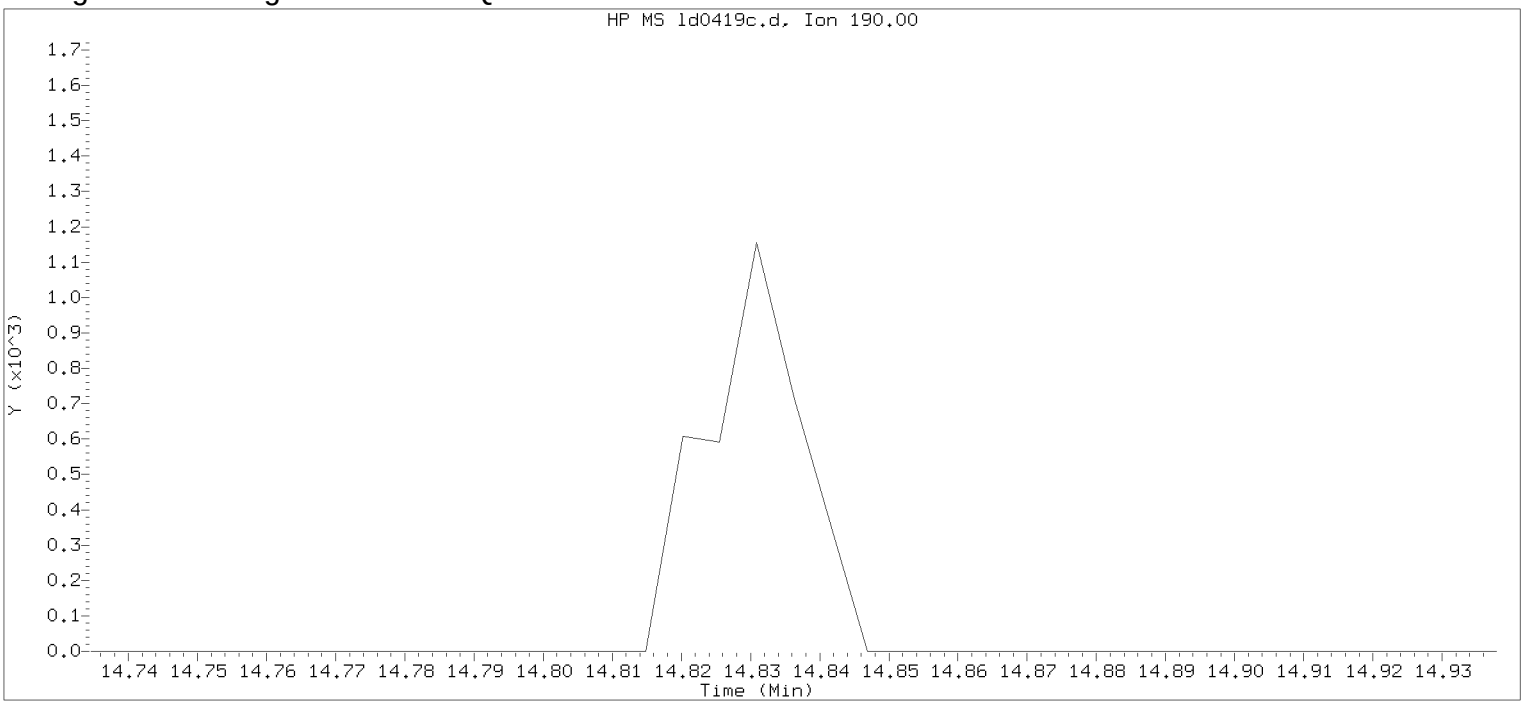
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

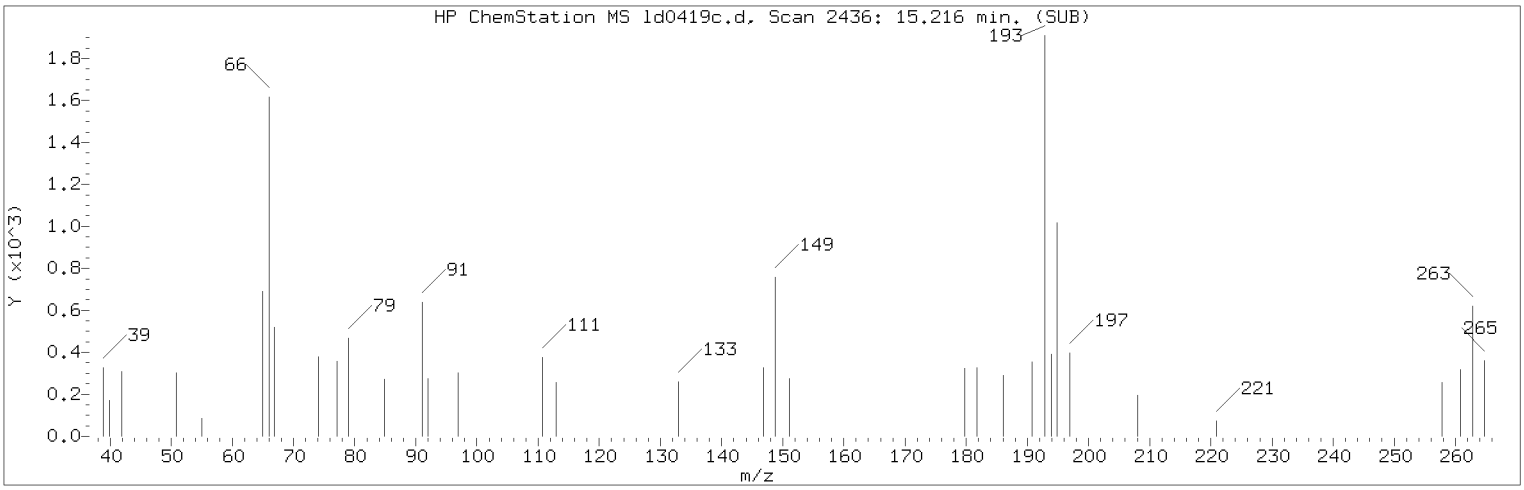
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

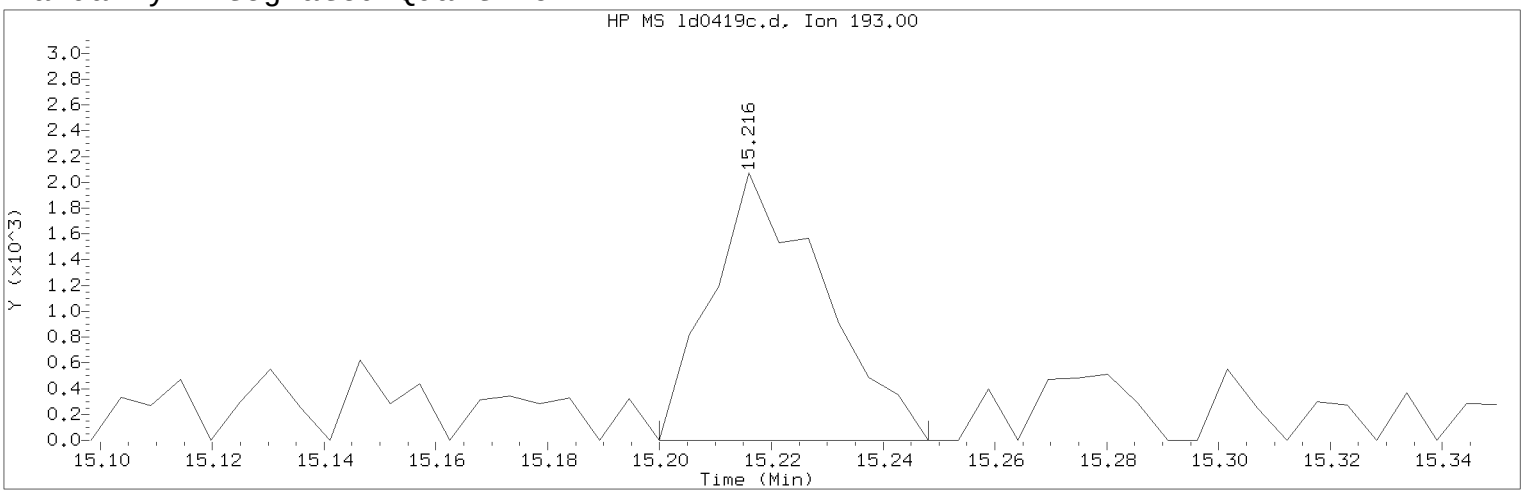
Compound Number : 168
Compound Name : 4-Nitroquinoline-1-oxide
Expected RT (minutes) : 14.836
Quant Ion : 190.00

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: 1048

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:41 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

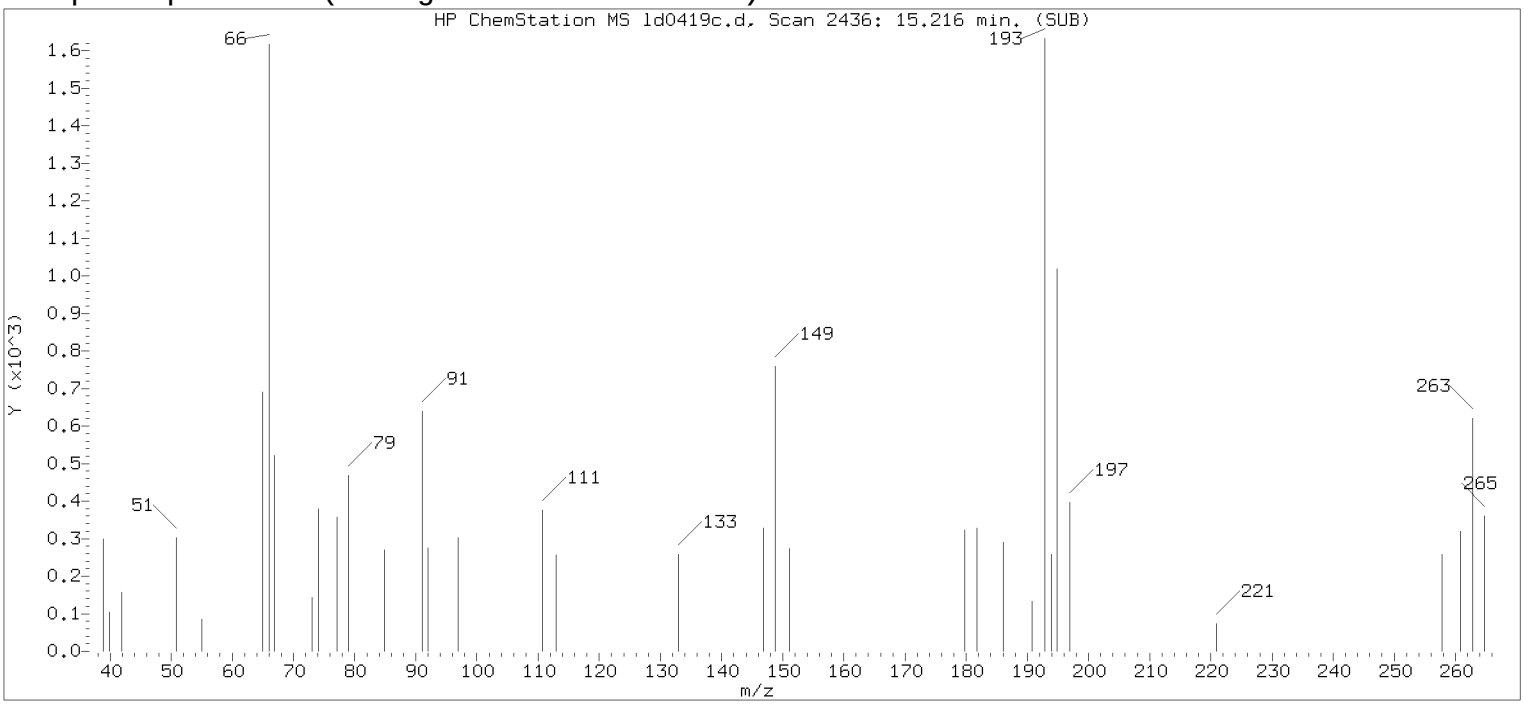
Compound Number : 171
Compound Name : Isodrin
Scan Number : 2436
Retention Time (minutes) : 15.216
Quant Ion : 193.00
Area (flag) : 2867M
On-Column Amount (ng/ul) : 0.1268
Integration start scan : 2432 Integration stop scan: 2441
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

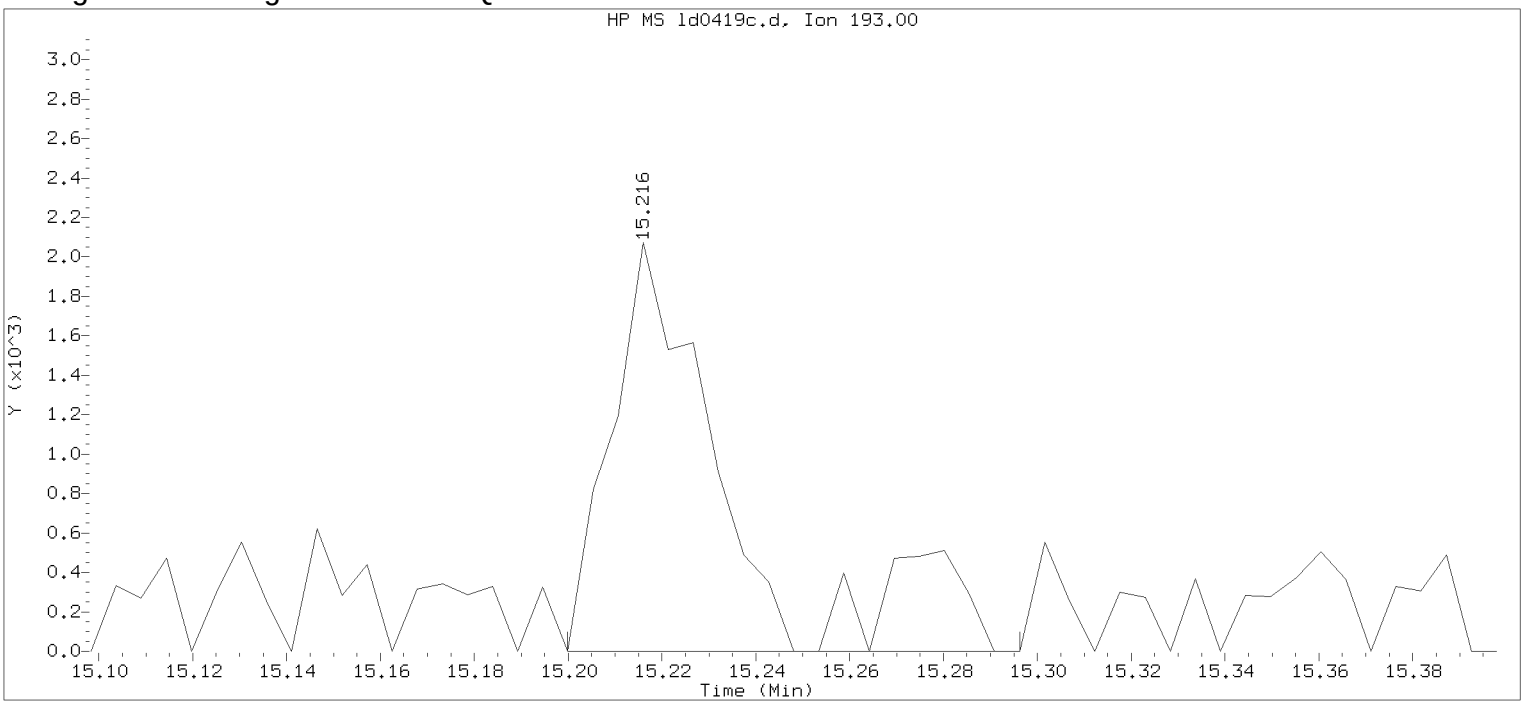
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



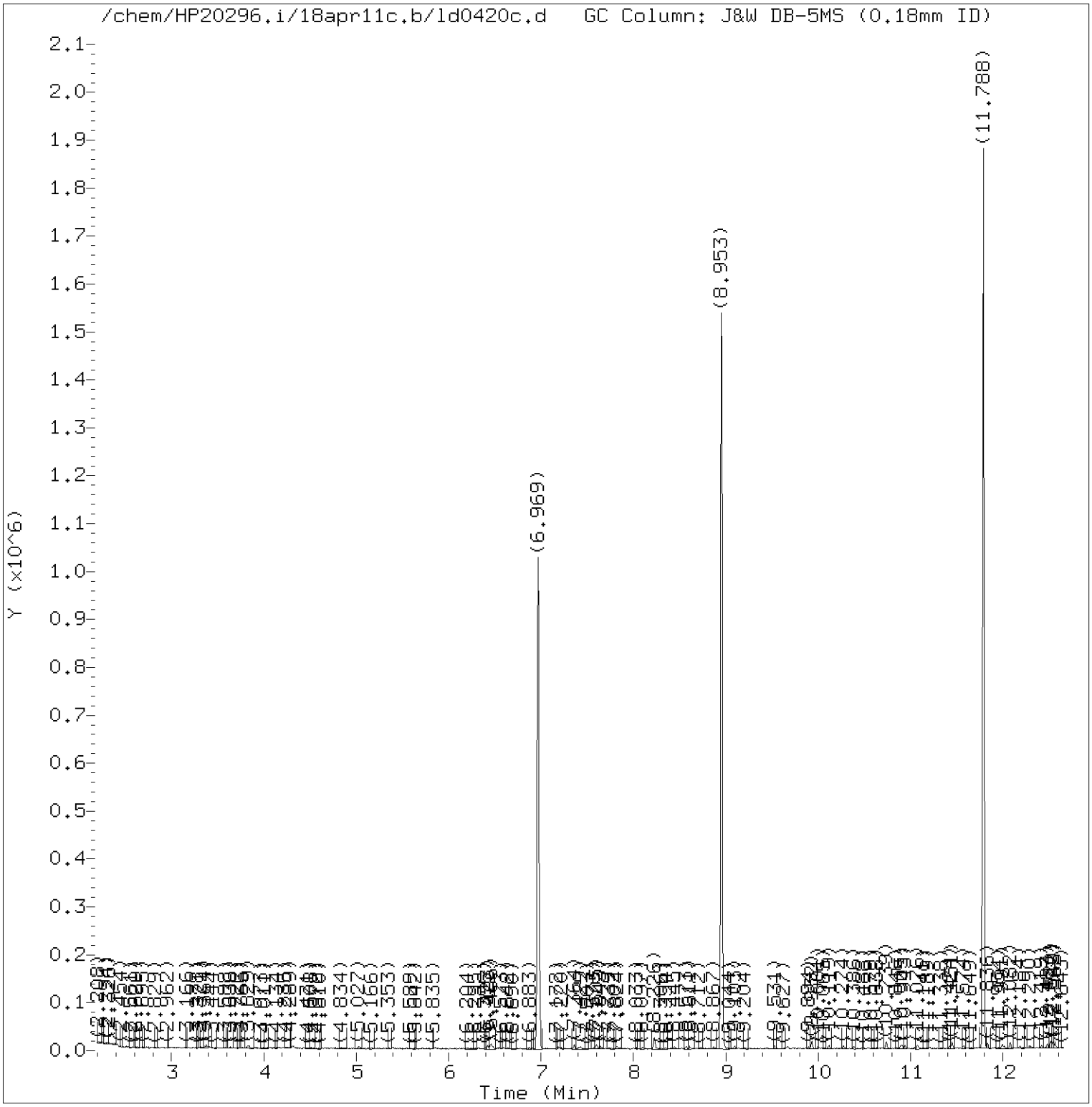
Data File: /chem/HP20296.i/18apr11c.b/ld0419c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 12:47 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: mdlall1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.125 Lab Sample ID: rvMDL0968

Compound Number : 171
Compound Name : Isodrin
Scan Number : 2436
Retention Time (minutes) : 15.216
Quant Ion : 193.00
Area : 3557
On-column Amount (ng/ul) : 0.1573
Integration start scan : 2432 Integration stop scan: 2450
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:54.
Target 3.5 esignature user id: 1085 hbz01996



Total Ion Chromatogram (TIC)

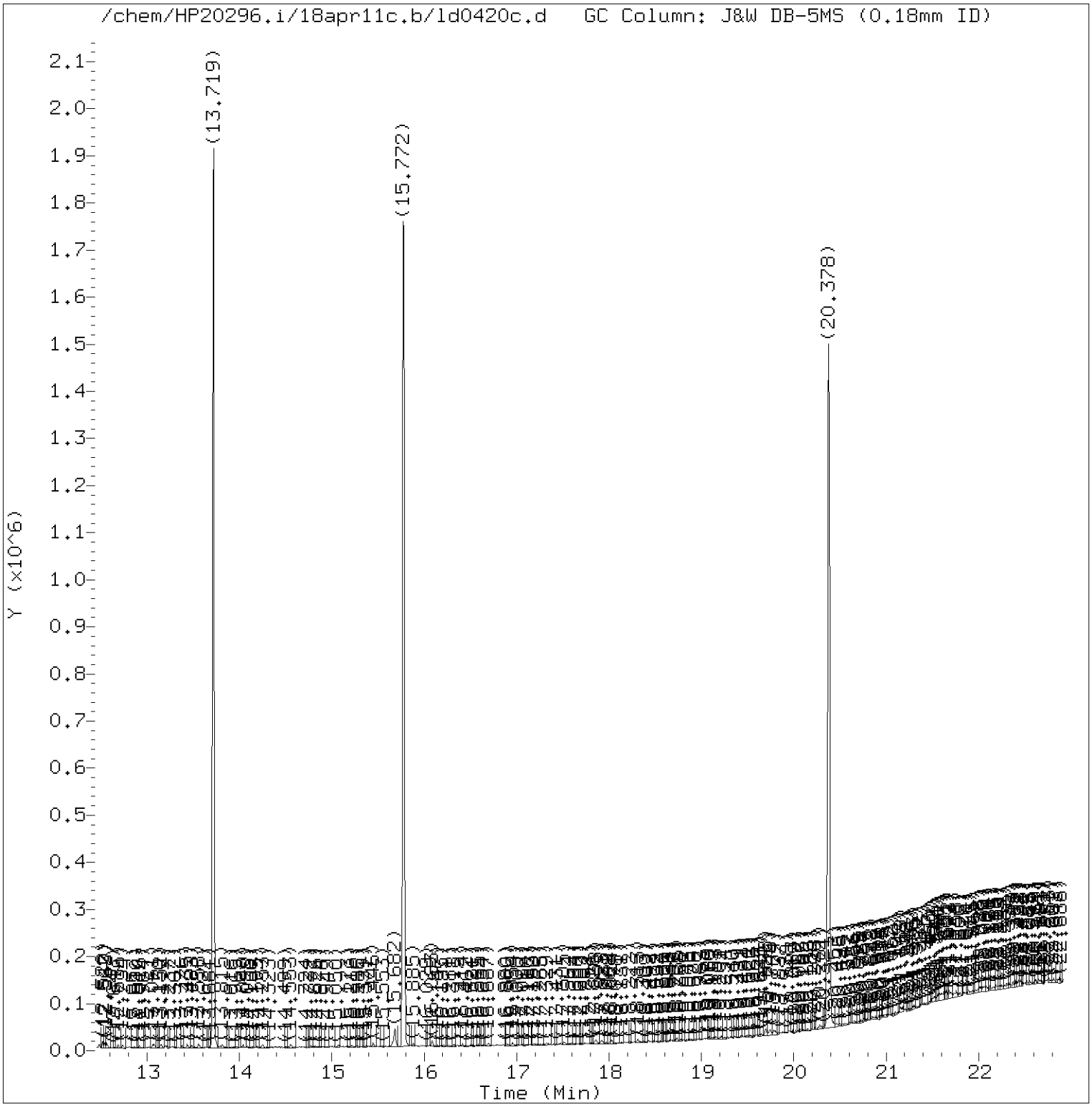
Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0420c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 13:15 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: pahmdlall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:41 bhs10208

Sample Name: SSTD0.025 Lab Sample ID: rvPAHMDL0968

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:55.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0420c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 13:15 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: pahmdlall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:41 bhs10208

Sample Name: SSTD0.025 Lab Sample ID: rvPAHMDL0968

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:55.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0420c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 13:15 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: pahmdlall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:41 bhs10208

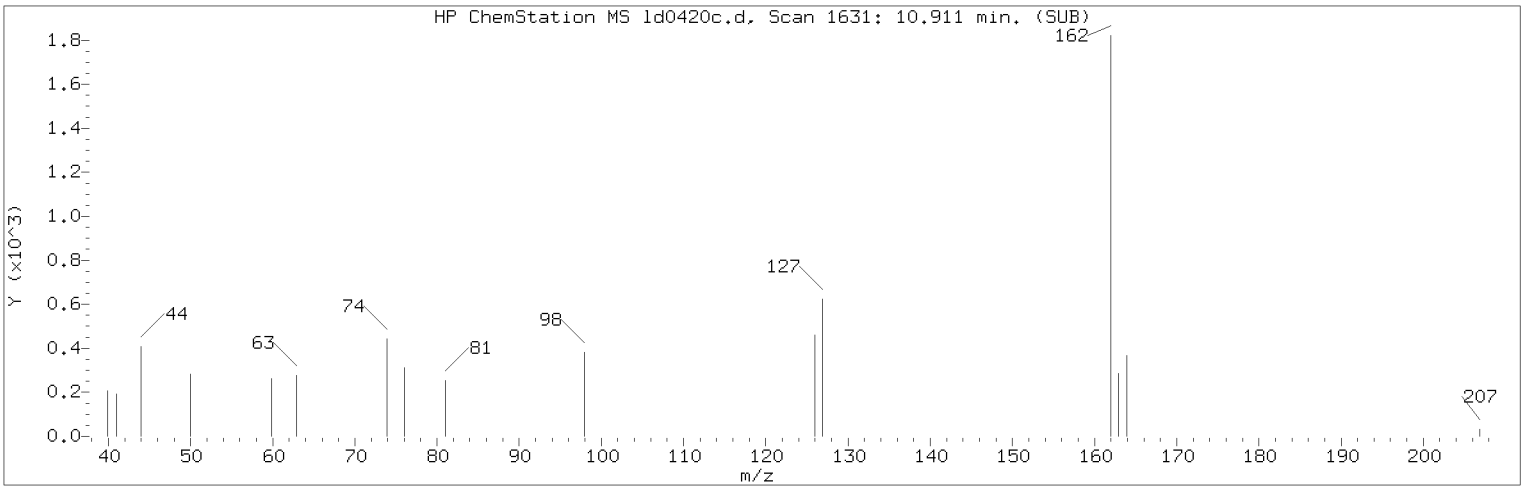
Sample Name: SSTD0.025 Lab Sample ID: rvPAHMDL0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.969	152	215106	5.000
44)$Nitrobenzene-d5	(2)	7.819	82	2760	0.037
65)*Naphthalene-d8	(2)	8.953	136	853868	5.000
66) Naphthalene	(2)	8.990	128	3645	0.021
83) 2-Methylnaphthalene	(2)	10.119	142	2527	0.022
84) 1-Methylnaphthalene	(2)	10.274	142	2204	0.020
93)$2-Fluorobiphenyl	(3)	10.739	172	6223	0.047
96) 2-Chloronaphthalene	(3)	10.911	162	2340M	0.020
109) Acenaphthylene	(3)	11.579	152	3138	0.019
113)*Acenaphthene-d10	(3)	11.788	164	426102	5.000
114) Acenaphthene	(3)	11.836	153	2595	0.023
126) Fluorene	(3)	12.520	166	2742	0.022
145) Hexachlorobenzene	(4)	13.200	284	593	0.017
153)*Phenanthrene-d10	(4)	13.719	188	825162	5.000
155) Phenanthrene	(4)	13.745	178	4633	0.025
157) Anthracene	(4)	13.815	178	3455	0.019
173) Fluoranthene	(4)	15.446	202	4216	0.021
175)*Pyrene-d10	(5)	15.772	212	830502	5.000
177) Pyrene	(5)	15.805	202	5149	0.024
179)$Terphenyl-d14	(5)	16.088	244	6189	0.046
195) Benzo(a)anthracene	(5)	17.858	228	4163	0.022
196) Chrysene	(5)	17.928	228	3818	0.021
206) Benzo(b)fluoranthene	(6)	19.741	252	3766	0.021
208) Benzo(k)fluoranthene	(6)	19.789	252	4227	0.024
211) Benzo(a)pyrene	(6)	20.281	252	3327	0.020
213)*Perylene-d12	(6)	20.378	264	746642	5.000
222) Total PAHs	(6)			64478	0.393
219) Indeno(1,2,3-cd)pyrene	(6)	22.020	276	3718	0.024
220) Dibenz(a,h)anthracene	(6)	22.068	278	3436	0.022
221) Benzo(g,h,i)perylene	(6)	22.442	276	3719	0.023

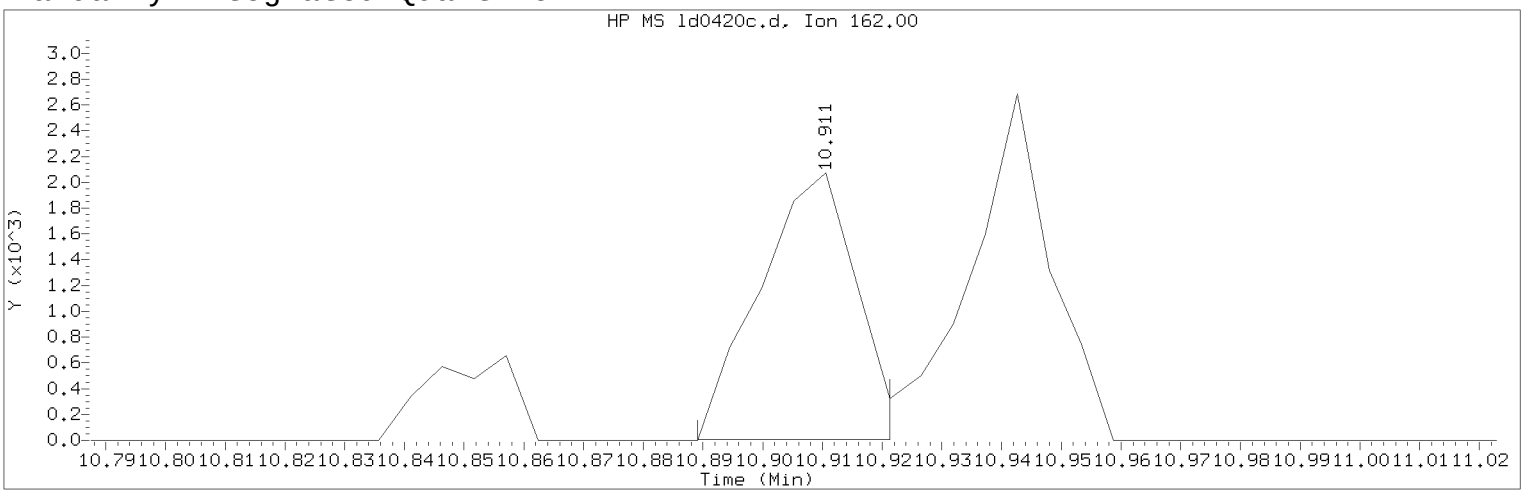
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:55.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0420c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 13:15 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: pahmdlall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:41 bhs10208

Sample Name: SSTD0.025 Lab Sample ID: rvPAHMDL0968

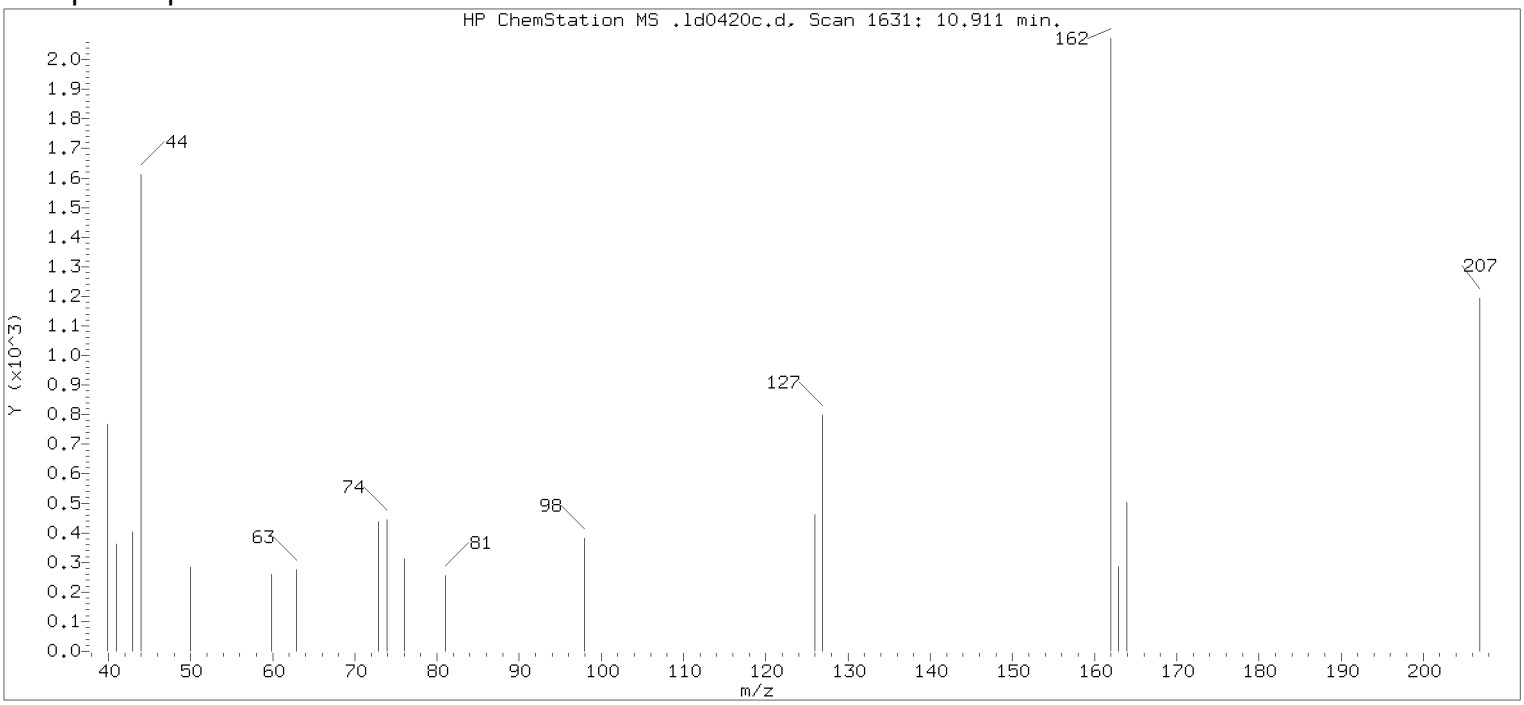
Compound Number : 96
Compound Name : 2-Chloronaphthalene
Scan Number : 1631
Retention Time (minutes) : 10.911
Quant Ion : 162.00
Area (flag) : 2340M
On-Column Amount (ng/ul) : 0.0202
Integration start scan : 1626 Integration stop scan: 1632
Y at integration start : 6 Y at integration end: 6

Reason for manual integration: missed peak

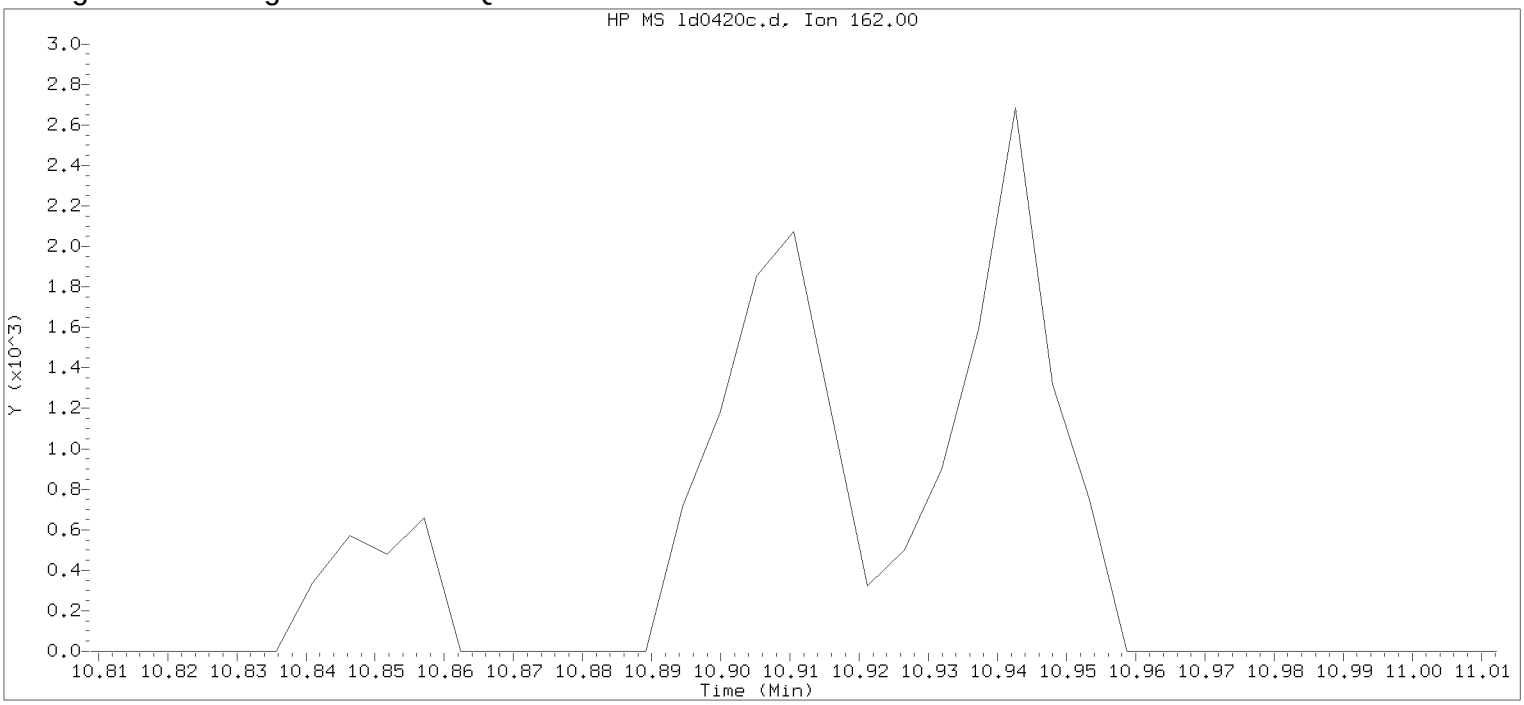
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:55.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum



Original Integration of Quant Ion



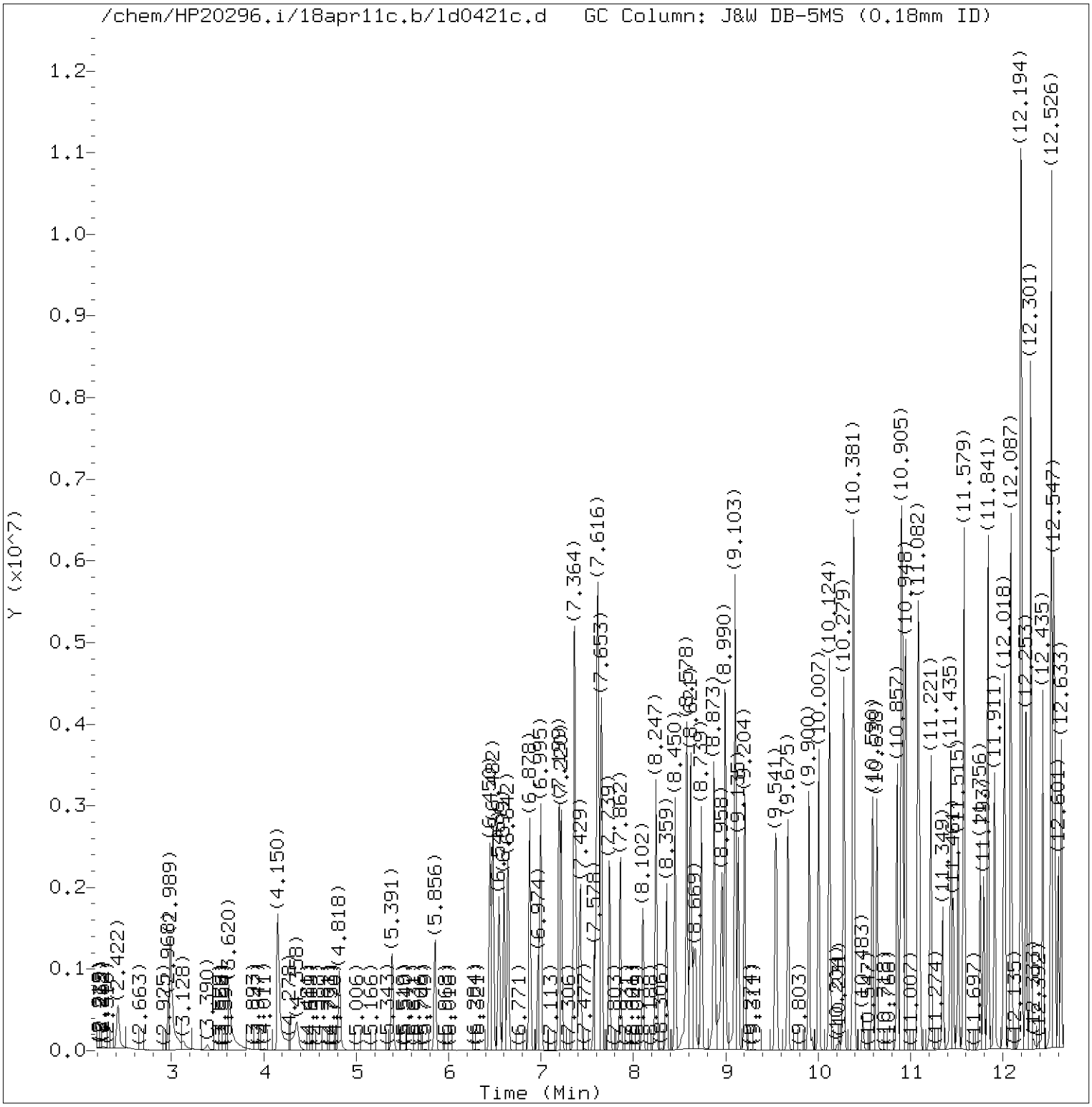
Data File: /chem/HP20296.i/18apr11c.b/ld0420c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 13:15 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: pahmdlall1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:39 art12405

Sample Name: SSTD0.025 Lab Sample ID: rvPAHMDL0968

Compound Number : 96
Compound Name : 2-Chloronaphthalene
Expected RT (minutes) : 10.910
Quant Ion : 162.00

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:55.
Target 3.5 esignature user id: 1085 hbz01996



Total Ion Chromatogram (TIC)

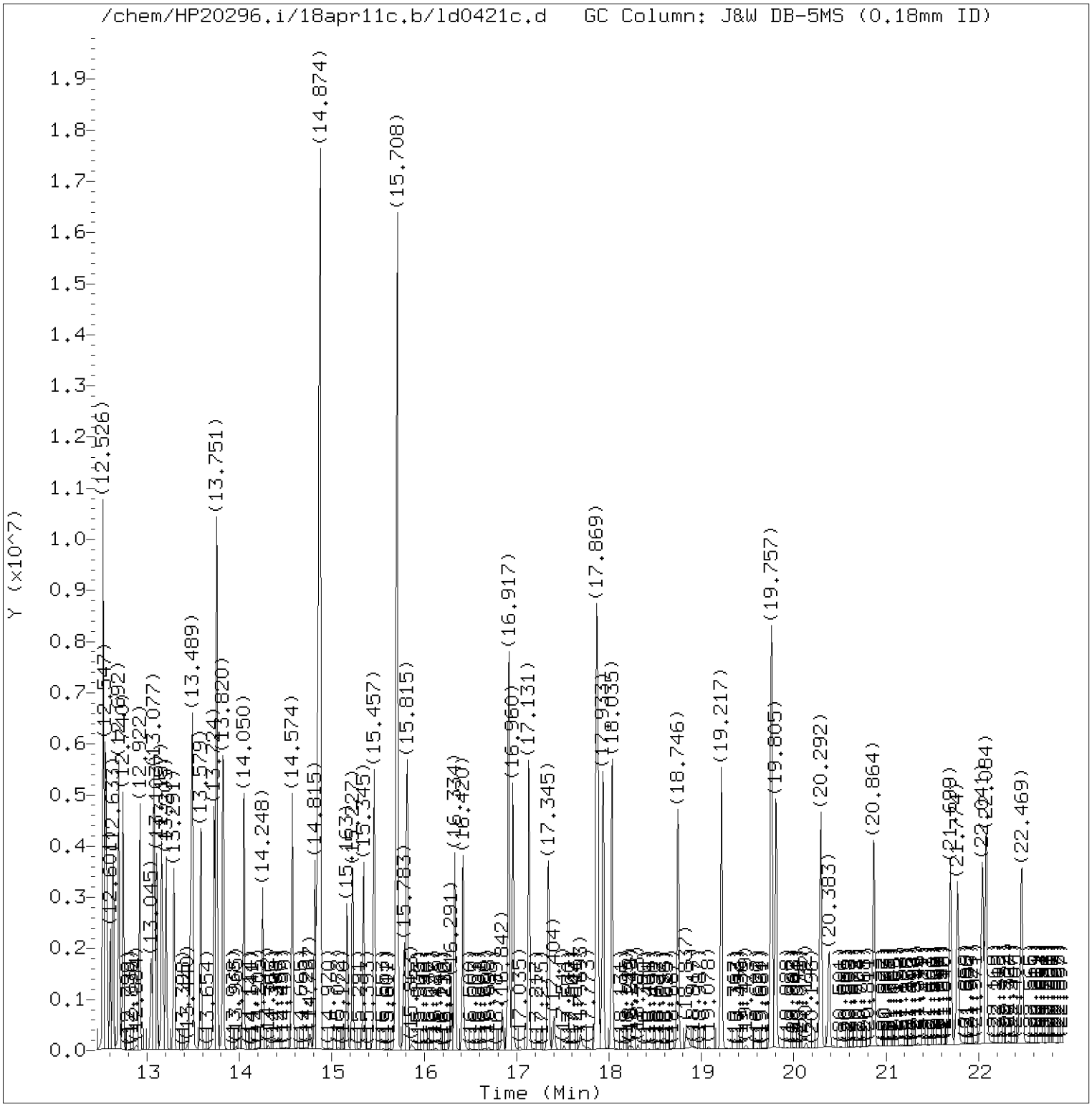
Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0421c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 13:43 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:42 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: rvIVC0648

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:55.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0421c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 13:43 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:42 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: rvIVC0648

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:55.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0421c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 13:43 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:42 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: rvIVC0648

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.422	88	489402	14.750
4) N-Nitrosodimethylamine	(1)	2.968	74	612133	12.026
5) Pyridine	(1)	2.989	79	1052396	11.707
7) 2-Picoline	(1)	4.150	93	1073003	11.756
8) N-Nitrosomethylethylamine	(1)	4.358	88	422634	11.595
9) Methyl methanesulfonate	(1)	4.818	80	532779	12.077
13) N-Nitrosodiethylamine	(1)	5.391	102	416051	12.317
15) Ethyl methanesulfonate	(1)	5.856	109	443402	12.054
18) Phenol	(1)	6.450	94	1304791	12.606
19) Aniline	(1)	6.482	93	1496739	12.410
22) bis(2-Chloroethyl)ether	(1)	6.599	93	941914	12.165
23) 2-Chlorophenol	(1)	6.642	128	855272	12.601
24) 1,3-Dichlorobenzene	(1)	6.878	146	956228	12.480
25)*1,4-Dichlorobenzene-d4	(1)	6.969	152	253033	5.000
26) 1,4-Dichlorobenzene	(1)	7.001	146	988253	12.745
27) Benzyl alcohol	(1)	7.199	108	617184	13.624
28) 1,2-Dichlorobenzene	(1)	7.220	146	943098	12.774
30) Indene	(1)	7.359	115	1657930	15.326
31) 2-Methylphenol	(1)	7.370	108	826533	12.350
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.429	45	1348541	12.200
34) bis(2-Chloroisopropyl)ether	(1)	7.429	45	1348541	12.211
35) N-Nitrosopyrrolidine	(1)	7.578	100	448320	12.240
36) Acetophenone	(1)	7.605	105	1311258	11.726
37) 4-Methylphenol	(1)	7.621	108	867605	12.273
38) N-Nitroso-di-n-propylamine	(1)	7.621	70	713762	12.269
39) N-Nitrosomorpholine	(1)	7.648	56	575940	11.846
40) o-Toluidine	(1)	7.653	106	1440114	12.168
42) Total Cresols	(1)	7.660	100	1694138	24.623
43) Hexachloroethane	(1)	7.739	117	386812	11.700
45) Nitrobenzene	(2)	7.862	77	1031643	12.305
48) N-Nitrosopiperidine	(2)	8.102	114	414601	12.033
50) Isophorone	(2)	8.247	82	1893207	12.919
51) 2-Nitrophenol	(2)	8.359	139	441643	13.037
53) 2,4-Dimethylphenol	(2)	8.450	107	798786	10.999
57) O,O,O-Triethylphosphorothioate	(2)	8.578	198	436658	12.148
55) bis(2-Chloroethoxy)methane	(2)	8.621	93	1182885	12.417
60) 2,4-Dichlorophenol	(2)	8.739	162	718082	12.698
62) 1,2,4-Trichlorobenzene	(2)	8.873	180	795259	12.621
65)*Naphthalene-d8	(2)	8.958	136	953024	5.000
66) Naphthalene	(2)	8.996	128	2473208	12.558

* = Compound is an internal standard.

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:55.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0421c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 13:43 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:42 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: rvIVC0648

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
67) 4-Chloroaniline	(2)	9.103	127	1018259	12.668
68) 2,6-Dichlorophenol	(2)	9.103	162	698375	12.470
69) Hexachloropropene	(2)	9.135	213	580357	12.730
71) Hexachlorobutadiene	(2)	9.204	225	478777	12.533
75) Quinoline	(2)	9.541	129	1564292	12.469
77) N-Nitrosodi-n-butylamine	(2)	9.675	84	659697	9.961
80) 4-Chloro-3-methylphenol	(2)	9.900	107	805192	12.975
82) Safrole	(2)	10.007	162	636184	12.042
83) 2-Methylnaphthalene	(2)	10.124	142	1661350	12.698
84) 1-Methylnaphthalene	(2)	10.279	142	1544258	12.865
85) Hexachlorocyclopentadiene	(3)	10.381	237	1059748	26.538
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.392	216	808077	12.031
88) cis-Isosafrole	(3)	10.483	162	90904	1.547
90) 2,4,6-Trichlorophenol	(3)	10.590	196	539171	12.783
92) 2,4,5-Trichlorophenol	(3)	10.638	196	568236	12.836
97) Isosafrole	(3)	10.725	162	787801	12.576
94) trans-Isosafrole	(3)	10.857	162	696897	11.029
95) 1,1'-Biphenyl	(3)	10.900	154	2019671	12.069
96) 2-Chloronaphthalene	(3)	10.916	162	1672227	12.429
100) 2-Nitroaniline	(3)	11.103	138	494851	12.568
104) 1,4-Naphthoquinone	(3)	11.221	158	824950	15.518
105) 1,4-Dinitrobenzene	(3)	11.349	168	254696A	12.425
106) Dimethylphthalate	(3)	11.435	163	1794260	11.905
107) 1,3-Dinitrobenzene	(3)	11.461	168	282971A	12.303
108) 2,6-Dinitrotoluene	(3)	11.515	165	405143	12.661
109) Acenaphthylene	(3)	11.579	152	2566706	13.726
112) 3-Nitroaniline	(3)	11.756	138	437942	12.990
113)*Acenaphthene-d10	(3)	11.793	164	493775	5.000
114) Acenaphthene	(3)	11.841	153	1692353	12.763
115) 2,4-Dinitrophenol	(3)	11.911	184	491672	25.559
120) 2,4_2,6-Dinitrotoluenes	(3)	11.950	165	950574	24.961
116) 4-Nitrophenol	(3)	12.012	109	288409	12.135
117) Pentachlorobenzene	(3)	12.023	250	660614	12.061
119) Dibenzofuran	(3)	12.087	168	2244556	12.184
118) 2,4-Dinitrotoluene	(3)	12.093	165	545431	12.300
121) 1-Naphthylamine	(3)	12.200	143	3063439	23.370
123) 2-Naphthylamine	(3)	12.301	143	3014886	24.277
124) Diethylphthalate	(3)	12.435	149	1774643	11.965
125) Thionazin	(3)	12.526	107	309594	12.261
126) Fluorene	(3)	12.526	166	1751560	12.171

A = User selected an alternate hit.
* = Compound is an internal standard.

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:55.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0421c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 13:43 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:42 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: rvIVC0648

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
127) 4-Chlorophenyl-phenylether	(3)	12.547	204	842228	11.872
128) 5-Nitro-o-toluidine	(3)	12.558	152	502295	12.962
129) 4-Nitroaniline	(3)	12.569	138	428570	12.577
130) 4,6-Dinitro-2-methylphenol	(4)	12.601	198	325165	12.211
131) N-Nitrosodiphenylamine	(4)	12.697	169	1476179	11.993
132) NDPA as diphenylamine	(4)	12.697	169	1476179	11.993
134) 1,2-Diphenylhydrazine	(4)	12.740	77	2096671	12.207
137) Tetraethyldithiopyrophosphate	(4)	12.922	97	343681	11.674
146) Diallate trans/cis	(4)	13.000	86	842379	11.438
139) 1,3,5-Trinitrobenzene	(4)	13.045	213	196110	11.956
140) Diallate (peak 1)	(4)	13.066	86	634147	8.156
141) Phorate	(4)	13.077	75	1315873	11.945
142) Phenacetin	(4)	13.103	108	979328	12.589
143) 4-Bromophenyl-phenylether	(4)	13.157	248	468038	11.380
144) Diallate (peak 2)	(4)	13.178	86	208232	3.283
145) Hexachlorobenzene	(4)	13.205	284	481622	11.447
147) Dimethoate	(4)	13.291	87	835628	12.610
149) Pentachlorophenol	(4)	13.472	266	342581	13.344
151) Pentachloronitrobenzene	(4)	13.483	237	237483	11.794
150) 4-Aminobiphenyl	(4)	13.494	169	1943709	13.877
152) Pronamide	(4)	13.585	173	846079	11.661
153)*Phenanthrene-d10	(4)	13.719	188	1005813	5.000
154) Dinoseb	(4)	13.729	211	503702	12.077
155) Phenanthrene	(4)	13.756	178	2663427	11.918
157) Anthracene	(4)	13.820	178	2708432	12.185
163) Carbazole	(4)	14.050	167	2477235	12.584
164) Methyl parathion	(4)	14.248	109	666855	13.196
165) Di-n-butylphthalate	(4)	14.574	149	3214075	12.129
167) Parathion	(4)	14.815	109	419718	12.835
168) 4-Nitroquinoline-1-oxide	(4)	14.874	190	4442437	141.864
171) Isodrin	(4)	15.227	193	315886	11.496
173) Fluoranthene	(4)	15.462	202	3018275	12.101
174) Benzidine	(5)	15.708	184	8803682	58.817
175)*Pyrene-d10	(5)	15.783	212	1015777	5.000
177) Pyrene	(5)	15.815	202	3058230	11.835
182) p-Dimethylaminoazobenzene	(5)	16.334	225	600693	13.427
185) Chlorobenzilate	(5)	16.420	139	965023	12.536
187) 3,3'-Dimethylbenzidine	(5)	16.917	212	3808514	22.545
188) Butylbenzylphthalate	(5)	16.960	149	1496910	12.468
191) 2-Acetylaminofluorene	(5)	17.345	181	1182747	12.447

* = Compound is an internal standard.

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:55.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0421c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 13:43 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:42 bhs10208

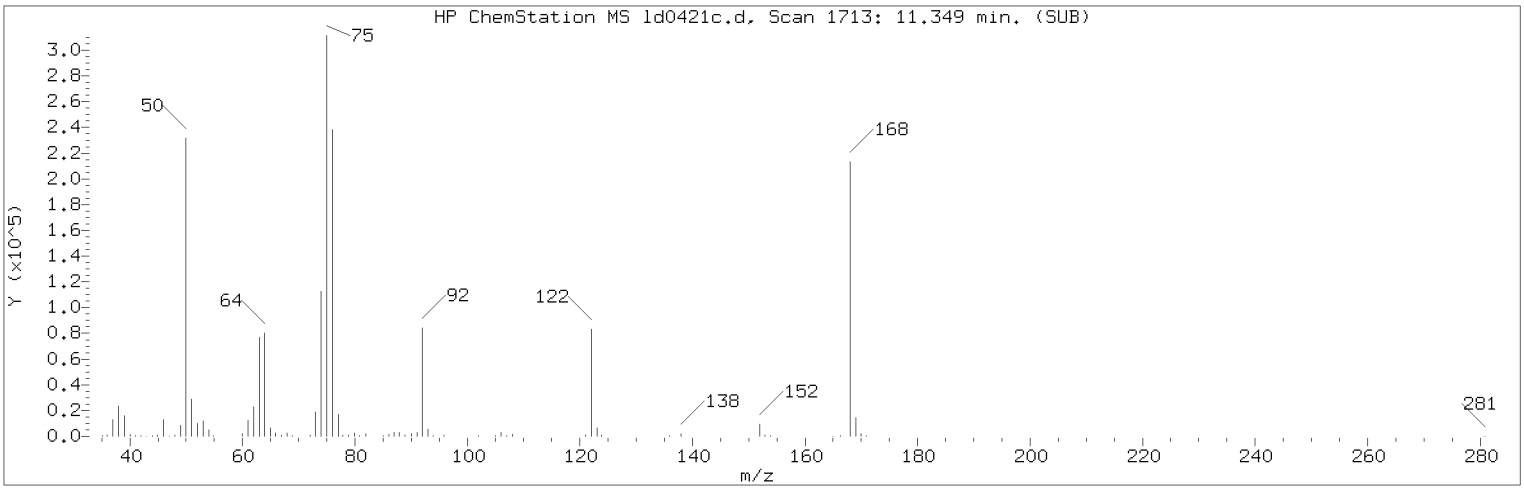
Sample Name: SSTD12.5 Lab Sample ID: rvIVC0648

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
193) 3,3'-Dichlorobenzidine	(5)	17.858	252	1062440	12.789
195) Benzo(a)anthracene	(5)	17.869	228	2903743	12.578
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.880	231	601071	11.913
196) Chrysene	(5)	17.933	228	2737311	12.258
199) bis(2-Ethylhexyl)phthalate	(5)	18.035	149	2135778	12.589
203) 6-Methylchrysene	(5)	18.746	242	1893291	12.041
205) Di-n-octylphthalate	(6)	19.217	149	3667697	12.567
206) Benzo(b)fluoranthene	(6)	19.757	252	2791666	12.267
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.757	256	1192817	12.704
208) Benzo(k)fluoranthene	(6)	19.811	252	2657791	12.215
211) Benzo(a)pyrene	(6)	20.292	252	2579997	12.599
213)*Perylene-d12	(6)	20.383	264	928456	5.000
215) 3-Methylcholanthrene	(6)	20.870	268	1351533	13.652
217) Dibenz(a,h)acridine	(6)	21.699	279	2094524	12.037
218) Dibenz(a,j)acridine	(6)	21.774	279	1946460	11.013
222) Total PAHs	(6)	22.000	100	44161517	224.002
219) Indeno(1,2,3-cd)pyrene	(6)	22.041	276	2414582M	12.417
220) Dibenz(a,h)anthracene	(6)	22.084	278	2525832	12.827
221) Benzo(g,h,i)perylene	(6)	22.469	276	2412796	12.023

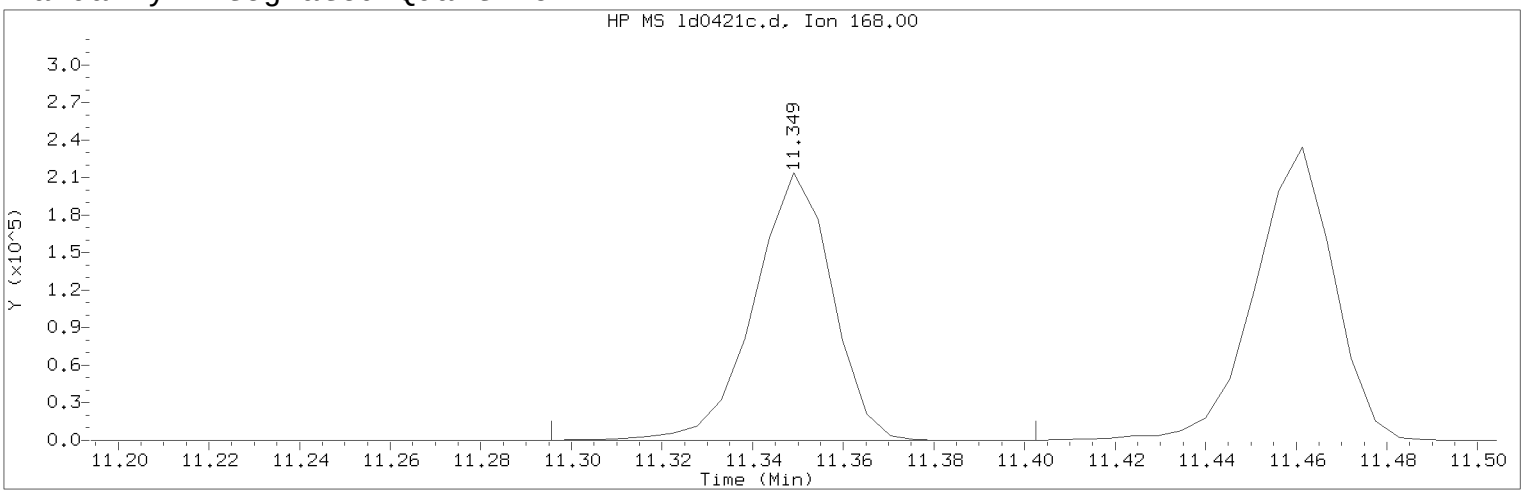
M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:55.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0421c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 13:43 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:42 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: rvIVC0648

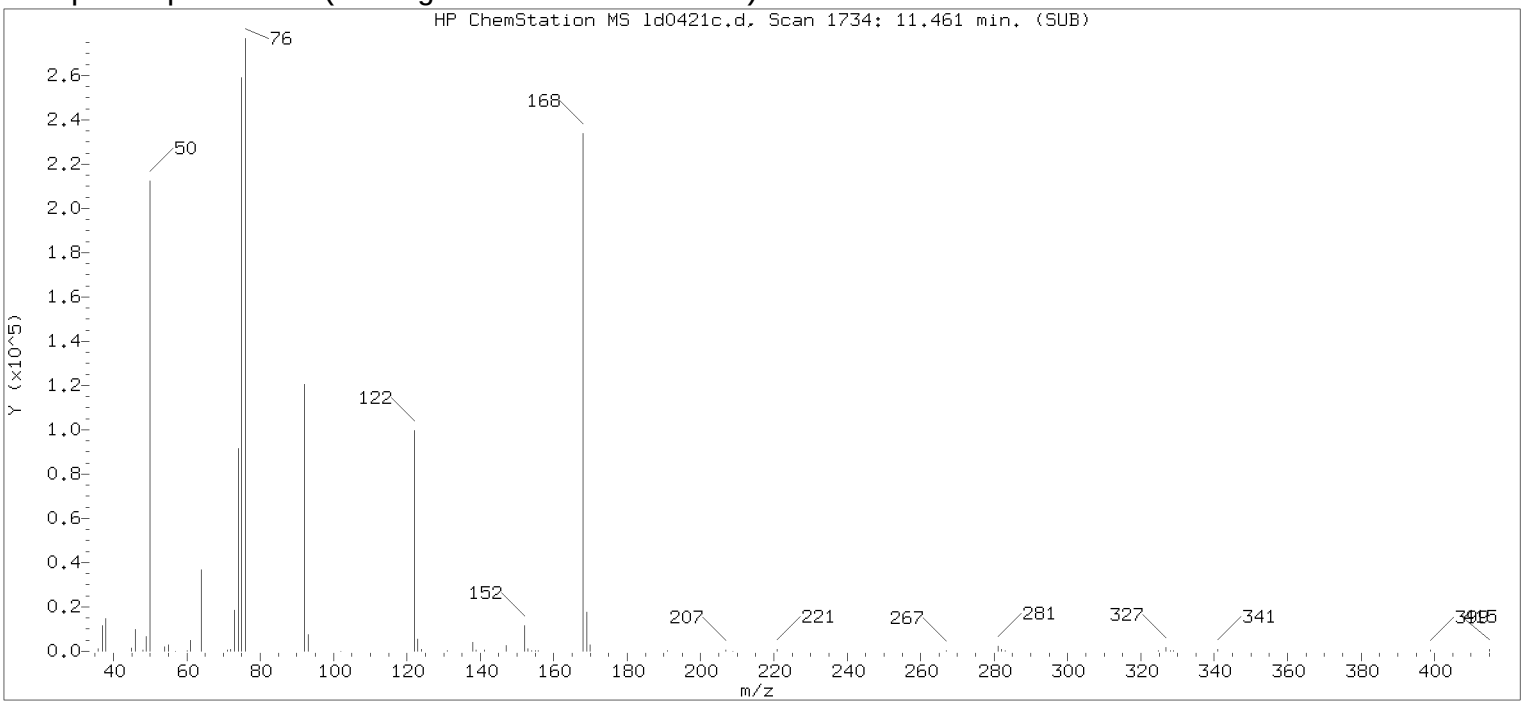
Compound Number : 105
Compound Name : 1,4-Dinitrobenzene
Scan Number : 1713
Retention Time (minutes) : 11.349
Quant Ion : 168.00
Area (flag) : 254696A
On-Column Amount (ng/ul) : 12.4246
Integration start scan : 1702 Integration stop scan: 1722
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

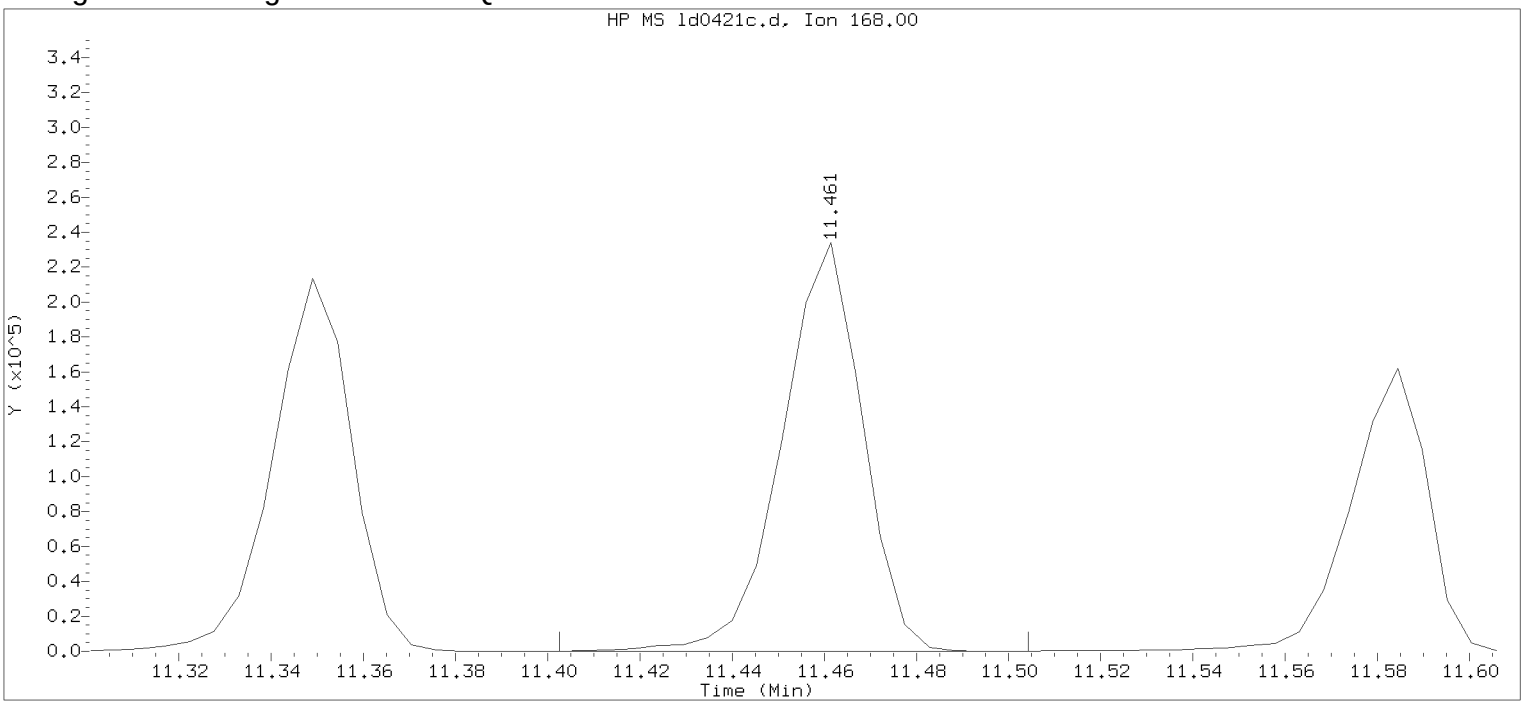
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:55.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0421c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 13:43 Analyst ID: hbz01996

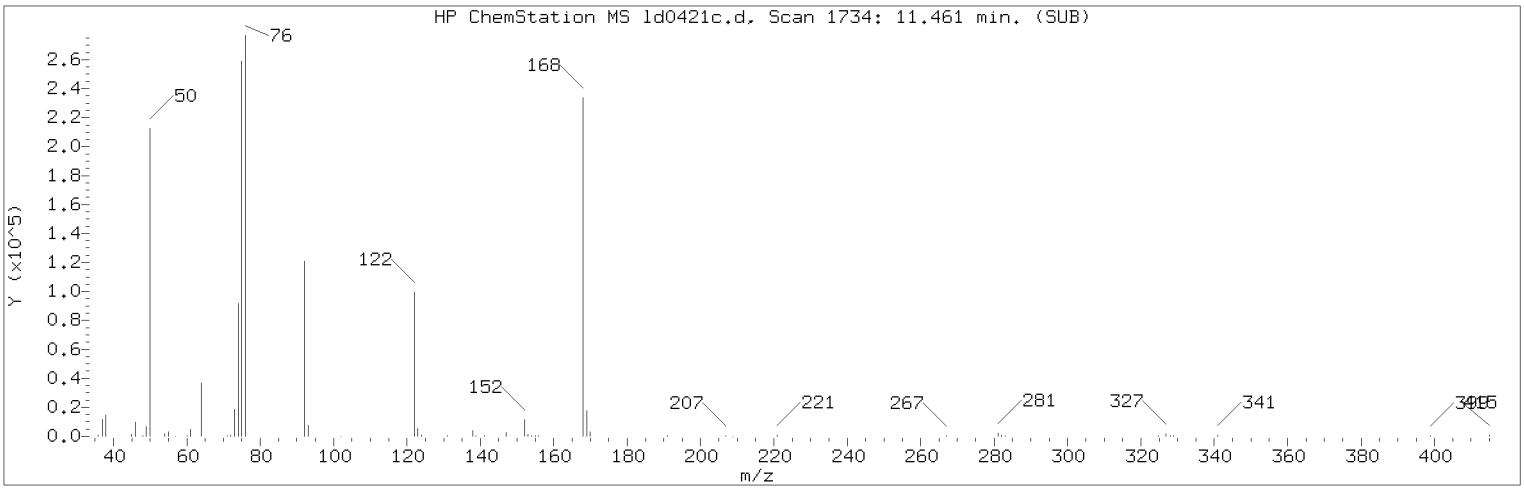
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:40 art12405

Sample Name: SSTD12.5 Lab Sample ID: rvIVC0648

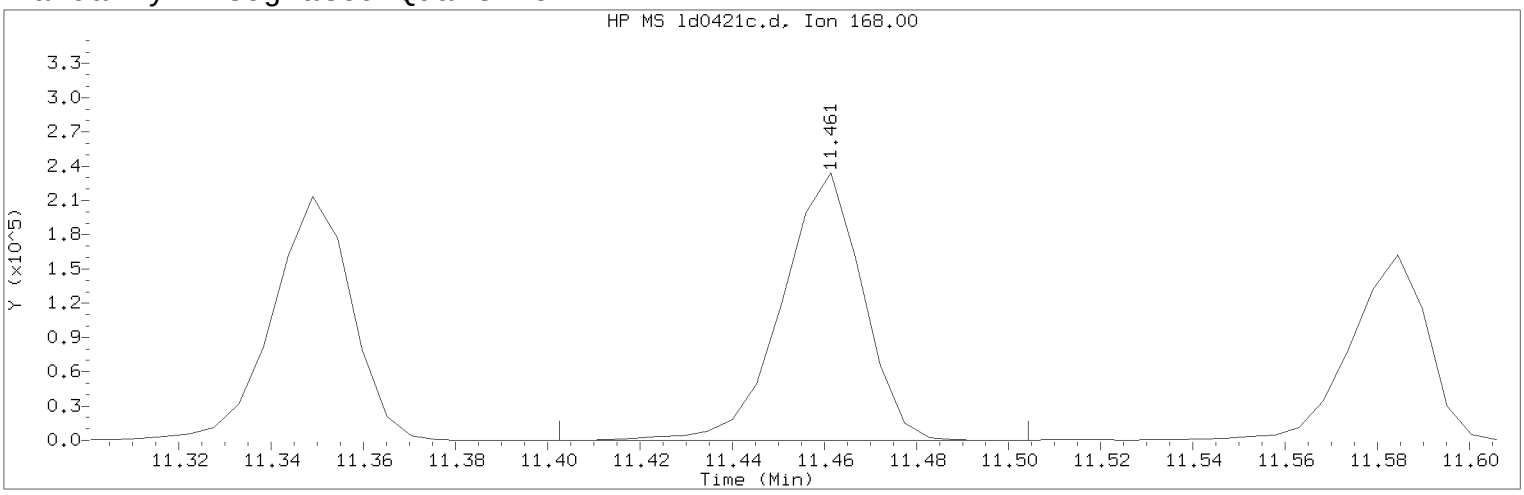
Compound Number : 105
Compound Name : 1,4-Dinitrobenzene
Scan Number : 1734
Retention Time (minutes) : 11.461
Quant Ion : 168.00
Area : 282971
On-column Amount (ng/ul) : 12.3873
Integration start scan : 1722 Integration stop scan: 1741
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:55.
Target 3.5 esignature user id: 1085

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0421c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 13:43 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:42 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: rvIVC0648

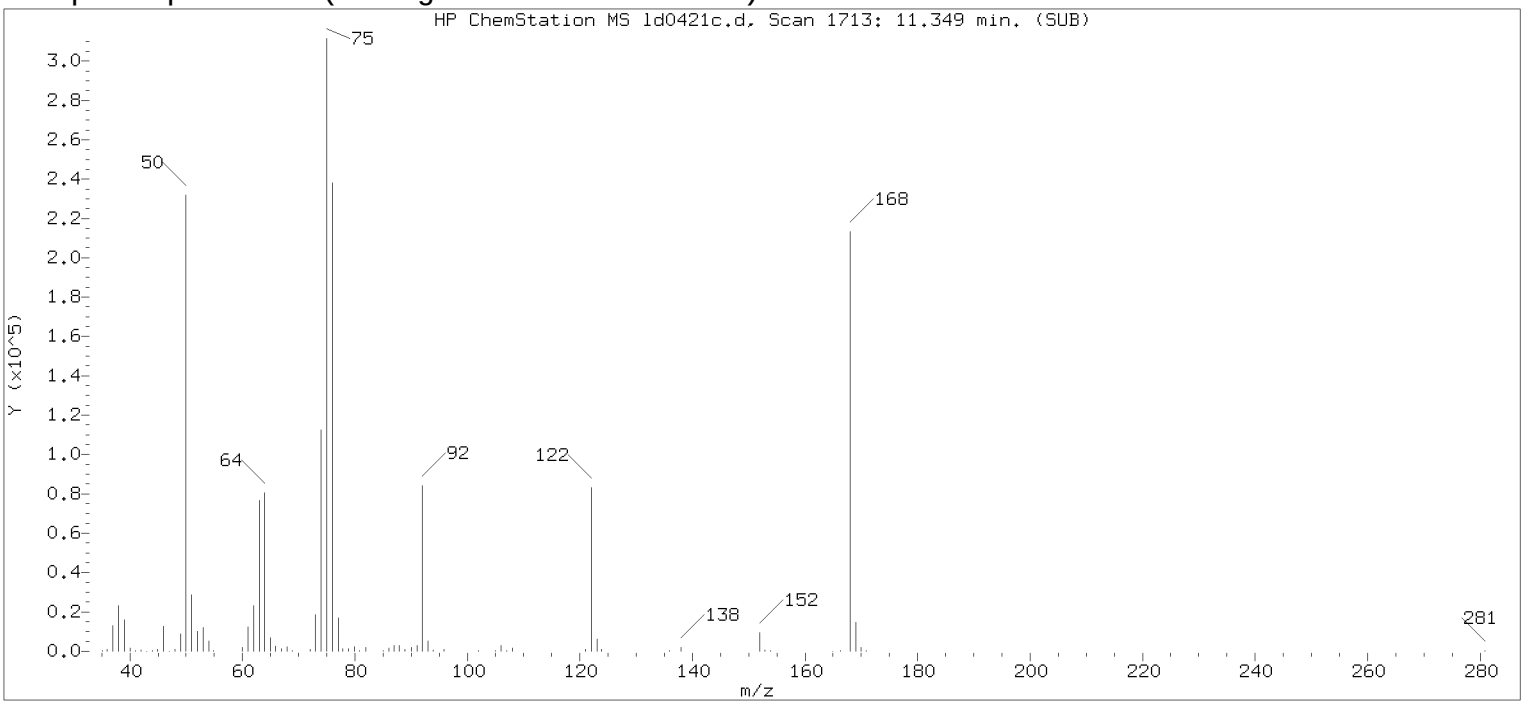
Compound Number : 107
Compound Name : 1,3-Dinitrobenzene
Scan Number : 1734
Retention Time (minutes) : 11.461
Quant Ion : 168.00
Area (flag) : 282971A
On-Column Amount (ng/ul) : 12.3034
Integration start scan : 1722 Integration stop scan: 1741
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

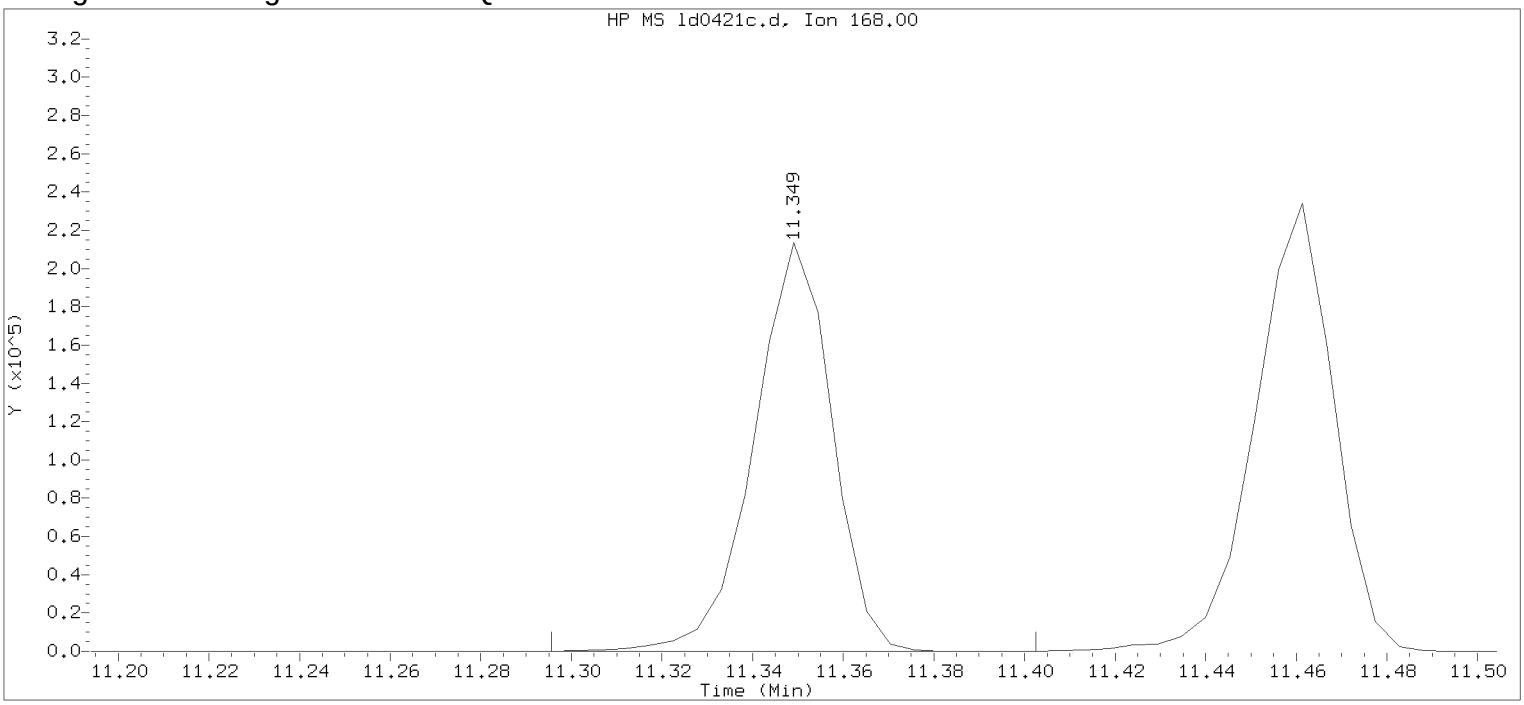
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:55.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0421c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 13:43 Analyst ID: hbz01996

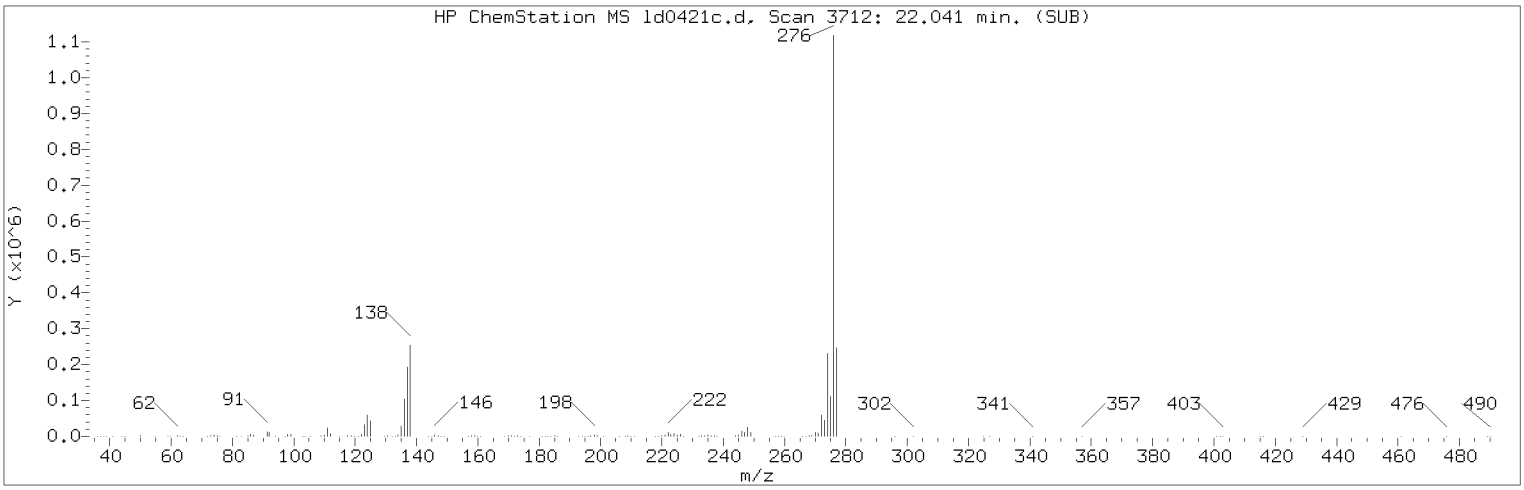
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:40 art12405

Sample Name: SSTD12.5 Lab Sample ID: rvIVC0648

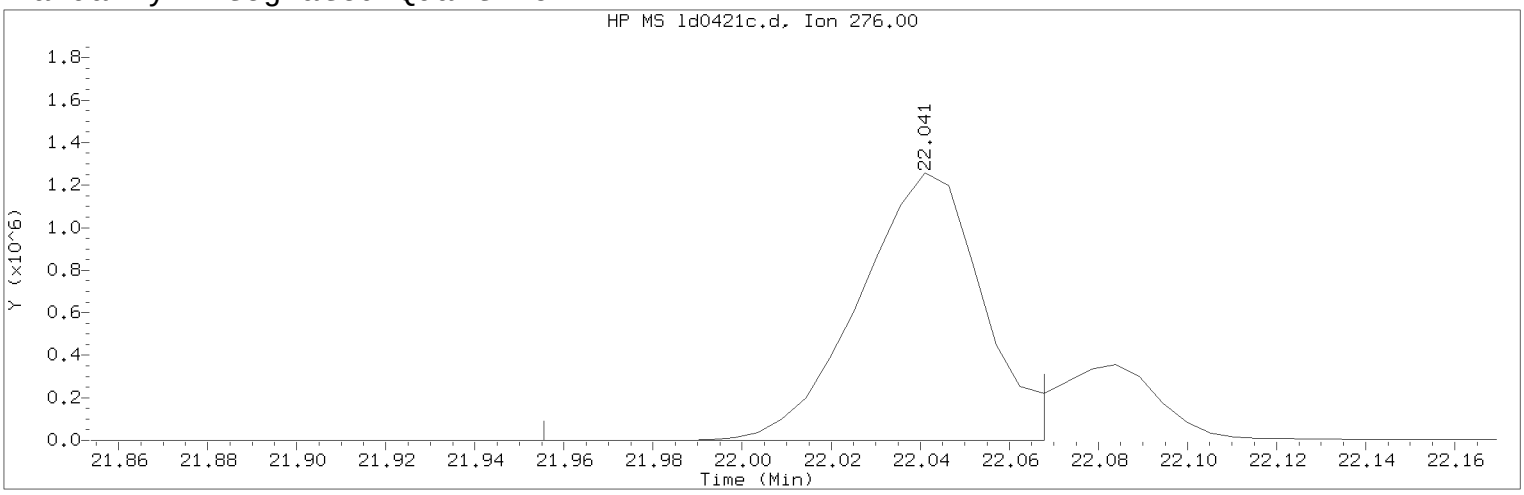
Compound Number : 107
Compound Name : 1,3-Dinitrobenzene
Scan Number : 1713
Retention Time (minutes) : 11.349
Quant Ion : 168.00
Area : 254696
On-column Amount (ng/ul) : 12.4250
Integration start scan : 1702 Integration stop scan: 1722
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:55.
Target 3.5 esignature user ID: 1068

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr11c.b/ld0421c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 13:43 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:42 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: rvIVC0648

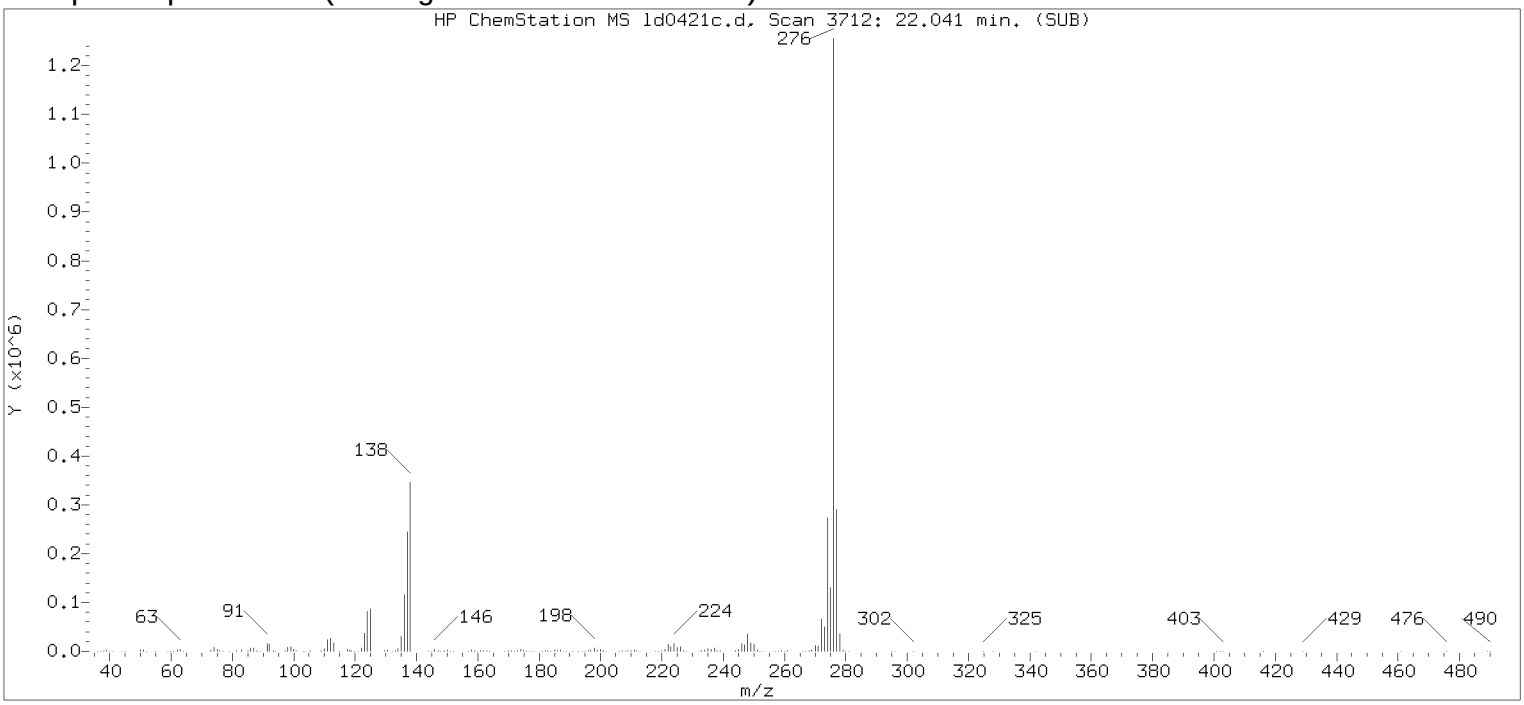
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3712
Retention Time (minutes) : 22.041
Quant Ion : 276.00
Area (flag) : 2414582M
On-Column Amount (ng/ul) : 12.4168
Integration start scan : 3695 Integration stop scan: 3716
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

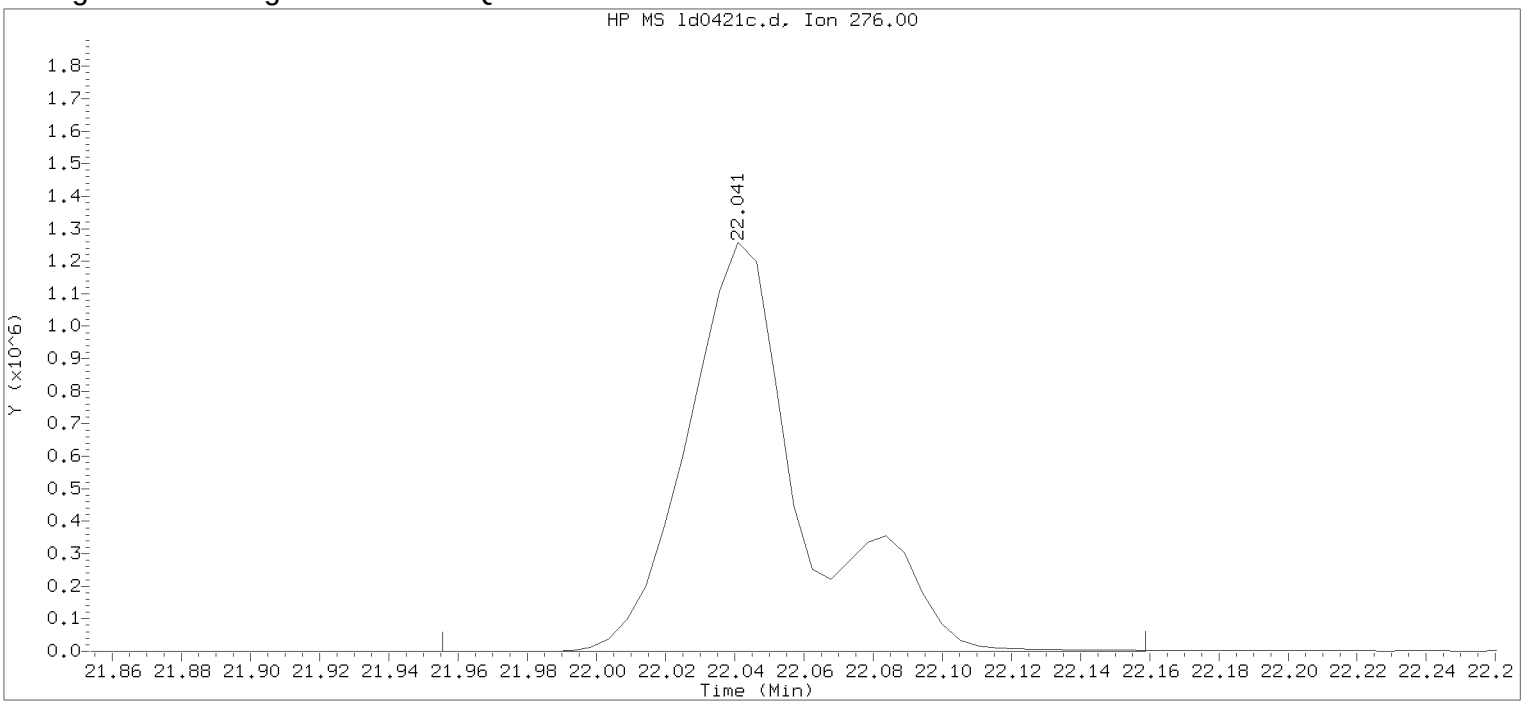
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/15/2018 at 15:55.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Chad A. Moline on 04/16/2018 at 09:36.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



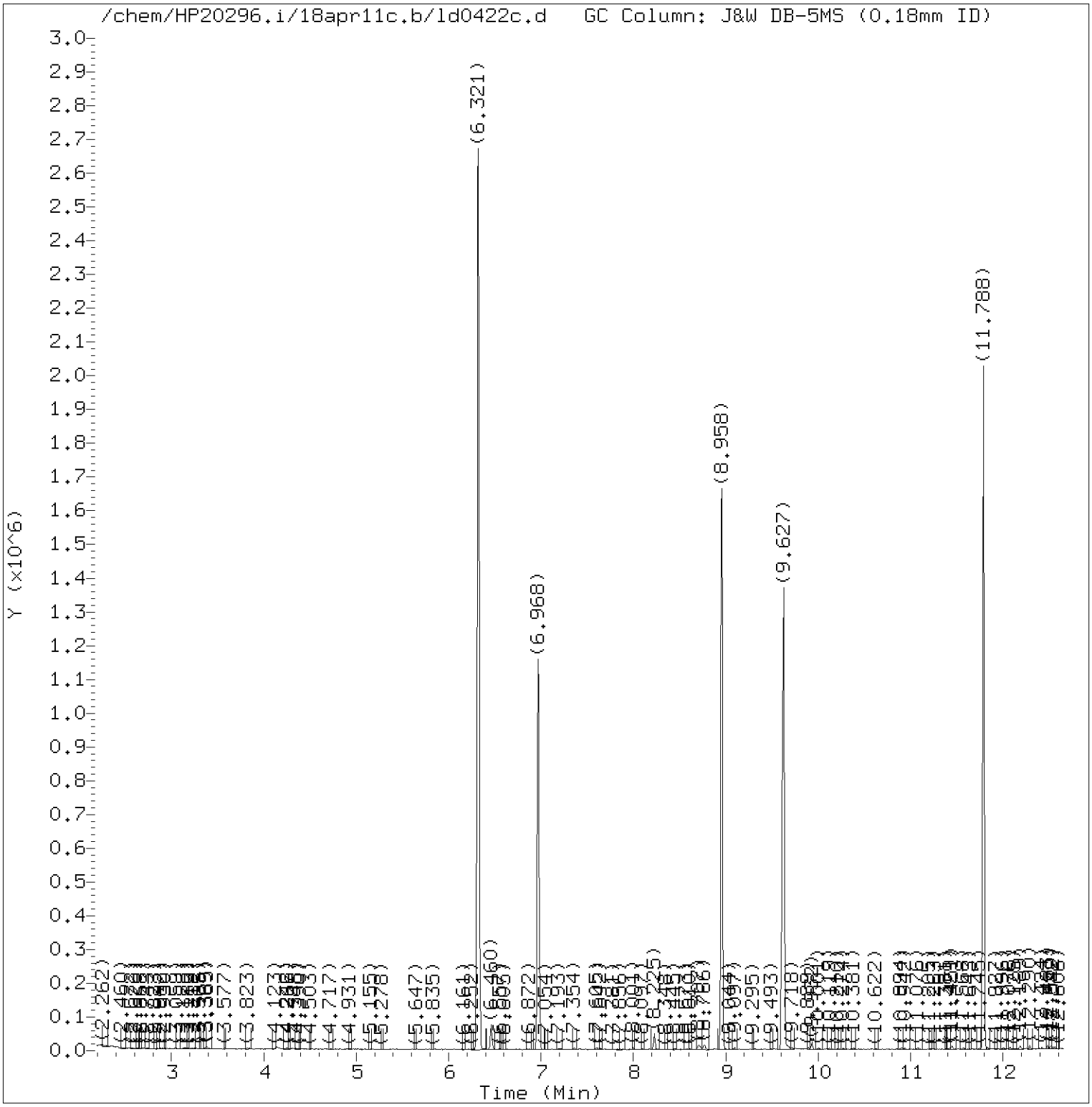
Data File: /chem/HP20296.i/18apr11c.b/ld0421c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 13:43 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: icvall1
Calibration date and time: 11-APR-2018 19:39
Date, time and analyst ID of latest file update: 11-Apr-2018 19:40 art12405

Sample Name: SSTD12.5 Lab Sample ID: rvIVC0648

Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3712
Retention Time (minutes) : 22.041
Quant Ion : 276.00
Area : 2935987
On-column Amount (ng/ul) : 12.3471
Integration start scan : 3695 Integration stop scan: 3733
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/15/2018 at 15:55.
Target 3.5 esignature user id: 1185 hbz01996



Total Ion Chromatogram (TIC)

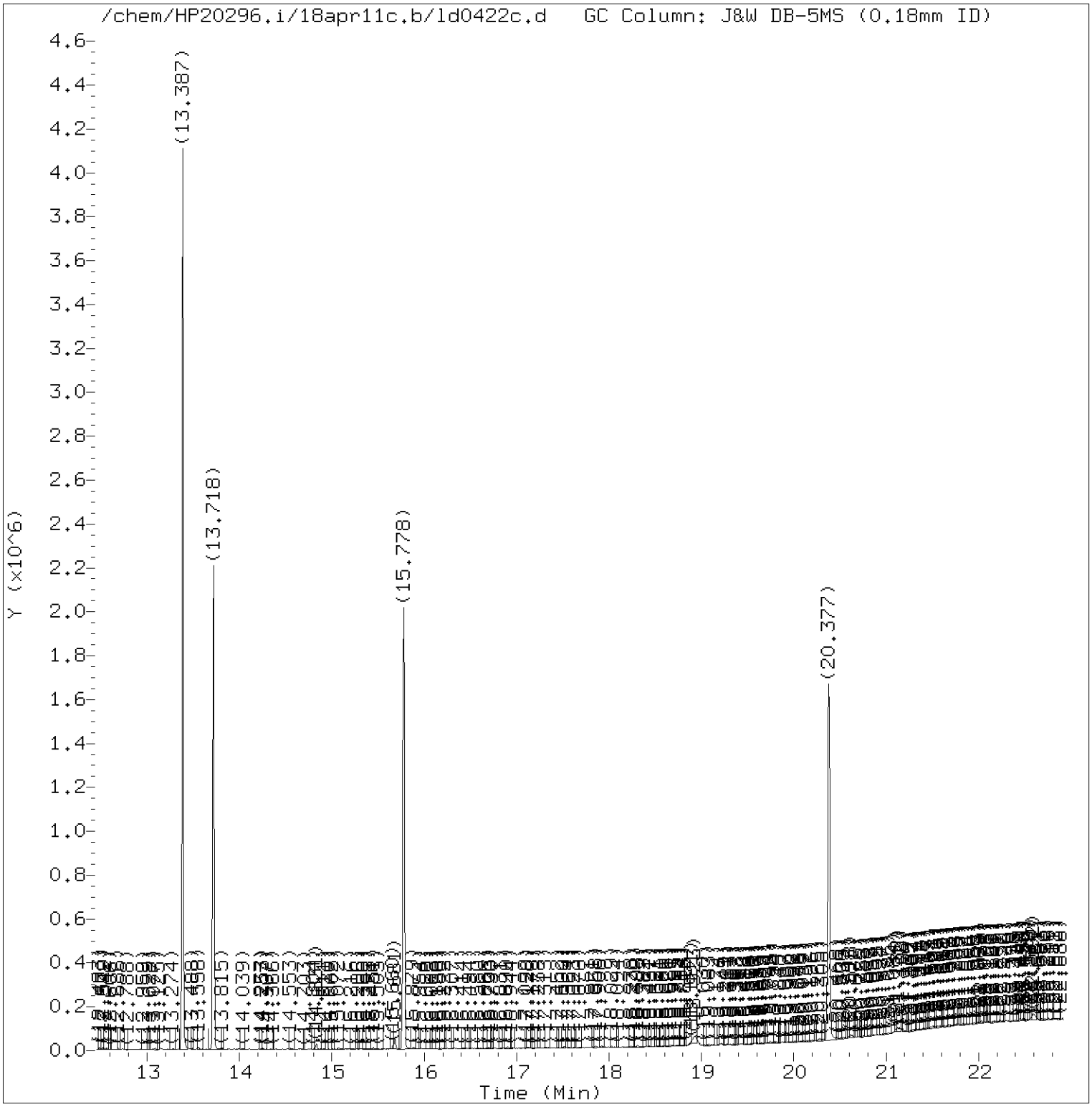
Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0422c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 14:11 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: basicvall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:42 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: rvBASICV0648

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:55.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0422c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 14:11 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: basicvall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:42 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: rvBASICV0648

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:55.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0422c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 14:11 Analyst ID: hbz01996

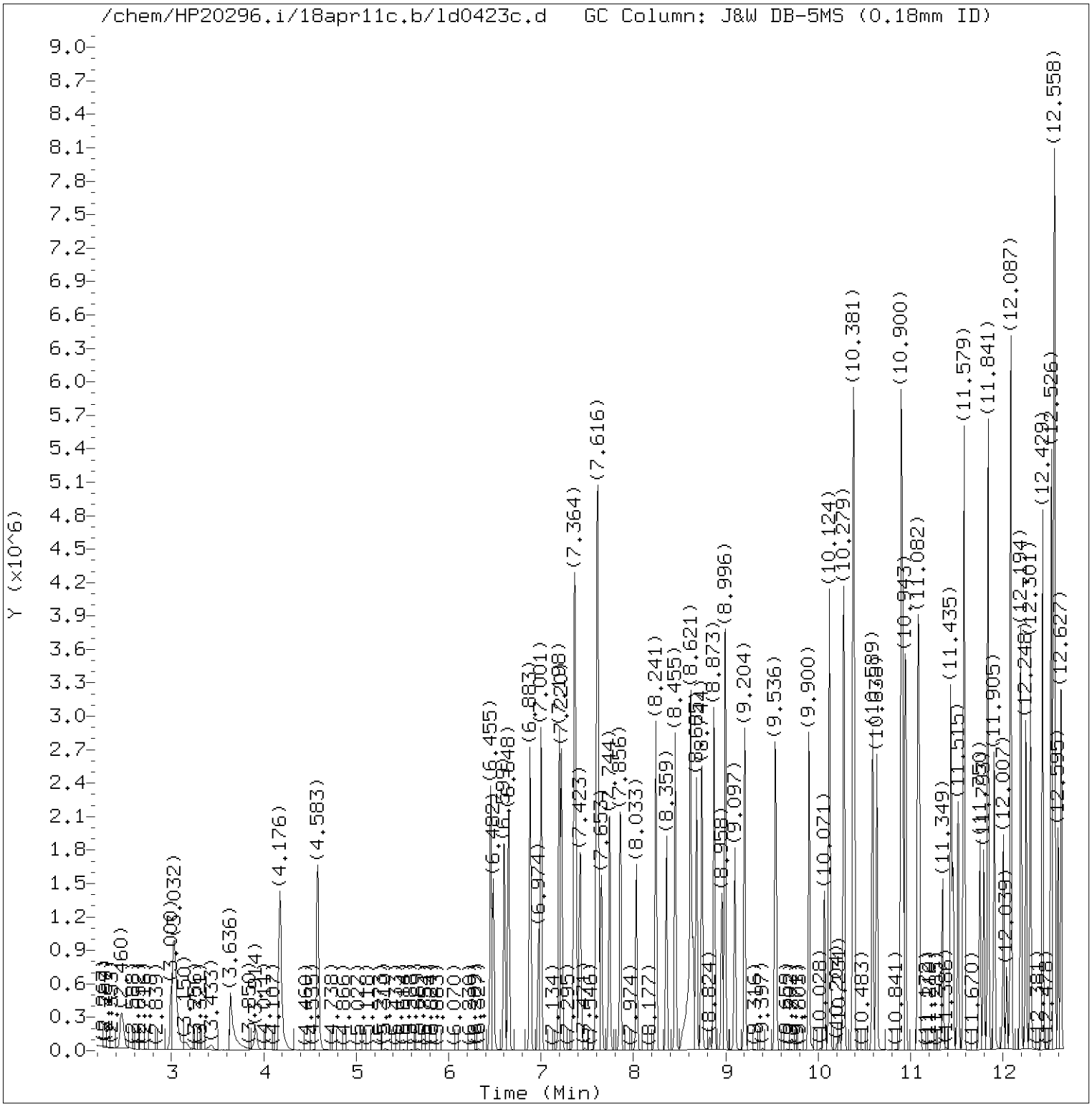
Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: basicvall1
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:42 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: rvBASICV0648

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
16) Benzaldehyde	(1)	6.321	77	839075	12.405
25)*1,4-Dichlorobenzene-d4	(1)	6.968	152	246756	5.000
65)*Naphthalene-d8	(2)	8.958	136	936540	5.000
76) Caprolactam	(2)	9.627	113	210928	12.019
113)*Acenaphthene-d10	(3)	11.788	164	470618	5.000
148) Atrazine	(4)	13.387	200	497799	12.948
153)*Phenanthrene-d10	(4)	13.718	188	928841	5.000
175)*Pyrene-d10	(5)	15.778	212	926795	5.000
213)*Perylene-d12	(6)	20.377	264	853556	5.000

* = Compound is an internal standard.

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:55.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

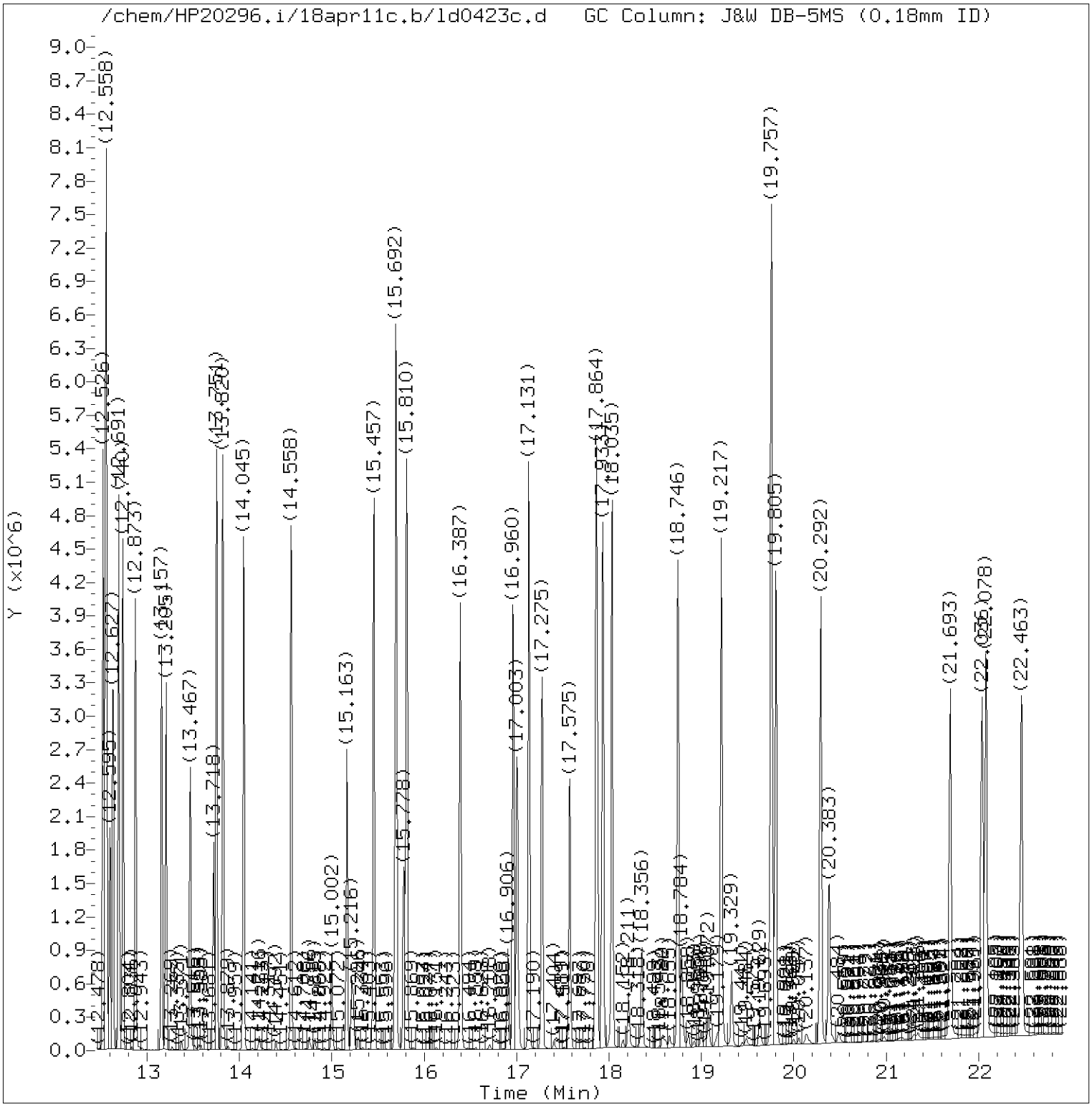
Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0423c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 14:39 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: icvall5
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:42 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: ms1808526A

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:55.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0423c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 14:39 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: icvall5
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:42 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: ms1808526A

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:55.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr11c.b/ld0423c.d Instrument ID: HP20296.i
Injection date and time: 11-APR-2018 14:39 Analyst ID: hbz01996

Method used: /chem/HP20296.i/18apr11c.b/rv8270c.m Sublist used: icvall5
Calibration date and time: 15-APR-2018 15:41
Date, time and analyst ID of latest file update: 15-Apr-2018 15:42 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: ms1808526A

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.460	88	344445	12.112
25)*1,4-Dichlorobenzene-d4	(1)	6.974	152	216865	5.000
56) Benzoic acid	(2)	8.648	105	1111634	26.047
65)*Naphthalene-d8	(2)	8.958	136	809575	5.000
98) 1-Chloronaphthalene	(3)	10.948	162	1274985	12.842
99) Diphenyl ether	(3)	11.082	170	964182	13.191
113)*Acenaphthene-d10	(3)	11.793	164	408164	5.000
122) 2,3,4,6-Tetrachlorophenol	(3)	12.248	232	399961	14.045
153)*Phenanthrene-d10	(4)	13.718	188	798259	5.000
175)*Pyrene-d10	(5)	15.778	212	835844	5.000
213)*Perylene-d12	(6)	20.383	264	748999	5.000

* = Compound is an internal standard.

Digitally signed by Brandon H. Smith
on 04/15/2018 at 15:55.
Target 3.5 esignature user ID: bhs10208

Data File: /chem/HP20296.i/18apr25.b/ld1010z.d

Date : 25-APR-2018 10:15

Client ID: DFTPP

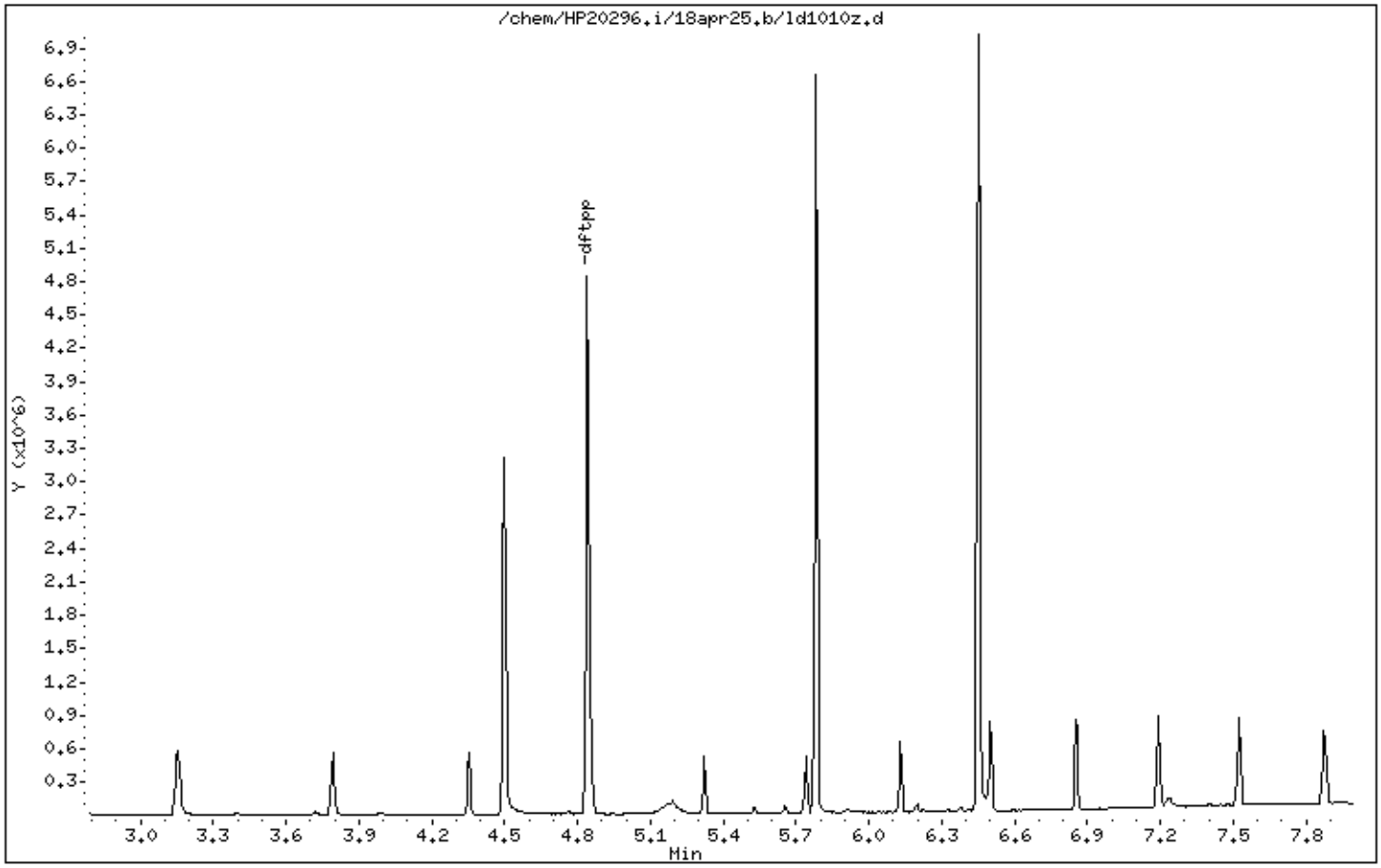
Instrument: HP20296.i

Sample Info: DFTPP;RVDFTPP0878;1;3;DFTPP;

Operator: bhs10208

Column phase: DB-5MS

Column diameter: 0.18



Digitally signed by Brandon H. Smith on 04/25/2018 at 11:05.
Target 3.5 esignature user ID: bhs10208

Data File: /chem/HP20296.i/18apr25.b/ld1010z.d

Date : 25-APR-2018 10:15

Client ID: DFTPP

Instrument: HP20296.i

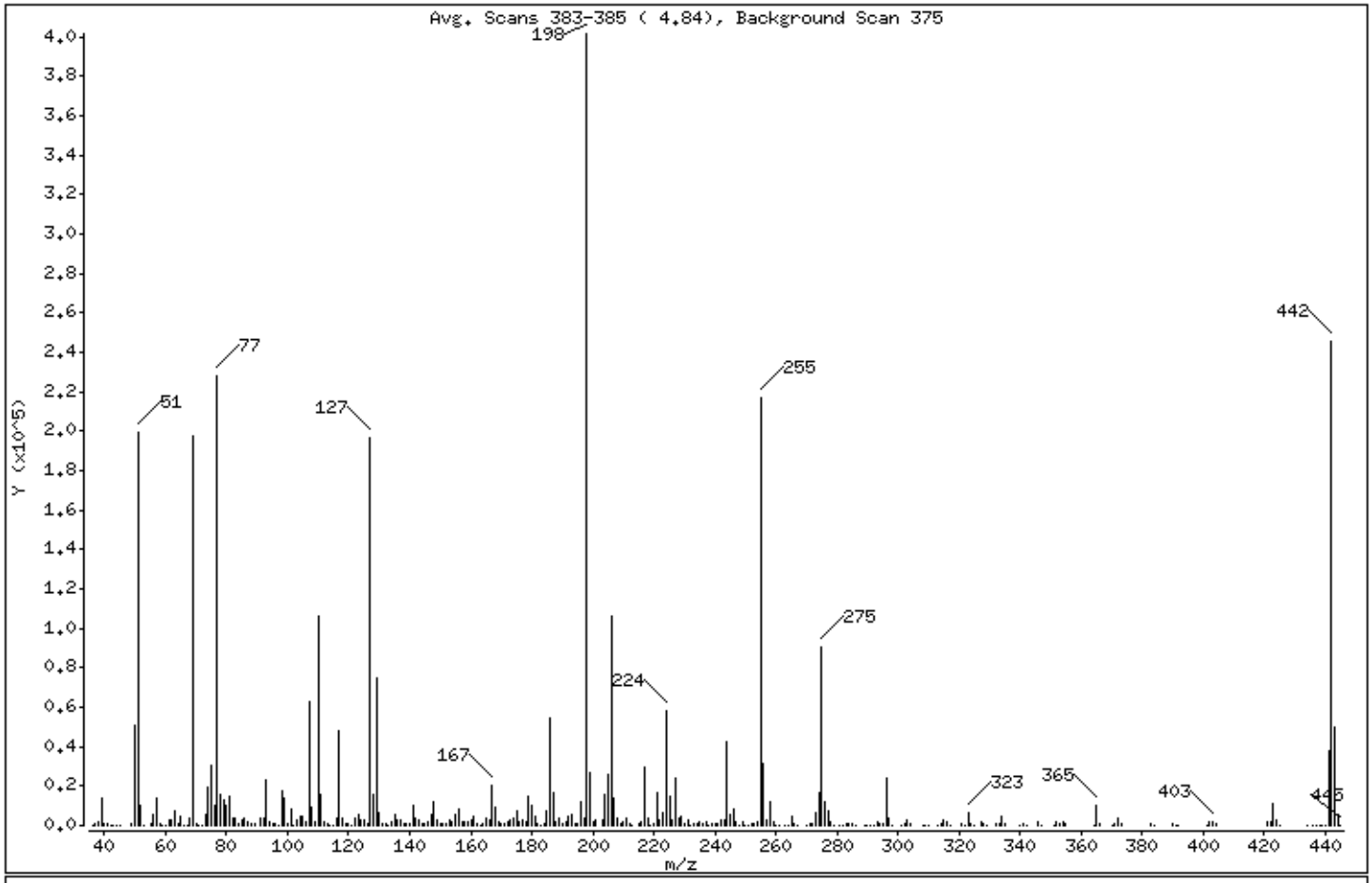
Sample Info: DFTPP;RVDFTPP0878;1;3;DFTPP;

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	49.73
68	Less than 2.00% of mass 69	0.83 (1.69)
69	Mass 69 relative abundance	49.10
70	Less than 2.00% of mass 69	0.27 (0.56)
127	40.00 - 60.00% of mass 198	49.00
197	Less than 1.00% of mass 198	0.90
199	5.00 - 9.00% of mass 198	6.66
275	10.00 - 30.00% of mass 198	22.62
365	Greater than 1.00% of mass 198	2.42
441	Present, but less than mass 443	9.48
442	40.00 - 99.99% of mass 198	61.25
443	17.00 - 23.00% of mass 442	12.45 (20.32)

Digitally signed by Brandon H. Smith on 04/25/2018 at 11:05.
Target 3.5 esignature user ID: bhs10208

Data File: /chem/HP20296.i/18apr25.b/ld1010z.d

Date : 25-APR-2018 10:15

Client ID: DFTPP

Instrument: HP20296.i

Sample Info: DFTPP;RVDFTPP0878;1;3;DFTPP;

Operator: bhs10208

Column phase: DB-5MS

Column diameter: 0.18

Data File: ld1010z.d
Spectrum: Avg. Scans 383-385 (4.84), Background Scan 375
Location of Maximum: 198.00
Number of points: 316

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	66	121.00	160	201.00	2452	289.00	329
37.00	676	122.00	3408	203.00	2985	290.00	258
38.00	2242	123.00	5687	204.00	15751	291.00	91
39.00	14018	124.00	2615	205.00	25520	292.00	412
40.00	592	125.00	2361	206.00	106184	293.00	1854
41.00	530	126.00	1369	207.00	13754	294.00	467
42.00	84	127.00	196672	208.00	3707	295.00	543
43.00	183	128.00	15374	209.00	829	296.00	24096
44.00	209	129.00	75024	210.00	1672	297.00	3377
45.00	279	130.00	6584	211.00	4022	298.00	212
49.00	1315	131.00	1326	212.00	582	301.00	230
50.00	50616	132.00	834	213.00	204	302.00	486
51.00	199616	133.00	101	215.00	1080	303.00	2508
52.00	9926	134.00	1825	216.00	2264	304.00	838
53.00	444	135.00	5761	217.00	29944	308.00	92
55.00	712	136.00	2500	218.00	3497	309.00	261
56.00	5417	137.00	2800	219.00	265	310.00	265
57.00	14032	138.00	666	220.00	769	313.00	121
58.00	855	139.00	598	221.00	16912	314.00	1302
59.00	420	140.00	898	222.00	2310	315.00	2587
60.00	101	141.00	9867	223.00	6083	316.00	1424
61.00	2579	142.00	3338	224.00	58056	317.00	103
62.00	2568	143.00	2351	225.00	14868	321.00	752
63.00	7521	144.00	563	226.00	2308	322.00	287
64.00	1264	145.00	669	227.00	24144	323.00	6851
65.00	4169	146.00	1743	228.00	3322	324.00	1326
66.00	261	147.00	5996	229.00	5061	325.00	203
67.00	433	148.00	12159	230.00	809	327.00	1738
68.00	3333	149.00	2557	231.00	2600	328.00	862
69.00	197056	150.00	791	232.00	348	329.00	244
70.00	1098	151.00	1377	233.00	494	332.00	486
71.00	280	152.00	565	234.00	1340	333.00	808
72.00	112	153.00	2859	235.00	1892	334.00	4279
73.00	5648	154.00	2074	236.00	1328	335.00	1255
74.00	19792	155.00	5722	237.00	1921	340.00	217

Digitally signed by Brandon H. Smith on 04/25/2018 at 11:05.
Target 3.5 esignature user ID: bhs10208

Data File: /chem/HP20296.i/18apr25.b/ld1010z.d

Date : 25-APR-2018 10:15

Client ID: DFTPP

Instrument: HP20296.i

Sample Info: DFTPP;RVDFTPP0878;1;3;DFTPP;

Operator: bhs10208

Column phase: DB-5MS

Column diameter: 0.18

Data File: ld1010z.d
Spectrum: Avg. Scans 383-385 (4.84), Background Scan 375
Location of Maximum: 198.00
Number of points: 316

m/z	Y	m/z	Y	m/z	Y	m/z	Y
75.00	30424	156.00	7938	238.00	240	341.00	1130
76.00	10100	157.00	1617	239.00	748	342.00	137
77.00	227648	158.00	1802	240.00	607	346.00	1523
78.00	15621	159.00	1482	241.00	1314	347.00	296
79.00	12669	160.00	3083	242.00	2986	351.00	89
80.00	10523	161.00	4283	243.00	3061	352.00	2150
81.00	14800	162.00	1384	244.00	42176	353.00	1364
82.00	4148	163.00	386	245.00	5477	354.00	2230
83.00	3549	164.00	626	246.00	8090	355.00	726
84.00	638	165.00	3397	247.00	1790	364.00	136
85.00	2596	166.00	3015	248.00	388	365.00	9733
86.00	4039	167.00	20624	249.00	1773	366.00	1176
87.00	2071	168.00	9646	250.00	285	370.00	101
88.00	664	169.00	1871	251.00	431	371.00	523
89.00	617	170.00	502	252.00	640	372.00	3402
91.00	3259	171.00	877	253.00	1203	373.00	971
92.00	3691	172.00	1468	254.00	1695	383.00	910
93.00	22680	173.00	2561	255.00	216960	384.00	355
94.00	1596	174.00	3827	256.00	31264	390.00	479
95.00	687	175.00	7362	257.00	2555	391.00	406
96.00	1067	176.00	2067	258.00	11934	392.00	104
97.00	238	177.00	3176	259.00	1727	401.00	127
98.00	17184	178.00	1425	260.00	223	402.00	1477
99.00	13727	179.00	14922	261.00	185	403.00	2004
100.00	1297	180.00	10604	263.00	281	404.00	497
101.00	8117	181.00	4662	264.00	76	421.00	1518
102.00	402	182.00	786	265.00	4394	422.00	1649
103.00	2680	183.00	296	266.00	1040	423.00	11502
104.00	4742	184.00	1207	267.00	285	424.00	2677
105.00	4251	185.00	6937	270.00	295	425.00	368
106.00	1632	186.00	54496	271.00	486	434.00	200
107.00	62344	187.00	16440	272.00	729	436.00	335
108.00	9237	188.00	1734	273.00	6264	437.00	436
109.00	1954	189.00	3412	274.00	16800	438.00	89
110.00	106368	190.00	695	275.00	90808	439.00	407

Digitally signed by Brandon H. Smith on 04/25/2018 at 11:05.
Target 3.5 esignature user ID: bhs10208

Data File: /chem/HP20296.i/18apr25.b/ld1010z.d

Date : 25-APR-2018 10:15

Client ID: DFTPP

Instrument: HP20296.i

Sample Info: DFTPP;RVDFTPP0878;1;3;DFTPP;

Operator: bhs10208

Column phase: DB-5MS

Column diameter: 0.18

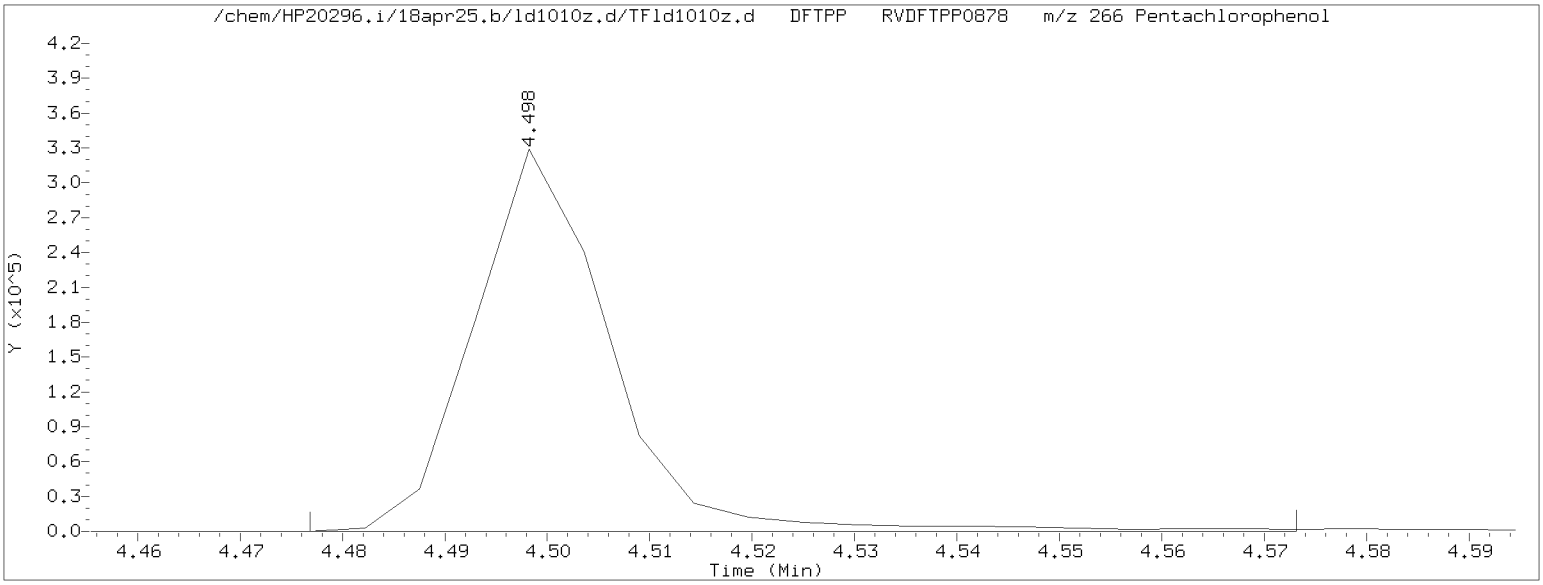
Data File: ld1010z.d
Spectrum: Avg. Scans 383-385 (4.84), Background Scan 375
Location of Maximum: 198.00
Number of points: 316

m/z	Y	m/z	Y	m/z	Y	m/z	Y
111.00	15931	191.00	1695	276.00	12205	440.00	440
112.00	2090	192.00	4905	277.00	7441	441.00	38048
113.00	717	193.00	5277	278.00	1476	442.00	245824
114.00	84	194.00	1205	279.00	123	443.00	49968
115.00	293	195.00	813	281.00	215	444.00	4545
116.00	3498	196.00	11720	282.00	213	445.00	222
117.00	47528	197.00	3596	283.00	989		
118.00	3756	198.00	401408	284.00	615		
119.00	563	199.00	26712	285.00	1299		
120.00	588	200.00	2275	286.00	309		

Digitally signed by Brandon H. Smith on 04/25/2018 at 11:05.
Target 3.5 esignature user ID: bhs10208

Assessment of GC Column Performance and Injection Port Inertness for

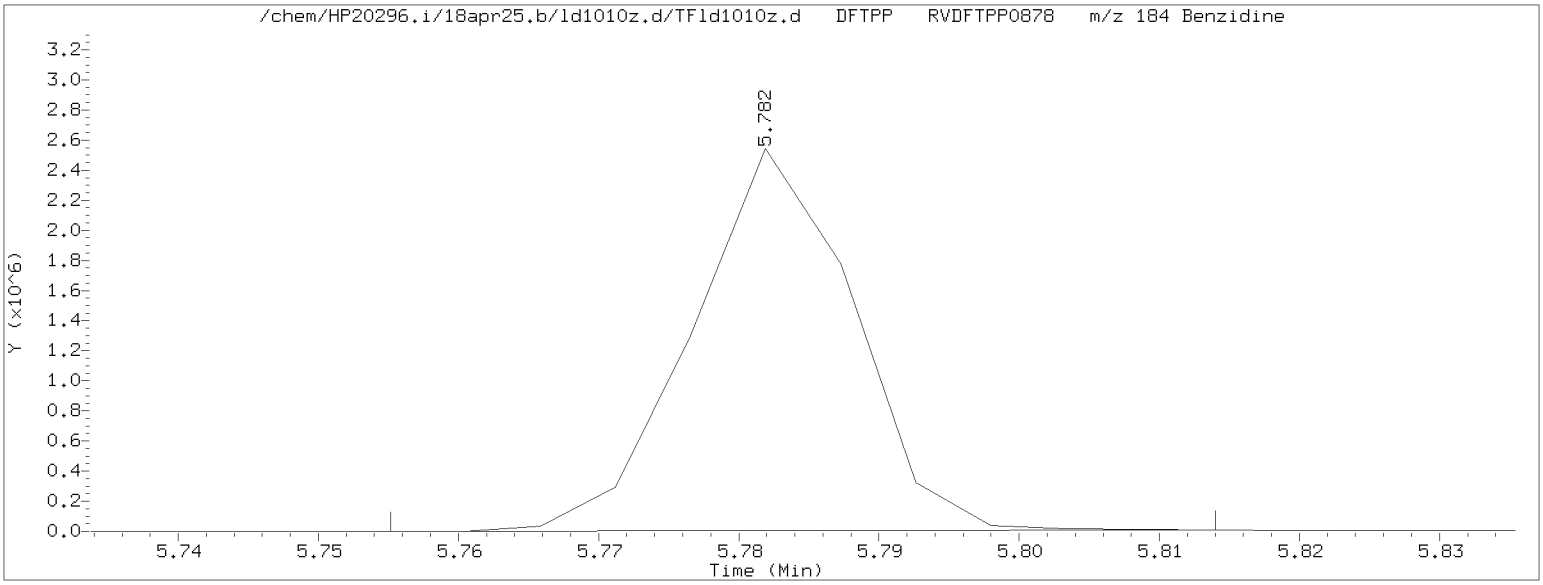
Instrument ID: HP20296.i Injection Date: 25-APR-2018 10:15 Operator: bhs10208



Pentachlorophenol EICP peak height = 329024 EICP peak height at 10% = 32902 Pentachlorophenol EICP area = 302727

Pentachlorophenol EICP peak apex (min.) = 4.498
RT at 10% of front half of EICP (min.) = 4.487 'Front' peak width (min.) = 0.0112166667
RT at 10% of back half of EICP (min.) = 4.513 'Tailing' peak width (min.) = 0.0152333333

PCP tailing factor = $\frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0152333333}{0.0112166667} = 1.358$



Benzidine EICP peak height = 2540435 EICP peak height at 10% = 254044 Benzidine EICP area = 2020680

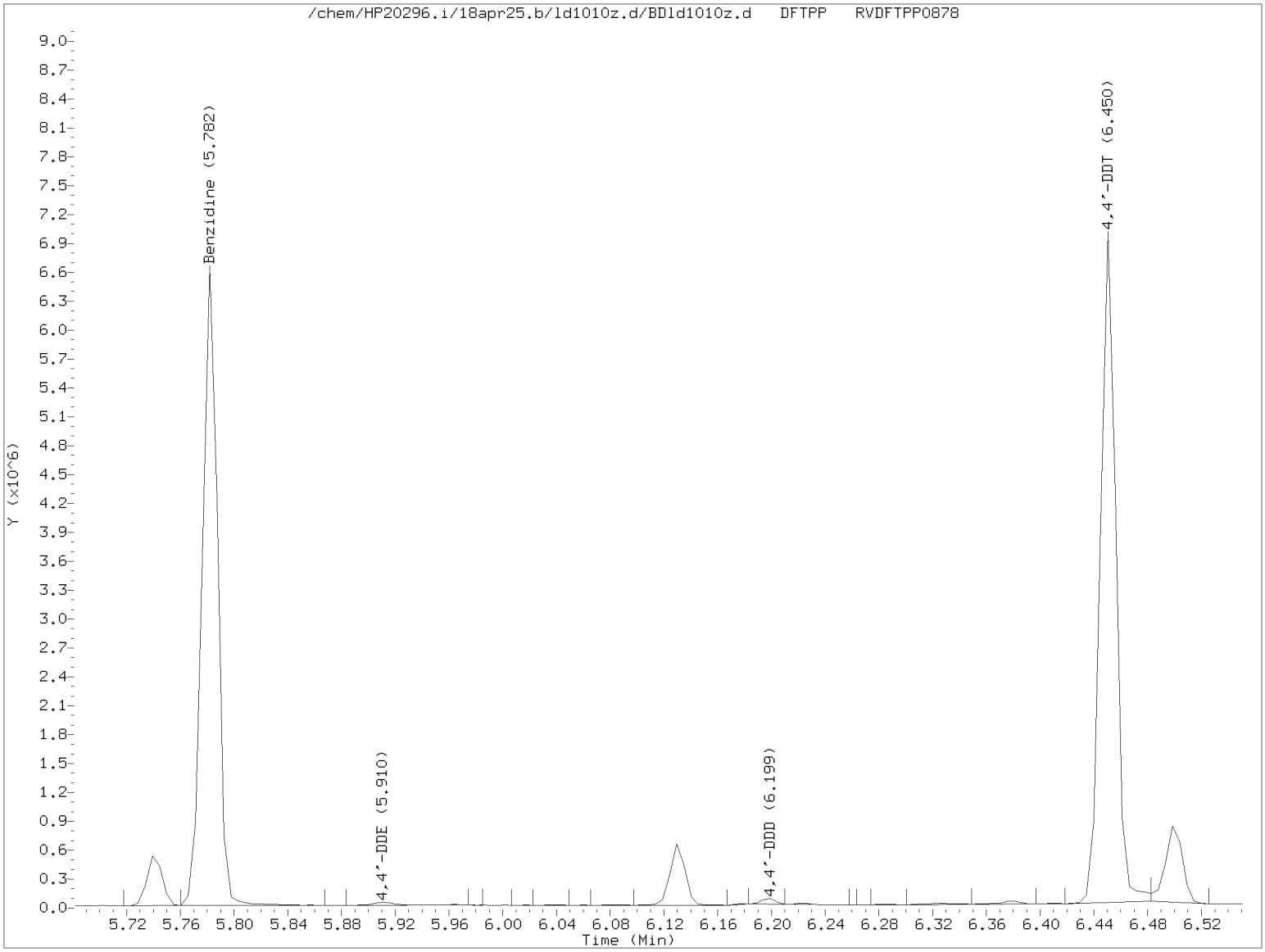
Benzidine EICP peak apex (min.) = 5.782
RT at 10% of front half of EICP (min.) = 5.770 'Front' peak width (min.) = 0.0114333333
RT at 10% of back half of EICP (min.) = 5.794 'Tailing' peak width (min.) = 0.0119166667

Benzidine tailing factor = $\frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0119166667}{0.0114333333} = 1.042$

Secondary review performed and digitally signed by Holly B. Ziegler on 04/26/2018 at 10:41. PARALLAX ID: hb01996

Assessment of GC Column Performance and Injection Port Inertness for

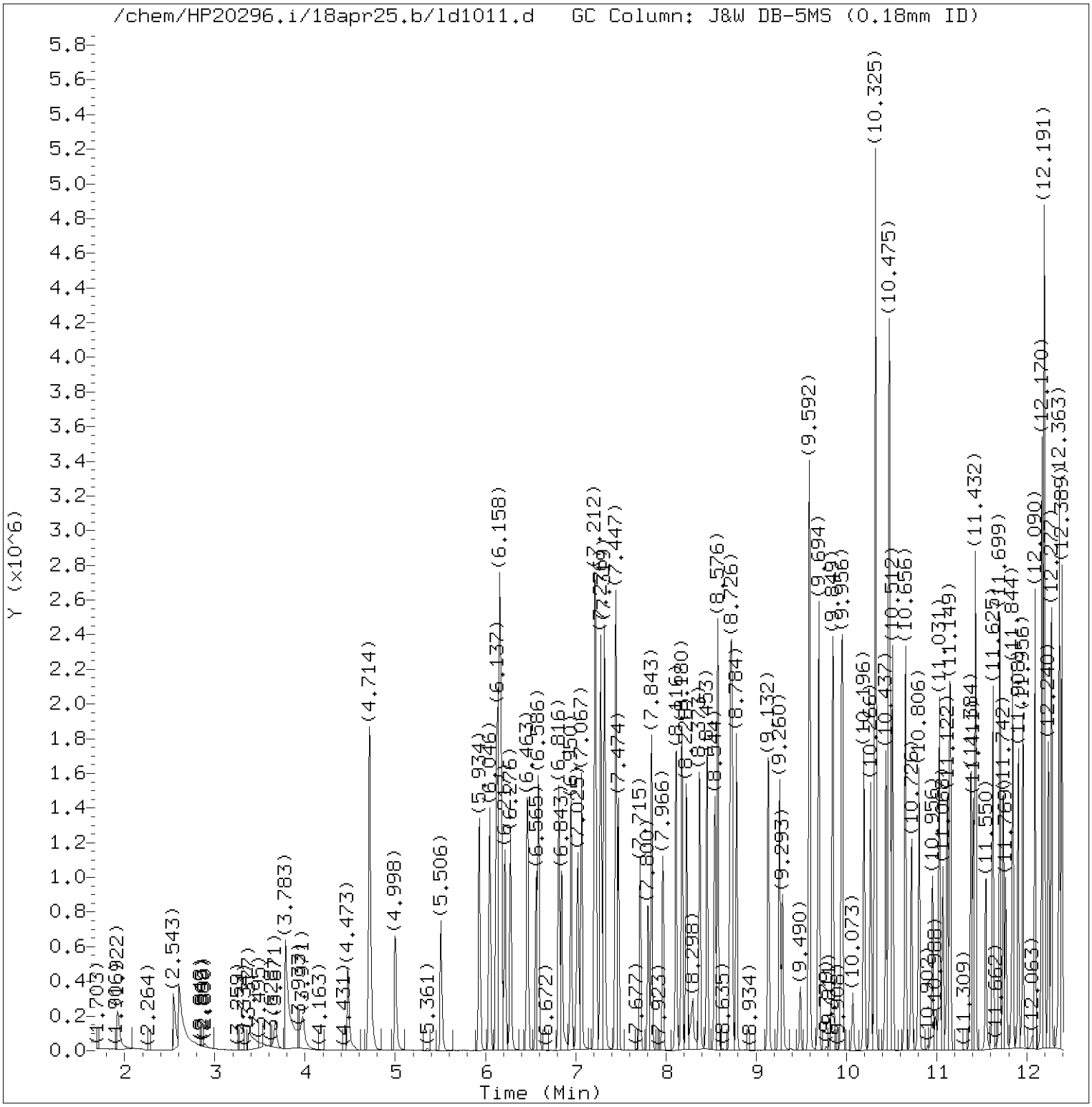
Instrument ID: HP20296.i Injection Date: 25-APR-2018 10:15 Operator: bhs10208



$$\% \text{ 4,4'-DDT breakdown} = \frac{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area}}{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area + 4,4'-DDT TIC area}} \times 100$$

$$\% \text{ 4,4'-DDT breakdown} = \frac{44322 + 45237}{44322 + 45237 + 5577342} \times 100 = 1.6$$

Secondary review performed and digitally signed by Holly B. Ziegler on 04/26/2018 at 10:41. PARALLAX ID: hb01996



Total Ion Chromatogram (TIC)

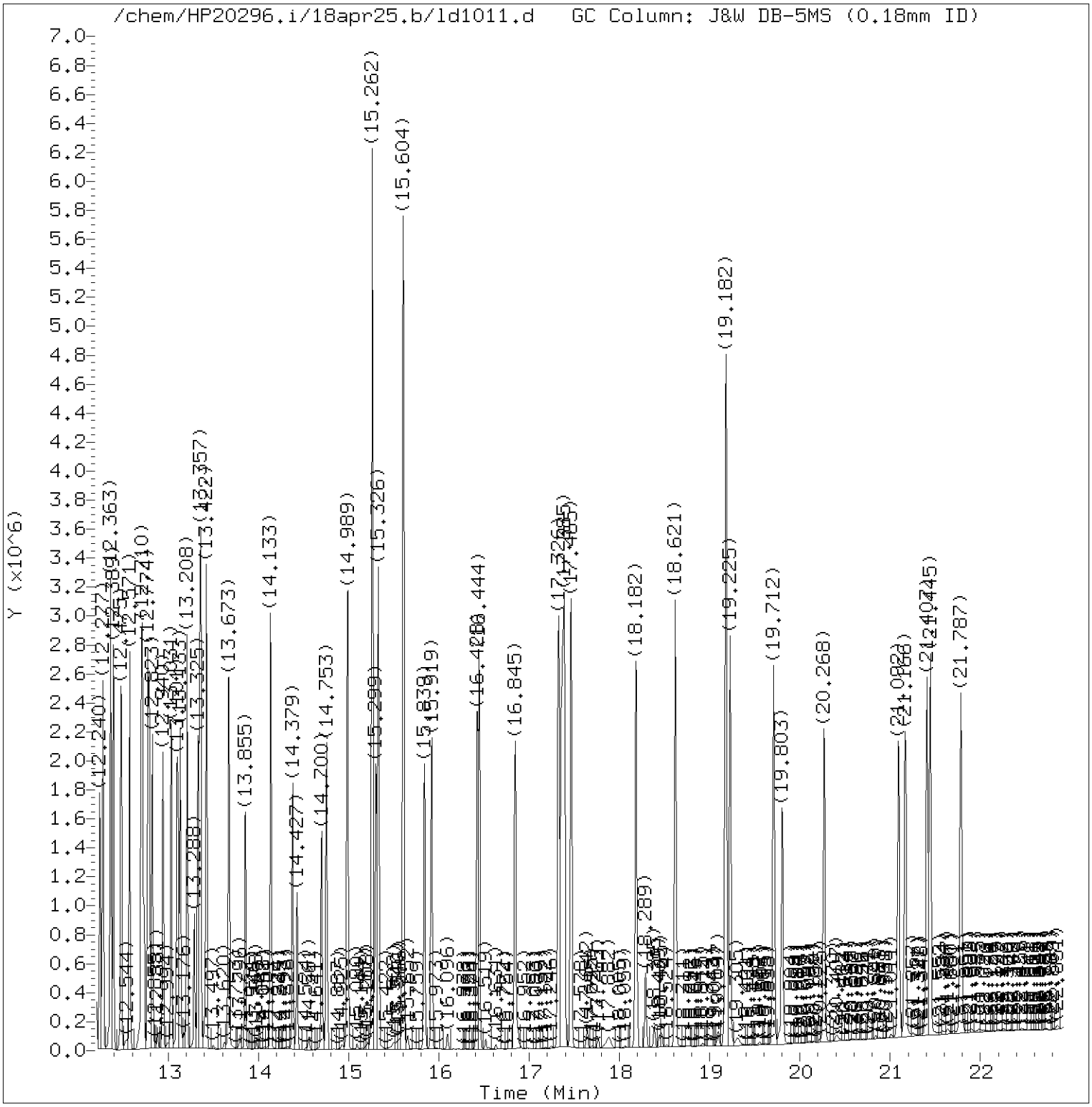
Target Revision 3.5

Data File: /chem/HP20296.i/18apr25.b/ld1011.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 10:32 Analyst ID: bhs10208

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: all1
Calibration date and time: 25-APR-2018 11:04
Date, time and analyst ID of latest file update: 25-Apr-2018 11:04 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0968

Digitally signed by Brandon H. Smith
on 04/25/2018 at 11:05.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/18apr25.b/ld1011.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 10:32 Analyst ID: bhs10208

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: all1
Calibration date and time: 25-APR-2018 11:04
Date, time and analyst ID of latest file update: 25-Apr-2018 11:04 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0968

Digitally signed by Brandon H. Smith
on 04/25/2018 at 11:05.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr25.b/ld1011.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 10:32 Analyst ID: bhs10208

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: all1
Calibration date and time: 25-APR-2018 11:04
Date, time and analyst ID of latest file update: 25-Apr-2018 11:04 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	1.922	88	198165	7.360
4) N-Nitrosodimethylamine	(1)	2.543	74	297061	7.191
5) Pyridine	(1)	2.601	79	464293	6.365
7) 2-Picoline	(1)	3.783	93	525608	7.096
8) N-Nitrosomethylethylamine	(1)	3.971	88	222068	7.508
9) Methyl methanesulfonate	(1)	4.473	80	279284	7.801
11)$2-Fluorophenol	(1)	4.714	112	858405	15.267
13) N-Nitrosodiethylamine	(1)	4.998	102	216701	7.905
15) Ethyl methanesulfonate	(1)	5.506	109	230227	7.712
16) Benzaldehyde	(1)	5.934	77	417875	7.434
19) Aniline	(1)	6.121	93	753029	7.694
20) a-methylstyrene	(1)	6.142	118	151477	7.085
17)$Phenol-d6	(1)	6.158	99	1148228	15.573
18) Phenol	(1)	6.180	94	614997	7.322
22) bis(2-Chloroethyl)ether	(1)	6.217	93	489307	7.787
23) 2-Chlorophenol	(1)	6.281	128	425251	7.721
24) 1,3-Dichlorobenzene	(1)	6.468	146	489470	7.872
25)*1,4-Dichlorobenzene-d4	(1)	6.565	152	205340	5.000
26) 1,4-Dichlorobenzene	(1)	6.586	146	490761	7.799
28) 1,2-Dichlorobenzene	(1)	6.816	146	472339	7.883
27) Benzyl alcohol	(1)	6.848	108	231058	6.285
30) Indene	(1)	6.950	115	614859	7.004
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.025	45	788480	8.790
34) bis(2-Chloroisopropyl)ether	(1)	7.025	45	788480	8.798
31) 2-Methylphenol	(1)	7.067	108	421927	7.769
36) Acetophenone	(1)	7.212	105	685129	7.614
35) N-Nitrosopyrrolidine	(1)	7.212	100	246857	8.305
38) N-Nitroso-di-n-propylamine	(1)	7.228	70	400666	8.487
40) o-Toluidine	(1)	7.276	106	755018	7.861
39) N-Nitrosomorpholine	(1)	7.281	56	313763	7.953
37) 4-Methylphenol	(1)	7.314	108	447494	7.800
43) Hexachloroethane	(1)	7.319	117	203816	7.597
44)$Nitrobenzene-d5	(2)	7.447	82	1111066	16.273
45) Nitrobenzene	(2)	7.474	77	572243	8.217
42) Total Cresols	(1)			869421	15.569
48) N-Nitrosopiperidine	(2)	7.715	114	223592	7.812
50) Isophorone	(2)	7.843	82	980107	8.051
51) 2-Nitrophenol	(2)	7.966	139	220985	7.853
53) 2,4-Dimethylphenol	(2)	8.116	107	477354	7.913
57) O,O,O-Triethylphosphorothioate	(2)	8.180	198	230228	7.710

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

Digitally signed by Brandon H. Smith
on 04/25/2018 at 11:05.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr25.b/ld1011.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 10:32 Analyst ID: bhs10208

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: all1
Calibration date and time: 25-APR-2018 11:04
Date, time and analyst ID of latest file update: 25-Apr-2018 11:04 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
55) bis(2-Chloroethoxy)methane	(2)	8.228	93	612511	7.740
56) Benzoic acid	(2)	8.298	105	220706	7.531
60) 2,4-Dichlorophenol	(2)	8.373	162	377244	8.031
62) 1,2,4-Trichlorobenzene	(2)	8.458	180	416408	7.956
65)*Naphthalene-d8	(2)	8.544	136	791654	5.000
66) Naphthalene	(2)	8.576	128	1285541	7.858
69) Hexachloropropene	(2)	8.710	213	295210	7.796
68) 2,6-Dichlorophenol	(2)	8.726	162	369243	7.937
67) 4-Chloroaniline	(2)	8.736	127	507272	7.597
71) Hexachlorobutadiene	(2)	8.784	225	261166	8.230
75) Quinoline	(2)	9.137	129	780259	7.488
77) N-Nitrosodi-n-butylamine	(2)	9.260	84	362049	6.901
76) Caprolactam	(2)	9.293	113	120345	8.113
80) 4-Chloro-3-methylphenol	(2)	9.587	107	410207	7.958
82) Safrole	(2)	9.597	162	338054	7.703
83) 2-Methylnaphthalene	(2)	9.694	142	863272	7.943
84) 1-Methylnaphthalene	(2)	9.849	142	783049	7.853
85) Hexachlorocyclopentadiene	(3)	9.945	237	241931	7.134
86) 1,2,4,5-Tetrachlorobenzene	(3)	9.956	216	448508	7.863
88) cis-Isosafrole	(3)	10.068	162	61833	1.239
90) 2,4,6-Trichlorophenol	(3)	10.196	196	282073	7.875
92) 2,4,5-Trichlorophenol	(3)	10.271	196	291160	7.745
93)$2-Fluorobiphenyl	(3)	10.325	172	1982785	15.210
94) trans-Isosafrole	(3)	10.437	162	334242	6.229
95) 1,1'-Biphenyl	(3)	10.475	154	1092472	7.715
96) 2-Chloronaphthalene	(3)	10.485	162	815899	7.141
98) 1-Chloronaphthalene	(3)	10.512	162	795206	7.796
99) Diphenyl ether	(3)	10.656	170	567145	7.552
97) Isosafrole	(3)			396075	7.468
100) 2-Nitroaniline	(3)	10.726	138	252802	7.560
104) 1,4-Naphthoquinone	(3)	10.806	158	333539	7.388
105) 1,4-Dinitrobenzene	(3)	10.956	168	132408	7.606
106) Dimethylphthalate	(3)	11.031	163	978428	7.645
107) 1,3-Dinitrobenzene	(3)	11.074	168	148469	7.601
108) 2,6-Dinitrotoluene	(3)	11.122	165	213973	7.874
109) Acenaphthylene	(3)	11.154	152	1242646	7.825
113)*Acenaphthene-d10	(3)	11.379	164	419329	5.000
112) 3-Nitroaniline	(3)	11.411	138	219546	7.668
114) Acenaphthene	(3)	11.432	153	858869	7.627
115) 2,4-Dinitrophenol	(3)	11.550	184	153617	9.403

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$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/25/2018 at 11:05.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr25.b/ld1011.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 10:32 Analyst ID: bhs10208

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: all1
Calibration date and time: 25-APR-2018 11:04
Date, time and analyst ID of latest file update: 25-Apr-2018 11:04 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
117) Pentachlorobenzene	(3)	11.625	250	364856	7.844
119) Dibenzofuran	(3)	11.705	168	1201408	7.679
118) 2,4-Dinitrotoluene	(3)	11.742	165	289075	7.676
116) 4-Nitrophenol	(3)	11.769	109	138502	6.862
121) 1-Naphthylamine	(3)	11.844	143	775745	6.968
122) 2,3,4,6-Tetrachlorophenol	(3)	11.908	232	229857	7.857
120) 2,4_2,6-Dinitrotoluenes	(3)			503048	15.550
123) 2-Naphthylamine	(3)	11.956	143	661477	6.272
124) Diethylphthalate	(3)	12.090	149	927019	7.360
126) Fluorene	(3)	12.170	166	975970	7.986
125) Thionazin	(3)	12.191	107	155194	7.237
127) 4-Chlorophenyl-phenylether	(3)	12.197	204	476588	7.911
128) 5-Nitro-o-toluidine	(3)	12.240	152	258796	7.864
130) 4,6-Dinitro-2-methylphenol	(4)	12.272	198	166834	7.308
129) 4-Nitroaniline	(3)	12.277	138	227910	7.876
131) N-Nitrosodiphenylamine	(4)	12.363	169	794239	7.526
132) NDPA as diphenylamine	(4)	12.363	169	794239	7.526
134) 1,2-Diphenylhydrazine	(4)	12.389	77	1127773	7.658
135)$2,4,6-Tribromophenol	(3)	12.480	330	234753	15.618
137) Tetraethyldithiopyrophosphate	(4)	12.571	97	187071	7.411
140) Diallate (peak 1)	(4)	12.700	86	412847	6.193
141) Phorate	(4)	12.710	75	1052939	11.148
139) 1,3,5-Trinitrobenzene	(4)	12.732	213	105664	7.513
142) Phenacetin	(4)	12.774	108	502745	7.537
143) 4-Bromophenyl-phenylether	(4)	12.791	248	274841	7.794
144) Diallate (peak 2)	(4)	12.801	86	67102	1.234
145) Hexachlorobenzene	(4)	12.823	284	277499	7.693
147) Dimethoate	(4)	12.940	87	414068	7.288
146) Diallate trans/cis	(4)			479949	7.427
148) Atrazine	(4)	13.037	200	271043	7.594
151) Pentachloronitrobenzene	(4)	13.095	237	134744	7.805
149) Pentachlorophenol	(4)	13.111	266	141535	6.430
150) 4-Aminobiphenyl	(4)	13.133	169	832575	6.933
152) Pronamide	(4)	13.208	173	467348	7.513
153)*Phenanthrene-d10	(4)	13.325	188	862368	5.000
154) Dinoseb	(4)	13.341	211	258257	7.222
155) Phenanthrene	(4)	13.357	178	1443819	7.535
157) Anthracene	(4)	13.422	178	1469219	7.709
163) Carbazole	(4)	13.673	167	1277005	7.566
164) Methyl parathion	(4)	13.855	109	323429	7.465

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$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/25/2018 at 11:05.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr25.b/ld1011.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 10:32 Analyst ID: bhs10208

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: all1
Calibration date and time: 25-APR-2018 11:04
Date, time and analyst ID of latest file update: 25-Apr-2018 11:04 bhs10208

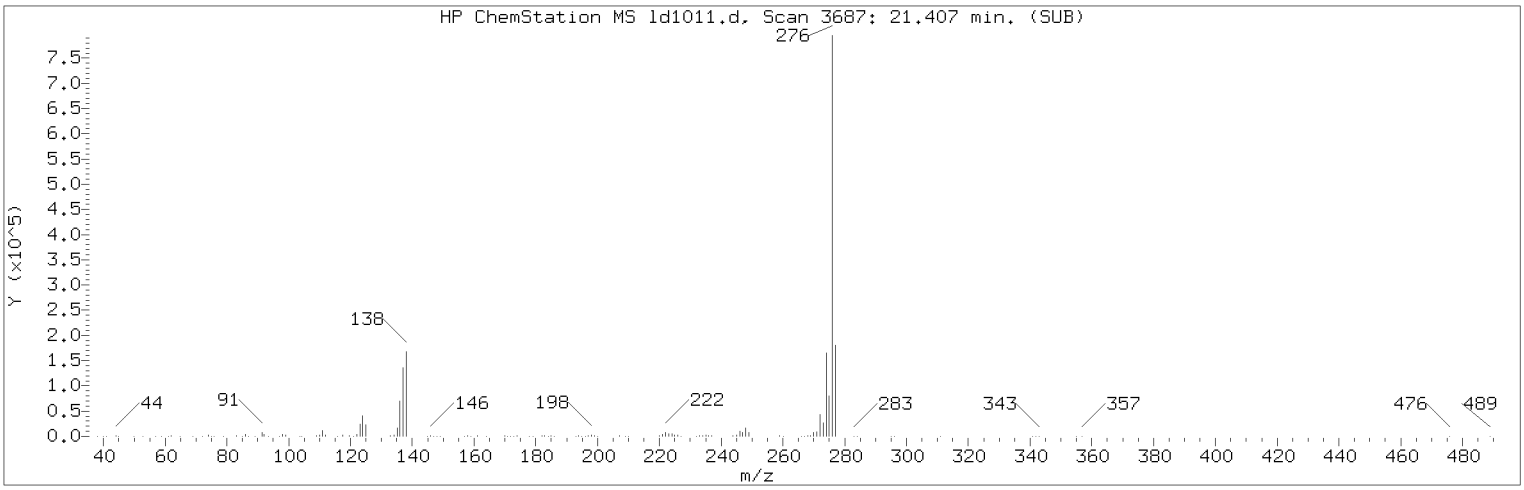
Sample Name: SSTD7.5 Lab Sample ID: RVSTD0968

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
165) Di-n-butylphthalate	(4)	14.133	149	1647439	7.251
167) Parathion	(4)	14.379	109	205097	7.315
168) 4-Nitroquinoline-1-oxide	(4)	14.427	190	114046	5.529
169) Octachlorostyrene	(4)	14.700	308	97659	7.224
171) Isodrin	(4)	14.753	193	174499	7.407
173) Fluoranthene	(4)	14.989	202	1653929	7.734
174) Benzidine	(5)	15.262	184	2822966	21.182
175)*Pyrene-d10	(5)	15.299	212	904445	5.000
177) Pyrene	(5)	15.331	202	1720577	7.478
179)$Terphenyl-d14	(5)	15.604	244	2186313	15.073
182) p-Dimethylaminoazobenzene	(5)	15.839	225	273231	7.109
185) Chlorobenzilate	(5)	15.919	139	505168	7.370
187) 3,3'-Dimethylbenzidine	(5)	16.422	212	1015405	6.751
188) Butylbenzylphthalate	(5)	16.444	149	783339	7.328
191) 2-Acetylaminofluorene	(5)	16.845	181	619410	7.321
195) Benzo(a)anthracene	(5)	17.326	228	1604790	7.807
193) 3,3'-Dichlorobenzidine	(5)	17.353	252	542760	7.337
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.369	231	324694	7.228
196) Chrysene	(5)	17.390	228	1561889	7.855
199) bis(2-Ethylhexyl)phthalate	(5)	17.465	149	1101766	7.294
203) 6-Methylchrysene	(5)	18.182	242	1048842	7.492
205) Di-n-octylphthalate	(6)	18.621	149	1894963	7.209
206) Benzo(b)fluoranthene	(6)	19.182	252	1582645	7.721
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.182	256	621977	7.355
208) Benzo(k)fluoranthene	(6)	19.230	252	1523633	7.775
211) Benzo(a)pyrene	(6)	19.712	252	1462213	7.928
213)*Perylene-d12	(6)	19.803	264	836244	5.000
215) 3-Methylcholanthrene	(6)	20.268	268	669296	7.506
217) Dibenz(a,h)acridine	(6)	21.097	279	1150490	7.341
218) Dibenz(a,j)acridine	(6)	21.166	279	1174518	7.378
219) Indeno(1,2,3-cd)pyrene	(6)	21.407	276	1399329M	7.989
220) Dibenz(a,h)anthracene	(6)	21.445	278	1380810	7.786
221) Benzo(g,h,i)perylene	(6)	21.787	276	1403566	7.765
222) Total PAHs	(6)			24215766	140.174

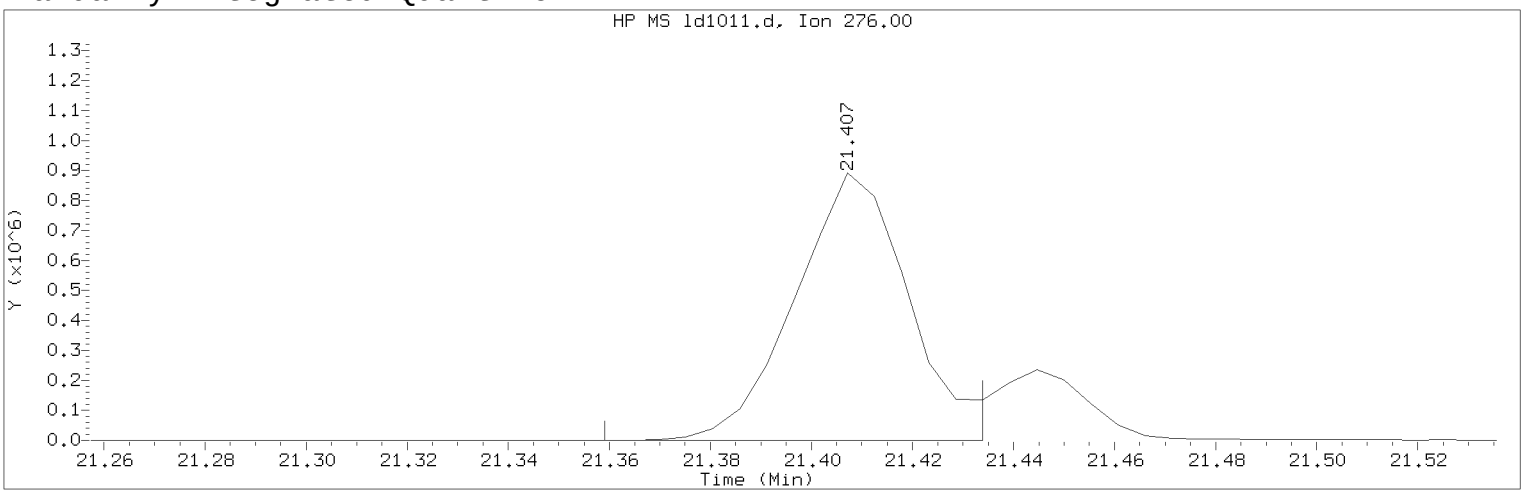
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 04/25/2018 at 11:05.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr25.b/ld1011.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 10:32 Analyst ID: bhs10208

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: all1
Calibration date and time: 25-APR-2018 11:04
Date, time and analyst ID of latest file update: 25-Apr-2018 11:04 bhs10208

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0968

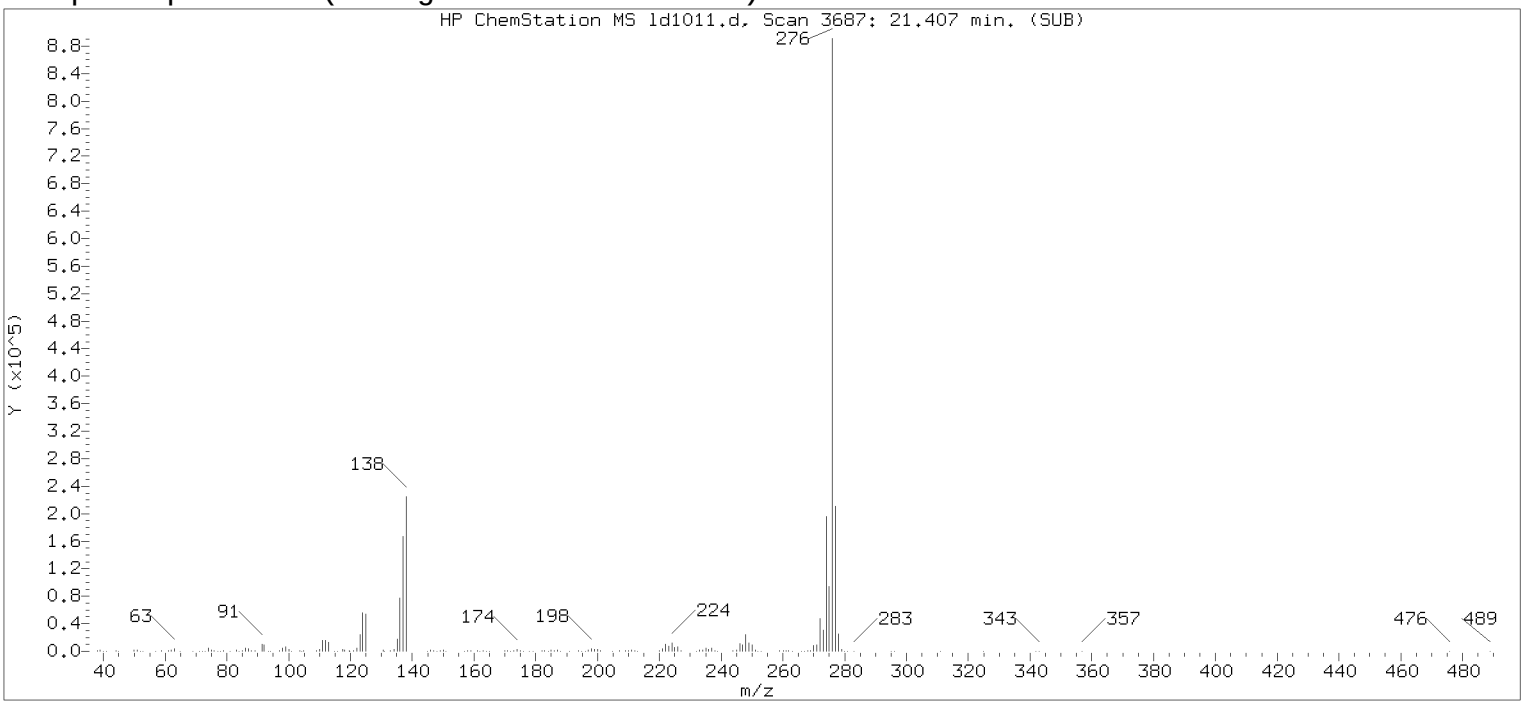
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3687
Retention Time (minutes) : 21.407
Quant Ion : 276.00
Area (flag) : 1399329M
On-Column Amount (ng/ul) : 7.9894
Integration start scan : 3677 Integration stop scan: 3691
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

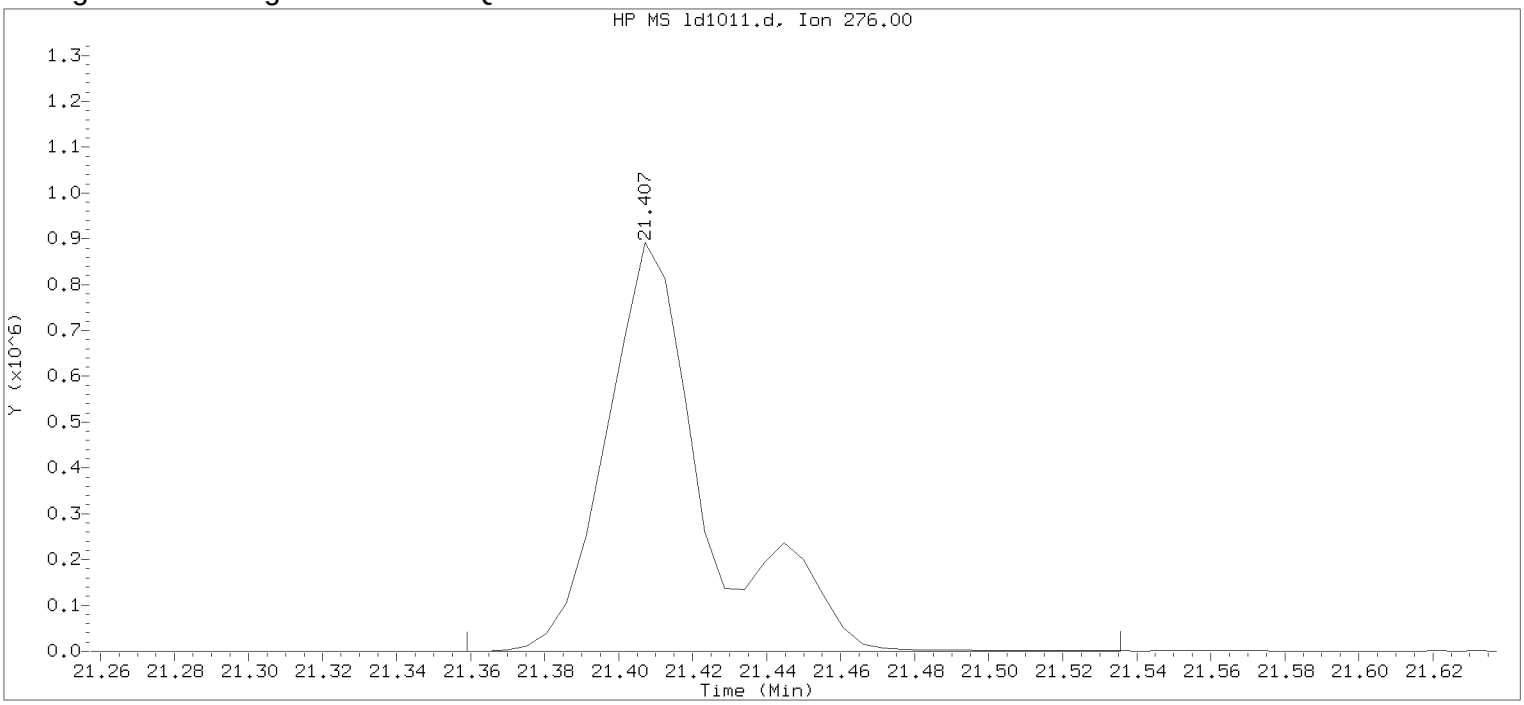
Analyst responsible for change: Digitally signed by Brandon H. Smith on 04/25/2018 at 11:05.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Holly B. Ziegler on 04/26/2018 at 10:41.
PARALLAX ID: hb01996

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr25.b/ld1011.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 10:32 Analyst ID: bhs10208

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: all1
Calibration date and time: 25-APR-2018 10:59
Date, time and analyst ID of latest file update: 25-Apr-2018 10:59 Unknown

Sample Name: SSTD7.5 Lab Sample ID: RVSTD0968

Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3687
Retention Time (minutes) : 21.407
Quant Ion : 276.00
Area : 1672019
On-column Amount (ng/ul) : 9.5464
Integration start scan : 3677 Integration stop scan: 3710
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 04/25/2018 at 11:05.
Target 3.5 esignature user ID: bhs10208

Raw QC Data

Semivolatiles by GC/MS

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

SBLKWE113

Data file: /chem/HP20296.i/18apr25.b/ld1012.d
Injection date and time: **25-APR-2018 11:24**
Data file Sample Info. Line: SBLKWE113;SBLKWE113;1;3;BLANK;;;
Instrument ID: **HP20296.i** Batch: **18113WAE**
Date, time and analyst ID of latest file update: 25-Apr-2018 16:39 art12405

Blank Data file reference: **/chem/HP20296.i/18apr25.b/ld1012.d**

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: **20639M**
Calibration date and time (Last Method Edit): 25-APR-2018 11:05
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/18apr25.b/ld1011.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): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.565(0.000)	912	152	163257 (-20)	5.00	
65) Naphthalene-d8	8.544(0.000)	1282	136	598890 (-24)	5.00	
113) Acenaphthene-d10	11.379(0.000)	1812	164	304251 (-27)	5.00	
153) Phenanthrene-d10	13.326(0.000)	2176	188	589147 (-32)	5.00	
175) Pyrene-d10	15.299(0.000)	2545	212	605968 (-33)	5.00	
213) Perylene-d12	19.803(0.000)	3387	264	535396 (-36)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
11) 2-Fluorophenol	(1)	4.714(0.000)	112	1086797	24.311	49%		10 - 82
17) Phenol-d6	(1)	6.158(0.000)	99	1088266	18.565	37%		10 - 71
44) Nitrobenzene-d5	(2)	7.442(0.001)	82	1100906	21.313	85%		30 - 111
93) 2-Fluorobiphenyl	(3)	10.325(0.000)	172	1727035	18.259	73%		39 - 105
135) 2,4,6-Tribromophenol	(3)	12.481(0.000)	330	513202	47.057	94%		21 - 134
179) Terphenyl-d14	(5)	15.604(0.000)	244	2395077	24.646	99%		27 - 116

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
18) Phenol	(1)			Not Detected					0.1
22) bis(2-Chloroethyl)ether	(1)			Not Detected					0.1
23) 2-Chlorophenol	(1)			Not Detected					0.1
24) 1,3-Dichlorobenzene	(1)			Not Detected					0.1
26) 1,4-Dichlorobenzene	(1)			Not Detected					0.1
28) 1,2-Dichlorobenzene	(1)			Not Detected					0.1
31) 2-Methylphenol	(1)			Not Detected					0.1
33) 2,2'-oxybis(1-Chloropropane)	(1)			Not Detected					0.1
37) 4-Methylphenol	(1)			Not Detected					0.1
38) N-Nitroso-di-n-propylamine	(1)			Not Detected					0.1
43) Hexachloroethane	(1)			Not Detected					0.3
45) Nitrobenzene	(2)			Not Detected					0.1
50) Isophorone	(2)			Not Detected					0.1
51) 2-Nitrophenol	(2)			Not Detected					0.1
53) 2,4-Dimethylphenol	(2)			Not Detected					0.1
55) bis(2-Chloroethoxy)methane	(2)			Not Detected					0.1
60) 2,4-Dichlorophenol	(2)			Not Detected					0.1
62) 1,2,4-Trichlorobenzene	(2)			Not Detected					0.1
66) Naphthalene	(2)			Not Detected					0.03
67) 4-Chloroaniline	(2)			Not Detected					0.5
71) Hexachlorobutadiene	(2)			Not Detected					0.1
80) 4-Chloro-3-methylphenol	(2)			Not Detected					0.1
83) 2-Methylnaphthalene	(2)			Not Detected					0.03
85) Hexachlorocyclopentadiene	(3)			Not Detected					1
90) 2,4,6-Trichlorophenol	(3)			Not Detected					0.1
92) 2,4,5-Trichlorophenol	(3)			Not Detected					0.1
96) 2-Chloronaphthalene	(3)			Not Detected					0.1

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Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP20296.i/18apr25.b/ld1012.d
Injection date and time: **25-APR-2018 11:24**
Data file Sample Info. Line: SBLKWE113;SBLKWE113;1;3;BLANK;;;
Instrument ID: **HP20296.i** Batch: **18113WAE**
Date, time and analyst ID of latest file update: 25-Apr-2018 16:39 art12405

Blank Data file reference: **/chem/HP20296.i/18apr25.b/ld1012.d**

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: **20639M**
Calibration date and time (Last Method Edit): 25-APR-2018 11:05
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/18apr25.b/ld1011.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)

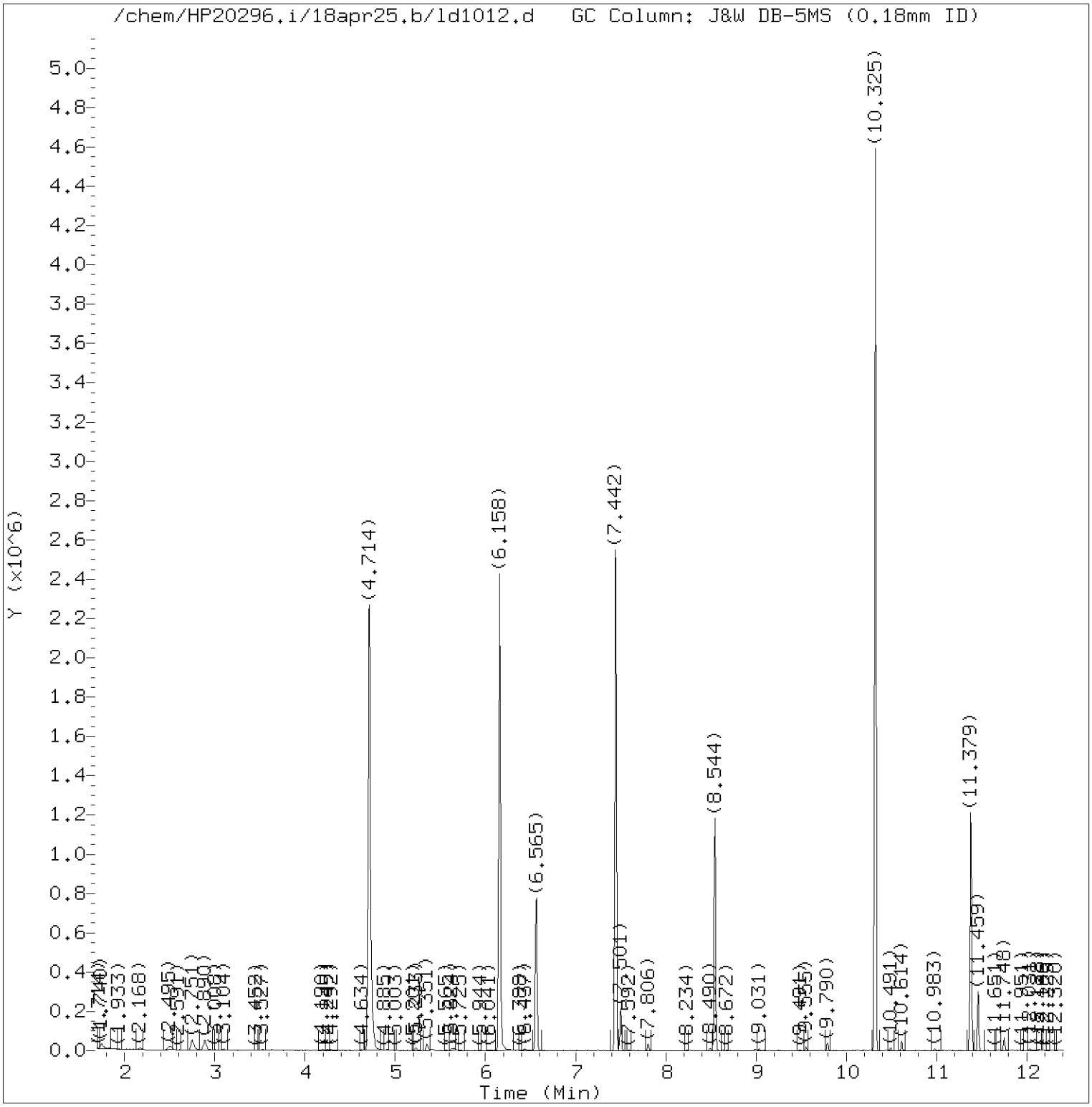
Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 1 ul

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
100) 2-Nitroaniline	(3)			Not Detected					0.1
106) Dimethylphthalate	(3)			Not Detected					0.5
108) 2,6-Dinitrotoluene	(3)			Not Detected					0.1
109) Acenaphthylene	(3)			Not Detected					0.03
112) 3-Nitroaniline	(3)			Not Detected					0.1
114) Acenaphthene	(3)			Not Detected					0.03
115) 2,4-Dinitrophenol	(3)			Not Detected					3
116) 4-Nitrophenol	(3)			Not Detected					3
118) 2,4-Dinitrotoluene	(3)			Not Detected					0.3
119) Dibenzofuran	(3)			Not Detected					0.1
124) Diethylphthalate	(3)			Not Detected					0.5
126) Fluorene	(3)			Not Detected					0.03
127) 4-Chlorophenyl-phenylether	(3)			Not Detected					0.1
129) 4-Nitroaniline	(3)			Not Detected					0.1
130) 4,6-Dinitro-2-methylphenol	(4)			Not Detected					1
131) N-Nitrosodiphenylamine	(4)			Not Detected					0.1
143) 4-Bromophenyl-phenylether	(4)			Not Detected					0.1
145) Hexachlorobenzene	(4)			Not Detected					0.03
149) Pentachlorophenol	(4)			Not Detected					0.3
155) Phenanthrene	(4)			Not Detected					0.03
157) Anthracene	(4)			Not Detected					0.03
163) Carbazole	(4)			Not Detected					0.1
165) Di-n-butylphthalate	(4)			Not Detected					0.5
173) Fluoranthene	(4)			Not Detected					0.03
177) Pyrene	(5)			Not Detected					0.03
188) Butylbenzylphthalate	(5)			Not Detected					0.5
193) 3,3'-Dichlorobenzidine	(5)			Not Detected					0.5
195) Benzo(a)anthracene	(5)			Not Detected					0.03
196) Chrysene	(5)			Not Detected					0.03
199) bis(2-Ethylhexyl)phthalate	(5)			Not Detected					0.5
205) Di-n-octylphthalate	(6)			Not Detected					0.5
206) Benzo(b)fluoranthene	(6)			Not Detected					0.03
208) Benzo(k)fluoranthene	(6)			Not Detected					0.03
211) 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 Ashley R. Transue on 04/25/2018 at 16:39. Target 3.5 esignature user ID: art12405

Secondary review performed and digitally signed by Holly B. Ziegler on 04/29/2018 at 13:53. PARALLAX ID: hb01996



Total Ion Chromatogram (TIC)

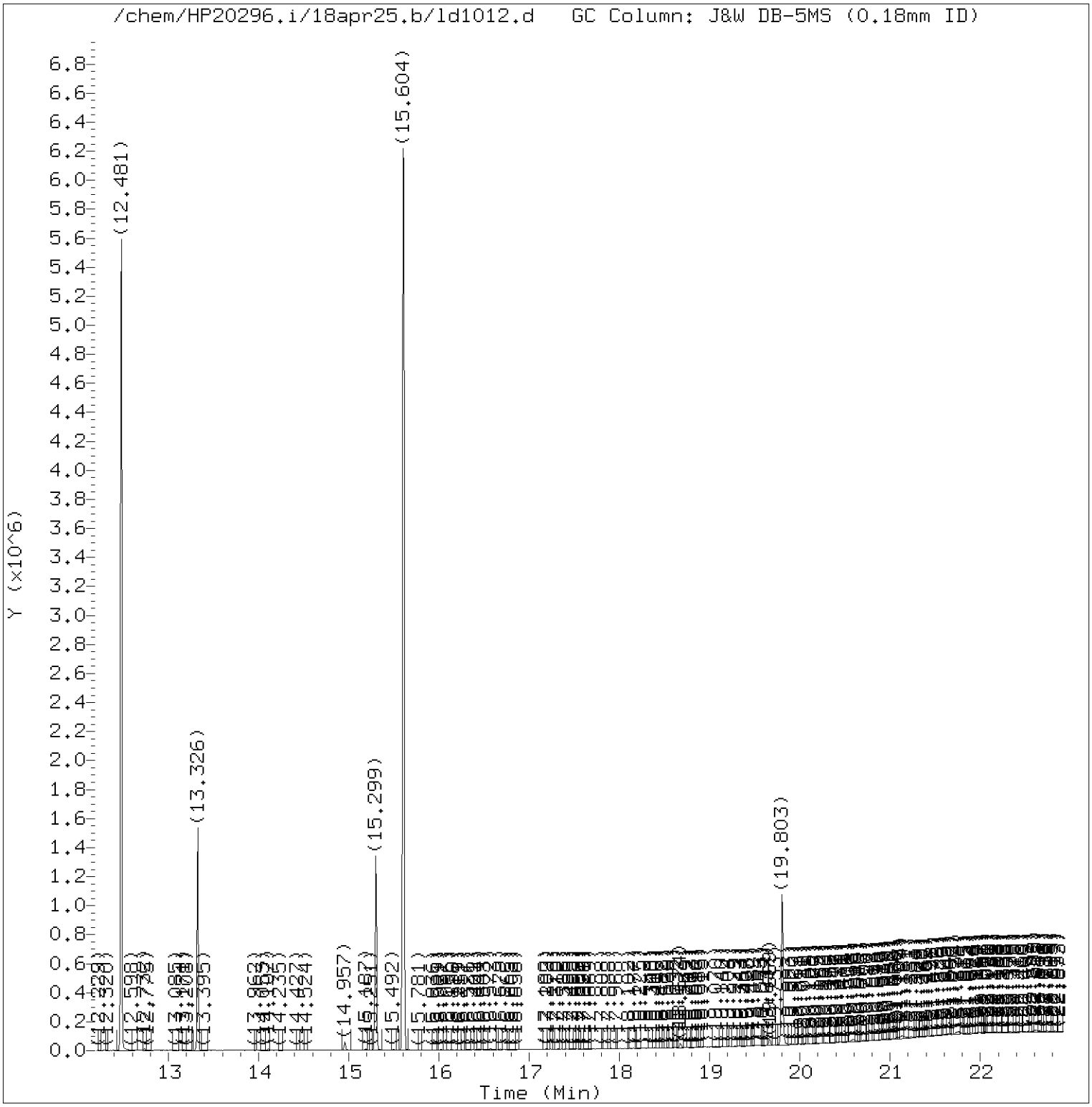
Target Revision 3.5

Data File: /chem/HP20296.i/18apr25.b/ld1012.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 11:24 Analyst ID: bhs10208

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 25-APR-2018 11:05
Date, time and analyst ID of latest file update: 25-Apr-2018 16:39 art12405

Sample Name: SBLKWE113 Lab Sample ID: SBLKWE113

Digitally signed by Ashley R. Transue
on 04/25/2018 at 16:39.
Target 3.5 esignature user ID: art12405



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/18apr25.b/ld1012.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 11:24 Analyst ID: bhs10208

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 25-APR-2018 11:05
Date, time and analyst ID of latest file update: 25-Apr-2018 16:39 art12405

Sample Name: SBLKWE113 Lab Sample ID: SBLKWE113

Digitally signed by Ashley R. Transue
on 04/25/2018 at 16:39.
Target 3.5 esignature user ID: art12405

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr25.b/ld1012.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 11:24 Analyst ID: bhs10208

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 25-APR-2018 11:05
Date, time and analyst ID of latest file update: 25-Apr-2018 16:39 art12405

Sample Name: SBLKWE113 Lab Sample ID: SBLKWE113

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
11)$2-Fluorophenol	(1)	4.714	112	1086797	24.311
17)$Phenol-d6	(1)	6.158	99	1088266	18.565
25)*1,4-Dichlorobenzene-d4	(1)	6.565	152	163257	5.000
44)$Nitrobenzene-d5	(2)	7.442	82	1100906	21.313
65)*Naphthalene-d8	(2)	8.544	136	598890	5.000
93)$2-Fluorobiphenyl	(3)	10.325	172	1727035	18.259
113)*Acenaphthene-d10	(3)	11.379	164	304251	5.000
135)$2,4,6-Tribromophenol	(3)	12.481	330	513202	47.057
153)*Phenanthrene-d10	(4)	13.326	188	589147	5.000
175)*Pyrene-d10	(5)	15.299	212	605968	5.000
179)$Terphenyl-d14	(5)	15.604	244	2395077	24.646
213)*Perylene-d12	(6)	19.803	264	535396	5.000

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

Digitally signed by Ashley R. Transue
on 04/25/2018 at 16:39.
Target 3.5 esignature user ID: art12405

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

113WELCS

Data file: /chem/HP20296.i/18apr25.b/ld1013.d
Data file Sample Info. Line: 113WELCS;113WELCS;1;3;LCS;;;
Date, time and analyst ID of latest file update: 25-Apr-2018 16:28 art12405

Injection date and time: **25-APR-2018 11:51**
Instrument ID: **HP20296.i** Batch: **18113WAE**

Blank Data file reference: **/chem/HP20296.i/18apr25.b/ld1012.d**

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: **20639M**
Calibration date and time (Last Method Edit): 25-APR-2018 11:05
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/18apr25.b/ld1011.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): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.565(0.000)	912	152	171321 (-17)	5.00	
65) Naphthalene-d8	8.544(0.000)	1282	136	642233 (-19)	5.00	
113) Acenaphthene-d10	11.384(-0.006)	1813	164	329008 (-22)	5.00	
153) Phenanthrene-d10	13.326(0.000)	2176	188	654185 (-24)	5.00	
175) Pyrene-d10	15.299(0.000)	2545	212	711392 (-21)	5.00	
213) Perylene-d12	19.803(0.000)	3387	264	637314 (-24)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
11) 2-Fluorophenol	(1)	4.736(-0.003)	112	1434486	30.578	61%		10 - 82
17) Phenol-d6	(1)	6.164(-0.001)	99	1476260	23.998	48%		10 - 71
44) Nitrobenzene-d5	(2)	7.447(0.000)	82	1279812	23.105	92%		30 - 111
93) 2-Fluorobiphenyl	(3)	10.325(0.000)	172	2166853	21.185	85%		39 - 105
135) 2,4,6-Tribromophenol	(3)	12.480(0.001)	330	596060	50.542	101%		21 - 134
179) Terphenyl-d14	(5)	15.604(0.000)	244	2660937	23.324	93%		27 - 116

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
18) Phenol	(1)	6.185(-0.000)	94	451407	6.441	25.77			0.1
22) bis(2-Chloroethyl)ether	(1)	6.223(-0.000)	93	604477	11.530	46.12			0.1
23) 2-Chlorophenol	(1)	6.287(-0.000)	128	510507	11.109	44.44			0.1
24) 1,3-Dichlorobenzene	(1)	6.469(0.000)	146	379353	7.313	29.25			0.1
26) 1,4-Dichlorobenzene	(1)	6.592(-0.000)	146	398149	7.584	30.34			0.1
28) 1,2-Dichlorobenzene	(1)	6.816(0.000)	146	406267	8.127	32.51			0.1
31) 2-Methylphenol	(1)	7.068(0.000)	108	509976	11.254	45.02			0.1
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.030(-0.000)	45	926603	12.381	49.52			0.1
37) 4-Methylphenol	(1)	7.314(0.000)	108	511369	10.684	42.74			0.1
38) N-Nitroso-di-n-propylamine	(1)	7.228(0.000)	70	501251	12.726	50.90			0.1
43) Hexachloroethane	(1)	7.324(-0.000)	117	135325	6.046	24.18			0.3
45) Nitrobenzene	(2)	7.480(-0.000)	77	693512	12.275	49.10			0.1
50) Isophorone	(2)	7.843(-0.000)	82	1307504	13.240	52.96			0.1
51) 2-Nitrophenol	(2)	7.972(-0.000)	139	277666	12.163	48.65			0.1
53) 2,4-Dimethylphenol	(2)	8.116(-0.000)	107	537610	10.985	43.94			0.1
55) bis(2-Chloroethoxy)methane	(2)	8.228(-0.000)	93	792960	12.352	49.41			0.1
60) 2,4-Dichlorophenol	(2)	8.378(-0.000)	162	478939	12.568	50.27			0.1
62) 1,2,4-Trichlorobenzene	(2)	8.458(-0.000)	180	345978	8.148	32.59			0.1
66) Naphthalene	(2)	8.576(0.000)	128	1302304	9.813	39.25			0.03
67) 4-Chloroaniline	(2)	8.736(-0.000)	127	613915	11.334	45.33			0.5
71) Hexachlorobutadiene	(2)	8.785(-0.000)	225	176673	6.863	27.45			0.1
80) 4-Chloro-3-methylphenol	(2)	9.587(0.000)	107	533510	12.758	51.03			0.1
83) 2-Methylnaphthalene	(2)	9.694(0.000)	142	840970	9.538	38.15			0.03
85) Hexachlorocyclopentadiene	(3)	9.945(0.000)	237	227854	8.563	34.25			1
90) 2,4,6-Trichlorophenol	(3)	10.197(0.000)	196	366323	13.035	52.14			0.1
92) 2,4,5-Trichlorophenol	(3)	10.266(0.000)	196	387805	13.147	52.59			0.1
96) 2-Chloronaphthalene	(3)	10.485(0.000)	162	845565	9.432	37.73			0.1

Digitally signed by Ashley R. Transue on 04/25/2018 at 16:30. Target 3.5 esignature user ID: art12405

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

113WELCS

Data file: /chem/HP20296.i/18apr25.b/ld1013.d
Injection date and time: **25-APR-2018 11:51**
Data file Sample Info. Line: 113WELCS;113WELCS;1;3;LCS;;;
Instrument ID: **HP20296.i** Batch: **18113WAE**
Date, time and analyst ID of latest file update: 25-Apr-2018 16:28 art12405

Blank Data file reference: **/chem/HP20296.i/18apr25.b/ld1012.d**

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: **20639M**
Calibration date and time (Last Method Edit): 25-APR-2018 11:05
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/18apr25.b/ld1011.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): 1 ul

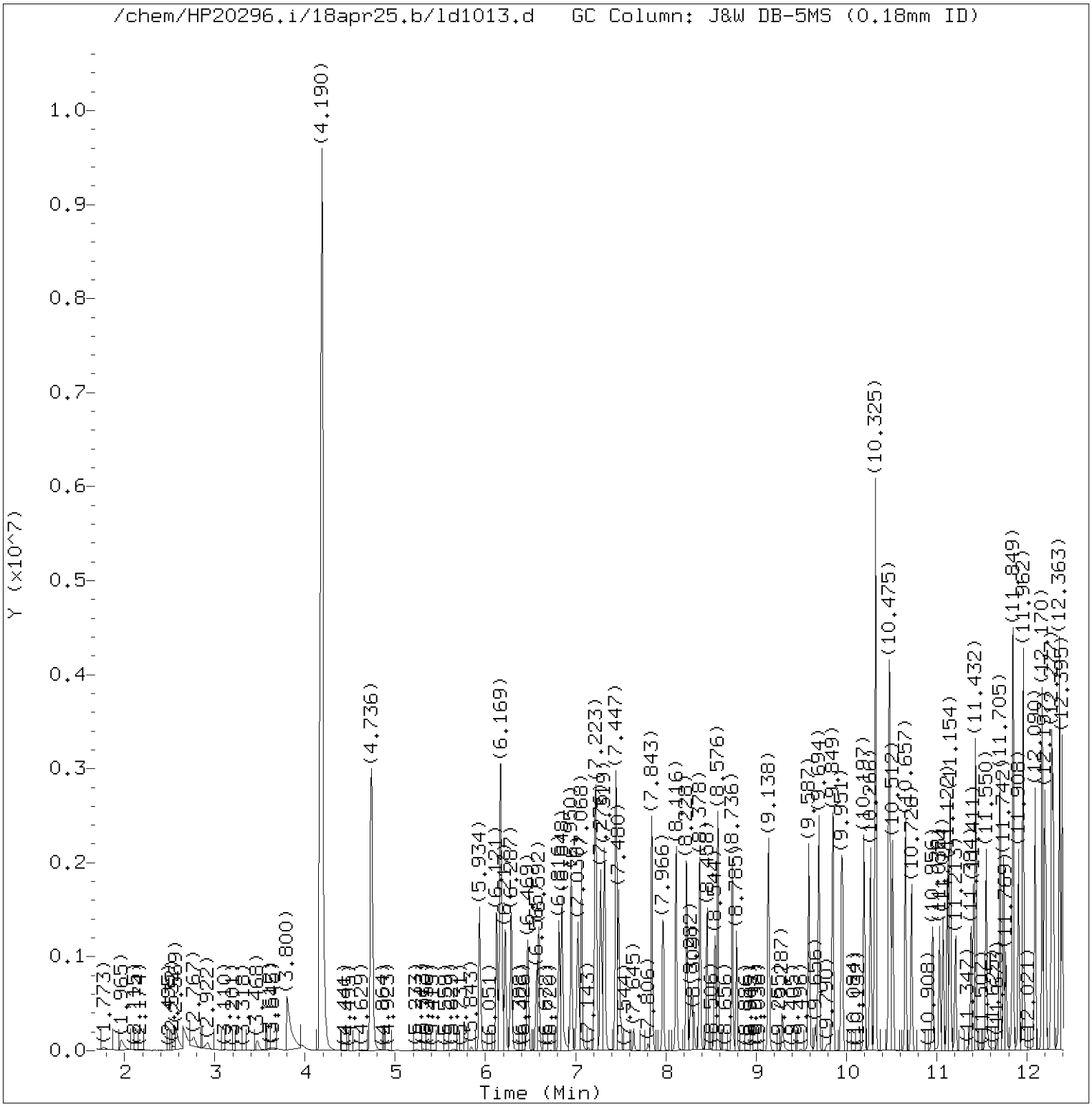
Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
100) 2-Nitroaniline	(3)	10.726(0.000)	138	333921	12.728	50.91			0.1
106) Dimethylphthalate	(3)	11.036(-0.000)	163	659083	6.563	26.25			0.5
108) 2,6-Dinitrotoluene	(3)	11.122(0.000)	165	280134	13.139	52.55			0.1
109) Acenaphthylene	(3)	11.154(0.000)	152	1480097	11.879	47.52			0.03
112) 3-Nitroaniline	(3)	11.411(0.000)	138	277778	12.365	49.46			0.1
114) Acenaphthene	(3)	11.432(0.000)	153	953460	10.791	43.17			0.03
115) 2,4-Dinitrophenol	(3)	11.550(0.000)	184	312363	24.370	97.48			3
116) 4-Nitrophenol	(3)	11.769(0.000)	109	118820	7.503	30.01			3
118) 2,4-Dinitrotoluene	(3)	11.742(0.000)	165	372138	12.595	50.38			0.3
119) Dibenzofuran	(3)	11.705(0.000)	168	1307379	10.651	42.60			0.1
124) Diethylphthalate	(3)	12.095(0.000)	149	1012089	10.241	40.96			0.5
126) Fluorene	(3)	12.170(0.000)	166	1065557	11.113	44.45			0.03
127) 4-Chlorophenyl-phenylether	(3)	12.197(0.000)	204	455652	9.640	38.56			0.1
129) 4-Nitroaniline	(3)	12.277(0.000)	138	265105	11.676	46.70			0.1
130) 4,6-Dinitro-2-methylphenol	(4)	12.277(-0.000)	198	217378	12.552	50.21			1
131) N-Nitrosodiphenylamine	(4)	12.363(-0.000)	169	987198	12.331	49.33			0.1
143) 4-Bromophenyl-phenylether	(4)	12.791(-0.000)	248	280764	10.496	41.98			0.1
145) Hexachlorobenzene	(4)	12.823(-0.000)	284	315519	11.530	46.12			0.03
149) Pentachlorophenol	(4)	13.112(-0.000)	266	185272	11.096	44.38			0.3
155) Phenanthrene	(4)	13.358(0.000)	178	1740511	11.974	47.90			0.03
157) Anthracene	(4)	13.422(0.000)	178	1763622	12.199	48.80			0.03
163) Carbazole	(4)	13.673(0.000)	167	1716966	13.410	53.64			0.1
165) Di-n-butylphthalate	(4)	14.133(0.000)	149	2006379	11.641	46.57			0.5
173) Fluoranthene	(4)	14.989(0.000)	202	2128302	13.119	52.48			0.03
177) Pyrene	(5)	15.331(-0.000)	202	2166267	11.970	47.88			0.03
188) Butylbenzylphthalate	(5)	16.449(-0.000)	149	816029	9.705	38.82			0.5
193) 3,3'-Dichlorobenzidine	(5)	17.353(0.000)	252	553143	9.507	38.03			0.5
195) Benzo(a)anthracene	(5)	17.326(0.000)	228	2024284	12.520	50.08			0.03
196) Chrysene	(5)	17.390(0.000)	228	1944882	12.436	49.74			0.03
199) bis(2-Ethylhexyl)phthalate	(5)	17.465(0.000)	149	1416466	11.922	47.69			0.5
205) Di-n-octylphthalate	(6)	18.621(-0.000)	149	2512840	12.543	50.17			0.5
206) Benzo(b)fluoranthene	(6)	19.182(-0.000)	252	1974959	12.643	50.57			0.03
208) Benzo(k)fluoranthene	(6)	19.230(-0.000)	252	1949939	13.056	52.22			0.03
211) Benzo(a)pyrene	(6)	19.712(-0.000)	252	1794439	12.766	51.07			0.03
219) Indeno(1,2,3-cd)pyrene	(6)	21.413(-0.000)	276	1643563M	12.313	49.25			0.03
220) Dibenz(a,h)anthracene	(6)	21.450(-0.000)	278	1745486	12.914	51.65			0.03
221) Benzo(g,h,i)perylene	(6)	21.787(0.000)	276	1710860	12.420	49.68			0.03

M = Compound was manually integrated.

Total number of targets = 64

Digitally signed by Ashley R. Transue on 04/25/2018 at 16:30. Target 3.5 esignature user ID: art12405

Secondary review performed and digitally signed by Holly B. Ziegler on 04/29/2018 at 13:53. PARALLAX ID: hb01996



Total Ion Chromatogram (TIC)

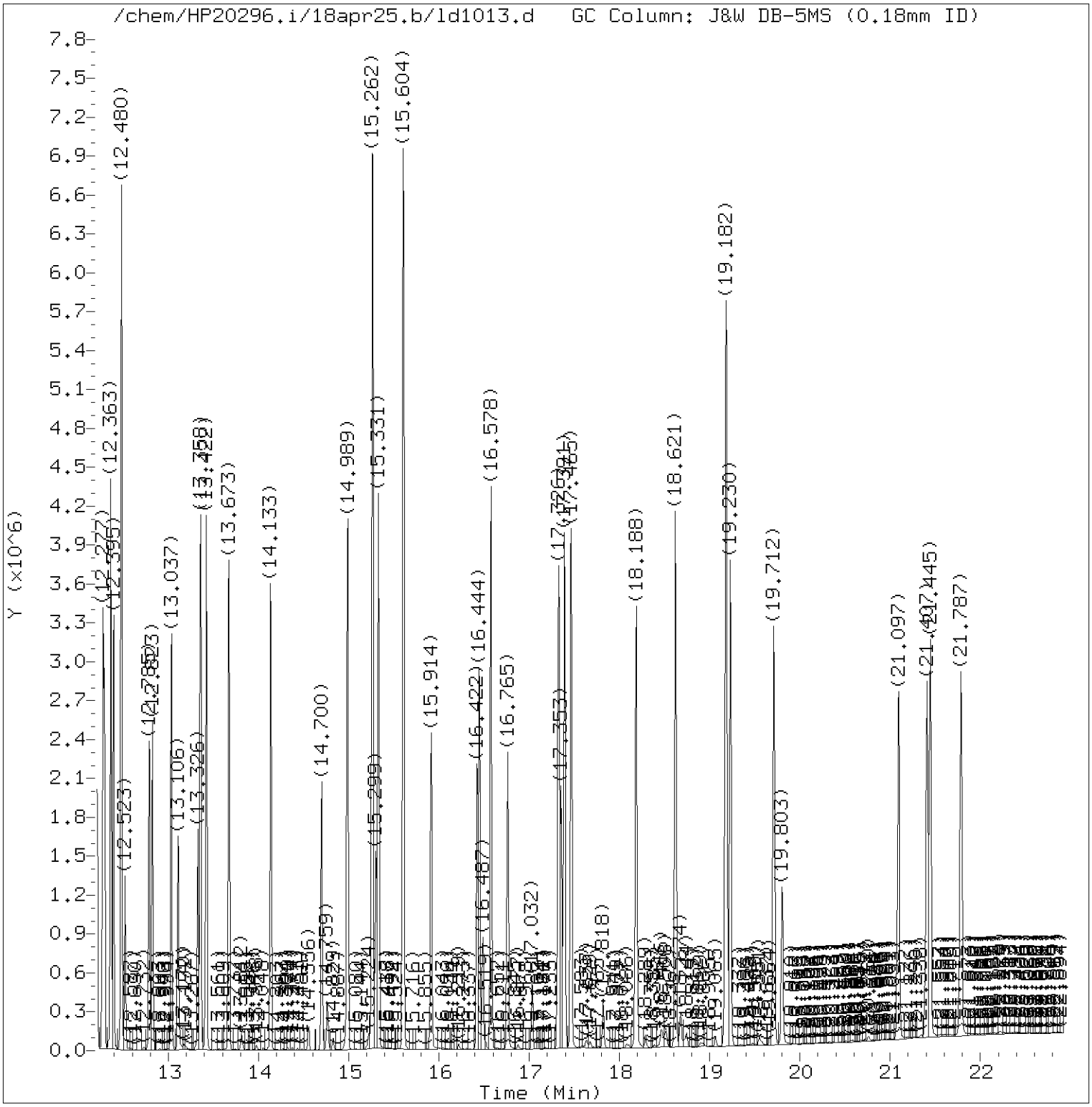
Target Revision 3.5

Data File: /chem/HP20296.i/18apr25.b/ld1013.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 11:51 Analyst ID: bhs10208

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 25-APR-2018 11:05
Date, time and analyst ID of latest file update: 25-Apr-2018 16:28 art12405

Sample Name: 113WELCS Lab Sample ID: 113WELCS

Digitally signed by Ashley R. Transue
on 04/25/2018 at 16:30.
Target 3.5 esignature user ID: art12405



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/18apr25.b/ld1013.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 11:51 Analyst ID: bhs10208

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 25-APR-2018 11:05
Date, time and analyst ID of latest file update: 25-Apr-2018 16:28 art12405

Sample Name: 113WELCS Lab Sample ID: 113WELCS

Digitally signed by Ashley R. Transue
on 04/25/2018 at 16:30.
Target 3.5 esignature user ID: art12405

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr25.b/ld1013.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 11:51 Analyst ID: bhs10208

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 25-APR-2018 11:05
Date, time and analyst ID of latest file update: 25-Apr-2018 16:28 art12405

Sample Name: 113WELCS Lab Sample ID: 113WELCS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
11)$2-Fluorophenol	(1)	4.736	112	1434486	30.578
17)$Phenol-d6	(1)	6.164	99	1476260	23.998
18) Phenol	(1)	6.185	94	451407	6.441
22) bis(2-Chloroethyl)ether	(1)	6.223	93	604477	11.530
23) 2-Chlorophenol	(1)	6.287	128	510507	11.109
24) 1,3-Dichlorobenzene	(1)	6.469	146	379353	7.313
25)*1,4-Dichlorobenzene-d4	(1)	6.565	152	171321	5.000
26) 1,4-Dichlorobenzene	(1)	6.592	146	398149	7.584
28) 1,2-Dichlorobenzene	(1)	6.816	146	406267	8.127
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.030	45	926603	12.381
31) 2-Methylphenol	(1)	7.068	108	509976	11.254
38) N-Nitroso-di-n-propylamine	(1)	7.228	70	501251	12.726
37) 4-Methylphenol	(1)	7.314	108	511369	10.684
43) Hexachloroethane	(1)	7.324	117	135325	6.046
44)$Nitrobenzene-d5	(2)	7.447	82	1279812	23.105
45) Nitrobenzene	(2)	7.480	77	693512	12.275
50) Isophorone	(2)	7.843	82	1307504	13.240
51) 2-Nitrophenol	(2)	7.972	139	277666	12.163
53) 2,4-Dimethylphenol	(2)	8.116	107	537610	10.985
55) bis(2-Chloroethoxy)methane	(2)	8.228	93	792960	12.352
60) 2,4-Dichlorophenol	(2)	8.378	162	478939	12.568
62) 1,2,4-Trichlorobenzene	(2)	8.458	180	345978	8.148
65)*Naphthalene-d8	(2)	8.544	136	642233	5.000
66) Naphthalene	(2)	8.576	128	1302304	9.813
67) 4-Chloroaniline	(2)	8.736	127	613915	11.334
71) Hexachlorobutadiene	(2)	8.785	225	176673	6.863
80) 4-Chloro-3-methylphenol	(2)	9.587	107	533510	12.758
83) 2-Methylnaphthalene	(2)	9.694	142	840970	9.538
85) Hexachlorocyclopentadiene	(3)	9.945	237	227854	8.563
90) 2,4,6-Trichlorophenol	(3)	10.197	196	366323	13.035
92) 2,4,5-Trichlorophenol	(3)	10.266	196	387805	13.147
93)$2-Fluorobiphenyl	(3)	10.325	172	2166853	21.185
96) 2-Chloronaphthalene	(3)	10.485	162	845565	9.432
100) 2-Nitroaniline	(3)	10.726	138	333921	12.728
106) Dimethylphthalate	(3)	11.036	163	659083	6.563
108) 2,6-Dinitrotoluene	(3)	11.122	165	280134	13.139
109) Acenaphthylene	(3)	11.154	152	1480097	11.879
113)*Acenaphthene-d10	(3)	11.384	164	329008	5.000
112) 3-Nitroaniline	(3)	11.411	138	277778	12.365
114) Acenaphthene	(3)	11.432	153	953460	10.791

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

Digitally signed by Ashley R. Transue
on 04/25/2018 at 16:30.
Target 3.5 esignature user ID: art12405

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr25.b/ld1013.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 11:51 Analyst ID: bhs10208

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 25-APR-2018 11:05
Date, time and analyst ID of latest file update: 25-Apr-2018 16:28 art12405

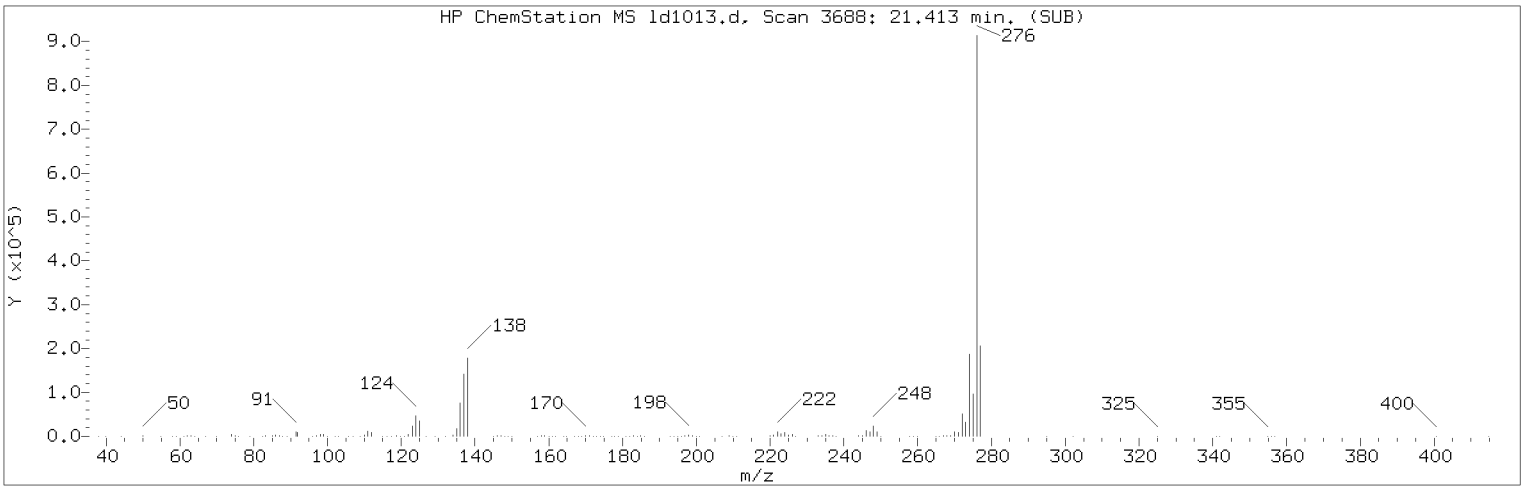
Sample Name: 113WELCS Lab Sample ID: 113WELCS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
115) 2,4-Dinitrophenol	(3)	11.550	184	312363	24.370
119) Dibenzofuran	(3)	11.705	168	1307379	10.651
118) 2,4-Dinitrotoluene	(3)	11.742	165	372138	12.595
116) 4-Nitrophenol	(3)	11.769	109	118820	7.503
124) Diethylphthalate	(3)	12.095	149	1012089	10.241
126) Fluorene	(3)	12.170	166	1065557	11.113
127) 4-Chlorophenyl-phenylether	(3)	12.197	204	455652	9.640
129) 4-Nitroaniline	(3)	12.277	138	265105	11.676
130) 4,6-Dinitro-2-methylphenol	(4)	12.277	198	217378	12.552
131) N-Nitrosodiphenylamine	(4)	12.363	169	987198	12.331
135)$2,4,6-Tribromophenol	(3)	12.480	330	596060	50.542
143) 4-Bromophenyl-phenylether	(4)	12.791	248	280764	10.496
145) Hexachlorobenzene	(4)	12.823	284	315519	11.530
149) Pentachlorophenol	(4)	13.112	266	185272	11.096
153)*Phenanthrene-d10	(4)	13.326	188	654185	5.000
155) Phenanthrene	(4)	13.358	178	1740511	11.974
157) Anthracene	(4)	13.422	178	1763622	12.199
163) Carbazole	(4)	13.673	167	1716966	13.410
165) Di-n-butylphthalate	(4)	14.133	149	2006379	11.641
173) Fluoranthene	(4)	14.989	202	2128302	13.119
175)*Pyrene-d10	(5)	15.299	212	711392	5.000
177) Pyrene	(5)	15.331	202	2166267	11.970
179)$Terphenyl-d14	(5)	15.604	244	2660937	23.324
188) Butylbenzylphthalate	(5)	16.449	149	816029	9.705
195) Benzo(a)anthracene	(5)	17.326	228	2024284	12.520
193) 3,3'-Dichlorobenzidine	(5)	17.353	252	553143	9.507
196) Chrysene	(5)	17.391	228	1944882	12.436
199) bis(2-Ethylhexyl)phthalate	(5)	17.465	149	1416466	11.922
205) Di-n-octylphthalate	(6)	18.621	149	2512840	12.543
206) Benzo(b)fluoranthene	(6)	19.182	252	1974959	12.643
208) Benzo(k)fluoranthene	(6)	19.230	252	1949939	13.056
211) Benzo(a)pyrene	(6)	19.712	252	1794439	12.766
213)*Perylene-d12	(6)	19.803	264	637314	5.000
219) Indeno(1,2,3-cd)pyrene	(6)	21.413	276	1643563M	12.313
220) Dibenz(a,h)anthracene	(6)	21.450	278	1745486	12.914
221) Benzo(g,h,i)perylene	(6)	21.787	276	1710860	12.420

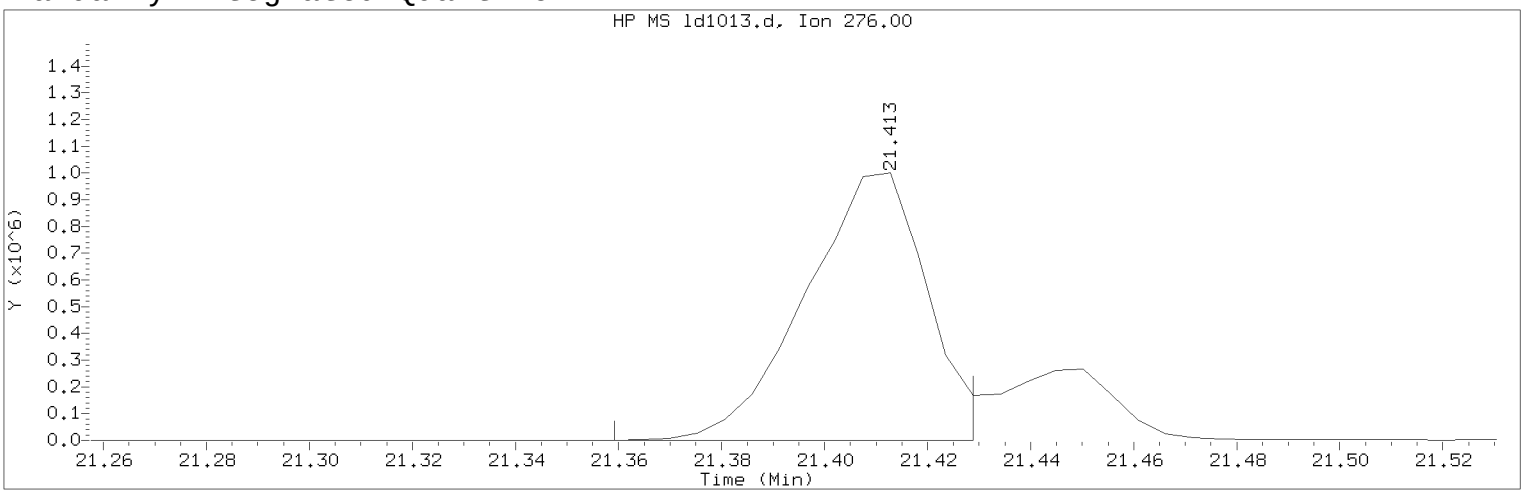
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Ashley R. Transue
on 04/25/2018 at 16:30.
Target 3.5 esignature user ID: art12405

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr25.b/ld1013.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 11:51 Analyst ID: bhs10208

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 25-APR-2018 11:05
Date, time and analyst ID of latest file update: 25-Apr-2018 16:28 art12405

Sample Name: 113WELCS Lab Sample ID: 113WELCS

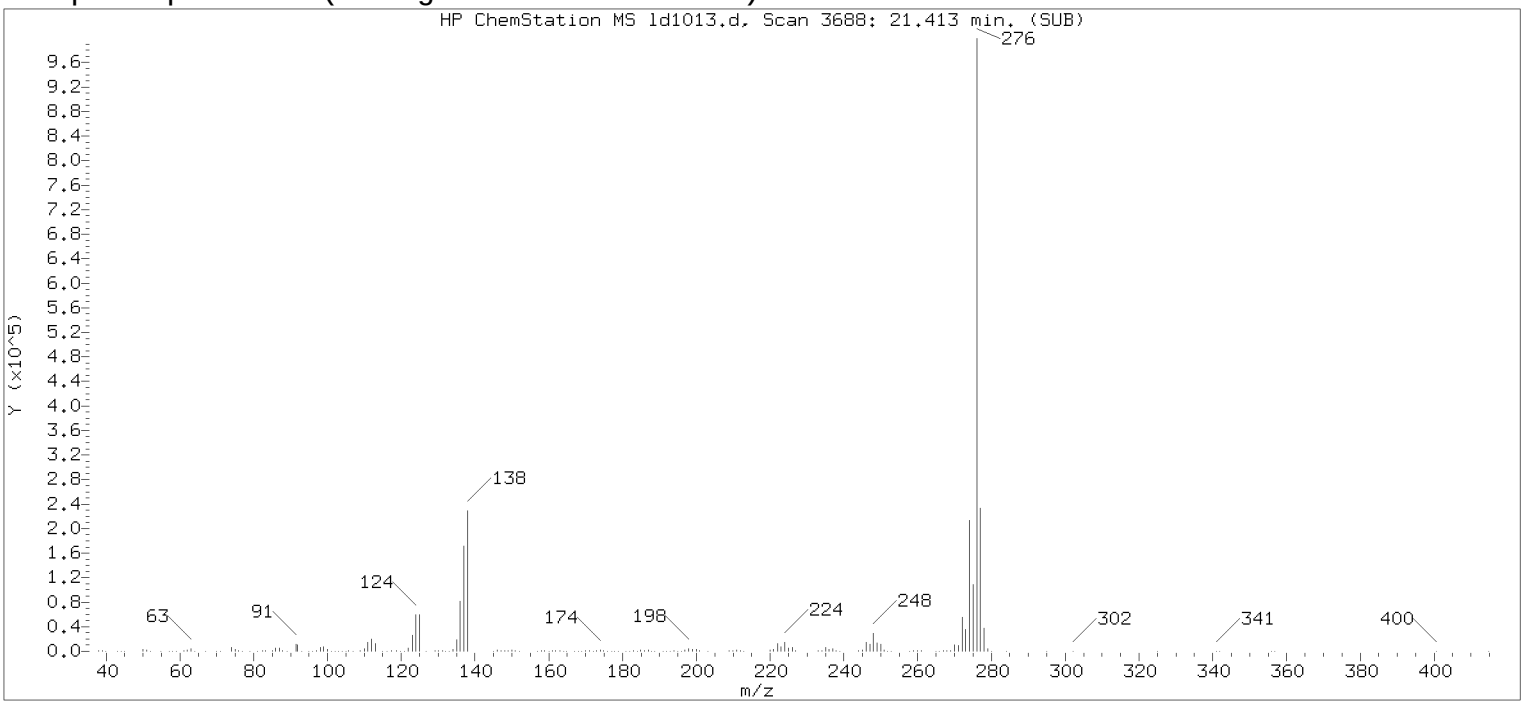
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3688
Retention Time (minutes) : 21.413
Quant Ion : 276.00
Area (flag) : 1643563M
On-Column Amount (ng/ul) : 12.3130
Integration start scan : 3677 Integration stop scan: 3690
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

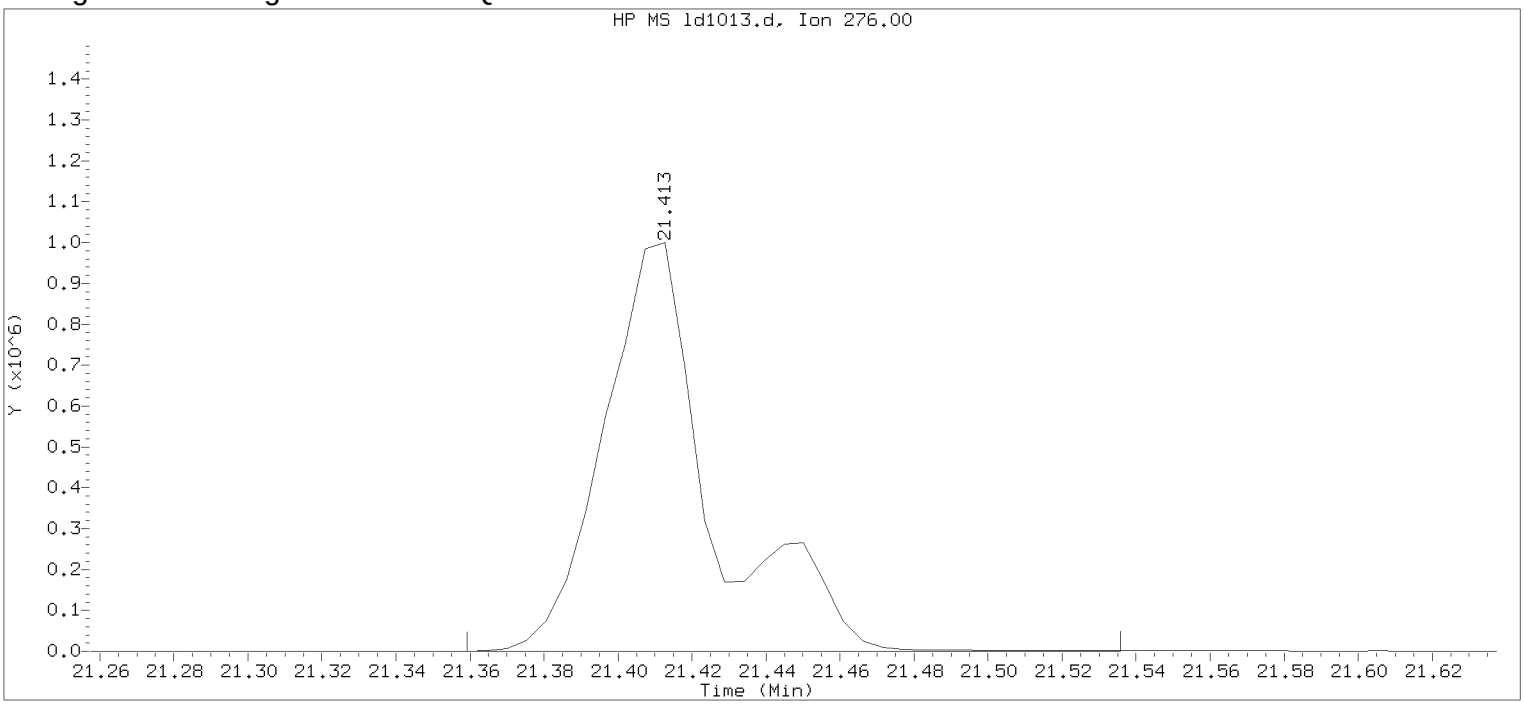
Analyst responsible for change: Digitally signed by Ashley R. Transue on 04/25/2018 at 16:30.
Target 3.5 esignature user ID: art12405

Secondary review performed and digitally signed by Holly B. Ziegler on 04/29/2018 at 13:53.
PARALLAX ID: hb01996

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr25.b/ld1013.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 11:51 Analyst ID: bhs10208

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 25-APR-2018 11:05
Date, time and analyst ID of latest file update: 25-Apr-2018 12:18 Unknown

Sample Name: 113WELCS Lab Sample ID: 113WELCS

Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3688
Retention Time (minutes) : 21.413
Quant Ion : 276.00
Area : 2037467
On-column Amount (ng/ul) : 15.2639
Integration start scan : 3677 Integration stop scan: 3710
Y at integration start : 0 Y at integration end: 0

Digitally signed by Ashley R. Transue on 04/25/2018 at 16:30.
Target 3.5 esignature user ID: 1785 and Page 705 of 1139

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

113WELCSD

Data file: /chem/HP20296.i/18apr25.b/ld1014.d
Injection date and time: **25-APR-2018 12:59**
Data file Sample Info. Line: 113WELCSD;113WELCSD;1;3;LCSD;;;
Instrument ID: **HP20296.i** Batch: **18113WAE**
Date, time and analyst ID of latest file update: 25-Apr-2018 16:29 art12405

Blank Data file reference: **/chem/HP20296.i/18apr25.b/ld1012.d**

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: **20639M**
Calibration date and time (Last Method Edit): 25-APR-2018 11:05
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/18apr25.b/ld1011.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): 1 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.570(-0.005)	913	152	156744 (-24)	5.00	
65) Naphthalene-d8	8.549(-0.005)	1283	136	583633 (-26)	5.00	
113) Acenaphthene-d10	11.384(-0.005)	1813	164	299916 (-28)	5.00	
153) Phenanthrene-d10	13.331(-0.005)	2177	188	594422 (-31)	5.00	
175) Pyrene-d10	15.304(-0.005)	2546	212	632041 (-30)	5.00	
213) Perylene-d12	19.808(-0.005)	3388	264	574269 (-31)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
11) 2-Fluorophenol	(1)	4.736(-0.003)	112	1408286	32.811	66%		10 - 82
17) Phenol-d6	(1)	6.169(-0.001)	99	1447803	25.725	51%		10 - 71
44) Nitrobenzene-d5	(2)	7.453(0.000)	82	1177869	23.400	94%		30 - 111
93) 2-Fluorobiphenyl	(3)	10.330(0.000)	172	1919634	20.588	82%		39 - 105
135) 2,4,6-Tribromophenol	(3)	12.486(0.000)	330	536540	49.908	100%		21 - 134
179) Terphenyl-d14	(5)	15.609(0.000)	244	2429890	23.972	96%		27 - 116

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
18) Phenol	(1)	6.185(-0.000)	94	441835	6.891	27.56			0.1
22) bis(2-Chloroethyl)ether	(1)	6.222(-0.000)	93	547187	11.408	45.63			0.1
23) 2-Chlorophenol	(1)	6.287(-0.000)	128	476759	11.339	45.36			0.1
24) 1,3-Dichlorobenzene	(1)	6.474(-0.000)	146	353320	7.444	29.78			0.1
26) 1,4-Dichlorobenzene	(1)	6.597(-0.000)	146	372137	7.748	30.99			0.1
28) 1,2-Dichlorobenzene	(1)	6.822(0.000)	146	376835	8.239	32.96			0.1
31) 2-Methylphenol	(1)	7.068(0.000)	108	474532	11.446	45.78			0.1
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.030(0.000)	45	865033	12.633	50.53			0.1
37) 4-Methylphenol	(1)	7.319(0.000)	108	479716	10.955	43.82			0.1
38) N-Nitroso-di-n-propylamine	(1)	7.233(0.000)	70	467601	12.975	51.90			0.1
43) Hexachloroethane	(1)	7.330(-0.000)	117	127312	6.217	24.87			0.3
45) Nitrobenzene	(2)	7.479(-0.000)	77	649364	12.647	50.59			0.1
50) Isophorone	(2)	7.848(-0.000)	82	1204246	13.419	53.67			0.1
51) 2-Nitrophenol	(2)	7.971(-0.000)	139	254648	12.274	49.10			0.1
53) 2,4-Dimethylphenol	(2)	8.116(0.000)	107	498685	11.212	44.85			0.1
55) bis(2-Chloroethoxy)methane	(2)	8.234(-0.000)	93	738401	12.657	50.63			0.1
60) 2,4-Dichlorophenol	(2)	8.378(-0.000)	162	441782	12.757	51.03			0.1
62) 1,2,4-Trichlorobenzene	(2)	8.458(0.000)	180	317267	8.222	32.89			0.1
66) Naphthalene	(2)	8.581(0.000)	128	1203588	9.980	39.92			0.03
67) 4-Chloroaniline	(2)	8.742(0.000)	127	550357	11.181	44.72			0.5
71) Hexachlorobutadiene	(2)	8.790(0.000)	225	159800	6.831	27.32			0.1
80) 4-Chloro-3-methylphenol	(2)	9.592(0.000)	107	490910	12.918	51.67			0.1
83) 2-Methylnaphthalene	(2)	9.699(0.000)	142	784226	9.787	39.15			0.03
85) Hexachlorocyclopentadiene	(3)	9.950(-0.000)	237	208608	8.600	34.40			1
90) 2,4,6-Trichlorophenol	(3)	10.202(-0.000)	196	335637	13.101	52.40			0.1
92) 2,4,5-Trichlorophenol	(3)	10.271(0.000)	196	356163	13.246	52.98			0.1
96) 2-Chloronaphthalene	(3)	10.491(-0.000)	162	734096	8.983	35.93			0.1

Digitally signed by Ashley R. Transue on 04/25/2018 at 16:30. Target 3.5 esignature user ID: art12405

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

113WELCSD

Data file: /chem/HP20296.i/18apr25.b/ld1014.d
Injection date and time: **25-APR-2018 12:59**
Data file Sample Info. Line: 113WELCSD;113WELCSD;1;3;LCSD;;;
Instrument ID: **HP20296.i** Batch: **18113WAE**
Date, time and analyst ID of latest file update: 25-Apr-2018 16:29 art12405

Blank Data file reference: **/chem/HP20296.i/18apr25.b/ld1012.d**

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: **20639M**
Calibration date and time (Last Method Edit): 25-APR-2018 11:05
Mid Level Daily Calibration Standard Reference: **/chem/HP20296.i/18apr25.b/ld1011.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): 1 ul

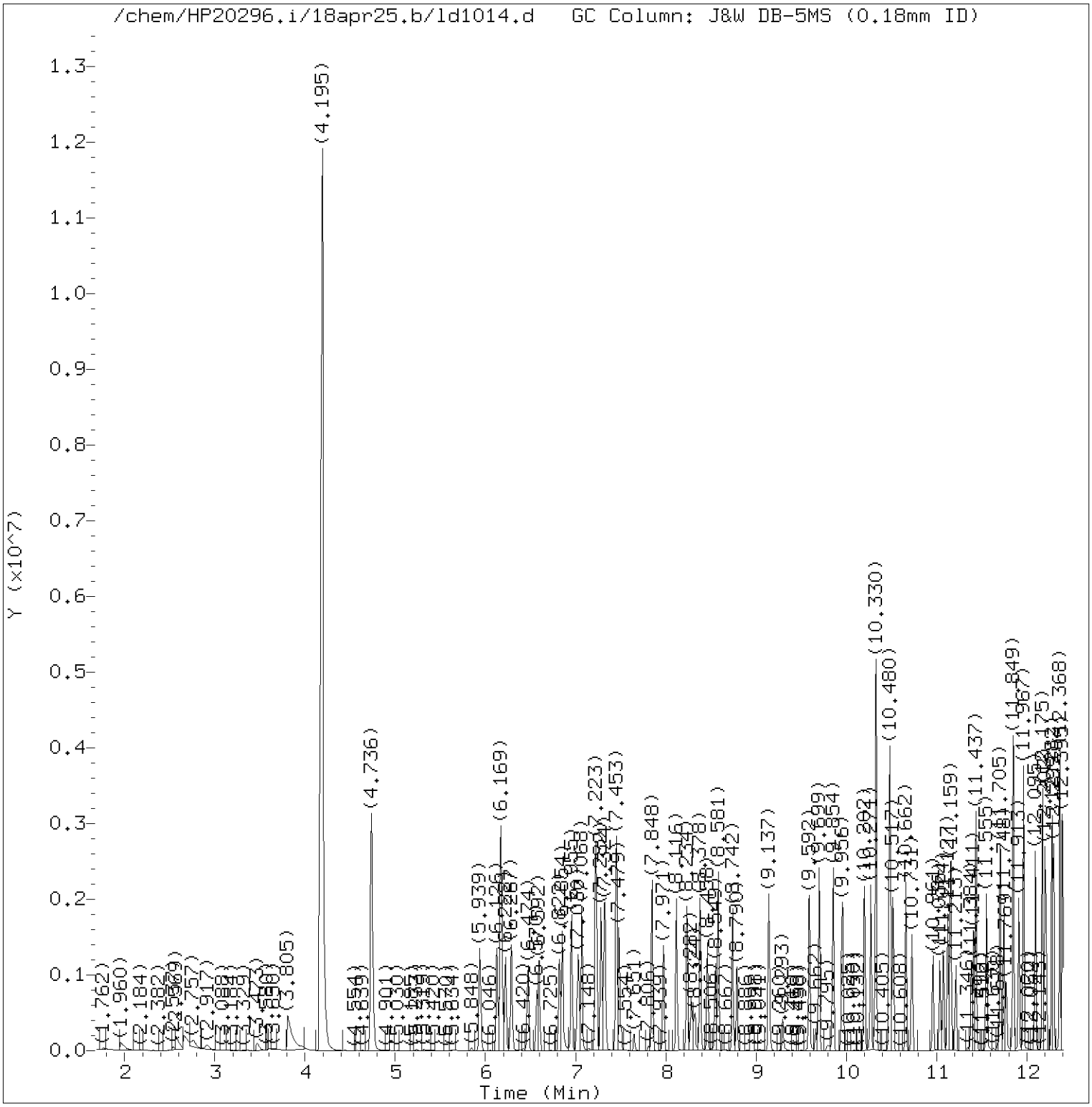
Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
100) 2-Nitroaniline	(3)	10.731(-0.000)	138	305915	12.792	51.17			0.1
106) Dimethylphthalate	(3)	11.036(-0.000)	163	538456	5.882	23.53			0.5
108) 2,6-Dinitrotoluene	(3)	11.127(-0.000)	165	253053	13.020	52.08			0.1
109) Acenaphthylene	(3)	11.159(-0.000)	152	1390411	12.241	48.97			0.03
112) 3-Nitroaniline	(3)	11.416(0.000)	138	253366	12.373	49.49			0.1
114) Acenaphthene	(3)	11.437(0.000)	153	886427	11.006	44.02			0.03
115) 2,4-Dinitrophenol	(3)	11.555(0.000)	184	291748	24.969	99.88			3
116) 4-Nitrophenol	(3)	11.774(0.000)	109	111901	7.752	31.01			3
118) 2,4-Dinitrotoluene	(3)	11.748(0.000)	165	336570	12.496	49.98			0.3
119) Dibenzofuran	(3)	11.705(0.000)	168	1238775	11.071	44.28			0.1
124) Diethylphthalate	(3)	12.095(0.000)	149	895765	9.943	39.77			0.5
126) Fluorene	(3)	12.176(0.000)	166	982898	11.245	44.98			0.03
127) 4-Chlorophenyl-phenylether	(3)	12.202(0.000)	204	422049	9.795	39.18			0.1
129) 4-Nitroaniline	(3)	12.282(0.000)	138	232241	11.221	44.88			0.1
130) 4,6-Dinitro-2-methylphenol	(4)	12.277(-0.000)	198	199549	12.681	50.72			1
131) N-Nitrosodiphenylamine	(4)	12.368(-0.000)	169	914911	12.577	50.31			0.1
143) 4-Bromophenyl-phenylether	(4)	12.796(-0.000)	248	263051	10.822	43.29			0.1
145) Hexachlorobenzene	(4)	12.828(-0.000)	284	292318	11.756	47.03			0.03
149) Pentachlorophenol	(4)	13.112(0.000)	266	173002	11.402	45.61			0.3
155) Phenanthrene	(4)	13.363(0.000)	178	1589907	12.038	48.15			0.03
157) Anthracene	(4)	13.427(0.000)	178	1621848	12.346	49.38			0.03
163) Carbazole	(4)	13.678(0.000)	167	1571652	13.509	54.04			0.1
165) Di-n-butylphthalate	(4)	14.138(0.000)	149	1815855	11.595	46.38			0.5
173) Fluoranthene	(4)	14.994(0.000)	202	1941441	13.170	52.68			0.03
177) Pyrene	(5)	15.336(-0.000)	202	1997697	12.425	49.70			0.03
188) Butylbenzylphthalate	(5)	16.454(-0.000)	149	728755	9.755	39.02			0.5
193) 3,3'-Dichlorobenzidine	(5)	17.358(0.000)	252	475492	9.199	36.79			0.5
195) Benzo(a)anthracene	(5)	17.332(0.000)	228	1842700	12.828	51.31			0.03
196) Chrysene	(5)	17.396(0.000)	228	1781423	12.821	51.28			0.03
199) bis(2-Ethylhexyl)phthalate	(5)	17.471(0.000)	149	1298958	12.305	49.22			0.5
205) Di-n-octylphthalate	(6)	18.626(-0.000)	149	2290692	12.690	50.76			0.5
206) Benzo(b)fluoranthene	(6)	19.188(-0.000)	252	1783703	12.672	50.69			0.03
208) Benzo(k)fluoranthene	(6)	19.236(-0.000)	252	1774665	13.187	52.75			0.03
211) Benzo(a)pyrene	(6)	19.717(-0.000)	252	1638240	12.935	51.74			0.03
219) Indeno(1,2,3-cd)pyrene	(6)	21.413(0.000)	276	1503827M	12.503	50.01			0.03
220) Dibenz(a,h)anthracene	(6)	21.450(0.000)	278	1592152	13.072	52.29			0.03
221) Benzo(g,h,i)perylene	(6)	21.792(0.000)	276	1548979	12.479	49.92			0.03

M = Compound was manually integrated.

Total number of targets = 64

Digitally signed by Ashley R. Transue on 04/25/2018 at 16:30. Target 3.5 esignature user ID: art12405

Secondary review performed and digitally signed by Holly B. Ziegler on 04/29/2018 at 13:53. PARALLAX ID: hb01996



Total Ion Chromatogram (TIC)

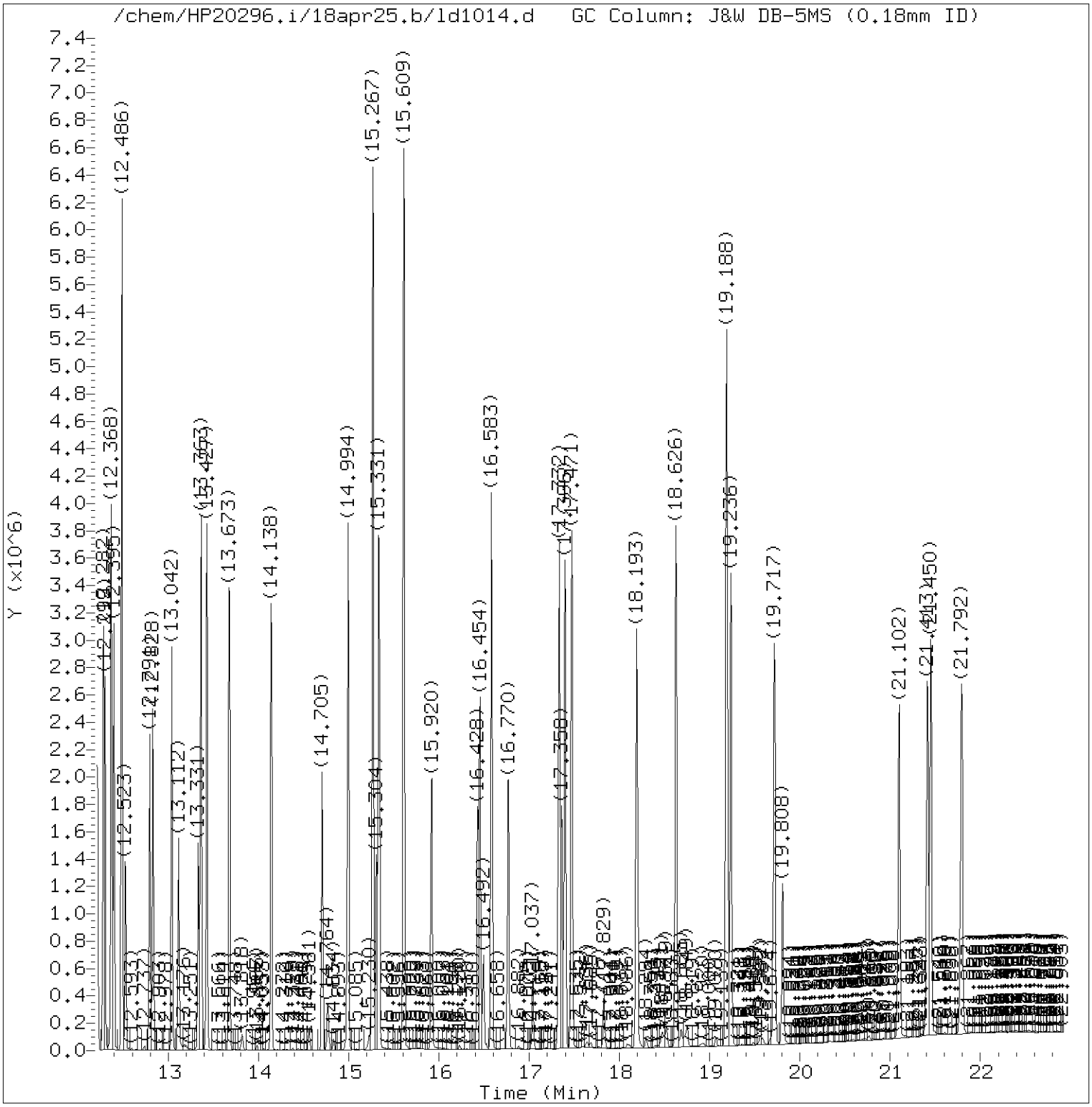
Target Revision 3.5

Data File: /chem/HP20296.i/18apr25.b/ld1014.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 12:59 Analyst ID: bhs10208

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 25-APR-2018 11:05
Date, time and analyst ID of latest file update: 25-Apr-2018 16:29 art12405

Sample Name: 113WELCSD Lab Sample ID: 113WELCSD

Digitally signed by Ashley R. Transue
on 04/25/2018 at 16:30.
Target 3.5 esignature user ID: art12405



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP20296.i/18apr25.b/ld1014.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 12:59 Analyst ID: bhs10208

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 25-APR-2018 11:05
Date, time and analyst ID of latest file update: 25-Apr-2018 16:29 art12405

Sample Name: 113WELCSD Lab Sample ID: 113WELCSD

Digitally signed by Ashley R. Transue
on 04/25/2018 at 16:30.
Target 3.5 esignature user ID: art12405

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr25.b/ld1014.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 12:59 Analyst ID: bhs10208

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 25-APR-2018 11:05
Date, time and analyst ID of latest file update: 25-Apr-2018 16:29 art12405

Sample Name: 113WELCSD Lab Sample ID: 113WELCSD

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
11)$2-Fluorophenol	(1)	4.736	112	1408286	32.811
17)$Phenol-d6	(1)	6.169	99	1447803	25.725
18) Phenol	(1)	6.185	94	441835	6.891
22) bis(2-Chloroethyl)ether	(1)	6.222	93	547187	11.408
23) 2-Chlorophenol	(1)	6.287	128	476759	11.339
24) 1,3-Dichlorobenzene	(1)	6.474	146	353320	7.444
25)*1,4-Dichlorobenzene-d4	(1)	6.570	152	156744	5.000
26) 1,4-Dichlorobenzene	(1)	6.597	146	372137	7.748
28) 1,2-Dichlorobenzene	(1)	6.822	146	376835	8.239
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.030	45	865033	12.633
31) 2-Methylphenol	(1)	7.068	108	474532	11.446
38) N-Nitroso-di-n-propylamine	(1)	7.233	70	467601	12.975
37) 4-Methylphenol	(1)	7.319	108	479716	10.955
43) Hexachloroethane	(1)	7.330	117	127312	6.217
44)$Nitrobenzene-d5	(2)	7.453	82	1177869	23.400
45) Nitrobenzene	(2)	7.479	77	649364	12.647
50) Isophorone	(2)	7.848	82	1204246	13.419
51) 2-Nitrophenol	(2)	7.971	139	254648	12.274
53) 2,4-Dimethylphenol	(2)	8.116	107	498685	11.212
55) bis(2-Chloroethoxy)methane	(2)	8.234	93	738401	12.657
60) 2,4-Dichlorophenol	(2)	8.378	162	441782	12.757
62) 1,2,4-Trichlorobenzene	(2)	8.458	180	317267	8.222
65)*Naphthalene-d8	(2)	8.549	136	583633	5.000
66) Naphthalene	(2)	8.581	128	1203588	9.980
67) 4-Chloroaniline	(2)	8.742	127	550357	11.181
71) Hexachlorobutadiene	(2)	8.790	225	159800	6.831
80) 4-Chloro-3-methylphenol	(2)	9.592	107	490910	12.918
83) 2-Methylnaphthalene	(2)	9.699	142	784226	9.787
85) Hexachlorocyclopentadiene	(3)	9.950	237	208608	8.600
90) 2,4,6-Trichlorophenol	(3)	10.202	196	335637	13.101
92) 2,4,5-Trichlorophenol	(3)	10.271	196	356163	13.246
93)$2-Fluorobiphenyl	(3)	10.330	172	1919634	20.588
96) 2-Chloronaphthalene	(3)	10.491	162	734096	8.983
100) 2-Nitroaniline	(3)	10.731	138	305915	12.792
106) Dimethylphthalate	(3)	11.036	163	538456	5.882
108) 2,6-Dinitrotoluene	(3)	11.127	165	253053	13.020
109) Acenaphthylene	(3)	11.159	152	1390411	12.241
113)*Acenaphthene-d10	(3)	11.384	164	299916	5.000
112) 3-Nitroaniline	(3)	11.416	138	253366	12.373
114) Acenaphthene	(3)	11.437	153	886427	11.006

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

Digitally signed by Ashley R. Transue
on 04/25/2018 at 16:30.
Target 3.5 esignature user ID: art12405

Quant Report

Target Revision 3.5

Data File: /chem/HP20296.i/18apr25.b/ld1014.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 12:59 Analyst ID: bhs10208

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 25-APR-2018 11:05
Date, time and analyst ID of latest file update: 25-Apr-2018 16:29 art12405

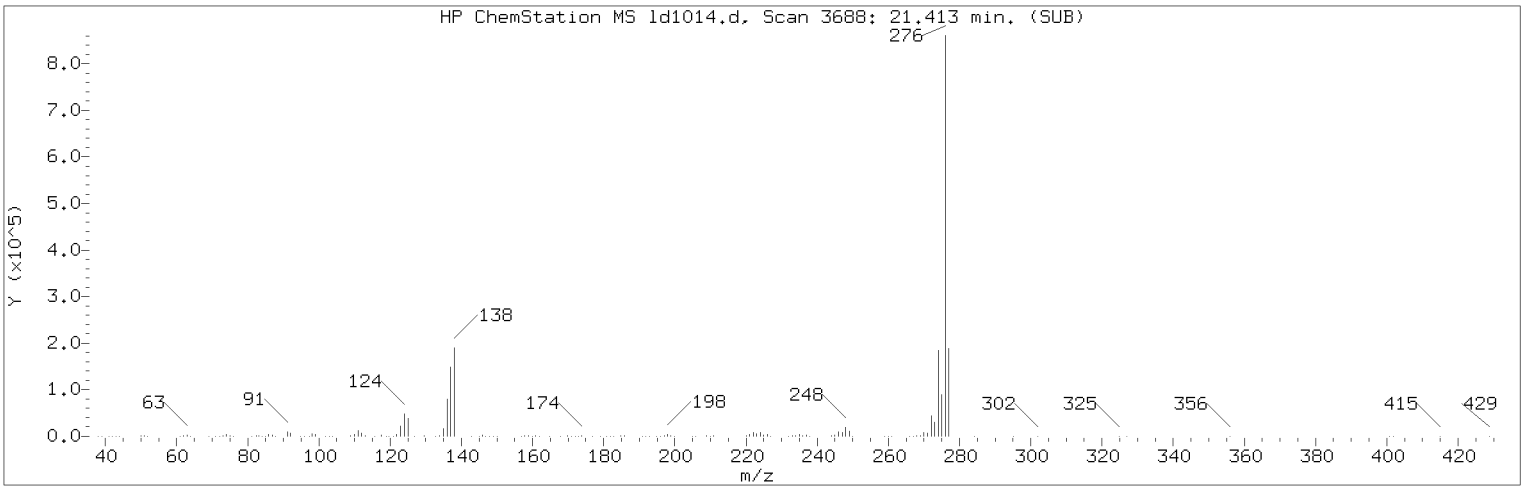
Sample Name: 113WELCSD Lab Sample ID: 113WELCSD

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
115) 2,4-Dinitrophenol	(3)	11.555	184	291748	24.969
119) Dibenzofuran	(3)	11.705	168	1238775	11.071
118) 2,4-Dinitrotoluene	(3)	11.748	165	336570	12.496
116) 4-Nitrophenol	(3)	11.774	109	111901	7.752
124) Diethylphthalate	(3)	12.095	149	895765	9.943
126) Fluorene	(3)	12.175	166	982898	11.245
127) 4-Chlorophenyl-phenylether	(3)	12.202	204	422049	9.795
130) 4,6-Dinitro-2-methylphenol	(4)	12.277	198	199549	12.681
129) 4-Nitroaniline	(3)	12.282	138	232241	11.221
131) N-Nitrosodiphenylamine	(4)	12.368	169	914911	12.577
135)$2,4,6-Tribromophenol	(3)	12.486	330	536540	49.908
143) 4-Bromophenyl-phenylether	(4)	12.796	248	263051	10.822
145) Hexachlorobenzene	(4)	12.828	284	292318	11.756
149) Pentachlorophenol	(4)	13.112	266	173002	11.402
153)*Phenanthrene-d10	(4)	13.331	188	594422	5.000
155) Phenanthrene	(4)	13.363	178	1589907	12.038
157) Anthracene	(4)	13.427	178	1621848	12.346
163) Carbazole	(4)	13.678	167	1571652	13.509
165) Di-n-butylphthalate	(4)	14.138	149	1815855	11.595
173) Fluoranthene	(4)	14.994	202	1941441	13.170
175)*Pyrene-d10	(5)	15.304	212	632041	5.000
177) Pyrene	(5)	15.337	202	1997697	12.425
179)$Terphenyl-d14	(5)	15.609	244	2429890	23.972
188) Butylbenzylphthalate	(5)	16.454	149	728755	9.755
195) Benzo(a)anthracene	(5)	17.332	228	1842700	12.828
193) 3,3'-Dichlorobenzidine	(5)	17.358	252	475492	9.199
196) Chrysene	(5)	17.396	228	1781423	12.821
199) bis(2-Ethylhexyl)phthalate	(5)	17.471	149	1298958	12.305
205) Di-n-octylphthalate	(6)	18.626	149	2290692	12.690
206) Benzo(b)fluoranthene	(6)	19.188	252	1783703	12.672
208) Benzo(k)fluoranthene	(6)	19.236	252	1774665	13.187
211) Benzo(a)pyrene	(6)	19.717	252	1638240	12.935
213)*Perylene-d12	(6)	19.808	264	574269	5.000
219) Indeno(1,2,3-cd)pyrene	(6)	21.413	276	1503827M	12.503
220) Dibenz(a,h)anthracene	(6)	21.450	278	1592152	13.072
221) Benzo(g,h,i)perylene	(6)	21.792	276	1548979	12.479

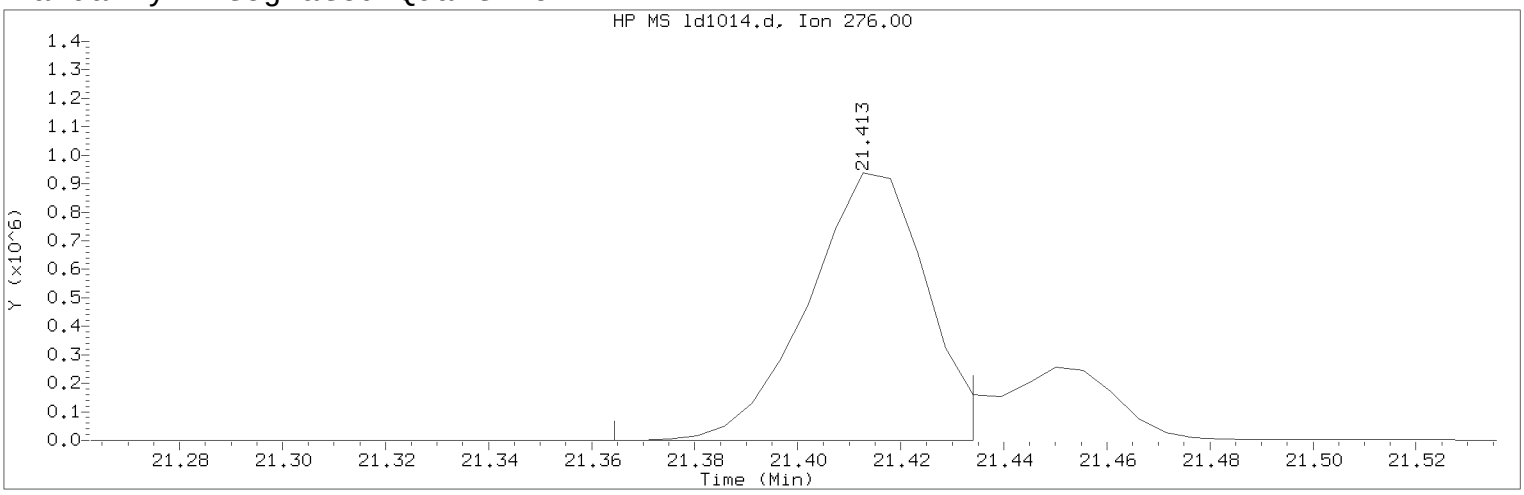
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Ashley R. Transue
on 04/25/2018 at 16:30.
Target 3.5 esignature user ID: art12405

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP20296.i/18apr25.b/ld1014.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 12:59 Analyst ID: bhs10208

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 25-APR-2018 11:05
Date, time and analyst ID of latest file update: 25-Apr-2018 16:29 art12405

Sample Name: 113WELCSD Lab Sample ID: 113WELCSD

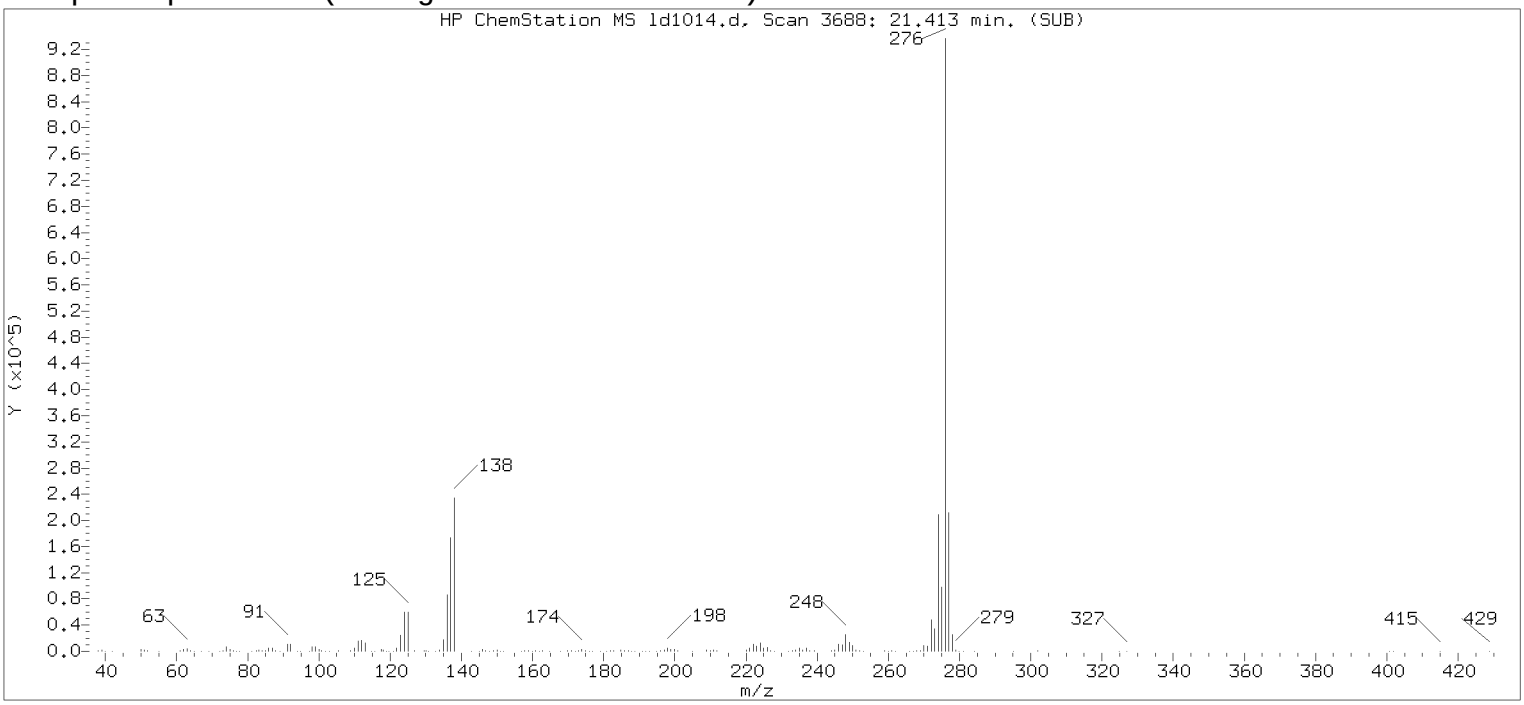
Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3688
Retention Time (minutes) : 21.413
Quant Ion : 276.00
Area (flag) : 1503827M
On-Column Amount (ng/ul) : 12.5029
Integration start scan : 3678 Integration stop scan: 3691
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

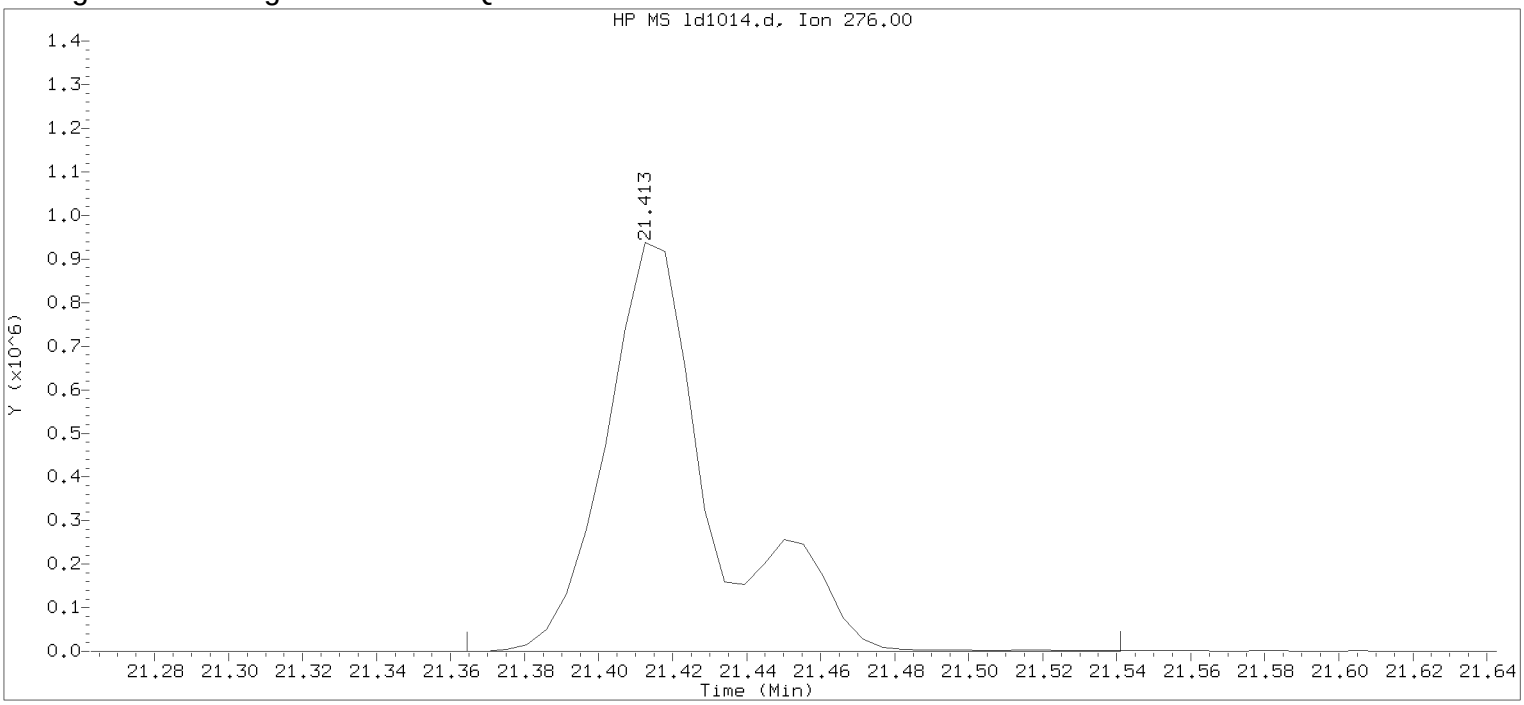
Analyst responsible for change: Digitally signed by Ashley R. Transue on 04/25/2018 at 16:30.
Target 3.5 esignature user ID: art12405

Secondary review performed and digitally signed by Holly B. Ziegler on 04/29/2018 at 13:53.
PARALLAX ID: hb01996

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP20296.i/18apr25.b/ld1014.d Instrument ID: HP20296.i
Injection date and time: 25-APR-2018 12:59 Analyst ID: bhs10208

Method used: /chem/HP20296.i/18apr25.b/rv8270c.m Sublist used: 20639M
Calibration date and time: 25-APR-2018 11:05
Date, time and analyst ID of latest file update: 25-Apr-2018 13:26 Unknown

Sample Name: 113WELCSD Lab Sample ID: 113WELCSD

Compound Number : 219
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3688
Retention Time (minutes) : 21.413
Quant Ion : 276.00
Area : 1878490
On-column Amount (ng/ul) : 15.6179
Integration start scan : 3678 Integration stop scan: 3711
Y at integration start : 0 Y at integration end: 0

Digitally signed by Ashley R. Transue on 04/25/2018 at 16:30.
Target 3.5 esignature user ID: 1785 and 1705

Extraction/Distillation/Digestion Logs

Semivolatiles by GC/MS

Organic Extraction Batchlog Assigned to: 11067 Osvaldo Sanchez Reviewed by: 10208 4/25/18 Start Date: 4-23-18 Start time: 18:40

18113WAE026

Tech 1: CG12385 Tech 2: OSilva

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	SBLKWE113	250	SS1811026A	1.0	—	—	1	✓	✓		tapwater
LCSA	113WELCS	250	SS1811026A	1.0	MS1810126D MS1811126A	1.0 1.0	1	✓	✓		tapwater
LCSDA	113WELCSD	250	SS1811026A	1.0	MS1810126D MS1811126A	1.0 1.0	1	✓	✓		tapwater

Solvent Used	Lot No.
10N NaOH	4708B00
Methylene Chloride	181348
Sodium Sulfate	18111A
Sulfuric Acid	179162

Spike Solutions: Witness:
MS1811126A MINI SEP. LCS SPIKE #1
MS1810126D MINI SEP. LCS SPIKE #2
SS1811026A MINI SEP. BNA SURROGATE

*Split w/ 18113WAE020

Sample #	Sample Code	Amt (ml)	SS/IS Sol.	Amt (mL)	FV (mL)	pH <2	pH >11	BC	Comments	Analyses	List	Due Date	Prio
1 9570269	06352	250	SS1811026A	1.0	1	✓	✓	153A	clear	14240	20829	05/02/2018	N
2 9570270	06353	249	SS1811026A	1.0	1	✓	✓	153A	clear	14240	20829	05/02/2018	N
3 9570271	06354	250	SS1811026A	1.0	1	✓	✓	153A	clear	14240	20829	05/02/2018	N
4 9570341	A8501	245	SS1811026A	1.0	1	✓	✓	153A	yellow	14240	20639	05/02/2018	N
5 9570347	A8507	249	SS1811026A	1.0	1	✓	✓	153A	clear	14240	20639	05/02/2018	N
6 9570349	A8509	243	SS1811026A	1.0	1	✓	✓	153A	clear	14240	20639	05/02/2018	N
7 9570352	A8512	250	SS1811026A	1.0	1	✓	✓	153A	clear	14240	20639	05/02/2018	N
8 9570355	A8602	250	SS1811026A	1.0	1	✓	✓	153A	clear	14240	20639	05/02/2018	N
9 9570357	A8604	250	SS1811026A	1.0	1	✓	✓	153A	clear	14240	20639	05/02/2018	N
10 9570359	A8606	251	SS1811026A	1.0	1	✓	✓	153A	light orange	14240	20639	05/02/2018	N
11 9570361	A8608	243	SS1811026A	1.0	1	✓	✓	153A	clear	14240	20639	05/02/2018	N
12 9570363	A8610	241	SS1811026A	1.0	1	✓	✓	153A	clear	14240	20639	05/02/2018	N
13 9570366	A8613	249	SS1811026A	1.0	1	✓	✓	153A	orange	14240	20639	05/02/2018	N
14 9570368	A8615	251	SS1811026A	1.0	1	✓	✓	153A	clear	14240	20639	05/02/2018	N

ATH85 Page 713 of 1139

NA CG12385 4-23-18

Bench# 3	Bench# 1	Bench# 12		
Rack ID:		Work Station	tumble	Micro Temp 100? ✓
Internal Standard	RVISTD 1038	Balance #	25996	

R-VAP ID4	90° C	R-VAP ID3	90° C	R-VAP ID1	90°C
S-bath ID	C	S-bath ID	C	N-Evap	C	M-vap	C

18113WAE026

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: ATH85

ICP Metals

Fraction: Metals in Liquid

Sample #	Client ID	Matrix Liquid	Solid	Comments
9570341	NY-MW-11R	X		
9570342	NY-MW-11R	X		
9570347	NY-MW-30	X		
9570348	NY-MW-30	X		
9570349	NY-MW-31	X		
9570350	NY-MW-31	X		
9570352	EB_20180419	X		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

Method defined actions are taken for any failed matrix QC.

Batch#: 181130184807 (Sample number(s): 9570341-9570342, 9570347-9570350, 9570352, UNSPK: 9570349, BKG: 9570349)
The recovery(ies) for the following analyte(s) in the MS and MSD exceeded the acceptance window indicating a positive bias: Aluminum

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Case Narrative/Conformance Summary

CLIENT: Stantec
SDG: ATH85

ICP Metals

Fraction: Metals in Liquid

Sample Duplicate

Batch#: 181130184807 (Sample number(s): 9570341-9570342, 9570347-9570350, 9570352, UNSPK: 9570349, BKG: 9570349)
The duplicate RPD for the following analyte(s) is outside the acceptance window:
Aluminum

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

Refer to analysis run log for samples requiring dilutions.

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.

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.: ATH85
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9570341 % Solids: 0.0
Concentration Units: UG/L Date Received: 04/20/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9970			P
7440-36-0	Antimony	0.45	U		MS
7440-38-2	Arsenic	3.2			MS
7440-39-3	Barium	423			MS
7440-41-7	Beryllium	0.40	B		MS
7440-43-9	Cadmium	0.41	B		MS
7440-70-2	Calcium	64200			P
7440-47-3	Chromium	12.6			MS
7440-48-4	Cobalt	9.9			MS
7440-50-8	Copper	12.6			MS
7439-89-6	Iron	10600			P
7439-92-1	Lead	27.5			MS
7439-95-4	Magnesium	45400			P
7439-96-5	Manganese	557			MS
7439-97-6	Mercury	0.050	U		CV
7440-02-0	Nickel	8.6			MS
7440-09-7	Potassium	9710			P
7782-49-2	Selenium	0.66	B		MS
7440-22-4	Silver	0.15	U		MS
7440-23-5	Sodium	494000			P
7440-28-0	Thallium	0.18	B		MS
7440-62-2	Vanadium	15.8			MS
7440-66-6	Zinc	84.7			MS

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

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: ATH85
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9570342 % Solids: 0.0
Concentration Units: UG/L Date Received: 04/20/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	89.4	U		P
7440-36-0	Antimony	0.45	U		MS
7440-38-2	Arsenic	0.72	U		MS
7440-39-3	Barium	364			MS
7440-41-7	Beryllium	0.071	U		MS
7440-43-9	Cadmium	0.29	B		MS
7440-70-2	Calcium	64000			P
7440-47-3	Chromium	0.87	U		MS
7440-48-4	Cobalt	6.4			MS
7440-50-8	Copper	1.6	B		MS
7439-89-6	Iron	1300			P
7439-92-1	Lead	0.11	U		MS
7439-95-4	Magnesium	45000			P
7439-96-5	Manganese	463			MS
7439-97-6	Mercury	0.050	U		CV
7440-02-0	Nickel	3.2			MS
7440-09-7	Potassium	9170			P
7782-49-2	Selenium	0.50	U		MS
7440-22-4	Silver	0.15	U		MS
7440-23-5	Sodium	470000			P
7440-28-0	Thallium	0.14	B		MS
7440-62-2	Vanadium	0.21	U		MS
7440-66-6	Zinc	31.3			MS

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

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: ATH85
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9570347 % Solids: 0.0
Concentration Units: UG/L Date Received: 04/20/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	89.4	U		P
7440-36-0	Antimony	0.45	U		MS
7440-38-2	Arsenic	0.72	U		MS
7440-39-3	Barium	141			MS
7440-41-7	Beryllium	0.071	U		MS
7440-43-9	Cadmium	0.15	U		MS
7440-70-2	Calcium	43900			P
7440-47-3	Chromium	0.87	U		MS
7440-48-4	Cobalt	10.4			MS
7440-50-8	Copper	1.5	B		MS
7439-89-6	Iron	871			P
7439-92-1	Lead	0.11	U		MS
7439-95-4	Magnesium	18900			P
7439-96-5	Manganese	1380			MS
7439-97-6	Mercury	0.050	U		CV
7440-02-0	Nickel	13.3			MS
7440-09-7	Potassium	5180			P
7782-49-2	Selenium	0.50	U		MS
7440-22-4	Silver	0.15	U		MS
7440-23-5	Sodium	61500			P
7440-28-0	Thallium	0.12	U		MS
7440-62-2	Vanadium	0.49	B		MS
7440-66-6	Zinc	5.8	B		MS

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

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: ATH85
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9570348 % Solids: 0.0
Concentration Units: UG/L Date Received: 04/20/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	89.4	U		P
7440-36-0	Antimony	0.45	U		MS
7440-38-2	Arsenic	0.72	U		MS
7440-39-3	Barium	142			MS
7440-41-7	Beryllium	0.071	U		MS
7440-43-9	Cadmium	0.15	U		MS
7440-70-2	Calcium	42800			P
7440-47-3	Chromium	0.87	U		MS
7440-48-4	Cobalt	9.9			MS
7440-50-8	Copper	0.68	B		MS
7439-89-6	Iron	817			P
7439-92-1	Lead	0.11	U		MS
7439-95-4	Magnesium	18400			P
7439-96-5	Manganese	1340			MS
7439-97-6	Mercury	0.050	U		CV
7440-02-0	Nickel	12.0			MS
7440-09-7	Potassium	5030			P
7782-49-2	Selenium	0.50	U		MS
7440-22-4	Silver	0.15	U		MS
7440-23-5	Sodium	60000			P
7440-28-0	Thallium	0.12	U		MS
7440-62-2	Vanadium	0.51			MS
7440-66-6	Zinc	5.2	B		MS

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.: ATH85
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9570349, 9570349BKG % Solids: 0.0
Concentration Units: UG/L Date Received: 04/20/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	427			P
7440-36-0	Antimony	0.45	U		MS
7440-38-2	Arsenic	0.72	U		MS
7440-39-3	Barium	123			MS
7440-41-7	Beryllium	0.089	B		MS
7440-43-9	Cadmium	0.26	B		MS
7440-70-2	Calcium	32500			P
7440-47-3	Chromium	1.0	B		MS
7440-48-4	Cobalt	25.0			MS
7440-50-8	Copper	1.1	B		MS
7439-89-6	Iron	757			P
7439-92-1	Lead	0.31	B		MS
7439-95-4	Magnesium	18200			P
7439-96-5	Manganese	1610			MS
7439-97-6	Mercury	0.050	U		CV
7440-02-0	Nickel	7.3			MS
7440-09-7	Potassium	3900			P
7782-49-2	Selenium	0.50	U		MS
7440-22-4	Silver	0.15	U		MS
7440-23-5	Sodium	75200			P
7440-28-0	Thallium	0.12	U		MS
7440-62-2	Vanadium	1.5			MS
7440-66-6	Zinc	15.3			MS

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.: ATH85
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9570350, 9570350BKG % Solids: 0.0
Concentration Units: UG/L Date Received: 04/20/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	89.4	U		P
7440-36-0	Antimony	0.45	U		MS
7440-38-2	Arsenic	0.72	U		MS
7440-39-3	Barium	118			MS
7440-41-7	Beryllium	0.071	U		MS
7440-43-9	Cadmium	0.29	B		MS
7440-70-2	Calcium	30900			P
7440-47-3	Chromium	0.87	U		MS
7440-48-4	Cobalt	24.7			MS
7440-50-8	Copper	0.74	B		MS
7439-89-6	Iron	80.5	U		P
7439-92-1	Lead	0.11	U		MS
7439-95-4	Magnesium	17400			P
7439-96-5	Manganese	1670			MS
7439-97-6	Mercury	0.050	U		CV
7440-02-0	Nickel	7.0			MS
7440-09-7	Potassium	3720			P
7782-49-2	Selenium	0.50	U		MS
7440-22-4	Silver	0.15	U		MS
7440-23-5	Sodium	72700			P
7440-28-0	Thallium	0.12	U		MS
7440-62-2	Vanadium	0.30	B		MS
7440-66-6	Zinc	11.1	B		MS

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

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: ATH85
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9570352 % Solids: 0.0
Concentration Units: UG/L Date Received: 04/20/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	89.4	U		P
7440-36-0	Antimony	0.45	U		MS
7440-38-2	Arsenic	0.72	U		MS
7440-39-3	Barium	0.78	B		MS
7440-41-7	Beryllium	0.071	U		MS
7440-43-9	Cadmium	0.15	U		MS
7440-70-2	Calcium	95.8	B		P
7440-47-3	Chromium	0.87	U		MS
7440-48-4	Cobalt	0.16	U		MS
7440-50-8	Copper	6.3			MS
7439-89-6	Iron	80.5	U		P
7439-92-1	Lead	0.11	U		MS
7439-95-4	Magnesium	37.4	U		P
7439-96-5	Manganese	1.5	B		MS
7439-97-6	Mercury	0.050	U		CV
7440-02-0	Nickel	1.0	U		MS
7440-09-7	Potassium	179	U		P
7782-49-2	Selenium	0.50	U		MS
7440-22-4	Silver	0.15	U		MS
7440-23-5	Sodium	397	B		P
7440-28-0	Thallium	0.12	U		MS
7440-62-2	Vanadium	0.21	U		MS
7440-66-6	Zinc	3.9	U		MS

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.: ATH85
Matrix: WATER

Analyte	Batch Number	Lab Sample ID
Aluminum	181130184807	9570341
Calcium		9570342
Iron		9570347
Magnesium		9570348
Potassium		9570349BKG
Sodium		9570349MS
		9570349MSD
		9570349DUP
		9570350
		9570352
		P11384GB
		P11384GQ

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.: ATH85
Matrix: WATER

Analyte	Batch Number	Lab Sample ID
Antimony	181270605005	9570341
Arsenic		9570342
Barium		9570347
Beryllium		9570348
Cadmium		9570349
Chromium		9570350BKG
Cobalt		9570352
Copper		P12705EB
Lead		P12705EQ
Manganese		P12705EY
Nickel		
Selenium		
Silver		
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.: ATH85
Matrix: WATER

Analyte	Batch Number	Lab Sample ID
Mercury	181130571304	9570341
		9570342
		9570347
		9570348
		9570349
		9570350
		9570352
		*70357BKG
		P11371DB
		P11371DQ

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.: ATH85

Method: P
Run Name: 1812005T73
Calibration Date(s): 04/30/2018
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										
Calcium		30000.0	30348.28	101.2	25000.0	26727.44	106.9	25000.0	25824.12	103.3
Iron		30000.0	30216.17	100.7	25000.0	26498.61	106.0	25000.0	26398.11	105.6
Magnesium		30000.0	30453.50	101.5	25000.0	26859.13	107.4	25000.0	25884.84	103.5
Potassium		30000.0	30029.46	100.1	25000.0	25655.15	102.6	25000.0	25555.48	102.2
Sodium		30000.0	29213.95	97.4	25000.0	25904.69	103.6	25000.0	26058.88	104.2

(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.: ATH85

Method: P
Run Name: 1812005T73
Calibration Date(s): 04/30/2018
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										
Calcium					25000.0	25366.87	101.5	25000.0	24549.69	98.2
Iron					25000.0	25757.67	103.0	25000.0	25080.58	100.3
Magnesium					25000.0	25546.32	102.2	25000.0	24729.00	98.9
Potassium					25000.0	24972.15	99.9	25000.0	24282.26	97.1
Sodium					25000.0	25740.30	103.0	25000.0	24658.77	98.6

(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.: ATH85

Method: P
Run Name: 1812201T70
Calibration Date(s): 05/02/2018
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										
Calcium										
Iron										
Magnesium										
Potassium										
Sodium		30000.0	29385.61	98.0	25000.0	25230.96	100.9	25000.0	25832.04	103.3

(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.: ATH85

Method: P
Run Name: 1812201T70
Calibration Date(s): 05/02/2018
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										
Calcium										
Iron										
Magnesium										
Potassium										
Sodium					25000.0	26130.56	104.5	25000.0	25872.30	103.5

(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.: ATH85

Method: P
Run Name: 1812201T70
Calibration Date(s): 05/02/2018
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										
Calcium										
Iron										
Magnesium										
Potassium										
Sodium					25000.0	25894.51	103.6			

(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.: ATH85

Method: P
Run Name: 1812205T75
Calibration Date(s): 05/02/2018
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	30544.52	101.8	25000.0	24402.36	97.6	25000.0	25103.52	100.4
Calcium										
Iron										
Magnesium										
Potassium										
Sodium										

(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.: ATH85

Method: P
Run Name: 1812205T75
Calibration Date(s): 05/02/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Aluminum					25000.0	24975.94	99.9	25000.0	24950.99	99.8
Calcium										
Iron										
Magnesium										
Potassium										
Sodium										

(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.: ATH85

Method: P
Run Name: 1812311T72
Calibration Date(s): 5/3/2018 - 05/04/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Aluminum		30000.0	30336.81	101.1	25000.0	25360.43	101.4	25000.0	25348.27	101.4
Calcium										
Iron										
Magnesium										
Potassium										
Sodium										

(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.: ATH85

Method: P
Run Name: 1812311T72
Calibration Date(s): 5/3/2018 - 05/04/2018
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	25321.12	101.3			
Calcium										
Iron										
Magnesium										
Potassium										
Sodium										

(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

Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: ATH85

Method: P
Run Name: 1812605T70
Calibration Date(s): 5/6/2018 - 05/07/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Aluminum		30000.0	30613.18	102.0	25000.0	25686.44	102.7	25000.0	25670.20	102.7
Calcium										
Iron										
Magnesium										
Potassium										
Sodium										

(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

Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: ATH85

Method: P
Run Name: 1812605T70
Calibration Date(s): 5/6/2018 - 05/07/2018
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	25830.41	103.3	25000.0	25754.70	103.0
Calcium										
Iron										
Magnesium										
Potassium										
Sodium										

(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.: ATH85

Method: MS
Run Name: 1813101E05
Calibration Date(s): 05/11/2018
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)
Antimony	121	50.0	51.76	103.5	25.0	23.81	95.2	25.0	24.66	98.6
Arsenic	75	500.0	504.99	101.0	250.0	250.63	100.3	250.0	243.30	97.3
Barium	137	500.0	532.18	106.4	250.0	256.40	102.6	250.0	245.57	98.2
Beryllium	9	50.0	50.80	101.6	25.0	25.72	102.9	25.0	25.41	101.6
Cadmium	111	50.0	51.73	103.5	25.0	25.60	102.4	25.0	25.86	103.4
Chromium	52	500.0	501.47	100.3	250.0	247.61	99.0	250.0	239.64	95.9
Cobalt	59	500.0	503.84	100.8	250.0	258.97	103.6	250.0	243.48	97.4
Copper	63	500.0	502.58	100.5	250.0	253.55	101.4	250.0	247.39	99.0
Lead	208	50.0	52.13	104.3	25.0	26.47	105.9	25.0	25.88	103.5
Manganese	55	500.0	498.31	99.7	250.0	250.19	100.1	250.0	245.31	98.1
Nickel	60	500.0	508.77	101.8	250.0	253.36	101.3	250.0	243.90	97.6
Selenium	78	50.0	52.47	104.9	25.0	25.57	102.3	25.0	23.32	93.3
Silver	107	50.0	50.87	101.7	25.0	25.41	101.6	25.0	25.11	100.4
Thallium	203	50.0	51.76	103.5	25.0	25.39	101.6	25.0	25.06	100.2
Vanadium	51	500.0	494.61	98.9	250.0	248.46	99.4	250.0	242.45	97.0
Zinc	66	500.0	503.00	100.6	250.0	257.20	102.9	250.0	244.02	97.6

(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.: ATH85

Method: MS
Run Name: 1813101E05
Calibration Date(s): 05/11/2018
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)
Antimony	121				25.0	22.96	91.8	25.0	25.42	101.7
Arsenic	75				250.0	233.39	93.4	250.0	249.70	99.9
Barium	137				250.0	237.63	95.1	250.0	263.62	105.4
Beryllium	9				25.0	25.53	102.1	25.0	24.58	98.3
Cadmium	111				25.0	24.25	97.0	25.0	25.37	101.5
Chromium	52				250.0	231.41	92.6	250.0	233.26	93.3
Cobalt	59				250.0	233.56	93.4	250.0	249.94	100.0
Copper	63				250.0	229.80	91.9	250.0	252.05	100.8
Lead	208				25.0	25.64	102.6	25.0	25.01	100.0
Manganese	55				250.0	238.33	95.3	250.0	233.59	93.4
Nickel	60				250.0	232.08	92.8	250.0	249.97	100.0
Selenium	78				25.0	23.25	93.0	25.0	23.14	92.6
Silver	107				25.0	23.51	94.0	25.0	26.34	105.4
Thallium	203				25.0	25.14	100.6	25.0	25.24	101.0
Vanadium	51				250.0	239.21	95.7	250.0	237.58	95.0
Zinc	66				250.0	227.35	90.9	250.0	239.97	96.0

(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.: ATH85

Method: CV
Run Name: 1811601M07
Calibration Date(s): 04/26/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Mercury		2.5	2.39	95.6	1.0	1.00	100.0	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.: ATH85

Method: CV
Run Name: 1811601M07
Calibration Date(s): 04/26/2018
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) 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.: ATH85

Method: P
Run Name: 1812005T73
Calibration Date(s): 04/30/2018
Concentration Units: UG/L

Analyte	Mass	True	Initial Found	Initial %R	Final Found	Final %R
Aluminum						
Calcium		200.0	218.60	109.3	219.23	109.6
Iron		200.0	201.97	101.0	205.75	102.9
Magnesium		100.0	100.02	100.0	103.65	103.7
Potassium		500.0	519.88	104.0	434.89	87.0
Sodium		1000.0	1042.10	104.2	1112.43	111.2

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.: ATH85

Method: P
Run Name: 1812201T70
Calibration Date(s): 05/02/2018
Concentration Units: UG/L

Analyte	Mass	True	Initial Found	Initial %R	Final Found	Final %R
Aluminum						
Calcium						
Iron						
Magnesium						
Potassium						
Sodium		1000.0	1131.18	113.1	1117.31	111.7

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.: ATH85

Method: P
Run Name: 1812205T75
Calibration Date(s): 05/02/2018
Concentration Units: UG/L

Analyte	Mass	True	Initial Found	Initial %R	Final Found	Final %R
Aluminum		200.0	211.75	105.9	196.01	98.0
Calcium						
Iron						
Magnesium						
Potassium						
Sodium						

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.: ATH85

Method: P
Run Name: 1812311T72
Calibration Date(s): 5/3/2018 - 05/04/2018
Concentration Units: UG/L

Analyte	Mass	True	Initial Found	Initial %R	Final Found	Final %R
Aluminum		200.0	128.48	64.2	192.89	96.4
Calcium						
Iron						
Magnesium						
Potassium						
Sodium						

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.: ATH85

Method: P
Run Name: 1812605T70
Calibration Date(s): 5/6/2018 - 05/07/2018
Concentration Units: UG/L

Analyte	Mass	True	Initial Found	Initial %R	Final Found	Final %R
Aluminum		200.0	219.97	110.0	213.74	106.9
Calcium						
Iron						
Magnesium						
Potassium						
Sodium						

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.: ATH85

Method: P
Run Name: 1812605T70
Calibration Date(s): 5/6/2018 - 05/07/2018
Concentration Units: UG/L

Analyte	Mass	True	Initial Found	Initial %R	Final Found	Final %R
Aluminum		200.0			200.63	100.3
Calcium						
Iron						
Magnesium						
Potassium						
Sodium						

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.: ATH85

Method: MS
Run Name: 1813101E05
Calibration Date(s): 05/11/2018
Concentration Units: UG/L

Analyte	Mass	True	Initial Found	Initial %R	Final Found	Final %R
Antimony	121	1.0	1.08	108.0	0.98	98.0
Arsenic	75	2.0	2.23	111.5	1.92	96.0
Barium	137	2.0	1.75	87.5	2.26	113.0
Beryllium	9	0.5	0.46	92.0	0.51	102.0
Cadmium	111	0.5	0.53	106.0	0.42	84.0
Chromium	52	2.0	2.16	108.0	1.92	96.0
Cobalt	59	0.5	0.53	106.0	0.49	98.0
Copper	63	2.0	2.13	106.5	1.60	80.0
Lead	208	1.0	1.03	103.0	1.10	110.0
Manganese	55	2.0	1.80	90.0	2.08	104.0
Nickel	60	2.0	1.82	91.0	1.74	87.0
Selenium	78	2.0	2.08	104.0	1.82	91.0
Silver	107	0.5	0.47	94.0	0.55	110.0
Thallium	203	0.5	0.49	98.0	0.53	106.0
Vanadium	51	0.5	0.48	96.0	0.48	96.0
Zinc	66	15.0	14.69	97.9	14.87	99.1

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.: ATH85

Method: CV
Run Name: 1811601M07
Calibration Date(s): 04/26/2018
Concentration Units: UG/L

Analyte	Mass	Initial True	Initial Found	Initial %R	Final Found	Final %R
Mercury		0.2	0.19	95.0		

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.: ATH85

Method: P
Run Name: 1812005T73
Calibration Date(s): 04/30/2018
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													
Calcium		33.4	U	167	B	41.6	B	33.4	U		60.000	U	181130184807
Iron		33.4	U	64.3	B	33.4	U	33.4	U		80.500	U	181130184807
Magnesium		16.7	U	163		31.6	B	16.7	U		37.400	U	181130184807
Potassium		132	U	132	U	132	U	132	U		179.000	U	181130184807
Sodium		167	U	167	U	311	B	175	B		321.000	U	181130184807

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

Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: ATH85

Method: P
Run Name: 1812005T73
Calibration Date(s): 04/30/2018

		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
Aluminum													
Calcium				33.4	U								
Iron				33.4	U								
Magnesium				16.7	U								
Potassium				132	U								
Sodium				167	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 3
BLANKS
SDG No.: ATH85

Method: P
Run Name: 1812201T70
Calibration Date(s): 05/02/2018

		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
Aluminum													
Calcium													
Iron													
Magnesium													
Potassium													
Sodium		167	U	167	U	167	U	167	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

Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: ATH85

Method: P
Run Name: 1812201T70
Calibration Date(s): 05/02/2018

		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
Aluminum													
Calcium													
Iron													
Magnesium													
Potassium													
Sodium				167	U	167	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 3
BLANKS
SDG No.: ATH85

Method: P
Run Name: 1812205T75
Calibration Date(s): 05/02/2018

		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
Aluminum		91.3	U	91.3	U	91.3	U	91.3	U				
Calcium													
Iron													
Magnesium													
Potassium													
Sodium													

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.: ATH85

Method: P
Run Name: 1812205T75
Calibration Date(s): 05/02/2018

		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
Aluminum				245									
Calcium													
Iron													
Magnesium													
Potassium													
Sodium													

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.: ATH85

Method: P
Run Name: 1812311T72
Calibration Date(s): 05/03/2018 - 05/04/2018
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	91.3	U	91.3	U	91.3	U		89.400	U	181130184807
Calcium													
Iron													
Magnesium													
Potassium													
Sodium													

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.: ATH85

Method: P
Run Name: 1812605T70
Calibration Date(s): 05/06/2018 - 05/07/2018

		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
Aluminum		91.3	U	91.3	U	91.3	U	91.3	U				
Calcium													
Iron													
Magnesium													
Potassium													
Sodium													

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.: ATH85

Method: P
Run Name: 1812605T70
Calibration Date(s): 05/06/2018 - 05/07/2018

		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
Aluminum				91.3	U								
Calcium													
Iron													
Magnesium													
Potassium													
Sodium													

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.: ATH85

Method: MS
Run Name: 1813101E05
Calibration Date(s): 05/11/2018
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
Antimony	121	0.34	U	0.34	U	0.34	U	0.34	U	121	0.450	U	181270605005A
Arsenic	75	0.63	U	0.63	U	0.63	U	0.63	U	75	0.720	U	181270605005A
Barium	137	0.60	U	0.60	U	0.60	U	0.60	U	137	0.720	U	181270605005A
Beryllium	9	0.050	U	0.050	U	0.050	U	0.050	U	9	0.071	U	181270605005A
Cadmium	111	0.13	U	0.13	U	0.13	U	0.13	U	111	0.150	U	181270605005A
Chromium	52	0.50	U	0.50	U	0.50	U	0.50	U	52	0.870	U	181270605005A
Cobalt	59	0.16	U	0.16	U	0.16	U	0.16	U	59	0.160	U	181270605005A
Copper	63	0.40	U	0.40	U	0.40	U	0.40	U	63	0.540	U	181270605005A
Lead	208	0.092	U	0.092	U	0.092	U	0.092	U	208	0.110	U	181270605005A
Manganese	55	0.61	U	0.61	U	0.61	U	0.61	U	55	0.900	U	181270605005A
Nickel	60	0.44	U	0.44	U	0.44	U	0.44	U	60	1.000	U	181270605005A
Selenium	78	0.50	U	0.50	U	0.50	U	0.50	U	78	0.500	U	181270605005A
Silver	107	0.11	U	0.11	U	0.11	U	0.11	U	107	0.150	U	181270605005A
Thallium	203	0.11	U	0.11	U	0.11	U	0.11	U	203	0.120	U	181270605005A
Vanadium	51	0.23	U	0.23	U	0.23	U	0.23	U	51	0.210	U	181270605005A
Zinc	66	3.1	U	3.1	U	3.1	U	3.1	U	66	3.900	U	181270605005A

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.: ATH85

Method: MS
Run Name: 1813101E05
Calibration Date(s): 05/11/2018

		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
Antimony	121			0.44	B								
Arsenic	75			0.63	U								
Barium	137			0.60	U								
Beryllium	9			0.050	U								
Cadmium	111			0.13	U								
Chromium	52			0.50	U								
Cobalt	59			0.16	U								
Copper	63			0.40	U								
Lead	208			0.092	U								
Manganese	55			0.61	U								
Nickel	60			0.44	U								
Selenium	78			0.50	U								
Silver	107			0.11	U								
Thallium	203			0.11	U								
Vanadium	51			0.23	U								
Zinc	66			3.1	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 3
BLANKS
SDG No.: ATH85

Method: CV
Run Name: 1811601M07
Calibration Date(s): 04/26/2018
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	181130571304

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 4A
ICP-AES INTERFERENCE CHECK SAMPLE
SDG No.: ATH85

Instrument ID: 18255
Run Name: 1812005T73
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	512229	102.4	518493.5	103.7	536685	107.3	536477.7	107.3
Calcium	500000	500000	513805	102.8	519045.9	103.8	492040	98.4	496753.1	99.4
Iron	200000	200000	207777	103.9	209540.6	104.8	204558	102.3	206135.5	103.1
Magnesium	500000	500000	510089	102.0	514166.4	102.8	488887	97.8	493054.2	98.6
Potassium	0	0	97		-97.4		-11		-113.9	
Sodium	0	0	37		52.4		112		134.7	

Control Limits: All Metals 80%-120%

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QUALITY ASSURANCE SUMMARY
FORM 4A
ICP-AES INTERFERENCE CHECK SAMPLE
SDG No.: ATH85

Instrument ID: 11016
Run Name: 1812201T70
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	485941	97.2	497090.2	99.4	504056	100.8	501961.6	100.4
Calcium	500000	500000	497578	99.5	500105.7	100.0	504326	100.9	503130.1	100.6
Iron	200000	200000	198186	99.1	202561.9	101.3	205456	102.7	206119.3	103.1
Magnesium	500000	500000	462382	92.5	457200.1	91.4	479737	95.9	468813.4	93.8
Potassium										
Sodium	0	0	183		146.0		344		267.2	

Control Limits: All Metals 80%-120%

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QUALITY ASSURANCE SUMMARY
FORM 4A
ICP-AES INTERFERENCE CHECK SAMPLE
SDG No.: ATH85

Instrument ID: 23290
Run Name: 1812205T75
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	487323	97.5	487570.0	97.5	482469	96.5	494803.7	99.0
Calcium	500000	500000	502944	100.6	507319.0	101.5	493291	98.7	509941.7	102.0
Iron	200000	200000	198130	99.1	198839.9	99.4	194422	97.2	199960.4	100.0
Magnesium	500000	500000	512812	102.6	510990.7	102.2	519374	103.9	530780.0	106.2
Potassium										
Sodium										

Control Limits: All Metals 80%-120%

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QUALITY ASSURANCE SUMMARY
FORM 4A
ICP-AES INTERFERENCE CHECK SAMPLE
SDG No.: ATH85

Instrument ID: 16417
Run Name: 1812311T72
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	514959	103.0	515790.0	103.2	522164	104.4	522120.5	104.4
Calcium	500000	500000	499617	99.9	504675.8	100.9	509960	102.0	508590.0	101.7
Iron	200000	200000	200953	100.5	200868.7	100.4	203526	101.8	202336.3	101.2
Magnesium	500000	500000	500778	100.2	505702.1	101.1	510698	102.1	508207.9	101.6
Potassium										
Sodium										

Control Limits: All Metals 80%-120%

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QUALITY ASSURANCE SUMMARY
FORM 4A
ICP-AES INTERFERENCE CHECK SAMPLE
SDG No.: ATH85

Instrument ID: 11016
Run Name: 1812605T70
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	510047	102.0	508873.4	101.8	509419	101.9	508767.1	101.8
Calcium	500000	500000	501920	100.4	502492.2	100.5	514158	102.8	500891.7	100.2
Iron	200000	200000	202207	101.1	202306.7	101.2	200417	100.2	200537.1	100.3
Magnesium	500000	500000	477862	95.6	482935.9	96.6	493369	98.7	481462.8	96.3
Potassium										
Sodium										

Control Limits: All Metals 80%-120%

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QUALITY ASSURANCE SUMMARY
FORM 4A
ICP-AES INTERFERENCE CHECK SAMPLE
SDG No.: ATH85

Instrument ID: 11016
Run Name: 1812605T70
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					504474	100.9	503922.2	100.8
Calcium	500000	500000					507638	101.5	497170.8	99.4
Iron	200000	200000					200363	100.2	200695.0	100.3
Magnesium	500000	500000					486029	97.2	480485.5	96.1
Potassium										
Sodium										

Control Limits: All Metals 80%-120%

QUALITY ASSURANCE SUMMARY
FORM 4B
ICP-MS INTERFERENCE CHECK SAMPLE
SDG No.: ATH85

Instrument ID: 19204
Run Name: 1813101E05
Concentration Units: ug/L

Analyte	Mass	True Sol. A	True Sol. AB	Found Sol. A	%R	Found Sol. AB	%R
Aluminum	27	10000	10000	9353	93.5	9494.1	94.9
Antimony	121	0	0	0		0.0	
Arsenic	75	0	20	0		19.1	95.5
Barium	137	0	0	0		-0.1	
Beryllium	9	0	0	0		0.0	
Cadmium	111	0	20	0		20.2	101.0
Calcium	44	10000	10000	9306	93.1	8734.6	87.3
Carbon	13	20000	20000	NA		NA	
Chloride	37	100000	100000	NA		NA	
Chromium	52	0	20	0		19.4	97.0
Cobalt	59	0	20	0		19.8	99.0
Copper	63	0	20	0		20.1	100.5
Iron	57	10000	10000	9030	90.3	9497.8	95.0
Lead	208	0	0	0		0.0	
Magnesium	24	10000	10000	9481	94.8	9702.6	97.0
Manganese	55	0	20	0		19.6	98.0
Molybdenum	98	200	200	187	93.5	191.9	96.0
Nickel	60	0	20	0		18.6	93.0
Phosphorus	31	10000	10000	NA		NA	
Potassium	39	10000	10000	9268	92.7	9462.7	94.6
Selenium	78	0	0	0		0.0	
Silver	107	0	20	0		19.6	98.0
Sodium	23	10000	10000	9325	93.3	9587.1	95.9
Sulfur	34	10000	10000	NA		NA	
Thallium	203	0	0	0		0.0	
Titanium	47	200	200	185	92.5	197.8	98.9
Vanadium	51	0	0	0		0.0	
Zinc	66	0	20	0		20.4	102.0

Control Limits: All Metals 80%-120%

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QUALITY ASSURANCE SUMMARY
FORM 4B
ICP-MS INTERFERENCE CHECK SAMPLE
SDG No.: ATH85

Instrument ID: 19204
Run Name: 1813101E05
Concentration Units: ug/L

Analyte	Mass	True Sol. A	True Sol. AB	Found Sol. A	%R	Found Sol. AB	%R
Aluminum	27	10000	10000	9444	94.4	9691.7	96.9
Antimony	121	0	0	0		0.0	
Arsenic	75	0	20	0		18.7	93.5
Barium	137	0	0	0		-0.1	
Beryllium	9	0	0	0		0.0	
Cadmium	111	0	20	0		18.7	93.5
Calcium	44	10000	10000	9318	93.2	9331.1	93.3
Carbon	13	20000	20000	NA		NA	
Chloride	37	100000	100000	NA		NA	
Chromium	52	0	20	0		20.8	104.0
Cobalt	59	0	20	0		19.5	97.5
Copper	63	0	20	0		20.0	100.0
Iron	57	10000	10000	9535	95.4	9770.1	97.7
Lead	208	0	0	0		0.0	
Magnesium	24	10000	10000	9405	94.1	9645.3	96.5
Manganese	55	0	20	0		18.4	92.0
Molybdenum	98	200	200	185	92.5	188.8	94.4
Nickel	60	0	20	0		19.1	95.5
Phosphorus	31	10000	10000	NA		NA	
Potassium	39	10000	10000	9404	94.0	9543.5	95.4
Selenium	78	0	0	0		0.0	
Silver	107	0	20	0		19.0	95.0
Sodium	23	10000	10000	9273	92.7	9528.3	95.3
Sulfur	34	10000	10000	NA		NA	
Thallium	203	0	0	0		0.0	
Titanium	47	200	200	207	103.5	192.8	96.4
Vanadium	51	0	0	0		0.0	
Zinc	66	0	20	0		17.3	86.5

Control Limits: All Metals 80%-120%

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QUALITY ASSURANCE SUMMARY
FORM 5A(MS/MSD)
MATRIX SPIKE/MATRIX SPIKE DUPLICATE
SDG No.: ATH85
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 9570349BKG Matrix Spike Lab Sample ID: 9570349MS Matrix Spike Duplicate Lab Sample ID: 9570349MSD
Batch Number(s): 181130184807

		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		427.3000		2974.8500		2967.8000		2000.0000	2000.0000	UG/L	127	N	127	N	0		75 - 125	20	P
Calcium		32538.9300		36432.1900		36173.4100		4000.0000	4000.0000	UG/L	97		91		1			20	P
Iron		756.9600		1891.3100		1867.0300		1000.0000	1000.0000	UG/L	113		111		1		75 - 125	20	P
Magnesium		18242.0400		20105.2200		19884.6200		2000.0000	2000.0000	UG/L	93		82		1			20	P
Potassium		3897.7600		14254.1000		14229.4200		10000.0000	10000.0000	UG/L	104		103		0		75 - 125	20	P
Sodium		75240.8300		84729.1300		83994.2600		10000.0000	10000.0000	UG/L	95		88		1			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.: ATH85
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 9570349BKG

Analyte	Mass	Sample Result(SR)	C	Spike Added(SA)	Spiked Sample Result(SSR)	C	SRR %R	Spiked Sample Duplicate(SSD)	C	SSD %R	M
Aluminum		427.3000		1000.0000	1503.5200		108	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.: ATH85
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 9570349BKG Duplicate Lab Sample ID: 9570349DUP
Batch Number(s): 181130184807
Concentration Units: UG/L

Analyte	Mass	Control Limit	Samples (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		200.0	427.3000		644.7700		41	*	P
Calcium			32538.9300		31300.8600		4		P
Iron		200.0	756.9600		741.7500		2		P
Magnesium			18242.0400		17505.6600		4		P
Potassium			3897.7600		3753.8800		4		P
Sodium			75240.8300		72391.8200		4		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.: ATH85
Matrix: WATER

Analyte	Mass	Batch Number	Units	True	Found	C	Control Limits (%)	%R	M	In Spec
Aluminum		181130184807	UG/L	2000.000	2086.710		80 - 120	104	P	Yes
Calcium		181130184807	UG/L	4000.000	4169.230		88 - 112	104	P	Yes
Iron		181130184807	UG/L	1000.000	1057.300		80 - 114	106	P	Yes
Magnesium		181130184807	UG/L	2000.000	2097.440		88 - 114	105	P	Yes
Mercury		181130571304	UG/L	1.000	0.923		80 - 114	92	CV	Yes
Potassium		181130184807	UG/L	10000.000	10171.580		88 - 112	102	P	Yes
Sodium		181130184807	UG/L	10000.000	10370.920		87 - 112	104	P	Yes

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	

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QUALITY ASSURANCE SUMMARY
FORM 7(LCS/LCSD)
LABORATORY CONTROL SAMPLE/SAMPLE DUPLICATE
SDG No.: ATH85
Matrix: WATER

Analyte	Mass	Lab Sample ID LCS	Lab Sample ID LCSD	Batch Number	Units	True	LCS Found	LCS C	LCS %R	LCSD Found	LCSD C	LCSD %R	Control Limits (%)	RPD	M	In Spec
Antimony	121	P12705EQ	P12705EY	181270605005	UG/L	6.000	5.247		87	5.600		93	80 - 120	7	MS	Yes
Arsenic	75	P12705EQ	P12705EY	181270605005	UG/L	10.000	8.981		90	9.999		100	80 - 120	11	MS	Yes
Barium	137	P12705EQ	P12705EY	181270605005	UG/L	50.000	47.864		96	51.619		103	80 - 120	8	MS	Yes
Beryllium	9	P12705EQ	P12705EY	181270605005	UG/L	4.000	4.184		105	4.233		106	90 - 112	1	MS	Yes
Cadmium	111	P12705EQ	P12705EY	181270605005	UG/L	5.000	5.126		103	5.027		101	84 - 120	2	MS	Yes
Chromium	52	P12705EQ	P12705EY	181270605005	UG/L	50.000	54.024		108	49.932		100	90 - 112	8	MS	Yes
Cobalt	59	P12705EQ	P12705EY	181270605005	UG/L	250.000	250.255		100	252.598		101	86 - 113	1	MS	Yes
Copper	63	P12705EQ	P12705EY	181270605005	UG/L	50.000	51.810		104	51.809		104	89 - 120	0	MS	Yes
Lead	208	P12705EQ	P12705EY	181270605005	UG/L	15.000	15.630		104	15.553		104	90 - 110	0	MS	Yes
Manganese	55	P12705EQ	P12705EY	181270605005	UG/L	50.000	50.736		101	49.726		99	89 - 120	2	MS	Yes
Nickel	60	P12705EQ	P12705EY	181270605005	UG/L	50.000	49.978		100	51.902		104	90 - 114	4	MS	Yes
Selenium	78	P12705EQ	P12705EY	181270605005	UG/L	10.000	10.024		100	10.070		101	90 - 113	0	MS	Yes
Silver	107	P12705EQ	P12705EY	181270605005	UG/L	50.000	50.608		101	50.801		102	88 - 113	0	MS	Yes
Thallium	203	P12705EQ	P12705EY	181270605005	UG/L	2.000	2.059		103	1.939		97	80 - 120	6	MS	Yes
Vanadium	51	P12705EQ	P12705EY	181270605005	UG/L	50.000	51.486		103	49.389		99	90 - 112	4	MS	Yes
Zinc	66	P12705EQ	P12705EY	181270605005	UG/L	500.000	504.392		101	516.374		103	90 - 113	2	MS	Yes

RPD Control Limit: 20

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(LCS/LCSD)
LABORATORY CONTROL SAMPLE/SAMPLE DUPLICATE
SDG No.: ATH85
Matrix: WATER

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	

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QUALITY ASSURANCE SUMMARY
FORM 9
SERIAL DILUTIONS
SDG No.: ATH85
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 9570349BKG Serial Dilution Lab Sample ID: 9570349L
Batch Number(s): 181130184807
Concentration Units: UG/L

Analyte	Mass	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Diff.	Q	M
Aluminum		427.3000		623.5500	B	46		P
Calcium		32538.9300		32027.1500		2		P
Iron		756.9600		742.6000	B	2		P
Magnesium		18242.0400		18032.1000		1		P
Potassium		3897.7600		3880.7000		0		P
Sodium		75240.8300		74133.4500		1		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.: ATH85
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 9570350BKG Serial Dilution Lab Sample ID: 9570350L
Batch Number(s): 181270605005
Concentration Units: UG/L

Analyte	Mass	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Diff.	Q	M
Antimony	121	0.4510	U	2.2550	U			MS
Arsenic	75	0.7230	U	3.6150	U			MS
Barium	137	118.0670		122.9550		4		MS
Beryllium	9	0.0713	U	0.3565	U			MS
Cadmium	111	0.2920	B	0.7600	U	100		MS
Chromium	52	0.8700	U	4.3500	U			MS
Cobalt	59	24.7470		22.7950		8		MS
Copper	63	0.7410	B	2.6800	U	100		MS
Lead	208	0.1110	U	0.5550	U			MS
Manganese	55	1673.5310		1545.5400		8		MS
Nickel	60	6.9640		6.7650	B	3		MS
Selenium	78	0.5000	U	2.5000	U			MS
Silver	107	0.1460	U	0.7300	U			MS
Thallium	203	0.1170	U	0.5850	U			MS
Vanadium	51	0.2960	B	1.0650	U	100		MS
Zinc	66	11.0610	B	19.6000	U	100		MS

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 10
INSTRUMENT DETECTION LIMITS (QUARTERLY)
SDG No.: ATH85

Method: P
Instrument ID: 11016
Date: 04/2018

Analyte	Wavelength (nm)	Background	IDL (UG/L)
Aluminum	308.21		68.8
Calcium			
Iron			
Magnesium			
Potassium			
Sodium	589.59		167

Comments:

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 10
INSTRUMENT DETECTION LIMITS (QUARTERLY)
SDG No.: ATH85

Method: P
Instrument ID: 16417
Date: 04/2018

Analyte	Wavelength (nm)	Background	IDL (UG/L)
Aluminum	308.21		91.3
Calcium			
Iron			
Magnesium			
Potassium			
Sodium			

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.: ATH85

Method: P
Instrument ID: 18255
Date: 04/2018

Analyte	Wavelength (nm)	Background	IDL (UG/L)
Aluminum			
Calcium	317.93		33.4
Iron	261.19		33.4
Magnesium	285.21		16.7
Potassium	766.49		132
Sodium	589.59		167

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.: ATH85

Method: P
Instrument ID: 23290
Date: 04/2018

Analyte	Wavelength (nm)	Background	IDL (UG/L)
Aluminum	308.21		57.9
Calcium			
Iron			
Magnesium			
Potassium			
Sodium			

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.: ATH85

Method: MS
Instrument ID: 19204
Date: 04/2018

Analyte	MASS (amu)	Background	IDL (UG/L)
Antimony	121		0.34
Arsenic	75		0.63
Barium	137		0.60
Beryllium	9		0.050
Cadmium	111		0.13
Chromium	52		0.50
Cobalt	59		0.16
Copper	63		0.40
Lead	208		0.092
Manganese	55		0.61
Nickel	60		0.44
Selenium	78		0.50
Silver	107		0.11
Thallium	203		0.11
Vanadium	51		0.23
Zinc	66		3.1

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.: ATH85

Method: CV
Instrument ID: 17384
Date: 04/2018

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.: ATH85
Matrix: WATER

Method: P
Date: 06/2017

Analyte	Wavelength (nm)	Background	LOQ (UG/L)	MDL (UG/L)
Aluminum	308.21		200	89.4
Calcium	317.93		200	60.0
Iron	261.19		200	80.5
Magnesium	285.21		100	37.4
Potassium	766.49		500	179
Sodium	589.59		1000	321

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.: ATH85
Matrix: WATER

Method: MS
Date: 06/2017

Analyte	Mass	Background	LOQ (UG/L)	MDL (UG/L)
Antimony	121		1.0	0.45
Arsenic	75		2.0	0.72
Barium	137		2.0	0.72
Beryllium	9		0.50	0.071
Cadmium	111		0.50	0.15
Chromium	52		2.0	0.87
Cobalt	59		0.50	0.16
Copper	63		2.0	0.54
Lead	208		1.0	0.11
Manganese	55		2.0	0.90
Nickel	60		2.0	1.0
Selenium	78		2.0	0.50
Silver	107		0.50	0.15
Thallium	203		0.50	0.12
Vanadium	51		0.50	0.21
Zinc	66		15.0	3.9

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.: ATH85
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 12
LINEAR RANGES
SDG No.: ATH85

Method: P
Instrument ID: 11016
Date: 04/2018

Analyte	Wavelength (nm)	Integration Time (Sec.)	Concentration (ug/L)
Aluminum	308.21	10.00	600000.0
Calcium			
Iron			
Magnesium			
Potassium			
Sodium	589.59	10.00	500000.0

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.: ATH85

Method: P
Instrument ID: 16417
Date: 04/2018

Analyte	Wavelength (nm)	Integration Time (Sec.)	Concentration (ug/L)
Aluminum	308.21	10.00	600000.0
Calcium			
Iron			
Magnesium			
Potassium			
Sodium			

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.: ATH85

Method: P
Instrument ID: 18255
Date: 04/2018

Analyte	Wavelength (nm)	Integration Time (Sec.)	Concentration (ug/L)
Aluminum			
Calcium	317.93	10.00	600000.0
Iron	261.19	10.00	300000.0
Magnesium	285.21	10.00	600000.0
Potassium	766.49	10.00	500000.0
Sodium	589.59	10.00	500000.0

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.: ATH85

Method: P
Instrument ID: 23290
Date: 04/2018

Analyte	Wavelength (nm)	Integration Time (Sec.)	Concentration (ug/L)
Aluminum	308.21	10.00	600000.0
Calcium			
Iron			
Magnesium			
Potassium			
Sodium			

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 13
PREPARATION LOG
SDG No.: ATH85

Method: P
Batch Number: 181130184807

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
9570341	04/24/2018	50.00	50
9570342	04/24/2018	50.00	50
9570347	04/24/2018	50.00	50
9570348	04/24/2018	50.00	50
9570350	04/24/2018	50.00	50
9570352	04/24/2018	50.00	50
9570349BKG	04/24/2018	50.00	50
9570349DUP	04/24/2018	50.00	50
9570349MSD	04/24/2018	50.00	50
9570349MS	04/24/2018	50.00	50
P11384GB	04/24/2018	50.00	50
P11384GQ	04/24/2018	1.00	1

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
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

Method: MS
Batch Number: 181270605005

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
9570341	05/08/2018	50.00	50
9570342	05/08/2018	50.00	50
9570347	05/08/2018	50.00	50
9570348	05/08/2018	50.00	50
9570349	05/08/2018	25.00	25
9570352	05/08/2018	50.00	50
9570350BKG	05/08/2018	50.00	50
P12705EB	05/08/2018	50.00	50
P12705EQ	05/08/2018	1.00	1
P12705EY	05/08/2018	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

Method: CV
Batch Number: 181130571304

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
9570341	04/25/2018	40.00	40
9570342	04/25/2018	40.00	40
9570347	04/25/2018	40.00	40
9570348	04/25/2018	40.00	40
9570349	04/25/2018	40.00	40
9570350	04/25/2018	40.00	40
9570352	04/25/2018	40.00	40
*70357BKG	04/25/2018	40.00	40
P11371DB	04/25/2018	40.00	40
P11371DQ	04/25/2018	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.: ATH85

Method: P
Instrument ID: 18255
Run Name: 1812005T73

Run Start Date: 04/30/2018
Run End Date: 04/30/2018

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	10:55							X				X		X				X			X										
S	1.00	10:58							X				X		X				X			X										
S	1.00	11:01																														
S	1.00	11:05																														
ICV	1.00	11:08							X				X		X				X			X										
ICB	1.00	11:11							X				X		X				X			X										
LLC	1.00	11:15							X				X		X				X			X										
ICSA	1.00	11:18							X				X		X				X			X										
ICSAB	1.00	11:21							X				X		X				X			X										
CCV	1.00	11:24							X				X		X				X			X										
CCB	1.00	11:27							X				X		X				X			X										
P11384GB	1.00	11:31							X				X		X				X			X										
P11384GQ	1.00	11:34							X				X		X				X			X										
9570349BKG	1.00	11:37							X				X		X				X			X										
9570349A	1.00	11:41																														
9570349DUP	1.00	11:44							X				X		X				X			X										
9570349MS	1.00	11:47							X				X		X				X			X										
9570349MSD	1.00	11:50							X				X		X				X			X										
9570349L	5.00	11:54							X				X		X				X			X										
9570341	1.00	11:57							X				X		X				X													
9570342	1.00	12:00							X				X		X				X													
CCV	1.00	12:03							X				X		X				X			X										
CCB	1.00	12:06							X				X		X				X			X										
9570347	1.00	12:10							X				X		X				X			X										
9570348	1.00	12:13							X				X		X				X			X										
9570350	1.00	12:16							X				X		X				X			X										
9570352	1.00	12:20							X				X		X				X			X										
ZZZZZZ	1.00	12:23																														
ZZZZZZ	1.00	12:26																														
ZZZZZZ	1.00	12:30																														
ZZZZZZ	1.00	12:33																														
ZZZZZZ	1.00	12:36																														
ZZZZZZ	1.00	12:40																														
CCV	1.00	12:43							X				X		X				X			X										
CCB	1.00	12:47							X				X		X				X			X										
ZZZZZZ	1.00	12:50																														
ZZZZZZ	1.00	12:53																														
ZZZZZZ	1.00	12:57																														

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.: ATH85

Method: P
Instrument ID: 18255
Run Name: 1812005T73

Run Start Date: 04/30/2018
Run End Date: 04/30/2018

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	13:00																														
ZZZZZZ	1.00	13:03																														
ZZZZZZ	1.00	13:06																														
ZZZZZZ	1.00	13:10																														
LLC	1.00	13:13							X				X		X				X			X										
ICSA	1.00	13:16							X				X		X				X			X										
ICSAB	1.00	13:19							X				X		X				X			X										
CCV	1.00	13:22							X				X		X				X			X										
CCB	1.00	13:26							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.: ATH85

Method: P
Instrument ID: 11016
Run Name: 1812201T70

Run Start Date: 05/02/2018
Run End Date: 05/02/2018

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	01:39																				X										
S	1.00	01:42																				X										
S	1.00	01:46																														
S	1.00	01:49																														
ICV	1.00	01:53																				X										
ICB	1.00	01:56																				X										
LLC	1.00	02:00																				X										
ICSA	1.00	02:03																				X										
ICSAB	1.00	02:06																				X										
CCV	1.00	02:10																				X										
CCB	1.00	02:13																				X										
P11384GB	1.00	02:17																														
P11384GQ	1.00	02:20																														
ZZZZZZ	1.00	02:24																														
ZZZZZZ	1.00	02:27																														
ZZZZZZ	1.00	02:30																														
ZZZZZZ	1.00	02:34																														
ZZZZZZ	1.00	02:37																														
ZZZZZZ	5.00	02:41																														
9570341	1.00	02:44																														
9570341	5.00	02:48																				X										
CCV	1.00	02:51																				X										
CCB	1.00	02:54																				X										
9570342	5.00	02:58																				X										
ZZZZZZ	1.00	03:01																														
ZZZZZZ	1.00	03:05																														
ZZZZZZ	1.00	03:08																														
ZZZZZZ	1.00	03:11																														
ZZZZZZ	1.00	03:15																														
ZZZZZZ	1.00	03:18																														
ZZZZZZ	1.00	03:22																														
ZZZZZZ	1.00	03:25																														
ZZZZZZ	1.00	03:29																														
CCV	1.00	03:32																				X										
CCB	1.00	03:36																				X										
ZZZZZZ	1.00	03:39																														
ZZZZZZ	1.00	03:43																														
ZZZZZZ	1.00	03:47																														

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.: ATH85

Method: P
Instrument ID: 11016
Run Name: 1812201T70

Run Start Date: 05/02/2018
Run End Date: 05/02/2018

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	03:50																														
ZZZZZZ	1.00	03:53																														
ZZZZZZ	1.00	03:57																														
ZZZZZZ	1.00	04:00																														
ZZZZZZ	1.00	04:03																														
ZZZZZZ	1.00	04:07																														
CCV	1.00	04:10																				X										
CCB	1.00	04:14																				X										
LLC	1.00	04:17																				X										
ICSA	1.00	04:20																				X										
ICSAB	1.00	04:24																				X										
CCV	1.00	04:28																				X										
CCB	1.00	04:31																				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.: ATH85

Method: P
Instrument ID: 23290
Run Name: 1812205T75

Run Start Date: 05/02/2018
Run End Date: 05/02/2018

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	17:24	X																													
S	1.00	17:27	X																													
S	1.00	17:31																														
S	1.00	17:34																														
ICV	1.00	17:37	X																													
ICB	1.00	17:40	X																													
LLC	1.00	17:43	X																													
ICSA	1.00	17:46	X																													
ICSAB	1.00	17:50	X																													
CCV	1.00	17:53	X																													
CCB	1.00	17:56	X																													
P11384GB	1.00	17:59																														
P11384GQ	1.00	18:02																														
ZZZZZZ	1.00	18:05																														
ZZZZZZ	1.00	18:08																														
ZZZZZZ	1.00	18:11																														
ZZZZZZ	1.00	18:15																														
ZZZZZZ	1.00	18:18																														
ZZZZZZ	5.00	18:21																														
9570341	1.00	18:24	X																													
9570342	1.00	18:27	X																													
CCV	1.00	18:31	X																													
CCB	1.00	18:34	X																													
ZZZZZZ	1.00	18:37																														
9570348	1.00	18:40	X																													
9570350	1.00	18:43	X																													
9570352	1.00	18:46	X																													
ZZZZZZ	1.00	18:49																														
ZZZZZZ	1.00	18:53																														
ZZZZZZ	1.00	18:56																														
ZZZZZZ	1.00	18:59																														
ZZZZZZ	1.00	19:02																														
ZZZZZZ	1.00	19:06																														
CCV	1.00	19:09	X																													
CCB	1.00	19:12	X																													
ZZZZZZ	1.00	19:15																														
ZZZZZZ	1.00	19:19																														
ZZZZZZ	1.00	19:22																														

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.: ATH85

Method: P
Instrument ID: 23290
Run Name: 1812205T75

Run Start Date: 05/02/2018
Run End Date: 05/02/2018

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	19:25																														
ZZZZZZ	1.00	19:28																														
ZZZZZZ	1.00	19:31																														
ZZZZZZ	1.00	19:34																														
LLC	1.00	19:37	X																													
ICSA	1.00	19:41	X																													
ICSAB	1.00	19:44	X																													
CCV	1.00	19:47	X																													
CCB	1.00	19:50	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.: ATH85

Method: P
Instrument ID: 16417
Run Name: 1812311T72

Run Start Date: 05/03/2018
Run End Date: 05/04/2018

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	23:44	X																													
S	1.00	23:48	X																													
S	1.00	23:51																														
S	1.00	23:54																														
ICV	1.00	23:57	X																													
ICB	1.00	00:00	X																													
LLC	1.00	00:03	X																													
ICSA	1.00	00:06	X																													
ICSAB	1.00	00:10	X																													
CCV	1.00	00:13	X																													
CCB	1.00	00:16	X																													
P11384GB	1.00	00:19	X																													
P11384GB	1.00	00:22																														
P11384GQ	1.00	00:26	X																													
9570349BKG	1.00	00:29	X																													
ZZZZZZ	1.00	00:32																														
ZZZZZZ	1.00	00:35																														
9570349MS	1.00	00:38	X																													
9570349MSD	1.00	00:41	X																													
ZZZZZZ	5.00	00:44																														
9570347	1.00	00:48	X																													
CCV	1.00	00:51	X																													
CCB	1.00	00:54	X																													
ZZZZZZ	1.00	00:57																														
ZZZZZZ	1.00	01:00																														
ZZZZZZ	1.00	01:03																														
LLC	1.00	01:06	X																													
ICSA	1.00	01:09	X																													
ICSAB	1.00	01:13	X																													
CCV	1.00	01:16	X																													
CCB	1.00	01:19	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.: ATH85

Method: P
Instrument ID: 11016
Run Name: 1812605T70

Run Start Date: 05/06/2018
Run End Date: 05/07/2018

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	23:15	X																													
S	1.00	23:18	X																													
S	1.00	23:22																														
S	1.00	23:25																														
ICV	1.00	23:29	X																													
ICV	1.00	23:32	X																													
ICB	1.00	23:35	X																													
LLC	1.00	23:39	X																													
ICSA	1.00	23:42	X																													
ICSAB	1.00	23:46	X																													
CCV	1.00	23:49	X																													
CCB	1.00	23:53	X																													
ZZZZZZ	1.00	23:56																														
ZZZZZZ	1.00	00:00																														
ZZZZZZ	1.00	00:03																														
ZZZZZZ	5.00	00:07																														
ZZZZZZ	5.00	00:10																														
ZZZZZZ	25.00	00:14																														
ZZZZZZ	20.00	00:17																														
ZZZZZZ	20.00	00:21																														
ZZZZZZ	100.00	00:24																														
ZZZZZZ	20.00	00:28																														
CCV	1.00	00:31	X																													
CCB	1.00	00:34	X																													
ZZZZZZ	5.00	00:38																														
ZZZZZZ	5.00	00:41																														
ZZZZZZ	20.00	00:45																														
ZZZZZZ	5.00	00:49																														
ZZZZZZ	20.00	00:52																														
LLC	1.00	00:56	X																													
ICSA	1.00	00:59	X																													
ICSAB	1.00	01:03	X																													
CCV	1.00	01:07	X																													
CCB	1.00	01:10	X																													
ZZZZZZ	50.00	01:25																														
9570349A	1.00	01:28	X																													
9570349DUP	1.00	01:31	X																													
9570349L	5.00	01:35	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.: ATH85

Method: P
Instrument ID: 11016
Run Name: 1812605T70

Run Start Date: 05/06/2018
Run End Date: 05/07/2018

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							
LLC	1.00	01:38	X																													
ICSA	1.00	01:41	X																													
ICSAB	1.00	01:45	X																													
CCV	1.00	01:49	X																													
CCB	1.00	01:52	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.: ATH85

Method: MS
Instrument ID: 19204
Run Name: 1813101E05

Run Start Date: 05/11/2018
Run End Date: 05/11/2018

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	05:40		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X							
S	1.00	05:43		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X							
CCS	1.00	05:47		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X							
CCS	1.00	05:50		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X							
ICV	1.00	05:53		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X							
ICB	1.00	05:56		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X							
LLC	1.00	05:59		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X							
ICSA	1.00	06:02		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X							
ICSAB	1.00	06:05		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X							
CCV	1.00	06:08		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X							
CCB	1.00	06:11		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X							
P12705EB	1.00	06:14		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X							
P12705EQ	1.00	06:18		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X							
P12705EY	1.00	06:21		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X							
9570341	1.00	06:24		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X							
9570342	1.00	06:27		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X							
9570347	1.00	06:30		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X							
9570348	1.00	06:33		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X							
9570350BKG	1.00	06:36		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X							
9570350A	1.00	06:39																													
9570350L	5.00	06:42		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X							
CCV	1.00	06:45		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X							
CCB	1.00	06:49		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X							
9570349	1.00	06:52		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X							
ZZZZZZ	1.00	06:55																													
ZZZZZZ	1.00	06:58																													
ZZZZZZ	1.00	07:01																													
ZZZZZZ	1.00	07:04																													
ZZZZZZ	1.00	07:07																													
ZZZZZZ	1.00	07:10																													
ZZZZZZ	1.00	07:13																													
ZZZZZZ	1.00	07:16																													
9570352	1.00	07:20		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X							
CCV	1.00	07:23		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X							
CCB	1.00	07:26		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X							
ZZZZZZ	1.00	07:29																													
ZZZZZZ	1.00	07:32																													
ZZZZZZ	1.00	07:35																													

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.: ATH85

Method: MS
Instrument ID: 19204
Run Name: 1813101E05

Run Start Date: 05/11/2018
Run End Date: 05/11/2018

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	07:38																														
ZZZZZZ	1.00	07:41																														
LLC	1.00	07:44		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X								
ICSA	1.00	07:48		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X								
ICSAB	1.00	07:51		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X								
CCV	1.00	07:54		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X								
CCB	1.00	07:57		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.: ATH85

Method: CV
Instrument ID: 17384
Run Name: 1811601M07

Run Start Date: 04/26/2018
Run End Date: 04/26/2018

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	07:02															X															
S0.2	1.00	07:04															X															
S0.5	1.00	07:06															X															
S1.0	1.00	07:08															X															
S2.5	1.00	07:10															X															
S5.0	1.00	07:12															X															
ICV	1.00	07:14															X															
ICB	1.00	07:16															X															
CRA	1.00	07:18															X															
CCV	1.00	07:20															X															
CCB	1.00	07:22															X															
P11371DB	1.00	07:26															X															
P11371DQ	1.00	07:28															X															
*70357BKG	1.00	07:30															X															
ZZZZZZ	1.00	07:32																														
ZZZZZZ	1.00	07:34																														
ZZZZZZ	1.00	07:36																														
9570341	1.00	07:38															X															
9570342	1.00	07:40															X															
9570347	1.00	07:42															X															
9570348	1.00	07:44															X															
CCV	1.00	07:46															X															
CCB	1.00	07:48															X															
9570349	1.00	07:51															X															
9570350	1.00	07:53															X															
9570352	1.00	07:55															X															
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																														
CCV	1.00	08:11															X															
CCB	1.00	08:13															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 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: ATH85

Instrument ID: 19204 Start Date: 05/11/2018
Run Name: 1813101E05 End Date: 05/11/2018

Standard	Elements Applies to	Standard	Elements Applies to
BI-2-209	PB,TL	IN-1-115	SE
IN-2-115	AG,AS,BA,CD,CO,CU,NI,SB,ZN	SC-2-45	CR,MN,V
SC-3-45	BE		

Lab Sample ID	Time	Internal Standards %RI For:													
		Element SC-2-45	Q	Element SC-3-45	Q	Element IN-1-115	Q	Element IN-2-115	Q	Element BI-2-209	Q	Element	Q	Element	Q
S0	05:40	100		100		100		100		100					
S	05:43	94		100		100		95		102					
CCS	05:47	98		97		95		93		99					
CCS	05:50	96		99		97		93		99					
ICV	05:53	98		101		98		97		101					
ICB	05:56	92		98		98		97		98					
LLC	05:59	98		100		98		97		100					
ICSA	06:02	99		102		98		100		101					
ICSAB	06:05	97		99		98		97		100					
CCV	06:08	97		99		95		94		98					
CCB	06:11	93		95		94		95		96					
P12705EB	06:14	99		97		96		95		101					
P12705EQ	06:18	95		100		96		100		103					
P12705EY	06:21	100		97		93		97		102					
9570341	06:24	96		99		85		95		96					
9570342	06:27	101		99		87		97		96					
9570347	06:30	98		98		90		97		101					
9570348	06:33	98		98		89		100		101					
9570350BKG	06:36	96		99		88		100		102					
9570350A	06:39	97		98		88		100		102					
9570350L	06:42	96		96		88		97		102					
CCV	06:45	98		95		87		97		103					
CCB	06:49	90		92		85		93		100					
9570349	06:52	100		98		91		97		106					
ZZZZZZ	06:55														
ZZZZZZ	06:58														
ZZZZZZ	07:01														
ZZZZZZ	07:04														
ZZZZZZ	07:07														
ZZZZZZ	07:10														
ZZZZZZ	07:13														

LEGEND:
BKG = Background MS = Matrix Spike
DUP = Duplicate MSD = Matrix Spike Duplicate
L = Serial Dilution A = Post Digest Spike
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate
FLAG:
R = Internal Standard Relative Intensity OOS

INTERNAL STANDARD ELEMENTS:
BE = Beryllium LI = Lithium
BI = Bismuth SC = Scandium
GE = Germanium TB = Terbium
HO = Holmium Y = Yttrium
IN = Indium

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QUALITY ASSURANCE SUMMARY
FORM 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: ATH85

Instrument ID: 19204
Run Name: 1813101E05

Start Date: 05/11/2018
End Date: 05/11/2018

Standard	Elements Applies to	Standard	Elements Applies to
BI-2-209	PB,TL	IN-1-115	SE
IN-2-115	AG,AS,BA,CD,CO,CU,NI,SB,ZN	SC-2-45	CR,MN,V
SC-3-45	BE		

Lab Sample ID	Time	Internal Standards %RI For:													
		Element SC-2-45	Q	Element SC-3-45	Q	Element IN-1-115	Q	Element IN-2-115	Q	Element BI-2-209	Q	Element	Q	Element	Q
ZZZZZZ	07:16														
9570352	07:20	95		92		86		92		102					
CCV	07:23	98		91		86		101		102					
CCB	07:26	90		90		83		94		97					
ZZZZZZ	07:29														
ZZZZZZ	07:32														
ZZZZZZ	07:35														
ZZZZZZ	07:38														
ZZZZZZ	07:41														
LLC	07:44	90		90		85		96		97					
ICSA	07:48	91		91		86		96		100					
ICSAB	07:51	89		92		86		94		97					
CCV	07:54	96		91		83		91		101					
CCB	07:57	88		90		83		94		98					

LEGEND:
BKG = Background
MS = Matrix Spike
DUP = Duplicate
MSD = Matrix Spike Duplicate
L = Serial Dilution
A = Post Digest Spike
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate
FLAG:
R = Internal Standard Relative Intensity OOS

INTERNAL STANDARD ELEMENTS:
BE = Beryllium
LI = Lithium
BI = Bismuth
SC = Scandium
GE = Germanium
TB = Terbium
HO = Holmium
Y = Yttrium
IN = Indium

Raw Data

Metals in Liquid

ICP Data

Metals in Liquid

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ICP-AES Run Data Report

Reviewed By
Cindy M Gehman

Reviewed Date
04/30/2018 5:07PM

Data File Name 1812005T73.TXT
Run Name: 1812005T73

Method Reference Name(s):

Verified By:
Parker D Lindstrom

Verified Date
05/02/2018 12:08PM

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: 1812005T73 Instrument ID: 18255

Tube: 1 Date/Time: 04/30/2018 10:55

Sample Number: **S0**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	0.000	-15.28152	33.560	-0.00608	-0.00298	-0.00497
AL	0.000	7.46667	41.670	0.08796	0.10503	0.18661
AS	0.000	-1.43530	83.549	-0.01238	-0.01247	-0.00030
B	0.000	6.16087	58.428	0.00006	0.00002	0.00003
BA	0.000	187.35772	7.500	0.00105	0.00118	0.00122
BE	0.000	41.92216	23.446	0.00980	0.01583	0.01297
CA	0.000	11.11667	12.106	0.00325	0.00410	0.00397
CD	0.000	-4.28510	46.610	-0.02406	-0.01400	-0.03737
CO	0.000	10.42221	22.645	0.07087	0.06700	0.04523
CR	0.000	-14.44969	36.537	-0.00012	-0.00005	-0.00009
CU	0.000	-13.03003	96.054	-0.00673	-0.00559	0.00038
FE	0.000	2.00000	94.562	0.00114	-0.00005	0.00093
K	0.000	3.61667	595.784	-0.21361	0.50620	-0.09795
LI	0.000	32.36667	68.637	0.01002	0.00393	0.01885
MG	0.000	1.45000	319.810	0.00176	0.00098	-0.00127
MN	0.000	31.46450	5.890	0.00914	0.01026	0.00955
MO	0.000	-3.13604	33.953	-0.01163	-0.01979	-0.02395
NA	0.000	-8.00152	64.359	-0.00457	-0.00114	-0.00238
NI	0.000	7.80440	8.889	0.04352	0.04336	0.05049
P	0.000	2.39698	31.123	0.00018	0.00034	0.00033
PB	0.000	-4.41690	18.093	-0.02053	-0.02875	-0.02858
S	0.000	2.00761	21.624	0.00020	0.00022	0.00029
SB	0.000	3.90168	37.052	0.00027	0.00060	0.00050
SE	0.000	0.69916	83.478	0.00326	0.00118	0.00788
SI	0.000	1.56818	71.504	0.00014	0.00055	0.00090
SN	0.000	-0.13679	520.279	-0.00518	0.00248	0.00041
SR	0.000	-210.52736	2.841	-0.00126	-0.00128	-0.00133
TH	0.000	0.56667	233.071	0.00067	-0.00019	0.00008
TI	0.000	50.50749	8.387	0.01692	0.01442	0.01508
TL	0.000	1.73451	49.498	0.00697	0.00762	0.01602
V	0.000	-15.93342	62.737	-0.00838	-0.00332	-0.00290
W	0.000	1.50114	86.230	0.00002	0.00032	0.00019
Y1	0.000	8525.52632	1.590	8682.00447	8450.39985	8444.17465
Y2A	0.000	163113.70204	1.003	165001.50455	162225.12548	162114.47610
Y2R	0.000	2949.67424	1.401	2984.39091	2903.96818	2960.66364
ZN	0.000	8.61079	13.834	0.05826	0.04815	0.04487
ZR	0.000	-8.80000	16.930	-0.00355	-0.00260	-0.00279

LANCASTER LABORATORIES

Run Name: 1812005T73

Instrument ID: 18255

Tube: 2

Date/Time: 04/30/2018 10:58

Sample Number: **S1**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AL	50.000	608.48403	0.986	10.09447	10.15271	10.28987
CA	50.000	14362.48589	0.477	4.79868	4.78592	4.83039
FE	50.000	4637.81946	0.935	1.54577	1.54100	1.56818
K	50.000	8978.91453	0.580	150.30694	149.27274	151.00519
MG	50.000	26579.98309	0.298	8.87335	8.88103	8.92254
NA	50.000	27336.45093	0.264	9.12256	9.14290	9.17061
S	50.000	5943.57579	0.767	0.68138	0.69130	0.68944
SI	50.000	3257.43054	0.153	1.08817	1.08962	1.09148
Y1	50.000	8647.82350	2.405	8885.00586	8561.69966	8496.76499
Y2R	50.000	2989.17661	1.338	3023.50253	2998.75728	2945.27004

LANCASTER LABORATORIES

Run Name: 1812005T73

Instrument ID: 18255

Tube: 3

Date/Time: 04/30/2018 11:01

Sample Number: **S2**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	1.000	12664.92677	0.470	4.03697	3.99992	4.02505
AS	1.000	247.72729	1.907	1.48086	1.42558	1.45016
B	1.000	3524.17223	0.250	0.02242	0.02231	0.02239
BA	1.000	367571.81388	0.640	2.34101	2.34373	2.31662
BE	1.000	424503.36645	0.994	134.63337	133.50085	136.17011
CD	1.000	15411.69523	1.752	92.00029	88.84599	90.18270
CO	1.000	5345.03261	1.508	31.81978	30.87672	31.29790
CU	1.000	9859.73822	0.822	3.15966	3.11707	3.11333
LI	1.000	3220.96200	1.398	1.10833	1.13736	1.11270
MN	1.000	54527.14571	0.536	17.41127	17.29036	17.22871
NI	1.000	3040.77356	1.525	18.11816	17.58157	17.77357
P	1.000	306.42461	1.524	0.03645	0.03536	0.03596
PB	1.000	1228.86094	1.242	7.29929	7.12243	7.18754
SE	1.000	275.13551	0.993	1.62768	1.59582	1.61453
SR	1.000	375621.82787	2.370	2.44762	2.36817	2.33826
TH	1.000	50.10391	5.307	0.01635	0.01789	0.01800
TL	1.000	303.21760	1.479	1.80570	1.75373	1.77275
W	1.000	367.64156	1.938	0.04390	0.04223	0.04318
Y1	1.000	8531.44940	1.913	8355.94552	8678.60310	8559.79957
Y2A	1.000	157496.90085	0.702	158708.43146	157239.06295	156543.20814
Y2R	1.000	2877.46294	1.091	2876.27824	2846.67923	2909.43134
ZN	1.000	8066.50343	1.728	48.17751	46.57372	47.10532

LANCASTER LABORATORIES

Run Name: 1812005T73

Instrument ID: 18255

Tube: 4

Date/Time: 04/30/2018 11:05

Sample Number: **S3**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
CR	1.000	10892.48796	1.689	0.06545	0.06748	0.06565
MO	1.000	782.94421	3.032	4.34720	4.46127	4.61747
SB	1.000	491.14597	2.566	0.05488	0.05583	0.05771
SN	1.000	768.03306	2.840	4.27319	4.37528	4.52124
TI	1.000	35450.82433	1.558	10.64017	10.96045	10.71323
V	1.000	12716.68127	1.789	3.81176	3.94231	3.83756
Y1	1.000	8753.15698	3.323	8990.92272	8839.65729	8428.89095
Y2A	1.000	164581.98527	1.243	165577.95777	162228.35757	165939.64047
Y2R	1.000	3030.51667	1.948	3004.70455	3098.07727	2988.76818
ZR	1.000	211.81667	2.322	0.06833	0.06980	0.07157

LANCASTER LABORATORIES

Run Name: 1812005T73

Instrument ID: 18255

Tube: 5

Date/Time: 04/30/2018 11:08

Sample Number: **ICV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.59742	7,528.79	0.078	0.59743	0.59787	0.59694
____ AL	30.59667	368.46	1.227	30.58207	30.97928	30.22865
____ AS	0.60415	143.65	0.407	0.60426	0.60164	0.60655
____ B	0.69593	2,382.07	0.256	0.69395	0.69644	0.69740
____ BA	0.59716	218,124.69	0.293	0.59836	0.59515	0.59796
____ BE	0.57591	242,693.82	0.148	0.57552	0.57532	0.57689
____ CA	30.34828	8,547.23	1.369	30.43204	30.71560	29.89721
____ CD	0.59634	8,966.30	1.094	0.60300	0.58996	0.59607
____ CO	0.58852	3,069.47	1.044	0.59408	0.58192	0.58955
____ CR	0.58436	6,048.56	0.218	0.58527	0.58290	0.58490
____ CU	0.63581	5,795.49	0.204	0.63693	0.63439	0.63610
____ FE	30.21617	2,759.16	1.641	30.25491	30.69155	29.70205
____ K	30.02946	5,280.16	1.339	30.02739	30.43270	29.62828
____ LI	0.58400	1,927.86	1.845	0.59115	0.58924	0.57161
____ MG	30.45350	15,887.32	1.211	30.49588	30.79922	30.06539
____ MN	0.59157	32,039.38	0.045	0.59158	0.59183	0.59130
____ MO	0.60584	448.63	1.725	0.61458	0.59426	0.60868
____ NA	29.21395	15,631.34	1.226	29.28148	29.53359	28.82679
____ NI	0.59788	1,768.24	1.243	0.60548	0.59063	0.59753
____ P	0.59666	178.83	0.798	0.59762	0.59150	0.60087
____ PB	0.58908	716.56	1.175	0.59280	0.58109	0.59335
____ S	31.83343	3,626.30	0.974	31.96131	31.47981	32.05916
____ SB	0.60543	283.55	1.275	0.61057	0.59656	0.60917
____ SE	0.59366	160.19	1.152	0.60105	0.58756	0.59236
____ SI	31.23244	1,996.78	1.053	31.10153	31.60658	30.98923
____ SN	0.59428	432.23	1.118	0.59942	0.58679	0.59665
____ SR	0.59525	222,501.71	0.815	0.60025	0.59494	0.59056
____ TH	0.61599	30.24	4.592	0.59517	0.64819	0.60459
____ TI	0.60914	20,572.82	0.089	0.60853	0.60958	0.60931
____ TL	0.59622	176.88	1.041	0.60339	0.59252	0.59275
____ V	0.60377	7,298.13	0.274	0.60333	0.60238	0.60560
____ W	0.61690	221.26	1.168	0.61957	0.60873	0.62238
____ Y1	8297.74907	8,297.75	1.806	8127.38904	8356.53579	8409.32238
____ Y2A	156384.40071	156,384.40	0.697	157184.36708	156826.46364	155142.37142
____ Y2R	2926.29883	2,926.30	1.539	2933.40307	2878.12477	2967.36864
____ ZN	0.59617	4,699.57	1.107	0.60155	0.58881	0.59817
____ ZR	0.56040	117.26	1.122	0.55561	0.55808	0.56752

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 6 Date/Time: 04/30/2018 11:11

Sample Number: **ICB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00220	-4.71	22.969	0.00220	0.00271	0.00170
____ AL	-0.00966	7.83	1103.861	0.05279	0.05102	-0.13279
____ AS	0.00074	-1.24	829.800	-0.00109	0.00758	-0.00427
____ B	0.00142	11.44	106.632	0.00167	-0.00020	0.00280
____ BA	-0.00011	150.69	8.548	-0.00011	-0.00012	-0.00010
____ BE	0.00041	40.04	4.742	0.00043	0.00039	0.00041
____ CA	0.02115	17.65	116.843	0.04869	0.00091	0.01385
____ CD	0.00123	-6.13	12.795	0.00106	0.00127	0.00137
____ CO	-0.00042	8.18	61.631	-0.00049	-0.00013	-0.00062
____ CR	-0.00032	-4.33	13.924	-0.00036	-0.00032	-0.00027
____ CU	-0.00412	-19.19	42.600	-0.00397	-0.00595	-0.00245
____ FE	-0.00064	1.98	1210.957	0.02722	-0.02662	-0.00252
____ K	-0.02229	-0.10	523.957	0.10862	-0.05979	-0.11569
____ LI	-0.00294	23.33	154.321	0.00220	-0.00635	-0.00466
____ MG	0.01317	8.67	180.374	0.04022	-0.00431	0.00361
____ MN	-0.00005	21.40	61.131	-0.00002	-0.00005	-0.00007
____ MO	-0.00094	-3.62	113.887	-0.00143	-0.00168	0.00029
____ NA	0.02351	4.88	25.803	0.03037	0.01884	0.02132
____ NI	0.00028	8.64	77.478	0.00038	0.00043	0.00003
____ P	-0.00063	2.21	416.163	0.00042	0.00131	-0.00363
____ PB	0.00051	-3.57	190.549	0.00103	0.00109	-0.00061
____ S	-0.00050	1.95	2456.521	0.00893	0.00408	-0.01452
____ SB	0.00133	4.51	150.085	0.00055	0.00360	-0.00015
____ SE	-0.00449	-0.51	19.323	-0.00544	-0.00430	-0.00374
____ SI	0.03033	3.58	108.199	0.05269	-0.00734	0.04563
____ SN	0.00243	0.12	65.448	0.00096	0.00221	0.00411
____ SR	0.00017	-215.82	13.504	0.00020	0.00015	0.00016
____ TH	0.17819	2.10	12.845	0.20307	0.17345	0.15804
____ TI	0.00002	52.19	1208.452	-0.00007	-0.00012	0.00025
____ TL	-0.00023	1.66	1920.072	-0.00449	0.00444	-0.00065
____ V	-0.00008	-14.57	367.461	0.00024	-0.00036	-0.00013
____ W	0.00040	1.66	477.364	0.00099	-0.00175	0.00196
____ Y1	8513.78188	8,513.78	0.365	8549.40175	8492.49489	8499.44901
____ Y2A	166785.58462	166,785.58	2.180	170673.28182	166213.82791	163469.64412
____ Y2R	3036.64849	3,036.65	0.200	3043.22273	3031.25455	3035.46818
____ ZN	0.00007	9.13	74.168	0.00011	0.00009	0.00001
____ ZR	0.01013	-8.07	68.892	0.01780	0.00845	0.00415

LANCASTER LABORATORIES

Run Name: 1812005T73

Instrument ID: 18255

Tube: 7

Date/Time: 04/30/2018 11:15

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00421	8.95	20.841	0.00459	0.00482	0.00320
____ AL	-0.03743	7.48	539.628	-0.20073	-0.09997	0.18842
____ AS	0.02333	4.29	19.008	0.02812	0.02250	0.01937
____ B	0.04763	176.76	0.846	0.04787	0.04716	0.04785
____ BA	0.00520	2,129.70	1.311	0.00513	0.00521	0.00527
____ BE	0.00550	2,225.30	0.498	0.00547	0.00551	0.00552
____ CA	0.21860	73.45	9.983	0.21429	0.24226	0.19926
____ CD	0.00672	77.27	3.699	0.00672	0.00647	0.00697
____ CO	0.00514	37.17	0.770	0.00510	0.00517	0.00514
____ CR	0.01412	148.23	2.610	0.01442	0.01423	0.01371
____ CU	0.00709	137.44	31.777	0.00468	0.00745	0.00915
____ FE	0.20197	20.77	10.453	0.17982	0.22186	0.20422
____ K	0.51988	96.33	29.955	0.61321	0.60632	0.34010
____ LI	0.01559	83.47	19.970	0.01434	0.01914	0.01330
____ MG	0.10002	54.43	2.653	0.09865	0.10308	0.09833
____ MN	0.00555	323.82	0.137	0.00554	0.00555	0.00556
____ MO	0.01086	5.31	8.186	0.00984	0.01129	0.01145
____ NA	1.04210	556.25	3.287	1.00771	1.04235	1.07622
____ NI	0.01040	38.57	1.099	0.01031	0.01053	0.01037
____ P	0.10579	33.82	1.451	0.10565	0.10739	0.10433
____ PB	0.01779	17.36	23.264	0.01927	0.02099	0.01312
____ S	0.55533	65.73	1.915	0.56695	0.55297	0.54608
____ SB	0.01858	12.42	5.152	0.01949	0.01867	0.01758
____ SE	0.01726	5.31	29.309	0.02227	0.01215	0.01737
____ SI	0.04979	4.77	25.143	0.04617	0.06372	0.03948
____ SN	0.02171	14.33	6.337	0.02047	0.02148	0.02319
____ SR	0.00541	1,792.10	0.426	0.00543	0.00539	0.00542
____ TH	0.30381	9.67	9.653	0.33713	0.29240	0.28191
____ TI	0.01029	402.45	2.629	0.00998	0.01040	0.01049
____ TL	0.03272	11.38	6.340	0.03059	0.03283	0.03473
____ V	0.00576	58.43	7.393	0.00532	0.00617	0.00578
____ W	0.00944	4.92	90.696	0.01486	0.01388	-0.00043
____ Y1	8366.01136	8,366.01	0.157	8376.28403	8351.19804	8370.55200
____ Y2A	159429.21708	159,429.22	1.069	161353.84818	158114.41239	158819.39067
____ Y2R	2960.06364	2,960.06	1.555	3011.37727	2922.41364	2946.40000
____ ZN	0.02149	177.83	1.043	0.02173	0.02146	0.02129
____ ZR	0.05860	4.50	24.626	0.04418	0.05858	0.07305

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 8 Date/Time: 04/30/2018 11:18

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.01487	-21.08	5.887	0.01459	0.01417	0.01585
____ AL	512.22936	5,792.81	2.070	508.95439	524.08489	503.64880
____ AS	0.01072	-6.11	62.114	0.00834	0.01824	0.00557
____ B	0.46591	1,938.06	2.718	0.47438	0.45135	0.47200
____ BA	0.00047	311.79	10.816	0.00049	0.00050	0.00041
____ BE	0.00023	-34.80	21.197	0.00028	0.00018	0.00024
____ CA	513.80520	132,785.58	2.060	510.30535	525.69413	505.41612
____ CD	0.00094	198.73	25.915	0.00111	0.00066	0.00106
____ CO	0.00050	11.70	98.384	-0.00006	0.00067	0.00088
____ CR	-0.00120	-11.70	38.920	-0.00140	-0.00067	-0.00154
____ CU	0.28247	75.34	2.584	0.27946	0.29079	0.27715
____ FE	207.77679	17,049.32	2.179	206.39586	212.83287	204.10165
____ K	0.09663	19.66	69.110	0.17327	0.06568	0.05094
____ LI	0.01001	87.93	27.962	0.01211	0.01107	0.00683
____ MG	510.08941	235,962.82	2.076	505.88853	522.13471	502.24498
____ MN	0.00441	235.86	5.347	0.00452	0.00414	0.00457
____ MO	-0.00659	-9.61	30.579	-0.00515	-0.00889	-0.00574
____ NA	0.03720	11.32	60.032	0.01144	0.05110	0.04907
____ NI	0.00658	4.89	4.270	0.00645	0.00690	0.00639
____ P	0.00486	3.70	22.634	0.00359	0.00547	0.00551
____ PB	-0.11238	106.97	2.554	-0.11004	-0.11558	-0.11151
____ S	0.01621	6.42	107.442	0.02838	-0.00374	0.02399
____ SB	0.02197	12.82	13.349	0.02157	0.02509	0.01926
____ SE	-0.06734	-0.42	16.524	-0.05808	-0.06426	-0.07968
____ SI	-0.01408	0.72	156.143	0.00711	-0.03679	-0.01257
____ SN	0.00260	0.21	82.986	0.00093	0.00183	0.00504
____ SR	-0.00039	8,905.64	294.335	0.00032	-0.00171	0.00023
____ TH	0.08184	8.76	44.102	0.11378	0.04268	0.08907
____ TI	0.00039	54.95	83.865	0.00054	0.00001	0.00060
____ TL	0.00967	4.17	46.169	0.00510	0.01402	0.00989
____ V	0.00051	-5.64	231.749	-0.00086	0.00109	0.00131
____ W	0.01643	8.87	55.707	0.01686	0.00707	0.02536
____ Y1	7639.33429	7,639.33	1.223	7630.56596	7736.80729	7550.62962
____ Y2A	139042.37414	139,042.37	1.833	137293.28615	141967.06448	137866.77178
____ Y2R	2764.84673	2,764.85	1.315	2781.05064	2723.19371	2790.29584
____ ZN	0.00906	187.94	7.810	0.00960	0.00826	0.00932
____ ZR	-0.00167	-13.54	418.910	-0.00974	0.00266	0.00207

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 9 Date/Time: 04/30/2018 11:21

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.22675	2,453.39	1.667	0.22241	0.22859	0.22926
____ AL	518.49352	5,733.34	3.096	532.07420	500.77976	522.62658
____ AS	0.11350	16.44	2.643	0.11593	0.11442	0.11014
____ B	0.44568	1,940.56	3.675	0.42870	0.46138	0.44697
____ BA	0.50405	169,028.94	1.546	0.49509	0.50917	0.50790
____ BE	0.49115	190,066.01	1.316	0.48394	0.49641	0.49310
____ CA	519.04594	131,090.69	3.129	531.51434	500.68223	524.94126
____ CD	0.95693	13,113.36	1.640	0.94176	0.97310	0.95593
____ CO	0.47696	2,235.67	1.713	0.46899	0.48531	0.47657
____ CR	0.48027	4,565.28	1.344	0.47333	0.48610	0.48136
____ CU	0.80555	4,584.89	1.352	0.80121	0.79750	0.81795
____ FE	209.54064	16,800.00	3.141	214.63291	202.11017	211.87885
____ K	-0.09736	-12.28	19.945	-0.11726	-0.09635	-0.07846
____ LI	0.00507	71.82	139.482	-0.00235	0.01173	0.00583
____ MG	514.16635	232,376.82	3.300	527.69167	495.12900	519.67836
____ MN	0.48169	23,981.52	1.304	0.47500	0.48745	0.48263
____ MO	-0.00673	-9.49	19.003	-0.00544	-0.00800	-0.00677
____ NA	0.05236	18.58	8.266	0.05724	0.05083	0.04900
____ NI	0.95690	2,526.88	1.503	0.94278	0.97153	0.95639
____ P	0.00534	4.16	57.505	0.00449	0.00279	0.00875
____ PB	0.41280	674.01	4.992	0.39367	0.43461	0.41011
____ S	0.01818	6.96	24.369	0.01568	0.01556	0.02330
____ SB	0.65096	277.96	1.928	0.63884	0.66390	0.65013
____ SE	0.46306	125.14	2.361	0.45999	0.47520	0.45399
____ SI	-0.01551	0.47	226.680	-0.00277	-0.05526	0.01150
____ SN	0.00376	0.92	38.014	0.00214	0.00484	0.00431
____ SR	-0.00158	8,892.21	71.667	-0.00265	-0.00040	-0.00168
____ TH	0.06037	7.49	69.720	0.04511	0.10796	0.02804
____ TI	-0.00018	55.23	106.344	-0.00036	0.00002	-0.00019
____ TL	0.09491	26.87	8.028	0.08634	0.09747	0.10092
____ V	0.49787	5,612.58	1.420	0.48995	0.50356	0.50011
____ W	-0.00031	7.02	1539.732	-0.00492	0.00456	-0.00056
____ Y1	7466.49303	7,466.49	1.475	7571.01381	7351.51636	7476.94893
____ Y2A	143636.98262	143,636.98	1.482	145185.59320	141210.36818	144514.98646
____ Y2R	2703.69175	2,703.69	2.406	2646.40423	2774.40272	2690.26830
____ ZN	1.02321	7,330.46	1.613	1.00772	1.04057	1.02133
____ ZR	-0.00708	-14.61	122.304	-0.00145	-0.00273	-0.01704

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 10 Date/Time: 04/30/2018 11:24

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.49939	6,379.77	1.369	0.49193	0.50535	0.50090
____ AL	27.56864	325.30	4.777	26.80871	29.08930	26.80792
____ AS	0.50280	120.89	0.942	0.50104	0.50817	0.49921
____ B	0.54012	1,873.94	1.364	0.53302	0.54773	0.53961
____ BA	0.50535	187,272.22	1.617	0.49710	0.51345	0.50550
____ BE	0.47905	204,748.91	1.562	0.47173	0.48668	0.47872
____ CA	26.72744	7,363.50	4.655	25.76611	28.13264	26.28356
____ CD	0.49853	7,596.16	0.396	0.49933	0.49628	0.49998
____ CO	0.49626	2,625.49	0.453	0.49625	0.49401	0.49851
____ CR	0.49333	5,179.60	1.483	0.48517	0.49932	0.49550
____ CU	0.53427	4,928.00	1.513	0.52504	0.54007	0.53771
____ FE	26.49861	2,368.20	1.936	25.95572	26.97523	26.56488
____ K	25.65515	4,409.79	1.118	25.51833	25.46249	25.98463
____ LI	0.50282	1,626.97	0.322	0.50111	0.50432	0.50304
____ MG	26.85913	13,708.10	4.827	25.83916	28.31812	26.42011
____ MN	0.49319	27,098.00	1.652	0.48460	0.50081	0.49417
____ MO	0.52212	391.56	1.138	0.52232	0.51608	0.52796
____ NA	25.90469	13,547.05	1.025	25.75073	25.75212	26.21123
____ NI	0.50017	1,500.80	0.485	0.50104	0.49743	0.50205
____ P	0.49360	150.38	0.384	0.49476	0.49141	0.49462
____ PB	0.48954	604.00	0.905	0.48548	0.48886	0.49427
____ S	25.93653	2,995.26	0.468	25.86718	25.86559	26.07683
____ SB	0.48691	232.03	0.660	0.48356	0.48996	0.48721
____ SE	0.47895	131.31	0.626	0.47566	0.47965	0.48153
____ SI	26.49795	1,656.10	1.029	26.22454	26.49940	26.76990
____ SN	0.49220	362.64	0.676	0.48844	0.49339	0.49476
____ SR	0.50274	190,603.05	0.749	0.49843	0.50542	0.50435
____ TH	0.54424	25.15	7.653	0.57808	0.55691	0.49772
____ TI	0.51383	17,610.04	1.804	0.50461	0.52315	0.51374
____ TL	0.50593	152.42	0.203	0.50629	0.50477	0.50672
____ V	0.50548	6,192.45	1.485	0.49715	0.51172	0.50756
____ W	0.51833	188.70	1.108	0.52267	0.52050	0.51182
____ Y1	8411.23975	8,411.24	0.573	8363.36773	8459.83441	8410.51709
____ Y2A	158648.31144	158,648.31	1.205	160581.39482	156760.24404	158603.29545
____ Y2R	2860.13242	2,860.13	1.327	2854.79520	2900.46208	2825.13998
____ ZN	0.50248	4,017.21	0.440	0.50250	0.50026	0.50468
____ ZR	0.49716	100.24	4.419	0.49080	0.47907	0.52161

LANCASTER LABORATORIES

Run Name: 1812005T73

Instrument ID: 18255

Tube: 11

Date/Time: 04/30/2018 11:27

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00147	-8.49	56.915	0.00207	0.00051	0.00184
____ AL	0.08287	8.25	554.408	-0.17292	-0.19175	0.61329
____ AS	0.00632	0.14	17.085	0.00604	0.00541	0.00751
____ B	0.00016	6.63	657.645	-0.00077	-0.00004	0.00128
____ BA	-0.00002	179.15	205.588	-0.00003	0.00002	-0.00005
____ BE	0.00042	43.83	3.647	0.00042	0.00044	0.00041
____ CA	0.16694	55.97	150.090	0.03109	0.01364	0.45608
____ CD	0.00126	-5.64	11.254	0.00133	0.00109	0.00134
____ CO	-0.00019	9.26	39.897	-0.00018	-0.00027	-0.00012
____ CR	-0.00119	-13.44	61.130	-0.00201	-0.00096	-0.00061
____ CU	-0.00306	-26.75	70.206	-0.00481	-0.00066	-0.00372
____ FE	0.06426	7.62	187.209	0.01866	-0.02657	0.20070
____ K	0.04995	12.08	66.545	0.07535	0.06217	0.01233
____ LI	-0.00070	28.47	369.707	-0.00261	0.00223	-0.00171
____ MG	0.16312	83.80	157.980	0.02754	0.00152	0.46030
____ MN	0.00001	25.58	845.519	0.00006	0.00006	-0.00009
____ MO	0.00118	-1.98	172.817	-0.00097	0.00143	0.00307
____ NA	0.01954	2.55	133.224	0.01329	-0.00280	0.04814
____ NI	0.00009	7.95	528.664	0.00051	0.00017	-0.00041
____ P	-0.00134	1.97	242.388	0.00240	-0.00308	-0.00333
____ PB	-0.00079	-5.06	375.719	-0.00308	-0.00185	0.00256
____ S	0.00069	2.05	650.686	0.00347	0.00306	-0.00447
____ SB	-0.00188	2.95	175.754	0.00036	-0.00033	-0.00567
____ SE	0.00155	1.12	318.443	0.00603	-0.00376	0.00239
____ SI	0.03529	3.64	133.665	0.01240	0.00393	0.08954
____ SN	0.00160	-0.49	56.549	0.00176	0.00062	0.00241
____ SR	0.00019	-200.07	10.052	0.00020	0.00019	0.00017
____ TH	0.13550	-0.48	15.729	0.14072	0.11206	0.15372
____ TI	0.00025	58.49	53.500	0.00010	0.00037	0.00028
____ TL	0.00065	1.91	201.283	0.00125	0.00156	-0.00085
____ V	0.00039	-9.17	145.132	0.00078	-0.00026	0.00063
____ W	0.00085	1.80	228.069	0.00219	0.00175	-0.00138
____ Y1	8401.20023	8,401.20	1.000	8492.44331	8327.05306	8384.10431
____ Y2A	160753.51215	160,753.51	0.633	160505.57521	159883.32698	161871.63426
____ Y2R	2811.25909	2,811.26	1.924	2859.60909	2752.86364	2821.30455
____ ZN	0.00002	8.68	471.402	0.00015	-0.00008	0.00000
____ ZR	0.00896	-8.28	133.257	0.01533	0.01636	-0.00481

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 12 Date/Time: 04/30/2018 11:31

Sample Number: **PBW** Class: **** Batch: 181130184807

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	0.00211	1.78	11.170	0.00238	0.00198	0.00197
____ AL	-0.08477	6.62	366.275	0.22567	-0.39534	-0.08466
____ AS	0.00174	-1.02	102.090	0.00342	0.00193	-0.00012
____ B	0.00013	6.54	101.177	0.00000	0.00013	0.00027
____ BA	-0.00005	173.45	131.948	0.00002	-0.00006	-0.00011
____ BE	0.00044	50.20	3.762	0.00044	0.00042	0.00045
____ CA	0.03907	22.35	40.221	0.04028	0.05415	0.02279
____ CD	0.00116	-7.42	7.922	0.00106	0.00118	0.00125
____ CO	-0.00023	9.43	77.743	-0.00005	-0.00023	-0.00040
____ CR	-0.00070	-8.41	66.601	-0.00017	-0.00102	-0.00091
____ CU	-0.00231	-21.70	10.477	-0.00240	-0.00204	-0.00250
____ FE	-0.00504	1.52	240.232	0.00657	-0.00410	-0.01759
____ K	0.00688	4.88	939.768	0.05730	-0.06601	0.02934
____ LI	0.00221	39.83	368.160	0.00368	0.00948	-0.00655
____ MG	0.02676	15.70	98.493	0.04010	0.04379	-0.00360
____ MN	0.00008	30.34	113.634	0.00017	0.00000	0.00007
____ MO	0.00150	-1.80	38.977	0.00092	0.00149	0.00209
____ NA	0.02835	7.55	75.702	0.01068	0.05222	0.02214
____ NI	-0.00024	7.25	103.833	0.00005	-0.00041	-0.00036
____ P	-0.00158	1.97	127.580	0.00074	-0.00257	-0.00292
____ PB	0.00034	-3.91	536.632	0.00057	-0.00161	0.00206
____ S	0.00214	2.27	259.988	0.00661	-0.00408	0.00389
____ SB	-0.00566	1.23	25.667	-0.00611	-0.00404	-0.00684
____ SE	-0.00239	0.08	178.825	0.00207	-0.00279	-0.00646
____ SI	0.00802	2.09	129.690	0.00222	0.00181	0.02003
____ SN	0.00155	-0.55	57.145	0.00070	0.00148	0.00247
____ SR	0.00016	-216.75	8.575	0.00017	0.00015	0.00017
____ TH	0.12927	-0.90	8.389	0.12467	0.12148	0.14165
____ TI	-0.00005	49.39	334.494	0.00012	-0.00019	-0.00007
____ TL	-0.00007	1.76	4611.074	0.00133	-0.00403	0.00248
____ V	0.00063	-6.48	90.910	0.00025	0.00128	0.00035
____ W	0.00443	3.20	100.370	0.00893	0.00434	0.00003
____ Y1	8734.72795	8,734.73	0.268	8750.18520	8746.17528	8707.82336
____ Y2A	164384.94717	164,384.95	0.475	164720.20909	163492.97801	164941.65441
____ Y2R	2960.28636	2,960.29	2.367	2901.62727	3037.89091	2941.34091
____ ZN	0.00066	14.18	3.471	0.00064	0.00066	0.00068
____ ZR	0.01966	-6.45	9.246	0.01799	0.02160	0.01940

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 13 Date/Time: 04/30/2018 11:34

Sample Number: **LCSW** Class: **** Batch: 181130184807

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	0.05033	733.13	1.065	0.05081	0.04975	0.05043
____ AL	1.90152	31.57	7.986	1.92224	1.74036	2.04195
____ AS	0.15432	39.27	1.690	0.15460	0.15678	0.15159
____ B	1.78026	6,669.44	0.845	1.78947	1.76290	1.78842
____ BA	1.99464	775,705.59	1.241	2.01922	1.96973	1.99496
____ BE	0.04807	21,453.85	1.011	0.04859	0.04763	0.04800
____ CA	4.16923	1,212.08	0.153	4.17392	4.16199	4.17180
____ CD	0.05146	796.30	0.465	0.05174	0.05129	0.05136
____ CO	0.50578	2,816.85	0.092	0.50533	0.50626	0.50575
____ CR	0.19589	2,160.01	0.496	0.19693	0.19501	0.19572
____ CU	0.24891	2,455.08	1.232	0.25020	0.24541	0.25113
____ FE	1.05730	101.43	1.812	1.07244	1.06368	1.03577
____ K	10.17158	1,831.13	1.066	10.23095	10.23738	10.04641
____ LI	0.98516	3,299.98	0.478	0.98253	0.98235	0.99059
____ MG	2.09744	1,124.15	0.770	2.10071	2.11170	2.07992
____ MN	0.49121	28,369.50	1.341	0.49862	0.48602	0.48898
____ MO	2.05916	1,632.26	0.983	2.08209	2.04377	2.05161
____ NA	10.37092	5,668.33	0.433	10.41924	10.33045	10.36307
____ NI	0.51621	1,630.35	0.223	0.51534	0.51578	0.51752
____ P	0.98590	312.41	0.457	0.98719	0.98963	0.98090
____ PB	0.15336	188.47	1.165	0.15214	0.15541	0.15252
____ S	1.05449	130.66	1.020	1.06640	1.05160	1.04549
____ SB	0.54285	231.05	0.621	0.54543	0.54407	0.53904
____ SE	0.14959	42.78	0.508	0.15029	0.14970	0.14878
____ SI	1.06582	72.35	0.544	1.05912	1.06900	1.06933
____ SN	3.90670	3,035.92	0.139	3.90631	3.91232	3.90146
____ SR	0.98012	389,562.39	1.604	0.99732	0.97655	0.96649
____ TH	0.15945	1.45	3.454	0.15854	0.16536	0.15446
____ TI	1.00303	35,999.88	0.851	1.01167	0.99460	1.00281
____ TL	0.15149	49.49	1.444	0.15027	0.15401	0.15017
____ V	0.51689	6,311.30	1.079	0.52282	0.51175	0.51610
____ W	-0.01003	-0.04	17.281	-0.01091	-0.01115	-0.00803
____ Y1	8838.91425	8,838.91	0.482	8859.09818	8867.68735	8789.95722
____ Y2A	166638.47401	166,638.47	0.059	166528.63182	166670.91508	166715.87513
____ Y2R	2991.54394	2,991.54	0.462	2989.75000	2978.70455	3006.17727
____ ZN	0.50799	4,249.20	0.438	0.51027	0.50787	0.50582
____ ZR	0.88676	186.22	0.890	0.89559	0.88042	0.88426

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 14 Date/Time: 04/30/2018 11:37

Sample Number: **9570349** Class: U*** Batch: 181130184807

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	-8.08	86.711	0.00240	0.00268	0.00001
____ AL	0.57006	14.29	16.039	0.56485	0.66399	0.48134
____ AS	0.00469	-0.32	88.632	0.00895	0.00450	0.00063
____ B	0.12101	395.69	1.138	0.12236	0.12106	0.11960
____ BA	0.11785	45,102.81	1.059	0.11928	0.11722	0.11704
____ BE	0.00052	88.21	7.422	0.00056	0.00053	0.00048
____ CA	32.53893	9,135.99	2.023	33.29804	32.19467	32.12408
____ CD	0.00166	1.34	10.277	0.00155	0.00186	0.00158
____ CO	0.02512	147.00	0.793	0.02531	0.02491	0.02515
____ CR	0.00006	-0.19	912.593	0.00055	-0.00048	0.00011
____ CU	-0.00251	-15.23	3.576	-0.00242	-0.00251	-0.00260
____ FE	0.75696	71.40	2.359	0.76658	0.76794	0.73635
____ K	3.89776	686.71	2.004	3.97323	3.90276	3.81728
____ LI	-0.00082	31.03	369.232	-0.00021	-0.00410	0.00185
____ MG	18.24204	9,504.68	2.035	18.66876	17.99344	18.06392
____ MN	1.61428	91,344.87	0.434	1.61546	1.60676	1.62062
____ MO	0.00282	-0.93	54.392	0.00188	0.00459	0.00199
____ NA	75.24083	40,155.22	1.986	76.96483	74.31305	74.44462
____ NI	0.00750	31.01	1.042	0.00747	0.00745	0.00759
____ P	-0.00203	1.82	89.162	-0.00153	-0.00052	-0.00403
____ PB	-0.00103	-5.28	239.378	0.00160	-0.00328	-0.00141
____ S	16.68806	1,992.19	1.649	17.00342	16.49680	16.56397
____ SB	0.00240	4.52	20.460	0.00266	0.00183	0.00270
____ SE	-0.00189	1.53	101.241	-0.00010	-0.00391	-0.00167
____ SI	12.58348	801.21	2.795	12.97817	12.30333	12.46894
____ SN	0.00278	0.41	45.997	0.00140	0.00301	0.00393
____ SR	0.25963	101,631.23	0.385	0.26051	0.25855	0.25984
____ TH	0.15621	0.77	18.174	0.15367	0.18578	0.12918
____ TI	0.01587	608.32	6.287	0.01702	0.01536	0.01524
____ TL	-0.00732	-1.18	28.882	-0.00497	-0.00907	-0.00792
____ V	0.00206	12.22	12.027	0.00234	0.00197	0.00187
____ W	-0.00170	0.98	405.582	-0.00275	0.00567	-0.00802
____ Y1	8672.76576	8,672.77	0.684	8608.30237	8684.98675	8725.00817
____ Y2A	163368.97498	163,368.97	1.088	163866.16818	164844.71585	161396.04091
____ Y2R	2918.07290	2,918.07	1.415	2870.54131	2945.21947	2938.45792
____ ZN	0.01507	132.19	2.971	0.01559	0.01480	0.01483
____ ZR	0.01943	-6.04	32.631	0.01212	0.02336	0.02282

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 15 Date/Time: 04/30/2018 11:41

Sample Number: **9570349** Class: UP** Batch: 181130184807

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	0.02073	315.89	1.528	0.02106	0.02043	0.02069
____ AL	1.37822	24.64	7.858	1.37788	1.27009	1.48668
____ AS	0.51387	124.44	1.428	0.52066	0.50609	0.51486
____ B	0.30628	1,038.79	0.626	0.30543	0.30848	0.30494
____ BA	0.16700	61,953.68	0.590	0.16750	0.16763	0.16586
____ BE	0.01989	8,344.33	0.371	0.01992	0.01995	0.01981
____ CA	32.96307	9,568.06	0.553	32.87125	33.17293	32.84502
____ CD	0.05129	754.37	0.615	0.05140	0.05093	0.05153
____ CO	0.12545	668.84	0.578	0.12539	0.12476	0.12620
____ CR	0.19636	2,054.61	0.254	0.19630	0.19688	0.19589
____ CU	0.49782	4,735.78	0.604	0.49711	0.50112	0.49523
____ FE	1.27005	122.45	2.586	1.24228	1.30629	1.26156
____ K	5.87144	1,067.47	1.104	5.85172	5.94385	5.81875
____ LI	0.97439	3,292.84	0.321	0.97755	0.97432	0.97130
____ MG	18.94683	10,205.10	0.382	18.90225	19.03044	18.90781
____ MN	1.68650	92,372.26	0.309	1.68804	1.69078	1.68069
____ MO	0.21059	155.55	1.512	0.21295	0.20697	0.21184
____ NA	75.93932	41,899.89	0.378	75.84236	76.26245	75.71314
____ NI	0.15770	477.48	0.564	0.15752	0.15691	0.15866
____ P	1.01519	305.17	0.671	1.01458	1.00870	1.02228
____ PB	0.49598	597.06	0.577	0.49481	0.49389	0.49924
____ S	18.03272	2,080.21	0.949	18.08394	17.84174	18.17248
____ SB	0.41106	191.10	0.799	0.41433	0.40776	0.41110
____ SE	0.77517	207.81	1.230	0.77709	0.76481	0.78359
____ SI	13.40141	882.33	0.805	13.35114	13.52530	13.32779
____ SN	0.60037	441.29	1.126	0.60280	0.59273	0.60557
____ SR	0.27946	105,864.33	0.506	0.27967	0.28076	0.27796
____ TH	0.14208	0.40	13.977	0.16159	0.12189	0.14275
____ TI	0.11906	4,100.78	0.692	0.11961	0.11945	0.11811
____ TL	0.97880	290.92	1.225	0.98568	0.96495	0.98575
____ V	0.10298	1,223.82	0.594	0.10242	0.10288	0.10363
____ W	0.00265	3.00	92.849	0.00374	-0.00017	0.00436
____ Y1	8381.21119	8,381.21	0.176	8367.19245	8396.61531	8379.82580
____ Y2A	158128.48000	158,128.48	0.420	158890.78207	157680.28667	157814.37126
____ Y2R	3016.22154	3,016.22	0.820	3016.78322	3040.67964	2991.20176
____ ZN	0.13449	1,078.45	0.722	0.13499	0.13337	0.13511
____ ZR	0.87356	184.53	1.931	0.87111	0.85805	0.89152

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 16 Date/Time: 04/30/2018 11:44

Sample Number: **9570349** Class: D*** Batch: 181130184807

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	0.00135	-9.29	58.578	0.00044	0.00186	0.00174
____ AL	0.41360	13.03	67.777	0.09006	0.56681	0.58392
____ AS	0.00529	-0.16	61.888	0.00192	0.00846	0.00547
____ B	0.11625	375.65	2.405	0.11753	0.11817	0.11304
____ BA	0.11485	43,395.95	1.901	0.11651	0.11566	0.11237
____ BE	0.00052	85.86	12.213	0.00050	0.00059	0.00047
____ CA	31.30086	9,228.30	0.767	31.06896	31.28538	31.54823
____ CD	0.00161	0.57	4.777	0.00170	0.00159	0.00155
____ CO	0.02500	145.45	2.306	0.02530	0.02434	0.02537
____ CR	0.00071	6.80	78.584	0.00044	0.00136	0.00034
____ CU	-0.00004	-2.42	4118.695	0.00137	0.00060	-0.00210
____ FE	0.74175	73.49	2.757	0.76048	0.74483	0.71993
____ K	3.75388	694.52	2.168	3.82481	3.77179	3.66505
____ LI	0.00229	43.11	232.457	0.00830	0.00039	-0.00182
____ MG	17.50566	9,577.40	0.922	17.33925	17.51605	17.66169
____ MN	1.59416	89,058.09	1.804	1.62059	1.59836	1.56353
____ MO	-0.00013	-3.21	175.957	0.00013	-0.00028	-0.00023
____ NA	72.39182	40,563.20	0.994	71.59812	72.57588	73.00145
____ NI	0.00773	31.54	7.843	0.00714	0.00835	0.00770
____ P	-0.00030	2.35	624.303	-0.00115	0.00187	-0.00162
____ PB	0.00035	-3.60	189.422	0.00051	-0.00038	0.00091
____ S	16.67459	1,978.45	2.067	16.93430	16.28352	16.80596
____ SB	0.00152	4.11	123.287	-0.00035	0.00339	0.00152
____ SE	-0.00188	1.50	168.388	-0.00424	0.00171	-0.00310
____ SI	12.04080	805.08	0.596	11.95803	12.07920	12.08516
____ SN	0.00234	0.06	26.478	0.00214	0.00185	0.00304
____ SR	0.25382	98,072.92	1.735	0.25792	0.25439	0.24917
____ TH	0.12905	-0.90	26.741	0.08982	0.14263	0.15471
____ TI	0.01615	610.07	2.545	0.01636	0.01642	0.01568
____ TL	-0.00950	-1.84	38.251	-0.01196	-0.01122	-0.00533
____ V	0.00182	9.31	35.753	0.00140	0.00257	0.00149
____ W	0.00000	1.61	4758.865	-0.00089	0.00394	-0.00303
____ Y1	8621.22297	8,621.22	1.607	8574.27346	8777.17460	8512.22085
____ Y2A	161317.58216	161,317.58	1.882	159028.28001	160162.81914	164761.64733
____ Y2R	3063.22273	3,063.22	0.383	3073.80810	3050.63262	3065.22745
____ ZN	0.01497	130.56	1.769	0.01511	0.01466	0.01512
____ ZR	0.01615	-7.49	85.250	0.03171	0.01119	0.00555

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 17 Date/Time: 04/30/2018 11:47

Sample Number: **9570349** Class: R*** Batch: 181130184807

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	0.05109	736.97	3.226	0.04919	0.05201	0.05208
____ AL	3.23799	46.37	6.885	3.49260	3.14360	3.07775
____ AS	0.15351	37.80	1.491	0.15199	0.15239	0.15614
____ B	1.93954	7,126.65	1.984	1.89812	1.94631	1.97420
____ BA	2.06834	795,175.76	2.369	2.01202	2.10124	2.09177
____ BE	0.04855	21,417.80	2.902	0.04696	0.04904	0.04965
____ CA	36.43219	10,220.31	1.471	36.88342	35.83984	36.57329
____ CD	0.05003	750.76	1.326	0.04929	0.05056	0.05025
____ CO	0.51312	2,770.33	1.248	0.50573	0.51711	0.51652
____ CR	0.19497	2,124.90	3.121	0.18818	0.19678	0.19993
____ CU	0.25190	2,447.36	3.340	0.24310	0.25272	0.25987
____ FE	1.89131	175.28	2.487	1.93354	1.84061	1.89979
____ K	14.25410	2,499.82	1.802	14.47276	13.97116	14.31839
____ LI	0.99574	3,252.61	1.655	1.00835	0.97709	1.00177
____ MG	20.10522	10,467.58	1.344	20.35965	19.82170	20.13430
____ MN	2.08384	118,882.68	2.867	2.01653	2.10438	2.13059
____ MO	2.02621	1,556.82	1.246	1.99729	2.03738	2.04395
____ NA	84.72913	45,197.08	1.379	85.83012	83.50380	84.85347
____ NI	0.50250	1,538.69	1.215	0.49555	0.50700	0.50495
____ P	0.99327	305.10	1.209	0.97965	1.00237	0.99779
____ PB	0.14493	173.02	2.079	0.14245	0.14828	0.14406
____ S	17.64950	2,082.16	0.747	17.49775	17.71508	17.73566
____ SB	0.54468	224.34	1.639	0.53504	0.55267	0.54634
____ SE	0.13297	38.31	5.747	0.13493	0.12454	0.13944
____ SI	14.05155	895.47	1.158	14.18242	13.86933	14.10290
____ SN	3.90187	2,939.51	1.196	3.84826	3.93344	3.92390
____ SR	1.23595	486,477.94	1.475	1.21571	1.24110	1.25105
____ TH	0.14635	0.68	44.048	0.21346	0.14068	0.08491
____ TI	1.02696	36,432.90	2.836	0.99461	1.03516	1.05112
____ TL	0.13680	42.82	2.714	0.13276	0.13758	0.14007
____ V	0.52170	6,307.87	2.871	0.50472	0.52735	0.53303
____ W	-0.00456	1.97	109.227	-0.00133	-0.00205	-0.01029
____ Y1	8570.14322	8,570.14	1.946	8762.27305	8485.91186	8462.24474
____ Y2A	164825.01955	164,825.02	3.515	171479.43636	162100.55083	160895.07146
____ Y2R	2916.32875	2,916.33	1.056	2885.84164	2947.44403	2915.70058
____ ZN	0.50682	4,109.96	1.033	0.50098	0.51110	0.50837
____ ZR	0.90111	184.41	2.474	0.92288	0.87832	0.90215

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 18 Date/Time: 04/30/2018 11:50

Sample Number: **9570349** Class: M*** Batch: 181130184807

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	0.05199	720.70	6.042	0.04841	0.05332	0.05426
____ AL	2.93179	44.26	11.680	2.71388	3.32648	2.75502
____ AS	0.15412	37.82	1.039	0.15390	0.15582	0.15264
____ B	1.99466	7,054.18	2.146	1.94790	2.00415	2.03193
____ BA	2.13264	788,996.62	1.704	2.09310	2.14025	2.16456
____ BE	0.05002	21,240.82	2.144	0.04883	0.05030	0.05092
____ CA	36.17341	10,484.21	0.827	36.50755	36.08174	35.93096
____ CD	0.05078	758.79	0.800	0.05037	0.05078	0.05118
____ CO	0.51204	2,752.48	0.267	0.51138	0.51114	0.51362
____ CR	0.20164	2,115.06	2.586	0.19564	0.20418	0.20510
____ CU	0.25604	2,392.29	1.860	0.25140	0.25579	0.26092
____ FE	1.86703	178.79	1.571	1.90084	1.84847	1.85179
____ K	14.22942	2,578.30	0.557	14.31473	14.15817	14.21535
____ LI	0.99285	3,350.76	0.848	1.00022	0.99466	0.98367
____ MG	19.88462	10,696.09	0.718	20.04854	19.81849	19.78682
____ MN	2.11682	116,223.16	2.162	2.06588	2.13012	2.15446
____ MO	2.11095	1,614.66	1.307	2.08498	2.10794	2.13992
____ NA	83.99426	46,289.66	0.809	84.77909	83.58458	83.61911
____ NI	0.50500	1,539.30	0.522	0.50374	0.50322	0.50803
____ P	0.99734	304.96	0.288	0.99723	0.99452	1.00026
____ PB	0.14676	174.18	0.797	0.14688	0.14786	0.14553
____ S	17.66133	2,074.04	0.388	17.58919	17.66915	17.72565
____ SB	0.54345	222.79	1.169	0.54211	0.53787	0.55037
____ SE	0.13982	39.98	3.870	0.14011	0.13426	0.14507
____ SI	13.88316	914.17	0.171	13.90952	13.87664	13.86334
____ SN	3.90295	2,927.03	0.375	3.89367	3.89534	3.91983
____ SR	1.26232	478,032.36	1.875	1.24305	1.25516	1.28874
____ TH	0.14393	0.58	33.056	0.09009	0.18033	0.16137
____ TI	1.06370	36,315.32	2.082	1.03924	1.06950	1.08237
____ TL	0.13874	43.21	3.686	0.13403	0.14418	0.13801
____ V	0.53792	6,255.51	2.030	0.52589	0.54067	0.54721
____ W	-0.00373	2.28	76.319	-0.00520	-0.00045	-0.00553
____ Y1	8530.25936	8,530.26	0.795	8588.22878	8546.81587	8455.73343
____ Y2A	158561.85382	158,561.85	1.783	161736.08414	157634.05416	156315.42315
____ Y2R	3012.79923	3,012.80	0.846	2985.33417	3017.34342	3035.72011
____ ZN	0.51555	4,161.29	0.552	0.51329	0.51461	0.51875
____ ZR	0.89537	189.22	2.161	0.91607	0.87775	0.89230

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 19 Date/Time: 04/30/2018 11:54

Sample Number: **9570349** Class: UL** Batch: 181130184807

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	0.00219	-0.47	32.262	0.00170	0.00299	0.00186
____ AL	-0.07728	6.67	172.335	0.04461	-0.21943	-0.05701
____ AS	0.00332	-0.60	71.930	0.00060	0.00505	0.00433
____ B	0.02918	98.57	0.876	0.02947	0.02901	0.02906
____ BA	0.02396	8,949.81	0.339	0.02405	0.02389	0.02394
____ BE	0.00043	46.35	4.929	0.00044	0.00041	0.00045
____ CA	6.40543	1,803.90	1.724	6.31936	6.36696	6.52997
____ CD	0.00120	-6.35	8.222	0.00110	0.00121	0.00129
____ CO	0.00518	37.34	3.257	0.00533	0.00521	0.00499
____ CR	-0.00096	-10.72	41.639	-0.00058	-0.00138	-0.00092
____ CU	-0.00304	-20.33	94.634	0.00028	-0.00478	-0.00462
____ FE	0.14852	15.53	3.275	0.14316	0.14975	0.15265
____ K	0.77614	139.28	3.913	0.78121	0.74355	0.80365
____ LI	0.00041	33.43	1236.331	0.00526	-0.00493	0.00091
____ MG	3.60642	1,877.43	1.207	3.57560	3.58745	3.65622
____ MN	0.33137	18,024.47	0.511	0.33309	0.32971	0.33131
____ MO	0.00162	-1.67	70.418	0.00288	0.00136	0.00064
____ NA	14.82669	7,879.86	1.994	14.61434	14.70132	15.16441
____ NI	0.00172	12.78	24.882	0.00185	0.00208	0.00125
____ P	-0.00004	2.34	4043.209	0.00182	-0.00114	-0.00080
____ PB	0.00141	-2.46	37.746	0.00109	0.00202	0.00111
____ S	3.34592	387.00	0.582	3.36215	3.35129	3.32432
____ SB	-0.00034	3.53	1304.964	-0.00301	0.00473	-0.00273
____ SE	-0.00241	0.31	325.882	-0.01040	0.00530	-0.00213
____ SI	2.43637	155.85	0.645	2.41961	2.43870	2.45079
____ SN	0.00316	0.66	33.014	0.00383	0.00370	0.00196
____ SR	0.05309	19,736.03	0.544	0.05337	0.05279	0.05311
____ TH	0.14888	0.28	21.011	0.11593	0.15253	0.17817
____ TI	0.00379	176.46	3.713	0.00394	0.00378	0.00366
____ TL	-0.00460	0.21	37.713	-0.00615	-0.00272	-0.00493
____ V	0.00033	-9.54	64.855	0.00031	0.00056	0.00013
____ W	0.00071	1.75	389.069	0.00143	-0.00235	0.00306
____ Y1	8368.32234	8,368.32	0.705	8329.54000	8339.25037	8436.17664
____ Y2A	156871.93945	156,871.94	0.411	156798.20579	157550.70907	156266.90349
____ Y2R	2907.90152	2,907.90	0.682	2909.08636	2927.12727	2887.49091
____ ZN	0.00330	34.51	6.389	0.00334	0.00349	0.00308
____ ZR	0.01506	-7.07	151.175	0.04135	0.00176	0.00207

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 20 Date/Time: 04/30/2018 11:57

Sample Number: **9570341** Class: **** Batch: 181130184807

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	0.00216	-10.83	29.838	0.00157	0.00284	0.00206
____ AL	10.01399	128.49	3.828	10.04458	9.61631	10.38108
____ AS	0.00466	-0.87	82.078	0.00870	0.00109	0.00420
____ B	0.07683	241.68	2.785	0.07769	0.07841	0.07440
____ BA	0.39310	143,948.30	2.331	0.39541	0.40089	0.38301
____ BE	0.00078	191.29	3.461	0.00077	0.00080	0.00075
____ CA	64.20803	18,500.25	1.527	64.81614	63.07709	64.73086
____ CD	0.00159	11.89	6.035	0.00169	0.00156	0.00150
____ CO	0.00863	55.99	8.827	0.00805	0.00949	0.00834
____ CR	0.01007	103.83	5.062	0.01065	0.00968	0.00989
____ CU	0.02389	112.69	5.975	0.02226	0.02445	0.02494
____ FE	10.55321	995.02	2.278	10.64737	10.27998	10.73228
____ K	9.71359	1,754.52	1.887	9.76053	9.51135	9.86889
____ LI	0.00500	53.23	106.099	0.00448	0.01053	-0.00003
____ MG	45.43276	24,264.45	1.346	45.67044	44.73800	45.88983
____ MN	0.52420	28,483.84	1.962	0.52524	0.53392	0.51343
____ MO	0.00303	-0.90	34.900	0.00212	0.00419	0.00278
____ NA	458.61778	251,819.28	1.535	461.83459	450.54231	463.47644
____ NI	0.00888	32.54	3.207	0.00882	0.00919	0.00862
____ P	0.15500	47.85	2.358	0.15113	0.15839	0.15548
____ PB	0.02038	25.23	14.803	0.02148	0.02270	0.01697
____ S	18.25285	2,074.49	0.849	18.34944	18.07408	18.33503
____ SB	0.00077	3.37	746.213	0.00732	-0.00359	-0.00140
____ SE	-0.00772	0.79	46.628	-0.01130	-0.00411	-0.00774
____ SI	14.38729	942.23	1.043	14.42569	14.22180	14.51439
____ SN	0.00489	1.91	33.032	0.00382	0.00675	0.00410
____ SR	0.43295	163,028.03	2.121	0.43388	0.44163	0.42334
____ TH	0.15232	1.16	24.140	0.19467	0.12854	0.13375
____ TI	0.14014	4,773.38	2.112	0.14023	0.14305	0.13713
____ TL	0.00333	2.45	80.675	0.00042	0.00572	0.00385
____ V	0.01439	164.72	3.094	0.01440	0.01483	0.01394
____ W	-0.00060	1.66	54.581	-0.00078	-0.00080	-0.00022
____ Y1	8259.74578	8,259.75	0.370	8224.50964	8275.35749	8279.37021
____ Y2A	156819.67831	156,819.68	1.606	156891.83636	154266.42979	159300.76877
____ Y2R	3001.54540	3,001.55	1.182	2978.61869	3042.41424	2983.60328
____ ZN	0.09094	720.10	0.354	0.09123	0.09059	0.09099
____ ZR	0.01712	-6.93	10.563	0.01892	0.01715	0.01530

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 21 Date/Time: 04/30/2018 12:00

Sample Number: **9570342** Class: **** Batch: 181130184807

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	0.00183	-12.59	36.314	0.00133	0.00157	0.00258
____ AL	-0.23004	4.90	56.703	-0.13470	-0.37869	-0.17673
____ AS	0.00238	-0.91	167.242	-0.00048	0.00691	0.00070
____ B	0.04272	148.63	0.190	0.04264	0.04280	0.04274
____ BA	0.34700	126,386.31	0.459	0.34860	0.34698	0.34542
____ BE	0.00044	50.13	1.691	0.00044	0.00044	0.00045
____ CA	63.95148	17,747.47	7.219	68.46346	59.23690	64.15406
____ CD	0.00153	0.03	5.726	0.00152	0.00162	0.00144
____ CO	0.00580	39.88	5.892	0.00567	0.00619	0.00554
____ CR	-0.00126	-13.78	39.777	-0.00148	-0.00161	-0.00069
____ CU	-0.00218	5.13	96.209	-0.00160	-0.00450	-0.00044
____ FE	1.29546	119.68	6.260	1.36246	1.20531	1.31862
____ K	9.17364	1,596.09	7.317	9.80447	8.46821	9.24823
____ LI	0.00166	40.69	286.550	-0.00324	0.00196	0.00627
____ MG	45.03956	23,168.91	7.163	48.18828	41.74153	45.18888
____ MN	0.47742	25,797.27	0.307	0.47573	0.47837	0.47816
____ MO	0.00059	-2.68	391.307	-0.00054	-0.00094	0.00325
____ NA	459.04139	242,770.66	7.100	490.89823	425.75675	460.46918
____ NI	0.00313	16.53	9.102	0.00282	0.00339	0.00317
____ P	0.00420	3.54	11.770	0.00474	0.00378	0.00407
____ PB	-0.00106	-5.42	133.375	-0.00252	0.00029	-0.00094
____ S	18.12242	2,049.24	1.604	18.22217	18.35011	17.79497
____ SB	-0.00029	2.49	588.274	-0.00223	0.00090	0.00047
____ SE	-0.01441	-0.97	8.442	-0.01345	-0.01578	-0.01399
____ SI	2.37537	151.01	8.727	2.57074	2.15790	2.39746
____ SN	0.00241	0.11	72.381	0.00072	0.00421	0.00230
____ SR	0.43123	161,480.46	0.446	0.43290	0.43167	0.42913
____ TH	0.19757	3.29	24.030	0.18420	0.25030	0.15821
____ TI	0.00432	193.02	3.725	0.00430	0.00416	0.00448
____ TL	-0.00302	0.60	57.205	-0.00430	-0.00105	-0.00372
____ V	-0.00065	-20.65	142.911	0.00034	-0.00150	-0.00079
____ W	0.00120	2.02	171.663	0.00358	-0.00017	0.00020
____ Y1	8218.94396	8,218.94	1.107	8201.20069	8138.15078	8317.48042
____ Y2A	155912.72458	155,912.72	0.977	156712.85367	156868.72767	154156.59241
____ Y2R	2896.67937	2,896.68	4.429	2784.73799	3036.68293	2868.61719
____ ZN	0.03672	292.40	0.703	0.03693	0.03679	0.03643
____ ZR	0.01432	-6.53	10.877	0.01252	0.01532	0.01511

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 22 Date/Time: 04/30/2018 12:03

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.51677	6,527.04	0.614	0.51750	0.51330	0.51952
____ AL	27.14663	323.01	1.237	26.83950	27.09518	27.50520
____ AS	0.52326	123.92	2.631	0.51475	0.53914	0.51587
____ B	0.56525	1,938.65	0.742	0.57009	0.56267	0.56299
____ BA	0.52389	191,797.20	0.576	0.52618	0.52047	0.52502
____ BE	0.48939	206,654.22	0.593	0.49056	0.48608	0.49152
____ CA	25.82412	7,172.12	1.221	25.46530	26.05758	25.94947
____ CD	0.51496	7,721.14	2.125	0.50912	0.52758	0.50817
____ CO	0.50963	2,652.96	2.373	0.50275	0.52359	0.50254
____ CR	0.50539	5,242.35	0.625	0.50574	0.50208	0.50836
____ CU	0.55004	5,012.07	0.681	0.55400	0.54655	0.54955
____ FE	26.39811	2,378.63	1.650	25.90214	26.71779	26.57440
____ K	25.55548	4,429.50	1.037	25.28492	25.81443	25.56709
____ LI	0.50732	1,654.69	1.758	0.49784	0.51555	0.50858
____ MG	25.88484	13,318.07	1.304	25.49509	26.08175	26.07767
____ MN	0.50422	27,370.78	0.626	0.50601	0.50057	0.50607
____ MO	0.56076	414.03	2.871	0.55320	0.57925	0.54984
____ NA	26.05888	13,741.26	1.528	25.64017	26.43255	26.10391
____ NI	0.51905	1,532.42	2.332	0.51230	0.53302	0.51183
____ P	0.51701	154.89	2.000	0.51373	0.52859	0.50870
____ PB	0.50909	617.44	2.660	0.49900	0.52448	0.50379
____ S	27.43835	3,117.98	2.184	27.06244	28.12949	27.12310
____ SB	0.50674	237.49	1.144	0.50357	0.51343	0.50321
____ SE	0.50042	134.95	2.805	0.48796	0.51562	0.49768
____ SI	26.56114	1,674.30	0.792	26.35388	26.55507	26.77445
____ SN	0.50606	366.95	2.033	0.50138	0.51786	0.49894
____ SR	0.52285	195,797.10	0.951	0.52848	0.52098	0.51908
____ TH	0.52959	24.49	7.156	0.48895	0.53584	0.56397
____ TI	0.53456	18,098.08	0.561	0.53666	0.53113	0.53590
____ TL	0.52030	154.20	2.480	0.51895	0.53383	0.50813
____ V	0.51645	6,245.04	0.432	0.51822	0.51394	0.51719
____ W	0.55195	197.59	2.914	0.55084	0.56856	0.53644
____ Y1	8279.51237	8,279.51	2.055	8352.84840	8085.02989	8400.65883
____ Y2A	156719.61049	156,719.61	0.251	156266.57631	156972.18697	156920.06818
____ Y2R	2884.15471	2,884.15	1.747	2910.80848	2826.05505	2915.60059
____ ZN	0.52810	4,153.07	2.241	0.52112	0.54177	0.52142
____ ZR	0.50432	102.48	2.740	0.51539	0.48883	0.50875

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 23 Date/Time: 04/30/2018 12:06

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00206	-3.67	32.284	0.00236	0.00130	0.00253
____ AL	-0.23463	4.97	31.790	-0.17057	-0.31652	-0.21682
____ AS	0.00062	-1.25	113.907	0.00138	0.00050	-0.00002
____ B	0.00150	11.58	21.203	0.00114	0.00172	0.00165
____ BA	-0.00001	181.61	244.750	-0.00003	-0.00001	0.00002
____ BE	0.00046	58.88	9.617	0.00045	0.00042	0.00050
____ CA	0.04164	23.30	187.252	-0.00870	0.13145	0.00217
____ CD	0.00115	-7.26	10.367	0.00110	0.00129	0.00106
____ CO	-0.00011	9.61	90.791	-0.00017	0.00001	-0.00018
____ CR	-0.00070	-8.31	93.182	-0.00143	-0.00051	-0.00016
____ CU	-0.00330	-21.56	20.281	-0.00255	-0.00350	-0.00385
____ FE	-0.00472	1.57	229.550	-0.01189	0.00774	-0.01001
____ K	-0.01674	0.82	815.232	-0.16018	0.11146	-0.00149
____ LI	-0.00172	26.90	83.642	-0.00222	-0.00285	-0.00010
____ MG	0.03156	18.47	202.360	-0.00117	0.10515	-0.00930
____ MN	0.00005	27.43	187.932	-0.00004	0.00004	0.00016
____ MO	0.00046	-2.51	137.858	0.00057	0.00102	-0.00022
____ NA	0.31148	162.75	117.203	0.09209	0.73289	0.10945
____ NI	0.00004	7.78	498.764	0.00001	-0.00015	0.00026
____ P	0.00098	2.65	221.513	0.00036	-0.00081	0.00339
____ PB	-0.00107	-5.53	189.758	-0.00164	0.00119	-0.00276
____ S	0.00647	2.74	120.910	0.01372	-0.00182	0.00751
____ SB	-0.00199	2.88	42.164	-0.00108	-0.00217	-0.00273
____ SE	0.00331	1.54	190.337	0.00882	0.00464	-0.00355
____ SI	-0.00316	1.33	1225.330	-0.03439	0.04015	-0.01524
____ SN	0.00220	-0.05	26.843	0.00264	0.00243	0.00153
____ SR	0.00021	-194.32	27.095	0.00015	0.00022	0.00026
____ TH	0.15147	0.42	21.643	0.12236	0.14506	0.18698
____ TI	-0.00007	47.76	148.055	-0.00008	-0.00016	0.00004
____ TL	-0.00010	1.67	4278.396	0.00348	0.00074	-0.00450
____ V	0.00015	-11.84	177.394	-0.00002	0.00046	0.00001
____ W	-0.00306	0.40	34.672	-0.00197	-0.00409	-0.00311
____ Y1	8354.54100	8,354.54	0.659	8315.92636	8330.16021	8417.53642
____ Y2A	161412.56564	161,412.57	0.383	162115.13182	160950.42764	161172.13746
____ Y2R	2986.18939	2,986.19	1.390	3016.28182	3003.45000	2938.83636
____ ZN	-0.00024	6.50	88.920	0.00001	-0.00036	-0.00037
____ ZR	0.00025	-10.50	2121.731	-0.00370	0.00631	-0.00186

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 24 Date/Time: 04/30/2018 12:10

Sample Number: **9570347** Class: **** Batch: 181130184807

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	0.00174	-3.95	37.339	0.00182	0.00105	0.00234
____ AL	-0.10574	6.33	94.381	-0.11480	-0.00172	-0.20071
____ AS	-0.00164	-1.93	136.437	-0.00397	0.00050	-0.00146
____ B	0.06698	203.20	0.636	0.06732	0.06712	0.06650
____ BA	0.13837	52,950.71	1.010	0.13879	0.13950	0.13681
____ BE	0.00048	67.57	4.981	0.00049	0.00048	0.00045
____ CA	43.93866	12,370.55	3.139	43.56121	45.46744	42.78733
____ CD	0.00141	-2.37	8.952	0.00154	0.00128	0.00140
____ CO	0.00938	61.33	2.419	0.00963	0.00920	0.00931
____ CR	-0.00084	-9.88	103.887	-0.00029	-0.00038	-0.00184
____ CU	-0.00068	-9.24	202.790	-0.00048	-0.00213	0.00059
____ FE	0.87091	82.13	4.068	0.86855	0.90745	0.83671
____ K	5.17764	914.69	1.072	5.11787	5.22761	5.18745
____ LI	0.00268	43.40	157.726	0.00412	-0.00208	0.00599
____ MG	18.91896	9,893.24	3.029	18.74887	19.55781	18.45021
____ MN	1.30626	73,968.96	0.451	1.31060	1.30863	1.29956
____ MO	-0.00015	-3.30	386.702	0.00038	-0.00007	-0.00075
____ NA	61.45928	32,921.22	2.974	61.04450	63.45897	59.87437
____ NI	0.01310	48.09	5.377	0.01347	0.01354	0.01228
____ P	-0.00333	1.41	35.182	-0.00240	-0.00295	-0.00465
____ PB	-0.00130	-5.92	100.402	-0.00013	-0.00105	-0.00270
____ S	14.64857	1,743.70	0.528	14.60281	14.60500	14.73789
____ SB	-0.00200	2.17	205.505	0.00260	-0.00330	-0.00530
____ SE	-0.00834	0.11	48.749	-0.01295	-0.00527	-0.00679
____ SI	11.36542	726.59	3.057	11.30817	11.73791	11.05019
____ SN	0.00227	0.01	40.713	0.00179	0.00168	0.00334
____ SR	0.32214	126,318.54	0.760	0.32303	0.32402	0.31937
____ TH	0.12439	-1.13	3.693	0.12154	0.12969	0.12195
____ TI	0.00570	251.01	2.506	0.00586	0.00563	0.00561
____ TL	-0.00810	-1.29	50.009	-0.01182	-0.00868	-0.00379
____ V	0.00061	-6.32	75.601	0.00109	0.00056	0.00018
____ W	0.00282	2.59	33.209	0.00302	0.00180	0.00365
____ Y1	8646.19597	8,646.20	0.360	8681.43391	8634.62732	8622.52668
____ Y2A	163471.02060	163,471.02	0.583	163400.17399	162555.18251	164457.70530
____ Y2R	2929.88456	2,929.88	2.517	2949.59568	2848.29772	2991.76029
____ ZN	0.00550	54.44	4.263	0.00559	0.00567	0.00523
____ ZR	0.01358	-7.73	153.428	0.03069	-0.00962	0.01966

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 25 Date/Time: 04/30/2018 12:13

Sample Number: **9570348** Class: **** Batch: 181130184807

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	0.00148	-8.42	24.442	0.00135	0.00188	0.00120
____ AL	0.04475	8.60	528.195	0.27612	0.05443	-0.19631
____ AS	0.00387	-0.52	55.790	0.00523	0.00500	0.00138
____ B	0.06464	200.45	1.553	0.06571	0.06448	0.06372
____ BA	0.13393	52,240.20	0.231	0.13404	0.13417	0.13358
____ BE	0.00046	63.41	5.725	0.00049	0.00046	0.00044
____ CA	42.83381	12,780.59	2.374	43.98713	42.06731	42.44699
____ CD	0.00143	-2.12	3.892	0.00139	0.00141	0.00149
____ CO	0.00908	59.19	3.141	0.00886	0.00898	0.00941
____ CR	-0.00101	-11.89	46.428	-0.00085	-0.00153	-0.00063
____ CU	-0.00113	-9.72	80.742	-0.00174	-0.00157	-0.00008
____ FE	0.81711	81.76	5.856	0.86608	0.77046	0.81478
____ K	5.02682	940.90	1.278	5.09446	4.96666	5.01935
____ LI	0.00279	46.05	118.114	0.00120	0.00059	0.00658
____ MG	18.44759	10,223.17	2.347	18.93723	18.11553	18.29000
____ MN	1.25150	72,221.07	0.509	1.24941	1.25866	1.24644
____ MO	0.00009	-3.08	1971.194	0.00114	0.00096	-0.00184
____ NA	59.99708	34,055.80	2.299	61.55271	58.92203	59.51651
____ NI	0.01326	48.18	4.184	0.01339	0.01265	0.01373
____ P	-0.00576	0.66	19.681	-0.00703	-0.00540	-0.00485
____ PB	0.00033	-3.76	416.927	0.00190	-0.00016	-0.00074
____ S	14.45587	1,706.29	1.474	14.30791	14.35954	14.70017
____ SB	0.00288	4.49	61.780	0.00267	0.00121	0.00475
____ SE	-0.00184	1.81	92.267	0.00011	-0.00299	-0.00264
____ SI	10.89407	738.06	2.337	11.18788	10.73994	10.75439
____ SN	0.00266	0.30	29.666	0.00342	0.00185	0.00270
____ SR	0.31218	124,749.49	0.042	0.31224	0.31227	0.31203
____ TH	0.13331	-0.63	9.868	0.14151	0.14028	0.11813
____ TI	0.00342	174.17	4.924	0.00355	0.00349	0.00323
____ TL	-0.00715	-0.97	14.989	-0.00792	-0.00593	-0.00761
____ V	0.00019	-11.85	137.588	0.00025	0.00042	-0.00009
____ W	-0.00375	0.17	79.139	-0.00649	-0.00416	-0.00060
____ Y1	8574.13713	8,574.14	1.388	8698.91276	8561.67118	8461.82745
____ Y2A	166589.44609	166,589.45	0.435	166102.98862	166242.99511	167422.35455
____ Y2R	3104.06692	3,104.07	1.920	3044.30092	3163.51501	3104.38483
____ ZN	0.00553	54.21	2.143	0.00544	0.00549	0.00567
____ ZR	0.01712	-7.33	84.673	0.03285	0.01423	0.00429

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 26 Date/Time: 04/30/2018 12:16

Sample Number: **9570350** Class: **** Batch: 181130184807

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	0.00231	-3.20	18.539	0.00277	0.00221	0.00194
____ AL	-0.18631	5.68	38.347	-0.24178	-0.21145	-0.10569
____ AS	0.00251	-0.82	102.835	0.00177	0.00538	0.00038
____ B	0.11479	374.33	1.013	0.11358	0.11589	0.11489
____ BA	0.11209	42,823.57	0.368	0.11163	0.11242	0.11222
____ BE	0.00046	58.87	3.078	0.00047	0.00044	0.00045
____ CA	30.93614	9,060.34	0.787	31.19481	30.71158	30.90204
____ CD	0.00171	1.16	7.672	0.00168	0.00159	0.00185
____ CO	0.02408	140.49	1.941	0.02437	0.02354	0.02433
____ CR	-0.00095	-10.99	25.158	-0.00072	-0.00120	-0.00092
____ CU	-0.00334	-6.75	7.956	-0.00304	-0.00355	-0.00342
____ FE	0.06916	8.66	9.819	0.07682	0.06680	0.06387
____ K	3.71876	683.31	4.007	3.80243	3.54672	3.80714
____ LI	-0.00224	27.52	104.030	-0.00007	-0.00193	-0.00470
____ MG	17.41305	9,463.34	0.823	17.52937	17.25287	17.45690
____ MN	1.55508	87,826.91	0.518	1.54698	1.56308	1.55517
____ MO	-0.00003	-3.14	4788.901	0.00049	-0.00167	0.00109
____ NA	72.65780	40,441.98	0.534	73.06630	72.29421	72.61288
____ NI	0.00752	30.97	7.681	0.00710	0.00727	0.00818
____ P	-0.00613	0.55	31.345	-0.00490	-0.00834	-0.00514
____ PB	0.00068	-3.48	248.978	-0.00127	0.00161	0.00169
____ S	16.82144	1,997.57	1.468	16.79287	16.59004	17.08142
____ SB	-0.00223	2.24	153.973	0.00030	-0.00613	-0.00085
____ SE	-0.00067	1.81	694.973	0.00116	0.00278	-0.00594
____ SI	11.66602	774.85	1.135	11.81307	11.55628	11.62871
____ SN	0.00359	1.00	35.855	0.00500	0.00327	0.00249
____ SR	0.25430	99,328.04	0.450	0.25336	0.25558	0.25397
____ TH	0.17401	1.85	6.086	0.18472	0.17376	0.16355
____ TI	0.00303	156.92	3.327	0.00309	0.00309	0.00292
____ TL	-0.00854	-1.52	34.973	-0.00934	-0.00524	-0.01105
____ V	0.00016	-11.46	395.832	-0.00052	0.00072	0.00028
____ W	0.00000	1.57	3628.364	0.00193	-0.00368	0.00176
____ Y1	8627.85883	8,627.86	1.328	8542.72101	8758.16874	8582.68675
____ Y2A	163055.43892	163,055.44	0.587	164154.21040	162409.84046	162602.26591
____ Y2R	3042.94261	3,042.94	1.032	3020.35163	3078.81481	3029.66140
____ ZN	0.01303	114.55	0.573	0.01296	0.01303	0.01311
____ ZR	0.00495	-9.33	165.833	0.00881	-0.00448	0.01053

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 27 Date/Time: 04/30/2018 12:20

Sample Number: **9570352** Class: **** Batch: 181130184807

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	0.00137	-12.23	17.007	0.00114	0.00161	0.00137
____ AL	-0.20985	5.38	143.844	0.13864	-0.37803	-0.39017
____ AS	-0.00006	-1.51	9915.646	-0.00538	-0.00086	0.00607
____ B	0.00232	13.81	33.373	0.00312	0.00226	0.00157
____ BA	0.00064	444.39	3.821	0.00063	0.00061	0.00066
____ BE	0.00043	48.99	4.267	0.00042	0.00045	0.00042
____ CA	0.09582	39.60	9.078	0.09388	0.10532	0.08825
____ CD	0.00126	-5.95	8.543	0.00129	0.00114	0.00135
____ CO	-0.00054	7.83	32.944	-0.00070	-0.00035	-0.00056
____ CR	-0.00058	-7.24	85.250	-0.00114	-0.00027	-0.00031
____ CU	0.00411	53.72	59.735	0.00357	0.00197	0.00679
____ FE	0.00034	2.08	1970.042	-0.00108	-0.00561	0.00772
____ K	0.02130	7.82	230.983	0.01763	0.07223	-0.02596
____ LI	0.00149	38.40	202.103	0.00316	-0.00199	0.00331
____ MG	0.02188	13.43	7.017	0.02240	0.02015	0.02309
____ MN	0.00090	77.54	8.340	0.00089	0.00084	0.00099
____ MO	0.00065	-2.50	25.365	0.00048	0.00065	0.00081
____ NA	0.39722	213.24	1.340	0.40192	0.39144	0.39829
____ NI	-0.00040	6.85	76.094	-0.00019	-0.00075	-0.00026
____ P	0.00010	2.53	1172.536	0.00021	-0.00111	0.00120
____ PB	-0.00025	-4.78	187.209	-0.00055	-0.00047	0.00029
____ S	0.00509	2.69	59.159	0.00851	0.00287	0.00388
____ SB	-0.00351	2.30	87.130	-0.00365	-0.00649	-0.00038
____ SE	0.00025	0.81	1323.718	0.00341	-0.00310	0.00042
____ SI	0.26312	19.06	3.789	0.25168	0.26994	0.26774
____ SN	0.00153	-0.57	24.910	0.00110	0.00165	0.00183
____ SR	0.00034	-147.49	6.267	0.00032	0.00036	0.00035
____ TH	0.15531	0.68	20.050	0.14415	0.19050	0.13129
____ TI	0.00003	52.85	241.395	0.00005	-0.00005	0.00008
____ TL	-0.00132	1.40	222.173	0.00164	-0.00422	-0.00138
____ V	0.00010	-13.01	117.667	0.00001	0.00006	0.00023
____ W	0.00220	2.39	160.716	-0.00058	0.00100	0.00616
____ Y1	8853.10527	8,853.11	1.079	8930.78678	8882.05964	8746.46939
____ Y2A	167488.02175	167,488.02	2.841	170028.11649	170436.62055	161999.32821
____ Y2R	3047.14242	3,047.14	0.615	3055.56818	3025.67727	3060.18182
____ ZN	0.00099	17.13	16.424	0.00101	0.00081	0.00114
____ ZR	0.01673	-6.93	21.117	0.01878	0.01265	0.01875

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 28 Date/Time: 04/30/2018 12:23

Sample Number: **9570355** Class: **** Batch: 181130184807

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	0.00237	-1.28	16.046	0.00257	0.00193	0.00260
____ AL	0.00275	7.80	4584.603	0.14652	-0.05095	-0.08734
____ AS	0.00030	-1.35	193.978	0.00096	-0.00017	0.00012
____ B	0.19702	694.11	0.947	0.19520	0.19694	0.19893
____ BA	0.08712	33,086.50	0.370	0.08676	0.08722	0.08738
____ BE	0.00042	44.25	0.999	0.00042	0.00043	0.00043
____ CA	93.41599	26,762.01	4.731	97.63536	93.79169	88.82091
____ CD	0.00134	-4.30	9.551	0.00148	0.00130	0.00123
____ CO	0.00102	15.80	20.341	0.00079	0.00108	0.00119
____ CR	0.00066	6.31	50.830	0.00058	0.00103	0.00038
____ CU	-0.00332	1.58	30.952	-0.00437	-0.00328	-0.00231
____ FE	0.18141	18.98	29.657	0.18051	0.23566	0.12807
____ K	11.07479	1,992.63	4.095	11.48271	11.15519	10.58646
____ LI	-0.00001	37.83	7032.528	0.00353	-0.00338	-0.00019
____ MG	34.49151	18,376.19	4.634	35.93307	34.76896	32.77250
____ MN	0.07892	4,447.84	0.496	0.07900	0.07925	0.07849
____ MO	0.00303	-1.08	31.738	0.00259	0.00237	0.00414
____ NA	54.81976	29,980.02	4.464	57.09379	55.13530	52.23020
____ NI	0.00149	12.23	13.491	0.00145	0.00171	0.00131
____ P	0.00885	5.05	37.779	0.01254	0.00605	0.00794
____ PB	-0.00246	-7.17	43.227	-0.00123	-0.00314	-0.00299
____ S	38.20424	4,448.15	0.184	38.27629	38.13584	38.20059
____ SB	0.00480	4.42	58.985	0.00223	0.00784	0.00433
____ SE	-0.01292	0.31	64.220	-0.02108	-0.00449	-0.01321
____ SI	6.51193	425.61	5.224	6.86387	6.48708	6.18485
____ SN	0.00191	-0.27	55.278	0.00113	0.00149	0.00311
____ SR	0.62562	243,380.84	0.646	0.63028	0.62319	0.62338
____ TH	0.16357	1.11	20.342	0.20035	0.15479	0.13556
____ TI	0.00792	325.78	1.950	0.00774	0.00801	0.00800
____ TL	0.00358	2.77	42.726	0.00395	0.00489	0.00190
____ V	0.00057	-6.89	77.286	0.00104	0.00051	0.00016
____ W	0.00410	3.01	114.386	0.00774	0.00577	-0.00120
____ Y1	8467.61390	8,467.61	0.690	8527.48522	8464.54781	8410.80868
____ Y2A	161888.33357	161,888.33	0.264	161843.55411	161485.71105	162335.73555
____ Y2R	2995.06334	2,995.06	5.822	2834.99048	2969.30390	3180.89564
____ ZN	0.00538	51.43	5.245	0.00519	0.00524	0.00570
____ ZR	0.00239	-9.81	431.958	-0.00689	0.00056	0.01349

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 29 Date/Time: 04/30/2018 12:26

Sample Number: **9570356** Class: **** Batch: 181130184807

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	0.00166	-10.66	67.661	0.00067	0.00143	0.00288
____ AL	-0.00585	7.55	1401.739	0.00457	-0.09262	0.07048
____ AS	0.00561	-0.03	20.087	0.00662	0.00582	0.00439
____ B	0.19583	694.08	1.890	0.19997	0.19286	0.19465
____ BA	0.08730	33,373.65	1.979	0.08926	0.08599	0.08665
____ BE	0.00042	41.81	5.272	0.00039	0.00043	0.00043
____ CA	94.65473	26,450.54	1.137	94.35788	95.84817	93.75814
____ CD	0.00136	-4.19	3.420	0.00131	0.00139	0.00138
____ CO	0.00086	14.93	27.011	0.00104	0.00095	0.00060
____ CR	0.00011	0.47	741.852	-0.00067	0.00096	0.00004
____ CU	-0.00307	6.58	76.572	-0.00175	-0.00577	-0.00167
____ FE	-0.01765	0.33	99.859	-0.01327	-0.00263	-0.03706
____ K	11.31887	1,986.20	0.343	11.27456	11.34675	11.33529
____ LI	-0.00104	33.86	490.100	-0.00228	-0.00539	0.00456
____ MG	34.66576	18,015.68	0.985	34.52801	35.05460	34.41468
____ MN	0.08006	4,542.15	1.183	0.08096	0.07907	0.08014
____ MO	0.00348	-0.74	14.925	0.00407	0.00326	0.00310
____ NA	56.03763	29,892.70	1.063	55.93452	56.67827	55.50011
____ NI	0.00092	10.51	62.397	0.00153	0.00039	0.00083
____ P	0.00553	4.05	5.331	0.00583	0.00525	0.00550
____ PB	-0.00142	-5.90	112.767	-0.00104	-0.00317	-0.00004
____ S	39.06116	4,544.52	1.610	39.15726	39.63627	38.38995
____ SB	0.00394	3.98	34.266	0.00391	0.00530	0.00260
____ SE	-0.02249	-2.21	5.041	-0.02270	-0.02126	-0.02349
____ SI	6.44896	411.24	1.384	6.39790	6.55199	6.39699
____ SN	0.00251	0.18	15.882	0.00292	0.00213	0.00247
____ SR	0.63513	248,716.94	1.938	0.64661	0.62214	0.63664
____ TH	0.16246	1.07	16.166	0.13939	0.19104	0.15695
____ TI	0.00460	211.87	4.802	0.00471	0.00475	0.00435
____ TL	-0.00192	1.12	224.386	0.00187	-0.00102	-0.00659
____ V	0.00027	-10.84	250.386	-0.00023	0.00104	0.00000
____ W	0.00396	2.94	52.152	0.00626	0.00332	0.00228
____ Y1	8461.96463	8,461.96	0.596	8453.04619	8416.58791	8516.25977
____ Y2A	162984.18690	162,984.19	1.184	161368.35155	165119.92021	162464.28895
____ Y2R	2916.54697	2,916.55	0.970	2932.27590	2883.88231	2933.48270
____ ZN	0.00480	46.67	2.530	0.00485	0.00466	0.00489
____ ZR	-0.00077	-10.34	1712.628	-0.00889	0.01453	-0.00796

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 30 Date/Time: 04/30/2018 12:30

Sample Number: **9570357** Class: **** Batch: 181130184807

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	0.00132	-10.19	40.847	0.00166	0.00161	0.00070
____ AL	-0.04425	7.18	477.803	-0.15535	-0.17694	0.19955
____ AS	0.00084	-1.22	392.195	-0.00201	0.00006	0.00447
____ B	0.21024	721.14	1.087	0.21287	0.20884	0.20900
____ BA	0.07338	27,061.29	0.926	0.07411	0.07328	0.07276
____ BE	0.00042	41.62	4.938	0.00044	0.00041	0.00041
____ CA	107.17053	30,556.83	1.597	106.31157	106.05912	109.14090
____ CD	0.00116	-6.97	17.321	0.00127	0.00092	0.00127
____ CO	0.00177	19.67	8.849	0.00178	0.00192	0.00160
____ CR	-0.00076	-8.71	25.926	-0.00097	-0.00075	-0.00057
____ CU	-0.00097	14.98	74.918	-0.00082	-0.00177	-0.00033
____ FE	0.22547	23.12	4.077	0.21678	0.23510	0.22454
____ K	10.27370	1,840.91	2.360	10.22000	10.06261	10.53851
____ LI	-0.00312	28.19	114.657	-0.00445	-0.00585	0.00093
____ MG	33.58008	17,822.21	1.501	33.47295	33.13814	34.12914
____ MN	0.29593	16,115.66	1.022	0.29942	0.29415	0.29422
____ MO	0.00103	-2.65	180.588	-0.00108	0.00170	0.00247
____ NA	53.55940	29,173.45	1.477	53.29435	52.93491	54.44894
____ NI	0.00050	9.21	78.452	0.00019	0.00094	0.00037
____ P	0.00941	5.20	6.008	0.00930	0.01003	0.00891
____ PB	-0.00137	-5.85	78.856	-0.00184	-0.00013	-0.00212
____ S	30.39506	3,528.30	0.343	30.27713	30.43375	30.47431
____ SB	0.00326	3.43	30.846	0.00393	0.00211	0.00375
____ SE	-0.01859	-0.71	39.667	-0.02695	-0.01580	-0.01301
____ SI	6.24536	406.72	1.637	6.23241	6.15022	6.35345
____ SN	0.00166	-0.45	31.816	0.00171	0.00215	0.00110
____ SR	0.57037	215,643.66	1.595	0.58087	0.56520	0.56503
____ TH	0.13575	-0.48	15.839	0.14160	0.15371	0.11192
____ TI	0.00523	225.15	4.767	0.00513	0.00504	0.00551
____ TL	-0.00088	1.33	181.575	0.00095	-0.00192	-0.00166
____ V	0.00064	-5.73	45.818	0.00086	0.00077	0.00031
____ W	0.00360	2.78	99.026	0.00478	0.00642	-0.00041
____ Y1	8440.22397	8,440.22	1.580	8399.24992	8332.15259	8589.26940
____ Y2A	157023.46500	157,023.47	0.324	157013.81941	157537.21029	156519.36530
____ Y2R	2978.44102	2,978.44	1.834	2981.67287	3031.37554	2922.27464
____ ZN	0.00276	30.49	4.277	0.00277	0.00287	0.00263
____ ZR	0.01112	-8.31	103.391	0.00108	0.00861	0.02365

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 31 Date/Time: 04/30/2018 12:33

Sample Number: **9570358** Class: **** Batch: 181130184807

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	0.00242	-0.08	13.517	0.00220	0.00280	0.00228
____ AL	-0.05658	7.09	251.654	-0.18499	-0.08132	0.09656
____ AS	0.00705	0.31	25.955	0.00818	0.00801	0.00494
____ B	0.20800	738.53	1.192	0.20593	0.21075	0.20732
____ BA	0.07340	28,013.23	0.511	0.07303	0.07378	0.07338
____ BE	0.00039	29.15	3.325	0.00038	0.00040	0.00039
____ CA	106.62215	30,368.99	0.200	106.73218	106.37638	106.75790
____ CD	0.00113	-7.43	3.717	0.00111	0.00118	0.00110
____ CO	0.00233	22.78	24.460	0.00186	0.00296	0.00216
____ CR	-0.00090	-10.44	27.978	-0.00118	-0.00070	-0.00082
____ CU	-0.00291	8.52	19.274	-0.00331	-0.00315	-0.00227
____ FE	0.21496	22.11	11.615	0.24258	0.20833	0.19398
____ K	10.35652	1,853.94	0.066	10.36444	10.35235	10.35277
____ LI	-0.00539	20.81	36.182	-0.00687	-0.00318	-0.00610
____ MG	33.51108	17,766.84	0.073	33.53791	33.49038	33.50496
____ MN	0.29287	16,505.62	0.568	0.29223	0.29476	0.29162
____ MO	0.00317	-1.05	37.722	0.00284	0.00217	0.00449
____ NA	53.57331	29,149.76	0.177	53.65876	53.47154	53.58962
____ NI	0.00027	8.59	94.801	0.00018	0.00008	0.00057
____ P	0.01423	6.69	17.940	0.01156	0.01449	0.01665
____ PB	-0.00358	-8.61	68.209	-0.00263	-0.00636	-0.00176
____ S	30.56907	3,572.32	0.102	30.58062	30.53383	30.59275
____ SB	0.00597	4.73	65.640	0.00347	0.00395	0.01048
____ SE	-0.02129	-1.48	21.660	-0.02397	-0.02394	-0.01597
____ SI	6.16654	401.16	0.482	6.14551	6.15358	6.20053
____ SN	0.00278	0.39	11.450	0.00249	0.00275	0.00312
____ SR	0.56388	220,658.67	0.777	0.55884	0.56680	0.56601
____ TH	0.16462	1.25	11.661	0.14722	0.18521	0.16143
____ TI	0.00467	213.55	1.504	0.00459	0.00469	0.00472
____ TL	-0.00490	0.14	33.368	-0.00678	-0.00402	-0.00389
____ V	0.00055	-7.23	59.059	0.00058	0.00086	0.00021
____ W	0.00234	2.36	47.742	0.00198	0.00145	0.00360
____ Y1	8497.04830	8,497.05	0.142	8509.82374	8485.85617	8495.46499
____ Y2A	162516.90678	162,516.91	0.354	163011.00364	161885.14764	162654.56906
____ Y2R	2974.73300	2,974.73	0.381	2979.20716	2983.13974	2961.85211
____ ZN	0.00262	29.59	5.495	0.00273	0.00246	0.00268
____ ZR	0.00948	-8.24	56.091	0.01561	0.00644	0.00638

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 32 Date/Time: 04/30/2018 12:36

Sample Number: **9570359** Class: **** Batch: 181130184807

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	0.00427	-3.52	18.695	0.00402	0.00363	0.00517
____ AL	0.02005	8.09	1062.835	-0.06369	-0.13846	0.26230
____ AS	0.00870	-1.66	35.235	0.00539	0.00927	0.01144
____ B	0.21648	801.76	1.215	0.21620	0.21924	0.21400
____ BA	0.45143	162,851.08	0.552	0.45341	0.45223	0.44863
____ BE	0.00044	48.81	9.277	0.00047	0.00039	0.00045
____ CA	70.47844	20,425.69	1.815	69.43322	71.90466	70.09744
____ CD	0.00109	34.50	20.544	0.00116	0.00084	0.00126
____ CO	0.03045	167.33	1.194	0.03028	0.03087	0.03021
____ CR	0.00009	0.15	884.566	-0.00066	0.00003	0.00088
____ CU	0.04417	1.55	2.728	0.04507	0.04464	0.04280
____ FE	33.73427	3,176.28	1.717	33.21794	34.36075	33.62413
____ K	5.55007	1,010.48	1.669	5.48146	5.65541	5.51334
____ LI	-0.00665	15.00	99.134	0.00082	-0.00910	-0.01165
____ MG	24.28386	13,086.13	2.072	23.86920	24.84376	24.13863
____ MN	7.44914	398,511.54	0.832	7.44515	7.38924	7.51302
____ MO	-0.00285	-5.29	72.278	-0.00160	-0.00523	-0.00173
____ NA	336.98028	186,186.36	1.782	331.75730	343.53940	335.64415
____ NI	0.00217	10.45	29.001	0.00279	0.00153	0.00219
____ P	-0.02200	-4.08	8.099	-0.01994	-0.02292	-0.02313
____ PB	-0.00020	-4.27	53.836	-0.00027	-0.00008	-0.00025
____ S	0.92730	112.57	2.349	0.91561	0.91385	0.95243
____ SB	0.00098	3.83	316.927	0.00155	0.00377	-0.00238
____ SE	-0.00743	2.13	45.593	-0.00860	-0.00361	-0.01007
____ SI	9.74418	642.62	2.284	9.50440	9.94422	9.78391
____ SN	0.00232	0.04	55.757	0.00381	0.00149	0.00166
____ SR	0.63113	233,814.69	1.568	0.64204	0.62863	0.62272
____ TH	0.13557	1.63	22.699	0.10456	0.13606	0.16610
____ TI	0.00657	266.14	4.123	0.00659	0.00683	0.00629
____ TL	-0.05170	-16.56	3.328	-0.05353	-0.05012	-0.05144
____ V	0.00033	-8.65	152.264	0.00091	0.00009	0.00000
____ W	0.00526	3.33	20.485	0.00438	0.00493	0.00646
____ Y1	8253.30732	8,253.31	0.669	8306.95481	8256.36273	8196.60443
____ Y2A	154481.77570	154,481.78	0.172	154188.71680	154550.06069	154706.54960
____ Y2R	3020.46142	3,020.46	1.428	3066.59894	2981.11351	3013.67180
____ ZN	0.00610	75.86	4.157	0.00639	0.00591	0.00601
____ ZR	0.01117	-8.85	93.469	0.01355	0.02021	-0.00026

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 33 Date/Time: 04/30/2018 12:40

Sample Number: **9570360** Class: **** Batch: 181130184807

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	0.00446	-4.65	19.470	0.00358	0.00448	0.00531
____ AL	-0.19904	5.25	129.559	0.09834	-0.33465	-0.36081
____ AS	0.00522	-2.54	54.023	0.00814	0.00500	0.00251
____ B	0.21602	814.34	0.644	0.21487	0.21756	0.21562
____ BA	0.45656	167,199.16	0.076	0.45695	0.45628	0.45645
____ BE	0.00041	38.62	4.480	0.00044	0.00041	0.00040
____ CA	72.77109	20,242.11	0.857	72.86896	72.10429	73.34003
____ CD	0.00085	31.96	6.114	0.00090	0.00085	0.00080
____ CO	0.03098	168.71	1.360	0.03057	0.03095	0.03141
____ CR	-0.00004	-1.12	1281.897	-0.00040	0.00052	-0.00024
____ CU	0.04488	2.60	5.223	0.04750	0.04413	0.04299
____ FE	34.69376	3,134.84	0.749	34.68233	34.43994	34.95900
____ K	5.66644	990.22	0.630	5.64918	5.64266	5.70749
____ LI	-0.00093	32.69	141.025	-0.00213	-0.00116	0.00048
____ MG	24.90800	12,883.88	0.623	24.88988	24.76271	25.07140
____ MN	7.51162	407,797.21	2.818	7.35469	7.42780	7.75237
____ MO	-0.00082	-3.78	319.463	-0.00365	0.00154	-0.00035
____ NA	345.41771	183,203.49	0.561	346.09538	343.23269	346.92505
____ NI	0.00206	9.95	18.594	0.00211	0.00241	0.00165
____ P	-0.02955	-6.25	9.434	-0.03078	-0.03152	-0.02636
____ PB	0.00043	-3.59	541.008	0.00298	-0.00165	-0.00003
____ S	0.85963	104.16	2.410	0.83698	0.87763	0.86428
____ SB	0.00271	4.57	75.975	0.00297	0.00462	0.00053
____ SE	-0.01339	0.64	12.434	-0.01475	-0.01153	-0.01390
____ SI	9.85368	623.82	0.681	9.90024	9.77678	9.88403
____ SN	0.00171	-0.40	56.787	0.00090	0.00145	0.00279
____ SR	0.63841	240,112.80	0.770	0.63394	0.63761	0.64368
____ TH	0.15101	2.53	30.003	0.10874	0.14545	0.19884
____ TI	0.00428	193.06	3.368	0.00434	0.00412	0.00439
____ TL	-0.05187	-16.51	10.165	-0.05299	-0.05649	-0.04612
____ V	0.00032	-9.07	209.353	0.00081	0.00058	-0.00044
____ W	0.00430	2.96	46.047	0.00222	0.00616	0.00451
____ Y1	8190.12618	8,190.13	0.665	8251.25404	8172.30336	8146.82113
____ Y2A	156823.81962	156,823.82	2.126	157790.46663	159567.94583	153113.04640
____ Y2R	2899.01538	2,899.02	0.702	2920.19778	2897.26382	2879.58453
____ ZN	0.00353	56.07	9.398	0.00332	0.00391	0.00337
____ ZR	0.00613	-9.38	37.883	0.00464	0.00495	0.00881

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 34 Date/Time: 04/30/2018 12:43

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.50474	6,561.54	1.051	0.50914	0.49884	0.50622
____ AL	26.63983	331.02	1.521	26.24868	27.05753	26.61328
____ AS	0.50900	124.46	1.155	0.51522	0.50824	0.50354
____ B	0.55158	1,947.21	0.749	0.55437	0.54684	0.55353
____ BA	0.51264	193,310.60	1.114	0.51708	0.50620	0.51464
____ BE	0.47766	207,746.46	0.627	0.48034	0.47443	0.47820
____ CA	25.36687	7,354.14	0.229	25.36325	25.31064	25.42671
____ CD	0.50113	7,759.32	0.338	0.50145	0.50265	0.49930
____ CO	0.49637	2,668.94	0.166	0.49663	0.49704	0.49545
____ CR	0.49326	5,269.86	0.954	0.49457	0.48803	0.49717
____ CU	0.53692	5,054.12	0.717	0.53814	0.53261	0.54000
____ FE	25.75767	2,423.12	0.116	25.74454	25.79181	25.73665
____ K	24.97215	4,518.17	0.290	24.89883	24.97413	25.04348
____ LI	0.50225	1,710.30	0.430	0.50362	0.50336	0.49976
____ MG	25.54632	13,720.11	0.175	25.50428	25.54121	25.59347
____ MN	0.49293	27,559.58	0.642	0.49627	0.48998	0.49254
____ MO	0.54752	417.46	0.360	0.54948	0.54755	0.54554
____ NA	25.74030	14,168.08	1.076	26.05979	25.59068	25.57043
____ NI	0.50502	1,540.07	0.425	0.50674	0.50571	0.50262
____ P	0.50532	156.40	0.494	0.50432	0.50816	0.50348
____ PB	0.49194	616.27	0.338	0.49190	0.49363	0.49030
____ S	26.70410	3,134.05	0.696	26.76787	26.84962	26.49481
____ SB	0.49471	239.48	1.355	0.48796	0.50137	0.49480
____ SE	0.48908	136.22	1.783	0.48010	0.49752	0.48963
____ SI	26.25182	1,727.08	0.441	26.13453	26.36604	26.25488
____ SN	0.49494	370.60	0.812	0.49421	0.49927	0.49132
____ SR	0.51174	197,379.21	1.324	0.51923	0.50993	0.50605
____ TH	0.55568	27.11	2.281	0.56744	0.55734	0.54225
____ TI	0.52287	18,234.13	0.979	0.52732	0.51728	0.52401
____ TL	0.47819	146.55	2.661	0.48999	0.47989	0.46471
____ V	0.50459	6,284.82	0.576	0.50670	0.50127	0.50579
____ W	0.53701	198.60	0.499	0.53581	0.54008	0.53514
____ Y1	8548.02079	8,548.02	0.818	8593.97058	8582.57333	8467.51845
____ Y2A	161421.64364	161,421.64	0.417	160728.43765	162071.11452	161465.37876
____ Y2R	3010.22990	3,010.23	0.464	2997.07695	3008.73394	3024.87881
____ ZN	0.51449	4,178.83	0.492	0.51653	0.51528	0.51166
____ ZR	0.50159	106.69	2.046	0.50915	0.50571	0.48991

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 35 Date/Time: 04/30/2018 12:47

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00185	-6.45	79.808	0.00355	0.00102	0.00098
____ AL	0.01531	7.92	853.916	0.14493	-0.11649	0.01749
____ AS	0.00196	-0.97	151.670	-0.00128	0.00258	0.00458
____ B	0.00158	12.17	45.214	0.00236	0.00140	0.00097
____ BA	0.00000	196.56	3551.455	0.00002	-0.00014	0.00013
____ BE	0.00053	91.50	15.546	0.00052	0.00045	0.00061
____ CA	0.03192	20.43	95.618	0.00870	0.02057	0.06649
____ CD	0.00126	-5.87	2.493	0.00129	0.00124	0.00124
____ CO	-0.00010	10.07	195.496	-0.00021	0.00013	-0.00023
____ CR	-0.00095	-11.39	44.360	-0.00137	-0.00096	-0.00052
____ CU	-0.00314	-18.60	85.507	-0.00614	-0.00100	-0.00226
____ FE	0.01391	3.32	148.462	-0.00563	0.01184	0.03552
____ K	0.10246	22.05	16.282	0.11856	0.10357	0.08525
____ LI	-0.00605	12.68	60.201	-0.00527	-0.01002	-0.00286
____ MG	0.00956	6.68	189.209	-0.00065	-0.00112	0.03045
____ MN	0.00046	51.94	137.221	0.00118	0.00002	0.00017
____ MO	0.00037	-2.67	282.225	0.00155	-0.00022	-0.00024
____ NA	0.17508	87.90	61.559	0.10777	0.11808	0.29939
____ NI	-0.00040	6.74	133.525	0.00015	-0.00092	-0.00043
____ P	-0.00251	1.67	54.936	-0.00290	-0.00366	-0.00098
____ PB	-0.00102	-5.54	53.359	-0.00085	-0.00058	-0.00162
____ S	0.00776	2.98	95.686	0.01211	0.01199	-0.00081
____ SB	-0.00428	1.90	75.859	-0.00078	-0.00718	-0.00487
____ SE	-0.00193	0.18	504.161	-0.01198	0.00745	-0.00126
____ SI	0.02843	3.39	51.331	0.01486	0.02655	0.04386
____ SN	0.00163	-0.48	78.663	0.00090	0.00312	0.00089
____ SR	0.00032	-157.13	22.418	0.00037	0.00024	0.00035
____ TH	0.15739	0.77	41.240	0.23229	0.12231	0.11757
____ TI	0.00003	53.14	902.299	-0.00010	0.00032	-0.00013
____ TL	0.00335	2.81	28.957	0.00308	0.00443	0.00255
____ V	0.00017	-12.02	19.537	0.00016	0.00014	0.00020
____ W	0.00108	1.94	177.632	-0.00085	0.00297	0.00111
____ Y1	8701.63166	8,701.63	2.074	8846.90306	8758.36173	8499.63018
____ Y2A	168104.56278	168,104.56	0.266	167952.65832	168607.26258	167753.76745
____ Y2R	2965.00606	2,965.01	2.386	2928.43636	2920.03182	3046.55000
____ ZN	-0.00023	6.90	33.143	-0.00016	-0.00021	-0.00031
____ ZR	0.01248	-7.67	19.962	0.01513	0.01210	0.01019

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 36 Date/Time: 04/30/2018 12:50

Sample Number: **9570361** Class: **** Batch: 181130184807

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	0.00184	-7.15	78.127	0.00268	0.00265	0.00018
____ AL	0.22102	10.79	42.994	0.17516	0.33028	0.15763
____ AS	0.00321	-0.77	107.219	0.00346	-0.00035	0.00651
____ B	0.17706	622.37	0.149	0.17679	0.17709	0.17731
____ BA	0.09407	35,660.80	0.496	0.09387	0.09461	0.09374
____ BE	0.00046	61.34	2.454	0.00047	0.00047	0.00045
____ CA	54.02873	16,032.53	1.442	53.45523	53.71510	54.91587
____ CD	0.00141	-0.75	11.854	0.00123	0.00156	0.00144
____ CO	0.00477	35.57	4.411	0.00474	0.00499	0.00457
____ CR	-0.00060	-7.19	81.595	-0.00010	-0.00108	-0.00063
____ CU	-0.00084	-14.23	257.808	-0.00189	-0.00230	0.00166
____ FE	2.09391	205.32	2.217	2.08564	2.05219	2.14391
____ K	4.26545	795.17	1.921	4.18813	4.25691	4.35130
____ LI	-0.00531	18.79	77.982	-0.00518	-0.00124	-0.00952
____ MG	20.23841	11,160.69	1.354	20.05710	20.10455	20.55359
____ MN	3.16576	177,229.37	0.659	3.14344	3.16908	3.18477
____ MO	0.00014	-3.06	1385.576	-0.00192	0.00180	0.00052
____ NA	34.33779	19,396.58	1.347	33.99523	34.15410	34.86402
____ NI	0.00304	16.65	22.089	0.00369	0.00307	0.00235
____ P	-0.00831	-0.11	26.109	-0.00800	-0.01062	-0.00631
____ PB	-0.00108	-5.36	182.807	0.00112	-0.00166	-0.00268
____ S	18.82759	2,190.95	0.437	18.92223	18.77326	18.78729
____ SB	0.00143	3.59	103.816	-0.00013	0.00284	0.00159
____ SE	-0.00793	0.84	69.622	-0.00225	-0.01328	-0.00825
____ SI	7.25432	489.76	1.068	7.19293	7.22866	7.34138
____ SN	0.00226	0.00	75.015	0.00413	0.00083	0.00182
____ SR	0.46065	178,566.35	1.320	0.46691	0.45477	0.46025
____ TH	0.15009	0.52	33.899	0.16013	0.19519	0.09494
____ TI	0.00649	275.78	1.322	0.00644	0.00645	0.00659
____ TL	-0.02279	-6.47	19.040	-0.02140	-0.02766	-0.01932
____ V	-0.00003	-14.02	918.659	-0.00014	0.00025	-0.00019
____ W	0.00437	3.10	46.273	0.00250	0.00409	0.00652
____ Y1	8450.79118	8,450.79	0.155	8435.73198	8459.49390	8457.14765
____ Y2A	161650.86651	161,650.87	0.687	162928.52668	161113.60012	160910.47273
____ Y2R	3088.86733	3,088.87	0.480	3100.84944	3093.48173	3072.27083
____ ZN	0.00803	73.62	1.349	0.00796	0.00816	0.00798
____ ZR	0.01433	-7.68	34.438	0.01970	0.00998	0.01333

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 37 Date/Time: 04/30/2018 12:53

Sample Number: **9570362** Class: **** Batch: 181130184807

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	0.00128	-10.02	18.703	0.00114	0.00156	0.00114
____ AL	-0.01124	8.02	1428.903	-0.11642	0.17370	-0.09101
____ AS	0.00074	-1.38	483.943	-0.00082	-0.00179	0.00481
____ B	0.17208	630.38	0.173	0.17223	0.17228	0.17174
____ BA	0.09100	35,969.14	0.314	0.09111	0.09120	0.09067
____ BE	0.00046	60.55	7.799	0.00046	0.00049	0.00042
____ CA	52.79144	15,983.33	0.092	52.73513	52.82066	52.81853
____ CD	0.00126	-3.74	9.300	0.00136	0.00128	0.00113
____ CO	0.00439	34.48	0.392	0.00441	0.00440	0.00437
____ CR	-0.00058	-7.21	61.395	-0.00027	-0.00049	-0.00096
____ CU	0.00126	0.95	110.888	-0.00035	0.00197	0.00216
____ FE	1.61099	161.67	1.243	1.60974	1.59162	1.63162
____ K	4.21804	802.28	2.346	4.11903	4.31694	4.21814
____ LI	-0.00201	30.59	414.510	0.00687	-0.00327	-0.00963
____ MG	19.86669	11,177.60	0.161	19.87500	19.89375	19.83132
____ MN	3.08073	179,807.03	0.253	3.08971	3.07564	3.07682
____ MO	0.00061	-2.77	278.010	0.00145	0.00174	-0.00135
____ NA	33.17306	19,116.94	0.157	33.20967	33.19617	33.11335
____ NI	0.00204	14.06	30.640	0.00240	0.00240	0.00132
____ P	-0.01135	-1.05	1.165	-0.01136	-0.01148	-0.01122
____ PB	-0.00122	-5.79	86.540	-0.00219	-0.00135	-0.00010
____ S	18.58672	2,221.70	0.598	18.71478	18.51583	18.52955
____ SB	0.00272	4.32	71.076	0.00108	0.00484	0.00223
____ SE	-0.01055	0.08	41.503	-0.01462	-0.00592	-0.01112
____ SI	6.89313	474.84	1.373	6.92332	6.78709	6.96897
____ SN	0.00180	-0.36	75.261	0.00269	0.00246	0.00024
____ SR	0.45284	182,971.90	1.321	0.45379	0.44644	0.45829
____ TH	0.12227	-1.29	42.403	0.18213	0.09181	0.09286
____ TI	0.00366	184.84	8.574	0.00346	0.00351	0.00402
____ TL	-0.02392	-6.95	3.971	-0.02284	-0.02465	-0.02425
____ V	-0.00025	-18.07	294.022	0.00009	0.00026	-0.00110
____ W	0.00096	1.93	360.611	0.00164	-0.00280	0.00404
____ Y1	8680.53713	8,680.54	0.845	8618.12095	8662.10910	8761.38135
____ Y2A	168520.91067	168,520.91	0.798	169582.27854	168971.12422	167009.32924
____ Y2R	3151.13904	3,151.14	0.087	3149.19136	3149.93932	3154.28644
____ ZN	0.00712	67.90	1.891	0.00698	0.00715	0.00724
____ ZR	0.02175	-6.51	68.361	0.02040	0.03725	0.00760

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 38 Date/Time: 04/30/2018 12:57

Sample Number: **9570363** Class: **** Batch: 181130184807

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	0.00220	-9.39	22.192	0.00177	0.00273	0.00209
____ AL	0.86106	18.22	8.134	0.90147	0.78019	0.90153
____ AS	0.00286	-0.87	111.692	-0.00076	0.00529	0.00403
____ B	0.14808	512.03	2.188	0.14975	0.15013	0.14434
____ BA	0.12076	46,014.42	2.005	0.12150	0.12273	0.11806
____ BE	0.00053	91.22	2.354	0.00054	0.00052	0.00054
____ CA	48.89977	14,062.07	0.245	48.89328	49.02278	48.78327
____ CD	0.00138	-1.22	6.310	0.00147	0.00137	0.00130
____ CO	0.01600	96.79	2.558	0.01636	0.01555	0.01608
____ CR	0.00081	7.97	36.820	0.00089	0.00048	0.00106
____ CU	-0.00113	1.27	123.387	-0.00232	0.00041	-0.00149
____ FE	2.12089	201.45	1.117	2.09622	2.14345	2.12301
____ K	6.15599	1,110.08	0.284	6.17019	6.13646	6.16131
____ LI	0.00054	37.46	979.327	-0.00536	0.00228	0.00469
____ MG	16.02743	8,567.11	0.394	15.98105	16.09930	16.00193
____ MN	3.34205	188,297.23	1.362	3.35497	3.37972	3.29146
____ MO	-0.00168	-4.49	58.642	-0.00129	-0.00094	-0.00279
____ NA	85.49246	46,796.15	0.131	85.38583	85.60916	85.48239
____ NI	0.00573	25.17	1.459	0.00568	0.00569	0.00583
____ P	0.01888	8.19	10.085	0.02094	0.01718	0.01851
____ PB	-0.00141	-5.53	85.354	-0.00186	-0.00232	-0.00005
____ S	13.79623	1,634.58	0.486	13.86878	13.78328	13.73664
____ SB	0.00028	3.21	674.616	-0.00053	-0.00108	0.00246
____ SE	-0.01458	-1.10	69.180	-0.00968	-0.00788	-0.02618
____ SI	9.12634	596.47	0.347	9.14100	9.09005	9.14799
____ SN	0.00236	0.07	72.876	0.00086	0.00424	0.00198
____ SR	0.43003	167,697.73	1.694	0.43240	0.43583	0.42185
____ TH	0.19863	3.44	7.630	0.21609	0.19100	0.18881
____ TI	0.02917	1,070.81	1.937	0.02931	0.02965	0.02855
____ TL	-0.02292	-6.69	8.266	-0.02081	-0.02448	-0.02348
____ V	0.00246	18.87	24.350	0.00194	0.00311	0.00231
____ W	0.00173	2.22	67.800	0.00247	0.00235	0.00038
____ Y1	8596.92096	8,596.92	0.368	8621.41450	8608.15420	8561.19419
____ Y2A	162712.55934	162,712.56	1.862	161852.44091	160205.18182	166080.05529
____ Y2R	2992.26460	2,992.26	2.549	2954.89972	2941.86636	3080.02771
____ ZN	0.01431	125.68	0.931	0.01424	0.01447	0.01423
____ ZR	0.01121	-7.43	110.407	-0.00306	0.01765	0.01903

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 39 Date/Time: 04/30/2018 13:00

Sample Number: **9570364** Class: **** Batch: 181130184807

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	0.00205	-1.37	25.368	0.00216	0.00149	0.00251
____ AL	0.04220	8.44	517.378	0.20110	-0.20674	0.13223
____ AS	-0.00032	-1.48	719.843	0.00162	-0.00289	0.00030
____ B	0.14183	480.63	1.182	0.14371	0.14050	0.14128
____ BA	0.11790	43,962.84	0.690	0.11884	0.11740	0.11745
____ BE	0.00047	63.65	5.257	0.00049	0.00047	0.00045
____ CA	48.14259	14,121.83	0.417	47.91175	48.24240	48.27363
____ CD	0.00131	-4.79	13.990	0.00148	0.00112	0.00133
____ CO	0.01599	93.52	1.944	0.01634	0.01588	0.01575
____ CR	-0.00001	-1.00	9325.586	-0.00115	0.00012	0.00100
____ CU	-0.00083	5.90	88.995	-0.00099	-0.00002	-0.00146
____ FE	0.08561	10.26	7.228	0.08129	0.08284	0.09270
____ K	6.02994	1,109.04	1.466	5.98578	5.97235	6.13170
____ LI	-0.00193	29.62	308.470	0.00413	-0.00775	-0.00216
____ MG	15.69274	8,556.16	0.569	15.59150	15.72651	15.76020
____ MN	3.29071	181,406.18	0.185	3.29445	3.28369	3.29398
____ MO	0.00021	-2.94	606.129	-0.00010	-0.00087	0.00158
____ NA	84.74774	47,314.31	0.378	84.38282	84.98171	84.87869
____ NI	0.00486	22.02	2.424	0.00480	0.00477	0.00499
____ P	-0.01046	-0.75	9.942	-0.01150	-0.01046	-0.00942
____ PB	-0.00072	-4.95	154.133	0.00015	-0.00198	-0.00034
____ S	13.69025	1,571.89	1.630	13.94379	13.60336	13.52360
____ SB	0.00125	3.51	122.845	0.00110	0.00285	-0.00021
____ SE	-0.00567	1.25	54.056	-0.00690	-0.00218	-0.00792
____ SI	7.47313	498.47	0.572	7.42715	7.51160	7.48064
____ SN	0.00244	0.13	50.754	0.00146	0.00384	0.00203
____ SR	0.42866	163,552.01	0.260	0.42989	0.42836	0.42772
____ TH	0.13682	-0.46	22.223	0.14166	0.10428	0.16450
____ TI	0.00365	174.17	5.016	0.00348	0.00361	0.00384
____ TL	-0.02158	-6.07	8.650	-0.01946	-0.02298	-0.02230
____ V	0.00008	-12.69	789.813	0.00034	-0.00064	0.00053
____ W	0.00297	2.57	125.669	-0.00115	0.00614	0.00392
____ Y1	8331.69973	8,331.70	0.492	8290.55661	8372.56555	8331.97702
____ Y2A	159173.36120	159,173.36	1.394	161561.09374	158785.21229	157173.77755
____ Y2R	3051.98092	3,051.98	0.729	3058.05563	3070.57273	3027.31439
____ ZN	0.01004	87.19	0.300	0.01008	0.01004	0.01002
____ ZR	0.00628	-9.57	222.217	0.01816	0.00975	-0.00908

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 40 Date/Time: 04/30/2018 13:03

Sample Number: **9570366** Class: **** Batch: 181130184807

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	0.00343	0.68	21.787	0.00348	0.00266	0.00415
____ AL	2.51836	38.66	4.624	2.53655	2.62465	2.39388
____ AS	0.00999	0.14	12.819	0.01114	0.01022	0.00861
____ B	0.12917	461.89	0.847	0.12935	0.12800	0.13017
____ BA	0.22495	86,168.42	1.855	0.22486	0.22083	0.22918
____ BE	0.00064	139.24	2.497	0.00064	0.00065	0.00062
____ CA	28.05960	8,207.51	0.592	27.94539	28.25009	27.98332
____ CD	0.00133	12.52	9.459	0.00143	0.00136	0.00119
____ CO	0.00191	21.29	16.874	0.00212	0.00154	0.00206
____ CR	0.00097	9.69	29.007	0.00127	0.00072	0.00091
____ CU	0.03400	182.78	6.488	0.03600	0.03435	0.03164
____ FE	13.13282	1,252.15	0.827	13.01114	13.22002	13.16730
____ K	5.18156	949.27	1.422	5.15676	5.12350	5.26443
____ LI	0.00279	44.21	99.348	0.00020	0.00246	0.00571
____ MG	6.30430	3,426.67	0.407	6.28955	6.33392	6.28944
____ MN	0.30980	17,601.35	1.424	0.30969	0.30544	0.31426
____ MO	0.00167	-1.81	106.181	-0.00036	0.00292	0.00243
____ NA	83.92893	46,643.50	0.548	83.54421	84.43884	83.80375
____ NI	0.00504	22.05	6.237	0.00471	0.00509	0.00533
____ P	0.04407	16.05	2.707	0.04270	0.04461	0.04490
____ PB	0.03170	36.78	8.526	0.03336	0.03317	0.02859
____ S	2.84025	340.72	0.951	2.84713	2.86316	2.81045
____ SB	0.00585	6.64	77.530	0.00156	0.01059	0.00540
____ SE	-0.00308	0.87	80.177	-0.00573	-0.00266	-0.00085
____ SI	12.25320	812.52	1.384	12.05969	12.37617	12.32375
____ SN	0.00293	0.50	60.571	0.00481	0.00129	0.00268
____ SR	0.28711	112,576.88	1.506	0.28691	0.28288	0.29152
____ TH	0.16869	2.36	23.643	0.13533	0.15787	0.21287
____ TI	0.03901	1,425.52	0.900	0.03863	0.03910	0.03931
____ TL	0.00061	1.81	707.739	0.00533	-0.00304	-0.00047
____ V	0.00219	14.53	17.535	0.00188	0.00262	0.00206
____ W	0.00244	2.54	45.905	0.00257	0.00350	0.00126
____ Y1	8667.07663	8,667.08	0.745	8630.17248	8741.60577	8629.45164
____ Y2A	163864.12195	163,864.12	0.984	163699.87914	165551.92664	162340.56007
____ Y2R	3038.08014	3,038.08	0.223	3045.88156	3034.84213	3033.51671
____ ZN	0.02214	197.47	0.670	0.02229	0.02200	0.02212
____ ZR	0.01439	-7.42	46.106	0.01981	0.00699	0.01636

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 41 Date/Time: 04/30/2018 13:06

Sample Number: **9570367** Class: **** Batch: 181130184807

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	0.00203	-15.32	26.749	0.00265	0.00167	0.00176
____ AL	-0.03398	7.57	295.472	-0.04875	-0.12618	0.07299
____ AS	0.00288	-1.46	84.433	0.00478	0.00014	0.00373
____ B	0.11679	431.80	0.441	0.11735	0.11670	0.11633
____ BA	0.19213	73,279.27	0.566	0.19338	0.19137	0.19165
____ BE	0.00048	67.17	6.183	0.00050	0.00044	0.00049
____ CA	26.87076	7,901.28	1.075	27.15243	26.88462	26.57524
____ CD	0.00128	7.93	6.454	0.00126	0.00136	0.00120
____ CO	0.00150	18.52	36.505	0.00113	0.00213	0.00124
____ CR	-0.00081	-9.47	68.707	-0.00130	-0.00021	-0.00091
____ CU	0.01082	-8.30	6.081	0.01083	0.01148	0.01016
____ FE	10.23411	982.06	0.736	10.31931	10.20666	10.17637
____ K	5.00446	921.65	1.886	5.11328	4.95557	4.94453
____ LI	-0.00046	33.37	282.090	0.00097	-0.00157	-0.00077
____ MG	5.73025	3,131.10	0.914	5.76204	5.75890	5.66979
____ MN	0.28969	16,383.46	0.317	0.29008	0.28864	0.29035
____ MO	0.00403	0.04	14.633	0.00402	0.00462	0.00344
____ NA	84.93083	47,443.20	1.209	85.64633	85.39220	83.75397
____ NI	0.00488	21.64	17.233	0.00450	0.00585	0.00431
____ P	0.00113	2.77	248.309	-0.00035	-0.00063	0.00437
____ PB	-0.00104	-5.52	47.854	-0.00078	-0.00073	-0.00162
____ S	2.65487	315.18	0.469	2.64054	2.66105	2.66302
____ SB	0.00302	5.11	119.959	-0.00012	0.00219	0.00699
____ SE	-0.00748	-0.38	36.635	-0.00456	-0.01000	-0.00789
____ SI	6.63762	443.14	1.508	6.69542	6.69541	6.52203
____ SN	0.00213	-0.11	62.522	0.00068	0.00243	0.00329
____ SR	0.27052	105,569.23	0.503	0.27207	0.26996	0.26952
____ TH	0.16582	2.00	15.406	0.18702	0.17298	0.13746
____ TI	0.00267	144.11	4.768	0.00252	0.00273	0.00275
____ TL	-0.00313	0.68	92.174	0.00020	-0.00473	-0.00485
____ V	0.00024	-11.44	145.439	0.00050	-0.00015	0.00037
____ W	0.00218	2.34	323.049	-0.00426	0.00111	0.00968
____ Y1	8573.96325	8,573.96	1.364	8704.27311	8539.37031	8478.24633
____ Y2A	163082.46442	163,082.46	0.692	162010.62362	164260.54091	162976.22873
____ Y2R	3053.97231	3,053.97	1.181	3020.98111	3048.44617	3092.48964
____ ZN	0.01208	112.36	1.466	0.01187	0.01218	0.01218
____ ZR	0.00765	-8.98	113.026	0.00370	0.00168	0.01756

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 42 Date/Time: 04/30/2018 13:10

Sample Number: **9570368** Class: **** Batch: 181130184807

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	0.00194	-2.63	35.754	0.00248	0.00116	0.00218
____ AL	0.04052	8.12	621.725	-0.22073	0.06035	0.28194
____ AS	0.00119	-1.16	215.812	0.00279	-0.00177	0.00255
____ B	0.00179	11.80	32.775	0.00113	0.00198	0.00225
____ BA	0.00060	426.75	8.449	0.00064	0.00054	0.00060
____ BE	0.00045	59.59	6.005	0.00048	0.00043	0.00045
____ CA	0.09736	38.68	23.497	0.09127	0.07814	0.12266
____ CD	0.00134	-4.65	21.158	0.00144	0.00155	0.00102
____ CO	-0.00045	8.16	26.157	-0.00038	-0.00059	-0.00039
____ CR	-0.00085	-10.26	59.369	-0.00095	-0.00030	-0.00130
____ CU	0.00303	34.41	54.576	0.00123	0.00449	0.00337
____ FE	-0.01325	0.75	45.364	-0.01922	-0.01333	-0.00720
____ K	0.00612	4.92	1731.590	0.12667	-0.07243	-0.03588
____ LI	-0.00451	17.52	52.663	-0.00493	-0.00195	-0.00665
____ MG	0.02670	15.52	9.439	0.02412	0.02684	0.02915
____ MN	0.00091	79.27	24.113	0.00115	0.00072	0.00087
____ MO	0.00271	-0.84	84.759	0.00350	0.00450	0.00012
____ NA	0.41943	217.95	10.455	0.37935	0.41267	0.46627
____ NI	0.00007	8.19	317.409	-0.00003	-0.00009	0.00032
____ P	-0.00108	2.13	275.314	-0.00103	0.00187	-0.00407
____ PB	-0.00090	-5.41	302.666	-0.00371	-0.00075	0.00175
____ S	0.00567	2.76	185.791	0.00332	-0.00349	0.01716
____ SB	-0.00344	2.29	78.040	-0.00485	-0.00512	-0.00034
____ SE	-0.00462	-0.57	130.259	-0.01101	0.00093	-0.00378
____ SI	0.27349	19.06	3.525	0.28333	0.27307	0.26406
____ SN	0.00219	-0.06	26.329	0.00185	0.00186	0.00285
____ SR	0.00040	-123.46	17.561	0.00048	0.00036	0.00036
____ TH	0.13449	-0.58	20.283	0.16595	0.12014	0.11739
____ TI	-0.00013	47.24	121.552	-0.00022	-0.00022	0.00005
____ TL	-0.00048	1.63	366.868	0.00043	0.00065	-0.00253
____ V	0.00036	-10.31	159.937	-0.00021	0.00034	0.00095
____ W	-0.00355	0.24	10.009	-0.00351	-0.00392	-0.00322
____ Y1	8703.94593	8,703.95	0.755	8709.87605	8766.52583	8635.43592
____ Y2A	167674.11058	167,674.11	0.812	169152.29630	166471.44348	167398.59197
____ Y2R	2945.13788	2,945.14	0.868	2953.53636	2965.43182	2916.44545
____ ZN	0.00065	14.11	41.270	0.00040	0.00062	0.00093
____ ZR	0.00518	-9.50	219.741	0.00108	0.01804	-0.00358

LANCASTER LABORATORIES

Run Name: 1812005T73

Instrument ID: 18255

Tube: 43

Date/Time: 04/30/2018 13:13

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00520	20.11	2.470	0.00516	0.00534	0.00509
____ AL	0.20873	10.50	78.279	0.35581	0.03286	0.23752
____ AS	0.02118	3.94	14.849	0.01829	0.02453	0.02072
____ B	0.04770	183.61	1.705	0.04679	0.04797	0.04835
____ BA	0.00526	2,234.37	0.526	0.00528	0.00527	0.00523
____ BE	0.00532	2,228.54	0.956	0.00532	0.00527	0.00537
____ CA	0.21923	73.97	2.748	0.22092	0.22422	0.21254
____ CD	0.00651	77.56	0.267	0.00653	0.00651	0.00650
____ CO	0.00516	39.02	2.967	0.00515	0.00501	0.00532
____ CR	0.01398	152.18	2.366	0.01435	0.01373	0.01385
____ CU	0.00583	142.53	31.198	0.00767	0.00404	0.00577
____ FE	0.20575	21.23	8.422	0.19348	0.22557	0.19819
____ K	0.43489	81.48	22.565	0.52962	0.44136	0.33368
____ LI	0.01713	88.85	32.984	0.01995	0.01062	0.02080
____ MG	0.10365	56.60	1.407	0.10238	0.10333	0.10524
____ MN	0.00522	315.67	0.841	0.00518	0.00527	0.00521
____ MO	0.01189	6.37	9.123	0.01169	0.01092	0.01306
____ NA	1.11243	596.92	1.342	1.12578	1.09632	1.11519
____ NI	0.01039	40.31	5.684	0.01036	0.01099	0.00981
____ P	0.10165	34.08	3.097	0.10499	0.10121	0.09874
____ PB	0.01776	18.25	2.097	0.01735	0.01787	0.01807
____ S	0.55396	68.59	0.557	0.55635	0.55505	0.55047
____ SB	0.01676	12.10	11.991	0.01553	0.01908	0.01568
____ SE	0.00836	3.09	15.384	0.00837	0.00708	0.00965
____ SI	0.05670	5.24	21.664	0.06242	0.06508	0.04260
____ SN	0.02271	15.77	2.981	0.02250	0.02347	0.02217
____ SR	0.00553	1,906.35	1.417	0.00546	0.00552	0.00562
____ TH	0.33405	11.53	11.368	0.29029	0.35349	0.35837
____ TI	0.01054	426.58	1.662	0.01058	0.01035	0.01069
____ TL	0.02714	10.18	3.359	0.02633	0.02812	0.02696
____ V	0.00572	60.30	7.004	0.00614	0.00534	0.00566
____ W	0.00996	5.34	24.525	0.00864	0.00846	0.01277
____ Y1	8751.80604	8,751.81	0.475	8703.83119	8775.96656	8775.62037
____ Y2A	165396.21897	165,396.22	0.703	164079.08691	166281.05925	165828.51075
____ Y2R	2972.35909	2,972.36	0.643	2960.49091	2994.40000	2962.18636
____ ZN	0.02158	186.76	0.142	0.02162	0.02157	0.02156
____ ZR	0.07632	8.87	11.209	0.08465	0.07675	0.06756

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 44 Date/Time: 04/30/2018 13:16

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.01445	-19.60	8.222	0.01383	0.01370	0.01582
____ AL	536.68462	6,224.51	1.001	535.15760	532.24083	542.65542
____ AS	0.00537	-6.80	103.807	-0.00095	0.00746	0.00960
____ B	0.41490	1,806.43	1.711	0.41935	0.41865	0.40672
____ BA	0.00050	329.86	5.654	0.00049	0.00048	0.00053
____ BE	0.00032	-2.26	6.600	0.00030	0.00031	0.00034
____ CA	492.03992	130,467.92	1.763	491.26199	483.77853	501.07923
____ CD	0.00066	189.03	49.419	0.00091	0.00077	0.00029
____ CO	0.00055	11.92	39.820	0.00067	0.00030	0.00068
____ CR	-0.00037	-4.11	123.973	-0.00040	-0.00080	0.00010
____ CU	0.28013	79.21	0.251	0.28017	0.28081	0.27941
____ FE	204.55751	17,215.98	1.651	204.27210	201.33224	208.06820
____ K	-0.01070	1.81	329.669	0.00975	-0.05144	0.00959
____ LI	0.00639	77.46	79.067	0.00820	0.00068	0.01028
____ MG	488.88666	232,410.30	1.786	488.21223	480.51418	497.93356
____ MN	0.00434	238.60	0.770	0.00431	0.00434	0.00438
____ MO	-0.00870	-10.93	36.972	-0.00942	-0.01149	-0.00518
____ NA	0.11187	50.30	21.443	0.08626	0.11554	0.13382
____ NI	0.00623	4.24	5.864	0.00582	0.00633	0.00653
____ P	0.00625	4.07	72.677	0.00107	0.00955	0.00813
____ PB	-0.12682	102.07	1.765	-0.12903	-0.12687	-0.12455
____ S	0.01418	6.11	79.597	0.02488	0.01529	0.00238
____ SB	0.01477	10.18	5.859	0.01378	0.01540	0.01513
____ SE	-0.04947	3.23	5.906	-0.05170	-0.04616	-0.05053
____ SI	-0.00801	1.08	56.518	-0.00341	-0.01245	-0.00815
____ SN	0.00318	0.61	60.754	0.00181	0.00234	0.00539
____ SR	0.00109	9,182.10	46.342	0.00140	0.00136	0.00051
____ TH	0.05205	7.01	129.365	0.01655	0.00989	0.12969
____ TI	-0.00004	43.39	789.111	0.00028	-0.00033	-0.00007
____ TL	0.00862	3.88	88.456	-0.00014	0.01376	0.01222
____ V	0.00018	-9.58	264.904	0.00046	0.00044	-0.00037
____ W	0.01324	7.95	5.364	0.01283	0.01282	0.01406
____ Y1	7628.88884	7,628.89	0.337	7628.96853	7654.56633	7603.13167
____ Y2A	141776.91416	141,776.91	0.952	140930.86951	141065.88641	143333.98657
____ Y2R	2833.09258	2,833.09	1.438	2832.20966	2874.25909	2792.80899
____ ZN	0.00875	183.69	1.771	0.00890	0.00875	0.00859
____ ZR	0.00332	-13.15	666.339	0.00235	0.02588	-0.01828

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 45 Date/Time: 04/30/2018 13:19

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.23218	2,586.22	0.606	0.23217	0.23359	0.23077
____ AL	536.47773	6,197.85	1.154	543.28956	534.94519	531.19845
____ AS	0.10740	16.25	0.163	0.10758	0.10739	0.10723
____ B	0.40794	1,859.76	1.237	0.41083	0.41087	0.40211
____ BA	0.52515	180,884.42	0.409	0.52574	0.52695	0.52277
____ BE	0.48342	192,153.96	0.518	0.48492	0.48481	0.48052
____ CA	496.75308	131,179.82	0.471	499.34149	496.12995	494.78781
____ CD	0.92759	13,288.12	0.600	0.92204	0.93317	0.92756
____ CO	0.45631	2,236.22	0.888	0.45216	0.46026	0.45650
____ CR	0.48437	4,729.33	0.885	0.48541	0.48804	0.47965
____ CU	0.80534	4,751.35	0.402	0.80905	0.80381	0.80315
____ FE	206.13551	17,274.67	0.597	207.50149	205.79314	205.11191
____ K	-0.11394	-15.53	88.315	-0.09902	-0.22120	-0.02161
____ LI	0.00343	68.26	59.580	0.00516	0.00396	0.00118
____ MG	493.05415	233,363.25	0.714	496.60044	492.99689	489.56511
____ MN	0.47448	24,263.90	0.660	0.47747	0.47475	0.47122
____ MO	-0.00923	-11.57	8.190	-0.00916	-0.01003	-0.00852
____ NA	0.13467	61.92	0.829	0.13588	0.13368	0.13444
____ NI	0.93246	2,573.94	0.625	0.92666	0.93832	0.93239
____ P	0.00505	4.26	13.649	0.00523	0.00564	0.00430
____ PB	0.38601	682.89	0.993	0.38386	0.39044	0.38373
____ S	0.02300	7.60	1.971	0.02284	0.02351	0.02264
____ SB	0.64163	287.04	2.238	0.63938	0.65698	0.62853
____ SE	0.44078	124.67	1.925	0.44902	0.43206	0.44126
____ SI	0.01012	2.12	134.146	0.01808	0.01784	-0.00555
____ SN	0.00256	0.15	62.867	0.00289	0.00397	0.00081
____ SR	0.00084	9,558.35	18.267	0.00073	0.00102	0.00078
____ TH	0.07899	8.65	45.107	0.06706	0.11906	0.05086
____ TI	-0.00082	36.83	22.317	-0.00102	-0.00066	-0.00078
____ TL	0.08661	25.83	9.845	0.09304	0.08986	0.07694
____ V	0.49469	5,728.83	0.550	0.49608	0.49643	0.49155
____ W	0.00561	9.37	56.398	0.00341	0.00418	0.00924
____ Y1	7804.08018	7,804.08	1.857	7951.44341	7799.07267	7661.72445
____ Y2A	147527.64267	147,527.64	0.770	146980.60310	146768.59215	148833.73277
____ Y2R	2821.88315	2,821.88	1.142	2811.18044	2796.37181	2858.09721
____ ZN	1.02059	7,641.30	0.724	1.01938	1.02851	1.01388
____ ZR	-0.00173	-13.85	364.507	0.00405	-0.00843	-0.00080

LANCASTER LABORATORIES

Run Name: 1812005T73

Instrument ID: 18255

Tube: 46

Date/Time: 04/30/2018 13:22

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.49250	6,330.77	0.578	0.48921	0.49417	0.49411
____ AL	26.20331	324.09	1.010	26.50568	26.09066	26.01358
____ AS	0.51278	123.06	1.853	0.50657	0.50805	0.52372
____ B	0.53979	1,882.99	0.416	0.53746	0.53998	0.54194
____ BA	0.50518	188,234.63	0.512	0.50285	0.50472	0.50796
____ BE	0.46943	201,725.88	0.901	0.46481	0.47036	0.47312
____ CA	24.54969	7,083.21	1.483	24.96975	24.35273	24.32660
____ CD	0.50331	7,643.88	1.630	0.49963	0.49758	0.51270
____ CO	0.49494	2,610.66	1.602	0.49106	0.48970	0.50407
____ CR	0.48619	5,132.43	0.667	0.48269	0.48678	0.48909
____ CU	0.52034	4,825.64	0.168	0.52113	0.51940	0.52049
____ FE	25.08058	2,348.43	1.177	25.42052	24.93304	24.88818
____ K	24.28226	4,372.14	0.986	24.53746	24.06279	24.24652
____ LI	0.48491	1,644.40	1.269	0.49197	0.48066	0.48210
____ MG	24.72900	13,218.01	1.082	25.03595	24.54479	24.60626
____ MN	0.48439	26,760.92	0.843	0.48022	0.48456	0.48839
____ MO	0.56180	420.27	1.795	0.55844	0.55381	0.57313
____ NA	24.65877	13,507.14	0.823	24.86759	24.46230	24.64642
____ NI	0.50638	1,514.90	1.458	0.50257	0.50169	0.51489
____ P	0.50514	153.35	2.208	0.50156	0.49621	0.51764
____ PB	0.49554	608.66	1.518	0.49225	0.49023	0.50415
____ S	26.71045	3,074.93	2.070	26.40388	26.37874	27.34872
____ SB	0.49143	233.35	2.175	0.48391	0.48672	0.50366
____ SE	0.47331	129.47	1.091	0.47536	0.46744	0.47714
____ SI	25.51562	1,670.79	1.079	25.78335	25.23318	25.53034
____ SN	0.49268	361.88	1.791	0.48809	0.48710	0.50286
____ SR	0.50543	192,585.07	2.530	0.49461	0.51954	0.50214
____ TH	0.51316	24.35	9.748	0.45692	0.55268	0.52988
____ TI	0.51878	17,875.30	0.948	0.51378	0.51894	0.52361
____ TL	0.49366	148.33	0.651	0.49114	0.49256	0.49727
____ V	0.49586	6,096.60	0.909	0.49141	0.49573	0.50042
____ W	0.55017	199.50	2.234	0.55001	0.53796	0.56254
____ Y1	8386.04561	8,386.05	0.658	8372.78998	8446.65922	8338.68763
____ Y2A	159505.68222	159,505.68	1.682	162603.85466	157980.13636	157933.05563
____ Y2R	2995.70337	2,995.70	0.606	2979.38911	2992.45602	3015.26499
____ ZN	0.51682	4,117.05	1.822	0.51371	0.50935	0.52739
____ ZR	0.49798	104.78	3.660	0.51903	0.48749	0.48743

LANCASTER LABORATORIES

Run Name: 1812005T73 Instrument ID: 18255

Tube: 47 Date/Time: 04/30/2018 13:26

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00142	-14.52	18.721	0.00127	0.00173	0.00126
____ AL	-0.24624	4.85	110.204	-0.10598	-0.07371	-0.55903
____ AS	0.00481	-0.23	66.723	0.00590	0.00732	0.00120
____ B	-0.00005	6.01	1456.916	-0.00071	0.00070	-0.00013
____ BA	-0.00007	165.14	107.627	-0.00016	-0.00001	-0.00005
____ BE	0.00045	58.66	1.113	0.00045	0.00046	0.00045
____ CA	0.00279	12.02	458.001	0.01744	-0.00595	-0.00313
____ CD	0.00131	-4.96	16.731	0.00131	0.00109	0.00152
____ CO	-0.00013	9.61	42.311	-0.00009	-0.00011	-0.00019
____ CR	-0.00094	-11.14	34.633	-0.00129	-0.00090	-0.00064
____ CU	-0.00308	-9.55	79.209	-0.00199	-0.00588	-0.00137
____ FE	-0.00802	1.25	68.978	-0.01174	-0.00166	-0.01066
____ K	0.01707	6.90	192.556	0.00249	-0.00599	0.05470
____ LI	-0.00072	30.17	282.963	-0.00004	0.00088	-0.00299
____ MG	0.00224	2.65	276.384	0.00919	-0.00265	0.00017
____ MN	-0.00001	23.49	1610.832	-0.00011	0.00014	-0.00006
____ MO	-0.00022	-3.05	767.564	-0.00032	-0.00188	0.00153
____ NA	0.03701	12.13	51.072	0.05381	0.04068	0.01654
____ NI	-0.00014	7.31	412.391	0.00046	-0.00069	-0.00018
____ P	-0.00088	2.12	136.748	0.00030	-0.00210	-0.00083
____ PB	0.00121	-2.76	235.298	0.00358	0.00200	-0.00195
____ S	0.00171	2.18	145.970	0.00438	0.00131	-0.00056
____ SB	0.00009	3.88	2129.448	0.00119	-0.00203	0.00110
____ SE	-0.00195	0.19	238.874	0.00245	-0.00147	-0.00683
____ SI	-0.00205	1.41	588.182	-0.01203	0.01135	-0.00547
____ SN	0.00264	0.28	22.089	0.00271	0.00202	0.00318
____ SR	0.00019	-206.71	3.280	0.00019	0.00019	0.00020
____ TH	0.17579	1.92	26.415	0.13259	0.22489	0.16989
____ TI	-0.00023	43.27	42.304	-0.00029	-0.00012	-0.00027
____ TL	0.00275	2.54	16.767	0.00316	0.00282	0.00225
____ V	0.00051	-7.02	51.259	0.00064	0.00069	0.00021
____ W	0.00126	1.94	180.375	0.00007	-0.00017	0.00387
____ Y1	8436.52426	8,436.52	1.358	8544.06056	8449.55748	8315.95475
____ Y2A	165915.30065	165,915.30	2.129	165441.40235	162643.21177	169661.28783
____ Y2R	2974.63333	2,974.63	0.297	2971.54545	2984.60000	2967.75455
____ ZN	-0.00029	6.18	16.998	-0.00025	-0.00034	-0.00027
____ ZR	0.01385	-7.12	27.349	0.01822	0.01160	0.01173

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ICP-AES Run Data Report

Reviewed By
Jonathan J Allen

Reviewed Date
05/02/2018 5:10AM

Data File Name 1812201T70.TXT
Run Name: 1812201T70

Method Reference Name(s):

Verified By:
Parker D Lindstrom

Verified Date
05/02/2018 12:08PM

Analyst Employee: 12403

Instrument Parameters:

Individual Integration Time: 10.00 sec Total Integration Time: 30.00 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: 1812201T70 Instrument ID: 11016

Tube: 1 Date/Time: 05/02/2018 01:39

Sample Number: **S0**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	0.000	-67.13290	24.632	-0.01173	-0.01205	-0.01780
AL	0.000	0.33288	1199.584	-0.00259	0.01559	-0.00973
AS	0.000	-0.60907	25.025	-0.00186	-0.00221	-0.00301
B	0.000	-10.41440	82.544	-0.00004	-0.00001	-0.00008
BA	0.000	45.71820	103.809	-0.00003	0.00023	0.00036
BE	0.000	-113.69796	9.471	-0.02107	-0.02545	-0.02393
CA	0.000	69.60777	7.814	0.00480	0.00465	0.00413
CD	0.000	-17.83471	15.366	-0.07988	-0.06857	-0.05868
CO	0.000	25.27052	7.650	0.10625	0.09197	0.09522
CR	0.000	1.66539	180.779	0.00001	-0.00001	0.00002
CU	0.000	-95.24120	7.555	-0.02133	-0.01848	-0.01918
FE	0.000	11.52385	2.215	0.00076	0.00073	0.00076
K	0.000	306.69742	9.911	0.88456	1.06900	1.03842
LI	0.000	-40.89046	4.399	-0.00271	-0.00253	-0.00275
MG	0.000	-21.55180	11.519	-0.00124	-0.00157	-0.00140
MN	0.000	23.59634	7.278	0.00509	0.00506	0.00446
MO	0.000	2.07948	40.713	0.00804	0.01134	0.00478
NA	0.000	-1109.38937	1.169	-0.07120	-0.07245	-0.07280
NI	0.000	36.33108	10.252	0.15435	0.14199	0.12560
P	0.000	-1.73428	71.054	-0.00020	-0.00018	-0.00002
PB	0.000	-7.40206	59.547	-0.04807	-0.02182	-0.01606
S	0.000	3.34161	13.534	0.00024	0.00030	0.00024
SB	0.000	-10.22236	17.147	-0.00094	-0.00075	-0.00068
SE	0.000	5.81127	11.872	0.01980	0.02255	0.02514
SI	0.000	10.21868	7.116	0.00062	0.00066	0.00071
SN	0.000	1.23780	119.193	0.00333	0.01112	-0.00004
SR	0.000	142.83183	10.953	0.00052	0.00064	0.00062
TH	0.000	13.18635	25.720	0.00096	0.00060	0.00101
TI	0.000	12.69595	72.685	0.00044	0.00398	0.00344
TL	0.000	-5.44164	21.529	-0.01906	-0.02627	-0.01789
V	0.000	-89.49952	11.529	-0.01741	-0.01710	-0.02094
W	0.000	3.58611	16.190	0.00026	0.00024	0.00033
Y1	0.000	12916.88833	0.273	12922.89397	12879.07394	12948.69708
Y2A	0.000	242132.26464	0.047	242259.91707	242099.70120	242037.17565
Y2R	0.000	15375.80768	0.077	15371.38512	15366.76647	15389.27146
ZN	0.000	18.48565	6.665	0.06623	0.07543	0.07302
ZR	0.000	-6.21748	96.235	-0.00083	-0.00007	-0.00030

LANCASTER LABORATORIES

Run Name: 1812201T70

Instrument ID: 11016

Tube: 2

Date/Time: 05/02/2018 01:42

Sample Number: **S1**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AL	50.000	7064.26419	0.665	23.70252	23.57643	23.39124
CA	50.000	64256.82177	0.478	4.30886	4.27603	4.27128
FE	50.000	19622.11874	0.228	1.31173	1.30835	1.30577
K	50.000	16684.98053	0.402	55.87721	55.60111	55.43379
MG	50.000	107786.32254	0.821	7.25526	7.16722	7.14322
NA	50.000	51833.03426	0.557	3.47882	3.44867	3.44302
S	50.000	9068.06388	0.207	0.71946	0.72080	0.71784
SI	50.000	14222.50061	0.675	0.95592	0.94494	0.94472
Y1	50.000	12605.81382	1.122	12556.17703	12495.93203	12765.33240
Y2R	50.000	14994.71608	0.861	14891.61835	14953.06275	15139.46713

LANCASTER LABORATORIES

Run Name: 1812201T70

Instrument ID: 11016

Tube: 3

Date/Time: 05/02/2018 01:46

Sample Number: **S2**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	1.000	12580.98652	0.626	2.67320	2.67820	2.70448
AS	1.000	359.40749	1.434	1.47324	1.43275	1.44478
B	1.000	8296.17523	0.656	0.03519	0.03540	0.03565
BA	1.000	569320.56407	1.651	2.42666	2.47199	2.39200
BE	1.000	396206.16579	2.147	82.49514	85.81162	85.43503
CD	1.000	15316.70356	1.109	62.59370	61.36202	61.45596
CO	1.000	7668.83096	1.059	31.31942	30.71543	30.79765
CU	1.000	9796.07903	0.294	2.09462	2.08368	2.09399
LI	1.000	5686.76866	0.764	0.38045	0.37673	0.37478
MN	1.000	65575.99687	0.568	13.91837	13.99436	14.07735
NI	1.000	5383.74484	1.071	21.99161	21.57255	21.60700
P	1.000	338.19157	1.087	0.02762	0.02705	0.02721
PB	1.000	1316.99058	1.206	5.38725	5.28762	5.26758
SE	1.000	304.21647	1.198	1.23819	1.21075	1.23363
SR	1.000	513160.51031	1.299	2.22000	2.16330	2.18745
TH	1.000	187.70107	2.533	0.01210	0.01271	0.01255
TL	1.000	305.34594	0.899	1.24457	1.22819	1.22347
W	1.000	1232.52547	1.337	0.10095	0.09839	0.09906
Y1	1.000	12392.04090	0.733	12289.02865	12460.83133	12426.26273
Y2A	1.000	234267.06615	1.486	238272.51149	232555.76654	231972.92041
Y2R	1.000	15072.19493	0.790	14936.62675	15120.23168	15159.72638
ZN	1.000	8126.05265	1.192	33.23563	32.50898	32.62327

LANCASTER LABORATORIES

Run Name: 1812201T70

Instrument ID: 11016

Tube: 4

Date/Time: 05/02/2018 01:49

Sample Number: **S3**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
CR	1.000	11584.28614	0.345	0.04709	0.04732	0.04740
MO	1.000	2347.18820	0.270	9.15642	9.16536	9.11883
SB	1.000	518.79501	0.279	0.04051	0.04030	0.04049
SN	1.000	1216.59919	0.154	4.73307	4.74258	4.74746
TI	1.000	49860.62575	0.438	10.12332	10.18414	10.21015
V	1.000	16746.91566	0.683	3.39004	3.42669	3.43335
Y1	1.000	12830.55819	0.474	12895.57633	12775.18996	12820.90827
Y2A	1.000	245075.15117	0.327	244997.90168	245911.99361	244315.55822
Y2R	1.000	15224.21979	0.753	15171.12233	15145.82917	15355.70788
ZR	1.000	2529.40572	0.760	0.16710	0.16664	0.16471

LANCASTER LABORATORIES

Run Name: 1812201T70

Instrument ID: 11016

Tube: 5

Date/Time: 05/02/2018 01:53

Sample Number: **ICV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.61807	7,865.02	1.074	0.61997	0.62356	0.61069
____ AL	30.22663	4,336.45	0.309	30.33438	30.17141	30.17410
____ AS	0.60989	221.97	0.446	0.61303	0.60831	0.60833
____ B	0.59262	5,248.24	1.123	0.59439	0.59821	0.58525
____ BA	0.62036	359,588.99	2.126	0.60791	0.63418	0.61898
____ BE	0.58740	236,812.38	0.919	0.58921	0.59165	0.58132
____ CA	30.14893	39,011.80	0.415	30.28931	30.04868	30.10881
____ CD	0.60117	9,414.91	0.647	0.60510	0.60109	0.59732
____ CO	0.59273	4,658.01	0.688	0.59678	0.59280	0.58862
____ CR	0.57642	6,495.71	0.387	0.57691	0.57837	0.57399
____ CU	0.61447	6,051.45	0.863	0.61604	0.61881	0.60855
____ FE	30.23368	11,987.03	0.383	30.34335	30.11287	30.24482
____ K	30.41043	10,312.73	0.508	30.43555	30.24494	30.55080
____ LI	0.60783	3,443.06	1.353	0.60540	0.61700	0.60109
____ MG	30.17093	65,672.17	0.397	30.30607	30.07790	30.12881
____ MN	0.60494	40,376.82	0.923	0.60676	0.60938	0.59866
____ MO	0.58550	1,356.04	0.827	0.59100	0.58361	0.58189
____ NA	29.38561	30,127.23	0.683	29.61625	29.25191	29.28866
____ NI	0.60209	3,305.72	0.620	0.60511	0.60325	0.59792
____ P	0.60587	208.50	0.354	0.60824	0.60532	0.60405
____ PB	0.59551	817.93	0.860	0.60107	0.59445	0.59100
____ S	30.24268	5,501.69	0.736	30.48748	30.18838	30.05218
____ SB	0.61514	308.16	0.823	0.61705	0.61897	0.60940
____ SE	0.59889	187.88	0.598	0.60138	0.59479	0.60052
____ SI	30.38875	8,721.38	0.512	30.52924	30.22145	30.41557
____ SN	0.57677	692.48	0.545	0.57994	0.57672	0.57366
____ SR	0.60298	315,756.92	0.473	0.60016	0.60586	0.60291
____ TH	0.55698	115.69	3.752	0.57618	0.53472	0.56004
____ TI	0.60894	29,536.95	0.714	0.61037	0.61239	0.60406
____ TL	0.60129	174.89	0.789	0.59691	0.60634	0.60062
____ V	0.60009	9,763.78	0.876	0.60446	0.60157	0.59426
____ W	0.60894	767.63	0.735	0.61407	0.60695	0.60581
____ Y1	12652.58780	12,652.59	0.354	12607.32354	12653.54894	12696.89093
____ Y2A	238382.93935	238,382.94	0.783	236909.27500	237758.97141	240480.57163
____ Y2R	15063.93097	15,063.93	0.460	15143.32669	15032.19773	15016.26849
____ ZN	0.60108	5,011.65	0.673	0.60421	0.60251	0.59651
____ ZR	0.56641	1,502.92	0.334	0.56436	0.56678	0.56809

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 6 Date/Time: 05/02/2018 01:56

Sample Number: **ICB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00004	-73.16	3239.546	-0.00013	-0.00119	0.00144
____ AL	0.00202	-1.20	820.496	0.01312	0.01000	-0.01705
____ AS	0.00128	-1.70	327.964	0.00262	-0.00343	0.00465
____ B	0.00156	-7.88	32.949	0.00114	0.00213	0.00140
____ BA	0.00013	123.25	57.045	0.00022	0.00007	0.00010
____ BE	0.00000	-111.23	1290.211	-0.00002	-0.00002	0.00003
____ CA	0.00871	79.75	35.693	0.01173	0.00552	0.00889
____ CD	-0.00004	-18.68	218.523	0.00000	0.00002	-0.00012
____ CO	-0.00002	24.70	1504.620	0.00033	-0.00003	-0.00037
____ CR	0.00046	6.89	105.575	-0.00010	0.00075	0.00074
____ CU	-0.00147	-86.27	43.265	-0.00097	-0.00125	-0.00219
____ FE	0.00472	13.22	93.620	0.00973	0.00137	0.00306
____ K	-0.01101	298.03	698.138	0.06667	-0.01267	-0.08703
____ LI	-0.00232	-53.80	231.121	-0.00058	-0.00835	0.00196
____ MG	-0.01141	-24.86	19.647	-0.01124	-0.00926	-0.01374
____ MN	0.00008	28.87	67.090	0.00005	0.00013	0.00005
____ MO	0.00070	3.68	34.040	0.00052	0.00097	0.00061
____ NA	0.10778	-1,047.32	61.553	0.13074	0.15959	0.03301
____ NI	-0.00011	35.16	251.738	0.00012	-0.00042	-0.00004
____ P	0.00035	-1.73	685.958	0.00311	-0.00071	-0.00135
____ PB	-0.00038	-4.69	565.237	0.00210	-0.00156	-0.00168
____ S	0.00003	3.30	1200.130	0.00246	0.00492	-0.00730
____ SB	0.00279	-11.40	84.345	0.00068	0.00235	0.00532
____ SE	-0.00892	3.00	34.908	-0.01252	-0.00706	-0.00718
____ SI	0.00395	11.17	240.221	0.00834	-0.00694	0.01047
____ SN	0.00139	2.90	109.057	0.00007	0.00304	0.00106
____ SR	0.00000	141.34	6047.644	-0.00004	0.00003	0.00002
____ TH	-0.01955	9.53	83.205	-0.02731	-0.03047	-0.00086
____ TI	0.00011	17.75	214.234	-0.00011	0.00035	0.00008
____ TL	0.00130	-5.82	259.691	-0.00237	0.00201	0.00425
____ V	0.00049	-73.25	7.846	0.00053	0.00045	0.00050
____ W	0.00009	3.64	446.570	0.00040	-0.00035	0.00021
____ Y1	12719.41696	12,719.42	0.353	12667.60507	12744.81330	12745.83250
____ Y2A	239414.19137	239,414.19	0.581	239686.60323	237908.20508	240647.76581
____ Y2R	15120.29172	15,120.29	1.155	15097.60172	15305.21457	14958.05888
____ ZN	-0.00022	16.34	47.046	-0.00034	-0.00014	-0.00019
____ ZR	0.00368	-9.99	132.986	0.00458	0.00807	-0.00160

LANCASTER LABORATORIES

Run Name: 1812201T70

Instrument ID: 11016

Tube: 7

Date/Time: 05/02/2018 02:00

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00704	-29.47	18.321	0.00852	0.00648	0.00613
____ AL	0.17069	26.82	22.518	0.16146	0.21291	0.13772
____ AS	0.02074	5.63	7.383	0.01993	0.02251	0.01978
____ B	0.04931	420.63	3.548	0.04732	0.05062	0.04998
____ BA	0.00568	3,536.73	13.661	0.00517	0.00529	0.00657
____ BE	0.00521	2,105.37	15.286	0.00468	0.00483	0.00613
____ CA	0.20600	345.37	1.744	0.20993	0.20289	0.20519
____ CD	0.00513	64.10	4.544	0.00536	0.00489	0.00516
____ CO	0.00489	64.72	6.769	0.00526	0.00461	0.00482
____ CR	0.01515	182.09	3.734	0.01512	0.01460	0.01573
____ CU	0.00900	77.60	8.555	0.00952	0.00811	0.00936
____ FE	0.20684	96.80	4.688	0.21634	0.19695	0.20722
____ K	0.49834	479.06	6.811	0.53693	0.47312	0.48496
____ LI	0.02210	89.08	12.284	0.02388	0.02344	0.01897
____ MG	0.09332	211.31	5.335	0.09744	0.08779	0.09473
____ MN	0.00571	423.11	15.592	0.00514	0.00525	0.00674
____ MO	0.01005	25.93	0.804	0.01007	0.01012	0.00996
____ NA	1.13118	47.00	1.450	1.14705	1.13219	1.11429
____ NI	0.01059	95.74	3.005	0.01023	0.01083	0.01070
____ P	0.09925	33.31	2.454	0.10108	0.09649	0.10019
____ PB	0.01346	14.45	21.906	0.01084	0.01290	0.01665
____ S	0.47907	92.69	0.766	0.48185	0.47491	0.48045
____ SB	0.02568	0.57	7.436	0.02538	0.02395	0.02773
____ SE	0.01095	9.26	24.506	0.01405	0.00948	0.00933
____ SI	0.03756	21.94	21.523	0.03672	0.04602	0.02992
____ SN	0.02027	26.17	3.349	0.01951	0.02050	0.02081
____ SR	0.00551	3,193.02	15.286	0.00502	0.00503	0.00648
____ TH	0.16975	43.99	19.225	0.20681	0.14531	0.15714
____ TI	0.01041	546.72	11.775	0.00940	0.01007	0.01178
____ TL	0.03456	4.79	8.466	0.03793	0.03272	0.03302
____ V	0.00556	14.56	15.114	0.00464	0.00574	0.00629
____ W	0.00896	15.29	16.315	0.00848	0.01060	0.00780
____ Y1	12976.26324	12,976.26	0.136	12967.91246	12996.50744	12964.36982
____ Y2A	251940.65018	251,940.65	0.349	251940.91271	252819.07500	251061.96282
____ Y2R	15535.44744	15,535.45	0.647	15450.83933	15508.93924	15646.56375
____ ZN	0.02014	189.21	1.494	0.02025	0.01980	0.02037
____ ZR	0.04354	125.50	4.175	0.04319	0.04551	0.04192

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 8 Date/Time: 05/02/2018 02:03

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00147	-409.52	89.361	0.00032	0.00290	0.00120
____ AL	485.94100	67,538.90	1.146	492.28872	481.87525	483.65903
____ AS	-0.00549	-13.72	75.791	-0.00069	-0.00800	-0.00779
____ B	0.04484	1,845.35	0.958	0.04489	0.04439	0.04524
____ BA	0.00093	530.59	10.784	0.00103	0.00084	0.00090
____ BE	-0.00072	-366.25	5.446	-0.00077	-0.00069	-0.00071
____ CA	497.57824	599,534.11	2.301	498.26314	508.66991	485.80169
____ CD	-0.00322	58.87	5.174	-0.00341	-0.00316	-0.00309
____ CO	-0.00019	21.53	123.751	-0.00015	0.00003	-0.00043
____ CR	-0.00217	-20.75	60.063	-0.00273	-0.00309	-0.00068
____ CU	-0.00696	93.02	12.208	-0.00599	-0.00735	-0.00754
____ FE	198.18632	72,574.24	1.180	200.86199	196.53573	197.16125
____ K	0.13382	333.17	66.902	0.03344	0.16261	0.20541
____ LI	-0.00209	12.98	222.424	-0.00583	0.00312	-0.00357
____ MG	462.38179	867,420.59	0.308	463.92687	462.09077	461.12774
____ MN	0.00444	291.65	1.572	0.00438	0.00452	0.00444
____ MO	0.00089	3.77	41.131	0.00130	0.00063	0.00073
____ NA	0.18335	-931.88	10.905	0.20048	0.16138	0.18820
____ NI	0.00551	-7.33	13.365	0.00582	0.00467	0.00604
____ P	0.00696	0.52	24.945	0.00609	0.00583	0.00896
____ PB	0.00959	199.62	41.061	0.01349	0.00562	0.00967
____ S	0.05173	11.74	22.597	0.04389	0.04613	0.06517
____ SB	-0.00307	-20.37	205.782	-0.00140	-0.01004	0.00224
____ SE	-0.00039	4.97	1358.578	0.00232	-0.00645	0.00298
____ SI	-0.01235	6.30	59.597	-0.01132	-0.02018	-0.00556
____ SN	0.00202	3.34	64.683	0.00206	0.00329	0.00069
____ SR	-0.00093	12,854.86	73.230	-0.00074	-0.00169	-0.00037
____ TH	0.00074	44.47	3186.411	-0.02433	0.00391	0.02265
____ TI	0.00121	64.89	27.727	0.00092	0.00113	0.00158
____ TL	0.01272	-7.78	28.006	0.00920	0.01263	0.01632
____ V	0.00285	-30.13	45.387	0.00294	0.00409	0.00151
____ W	0.00032	3.68	394.877	0.00117	0.00094	-0.00114
____ Y1	11689.45642	11,689.46	1.572	11524.63754	11656.07075	11887.66098
____ Y2A	217437.94066	217,437.94	0.659	215812.18856	218518.69136	217982.94206
____ Y2R	14570.86575	14,570.87	0.463	14647.04269	14546.87812	14518.67644
____ ZN	0.00652	169.31	9.187	0.00679	0.00693	0.00583
____ ZR	0.00220	-10.04	298.891	0.00590	0.00610	-0.00540

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 9 Date/Time: 05/02/2018 02:06

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.21426	2,089.78	1.464	0.21487	0.21086	0.21704
____ AL	497.09019	67,708.65	0.074	497.24123	497.35674	496.67262
____ AS	0.08735	17.36	10.606	0.08839	0.09605	0.07761
____ B	0.04781	1,866.33	6.665	0.04479	0.04751	0.05114
____ BA	0.51621	267,703.33	0.524	0.51712	0.51317	0.51834
____ BE	0.49814	179,746.85	1.004	0.49580	0.49473	0.50388
____ CA	500.10571	590,030.21	1.081	501.58763	504.61442	494.11510
____ CD	0.94376	13,462.03	0.647	0.95024	0.94292	0.93812
____ CO	0.47270	3,357.44	0.626	0.47569	0.47264	0.46978
____ CR	0.47058	4,746.95	0.694	0.46935	0.46811	0.47428
____ CU	0.52118	4,692.81	0.671	0.51923	0.51909	0.52521
____ FE	202.56186	72,557.19	0.129	202.84724	202.50577	202.33258
____ K	0.07735	308.75	152.266	0.11004	0.17532	-0.05332
____ LI	-0.00314	7.38	68.518	-0.00516	-0.00338	-0.00088
____ MG	457.20005	841,203.58	1.601	449.03501	459.39153	463.17361
____ MN	0.49310	29,473.00	0.949	0.49117	0.48969	0.49844
____ MO	0.00160	5.19	13.381	0.00185	0.00152	0.00144
____ NA	0.14602	-950.28	22.354	0.18367	0.12564	0.12876
____ NI	0.94313	4,622.31	0.507	0.94852	0.94149	0.93939
____ P	0.00947	2.01	51.342	0.00394	0.01306	0.01140
____ PB	0.53388	838.60	0.532	0.53662	0.53408	0.53095
____ S	0.05161	11.47	4.858	0.05406	0.04905	0.05172
____ SB	0.60034	265.54	1.092	0.59843	0.60764	0.59495
____ SE	0.52301	148.37	3.604	0.54451	0.50935	0.51517
____ SI	-0.01102	6.55	118.868	-0.01787	0.00408	-0.01928
____ SN	0.00415	5.59	35.998	0.00536	0.00459	0.00248
____ SR	-0.00056	12,857.36	88.928	-0.00067	-0.00099	-0.00002
____ TH	0.01651	46.29	269.485	0.06587	-0.02049	0.00415
____ TI	0.00264	125.72	8.863	0.00237	0.00282	0.00273
____ TL	0.09757	11.03	5.133	0.09265	0.09740	0.10266
____ V	0.50013	7,413.74	0.882	0.49743	0.49774	0.50522
____ W	-0.00311	11.67	64.983	-0.00078	-0.00414	-0.00440
____ Y1	11436.30886	11,436.31	0.634	11352.65049	11481.34857	11474.92752
____ Y2A	213381.49603	213,381.50	0.914	214909.55000	214050.35000	211184.58808
____ Y2R	14270.45136	14,270.45	0.331	14319.25844	14225.03998	14267.05566
____ ZN	0.99617	7,568.31	0.641	1.00341	0.99376	0.99134
____ ZR	0.00281	-5.93	150.730	-0.00208	0.00517	0.00536

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 10 Date/Time: 05/02/2018 02:10

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.52111	6,456.86	0.938	0.52391	0.51546	0.52394
____ AL	26.19579	3,814.03	5.500	25.54403	25.19605	27.84729
____ AS	0.51832	185.32	0.797	0.51847	0.51412	0.52238
____ B	0.50127	4,332.67	0.641	0.50436	0.49794	0.50151
____ BA	0.52291	295,915.28	0.712	0.52591	0.51874	0.52407
____ BE	0.50154	197,396.36	0.955	0.50653	0.49698	0.50111
____ CA	26.03560	34,221.85	5.819	25.32433	25.00722	27.77526
____ CD	0.51224	7,892.15	0.625	0.51587	0.51102	0.50984
____ CO	0.51204	3,963.24	0.525	0.51440	0.51260	0.50911
____ CR	0.48861	5,375.99	0.489	0.49073	0.48602	0.48908
____ CU	0.52435	5,036.00	0.605	0.52605	0.52069	0.52632
____ FE	25.76709	10,387.02	1.411	25.72228	25.42788	26.15109
____ K	25.10907	8,699.82	1.830	25.52337	25.18878	24.61504
____ LI	0.51475	2,954.81	1.579	0.52140	0.51717	0.50569
____ MG	25.80232	57,079.49	5.926	25.07617	24.77162	27.55916
____ MN	0.51846	33,788.73	0.735	0.52228	0.51466	0.51843
____ MO	0.49812	1,135.65	0.451	0.50001	0.49871	0.49564
____ NA	25.23096	26,100.15	1.453	25.61837	25.18480	24.88970
____ NI	0.51454	2,785.49	0.448	0.51681	0.51461	0.51221
____ P	0.51250	173.29	0.889	0.51764	0.50898	0.51087
____ PB	0.50886	687.22	0.511	0.50770	0.50705	0.51184
____ S	24.85116	4,449.60	0.458	24.97018	24.84003	24.74326
____ SB	0.50592	247.32	0.291	0.50541	0.50758	0.50477
____ SE	0.50453	156.63	2.056	0.51050	0.51054	0.49255
____ SI	25.02231	7,294.55	1.592	25.36853	25.11158	24.58681
____ SN	0.48871	577.61	0.768	0.49281	0.48787	0.48545
____ SR	0.50907	260,306.49	0.808	0.50545	0.50822	0.51355
____ TH	0.48563	103.95	4.100	0.50862	0.47410	0.47417
____ TI	0.51476	24,379.53	0.568	0.51768	0.51183	0.51476
____ TL	0.51632	147.04	1.462	0.52375	0.50865	0.51656
____ V	0.50778	8,053.75	0.583	0.51050	0.50463	0.50822
____ W	0.50931	632.58	0.981	0.51334	0.51088	0.50372
____ Y1	12451.63830	12,451.64	0.499	12381.26747	12498.85706	12474.79038
____ Y2A	232737.47755	232,737.48	0.562	231751.89583	234221.56256	232238.97426
____ Y2R	15296.67047	15,296.67	0.995	15206.21511	15472.45763	15211.33866
____ ZN	0.51646	4,239.98	0.412	0.51890	0.51541	0.51506
____ ZR	0.46842	1,263.56	2.235	0.47643	0.47226	0.45658

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 11 Date/Time: 05/02/2018 02:13

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00068	-86.96	239.058	-0.00066	-0.00230	0.00093
____ AL	-0.01461	-3.40	219.360	0.00190	-0.05155	0.00582
____ AS	-0.00214	-2.97	59.517	-0.00163	-0.00120	-0.00359
____ B	0.00148	-8.67	26.063	0.00107	0.00153	0.00183
____ BA	0.00000	44.26	2773.402	0.00011	-0.00014	0.00001
____ BE	0.00001	-107.41	857.507	0.00009	-0.00006	0.00000
____ CA	0.00856	79.23	18.462	0.00968	0.00926	0.00675
____ CD	-0.00005	-18.93	174.754	-0.00014	-0.00006	0.00004
____ CO	0.00023	26.66	91.700	0.00045	0.00005	0.00018
____ CR	-0.00119	-11.89	57.818	-0.00041	-0.00169	-0.00147
____ CU	-0.00111	-79.40	118.779	-0.00263	-0.00040	-0.00030
____ FE	0.00060	11.53	625.377	0.00245	0.00307	-0.00372
____ K	-0.05340	282.69	106.704	-0.10756	-0.05867	0.00603
____ LI	-0.00107	-46.26	740.240	0.00767	-0.00765	-0.00322
____ MG	-0.01030	-22.35	16.991	-0.00878	-0.00991	-0.01221
____ MN	0.00014	33.43	113.430	0.00031	-0.00001	0.00013
____ MO	0.00028	2.70	211.562	0.00024	-0.00029	0.00089
____ NA	0.02706	-1,129.23	134.272	0.03603	-0.01292	0.05807
____ NI	0.00007	36.16	639.691	0.00010	-0.00038	0.00048
____ P	-0.00020	-1.93	525.818	-0.00139	0.00066	0.00013
____ PB	0.00045	-3.57	662.214	0.00284	0.00136	-0.00286
____ S	0.00269	3.79	193.010	0.00336	-0.00281	0.00753
____ SB	0.00579	-9.88	56.202	0.00469	0.00946	0.00323
____ SE	-0.00492	4.22	34.193	-0.00616	-0.00300	-0.00558
____ SI	0.00334	10.93	233.637	-0.00439	0.00320	0.01119
____ SN	0.00037	1.67	330.766	0.00174	0.00005	-0.00067
____ SR	0.00003	157.07	176.782	0.00004	0.00007	-0.00002
____ TH	-0.00647	11.76	581.430	0.01143	-0.04966	0.01883
____ TI	-0.00009	8.26	110.320	0.00000	-0.00019	-0.00008
____ TL	0.00144	-5.77	80.731	0.00077	0.00076	0.00278
____ V	0.00014	-79.45	141.284	0.00035	0.00009	-0.00003
____ W	-0.00072	2.63	52.909	-0.00062	-0.00040	-0.00114
____ Y1	12723.23603	12,723.24	0.145	12706.59538	12743.04973	12720.06296
____ Y2A	241692.73830	241,692.74	0.933	243386.62500	239134.62882	242556.96108
____ Y2R	15053.59336	15,053.59	0.649	14998.50419	15166.30976	14995.96614
____ ZN	-0.00021	16.49	90.486	-0.00041	-0.00004	-0.00017
____ ZR	0.00205	-11.99	138.705	0.00374	0.00364	-0.00123

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 12 Date/Time: 05/02/2018 02:17

Sample Number: **PBW** Class: **** Batch: 181130184807

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	0.00171	-52.13	100.907	0.00235	-0.00024	0.00303
____ AL	0.01354	0.45	185.596	0.02192	0.03342	-0.01471
____ AS	0.00237	-1.30	94.783	0.00495	0.00081	0.00136
____ B	0.00112	-11.59	43.297	0.00123	0.00153	0.00058
____ BA	0.00014	129.34	15.972	0.00017	0.00013	0.00013
____ BE	-0.00002	-117.41	136.166	-0.00001	-0.00004	0.00000
____ CA	0.01300	86.64	59.964	0.00900	0.02198	0.00802
____ CD	-0.00003	-18.59	335.534	-0.00003	0.00007	-0.00012
____ CO	-0.00009	24.18	11.999	-0.00009	-0.00011	-0.00009
____ CR	0.00008	2.58	1038.365	-0.00031	-0.00049	0.00104
____ CU	-0.00165	-87.34	120.425	-0.00246	0.00061	-0.00310
____ FE	0.01116	16.05	80.456	0.00128	0.01882	0.01339
____ K	0.05021	322.94	12.457	0.05629	0.05053	0.04380
____ LI	0.00978	16.19	56.384	0.00854	0.00499	0.01580
____ MG	-0.01236	-27.39	15.720	-0.01122	-0.01125	-0.01460
____ MN	0.00013	32.47	21.579	0.00010	0.00012	0.00016
____ MO	0.00000	2.05	4822.142	0.00053	-0.00027	-0.00027
____ NA	0.07174	-1,102.50	20.546	0.05486	0.08207	0.07828
____ NI	0.00050	38.58	99.359	0.00081	-0.00007	0.00076
____ P	0.00049	-1.69	410.414	0.00089	-0.00168	0.00225
____ PB	-0.00367	-9.14	88.500	-0.00414	-0.00665	-0.00021
____ S	0.00022	3.34	3272.530	-0.00333	0.00834	-0.00436
____ SB	0.00158	-12.05	281.733	-0.00347	0.00329	0.00493
____ SE	-0.00855	3.12	55.982	-0.00309	-0.01052	-0.01203
____ SI	0.01313	13.98	82.563	0.01445	0.02324	0.00169
____ SN	0.00184	3.44	84.996	0.00364	0.00106	0.00082
____ SR	0.00003	155.01	249.637	0.00000	-0.00002	0.00010
____ TH	-0.01693	10.14	168.251	-0.00183	-0.04979	0.00083
____ TI	-0.00005	10.28	185.043	-0.00007	-0.00012	0.00005
____ TL	0.00473	-4.73	102.374	0.00255	0.00136	0.01027
____ V	0.00008	-79.98	288.348	0.00014	-0.00017	0.00028
____ W	-0.00100	2.30	201.848	-0.00319	0.00078	-0.00059
____ Y1	12740.27763	12,740.28	0.236	12713.29240	12734.88907	12772.65141
____ Y2A	239851.23693	239,851.24	0.623	240981.80459	238157.75948	240414.14671
____ Y2R	15345.98547	15,345.99	0.412	15275.82768	15398.50598	15363.62275
____ ZN	0.00058	23.05	20.390	0.00050	0.00052	0.00072
____ ZR	0.00030	-18.43	1821.471	-0.00498	0.00596	-0.00008

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 13 Date/Time: 05/02/2018 02:20

Sample Number: **LCSW** Class: **** Batch: 181130184807

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	0.05423	713.76	2.126	0.05332	0.05384	0.05552
____ AL	1.88460	313.76	2.816	1.92602	1.90300	1.82479
____ AS	0.16241	59.43	1.841	0.16462	0.15901	0.16360
____ B	1.96915	16,920.77	0.170	1.96922	1.97245	1.96578
____ BA	2.09326	1,232,385.94	0.668	2.09412	2.07886	2.10679
____ BE	0.05054	20,600.16	0.308	0.05070	0.05053	0.05039
____ CA	4.22315	5,617.95	0.233	4.21740	4.21755	4.23451
____ CD	0.05285	822.39	0.119	0.05286	0.05279	0.05291
____ CO	0.53525	4,281.85	0.512	0.53606	0.53219	0.53750
____ CR	0.20023	2,293.72	0.200	0.20006	0.19995	0.20069
____ CU	0.27274	2,550.73	1.435	0.27203	0.27695	0.26922
____ FE	1.05671	439.63	1.521	1.05561	1.04120	1.07330
____ K	10.51430	3,819.18	0.993	10.45115	10.45689	10.63486
____ LI	1.07713	6,218.74	0.493	1.08055	1.07101	1.07981
____ MG	2.07819	4,624.82	0.131	2.07779	2.07569	2.08109
____ MN	0.53431	36,250.83	0.282	0.53603	0.53324	0.53365
____ MO	2.01166	4,724.03	0.496	2.01924	2.00036	2.01540
____ NA	10.69953	10,387.72	0.227	10.69147	10.68033	10.72680
____ NI	0.54338	3,047.79	0.384	0.54573	0.54176	0.54264
____ P	1.04277	364.39	0.693	1.04593	1.03451	1.04788
____ PB	0.15945	215.32	0.906	0.16025	0.16032	0.15778
____ S	1.03160	193.87	1.171	1.02819	1.02158	1.04502
____ SB	0.52922	261.10	1.016	0.52939	0.52376	0.53451
____ SE	0.15034	52.08	3.575	0.14619	0.14843	0.15641
____ SI	1.00256	327.79	1.106	0.99065	1.01260	1.00445
____ SN	3.98068	4,843.72	0.367	3.98842	3.96383	3.98978
____ SR	1.05960	562,224.40	0.453	1.05723	1.05644	1.06513
____ TH	-0.01864	11.84	191.043	-0.00033	-0.05968	0.00409
____ TI	1.03117	50,812.61	0.259	1.03423	1.03001	1.02927
____ TL	0.16347	37.64	0.614	0.16237	0.16433	0.16371
____ V	0.52315	8,076.60	0.330	0.52514	0.52228	0.52204
____ W	-0.00142	8.98	18.549	-0.00152	-0.00162	-0.00112
____ Y1	12842.55620	12,842.56	0.358	12796.55638	12888.53573	12842.57648
____ Y2A	242206.14152	242,206.14	0.081	242002.79441	242394.29781	242221.33234
____ Y2R	15292.45482	15,292.45	0.416	15275.56932	15362.76224	15239.03290
____ ZN	0.53309	4,497.04	0.437	0.53531	0.53066	0.53329
____ ZR	0.98859	2,508.48	0.609	0.98515	0.98507	0.99554

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 14 Date/Time: 05/02/2018 02:24

Sample Number: **9570349** Class: U*** Batch: 181130184807

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	-0.00034	-80.57	145.110	-0.00089	0.00004	-0.00017
____ AL	0.47806	67.13	2.234	0.46744	0.48880	0.47794
____ AS	0.00004	-1.98	3596.577	-0.00165	0.00303	-0.00125
____ B	0.11529	951.63	0.705	0.11449	0.11527	0.11611
____ BA	0.12138	69,660.37	0.556	0.12144	0.12068	0.12203
____ BE	0.00002	-100.62	253.612	0.00000	-0.00002	0.00008
____ CA	32.10369	41,961.76	0.736	32.31302	32.15040	31.84765
____ CD	0.00010	-15.45	236.765	0.00003	0.00038	-0.00009
____ CO	0.02710	229.15	1.743	0.02699	0.02762	0.02670
____ CR	0.00099	12.57	145.089	0.00077	-0.00032	0.00251
____ CU	0.00024	-46.16	667.354	-0.00123	0.00002	0.00193
____ FE	0.77199	322.78	1.151	0.77849	0.77562	0.76187
____ K	3.80553	1,569.51	0.967	3.84770	3.77977	3.78912
____ LI	0.00799	10.07	57.806	0.00269	0.01013	0.01114
____ MG	17.70466	39,059.81	0.755	17.82354	17.73060	17.55985
____ MN	1.71113	113,074.09	0.623	1.71305	1.69964	1.72071
____ MO	0.00072	3.60	44.495	0.00101	0.00078	0.00037
____ NA	75.17483	79,694.96	0.937	75.89333	75.14630	74.48486
____ NI	0.00944	81.69	7.616	0.00961	0.00865	0.01005
____ P	0.00563	0.10	33.671	0.00593	0.00735	0.00360
____ PB	-0.00389	-5.70	73.037	-0.00587	-0.00516	-0.00064
____ S	16.26457	2,883.71	0.396	16.32218	16.27648	16.19504
____ SB	0.00263	-11.14	54.861	0.00405	0.00117	0.00267
____ SE	-0.00184	4.98	182.123	-0.00421	-0.00332	0.00200
____ SI	12.08301	3,496.47	1.152	12.24199	12.02370	11.98335
____ SN	0.00112	2.49	172.990	-0.00095	0.00141	0.00291
____ SR	0.26840	139,765.33	0.524	0.26800	0.26723	0.26996
____ TH	-0.01436	10.66	142.037	-0.01186	0.00467	-0.03589
____ TI	0.01516	740.12	0.680	0.01514	0.01507	0.01527
____ TL	0.00198	-4.83	200.329	-0.00251	0.00498	0.00345
____ V	0.00158	-54.01	18.549	0.00190	0.00148	0.00135
____ W	-0.00067	2.81	192.435	0.00022	-0.00214	-0.00008
____ Y1	12314.07896	12,314.08	0.280	12353.42692	12289.50365	12299.30632
____ Y2A	236016.45632	236,016.46	0.499	235591.21756	237347.98782	235110.16357
____ Y2R	15220.57717	15,220.58	0.653	15135.53315	15329.86250	15196.33586
____ ZN	0.01566	143.87	0.481	0.01563	0.01560	0.01575
____ ZR	0.00064	-17.04	587.904	0.00249	-0.00370	0.00314

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 15 Date/Time: 05/02/2018 02:27

Sample Number: **9570349** Class: UP** Batch: 181130184807

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	0.02200	279.67	5.301	0.02334	0.02139	0.02125
____ AL	1.42842	210.47	2.145	1.41309	1.46371	1.40847
____ AS	0.50977	185.34	0.840	0.51334	0.51095	0.50502
____ B	0.30670	2,577.21	0.442	0.30703	0.30521	0.30786
____ BA	0.16840	97,593.30	0.219	0.16838	0.16804	0.16878
____ BE	0.01935	7,671.35	0.130	0.01935	0.01932	0.01938
____ CA	31.88129	41,691.69	0.867	31.71856	32.20042	31.72488
____ CD	0.04966	756.86	1.063	0.04946	0.05026	0.04927
____ CO	0.12454	992.85	0.754	0.12458	0.12546	0.12358
____ CR	0.18908	2,125.19	0.344	0.18969	0.18913	0.18840
____ CU	0.50788	4,860.66	0.321	0.50677	0.50711	0.50975
____ FE	1.24470	513.61	1.438	1.24375	1.26306	1.22731
____ K	5.56882	2,157.21	1.006	5.52766	5.54617	5.63264
____ LI	0.97564	5,609.04	0.466	0.97559	0.98021	0.97112
____ MG	18.03475	39,803.50	0.774	17.98237	18.19294	17.92894
____ MN	1.72717	114,923.62	0.078	1.72645	1.72633	1.72873
____ MO	0.19617	453.58	0.647	0.19698	0.19681	0.19471
____ NA	74.55523	79,066.77	0.680	74.42614	75.11399	74.12555
____ NI	0.15781	890.11	0.673	0.15747	0.15900	0.15696
____ P	1.01886	349.47	0.568	1.01917	1.02449	1.01293
____ PB	0.49198	660.42	1.043	0.48931	0.49790	0.48874
____ S	16.66003	3,020.77	0.578	16.64476	16.76296	16.57236
____ SB	0.40014	193.38	1.713	0.40440	0.40379	0.39224
____ SE	0.77261	238.98	0.975	0.77437	0.77911	0.76435
____ SI	12.70214	3,680.38	0.921	12.62072	12.83624	12.64947
____ SN	0.57494	687.12	0.786	0.57984	0.57404	0.57093
____ SR	0.28106	147,315.29	0.232	0.28171	0.28040	0.28107
____ TH	-0.02386	10.82	166.028	-0.05563	0.02053	-0.03648
____ TI	0.11446	5,545.13	0.286	0.11483	0.11422	0.11434
____ TL	0.97908	301.96	0.385	0.97705	0.98343	0.97677
____ V	0.10098	1,532.84	1.389	0.10225	0.09947	0.10121
____ W	-0.00070	4.40	126.968	0.00026	-0.00151	-0.00085
____ Y1	12593.82640	12,593.83	1.287	12776.07154	12466.07232	12539.33533
____ Y2A	237644.45733	237,644.46	0.741	236236.26620	237077.22056	239619.88523
____ Y2R	15228.11062	15,228.11	0.570	15286.58415	15128.44586	15269.30184
____ ZN	0.13310	1,119.63	0.346	0.13358	0.13305	0.13266
____ ZR	0.94723	2,391.69	0.716	0.94040	0.95397	0.94731

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 16 Date/Time: 05/02/2018 02:30

Sample Number: **9570349** Class: D*** Batch: 181130184807

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	0.00085	-65.40	65.992	0.00024	0.00135	0.00096
____ AL	0.56920	81.91	4.819	0.53869	0.59182	0.57710
____ AS	0.00244	-1.17	96.923	0.00495	0.00210	0.00026
____ B	0.11352	953.06	1.113	0.11497	0.11268	0.11290
____ BA	0.11931	69,658.40	0.295	0.11948	0.11954	0.11890
____ BE	0.00002	-101.67	34.889	0.00001	0.00003	0.00003
____ CA	31.18550	41,640.01	0.336	31.23311	31.25796	31.06545
____ CD	0.00053	-9.32	32.226	0.00043	0.00043	0.00073
____ CO	0.02605	229.69	0.785	0.02585	0.02626	0.02603
____ CR	0.00145	18.10	38.750	0.00194	0.00158	0.00084
____ CU	-0.00121	-62.59	111.924	-0.00043	-0.00043	-0.00277
____ FE	0.77392	330.49	2.601	0.77990	0.79039	0.75148
____ K	3.76631	1,589.92	1.892	3.68508	3.79551	3.81834
____ LI	0.00588	-2.30	97.654	-0.00046	0.01072	0.00737
____ MG	17.23465	38,842.26	0.505	17.26090	17.30558	17.13746
____ MN	1.67994	112,941.53	0.334	1.68569	1.67965	1.67448
____ MO	0.00060	3.47	105.993	0.00008	0.00042	0.00131
____ NA	73.22268	79,258.03	0.326	73.48953	73.14766	73.03085
____ NI	0.00860	80.30	10.048	0.00813	0.00807	0.00959
____ P	0.00817	1.00	43.333	0.00611	0.00614	0.01225
____ PB	-0.00049	-1.35	640.275	-0.00046	0.00265	-0.00367
____ S	15.80795	2,911.37	0.438	15.81209	15.73678	15.87497
____ SB	0.00491	-10.39	27.302	0.00388	0.00643	0.00443
____ SE	-0.00374	4.58	177.973	0.00030	-0.00010	-0.01142
____ SI	11.82412	3,495.12	0.490	11.88919	11.80512	11.77806
____ SN	0.00114	2.61	45.051	0.00109	0.00064	0.00166
____ SR	0.26303	139,346.09	0.480	0.26430	0.26302	0.26178
____ TH	-0.01688	10.42	126.679	-0.01794	-0.03772	0.00501
____ TI	0.01520	755.00	1.143	0.01529	0.01500	0.01531
____ TL	0.00102	-5.34	20.647	0.00117	0.00078	0.00112
____ V	0.00232	-42.40	42.663	0.00276	0.00119	0.00301
____ W	-0.00130	2.13	44.056	-0.00146	-0.00177	-0.00066
____ Y1	12790.65433	12,790.65	0.823	12756.16945	12706.94680	12908.84673
____ Y2A	240112.21227	240,112.21	0.248	239915.22931	239640.59376	240780.81372
____ Y2R	15546.69328	15,546.69	0.418	15472.66873	15594.39896	15573.01216
____ ZN	0.01501	144.01	2.251	0.01472	0.01493	0.01538
____ ZR	0.00258	-12.76	82.452	0.00141	0.00130	0.00504

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 17 Date/Time: 05/02/2018 02:34

Sample Number: **9570349** Class: R*** Batch: 181130184807

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	0.05249	689.03	2.450	0.05300	0.05103	0.05344
____ AL	2.79618	448.86	2.200	2.72725	2.84556	2.81571
____ AS	0.16337	57.73	2.065	0.16400	0.15973	0.16639
____ B	2.09711	17,962.34	0.911	2.08199	2.09075	2.11858
____ BA	2.16311	1,268,702.22	1.567	2.12872	2.16410	2.19650
____ BE	0.05018	20,380.46	0.982	0.04975	0.05008	0.05072
____ CA	36.02357	47,739.32	0.212	36.05883	35.93603	36.07584
____ CD	0.05133	769.76	0.692	0.05098	0.05131	0.05169
____ CO	0.53949	4,158.35	0.228	0.53930	0.53837	0.54081
____ CR	0.19702	2,248.50	1.282	0.19540	0.19573	0.19993
____ CU	0.26391	2,472.06	0.703	0.26221	0.26364	0.26589
____ FE	1.89164	785.29	0.587	1.87944	1.89433	1.90116
____ K	14.04994	5,048.95	0.948	14.11646	13.89660	14.13678
____ LI	1.02031	5,949.49	0.632	1.02671	1.01382	1.02041
____ MG	19.63116	43,911.35	0.225	19.62811	19.58861	19.67677
____ MN	2.22174	150,103.00	1.235	2.19534	2.21975	2.25011
____ MO	2.00299	4,533.43	0.370	2.00082	1.99690	2.01125
____ NA	84.87134	91,421.80	0.231	85.07601	84.68591	84.85210
____ NI	0.52681	2,845.64	0.582	0.52502	0.52505	0.53035
____ P	1.06090	357.32	0.652	1.05764	1.05622	1.06884
____ PB	0.14932	197.88	1.760	0.15034	0.14633	0.15128
____ S	17.23028	3,070.46	0.245	17.21189	17.20035	17.27859
____ SB	0.53022	252.10	0.516	0.53149	0.52709	0.53209
____ SE	0.14132	47.49	3.097	0.14511	0.14233	0.13653
____ SI	13.65953	4,035.31	0.258	13.66941	13.62035	13.68884
____ SN	3.95646	4,640.01	0.301	3.94917	3.95002	3.97020
____ SR	1.28217	678,841.82	0.363	1.28556	1.27685	1.28408
____ TH	-0.03167	9.78	91.311	-0.00148	-0.03441	-0.05912
____ TI	1.04436	51,274.82	0.854	1.03827	1.04021	1.05459
____ TL	0.15507	34.29	1.322	0.15281	0.15681	0.15559
____ V	0.52100	8,013.31	1.027	0.51601	0.52033	0.52665
____ W	-0.00252	7.31	63.798	-0.00261	-0.00408	-0.00087
____ Y1	12377.69648	12,377.70	0.303	12390.30291	12407.22133	12335.56521
____ Y2A	241374.94439	241,374.94	3.726	246783.75349	246347.00599	230994.07371
____ Y2R	15439.33899	15,439.34	0.248	15399.88022	15476.43014	15441.70661
____ ZN	0.53220	4,326.82	0.549	0.53048	0.53054	0.53557
____ ZR	0.98641	2,524.81	1.196	0.97444	0.98678	0.99802

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 18 Date/Time: 05/02/2018 02:37

Sample Number: **9570349** Class: M*** Batch: 181130184807

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	0.05416	694.44	1.276	0.05350	0.05408	0.05488
____ AL	2.82350	450.59	1.855	2.87834	2.77401	2.81816
____ AS	0.16135	58.11	1.580	0.16366	0.16178	0.15862
____ B	2.08714	17,634.14	0.775	2.10048	2.06914	2.09179
____ BA	2.18685	1,265,373.78	0.614	2.19953	2.17276	2.18827
____ BE	0.05011	20,075.85	0.862	0.05052	0.04966	0.05017
____ CA	35.64909	46,965.65	0.913	35.92548	35.29021	35.73158
____ CD	0.05147	786.95	0.428	0.05150	0.05168	0.05124
____ CO	0.53841	4,230.58	0.476	0.53769	0.54126	0.53629
____ CR	0.19724	2,220.72	0.525	0.19812	0.19610	0.19750
____ CU	0.26579	2,464.66	0.329	0.26678	0.26542	0.26515
____ FE	1.85712	766.62	0.737	1.87202	1.84507	1.85429
____ K	13.93688	4,981.25	0.829	14.00416	13.80353	14.00294
____ LI	1.01835	5,902.88	1.080	1.01857	1.00725	1.02924
____ MG	19.44108	43,231.14	0.839	19.56801	19.25708	19.49815
____ MN	2.20620	147,038.42	0.931	2.22583	2.18487	2.20791
____ MO	2.00033	4,615.20	0.474	1.99604	2.01119	1.99376
____ NA	84.32549	90,289.84	0.764	84.88951	83.62360	84.46336
____ NI	0.52772	2,905.85	0.491	0.52647	0.53070	0.52599
____ P	1.06529	365.76	0.942	1.06085	1.07678	1.05823
____ PB	0.15035	203.09	1.790	0.15306	0.14768	0.15031
____ S	17.10714	3,107.64	0.556	17.05636	17.21694	17.04814
____ SB	0.52916	256.45	2.104	0.51990	0.54151	0.52606
____ SE	0.14412	49.26	1.189	0.14445	0.14226	0.14564
____ SI	13.53787	3,976.03	1.108	13.66808	13.37383	13.57170
____ SN	3.96566	4,740.97	0.623	3.95008	3.99416	3.95273
____ SR	1.28283	669,864.15	0.625	1.27524	1.28204	1.29123
____ TH	-0.00441	14.58	677.995	-0.03810	0.00609	0.01880
____ TI	1.04444	50,582.43	0.745	1.05204	1.03649	1.04477
____ TL	0.16015	36.54	2.365	0.16242	0.16224	0.15577
____ V	0.52186	7,921.07	0.639	0.52532	0.51867	0.52160
____ W	-0.00243	7.60	25.163	-0.00175	-0.00263	-0.00292
____ Y1	12617.82267	12,617.82	0.736	12574.98251	12554.11923	12724.36627
____ Y2A	238053.21884	238,053.22	0.473	236922.15569	239175.52395	238061.97688
____ Y2R	15348.87944	15,348.88	0.985	15235.25603	15520.49631	15290.88599
____ ZN	0.53549	4,437.82	0.472	0.53332	0.53826	0.53488
____ ZR	0.98126	2,501.16	1.379	0.98854	0.96565	0.98958

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 19 Date/Time: 05/02/2018 02:41

Sample Number: **9570349** Class: UL** Batch: 181130184807

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	0.00020	-71.73	670.064	0.00167	-0.00007	-0.00099
____ AL	0.11209	14.31	8.122	0.10726	0.12259	0.10642
____ AS	0.00382	-0.73	83.852	0.00013	0.00594	0.00540
____ B	0.02671	205.54	0.482	0.02657	0.02675	0.02682
____ BA	0.02373	13,736.32	0.751	0.02376	0.02354	0.02389
____ BE	0.00001	-107.25	424.268	0.00001	0.00002	-0.00002
____ CA	6.31248	8,174.04	0.419	6.33617	6.28389	6.31737
____ CD	0.00032	-12.80	17.057	0.00035	0.00026	0.00036
____ CO	0.00569	68.58	6.908	0.00606	0.00528	0.00574
____ CR	0.00009	2.64	315.584	-0.00012	-0.00003	0.00042
____ CU	-0.00117	-77.58	49.409	-0.00104	-0.00066	-0.00179
____ FE	0.15753	73.62	3.486	0.15839	0.15166	0.16254
____ K	0.70894	529.87	6.313	0.67115	0.69729	0.75836
____ LI	0.00665	-1.15	10.402	0.00621	0.00629	0.00745
____ MG	3.52824	7,672.45	0.714	3.55727	3.51198	3.51548
____ MN	0.33893	22,549.38	0.850	0.33828	0.33642	0.34208
____ MO	0.00155	5.59	154.549	0.00429	0.00046	-0.00011
____ NA	15.04515	14,745.59	0.659	15.15849	14.97406	15.00289
____ NI	0.00210	46.13	23.857	0.00253	0.00155	0.00220
____ P	0.00410	-0.42	182.067	0.01084	0.00536	-0.00391
____ PB	-0.00338	-7.96	139.593	-0.00146	0.00007	-0.00876
____ S	3.11903	567.24	0.707	3.14447	3.10596	3.10666
____ SB	0.00467	-10.32	84.272	0.00875	0.00435	0.00090
____ SE	-0.00297	4.76	97.181	-0.00475	0.00036	-0.00450
____ SI	2.31641	666.39	0.378	2.31474	2.30861	2.32589
____ SN	0.00392	5.89	93.336	0.00813	0.00144	0.00220
____ SR	0.05247	27,598.27	0.693	0.05243	0.05212	0.05284
____ TH	-0.01659	9.97	126.796	0.00481	-0.03723	-0.01734
____ TI	0.00302	158.01	9.935	0.00305	0.00270	0.00329
____ TL	0.00188	-5.44	171.636	0.00500	-0.00143	0.00206
____ V	-0.00003	-81.57	1001.827	0.00005	0.00024	-0.00039
____ W	-0.00102	2.28	194.240	-0.00203	0.00126	-0.00227
____ Y1	12572.10995	12,572.11	0.426	12633.54152	12547.12403	12535.66430
____ Y2A	237429.85910	237,429.86	0.706	237207.75070	239207.22500	235874.60159
____ Y2R	14949.16538	14,949.17	0.581	14866.30456	14941.71657	15039.47500
____ ZN	0.00359	47.52	21.024	0.00445	0.00303	0.00329
____ ZR	0.00196	-13.76	195.921	-0.00005	-0.00046	0.00637

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 20 Date/Time: 05/02/2018 02:44

Sample Number: **9570341** Class: **** Batch: 181130184807

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	0.00060	-86.08	212.214	0.00048	0.00192	-0.00061
____ AL	10.20298	1,457.22	1.027	10.31859	10.11437	10.17599
____ AS	0.00342	-1.23	44.121	0.00169	0.00448	0.00408
____ B	0.04672	444.87	1.588	0.04698	0.04729	0.04588
____ BA	0.42870	236,736.64	0.547	0.42804	0.42676	0.43130
____ BE	0.00030	10.90	6.442	0.00028	0.00030	0.00032
____ CA	67.11223	87,172.00	1.067	67.93372	66.61899	66.78398
____ CD	0.00033	-5.18	92.339	0.00064	0.00033	0.00003
____ CO	0.00952	94.09	5.555	0.00946	0.01007	0.00902
____ CR	0.01224	132.99	5.831	0.01209	0.01161	0.01302
____ CU	0.01200	73.97	23.919	0.01212	0.01481	0.00907
____ FE	10.99621	4,422.56	1.038	11.12530	10.90870	10.95464
____ K	9.90135	3,587.04	1.941	10.04234	9.68246	9.97925
____ LI	0.00721	10.20	64.603	0.00306	0.00633	0.01224
____ MG	46.58573	101,750.05	1.145	47.19198	46.18855	46.37666
____ MN	0.57617	36,668.53	0.653	0.57484	0.57326	0.58042
____ MO	0.00280	8.02	6.682	0.00289	0.00259	0.00293
____ NA	458.11190	490,120.17	2.956	467.29858	442.56093	464.47619
____ NI	0.01022	79.03	6.286	0.01057	0.01062	0.00948
____ P	0.16876	53.19	2.785	0.17354	0.16414	0.16859
____ PB	0.02257	33.16	7.651	0.02399	0.02307	0.02065
____ S	18.01106	3,088.12	0.147	18.03703	17.98400	18.01217
____ SB	0.00189	-11.37	119.984	0.00376	-0.00064	0.00256
____ SE	0.00104	5.49	549.143	0.00677	-0.00463	0.00097
____ SI	14.53335	4,192.58	0.899	14.68374	14.44709	14.46924
____ SN	0.00365	5.26	36.623	0.00519	0.00296	0.00280
____ SR	0.45563	228,671.00	0.398	0.45475	0.45444	0.45772
____ TH	-0.02641	10.15	72.526	-0.01379	-0.04845	-0.01699
____ TI	0.14500	6,713.01	0.559	0.14445	0.14462	0.14593
____ TL	0.00702	-4.31	35.253	0.00707	0.00947	0.00452
____ V	0.01497	161.74	0.772	0.01510	0.01493	0.01489
____ W	-0.00160	2.63	72.118	-0.00293	-0.00083	-0.00105
____ Y1	11909.58823	11,909.59	0.058	11917.38024	11907.42238	11903.96208
____ Y2A	227211.10215	227,211.10	0.721	228620.90655	227597.26937	225415.13053
____ Y2R	15181.22279	15,181.22	2.526	14837.29050	15594.79749	15111.58037
____ ZN	0.09533	761.87	0.230	0.09509	0.09553	0.09537
____ ZR	0.00517	-7.57	40.756	0.00737	0.00498	0.00317

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 21 Date/Time: 05/02/2018 02:48

Sample Number: **9570341** Class: **** Batch: 181130184807

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	0.00094	-69.55	55.344	0.00120	0.00126	0.00034
____ AL	2.08591	294.29	2.459	2.09814	2.02961	2.12998
____ AS	0.00427	-0.66	91.995	0.00202	0.00881	0.00198
____ B	0.01152	94.19	6.361	0.01077	0.01224	0.01155
____ BA	0.08717	49,982.55	0.737	0.08748	0.08760	0.08643
____ BE	0.00005	-87.33	47.379	0.00004	0.00004	0.00008
____ CA	13.59255	17,628.89	0.828	13.46468	13.67684	13.63612
____ CD	0.00016	-13.66	71.299	0.00003	0.00023	0.00023
____ CO	0.00241	42.71	19.972	0.00257	0.00278	0.00186
____ CR	0.00284	33.25	10.571	0.00319	0.00269	0.00265
____ CU	0.00100	-50.29	88.363	0.00104	0.00187	0.00010
____ FE	2.23481	902.09	0.855	2.21284	2.24409	2.24749
____ K	1.86067	912.02	3.435	1.82357	1.93446	1.82396
____ LI	0.00698	1.70	12.464	0.00797	0.00666	0.00632
____ MG	9.45828	20,672.93	0.647	9.38856	9.50315	9.48312
____ MN	0.11778	7,795.45	0.925	0.11895	0.11758	0.11679
____ MO	0.00071	3.60	64.099	0.00121	0.00032	0.00060
____ NA	98.77867	103,894.16	0.755	97.94178	99.37421	99.02002
____ NI	0.00279	48.19	17.418	0.00314	0.00299	0.00223
____ P	0.03182	8.95	10.894	0.03545	0.02855	0.03146
____ PB	0.00456	3.71	70.297	0.00231	0.00823	0.00314
____ S	3.46521	619.10	0.295	3.46038	3.45831	3.47693
____ SB	0.00737	-8.85	45.998	0.00346	0.00942	0.00924
____ SE	-0.00253	4.77	90.471	-0.00389	-0.00383	0.00011
____ SI	2.89361	835.53	0.959	2.87133	2.92469	2.88481
____ SN	0.00162	3.09	77.154	0.00279	0.00177	0.00030
____ SR	0.09499	49,563.91	0.554	0.09550	0.09501	0.09445
____ TH	-0.00655	12.12	86.322	-0.01279	-0.00180	-0.00505
____ TI	0.02968	1,435.41	0.731	0.02992	0.02959	0.02952
____ TL	0.00335	-5.11	123.544	0.00794	0.00221	-0.00010
____ V	0.00240	-39.87	36.805	0.00323	0.00147	0.00251
____ W	-0.00006	3.60	1960.119	-0.00109	0.00131	-0.00041
____ Y1	12358.54409	12,358.54	0.901	12482.90197	12324.60254	12268.12775
____ Y2A	235752.39136	235,752.39	0.581	235232.21067	234719.51584	237305.44757
____ Y2R	15048.16061	15,048.16	0.717	15107.60631	14923.64581	15113.22971
____ ZN	0.01930	174.18	1.583	0.01952	0.01895	0.01942
____ ZR	-0.00158	-21.10	173.166	0.00068	-0.00463	-0.00080

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 22 Date/Time: 05/02/2018 02:51

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.52296	6,449.59	0.979	0.51806	0.52256	0.52827
____ AL	25.65784	3,592.12	0.231	25.64405	25.60680	25.72267
____ AS	0.52008	187.34	1.176	0.52635	0.51976	0.51413
____ B	0.50557	4,350.64	1.361	0.49907	0.50486	0.51278
____ BA	0.51791	291,858.68	1.216	0.52424	0.51165	0.51783
____ BE	0.50360	197,370.66	1.019	0.49874	0.50309	0.50896
____ CA	25.57227	32,314.68	0.306	25.48937	25.58257	25.64488
____ CD	0.51287	7,961.17	0.535	0.51421	0.51469	0.50971
____ CO	0.51098	3,984.78	0.376	0.51168	0.51245	0.50881
____ CR	0.48996	5,368.00	0.975	0.48671	0.48773	0.49545
____ CU	0.52711	5,045.36	1.232	0.51970	0.52980	0.53182
____ FE	25.87698	10,025.81	0.184	25.89863	25.82234	25.90997
____ K	25.76120	8,570.67	0.233	25.80892	25.69379	25.78089
____ LI	0.52618	2,903.53	0.263	0.52469	0.52742	0.52642
____ MG	25.35694	53,930.46	0.197	25.32627	25.32983	25.41472
____ MN	0.52128	33,828.71	0.879	0.51698	0.52075	0.52610
____ MO	0.49702	1,141.68	0.228	0.49774	0.49761	0.49571
____ NA	25.83204	25,709.64	0.375	25.72021	25.89153	25.88437
____ NI	0.51505	2,808.97	0.542	0.51610	0.51716	0.51189
____ P	0.51784	176.44	0.346	0.51654	0.51989	0.51710
____ PB	0.51043	694.33	0.406	0.51209	0.51109	0.50811
____ S	24.92612	4,496.79	0.175	24.87600	24.94802	24.95435
____ SB	0.50862	250.56	0.428	0.51106	0.50794	0.50687
____ SE	0.50327	157.43	0.240	0.50356	0.50430	0.50194
____ SI	25.46967	7,135.37	0.470	25.40568	25.39542	25.60791
____ SN	0.48846	581.62	0.818	0.49175	0.48961	0.48401
____ SR	0.51693	263,176.02	0.698	0.51289	0.51983	0.51806
____ TH	0.50246	102.82	5.745	0.51463	0.46950	0.52325
____ TI	0.51506	24,290.73	0.900	0.51057	0.51478	0.51983
____ TL	0.51685	148.32	1.380	0.50976	0.52403	0.51677
____ V	0.50798	8,023.75	0.647	0.50452	0.50835	0.51106
____ W	0.51163	640.24	0.243	0.51168	0.51285	0.51036
____ Y1	12545.57873	12,545.58	1.750	12388.11189	12452.23821	12796.38608
____ Y2A	231751.17583	231,751.18	0.222	231943.86123	232140.92500	231168.74125
____ Y2R	14701.45785	14,701.46	0.344	14647.67279	14747.92707	14708.77368
____ ZN	0.51935	4,295.47	0.522	0.52018	0.52154	0.51632
____ ZR	0.48115	1,248.34	0.795	0.48074	0.47754	0.48516

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 23 Date/Time: 05/02/2018 02:54

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00197	-55.88	18.124	0.00156	0.00215	0.00220
____ AL	0.03048	3.23	121.561	-0.00516	0.02779	0.06879
____ AS	0.00118	-1.73	75.398	0.00221	0.00076	0.00058
____ B	0.00213	-2.96	11.364	0.00237	0.00189	0.00213
____ BA	0.00022	170.34	35.110	0.00028	0.00024	0.00013
____ BE	0.00001	-106.34	177.871	0.00001	0.00002	-0.00001
____ CA	0.00656	76.04	100.785	0.00056	0.00546	0.01364
____ CD	-0.00010	-19.57	110.470	0.00003	-0.00016	-0.00016
____ CO	-0.00006	24.26	395.778	-0.00009	-0.00030	0.00020
____ CR	-0.00049	-3.90	185.387	0.00053	-0.00121	-0.00078
____ CU	-0.00144	-76.43	58.822	-0.00064	-0.00134	-0.00232
____ FE	0.00911	14.81	200.637	0.01485	-0.01135	0.02381
____ K	-0.01444	293.33	506.121	0.06951	-0.04891	-0.06392
____ LI	0.00252	-25.48	174.988	0.00092	0.00749	-0.00087
____ MG	-0.01073	-23.11	12.354	-0.01184	-0.01107	-0.00926
____ MN	0.00010	29.92	121.017	0.00016	-0.00004	0.00019
____ MO	0.00082	3.94	23.877	0.00066	0.00104	0.00077
____ NA	0.09828	-1,045.29	22.168	0.11918	0.07570	0.09995
____ NI	0.00047	38.15	145.366	-0.00026	0.00108	0.00058
____ P	-0.00055	-2.03	323.745	-0.00259	0.00059	0.00036
____ PB	-0.00175	-6.50	64.076	-0.00297	-0.00153	-0.00075
____ S	0.00308	3.85	147.840	-0.00130	0.00779	0.00276
____ SB	0.00461	-10.43	66.739	0.00816	0.00263	0.00305
____ SE	-0.01020	2.60	14.261	-0.00971	-0.00904	-0.01183
____ SI	-0.00894	7.33	79.148	-0.01459	-0.01123	-0.00100
____ SN	0.00085	2.24	85.716	0.00148	0.00005	0.00103
____ SR	-0.00001	134.97	203.736	-0.00002	-0.00003	0.00002
____ TH	0.01078	14.68	178.207	-0.00181	0.03290	0.00125
____ TI	-0.00026	-0.01	76.376	-0.00047	-0.00022	-0.00009
____ TL	0.00613	-4.25	44.420	0.00424	0.00488	0.00924
____ V	-0.00018	-83.68	367.904	0.00031	-0.00096	0.00009
____ W	-0.00158	1.55	71.248	-0.00288	-0.00102	-0.00085
____ Y1	12657.90448	12,657.90	0.229	12645.97282	12690.90773	12636.83290
____ Y2A	238995.61032	238,995.61	0.855	237011.81456	238879.28287	241095.73353
____ Y2R	14939.65874	14,939.66	0.311	14990.98221	14900.54890	14927.44511
____ ZN	-0.00023	16.27	65.119	-0.00038	-0.00009	-0.00021
____ ZR	-0.00069	-15.91	176.760	-0.00143	-0.00137	0.00072

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 24 Date/Time: 05/02/2018 02:58

Sample Number: **9570342** Class: **** Batch: 181130184807

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	-0.00043	-80.52	341.465	-0.00197	-0.00029	0.00097
____ AL	0.03006	2.88	52.410	0.03177	0.01352	0.04488
____ AS	-0.00050	-2.26	1261.959	0.00115	-0.00745	0.00481
____ B	0.00886	54.26	8.803	0.00829	0.00975	0.00854
____ BA	0.07091	39,742.97	1.425	0.07184	0.06984	0.07104
____ BE	-0.00003	-116.27	154.593	0.00001	-0.00002	-0.00007
____ CA	12.67545	16,169.11	1.539	12.56058	12.90069	12.56508
____ CD	-0.00005	-17.89	320.231	0.00014	-0.00019	-0.00010
____ CO	0.00159	35.60	19.731	0.00195	0.00139	0.00143
____ CR	0.00009	2.53	95.803	0.00014	-0.00001	0.00013
____ CU	-0.00352	-90.17	113.165	0.00104	-0.00629	-0.00531
____ FE	0.25802	112.31	2.342	0.26324	0.25140	0.25941
____ K	1.72242	851.82	6.396	1.59599	1.77345	1.79782
____ LI	0.00462	-11.42	100.116	0.00834	-0.00056	0.00609
____ MG	8.79630	18,906.44	1.434	8.71902	8.94182	8.72806
____ MN	0.10010	6,478.40	1.393	0.10118	0.09852	0.10060
____ MO	0.00028	2.56	176.276	0.00005	-0.00006	0.00084
____ NA	94.07574	97,233.50	1.501	93.38226	95.70032	93.14464
____ NI	0.00164	42.47	15.792	0.00137	0.00166	0.00188
____ P	0.00189	-1.15	131.001	0.00090	0.00470	0.00006
____ PB	-0.00247	-6.71	199.781	-0.00727	-0.00273	0.00259
____ S	3.26520	572.37	0.253	3.27388	3.26427	3.25747
____ SB	0.00192	-11.30	388.164	0.00599	0.00644	-0.00668
____ SE	-0.00067	5.25	559.605	0.00363	-0.00309	-0.00253
____ SI	0.43021	130.47	3.602	0.43055	0.44553	0.41454
____ SN	0.00109	2.42	62.548	0.00101	0.00181	0.00045
____ SR	0.08754	44,654.91	1.301	0.08861	0.08634	0.08768
____ TH	-0.00610	11.68	208.624	-0.01508	-0.01167	0.00846
____ TI	0.00139	77.13	3.681	0.00139	0.00144	0.00134
____ TL	0.00068	-5.69	655.399	-0.00447	0.00342	0.00309
____ V	-0.00045	-85.11	129.729	-0.00106	0.00008	-0.00036
____ W	-0.00074	2.58	96.636	-0.00128	0.00007	-0.00101
____ Y1	12121.43034	12,121.43	0.334	12151.61387	12137.21789	12075.45927
____ Y2A	230407.38869	230,407.39	0.738	229010.75564	232300.45391	229910.95651
____ Y2R	14797.40945	14,797.41	1.869	15092.57322	14544.35726	14755.29788
____ ZN	0.00712	73.69	1.843	0.00700	0.00712	0.00726
____ ZR	0.00264	-10.16	122.732	0.00635	0.00035	0.00123

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 25 Date/Time: 05/02/2018 03:01

Sample Number: **9570347** Class: **** Batch: 181130184807

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	0.00092	-69.78	225.137	0.00330	-0.00010	-0.00044
____ AL	0.16612	23.37	48.201	0.13401	0.25727	0.10709
____ AS	0.00116	-1.65	318.291	0.00396	-0.00301	0.00251
____ B	0.06132	509.34	0.749	0.06172	0.06082	0.06141
____ BA	0.14653	85,558.88	0.438	0.14667	0.14708	0.14582
____ BE	-0.00003	-121.12	56.172	-0.00004	-0.00002	-0.00002
____ CA	44.75335	60,041.78	1.199	45.01709	44.13579	45.10716
____ CD	0.00005	-16.74	82.130	0.00002	0.00003	0.00009
____ CO	0.01006	102.70	2.929	0.01026	0.00972	0.01020
____ CR	0.00037	5.87	52.162	0.00059	0.00029	0.00023
____ CU	-0.00165	-51.75	54.408	-0.00105	-0.00268	-0.00122
____ FE	0.91280	390.44	5.620	0.88132	0.97200	0.88508
____ K	5.16683	2,078.90	2.379	5.16016	5.04737	5.29295
____ LI	0.01021	25.25	24.533	0.00906	0.00849	0.01309
____ MG	18.95003	42,961.75	0.883	19.02790	18.75802	19.06417
____ MN	1.42753	95,995.77	0.364	1.42801	1.43247	1.42210
____ MO	0.00063	3.51	37.124	0.00087	0.00040	0.00062
____ NA	62.99190	68,449.32	1.088	63.29036	62.20785	63.47750
____ NI	0.01409	110.06	2.400	0.01370	0.01429	0.01427
____ P	0.00563	0.10	53.520	0.00476	0.00315	0.00899
____ PB	-0.00406	-6.04	66.698	-0.00139	-0.00680	-0.00398
____ S	14.25444	2,606.35	0.200	14.28728	14.24072	14.23533
____ SB	0.00085	-12.42	169.526	-0.00020	0.00249	0.00026
____ SE	-0.00749	3.41	17.048	-0.00641	-0.00890	-0.00715
____ SI	11.00360	3,273.81	1.344	11.10079	10.83344	11.07656
____ SN	0.00191	3.52	9.845	0.00181	0.00180	0.00213
____ SR	0.33611	178,203.42	0.281	0.33526	0.33713	0.33595
____ TH	0.00072	13.62	4282.010	0.03360	-0.02767	-0.00377
____ TI	0.00559	285.44	5.452	0.00524	0.00579	0.00573
____ TL	0.00421	-4.36	51.216	0.00342	0.00256	0.00665
____ V	0.00093	-65.45	60.429	0.00135	0.00029	0.00115
____ W	-0.00084	2.55	74.944	-0.00015	-0.00100	-0.00138
____ Y1	12697.26098	12,697.26	0.186	12681.62257	12685.76281	12724.39756
____ Y2A	240161.54957	240,161.55	0.207	240214.16467	240629.96507	239640.51896
____ Y2R	15647.06523	15,647.07	2.229	15264.44799	15947.17009	15729.57761
____ ZN	0.00543	64.13	3.731	0.00546	0.00562	0.00522
____ ZR	-0.00031	-17.40	661.964	-0.00153	0.00204	-0.00144

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 26 Date/Time: 05/02/2018 03:05

Sample Number: **9570348** Class: **** Batch: 181130184807

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	-68.89	246.281	-0.00042	0.00036	0.00083
____ AL	0.02166	1.43	224.745	0.07693	-0.01477	0.00280
____ AS	-0.00132	-2.54	310.845	-0.00445	0.00334	-0.00287
____ B	0.06125	499.42	0.568	0.06096	0.06164	0.06115
____ BA	0.14487	83,078.33	0.308	0.14468	0.14538	0.14455
____ BE	-0.00006	-133.84	63.574	-0.00011	-0.00003	-0.00005
____ CA	44.92205	58,230.18	0.413	44.72693	44.94255	45.09666
____ CD	-0.00004	-17.98	220.395	-0.00011	-0.00007	0.00006
____ CO	0.00975	99.50	2.436	0.00953	0.00972	0.01001
____ CR	0.00012	2.91	562.878	0.00057	-0.00063	0.00040
____ CU	-0.00197	-63.21	125.074	-0.00240	0.00068	-0.00418
____ FE	0.87931	363.57	1.300	0.88162	0.88941	0.86691
____ K	5.19842	2,019.08	1.412	5.26713	5.20706	5.12107
____ LI	0.00579	-1.03	115.093	-0.00160	0.01136	0.00762
____ MG	18.94448	41,495.99	0.597	18.83287	18.94154	19.05904
____ MN	1.38787	91,661.78	0.196	1.39009	1.38868	1.38485
____ MO	0.00036	2.86	160.102	0.00051	0.00086	-0.00028
____ NA	63.40012	66,570.99	0.359	63.19972	63.35306	63.64760
____ NI	0.01368	107.02	3.883	0.01307	0.01395	0.01402
____ P	0.00297	-0.82	47.427	0.00425	0.00146	0.00322
____ PB	-0.00187	-3.11	87.038	-0.00344	-0.00197	-0.00019
____ S	14.12854	2,563.07	0.337	14.07393	14.16143	14.15025
____ SB	0.00182	-11.82	237.568	-0.00081	0.00680	-0.00054
____ SE	-0.00601	3.84	128.539	-0.01040	0.00291	-0.01053
____ SI	10.93453	3,143.51	0.208	10.91159	10.95700	10.93500
____ SN	0.00172	3.27	38.576	0.00141	0.00249	0.00127
____ SR	0.33288	173,351.50	0.145	0.33306	0.33324	0.33233
____ TH	-0.03069	7.73	47.911	-0.02222	-0.04767	-0.02219
____ TI	0.00290	151.60	6.497	0.00276	0.00284	0.00311
____ TL	0.00318	-4.66	78.020	0.00273	0.00584	0.00095
____ V	0.00081	-67.17	63.186	0.00137	0.00066	0.00038
____ W	-0.00100	2.32	131.620	0.00003	-0.00055	-0.00249
____ Y1	12597.26204	12,597.26	1.021	12449.97005	12654.30483	12687.51125
____ Y2A	235869.14574	235,869.15	0.217	235600.52500	235547.27500	236459.63723
____ Y2R	15116.53535	15,116.54	0.428	15157.32328	15150.43344	15041.84934
____ ZN	0.00552	64.28	2.835	0.00557	0.00534	0.00564
____ ZR	0.00090	-18.93	622.337	-0.00218	0.00739	-0.00250

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 27 Date/Time: 05/02/2018 03:08

Sample Number: **9570350** Class: **** Batch: 181130184807

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	-68.21	111.833	0.00192	-0.00010	0.00089
____ AL	0.00231	-0.77	2485.552	0.03820	0.03258	-0.06385
____ AS	-0.00012	-2.02	1313.458	-0.00193	0.00076	0.00081
____ B	0.11646	968.98	0.777	0.11638	0.11740	0.11559
____ BA	0.12137	70,615.97	0.812	0.12130	0.12239	0.12043
____ BE	0.00001	-108.33	452.957	0.00000	0.00003	-0.00001
____ CA	32.41332	43,491.60	0.379	32.37417	32.31474	32.55105
____ CD	0.00040	-11.44	24.719	0.00029	0.00047	0.00045
____ CO	0.02631	224.40	2.000	0.02571	0.02657	0.02666
____ CR	0.00072	9.77	31.364	0.00050	0.00095	0.00072
____ CU	0.00046	-37.88	296.738	0.00130	-0.00111	0.00119
____ FE	0.09492	51.02	9.745	0.08476	0.10285	0.09716
____ K	3.73396	1,586.72	3.613	3.58832	3.75888	3.85468
____ LI	0.00564	-3.73	63.229	0.00597	0.00192	0.00903
____ MG	17.91573	40,574.35	0.508	17.88414	17.84474	18.01832
____ MN	1.70765	114,399.95	0.817	1.70361	1.72316	1.69616
____ MO	0.00073	3.64	110.272	-0.00019	0.00105	0.00132
____ NA	76.81923	83,631.20	0.448	76.52246	76.73923	77.19599
____ NI	0.00886	79.48	6.484	0.00952	0.00854	0.00851
____ P	0.00353	-0.61	79.980	0.00562	0.00466	0.00032
____ PB	-0.00422	-6.43	11.909	-0.00409	-0.00380	-0.00477
____ S	16.49058	2,942.28	0.180	16.45927	16.49425	16.51824
____ SB	0.00298	-11.01	82.105	0.00392	0.00481	0.00020
____ SE	-0.00383	4.43	84.183	-0.00648	-0.00477	-0.00024
____ SI	11.57921	3,440.23	0.548	11.51855	11.57403	11.64505
____ SN	0.00098	2.34	48.948	0.00138	0.00045	0.00111
____ SR	0.27144	143,296.21	0.903	0.27101	0.27408	0.26923
____ TH	0.00384	14.12	196.258	0.00295	0.01177	-0.00321
____ TI	0.00278	148.02	7.674	0.00303	0.00267	0.00264
____ TL	0.00212	-4.76	167.865	0.00554	0.00236	-0.00155
____ V	0.00082	-67.11	40.984	0.00112	0.00087	0.00046
____ W	-0.00166	1.60	58.580	-0.00103	-0.00278	-0.00117
____ Y1	12392.23412	12,392.23	0.340	12421.16978	12411.60456	12343.92804
____ Y2A	239277.48543	239,277.49	1.155	242112.35535	236588.62684	239131.47410
____ Y2R	15625.61960	15,625.62	0.725	15681.62116	15700.02995	15495.20767
____ ZN	0.01373	128.81	2.118	0.01348	0.01405	0.01366
____ ZR	0.00124	-12.79	32.284	0.00079	0.00135	0.00156

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 28 Date/Time: 05/02/2018 03:11

Sample Number: **9570352** Class: **** Batch: 181130184807

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	0.00089	-66.18	169.680	0.00050	0.00257	-0.00039
____ AL	-0.00985	-2.79	693.577	0.05375	-0.08207	-0.00123
____ AS	0.00242	-1.28	77.468	0.00441	0.00069	0.00216
____ B	0.00286	3.24	59.499	0.00149	0.00476	0.00232
____ BA	0.00081	527.25	2.143	0.00079	0.00081	0.00083
____ BE	0.00001	-107.98	320.711	-0.00002	0.00001	0.00005
____ CA	0.09815	199.55	8.445	0.10486	0.08888	0.10069
____ CD	-0.00010	-19.83	113.812	-0.00014	0.00003	-0.00020
____ CO	-0.00013	23.96	85.998	-0.00011	-0.00003	-0.00024
____ CR	-0.00013	0.17	272.267	0.00017	-0.00053	-0.00003
____ CU	0.00710	1.10	3.965	0.00708	0.00683	0.00739
____ FE	0.00769	14.68	90.749	0.00943	0.00001	0.01363
____ K	-0.01999	300.33	276.784	0.03480	-0.01892	-0.07585
____ LI	0.00459	-14.08	34.097	0.00480	0.00604	0.00293
____ MG	0.01484	33.48	32.078	0.01866	0.01635	0.00951
____ MN	0.00099	91.70	8.545	0.00108	0.00099	0.00091
____ MO	0.00049	3.21	96.565	0.00095	0.00000	0.00054
____ NA	0.49458	-645.97	5.216	0.49438	0.52048	0.46889
____ NI	-0.00003	35.70	1718.214	-0.00045	0.00052	-0.00015
____ P	0.00115	-1.45	176.043	0.00261	-0.00117	0.00201
____ PB	-0.00194	-6.77	41.766	-0.00100	-0.00236	-0.00245
____ S	0.00881	4.93	20.099	0.00929	0.00685	0.01030
____ SB	0.00566	-9.97	3.521	0.00584	0.00545	0.00571
____ SE	-0.00206	5.11	92.155	-0.00064	-0.00422	-0.00132
____ SI	0.24341	81.26	2.434	0.25020	0.23928	0.24076
____ SN	0.00027	1.56	402.337	0.00151	-0.00059	-0.00010
____ SR	0.00011	203.04	9.949	0.00012	0.00010	0.00010
____ TH	-0.00809	11.76	109.096	-0.00567	-0.00073	-0.01788
____ TI	0.00016	20.80	117.303	0.00002	0.00009	0.00037
____ TL	0.00401	-4.97	33.582	0.00546	0.00374	0.00281
____ V	0.00006	-81.58	968.168	0.00063	0.00016	-0.00060
____ W	-0.00014	3.39	552.163	-0.00096	0.00001	0.00053
____ Y1	12770.58009	12,770.58	0.305	12792.71510	12725.60963	12793.41554
____ Y2A	243876.25976	243,876.26	0.285	243664.39349	243311.12774	244653.25805
____ Y2R	15393.96289	15,393.96	0.104	15397.88169	15376.39721	15407.60978
____ ZN	0.00099	26.59	4.228	0.00104	0.00097	0.00096
____ ZR	0.00381	-8.01	110.425	-0.00060	0.00777	0.00425

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 29 Date/Time: 05/02/2018 03:15

Sample Number: **9570355** Class: **** Batch: 181130184807

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	0.00017	-73.31	510.914	0.00000	-0.00061	0.00113
____ AL	0.14380	19.06	45.916	0.21823	0.09225	0.12093
____ AS	0.00168	-1.44	147.624	0.00134	0.00431	-0.00062
____ B	0.21191	1,729.84	0.514	0.21115	0.21142	0.21316
____ BA	0.09251	52,305.18	0.503	0.09197	0.09276	0.09280
____ BE	-0.00014	-160.55	22.907	-0.00015	-0.00010	-0.00016
____ CA	96.67515	123,605.95	0.450	96.22659	97.09573	96.70312
____ CD	0.00017	-14.98	64.340	0.00028	0.00014	0.00007
____ CO	0.00123	33.06	20.845	0.00094	0.00142	0.00132
____ CR	0.00196	23.09	30.945	0.00191	0.00258	0.00137
____ CU	-0.00111	-12.21	179.949	0.00076	-0.00322	-0.00088
____ FE	0.15731	73.67	6.951	0.14711	0.16886	0.15598
____ K	11.44892	4,046.93	0.538	11.41178	11.41500	11.51999
____ LI	0.00540	3.48	111.378	-0.00006	0.00442	0.01185
____ MG	34.75626	75,138.26	0.502	34.62639	34.95446	34.68791
____ MN	0.08519	5,567.14	0.490	0.08478	0.08519	0.08561
____ MO	0.00238	7.36	6.684	0.00242	0.00221	0.00252
____ NA	56.33118	58,482.18	0.380	56.10868	56.53591	56.34895
____ NI	0.00246	46.38	32.913	0.00339	0.00192	0.00208
____ P	0.00813	0.94	16.281	0.00964	0.00718	0.00757
____ PB	-0.00412	-5.28	14.345	-0.00478	-0.00366	-0.00391
____ S	36.65429	6,515.18	0.116	36.61274	36.65221	36.69792
____ SB	0.00629	-9.32	61.824	0.00964	0.00721	0.00203
____ SE	-0.00704	3.47	38.670	-0.00885	-0.00391	-0.00837
____ SI	6.34773	1,812.47	0.539	6.31101	6.35349	6.37868
____ SN	0.00140	2.82	109.973	0.00132	0.00298	-0.00010
____ SR	0.65333	335,449.96	1.351	0.64389	0.65473	0.66138
____ TH	-0.00697	11.64	720.598	-0.04074	-0.03095	0.05077
____ TI	0.00779	380.34	1.844	0.00762	0.00788	0.00786
____ TL	0.00734	-3.78	83.963	0.01388	0.00649	0.00165
____ V	0.00107	-61.86	65.610	0.00179	0.00105	0.00038
____ W	-0.00006	3.42	268.198	-0.00022	0.00012	-0.00009
____ Y1	12352.72432	12,352.72	0.582	12286.22378	12342.92274	12429.02646
____ Y2A	232479.28394	232,479.28	0.209	232920.26163	231958.31672	232559.27347
____ Y2R	14979.09399	14,979.09	0.512	15067.32303	14941.95895	14928.00000
____ ZN	0.00529	60.33	3.991	0.00514	0.00519	0.00553
____ ZR	-0.00129	-20.34	347.843	0.00320	-0.00131	-0.00575

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 30 Date/Time: 05/02/2018 03:18

Sample Number: **9570356** Class: **** Batch: 181130184807

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	-76.99	129.873	-0.00001	-0.00023	-0.00004
____ AL	0.03210	3.39	145.621	-0.00847	0.02155	0.08322
____ AS	0.00042	-1.86	684.451	-0.00289	0.00190	0.00225
____ B	0.21484	1,731.71	0.764	0.21620	0.21529	0.21302
____ BA	0.09435	52,701.37	0.844	0.09494	0.09465	0.09344
____ BE	-0.00012	-150.91	16.342	-0.00010	-0.00013	-0.00012
____ CA	99.17380	127,901.69	0.696	99.86107	98.48151	99.17883
____ CD	0.00020	-14.41	88.122	0.00000	0.00025	0.00034
____ CO	0.00133	33.37	41.797	0.00069	0.00170	0.00161
____ CR	0.00141	16.95	100.940	0.00129	0.00005	0.00290
____ CU	-0.00392	-34.53	54.759	-0.00378	-0.00185	-0.00613
____ FE	0.01073	15.62	38.916	0.00787	0.00880	0.01553
____ K	11.67350	4,157.05	0.806	11.74342	11.56658	11.71048
____ LI	0.00234	-13.78	196.888	0.00514	-0.00297	0.00485
____ MG	35.40587	77,210.15	0.741	35.67656	35.15308	35.38797
____ MN	0.08851	5,713.47	0.914	0.08903	0.08893	0.08758
____ MO	0.00241	7.34	17.470	0.00253	0.00195	0.00277
____ NA	58.20154	60,998.99	0.979	58.80050	57.66625	58.13786
____ NI	0.00227	44.81	32.925	0.00201	0.00169	0.00312
____ P	0.00355	-0.60	41.418	0.00445	0.00435	0.00185
____ PB	-0.00442	-5.57	29.994	-0.00468	-0.00298	-0.00559
____ S	37.30298	6,541.22	0.121	37.30250	37.34827	37.25816
____ SB	-0.00043	-12.51	575.191	0.00224	-0.00091	-0.00261
____ SE	-0.00232	4.80	84.007	-0.00401	-0.00278	-0.00018
____ SI	6.36086	1,832.24	1.387	6.42849	6.26111	6.39299
____ SN	0.00124	2.60	65.207	0.00200	0.00131	0.00039
____ SR	0.66926	339,493.81	1.402	0.67371	0.67560	0.65848
____ TH	-0.00009	12.91	5611.308	0.02468	-0.05623	0.03130
____ TI	0.00477	234.91	7.427	0.00502	0.00493	0.00437
____ TL	0.00237	-5.22	77.984	0.00311	0.00027	0.00373
____ V	0.00069	-67.19	81.693	0.00042	0.00030	0.00133
____ W	-0.00126	1.94	108.590	-0.00210	0.00032	-0.00200
____ Y1	12186.59227	12,186.59	0.230	12206.18320	12154.45733	12199.13630
____ Y2A	229686.56036	229,686.56	0.356	229236.22185	229193.96552	230629.49371
____ Y2R	15112.50252	15,112.50	0.647	15037.26321	15222.97028	15077.27409
____ ZN	0.00494	56.65	4.100	0.00509	0.00501	0.00471
____ ZR	0.00184	-11.49	169.774	0.00089	0.00534	-0.00070

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 31 Date/Time: 05/02/2018 03:22

Sample Number: **9570357** Class: **** Batch: 181130184807

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	0.00098	-63.06	116.650	-0.00026	0.00198	0.00122
____ AL	0.02424	2.12	56.187	0.03989	0.01501	0.01783
____ AS	-0.00028	-2.12	1404.843	-0.00418	-0.00024	0.00359
____ B	0.22068	1,806.37	1.332	0.22386	0.21806	0.22013
____ BA	0.07676	43,491.83	0.906	0.07755	0.07626	0.07647
____ BE	-0.00017	-173.45	13.053	-0.00014	-0.00018	-0.00018
____ CA	110.29645	139,629.01	0.986	109.12570	110.48791	111.27575
____ CD	0.00001	-17.09	2466.382	-0.00030	0.00021	0.00012
____ CO	0.00257	42.86	6.369	0.00269	0.00238	0.00264
____ CR	0.00093	11.80	59.756	0.00051	0.00155	0.00071
____ CU	-0.00405	-31.33	18.237	-0.00471	-0.00325	-0.00419
____ FE	0.23210	102.46	4.976	0.22869	0.22264	0.24497
____ K	10.55923	3,722.74	0.734	10.47898	10.56494	10.63377
____ LI	0.00367	-4.56	146.650	-0.00234	0.00804	0.00530
____ MG	33.74710	72,334.99	0.892	33.41384	33.82763	33.99985
____ MN	0.31547	20,593.30	1.002	0.31903	0.31299	0.31438
____ MO	0.00114	4.51	54.062	0.00162	0.00044	0.00136
____ NA	54.72266	56,281.19	0.956	54.15186	54.83757	55.17855
____ NI	0.00079	37.12	89.005	-0.00002	0.00129	0.00111
____ P	0.01158	2.08	22.376	0.01162	0.01415	0.00897
____ PB	-0.00423	-5.05	41.466	-0.00497	-0.00222	-0.00549
____ S	29.26394	5,148.23	0.467	29.40164	29.12809	29.26208
____ SB	0.00489	-9.92	38.051	0.00466	0.00315	0.00685
____ SE	-0.00667	3.54	51.275	-0.00424	-0.01058	-0.00518
____ SI	6.09433	1,725.20	1.187	6.01641	6.10728	6.15931
____ SN	0.00175	3.19	48.559	0.00255	0.00086	0.00182
____ SR	0.58826	303,318.92	0.920	0.58370	0.58683	0.59424
____ TH	-0.00823	11.34	183.062	-0.02558	-0.00061	0.00150
____ TI	0.00586	289.89	4.529	0.00571	0.00617	0.00570
____ TL	-0.00169	-6.41	217.566	0.00247	-0.00447	-0.00306
____ V	0.00079	-66.23	75.545	0.00074	0.00022	0.00141
____ W	-0.00108	2.13	43.288	-0.00065	-0.00101	-0.00157
____ Y1	12224.69337	12,224.69	0.358	12174.97754	12257.20851	12241.89405
____ Y2A	232941.25940	232,941.26	0.462	231707.17916	233684.40495	233432.19410
____ Y2R	14847.89400	14,847.89	0.412	14918.35000	14817.79153	14807.54048
____ ZN	0.00274	39.38	7.862	0.00251	0.00294	0.00275
____ ZR	-0.00232	-22.95	43.488	-0.00258	-0.00317	-0.00120

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 32 Date/Time: 05/02/2018 03:25

Sample Number: **9570358** Class: **** Batch: 181130184807

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	0.00049	-67.79	215.458	-0.00014	0.00171	-0.00010
____ AL	0.01235	0.42	87.624	0.01105	0.02376	0.00224
____ AS	-0.00220	-2.80	40.799	-0.00140	-0.00317	-0.00203
____ B	0.22727	1,831.67	0.056	0.22741	0.22726	0.22715
____ BA	0.07991	44,560.25	0.625	0.07937	0.08000	0.08035
____ BE	-0.00015	-165.61	14.654	-0.00015	-0.00014	-0.00018
____ CA	112.78106	145,079.40	0.739	112.83886	113.58368	111.92064
____ CD	0.00009	-15.84	60.261	0.00012	0.00012	0.00003
____ CO	0.00236	41.07	8.425	0.00247	0.00213	0.00248
____ CR	0.00052	7.18	75.781	0.00032	0.00097	0.00026
____ CU	-0.00237	-13.85	123.113	0.00099	-0.00421	-0.00388
____ FE	0.24025	107.39	3.105	0.23736	0.24872	0.23467
____ K	10.78506	3,858.03	1.282	10.80528	10.91215	10.63776
____ LI	0.00371	-4.01	121.832	0.00667	0.00595	-0.00149
____ MG	34.49450	75,131.35	0.836	34.49254	34.78388	34.20707
____ MN	0.32368	20,796.11	0.512	0.32207	0.32358	0.32538
____ MO	0.00117	4.56	32.007	0.00079	0.00153	0.00118
____ NA	56.08548	58,654.83	0.677	56.08703	56.46456	55.70486
____ NI	0.00126	39.41	36.392	0.00092	0.00179	0.00109
____ P	0.01179	2.14	38.295	0.01697	0.00976	0.00865
____ PB	-0.00384	-4.45	59.067	-0.00645	-0.00271	-0.00236
____ S	30.35248	5,314.18	0.047	30.33631	30.35723	30.36389
____ SB	-0.00020	-12.39	2064.008	-0.00337	-0.00165	0.00443
____ SE	-0.00083	5.23	390.033	-0.00082	0.00239	-0.00406
____ SI	6.10704	1,757.12	0.817	6.11834	6.15033	6.05245
____ SN	0.00148	2.88	20.072	0.00151	0.00177	0.00117
____ SR	0.60266	305,829.85	1.624	0.61211	0.59257	0.60329
____ TH	-0.00966	11.28	613.371	-0.07163	0.04640	-0.00375
____ TI	0.00450	221.93	3.144	0.00436	0.00449	0.00465
____ TL	0.00561	-4.14	91.006	0.01078	0.00056	0.00550
____ V	0.00052	-69.52	103.677	0.00115	0.00026	0.00016
____ W	0.00061	4.14	167.461	0.00114	0.00126	-0.00057
____ Y1	12166.37400	12,166.37	0.276	12129.87811	12173.39724	12195.84665
____ Y2A	229267.45673	229,267.46	0.103	229436.38772	228998.00717	229367.97529
____ Y2R	15090.40271	15,090.40	0.217	15103.24028	15053.18671	15114.78113
____ ZN	0.00250	37.33	12.334	0.00276	0.00216	0.00257
____ ZR	-0.00018	-18.16	589.436	0.00099	-0.00105	-0.00047

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 33 Date/Time: 05/02/2018 03:29

Sample Number: **9570359** Class: **** Batch: 181130184807

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	0.00339	-120.39	77.688	0.00500	0.00483	0.00035
____ AL	0.13250	17.36	57.557	0.04669	0.15827	0.19254
____ AS	-0.00081	-3.98	619.307	-0.00537	0.00458	-0.00164
____ B	0.15492	1,487.94	1.429	0.15701	0.15515	0.15260
____ BA	0.47885	260,416.31	0.186	0.47918	0.47784	0.47953
____ BE	-0.00014	-156.59	17.542	-0.00012	-0.00017	-0.00013
____ CA	73.94991	92,874.36	0.102	73.90273	73.91032	74.03669
____ CD	-0.00034	0.11	68.945	-0.00060	-0.00016	-0.00025
____ CO	0.03273	263.08	2.108	0.03196	0.03328	0.03296
____ CR	0.00053	7.11	50.380	0.00024	0.00077	0.00056
____ CU	-0.00063	-35.35	209.934	-0.00037	-0.00205	0.00054
____ FE	35.12500	13,556.79	0.387	35.11631	34.99361	35.26507
____ K	5.94378	2,200.65	0.887	5.90679	5.92037	6.00417
____ LI	0.00316	-11.91	19.099	0.00337	0.00364	0.00248
____ MG	24.63124	52,338.88	0.091	24.64643	24.60561	24.64167
____ MN	8.08445	506,397.61	1.496	8.18629	7.95073	8.11632
____ MO	0.00011	2.17	447.829	-0.00047	0.00047	0.00034
____ NA	339.35103	351,070.13	1.055	343.46140	336.90520	337.68650
____ NI	0.00372	38.07	5.883	0.00376	0.00392	0.00349
____ P	0.02082	5.04	14.546	0.02138	0.02353	0.01755
____ PB	-0.00258	-3.18	67.055	-0.00346	-0.00368	-0.00059
____ S	0.93849	163.84	1.393	0.94996	0.92425	0.94126
____ SB	0.00233	-12.18	21.170	0.00234	0.00281	0.00183
____ SE	0.00172	5.03	264.219	0.00364	-0.00346	0.00497
____ SI	9.71613	2,714.67	0.256	9.74230	9.69288	9.71321
____ SN	0.00192	3.31	6.084	0.00205	0.00188	0.00183
____ SR	0.66070	325,865.24	0.519	0.66132	0.65701	0.66378
____ TH	0.00758	19.58	716.241	0.02250	0.05288	-0.05263
____ TI	0.00597	283.45	1.300	0.00602	0.00601	0.00588
____ TL	0.01013	-0.90	29.490	0.00688	0.01275	0.01075
____ V	0.00182	-46.66	13.495	0.00168	0.00168	0.00210
____ W	-0.00018	3.17	373.750	-0.00046	0.00059	-0.00067
____ Y1	11910.06744	11,910.07	0.209	11885.16023	11910.14094	11934.90114
____ Y2A	223765.69181	223,765.69	0.610	222466.33173	225186.81264	223643.93107
____ Y2R	14685.31630	14,685.32	0.406	14633.59749	14750.62313	14671.72827
____ ZN	0.00586	81.19	4.655	0.00566	0.00617	0.00575
____ ZR	-0.00245	-20.48	237.500	-0.00174	-0.00860	0.00298

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 34 Date/Time: 05/02/2018 03:32

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.52516	6,573.84	0.366	0.52358	0.52461	0.52730
____ AL	25.69329	3,638.21	0.678	25.52190	25.68793	25.87003
____ AS	0.52837	189.58	1.387	0.53683	0.52400	0.52428
____ B	0.50358	4,401.15	1.160	0.49921	0.50133	0.51022
____ BA	0.52152	298,314.81	0.314	0.52265	0.52226	0.51964
____ BE	0.50334	200,235.64	0.511	0.50113	0.50273	0.50616
____ CA	25.77189	32,934.42	0.274	25.77984	25.69770	25.83814
____ CD	0.52092	8,051.30	0.109	0.52027	0.52126	0.52123
____ CO	0.51893	4,028.77	0.042	0.51869	0.51911	0.51899
____ CR	0.49120	5,462.54	0.522	0.48942	0.49005	0.49414
____ CU	0.52977	5,147.49	0.854	0.52496	0.53039	0.53395
____ FE	26.09248	10,222.99	0.612	26.15662	25.91065	26.21018
____ K	25.86441	8,700.94	0.785	26.04735	25.64586	25.90003
____ LI	0.52592	2,934.97	0.343	0.52537	0.52445	0.52793
____ MG	25.64211	55,150.58	0.305	25.63356	25.56858	25.72420
____ MN	0.52032	34,274.48	0.586	0.51732	0.52024	0.52342
____ MO	0.50610	1,157.43	0.166	0.50519	0.50627	0.50684
____ NA	26.13056	26,314.14	0.228	26.13979	26.06703	26.18487
____ NI	0.52053	2,826.32	0.129	0.52128	0.52034	0.51998
____ P	0.52520	178.19	0.919	0.52606	0.52000	0.52953
____ PB	0.51474	697.09	0.171	0.51377	0.51495	0.51550
____ S	25.35406	4,554.01	0.297	25.42278	25.27375	25.36565
____ SB	0.51109	250.73	0.912	0.51473	0.50583	0.51270
____ SE	0.50658	157.74	0.790	0.50587	0.50298	0.51089
____ SI	25.58950	7,250.24	0.516	25.53054	25.49722	25.74075
____ SN	0.49435	586.10	0.151	0.49379	0.49405	0.49520
____ SR	0.52369	270,618.65	1.045	0.51761	0.52523	0.52824
____ TH	0.50572	104.59	1.649	0.51013	0.49610	0.51092
____ TI	0.51757	24,775.86	0.808	0.51407	0.51645	0.52220
____ TL	0.50436	143.72	1.013	0.50963	0.49943	0.50403
____ V	0.51128	8,195.66	0.749	0.50750	0.51118	0.51516
____ W	0.51485	641.47	0.112	0.51418	0.51521	0.51516
____ Y1	12490.67473	12,490.67	1.334	12680.91317	12370.66780	12420.44320
____ Y2A	235236.25275	235,236.25	0.515	235731.70366	236122.70046	233854.35413
____ Y2R	14867.88823	14,867.89	1.070	14684.83353	14945.52947	14973.30170
____ ZN	0.52485	4,321.97	0.071	0.52525	0.52452	0.52476
____ ZR	0.48275	1,266.98	0.617	0.48290	0.48564	0.47969

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 35 Date/Time: 05/02/2018 03:36

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00035	-69.49	378.403	-0.00041	-0.00043	0.00190
____ AL	0.08975	11.15	58.393	0.15002	0.06433	0.05490
____ AS	0.00285	-1.10	190.461	0.00082	-0.00127	0.00901
____ B	0.00141	-8.96	41.678	0.00090	0.00128	0.00205
____ BA	0.00003	63.36	56.089	0.00001	0.00004	0.00005
____ BE	0.00000	-106.53	1212.936	-0.00001	0.00006	-0.00004
____ CA	0.00147	68.79	554.175	0.00977	-0.00646	0.00108
____ CD	0.00042	-11.39	135.761	0.00006	0.00012	0.00107
____ CO	0.00005	24.95	1186.468	0.00006	-0.00049	0.00057
____ CR	-0.00046	-3.53	40.696	-0.00039	-0.00032	-0.00068
____ CU	-0.00010	-69.91	609.618	-0.00023	-0.00062	0.00056
____ FE	0.00520	13.12	125.896	0.01258	0.00292	0.00009
____ K	0.00153	295.34	7068.189	0.12134	-0.08965	-0.02709
____ LI	0.00035	-37.44	1517.955	-0.00462	0.00604	-0.00036
____ MG	-0.01052	-22.37	33.421	-0.00821	-0.01456	-0.00878
____ MN	0.00023	38.64	59.791	0.00036	0.00026	0.00008
____ MO	0.00053	3.25	201.130	-0.00022	0.00006	0.00174
____ NA	0.11007	-1,021.10	46.247	0.14616	0.13220	0.05184
____ NI	0.00034	37.23	220.461	-0.00047	0.00048	0.00101
____ P	0.00261	-0.94	97.077	0.00416	-0.00031	0.00397
____ PB	-0.00023	-4.37	1317.035	-0.00338	0.00253	0.00018
____ S	0.02379	7.57	167.626	-0.00304	0.00480	0.06961
____ SB	0.00397	-10.69	79.932	0.00527	0.00035	0.00628
____ SE	-0.00635	3.74	44.265	-0.00488	-0.00959	-0.00458
____ SI	0.00312	10.72	384.271	0.01603	0.00100	-0.00767
____ SN	0.00077	2.13	227.989	-0.00052	0.00006	0.00278
____ SR	0.00002	148.01	43.523	0.00002	0.00001	0.00002
____ TH	-0.01430	10.23	232.980	0.00216	-0.05264	0.00758
____ TI	0.00026	24.85	27.223	0.00026	0.00034	0.00019
____ TL	0.00326	-5.13	79.423	0.00032	0.00518	0.00428
____ V	0.00066	-68.89	76.054	0.00012	0.00112	0.00074
____ W	0.00015	3.68	261.725	-0.00030	0.00031	0.00046
____ Y1	12576.75106	12,576.75	0.592	12490.79644	12617.41539	12622.04135
____ Y2A	234875.29793	234,875.30	0.361	234661.62070	235810.42500	234153.84807
____ Y2R	14771.78890	14,771.79	0.865	14919.30096	14693.45120	14702.61454
____ ZN	0.00004	18.38	1185.550	-0.00020	-0.00030	0.00063
____ ZR	-0.00183	-22.60	129.921	-0.00339	0.00090	-0.00299

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 36 Date/Time: 05/02/2018 03:39

Sample Number: **9570360** Class: **** Batch: 181130184807

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	0.00271	-131.19	63.613	0.00080	0.00317	0.00415
____ AL	0.02630	2.73	71.236	0.01161	0.01989	0.04740
____ AS	0.00065	-3.52	354.461	-0.00174	0.00282	0.00085
____ B	0.15673	1,516.44	1.049	0.15484	0.15786	0.15748
____ BA	0.47862	262,444.41	1.278	0.47652	0.48551	0.47383
____ BE	-0.00012	-150.84	25.705	-0.00013	-0.00015	-0.00009
____ CA	74.85535	94,099.08	0.601	75.17602	75.04918	74.34086
____ CD	-0.00034	0.16	24.837	-0.00027	-0.00043	-0.00033
____ CO	0.03347	270.96	1.059	0.03357	0.03376	0.03307
____ CR	0.00038	5.70	378.637	0.00161	-0.00122	0.00076
____ CU	-0.00254	-51.31	63.047	-0.00429	-0.00113	-0.00221
____ FE	35.31651	13,643.79	0.666	35.54606	35.32768	35.07579
____ K	5.84587	2,171.40	1.152	5.91021	5.85156	5.77584
____ LI	0.00454	-4.10	78.341	0.00168	0.00853	0.00342
____ MG	25.02393	53,221.92	0.527	25.13668	25.05617	24.87895
____ MN	8.17968	516,498.26	2.977	8.31722	8.32332	7.89850
____ MO	0.00058	3.20	137.025	0.00105	-0.00033	0.00100
____ NA	344.92541	357,216.79	1.685	349.64929	346.69016	338.43679
____ NI	0.00362	37.82	20.613	0.00431	0.00283	0.00371
____ P	0.00743	0.69	36.692	0.01005	0.00763	0.00461
____ PB	-0.00284	-3.56	65.533	-0.00121	-0.00487	-0.00245
____ S	0.89839	158.44	1.660	0.89944	0.88298	0.91275
____ SB	0.00340	-11.78	20.548	0.00326	0.00415	0.00278
____ SE	0.00857	7.06	50.517	0.01041	0.01169	0.00363
____ SI	9.73222	2,721.99	0.546	9.76806	9.75749	9.67111
____ SN	0.00254	4.05	56.202	0.00336	0.00089	0.00335
____ SR	0.65811	327,345.51	1.264	0.64900	0.66531	0.66001
____ TH	0.01260	20.47	297.581	0.05586	-0.00994	-0.00813
____ TI	0.00407	198.50	3.319	0.00391	0.00416	0.00413
____ TL	0.01016	-0.86	25.126	0.01069	0.00738	0.01240
____ V	0.00139	-53.99	10.180	0.00133	0.00155	0.00128
____ W	0.00168	5.36	52.510	0.00199	0.00069	0.00237
____ Y1	12022.70940	12,022.71	0.873	12143.83432	11960.98682	11963.30706
____ Y2A	225638.34617	225,638.35	1.793	223706.48370	222920.46361	230288.09120
____ Y2R	14700.30227	14,700.30	0.281	14666.27617	14688.29904	14746.33160
____ ZN	0.00334	62.29	11.722	0.00363	0.00289	0.00349
____ ZR	0.00102	-11.13	417.905	-0.00341	0.00136	0.00511

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 37 Date/Time: 05/02/2018 03:43

Sample Number: **9570361** Class: **** Batch: 181130184807

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	0.00019	-80.85	756.800	-0.00142	0.00131	0.00067
____ AL	0.14597	19.52	50.642	0.11018	0.09675	0.23097
____ AS	0.00232	-1.21	166.781	-0.00172	0.00601	0.00268
____ B	0.18476	1,531.44	0.751	0.18408	0.18385	0.18636
____ BA	0.09929	56,473.11	0.868	0.09861	0.09898	0.10026
____ BE	-0.00007	-136.74	41.107	-0.00008	-0.00010	-0.00004
____ CA	56.83891	73,162.87	1.268	56.23442	57.63676	56.64554
____ CD	-0.00016	-17.93	84.771	-0.00014	-0.00003	-0.00029
____ CO	0.00580	65.32	14.161	0.00675	0.00524	0.00542
____ CR	0.00075	9.89	109.383	0.00074	0.00157	-0.00006
____ CU	-0.00083	-34.74	153.619	-0.00014	-0.00005	-0.00231
____ FE	2.16534	873.27	1.438	2.13213	2.19390	2.16998
____ K	4.55035	1,794.42	0.906	4.56187	4.58459	4.50461
____ LI	0.00480	-5.11	32.111	0.00625	0.00495	0.00318
____ MG	20.80662	45,287.94	1.296	20.58813	21.10797	20.72375
____ MN	3.46673	226,998.52	0.576	3.44479	3.47151	3.48388
____ MO	0.00020	2.35	179.490	0.00031	0.00048	-0.00020
____ NA	36.09945	37,186.20	1.154	35.76475	36.56598	35.96762
____ NI	0.00417	52.66	3.020	0.00418	0.00428	0.00403
____ P	0.00843	0.99	23.516	0.00984	0.00616	0.00930
____ PB	-0.00211	-3.43	147.318	-0.00562	-0.00097	0.00026
____ S	19.11382	3,275.93	5.743	20.38138	18.47477	18.48532
____ SB	0.00248	-10.89	107.513	0.00061	0.00552	0.00129
____ SE	-0.00066	5.12	429.302	-0.00029	-0.00363	0.00196
____ SI	7.17289	2,053.58	1.092	7.11272	7.26141	7.14454
____ SN	0.00169	3.04	36.777	0.00198	0.00097	0.00211
____ SR	0.47715	246,122.29	0.711	0.47636	0.47422	0.48087
____ TH	0.00210	13.60	1864.591	-0.03964	0.00817	0.03776
____ TI	0.00634	313.80	1.394	0.00642	0.00635	0.00624
____ TL	0.00316	-3.70	50.402	0.00256	0.00195	0.00497
____ V	0.00076	-66.41	80.662	0.00061	0.00023	0.00143
____ W	0.00082	4.36	97.741	0.00143	0.00110	-0.00008
____ Y1	11927.26716	11,927.27	4.743	11277.06857	12306.17074	12198.56216
____ Y2A	233889.10539	233,889.11	0.365	234873.20000	233435.58191	233358.53428
____ Y2R	15029.01456	15,029.01	0.629	15108.02254	14924.21672	15054.80443
____ ZN	0.00864	85.25	8.610	0.00950	0.00815	0.00828
____ ZR	0.00151	-11.87	368.020	0.00790	-0.00135	-0.00203

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 38 Date/Time: 05/02/2018 03:47

Sample Number: **9570362** Class: **** Batch: 181130184807

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	0.00210	-51.44	109.806	0.00008	0.00461	0.00161
____ AL	0.01950	1.38	281.634	0.02337	0.07237	-0.03725
____ AS	0.00008	-2.08	1043.065	-0.00052	0.00105	-0.00029
____ B	0.18156	1,534.99	0.457	0.18248	0.18087	0.18134
____ BA	0.09746	56,683.64	0.202	0.09724	0.09750	0.09763
____ BE	-0.00006	-134.70	70.368	-0.00003	-0.00004	-0.00011
____ CA	56.11155	75,688.29	0.900	56.69405	55.84612	55.79448
____ CD	-0.00001	-16.50	1325.007	0.00005	-0.00011	0.00004
____ CO	0.00542	64.51	8.646	0.00596	0.00514	0.00515
____ CR	0.00019	3.72	260.241	-0.00032	0.00066	0.00022
____ CU	-0.00121	-45.22	194.323	0.00061	-0.00388	-0.00037
____ FE	1.69751	719.98	1.444	1.72578	1.68232	1.68442
____ K	4.35348	1,812.44	1.672	4.43232	4.28879	4.33934
____ LI	0.00562	-0.58	52.643	0.00665	0.00792	0.00228
____ MG	20.57823	46,937.09	0.937	20.79230	20.52446	20.41795
____ MN	3.41975	228,977.08	0.165	3.41448	3.41904	3.42573
____ MO	0.00016	2.35	399.067	0.00086	0.00004	-0.00041
____ NA	35.18584	37,949.07	0.766	35.49376	35.07084	34.99293
____ NI	0.00327	49.72	24.061	0.00402	0.00333	0.00245
____ P	0.00774	0.81	86.939	0.01355	0.00931	0.00037
____ PB	-0.00092	-2.24	200.089	-0.00180	0.00120	-0.00217
____ S	18.39111	3,251.65	0.298	18.44336	18.39606	18.33391
____ SB	0.00134	-11.80	136.812	0.00338	-0.00016	0.00079
____ SE	-0.00324	4.53	65.844	-0.00523	-0.00099	-0.00350
____ SI	6.86429	2,059.67	0.740	6.90887	6.87498	6.80904
____ SN	0.00102	2.37	157.312	0.00249	-0.00070	0.00127
____ SR	0.47398	249,993.96	1.758	0.47114	0.48335	0.46743
____ TH	-0.01724	10.66	192.743	-0.03599	0.02112	-0.03685
____ TI	0.00338	176.64	8.286	0.00313	0.00368	0.00331
____ TL	0.00417	-3.49	103.621	0.00746	0.00578	-0.00072
____ V	0.00074	-68.72	20.444	0.00082	0.00083	0.00057
____ W	-0.00057	2.81	377.665	-0.00131	-0.00225	0.00185
____ Y1	12281.28323	12,281.28	0.431	12323.39894	12298.61042	12221.84034
____ Y2A	239168.89587	239,168.90	1.856	244089.50279	237948.65982	235468.52500
____ Y2R	15748.06970	15,748.07	0.691	15623.18010	15798.39353	15822.63547
____ ZN	0.00752	78.67	2.278	0.00745	0.00771	0.00739
____ ZR	0.00048	-18.54	396.241	0.00216	0.00084	-0.00157

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 39 Date/Time: 05/02/2018 03:50

Sample Number: **9570363** Class: **** Batch: 181130184807

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	-73.78	11.675	0.00078	0.00098	0.00094
____ AL	1.17940	164.50	1.638	1.19602	1.15821	1.18398
____ AS	0.00562	-0.09	12.189	0.00493	0.00630	0.00565
____ B	0.14886	1,218.72	0.758	0.14891	0.14771	0.14997
____ BA	0.12676	71,237.20	0.441	0.12741	0.12647	0.12641
____ BE	0.00004	-91.12	35.011	0.00003	0.00005	0.00003
____ CA	50.40099	64,342.37	1.060	50.47779	49.83235	50.89284
____ CD	0.00008	-15.13	119.047	0.00000	0.00019	0.00005
____ CO	0.01727	157.30	2.682	0.01700	0.01701	0.01781
____ CR	0.00169	20.08	39.675	0.00102	0.00237	0.00169
____ CU	-0.00119	-39.25	148.364	0.00081	-0.00255	-0.00183
____ FE	2.15989	863.41	0.866	2.16944	2.13834	2.17189
____ K	6.33143	2,358.26	2.145	6.43331	6.17723	6.38375
____ LI	0.00245	-19.20	227.231	0.00633	0.00493	-0.00392
____ MG	16.10072	34,776.76	0.973	16.13730	15.92901	16.23586
____ MN	3.64855	236,078.84	0.554	3.67188	3.63579	3.63799
____ MO	0.00033	2.79	182.890	0.00013	0.00101	-0.00015
____ NA	88.31129	91,823.06	1.032	88.52495	87.31197	89.09695
____ NI	0.00653	67.47	13.188	0.00741	0.00569	0.00649
____ P	0.03922	11.56	6.716	0.04107	0.03620	0.04038
____ PB	-0.00089	-1.53	228.138	-0.00241	0.00142	-0.00168
____ S	13.12479	2,363.20	0.309	13.17051	13.09307	13.11077
____ SB	0.00102	-12.18	163.912	0.00294	-0.00012	0.00024
____ SE	-0.00507	4.08	90.485	-0.00933	-0.00021	-0.00569
____ SI	8.94675	2,536.32	1.157	8.98740	8.82904	9.02382
____ SN	0.00017	1.40	603.729	-0.00046	-0.00040	0.00138
____ SR	0.44402	226,263.10	0.479	0.44158	0.44551	0.44495
____ TH	0.01411	15.57	206.466	-0.01878	0.02441	0.03670
____ TI	0.02901	1,376.07	0.705	0.02921	0.02880	0.02903
____ TL	0.00489	-3.31	117.099	-0.00074	0.01072	0.00470
____ V	0.00252	-36.52	20.538	0.00205	0.00243	0.00307
____ W	-0.00027	3.32	331.195	-0.00001	-0.00126	0.00047
____ Y1	12502.61705	12,502.62	1.818	12370.41663	12765.04796	12372.38657
____ Y2A	231122.47001	231,122.47	0.165	230721.73065	231162.44251	231483.23688
____ Y2R	14895.94690	14,895.95	0.561	14825.58953	14988.42500	14873.82617
____ ZN	0.01439	136.37	0.520	0.01432	0.01447	0.01437
____ ZR	-0.00011	-13.84	2769.449	0.00151	0.00178	-0.00362

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 40 Date/Time: 05/02/2018 03:53

Sample Number: **9570364** Class: **** Batch: 181130184807

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	0.00145	-55.78	111.007	0.00060	0.00330	0.00044
____ AL	0.09354	12.06	66.762	0.12947	0.02143	0.12972
____ AS	-0.00044	-2.22	225.415	-0.00156	0.00036	-0.00012
____ B	0.14567	1,208.13	0.638	0.14462	0.14596	0.14641
____ BA	0.12178	70,328.45	0.320	0.12133	0.12200	0.12201
____ BE	-0.00005	-129.04	39.164	-0.00007	-0.00003	-0.00005
____ CA	49.17223	64,766.33	0.239	49.11232	49.09659	49.30777
____ CD	0.00003	-17.29	337.349	-0.00005	0.00015	0.00000
____ CO	0.01643	150.83	2.348	0.01674	0.01599	0.01655
____ CR	0.00060	8.36	141.354	-0.00011	0.00154	0.00038
____ CU	-0.00287	-64.24	56.711	-0.00106	-0.00420	-0.00334
____ FE	0.09773	51.32	2.258	0.10004	0.09564	0.09750
____ K	6.16429	2,376.73	2.207	6.02723	6.16633	6.29933
____ LI	0.01051	27.08	16.850	0.01065	0.00867	0.01221
____ MG	15.62131	34,812.07	0.398	15.61187	15.56433	15.68772
____ MN	3.52604	234,451.26	0.310	3.51398	3.52878	3.53535
____ MO	-0.00025	1.45	116.157	-0.00057	-0.00016	-0.00001
____ NA	86.28610	92,527.25	0.272	86.07489	86.24449	86.53892
____ NI	0.00602	66.02	8.867	0.00585	0.00559	0.00662
____ P	0.00740	0.70	21.854	0.00554	0.00817	0.00849
____ PB	-0.00231	-4.27	128.036	-0.00243	-0.00522	0.00071
____ S	13.01650	2,348.04	0.527	13.08672	13.01319	12.94958
____ SB	0.00474	-10.24	57.218	0.00195	0.00737	0.00490
____ SE	-0.00099	5.34	467.846	-0.00578	0.00349	-0.00068
____ SI	7.23492	2,117.74	0.341	7.22628	7.21571	7.26276
____ SN	0.00134	2.79	92.838	0.00100	0.00271	0.00030
____ SR	0.43059	225,485.73	1.052	0.42644	0.42991	0.43542
____ TH	-0.01509	10.51	153.346	-0.04074	0.00422	-0.00875
____ TI	0.00327	170.35	4.187	0.00314	0.00326	0.00341
____ TL	0.00398	-3.53	62.136	0.00678	0.00207	0.00310
____ V	0.00076	-67.66	55.273	0.00096	0.00105	0.00028
____ W	-0.00134	1.95	136.921	0.00002	-0.00343	-0.00062
____ Y1	12525.11902	12,525.12	0.547	12524.32784	12594.06272	12456.96652
____ Y2A	237502.99279	237,502.99	0.336	238282.90654	237539.68413	236686.38772
____ Y2R	15366.57932	15,366.58	0.507	15365.70743	15444.98204	15289.04847
____ ZN	0.00983	98.28	0.577	0.00989	0.00979	0.00980
____ ZR	0.00104	-16.27	355.477	0.00470	0.00106	-0.00266

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 41 Date/Time: 05/02/2018 03:57

Sample Number: **9570366** Class: **** Batch: 181130184807

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	0.00005	-112.94	2347.848	-0.00119	0.00127	0.00008
____ AL	2.71415	390.46	1.206	2.75187	2.69330	2.69728
____ AS	0.00383	-1.29	63.825	0.00218	0.00268	0.00665
____ B	0.10295	963.13	1.440	0.10407	0.10352	0.10127
____ BA	0.23774	137,687.01	0.969	0.24039	0.23664	0.23620
____ BE	0.00019	-34.69	15.236	0.00018	0.00022	0.00016
____ CA	29.28401	38,554.65	1.086	29.20707	29.63356	29.01140
____ CD	-0.00003	-9.26	541.657	-0.00002	-0.00021	0.00013
____ CO	0.00235	41.48	18.183	0.00284	0.00209	0.00211
____ CR	0.00152	18.72	19.352	0.00185	0.00140	0.00130
____ CU	0.01854	126.34	5.234	0.01965	0.01782	0.01816
____ FE	13.49986	5,475.84	0.658	13.49724	13.58997	13.41238
____ K	5.37373	2,105.76	1.211	5.29936	5.40175	5.42009
____ LI	0.00696	3.75	62.063	0.00255	0.00714	0.01119
____ MG	6.47878	14,432.95	0.801	6.46299	6.53671	6.43664
____ MN	0.33649	22,464.47	1.068	0.34054	0.33523	0.33369
____ MO	0.00252	7.66	24.272	0.00242	0.00317	0.00196
____ NA	87.87294	94,000.04	0.860	87.76186	88.67770	87.17925
____ NI	0.00634	60.80	5.983	0.00676	0.00624	0.00602
____ P	0.04692	14.03	5.399	0.04978	0.04498	0.04598
____ PB	0.03092	40.82	3.064	0.03143	0.02982	0.03150
____ S	2.71170	483.93	0.196	2.70883	2.71783	2.70845
____ SB	0.01232	-6.79	11.022	0.01078	0.01337	0.01279
____ SE	-0.00003	5.24	5797.813	0.00310	0.00224	-0.00543
____ SI	12.18580	3,550.71	0.831	12.19945	12.27951	12.07842
____ SN	0.00210	3.64	55.479	0.00342	0.00123	0.00164
____ SR	0.29940	157,181.38	0.775	0.30205	0.29839	0.29774
____ TH	0.00124	15.62	2407.843	0.01360	0.02297	-0.03284
____ TI	0.03855	1,880.44	1.482	0.03918	0.03839	0.03807
____ TL	0.00435	-5.08	48.889	0.00680	0.00302	0.00322
____ V	0.00246	-39.73	39.430	0.00188	0.00191	0.00357
____ W	0.00022	3.99	450.155	0.00100	0.00058	-0.00091
____ Y1	12326.69707	12,326.70	0.420	12385.76496	12288.95877	12305.36749
____ Y2A	238259.54740	238,259.55	0.793	236574.57017	237903.20808	240300.86396
____ Y2R	15326.25302	15,326.25	0.692	15331.67231	15217.59444	15429.49230
____ ZN	0.02253	206.07	0.842	0.02263	0.02265	0.02231
____ ZR	0.00152	-12.27	223.619	-0.00240	0.00348	0.00349

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 42 Date/Time: 05/02/2018 04:00

Sample Number: **9570367** Class: **** Batch: 181130184807

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	0.00104	-92.83	134.991	-0.00045	0.00232	0.00124
____ AL	0.01703	1.28	253.229	-0.02593	0.01670	0.06034
____ AS	0.00090	-2.25	301.277	-0.00075	0.00401	-0.00058
____ B	0.09961	897.25	1.581	0.09789	0.09996	0.10098
____ BA	0.20149	115,175.90	0.439	0.20181	0.20217	0.20049
____ BE	-0.00003	-118.81	79.691	-0.00004	-0.00003	0.00000
____ CA	27.87258	35,910.84	0.483	27.82782	28.02388	27.76603
____ CD	0.00005	-10.03	297.295	0.00005	0.00019	-0.00010
____ CO	0.00174	36.86	36.855	0.00129	0.00247	0.00146
____ CR	0.00030	4.96	147.513	-0.00018	0.00070	0.00038
____ CU	-0.00068	-55.99	72.055	-0.00039	-0.00041	-0.00125
____ FE	10.43224	4,145.94	0.582	10.40534	10.50176	10.38962
____ K	5.10415	1,971.76	1.531	5.01770	5.12493	5.16982
____ LI	0.00940	17.30	41.444	0.00849	0.00604	0.01367
____ MG	5.82314	12,694.09	0.485	5.81926	5.85312	5.79703
____ MN	0.31335	20,648.85	0.473	0.31369	0.31464	0.31173
____ MO	0.00207	6.66	23.195	0.00153	0.00223	0.00246
____ NA	88.63119	92,772.40	0.711	88.49281	89.31907	88.08167
____ NI	0.00559	59.22	4.056	0.00575	0.00533	0.00567
____ P	0.00455	-0.27	43.657	0.00658	0.00261	0.00445
____ PB	-0.00278	-5.62	68.018	-0.00249	-0.00105	-0.00480
____ S	2.53347	452.65	0.439	2.52152	2.54352	2.53538
____ SB	0.01222	-6.74	28.076	0.00828	0.01384	0.01453
____ SE	-0.00232	4.62	174.186	-0.00566	0.00216	-0.00345
____ SI	6.45295	1,844.30	0.748	6.48212	6.47953	6.39721
____ SN	0.00068	1.98	161.595	-0.00027	0.00188	0.00042
____ SR	0.27979	144,992.85	0.648	0.28114	0.28049	0.27772
____ TH	0.00665	15.73	424.280	-0.01122	-0.00801	0.03919
____ TI	0.00283	147.66	7.321	0.00294	0.00259	0.00296
____ TL	0.00327	-5.23	149.035	-0.00126	0.00841	0.00265
____ V	-0.00008	-81.21	1249.069	0.00111	-0.00048	-0.00089
____ W	0.00034	4.00	156.157	0.00014	-0.00006	0.00095
____ Y1	12335.19608	12,335.20	0.298	12303.49905	12375.42220	12326.66700
____ Y2A	235142.96151	235,142.96	0.111	235101.32500	234906.45563	235421.10390
____ Y2R	14994.43361	14,994.43	0.303	15042.88066	14987.53248	14952.88769
____ ZN	0.01220	121.50	1.246	0.01229	0.01229	0.01203
____ ZR	0.00099	-12.42	132.716	0.00172	-0.00053	0.00179

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 43 Date/Time: 05/02/2018 04:03

Sample Number: **9570368** Class: **** Batch: 181130184807

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	-0.00063	-81.18	180.775	-0.00191	-0.00020	0.00023
____ AL	-0.02814	-5.60	215.660	-0.05871	-0.06747	0.04175
____ AS	0.00166	-1.54	174.255	0.00363	0.00300	-0.00166
____ B	0.00262	1.16	47.787	0.00191	0.00188	0.00406
____ BA	0.00090	567.54	19.155	0.00097	0.00070	0.00102
____ BE	-0.00001	-112.69	409.415	-0.00003	-0.00001	0.00002
____ CA	0.09876	195.86	1.958	0.10085	0.09703	0.09841
____ CD	-0.00003	-18.32	449.709	-0.00015	-0.00003	0.00010
____ CO	0.00003	24.78	144.505	-0.00001	0.00002	0.00008
____ CR	0.00078	10.50	72.233	0.00141	0.00063	0.00031
____ CU	0.00553	-19.25	43.920	0.00298	0.00580	0.00782
____ FE	0.00433	13.01	151.213	0.01042	0.00519	-0.00260
____ K	0.04750	315.83	203.246	0.13542	0.06287	-0.05580
____ LI	0.00186	-29.45	385.392	-0.00278	0.01013	-0.00177
____ MG	0.01191	26.30	12.700	0.01082	0.01363	0.01127
____ MN	0.00116	101.89	38.554	0.00091	0.00089	0.00168
____ MO	0.00035	2.83	34.883	0.00021	0.00044	0.00040
____ NA	0.47429	-652.94	5.382	0.49991	0.44886	0.47410
____ NI	-0.00008	34.84	432.580	-0.00020	0.00030	-0.00033
____ P	0.00168	-1.25	75.691	0.00110	0.00314	0.00081
____ PB	-0.00203	-6.77	141.474	0.00079	-0.00193	-0.00494
____ S	0.00318	3.83	169.660	0.00926	0.00124	-0.00097
____ SB	0.00210	-11.61	232.641	-0.00328	0.00334	0.00623
____ SE	-0.00770	3.34	77.225	-0.00090	-0.01028	-0.01192
____ SI	0.25334	82.27	3.931	0.24360	0.25293	0.26350
____ SN	0.00088	2.25	95.270	0.00055	0.00026	0.00184
____ SR	0.00026	281.35	51.685	0.00017	0.00020	0.00042
____ TH	-0.02419	8.69	78.683	-0.00341	-0.02837	-0.04079
____ TI	0.00007	15.97	296.764	0.00028	0.00006	-0.00013
____ TL	0.00443	-4.75	103.025	0.00390	0.00016	0.00924
____ V	-0.00021	-85.28	341.723	0.00014	0.00028	-0.00105
____ W	-0.00008	3.40	474.422	0.00010	-0.00050	0.00016
____ Y1	12556.01657	12,556.02	0.574	12634.54627	12492.75290	12540.75055
____ Y2A	239778.56847	239,778.57	0.341	240142.00239	238841.76805	240351.93497
____ Y2R	15048.10288	15,048.10	0.434	15119.39071	14991.11056	15033.80739
____ ZN	0.00050	22.12	51.539	0.00041	0.00080	0.00030
____ ZR	0.00036	-19.14	858.283	-0.00030	-0.00236	0.00374

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 44 Date/Time: 05/02/2018 04:07

Sample Number: **9577014** Class: **** Batch: 181160184801

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	0.00143	-82.33	13.758	0.00155	0.00152	0.00120
____ AL	18.47349	2,734.88	0.336	18.53837	18.41480	18.46730
____ AS	0.00914	1.03	27.956	0.00619	0.01049	0.01074
____ B	0.01140	146.85	2.593	0.01127	0.01119	0.01174
____ BA	0.10018	60,365.98	0.541	0.10068	0.10025	0.09960
____ BE	0.00129	425.38	1.529	0.00127	0.00128	0.00131
____ CA	10.24332	13,890.62	0.177	10.25772	10.24933	10.22291
____ CD	0.00094	2.05	7.329	0.00090	0.00091	0.00102
____ CO	0.00964	105.09	3.365	0.00927	0.00988	0.00977
____ CR	0.05254	616.98	0.753	0.05255	0.05294	0.05214
____ CU	0.06406	578.87	1.154	0.06489	0.06348	0.06380
____ FE	7.83596	3,267.86	0.289	7.84612	7.85173	7.81002
____ K	4.16325	1,742.80	1.715	4.11471	4.12980	4.24525
____ LI	0.01173	29.72	44.639	0.01733	0.00696	0.01090
____ MG	2.68631	6,140.29	0.337	2.68759	2.69467	2.67668
____ MN	0.03254	2,281.08	1.059	0.03281	0.03267	0.03216
____ MO	0.00499	14.05	6.600	0.00502	0.00464	0.00530
____ NA	17.98024	18,754.83	0.420	17.95717	18.06460	17.91895
____ NI	0.01466	112.98	5.167	0.01393	0.01544	0.01461
____ P	0.82900	294.89	0.315	0.82862	0.82660	0.83178
____ PB	0.04402	68.30	3.372	0.04486	0.04489	0.04230
____ S	3.34853	634.32	0.151	3.35226	3.35055	3.34278
____ SB	0.00709	-9.06	68.347	0.01209	0.00241	0.00676
____ SE	-0.00541	4.18	29.375	-0.00461	-0.00723	-0.00437
____ SI	15.84991	4,731.33	0.056	15.84795	15.84222	15.85956
____ SN	0.00365	5.79	37.374	0.00427	0.00209	0.00460
____ SR	0.05440	29,968.29	0.492	0.05461	0.05449	0.05410
____ TH	0.01374	17.28	49.875	0.00583	0.01769	0.01771
____ TI	0.19093	9,635.17	0.588	0.19172	0.19143	0.18964
____ TL	0.00396	-6.43	77.874	0.00321	0.00735	0.00132
____ V	0.04990	784.15	1.023	0.05043	0.04985	0.04941
____ W	-0.00135	3.61	79.444	-0.00214	-0.00177	-0.00013
____ Y1	13100.96791	13,100.97	0.647	13137.51624	13161.37931	13004.00819
____ Y2A	247776.20816	247,776.21	0.466	246713.74027	247608.02839	249006.85580
____ Y2R	15709.75774	15,709.76	0.368	15774.28685	15662.82665	15692.15970
____ ZN	0.12392	1,080.56	0.248	0.12395	0.12422	0.12360
____ ZR	0.01161	16.09	13.906	0.01010	0.01141	0.01331

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 45 Date/Time: 05/02/2018 04:10

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.52365	6,694.04	0.391	0.52601	0.52240	0.52253
____ AL	25.34625	3,661.42	0.574	25.25200	25.27293	25.51380
____ AS	0.52935	189.70	0.812	0.53042	0.53302	0.52463
____ B	0.50270	4,480.74	0.431	0.50383	0.50021	0.50407
____ BA	0.52335	305,495.77	0.445	0.52603	0.52187	0.52215
____ BE	0.49949	202,779.31	0.417	0.50102	0.49712	0.50032
____ CA	25.67407	33,471.08	0.474	25.63501	25.57662	25.81057
____ CD	0.51944	8,018.56	0.465	0.51976	0.52168	0.51689
____ CO	0.51707	4,009.61	0.517	0.51760	0.51944	0.51417
____ CR	0.48896	5,549.07	0.644	0.48969	0.48550	0.49167
____ CU	0.52840	5,234.00	0.472	0.53099	0.52602	0.52818
____ FE	25.70238	10,274.28	0.264	25.77814	25.64697	25.68205
____ K	25.57005	8,778.95	0.243	25.61934	25.50020	25.59061
____ LI	0.52616	2,995.39	0.845	0.53066	0.52605	0.52177
____ MG	25.56762	56,099.28	0.352	25.53870	25.49569	25.66847
____ MN	0.51616	34,698.25	0.511	0.51708	0.51319	0.51822
____ MO	0.50366	1,150.49	0.604	0.50508	0.50573	0.50017
____ NA	25.87230	26,567.56	0.371	25.84100	25.79599	25.97990
____ NI	0.52019	2,821.19	0.393	0.51947	0.52249	0.51861
____ P	0.52519	177.96	1.109	0.52454	0.53131	0.51972
____ PB	0.51485	696.22	0.181	0.51389	0.51574	0.51493
____ S	25.28369	4,535.87	0.753	25.39908	25.38810	25.06388
____ SB	0.51383	251.77	1.555	0.51027	0.50823	0.52298
____ SE	0.51645	160.53	2.822	0.53234	0.51331	0.50370
____ SI	25.40527	7,343.23	0.226	25.35391	25.39485	25.46705
____ SN	0.49225	582.91	0.433	0.49242	0.49429	0.49003
____ SR	0.52064	274,552.11	1.069	0.51685	0.51804	0.52702
____ TH	0.48628	103.19	4.140	0.50013	0.49552	0.46318
____ TI	0.51689	25,251.09	0.429	0.51864	0.51439	0.51764
____ TL	0.50220	142.89	1.109	0.50807	0.50155	0.49698
____ V	0.51059	8,352.42	0.267	0.51002	0.50961	0.51214
____ W	0.51450	640.26	0.155	0.51508	0.51484	0.51359
____ Y1	12475.45826	12,475.46	0.852	12594.58541	12441.58673	12390.20264
____ Y2A	240056.44382	240,056.44	0.638	241812.11335	239364.50210	238992.71602
____ Y2R	15167.44570	15,167.45	0.593	15064.14474	15228.11565	15210.07671
____ ZN	0.52396	4,309.28	0.554	0.52374	0.52697	0.52118
____ ZR	0.47412	1,267.42	1.271	0.46872	0.47301	0.48062

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 46 Date/Time: 05/02/2018 04:14

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00067	-71.06	15.557	0.00068	0.00055	0.00076
____ AL	-0.01240	-2.87	182.303	-0.02025	-0.03003	0.01308
____ AS	-0.00003	-2.16	7219.367	-0.00152	0.00218	-0.00074
____ B	0.00227	-1.73	14.817	0.00222	0.00196	0.00263
____ BA	0.00019	152.18	24.472	0.00024	0.00018	0.00015
____ BE	0.00000	-109.23	1445.160	-0.00002	0.00002	0.00000
____ CA	0.00481	73.34	45.498	0.00706	0.00468	0.00269
____ CD	0.00007	-16.70	351.499	-0.00009	-0.00006	0.00038
____ CO	0.00060	29.26	80.014	0.00114	0.00019	0.00048
____ CR	0.00057	8.01	95.019	0.00095	0.00082	-0.00005
____ CU	-0.00215	-83.34	96.676	-0.00169	-0.00034	-0.00442
____ FE	0.01060	15.30	23.033	0.01296	0.01075	0.00808
____ K	-0.01748	290.35	233.436	-0.05914	0.02239	-0.01567
____ LI	0.00489	-11.87	29.928	0.00655	0.00379	0.00433
____ MG	-0.01465	-31.42	25.559	-0.01036	-0.01630	-0.01729
____ MN	0.00014	31.76	28.536	0.00011	0.00018	0.00012
____ MO	0.00079	3.84	30.697	0.00080	0.00054	0.00103
____ NA	0.04994	-1,089.18	82.905	0.08849	0.05512	0.00619
____ NI	0.00055	38.32	29.084	0.00068	0.00037	0.00060
____ P	0.00211	-1.11	61.274	0.00066	0.00250	0.00316
____ PB	-0.00325	-8.48	38.052	-0.00405	-0.00182	-0.00387
____ S	0.00714	4.55	109.593	0.00483	0.00073	0.01586
____ SB	0.00227	-11.53	78.529	0.00430	0.00153	0.00098
____ SE	-0.00769	3.33	84.598	-0.00171	-0.00674	-0.01461
____ SI	-0.00914	7.31	91.256	-0.00239	-0.01846	-0.00657
____ SN	0.00077	2.12	45.510	0.00093	0.00037	0.00100
____ SR	0.00004	158.80	110.547	0.00008	0.00004	0.00000
____ TH	0.00701	13.93	387.165	-0.01116	-0.00601	0.03819
____ TI	-0.00001	11.88	480.635	-0.00005	-0.00002	0.00004
____ TL	0.00290	-5.22	81.502	0.00563	0.00136	0.00172
____ V	-0.00083	-93.33	55.973	-0.00030	-0.00105	-0.00115
____ W	0.00007	3.57	1686.692	-0.00105	0.00121	0.00004
____ Y1	12564.35508	12,564.36	0.630	12508.56544	12529.50280	12654.99700
____ Y2A	235724.78099	235,724.78	0.426	235302.26186	236871.03531	235001.04582
____ Y2R	14842.66304	14,842.66	0.469	14917.55584	14779.98008	14830.45319
____ ZN	-0.00004	17.66	837.944	-0.00019	-0.00030	0.00036
____ ZR	0.00043	-13.63	1268.577	0.00334	0.00377	-0.00583

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 47 Date/Time: 05/02/2018 04:17

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00678	-34.66	45.096	0.01030	0.00487	0.00516
____ AL	0.18460	27.63	21.721	0.22950	0.17193	0.15236
____ AS	0.02195	5.90	11.111	0.02172	0.02449	0.01963
____ B	0.05015	401.12	1.755	0.05109	0.04935	0.04999
____ BA	0.00540	3,152.56	1.303	0.00537	0.00548	0.00535
____ BE	0.00507	1,913.45	0.292	0.00506	0.00508	0.00506
____ CA	0.21500	339.88	3.535	0.21978	0.20623	0.21899
____ CD	0.00555	68.68	3.708	0.00577	0.00552	0.00537
____ CO	0.00565	68.60	6.127	0.00573	0.00527	0.00595
____ CR	0.01574	177.17	6.672	0.01453	0.01631	0.01639
____ CU	0.00567	44.73	29.329	0.00377	0.00685	0.00638
____ FE	0.22357	98.62	2.839	0.21866	0.22132	0.23074
____ K	0.56528	477.23	5.461	0.58569	0.52976	0.58038
____ LI	0.02828	119.40	13.562	0.02964	0.02394	0.03124
____ MG	0.09526	205.14	1.738	0.09706	0.09379	0.09494
____ MN	0.00560	388.46	1.435	0.00568	0.00560	0.00552
____ MO	0.01072	26.68	5.517	0.01079	0.01010	0.01128
____ NA	1.11731	30.40	2.734	1.08672	1.14780	1.11741
____ NI	0.01109	95.51	1.857	0.01092	0.01102	0.01132
____ P	0.10533	34.37	3.369	0.10149	0.10849	0.10600
____ PB	0.01538	16.58	2.492	0.01496	0.01570	0.01548
____ S	0.52138	97.49	0.986	0.51658	0.52076	0.52681
____ SB	0.02569	0.56	9.242	0.02322	0.02587	0.02796
____ SE	0.01712	10.83	36.701	0.00987	0.02053	0.02095
____ SI	0.02643	17.83	38.960	0.01630	0.03688	0.02610
____ SN	0.02098	26.21	5.155	0.02185	0.01977	0.02134
____ SR	0.00541	2,939.88	0.991	0.00538	0.00547	0.00538
____ TH	0.18335	44.19	23.945	0.21586	0.20079	0.13341
____ TI	0.01065	523.55	3.017	0.01089	0.01029	0.01078
____ TL	0.03691	5.39	17.907	0.02997	0.04313	0.03764
____ V	0.00503	5.02	13.832	0.00473	0.00582	0.00453
____ W	0.01033	16.52	11.891	0.00987	0.00939	0.01172
____ Y1	12577.46561	12,577.47	0.090	12589.24753	12576.49261	12566.65668
____ Y2A	235943.50863	235,943.51	0.373	236314.71790	234938.63365	236577.17435
____ Y2R	14775.60837	14,775.61	0.547	14717.65088	14867.96407	14741.21016
____ ZN	0.02115	191.69	0.931	0.02093	0.02122	0.02131
____ ZR	0.04200	117.75	12.862	0.04221	0.03649	0.04729

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 48 Date/Time: 05/02/2018 04:20

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00225	-414.36	117.915	0.00249	0.00477	-0.00052
____ AL	504.05629	69,026.97	1.926	492.88683	508.82563	510.45641
____ AS	-0.01515	-17.05	15.372	-0.01467	-0.01309	-0.01768
____ B	0.04779	1,927.93	5.154	0.05029	0.04536	0.04771
____ BA	0.00101	575.03	3.155	0.00099	0.00104	0.00099
____ BE	-0.00069	-352.90	5.875	-0.00068	-0.00065	-0.00073
____ CA	504.32561	598,235.34	0.399	503.48023	502.87340	506.62319
____ CD	-0.00300	65.36	14.444	-0.00250	-0.00328	-0.00322
____ CO	0.00016	23.56	323.638	0.00009	0.00068	-0.00031
____ CR	-0.00255	-24.74	13.711	-0.00225	-0.00246	-0.00293
____ CU	-0.00523	109.77	24.731	-0.00418	-0.00668	-0.00485
____ FE	205.45568	73,942.95	2.073	200.53772	207.82275	208.00656
____ K	-0.07299	263.36	15.787	-0.08563	-0.07028	-0.06307
____ LI	0.00275	40.09	63.851	0.00251	0.00112	0.00461
____ MG	479.73669	881,915.56	2.501	466.01814	484.92335	488.26859
____ MN	0.00457	300.10	1.608	0.00449	0.00462	0.00462
____ MO	0.00070	3.32	204.035	-0.00093	0.00128	0.00175
____ NA	0.34393	-754.45	17.924	0.41180	0.29140	0.32860
____ NI	0.00580	-8.24	17.302	0.00512	0.00532	0.00695
____ P	0.00152	-1.20	525.516	0.01070	-0.00392	-0.00221
____ PB	0.01183	205.50	7.255	0.01094	0.01190	0.01266
____ S	0.05139	11.45	16.113	0.06081	0.04527	0.04808
____ SB	-0.00666	-21.96	115.012	-0.01247	0.00202	-0.00953
____ SE	0.00653	6.78	98.740	0.01290	0.00668	0.00001
____ SI	-0.00198	9.19	2400.133	0.05277	-0.02843	-0.03027
____ SN	0.00144	2.66	134.401	-0.00069	0.00308	0.00193
____ SR	-0.00035	13,339.69	15.645	-0.00036	-0.00029	-0.00040
____ TH	0.00247	45.27	887.192	0.01295	-0.02267	0.01712
____ TI	0.00086	49.40	20.704	0.00106	0.00072	0.00079
____ TL	0.00987	-8.69	37.120	0.00578	0.01096	0.01286
____ V	0.00331	-23.08	34.387	0.00247	0.00286	0.00460
____ W	0.00148	4.94	51.650	0.00061	0.00179	0.00204
____ Y1	11480.01727	11,480.02	0.389	11500.11499	11428.86845	11511.06836
____ Y2A	217897.40531	217,897.41	0.477	219040.71743	217009.51548	217641.98302
____ Y2R	14352.57179	14,352.57	1.479	14585.94843	14170.94743	14300.81951
____ ZN	0.00711	174.47	5.082	0.00743	0.00717	0.00672
____ ZR	0.00453	-4.05	35.175	0.00453	0.00612	0.00294

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 49 Date/Time: 05/02/2018 04:24

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.21642	2,117.20	0.509	0.21761	0.21623	0.21543
____ AL	501.96160	68,483.61	0.880	497.15084	502.89260	505.84135
____ AS	0.09252	18.59	3.656	0.09520	0.08872	0.09363
____ B	0.04046	1,843.98	10.652	0.04534	0.03715	0.03891
____ BA	0.52443	272,946.67	0.578	0.52179	0.52774	0.52377
____ BE	0.50288	182,109.70	0.878	0.50796	0.50005	0.50062
____ CA	503.13007	594,345.54	0.907	500.82100	500.18218	508.38704
____ CD	0.96444	13,524.74	0.471	0.96286	0.96956	0.96089
____ CO	0.48088	3,357.52	0.386	0.47992	0.48302	0.47971
____ CR	0.47188	4,776.98	1.179	0.47829	0.46834	0.46900
____ CU	0.53282	4,809.69	1.217	0.54030	0.52879	0.52938
____ FE	206.11926	73,868.42	0.981	203.97062	206.40076	207.98641
____ K	-0.03572	273.91	71.909	-0.00807	-0.05885	-0.04025
____ LI	-0.00052	22.01	321.772	-0.00050	-0.00221	0.00114
____ MG	468.81337	861,057.53	0.628	470.05311	465.45000	470.93702
____ MN	0.49858	29,907.47	0.931	0.50394	0.49569	0.49612
____ MO	0.00083	3.52	62.906	0.00102	0.00024	0.00123
____ NA	0.26721	-829.35	3.673	0.25896	0.26462	0.27806
____ NI	0.96447	4,646.77	0.320	0.96285	0.96803	0.96254
____ P	0.01160	2.64	29.075	0.01110	0.00850	0.01519
____ PB	0.55220	848.18	1.060	0.54642	0.55813	0.55203
____ S	0.05723	12.17	14.751	0.05081	0.06680	0.05409
____ SB	0.61671	268.41	0.866	0.62145	0.61776	0.61093
____ SE	0.53567	149.27	0.699	0.53420	0.53993	0.53289
____ SI	-0.01814	4.71	116.143	-0.03870	-0.01911	0.00340
____ SN	0.00210	3.32	35.427	0.00294	0.00184	0.00152
____ SR	-0.00027	13,117.26	154.098	0.00010	-0.00019	-0.00071
____ TH	0.01030	45.88	145.286	0.01142	0.02468	-0.00519
____ TI	0.00215	104.92	11.535	0.00226	0.00232	0.00187
____ TL	0.10105	11.65	4.260	0.09659	0.10518	0.10139
____ V	0.50674	7,539.83	0.663	0.51033	0.50622	0.50367
____ W	-0.00120	13.93	57.200	-0.00104	-0.00196	-0.00061
____ Y1	11243.17970	11,243.18	0.294	11240.89049	11211.38451	11277.26409
____ Y2A	214141.54448	214,141.54	0.576	213008.62328	215456.72118	213959.28899
____ Y2R	14291.71862	14,291.72	0.085	14278.13312	14295.28227	14301.74047
____ ZN	1.02536	7,656.80	0.367	1.02215	1.02950	1.02443
____ ZR	0.00371	-4.77	40.130	0.00318	0.00538	0.00255

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 50 Date/Time: 05/02/2018 04:28

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.53046	6,467.51	0.523	0.52815	0.52968	0.53354
____ AL	26.25417	3,673.12	2.885	27.12641	25.76204	25.87406
____ AS	0.52800	184.73	0.630	0.52645	0.52574	0.53182
____ B	0.50763	4,320.99	0.465	0.50596	0.50659	0.51033
____ BA	0.52415	292,001.86	0.727	0.52728	0.51990	0.52526
____ BE	0.50630	196,169.38	0.606	0.50445	0.50461	0.50985
____ CA	26.36260	33,288.77	2.568	27.14431	25.95946	25.98405
____ CD	0.52107	7,854.85	0.199	0.52084	0.52220	0.52017
____ CO	0.51818	3,923.71	0.140	0.51735	0.51869	0.51849
____ CR	0.49359	5,346.11	0.112	0.49309	0.49349	0.49418
____ CU	0.53256	5,040.93	0.431	0.52992	0.53370	0.53407
____ FE	26.27600	10,170.75	0.474	26.35298	26.13235	26.34267
____ K	25.50682	8,480.52	1.676	25.02585	25.65074	25.84388
____ LI	0.52759	2,908.52	2.018	0.51585	0.53030	0.53663
____ MG	26.10403	55,475.37	2.684	26.91298	25.69067	25.70843
____ MN	0.52498	33,680.31	0.456	0.52262	0.52491	0.52741
____ MO	0.50439	1,125.04	0.157	0.50381	0.50406	0.50529
____ NA	25.89451	25,748.41	1.667	25.39986	26.08807	26.19560
____ NI	0.52275	2,768.11	0.229	0.52375	0.52309	0.52142
____ P	0.52608	174.08	0.682	0.52522	0.52300	0.53002
____ PB	0.51759	683.76	0.924	0.52078	0.51991	0.51209
____ S	25.21055	4,416.26	0.189	25.15609	25.23173	25.24383
____ SB	0.51471	246.35	1.426	0.50624	0.51907	0.51883
____ SE	0.50795	154.25	0.845	0.50508	0.50588	0.51288
____ SI	25.42733	7,116.81	1.628	24.95195	25.62159	25.70844
____ SN	0.49701	574.70	0.081	0.49714	0.49733	0.49656
____ SR	0.52839	265,947.87	0.294	0.52687	0.52835	0.52997
____ TH	0.50953	103.96	8.103	0.50367	0.47148	0.55342
____ TI	0.52159	24,317.94	0.422	0.51954	0.52132	0.52391
____ TL	0.50999	141.82	0.652	0.51320	0.50656	0.51021
____ V	0.51445	8,033.99	0.471	0.51334	0.51279	0.51723
____ W	0.51761	628.94	0.245	0.51721	0.51902	0.51658
____ Y1	12182.12357	12,182.12	0.456	12154.80779	12145.48587	12246.07706
____ Y2A	229107.78678	229,107.79	0.323	229879.39912	229039.49210	228404.46911
____ Y2R	14689.06621	14,689.07	1.419	14920.80343	14629.69530	14516.69990
____ ZN	0.52640	4,227.70	0.370	0.52609	0.52849	0.52463
____ ZR	0.47369	1,229.98	1.323	0.46687	0.47920	0.47500

LANCASTER LABORATORIES

Run Name: 1812201T70 Instrument ID: 11016

Tube: 51 Date/Time: 05/02/2018 04:31

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00169	-56.09	51.883	0.00263	0.00091	0.00152
____ AL	-0.00641	-2.09	569.733	0.01692	-0.04851	0.01236
____ AS	-0.00110	-2.54	66.739	-0.00142	-0.00162	-0.00026
____ B	0.00119	-10.80	82.102	0.00008	0.00159	0.00190
____ BA	0.00011	104.90	4.545	0.00011	0.00010	0.00011
____ BE	-0.00002	-115.64	180.274	0.00001	-0.00001	-0.00005
____ CA	0.00195	69.96	188.876	0.00416	-0.00231	0.00401
____ CD	0.00015	-15.45	108.231	0.00031	0.00015	-0.00001
____ CO	0.00033	27.01	62.788	0.00050	0.00041	0.00010
____ CR	-0.00039	-2.73	143.263	-0.00019	-0.00102	0.00004
____ CU	-0.00347	-98.45	30.916	-0.00256	-0.00319	-0.00466
____ FE	0.00608	13.57	49.489	0.00815	0.00263	0.00747
____ K	-0.06240	276.88	155.032	-0.17398	-0.00183	-0.01140
____ LI	0.00210	-27.78	175.353	0.00544	-0.00183	0.00268
____ MG	-0.01021	-21.92	16.230	-0.01038	-0.00847	-0.01177
____ MN	0.00001	23.56	742.359	0.00001	0.00007	-0.00005
____ MO	0.00102	4.35	48.629	0.00115	0.00047	0.00144
____ NA	0.06157	-1,081.31	52.542	0.09650	0.05555	0.03265
____ NI	0.00046	37.59	165.012	0.00048	0.00120	-0.00031
____ P	0.00040	-1.69	439.486	0.00093	-0.00156	0.00183
____ PB	-0.00176	-6.44	196.995	-0.00508	0.00184	-0.00205
____ S	0.00019	3.27	3867.396	-0.00290	0.00846	-0.00501
____ SB	0.00498	-10.10	56.630	0.00196	0.00755	0.00542
____ SE	-0.00955	2.76	19.241	-0.01111	-0.01002	-0.00753
____ SI	-0.00181	9.40	446.251	0.00676	-0.00932	-0.00288
____ SN	0.00087	2.23	47.710	0.00130	0.00085	0.00047
____ SR	0.00005	163.96	55.309	0.00003	0.00008	0.00003
____ TH	0.00002	12.78	4029.825	0.02494	-0.03670	0.01181
____ TI	0.00041	31.83	71.986	0.00047	0.00066	0.00009
____ TL	0.00351	-5.02	128.803	0.00330	0.00814	-0.00090
____ V	0.00037	-73.89	130.106	-0.00018	0.00065	0.00063
____ W	-0.00007	3.37	3243.299	0.00231	-0.00018	-0.00235
____ Y1	12487.63533	12,487.64	0.087	12497.70390	12488.97543	12476.22664
____ Y2A	236151.27044	236,151.27	0.492	234828.28737	237001.89621	236623.62774
____ Y2R	14902.79720	14,902.80	0.598	14953.28737	14955.27888	14799.82535
____ ZN	-0.00046	14.10	18.823	-0.00046	-0.00038	-0.00055
____ ZR	0.00020	-15.42	2725.115	-0.00549	0.00513	0.00095

ICP-AES Run Data Report

Lancaster Laboratories Environmental

Reviewed By
Elaine F Stoltzfus

Reviewed Date
05/02/2018 8:19PM

Data File Name 1812205T75.TXT
Run Name: 1812205T75

Method Reference Name(s):

Verified By:
Tara L Snyder

Verified Date
05/07/2018 9:03AM

Analyst Employee: 3024

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: 1812205T75 Instrument ID: 23290

Tube: 1 Date/Time: 05/02/2018 17:24

Sample Number: **S0**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	0.000	-15.22686	31.681	-0.00559	-0.00335	-0.00334
AL	0.000	3.56075	74.871	0.00293	0.02031	0.01158
AS	0.000	1.29593	1.261	0.01221	0.01214	0.01243
B	0.000	-1.32811	262.653	0.00001	-0.00001	-0.00002
BA	0.000	232.91233	8.853	0.00113	0.00127	0.00135
BE	0.000	-40.01683	16.060	-0.00896	-0.01240	-0.01091
CA	0.000	37.81720	11.178	0.00225	0.00237	0.00278
CD	0.000	-3.88433	97.423	-0.07005	-0.04078	0.00095
CO	0.000	-1.54243	50.385	-0.02019	-0.01726	-0.00626
CR	0.000	-11.80578	18.338	-0.00005	-0.00006	-0.00008
CU	0.000	6.74180	249.827	0.00301	-0.00320	0.00564
FE	0.000	6.10551	25.573	0.00041	0.00029	0.00050
K	0.000	46.26035	11.497	0.15778	0.16361	0.13108
LI	0.000	54.31332	8.951	0.00374	0.00371	0.00318
MG	0.000	5.60704	51.236	0.00054	0.00017	0.00039
MN	0.000	9.53111	23.139	0.00266	0.00193	0.00310
MO	0.000	-0.67393	118.541	-0.01491	-0.00331	-0.00082
NA	0.000	-98.33500	23.393	-0.00485	-0.00784	-0.00654
NI	0.000	6.27307	16.474	0.06113	0.06809	0.04879
P	0.000	0.14328	496.849	-0.00011	0.00003	0.00016
PB	0.000	1.49364	95.286	0.01596	-0.00016	0.02658
S	0.000	1.31258	66.601	0.00043	0.00012	0.00019
SB	0.000	-0.70961	69.991	-0.00004	-0.00013	-0.00023
SE	0.000	-2.86172	23.970	-0.03277	-0.02001	-0.02838
SI	0.000	2.32306	180.130	0.00003	0.00046	-0.00004
SN	0.000	2.04882	35.699	0.02704	0.01735	0.01367
SR	0.000	-168.94454	6.180	-0.00093	-0.00095	-0.00084
TH	0.000	-4.80757	30.417	-0.00028	-0.00024	-0.00042
TI	0.000	0.91295	499.176	-0.00100	0.00028	0.00146
TL	0.000	-2.40196	25.034	-0.02920	-0.02020	-0.01870
V	0.000	7.70459	87.375	0.00217	0.00383	0.00021
W	0.000	1.04605	70.480	0.00027	0.00029	0.00004
Y1	0.000	5285.42559	0.589	5321.31321	5269.63822	5265.32534
Y2A	0.000	185999.48064	0.211	186305.05181	186135.98326	185557.40685
Y2R	0.000	15332.85862	0.277	15338.56144	15372.22777	15287.78664
ZN	0.000	31.75533	2.164	0.29458	0.30743	0.29926
ZR	0.000	0.09811	7608.169	0.00044	-0.00059	0.00018

LANCASTER LABORATORIES

Run Name: 1812205T75

Instrument ID: 23290

Tube: 2

Date/Time: 05/02/2018 17:27

Sample Number: **S1**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AL	50.000	8244.58340	0.117	27.26227	27.30653	27.32416
CA	50.000	54377.36047	0.411	3.60404	3.61374	3.58466
FE	50.000	21505.18275	0.086	1.42455	1.42267	1.42498
K	50.000	15629.08057	0.428	51.63362	52.00225	51.60560
MG	50.000	112674.17409	0.287	7.46632	7.47955	7.43771
NA	50.000	57661.84164	0.366	3.81574	3.83338	3.80581
S	50.000	6345.69485	1.399	1.20891	1.23108	1.24272
SI	50.000	15754.83928	0.069	1.04247	1.04352	1.04385
Y1	50.000	5169.44397	0.576	5194.72802	5136.59778	5177.00610
Y2R	50.000	15101.27890	0.301	15105.11364	15144.72765	15053.99541

LANCASTER LABORATORIES

Run Name: 1812205T75

Instrument ID: 23290

Tube: 3

Date/Time: 05/02/2018 17:31

Sample Number: **S2**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	1.000	10046.50808	0.358	2.75169	2.76667	2.77040
AS	1.000	323.08487	0.585	3.08885	3.05302	3.06876
B	1.000	6892.53515	0.245	0.03787	0.03785	0.03802
BA	1.000	607702.50777	1.178	3.36072	3.29748	3.36974
BE	1.000	275489.88745	0.302	75.59716	75.66975	76.02444
CD	1.000	8855.32833	0.429	84.44317	83.74663	84.25951
CO	1.000	4552.32350	0.183	43.32716	43.17236	43.27763
CU	1.000	8872.52492	0.569	2.42988	2.43445	2.45590
LI	1.000	5264.40039	0.547	0.34750	0.34397	0.34458
MN	1.000	47920.97363	0.219	13.17028	13.15549	13.21123
NI	1.000	2680.17641	0.545	25.57550	25.31202	25.51979
P	1.000	233.39765	0.847	0.04439	0.04397	0.04472
PB	1.000	836.64451	0.624	8.00409	7.90617	7.94113
SE	1.000	219.51750	0.530	2.09874	2.08049	2.07881
SR	1.000	645492.22369	0.417	3.53400	3.56290	3.55417
TH	1.000	200.02592	0.737	0.01322	0.01303	0.01312
TL	1.000	293.05157	0.826	2.78387	2.76227	2.80824
W	1.000	994.03740	0.497	0.18983	0.18796	0.18898
Y1	1.000	5261.74093	0.630	5230.92742	5296.77117	5257.52421
Y2A	1.000	181808.77580	0.434	181249.32500	182711.47141	181465.53098
Y2R	1.000	15243.80593	0.334	15209.14756	15302.35406	15219.91618
ZN	1.000	6486.14363	0.360	61.77836	61.37981	61.74933

LANCASTER LABORATORIES

Run Name: 1812205T75

Instrument ID: 23290

Tube: 4

Date/Time: 05/02/2018 17:34

Sample Number: **S3**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
CR	1.000	8667.22296	0.311	0.04615	0.04643	0.04633
MO	1.000	2551.57857	0.196	23.48771	23.41481	23.40282
SB	1.000	381.05851	0.458	0.07035	0.06992	0.06972
SN	1.000	898.07789	0.340	8.22924	8.23550	8.28064
TI	1.000	34904.43639	0.224	9.33319	9.33867	9.30005
V	1.000	13306.70445	0.280	3.55223	3.56555	3.54606
Y1	1.000	5443.92068	0.063	5444.87010	5446.79196	5440.09997
Y2A	1.000	187176.38183	0.398	187706.04258	186323.72754	187499.37537
Y2R	1.000	15358.21687	0.573	15265.76239	15440.83683	15368.05139
ZR	1.000	3113.38985	0.810	0.20333	0.20086	0.20397

LANCASTER LABORATORIES

Run Name: 1812205T75

Instrument ID: 23290

Tube: 5

Date/Time: 05/02/2018 17:37

Sample Number: **ICV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.62235	6,165.98	0.308	0.62414	0.62258	0.62033
____ AL	30.54452	5,061.15	0.291	30.51533	30.64418	30.47405
____ AS	0.59703	193.17	0.627	0.59395	0.59594	0.60120
____ B	0.59875	4,154.63	0.106	0.59863	0.59818	0.59944
____ BA	0.61949	370,563.00	0.429	0.61649	0.62042	0.62156
____ BE	0.58748	159,201.74	0.249	0.58892	0.58599	0.58754
____ CA	29.85744	32,590.24	0.281	29.86695	29.93621	29.76916
____ CD	0.60383	5,313.16	0.328	0.60221	0.60325	0.60604
____ CO	0.59614	2,692.23	0.437	0.59313	0.59750	0.59777
____ CR	0.59226	4,903.96	0.446	0.59475	0.59255	0.58948
____ CU	0.62073	5,272.18	0.434	0.62351	0.61814	0.62053
____ FE	30.10178	13,054.99	0.308	30.04631	30.20889	30.05013
____ K	30.20058	9,473.45	0.127	30.15622	30.22319	30.22233
____ LI	0.60294	3,197.15	0.364	0.60426	0.60414	0.60041
____ MG	30.18683	68,693.51	0.345	30.18374	30.29261	30.08416
____ MN	0.60689	28,614.45	0.098	0.60746	0.60694	0.60627
____ MO	0.59720	1,459.29	0.211	0.59676	0.59622	0.59862
____ NA	29.18225	33,665.58	0.359	29.18220	29.28704	29.07751
____ NI	0.60152	1,596.77	0.448	0.59931	0.60072	0.60452
____ P	0.60233	139.51	0.805	0.60427	0.59681	0.60591
____ PB	0.61396	515.53	0.664	0.60985	0.61404	0.61800
____ S	30.53356	3,909.71	0.842	30.53230	30.27700	30.79139
____ SB	0.62298	227.80	0.951	0.62906	0.62266	0.61722
____ SE	0.60246	130.19	1.539	0.60848	0.59178	0.60712
____ SI	30.53794	9,643.77	0.239	30.45491	30.56757	30.59135
____ SN	0.59274	511.15	0.596	0.59174	0.58981	0.59666
____ SR	0.61021	388,174.44	0.331	0.61230	0.60827	0.61007
____ TH	0.59061	119.75	3.953	0.59938	0.60831	0.56416
____ TI	0.61396	20,477.69	0.204	0.61487	0.61253	0.61447
____ TL	0.60005	163.74	1.635	0.60493	0.58876	0.60647
____ V	0.61643	7,859.28	0.322	0.61832	0.61660	0.61436
____ W	0.60928	601.09	0.361	0.61041	0.60674	0.61069
____ Y1	5219.03895	5,219.04	0.627	5255.71643	5208.51574	5192.88467
____ Y2A	178856.94236	178,856.94	0.270	178633.65000	179411.15208	178526.02500
____ Y2R	15125.75741	15,125.76	0.502	15127.84261	15200.62962	15048.80000
____ ZN	0.60088	3,905.01	0.346	0.60070	0.59890	0.60305
____ ZR	0.62060	1,950.26	0.539	0.61687	0.62159	0.62333

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 6 Date/Time: 05/02/2018 17:40

Sample Number: **ICB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00013	-15.63	403.512	-0.00060	-0.00022	0.00043
____ AL	-0.00127	3.41	1706.038	-0.02627	0.01024	0.01222
____ AS	-0.00109	0.95	111.878	-0.00065	-0.00248	-0.00015
____ B	0.00101	5.92	69.404	0.00114	0.00164	0.00025
____ BA	0.00006	267.96	87.375	0.00004	0.00012	0.00002
____ BE	0.00003	-30.71	48.143	0.00003	0.00005	0.00002
____ CA	0.00987	47.82	45.438	0.00478	0.01161	0.01322
____ CD	0.00006	-2.44	545.954	-0.00011	0.00047	-0.00016
____ CO	-0.00005	-1.02	1190.802	0.00035	0.00016	-0.00065
____ CR	-0.00056	-10.98	30.791	-0.00070	-0.00062	-0.00037
____ CU	-0.00122	-2.37	70.913	-0.00045	-0.00104	-0.00215
____ FE	0.00295	7.32	91.611	0.00499	0.00397	-0.00011
____ K	0.02816	54.36	214.147	-0.01021	0.09768	-0.00298
____ LI	-0.00020	52.58	1220.491	0.00142	0.00102	-0.00305
____ MG	0.00338	13.34	79.594	0.00509	0.00477	0.00028
____ MN	0.00007	12.81	82.545	0.00011	0.00000	0.00010
____ MO	0.00070	-0.96	69.431	0.00042	0.00125	0.00041
____ NA	0.01887	-81.83	40.602	0.02765	0.01351	0.01546
____ NI	0.00010	6.57	269.253	0.00019	-0.00019	0.00029
____ P	0.00360	0.99	118.008	-0.00114	0.00708	0.00487
____ PB	0.00315	4.16	9.540	0.00312	0.00287	0.00347
____ S	0.00676	2.20	150.840	-0.00050	0.01843	0.00236
____ SB	-0.00459	-1.47	41.012	-0.00245	-0.00535	-0.00598
____ SE	-0.00476	-2.56	23.260	-0.00561	-0.00351	-0.00515
____ SI	0.00496	3.86	197.636	0.01346	-0.00575	0.00715
____ SN	-0.00008	1.99	927.277	-0.00082	0.00061	-0.00003
____ SR	0.00001	-141.16	149.382	0.00001	0.00003	-0.00001
____ TH	0.01160	-3.16	63.365	0.01986	0.00577	0.00916
____ TI	0.00029	10.97	72.700	0.00023	0.00053	0.00012
____ TL	-0.00151	-2.51	52.679	-0.00243	-0.00102	-0.00108
____ V	-0.00009	6.52	481.815	0.00036	-0.00047	-0.00015
____ W	-0.00054	0.51	226.701	-0.00196	0.00018	0.00015
____ Y1	5321.72012	5,321.72	0.484	5344.82510	5326.40016	5293.93510
____ Y2A	184648.50658	184,648.51	0.545	185248.15296	183486.55111	185210.81567
____ Y2R	15125.33683	15,125.34	0.854	15274.37562	15056.75474	15044.88012
____ ZN	0.00050	35.22	86.373	0.00037	0.00098	0.00014
____ ZR	0.00137	3.06	94.354	0.00147	0.00260	0.00003

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 7 Date/Time: 05/02/2018 17:43

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00554	4.39	1.039	0.00554	0.00548	0.00559
____ AL	0.21175	41.69	14.699	0.23084	0.17583	0.22857
____ AS	0.01682	6.85	8.727	0.01761	0.01513	0.01773
____ B	0.04929	357.82	1.751	0.04941	0.05009	0.04838
____ BA	0.00540	3,663.53	0.330	0.00539	0.00539	0.00542
____ BE	0.00490	1,366.83	0.400	0.00492	0.00491	0.00488
____ CA	0.20182	259.15	1.038	0.20048	0.20074	0.20423
____ CD	0.00532	45.07	3.952	0.00550	0.00537	0.00509
____ CO	0.00484	21.74	6.956	0.00521	0.00476	0.00456
____ CR	0.01402	116.71	6.720	0.01339	0.01355	0.01510
____ CU	0.01289	152.95	1.429	0.01268	0.01300	0.01299
____ FE	0.20772	99.10	1.525	0.21063	0.20819	0.20434
____ K	0.50064	206.40	9.091	0.44952	0.51564	0.53675
____ LI	0.02083	165.00	17.607	0.01911	0.02504	0.01834
____ MG	0.09941	239.72	1.219	0.09830	0.09923	0.10070
____ MN	0.00548	279.30	1.919	0.00545	0.00560	0.00540
____ MO	0.01077	24.39	1.822	0.01061	0.01099	0.01071
____ NA	1.03805	1,121.87	0.578	1.03173	1.03877	1.04366
____ NI	0.01131	37.21	9.155	0.01102	0.01045	0.01246
____ P	0.10291	24.60	4.864	0.09779	0.10779	0.10315
____ PB	0.01583	15.03	11.444	0.01379	0.01726	0.01645
____ S	0.51189	68.69	2.139	0.49925	0.51835	0.51806
____ SB	0.01906	7.36	7.249	0.01896	0.02049	0.01773
____ SE	0.02103	3.18	19.647	0.01735	0.02550	0.02025
____ SI	0.05409	19.87	4.596	0.05168	0.05664	0.05395
____ SN	0.02039	20.09	2.312	0.02089	0.01995	0.02033
____ SR	0.00532	3,428.80	0.807	0.00535	0.00533	0.00527
____ TH	0.20434	36.99	7.490	0.21414	0.21218	0.18671
____ TI	0.01043	369.28	1.558	0.01058	0.01045	0.01026
____ TL	0.02985	6.78	6.100	0.03116	0.03062	0.02777
____ V	0.00512	77.99	7.077	0.00495	0.00487	0.00554
____ W	0.00941	10.68	13.787	0.01058	0.00801	0.00963
____ Y1	5365.87229	5,365.87	0.274	5382.42255	5360.89546	5354.29885
____ Y2A	189430.61329	189,430.61	0.173	189442.75724	189097.56098	189751.52165
____ Y2R	15461.73900	15,461.74	0.165	15461.39083	15436.43856	15487.38761
____ ZN	0.02126	171.96	0.735	0.02109	0.02130	0.02139
____ ZR	0.05307	181.35	4.336	0.05121	0.05236	0.05565

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 8 Date/Time: 05/02/2018 17:46

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00081	-32.56	168.321	0.00062	-0.00210	-0.00095
____ AL	487.32348	80,548.71	0.426	486.47234	489.68994	485.80816
____ AS	-0.01360	-8.85	16.769	-0.01383	-0.01575	-0.01121
____ B	0.02337	948.82	4.754	0.02237	0.02318	0.02456
____ BA	0.00092	708.43	7.667	0.00099	0.00091	0.00085
____ BE	-0.00009	-56.93	84.485	0.00000	-0.00014	-0.00012
____ CA	502.94388	517,314.83	0.795	507.20022	502.36871	499.26270
____ CD	0.00428	94.61	3.265	0.00413	0.00429	0.00441
____ CO	-0.00083	-4.16	2.441	-0.00084	-0.00081	-0.00085
____ CR	-0.00367	-33.43	16.857	-0.00381	-0.00421	-0.00299
____ CU	-0.00254	174.95	15.502	-0.00220	-0.00245	-0.00297
____ FE	198.13035	80,286.57	0.411	197.42960	199.02234	197.93911
____ K	0.03788	56.83	160.613	0.10686	0.01495	-0.00817
____ LI	-0.00505	464.97	62.851	-0.00460	-0.00213	-0.00843
____ MG	512.81215	926,553.22	2.271	513.71687	523.97959	500.73999
____ MN	0.00449	203.36	3.348	0.00463	0.00452	0.00433
____ MO	-0.00062	-3.78	127.593	-0.00042	-0.00149	0.00005
____ NA	0.02088	-78.68	25.267	0.02620	0.02077	0.01566
____ NI	-0.00927	-16.71	8.525	-0.00922	-0.01008	-0.00850
____ P	0.01261	2.79	44.833	0.01848	0.01217	0.00719
____ PB	-0.00140	80.95	168.133	-0.00393	0.00071	-0.00097
____ S	-0.03592	7.75	10.227	-0.04007	-0.03459	-0.03309
____ SB	0.00233	0.96	206.332	0.00199	0.00730	-0.00230
____ SE	-0.00698	-7.97	58.833	-0.01129	-0.00311	-0.00655
____ SI	-0.00498	0.69	65.970	-0.00641	-0.00122	-0.00731
____ SN	0.00697	7.27	27.143	0.00907	0.00645	0.00539
____ SR	0.00659	15,199.07	3.441	0.00635	0.00660	0.00681
____ TH	-0.02435	20.74	96.765	-0.00017	-0.04723	-0.02563
____ TI	-0.00219	-66.08	7.026	-0.00235	-0.00217	-0.00204
____ TL	0.00808	-3.50	49.004	0.00398	0.00838	0.01189
____ V	-0.00306	30.41	13.146	-0.00267	-0.00347	-0.00301
____ W	-0.00130	-0.27	125.290	-0.00132	-0.00292	0.00034
____ Y1	4736.74281	4,736.74	0.218	4747.57945	4735.68248	4726.96652
____ Y2A	164140.47540	164,140.48	0.314	164551.98563	164308.16215	163561.27842
____ Y2R	14957.29205	14,957.29	0.758	15008.39161	14827.39282	15036.09172
____ ZN	-0.00685	147.84	5.219	-0.00707	-0.00644	-0.00705
____ ZR	0.00286	4.65	34.653	0.00172	0.00349	0.00337

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 9 Date/Time: 05/02/2018 17:50

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.21605	1,981.81	0.425	0.21654	0.21499	0.21662
____ AL	487.57003	81,479.02	0.419	489.92988	486.45588	486.32431
____ AS	0.09238	21.54	4.841	0.09750	0.08925	0.09038
____ B	0.02649	975.05	3.965	0.02676	0.02533	0.02737
____ BA	0.50981	281,039.76	0.293	0.51033	0.50813	0.51098
____ BE	0.50444	125,992.27	0.391	0.50500	0.50225	0.50607
____ CA	507.31898	527,279.27	1.004	512.54132	507.04990	502.36572
____ CD	0.97803	7,737.92	0.440	0.98291	0.97474	0.97646
____ CO	0.47974	1,934.67	0.221	0.48096	0.47909	0.47917
____ CR	0.47336	3,610.63	0.522	0.47335	0.47090	0.47584
____ CU	0.52832	4,374.91	0.254	0.52882	0.52680	0.52934
____ FE	198.83987	81,436.10	0.449	199.83528	198.57406	198.11026
____ K	-0.05896	27.22	44.722	-0.07164	-0.02865	-0.07660
____ LI	-0.00971	449.92	9.761	-0.01079	-0.00902	-0.00932
____ MG	510.99072	934,350.82	0.877	510.90766	506.55238	515.51211
____ MN	0.50192	21,825.25	0.599	0.50068	0.49972	0.50534
____ MO	-0.00080	-4.13	15.333	-0.00078	-0.00094	-0.00070
____ NA	0.02689	-72.59	35.140	0.03750	0.01938	0.02378
____ NI	0.96985	2,304.62	0.426	0.97425	0.96605	0.96924
____ P	0.01629	3.50	34.510	0.02211	0.01089	0.01588
____ PB	0.53355	475.64	0.204	0.53423	0.53230	0.53413
____ S	-0.03919	7.32	21.696	-0.03037	-0.03986	-0.04733
____ SB	0.63391	206.67	0.185	0.63523	0.63300	0.63350
____ SE	0.55203	100.47	0.726	0.54784	0.55582	0.55243
____ SI	0.00625	4.26	48.674	0.00318	0.00926	0.00629
____ SN	0.00824	8.12	18.661	0.00998	0.00708	0.00765
____ SR	0.00678	15,480.93	3.286	0.00663	0.00668	0.00704
____ TH	-0.00287	25.44	353.033	-0.01436	0.00477	0.00098
____ TI	-0.00194	-58.67	8.155	-0.00177	-0.00208	-0.00195
____ TL	0.10339	15.58	6.364	0.11025	0.10278	0.09714
____ V	0.50582	6,048.62	0.552	0.50402	0.50441	0.50904
____ W	0.00439	11.76	40.898	0.00614	0.00255	0.00449
____ Y1	4663.12145	4,663.12	0.396	4641.81655	4672.79592	4674.75187
____ Y2A	164859.54514	164,859.55	0.729	164738.76124	166117.26083	163722.61334
____ Y2R	15120.77090	15,120.77	0.219	15103.07193	15158.91608	15100.32468
____ ZN	1.03666	6,113.02	0.405	1.04144	1.03503	1.03353
____ ZR	0.00611	16.42	29.283	0.00783	0.00624	0.00426

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 10 Date/Time: 05/02/2018 17:53

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.49465	5,053.14	0.554	0.49740	0.49464	0.49192
____ AL	24.40236	4,174.18	0.385	24.47784	24.43205	24.29718
____ AS	0.52214	166.64	0.601	0.52463	0.51862	0.52317
____ B	0.49442	3,538.96	0.576	0.49338	0.49224	0.49765
____ BA	0.50473	311,775.31	0.105	0.50481	0.50416	0.50521
____ BE	0.48930	136,902.49	0.248	0.49061	0.48821	0.48908
____ CA	24.88840	28,062.19	0.377	24.99642	24.84123	24.82754
____ CD	0.52291	4,534.63	0.486	0.52573	0.52220	0.52080
____ CO	0.51133	2,276.35	0.544	0.51453	0.51000	0.50947
____ CR	0.48242	4,123.24	0.178	0.48165	0.48226	0.48335
____ CU	0.52063	4,566.58	0.245	0.52098	0.51922	0.52170
____ FE	24.48969	10,984.63	0.602	24.65431	24.44480	24.36996
____ K	25.17251	8,158.69	0.316	25.22543	25.08106	25.21104
____ LI	0.49146	2,700.74	0.276	0.49267	0.48999	0.49171
____ MG	24.25597	57,115.33	0.306	24.33978	24.22910	24.19904
____ MN	0.51016	24,837.72	0.041	0.50995	0.51017	0.51037
____ MO	0.51114	1,230.81	0.511	0.51396	0.51065	0.50881
____ NA	24.47924	29,133.05	0.353	24.57822	24.41966	24.43983
____ NI	0.52826	1,383.43	0.616	0.53179	0.52761	0.52538
____ P	0.50766	115.92	0.342	0.50889	0.50568	0.50841
____ PB	0.52807	436.94	0.594	0.53151	0.52734	0.52537
____ S	24.90909	3,144.14	0.243	24.84395	24.91958	24.96374
____ SB	0.49649	179.04	1.364	0.50164	0.49901	0.48881
____ SE	0.51203	108.87	0.804	0.51549	0.50748	0.51313
____ SI	24.62139	8,026.76	0.200	24.62200	24.67042	24.57175
____ SN	0.50182	426.89	0.691	0.50578	0.50034	0.49934
____ SR	0.50031	328,589.33	0.805	0.49609	0.50410	0.50075
____ TH	0.49261	102.04	6.317	0.49886	0.52013	0.45884
____ TI	0.51345	17,682.57	0.276	0.51408	0.51182	0.51444
____ TL	0.50910	136.99	0.525	0.50602	0.51074	0.51054
____ V	0.49959	6,574.92	0.135	0.50033	0.49900	0.49944
____ W	0.52398	509.73	0.418	0.52640	0.52339	0.52214
____ Y1	5144.57498	5,144.57	0.175	5143.80230	5153.93903	5135.98361
____ Y2A	184673.68161	184,673.68	0.611	185966.85814	183890.87500	184163.31169
____ Y2R	15613.49652	15,613.50	0.066	15614.09363	15602.96466	15623.43127
____ ZN	0.52187	3,346.00	0.526	0.52494	0.52100	0.51967
____ ZR	0.50151	1,627.71	0.364	0.50330	0.49964	0.50158

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 11 Date/Time: 05/02/2018 17:56

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00073	-26.04	81.094	-0.00136	-0.00020	-0.00062
____ AL	0.00158	4.16	960.112	-0.01097	0.01840	-0.00270
____ AS	-0.00188	0.68	200.666	-0.00551	-0.00216	0.00202
____ B	0.00089	5.21	50.338	0.00104	0.00039	0.00125
____ BA	0.00003	253.03	117.034	0.00005	-0.00001	0.00003
____ BE	0.00002	-35.66	69.880	0.00003	0.00001	0.00001
____ CA	0.01907	58.62	10.707	0.01928	0.01693	0.02100
____ CD	0.00019	-1.29	143.760	0.00050	0.00002	0.00005
____ CO	-0.00029	-2.12	121.291	0.00011	-0.00055	-0.00044
____ CR	-0.00060	-11.63	127.462	-0.00118	-0.00090	0.00027
____ CU	-0.00186	-5.48	38.689	-0.00179	-0.00117	-0.00261
____ FE	0.00139	6.76	358.816	0.00650	-0.00348	0.00116
____ K	-0.01834	40.68	285.288	0.00908	0.01457	-0.07867
____ LI	-0.00017	53.73	2054.226	0.00378	-0.00240	-0.00187
____ MG	0.00844	25.46	32.926	0.00532	0.01065	0.00937
____ MN	0.00013	15.42	72.284	0.00020	0.00002	0.00015
____ MO	0.00051	-1.40	41.233	0.00074	0.00045	0.00034
____ NA	0.00921	-94.84	58.125	0.00503	0.00735	0.01524
____ NI	-0.00006	6.04	1170.981	0.00074	-0.00058	-0.00034
____ P	0.00124	0.42	275.598	-0.00069	-0.00077	0.00518
____ PB	0.00137	2.61	74.313	0.00060	0.00253	0.00099
____ S	0.01272	2.93	124.701	0.02540	0.01783	-0.00507
____ SB	-0.00398	-1.22	79.845	-0.00656	-0.00493	-0.00043
____ SE	-0.00057	-1.61	948.635	-0.00539	-0.00155	0.00524
____ SI	0.00540	4.06	63.955	0.00688	0.00145	0.00786
____ SN	0.00122	3.07	34.971	0.00169	0.00086	0.00110
____ SR	-0.00001	-155.73	169.985	-0.00002	0.00000	0.00000
____ TH	0.02849	0.28	55.773	0.01056	0.04081	0.03411
____ TI	0.00017	6.97	43.549	0.00009	0.00024	0.00018
____ TL	0.00043	-1.89	304.472	0.00129	0.00107	-0.00107
____ V	-0.00021	5.14	165.411	-0.00047	0.00019	-0.00036
____ W	-0.00097	0.09	74.903	-0.00013	-0.00136	-0.00141
____ Y1	5220.48063	5,220.48	0.549	5253.53388	5205.49720	5202.41079
____ Y2A	188874.30386	188,874.30	0.721	188421.80012	190405.19565	187795.91582
____ Y2R	15412.73726	15,412.74	0.166	15418.78122	15434.76523	15384.66533
____ ZN	0.00080	36.46	61.343	0.00136	0.00057	0.00046
____ ZR	0.00000	0.23	7179.593	0.00340	-0.00187	-0.00154

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 12 Date/Time: 05/02/2018 17:59

Sample Number: **PBW** Class: **** Batch: 181130184807

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	-0.00004	-17.28	2740.946	0.00120	-0.00086	-0.00045
____ AL	0.15327	30.03	162.868	0.44149	0.01238	0.00594
____ AS	-0.00271	0.42	12.830	-0.00304	-0.00235	-0.00275
____ B	0.00105	6.66	34.114	0.00065	0.00135	0.00115
____ BA	0.00005	271.57	28.138	0.00004	0.00007	0.00004
____ BE	-0.00001	-42.97	318.438	0.00000	-0.00002	0.00001
____ CA	0.17654	238.11	145.967	0.47401	0.03364	0.02196
____ CD	-0.00006	-3.48	155.774	-0.00016	-0.00001	0.00000
____ CO	-0.00042	-2.77	66.012	-0.00074	-0.00032	-0.00021
____ CR	-0.00013	-7.56	212.022	-0.00022	-0.00036	0.00018
____ CU	-0.00170	-5.25	32.537	-0.00162	-0.00229	-0.00120
____ FE	0.06770	36.91	160.312	0.19302	0.00414	0.00595
____ K	0.02550	55.67	141.666	-0.00875	0.06325	0.02200
____ LI	0.00020	56.80	1352.061	-0.00114	-0.00160	0.00334
____ MG	0.16461	398.05	151.934	0.45338	0.02295	0.01750
____ MN	0.00020	19.13	20.660	0.00023	0.00015	0.00021
____ MO	0.00071	-0.93	29.728	0.00069	0.00051	0.00092
____ NA	0.02852	-73.45	110.479	0.06460	0.01451	0.00644
____ NI	0.00017	6.77	130.846	0.00028	0.00032	-0.00009
____ P	0.00050	0.26	602.881	-0.00273	0.00106	0.00315
____ PB	0.00026	1.75	521.105	0.00099	-0.00131	0.00110
____ S	0.00744	2.29	117.869	-0.00094	0.01656	0.00672
____ SB	-0.00135	-0.27	163.806	-0.00228	0.00117	-0.00293
____ SE	0.00006	-1.50	3748.293	-0.00417	-0.00190	0.00626
____ SI	0.02092	9.22	33.618	0.02803	0.01396	0.02078
____ SN	-0.00005	2.01	757.970	0.00040	-0.00040	-0.00016
____ SR	-0.00001	-153.22	117.425	-0.00002	0.00000	0.00000
____ TH	0.02119	-1.25	65.441	0.03502	0.02127	0.00728
____ TI	0.00010	4.53	144.503	0.00003	0.00001	0.00027
____ TL	-0.00195	-2.63	143.267	-0.00518	-0.00020	-0.00048
____ V	0.00001	8.15	3173.598	-0.00006	-0.00031	0.00040
____ W	-0.00024	0.82	277.565	0.00049	-0.00079	-0.00041
____ Y1	5309.84057	5,309.84	0.159	5301.54108	5309.56026	5318.42037
____ Y2A	190596.16965	190,596.17	0.243	190526.47967	191090.68041	190171.34887
____ Y2R	15699.21930	15,699.22	0.685	15644.74078	15823.11038	15629.80673
____ ZN	0.00103	38.61	10.933	0.00114	0.00091	0.00102
____ ZR	0.00078	2.13	197.560	-0.00099	0.00147	0.00187

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 13 Date/Time: 05/02/2018 18:02

Sample Number: **LCSW** Class: **** Batch: 181130184807

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	0.05444	602.53	1.553	0.05469	0.05350	0.05514
____ AL	2.05652	373.99	1.391	2.07380	2.02351	2.07225
____ AS	0.15931	53.31	1.301	0.15852	0.16166	0.15774
____ B	1.88785	13,975.73	0.245	1.89309	1.88614	1.88431
____ BA	2.06057	1,324,874.34	0.581	2.07438	2.05392	2.05340
____ BE	0.04830	14,038.24	0.129	0.04825	0.04827	0.04837
____ CA	4.04956	4,699.24	0.787	4.08622	4.03416	4.02829
____ CD	0.05263	465.92	1.314	0.05186	0.05283	0.05320
____ CO	0.52815	2,425.50	0.809	0.52323	0.53040	0.53084
____ CR	0.19515	1,733.12	0.644	0.19659	0.19426	0.19461
____ CU	0.27834	2,275.63	0.371	0.27804	0.27749	0.27949
____ FE	0.99008	462.33	0.905	0.99913	0.98121	0.98989
____ K	10.25712	3,418.06	0.605	10.31956	10.25624	10.19555
____ LI	1.01515	5,583.85	1.021	1.02708	1.01003	1.00834
____ MG	1.98193	4,806.72	0.820	2.00044	1.97533	1.97003
____ MN	0.51747	26,255.48	0.206	0.51870	0.51684	0.51687
____ MO	2.04726	5,077.27	0.925	2.02540	2.05896	2.05741
____ NA	10.10625	12,199.18	0.629	10.17763	10.08520	10.05593
____ NI	0.54951	1,482.94	1.121	0.54252	0.55186	0.55414
____ P	1.01050	237.49	0.128	1.01118	1.00901	1.01131
____ PB	0.15948	135.81	2.858	0.15586	0.16460	0.15799
____ S	1.02885	134.94	0.175	1.02681	1.02949	1.03024
____ SB	0.50741	186.69	0.556	0.50508	0.50659	0.51054
____ SE	0.15130	31.81	0.429	0.15121	0.15071	0.15199
____ SI	1.03810	355.95	0.804	1.04297	1.02846	1.04287
____ SN	4.04752	3,524.92	0.713	4.01507	4.05722	4.07026
____ SR	1.02400	699,459.99	0.451	1.02685	1.02648	1.01867
____ TH	0.01773	-1.86	93.860	0.02870	0.02591	-0.00142
____ TI	1.02283	36,691.08	0.098	1.02357	1.02169	1.02325
____ TL	0.15524	36.74	0.439	0.15602	0.15489	0.15480
____ V	0.48785	6,458.33	0.328	0.48670	0.48717	0.48967
____ W	-0.00019	4.93	229.311	0.00005	0.00008	-0.00070
____ Y1	5288.66097	5,288.66	0.947	5345.35037	5270.30073	5250.33180
____ Y2A	192364.46779	192,364.47	0.410	191508.12886	192523.33600	193061.93851
____ Y2R	15919.98368	15,919.98	0.817	15770.05988	16003.07009	15986.82109
____ ZN	0.53166	3,482.39	0.985	0.52571	0.53557	0.53370
____ ZR	0.98713	3,187.21	0.668	0.99472	0.98391	0.98277

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 14 Date/Time: 05/02/2018 18:05

Sample Number: **9570349** Class: U*** Batch: 181130184807

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	0.00083	-9.73	179.477	0.00255	0.00003	-0.00009
____ AL	0.44622	81.40	10.053	0.44117	0.49339	0.40410
____ AS	-0.00198	0.68	140.603	-0.00491	0.00063	-0.00166
____ B	0.11775	828.78	4.048	0.12325	0.11511	0.11487
____ BA	0.11985	74,589.62	3.583	0.12480	0.11709	0.11766
____ BE	0.00014	-1.53	100.790	0.00029	0.00009	0.00003
____ CA	30.94096	35,488.40	0.863	31.01734	30.64420	31.16134
____ CD	0.00026	-0.44	73.005	0.00011	0.00047	0.00020
____ CO	0.02623	114.04	1.447	0.02621	0.02585	0.02661
____ CR	0.00176	8.92	21.897	0.00220	0.00151	0.00156
____ CU	0.00145	28.00	79.592	0.00248	0.00021	0.00165
____ FE	0.72730	340.72	1.081	0.71916	0.73485	0.72787
____ K	3.80642	1,296.31	0.571	3.82404	3.78212	3.81309
____ LI	0.00592	117.13	48.071	0.00919	0.00395	0.00463
____ MG	16.92286	40,677.17	1.061	16.96181	16.72699	17.07976
____ MN	1.67056	81,773.45	1.262	1.64739	1.67569	1.68860
____ MO	0.00108	0.00	25.975	0.00130	0.00117	0.00076
____ NA	71.95258	87,361.86	0.847	72.13188	71.27367	72.45219
____ NI	0.00927	28.39	8.693	0.01018	0.00899	0.00864
____ P	0.00977	2.36	4.859	0.00957	0.00943	0.01031
____ PB	0.00936	9.43	38.515	0.00893	0.01315	0.00598
____ S	16.22781	2,043.70	1.419	16.27344	15.97810	16.43190
____ SB	-0.00256	-0.68	138.610	-0.00193	0.00063	-0.00638
____ SE	0.00017	-0.94	3287.404	0.00447	-0.00622	0.00226
____ SI	11.74877	3,897.38	0.346	11.73358	11.71791	11.79481
____ SN	0.00071	2.58	135.197	-0.00034	0.00154	0.00092
____ SR	0.26020	172,183.69	0.353	0.25948	0.25989	0.26123
____ TH	0.03062	0.88	39.763	0.04460	0.02494	0.02232
____ TI	0.01521	527.93	18.671	0.01849	0.01363	0.01350
____ TL	-0.00073	-1.51	369.637	-0.00297	-0.00150	0.00227
____ V	0.00207	35.98	68.650	0.00371	0.00135	0.00115
____ W	-0.00077	0.40	56.894	-0.00127	-0.00054	-0.00049
____ Y1	5126.44019	5,126.44	0.498	5154.26259	5104.09636	5120.96162
____ Y2A	185642.33917	185,642.34	0.853	187440.63562	185029.72986	184456.65202
____ Y2R	15890.97556	15,890.98	1.021	16010.37924	15956.31116	15706.23627
____ ZN	0.01619	132.99	0.799	0.01626	0.01604	0.01627
____ ZR	-0.00041	-0.90	288.087	-0.00175	0.00048	0.00004

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 15 Date/Time: 05/02/2018 18:08

Sample Number: **9570349** Class: DP** Batch: 181130184807

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	0.02344	252.42	1.101	0.02335	0.02324	0.02373
____ AL	1.39501	243.42	1.765	1.42344	1.38074	1.38086
____ AS	0.51235	162.50	0.582	0.51055	0.51071	0.51580
____ B	0.29623	2,082.88	0.108	0.29647	0.29634	0.29586
____ BA	0.16239	100,104.71	0.488	0.16166	0.16227	0.16323
____ BE	0.01877	5,186.48	0.449	0.01868	0.01879	0.01884
____ CA	31.01643	34,968.64	0.114	31.05736	30.99795	30.99398
____ CD	0.04994	430.04	0.687	0.05017	0.04954	0.05009
____ CO	0.12448	552.51	0.895	0.12412	0.12359	0.12573
____ CR	0.18601	1,577.62	0.864	0.18713	0.18417	0.18673
____ CU	0.48546	4,256.00	0.159	0.48530	0.48479	0.48631
____ FE	1.17475	537.04	0.523	1.16797	1.17634	1.17995
____ K	5.60536	1,854.06	1.221	5.52828	5.65909	5.62870
____ LI	0.94403	5,123.53	0.474	0.93976	0.94363	0.94868
____ MG	17.35938	41,008.44	0.148	17.38849	17.34026	17.34940
____ MN	1.68555	81,670.62	0.090	1.68384	1.68676	1.68606
____ MO	0.19888	477.51	0.124	0.19871	0.19916	0.19877
____ NA	71.57623	85,423.07	0.036	71.58179	71.54823	71.59868
____ NI	0.16009	422.83	0.256	0.15966	0.16047	0.16016
____ P	0.99375	227.22	0.914	0.98942	0.98763	1.00418
____ PB	0.50114	411.28	0.537	0.50306	0.50230	0.49806
____ S	16.70499	2,111.36	0.679	16.57405	16.77079	16.77013
____ SB	0.38676	138.57	1.055	0.38228	0.38772	0.39026
____ SE	0.77874	165.38	1.200	0.77415	0.78948	0.77257
____ SI	12.55434	4,094.18	0.537	12.50408	12.52792	12.63100
____ SN	0.58151	494.41	0.401	0.58169	0.58375	0.57909
____ SR	0.27237	178,365.94	0.625	0.27062	0.27245	0.27402
____ TH	0.01854	-1.61	75.137	0.01537	0.03377	0.00646
____ TI	0.11331	3,883.28	0.612	0.11255	0.11345	0.11392
____ TL	0.98985	281.44	1.157	0.97663	0.99609	0.99683
____ V	0.09676	1,257.50	0.409	0.09634	0.09681	0.09713
____ W	0.00139	3.36	73.032	0.00092	0.00069	0.00255
____ Y1	5145.10679	5,145.11	0.223	5134.12270	5156.99030	5144.20737
____ Y2A	183746.86079	183,746.86	0.379	183829.62722	184397.25719	183013.69795
____ Y2R	15619.59903	15,619.60	0.425	15672.82565	15640.81175	15545.15968
____ ZN	0.13502	885.07	0.294	0.13512	0.13458	0.13536
____ ZR	0.94004	2,978.01	0.112	0.93884	0.94083	0.94044

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 16 Date/Time: 05/02/2018 18:11

Sample Number: **9570349** Class: D*** Batch: 181130184807

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	-0.00002	-15.39	2918.658	-0.00020	-0.00054	0.00067
____ AL	0.46036	81.04	9.128	0.49825	0.41516	0.46766
____ AS	0.00003	1.31	9834.130	0.00033	0.00299	-0.00323
____ B	0.11360	780.31	1.066	0.11251	0.11338	0.11490
____ BA	0.11669	70,933.38	0.133	0.11658	0.11687	0.11663
____ BE	0.00005	-26.47	33.703	0.00006	0.00004	0.00004
____ CA	30.90050	34,344.78	0.245	30.92183	30.96337	30.81629
____ CD	0.00017	-1.19	78.327	0.00003	0.00030	0.00019
____ CO	0.02634	115.05	0.197	0.02634	0.02629	0.02639
____ CR	0.00117	3.73	20.126	0.00123	0.00091	0.00137
____ CU	0.00104	21.92	96.022	0.00179	-0.00009	0.00142
____ FE	0.73598	334.02	0.891	0.74259	0.73589	0.72947
____ K	3.74803	1,237.58	0.269	3.74897	3.73753	3.75759
____ LI	0.00102	87.62	71.549	0.00096	0.00179	0.00033
____ MG	16.98464	39,560.60	0.341	16.99830	17.03453	16.92110
____ MN	1.67064	79,887.87	0.272	1.66557	1.67203	1.67433
____ MO	0.00041	-1.63	116.972	0.00090	-0.00005	0.00037
____ NA	72.09105	84,819.10	0.177	72.22884	72.06749	71.97684
____ NI	0.00879	27.25	3.229	0.00899	0.00892	0.00847
____ P	0.00999	2.42	13.103	0.01066	0.01082	0.00848
____ PB	0.00875	9.01	49.903	0.01196	0.00378	0.01051
____ S	16.03293	2,028.82	0.373	16.08589	15.96819	16.04470
____ SB	-0.00283	-0.79	85.283	-0.00349	-0.00015	-0.00483
____ SE	-0.00272	-1.56	231.045	-0.00963	0.00262	-0.00113
____ SI	11.91196	3,829.01	0.846	12.00777	11.80685	11.92125
____ SN	-0.00010	1.91	749.893	0.00032	-0.00097	0.00034
____ SR	0.25965	167,838.02	0.208	0.25920	0.26025	0.25949
____ TH	0.01659	-2.07	50.355	0.00694	0.02151	0.02131
____ TI	0.01422	481.59	2.139	0.01387	0.01440	0.01438
____ TL	-0.00103	-1.60	233.275	-0.00163	0.00162	-0.00308
____ V	0.00195	33.37	22.014	0.00146	0.00216	0.00224
____ W	-0.00122	-0.05	8.839	-0.00124	-0.00133	-0.00111
____ Y1	5150.99267	5,150.99	0.572	5148.82382	5122.69822	5181.45596
____ Y2A	181340.82064	181,340.82	0.385	182139.28857	180845.88082	181037.29254
____ Y2R	15398.36216	15,398.36	0.558	15310.42500	15402.58638	15482.07509
____ ZN	0.01566	130.30	0.743	0.01559	0.01560	0.01580
____ ZR	-0.00021	-1.42	565.440	-0.00012	0.00094	-0.00146

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 17 Date/Time: 05/02/2018 18:15

Sample Number: **9570349** Class: R*** Batch: 181130184807

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	0.05355	562.82	1.676	0.05257	0.05434	0.05374
____ AL	2.93042	516.26	0.791	2.90842	2.95464	2.92820
____ AS	0.15705	51.12	1.060	0.15530	0.15722	0.15862
____ B	2.04338	14,288.51	1.277	2.01334	2.05636	2.06043
____ BA	2.11917	1,288,008.76	1.643	2.07896	2.13865	2.13988
____ BE	0.04877	13,399.76	1.261	0.04806	0.04922	0.04901
____ CA	35.15934	39,663.26	0.442	34.98017	35.25588	35.24196
____ CD	0.05119	440.51	0.305	0.05131	0.05101	0.05125
____ CO	0.53625	2,390.96	0.204	0.53745	0.53531	0.53600
____ CR	0.19716	1,655.25	1.485	0.19404	0.19757	0.19985
____ CU	0.27536	2,126.82	1.432	0.27101	0.27871	0.27636
____ FE	1.82768	832.85	0.304	1.82294	1.83378	1.82632
____ K	13.88283	4,527.60	0.446	13.82282	13.87921	13.94646
____ LI	0.99817	5,422.51	0.647	0.99074	1.00241	1.00136
____ MG	19.08758	45,109.86	0.294	19.02524	19.13432	19.10318
____ MN	2.17857	104,469.93	1.087	2.15162	2.19605	2.18805
____ MO	2.03893	4,912.93	0.376	2.04670	2.03139	2.03870
____ NA	82.68201	98,805.90	0.337	82.37931	82.92665	82.74007
____ NI	0.53135	1,391.42	0.436	0.53099	0.52923	0.53382
____ P	1.04478	238.56	1.837	1.06681	1.03164	1.03589
____ PB	0.16049	133.26	1.597	0.16220	0.15754	0.16173
____ S	17.38906	2,194.80	1.044	17.59766	17.30223	17.26728
____ SB	0.50675	181.16	0.701	0.51057	0.50355	0.50614
____ SE	0.14597	30.26	4.894	0.15234	0.13825	0.14732
____ SI	13.59883	4,447.40	0.326	13.54865	13.61538	13.63247
____ SN	4.01272	3,395.30	0.509	4.03632	4.00067	4.00118
____ SR	1.24900	807,305.29	1.401	1.22920	1.25541	1.26240
____ TH	0.00574	-4.21	196.267	0.01864	-0.00208	0.00065
____ TI	1.03933	35,246.49	0.971	1.02798	1.04731	1.04269
____ TL	0.15255	35.51	2.687	0.15689	0.15202	0.14874
____ V	0.49435	6,191.50	1.304	0.48691	0.49798	0.49816
____ W	0.00097	5.90	76.922	0.00182	0.00043	0.00065
____ Y1	5138.12226	5,138.12	0.210	5126.72731	5148.21107	5139.42840
____ Y2A	181883.16992	181,883.17	2.195	186481.31121	179867.92924	179300.26930
____ Y2R	15637.47401	15,637.47	0.471	15719.01859	15576.02295	15617.38048
____ ZN	0.53171	3,383.82	0.189	0.53260	0.53062	0.53191
____ ZR	0.99000	3,138.87	0.465	0.98487	0.99139	0.99375

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 18 Date/Time: 05/02/2018 18:18

Sample Number: **9570349** Class: M*** Batch: 181130184807

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	0.05500	572.92	1.201	0.05576	0.05455	0.05468
____ AL	2.97069	509.53	1.065	2.95434	2.95057	3.00715
____ AS	0.15771	51.58	2.475	0.16187	0.15715	0.15412
____ B	2.07810	14,457.20	0.507	2.06909	2.07553	2.08969
____ BA	2.11449	1,278,706.75	1.634	2.07627	2.14351	2.12370
____ BE	0.04974	13,599.13	0.441	0.04960	0.04963	0.04999
____ CA	35.41630	38,887.99	0.498	35.44178	35.22863	35.57849
____ CD	0.05184	448.30	0.520	0.05210	0.05185	0.05156
____ CO	0.54159	2,426.67	0.355	0.54087	0.54377	0.54014
____ CR	0.20167	1,684.67	1.004	0.20041	0.20060	0.20401
____ CU	0.27981	2,150.51	0.484	0.27935	0.27874	0.28133
____ FE	1.81554	805.33	0.704	1.81960	1.80121	1.82580
____ K	14.05029	4,459.63	0.642	14.04205	13.96452	14.14431
____ LI	1.01480	5,365.00	0.348	1.01754	1.01082	1.01605
____ MG	19.22417	44,220.50	0.526	19.26796	19.10856	19.29600
____ MN	2.19924	104,919.17	0.294	2.19691	2.19427	2.20654
____ MO	2.05992	4,987.74	0.319	2.06291	2.06447	2.05238
____ NA	83.09849	96,660.86	0.284	83.12587	82.85034	83.31925
____ NI	0.53666	1,412.11	0.399	0.53745	0.53829	0.53423
____ P	1.04804	240.46	1.328	1.05348	1.05843	1.03222
____ PB	0.16141	134.67	1.616	0.16228	0.16347	0.15848
____ S	17.25356	2,188.33	0.734	17.34093	17.31139	17.10835
____ SB	0.51218	183.99	0.289	0.51346	0.51251	0.51056
____ SE	0.15323	31.97	3.628	0.15806	0.15447	0.14716
____ SI	13.64596	4,344.11	0.344	13.69601	13.60309	13.63878
____ SN	4.04430	3,438.67	0.503	4.05910	4.05272	4.02108
____ SR	1.25270	805,577.31	1.116	1.23762	1.25528	1.26521
____ TH	0.01698	-1.80	52.692	0.00699	0.01970	0.02425
____ TI	1.06058	35,781.92	0.379	1.05777	1.05878	1.06519
____ TL	0.15463	36.14	2.902	0.15785	0.15654	0.14951
____ V	0.50407	6,283.59	0.510	0.50201	0.50324	0.50695
____ W	0.00095	5.96	65.568	0.00113	0.00145	0.00025
____ Y1	5163.18876	5,163.19	0.426	5144.28029	5157.92841	5187.35759
____ Y2A	180922.97246	180,922.97	0.507	181073.13485	181756.24625	179939.53628
____ Y2R	15221.22514	15,221.23	0.532	15230.23686	15297.28586	15136.15269
____ ZN	0.53873	3,444.70	0.367	0.53961	0.54012	0.53647
____ ZR	1.00676	3,107.91	0.440	1.00591	1.00283	1.01155

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 19 Date/Time: 05/02/2018 18:21

Sample Number: **9570349** Class: DL** Batch: 181130184807

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	0.00007	-13.24	759.667	-0.00011	0.00072	-0.00038
____ AL	0.09358	19.32	27.845	0.06983	0.08945	0.12146
____ AS	-0.00278	0.41	91.153	-0.00537	-0.00030	-0.00268
____ B	0.02573	180.25	2.389	0.02644	0.02534	0.02542
____ BA	0.02267	14,285.42	0.142	0.02270	0.02264	0.02267
____ BE	0.00000	-40.16	3131.206	0.00003	-0.00003	0.00000
____ CA	5.92750	6,605.74	0.127	5.92483	5.93598	5.92169
____ CD	-0.00017	-4.49	38.522	-0.00016	-0.00011	-0.00024
____ CO	0.00500	21.82	7.353	0.00468	0.00540	0.00493
____ CR	-0.00053	-10.80	92.475	-0.00048	-0.00007	-0.00105
____ CU	0.00008	9.62	1752.333	0.00137	-0.00137	0.00024
____ FE	0.14756	71.57	1.047	0.14580	0.14870	0.14817
____ K	0.76112	287.07	1.735	0.76001	0.74851	0.77485
____ LI	-0.00051	56.95	392.935	-0.00149	-0.00181	0.00178
____ MG	3.28791	7,671.47	0.102	3.28609	3.29176	3.28588
____ MN	0.32204	15,761.68	0.497	0.32375	0.32058	0.32179
____ MO	0.00086	-0.56	24.256	0.00086	0.00064	0.00106
____ NA	13.99488	16,308.74	0.109	13.99922	14.00746	13.97797
____ NI	0.00146	9.85	8.153	0.00137	0.00141	0.00160
____ P	0.00419	1.13	16.658	0.00352	0.00415	0.00491
____ PB	0.00184	3.11	60.578	0.00066	0.00287	0.00197
____ S	2.99832	391.40	1.432	2.95199	3.03673	3.00625
____ SB	-0.00515	-1.67	23.707	-0.00393	-0.00637	-0.00516
____ SE	-0.00485	-2.48	93.786	-0.00910	-0.00005	-0.00541
____ SI	2.24205	719.41	0.403	2.25188	2.24017	2.23411
____ SN	0.00075	2.70	63.241	0.00094	0.00021	0.00109
____ SR	0.05004	32,970.50	0.189	0.04999	0.04998	0.05015
____ TH	0.00987	-3.54	189.333	-0.00707	0.02991	0.00677
____ TI	0.00300	104.54	9.023	0.00272	0.00301	0.00326
____ TL	0.00102	-1.61	109.336	0.00035	0.00040	0.00230
____ V	0.00026	11.20	188.733	-0.00007	0.00082	0.00003
____ W	0.00010	1.17	430.794	0.00055	-0.00027	0.00001
____ Y1	5299.37690	5,299.38	0.221	5312.44653	5289.87008	5295.81409
____ Y2A	185515.72113	185,515.72	0.369	185657.50897	186118.42236	184771.23206
____ Y2R	15330.66314	15,330.66	0.147	15305.05091	15339.58874	15347.34977
____ ZN	0.00335	53.64	0.674	0.00334	0.00337	0.00333
____ ZR	0.00006	-1.11	3235.724	0.00206	-0.00003	-0.00184

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 20 Date/Time: 05/02/2018 18:24

Sample Number: **9570341** Class: **** Batch: 181130184807

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	-12.92	833.813	0.00087	-0.00050	-0.00012
____ AL	9.97435	1,654.48	1.138	10.01112	10.06490	9.84705
____ AS	-0.00184	1.10	321.469	0.00280	-0.00852	0.00019
____ B	0.04707	336.21	2.836	0.04729	0.04828	0.04563
____ BA	0.40798	232,852.50	0.044	0.40792	0.40784	0.40818
____ BE	0.00033	47.90	3.658	0.00033	0.00032	0.00034
____ CA	66.00124	72,027.42	0.627	66.24021	66.23977	65.52373
____ CD	0.00053	5.19	38.631	0.00040	0.00077	0.00043
____ CO	0.00962	39.96	5.218	0.01013	0.00912	0.00961
____ CR	0.01196	88.85	2.681	0.01161	0.01202	0.01225
____ CU	0.01654	127.10	6.204	0.01579	0.01771	0.01612
____ FE	10.64361	4,665.77	0.923	10.67102	10.72526	10.53456
____ K	9.70823	3,087.41	0.283	9.71894	9.72870	9.67705
____ LI	0.00471	136.39	82.788	0.00877	0.00438	0.00099
____ MG	46.22352	104,869.13	0.675	46.44038	46.36406	45.86612
____ MN	0.57134	25,716.35	0.095	0.57090	0.57118	0.57195
____ MO	0.00241	3.09	14.122	0.00224	0.00280	0.00218
____ NA	454.58419	527,768.75	1.660	459.70908	458.12192	445.92156
____ NI	0.00878	25.95	6.505	0.00940	0.00868	0.00827
____ P	0.16867	37.41	1.227	0.16750	0.16745	0.17106
____ PB	0.03302	29.26	5.007	0.03146	0.03475	0.03286
____ S	17.96798	2,197.13	0.810	18.09191	17.80758	18.00445
____ SB	-0.00616	-1.87	33.572	-0.00389	-0.00794	-0.00666
____ SE	0.00153	-1.08	183.666	0.00410	0.00195	-0.00146
____ SI	14.38829	4,559.12	1.169	14.42517	14.53498	14.20473
____ SN	0.00240	3.89	37.139	0.00224	0.00160	0.00336
____ SR	0.44746	272,600.06	0.512	0.44533	0.44988	0.44716
____ TH	0.00884	-2.08	236.138	0.03263	0.00039	-0.00649
____ TI	0.14246	4,534.38	0.695	0.14177	0.14203	0.14360
____ TL	-0.00080	-2.43	329.545	-0.00344	0.00181	-0.00076
____ V	0.01466	191.33	4.568	0.01515	0.01390	0.01494
____ W	0.00035	1.98	435.906	-0.00106	0.00016	0.00194
____ Y1	4976.29616	4,976.30	0.296	4976.02678	4961.69332	4991.16836
____ Y2A	170653.50180	170,653.50	0.180	170637.34506	170967.96281	170355.19753
____ Y2R	15180.83280	15,180.83	1.280	15046.57500	15092.27082	15403.65258
____ ZN	0.09316	604.44	0.601	0.09312	0.09374	0.09262
____ ZR	0.00123	2.46	198.246	-0.00151	0.00205	0.00315

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 21 Date/Time: 05/02/2018 18:27

Sample Number: **9570342** Class: **** Batch: 181130184807

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	-0.00091	-18.48	37.721	-0.00061	-0.00083	-0.00128
____ AL	0.00392	4.06	662.326	-0.02223	0.00429	0.02971
____ AS	-0.00101	1.02	281.656	0.00122	-0.00004	-0.00419
____ B	0.04015	260.21	2.146	0.03945	0.04111	0.03989
____ BA	0.34477	193,213.57	0.033	0.34465	0.34478	0.34487
____ BE	-0.00001	-39.94	162.321	-0.00002	-0.00003	0.00001
____ CA	63.03401	68,034.58	0.158	63.14547	62.95365	63.00292
____ CD	0.00017	-0.95	157.910	0.00028	-0.00014	0.00038
____ CO	0.00651	26.82	13.732	0.00753	0.00588	0.00611
____ CR	0.00024	-3.73	219.450	0.00084	0.00004	-0.00016
____ CU	0.00227	37.24	62.306	0.00390	0.00130	0.00162
____ FE	1.24822	547.93	1.160	1.25365	1.25919	1.23181
____ K	8.81440	2,775.58	0.070	8.81732	8.80729	8.81859
____ LI	0.00034	109.95	504.090	-0.00164	0.00128	0.00138
____ MG	44.06354	98,928.45	0.195	44.16265	44.01744	44.01054
____ MN	0.50268	22,214.18	0.140	0.50209	0.50346	0.50250
____ MO	0.00301	4.51	92.397	0.00621	0.00152	0.00129
____ NA	438.55472	503,445.70	0.304	437.23671	438.52306	439.90440
____ NI	0.00358	14.55	39.539	0.00520	0.00259	0.00295
____ P	0.01445	3.32	30.246	0.01918	0.01056	0.01362
____ PB	0.00315	3.88	97.138	0.00663	0.00092	0.00189
____ S	16.85673	2,049.89	0.848	16.69186	16.94441	16.93393
____ SB	-0.00198	-0.47	29.903	-0.00228	-0.00130	-0.00237
____ SE	0.00072	-1.16	633.681	0.00595	-0.00150	-0.00230
____ SI	2.24304	704.61	0.819	2.22194	2.25180	2.25539
____ SN	0.00325	4.59	187.373	0.01028	0.00003	-0.00056
____ SR	0.42328	253,161.90	0.509	0.42145	0.42565	0.42273
____ TH	-0.00500	-6.31	215.240	-0.00528	0.00590	-0.01563
____ TI	0.00176	55.77	8.057	0.00175	0.00190	0.00162
____ TL	0.00124	-1.38	156.712	0.00149	0.00304	-0.00081
____ V	-0.00037	2.42	91.137	-0.00011	-0.00025	-0.00076
____ W	0.00064	1.83	85.853	0.00125	0.00021	0.00045
____ Y1	4948.92942	4,948.93	0.864	4997.18797	4915.72971	4933.87058
____ Y2A	167538.60212	167,538.60	0.520	168213.35733	166554.71406	167847.73498
____ Y2R	15008.58798	15,008.59	0.376	15072.44857	14987.99181	14965.32355
____ ZN	0.03685	253.26	0.662	0.03683	0.03710	0.03662
____ ZR	0.00125	1.31	200.673	0.00049	-0.00079	0.00404

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 22 Date/Time: 05/02/2018 18:31

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.50647	5,011.08	0.526	0.50385	0.50637	0.50918
____ AL	25.10352	4,206.39	0.207	25.09004	25.16078	25.05972
____ AS	0.50082	161.27	0.599	0.50141	0.49757	0.50349
____ B	0.49825	3,459.07	0.406	0.50009	0.49609	0.49858
____ BA	0.50907	304,708.67	0.353	0.50706	0.50963	0.51052
____ BE	0.48987	132,811.23	0.354	0.48799	0.49141	0.49021
____ CA	24.69743	27,278.49	0.488	24.79165	24.73887	24.56177
____ CD	0.51080	4,466.52	0.245	0.51092	0.50949	0.51198
____ CO	0.50665	2,274.06	0.164	0.50637	0.50599	0.50759
____ CR	0.49124	4,068.59	0.548	0.49310	0.48815	0.49248
____ CU	0.51612	4,390.81	0.448	0.51668	0.51810	0.51358
____ FE	25.03212	10,996.66	0.299	25.04027	25.10254	24.95354
____ K	25.02357	7,945.04	0.294	25.10368	25.00817	24.95884
____ LI	0.50435	2,712.88	0.761	0.49996	0.50702	0.50609
____ MG	24.68974	56,939.77	0.455	24.75008	24.75900	24.56016
____ MN	0.50918	24,020.85	0.231	0.50912	0.50803	0.51038
____ MO	0.50616	1,228.88	0.558	0.50847	0.50301	0.50700
____ NA	24.98474	29,129.70	0.367	25.05329	25.02038	24.88054
____ NI	0.50989	1,346.36	0.164	0.51028	0.50892	0.51045
____ P	0.50867	117.11	0.632	0.51053	0.51051	0.50496
____ PB	0.51774	432.17	1.067	0.51186	0.51854	0.52282
____ S	25.04332	3,187.29	0.676	24.96173	24.93027	25.23797
____ SB	0.49978	181.73	0.735	0.49758	0.49774	0.50403
____ SE	0.50960	109.21	0.771	0.50989	0.50554	0.51338
____ SI	24.96290	7,971.68	0.364	25.04517	24.86550	24.97804
____ SN	0.49465	424.29	0.500	0.49491	0.49205	0.49698
____ SR	0.50403	320,771.44	0.209	0.50467	0.50281	0.50461
____ TH	0.51646	104.96	1.281	0.50957	0.51704	0.52277
____ TI	0.51037	17,031.56	0.309	0.50896	0.51208	0.51006
____ TL	0.50097	135.66	0.654	0.50472	0.49946	0.49872
____ V	0.50656	6,461.53	0.432	0.50690	0.50422	0.50855
____ W	0.50953	499.82	0.589	0.51009	0.50629	0.51221
____ Y1	5187.12259	5,187.12	0.278	5203.55267	5176.45777	5181.35732
____ Y2A	178948.77036	178,948.77	0.101	178878.16550	178814.13260	179154.01296
____ Y2R	15294.66164	15,294.66	0.468	15247.30593	15376.97145	15259.70753
____ ZN	0.50939	3,294.52	0.155	0.50862	0.50936	0.51020
____ ZR	0.51063	1,624.76	0.659	0.50982	0.51432	0.50774

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 23 Date/Time: 05/02/2018 18:34

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00002	-16.53	1393.924	0.00029	0.00001	-0.00037
____ AL	0.01054	5.57	183.614	0.01202	-0.00951	0.02910
____ AS	-0.00235	0.55	84.161	-0.00042	-0.00225	-0.00437
____ B	0.00277	18.71	13.001	0.00303	0.00291	0.00236
____ BA	0.00007	279.99	37.155	0.00009	0.00008	0.00004
____ BE	0.00003	-32.92	81.760	0.00005	0.00000	0.00003
____ CA	0.00706	45.45	58.483	0.00790	0.01069	0.00257
____ CD	-0.00002	-3.19	748.258	-0.00006	0.00012	-0.00012
____ CO	-0.00004	-1.01	380.462	-0.00021	0.00004	0.00005
____ CR	-0.00039	-9.74	100.934	-0.00035	-0.00002	-0.00080
____ CU	-0.00062	4.15	144.504	-0.00071	0.00032	-0.00147
____ FE	-0.00330	4.67	129.260	-0.00694	-0.00434	0.00139
____ K	0.01985	52.80	289.041	0.08550	-0.02059	-0.00537
____ LI	0.00009	55.03	3357.988	-0.00193	0.00339	-0.00121
____ MG	0.00134	8.78	105.842	0.00276	0.00133	-0.00007
____ MN	0.00014	16.19	98.137	0.00004	0.00008	0.00029
____ MO	0.00068	-1.01	30.537	0.00044	0.00081	0.00080
____ NA	0.12433	40.88	14.952	0.13478	0.13535	0.10287
____ NI	-0.00008	6.14	90.591	-0.00012	-0.00013	0.00000
____ P	0.00237	0.71	149.897	0.00221	0.00598	-0.00110
____ PB	0.00009	1.59	922.294	-0.00059	0.00098	-0.00012
____ S	0.01396	3.17	37.358	0.01172	0.01991	0.01023
____ SB	-0.00244	-0.67	159.131	-0.00057	0.00015	-0.00690
____ SE	-0.00442	-2.51	74.480	-0.00685	-0.00575	-0.00067
____ SI	0.00446	3.77	28.175	0.00469	0.00310	0.00558
____ SN	-0.00048	1.66	394.288	-0.00022	0.00126	-0.00248
____ SR	0.00006	-114.51	75.239	0.00010	0.00003	0.00003
____ TH	0.01903	-1.68	143.832	0.04754	-0.00705	0.01661
____ TI	0.00020	8.10	28.535	0.00027	0.00016	0.00019
____ TL	-0.00008	-2.10	640.249	0.00033	0.00007	-0.00062
____ V	-0.00006	7.04	482.040	0.00022	-0.00002	-0.00039
____ W	0.00026	1.33	175.689	0.00079	0.00000	-0.00001
____ Y1	5363.69423	5,363.69	0.329	5378.57827	5368.27476	5344.22966
____ Y2A	188959.27307	188,959.27	0.161	189201.84426	188617.07378	189058.90118
____ Y2R	15413.11495	15,413.11	0.258	15400.07478	15381.44356	15457.82652
____ ZN	0.00041	34.92	16.962	0.00049	0.00036	0.00039
____ ZR	-0.00056	-2.31	370.733	-0.00181	0.00184	-0.00172

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 24 Date/Time: 05/02/2018 18:37

Sample Number: **9570347** Class: **** Batch: 181130184807

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	-0.00008	-17.35	1292.292	-0.00077	-0.00064	0.00116
____ AL	0.10946	22.62	22.410	0.13486	0.10762	0.08591
____ AS	-0.00274	0.48	34.782	-0.00166	-0.00346	-0.00310
____ B	0.05992	411.71	1.679	0.05900	0.06100	0.05977
____ BA	0.14105	86,575.76	0.410	0.14090	0.14168	0.14055
____ BE	-0.00001	-43.07	138.475	-0.00001	0.00000	-0.00003
____ CA	44.25967	50,048.10	0.534	44.51828	44.20529	44.05546
____ CD	0.00047	1.45	129.522	0.00020	0.00116	0.00004
____ CO	0.01069	45.85	7.724	0.01012	0.01163	0.01031
____ CR	0.00033	-3.32	144.585	0.00049	-0.00021	0.00071
____ CU	0.00110	29.41	78.682	0.00037	0.00206	0.00088
____ FE	0.85642	395.06	0.871	0.86503	0.85196	0.85227
____ K	5.19582	1,730.01	0.866	5.22805	5.21497	5.14444
____ LI	0.00013	96.69	257.338	0.00044	0.00017	-0.00022
____ MG	18.44279	43,749.20	0.461	18.54001	18.40571	18.38263
____ MN	1.40194	67,732.58	0.280	1.40118	1.40619	1.39844
____ MO	0.00146	0.95	84.526	0.00081	0.00289	0.00069
____ NA	60.96550	73,079.51	0.541	61.31387	60.92433	60.65832
____ NI	0.01459	43.11	2.138	0.01489	0.01462	0.01427
____ P	0.00690	1.73	47.712	0.00684	0.01022	0.00364
____ PB	0.00976	9.83	18.572	0.00961	0.01164	0.00803
____ S	14.39081	1,841.56	0.438	14.42001	14.31849	14.43394
____ SB	-0.00279	-0.78	106.772	-0.00099	-0.00115	-0.00622
____ SE	-0.00080	-1.24	704.558	-0.00133	-0.00612	0.00506
____ SI	10.84496	3,552.68	0.446	10.89011	10.85092	10.79386
____ SN	0.00099	2.87	145.712	0.00031	0.00264	0.00001
____ SR	0.32754	214,086.82	0.448	0.32768	0.32894	0.32601
____ TH	0.02182	-0.98	42.287	0.01374	0.01986	0.03188
____ TI	0.00378	130.12	4.597	0.00375	0.00397	0.00363
____ TL	-0.00149	-1.86	183.331	-0.00164	0.00131	-0.00414
____ V	0.00054	15.06	50.402	0.00085	0.00033	0.00045
____ W	-0.00011	0.97	1074.563	-0.00096	0.00126	-0.00064
____ Y1	5207.74391	5,207.74	0.672	5200.92870	5245.62406	5176.67897
____ Y2A	183213.46953	183,213.47	0.209	183244.59015	182815.78947	183580.02897
____ Y2R	15691.70192	15,691.70	0.118	15694.55806	15671.89060	15708.65710
____ ZN	0.00642	73.37	12.905	0.00584	0.00737	0.00604
____ ZR	-0.00241	-7.98	57.311	-0.00099	-0.00374	-0.00250

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 25 Date/Time: 05/02/2018 18:40

Sample Number: **9570348** Class: **** Batch: 181130184807

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	-0.00027	-16.50	272.287	-0.00006	0.00034	-0.00110
____ AL	0.00812	5.15	275.484	0.03298	-0.01042	0.00181
____ AS	-0.00345	0.25	58.861	-0.00113	-0.00492	-0.00431
____ B	0.05925	410.81	1.858	0.05885	0.05841	0.06050
____ BA	0.13882	85,939.73	0.323	0.13893	0.13833	0.13921
____ BE	-0.00002	-45.90	62.931	-0.00003	-0.00002	-0.00001
____ CA	43.52644	49,230.37	0.246	43.40987	43.61975	43.54969
____ CD	0.00011	-1.68	188.144	0.00028	0.00016	-0.00012
____ CO	0.00999	41.85	3.179	0.00975	0.00988	0.01035
____ CR	-0.00048	-10.30	102.385	-0.00015	-0.00104	-0.00025
____ CU	0.00007	18.71	1997.149	-0.00066	-0.00077	0.00164
____ FE	0.82214	379.56	0.838	0.82216	0.82903	0.81524
____ K	5.09664	1,698.22	1.007	5.13955	5.11059	5.03978
____ LI	0.00287	110.77	19.515	0.00324	0.00223	0.00315
____ MG	17.92107	42,526.83	0.209	17.87843	17.94824	17.93654
____ MN	1.36233	66,379.10	0.277	1.36457	1.35798	1.36443
____ MO	0.00095	-0.31	1.000	0.00095	0.00094	0.00096
____ NA	59.51565	71,347.37	0.566	59.14432	59.80215	59.60047
____ NI	0.01442	41.83	3.377	0.01490	0.01393	0.01444
____ P	0.00181	0.55	73.430	0.00124	0.00334	0.00086
____ PB	0.00524	5.93	47.627	0.00794	0.00303	0.00474
____ S	14.04541	1,760.57	1.415	13.85178	14.24887	14.03559
____ SB	-0.00304	-0.86	90.749	-0.00204	-0.00092	-0.00616
____ SE	-0.00302	-1.69	227.838	-0.00534	-0.00844	0.00472
____ SI	10.51163	3,443.85	1.061	10.38280	10.57470	10.57738
____ SN	0.00003	2.00	3500.599	0.00103	-0.00086	-0.00009
____ SR	0.32197	212,230.70	0.354	0.32227	0.32071	0.32292
____ TH	0.00769	-3.99	224.121	0.00693	0.02530	-0.00915
____ TI	0.00172	60.17	2.089	0.00176	0.00170	0.00170
____ TL	-0.00214	-2.02	184.162	-0.00350	-0.00521	0.00230
____ V	0.00032	12.10	144.678	0.00021	0.00083	-0.00008
____ W	-0.00098	0.12	67.821	-0.00127	-0.00144	-0.00022
____ Y1	5100.93387	5,100.93	0.130	5105.56211	5103.91018	5093.32934
____ Y2A	184770.18966	184,770.19	0.194	184521.76194	184606.95027	185181.85677
____ Y2R	15694.16441	15,694.16	1.084	15876.39665	15539.38835	15666.70824
____ ZN	0.00611	69.88	1.959	0.00620	0.00615	0.00597
____ ZR	-0.00140	-5.97	79.681	-0.00235	-0.00165	-0.00018

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 26 Date/Time: 05/02/2018 18:43

Sample Number: **9570350** Class: **** Batch: 181130184807

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	-17.62	69.114	-0.00077	-0.00038	-0.00017
____ AL	-0.00181	3.43	2201.553	0.03694	-0.04249	0.00014
____ AS	-0.00481	-0.24	45.356	-0.00275	-0.00710	-0.00458
____ B	0.11341	791.75	0.976	0.11219	0.11435	0.11369
____ BA	0.11452	70,938.77	0.105	0.11449	0.11442	0.11466
____ BE	0.00002	-34.51	40.095	0.00002	0.00001	0.00003
____ CA	31.07758	35,375.48	0.578	31.25422	31.08365	30.89488
____ CD	0.00025	-0.75	91.396	0.00050	0.00017	0.00007
____ CO	0.02603	113.14	1.064	0.02603	0.02576	0.02631
____ CR	-0.00032	-8.94	221.919	0.00022	-0.00005	-0.00113
____ CU	0.00053	19.16	11.318	0.00059	0.00052	0.00047
____ FE	0.07858	42.15	7.668	0.07193	0.08013	0.08367
____ K	3.72011	1,258.37	1.188	3.77055	3.70172	3.68806
____ LI	0.00414	106.68	47.027	0.00635	0.00270	0.00336
____ MG	16.78192	40,036.15	0.596	16.88234	16.78097	16.68246
____ MN	1.66765	81,255.79	0.080	1.66614	1.66870	1.66812
____ MO	0.00045	-1.51	103.106	0.00077	-0.00008	0.00067
____ NA	71.73069	86,433.70	0.372	71.91198	71.85545	71.42466
____ NI	0.00899	27.76	5.713	0.00958	0.00862	0.00878
____ P	0.00528	1.34	31.341	0.00338	0.00643	0.00602
____ PB	0.00795	8.23	14.216	0.00918	0.00774	0.00694
____ S	16.25652	2,047.05	0.959	16.16211	16.43641	16.17105
____ SB	-0.00293	-0.82	111.114	-0.00357	-0.00582	0.00060
____ SE	-0.00782	-2.63	29.431	-0.00843	-0.00975	-0.00527
____ SI	11.10114	3,654.74	0.486	11.11416	11.14739	11.04187
____ SN	0.00002	2.00	6264.360	0.00128	-0.00102	-0.00021
____ SR	0.25758	169,663.19	0.230	0.25792	0.25689	0.25792
____ TH	0.00563	-4.56	115.313	0.01132	-0.00144	0.00700
____ TI	0.00157	55.14	12.363	0.00148	0.00144	0.00180
____ TL	-0.00142	-1.66	62.026	-0.00184	-0.00201	-0.00041
____ V	0.00036	12.40	78.302	0.00066	0.00011	0.00030
____ W	-0.00069	0.46	65.510	-0.00121	-0.00043	-0.00043
____ Y1	5125.87981	5,125.88	0.144	5131.65169	5128.40036	5117.58738
____ Y2A	184774.88431	184,774.88	0.429	184856.26499	185523.22213	183945.16580
____ Y2R	15770.50758	15,770.51	0.525	15735.20459	15711.25424	15865.06391
____ ZN	0.01412	119.44	1.270	0.01398	0.01405	0.01432
____ ZR	0.00160	3.44	154.374	0.00402	-0.00093	0.00172

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 27 Date/Time: 05/02/2018 18:46

Sample Number: **9570352** Class: **** Batch: 181130184807

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	-0.00055	-23.79	20.086	-0.00050	-0.00067	-0.00047
____ AL	-0.00778	2.60	449.254	0.02486	-0.04467	-0.00354
____ AS	-0.00307	0.31	87.301	-0.00453	-0.00469	0.00002
____ B	0.00290	19.95	11.661	0.00290	0.00325	0.00257
____ BA	0.00073	715.23	2.874	0.00075	0.00071	0.00074
____ BE	0.00000	-41.66	702.647	-0.00001	0.00001	0.00001
____ CA	0.15604	218.25	63.657	0.09692	0.27072	0.10049
____ CD	-0.00012	-4.06	53.862	-0.00014	-0.00005	-0.00017
____ CO	-0.00018	-1.69	230.178	0.00021	-0.00014	-0.00062
____ CR	-0.00057	-11.61	118.948	-0.00026	-0.00010	-0.00135
____ CU	0.00547	61.69	12.842	0.00522	0.00492	0.00626
____ FE	0.00611	9.14	61.176	0.00280	0.01017	0.00537
____ K	-0.03552	36.24	88.491	-0.00323	-0.06602	-0.03733
____ LI	-0.00122	49.81	102.460	-0.00245	0.00005	-0.00125
____ MG	0.04935	125.56	97.199	0.02229	0.10473	0.02102
____ MN	0.00151	86.56	55.044	0.00247	0.00104	0.00102
____ MO	0.00021	-2.18	64.373	0.00030	0.00027	0.00005
____ NA	0.48493	481.10	36.895	0.38684	0.69144	0.37652
____ NI	0.00027	6.98	131.941	0.00021	-0.00005	0.00064
____ P	0.00315	0.88	80.562	0.00564	0.00057	0.00324
____ PB	0.00195	3.15	132.216	0.00488	0.00099	-0.00001
____ S	0.01053	2.70	42.978	0.00548	0.01188	0.01423
____ SB	-0.00287	-0.83	108.138	-0.00261	-0.00610	0.00009
____ SE	-0.00309	-2.19	93.861	-0.00026	-0.00296	-0.00606
____ SI	0.26372	89.83	13.646	0.23955	0.30508	0.24652
____ SN	-0.00066	1.48	124.218	-0.00126	0.00028	-0.00100
____ SR	0.00020	-12.72	63.265	0.00035	0.00013	0.00012
____ TH	0.02430	-0.60	45.733	0.01169	0.03268	0.02853
____ TI	0.00022	8.91	65.048	0.00028	0.00006	0.00032
____ TL	-0.00296	-2.93	96.025	-0.00604	-0.00045	-0.00237
____ V	-0.00036	3.16	61.056	-0.00051	-0.00011	-0.00048
____ W	-0.00007	0.98	523.257	0.00000	-0.00050	0.00027
____ Y1	5314.86196	5,314.86	0.376	5300.65161	5337.69338	5306.24088
____ Y2A	193736.03166	193,736.03	0.120	193989.13910	193688.76023	193530.19565
____ Y2R	15884.70907	15,884.71	0.494	15832.29271	15974.90030	15846.93420
____ ZN	0.00118	39.57	3.386	0.00113	0.00120	0.00120
____ ZR	-0.00024	-0.85	685.547	-0.00128	0.00163	-0.00105

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 28 Date/Time: 05/02/2018 18:49

Sample Number: **9570355** Class: **** Batch: 181130184807

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	-15.15	4023.030	0.00025	0.00014	-0.00036
____ AL	0.07849	17.35	9.551	0.07298	0.07547	0.08703
____ AS	-0.00308	0.30	24.317	-0.00388	-0.00295	-0.00240
____ B	0.20220	1,419.98	0.399	0.20273	0.20259	0.20127
____ BA	0.08693	53,550.49	0.029	0.08696	0.08691	0.08693
____ BE	-0.00002	-45.75	24.820	-0.00002	-0.00002	-0.00003
____ CA	92.66626	104,766.66	0.311	92.68369	92.36960	92.94550
____ CD	-0.00003	-3.11	616.468	-0.00014	-0.00015	0.00020
____ CO	0.00101	2.82	24.516	0.00082	0.00091	0.00128
____ CR	0.00203	11.15	16.597	0.00172	0.00239	0.00200
____ CU	0.00049	33.88	278.441	-0.00002	-0.00055	0.00205
____ FE	0.14499	72.44	3.427	0.14386	0.14068	0.15042
____ K	11.08307	3,654.77	0.450	11.06499	11.04481	11.13940
____ LI	-0.00310	124.20	95.928	-0.00645	-0.00079	-0.00205
____ MG	32.97724	78,149.79	0.341	33.03833	32.84753	33.04585
____ MN	0.08281	4,017.16	0.415	0.08280	0.08316	0.08247
____ MO	0.00268	3.81	27.955	0.00245	0.00207	0.00351
____ NA	53.28540	64,179.00	0.173	53.26874	53.20270	53.38477
____ NI	0.00243	11.37	16.006	0.00280	0.00246	0.00202
____ P	0.00844	2.04	5.866	0.00898	0.00832	0.00801
____ PB	0.00642	6.80	36.716	0.00836	0.00380	0.00711
____ S	36.00443	4,501.13	0.798	35.69547	36.05433	36.26349
____ SB	0.00018	0.29	1205.254	-0.00220	0.00184	0.00089
____ SE	0.00120	-1.09	333.004	0.00560	-0.00217	0.00016
____ SI	6.16885	2,031.96	0.784	6.11356	6.18963	6.20336
____ SN	0.00011	2.06	384.755	0.00014	-0.00032	0.00049
____ SR	0.61414	402,555.06	0.454	0.61302	0.61208	0.61732
____ TH	0.01625	-2.29	103.661	0.02959	-0.00267	0.02182
____ TI	0.00509	175.15	1.182	0.00506	0.00505	0.00516
____ TL	0.00252	-1.24	128.824	-0.00108	0.00342	0.00523
____ V	0.00077	17.63	39.368	0.00089	0.00043	0.00100
____ W	-0.00042	0.65	175.654	0.00037	-0.00108	-0.00054
____ Y1	5090.14910	5,090.15	0.259	5086.92976	5104.63476	5078.88278
____ Y2A	183563.04534	183,563.05	0.088	183475.70486	183749.75040	183463.68075
____ Y2R	15770.20026	15,770.20	0.510	15824.90515	15807.91284	15677.78277
____ ZN	0.00548	64.84	0.522	0.00550	0.00545	0.00550
____ ZR	-0.00060	-2.68	253.786	0.00019	0.00036	-0.00233

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 29 Date/Time: 05/02/2018 18:53

Sample Number: **9570356** Class: **** Batch: 181130184807

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	-22.53	228.893	-0.00072	-0.00135	0.00070
____ AL	-0.01802	0.92	99.957	-0.03426	-0.02114	0.00135
____ AS	-0.00217	0.58	67.171	-0.00239	-0.00061	-0.00350
____ B	0.20421	1,421.42	0.456	0.20442	0.20503	0.20320
____ BA	0.08805	53,771.40	0.035	0.08808	0.08802	0.08803
____ BE	-0.00001	-43.20	260.827	0.00003	-0.00003	-0.00004
____ CA	94.45369	106,040.63	0.324	94.43625	94.76795	94.15687
____ CD	-0.00016	-4.29	68.890	-0.00013	-0.00007	-0.00029
____ CO	0.00106	3.04	9.306	0.00095	0.00108	0.00115
____ CR	0.00114	3.51	25.871	0.00134	0.00080	0.00128
____ CU	0.00067	38.42	57.267	0.00023	0.00083	0.00095
____ FE	0.00219	7.23	124.373	0.00154	-0.00015	0.00519
____ K	11.36775	3,721.92	0.064	11.37599	11.36239	11.36486
____ LI	-0.00036	139.68	699.880	-0.00171	-0.00189	0.00253
____ MG	33.52488	78,888.67	0.349	33.52094	33.64376	33.40995
____ MN	0.08501	4,088.19	0.395	0.08488	0.08476	0.08539
____ MO	0.00234	3.00	10.430	0.00255	0.00238	0.00207
____ NA	54.70507	65,442.97	0.381	54.69329	54.91904	54.50289
____ NI	0.00208	10.48	3.906	0.00213	0.00211	0.00198
____ P	0.00577	1.44	73.348	0.00570	0.01003	0.00157
____ PB	0.00399	4.83	21.356	0.00431	0.00302	0.00463
____ S	36.68845	4,589.87	0.529	36.77655	36.82299	36.46582
____ SB	-0.00428	-1.29	135.799	-0.00588	-0.00912	0.00217
____ SE	-0.00396	-2.18	131.587	-0.00774	0.00199	-0.00615
____ SI	6.13368	2,006.64	0.213	6.12150	6.13203	6.14750
____ SN	0.00014	2.09	504.328	0.00019	-0.00060	0.00083
____ SR	0.62505	406,216.60	0.585	0.62517	0.62864	0.62133
____ TH	0.02958	0.52	53.636	0.01319	0.03067	0.04486
____ TI	0.00169	58.34	16.730	0.00166	0.00199	0.00143
____ TL	-0.00331	-2.88	122.949	0.00007	-0.00782	-0.00217
____ V	0.00074	17.12	16.183	0.00063	0.00087	0.00072
____ W	-0.00047	0.60	195.270	-0.00146	0.00035	-0.00030
____ Y1	5093.72618	5,093.73	0.127	5100.53099	5093.02089	5087.62666
____ Y2A	181999.33508	181,999.34	0.343	182311.52656	181279.79275	182406.68593
____ Y2R	15662.66835	15,662.67	0.167	15635.46234	15687.62465	15664.91807
____ ZN	0.00528	63.49	5.926	0.00563	0.00503	0.00518
____ ZR	-0.00065	-1.75	429.583	0.00259	-0.00231	-0.00224

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 30 Date/Time: 05/02/2018 18:56

Sample Number: **9570357** Class: **** Batch: 181130184807

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	-0.00076	-25.69	152.565	0.00044	-0.00084	-0.00186
____ AL	0.00684	5.13	95.044	-0.00040	0.01219	0.00873
____ AS	-0.00008	1.23	1743.884	-0.00129	0.00145	-0.00040
____ B	0.21127	1,465.81	0.197	0.21175	0.21097	0.21109
____ BA	0.07190	43,764.61	0.133	0.07195	0.07196	0.07179
____ BE	-0.00003	-46.48	69.674	-0.00001	-0.00003	-0.00004
____ CA	105.33660	117,349.08	0.389	105.73953	105.34904	104.92122
____ CD	-0.00007	-3.38	172.415	0.00001	-0.00021	-0.00001
____ CO	0.00256	9.60	4.899	0.00245	0.00252	0.00270
____ CR	0.00029	-3.63	82.735	0.00057	0.00017	0.00013
____ CU	-0.00012	33.91	732.171	-0.00094	-0.00025	0.00083
____ FE	0.21193	101.62	0.731	0.21028	0.21336	0.21214
____ K	10.18080	3,316.25	0.409	10.14680	10.22727	10.16834
____ LI	-0.00015	149.71	1724.103	-0.00111	0.00284	-0.00220
____ MG	31.96352	74,767.04	0.460	32.11845	31.94654	31.82557
____ MN	0.30619	14,639.07	0.166	0.30617	0.30671	0.30569
____ MO	0.00173	1.55	16.140	0.00204	0.00148	0.00168
____ NA	51.50184	61,198.91	0.434	51.72106	51.51018	51.27427
____ NI	0.00078	7.08	21.842	0.00058	0.00086	0.00088
____ P	0.01693	3.93	26.969	0.01213	0.02122	0.01745
____ PB	0.00509	5.66	14.120	0.00429	0.00530	0.00568
____ S	28.92628	3,587.59	1.183	29.10138	29.14545	28.53202
____ SB	-0.00178	-0.40	181.891	-0.00460	0.00176	-0.00252
____ SE	0.00290	-0.69	78.017	0.00496	0.00047	0.00327
____ SI	5.86601	1,906.52	0.346	5.85122	5.85767	5.88915
____ SN	-0.00107	1.07	99.183	-0.00224	-0.00075	-0.00021
____ SR	0.55649	360,635.95	0.576	0.55805	0.55281	0.55863
____ TH	0.03031	0.70	34.937	0.03219	0.01890	0.03982
____ TI	0.00237	80.93	0.749	0.00239	0.00236	0.00236
____ TL	-0.00168	-2.31	214.462	-0.00424	0.00244	-0.00323
____ V	0.00085	18.73	114.078	0.00113	0.00166	-0.00023
____ W	-0.00060	0.45	158.192	-0.00131	0.00048	-0.00097
____ Y1	5048.37437	5,048.37	0.259	5048.09353	5061.59976	5035.42983
____ Y2A	181220.30869	181,220.31	0.226	180783.37657	181595.78084	181281.76865
____ Y2R	15559.47366	15,559.47	0.178	15568.05500	15581.87076	15528.49521
____ ZN	0.00289	48.35	2.751	0.00289	0.00297	0.00281
____ ZR	-0.00033	-0.65	379.895	-0.00079	0.00109	-0.00130

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 31 Date/Time: 05/02/2018 18:59

Sample Number: **9570358** Class: **** Batch: 181130184807

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	0.00000	-18.06	2865.048	-0.00037	-0.00069	0.00105
____ AL	-0.02083	0.47	162.018	-0.02174	-0.05412	0.01337
____ AS	0.00187	1.82	72.316	0.00237	0.00034	0.00290
____ B	0.21666	1,486.67	0.389	0.21633	0.21762	0.21603
____ BA	0.07457	44,882.61	0.143	0.07465	0.07445	0.07462
____ BE	-0.00004	-49.21	16.414	-0.00003	-0.00005	-0.00003
____ CA	108.41887	119,598.07	0.396	108.91136	108.12037	108.22486
____ CD	-0.00001	-2.86	1896.544	-0.00019	-0.00007	0.00023
____ CO	0.00261	9.72	3.730	0.00267	0.00267	0.00250
____ CR	0.00052	-1.72	69.031	0.00034	0.00093	0.00028
____ CU	0.00069	41.59	152.386	0.00161	0.00094	-0.00046
____ FE	0.21006	99.82	1.933	0.21178	0.21299	0.20543
____ K	10.57708	3,410.79	0.690	10.66093	10.54236	10.52796
____ LI	0.00098	157.07	542.222	0.00461	-0.00510	0.00342
____ MG	33.00460	76,436.38	0.362	33.14014	32.91419	32.95949
____ MN	0.31240	14,771.09	0.414	0.31345	0.31279	0.31096
____ MO	0.00130	0.50	19.243	0.00111	0.00120	0.00158
____ NA	53.40232	62,857.76	0.556	53.71356	53.37094	53.12247
____ NI	0.00080	7.06	23.340	0.00069	0.00070	0.00101
____ P	0.01392	3.22	19.768	0.01188	0.01284	0.01705
____ PB	0.00431	4.98	42.626	0.00336	0.00315	0.00643
____ S	29.30089	3,600.77	0.167	29.24495	29.32289	29.33484
____ SB	-0.00246	-0.63	152.561	-0.00054	-0.00678	-0.00005
____ SE	0.00089	-1.10	582.701	-0.00101	0.00676	-0.00307
____ SI	5.97485	1,923.35	1.382	6.04431	5.99665	5.88357
____ SN	-0.00041	1.60	360.030	0.00127	-0.00140	-0.00109
____ SR	0.56742	363,694.73	0.753	0.57206	0.56366	0.56654
____ TH	0.03166	0.98	34.843	0.03201	0.02046	0.04251
____ TI	0.00184	62.32	17.780	0.00169	0.00161	0.00221
____ TL	-0.00023	-1.88	655.204	-0.00190	0.00019	0.00102
____ V	0.00075	17.31	46.973	0.00070	0.00113	0.00043
____ W	-0.00057	0.47	124.778	-0.00089	-0.00108	0.00025
____ Y1	5002.22289	5,002.22	0.375	5023.75262	4989.31909	4993.59696
____ Y2A	179220.72401	179,220.72	0.376	179989.40212	178944.54700	178728.22291
____ Y2R	15411.72019	15,411.72	0.516	15408.56458	15333.86518	15492.73082
____ ZN	0.00292	48.04	8.682	0.00276	0.00278	0.00321
____ ZR	-0.00070	-1.70	232.208	-0.00161	0.00118	-0.00167

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 32 Date/Time: 05/02/2018 19:02

Sample Number: **9570359** Class: **** Batch: 181130184807

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	0.00014	-13.79	409.087	-0.00032	-0.00004	0.00078
____ AL	0.08747	17.98	24.187	0.11162	0.07220	0.07859
____ AS	-0.02027	-2.12	4.127	-0.01947	-0.02114	-0.02021
____ B	0.14625	1,104.47	0.117	0.14607	0.14642	0.14625
____ BA	0.44999	261,049.55	0.413	0.44869	0.45212	0.44916
____ BE	-0.00001	-40.05	139.895	0.00000	-0.00002	0.00000
____ CA	71.22597	77,513.85	0.192	71.37695	71.19152	71.10944
____ CD	0.00077	14.56	22.500	0.00057	0.00091	0.00082
____ CO	0.03171	134.01	0.378	0.03170	0.03184	0.03160
____ CR	0.00026	-3.70	96.239	0.00054	0.00019	0.00005
____ CU	-0.00080	30.20	69.212	-0.00134	-0.00082	-0.00024
____ FE	32.82683	14,242.55	0.639	33.03265	32.83455	32.61328
____ K	5.51970	1,771.17	1.783	5.46999	5.63306	5.45604
____ LI	-0.00149	108.74	352.240	-0.00362	0.00448	-0.00532
____ MG	23.76859	54,303.86	0.294	23.84482	23.75354	23.70741
____ MN	7.77608	355,681.20	0.379	7.79316	7.74207	7.79302
____ MO	-0.00013	-2.82	382.176	0.00044	-0.00046	-0.00037
____ NA	330.03444	382,301.35	2.046	336.61896	323.12557	330.35878
____ NI	-0.00001	4.41	4062.209	-0.00088	0.00088	-0.00002
____ P	0.01940	4.40	29.543	0.01561	0.01660	0.02600
____ PB	0.01000	7.79	12.900	0.00935	0.00917	0.01148
____ S	0.90955	113.46	0.934	0.91689	0.91153	0.90024
____ SB	-0.00324	-0.90	68.476	-0.00089	-0.00352	-0.00530
____ SE	-0.00683	-2.11	76.791	-0.00850	-0.01103	-0.00095
____ SI	9.38703	2,968.54	0.238	9.39169	9.40667	9.36272
____ SN	0.00033	2.19	108.676	0.00012	0.00074	0.00012
____ SR	0.61904	382,925.38	1.521	0.61536	0.62974	0.61203
____ TH	0.00348	0.40	373.162	-0.00449	-0.00355	0.01848
____ TI	0.00345	112.51	9.488	0.00381	0.00337	0.00318
____ TL	-0.00018	0.58	2388.601	-0.00094	0.00443	-0.00403
____ V	0.00050	23.91	150.124	0.00023	0.00134	-0.00008
____ W	0.00077	1.73	144.977	0.00162	-0.00050	0.00119
____ Y1	4956.64780	4,956.65	0.431	4960.11393	4976.07835	4933.75112
____ Y2A	173473.01913	173,473.02	0.198	173824.24530	173136.82027	173457.99180
____ Y2R	15146.56177	15,146.56	0.913	15000.00000	15164.93506	15274.75025
____ ZN	0.00420	82.78	5.415	0.00394	0.00429	0.00437
____ ZR	0.00114	1.70	120.926	0.00027	0.00272	0.00041

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 33 Date/Time: 05/02/2018 19:06

Sample Number: **9570360** Class: **** Batch: 181130184807

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	0.00066	-12.97	172.660	0.00191	-0.00030	0.00037
____ AL	-0.00128	3.58	2564.024	-0.00312	0.03250	-0.03322
____ AS	-0.01775	-1.34	4.716	-0.01720	-0.01871	-0.01734
____ B	0.14674	1,099.59	0.787	0.14708	0.14768	0.14545
____ BA	0.45237	260,454.40	0.133	0.45169	0.45282	0.45261
____ BE	-0.00003	-45.77	27.053	-0.00002	-0.00003	-0.00004
____ CA	71.37543	78,058.24	0.380	71.68559	71.25598	71.18473
____ CD	0.00059	12.98	17.294	0.00052	0.00054	0.00071
____ CO	0.03196	134.15	1.345	0.03229	0.03147	0.03211
____ CR	-0.00004	-6.06	1494.791	0.00037	-0.00066	0.00018
____ CU	-0.00066	34.73	171.652	-0.00072	0.00050	-0.00175
____ FE	32.82805	14,313.45	0.666	32.97429	32.93330	32.57657
____ K	5.46119	1,761.54	0.320	5.45680	5.44633	5.48042
____ LI	0.00013	117.87	2678.821	-0.00260	-0.00089	0.00386
____ MG	23.88090	54,827.59	0.461	24.00753	23.82603	23.80913
____ MN	7.89269	358,287.50	0.769	7.83455	7.88783	7.95568
____ MO	0.00043	-1.52	22.827	0.00053	0.00035	0.00039
____ NA	332.21807	386,747.20	0.552	333.43052	333.11421	330.10950
____ NI	-0.00019	3.93	104.790	-0.00008	-0.00042	-0.00007
____ P	0.01102	2.54	35.849	0.01406	0.01245	0.00656
____ PB	0.01005	7.76	13.895	0.00872	0.01150	0.00991
____ S	0.86360	107.16	0.615	0.86796	0.85768	0.86514
____ SB	-0.00328	-0.91	48.593	-0.00186	-0.00298	-0.00501
____ SE	-0.00465	-1.62	113.312	-0.00326	-0.01047	-0.00022
____ SI	9.34689	2,970.36	0.663	9.38732	9.37775	9.27558
____ SN	0.00060	2.40	125.862	-0.00027	0.00102	0.00107
____ SR	0.62357	382,809.44	0.720	0.61909	0.62355	0.62806
____ TH	0.02551	4.93	99.077	0.03876	-0.00363	0.04139
____ TI	0.00182	59.27	9.880	0.00200	0.00164	0.00182
____ TL	0.00022	0.74	342.769	0.00105	0.00002	-0.00041
____ V	-0.00013	16.09	733.061	0.00033	0.00051	-0.00123
____ W	-0.00036	0.65	273.649	-0.00020	-0.00143	0.00054
____ Y1	4923.90400	4,923.90	0.287	4907.71737	4933.90375	4930.09086
____ Y2A	172166.46929	172,166.47	0.334	172775.26489	172090.46381	171633.67917
____ Y2R	15221.24542	15,221.25	0.677	15195.77922	15133.36663	15334.59041
____ ZN	0.00110	63.59	18.093	0.00132	0.00096	0.00101
____ ZR	0.00057	1.76	120.713	0.00132	-0.00004	0.00043

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 34 Date/Time: 05/02/2018 19:09

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.50294	4,998.92	0.538	0.50494	0.50403	0.49986
____ AL	24.97594	4,138.60	0.219	24.93467	25.03793	24.95523
____ AS	0.50977	163.77	1.774	0.50508	0.52019	0.50403
____ B	0.49433	3,444.17	0.294	0.49592	0.49399	0.49307
____ BA	0.50784	305,145.05	0.355	0.50804	0.50954	0.50595
____ BE	0.48840	132,922.90	0.524	0.48968	0.49007	0.48545
____ CA	24.76456	27,050.85	0.314	24.75595	24.84626	24.69146
____ CD	0.51391	4,484.83	0.304	0.51362	0.51560	0.51252
____ CO	0.50980	2,283.71	0.203	0.50995	0.51074	0.50869
____ CR	0.48879	4,063.85	0.287	0.48825	0.49038	0.48774
____ CU	0.51751	4,416.17	0.180	0.51856	0.51718	0.51678
____ FE	24.83265	10,789.30	0.327	24.75625	24.82383	24.91788
____ K	25.16957	7,902.98	0.207	25.14165	25.13740	25.22965
____ LI	0.50356	2,678.89	0.569	0.50386	0.50056	0.50627
____ MG	24.69634	56,326.01	0.190	24.71250	24.73313	24.64339
____ MN	0.50864	24,088.12	0.373	0.51017	0.50922	0.50652
____ MO	0.50807	1,231.10	0.333	0.50676	0.50998	0.50747
____ NA	24.99258	28,817.19	0.151	24.96937	25.03627	24.97210
____ NI	0.51575	1,359.14	0.211	0.51650	0.51624	0.51450
____ P	0.50358	115.72	0.449	0.50522	0.50452	0.50099
____ PB	0.51807	431.58	0.991	0.51363	0.52369	0.51689
____ S	24.83539	3,154.64	0.502	24.69488	24.93283	24.87848
____ SB	0.50297	182.51	0.681	0.50671	0.50225	0.49997
____ SE	0.50619	108.27	1.232	0.49945	0.51175	0.50737
____ SI	24.98189	7,889.71	0.692	24.78777	25.03821	25.11970
____ SN	0.49512	423.86	0.544	0.49467	0.49801	0.49267
____ SR	0.50334	321,555.29	1.623	0.50380	0.51127	0.49494
____ TH	0.49553	99.50	2.415	0.49413	0.50814	0.48433
____ TI	0.51141	17,131.83	0.467	0.51217	0.51332	0.50873
____ TL	0.41496	110.59	3.824	0.42554	0.42262	0.39672
____ V	0.50421	6,455.58	0.661	0.50288	0.50800	0.50175
____ W	0.51121	500.50	0.583	0.50951	0.51465	0.50947
____ Y1	5176.98684	5,176.99	0.282	5180.01399	5161.10945	5189.83708
____ Y2A	179638.41374	179,638.41	0.289	179673.40564	179101.79462	180140.04098
____ Y2R	15125.90798	15,125.91	0.374	15183.01340	15069.83533	15124.87522
____ ZN	0.51376	3,315.69	0.243	0.51312	0.51519	0.51296
____ ZR	0.51153	1,607.87	0.451	0.50898	0.51215	0.51347

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 35 Date/Time: 05/02/2018 19:12

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00060	-19.76	245.006	0.00102	-0.00098	-0.00184
____ AL	0.00148	3.91	1493.454	0.02654	-0.01535	-0.00674
____ AS	-0.00189	0.69	56.139	-0.00306	-0.00098	-0.00163
____ B	0.00150	9.72	36.633	0.00151	0.00095	0.00205
____ BA	0.00003	254.01	93.601	0.00001	0.00002	0.00006
____ BE	0.00001	-38.95	280.681	0.00002	-0.00001	0.00002
____ CA	0.12031	171.95	163.655	0.01504	0.34747	-0.00157
____ CD	-0.00009	-3.80	137.371	-0.00011	0.00004	-0.00020
____ CO	-0.00052	-3.22	79.707	-0.00076	-0.00076	-0.00004
____ CR	-0.00033	-9.15	160.526	-0.00077	0.00027	-0.00050
____ CU	-0.00086	0.22	109.734	-0.00188	-0.00005	-0.00063
____ FE	0.04518	26.28	151.180	0.00697	0.12403	0.00454
____ K	0.04480	60.56	46.961	0.02343	0.04549	0.06549
____ LI	-0.00260	40.79	138.819	-0.00604	-0.00293	0.00116
____ MG	0.04672	115.34	167.995	0.00353	0.13732	-0.00068
____ MN	0.00011	14.62	91.477	0.00021	0.00007	0.00003
____ MO	0.00101	-0.19	14.174	0.00112	0.00085	0.00105
____ NA	0.44616	420.51	129.292	0.11687	1.11222	0.10938
____ NI	0.00017	6.76	616.525	0.00137	-0.00067	-0.00019
____ P	-0.00162	-0.24	125.370	-0.00350	0.00053	-0.00190
____ PB	0.00353	4.45	42.513	0.00181	0.00419	0.00457
____ S	0.00901	2.50	127.618	0.02171	0.00597	-0.00066
____ SB	-0.00414	-1.30	61.448	-0.00660	-0.00431	-0.00152
____ SE	-0.00123	-1.78	196.468	0.00068	-0.00395	-0.00043
____ SI	0.03270	12.83	116.117	0.00984	0.07652	0.01172
____ SN	-0.00077	1.38	7.727	-0.00078	-0.00071	-0.00082
____ SR	0.00000	-149.92	463.567	0.00000	-0.00002	0.00001
____ TH	0.00670	-4.22	106.751	0.01493	0.00326	0.00192
____ TI	0.00003	2.06	411.384	-0.00010	0.00016	0.00003
____ TL	0.00601	-0.28	42.855	0.00566	0.00362	0.00873
____ V	0.00018	10.13	245.080	-0.00016	0.00068	0.00002
____ W	-0.00068	0.38	110.792	-0.00116	0.00019	-0.00106
____ Y1	5299.00771	5,299.01	0.655	5338.70008	5274.53075	5283.79231
____ Y2A	187110.72540	187,110.73	0.450	186495.58207	188069.17548	186767.41865
____ Y2R	15373.59219	15,373.59	0.720	15454.01296	15419.45554	15247.30808
____ ZN	0.00028	33.68	2.148	0.00027	0.00028	0.00028
____ ZR	0.00160	3.44	84.341	0.00162	0.00294	0.00024

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 36 Date/Time: 05/02/2018 19:15

Sample Number: **9570361** Class: **** Batch: 181130184807

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	0.00023	-13.41	250.379	-0.00038	0.00033	0.00073
____ AL	0.11282	22.62	26.447	0.08973	0.14651	0.10222
____ AS	-0.00159	0.95	199.436	-0.00121	0.00137	-0.00493
____ B	0.17736	1,245.37	0.919	0.17902	0.17576	0.17731
____ BA	0.09426	57,729.85	0.807	0.09463	0.09339	0.09476
____ BE	0.00003	-31.76	172.664	0.00000	0.00008	0.00000
____ CA	54.68205	60,304.27	0.084	54.62902	54.71294	54.70419
____ CD	-0.00007	-2.79	35.517	-0.00008	-0.00008	-0.00004
____ CO	0.00545	22.67	7.553	0.00574	0.00498	0.00562
____ CR	0.00030	-3.63	197.699	0.00004	-0.00011	0.00097
____ CU	0.00039	25.41	81.597	0.00057	0.00057	0.00002
____ FE	2.06286	920.19	0.762	2.04479	2.07325	2.07055
____ K	4.39048	1,434.56	0.690	4.40919	4.40674	4.35551
____ LI	0.00197	113.34	19.240	0.00200	0.00233	0.00157
____ MG	19.99758	46,288.65	0.175	19.95985	20.02925	20.00364
____ MN	3.30233	158,967.47	1.058	3.32604	3.26220	3.31876
____ MO	0.00036	-1.77	2.853	0.00037	0.00035	0.00035
____ NA	34.67750	40,542.05	0.210	34.59397	34.71149	34.72704
____ NI	0.00313	13.28	38.610	0.00288	0.00207	0.00444
____ P	0.00932	2.28	38.636	0.01254	0.00544	0.00996
____ PB	0.00623	6.70	46.416	0.00296	0.00846	0.00725
____ S	18.14224	2,311.24	0.679	18.18107	18.00424	18.24141
____ SB	-0.00071	-0.03	283.733	-0.00209	-0.00162	0.00159
____ SE	-0.00134	-1.06	190.659	-0.00424	-0.00042	0.00062
____ SI	7.05419	2,257.13	0.393	7.04339	7.03351	7.08566
____ SN	0.00040	2.34	220.588	0.00139	0.00002	-0.00023
____ SR	0.45813	298,248.60	0.935	0.46062	0.45318	0.46058
____ TH	0.01793	-1.56	62.917	0.02409	0.02480	0.00491
____ TI	0.00416	142.40	3.044	0.00410	0.00430	0.00407
____ TL	-0.00092	-0.91	317.867	0.00226	-0.00349	-0.00153
____ V	0.00067	17.15	49.007	0.00084	0.00029	0.00088
____ W	-0.00056	0.55	16.192	-0.00061	-0.00045	-0.00060
____ Y1	5185.23061	5,185.23	0.273	5187.61106	5198.05678	5170.02399
____ Y2A	182569.96101	182,569.96	0.772	182050.16497	184166.11678	181493.60128
____ Y2R	15321.46778	15,321.47	0.539	15292.52449	15414.66827	15257.21058
____ ZN	0.00823	85.12	3.285	0.00831	0.00793	0.00845
____ ZR	-0.00105	-3.91	266.605	0.00215	-0.00222	-0.00309

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 37 Date/Time: 05/02/2018 19:19

Sample Number: **9570362** Class: **** Batch: 181130184807

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	0.00003	-12.94	2496.236	0.00066	0.00033	-0.00089
____ AL	-0.01045	1.91	630.862	0.05699	-0.01358	-0.07477
____ AS	-0.00553	-0.33	43.119	-0.00760	-0.00606	-0.00292
____ B	0.17671	1,230.00	0.063	0.17684	0.17668	0.17662
____ BA	0.09391	57,090.10	0.366	0.09426	0.09391	0.09357
____ BE	0.00002	-34.95	81.794	0.00001	0.00000	0.00003
____ CA	54.67905	60,939.73	0.359	54.89408	54.63440	54.50868
____ CD	0.00016	-1.01	46.385	0.00019	0.00021	0.00007
____ CO	0.00528	21.79	9.449	0.00575	0.00476	0.00533
____ CR	0.00019	-4.45	455.785	-0.00082	0.00068	0.00072
____ CU	-0.00032	17.93	338.557	-0.00141	-0.00028	0.00074
____ FE	1.62887	735.69	0.403	1.63642	1.62445	1.62575
____ K	4.34638	1,435.63	0.380	4.35614	4.35565	4.32733
____ LI	0.00125	110.67	235.072	0.00208	0.00366	-0.00201
____ MG	19.96373	46,700.17	0.418	20.05766	19.93580	19.89772
____ MN	3.32618	158,927.42	0.303	3.33503	3.32830	3.31520
____ MO	0.00024	-2.03	110.580	0.00039	0.00039	-0.00007
____ NA	33.87838	40,024.76	0.234	33.96923	33.84268	33.82323
____ NI	0.00246	11.49	23.124	0.00312	0.00214	0.00212
____ P	0.00914	2.23	19.872	0.01078	0.00943	0.00719
____ PB	0.00447	5.20	79.784	0.00175	0.00316	0.00851
____ S	18.02720	2,281.08	0.315	18.00993	17.98108	18.09060
____ SB	-0.00304	-0.87	141.035	-0.00103	-0.00797	-0.00013
____ SE	-0.00476	-1.77	158.367	0.00170	-0.01304	-0.00294
____ SI	6.76734	2,188.39	0.065	6.76343	6.76648	6.77210
____ SN	0.00007	2.06	1495.577	-0.00121	0.00055	0.00088
____ SR	0.46072	297,703.44	0.312	0.46229	0.45947	0.46039
____ TH	0.00688	-3.98	286.979	0.01344	0.02250	-0.01531
____ TI	0.00143	49.08	15.672	0.00160	0.00117	0.00151
____ TL	-0.00285	-1.43	21.004	-0.00218	-0.00303	-0.00334
____ V	0.00015	10.01	216.654	0.00050	-0.00014	0.00008
____ W	-0.00054	0.56	248.801	-0.00195	0.00071	-0.00037
____ Y1	5150.15881	5,150.16	0.246	5152.22200	5161.65968	5136.59477
____ Y2A	181207.35220	181,207.35	0.388	180582.53349	181071.99162	181967.53149
____ Y2R	15483.70618	15,483.71	0.492	15515.90000	15396.76083	15538.45770
____ ZN	0.00744	79.18	1.435	0.00752	0.00732	0.00748
____ ZR	-0.00031	-2.49	966.275	0.00113	-0.00371	0.00166

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 38 Date/Time: 05/02/2018 19:22

Sample Number: **9570363** Class: **** Batch: 181130184807

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	-0.00027	-14.80	101.379	-0.00045	-0.00042	0.00005
____ AL	1.08242	184.06	2.089	1.09636	1.09457	1.05633
____ AS	-0.00387	0.18	100.339	0.00019	-0.00424	-0.00755
____ B	0.14520	1,008.14	0.119	0.14531	0.14528	0.14500
____ BA	0.12110	73,429.07	0.317	0.12075	0.12105	0.12151
____ BE	0.00012	-7.80	42.755	0.00010	0.00017	0.00008
____ CA	49.10041	54,092.25	0.301	49.18403	49.18719	48.93002
____ CD	-0.00002	-2.40	457.023	0.00004	-0.00014	0.00004
____ CO	0.01705	74.32	0.536	0.01714	0.01696	0.01705
____ CR	0.00157	7.08	35.224	0.00093	0.00191	0.00187
____ CU	0.00297	37.72	47.381	0.00400	0.00354	0.00137
____ FE	2.08183	927.02	0.585	2.06784	2.08998	2.08768
____ K	6.12559	1,979.92	0.369	6.15160	6.11454	6.11063
____ LI	0.00311	114.18	160.422	0.00804	0.00321	-0.00193
____ MG	15.48384	35,847.55	0.408	15.51412	15.52612	15.41128
____ MN	3.53122	168,442.18	0.117	3.53319	3.52648	3.53398
____ MO	0.00038	-1.70	63.283	0.00021	0.00027	0.00065
____ NA	84.78944	99,114.82	0.299	84.91066	84.95930	84.49836
____ NI	0.00713	23.44	6.360	0.00696	0.00765	0.00679
____ P	0.04116	9.57	5.250	0.04166	0.04303	0.03879
____ PB	0.00483	5.77	37.212	0.00689	0.00405	0.00355
____ S	13.12945	1,664.22	0.286	13.08653	13.15645	13.14538
____ SB	-0.00500	-1.56	15.729	-0.00467	-0.00589	-0.00443
____ SE	-0.00629	-2.04	60.715	-0.00611	-0.01019	-0.00256
____ SI	8.71363	2,782.97	0.414	8.70836	8.75204	8.68049
____ SN	0.00039	2.33	167.825	-0.00018	0.00025	0.00111
____ SR	0.43164	278,379.44	0.582	0.42874	0.43299	0.43319
____ TH	0.00079	-5.09	1440.102	0.00773	-0.01227	0.00690
____ TI	0.02722	919.27	0.391	0.02711	0.02731	0.02725
____ TL	-0.00260	-1.32	38.066	-0.00191	-0.00216	-0.00374
____ V	0.00253	41.26	11.616	0.00278	0.00260	0.00220
____ W	0.00026	1.38	241.827	0.00080	-0.00043	0.00041
____ Y1	5157.36129	5,157.36	0.405	5180.31587	5152.35300	5139.41499
____ Y2A	180902.90910	180,902.91	0.319	181415.17679	180277.76945	181015.78106
____ Y2R	15295.93724	15,295.94	0.555	15377.04509	15207.65847	15303.10816
____ ZN	0.01467	125.31	1.867	0.01448	0.01498	0.01454
____ ZR	0.00047	-0.61	604.476	0.00046	0.00329	-0.00235

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 39 Date/Time: 05/02/2018 19:25

Sample Number: **9570364** Class: **** Batch: 181130184807

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	-9.88	53.740	0.00063	0.00025	0.00028
____ AL	0.00147	3.99	1997.230	-0.03192	0.02359	0.01275
____ AS	-0.00114	0.91	211.892	0.00142	-0.00336	-0.00147
____ B	0.14267	981.53	0.118	0.14279	0.14248	0.14274
____ BA	0.11695	70,770.42	0.176	0.11696	0.11715	0.11674
____ BE	0.00000	-38.36	1055.079	-0.00001	0.00004	-0.00002
____ CA	48.07574	53,808.47	0.107	48.12525	48.02246	48.07951
____ CD	-0.00019	-4.52	95.021	-0.00023	0.00001	-0.00036
____ CO	0.01593	68.66	1.863	0.01625	0.01590	0.01565
____ CR	0.00108	2.97	102.258	0.00071	0.00231	0.00021
____ CU	0.00125	29.59	66.845	0.00118	0.00045	0.00212
____ FE	0.08385	43.89	4.986	0.08861	0.08217	0.08077
____ K	6.05736	1,989.36	0.741	6.10777	6.04255	6.02176
____ LI	-0.00114	92.46	99.415	-0.00133	-0.00216	0.00008
____ MG	15.00650	35,299.91	0.091	15.01281	14.99078	15.01591
____ MN	3.47049	165,196.33	0.135	3.46569	3.47074	3.47505
____ MO	0.00023	-2.05	266.651	0.00091	-0.00023	0.00000
____ NA	83.18545	98,778.66	0.042	83.22240	83.18157	83.15237
____ NI	0.00575	19.87	2.423	0.00588	0.00561	0.00575
____ P	0.01063	2.55	31.944	0.01429	0.00757	0.01004
____ PB	0.00615	6.62	56.987	0.00289	0.00985	0.00570
____ S	13.14101	1,649.85	1.148	13.29339	13.13794	12.99169
____ SB	-0.00366	-1.07	95.857	-0.00525	-0.00608	0.00036
____ SE	-0.00334	-1.37	16.264	-0.00273	-0.00352	-0.00377
____ SI	7.10535	2,305.66	0.340	7.13241	7.08603	7.09759
____ SN	0.00037	2.29	170.292	0.00085	-0.00035	0.00062
____ SR	0.42507	273,557.32	0.490	0.42716	0.42299	0.42506
____ TH	0.01050	-3.48	234.309	0.03472	0.01122	-0.01445
____ TI	0.00177	60.59	8.949	0.00179	0.00161	0.00192
____ TL	-0.00149	-0.93	52.097	-0.00224	-0.00156	-0.00069
____ V	0.00011	9.03	245.290	-0.00006	0.00043	-0.00003
____ W	-0.00011	0.99	920.175	-0.00022	-0.00102	0.00091
____ Y1	5108.30127	5,108.30	0.220	5115.84582	5113.67276	5095.38523
____ Y2A	180521.82829	180,521.83	0.307	180363.47730	181138.49730	180063.51028
____ Y2R	15538.29507	15,538.30	0.510	15468.17592	15624.17730	15522.53197
____ ZN	0.01077	98.04	0.840	0.01084	0.01066	0.01079
____ ZR	-0.00126	-5.24	99.244	-0.00124	-0.00251	-0.00002

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 40 Date/Time: 05/02/2018 19:28

Sample Number: **9570366** Class: **** Batch: 181130184807

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	-22.98	43.345	-0.00104	-0.00044	-0.00114
____ AL	2.54094	436.21	0.266	2.54373	2.54587	2.53324
____ AS	-0.00427	0.91	20.283	-0.00520	-0.00349	-0.00413
____ B	0.09887	737.11	1.784	0.10000	0.09684	0.09978
____ BA	0.22579	138,172.36	0.638	0.22702	0.22420	0.22613
____ BE	0.00018	11.22	4.012	0.00019	0.00018	0.00019
____ CA	28.10246	31,686.83	0.421	28.11943	28.21148	27.97647
____ CD	0.00036	4.51	71.542	0.00012	0.00032	0.00063
____ CO	0.00225	7.83	2.157	0.00230	0.00222	0.00221
____ CR	0.00132	5.05	22.525	0.00108	0.00165	0.00123
____ CU	0.01980	183.65	10.754	0.02131	0.01736	0.02073
____ FE	12.68012	5,712.95	0.287	12.63844	12.70521	12.69670
____ K	5.21333	1,727.19	0.811	5.19241	5.26197	5.18560
____ LI	0.00264	94.92	27.774	0.00347	0.00230	0.00213
____ MG	6.06443	14,391.37	0.499	6.08767	6.07541	6.03021
____ MN	0.33187	16,008.56	0.589	0.33298	0.32962	0.33303
____ MO	0.00208	2.38	12.605	0.00230	0.00179	0.00214
____ NA	82.90193	98,928.20	0.237	82.91581	83.09075	82.69924
____ NI	0.00521	17.77	9.522	0.00549	0.00463	0.00550
____ P	0.04691	10.77	6.342	0.05030	0.04564	0.04477
____ PB	0.04178	35.42	5.404	0.04048	0.04048	0.04439
____ S	2.66404	335.59	1.297	2.65820	2.70114	2.63277
____ SB	0.00367	1.53	32.750	0.00233	0.00464	0.00406
____ SE	-0.00265	-2.14	37.455	-0.00205	-0.00380	-0.00210
____ SI	11.69068	3,810.90	0.457	11.63080	11.73329	11.70796
____ SN	0.00007	2.04	961.560	-0.00072	0.00047	0.00047
____ SR	0.28666	186,696.40	0.691	0.28854	0.28459	0.28684
____ TH	0.00402	-2.80	486.702	-0.00254	0.02604	-0.01143
____ TI	0.03737	1,275.19	0.586	0.03758	0.03714	0.03740
____ TL	-0.00167	-2.63	244.838	-0.00336	-0.00462	0.00298
____ V	0.00196	37.73	22.122	0.00245	0.00180	0.00162
____ W	0.00066	1.80	77.978	0.00122	0.00055	0.00021
____ Y1	5103.67982	5,103.68	0.069	5107.68139	5102.42055	5100.93753
____ Y2A	182846.37681	182,846.38	0.576	182544.22040	184017.39652	181977.51349
____ Y2R	15615.12937	15,615.13	0.342	15665.26142	15559.09771	15621.02897
____ ZN	0.02198	178.63	0.598	0.02213	0.02191	0.02190
____ ZR	0.00127	2.21	97.842	0.00068	0.00043	0.00270

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 41 Date/Time: 05/02/2018 19:31

Sample Number: **9570367** Class: **** Batch: 181130184807

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	-0.00030	-21.07	316.005	-0.00139	0.00032	0.00016
____ AL	-0.02501	-0.37	28.531	-0.01969	-0.02221	-0.03311
____ AS	-0.00731	-0.17	29.348	-0.00944	-0.00735	-0.00515
____ B	0.09532	717.10	1.317	0.09387	0.09597	0.09612
____ BA	0.19143	119,083.50	1.163	0.18903	0.19343	0.19184
____ BE	-0.00001	-43.74	123.517	-0.00003	0.00000	0.00000
____ CA	26.79671	30,312.09	0.107	26.76881	26.79527	26.82606
____ CD	0.00022	2.31	71.797	0.00004	0.00029	0.00032
____ CO	0.00202	7.23	4.719	0.00207	0.00191	0.00207
____ CR	-0.00028	-8.66	161.690	-0.00077	0.00010	-0.00016
____ CU	-0.00024	18.83	255.294	-0.00065	0.00046	-0.00053
____ FE	9.76697	4,419.46	0.373	9.75116	9.74107	9.80868
____ K	4.99156	1,660.79	0.503	5.01047	4.96308	5.00114
____ LI	0.00584	111.16	20.941	0.00669	0.00637	0.00444
____ MG	5.48793	13,066.53	0.231	5.49544	5.47330	5.49505
____ MN	0.31135	15,264.68	0.506	0.31235	0.31216	0.30953
____ MO	0.00245	3.26	16.954	0.00224	0.00217	0.00293
____ NA	83.75219	100,248.72	0.171	83.68684	83.65339	83.91634
____ NI	0.00492	17.82	7.678	0.00449	0.00519	0.00509
____ P	0.00467	1.19	59.208	0.00190	0.00468	0.00743
____ PB	0.00591	5.84	16.106	0.00517	0.00558	0.00699
____ S	2.53536	318.41	0.474	2.52182	2.53949	2.54476
____ SB	0.00412	1.67	74.573	0.00410	0.00719	0.00105
____ SE	-0.00147	-1.88	166.974	-0.00288	-0.00290	0.00136
____ SI	6.22476	2,036.41	0.297	6.20861	6.22074	6.24493
____ SN	-0.00005	1.93	1583.350	0.00032	-0.00091	0.00045
____ SR	0.26665	176,487.00	1.074	0.26366	0.26937	0.26692
____ TH	0.02267	0.66	78.501	0.00228	0.03508	0.03066
____ TI	0.00140	49.68	15.496	0.00165	0.00126	0.00130
____ TL	0.00290	-1.22	40.630	0.00327	0.00384	0.00158
____ V	-0.00008	9.85	384.423	-0.00033	-0.00014	0.00024
____ W	0.00069	1.76	171.063	0.00187	0.00071	-0.00050
____ Y1	5087.23672	5,087.24	0.399	5098.70478	5099.20527	5063.80010
____ Y2A	185830.83582	185,830.84	1.909	189903.27084	183406.84809	184182.38852
____ Y2R	15662.76846	15,662.77	0.371	15665.00100	15719.76651	15603.53788
____ ZN	0.01200	113.63	2.680	0.01235	0.01171	0.01194
____ ZR	-0.00137	-4.58	64.817	-0.00056	-0.00122	-0.00231

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 42 Date/Time: 05/02/2018 19:34

Sample Number: **9570368** Class: **** Batch: 181130184807

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	-0.00041	-20.22	173.678	-0.00024	0.00020	-0.00120
____ AL	-0.00233	3.40	2947.847	0.00661	0.06138	-0.07497
____ AS	-0.00206	0.63	128.194	-0.00370	0.00099	-0.00346
____ B	0.00266	18.17	3.023	0.00262	0.00260	0.00275
____ BA	0.00078	744.33	27.779	0.00103	0.00066	0.00064
____ BE	-0.00002	-48.42	127.309	-0.00002	-0.00005	0.00001
____ CA	0.09507	147.05	2.384	0.09665	0.09247	0.09608
____ CD	-0.00006	-3.56	261.636	0.00012	-0.00019	-0.00012
____ CO	-0.00049	-3.11	34.052	-0.00043	-0.00068	-0.00037
____ CR	-0.00024	-8.63	296.832	-0.00107	0.00019	0.00016
____ CU	0.00431	49.37	9.240	0.00398	0.00420	0.00475
____ FE	0.00143	6.94	169.518	0.00240	-0.00133	0.00323
____ K	-0.04368	33.38	38.684	-0.02988	-0.06252	-0.03864
____ LI	-0.00039	53.86	374.273	-0.00126	0.00128	-0.00118
____ MG	0.02209	58.84	6.734	0.02050	0.02345	0.02233
____ MN	0.00122	71.82	39.661	0.00178	0.00099	0.00089
____ MO	0.00046	-1.54	67.887	0.00049	0.00076	0.00013
____ NA	0.39897	373.39	3.288	0.41320	0.38735	0.39637
____ NI	-0.00008	6.04	647.270	0.00002	0.00036	-0.00062
____ P	0.00036	0.22	993.323	-0.00070	-0.00259	0.00438
____ PB	0.00200	3.18	102.497	0.00254	-0.00026	0.00373
____ S	0.00595	2.09	8.281	0.00547	0.00646	0.00590
____ SB	-0.00479	-1.53	84.159	-0.00059	-0.00516	-0.00862
____ SE	-0.00555	-2.72	142.624	-0.00459	-0.01389	0.00184
____ SI	0.25403	86.00	0.741	0.25609	0.25240	0.25360
____ SN	-0.00039	1.71	87.945	-0.00026	-0.00013	-0.00078
____ SR	0.00032	62.86	93.340	0.00065	0.00016	0.00013
____ TH	0.01487	-2.61	107.330	0.02994	0.01651	-0.00185
____ TI	0.00023	9.18	39.015	0.00025	0.00013	0.00030
____ TL	-0.00425	-3.30	20.427	-0.00328	-0.00494	-0.00453
____ V	0.00011	9.65	476.075	-0.00039	0.00066	0.00006
____ W	-0.00054	0.52	166.438	-0.00156	0.00003	-0.00007
____ Y1	5292.03576	5,292.04	0.480	5303.34065	5309.82211	5262.94453
____ Y2A	193571.26590	193,571.27	0.361	192800.69251	194164.57462	193748.53058
____ Y2R	15776.61505	15,776.62	0.527	15797.92707	15684.94006	15846.97802
____ ZN	0.00104	38.51	5.350	0.00098	0.00105	0.00109
____ ZR	-0.00015	-1.38	590.117	-0.00105	0.00065	-0.00003

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 43 Date/Time: 05/02/2018 19:37

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00620	10.38	16.466	0.00523	0.00611	0.00727
____ AL	0.19601	38.68	3.533	0.19038	0.20374	0.19390
____ AS	0.01895	7.28	12.257	0.01887	0.01667	0.02132
____ B	0.04873	347.35	1.615	0.04802	0.04860	0.04957
____ BA	0.00537	3,581.55	1.471	0.00535	0.00546	0.00531
____ BE	0.00490	1,341.97	0.253	0.00492	0.00490	0.00490
____ CA	0.20233	256.87	0.292	0.20166	0.20254	0.20278
____ CD	0.00519	42.31	1.434	0.00527	0.00515	0.00514
____ CO	0.00495	21.45	7.966	0.00457	0.00493	0.00536
____ CR	0.01525	125.23	2.466	0.01538	0.01553	0.01482
____ CU	0.01186	141.74	8.409	0.01087	0.01286	0.01184
____ FE	0.19821	93.83	3.003	0.19676	0.19311	0.20475
____ K	0.52784	212.58	24.886	0.41957	0.48998	0.67396
____ LI	0.01833	150.13	16.570	0.01814	0.01539	0.02145
____ MG	0.09879	235.73	0.812	0.09802	0.09874	0.09962
____ MN	0.00560	280.23	1.771	0.00560	0.00570	0.00550
____ MO	0.01097	23.99	1.743	0.01076	0.01100	0.01114
____ NA	1.07242	1,150.31	1.197	1.08365	1.07518	1.05843
____ NI	0.01104	35.18	4.936	0.01046	0.01113	0.01154
____ P	0.10209	23.53	3.549	0.09974	0.10626	0.10026
____ PB	0.01707	15.51	4.485	0.01707	0.01784	0.01631
____ S	0.51179	66.23	1.243	0.50496	0.51754	0.51288
____ SB	0.01779	6.65	8.375	0.01922	0.01624	0.01792
____ SE	0.01680	2.16	14.422	0.01919	0.01685	0.01435
____ SI	0.05965	21.43	2.483	0.06068	0.05795	0.06031
____ SN	0.02058	19.53	5.901	0.01983	0.01994	0.02198
____ SR	0.00532	3,370.79	2.315	0.00527	0.00546	0.00523
____ TH	0.20897	37.53	11.140	0.19035	0.20148	0.23507
____ TI	0.01038	361.08	1.773	0.01057	0.01036	0.01021
____ TL	0.02581	5.36	13.466	0.02347	0.02980	0.02415
____ V	0.00518	77.36	7.552	0.00494	0.00563	0.00496
____ W	0.00982	10.70	1.997	0.01003	0.00977	0.00964
____ Y1	5174.31894	5,174.32	0.481	5180.39936	5146.94289	5195.61458
____ Y2A	186065.25000	186,065.25	0.222	186363.18544	186237.95241	185594.61216
____ Y2R	15298.32276	15,298.32	0.810	15414.08591	15313.18544	15167.69691
____ ZN	0.02162	168.06	0.605	0.02157	0.02176	0.02151
____ ZR	0.05383	182.12	4.157	0.05147	0.05593	0.05408

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 44 Date/Time: 05/02/2018 19:41

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00034	-30.06	116.797	-0.00079	-0.00021	-0.00003
____ AL	482.46887	78,756.23	0.504	481.63310	480.56776	485.20574
____ AS	-0.00942	-7.46	100.319	0.00137	-0.01622	-0.01341
____ B	0.02876	952.81	4.546	0.02964	0.02938	0.02726
____ BA	0.00085	660.04	3.466	0.00081	0.00085	0.00087
____ BE	-0.00013	-65.90	31.607	-0.00016	-0.00014	-0.00008
____ CA	493.29106	501,639.39	0.875	492.77285	489.25880	497.84154
____ CD	0.00483	94.64	1.760	0.00489	0.00473	0.00486
____ CO	-0.00053	-2.82	94.337	0.00002	-0.00066	-0.00095
____ CR	-0.00379	-33.82	9.985	-0.00423	-0.00360	-0.00354
____ CU	-0.00287	168.09	12.476	-0.00328	-0.00260	-0.00273
____ FE	194.42159	77,915.21	0.493	193.96969	193.77342	195.52167
____ K	-0.04570	30.61	57.656	-0.07114	-0.01852	-0.04745
____ LI	-0.00455	453.59	101.381	0.00023	-0.00899	-0.00490
____ MG	519.37442	923,893.56	1.136	512.81776	524.26475	521.04074
____ MN	0.00452	200.86	0.701	0.00455	0.00450	0.00450
____ MO	-0.00195	-6.53	47.082	-0.00210	-0.00279	-0.00097
____ NA	0.07560	-15.85	6.433	0.07848	0.06999	0.07834
____ NI	-0.00928	-16.19	11.019	-0.00818	-0.00945	-0.01020
____ P	0.01399	2.98	25.476	0.01226	0.01163	0.01809
____ PB	-0.00073	78.10	488.575	-0.00486	0.00161	0.00104
____ S	-0.04926	5.78	17.970	-0.05948	-0.04388	-0.04442
____ SB	-0.00153	-0.30	133.854	-0.00287	-0.00254	0.00083
____ SE	-0.00501	-7.23	116.375	-0.00782	0.00169	-0.00891
____ SI	-0.00209	1.60	399.016	0.00485	0.00021	-0.01131
____ SN	0.00573	6.09	7.275	0.00612	0.00529	0.00578
____ SR	0.00682	14,886.76	5.270	0.00674	0.00722	0.00651
____ TH	-0.00965	22.83	124.275	0.00044	-0.00648	-0.02290
____ TI	-0.00220	-65.37	5.517	-0.00225	-0.00228	-0.00206
____ TL	0.00672	-3.66	11.852	0.00641	0.00762	0.00612
____ V	-0.00337	25.47	7.383	-0.00310	-0.00360	-0.00341
____ W	0.00267	3.15	58.774	0.00199	0.00446	0.00155
____ Y1	4582.55012	4,582.55	0.333	4596.42015	4566.17274	4585.05747
____ Y2A	161650.63951	161,650.64	0.244	162014.24366	161230.46563	161707.20923
____ Y2R	14773.46083	14,773.46	0.631	14872.22777	14761.06680	14687.08791
____ ZN	-0.00577	146.21	8.713	-0.00583	-0.00523	-0.00623
____ ZR	0.00668	17.22	31.108	0.00606	0.00899	0.00498

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 45 Date/Time: 05/02/2018 19:44

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.21730	1,928.58	0.144	0.21765	0.21705	0.21721
____ AL	494.80367	78,916.11	0.410	497.03331	494.31117	493.06653
____ AS	0.09429	21.49	1.740	0.09241	0.09504	0.09542
____ B	0.02853	959.29	3.875	0.02959	0.02863	0.02738
____ BA	0.51489	274,205.33	0.224	0.51623	0.51422	0.51423
____ BE	0.50663	122,245.25	0.372	0.50880	0.50549	0.50558
____ CA	509.94173	505,585.76	0.936	515.08656	509.08216	505.65646
____ CD	0.97140	7,558.15	0.306	0.96995	0.96943	0.97481
____ CO	0.47988	1,902.98	0.202	0.47961	0.47907	0.48095
____ CR	0.48343	3,562.46	0.109	0.48400	0.48296	0.48334
____ CU	0.53155	4,250.04	0.210	0.53135	0.53276	0.53055
____ FE	199.96040	78,113.45	0.457	200.98122	199.68123	199.21875
____ K	-0.02867	35.00	151.395	-0.05303	0.02144	-0.05442
____ LI	-0.00111	473.91	128.747	-0.00199	-0.00187	0.00054
____ MG	530.77996	916,759.76	1.288	538.49607	525.47850	528.36531
____ MN	0.50629	21,267.82	0.331	0.50818	0.50571	0.50498
____ MO	-0.00102	-4.52	21.634	-0.00120	-0.00108	-0.00077
____ NA	0.06355	-28.76	19.063	0.04983	0.06804	0.07279
____ NI	0.96041	2,244.25	0.307	0.96009	0.95764	0.96351
____ P	0.01200	2.58	18.452	0.01343	0.00945	0.01313
____ PB	0.52585	463.37	0.854	0.53072	0.52495	0.52188
____ S	-0.04577	6.53	23.965	-0.04625	-0.05648	-0.03456
____ SB	0.62903	201.70	0.486	0.63031	0.63124	0.62554
____ SE	0.54254	96.95	0.659	0.54049	0.54045	0.54667
____ SI	-0.00172	1.66	28.588	-0.00121	-0.00219	-0.00176
____ SN	0.00585	6.19	59.875	0.00956	0.00538	0.00261
____ SR	0.00679	15,017.04	1.266	0.00669	0.00681	0.00686
____ TH	-0.01830	21.43	194.994	0.01116	-0.00809	-0.05797
____ TI	-0.00182	-53.13	1.625	-0.00184	-0.00178	-0.00182
____ TL	0.09436	12.94	10.894	0.09562	0.10394	0.08350
____ V	0.51133	5,906.58	0.402	0.51310	0.50908	0.51181
____ W	0.00004	7.81	3080.951	-0.00127	0.00119	0.00019
____ Y1	4585.43955	4,585.44	0.394	4596.88192	4594.84116	4564.59557
____ Y2A	159264.02425	159,264.02	0.460	158503.74625	159321.45000	159966.87650
____ Y2R	14428.25173	14,428.25	0.338	14371.95305	14455.03490	14457.76723
____ ZN	1.03383	5,995.96	0.045	1.03368	1.03346	1.03435
____ ZR	0.00699	17.04	9.636	0.00744	0.00621	0.00731

LANCASTER LABORATORIES

Run Name: 1812205T75

Instrument ID: 23290

Tube: 46

Date/Time: 05/02/2018 19:47

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.50169	4,973.77	0.232	0.50035	0.50249	0.50221
____ AL	24.95099	4,091.48	0.349	25.05160	24.90017	24.90118
____ AS	0.52036	163.23	0.455	0.51804	0.52026	0.52277
____ B	0.49761	3,458.47	0.598	0.49461	0.49766	0.50056
____ BA	0.50955	305,480.35	0.279	0.50799	0.51078	0.50987
____ BE	0.48875	132,718.82	0.482	0.48674	0.49134	0.48816
____ CA	24.93353	26,950.67	0.433	25.04471	24.92696	24.82892
____ CD	0.52336	4,460.46	0.114	0.52267	0.52371	0.52371
____ CO	0.51705	2,262.03	0.172	0.51628	0.51802	0.51685
____ CR	0.49132	4,075.73	0.403	0.48947	0.49108	0.49341
____ CU	0.51995	4,427.93	0.570	0.52002	0.52288	0.51695
____ FE	24.95305	10,728.13	0.257	25.01904	24.94899	24.89113
____ K	25.33638	7,872.00	0.800	25.46761	25.43851	25.10302
____ LI	0.50201	2,643.11	0.635	0.50557	0.50101	0.49943
____ MG	24.72019	55,791.83	0.235	24.76926	24.73533	24.65597
____ MN	0.51105	24,148.11	0.480	0.50873	0.51362	0.51081
____ MO	0.51539	1,219.67	0.298	0.51364	0.51605	0.51648
____ NA	25.03431	28,564.55	0.305	25.12164	25.00189	24.97941
____ NI	0.52571	1,352.93	0.017	0.52562	0.52579	0.52571
____ P	0.51766	116.17	0.975	0.51400	0.51557	0.52341
____ PB	0.53010	431.14	0.332	0.53213	0.52895	0.52922
____ S	25.26877	3,134.60	0.304	25.35088	25.19855	25.25688
____ SB	0.50587	179.27	0.916	0.50124	0.51051	0.50585
____ SE	0.51418	107.43	1.556	0.50517	0.52045	0.51693
____ SI	25.10053	7,844.64	0.294	25.18587	25.05767	25.05805
____ SN	0.50388	421.24	0.392	0.50271	0.50276	0.50616
____ SR	0.50489	321,836.23	0.538	0.50247	0.50783	0.50437
____ TH	0.50174	99.74	4.425	0.51197	0.47626	0.51698
____ TI	0.51284	17,141.35	0.670	0.50974	0.51654	0.51225
____ TL	0.48600	128.05	2.030	0.49621	0.48528	0.47651
____ V	0.50460	6,445.39	0.147	0.50375	0.50502	0.50504
____ W	0.52073	497.88	0.240	0.52088	0.51941	0.52189
____ Y1	5055.89718	5,055.90	0.206	5067.42087	5053.19021	5047.08046
____ Y2A	179236.66135	179,236.66	0.541	180352.99103	178752.22278	178604.77023
____ Y2R	14968.18318	14,968.18	0.265	14963.13237	14931.31238	15010.10479
____ ZN	0.52330	3,297.43	0.325	0.52143	0.52373	0.52475
____ ZR	0.51224	1,593.74	0.761	0.51670	0.51052	0.50948

LANCASTER LABORATORIES

Run Name: 1812205T75 Instrument ID: 23290

Tube: 47 Date/Time: 05/02/2018 19:50

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00011	-17.26	1262.517	-0.00101	0.00149	-0.00082
____ AL	0.24523	44.35	171.485	0.73037	-0.01526	0.02057
____ AS	-0.00206	0.62	120.451	-0.00211	-0.00451	0.00045
____ B	0.00129	8.38	38.326	0.00089	0.00184	0.00114
____ BA	0.00000	231.36	1874.136	0.00004	-0.00004	-0.00001
____ BE	0.00000	-40.64	775.165	-0.00001	0.00001	-0.00001
____ CA	0.24260	303.37	162.383	0.69749	0.01356	0.01676
____ CD	0.00011	-1.94	267.276	-0.00011	0.00045	-0.00001
____ CO	0.00014	-0.20	249.116	0.00015	0.00046	-0.00021
____ CR	-0.00048	-10.35	44.588	-0.00062	-0.00023	-0.00059
____ CU	-0.00130	-1.66	71.717	-0.00211	-0.00150	-0.00028
____ FE	0.10645	52.84	175.483	0.32195	-0.00941	0.00682
____ K	0.02224	52.64	335.922	0.10708	-0.03373	-0.00663
____ LI	-0.00165	45.23	113.946	-0.00318	0.00045	-0.00222
____ MG	0.23291	544.23	166.870	0.68170	0.00876	0.00827
____ MN	0.00009	13.44	18.646	0.00010	0.00007	0.00009
____ MO	0.00055	-1.30	28.991	0.00068	0.00060	0.00037
____ NA	0.07156	-20.82	52.137	0.11403	0.05657	0.04408
____ NI	-0.00061	4.56	30.646	-0.00067	-0.00040	-0.00076
____ P	0.00262	0.74	89.579	0.00096	0.00160	0.00530
____ PB	0.00161	2.84	12.824	0.00152	0.00184	0.00146
____ S	0.01420	3.11	21.624	0.01508	0.01674	0.01079
____ SB	-0.00090	-0.10	314.450	0.00129	0.00010	-0.00407
____ SE	0.00174	-1.11	156.895	0.00302	-0.00139	0.00358
____ SI	0.03239	12.55	137.474	0.08366	0.00334	0.01018
____ SN	-0.00011	1.92	139.544	0.00007	-0.00019	-0.00020
____ SR	-0.00001	-146.83	541.999	-0.00004	0.00001	0.00001
____ TH	0.01986	-1.48	98.681	0.01715	0.04066	0.00175
____ TI	0.00007	3.29	203.562	0.00022	-0.00005	0.00003
____ TL	-0.00049	-2.16	280.809	-0.00188	-0.00045	0.00087
____ V	0.00018	10.19	190.555	0.00022	0.00050	-0.00018
____ W	-0.00070	0.35	172.862	-0.00097	-0.00175	0.00062
____ Y1	5204.18943	5,204.19	0.509	5217.54193	5221.32920	5173.69715
____ Y2A	185405.92112	185,405.92	0.442	185534.89936	184529.44700	186153.41702
____ Y2R	15126.86108	15,126.86	0.528	15194.39182	15038.60917	15147.58225
____ ZN	0.00051	34.56	19.491	0.00045	0.00062	0.00045
____ ZR	0.00219	6.26	96.189	0.00409	-0.00007	0.00255

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ICP-AES Run Data Report

Reviewed By
Jonathan J Allen

Reviewed Date
05/04/2018 2:26AM

Data File Name 1812311T72.TXT
Run Name: 1812311T72

Method Reference Name(s):

Verified By:
Tara L Snyder

Verified Date
05/07/2018 8:58AM

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: 1812311T72 Instrument ID: 16417

Tube: 1 Date/Time: 05/03/2018 23:44

Sample Number: **S0**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	0.000	-35.99763	14.943	-0.00902	-0.00698	-0.00708
AL	0.000	20.36667	11.062	0.13718	0.11146	0.11726
AS	0.000	-1.55070	72.705	-0.00966	-0.00375	-0.01956
B	0.000	-1.69420	363.735	0.00002	-0.00002	-0.00002
BA	0.000	33.71626	72.614	0.00002	0.00021	0.00020
BE	0.000	-898.22535	2.847	-0.19240	-0.18623	-0.19712
CA	0.000	12.61667	21.223	0.00123	0.00186	0.00144
CD	0.000	-3.08808	8.560	-0.02319	-0.01972	-0.02268
CO	0.000	4.18954	19.754	0.02312	0.03443	0.03146
CR	0.000	0.34897	136.357	0.00000	0.00000	0.00000
CU	0.000	-69.30028	12.917	-0.01312	-0.01442	-0.01689
FE	0.000	-0.33333	183.699	-0.00002	0.00002	-0.00012
K	0.000	72.90000	43.068	0.29906	0.65162	0.36080
LI	0.000	-81.16667	30.303	-0.00923	-0.00706	-0.01289
MG	0.000	-1.00000	458.903	-0.00017	-0.00064	0.00045
MN	0.000	26.70650	33.565	0.00527	0.00780	0.00405
MO	0.000	-0.99065	14.278	-0.00594	-0.00720	-0.00792
NA	0.000	-30.61667	21.262	-0.00442	-0.00286	-0.00372
NI	0.000	6.92822	11.045	0.04456	0.05507	0.04755
P	0.000	0.62893	268.073	-0.00012	0.00035	0.00004
PB	0.000	-1.97997	78.314	-0.01586	-0.00224	-0.02397
S	0.000	0.30282	153.445	0.00009	0.00007	-0.00003
SB	0.000	-0.51912	69.735	-0.00003	-0.00007	-0.00013
SE	0.000	1.38431	64.334	0.00254	0.01386	0.01304
SI	0.000	1.65667	61.642	0.00028	0.00026	0.00006
SN	0.000	3.20788	14.348	0.01918	0.02559	0.02338
SR	0.000	-126.38011	4.272	-0.00056	-0.00054	-0.00052
TH	0.000	-1.76667	153.339	-0.00038	0.00016	-0.00041
TI	0.000	12.33155	37.692	0.00302	0.00151	0.00338
TL	0.000	1.23124	43.494	0.01142	0.00438	0.01035
V	0.000	-11.13392	60.699	-0.00104	-0.00391	-0.00218
W	0.000	4.82846	23.558	0.00070	0.00084	0.00051
Y1	0.000	7061.56734	0.255	7080.08585	7060.44325	7044.17291
Y2A	0.000	234025.29987	0.236	233943.29743	234613.33500	233519.26720
Y2R	0.000	8345.94167	0.576	8401.32500	8321.55000	8314.95000
ZN	0.000	-0.33277	179.372	-0.00719	-0.00035	0.00050
ZR	0.000	11.56667	11.007	0.00153	0.00123	0.00140

LANCASTER LABORATORIES

Run Name: 1812311T72

Instrument ID: 16417

Tube: 2

Date/Time: 05/03/2018 23:48

Sample Number: **S1**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AL	50.000	3221.89538	0.547	19.49291	19.39688	19.60980
CA	50.000	25588.04655	0.568	3.08163	3.09409	3.11638
FE	50.000	8057.09577	0.417	0.97068	0.97681	0.97837
K	50.000	13611.47462	0.826	81.75264	82.29022	83.10439
MG	50.000	48423.06202	0.531	5.83981	5.84742	5.89715
NA	50.000	40788.02625	0.640	4.90978	4.93030	4.97180
S	50.000	7978.17476	0.374	1.14712	1.14764	1.13999
SI	50.000	5280.83295	0.684	0.63538	0.63833	0.64399
Y1	50.000	6968.38308	0.230	6956.77232	6961.67499	6986.70194
Y2R	50.000	8261.40104	0.565	8311.44110	8253.77500	8218.98703

LANCASTER LABORATORIES

Run Name: 1812311T72

Instrument ID: 16417

Tube: 3

Date/Time: 05/03/2018 23:51

Sample Number: **S2**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	1.000	16289.43206	0.219	3.53713	3.52617	3.52221
AS	1.000	330.56424	0.549	2.36840	2.36436	2.34421
B	1.000	7765.77880	0.553	0.03384	0.03347	0.03362
BA	1.000	722912.43493	0.448	3.14683	3.11899	3.12976
BE	1.000	505128.23490	0.151	109.41491	109.58362	109.25218
CD	1.000	11693.21760	0.676	84.02811	83.40657	82.90254
CO	1.000	5298.27313	0.723	38.06736	37.83869	37.52327
CU	1.000	14166.04722	0.361	3.07634	3.07347	3.05585
LI	1.000	6871.95652	0.930	0.83328	0.81848	0.82952
MN	1.000	71828.27600	0.419	15.63387	15.51497	15.52822
NI	1.000	2730.02522	0.824	19.59167	19.55683	19.29778
P	1.000	332.56240	0.699	0.04746	0.04780	0.04714
PB	1.000	991.42840	1.169	7.16935	7.01482	7.04112
SE	1.000	267.61644	1.153	1.92744	1.91677	1.88510
SR	1.000	824964.66070	0.256	3.58337	3.56507	3.57345
TH	1.000	74.27085	4.536	0.00933	0.00852	0.00897
TL	1.000	608.60395	1.172	4.39304	4.34503	4.29133
W	1.000	1060.52395	0.844	0.15273	0.15117	0.15020
Y1	1.000	7006.44679	0.136	7010.86200	7012.98561	6995.49276
Y2A	1.000	230827.44207	0.357	229885.82186	231181.37842	231415.12592
Y2R	1.000	8308.76398	0.389	8302.06463	8343.86839	8280.35892
ZN	1.000	8367.46679	0.980	60.26812	59.76680	59.10160

LANCASTER LABORATORIES

Run Name: 1812311T72

Instrument ID: 16417

Tube: 4

Date/Time: 05/03/2018 23:54

Sample Number: **S3**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
CR	1.000	11021.81588	0.601	0.04599	0.04634	0.04580
MO	1.000	2583.78892	2.962	18.25508	18.26522	17.33919
SB	1.000	591.64202	2.913	0.08352	0.08368	0.07945
SN	1.000	761.43659	2.938	5.38432	5.37664	5.11130
TI	1.000	63677.47990	0.402	13.35322	13.30192	13.24623
V	1.000	16447.84870	0.129	3.43568	3.43981	3.43096
Y1	1.000	7198.03434	1.508	7120.80568	7151.18176	7322.11558
Y2A	1.000	239382.47359	0.345	239098.67503	238734.72500	240314.02074
Y2R	1.000	8575.68333	0.270	8597.57500	8551.47500	8578.00000
ZR	1.000	1410.58333	1.184	0.16343	0.16674	0.16330

LANCASTER LABORATORIES

Run Name: 1812311T72

Instrument ID: 16417

Tube: 5

Date/Time: 05/03/2018 23:57

Sample Number: **ICV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.62467	10,212.90	0.143	0.62403	0.62429	0.62570
____ AL	30.33681	1,984.87	0.161	30.34864	30.37856	30.28324
____ AS	0.61113	198.57	0.834	0.61696	0.60895	0.60750
____ B	0.57785	4,940.65	0.417	0.57716	0.58052	0.57586
____ BA	0.60857	439,008.06	0.528	0.60639	0.60706	0.61226
____ BE	0.58607	294,703.38	0.107	0.58583	0.58560	0.58678
____ CA	30.33053	15,668.04	0.442	30.18917	30.34686	30.45556
____ CD	0.60206	7,025.15	1.189	0.60931	0.60186	0.59499
____ CO	0.59663	3,149.81	0.979	0.60192	0.59760	0.59036
____ CR	0.59431	6,302.88	0.271	0.59395	0.59291	0.59607
____ CU	0.60848	8,566.26	0.416	0.60847	0.61102	0.60595
____ FE	30.08086	4,925.43	0.182	30.04188	30.05722	30.14347
____ K	30.22981	8,324.30	0.727	29.98297	30.30193	30.40455
____ LI	0.60610	4,160.40	0.713	0.60123	0.60948	0.60760
____ MG	30.42374	29,778.91	0.492	30.25392	30.53701	30.48028
____ MN	0.60629	43,466.33	0.127	0.60717	0.60571	0.60600
____ MO	0.59645	1,492.42	1.622	0.60742	0.59279	0.58914
____ NA	29.02085	23,852.43	0.360	28.90169	29.06415	29.09671
____ NI	0.60461	1,641.09	1.257	0.61228	0.60448	0.59708
____ P	0.61524	203.69	1.577	0.62563	0.61368	0.60642
____ PB	0.60097	603.57	0.785	0.60399	0.60340	0.59554
____ S	31.20095	4,975.13	0.972	31.50677	31.19569	30.90041
____ SB	0.62367	355.62	0.917	0.63023	0.62102	0.61975
____ SE	0.59962	160.28	1.571	0.61024	0.59226	0.59636
____ SI	30.95442	3,302.11	0.352	30.90752	30.87685	31.07888
____ SN	0.59532	440.16	1.195	0.60299	0.59403	0.58894
____ SR	0.60293	499,794.43	0.782	0.59950	0.60098	0.60830
____ TH	0.59282	44.87	10.538	0.57471	0.54140	0.66234
____ TI	0.61675	37,793.30	0.046	0.61698	0.61644	0.61685
____ TL	0.60008	362.77	2.279	0.61481	0.59764	0.58778
____ V	0.61016	9,684.36	0.129	0.61106	0.60958	0.60984
____ W	0.62760	662.97	1.214	0.63473	0.62851	0.61957
____ Y1	6967.12895	6,967.13	0.100	6961.59600	6964.83681	6974.95404
____ Y2A	230331.75142	230,331.75	0.497	231257.99361	230684.83247	229052.42820
____ Y2R	8327.73862	8,327.74	0.685	8384.87303	8327.58020	8270.76263
____ ZN	0.60489	5,056.61	1.209	0.61211	0.60509	0.59748
____ ZR	0.61805	891.79	0.533	0.62018	0.61426	0.61972

LANCASTER LABORATORIES

Run Name: 1812311T72

Instrument ID: 16417

Tube: 6

Date/Time: 05/04/2018 00:00

Sample Number: **ICB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00209	-24.06	8.427	-0.00229	-0.00198	-0.00199
____ AL	0.00183	20.52	2891.566	-0.03903	0.06164	-0.01712
____ AS	0.00113	-0.97	104.800	-0.00007	0.00117	0.00229
____ B	0.00122	8.22	76.114	0.00208	0.00023	0.00135
____ BA	0.00016	151.75	8.403	0.00017	0.00015	0.00016
____ BE	-0.00107	-823.99	0.523	-0.00106	-0.00107	-0.00106
____ CA	0.00511	15.28	210.389	-0.00379	0.00207	0.01705
____ CD	-0.00006	0.11	91.935	-0.00010	-0.00007	0.00000
____ CO	0.00012	4.90	256.221	0.00043	-0.00017	0.00008
____ CR	-0.00006	-0.27	599.507	0.00005	-0.00044	0.00022
____ CU	-0.00545	-66.66	22.726	-0.00568	-0.00411	-0.00656
____ FE	0.01283	1.78	174.880	0.03775	0.00651	-0.00577
____ K	0.03148	81.63	254.815	0.06887	-0.06061	0.08619
____ LI	-0.00419	-83.90	34.267	-0.00488	-0.00514	-0.00254
____ MG	0.00136	-0.98	247.180	0.00205	0.00433	-0.00229
____ MN	0.00016	38.46	28.093	0.00018	0.00011	0.00020
____ MO	-0.00042	-0.24	65.704	-0.00073	-0.00036	-0.00018
____ NA	0.02794	-5.38	60.285	0.01668	0.04731	0.01984
____ NI	0.00044	8.26	82.643	0.00005	0.00051	0.00076
____ P	-0.00177	0.04	137.191	-0.00051	-0.00457	-0.00023
____ PB	-0.00033	-4.01	172.737	-0.00043	-0.00085	0.00028
____ S	0.01210	2.30	47.458	0.01660	0.00563	0.01406
____ SB	0.00679	-0.45	10.272	0.00758	0.00653	0.00626
____ SE	0.00043	1.52	525.355	0.00240	-0.00201	0.00089
____ SI	0.00559	2.24	200.000	0.01311	0.01089	-0.00725
____ SN	-0.00141	2.20	62.966	-0.00080	-0.00243	-0.00101
____ SR	0.00010	-42.61	8.989	0.00010	0.00010	0.00009
____ TH	0.00272	-1.87	805.891	0.00539	-0.02041	0.02318
____ TI	0.00020	24.90	67.658	0.00006	0.00033	0.00022
____ TL	0.00098	1.86	164.170	0.00246	0.00119	-0.00072
____ V	-0.00169	-15.48	35.788	-0.00183	-0.00103	-0.00222
____ W	-0.00070	4.16	29.444	-0.00051	-0.00068	-0.00091
____ Y1	7170.15156	7,170.15	0.695	7227.68862	7141.29509	7141.47097
____ Y2A	233856.41155	233,856.41	0.061	233903.82505	233970.45455	233694.95504
____ Y2R	8352.78333	8,352.78	0.617	8294.92500	8369.70000	8393.72500
____ ZN	0.00014	0.78	11.620	0.00015	0.00012	0.00014
____ ZR	-0.00039	11.23	1141.727	0.00106	-0.00534	0.00311

LANCASTER LABORATORIES

Run Name: 1812311T72

Instrument ID: 16417

Tube: 7

Date/Time: 05/04/2018 00:03

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00255	6.57	33.767	0.00240	0.00348	0.00178
____ AL	0.12848	29.95	72.565	0.20980	0.02673	0.14892
____ AS	0.02019	5.44	20.380	0.01548	0.02307	0.02203
____ B	0.04718	379.50	0.427	0.04723	0.04736	0.04696
____ BA	0.00527	3,937.35	1.039	0.00527	0.00532	0.00521
____ BE	0.00404	1,806.62	1.922	0.00404	0.00412	0.00396
____ CA	0.21593	123.53	3.477	0.20728	0.22076	0.21975
____ CD	0.00503	60.55	1.796	0.00494	0.00503	0.00512
____ CO	0.00545	33.54	1.745	0.00535	0.00545	0.00554
____ CR	0.01506	164.49	1.015	0.01524	0.01496	0.01499
____ CU	0.00567	156.97	44.808	0.00515	0.00343	0.00843
____ FE	0.22920	37.87	6.122	0.21987	0.22239	0.24533
____ K	0.58291	233.32	12.322	0.66067	0.56898	0.51906
____ LI	0.01350	39.38	23.419	0.01427	0.01002	0.01621
____ MG	0.11377	110.17	3.825	0.11763	0.10906	0.11463
____ MN	0.00546	429.20	1.426	0.00543	0.00555	0.00541
____ MO	0.00924	24.39	3.342	0.00960	0.00910	0.00903
____ NA	1.00373	802.28	2.664	1.00368	1.03049	0.97702
____ NI	0.01036	35.53	2.723	0.01006	0.01043	0.01061
____ P	0.10071	34.50	2.057	0.09864	0.10071	0.10279
____ PB	0.01559	12.16	16.029	0.01602	0.01291	0.01785
____ S	0.51894	84.59	1.378	0.51734	0.52676	0.51273
____ SB	0.02558	10.65	12.945	0.02935	0.02315	0.02424
____ SE	0.02216	7.34	8.176	0.02397	0.02035	0.02217
____ SI	0.07573	9.86	24.482	0.05515	0.09112	0.08091
____ SN	0.01905	17.47	4.543	0.02005	0.01860	0.01851
____ SR	0.00533	4,412.18	0.631	0.00535	0.00536	0.00529
____ TH	0.18606	12.25	34.457	0.18245	0.25189	0.12383
____ TI	0.01051	674.00	1.928	0.01065	0.01060	0.01028
____ TL	0.03412	22.17	3.861	0.03515	0.03263	0.03456
____ V	0.00375	76.39	14.646	0.00427	0.00317	0.00382
____ W	0.00989	15.57	2.980	0.01018	0.00991	0.00959
____ Y1	7097.06805	7,097.07	0.227	7108.91576	7078.68292	7103.60548
____ Y2A	236722.27580	236,722.28	0.047	236666.76659	236648.40012	236851.66068
____ Y2R	8376.74167	8,376.74	0.208	8396.70000	8368.80000	8364.72500
____ ZN	0.02086	175.96	0.831	0.02070	0.02104	0.02084
____ ZR	0.04919	91.68	1.672	0.04923	0.04835	0.04999

LANCASTER LABORATORIES

Run Name: 1812311T72 Instrument ID: 16417

Tube: 8 Date/Time: 05/04/2018 00:06

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00181	-39.46	29.666	-0.00229	-0.00123	-0.00189
____ AL	514.95884	31,608.85	0.222	513.73253	515.15386	515.99014
____ AS	0.00197	-15.55	121.043	0.00026	0.00096	0.00468
____ B	-0.02131	2,755.94	8.927	-0.02148	-0.02312	-0.01933
____ BA	0.00077	552.95	6.519	0.00077	0.00082	0.00072
____ BE	-0.00138	-906.75	1.307	-0.00138	-0.00136	-0.00140
____ CA	499.61734	242,877.08	0.611	499.06103	502.90793	496.88306
____ CD	0.00020	153.33	184.213	0.00053	0.00028	-0.00020
____ CO	0.00005	4.04	673.404	-0.00027	0.00042	0.00000
____ CR	-0.00209	-20.41	20.353	-0.00185	-0.00183	-0.00258
____ CU	-0.00587	107.05	15.062	-0.00612	-0.00661	-0.00489
____ FE	200.95331	29,824.00	0.267	200.33624	201.31120	201.21249
____ K	0.07035	89.53	50.256	0.05720	0.04346	0.11039
____ LI	-0.00791	-59.03	46.822	-0.00606	-0.01218	-0.00549
____ MG	500.77821	446,539.84	0.701	497.12223	504.12271	501.08971
____ MN	0.00432	314.35	2.123	0.00438	0.00421	0.00436
____ MO	-0.00323	-6.66	4.865	-0.00312	-0.00341	-0.00315
____ NA	0.02435	-8.09	53.105	0.03921	0.01821	0.01564
____ NI	-0.00649	-27.90	10.140	-0.00722	-0.00596	-0.00628
____ P	0.01480	5.06	34.044	0.01556	0.00942	0.01941
____ PB	0.00314	81.36	52.424	0.00277	0.00494	0.00171
____ S	0.07458	11.18	8.874	0.07696	0.07969	0.06711
____ SB	0.00660	-1.08	121.354	0.00948	-0.00245	0.01275
____ SE	-0.00439	0.79	112.828	-0.00248	-0.01002	-0.00068
____ SI	-0.00761	0.89	202.154	-0.01199	-0.02032	0.00949
____ SN	0.00806	8.36	42.343	0.00547	0.00679	0.01193
____ SR	-0.00217	20,286.96	7.440	-0.00199	-0.00222	-0.00230
____ TH	0.04973	12.02	39.504	0.03425	0.07183	0.04311
____ TI	-0.00085	-37.29	26.988	-0.00106	-0.00060	-0.00088
____ TL	0.00637	4.65	40.453	0.00339	0.00778	0.00793
____ V	-0.00482	-17.40	9.934	-0.00464	-0.00445	-0.00536
____ W	0.01127	15.22	24.248	0.01023	0.00921	0.01437
____ Y1	6409.83173	6,409.83	0.077	6404.22482	6411.88979	6413.38059
____ Y2A	215697.12888	215,697.13	0.138	215354.34565	215843.15000	215893.89100
____ Y2R	8102.51263	8,102.51	0.409	8138.43656	8073.14149	8095.95985
____ ZN	0.00674	196.72	9.548	0.00747	0.00646	0.00628
____ ZR	0.00167	16.77	162.202	0.00460	-0.00075	0.00116

LANCASTER LABORATORIES

Run Name: 1812311T72 Instrument ID: 16417

Tube: 9 Date/Time: 05/04/2018 00:10

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.21103	3,217.61	1.052	0.21342	0.21064	0.20903
____ AL	515.78999	31,058.90	0.200	514.68315	516.72996	515.95686
____ AS	0.09931	14.05	7.985	0.09784	0.10787	0.09221
____ B	-0.01320	2,770.43	66.681	-0.00335	-0.02029	-0.01596
____ BA	0.49674	330,392.27	0.697	0.49307	0.49994	0.49720
____ BE	0.47703	221,109.07	0.793	0.48139	0.47512	0.47459
____ CA	504.67575	240,602.99	0.605	502.83643	508.20049	502.99033
____ CD	0.91338	9,953.75	0.349	0.91701	0.91213	0.91101
____ CO	0.46285	2,252.87	0.480	0.46512	0.46068	0.46277
____ CR	0.46996	4,595.20	0.541	0.47279	0.46922	0.46786
____ CU	0.52800	6,864.15	0.376	0.53029	0.52673	0.52699
____ FE	200.86871	29,248.28	0.211	200.39297	201.20771	201.00546
____ K	0.07866	89.95	69.576	0.03960	0.14121	0.05516
____ LI	-0.00292	-24.87	74.599	-0.00102	-0.00244	-0.00529
____ MG	505.70214	442,073.65	0.997	504.07709	511.35745	501.67187
____ MN	0.47494	31,397.18	0.696	0.47836	0.47469	0.47177
____ MO	-0.00377	-7.93	23.173	-0.00365	-0.00469	-0.00296
____ NA	0.01717	-13.64	76.985	0.00629	0.03187	0.01334
____ NI	0.91014	2,263.03	0.485	0.91373	0.90521	0.91147
____ P	0.01307	4.55	25.794	0.01396	0.00934	0.01590
____ PB	0.51474	548.81	1.016	0.51985	0.51498	0.50940
____ S	0.08315	12.50	10.334	0.08253	0.09204	0.07488
____ SB	0.60620	321.43	0.752	0.61020	0.60716	0.60124
____ SE	0.49961	122.74	0.694	0.50328	0.49915	0.49639
____ SI	-0.00234	1.36	693.531	-0.01803	0.01442	-0.00342
____ SN	0.00970	9.50	8.472	0.01064	0.00913	0.00934
____ SR	-0.00200	20,093.84	10.095	-0.00178	-0.00204	-0.00218
____ TH	-0.00229	8.00	1267.947	0.02936	-0.02754	-0.00868
____ TI	-0.00055	-19.99	15.983	-0.00058	-0.00045	-0.00063
____ TL	0.09724	55.97	3.191	0.09640	0.10068	0.09465
____ V	0.49274	7,328.23	0.700	0.49624	0.49263	0.48935
____ W	0.00497	20.24	29.888	0.00642	0.00346	0.00502
____ Y1	6430.77013	6,430.77	0.106	6429.69824	6424.52566	6438.08649
____ Y2A	212358.84210	212,358.84	0.431	211311.47827	213001.64802	212763.40000
____ Y2R	7949.14866	7,949.15	0.522	7979.60710	7901.91388	7965.92500
____ ZN	0.97479	7,624.35	0.227	0.97565	0.97644	0.97228
____ ZR	0.00476	17.03	26.816	0.00339	0.00497	0.00591

LANCASTER LABORATORIES

Run Name: 1812311T72

Instrument ID: 16417

Tube: 10

Date/Time: 05/04/2018 00:13

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.50758	8,326.46	0.331	0.50845	0.50564	0.50864
____ AL	25.36043	1,645.00	0.048	25.34635	25.36749	25.36744
____ AS	0.51157	166.37	0.526	0.51064	0.51460	0.50946
____ B	0.47917	4,109.53	0.323	0.47868	0.47792	0.48090
____ BA	0.50335	364,001.68	0.921	0.50812	0.50306	0.49887
____ BE	0.48769	245,785.43	0.308	0.48942	0.48668	0.48696
____ CA	25.33282	12,952.39	0.914	25.24713	25.15643	25.59491
____ CD	0.50931	5,955.46	0.460	0.51079	0.51054	0.50661
____ CO	0.50885	2,692.61	0.593	0.51147	0.50953	0.50555
____ CR	0.49622	5,275.58	0.513	0.49851	0.49669	0.49348
____ CU	0.50813	7,161.91	0.620	0.51171	0.50583	0.50683
____ FE	25.10801	4,074.92	1.020	24.86644	25.08092	25.37666
____ K	25.15801	6,865.53	0.488	25.02977	25.16984	25.27443
____ LI	0.50677	3,432.42	0.666	0.50299	0.50949	0.50784
____ MG	25.31209	24,525.53	0.990	25.17445	25.16051	25.60131
____ MN	0.50570	36,347.35	0.150	0.50649	0.50563	0.50498
____ MO	0.50153	1,257.71	0.373	0.50240	0.50281	0.49938
____ NA	24.98075	20,307.07	0.851	24.85475	24.86128	25.22623
____ NI	0.50893	1,385.43	0.328	0.51015	0.50962	0.50703
____ P	0.51300	170.31	0.844	0.51359	0.51700	0.50841
____ PB	0.50488	507.49	0.544	0.50755	0.50206	0.50504
____ S	25.35920	4,052.25	0.165	25.31566	25.39896	25.36299
____ SB	0.50547	287.92	0.444	0.50290	0.50645	0.50707
____ SE	0.51167	137.20	1.504	0.52048	0.50628	0.50824
____ SI	25.41393	2,682.09	1.407	25.16242	25.25607	25.82330
____ SN	0.49550	367.67	0.592	0.49845	0.49547	0.49259
____ SR	0.49868	414,396.65	1.271	0.50567	0.49704	0.49332
____ TH	0.46566	34.49	8.534	0.44065	0.44485	0.51149
____ TI	0.51116	31,401.50	0.260	0.51269	0.51031	0.51048
____ TL	0.50973	309.02	0.951	0.51323	0.51176	0.50419
____ V	0.50735	8,072.38	0.416	0.50966	0.50687	0.50552
____ W	0.51321	544.38	0.615	0.51577	0.50968	0.51418
____ Y1	6981.86695	6,981.87	0.157	6990.65561	6969.61270	6985.33253
____ Y2A	230895.17234	230,895.17	0.168	230459.45743	231019.44222	231206.61735
____ Y2R	8238.47304	8,238.47	0.986	8306.60048	8260.23610	8148.58255
____ ZN	0.51248	4,292.61	0.363	0.51368	0.51343	0.51034
____ ZR	0.51577	736.14	0.547	0.51879	0.51320	0.51531

LANCASTER LABORATORIES

Run Name: 1812311T72 Instrument ID: 16417

Tube: 11 Date/Time: 05/04/2018 00:16

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00252	-25.25	55.695	-0.00090	-0.00325	-0.00341
____ AL	0.01866	21.00	256.403	0.03693	-0.03563	0.05467
____ AS	-0.00044	-1.47	636.237	-0.00261	0.00268	-0.00137
____ B	0.00090	5.46	21.151	0.00104	0.00068	0.00099
____ BA	0.00011	116.50	33.071	0.00007	0.00015	0.00012
____ BE	-0.00110	-836.44	1.869	-0.00112	-0.00111	-0.00108
____ CA	0.03548	30.50	21.605	0.03788	0.02690	0.04165
____ CD	-0.00027	-2.43	20.742	-0.00022	-0.00027	-0.00033
____ CO	0.00029	5.70	138.596	-0.00007	0.00021	0.00071
____ CR	-0.00010	-0.73	363.433	-0.00004	0.00023	-0.00049
____ CU	-0.00450	-60.60	25.435	-0.00533	-0.00320	-0.00498
____ FE	0.00311	0.18	203.200	0.00845	0.00476	-0.00387
____ K	0.08883	95.25	34.175	0.06153	0.12153	0.08345
____ LI	-0.00542	-90.60	54.203	-0.00568	-0.00822	-0.00236
____ MG	0.03494	31.45	17.109	0.04015	0.03625	0.02841
____ MN	0.00003	28.82	48.755	0.00002	0.00005	0.00003
____ MO	-0.00018	0.37	121.106	-0.00031	-0.00032	0.00007
____ NA	0.00816	-21.25	269.453	-0.01474	0.02913	0.01010
____ NI	0.00002	6.95	6512.056	0.00100	0.00000	-0.00096
____ P	-0.00136	0.17	161.739	-0.00386	0.00031	-0.00054
____ PB	0.00275	-0.87	48.695	0.00389	0.00308	0.00128
____ S	0.01063	2.01	19.716	0.00835	0.01107	0.01247
____ SB	0.00706	-0.29	18.321	0.00787	0.00557	0.00774
____ SE	-0.00192	0.87	79.433	-0.00016	-0.00291	-0.00270
____ SI	-0.01497	0.06	94.570	-0.00805	-0.00560	-0.03125
____ SN	-0.00081	2.60	83.049	-0.00155	-0.00024	-0.00063
____ SR	0.00007	-67.62	12.276	0.00006	0.00007	0.00008
____ TH	-0.01802	-3.38	227.076	0.02772	-0.05114	-0.03063
____ TI	0.00024	26.73	22.616	0.00029	0.00019	0.00023
____ TL	0.00116	1.93	134.854	-0.00064	0.00194	0.00217
____ V	-0.00168	-15.64	5.094	-0.00173	-0.00173	-0.00158
____ W	0.00000	4.82	4898.839	-0.00015	0.00000	0.00017
____ Y1	7040.08396	7,040.08	0.417	7046.77925	7007.94649	7065.52613
____ Y2A	231882.37340	231,882.37	0.802	231037.80172	230595.22977	234014.08873
____ Y2R	8171.48333	8,171.48	0.652	8192.37500	8211.17500	8110.90000
____ ZN	0.00031	2.18	38.050	0.00028	0.00044	0.00021
____ ZR	-0.00087	8.93	772.248	-0.00863	0.00291	0.00311

LANCASTER LABORATORIES

Run Name: 1812311T72 Instrument ID: 16417

Tube: 12 Date/Time: 05/04/2018 00:19

Sample Number: **PBW** Class: **** Batch: 181130184807

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	-0.00320	-36.30	17.337	-0.00288	-0.00288	-0.00384
____ AL	-0.00068	20.32	4998.719	-0.03762	0.00608	0.02949
____ AS	-0.00390	-2.66	104.878	-0.00063	-0.00849	-0.00259
____ B	0.00083	4.94	13.608	0.00094	0.00082	0.00072
____ BA	0.00006	80.96	10.878	0.00007	0.00006	0.00007
____ BE	-0.00119	-895.43	2.913	-0.00115	-0.00121	-0.00120
____ CA	0.01159	18.90	82.556	0.00436	0.02244	0.00798
____ CD	-0.00031	-2.85	32.707	-0.00039	-0.00032	-0.00020
____ CO	0.00024	5.51	211.564	0.00076	-0.00022	0.00016
____ CR	0.00026	3.23	188.424	0.00083	-0.00008	0.00004
____ CU	-0.00430	-59.23	28.719	-0.00560	-0.00414	-0.00315
____ FE	0.00143	-0.10	721.872	0.01161	0.00171	-0.00903
____ K	0.01803	78.35	654.513	0.12532	-0.10832	0.03707
____ LI	-0.00764	-108.53	9.690	-0.00793	-0.00680	-0.00819
____ MG	0.01369	11.23	4.150	0.01322	0.01432	0.01352
____ MN	0.00016	38.38	30.338	0.00021	0.00013	0.00013
____ MO	-0.00056	-0.57	122.801	-0.00057	-0.00123	0.00013
____ NA	0.02303	-9.50	81.159	0.03558	0.00155	0.03197
____ NI	-0.00013	6.64	397.169	-0.00029	-0.00056	0.00045
____ P	-0.00262	-0.25	51.389	-0.00141	-0.00407	-0.00238
____ PB	0.00224	-1.40	96.534	-0.00025	0.00330	0.00365
____ S	0.00489	1.11	63.903	0.00311	0.00306	0.00850
____ SB	0.00466	-1.72	57.446	0.00247	0.00764	0.00386
____ SE	-0.00463	0.16	46.594	-0.00543	-0.00628	-0.00219
____ SI	0.02182	4.00	52.693	0.03257	0.02320	0.00969
____ SN	-0.00134	2.23	103.008	-0.00268	0.00008	-0.00143
____ SR	0.00004	-95.09	77.342	0.00001	0.00004	0.00007
____ TH	-0.01933	-3.58	189.785	0.01081	-0.00863	-0.06018
____ TI	0.00015	22.02	34.468	0.00021	0.00012	0.00012
____ TL	-0.00062	0.87	56.733	-0.00050	-0.00101	-0.00034
____ V	-0.00159	-14.31	8.808	-0.00143	-0.00171	-0.00162
____ W	-0.00039	4.48	335.230	-0.00098	-0.00129	0.00111
____ Y1	7143.02499	7,143.02	0.416	7139.37107	7115.32195	7174.38193
____ Y2A	236012.86971	236,012.87	0.406	237110.70857	235335.76770	235592.13287
____ Y2R	8394.54167	8,394.54	0.270	8376.75000	8386.82500	8420.05000
____ ZN	0.00056	4.33	21.939	0.00061	0.00065	0.00042
____ ZR	0.00309	14.52	47.075	0.00296	0.00170	0.00460

LANCASTER LABORATORIES

Run Name: 1812311T72 Instrument ID: 16417

Tube: 13 Date/Time: 05/04/2018 00:22

Sample Number: **PBW** Class: **** Batch: 181130184807

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	-0.00282	-30.54	37.057	-0.00281	-0.00177	-0.00386
____ AL	0.03767	22.85	60.446	0.01969	0.03005	0.06327
____ AS	-0.00118	-1.73	206.368	-0.00324	-0.00181	0.00151
____ B	0.00073	4.09	106.725	0.00104	-0.00016	0.00130
____ BA	0.00004	62.96	88.312	0.00008	0.00003	0.00001
____ BE	-0.00115	-872.03	1.562	-0.00115	-0.00114	-0.00117
____ CA	0.00053	13.12	1780.474	-0.00749	0.01097	-0.00188
____ CD	0.00003	1.08	1291.722	-0.00033	0.00033	0.00008
____ CO	0.00031	5.87	38.991	0.00043	0.00019	0.00030
____ CR	0.00010	1.42	86.635	0.00000	0.00017	0.00012
____ CU	-0.00434	-58.58	22.629	-0.00461	-0.00515	-0.00325
____ FE	-0.00195	-0.65	1202.056	0.01508	0.00770	-0.02862
____ K	0.07869	95.12	39.754	0.04515	0.08385	0.10707
____ LI	-0.00361	-80.48	68.003	-0.00512	-0.00494	-0.00078
____ MG	0.00362	1.27	93.446	0.00541	0.00574	-0.00028
____ MN	0.00005	30.07	155.648	-0.00004	0.00009	0.00009
____ MO	-0.00008	0.64	207.143	-0.00011	0.00010	-0.00023
____ NA	0.02020	-11.85	65.762	0.02390	0.03123	0.00546
____ NI	0.00022	7.57	195.862	-0.00026	0.00035	0.00057
____ P	-0.00262	-0.25	107.215	-0.00580	-0.00054	-0.00150
____ PB	0.00228	-1.35	58.681	0.00303	0.00308	0.00074
____ S	0.01617	2.93	53.937	0.01157	0.02624	0.01072
____ SB	0.00485	-1.60	65.137	0.00148	0.00533	0.00775
____ SE	0.00073	1.58	586.721	-0.00098	0.00558	-0.00242
____ SI	0.01355	3.11	17.996	0.01073	0.01498	0.01492
____ SN	-0.00110	2.41	16.390	-0.00108	-0.00128	-0.00092
____ SR	0.00002	-113.63	96.189	0.00001	0.00003	0.00001
____ TH	-0.01702	-3.40	193.173	-0.01156	0.01279	-0.05228
____ TI	0.00010	18.39	133.529	-0.00002	0.00024	0.00007
____ TL	-0.00111	0.55	86.008	-0.00068	-0.00045	-0.00221
____ V	-0.00148	-12.60	22.758	-0.00152	-0.00180	-0.00113
____ W	-0.00092	3.89	51.449	-0.00084	-0.00144	-0.00050
____ Y1	7100.21010	7,100.21	0.407	7099.88008	7071.49795	7129.25227
____ Y2A	234681.24206	234,681.24	0.241	235284.43547	234598.47652	234160.81419
____ Y2R	8403.50833	8,403.51	0.562	8456.35000	8388.77500	8365.40000
____ ZN	0.00092	7.32	34.816	0.00069	0.00128	0.00077
____ ZR	0.00104	11.88	399.983	-0.00051	0.00573	-0.00211

LANCASTER LABORATORIES

Run Name: 1812311T72 Instrument ID: 16417

Tube: 14 Date/Time: 05/04/2018 00:26

Sample Number: **LCSW** Class: **** Batch: 181130184807

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	0.05019	967.05	1.180	0.05077	0.05023	0.04958
____ AL	2.08671	159.34	1.969	2.12093	2.09807	2.04114
____ AS	0.14979	51.14	2.517	0.15184	0.15210	0.14544
____ B	1.85225	14,849.31	0.610	1.86188	1.85506	1.83980
____ BA	2.05009	1,519,296.46	0.550	2.04812	2.06222	2.03993
____ BE	0.04824	24,203.98	0.478	0.04840	0.04833	0.04797
____ CA	4.17577	2,189.36	0.923	4.18304	4.21018	4.13410
____ CD	0.05191	616.66	1.444	0.05236	0.05233	0.05105
____ CO	0.52691	2,842.77	0.822	0.52959	0.52923	0.52191
____ CR	0.20522	2,236.19	0.832	0.20716	0.20455	0.20395
____ CU	0.26013	3,580.02	0.602	0.26185	0.25880	0.25973
____ FE	1.03251	172.04	0.757	1.02408	1.03395	1.03951
____ K	10.09796	2,851.27	0.638	10.16947	10.04429	10.08012
____ LI	1.01578	7,052.14	0.239	1.01813	1.01327	1.01594
____ MG	2.10492	2,082.19	0.722	2.11485	2.11248	2.08742
____ MN	0.51754	38,122.10	0.519	0.52036	0.51724	0.51501
____ MO	2.02970	5,173.21	0.377	2.03337	2.03483	2.02091
____ NA	10.05448	8,309.69	0.089	10.06384	10.04613	10.05348
____ NI	0.53785	1,490.94	0.564	0.53867	0.54038	0.53449
____ P	1.01975	343.62	1.074	1.02180	1.02954	1.00792
____ PB	0.16266	157.04	1.441	0.16011	0.16471	0.16317
____ S	1.05115	171.17	0.479	1.05332	1.05472	1.04540
____ SB	0.53644	301.72	0.454	0.53398	0.53885	0.53648
____ SE	0.15071	41.65	3.023	0.15589	0.14730	0.14895
____ SI	1.09416	122.58	0.837	1.10327	1.09424	1.08496
____ SN	4.02607	3,014.76	0.559	4.03366	4.04379	4.00075
____ SR	1.02828	869,749.34	1.080	1.04008	1.02675	1.01802
____ TH	0.01428	-0.93	226.937	-0.02214	0.03994	0.02505
____ TI	1.02948	64,801.58	0.660	1.03645	1.02911	1.02288
____ TL	0.15525	97.47	0.677	0.15591	0.15580	0.15404
____ V	0.51101	7,991.11	0.389	0.51318	0.51058	0.50928
____ W	-0.00336	7.90	15.048	-0.00345	-0.00381	-0.00281
____ Y1	7099.56009	7,099.56	0.207	7102.37600	7083.68121	7112.62307
____ Y2A	236637.11966	236,637.12	0.544	235647.95613	236171.52847	238091.87438
____ Y2R	8392.65022	8,392.65	0.081	8387.08391	8390.67179	8400.19496
____ ZN	0.52668	4,462.88	0.505	0.52811	0.52832	0.52361
____ ZR	1.02972	1,422.17	0.786	1.03720	1.02113	1.03082

LANCASTER LABORATORIES

Run Name: 1812311T72 Instrument ID: 16417

Tube: 15 Date/Time: 05/04/2018 00:29

Sample Number: **9570349** Class: U*** Batch: 181130184807

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	-0.00219	-28.52	22.150	-0.00240	-0.00164	-0.00254
____ AL	0.42730	48.78	9.713	0.38716	0.42468	0.47004
____ AS	-0.00146	-1.88	144.323	0.00097	-0.00261	-0.00273
____ B	0.11310	905.43	0.172	0.11316	0.11326	0.11288
____ BA	0.11914	87,302.40	0.223	0.11921	0.11885	0.11937
____ BE	-0.00110	-842.38	3.555	-0.00114	-0.00109	-0.00106
____ CA	31.17315	16,357.76	0.441	31.20644	31.29083	31.02219
____ CD	-0.00007	0.54	119.034	-0.00016	-0.00007	0.00001
____ CO	0.02635	144.12	1.029	0.02663	0.02632	0.02609
____ CR	0.00154	16.90	32.835	0.00119	0.00130	0.00212
____ CU	-0.00365	-39.20	20.398	-0.00371	-0.00436	-0.00288
____ FE	0.74957	125.78	1.653	0.76317	0.73891	0.74663
____ K	3.78714	1,123.75	2.589	3.85195	3.83512	3.67434
____ LI	-0.00116	-63.45	131.720	-0.00167	-0.00238	0.00056
____ MG	17.68785	17,611.94	0.539	17.72790	17.75666	17.57901
____ MN	1.66944	121,484.27	0.426	1.67547	1.67124	1.66161
____ MO	0.00040	1.86	147.640	0.00048	0.00095	-0.00023
____ NA	73.65357	61,523.32	0.490	73.59730	74.03953	73.32389
____ NI	0.00791	28.57	3.177	0.00764	0.00814	0.00794
____ P	0.00576	2.56	18.585	0.00589	0.00463	0.00677
____ PB	0.00237	-0.90	1.578	0.00235	0.00241	0.00234
____ S	16.38164	2,650.91	1.462	16.56853	16.46469	16.11171
____ SB	0.00658	-0.58	33.619	0.00629	0.00452	0.00892
____ SE	0.00243	2.03	136.115	-0.00095	0.00566	0.00257
____ SI	12.17988	1,318.21	0.761	12.21251	12.25179	12.07533
____ SN	0.00069	3.72	79.533	0.00112	0.00088	0.00007
____ SR	0.26693	223,122.49	0.102	0.26712	0.26705	0.26662
____ TH	0.01056	-1.25	273.279	0.01045	0.03945	-0.01824
____ TI	0.01383	872.90	3.691	0.01354	0.01354	0.01442
____ TL	0.00118	1.66	119.729	-0.00007	0.00089	0.00271
____ V	-0.00023	8.70	176.910	-0.00016	-0.00066	0.00013
____ W	-0.00120	3.62	96.199	-0.00029	-0.00081	-0.00249
____ Y1	7066.45640	7,066.46	0.207	7075.41870	7049.54568	7074.40480
____ Y2A	233886.50833	233,886.51	0.359	232981.95000	234037.35000	234640.22500
____ Y2R	8457.39203	8,457.39	0.401	8459.45000	8422.50849	8490.21761
____ ZN	0.01530	128.75	1.779	0.01537	0.01552	0.01499
____ ZR	-0.00014	12.27	2681.285	-0.00225	-0.00235	0.00418

LANCASTER LABORATORIES

Run Name: 1812311T72 Instrument ID: 16417

Tube: 16 Date/Time: 05/04/2018 00:32

Sample Number: **9570349** Class: DP** Batch: 181130184807

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	0.01894	404.47	2.361	0.01928	0.01910	0.01844
____ AL	1.45936	116.87	2.479	1.43561	1.44147	1.50100
____ AS	0.50128	164.76	1.309	0.50628	0.50371	0.49386
____ B	0.29151	2,295.23	0.559	0.29200	0.28970	0.29284
____ BA	0.16573	119,879.93	0.204	0.16536	0.16602	0.16581
____ BE	0.01781	8,634.30	0.200	0.01777	0.01784	0.01782
____ CA	31.48924	16,472.59	0.411	31.52410	31.59779	31.34584
____ CD	0.04878	570.70	0.274	0.04891	0.04865	0.04877
____ CO	0.12404	659.59	1.344	0.12551	0.12437	0.12223
____ CR	0.19453	2,068.45	0.485	0.19347	0.19529	0.19481
____ CU	0.49013	6,787.42	0.315	0.48888	0.49186	0.48966
____ FE	1.19933	200.81	1.048	1.19689	1.18816	1.21294
____ K	5.68151	1,643.94	0.801	5.67123	5.73128	5.64201
____ LI	0.98710	6,883.39	0.363	0.98688	0.98364	0.99079
____ MG	18.17840	18,044.43	0.315	18.16680	18.24050	18.12790
____ MN	1.69109	121,494.92	0.256	1.68626	1.69461	1.69240
____ MO	0.19603	492.64	1.226	0.19802	0.19669	0.19336
____ NA	73.68095	61,359.80	0.209	73.63740	73.85236	73.55310
____ NI	0.15592	430.31	1.462	0.15803	0.15622	0.15350
____ P	1.00598	333.74	0.767	1.00870	1.01198	0.99727
____ PB	0.49356	486.51	0.738	0.49683	0.49422	0.48964
____ S	17.15139	2,745.25	0.963	17.26999	17.22138	16.96279
____ SB	0.39102	222.88	0.185	0.39139	0.39148	0.39019
____ SE	0.76553	202.72	1.021	0.76172	0.77452	0.76036
____ SI	12.89095	1,391.20	0.343	12.86932	12.94183	12.86169
____ SN	0.58488	433.90	1.182	0.58985	0.58781	0.57699
____ SR	0.27936	230,594.10	0.244	0.27857	0.27970	0.27980
____ TH	0.07018	3.40	17.908	0.06675	0.05968	0.08411
____ TI	0.11321	6,964.37	0.112	0.11310	0.11335	0.11317
____ TL	1.00457	607.87	0.610	1.00874	1.00745	0.99754
____ V	0.09869	1,557.75	0.299	0.09842	0.09864	0.09900
____ W	-0.00030	5.95	249.317	-0.00030	-0.00103	0.00045
____ Y1	6989.47758	6,989.48	0.219	7007.14029	6981.30044	6979.99201
____ Y2A	230912.32500	230,912.33	0.332	231757.02500	230261.55000	230718.40000
____ Y2R	8431.66695	8,431.67	0.030	8434.21053	8431.59625	8429.19406
____ ZN	0.13235	1,111.49	0.862	0.13289	0.13312	0.13104
____ ZR	0.97614	1,359.00	0.285	0.97761	0.97789	0.97293

LANCASTER LABORATORIES

Run Name: 1812311T72 Instrument ID: 16417

Tube: 17 Date/Time: 05/04/2018 00:35

Sample Number: **9570349** Class: D*** Batch: 181130184807

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	-0.00293	-25.33	17.800	-0.00233	-0.00326	-0.00320
____ AL	0.44525	49.36	21.537	0.40108	0.37940	0.55526
____ AS	0.00062	-1.18	598.308	0.00259	-0.00364	0.00290
____ B	0.11053	879.66	0.280	0.11063	0.11078	0.11018
____ BA	0.11809	86,000.71	0.217	0.11807	0.11836	0.11785
____ BE	-0.00113	-854.57	0.828	-0.00112	-0.00114	-0.00113
____ CA	31.15396	16,260.23	0.424	31.15596	31.02089	31.28502
____ CD	-0.00003	1.04	1036.030	-0.00001	0.00026	-0.00034
____ CO	0.02648	143.86	2.662	0.02668	0.02706	0.02569
____ CR	0.00147	16.03	17.846	0.00176	0.00128	0.00135
____ CU	-0.00213	-37.32	13.279	-0.00245	-0.00201	-0.00192
____ FE	0.74946	125.08	1.848	0.74342	0.73965	0.76530
____ K	3.81551	1,125.57	0.901	3.80263	3.78942	3.85448
____ LI	-0.00194	-68.57	84.053	-0.00011	-0.00245	-0.00325
____ MG	17.55665	17,387.60	0.309	17.60987	17.50135	17.55873
____ MN	1.66452	120,384.67	0.429	1.67150	1.66484	1.65722
____ MO	-0.00049	-0.40	32.147	-0.00033	-0.00064	-0.00051
____ NA	73.22262	60,834.32	0.374	73.10606	73.02663	73.53517
____ NI	0.00782	28.14	5.252	0.00787	0.00820	0.00738
____ P	0.00836	3.41	7.462	0.00885	0.00766	0.00857
____ PB	0.00401	0.74	49.008	0.00597	0.00401	0.00204
____ S	16.39130	2,634.94	0.793	16.50443	16.42017	16.24929
____ SB	0.00568	-1.09	4.783	0.00554	0.00551	0.00600
____ SE	-0.00172	0.92	48.513	-0.00250	-0.00184	-0.00084
____ SI	12.14174	1,307.04	0.144	12.13112	12.16194	12.13216
____ SN	0.00134	4.18	98.515	0.00281	0.00094	0.00026
____ SR	0.26538	220,467.83	0.261	0.26572	0.26583	0.26458
____ TH	-0.04305	-5.38	35.020	-0.03166	-0.03734	-0.06014
____ TI	0.01414	886.29	1.247	0.01398	0.01411	0.01433
____ TL	-0.00017	0.83	1761.064	0.00089	-0.00355	0.00215
____ V	-0.00054	2.49	55.472	-0.00023	-0.00056	-0.00083
____ W	-0.00077	4.04	55.389	-0.00098	-0.00106	-0.00028
____ Y1	7019.69766	7,019.70	0.162	7031.41972	7008.76362	7018.90964
____ Y2A	232453.21661	232,453.22	0.229	231850.86671	232862.07758	232646.70554
____ Y2R	8411.82151	8,411.82	0.076	8408.50490	8419.20427	8407.75535
____ ZN	0.01539	128.67	2.149	0.01577	0.01523	0.01516
____ ZR	0.00135	10.51	293.965	0.00036	-0.00202	0.00570

LANCASTER LABORATORIES

Run Name: 1812311T72 Instrument ID: 16417

Tube: 18 Date/Time: 05/04/2018 00:38

Sample Number: **9570349** Class: R*** Batch: 181130184807

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	0.05047	941.34	0.514	0.05039	0.05076	0.05026
____ AL	2.97485	216.80	2.730	2.90253	2.95929	3.06272
____ AS	0.14966	50.27	1.520	0.15218	0.14907	0.14775
____ B	1.98636	15,542.58	0.494	1.99162	1.99243	1.97503
____ BA	2.13450	1,542,733.83	0.774	2.14776	2.13975	2.11599
____ BE	0.04808	23,530.20	0.356	0.04823	0.04813	0.04789
____ CA	35.66037	18,518.10	0.802	35.88788	35.33924	35.75399
____ CD	0.04996	585.85	2.628	0.05069	0.05075	0.04844
____ CO	0.53045	2,820.72	2.568	0.53917	0.53742	0.51476
____ CR	0.20375	2,165.34	0.346	0.20447	0.20371	0.20307
____ CU	0.25805	3,469.79	0.510	0.25889	0.25873	0.25654
____ FE	1.84885	307.51	0.722	1.85502	1.85801	1.83353
____ K	14.15061	3,956.85	0.892	14.26860	14.01755	14.16567
____ LI	1.02918	7,129.35	0.641	1.03495	1.02198	1.03060
____ MG	19.77367	19,487.44	0.300	19.82976	19.71173	19.77952
____ MN	2.17226	155,972.38	0.338	2.17808	2.17468	2.16401
____ MO	1.99141	5,004.18	2.596	2.01801	2.02440	1.93183
____ NA	84.65728	70,014.53	0.402	84.97019	84.29452	84.70712
____ NI	0.51847	1,417.20	2.284	0.52504	0.52558	0.50480
____ P	1.02513	340.58	2.192	1.04093	1.03507	0.99941
____ PB	0.15564	148.30	1.040	0.15706	0.15597	0.15388
____ S	17.34929	2,780.98	2.141	17.57351	17.55391	16.92046
____ SB	0.52491	290.97	2.166	0.53001	0.53283	0.51189
____ SE	0.14752	40.23	1.980	0.15050	0.14739	0.14466
____ SI	13.88364	1,490.94	0.702	13.99614	13.82535	13.82943
____ SN	3.96583	2,927.86	2.884	4.03009	4.03363	3.83375
____ SR	1.27083	1,048,437.15	0.996	1.27390	1.28168	1.25692
____ TH	0.03292	0.55	34.824	0.02254	0.04523	0.03101
____ TI	1.04282	64,019.91	0.418	1.04755	1.04198	1.03895
____ TL	0.15060	92.94	2.368	0.15359	0.15157	0.14666
____ V	0.50903	7,770.76	0.412	0.51120	0.50888	0.50701
____ W	-0.00305	7.89	3.684	-0.00299	-0.00318	-0.00298
____ Y1	7000.51849	7,000.52	0.778	6979.22216	6959.90204	7062.43127
____ Y2A	230789.21306	230,789.21	0.569	230159.39681	229908.54146	232299.70090
____ Y2R	8373.05170	8,373.05	0.243	8375.37418	8392.17157	8351.60936
____ ZN	0.52032	4,347.05	2.330	0.52763	0.52700	0.50633
____ ZR	1.02173	1,409.23	0.342	1.02531	1.02156	1.01832

LANCASTER LABORATORIES

Run Name: 1812311T72 Instrument ID: 16417

Tube: 19 Date/Time: 05/04/2018 00:41

Sample Number: **9570349** Class: M*** Batch: 181130184807

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	0.05082	959.07	2.557	0.05231	0.04991	0.05025
____ AL	2.96780	215.04	1.083	2.96937	2.93491	2.99913
____ AS	0.14926	50.32	2.677	0.15101	0.14468	0.15207
____ B	1.99212	15,652.36	1.107	2.00669	2.00292	1.96674
____ BA	2.15268	1,562,258.02	2.125	2.17947	2.17871	2.09985
____ BE	0.04864	23,905.24	0.478	0.04884	0.04869	0.04838
____ CA	35.36204	18,261.31	1.046	34.95808	35.44437	35.68369
____ CD	0.05060	594.99	0.539	0.05082	0.05068	0.05029
____ CO	0.53572	2,856.69	0.213	0.53583	0.53681	0.53453
____ CR	0.20514	2,189.23	0.624	0.20548	0.20621	0.20372
____ CU	0.26147	3,521.08	1.265	0.26176	0.26462	0.25802
____ FE	1.83291	303.16	0.601	1.83058	1.82323	1.84490
____ K	14.13002	3,929.08	1.312	13.98957	14.06040	14.34011
____ LI	1.04227	7,180.26	1.311	1.03089	1.03850	1.05742
____ MG	19.72529	19,331.23	1.012	19.54780	19.68682	19.94127
____ MN	2.17305	156,677.63	1.247	2.19273	2.18427	2.14215
____ MO	2.03174	5,119.86	0.216	2.02821	2.03666	2.03034
____ NA	83.92799	69,022.78	1.114	82.90795	84.13239	84.74362
____ NI	0.52649	1,443.03	0.218	0.52593	0.52781	0.52572
____ P	1.04838	349.27	0.371	1.05220	1.04854	1.04441
____ PB	0.15824	151.23	1.534	0.16104	0.15696	0.15673
____ S	17.52987	2,817.77	0.074	17.51500	17.53901	17.53560
____ SB	0.53146	295.38	0.296	0.52971	0.53191	0.53275
____ SE	0.14901	40.73	2.939	0.14483	0.15356	0.14865
____ SI	13.73055	1,466.37	0.713	13.62398	13.75120	13.81647
____ SN	4.04094	2,991.70	0.128	4.03574	4.04609	4.04101
____ SR	1.27749	1,058,290.25	1.780	1.29155	1.28967	1.25126
____ TH	0.00662	-1.46	884.370	0.05160	-0.05952	0.02776
____ TI	1.04761	64,581.43	1.103	1.05429	1.05427	1.03428
____ TL	0.15260	94.43	1.180	0.15410	0.15309	0.15060
____ V	0.51376	7,870.01	1.107	0.51641	0.51764	0.50723
____ W	-0.00362	7.45	12.236	-0.00319	-0.00408	-0.00360
____ Y1	7019.32383	7,019.32	0.670	7073.10827	6998.82964	6986.03359
____ Y2A	231765.09957	231,765.10	1.088	230823.34566	229850.00000	234621.95305
____ Y2R	8326.76149	8,326.76	0.961	8407.49601	8325.25409	8247.53437
____ ZN	0.53169	4,454.31	0.209	0.53297	0.53105	0.53104
____ ZR	1.02757	1,407.49	0.930	1.02071	1.02353	1.03848

LANCASTER LABORATORIES

Run Name: 1812311T72 Instrument ID: 16417

Tube: 20 Date/Time: 05/04/2018 00:44

Sample Number: **9570349** Class: DL** Batch: 181130184807

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	-0.00210	-24.96	36.018	-0.00123	-0.00252	-0.00256
____ AL	0.02080	21.94	304.830	0.08055	0.02754	-0.04570
____ AS	0.00017	-1.30	633.770	0.00098	-0.00107	0.00061
____ B	0.02568	205.67	1.524	0.02592	0.02589	0.02523
____ BA	0.02276	16,840.82	0.500	0.02271	0.02268	0.02289
____ BE	-0.00111	-855.00	2.101	-0.00108	-0.00113	-0.00112
____ CA	5.92989	3,116.82	0.420	5.92936	5.90523	5.95507
____ CD	-0.00031	-2.80	40.973	-0.00018	-0.00031	-0.00044
____ CO	0.00541	33.32	12.165	0.00523	0.00485	0.00613
____ CR	0.00058	6.64	51.695	0.00088	0.00058	0.00028
____ CU	-0.00467	-56.30	17.460	-0.00514	-0.00515	-0.00373
____ FE	0.15367	25.43	7.705	0.16647	0.15140	0.14312
____ K	0.73171	275.84	6.633	0.77889	0.73431	0.68193
____ LI	-0.00217	-70.52	66.430	-0.00272	-0.00327	-0.00054
____ MG	3.34760	3,326.50	0.489	3.35382	3.32904	3.35993
____ MN	0.31948	23,459.29	0.241	0.31969	0.31863	0.32013
____ MO	0.00078	2.86	78.611	0.00142	0.00020	0.00072
____ NA	13.43928	11,164.50	0.144	13.45569	13.41788	13.44428
____ NI	0.00203	12.65	19.531	0.00246	0.00197	0.00167
____ P	0.00111	1.02	138.652	0.00235	-0.00061	0.00159
____ PB	0.00234	-1.23	44.008	0.00331	0.00126	0.00244
____ S	3.04578	499.04	0.879	3.07221	3.04646	3.01866
____ SB	0.00705	-0.30	35.398	0.00788	0.00903	0.00425
____ SE	-0.00297	0.60	202.853	-0.00635	-0.00655	0.00399
____ SI	2.25761	244.88	0.312	2.24997	2.26384	2.25902
____ SN	0.00256	5.18	47.608	0.00385	0.00143	0.00241
____ SR	0.05026	42,246.75	0.188	0.05021	0.05019	0.05036
____ TH	0.00313	-1.85	608.994	0.02306	0.00128	-0.01495
____ TI	0.00332	220.37	2.950	0.00320	0.00338	0.00336
____ TL	0.00228	2.60	41.835	0.00133	0.00228	0.00324
____ V	-0.00120	-7.74	11.083	-0.00134	-0.00108	-0.00119
____ W	-0.00066	4.20	79.735	-0.00124	-0.00051	-0.00022
____ Y1	7151.16176	7,151.16	0.258	7170.19886	7133.34531	7149.94110
____ Y2A	235785.13809	235,785.14	0.135	235753.90000	235483.41149	236118.10276
____ Y2R	8428.73140	8,428.73	0.371	8399.54018	8461.69395	8424.96007
____ ZN	0.00312	26.25	7.625	0.00304	0.00338	0.00293
____ ZR	-0.00287	7.96	78.921	-0.00474	-0.00035	-0.00352

LANCASTER LABORATORIES

Run Name: 1812311T72 Instrument ID: 16417

Tube: 21 Date/Time: 05/04/2018 00:48

Sample Number: **9570347** Class: **** Batch: 181130184807

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	-0.00182	-25.48	38.704	-0.00222	-0.00100	-0.00222
____ AL	0.08007	25.94	83.059	0.15507	0.02826	0.05689
____ AS	-0.00044	-1.54	441.765	-0.00265	0.00098	0.00035
____ B	0.06020	482.90	0.400	0.06041	0.05994	0.06026
____ BA	0.14159	102,605.00	0.070	0.14157	0.14150	0.14170
____ BE	-0.00119	-879.66	1.229	-0.00118	-0.00121	-0.00118
____ CA	44.00659	22,984.75	0.340	43.83376	44.09039	44.09562
____ CD	-0.00035	-2.65	25.821	-0.00042	-0.00025	-0.00038
____ CO	0.01055	59.58	2.735	0.01053	0.01085	0.01027
____ CR	0.00101	11.04	39.070	0.00140	0.00100	0.00061
____ CU	-0.00438	-43.80	11.234	-0.00449	-0.00482	-0.00385
____ FE	0.84840	141.90	2.710	0.86562	0.85730	0.82229
____ K	5.24224	1,521.81	2.296	5.28217	5.10701	5.33755
____ LI	0.00084	-49.21	158.644	-0.00035	0.00227	0.00058
____ MG	19.06406	18,911.94	0.066	19.05032	19.07515	19.06671
____ MN	1.39094	100,110.78	0.059	1.39100	1.39173	1.39009
____ MO	-0.00026	0.18	216.407	-0.00045	0.00037	-0.00070
____ NA	62.06802	51,658.40	0.117	62.00213	62.14617	62.05575
____ NI	0.01266	41.51	2.952	0.01240	0.01309	0.01249
____ P	0.00413	2.01	82.191	0.00123	0.00786	0.00329
____ PB	0.00341	0.19	43.415	0.00438	0.00171	0.00415
____ S	14.31482	2,310.21	2.002	14.58467	14.34582	14.01396
____ SB	0.00625	-0.76	38.499	0.00357	0.00822	0.00697
____ SE	0.00133	1.73	388.500	0.00384	-0.00461	0.00476
____ SI	11.21130	1,209.22	0.670	11.12462	11.25073	11.25856
____ SN	-0.00044	2.88	183.377	0.00040	-0.00052	-0.00119
____ SR	0.32882	271,856.67	0.745	0.32600	0.33039	0.33008
____ TH	0.02219	-0.33	106.474	0.01295	0.04903	0.00458
____ TI	0.00404	260.84	1.221	0.00402	0.00410	0.00400
____ TL	-0.00036	0.71	253.477	-0.00045	0.00060	-0.00123
____ V	-0.00136	-9.33	26.406	-0.00095	-0.00159	-0.00155
____ W	-0.00111	3.58	11.252	-0.00097	-0.00121	-0.00116
____ Y1	7047.45546	7,047.46	0.224	7029.64168	7052.95457	7059.77011
____ Y2A	231316.01042	231,316.01	0.341	231646.71853	230415.74407	231885.56866
____ Y2R	8427.45786	8,427.46	0.207	8445.55123	8410.68938	8426.13296
____ ZN	0.00553	47.03	4.744	0.00581	0.00546	0.00530
____ ZR	-0.00053	12.49	866.584	-0.00451	-0.00157	0.00449

LANCASTER LABORATORIES

Run Name: 1812311T72

Instrument ID: 16417

Tube: 22

Date/Time: 05/04/2018 00:51

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.51625	8,450.62	1.348	0.51127	0.52420	0.51328
____ AL	25.34827	1,654.80	0.696	25.14607	25.42829	25.47045
____ AS	0.51143	166.50	0.070	0.51184	0.51118	0.51125
____ B	0.48329	4,135.85	1.446	0.47727	0.49096	0.48165
____ BA	0.50856	367,289.46	0.616	0.50520	0.51140	0.50909
____ BE	0.49103	247,129.74	1.182	0.48804	0.49771	0.48732
____ CA	25.20876	12,971.08	0.380	25.26708	25.09816	25.26103
____ CD	0.50934	5,961.92	0.355	0.51106	0.50950	0.50745
____ CO	0.51144	2,709.19	0.438	0.51384	0.51108	0.50941
____ CR	0.50360	5,346.56	1.491	0.49826	0.51218	0.50035
____ CU	0.51463	7,250.86	1.860	0.50668	0.52525	0.51197
____ FE	25.09533	4,098.89	0.414	25.10707	24.98596	25.19297
____ K	24.93636	6,848.94	0.262	24.87525	24.92856	25.00529
____ LI	0.50870	3,467.55	0.257	0.50747	0.50856	0.51007
____ MG	25.24758	24,619.43	0.297	25.21472	25.19475	25.33326
____ MN	0.50871	36,513.47	1.209	0.50510	0.51581	0.50522
____ MO	0.50391	1,265.01	0.640	0.50751	0.50296	0.50127
____ NA	24.90775	20,376.86	0.128	24.89542	24.88380	24.94404
____ NI	0.50987	1,389.41	0.418	0.51170	0.51038	0.50753
____ P	0.50680	168.43	1.165	0.51360	0.50297	0.50383
____ PB	0.50425	507.38	0.671	0.50634	0.50606	0.50034
____ S	25.34119	4,053.61	0.645	25.47136	25.39451	25.15771
____ SB	0.50999	290.85	0.471	0.51257	0.50782	0.50957
____ SE	0.51059	137.06	1.295	0.50903	0.51784	0.50489
____ SI	25.31255	2,688.62	0.327	25.36636	25.35407	25.21723
____ SN	0.49656	368.84	1.231	0.50135	0.49866	0.48968
____ SR	0.50530	419,317.41	0.396	0.50321	0.50719	0.50549
____ TH	0.49279	36.81	9.470	0.53491	0.50081	0.44263
____ TI	0.51599	31,654.34	1.178	0.51303	0.52298	0.51195
____ TL	0.51377	311.79	0.916	0.51798	0.51463	0.50869
____ V	0.51184	8,133.32	1.358	0.50800	0.51986	0.50765
____ W	0.51416	545.95	0.137	0.51453	0.51461	0.51335
____ Y1	6989.12174	6,989.12	0.148	7000.56915	6986.27075	6980.52532
____ Y2A	230598.60387	230,598.60	1.107	231921.32030	227654.89130	232219.60000
____ Y2R	8290.62731	8,290.63	0.393	8297.69046	8319.12557	8255.06588
____ ZN	0.51390	4,308.98	0.530	0.51621	0.51461	0.51090
____ ZR	0.51294	738.84	1.131	0.51948	0.50841	0.51093

LANCASTER LABORATORIES

Run Name: 1812311T72 Instrument ID: 16417

Tube: 23 Date/Time: 05/04/2018 00:54

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00227	-26.01	26.483	-0.00161	-0.00279	-0.00241
____ AL	-0.04586	17.23	224.204	-0.02395	-0.15788	0.04424
____ AS	-0.00014	-1.37	1603.719	-0.00253	0.00014	0.00196
____ B	0.00280	20.26	30.889	0.00225	0.00380	0.00236
____ BA	0.00026	219.27	68.792	0.00012	0.00045	0.00019
____ BE	-0.00098	-776.53	12.802	-0.00108	-0.00084	-0.00103
____ CA	0.01211	18.75	25.707	0.00938	0.01550	0.01144
____ CD	-0.00014	-0.91	11.053	-0.00012	-0.00015	-0.00015
____ CO	0.00021	5.30	67.131	0.00007	0.00020	0.00035
____ CR	0.00034	3.96	115.219	0.00078	0.00019	0.00004
____ CU	-0.00491	-59.98	20.166	-0.00605	-0.00443	-0.00426
____ FE	-0.00868	-1.77	160.564	-0.02369	-0.00618	0.00384
____ K	0.05422	87.08	46.366	0.03226	0.08164	0.04877
____ LI	-0.00679	-101.17	26.297	-0.00875	-0.00634	-0.00527
____ MG	0.00416	1.77	12.432	0.00419	0.00363	0.00466
____ MN	0.00040	54.99	79.852	0.00018	0.00076	0.00024
____ MO	-0.00025	0.21	218.326	-0.00062	0.00038	-0.00051
____ NA	0.02477	-7.93	68.001	0.02530	0.04133	0.00767
____ NI	-0.00006	6.75	776.465	0.00042	-0.00014	-0.00045
____ P	-0.00207	-0.06	22.489	-0.00212	-0.00251	-0.00158
____ PB	0.00234	-1.28	51.248	0.00369	0.00142	0.00190
____ S	0.01316	2.43	24.360	0.01676	0.01060	0.01213
____ SB	0.00458	-1.74	47.123	0.00703	0.00377	0.00295
____ SE	-0.00586	-0.17	100.979	-0.00118	-0.01251	-0.00388
____ SI	-0.00787	0.80	47.997	-0.00975	-0.00352	-0.01033
____ SN	0.00115	4.05	67.209	0.00204	0.00064	0.00077
____ SR	0.00023	66.99	65.254	0.00011	0.00040	0.00019
____ TH	-0.00040	-2.08	0079.542	0.04541	-0.03143	-0.01519
____ TI	0.00043	39.04	28.284	0.00030	0.00045	0.00054
____ TL	0.00213	2.52	95.294	0.00330	-0.00021	0.00331
____ V	-0.00114	-6.58	35.532	-0.00161	-0.00095	-0.00087
____ W	-0.00084	3.94	72.162	-0.00023	-0.00144	-0.00085
____ Y1	7040.07769	7,040.08	0.160	7043.19257	7049.46338	7027.57712
____ Y2A	232293.88410	232,293.88	0.328	233085.60243	232230.98205	231565.06781
____ Y2R	8277.98333	8,277.98	0.408	8310.82500	8279.85000	8243.27500
____ ZN	0.00025	1.69	67.534	0.00011	0.00044	0.00021
____ ZR	-0.00039	10.92	1118.336	-0.00426	0.00432	-0.00122

LANCASTER LABORATORIES

Run Name: 1812311T72 Instrument ID: 16417

Tube: 24 Date/Time: 05/04/2018 00:57

Sample Number: **9570361** Class: **** Batch: 181130184807

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	0.00064	-3.53	226.393	-0.00038	0.00000	0.00229
____ AL	0.09140	26.09	109.484	-0.00065	0.19791	0.07693
____ AS	-0.43168	-132.04	22.363	-0.35199	-0.40404	-0.53902
____ B	0.17526	1,330.25	2.927	0.17653	0.17963	0.16961
____ BA	0.09615	66,118.32	2.202	0.09549	0.09852	0.09444
____ BE	-0.00101	-745.68	15.289	-0.00119	-0.00093	-0.00091
____ CA	55.40456	27,906.43	0.487	55.09325	55.56599	55.55445
____ CD	-0.00955	-99.56	26.979	-0.00728	-0.00902	-0.01235
____ CO	0.01555	78.53	13.385	0.01316	0.01659	0.01692
____ CR	0.00483	49.18	65.086	0.00192	0.00441	0.00817
____ CU	-0.00824	-70.13	32.073	-0.00648	-0.00696	-0.01128
____ FE	2.06861	334.28	0.986	2.05885	2.09205	2.05494
____ K	4.78735	1,347.18	3.553	4.65938	4.72229	4.98037
____ LI	-0.00151	-63.15	198.571	-0.00100	-0.00472	0.00120
____ MG	20.73723	19,852.36	0.416	20.63969	20.76839	20.80362
____ MN	3.34061	228,101.32	1.774	3.34590	3.39705	3.27888
____ MO	0.00699	16.81	11.427	0.00614	0.00772	0.00711
____ NA	36.33646	29,173.31	2.336	35.45306	36.41067	37.14564
____ NI	0.02861	77.15	26.103	0.02212	0.02695	0.03677
____ P	-2.31068	-698.93	25.433	-1.70713	-2.34385	-2.88106
____ PB	0.05602	48.37	37.123	0.03762	0.05186	0.07858
____ S	6.45263	949.17	49.071	9.54434	6.59698	3.21657
____ SB	-0.06433	-38.41	20.871	-0.06222	-0.05208	-0.07868
____ SE	0.21230	52.36	27.855	0.14558	0.25826	0.23305
____ SI	7.26425	756.92	0.574	7.23811	7.24233	7.31231
____ SN	0.19737	135.76	28.153	0.13851	0.20468	0.24891
____ SR	0.47693	374,310.51	0.797	0.47888	0.47935	0.47255
____ TH	0.08380	4.29	108.242	0.04661	0.01760	0.18720
____ TI	0.00541	327.22	8.290	0.00489	0.00568	0.00565
____ TL	0.08680	48.91	19.061	0.06812	0.09265	0.09961
____ V	-0.00209	-19.85	21.665	-0.00182	-0.00184	-0.00262
____ W	0.01175	15.51	27.759	0.00991	0.00982	0.01551
____ Y1	6401.02977	6,401.03	1.033	6465.74596	6403.69919	6333.64417
____ Y2A	219504.92145	219,504.92	1.038	220876.19808	216875.27423	220763.29202
____ Y2R	8134.86107	8,134.86	1.672	8274.09308	8128.16930	8002.32082
____ ZN	0.00309	25.82	57.138	0.00500	0.00276	0.00151
____ ZR	-0.00472	10.64	75.524	-0.00070	-0.00596	-0.00749

LANCASTER LABORATORIES

Run Name: 1812311T72 Instrument ID: 16417

Tube: 25 Date/Time: 05/04/2018 01:00

Sample Number: **9570363** Class: **** Batch: 181130184807

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	-0.00220	-22.06	27.298	-0.00283	-0.00213	-0.00163
____ AL	0.98641	85.87	6.154	1.05563	0.94224	0.96136
____ AS	0.00537	0.30	63.857	0.00673	0.00147	0.00791
____ B	0.13774	1,118.47	0.871	0.13685	0.13726	0.13910
____ BA	0.11959	87,455.62	0.412	0.11909	0.11960	0.12008
____ BE	-0.00112	-854.67	2.370	-0.00114	-0.00109	-0.00113
____ CA	47.87841	25,241.66	0.391	48.09331	47.74893	47.79297
____ CD	-0.00010	1.27	70.923	-0.00017	-0.00010	-0.00003
____ CO	0.01684	93.35	1.836	0.01715	0.01684	0.01653
____ CR	0.00224	24.37	10.656	0.00244	0.00228	0.00198
____ CU	-0.00258	-33.41	23.401	-0.00289	-0.00296	-0.00188
____ FE	2.04048	344.90	0.461	2.05118	2.03355	2.03672
____ K	6.16195	1,793.03	0.450	6.19318	6.14031	6.15236
____ LI	-0.00087	-61.47	254.261	0.00108	-0.00043	-0.00326
____ MG	15.76111	15,793.28	0.624	15.87355	15.69079	15.71900
____ MN	3.43358	249,334.33	0.264	3.42438	3.43385	3.44250
____ MO	-0.00089	-1.41	13.971	-0.00089	-0.00076	-0.00101
____ NA	84.68973	71,179.30	0.349	85.02198	84.45497	84.59224
____ NI	0.00590	22.82	3.060	0.00603	0.00597	0.00569
____ P	0.03610	12.66	8.017	0.03281	0.03824	0.03724
____ PB	0.00274	0.06	76.531	0.00332	0.00448	0.00041
____ S	13.10628	2,111.50	1.276	13.25581	13.13735	12.92566
____ SB	0.00479	-1.62	60.632	0.00198	0.00779	0.00461
____ SE	-0.00309	0.57	128.693	-0.00682	-0.00353	0.00109
____ SI	8.76604	955.05	0.673	8.82604	8.70819	8.76389
____ SN	-0.00055	2.79	101.477	-0.00112	-0.00055	0.00001
____ SR	0.42390	353,801.53	0.037	0.42406	0.42390	0.42375
____ TH	-0.01512	-3.19	91.155	-0.02302	-0.02315	0.00079
____ TI	0.02639	1,650.43	0.273	0.02631	0.02644	0.02641
____ TL	-0.00060	0.65	124.946	-0.00084	0.00024	-0.00121
____ V	0.00101	28.93	11.528	0.00111	0.00105	0.00088
____ W	-0.00040	4.46	162.389	-0.00019	-0.00113	0.00012
____ Y1	7035.05553	7,035.06	0.170	7026.82703	7029.55722	7048.78234
____ Y2A	233419.24426	233,419.24	0.088	233655.22500	233289.12328	233313.38449
____ Y2R	8509.14460	8,509.14	0.486	8470.15148	8552.52540	8504.75692
____ ZN	0.01412	119.29	0.553	0.01415	0.01417	0.01403
____ ZR	0.00155	12.87	218.004	0.00176	-0.00193	0.00482

LANCASTER LABORATORIES

Run Name: 1812311T72 Instrument ID: 16417

Tube: 26 Date/Time: 05/04/2018 01:03

Sample Number: **9570366** Class: **** Batch: 181130184807

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	-0.00119	-26.92	12.692	-0.00107	-0.00136	-0.00113
____ AL	2.60041	192.90	0.298	2.59461	2.59741	2.60920
____ AS	0.00353	-1.20	51.819	0.00157	0.00381	0.00519
____ B	0.09510	954.87	1.060	0.09409	0.09512	0.09610
____ BA	0.22592	166,060.57	0.143	0.22621	0.22599	0.22557
____ BE	-0.00099	-792.08	2.705	-0.00097	-0.00102	-0.00099
____ CA	28.15271	14,870.37	0.851	28.26283	27.87795	28.31734
____ CD	-0.00023	8.67	67.039	-0.00006	-0.00035	-0.00028
____ CO	0.00239	16.64	17.885	0.00208	0.00288	0.00222
____ CR	0.00148	16.28	9.958	0.00131	0.00154	0.00157
____ CU	0.01472	233.54	6.820	0.01369	0.01570	0.01478
____ FE	12.75930	2,149.83	0.266	12.79806	12.74459	12.73525
____ K	5.28739	1,549.49	1.328	5.36694	5.26131	5.23392
____ LI	0.00050	-49.10	335.377	-0.00144	0.00146	0.00149
____ MG	6.39143	6,412.59	0.555	6.39987	6.35248	6.42193
____ MN	0.32431	23,699.86	0.249	0.32457	0.32341	0.32497
____ MO	0.00093	3.22	61.700	0.00157	0.00047	0.00074
____ NA	85.38418	71,778.00	0.737	85.60854	84.67361	85.87039
____ NI	0.00398	16.77	9.576	0.00366	0.00388	0.00440
____ P	0.04393	15.49	6.810	0.04058	0.04486	0.04634
____ PB	0.02811	30.77	8.643	0.02704	0.03089	0.02640
____ S	2.68317	438.47	2.461	2.73892	2.70032	2.61026
____ SB	0.01108	2.05	10.648	0.01038	0.01244	0.01042
____ SE	-0.00291	0.66	53.311	-0.00128	-0.00308	-0.00437
____ SI	12.05226	1,312.73	0.824	12.12557	11.93928	12.09193
____ SN	0.00065	3.73	242.735	0.00210	-0.00103	0.00088
____ SR	0.28701	242,139.51	0.072	0.28725	0.28687	0.28691
____ TH	0.02886	0.83	90.362	0.05832	0.00872	0.01955
____ TI	0.03625	2,274.48	0.785	0.03605	0.03611	0.03657
____ TL	0.00103	1.55	239.172	0.00183	-0.00174	0.00301
____ V	0.00072	27.53	75.491	0.00054	0.00029	0.00134
____ W	-0.00019	4.79	331.900	-0.00063	0.00054	-0.00049
____ Y1	7133.06204	7,133.06	1.226	7098.74088	7067.96845	7232.47679
____ Y2A	234659.12944	234,659.13	0.297	235226.73376	234868.35000	233882.30455
____ Y2R	8511.02828	8,511.03	0.571	8516.26320	8556.83863	8459.98300
____ ZN	0.02147	191.92	2.635	0.02179	0.02179	0.02081
____ ZR	0.00249	17.27	227.875	-0.00334	0.00281	0.00801

LANCASTER LABORATORIES

Run Name: 1812311T72 Instrument ID: 16417

Tube: 27 Date/Time: 05/04/2018 01:06

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00343	20.31	3.592	0.00348	0.00351	0.00329
____ AL	0.19289	33.90	21.525	0.21162	0.22174	0.14530
____ AS	0.01752	4.55	21.380	0.02174	0.01457	0.01626
____ B	0.04833	385.36	2.073	0.04725	0.04923	0.04850
____ BA	0.00519	3,854.43	1.298	0.00523	0.00524	0.00512
____ BE	0.00382	1,677.01	1.245	0.00382	0.00386	0.00377
____ CA	0.22021	124.68	0.456	0.21950	0.22136	0.21977
____ CD	0.00514	61.86	4.241	0.00500	0.00539	0.00502
____ CO	0.00569	34.86	3.938	0.00562	0.00594	0.00550
____ CR	0.01475	159.88	2.354	0.01450	0.01515	0.01461
____ CU	0.00512	149.46	3.552	0.00491	0.00523	0.00521
____ FE	0.21101	34.55	1.250	0.21356	0.21117	0.20829
____ K	0.54455	220.93	4.678	0.53906	0.57232	0.52227
____ LI	0.01530	51.32	19.068	0.01267	0.01479	0.01843
____ MG	0.10402	99.68	1.951	0.10279	0.10636	0.10290
____ MN	0.00551	429.57	0.658	0.00548	0.00555	0.00551
____ MO	0.01021	26.89	9.471	0.00968	0.01132	0.00962
____ NA	1.03909	824.53	1.023	1.02925	1.03765	1.05036
____ NI	0.01018	35.09	12.273	0.01042	0.01130	0.00883
____ P	0.10029	34.39	1.732	0.10175	0.10074	0.09837
____ PB	0.01704	13.61	3.796	0.01672	0.01661	0.01778
____ S	0.54441	88.87	8.354	0.52086	0.59683	0.51553
____ SB	0.02557	10.64	5.824	0.02626	0.02386	0.02659
____ SE	0.01657	5.85	7.485	0.01522	0.01683	0.01766
____ SI	0.04991	7.02	44.889	0.04278	0.03194	0.07502
____ SN	0.02124	19.13	10.167	0.01899	0.02329	0.02142
____ SR	0.00516	4,229.28	1.355	0.00515	0.00523	0.00510
____ TH	0.19025	12.47	2.084	0.18697	0.19466	0.18913
____ TI	0.01032	656.90	1.820	0.01026	0.01053	0.01016
____ TL	0.02983	19.57	9.317	0.02711	0.03267	0.02972
____ V	0.00338	69.58	4.528	0.00324	0.00354	0.00335
____ W	0.00963	15.30	1.862	0.00983	0.00957	0.00948
____ Y1	7103.77351	7,103.77	1.146	7055.41579	7197.77156	7058.13317
____ Y2A	234889.25195	234,889.25	0.986	236345.00000	232217.27853	236105.47733
____ Y2R	8306.85833	8,306.86	1.314	8397.55000	8337.32500	8185.70000
____ ZN	0.02098	177.08	1.247	0.02111	0.02114	0.02067
____ ZR	0.05186	94.87	14.341	0.05998	0.04537	0.05024

LANCASTER LABORATORIES

Run Name: 1812311T72 Instrument ID: 16417

Tube: 28 Date/Time: 05/04/2018 01:09

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00236	-40.54	25.093	-0.00294	-0.00239	-0.00176
____ AL	522.16433	31,171.30	0.241	521.99889	520.99719	523.49691
____ AS	0.00655	-14.41	148.832	0.01734	-0.00163	0.00394
____ B	-0.01759	2,767.76	15.346	-0.02009	-0.01473	-0.01796
____ BA	0.00081	569.40	3.106	0.00081	0.00084	0.00079
____ BE	-0.00142	-909.30	1.310	-0.00140	-0.00143	-0.00144
____ CA	509.96013	241,015.82	0.117	509.76161	510.63124	509.48753
____ CD	-0.00063	146.93	24.877	-0.00056	-0.00081	-0.00052
____ CO	0.00019	4.75	243.755	-0.00023	0.00071	0.00010
____ CR	-0.00132	-12.53	6.179	-0.00138	-0.00122	-0.00135
____ CU	-0.00509	109.07	0.996	-0.00515	-0.00506	-0.00506
____ FE	203.52571	29,355.33	0.326	203.15389	203.13146	204.29178
____ K	0.05089	82.06	143.903	0.03958	-0.01603	0.12912
____ LI	-0.00465	-35.41	27.936	-0.00422	-0.00361	-0.00610
____ MG	510.69764	442,425.69	0.294	511.86907	509.00526	511.21859
____ MN	0.00452	321.80	0.839	0.00455	0.00448	0.00454
____ MO	-0.00361	-7.56	10.467	-0.00372	-0.00318	-0.00391
____ NA	0.04110	5.14	37.039	0.04132	0.02577	0.05621
____ NI	-0.00671	-28.79	11.184	-0.00619	-0.00637	-0.00757
____ P	0.01538	5.26	10.705	0.01728	0.01444	0.01441
____ PB	0.00002	79.89	3360.384	0.00500	-0.00576	0.00083
____ S	0.08176	12.28	8.272	0.07467	0.08814	0.08248
____ SB	0.00272	-3.17	82.334	0.00042	0.00489	0.00285
____ SE	-0.01055	-0.69	90.614	-0.00276	-0.00767	-0.02122
____ SI	0.00126	1.76	2692.725	0.03363	-0.03392	0.00406
____ SN	0.01077	10.23	17.403	0.00904	0.01277	0.01050
____ SR	-0.00209	20,251.08	6.141	-0.00213	-0.00194	-0.00219
____ TH	0.02608	10.12	6.658	0.02534	0.02806	0.02483
____ TI	-0.00094	-42.04	35.009	-0.00113	-0.00114	-0.00056
____ TL	0.00473	3.76	109.593	-0.00065	0.00515	0.00970
____ V	-0.00435	-10.14	5.180	-0.00450	-0.00447	-0.00409
____ W	0.01205	16.02	4.160	0.01174	0.01263	0.01178
____ Y1	6436.60737	6,436.61	0.160	6433.89039	6448.00839	6427.92332
____ Y2A	211684.09099	211,684.09	0.587	213112.08791	211090.30969	210849.87537
____ Y2R	7883.08794	7,883.09	0.240	7902.51196	7882.01658	7864.73526
____ ZN	0.00623	195.55	4.989	0.00652	0.00590	0.00626
____ ZR	0.00683	21.41	44.348	0.01029	0.00465	0.00555

LANCASTER LABORATORIES

Run Name: 1812311T72 Instrument ID: 16417

Tube: 29 Date/Time: 05/04/2018 01:13

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.21217	3,229.40	0.371	0.21240	0.21282	0.21129
____ AL	522.12049	31,137.79	0.321	523.43068	520.23193	522.69887
____ AS	0.10064	14.38	5.338	0.10167	0.10543	0.09483
____ B	-0.02181	2,732.70	11.593	-0.02355	-0.01891	-0.02298
____ BA	0.49958	332,648.51	0.590	0.50205	0.50038	0.49632
____ BE	0.47810	221,857.41	0.093	0.47823	0.47846	0.47760
____ CA	508.58997	240,151.93	0.392	510.78971	506.90685	508.07334
____ CD	0.90722	9,911.10	1.302	0.91244	0.91553	0.89370
____ CO	0.46102	2,249.02	1.205	0.46303	0.46529	0.45474
____ CR	0.46677	4,569.22	0.262	0.46809	0.46568	0.46654
____ CU	0.52227	6,812.74	0.201	0.52157	0.52175	0.52348
____ FE	202.33628	29,169.74	0.314	202.94189	201.67513	202.39180
____ K	0.01783	73.48	388.546	-0.05106	0.08745	0.01709
____ LI	-0.00455	-35.04	75.315	-0.00688	-0.00616	-0.00061
____ MG	508.20787	439,990.76	0.152	507.35847	508.86187	508.40326
____ MN	0.47836	31,658.61	0.117	0.47782	0.47893	0.47832
____ MO	-0.00416	-8.85	9.439	-0.00386	-0.00401	-0.00460
____ NA	0.04584	8.86	62.590	0.01808	0.07538	0.04405
____ NI	0.90805	2,262.76	1.299	0.90879	0.91946	0.89590
____ P	0.01821	6.13	20.043	0.02106	0.01946	0.01410
____ PB	0.51221	548.31	2.323	0.50896	0.52540	0.50227
____ S	0.07982	12.04	12.366	0.07357	0.07468	0.09119
____ SB	0.59867	318.10	1.062	0.60272	0.60194	0.59134
____ SE	0.49647	122.26	1.514	0.49385	0.50494	0.49061
____ SI	0.00597	2.19	325.164	0.02784	-0.00924	-0.00069
____ SN	0.00877	8.88	5.922	0.00930	0.00827	0.00874
____ SR	-0.00199	20,281.02	8.166	-0.00214	-0.00182	-0.00202
____ TH	0.03541	10.73	119.025	0.00030	0.08215	0.02377
____ TI	-0.00058	-21.28	30.531	-0.00044	-0.00052	-0.00077
____ TL	0.09665	55.77	3.271	0.10025	0.09542	0.09430
____ V	0.49269	7,336.97	0.065	0.49266	0.49302	0.49238
____ W	0.00501	20.28	22.822	0.00421	0.00451	0.00632
____ Y1	6445.34248	6,445.34	0.318	6464.07267	6423.42526	6448.52950
____ Y2A	212596.34448	212,596.34	0.024	212592.68877	212648.37520	212547.96947
____ Y2R	7875.26266	7,875.26	0.216	7864.77500	7894.86144	7866.15155
____ ZN	0.97013	7,606.80	1.315	0.97223	0.98169	0.95645
____ ZR	0.00210	15.92	325.783	-0.00430	0.00929	0.00130

LANCASTER LABORATORIES

Run Name: 1812311T72

Instrument ID: 16417

Tube: 30

Date/Time: 05/04/2018 01:16

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.51495	8,379.09	0.184	0.51555	0.51386	0.51544
____ AL	25.32112	1,639.33	0.191	25.31745	25.27463	25.37127
____ AS	0.51247	168.12	1.850	0.51842	0.51745	0.50153
____ B	0.49223	4,185.51	0.876	0.48814	0.49183	0.49673
____ BA	0.50777	365,049.62	0.697	0.51105	0.50824	0.50402
____ BE	0.49461	247,816.23	0.386	0.49276	0.49449	0.49657
____ CA	25.45691	12,987.37	0.152	25.45147	25.42119	25.49806
____ CD	0.50552	5,962.19	2.357	0.51213	0.51266	0.49176
____ CO	0.50760	2,709.29	2.251	0.51276	0.51554	0.49450
____ CR	0.49774	5,260.67	0.023	0.49761	0.49776	0.49784
____ CU	0.50904	7,156.88	0.272	0.50801	0.50849	0.51061
____ FE	25.03206	4,054.09	0.399	25.07789	24.91756	25.10074
____ K	25.22893	6,869.88	0.499	25.30380	25.29940	25.08358
____ LI	0.51006	3,447.52	0.214	0.50998	0.51119	0.50900
____ MG	25.40754	24,565.42	0.265	25.36337	25.37431	25.48494
____ MN	0.51469	36,776.25	0.532	0.51162	0.51559	0.51687
____ MO	0.50483	1,276.89	2.585	0.51002	0.51448	0.48998
____ NA	25.24742	20,480.49	0.240	25.27769	25.28696	25.17762
____ NI	0.50917	1,398.05	2.119	0.51496	0.51582	0.49672
____ P	0.50614	169.49	1.913	0.51151	0.51194	0.49496
____ PB	0.50023	507.16	2.543	0.50514	0.50976	0.48578
____ S	25.48164	4,107.07	1.809	25.68376	25.80714	24.95402
____ SB	0.50496	290.09	2.199	0.51188	0.51086	0.49215
____ SE	0.50303	136.11	2.315	0.51417	0.50396	0.49094
____ SI	25.35946	2,670.80	0.489	25.23990	25.35102	25.48745
____ SN	0.49717	372.08	2.297	0.50139	0.50587	0.48423
____ SR	0.50670	418,544.90	0.669	0.50762	0.50953	0.50294
____ TH	0.53525	39.69	6.821	0.54517	0.49481	0.56578
____ TI	0.51723	31,587.93	0.538	0.51442	0.51729	0.51999
____ TL	0.51011	311.91	2.751	0.52023	0.51600	0.49409
____ V	0.51246	8,107.53	0.602	0.50892	0.51452	0.51395
____ W	0.51808	554.18	2.088	0.52387	0.52477	0.50560
____ Y1	7043.02715	7,043.03	0.850	7031.99720	6989.46159	7107.62266
____ Y2A	229541.27374	229,541.27	0.297	230319.45552	229044.48941	229259.87630
____ Y2R	8220.48469	8,220.48	0.192	8214.12892	8238.46882	8208.85635
____ ZN	0.51181	4,323.97	2.437	0.51798	0.51999	0.49746
____ ZR	0.51042	732.09	0.952	0.50490	0.51230	0.51406

LANCASTER LABORATORIES

Run Name: 1812311T72

Instrument ID: 16417

Tube: 31

Date/Time: 05/04/2018 01:19

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00202	-26.69	25.678	-0.00143	-0.00240	-0.00224
____ AL	-0.02758	18.43	125.965	-0.06764	-0.00949	-0.00562
____ AS	-0.00219	-2.07	100.973	-0.00213	-0.00001	-0.00442
____ B	0.00238	17.31	33.337	0.00329	0.00184	0.00201
____ BA	0.00021	188.47	15.805	0.00021	0.00025	0.00018
____ BE	-0.00102	-797.32	5.623	-0.00108	-0.00097	-0.00100
____ CA	0.03890	32.23	8.100	0.03934	0.04180	0.03555
____ CD	-0.00016	-1.12	184.989	-0.00002	0.00004	-0.00051
____ CO	0.00022	5.39	59.771	0.00018	0.00011	0.00036
____ CR	-0.00012	-0.93	245.291	-0.00034	0.00021	-0.00023
____ CU	-0.00578	-65.95	20.747	-0.00641	-0.00440	-0.00653
____ FE	0.01702	2.47	65.377	0.00662	0.02876	0.01570
____ K	0.07111	91.18	55.256	0.10824	0.02997	0.07512
____ LI	-0.00621	-96.68	28.138	-0.00504	-0.00537	-0.00822
____ MG	0.03140	28.22	25.656	0.03988	0.03048	0.02384
____ MN	0.00020	41.05	39.135	0.00012	0.00021	0.00027
____ MO	-0.00059	-0.66	36.115	-0.00084	-0.00046	-0.00047
____ NA	0.00906	-20.67	134.898	-0.00471	0.01325	0.01862
____ NI	-0.00028	6.20	320.261	-0.00002	-0.00126	0.00045
____ P	-0.00094	0.32	67.270	-0.00144	-0.00023	-0.00114
____ PB	0.00268	-0.94	37.387	0.00323	0.00327	0.00152
____ S	0.00508	1.13	54.998	0.00610	0.00192	0.00721
____ SB	0.00716	-0.23	16.897	0.00645	0.00855	0.00646
____ SE	-0.00215	0.82	261.586	0.00408	-0.00685	-0.00368
____ SI	0.00407	2.07	340.477	-0.01167	0.00948	0.01438
____ SN	0.00093	3.92	116.494	0.00198	-0.00018	0.00099
____ SR	0.00011	-29.94	32.811	0.00007	0.00013	0.00013
____ TH	0.01659	-0.80	267.747	0.04833	-0.03418	0.03562
____ TI	0.00026	28.46	43.897	0.00013	0.00036	0.00029
____ TL	-0.00154	0.30	108.189	-0.00202	0.00031	-0.00290
____ V	-0.00172	-15.46	25.001	-0.00214	-0.00128	-0.00173
____ W	0.00012	4.99	403.449	-0.00022	-0.00011	0.00070
____ Y1	7108.13720	7,108.14	0.388	7107.06199	7136.26635	7081.08324
____ Y2A	232808.50963	232,808.51	0.426	231666.17529	233460.98901	233298.36458
____ Y2R	8237.03333	8,237.03	0.552	8184.72500	8267.00000	8259.37500
____ ZN	0.00031	2.19	28.505	0.00021	0.00036	0.00036
____ ZR	0.00032	12.95	847.962	0.00284	-0.00254	0.00065

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ICP-AES Run Data Report

Reviewed By
Jonathan J Allen

Reviewed Date
05/07/2018 2:27AM

Data File Name 1812605T70.TXT
Run Name: 1812605T70

Method Reference Name(s):

Verified By:
Tara L Snyder

Verified Date
05/07/2018 9:03AM

Analyst Employee: 12403

Instrument Parameters:

Individual Integration Time: 10.00 sec Total Integration Time: 30.00 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: 1812605T70 Instrument ID: 11016

Tube: 1 Date/Time: 05/06/2018 23:15

Sample Number: **S0**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	0.000	-81.40704	7.782	-0.01817	-0.01771	-0.02044
AL	0.000	-1.16204	208.162	-0.00020	-0.01536	0.00195
AS	0.000	-2.36026	90.896	-0.00622	-0.02205	-0.00410
B	0.000	-23.13941	30.147	-0.00008	-0.00014	-0.00009
BA	0.000	343.88603	6.838	0.00153	0.00171	0.00152
BE	0.000	-112.29622	16.159	-0.02575	-0.02179	-0.03015
CA	0.000	61.86165	9.160	0.00506	0.00434	0.00515
CD	0.000	-13.73980	5.178	-0.06179	-0.06642	-0.06015
CO	0.000	22.79111	6.515	0.09632	0.10764	0.10845
CR	0.000	4.42311	136.328	0.00003	-0.00001	0.00004
CU	0.000	-69.86503	20.157	-0.01985	-0.01424	-0.01422
FE	0.000	5.01433	85.573	0.00021	0.00019	0.00078
K	0.000	184.03697	20.070	0.88182	0.60016	0.68260
LI	0.000	91.55099	17.420	0.00665	0.00628	0.00860
MG	0.000	-21.17471	9.866	-0.00185	-0.00156	-0.00157
MN	0.000	18.81780	64.219	0.00672	0.00128	0.00501
MO	0.000	1.78946	40.072	0.01018	0.00997	0.00440
NA	0.000	-879.36484	1.074	-0.06854	-0.06846	-0.06978
NI	0.000	31.88609	2.917	0.15033	0.14197	0.14482
P	0.000	-1.33892	54.270	-0.00019	-0.00006	-0.00012
PB	0.000	-6.74249	41.879	-0.02889	-0.04458	-0.01899
S	0.000	2.45068	53.858	0.00029	0.00030	0.00008
SB	0.000	-8.55803	23.150	-0.00090	-0.00087	-0.00057
SE	0.000	2.97714	3.380	0.01326	0.01342	0.01413
SI	0.000	3.09579	117.563	-0.00003	0.00054	0.00022
SN	0.000	0.75260	92.360	0.00005	0.00393	0.00633
SR	0.000	60.58682	39.772	0.00016	0.00038	0.00030
TH	0.000	6.34222	59.542	0.00018	0.00054	0.00077
TI	0.000	9.55812	27.387	0.00189	0.00290	0.00182
TL	0.000	-4.43920	14.663	-0.01889	-0.01826	-0.02370
V	0.000	-61.97057	7.255	-0.01503	-0.01473	-0.01310
W	0.000	0.67932	263.848	0.00011	-0.00012	0.00020
Y1	0.000	10942.24689	0.193	10925.11742	10935.78774	10965.83550
Y2A	0.000	216829.41782	0.310	217584.34696	216607.10012	216296.80639
Y2R	0.000	12757.98414	0.341	12727.68748	12807.81873	12738.44622
ZN	0.000	13.25348	7.723	0.05799	0.06596	0.05774
ZR	0.000	-9.73568	90.586	-0.00156	-0.00038	-0.00035

LANCASTER LABORATORIES

Run Name: 1812605T70

Instrument ID: 11016

Tube: 2

Date/Time: 05/06/2018 23:18

Sample Number: **S1**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AL	50.000	6565.12858	0.478	26.46540	26.27244	26.50994
CA	50.000	61112.89652	0.107	4.92149	4.91193	4.92046
FE	50.000	16212.49647	0.427	1.30873	1.29833	1.30697
K	50.000	17328.04910	0.265	69.64935	69.58498	69.93250
MG	50.000	100419.62792	0.053	8.08602	8.07804	8.07927
NA	50.000	52963.89949	0.152	4.26634	4.25472	4.26549
S	50.000	9221.46514	0.139	0.88158	0.87952	0.87940
SI	50.000	11724.33639	0.271	0.94497	0.94055	0.94497
Y1	50.000	10476.99746	0.406	10431.76006	10516.10195	10483.13037
Y2R	50.000	12426.47450	0.094	12413.06739	12434.18693	12432.16919

LANCASTER LABORATORIES

Run Name: 1812605T70

Instrument ID: 11016

Tube: 3

Date/Time: 05/06/2018 23:22

Sample Number: **S2**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	1.000	13531.23836	0.327	3.18236	3.18828	3.20268
AS	1.000	367.13092	0.526	1.71434	1.71321	1.72942
B	1.000	9079.32387	0.475	0.04299	0.04260	0.04288
BA	1.000	608878.46415	1.074	2.83986	2.90139	2.87431
BE	1.000	426215.60245	0.623	99.79374	100.83083	100.92150
CD	1.000	16571.57044	0.104	77.65441	77.50101	77.62061
CO	1.000	8415.13440	0.120	39.45314	39.36035	39.39149
CU	1.000	10718.78211	0.438	2.52584	2.51791	2.53977
LI	1.000	6089.33616	0.558	0.48223	0.48341	0.48739
MN	1.000	69930.23117	0.111	16.49522	16.47210	16.50808
NI	1.000	5791.98893	0.133	27.14108	27.07766	27.13963
P	1.000	347.00662	0.801	0.03258	0.03220	0.03270
PB	1.000	1354.88442	0.534	6.30604	6.35416	6.37140
SE	1.000	329.83063	0.606	1.55333	1.54507	1.53465
SR	1.000	745918.54553	0.460	3.51856	3.50191	3.53425
TH	1.000	170.28345	2.936	0.01325	0.01400	0.01339
TL	1.000	317.39271	0.396	1.48697	1.49152	1.47984
W	1.000	1262.26174	0.131	0.11816	0.11838	0.11808
Y1	1.000	10678.65922	0.092	10668.93175	10678.45808	10688.58782
Y2A	1.000	212015.30942	0.106	212037.07775	212228.68411	211780.16640
Y2R	1.000	12572.07686	0.644	12556.65935	12499.97502	12659.59621
ZN	1.000	8442.26912	0.066	39.51430	39.51302	39.55872

LANCASTER LABORATORIES

Run Name: 1812605T70

Instrument ID: 11016

Tube: 4

Date/Time: 05/06/2018 23:25

Sample Number: **S3**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
CR	1.000	12822.54091	0.177	0.05846	0.05828	0.05829
MO	1.000	2484.52121	0.343	11.49311	11.43494	11.41841
SB	1.000	531.06460	0.090	0.04890	0.04894	0.04899
SN	1.000	1210.92474	0.097	5.57872	5.57547	5.58599
TI	1.000	54185.86589	0.055	12.32034	12.32940	12.33356
V	1.000	18421.54856	0.127	4.19124	4.19630	4.18568
Y1	1.000	10850.46687	0.358	10895.20144	10831.00190	10825.19728
Y2A	1.000	219771.67107	0.162	220043.89940	219367.55596	219903.55787
Y2R	1.000	12908.91243	0.207	12894.74865	12939.68096	12892.30769
ZR	1.000	2433.08196	0.748	0.18910	0.18947	0.18687

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 5 Date/Time: 05/06/2018 23:29

Sample Number: **ICV**

The Average Readings, RSD are calculated based on both ICV tubes in the run.

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.61581	8,109.71	0.636	0.61117	0.61164	0.61471
____ AL	30.61318	4,000.52	0.540	30.57949	30.41946	30.47373
____ AS	0.60869	218.41	0.487	0.60432	0.60578	0.60951
____ B	0.57827	5,583.70	0.844	0.57176	0.57705	0.57418
____ BA	0.60382	360,989.46	0.452	0.60169	0.60049	0.60279
____ BE	0.59345	247,751.40	0.596	0.58808	0.59191	0.59160
____ CA	30.46425	36,832.58	0.260	30.43800	30.44189	30.32859
____ CD	0.59828	9,859.89	0.310	0.59541	0.59990	0.59798
____ CO	0.59088	4,954.86	0.223	0.58853	0.59147	0.59172
____ CR	0.57961	7,050.80	0.220	0.57876	0.57924	0.57936
____ CU	0.60929	6,335.25	0.466	0.60446	0.60829	0.60943
____ FE	30.23085	9,735.66	0.251	30.17024	30.14906	30.25543
____ K	30.62920	10,550.03	0.364	30.54463	30.54773	30.63874
____ LI	0.60227	3,590.68	1.208	0.60102	0.59435	0.59414
____ MG	30.43183	60,757.36	0.076	30.44147	30.40616	30.46911
____ MN	0.60298	41,313.64	0.580	0.59814	0.60134	0.60040
____ MO	0.58799	1,429.61	0.205	0.58618	0.58912	0.58882
____ NA	29.56497	30,560.61	0.329	29.47892	29.51968	29.43984
____ NI	0.60158	3,450.61	0.228	0.59956	0.60233	0.60020
____ P	0.60448	207.53	0.557	0.59850	0.60668	0.60414
____ PB	0.59636	816.23	0.662	0.59471	0.59807	0.59015
____ S	30.86642	5,753.93	0.391	30.62442	30.95002	30.89338
____ SB	0.61796	314.87	0.595	0.61773	0.61740	0.61590
____ SE	0.59896	198.21	1.229	0.60507	0.60453	0.59837
____ SI	31.20043	7,243.06	0.338	31.12955	31.06152	31.13629
____ SN	0.58621	692.00	0.616	0.58007	0.58813	0.58393
____ SR	0.60350	443,707.12	0.460	0.59969	0.60462	0.60314
____ TH	0.58224	102.05	3.510	0.56923	0.56910	0.56139
____ TI	0.61410	31,543.01	0.267	0.61231	0.61195	0.61428
____ TL	0.59553	174.90	0.783	0.59198	0.60097	0.59273
____ V	0.60405	10,555.41	0.246	0.60198	0.60564	0.60259
____ W	0.60951	761.29	0.652	0.60607	0.60815	0.60608
____ Y1	10599.13934	10,612.06	0.262	10594.43278	10606.96443	10634.78413
____ Y2A	208633.77900	208,732.71	0.216	209361.46354	208436.61339	208400.04995
____ Y2R	12383.88615	12,290.85	0.911	12294.53047	12302.27273	12275.74925
____ ZN	0.60228	5,056.46	0.515	0.59698	0.60262	0.60050
____ ZR	0.59409	1,453.88	0.553	0.59017	0.59593	0.59163

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 6 Date/Time: 05/06/2018 23:32

Sample Number: **ICV2**

The Average Readings, RSD are calculated based on both ICV tubes in the run.

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.61581	8,183.93	0.636	0.61887	0.62058	0.61791
____ AL	30.61318	4,093.82	0.540	30.59093	30.77473	30.84073
____ AS	0.60869	219.45	0.487	0.61166	0.60978	0.61109
____ B	0.57827	5,649.94	0.844	0.57943	0.58316	0.58403
____ BA	0.60382	363,232.23	0.452	0.60775	0.60605	0.60412
____ BE	0.59345	249,967.47	0.596	0.59566	0.59762	0.59584
____ CA	30.46425	37,540.68	0.260	30.53931	30.50926	30.52845
____ CD	0.59828	9,852.76	0.310	0.60040	0.59887	0.59710
____ CO	0.59088	4,947.95	0.223	0.59136	0.59205	0.59016
____ CR	0.57961	7,056.10	0.220	0.57910	0.57904	0.58218
____ CU	0.60929	6,378.45	0.466	0.60939	0.61235	0.61184
____ FE	30.23085	9,908.50	0.251	30.21443	30.36292	30.23303
____ K	30.62920	10,745.56	0.364	30.57483	30.62717	30.84209
____ LI	0.60227	3,713.80	1.208	0.60949	0.61126	0.60339
____ MG	30.43183	61,648.82	0.076	30.44126	30.41476	30.41820
____ MN	0.60298	41,690.01	0.580	0.60532	0.60668	0.60603
____ MO	0.58799	1,425.87	0.205	0.58884	0.58813	0.58685
____ NA	29.56497	31,207.89	0.329	29.66682	29.64180	29.64274
____ NI	0.60158	3,452.20	0.228	0.60237	0.60303	0.60198
____ P	0.60448	207.98	0.557	0.60398	0.60838	0.60520
____ PB	0.59636	819.93	0.662	0.59530	0.60178	0.59814
____ S	30.86642	5,756.17	0.391	30.93322	30.89241	30.90508
____ SB	0.61796	315.10	0.595	0.61789	0.61399	0.62483
____ SE	0.59896	195.36	1.229	0.58653	0.60447	0.59481
____ SI	31.20043	7,395.95	0.338	31.31843	31.25445	31.30236
____ SN	0.58621	695.42	0.616	0.59009	0.58721	0.58782
____ SR	0.60350	444,787.64	0.460	0.60519	0.60725	0.60112
____ TH	0.58224	108.71	3.510	0.60179	0.57933	0.61258
____ TI	0.61410	31,642.23	0.267	0.61521	0.61606	0.61480
____ TL	0.59553	174.64	0.783	0.59080	0.59513	0.60155
____ V	0.60405	10,569.51	0.246	0.60407	0.60537	0.60463
____ W	0.60951	766.29	0.652	0.61155	0.61650	0.60873
____ Y1	10599.13934	10,586.22	0.262	10559.12726	10578.51004	10621.01739
____ Y2A	208633.77900	208,534.85	0.216	208752.62448	208041.45892	208810.46372
____ Y2R	12383.88615	12,476.92	0.911	12563.91109	12433.25025	12433.60312
____ ZN	0.60228	5,081.56	0.515	0.60490	0.60520	0.60347
____ ZR	0.59409	1,487.91	0.553	0.59197	0.59631	0.59854

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 7 Date/Time: 05/06/2018 23:35

Sample Number: **ICB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00032	-73.13	236.730	0.00063	-0.00054	0.00086
____ AL	0.04425	-0.28	131.211	-0.00222	0.10935	0.02563
____ AS	0.00053	-1.77	546.215	-0.00060	0.00382	-0.00163
____ B	-0.00072	-6.67	53.066	-0.00117	-0.00050	-0.00051
____ BA	0.00011	410.01	93.019	0.00018	0.00015	-0.00001
____ BE	0.00008	-75.00	38.749	0.00009	0.00010	0.00005
____ CA	0.00222	64.10	24.646	0.00212	0.00173	0.00280
____ CD	0.00003	-13.23	378.508	-0.00005	0.00013	0.00000
____ CO	-0.00026	20.33	160.619	-0.00018	-0.00071	0.00011
____ CR	0.00097	7.32	24.804	0.00072	0.00101	0.00120
____ CU	0.00126	-64.78	154.221	-0.00082	0.00300	0.00158
____ FE	0.01331	9.43	80.337	0.02562	0.00635	0.00795
____ K	0.09508	215.67	34.570	0.05742	0.10985	0.11797
____ LI	-0.00460	63.09	34.024	-0.00410	-0.00334	-0.00635
____ MG	0.00496	-10.73	5.244	0.00473	0.00491	0.00524
____ MN	0.00018	31.88	65.554	0.00007	0.00031	0.00017
____ MO	0.00047	2.94	54.703	0.00074	0.00022	0.00045
____ NA	-0.03437	-854.07	79.004	-0.06448	-0.01174	-0.02689
____ NI	0.00022	32.79	178.717	0.00019	0.00064	-0.00016
____ P	-0.00251	-2.04	55.785	-0.00347	-0.00316	-0.00090
____ PB	-0.00011	-7.89	568.455	0.00025	0.00026	-0.00085
____ S	0.01383	5.05	18.944	0.01261	0.01205	0.01684
____ SB	0.00110	-9.94	273.151	-0.00237	0.00285	0.00282
____ SE	0.00109	3.30	430.246	0.00645	-0.00206	-0.00113
____ SI	0.01666	7.08	27.654	0.01698	0.01189	0.02109
____ SN	0.00159	2.66	53.530	0.00172	0.00068	0.00236
____ SR	0.00006	108.74	57.022	0.00011	0.00005	0.00004
____ TH	-0.00653	5.22	448.421	0.02628	-0.02996	-0.01590
____ TI	0.00031	26.12	17.253	0.00036	0.00033	0.00025
____ TL	0.00601	-4.49	41.185	0.00388	0.00542	0.00872
____ V	0.00015	-62.84	193.696	0.00040	-0.00016	0.00019
____ W	0.00117	2.16	103.576	0.00253	0.00079	0.00020
____ Y1	10809.83882	10,809.84	0.310	10813.13767	10774.80032	10841.57847
____ Y2A	215553.86143	215,553.86	0.195	215191.27316	215456.45000	216013.86114
____ Y2R	12648.06034	12,648.06	0.738	12714.77363	12688.09761	12541.30976
____ ZN	0.00039	16.41	38.940	0.00023	0.00040	0.00053
____ ZR	-0.00032	-16.20	1547.133	-0.00595	0.00221	0.00279

LANCASTER LABORATORIES

Run Name: 1812605T70

Instrument ID: 11016

Tube: 8

Date/Time: 05/06/2018 23:39

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00723	-32.47	20.908	0.00549	0.00810	0.00811
____ AL	0.21997	26.92	10.816	0.24732	0.20863	0.20398
____ AS	0.02064	5.78	12.166	0.01792	0.02114	0.02287
____ B	0.04670	437.34	0.559	0.04694	0.04674	0.04642
____ BA	0.00527	3,642.33	1.886	0.00537	0.00518	0.00525
____ BE	0.00500	2,071.60	0.701	0.00499	0.00504	0.00497
____ CA	0.20863	324.54	2.258	0.20351	0.21278	0.20961
____ CD	0.00525	75.22	3.851	0.00516	0.00510	0.00548
____ CO	0.00520	67.48	5.716	0.00494	0.00515	0.00552
____ CR	0.01521	187.71	2.294	0.01486	0.01556	0.01520
____ CU	0.00894	88.78	14.439	0.01014	0.00758	0.00911
____ FE	0.22134	79.65	7.142	0.20978	0.21488	0.23935
____ K	0.58035	388.77	8.126	0.63097	0.57239	0.53767
____ LI	0.01461	180.40	34.852	0.00909	0.01563	0.01912
____ MG	0.10840	205.32	1.403	0.10976	0.10868	0.10675
____ MN	0.00541	400.62	1.766	0.00543	0.00548	0.00530
____ MO	0.00941	25.27	6.791	0.00896	0.00914	0.01015
____ NA	1.06459	351.99	1.512	1.07894	1.04718	1.06765
____ NI	0.01082	95.38	3.337	0.01085	0.01117	0.01045
____ P	0.09997	34.23	2.775	0.10237	0.09693	0.10061
____ PB	0.01666	15.45	5.128	0.01639	0.01597	0.01761
____ S	0.51566	101.31	0.867	0.51349	0.52080	0.51268
____ SB	0.02112	0.79	10.894	0.02357	0.02078	0.01901
____ SE	0.01806	8.99	35.187	0.01306	0.02521	0.01591
____ SI	0.05524	16.94	10.333	0.05226	0.06182	0.05163
____ SN	0.02105	26.35	3.966	0.02069	0.02200	0.02044
____ SR	0.00523	4,059.22	1.233	0.00525	0.00515	0.00527
____ TH	0.20735	40.97	19.352	0.16411	0.24339	0.21456
____ TI	0.01024	557.49	3.977	0.01025	0.00983	0.01064
____ TL	0.03528	5.03	5.376	0.03321	0.03568	0.03694
____ V	0.00518	33.88	5.220	0.00487	0.00538	0.00529
____ W	0.01122	15.26	2.596	0.01145	0.01089	0.01132
____ Y1	10904.74521	10,904.75	0.281	10882.57961	10939.72117	10891.93484
____ Y2A	217065.61072	217,065.61	0.264	216593.88101	217703.91843	216899.03271
____ Y2R	12763.90976	12,763.91	1.294	12889.43845	12825.49801	12576.79283
____ ZN	0.02114	194.72	0.756	0.02103	0.02132	0.02106
____ ZR	0.04814	134.93	8.020	0.04886	0.04397	0.05159

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 9 Date/Time: 05/06/2018 23:42

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00264	-415.14	21.819	0.00330	0.00241	0.00222
____ AL	510.04712	65,995.23	1.167	513.60586	513.36087	503.17465
____ AS	0.00969	-15.23	52.066	0.01549	0.00633	0.00725
____ B	-0.08239	2,099.55	6.766	-0.08793	-0.08245	-0.07679
____ BA	0.00104	883.82	2.931	0.00107	0.00101	0.00106
____ BE	-0.00064	-344.43	6.486	-0.00064	-0.00059	-0.00068
____ CA	501.92007	575,823.23	1.874	506.38526	508.26140	491.11353
____ CD	-0.00232	82.23	7.957	-0.00253	-0.00227	-0.00217
____ CO	-0.00019	18.69	224.142	-0.00003	-0.00067	0.00013
____ CR	-0.00245	-31.94	23.725	-0.00201	-0.00311	-0.00223
____ CU	-0.00538	111.91	45.215	-0.00689	-0.00668	-0.00257
____ FE	202.20687	61,193.62	1.237	204.09410	203.15755	199.36897
____ K	0.11091	211.52	6.242	0.10822	0.10574	0.11878
____ LI	-0.01004	95.54	26.846	-0.01312	-0.00815	-0.00884
____ MG	477.86217	832,762.51	1.627	482.51897	482.17836	468.88918
____ MN	0.00462	309.59	0.573	0.00460	0.00465	0.00460
____ MO	0.00148	4.84	44.754	0.00135	0.00089	0.00219
____ NA	0.05866	-718.80	59.743	0.06405	0.02123	0.09069
____ NI	0.00590	-12.82	7.700	0.00639	0.00549	0.00581
____ P	0.00382	0.15	101.402	-0.00036	0.00730	0.00453
____ PB	0.00823	201.55	32.575	0.00974	0.00513	0.00981
____ S	0.06013	12.37	5.960	0.06423	0.05853	0.05762
____ SB	-0.00533	-19.16	98.657	-0.00109	-0.01122	-0.00368
____ SE	-0.00190	2.02	417.126	0.00711	-0.00507	-0.00772
____ SI	0.00217	3.63	1363.624	0.00372	-0.02815	0.03093
____ SN	0.00263	3.50	22.676	0.00321	0.00202	0.00265
____ SR	-0.00053	18,590.29	91.756	-0.00076	-0.00085	0.00003
____ TH	0.00179	36.65	322.373	-0.00439	0.00705	0.00272
____ TI	0.00029	22.43	66.058	0.00018	0.00052	0.00018
____ TL	0.01334	-7.75	23.011	0.01338	0.01025	0.01639
____ V	0.00168	-30.79	8.437	0.00158	0.00184	0.00163
____ W	0.00390	5.11	2.865	0.00394	0.00377	0.00399
____ Y1	9662.99743	9,663.00	0.834	9756.09829	9616.54507	9616.34894
____ Y2A	192436.18036	192,436.18	0.138	192652.79996	192515.19089	192140.55024
____ Y2R	12091.12283	12,091.12	1.541	11971.24975	11996.40216	12305.71657
____ ZN	0.00882	183.45	1.073	0.00881	0.00872	0.00891
____ ZR	0.00663	1.80	49.585	0.00679	0.00327	0.00984

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 10 Date/Time: 05/06/2018 23:46

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.21760	2,249.67	0.344	0.21779	0.21824	0.21678
____ AL	508.87339	65,021.82	0.219	507.88726	510.08580	508.64711
____ AS	0.10689	17.10	3.001	0.10454	0.11054	0.10559
____ B	-0.08455	2,044.65	1.037	-0.08494	-0.08516	-0.08355
____ BA	0.51080	277,223.73	0.777	0.51448	0.50660	0.51130
____ BE	0.50917	193,287.73	0.268	0.50972	0.51017	0.50761
____ CA	502.49224	569,090.57	0.634	499.19046	502.74126	505.54499
____ CD	0.93791	14,098.99	0.204	0.94005	0.93637	0.93731
____ CO	0.47064	3,570.70	0.350	0.47249	0.46933	0.47010
____ CR	0.47288	5,208.90	0.430	0.47411	0.47398	0.47053
____ CU	0.53046	5,106.26	0.157	0.53056	0.52958	0.53125
____ FE	202.30672	60,437.77	0.442	202.36666	203.16927	201.38424
____ K	0.11481	210.06	46.065	0.12181	0.05877	0.16385
____ LI	-0.00662	113.86	44.672	-0.00436	-0.00996	-0.00553
____ MG	482.93593	829,631.06	0.789	479.07707	486.69256	483.03817
____ MN	0.49953	31,139.70	0.163	0.49975	0.50022	0.49863
____ MO	0.00049	2.65	142.301	0.00125	-0.00013	0.00036
____ NA	0.02442	-745.07	52.668	0.03799	0.02287	0.01240
____ NI	0.94398	4,847.54	0.278	0.94675	0.94154	0.94364
____ P	0.00852	2.35	11.377	0.00743	0.00928	0.00884
____ PB	0.53413	843.90	1.771	0.54502	0.52792	0.52946
____ S	0.05780	11.92	10.688	0.06459	0.05632	0.05250
____ SB	0.61133	275.97	0.096	0.61166	0.61066	0.61168
____ SE	0.51347	152.68	1.645	0.50652	0.51102	0.52287
____ SI	-0.00088	2.83	623.296	0.00514	-0.00563	-0.00215
____ SN	0.00211	2.92	50.926	0.00092	0.00239	0.00301
____ SR	-0.00082	18,074.84	25.250	-0.00062	-0.00080	-0.00103
____ TH	0.00715	36.48	12.139	0.00745	0.00617	0.00783
____ TI	0.00198	100.44	14.407	0.00171	0.00228	0.00194
____ TL	0.10300	12.64	4.252	0.09945	0.10789	0.10165
____ V	0.50479	8,136.38	0.106	0.50504	0.50516	0.50418
____ W	-0.00036	12.34	239.077	0.00061	-0.00103	-0.00066
____ Y1	9599.09948	9,599.10	0.401	9555.20116	9615.27861	9626.81868
____ Y2A	188881.01643	188,881.02	0.057	188866.26921	188781.99360	188994.78647
____ Y2R	11934.74167	11,934.74	0.807	12045.49770	11870.58648	11888.14083
____ ZN	1.00967	7,760.04	0.250	1.01211	1.00707	1.00985
____ ZR	0.00679	2.88	37.433	0.00968	0.00572	0.00495

LANCASTER LABORATORIES

Run Name: 1812605T70

Instrument ID: 11016

Tube: 11

Date/Time: 05/06/2018 23:49

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.51841	6,884.90	0.058	0.51873	0.51836	0.51814
____ AL	25.68644	3,384.70	0.527	25.84215	25.59634	25.62083
____ AS	0.52145	186.64	0.855	0.51766	0.52033	0.52636
____ B	0.47279	4,631.54	0.565	0.47024	0.47556	0.47256
____ BA	0.49902	301,455.35	0.237	0.49798	0.49878	0.50031
____ BE	0.49940	210,887.18	0.259	0.50083	0.49907	0.49831
____ CA	25.66472	31,254.61	0.148	25.70380	25.62781	25.66256
____ CD	0.50724	8,323.64	0.128	0.50659	0.50726	0.50789
____ CO	0.50418	4,212.56	0.049	0.50406	0.50446	0.50401
____ CR	0.48204	5,907.07	0.392	0.48031	0.48176	0.48406
____ CU	0.51992	5,463.23	0.307	0.51842	0.52160	0.51975
____ FE	25.14890	8,158.18	0.480	25.28716	25.09448	25.06507
____ K	25.59472	8,900.25	0.284	25.67541	25.57415	25.53461
____ LI	0.51626	3,133.64	0.306	0.51530	0.51539	0.51808
____ MG	25.29969	50,791.57	0.231	25.35714	25.30149	25.24045
____ MN	0.51257	35,531.04	0.142	0.51306	0.51291	0.51173
____ MO	0.49554	1,199.11	0.121	0.49619	0.49542	0.49500
____ NA	25.76910	26,735.59	0.112	25.78520	25.73566	25.78644
____ NI	0.51110	2,926.63	0.101	0.51051	0.51128	0.51150
____ P	0.51199	175.15	0.217	0.51276	0.51072	0.51249
____ PB	0.50998	695.48	0.199	0.51114	0.50954	0.50927
____ S	25.16123	4,674.39	0.110	25.16100	25.13358	25.18910
____ SB	0.50932	256.88	0.865	0.50504	0.51383	0.50909
____ SE	0.49843	163.65	0.588	0.50160	0.49785	0.49582
____ SI	25.42679	5,948.41	0.632	25.61083	25.35542	25.31411
____ SN	0.49456	583.23	0.241	0.49573	0.49334	0.49463
____ SR	0.50763	376,351.91	0.605	0.50536	0.50640	0.51112
____ TH	0.52832	95.50	2.261	0.53838	0.51512	0.53145
____ TI	0.51471	26,668.91	0.172	0.51476	0.51556	0.51380
____ TL	0.51018	148.48	0.388	0.51235	0.50972	0.50847
____ V	0.50545	8,890.83	0.061	0.50520	0.50580	0.50536
____ W	0.51652	645.10	0.571	0.51455	0.51509	0.51991
____ Y1	10560.28110	10,560.28	0.106	10569.78521	10563.08145	10547.97662
____ Y2A	210115.60051	210,115.60	1.218	207169.74105	211800.51387	211376.54660
____ Y2R	12346.89152	12,346.89	0.264	12309.35126	12368.05139	12363.27191
____ ZN	0.51899	4,352.98	0.169	0.51945	0.51798	0.51955
____ ZR	0.49682	1,230.42	0.694	0.50021	0.49692	0.49332

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 12 Date/Time: 05/06/2018 23:53

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00055	-87.96	61.878	-0.00094	-0.00031	-0.00040
____ AL	0.01876	-3.51	94.878	0.03594	0.01995	0.00040
____ AS	0.00103	-1.59	312.812	-0.00103	-0.00062	0.00472
____ B	-0.00087	-7.91	49.036	-0.00040	-0.00123	-0.00097
____ BA	0.00024	491.20	7.551	0.00026	0.00022	0.00025
____ BE	0.00004	-92.26	85.818	0.00005	0.00000	0.00007
____ CA	0.01902	84.50	24.068	0.01478	0.02387	0.01840
____ CD	0.00012	-11.60	58.955	0.00009	0.00021	0.00007
____ CO	0.00011	23.57	195.561	0.00037	-0.00005	0.00002
____ CR	0.00043	0.47	199.982	0.00075	-0.00054	0.00108
____ CU	0.00032	-70.48	413.892	-0.00054	-0.00034	0.00183
____ FE	0.01795	10.90	18.782	0.01414	0.01915	0.02056
____ K	0.04322	196.36	163.437	0.12265	0.01960	-0.01258
____ LI	-0.00544	57.51	60.103	-0.00888	-0.00506	-0.00238
____ MG	0.01613	12.31	4.319	0.01545	0.01685	0.01608
____ MN	0.00023	34.73	41.772	0.00012	0.00026	0.00031
____ MO	0.00013	2.09	362.001	-0.00040	0.00044	0.00034
____ NA	-0.05444	-870.25	40.896	-0.05183	-0.07789	-0.03359
____ NI	-0.00040	29.30	53.356	-0.00060	-0.00040	-0.00018
____ P	-0.00108	-1.54	162.037	-0.00038	0.00021	-0.00306
____ PB	0.00012	-7.62	2222.723	0.00317	-0.00077	-0.00203
____ S	0.01200	4.70	59.681	0.00851	0.02024	0.00726
____ SB	0.00441	-8.23	128.754	0.00492	-0.00151	0.00982
____ SE	-0.00109	2.60	423.212	-0.00274	-0.00465	0.00412
____ SI	0.00846	5.14	106.887	0.01316	0.01418	-0.00196
____ SN	0.00146	2.51	59.611	0.00232	0.00058	0.00148
____ SR	0.00002	77.79	60.896	0.00001	0.00004	0.00002
____ TH	0.00543	7.15	331.852	-0.01279	0.02324	0.00584
____ TI	0.00001	10.04	453.142	-0.00003	-0.00001	0.00007
____ TL	0.00875	-3.60	19.280	0.00696	0.01031	0.00898
____ V	-0.00008	-66.27	844.519	0.00011	-0.00083	0.00048
____ W	0.00235	3.66	32.629	0.00184	0.00323	0.00197
____ Y1	10854.22914	10,854.23	0.745	10786.34956	10832.69269	10943.64517
____ Y2A	214750.80482	214,750.80	0.260	214526.66433	215387.38290	214338.36722
____ Y2R	12564.48001	12,564.48	0.495	12608.09733	12592.04092	12493.30179
____ ZN	0.00050	17.41	39.902	0.00049	0.00071	0.00031
____ ZR	0.00584	0.48	109.544	0.01276	0.00016	0.00458

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 13 Date/Time: 05/06/2018 23:56

Sample Number: **PBW** Class: **** Batch: 181200571604

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00035	-77.95	220.419	-0.00046	0.00105	0.00044
____ AL	0.01179	-4.61	137.140	0.02413	0.01774	-0.00651
____ AS	0.00472	-0.22	53.301	0.00204	0.00702	0.00509
____ B	-0.00102	-9.69	36.878	-0.00120	-0.00058	-0.00126
____ BA	0.00004	379.54	100.138	0.00005	0.00000	0.00008
____ BE	0.00003	-100.95	53.632	0.00003	0.00004	0.00001
____ CA	-0.00257	60.20	314.161	-0.00895	-0.00525	0.00650
____ CD	0.00002	-13.82	1049.946	0.00006	0.00016	-0.00017
____ CO	-0.00014	22.05	251.965	0.00024	-0.00020	-0.00044
____ CR	0.00002	-4.85	1935.159	-0.00016	0.00036	-0.00016
____ CU	0.00065	-69.64	91.088	0.00111	-0.00002	0.00085
____ FE	0.00952	8.46	152.781	-0.00170	0.02594	0.00431
____ K	0.01325	193.73	331.805	0.06146	-0.02459	0.00287
____ LI	-0.00996	31.75	30.204	-0.00930	-0.00734	-0.01325
____ MG	0.00574	-9.44	42.128	0.00829	0.00348	0.00546
____ MN	0.00015	30.01	20.651	0.00013	0.00018	0.00013
____ MO	0.00011	2.12	527.429	-0.00022	-0.00025	0.00080
____ NA	-0.01083	-857.58	104.096	0.00055	-0.01105	-0.02200
____ NI	0.00004	32.78	1715.611	0.00085	-0.00037	-0.00036
____ P	-0.00140	-1.70	53.539	-0.00193	-0.00172	-0.00054
____ PB	0.00215	-4.93	111.704	0.00231	-0.00033	0.00446
____ S	0.00509	3.49	43.196	0.00300	0.00489	0.00738
____ SB	0.00209	-9.74	22.743	0.00178	0.00185	0.00263
____ SE	-0.00073	2.78	542.535	0.00081	0.00224	-0.00525
____ SI	-0.01056	0.61	71.415	-0.01520	-0.00186	-0.01462
____ SN	0.00022	1.05	339.417	0.00079	-0.00063	0.00051
____ SR	0.00003	83.23	18.127	0.00003	0.00002	0.00003
____ TH	0.00462	7.30	203.184	0.00533	-0.00510	0.01361
____ TI	0.00018	19.65	63.858	0.00019	0.00006	0.00029
____ TL	0.00660	-4.44	18.484	0.00694	0.00525	0.00762
____ V	0.00046	-58.18	60.555	0.00015	0.00070	0.00054
____ W	0.00118	2.23	94.191	0.00079	0.00244	0.00032
____ Y1	11162.21928	11,162.22	0.611	11177.93545	11087.47876	11221.24363
____ Y2A	222203.75873	222,203.76	1.261	223699.09164	223941.64172	218970.54283
____ Y2R	13095.70111	13,095.70	0.404	13048.51119	13152.83865	13085.75349
____ ZN	0.00011	14.45	179.528	0.00030	0.00010	-0.00008
____ ZR	0.00293	-6.84	97.361	0.00072	0.00615	0.00192

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 14 Date/Time: 05/07/2018 00:00

Sample Number: **LCSW** Class: **** Batch: 181200571604

Initial Vol: 1.00 Final Vol: 1.00 DF: 1.00

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.05389	762.82	1.441	0.05299	0.05429	0.05438
____ AL	1.93098	303.04	3.154	1.97741	1.95352	1.86202
____ AS	0.16162	59.93	0.719	0.16288	0.16140	0.16059
____ B	1.96929	18,467.14	0.060	1.97064	1.96841	1.96881
____ BA	2.08223	1,308,247.06	0.661	2.09592	2.06838	2.08238
____ BE	0.05073	22,204.98	0.215	0.05084	0.05063	0.05071
____ CA	4.32868	5,631.86	0.486	4.30970	4.35127	4.32508
____ CD	0.05418	908.33	0.176	0.05408	0.05418	0.05427
____ CO	0.54574	4,737.39	0.239	0.54428	0.54680	0.54615
____ CR	0.20686	2,636.55	0.625	0.20652	0.20578	0.20829
____ CU	0.27273	2,788.23	0.497	0.27427	0.27222	0.27171
____ FE	1.06587	372.60	0.851	1.06991	1.07222	1.05548
____ K	10.69547	4,039.64	1.004	10.58651	10.69868	10.80121
____ LI	1.07438	6,782.81	0.500	1.06852	1.07556	1.07906
____ MG	2.15296	4,574.07	0.342	2.14780	2.16138	2.14968
____ MN	0.53528	38,648.75	0.141	0.53615	0.53488	0.53482
____ MO	2.05220	5,143.83	0.306	2.04506	2.05477	2.05678
____ NA	10.86656	11,426.09	0.541	10.79897	10.90547	10.89525
____ NI	0.55590	3,315.28	0.171	0.55481	0.55633	0.55656
____ P	1.06670	378.42	0.942	1.05589	1.07577	1.06843
____ PB	0.16736	227.24	0.679	0.16864	0.16698	0.16646
____ S	1.08116	210.81	0.241	1.07823	1.08319	1.08206
____ SB	0.53860	275.83	0.521	0.53559	0.53904	0.54115
____ SE	0.16092	56.66	1.923	0.16226	0.16311	0.15738
____ SI	1.02171	278.30	1.270	1.03057	1.00681	1.02774
____ SN	4.12336	5,036.77	0.171	4.11715	4.13105	4.12187
____ SR	1.07754	829,588.94	0.417	1.08236	1.07680	1.07347
____ TH	0.00213	8.85	1645.247	-0.03748	0.02871	0.01515
____ TI	1.04419	56,324.76	0.054	1.04459	1.04444	1.04355
____ TL	0.16652	39.45	3.065	0.16063	0.16947	0.16947
____ V	0.53684	9,202.99	0.042	0.53658	0.53699	0.53695
____ W	0.00036	8.64	110.985	-0.00010	0.00053	0.00065
____ Y1	10950.52598	10,950.53	0.133	10967.13814	10939.86709	10944.57271
____ Y2A	218779.55926	218,779.56	0.060	218909.93526	218781.63673	218647.10579
____ Y2R	13046.98012	13,046.98	0.739	13137.58490	12945.58824	13057.76723
____ ZN	0.54596	4,731.16	0.101	0.54534	0.54614	0.54639
____ ZR	1.02100	2,511.33	0.467	1.02047	1.02602	1.01652

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 15 Date/Time: 05/07/2018 00:03

Sample Number: **LCSWD** Class: **** Batch: 181200571604

Initial Vol: 1.00 Final Vol: 1.00 DF: 1.00

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.05388	769.90	2.959	0.05328	0.05267	0.05569
____ AL	1.98068	313.39	1.230	2.00795	1.96110	1.97299
____ AS	0.16349	61.27	2.164	0.16507	0.16596	0.15944
____ B	1.95058	18,528.75	0.082	1.94879	1.95110	1.95186
____ BA	2.07734	1,322,072.50	0.664	2.09306	2.06729	2.07165
____ BE	0.04997	22,153.20	0.107	0.04997	0.04991	0.05002
____ CA	4.30882	5,673.42	0.314	4.30764	4.32292	4.29591
____ CD	0.05370	909.70	0.392	0.05394	0.05359	0.05357
____ CO	0.54204	4,754.66	0.299	0.54378	0.54058	0.54176
____ CR	0.20650	2,665.95	0.324	0.20584	0.20648	0.20717
____ CU	0.26917	2,788.50	0.510	0.26870	0.27071	0.26809
____ FE	1.06292	376.03	0.873	1.06373	1.05326	1.07176
____ K	10.55042	4,035.12	0.412	10.58550	10.56397	10.50177
____ LI	1.05518	6,742.99	0.107	1.05569	1.05389	1.05596
____ MG	2.15180	4,626.28	0.241	2.15064	2.15748	2.14728
____ MN	0.52705	38,547.01	0.123	0.52778	0.52678	0.52657
____ MO	2.03595	5,156.67	0.269	2.04165	2.03071	2.03549
____ NA	10.81455	11,503.34	0.686	10.75130	10.89620	10.79614
____ NI	0.55163	3,324.61	0.347	0.55318	0.54949	0.55223
____ P	1.06026	380.07	0.458	1.06506	1.05534	1.06039
____ PB	0.16444	225.53	1.792	0.16227	0.16327	0.16780
____ S	1.07023	210.90	0.410	1.06817	1.06725	1.07527
____ SB	0.52860	273.35	0.151	0.52777	0.52866	0.52936
____ SE	0.15733	56.04	3.232	0.15319	0.15579	0.16300
____ SI	1.01048	278.55	1.028	0.99905	1.01934	1.01305
____ SN	4.07938	5,035.35	0.284	4.09268	4.07399	4.07147
____ SR	1.07771	840,458.69	0.273	1.08060	1.07779	1.07472
____ TH	0.00858	10.07	210.253	0.00615	-0.00812	0.02770
____ TI	1.03057	56,309.76	0.068	1.03098	1.02976	1.03096
____ TL	0.16477	39.35	1.717	0.16151	0.16656	0.16624
____ V	0.53330	9,261.46	0.238	0.53305	0.53218	0.53467
____ W	-0.00019	7.94	288.609	-0.00055	0.00043	-0.00044
____ Y1	11065.47819	11,065.48	0.182	11042.60609	11073.55058	11080.27789
____ Y2A	221613.27589	221,613.28	0.160	221605.06487	221971.33964	221263.42315
____ Y2R	13202.82629	13,202.83	0.178	13228.49382	13182.37787	13197.60718
____ ZN	0.53982	4,727.37	0.188	0.54006	0.53871	0.54070
____ ZR	1.00957	2,513.84	0.046	1.00920	1.00942	1.01009

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 16 Date/Time: 05/07/2018 00:07

Sample Number: **9576543** Class: U*** Batch: 181200571604

Initial Vol: 25.00 Final Vol: 25.00 DF: 5.00

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.09245	-1,311.11	1.312	0.09204	0.09382	0.09150
____ AL	0.38817	45.92	8.946	0.35626	0.38310	0.42515
____ AS	1.88268	584.47	0.364	1.87496	1.88804	1.88503
____ B	-0.50272	9,275.37	1.071	-0.49981	-0.50894	-0.49943
____ BA	0.00725	4,627.61	0.186	0.00726	0.00726	0.00724
____ BE	-0.00006	-131.59	45.149	-0.00006	-0.00010	-0.00004
____ CA	93.85484	116,568.57	0.237	93.62001	94.06255	93.88198
____ CD	-0.00060	610.23	61.871	-0.00017	-0.00082	-0.00081
____ CO	0.00279	43.87	21.816	0.00213	0.00333	0.00291
____ CR	0.08617	1,032.21	0.875	0.08531	0.08649	0.08671
____ CU	0.14478	920.53	1.894	0.14174	0.14554	0.14707
____ FE	931.51301	235,827.07	0.413	929.37464	935.95797	929.20643
____ K	2.37053	1,012.25	1.936	2.40653	2.38621	2.31884
____ LI	0.03467	313.61	23.200	0.02682	0.04290	0.03431
____ MG	34.58553	71,122.07	0.208	34.53301	34.66762	34.55597
____ MN	5.39174	366,670.42	0.712	5.35836	5.43365	5.38320
____ MO	0.00678	17.60	20.212	0.00628	0.00833	0.00573
____ NA	61.42393	66,554.81	0.167	61.31220	61.51299	61.44661
____ NI	0.08049	124.36	0.973	0.08035	0.08134	0.07980
____ P	0.23790	78.40	0.865	0.23999	0.23785	0.23587
____ PB	0.02242	25.62	10.454	0.02507	0.02062	0.02156
____ S	16.85207	3,047.45	0.318	16.87818	16.79052	16.88751
____ SB	0.08355	-2.25	3.632	0.08674	0.08322	0.08070
____ SE	0.08605	6.02	6.254	0.08965	0.08864	0.07987
____ SI	2.70465	649.87	0.475	2.71900	2.69426	2.70068
____ SN	0.01253	15.05	20.544	0.01111	0.01550	0.01098
____ SR	1.90271	1,383,838.67	0.358	1.89639	1.90991	1.90181
____ TH	-0.07016	141.21	32.106	-0.04535	-0.07580	-0.08934
____ TI	0.01404	722.74	2.160	0.01384	0.01439	0.01389
____ TL	0.10386	-0.82	4.616	0.10413	0.10852	0.09894
____ V	0.01882	266.54	4.381	0.01850	0.01975	0.01820
____ W	-0.00130	10.01	97.511	-0.00252	-0.00140	0.00001
____ Y1	10267.82415	10,267.82	0.464	10235.51290	10245.43958	10322.51996
____ Y2A	206165.84989	206,165.85	0.161	206460.98901	205808.03839	206228.52225
____ Y2R	12675.36324	12,675.36	0.476	12741.81473	12624.15000	12660.12500
____ ZN	0.84905	7,370.34	0.107	0.84987	0.84807	0.84921
____ ZR	0.02476	34.04	9.423	0.02726	0.02439	0.02264

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 17 Date/Time: 05/07/2018 00:10

Sample Number: **9576543** Class: UP** Batch: 181200571604

Initial Vol: 25.00 Final Vol: 25.00 DF: 5.00

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.11614	-948.45	4.306	0.11917	0.11037	0.11889
____ AL	1.28656	174.53	5.538	1.25737	1.36778	1.23454
____ AS	2.38832	768.92	0.627	2.37750	2.38206	2.40541
____ B	-0.34122	10,973.28	5.490	-0.35196	-0.31959	-0.35211
____ BA	0.05742	35,235.37	0.220	0.05741	0.05730	0.05755
____ BE	0.01912	7,958.20	0.603	0.01905	0.01906	0.01926
____ CA	95.25017	119,273.72	0.184	95.13264	95.45109	95.16677
____ CD	0.04900	1,415.19	1.498	0.04833	0.04978	0.04889
____ CO	0.10372	865.98	0.347	0.10395	0.10389	0.10330
____ CR	0.27954	3,417.30	0.389	0.28079	0.27895	0.27888
____ CU	0.66931	6,347.46	0.257	0.66825	0.66839	0.67130
____ FE	937.30494	238,779.88	1.451	942.21907	921.93103	947.76471
____ K	4.34432	1,716.90	1.595	4.26793	4.40320	4.36182
____ LI	1.06012	6,570.29	0.941	1.04944	1.06920	1.06171
____ MG	35.72104	74,048.60	0.079	35.69765	35.75263	35.71284
____ MN	5.43849	376,251.25	0.740	5.40306	5.48223	5.43018
____ MO	0.20852	495.07	0.336	0.20839	0.20927	0.20788
____ NA	63.84673	69,788.84	0.145	63.79183	63.95392	63.79443
____ NI	0.23082	961.68	0.717	0.23157	0.22892	0.23197
____ P	1.25951	422.61	0.398	1.25643	1.26530	1.25680
____ PB	0.52013	683.08	0.589	0.52172	0.52207	0.51660
____ S	17.82889	3,246.90	0.286	17.77541	17.83410	17.87717
____ SB	0.48486	202.03	0.913	0.48792	0.48688	0.47978
____ SE	0.89651	261.22	0.371	0.89315	0.89659	0.89980
____ SI	3.88529	942.84	0.702	3.86053	3.91455	3.88079
____ SN	0.58746	678.26	0.218	0.58615	0.58754	0.58870
____ SR	1.90583	1,410,158.47	0.357	1.90065	1.91352	1.90331
____ TH	-0.07871	143.65	26.676	-0.05544	-0.09623	-0.08448
____ TI	0.11604	6,008.81	0.490	0.11539	0.11633	0.11641
____ TL	1.06963	299.47	0.483	1.07500	1.06919	1.06470
____ V	0.12115	2,037.68	0.061	0.12111	0.12111	0.12124
____ W	-0.00219	10.45	82.592	-0.00304	-0.00341	-0.00011
____ Y1	10340.95451	10,340.95	0.330	10379.57564	10314.66507	10328.62283
____ Y2A	209736.07723	209,736.08	0.417	210746.20910	209196.55327	209265.46931
____ Y2R	12780.89615	12,780.90	0.132	12800.38431	12772.16135	12770.14277
____ ZN	0.96078	8,342.97	0.248	0.95986	0.96349	0.95899
____ ZR	1.01465	2,432.02	0.236	1.01472	1.01701	1.01222

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 18 Date/Time: 05/07/2018 00:14

Sample Number: **9576543** Class: UL** Batch: 181200571604

Initial Vol: 25.00 Final Vol: 25.00 DF: 25.00

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.01162	-333.23	13.826	0.01065	0.01073	0.01347
____ AL	0.07450	4.03	59.578	0.05735	0.04125	0.12490
____ AS	0.35643	117.56	0.659	0.35891	0.35424	0.35613
____ B	-0.04171	1,908.78	3.044	-0.04025	-0.04253	-0.04236
____ BA	0.00157	1,314.47	0.247	0.00157	0.00156	0.00157
____ BE	0.00001	-107.25	416.703	0.00002	0.00001	-0.00002
____ CA	18.65155	23,100.28	0.157	18.65055	18.68130	18.62281
____ CD	0.00117	112.79	14.220	0.00136	0.00103	0.00113
____ CO	0.00008	23.24	152.968	-0.00005	0.00019	0.00010
____ CR	0.01760	216.49	1.423	0.01774	0.01775	0.01731
____ CU	0.02636	129.97	2.308	0.02690	0.02648	0.02570
____ FE	149.04141	47,479.06	0.267	148.66215	149.45599	149.00609
____ K	0.43914	333.06	15.660	0.51722	0.38758	0.41262
____ LI	0.00337	112.73	47.690	0.00398	0.00458	0.00155
____ MG	6.93292	14,187.67	0.306	6.92199	6.95740	6.91937
____ MN	1.09913	78,163.28	0.214	1.10184	1.09781	1.09774
____ MO	0.00130	4.98	37.762	0.00183	0.00119	0.00087
____ NA	12.32207	12,562.84	0.366	12.28324	12.37147	12.31151
____ NI	0.01372	52.33	3.840	0.01338	0.01344	0.01432
____ P	0.04527	14.78	10.237	0.05062	0.04248	0.04270
____ PB	0.00778	3.73	8.951	0.00795	0.00837	0.00701
____ S	3.28309	627.73	0.341	3.27561	3.27769	3.29597
____ SB	0.01702	-7.25	9.649	0.01787	0.01807	0.01513
____ SE	0.01654	4.40	16.074	0.01482	0.01518	0.01960
____ SI	0.55351	134.03	0.400	0.55102	0.55527	0.55424
____ SN	0.00229	3.51	9.182	0.00206	0.00234	0.00247
____ SR	0.37775	287,298.65	0.959	0.37529	0.38191	0.37606
____ TH	-0.00166	29.17	1501.368	0.00359	-0.02880	0.02023
____ TI	0.00395	219.46	3.580	0.00411	0.00384	0.00390
____ TL	0.02504	-2.73	3.488	0.02533	0.02405	0.02573
____ V	0.00402	8.78	20.327	0.00342	0.00369	0.00495
____ W	0.00062	3.78	129.483	0.00103	0.00115	-0.00031
____ Y1	10822.93820	10,822.94	0.267	10836.91463	10842.15177	10789.74820
____ Y2A	215545.14930	215,545.15	0.998	213062.43751	216817.13657	216755.87383
____ Y2R	12541.23557	12,541.24	0.604	12601.84168	12456.24501	12565.62001
____ ZN	0.17075	1,550.50	0.256	0.17044	0.17056	0.17125
____ ZR	0.00656	1.08	20.907	0.00499	0.00717	0.00751

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 19 Date/Time: 05/07/2018 00:17

Sample Number: **9576543** Class: U*** Batch: 181200571604

Initial Vol: 25.00 Final Vol: 25.00 DF: 20.00

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.01713	-385.13	9.901	0.01904	0.01580	0.01654
____ AL	0.11620	10.27	45.028	0.16086	0.12912	0.05863
____ AS	0.44933	146.72	0.451	0.45164	0.44786	0.44849
____ B	-0.05475	2,418.81	5.101	-0.05156	-0.05592	-0.05676
____ BA	0.00182	1,453.65	6.190	0.00194	0.00180	0.00172
____ BE	0.00001	-106.27	557.799	0.00001	0.00003	-0.00002
____ CA	23.39703	29,006.79	0.285	23.42572	23.32077	23.44459
____ CD	0.00151	147.23	2.537	0.00147	0.00152	0.00154
____ CO	0.00040	25.69	55.224	0.00053	0.00015	0.00054
____ CR	0.02152	263.21	1.393	0.02176	0.02162	0.02118
____ CU	0.03355	199.51	2.019	0.03316	0.03315	0.03433
____ FE	191.53798	60,423.01	0.162	191.53193	191.85057	191.23145
____ K	0.62575	398.33	9.802	0.60884	0.57464	0.69376
____ LI	0.00377	115.98	59.043	0.00621	0.00183	0.00328
____ MG	8.70272	17,840.88	0.103	8.70584	8.69260	8.70972
____ MN	1.39676	98,354.86	0.106	1.39776	1.39746	1.39506
____ MO	0.00125	4.81	65.341	0.00212	0.00111	0.00051
____ NA	15.42911	15,965.02	0.415	15.49124	15.36346	15.43263
____ NI	0.01680	52.86	2.030	0.01718	0.01653	0.01670
____ P	0.05511	18.04	9.177	0.06025	0.05014	0.05492
____ PB	0.00693	2.73	29.857	0.00693	0.00900	0.00486
____ S	4.14098	782.29	0.529	4.15905	4.11663	4.14725
____ SB	0.01964	-7.42	23.870	0.02176	0.02289	0.01427
____ SE	0.01033	1.20	74.207	0.00148	0.01456	0.01496
____ SI	0.68543	165.55	1.449	0.69016	0.69211	0.67402
____ SN	0.00177	2.85	81.992	0.00238	0.00281	0.00011
____ SR	0.47826	360,153.45	0.457	0.48023	0.47591	0.47865
____ TH	0.04714	43.82	40.160	0.06449	0.04999	0.02695
____ TI	0.00484	263.81	5.722	0.00476	0.00461	0.00514
____ TL	0.02835	-2.88	4.504	0.02687	0.02908	0.02909
____ V	0.00436	16.56	4.636	0.00445	0.00451	0.00413
____ W	0.00020	3.79	360.053	0.00076	0.00044	-0.00060
____ Y1	10701.88573	10,701.89	0.110	10703.46792	10712.79337	10689.39591
____ Y2A	213442.46386	213,442.46	0.272	213018.42132	214103.54720	213205.42307
____ Y2R	12565.08870	12,565.09	0.580	12482.80595	12621.76166	12590.69849
____ ZN	0.21471	1,926.87	0.243	0.21513	0.21486	0.21413
____ ZR	0.00307	0.40	49.164	0.00380	0.00134	0.00408

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 20 Date/Time: 05/07/2018 00:21

Sample Number: **9576543** Class: UP** Batch: 181200571604

Initial Vol: 25.00 Final Vol: 25.00 DF: 20.00

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.03933	-4.41	1.482	0.03991	0.03874	0.03935
____ AL	1.11667	150.32	1.332	1.13301	1.10394	1.11304
____ AS	0.97109	340.81	0.303	0.97412	0.97089	0.96825
____ B	0.12798	4,153.34	3.838	0.12246	0.12964	0.13185
____ BA	0.05285	33,346.72	0.153	0.05283	0.05277	0.05293
____ BE	0.01963	8,391.16	1.331	0.01936	0.01967	0.01988
____ CA	24.67417	30,639.38	0.420	24.57117	24.77866	24.67268
____ CD	0.05264	1,001.80	0.586	0.05244	0.05249	0.05300
____ CO	0.10401	901.84	0.456	0.10456	0.10372	0.10375
____ CR	0.21691	2,721.16	1.408	0.21339	0.21884	0.21850
____ CU	0.55231	5,700.57	1.752	0.54132	0.55604	0.55955
____ FE	193.36703	61,079.58	0.135	193.31941	193.64831	193.13338
____ K	2.75093	1,137.42	1.370	2.74573	2.71610	2.79096
____ LI	1.04804	6,388.75	0.667	1.04499	1.05604	1.04308
____ MG	9.78594	20,095.08	0.133	9.79333	9.79357	9.77092
____ MN	1.45493	103,356.23	0.948	1.43901	1.46262	1.46317
____ MO	0.20421	503.52	0.181	0.20384	0.20420	0.20458
____ NA	17.63041	18,392.07	0.080	17.62026	17.64650	17.62447
____ NI	0.17292	956.76	0.382	0.17344	0.17313	0.17217
____ P	1.07806	375.48	0.466	1.07227	1.08061	1.08131
____ PB	0.51772	703.29	0.963	0.51297	0.51729	0.52291
____ S	5.23078	990.94	0.230	5.22179	5.22613	5.24442
____ SB	0.42084	204.80	0.798	0.41724	0.42141	0.42388
____ SE	0.83596	271.25	0.701	0.84268	0.83326	0.83193
____ SI	1.79270	431.73	0.454	1.79015	1.78613	1.80181
____ SN	0.59119	708.81	0.474	0.59079	0.59416	0.58860
____ SR	0.49956	379,512.08	1.573	0.49132	0.50039	0.50697
____ TH	0.04902	46.27	54.948	0.01806	0.06708	0.06192
____ TI	0.10634	5,653.83	1.338	0.10469	0.10721	0.10710
____ TL	1.03929	323.75	0.077	1.03879	1.04021	1.03887
____ V	0.10680	1,832.05	1.415	0.10514	0.10808	0.10719
____ W	-0.00003	5.17	5096.466	0.00048	-0.00203	0.00145
____ Y1	10738.72797	10,738.73	0.087	10736.70128	10748.96094	10730.52169
____ Y2A	215342.39751	215,342.40	0.958	217588.95721	214902.11535	213536.11997
____ Y2R	12587.89177	12,587.89	0.259	12602.91475	12550.48844	12610.27213
____ ZN	0.33814	2,985.58	0.340	0.33754	0.33947	0.33742
____ ZR	1.00738	2,397.89	0.425	1.00249	1.01046	1.00920

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 21 Date/Time: 05/07/2018 00:24

Sample Number: **9576543** Class: UL** Batch: 181200571604

Initial Vol: 25.00 Final Vol: 25.00 DF: 100.00

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00340	-145.06	66.520	0.00380	0.00097	0.00544
____ AL	0.01154	-4.06	162.470	0.01698	0.02696	-0.00933
____ AS	0.08663	26.98	2.203	0.08779	0.08767	0.08443
____ B	-0.00896	487.06	8.058	-0.00903	-0.00821	-0.00965
____ BA	0.00053	676.11	10.725	0.00047	0.00057	0.00056
____ BE	0.00001	-107.13	179.489	0.00002	0.00000	0.00000
____ CA	4.73288	6,020.04	0.116	4.72653	4.73608	4.73603
____ CD	0.00031	17.91	16.159	0.00027	0.00028	0.00036
____ CO	0.00002	22.69	1128.590	-0.00015	-0.00008	0.00029
____ CR	0.00440	50.66	14.402	0.00373	0.00449	0.00499
____ CU	0.00629	-15.62	33.051	0.00490	0.00868	0.00529
____ FE	36.91862	12,343.51	0.254	36.81122	36.96096	36.98369
____ K	0.13642	232.32	39.917	0.17288	0.16255	0.07382
____ LI	-0.00893	37.88	4.424	-0.00848	-0.00923	-0.00909
____ MG	1.77097	3,678.58	0.371	1.76429	1.77744	1.77119
____ MN	0.28171	20,119.46	0.280	0.28103	0.28153	0.28258
____ MO	0.00028	2.46	226.142	-0.00030	0.00018	0.00096
____ NA	3.12125	2,624.36	0.377	3.12618	3.10783	3.12975
____ NI	0.00330	36.06	18.240	0.00319	0.00276	0.00395
____ P	0.00890	1.97	13.989	0.00841	0.00798	0.01032
____ PB	0.00011	-7.41	558.678	0.00055	-0.00059	0.00036
____ S	0.83253	160.75	0.863	0.83845	0.82454	0.83459
____ SB	0.00557	-9.00	33.330	0.00766	0.00410	0.00496
____ SE	0.00668	4.15	67.092	0.00983	0.00866	0.00155
____ SI	0.15096	39.47	1.403	0.15168	0.15264	0.14858
____ SN	0.00133	2.35	40.342	0.00079	0.00187	0.00133
____ SR	0.09613	73,416.89	0.219	0.09591	0.09632	0.09616
____ TH	0.03482	18.00	116.150	0.01939	0.00436	0.08071
____ TI	0.00114	70.25	9.123	0.00118	0.00102	0.00122
____ TL	0.01050	-4.11	8.314	0.01130	0.00957	0.01064
____ V	0.00074	-50.67	33.134	0.00098	0.00050	0.00073
____ W	0.00035	1.71	131.166	0.00026	0.00085	-0.00006
____ Y1	10807.03182	10,807.03	0.157	10807.85165	10823.54732	10789.69649
____ Y2A	216320.89141	216,320.89	0.346	216981.05758	215508.49490	216473.12176
____ Y2R	12767.55645	12,767.56	0.104	12782.69231	12762.19573	12757.78132
____ ZN	0.04415	409.09	0.620	0.04447	0.04400	0.04399
____ ZR	0.00397	0.63	80.803	0.00573	0.00027	0.00591

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 22 Date/Time: 05/07/2018 00:28

Sample Number: **9576544** Class: **** Batch: 181200571604

Initial Vol: 25.00 Final Vol: 25.00 DF: 20.00

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00532	-208.70	20.774	0.00439	0.00654	0.00502
____ AL	0.06284	2.75	39.948	0.05737	0.04092	0.09023
____ AS	0.01385	-3.37	14.695	0.01238	0.01617	0.01299
____ B	-0.01516	948.87	5.416	-0.01446	-0.01495	-0.01606
____ BA	0.09427	58,070.88	0.188	0.09420	0.09413	0.09447
____ BE	0.00001	-106.24	566.532	-0.00003	0.00002	0.00002
____ CA	6.45476	8,110.94	0.217	6.43876	6.46093	6.46459
____ CD	0.00307	88.59	0.650	0.00305	0.00308	0.00309
____ CO	0.00086	29.97	14.095	0.00100	0.00081	0.00078
____ CR	0.01534	186.14	2.112	0.01503	0.01567	0.01532
____ CU	0.02849	194.39	3.932	0.02972	0.02754	0.02821
____ FE	71.37571	23,423.03	0.350	71.17862	71.29203	71.65650
____ K	0.32536	296.13	9.858	0.31931	0.29675	0.36003
____ LI	0.07995	574.15	6.643	0.08578	0.07867	0.07539
____ MG	1.18711	2,436.44	0.212	1.18582	1.19000	1.18550
____ MN	0.50639	35,657.28	0.099	0.50582	0.50656	0.50677
____ MO	0.00025	2.37	133.946	0.00049	0.00039	-0.00013
____ NA	24.97780	26,524.69	0.146	24.93557	24.99910	24.99872
____ NI	0.01171	71.05	1.829	0.01158	0.01159	0.01196
____ P	0.00529	0.73	50.281	0.00835	0.00381	0.00369
____ PB	0.01561	14.08	7.142	0.01506	0.01488	0.01689
____ S	0.28937	57.21	1.022	0.28930	0.29236	0.28645
____ SB	0.00711	-9.37	22.256	0.00893	0.00602	0.00638
____ SE	0.00124	1.44	272.797	0.00138	0.00454	-0.00221
____ SI	0.61641	150.30	1.008	0.61607	0.61036	0.62278
____ SN	0.00220	3.38	22.723	0.00166	0.00265	0.00229
____ SR	0.36364	273,284.83	0.215	0.36275	0.36422	0.36394
____ TH	0.02151	21.04	103.554	-0.00374	0.02992	0.03836
____ TI	0.01974	1,047.59	2.067	0.01976	0.01932	0.02014
____ TL	0.01612	-3.36	28.624	0.02071	0.01148	0.01617
____ V	0.00263	-15.58	25.107	0.00275	0.00191	0.00321
____ W	0.00229	4.12	29.616	0.00221	0.00165	0.00300
____ Y1	10763.26995	10,763.27	0.594	10698.50605	10826.39776	10764.90606
____ Y2A	213370.42304	213,370.42	0.251	213982.55930	213146.52070	212982.18912
____ Y2R	12649.44556	12,649.45	0.397	12593.04530	12689.15753	12666.13387
____ ZN	0.04250	413.88	0.508	0.04273	0.04247	0.04230
____ ZR	0.00334	-2.97	153.600	0.00603	0.00658	-0.00258

LANCASTER LABORATORIES

Run Name: 1812605T70

Instrument ID: 11016

Tube: 23

Date/Time: 05/07/2018 00:31

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.51498	6,776.79	0.121	0.51567	0.51446	0.51480
____ AL	25.67020	3,396.11	0.327	25.67692	25.58307	25.75060
____ AS	0.51489	183.82	0.425	0.51315	0.51734	0.51417
____ B	0.47638	4,621.75	0.576	0.47923	0.47376	0.47615
____ BA	0.51110	305,593.43	0.283	0.51126	0.50958	0.51246
____ BE	0.50429	210,789.76	0.249	0.50564	0.50316	0.50406
____ CA	25.38818	31,044.75	0.283	25.33274	25.36232	25.46947
____ CD	0.50829	8,322.88	0.191	0.50939	0.50757	0.50789
____ CO	0.50946	4,247.17	0.159	0.51038	0.50888	0.50912
____ CR	0.49210	5,968.90	0.353	0.49339	0.49277	0.49012
____ CU	0.51586	5,353.77	0.004	0.51586	0.51588	0.51583
____ FE	25.52100	8,311.78	0.138	25.54238	25.54043	25.48020
____ K	25.68499	8,967.47	0.450	25.81670	25.60057	25.63771
____ LI	0.51218	3,122.30	1.082	0.51399	0.51659	0.50595
____ MG	25.34538	51,089.64	0.216	25.30763	25.32028	25.40823
____ MN	0.51324	35,216.44	0.102	0.51346	0.51264	0.51361
____ MO	0.50222	1,212.60	0.666	0.50577	0.50178	0.49911
____ NA	25.55739	26,617.07	0.310	25.53006	25.49535	25.64675
____ NI	0.50985	2,912.95	0.368	0.50963	0.51182	0.50809
____ P	0.50412	172.07	0.983	0.50796	0.50587	0.49852
____ PB	0.50358	685.39	0.947	0.50163	0.50009	0.50901
____ S	25.27160	4,684.75	0.132	25.30882	25.26181	25.24418
____ SB	0.50094	252.12	1.157	0.50147	0.49489	0.50645
____ SE	0.50551	165.56	2.481	0.50222	0.49494	0.51937
____ SI	25.55988	6,003.61	0.123	25.59002	25.52751	25.56211
____ SN	0.49250	579.53	0.021	0.49240	0.49261	0.49249
____ SR	0.51039	374,519.30	0.257	0.50902	0.51163	0.51051
____ TH	0.49306	90.24	0.848	0.49141	0.49782	0.48996
____ TI	0.51613	26,470.42	0.270	0.51752	0.51613	0.51473
____ TL	0.50732	147.17	0.688	0.51111	0.50423	0.50663
____ V	0.50956	8,870.04	0.196	0.51068	0.50923	0.50876
____ W	0.51069	636.42	0.375	0.51018	0.50907	0.51281
____ Y1	10537.35757	10,537.36	0.394	10510.41916	10516.53177	10585.12178
____ Y2A	207977.23380	207,977.23	0.251	208400.81984	208137.24755	207393.63401
____ Y2R	12397.13132	12,397.13	0.452	12446.00459	12409.46902	12335.92034
____ ZN	0.51090	4,276.71	0.206	0.51189	0.51102	0.50979
____ ZR	0.49987	1,237.16	0.281	0.50113	0.50011	0.49836

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 24 Date/Time: 05/07/2018 00:34

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00044	-69.02	172.377	0.00088	-0.00043	0.00085
____ AL	0.04174	-0.77	47.537	0.02863	0.06457	0.03202
____ AS	0.00129	-1.49	111.284	0.00046	0.00294	0.00046
____ B	-0.00079	-6.84	32.549	-0.00050	-0.00089	-0.00098
____ BA	0.00017	447.85	41.930	0.00024	0.00009	0.00019
____ BE	0.00003	-98.30	51.439	0.00004	0.00001	0.00003
____ CA	0.01390	79.06	88.791	0.00697	0.00658	0.02815
____ CD	-0.00011	-15.41	206.235	-0.00004	-0.00036	0.00008
____ CO	0.00005	22.89	551.665	0.00034	0.00001	-0.00020
____ CR	0.00023	-1.98	263.013	0.00034	-0.00043	0.00079
____ CU	0.00024	-77.83	1035.152	-0.00263	0.00212	0.00125
____ FE	0.04032	18.51	124.998	0.00866	0.01386	0.09845
____ K	0.05299	202.08	26.904	0.06929	0.04689	0.04281
____ LI	-0.00872	38.38	20.081	-0.00712	-0.00845	-0.01059
____ MG	0.01057	0.82	138.719	0.00211	0.00210	0.02750
____ MN	0.00006	23.35	122.772	-0.00001	0.00006	0.00014
____ MO	0.00011	2.05	313.338	-0.00021	0.00050	0.00005
____ NA	-0.00673	-828.06	265.504	-0.01635	0.01389	-0.01773
____ NI	-0.00053	28.35	113.772	0.00007	-0.00113	-0.00051
____ P	-0.00098	-1.50	113.027	0.00030	-0.00164	-0.00159
____ PB	-0.00031	-8.15	237.972	-0.00108	0.00040	-0.00026
____ S	0.01005	4.31	37.381	0.00572	0.01250	0.01193
____ SB	0.00344	-8.70	87.382	0.00436	0.00587	0.00008
____ SE	-0.00051	2.77	683.941	0.00113	0.00187	-0.00455
____ SI	0.00722	4.87	92.551	0.01492	0.00307	0.00365
____ SN	0.00102	1.97	103.399	0.00121	-0.00012	0.00196
____ SR	0.00003	79.71	89.142	0.00003	0.00000	0.00004
____ TH	-0.01425	3.97	180.741	0.00121	0.00003	-0.04397
____ TI	0.00017	18.25	133.886	-0.00001	0.00009	0.00042
____ TL	0.00678	-4.22	30.019	0.00446	0.00762	0.00826
____ V	-0.00024	-69.87	125.970	-0.00001	-0.00059	-0.00012
____ W	0.00132	2.33	41.907	0.00086	0.00117	0.00193
____ Y1	10785.24084	10,785.24	0.237	10807.95647	10790.26655	10757.49950
____ Y2A	214717.23016	214,717.23	0.035	214657.55131	214692.91417	214801.22500
____ Y2R	12714.02621	12,714.03	0.415	12765.96223	12715.68725	12660.42914
____ ZN	0.00005	13.46	130.625	0.00006	0.00010	-0.00002
____ ZR	0.00112	-14.02	265.994	-0.00056	-0.00064	0.00456

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 25 Date/Time: 05/07/2018 00:38

Sample Number: **9576544** Class: **** Batch: 181200571604

Initial Vol: 25.00 Final Vol: 25.00 DF: 5.00

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.02381	-564.04	4.762	0.02512	0.02320	0.02312
____ AL	0.35174	41.21	6.872	0.34952	0.32875	0.37694
____ AS	0.05993	-6.92	6.020	0.06301	0.05596	0.06081
____ B	-0.09494	3,564.21	3.044	-0.09814	-0.09413	-0.09253
____ BA	0.37198	221,488.21	0.263	0.37134	0.37311	0.37149
____ BE	0.00005	-84.79	30.108	0.00006	0.00005	0.00003
____ CA	25.45937	31,269.96	0.286	25.54178	25.43275	25.40359
____ CD	0.01093	373.38	1.469	0.01080	0.01111	0.01088
____ CO	0.00387	55.11	5.889	0.00395	0.00405	0.00361
____ CR	0.05755	691.09	1.519	0.05655	0.05812	0.05799
____ CU	0.11541	961.61	1.218	0.11379	0.11624	0.11621
____ FE	297.90501	90,393.32	0.510	299.34648	298.05007	296.31849
____ K	0.86165	475.91	6.777	0.83084	0.82512	0.92899
____ LI	0.32939	2,050.03	0.200	0.32924	0.33012	0.32883
____ MG	4.61894	9,383.75	0.359	4.63292	4.62325	4.60065
____ MN	2.01148	137,448.91	0.190	2.00761	2.01527	2.01155
____ MO	0.00131	4.88	50.800	0.00054	0.00167	0.00172
____ NA	99.06455	105,942.49	0.287	99.36352	99.03311	98.79702
____ NI	0.04660	180.09	1.811	0.04711	0.04706	0.04562
____ P	0.02697	8.27	14.112	0.02260	0.02871	0.02959
____ PB	0.05871	72.86	3.521	0.05688	0.06095	0.05830
____ S	1.15722	217.05	0.351	1.16186	1.15433	1.15547
____ SB	0.02818	-6.56	9.726	0.02502	0.02981	0.02972
____ SE	0.02490	3.09	21.024	0.03092	0.02145	0.02232
____ SI	2.36550	558.92	0.569	2.38102	2.35819	2.35728
____ SN	0.00538	7.05	35.386	0.00556	0.00719	0.00339
____ SR	1.42062	1,036,291.61	0.204	1.42086	1.42340	1.41761
____ TH	0.02517	56.27	87.768	0.04174	0.03368	0.00009
____ TI	0.07956	4,071.64	0.337	0.07975	0.07968	0.07925
____ TL	0.03787	-3.16	4.067	0.03718	0.03964	0.03680
____ V	0.01026	121.20	2.543	0.01009	0.01014	0.01056
____ W	0.00010	2.97	1369.567	0.00160	-0.00071	-0.00060
____ Y1	10542.28095	10,542.28	0.186	10560.43374	10544.87064	10521.53846
____ Y2A	207136.73497	207,136.73	0.351	207089.93201	206434.80000	207885.47291
____ Y2R	12452.24199	12,452.24	0.605	12429.13013	12391.15000	12536.44584
____ ZN	0.16593	1,556.59	0.223	0.16561	0.16584	0.16633
____ ZR	0.01154	16.99	5.305	0.01213	0.01159	0.01091

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 26 Date/Time: 05/07/2018 00:41

Sample Number: **9576545** Class: **** Batch: 181200571604

Initial Vol: 25.00 Final Vol: 25.00 DF: 5.00

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00150	-137.51	52.533	0.00066	0.00223	0.00160
____ AL	0.03806	-0.95	79.872	0.00466	0.06412	0.04540
____ AS	0.01159	-0.38	24.446	0.01485	0.01017	0.00975
____ B	0.00740	504.77	8.161	0.00694	0.00717	0.00808
____ BA	0.69722	412,242.34	0.586	0.70161	0.69354	0.69650
____ BE	-0.00003	-115.27	91.175	-0.00003	-0.00005	0.00000
____ CA	40.47782	49,572.96	0.217	40.53938	40.51692	40.37715
____ CD	0.00028	11.94	32.781	0.00025	0.00021	0.00038
____ CO	-0.00001	21.51	4578.285	0.00018	0.00019	-0.00039
____ CR	0.00152	13.59	28.259	0.00176	0.00103	0.00178
____ CU	0.00419	-15.78	23.989	0.00525	0.00325	0.00408
____ FE	29.91979	9,765.31	0.617	29.97787	30.06829	29.71320
____ K	1.04131	536.95	10.121	0.92638	1.06410	1.13344
____ LI	0.13349	887.12	3.227	0.12898	0.13392	0.13757
____ MG	5.93784	12,052.79	0.404	5.95228	5.95107	5.91017
____ MN	0.19396	13,186.78	0.143	0.19428	0.19381	0.19380
____ MO	-0.00028	1.05	192.105	-0.00003	0.00009	-0.00088
____ NA	139.90578	149,796.96	0.060	140.00140	139.84194	139.87399
____ NI	0.00178	28.56	35.695	0.00244	0.00117	0.00173
____ P	0.00176	-0.51	78.735	0.00242	0.00269	0.00017
____ PB	0.00527	0.98	43.659	0.00633	0.00684	0.00263
____ S	0.18449	36.01	0.447	0.18527	0.18456	0.18363
____ SB	0.00348	-9.47	39.159	0.00231	0.00497	0.00314
____ SE	0.00371	3.23	189.861	0.01034	0.00446	-0.00368
____ SI	1.04232	247.65	0.315	1.04611	1.04036	1.04049
____ SN	0.00239	3.48	48.975	0.00295	0.00317	0.00104
____ SR	2.04457	1,482,186.77	0.371	2.05103	2.03621	2.04648
____ TH	0.00628	11.81	384.724	-0.00354	0.03380	-0.01142
____ TI	0.00341	182.00	4.513	0.00357	0.00339	0.00326
____ TL	0.00854	-4.37	21.679	0.00667	0.00857	0.01037
____ V	-0.00019	-65.18	307.936	-0.00018	-0.00076	0.00038
____ W	0.00045	1.50	187.047	0.00033	-0.00033	0.00135
____ Y1	10376.00566	10,376.01	0.263	10407.56470	10360.04393	10360.40835
____ Y2A	205831.81178	205,831.81	0.521	206958.99880	205714.13628	204822.30026
____ Y2R	12439.36547	12,439.37	0.459	12495.30844	12381.20267	12441.58529
____ ZN	0.02371	222.34	1.142	0.02349	0.02363	0.02401
____ ZR	0.00205	-8.34	75.318	0.00092	0.00382	0.00142

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 27 Date/Time: 05/07/2018 00:45

Sample Number: **9576545** Class: **** Batch: 181200571604

Initial Vol: 25.00 Final Vol: 25.00 DF: 20.00

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00183	-80.87	101.117	-0.00007	0.00194	0.00363
____ AL	0.04053	-0.35	69.843	0.07306	0.02148	0.02705
____ AS	0.00277	-1.63	89.809	0.00564	0.00135	0.00132
____ B	0.00114	127.96	47.702	0.00079	0.00086	0.00176
____ BA	0.18163	110,919.20	0.440	0.18204	0.18214	0.18071
____ BE	0.00001	-102.23	141.678	0.00003	0.00001	0.00000
____ CA	10.41005	12,851.53	0.249	10.42559	10.42444	10.38012
____ CD	-0.00001	-8.20	1914.667	0.00014	-0.00031	0.00014
____ CO	-0.00016	20.91	211.978	-0.00044	0.00021	-0.00024
____ CR	0.00040	0.11	125.269	0.00065	0.00073	-0.00018
____ CU	0.00248	-37.20	80.242	0.00469	0.00083	0.00191
____ FE	7.77756	2,562.65	0.704	7.84033	7.73990	7.75245
____ K	0.27816	275.40	42.742	0.22796	0.41392	0.19260
____ LI	0.03010	270.22	17.593	0.02991	0.02490	0.03549
____ MG	1.54391	3,129.05	0.048	1.54466	1.54389	1.54318
____ MN	0.05053	3,553.19	0.445	0.05073	0.05057	0.05029
____ MO	-0.00011	1.49	163.976	0.00009	-0.00025	-0.00015
____ NA	36.12138	38,164.64	0.159	36.18574	36.10338	36.07501
____ NI	0.00079	32.52	9.681	0.00079	0.00071	0.00086
____ P	0.00448	0.41	40.740	0.00394	0.00650	0.00298
____ PB	0.00048	-6.59	266.329	0.00195	-0.00046	-0.00004
____ S	0.04574	10.97	12.392	0.05007	0.04781	0.03932
____ SB	0.00315	-9.06	75.017	0.00437	0.00043	0.00465
____ SE	0.00375	3.92	94.207	-0.00015	0.00467	0.00672
____ SI	0.27691	68.20	1.221	0.27884	0.27300	0.27888
____ SN	0.00058	1.42	101.757	0.00007	0.00044	0.00123
____ SR	0.53308	398,272.45	0.514	0.53120	0.53181	0.53622
____ TH	0.02543	11.57	161.042	-0.02088	0.04032	0.05684
____ TI	0.00137	81.19	13.621	0.00116	0.00150	0.00147
____ TL	0.00821	-3.95	23.282	0.00893	0.00966	0.00605
____ V	-0.00026	-68.00	219.020	-0.00041	-0.00074	0.00037
____ W	0.00132	2.40	133.688	0.00079	0.00329	-0.00012
____ Y1	10672.51018	10,672.51	0.216	10699.03165	10661.31321	10657.18569
____ Y2A	212111.23002	212,111.23	0.230	212463.87615	211554.36627	212315.44764
____ Y2R	12467.29909	12,467.30	1.174	12399.56026	12367.12834	12635.20867
____ ZN	0.00670	73.58	0.519	0.00672	0.00673	0.00666
____ ZR	0.00426	-0.14	33.074	0.00424	0.00568	0.00286

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 28 Date/Time: 05/07/2018 00:49

Sample Number: **9576546** Class: **** Batch: 181200571604

Initial Vol: 25.00 Final Vol: 25.00 DF: 5.00

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00938	-291.68	8.236	0.00961	0.01001	0.00852
____ AL	0.81558	97.76	6.744	0.84736	0.75207	0.84730
____ AS	0.40161	119.04	0.187	0.40216	0.40076	0.40190
____ B	0.13565	2,933.44	2.103	0.13529	0.13300	0.13867
____ BA	0.72793	389,708.90	0.332	0.72514	0.72947	0.72917
____ BE	-0.00031	-210.45	8.466	-0.00029	-0.00030	-0.00034
____ CA	278.88198	322,980.62	0.777	281.38389	277.69988	277.56217
____ CD	0.00390	133.11	3.829	0.00402	0.00373	0.00394
____ CO	0.00534	59.76	2.763	0.00541	0.00518	0.00545
____ CR	0.03552	382.18	0.076	0.03549	0.03553	0.03554
____ CU	0.04189	429.63	3.897	0.04318	0.04005	0.04244
____ FE	139.06550	42,478.09	0.691	139.35472	139.84869	137.99309
____ K	19.59895	6,660.34	0.616	19.49466	19.57107	19.73114
____ LI	1.65280	9,580.63	0.689	1.66459	1.65195	1.64186
____ MG	69.39838	133,858.30	0.180	69.49681	69.44022	69.25810
____ MN	1.79254	110,217.42	0.230	1.79509	1.78778	1.79473
____ MO	0.01087	25.22	6.925	0.01165	0.01015	0.01081
____ NA	2074.56438	2,152,082.65	1.122	2100.10904	2069.02011	2054.56400
____ NI	0.02659	115.38	1.303	0.02657	0.02625	0.02694
____ P	0.27027	82.51	0.729	0.27228	0.27018	0.26834
____ PB	0.56907	691.85	0.418	0.56759	0.57181	0.56779
____ S	43.47302	7,281.45	0.364	43.29053	43.56027	43.56825
____ SB	0.01298	-7.70	27.498	0.01035	0.01153	0.01704
____ SE	0.01970	5.02	28.668	0.01352	0.02460	0.02096
____ SI	1.53869	350.99	0.648	1.54646	1.54218	1.52745
____ SN	0.00284	3.67	29.232	0.00354	0.00192	0.00307
____ SR	6.32300	4,156,028.15	0.184	6.32870	6.30961	6.33069
____ TH	0.00020	26.66	1871.548	-0.01613	0.02724	-0.01052
____ TI	0.00727	342.01	4.007	0.00694	0.00737	0.00749
____ TL	0.01843	-3.76	28.102	0.02223	0.01253	0.02054
____ V	0.00347	-4.52	26.008	0.00371	0.00422	0.00247
____ W	-0.00200	17.57	28.406	-0.00150	-0.00262	-0.00189
____ Y1	9514.71356	9,514.71	0.195	9535.27678	9499.32034	9509.54355
____ Y2A	186378.72086	186,378.72	0.295	185826.55407	186927.86256	186381.74595
____ Y2R	11992.48464	11,992.48	0.390	11956.44695	11975.61827	12045.38869
____ ZN	1.60935	12,099.38	0.193	1.60757	1.61292	1.60755
____ ZR	0.00502	-2.20	51.772	0.00798	0.00399	0.00310

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 29 Date/Time: 05/07/2018 00:52

Sample Number: **9576546** Class: **** Batch: 181200571604

Initial Vol: 25.00 Final Vol: 25.00 DF: 20.00

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00281	-131.31	48.171	0.00278	0.00147	0.00417
____ AL	0.18148	17.93	49.584	0.23604	0.07762	0.23080
____ AS	0.09717	28.95	3.437	0.09755	0.09366	0.10030
____ B	0.03548	781.73	3.166	0.03445	0.03532	0.03668
____ BA	0.18688	106,026.12	0.524	0.18575	0.18756	0.18731
____ BE	-0.00004	-116.55	42.355	-0.00002	-0.00005	-0.00006
____ CA	70.12077	83,789.83	0.673	70.29160	70.48351	69.58719
____ CD	0.00093	24.65	4.745	0.00093	0.00098	0.00089
____ CO	0.00112	29.80	35.941	0.00068	0.00146	0.00123
____ CR	0.00876	96.28	3.990	0.00915	0.00864	0.00848
____ CU	0.00895	55.34	24.736	0.00639	0.01032	0.01013
____ FE	34.28034	10,933.70	0.537	34.25445	34.47611	34.11047
____ K	5.12076	1,895.64	2.541	5.18414	5.20704	4.97109
____ LI	0.40904	2,472.26	0.404	0.40914	0.41064	0.40734
____ MG	17.39149	34,479.05	0.726	17.43559	17.48981	17.24907
____ MN	0.44805	29,143.80	0.316	0.44641	0.44884	0.44889
____ MO	0.00290	8.31	7.302	0.00280	0.00315	0.00276
____ NA	589.58495	620,149.54	1.055	589.25198	595.96500	583.53786
____ NI	0.00707	54.85	9.852	0.00751	0.00744	0.00627
____ P	0.06481	20.06	4.163	0.06345	0.06792	0.06307
____ PB	0.14738	183.64	0.815	0.14605	0.14837	0.14773
____ S	10.35907	1,832.28	0.309	10.33408	10.39517	10.34795
____ SB	0.00540	-8.30	83.713	0.00777	0.00019	0.00823
____ SE	0.00611	3.75	52.346	0.00905	0.00656	0.00271
____ SI	0.39762	94.29	1.747	0.39738	0.39079	0.40468
____ SN	0.00183	2.74	46.516	0.00277	0.00161	0.00111
____ SR	1.68746	1,172,749.67	0.286	1.68625	1.68336	1.69279
____ TH	0.02723	15.55	8.155	0.02633	0.02560	0.02976
____ TI	0.00519	260.89	5.732	0.00532	0.00485	0.00540
____ TL	0.00892	-4.17	42.783	0.01299	0.00836	0.00542
____ V	0.00095	-43.75	28.706	0.00103	0.00064	0.00117
____ W	0.00055	6.29	220.309	0.00160	-0.00078	0.00084
____ Y1	10038.33630	10,038.34	0.074	10038.05031	10031.06326	10045.89534
____ Y2A	197088.26816	197,088.27	0.744	198613.30468	196961.89024	195689.60955
____ Y2R	12171.04713	12,171.05	0.625	12146.98104	12109.91036	12256.25000
____ ZN	0.39912	3,174.83	0.145	0.39849	0.39923	0.39963
____ ZR	0.00247	-4.00	30.740	0.00262	0.00164	0.00314

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 30 Date/Time: 05/07/2018 00:56

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00606	-41.72	21.686	0.00712	0.00459	0.00646
____ AL	0.21374	25.62	31.046	0.15396	0.20211	0.28514
____ AS	0.01992	5.50	16.227	0.01620	0.02203	0.02153
____ B	0.04654	434.34	1.132	0.04702	0.04598	0.04662
____ BA	0.00527	3,631.66	1.170	0.00532	0.00520	0.00528
____ BE	0.00502	2,073.62	0.307	0.00504	0.00502	0.00501
____ CA	0.21632	334.25	1.520	0.21263	0.21894	0.21740
____ CD	0.00522	74.67	0.771	0.00524	0.00517	0.00524
____ CO	0.00495	65.29	5.970	0.00495	0.00525	0.00466
____ CR	0.01496	184.00	4.108	0.01531	0.01425	0.01532
____ CU	0.00892	79.60	28.403	0.00602	0.01008	0.01067
____ FE	0.21621	77.97	5.563	0.22885	0.21486	0.20491
____ K	0.81177	470.24	9.314	0.86109	0.84951	0.72472
____ LI	0.01884	206.47	23.743	0.02393	0.01707	0.01552
____ MG	0.10989	208.42	0.918	0.11065	0.11026	0.10874
____ MN	0.00561	414.47	2.122	0.00572	0.00548	0.00562
____ MO	0.01044	27.80	3.695	0.01008	0.01085	0.01038
____ NA	1.79356	1,157.22	0.496	1.80375	1.78962	1.78730
____ NI	0.01039	92.73	3.529	0.01071	0.01046	0.00999
____ P	0.10246	35.08	1.684	0.10074	0.10244	0.10419
____ PB	0.01684	15.69	9.812	0.01871	0.01620	0.01560
____ S	0.52521	103.06	0.471	0.52374	0.52381	0.52806
____ SB	0.02379	2.20	7.435	0.02176	0.02499	0.02462
____ SE	0.01866	9.17	18.351	0.02179	0.01919	0.01500
____ SI	0.05616	17.16	2.669	0.05630	0.05758	0.05459
____ SN	0.02038	25.51	3.428	0.01996	0.01998	0.02118
____ SR	0.00538	4,167.42	0.613	0.00535	0.00542	0.00538
____ TH	0.18177	36.74	12.297	0.20729	0.16568	0.17233
____ TI	0.01044	566.11	1.736	0.01023	0.01054	0.01054
____ TL	0.03702	5.61	6.122	0.03529	0.03618	0.03958
____ V	0.00423	14.85	13.353	0.00392	0.00488	0.00389
____ W	0.01117	15.19	1.278	0.01121	0.01130	0.01102
____ Y1	10896.38653	10,896.39	0.185	10919.05166	10880.70158	10889.40636
____ Y2A	216334.76966	216,334.77	0.213	216309.72305	215887.43025	216807.15567
____ Y2R	12764.60136	12,764.60	0.318	12809.45852	12753.96707	12730.37849
____ ZN	0.02102	193.58	1.209	0.02124	0.02108	0.02074
____ ZR	0.04960	134.49	5.627	0.05106	0.05137	0.04639

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 31 Date/Time: 05/07/2018 00:59

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00136	-423.93	140.922	0.00018	0.00357	0.00033
____ AL	509.41874	64,872.12	0.384	511.41465	509.33427	507.50730
____ AS	0.00587	-16.34	88.451	0.00019	0.00703	0.01038
____ B	-0.08107	2,057.39	2.676	-0.08356	-0.07962	-0.08002
____ BA	0.00104	867.11	9.974	0.00107	0.00092	0.00112
____ BE	-0.00067	-352.18	0.418	-0.00067	-0.00067	-0.00067
____ CA	514.15822	580,027.72	0.920	519.39173	510.18203	512.90088
____ CD	-0.00239	80.02	10.987	-0.00256	-0.00253	-0.00209
____ CO	-0.00022	18.41	236.860	0.00034	-0.00071	-0.00030
____ CR	-0.00196	-26.02	24.685	-0.00242	-0.00200	-0.00145
____ CU	-0.00622	114.70	17.976	-0.00688	-0.00684	-0.00493
____ FE	200.41708	59,724.11	0.395	201.32783	200.03946	199.88396
____ K	0.22881	246.85	35.901	0.16636	0.32187	0.19820
____ LI	-0.00875	102.80	81.201	-0.00598	-0.00345	-0.01683
____ MG	493.36864	842,525.31	0.406	495.22173	493.63776	491.24644
____ MN	0.00467	308.74	3.726	0.00447	0.00479	0.00475
____ MO	0.00151	4.89	79.949	0.00155	0.00269	0.00028
____ NA	0.78347	38.64	2.799	0.80698	0.77983	0.76359
____ NI	0.00558	-13.82	5.185	0.00525	0.00576	0.00573
____ P	0.00453	0.38	121.414	-0.00145	0.00939	0.00565
____ PB	0.00855	201.87	38.650	0.01219	0.00572	0.00775
____ S	0.05692	11.83	13.140	0.04905	0.05776	0.06394
____ SB	-0.00414	-18.52	74.609	-0.00731	-0.00397	-0.00114
____ SE	0.00747	4.80	96.969	0.01317	-0.00068	0.00990
____ SI	0.00204	3.41	524.731	0.00346	-0.00930	0.01195
____ SN	0.00332	4.24	24.070	0.00296	0.00276	0.00423
____ SR	-0.00116	18,365.17	19.067	-0.00136	-0.00092	-0.00120
____ TH	0.01220	37.42	238.959	0.00218	0.04505	-0.01062
____ TI	0.00043	28.53	80.974	0.00034	0.00013	0.00081
____ TL	0.01280	-7.85	59.113	0.01612	0.00414	0.01813
____ V	0.00244	-17.84	17.515	0.00291	0.00231	0.00208
____ W	0.00142	2.31	32.731	0.00093	0.00185	0.00149
____ Y1	9654.96818	9,654.97	1.083	9587.15198	9602.31292	9775.43965
____ Y2A	189808.05138	189,808.05	0.324	189659.37188	189281.68698	190483.09529
____ Y2R	11898.81526	11,898.82	0.217	11876.32421	11893.17774	11926.94383
____ ZN	0.00870	181.48	2.456	0.00893	0.00850	0.00868
____ ZR	0.00352	-3.78	58.794	0.00277	0.00193	0.00585

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 32 Date/Time: 05/07/2018 01:03

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.22174	2,320.20	1.109	0.21890	0.22317	0.22314
____ AL	508.76713	65,766.80	0.478	510.66286	506.02259	509.61593
____ AS	0.10593	17.05	3.189	0.10208	0.10734	0.10838
____ B	-0.08559	2,027.62	4.491	-0.08923	-0.08157	-0.08598
____ BA	0.50708	277,300.85	0.660	0.50473	0.50561	0.51091
____ BE	0.50963	194,934.10	0.799	0.50541	0.50995	0.51354
____ CA	500.89171	573,986.01	0.731	498.79768	505.11795	498.75948
____ CD	0.94229	14,260.16	0.278	0.94443	0.94307	0.93936
____ CO	0.47209	3,606.22	0.186	0.47145	0.47309	0.47173
____ CR	0.47013	5,217.94	0.826	0.46572	0.47307	0.47159
____ CU	0.53437	5,184.34	0.825	0.52970	0.53495	0.53845
____ FE	200.53708	60,637.26	0.556	200.82286	199.30616	201.48221
____ K	0.18584	236.16	14.530	0.21261	0.15861	0.18628
____ LI	-0.00684	113.60	40.843	-0.00842	-0.00849	-0.00362
____ MG	481.46276	837,122.16	0.815	485.72640	477.99865	480.66323
____ MN	0.50156	31,502.89	0.790	0.49741	0.50197	0.50530
____ MO	0.00025	2.14	187.220	-0.00029	0.00058	0.00047
____ NA	0.45872	-300.02	8.518	0.47116	0.49006	0.41494
____ NI	0.94855	4,905.22	0.222	0.95084	0.94810	0.94670
____ P	0.00202	0.33	284.638	0.00083	0.00828	-0.00305
____ PB	0.54065	857.66	0.713	0.54157	0.53642	0.54397
____ S	0.05642	11.75	8.079	0.05835	0.05122	0.05970
____ SB	0.61262	278.50	0.758	0.61400	0.61641	0.60744
____ SE	0.52249	156.43	0.314	0.52356	0.52330	0.52060
____ SI	-0.01504	-0.31	74.334	-0.00521	-0.02719	-0.01271
____ SN	0.00308	3.98	46.698	0.00473	0.00244	0.00207
____ SR	0.00005	18,734.14	1895.265	0.00111	-0.00058	-0.00038
____ TH	0.01654	38.12	60.829	0.00645	0.01659	0.02657
____ TI	0.00166	86.16	10.567	0.00153	0.00159	0.00186
____ TL	0.10266	12.67	4.219	0.09782	0.10398	0.10617
____ V	0.50512	8,203.89	0.707	0.50106	0.50655	0.50776
____ W	0.00141	14.53	110.479	0.00031	0.00319	0.00073
____ Y1	9664.84588	9,664.85	0.289	9633.36827	9674.48073	9686.68864
____ Y2A	190320.04841	190,320.05	0.574	191503.77425	190106.64039	189349.73059
____ Y2R	12073.93497	12,073.93	0.156	12072.35659	12093.50688	12055.94144
____ ZN	1.01834	7,878.22	0.273	1.02153	1.01711	1.01638
____ ZR	0.00570	1.81	38.842	0.00797	0.00558	0.00355

LANCASTER LABORATORIES

Run Name: 1812605T70

Instrument ID: 11016

Tube: 33

Date/Time: 05/07/2018 01:07

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.52311	6,836.73	0.130	0.52374	0.52238	0.52319
____ AL	25.83041	3,375.17	0.123	25.80432	25.82128	25.86562
____ AS	0.52350	186.86	0.561	0.52015	0.52475	0.52562
____ B	0.47729	4,587.52	0.381	0.47856	0.47810	0.47521
____ BA	0.50012	296,646.74	0.553	0.50171	0.50173	0.49693
____ BE	0.50638	209,969.67	0.243	0.50514	0.50761	0.50640
____ CA	25.59357	30,914.39	0.403	25.56279	25.70861	25.50930
____ CD	0.50649	8,287.89	0.113	0.50584	0.50689	0.50676
____ CO	0.50331	4,193.56	0.178	0.50239	0.50336	0.50418
____ CR	0.48545	5,841.07	0.298	0.48396	0.48685	0.48555
____ CU	0.52830	5,434.54	0.135	0.52750	0.52885	0.52856
____ FE	25.16501	8,096.78	0.177	25.18835	25.11363	25.19307
____ K	25.88575	8,926.02	0.152	25.92965	25.85414	25.87344
____ LI	0.52047	3,132.84	1.624	0.52435	0.52629	0.51078
____ MG	25.17910	50,138.81	0.158	25.18679	25.21448	25.13601
____ MN	0.51962	35,369.19	0.218	0.51853	0.52079	0.51954
____ MO	0.49418	1,192.45	0.316	0.49291	0.49592	0.49371
____ NA	25.99654	26,758.72	0.326	25.95878	26.09374	25.93710
____ NI	0.51064	2,915.75	0.364	0.50852	0.51142	0.51198
____ P	0.51093	174.31	0.547	0.50843	0.51042	0.51394
____ PB	0.51660	702.47	0.449	0.51398	0.51744	0.51839
____ S	25.04746	4,640.07	0.226	24.98233	25.07704	25.08301
____ SB	0.50806	255.55	0.748	0.51105	0.50936	0.50379
____ SE	0.49509	162.12	0.601	0.49667	0.49693	0.49165
____ SI	25.43155	5,901.13	0.318	25.34963	25.43371	25.51131
____ SN	0.49290	579.62	0.277	0.49133	0.49382	0.49354
____ SR	0.50671	368,855.81	0.530	0.50938	0.50673	0.50401
____ TH	0.48264	87.45	3.218	0.49972	0.47883	0.46937
____ TI	0.51907	26,408.14	0.098	0.51858	0.51960	0.51903
____ TL	0.51446	149.39	0.211	0.51422	0.51564	0.51351
____ V	0.50680	8,752.89	0.246	0.50795	0.50697	0.50547
____ W	0.52001	647.59	0.453	0.51731	0.52166	0.52106
____ Y1	10530.45840	10,530.46	0.218	10551.67665	10533.53963	10506.15891
____ Y2A	206311.68928	206,311.69	0.281	206440.97984	205678.45739	206815.63061
____ Y2R	12246.14304	12,246.14	0.443	12248.52912	12299.10000	12190.80000
____ ZN	0.52036	4,351.98	0.226	0.51900	0.52092	0.52114
____ ZR	0.50786	1,239.04	0.480	0.50675	0.50617	0.51065

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 34 Date/Time: 05/07/2018 01:10

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00053	-75.16	252.671	0.00180	-0.00085	0.00062
____ AL	0.00990	-4.59	479.865	0.05872	0.00719	-0.03621
____ AS	0.00353	-0.64	133.181	0.00433	0.00779	-0.00152
____ B	-0.00070	-6.33	14.967	-0.00061	-0.00068	-0.00082
____ BA	0.00011	405.30	36.174	0.00015	0.00008	0.00009
____ BE	0.00012	-57.03	34.444	0.00016	0.00012	0.00008
____ CA	0.01363	78.53	70.413	0.01751	0.02069	0.00270
____ CD	0.00006	-12.59	177.957	-0.00001	0.00000	0.00017
____ CO	-0.00031	19.69	71.658	-0.00005	-0.00043	-0.00044
____ CR	0.00043	0.50	100.464	0.00023	0.00014	0.00093
____ CU	-0.00020	-72.15	397.415	0.00027	0.00025	-0.00113
____ FE	0.01851	11.16	116.777	0.00457	0.04340	0.00755
____ K	0.10700	220.47	52.275	0.17141	0.07890	0.07069
____ LI	-0.00264	74.94	139.350	-0.00426	0.00157	-0.00524
____ MG	0.01728	14.85	22.703	0.02181	0.01505	0.01499
____ MN	0.00017	30.01	69.828	0.00028	0.00005	0.00018
____ MO	0.00045	2.85	93.117	0.00088	0.00041	0.00005
____ NA	0.06569	-746.43	10.217	0.05835	0.07152	0.06719
____ NI	0.00026	32.71	255.006	0.00033	0.00090	-0.00044
____ P	-0.00329	-2.29	84.921	-0.00626	-0.00288	-0.00072
____ PB	0.00189	-5.09	83.412	0.00352	0.00037	0.00179
____ S	0.00923	4.12	35.154	0.01282	0.00833	0.00652
____ SB	0.00207	-9.35	106.053	-0.00017	0.00216	0.00421
____ SE	-0.00052	2.74	756.198	0.00257	-0.00495	0.00082
____ SI	-0.00064	2.98	1525.066	0.00987	-0.00937	-0.00242
____ SN	0.00115	2.11	4.834	0.00109	0.00117	0.00119
____ SR	0.00007	109.44	67.379	0.00011	0.00007	0.00002
____ TH	0.01512	8.82	99.118	0.02024	-0.00176	0.02687
____ TI	0.00010	14.54	155.170	0.00024	-0.00006	0.00012
____ TL	0.00863	-3.59	27.408	0.00771	0.00686	0.01131
____ V	-0.00023	-68.37	131.147	0.00010	-0.00049	-0.00031
____ W	0.00135	2.36	52.044	0.00167	0.00055	0.00184
____ Y1	10700.96379	10,700.96	0.193	10706.82340	10718.06277	10678.00519
____ Y2A	213075.72158	213,075.72	0.383	213720.95405	213346.93166	212159.27902
____ Y2R	12680.34857	12,680.35	0.549	12731.48981	12601.14770	12708.40818
____ ZN	0.00034	15.79	23.176	0.00031	0.00042	0.00027
____ ZR	0.00306	-4.68	43.936	0.00152	0.00400	0.00365

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 35 Date/Time: 05/07/2018 01:25

Sample Number: **9576546** Class: **** Batch: 181200571604

Initial Vol: 25.00 Final Vol: 25.00 DF: 50.00

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00151	-99.61	53.024	0.00078	0.00138	0.00237
____ AL	0.10986	8.86	27.243	0.07691	0.13536	0.11730
____ AS	0.03396	9.17	13.835	0.03927	0.03034	0.03227
____ B	0.01212	298.97	5.970	0.01132	0.01233	0.01272
____ BA	0.07152	42,835.80	0.630	0.07100	0.07177	0.07179
____ BE	0.00000	-104.75	2563.081	0.00002	-0.00001	-0.00001
____ CA	27.13324	33,039.16	0.122	27.09819	27.16391	27.13762
____ CD	0.00029	0.49	55.004	0.00020	0.00020	0.00048
____ CO	0.00039	24.92	30.137	0.00048	0.00026	0.00043
____ CR	0.00409	44.67	17.103	0.00484	0.00394	0.00347
____ CU	0.00221	-27.68	175.008	0.00612	-0.00160	0.00210
____ FE	12.96222	4,221.17	0.429	13.00596	12.98107	12.89963
____ K	1.72948	767.63	2.142	1.69300	1.72838	1.76705
____ LI	0.15625	1,012.95	2.486	0.16058	0.15513	0.15306
____ MG	6.79119	13,683.78	0.166	6.79533	6.79982	6.77843
____ MN	0.17137	11,722.61	0.401	0.17057	0.17173	0.17180
____ MO	0.00194	6.33	19.342	0.00151	0.00209	0.00222
____ NA	246.85807	262,979.86	0.113	246.59580	247.15220	246.82622
____ NI	0.00279	41.03	5.257	0.00284	0.00290	0.00262
____ P	0.02246	6.48	5.773	0.02180	0.02395	0.02163
____ PB	0.05896	71.70	3.187	0.06112	0.05773	0.05802
____ S	3.97631	730.96	0.060	3.97850	3.97377	3.97667
____ SB	-0.00116	-11.19	349.059	-0.00239	0.00337	-0.00447
____ SE	-0.00283	1.61	209.451	-0.00965	0.00020	0.00097
____ SI	0.15655	39.50	8.068	0.14262	0.15976	0.16726
____ SN	0.00145	2.40	79.388	0.00267	0.00038	0.00130
____ SR	0.66640	486,613.95	0.829	0.66017	0.66832	0.67070
____ TH	0.03258	13.36	86.527	0.00029	0.05228	0.04516
____ TI	0.00290	156.96	4.775	0.00275	0.00291	0.00302
____ TL	0.00544	-4.85	10.681	0.00550	0.00598	0.00482
____ V	0.00046	-54.14	46.136	0.00029	0.00070	0.00039
____ W	0.00071	3.53	80.367	0.00130	0.00016	0.00068
____ Y1	10412.48703	10,412.49	0.286	10407.99100	10385.17224	10444.29785
____ Y2A	207079.42704	207,079.43	0.497	208221.54674	206792.19872	206224.53565
____ Y2R	12348.09728	12,348.10	0.360	12344.80869	12305.36963	12394.11353
____ ZN	0.15435	1,281.09	0.349	0.15462	0.15470	0.15373
____ ZR	-0.00075	-10.78	226.732	0.00106	-0.00232	-0.00099

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 36 Date/Time: 05/07/2018 01:28

Sample Number: **9570349** Class: UP** Batch: 181130184807

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	0.02227	311.55	3.773	0.02322	0.02196	0.02163
____ AL	1.50352	205.71	1.140	1.49543	1.49192	1.52321
____ AS	0.52309	192.18	0.669	0.52708	0.52161	0.52057
____ B	0.29578	2,749.45	0.369	0.29582	0.29684	0.29466
____ BA	0.16517	102,872.70	0.124	0.16496	0.16518	0.16536
____ BE	0.01964	8,404.43	0.293	0.01958	0.01969	0.01965
____ CA	32.40737	41,199.41	0.228	32.48789	32.39184	32.34239
____ CD	0.05152	846.02	0.437	0.05128	0.05155	0.05173
____ CO	0.12712	1,095.11	0.533	0.12767	0.12731	0.12636
____ CR	0.19788	2,484.82	0.400	0.19714	0.19779	0.19872
____ CU	0.51102	5,365.23	0.156	0.51075	0.51039	0.51192
____ FE	1.24489	429.44	0.630	1.25395	1.24026	1.24047
____ K	5.77268	2,241.65	1.048	5.79261	5.82070	5.70472
____ LI	1.00343	6,274.22	0.427	1.00716	1.00438	0.99876
____ MG	18.32715	38,506.18	0.306	18.38523	18.32280	18.27344
____ MN	1.69801	120,759.84	0.205	1.69421	1.69879	1.70104
____ MO	0.20367	501.84	0.488	0.20481	0.20320	0.20301
____ NA	75.24610	83,170.21	0.303	75.50635	75.15272	75.07923
____ NI	0.16285	970.59	0.490	0.16377	0.16234	0.16245
____ P	1.04672	364.23	0.549	1.05318	1.04219	1.04479
____ PB	0.50697	690.59	0.798	0.50620	0.50336	0.51134
____ S	17.40004	3,288.36	0.176	17.43463	17.37637	17.38911
____ SB	0.41584	209.36	0.234	0.41542	0.41514	0.41695
____ SE	0.80991	267.66	0.977	0.81567	0.80089	0.81318
____ SI	12.81242	3,124.52	0.191	12.82647	12.82659	12.78419
____ SN	0.60333	722.82	0.282	0.60396	0.60140	0.60463
____ SR	0.28206	215,329.78	0.065	0.28187	0.28210	0.28223
____ TH	-0.01391	6.07	65.297	-0.01946	-0.01885	-0.00343
____ TI	0.11679	6,215.39	0.437	0.11622	0.11722	0.11691
____ TL	1.01031	320.41	0.312	1.01254	1.00670	1.01168
____ V	0.10476	1,794.56	0.167	0.10481	0.10490	0.10456
____ W	0.00067	3.36	148.740	0.00077	-0.00037	0.00163
____ Y1	10730.70116	10,730.70	0.355	10773.15611	10699.49571	10719.45166
____ Y2A	215565.93380	215,565.93	0.286	216199.35539	215530.87560	214967.57040
____ Y2R	12900.95570	12,900.96	0.197	12874.42706	12925.17483	12903.26520
____ ZN	0.13704	1,178.69	0.305	0.13695	0.13667	0.13749
____ ZR	0.99711	2,422.27	0.281	1.00009	0.99673	0.99452

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 37 Date/Time: 05/07/2018 01:31

Sample Number: **9570349** Class: D*** Batch: 181130184807

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	0.00075	-68.57	73.674	0.00139	0.00048	0.00038
____ AL	0.64477	80.70	3.913	0.67147	0.62133	0.64152
____ AS	0.00122	-1.40	237.034	0.00229	-0.00206	0.00344
____ B	0.10736	985.17	0.295	0.10701	0.10761	0.10748
____ BA	0.11696	71,429.78	0.063	0.11690	0.11695	0.11704
____ BE	0.00006	-80.10	53.977	0.00010	0.00006	0.00003
____ CA	31.76330	39,888.33	0.365	31.71820	31.67665	31.89506
____ CD	0.00021	-9.34	51.929	0.00034	0.00017	0.00013
____ CO	0.02622	239.68	0.932	0.02643	0.02627	0.02595
____ CR	0.00214	21.59	34.356	0.00196	0.00295	0.00151
____ CU	0.00027	-50.42	951.100	0.00147	0.00205	-0.00271
____ FE	0.77497	265.98	1.154	0.76737	0.77271	0.78483
____ K	3.89210	1,552.75	0.317	3.90382	3.87919	3.89328
____ LI	0.00210	108.65	100.082	-0.00012	0.00237	0.00406
____ MG	17.60596	36,542.76	0.458	17.55965	17.55917	17.69907
____ MN	1.66413	116,261.34	0.244	1.65945	1.66633	1.66660
____ MO	0.00077	3.61	65.120	0.00106	0.00106	0.00019
____ NA	74.36955	81,183.37	0.329	74.29120	74.17394	74.64351
____ NI	0.00840	75.55	4.643	0.00883	0.00808	0.00827
____ P	0.00640	1.06	44.733	0.00969	0.00503	0.00448
____ PB	0.00098	-2.67	189.558	-0.00086	0.00095	0.00285
____ S	16.57224	3,093.81	0.314	16.54268	16.54165	16.63238
____ SB	-0.00373	-12.26	78.351	-0.00398	-0.00652	-0.00069
____ SE	0.00240	3.65	59.678	0.00194	0.00401	0.00126
____ SI	12.10134	2,912.28	0.301	12.12112	12.05923	12.12366
____ SN	0.00250	3.68	61.901	0.00421	0.00121	0.00206
____ SR	0.26703	200,302.95	0.280	0.26617	0.26743	0.26749
____ TH	-0.00236	6.07	488.100	0.00690	-0.01525	0.00127
____ TI	0.02111	1,111.52	3.894	0.02117	0.02027	0.02191
____ TL	0.00599	-3.83	23.832	0.00440	0.00715	0.00643
____ V	0.00193	-28.91	57.643	0.00321	0.00142	0.00117
____ W	0.00146	2.68	41.868	0.00160	0.00080	0.00200
____ Y1	10599.76618	10,599.77	0.173	10581.30053	10618.00300	10599.99500
____ Y2A	211761.64962	211,761.65	0.404	212739.97700	211150.38362	211394.58825
____ Y2R	12742.77327	12,742.77	0.434	12766.15477	12782.50249	12679.66254
____ ZN	0.01597	146.45	0.380	0.01598	0.01591	0.01603
____ ZR	0.00544	-1.71	39.409	0.00756	0.00548	0.00328

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 38 Date/Time: 05/07/2018 01:35

Sample Number: **9570349** Class: UL** Batch: 181130184807

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	0.00080	-69.65	176.651	0.00206	0.00107	-0.00073
____ AL	0.12471	10.66	43.826	0.06474	0.13766	0.17172
____ AS	-0.00028	-2.07	1135.225	-0.00084	-0.00319	0.00318
____ B	0.01935	181.86	2.669	0.01875	0.01963	0.01967
____ BA	0.02275	14,495.72	0.027	0.02275	0.02275	0.02276
____ BE	0.00002	-101.79	28.927	0.00001	0.00002	0.00002
____ CA	6.24364	7,896.45	0.665	6.28564	6.24269	6.20260
____ CD	-0.00019	-16.80	84.856	-0.00016	-0.00005	-0.00037
____ CO	0.00506	65.54	3.279	0.00518	0.00513	0.00487
____ CR	0.00087	6.05	72.495	0.00043	0.00159	0.00058
____ CU	-0.00008	-71.98	2016.708	-0.00136	-0.00074	0.00185
____ FE	0.15927	58.59	4.127	0.15596	0.15501	0.16684
____ K	0.85251	483.15	2.720	0.84479	0.87856	0.83416
____ LI	-0.00486	62.73	65.107	-0.00482	-0.00804	-0.00171
____ MG	3.49997	7,264.92	0.178	3.50412	3.49283	3.50297
____ MN	0.32877	23,519.61	0.333	0.32972	0.32901	0.32757
____ MO	0.00072	3.56	132.711	0.00003	0.00181	0.00032
____ NA	14.79385	15,472.51	0.551	14.85247	14.82825	14.70084
____ NI	0.00194	42.30	32.629	0.00156	0.00267	0.00160
____ P	0.00070	-0.92	499.355	-0.00125	0.00475	-0.00139
____ PB	0.00016	-6.84	386.054	-0.00053	0.00070	0.00031
____ S	3.16868	606.95	0.315	3.17251	3.15735	3.17618
____ SB	-0.00089	-11.03	308.576	-0.00400	0.00111	0.00023
____ SE	-0.00531	1.20	88.751	0.00013	-0.00821	-0.00783
____ SI	2.28772	552.46	0.092	2.28680	2.29011	2.28624
____ SN	0.00068	1.57	94.083	-0.00001	0.00081	0.00125
____ SR	0.05181	39,819.69	0.158	0.05177	0.05190	0.05175
____ TH	0.00211	6.70	1594.973	0.00237	0.03557	-0.03163
____ TI	0.00306	172.97	5.481	0.00299	0.00325	0.00294
____ TL	0.00554	-4.53	27.437	0.00690	0.00390	0.00583
____ V	0.00035	-59.16	38.700	0.00021	0.00035	0.00048
____ W	0.00137	2.45	123.700	0.00139	0.00304	-0.00034
____ Y1	10840.72624	10,840.73	0.154	10857.91155	10839.74641	10824.52077
____ Y2A	216702.07794	216,702.08	0.562	215342.16165	217072.78544	217691.28674
____ Y2R	12727.92638	12,727.93	0.072	12738.19153	12720.84163	12724.74597
____ ZN	0.00375	45.24	3.948	0.00364	0.00370	0.00392
____ ZR	-0.00131	-17.30	189.938	-0.00394	0.00101	-0.00101

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 39 Date/Time: 05/07/2018 01:38

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00541	-51.64	15.216	0.00501	0.00486	0.00635
____ AL	0.20063	23.55	18.728	0.15771	0.22759	0.21660
____ AS	0.01840	4.87	18.780	0.01739	0.01557	0.02225
____ B	0.04504	417.11	0.514	0.04520	0.04477	0.04514
____ BA	0.00505	3,471.10	0.842	0.00510	0.00501	0.00505
____ BE	0.00492	2,014.94	0.610	0.00490	0.00495	0.00491
____ CA	0.20794	317.59	0.985	0.20821	0.20577	0.20983
____ CD	0.00528	74.55	3.274	0.00537	0.00508	0.00538
____ CO	0.00514	65.88	3.716	0.00494	0.00532	0.00515
____ CR	0.01520	185.55	4.326	0.01444	0.01551	0.01565
____ CU	0.00897	80.88	8.007	0.00939	0.00938	0.00814
____ FE	0.20878	74.01	6.150	0.22029	0.21111	0.19493
____ K	0.58302	382.32	13.030	0.49963	0.60116	0.64827
____ LI	0.01650	188.58	28.387	0.01787	0.01129	0.02035
____ MG	0.11068	206.11	1.571	0.11167	0.10867	0.11170
____ MN	0.00543	398.67	1.302	0.00536	0.00550	0.00544
____ MO	0.01072	28.08	3.080	0.01106	0.01041	0.01068
____ NA	1.11972	405.26	3.697	1.10580	1.08709	1.16628
____ NI	0.01072	93.32	5.385	0.01008	0.01121	0.01088
____ P	0.10205	34.43	3.477	0.09799	0.10361	0.10455
____ PB	0.01858	17.84	2.646	0.01802	0.01893	0.01880
____ S	0.52148	100.83	0.905	0.51888	0.52693	0.51863
____ SB	0.02472	2.67	18.663	0.01990	0.02909	0.02518
____ SE	0.02071	9.71	6.939	0.02213	0.01925	0.02076
____ SI	0.05271	16.05	21.991	0.05899	0.05982	0.03934
____ SN	0.02161	26.62	3.087	0.02086	0.02184	0.02213
____ SR	0.00523	4,018.69	0.626	0.00526	0.00524	0.00519
____ TH	0.18581	36.71	9.484	0.17227	0.17941	0.20573
____ TI	0.01031	555.26	4.786	0.01024	0.01084	0.00986
____ TL	0.03364	4.43	10.598	0.03109	0.03212	0.03772
____ V	0.00523	33.20	13.286	0.00533	0.00449	0.00587
____ W	0.01218	16.23	2.834	0.01228	0.01180	0.01246
____ Y1	10735.40629	10,735.41	0.875	10661.80992	10703.17991	10841.22903
____ Y2A	214702.82412	214,702.82	0.223	215017.28617	214150.82768	214940.35850
____ Y2R	12523.19281	12,523.19	0.580	12473.77343	12489.19323	12606.61178
____ ZN	0.02102	190.73	1.572	0.02140	0.02089	0.02078
____ ZR	0.04981	133.06	0.774	0.04937	0.04995	0.05010

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 40 Date/Time: 05/07/2018 01:41

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00390	-401.23	23.364	0.00338	0.00337	0.00495
____ AL	504.47399	64,898.56	0.227	505.07700	503.15590	505.18906
____ AS	0.00285	-17.51	275.900	0.00756	-0.00624	0.00723
____ B	-0.07746	2,099.94	3.993	-0.07566	-0.07568	-0.08103
____ BA	0.00096	830.88	3.911	0.00093	0.00100	0.00095
____ BE	-0.00066	-350.32	3.239	-0.00066	-0.00064	-0.00068
____ CA	507.63786	578,885.35	0.766	505.50017	505.28584	512.12759
____ CD	-0.00215	84.26	7.241	-0.00233	-0.00209	-0.00203
____ CO	-0.00020	18.81	269.279	-0.00076	0.00028	-0.00011
____ CR	-0.00125	-18.34	83.520	-0.00113	-0.00028	-0.00236
____ CU	-0.00676	112.56	22.882	-0.00581	-0.00592	-0.00854
____ FE	200.36288	60,326.25	0.129	200.47540	200.06814	200.54511
____ K	0.05808	192.75	50.045	0.09159	0.04292	0.03972
____ LI	-0.00912	100.96	10.015	-0.00944	-0.00982	-0.00809
____ MG	486.02902	840,328.26	0.279	484.71219	485.95203	487.42282
____ MN	0.00460	305.90	0.882	0.00456	0.00460	0.00464
____ MO	0.00104	3.91	120.782	0.00032	0.00031	0.00248
____ NA	0.18236	-586.30	5.721	0.18851	0.17031	0.18824
____ NI	0.00621	-10.60	9.579	0.00638	0.00555	0.00671
____ P	0.00715	1.20	86.856	0.01346	0.00103	0.00697
____ PB	0.01307	207.18	13.070	0.01314	0.01133	0.01474
____ S	0.05942	12.32	14.985	0.06906	0.05770	0.05150
____ SB	-0.00793	-20.47	35.835	-0.00465	-0.00940	-0.00973
____ SE	0.00423	3.84	146.946	-0.00152	0.01082	0.00339
____ SI	-0.00059	2.94	584.460	0.00272	-0.00031	-0.00418
____ SN	0.00200	2.83	27.595	0.00230	0.00136	0.00232
____ SR	-0.00072	18,541.33	36.345	-0.00052	-0.00062	-0.00102
____ TH	0.03407	41.23	70.967	0.01940	0.02083	0.06197
____ TI	0.00058	35.52	35.816	0.00080	0.00053	0.00040
____ TL	0.01562	-7.10	29.084	0.02002	0.01588	0.01095
____ V	0.00212	-22.42	21.743	0.00181	0.00189	0.00264
____ W	0.00433	5.64	38.560	0.00461	0.00254	0.00585
____ Y1	9735.15936	9,735.16	0.663	9662.89211	9787.00320	9755.58277
____ Y2A	191077.27256	191,077.27	0.177	190714.05376	191134.23891	191383.52500
____ Y2R	12021.82857	12,021.83	0.386	12016.31521	12070.70758	11978.46292
____ ZN	0.00853	181.64	6.238	0.00893	0.00873	0.00792
____ ZR	0.00692	7.21	43.939	0.00437	0.01028	0.00610

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 41 Date/Time: 05/07/2018 01:45

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.21888	2,309.99	0.518	0.21764	0.21916	0.21985
____ AL	503.92221	65,106.20	0.016	504.01285	503.86893	503.88486
____ AS	0.11287	19.37	4.790	0.10664	0.11633	0.11564
____ B	-0.08053	2,083.15	0.516	-0.08077	-0.08005	-0.08078
____ BA	0.51000	280,522.62	0.623	0.50782	0.50853	0.51364
____ BE	0.50735	195,197.96	0.148	0.50651	0.50795	0.50760
____ CA	497.17083	569,658.44	0.441	495.27857	496.65672	499.57719
____ CD	0.94442	14,308.59	0.166	0.94504	0.94559	0.94264
____ CO	0.47216	3,610.85	0.160	0.47303	0.47182	0.47164
____ CR	0.47269	5,277.14	0.251	0.47375	0.47291	0.47141
____ CU	0.53141	5,168.05	0.254	0.53039	0.53294	0.53090
____ FE	200.69504	60,658.70	0.223	201.17911	200.60723	200.29879
____ K	0.09195	204.79	48.242	0.05046	0.08668	0.13870
____ LI	-0.00671	113.86	80.690	-0.00085	-0.00776	-0.01152
____ MG	480.48548	835,327.22	0.247	480.61841	481.59789	479.24015
____ MN	0.49601	31,338.21	0.437	0.49357	0.49675	0.49771
____ MO	0.00107	3.94	59.370	0.00173	0.00101	0.00047
____ NA	0.17375	-597.61	13.344	0.14900	0.19497	0.17727
____ NI	0.94919	4,914.12	0.179	0.95082	0.94931	0.94743
____ P	0.00287	0.59	134.958	0.00731	0.00021	0.00108
____ PB	0.53426	848.90	0.898	0.53084	0.53219	0.53974
____ S	0.05016	10.72	16.784	0.05551	0.05452	0.04046
____ SB	0.61345	279.23	1.376	0.62296	0.61052	0.60686
____ SE	0.52625	157.65	2.483	0.51735	0.54125	0.52014
____ SI	0.00046	3.12	1708.071	0.00244	0.00714	-0.00821
____ SN	0.00289	3.79	30.094	0.00384	0.00213	0.00271
____ SR	-0.00033	18,449.33	50.512	-0.00016	-0.00033	-0.00049
____ TH	-0.03750	29.62	31.250	-0.04534	-0.04312	-0.02403
____ TI	0.00161	84.17	7.001	0.00167	0.00148	0.00167
____ TL	0.10357	12.93	7.688	0.10448	0.11103	0.09518
____ V	0.50586	8,262.22	0.336	0.50453	0.50527	0.50778
____ W	-0.00153	11.11	80.578	-0.00121	-0.00049	-0.00289
____ Y1	9675.83627	9,675.84	0.277	9686.41451	9645.39828	9695.69603
____ Y2A	191429.57365	191,429.57	0.313	191690.00000	191854.64478	190744.07618
____ Y2R	12069.12711	12,069.13	0.278	12098.41595	12032.54039	12076.42500
____ ZN	1.00920	7,817.94	0.112	1.01050	1.00840	1.00871
____ ZR	0.00769	-1.76	55.458	0.01233	0.00396	0.00677

LANCASTER LABORATORIES

Run Name: 1812605T70

Instrument ID: 11016

Tube: 42

Date/Time: 05/07/2018 01:49

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.52121	6,914.37	0.638	0.51744	0.52374	0.52245
____ AL	25.75470	3,419.07	0.788	25.52157	25.84941	25.89311
____ AS	0.52024	186.66	0.991	0.52581	0.51926	0.51564
____ B	0.47791	4,666.17	0.502	0.47619	0.47688	0.48065
____ BA	0.50441	303,801.10	0.316	0.50412	0.50297	0.50613
____ BE	0.50443	212,387.20	0.144	0.50375	0.50434	0.50520
____ CA	25.59796	31,410.05	0.057	25.58108	25.60745	25.60534
____ CD	0.50791	8,355.83	0.058	0.50763	0.50822	0.50789
____ CO	0.50567	4,235.71	0.355	0.50420	0.50767	0.50514
____ CR	0.48972	5,983.44	0.334	0.49097	0.49034	0.48787
____ CU	0.52420	5,477.05	0.369	0.52278	0.52640	0.52342
____ FE	25.31790	8,274.89	0.420	25.20322	25.33706	25.41343
____ K	25.70421	9,005.28	0.644	25.54583	25.69062	25.87619
____ LI	0.52070	3,183.78	0.376	0.52277	0.52045	0.51888
____ MG	25.39317	51,364.79	0.063	25.38163	25.38646	25.41140
____ MN	0.51659	35,705.73	0.251	0.51527	0.51665	0.51786
____ MO	0.49784	1,207.72	0.365	0.49614	0.49975	0.49763
____ NA	25.84023	27,014.81	0.260	25.76467	25.86270	25.89333
____ NI	0.51160	2,936.81	0.029	0.51157	0.51175	0.51146
____ P	0.51483	176.58	1.064	0.50905	0.51995	0.51550
____ PB	0.50981	697.04	0.593	0.50802	0.50811	0.51330
____ S	25.26835	4,706.17	0.293	25.19454	25.34271	25.26780
____ SB	0.50974	257.83	0.688	0.50637	0.50947	0.51337
____ SE	0.49753	163.77	0.105	0.49757	0.49698	0.49802
____ SI	25.46429	6,002.35	0.445	25.37459	25.42679	25.59148
____ SN	0.49369	583.68	0.221	0.49244	0.49416	0.49447
____ SR	0.51138	377,994.06	0.406	0.51058	0.50982	0.51374
____ TH	0.48615	89.41	8.180	0.46327	0.53207	0.46312
____ TI	0.51854	26,788.22	0.073	0.51834	0.51898	0.51831
____ TL	0.50762	147.94	0.752	0.50568	0.51202	0.50516
____ V	0.51123	8,966.47	0.204	0.51052	0.51243	0.51075
____ W	0.51630	646.44	0.577	0.51290	0.51844	0.51755
____ Y1	10587.00512	10,587.01	0.245	10612.72727	10587.44260	10560.84548
____ Y2A	209495.35189	209,495.35	0.019	209449.71064	209519.30752	209517.03752
____ Y2R	12440.51574	12,440.52	0.245	12473.49920	12434.77609	12413.27191
____ ZN	0.51753	4,351.94	0.284	0.51591	0.51879	0.51788
____ ZR	0.50185	1,245.09	1.058	0.50456	0.49573	0.50525

LANCASTER LABORATORIES

Run Name: 1812605T70 Instrument ID: 11016

Tube: 43 Date/Time: 05/07/2018 01:52

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00056	-76.24	193.159	0.00140	-0.00067	0.00096
____ AL	0.01467	-3.72	217.333	0.03675	0.02913	-0.02188
____ AS	-0.00021	-2.02	911.206	-0.00221	0.00160	-0.00002
____ B	-0.00112	-10.08	36.255	-0.00155	-0.00074	-0.00108
____ BA	0.00020	457.75	26.629	0.00022	0.00014	0.00024
____ BE	0.00006	-83.50	29.210	0.00004	0.00005	0.00007
____ CA	0.01779	81.11	4.325	0.01706	0.01771	0.01860
____ CD	0.00031	-8.39	247.828	0.00116	0.00010	-0.00033
____ CO	-0.00003	21.98	3269.029	0.00119	-0.00036	-0.00093
____ CR	0.00038	-0.17	131.777	0.00091	-0.00008	0.00030
____ CU	-0.00074	-74.65	202.665	-0.00173	0.00099	-0.00148
____ FE	0.01728	10.43	88.738	0.00632	0.01072	0.03480
____ K	0.00700	179.65	1610.861	0.12944	-0.01573	-0.09270
____ LI	-0.00494	59.16	101.624	-0.00989	-0.00506	0.00014
____ MG	0.01117	2.06	16.997	0.01292	0.00915	0.01143
____ MN	0.00005	20.95	68.866	0.00006	0.00001	0.00007
____ MO	0.00051	3.01	40.008	0.00055	0.00029	0.00070
____ NA	-0.02049	-814.47	100.479	0.00326	-0.03330	-0.03144
____ NI	0.00050	34.05	84.876	0.00053	0.00006	0.00091
____ P	-0.00282	-2.13	53.806	-0.00262	-0.00141	-0.00443
____ PB	0.00203	-4.89	98.084	0.00058	0.00429	0.00121
____ S	0.01824	5.81	90.933	0.03721	0.01106	0.00645
____ SB	0.00126	-9.77	76.038	0.00129	0.00029	0.00220
____ SE	0.00020	2.98	1512.344	-0.00234	0.00361	-0.00066
____ SI	0.01632	6.82	57.777	0.02624	0.00747	0.01527
____ SN	0.00180	2.87	48.182	0.00272	0.00101	0.00166
____ SR	0.00004	90.60	47.944	0.00006	0.00003	0.00004
____ TH	0.02282	9.76	235.281	0.02444	-0.03166	0.07567
____ TI	-0.00001	8.75	1284.113	0.00003	-0.00017	0.00010
____ TL	0.00313	-5.36	162.128	-0.00189	0.00827	0.00301
____ V	-0.00027	-68.23	447.657	-0.00045	-0.00135	0.00100
____ W	0.00146	2.50	51.266	0.00174	0.00061	0.00204
____ Y1	10700.94736	10,700.95	0.659	10634.94054	10775.16990	10692.73163
____ Y2A	211328.85332	211,328.85	0.253	211297.96367	211879.02500	210809.57129
____ Y2R	12281.10894	12,281.11	0.236	12304.73122	12289.79084	12248.80478
____ ZN	0.00082	19.80	109.601	0.00184	0.00023	0.00037
____ ZR	0.00135	-7.33	445.342	0.00188	0.00705	-0.00490

ICP-MS Data

Metals in Liquid

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ICP-MS Run Data Report

Method Reference Name(s):

Date File Name: 18E11A00.E05

Run Name: 1813101E05

Analyst: 1242

Reviewed By:	Reviewed Date
Choon Y Tian	05/11/2018 09:08
Deborah A Krady	05/11/2018 11:23
Tara L Snyder	05/15/2018 16:16

Verified By:	Verified Date
Deborah A Krady	05/11/2018 11:26
Tara L Snyder	05/15/2018 16:17

Instrument Parameters:

Rinse Time (sec): 25.00

INTERNAL STD.	ELEMENT	MASS
SC-2		45
	NA	23
	MG	24
	AL	27
	K	39
	CA	44
	TI	47
	V	51
	CR	52
	MN	55
	FE	57
SC-3		45
	BE	9
	B	11
IN-1		115
	SE	78
IN-2		115
	CO	59
	NI	60
	CU	63
	ZN	66
	AS	75
	SR	88
	MO	98
	AG	107
	CD	111
	SN	120
	SB	121
	BA	137
BI-2		209
	TL	203
	PB	208
	U	238

Run Name: 1813101E05 Date/Time: 05/11/2018 5:40:54
Tube Number: 1
Sample Number: **S0**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
BE	9	0.00000	10.00000	0.000	-0.00004	0.00146	-0.00143
B	11	0.00000	3909.10000	0.000	0.12879	0.09222	-0.22101
NA	23	0.00000	3573.82000	0.000	10.76161	-12.98622	2.22460
MG	24	0.00000	6.67000	0.000	0.19685	0.11422	-0.31107
AL	27	0.00000	16.67000	0.000	-1.33152	-3.37472	4.70624
K	39	0.00000	3190.42000	0.000	60.89195	-52.51090	-8.38105
CA	44	0.00000	10.00000	0.000	-14.89825	29.79651	-14.89825
SC-1	45	630013.61000	0.00000	0.000	627052.61000	623641.32000	639346.90000
SC-2	45	10346.69000	0.00000	0.000	9682.92000	11564.15000	9792.99000
SC-3	45	1563867	0	0.000	1572304	1562980	1556317
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CR	52	0.00000	50.00000	0.000	0.09961	-0.07242	-0.02719
MN	55	0.00000	40.00000	0.000	0.21677	0.04398	-0.26075
FE	57	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CO	59	0.00000	66.67000	0.000	-0.03434	-0.03742	0.07176
NI	60	0.00000	20.00000	0.000	0.00500	-0.00019	-0.00481
CU	63	0.00000	53.33000	0.000	0.03429	-0.04039	0.00610
ZN	66	0.00000	16.67000	0.000	0.08111	-0.29819	0.21708
GE-1	72	853288.45000	0.00000	0.000	853042.88000	843046.71000	863775.77000
GE-2	72	31896.25000	0.00000	0.000	31598.96000	31088.06000	33001.74000
GE-3	72	1310775	0	0.000	1332820	1311827	1287679
AS	75	0.00000	2.00000	0.000	-0.06244	0.06442	-0.00198
SE	78	0.00000	1.78000	0.000	0.01299	-0.01487	0.00188
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
MO	98	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
AG	107	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CD	111	0.00000	1.33000	0.000	0.03395	-0.01697	-0.01697
IN-1	115	397057.37000	0.00000	0.000	400075.20000	391298.70000	399798.22000
IN-2	115	12431.56000	0.00000	0.000	11814.41000	12434.95000	13045.31000
SN	120	0.00000	13.33000	0.000	-0.06323	0.08073	-0.01749
SB	121	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
BA	137	0.00000	6.67000	0.000	0.24631	-0.12315	-0.12315
TB-2	159	77310.82000	0.00000	0.000	74859.09000	78185.42000	78887.96000
TL	203	0.00000	6.67000	0.000	-0.00819	0.01638	-0.00819
PB	208	0.00000	46.67000	0.000	0.01709	-0.01456	-0.00254
BI-2	209	65960.36000	0.00000	0.000	65716.76000	66890.57000	65273.75000
U	238	0.00000	0.00000	0.000	0.00000	0.00000	0.00000

Run Name: 1813101E05 Date/Time: 05/11/2018 5:43:59
Tube Number: 2
Sample Number: **S1**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	9759.62000	0.00000	0.000	9672.91000	9662.88000	9943.07000
SC-3	45	1556294	0	0.000	1536803	1592901	1539180
AL	27	10000.00000	49346.88000	1.900	9804.61658	10192.45802	10002.92540
B	11	1000.00000	715965.60000	2.000	1014.45066	976.60242	1008.94693
BE	9	100.00000	136483.41000	2.300	102.21077	97.54557	100.24366
CA	44	10000.00000	5674.46000	2.300	9996.97936	9775.42589	10227.59475
CR	52	1000.00000	321558.08000	1.800	989.24044	1020.22217	990.53739
FE	57	10000.00000	58098.22000	2.600	9698.05383	10182.50540	10119.44077
K	39	10000.00000	98121.99000	1.700	9855.22367	10188.24561	9956.53072
MG	24	10000.00000	198423.36000	2.000	9903.02613	10231.93170	9865.04216
MN	55	1000.00000	105795.57000	1.400	1005.77716	1010.17953	984.04331
NA	23	10000.00000	427823.30000	0.800	9926.91917	10091.23042	9981.85041
TI	47	1000.00000	4824.19000	3.300	991.26549	1036.27006	972.46446
V	51	1000.00000	240259.70000	1.800	999.68231	1018.18130	982.13639
IN-1	115	395418.05000	0.00000	0.000	396941.24000	395900.62000	393412.30000
IN-2	115	11858.48000	0.00000	0.000	12119.15000	11222.32000	12233.98000
AG	107	100.00000	84894.88000	5.300	97.44942	106.07375	96.47683
AS	75	1000.00000	30021.19000	5.600	963.58273	1064.24894	972.16833
BA	137	1000.00000	54261.56000	4.800	970.11399	1055.26856	974.61745
CD	111	100.00000	7869.84000	6.700	96.20485	107.75561	96.03954
CO	59	1000.00000	648655.82000	5.600	965.05959	1064.35261	970.58780
CU	63	1000.00000	557096.72000	4.200	977.86510	1048.95313	973.18177
MO	98	100.00000	39251.75000	3.900	99.81988	103.94296	96.23716
NI	60	1000.00000	192569.45000	6.200	971.91883	1071.47033	956.61084
SB	121	100.00000	16064.81000	5.800	97.93695	106.55245	95.51059
SE	78	100.00000	11815.46000	0.900	99.56675	99.36605	101.06720
SN	120	100.00000	19865.57000	4.000	95.95809	104.00399	100.03792
SR	88	100.00000	10016.58000	4.400	100.03876	104.34340	95.61784
ZN	66	1000.00000	52865.80000	4.800	962.69455	1054.26462	983.04083
BI-2	209	67111.57000	0.00000	0.000	66519.21000	66659.96000	68155.53000
PB	208	100.00000	258737.62000	1.800	99.07891	102.11617	98.80492
TL	203	100.00000	81678.07000	1.700	98.24706	101.62196	100.13098
U	238	100.00000	350752.15000	1.300	98.62160	101.27516	100.10323
SC-1	45	624041.96000	0.00000	0.000	626007.49000	619348.62000	626769.76000
GE-1	72	855640.43000	0.00000	0.000	858803.89000	851216.86000	856900.53000
GE-2	72	31352.14000	0.00000	0.000	31479.24000	31398.55000	31178.62000
GE-3	72	1274465	0	0.000	1278670	1285443	1259281
TB-2	159	77862.83000	0.00000	0.000	75773.60000	78074.21000	79740.68000

Run Name: 1813101E05 Date/Time: 05/11/2018 5:47:04
Tube Number: 3
Sample Number: **CCS**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	10116.50000	0.00000	0.000	9993.09000	9432.78000	10923.63000
SC-3	45	1518905	0	0.000	1516848	1521485	1518383
AL	27	0.45500	20.00000	367.100	0.58485	-1.27733	2.05869
B	11	33.40900	27020.68000	3.000	34.33645	33.55075	32.33931
BE	9	0.01000	22.67000	105.100	0.00173	0.00620	0.02124
CA	44	1.85300	10.00000	931.700	19.58270	-14.89825	0.87358
CR	52	0.29600	143.34000	120.500	0.21332	0.68549	-0.01223
FE	57	5.41700	33.33000	69.700	1.68118	5.34314	9.22783
K	39	-18.33600	2963.69000	0.000	-3.31471	-13.90786	-37.78622
MG	24	0.63700	20.00000	142.000	-0.31107	0.73170	1.48983
MN	55	0.36700	76.67000	125.500	0.38369	0.81893	-0.10157
NA	23	5.34000	3747.19000	143.200	8.39883	10.97990	-3.35989
TI	47	0.71500	3.33000	173.200	0.00000	2.14414	0.00000
V	51	0.17200	43.33000	29.300	0.12193	0.17223	0.22308
IN-1	115	378936.10000	0.00000	0.000	386506.57000	376773.19000	373528.55000
IN-2	115	11606.01000	0.00000	0.000	11683.29000	11943.24000	11191.49000
AG	107	0.00400	3.33000	173.200	0.01194	0.00000	0.00000
AS	75	0.25100	9.33000	78.700	0.20759	0.46587	0.07851
BA	137	-0.12300	0.00000	0.000	-0.12315	-0.12315	-0.12315
CD	111	-0.00900	0.67000	0.000	-0.01697	0.00821	-0.01697
CO	59	0.05300	93.34000	210.400	-0.01802	-0.00444	0.18113
CU	63	0.23300	176.68000	35.200	0.14490	0.24656	0.30727
MO	98	0.30300	116.67000	35.300	0.18081	0.37904	0.35057
NI	60	0.02400	23.33000	112.700	0.00617	0.05535	0.01080
SB	121	0.99000	156.67000	27.200	0.88301	1.29566	0.79007
SE	78	0.09900	12.89000	10.800	0.10637	0.10355	0.08666
SN	120	0.53700	116.67000	61.000	0.90722	0.28650	0.41663
SR	88	0.10100	10.00000	173.200	0.30362	0.00000	0.00000
ZN	66	-0.17300	6.67000	0.000	-0.29819	0.07702	-0.29819
BI-2	209	64986.36000	0.00000	0.000	62714.09000	65956.73000	66288.26000
PB	208	0.04400	156.67000	38.300	0.05602	0.02483	0.05201
TL	203	0.06700	60.00000	47.600	0.05733	0.04165	0.10339
U	238	0.07000	236.68000	8.600	0.07018	0.07543	0.06351
SC-1	45	593536.15000	0.00000	0.000	606902.92000	586635.66000	587069.87000
GE-1	72	825879.21000	0.00000	0.000	835644.68000	823855.07000	818137.88000
GE-2	72	31719.12000	0.00000	0.000	30917.68000	31879.15000	32360.52000
GE-3	72	1263445	0	0.000	1266077	1244168	1280092
TB-2	159	76449.75000	0.00000	0.000	75553.44000	77792.19000	76003.61000

Run Name: 1813101E05 Date/Time: 05/11/2018 5:50:11
Tube Number: 4
Sample Number: **CCS**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	9896.35000	0.00000	0.000	9122.60000	10283.19000	10283.27000
SC-3	45	1549315	0	0.000	1560356	1575449	1512141
AL	27	2.64200	30.00000	16.000	3.13138	2.39708	2.39704
B	11	20.42300	18350.97000	2.600	20.85535	19.82031	20.59238
BE	9	0.00300	14.00000	125.100	0.00002	0.00718	0.00176
CA	44	1.85600	10.00000	1563.700	-14.89825	-14.89825	35.36367
CR	52	0.35200	163.34000	29.400	0.41449	0.23256	0.40968
FE	57	2.79200	16.67000	65.500	1.84161	4.90127	1.63374
K	39	5.39300	3113.70000	887.900	60.63440	-24.22289	-20.23370
MG	24	0.64500	20.00000	148.200	-0.31107	0.64546	1.60198
MN	55	-0.32500	3.33000	0.000	-0.35497	-0.35497	-0.26524
NA	23	4.58200	3633.86000	198.500	13.57667	4.78160	-4.61284
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.08200	20.00000	48.500	0.08904	0.03950	0.11849
IN-1	115	383504.57000	0.00000	0.000	386829.11000	378465.06000	385219.53000
IN-2	115	11500.56000	0.00000	0.000	11453.81000	10882.91000	12164.95000
AG	107	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
AS	75	0.12100	5.33000	34.000	0.07528	0.15498	0.13207
BA	137	-0.12300	0.00000	0.000	-0.12315	-0.12315	-0.12315
CD	111	-0.01700	0.00000	0.000	-0.01697	-0.01697	-0.01697
CO	59	0.02800	76.67000	204.800	0.04728	0.07158	-0.03612
CU	63	0.06600	86.67000	114.000	0.07537	-0.01354	0.13553
MO	98	0.01800	6.67000	87.000	0.00000	0.02773	0.02481
NI	60	0.00200	20.00000	8729.000	-0.09905	-0.09905	0.20412
SB	121	0.23300	36.67000	84.200	0.45032	0.06771	0.18171
SE	78	0.01600	3.56000	85.100	0.00823	0.03227	0.00833
SN	120	0.27500	63.33000	92.300	0.24935	0.53990	0.03487
SR	88	0.06900	6.67000	87.000	0.00000	0.10865	0.09720
ZN	66	0.23000	26.67000	258.600	0.87554	0.11358	-0.29819
BI-2	209	65615.46000	0.00000	0.000	63597.55000	66137.62000	67111.21000
PB	208	0.01700	90.00000	81.200	0.00604	0.03256	0.01249
TL	203	0.00000	6.67000	3662.400	0.00473	-0.00819	0.00405
U	238	0.06800	233.35000	48.200	0.03611	0.10126	0.06558
SC-1	45	599949.00000	0.00000	0.000	589187.92000	603049.48000	607609.60000
GE-1	72	824624.73000	0.00000	0.000	828523.35000	824186.63000	821164.21000
GE-2	72	30978.07000	0.00000	0.000	29755.95000	31268.60000	31909.65000
GE-3	72	1276898	0	0.000	1302649	1276277	1251767
TB-2	159	77725.78000	0.00000	0.000	75723.32000	79389.99000	78064.04000

Run Name: 1813101E05 Date/Time: 05/11/2018 5:53:17
Tube Number: 5
Sample Number: **ICV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	10173.28000	0.00000	0.000	10083.14000	9582.96000	10853.74000
SC-3	45	1573353	0	0.000	1594665	1561627	1563767
AL	27	4979.80000	25538.46000	8.200	5135.28461	5285.60338	4518.51088
B	11	520.14600	378463.00000	0.800	516.66118	519.41400	524.36275
BE	9	50.80400	70123.03000	0.400	50.59882	50.96756	50.84646
CA	44	4729.70500	2787.00000	14.100	4462.29589	5487.19020	4239.63010
CR	52	501.47400	167757.04000	5.400	498.68224	529.80170	475.93759
FE	57	4784.03000	28907.49000	5.500	4707.46305	5076.04335	4568.58326
K	39	4754.82900	50126.39000	8.800	4733.16137	5181.59240	4349.73448
MG	24	4911.66000	101363.36000	5.800	4900.66667	5200.41305	4633.90130
MN	55	498.30700	54860.81000	6.000	485.53931	532.24112	477.14029
NA	23	4695.55800	210726.92000	6.400	4760.09856	4960.89630	4365.67774
TI	47	485.57300	2433.60000	11.700	447.34914	550.91149	458.45809
V	51	494.61100	123525.05000	7.300	488.72201	533.47713	461.63469
IN-1	115	390475.86000	0.00000	0.000	395139.29000	389028.29000	387260.00000
IN-2	115	12070.18000	0.00000	0.000	11139.98000	12557.41000	12513.16000
AG	107	50.86500	43900.10000	6.500	54.57546	48.22519	49.79299
AS	75	504.98600	15417.37000	6.700	539.16588	471.63727	504.15450
BA	137	532.18300	29359.65000	6.100	569.51192	513.74251	513.29351
CD	111	51.72500	4143.19000	5.100	54.77449	50.05146	50.34859
CO	59	503.84000	332415.37000	5.700	536.78748	484.58831	490.14553
CU	63	502.57900	284743.67000	5.100	531.84800	484.93243	490.95604
MO	98	49.82300	19882.05000	5.100	52.77476	48.33315	48.35961
NI	60	508.77300	99699.09000	5.200	538.73147	489.62038	497.96764
SB	121	51.76300	8465.75000	5.100	53.85555	48.77512	52.65884
SE	78	52.47100	6123.06000	0.200	52.35890	52.53324	52.51961
SN	120	48.09700	9719.81000	5.400	50.89362	45.71161	47.68706
SR	88	46.72300	4757.52000	7.800	49.68347	42.66194	47.82337
ZN	66	503.00400	27031.24000	6.900	542.17603	476.83575	490.00149
BI-2	209	66887.84000	0.00000	0.000	66901.26000	67563.71000	66198.55000
PB	208	52.12900	134458.27000	0.800	51.73923	52.12049	52.52777
TL	203	51.76200	42136.54000	1.200	51.61234	51.25301	52.42154
U	238	51.19400	178959.05000	0.400	51.09657	51.03399	51.45292
SC-1	45	614323.83000	0.00000	0.000	615760.07000	613735.69000	613475.73000
GE-1	72	847655.95000	0.00000	0.000	850709.13000	830762.33000	861496.39000
GE-2	72	31171.69000	0.00000	0.000	30256.18000	31699.80000	31559.09000
GE-3	72	1282298	0	0.000	1292003	1278177	1276712
TB-2	159	78301.43000	0.00000	0.000	77390.16000	77531.36000	79982.77000

Run Name: 1813101E05 Date/Time: 05/11/2018 5:56:22
Tube Number: 6
Sample Number: **ICB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	9486.18000	0.00000	0.000	9192.64000	9773.07000	9492.83000
SC-3	45	1539361	0	0.000	1561292	1541981	1514809
AL	27	2.10300	26.67000	225.600	-3.37472	4.72271	4.96175
B	11	29.24200	24451.21000	1.500	29.31616	29.63527	28.77439
BE	9	0.00400	14.67000	95.300	0.00147	0.00750	0.00174
CA	44	9.89300	13.33000	290.100	41.32682	-14.89825	3.25077
CR	52	0.20300	110.00000	61.900	0.34415	0.15941	0.10463
FE	57	1.18200	6.67000	86.700	1.82757	1.71903	0.00000
K	39	-5.65100	2897.02000	0.000	34.28589	-23.50305	-27.73581
MG	24	-0.31100	0.00000	0.000	-0.31107	-0.31107	-0.31107
MN	55	-0.00100	36.67000	0.000	0.04652	0.30600	-0.35497
NA	23	0.04200	3307.10000	14262.500	1.60318	-6.55089	5.07322
TI	47	2.06900	10.00000	173.200	0.00000	6.20845	0.00000
V	51	0.02800	6.67000	86.600	0.00000	0.04156	0.04278
IN-1	115	387169.84000	0.00000	0.000	388330.74000	386024.47000	387154.31000
IN-2	115	12017.22000	0.00000	0.000	11643.54000	12353.96000	12054.16000
AG	107	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
AS	75	0.11100	5.33000	88.300	0.00530	0.12909	0.19928
BA	137	0.18200	16.67000	156.100	0.43917	0.23017	-0.12315
CD	111	-0.01700	0.00000	0.000	-0.01697	-0.01697	-0.01697
CO	59	0.09200	123.34000	31.600	0.12334	0.06638	0.08558
CU	63	0.09200	103.33000	35.600	0.12743	0.06320	0.08469
MO	98	0.14300	56.67000	36.800	0.12959	0.09771	0.20028
NI	60	0.00500	20.00000	1887.200	0.11211	-0.04930	-0.04806
SB	121	0.27200	43.34000	137.000	0.69618	0.11929	0.00000
SE	78	0.05400	8.00000	18.400	0.04831	0.04869	0.06579
SN	120	0.38300	90.00000	66.900	0.24426	0.22657	0.67935
SR	88	0.06400	6.67000	173.200	0.00000	0.19142	0.00000
ZN	66	-0.10600	10.00000	0.000	0.27911	-0.29819	-0.29819
BI-2	209	64450.89000	0.00000	0.000	62804.14000	64541.32000	66007.22000
PB	208	0.02300	103.33000	47.200	0.01048	0.02980	0.02873
TL	203	0.01300	16.67000	204.500	-0.00819	0.00454	0.04161
U	238	0.00700	23.33000	48.300	0.00305	0.00889	0.00870
SC-1	45	599652.37000	0.00000	0.000	595843.70000	601911.75000	601201.67000
GE-1	72	826053.55000	0.00000	0.000	830451.39000	823216.39000	824492.88000
GE-2	72	30527.20000	0.00000	0.000	30426.82000	30146.86000	31007.93000
GE-3	72	1269291	0	0.000	1287001	1259506	1261365
TB-2	159	75288.33000	0.00000	0.000	75049.94000	74106.57000	76708.47000

Run Name: 1813101E05 Date/Time: 05/11/2018 5:59:28
Tube Number: 7
Sample Number: **LLC**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	10116.58000	0.00000	0.000	9703.02000	10273.38000	10373.33000
SC-3	45	1569877	0	0.000	1573730	1548505	1587397
AL	27	99.63300	526.70000	4.400	100.61894	94.84540	103.43510
B	11	68.99000	53485.91000	1.600	69.00966	70.08398	67.87699
BE	9	0.45600	638.02000	4.000	0.44330	0.47715	0.44805
CA	44	196.32900	123.34000	25.900	251.45766	186.34297	151.18692
CR	52	2.16200	770.05000	7.300	2.28897	2.21259	1.98499
FE	57	94.95300	570.04000	34.900	103.89353	122.65693	58.30740
K	39	172.27400	4840.86000	23.700	209.30221	178.92870	128.59251
MG	24	100.05900	2066.88000	8.800	96.00272	94.00564	110.16905
MN	55	1.79900	236.68000	12.500	1.54698	1.98036	1.86882
NA	23	200.65600	12351.27000	6.600	208.31413	185.35089	208.30310
TI	47	10.90500	53.33000	95.900	22.92865	3.93740	5.84919
V	51	0.48000	120.00000	19.400	0.41857	0.43487	0.58733
IN-1	115	388442.51000	0.00000	0.000	392992.33000	391178.75000	381156.44000
IN-2	115	12086.65000	0.00000	0.000	12439.85000	11800.72000	12019.38000
AG	107	0.47000	406.69000	24.800	0.35874	0.46090	0.59176
AS	75	2.22500	70.00000	23.700	1.83961	2.00946	2.82482
BA	137	1.74900	103.34000	26.400	1.45583	2.28131	1.51106
CD	111	0.52900	44.00000	21.500	0.66005	0.46732	0.45851
CO	59	0.52800	413.35000	7.700	0.52013	0.49164	0.57206
CU	63	2.13300	1263.43000	5.600	2.01060	2.25059	2.13719
MO	98	0.46900	186.67000	33.500	0.29111	0.58820	0.52728
NI	60	1.81900	376.69000	9.200	1.63044	1.88037	1.94664
SB	121	1.08000	176.68000	24.100	0.82931	1.06155	1.34875
SE	78	2.07500	242.67000	7.300	2.00650	2.24972	1.96969
SN	120	2.22700	463.36000	15.600	1.95151	2.11119	2.61779
SR	88	0.94900	96.67000	27.600	0.66536	1.00209	1.18061
ZN	66	14.69000	806.72000	14.000	13.03106	16.98115	14.05679
BI-2	209	66111.07000	0.00000	0.000	63657.64000	66087.88000	68587.69000
PB	208	1.03300	2680.20000	4.400	1.06968	0.98257	1.04820
TL	203	0.49100	403.35000	29.100	0.44363	0.37728	0.65081
U	238	0.53300	1843.54000	11.200	0.47195	0.59069	0.53568
SC-1	45	601359.60000	0.00000	0.000	608894.91000	594206.01000	600977.88000
GE-1	72	827657.77000	0.00000	0.000	829534.83000	833874.05000	819564.44000
GE-2	72	30690.93000	0.00000	0.000	29966.56000	31649.33000	30456.91000
GE-3	72	1293005	0	0.000	1292438	1299988	1286589
TB-2	159	77866.77000	0.00000	0.000	76216.02000	77501.67000	79882.61000

Run Name: 1813101E05 Date/Time: 05/11/2018 6:02:33
Tube Number: 8
Sample Number: **ICSA**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	10216.61000	0.00000	0.000	9832.97000	10213.30000	10603.55000
SC-3	45	1592134	0	0.000	1607315	1586772	1582314
AL	27	9352.50400	48260.87000	5.400	9931.41115	9017.72811	9108.37192
B	11	18.31500	17326.01000	1.400	18.60063	18.13482	18.20958
BE	9	-0.00200	8.00000	0.000	0.00122	-0.00585	-0.00008
CA	44	9305.65900	5521.07000	5.400	9886.51822	8961.01545	9069.44357
CR	52	0.25600	136.67000	44.800	0.21929	0.38380	0.16371
FE	57	9030.10900	54887.63000	2.200	9257.37357	8924.16381	8908.79033
K	39	9268.23400	95395.16000	1.900	9469.25231	9202.96306	9132.48633
MG	24	9481.46000	196848.92000	2.500	9724.20047	9459.85570	9260.32339
MN	55	0.04500	43.33000	1080.200	0.58339	-0.35497	-0.09392
NA	23	9325.28500	417585.08000	2.900	9607.00875	9302.63244	9066.21397
TI	47	184.69300	930.07000	12.400	207.75678	184.17993	162.14223
V	51	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
IN-1	115	388770.46000	0.00000	0.000	389000.69000	387732.46000	389578.22000
IN-2	115	12400.54000	0.00000	0.000	12153.93000	12363.88000	12683.80000
AG	107	0.01500	13.33000	86.600	0.02295	0.02256	0.00000
AS	75	-0.04100	0.67000	0.000	0.00246	-0.06244	-0.06244
BA	137	-0.06400	3.33000	0.000	-0.12315	0.05337	-0.12315
CD	111	0.02300	3.33000	57.800	0.00778	0.03168	0.03046
CO	59	0.04200	93.34000	208.800	0.14416	-0.00756	-0.00979
CU	63	0.06200	90.00000	42.300	0.04826	0.04588	0.09270
MO	98	186.56300	76672.52000	1.000	185.17929	185.93303	188.57753
NI	60	-0.03300	13.33000	0.000	-0.09905	0.05009	-0.05059
SB	121	0.06000	10.00000	101.400	0.12125	0.00000	0.05809
SE	78	0.01200	3.11000	100.100	0.02531	0.00240	0.00807
SN	120	0.88300	193.51000	143.500	2.34508	0.17808	0.12495
SR	88	0.06400	6.67000	173.200	0.00000	0.19127	0.00000
ZN	66	-0.05300	13.33000	0.000	0.25487	-0.11697	-0.29819
BI-2	209	66709.82000	0.00000	0.000	66499.55000	67181.30000	66448.60000
PB	208	0.00900	70.00000	290.800	-0.01453	0.03563	0.00499
TL	203	0.00400	10.00000	299.500	0.00417	0.01627	-0.00819
U	238	0.00400	13.33000	114.500	0.00863	0.00000	0.00288
SC-1	45	599101.99000	0.00000	0.000	596298.23000	601668.23000	599339.52000
GE-1	72	828025.95000	0.00000	0.000	833546.86000	824880.61000	825650.38000
GE-2	72	32019.60000	0.00000	0.000	31638.98000	32370.27000	32049.56000
GE-3	72	1286133	0	0.000	1300368	1293748	1264282
TB-2	159	78114.80000	0.00000	0.000	74498.16000	77421.85000	82424.38000

Run Name: 1813101E05 Date/Time: 05/11/2018 6:05:37
Tube Number: 9
Sample Number: **ICSAB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	10079.81000	0.00000	0.000	9532.97000	10023.07000	10683.40000
SC-3	45	1554179	0	0.000	1578367	1538892	1545278
AL	27	9494.11300	48344.28000	2.400	9694.69425	9543.10416	9244.54027
B	11	15.22200	14713.12000	1.200	15.41739	15.18857	15.06066
BE	9	0.00200	12.00000	589.000	0.00138	-0.00729	0.01042
CA	44	8734.61400	5120.94000	4.600	8914.52424	8271.56488	9017.75239
CR	52	19.35900	6468.09000	5.700	19.75271	20.20367	18.12129
FE	57	9497.76100	56920.93000	3.200	9683.03592	9661.92867	9148.31762
K	39	9462.68200	95931.42000	3.900	9801.22327	9514.21579	9072.60565
MG	24	9702.57200	198594.53000	3.600	10019.78223	9753.06354	9334.86917
MN	55	19.59000	2176.91000	2.600	19.87596	19.89944	18.99360
NA	23	9587.10400	423053.80000	4.600	9915.53281	9761.70246	9084.07664
TI	47	197.78600	986.73000	5.400	186.71185	207.85416	198.79319
V	51	0.01300	3.33000	173.200	0.00000	0.00000	0.03802
IN-1	115	387758.70000	0.00000	0.000	387623.57000	394434.48000	381218.04000
IN-2	115	12101.35000	0.00000	0.000	12284.74000	11904.53000	12114.77000
AG	107	19.57000	16975.53000	3.800	18.87637	20.35878	19.47551
AS	75	19.12400	588.68000	6.800	18.04288	18.75364	20.57582
BA	137	-0.06200	3.33000	0.000	-0.12315	0.06018	-0.12315
CD	111	20.20500	1626.09000	7.100	19.35145	21.86530	19.39973
CO	59	19.75800	13158.73000	4.000	18.85445	20.30393	20.11578
CU	63	20.14400	11507.62000	9.200	18.15520	21.82957	20.44833
MO	98	191.88000	76903.69000	5.200	180.91271	200.56663	194.15974
NI	60	18.63000	3687.22000	8.000	17.61603	17.92344	20.35124
SB	121	0.02000	3.33000	173.200	0.00000	0.00000	0.06082
SE	78	0.01400	3.33000	85.600	0.01389	0.00210	0.02613
SN	120	0.10000	33.33000	141.500	0.17963	-0.06323	0.18304
SR	88	0.06600	6.67000	173.200	0.00000	0.19865	0.00000
ZN	66	20.38600	1116.74000	10.400	21.04302	22.10086	18.01281
BI-2	209	66268.51000	0.00000	0.000	62794.42000	68979.49000	67031.62000
PB	208	0.00200	50.00000	1170.600	0.02288	-0.00339	-0.01456
TL	203	-0.00800	0.00000	0.000	-0.00819	-0.00819	-0.00819
U	238	0.00200	6.67000	173.200	0.00000	0.00555	0.00000
SC-1	45	588119.73000	0.00000	0.000	591606.63000	589948.08000	582804.48000
GE-1	72	812053.58000	0.00000	0.000	818627.88000	810599.83000	806933.03000
GE-2	72	31184.94000	0.00000	0.000	31208.53000	30476.85000	31869.45000
GE-3	72	1281646	0	0.000	1307930	1272412	1264596
TB-2	159	76511.53000	0.00000	0.000	74388.44000	76065.99000	79080.16000

Run Name: 1813101E05 Date/Time: 05/11/2018 6:08:42
Tube Number: 10
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	9993.14000	0.00000	0.000	10023.13000	10013.17000	9943.11000
SC-3	45	1544510	0	0.000	1598944	1523833	1510752
AL	27	2407.64600	12177.81000	1.500	2407.59940	2370.43384	2444.90606
B	11	266.73300	192347.95000	1.600	261.88868	269.07032	269.24042
BE	9	25.72100	34845.39000	1.900	25.27758	25.64247	26.24403
CA	44	2398.54000	1400.11000	11.600	2718.32802	2204.83524	2272.45708
CR	52	247.60700	81567.96000	1.100	244.93280	247.52110	250.36856
FE	57	2390.28000	14216.18000	5.000	2258.71243	2417.10317	2495.02536
K	39	2331.18500	25808.99000	1.500	2292.42360	2354.61690	2346.51306
MG	24	2397.72800	48724.80000	1.100	2392.94569	2375.12476	2425.11328
MN	55	250.19400	27134.50000	3.000	241.47263	255.37364	253.73713
NA	23	2413.62400	108375.91000	0.900	2389.28589	2425.46041	2426.12716
TI	47	240.15200	1186.76000	11.800	226.01561	272.70123	221.73836
V	51	248.45800	61134.28000	1.300	252.19259	246.09159	247.08972
IN-1	115	378594.81000	0.00000	0.000	378251.46000	380895.87000	376637.10000
IN-2	115	11738.04000	0.00000	0.000	11782.93000	11700.26000	11730.92000
AG	107	25.41300	21390.63000	1.500	25.60474	25.65447	24.98044
AS	75	250.63400	7462.28000	1.800	252.54331	245.42673	253.93252
BA	137	256.39800	13796.09000	1.900	254.11532	261.88594	253.19378
CD	111	25.59500	1998.80000	3.300	24.77177	26.46394	25.54846
CO	59	258.97200	166607.25000	1.100	256.27357	258.47719	262.16634
CU	63	253.55100	140035.00000	2.000	247.78912	255.24952	257.61504
MO	98	25.64700	9976.64000	4.700	27.00379	25.28475	24.65220
NI	60	253.35800	48399.42000	1.900	247.86519	256.99271	255.21676
SB	121	23.81400	3793.90000	6.000	24.20445	22.23371	25.00307
SE	78	25.57300	2894.02000	3.500	25.94345	24.56210	26.21467
SN	120	26.68300	5261.03000	3.600	26.27567	27.78838	25.98546
SR	88	25.24600	2506.95000	13.100	29.00489	22.84187	23.89112
ZN	66	257.20200	13488.95000	3.700	251.76179	268.11078	251.73427
BI-2	209	64836.05000	0.00000	0.000	63848.50000	65445.39000	65214.27000
PB	208	26.47400	66230.19000	2.800	25.66750	27.09373	26.65983
TL	203	25.38500	20026.55000	5.900	26.68987	23.75046	25.71456
U	238	25.51600	86459.02000	0.600	25.53920	25.35127	25.65609
SC-1	45	578448.55000	0.00000	0.000	575083.51000	578729.25000	581532.88000
GE-1	72	814687.62000	0.00000	0.000	810130.30000	814519.36000	819413.19000
GE-2	72	31054.82000	0.00000	0.000	30266.43000	31599.14000	31298.89000
GE-3	72	1261627	0	0.000	1301092	1248936	1234854
TB-2	159	78202.03000	0.00000	0.000	74970.09000	80526.92000	79109.07000

Run Name: 1813101E05 Date/Time: 05/11/2018 6:11:48
Tube Number: 11
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	9669.58000	0.00000	0.000	9482.79000	10303.28000	9222.68000
SC-3	45	1481988	0	0.000	1481258	1484740	1479967
AL	27	-0.06400	16.67000	0.000	0.79793	2.38583	-3.37472
B	11	21.00300	17949.92000	1.500	21.30089	21.02605	20.68294
BE	9	0.00600	17.33000	103.000	0.00041	0.00500	0.01274
CA	44	2.78800	10.00000	652.400	21.43823	1.82318	-14.89825
CR	52	0.19700	110.01000	62.600	0.32899	0.08451	0.17798
FE	57	3.45200	20.00000	87.000	0.00000	4.89171	5.46486
K	39	-3.86800	2973.71000	0.000	37.52993	-18.81796	-30.31478
MG	24	0.74100	20.00000	123.000	1.24483	-0.31107	1.28871
MN	55	0.01800	40.00000	1247.100	-0.06306	0.27199	-0.15488
NA	23	1.64100	3433.80000	518.400	10.98399	-5.65281	-0.40883
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
IN-1	115	372540.70000	0.00000	0.000	375481.39000	372362.06000	369778.64000
IN-2	115	11780.61000	0.00000	0.000	11743.52000	11914.25000	11684.07000
AG	107	0.00800	6.67000	173.200	0.00000	0.00000	0.02387
AS	75	0.09500	4.67000	179.200	0.07188	-0.06244	0.27508
BA	137	0.00100	6.67000	28866.100	0.24854	-0.12315	-0.12315
CD	111	0.00000	1.33000	28866.100	0.03425	-0.01697	-0.01697
CO	59	0.05400	96.67000	160.500	-0.00288	0.01110	0.15382
CU	63	-0.00800	46.67000	0.000	-0.07358	0.05107	-0.00070
MO	98	0.15400	60.00000	60.600	0.17988	0.05066	0.23245
NI	60	0.00500	20.00000	19.900	0.00563	0.00413	0.00616
SB	121	0.22900	36.67000	15.500	0.18823	0.24738	0.25225
SE	78	0.02300	4.22000	16.200	0.02079	0.02109	0.02740
SN	120	0.17300	46.67000	73.700	0.29245	0.18719	0.03891
SR	88	0.06700	6.67000	86.600	0.00000	0.09924	0.10120
ZN	66	-0.04300	13.33000	0.000	-0.29819	-0.29819	0.46887
BI-2	209	63303.05000	0.00000	0.000	63166.21000	62302.44000	64440.49000
PB	208	0.00600	60.00000	120.500	0.00210	0.01488	0.00169
TL	203	0.00500	10.00000	484.100	-0.00819	-0.00819	0.03007
U	238	0.00700	23.33000	26.300	0.00606	0.00921	0.00594
SC-1	45	555673.95000	0.00000	0.000	560498.90000	554687.37000	551835.58000
GE-1	72	792390.90000	0.00000	0.000	798491.32000	793211.00000	785470.38000
GE-2	72	30073.15000	0.00000	0.000	28654.21000	30697.05000	30868.20000
GE-3	72	1230511	0	0.000	1246159	1230178	1215195
TB-2	159	75495.51000	0.00000	0.000	74337.24000	75371.42000	76777.88000

Run Name: 1813101E05
Tube Number: 12
Sample Number: **PBW**

Date/Time: 05/11/2018 6:14:54
Batch: 181270605005A
Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	10199.93000	0.00000	0.000	10073.25000	10253.24000	10273.29000
SC-3	45	1520842	0	0.000	1558501	1530348	1473678
AL	27	7.58300	56.67000	76.900	2.51737	6.27305	13.95737
B	11	16.29600	15135.47000	5.400	16.21113	15.46667	17.20928
BE	9	-0.00300	5.33000	0.000	-0.00582	-0.00282	-0.00110
CA	44	-14.89800	0.00000	0.000	-14.89825	-14.89825	-14.89825
CR	52	0.37400	176.68000	42.600	0.21045	0.38172	0.52841
FE	57	4.36500	26.67000	86.600	0.00000	6.55412	6.54132
K	39	-10.54800	3070.38000	0.000	18.62699	-12.34530	-37.92640
MG	24	1.78300	43.33000	57.100	2.61833	0.64826	2.08256
MN	55	0.16100	56.67000	270.800	0.65270	0.00499	-0.17534
NA	23	3.53900	3717.22000	237.000	-5.32047	4.58154	11.35683
TI	47	0.65800	3.33000	173.200	0.00000	1.97257	0.00000
V	51	0.01300	3.33000	173.200	0.00000	0.00000	0.03953
IN-1	115	379615.49000	0.00000	0.000	380981.50000	375849.83000	382015.14000
IN-2	115	11754.14000	0.00000	0.000	11643.77000	11184.10000	12434.55000
AG	107	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
AS	75	0.00100	2.00000	11083.300	-0.06244	-0.06244	0.12785
BA	137	0.00700	6.67000	3246.500	-0.12315	0.26713	-0.12315
CD	111	0.00100	1.33000	3246.500	-0.01697	0.03682	-0.01697
CO	59	0.03900	86.67000	62.400	0.02927	0.06706	0.02129
CU	63	0.41200	280.02000	30.700	0.51090	0.26951	0.45548
MO	98	0.01700	6.67000	173.200	0.05183	0.00000	0.00000
NI	60	0.36800	90.01000	63.700	0.58727	0.12079	0.39532
SB	121	0.10300	16.67000	89.400	0.00000	0.13177	0.17777
SE	78	0.01300	3.11000	99.000	0.00270	0.02672	0.00853
SN	120	0.20500	53.33000	114.200	-0.06323	0.31024	0.36866
SR	88	0.06600	6.67000	86.700	0.10155	0.00000	0.09509
ZN	66	1.09200	73.34000	19.500	1.04882	0.90384	1.32372
BI-2	209	66833.67000	0.00000	0.000	65514.71000	67834.88000	67151.41000
PB	208	-0.00400	36.67000	0.000	-0.01447	-0.00696	0.00861
TL	203	-0.00800	0.00000	0.000	-0.00819	-0.00819	-0.00819
U	238	0.00400	13.33000	42.800	0.00292	0.00282	0.00570
SC-1	45	549964.52000	0.00000	0.000	552278.43000	545774.13000	551841.01000
GE-1	72	792160.64000	0.00000	0.000	787329.99000	797249.28000	791902.64000
GE-2	72	30426.82000	0.00000	0.000	30707.38000	29325.00000	31248.09000
GE-3	72	1260949	0	0.000	1292192	1235297	1255359
TB-2	159	77073.44000	0.00000	0.000	75914.42000	77471.86000	77834.03000

Run Name: 1813101E05 Date/Time: 05/11/2018 6:18:01
Tube Number: 13 Batch: 181270605005A
Sample Number: **LCSW** Class: **********

Initial Vol: 1.00 Final Vol: 1.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	9876.40000	0.00000	0.000	9963.11000	9422.76000	10243.33000
SC-3	45	1562546	0	0.000	1578321	1570327	1538988
AL	27	1999.02800	9979.74000	8.600	1831.97655	2174.63925	1990.46775
B	11	268.61100	195990.68000	0.500	267.30133	268.68694	269.84470
BE	9	4.18400	5744.92000	4.000	4.01947	4.35369	4.18017
CA	44	3872.01900	2226.89000	2.200	3876.26189	3953.12932	3786.66694
CR	52	54.02400	17619.11000	3.000	52.33638	55.57200	54.16327
FE	57	980.26500	5751.16000	7.300	946.16812	1062.85958	931.76686
K	39	9965.95600	98847.06000	4.700	9782.71836	10501.03684	9614.11250
MG	24	2061.98700	41377.71000	4.100	1988.28898	2153.57879	2044.09285
MN	55	50.73600	5454.39000	9.500	49.01566	56.15712	47.03417
NA	23	10084.29600	436085.11000	4.400	9799.64896	10590.45019	9862.78749
TI	47	259.17500	1266.76000	3.400	257.82933	251.15041	268.54634
V	51	51.48600	12508.04000	7.000	47.58891	54.63132	52.23887
IN-1	115	380289.66000	0.00000	0.000	378112.66000	380413.10000	382343.23000
IN-2	115	12403.48000	0.00000	0.000	11872.11000	12288.09000	13050.24000
AG	107	50.60800	44949.50000	4.400	52.62247	50.95526	48.24748
AS	75	8.98100	285.34000	10.700	8.44106	8.40993	10.09114
BA	137	47.86400	2727.01000	5.000	49.70160	45.17264	48.71640
CD	111	5.12600	423.34000	11.800	4.99963	5.78445	4.59285
CO	59	250.25500	169926.29000	3.800	259.19900	251.11200	240.45351
CU	63	51.81000	30253.13000	3.400	52.35040	53.24414	49.83510
MO	98	50.36500	20693.12000	2.000	50.28419	51.40905	49.40224
NI	60	49.97800	10089.92000	7.300	49.98243	53.64200	46.30910
SB	121	5.24700	880.06000	11.000	5.77239	5.33713	4.63014
SE	78	10.02400	1140.71000	3.300	9.69304	10.02156	10.35607
SN	120	51.40800	10683.75000	4.900	54.23843	50.60260	49.38227
SR	88	39.10800	4097.32000	3.900	40.64210	39.07353	37.60713
ZN	66	504.39200	27906.09000	3.700	517.61276	512.49690	483.06497
BI-2	209	67829.04000	0.00000	0.000	64572.38000	70426.86000	68487.89000
PB	208	15.63000	40892.56000	2.400	15.89047	15.20601	15.79257
TL	203	2.05900	1703.51000	11.200	2.09181	1.81221	2.27176
U	238	0.00400	13.33000	86.800	0.00593	0.00543	0.00000
SC-1	45	539716.25000	0.00000	0.000	541278.23000	534757.41000	543113.12000
GE-1	72	793512.25000	0.00000	0.000	794763.19000	791768.97000	794004.60000
GE-2	72	31772.65000	0.00000	0.000	31138.52000	31869.43000	32310.00000
GE-3	72	1276163	0	0.000	1297644	1264756	1266087
TB-2	159	78014.30000	0.00000	0.000	78065.79000	76798.13000	79178.97000

Run Name: 1813101E05
Tube Number: 14
Sample Number: **LCSWD**

Date/Time: 05/11/2018 6:21:09
Batch: 181270605005A
Class: **********

Initial Vol: 1.00 Final Vol: 1.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	10316.68000	0.00000	0.000	10303.35000	10193.28000	10453.40000
SC-3	45	1510869	0	0.000	1530797	1501805	1500005
AL	27	1929.94100	10083.12000	2.000	1911.61637	1903.15815	1975.04721
B	11	278.41300	196288.18000	0.400	277.16460	279.43109	278.64211
BE	9	4.23300	5620.88000	3.200	4.38284	4.18970	4.12632
CA	44	3660.35600	2200.24000	12.500	4182.62164	3467.27843	3331.16836
CR	52	49.93200	17025.37000	4.200	47.65495	50.37635	51.76468
FE	57	924.93300	5677.80000	4.900	901.87087	977.56589	895.36351
K	39	9335.79400	97053.95000	1.800	9146.68966	9410.64294	9450.04951
MG	24	1923.80300	40358.23000	4.000	1842.23108	1993.15968	1936.01709
MN	55	49.72600	5601.09000	3.800	50.87885	47.53850	50.76165
NA	23	9445.02000	427333.14000	2.000	9237.62214	9614.72821	9482.70837
TI	47	288.84800	1473.46000	10.700	253.24313	307.57209	305.72872
V	51	49.38900	12544.74000	1.000	49.09430	49.94347	49.12842
IN-1	115	371010.44000	0.00000	0.000	367430.11000	366425.17000	379176.03000
IN-2	115	12008.29000	0.00000	0.000	11921.69000	11726.05000	12377.14000
AG	107	50.80100	43719.71000	3.200	50.62138	52.51536	49.26692
AS	75	9.99900	306.01000	7.200	10.52306	10.29576	9.17769
BA	137	51.61900	2847.05000	1.100	52.24077	51.06745	51.54928
CD	111	5.02700	403.34000	9.100	4.70124	4.83126	5.54830
CO	59	252.59800	166196.20000	2.400	249.25654	259.58629	248.95008
CU	63	51.80900	29298.13000	4.600	50.23878	54.54671	50.64084
MO	98	49.92800	19848.72000	7.800	47.26140	54.38848	48.13436
NI	60	51.90200	10146.61000	9.000	49.25784	57.26755	49.18042
SB	121	5.60000	913.39000	8.000	5.93380	5.09017	5.77504
SE	78	10.07000	1117.59000	3.600	10.47329	9.95400	9.78357
SN	120	50.59300	10180.07000	10.100	47.70247	56.49315	47.58440
SR	88	38.56000	3913.92000	9.000	42.55600	36.91146	36.21245
ZN	66	516.37400	27685.65000	1.500	510.93525	525.20691	512.98108
BI-2	209	67152.04000	0.00000	0.000	67272.64000	65886.75000	68296.73000
PB	208	15.55300	40304.76000	1.500	15.68417	15.68329	15.29288
TL	203	1.93900	1590.15000	12.200	1.68985	2.16219	1.96524
U	238	0.00800	26.67000	21.900	0.00569	0.00871	0.00840
SC-1	45	505166.79000	0.00000	0.000	506919.95000	502775.89000	505804.52000
GE-1	72	770514.78000	0.00000	0.000	765874.83000	758329.75000	787339.75000
GE-2	72	30871.04000	0.00000	0.000	31168.28000	31188.33000	30256.52000
GE-3	72	1270112	0	0.000	1291577	1265152	1253606
TB-2	159	77960.88000	0.00000	0.000	76116.92000	80123.77000	77641.95000

Run Name: 1813101E05
Tube Number: 15
Sample Number: **9570341**

Date/Time: 05/11/2018 6:24:16
Batch: 181270605005A
Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	9953.08000	0.00000	0.000	9352.73000	10403.38000	10103.14000
SC-3	45	1553969	0	0.000	1560432	1569899	1531576
AL	27	10066.27700	50576.45000	4.500	10543.27970	9632.56935	10022.98141
B	11	68.85600	52851.52000	1.800	69.85502	67.50247	69.21094
BE	9	0.40300	559.34000	2.200	0.41061	0.39357	0.40509
CA	44	62889.50400	36270.43000	6.100	65979.75203	58569.05139	64119.70795
CR	52	12.58800	4160.67000	11.300	14.06575	11.22920	12.46887
FE	57	10291.05000	60826.82000	6.600	10961.78305	9597.09291	10314.27539
K	39	8941.74000	89686.93000	4.800	9248.51123	8451.70496	9125.00380
MG	24	44381.67200	896829.80000	4.200	46334.91282	42578.94738	44231.15578
MN	55	556.83300	59990.51000	5.800	584.54593	521.20889	564.74457
NA	23	437653.13100	18918550.97000	4.200	456625.89287	419953.79876	436379.70204
TI	47	143.89000	706.71000	5.800	153.54769	139.98288	138.13920
V	51	15.82000	3863.87000	9.500	17.54615	14.79797	15.11717
IN-1	115	337989.11000	0.00000	0.000	336835.76000	342322.83000	334808.73000
IN-2	115	11816.98000	0.00000	0.000	10619.12000	12340.90000	12490.93000
AG	107	0.06500	53.34000	74.500	0.10507	0.07910	0.01116
AS	75	3.21200	96.67000	25.900	4.17108	2.74960	2.71582
BA	137	423.35800	22859.72000	6.300	449.87146	396.29367	423.90824
CD	111	0.41300	32.67000	65.300	0.69116	0.39737	0.15159
CO	59	9.85700	6398.06000	12.400	11.25036	9.35664	8.96536
CU	63	12.60200	7031.65000	6.000	13.42521	12.43551	11.94469
MO	98	2.09300	816.72000	10.800	2.24518	1.83412	2.19870
NI	60	8.56200	1660.14000	8.200	9.10512	7.77117	8.80864
SB	121	0.42200	66.67000	38.900	0.55510	0.23883	0.47192
SE	78	0.66300	68.44000	4.800	0.65417	0.63699	0.69821
SN	120	1.87900	380.02000	24.500	2.35315	1.43579	1.84773
SR	88	448.82500	44654.44000	7.600	488.44104	428.93814	429.09715
ZN	66	84.66600	4457.41000	9.000	93.40112	81.41699	79.17949
BI-2	209	63386.67000	0.00000	0.000	63376.53000	63799.15000	62984.33000
PB	208	27.46000	67141.11000	1.000	27.30216	27.30423	27.77291
TL	203	0.18200	146.67000	41.100	0.09554	0.22367	0.22667
U	238	1.09000	3610.58000	8.000	1.09309	1.00186	1.17585
SC-1	45	438261.83000	0.00000	0.000	439789.95000	442178.24000	432817.30000
GE-1	72	696582.41000	0.00000	0.000	693550.85000	695979.99000	700216.40000
GE-2	72	30219.86000	0.00000	0.000	30236.69000	29926.09000	30496.81000
GE-3	72	1235389	0	0.000	1250500	1216563	1239104
TB-2	159	78526.67000	0.00000	0.000	76064.45000	80215.68000	79299.88000

Run Name: 1813101E05
Tube Number: 16
Sample Number: **9570342**

Date/Time: 05/11/2018 6:27:23
Batch: 181270605005A
Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	10400.05000	0.00000	0.000	10553.46000	10463.45000	10183.23000
SC-3	45	1554117	0	0.000	1586609	1539815	1535927
AL	27	13.79100	90.00000	26.400	11.62258	11.75160	17.99824
B	11	61.85600	47880.43000	0.800	61.79369	61.40216	62.37273
BE	9	0.00200	13.33000	164.300	0.00708	0.00012	0.00013
CA	44	57853.49300	34911.08000	5.000	55298.32764	57308.53427	60953.61699
CR	52	0.29600	153.34000	40.600	0.19400	0.42903	0.26616
FE	57	1169.80700	7241.73000	5.600	1116.18518	1243.05598	1150.17851
K	39	7835.23000	82583.92000	4.800	7518.00121	7740.18546	8247.50304
MG	24	41786.38600	883238.50000	3.700	40541.91921	41296.47014	43520.76986
MN	55	463.30200	52233.16000	4.400	451.43503	451.43001	487.04140
NA	23	415659.59900	18795825.97000	3.300	401057.28355	417239.90668	428681.60556
TI	47	0.63900	3.33000	173.200	1.91645	0.00000	0.00000
V	51	0.10300	26.67000	94.100	0.19242	0.11645	0.00000
IN-1	115	346285.94000	0.00000	0.000	345996.17000	350440.18000	342421.47000
IN-2	115	12053.83000	0.00000	0.000	12063.63000	12204.17000	11893.69000
AG	107	0.02700	23.33000	138.500	0.00000	0.01143	0.07035
AS	75	0.13300	6.00000	128.300	0.06832	0.32532	0.00388
BA	137	364.04500	20106.00000	5.400	347.98345	357.93889	386.21401
CD	111	0.29100	24.67000	35.400	0.18250	0.30343	0.38766
CO	59	6.41500	4297.35000	7.300	6.44098	5.93184	6.87209
CU	63	1.61500	966.74000	15.800	1.45927	1.47629	1.91047
MO	98	1.14000	456.69000	33.000	1.30088	1.40953	0.71046
NI	60	3.20100	646.70000	16.100	2.65252	3.27563	3.67381
SB	121	0.16300	26.67000	86.600	0.00000	0.24150	0.24781
SE	78	0.30700	33.33000	26.400	0.35273	0.35447	0.21317
SN	120	0.21900	56.67000	92.300	0.33248	-0.01434	0.33813
SR	88	423.78300	43187.28000	3.800	420.91254	409.46008	440.97531
ZN	66	31.25900	1696.81000	6.300	30.72172	29.63013	33.42595
BI-2	209	63286.56000	0.00000	0.000	62041.79000	62514.17000	65303.73000
PB	208	0.04600	156.67000	28.700	0.04847	0.03136	0.05704
TL	203	0.13800	113.34000	20.600	0.11102	0.13642	0.16799
U	238	0.10500	346.69000	12.400	0.10795	0.11632	0.09084
SC-1	45	449085.30000	0.00000	0.000	452936.05000	448086.17000	446233.67000
GE-1	72	714806.34000	0.00000	0.000	710345.15000	723040.30000	711033.58000
GE-2	72	30376.75000	0.00000	0.000	30286.70000	30497.00000	30346.54000
GE-3	72	1243005	0	0.000	1277342	1233465	1218210
TB-2	159	75937.39000	0.00000	0.000	76325.60000	75672.80000	75813.78000

Run Name: 1813101E05
Tube Number: 17
Sample Number: **9570347**

Date/Time: 05/11/2018 6:30:29
Batch: 181270605005A
Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	10129.90000	0.00000	0.000	9282.76000	10013.06000	11093.89000
SC-3	45	1532677	0	0.000	1530338	1517642	1550051
AL	27	67.06700	360.02000	18.800	60.56588	81.59025	59.04576
B	11	83.07900	62096.16000	3.100	84.52346	84.56843	80.14604
BE	9	0.01800	33.33000	40.600	0.01357	0.02576	0.01331
CA	44	42748.73800	25051.47000	6.200	44875.51186	43600.25560	39770.44690
CR	52	0.51500	220.01000	23.100	0.63362	0.51576	0.39606
FE	57	844.07600	5064.25000	9.200	885.17041	892.76756	754.28995
K	39	4876.43100	51076.11000	7.400	5260.84673	4821.00234	4547.44277
MG	24	18568.67300	380652.35000	8.000	20085.26912	18508.53835	17112.21009
MN	55	1378.52300	150842.05000	6.000	1454.93390	1388.99993	1291.63376
NA	23	60074.92400	2634661.21000	9.700	65457.24752	60856.86731	53910.65649
TI	47	3.39400	16.67000	96.500	6.53637	0.00000	3.64619
V	51	0.48900	123.34000	19.600	0.39377	0.48673	0.58579
IN-1	115	356009.54000	0.00000	0.000	359268.46000	356848.81000	351911.35000
IN-2	115	12020.62000	0.00000	0.000	12254.55000	11223.37000	12583.93000
AG	107	0.00400	3.33000	173.200	0.01138	0.00000	0.00000
AS	75	0.43800	15.33000	16.500	0.45244	0.35920	0.50164
BA	137	141.12700	7758.77000	9.900	126.71350	154.70730	141.95878
CD	111	0.04300	4.67000	99.400	0.00757	0.09023	0.03083
CO	59	10.37400	6884.91000	5.100	9.87016	10.93240	10.32032
CU	63	1.50700	900.06000	10.800	1.45246	1.68906	1.37825
MO	98	0.17600	70.00000	23.200	0.22163	0.16133	0.14389
NI	60	13.28800	2613.63000	4.300	13.14421	13.92284	12.79762
SB	121	0.04400	6.67000	173.200	0.00000	0.13130	0.00000
SE	78	0.30500	34.00000	11.900	0.26462	0.33527	0.31488
SN	120	0.33100	80.00000	114.700	-0.06323	0.36210	0.69551
SR	88	310.91700	31532.53000	6.600	295.42707	334.38770	302.93768
ZN	66	5.77300	326.68000	8.700	5.73586	5.29186	6.29013
BI-2	209	66649.37000	0.00000	0.000	66559.20000	66548.71000	66840.20000
PB	208	0.07200	233.34000	53.700	0.08680	0.02834	0.10188
TL	203	0.00400	10.00000	298.300	0.00416	-0.00819	0.01640
U	238	0.07800	273.35000	19.000	0.07475	0.09489	0.06584
SC-1	45	468129.96000	0.00000	0.000	475487.77000	464346.83000	464555.27000
GE-1	72	746347.33000	0.00000	0.000	744680.85000	754165.30000	740195.85000
GE-2	72	31642.46000	0.00000	0.000	31629.08000	31478.89000	31819.40000
GE-3	72	1267724	0	0.000	1295985	1265156	1242031
TB-2	159	78121.29000	0.00000	0.000	76556.20000	78194.64000	79613.03000

Run Name: 1813101E05 Date/Time: 05/11/2018 6:33:34
Tube Number: 18 Batch: 181270605005A
Sample Number: **9570348** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	10156.61000	0.00000	0.000	9773.12000	10063.25000	10633.46000
SC-3	45	1534003	0	0.000	1530461	1557603	1513946
AL	27	8.74900	63.34000	85.300	2.69832	6.45520	17.09329
B	11	81.27100	60892.20000	1.300	82.45930	80.86247	80.49074
BE	9	0.01400	29.33000	81.400	0.00612	0.02784	0.00928
CA	44	42627.64100	25148.16000	3.000	41263.91752	43827.61453	42791.39182
CR	52	0.37200	176.68000	50.100	0.19050	0.36162	0.56251
FE	57	842.74700	5084.24000	7.900	876.85363	884.97600	766.40999
K	39	4890.79700	51520.50000	4.300	5132.52240	4740.09770	4799.77076
MG	24	18345.23100	378477.84000	3.600	18953.12438	18426.96636	17655.60157
MN	55	1343.00600	147820.30000	2.300	1377.60238	1316.16786	1335.24906
NA	23	59148.87500	2614234.02000	2.500	60455.45587	59436.09762	57555.07194
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.50800	126.67000	12.800	0.58184	0.48431	0.45837
IN-1	115	352578.85000	0.00000	0.000	352460.83000	355742.29000	349533.44000
IN-2	115	12488.00000	0.00000	0.000	12424.93000	12684.64000	12354.44000
AG	107	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
AS	75	0.31700	12.00000	40.600	0.19147	0.31063	0.44828
BA	137	142.35500	8148.98000	6.400	137.80197	136.35656	152.90523
CD	111	0.01500	2.67000	240.900	0.00724	-0.01697	0.05607
CO	59	9.94100	6864.91000	4.700	9.79242	9.56100	10.46954
CU	63	0.67500	450.02000	22.400	0.84947	0.59553	0.57948
MO	98	0.37000	153.34000	39.300	0.51007	0.38068	0.21984
NI	60	12.02000	2460.27000	8.500	12.12156	10.95041	12.98738
SB	121	0.07900	13.33000	114.400	0.17791	0.00000	0.05964
SE	78	0.27600	30.67000	25.900	0.33336	0.29872	0.19580
SN	120	0.20800	56.67000	14.900	0.22492	0.17198	0.22656
SR	88	310.89400	32831.43000	4.100	298.61679	309.96614	324.10056
ZN	66	5.21300	306.69000	18.200	5.83344	4.11815	5.68707
BI-2	209	66837.39000	0.00000	0.000	66088.65000	66016.41000	68407.11000
PB	208	0.00400	56.67000	373.400	0.01689	0.00514	-0.01085
TL	203	0.03300	33.33000	58.400	0.01668	0.05405	0.02785
U	238	0.05300	186.68000	24.500	0.04053	0.06667	0.05315
SC-1	45	433426.96000	0.00000	0.000	438566.75000	435762.30000	425951.83000
GE-1	72	726248.11000	0.00000	0.000	728855.77000	729375.85000	720512.72000
GE-2	72	31482.34000	0.00000	0.000	30326.77000	31839.68000	32280.57000
GE-3	72	1255860	0	0.000	1271395	1262760	1233426
TB-2	159	80237.71000	0.00000	0.000	79682.26000	80233.84000	80797.03000

Run Name: 1813101E05
Tube Number: 19
Sample Number: **9570350**

Date/Time: 05/11/2018 6:36:41
Batch: 181270605005A
Class: U*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	9886.44000	0.00000	0.000	9863.22000	9312.73000	10483.38000
SC-3	45	1542108	0	0.000	1552831	1562002	1511491
AL	27	9.48700	63.33000	81.500	2.64284	17.86951	7.94845
B	11	139.09700	102025.75000	0.600	139.93587	138.39382	138.95995
BE	9	0.03800	60.67000	41.100	0.02355	0.05402	0.03495
CA	44	30347.84500	17408.95000	6.400	28243.50667	32099.07114	30700.95610
CR	52	0.44700	193.35000	37.100	0.31047	0.63113	0.39898
FE	57	91.25000	533.36000	19.700	102.20437	101.02980	70.51578
K	39	3663.63600	38317.71000	4.400	3563.81727	3849.70422	3577.38512
MG	24	17338.35200	347957.23000	4.600	17047.03670	18234.22491	16733.79522
MN	55	1673.53100	178920.47000	6.200	1655.33890	1785.74616	1579.50690
NA	23	71795.06800	3083773.81000	5.500	70621.66610	76219.18207	68544.35594
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.29600	70.00000	70.300	0.24706	0.52338	0.11622
IN-1	115	348520.08000	0.00000	0.000	352209.30000	346182.79000	347168.14000
IN-2	115	12440.91000	0.00000	0.000	11713.51000	12354.37000	13254.84000
AG	107	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
AS	75	0.12900	6.00000	86.600	0.07223	0.25676	0.05657
BA	137	118.06700	6711.57000	9.300	127.53761	120.56195	106.10284
CD	111	0.29200	25.33000	38.800	0.41957	0.20215	0.25534
CO	59	24.74700	16921.93000	2.800	24.75345	25.44600	24.04174
CU	63	0.74100	486.69000	9.400	0.70696	0.82041	0.69429
MO	98	0.19800	83.34000	55.800	0.10305	0.17099	0.31876
NI	60	6.96400	1423.45000	16.000	7.09073	8.01135	5.79075
SB	121	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
SE	78	0.34100	37.11000	22.400	0.40326	0.25585	0.36431
SN	120	0.16700	46.67000	98.100	0.29336	0.22656	-0.01822
SR	88	239.93900	25249.15000	0.500	239.71467	238.78134	241.31970
ZN	66	11.06100	630.04000	5.200	10.98814	11.67239	10.52109
BI-2	209	67507.13000	0.00000	0.000	66087.78000	67222.46000	69211.16000
PB	208	0.02800	120.00000	151.400	-0.00666	0.07418	0.01530
TL	203	0.01200	16.67000	152.900	0.02911	0.01626	-0.00819
U	238	0.05000	176.68000	13.000	0.05501	0.04270	0.05253
SC-1	45	424399.71000	0.00000	0.000	430804.68000	419607.22000	422787.22000
GE-1	72	715271.89000	0.00000	0.000	714691.47000	710181.32000	720942.88000
GE-2	72	32143.16000	0.00000	0.000	30597.10000	33071.55000	32760.84000
GE-3	72	1250391	0	0.000	1277725	1248311	1225136
TB-2	159	79474.15000	0.00000	0.000	77903.76000	79018.28000	81500.42000

Run Name: 1813101E05
Tube Number: 20
Sample Number: **9570350**

Date/Time: 05/11/2018 6:39:46
Batch: 181270605005A
Class: UP********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	9989.78000	0.00000	0.000	9472.77000	9853.04000	10643.52000
SC-3	45	1532184	0	0.000	1572277	1520390	1503883
AL	27	202.95300	1043.40000	12.100	178.34008	227.55291	202.96516
B	11	244.02600	174910.08000	1.600	239.58130	246.56098	245.93696
BE	9	1.08500	1468.07000	3.900	1.11520	1.10251	1.03584
CA	44	29917.26200	17325.52000	5.300	31738.42490	29200.48503	28812.87561
CR	52	4.07800	1393.45000	5.800	3.82238	4.28519	4.12685
FE	57	289.57700	1713.48000	12.300	317.49180	301.82489	249.41511
K	39	3808.46600	40081.42000	6.700	4062.62655	3812.12256	3550.64780
MG	24	16946.00700	343510.18000	5.200	17751.64159	17076.14353	16010.23717
MN	55	1569.32800	169658.97000	4.300	1630.16962	1580.08369	1497.72989
NA	23	69862.61100	3034141.00000	3.700	71943.09495	70648.74598	66995.99181
TI	47	36.44800	180.01000	16.100	32.02845	43.10846	34.20614
V	51	1.58100	390.02000	15.200	1.62932	1.31912	1.79357
IN-1	115	348663.06000	0.00000	0.000	346464.18000	349514.81000	350010.18000
IN-2	115	12404.86000	0.00000	0.000	12285.82000	12644.42000	12284.33000
AG	107	1.06900	950.07000	7.300	1.03301	1.01473	1.15801
AS	75	3.59000	114.67000	18.500	4.17453	2.86923	3.72561
BA	137	117.94100	6708.25000	3.600	118.03600	113.65003	122.13837
CD	111	1.18900	99.33000	11.600	1.28060	1.02971	1.25628
CO	59	24.72200	16861.78000	3.200	24.96397	23.84856	25.35355
CU	63	4.62900	2753.67000	8.200	5.04843	4.53268	4.30469
MO	98	1.24200	510.03000	15.300	1.44929	1.07403	1.20381
NI	60	10.48400	2136.88000	5.400	9.95817	11.08278	10.40972
SB	121	2.01700	340.02000	13.800	1.79936	2.33107	1.91954
SE	78	3.86500	404.23000	4.300	3.70125	4.03271	3.86126
SN	120	4.69700	990.07000	4.100	4.69684	4.89223	4.50316
SR	88	241.10100	25292.26000	0.700	241.74804	239.29422	242.26219
ZN	66	43.97500	2453.61000	9.500	40.55747	48.61555	42.75208
BI-2	209	67068.13000	0.00000	0.000	66669.97000	66840.26000	67694.15000
PB	208	2.08800	5447.29000	2.600	2.11403	2.02709	2.12393
TL	203	1.04200	856.73000	13.600	1.19981	0.92623	0.99943
U	238	10.52100	36877.81000	0.700	10.60872	10.46403	10.49061
SC-1	45	420944.33000	0.00000	0.000	416221.99000	421003.74000	425607.26000
GE-1	72	716594.00000	0.00000	0.000	715628.58000	716540.46000	717612.96000
GE-2	72	31852.71000	0.00000	0.000	30987.68000	31268.62000	33301.82000
GE-3	72	1246353	0	0.000	1263914	1241569	1233577
TB-2	159	77919.97000	0.00000	0.000	76004.82000	77521.33000	80233.75000

Run Name: 1813101E05
Tube Number: 21
Sample Number: **9570350**

Date/Time: 05/11/2018 6:42:51
Batch: 181270605005A
Class: UL********

Initial Vol: 50.00 Final Vol: 50.00 DF: 5.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	9966.41000	0.00000	0.000	9742.94000	10063.23000	10093.07000
SC-3	45	1494893	0	0.000	1536319	1499050	1449309
AL	27	0.57900	20.00000	896.600	-1.34410	6.45522	-3.37472
B	11	42.32200	32679.54000	2.300	41.64114	41.87472	43.45098
BE	9	0.00300	14.00000	194.300	-0.00432	0.00792	0.00687
CA	44	5388.40100	3123.72000	5.600	5679.81075	5412.92516	5072.46833
CR	52	0.29600	146.67000	26.400	0.31617	0.36162	0.20971
FE	57	24.82500	146.67000	47.500	34.48871	11.68627	28.29870
K	39	642.02800	9336.03000	4.400	666.63826	610.74106	648.70401
MG	24	3258.89200	66045.45000	0.500	3267.88427	3238.89496	3269.89795
MN	55	309.10800	33425.31000	0.600	310.08739	310.13056	307.10489
NA	23	13503.03100	588646.82000	1.500	13676.93559	13281.80221	13550.35426
TI	47	0.66800	3.33000	173.200	0.00000	0.00000	2.00387
V	51	0.06800	16.67000	33.200	0.04169	0.08072	0.08048
IN-1	115	347936.24000	0.00000	0.000	353105.45000	345213.91000	345489.36000
IN-2	115	12040.62000	0.00000	0.000	11633.28000	12064.22000	12424.36000
AG	107	0.01200	10.00000	173.200	0.03596	0.00000	0.00000
AS	75	0.09000	4.67000	149.300	0.14095	-0.06244	0.19149
BA	137	24.59100	1366.79000	11.200	21.64085	25.02478	27.10693
CD	111	0.03300	4.00000	72.900	0.03474	0.00796	0.05566
CO	59	4.55900	3073.73000	12.500	4.62699	3.95891	5.09034
CU	63	0.19600	163.34000	60.400	0.10935	0.33128	0.14790
MO	98	0.03400	13.33000	46.600	0.05188	0.02501	0.02429
NI	60	1.35300	283.35000	31.000	1.80319	0.97094	1.28624
SB	121	0.04000	6.67000	173.200	0.00000	0.00000	0.11861
SE	78	0.05400	7.11000	55.000	0.02305	0.08209	0.05614
SN	120	0.16600	46.67000	86.800	0.14194	0.03569	0.32099
SR	88	48.85400	4964.25000	11.300	55.20243	45.28837	46.07049
ZN	66	2.85900	170.01000	41.100	3.16886	1.55923	3.84981
BI-2	209	67379.86000	0.00000	0.000	64922.46000	67915.96000	69301.15000
PB	208	0.00100	50.00000	1721.600	-0.00645	0.01594	-0.00720
TL	203	0.00400	10.00000	295.500	0.00447	0.01601	-0.00819
U	238	0.01100	40.00000	27.700	0.01474	0.00845	0.01104
SC-1	45	420874.07000	0.00000	0.000	422877.14000	419976.63000	419768.43000
GE-1	72	718986.08000	0.00000	0.000	723234.68000	720594.21000	713129.36000
GE-2	72	30520.54000	0.00000	0.000	28994.36000	31018.34000	31548.91000
GE-3	72	1239878	0	0.000	1250980	1232670	1235985
TB-2	159	77813.09000	0.00000	0.000	77291.28000	77420.71000	78727.27000

Run Name: 1813101E05 Date/Time: 05/11/2018 6:45:56
Tube Number: 22
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	10103.22000	0.00000	0.000	10613.59000	9112.62000	10583.46000
SC-3	45	1493200	0	0.000	1533941	1479464	1466195
AL	27	2323.61800	11850.89000	6.800	2146.61174	2450.76503	2373.47649
B	11	266.35200	185723.05000	1.400	262.51626	269.68375	266.85566
BE	9	25.40800	33286.61000	0.600	25.29630	25.34483	25.58369
CA	44	2411.77800	1420.12000	10.700	2598.76951	2518.74951	2117.81493
CR	52	239.63500	79478.63000	7.900	222.67994	260.12134	236.10288
FE	57	2298.26600	13739.15000	10.500	2167.88482	2576.67980	2150.23438
K	39	2231.21900	24947.76000	13.000	2062.86819	2566.96721	2063.82160
MG	24	2341.44800	47826.12000	10.500	2152.97666	2619.10163	2252.26573
MN	55	245.31000	26824.08000	5.200	234.63809	259.35021	241.94286
NA	23	2331.34900	105388.85000	9.900	2164.29257	2594.15762	2235.59602
TI	47	237.67400	1180.09000	16.700	192.47836	266.35872	254.18468
V	51	242.44900	60040.69000	8.100	227.10185	264.60152	235.64418
IN-1	115	347031.43000	0.00000	0.000	341638.97000	347256.12000	352199.21000
IN-2	115	12057.19000	0.00000	0.000	12363.39000	12133.90000	11674.29000
AG	107	25.10500	21687.69000	4.500	24.45908	24.43849	26.41726
AS	75	243.29500	7434.92000	4.000	236.72637	238.60413	254.55590
BA	137	245.57100	13569.32000	2.100	244.65358	241.00385	251.05510
CD	111	25.86200	2072.81000	4.900	24.89762	25.39362	27.29580
CO	59	243.47700	160796.08000	3.800	233.30667	245.95954	251.16376
CU	63	247.38900	140187.62000	6.100	234.93879	243.07292	264.15425
MO	98	25.05600	9999.89000	5.700	23.83051	24.72931	26.60807
NI	60	243.89600	47804.83000	6.300	228.34532	244.45651	258.88649
SB	121	24.66000	4033.98000	4.100	23.60486	25.63035	24.74547
SE	78	23.32400	2420.17000	1.400	22.93777	23.46615	23.56747
SN	120	24.30300	4917.56000	6.500	22.67333	24.43138	25.80514
SR	88	24.59600	2503.62000	9.300	22.76476	23.87735	27.14723
ZN	66	244.02400	13131.91000	6.400	227.41336	246.13422	258.52367
BI-2	209	67985.54000	0.00000	0.000	66057.67000	68336.37000	69562.59000
PB	208	25.87500	67852.41000	1.200	26.02027	26.08734	25.51817
TL	203	25.06000	20737.55000	2.400	24.97518	25.70739	24.49692
U	238	24.62100	87471.27000	1.100	24.87770	24.34880	24.63596
SC-1	45	408465.72000	0.00000	0.000	406535.15000	412675.58000	406186.44000
GE-1	72	706875.77000	0.00000	0.000	698266.86000	707787.72000	714572.72000
GE-2	72	31135.08000	0.00000	0.000	29745.71000	31098.57000	32560.95000
GE-3	72	1226775	0	0.000	1256457	1216139	1207730
TB-2	159	77411.35000	0.00000	0.000	76979.17000	77169.45000	78085.43000

Run Name: 1813101E05 Date/Time: 05/11/2018 6:49:02
Tube Number: 23
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	9316.09000	0.00000	0.000	8822.57000	9392.79000	9732.90000
SC-3	45	1432585	0	0.000	1473972	1422431	1401353
AL	27	0.81000	20.00000	238.100	-1.13227	0.83791	2.72342
B	11	21.49000	17664.32000	3.000	20.97031	21.27606	22.22447
BE	9	-0.00400	4.00000	0.000	-0.00574	-0.00408	-0.00241
CA	44	-3.09700	6.67000	0.000	-14.89825	-14.89825	20.50448
CR	52	0.32100	143.34000	49.100	0.50254	0.23665	0.22306
FE	57	4.80500	26.67000	42.500	3.80847	7.15452	3.45226
K	39	-7.47300	2826.99000	0.000	20.04177	-18.06967	-24.39180
MG	24	1.14200	26.67000	122.400	2.47615	1.25974	-0.31107
MN	55	0.04500	40.00000	264.700	0.16795	0.03797	-0.07057
NA	23	6.07200	3490.46000	71.900	11.02982	2.79746	4.38756
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.08900	20.00000	86.700	0.13810	0.12972	0.00000
IN-1	115	338870.99000	0.00000	0.000	336394.69000	339983.39000	340234.90000
IN-2	115	11523.25000	0.00000	0.000	10983.54000	11893.59000	11692.61000
AG	107	0.00800	6.67000	173.200	0.02539	0.00000	0.00000
AS	75	0.19000	7.33000	24.700	0.22479	0.13650	0.20738
BA	137	0.33100	23.33000	140.800	0.87037	0.06035	0.06350
CD	111	0.00100	1.33000	2462.900	0.03780	-0.01697	-0.01697
CO	59	0.00600	63.33000	1038.800	0.07004	-0.05010	-0.00248
CU	63	0.12600	116.67000	76.300	0.23740	0.06920	0.07198
MO	98	0.07200	26.67000	96.200	0.13738	0.00000	0.07743
NI	60	0.16800	50.00000	32.900	0.18076	0.10767	0.21636
SB	121	0.25500	40.00000	64.800	0.20126	0.12391	0.44112
SE	78	0.00000	1.56000	3190.400	-0.00820	-0.00827	0.01789
SN	120	0.24700	60.00000	40.300	0.26273	0.33813	0.14090
SR	88	0.07200	6.67000	173.200	0.21531	0.00000	0.00000
ZN	66	-0.03400	13.33000	0.000	0.10980	-0.29819	0.08506
BI-2	209	65860.24000	0.00000	0.000	63568.10000	66560.15000	67452.47000
PB	208	0.00000	46.67000	10864.200	0.00605	0.00495	-0.01074
TL	203	0.04500	43.33000	66.000	0.01766	0.04119	0.07709
U	238	0.01200	40.00000	92.700	0.02408	0.00862	0.00284
SC-1	45	393664.93000	0.00000	0.000	388003.82000	396819.88000	396171.09000
GE-1	72	682596.76000	0.00000	0.000	678646.71000	690787.72000	678355.85000
GE-2	72	29895.81000	0.00000	0.000	29585.24000	29795.66000	30306.52000
GE-3	72	1186118	0	0.000	1199337	1183452	1175565
TB-2	159	75418.57000	0.00000	0.000	73773.99000	75753.91000	76727.80000

Run Name: 1813101E05
Tube Number: 24
Sample Number: **9570349**

Date/Time: 05/11/2018 6:52:08
Batch: 181270605005A
Class: **********

Initial Vol: 25.00 Final Vol: 25.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	10323.30000	0.00000	0.000	10243.20000	10083.18000	10643.52000
SC-3	45	1527114	0	0.000	1540031	1507827	1533483
AL	27	336.52300	1770.17000	24.800	261.25261	426.37367	321.94327
B	11	136.16800	98980.36000	1.000	135.44520	137.73223	135.32724
BE	9	0.08900	128.67000	25.600	0.07710	0.11520	0.07449
CA	44	28779.56000	17238.77000	4.800	29619.50128	29542.57166	27176.60632
CR	52	1.04100	406.69000	19.400	1.03418	0.84227	1.24625
FE	57	753.60700	4625.79000	6.600	793.96471	769.06458	697.79029
K	39	3510.68800	38521.55000	1.900	3444.87364	3579.06048	3508.13114
MG	24	16694.06000	350249.42000	3.400	16431.05441	17338.80335	16312.32124
MN	55	1614.07600	180603.19000	1.100	1602.38005	1634.46044	1605.38799
NA	23	67482.38500	3031617.87000	2.800	67547.06173	69336.89887	65563.19554
TI	47	11.07200	56.67000	44.200	15.79600	6.01751	11.40141
V	51	1.49000	380.03000	21.000	1.50681	1.16818	1.79357
IN-1	115	361852.84000	0.00000	0.000	363391.71000	359630.82000	362535.98000
IN-2	115	12077.61000	0.00000	0.000	11613.30000	12314.71000	12304.83000
AG	107	0.00800	6.67000	173.200	0.02402	0.00000	0.00000
AS	75	0.39800	14.00000	46.100	0.54879	0.19375	0.45034
BA	137	122.70600	6791.66000	4.700	127.88652	116.51929	123.71083
CD	111	0.25600	22.00000	13.500	0.21613	0.27613	0.27636
CO	59	25.01200	16601.52000	3.900	26.03744	24.08912	24.91040
CU	63	1.08600	670.04000	14.900	0.98849	1.27226	0.99689
MO	98	0.19000	76.67000	50.800	0.10394	0.17154	0.29433
NI	60	7.26300	1443.45000	10.800	8.10542	7.13903	6.54525
SB	121	0.10100	16.67000	122.900	0.06345	0.23934	0.00000
SE	78	0.29900	34.00000	32.700	0.40882	0.22087	0.26829
SN	120	0.13300	40.00000	125.400	0.03953	0.03368	0.32472
SR	88	256.14100	26150.24000	3.000	262.57930	247.53041	258.31403
ZN	66	15.31600	840.06000	10.900	16.87414	15.53217	13.54187
BI-2	209	70026.90000	0.00000	0.000	69702.29000	69199.58000	71178.82000
PB	208	0.31100	890.05000	5.800	0.30537	0.29647	0.33145
TL	203	0.01100	16.67000	61.200	0.01539	0.01556	0.00335
U	238	0.07400	270.02000	19.600	0.05765	0.08572	0.07796
SC-1	45	420786.50000	0.00000	0.000	423348.43000	422405.03000	416606.05000
GE-1	72	729322.96000	0.00000	0.000	734253.66000	724327.33000	729387.88000
GE-2	72	32079.80000	0.00000	0.000	31368.65000	32690.56000	32180.19000
GE-3	72	1261464	0	0.000	1285337	1250214	1248841
TB-2	159	80672.87000	0.00000	0.000	80364.42000	80063.86000	81590.34000

Run Name: 1813101E05 Date/Time: 05/11/2018 6:55:15
Tube Number: 25 Batch: 181270605005A
Sample Number: **9570355** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	10293.30000	0.00000	0.000	10003.06000	10053.19000	10823.66000
SC-3	45	1485461	0	0.000	1491290	1508017	1457076
AL	27	116.43900	626.70000	18.700	99.47749	108.80437	141.03570
B	11	245.66300	170681.85000	2.400	244.79745	240.35470	251.83599
BE	9	0.02100	36.67000	10.200	0.01870	0.02295	0.02088
CA	44	86615.71000	51730.96000	2.600	85910.67825	89177.10626	84759.34475
CR	52	1.64000	606.70000	14.200	1.45713	1.90202	1.55954
FE	57	138.23500	846.72000	2.400	136.04863	142.05477	136.60239
K	39	10195.21200	105375.71000	2.500	10389.05341	10285.44345	9911.13941
MG	24	32606.21800	681756.68000	3.500	33030.39514	33459.28262	31328.97565
MN	55	78.82800	8829.17000	3.800	77.05558	82.27131	77.15730
NA	23	51068.70100	2287687.62000	3.100	51309.81313	52534.71042	49361.57917
TI	47	3.78500	20.00000	129.900	0.00000	2.01182	9.34305
V	51	1.11800	283.35000	5.700	1.17753	1.05042	1.12574
IN-1	115	339586.35000	0.00000	0.000	339457.23000	340170.85000	339130.96000
IN-2	115	11887.71000	0.00000	0.000	11804.34000	11414.08000	12444.71000
AG	107	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
AS	75	0.18000	7.33000	53.500	0.07119	0.21396	0.25445
BA	137	95.08200	5177.70000	6.300	92.15402	102.00274	91.08960
CD	111	0.11500	10.67000	106.200	0.00851	0.08844	0.24890
CO	59	1.27300	893.39000	8.000	1.18731	1.24719	1.38527
CU	63	0.93600	570.03000	33.600	0.84490	1.28675	0.67713
MO	98	1.66300	656.71000	12.300	1.45727	1.66576	1.86732
NI	60	1.63500	336.68000	15.500	1.51527	1.46270	1.92612
SB	121	0.21100	33.33000	64.600	0.24968	0.32278	0.05921
SE	78	0.17400	19.11000	15.500	0.18894	0.14256	0.18913
SN	120	0.40700	93.33000	21.200	0.49282	0.40727	0.32036
SR	88	624.57100	62739.85000	3.400	613.80464	649.35413	610.55306
ZN	66	5.07200	286.68000	49.200	2.35937	5.59107	7.26424
BI-2	209	65929.96000	0.00000	0.000	65484.16000	65093.29000	67212.42000
PB	208	0.10800	323.35000	28.700	0.08457	0.09714	0.14367
TL	203	0.03800	36.67000	84.500	0.00436	0.06755	0.04071
U	238	1.41300	4870.98000	5.500	1.33265	1.41710	1.48919
SC-1	45	397537.95000	0.00000	0.000	394041.05000	397778.86000	400793.94000
GE-1	72	692197.75000	0.00000	0.000	690429.76000	698313.43000	687850.07000
GE-2	72	29852.72000	0.00000	0.000	28884.61000	30797.38000	29876.18000
GE-3	72	1222084	0	0.000	1241269	1211288	1213694
TB-2	159	78222.06000	0.00000	0.000	77873.09000	76366.40000	80426.69000

Run Name: 1813101E05
Tube Number: 26
Sample Number: **9570356**

Date/Time: 05/11/2018 6:58:21
Batch: 181270605005A
Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	9983.08000	0.00000	0.000	9822.98000	9822.90000	10303.37000
SC-3	45	1487178	0	0.000	1497025	1501706	1462805
AL	27	2.57400	30.00000	6.300	2.66749	2.66754	2.38578
B	11	249.23800	173325.28000	2.000	246.97074	245.68707	255.05496
BE	9	0.00900	21.33000	7.300	0.00947	0.00941	0.00830
CA	44	90563.51300	52483.15000	1.300	89579.63357	91813.08353	90297.82054
CR	52	1.47200	533.37000	10.000	1.64114	1.39393	1.38080
FE	57	6.21800	36.67000	58.300	5.13090	10.26188	3.26111
K	39	10791.77000	108078.08000	2.300	10526.73265	11032.13742	10816.44088
MG	24	33555.02600	681044.08000	1.800	33127.35073	34247.42442	33290.30187
MN	55	85.31400	9272.81000	4.000	87.02792	81.38951	87.52312
NA	23	52943.63300	2301779.24000	1.400	52414.57548	53799.24599	52617.07861
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	1.09600	270.02000	18.600	1.15777	0.86832	1.26147
IN-1	115	341542.42000	0.00000	0.000	339925.28000	344300.46000	340401.52000
IN-2	115	11714.08000	0.00000	0.000	11504.03000	11874.09000	11764.13000
AG	107	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
AS	75	0.22900	8.67000	60.800	0.28036	0.33610	0.07165
BA	137	95.00600	5104.32000	2.900	98.16765	93.08257	93.76769
CD	111	0.12800	11.33000	29.400	0.08761	0.13502	0.16201
CO	59	1.31100	903.39000	8.800	1.26840	1.44110	1.22271
CU	63	0.80500	493.36000	11.100	0.90632	0.76779	0.73967
MO	98	2.10500	816.72000	7.200	2.20367	1.93162	2.18060
NI	60	1.99700	400.02000	16.100	1.66422	2.02344	2.30452
SB	121	0.29100	46.67000	80.000	0.12810	0.55849	0.18790
SE	78	0.22400	24.45000	35.500	0.16896	0.31565	0.18837
SN	120	0.12400	36.67000	105.100	0.24799	0.13778	-0.01251
SR	88	623.90200	61816.06000	3.300	610.23686	614.19940	647.26944
ZN	66	5.62700	310.01000	10.500	5.35025	6.30659	5.22537
BI-2	209	65803.15000	0.00000	0.000	63797.95000	66901.27000	66710.24000
PB	208	0.00500	60.00000	141.400	0.01409	0.00095	0.00101
TL	203	0.02500	26.67000	75.300	0.03045	0.04094	0.00413
U	238	1.41300	4860.97000	0.800	1.41588	1.40169	1.42293
SC-1	45	403711.32000	0.00000	0.000	399285.03000	407228.86000	404620.07000
GE-1	72	698360.27000	0.00000	0.000	696616.63000	695644.83000	702819.36000
GE-2	72	31144.85000	0.00000	0.000	30327.05000	31198.23000	31909.26000
GE-3	72	1227849	0	0.000	1234305	1239193	1210049
TB-2	159	77478.29000	0.00000	0.000	73704.25000	79180.30000	79550.32000

Run Name: 1813101E05
Tube Number: 27
Sample Number: **9570357**

Date/Time: 05/11/2018 7:01:28
Batch: 181270605005A
Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	9682.93000	0.00000	0.000	9522.86000	9792.96000	9732.97000
SC-3	45	1481858	0	0.000	1500074	1474582	1470918
AL	27	12.95200	80.00000	54.000	9.09056	8.74675	21.01968
B	11	251.65600	174369.57000	0.900	249.37917	254.06120	251.52858
BE	9	0.00600	16.67000	105.000	0.00791	0.00972	-0.00109
CA	44	99751.60800	56060.90000	3.900	101131.26004	95411.48008	102712.08252
CR	52	0.38000	170.01000	44.500	0.19945	0.40677	0.53495
FE	57	230.63700	1330.10000	6.400	213.48408	238.48087	239.94731
K	39	9786.34000	95337.59000	2.700	9749.03746	9547.13768	10062.84622
MG	24	32101.81400	631982.58000	1.000	32415.67160	31791.94931	32097.82040
MN	55	301.29100	31652.00000	1.700	304.35392	295.28756	304.23296
NA	23	50338.40800	2122957.89000	0.700	50738.45832	50219.31368	50057.45347
TI	47	1.37700	6.67000	173.200	0.00000	4.13056	0.00000
V	51	1.07600	256.68000	6.900	1.02362	1.16132	1.04325
IN-1	115	339702.34000	0.00000	0.000	339495.47000	339594.41000	340017.13000
IN-2	115	11714.33000	0.00000	0.000	11203.90000	12044.67000	11894.42000
AG	107	0.00400	3.33000	173.200	0.00000	0.00000	0.01172
AS	75	0.41000	14.00000	17.400	0.43033	0.33045	0.46803
BA	137	76.78400	4127.34000	3.100	76.83335	74.36172	79.15639
CD	111	0.04300	4.67000	89.500	0.03672	0.00800	0.08418
CO	59	2.14900	1440.12000	2.100	2.20106	2.11649	2.12906
CU	63	0.40900	276.68000	9.800	0.36375	0.43787	0.42668
MO	98	0.74800	290.02000	7.300	0.80810	0.70156	0.73582
NI	60	0.86200	180.01000	74.500	1.60178	0.46236	0.52107
SB	121	0.10400	16.67000	31.800	0.06577	0.12235	0.12390
SE	78	0.14300	16.00000	36.800	0.19542	0.09030	0.14263
SN	120	0.30600	73.34000	64.500	0.09654	0.33310	0.48866
SR	88	552.94600	54739.60000	3.000	570.67974	537.34689	550.81190
ZN	66	2.24200	133.34000	27.200	1.70166	2.12032	2.90437
BI-2	209	65257.66000	0.00000	0.000	65957.21000	66107.42000	63708.34000
PB	208	0.05100	176.67000	52.700	0.07596	0.05612	0.02228
TL	203	0.01300	16.67000	151.400	0.01673	0.02910	-0.00819
U	238	0.80300	2740.38000	7.400	0.85011	0.82212	0.73591
SC-1	45	401487.57000	0.00000	0.000	405038.67000	396635.93000	402788.12000
GE-1	72	694255.51000	0.00000	0.000	698810.07000	689002.72000	694953.74000
GE-2	72	29284.98000	0.00000	0.000	29184.84000	29365.09000	29305.02000
GE-3	72	1207195	0	0.000	1211611	1215601	1194371
TB-2	159	77682.08000	0.00000	0.000	79008.64000	76285.47000	77752.13000

Run Name: 1813101E05 Date/Time: 05/11/2018 7:04:33
Tube Number: 28 Batch: 181270605005A
Sample Number: **9570358** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	9269.42000	0.00000	0.000	8932.54000	9612.99000	9262.73000
SC-3	45	1504015	0	0.000	1500858	1489978	1521210
AL	27	1.63600	23.33000	86.600	3.26981	0.74141	0.89706
B	11	252.75800	177735.59000	0.800	252.50514	254.77654	250.99381
BE	9	-0.00100	8.67000	0.000	-0.00121	0.00648	-0.00729
CA	44	106846.46100	57475.04000	1.700	107680.58240	104802.13431	108056.66704
CR	52	0.41100	173.34000	62.400	0.12068	0.60666	0.50424
FE	57	235.44800	1300.11000	3.600	225.71546	241.19794	239.43066
K	39	10104.45600	94071.45000	3.200	10363.70743	9736.27623	10213.38470
MG	24	33408.74200	629267.52000	2.900	34099.85926	32318.22405	33808.14334
MN	55	305.63800	30723.80000	2.400	314.14451	300.53776	302.23083
NA	23	52907.56100	2133905.75000	4.100	54683.89857	50480.17503	53558.60928
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.76600	176.67000	42.900	0.40921	1.05627	0.83313
IN-1	115	334664.14000	0.00000	0.000	334954.07000	336860.81000	332177.53000
IN-2	115	12014.36000	0.00000	0.000	11754.38000	12354.83000	11933.87000
AG	107	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
AS	75	0.26300	10.00000	63.700	0.07176	0.38443	0.33410
BA	137	74.84800	4130.68000	7.700	68.21467	77.61696	78.71107
CD	111	0.04100	4.67000	127.000	0.08539	0.05606	-0.01697
CO	59	2.15400	1476.78000	22.400	2.29534	1.61767	2.55001
CU	63	0.45500	310.01000	26.200	0.34242	0.57946	0.44278
MO	98	1.02400	406.69000	15.500	1.20673	0.92823	0.93568
NI	60	1.11100	236.68000	8.900	0.99915	1.14478	1.18866
SB	121	0.20500	33.33000	69.900	0.12537	0.11928	0.37046
SE	78	0.14100	15.56000	19.900	0.12503	0.12424	0.17325
SN	120	0.10100	33.33000	99.500	-0.01247	0.17826	0.13677
SR	88	529.65800	53806.89000	3.300	521.96333	517.42039	549.59041
ZN	66	2.50700	150.01000	17.600	2.94252	2.05960	2.51828
BI-2	209	64524.45000	0.00000	0.000	63276.25000	65344.46000	64952.65000
PB	208	0.01900	93.33000	127.300	-0.00204	0.04508	0.01352
TL	203	0.01300	16.67000	54.500	0.00480	0.01696	0.01711
U	238	0.84400	2847.07000	6.500	0.78328	0.89029	0.85736
SC-1	45	394922.50000	0.00000	0.000	389880.74000	403429.80000	391456.95000
GE-1	72	680363.11000	0.00000	0.000	673133.11000	686204.99000	681751.24000
GE-2	72	29148.07000	0.00000	0.000	27972.88000	30306.29000	29165.05000
GE-3	72	1207141	0	0.000	1217299	1205321	1198802
TB-2	159	76845.22000	0.00000	0.000	75471.70000	77150.00000	77913.97000

Run Name: 1813101E05
Tube Number: 29
Sample Number: **9570359**

Date/Time: 05/11/2018 7:07:40
Batch: 181270605005A
Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	9539.54000	0.00000	0.000	9392.79000	9582.92000	9642.90000
SC-3	45	1463315	0	0.000	1501783	1467252	1420909
AL	27	87.79400	440.02000	13.500	78.77581	83.33947	101.26731
B	11	177.74700	122662.44000	1.900	176.11297	175.59555	181.53227
BE	9	0.00700	18.67000	47.100	0.00789	0.00359	0.01036
CA	44	69432.66600	38448.35000	2.200	70881.27801	67782.10279	69634.61616
CR	52	0.51600	210.01000	20.700	0.43054	0.48234	0.63579
FE	57	31796.70200	180551.60000	0.200	31727.67988	31832.68167	31829.74478
K	39	5119.97500	50547.35000	2.700	5274.37516	5001.17392	5084.37527
MG	24	23891.18200	463399.04000	1.000	24077.28722	23622.78605	23973.47137
MN	55	7797.06100	806224.65000	0.800	7725.44196	7820.05983	7845.68216
NA	23	318484.17400	13215532.30000	0.300	319425.21391	318258.94284	317768.36635
TI	47	4.27800	20.00000	100.700	8.61307	4.22109	0.00000
V	51	0.65100	153.34000	38.700	0.43240	0.59339	0.92664
IN-1	115	328919.60000	0.00000	0.000	331184.05000	329627.55000	325947.19000
IN-2	115	11467.28000	0.00000	0.000	11633.91000	11573.95000	11193.99000
AG	107	0.02400	20.00000	86.600	0.03596	0.03615	0.00000
AS	75	2.16100	64.67000	12.900	1.90358	2.45893	2.12176
BA	137	491.80500	25834.06000	4.500	467.16352	497.72715	510.52541
CD	111	-0.01700	0.00000	0.000	-0.01697	-0.01697	-0.01697
CO	59	31.81200	20038.47000	3.200	31.17430	31.28847	32.97381
CU	63	0.55000	346.69000	25.400	0.52968	0.69824	0.42115
MO	98	0.86900	330.02000	7.800	0.80415	0.93871	0.86274
NI	60	1.47200	293.35000	7.300	1.59175	1.44113	1.38364
SB	121	0.04200	6.67000	86.600	0.06334	0.06366	0.00000
SE	78	0.08500	9.78000	57.200	0.03900	0.07987	0.13577
SN	120	0.20000	50.00000	97.600	0.03935	0.14299	0.41652
SR	88	632.11400	61284.33000	2.200	621.57415	626.64392	648.12475
ZN	66	4.37600	240.01000	25.300	4.90201	5.12254	3.10476
BI-2	209	63543.85000	0.00000	0.000	62372.41000	63416.48000	64842.66000
PB	208	0.09200	270.01000	11.200	0.10219	0.09201	0.08158
TL	203	0.00500	10.00000	277.300	-0.00819	0.01773	0.00448
U	238	0.18600	616.71000	41.200	0.27305	0.12673	0.15935
SC-1	45	388792.56000	0.00000	0.000	387567.88000	389788.98000	389020.81000
GE-1	72	672335.22000	0.00000	0.000	678553.19000	668457.96000	669994.52000
GE-2	72	29195.08000	0.00000	0.000	27892.91000	29065.03000	30627.30000
GE-3	72	1179070	0	0.000	1201156	1188329	1147725
TB-2	159	76235.77000	0.00000	0.000	74849.90000	75020.05000	78837.37000

Run Name: 1813101E05 Date/Time: 05/11/2018 7:10:47
Tube Number: 30 Batch: 181270605005A
Sample Number: **9570360** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	9205.99000	0.00000	0.000	9492.88000	8872.47000	9252.61000
SC-3	45	1454387	0	0.000	1471079	1450125	1441955
AL	27	7.35400	50.00000	100.300	2.87760	3.31480	15.86932
B	11	181.26200	124282.14000	1.200	180.08522	179.83606	183.86572
BE	9	0.00400	14.67000	18.700	0.00511	0.00372	0.00378
CA	44	71189.36700	38034.13000	3.600	68534.19636	71342.56454	73691.34080
CR	52	0.42800	176.68000	51.500	0.68023	0.32781	0.27533
FE	57	33276.73300	182180.27000	4.100	31803.68870	34540.47510	33486.03459
K	39	5360.10200	50895.37000	4.500	5173.14406	5632.58886	5274.57289
MG	24	24936.48000	466413.68000	3.600	23986.24156	25768.45201	25054.74750
MN	55	8110.49500	808535.72000	4.100	7742.74703	8398.04964	8190.68895
NA	23	334431.83400	13382936.88000	3.300	322122.87161	343512.17985	337660.44941
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.38600	86.67000	50.300	0.17114	0.54935	0.43895
IN-1	115	326810.47000	0.00000	0.000	327049.52000	326790.53000	326591.35000
IN-2	115	11380.66000	0.00000	0.000	10643.52000	11674.45000	11824.00000
AG	107	0.00400	3.33000	173.200	0.01310	0.00000	0.00000
AS	75	1.66000	49.33000	24.200	2.08652	1.28873	1.60516
BA	137	477.79000	24885.97000	5.200	500.58658	451.68788	481.09656
CD	111	0.00000	1.33000	0.000	-0.01697	-0.01697	0.03390
CO	59	32.41800	20218.71000	7.700	34.99375	32.22353	30.03757
CU	63	0.33500	226.68000	41.100	0.44766	0.18150	0.37583
MO	98	0.87200	330.02000	12.400	0.79394	0.82720	0.99542
NI	60	1.71100	336.69000	24.300	1.51808	1.42793	2.18844
SB	121	0.04200	6.67000	86.600	0.00000	0.06312	0.06232
SE	78	0.06300	7.56000	35.200	0.04654	0.05345	0.08762
SN	120	0.14500	40.00000	90.000	0.10496	0.03899	0.29003
SR	88	648.60500	62341.51000	5.200	678.96864	612.61476	654.23183
ZN	66	2.24000	126.67000	63.600	3.70178	0.85335	2.16545
BI-2	209	61737.17000	0.00000	0.000	61660.63000	60465.32000	63085.57000
PB	208	-0.00400	33.33000	0.000	-0.00161	-0.00985	-0.00199
TL	203	0.00000	6.67000	3044.900	-0.00819	-0.00819	0.01786
U	238	0.19100	616.71000	11.200	0.20171	0.20570	0.16683
SC-1	45	387404.33000	0.00000	0.000	383416.52000	390183.86000	388612.61000
GE-1	72	660168.07000	0.00000	0.000	652301.98000	664088.66000	664113.58000
GE-2	72	28991.13000	0.00000	0.000	28223.07000	28032.82000	30717.50000
GE-3	72	1172836	0	0.000	1190726	1172848	1154933
TB-2	159	75649.81000	0.00000	0.000	73031.56000	75431.61000	78486.27000

Run Name: 1813101E05 Date/Time: 05/11/2018 7:13:53
Tube Number: 31 Batch: 181270605005A
Sample Number: **9570361** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	10096.50000	0.00000	0.000	9772.99000	10153.19000	10363.32000
SC-3	45	1502074	0	0.000	1491246	1498212	1516764
AL	27	133.89300	700.04000	3.800	138.33952	134.98140	128.35793
B	11	214.41100	151137.36000	1.800	217.83119	215.06562	210.33534
BE	9	0.01500	30.00000	18.100	0.01718	0.01706	0.01225
CA	44	51310.10300	30055.84000	4.000	53110.83004	51733.65882	49085.82074
CR	52	0.35000	166.68000	7.100	0.37685	0.32718	0.34677
FE	57	1959.95800	11770.93000	4.000	2048.13115	1901.88679	1929.85609
K	39	3936.87400	41862.29000	2.000	3961.75141	4000.02246	3848.84898
MG	24	19061.82700	391213.31000	1.600	19394.20611	18967.73363	18823.54027
MN	55	3109.89300	340281.04000	0.900	3135.33608	3114.80230	3079.54043
NA	23	32934.07000	1448996.54000	2.100	33653.62337	32840.68528	32307.90075
TI	47	2.03000	10.00000	102.000	4.13900	0.00000	1.95161
V	51	0.52700	130.01000	51.000	0.83119	0.32001	0.43113
IN-1	115	339678.36000	0.00000	0.000	339146.23000	341598.52000	338290.32000
IN-2	115	11697.35000	0.00000	0.000	11043.73000	11193.03000	12855.28000
AG	107	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
AS	75	0.15800	6.67000	52.500	0.15181	0.07849	0.24433
BA	137	95.41200	5094.35000	9.700	104.43901	95.82809	85.96958
CD	111	0.04300	4.67000	67.800	0.06474	0.00990	0.05322
CO	59	5.38800	3510.47000	2.200	5.49072	5.41620	5.25730
CU	63	0.47000	310.01000	11.300	0.40886	0.49715	0.50370
MO	98	0.14300	53.34000	82.100	0.27328	0.10784	0.04695
NI	60	2.78600	550.03000	12.500	2.40566	3.08620	2.86564
SB	121	0.01900	3.33000	173.200	0.00000	0.00000	0.05732
SE	78	0.13200	14.89000	42.200	0.10356	0.09615	0.19617
SN	120	0.25900	63.33000	40.600	0.15289	0.36325	0.26169
SR	88	450.52700	44417.02000	6.100	463.00034	469.42655	419.15413
ZN	66	5.77500	316.69000	34.500	3.96260	7.90974	5.45388
BI-2	209	66207.92000	0.00000	0.000	66289.21000	65374.29000	66960.25000
PB	208	0.08900	273.34000	24.800	0.07157	0.08077	0.11329
TL	203	0.00000	6.67000	7906.800	-0.00819	0.00438	0.00408
U	238	0.15700	543.37000	12.500	0.16454	0.13464	0.17146
SC-1	45	395779.75000	0.00000	0.000	392589.33000	399083.24000	395666.67000
GE-1	72	693791.87000	0.00000	0.000	690888.51000	691591.55000	698895.54000
GE-2	72	30460.47000	0.00000	0.000	30417.09000	29896.01000	31068.32000
GE-3	72	1228712	0	0.000	1247623	1226577	1211937
TB-2	159	76854.83000	0.00000	0.000	75964.68000	76928.35000	77671.46000

Run Name: 1813101E05
Tube Number: 32
Sample Number: **9570362**

Date/Time: 05/11/2018 7:16:58
Batch: 181270605005A
Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	9499.55000	0.00000	0.000	9703.04000	9522.80000	9272.80000
SC-3	45	1466214	0	0.000	1509990	1428039	1460613
AL	27	2.86800	30.00000	190.700	6.82012	-3.37472	5.15957
B	11	214.39200	147506.93000	0.900	212.07486	215.78286	215.31779
BE	9	0.00800	20.00000	59.400	0.00781	0.01347	0.00364
CA	44	53510.52600	29498.14000	4.400	50826.25130	55050.21389	54655.11352
CR	52	0.23100	120.01000	61.600	0.25553	0.35885	0.07797
FE	57	1599.08400	9039.29000	5.500	1626.32066	1499.97819	1670.95325
K	39	4205.03700	41832.22000	7.700	3888.69783	4189.81566	4536.59765
MG	24	19821.59700	382703.14000	2.900	19322.28998	19691.40387	20451.09755
MN	55	3255.02100	334955.83000	4.100	3107.79507	3284.19952	3373.06981
NA	23	33098.53600	1369771.96000	4.500	32011.57278	32485.79436	34798.24205
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.27000	63.33000	31.100	0.33486	0.29855	0.17520
IN-1	115	340953.56000	0.00000	0.000	340157.79000	336909.28000	345793.61000
IN-2	115	12084.02000	0.00000	0.000	12174.49000	12084.49000	11993.07000
AG	107	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
AS	75	0.15400	6.67000	121.600	0.26148	0.26389	-0.06244
BA	137	90.83900	5034.28000	9.100	81.45697	93.98839	97.07204
CD	111	0.04900	5.33000	153.900	0.13127	0.03281	-0.01697
CO	59	4.79900	3240.43000	3.700	4.59701	4.85854	4.94191
CU	63	0.25500	196.68000	27.200	0.20521	0.22501	0.33380
MO	98	0.09100	36.67000	30.800	0.12394	0.07492	0.07549
NI	60	2.73400	556.70000	14.600	2.27405	2.95296	2.97622
SB	121	0.04100	6.67000	173.200	0.00000	0.12195	0.00000
SE	78	0.16900	18.67000	11.400	0.18193	0.17717	0.14649
SN	120	0.13500	40.00000	37.800	0.08381	0.13428	0.18554
SR	88	420.07500	42923.43000	3.900	401.30688	430.19124	428.72553
ZN	66	5.69200	323.35000	18.300	6.87978	5.26454	4.93310
BI-2	209	65916.91000	0.00000	0.000	64149.34000	66830.56000	66770.82000
PB	208	0.00700	63.33000	44.200	0.00987	0.00486	0.00488
TL	203	0.00000	6.67000	193064.300	-0.00819	0.01640	-0.00819
U	238	0.15300	526.70000	8.500	0.14020	0.16607	0.15189
SC-1	45	395012.18000	0.00000	0.000	393245.11000	396893.35000	394898.08000
GE-1	72	683018.14000	0.00000	0.000	681795.38000	682228.74000	685030.30000
GE-2	72	30680.71000	0.00000	0.000	30016.17000	30366.75000	31659.22000
GE-3	72	1205728	0	0.000	1228181	1183289	1205716
TB-2	159	76178.88000	0.00000	0.000	75744.30000	75632.20000	77160.13000

Run Name: 1813101E05
Tube Number: 33
Sample Number: **9570352**

Date/Time: 05/11/2018 7:20:06
Batch: 181270605005A
Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	9866.41000	0.00000	0.000	9953.19000	10033.10000	9612.94000
SC-3	45	1436988	0	0.000	1452312	1430895	1427757
AL	27	5.19700	43.33000	153.500	6.56389	12.40041	-3.37472
B	11	33.29900	25489.92000	1.100	32.89295	33.64736	33.35650
BE	9	0.00200	11.33000	285.900	0.00056	0.00705	-0.00250
CA	44	72.84900	50.00000	50.500	37.03051	70.96037	110.55758
CR	52	0.22800	123.34000	12.100	0.24531	0.24212	0.19616
FE	57	7.88100	46.67000	64.000	6.75170	13.39584	3.49534
K	39	-29.95800	2783.66000	0.000	4.14404	-69.04022	-24.97749
MG	24	31.13600	630.03000	10.300	31.80832	27.63101	33.96892
MN	55	1.51700	200.01000	13.000	1.68458	1.30048	1.56480
NA	23	331.69700	17662.33000	5.500	331.46955	313.50770	350.11277
TI	47	0.67200	3.33000	173.200	0.00000	2.01585	0.00000
V	51	0.12400	30.00000	87.700	0.20403	0.00000	0.16900
IN-1	115	343159.89000	0.00000	0.000	339072.11000	339108.06000	351299.51000
IN-2	115	11468.53000	0.00000	0.000	11343.80000	11793.35000	11268.43000
AG	107	0.00400	3.33000	173.200	0.00000	0.01182	0.00000
AS	75	-0.01800	1.33000	0.000	-0.06244	0.07132	-0.06244
BA	137	0.77600	46.67000	101.400	0.64642	0.06191	1.61997
CD	111	0.04400	4.67000	30.600	0.03606	0.05954	0.03641
CO	59	-0.01600	50.00000	0.000	0.03258	-0.03423	-0.04754
CU	63	6.33500	3467.15000	1.700	6.41258	6.38099	6.21072
MO	98	0.01800	6.67000	173.200	0.05321	0.00000	0.00000
NI	60	0.09700	36.67000	29.400	0.11769	0.10943	0.06459
SB	121	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
SE	78	0.01100	2.67000	54.200	0.00487	0.01149	0.01686
SN	120	0.14300	40.00000	93.900	0.19978	0.24035	-0.01028
SR	88	0.03500	3.33000	173.200	0.00000	0.00000	0.10493
ZN	66	0.02400	16.67000	1200.000	-0.29819	0.27178	0.09949
BI-2	209	67483.44000	0.00000	0.000	68447.66000	65676.14000	68326.53000
PB	208	0.02900	123.33000	72.100	0.00810	0.02896	0.04990
TL	203	0.00000	6.67000	0.000	0.00382	-0.00819	0.00384
U	238	0.00400	13.33000	116.000	0.00000	0.00874	0.00280
SC-1	45	393526.38000	0.00000	0.000	390532.34000	392064.49000	397982.30000
GE-1	72	679650.15000	0.00000	0.000	674096.63000	672535.77000	692318.04000
GE-2	72	30092.83000	0.00000	0.000	30026.10000	29685.55000	30566.84000
GE-3	72	1189825	0	0.000	1207854	1187869	1173752
TB-2	159	77119.54000	0.00000	0.000	75512.88000	78374.58000	77471.17000

Run Name: 1813101E05 Date/Time: 05/11/2018 7:23:10
Tube Number: 34
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	10169.93000	0.00000	0.000	10243.32000	9903.16000	10363.32000
SC-3	45	1429577	0	0.000	1480244	1428354	1380133
AL	27	2210.18500	11370.60000	6.400	2069.70631	2350.85289	2209.99504
B	11	278.13100	185444.35000	2.400	271.11035	278.58014	284.70396
BE	9	25.53100	32009.77000	2.200	24.88414	25.78193	25.92840
CA	44	2268.75300	1350.11000	10.000	2323.17157	2020.71149	2462.37720
CR	52	231.40700	77570.38000	1.900	226.74551	235.61843	231.85808
FE	57	2212.73600	13388.80000	3.100	2159.26317	2291.15267	2187.79318
K	39	2169.34900	24647.47000	7.000	2010.53892	2311.65646	2185.85265
MG	24	2251.86000	46549.27000	3.500	2188.43757	2340.77909	2226.36356
MN	55	238.33000	26289.87000	5.000	228.87792	251.77584	234.33748
NA	23	2258.45500	103403.94000	1.900	2256.93864	2301.24724	2217.17872
TI	47	220.37800	1106.76000	11.300	195.48701	245.10018	220.54795
V	51	239.21200	59887.08000	1.400	237.46321	242.98518	237.18854
IN-1	115	341724.54000	0.00000	0.000	339050.46000	342394.41000	343728.75000
IN-2	115	12590.35000	0.00000	0.000	11890.31000	12430.98000	13449.77000
AG	107	23.51200	21190.34000	4.500	24.68050	23.25910	22.59775
AS	75	233.38700	7432.94000	6.600	244.62186	239.75550	215.78262
BA	137	237.63200	13686.01000	7.600	238.59137	255.27180	219.03420
CD	111	24.24900	2026.13000	6.500	25.28164	25.02832	22.43780
CO	59	233.56200	160785.26000	5.800	245.70148	236.13930	218.84479
CU	63	229.79900	135866.96000	4.900	238.95643	233.05533	217.38546
MO	98	23.45200	9779.80000	1.300	23.55983	23.67691	23.11809
NI	60	232.08100	47453.74000	5.400	245.21266	230.82674	220.20399
SB	121	22.95900	3910.62000	7.700	24.17202	23.77259	20.93118
SE	78	23.25200	2375.72000	2.300	22.76413	23.18039	23.81101
SN	120	23.14300	4890.90000	2.800	23.52776	23.50999	22.39034
SR	88	24.60000	2616.97000	7.600	23.76984	26.73157	23.29992
ZN	66	227.34800	12795.09000	1.500	228.36438	223.65093	230.02931
BI-2	209	67527.10000	0.00000	0.000	66559.49000	66127.01000	69894.80000
PB	208	25.64000	66780.79000	0.800	25.73396	25.78044	25.40488
TL	203	25.13800	20667.42000	3.800	24.06970	25.86968	25.47535
U	238	24.66200	86989.23000	2.800	24.71865	25.33175	23.93552
SC-1	45	389788.27000	0.00000	0.000	379533.71000	396255.74000	393575.35000
GE-1	72	687013.71000	0.00000	0.000	678298.97000	684555.46000	698186.71000
GE-2	72	30059.66000	0.00000	0.000	29555.23000	30316.81000	30306.93000
GE-3	72	1184578	0	0.000	1203297	1180684	1169752
TB-2	159	76285.48000	0.00000	0.000	75311.26000	78615.35000	74929.82000

Run Name: 1813101E05 Date/Time: 05/11/2018 7:26:16
Tube Number: 35
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	9266.02000	0.00000	0.000	9432.84000	8552.26000	9812.96000
SC-3	45	1401935	0	0.000	1438079	1372215	1395512
AL	27	0.28300	16.67000	1232.800	-3.37472	3.56526	0.65754
B	11	32.08400	24084.67000	2.100	31.34030	32.27126	32.64158
BE	9	0.00500	14.67000	164.500	0.01015	0.00767	-0.00402
CA	44	-14.89800	0.00000	0.000	-14.89825	-14.89825	-14.89825
CR	52	0.16000	93.34000	119.700	0.29936	0.23924	-0.05837
FE	57	3.04500	16.67000	36.900	1.78104	3.92884	3.42409
K	39	15.92400	3020.40000	143.400	12.21238	40.38837	-4.82764
MG	24	0.61200	16.67000	142.100	0.73169	1.41412	-0.31107
MN	55	0.05300	40.00000	394.400	-0.06152	0.29236	-0.07289
NA	23	9.59800	3613.84000	53.400	13.90606	10.95558	3.93150
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.01400	3.33000	173.200	0.00000	0.00000	0.04139
IN-1	115	331380.55000	0.00000	0.000	336181.94000	328884.19000	329075.52000
IN-2	115	11640.71000	0.00000	0.000	11543.88000	11423.96000	11954.29000
AG	107	0.00800	6.67000	173.200	0.02416	0.00000	0.00000
AS	75	0.23100	8.67000	18.100	0.27917	0.21372	0.20147
BA	137	0.00300	6.67000	7564.100	0.25496	-0.12315	-0.12315
CD	111	0.00000	1.33000	14854.700	0.00908	-0.01697	0.00819
CO	59	-0.01300	53.33000	0.000	-0.06451	-0.00027	0.02601
CU	63	0.10900	110.01000	94.500	0.00040	0.20610	0.12175
MO	98	0.11100	43.33000	55.900	0.10457	0.05283	0.17671
NI	60	0.04100	26.67000	294.800	-0.09905	0.11617	0.10662
SB	121	0.27600	43.33000	37.200	0.25532	0.38700	0.18491
SE	78	0.02100	3.56000	49.600	0.01829	0.01230	0.03263
SN	120	0.34900	80.00000	84.100	0.09184	0.66809	0.28618
SR	88	0.13700	13.33000	86.600	0.20486	0.20701	0.00000
ZN	66	-0.03700	13.33000	0.000	-0.29819	0.48634	-0.29819
BI-2	209	63761.15000	0.00000	0.000	63707.49000	62392.40000	65183.57000
PB	208	0.00100	46.67000	427.400	-0.00215	0.00235	0.00146
TL	203	0.03500	33.33000	54.100	0.03051	0.01815	0.05484
U	238	0.01000	33.33000	15.300	0.00901	0.00920	0.01174
SC-1	45	379413.20000	0.00000	0.000	380995.46000	379664.49000	377579.64000
GE-1	72	669942.83000	0.00000	0.000	672129.83000	669527.26000	668171.40000
GE-2	72	29969.63000	0.00000	0.000	29335.27000	29845.99000	30727.63000
GE-3	72	1169443	0	0.000	1189545	1162175	1156609
TB-2	159	75103.99000	0.00000	0.000	75171.26000	74458.57000	75682.15000

Run Name: 1813101E05
Tube Number: 36
Sample Number: **9570363**

Date/Time: 05/11/2018 7:29:22
Batch: 181270605005A
Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	9626.21000	0.00000	0.000	9252.69000	9642.88000	9983.06000
SC-3	45	1456097	0	0.000	1470223	1444666	1453401
AL	27	1229.56400	6001.24000	2.100	1200.66979	1252.51891	1235.50434
B	11	173.79200	119460.07000	0.800	175.05348	174.02746	172.29599
BE	9	0.11100	151.33000	5.600	0.11368	0.11582	0.10410
CA	44	47028.46000	26253.15000	4.800	49235.08163	47099.36642	44750.93103
CR	52	1.84900	633.37000	14.400	1.85003	2.11533	1.58197
FE	57	2238.44100	12815.06000	3.900	2288.68451	2290.22930	2136.40996
K	39	5685.53800	56307.48000	1.200	5765.10698	5638.52273	5652.98372
MG	24	15083.00100	294955.85000	3.600	15612.11612	15122.65146	14514.23522
MN	55	3390.11800	353537.29000	2.200	3474.91175	3358.03595	3337.40766
NA	23	78508.41600	3287793.70000	3.000	79942.08342	79748.28654	75834.87876
TI	47	21.87200	103.34000	34.700	30.60439	16.77938	18.23356
V	51	2.45300	580.03000	9.600	2.72159	2.35879	2.27838
IN-1	115	334178.36000	0.00000	0.000	337360.70000	333792.77000	331381.61000
IN-2	115	12077.87000	0.00000	0.000	12524.94000	11253.77000	12454.89000
AG	107	0.00700	6.67000	86.600	0.01113	0.00000	0.01120
AS	75	0.41900	14.67000	22.400	0.31539	0.49823	0.44416
BA	137	119.48600	6598.22000	8.300	111.07366	130.42446	116.95913
CD	111	0.18700	16.67000	49.100	0.19916	0.08994	0.27283
CO	59	16.07800	10690.27000	8.000	14.61230	16.56561	17.05586
CU	63	1.48300	896.73000	5.900	1.53796	1.38195	1.53004
MO	98	0.09100	36.67000	10.300	0.09638	0.08045	0.09692
NI	60	5.92900	1176.75000	17.800	5.59410	7.11119	5.08321
SB	121	0.10100	16.67000	66.300	0.05883	0.06547	0.17748
SE	78	0.11000	12.44000	37.600	0.15707	0.08541	0.08613
SN	120	0.30300	73.33000	32.800	0.22262	0.41398	0.27214
SR	88	401.14200	40868.54000	6.700	378.81974	431.19247	393.41368
ZN	66	13.01500	720.05000	10.800	12.94069	11.64851	14.45433
BI-2	209	64952.80000	0.00000	0.000	63205.61000	64853.51000	66799.28000
PB	208	0.67500	1740.12000	16.800	0.62186	0.59759	0.80491
TL	203	0.03400	33.33000	41.000	0.01781	0.04249	0.04102
U	238	0.10900	370.02000	4.700	0.11201	0.11212	0.10312
SC-1	45	387842.65000	0.00000	0.000	389073.51000	387166.32000	387288.12000
GE-1	72	676800.61000	0.00000	0.000	686180.69000	670802.33000	673418.82000
GE-2	72	30253.39000	0.00000	0.000	30387.16000	29635.59000	30737.43000
GE-3	72	1195343	0	0.000	1222096	1183926	1180007
TB-2	159	76547.29000	0.00000	0.000	74437.94000	76939.30000	78264.62000

Run Name: 1813101E05 Date/Time: 05/11/2018 7:32:28
Tube Number: 37 Batch: 181270605005A
Sample Number: **9570364** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	9679.64000	0.00000	0.000	9672.96000	9262.78000	10103.17000
SC-3	45	1441254	0	0.000	1473973	1428961	1420827
AL	27	3.41600	33.33000	90.200	6.85182	0.89704	2.49993
B	11	177.46900	120651.58000	1.700	175.37275	180.84444	176.18856
BE	9	0.01400	27.33000	36.100	0.00973	0.01346	0.01999
CA	44	45675.44200	25645.40000	4.000	46792.21729	46647.92073	43586.18899
CR	52	0.37400	166.68000	65.100	0.63334	0.34040	0.14929
FE	57	86.46900	496.69000	15.900	74.68691	101.57461	83.14669
K	39	5671.70100	56438.16000	4.700	5535.91530	5979.74658	5499.44253
MG	24	14885.68000	292714.34000	3.500	14632.12614	15485.15682	14539.75852
MN	55	3317.00900	347732.43000	4.000	3207.70746	3466.05366	3277.26503
NA	23	78640.12500	3310330.16000	3.800	77416.60859	82054.62010	76449.14780
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.29800	70.00000	69.200	0.12596	0.52616	0.24120
IN-1	115	339599.37000	0.00000	0.000	342928.20000	337909.35000	337960.57000
IN-2	115	12470.76000	0.00000	0.000	12433.72000	12574.51000	12404.06000
AG	107	0.00700	6.67000	86.600	0.01122	0.01109	0.00000
AS	75	0.06400	4.00000	170.300	0.00100	0.18845	0.00115
BA	137	111.12500	6354.81000	8.000	108.20195	104.03799	121.13577
CD	111	0.08000	8.00000	139.500	0.20075	0.05479	-0.01697
CO	59	14.68700	10099.88000	4.600	14.14726	14.46700	15.44766
CU	63	0.91800	593.37000	34.800	0.86592	1.26099	0.62822
MO	98	0.07200	30.00000	87.500	0.02427	0.14399	0.04866
NI	60	5.17500	1070.08000	2.700	5.14152	5.32725	5.05494
SB	121	0.05900	10.00000	173.200	0.17778	0.00000	0.00000
SE	78	0.11900	13.56000	27.900	0.12177	0.08418	0.15023
SN	120	0.04900	23.33000	247.400	0.03275	-0.06323	0.17730
SR	88	379.19900	39989.87000	2.000	378.16753	372.14244	387.28712
ZN	66	9.15800	526.70000	15.200	8.53235	10.75008	8.19220
BI-2	209	66050.83000	0.00000	0.000	65264.42000	65836.28000	67051.79000
PB	208	0.00000	46.67000	0.000	-0.00651	0.00915	-0.00296
TL	203	0.00400	10.00000	296.100	-0.00819	0.01677	0.00407
U	238	0.05300	183.34000	18.100	0.05277	0.04360	0.06278
SC-1	45	386288.86000	0.00000	0.000	392768.82000	383996.21000	382101.56000
GE-1	72	675013.92000	0.00000	0.000	680844.60000	670412.88000	673784.29000
GE-2	72	30340.12000	0.00000	0.000	29194.72000	30316.73000	31508.91000
GE-3	72	1190931	0	0.000	1208372	1201395	1163025
TB-2	159	75776.78000	0.00000	0.000	74066.43000	75713.34000	77550.56000

Run Name: 1813101E05
Tube Number: 38
Sample Number: **9570366**

Date/Time: 05/11/2018 7:35:38
Batch: 181270605005A
Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	9449.48000	0.00000	0.000	8912.49000	9472.77000	9963.17000
SC-3	45	1444569	0	0.000	1469147	1412660	1451899
AL	27	2753.76200	13165.09000	0.800	2774.63824	2754.56494	2732.08373
B	11	131.09200	90279.29000	0.400	131.35027	131.38750	130.53742
BE	9	0.21900	286.67000	4.500	0.22395	0.20738	0.22513
CA	44	28268.71100	15517.19000	2.100	27756.14563	28916.78595	28133.20172
CR	52	1.88700	636.71000	21.300	1.89236	1.48308	2.28622
FE	57	13124.99500	73680.97000	5.200	13784.90154	13170.83641	12419.24556
K	39	5130.17000	50089.63000	4.800	5389.89604	5104.37849	4896.23643
MG	24	6470.47600	124170.67000	3.600	6733.00360	6381.19789	6297.22550
MN	55	337.83400	34604.03000	2.700	348.35058	332.69878	332.45315
NA	23	81576.20000	3351263.80000	3.500	84357.17365	81702.03436	78669.39197
TI	47	30.09900	140.01000	17.000	31.77260	34.16354	24.36198
V	51	2.34600	546.70000	7.300	2.32420	2.18674	2.52751
IN-1	115	339284.76000	0.00000	0.000	335882.79000	342648.53000	339322.95000
IN-2	115	12043.13000	0.00000	0.000	10852.78000	12613.65000	12662.96000
AG	107	0.02600	23.33000	60.800	0.01285	0.02211	0.04405
AS	75	3.47800	108.00000	5.700	3.57122	3.25155	3.61235
BA	137	237.81100	13068.87000	8.600	260.20860	220.40137	232.82402
CD	111	0.04900	5.33000	51.700	0.03846	0.03072	0.07804
CO	59	2.25100	1553.47000	17.700	2.10717	1.94431	2.70039
CU	63	19.36600	10987.15000	5.700	20.60177	18.99470	18.50050
MO	98	1.81300	716.71000	20.600	2.14123	1.89019	1.40613
NI	60	4.02700	806.72000	10.200	4.20564	3.55597	4.31844
SB	121	5.33400	870.05000	16.100	5.56765	4.38143	6.05201
SE	78	0.37300	39.33000	28.000	0.35054	0.48653	0.28105
SN	120	0.61300	136.67000	34.500	0.59661	0.40983	0.83214
SR	88	276.33100	28039.83000	6.500	297.13237	267.19872	264.66254
ZN	66	22.60900	1236.76000	8.400	20.55518	22.97358	24.29867
BI-2	209	65157.33000	0.00000	0.000	62674.24000	64952.97000	67844.78000
PB	208	34.51700	86691.24000	2.300	35.24987	34.63807	33.66203
TL	203	0.02500	26.67000	75.200	0.00492	0.04242	0.02815
U	238	1.69700	5777.99000	2.800	1.69781	1.74433	1.65022
SC-1	45	388719.54000	0.00000	0.000	386958.24000	389545.78000	389654.60000
GE-1	72	677058.69000	0.00000	0.000	672383.97000	677721.55000	681070.54000
GE-2	72	30911.26000	0.00000	0.000	30427.15000	30387.09000	31919.53000
GE-3	72	1189675	0	0.000	1210580	1176101	1182342
TB-2	159	77324.80000	0.00000	0.000	75995.49000	76225.26000	79753.66000

Run Name: 1813101E05
Tube Number: 39
Sample Number: **9570367**

Date/Time: 05/11/2018 7:38:44
Batch: 181270605005A
Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	9693.02000	0.00000	0.000	9482.87000	9813.28000	9782.92000
SC-3	45	1466161	0	0.000	1500400	1453504	1444581
AL	27	13.57300	83.34000	72.800	7.05682	8.72165	24.93976
B	11	125.11400	87609.42000	1.000	123.82399	126.23418	125.28481
BE	9	0.00600	16.67000	178.100	-0.00425	0.00526	0.01639
CA	44	26033.93800	14656.42000	2.400	25812.78465	25540.74117	26748.28942
CR	52	0.63200	250.01000	3.300	0.61706	0.62212	0.65555
FE	57	9853.92700	56844.06000	3.100	9968.85599	9506.09944	10086.82689
K	39	4743.38400	47803.32000	2.400	4846.78992	4621.41398	4761.94862
MG	24	5512.54300	108670.42000	1.300	5429.44562	5562.65693	5545.52667
MN	55	309.38600	32540.25000	1.800	307.78398	304.75347	315.62191
NA	23	80419.45700	3392822.34000	1.200	81458.60129	79517.77860	80281.99189
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.31800	76.67000	84.400	0.04283	0.57946	0.33212
IN-1	115	337917.12000	0.00000	0.000	335048.32000	335235.12000	343467.91000
IN-2	115	12124.28000	0.00000	0.000	12344.82000	12324.52000	11703.50000
AG	107	0.00400	3.33000	173.200	0.00000	0.00000	0.01192
AS	75	1.80500	57.33000	10.300	1.59869	1.85741	1.95928
BA	137	197.10700	10930.64000	11.900	182.92156	184.28503	224.11393
CD	111	0.00800	2.00000	310.500	-0.01697	0.03184	0.00873
CO	59	1.81400	1266.76000	10.400	1.85562	1.60709	1.97820
CU	63	0.73400	470.03000	18.000	0.80391	0.58111	0.81665
MO	98	1.97700	793.38000	5.800	1.98022	1.86105	2.08873
NI	60	5.04200	1010.07000	20.500	4.23307	4.68916	6.20383
SB	121	6.13600	1010.07000	2.900	6.32742	6.09863	5.98153
SE	78	0.25800	27.56000	11.600	0.23158	0.25141	0.29044
SN	120	0.18600	50.00000	100.600	0.13011	0.03360	0.39564
SR	88	252.57700	25883.20000	3.200	244.91121	251.65657	261.16359
ZN	66	11.44400	636.70000	11.900	12.77067	11.51959	10.04055
BI-2	209	65565.14000	0.00000	0.000	65565.39000	65304.02000	65826.00000
PB	208	0.17400	486.69000	38.300	0.10027	0.19211	0.22985
TL	203	0.00400	10.00000	496.100	-0.00819	0.02956	-0.00819
U	238	0.55900	1916.87000	7.900	0.53703	0.53038	0.61048
SC-1	45	383644.25000	0.00000	0.000	378470.23000	385962.81000	386499.72000
GE-1	72	681286.63000	0.00000	0.000	675902.41000	690279.83000	677677.65000
GE-2	72	30791.03000	0.00000	0.000	28303.34000	31078.45000	32991.29000
GE-3	72	1201912	0	0.000	1213494	1199836	1192405
TB-2	159	75452.16000	0.00000	0.000	76025.81000	75129.71000	75200.97000

Run Name: 1813101E05
Tube Number: 40
Sample Number: **9570368**

Date/Time: 05/11/2018 7:41:52
Batch: 181270605005A
Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	9359.46000	0.00000	0.000	9122.63000	8972.63000	9983.11000
SC-3	45	1425959	0	0.000	1451107	1430934	1395834
AL	27	6.35800	46.67000	59.200	3.13136	5.44507	10.49764
B	11	26.20400	20661.34000	2.600	26.19492	25.51920	26.89682
BE	9	-0.00200	6.67000	0.000	-0.00257	-0.00569	0.00251
CA	44	66.15300	43.33000	95.600	22.87279	138.71167	36.87488
CR	52	0.16200	96.67000	29.800	0.21483	0.11946	0.15288
FE	57	5.96800	33.33000	33.800	3.68320	7.48955	6.73146
K	39	-38.34500	2563.63000	0.000	-40.64341	-30.25751	-44.13290
MG	24	23.28400	453.36000	26.000	19.09791	20.51862	30.23413
MN	55	1.59600	200.01000	35.300	1.16227	1.39330	2.23311
NA	23	361.39400	17949.13000	4.600	373.73767	367.98955	342.45487
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.15600	36.67000	50.900	0.08904	0.13579	0.24410
IN-1	115	347364.31000	0.00000	0.000	350921.50000	342770.88000	348400.56000
IN-2	115	11517.45000	0.00000	0.000	11824.52000	11894.16000	10833.67000
AG	107	0.00900	6.67000	173.200	0.00000	0.00000	0.02574
AS	75	-0.01800	1.33000	0.000	0.00426	0.00387	-0.06244
BA	137	0.12700	13.33000	218.500	-0.12315	0.42732	0.07830
CD	111	0.00100	1.33000	2160.000	-0.01697	0.00832	0.01079
CO	59	-0.00500	56.67000	0.000	0.01192	-0.05010	0.02180
CU	63	5.66300	3113.72000	3.800	5.53668	5.53943	5.91401
MO	98	0.03500	13.33000	111.100	0.00000	0.07612	0.02786
NI	60	0.11500	40.00000	46.700	0.16086	0.05598	0.12790
SB	121	0.08300	13.33000	114.800	0.18694	0.06195	0.00000
SE	78	0.01300	2.89000	74.700	0.01060	0.00466	0.02356
SN	120	0.30700	70.00000	93.600	0.39094	-0.01307	0.54269
SR	88	0.06600	6.67000	173.200	0.00000	0.19882	0.00000
ZN	66	0.02300	16.67000	930.500	0.27028	-0.10981	-0.09137
BI-2	209	66569.36000	0.00000	0.000	64732.23000	67472.68000	67503.17000
PB	208	0.02800	120.00000	35.000	0.02565	0.03924	0.02000
TL	203	-0.00400	3.33000	0.000	-0.00819	0.00399	-0.00819
U	238	0.00300	10.00000	98.600	0.00296	0.00000	0.00567
SC-1	45	387542.60000	0.00000	0.000	385034.06000	387383.90000	390209.84000
GE-1	72	687096.19000	0.00000	0.000	690181.94000	683630.46000	687476.16000
GE-2	72	30029.49000	0.00000	0.000	29625.61000	29445.02000	31017.84000
GE-3	72	1194100	0	0.000	1229089	1178953	1174258
TB-2	159	77079.56000	0.00000	0.000	75461.94000	76879.01000	78897.72000

Run Name: 1813101E05 Date/Time: 05/11/2018 7:44:58
Tube Number: 41
Sample Number: **LLC**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	9349.52000	0.00000	0.000	9402.85000	8992.68000	9653.03000
SC-3	45	1403752	0	0.000	1451280	1387371	1372604
AL	27	108.44900	530.03000	13.800	116.56314	91.23104	117.55374
B	11	69.46500	48105.04000	3.600	66.68555	70.20786	71.50090
BE	9	0.50700	634.02000	8.400	0.54103	0.45946	0.52096
CA	44	273.66400	156.68000	5.200	259.96061	272.49735	288.53269
CR	52	1.91600	633.37000	26.000	2.07631	2.31295	1.35823
FE	57	101.55500	563.37000	13.400	100.06329	115.83473	88.76613
K	39	162.73600	4390.69000	11.700	167.21730	179.15532	141.83398
MG	24	101.04000	1923.52000	9.600	107.44657	105.79769	89.87614
MN	55	2.08300	250.01000	60.400	2.49085	0.67107	3.08629
NA	23	212.90500	11894.27000	12.200	198.19137	242.87181	197.65036
TI	47	10.82500	50.00000	3.600	10.75482	11.24537	10.47609
V	51	0.47900	110.01000	12.700	0.47513	0.54201	0.42078
IN-1	115	336937.17000	0.00000	0.000	339190.71000	336694.88000	334925.92000
IN-2	115	11936.63000	0.00000	0.000	12421.02000	11899.37000	11489.49000
AG	107	0.54700	466.69000	14.100	0.46034	0.57429	0.60692
AS	75	1.91800	60.00000	5.700	1.96949	1.99228	1.79100
BA	137	2.26200	130.00000	43.600	1.45822	3.36184	1.96634
CD	111	0.41800	34.67000	19.600	0.46735	0.46330	0.32336
CO	59	0.48600	380.02000	9.700	0.43290	0.50210	0.52346
CU	63	1.59900	946.73000	16.300	1.31193	1.82018	1.66632
MO	98	0.49300	193.34000	60.200	0.43735	0.22825	0.81428
NI	60	1.74200	356.69000	10.500	1.53409	1.81231	1.88049
SB	121	0.98300	160.01000	18.600	1.18650	0.92890	0.83377
SE	78	1.81900	184.67000	6.400	1.95216	1.76126	1.74396
SN	120	2.18600	450.03000	0.600	2.19481	2.19351	2.17010
SR	88	1.18300	120.00000	18.100	1.42802	1.09305	1.02913
ZN	66	14.87100	803.39000	22.900	11.42759	14.95475	18.22966
BI-2	209	64116.07000	0.00000	0.000	64128.90000	64279.86000	63939.46000
PB	208	1.09700	2756.89000	8.100	1.11024	1.00266	1.17850
TL	203	0.52600	416.69000	32.900	0.46595	0.72053	0.39025
U	238	0.51700	1733.50000	3.700	0.50130	0.51204	0.53871
SC-1	45	377318.55000	0.00000	0.000	377072.69000	377258.63000	377624.33000
GE-1	72	676495.25000	0.00000	0.000	683561.01000	669722.02000	676202.72000
GE-2	72	28553.72000	0.00000	0.000	28383.19000	28533.75000	28744.21000
GE-3	72	1186864	0	0.000	1213297	1188675	1158619
TB-2	159	75749.90000	0.00000	0.000	74628.10000	75934.63000	76686.98000

Run Name: 1813101E05 Date/Time: 05/11/2018 7:48:02
Tube Number: 42
Sample Number: **ICSA**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	9382.81000	0.00000	0.000	9212.60000	9442.88000	9492.94000
SC-3	45	1430302	0	0.000	1461467	1417690	1411749
AL	27	9443.66700	44801.95000	0.800	9461.47250	9510.01684	9359.51236
B	11	20.58700	17047.74000	3.100	19.99928	21.25132	20.51173
BE	9	-0.00200	6.67000	0.000	0.00675	-0.00729	-0.00567
CA	44	9318.46500	5084.28000	2.300	9075.41929	9383.09840	9496.87842
CR	52	0.32300	146.67000	49.400	0.31013	0.17027	0.48835
FE	57	9534.79600	53263.53000	2.300	9308.39715	9556.12713	9739.86438
K	39	9404.06600	88902.84000	1.400	9259.69307	9426.95118	9525.55392
MG	24	9405.33400	179484.72000	2.300	9154.78824	9563.67833	9497.53605
MN	55	0.07100	43.33000	209.300	0.04565	0.23131	-0.06338
NA	23	9272.53200	381669.04000	1.000	9163.25719	9342.83632	9311.50235
TI	47	206.91300	960.07000	3.100	201.98852	214.20175	204.54785
V	51	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
IN-1	115	339631.61000	0.00000	0.000	341797.58000	343184.86000	333912.38000
IN-2	115	11944.21000	0.00000	0.000	11644.07000	12134.10000	12054.45000
AG	107	0.00800	6.67000	173.200	0.00000	0.02299	0.00000
AS	75	0.00300	2.00000	2297.300	-0.06244	0.00256	0.06842
BA	137	-0.12300	0.00000	0.000	-0.12315	-0.12315	-0.12315
CD	111	0.00000	1.33000	0.000	0.00886	-0.01697	0.00798
CO	59	-0.04000	36.67000	0.000	-0.01776	-0.08109	-0.02043
CU	63	-0.00700	46.67000	0.000	0.12742	-0.07416	-0.07404
MO	98	184.91900	73184.13000	2.200	185.42839	180.60911	188.71913
NI	60	-0.04800	10.00000	0.000	-0.09905	0.05292	-0.09905
SB	121	0.04100	6.67000	173.200	0.00000	0.00000	0.12225
SE	78	0.01800	3.33000	64.400	0.02430	0.00464	0.02523
SN	120	0.20100	53.34000	69.700	0.03926	0.28105	0.28328
SR	88	0.09900	10.00000	2.200	0.10155	0.09745	0.09809
ZN	66	-0.23400	3.33000	0.000	-0.10576	-0.29819	-0.29819
BI-2	209	66063.91000	0.00000	0.000	65705.65000	66117.69000	66368.38000
PB	208	0.00200	53.33000	236.700	-0.00264	0.00118	0.00893
TL	203	0.00800	13.33000	171.000	0.01682	-0.00819	0.01657
U	238	0.00200	6.67000	86.600	0.00291	0.00000	0.00288
SC-1	45	379124.13000	0.00000	0.000	382381.95000	375005.85000	379984.60000
GE-1	72	684493.77000	0.00000	0.000	684690.30000	689463.43000	679327.57000
GE-2	72	29258.20000	0.00000	0.000	28383.28000	29876.06000	29515.25000
GE-3	72	1184953	0	0.000	1206701	1174937	1173222
TB-2	159	74106.10000	0.00000	0.000	73694.61000	73241.84000	75381.84000

Run Name: 1813101E05 Date/Time: 05/11/2018 7:51:07
Tube Number: 43
Sample Number: **ICSAB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	9232.73000	0.00000	0.000	9502.98000	9562.84000	8632.38000
SC-3	45	1442985	0	0.000	1451409	1472661	1404885
AL	27	9691.66000	45106.24000	8.200	9151.39507	9318.03945	10605.54471
B	11	18.85000	16054.89000	2.200	19.30790	18.48113	18.76134
BE	9	-0.00300	5.33000	0.000	-0.00729	-0.00264	0.00083
CA	44	9331.11000	4980.92000	14.700	8688.87105	8400.17849	10904.28055
CR	52	20.81200	6368.08000	11.200	18.15405	22.45356	21.82967
FE	57	9770.07500	53507.77000	9.200	9234.86526	9270.68295	10804.67636
K	39	9543.47000	88437.06000	9.000	8923.54604	9179.57544	10527.28715
MG	24	9645.26400	180568.03000	7.800	9052.74965	9393.23805	10489.80360
MN	55	18.37800	1863.51000	16.000	16.54102	16.82110	21.77303
NA	23	9528.30400	384816.19000	6.800	9145.74548	9160.27601	10278.89138
TI	47	192.78400	880.06000	4.700	202.20344	184.01578	192.13325
V	51	0.04400	10.00000	96.700	0.00000	0.08494	0.04705
IN-1	115	341597.36000	0.00000	0.000	336940.78000	339880.00000	347971.30000
IN-2	115	11720.86000	0.00000	0.000	11464.33000	11834.19000	11864.05000
AG	107	18.97100	15947.85000	2.700	18.62002	19.55977	18.73390
AS	75	18.69100	557.34000	5.100	18.78816	19.59859	17.68770
BA	137	-0.12300	0.00000	0.000	-0.12315	-0.12315	-0.12315
CD	111	18.70300	1459.41000	4.100	18.08743	19.55508	18.46623
CO	59	19.51100	12591.65000	2.900	19.49378	18.95871	20.08114
CU	63	19.98800	11067.15000	2.100	20.46271	19.65859	19.84198
MO	98	188.80700	73311.97000	2.300	193.30611	188.56909	184.54586
NI	60	19.05600	3650.51000	4.800	20.06341	18.80967	18.29579
SB	121	0.02100	3.33000	173.200	0.00000	0.00000	0.06211
SE	78	0.00900	2.44000	166.000	-0.00821	0.01793	0.01716
SN	120	0.35900	83.34000	55.800	0.14496	0.54189	0.38943
SR	88	0.03400	3.33000	173.200	0.10314	0.00000	0.00000
ZN	66	17.33700	923.40000	9.000	15.72900	18.82580	17.45567
BI-2	209	64280.10000	0.00000	0.000	62654.25000	63536.98000	66649.06000
PB	208	-0.00200	40.00000	0.000	-0.00601	-0.01027	0.00881
TL	203	0.00900	13.33000	329.900	-0.00819	0.04354	-0.00819
U	238	0.00200	6.67000	86.700	0.00305	0.00000	0.00287
SC-1	45	378717.23000	0.00000	0.000	374132.96000	379436.87000	382581.87000
GE-1	72	678167.13000	0.00000	0.000	674059.05000	678071.01000	682371.32000
GE-2	72	29558.75000	0.00000	0.000	27812.57000	30106.29000	30757.40000
GE-3	72	1196321	0	0.000	1212661	1199145	1177157
TB-2	159	75833.88000	0.00000	0.000	74316.98000	78094.22000	75090.43000

Run Name: 1813101E05 Date/Time: 05/11/2018 7:54:12
Tube Number: 44
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	9903.07000	0.00000	0.000	9502.78000	9873.07000	10333.36000
SC-3	45	1425334	0	0.000	1441622	1413345	1421034
AL	27	2197.60400	10993.70000	8.500	2410.45955	2115.38728	2066.96496
B	11	260.07500	173221.92000	0.800	261.46404	260.96680	257.79395
BE	9	24.58100	30741.61000	0.900	24.64629	24.76626	24.33012
CA	44	2301.80300	1330.11000	4.400	2414.72437	2271.23363	2219.45162
CR	52	233.25700	76076.82000	3.800	243.24059	230.31572	226.21377
FE	57	2261.65900	13315.39000	5.200	2315.15464	2342.39285	2127.42877
K	39	2176.55500	24076.63000	1.700	2220.26081	2153.08386	2156.32000
MG	24	2190.53000	44056.58000	4.700	2288.96720	2199.60186	2083.01987
MN	55	233.58500	25111.65000	1.100	234.10222	230.73750	235.91532
NA	23	2203.69500	98236.09000	4.700	2294.80432	2224.68368	2091.59654
TI	47	211.99700	1033.42000	18.600	257.55318	190.52684	187.91182
V	51	237.57900	57893.32000	3.200	239.11347	244.38436	229.23833
IN-1	115	330131.92000	0.00000	0.000	329812.91000	331816.85000	328766.01000
IN-2	115	11311.47000	0.00000	0.000	11207.76000	11004.86000	11721.78000
AG	107	26.34400	21363.93000	1.000	26.28348	26.64101	26.10777
AS	75	249.70300	7160.15000	2.600	251.35682	255.13121	242.61970
BA	137	263.62200	13656.07000	6.700	252.35362	284.00343	254.50845
CD	111	25.36700	1908.78000	1.000	25.50715	25.51296	25.08071
CO	59	249.94100	154901.53000	2.400	246.41548	256.78404	246.62497
CU	63	252.05400	134064.53000	3.600	248.79742	262.39470	244.96879
MO	98	25.87100	9696.42000	3.100	24.99457	26.58061	26.03673
NI	60	249.97300	46003.25000	2.700	245.25199	257.55749	247.10828
SB	121	25.41500	3903.97000	8.200	23.01376	26.38479	26.84616
SE	78	23.14200	2284.15000	1.500	23.44943	23.22702	22.75042
SN	120	23.33800	4434.11000	5.400	22.14193	24.66667	23.20511
SR	88	24.41400	2333.59000	3.800	24.58431	25.25237	23.40538
ZN	66	239.97100	12111.24000	7.600	236.48913	259.80283	223.62067
BI-2	209	66583.25000	0.00000	0.000	67001.26000	66740.73000	66007.77000
PB	208	25.01000	64236.53000	2.800	24.22593	25.53952	25.26445
TL	203	25.23500	20450.53000	3.600	24.84445	24.58388	26.27789
U	238	24.61700	85658.19000	1.500	24.49845	24.31145	25.04170
SC-1	45	371738.63000	0.00000	0.000	376846.40000	370546.91000	367822.57000
GE-1	72	657865.55000	0.00000	0.000	664680.69000	652670.19000	656245.77000
GE-2	72	29759.25000	0.00000	0.000	29245.45000	30266.55000	29765.76000
GE-3	72	1177390	0	0.000	1204171	1162697	1165301
TB-2	159	75543.26000	0.00000	0.000	73937.06000	76255.46000	76437.25000

Run Name: 1813101E05 Date/Time: 05/11/2018 7:57:18
Tube Number: 45
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-2	45	9112.64000	0.00000	0.000	8992.56000	9312.80000	9032.57000
SC-3	45	1411137	0	0.000	1421608	1381661	1430143
AL	27	2.43800	26.67000	189.000	7.62559	0.87409	-1.18440
B	11	24.03700	19048.32000	2.900	24.53464	24.32223	23.25455
BE	9	-0.00300	5.33000	0.000	-0.00087	-0.00564	-0.00250
CA	44	-2.18200	6.67000	0.000	-14.89825	-14.89825	23.24939
CR	52	0.20600	106.67000	105.500	0.45643	0.07698	0.08406
FE	57	3.65100	20.00000	98.800	3.73647	7.21597	0.00000
K	39	-7.52200	2770.33000	0.000	6.77343	-19.88850	-9.45062
MG	24	0.04700	6.67000	656.800	0.23584	0.21703	-0.31107
MN	55	0.08500	43.33000	503.300	-0.25236	-0.05774	0.56439
NA	23	8.58500	3517.13000	36.400	10.07154	4.99262	10.69149
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.01500	3.33000	173.200	0.00000	0.04361	0.00000
IN-1	115	330057.93000	0.00000	0.000	330715.27000	332944.56000	326513.96000
IN-2	115	11643.84000	0.00000	0.000	11233.60000	11824.08000	11873.85000
AG	107	0.02000	16.67000	32.400	0.01241	0.02359	0.02349
AS	75	0.16400	6.67000	86.000	0.21840	0.27108	0.00399
BA	137	-0.12300	0.00000	0.000	-0.12315	-0.12315	-0.12315
CD	111	-0.01700	0.00000	0.000	-0.01697	-0.01697	-0.01697
CO	59	-0.00700	56.67000	0.000	0.03385	-0.01895	-0.03465
CU	63	0.20600	163.34000	26.500	0.19222	0.16006	0.26644
MO	98	0.11100	43.34000	112.200	0.05373	0.02552	0.25418
NI	60	-0.06500	6.67000	0.000	-0.09905	-0.09905	0.00448
SB	121	0.44000	70.00000	35.700	0.26237	0.56085	0.49644
SE	78	0.03300	4.67000	55.600	0.01215	0.03871	0.04664
SN	120	0.43500	96.67000	28.400	0.57424	0.34049	0.38905
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
ZN	66	-0.16500	6.67000	0.000	0.10072	-0.29819	-0.29819
BI-2	209	64470.82000	0.00000	0.000	63918.51000	64431.09000	65062.85000
PB	208	-0.00500	33.33000	0.000	-0.01032	-0.00233	-0.00249
TL	203	0.03400	33.33000	77.900	0.05609	0.04283	0.00444
U	238	0.00600	20.00000	50.600	0.00898	0.00297	0.00588
SC-1	45	367707.40000	0.00000	0.000	368215.35000	368363.74000	366543.12000
GE-1	72	666119.86000	0.00000	0.000	667492.10000	664832.72000	666034.76000
GE-2	72	28834.41000	0.00000	0.000	27011.53000	29635.69000	29856.01000
GE-3	72	1179348	0	0.000	1192215	1177692	1168136
TB-2	159	74749.07000	0.00000	0.000	75261.07000	74999.82000	73986.31000

Tune Report

Batch Folder D:\Agilent\ICPMH\1\DATA\~EPATUNE.b
Report Comment ICP-MS #19204 (E05) Daily Tune Check
Instrument Name G3281A JP12071581

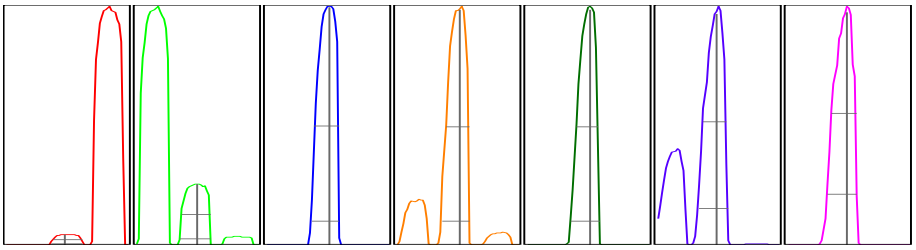
[No Gas]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
6		5214	5214.30			NaN	-	
24		19521	19520.98			NaN	-	
103		72255	72255.41			NaN	-	
115		75278	75277.64			NaN	-	
140		80154	80154.21			NaN	-	
208		37692	37692.31			NaN	-	
238		79720	79720.46			NaN	-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)	Background (Actual)	Background (Required)	Background (Flag)
6	2.34	5.00				
24	2.31	5.00				
103	0.93	5.00				
115	0.89	5.00				
140	1.10	5.00				
208	0.89	5.00				
238	0.82	5.00				

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
6	5055	5127	5235	5339	5316
24	19023	19057	19771	19741	20013
103	71868	72228	71730	72046	73405
115	74615	75451	74923	75054	76344
140	79261	79505	80281	80196	81528
208	37791	37533	37328	37595	38215
238	79214	79710	79648	79222	80808

Integration Time [sec] 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-X% (Actual)	W-X% (Required)	W-X% (Flag)
6	786.03	5.95	5.9 - 6.1		0.69	0.780	0.900	
24	2982.29	24.00	23.9 - 24.1		0.68	0.743	0.900	
103	13007.02	103.05	102.9 - 103.1		0.58	0.677	0.900	
115	13811.18	115.05	114.9 - 115.1		0.57	0.684	0.900	
140	15373.43	140.05	139.9 - 140.1		0.54	0.695	0.900	
208	7001.72	207.95	207.9 - 208.1		0.55	0.717	0.900	
238	14551.85	237.95	237.9 - 238.1		0.57	0.714	0.900	

X = 10 **Integration Time [sec]** 0.1 **Acquisition Time [sec]** 260.8 **Y Axis** Linear

Tune Parameters
Plasma Paramters

RF Power	1600 W	Carrier Gas	0.25 L/min	S/C Temp	20 ℃
RF Matching	0.80 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.80 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Tune Report

Extract 1		0.0 V	Omega Lens			6.1 V	Deflect		16.8 V	
Extract 2		-160.0 V	Cell Entrance			-30 V	Plate Bias		-40 V	
Mass	**Peak Height**	**Axis (Actual)**	**Axis (Required)**	**Axis (Flag)**	**W-50%**	**W-X% (Actual)**	**W-X% (Required)**	**W-X% (Flag)**		
Omega Bias		-75 V	Cell Exit			-50 V				

Cell Parameters

OctP Bias	-6.0 V	He Flow	0.0 mL/min	Energy Discrimination	5.0 V
OctP RF	200 V	H2 Flow	0.0 mL/min		
Use Gas	false	3rd Gas Flow	0 %		

Mercury Data

Metals in Liquid

eurofins | Lancaster Laboratories Environmental

Mercury Run Data Report

Data File Name: 1811602.M07

Run Name: 1811601M07

Instrument No.: 17384

Element: Hg

Analyst Employee ID: 354

Reviewed By
Damary Valentin

Reviewed Date
04/26/2018 1:09PM

Method Reference Name(s):
SW-846 7470A

Verified By:
Tara L Snyder

Verified Date
04/29/2018 10:49PM

LANCASTER LABORATORIES

Run Name: 1811601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

1 Burn Date/Time: 04/26/2018 07:02

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0		1	1	1.00

AVG (ppb)	Intensity
0.0000	57.0

2 Burn Date/Time: 04/26/2018 07:04

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0.2		1	1	1.00

AVG (ppb)	Intensity
0.0000	1545.0

3 Burn Date/Time: 04/26/2018 07:06

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0.5		1	1	1.00

AVG (ppb)	Intensity
0.0000	3528.0

4 Burn Date/Time: 04/26/2018 07:08

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S1.0		1	1	1.00

AVG (ppb)	Intensity
0.0000	6776.0

5 Burn Date/Time: 04/26/2018 07:10

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S2.5		1	1	1.00

AVG (ppb)	Intensity
0.0000	16189.0

6 Burn Date/Time: 04/26/2018 07:12

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S5.0		1	1	1.00

AVG (ppb)	Intensity
0.0000	32440.0

CorrelationCoefficient = 1.00000
Slope = 6439.4846300000
Y-Intercept = 215.2902400000

LANCASTER LABORATORIES

Run Name: 1811601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

7 Burn Date/Time: 04/26/2018 07:14

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
ICV		1	1	1.00

AVG (ppb)	Intensity
2.3894	15602.0

8 Burn Date/Time: 04/26/2018 07:16

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
ICB		1	1	1.00

AVG (ppb)	Intensity
-0.0462	-83.0

9 Burn Date/Time: 04/26/2018 07:18

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CRA		1	1	1.00

AVG (ppb)	Intensity
0.1903	1440.0

10 Burn Date/Time: 04/26/2018 07:20

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 1		1	1	1.00

AVG (ppb)	Intensity
1.0035	6677.0

11 Burn Date/Time: 04/26/2018 07:22

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 1		1	1	1.00

AVG (ppb)	Intensity
-0.0311	14.0

12 Burn Date/Time: 04/26/2018 07:26

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	181130571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0313	13.0		

LANCASTER LABORATORIES

Run Name: 1811601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

13 Burn Date/Time: 04/26/2018 07:28

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	181130571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9229	6158.0		

14 Burn Date/Time: 04/26/2018 07:30

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9570357	U*********	40	40	1.00	181130571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0358	-16.0		

15 Burn Date/Time: 04/26/2018 07:32

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9570357	D*********	40	40	1.00	181130571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0297	23.0		

16 Burn Date/Time: 04/26/2018 07:34

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9570357	R*********	40	40	1.00	181130571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9002	6012.0		

17 Burn Date/Time: 04/26/2018 07:36

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9570357	M*********	40	40	1.00	181130571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.8981	5998.0		

18 Burn Date/Time: 04/26/2018 07:38

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9570341	**********	40	40	1.00	181130571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0140	124.0		

LANCASTER LABORATORIES

Run Name: 1811601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

19 Burn Date/Time: 04/26/2018 07:40

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9570342	**********	40	40	1.00	181130571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0325	5.0		

20 Burn Date/Time: 04/26/2018 07:42

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9570347	**********	40	40	1.00	181130571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0302	20.0		

21 Burn Date/Time: 04/26/2018 07:44

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9570348	**********	40	40	1.00	181130571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0299	22.0		

22 Burn Date/Time: 04/26/2018 07:46

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 2		1	1	1.00

AVG (ppb)	Intensity
1.0212	6791.0

23 Burn Date/Time: 04/26/2018 07:48

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 2		1	1	1.00

AVG (ppb)	Intensity
-0.0289	28.0

24 Burn Date/Time: 04/26/2018 07:51

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9570349	**********	40	40	1.00	181130571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0325	5.0		

LANCASTER LABORATORIES

Run Name: 1811601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

25 Burn Date/Time: 04/26/2018 07:53

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9570350	**********	40	40	1.00	181130571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0305	18.0		

26 Burn Date/Time: 04/26/2018 07:55

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9570352	**********	40	40	1.00	181130571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0303	19.0		

27 Burn Date/Time: 04/26/2018 07:57

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9570355	**********	40	40	1.00	181130571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0303	19.0		

28 Burn Date/Time: 04/26/2018 07:59

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9570356	**********	40	40	1.00	181130571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0286	30.0		

29 Burn Date/Time: 04/26/2018 08:01

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9570358	**********	40	40	1.00	181130571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0296	24.0		

30 Burn Date/Time: 04/26/2018 08:03

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9570359	**********	40	40	1.00	181130571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0283	32.0		

LANCASTER LABORATORIES

Run Name: 1811601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

31 Burn Date/Time: 04/26/2018 08:05

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9570360	**********	40	40	1.00	181130571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0294	25.0		

32 Burn Date/Time: 04/26/2018 08:07

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9570361	**********	40	40	1.00	181130571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0300	21.0		

33 Burn Date/Time: 04/26/2018 08:09

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9570362	**********	40	40	1.00	181130571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0296	24.0		

34 Burn Date/Time: 04/26/2018 08:11

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 3		1	1	1.00

AVG (ppb)	Intensity
1.0041	6681.0

35 Burn Date/Time: 04/26/2018 08:13

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 3		1	1	1.00

AVG (ppb)	Intensity
-0.0293	26.0

36 Burn Date/Time: 04/26/2018 08:15

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9570363	**********	40	40	1.00	181130571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0272	39.0		

LANCASTER LABORATORIES

Run Name: 1811601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

37 Burn Date/Time: 04/26/2018 08:17

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9570364	**********	40	40	1.00	181130571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0310	15.0		

38 Burn Date/Time: 04/26/2018 08:19

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9570366	**********	40	40	1.00	181130571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0097	152.0		

39 Burn Date/Time: 04/26/2018 08:21

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9570367	**********	40	40	1.00	181130571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0328	3.0		

40 Burn Date/Time: 04/26/2018 08:23

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9570368	**********	40	40	1.00	181130571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0307	17.0		

41 Burn Date/Time: 04/26/2018 08:25

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	181140571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0328	3.0		

42 Burn Date/Time: 04/26/2018 08:27

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	181140571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.8571	5734.0		

LANCASTER LABORATORIES

Run Name: 1811601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

43 Burn Date/Time: 04/26/2018 08:29

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9573404	U*********	40	40	1.00	181140571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0164	320.0		

44 Burn Date/Time: 04/26/2018 08:31

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9573404	D*********	40	40	1.00	181140571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0159	317.0		

45 Burn Date/Time: 04/26/2018 08:33

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9573404	R*********	40	40	1.00	181140571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.8853	5916.0		

46 Burn Date/Time: 04/26/2018 08:35

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 4		1	1	1.00

AVG (ppb)	Intensity
1.0128	6737.0

47 Burn Date/Time: 04/26/2018 08:37

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 4		1	1	1.00

AVG (ppb)	Intensity
-0.0291	27.0

48 Burn Date/Time: 04/26/2018 08:39

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9573404	M*********	40	40	1.00	181140571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.8875	5930.0		

LANCASTER LABORATORIES

Run Name: 1811601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

49 Burn Date/Time: 04/26/2018 08:41

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9567632	**********	40	40	1.00	181140571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0342	-6.0		

50 Burn Date/Time: 04/26/2018 08:43

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9567633	**********	40	40	1.00	181140571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0322	7.0		

51 Burn Date/Time: 04/26/2018 08:45

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9567635	**********	40	40	1.00	181140571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0335	-1.0		

52 Burn Date/Time: 04/26/2018 08:47

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9567636	**********	40	40	1.00	181140571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0341	-5.0		

53 Burn Date/Time: 04/26/2018 08:49

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9568809	**********	40	40	1.00	181140571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0311	14.0		

54 Burn Date/Time: 04/26/2018 08:52

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9568810	**********	40	40	1.00	181140571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0310	15.0		

LANCASTER LABORATORIES

Run Name: 1811601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

55 Burn Date/Time: 04/26/2018 08:54

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9568811	**********	40	40	1.00	181140571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0310	15.0		

56 Burn Date/Time: 04/26/2018 08:56

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9568812	**********	40	40	1.00	181140571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0297	23.0		

57 Burn Date/Time: 04/26/2018 08:58

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9570220	**********	40	40	1.00	181140571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0234	64.0		

58 Burn Date/Time: 04/26/2018 09:00

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 5		1	1	1.00

AVG (ppb)	Intensity
0.9960	6629.0

59 Burn Date/Time: 04/26/2018 09:02

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 5		1	1	1.00

AVG (ppb)	Intensity
-0.0291	27.0

60 Burn Date/Time: 04/26/2018 09:04

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9570222	**********	40	40	1.00	181140571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0297	23.0		

LANCASTER LABORATORIES

Run Name: 1811601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

61 Burn Date/Time: 04/26/2018 09:06

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9570224	**********	40	40	1.00	181140571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0319	9.0		

62 Burn Date/Time: 04/26/2018 09:08

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9570226	**********	40	40	1.00	181140571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0302	20.0		

63 Burn Date/Time: 04/26/2018 09:10

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9570228	**********	40	40	1.00	181140571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0314	12.0		

64 Burn Date/Time: 04/26/2018 09:12

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9570236	**********	40	40	1.00	181140571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0327	4.0		

65 Burn Date/Time: 04/26/2018 09:14

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9570237	**********	40	40	1.00	181140571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0282	33.0		

66 Burn Date/Time: 04/26/2018 09:16

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9570238	**********	40	40	1.00	181140571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0322	7.0		

LANCASTER LABORATORIES

Run Name: 1811601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

67 Burn Date/Time: 04/26/2018 09:18

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9573405	**********	40	40	1.00	181140571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0307	17.0		

68 Burn Date/Time: 04/26/2018 09:20

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	181120571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0299	22.0		

69 Burn Date/Time: 04/26/2018 09:22

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	181120571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.8822	5896.0		

70 Burn Date/Time: 04/26/2018 09:24

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 6		1	1	1.00

AVG (ppb)	Intensity
0.9898	6589.0

71 Burn Date/Time: 04/26/2018 09:26

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 6		1	1	1.00

AVG (ppb)	Intensity
-0.0288	29.0

72 Burn Date/Time: 04/26/2018 09:28

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSWD	**********	1	1	1.00	181120571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.8830	5901.0		

LANCASTER LABORATORIES

Run Name: 1811601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

73 Burn Date/Time: 04/26/2018 09:30

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9563122	**********	4	40	1.00	181120571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0414	-52.0		

74 Burn Date/Time: 04/26/2018 09:32

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9569167	**********	40	40	1.00	181120571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0307	17.0		

75 Burn Date/Time: 04/26/2018 09:34

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9569168	**********	40	40	1.00	181120571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0294	25.0		

76 Burn Date/Time: 04/26/2018 09:36

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9569169	**********	40	40	1.00	181120571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0303	19.0		

77 Burn Date/Time: 04/26/2018 09:39

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9569170	**********	40	40	1.00	181120571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0263	45.0		

78 Burn Date/Time: 04/26/2018 09:41

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9569173	**********	1	40	1.04	181120571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0313	13.0		

LANCASTER LABORATORIES

Run Name: 1811601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

79 Burn Date/Time: 04/26/2018 09:43

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	181140571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0296	24.0		

80 Burn Date/Time: 04/26/2018 09:45

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	181140571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9096	6072.0		

81 Burn Date/Time: 04/26/2018 09:47

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9572654	U*********	40	40	1.00	181140571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0344	-7.0		

82 Burn Date/Time: 04/26/2018 09:49

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 7		1	1	1.00

AVG (ppb)	Intensity
0.9988	6647.0

83 Burn Date/Time: 04/26/2018 09:51

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 7		1	1	1.00

AVG (ppb)	Intensity
-0.0285	31.0

84 Burn Date/Time: 04/26/2018 10:04

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9572657	D*********	40	40	1.00	181140571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0286	30.0		

LANCASTER LABORATORIES

Run Name: 1811601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

85 Burn Date/Time: 04/26/2018 10:06

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9572655	R*********	40	40	1.00	181140571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9304	6206.0		

86 Burn Date/Time: 04/26/2018 10:08

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9572656	M*********	40	40	1.00	181140571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9263	6180.0		

87 Burn Date/Time: 04/26/2018 10:10

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9567671	**********	40	40	1.00	181140571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0015	205.0		

88 Burn Date/Time: 04/26/2018 10:12

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9567672	**********	40	40	1.00	181140571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0122	136.0		

89 Burn Date/Time: 04/26/2018 10:14

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9567673	**********	40	40	1.00	181140571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0327	4.0		

90 Burn Date/Time: 04/26/2018 10:16

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9567917	**********	40	40	1.00	181140571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	3.1762	20669.0		

LANCASTER LABORATORIES

Run Name: 1811601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

91 Burn Date/Time: 04/26/2018 10:18

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9567920	**********	40	40	1.00	181140571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0516	-118.0		

92 Burn Date/Time: 04/26/2018 10:20

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9570273	**********	40	40	1.00	181140571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.2906	2086.0		

93 Burn Date/Time: 04/26/2018 10:22

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9570274	**********	40	40	1.00	181140571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0331	1.0		

94 Burn Date/Time: 04/26/2018 10:24

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 8		1	1	1.00

AVG (ppb)	Intensity
1.0099	6718.0

95 Burn Date/Time: 04/26/2018 10:26

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 8		1	1	1.00

AVG (ppb)	Intensity
-0.0111	143.0

96 Burn Date/Time: 04/26/2018 10:28

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9572651	**********	40	40	1.00	181140571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.1105	926.0		

LANCASTER LABORATORIES

Run Name: 1811601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

97 Burn Date/Time: 04/26/2018 10:30

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9572653	**********	40	40	1.00	181140571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0246	56.0		

98 Burn Date/Time: 04/26/2018 10:32

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9572658	**********	40	40	1.00	181140571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0317	10.0		

99 Burn Date/Time: 04/26/2018 10:39

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	181120571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0237	62.0		

100 Burn Date/Time: 04/26/2018 10:41

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	181120571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9080	6062.0		

101 Burn Date/Time: 04/26/2018 10:43

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9564799	U*********	40	40	1.00	181120571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0381	-31.0		

102 Burn Date/Time: 04/26/2018 10:45

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9564799	D*********	40	40	1.00	181120571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0308	16.0		

LANCASTER LABORATORIES

Run Name: 1811601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

103 Burn Date/Time: 04/26/2018 10:47

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9564799	R*********	4	40	1.00	181120571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.6353	10746.0		

104 Burn Date/Time: 04/26/2018 10:49

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9564799	M*********	4	40	1.00	181120571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.5636	10284.0		

105 Burn Date/Time: 04/26/2018 10:51

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9562252	U*1*******	40	40	1.00	181120571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0429	-62.0		

106 Burn Date/Time: 04/26/2018 10:53

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 9		1	1	1.00

AVG (ppb)	Intensity
0.9982	6643.0

107 Burn Date/Time: 04/26/2018 10:55

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 9		1	1	1.00

AVG (ppb)	Intensity
-0.0114	141.0

108 Burn Date/Time: 04/26/2018 10:57

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9562252	R*1*******	4	40	1.00	181120571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.6479	10827.0		

LANCASTER LABORATORIES

Run Name: 1811601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

109 Burn Date/Time: 04/26/2018 11:00

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9564671	**********	40	40	1.00	181120571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0429	-62.0		

110 Burn Date/Time: 04/26/2018 11:02

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9564802	U*2*******	40	40	1.00	181120571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0300	21.0		

111 Burn Date/Time: 04/26/2018 11:04

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9564802	R*2*******	4	40	1.00	181120571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.6665	10947.0		

112 Burn Date/Time: 04/26/2018 11:06

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9567511	U*3*******	40	40	1.00	181120571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0387	-35.0		

113 Burn Date/Time: 04/26/2018 11:08

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9567511	R*3*******	4	40	1.00	181120571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.3973	9213.0		

114 Burn Date/Time: 04/26/2018 11:10

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9568355	**********	40	40	1.00	181120571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0412	-51.0		

LANCASTER LABORATORIES

Run Name: 1811601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

115 Burn Date/Time: 04/26/2018 11:12

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9568356	**********	40	40	1.00	181120571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0195	89.0		

116 Burn Date/Time: 04/26/2018 11:14

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9568357	**********	40	40	1.00	181120571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0317	10.0		

117 Burn Date/Time: 04/26/2018 11:16

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9569155	**********	40	40	1.00	181120571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0300	21.0		

118 Burn Date/Time: 04/26/2018 11:18

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 10		1	1	1.00

AVG (ppb)	Intensity
0.9838	6550.0

119 Burn Date/Time: 04/26/2018 11:20

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 10		1	1	1.00

AVG (ppb)	Intensity
-0.0114	141.0

120 Burn Date/Time: 04/26/2018 11:22

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9569156	**********	40	40	1.00	181120571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0316	11.0		

LANCASTER LABORATORIES

Run Name: 1811601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

121 Burn Date/Time: 04/26/2018 11:24

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9569157	**********	40	40	1.00	181120571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0310	15.0		

122 Burn Date/Time: 04/26/2018 11:26

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9569158	**********	40	40	1.00	181120571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0313	13.0		

123 Burn Date/Time: 04/26/2018 11:28

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9569159	**********	40	40	1.00	181120571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0305	18.0		

124 Burn Date/Time: 04/26/2018 11:30

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9569160	**********	40	40	1.00	181120571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0324	6.0		

125 Burn Date/Time: 04/26/2018 11:32

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9569161	**********	40	40	1.00	181120571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0296	24.0		

126 Burn Date/Time: 04/26/2018 11:34

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9569162	**********	40	40	1.00	181120571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0311	14.0		

LANCASTER LABORATORIES

Run Name: 1811601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

127 Burn Date/Time: 04/26/2018 11:36

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9569163	**********	40	40	1.00	181120571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0297	23.0		

128 Burn Date/Time: 04/26/2018 11:38

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9569164	**********	40	40	1.00	181120571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0293	26.0		

129 Burn Date/Time: 04/26/2018 11:40

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9569165	**********	40	40	1.00	181120571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0289	28.0		

130 Burn Date/Time: 04/26/2018 11:42

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 11		1	1	1.00

AVG (ppb)	Intensity
0.9898	6589.0

131 Burn Date/Time: 04/26/2018 11:44

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 11		1	1	1.00

AVG (ppb)	Intensity
-0.0108	145.0

132 Burn Date/Time: 04/26/2018 11:46

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9569166	**********	40	40	1.00	181120571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0322	7.0		

LANCASTER LABORATORIES

Run Name: 1811601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

133 Burn Date/Time: 04/26/2018 11:48

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	181150571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0246	56.0		

134 Burn Date/Time: 04/26/2018 11:50

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	181150571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9024	6026.0		

135 Burn Date/Time: 04/26/2018 11:52

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9568624	U*********	40	40	1.00	181150571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0338	-3.0		

136 Burn Date/Time: 04/26/2018 11:55

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9568624	D*********	40	40	1.00	181150571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0283	32.0		

137 Burn Date/Time: 04/26/2018 11:57

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9568624	R*********	4	40	1.00	181150571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.7550	11517.0		

138 Burn Date/Time: 04/26/2018 11:59

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9568624	M*********	4	40	1.00	181150571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.7175	11275.0		

LANCASTER LABORATORIES

Run Name: 1811601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

139 Burn Date/Time: 04/26/2018 12:01

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9566485	**********	40	40	1.00	181150571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0443	-71.0		

140 Burn Date/Time: 04/26/2018 12:03

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9567828	**********	40	40	1.00	181150571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0293	26.0		

141 Burn Date/Time: 04/26/2018 12:05

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9569694	U*1*******	40	40	1.00	181150571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0300	21.0		

142 Burn Date/Time: 04/26/2018 12:07

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 12		1	1	1.00

AVG (ppb)	Intensity
1.0198	6782.0

143 Burn Date/Time: 04/26/2018 12:09

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 12		1	1	1.00

AVG (ppb)	Intensity
-0.0116	140.0

144 Burn Date/Time: 04/26/2018 12:11

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9569694	R*1*******	4	40	1.00	181150571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.6456	10812.0		

LANCASTER LABORATORIES

Run Name: 1811601M07

Analyst ID: 354.00

Instrument ID: 17384

CV Element: Hg

145 Burn Date/Time: 04/26/2018 12:13

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9571184	**********	40	40	1.00	181150571302

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0392	-38.0		

146 Burn Date/Time: 04/26/2018 12:17

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 13		1	1	1.00

AVG (ppb)	Intensity
0.9858	6563.0

147 Burn Date/Time: 04/26/2018 12:19

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 13		1	1	1.00

AVG (ppb)	Intensity
-0.0147	120.0

Extraction/Distillation/Digestion Logs

Metals in Liquid

LLENS Worksheet for 1848 SW846 Water

Batch# 18 113 01848 07

Start Time: 4/24/18 23:22 **End Time:** 4/25/18 2:42 **Hot Block:** DEENA 4

Pipette ID: W/1000

Spike/Reagent	Lot#	Volume Added(mL)
1:1 HCL	P18-093C	5.00
1:1 HNO3	P18-082D	2.00
ICP Spike 1A	1804015#5	1.00
ICP Spike 1B	1804016#21	1.00
LCS A1	1804015#5	1.00
LCS B1	1804016#21	1.00

Method Ref:

	SampleID	Date Due	ST	P	H	Balance	PH<2	BC	Vessel Lot#	Location ID	Comments
1)	PBW	.									
2)	LCSW	.									
3)	9570341	05/02/18 17:55	WW	N8			Y	800A	1712272	WMET10/E10	
4)	9570342	05/02/18 17:55	WW	N8			Y	800A	1712272	WMET10/D9	
5)	9570347	05/02/18 17:55	WW	N8			Y	800A	1712272	WMET08/F1	
6)	9570348	05/02/18 17:55	WW	N8			Y	800A	1712272	WMET10/F10	
7)	**9570349U**	05/02/18 17:55	WW	N8			Y	800A	1712272	WMET08/A2	
8)	**9570349D**	05/02/18 17:55	WW	N8			Y	800B	1712272	WMET08/B2	
9)	**9570349R**	05/02/18 17:55	WW	N8			Y	800C	1712272	WMET08/C2	
10)	**9570349M**	05/02/18 17:55	WW	N8			Y	800D	1712272	WMET08/E2	
11)	9570350	05/02/18 17:55	WW	N8			Y	800A	1712272	WMET10/F9	
12)	9570352EB	05/02/18 17:55	WW	N8			Y	800A	1712272	WMET10/E9	
13)	9570355	05/02/18 17:55	WW	N8			Y	800A	1712272	WMET08/E4	
14)	9570356	05/02/18 17:55	WW	N8			Y	800A	1712272	WMET08/D4	
15)	9570357	05/02/18 17:55	WW	N8			Y	800A	1712272	WMET08/C4	
16)	9570358	05/02/18 17:55	WW	N8			Y	800A	1712272	WMET08/A3	
17)	9570359	05/02/18 17:55	WW	N8			Y	800A	1712272	WMET08/C5	
18)	9570360	05/02/18 17:55	WW	N8			Y	800A	1712272	WMET08/B5	
19)	9570361	05/02/18 17:55	WW	N8			Y	800A	1712272	WMET08/E4	
20)	9570362	05/02/18 17:55	WW	N8			Y	800A	1712272	WMET10/D10	
21)	9570363	05/02/18 17:55	WW	N8			Y	800A	1712272	WMET08/C3	
22)	9570364	05/02/18 17:55	WW	N8			Y	800A	1712272	WMET08/F3	
23)	9570366	05/02/18 17:55	WW	N8			Y	800A	1712272	WMET08/B4	
24)	9570367	05/02/18 17:55	WW	N8			Y	800A	1712272	WMET08/A4	

Prep Employee:277 D/I _____

4/25/2018

v 1.1.0

SampleID	Date Due	ST	P	H	Balance	PH<2	BC	Vessel Lot#	Location ID	Comments
25) 9570368EB	05/02/18 17:55	WW	N8			Y	800A	1712272	WMET08/F2	

Batch# 18 113 0184 807

LLENS Batch Chronology and Change Log - SW846 Water

	Operation	Instrument	Operation Date	ANALYST
1)	Batch Creation		4/23/18 13:53	277
2)	Sample Vol		4/25/18 3:04	277
3)	Final Vol	CLEAR	4/25/18 3:04	277
4)	Trial		4/25/18 3:04	277
5)	Upload Prep	US19PCC0678	4/25/18 3:04	277

Sample ID	Analysis	D	Operation	Measurement	Original Entry				Data Changed		
					Date/Time	Data	Units	Analyst	Date/Time	Analyst	Reason

Analysis: 1848 SW846 Water

Batch# 18 113 0184 807

Sample ID	Due Date	P	EPA#	SDG#	Initial Volume	Final Volume	Trial
PBW					50.0000	50.0000	1
LCSW					1.0000	1.0000	1
9570341	05/02/18	N8	A8501	ATH85-01	50.0000	50.0000	1
9570342	05/02/18	N8	A8502	ATH85-02	50.0000	50.0000	1
9570347	05/02/18	N8	A8507	ATH85-07	50.0000	50.0000	1
9570348	05/02/18	N8	A8508	ATH85-08	50.0000	50.0000	1
9570349U	05/02/18	N8	A8509	ATH85-09	50.0000	50.0000	1
9570349D	05/02/18	N8	A8509	ATH85-09	50.0000	50.0000	1
9570349R	05/02/18	N8	A8509	ATH85-09	50.0000	50.0000	1
9570349M	05/02/18	N8	A8509	ATH85-09	50.0000	50.0000	1
9570350	05/02/18	N8	A8510	ATH85-10	50.0000	50.0000	1
9570352EB	05/02/18	N8	A8512	ATH85-12EB	50.0000	50.0000	1
9570355	05/02/18	N8	A8602	ATH86-02	50.0000	50.0000	1
9570356	05/02/18	N8	A8603	ATH86-03	50.0000	50.0000	1
9570357	05/02/18	N8	A8604	ATH86-04	50.0000	50.0000	1
9570358	05/02/18	N8	A8605	ATH86-05	50.0000	50.0000	1
9570359	05/02/18	N8	A8606	ATH86-06	50.0000	50.0000	1
9570360	05/02/18	N8	A8607	ATH86-07	50.0000	50.0000	1
9570361	05/02/18	N8	A8608	ATH86-08	50.0000	50.0000	1
9570362	05/02/18	N8	A8609	ATH86-09	50.0000	50.0000	1
9570363	05/02/18	N8	A8610	ATH86-10	50.0000	50.0000	1
9570364	05/02/18	N8	A8611	ATH86-11	50.0000	50.0000	1
9570366	05/02/18	N8	A8613	ATH86-13	50.0000	50.0000	1
9570367	05/02/18	N8	A8614	ATH86-14	50.0000	50.0000	1
9570368EB	05/02/18	N8	A8615	ATH86-15EB	50.0000	50.0000	1

LLENS Worksheet for 6050 ICP/MS SW846 Water

Batch# 18 127 06050 05

Start Time: 5/8/18 5:20 **End Time:** 5/8/18 9:25 **Hot Block:** 12

Pipette ID: JU06758
Reflux Cap Lot#: 17122728111MR

Spike/Reagent	Lot#	Volume Added(mL)
HNO3	191695	3.00
ICP/MS Spike	1804017#5	0.50
LCS	1804017#5	0.50

Method Ref:

	SampleID	Date Due	ST	P	H	Balance	PH<2	BC	Vessel Lot#	Location ID	Comments
1)	PBW	.							1712272		
2)	LCSW	.							1712272		QC not used, limited volume
3)	LCSWD	.							1712272		
4)	9570341	05/02/18 00:00	WW	N8				008A	1712272	E01184/	
5)	9570342	05/02/18 00:00	WW	N8				008A	1712272	E01184/	
6)	9570347	05/02/18 00:00	WW	N8				008A	1712272	E01184/	
7)	9570348	05/02/18 00:00	WW	N8				008A	1712272	E01184/	
8)	9570349	05/02/18 00:00	WW	N8				008A	1712272	E01184/	25/25 limited
9)	9570350	05/02/18 00:00	WW	N8				008A	1712272	E01184/	
10)	9570352EB	05/02/18 00:00	WW	N8				008A	1712272	E01184/	
11)	9570355	05/02/18 00:00	WW	N8				008A	1712272	E01184/	
12)	9570356	05/02/18 00:00	WW	N8				008A	1712272	E01184/	
13)	9570357	05/02/18 00:00	WW	N8				008A	1712272	E01184/	
14)	9570358	05/02/18 00:00	WW	N8				008A	1712272	E01184/	
15)	9570359	05/02/18 00:00	WW	N8				008A	1712272	E01184/	
16)	9570360	05/02/18 00:00	WW	N8				008A	1712272	E01184/	
17)	9570361	05/02/18 00:00	WW	N8				008A	1712272	E01184/	
18)	9570362	05/02/18 00:00	WW	N8				008A	1712272	E01184/	
19)	9570363	05/02/18 00:00	WW	N8				008A	1712272	E01184/	
20)	9570364	05/02/18 00:00	WW	N8				008A	1712272	E01184/	
21)	9570366	05/02/18 00:00	WW	N8				008A	1712272	E01184/	
22)	9570367	05/02/18 00:00	WW	N8				008A	1712272	E01184/	
23)	9570368EB	05/02/18 00:00	WW	N8				008A	1712272	E01184/	

Prep Employee:1184 D/I _____

5/8/2018

v 1.1.0

Batch# 18 127 0605 005

LLENS Batch Chronology and Change Log - ICP/MS SW846 Water

	Operation	Instrument	Operation Date	ANALYST
1)	Batch Creation		5/7/18 13:37	1184
2)	Sample Vol		5/8/18 5:21	1184
3)	Final Vol	CLEAR	5/8/18 5:21	1184
4)	Trial		5/8/18 5:21	1184
5)	Sample Vol		5/8/18 7:50	1184
6)	Final Vol	CLEAR	5/8/18 7:50	1184
7)	Upload Prep	US19PCC06695	5/8/18 9:25	1184

					Original Entry				Data Changed		
Sample ID	Analysis	D	Operation	Measurement	Date/Time	Data	Units	Analyst	Date/Time	Analyst	Reason
9570349	06050	1	Sample Vol	Initial Volume	5/8/18 7:50	50	(mL)	1184	5/8/18 7:50	1184	limited
9570349	06050	1	Final Vol	Final Volume	5/8/18 7:50	50	(mL)	1184	5/8/18 7:50	1184	limited

Analysis: 6050 ICP/MS SW846 Water

Batch# 18 127 0605 005

Sample ID	Due Date	P	EPA#	SDG#	Initial Volume	Final Volume	Trial
PBW					50.0000	50.0000	1
LCSW					1.0000	1.0000	1
LCSWD					1.0000	1.0000	1
9570341	05/02/18	N8	A8501	ATH85-01	50.0000	50.0000	1
9570342	05/02/18	N8	A8502	ATH85-02	50.0000	50.0000	1
9570347	05/02/18	N8	A8507	ATH85-07	50.0000	50.0000	1
9570348	05/02/18	N8	A8508	ATH85-08	50.0000	50.0000	1
9570349	05/02/18	N8	A8509	ATH85-09	25.0000	25.0000	1
9570350	05/02/18	N8	A8510	ATH85-10	50.0000	50.0000	1
9570352EB	05/02/18	N8	A8512	ATH85-12EB	50.0000	50.0000	1
9570355	05/02/18	N8	A8602	ATH86-02	50.0000	50.0000	1
9570356	05/02/18	N8	A8603	ATH86-03	50.0000	50.0000	1
9570357	05/02/18	N8	A8604	ATH86-04	50.0000	50.0000	1
9570358	05/02/18	N8	A8605	ATH86-05	50.0000	50.0000	1
9570359	05/02/18	N8	A8606	ATH86-06	50.0000	50.0000	1
9570360	05/02/18	N8	A8607	ATH86-07	50.0000	50.0000	1
9570361	05/02/18	N8	A8608	ATH86-08	50.0000	50.0000	1
9570362	05/02/18	N8	A8609	ATH86-09	50.0000	50.0000	1
9570363	05/02/18	N8	A8610	ATH86-10	50.0000	50.0000	1
9570364	05/02/18	N8	A8611	ATH86-11	50.0000	50.0000	1
9570366	05/02/18	N8	A8613	ATH86-13	50.0000	50.0000	1
9570367	05/02/18	N8	A8614	ATH86-14	50.0000	50.0000	1
9570368EB	05/02/18	N8	A8615	ATH86-15EB	50.0000	50.0000	1

LLENS Worksheet for 5713 Hg SW846 Digest Water

Batch# 18 113 05713 04

Start Time: 4/25/18 23:15 **End Time:** 4/26/18 1:15 **Hot Block:** 10

Pipette ID: W/1000

Spike/Reagent	Lot#	Volume Added(mL)
5%K2S2O8	P18-110B	3.20
5%KMnO4	P18-109A	6.00
H2SO4	174051	2.00
HNO3	191695	1.00
LCS 40ppb Hg	P18-115I	1.00
NaCl/NH2OH.HCl	P18-115A	2.40
Spike 40ppb Hg	P18-115I	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)	9570341	05/02/18 17:55	WW	N8			Y	801A	1712272	WMET20/C9	
4)	9570342	05/02/18 17:55	WW	N8			Y	801A	1712272	WMET20/F7	
5)	9570347	05/02/18 17:55	WW	N8			Y	801A	1712272	WMET20/E9	
6)	9570348	05/02/18 17:55	WW	N8			Y	801A	1712272	WMET20/D9	
7)	9570349	05/02/18 17:55	WW	N8			Y	801A	1712272	WMET20/F9	
8)	9570350	05/02/18 17:55	WW	N8			Y	801A	1712272	WMET20/B8	
9)	9570352EB	05/02/18 17:55	WW	N8			Y	801A	1712272	WMET20/A8	
10)	9570355	05/02/18 17:55	WW	N8			Y	801A	1712272	WMET17/B5	
11)	9570356	05/02/18 17:55	WW	N8			Y	801A	1712272	WMET17/A5	
12)	**9570357U**	05/02/18 17:55	WW	N8			Y	801A	1712272	WMET17/A10	
13)	**9570357D**	05/02/18 17:55	WW	N8			Y	801B	1712272	WMET17/B10	
14)	**9570357R**	05/02/18 17:55	WW	N8			Y	801C	1712272	WMET17/C10	
15)	**9570357M**	05/02/18 17:55	WW	N8			Y	801D	1712272	WMET17/D10	
16)	9570358	05/02/18 17:55	WW	N8			Y	801A	1712272	WMET17/A3	
17)	9570359	05/02/18 17:55	WW	N8			Y	801A	1712272	WMET17/E5	
18)	9570360	05/02/18 17:55	WW	N8			Y	801A	1712272	WMET17/D4	
19)	9570361	05/02/18 17:55	WW	N8			Y	801A	1712272	WMET17/C2	
20)	9570362	05/02/18 17:55	WW	N8			Y	801A	1712272	WMET20/B9	
21)	9570363	05/02/18 17:55	WW	N8			Y	801A	1712272	WMET17/B2	
22)	9570364	05/02/18 17:55	WW	N8			Y	801A	1712272	WMET17/F3	
23)	9570366	05/02/18 17:55	WW	N8			Y	801A	1712272	WMET17/B4	

Prep Employee:862 D/I _____

4/26/2018

v 1.1.0

	SampleID	Date Due	ST	P	H	Balance	PH<2	BC	Vessel Lot#	Location ID	Comments
24)	9570367	05/02/18 17:55	WW	N8			Y	801A	1712272	WMET17/A4	
25)	9570368EB	05/02/18 17:55	WW	N8			Y	801A	1712272	WMET17/F1	

Batch# 18 113 0571 304

LLENS Batch Chronology and Change Log - Hg SW846 Digest Water

	Operation	Instrument	Operation Date	ANALYST
1)	Batch Creation		4/23/18 13:36	862
2)	Sample Vol		4/26/18 1:31	862
3)	Final Vol	CLEAR	4/26/18 1:31	862
4)	Trial		4/26/18 1:31	862
5)	Upload Prep	US19PCC06695	4/26/18 1:31	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# 18 113 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
9570341	05/02/18	N8	A8501	ATH85-01	40.0000		40.0000	1
9570342	05/02/18	N8	A8502	ATH85-02	40.0000		40.0000	1
9570347	05/02/18	N8	A8507	ATH85-07	40.0000		40.0000	1
9570348	05/02/18	N8	A8508	ATH85-08	40.0000		40.0000	1
9570349	05/02/18	N8	A8509	ATH85-09	40.0000		40.0000	1
9570350	05/02/18	N8	A8510	ATH85-10	40.0000		40.0000	1
9570352EB	05/02/18	N8	A8512	ATH85-12EB	40.0000		40.0000	1
9570355	05/02/18	N8	A8602	ATH86-02	40.0000		40.0000	1
9570356	05/02/18	N8	A8603	ATH86-03	40.0000		40.0000	1
9570357U	05/02/18	N8	A8604	ATH86-04	40.0000		40.0000	1
9570357D	05/02/18	N8	A8604	ATH86-04	40.0000		40.0000	1
9570357R	05/02/18	N8	A8604	ATH86-04	40.0000		40.0000	1
9570357M	05/02/18	N8	A8604	ATH86-04	40.0000		40.0000	1
9570358	05/02/18	N8	A8605	ATH86-05	40.0000		40.0000	1
9570359	05/02/18	N8	A8606	ATH86-06	40.0000		40.0000	1
9570360	05/02/18	N8	A8607	ATH86-07	40.0000		40.0000	1
9570361	05/02/18	N8	A8608	ATH86-08	40.0000		40.0000	1
9570362	05/02/18	N8	A8609	ATH86-09	40.0000		40.0000	1
9570363	05/02/18	N8	A8610	ATH86-10	40.0000		40.0000	1
9570364	05/02/18	N8	A8611	ATH86-11	40.0000		40.0000	1
9570366	05/02/18	N8	A8613	ATH86-13	40.0000		40.0000	1
9570367	05/02/18	N8	A8614	ATH86-14	40.0000		40.0000	1
9570368EB	05/02/18	N8	A8615	ATH86-15EB	40.0000		40.0000	1

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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 5701 ICV	H18109P	Hg 1.0mg/L Cont	15	4-26-18	H18-109C	0.25ml			
2	Aqua Regia	↓ Q						15	6	191695
3	Hg 1.0mg/L Inter Cal	H18-110A	Hg 10mg/L Cal	15	7-02-18	H18-002C	1.0ml			
4	0.1mg/L Inter Cal	B	1.0mg/L Cal	15	4-27-18	H18-110A				
5	1.0mg/L Inter Cont	C	10mg/L Cont	16	11-08-18	M2H6[illegible]				
6	0.1mg/L Inter Cont	D	1.0mg/L Cont	15	4-27-18	H18-110C				
7	Hg 5700 ICV	E					0.25ml	1	6	191695
8	CCV	F	Hg 1.0mg/L Cal			H18-110A	0.20			
9	CRA	G	Hg 0.1mg/L Cont			H18-110D	0.20			
10	Std Cal	H	Hg 0.1mg/L Cal			H18-110B	0.20			
11		I					0.50			
12		J	Hg 1.0mg/L Cal			H18-110A	0.20			
13		K					0.25			
14		L					0.50			
15		M								
16	ICV	N	Hg 1.0mg/L Cont	15	4-27-18	H18-110C	0.25ml			
17	CCV	O	Hg 1.0mg/L Cal			H18-110A	0.20			
18	CRA	P	Hg 0.1mg/L Cont			H18-110D	0.20			
19	2.5	Q	Hg 1.0mg/L Cal			H18-110A	0.25			
20	Hg 1.0mg/L Inter Cal	H18113A	Hg 10mg/L Cal	15	7-02-18	H18-002C	1.0ml			

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
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XX – Other (footnote Manuf.)

a

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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 Hgcl2 / 15ml KMnO4		H18-109Q / H18-072B	100	2.5ug/L	DL354	4-19-18	4-26-18	RT
2	45	6	③ 186764				60	1:3	✓	✓	4-19-18	✓
3				To volume 0.15% HNO3		H18015A	10	1.0	DL354	4-20-18	4-27-18	RT
4								0.1				
5								1.0				
6								0.1				
7	2ml H2SO4	4	174051	2.2ml K2S2O8 / 6ml KMnO4		H18-102Q / H18-072B	100	2.5ug/L				
8							200	1.0				
9							100	0.2				
10								0.2				
11								0.5				
12							200	1.0				
13							100	2.5				
14								5.0				
15								0.0				
16								2.5				
17							200	1.0				
18							100	0.2				
19							100	2.5				
20				To volume 0.15% HNO3		H18015A	10	1.0	DL354	4-23-18	4-30-18	RT

② 4-19-18 DL354

③ 4-20-18 DL354

③ 4-23-18 DL354

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

* units are mL unless otherwise specified
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b

eurofins	Lancaster Laboratories Environmental	Document Title: Standard/Reagent Preparation Logbook		
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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	H18-113B		Hg 1.0mg/L Cal	15	4-30-18	H18-113A	1.0ml			
2	1.0mg/L Inter Cont		C	10mg/L Cont	16	11-08-18	MQHG165792				
3	0.1mg/L Inter Cont		D	1.0mg/L Cont	15	4-30-18	H18-113C				
4	Hg 4702 ICV		E					0.25ml			
5	CCV		F	Hg 1.0mg/L Cal			H18-113A	0.10			
6	CCA		G	Hg 0.1mg/L Cont			H18-113D	0.20			
7	Std Cal		H	Hg 0.1mg/L Cal			H18-113B	0.20			
8			I					0.50			
9			J	Hg 1.0mg/L Cal			H18-113A	0.10			
10			K					0.25			
11			L					0.50			
12			M								
13	Stannous Chloride		N	$SnCl_2$	4	3-9-19	175798 #8	200.00g			
14			O				#8+9	200.07g			
15			P			4-10-19	#9	200.05g			
16	Hg 1.0mg/L Inter Cal	H18-114A		Hg 10mg/L Cal	15	7-02-18	H18-002C	1.0ml			
17	0.1mg/L Inter Cal		B	1.0mg/L Cal	15	5-01-18	H18-114A				
18	1.0mg/L Inter Cont		C	10mg/L Cont	16	11-08-18	MQHG165792				
19	0.1mg/L Inter Cont		D	1.0mg/L Cont	15	5-01-18	H18-114C				
20	Hg 5700 ICV		E	Hg				0.25ml	1	6	191695

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10 – Plasma Pure
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12 – SPEX Industries
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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 volume 0.15%	HNO3	H18-N15 (30)	10	0.1	DU354	4-23-18	4-30-18	RT
2								1.0				
3								0.1				
4	5	6	186764				100	2.5 mg/L				
5								1.0				
6								0.2				
7								0.2				
8								0.5				
9								1.0				
10								2.5				
11								5.0				
12								0.0				
13	200	6	186764				2000	10%			10-23-18	
14												
15												
16				To volume 0.15%	HNO3	H18-0154	10	1.0	DU354	4-24-18	5-01-18	RT
17								0.1				
18								1.0				
19								0.1				
20	2ml H2SO4	4	174051	2.2ml K2S2O8 1ml KMnO4		H18-0341 H18-0326	100	2.5 mg/L				

Footnotes

Key (••) – Other Used

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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 5700 - CCV	H18114F	Hg-1.0mg/L Cal	15	5-01-18	H18-114A	0.20ml	1	6	191695
2	CRA	G	Hg-0.1mg/L Cont			H18-114D	0.20			
3	Std Cal	H	Hg-0.1mg/L Cal			H18-114B	0.20			
4		I					0.50			
5		J	Hg-1.0mg/L Cal			H18-114A	0.20			
6		K					0.25			
7		L					0.50			
8		M								
9	ICV	N	Hg-1.0mg/L Cont	15	5-01-18	H18-114C	0.25ml			
10	CCV	O	Hg-1.0mg/L Cal			H18-114A	0.20			
11	CRA	P	Hg-0.1mg/L Cont			H18-114D	0.20			
12	Blank - waters	H18115A						25	6	191695
13										
14	Blank - soils	H18115B					4-25-18 DV3SV (3)	~~37.5~~ 12.5		
15	Stannous Chloride	H18-115C	SnCl2	4	4-16-19	175798 #9+10	200.05g			
16		D	4-26-18 DV3SV (3) 10			#10	200.06g			
17	Hg-1.0mg/L Inter Cal	H18116A	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	5-03-18	H18-116A				
19	1.0mg/L Inter Cont	C	1.0mg/L Cont	16	11-08-18	MDHG657332				
20	0.1mg/L Inter Cont	D	1.0mg/L Cont	15	5-03-18	H18-116C				

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8 – Leeman Labs
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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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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	2ml H2SO4	4	174051	2.2ml K2Cr2O7	0.08	H18-0240	200	1.0 ug/L	DL354	4-24-18	5-01-18	RT
2				6ml KMnO4		H18-072B						
3							100	0.2				
4								0.2				
5								0.5				
6							200	1.0				
7							100	2.5				
8								5.0				
9								0.0				
10								2.5				
11							200	1.0				
12	50ml H2SO4	4	174051	80ml K2Cr2O7		H18-072A	100	0.2				
13				150ml KMnO4		H18-072B	1000	0.0	DL354	4-25-18	9-13-18	RT
14	37.5	6	186764	60ml Hydrox		H18-072D						
15	200			60ml Hydrox 150ml KMnO4		H18-072D H18-072B	1000	0.0				
16	200						2000	10%			10-25-18	
17												
18				Tovolw/0.15% HNO3		H18-0151	10	1.0	DL354	4-26-18	5-03-18	RT
19								0.1				
20								1.0				
								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 5700 ICV	H18 1116E	Hg 1.0mg/L Cont	15	5-03-18	H18-1116C	0.25ml			
2	CCV	F	Hg 1.0mg/L Cal			H18-1116A	0.10			
3	CCV	G					0.10			
4	CCV	H					0.10			
5	CRA	I	Hg 0.1mg/L Cont			H18-1116D	0.20			
6	Std Cal	J	Hg 0.1mg/L Cal			H18-1116B	0.20			
7		K					0.50			
8		L	Hg 1.0mg/L Cal			H18-1116A	0.10			
9		M					0.25			
10		N					0.50			
11		O								
12	ICV	P	Hg 1.0mg/L Cont	15	5-03-18	H18-1116C	0.25ml			
13	Aqua Regia	Q						15	6	191195
14	Hg 5700 ICV	R	Hg 1.0mg/L Cont	15	5-03-18	H18-1116C	0.25 ml			
15	CCV	S	Hg 1.0mg/L Cal			H18-1116A	0.20			
16	CRA	T	Hg 0.1mg/L Cont			H18-1116D	0.20			
17	Std Cal	U	Hg 0.1mg/L Cal			H18-1116B	0.20			
18		V					0.50			
19		W	Hg 1.0mg/L Cal			H18-1116A	0.20			
20		X					0.25			

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37 268971

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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		H18-1160 H18-0728	100	2.5 ug/L	DLJ354	4-26-18	5-03-18	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	186764				60	1:3			4-26-18	
14	2ml H_2SO_4	4	174051	32ml $K_2S_2O_8$ 1ml Kmno4		H18-0220 H18-0728	100	2.5 ug/L			5-03-18	
15							200	1.0				
16							100	0.2				
17								0.2				
18								0.5				
19							200	1.0				
20							100	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

* units are mL unless otherwise specified
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b

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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
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	H18116Y	Hg 1.0mg/L Cal	15	5-03-18	H18-116A	0.50ml	1	16	191695
2	↓	Z						↓	↓	↓
3	ICV	AA	Hg 1.0mg/L Cont	15	5-03-18	H18-116C	0.25ml			
4	CCV	BB	Hg 1.0mg/L Cal	↓	↓	H18-116A	0.20			
5	CRA	CC	Hg 0.1mg/L Cont	↓	↓	H18-116D	0.20	↓	↓	↓
6	Hg 1.0mg/L Inter Cal	H18117A	Hg 1.0mg/L Cal	15	7-02-18	H18-002C	1.0ml			
7	0.1mg/L Inter Cal	B	1.0mg/L Cal	15	5-04-18	H18-117A	↓			
8	1.0mg/L Inter Cont	C	10mg/L Cont	16	11-08-18	MAHG657392				
9	0.1mg/L Inter Cont	D	1.0mg/L Cont	15	5-04-18	H18-117C	↓			
10	Hg 5700 ICV	E	↓	↓	↓	↓	0.25ml	1	16	191695
11	CCV	F	Hg 1.0mg/L Cal	↓	↓	H18-117A	0.20	↓	↓	↓
12	CRA	G	Hg 0.1mg/L Cont			H18-117D	0.20			
13	Std Cal	H	Hg 0.1mg/L Cal			H18-117B	0.20			
14	↓	I	↓			↓	0.50			
15		J	Hg 1.0mg/L Cal			H18-117A	0.20			
16		K	↓			↓	0.25			
17		L	↓	↓	↓	↓	0.50 ↓			
18	↓	M								
19	ICV	N	Hg 1.0mg/L Cont	15	5-04-18	H18-117C	0.25ml			
20	CCV	O	Hg 1.0mg/L Cal	↓	↓	H18-117A	0.20ml	↓	↓	↓

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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	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	174051	3.2ml $K_2S_2O_8$ 1ml $KMnO_4$		H18-0341 H18-0726	100	5.0ug/L	DL1354	4-26-18	5-03-18	RT
2								0.0				
3								2.5				
4							200	1.0				
5							100	0.2				
6				To volume 0.15	HNO3	H18-015A	10	1.0	DL1354	4-27-18	5-04-18	RT
7								0.1				
8								1.0				
9								0.1				
10	2ml H_2SO_4	4	174051	3.2ml $K_2S_2O_8$ 1ml $KMnO_4$		H18-0341 H18-0726	100	2.5ug/L				
11							200	1.0				
12							100	0.2				
13								0.2				
14								0.5				
15							200	1.0				
16							100	2.5				
17								5.0				
18								0.0				
19								2.5				
20							200	1.0				

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 CCA	H181178	Hg 0.1mg/L Cont	15	5-04-18	H18-117D	0.20ml	1	6	191695
2	Hg 1.0mg/L InterCal	H181181A	Hg 10mg/L Cal	15	7-02-18	H18-002C	1.0ml			
3	0.1mg/L InterCal	B	1.0mg/L Cal	15	5-05-18	H18-118A				
4	1.0mg/L InterCont	C	10mg/L Cont	16	11-08-18	MA1G657392				
5	0.1mg/L InterCont	D	1.0mg/L Cont	15	5-05-18	H18-118C				
6	Hg 5700 ICV	E					0.25ml	1	6	191695
7	CCV	F	Hg 1.0mg/L Cal			H18-118A	0.20			
8	CCA	G	Hg 0.1mg/L Cont			H18-118D	0.20			
9	Std Cal	H	Hg 0.1mg/L Cal			H18-118B	0.20			
10		I					0.50			
11		J	Hg 1.0mg/L Cal			H18-118A	0.20			
12		K					0.25			
13		L					0.50			
14		M								
15	ICV	N	Hg 1.0mg/L Cont	15	5-05-18	H18-118C	0.25ml			
16	CCV	O	Hg 1.0mg/L Cal			H18-118A	0.20			
17	CCA	P	Hg 0.1mg/L Cont			H18-118D	0.20			
18	Hg 1.0mg/L InterCal	H181121A	Hg 10mg/L Cal	15	7-02-18	H18-002C	1.0ml			
19	0.1mg/L InterCal	B	1.0mg/L Cal	15	5-08-18	H18-121A				
20	1.0mg/L InterCont	C	10mg/L Cont	16	11-08-18	MA1G657392				

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9 – Mallinckrodt
10 – Plasma Pure
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12 – SPEX Industries
13 – VWR Scientific
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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	2ml H_2SO_4	4	174051	3.2ml $K_2S_2O_8$ 1ml $KMnO_4$		H18-034D H18-072B	100	0.2ug/L	DJ1354	4-27-18	5-04-18	RT
2				To vol w/ 0.15%	HNO3	H18-015A	10	1.0	DJ1354	4-28-18	5-05-18	RT
3								0.1				
4								1.0				
5								0.1				
6	2ml H_2SO_4	4	174051	3.2ml $K_2S_2O_8$ 1ml $KMnO_4$		H18-072A H18-102K	100	2.5ug/L				
7							200	1.0				
8							100	0.2				
9								0.2				
10								0.5				
11							200	1.0				
12							100	2.5				
13								5.0				
14								0.0				
15								2.5				
16							200	1.0				
17							100	0.2				
18				To vol w/ 0.15%	HNO3	H18-015A	10	1.0	DJ1354	5-01-18	5-08-18	RT
19								0.1				
20								1.0				

Footnotes

Key (••) – Other Used

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B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
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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 Cont	H18121D	Hg 1.0mg/L Cont	15	5-08-18	H18-121C	1.0ml			
2	Hg 5706 ICV	E	↓			↓	0.25ml	1	6	191695
3	CCV	F	Hg 1.0mg/L Cal			H18-121A	0.20			
4	CRA	G	Hg 0.1mg/L Cont			H18-121D	0.20			
5	Std Cal	H	Hg 0.1mg/L Cal			H18-121B	0.20			
6		I	↓			↓	0.50			
7		J	Hg 1.0mg/L Cal			H18-121A	0.20			
8		K					0.25			
9		L	↓	↓	↓	↓	0.50			
10	↓	M								
11	ICV	N	Hg 1.0mg/L Cont	15	5-08-18	H18-121C	0.25ml			
12	CCV	O	Hg 1.0mg/L Cal			H18-121A	0.20			
13	CRA	P	Hg 0.1mg/L Cont			H18-121D	0.20			
14	Potassium Persulfate	H18122A	$K_2S_2O_8$	6	12-26-18	178265#4	100.00g			
15	Potassium Permanganate	B	$KMnO_4$	6	10-23-18	177909#3	100.02g			
16	Hydroxylamine	C	$NH_2OH \cdot HCl$	6	4-27-19	190903#4	240.00g			
17	↓	C	NaCl	6	12-4-18	177135#1	240.01g			
18	Hg 1.0mg/L Inter Cal	H18123A	Hg 10mg/L Cal	15	7-02-18	H18-002C	1.0ml			
19	0.1mg/L Inter Cal	B	1.0mg/L Cal	15	5-10-18	H18-123A	↓			
20	1.0mg/L Inter Cont	C	10mg/L Cont	16	11-08-18	M2HG165739	↓			

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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 vol w/ 0.15% HNO3		H18-0157	10	0.1	DU354	5-01-18	5-08-18	RT
2	2ml H2SO4	4	174051	3.3ml K2Cr2O7 1ml KMnO4		H18-0724 H18-1026	100	2.5ug/L				
3							200	1.0				
4							100	0.2				
5								0.2				
6								0.5				
7							200	1.0				
8							100	2.5				
9								5.0				
10								0.0				
11								2.5				
12							200	1.0				
13							100	0.2				
14							2000	5%	DU354	5-02-18	11-02-18	RT
15								5%			10-23-18	
16								12%			11-02-18	
17											11-02-18	
18				To vol w/ 0.15% HNO3		H18-0157	10	1.0	DU354	5-03-18	5-10-18	RT
19								0.1				
20								1.0				

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%)
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