2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
F: +1 805 526 7270
www.alsglobal.com

LABORATORY REPORT

August 5, 2016

Dennis Linley
CT Laboratories
1230 Lange Court
Baraboo, WI 53913

RE: North Suburban Cleaners / 103x90260001S051605001

Dear Dennis:

Enclosed are the results of the samples submitted to our laboratory on July 18, 2016. For your reference, these analyses have been assigned our service request number P1603571.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Sue Anderson at 2:04 pm, Aug 05, 2016

Sue Anderson
Project Manager

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
F: +1 805 526 7270
www.alsglobal.com

Client: CT Laboratories Service Request No: P1603571
Project: North Suburban Cleaners / 103x90260001S051605001

CASE NARRATIVE

The samples were received intact under chain of custody on July 18, 2016 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The IA and AA samples were analyzed in SIM mode and the SS samples in scan mode for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation, however it is not part of the AIHA-LAP, LLC accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The canister for sample NSC-SS-3E-071216 (P1603571-006) was individually SIM certified but the canisters used for IA and AA samples were batch certified for the lab standard scan list. Per client request the samples were analyzed by SIM but the lab cannot guarantee their cleanliness down to those reporting levels.

The reporting limits have been elevated for sample NSC-SG-06-071216 (P1603571-012). The chromatogram indicated the presence of non-target background components. The sample was diluted in order to prevent damage to the instrument and to achieve optimal resolution of the target analytes.

The upper control criterion was exceeded for naphthalene in the Continuing Calibration Verification (CCV) analyzed on July 21, 2016. However, the reported sample results associated with the CCV in question were for the dilutions of other analytes only, therefore the results were not affected. No corrective action was necessary.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
F: +1 805 526 7270
www.alsglobal.com

ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
AIHA-LAP, LLC	http://www.aihaaccreditedlabs.org	101661
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0694
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Florida DOH (NELAP)	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E871020
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/labcert.htm	2014025
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	977273
New Jersey DEP (NELAP)	http://www.nj.gov/dep/oqa/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-003
Pennsylvania DEP	http://www.depweb.state.pa.us/labs	68-03307 (Registration)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704413-16-7
Utah DOH (NELAP)	http://www.health.utah.gov/lab/labimp/certification/index.html	CA016272016-6
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: CT Laboratories

Service Request: P1603571

Project ID: North Suburban Cleaners / 103x90260001S051605001

Date Received: 7/18/2016

Time Received: 10:00

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	TO-15 - VOC Cans	TO-15 - VOC SIM
NSC-SS-1A-071116	P1603571-001	Air	7/12/2016	08:28	SC01989	-3.44	3.61	X	
NSC-IA-1A-071116	P1603571-002	Air	7/12/2016	08:28	AC00870	-1.79	3.82		X
NSC-IA-2D-071116	P1603571-003	Air	7/12/2016	10:42	AC01096	-0.05	4.57		X
NSC-SS-2D-071116	P1603571-004	Air	7/12/2016	10:43	AC01940	-0.14	3.59	X	
NSC-AA-071216	P1603571-005	Air	7/13/2016	08:20	SC00973	-2.68	3.95		X
NSC-SS-3E-071216	P1603571-006	Air	7/13/2016	11:26	AS00245	-1.70	3.71	X	
NSC-IA-3E-071316	P1603571-007	Air	7/14/2016	11:30	SC01498	-3.65	4.01		X
NSC-AADup-071316	P1603571-008	Air	7/14/2016	12:30	AS01011	-5.49	4.15		X
NSC-SS-4C-071316	P1603571-009	Air	7/14/2016	12:07	SC00884	-3.28	3.87	X	
NSC-SS-4CDup-071316	P1603571-010	Air	7/14/2016	12:07	SC00271	-2.04	5.95	X	
NSC-IA-4L-071316	P1603571-011	Air	7/14/2016	12:10	SSC00264	-2.47	3.67		X
NSC-SG-06-071216	P1603571-012	Air	7/12/2016	13:55	SC01069	-2.28	3.72	X	

Air - Chain of Custody Record & Analytical Service Request

Page 1 of 1

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

Requested Turnaround Time In Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No. P1603571

ALS Contact:

Company Name & Address (Reporting Information): Tetra Tech EMI, 15 Wacker Dr Suite 3700, Chicago IL 60606

Project Name: North Suburban Cleaners

Project Number: 103X9526000150516005001

Project Manager: André Baker

P.O. # / Billing Information: CT Laboratories, Dennis Linley

Phone: 630 379-3749

Fax:

Email Address for Result Reporting: Andre.Baker@Tetratech.com

Sampler (Print & Sign): André Baker

Analysis Method: TO-15

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	TO-15		Comments e.g. Actual Preservative or specific instructions
NSC-SS-7A-071116	1	07-12-16	0828	01989	07027	-29.2	-5.0		X		
NSC-IA-1A-071116	2	07-12-16	0828	00870	07024	-28.5	-3.0		X		
NSC-IA-2D-071116	3	07-12-16	1042	01096	00755	-29.4	-0.65		X		
NSC-SS-2D-071116	4	07-12-16	1043	01940	00825	-29.4	-0.53		X		
NSC-AA-071216	5	07-13-16	0826	00973	00716	-29.24	-4.0		X		
NSC-SS-3E-071216	6	07-13-16	1126	00245	06123	-29.5	-2.5		X		
NSC-IA-3E-071316	7	07-14-16	1130	01498	00486	-28.5	-5.0		X		
NSC-AADup-071316	8	07-14-16	1230	01011	00057	-28.5	-16.00		X		
NSC-SS-4C-071316	9	07-14-16	1207	00884	00832	-28.5	-9.00		X		
NSC-SS-4CDup-071316	10	07-14-16	1207	00271	00757	-28.5	-7.0		X		
NSC-IA-4C-071316	11	07-14-16	1210	00264	00639	-28.5	-6.0		X		
NSC-SS-6C-071216	12	07-12-16	1355	01069	04139	-27.0	-3.0		X		

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____
Tier II (Results + QC Summaries) ____
Tier III (Results + QC & Calibration Summaries) ____
Tier IV (Data Validation Package) 10% Surcharge X

EDD required (Yes) / No
Type: ____ Units: µg/m³

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date: 7-15-16	Time:	Received by: (Signature)	Date: 7/18/16	Time: 1000
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature ____ °C

5 of 403

ALS Environmental
Sample Acceptance Check Form

Client: CT Laboratories Work order: P1603571

Project: North Suburban Cleaners / 103x90260001s051605001

Sample(s) received on: 7/18/16 Date opened: 7/18/16 by: KKELPE

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1603571-001.01	6.0 L Source Can					
P1603571-002.01	6.0 L Ambient Can					
P1603571-003.01	6.0 L Ambient Can					
P1603571-004.01	6.0 L Ambient Can					
P1603571-005.01	6.0 L Source Can					
P1603571-006.01	6.0 L Silonite Can					
P1603571-007.01	6.0 L Source Can					
P1603571-008.01	6.0 L Silonite Can					
P1603571-009.01	6.0 L Source Can					
P1603571-010.01	6.0 L Source Can					
P1603571-011.01	6.0 L Silonite Can					
P1603571-012.01	6.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **NSC-SS-1A-071116** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P1603571-001

Test Code: EPA TO-15 Date Collected: 7/12/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 7/18/16
Analyst: Lusine Hakobyan Date Analyzed: 7/20/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.050 Liter(s)
Test Notes:
Container ID: SC01989

Initial Pressure (psig): -3.44 Final Pressure (psig): 3.61

Canister Dilution Factor: 1.63

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	16	ND	9.5	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2,700**	16	**540**	3.3	
74-87-3	Chloromethane	ND	16	ND	7.9	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	16	ND	2.3	
75-01-4	Vinyl Chloride	ND	16	ND	6.4	
106-99-0	1,3-Butadiene	ND	16	ND	7.4	
74-83-9	Bromomethane	ND	16	ND	4.2	
75-00-3	Chloroethane	ND	16	ND	6.2	
64-17-5	Ethanol	**260**	160	**140**	87	
75-05-8	Acetonitrile	ND	16	ND	9.7	
107-02-8	Acrolein	ND	65	ND	28	
67-64-1	Acetone	**800**	160	**340**	69	
75-69-4	Trichlorofluoromethane	ND	16	ND	2.9	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	160	ND	66	
107-13-1	Acrylonitrile	ND	16	ND	7.5	
75-35-4	1,1-Dichloroethene	ND	16	ND	4.1	
75-09-2	Methylene Chloride	ND	16	ND	4.7	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	16	ND	5.2	
76-13-1	Trichlorotrifluoroethane	ND	16	ND	2.1	
75-15-0	Carbon Disulfide	ND	160	ND	52	
156-60-5	trans-1,2-Dichloroethene	ND	16	ND	4.1	
75-34-3	1,1-Dichloroethane	ND	16	ND	4.0	
1634-04-4	Methyl tert-Butyl Ether	ND	16	ND	4.5	
108-05-4	Vinyl Acetate	ND	160	ND	46	
78-93-3	2-Butanone (MEK)	ND	160	ND	55	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **NSC-SS-1A-071116** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P1603571-001

Test Code: EPA TO-15 Date Collected: 7/12/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 7/18/16
Analyst: Lusine Hakobyan Date Analyzed: 7/20/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.050 Liter(s)
Test Notes:
Container ID: SC01989

Initial Pressure (psig): -3.44 Final Pressure (psig): 3.61

Canister Dilution Factor: 1.63

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	16	ND	4.1	
141-78-6	Ethyl Acetate	ND	33	ND	9.1	
110-54-3	n-Hexane	ND	16	ND	4.6	
67-66-3	Chloroform	ND	16	ND	3.3	
109-99-9	Tetrahydrofuran (THF)	ND	16	ND	5.5	
107-06-2	1,2-Dichloroethane	ND	16	ND	4.0	
71-55-6	1,1,1-Trichloroethane	ND	16	ND	3.0	
71-43-2	Benzene	ND	16	ND	5.1	
56-23-5	Carbon Tetrachloride	ND	16	ND	2.6	
110-82-7	Cyclohexane	ND	33	ND	9.5	
78-87-5	1,2-Dichloropropane	ND	16	ND	3.5	
75-27-4	Bromodichloromethane	ND	16	ND	2.4	
79-01-6	Trichloroethene	ND	16	ND	3.0	
123-91-1	1,4-Dioxane	ND	16	ND	4.5	
80-62-6	Methyl Methacrylate	ND	33	ND	8.0	
142-82-5	n-Heptane	ND	16	ND	4.0	
10061-01-5	cis-1,3-Dichloropropene	ND	16	ND	3.6	
108-10-1	4-Methyl-2-pentanone	ND	16	ND	4.0	
10061-02-6	trans-1,3-Dichloropropene	ND	16	ND	3.6	
79-00-5	1,1,2-Trichloroethane	ND	16	ND	3.0	
108-88-3	Toluene	**21**	16	**5.6**	4.3	
591-78-6	2-Hexanone	ND	16	ND	4.0	
124-48-1	Dibromochloromethane	ND	16	ND	1.9	
106-93-4	1,2-Dibromoethane	ND	16	ND	2.1	
123-86-4	n-Butyl Acetate	ND	16	ND	3.4	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **NSC-SS-1A-071116** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P1603571-001

Test Code: EPA TO-15 Date Collected: 7/12/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 7/18/16
Analyst: Lusine Hakobyan Date Analyzed: 7/20/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.050 Liter(s)
Test Notes:
Container ID: SC01989

Initial Pressure (psig): -3.44 Final Pressure (psig): 3.61

Canister Dilution Factor: 1.63

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	16	ND	3.5	
127-18-4	Tetrachloroethene	**180**	16	**27**	2.4	
108-90-7	Chlorobenzene	ND	16	ND	3.5	
100-41-4	Ethylbenzene	ND	16	ND	3.8	
179601-23-1	m,p-Xylenes	ND	33	ND	7.5	
75-25-2	Bromoform	ND	16	ND	1.6	
100-42-5	Styrene	ND	16	ND	3.8	
95-47-6	o-Xylene	ND	16	ND	3.8	
111-84-2	n-Nonane	ND	16	ND	3.1	
79-34-5	1,1,2,2-Tetrachloroethane	ND	16	ND	2.4	
98-82-8	Cumene	ND	16	ND	3.3	
80-56-8	alpha-Pinene	ND	16	ND	2.9	
103-65-1	n-Propylbenzene	ND	16	ND	3.3	
622-96-8	4-Ethyltoluene	ND	16	ND	3.3	
108-67-8	1,3,5-Trimethylbenzene	ND	16	ND	3.3	
95-63-6	1,2,4-Trimethylbenzene	ND	16	ND	3.3	
100-44-7	Benzyl Chloride	ND	16	ND	3.1	
541-73-1	1,3-Dichlorobenzene	ND	16	ND	2.7	
106-46-7	1,4-Dichlorobenzene	ND	16	ND	2.7	
95-50-1	1,2-Dichlorobenzene	ND	16	ND	2.7	
5989-27-5	d-Limonene	**46**	16	**8.2**	2.9	
96-12-8	1,2-Dibromo-3-chloropropane	ND	16	ND	1.7	
120-82-1	1,2,4-Trichlorobenzene	ND	16	ND	2.2	
91-20-3	Naphthalene	ND	16	ND	3.1	
87-68-3	Hexachlorobutadiene	ND	16	ND	1.5	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **NSC-SS-2D-071116** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P1603571-004

Test Code: EPA TO-15 Date Collected: 7/12/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 7/18/16
Analyst: Lusine Hakobyan Date Analyzed: 7/20/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.0012 Liter(s)
Test Notes:
Container ID: AC01940

Initial Pressure (psig): -0.14 Final Pressure (psig): 3.59

Canister Dilution Factor: 1.26

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	530	ND	310	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	530	ND	110	
74-87-3	Chloromethane	ND	530	ND	250	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	530	ND	75	
75-01-4	Vinyl Chloride	ND	530	ND	210	
106-99-0	1,3-Butadiene	ND	530	ND	240	
74-83-9	Bromomethane	ND	530	ND	140	
75-00-3	Chloroethane	ND	530	ND	200	
64-17-5	Ethanol	ND	5,300	ND	2,800	
75-05-8	Acetonitrile	ND	530	ND	310	
107-02-8	Acrolein	ND	2,100	ND	920	
67-64-1	Acetone	ND	5,300	ND	2,200	
75-69-4	Trichlorofluoromethane	ND	530	ND	93	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	5,300	ND	2,100	
107-13-1	Acrylonitrile	ND	530	ND	240	
75-35-4	1,1-Dichloroethene	ND	530	ND	130	
75-09-2	Methylene Chloride	ND	530	ND	150	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	530	ND	170	
76-13-1	Trichlorotrifluoroethane	ND	530	ND	69	
75-15-0	Carbon Disulfide	ND	5,300	ND	1,700	
156-60-5	trans-1,2-Dichloroethene	**710**	530	**180**	130	
75-34-3	1,1-Dichloroethane	ND	530	ND	130	
1634-04-4	Methyl tert-Butyl Ether	ND	530	ND	150	
108-05-4	Vinyl Acetate	ND	5,300	ND	1,500	
78-93-3	2-Butanone (MEK)	ND	5,300	ND	1,800	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **NSC-SS-2D-071116** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P1603571-004

Test Code: EPA TO-15 Date Collected: 7/12/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 7/18/16
Analyst: Lusine Hakobyan Date Analyzed: 7/20/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.0012 Liter(s)
Test Notes:
Container ID: AC01940

Initial Pressure (psig): -0.14 Final Pressure (psig): 3.59

Canister Dilution Factor: 1.26

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	**28,000**	530	**7,000**	130	
141-78-6	Ethyl Acetate	ND	1,100	ND	290	
110-54-3	n-Hexane	ND	530	ND	150	
67-66-3	Chloroform	ND	530	ND	110	
109-99-9	Tetrahydrofuran (THF)	ND	530	ND	180	
107-06-2	1,2-Dichloroethane	ND	530	ND	130	
71-55-6	1,1,1-Trichloroethane	ND	530	ND	96	
71-43-2	Benzene	**580**	530	**180**	160	
56-23-5	Carbon Tetrachloride	ND	530	ND	83	
110-82-7	Cyclohexane	ND	1,100	ND	310	
78-87-5	1,2-Dichloropropane	ND	530	ND	110	
75-27-4	Bromodichloromethane	ND	530	ND	78	
79-01-6	Trichloroethene	**9,500**	530	**1,800**	98	
123-91-1	1,4-Dioxane	ND	530	ND	150	
80-62-6	Methyl Methacrylate	ND	1,100	ND	260	
142-82-5	n-Heptane	ND	530	ND	130	
10061-01-5	cis-1,3-Dichloropropene	ND	530	ND	120	
108-10-1	4-Methyl-2-pentanone	ND	530	ND	130	
10061-02-6	trans-1,3-Dichloropropene	ND	530	ND	120	
79-00-5	1,1,2-Trichloroethane	ND	530	ND	96	
108-88-3	Toluene	**920**	530	**240**	140	
591-78-6	2-Hexanone	ND	530	ND	130	
124-48-1	Dibromochloromethane	ND	530	ND	62	
106-93-4	1,2-Dibromoethane	ND	530	ND	68	
123-86-4	n-Butyl Acetate	ND	530	ND	110	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **NSC-SS-2D-071116** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P1603571-004

Test Code: EPA TO-15 Date Collected: 7/12/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 7/18/16
Analyst: Lusine Hakobyan Date Analyzed: 7/20/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.0012 Liter(s)
Test Notes:
Container ID: AC01940

Initial Pressure (psig): -0.14 Final Pressure (psig): 3.59

Canister Dilution Factor: 1.26

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	530	ND	110	
127-18-4	Tetrachloroethene	**84,000**	530	**12,000**	77	
108-90-7	Chlorobenzene	ND	530	ND	110	
100-41-4	Ethylbenzene	ND	530	ND	120	
179601-23-1	m,p-Xylenes	ND	1,100	ND	240	
75-25-2	Bromoform	ND	530	ND	51	
100-42-5	Styrene	ND	530	ND	120	
95-47-6	o-Xylene	ND	530	ND	120	
111-84-2	n-Nonane	ND	530	ND	100	
79-34-5	1,1,2,2-Tetrachloroethane	ND	530	ND	76	
98-82-8	Cumene	ND	530	ND	110	
80-56-8	alpha-Pinene	ND	530	ND	94	
103-65-1	n-Propylbenzene	ND	530	ND	110	
622-96-8	4-Ethyltoluene	ND	530	ND	110	
108-67-8	1,3,5-Trimethylbenzene	ND	530	ND	110	
95-63-6	1,2,4-Trimethylbenzene	ND	530	ND	110	
100-44-7	Benzyl Chloride	ND	530	ND	100	
541-73-1	1,3-Dichlorobenzene	ND	530	ND	87	
106-46-7	1,4-Dichlorobenzene	ND	530	ND	87	
95-50-1	1,2-Dichlorobenzene	ND	530	ND	87	
5989-27-5	d-Limonene	ND	530	ND	94	
96-12-8	1,2-Dibromo-3-chloropropane	ND	530	ND	54	
120-82-1	1,2,4-Trichlorobenzene	ND	530	ND	71	
91-20-3	Naphthalene	ND	530	ND	100	
87-68-3	Hexachlorobutadiene	ND	530	ND	49	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **NSC-SS-3E-071216** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P1603571-006

Test Code: EPA TO-15 Date Collected: 7/13/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 7/18/16
Analyst: Lusine Hakobyan Date Analyzed: 7/20/16
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.0020 Liter(s)
Test Notes:
Container ID: AS00245

Initial Pressure (psig): -1.70 Final Pressure (psig): 3.71

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	360	ND	210	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	360	ND	72	
74-87-3	Chloromethane	ND	360	ND	170	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	360	ND	51	
75-01-4	Vinyl Chloride	ND	360	ND	140	
106-99-0	1,3-Butadiene	ND	360	ND	160	
74-83-9	Bromomethane	ND	360	ND	91	
75-00-3	Chloroethane	ND	360	ND	130	
64-17-5	Ethanol	ND	3,600	ND	1,900	
75-05-8	Acetonitrile	ND	360	ND	210	
107-02-8	Acrolein	ND	1,400	ND	620	
67-64-1	Acetone	ND	3,600	ND	1,500	
75-69-4	Trichlorofluoromethane	ND	360	ND	63	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	3,600	ND	1,400	
107-13-1	Acrylonitrile	ND	360	ND	160	
75-35-4	1,1-Dichloroethene	ND	360	ND	90	
75-09-2	Methylene Chloride	ND	360	ND	100	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	360	ND	110	
76-13-1	Trichlorotrifluoroethane	ND	360	ND	46	
75-15-0	Carbon Disulfide	ND	3,600	ND	1,100	
156-60-5	trans-1,2-Dichloroethene	ND	360	ND	90	
75-34-3	1,1-Dichloroethane	ND	360	ND	88	
1634-04-4	Methyl tert-Butyl Ether	ND	360	ND	99	
108-05-4	Vinyl Acetate	ND	3,600	ND	1,000	
78-93-3	2-Butanone (MEK)	ND	3,600	ND	1,200	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **NSC-SS-3E-071216** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P1603571-006

Test Code: EPA TO-15 Date Collected: 7/13/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 7/18/16
Analyst: Lusine Hakobyan Date Analyzed: 7/20/16
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.0020 Liter(s)
Test Notes:
Container ID: AS00245

Initial Pressure (psig): -1.70 Final Pressure (psig): 3.71

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	**3,800**	360	**970**	90	
141-78-6	Ethyl Acetate	ND	710	ND	200	
110-54-3	n-Hexane	ND	360	ND	100	
67-66-3	Chloroform	ND	360	ND	73	
109-99-9	Tetrahydrofuran (THF)	ND	360	ND	120	
107-06-2	1,2-Dichloroethane	ND	360	ND	88	
71-55-6	1,1,1-Trichloroethane	ND	360	ND	65	
71-43-2	Benzene	**370**	360	**120**	110	
56-23-5	Carbon Tetrachloride	ND	360	ND	56	
110-82-7	Cyclohexane	ND	710	ND	210	
78-87-5	1,2-Dichloropropane	ND	360	ND	77	
75-27-4	Bromodichloromethane	ND	360	ND	53	
79-01-6	Trichloroethene	**1,600**	360	**300**	66	
123-91-1	1,4-Dioxane	ND	360	ND	99	
80-62-6	Methyl Methacrylate	ND	710	ND	170	
142-82-5	n-Heptane	ND	360	ND	87	
10061-01-5	cis-1,3-Dichloropropene	ND	360	ND	78	
108-10-1	4-Methyl-2-pentanone	ND	360	ND	87	
10061-02-6	trans-1,3-Dichloropropene	ND	360	ND	78	
79-00-5	1,1,2-Trichloroethane	ND	360	ND	65	
108-88-3	Toluene	**610**	360	**160**	94	
591-78-6	2-Hexanone	ND	360	ND	87	
124-48-1	Dibromochloromethane	ND	360	ND	42	
106-93-4	1,2-Dibromoethane	ND	360	ND	46	
123-86-4	n-Butyl Acetate	ND	360	ND	75	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **NSC-SS-3E-071216** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P1603571-006

Test Code: EPA TO-15 Date Collected: 7/13/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 7/18/16
Analyst: Lusine Hakobyan Date Analyzed: 7/20/16
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.0020 Liter(s)
Test Notes:
Container ID: AS00245

Initial Pressure (psig): -1.70 Final Pressure (psig): 3.71

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	360	ND	76	
127-18-4	Tetrachloroethene	**50,000**	360	**7,400**	52	
108-90-7	Chlorobenzene	ND	360	ND	77	
100-41-4	Ethylbenzene	ND	360	ND	82	
179601-23-1	m,p-Xylenes	ND	710	ND	160	
75-25-2	Bromoform	ND	360	ND	34	
100-42-5	Styrene	ND	360	ND	83	
95-47-6	o-Xylene	ND	360	ND	82	
111-84-2	n-Nonane	ND	360	ND	68	
79-34-5	1,1,2,2-Tetrachloroethane	ND	360	ND	52	
98-82-8	Cumene	ND	360	ND	72	
80-56-8	alpha-Pinene	ND	360	ND	64	
103-65-1	n-Propylbenzene	ND	360	ND	72	
622-96-8	4-Ethyltoluene	ND	360	ND	72	
108-67-8	1,3,5-Trimethylbenzene	ND	360	ND	72	
95-63-6	1,2,4-Trimethylbenzene	ND	360	ND	72	
100-44-7	Benzyl Chloride	ND	360	ND	69	
541-73-1	1,3-Dichlorobenzene	ND	360	ND	59	
106-46-7	1,4-Dichlorobenzene	ND	360	ND	59	
95-50-1	1,2-Dichlorobenzene	ND	360	ND	59	
5989-27-5	d-Limonene	ND	360	ND	64	
96-12-8	1,2-Dibromo-3-chloropropane	ND	360	ND	37	
120-82-1	1,2,4-Trichlorobenzene	ND	360	ND	48	
91-20-3	Naphthalene	ND	360	ND	68	
87-68-3	Hexachlorobutadiene	ND	360	ND	33	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **NSC-SS-4C-071316** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P1603571-009

Test Code: EPA TO-15 Date Collected: 7/14/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 7/18/16
Analyst: Lusine Hakobyan Date Analyzed: 7/20/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.045 Liter(s)
Test Notes:
Container ID: SC00884

Initial Pressure (psig): -3.28 Final Pressure (psig): 3.87

Canister Dilution Factor: 1.63

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	18	ND	11	
75-71-8	Dichlorodifluoromethane (CFC 12)	**1,300**	18	**260**	3.7	
74-87-3	Chloromethane	ND	18	ND	8.8	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	18	ND	2.6	
75-01-4	Vinyl Chloride	ND	18	ND	7.1	
106-99-0	1,3-Butadiene	ND	18	ND	8.2	
74-83-9	Bromomethane	ND	18	ND	4.7	
75-00-3	Chloroethane	ND	18	ND	6.9	
64-17-5	Ethanol	ND	180	ND	96	
75-05-8	Acetonitrile	ND	18	ND	11	
107-02-8	Acrolein	ND	72	ND	32	
67-64-1	Acetone	**870**	180	**370**	76	
75-69-4	Trichlorofluoromethane	ND	18	ND	3.2	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	180	ND	74	
107-13-1	Acrylonitrile	ND	18	ND	8.3	
75-35-4	1,1-Dichloroethene	ND	18	ND	4.6	
75-09-2	Methylene Chloride	ND	18	ND	5.2	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	18	ND	5.8	
76-13-1	Trichlorotrifluoroethane	ND	18	ND	2.4	
75-15-0	Carbon Disulfide	ND	180	ND	58	
156-60-5	trans-1,2-Dichloroethene	ND	18	ND	4.6	
75-34-3	1,1-Dichloroethane	ND	18	ND	4.5	
1634-04-4	Methyl tert-Butyl Ether	ND	18	ND	5.0	
108-05-4	Vinyl Acetate	ND	180	ND	51	
78-93-3	2-Butanone (MEK)	ND	180	ND	61	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **NSC-SS-4C-071316** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P1603571-009

Test Code: EPA TO-15 Date Collected: 7/14/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 7/18/16
Analyst: Lusine Hakobyan Date Analyzed: 7/20/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.045 Liter(s)
Test Notes:
Container ID: SC00884

Initial Pressure (psig): -3.28 Final Pressure (psig): 3.87

Canister Dilution Factor: 1.63

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	18	ND	4.6	
141-78-6	Ethyl Acetate	ND	36	ND	10	
110-54-3	n-Hexane	ND	18	ND	5.1	
67-66-3	Chloroform	ND	18	ND	3.7	
109-99-9	Tetrahydrofuran (THF)	ND	18	ND	6.1	
107-06-2	1,2-Dichloroethane	**75**	18	**19**	4.5	
71-55-6	1,1,1-Trichloroethane	ND	18	ND	3.3	
71-43-2	Benzene	ND	18	ND	5.7	
56-23-5	Carbon Tetrachloride	ND	18	ND	2.9	
110-82-7	Cyclohexane	ND	36	ND	11	
78-87-5	1,2-Dichloropropane	ND	18	ND	3.9	
75-27-4	Bromodichloromethane	ND	18	ND	2.7	
79-01-6	Trichloroethene	**97**	18	**18**	3.4	
123-91-1	1,4-Dioxane	ND	18	ND	5.0	
80-62-6	Methyl Methacrylate	**150**	36	**37**	8.8	
142-82-5	n-Heptane	ND	18	ND	4.4	
10061-01-5	cis-1,3-Dichloropropene	ND	18	ND	4.0	
108-10-1	4-Methyl-2-pentanone	ND	18	ND	4.4	
10061-02-6	trans-1,3-Dichloropropene	ND	18	ND	4.0	
79-00-5	1,1,2-Trichloroethane	ND	18	ND	3.3	
108-88-3	Toluene	ND	18	ND	4.8	
591-78-6	2-Hexanone	ND	18	ND	4.4	
124-48-1	Dibromochloromethane	ND	18	ND	2.1	
106-93-4	1,2-Dibromoethane	ND	18	ND	2.4	
123-86-4	n-Butyl Acetate	**39**	18	**8.3**	3.8	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **NSC-SS-4C-071316** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P1603571-009

Test Code: EPA TO-15 Date Collected: 7/14/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 7/18/16
Analyst: Lusine Hakobyan Date Analyzed: 7/20/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.045 Liter(s)
Test Notes:
Container ID: SC00884

Initial Pressure (psig): -3.28 Final Pressure (psig): 3.87

Canister Dilution Factor: 1.63

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	18	ND	3.9	
127-18-4	Tetrachloroethene	**2,900**	18	**430**	2.7	
108-90-7	Chlorobenzene	ND	18	ND	3.9	
100-41-4	Ethylbenzene	ND	18	ND	4.2	
179601-23-1	m,p-Xylenes	ND	36	ND	8.3	
75-25-2	Bromoform	ND	18	ND	1.8	
100-42-5	Styrene	ND	18	ND	4.3	
95-47-6	o-Xylene	ND	18	ND	4.2	
111-84-2	n-Nonane	ND	18	ND	3.5	
79-34-5	1,1,2,2-Tetrachloroethane	ND	18	ND	2.6	
98-82-8	Cumene	ND	18	ND	3.7	
80-56-8	alpha-Pinene	ND	18	ND	3.3	
103-65-1	n-Propylbenzene	ND	18	ND	3.7	
622-96-8	4-Ethyltoluene	ND	18	ND	3.7	
108-67-8	1,3,5-Trimethylbenzene	ND	18	ND	3.7	
95-63-6	1,2,4-Trimethylbenzene	ND	18	ND	3.7	
100-44-7	Benzyl Chloride	ND	18	ND	3.5	
541-73-1	1,3-Dichlorobenzene	ND	18	ND	3.0	
106-46-7	1,4-Dichlorobenzene	ND	18	ND	3.0	
95-50-1	1,2-Dichlorobenzene	ND	18	ND	3.0	
5989-27-5	d-Limonene	ND	18	ND	3.3	
96-12-8	1,2-Dibromo-3-chloropropane	ND	18	ND	1.9	
120-82-1	1,2,4-Trichlorobenzene	ND	18	ND	2.4	
91-20-3	Naphthalene	ND	18	ND	3.5	
87-68-3	Hexachlorobutadiene	ND	18	ND	1.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **NSC-SS-4CDup-071316** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P1603571-010

Test Code: EPA TO-15 Date Collected: 7/14/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 7/18/16
Analyst: Lusine Hakobyan Date Analyzed: 7/20/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.045 Liter(s)
Test Notes:
Container ID: SC00271

Initial Pressure (psig): -2.04 Final Pressure (psig): 5.95

Canister Dilution Factor: 1.63

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	18	ND	11	
75-71-8	Dichlorodifluoromethane (CFC 12)	**1,300**	18	**270**	3.7	
74-87-3	Chloromethane	ND	18	ND	8.8	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	18	ND	2.6	
75-01-4	Vinyl Chloride	ND	18	ND	7.1	
106-99-0	1,3-Butadiene	ND	18	ND	8.2	
74-83-9	Bromomethane	ND	18	ND	4.7	
75-00-3	Chloroethane	ND	18	ND	6.9	
64-17-5	Ethanol	ND	180	ND	96	
75-05-8	Acetonitrile	ND	18	ND	11	
107-02-8	Acrolein	ND	72	ND	32	
67-64-1	Acetone	**910**	180	**380**	76	
75-69-4	Trichlorofluoromethane	ND	18	ND	3.2	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	180	ND	74	
107-13-1	Acrylonitrile	ND	18	ND	8.3	
75-35-4	1,1-Dichloroethene	ND	18	ND	4.6	
75-09-2	Methylene Chloride	ND	18	ND	5.2	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	18	ND	5.8	
76-13-1	Trichlorotrifluoroethane	ND	18	ND	2.4	
75-15-0	Carbon Disulfide	ND	180	ND	58	
156-60-5	trans-1,2-Dichloroethene	ND	18	ND	4.6	
75-34-3	1,1-Dichloroethane	ND	18	ND	4.5	
1634-04-4	Methyl tert-Butyl Ether	ND	18	ND	5.0	
108-05-4	Vinyl Acetate	ND	180	ND	51	
78-93-3	2-Butanone (MEK)	ND	180	ND	61	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **NSC-SS-4CDup-071316** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P1603571-010

Test Code: EPA TO-15 Date Collected: 7/14/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 7/18/16
Analyst: Lusine Hakobyan Date Analyzed: 7/20/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.045 Liter(s)
Test Notes:
Container ID: SC00271

Initial Pressure (psig): -2.04 Final Pressure (psig): 5.95

Canister Dilution Factor: 1.63

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	18	ND	4.6	
141-78-6	Ethyl Acetate	ND	36	ND	10	
110-54-3	n-Hexane	ND	18	ND	5.1	
67-66-3	Chloroform	ND	18	ND	3.7	
109-99-9	Tetrahydrofuran (THF)	ND	18	ND	6.1	
107-06-2	1,2-Dichloroethane	**77**	18	**19**	4.5	
71-55-6	1,1,1-Trichloroethane	ND	18	ND	3.3	
71-43-2	Benzene	ND	18	ND	5.7	
56-23-5	Carbon Tetrachloride	ND	18	ND	2.9	
110-82-7	Cyclohexane	ND	36	ND	11	
78-87-5	1,2-Dichloropropane	ND	18	ND	3.9	
75-27-4	Bromodichloromethane	ND	18	ND	2.7	
79-01-6	Trichloroethene	**100**	18	**19**	3.4	
123-91-1	1,4-Dioxane	ND	18	ND	5.0	
80-62-6	Methyl Methacrylate	**150**	36	**38**	8.8	
142-82-5	n-Heptane	ND	18	ND	4.4	
10061-01-5	cis-1,3-Dichloropropene	ND	18	ND	4.0	
108-10-1	4-Methyl-2-pentanone	ND	18	ND	4.4	
10061-02-6	trans-1,3-Dichloropropene	ND	18	ND	4.0	
79-00-5	1,1,2-Trichloroethane	ND	18	ND	3.3	
108-88-3	Toluene	**19**	18	**5.1**	4.8	
591-78-6	2-Hexanone	ND	18	ND	4.4	
124-48-1	Dibromochloromethane	ND	18	ND	2.1	
106-93-4	1,2-Dibromoethane	ND	18	ND	2.4	
123-86-4	n-Butyl Acetate	**39**	18	**8.3**	3.8	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **NSC-SS-4CDup-071316** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P1603571-010

Test Code: EPA TO-15 Date Collected: 7/14/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 7/18/16
Analyst: Lusine Hakobyan Date Analyzed: 7/20/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.045 Liter(s)
Test Notes:
Container ID: SC00271

Initial Pressure (psig): -2.04 Final Pressure (psig): 5.95

Canister Dilution Factor: 1.63

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	18	ND	3.9	
127-18-4	Tetrachloroethene	**2,900**	18	**430**	2.7	
108-90-7	Chlorobenzene	ND	18	ND	3.9	
100-41-4	Ethylbenzene	ND	18	ND	4.2	
179601-23-1	m,p-Xylenes	ND	36	ND	8.3	
75-25-2	Bromoform	ND	18	ND	1.8	
100-42-5	Styrene	ND	18	ND	4.3	
95-47-6	o-Xylene	ND	18	ND	4.2	
111-84-2	n-Nonane	ND	18	ND	3.5	
79-34-5	1,1,2,2-Tetrachloroethane	ND	18	ND	2.6	
98-82-8	Cumene	ND	18	ND	3.7	
80-56-8	alpha-Pinene	ND	18	ND	3.3	
103-65-1	n-Propylbenzene	ND	18	ND	3.7	
622-96-8	4-Ethyltoluene	ND	18	ND	3.7	
108-67-8	1,3,5-Trimethylbenzene	ND	18	ND	3.7	
95-63-6	1,2,4-Trimethylbenzene	ND	18	ND	3.7	
100-44-7	Benzyl Chloride	ND	18	ND	3.5	
541-73-1	1,3-Dichlorobenzene	ND	18	ND	3.0	
106-46-7	1,4-Dichlorobenzene	ND	18	ND	3.0	
95-50-1	1,2-Dichlorobenzene	ND	18	ND	3.0	
5989-27-5	d-Limonene	ND	18	ND	3.3	
96-12-8	1,2-Dibromo-3-chloropropane	ND	18	ND	1.9	
120-82-1	1,2,4-Trichlorobenzene	ND	18	ND	2.4	
91-20-3	Naphthalene	ND	18	ND	3.5	
87-68-3	Hexachlorobutadiene	ND	18	ND	1.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **NSC-SG-06-071216** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P1603571-012

Test Code: EPA TO-15 Date Collected: 7/12/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 7/18/16
Analyst: Lusine Hakobyan Date Analyzed: 7/20/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes:
Container ID: SC01069

Initial Pressure (psig): -2.28 Final Pressure (psig): 3.72

Canister Dilution Factor: 1.48

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	740	ND	430	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	740	ND	150	
74-87-3	Chloromethane	ND	740	ND	360	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	740	ND	110	
75-01-4	Vinyl Chloride	ND	740	ND	290	
106-99-0	1,3-Butadiene	ND	740	ND	330	
74-83-9	Bromomethane	ND	740	ND	190	
75-00-3	Chloroethane	ND	740	ND	280	
64-17-5	Ethanol	ND	7,400	ND	3,900	
75-05-8	Acetonitrile	ND	740	ND	440	
107-02-8	Acrolein	ND	3,000	ND	1,300	
67-64-1	Acetone	ND	7,400	ND	3,100	
75-69-4	Trichlorofluoromethane	ND	740	ND	130	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	7,400	ND	3,000	
107-13-1	Acrylonitrile	ND	740	ND	340	
75-35-4	1,1-Dichloroethene	ND	740	ND	190	
75-09-2	Methylene Chloride	ND	740	ND	210	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	740	ND	240	
76-13-1	Trichlorotrifluoroethane	ND	740	ND	97	
75-15-0	Carbon Disulfide	ND	7,400	ND	2,400	
156-60-5	trans-1,2-Dichloroethene	ND	740	ND	190	
75-34-3	1,1-Dichloroethane	ND	740	ND	180	
1634-04-4	Methyl tert-Butyl Ether	ND	740	ND	210	
108-05-4	Vinyl Acetate	ND	7,400	ND	2,100	
78-93-3	2-Butanone (MEK)	ND	7,400	ND	2,500	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **NSC-SG-06-071216** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P1603571-012

Test Code: EPA TO-15 Date Collected: 7/12/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 7/18/16
Analyst: Lusine Hakobyan Date Analyzed: 7/20/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes:
Container ID: SC01069

Initial Pressure (psig): -2.28 Final Pressure (psig): 3.72

Canister Dilution Factor: 1.48

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	740	ND	190	
141-78-6	Ethyl Acetate	ND	1,500	ND	410	
110-54-3	n-Hexane	**22,000**	740	**6,300**	210	
67-66-3	Chloroform	ND	740	ND	150	
109-99-9	Tetrahydrofuran (THF)	ND	740	ND	250	
107-06-2	1,2-Dichloroethane	ND	740	ND	180	
71-55-6	1,1,1-Trichloroethane	ND	740	ND	140	
71-43-2	Benzene	**1,300**	740	**400**	230	
56-23-5	Carbon Tetrachloride	ND	740	ND	120	
110-82-7	Cyclohexane	**25,000**	1,500	**7,200**	430	
78-87-5	1,2-Dichloropropane	ND	740	ND	160	
75-27-4	Bromodichloromethane	ND	740	ND	110	
79-01-6	Trichloroethene	ND	740	ND	140	
123-91-1	1,4-Dioxane	ND	740	ND	210	
80-62-6	Methyl Methacrylate	ND	1,500	ND	360	
142-82-5	n-Heptane	**1,600**	740	**380**	180	
10061-01-5	cis-1,3-Dichloropropene	ND	740	ND	160	
108-10-1	4-Methyl-2-pentanone	ND	740	ND	180	
10061-02-6	trans-1,3-Dichloropropene	ND	740	ND	160	
79-00-5	1,1,2-Trichloroethane	ND	740	ND	140	
108-88-3	Toluene	**1,300**	740	**340**	200	
591-78-6	2-Hexanone	ND	740	ND	180	
124-48-1	Dibromochloromethane	ND	740	ND	87	
106-93-4	1,2-Dibromoethane	ND	740	ND	96	
123-86-4	n-Butyl Acetate	ND	740	ND	160	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **NSC-SG-06-071216** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P1603571-012

Test Code: EPA TO-15 Date Collected: 7/12/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 7/18/16
Analyst: Lusine Hakobyan Date Analyzed: 7/20/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes:
Container ID: SC01069

Initial Pressure (psig): -2.28 Final Pressure (psig): 3.72

Canister Dilution Factor: 1.48

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	740	ND	160	
127-18-4	Tetrachloroethene	**800**	740	**120**	110	
108-90-7	Chlorobenzene	ND	740	ND	160	
100-41-4	Ethylbenzene	ND	740	ND	170	
179601-23-1	m,p-Xylenes	ND	1,500	ND	340	
75-25-2	Bromoform	ND	740	ND	72	
100-42-5	Styrene	ND	740	ND	170	
95-47-6	o-Xylene	ND	740	ND	170	
111-84-2	n-Nonane	ND	740	ND	140	
79-34-5	1,1,2,2-Tetrachloroethane	ND	740	ND	110	
98-82-8	Cumene	ND	740	ND	150	
80-56-8	alpha-Pinene	ND	740	ND	130	
103-65-1	n-Propylbenzene	ND	740	ND	150	
622-96-8	4-Ethyltoluene	ND	740	ND	150	
108-67-8	1,3,5-Trimethylbenzene	ND	740	ND	150	
95-63-6	1,2,4-Trimethylbenzene	ND	740	ND	150	
100-44-7	Benzyl Chloride	ND	740	ND	140	
541-73-1	1,3-Dichlorobenzene	ND	740	ND	120	
106-46-7	1,4-Dichlorobenzene	ND	740	ND	120	
95-50-1	1,2-Dichlorobenzene	ND	740	ND	120	
5989-27-5	d-Limonene	ND	740	ND	130	
96-12-8	1,2-Dibromo-3-chloropropane	ND	740	ND	77	
120-82-1	1,2,4-Trichlorobenzene	ND	740	ND	100	
91-20-3	Naphthalene	ND	740	ND	140	
87-68-3	Hexachlorobutadiene	ND	740	ND	69	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **Method Blank** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P160720-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 7/20/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.50	ND	0.29	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.50	ND	0.10	
74-87-3	Chloromethane	ND	0.50	ND	0.24	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.50	ND	0.072	
75-01-4	Vinyl Chloride	ND	0.50	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.50	ND	0.23	
74-83-9	Bromomethane	ND	0.50	ND	0.13	
75-00-3	Chloroethane	ND	0.50	ND	0.19	
64-17-5	Ethanol	ND	5.0	ND	2.7	
75-05-8	Acetonitrile	ND	0.50	ND	0.30	
107-02-8	Acrolein	ND	2.0	ND	0.87	
67-64-1	Acetone	ND	5.0	ND	2.1	
75-69-4	Trichlorofluoromethane	ND	0.50	ND	0.089	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	5.0	ND	2.0	
107-13-1	Acrylonitrile	ND	0.50	ND	0.23	
75-35-4	1,1-Dichloroethene	ND	0.50	ND	0.13	
75-09-2	Methylene Chloride	ND	0.50	ND	0.14	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.50	ND	0.16	
76-13-1	Trichlorotrifluoroethane	ND	0.50	ND	0.065	
75-15-0	Carbon Disulfide	ND	5.0	ND	1.6	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.50	ND	0.12	
1634-04-4	Methyl tert-Butyl Ether	ND	0.50	ND	0.14	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	5.0	ND	1.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**

Client Sample ID: **Method Blank** ALS Project ID: P1603571

Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P160720-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA

Analyst: Lusine Hakobyan Date Analyzed: 7/20/16

Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.50	ND	0.13	
141-78-6	Ethyl Acetate	ND	1.0	ND	0.28	
110-54-3	n-Hexane	ND	0.50	ND	0.14	
67-66-3	Chloroform	ND	0.50	ND	0.10	
109-99-9	Tetrahydrofuran (THF)	ND	0.50	ND	0.17	
107-06-2	1,2-Dichloroethane	ND	0.50	ND	0.12	
71-55-6	1,1,1-Trichloroethane	ND	0.50	ND	0.092	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.0	ND	0.29	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.50	ND	0.075	
79-01-6	Trichloroethene	ND	0.50	ND	0.093	
123-91-1	1,4-Dioxane	ND	0.50	ND	0.14	
80-62-6	Methyl Methacrylate	ND	1.0	ND	0.24	
142-82-5	n-Heptane	ND	0.50	ND	0.12	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	0.50	ND	0.12	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.50	ND	0.092	
108-88-3	Toluene	ND	0.50	ND	0.13	
591-78-6	2-Hexanone	ND	0.50	ND	0.12	
124-48-1	Dibromochloromethane	ND	0.50	ND	0.059	
106-93-4	1,2-Dibromoethane	ND	0.50	ND	0.065	
123-86-4	n-Butyl Acetate	ND	0.50	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **Method Blank** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P160720-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 7/20/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.50	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.50	ND	0.074	
108-90-7	Chlorobenzene	ND	0.50	ND	0.11	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.0	ND	0.23	
75-25-2	Bromoform	ND	0.50	ND	0.048	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.50	ND	0.12	
111-84-2	n-Nonane	ND	0.50	ND	0.095	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ND	0.073	
98-82-8	Cumene	ND	0.50	ND	0.10	
80-56-8	alpha-Pinene	ND	0.50	ND	0.090	
103-65-1	n-Propylbenzene	ND	0.50	ND	0.10	
622-96-8	4-Ethyltoluene	ND	0.50	ND	0.10	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	ND	0.10	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	ND	0.10	
100-44-7	Benzyl Chloride	ND	0.50	ND	0.097	
541-73-1	1,3-Dichlorobenzene	ND	0.50	ND	0.083	
106-46-7	1,4-Dichlorobenzene	ND	0.50	ND	0.083	
95-50-1	1,2-Dichlorobenzene	ND	0.50	ND	0.083	
5989-27-5	d-Limonene	ND	0.50	ND	0.090	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	ND	0.052	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	ND	0.067	
91-20-3	Naphthalene	ND	0.50	ND	0.095	
87-68-3	Hexachlorobutadiene	ND	0.50	ND	0.047	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **CT Laboratories**
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Project ID: P1603571

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 7/12 - 7/14/16
Analyst: Lusine Hakobyan Date(s) Received: 7/18/16
Sample Type: 6.0 L Summa Canister(s) Date(s) Analyzed: 7/20/16
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P160720-MB	**94**	**103**	**107**	70-130	
Lab Control Sample	P160720-LCS	**92**	**101**	**108**	70-130	
NSC-SS-1A-071116	P1603571-001	**94**	**102**	**108**	70-130	
NSC-SS-2D-071116	P1603571-004	**93**	**103**	**106**	70-130	
NSC-SS-3E-071216	P1603571-006	**93**	**103**	**105**	70-130	
NSC-SS-4C-071316	P1603571-009	**92**	**100**	**109**	70-130	
NSC-SS-4CDup-071316	P1603571-010	**93**	**100**	**109**	70-130	
NSC-SG-06-071216	P1603571-012	**94**	**103**	**107**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **CT Laboratories**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P160720-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 7/20/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
115-07-1	Propene	196	**160**	**82**	49-131	
75-71-8	Dichlorodifluoromethane (CFC 12)	188	**161**	**86**	65-117	
74-87-3	Chloromethane	200	**143**	**72**	48-132	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	204	**180**	**88**	65-122	
75-01-4	Vinyl Chloride	200	**183**	**92**	65-128	
106-99-0	1,3-Butadiene	206	**228**	**111**	62-143	
74-83-9	Bromomethane	202	**201**	**100**	65-130	
75-00-3	Chloroethane	200	**190**	**95**	69-126	
64-17-5	Ethanol	998	**852**	**85**	57-126	
75-05-8	Acetonitrile	212	**166**	**78**	51-134	
107-02-8	Acrolein	214	**181**	**85**	55-146	
67-64-1	Acetone	1,080	**829**	**77**	57-120	
75-69-4	Trichlorofluoromethane	216	**172**	**80**	59-139	
67-63-0	2-Propanol (Isopropyl Alcohol)	418	**385**	**92**	59-129	
107-13-1	Acrylonitrile	212	**188**	**89**	64-136	
75-35-4	1,1-Dichloroethene	216	**208**	**96**	72-123	
75-09-2	Methylene Chloride	222	**201**	**91**	63-117	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	218	**189**	**87**	50-141	
76-13-1	Trichlorotrifluoroethane	220	**193**	**88**	68-118	
75-15-0	Carbon Disulfide	210	**158**	**75**	55-143	
156-60-5	trans-1,2-Dichloroethene	210	**194**	**92**	69-129	
75-34-3	1,1-Dichloroethane	212	**186**	**88**	66-122	
1634-04-4	Methyl tert-Butyl Ether	216	**186**	**86**	55-128	
108-05-4	Vinyl Acetate	1,040	**998**	**96**	66-140	
78-93-3	2-Butanone (MEK)	220	**198**	**90**	62-127	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **CT Laboratories**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P160720-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 7/20/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	218	**201**	**92**	65-125	
141-78-6	Ethyl Acetate	428	**389**	**91**	64-132	
110-54-3	n-Hexane	212	**187**	**88**	58-126	
67-66-3	Chloroform	224	**195**	**87**	68-117	
109-99-9	Tetrahydrofuran (THF)	220	**191**	**87**	64-123	
107-06-2	1,2-Dichloroethane	214	**185**	**86**	63-124	
71-55-6	1,1,1-Trichloroethane	210	**190**	**90**	68-120	
71-43-2	Benzene	226	**181**	**80**	61-110	
56-23-5	Carbon Tetrachloride	230	**201**	**87**	65-137	
110-82-7	Cyclohexane	424	**388**	**92**	68-122	
78-87-5	1,2-Dichloropropane	216	**192**	**89**	67-122	
75-27-4	Bromodichloromethane	218	**201**	**92**	71-124	
79-01-6	Trichloroethene	216	**198**	**92**	71-121	
123-91-1	1,4-Dioxane	210	**212**	**101**	67-122	
80-62-6	Methyl Methacrylate	422	**424**	**100**	76-130	
142-82-5	n-Heptane	216	**206**	**95**	67-125	
10061-01-5	cis-1,3-Dichloropropene	208	**207**	**100**	73-131	
108-10-1	4-Methyl-2-pentanone	220	**209**	**95**	66-132	
10061-02-6	trans-1,3-Dichloropropene	210	**215**	**102**	76-135	
79-00-5	1,1,2-Trichloroethane	216	**201**	**93**	73-121	
108-88-3	Toluene	218	**183**	**84**	67-117	
591-78-6	2-Hexanone	220	**200**	**91**	59-128	
124-48-1	Dibromochloromethane	220	**222**	**101**	73-132	
106-93-4	1,2-Dibromoethane	218	**211**	**97**	73-128	
123-86-4	n-Butyl Acetate	226	**204**	**90**	61-136	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **CT Laboratories**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P160720-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 7/20/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
111-65-9	n-Octane	210	**188**	**90**	67-124	
127-18-4	Tetrachloroethene	202	**191**	**95**	65-126	
108-90-7	Chlorobenzene	220	**201**	**91**	68-120	
100-41-4	Ethylbenzene	218	**186**	**85**	69-123	
179601-23-1	m,p-Xylenes	428	**380**	**89**	67-125	
75-25-2	Bromoform	228	**227**	**100**	68-153	
100-42-5	Styrene	222	**225**	**101**	68-132	
95-47-6	o-Xylene	210	**188**	**90**	67-124	
111-84-2	n-Nonane	204	**173**	**85**	60-130	
79-34-5	1,1,2,2-Tetrachloroethane	210	**187**	**89**	72-128	
98-82-8	Cumene	208	**191**	**92**	67-124	
80-56-8	alpha-Pinene	212	**205**	**97**	67-129	
103-65-1	n-Propylbenzene	204	**182**	**89**	67-125	
622-96-8	4-Ethyltoluene	214	**200**	**93**	66-128	
108-67-8	1,3,5-Trimethylbenzene	214	**194**	**91**	65-125	
95-63-6	1,2,4-Trimethylbenzene	218	**198**	**91**	62-134	
100-44-7	Benzyl Chloride	220	**225**	**102**	74-145	
541-73-1	1,3-Dichlorobenzene	228	**220**	**96**	63-133	
106-46-7	1,4-Dichlorobenzene	208	**206**	**99**	62-129	
95-50-1	1,2-Dichlorobenzene	220	**212**	**96**	62-134	
5989-27-5	d-Limonene	210	**215**	**102**	66-137	
96-12-8	1,2-Dibromo-3-chloropropane	218	**215**	**99**	71-147	
120-82-1	1,2,4-Trichlorobenzene	230	**235**	**102**	60-145	
91-20-3	Naphthalene	218	**215**	**99**	56-158	
87-68-3	Hexachlorobutadiene	230	**218**	**95**	56-139	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories** ALS Project ID: P1603571

Client Project ID: **North Suburban Cleaners / 103x90260001S051605001**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 07201602.D
Analyst: Lusine Hakobyan Date Analyzed: 7/20/16
Sample Type: 6.0 L Summa Canister(s) Time Analyzed: 02:30
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	#	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	262537		11.29		1206223		13.42		465446		17.72	
	Upper Limit	367552		11.62		1688712		13.75		651624		18.05	
	Lower Limit	157522		10.96		723734		13.09		279268		17.39	
	Client Sample ID												
01	Method Blank	237641		11.29		1130784		13.41		420938		17.72	
02	NSC-SS-2D-071116	240222		11.28		1131676		13.41		420473		17.72	
03	NSC-SS-3E-071216	237953		11.29		1119201		13.41		418428		17.72	
04	NSC-SG-06-071216	240287		11.29		1136785		13.41		423265		17.72	
05	NSC-SS-1A-071116	246387		11.29		1156837		13.41		439024		17.72	
06	NSC-SS-4C-071316	250334		11.28		1160280		13.41		445036		17.72	
07	NSC-SS-4CDup-071316	243382		11.29		1131952		13.41		435361		17.72	
08	Lab Control Sample	245521		11.30		1123343		13.42		428587		17.72	
09													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **NSC-IA-1A-071116** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P1603571-002

Test Code: EPA TO-15 SIM Date Collected: 7/12/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: 7/18/16
Analyst: Cory Lewis Date Analyzed: 7/20/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC00870

Initial Pressure (psig): -1.79 Final Pressure (psig): 3.82

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	0.072	**0.48**	0.014	
74-87-3	Chloromethane	**0.41**	0.072	**0.20**	0.035	
75-01-4	Vinyl Chloride	ND	0.036	ND	0.014	
106-99-0	1,3-Butadiene	**0.12**	0.072	**0.056**	0.032	
74-83-9	Bromomethane	ND	0.036	ND	0.0092	
75-00-3	Chloroethane	**0.050**	0.036	**0.019**	0.014	
107-02-8	Acrolein	**2.8**	0.29	**1.2**	0.12	
67-64-1	Acetone	**280**	3.6	**120**	1.5	
75-69-4	Trichlorofluoromethane	**1.4**	0.072	**0.25**	0.013	
75-35-4	1,1-Dichloroethene	ND	0.036	ND	0.0090	
75-09-2	Methylene Chloride	**0.96**	0.14	**0.28**	0.041	
76-13-1	Trichlorotrifluoroethane	**0.51**	0.036	**0.067**	0.0047	
156-60-5	trans-1,2-Dichloroethene	ND	0.036	ND	0.0090	
75-34-3	1,1-Dichloroethane	ND	0.036	ND	0.0088	
1634-04-4	Methyl tert-Butyl Ether	ND	0.036	ND	0.0099	
156-59-2	cis-1,2-Dichloroethene	ND	0.036	ND	0.0090	
67-66-3	Chloroform	**0.36**	0.14	**0.073**	0.029	
107-06-2	1,2-Dichloroethane	**20**	0.036	**4.8**	0.0088	
71-55-6	1,1,1-Trichloroethane	ND	0.036	ND	0.0066	
71-43-2	Benzene	**0.79**	0.11	**0.25**	0.034	
56-23-5	Carbon Tetrachloride	**0.54**	0.036	**0.086**	0.0057	
78-87-5	1,2-Dichloropropane	ND	0.036	ND	0.0077	
75-27-4	Bromodichloromethane	**0.069**	0.036	**0.010**	0.0053	
79-01-6	Trichloroethene	**0.085**	0.036	**0.016**	0.0067	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **NSC-IA-1A-071116** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P1603571-002

Test Code: EPA TO-15 SIM Date Collected: 7/12/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: 7/18/16
Analyst: Cory Lewis Date Analyzed: 7/20/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC00870

Initial Pressure (psig): -1.79 Final Pressure (psig): 3.82

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
123-91-1	1,4-Dioxane	ND	0.14	ND	0.040	
10061-01-5	cis-1,3-Dichloropropene	ND	0.036	ND	0.0079	
10061-02-6	trans-1,3-Dichloropropene	ND	0.036	ND	0.0079	
79-00-5	1,1,2-Trichloroethane	ND	0.14	ND	0.026	
108-88-3	Toluene	**4.1**	0.14	**1.1**	0.038	
124-48-1	Dibromochloromethane	ND	0.036	ND	0.0042	
106-93-4	1,2-Dibromoethane	ND	0.036	ND	0.0047	
127-18-4	Tetrachloroethene	**1.0**	0.036	**0.15**	0.0053	
108-90-7	Chlorobenzene	ND	0.14	ND	0.031	
100-41-4	Ethylbenzene	**1.1**	0.14	**0.25**	0.033	
179601-23-1	m,p-Xylenes	**3.2**	0.14	**0.74**	0.033	
100-42-5	Styrene	**2.6**	0.14	**0.60**	0.034	
95-47-6	o-Xylene	**1.6**	0.14	**0.37**	0.033	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.036	ND	0.0052	
108-67-8	1,3,5-Trimethylbenzene	**2.7**	0.14	**0.55**	0.029	
95-63-6	1,2,4-Trimethylbenzene	**7.5**	0.14	**1.5**	0.029	
541-73-1	1,3-Dichlorobenzene	ND	0.036	ND	0.0059	
106-46-7	1,4-Dichlorobenzene	**0.10**	0.036	**0.017**	0.0059	
95-50-1	1,2-Dichlorobenzene	ND	0.036	ND	0.0059	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.14	ND	0.015	
120-82-1	1,2,4-Trichlorobenzene	ND	0.072	ND	0.0096	
91-20-3	Naphthalene	**0.72**	0.14	**0.14**	0.027	
87-68-3	Hexachlorobutadiene	ND	0.14	ND	0.013	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **NSC-IA-2D-071116** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P1603571-003

Test Code: EPA TO-15 SIM Date Collected: 7/12/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: 7/18/16
Analyst: Cory Lewis Date Analyzed: 7/20 - 7/21/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes: 0.10 Liter(s)
Container ID: AC01096

Initial Pressure (psig): -0.05 Final Pressure (psig): 4.57

Canister Dilution Factor: 1.32

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.0**	0.066	**0.41**	0.013	
74-87-3	Chloromethane	**0.75**	0.066	**0.36**	0.032	
75-01-4	Vinyl Chloride	ND	0.033	ND	0.013	
106-99-0	1,3-Butadiene	**0.077**	0.066	**0.035**	0.030	
74-83-9	Bromomethane	**0.31**	0.033	**0.079**	0.0085	
75-00-3	Chloroethane	**0.038**	0.033	**0.014**	0.013	
107-02-8	Acrolein	**2.5**	0.26	**1.1**	0.12	
67-64-1	Acetone	**1,500**	33	**620**	14	**D**
75-69-4	Trichlorofluoromethane	**1.8**	0.066	**0.31**	0.012	
75-35-4	1,1-Dichloroethene	ND	0.033	ND	0.0083	
75-09-2	Methylene Chloride	**0.45**	0.13	**0.13**	0.038	
76-13-1	Trichlorotrifluoroethane	**0.52**	0.033	**0.067**	0.0043	
156-60-5	trans-1,2-Dichloroethene	ND	0.033	ND	0.0083	
75-34-3	1,1-Dichloroethane	**0.036**	0.033	**0.0090**	0.0082	
1634-04-4	Methyl tert-Butyl Ether	ND	0.033	ND	0.0092	
156-59-2	cis-1,2-Dichloroethene	**0.65**	0.033	**0.16**	0.0083	
67-66-3	Chloroform	**0.69**	0.13	**0.14**	0.027	
107-06-2	1,2-Dichloroethane	**4.8**	0.033	**1.2**	0.0082	
71-55-6	1,1,1-Trichloroethane	ND	0.033	ND	0.0061	
71-43-2	Benzene	**0.49**	0.099	**0.15**	0.031	
56-23-5	Carbon Tetrachloride	**0.58**	0.033	**0.092**	0.0052	
78-87-5	1,2-Dichloropropane	ND	0.033	ND	0.0071	
75-27-4	Bromodichloromethane	**0.13**	0.033	**0.019**	0.0049	
79-01-6	Trichloroethene	**0.36**	0.033	**0.066**	0.0061	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **NSC-IA-2D-071116** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P1603571-003

Test Code: EPA TO-15 SIM Date Collected: 7/12/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: 7/18/16
Analyst: Cory Lewis Date Analyzed: 7/20 - 7/21/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes: 0.10 Liter(s)
Container ID: AC01096

Initial Pressure (psig): -0.05 Final Pressure (psig): 4.57

Canister Dilution Factor: 1.32

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
123-91-1	1,4-Dioxane	ND	0.13	ND	0.037	
10061-01-5	cis-1,3-Dichloropropene	ND	0.033	ND	0.0073	
10061-02-6	trans-1,3-Dichloropropene	ND	0.033	ND	0.0073	
79-00-5	1,1,2-Trichloroethane	ND	0.13	ND	0.024	
108-88-3	Toluene	**12**	0.13	**3.1**	0.035	
124-48-1	Dibromochloromethane	**0.046**	0.033	**0.0054**	0.0039	
106-93-4	1,2-Dibromoethane	ND	0.033	ND	0.0043	
127-18-4	Tetrachloroethene	**5.5**	0.033	**0.80**	0.0049	
108-90-7	Chlorobenzene	ND	0.13	ND	0.029	
100-41-4	Ethylbenzene	**1.4**	0.13	**0.32**	0.030	
179601-23-1	m,p-Xylenes	**4.2**	0.13	**0.98**	0.030	
100-42-5	Styrene	**4.9**	0.13	**1.2**	0.031	
95-47-6	o-Xylene	**2.2**	0.13	**0.51**	0.030	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.033	ND	0.0048	
108-67-8	1,3,5-Trimethylbenzene	**5.6**	0.13	**1.1**	0.027	
95-63-6	1,2,4-Trimethylbenzene	**15**	0.13	**3.0**	0.027	
541-73-1	1,3-Dichlorobenzene	ND	0.033	ND	0.0055	
106-46-7	1,4-Dichlorobenzene	**0.25**	0.033	**0.041**	0.0055	
95-50-1	1,2-Dichlorobenzene	ND	0.033	ND	0.0055	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.13	ND	0.014	
120-82-1	1,2,4-Trichlorobenzene	ND	0.066	ND	0.0089	
91-20-3	Naphthalene	**0.87**	0.13	**0.17**	0.025	
87-68-3	Hexachlorobutadiene	ND	0.13	ND	0.012	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **NSC-AA-071216** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P1603571-005

Test Code: EPA TO-15 SIM Date Collected: 7/13/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: 7/18/16
Analyst: Wida Ang Date Analyzed: 7/28/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: SC00973

Initial Pressure (psig): -2.68 Final Pressure (psig): 3.95

Canister Dilution Factor: 1.55

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.2**	0.078	**0.45**	0.016	
74-87-3	Chloromethane	**0.44**	0.078	**0.21**	0.038	
75-01-4	Vinyl Chloride	ND	0.039	ND	0.015	
106-99-0	1,3-Butadiene	ND	0.078	ND	0.035	
74-83-9	Bromomethane	ND	0.039	ND	0.010	
75-00-3	Chloroethane	**0.12**	0.039	**0.045**	0.015	
107-02-8	Acrolein	**1.0**	0.31	**0.44**	0.14	
67-64-1	Acetone	**29**	3.9	**12**	1.6	
75-69-4	Trichlorofluoromethane	**1.3**	0.078	**0.24**	0.014	
75-35-4	1,1-Dichloroethene	ND	0.039	ND	0.0098	
75-09-2	Methylene Chloride	**0.30**	0.16	**0.086**	0.045	
76-13-1	Trichlorotrifluoroethane	**0.53**	0.039	**0.069**	0.0051	
156-60-5	trans-1,2-Dichloroethene	ND	0.039	ND	0.0098	
75-34-3	1,1-Dichloroethane	ND	0.039	ND	0.0096	
1634-04-4	Methyl tert-Butyl Ether	ND	0.039	ND	0.011	
156-59-2	cis-1,2-Dichloroethene	**0.12**	0.039	**0.031**	0.0098	
67-66-3	Chloroform	**0.21**	0.16	**0.042**	0.032	
107-06-2	1,2-Dichloroethane	**0.086**	0.039	**0.021**	0.0096	
71-55-6	1,1,1-Trichloroethane	**0.044**	0.039	**0.0081**	0.0071	
71-43-2	Benzene	**0.52**	0.12	**0.16**	0.036	
56-23-5	Carbon Tetrachloride	**0.51**	0.039	**0.081**	0.0062	
78-87-5	1,2-Dichloropropane	ND	0.039	ND	0.0084	
75-27-4	Bromodichloromethane	ND	0.039	ND	0.0058	
79-01-6	Trichloroethene	**0.14**	0.039	**0.027**	0.0072	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **NSC-AA-071216** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P1603571-005

Test Code: EPA TO-15 SIM Date Collected: 7/13/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: 7/18/16
Analyst: Wida Ang Date Analyzed: 7/28/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: SC00973

Initial Pressure (psig): -2.68 Final Pressure (psig): 3.95

Canister Dilution Factor: 1.55

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
123-91-1	1,4-Dioxane	**0.22**	0.16	**0.060**	0.043	
10061-01-5	cis-1,3-Dichloropropene	ND	0.039	ND	0.0085	
10061-02-6	trans-1,3-Dichloropropene	ND	0.039	ND	0.0085	
79-00-5	1,1,2-Trichloroethane	ND	0.16	ND	0.028	
108-88-3	Toluene	**2.1**	0.16	**0.55**	0.041	
124-48-1	Dibromochloromethane	ND	0.039	ND	0.0046	
106-93-4	1,2-Dibromoethane	ND	0.039	ND	0.0050	
127-18-4	Tetrachloroethene	**0.98**	0.039	**0.14**	0.0057	
108-90-7	Chlorobenzene	ND	0.16	ND	0.034	
100-41-4	Ethylbenzene	**0.28**	0.16	**0.064**	0.036	
179601-23-1	m,p-Xylenes	**0.99**	0.16	**0.23**	0.036	
100-42-5	Styrene	ND	0.16	ND	0.036	
95-47-6	o-Xylene	**0.36**	0.16	**0.082**	0.036	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.039	ND	0.0056	
108-67-8	1,3,5-Trimethylbenzene	ND	0.16	ND	0.032	
95-63-6	1,2,4-Trimethylbenzene	**0.42**	0.16	**0.085**	0.032	
541-73-1	1,3-Dichlorobenzene	ND	0.039	ND	0.0064	
106-46-7	1,4-Dichlorobenzene	**0.059**	0.039	**0.0099**	0.0064	
95-50-1	1,2-Dichlorobenzene	ND	0.039	ND	0.0064	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.16	ND	0.016	
120-82-1	1,2,4-Trichlorobenzene	ND	0.078	ND	0.010	
91-20-3	Naphthalene	**0.27**	0.16	**0.051**	0.030	
87-68-3	Hexachlorobutadiene	ND	0.16	ND	0.015	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **NSC-IA-3E-071316** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P1603571-007

Test Code: EPA TO-15 SIM Date Collected: 7/14/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: 7/18/16
Analyst: Cory Lewis Date Analyzed: 7/20 - 7/21/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes: 0.10 Liter(s)
Container ID: SC01498

Initial Pressure (psig): -3.65 Final Pressure (psig): 4.01

Canister Dilution Factor: 1.69

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.9**	0.085	**0.39**	0.017	
74-87-3	Chloromethane	**0.46**	0.085	**0.22**	0.041	
75-01-4	Vinyl Chloride	**0.27**	0.042	**0.11**	0.017	
106-99-0	1,3-Butadiene	ND	0.085	ND	0.038	
74-83-9	Bromomethane	**0.091**	0.042	**0.023**	0.011	
75-00-3	Chloroethane	**0.051**	0.042	**0.019**	0.016	
107-02-8	Acrolein	**1.5**	0.34	**0.65**	0.15	
67-64-1	Acetone	**710**	42	**300**	18	**D**
75-69-4	Trichlorofluoromethane	**1.2**	0.085	**0.21**	0.015	
75-35-4	1,1-Dichloroethene	ND	0.042	ND	0.011	
75-09-2	Methylene Chloride	**0.35**	0.17	**0.10**	0.049	
76-13-1	Trichlorotrifluoroethane	**0.51**	0.042	**0.066**	0.0055	
156-60-5	trans-1,2-Dichloroethene	**0.059**	0.042	**0.015**	0.011	
75-34-3	1,1-Dichloroethane	ND	0.042	ND	0.010	
1634-04-4	Methyl tert-Butyl Ether	ND	0.042	ND	0.012	
156-59-2	cis-1,2-Dichloroethene	**4.5**	0.042	**1.1**	0.011	
67-66-3	Chloroform	**0.55**	0.17	**0.11**	0.035	
107-06-2	1,2-Dichloroethane	**1.6**	0.042	**0.39**	0.010	
71-55-6	1,1,1-Trichloroethane	ND	0.042	ND	0.0077	
71-43-2	Benzene	**0.46**	0.13	**0.15**	0.040	
56-23-5	Carbon Tetrachloride	**0.47**	0.042	**0.076**	0.0067	
78-87-5	1,2-Dichloropropane	ND	0.042	ND	0.0091	
75-27-4	Bromodichloromethane	ND	0.042	ND	0.0063	
79-01-6	Trichloroethene	**2.9**	0.042	**0.53**	0.0079	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **NSC-IA-3E-071316** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P1603571-007

Test Code: EPA TO-15 SIM Date Collected: 7/14/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: 7/18/16
Analyst: Cory Lewis Date Analyzed: 7/20 - 7/21/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes: 0.10 Liter(s)
Container ID: SC01498

Initial Pressure (psig): -3.65 Final Pressure (psig): 4.01

Canister Dilution Factor: 1.69

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
123-91-1	1,4-Dioxane	**3.9**	0.17	**1.1**	0.047	
10061-01-5	cis-1,3-Dichloropropene	ND	0.042	ND	0.0093	
10061-02-6	trans-1,3-Dichloropropene	ND	0.042	ND	0.0093	
79-00-5	1,1,2-Trichloroethane	ND	0.17	ND	0.031	
108-88-3	Toluene	**4.0**	0.17	**1.1**	0.045	
124-48-1	Dibromochloromethane	ND	0.042	ND	0.0050	
106-93-4	1,2-Dibromoethane	ND	0.042	ND	0.0055	
127-18-4	Tetrachloroethene	**120**	0.42	**17**	0.062	**D**
108-90-7	Chlorobenzene	ND	0.17	ND	0.037	
100-41-4	Ethylbenzene	**0.73**	0.17	**0.17**	0.039	
179601-23-1	m,p-Xylenes	**3.1**	0.17	**0.72**	0.039	
100-42-5	Styrene	**0.88**	0.17	**0.21**	0.040	
95-47-6	o-Xylene	**2.2**	0.17	**0.50**	0.039	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.042	ND	0.0062	
108-67-8	1,3,5-Trimethylbenzene	**2.8**	0.17	**0.57**	0.034	
95-63-6	1,2,4-Trimethylbenzene	**7.6**	0.17	**1.5**	0.034	
541-73-1	1,3-Dichlorobenzene	ND	0.042	ND	0.0070	
106-46-7	1,4-Dichlorobenzene	**0.11**	0.042	**0.018**	0.0070	
95-50-1	1,2-Dichlorobenzene	ND	0.042	ND	0.0070	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.17	ND	0.017	
120-82-1	1,2,4-Trichlorobenzene	ND	0.085	ND	0.011	
91-20-3	Naphthalene	**4.4**	0.17	**0.84**	0.032	
87-68-3	Hexachlorobutadiene	ND	0.17	ND	0.016	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **NSC-AADup-071316** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P1603571-008

Test Code: EPA TO-15 SIM Date Collected: 7/14/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: 7/18/16
Analyst: Wida Ang Date Analyzed: 7/28/16
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01011

Initial Pressure (psig): -5.49 Final Pressure (psig): 4.15

Canister Dilution Factor: 2.05

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.1**	0.10	**0.43**	0.021	
74-87-3	Chloromethane	**0.46**	0.10	**0.22**	0.050	
75-01-4	Vinyl Chloride	**1.6**	0.051	**0.64**	0.020	
106-99-0	1,3-Butadiene	ND	0.10	ND	0.046	
74-83-9	Bromomethane	ND	0.051	ND	0.013	
75-00-3	Chloroethane	ND	0.051	ND	0.019	
107-02-8	Acrolein	**1.3**	0.41	**0.56**	0.18	
67-64-1	Acetone	**25**	5.1	**10**	2.2	
75-69-4	Trichlorofluoromethane	**1.6**	0.10	**0.28**	0.018	
75-35-4	1,1-Dichloroethene	ND	0.051	ND	0.013	
75-09-2	Methylene Chloride	**0.40**	0.21	**0.12**	0.059	
76-13-1	Trichlorotrifluoroethane	**0.56**	0.051	**0.073**	0.0067	
156-60-5	trans-1,2-Dichloroethene	**0.056**	0.051	**0.014**	0.013	
75-34-3	1,1-Dichloroethane	ND	0.051	ND	0.013	
1634-04-4	Methyl tert-Butyl Ether	ND	0.051	ND	0.014	
156-59-2	cis-1,2-Dichloroethene	**1.0**	0.051	**0.26**	0.013	
67-66-3	Chloroform	ND	0.21	ND	0.042	
107-06-2	1,2-Dichloroethane	**0.11**	0.051	**0.028**	0.013	
71-55-6	1,1,1-Trichloroethane	ND	0.051	ND	0.0094	
71-43-2	Benzene	**0.41**	0.15	**0.13**	0.048	
56-23-5	Carbon Tetrachloride	**0.50**	0.051	**0.079**	0.0082	
78-87-5	1,2-Dichloropropane	ND	0.051	ND	0.011	
75-27-4	Bromodichloromethane	ND	0.051	ND	0.0077	
79-01-6	Trichloroethene	**0.29**	0.051	**0.054**	0.0095	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **NSC-AADup-071316** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P1603571-008

Test Code: EPA TO-15 SIM Date Collected: 7/14/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: 7/18/16
Analyst: Wida Ang Date Analyzed: 7/28/16
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS01011

Initial Pressure (psig): -5.49 Final Pressure (psig): 4.15

Canister Dilution Factor: 2.05

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
123-91-1	1,4-Dioxane	ND	0.21	ND	0.057	
10061-01-5	cis-1,3-Dichloropropene	ND	0.051	ND	0.011	
10061-02-6	trans-1,3-Dichloropropene	ND	0.051	ND	0.011	
79-00-5	1,1,2-Trichloroethane	ND	0.21	ND	0.038	
108-88-3	Toluene	**1.6**	0.21	**0.43**	0.054	
124-48-1	Dibromochloromethane	ND	0.051	ND	0.0060	
106-93-4	1,2-Dibromoethane	ND	0.051	ND	0.0067	
127-18-4	Tetrachloroethene	**1.5**	0.051	**0.22**	0.0076	
108-90-7	Chlorobenzene	ND	0.21	ND	0.045	
100-41-4	Ethylbenzene	**0.24**	0.21	**0.055**	0.047	
179601-23-1	m,p-Xylenes	**0.78**	0.21	**0.18**	0.047	
100-42-5	Styrene	ND	0.21	ND	0.048	
95-47-6	o-Xylene	**0.32**	0.21	**0.073**	0.047	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.051	ND	0.0075	
108-67-8	1,3,5-Trimethylbenzene	ND	0.21	ND	0.042	
95-63-6	1,2,4-Trimethylbenzene	**0.31**	0.21	**0.063**	0.042	
541-73-1	1,3-Dichlorobenzene	ND	0.051	ND	0.0085	
106-46-7	1,4-Dichlorobenzene	**0.083**	0.051	**0.014**	0.0085	
95-50-1	1,2-Dichlorobenzene	ND	0.051	ND	0.0085	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.21	ND	0.021	
120-82-1	1,2,4-Trichlorobenzene	ND	0.10	ND	0.014	
91-20-3	Naphthalene	**0.30**	0.21	**0.057**	0.039	
87-68-3	Hexachlorobutadiene	ND	0.21	ND	0.019	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **NSC-IA-4L-071316** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P1603571-011

Test Code: EPA TO-15 SIM Date Collected: 7/14/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: 7/18/16
Analyst: Cory Lewis Date Analyzed: 7/20 - 7/21/16
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes: 0.10 Liter(s)
Container ID: SSC00264

Initial Pressure (psig): -2.47 Final Pressure (psig): 3.67

Canister Dilution Factor: 1.50

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.075	**0.47**	0.015	
74-87-3	Chloromethane	**0.49**	0.075	**0.24**	0.036	
75-01-4	Vinyl Chloride	ND	0.038	ND	0.015	
106-99-0	1,3-Butadiene	**0.13**	0.075	**0.060**	0.034	
74-83-9	Bromomethane	**0.043**	0.038	**0.011**	0.0097	
75-00-3	Chloroethane	**0.070**	0.038	**0.027**	0.014	
107-02-8	Acrolein	**3.1**	0.30	**1.3**	0.13	
67-64-1	Acetone	**3,100**	38	**1,300**	16	**D**
75-69-4	Trichlorofluoromethane	**1.2**	0.075	**0.21**	0.013	
75-35-4	1,1-Dichloroethene	ND	0.038	ND	0.0095	
75-09-2	Methylene Chloride	**6.9**	0.15	**2.0**	0.043	
76-13-1	Trichlorotrifluoroethane	**0.50**	0.038	**0.066**	0.0049	
156-60-5	trans-1,2-Dichloroethene	**0.046**	0.038	**0.012**	0.0095	
75-34-3	1,1-Dichloroethane	ND	0.038	ND	0.0093	
1634-04-4	Methyl tert-Butyl Ether	ND	0.038	ND	0.010	
156-59-2	cis-1,2-Dichloroethene	**0.072**	0.038	**0.018**	0.0095	
67-66-3	Chloroform	**0.96**	0.15	**0.20**	0.031	
107-06-2	1,2-Dichloroethane	**160**	0.38	**40**	0.093	**D**
71-55-6	1,1,1-Trichloroethane	ND	0.038	ND	0.0069	
71-43-2	Benzene	**0.91**	0.11	**0.28**	0.035	
56-23-5	Carbon Tetrachloride	**0.56**	0.038	**0.089**	0.0060	
78-87-5	1,2-Dichloropropane	**0.072**	0.038	**0.016**	0.0081	
75-27-4	Bromodichloromethane	**0.12**	0.038	**0.017**	0.0056	
79-01-6	Trichloroethene	**0.32**	0.038	**0.059**	0.0070	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **NSC-IA-4L-071316** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P1603571-011

Test Code: EPA TO-15 SIM Date Collected: 7/14/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: 7/18/16
Analyst: Cory Lewis Date Analyzed: 7/20 - 7/21/16
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes: 0.10 Liter(s)
Container ID: SSC00264

Initial Pressure (psig): -2.47 Final Pressure (psig): 3.67

Canister Dilution Factor: 1.50

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
123-91-1	1,4-Dioxane	**0.17**	0.15	**0.048**	0.042	
10061-01-5	cis-1,3-Dichloropropene	ND	0.038	ND	0.0083	
10061-02-6	trans-1,3-Dichloropropene	ND	0.038	ND	0.0083	
79-00-5	1,1,2-Trichloroethane	ND	0.15	ND	0.028	
108-88-3	Toluene	**28**	0.15	**7.4**	0.040	
124-48-1	Dibromochloromethane	ND	0.038	ND	0.0044	
106-93-4	1,2-Dibromoethane	ND	0.038	ND	0.0049	
127-18-4	Tetrachloroethene	**2.2**	0.038	**0.33**	0.0055	
108-90-7	Chlorobenzene	ND	0.15	ND	0.033	
100-41-4	Ethylbenzene	**6.4**	0.15	**1.5**	0.035	
179601-23-1	m,p-Xylenes	**18**	0.15	**4.1**	0.035	
100-42-5	Styrene	**11**	0.15	**2.5**	0.035	
95-47-6	o-Xylene	**7.0**	0.15	**1.6**	0.035	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.038	ND	0.0055	
108-67-8	1,3,5-Trimethylbenzene	**4.6**	0.15	**0.94**	0.031	
95-63-6	1,2,4-Trimethylbenzene	**11**	0.15	**2.3**	0.031	
541-73-1	1,3-Dichlorobenzene	ND	0.038	ND	0.0062	
106-46-7	1,4-Dichlorobenzene	**0.10**	0.038	**0.017**	0.0062	
95-50-1	1,2-Dichlorobenzene	ND	0.038	ND	0.0062	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.15	ND	0.016	
120-82-1	1,2,4-Trichlorobenzene	ND	0.075	ND	0.010	
91-20-3	Naphthalene	**0.55**	0.15	**0.10**	0.029	
87-68-3	Hexachlorobutadiene	ND	0.15	ND	0.014	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **Method Blank** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P160720-MB

Test Code: EPA TO-15 SIM Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: NA
Analyst: Cory Lewis Date Analyzed: 7/20/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.050	ND	0.010	
74-87-3	Chloromethane	ND	0.050	ND	0.024	
75-01-4	Vinyl Chloride	ND	0.025	ND	0.0098	
106-99-0	1,3-Butadiene	ND	0.050	ND	0.023	
74-83-9	Bromomethane	ND	0.025	ND	0.0064	
75-00-3	Chloroethane	ND	0.025	ND	0.0095	
107-02-8	Acrolein	ND	0.20	ND	0.087	
67-64-1	Acetone	ND	2.5	ND	1.1	
75-69-4	Trichlorofluoromethane	ND	0.050	ND	0.0089	
75-35-4	1,1-Dichloroethene	ND	0.025	ND	0.0063	
75-09-2	Methylene Chloride	ND	0.10	ND	0.029	
76-13-1	Trichlorotrifluoroethane	ND	0.025	ND	0.0033	
156-60-5	trans-1,2-Dichloroethene	ND	0.025	ND	0.0063	
75-34-3	1,1-Dichloroethane	ND	0.025	ND	0.0062	
1634-04-4	Methyl tert-Butyl Ether	ND	0.025	ND	0.0069	
156-59-2	cis-1,2-Dichloroethene	ND	0.025	ND	0.0063	
67-66-3	Chloroform	ND	0.10	ND	0.020	
107-06-2	1,2-Dichloroethane	ND	0.025	ND	0.0062	
71-55-6	1,1,1-Trichloroethane	ND	0.025	ND	0.0046	
71-43-2	Benzene	ND	0.075	ND	0.023	
56-23-5	Carbon Tetrachloride	ND	0.025	ND	0.0040	
78-87-5	1,2-Dichloropropane	ND	0.025	ND	0.0054	
75-27-4	Bromodichloromethane	ND	0.025	ND	0.0037	
79-01-6	Trichloroethene	ND	0.025	ND	0.0047	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **Method Blank** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P160720-MB

Test Code: EPA TO-15 SIM Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: NA
Analyst: Cory Lewis Date Analyzed: 7/20/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
123-91-1	1,4-Dioxane	ND	0.10	ND	0.028	
10061-01-5	cis-1,3-Dichloropropene	ND	0.025	ND	0.0055	
10061-02-6	trans-1,3-Dichloropropene	ND	0.025	ND	0.0055	
79-00-5	1,1,2-Trichloroethane	ND	0.10	ND	0.018	
108-88-3	Toluene	ND	0.10	ND	0.027	
124-48-1	Dibromochloromethane	ND	0.025	ND	0.0029	
106-93-4	1,2-Dibromoethane	ND	0.025	ND	0.0033	
127-18-4	Tetrachloroethene	ND	0.025	ND	0.0037	
108-90-7	Chlorobenzene	ND	0.10	ND	0.022	
100-41-4	Ethylbenzene	ND	0.10	ND	0.023	
179601-23-1	m,p-Xylenes	ND	0.10	ND	0.023	
100-42-5	Styrene	ND	0.10	ND	0.023	
95-47-6	o-Xylene	ND	0.10	ND	0.023	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.025	ND	0.0036	
108-67-8	1,3,5-Trimethylbenzene	ND	0.10	ND	0.020	
95-63-6	1,2,4-Trimethylbenzene	ND	0.10	ND	0.020	
541-73-1	1,3-Dichlorobenzene	ND	0.025	ND	0.0042	
106-46-7	1,4-Dichlorobenzene	ND	0.025	ND	0.0042	
95-50-1	1,2-Dichlorobenzene	ND	0.025	ND	0.0042	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.10	ND	0.010	
120-82-1	1,2,4-Trichlorobenzene	ND	0.050	ND	0.0067	
91-20-3	Naphthalene	ND	0.10	ND	0.019	
87-68-3	Hexachlorobutadiene	ND	0.10	ND	0.0094	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **Method Blank** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P160721-MB

Test Code: EPA TO-15 SIM Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: NA
Analyst: Cory Lewis Date Analyzed: 7/21/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.050	ND	0.010	
74-87-3	Chloromethane	ND	0.050	ND	0.024	
75-01-4	Vinyl Chloride	ND	0.025	ND	0.0098	
106-99-0	1,3-Butadiene	ND	0.050	ND	0.023	
74-83-9	Bromomethane	ND	0.025	ND	0.0064	
75-00-3	Chloroethane	ND	0.025	ND	0.0095	
107-02-8	Acrolein	ND	0.20	ND	0.087	
67-64-1	Acetone	ND	2.5	ND	1.1	
75-69-4	Trichlorofluoromethane	ND	0.050	ND	0.0089	
75-35-4	1,1-Dichloroethene	ND	0.025	ND	0.0063	
75-09-2	Methylene Chloride	ND	0.10	ND	0.029	
76-13-1	Trichlorotrifluoroethane	ND	0.025	ND	0.0033	
156-60-5	trans-1,2-Dichloroethene	ND	0.025	ND	0.0063	
75-34-3	1,1-Dichloroethane	ND	0.025	ND	0.0062	
1634-04-4	Methyl tert-Butyl Ether	ND	0.025	ND	0.0069	
156-59-2	cis-1,2-Dichloroethene	ND	0.025	ND	0.0063	
67-66-3	Chloroform	ND	0.10	ND	0.020	
107-06-2	1,2-Dichloroethane	ND	0.025	ND	0.0062	
71-55-6	1,1,1-Trichloroethane	ND	0.025	ND	0.0046	
71-43-2	Benzene	ND	0.075	ND	0.023	
56-23-5	Carbon Tetrachloride	ND	0.025	ND	0.0040	
78-87-5	1,2-Dichloropropane	ND	0.025	ND	0.0054	
75-27-4	Bromodichloromethane	ND	0.025	ND	0.0037	
79-01-6	Trichloroethene	ND	0.025	ND	0.0047	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **Method Blank** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P160721-MB

Test Code: EPA TO-15 SIM Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: NA
Analyst: Cory Lewis Date Analyzed: 7/21/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
123-91-1	1,4-Dioxane	ND	0.10	ND	0.028	
10061-01-5	cis-1,3-Dichloropropene	ND	0.025	ND	0.0055	
10061-02-6	trans-1,3-Dichloropropene	ND	0.025	ND	0.0055	
79-00-5	1,1,2-Trichloroethane	ND	0.10	ND	0.018	
108-88-3	Toluene	ND	0.10	ND	0.027	
124-48-1	Dibromochloromethane	ND	0.025	ND	0.0029	
106-93-4	1,2-Dibromoethane	ND	0.025	ND	0.0033	
127-18-4	Tetrachloroethene	ND	0.025	ND	0.0037	
108-90-7	Chlorobenzene	ND	0.10	ND	0.022	
100-41-4	Ethylbenzene	ND	0.10	ND	0.023	
179601-23-1	m,p-Xylenes	ND	0.10	ND	0.023	
100-42-5	Styrene	ND	0.10	ND	0.023	
95-47-6	o-Xylene	ND	0.10	ND	0.023	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.025	ND	0.0036	
108-67-8	1,3,5-Trimethylbenzene	ND	0.10	ND	0.020	
95-63-6	1,2,4-Trimethylbenzene	ND	0.10	ND	0.020	
541-73-1	1,3-Dichlorobenzene	ND	0.025	ND	0.0042	
106-46-7	1,4-Dichlorobenzene	ND	0.025	ND	0.0042	
95-50-1	1,2-Dichlorobenzene	ND	0.025	ND	0.0042	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.10	ND	0.010	
120-82-1	1,2,4-Trichlorobenzene	ND	0.050	ND	0.0067	
91-20-3	Naphthalene	ND	0.10	ND	0.019	
87-68-3	Hexachlorobutadiene	ND	0.10	ND	0.0094	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **Method Blank** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P160728-MB

Test Code: EPA TO-15 SIM Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: NA
Analyst: Wida Ang Date Analyzed: 7/28/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.050	ND	0.010	
74-87-3	Chloromethane	ND	0.050	ND	0.024	
75-01-4	Vinyl Chloride	ND	0.025	ND	0.0098	
106-99-0	1,3-Butadiene	ND	0.050	ND	0.023	
74-83-9	Bromomethane	ND	0.025	ND	0.0064	
75-00-3	Chloroethane	ND	0.025	ND	0.0095	
107-02-8	Acrolein	ND	0.20	ND	0.087	
67-64-1	Acetone	ND	2.5	ND	1.1	
75-69-4	Trichlorofluoromethane	ND	0.050	ND	0.0089	
75-35-4	1,1-Dichloroethene	ND	0.025	ND	0.0063	
75-09-2	Methylene Chloride	ND	0.10	ND	0.029	
76-13-1	Trichlorotrifluoroethane	ND	0.025	ND	0.0033	
156-60-5	trans-1,2-Dichloroethene	ND	0.025	ND	0.0063	
75-34-3	1,1-Dichloroethane	ND	0.025	ND	0.0062	
1634-04-4	Methyl tert-Butyl Ether	ND	0.025	ND	0.0069	
156-59-2	cis-1,2-Dichloroethene	ND	0.025	ND	0.0063	
67-66-3	Chloroform	ND	0.10	ND	0.020	
107-06-2	1,2-Dichloroethane	ND	0.025	ND	0.0062	
71-55-6	1,1,1-Trichloroethane	ND	0.025	ND	0.0046	
71-43-2	Benzene	ND	0.075	ND	0.023	
56-23-5	Carbon Tetrachloride	ND	0.025	ND	0.0040	
78-87-5	1,2-Dichloropropane	ND	0.025	ND	0.0054	
75-27-4	Bromodichloromethane	ND	0.025	ND	0.0037	
79-01-6	Trichloroethene	ND	0.025	ND	0.0047	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Sample ID: **Method Blank** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P160728-MB

Test Code: EPA TO-15 SIM Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: NA
Analyst: Wida Ang Date Analyzed: 7/28/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
123-91-1	1,4-Dioxane	ND	0.10	ND	0.028	
10061-01-5	cis-1,3-Dichloropropene	ND	0.025	ND	0.0055	
10061-02-6	trans-1,3-Dichloropropene	ND	0.025	ND	0.0055	
79-00-5	1,1,2-Trichloroethane	ND	0.10	ND	0.018	
108-88-3	Toluene	ND	0.10	ND	0.027	
124-48-1	Dibromochloromethane	ND	0.025	ND	0.0029	
106-93-4	1,2-Dibromoethane	ND	0.025	ND	0.0033	
127-18-4	Tetrachloroethene	ND	0.025	ND	0.0037	
108-90-7	Chlorobenzene	ND	0.10	ND	0.022	
100-41-4	Ethylbenzene	ND	0.10	ND	0.023	
179601-23-1	m,p-Xylenes	ND	0.10	ND	0.023	
100-42-5	Styrene	ND	0.10	ND	0.023	
95-47-6	o-Xylene	ND	0.10	ND	0.023	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.025	ND	0.0036	
108-67-8	1,3,5-Trimethylbenzene	ND	0.10	ND	0.020	
95-63-6	1,2,4-Trimethylbenzene	ND	0.10	ND	0.020	
541-73-1	1,3-Dichlorobenzene	ND	0.025	ND	0.0042	
106-46-7	1,4-Dichlorobenzene	ND	0.025	ND	0.0042	
95-50-1	1,2-Dichlorobenzene	ND	0.025	ND	0.0042	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.10	ND	0.010	
120-82-1	1,2,4-Trichlorobenzene	ND	0.050	ND	0.0067	
91-20-3	Naphthalene	ND	0.10	ND	0.019	
87-68-3	Hexachlorobutadiene	ND	0.10	ND	0.0094	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **CT Laboratories**
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Project ID: P1603571

Test Code: EPA TO-15 SIM
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date(s) Collected: 7/12 - 7/14/16
Analyst: Cory Lewis Date(s) Received: 7/18/16
Sample Type: 6.0 L Summa Canister(s) Date(s) Analyzed: 7/20 - 7/28/16
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 % Recovered	Toluene-d8 % Recovered	Bromofluorobenzene % Recovered	Acceptance Limits	Data Qualifier
Method Blank	P160720-MB	**85**	**97**	**129**	70-130	
Method Blank	P160721-MB	**85**	**97**	**125**	70-130	
Method Blank	P160728-MB	**96**	**99**	**106**	70-130	
Lab Control Sample	P160720-LCS	**85**	**97**	**125**	70-130	
Lab Control Sample	P160721-LCS	**85**	**97**	**122**	70-130	
Lab Control Sample	P160728-LCS	**94**	**98**	**108**	70-130	
NSC-IA-1A-071116	P1603571-002	**86**	**100**	**129**	70-130	
NSC-IA-2D-071116	P1603571-003	**86**	**99**	**130**	70-130	
NSC-AA-071216	P1603571-005	**100**	**100**	**107**	70-130	
NSC-IA-3E-071316	P1603571-007	**87**	**99**	**129**	70-130	
NSC-AADup-071316	P1603571-008	**100**	**100**	**110**	70-130	
NSC-IA-4L-071316	P1603571-011	**85**	**100**	**128**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **CT Laboratories**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P160720-LCS

Test Code: EPA TO-15 SIM Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: NA
Analyst: Cory Lewis Date Analyzed: 7/20/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	3.76	**3.17**	**84**	60-119	
74-87-3	Chloromethane	4.00	**2.99**	**75**	56-121	
75-01-4	Vinyl Chloride	4.00	**3.27**	**82**	64-118	
106-99-0	1,3-Butadiene	4.12	**3.40**	**83**	70-130	
74-83-9	Bromomethane	4.04	**3.59**	**89**	72-116	
75-00-3	Chloroethane	4.00	**3.35**	**84**	68-116	
107-02-8	Acrolein	4.28	**3.83**	**89**	70-130	
67-64-1	Acetone	21.6	**20.9**	**97**	53-148	
75-69-4	Trichlorofluoromethane	4.32	**3.45**	**80**	70-121	
75-35-4	1,1-Dichloroethene	4.32	**3.94**	**91**	72-113	
75-09-2	Methylene Chloride	4.44	**3.87**	**87**	65-112	
76-13-1	Trichlorotrifluoroethane	4.40	**4.12**	**94**	71-115	
156-60-5	trans-1,2-Dichloroethene	4.20	**3.78**	**90**	70-115	
75-34-3	1,1-Dichloroethane	4.24	**3.55**	**84**	66-117	
1634-04-4	Methyl tert-Butyl Ether	4.32	**3.69**	**85**	65-116	
156-59-2	cis-1,2-Dichloroethene	4.36	**3.99**	**92**	72-115	
67-66-3	Chloroform	4.48	**3.96**	**88**	68-112	
107-06-2	1,2-Dichloroethane	4.28	**3.42**	**80**	64-116	
71-55-6	1,1,1-Trichloroethane	4.20	**3.69**	**88**	69-113	
71-43-2	Benzene	4.52	**4.29**	**95**	67-113	
56-23-5	Carbon Tetrachloride	4.60	**3.77**	**82**	70-116	
78-87-5	1,2-Dichloropropane	4.32	**3.70**	**86**	61-117	
75-27-4	Bromodichloromethane	4.36	**3.80**	**87**	60-118	
79-01-6	Trichloroethene	4.32	**3.99**	**92**	70-112	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **CT Laboratories**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P160720-LCS

Test Code: EPA TO-15 SIM Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: NA
Analyst: Cory Lewis Date Analyzed: 7/20/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
123-91-1	1,4-Dioxane	4.20	**4.12**	**98**	64-110	
10061-01-5	cis-1,3-Dichloropropene	4.16	**3.61**	**87**	65-113	
10061-02-6	trans-1,3-Dichloropropene	4.20	**3.59**	**85**	64-112	
79-00-5	1,1,2-Trichloroethane	4.32	**3.91**	**91**	63-118	
108-88-3	Toluene	4.36	**3.92**	**90**	68-111	
124-48-1	Dibromochloromethane	4.40	**4.12**	**94**	70-130	
106-93-4	1,2-Dibromoethane	4.36	**4.03**	**92**	66-114	
127-18-4	Tetrachloroethene	4.04	**3.92**	**97**	67-114	
108-90-7	Chlorobenzene	4.40	**4.95**	**113**	70-125	
100-41-4	Ethylbenzene	4.36	**4.87**	**112**	71-127	
179601-23-1	m,p-Xylenes	8.56	**9.74**	**114**	73-130	
100-42-5	Styrene	4.44	**5.05**	**114**	70-130	
95-47-6	o-Xylene	4.20	**4.94**	**118**	74-130	
79-34-5	1,1,2,2-Tetrachloroethane	4.20	**4.79**	**114**	63-128	
108-67-8	1,3,5-Trimethylbenzene	4.28	**5.16**	**121**	70-130	
95-63-6	1,2,4-Trimethylbenzene	4.36	**5.20**	**119**	70-130	
541-73-1	1,3-Dichlorobenzene	4.56	**5.37**	**118**	63-127	
106-46-7	1,4-Dichlorobenzene	4.16	**4.89**	**118**	63-126	
95-50-1	1,2-Dichlorobenzene	4.40	**5.30**	**120**	63-128	
96-12-8	1,2-Dibromo-3-chloropropane	4.36	**5.30**	**122**	70-130	
120-82-1	1,2,4-Trichlorobenzene	4.60	**4.94**	**107**	43-129	
91-20-3	Naphthalene	4.36	**4.23**	**97**	31-142	
87-68-3	Hexachlorobutadiene	4.60	**5.72**	**124**	52-128	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **CT Laboratories**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P160721-LCS

Test Code: EPA TO-15 SIM Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: NA
Analyst: Cory Lewis Date Analyzed: 7/21/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	3.76	**3.10**	**82**	60-119	
74-87-3	Chloromethane	4.00	**2.96**	**74**	56-121	
75-01-4	Vinyl Chloride	4.00	**3.29**	**82**	64-118	
106-99-0	1,3-Butadiene	4.12	**3.42**	**83**	70-130	
74-83-9	Bromomethane	4.04	**3.50**	**87**	72-116	
75-00-3	Chloroethane	4.00	**3.26**	**82**	68-116	
107-02-8	Acrolein	4.28	**3.78**	**88**	70-130	
67-64-1	Acetone	21.6	**20.6**	**95**	53-148	
75-69-4	Trichlorofluoromethane	4.32	**3.39**	**78**	70-121	
75-35-4	1,1-Dichloroethene	4.32	**3.87**	**90**	72-113	
75-09-2	Methylene Chloride	4.44	**3.79**	**85**	65-112	
76-13-1	Trichlorotrifluoroethane	4.40	**3.99**	**91**	71-115	
156-60-5	trans-1,2-Dichloroethene	4.20	**3.70**	**88**	70-115	
75-34-3	1,1-Dichloroethane	4.24	**3.49**	**82**	66-117	
1634-04-4	Methyl tert-Butyl Ether	4.32	**3.65**	**84**	65-116	
156-59-2	cis-1,2-Dichloroethene	4.36	**3.91**	**90**	72-115	
67-66-3	Chloroform	4.48	**3.93**	**88**	68-112	
107-06-2	1,2-Dichloroethane	4.28	**3.36**	**79**	64-116	
71-55-6	1,1,1-Trichloroethane	4.20	**3.64**	**87**	69-113	
71-43-2	Benzene	4.52	**4.34**	**96**	67-113	
56-23-5	Carbon Tetrachloride	4.60	**3.72**	**81**	70-116	
78-87-5	1,2-Dichloropropane	4.32	**3.58**	**83**	61-117	
75-27-4	Bromodichloromethane	4.36	**3.71**	**85**	60-118	
79-01-6	Trichloroethene	4.32	**3.87**	**90**	70-112	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **CT Laboratories**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P160721-LCS

Test Code: EPA TO-15 SIM Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: NA
Analyst: Cory Lewis Date Analyzed: 7/21/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
123-91-1	1,4-Dioxane	4.20	**4.01**	**95**	64-110	
10061-01-5	cis-1,3-Dichloropropene	4.16	**3.53**	**85**	65-113	
10061-02-6	trans-1,3-Dichloropropene	4.20	**3.50**	**83**	64-112	
79-00-5	1,1,2-Trichloroethane	4.32	**3.79**	**88**	63-118	
108-88-3	Toluene	4.36	**3.82**	**88**	68-111	
124-48-1	Dibromochloromethane	4.40	**4.01**	**91**	70-130	
106-93-4	1,2-Dibromoethane	4.36	**3.91**	**90**	66-114	
127-18-4	Tetrachloroethene	4.04	**3.78**	**94**	67-114	
108-90-7	Chlorobenzene	4.40	**4.80**	**109**	70-125	
100-41-4	Ethylbenzene	4.36	**4.78**	**110**	71-127	
179601-23-1	m,p-Xylenes	8.56	**9.55**	**112**	73-130	
100-42-5	Styrene	4.44	**4.91**	**111**	70-130	
95-47-6	o-Xylene	4.20	**4.82**	**115**	74-130	
79-34-5	1,1,2,2-Tetrachloroethane	4.20	**4.69**	**112**	63-128	
108-67-8	1,3,5-Trimethylbenzene	4.28	**5.06**	**118**	70-130	
95-63-6	1,2,4-Trimethylbenzene	4.36	**5.10**	**117**	70-130	
541-73-1	1,3-Dichlorobenzene	4.56	**5.23**	**115**	63-127	
106-46-7	1,4-Dichlorobenzene	4.16	**4.72**	**113**	63-126	
95-50-1	1,2-Dichlorobenzene	4.40	**5.14**	**117**	63-128	
96-12-8	1,2-Dibromo-3-chloropropane	4.36	**5.16**	**118**	70-130	
120-82-1	1,2,4-Trichlorobenzene	4.60	**4.74**	**103**	43-129	
91-20-3	Naphthalene	4.36	**4.05**	**93**	31-142	
87-68-3	Hexachlorobutadiene	4.60	**5.51**	**120**	52-128	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **CT Laboratories**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P160728-LCS

Test Code: EPA TO-15 SIM Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: NA
Analyst: Wida Ang Date Analyzed: 7/28/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	3.76	**3.50**	**93**	60-119	
74-87-3	Chloromethane	4.00	**3.43**	**86**	56-121	
75-01-4	Vinyl Chloride	4.00	**3.61**	**90**	64-118	
106-99-0	1,3-Butadiene	4.12	**3.75**	**91**	70-130	
74-83-9	Bromomethane	4.04	**3.68**	**91**	72-116	
75-00-3	Chloroethane	4.00	**3.62**	**91**	68-116	
107-02-8	Acrolein	4.28	**4.06**	**95**	70-130	
67-64-1	Acetone	21.6	**21.5**	**100**	53-148	
75-69-4	Trichlorofluoromethane	4.32	**3.75**	**87**	70-121	
75-35-4	1,1-Dichloroethene	4.32	**4.10**	**95**	72-113	
75-09-2	Methylene Chloride	4.44	**4.18**	**94**	65-112	
76-13-1	Trichlorotrifluoroethane	4.40	**4.18**	**95**	71-115	
156-60-5	trans-1,2-Dichloroethene	4.20	**3.94**	**94**	70-115	
75-34-3	1,1-Dichloroethane	4.24	**3.94**	**93**	66-117	
1634-04-4	Methyl tert-Butyl Ether	4.32	**3.92**	**91**	65-116	
156-59-2	cis-1,2-Dichloroethene	4.36	**4.14**	**95**	72-115	
67-66-3	Chloroform	4.48	**4.40**	**98**	68-112	
107-06-2	1,2-Dichloroethane	4.28	**3.89**	**91**	64-116	
71-55-6	1,1,1-Trichloroethane	4.20	**3.97**	**95**	69-113	
71-43-2	Benzene	4.52	**4.61**	**102**	67-113	
56-23-5	Carbon Tetrachloride	4.60	**4.13**	**90**	70-116	
78-87-5	1,2-Dichloropropane	4.32	**4.04**	**94**	61-117	
75-27-4	Bromodichloromethane	4.36	**4.13**	**95**	60-118	
79-01-6	Trichloroethene	4.32	**4.06**	**94**	70-112	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **CT Laboratories**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1603571
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Sample ID: P160728-LCS

Test Code: EPA TO-15 SIM Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: NA
Analyst: Wida Ang Date Analyzed: 7/28/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
123-91-1	1,4-Dioxane	4.20	**4.22**	**100**	64-110	
10061-01-5	cis-1,3-Dichloropropene	4.16	**3.86**	**93**	65-113	
10061-02-6	trans-1,3-Dichloropropene	4.20	**3.88**	**92**	64-112	
79-00-5	1,1,2-Trichloroethane	4.32	**4.16**	**96**	63-118	
108-88-3	Toluene	4.36	**4.13**	**95**	68-111	
124-48-1	Dibromochloromethane	4.40	**4.30**	**98**	70-130	
106-93-4	1,2-Dibromoethane	4.36	**4.22**	**97**	66-114	
127-18-4	Tetrachloroethene	4.04	**3.89**	**96**	67-114	
108-90-7	Chlorobenzene	4.40	**4.50**	**102**	70-125	
100-41-4	Ethylbenzene	4.36	**4.45**	**102**	71-127	
179601-23-1	m,p-Xylenes	8.56	**8.93**	**104**	73-130	
100-42-5	Styrene	4.44	**4.65**	**105**	70-130	
95-47-6	o-Xylene	4.20	**4.42**	**105**	74-130	
79-34-5	1,1,2,2-Tetrachloroethane	4.20	**4.51**	**107**	63-128	
108-67-8	1,3,5-Trimethylbenzene	4.28	**4.61**	**108**	70-130	
95-63-6	1,2,4-Trimethylbenzene	4.36	**4.68**	**107**	70-130	
541-73-1	1,3-Dichlorobenzene	4.56	**4.96**	**109**	63-127	
106-46-7	1,4-Dichlorobenzene	4.16	**4.56**	**110**	63-126	
95-50-1	1,2-Dichlorobenzene	4.40	**4.75**	**108**	63-128	
96-12-8	1,2-Dibromo-3-chloropropane	4.36	**4.65**	**107**	70-130	
120-82-1	1,2,4-Trichlorobenzene	4.60	**4.74**	**103**	43-129	
91-20-3	Naphthalene	4.36	**4.58**	**105**	31-142	
87-68-3	Hexachlorobutadiene	4.60	**4.73**	**103**	52-128	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Project ID: P1603571

Internal Standard Area and RT Summary

Test Code: EPA TO-15 SIM
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/7890A/MS19 Lab File ID: 07201605.D
Analyst: Cory Lewis Date Analyzed: 7/20/16
Sample Type: 6.0 L Summa Canister(s) Time Analyzed: 09:23
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	AREA	#	RT
	24 Hour Standard	19637		9.75	95029		11.71	13059		16.05
	Upper Limit	27492		10.08	133041		12.04	18283		16.38
	Lower Limit	11782		9.42	57017		11.38	7835		15.72
	Client Sample ID									
01	Method Blank	19393		9.77	94860		11.71	13203		16.06
02	Lab Control Sample	19302		9.75	93317		11.71	13006		16.05
03	NSC-IA-1A-071116	18808		9.76	90437		11.71	13316		16.05
04	NSC-IA-2D-071116	18710		9.77	91751		11.72	13152		16.05
05	NSC-IA-3E-071316	18214		9.77	90550		11.71	13080		16.05
06	NSC-IA-4L-071316	18195		9.78	87705		11.72	12745		16.05
07										
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits. See case narrative.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Project ID: P1603571

Internal Standard Area and RT Summary

Test Code: EPA TO-15 SIM
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/7890A/MS19 Lab File ID: 07211602.D
Analyst: Cory Lewis Date Analyzed: 7/21/16
Sample Type: 6.0 L Summa Canister(s) Time Analyzed: 10:11
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	AREA	#	RT
	24 Hour Standard	18213		9.75	87937		11.71	12371		16.05
	Upper Limit	25498		10.08	123112		12.04	17319		16.38
	Lower Limit	10928		9.42	52762		11.38	7423		15.72
	Client Sample ID									
01	Method Blank	18289		9.77	90046		11.71	12569		16.06
02	Lab Control Sample	18475		9.75	90060		11.71	12487		16.05
03	NSC-IA-2D-071116 (Dilution)	18141		9.76	88846		11.71	12332		16.05
04	NSC-IA-3E-071316 (Dilution)	17620		9.75	86170		11.71	12265		16.05
05	NSC-IA-4L-071316 (Dilution)	17659		9.76	85527		11.71	12184		16.05
06										
07										
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits. See case narrative.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CT Laboratories**
Client Project ID: **North Suburban Cleaners / 103x90260001S051605001** ALS Project ID: P1603571

Internal Standard Area and RT Summary

Test Code: EPA TO-15 SIM
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/7890A/MS19 Lab File ID: 07281602.D
Analyst: Cory Lewis Date Analyzed: 7/28/16
Sample Type: 6.0 L Summa Canister(s) Time Analyzed: 12:04
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	AREA	#	RT
	24 Hour Standard	16800		9.75	80752		11.71	12514		16.05
	Upper Limit	23520		10.08	113053		12.04	17520		16.38
	Lower Limit	10080		9.42	48451		11.38	7508		15.72
	Client Sample ID									
01	Lab Control Sample	16611		9.75	80379		11.71	12729		16.05
02	Method Blank	15887		9.77	76835		11.72	12450		16.06
03	NSC-AA-071216	15205		9.74	74021		11.70	11771		16.05
04	NSC-AADup-071316	15534		9.75	76373		11.71	12299		16.05
05										
06										
07										
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits. See case narrative.

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 07\20\07201608.D
Acq On : 20 Jul 2016 10:05 Operator: LH
Sample : P1603571-001 (50mL)
Misc : S29-07061608
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 25 10:20:34 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:43:00 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 7/25/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	246387	12.500 ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.41	114	1156837	12.500 ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.72	82	439024	12.500 ng	0.00

System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	12.14	65	315117	11.730 ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.84%		
57) Toluene-d8 (SS2)	15.87	98	1116689	12.711 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.68%		
73) Bromofluorobenzene (SS3)	19.10	174	414450	13.545 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.40%		

Target Compounds					Qvalue
2) Propene	4.15	42	5159	N.D.	
3) Dichlorodifluoromethan...	4.30	85	4396572	81.657 ng	100
4) Chloromethane	4.68	50	577	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	0.00	54	0	N.D.	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	6.45	45	159245	7.857 ng	99
11) Acetonitrile	6.74	41	1111	N.D.	
12) Acrolein	6.94	56	483	N.D.	
13) Acetone	7.10	58	501900	24.624 ng	96
14) Trichlorofluoromethane	7.37	101	2493	N.D.	
15) 2-Propanol (Isopropanol)	7.61	45	113203	1.763 ng	100
16) Acrylonitrile	8.12	53	342	N.D.	
17) 1,1-Dichloroethene	0.00	96	0	N.D.	
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d	
19) Methylene Chloride	8.56	84	536	N.D.	
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	
21) Trichlorotrifluoroethane	8.80	151	1222	N.D.	
22) Carbon Disulfide	8.87	76	5319	N.D.	
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
24) 1,1-Dichloroethane	0.00	63	0	N.D.	
25) Methyl tert-Butyl Ether	10.22	73	3420	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D.	
27) 2-Butanone (MEK)	10.60	72	3452	N.D.	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	
29) Diisopropyl Ether	0.00	87	0	N.D.	
30) Ethyl Acetate	11.42	61	5450	0.597 ng	94
31) n-Hexane	11.40	57	5687	N.D.	
32) Chloroform	11.46	83	1366	N.D.	
34) Tetrahydrofuran (THF)	11.88	72	503	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	12.26	62	14897	0.484 ng	99
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
39) Isopropyl Acetate	0.00	61	0	N.D.	
40) 1-Butanol	0.00	56	0	N.D. d	
41) Benzene	13.02	78	12836	N.D.	
42) Carbon Tetrachloride	0.00	117	0	N.D.	
43) Cyclohexane	13.31	84	3171	N.D.	
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D.	
46) Bromodichloromethane	0.00	83	0	N.D.	
47) Trichloroethene	14.12	130	2802	N.D.	
48) 1,4-Dioxane	14.11	88	733	N.D.	
49) 2,2,4-Trimethylpentane...	14.19	57	1596	N.D.	

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 07\20\07201608.D
Acq On : 20 Jul 2016 10:05 Operator: LH
Sample : P1603571-001 (50mL)
Misc : S29-07061608
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 25 10:20:34 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:43:00 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

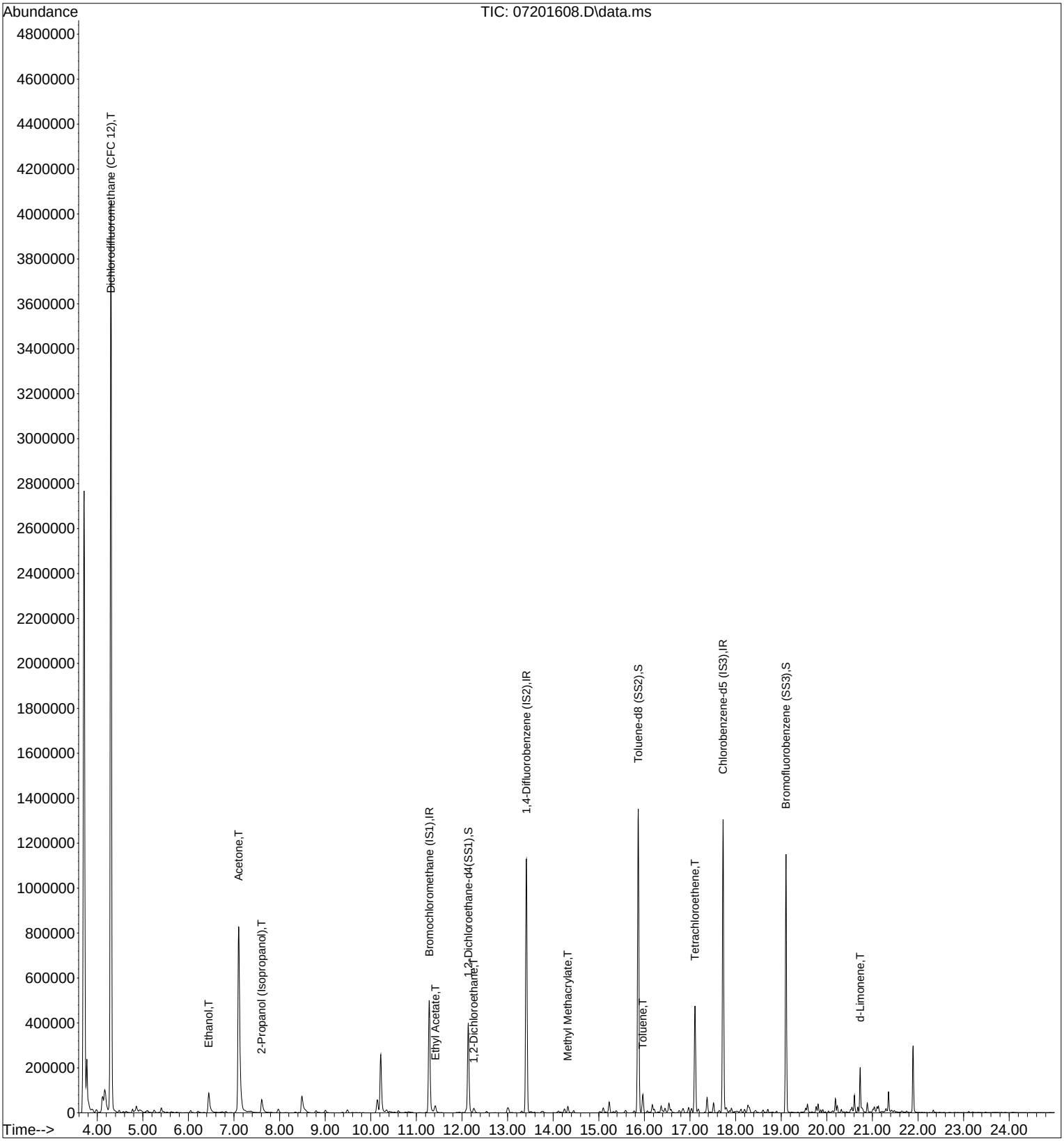
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	14.32	100	5465	0.543 ng	93
51) n-Heptane	14.45	71	2615	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	15.02	58	2045	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.96	91	70054	0.647 ng	99
59) 2-Hexanone	16.21	43	7620	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.84	43	13159	N.D.	
63) n-Octane	16.97	57	4873	N.D.	
64) Tetrachloroethene	17.11	166	187145	5.568 ng	99
65) Chlorobenzene	17.80	112	2348	N.D.	
66) Ethylbenzene	18.12	91	10464	N.D.	
67) m- & p-Xylenes	18.27	91	23518	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.60	104	6122	N.D.	
70) o-Xylene	18.71	91	9738	N.D.	
71) n-Nonane	18.90	43	2981	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.23	105	1554	N.D.	
75) alpha-Pinene	19.58	93	15246	N.D.	
76) n-Propylbenzene	19.68	91	3385	N.D.	
77) 3-Ethyltoluene	19.76	105	9375	N.D.	
78) 4-Ethyltoluene	19.80	105	4489	N.D.	
79) 1,3,5-Trimethylbenzene	19.87	105	6073	N.D.	
80) alpha-Methylstyrene	20.19	118	759	N.D.	
81) 2-Ethyltoluene	20.03	105	5548	N.D.	
82) 1,2,4-Trimethylbenzene	20.23	105	15142	N.D.	
83) n-Decane	20.32	57	6072	N.D.	
84) Benzyl Chloride	20.44	91	975	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	20.47	105	679	N.D.	
88) 4-Isopropyltoluene (p-...	20.61	119	38118	N.D.	
89) 1,2,3-Trimethylbenzene	20.61	105	5945	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.73	68	47167	1.404 ng	89
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.41	57	3823	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.39	128	2389	N.D.	
96) n-Dodecane	22.33	57	4492	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.42	55	4399	N.D.	
99) tert-Butylbenzene	20.23	119	2043	N.D.	
100) n-Butylbenzene	20.96	91	1000	N.D.	

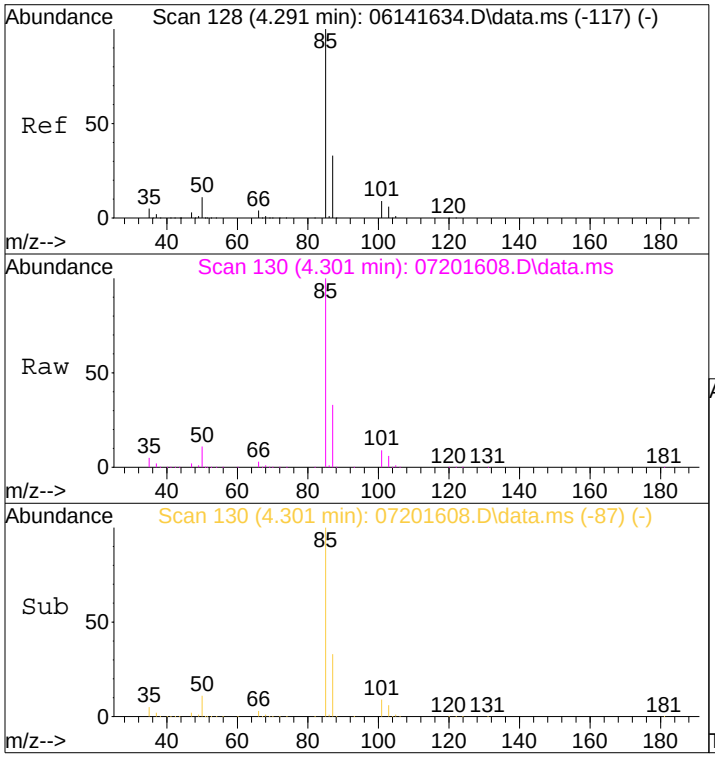
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 07\20\07201608.D
Acq On : 20 Jul 2016 10:05 Operator: LH
Sample : P1603571-001 (50mL)
Misc : S29-07061608
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 25 10:20:34 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:43:00 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

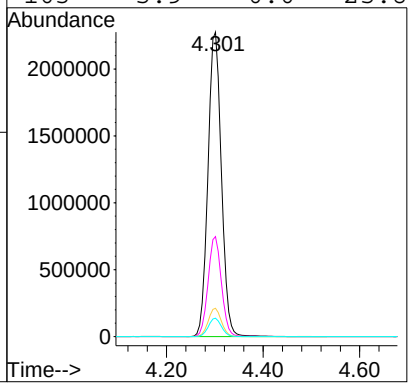


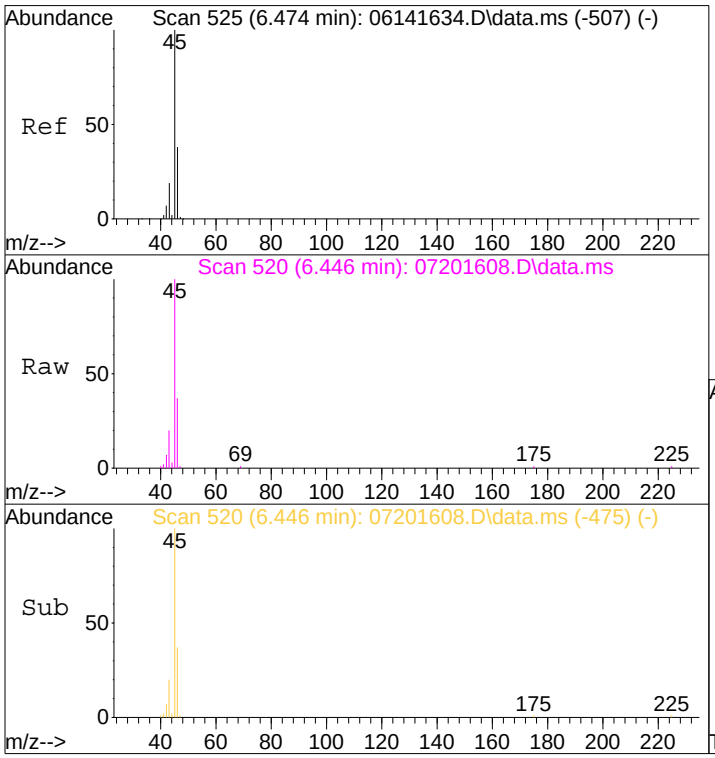


#3
Dichlorodifluoromethane (CFC 12)
Concen: 81.66 ng
RT: 4.30 min Scan# 130
Delta R.T. -0.011 min
Lab File: 07201608.D
Acq: 20 Jul 2016 10:05

Tgt Ion: 85 Resp: 4396572

Ion	Ratio	Lower	Upper
85	100		
87	32.7	12.7	52.7
101	9.2	0.0	28.9
103	5.9	0.0	25.8

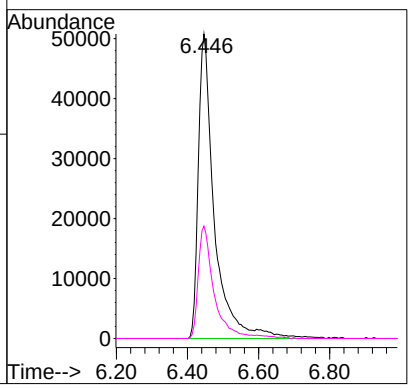


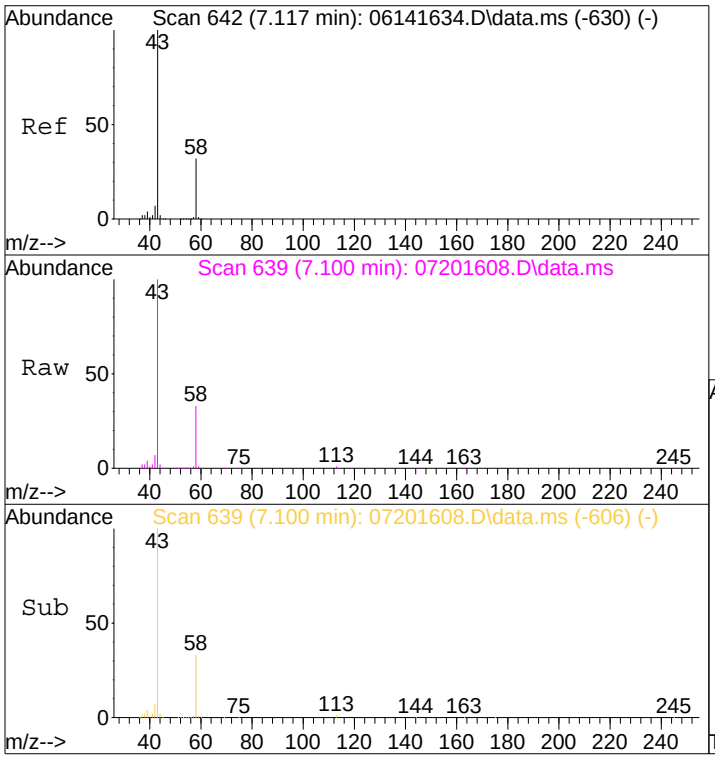


#10
Ethanol
Concen: 7.86 ng
RT: 6.45 min Scan# 520
Delta R.T. -0.105 min
Lab File: 07201608.D
Acq: 20 Jul 2016 10:05

Tgt Ion: 45 Resp: 159245

Ion	Ratio	Lower	Upper
45	100		
46	36.9	17.5	57.5

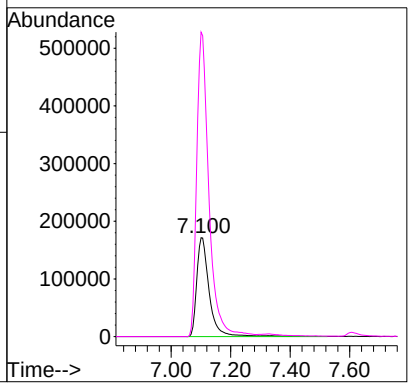


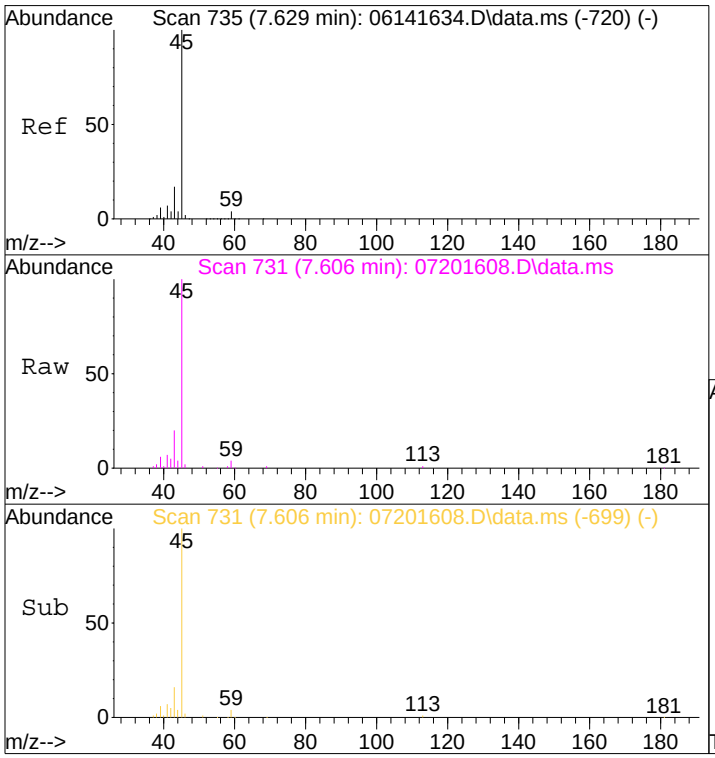


#13
Acetone
Concen: 24.62 ng
RT: 7.10 min Scan# 639
Delta R.T. -0.067 min
Lab File: 07201608.D
Acq: 20 Jul 2016 10:05

Tgt Ion: 58 Resp: 501900

Ion	Ratio	Lower	Upper
58	100		
43	304.7	282.4	342.4

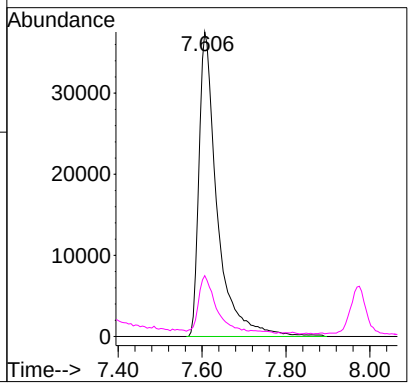


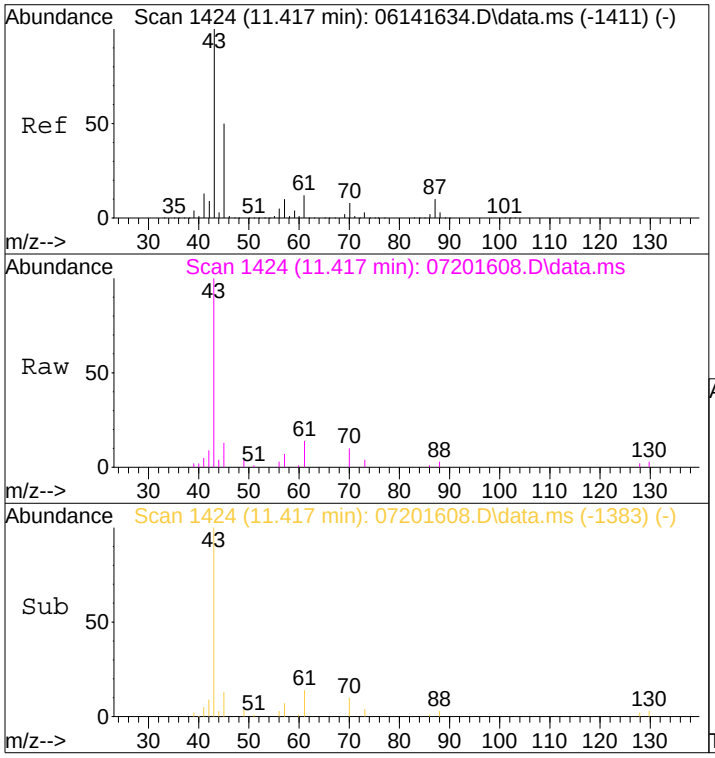


#15
2-Propanol (Isopropanol)
Concen: 1.76 ng
RT: 7.61 min Scan# 731
Delta R.T. -0.072 min
Lab File: 07201608.D
Acq: 20 Jul 2016 10:05

Tgt Ion: 45 Resp: 113203

Ion	Ratio	Lower	Upper
45	100		
43	17.4	0.0	37.5

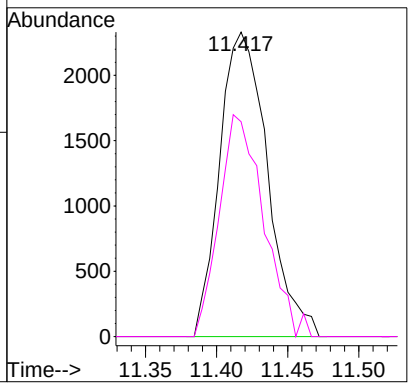


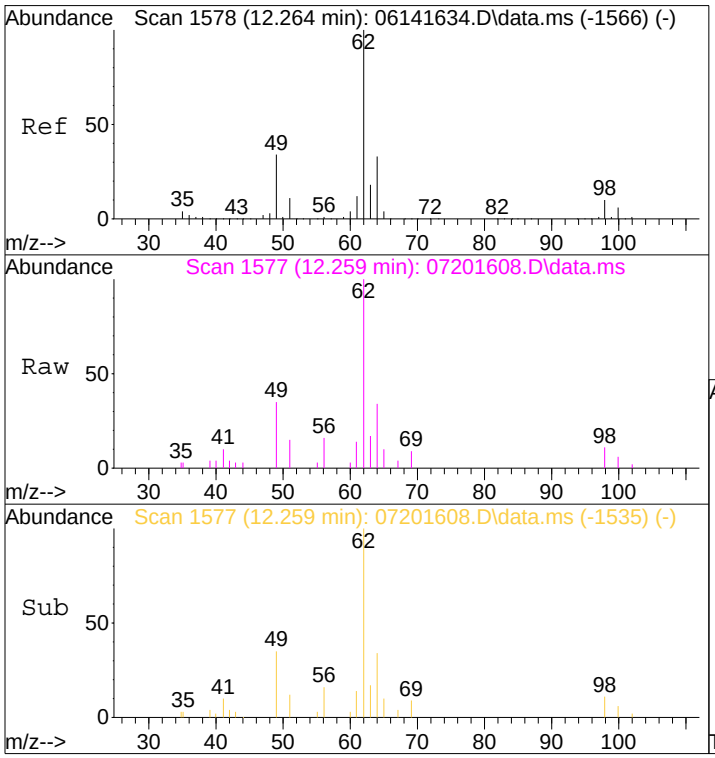


#30
Ethyl Acetate
Concen: 0.60 ng
RT: 11.42 min Scan# 1424
Delta R.T. -0.022 min
Lab File: 07201608.D
Acq: 20 Jul 2016 10:05

Tgt Ion: 61 Resp: 5450

Ion	Ratio	Lower	Upper
61	100		
70	67.7	52.7	92.7

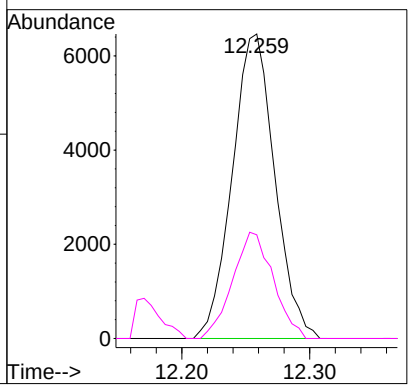


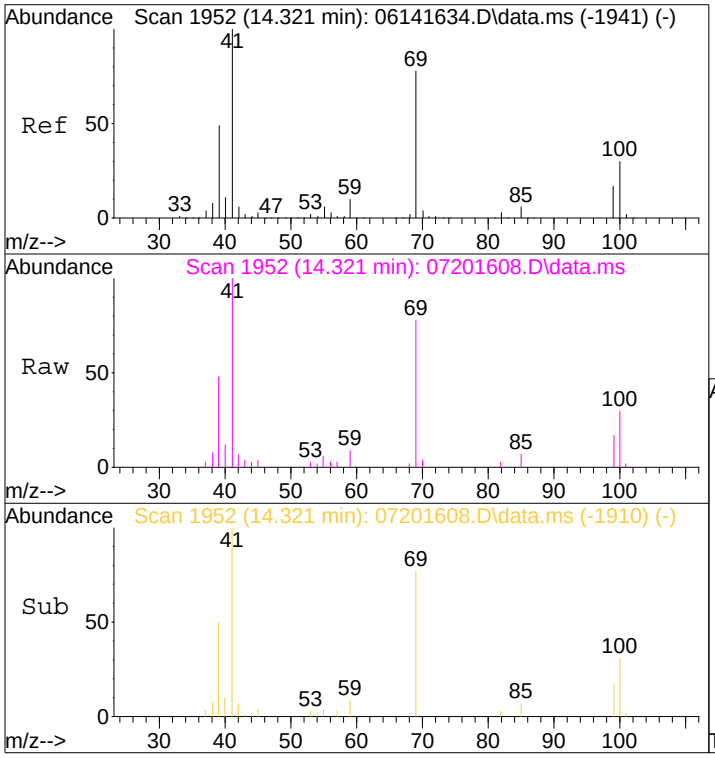


#36
1,2-Dichloroethane
Concen: 0.48 ng
RT: 12.26 min Scan# 1577
Delta R.T. -0.017 min
Lab File: 07201608.D
Acq: 20 Jul 2016 10:05

Tgt Ion: 62 Resp: 14897

Ion	Ratio	Lower	Upper
62	100		
64	33.3	12.7	52.7

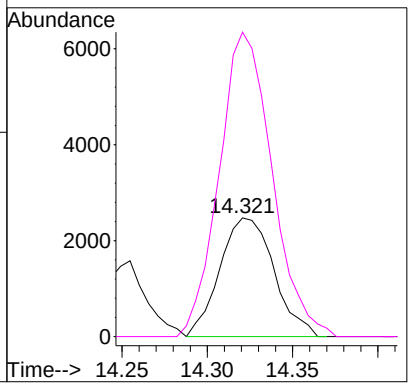


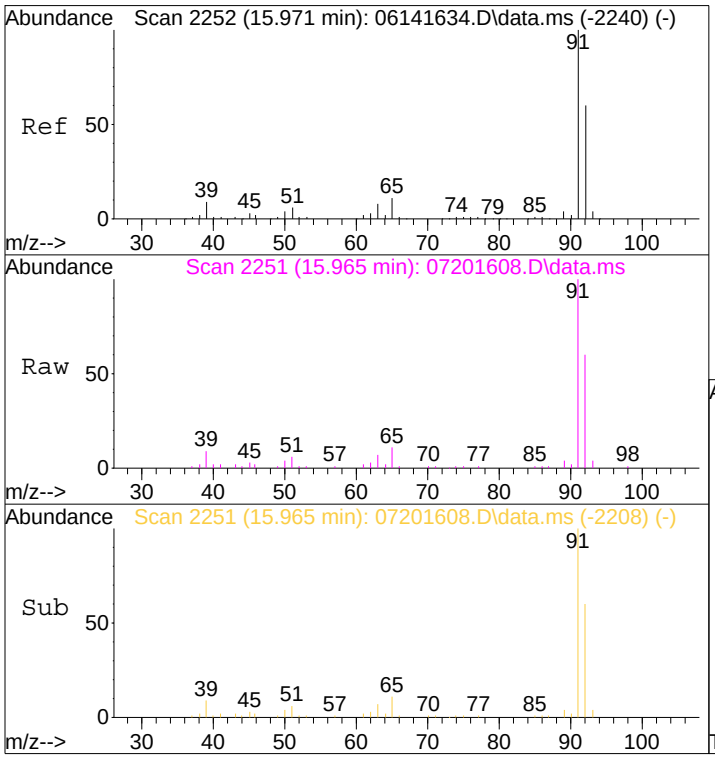


#50
Methyl Methacrylate
Concen: 0.54 ng
RT: 14.32 min Scan# 1952
Delta R.T. -0.017 min
Lab File: 07201608.D
Acq: 20 Jul 2016 10:05

Tgt Ion:100 Resp: 5465

Ion	Ratio	Lower	Upper
100	100		
69	250.4	243.1	283.1

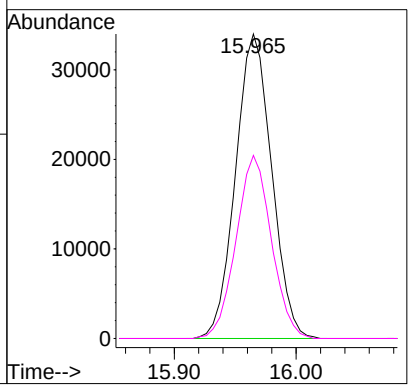


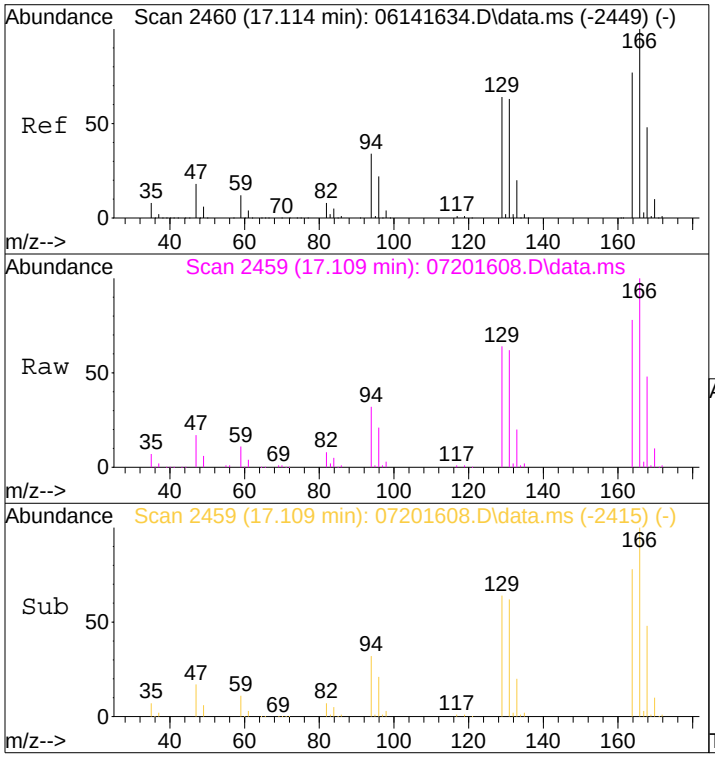


#58
Toluene
Concen: 0.65 ng
RT: 15.96 min Scan# 2251
Delta R.T. -0.011 min
Lab File: 07201608.D
Acq: 20 Jul 2016 10:05

Tgt Ion: 91 Resp: 70054

Ion	Ratio	Lower	Upper
91	100		
92	58.7	39.7	79.7

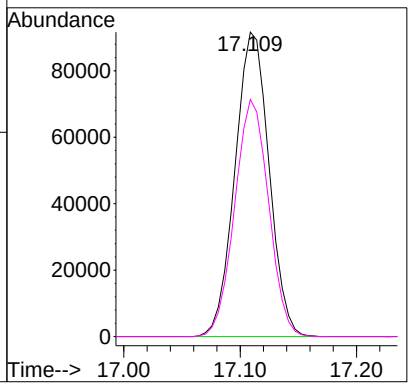


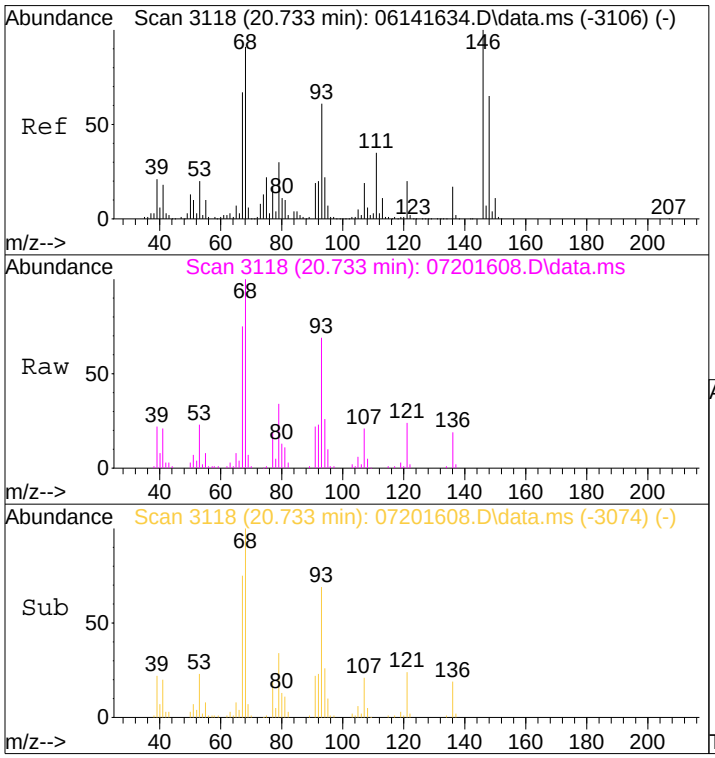


#64
Tetrachloroethene
Concen: 5.57 ng
RT: 17.11 min Scan# 2459
Delta R.T. -0.006 min
Lab File: 07201608.D
Acq: 20 Jul 2016 10:05

Tgt Ion:166 Resp: 187145

Ion	Ratio	Lower	Upper
166	100		
164	77.4	58.1	98.1

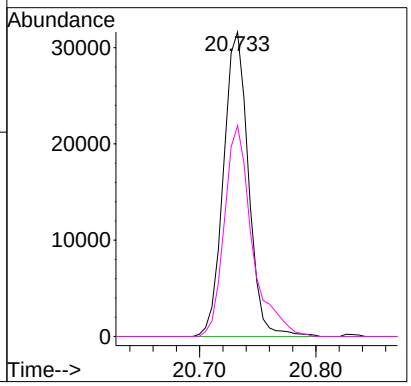




#91
d-Limonene
Concen: 1.40 ng
RT: 20.73 min Scan# 3118
Delta R.T. -0.006 min
Lab File: 07201608.D
Acq: 20 Jul 2016 10:05

Tgt Ion: 68 Resp: 47167

Ion	Ratio	Lower	Upper
68	100		
93	77.0	48.0	88.0



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 07\20\07201604.D
Acq On : 20 Jul 2016 7:50 Operator: LH
Sample : P1603571-004 (1.2mL)
Misc : S29-07061608 AC00442
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 21 07:43:38 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:43:00 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 7/25/16

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.28	130	240222	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.41	114	1131676	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.72	82	420473	12.500	ng	0.00

System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.14	65	305034	11.646	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.20%			
57) Toluene-d8 (SS2)	15.87	98	1088252	12.934	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.44%			
73) Bromofluorobenzene (SS3)	19.10	174	388178	13.246	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.00%			

Target Compounds						Qvalue
2) Propene	4.21	42	2333	N.D.		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.48	45	2821	N.D.		
11) Acetonitrile	6.80	41	538	N.D.		
12) Acrolein	7.16	56	1065	N.D.		
13) Acetone	7.14	58	13658	0.687	ng	89
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	7.64	45	4252	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	8.85	76	2576	N.D.		
23) trans-1,2-Dichloroethene	9.84	61	23378	0.679	ng	97
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	11.10	61	870266	26.595	ng	94
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	11.39	57	2157	N.D.		
32) Chloroform	11.44	83	2310	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	12.54	97	5182	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	13.02	78	57348	0.551	ng	99
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	13.31	84	3528	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	14.12	83	2716	N.D.		
47) Trichloroethene	14.11	130	258696	9.058	ng	99
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.18	57	3077	N.D.		

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 07\20\07201604.D
Acq On : 20 Jul 2016 7:50 Operator: LH
Sample : P1603571-004 (1.2mL)
Misc : S29-07061608 AC00442
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 21 07:43:38 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:43:00 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

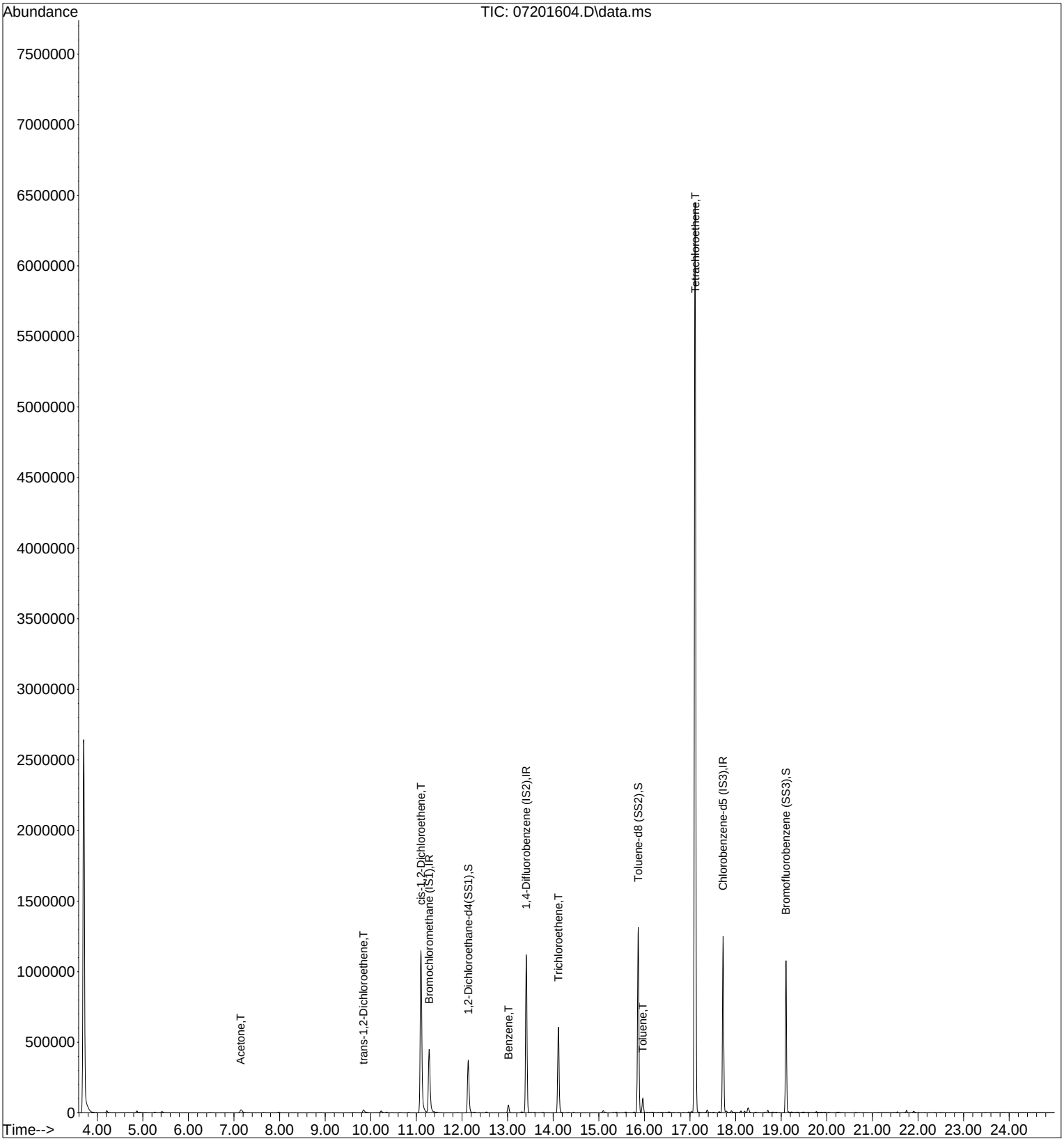
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	14.33	100	525	N.D.	
51) n-Heptane	14.45	71	844	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.96	91	90470	0.873 ng	99
59) 2-Hexanone	16.21	43	1228	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.86	43	1071	N.D.	
63) n-Octane	16.97	57	1718	N.D.	
64) Tetrachloroethene	17.11	166	2587564	80.379 ng	100
65) Chlorobenzene	17.80	112	1464	N.D.	
66) Ethylbenzene	18.12	91	10383	N.D.	
67) m- & p-Xylenes	18.27	91	28093	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.61	104	515	N.D.	
70) o-Xylene	18.70	91	11321	N.D.	
71) n-Nonane	18.90	43	1710	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.23	105	2012	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.68	91	1556	N.D.	
77) 3-Ethyltoluene	19.77	105	6149	N.D.	
78) 4-Ethyltoluene	19.80	105	2784	N.D.	
79) 1,3,5-Trimethylbenzene	19.88	105	4675	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	20.04	105	2449	N.D.	
82) 1,2,4-Trimethylbenzene	20.26	105	5854	N.D.	
83) n-Decane	20.35	57	819	N.D.	
84) Benzyl Chloride	20.25	91	587	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	20.48	105	911	N.D.	
88) 4-Isopropyltoluene (p-...	20.60	119	513	N.D.	
89) 1,2,3-Trimethylbenzene	20.63	105	1600	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.46	57	1270	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.45	128	980	N.D.	
96) n-Dodecane	0.00	57	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.43	55	1078	N.D.	
99) tert-Butylbenzene	20.25	119	1193	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D.	

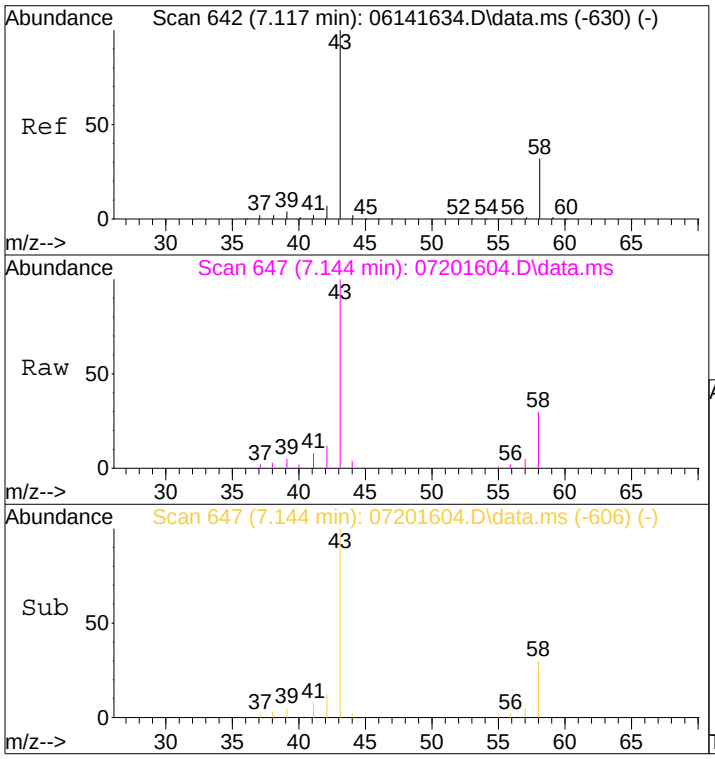
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 07\20\07201604.D
Acq On : 20 Jul 2016 7:50 Operator: LH
Sample : P1603571-004 (1.2mL)
Misc : S29-07061608 AC00442
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 21 07:43:38 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:43:00 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

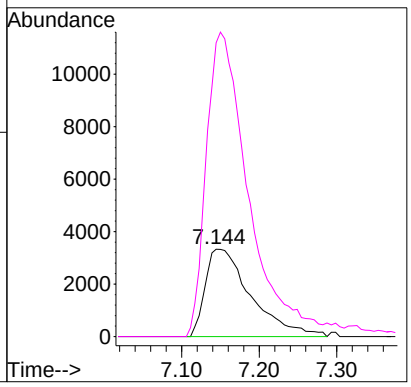


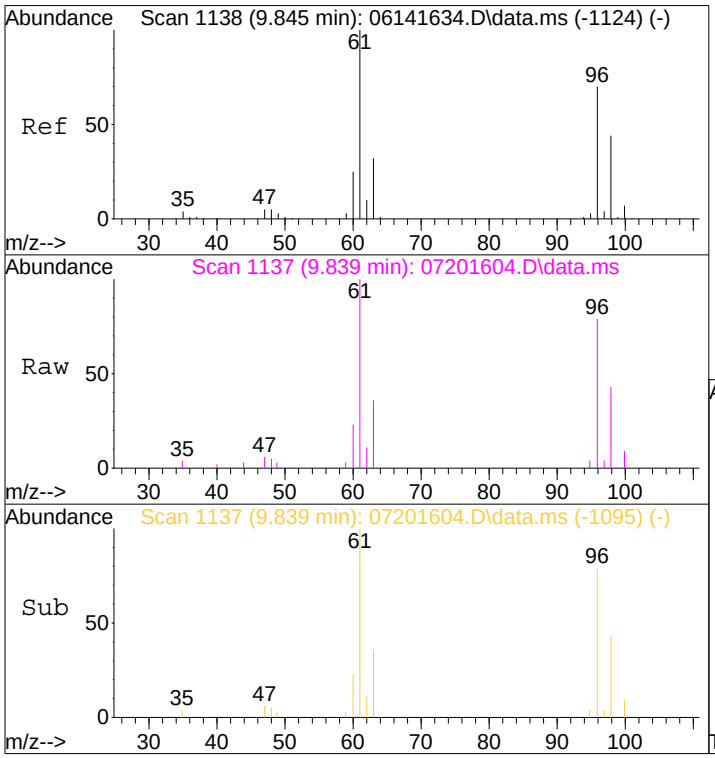


#13
Acetone
Concen: 0.69 ng
RT: 7.14 min Scan# 647
Delta R.T. -0.023 min
Lab File: 07201604.D
Acq: 20 Jul 2016 7:50

Tgt Ion: 58 Resp: 13658

Ion	Ratio	Lower	Upper
58	100		
43	333.6	282.4	342.4

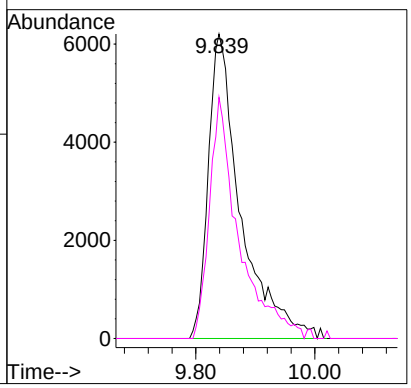


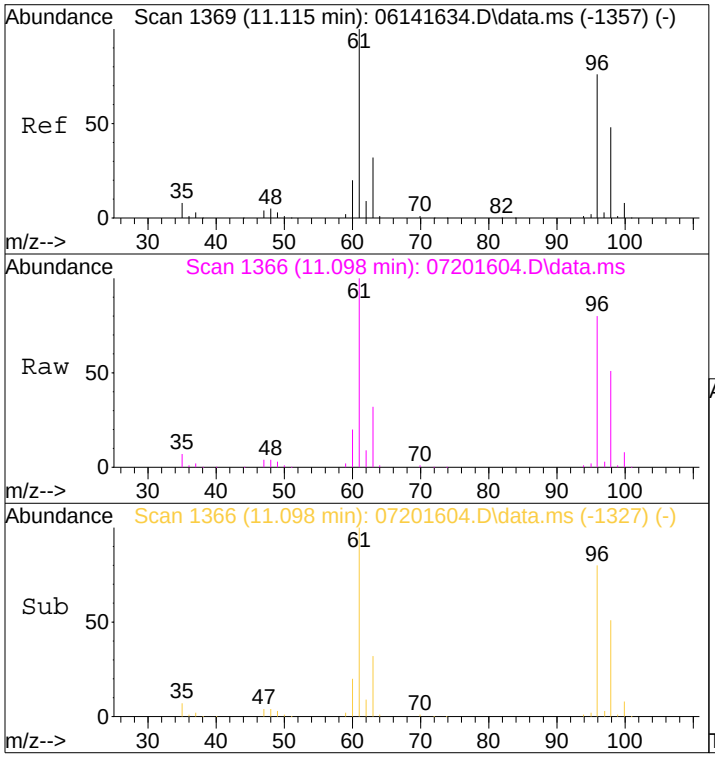


#23
trans-1,2-Dichloroethene
Concen: 0.68 ng
RT: 9.84 min Scan# 1137
Delta R.T. -0.017 min
Lab File: 07201604.D
Acq: 20 Jul 2016 7:50

Tgt Ion: 61 Resp: 23378

Ion	Ratio	Lower	Upper
61	100		
96	71.8	49.3	89.3

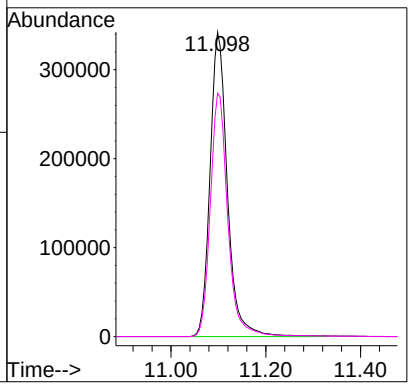


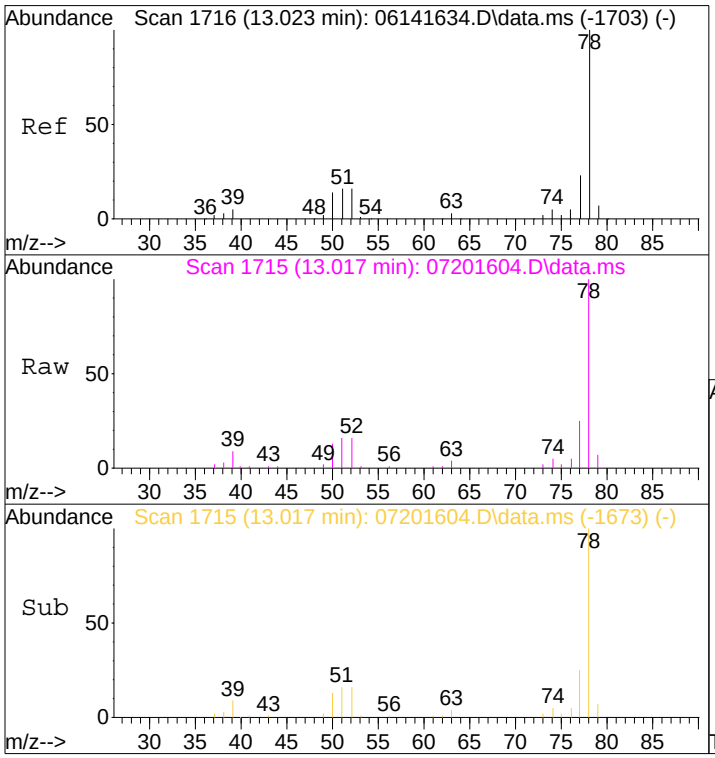


#28
cis-1,2-Dichloroethene
Concen: 26.59 ng
RT: 11.10 min Scan# 1366
Delta R.T. -0.033 min
Lab File: 07201604.D
Acq: 20 Jul 2016 7:50

Tgt Ion: 61 Resp: 870266

Ion	Ratio	Lower	Upper
61	100		
96	80.6	55.6	95.6

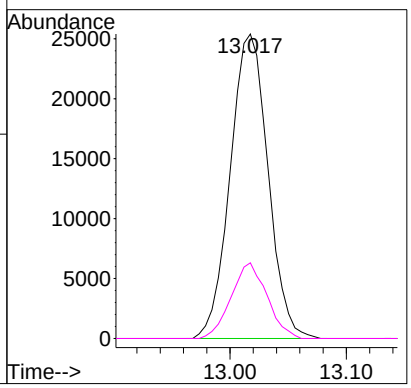


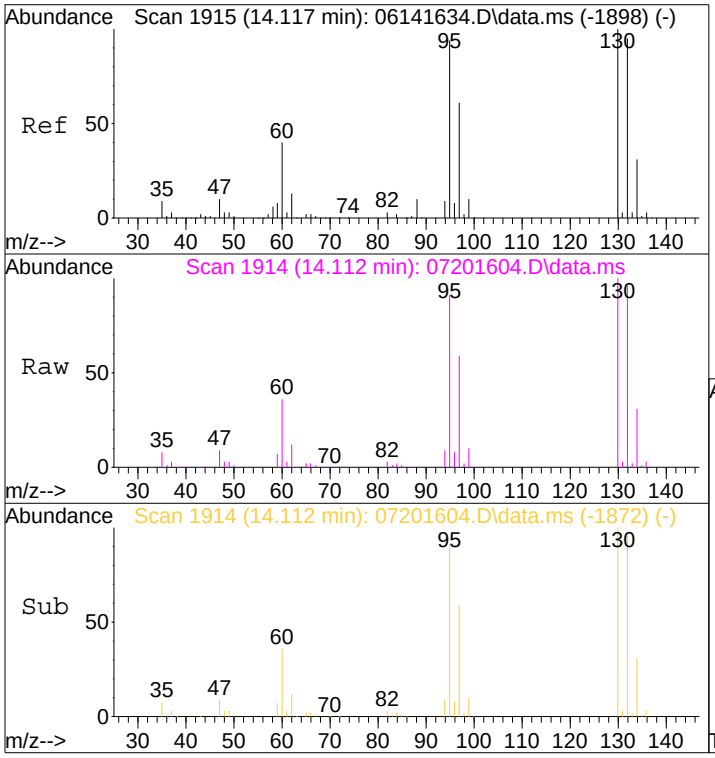


#41
Benzene
Concen: 0.55 ng
RT: 13.02 min Scan# 1715
Delta R.T. -0.017 min
Lab File: 07201604.D
Acq: 20 Jul 2016 7:50

Tgt Ion: 78 Resp: 57348

Ion	Ratio	Lower	Upper
78	100		
77	23.6	3.3	43.3

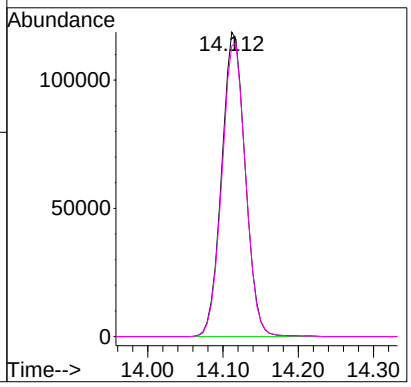


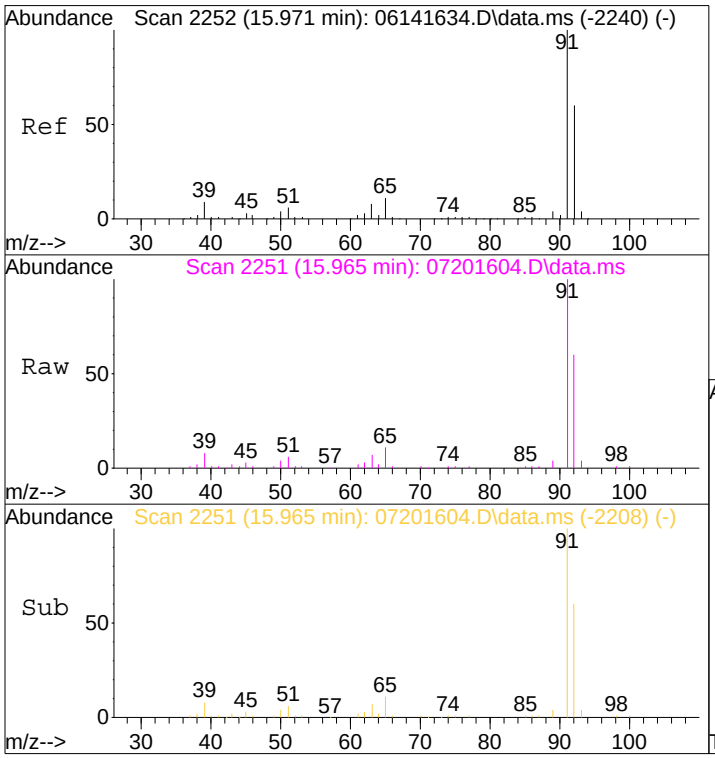


#47
Trichloroethene
Concen: 9.06 ng
RT: 14.11 min Scan# 1914
Delta R.T. -0.017 min
Lab File: 07201604.D
Acq: 20 Jul 2016 7:50

Tgt Ion:130 Resp: 258696

Ion	Ratio	Lower	Upper
130	100		
132	97.1	76.1	116.1

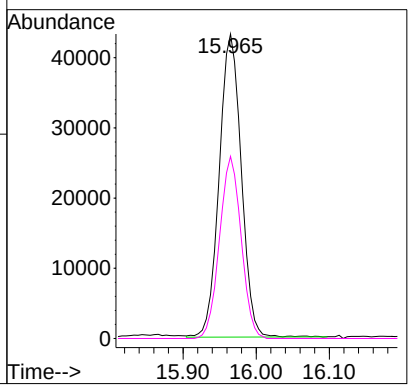


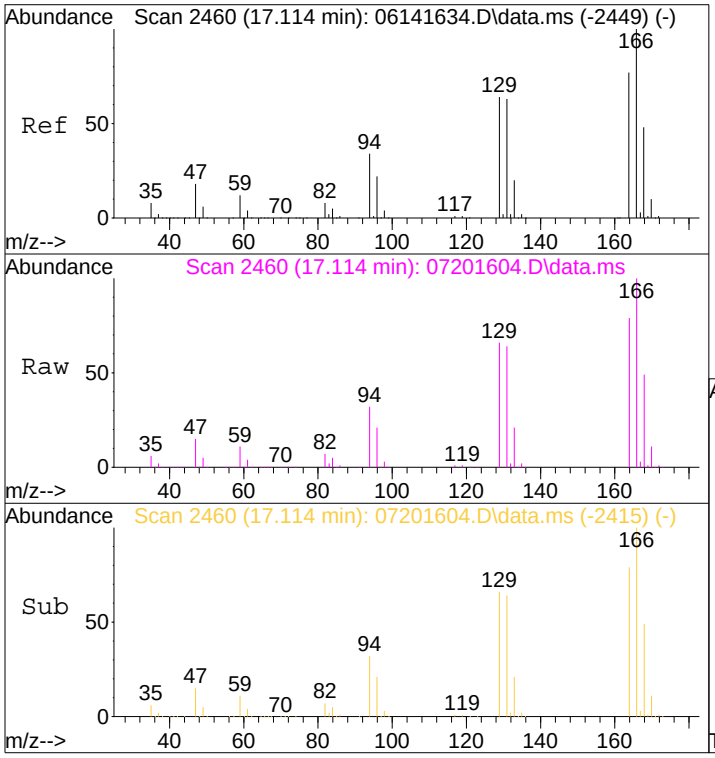


#58
Toluene
Concen: 0.87 ng
RT: 15.96 min Scan# 2251
Delta R.T. -0.011 min
Lab File: 07201604.D
Acq: 20 Jul 2016 7:50

Tgt Ion: 91 Resp: 90470

Ion	Ratio	Lower	Upper
91	100		
92	58.8	39.7	79.7

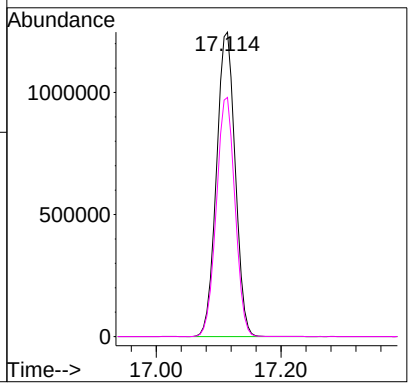




#64
Tetrachloroethene
Concen: 80.38 ng
RT: 17.11 min Scan# 2460
Delta R.T. -0.000 min
Lab File: 07201604.D
Acq: 20 Jul 2016 7:50

Tgt Ion:166 Resp: 2587564

Ion	Ratio	Lower	Upper
166	100		
164	78.5	58.1	98.1



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 07\20\07201605.D
Acq On : 20 Jul 2016 8:24 Operator: LH
Sample : P1603571-006 (2.0mL)
Misc : S29-07061608
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 21 07:43:40 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:43:00 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 7/25/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	237953	12.500 ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.41	114	1119201	12.500 ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.72	82	418428	12.500 ng	0.00

System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	12.14	65	301174	11.609 ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.88%		
57) Toluene-d8 (SS2)	15.87	98	1079203	12.889 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.12%		
73) Bromofluorobenzene (SS3)	19.10	174	384426	13.182 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.44%		

Target Compounds					Qvalue
2) Propene	4.22	42	2035	N.D.	
3) Dichlorodifluoromethan...	0.00	85	0	N.D.	
4) Chloromethane	0.00	50	0	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	0.00	54	0	N.D.	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	6.48	45	3129	N.D.	
11) Acetonitrile	6.80	41	51	N.D.	
12) Acrolein	7.17	56	1056	N.D.	
13) Acetone	7.16	58	8666	N.D.	
14) Trichlorofluoromethane	0.00	101	0	N.D.	
15) 2-Propanol (Isopropanol)	7.64	45	3669	N.D.	
16) Acrylonitrile	0.00	53	0	N.D.	
17) 1,1-Dichloroethene	0.00	96	0	N.D.	
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	
19) Methylene Chloride	0.00	84	0	N.D.	
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	
21) Trichlorotrifluoroethane	0.00	151	0	N.D.	
22) Carbon Disulfide	8.87	76	2305	N.D.	
23) trans-1,2-Dichloroethene	9.86	61	4336	N.D.	
24) 1,1-Dichloroethane	0.00	63	0	N.D.	
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D.	
27) 2-Butanone (MEK)	0.00	72	0	N.D.	
28) cis-1,2-Dichloroethene	11.10	61	175256	5.407 ng	96
29) Diisopropyl Ether	0.00	87	0	N.D.	
30) Ethyl Acetate	0.00	61	0	N.D.	
31) n-Hexane	11.40	57	2091	N.D.	
32) Chloroform	11.45	83	1213	N.D.	
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	0.00	62	0	N.D.	
38) 1,1,1-Trichloroethane	12.54	97	4917	N.D.	
39) Isopropyl Acetate	0.00	61	0	N.D.	
40) 1-Butanol	0.00	56	0	N.D.	
41) Benzene	13.02	78	53838	0.523 ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.	
43) Cyclohexane	13.31	84	3234	N.D.	
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D.	
46) Bromodichloromethane	14.12	83	528	N.D.	
47) Trichloroethene	14.12	130	63608	2.252 ng	100
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	14.18	57	2946	N.D.	

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 07\20\07201605.D
Acq On : 20 Jul 2016 8:24 Operator: LH
Sample : P1603571-006 (2.0mL)
Misc : S29-07061608
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 21 07:43:40 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:43:00 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

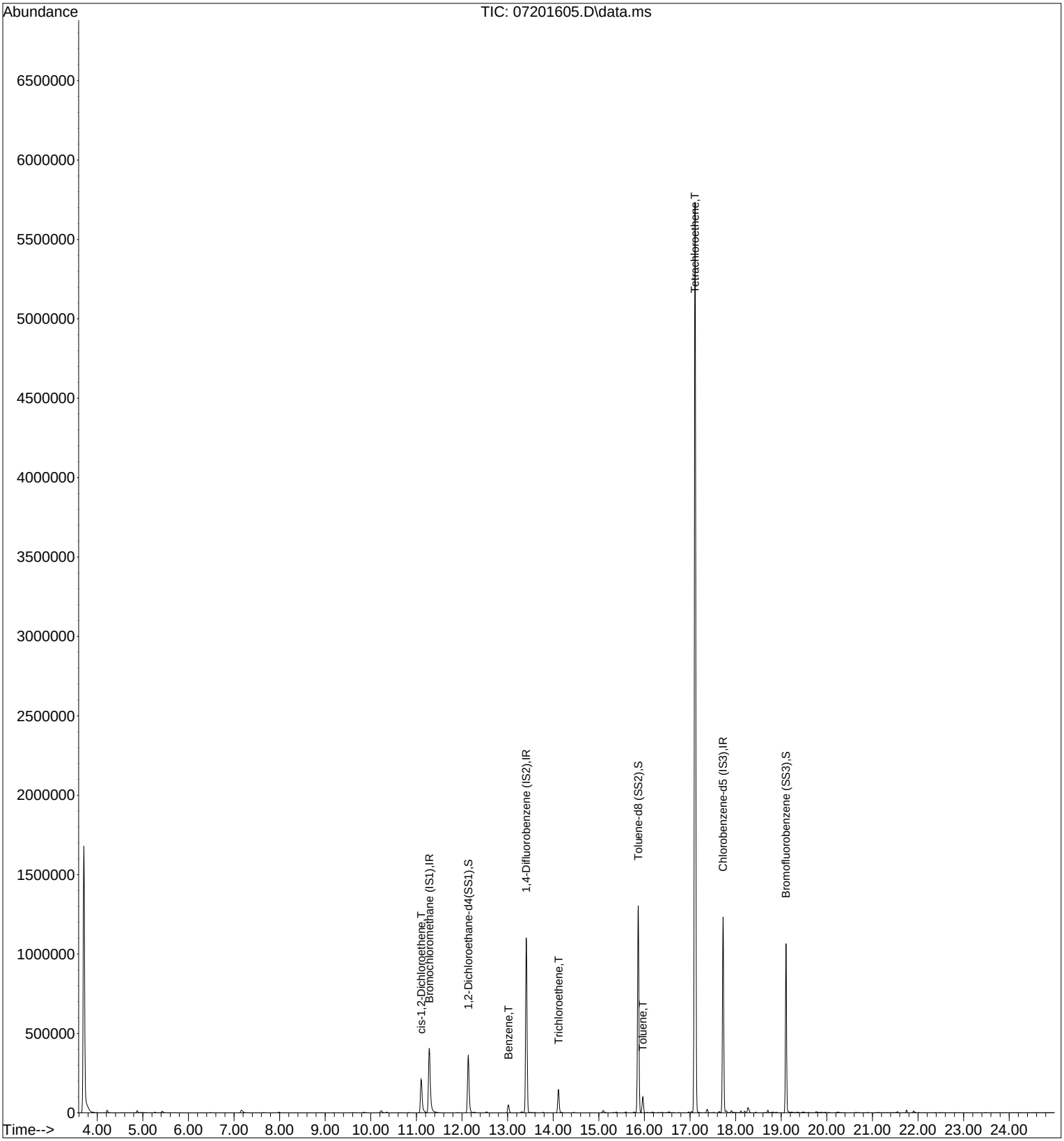
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	0.00	100	0	N.D.	
51) n-Heptane	14.45	71	784	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.96	91	88400	0.857 ng	99
59) 2-Hexanone	16.22	43	1004	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.97	43	3161	N.D.	
63) n-Octane	16.97	57	1314	N.D.	
64) Tetrachloroethene	17.11	166	2276262	71.055 ng	100
65) Chlorobenzene	17.80	112	1294	N.D.	
66) Ethylbenzene	18.12	91	8361	N.D.	
67) m- & p-Xylenes	18.27	91	26435	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	18.70	91	10537	N.D.	
71) n-Nonane	18.90	43	1658	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.23	105	1814	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.68	91	1281	N.D.	
77) 3-Ethyltoluene	19.77	105	5681	N.D.	
78) 4-Ethyltoluene	19.80	105	2878	N.D.	
79) 1,3,5-Trimethylbenzene	19.88	105	4991	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	20.05	105	2283	N.D.	
82) 1,2,4-Trimethylbenzene	20.25	105	5173	N.D.	
83) n-Decane	20.39	57	1204	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	20.50	105	506	N.D.	
88) 4-Isopropyltoluene (p-...	20.66	119	524	N.D.	
89) 1,2,3-Trimethylbenzene	20.64	105	1350	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.47	57	847	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	0.00	128	0	N.D.	
96) n-Dodecane	0.00	57	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.43	55	971	N.D.	
99) tert-Butylbenzene	20.26	119	719	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D.	

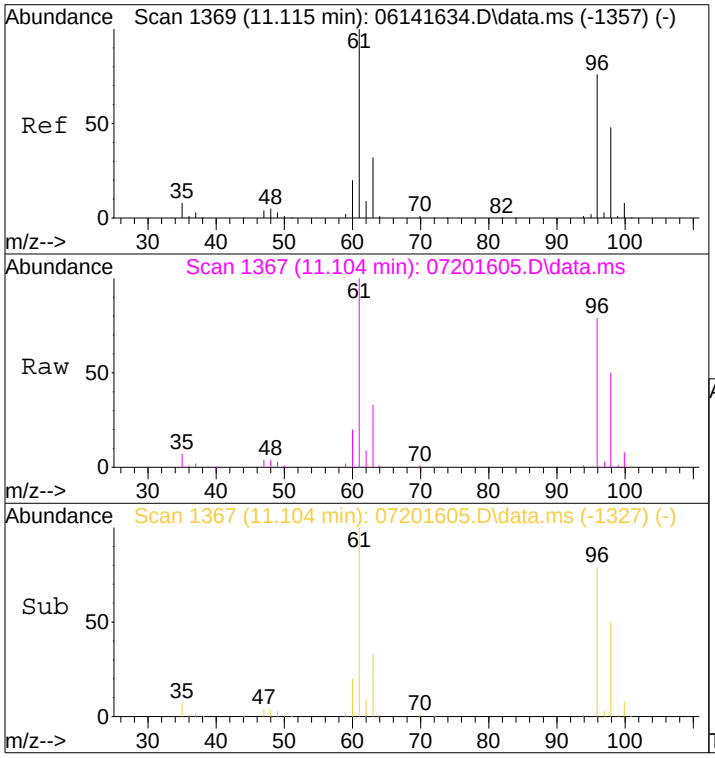
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 07\20\07201605.D
Acq On : 20 Jul 2016 8:24 Operator: LH
Sample : P1603571-006 (2.0mL)
Misc : S29-07061608
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 21 07:43:40 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:43:00 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

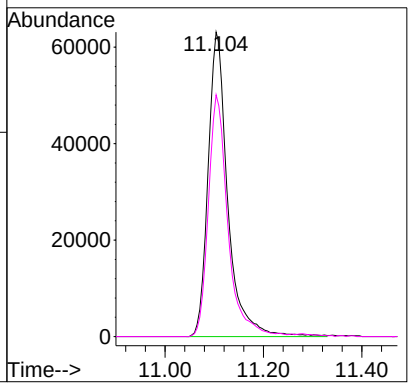


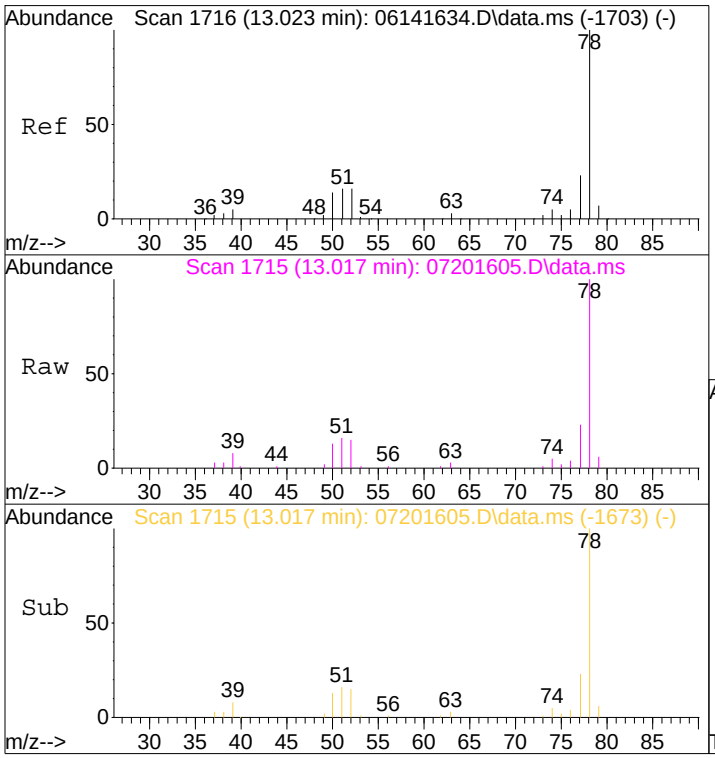


#28
cis-1,2-Dichloroethene
Concen: 5.41 ng
RT: 11.10 min Scan# 1367
Delta R.T. -0.028 min
Lab File: 07201605.D
Acq: 20 Jul 2016 8:24

Tgt Ion: 61 Resp: 175256

Ion	Ratio	Lower	Upper
61	100		
96	79.3	55.6	95.6

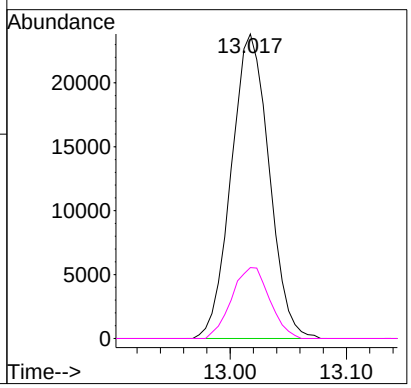


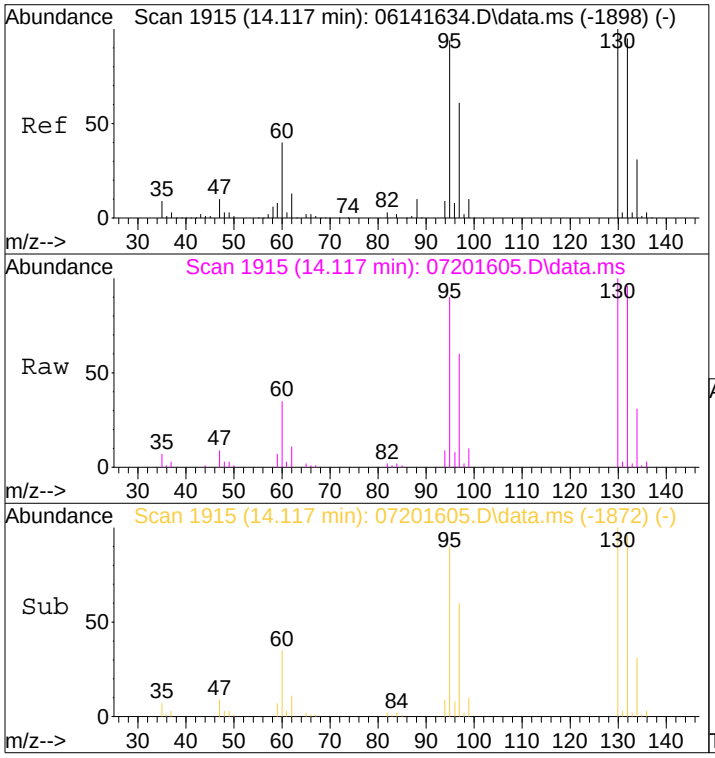


#41
Benzene
Concen: 0.52 ng
RT: 13.02 min Scan# 1715
Delta R.T. -0.017 min
Lab File: 07201605.D
Acq: 20 Jul 2016 8:24

Tgt Ion: 78 Resp: 53838

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.3	43.3

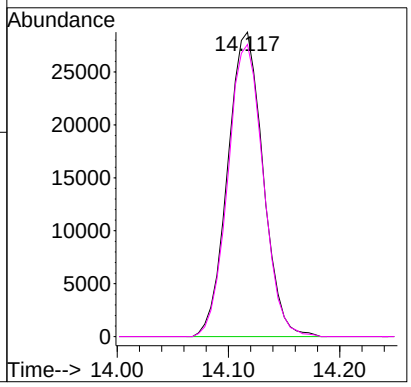


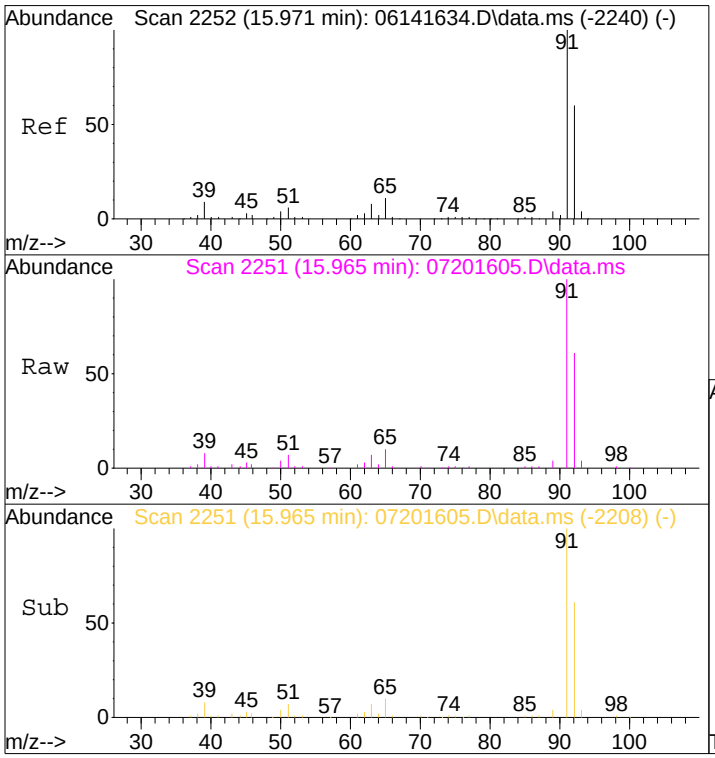


#47
Trichloroethene
Concen: 2.25 ng
RT: 14.12 min Scan# 1915
Delta R.T. -0.011 min
Lab File: 07201605.D
Acq: 20 Jul 2016 8:24

Tgt Ion:130 Resp: 63608

Ion	Ratio	Lower	Upper
130	100		
132	95.7	76.1	116.1

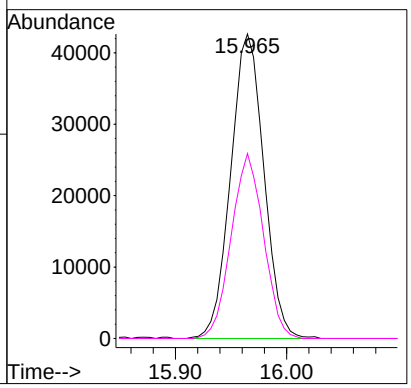


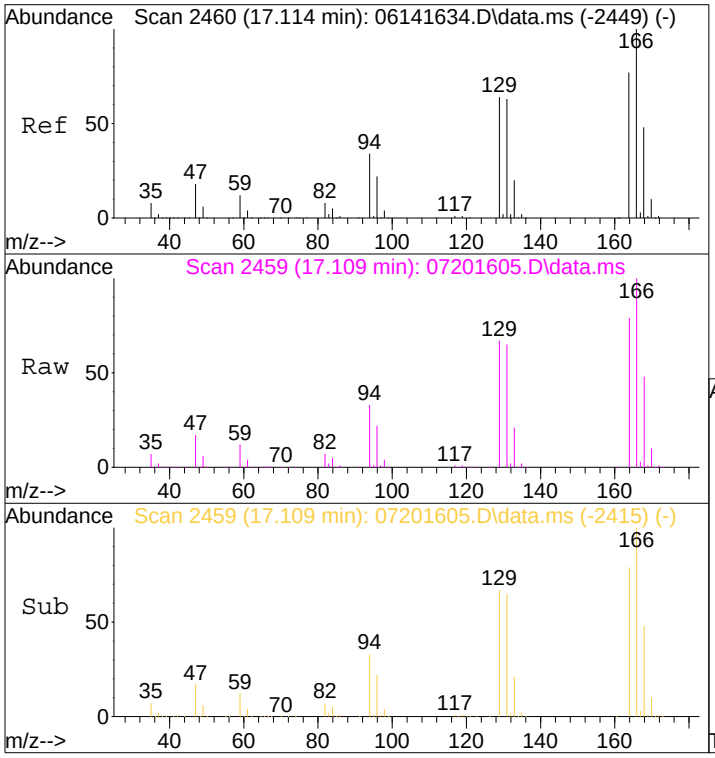


#58
Toluene
Concen: 0.86 ng
RT: 15.96 min Scan# 2251
Delta R.T. -0.011 min
Lab File: 07201605.D
Acq: 20 Jul 2016 8:24

Tgt Ion: 91 Resp: 88400

Ion	Ratio	Lower	Upper
91	100		
92	59.0	39.7	79.7

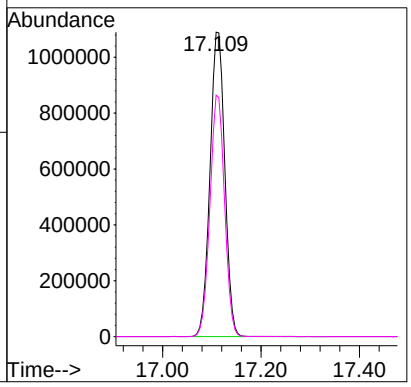




#64
Tetrachloroethene
Concen: 71.05 ng
RT: 17.11 min Scan# 2459
Delta R.T. -0.006 min
Lab File: 07201605.D
Acq: 20 Jul 2016 8:24

Tgt Ion:166 Resp: 2276262

Ion	Ratio	Lower	Upper
166	100		
164	78.4	58.1	98.1



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 07\20\07201609.D
Acq On : 20 Jul 2016 10:44 Operator: LH
Sample : P1603571-009 (45mL)
Misc : S29-07061608
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 25 10:21:15 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:43:00 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 7/25/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	11.28	130	250334	12.500 ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.41	114	1160280	12.500 ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.72	82	445036	12.500 ng	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	12.14	65	315380	11.555 ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.40%		
57) Toluene-d8 (SS2)	15.87	98	1115976	12.531 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.24%		
73) Bromofluorobenzene (SS3)	19.10	174	422288	13.615 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.88%		

Target Compounds					Qvalue
2) Propene	4.14	42	1141	N.D.	
3) Dichlorodifluoromethan...	4.29	85	1957697	35.787 ng	100
4) Chloromethane	0.00	50	0	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	0.00	54	0	N.D.	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	6.43	45	65789	3.195 ng	97
11) Acetonitrile	6.80	41	132	N.D.	
12) Acrolein	6.94	56	159	N.D.	
13) Acetone	7.10	58	496265	23.964 ng	95
14) Trichlorofluoromethane	7.38	101	1804	N.D.	
15) 2-Propanol (Isopropanol)	7.59	45	282092	4.324 ng	87
16) Acrylonitrile	8.12	53	51	N.D.	
17) 1,1-Dichloroethene	0.00	96	0	N.D.	
18) 2-Methyl-2-Propanol (t...	8.51	59	5926	N.D.	
19) Methylene Chloride	8.56	84	1110	N.D.	
20) 3-Chloro-1-propene (Al...	8.50	41	1247	N.D.	
21) Trichlorotrifluoroethane	8.78	151	1458	N.D.	
22) Carbon Disulfide	8.86	76	7991	N.D.	
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
24) 1,1-Dichloroethane	0.00	63	0	N.D.	
25) Methyl tert-Butyl Ether	10.22	73	559	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D.	
27) 2-Butanone (MEK)	10.60	72	4153	N.D.	
28) cis-1,2-Dichloroethene	11.11	61	2351	N.D.	
29) Diisopropyl Ether	0.00	87	0	N.D.	
30) Ethyl Acetate	11.41	61	7674	0.827 ng	98
31) n-Hexane	11.39	57	1935	N.D.	
32) Chloroform	11.45	83	1619	N.D.	
34) Tetrahydrofuran (THF)	11.89	72	772	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	12.25	62	64647	2.069 ng	100
38) 1,1,1-Trichloroethane	12.53	97	618	N.D.	
39) Isopropyl Acetate	12.97	61	585	N.D.	
40) 1-Butanol	0.00	56	0	N.D. d	
41) Benzene	13.02	78	17591	N.D.	
42) Carbon Tetrachloride	0.00	117	0	N.D.	
43) Cyclohexane	13.31	84	904	N.D.	
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D.	
46) Bromodichloromethane	14.11	83	817	N.D.	
47) Trichloroethene	14.11	130	78038	2.665 ng	99
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	14.19	57	1441	N.D.	

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 07\20\07201609.D
Acq On : 20 Jul 2016 10:44 Operator: LH
Sample : P1603571-009 (45mL)
Misc : S29-07061608
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 25 10:21:15 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:43:00 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

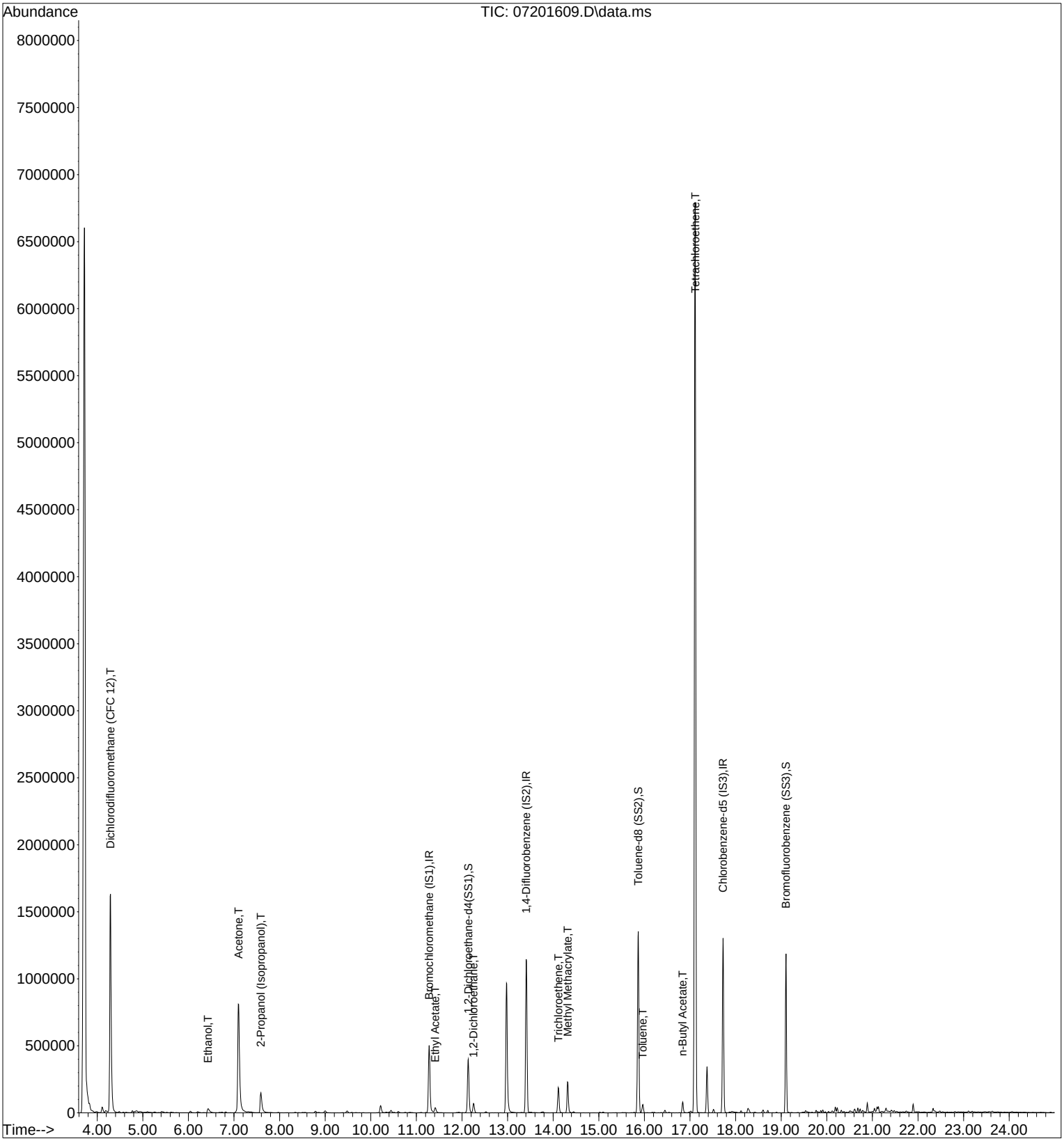
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	14.32	100	42479	4.204 ng	98
51) n-Heptane	14.45	71	1995	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	15.02	58	1392	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.97	91	53790	0.490 ng	99
59) 2-Hexanone	16.22	43	2725	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.84	43	70421	1.088 ng	98
63) n-Octane	16.97	57	809	N.D.	
64) Tetrachloroethene	17.11	166	2710272	79.544 ng	100
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.12	91	12168	N.D.	
67) m- & p-Xylenes	18.27	91	26207	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.60	104	10876	N.D.	
70) o-Xylene	18.70	91	10782	N.D.	
71) n-Nonane	18.90	43	2302	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.23	105	1373	N.D.	
75) alpha-Pinene	19.58	93	2548	N.D.	
76) n-Propylbenzene	19.68	91	3665	N.D.	
77) 3-Ethyltoluene	19.76	105	10596	N.D.	
78) 4-Ethyltoluene	19.80	105	4346	N.D.	
79) 1,3,5-Trimethylbenzene	19.87	105	7433	N.D.	
80) alpha-Methylstyrene	20.19	118	561	N.D.	
81) 2-Ethyltoluene	20.04	105	6419	N.D.	
82) 1,2,4-Trimethylbenzene	20.23	105	17264	N.D.	
83) n-Decane	20.31	57	7622	N.D.	
84) Benzyl Chloride	20.23	91	1663	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	20.47	105	948	N.D.	
88) 4-Isopropyltoluene (p-...	20.61	119	4436	N.D.	
89) 1,2,3-Trimethylbenzene	20.61	105	6670	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.73	68	6742	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.41	57	5312	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.37	128	9066	N.D.	
96) n-Dodecane	22.33	57	8753	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.42	55	2488	N.D.	
99) tert-Butylbenzene	20.23	119	2267	N.D.	
100) n-Butylbenzene	20.96	91	1127	N.D.	

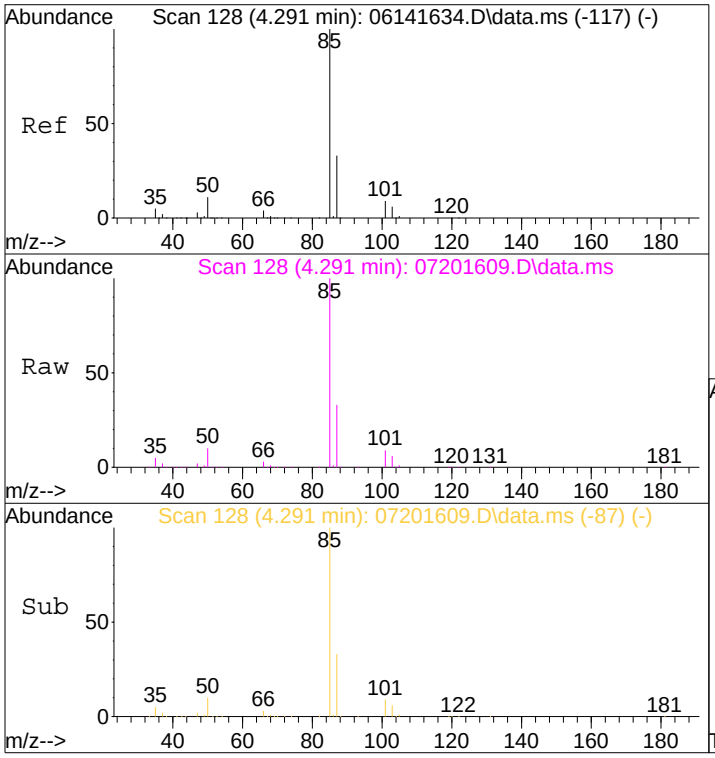
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 07\20\07201609.D
Acq On : 20 Jul 2016 10:44 Operator: LH
Sample : P1603571-009 (45mL)
Misc : S29-07061608
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 25 10:21:15 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:43:00 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

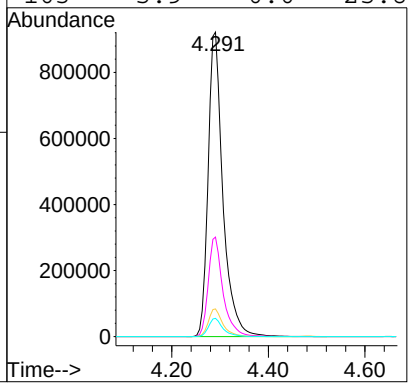


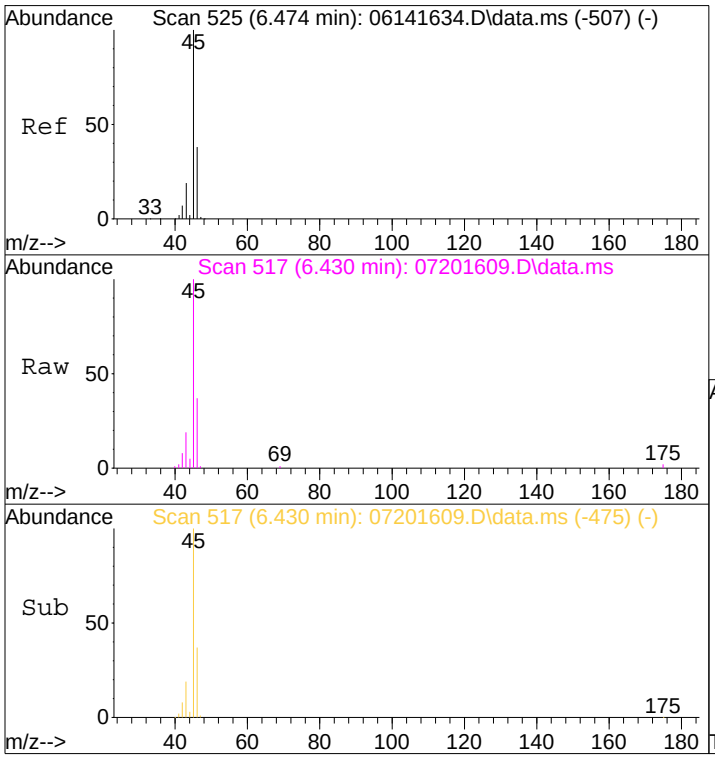


#3
Dichlorodifluoromethane (CFC 12)
Concen: 35.79 ng
RT: 4.29 min Scan# 128
Delta R.T. -0.022 min
Lab File: 07201609.D
Acq: 20 Jul 2016 10:44

Tgt Ion: 85 Resp: 1957697

Ion	Ratio	Lower	Upper
85	100		
87	32.6	12.7	52.7
101	9.0	0.0	28.9
103	5.9	0.0	25.8

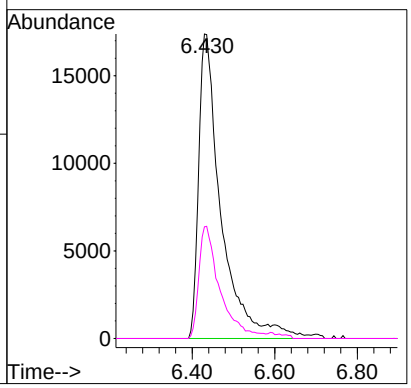


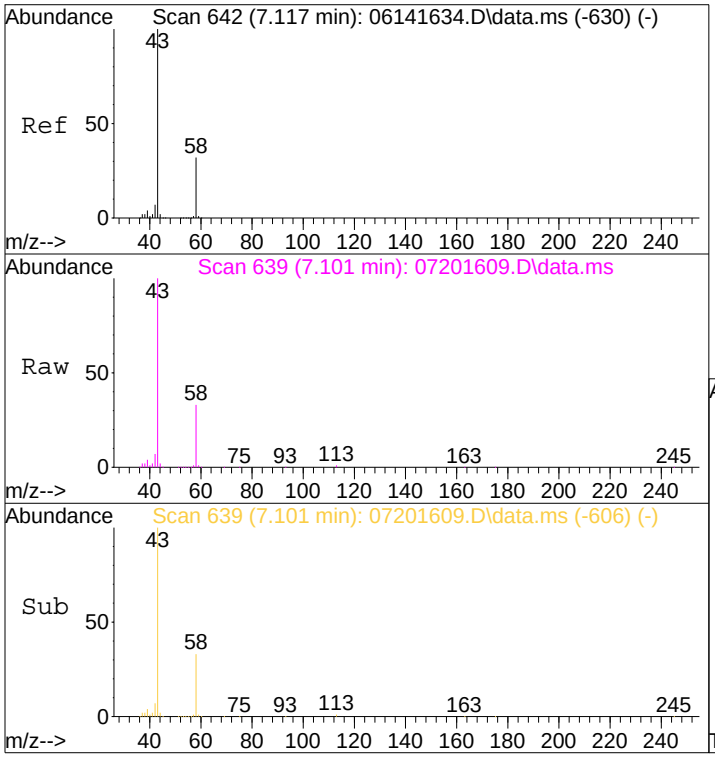


#10
Ethanol
Concen: 3.19 ng
RT: 6.43 min Scan# 517
Delta R.T. -0.121 min
Lab File: 07201609.D
Acq: 20 Jul 2016 10:44

Tgt Ion: 45 Resp: 65789

Ion	Ratio	Lower	Upper
45	100		
46	35.9	17.5	57.5

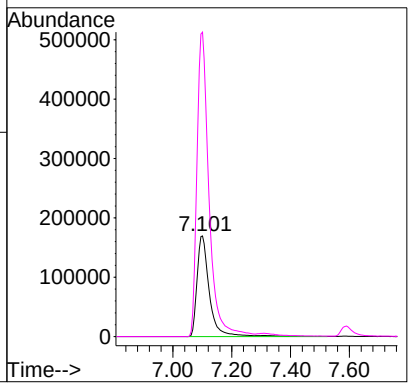


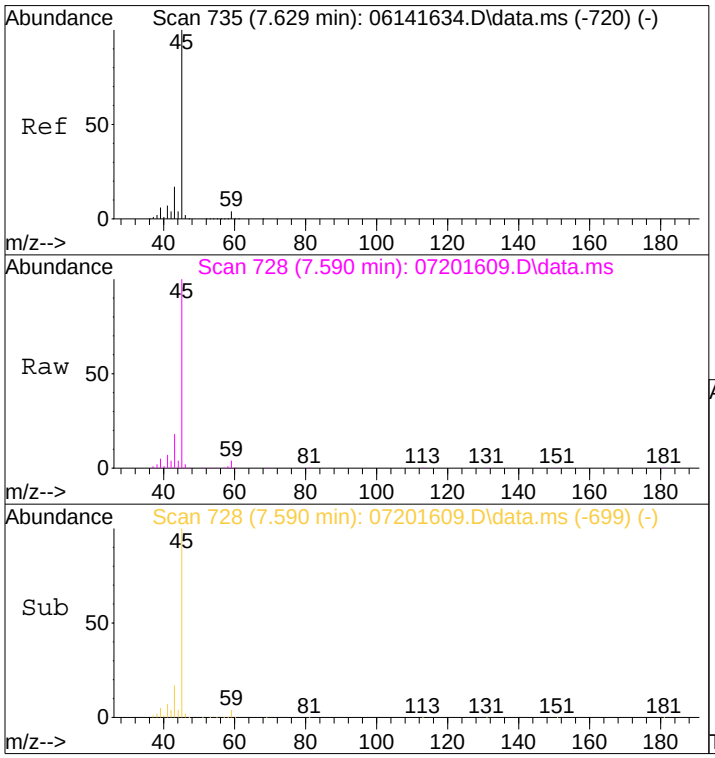


#13
Acetone
Concen: 23.96 ng
RT: 7.10 min Scan# 639
Delta R.T. -0.066 min
Lab File: 07201609.D
Acq: 20 Jul 2016 10:44

Tgt Ion: 58 Resp: 496265

Ion	Ratio	Lower	Upper
58	100		
43	301.8	282.4	342.4

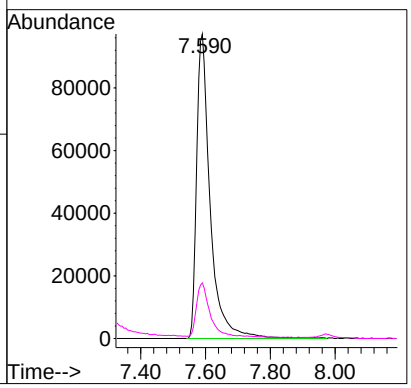


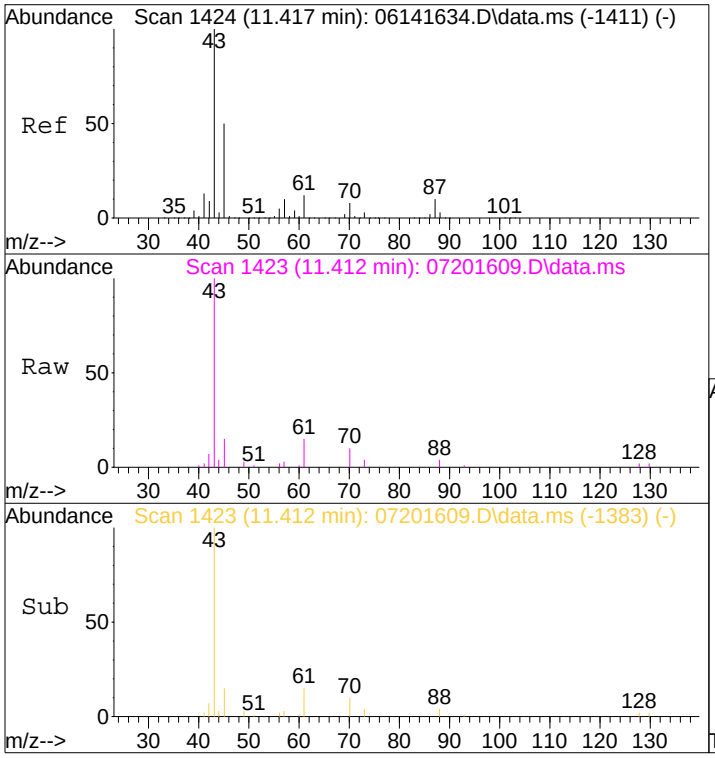


#15
2-Propanol (Isopropanol)
Concen: 4.32 ng
RT: 7.59 min Scan# 728
Delta R.T. -0.088 min
Lab File: 07201609.D
Acq: 20 Jul 2016 10:44

Tgt Ion: 45 Resp: 282092

Ion	Ratio	Lower	Upper
45	100		
43	23.2	0.0	37.5

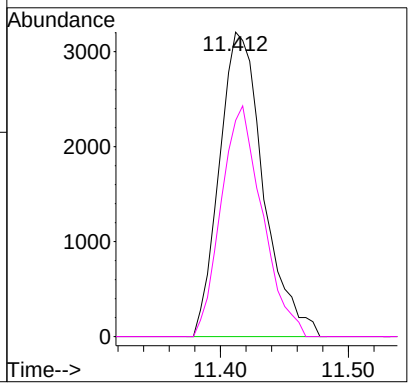


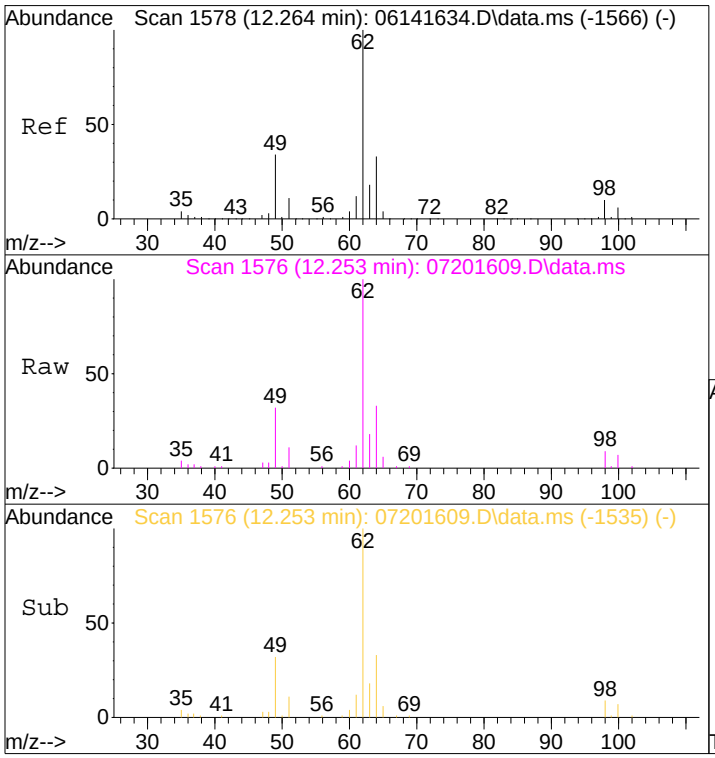


#30
Ethyl Acetate
Concen: 0.83 ng
RT: 11.41 min Scan# 1423
Delta R.T. -0.028 min
Lab File: 07201609.D
Acq: 20 Jul 2016 10:44

Tgt Ion: 61 Resp: 7674

Ion	Ratio	Lower	Upper
61	100		
70	70.7	52.7	92.7

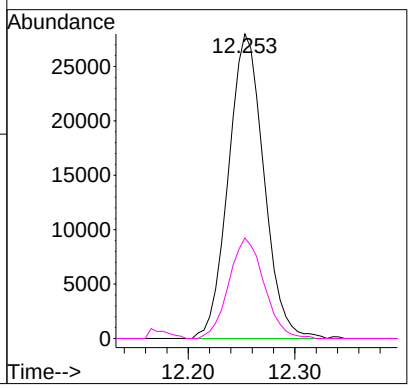


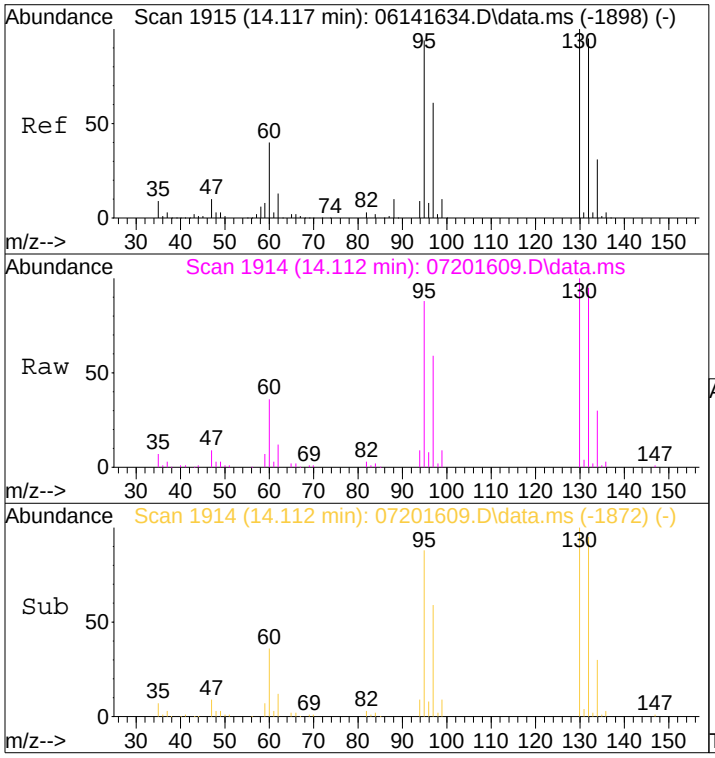


#36
1,2-Dichloroethane
Concen: 2.07 ng
RT: 12.25 min Scan# 1576
Delta R.T. -0.022 min
Lab File: 07201609.D
Acq: 20 Jul 2016 10:44

Tgt Ion: 62 Resp: 64647

Ion	Ratio	Lower	Upper
62	100		
64	32.9	12.7	52.7

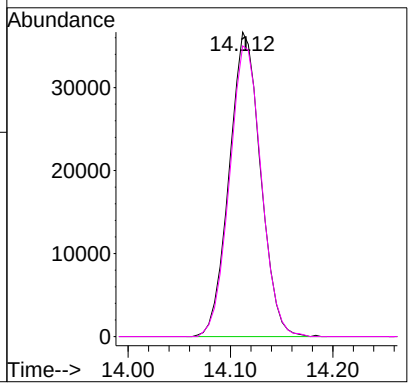


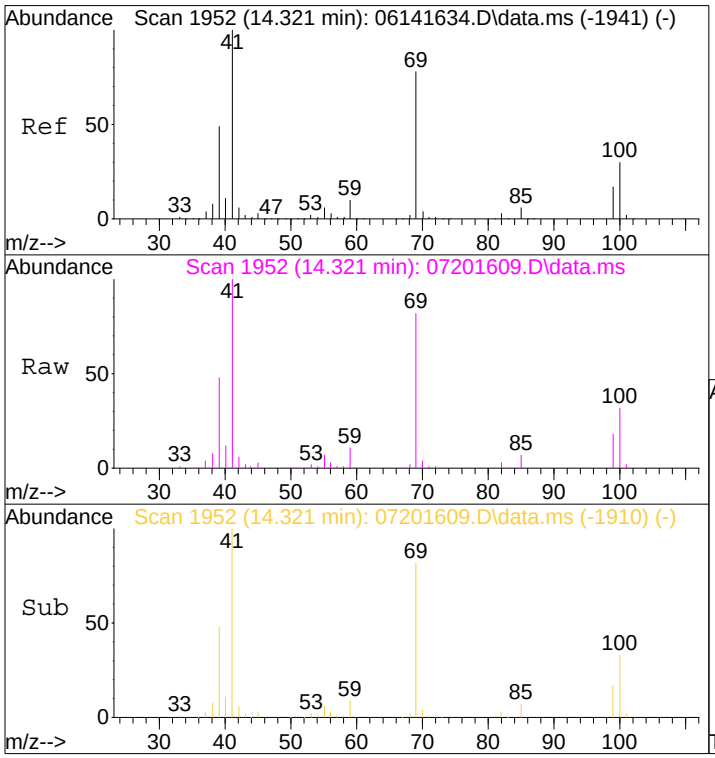


#47
Trichloroethene
Concen: 2.67 ng
RT: 14.11 min Scan# 1914
Delta R.T. -0.017 min
Lab File: 07201609.D
Acq: 20 Jul 2016 10:44

Tgt Ion:130 Resp: 78038

Ion	Ratio	Lower	Upper
130	100		
132	96.9	76.1	116.1

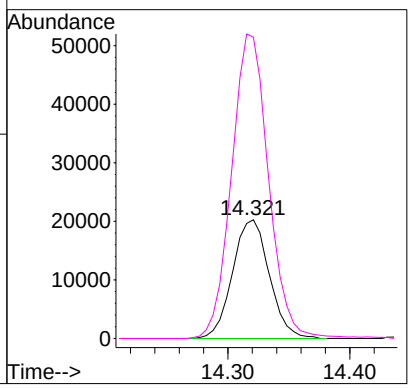


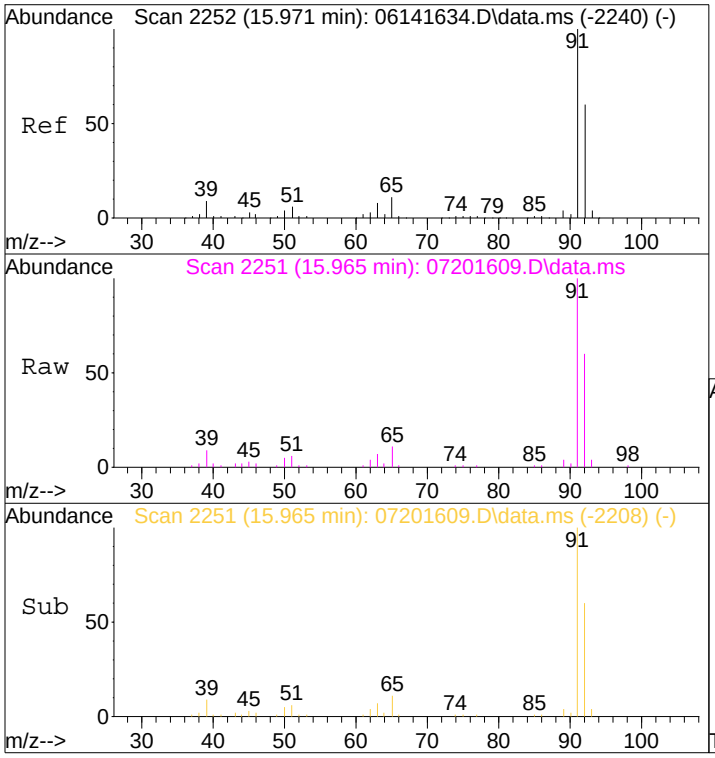


#50
Methyl Methacrylate
Concen: 4.20 ng
RT: 14.32 min Scan# 1952
Delta R.T. -0.017 min
Lab File: 07201609.D
Acq: 20 Jul 2016 10:44

Tgt Ion:100 Resp: 42479

Ion	Ratio	Lower	Upper
100	100		
69	258.9	243.1	283.1

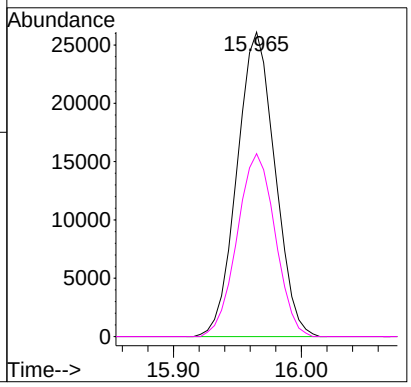


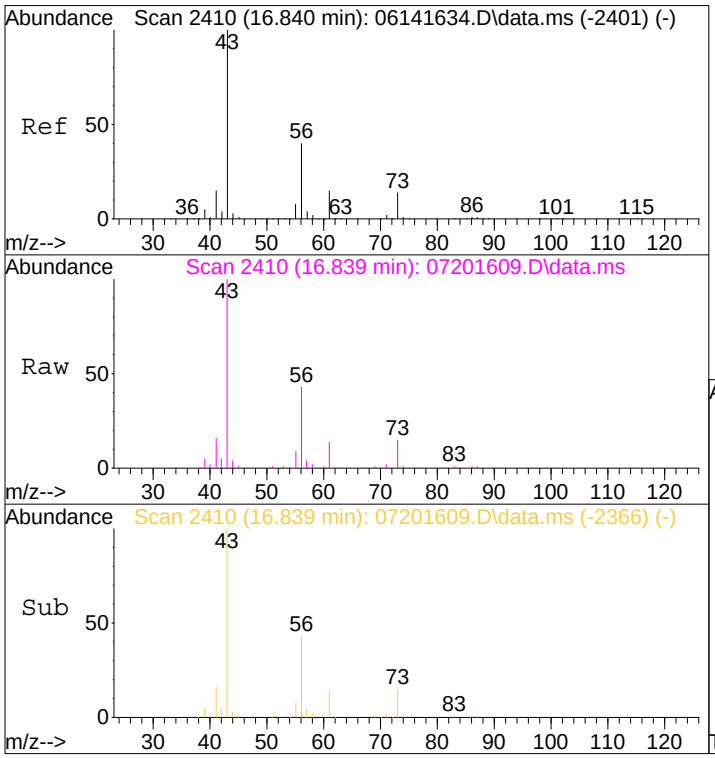


#58
Toluene
Concen: 0.49 ng
RT: 15.97 min Scan# 2251
Delta R.T. -0.011 min
Lab File: 07201609.D
Acq: 20 Jul 2016 10:44

Tgt Ion: 91 Resp: 53790

Ion	Ratio	Lower	Upper
91	100		
92	60.2	39.7	79.7

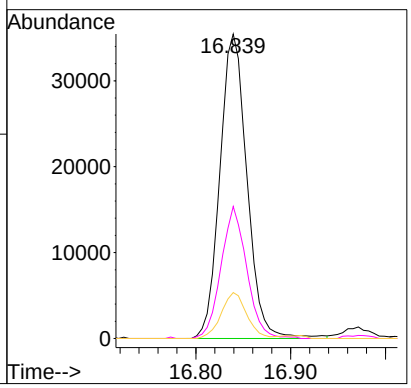


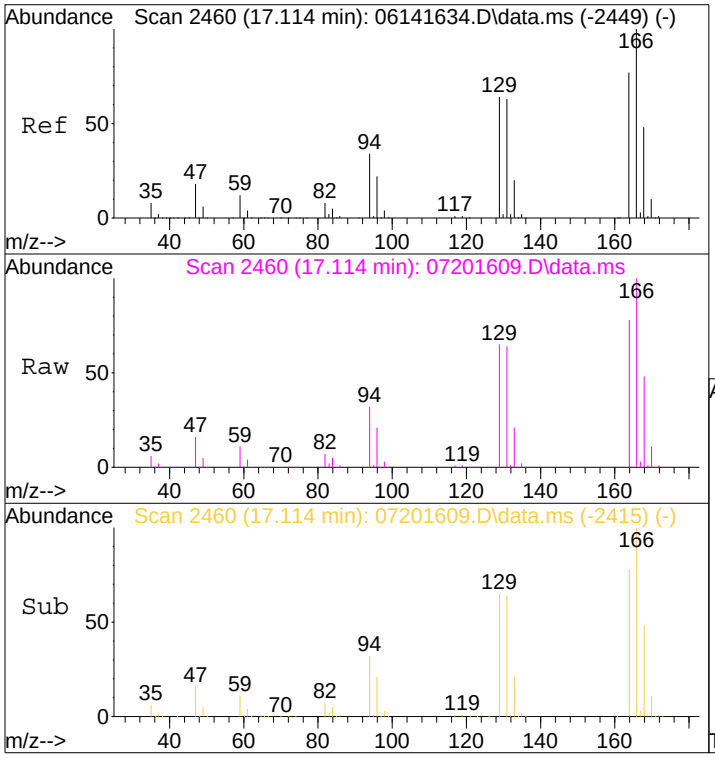


#62
n-Butyl Acetate
Concen: 1.09 ng
RT: 16.84 min Scan# 2410
Delta R.T. -0.006 min
Lab File: 07201609.D
Acq: 20 Jul 2016 10:44

Tgt Ion: 43 Resp: 70421

Ion	Ratio	Lower	Upper
43	100		
56	41.1	19.7	59.7
73	14.3	0.0	33.6

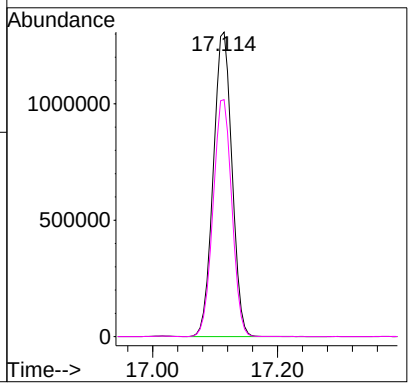




#64
Tetrachloroethene
Concen: 79.54 ng
RT: 17.11 min Scan# 2460
Delta R.T. -0.000 min
Lab File: 07201609.D
Acq: 20 Jul 2016 10:44

Tgt Ion:166 Resp: 2710272

Ion	Ratio	Lower	Upper
166	100		
164	78.4	58.1	98.1



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 07\20\07201610.D
Acq On : 20 Jul 2016 11:17 Operator: LH
Sample : P1603571-010 (45mL)
Misc : S29-07061608
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 25 10:21:54 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:43:00 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 7/25/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	243382	12.500 ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.41	114	1131952	12.500 ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.72	82	435361	12.500 ng	0.00

System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	12.14	65	308157	11.613 ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.88%		
57) Toluene-d8 (SS2)	15.87	98	1086985	12.477 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%		
73) Bromofluorobenzene (SS3)	19.10	174	412561	13.597 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.80%		

Target Compounds						Qvalue
2) Propene	4.14	42	1373	N.D.		
3) Dichlorodifluoromethan...	4.29	85	1943570	36.543 ng		100
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.43	45	68554	3.424 ng		99
11) Acetonitrile	6.76	41	1342	N.D.		
12) Acrolein	6.92	56	133	N.D.		
13) Acetone	7.10	58	507618	25.212 ng		95
14) Trichlorofluoromethane	7.37	101	1996	N.D.		
15) 2-Propanol (Isopropanol)	7.59	45	285103	4.495 ng		100
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.50	59	6301	N.D.		
19) Methylene Chloride	8.55	84	1330	N.D.		
20) 3-Chloro-1-propene (Al...	8.50	41	1135	N.D.		
21) Trichlorotrifluoroethane	8.79	151	2557	N.D.		
22) Carbon Disulfide	8.86	76	7173	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	10.21	73	652	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	10.61	72	4804	N.D.		
28) cis-1,2-Dichloroethene	11.10	61	2362	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	11.42	61	7537	0.836 ng		99
31) n-Hexane	11.40	57	2217	N.D.		
32) Chloroform	11.44	83	1680	N.D.		
34) Tetrahydrofuran (THF)	11.87	72	7568	0.453 ng	#	89
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.25	62	64633	2.127 ng		100
38) 1,1,1-Trichloroethane	12.53	97	625	N.D.		
39) Isopropyl Acetate	12.97	61	687	N.D.		
40) 1-Butanol	0.00	56	0	N.D. d		
41) Benzene	13.02	78	11485	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	13.31	84	945	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	14.12	83	898	N.D.		
47) Trichloroethene	14.11	130	79387	2.779 ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.18	57	1548	N.D.		

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 07\20\07201610.D
Acq On : 20 Jul 2016 11:17 Operator: LH
Sample : P1603571-010 (45mL)
Misc : S29-07061608
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 25 10:21:54 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:43:00 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

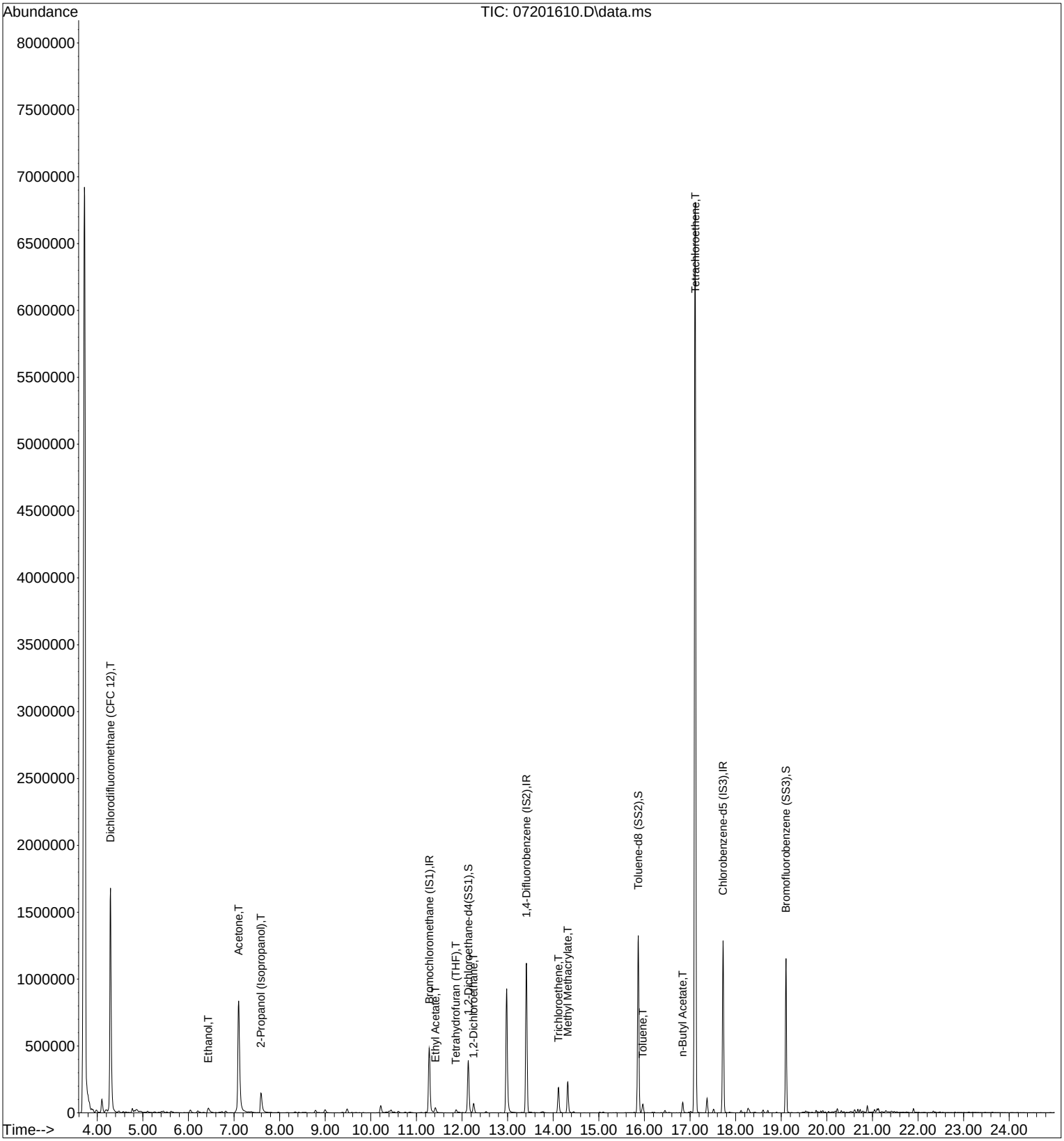
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	14.32	100	41929	4.254 ng	100
51) n-Heptane	14.45	71	1909	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	15.02	58	1865	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.96	91	57290	0.534 ng	99
59) 2-Hexanone	16.22	43	2726	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.84	43	68905	1.088 ng	97
63) n-Octane	16.97	57	752	N.D.	
64) Tetrachloroethene	17.11	166	2712072	81.366 ng	100
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.12	91	12360	N.D.	
67) m- & p-Xylenes	18.27	91	26554	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.60	104	10647	N.D.	
70) o-Xylene	18.70	91	10551	N.D.	
71) n-Nonane	18.90	43	2485	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.23	105	1287	N.D.	
75) alpha-Pinene	19.58	93	2486	N.D.	
76) n-Propylbenzene	19.68	91	3603	N.D.	
77) 3-Ethyltoluene	19.76	105	10197	N.D.	
78) 4-Ethyltoluene	19.80	105	4474	N.D.	
79) 1,3,5-Trimethylbenzene	19.87	105	6635	N.D.	
80) alpha-Methylstyrene	20.23	118	608	N.D.	
81) 2-Ethyltoluene	20.04	105	5760	N.D.	
82) 1,2,4-Trimethylbenzene	20.23	105	14430	N.D.	
83) n-Decane	20.32	57	6171	N.D.	
84) Benzyl Chloride	20.23	91	1372	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	20.47	105	753	N.D.	
88) 4-Isopropyltoluene (p-...	20.61	119	4107	N.D.	
89) 1,2,3-Trimethylbenzene	20.61	105	5415	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.73	68	5333	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.42	57	3006	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.39	128	2206	N.D.	
96) n-Dodecane	22.33	57	4067	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.42	55	2676	N.D.	
99) tert-Butylbenzene	20.23	119	2244	N.D.	
100) n-Butylbenzene	20.96	91	943	N.D.	

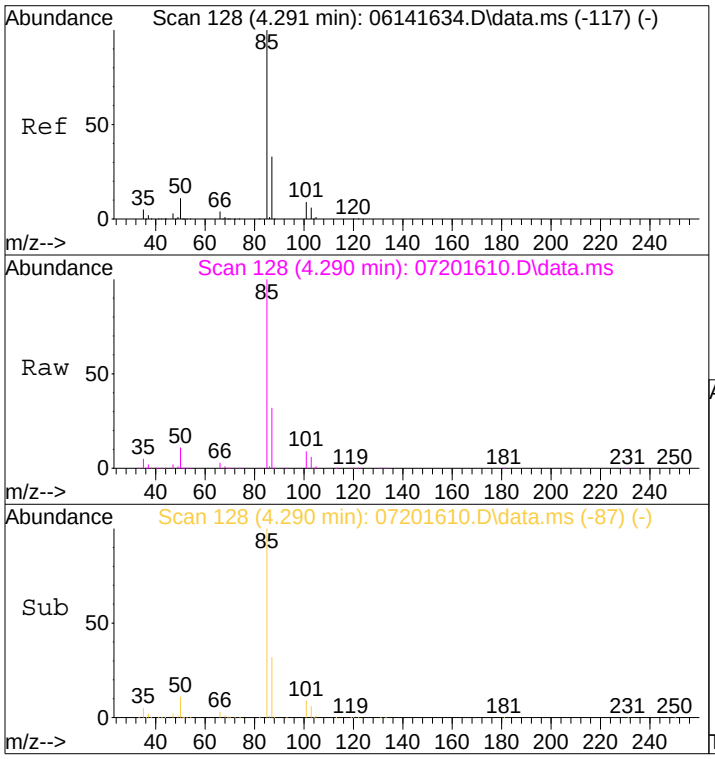
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 07\20\07201610.D
Acq On : 20 Jul 2016 11:17 Operator: LH
Sample : P1603571-010 (45mL)
Misc : S29-07061608
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 25 10:21:54 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:43:00 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

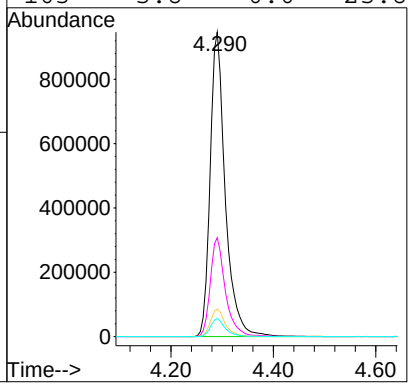


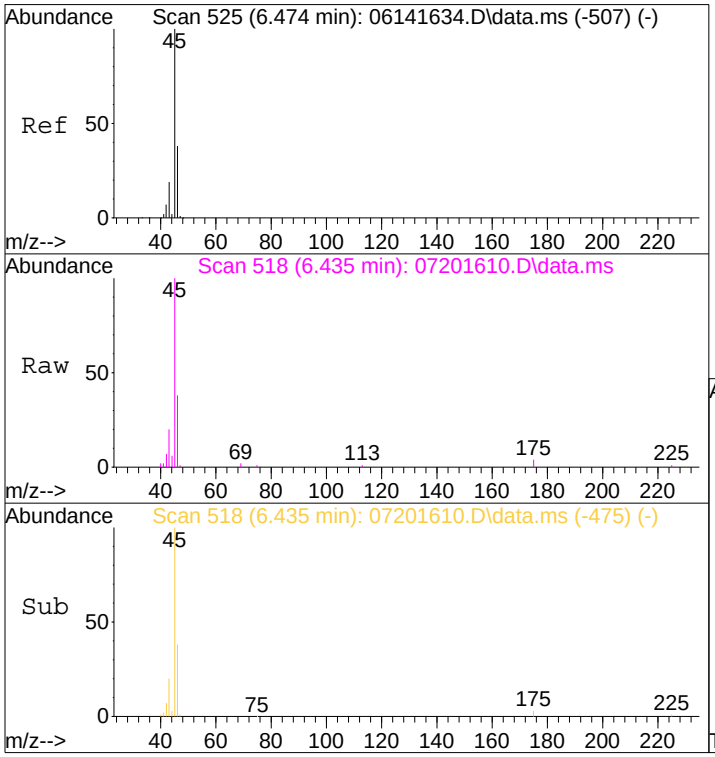


#3
Dichlorodifluoromethane (CFC 12)
Concen: 36.54 ng
RT: 4.29 min Scan# 128
Delta R.T. -0.022 min
Lab File: 07201610.D
Acq: 20 Jul 2016 11:17

Tgt Ion: 85 Resp: 1943570

Ion	Ratio	Lower	Upper
85	100		
87	32.5	12.7	52.7
101	9.1	0.0	28.9
103	5.8	0.0	25.8

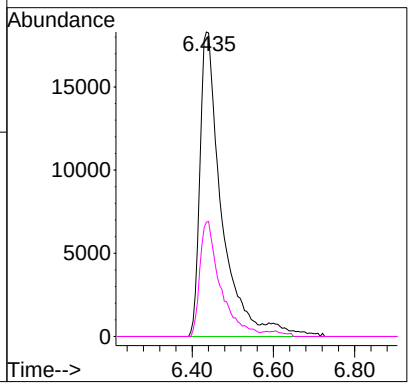


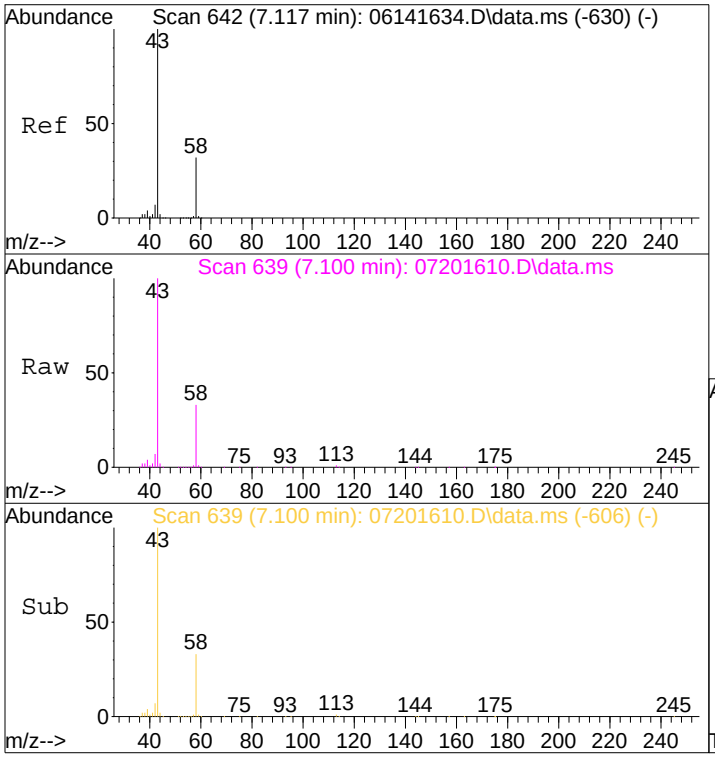


#10
Ethanol
Concen: 3.42 ng
RT: 6.43 min Scan# 518
Delta R.T. -0.116 min
Lab File: 07201610.D
Acq: 20 Jul 2016 11:17

Tgt Ion: 45 Resp: 68554

Ion	Ratio	Lower	Upper
45	100		
46	37.1	17.5	57.5

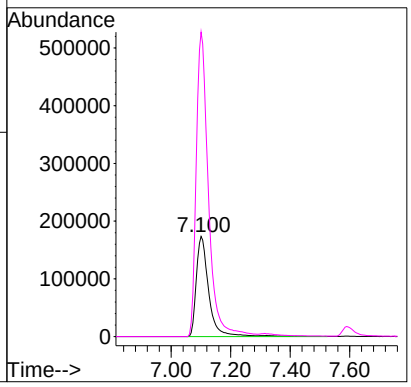


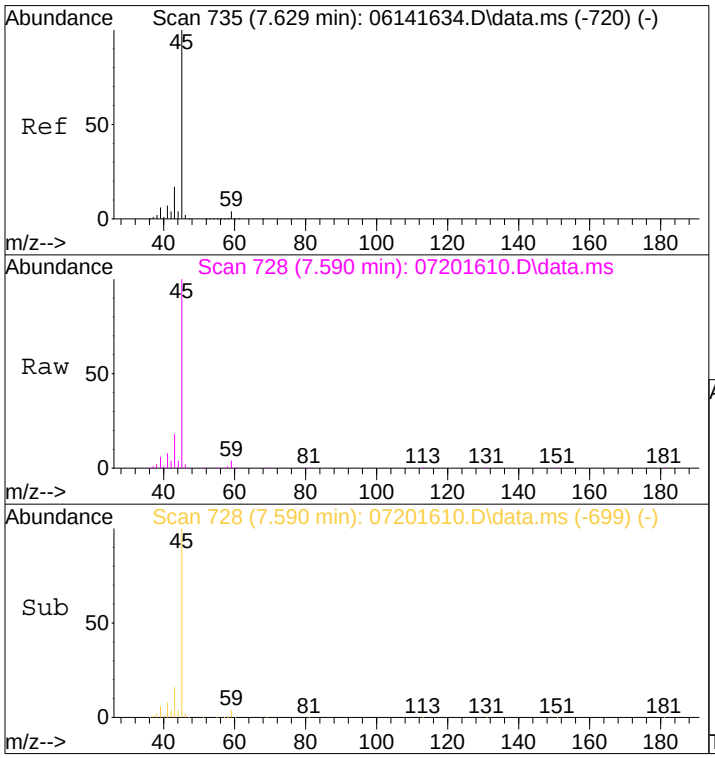


#13
Acetone
Concen: 25.21 ng
RT: 7.10 min Scan# 639
Delta R.T. -0.067 min
Lab File: 07201610.D
Acq: 20 Jul 2016 11:17

Tgt Ion: 58 Resp: 507618

Ion	Ratio	Lower	Upper
58	100		
43	302.4	282.4	342.4

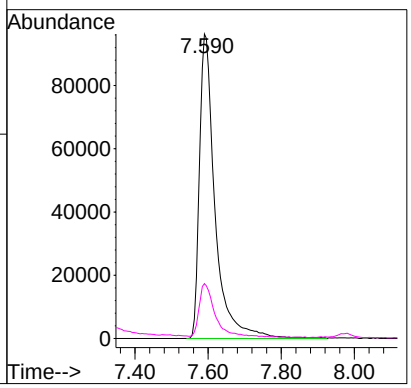


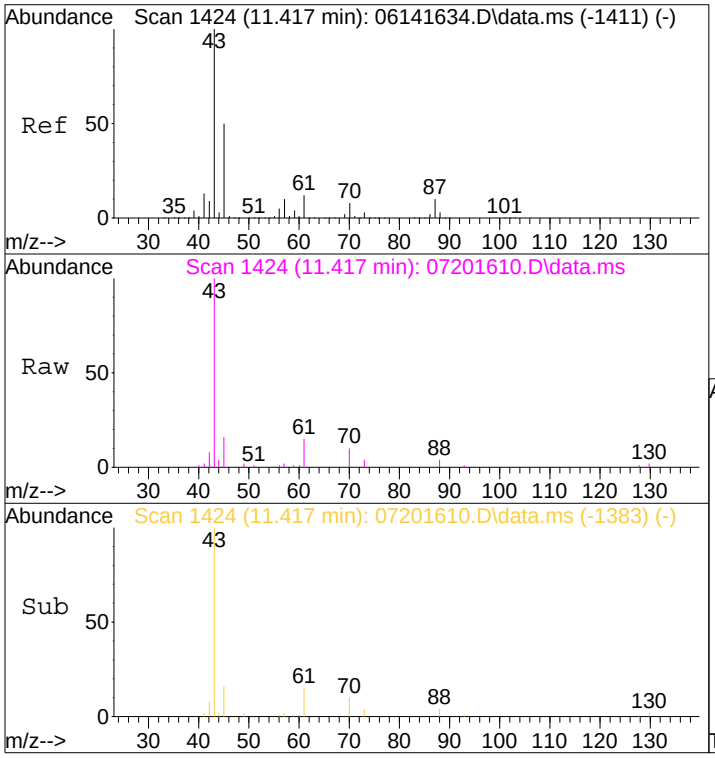


#15
2-Propanol (Isopropanol)
Concen: 4.49 ng
RT: 7.59 min Scan# 728
Delta R.T. -0.088 min
Lab File: 07201610.D
Acq: 20 Jul 2016 11:17

Tgt Ion: 45 Resp: 285103

Ion	Ratio	Lower	Upper
45	100		
43	17.7	0.0	37.5

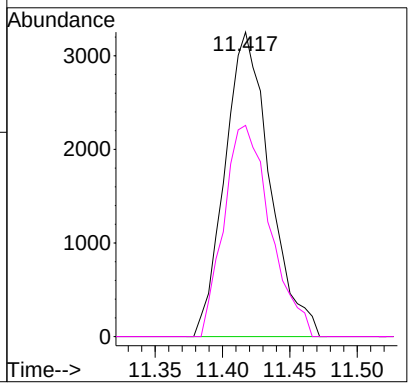


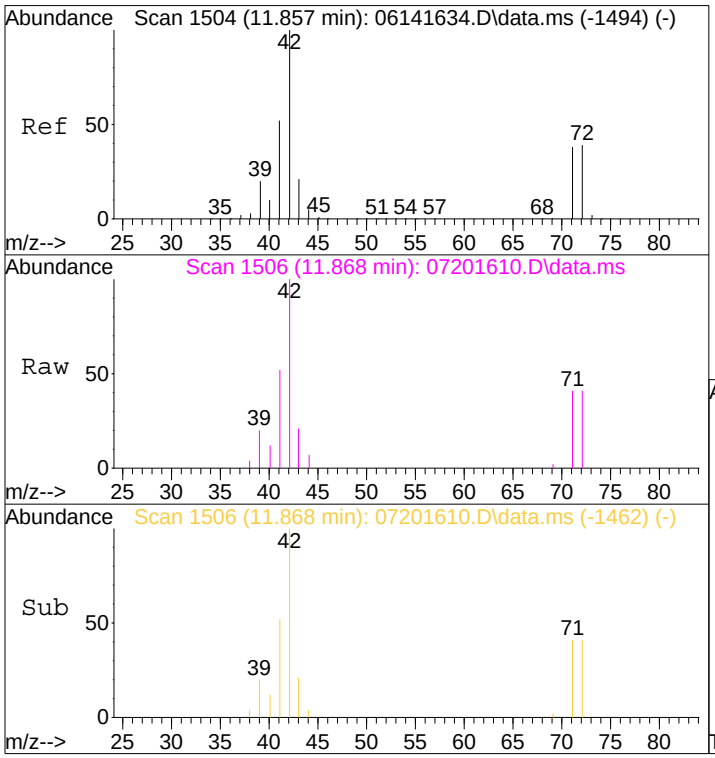


#30
Ethyl Acetate
Concen: 0.84 ng
RT: 11.42 min Scan# 1424
Delta R.T. -0.022 min
Lab File: 07201610.D
Acq: 20 Jul 2016 11:17

Tgt Ion: 61 Resp: 7537

Ion	Ratio	Lower	Upper
61	100		
70	71.5	52.7	92.7

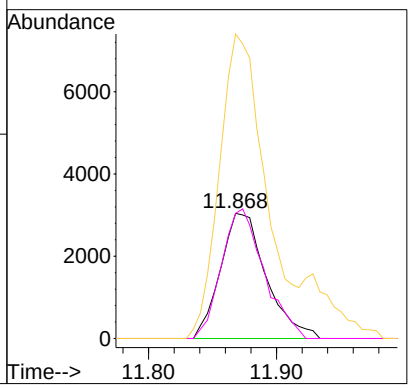


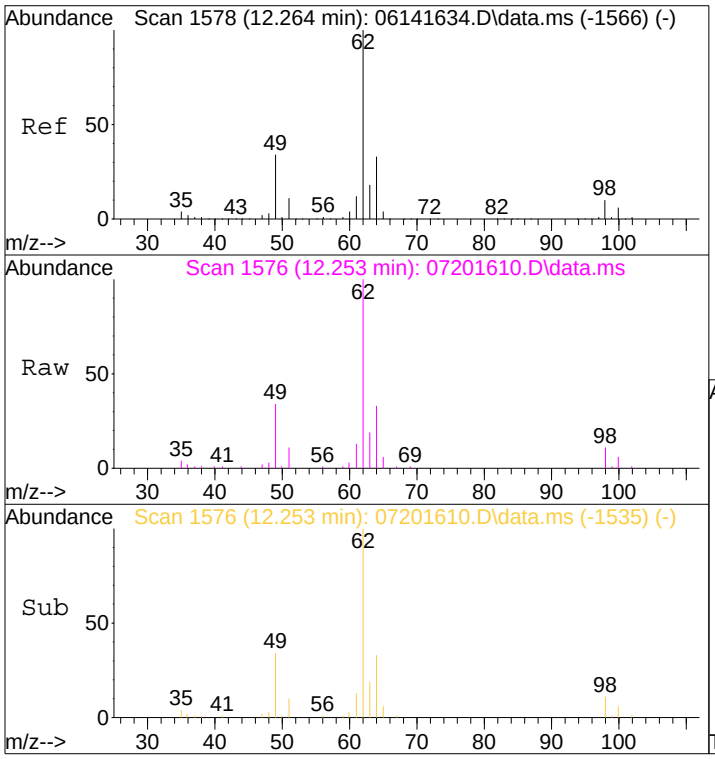


#34
Tetrahydrofuran (THF)
Concen: 0.45 ng
RT: 11.87 min Scan# 1506
Delta R.T. -0.006 min
Lab File: 07201610.D
Acq: 20 Jul 2016 11:17

Tgt Ion: 72 Resp: 7568

Ion	Ratio	Lower	Upper
72	100		
71	96.2	76.5	116.5
42	278.7	231.9	271.9#

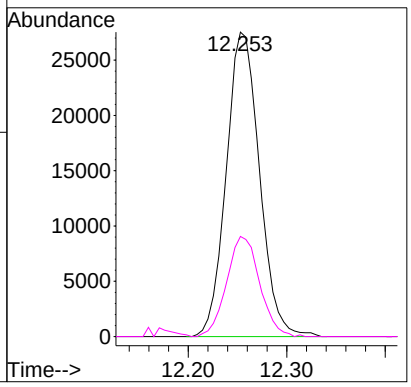


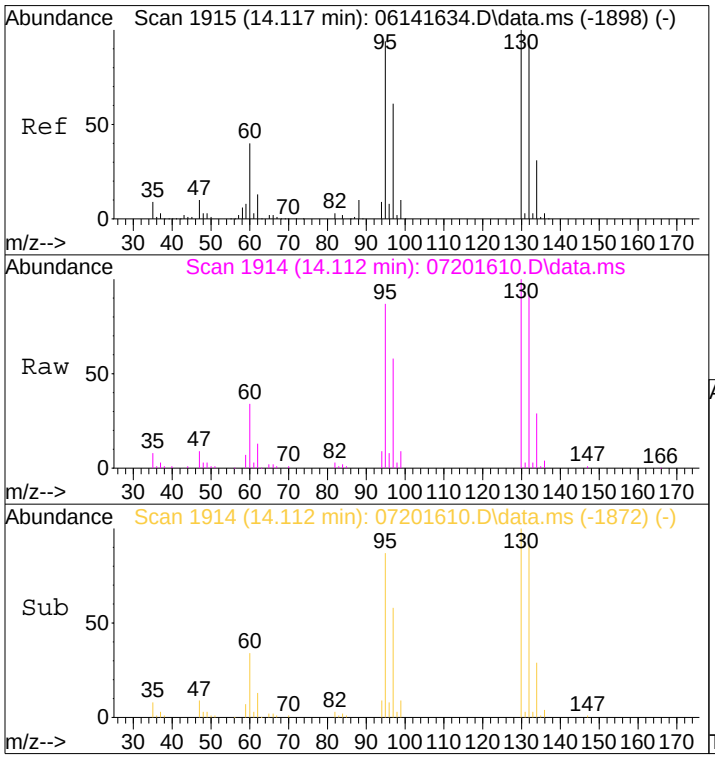


#36
1,2-Dichloroethane
Concen: 2.13 ng
RT: 12.25 min Scan# 1576
Delta R.T. -0.022 min
Lab File: 07201610.D
Acq: 20 Jul 2016 11:17

Tgt Ion: 62 Resp: 64633

Ion	Ratio	Lower	Upper
62	100		
64	32.6	12.7	52.7

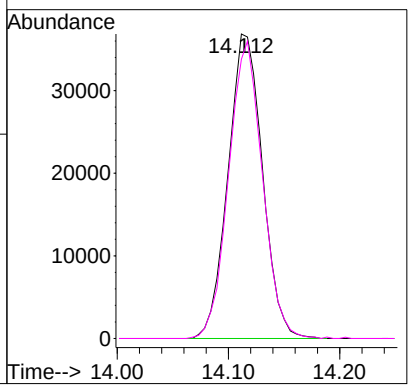


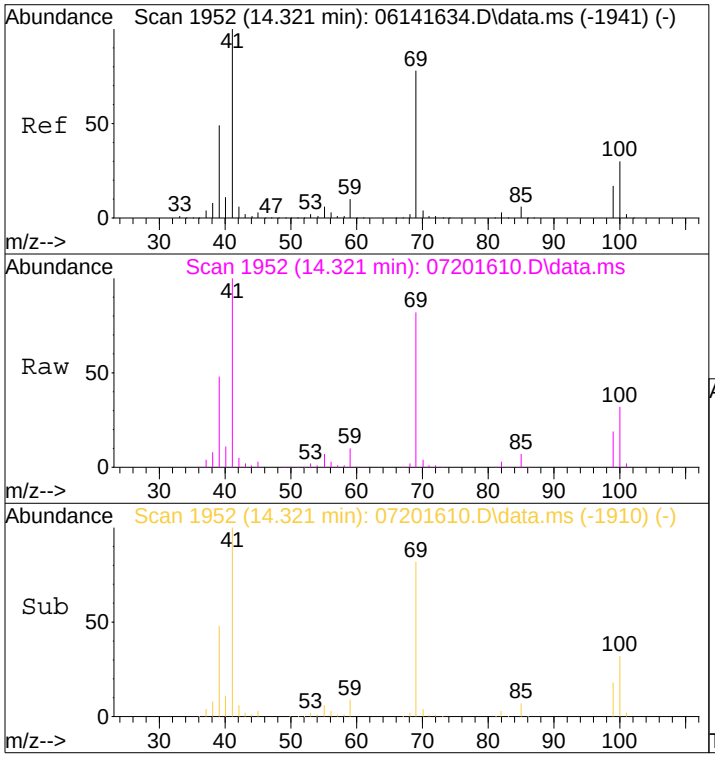


#47
Trichloroethene
Concen: 2.78 ng
RT: 14.11 min Scan# 1914
Delta R.T. -0.017 min
Lab File: 07201610.D
Acq: 20 Jul 2016 11:17

Tgt Ion:130 Resp: 79387

Ion	Ratio	Lower	Upper
130	100		
132	95.5	76.1	116.1

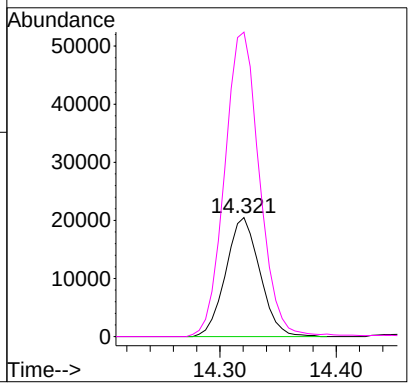


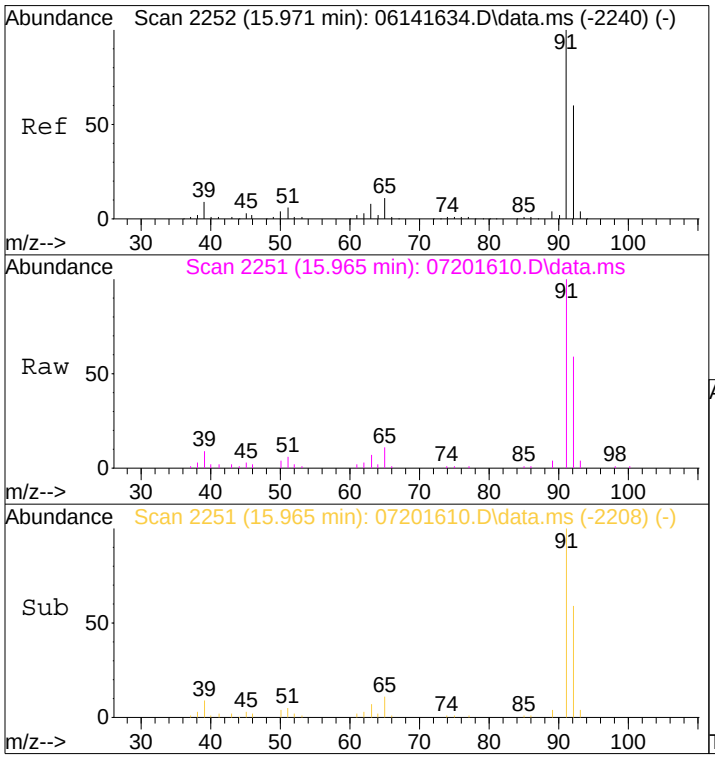


#50
Methyl Methacrylate
Concen: 4.25 ng
RT: 14.32 min Scan# 1952
Delta R.T. -0.017 min
Lab File: 07201610.D
Acq: 20 Jul 2016 11:17

Tgt Ion:100 Resp: 41929

Ion	Ratio	Lower	Upper
100	100		
69	262.6	243.1	283.1

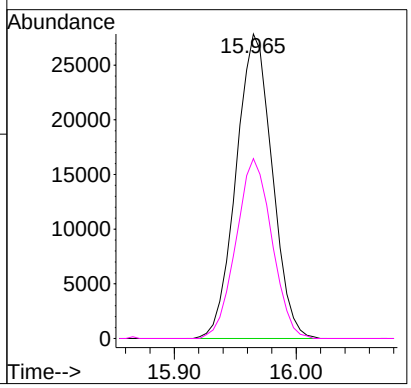


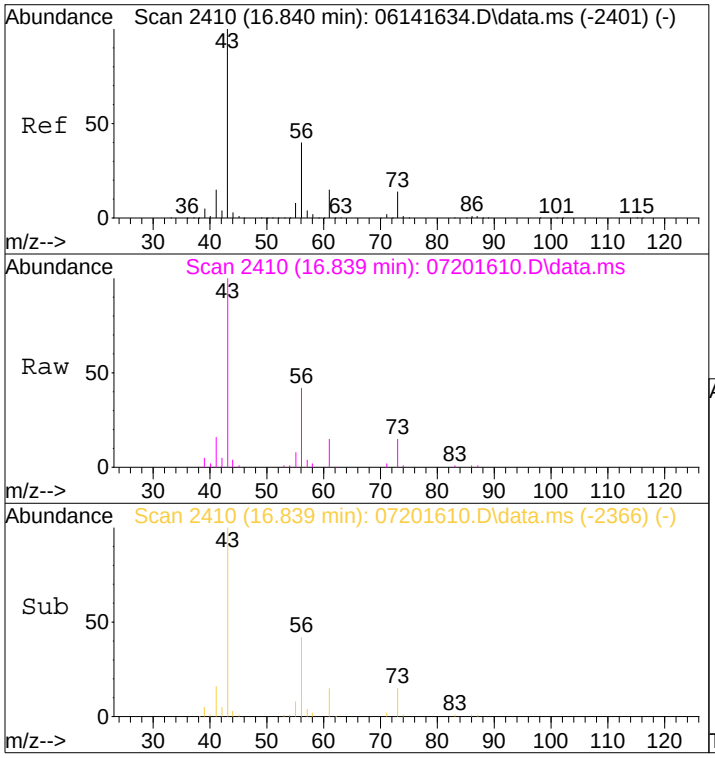


#58
Toluene
Concen: 0.53 ng
RT: 15.96 min Scan# 2251
Delta R.T. -0.011 min
Lab File: 07201610.D
Acq: 20 Jul 2016 11:17

Tgt Ion: 91 Resp: 57290

Ion	Ratio	Lower	Upper
91	100		
92	58.6	39.7	79.7

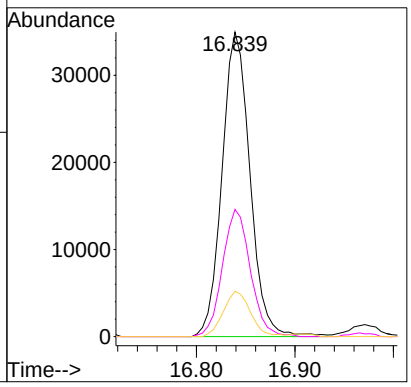


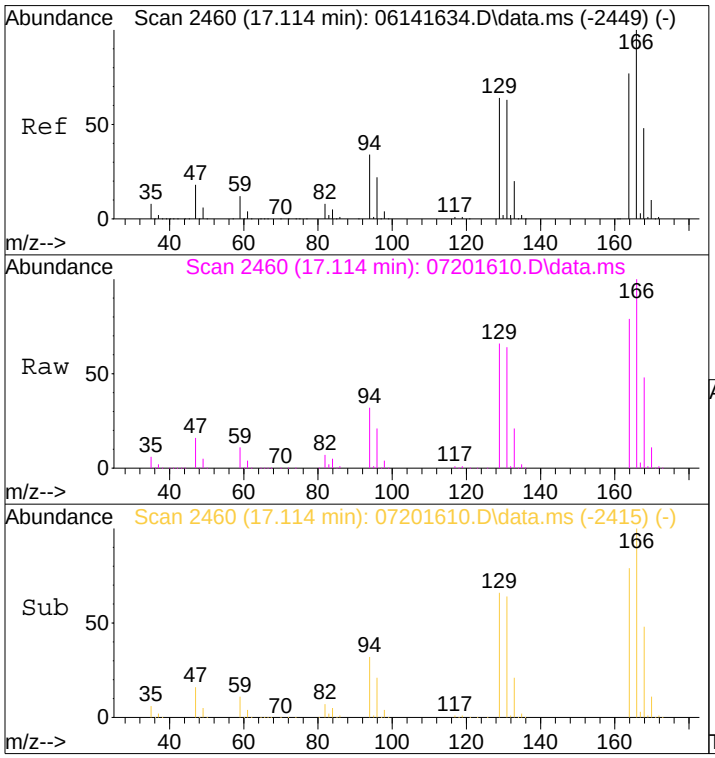


#62
n-Butyl Acetate
Concen: 1.09 ng
RT: 16.84 min Scan# 2410
Delta R.T. -0.006 min
Lab File: 07201610.D
Acq: 20 Jul 2016 11:17

Tgt Ion: 43 Resp: 68905

Ion	Ratio	Lower	Upper
43	100		
56	41.7	19.7	59.7
73	14.6	0.0	33.6

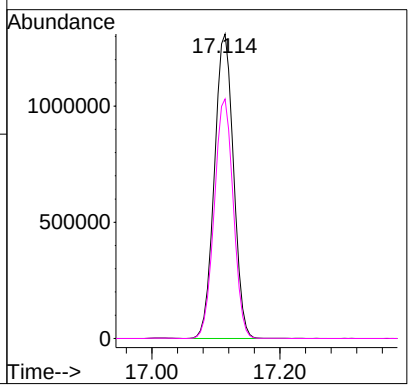




#64
Tetrachloroethene
Concen: 81.37 ng
RT: 17.11 min Scan# 2460
Delta R.T. -0.000 min
Lab File: 07201610.D
Acq: 20 Jul 2016 11:17

Tgt Ion:166 Resp: 2712072

Ion	Ratio	Lower	Upper
166	100		
164	78.4	58.1	98.1



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 07\20\07201606.D
Acq On : 20 Jul 2016 8:57 Operator: LH
Sample : P1603571-012 (1.0mL)
Misc : S29-07061608
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 25 10:19:48 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:43:00 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 7/25/16

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	240287	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.41	114	1136785	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.72	82	423265	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	12.14	65	306562	11.702	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.60%			
57) Toluene-d8 (SS2)	15.87	98	1093568	12.911	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.28%			
73) Bromofluorobenzene (SS3)	19.11	174	395183	13.396	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.20%			

Target Compounds

						Qvalue
2) Propene	0.00	42	0	N.D.	d	
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	5.07	62	10624	N.D.		
7) 1,3-Butadiene	5.25	54	1017	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.50	45	1486	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	7.66	45	448	N.D.		
16) Acrylonitrile	7.84	53	1535	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.54	59	1133	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	8.66	41	14878	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	8.87	76	1957	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	10.09	63	1401	N.D.		
25) Methyl tert-Butyl Ether	10.36	73	1663	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	10.63	72	617	N.D.		
28) cis-1,2-Dichloroethene	11.10	61	7614	N.D.		
29) Diisopropyl Ether	11.41	87	5897	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	11.41	57	597091	14.998	ng	100
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.29	62	2965	N.D.		
38) 1,1,1-Trichloroethane	12.54	97	5078	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	13.18	56	4645	N.D.		
41) Benzene	13.02	78	89943	0.860	ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	13.32	84	616042	16.788	ng	96
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	14.00	63	755	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	14.12	130	4061	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.17	57	42072	N.D.		

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 07\20\07201606.D
Acq On : 20 Jul 2016 8:57 Operator: LH
Sample : P1603571-012 (1.0mL)
Misc : S29-07061608
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 25 10:19:48 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:43:00 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

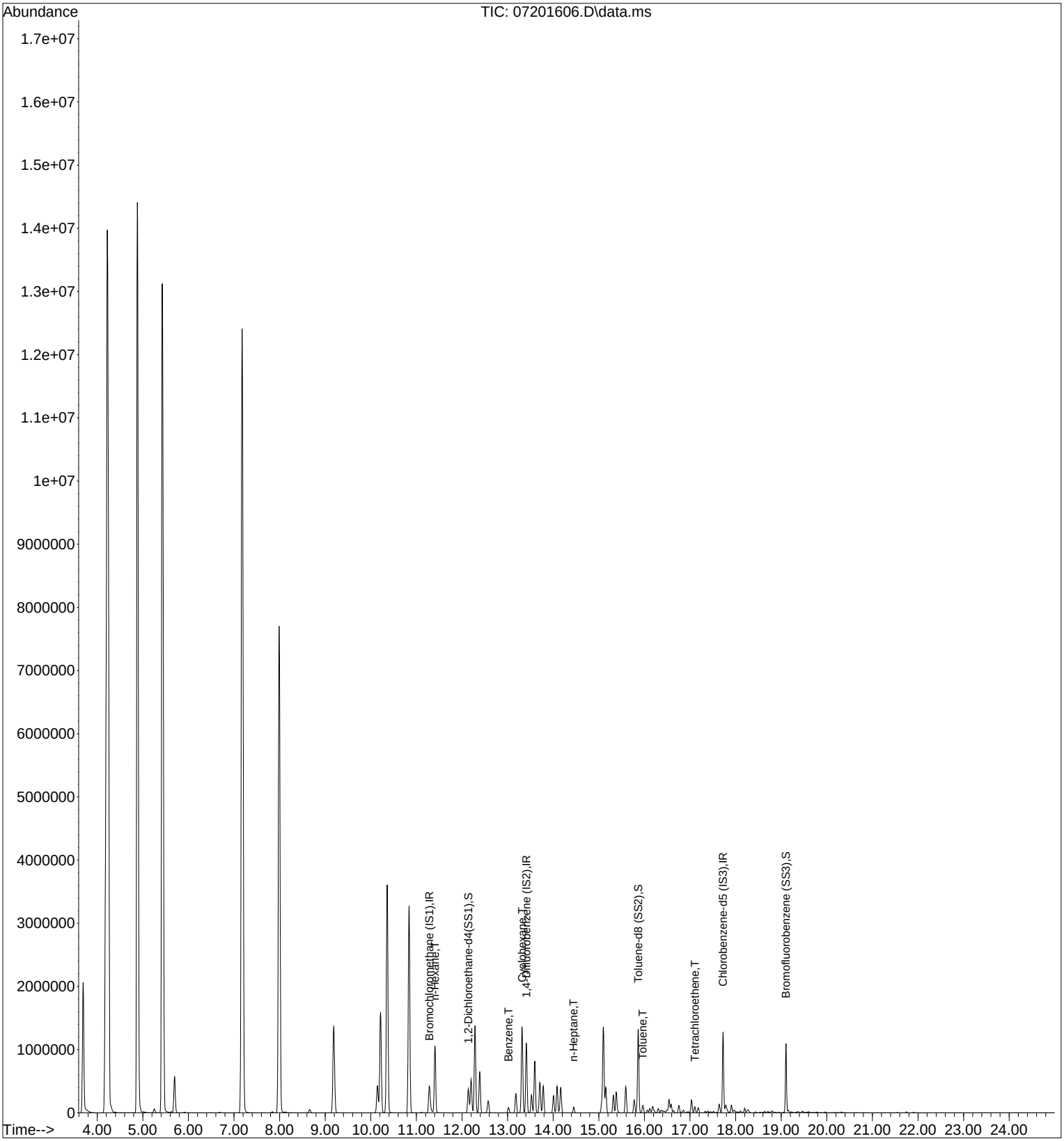
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	0.00	100	0	N.D. d	
51) n-Heptane	14.45	71	24396	1.064 ng	100
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	15.07	58	5348	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.97	91	89986	0.862 ng	99
59) 2-Hexanone	16.22	43	13067	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.85	43	2486	N.D.	
63) n-Octane	16.97	57	3351	N.D.	
64) Tetrachloroethene	17.11	166	17552	0.542 ng	99
65) Chlorobenzene	17.80	112	7104	N.D.	
66) Ethylbenzene	18.12	91	8983	N.D.	
67) m- & p-Xylenes	18.27	91	27761	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	18.71	91	11070	N.D.	
71) n-Nonane	18.90	43	2725	N.D.	
72) 1,1,2,2-Tetrachloroethane	18.64	83	2422	N.D.	
74) Cumene	19.23	105	1703	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.68	91	1388	N.D.	
77) 3-Ethyltoluene	19.77	105	5390	N.D.	
78) 4-Ethyltoluene	19.80	105	2594	N.D.	
79) 1,3,5-Trimethylbenzene	19.88	105	5049	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	20.05	105	3142	N.D.	
82) 1,2,4-Trimethylbenzene	20.25	105	5206	N.D.	
83) n-Decane	20.33	57	7260	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	20.64	105	1239	N.D.	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	
89) 1,2,3-Trimethylbenzene	20.64	105	1239	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.47	57	757	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	0.00	128	0	N.D.	
96) n-Dodecane	0.00	57	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.43	55	2978	N.D.	
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D.	

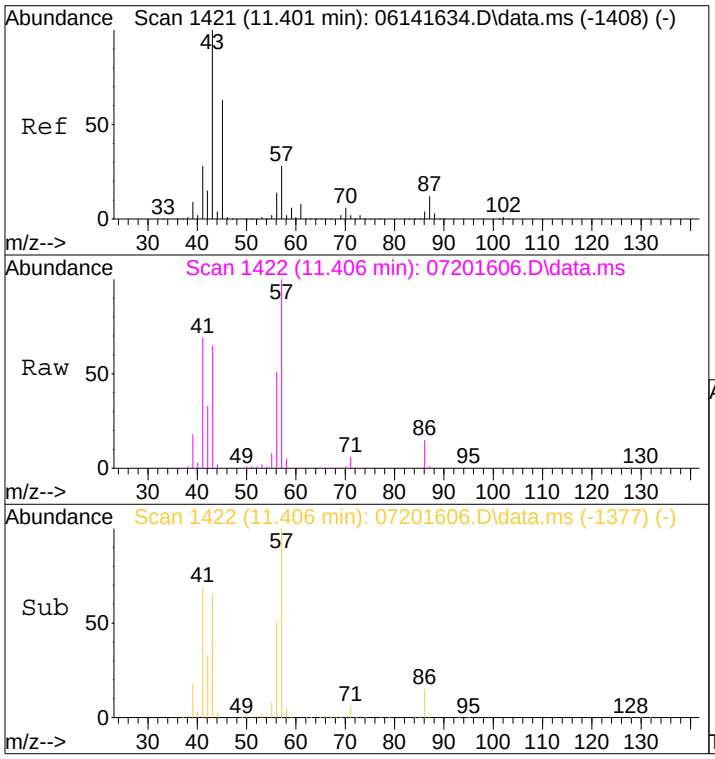
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 07\20\07201606.D
Acq On : 20 Jul 2016 8:57 Operator: LH
Sample : P1603571-012 (1.0mL)
Misc : S29-07061608
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 25 10:19:48 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:43:00 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

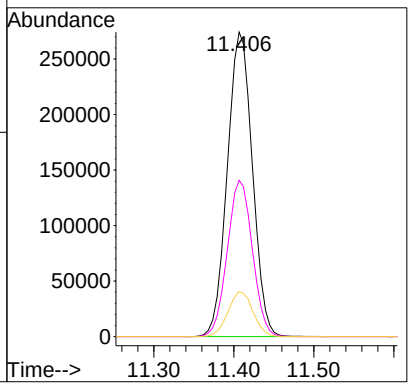


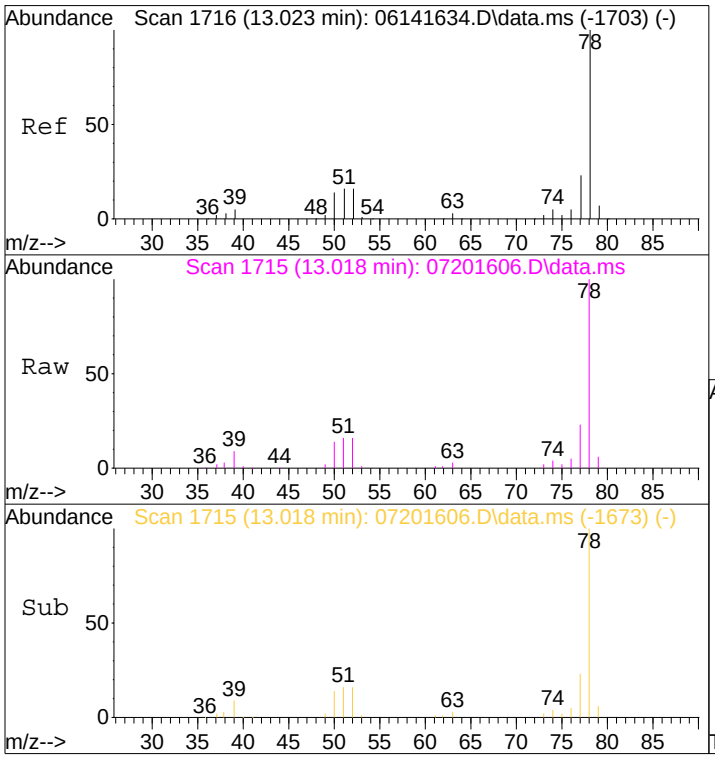


#31
n-Hexane
Concen: 15.00 ng
RT: 11.41 min Scan# 1422
Delta R.T. 0.000 min
Lab File: 07201606.D
Acq: 20 Jul 2016 8:57

Tgt Ion: 57 Resp: 597091

Ion	Ratio	Lower	Upper
57	100		
56	51.4	41.0	61.4
86	14.7	11.8	17.6

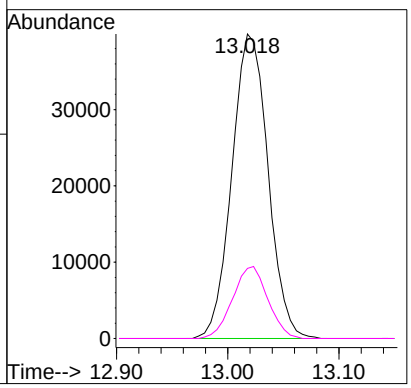


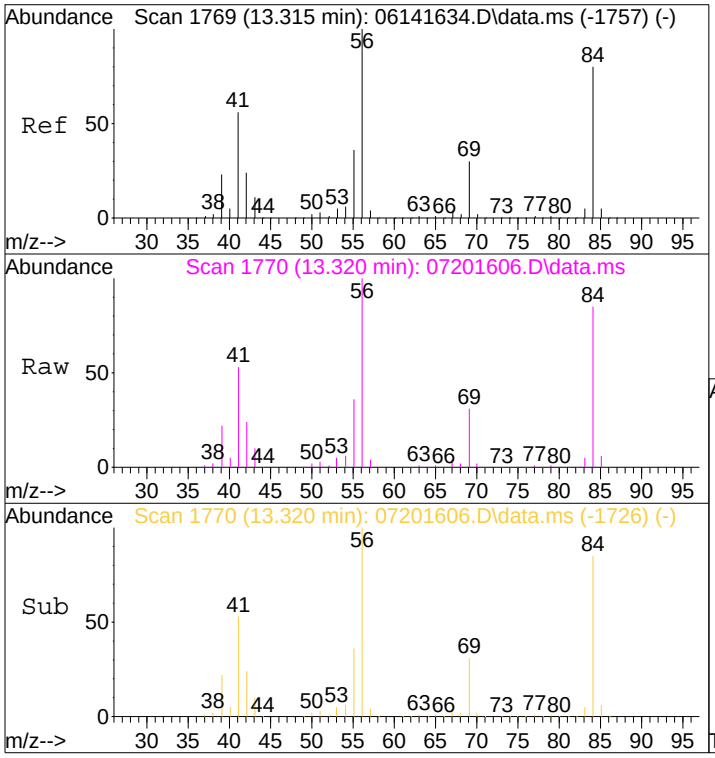


#41
Benzene
Concen: 0.86 ng
RT: 13.02 min Scan# 1715
Delta R.T. -0.016 min
Lab File: 07201606.D
Acq: 20 Jul 2016 8:57

Tgt Ion: 78 Resp: 89943

Ion	Ratio	Lower	Upper
78	100		
77	23.1	3.3	43.3

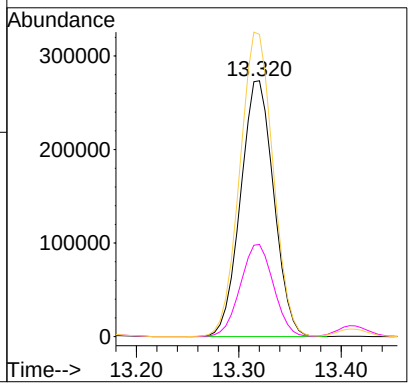


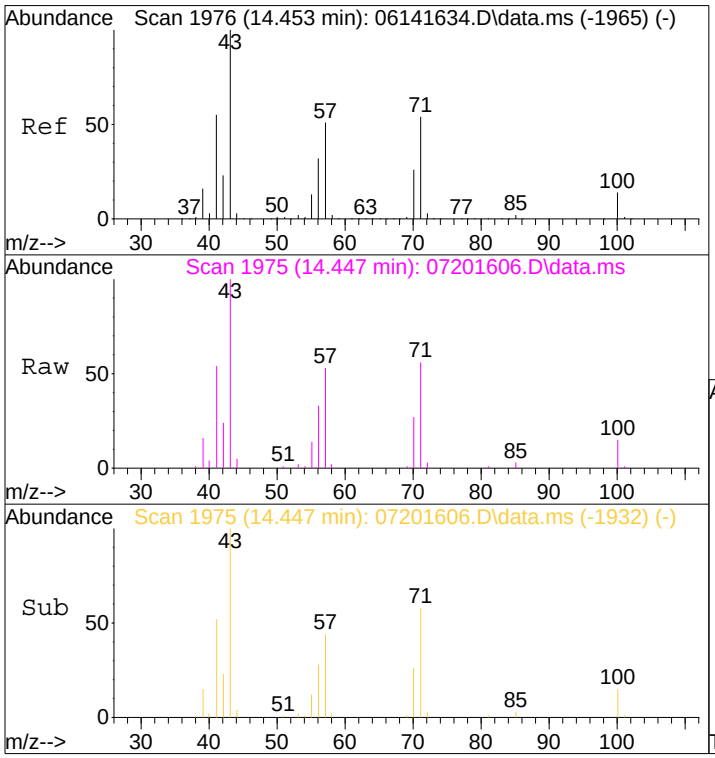


#43
Cyclohexane
Concen: 16.79 ng
RT: 13.32 min Scan# 1770
Delta R.T. -0.005 min
Lab File: 07201606.D
Acq: 20 Jul 2016 8:57

Tgt Ion: 84 Resp: 616042

Ion	Ratio	Lower	Upper
84	100		
69	36.0	16.6	56.6
56	119.4	104.2	144.2

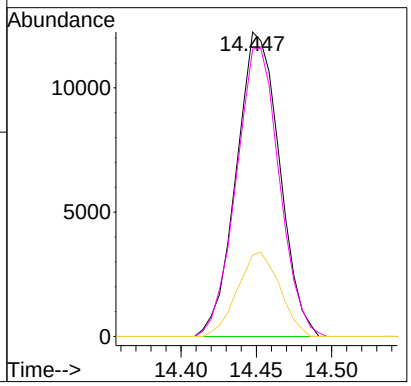


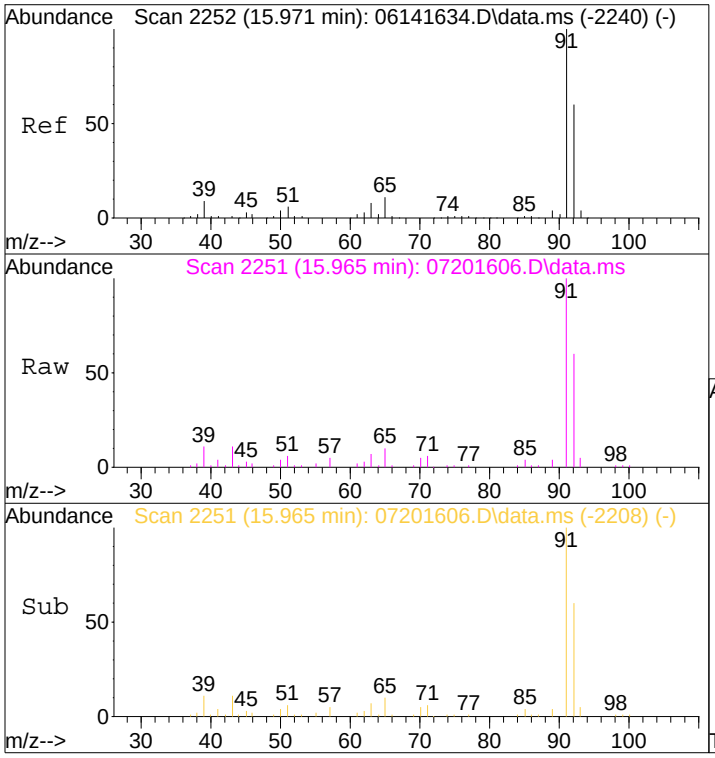


#51
n-Heptane
Concen: 1.06 ng
RT: 14.45 min Scan# 1975
Delta R.T. -0.011 min
Lab File: 07201606.D
Acq: 20 Jul 2016 8:57

Tgt Ion: 71 Resp: 24396

Ion	Ratio	Lower	Upper
71	100		
57	94.8	75.3	115.3
100	27.1	7.2	47.2

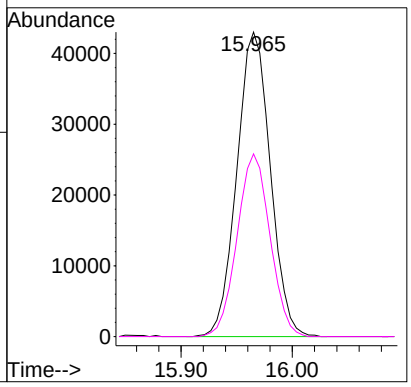


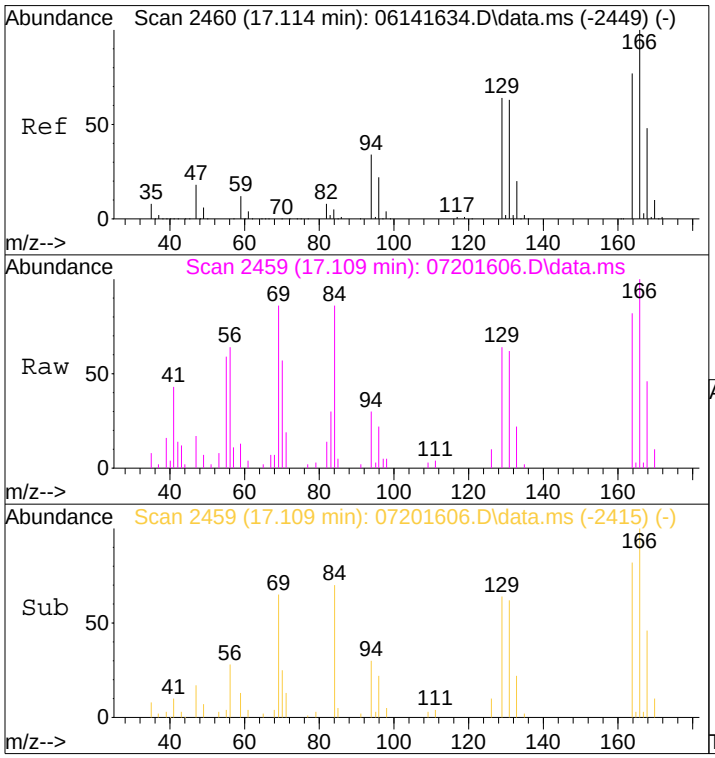


#58
Toluene
Concen: 0.86 ng
RT: 15.97 min Scan# 2251
Delta R.T. -0.011 min
Lab File: 07201606.D
Acq: 20 Jul 2016 8:57

Tgt Ion: 91 Resp: 89986

Ion	Ratio	Lower	Upper
91	100		
92	58.9	39.7	79.7

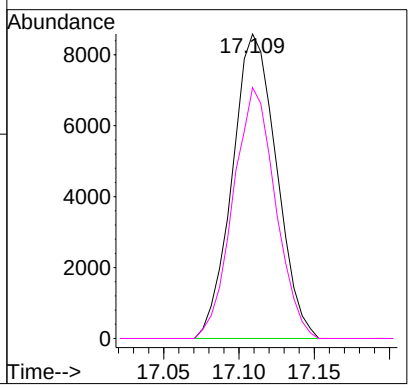




#64
Tetrachloroethene
Concen: 0.54 ng
RT: 17.11 min Scan# 2459
Delta R.T. -0.005 min
Lab File: 07201606.D
Acq: 20 Jul 2016 8:57

Tgt Ion:166 Resp: 17552

Ion	Ratio	Lower	Upper
166	100		
164	78.8	58.1	98.1



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 07\20\07201603.D
Acq On : 20 Jul 2016 7:17 Operator: LH
Sample : MB R16071916 1000mL
Misc : S29-07061608 AC00442
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 21 07:43:37 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:43:00 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 7/21/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	237641	12.500 ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.41	114	1130784	12.500 ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.72	82	420938	12.500 ng	0.00

System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	12.14	65	304615	11.757 ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.08%		
57) Toluene-d8 (SS2)	15.87	98	1086801	12.902 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.20%		
73) Bromofluorobenzene (SS3)	19.11	174	392150	13.367 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.96%		

Target Compounds					Qvalue
2) Propene	4.24	42	1198	N.D.	
3) Dichlorodifluoromethan...	0.00	85	0	N.D.	
4) Chloromethane	0.00	50	0	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	0.00	54	0	N.D.	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	6.57	45	52	N.D.	
11) Acetonitrile	6.83	41	432	N.D.	
12) Acrolein	6.99	56	52	N.D.	
13) Acetone	7.16	58	6858	0.349 ng #	57
14) Trichlorofluoromethane	0.00	101	0	N.D.	
15) 2-Propanol (Isopropanol)	7.66	45	379	N.D.	
16) Acrylonitrile	0.00	53	0	N.D.	
17) 1,1-Dichloroethene	0.00	96	0	N.D.	
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	
19) Methylene Chloride	0.00	84	0	N.D.	
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	
21) Trichlorotrifluoroethane	0.00	151	0	N.D.	
22) Carbon Disulfide	8.88	76	3349	N.D.	
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
24) 1,1-Dichloroethane	0.00	63	0	N.D.	
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D.	
27) 2-Butanone (MEK)	10.47	72	698	N.D.	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	
29) Diisopropyl Ether	0.00	87	0	N.D.	
30) Ethyl Acetate	0.00	61	0	N.D.	
31) n-Hexane	0.00	57	0	N.D.	
32) Chloroform	0.00	83	0	N.D.	
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	0.00	62	0	N.D.	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
39) Isopropyl Acetate	0.00	61	0	N.D.	
40) 1-Butanol	13.03	56	884	N.D.	
41) Benzene	13.02	78	9804	0.094 ng	98
42) Carbon Tetrachloride	0.00	117	0	N.D.	
43) Cyclohexane	13.40	84	564	N.D.	
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D.	
46) Bromodichloromethane	0.00	83	0	N.D.	
47) Trichloroethene	0.00	130	0	N.D.	
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 07\20\07201603.D
Acq On : 20 Jul 2016 7:17 Operator: LH
Sample : MB R16071916 1000mL
Misc : S29-07061608 AC00442
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 21 07:43:37 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:43:00 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

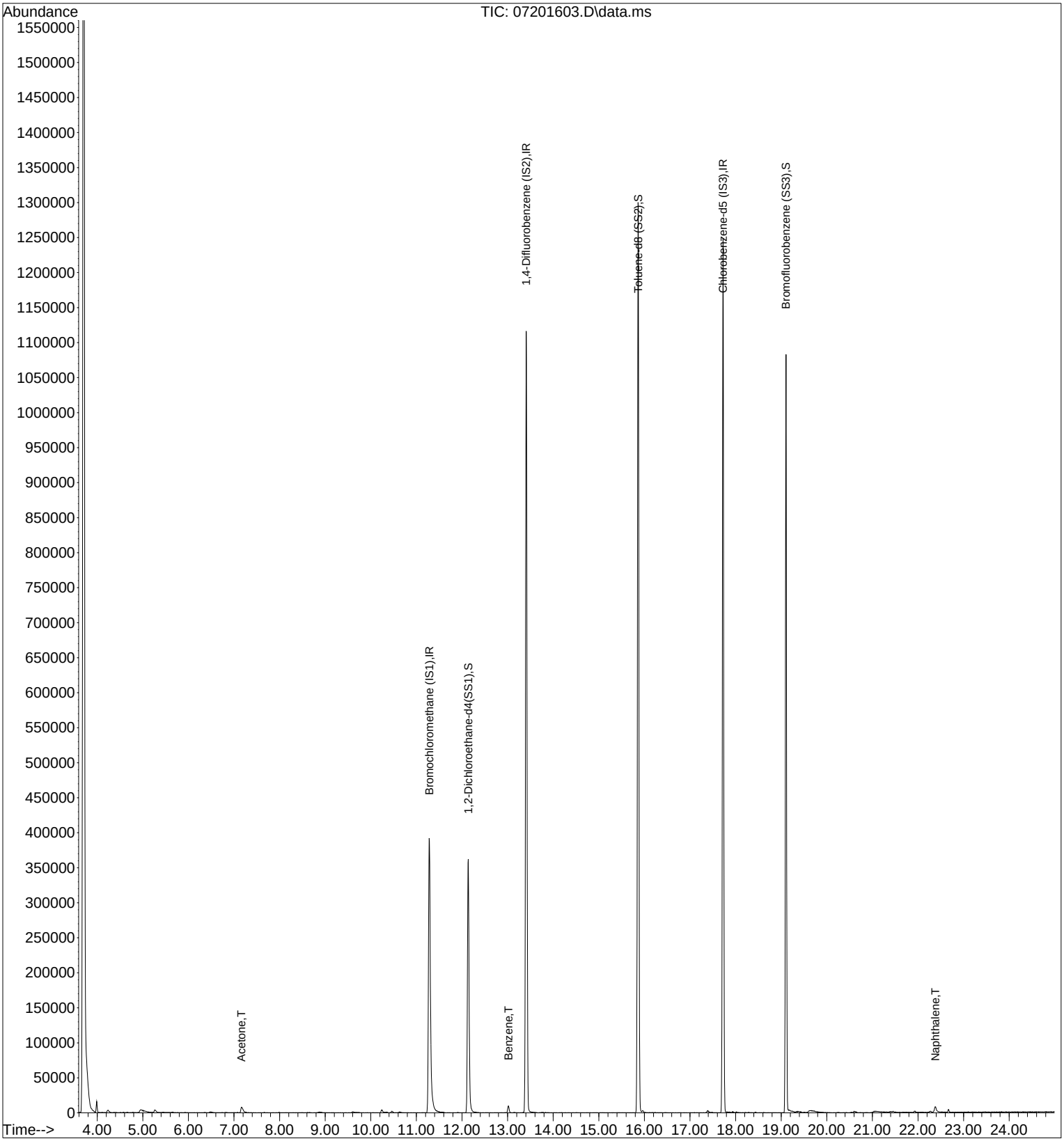
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	0.00	100	0	N.D.	
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.97	91	2836	N.D.	
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	0.00	91	0	N.D.	
67) m- & p-Xylenes	0.00	91	0	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	0.00	91	0	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	0.00	105	0	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	0.00	91	0	N.D.	
77) 3-Ethyltoluene	19.83	105	821	N.D.	
78) 4-Ethyltoluene	19.83	105	821	N.D.	
79) 1,3,5-Trimethylbenzene	19.90	105	991	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	19.90	105	991	N.D.	
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
83) n-Decane	0.00	57	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.40	57	822	N.D.	
94) 1,2,4-Trichlorobenzene	22.28	180	1685	N.D.	
95) Naphthalene	22.38	128	16866	0.138 ng	89
96) n-Dodecane	22.36	57	1073	N.D.	
97) Hexachlorobutadiene	22.67	225	1288	N.D.	
98) Cyclohexanone	18.43	55	513	N.D.	
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 07\20\07201603.D
Acq On : 20 Jul 2016 7:17 Operator: LH
Sample : MB R16071916 1000mL
Misc : S29-07061608 AC00442
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 21 07:43:37 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:43:00 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 07\20\07201618.D
Acq On : 20 Jul 2016 15:45 Operator: LH
Sample : LCS R16072016 25ng
Misc : S29-07061608/S29-06301602 (7/29)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 21 07:44:06 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:43:00 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 7/21/16

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	245521	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.42	114	1123343	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.72	82	428587	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	306628	11.455	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.60%				
57) Toluene-d8 (SS2)	15.87	98	1086662	12.670	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
73) Bromofluorobenzene (SS3)	19.11	174	402709	13.482	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.84%				
Target Compounds							Qvalue
2) Propene	4.13	42	581021	19.988	ng		100
3) Dichlorodifluoromethan...	4.29	85	1077092	20.075	ng		100
4) Chloromethane	4.58	50	755838	17.847	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.85	135	643497	22.527	ng		100
6) Vinyl Chloride	5.01	62	852226	22.934	ng		100
7) 1,3-Butadiene	5.29	54	560660	28.555	ng		97
8) Bromomethane	5.73	94	588798	25.136	ng		100
9) Chloroethane	6.07	64	446374	23.727	ng		100
10) Ethanol	6.47	45	2151078	106.513	ng		100
11) Acetonitrile	6.72	41	1160993	20.704	ng		99
12) Acrolein	6.91	56	338371	22.575	ng		90
13) Acetone	7.12	58	2104681	103.623	ng		95
14) Trichlorofluoromethane	7.35	101	954393	21.534	ng		100
15) 2-Propanol (Isopropanol)	7.62	45	3076484	48.080	ng		99
16) Acrylonitrile	7.89	53	823629	23.483	ng		100
17) 1,1-Dichloroethene	8.33	96	590311	26.035	ng		94
18) 2-Methyl-2-Propanol (t...	8.50	59	2598915	44.904	ng		98
19) Methylene Chloride	8.56	84	609313	25.177	ng		92
20) 3-Chloro-1-propene (Al...	8.72	41	853039	23.589	ng		95
21) Trichlorotrifluoroethane	8.98	151	554023	24.157	ng		96
22) Carbon Disulfide	8.83	76	2088293	19.707	ng		100
23) trans-1,2-Dichloroethene	9.84	61	854147	24.290	ng		96
24) 1,1-Dichloroethane	10.10	63	1075648	23.248	ng		100
25) Methyl tert-Butyl Ether	10.19	73	1639265	23.214	ng		99
26) Vinyl Acetate	10.36	86	666231	124.785	ng	#	83
27) 2-Butanone (MEK)	10.59	72	407696	24.748	ng	#	86
28) cis-1,2-Dichloroethene	11.12	61	842360	25.186	ng		95
29) Diisopropyl Ether	11.41	87	496990	22.550	ng	#	82
30) Ethyl Acetate	11.42	61	442000	48.577	ng		97
31) n-Hexane	11.40	57	952915	23.426	ng		99
32) Chloroform	11.46	83	1014335	24.414	ng		100
34) Tetrahydrofuran (THF)	11.86	72	403620	23.937	ng		92
35) Ethyl tert-Butyl Ether	12.01	87	701620	25.465	ng		94
36) 1,2-Dichloroethane	12.26	62	708233	23.108	ng		100
38) 1,1,1-Trichloroethane	12.54	97	848875	23.763	ng		98
39) Isopropyl Acetate	12.97	61	782206	52.442	ng	#	89
40) 1-Butanol	12.98	56	1220844	54.626	ng		99
41) Benzene	13.02	78	2339990	22.652	ng		100
42) Carbon Tetrachloride	13.18	117	766786	25.155	ng		100
43) Cyclohexane	13.31	84	1757566	48.470	ng		96
44) tert-Amyl Methyl Ether	13.66	73	1673566	24.831	ng		97
45) 1,2-Dichloropropane	13.88	63	622690	23.993	ng		100
46) Bromodichloromethane	14.06	83	809721	25.141	ng		100
47) Trichloroethene	14.12	130	701298	24.738	ng		100
48) 1,4-Dioxane	14.08	88	507773	26.555	ng		97
49) 2,2,4-Trimethylpentane...	14.19	57	2494623	22.975	ng		98

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 07\20\07201618.D
Acq On : 20 Jul 2016 15:45 Operator: LH
Sample : LCS R16072016 25ng
Misc : S29-07061608/S29-06301602 (7/29)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 21 07:44:06 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:43:00 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

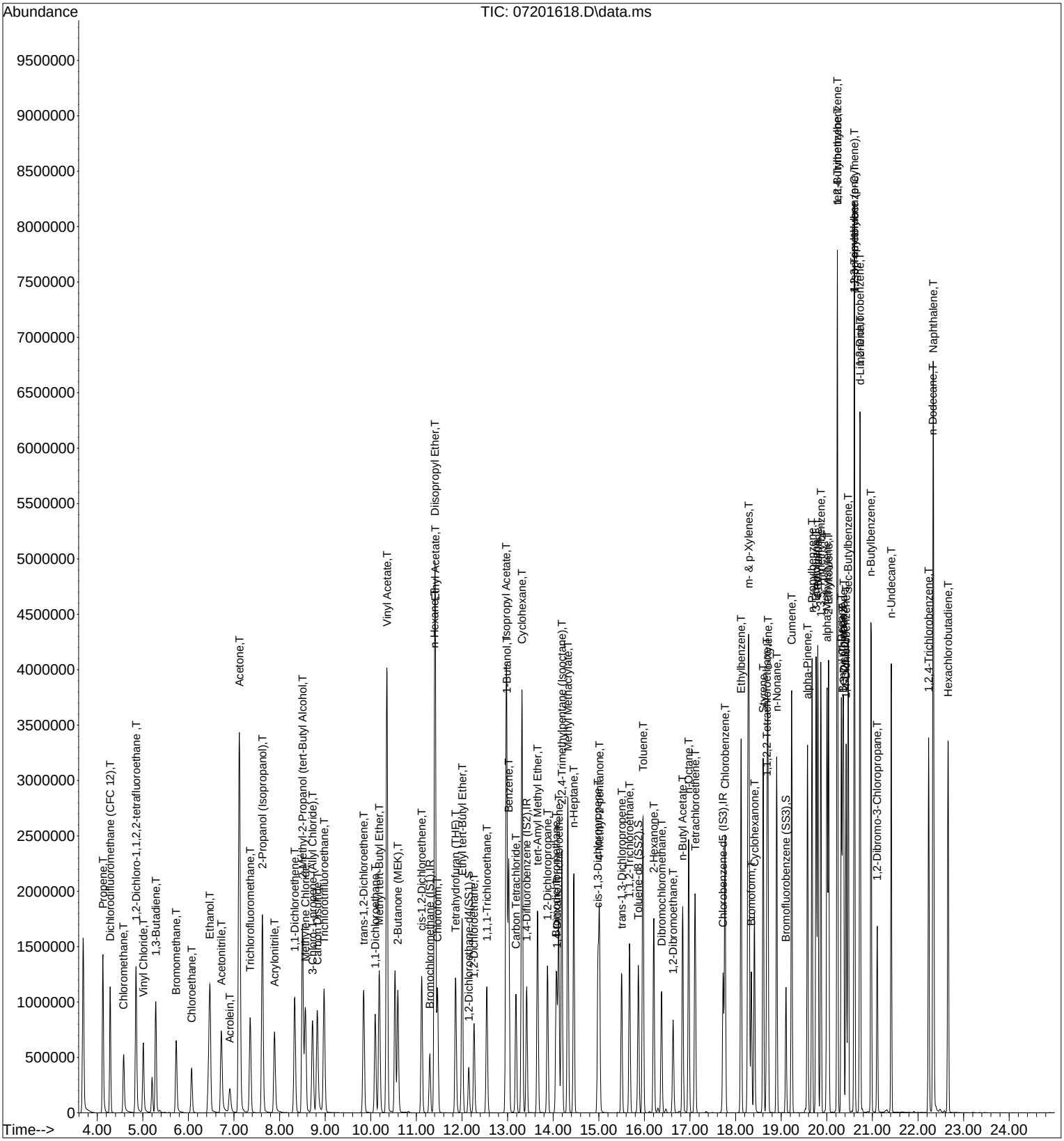
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	14.32	100	518964	53.054 ng	93
51) n-Heptane	14.45	71	583609	25.758 ng	97
52) cis-1,3-Dichloropropene	14.98	75	948723	25.835 ng	100
53) 4-Methyl-2-pentanone	15.01	58	582996	26.063 ng	95
54) trans-1,3-Dichloropropene	15.50	75	856834	26.886 ng	99
55) 1,1,2-Trichloroethane	15.67	97	607704	25.169 ng	98
58) Toluene	15.97	91	2418093	22.888 ng	100
59) 2-Hexanone	16.21	43	1415268	25.039 ng	97
60) Dibromochloromethane	16.38	129	746001	27.730 ng	100
61) 1,2-Dibromoethane	16.63	107	710013	26.431 ng	100
62) n-Butyl Acetate	16.84	43	1592265	25.535 ng	97
63) n-Octane	16.97	57	508859	23.461 ng	96
64) Tetrachloroethene	17.11	166	784942	23.922 ng	100
65) Chlorobenzene	17.77	112	1679977	25.152 ng	100
66) Ethylbenzene	18.12	91	2740931	23.312 ng	99
67) m- & p-Xylenes	18.29	91	4136559	47.484 ng	99
68) Bromoform	18.35	173	714758	28.358 ng	100
69) Styrene	18.60	104	1772092	28.179 ng	99
70) o-Xylene	18.71	91	2124556	23.542 ng	99
71) n-Nonane	18.90	43	1178670	21.633 ng	96
72) 1,1,2,2-Tetrachloroethane	18.69	83	1088914	23.374 ng	100
74) Cumene	19.23	105	2765169	23.913 ng	100
75) alpha-Pinene	19.58	93	1407110	25.687 ng	100
76) n-Propylbenzene	19.68	91	3300921	22.711 ng	99
77) 3-Ethyltoluene	19.77	105	2851667	24.716 ng	100
78) 4-Ethyltoluene	19.80	105	2576828	24.955 ng	100
79) 1,3,5-Trimethylbenzene	19.87	105	2245194	24.211 ng	99
80) alpha-Methylstyrene	20.01	118	1282572	28.650 ng	99
81) 2-Ethyltoluene	20.04	105	2637265	24.013 ng	100
82) 1,2,4-Trimethylbenzene	20.23	105	2277319	24.706 ng	100
83) n-Decane	20.32	57	1213818	23.118 ng	99
84) Benzyl Chloride	20.35	91	1986916	28.185 ng	99
85) 1,3-Dichlorobenzene	20.37	146	1499590	27.454 ng	100
86) 1,4-Dichlorobenzene	20.42	146	1477367	25.693 ng	100
87) sec-Butylbenzene	20.47	105	3009842	24.737 ng	100
88) 4-Isopropyltoluene (p-...	20.61	119	2775760	24.394 ng	99
89) 1,2,3-Trimethylbenzene	20.61	105	2329137	24.266 ng	99
90) 1,2-Dichlorobenzene	20.73	146	1418019	26.483 ng	100
91) d-Limonene	20.73	68	881948	26.891 ng	97
92) 1,2-Dibromo-3-Chloropr...	21.11	157	556584	26.864 ng	93
93) n-Undecane	21.41	57	1281914	24.326 ng	98
94) 1,2,4-Trichlorobenzene	22.23	180	1229713	29.341 ng	99
95) Naphthalene	22.34	128	3356958	26.896 ng	100
96) n-Dodecane	22.33	57	1292686	24.826 ng	98
97) Hexachlorobutadiene	22.66	225	779793	27.190 ng	100
98) Cyclohexanone	18.41	55	846198	25.065 ng	97
99) tert-Butylbenzene	20.23	119	2219782	23.836 ng	100
100) n-Butylbenzene	20.97	91	2433094	25.466 ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 07\20\07201618.D
Acq On : 20 Jul 2016 15:45 Operator: LH
Sample : LCS R16072016 25ng
Misc : S29-07061608/S29-06301602 (7/29)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 21 07:44:06 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:43:00 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M



Response Factor Report GCMS-16

Method Path : I:\MS16\METHODS\
Method File : R16061416.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Jun 15 09:43:00 2016
Response Via : Initial Calibration

LH 6/15/16

Calibration Files
0.08=06141628.D 0.10=06141629.D 0.20=06141630.D 0.40=06141631.D 1.0 =06141632.D 5.0 =06141
50 =06141635.D 100 =06141636.D

		Compound	0.08	0.10	0.20	0.40	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------ISTD----------										
2)	T	Propene	1.551	1.474	1.427	1.401	1.545	1.373	1.457	1.469	1.623	1.480	5.38
3)	T	Dichlorodifluo...	2.934	2.901	2.764	2.815	2.985	2.671	2.744	2.464	2.306	2.732	8.17
4)	T	Chloromethane	2.300	2.310	2.145	2.081	2.409	2.028	2.258	2.069	1.806	2.156	8.54
5)	T	1,2-Dichloro-1...	1.580	1.496	1.471	1.462	1.588	1.396	1.452	1.354	1.289	1.454	6.72
6)	T	Vinyl Chloride	1.762	1.804	1.840	1.807	2.112	1.901	2.063	1.914	1.825	1.892	6.40
7)	T	1,3-Butadiene		0.811	0.813	0.862	1.074	0.957	1.225	1.152	1.104	1.000	16.11
8)	T	Bromomethane	1.192	1.193	1.146	1.173	1.324	1.154	1.257	1.160	1.134	1.193	5.12
9)	T	Chloroethane	0.902	0.841	0.974	0.983	1.079	0.977	1.032	0.935	0.898	0.958	7.59
10)	T	Ethanol	1.081	1.097	1.030	1.010	1.142	0.956	1.075	0.980	0.882	1.028	7.85
11)	T	Acetonitrile	3.088	3.086	2.874	2.809	3.091	2.597	2.915	2.681	2.550	2.855	7.43
12)	T	Acrolein	0.667	0.641	0.698	0.848	0.887	0.797	0.837	0.767	0.726	0.763	11.27
13)	T	Acetone		1.281	1.209	1.181	1.113	0.994	0.938	0.824	0.732	1.034	18.83
14)	T	Trichlorofluor...	2.380	2.435	2.210	2.290	2.448	2.203	2.266	2.087	1.990	2.256	6.83
15)	T	2-Propanol (Is...	3.512	3.398	3.227	3.207	3.742	3.345	3.628	2.985	2.276	3.258	13.32
16)	T	Acrylonitrile	1.793	1.754	1.666	1.735	1.942	1.803	1.916	1.769	1.694	1.786	5.19
17)	T	1,1-Dichloroet...	1.166	1.099	1.063	1.132	1.290	1.137	1.241	1.154	1.108	1.154	6.16
18)	T	2-Methyl-2-Pro...	3.113	3.087	2.884	2.947	3.353	3.128	3.344	2.851	1.814	2.947	15.64
19)	T	Methylene Chlo...	1.265	1.277	1.198	1.166	1.371	1.226	1.274	1.187	1.125	1.232	5.97
20)	T	3-Chloro-1-pro...	1.803	1.787	1.704	1.711	2.062	1.822	2.034	1.876	1.770	1.841	6.99
21)	T	Trichlorotrifl...	1.283	1.162	1.181	1.129	1.282	1.127	1.184	1.102	1.058	1.168	6.52
22)	T	Carbon Disulfide	6.521	6.006	5.300	5.266	5.748	4.947	5.281	4.870	4.616	5.395	11.13
23)	T	trans-1,2-Dich...	1.718	1.680	1.659	1.709	1.979	1.825	1.963	1.834	1.746	1.790	6.60
24)	T	1,1-Dichloroet...	2.546	2.360	2.315	2.293	2.555	2.332	2.418	2.252	2.129	2.356	5.78
25)	T	Methyl tert-Bu...	3.798	3.647	3.437	3.471	3.837	3.525	3.771	3.526	3.345	3.595	4.88
26)	T	Vinyl Acetate	0.247	0.230	0.252	0.262	0.294	0.288	0.315	0.291	0.270	0.272	9.97
27)	T	2-Butanone (MEK)	0.859	0.812	0.834	0.872	0.916	0.831	0.859	0.801	0.765	0.839	5.24
28)	T	cis-1,2-Dichlo...	1.604	1.625	1.616	1.662	1.901	1.730	1.846	1.708	1.632	1.703	6.25
29)	T	Diisopropyl Ether	1.263	1.214	1.131	1.191	1.282	1.160	1.039	0.939	0.878	1.122	12.63
30)	T	Ethyl Acetate	0.461	0.423	0.453	0.471	0.525	0.487	0.500	0.448	0.401	0.463	8.23
31)	T	n-Hexane	2.292	2.181	2.011	2.112	2.260	2.095	2.073	1.888	1.729	2.071	8.59
32)	T	Chloroform	2.194	2.183	2.065	2.097	2.366	2.092	2.169	1.989	1.882	2.115	6.47
33)	S	1,2-Dichloroet...	1.373	1.370	1.372	1.384	1.361	1.395	1.360	1.335	1.316	1.363	1.79
34)	T	Tetrahydrofura...	0.934	0.968	0.836	0.805	0.950	0.807	0.859	0.798	0.769	0.858	8.58
35)	T	Ethyl tert-But...	1.376	1.396	1.336	1.375	1.531	1.387	1.491	1.393	1.340	1.403	4.68
36)	T	1,2-Dichloroet...	1.670	1.597	1.510	1.567	1.682	1.542	1.603	1.478	1.393	1.560	5.90
37)	IR	1,4-Difluorobenzen...	----------ISTD----------										
38)	T	1,1,1-Trichlor...	0.394	0.411	0.378	0.391	0.436	0.390	0.413	0.388	0.375	0.398	4.88
39)	T	Isopropyl Acetate	0.158	0.171	0.154	0.159	0.181	0.168	0.180	0.167	0.155	0.166	6.08
40)	T	1-Butanol	0.207	0.206	0.208	0.215	0.280	0.274	0.304	0.282	0.261	0.249	15.82
41)	T	Benzene		1.689	1.303	1.179	1.189	1.006	1.022	0.943	0.865	1.150	22.71
42)	T	Carbon Tetrach...	0.342	0.343	0.307	0.314	0.374	0.335	0.365	0.342	0.329	0.339	6.37
43)	T	Cyclohexane	0.421	0.416	0.389	0.396	0.448	0.397	0.421	0.387	0.357	0.403	6.50
44)	T	tert-Amyl Meth...	0.760	0.760	0.701	0.709	0.806	0.735	0.807	0.753	0.720	0.750	5.14
45)	T	1,2-Dichloropr...	0.311	0.305	0.275	0.283	0.308	0.279	0.296	0.277	0.265	0.289	5.72
46)	T	Bromodichlorom...	0.360	0.346	0.330	0.339	0.394	0.356	0.389	0.365	0.347	0.358	5.95
47)	T	Trichloroethene	0.337	0.330	0.303	0.305	0.343	0.299	0.323	0.305	0.293	0.315	5.77
48)	T	1,4-Dioxane	0.206	0.209	0.201	0.198	0.235	0.213	0.230	0.216	0.208	0.213	5.91
49)	T	2,2,4-Trimethy...	1.284	1.244	1.167	1.182	1.346	1.196	1.261	1.151	1.043	1.208	7.27
50)	T	Methyl Methacr...	0.101	0.105	0.101	0.102	0.120	0.111	0.120	0.113	0.107	0.109	7.02
51)	T	n-Heptane	0.260	0.249	0.246	0.248	0.276	0.252	0.262	0.243	0.233	0.252	4.90
52)	T	cis-1,3-Dichlo...	0.376	0.383	0.367	0.370	0.432	0.416	0.469	0.441	0.423	0.409	8.83
53)	T	4-Methyl-2-pen...	0.224	0.226	0.223	0.243	0.279	0.260	0.281	0.259	0.247	0.249	9.02
54)	T	trans-1,3-Dich...	0.316	0.311	0.298	0.310	0.374	0.372	0.423	0.400	0.387	0.355	13.01

55)	T	1,1,2-Trichlor...	0.276	0.276	0.259	0.257	0.291	0.263	0.280	0.263	0.253	0.269	4.63
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------										
57)	S	Toluene-d8 (SS2)	2.514	2.508	2.503	2.512	2.502	2.488	2.479	2.504	2.503	2.501	0.45
58)	T	Toluene	3.898	3.723	3.149	2.992	3.162	2.759	2.869	2.673	2.507	3.081	15.16
59)	T	2-Hexanone	1.616	1.551	1.519	1.549	1.892	1.715	1.797	1.653	1.546	1.649	7.84
60)	T	Dibromochlorom...	0.725	0.750	0.710	0.720	0.846	0.796	0.882	0.834	0.800	0.785	7.88
61)	T	1,2-Dibromoethane	0.739	0.772	0.735	0.741	0.861	0.790	0.850	0.803	0.759	0.783	6.00
62)	T	n-Butyl Acetate	1.717	1.675	1.630	1.672	2.082	1.911	2.038	1.890	1.753	1.819	9.19
63)	T	n-Octane	0.673	0.641	0.595	0.637	0.680	0.618	0.658	0.613	0.578	0.633	5.50
64)	T	Tetrachloroethene	1.009	1.026	0.915	0.937	1.036	0.914	0.973	0.918	0.885	0.957	5.80
65)	T	Chlorobenzene	2.140	2.064	1.924	1.916	2.091	1.839	1.972	1.848	1.739	1.948	6.77
66)	T	Ethylbenzene	5.042	3.707	3.191	3.072	3.453	3.146	3.333	3.101	2.817	3.429	19.11
67)	T	m- & p-Xylenes	3.044	2.673	2.333	2.469	2.772	2.427	2.566	2.381	2.202	2.541	10.10
68)	T	Bromoform	0.607	0.658	0.631	0.653	0.791	0.764	0.884	0.836	0.792	0.735	13.55
69)	T	Styrene	1.677	1.685	1.593	1.679	2.106	1.950	2.089	1.940	1.788	1.834	10.47
70)	T	o-Xylene	2.912	2.738	2.538	2.586	2.884	2.576	2.702	2.497	2.254	2.632	7.75
71)	T	n-Nonane	1.735	1.641	1.512	1.564	1.825	1.589	1.659	1.481	1.296	1.589	9.66
72)	T	1,1,2,2-Tetrac...	1.345	1.328	1.276	1.325	1.547	1.379	1.451	1.341	1.237	1.359	6.82
73)	S	Bromofluoroben...	0.871	0.874	0.878	0.873	0.885	0.884	0.870	0.860	0.846	0.871	1.40
74)	T	Cumene	3.604	3.546	3.259	3.287	3.731	3.314	3.527	3.233	2.850	3.373	7.79
75)	T	alpha-Pinene	1.514	1.483	1.460	1.499	1.802	1.674	1.780	1.656	1.511	1.598	8.29
76)	T	n-Propylbenzene	4.980	4.537	4.109	4.100	4.763	4.143	4.295	3.910	3.315	4.239	11.56
77)	T	3-Ethyltoluene	3.787	3.629	3.296	3.027	3.638	3.411	3.511	3.135	2.851	3.365	9.29
78)	T	4-Ethyltoluene	3.174	3.107	2.690	3.067	3.556	2.903	3.167	2.957	2.483	3.012	10.21
79)	T	1,3,5-Trimethy...	3.269	2.804	2.472	2.607	2.985	2.621	2.772	2.543	2.269	2.705	10.92
80)	T	alpha-Methylst...	1.055	1.025	1.018	1.096	1.608	1.513	1.614	1.484	1.339	1.306	19.71
81)	T	2-Ethyltoluene	3.759	3.151	3.248	3.082	3.654	3.125	3.263	2.953	2.591	3.203	10.92
82)	T	1,2,4-Trimethy...	3.029	2.462	2.666	2.717	3.054	2.672	2.831	2.564	2.201	2.688	9.98
83)	T	n-Decane	1.452	1.456	1.497	1.533	1.827	1.630	1.663	1.465	1.259	1.531	10.48
84)	T	Benzyl Chloride				1.447	1.913	2.068	2.498	2.322	2.087	2.056	17.65
85)	T	1,3-Dichlorobe...	1.477	1.548	1.534	1.565	1.860	1.631	1.729	1.576	1.418	1.593	8.36
86)	T	1,4-Dichlorobe...	1.664	1.678	1.623	1.644	1.918	1.692	1.771	1.632	1.471	1.677	7.18
87)	T	sec-Butylbenzene	3.795	3.666	3.503	3.518	4.121	3.590	3.694	3.289	2.762	3.549	10.52
88)	T	4-Isopropyltol...	3.323	3.323	3.270	3.363	3.943	3.459	3.577	3.109	2.503	3.319	11.62
89)	T	1,2,3-Trimethy...	3.028	2.923	2.770	2.699	3.214	2.782	2.921	2.631	2.225	2.799	9.97
90)	T	1,2-Dichlorobe...	1.472	1.574	1.511	1.568	1.808	1.608	1.681	1.521	1.312	1.562	8.82
91)	T	d-Limonene	0.774	0.797	0.757	0.834	1.201	1.125	1.187	1.053	0.881	0.957	19.20
92)	T	1,2-Dibromo-3-...				0.471	0.616	0.613	0.689	0.642	0.594	0.604	12.07
93)	T	n-Undecane	1.367	1.406	1.306	1.471	1.882	1.693	1.775	1.581	1.351	1.537	13.42
94)	T	1,2,4-Trichlor...	1.135	1.023	1.030	1.074	1.363	1.286	1.458	1.367	1.266	1.222	13.22
95)	T	Naphthalene				2.804	3.796	3.738	4.326	3.919	3.258	3.640	14.67
96)	T	n-Dodecane				1.242	1.640	1.605	1.762	1.568	1.295	1.519	13.53
97)	T	Hexachlorobuta...	0.758	0.818	0.776	0.788	0.932	0.844	0.923	0.869	0.820	0.836	7.39
98)	T	Cyclohexanone	0.916	0.946	0.878	0.897	1.116	1.039	1.108	1.024	0.938	0.985	9.10
99)	T	tert-Butylbenzene			3.043	2.908	3.147	2.637	2.767	2.450	2.061	2.716	13.75
100)	T	n-Butylbenzene	2.900	2.769	2.644	2.775	3.218	2.854	2.978	2.660	2.281	2.787	9.26

(#) = Out of Range

R16061416.M Wed Jun 15 16:03:20 2016

Primary Source Standards Concentrations (Working & Initial Calibration)

LH 6/15/16

1ng/L Std. ID:
4ng/L Std. ID: S29-05241612
20ng/L Std. ID: S29-06081607
200ng/L Std. ID: S29-06081602

Dilution Factors:		5	50	250	1000	Working STD Conc.(ng/L):	4	4	4	4	20	20	200	200	200
	Source Std.	Primary Working Standards				Injection (L):	0.020	0.025	0.050	0.100	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m^3	200ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.08ng	0.1ng	0.2ng	0.4ng	1ng	5ng	25ng	50ng	100ng
Propene	1.03	206	20.6	4.12	1.03		0.0824	0.103	0.206	0.412	1.03	5.15	25.75	51.5	103
Dichlorodifluoromethane	1.00	200	20.0	4.00	1.00		0.0800	0.100	0.200	0.400	1.00	5.00	25.00	50.0	100
Chloromethane	0.98	196	19.6	3.92	0.98		0.0784	0.098	0.196	0.392	0.98	4.90	24.50	49.0	98
Freon-114	1.03	206	20.6	4.12	1.03		0.0824	0.103	0.206	0.412	1.03	5.15	25.75	51.5	103
Vinyl Chloride	1.00	200	20.0	4.00	1.00		0.0800	0.100	0.200	0.400	1.00	5.00	25.00	50.0	100
1,3-Butadiene	1.06	212	21.2	4.24	1.06		0.0848	0.106	0.212	0.424	1.06	5.30	26.50	53.0	106
Bromomethane	1.00	200	20.0	4.00	1.00		0.0800	0.100	0.200	0.400	1.00	5.00	25.00	50.0	100
Chloroethane	1.01	202	20.2	4.04	1.01		0.0808	0.101	0.202	0.404	1.01	5.05	25.25	50.5	101
Ethanol	5.06	1012	101.2	20.24	5.06		0.4048	0.506	1.012	2.024	5.06	25.30	126.50	253.0	506
Acetonitrile	1.02	204	20.4	4.08	1.02		0.0816	0.102	0.204	0.408	1.02	5.10	25.50	51.0	102
Acrolein	1.07	214	21.4	4.28	1.07		0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
Acetone	5.37	1074	107.4	21.48	5.37		0.4296	0.537	1.074	2.148	5.37	26.85	134.25	268.5	537
Trichlorofluoromethane	0.99	198	19.8	3.96	0.99		0.0792	0.099	0.198	0.396	0.99	4.95	24.75	49.5	99
Isopropanol	2.09	418	41.8	8.36	2.09		0.1672	0.209	0.418	0.836	2.09	10.45	52.25	104.5	209
Acrylonitrile	1.03	206	20.6	4.12	1.03		0.0824	0.103	0.206	0.412	1.03	5.15	25.75	51.5	103
1,1-Dichloroethene	1.07	214	21.4	4.28	1.07		0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
tert-Butanol	2.09	418	41.8	8.36	2.09		0.1672	0.209	0.418	0.836	2.09	10.45	52.25	104.5	209
Methylene Chloride	1.08	216	21.6	4.32	1.08		0.0864	0.108	0.216	0.432	1.08	5.40	27.00	54.0	108
Allyl Chloride	1.08	216	21.6	4.32	1.08		0.0864	0.108	0.216	0.432	1.08	5.40	27.00	54.0	108
Trichlorotrifluoroethane	1.08	216	21.6	4.32	1.08		0.0864	0.108	0.216	0.432	1.08	5.40	27.00	54.0	108
Carbon Disulfide	0.98	196	19.6	3.92	0.98		0.0784	0.098	0.196	0.392	0.98	4.90	24.50	49.0	98
trans-1,2-Dichloroethene	1.06	212	21.2	4.24	1.06		0.0848	0.106	0.212	0.424	1.06	5.30	26.50	53.0	106
1,1-Dichloroethane	1.04	208	20.8	4.16	1.04		0.0832	0.104	0.208	0.416	1.04	5.20	26.00	52.0	104
Methyl tert-Butyl Ether	1.05	210	21.0	4.20	1.05		0.0840	0.105	0.210	0.420	1.05	5.25	26.25	52.5	105
Vinyl Acetate	5.07	1014	101.4	20.28	5.07		0.4056	0.507	1.014	2.028	5.07	25.35	126.75	253.5	507
2-Butanone	1.07	214	21.4	4.28	1.07		0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
cis-1,2-Dichloroethene	1.07	214	21.4	4.28	1.07		0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
Diisopropyl Ether	1.08	216	21.6	4.32	1.08		0.0864	0.108	0.216	0.432	1.08	5.40	27.00	54.0	108
Ethyl Acetate	2.12	424	42.4	8.48	2.12		0.1696	0.212	0.424	0.848	2.12	10.60	53.00	106.0	212
n-Hexane	1.04	208	20.8	4.16	1.04		0.0832	0.104	0.208	0.416	1.04	5.20	26.00	52.0	104
Chloroform	1.07	214	21.4	4.28	1.07		0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.02	204	20.4	4.08	1.02		0.0816	0.102	0.204	0.408	1.02	5.10	25.50	51.0	102
Ethyl tert-Butyl Ether	1.05	210	21.0	4.20	1.05		0.0840	0.105	0.210	0.420	1.05	5.25	26.25	52.5	105
1,2-Dichloroethane	1.05	210	21.0	4.20	1.05		0.0840	0.105	0.210	0.420	1.05	5.25	26.25	52.5	105
1,1,1-Trichloroethane	1.03	206	20.6	4.12	1.03		0.0824	0.103	0.206	0.412	1.03	5.15	25.75	51.5	103
Isopropyl Acetate	2.21	442	44.2	8.84	2.21		0.1768	0.221	0.442	0.884	2.21	11.05	55.25	110.5	221
1-Butanol	2.26	452	45.2	9.04	2.26		0.1808	0.226	0.452	0.904	2.26	11.30	56.50	113.0	226
Benzene	1.11	222	22.2	4.44	1.11		0.0888	0.111	0.222	0.444	1.11	5.55	27.75	55.5	111
Carbon Tetrachloride	1.08	216	21.6	4.32	1.08		0.0864	0.108	0.216	0.432	1.08	5.40	27.00	54.0	108
Cyclohexane	2.09	418	41.8	8.36	2.09		0.1672	0.209	0.418	0.836	2.09	10.45	52.25	104.5	209
tert-Amyl Methyl Ether	1.04	208	20.8	4.16	1.04		0.0832	0.104	0.208	0.416	1.04	5.20	26.00	52.0	104
1,2-Dichloropropane	1.05	210	21.0	4.20	1.05		0.0840	0.105	0.210	0.420	1.05	5.25	26.25	52.5	105
Bromodichloromethane	1.07	214	21.4	4.28	1.07		0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
Trichloroethene	1.03	206	20.6	4.12	1.03		0.0824	0.103	0.206	0.412	1.03	5.15	25.75	51.5	103
1,4-Dioxane	1.08	216	21.6	4.32	1.08		0.0864	0.108	0.216	0.432	1.08	5.40	27.00	54.0	108
Isooctane	1.03	206	20.6	4.12	1.03		0.0824	0.103	0.206	0.412	1.03	5.15	25.75	51.5	103
Methyl Methacrylate	2.08	416	41.6	8.32	2.08		0.1664	0.208	0.416	0.832	2.08	10.40	52.00	104.0	208
n-Heptane	1.07	214	21.4	4.28	1.07		0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:
4ng/L Std. ID: S29-05241612
20ng/L Std. ID: S29-06081607
200ng/L Std. ID: S29-06081602

Dilution Factors:		5	50	250	1000	Working STD Conc.(ng/L):	4	4	4	4	20	20	200	200	200
	Source Std.	Primary Working Standards				Injection (L):	0.020	0.025	0.050	0.100	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m^3	200ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.08ng	0.1ng	0.2ng	0.4ng	1ng	5ng	25ng	50ng	100ng
cis-1,3-Dichloropropene	1.12	224	22.4	4.48	1.12		0.0896	0.112	0.224	0.448	1.12	5.60	28.00	56.0	112

LH 6/15/16

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:
4ng/L Std. ID: S29-05241612
20ng/L Std. ID: S29-06081607
200ng/L Std. ID: S29-06081602

Dilution Factors:		5	50	250	1000	Working STD Conc.(ng/L):	4	4	4	4	20	20	200	200	200
	Source Std.	Primary Working Standards				Injection (L):	0.020	0.025	0.050	0.100	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m^3	200ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.08ng	0.1ng	0.2ng	0.4ng	1ng	5ng	25ng	50ng	100ng
4-Methyl-2-pentanone	1.08	216	21.6	4.32	1.08		0.0864	0.108	0.216	0.432	1.08	5.40	27.00	54.0	108
trans-1,3-Dichloropropene	1.07	214	21.4	4.28	1.07		0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
1,1,2-Trichloroethane	1.05	210	21.0	4.20	1.05		0.0840	0.105	0.210	0.420	1.05	5.25	26.25	52.5	105
Toluene	1.05	210	21.0	4.20	1.05		0.0840	0.105	0.210	0.420	1.05	5.25	26.25	52.5	105
2-Hexanone	1.11	222	22.2	4.44	1.11		0.0888	0.111	0.222	0.444	1.11	5.55	27.75	55.5	111
Dibromochloromethane	1.10	220	22.0	4.40	1.10		0.0880	0.110	0.220	0.440	1.10	5.50	27.50	55.0	110
1,2-Dibromoethane	1.07	214	21.4	4.28	1.07		0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
n-Butyl Acetate	1.11	222	22.2	4.44	1.11		0.0888	0.111	0.222	0.444	1.11	5.55	27.75	55.5	111
n-Octane	1.03	206	20.6	4.12	1.03		0.0824	0.103	0.206	0.412	1.03	5.15	25.75	51.5	103
Tetrachloroethene	0.99	198	19.8	3.96	0.99		0.0792	0.099	0.198	0.396	0.99	4.95	24.75	49.5	99
Chlorobenzene	1.07	214	21.4	4.28	1.07		0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
Ethylbenzene	1.05	210	21.0	4.20	1.05		0.0840	0.105	0.210	0.420	1.05	5.25	26.25	52.5	105
m-&p-Xylene	2.08	416	41.6	8.32	2.08		0.1664	0.208	0.416	0.832	2.08	10.40	52.00	104.0	208
Bromoform	1.07	214	21.4	4.28	1.07		0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
Styrene	1.08	216	21.6	4.32	1.08		0.0864	0.108	0.216	0.432	1.08	5.40	27.00	54.0	108
o-Xylene	1.02	204	20.4	4.08	1.02		0.0816	0.102	0.204	0.408	1.02	5.10	25.50	51.0	102
n-Nonane	1.01	202	20.2	4.04	1.01		0.0808	0.101	0.202	0.404	1.01	5.05	25.25	50.5	101
1,1,2,2-Tetrachloroethane	1.00	200	20.0	4.00	1.00		0.0800	0.100	0.200	0.400	1.00	5.00	25.00	50.0	100
Cumene	1.01	202	20.2	4.04	1.01		0.0808	0.101	0.202	0.404	1.01	5.05	25.25	50.5	101
alpha-Pinene	1.03	206	20.6	4.12	1.03		0.0824	0.103	0.206	0.412	1.03	5.15	25.75	51.5	103
n-Propylbenzene	1.00	200	20.0	4.00	1.00		0.0800	0.100	0.200	0.400	1.00	5.00	25.00	50.0	100
3-Ethyltoluene	1.04	208	20.8	4.16	1.04		0.0832	0.104	0.208	0.416	1.04	5.20	26.00	52.0	104
4-Ethyltoluene	1.05	210	21.0	4.20	1.05		0.0840	0.105	0.210	0.420	1.05	5.25	26.25	52.5	105
1,3,5-Trimethylbenzene	1.04	208	20.8	4.16	1.04		0.0832	0.104	0.208	0.416	1.04	5.20	26.00	52.0	104
alpha-Methylstyrene	1.03	206	20.6	4.12	1.03		0.0824	0.103	0.206	0.412	1.03	5.15	25.75	51.5	103
2-Ethyltoluene	1.04	208	20.8	4.16	1.04		0.0832	0.104	0.208	0.416	1.04	5.20	26.00	52.0	104
1,2,4-Trimethylbenzene	1.04	208	20.8	4.16	1.04		0.0832	0.104	0.208	0.416	1.04	5.20	26.00	52.0	104
n-Decane	1.01	202	20.2	4.04	1.01		0.0808	0.101	0.202	0.404	1.01	5.05	25.25	50.5	101
Benzyl Chloride	1.08	216	21.6	4.32	1.08		0.0864	0.108	0.216	0.432	1.08	5.40	27.00	54.0	108
1,3-Dichlorobenzene	1.08	216	21.6	4.32	1.08		0.0864	0.108	0.216	0.432	1.08	5.40	27.00	54.0	108
1,4-Dichlorobenzene	1.05	210	21.0	4.20	1.05		0.0840	0.105	0.210	0.420	1.05	5.25	26.25	52.5	105
sec-Butylbenzene	1.06	212	21.2	4.24	1.06		0.0848	0.106	0.212	0.424	1.06	5.30	26.50	53.0	106
p-Isopropyltoluene	1.00	200	20.0	4.00	1.00		0.0800	0.100	0.200	0.400	1.00	5.00	25.00	50.0	100
1,2,3-Trimethylbenzene	1.04	208	20.8	4.16	1.04		0.0832	0.104	0.208	0.416	1.04	5.20	26.00	52.0	104
1,2-Dichlorobenzene	1.07	214	21.4	4.28	1.07		0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
d-Limonene	1.04	208	20.8	4.16	1.04		0.0832	0.104	0.208	0.416	1.04	5.20	26.00	52.0	104
1,2-Dibromo-3-chloropropane	1.04	208	20.8	4.16	1.04		0.0832	0.104	0.208	0.416	1.04	5.20	26.00	52.0	104
n-Undecane	1.01	202	20.2	4.04	1.01		0.0808	0.101	0.202	0.404	1.01	5.05	25.25	50.5	101
1,2,4-Trichlorobenzene	1.04	208	20.8	4.16	1.04		0.0832	0.104	0.208	0.416	1.04	5.20	26.00	52.0	104
Naphthalene	1.00	200	20.0	4.00	1.00		0.0800	0.100	0.200	0.400	1.00	5.00	25.00	50.0	100
n-Dodecane	1.04	208	20.8	4.16	1.04		0.0832	0.104	0.208	0.416	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.07	214	21.4	4.28	1.07		0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
Methacrylonitrile	1.03	206	20.6	4.12	1.03		0.0824	0.103	0.206	0.412	1.03	5.15	25.75	51.5	103
Cyclohexanone	1.12	224	22.4	4.48	1.12		0.0896	0.112	0.224	0.448	1.12	5.60	28.00	56.0	112
tert-Butylbenzene	1.05	210	21.0	4.20	1.05		0.0840	0.105	0.210	0.420	1.05	5.25	26.25	52.5	105
n-Butylbenzene	1.08	216	21.6	4.32	1.08		0.0864	0.108	0.216	0.432	1.08	5.40	27.00	54.0	108

Calibration Status Report GCMS-16

Method : I:\MS16\METHODS\R16061416.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Jun 15 09:43:00 2016
Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.08	0	13	I:\MS16\DATA\2016_06\14\06141628.D
2	0.10	0	13	I:\MS16\DATA\2016_06\14\06141629.D
3	0.20	0	13	I:\MS16\DATA\2016_06\14\06141630.D
4	0.40	0	13	I:\MS16\DATA\2016_06\14\06141631.D
5	1.0	1	13	I:\MS16\DATA\2016_06\14\06141632.D
6	5.0	5	13	I:\MS16\DATA\2016_06\14\06141633.D
7	25	26	13	I:\MS16\DATA\2016_06\14\06141634.D
8	50	52	13	I:\MS16\DATA\2016_06\14\06141635.D
9	100	103	13	I:\MS16\DATA\2016_06\14\06141636.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.08	Jun 15 09:41 2016	Jun 15 09:26 2016	15 Jun 2016 3:34
2	0.10	Jun 15 09:41 2016	Jun 15 09:26 2016	15 Jun 2016 4:07
3	0.20	Jun 15 09:41 2016	Jun 15 09:26 2016	15 Jun 2016 4:40
4	0.40	Jun 15 09:42 2016	Jun 15 09:26 2016	15 Jun 2016 5:13
5	1.0	Jun 15 09:42 2016	Jun 15 09:26 2016	15 Jun 2016 5:47
6	5.0	Jun 15 09:42 2016	Jun 15 09:26 2016	15 Jun 2016 6:20
7	25	Jun 15 09:42 2016	Jun 15 09:26 2016	15 Jun 2016 6:53
8	50	Jun 15 09:42 2016	Jun 15 09:26 2016	15 Jun 2016 7:27
9	100	Jun 15 09:42 2016	Jun 15 09:26 2016	15 Jun 2016 8:01

R16061416.M Wed Jun 15 10:20:57 2016

LH 6/15/16

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 06\14\06141629.D
Acq On : 15 Jun 2016 4:07 Operator: LH
Sample : 0.1ng TO-15 ICAL STD
Misc : S29-06141608/S29-05241612 (6/22)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 15 09:26:13 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 6/15/16
QLast Update : Wed Jun 15 09:25:54 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	251140	12.500	ng	-0.01
37) 1,4-Difluorobenzene (IS2)	13.41	114	1170621	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.72	82	439816	12.500	ng	0.00

System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.14	65	344142	10.624	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.96%			
57) Toluene-d8 (SS2)	15.86	98	1103226	13.755	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.08%			
73) Bromofluorobenzene (SS3)	19.11	174	384490	10.956	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.68%			

Target Compounds							Qvalue
2) Propene	4.24	42	3050	0.115	ng		86
3) Dichlorodifluoromethan...	4.38	85	5829	0.096	ng	#	97
4) Chloromethane	4.70	50	4549	0.115	ng		91
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	3096	0.092	ng		94
6) Vinyl Chloride	5.13	62	3624	0.082	ng		91
7) 1,3-Butadiene	5.38	54	1727	0.066	ng		91
8) Bromomethane	5.82	94	2397	0.093	ng		98
9) Chloroethane	6.14	64	1707	0.082	ng	#	42
10) Ethanol	6.47	45	11156	0.519	ng		93
11) Acetonitrile	6.81	41	6325	0.114	ng		85
12) Acrolein	7.00	56	1377	0.086	ng		94
13) Acetone	7.16	58	13816	0.692	ng		96
14) Trichlorofluoromethane	7.39	101	4844	0.094	ng		96
15) 2-Propanol (Isopropanol)	7.63	45	14270	0.191	ng		91
16) Acrylonitrile	7.96	53	3630	0.093	ng		96
17) 1,1-Dichloroethene	8.36	96	2362	0.089	ng		98
18) 2-Methyl-2-Propanol (t...	8.53	59	12962	0.183	ng		97
19) Methylene Chloride	8.58	84	2770	0.096	ng		99
20) 3-Chloro-1-propene (Al...	8.74	41	3878	0.090	ng		87
21) Trichlorotrifluoroethane	9.00	151	2522	0.097	ng		97
22) Carbon Disulfide	8.87	76	11825	0.105	ng		88
23) trans-1,2-Dichloroethene	9.86	61	3578	0.090	ng		97
24) 1,1-Dichloroethane	10.09	63	4932	0.094	ng		93
25) Methyl tert-Butyl Ether	10.22	73	7693	0.090	ng		96
26) Vinyl Acetate	10.37	86	2338	0.376	ng	#	49
27) 2-Butanone (MEK)	10.62	72	1746	0.097	ng	#	47
28) cis-1,2-Dichloroethene	11.11	61	3493	0.091	ng		93
29) Diisopropyl Ether	11.42	87	2635	0.099	ng	#	76
30) Ethyl Acetate	11.43	61	1800	0.172	ng		93
31) n-Hexane	11.41	57	4557	0.094	ng		98
32) Chloroform	11.45	83	4692	0.096	ng		99
34) Tetrahydrofuran (THF)	11.88	72	1983	0.111	ng		95
35) Ethyl tert-Butyl Ether	12.01	87	2944	0.090	ng		97
36) 1,2-Dichloroethane	12.26	62	3370	0.095	ng		95
38) 1,1,1-Trichloroethane	12.54	97	3963	0.103	ng		99
39) Isopropyl Acetate	12.97	61	3546	0.223	ng		96
40) 1-Butanol	13.01	56	4361	0.174	ng	#	71
41) Benzene	13.02	78	17555	0.173	ng		99
42) Carbon Tetrachloride	13.18	117	3474	0.109	ng		99
43) Cyclohexane	13.31	84	8139	0.209	ng		98
44) tert-Amyl Methyl Ether	13.67	73	7401	0.102	ng		97
45) 1,2-Dichloropropane	13.87	63	2997	0.114	ng		95
46) Bromodichloromethane	14.06	83	3464	0.101	ng		96
47) Trichloroethene	14.12	130	3180	0.104	ng		95
48) 1,4-Dioxane	14.11	88	2109	0.101	ng		98
49) 2,2,4-Trimethylpentane...	14.18	57	11999	0.108	ng		100

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 06\14\06141629.D
Acq On : 15 Jun 2016 4:07 Operator: LH
Sample : 0.1ng TO-15 ICAL STD
Misc : S29-06141608/S29-05241612 (6/22)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 15 09:26:13 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:25:54 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

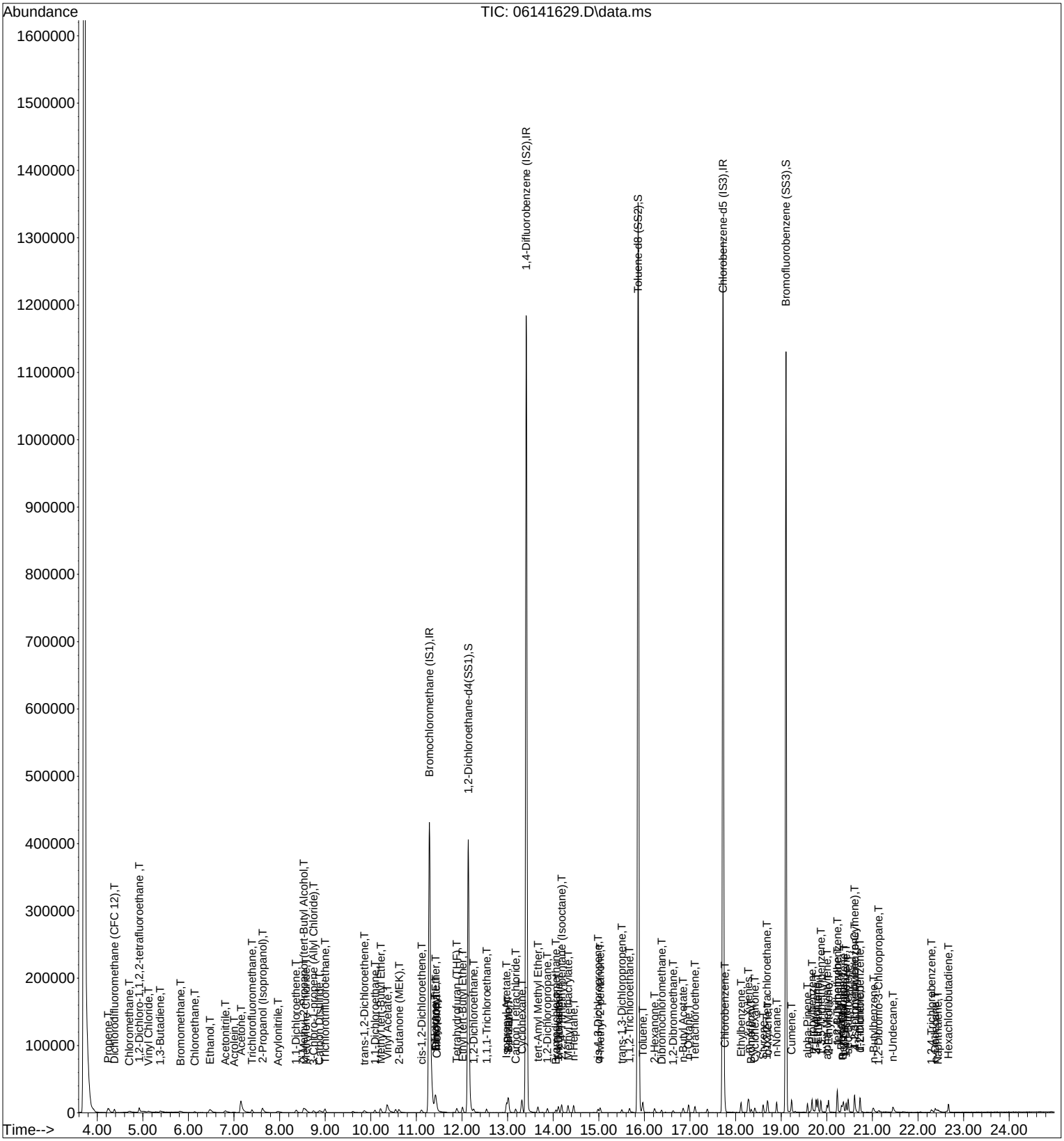
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
50) Methyl Methacrylate	14.33	100	2041	0.184 ng		100
51) n-Heptane	14.45	71	2495	0.099 ng		93
52) cis-1,3-Dichloropropene	14.99	75	4021	0.101 ng		97
53) 4-Methyl-2-pentanone	15.03	58	2286	0.095 ng	#	87
54) trans-1,3-Dichloropropene	15.50	75	3121	0.089 ng		97
55) 1,1,2-Trichloroethane	15.67	97	2712	0.107 ng		98
58) Toluene	15.97	91	13755	0.141 ng		97
59) 2-Hexanone	16.22	43	6056	0.112 ng		97
60) Dibromochloromethane	16.38	129	2902	0.113 ng		99
61) 1,2-Dibromoethane	16.63	107	2907	0.112 ng		100
62) n-Butyl Acetate	16.85	43	6542	0.109 ng		95
63) n-Octane	16.97	57	2322	0.117 ng		95
64) Tetrachloroethene	17.11	166	3573	0.116 ng		96
65) Chlorobenzene	17.76	112	7771	0.124 ng		93
66) Ethylbenzene	18.12	91	13696	0.127 ng		92
67) m- & p-Xylenes	18.28	91	19560	0.232 ng		94
68) Bromoform	18.34	173	2479	0.104 ng		95
69) Styrene	18.60	104	6403	0.096 ng		98
70) o-Xylene	18.70	91	9826	0.112 ng		98
71) n-Nonane	18.90	43	5831	0.114 ng		96
72) 1,1,2,2-Tetrachloroethane	18.69	83	4671	0.112 ng		99
74) Cumene	19.23	105	12603	0.121 ng		99
75) alpha-Pinene	19.58	93	5374	0.098 ng		93
76) n-Propylbenzene	19.68	91	15963	0.118 ng		95
77) 3-Ethyltoluene	19.76	105	13278	0.120 ng		96
78) 4-Ethyltoluene	19.80	105	11480	0.114 ng		98
79) 1,3,5-Trimethylbenzene	19.87	105	10262	0.113 ng		92
80) alpha-Methylstyrene	20.01	118	3716	0.077 ng		89
81) 2-Ethyltoluene	20.04	105	11530	0.110 ng		98
82) 1,2,4-Trimethylbenzene	20.23	105	9009	0.101 ng		97
83) n-Decane	20.32	57	5175	0.101 ng		91
84) Benzyl Chloride	20.35	91	3920	0.060 ng		89
85) 1,3-Dichlorobenzene	20.37	146	5884	0.112 ng		98
86) 1,4-Dichlorobenzene	20.42	146	6201	0.114 ng		97
87) sec-Butylbenzene	20.47	105	13671	0.117 ng		95
88) 4-Isopropyltoluene (p-...	20.61	119	11693	0.106 ng		98
89) 1,2,3-Trimethylbenzene	20.61	105	10696	0.117 ng		93
90) 1,2-Dichlorobenzene	20.73	146	5925	0.118 ng		99
91) d-Limonene	20.73	68	2915	0.085 ng		95
92) 1,2-Dibromo-3-Chloropr...	21.13	157	1472	0.085 ng		76
93) n-Undecane	21.45	57	4997	0.092 ng		88
94) 1,2,4-Trichlorobenzene	22.29	180	3742	0.094 ng	#	95
95) Naphthalene	22.44	128	8129	0.066 ng	#	71
96) n-Dodecane	22.38	57	3739	0.074 ng		90
97) Hexachlorobutadiene	22.67	225	3078	0.114 ng		97
98) Cyclohexanone	18.42	55	3726	0.112 ng		95
99) tert-Butylbenzene	20.23	119	13771	0.160 ng	#	85
100) n-Butylbenzene	21.02	91	10521	0.115 ng		88

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 06\14\06141629.D
Acq On : 15 Jun 2016 4:07 Operator: LH
Sample : 0.1ng TO-15 ICAL STD
Misc : S29-06141608/S29-05241612 (6/22)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 15 09:26:13 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:25:54 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 06\14\06141630.D
Acq On : 15 Jun 2016 4:40 Operator: LH
Sample : 0.2ng TO-15 ICAL STD
Misc : S29-06141608/S29-05241612 (6/22)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 15 09:26:15 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:25:54 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 6/15/16

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	248363	12.500	ng	-0.01
37) 1,4-Difluorobenzene (IS2)	13.41	114	1159536	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.72	82	433343	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.14	65	340819	10.640	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.12%			
57) Toluene-d8 (SS2)	15.87	98	1084708	13.726	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.84%			
73) Bromofluorobenzene (SS3)	19.11	174	380526	11.005	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.08%			

Target Compounds							Qvalue
2) Propene	4.22	42	5842	0.223	ng		98
3) Dichlorodifluoromethan...	4.37	85	10982	0.182	ng	#	96
4) Chloromethane	4.69	50	8352	0.214	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	6020	0.181	ng		98
6) Vinyl Chloride	5.11	62	7311	0.167	ng		94
7) 1,3-Butadiene	5.37	54	3426	0.131	ng		93
8) Bromomethane	5.81	94	4555	0.179	ng		96
9) Chloroethane	6.13	64	3908	0.189	ng		88
10) Ethanol	6.46	45	20708	0.975	ng		97
11) Acetonitrile	6.80	41	11651	0.213	ng	#	46
12) Acrolein	6.96	56	2966	0.187	ng		98
13) Acetone	7.14	58	25803	1.308	ng		96
14) Trichlorofluoromethane	7.39	101	8693	0.171	ng		98
15) 2-Propanol (Isopropanol)	7.61	45	26797	0.362	ng		91
16) Acrylonitrile	7.96	53	6817	0.177	ng		96
17) 1,1-Dichloroethene	8.36	96	4518	0.172	ng		96
18) 2-Methyl-2-Propanol (t...	8.51	59	23950	0.341	ng		92
19) Methylene Chloride	8.56	84	5143	0.181	ng		93
20) 3-Chloro-1-propene (Al...	8.73	41	7312	0.172	ng		92
21) Trichlorotrifluoroethane	9.00	151	5068	0.197	ng		98
22) Carbon Disulfide	8.88	76	20639	0.186	ng		93
23) trans-1,2-Dichloroethene	9.86	61	6989	0.178	ng		98
24) 1,1-Dichloroethane	10.09	63	9566	0.184	ng		97
25) Methyl tert-Butyl Ether	10.20	73	14341	0.170	ng		100
26) Vinyl Acetate	10.35	86	5071	0.825	ng	#	81
27) 2-Butanone (MEK)	10.61	72	3546	0.200	ng	#	64
28) cis-1,2-Dichloroethene	11.10	61	6871	0.181	ng		98
29) Diisopropyl Ether	11.42	87	4856	0.184	ng	#	78
30) Ethyl Acetate	11.42	61	3813	0.368	ng		97
31) n-Hexane	11.40	57	8309	0.174	ng		97
32) Chloroform	11.45	83	8781	0.181	ng		99
34) Tetrahydrofuran (THF)	11.88	72	3387	0.192	ng		96
35) Ethyl tert-Butyl Ether	12.01	87	5576	0.171	ng		99
36) 1,2-Dichloroethane	12.25	62	6301	0.180	ng		100
38) 1,1,1-Trichloroethane	12.54	97	7229	0.189	ng		99
39) Isopropyl Acetate	12.97	61	6333	0.403	ng		95
40) 1-Butanol	13.01	56	8736	0.352	ng	#	79
41) Benzene	13.02	78	26837	0.266	ng		100
42) Carbon Tetrachloride	13.18	117	6155	0.196	ng		97
43) Cyclohexane	13.31	84	15091	0.390	ng		99
44) tert-Amyl Methyl Ether	13.66	73	13518	0.188	ng		97
45) 1,2-Dichloropropane	13.88	63	5366	0.207	ng		99
46) Bromodichloromethane	14.06	83	6555	0.193	ng		98
47) Trichloroethene	14.11	130	5796	0.192	ng		98
48) 1,4-Dioxane	14.10	88	4023	0.195	ng		95
49) 2,2,4-Trimethylpentane...	14.18	57	22300	0.203	ng		98

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 06\14\06141630.D
Acq On : 15 Jun 2016 4:40 Operator: LH
Sample : 0.2ng TO-15 ICAL STD
Misc : S29-06141608/S29-05241612 (6/22)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 15 09:26:15 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:25:54 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

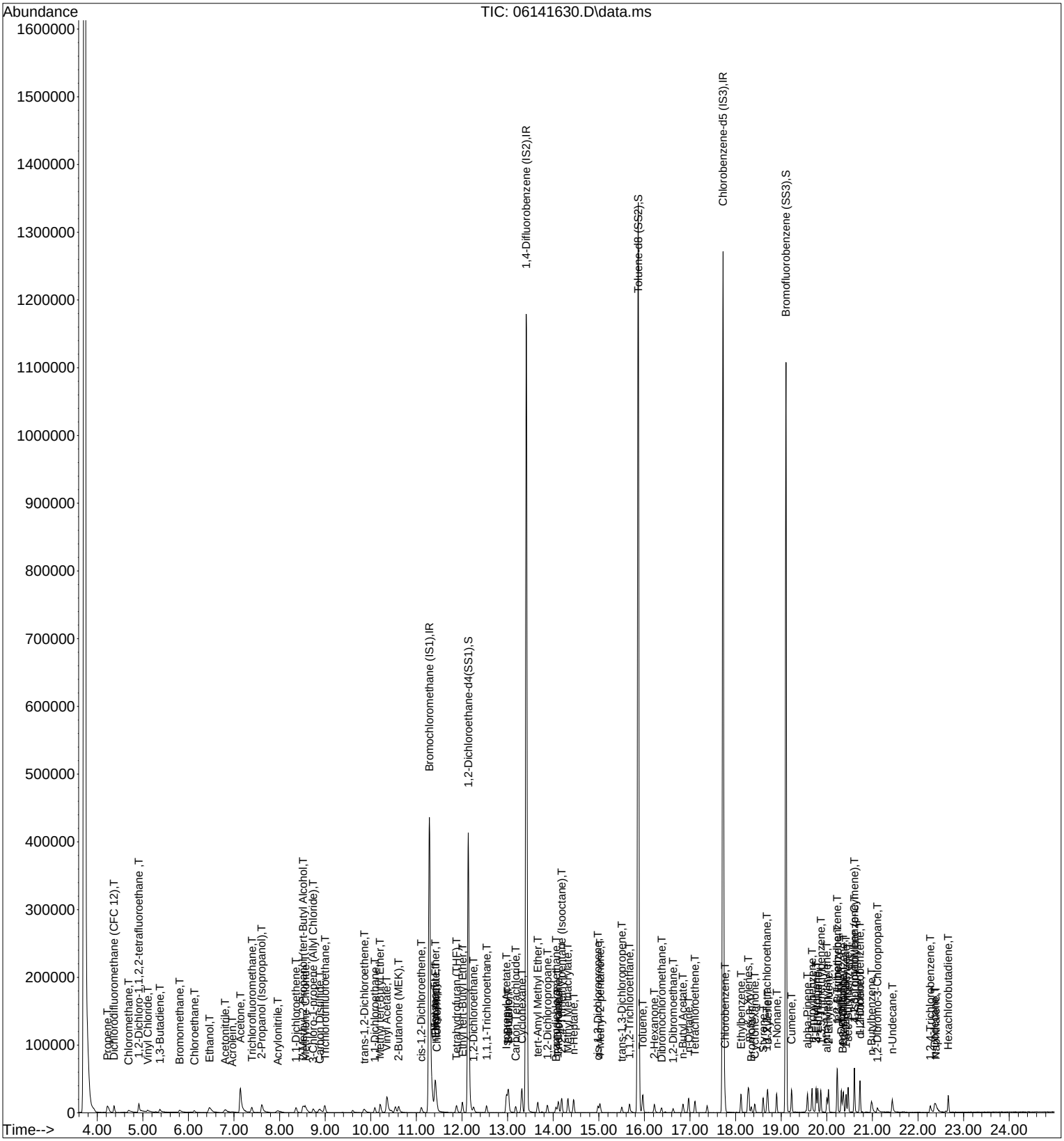
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
50) Methyl Methacrylate	14.32	100	3889	0.355 ng		97
51) n-Heptane	14.45	71	4890	0.196 ng		97
52) cis-1,3-Dichloropropene	14.98	75	7619	0.193 ng		94
53) 4-Methyl-2-pentanone	15.03	58	4465	0.187 ng		91
54) trans-1,3-Dichloropropene	15.50	75	5923	0.170 ng		98
55) 1,1,2-Trichloroethane	15.67	97	5055	0.201 ng		97
58) Toluene	15.97	91	22928	0.239 ng		99
59) 2-Hexanone	16.22	43	11694	0.220 ng		97
60) Dibromochloromethane	16.38	129	5413	0.213 ng		97
61) 1,2-Dibromoethane	16.63	107	5454	0.214 ng		99
62) n-Butyl Acetate	16.85	43	12545	0.212 ng		98
63) n-Octane	16.97	57	4250	0.216 ng		99
64) Tetrachloroethene	17.11	166	6279	0.206 ng		100
65) Chlorobenzene	17.77	112	14274	0.231 ng		97
66) Ethylbenzene	18.12	91	23233	0.218 ng		96
67) m- & p-Xylenes	18.28	91	33644	0.406 ng		100
68) Bromoform	18.35	173	4681	0.198 ng		97
69) Styrene	18.60	104	11927	0.182 ng		99
70) o-Xylene	18.70	91	17952	0.208 ng		98
71) n-Nonane	18.90	43	10589	0.211 ng		97
72) 1,1,2,2-Tetrachloroethane	18.69	83	8849	0.214 ng		98
74) Cumene	19.23	105	22825	0.222 ng		99
75) alpha-Pinene	19.58	93	10427	0.192 ng	#	23
76) n-Propylbenzene	19.68	91	28493	0.213 ng		97
77) 3-Ethyltoluene	19.77	105	23764	0.218 ng		98
78) 4-Ethyltoluene	19.80	105	19586	0.197 ng		99
79) 1,3,5-Trimethylbenzene	19.87	105	17826	0.200 ng		97
80) alpha-Methylstyrene	20.00	118	7271	0.153 ng		93
81) 2-Ethyltoluene	20.04	105	23424	0.226 ng		95
82) 1,2,4-Trimethylbenzene	20.23	105	19226	0.219 ng		96
83) n-Decane	20.32	57	10485	0.207 ng		94
84) Benzyl Chloride	20.35	91	9925	0.153 ng		90
85) 1,3-Dichlorobenzene	20.36	146	11485	0.222 ng		96
86) 1,4-Dichlorobenzene	20.42	146	11816	0.220 ng		99
87) sec-Butylbenzene	20.47	105	25748	0.224 ng		96
88) 4-Isopropyltoluene (p-...	20.61	119	22670	0.208 ng		98
89) 1,2,3-Trimethylbenzene	20.61	105	19973	0.222 ng		94
90) 1,2-Dichlorobenzene	20.73	146	11209	0.226 ng		96
91) d-Limonene	20.73	68	5460	0.162 ng		100
92) 1,2-Dibromo-3-Chloropr...	21.11	157	3013	0.176 ng	#	78
93) n-Undecane	21.44	57	9144	0.170 ng		94
94) 1,2,4-Trichlorobenzene	22.27	180	7426	0.190 ng		95
95) Naphthalene	22.39	128	17832	0.147 ng		92
96) n-Dodecane	22.37	57	7722	0.154 ng		95
97) Hexachlorobutadiene	22.66	225	5755	0.217 ng		96
98) Cyclohexanone	18.42	55	6820	0.209 ng		98
99) tert-Butylbenzene	20.23	119	22151	0.261 ng		92
100) n-Butylbenzene	20.98	91	19800	0.220 ng		92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 06\14\06141630.D
Acq On : 15 Jun 2016 4:40 Operator: LH
Sample : 0.2ng TO-15 ICAL STD
Misc : S29-06141608/S29-05241612 (6/22)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 15 09:26:15 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:25:54 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 06\14\06141631.D
Acq On : 15 Jun 2016 5:13 Operator: LH
Sample : 0.4ng TO-15 ICAL STD
Misc : S29-06141608/S29-05241612 (6/22)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 15 09:26:17 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:25:54 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 6/15/16

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.28	130	238772	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.41	114	1125917	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.72	82	421249	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	12.13	65	330543	10.733	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.84%			
57) Toluene-d8 (SS2)	15.87	98	1058156	13.775	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.16%			
73) Bromofluorobenzene (SS3)	19.11	174	367785	10.942	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.52%			

Target Compounds

							Qvalue
2) Propene	4.20	42	11026	0.439	ng		97
3) Dichlorodifluoromethan...	4.35	85	21512	0.371	ng		99
4) Chloromethane	4.67	50	15583	0.415	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.90	135	11507	0.360	ng		98
6) Vinyl Chloride	5.09	62	13806	0.329	ng		96
7) 1,3-Butadiene	5.36	54	6979	0.279	ng		97
8) Bromomethane	5.80	94	8962	0.366	ng		97
9) Chloroethane	6.12	64	7584	0.382	ng		94
10) Ethanol	6.44	45	39051	1.912	ng		98
11) Acetonitrile	6.79	41	21895	0.416	ng		79
12) Acrolein	6.94	56	6935	0.456	ng		95
13) Acetone	7.12	58	48452	2.554	ng		98
14) Trichlorofluoromethane	7.39	101	17321	0.354	ng		100
15) 2-Propanol (Isopropanol)	7.59	45	51210	0.720	ng		87
16) Acrylonitrile	7.94	53	13654	0.370	ng		99
17) 1,1-Dichloroethene	8.35	96	9258	0.368	ng		98
18) 2-Methyl-2-Propanol (t...	8.49	59	47064	0.697	ng		94
19) Methylene Chloride	8.57	84	9618	0.351	ng		93
20) 3-Chloro-1-propene (Al...	8.73	41	14123	0.346	ng		93
21) Trichlorotrifluoroethane	8.99	151	9314	0.377	ng		96
22) Carbon Disulfide	8.87	76	39430	0.369	ng		97
23) trans-1,2-Dichloroethene	9.84	61	13839	0.367	ng		99
24) 1,1-Dichloroethane	10.09	63	18220	0.365	ng		99
25) Methyl tert-Butyl Ether	10.20	73	27846	0.344	ng		99
26) Vinyl Acetate	10.35	86	10143	1.717	ng	#	87
27) 2-Butanone (MEK)	10.60	72	7126	0.418	ng	#	90
28) cis-1,2-Dichloroethene	11.11	61	13589	0.372	ng		98
29) Diisopropyl Ether	11.41	87	9827	0.388	ng	#	74
30) Ethyl Acetate	11.42	61	7637	0.766	ng		97
31) n-Hexane	11.40	57	16779	0.366	ng		97
32) Chloroform	11.44	83	17141	0.369	ng		99
34) Tetrahydrofuran (THF)	11.87	72	6277	0.371	ng		92
35) Ethyl tert-Butyl Ether	12.01	87	11032	0.353	ng		98
36) 1,2-Dichloroethane	12.25	62	12573	0.373	ng		96
38) 1,1,1-Trichloroethane	12.53	97	14494	0.391	ng		98
39) Isopropyl Acetate	12.97	61	12640	0.828	ng		98
40) 1-Butanol	13.00	56	17472	0.725	ng		81
41) Benzene	13.02	78	47157	0.482	ng		99
42) Carbon Tetrachloride	13.18	117	12213	0.400	ng		97
43) Cyclohexane	13.31	84	29786	0.793	ng		100
44) tert-Amyl Methyl Ether	13.66	73	26555	0.381	ng		96
45) 1,2-Dichloropropane	13.88	63	10698	0.424	ng		100
46) Bromodichloromethane	14.06	83	13085	0.398	ng		99
47) Trichloroethene	14.11	130	11319	0.386	ng		98
48) 1,4-Dioxane	14.10	88	7697	0.384	ng		99
49) 2,2,4-Trimethylpentane...	14.18	57	43859	0.410	ng		100

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 06\14\06141631.D
Acq On : 15 Jun 2016 5:13 Operator: LH
Sample : 0.4ng TO-15 ICAL STD
Misc : S29-06141608/S29-05241612 (6/22)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 15 09:26:17 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:25:54 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

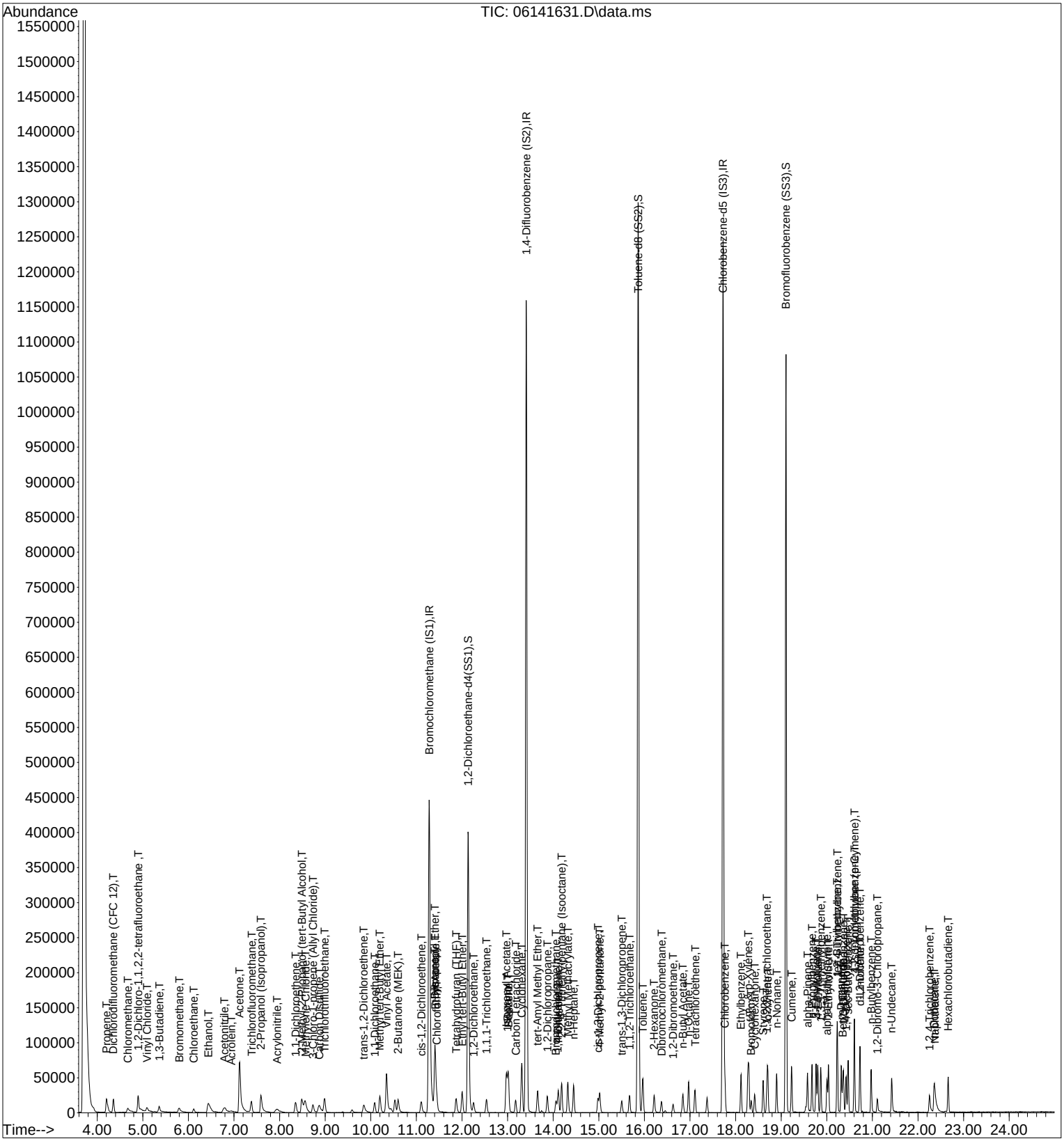
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	14.32	100	7654	0.719 ng	99
51) n-Heptane	14.45	71	9553	0.394 ng	96
52) cis-1,3-Dichloropropene	14.99	75	14938	0.389 ng	99
53) 4-Methyl-2-pentanone	15.02	58	9446	0.408 ng	96
54) trans-1,3-Dichloropropene	15.50	75	11942	0.354 ng	100
55) 1,1,2-Trichloroethane	15.67	97	9733	0.399 ng	98
58) Toluene	15.97	91	42352	0.453 ng	99
59) 2-Hexanone	16.21	43	23171	0.448 ng	95
60) Dibromochloromethane	16.38	129	10679	0.433 ng	98
61) 1,2-Dibromoethane	16.63	107	10690	0.431 ng	98
62) n-Butyl Acetate	16.84	43	25012	0.435 ng	97
63) n-Octane	16.97	57	8840	0.463 ng	96
64) Tetrachloroethene	17.11	166	12510	0.423 ng	98
65) Chlorobenzene	17.76	112	27632	0.459 ng	99
66) Ethylbenzene	18.12	91	43487	0.421 ng	99
67) m- & p-Xylenes	18.28	91	69231	0.859 ng	98
68) Bromoform	18.34	173	9418	0.411 ng	99
69) Styrene	18.60	104	24444	0.384 ng	99
70) o-Xylene	18.70	91	35556	0.424 ng	98
71) n-Nonane	18.90	43	21300	0.436 ng	98
72) 1,1,2,2-Tetrachloroethane	18.69	83	17863	0.445 ng	99
74) Cumene	19.23	105	44747	0.447 ng	100
75) alpha-Pinene	19.58	93	20810	0.394 ng	87
76) n-Propylbenzene	19.68	91	55267	0.426 ng	97
77) 3-Ethyltoluene	19.76	105	42438	0.400 ng	95
78) 4-Ethyltoluene	19.80	105	43409	0.449 ng	94
79) 1,3,5-Trimethylbenzene	19.87	105	36541	0.421 ng	97
80) alpha-Methylstyrene	20.01	118	15217	0.330 ng	97
81) 2-Ethyltoluene	20.03	105	43214	0.429 ng	98
82) 1,2,4-Trimethylbenzene	20.23	105	38088	0.447 ng	94
83) n-Decane	20.31	57	20877	0.424 ng	99
84) Benzyl Chloride	20.35	91	21069	0.334 ng	95
85) 1,3-Dichlorobenzene	20.36	146	22784	0.453 ng	99
86) 1,4-Dichlorobenzene	20.42	146	23270	0.446 ng	99
87) sec-Butylbenzene	20.47	105	50266	0.450 ng	97
88) 4-Isopropyltoluene (p-...	20.61	119	45331	0.428 ng	99
89) 1,2,3-Trimethylbenzene	20.61	105	37844	0.433 ng	100
90) 1,2-Dichlorobenzene	20.73	146	22618	0.470 ng	98
91) d-Limonene	20.73	68	11693	0.356 ng	99
92) 1,2-Dibromo-3-Chloropr...	21.11	157	6608	0.396 ng	84
93) n-Undecane	21.42	57	20031	0.384 ng	96
94) 1,2,4-Trichlorobenzene	22.26	180	15051	0.395 ng	98
95) Naphthalene	22.37	128	37801	0.321 ng	97
96) n-Dodecane	22.35	57	17407	0.358 ng	98
97) Hexachlorobutadiene	22.66	225	11367	0.440 ng	99
98) Cyclohexanone	18.42	55	13546	0.427 ng	98
99) tert-Butylbenzene	20.23	119	41161	0.500 ng	95
100) n-Butylbenzene	20.97	91	40395	0.462 ng	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 06\14\06141631.D
Acq On : 15 Jun 2016 5:13 Operator: LH
Sample : 0.4ng TO-15 ICAL STD
Misc : S29-06141608/S29-05241612 (6/22)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 15 09:26:17 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:25:54 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 06\14\06141628.D
Acq On : 15 Jun 2016 3:34 Operator: LH
Sample : 0.08ng TO-15 ICAL STD
Misc : S29-06141608/S29-05241612 (6/22)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 15 09:26:11 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:25:54 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 6/15/16

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	255986	12.500	ng	-0.01
37) 1,4-Difluorobenzene (IS2)	13.41	114	1204352	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.72	82	452485	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.14	65	351364	10.642	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.12%			
57) Toluene-d8 (SS2)	15.86	98	1137436	13.785	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.24%			
73) Bromofluorobenzene (SS3)	19.10	174	394262	10.920	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.36%			

Target Compounds							Qvalue
2) Propene	4.23	42	2617	0.097	ng		89
3) Dichlorodifluoromethan...	4.38	85	4806	0.077	ng	#	91
4) Chloromethane	4.70	50	3692	0.092	ng		77
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	2667	0.078	ng		100
6) Vinyl Chloride	5.11	62	2887	0.064	ng		90
7) 1,3-Butadiene	5.37	54	1165	0.043	ng	#	75
8) Bromomethane	5.81	94	1953	0.074	ng		95
9) Chloroethane	6.14	64	1493	0.070	ng	#	42
10) Ethanol	6.47	45	8964	0.409	ng		95
11) Acetonitrile	6.81	41	5161	0.091	ng		90
12) Acrolein	6.99	56	1170	0.072	ng		91
13) Acetone	7.16	58	11466	0.564	ng		99
14) Trichlorofluoromethane	7.39	101	3860	0.074	ng		100
15) 2-Propanol (Isopropanol)	7.63	45	12027	0.158	ng		94
16) Acrylonitrile	7.95	53	3025	0.076	ng		92
17) 1,1-Dichloroethene	8.37	96	2044	0.076	ng		99
18) 2-Methyl-2-Propanol (t...	8.53	59	10660	0.147	ng		92
19) Methylene Chloride	8.57	84	2239	0.076	ng		95
20) 3-Chloro-1-propene (Al...	8.74	41	3191	0.073	ng		82
21) Trichlorotrifluoroethane	8.99	151	2270	0.086	ng		95
22) Carbon Disulfide	8.87	76	10470	0.091	ng	#	76
23) trans-1,2-Dichloroethene	9.86	61	2983	0.074	ng		99
24) 1,1-Dichloroethane	10.09	63	4338	0.081	ng		92
25) Methyl tert-Butyl Ether	10.21	73	6533	0.075	ng		94
26) Vinyl Acetate	10.36	86	2050	0.324	ng	#	65
27) 2-Butanone (MEK)	10.62	72	1506	0.082	ng	#	57
28) cis-1,2-Dichloroethene	11.11	61	2812	0.072	ng		91
29) Diisopropyl Ether	11.42	87	2235	0.082	ng	#	72
30) Ethyl Acetate	11.43	61	1601	0.150	ng		93
31) n-Hexane	11.40	57	3905	0.079	ng	#	88
32) Chloroform	11.44	83	3846	0.077	ng		99
34) Tetrahydrofuran (THF)	11.90	72	1560	0.086	ng	#	86
35) Ethyl tert-Butyl Ether	12.01	87	2367	0.071	ng	#	89
36) 1,2-Dichloroethane	12.25	62	2872	0.080	ng		92
38) 1,1,1-Trichloroethane	12.54	97	3131	0.079	ng		97
39) Isopropyl Acetate	12.98	61	2695	0.165	ng	#	89
40) 1-Butanol	13.01	56	3605	0.140	ng	#	70
41) Benzene	13.01	78	14338	0.137	ng		100
42) Carbon Tetrachloride	13.18	117	2847	0.087	ng		99
43) Cyclohexane	13.31	84	6779	0.169	ng		98
44) tert-Amyl Methyl Ether	13.67	73	6090	0.082	ng		95
45) 1,2-Dichloropropane	13.88	63	2515	0.093	ng		92
46) Bromodichloromethane	14.06	83	2967	0.084	ng		90
47) Trichloroethene	14.12	130	2679	0.085	ng		92
48) 1,4-Dioxane	14.11	88	1718	0.080	ng		98
49) 2,2,4-Trimethylpentane...	14.19	57	10195	0.089	ng		98

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 06\14\06141628.D
Acq On : 15 Jun 2016 3:34 Operator: LH
Sample : 0.08ng TO-15 ICAL STD
Misc : S29-06141608/S29-05241612 (6/22)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 15 09:26:11 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:25:54 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

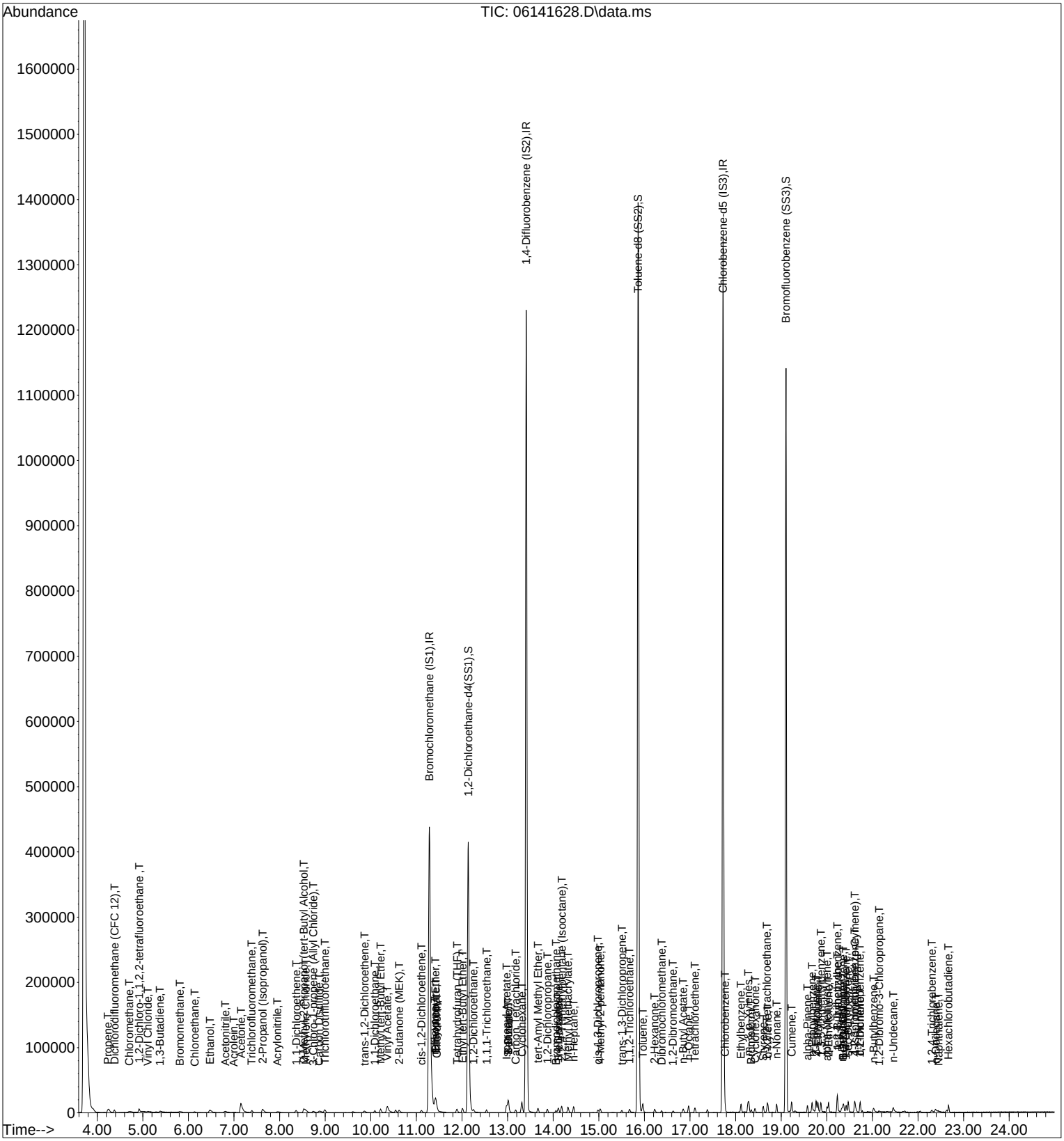
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
50) Methyl Methacrylate	14.32	100	1616	0.142 ng		91
51) n-Heptane	14.45	71	2144	0.083 ng		96
52) cis-1,3-Dichloropropene	14.98	75	3248	0.079 ng		95
53) 4-Methyl-2-pentanone	15.04	58	1861	0.075 ng		83
54) trans-1,3-Dichloropropene	15.51	75	2607	0.072 ng		98
55) 1,1,2-Trichloroethane	15.67	97	2233	0.085 ng		99
58) Toluene	15.96	91	11854	0.118 ng		96
59) 2-Hexanone	16.22	43	5193	0.094 ng		89
60) Dibromochloromethane	16.38	129	2308	0.087 ng		99
61) 1,2-Dibromoethane	16.62	107	2291	0.086 ng		99
62) n-Butyl Acetate	16.85	43	5520	0.089 ng		96
63) n-Octane	16.97	57	2008	0.098 ng		97
64) Tetrachloroethene	17.11	166	2894	0.091 ng		99
65) Chlorobenzene	17.77	112	6632	0.103 ng		98
66) Ethylbenzene	18.12	91	15331	0.138 ng		80
67) m- & p-Xylenes	18.28	91	18337	0.212 ng		86
68) Bromoform	18.34	173	1881	0.076 ng		94
69) Styrene	18.60	104	5245	0.077 ng		98
70) o-Xylene	18.70	91	8601	0.096 ng		92
71) n-Nonane	18.90	43	5075	0.097 ng		95
72) 1,1,2,2-Tetrachloroethane	18.69	83	3894	0.090 ng		96
74) Cumene	19.23	105	10541	0.098 ng		98
75) alpha-Pinene	19.58	93	4517	0.080 ng		100
76) n-Propylbenzene	19.68	91	14421	0.103 ng		92
77) 3-Ethyltoluene	19.76	105	11405	0.100 ng		91
78) 4-Ethyltoluene	19.80	105	9652	0.093 ng		95
79) 1,3,5-Trimethylbenzene	19.87	105	9846	0.106 ng		86
80) alpha-Methylstyrene	20.01	118	3147	0.064 ng	#	70
81) 2-Ethyltoluene	20.04	105	11322	0.105 ng		89
82) 1,2,4-Trimethylbenzene	20.23	105	9123	0.100 ng		87
83) n-Decane	20.34	57	4246	0.080 ng		93
84) Benzyl Chloride	20.35	91	2954	0.044 ng	#	53
85) 1,3-Dichlorobenzene	20.36	146	4619	0.085 ng		98
86) 1,4-Dichlorobenzene	20.42	146	5059	0.090 ng		100
87) sec-Butylbenzene	20.47	105	11650	0.097 ng		92
88) 4-Isopropyltoluene (p-...	20.62	119	9623	0.085 ng		96
89) 1,2,3-Trimethylbenzene	20.61	105	9120	0.097 ng		94
90) 1,2-Dichlorobenzene	20.73	146	4561	0.088 ng		96
91) d-Limonene	20.73	68	2332	0.066 ng		100
92) 1,2-Dibromo-3-Chloropr...	21.15	157	1100	0.061 ng	#	77
93) n-Undecane	21.46	57	3999	0.071 ng		87
94) 1,2,4-Trichlorobenzene	22.31	180	3419	0.084 ng	#	92
95) Naphthalene	22.45	128	6554	0.052 ng	#	71
96) n-Dodecane	22.39	57	3155	0.060 ng		89
97) Hexachlorobutadiene	22.67	225	2349	0.085 ng		90
98) Cyclohexanone	18.43	55	2971	0.087 ng		97
99) tert-Butylbenzene	20.23	119	12689	0.143 ng	#	84
100) n-Butylbenzene	21.02	91	9071	0.097 ng	#	85

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 06\14\06141628.D
Acq On : 15 Jun 2016 3:34 Operator: LH
Sample : 0.08ng TO-15 ICAL STD
Misc : S29-06141608/S29-05241612 (6/22)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 15 09:26:11 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:25:54 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 06\14\06141632.D
Acq On : 15 Jun 2016 5:47 Operator: LH
Sample : 1.0ng TO-15 ICAL STD
Misc : S29-06141608/S29-06081607 (7/7)
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 15 09:26:19 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:25:54 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 6/15/16

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.28	130	245395	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.41	114	1113932	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.72	82	417180	12.500	ng	0.00

System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.14	65	333863	10.548	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.40%			
57) Toluene-d8 (SS2)	15.87	98	1043893	13.722	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.76%			
73) Bromofluorobenzene (SS3)	19.11	174	369154	11.090	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.72%			

Target Compounds						Qvalue
2) Propene	4.19	42	31233	1.209	ng #	60
3) Dichlorodifluoromethan...	4.34	85	58597	0.984	ng	99
4) Chloromethane	4.64	50	46352	1.201	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	4.88	135	32103	0.977	ng	100
6) Vinyl Chloride	5.06	62	41466	0.961	ng	100
7) 1,3-Butadiene	5.32	54	22343	0.868	ng	98
8) Bromomethane	5.78	94	25984	1.034	ng	96
9) Chloroethane	6.10	64	21390	1.048	ng	99
10) Ethanol	6.42	45	113466	5.407	ng	99
11) Acetonitrile	6.76	41	61904	1.143	ng	99
12) Acrolein	6.92	56	18637	1.191	ng	93
13) Acetone	7.11	58	117381	6.020	ng	99
14) Trichlorofluoromethane	7.38	101	47570	0.945	ng	99
15) 2-Propanol (Isopropanol)	7.59	45	153515	2.100	ng	91
16) Acrylonitrile	7.89	53	39266	1.034	ng	99
17) 1,1-Dichloroethene	8.34	96	27094	1.047	ng	99
18) 2-Methyl-2-Propanol (t...	8.48	59	137567	1.984	ng	96
19) Methylene Chloride	8.55	84	29074	1.033	ng	98
20) 3-Chloro-1-propene (Al...	8.72	41	43713	1.042	ng	95
21) Trichlorotrifluoroethane	8.98	151	27190	1.070	ng	99
22) Carbon Disulfide	8.85	76	110580	1.007	ng	99
23) trans-1,2-Dichloroethene	9.84	61	41184	1.064	ng	99
24) 1,1-Dichloroethane	10.08	63	52173	1.016	ng	100
25) Methyl tert-Butyl Ether	10.19	73	79095	0.950	ng	100
26) Vinyl Acetate	10.35	86	29268	4.820	ng #	88
27) 2-Butanone (MEK)	10.60	72	19239	1.098	ng	97
28) cis-1,2-Dichloroethene	11.10	61	39929	1.064	ng	99
29) Diisopropyl Ether	11.41	87	27188	1.044	ng #	75
30) Ethyl Acetate	11.41	61	21863	2.135	ng	97
31) n-Hexane	11.40	57	46132	0.978	ng	99
32) Chloroform	11.44	83	49696	1.040	ng	98
34) Tetrahydrofuran (THF)	11.87	72	19019	1.093	ng	99
35) Ethyl tert-Butyl Ether	12.00	87	31569	0.982	ng	99
36) 1,2-Dichloroethane	12.25	62	34680	1.002	ng	99
38) 1,1,1-Trichloroethane	12.54	97	40057	1.092	ng	100
39) Isopropyl Acetate	12.97	61	35620	2.359	ng	97
40) 1-Butanol	12.98	56	56470	2.367	ng	90
41) Benzene	13.02	78	117575	1.214	ng	99
42) Carbon Tetrachloride	13.18	117	36042	1.193	ng	99
43) Cyclohexane	13.31	84	83496	2.248	ng	99
44) tert-Amyl Methyl Ether	13.66	73	74673	1.083	ng	97
45) 1,2-Dichloropropane	13.87	63	28837	1.155	ng	100
46) Bromodichloromethane	14.06	83	37526	1.152	ng	99
47) Trichloroethene	14.12	130	31499	1.086	ng	98
48) 1,4-Dioxane	14.09	88	22633	1.140	ng	98
49) 2,2,4-Trimethylpentane...	14.18	57	123521	1.168	ng	98

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 06\14\06141632.D
Acq On : 15 Jun 2016 5:47 Operator: LH
Sample : 1.0ng TO-15 ICAL STD
Misc : S29-06141608/S29-06081607 (7/7)
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 15 09:26:19 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:25:54 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

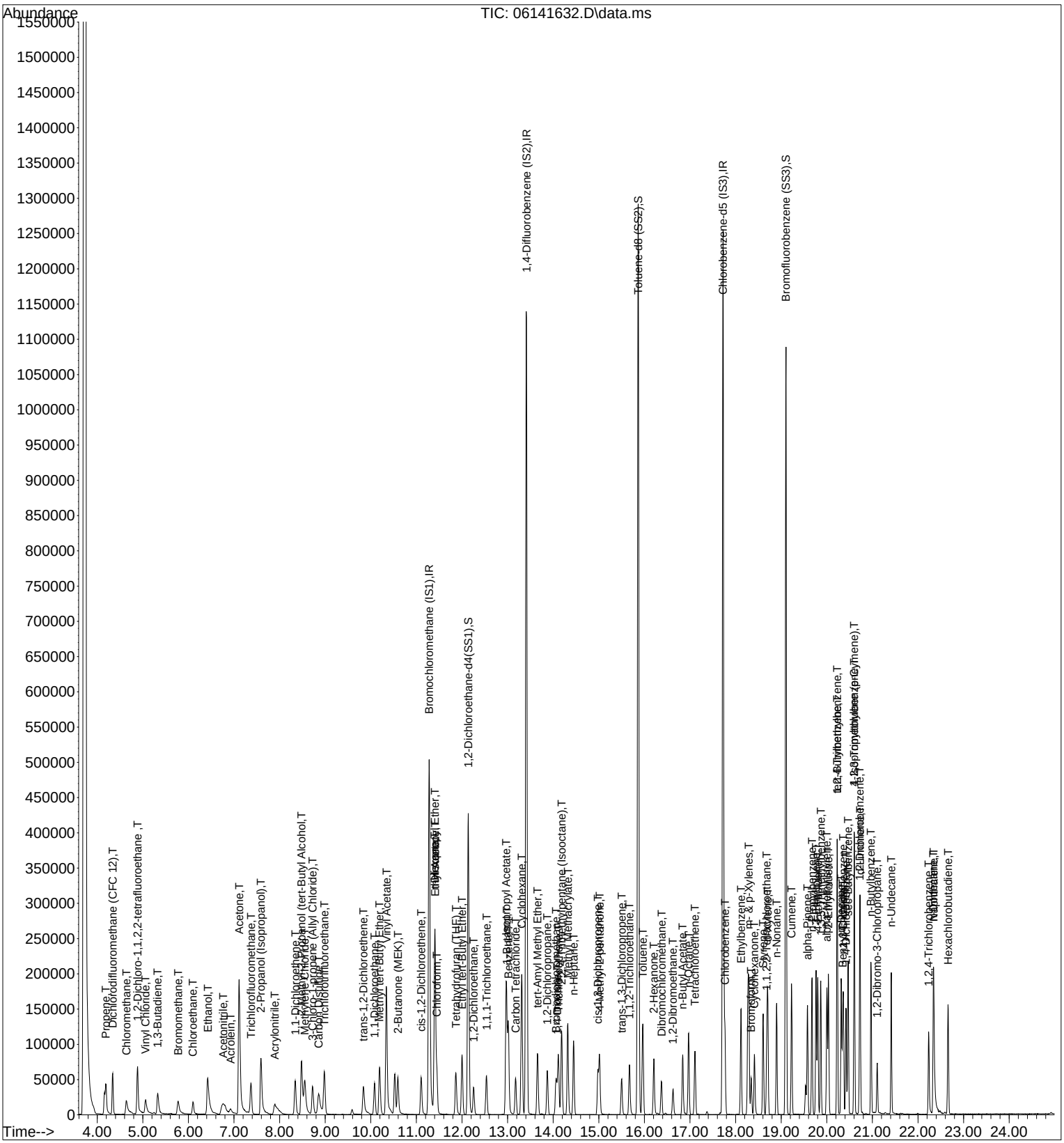
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	14.32	100	22296	2.117 ng	100
51) n-Heptane	14.45	71	26296	1.097 ng	98
52) cis-1,3-Dichloropropene	14.98	75	43127	1.135 ng	99
53) 4-Methyl-2-pentanone	15.02	58	26878	1.175 ng	95
54) trans-1,3-Dichloropropene	15.50	75	35626	1.067 ng	99
55) 1,1,2-Trichloroethane	15.67	97	27215	1.126 ng	99
58) Toluene	15.97	91	110797	1.198 ng	100
59) 2-Hexanone	16.21	43	70088	1.369 ng	96
60) Dibromochloromethane	16.38	129	31045	1.270 ng	99
61) 1,2-Dibromoethane	16.62	107	30757	1.253 ng	100
62) n-Butyl Acetate	16.84	43	77123	1.355 ng	98
63) n-Octane	16.97	57	23387	1.237 ng	99
64) Tetrachloroethene	17.11	166	34218	1.168 ng	99
65) Chlorobenzene	17.77	112	74685	1.253 ng	99
66) Ethylbenzene	18.12	91	121001	1.182 ng	100
67) m- & p-Xylenes	18.29	91	192414	2.411 ng	97
68) Bromoform	18.34	173	28260	1.244 ng	100
69) Styrene	18.60	104	75923	1.204 ng	99
70) o-Xylene	18.70	91	98184	1.183 ng	98
71) n-Nonane	18.90	43	61515	1.272 ng	97
72) 1,1,2,2-Tetrachloroethane	18.68	83	51634	1.299 ng	100
74) Cumene	19.23	105	125777	1.270 ng	99
75) alpha-Pinene	19.58	93	61940	1.185 ng	100
76) n-Propylbenzene	19.68	91	158947	1.237 ng	99
77) 3-Ethyltoluene	19.76	105	126286	1.203 ng	99
78) 4-Ethyltoluene	19.80	105	124597	1.301 ng	100
79) 1,3,5-Trimethylbenzene	19.87	105	103594	1.205 ng	100
80) alpha-Methylstyrene	20.00	118	55262	1.212 ng	97
81) 2-Ethyltoluene	20.03	105	126844	1.273 ng	98
82) 1,2,4-Trimethylbenzene	20.23	105	106001	1.256 ng	98
83) n-Decane	20.31	57	61583	1.262 ng	99
84) Benzyl Chloride	20.35	91	68951	1.105 ng	97
85) 1,3-Dichlorobenzene	20.36	146	67039	1.345 ng	100
86) 1,4-Dichlorobenzene	20.42	146	67227	1.300 ng	99
87) sec-Butylbenzene	20.47	105	145804	1.317 ng	98
88) 4-Isopropyltoluene (p-...	20.60	119	131587	1.253 ng	99
89) 1,2,3-Trimethylbenzene	20.60	105	111568	1.289 ng	99
90) 1,2-Dichlorobenzene	20.72	146	64565	1.355 ng	100
91) d-Limonene	20.73	68	41683	1.281 ng	99
92) 1,2-Dibromo-3-Chloropr...	21.11	157	21394	1.296 ng	89
93) n-Undecane	21.41	57	63455	1.229 ng	97
94) 1,2,4-Trichlorobenzene	22.23	180	47311	1.254 ng	99
95) Naphthalene	22.34	128	126688	1.088 ng	98
96) n-Dodecane	22.34	57	56922	1.182 ng	98
97) Hexachlorobutadiene	22.66	225	33296	1.302 ng	98
98) Cyclohexanone	18.41	55	41698	1.327 ng	99
99) tert-Butylbenzene	20.23	119	110269	1.351 ng	98
100) n-Butylbenzene	20.97	91	115986	1.339 ng	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 06\14\06141632.D
Acq On : 15 Jun 2016 5:47 Operator: LH
Sample : 1.0ng TO-15 ICAL STD
Misc : S29-06141608/S29-06081607 (7/7)
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 15 09:26:19 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:25:54 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 06\14\06141633.D
Acq On : 15 Jun 2016 6:20 Operator: LH
Sample : 5.0ng TO-15 ICAL STD
Misc : S29-06141608/S29-06081607 (7/7)
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 15 09:26:21 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:25:54 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 6/15/16

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	238147	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.41	114	1101957	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.72	82	416746	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.14	65	332245	10.817	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.56%				
57) Toluene-d8 (SS2)	15.87	98	1036875	13.644	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.12%				
73) Bromofluorobenzene (SS3)	19.10	174	368381	11.079	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.64%				
Target Compounds							Qvalue
2) Propene	4.15	42	134711	5.372	ng		100
3) Dichlorodifluoromethan...	4.31	85	254482	4.401	ng		100
4) Chloromethane	4.60	50	189299	5.053	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.87	135	137017	4.298	ng		100
6) Vinyl Chloride	5.03	62	181042	4.325	ng		100
7) 1,3-Butadiene	5.30	54	96583	3.866	ng		100
8) Bromomethane	5.75	94	109922	4.506	ng		100
9) Chloroethane	6.08	64	93986	4.747	ng		100
10) Ethanol	6.44	45	460876	22.629	ng		99
11) Acetonitrile	6.72	41	252364	4.802	ng		100
12) Acrolein	6.91	56	81236	5.351	ng		91
13) Acetone	7.11	58	508553	26.876	ng		99
14) Trichlorofluoromethane	7.36	101	207758	4.254	ng		100
15) 2-Propanol (Isopropanol)	7.61	45	665886	9.386	ng		98
16) Acrylonitrile	7.88	53	176940	4.803	ng		100
17) 1,1-Dichloroethene	8.34	96	115920	4.616	ng		100
18) 2-Methyl-2-Propanol (t...	8.49	59	622703	9.252	ng		98
19) Methylene Chloride	8.56	84	126131	4.620	ng		99
20) 3-Chloro-1-propene (Al...	8.72	41	187411	4.603	ng		99
21) Trichlorotrifluoroethane	8.98	151	115934	4.702	ng		99
22) Carbon Disulfide	8.84	76	461841	4.333	ng		97
23) trans-1,2-Dichloroethene	9.84	61	184234	4.905	ng		100
24) 1,1-Dichloroethane	10.09	63	231057	4.637	ng		99
25) Methyl tert-Butyl Ether	10.19	73	352585	4.365	ng		99
26) Vinyl Acetate	10.34	86	138852	23.565	ng	#	90
27) 2-Butanone (MEK)	10.59	72	84655	4.979	ng		97
28) cis-1,2-Dichloroethene	11.11	61	176341	4.843	ng		99
29) Diisopropyl Ether	11.41	87	119383	4.725	ng	#	77
30) Ethyl Acetate	11.41	61	98376	9.900	ng		97
31) n-Hexane	11.40	57	207536	4.533	ng		99
32) Chloroform	11.46	83	213244	4.597	ng		100
34) Tetrahydrofuran (THF)	11.86	72	78453	4.645	ng		98
35) Ethyl tert-Butyl Ether	12.00	87	138711	4.448	ng		99
36) 1,2-Dichloroethane	12.26	62	154224	4.590	ng		100
38) 1,1,1-Trichloroethane	12.54	97	177158	4.882	ng		100
39) Isopropyl Acetate	12.97	61	163924	10.972	ng		98
40) 1-Butanol	12.98	56	273413	11.585	ng		96
41) Benzene	13.02	78	492174	5.139	ng		100
42) Carbon Tetrachloride	13.18	117	159495	5.337	ng		100
43) Cyclohexane	13.31	84	366096	9.964	ng		99
44) tert-Amyl Methyl Ether	13.66	73	336715	4.934	ng		99
45) 1,2-Dichloropropane	13.88	63	128984	5.224	ng		100
46) Bromodichloromethane	14.06	83	168076	5.218	ng		100
47) Trichloroethene	14.12	130	135874	4.738	ng		100
48) 1,4-Dioxane	14.09	88	101188	5.153	ng		99
49) 2,2,4-Trimethylpentane...	14.18	57	543201	5.192	ng		100

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 06\14\06141633.D
Acq On : 15 Jun 2016 6:20 Operator: LH
Sample : 5.0ng TO-15 ICAL STD
Misc : S29-06141608/S29-06081607 (7/7)
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 15 09:26:21 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:25:54 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

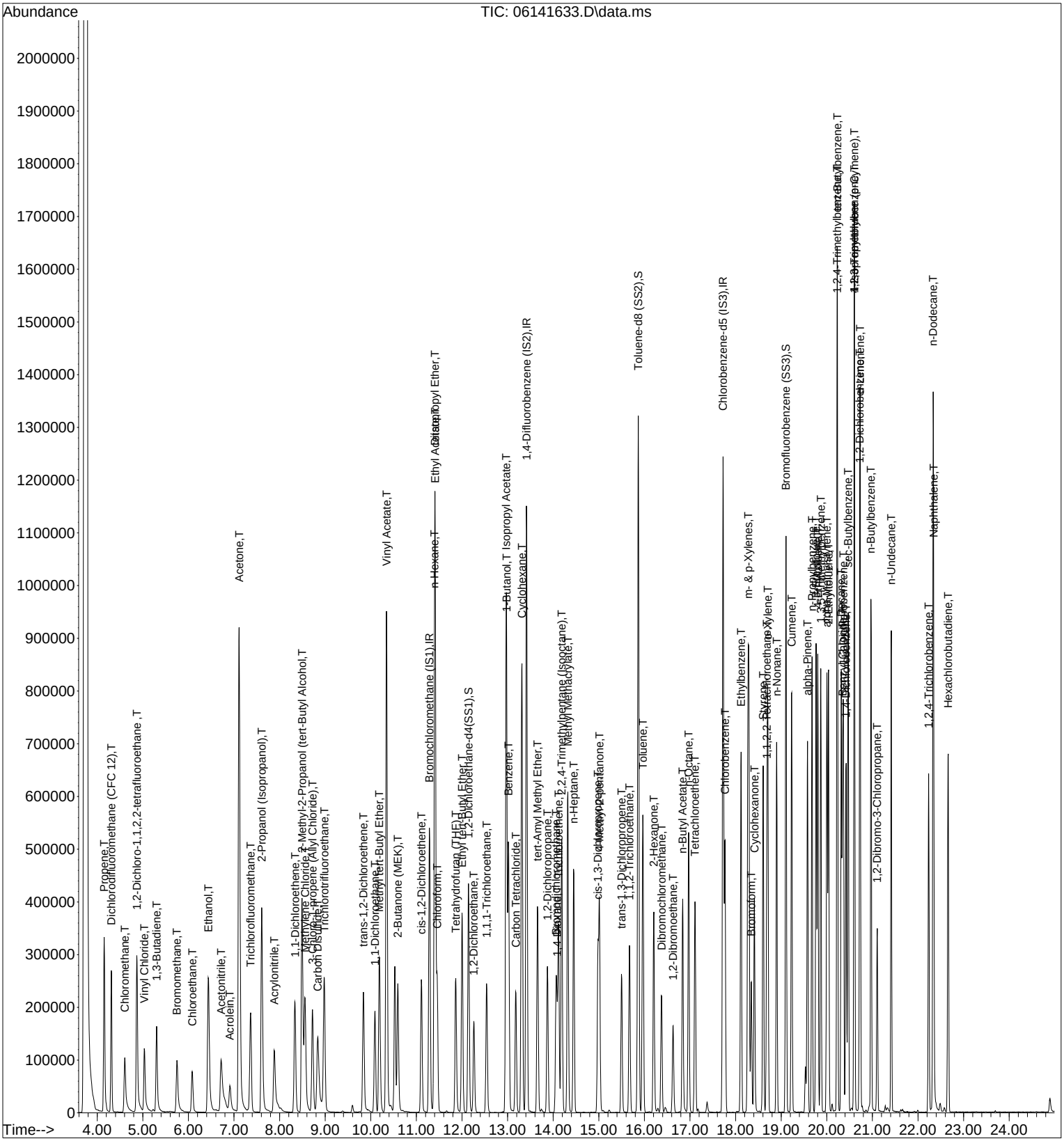
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	14.32	100	101329	9.725 ng	97
51) n-Heptane	14.45	71	118639	5.002 ng	100
52) cis-1,3-Dichloropropene	14.98	75	205370	5.465 ng	100
53) 4-Methyl-2-pentanone	15.01	58	123535	5.457 ng	97
54) trans-1,3-Dichloropropene	15.50	75	175269	5.305 ng	100
55) 1,1,2-Trichloroethane	15.67	97	121660	5.090 ng	99
58) Toluene	15.96	91	482995	5.227 ng	99
59) 2-Hexanone	16.21	43	317248	6.204 ng	99
60) Dibromochloromethane	16.38	129	145930	5.978 ng	99
61) 1,2-Dibromoethane	16.63	107	140841	5.744 ng	100
62) n-Butyl Acetate	16.84	43	353679	6.219 ng	99
63) n-Octane	16.97	57	106138	5.621 ng	99
64) Tetrachloroethene	17.11	166	150823	5.152 ng	100
65) Chlorobenzene	17.77	112	327966	5.508 ng	100
66) Ethylbenzene	18.12	91	550661	5.385 ng	99
67) m- & p-Xylenes	18.28	91	841670	10.558 ng	99
68) Bromoform	18.35	173	136253	6.004 ng	100
69) Styrene	18.60	104	351057	5.572 ng	100
70) o-Xylene	18.70	91	438077	5.285 ng	99
71) n-Nonane	18.90	43	267461	5.537 ng	99
72) 1,1,2,2-Tetrachloroethane	18.69	83	229959	5.793 ng	99
74) Cumene	19.23	105	558014	5.640 ng	100
75) alpha-Pinene	19.58	93	287403	5.506 ng	99
76) n-Propylbenzene	19.68	91	690660	5.380 ng	99
77) 3-Ethyltoluene	19.76	105	591428	5.639 ng	99
78) 4-Ethyltoluene	19.80	105	508089	5.310 ng	99
79) 1,3,5-Trimethylbenzene	19.87	105	454473	5.293 ng	99
80) alpha-Methylstyrene	20.00	118	259754	5.701 ng	100
81) 2-Ethyltoluene	20.04	105	541785	5.442 ng	99
82) 1,2,4-Trimethylbenzene	20.23	105	463223	5.496 ng	100
83) n-Decane	20.31	57	274400	5.630 ng	99
84) Benzyl Chloride	20.35	91	372349	5.973 ng	98
85) 1,3-Dichlorobenzene	20.36	146	293601	5.898 ng	100
86) 1,4-Dichlorobenzene	20.42	146	296082	5.731 ng	99
87) sec-Butylbenzene	20.47	105	634268	5.734 ng	99
88) 4-Isopropyltoluene (p-...	20.61	119	576610	5.498 ng	99
89) 1,2,3-Trimethylbenzene	20.61	105	482329	5.577 ng	99
90) 1,2-Dichlorobenzene	20.72	146	286878	6.027 ng	99
91) d-Limonene	20.73	68	195110	6.004 ng	99
92) 1,2-Dibromo-3-Chloropr...	21.11	157	106293	6.444 ng	94
93) n-Undecane	21.41	57	285037	5.526 ng	99
94) 1,2,4-Trichlorobenzene	22.23	180	222965	5.917 ng	99
95) Naphthalene	22.34	128	623098	5.355 ng	99
96) n-Dodecane	22.33	57	278253	5.782 ng	99
97) Hexachlorobutadiene	22.66	225	150607	5.897 ng	100
98) Cyclohexanone	18.41	55	193948	6.180 ng	99
99) tert-Butylbenzene	20.23	119	461595	5.662 ng	99
100) n-Butylbenzene	20.97	91	513899	5.938 ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 06\14\06141633.D
Acq On : 15 Jun 2016 6:20 Operator: LH
Sample : 5.0ng TO-15 ICAL STD
Misc : S29-06141608/S29-06081607 (7/7)
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 15 09:26:21 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:25:54 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 06\14\06141634.D
Acq On : 15 Jun 2016 6:53 Operator: LH
Sample : 25ng TO-15 ICAL STD
Misc : S29-06141608/S29-06081602 (7/7)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 15 09:26:23 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:25:54 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 6/15/16

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	259388	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.42	114	1184730	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.72	82	452277	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.15	65	352762	10.544	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.32%			
57) Toluene-d8 (SS2)	15.87	98	1121013	13.592	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.72%			
73) Bromofluorobenzene (SS3)	19.11	174	393372	10.901	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.20%			

Target Compounds						Qvalue
2) Propene	4.13	42	778799	28.514	ng	100
3) Dichlorodifluoromethan...	4.29	85	1423510	22.604	ng	100
4) Chloromethane	4.59	50	1147830	28.129	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.86	135	775608	22.336	ng	100
6) Vinyl Chloride	5.02	62	1070028	23.467	ng	100
7) 1,3-Butadiene	5.29	54	673543	24.750	ng	100
8) Bromomethane	5.74	94	652043	24.538	ng	100
9) Chloroethane	6.07	64	540849	25.080	ng	100
10) Ethanol	6.47	45	2822448	127.236	ng	100
11) Acetonitrile	6.72	41	1542735	26.951	ng	100
12) Acrolein	6.91	56	464632	28.099	ng	100
13) Acetone	7.12	58	2612561	126.762	ng	100
14) Trichlorofluoromethane	7.35	101	1163741	21.877	ng	100
15) 2-Propanol (Isopropanol)	7.63	45	3934108	50.913	ng	100
16) Acrylonitrile	7.89	53	1023941	25.519	ng	100
17) 1,1-Dichloroethene	8.33	96	688880	25.183	ng	100
18) 2-Methyl-2-Propanol (t...	8.51	59	3625516	49.456	ng	100
19) Methylene Chloride	8.56	84	713780	24.002	ng	100
20) 3-Chloro-1-propene (Al...	8.72	41	1139775	25.702	ng	100
21) Trichlorotrifluoroethane	8.98	151	663614	24.713	ng	100
22) Carbon Disulfide	8.83	76	2684979	23.126	ng	100
23) trans-1,2-Dichloroethene	9.84	61	1079520	26.385	ng	100
24) 1,1-Dichloroethane	10.10	63	1304570	24.037	ng	100
25) Methyl tert-Butyl Ether	10.19	73	2054235	23.348	ng	100
26) Vinyl Acetate	10.36	86	828117	129.031	ng	100
27) 2-Butanone (MEK)	10.59	72	476691	25.738	ng	100
28) cis-1,2-Dichloroethene	11.12	61	1024870	25.844	ng	100
29) Diisopropyl Ether	11.41	87	582336	21.159	ng	100
30) Ethyl Acetate	11.42	61	549472	50.765	ng	100
31) n-Hexane	11.40	57	1118231	22.424	ng	100
32) Chloroform	11.46	83	1204221	23.832	ng	100
34) Tetrahydrofuran (THF)	11.86	72	454695	24.719	ng	100
35) Ethyl tert-Butyl Ether	12.01	87	811985	23.905	ng	100
36) 1,2-Dichloroethane	12.26	62	873426	23.868	ng	100
38) 1,1,1-Trichloroethane	12.54	97	1008855	25.858	ng	100
39) Isopropyl Acetate	12.97	61	942327	58.666	ng	100
40) 1-Butanol	12.99	56	1629502	64.222	ng	100
41) Benzene	13.02	78	2689009	26.114	ng	100
42) Carbon Tetrachloride	13.18	117	934563	29.086	ng	100
43) Cyclohexane	13.31	84	2082592	52.724	ng	100
44) tert-Amyl Methyl Ether	13.66	73	1989493	27.118	ng	100
45) 1,2-Dichloropropane	13.88	63	736995	27.762	ng	100
46) Bromodichloromethane	14.06	83	985390	28.454	ng	100
47) Trichloroethene	14.12	130	789322	25.598	ng	100
48) 1,4-Dioxane	14.09	88	588927	27.897	ng	100
49) 2,2,4-Trimethylpentane...	14.19	57	3077437	27.362	ng	100

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 06\14\06141634.D
Acq On : 15 Jun 2016 6:53 Operator: LH
Sample : 25ng TO-15 ICAL STD
Misc : S29-06141608/S29-06081602 (7/7)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 15 09:26:23 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:25:54 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

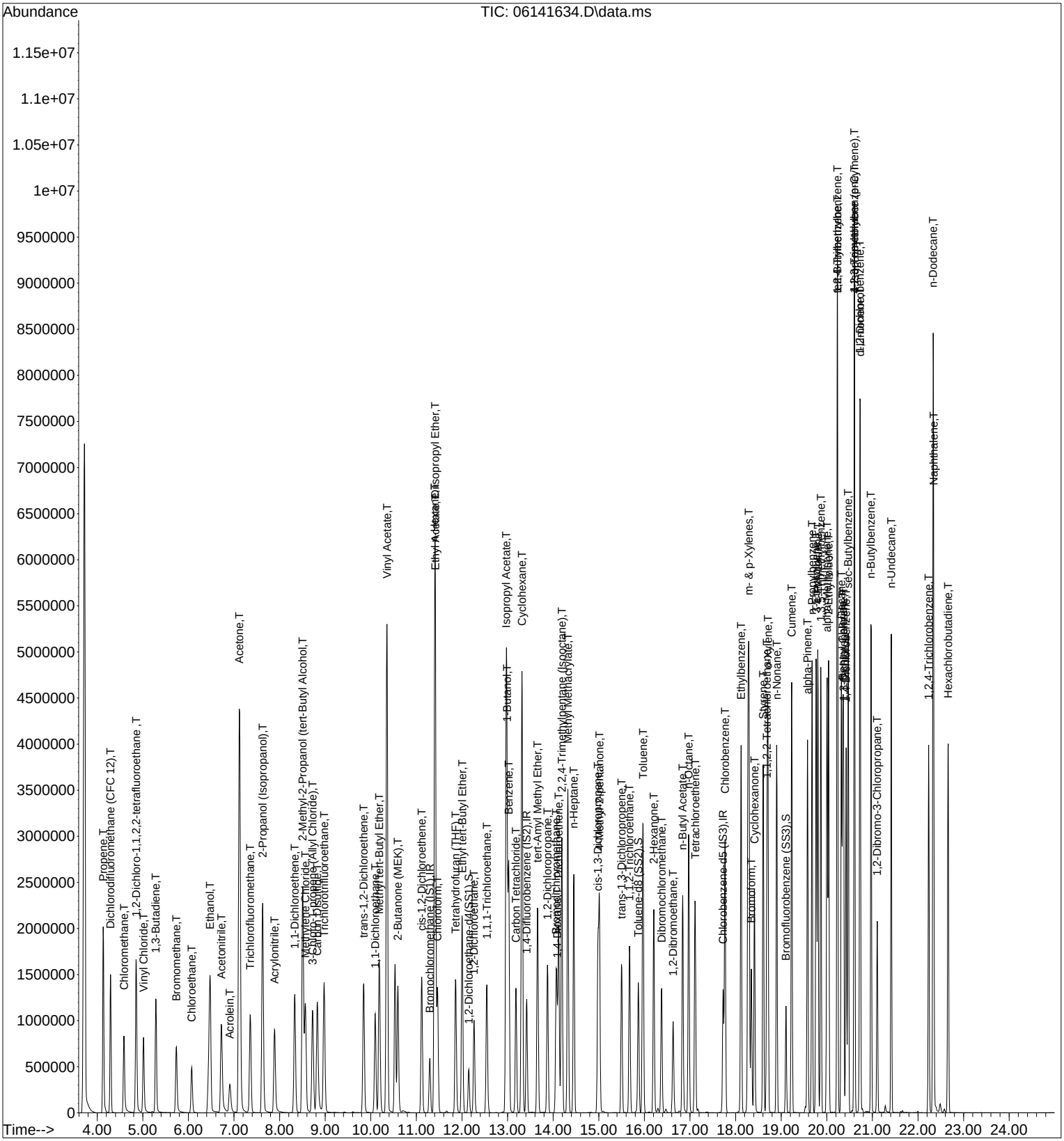
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	14.32	100	591193	52.775 ng	100
51) n-Heptane	14.45	71	665036	26.079 ng	100
52) cis-1,3-Dichloropropene	14.98	75	1243852	30.786 ng	100
53) 4-Methyl-2-pentanone	15.01	58	718381	29.519 ng	100
54) trans-1,3-Dichloropropene	15.50	75	1072820	30.201 ng	100
55) 1,1,2-Trichloroethane	15.67	97	696124	27.090 ng	100
58) Toluene	15.97	91	2724632	27.172 ng	100
59) 2-Hexanone	16.21	43	1804674	32.519 ng	100
60) Dibromochloromethane	16.38	129	877194	33.111 ng	100
61) 1,2-Dibromoethane	16.63	107	822858	30.923 ng	100
62) n-Butyl Acetate	16.84	43	2046351	33.157 ng	100
63) n-Octane	16.97	57	613483	29.935 ng	100
64) Tetrachloroethene	17.11	166	871479	27.432 ng	100
65) Chlorobenzene	17.77	112	1908416	29.533 ng	100
66) Ethylbenzene	18.12	91	3165217	28.521 ng	100
67) m- & p-Xylenes	18.29	91	4827764	55.802 ng	100
68) Bromoform	18.35	173	855688	34.743 ng	100
69) Styrene	18.60	104	2040460	29.844 ng	100
70) o-Xylene	18.71	91	2493320	27.719 ng	100
71) n-Nonane	18.90	43	1515510	28.910 ng	100
72) 1,1,2,2-Tetrachloroethane	18.69	83	1312618	30.470 ng	100
74) Cumene	19.23	105	3222638	30.014 ng	100
75) alpha-Pinene	19.58	93	1658476	29.277 ng	100
76) n-Propylbenzene	19.68	91	3884782	27.885 ng	100
77) 3-Ethyltoluene	19.76	105	3303156	29.018 ng	100
78) 4-Ethyltoluene	19.80	105	3008065	28.967 ng	100
79) 1,3,5-Trimethylbenzene	19.87	105	2607709	27.984 ng	100
80) alpha-Methylstyrene	20.01	118	1503501	30.405 ng	100
81) 2-Ethyltoluene	20.04	105	3069746	28.413 ng	100
82) 1,2,4-Trimethylbenzene	20.23	105	2662938	29.114 ng	100
83) n-Decane	20.32	57	1519198	28.723 ng	100
84) Benzyl Chloride	20.35	91	2440229	36.070 ng	100
85) 1,3-Dichlorobenzene	20.37	146	1689047	31.265 ng	100
86) 1,4-Dichlorobenzene	20.42	146	1682000	29.997 ng	100
87) sec-Butylbenzene	20.47	105	3541510	29.502 ng	100
88) 4-Isopropyltoluene (p-...	20.61	119	3235495	28.428 ng	100
89) 1,2,3-Trimethylbenzene	20.61	105	2747739	29.275 ng	100
90) 1,2-Dichlorobenzene	20.73	146	1626739	31.490 ng	100
91) d-Limonene	20.73	68	1116424	31.657 ng	100
92) 1,2-Dibromo-3-Chloropr...	21.11	157	647951	36.195 ng	100
93) n-Undecane	21.41	57	1621679	28.971 ng	100
94) 1,2,4-Trichlorobenzene	22.23	180	1371193	33.532 ng	100
95) Naphthalene	22.34	128	3912728	30.985 ng	100
96) n-Dodecane	22.33	57	1658038	31.749 ng	100
97) Hexachlorobutadiene	22.66	225	893029	32.217 ng	100
98) Cyclohexanone	18.41	55	1122513	32.956 ng	100
99) tert-Butylbenzene	20.23	119	2627853	29.703 ng	100
100) n-Butylbenzene	20.97	91	2909333	30.977 ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 06\14\06141634.D
Acq On : 15 Jun 2016 6:53 Operator: LH
Sample : 25ng TO-15 ICAL STD
Misc : S29-06141608/S29-06081602 (7/7)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 15 09:26:23 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:25:54 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 06\14\06141635.D
Acq On : 15 Jun 2016 7:27 Operator: LH
Sample : 50ng TO-15 ICAL STD
Misc : S29-06141608/S29-06081602 (7/7)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 15 09:26:25 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 6/15/16
QLast Update : Wed Jun 15 09:25:54 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	272476	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.42	114	1236611	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.72	82	468381	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	363790	10.352	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.80%				
57) Toluene-d8 (SS2)	15.87	98	1172827	13.731	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.84%				
73) Bromofluorobenzene (SS3)	19.11	174	402589	10.773	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.16%				
Target Compounds							Qvalue
2) Propene	4.14	42	1648677	57.462	ng		100
3) Dichlorodifluoromethan...	4.30	85	2685261	40.590	ng		100
4) Chloromethane	4.60	50	2210096	51.560	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.87	135	1520203	41.677	ng		100
6) Vinyl Chloride	5.03	62	2085984	43.551	ng		100
7) 1,3-Butadiene	5.30	54	1330956	46.558	ng		100
8) Bromomethane	5.75	94	1264427	45.299	ng		100
9) Chloroethane	6.09	64	1028730	45.413	ng		100
10) Ethanol	6.51	45	5403572	231.893	ng		100
11) Acetonitrile	6.75	41	2980085	49.561	ng		100
12) Acrolein	6.92	56	894131	51.476	ng		91
13) Acetone	7.14	58	4825440	222.885	ng		97
14) Trichlorofluoromethane	7.37	101	2251688	40.296	ng		100
15) 2-Propanol (Isopropanol)	7.66	45	6800085	83.775	ng		100
16) Acrylonitrile	7.91	53	1985577	47.109	ng		100
17) 1,1-Dichloroethene	8.34	96	1345516	46.825	ng		100
18) 2-Methyl-2-Propanol (t...	8.53	59	6494069	84.331	ng		99
19) Methylene Chloride	8.58	84	1396870	44.716	ng		99
20) 3-Chloro-1-propene (Al...	8.73	41	2208746	47.414	ng		99
21) Trichlorotrifluoroethane	8.99	151	1296818	45.974	ng		100
22) Carbon Disulfide	8.84	76	5202107	42.653	ng		100
23) trans-1,2-Dichloroethene	9.85	61	2118483	49.291	ng		100
24) 1,1-Dichloroethane	10.10	63	2552580	44.772	ng		100
25) Methyl tert-Butyl Ether	10.20	73	4034876	43.657	ng		100
26) Vinyl Acetate	10.37	86	1605897	238.200	ng	#	79
27) 2-Butanone (MEK)	10.60	72	934062	48.011	ng		96
28) cis-1,2-Dichloroethene	11.13	61	1992231	47.825	ng		99
29) Diisopropyl Ether	11.42	87	1105221	38.229	ng	#	94
30) Ethyl Acetate	11.42	61	1035437	91.068	ng		98
31) n-Hexane	11.40	57	2140447	40.862	ng		100
32) Chloroform	11.47	83	2319684	43.703	ng		99
34) Tetrahydrofuran (THF)	11.87	72	887393	45.925	ng		99
35) Ethyl tert-Butyl Ether	12.01	87	1593685	44.665	ng		99
36) 1,2-Dichloroethane	12.27	62	1691670	44.008	ng		100
38) 1,1,1-Trichloroethane	12.55	97	1977851	48.568	ng		99
39) Isopropyl Acetate	12.97	61	1822955	108.729	ng		95
40) 1-Butanol	13.00	56	3153241	119.063	ng		98
41) Benzene	13.03	78	5176385	48.161	ng		100
42) Carbon Tetrachloride	13.19	117	1827948	54.505	ng		100
43) Cyclohexane	13.32	84	4001139	97.045	ng		99
44) tert-Amyl Methyl Ether	13.66	73	3874986	50.603	ng		99
45) 1,2-Dichloropropane	13.88	63	1440088	51.972	ng		100
46) Bromodichloromethane	14.07	83	1930178	53.398	ng		100
47) Trichloroethene	14.12	130	1552312	48.231	ng		100
48) 1,4-Dioxane	14.09	88	1153143	52.331	ng		100
49) 2,2,4-Trimethylpentane...	14.19	57	5864343	49.953	ng		100

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 06\14\06141635.D
Acq On : 15 Jun 2016 7:27 Operator: LH
Sample : 50ng TO-15 ICAL STD
Misc : S29-06141608/S29-06081602 (7/7)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 15 09:26:25 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:25:54 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

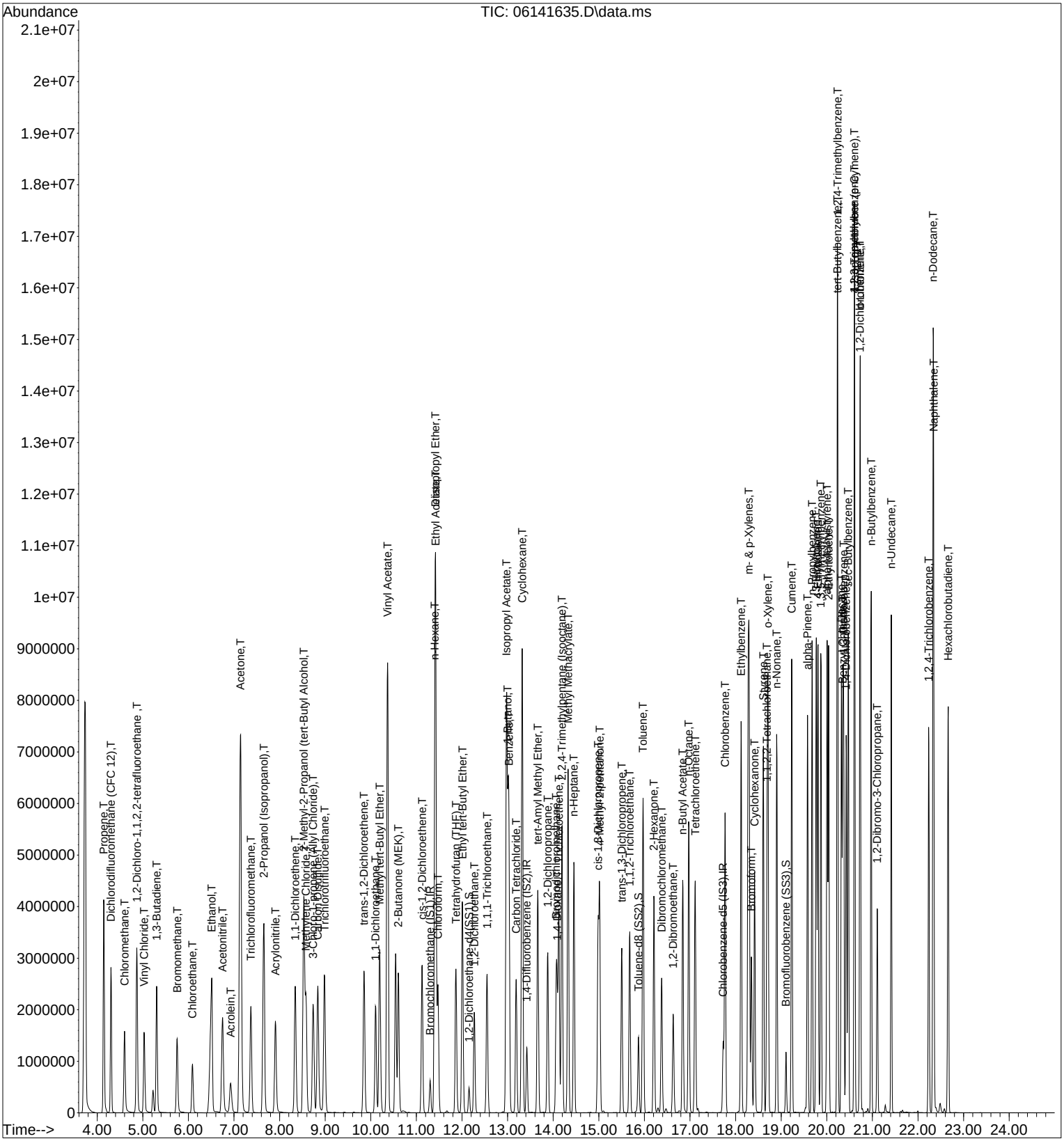
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	14.33	100	1161983	99.377 ng	98
51) n-Heptane	14.45	71	1285849	48.308 ng	100
52) cis-1,3-Dichloropropene	14.99	75	2443205	57.934 ng	100
53) 4-Methyl-2-pentanone	15.02	58	1382015	54.406 ng	98
54) trans-1,3-Dichloropropene	15.50	75	2118432	57.133 ng	99
55) 1,1,2-Trichloroethane	15.68	97	1364658	50.879 ng	100
58) Toluene	15.97	91	5257933	50.633 ng	100
59) 2-Hexanone	16.21	43	3437494	59.811 ng	99
60) Dibromochloromethane	16.38	129	1719672	62.679 ng	100
61) 1,2-Dibromoethane	16.63	107	1609731	58.413 ng	100
62) n-Butyl Acetate	16.84	43	3929705	61.484 ng	99
63) n-Octane	16.97	57	1183273	55.753 ng	99
64) Tetrachloroethene	17.11	166	1703390	51.774 ng	100
65) Chlorobenzene	17.77	112	3703956	55.349 ng	100
66) Ethylbenzene	18.12	91	6100482	53.081 ng	100
67) m- & p-Xylenes	18.29	91	9278911	103.563 ng	100
68) Bromoform	18.35	173	1674939	65.667 ng	100
69) Styrene	18.61	104	3925395	55.439 ng	100
70) o-Xylene	18.71	91	4772240	51.230 ng	100
71) n-Nonane	18.90	43	2801961	51.613 ng	99
72) 1,1,2,2-Tetrachloroethane	18.69	83	2511815	56.302 ng	100
74) Cumene	19.23	105	6117785	55.019 ng	100
75) alpha-Pinene	19.58	93	3195066	54.463 ng	100
76) n-Propylbenzene	19.68	91	7325123	50.772 ng	99
77) 3-Ethyltoluene	19.77	105	6108365	51.817 ng	100
78) 4-Ethyltoluene	19.81	105	5817693	54.097 ng	100
79) 1,3,5-Trimethylbenzene	19.87	105	4955369	51.349 ng	100
80) alpha-Methylstyrene	20.01	118	2863016	55.907 ng	100
81) 2-Ethyltoluene	20.04	105	5754274	51.429 ng	100
82) 1,2,4-Trimethylbenzene	20.24	105	4995264	52.735 ng	98
83) n-Decane	20.32	57	2771819	50.605 ng	99
84) Benzyl Chloride	20.35	91	4699336	67.075 ng	100
85) 1,3-Dichlorobenzene	20.37	146	3188538	56.992 ng	100
86) 1,4-Dichlorobenzene	20.42	146	3210724	55.292 ng	99
87) sec-Butylbenzene	20.47	105	6531198	52.537 ng	99
88) 4-Isopropyltoluene (p-...	20.61	119	5824358	49.416 ng	98
89) 1,2,3-Trimethylbenzene	20.61	105	5127132	52.747 ng	98
90) 1,2-Dichlorobenzene	20.73	146	3049477	57.001 ng	100
91) d-Limonene	20.73	68	2051673	56.177 ng	99
92) 1,2-Dibromo-3-Chloropr...	21.11	157	1251258	67.493 ng	98
93) n-Undecane	21.41	57	2990717	51.592 ng	99
94) 1,2,4-Trichlorobenzene	22.23	180	2664330	62.916 ng	99
95) Naphthalene	22.34	128	7343213	56.152 ng	100
96) n-Dodecane	22.33	57	3055440	56.495 ng	99
97) Hexachlorobutadiene	22.66	225	1742335	60.696 ng	100
98) Cyclohexanone	18.42	55	2149723	60.944 ng	99
99) tert-Butylbenzene	20.23	119	4819849	52.607 ng	100
100) n-Butylbenzene	20.97	91	5383013	55.345 ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 06\14\06141635.D
Acq On : 15 Jun 2016 7:27 Operator: LH
Sample : 50ng TO-15 ICAL STD
Misc : S29-06141608/S29-06081602 (7/7)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 15 09:26:25 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:25:54 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 06\14\06141636.D
Acq On : 15 Jun 2016 8:01 Operator: LH
Sample : 100ng TO-15 ICAL STD
Misc : S29-06141608/S29-06081602 (7/7)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 15 09:26:27 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:25:54 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 6/15/16

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.31	130	282208	12.500	ng		0.01
37) 1,4-Difluorobenzene (IS2)	13.42	114	1269940	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.73	82	487680	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.16	65	371269	10.200	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 81.60%				
57) Toluene-d8 (SS2)	15.87	98	1220438	13.723	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.76%				
73) Bromofluorobenzene (SS3)	19.11	174	412470	10.600	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.80%				
Target Compounds							Qvalue
2) Propene	4.15	42	3773239	126.976	ng		99
3) Dichlorodifluoromethan...	4.31	85	5206954	75.994	ng		100
4) Chloromethane	4.61	50	3995837	90.006	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.88	135	2998507	79.370	ng		100
6) Vinyl Chloride	5.04	62	4120401	83.059	ng		100
7) 1,3-Butadiene	5.32	54	2642260	89.240	ng		99
8) Bromomethane	5.76	94	2560768	88.577	ng		100
9) Chloroethane	6.10	64	2047080	87.252	ng		100
10) Ethanol	6.55	45	10072402	417.348	ng		100
11) Acetonitrile	6.78	41	5872801	94.300	ng		99
12) Acrolein	6.94	56	1754069	97.501	ng		91
13) Acetone	7.17	58	8875456	395.816	ng		90
14) Trichlorofluoromethane	7.38	101	4447302	76.843	ng		100
15) 2-Propanol (Isopropanol)	7.68	45	10737007	127.716	ng		99
16) Acrylonitrile	7.93	53	3938152	90.212	ng		100
17) 1,1-Dichloroethene	8.35	96	2675485	89.898	ng		99
18) 2-Methyl-2-Propanol (t...	8.55	59	8557552	107.295	ng		99
19) Methylene Chloride	8.59	84	2744233	84.818	ng		97
20) 3-Chloro-1-propene (Al...	8.74	41	4316123	89.457	ng		98
21) Trichlorotrifluoroethane	8.99	151	2580484	88.327	ng		99
22) Carbon Disulfide	8.84	76	10213433	80.854	ng		99
23) trans-1,2-Dichloroethene	9.86	61	4179492	93.891	ng		99
24) 1,1-Dichloroethane	10.11	63	4998420	84.649	ng		100
25) Methyl tert-Butyl Ether	10.20	73	7930518	82.848	ng		99
26) Vinyl Acetate	10.38	86	3084992	441.812	ng	#	37
27) 2-Butanone (MEK)	10.62	72	1848904	91.757	ng		92
28) cis-1,2-Dichloroethene	11.13	61	3942835	91.386	ng		99
29) Diisopropyl Ether	11.42	87	2139680	71.459	ng	#	76
30) Ethyl Acetate	11.44	61	1921418	163.163	ng		95
31) n-Hexane	11.41	57	4058535	74.806	ng		99
32) Chloroform	11.48	83	4547020	82.712	ng		99
34) Tetrahydrofuran (THF)	11.87	72	1771715	88.529	ng		96
35) Ethyl tert-Butyl Ether	12.01	87	3176847	85.964	ng		96
36) 1,2-Dichloroethane	12.28	62	3302263	82.944	ng		100
38) 1,1,1-Trichloroethane	12.55	97	3926431	93.886	ng		99
39) Isopropyl Acetate	12.98	61	3484121	202.354	ng	#	87
40) 1-Butanol	13.03	56	5994265	220.396	ng		97
41) Benzene	13.03	78	9756820	88.396	ng		99
42) Carbon Tetrachloride	13.19	117	3612706	104.894	ng		100
43) Cyclohexane	13.33	84	7575181	178.909	ng		97
44) tert-Amyl Methyl Ether	13.67	73	7608851	96.755	ng		99
45) 1,2-Dichloropropane	13.89	63	2827042	99.348	ng		100
46) Bromodichloromethane	14.07	83	3774068	101.669	ng		100
47) Trichloroethene	14.13	130	3067238	92.799	ng		100
48) 1,4-Dioxane	14.10	88	2280037	100.756	ng		99
49) 2,2,4-Trimethylpentane...	14.20	57	10915063	90.535	ng		99

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 06\14\06141636.D
Acq On : 15 Jun 2016 8:01 Operator: LH
Sample : 100ng TO-15 ICAL STD
Misc : S29-06141608/S29-06081602 (7/7)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 15 09:26:27 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:25:54 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

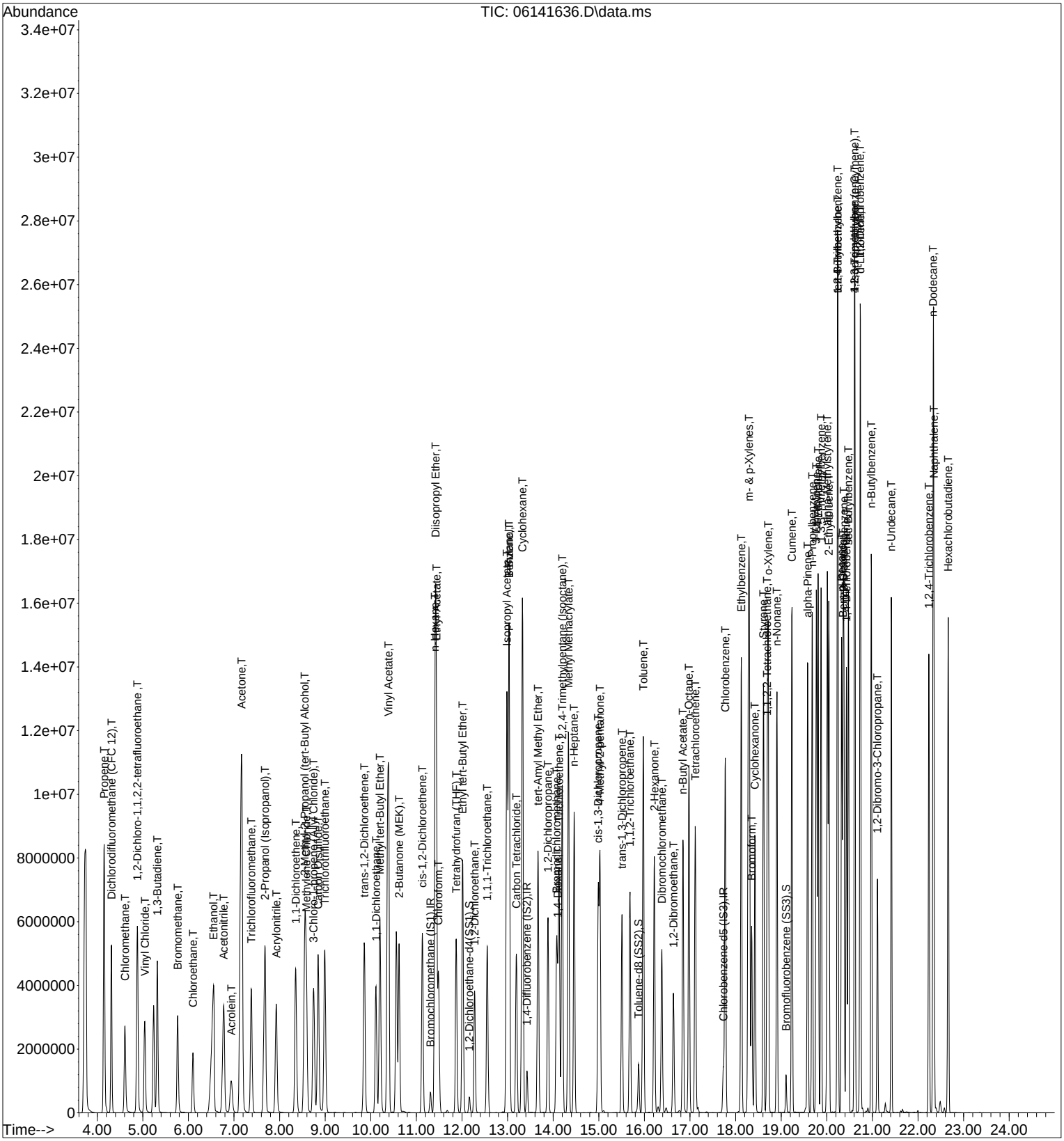
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	14.34	100	2270174	189.059 ng	97
51) n-Heptane	14.46	71	2537383	92.824 ng	99
52) cis-1,3-Dichloropropene	14.99	75	4817904	111.246 ng	99
53) 4-Methyl-2-pentanone	15.02	58	2707655	103.795 ng	96
54) trans-1,3-Dichloropropene	15.51	75	4209964	110.561 ng	99
55) 1,1,2-Trichloroethane	15.68	97	2701807	98.089 ng	100
58) Toluene	15.98	91	10268056	94.967 ng	99
59) 2-Hexanone	16.22	43	6693620	111.858 ng	98
60) Dibromochloromethane	16.38	129	3432386	120.154 ng	99
61) 1,2-Dibromoethane	16.64	107	3170532	110.498 ng	100
62) n-Butyl Acetate	16.84	43	7591199	114.071 ng	99
63) n-Octane	16.98	57	2320909	105.029 ng	99
64) Tetrachloroethene	17.11	166	3417198	99.755 ng	99
65) Chlorobenzene	17.77	112	7257689	104.161 ng	100
66) Ethylbenzene	18.13	91	11539185	96.430 ng	98
67) m- & p-Xylenes	18.29	91	17866074	191.515 ng	98
68) Bromoform	18.35	173	3305309	124.459 ng	99
69) Styrene	18.61	104	7535729	102.217 ng	99
70) o-Xylene	18.71	91	8969456	92.477 ng	100
71) n-Nonane	18.91	43	5106758	90.346 ng	96
72) 1,1,2,2-Tetrachloroethane	18.69	83	4824537	103.863 ng	100
74) Cumene	19.24	105	11230689	97.004 ng	97
75) alpha-Pinene	19.58	93	6072833	99.421 ng	97
76) n-Propylbenzene	19.68	91	12933904	86.099 ng	95
77) 3-Ethyltoluene	19.77	105	11567294	94.241 ng	98
78) 4-Ethyltoluene	19.81	105	10171309	90.837 ng	97
79) 1,3,5-Trimethylbenzene	19.87	105	9205123	91.611 ng	100
80) alpha-Methylstyrene	20.01	118	5378777	100.877 ng	98
81) 2-Ethyltoluene	20.05	105	10513029	90.243 ng	99
82) 1,2,4-Trimethylbenzene	20.24	105	8929039	90.534 ng	96
83) n-Decane	20.33	57	4961427	86.995 ng	97
84) Benzyl Chloride	20.35	91	8795150	120.568 ng	98
85) 1,3-Dichlorobenzene	20.38	146	5976057	102.590 ng	100
86) 1,4-Dichlorobenzene	20.43	146	6025426	99.658 ng	100
87) sec-Butylbenzene	20.47	105	11423649	88.255 ng	96
88) 4-Isopropyltoluene (p-...	20.61	119	9764146	79.564 ng	95
89) 1,2,3-Trimethylbenzene	20.61	105	9029295	89.217 ng	95
90) 1,2-Dichlorobenzene	20.73	146	5476917	98.324 ng	99
91) d-Limonene	20.74	68	3572983	93.961 ng	95
92) 1,2-Dibromo-3-Chloropr...	21.11	157	2409412	124.821 ng	96
93) n-Undecane	21.41	57	5323998	88.209 ng	97
94) 1,2,4-Trichlorobenzene	22.24	180	5136972	116.505 ng	99
95) Naphthalene	22.35	128	12711773	93.358 ng	98
96) n-Dodecane	22.33	57	5252772	93.280 ng	95
97) Hexachlorobutadiene	22.66	225	3423414	114.539 ng	100
98) Cyclohexanone	18.42	55	4098625	111.597 ng	98
99) tert-Butylbenzene	20.24	119	8443839	88.514 ng	100
100) n-Butylbenzene	20.97	91	9609481	94.890 ng	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 06\14\06141636.D
Acq On : 15 Jun 2016 8:01 Operator: LH
Sample : 100ng TO-15 ICAL STD
Misc : S29-06141608/S29-06081602 (7/7)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 15 09:26:27 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:25:54 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 06\14\06141637.D
Acq On : 15 Jun 2016 8:34 Operator: LH
Sample : 25ng TO-15 ICV STD
Misc : S29-06141608/S29-06131601 (7/12)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 15 10:15:40 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:43:00 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 6/15/16

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.30	130	272224	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.42	114	1246828	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.72	82	472701	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.15	65	362620	12.217	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.76%				
57) Toluene-d8 (SS2)	15.87	98	1181371	12.489	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%				
73) Bromofluorobenzene (SS3)	19.10	174	409192	12.421	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.36%				
Target Compounds							Qvalue
2) Propene	4.14	42	781568	24.250	ng		100
3) Dichlorodifluoromethan...	4.30	85	1344458	22.600	ng		100
4) Chloromethane	4.60	50	1193084	25.408	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.86	135	792832	25.033	ng		100
6) Vinyl Chloride	5.02	62	1116497	27.099	ng		100
7) 1,3-Butadiene	5.30	54	706889	32.471	ng		100
8) Bromomethane	5.74	94	705339	27.158	ng		100
9) Chloroethane	6.08	64	579990	27.806	ng		99
10) Ethanol	6.48	45	2799552	125.025	ng		100
11) Acetonitrile	6.73	41	1521917	24.479	ng		100
12) Acrolein	6.91	56	449560	27.051	ng		90
13) Acetone	7.12	58	2714979	120.559	ng		98
14) Trichlorofluoromethane	7.36	101	1185310	24.121	ng		100
15) 2-Propanol (Isopropanol)	7.63	45	4039459	56.937	ng		99
16) Acrylonitrile	7.89	53	1071002	27.541	ng		100
17) 1,1-Dichloroethene	8.34	96	733647	29.183	ng		98
18) 2-Methyl-2-Propanol (t...	8.51	59	3874030	60.369	ng		99
19) Methylene Chloride	8.57	84	772892	28.803	ng		97
20) 3-Chloro-1-propene (Al...	8.73	41	1194667	29.795	ng		99
21) Trichlorotrifluoroethane	8.98	151	707481	27.823	ng		99
22) Carbon Disulfide	8.83	76	2661399	22.652	ng		100
23) trans-1,2-Dichloroethene	9.84	61	1119650	28.717	ng		99
24) 1,1-Dichloroethane	10.10	63	1392208	27.139	ng		100
25) Methyl tert-Butyl Ether	10.19	73	2212256	28.255	ng		100
26) Vinyl Acetate	10.36	86	897436	151.601	ng	#	93
27) 2-Butanone (MEK)	10.60	72	509116	27.873	ng		97
28) cis-1,2-Dichloroethene	11.12	61	1091307	29.429	ng		99
29) Diisopropyl Ether	11.41	87	610716	24.993	ng		98
30) Ethyl Acetate	11.42	61	584034	57.890	ng		100
31) n-Hexane	11.40	57	1185474	26.285	ng		100
32) Chloroform	11.47	83	1292903	28.067	ng		100
34) Tetrahydrofuran (THF)	11.86	72	509493	27.252	ng		98
35) Ethyl tert-Butyl Ether	12.01	87	874794	28.636	ng		99
36) 1,2-Dichloroethane	12.26	62	922413	27.144	ng		100
38) 1,1,1-Trichloroethane	12.54	97	1080359	27.248	ng		99
39) Isopropyl Acetate	12.97	61	1013120	61.196	ng	#	93
40) 1-Butanol	12.98	56	1621931	65.385	ng		99
41) Benzene	13.02	78	2935710	25.604	ng		100
42) Carbon Tetrachloride	13.18	117	962248	28.441	ng		100
43) Cyclohexane	13.32	84	2228194	55.363	ng		100
44) tert-Amyl Methyl Ether	13.66	73	2142300	28.637	ng		99
45) 1,2-Dichloropropane	13.88	63	798016	27.703	ng		100
46) Bromodichloromethane	14.07	83	1040225	29.099	ng		100
47) Trichloroethene	14.12	130	837307	26.610	ng		100
48) 1,4-Dioxane	14.09	88	638978	30.107	ng		99
49) 2,2,4-Trimethylpentane...	14.19	57	3289308	27.293	ng		99

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 06\14\06141637.D
Acq On : 15 Jun 2016 8:34 Operator: LH
Sample : 25ng TO-15 ICV STD
Misc : S29-06141608/S29-06131601 (7/12)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 15 10:15:40 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:43:00 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

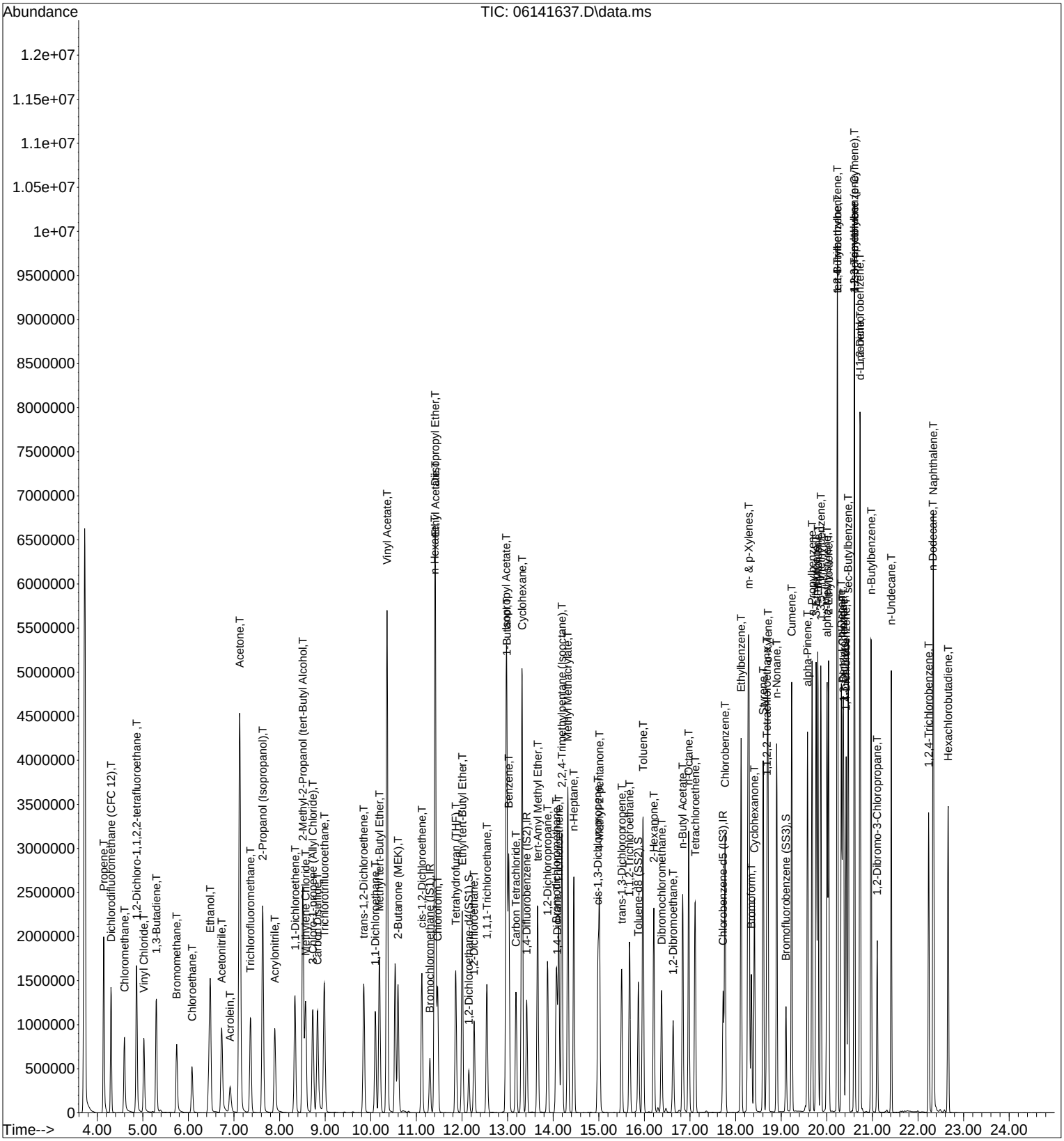
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	14.32	100	637691	58.735 ng	99
51) n-Heptane	14.45	71	704744	28.024 ng	100
52) cis-1,3-Dichloropropene	14.98	75	1207258	29.619 ng	100
53) 4-Methyl-2-pentanone	15.01	58	760151	30.618 ng	98
54) trans-1,3-Dichloropropene	15.50	75	1101499	31.140 ng	99
55) 1,1,2-Trichloroethane	15.67	97	748142	27.917 ng	100
58) Toluene	15.97	91	2949452	25.312 ng	100
59) 2-Hexanone	16.21	43	1881595	30.183 ng	99
60) Dibromochloromethane	16.38	129	903454	30.449 ng	100
61) 1,2-Dibromoethane	16.63	107	874968	29.531 ng	100
62) n-Butyl Acetate	16.84	43	2144588	31.183 ng	100
63) n-Octane	16.97	57	646539	27.026 ng	100
64) Tetrachloroethene	17.11	166	927696	25.634 ng	100
65) Chlorobenzene	17.77	112	2033987	27.611 ng	100
66) Ethylbenzene	18.12	91	3398266	26.206 ng	100
67) m- & p-Xylenes	18.29	91	5284005	54.995 ng	98
68) Bromoform	18.35	173	854287	30.731 ng	100
69) Styrene	18.60	104	2167446	31.249 ng	100
70) o-Xylene	18.71	91	2648780	26.612 ng	100
71) n-Nonane	18.90	43	1569062	26.111 ng	99
72) 1,1,2,2-Tetrachloroethane	18.69	83	1374845	26.757 ng	100
74) Cumene	19.23	105	3388491	26.569 ng	100
75) alpha-Pinene	19.58	93	1774760	29.375 ng	100
76) n-Propylbenzene	19.68	91	4057529	25.311 ng	100
77) 3-Ethyltoluene	19.76	105	3443904	27.064 ng	100
78) 4-Ethyltoluene	19.80	105	3155356	27.706 ng	100
79) 1,3,5-Trimethylbenzene	19.87	105	2740435	26.793 ng	100
80) alpha-Methylstyrene	20.01	118	1564552	31.687 ng	100
81) 2-Ethyltoluene	20.04	105	3212066	26.518 ng	100
82) 1,2,4-Trimethylbenzene	20.23	105	2808560	27.626 ng	99
83) n-Decane	20.32	57	1553509	26.827 ng	99
84) Benzyl Chloride	20.35	91	2518227	32.389 ng	100
85) 1,3-Dichlorobenzene	20.37	146	1768920	29.362 ng	100
86) 1,4-Dichlorobenzene	20.42	146	1735702	27.369 ng	100
87) sec-Butylbenzene	20.47	105	3668671	27.338 ng	100
88) 4-Isopropyltoluene (p-...	20.61	119	3367951	26.836 ng	100
89) 1,2,3-Trimethylbenzene	20.61	105	2855219	26.971 ng	100
90) 1,2-Dichlorobenzene	20.73	146	1662542	28.152 ng	100
91) d-Limonene	20.73	68	1160342	32.078 ng	100
92) 1,2-Dibromo-3-Chloropr...	21.11	157	618752	27.078 ng	99
93) n-Undecane	21.41	57	1560204	26.844 ng	100
94) 1,2,4-Trichlorobenzene	22.23	180	1188820	25.718 ng	100
95) Naphthalene	22.34	128	3257255	23.662 ng	99
96) n-Dodecane	22.33	57	1311615	22.839 ng	100
97) Hexachlorobutadiene	22.66	225	782775	24.747 ng	99
98) Cyclohexanone	18.41	55	1128321	30.302 ng	99
99) tert-Butylbenzene	20.23	119	2721014	26.492 ng	100
100) n-Butylbenzene	20.97	91	2954728	28.039 ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 06\14\06141637.D
Acq On : 15 Jun 2016 8:34 Operator: LH
Sample : 25ng TO-15 ICV STD
Misc : S29-06141608/S29-06131601 (7/12)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 15 10:15:40 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:43:00 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M



LH 6/15/16

INITIAL CALIBRATION VERIFICATION CHECK SHEET

Data File Name: **06141637.D**
Data File Path: **I:\MS16\DATA\2016_06\14**
Operator: **LH**
Date Acquired: **6/15/16** **8:34**

Acq. Method File: **TO15.M**
Sample Name: **25ng TO-15 ICV STD**
Misc Info: **S29-06141608/S29-06131601 (**
Instrument Name: **GCMS-16**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail
2)	Propene	4.14	24.2	24.50	99	70	130	*
3)	Dichlorodifluoromethane (CFC 12	4.30	22.6	23.50	96	70	130	*
4)	Chloromethane	4.60	25.4	25.00	102	70	130	*
5)	1,2-Dichloro-1,1,2,2-tetrafluoroetl	4.86	25.0	25.50	98	70	130	*
6)	Vinyl Chloride	5.02	27.1	25.00	108	70	130	*
7)	1,3-Butadiene	5.30	32.5	25.75	126	70	130	*
8)	Bromomethane	5.74	27.2	25.25	108	70	130	*
9)	Chloroethane	6.08	27.8	25.00	111	70	130	*
10)	Ethanol	6.48	125	124.75	100	70	130	*
11)	Acetonitrile	6.73	24.5	26.50	92	70	130	*
12)	Acrolein	6.91	27.1	26.75	101	70	130	*
13)	Acetone	7.12	121	134.75	90	70	130	*
14)	Trichlorofluoromethane	7.36	24.1	27.00	89	70	130	*
15)	2-Propanol (Isopropanol)	7.63	56.9	52.25	109	70	130	*
16)	Acrylonitrile	7.89	27.5	26.50	104	70	130	*
17)	1,1-Dichloroethene	8.34	29.2	27.00	108	70	130	*
18)	2-Methyl-2-Propanol (tert-Butyl Alco	8.51	60.4	50.00	121	70	130	*
19)	Methylene Chloride	8.57	28.8	27.75	104	70	130	*
20)	3-Chloro-1-propene (Allyl Chlorid	8.73	29.8	27.25	109	70	130	*
21)	Trichlorotrifluoroethane	8.98	27.8	27.50	101	70	130	*
22)	Carbon Disulfide	8.83	22.7	26.25	86	70	130	*
23)	trans-1,2-Dichloroethene	9.84	28.7	26.25	109	70	130	*
24)	1,1-Dichloroethane	10.10	27.1	26.50	102	70	130	*
25)	Methyl tert-Butyl Ether	10.19	28.3	27.00	105	70	130	*
26)	Vinyl Acetate	10.36	152	129.75	117	70	130	*
27)	2-Butanone (MEK)	10.60	27.9	27.50	101	70	130	*
28)	cis-1,2-Dichloroethene	11.12	29.4	27.25	108	70	130	*
29)	Diisopropyl Ether	11.41	25.0	27.00	93	70	130	*
30)	Ethyl Acetate	11.42	57.9	53.50	108	70	130	*
31)	n-Hexane	11.40	26.3	26.50	99	70	130	*
32)	Chloroform	11.47	28.1	28.00	100	70	130	*
34)	Tetrahydrofuran (THF)	11.86	27.3	27.50	99	70	130	*
35)	Ethyl tert-Butyl Ether	12.01	28.6	26.75	107	70	130	*
36)	1,2-Dichloroethane	12.26	27.1	26.75	101	70	130	*
38)	1,1,1-Trichloroethane	12.54	27.2	26.25	104	70	130	*
39)	Isopropyl Acetate	12.97	61.2	57.25	107	70	130	*
40)	1-Butanol	12.98	65.4	51.25	128	70	130	*
41)	Benzene	13.02	25.6	28.25	91	70	130	*
42)	Carbon Tetrachloride	13.18	28.4	28.75	99	70	130	*
43)	Cyclohexane	13.32	55.4	53.00	105	70	130	*
44)	tert-Amyl Methyl Ether	13.66	28.6	26.75	107	70	130	*
45)	1,2-Dichloropropane	13.88	27.7	27.00	103	70	130	*
46)	Bromodichloromethane	14.07	29.1	27.25	107	70	130	*
47)	Trichloroethene	14.12	26.6	27.00	99	70	130	*
48)	1,4-Dioxane	14.09	30.1	26.25	115	70	130	*
49)	2,2,4-Trimethylpentane (Isooctane)	14.19	27.3	26.75	102	70	130	*

INITIAL CALIBRATION VERIFICATION CHECK SHEET

Data File Name: **06141637.D** Acq. Method File: **TO15.M**
Data File Path: **I:\MS16\DATA\2016_06\14** Sample Name: **25ng TO-15 ICV STD**
Operator: **LH** Misc Info: **S29-06141608/S29-06131601 (**
Date Acquired: **6/15/16** **8:34** Instrument Name: **GCMS-16**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail
50)	**Methyl Methacrylate**	**14.32**	**58.7**	**52.75**	111	**70**	**130**	*
51)	**n-Heptane**	**14.45**	**28.0**	**27.00**	104	**70**	**130**	*
52)	**cis-1,3-Dichloropropene**	**14.98**	**29.6**	**26.00**	114	**70**	**130**	*
53)	**4-Methyl-2-pentanone**	**15.01**	**30.6**	**27.50**	111	**70**	**130**	*
54)	**trans-1,3-Dichloropropene**	**15.50**	**31.1**	**26.25**	118	**70**	**130**	*
55)	**1,1,2-Trichloroethane**	**15.67**	**27.9**	**27.00**	103	**70**	**130**	*
58)	**Toluene**	**15.97**	**25.3**	**27.25**	93	**70**	**130**	*
59)	**2-Hexanone**	**16.21**	**30.2**	**27.50**	110	**70**	**130**	*
60)	**Dibromochloromethane**	**16.38**	**30.4**	**27.50**	111	**70**	**130**	*
61)	**1,2-Dibromoethane**	**16.63**	**29.5**	**27.25**	108	**70**	**130**	*
62)	**n-Butyl Acetate**	**16.84**	**31.2**	**28.25**	110	**70**	**130**	*
63)	**n-Octane**	**16.97**	**27.0**	**26.25**	103	**70**	**130**	*
64)	**Tetrachloroethene**	**17.11**	**25.6**	**25.25**	101	**70**	**130**	*
65)	**Chlorobenzene**	**17.77**	**27.6**	**27.50**	100	**70**	**130**	*
66)	**Ethylbenzene**	**18.12**	**26.2**	**27.25**	96	**70**	**130**	*
67)	**m- & p-Xylenes**	**18.29**	**55.0**	**53.50**	103	**70**	**130**	*
68)	**Bromoform**	**18.35**	**30.7**	**28.50**	108	**70**	**130**	*
69)	**Styrene**	**18.60**	**31.2**	**27.75**	112	**70**	**130**	*
70)	**o-Xylene**	**18.71**	**26.6**	**26.25**	101	**70**	**130**	*
71)	**n-Nonane**	**18.90**	**26.1**	**25.50**	102	**70**	**130**	*
72)	**1,1,2,2-Tetrachloroethane**	**18.69**	**26.8**	**26.25**	102	**70**	**130**	*
74)	**Cumene**	**19.23**	**26.6**	**26.00**	102	**70**	**130**	*
75)	**alpha-Pinene**	**19.58**	**29.4**	**26.50**	111	**70**	**130**	*
76)	**n-Propylbenzene**	**19.68**	**25.3**	**25.50**	99	**70**	**130**	*
77)	3-Ethyltoluene	19.76	27.1	26.75	101	**70**	**130**	*
78)	**4-Ethyltoluene**	**19.80**	**27.7**	**26.75**	**104**	**70**	**130**	*
79)	**1,3,5-Trimethylbenzene**	**19.87**	**26.8**	**26.75**	**100**	**70**	**130**	*
80)	alpha-Methylstyrene	20.01	31.7	26.25	**121**	**70**	**130**	*
81)	2-Ethyltoluene	20.04	26.5	26.75	**99**	**70**	**130**	*
82)	**1,2,4-Trimethylbenzene**	**20.23**	**27.6**	**27.25**	**101**	**70**	**130**	*
83)	n-Decane	20.32	26.8	26.25	**102**	**70**	**130**	*
84)	**Benzyl Chloride**	**20.35**	**32.4**	**27.50**	**118**	**70**	**130**	*
85)	**1,3-Dichlorobenzene**	**20.37**	**29.4**	**28.50**	**103**	**70**	**130**	*
86)	**1,4-Dichlorobenzene**	**20.42**	**27.4**	**26.00**	**105**	**70**	**130**	*
87)	sec-Butylbenzene	20.47	27.3	27.25	**100**	**70**	**130**	*
88)	4-Isopropyltoluene (p-Cymene)	20.61	26.8	26.00	**103**	**70**	**130**	*
89)	1,2,3-Trimethylbenzene	20.61	27.0	26.50	**102**	**70**	**130**	*
90)	**1,2-Dichlorobenzene**	**20.73**	**28.2**	**27.50**	**103**	**70**	**130**	*
91)	**d-Limonene**	**20.73**	**32.1**	**26.25**	**122**	**70**	**130**	*
92)	**1,2-Dibromo-3-Chloropropane**	**21.11**	**27.1**	**27.25**	**99**	**70**	**130**	*
93)	n-Undecane	21.41	26.8	25.25	**106**	**70**	**130**	*
94)	**1,2,4-Trichlorobenzene**	**22.23**	**25.7**	**28.75**	**89**	**70**	**130**	*
95)	**Naphthalene**	**22.34**	**23.7**	**27.25**	**87**	**70**	**130**	*
96)	n-Dodecane	22.33	22.8	27.25	**84**	**70**	**130**	*
97)	**Hexachlorobutadiene**	**22.66**	**24.7**	**28.75**	**86**	**70**	**130**	*
98)	Cyclohexanone	18.41	30.3	27.50	110	**70**	**130**	*
99)	tert-Butylbenzene	20.23	26.5	26.75	99	**70**	**130**	*
100)	n-Butylbenzene	20.97	28.0	28.00	100	**70**	**130**	*

Bold = 75 Compound List
*** = Pass**

Evaluate Continuing Calibration Report

Data File: I:\MS16\DATA\2016 07\20\07201602.D
Acq On : 20 Jul 2016 2:30 Operator: LH
Sample : CCV R16072016 25ng
Misc : S29-07061608/S29-06291602 (7/28)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 20 06:47:17 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:43:00 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 7/20/16

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	101	-0.02
2	T	Propene	1.480	1.156	21.9	80	-0.03
3	T	Dichlorodifluoromethane (CF	2.732	2.311	15.4	85	-0.03
4	T	Chloromethane	2.156	1.541	28.5	69	-0.03
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.454	1.289	11.3	90	-0.03
6	T	Vinyl Chloride	1.892	1.727	8.7	85	-0.03
7	T	1,3-Butadiene	1.000	1.101	-10.1	91	-0.04
8	T	Bromomethane	1.193	1.185	0.7	95	-0.03
9	T	Chloroethane	0.958	0.910	5.0	89	-0.03
10	T	Ethanol	1.028	0.863	16.1	81	-0.09
11	T	Acetonitrile	2.855	2.325	18.6	81	-0.06
12	T	Acrolein	0.763	0.708	7.2	86	-0.04
13	T	Acetone	1.034	0.797	22.9	86	-0.06
14	T	Trichlorofluoromethane	2.256	1.971	12.6	88	-0.02
15	T	2-Propanol (Isopropanol)	3.258	2.956	9.3	82	-0.06
16	T	Acrylonitrile	1.786	1.609	9.9	85	-0.04
17	T	1,1-Dichloroethene	1.154	1.111	3.7	91	-0.03
18	T	2-Methyl-2-Propanol (tert-B	2.947	2.534	14.0	77	-0.05
19	T	Methylene Chloride	1.232	1.128	8.4	90	-0.03
20	T	3-Chloro-1-propene (Allyl C	1.841	1.593	13.5	79	-0.03
21	T	Trichlorotrifluoroethane	1.168	1.039	11.0	89	-0.02
22	T	Carbon Disulfide	5.395	4.621	14.3	89	-0.02
23	T	trans-1,2-Dichloroethene	1.790	1.655	7.5	85	-0.02
24	T	1,1-Dichloroethane	2.356	2.053	12.9	86	-0.02
25	T	Methyl tert-Butyl Ether	3.595	3.162	12.0	85	-0.02
26	T	Vinyl Acetate	0.272	0.271	0.4	87	-0.03
27	T	2-Butanone (MEK)	0.839	0.749	10.7	88	-0.03
28	T	cis-1,2-Dichloroethene	1.703	1.552	8.9	85	-0.02
29	T	Diisopropyl Ether	1.122	0.909	19.0	89	-0.02
30	T	Ethyl Acetate	0.463	0.421	9.1	85	-0.03
31	T	n-Hexane	2.071	1.805	12.8	88	-0.01
32	T	Chloroform	2.115	1.874	11.4	87	-0.02
33	S	1,2-Dichloroethane-d4(SS1)	1.363	1.262	7.4	94	-0.02
34	T	Tetrahydrofuran (THF)	0.858	0.746	13.1	88	-0.02
35	T	Ethyl tert-Butyl Ether	1.403	1.328	5.3	90	-0.01
36	T	1,2-Dichloroethane	1.560	1.329	14.8	84	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	102	0.00
38	T	1,1,1-Trichloroethane	0.398	0.354	11.1	87	-0.01
39	T	Isopropyl Acetate	0.166	0.153	7.8	87	-0.02
40	T	1-Butanol	0.249	0.243	2.4	81	-0.04
41	T	Benzene	1.150	0.900	21.7	90	-0.01
42	T	Carbon Tetrachloride	0.339	0.312	8.0	87	-0.01
43	T	Cyclohexane	0.403	0.366	9.2	89	-0.01
44	T	tert-Amyl Methyl Ether	0.750	0.702	6.4	88	-0.01
45	T	1,2-Dichloropropane	0.289	0.255	11.8	88	-0.01
46	T	Bromodichloromethane	0.358	0.328	8.4	86	-0.01
47	T	Trichloroethene	0.315	0.294	6.7	93	-0.01
48	T	1,4-Dioxane	0.213	0.199	6.6	88	-0.02
49	T	2,2,4-Trimethylpentane (Iso	1.208	1.048	13.2	85	-0.01
50	T	Methyl Methacrylate	0.109	0.108	0.9	91	-0.02
51	T	n-Heptane	0.252	0.234	7.1	91	0.00
52	T	cis-1,3-Dichloropropene	0.409	0.403	1.5	88	0.00
53	T	4-Methyl-2-pentanone	0.249	0.234	6.0	85	-0.01
54	T	trans-1,3-Dichloropropene	0.355	0.362	-2.0	87	-0.01

Evaluate Continuing Calibration Report

Data File: I:\MS16\DATA\2016 07\20\07201602.D
Acq On : 20 Jul 2016 2:30 Operator: LH
Sample : CCV R16072016 25ng
Misc : S29-07061608/S29-06291602 (7/28)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 20 06:47:17 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:43:00 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
55	T	1,1,2-Trichloroethane	0.269	0.247	8.2	90	-0.01
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	103	0.00
57	S	Toluene-d8 (SS2)	2.501	2.509	-0.3	104	0.00
58	T	Toluene	3.081	2.530	17.9	91	-0.01
59	T	2-Hexanone	1.649	1.421	13.8	81	-0.01
60	T	Dibromochloromethane	0.785	0.770	1.9	90	0.00
61	T	1,2-Dibromoethane	0.783	0.746	4.7	90	0.00
62	T	n-Butyl Acetate	1.819	1.611	11.4	81	0.00
63	T	n-Octane	0.633	0.555	12.3	87	0.00
64	T	Tetrachloroethene	0.957	0.878	8.3	93	0.00
65	T	Chlorobenzene	1.948	1.739	10.7	91	0.00
66	T	Ethylbenzene	3.429	2.876	16.1	89	0.00
67	T	m- & p-Xylenes	2.541	2.204	13.3	88	0.00
68	T	Bromoform	0.735	0.783	-6.5	91	0.00
69	T	Styrene	1.834	1.820	0.8	90	0.00
70	T	o-Xylene	2.632	2.311	12.2	88	0.00
71	T	n-Nonane	1.589	1.312	17.4	81	0.00
72	T	1,1,2,2-Tetrachloroethane	1.359	1.220	10.2	87	0.00
73	S	Bromofluorobenzene (SS3)	0.871	0.945	-8.5	112	0.00
74	T	Cumene	3.373	3.049	9.6	89	0.00
75	T	alpha-Pinene	1.598	1.510	5.5	87	0.00
76	T	n-Propylbenzene	4.239	3.682	13.1	88	0.00
77	T	3-Ethyltoluene	3.365	3.082	8.4	90	0.00
78	T	4-Ethyltoluene	3.012	2.701	10.3	88	0.00
79	T	1,3,5-Trimethylbenzene	2.705	2.401	11.2	89	0.00
80	T	alpha-Methylstyrene	1.306	1.362	-4.3	87	0.00
81	T	2-Ethyltoluene	3.203	2.822	11.9	89	0.00
82	T	1,2,4-Trimethylbenzene	2.688	2.412	10.3	88	0.00
83	T	n-Decane	1.531	1.354	11.6	84	0.00
84	T	Benzyl Chloride	2.056	2.100	-2.1	87	0.00
85	T	1,3-Dichlorobenzene	1.593	1.525	4.3	91	0.00
86	T	1,4-Dichlorobenzene	1.677	1.562	6.9	91	0.00
87	T	sec-Butylbenzene	3.549	3.188	10.2	89	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.319	3.062	7.7	88	0.00
89	T	1,2,3-Trimethylbenzene	2.799	2.483	11.3	87	0.00
90	T	1,2-Dichlorobenzene	1.562	1.464	6.3	90	0.00
91	T	d-Limonene	0.957	0.935	2.3	81	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.604	0.601	0.5	90	0.00
93	T	n-Undecane	1.537	1.438	6.4	83	0.00
94	T	1,2,4-Trichlorobenzene	1.222	1.290	-5.6	91	0.00
95	T	Naphthalene	3.640	3.714	-2.0	88	-0.01
96	T	n-Dodecane	1.519	1.393	8.3	81	0.00
97	T	Hexachlorobutadiene	0.836	0.809	3.2	90	0.00
98	T	Cyclohexanone	0.985	0.875	11.2	81	-0.01
99	T	tert-Butylbenzene	2.716	2.370	12.7	88	0.00
100	T	n-Butylbenzene	2.787	2.516	9.7	87	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 07\20\07201602.D
Acq On : 20 Jul 2016 2:30 Operator: LH
Sample : CCV R16072016 25ng
Misc : S29-07061608/S29-06291602 (7/28)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 20 06:47:17 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:43:00 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 7/20/16

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.29	130	262537	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.42	114	1206223	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.72	82	465446	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.14	65	331353	11.576	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.64%				
57) Toluene-d8 (SS2)	15.87	98	1167875	12.539	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%				
73) Bromofluorobenzene (SS3)	19.11	174	439871	13.560	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.48%				
Target Compounds							Qvalue
2) Propene	4.13	42	625087	20.110	ng		100
3) Dichlorodifluoromethan...	4.29	85	1213680	21.155	ng		100
4) Chloromethane	4.58	50	792767	17.506	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.85	135	697057	22.821	ng		100
6) Vinyl Chloride	5.01	62	906980	22.826	ng		100
7) 1,3-Butadiene	5.28	54	612552	29.175	ng		98
8) Bromomethane	5.73	94	622304	24.845	ng		100
9) Chloroethane	6.07	64	482565	23.989	ng		100
10) Ethanol	6.46	45	2292212	106.145	ng		100
11) Acetonitrile	6.72	41	1245232	20.767	ng		100
12) Acrolein	6.90	56	397883	24.825	ng		91
13) Acetone	7.11	58	2246484	103.436	ng		94
14) Trichlorofluoromethane	7.35	101	1024570	21.619	ng		100
15) 2-Propanol (Isopropanol)	7.62	45	3243904	47.410	ng		99
16) Acrylonitrile	7.88	53	870239	23.204	ng		100
17) 1,1-Dichloroethene	8.33	96	624211	25.746	ng		93
18) 2-Methyl-2-Propanol (t...	8.50	59	2780324	44.925	ng		97
19) Methylene Chloride	8.56	84	639785	24.722	ng		91
20) 3-Chloro-1-propene (Al...	8.72	41	903464	23.364	ng		95
21) Trichlorotrifluoroethane	8.98	151	588919	24.014	ng		97
22) Carbon Disulfide	8.82	76	2377803	20.985	ng		100
23) trans-1,2-Dichloroethene	9.84	61	921270	24.501	ng		96
24) 1,1-Dichloroethane	10.09	63	1121020	22.659	ng		100
25) Methyl tert-Butyl Ether	10.18	73	1743473	23.089	ng		99
26) Vinyl Acetate	10.35	86	721023	126.294	ng	#	81
27) 2-Butanone (MEK)	10.59	72	420827	23.890	ng	#	89
28) cis-1,2-Dichloroethene	11.11	61	871999	24.383	ng		95
29) Diisopropyl Ether	11.41	87	515395	21.870	ng	#	84
30) Ethyl Acetate	11.41	61	469182	48.222	ng		98
31) n-Hexane	11.40	57	985909	22.666	ng		99
32) Chloroform	11.46	83	1052690	23.695	ng		100
34) Tetrahydrofuran (THF)	11.86	72	399372	22.150	ng		93
35) Ethyl tert-Butyl Ether	12.00	87	732152	24.851	ng		94
36) 1,2-Dichloroethane	12.26	62	732569	22.353	ng		100
38) 1,1,1-Trichloroethane	12.54	97	880296	22.949	ng		99
39) Isopropyl Acetate	12.97	61	816992	51.010	ng	#	89
40) 1-Butanol	12.98	56	1326874	55.291	ng		98
41) Benzene	13.02	78	2410982	21.735	ng		100
42) Carbon Tetrachloride	13.18	117	812987	24.838	ng		100
43) Cyclohexane	13.31	84	1846506	47.424	ng		96
44) tert-Amyl Methyl Ether	13.66	73	1760513	24.326	ng		98
45) 1,2-Dichloropropane	13.88	63	645254	23.154	ng		100
46) Bromodichloromethane	14.06	83	847839	24.515	ng		100
47) Trichloroethene	14.12	130	731526	24.031	ng		100
48) 1,4-Dioxane	14.08	88	519538	25.303	ng		96
49) 2,2,4-Trimethylpentane...	14.19	57	2603849	22.333	ng		98

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 07\20\07201602.D
Acq On : 20 Jul 2016 2:30 Operator: LH
Sample : CCV R16072016 25ng
Misc : S29-07061608/S29-06291602 (7/28)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 20 06:47:17 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:43:00 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

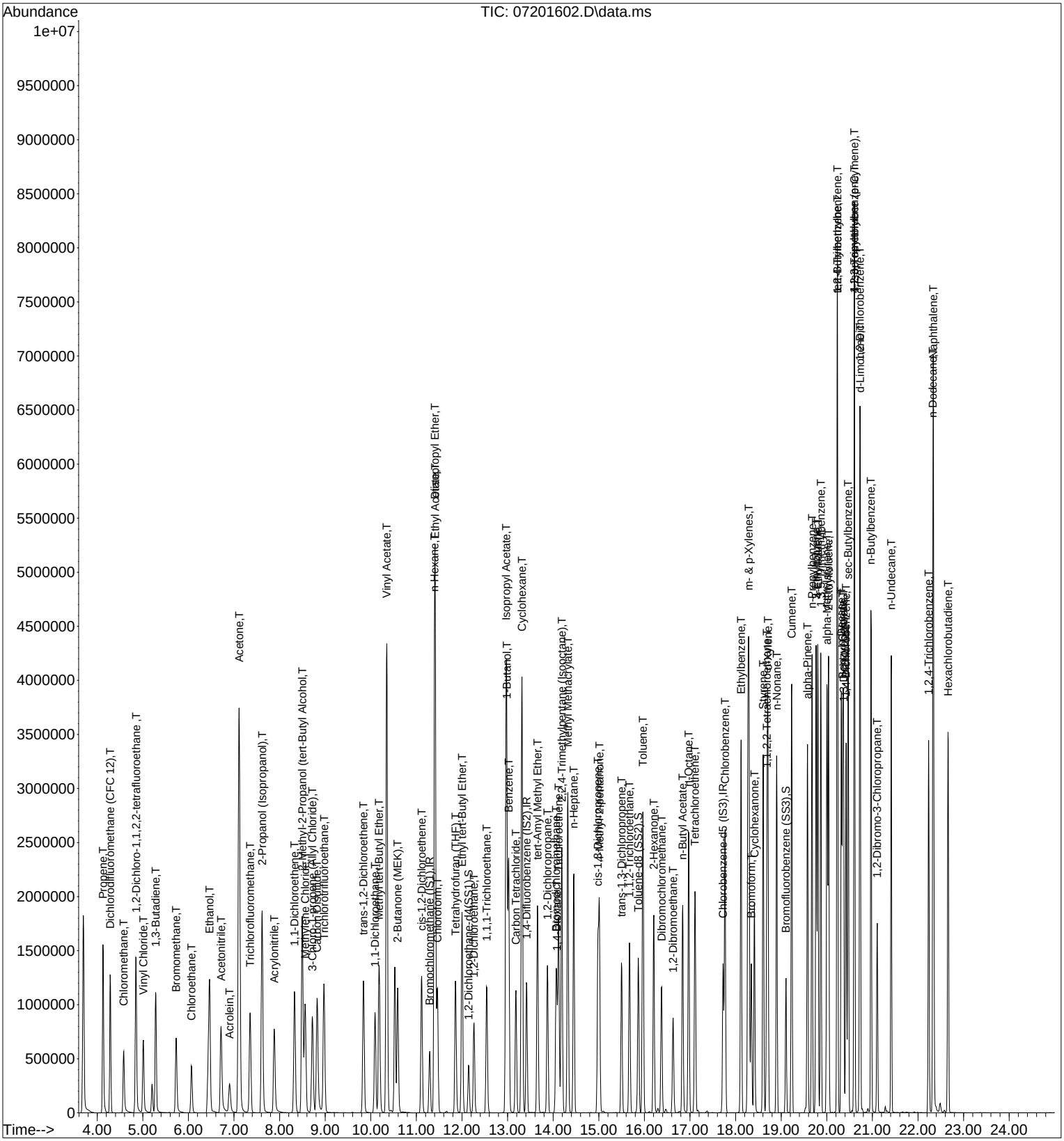
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	14.32	100	540924	51.500 ng	94
51) n-Heptane	14.45	71	603302	24.798 ng	98
52) cis-1,3-Dichloropropene	14.98	75	1089154	27.621 ng	100
53) 4-Methyl-2-pentanone	15.01	58	609338	25.369 ng	94
54) trans-1,3-Dichloropropene	15.50	75	934173	27.299 ng	99
55) 1,1,2-Trichloroethane	15.67	97	624734	24.097 ng	98
58) Toluene	15.97	91	2473123	21.555 ng	100
59) 2-Hexanone	16.21	43	1468307	23.920 ng	96
60) Dibromochloromethane	16.38	129	788869	27.002 ng	100
61) 1,2-Dibromoethane	16.63	107	743309	25.479 ng	100
62) n-Butyl Acetate	16.84	43	1664155	24.575 ng	98
63) n-Octane	16.97	57	532028	22.586 ng	96
64) Tetrachloroethene	17.11	166	808964	22.701 ng	100
65) Chlorobenzene	17.77	112	1732232	23.881 ng	100
66) Ethylbenzene	18.12	91	2810949	22.014 ng	99
67) m- & p-Xylenes	18.29	91	4267461	45.107 ng	99
68) Bromoform	18.35	173	780296	28.506 ng	100
69) Styrene	18.60	104	1829416	26.787 ng	99
70) o-Xylene	18.71	91	2194019	22.387 ng	99
71) n-Nonane	18.90	43	1233261	20.843 ng	96
72) 1,1,2,2-Tetrachloroethane	18.69	83	1136080	22.455 ng	100
74) Cumene	19.23	105	2866802	22.829 ng	99
75) alpha-Pinene	19.58	93	1447596	24.334 ng	99
76) n-Propylbenzene	19.68	91	3427265	21.713 ng	99
77) 3-Ethyltoluene	19.76	105	2984061	23.816 ng	100
78) 4-Ethyltoluene	19.80	105	2639853	23.541 ng	100
79) 1,3,5-Trimethylbenzene	19.87	105	2324470	23.081 ng	100
80) alpha-Methylstyrene	20.01	118	1305724	26.857 ng	99
81) 2-Ethyltoluene	20.04	105	2731998	22.906 ng	100
82) 1,2,4-Trimethylbenzene	20.23	105	2335217	23.328 ng	99
83) n-Decane	20.32	57	1272938	22.324 ng	99
84) Benzyl Chloride	20.35	91	2110915	27.573 ng	99
85) 1,3-Dichlorobenzene	20.37	146	1533323	25.848 ng	100
86) 1,4-Dichlorobenzene	20.42	146	1526708	24.449 ng	100
87) sec-Butylbenzene	20.47	105	3145525	23.805 ng	99
88) 4-Isopropyltoluene (p-...	20.61	119	2850672	23.068 ng	99
89) 1,2,3-Trimethylbenzene	20.61	105	2403449	23.058 ng	99
90) 1,2-Dichlorobenzene	20.73	146	1457808	25.070 ng	100
91) d-Limonene	20.73	68	904868	25.405 ng	98
92) 1,2-Dibromo-3-Chloropr...	21.11	157	581532	25.846 ng	94
93) n-Undecane	21.41	57	1351722	23.619 ng	98
94) 1,2,4-Trichlorobenzene	22.23	180	1248875	27.438 ng	100
95) Naphthalene	22.34	128	3457383	25.507 ng	100
96) n-Dodecane	22.33	57	1348927	23.855 ng	98
97) Hexachlorobutadiene	22.66	225	805944	25.876 ng	100
98) Cyclohexanone	18.41	55	912518	24.889 ng	97
99) tert-Butylbenzene	20.23	119	2316485	22.905 ng	100
100) n-Butylbenzene	20.97	91	2529769	24.381 ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2016 07\20\07201602.D
Acq On : 20 Jul 2016 2:30 Operator: LH
Sample : CCV R16072016 25ng
Misc : S29-07061608/S29-06291602 (7/28)
ALS Vial : 2 Sample Multiplier: 1

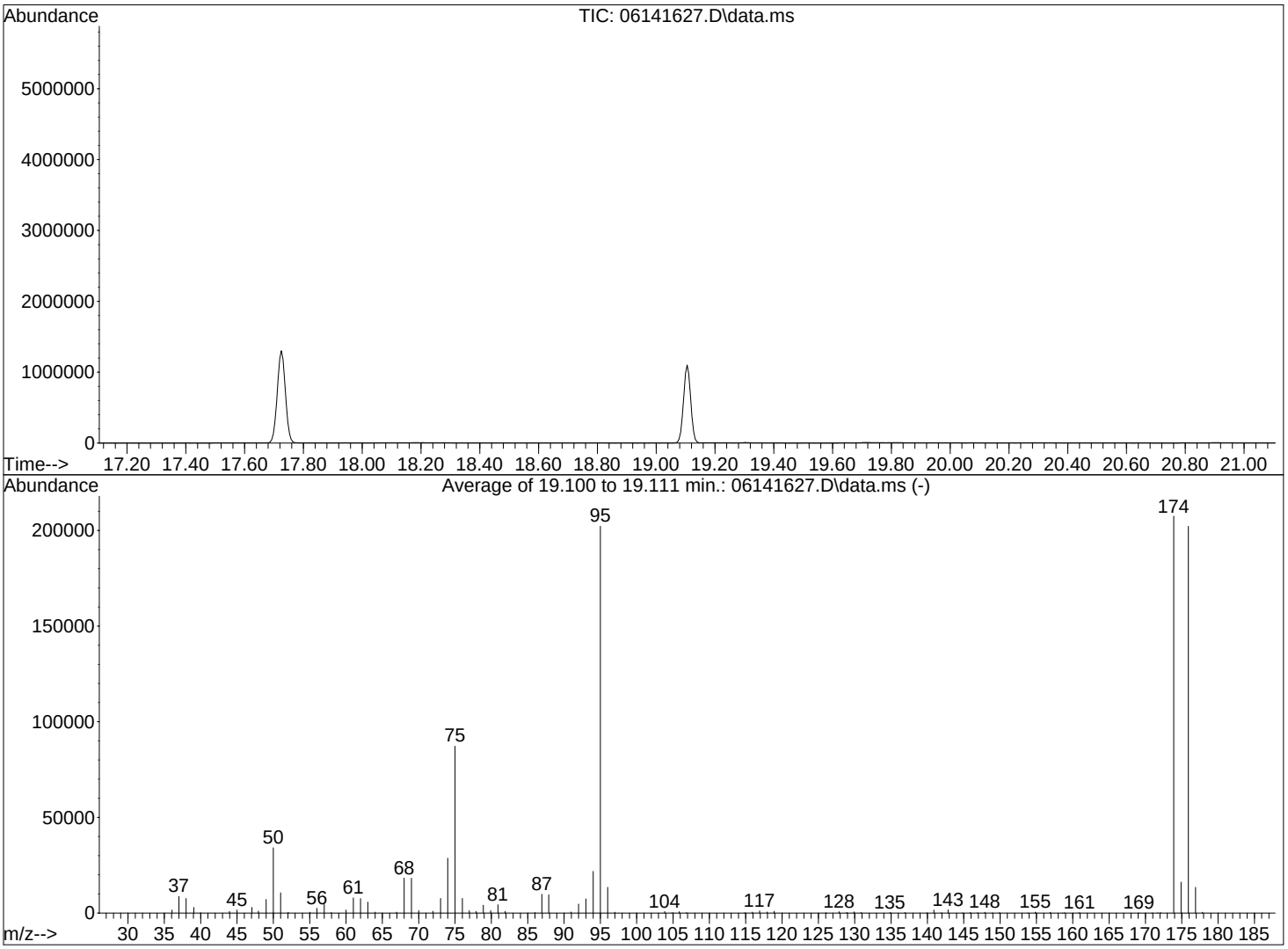
Quant Time: Jul 20 06:47:17 2016
Quant Method : I:\MS16\METHODS\R16061416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jun 15 09:43:00 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M



Data Path : I:\MS16\DATA\2016 06\14\
Data File : 06141627.D
Acq On : 15 Jun 2016 3:00
Operator : LH
Sample : 12.5ng TO-15 BFB
Misc : S29-06141608
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16061416.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Apr 05 08:08:42 2016



AutoFind: Scans 2821, 2822, 2823; Background Corrected with Scan 2813

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	16.9	34104	PASS
75	95	30	66	43.1	87240	PASS
95	95	100	100	100.0	202197	PASS
96	95	5	9	6.6	13436	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	102.6	207488	PASS
175	174	4	9	7.8	16204	PASS
176	174	93	101	97.4	202091	PASS
177	176	5	9	6.6	13437	PASS

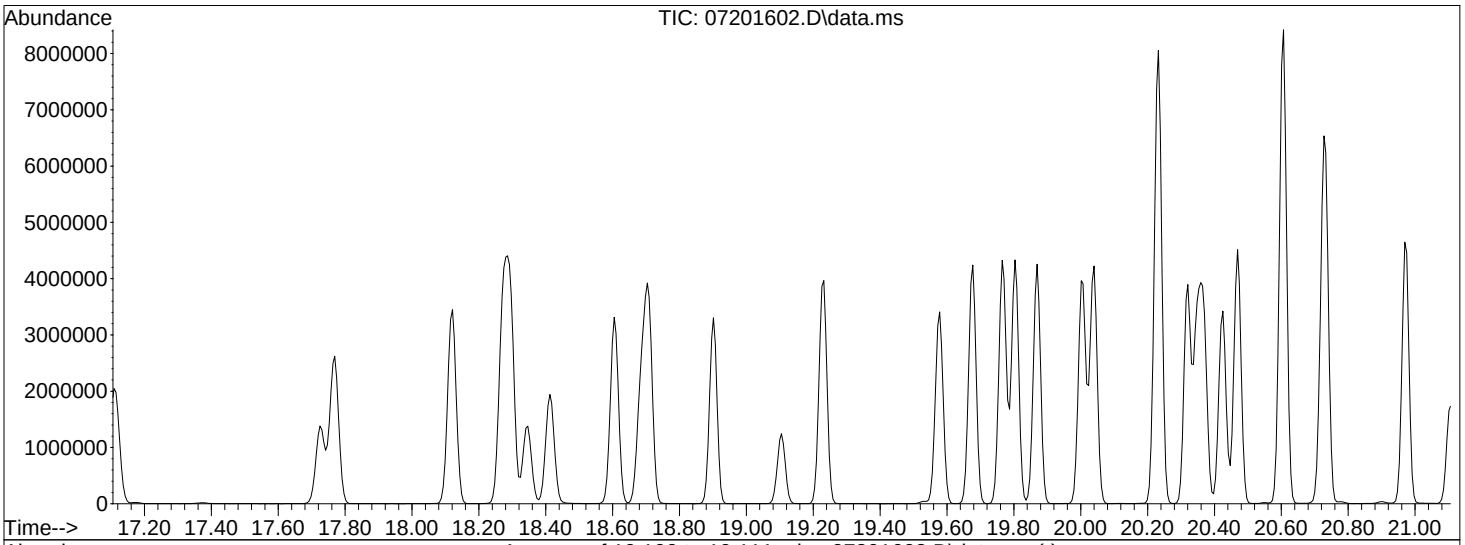
LH 6/15/16

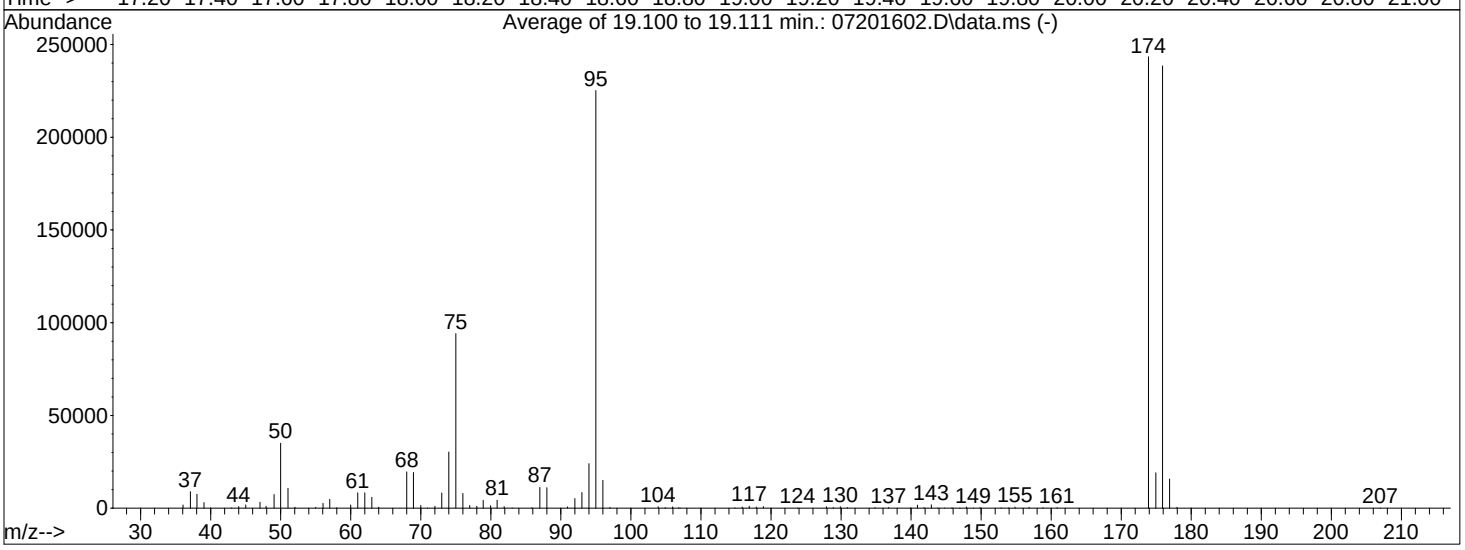
BFB

Data Path : I:\MS16\DATA\2016 07\20\
Data File : 07201602.D
Acq On : 20 Jul 2016 2:30
Operator : LH
Sample : CCV R16072016 25ng
Misc : S29-07061608/S29-06291602 (7/28)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16061416.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Jun 15 09:43:00 2016





AutoFind: Scans 2821, 2822, 2823; Background Corrected with Scan 2813

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	15.5	34997	PASS
75	95	30	66	41.8	94168	PASS
95	95	100	100	100.0	225195	PASS
96	95	5	9	6.7	15015	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	108.1	243392	PASS
175	174	4	9	7.8	19104	PASS
176	174	93	101	98.0	238443	PASS
177	176	5	9	6.6	15714	PASS

LH 7/20/16

LH 6/15/16

Injection Log

Directory: J:\MS16\DATA\2016_06\14\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	6/14/16 8:19	06141601.D	CCV M16061416_25ng	S29-05311605/S29-04281607 (6/25)	LH	3	
2	6/14/16 8:52	06141602.D	CCV R16061416_25ng	S29-05311605/S29-06081602 (7/7)	LH	2	
3	6/14/16 10:36	06141603.D	MB R16061416_1000mL	S29-05311605 AC00442	LH	2	
4	6/14/16 11:09	06141604.D	LCS R16061416_25ng	S29-05311605/S29-05251601 (6/23)	LH	2	
5	6/14/16 11:42	06141605.D	LCSD R16061416_25ng	S29-05311605/S29-05251601 (6/23)	LH	2	
6	6/14/16 15:02	06141606.D	Blank (100mL)	S29-06141608 New IS and new trap	LH	2	
7	6/14/16 15:34	06141607.D	0.1ng std check	S29-06141608/S29-05241612 (6/22)	LH	4	
8	6/14/16 16:26	06141608.D	5.0ng std check	S29-06141608/S29-06081607 (7/7)	LH	5	
9	6/14/16 17:00	06141609.D	25ng std check	S29-06141608/S29-06131601 (7/12)	LH	2	
10	6/14/16 17:33	06141610.D	12.5ng TO-15 BFB	S29-06141608	LH	2	passed
11	6/14/16 18:06	06141611.D	0.5ng MAPH ICALSTD	S29-06141608/S29-06141606 (8/11)	LH	6	
12	6/14/16 18:39	06141612.D	1.0ng MAPH ICAL STD	S29-06141608/S29-06141606 (8/11)	LH	6	
13	6/14/16 19:13	06141613.D	5.0ng MAPH ICAL STD	S29-06141608/S29-06141606 (8/11)	LH	6	
14	6/14/16 19:46	06141614.D	25ng MAPH ICAL STD	S29-06141608/S29-06141605 (8/11)	LH	3	M16061416.M
15	6/14/16 20:19	06141615.D	50ng MAPH ICAL STD	S29-06141608/S29-06141605 (8/11)	LH	4	
16	6/14/16 20:52	06141616.D	100ng MAPH ICAL STD	S29-06141608/S29-06141605 (8/11)	LH	5	
17	6/14/16 21:25	06141617.D	25ng MAPH ICV STD	S29-06141608/S29-06131601 (7/12)	LH	2	passed
18	6/14/16 21:59	06141618.D	12.5ng TO-15 BFB	S29-06141608	LH	2	passed
19	6/14/16 22:33	06141619.D	0.4ng TO-15 Custom ICAL STD	S29-06141608/S29-06071606 (7/6)	LH	7	
20	6/14/16 23:06	06141620.D	1.0ng TO-15 Custom ICAL STD	S29-06141608/S29-06071606 (7/6)	LH	7	
21	6/14/16 23:40	06141621.D	2.5ng TO-15 Custom ICAL STD	S29-06141608/S29-06071606 (7/6)	LH	7	
22	6/15/16 0:14	06141622.D	5.0ng TO-15 Custom ICAL STD	S29-06141608/S29-06071606 (7/6)	LH	7	
23	6/15/16 0:47	06141623.D	25ng TO-15 Custom ICAL STD	S29-06141608/S29-06071601 (7/6)	LH	8	C16061416.M
24	6/15/16 1:20	06141624.D	50ng TO-15 Custom ICAL STD	S29-06141608/S29-06071601 (7/6)	LH	8	
25	6/15/16 1:54	06141625.D	100ng TO-15 Custom ICAL STD	S29-06141608/S29-06071601 (7/6)	LH	8	
26	6/15/16 2:27	06141626.D	25ng TO-15 Custom ICV STD	S29-06141608/S29-06071614 (7/6)	LH	9	passed
27	6/15/16 3:00	06141627.D	12.5ng TO-15 BFB	S29-06141608	LH	2	passed
28	6/15/16 3:34	06141628.D	0.08ng TO-15 ICAL STD	S29-06141608/S29-05241612 (6/22)	LH	4	
29	6/15/16 4:07	06141629.D	0.1ng TO-15 ICAL STD	S29-06141608/S29-05241612 (6/22)	LH	4	
30	6/15/16 4:40	06141630.D	0.2ng TO-15 ICAL STD	S29-06141608/S29-05241612 (6/22)	LH	4	
31	6/15/16 5:13	06141631.D	0.4ng TO-15 ICAL STD	S29-06141608/S29-05241612 (6/22)	LH	4	
32	6/15/16 5:47	06141632.D	1.0ng TO-15 ICAL STD	S29-06141608/S29-06081607 (7/7)	LH	5	
33	6/15/16 6:20	06141633.D	5.0ng TO-15 ICAL STD	S29-06141608/S29-06081607 (7/7)	LH	5	
34	6/15/16 6:53	06141634.D	25ng TO-15 ICAL STD	S29-06141608/S29-06081602 (7/7)	LH	2	R16061416.M
35	6/15/16 7:27	06141635.D	50ng TO-15 ICAL STD	S29-06141608/S29-06081602 (7/7)	LH	2	
36	6/15/16 8:01	06141636.D	100ng TO-15 ICAL STD	S29-06141608/S29-06081602 (7/7)	LH	2	
37	6/15/16 8:34	06141637.D	25ng TO-15 ICV STD	S29-06141608/S29-06131601 (7/12)	LH	2	passed
38	6/15/16 9:07	06141638.D	Blank (100mL)	S29-06141608	LH	2	

ICAL R16061416.M passed for all componds 0.08ng -100ng, except: 1,3-butadiene, benzene 0.1ng-100ng, acetone 0.5ng-500ng, benzyl chloride, 1,2-dibromo-3-chloropropane, naphthalene, dodecane 0.4ng-100ng, tert-butylbenzene 0.2ng-100ng

Injection Log

Directory: I:\MS16\DATA\2016_07\20\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	7/20/16 1:56	07201601.D	CCV A16072016_25ng	S29-07061608/S29-07111601 (9/7)	LH	4	passed
2	7/20/16 2:30	07201602.D	CCV R16072016_25ng	S29-07061608/S29-06291602 (7/28)	LH	2	passed
3	7/20/16 7:17	07201603.D	MB R16071916_1000mL	S29-07061608 AC00442	LH	2	passed
4	7/20/16 7:50	07201604.D	P1603571-004 (1.2mL)	S29-07061608 AC00442	LH	1	
5	7/20/16 8:24	07201605.D	P1603571-006 (2.0mL)	S29-07061608	LH	1	
6	7/20/16 8:57	07201606.D	P1603571-012 (1.0mL)	S29-07061608	LH	1	
7	7/20/16 9:31	07201607.D	P1603571-001 (20mL)	S29-07061608	LH	5	over diluted
8	7/20/16 10:05	07201608.D	P1603571-001 (50mL)	S29-07061608	LH	5	
9	7/20/16 10:44	07201609.D	P1603571-009 (45mL)	S29-07061608	LH	6	
10	7/20/16 11:17	07201610.D	P1603571-010 (45mL)	S29-07061608	LH	7	
11	7/20/16 11:51	07201611.D	P1603589-001 (25mL)	S29-07061608	LH	8	
12	7/20/16 12:24	07201612.D	P1603589-001dup (25mL)	S29-07061608	LH	8	passed
13	7/20/16 12:57	07201613.D	P1603542-007 (300mL)	S29-07061608 pf2	LH	9	
14	7/20/16 13:31	07201614.D	P1603576-001 (400mL)	S29-07061608	LH	10	
15	7/20/16 14:04	07201615.D	P1603577-001 (400mL)	S29-07061608	LH	11	
16	7/20/16 14:38	07201616.D	P1603578-001 (400mL)	S29-07061608	LH	12	
17	7/20/16 15:12	07201617.D	P1603579-001 (400mL)	S29-07061608	LH	13	
18	7/20/16 15:45	07201618.D	LCS R16072016_25ng	S29-07061608/S29-06301602 (7/29)	LH	2	passed
19	7/20/16 16:19	07201619.D	LCSD R16072016_25ng	S29-07061608/S29-06301602 (7/29)	LH	2	passed
20	7/20/16 16:52	07201620.D	P1603436-001 0.4ng LOD	S29-07061608/S29-07081606 (8/6)	LH	4	
21	7/20/16 17:26	07201621.D	P1603436-002 0.5ng LOQ	S29-07061608/S29-07081606 (8/6)	LH	4	
22	7/20/16 17:59	07201622.D	P1603436-003 1.0ng LOQ	S29-07061608/S29-07081606 (8/6)	LH	4	
23	7/20/16 18:33	07201623.D	P1603436-004 2.5ng LOQ	S29-07061608/S29-07081606 (8/6)	LH	4	
24	7/20/16 19:06	07201624.D	P1603436-005 5.0ng LOQ	S29-07061608/S29-07081606 (8/6)	LH	4	
				LH 7/21/16			

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\20\07201620.D Vial: 9
Acq On : 20 Jul 2016 20:48 Operator: CL
Sample : P1603571-002 (1000mL) Inst : MS19
Misc : S29-06141602

Quant Time: Jul 22 13:01:43 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 7/22/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.76	130	18808	1000.000 pg	-0.02
25) 1,4-Difluorobenzene (IS2)	11.71	114	90437	1000.000 pg	-0.01
38) Chlorobenzene-d5 (IS3)	16.05	54	13316	1000.000 pg	0.00

System Monitoring Compounds

20) 1,2-Dichloroethane-d4 ...	10.53	65	25052	856.720 pg	-0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 85.67%		
33) Toluene-d8 (SS2)	14.14	98	95004	1002.181 pg	-0.01
Spiked Amount 1000.000	Range 70 - 130		Recovery = 100.22%		
45) Bromofluorobenzene (SS3)	17.55	174	41583	1285.445 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 128.54%		

Target Compounds

					Qvalue
2) Dichlorodifluoromethan...	4.39	85	76179	1661.345 pg	100
3) Chloromethane	4.61	52	3405	289.681 pg	96
4) 1,2-Dichloro,1,1,2,2-t...	4.79	85	2081	62.312 pg	99
5) Vinyl Chloride	4.93	62	88	N.D.	
6) 1,3-Butadiene	5.12	54	1953	87.131 pg	87
7) Bromomethane	5.44	94	416	23.514 pg	94
8) Chloroethane	5.66	64	557	35.098 pg	99
9) Acrolein	6.25	56	21200	1929.134 pg	87
10) Acetone	6.39	58	2772161	192914.821 pg #	77
11) Trichlorofluoromethane	6.59	101	30270	964.027 pg	100
12) 1,1-Dichloroethene	7.33	96	149	N.D.	
13) Methylene Chloride	7.48	84	14211	673.486 pg	91
14) Trichlorotrifluoroethane	7.79	151	6542	359.506 pg	100
15) trans-1,2-Dichloroethene	8.51	96	204	N.D.	
16) 1,1-Dichloroethane	8.72	63	293	N.D.	
17) Methyl tert-Butyl Ether	8.79	73	233	N.D.	
18) cis-1,2-Dichloroethene	9.60	96	265	N.D.	
19) Chloroform	9.89	83	8900	248.764 pg	99
21) 1,2-Dichloroethane	10.64	62	364774	13649.111 pg	99
22) 1,1,1-Trichloroethane	10.91	97	348	N.D.	
23) Benzene	11.37	78	45907	549.125 pg	100
24) Carbon Tetrachloride	11.53	117	9821	378.581 pg	99
26) 1,2-Dichloropropane	12.18	63	282	N.D.	
27) Bromodichloromethane	12.36	83	1276m	48.250 pg	
28) Trichloroethene	12.41	130	1331	59.746 pg	99
29) 1,4-Dioxane	0.00	88	0	N.D. d	
30) cis-1,3-Dichloropropene	13.24	75	113	N.D.	
31) trans-1,3-Dichloropropene	13.73	75	180	N.D.	
32) 1,1,2-Trichloroethane	0.00	83	0	N.D. d	
34) Toluene	14.25	91	244102	2894.416 pg	100
35) Dibromochloromethane	14.66	129	275	N.D.	
36) 1,2-Dibromoethane	0.00	107	0	N.D.	
37) Tetrachloroethene	15.40	166	17700	728.810 pg	99
39) Chlorobenzene	0.00	112	0	N.D. d	
40) Ethylbenzene	16.48	91	60126	763.292 pg	98
41) m,p-Xylene	16.64	91	134545	2235.487 pg	98
42) Styrene	17.01	104	79134	1793.803 pg	100
43) o-Xylene	17.12	106	34289	1120.795 pg	89
44) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
46) 1,3,5-Trimethylbenzene	18.38	105	117603	1895.815 pg	98
47) 1,2,4-Trimethylbenzene	18.77	105	324144	5232.550 pg	90
48) 1,3-Dichlorobenzene	18.92	146	117	N.D.	
49) 1,4-Dichlorobenzene	18.98	146	2686	72.781 pg	100
50) 1,2-Dichlorobenzene	19.31	146	224	N.D.	
51) 1,2-Dibromo-3-chloropr...	0.00	157	0	N.D.	
52) 1,2,4-Trichlorobenzene	20.94	182	118	N.D.	
53) Naphthalene	21.06	128	38890	504.392 pg	99

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\20\07201620.D Vial: 9
Acq On : 20 Jul 2016 20:48 Operator: CL
Sample : P1603571-002 (1000mL) Inst : MS19
Misc : S29-06141602

Quant Time: Jul 22 13:01:43 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

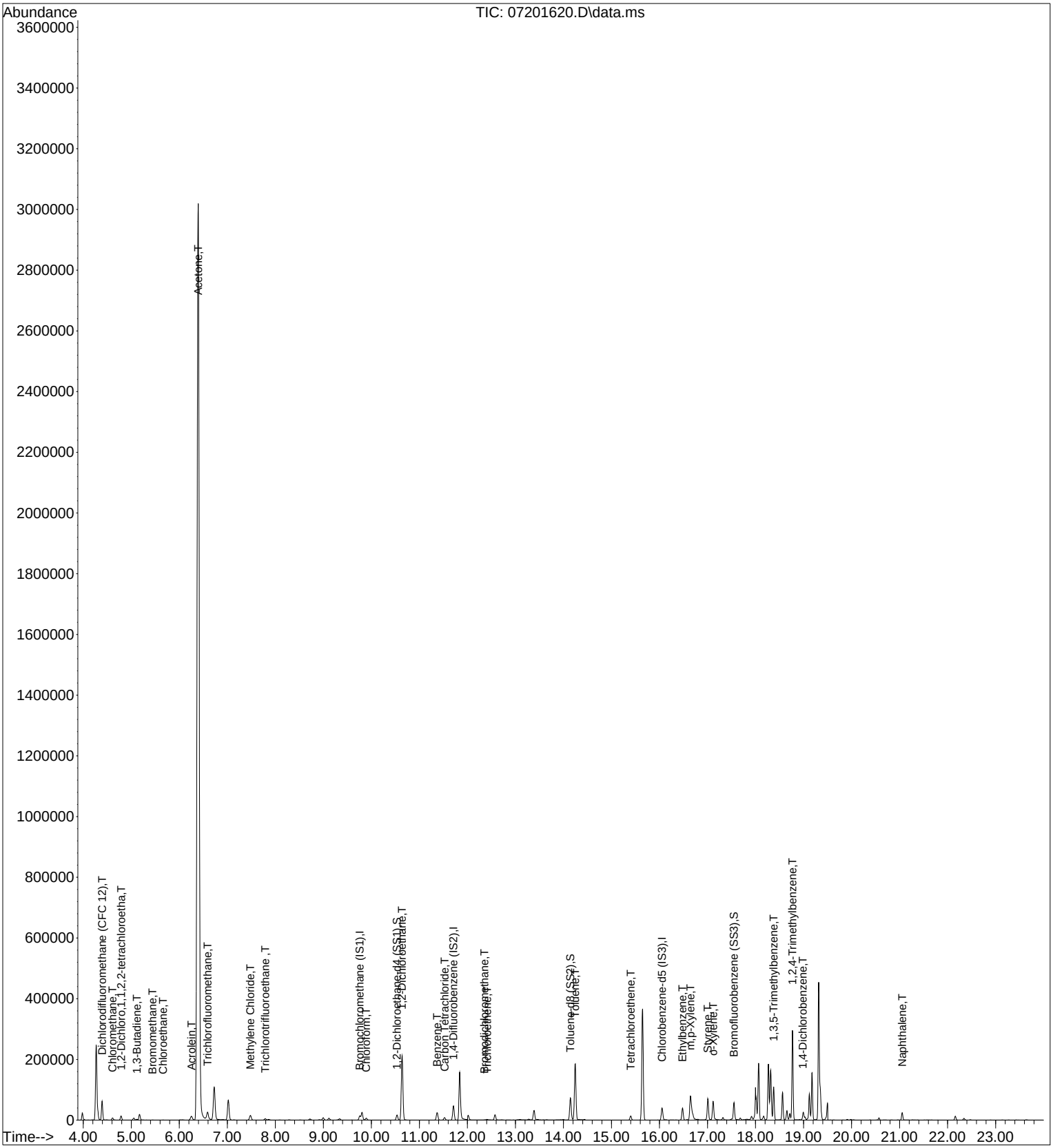
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
54) Hexachlorobutadiene	0.00	225	0	N.D.	

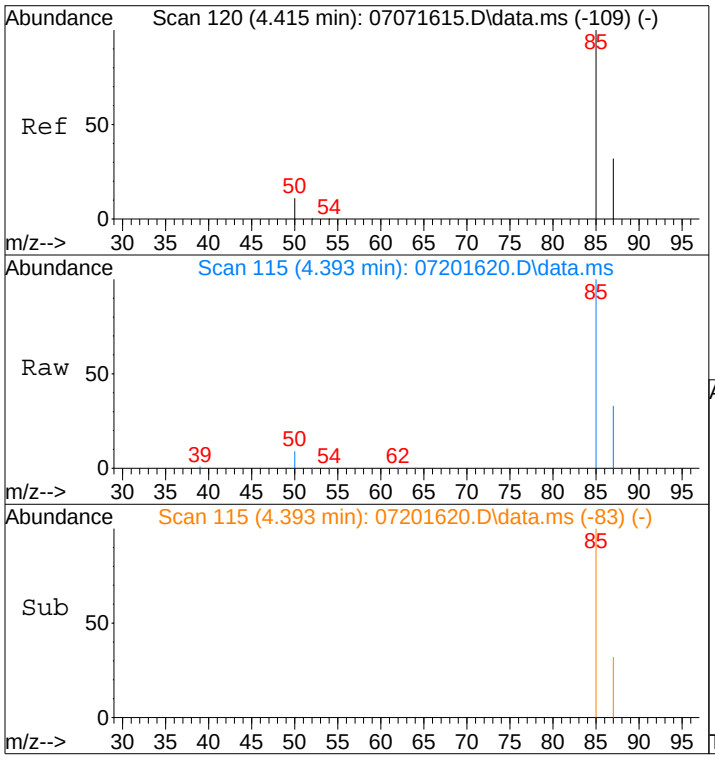
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\20\07201620.D Vial: 9
Acq On : 20 Jul 2016 20:48 Operator: CL
Sample : P1603571-002 (1000mL) Inst : MS19
Misc : S29-06141602

Quant Time: Jul 22 13:01:43 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

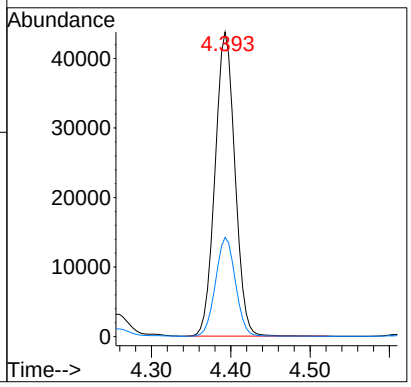


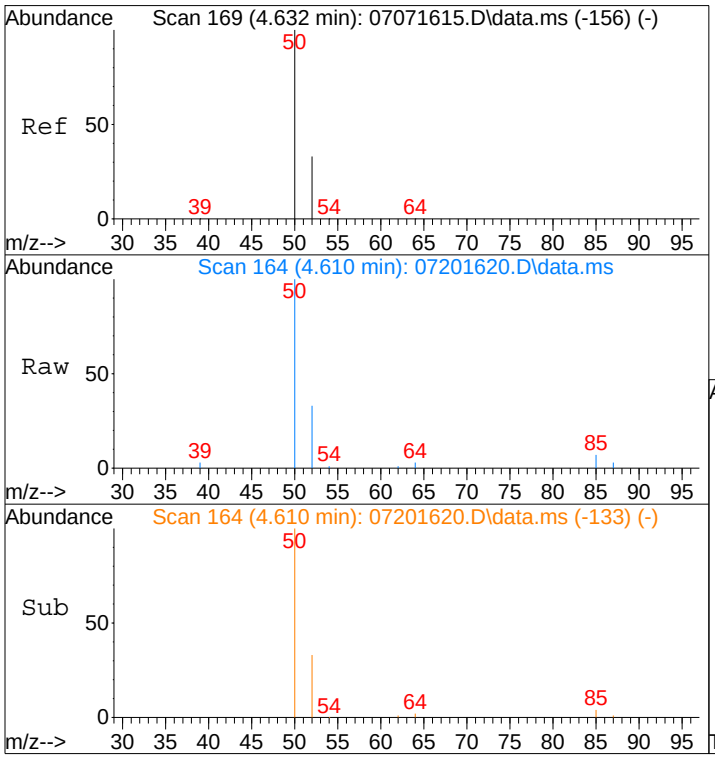


#2
Dichlorodifluoromethane (CFC 12)
Concen: 1661.35 pg
RT: 4.39 min Scan# 115
Delta R.T. -0.009 min
Lab File: 07201620.D
Acq: 20 Jul 2016 20:48

Tgt Ion: 85 Resp: 76179

Ion	Ratio	Lower	Upper
85	100		
87	32.5	12.5	52.5

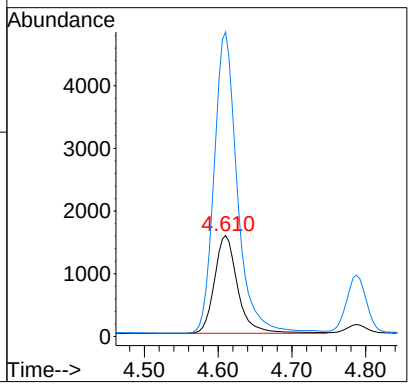


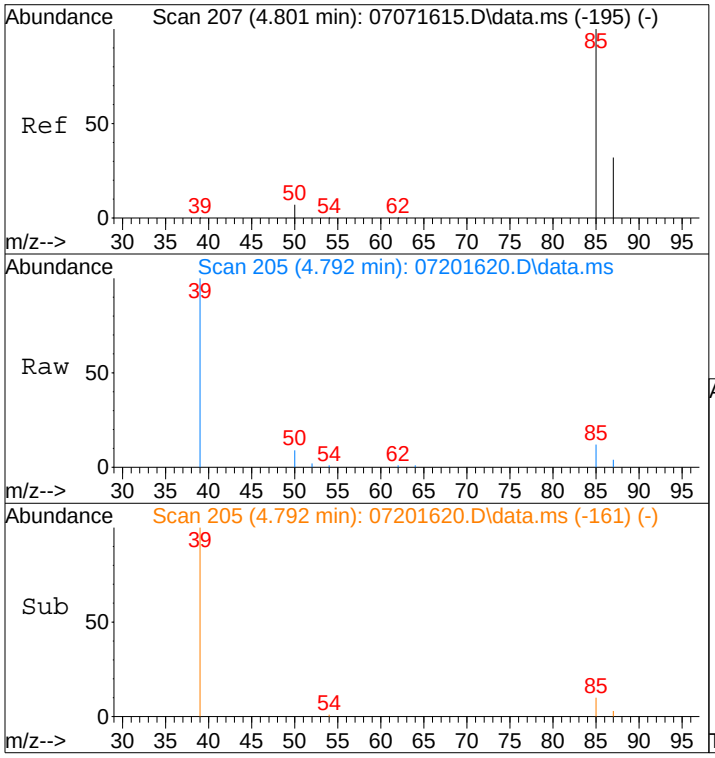


#3
Chloromethane
Concen: 289.68 pg
RT: 4.61 min Scan# 164
Delta R.T. -0.013 min
Lab File: 07201620.D
Acq: 20 Jul 2016 20:48

Tgt Ion: 52 Resp: 3405

Ion	Ratio	Lower	Upper
52	100		
50	309.3	280.8	320.8

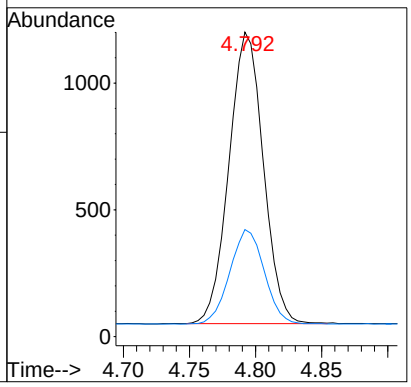


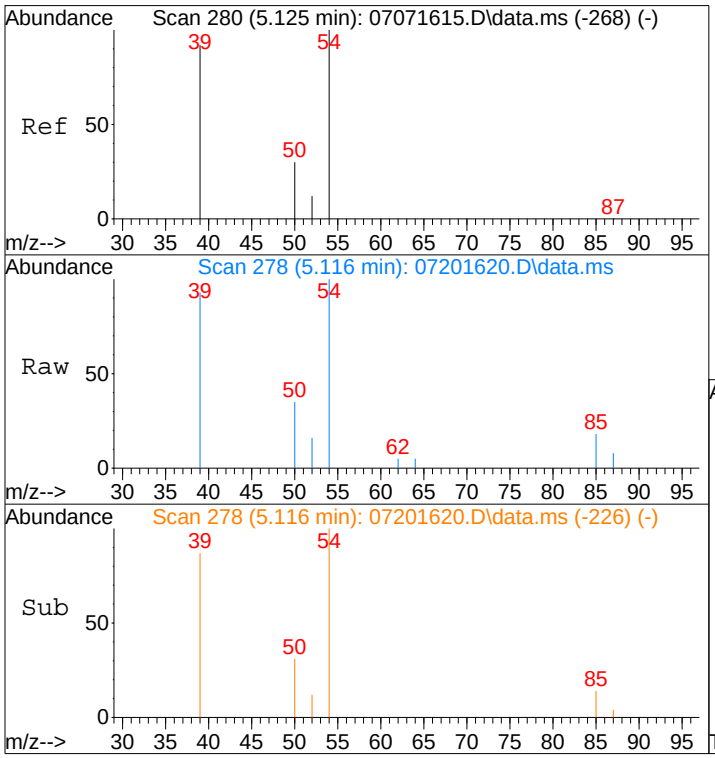


#4
1,2-Dichloro,1,1,2,2-tetrachloroetha
Concen: 62.31 pg
RT: 4.79 min Scan# 205
Delta R.T. -0.004 min
Lab File: 07201620.D
Acq: 20 Jul 2016 20:48

Tgt Ion: 85 Resp: 2081

Ion	Ratio	Lower	Upper
85	100		
87	32.5	25.7	38.5

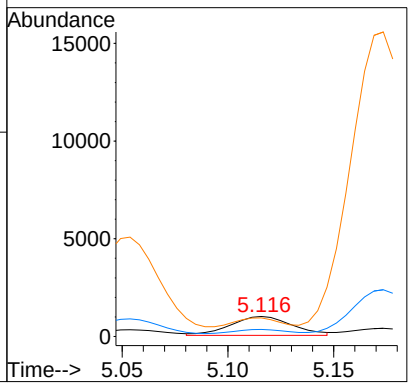


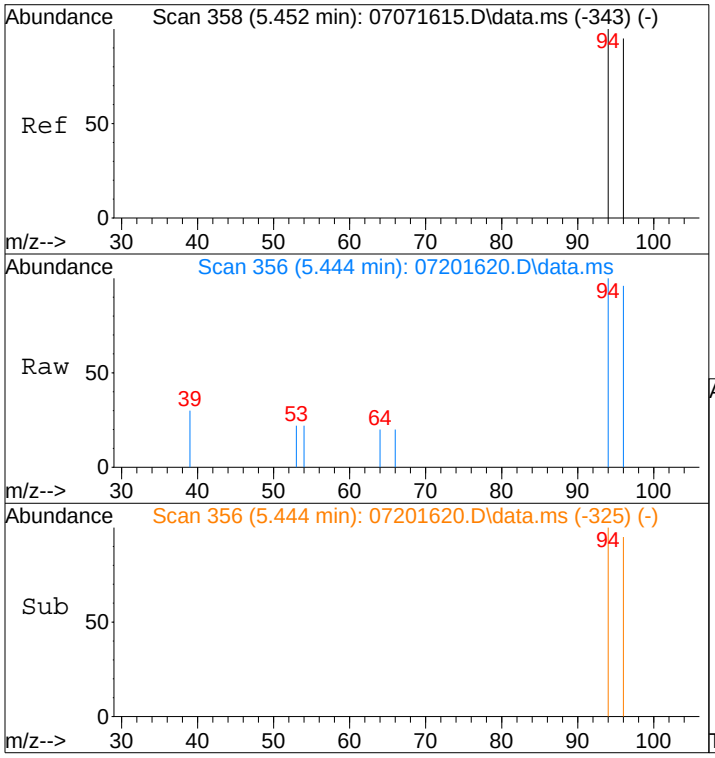


#6
1,3-Butadiene
Concen: 87.13 pg
RT: 5.12 min Scan# 278
Delta R.T. -0.000 min
Lab File: 07201620.D
Acq: 20 Jul 2016 20:48

Tgt Ion: 54 Resp: 1953

Ion	Ratio	Lower	Upper
54	100		
50	25.2	23.6	35.4
39	79.5	74.9	112.3

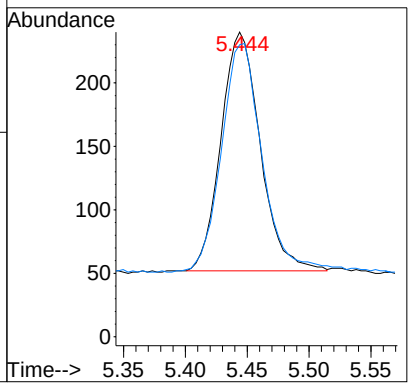


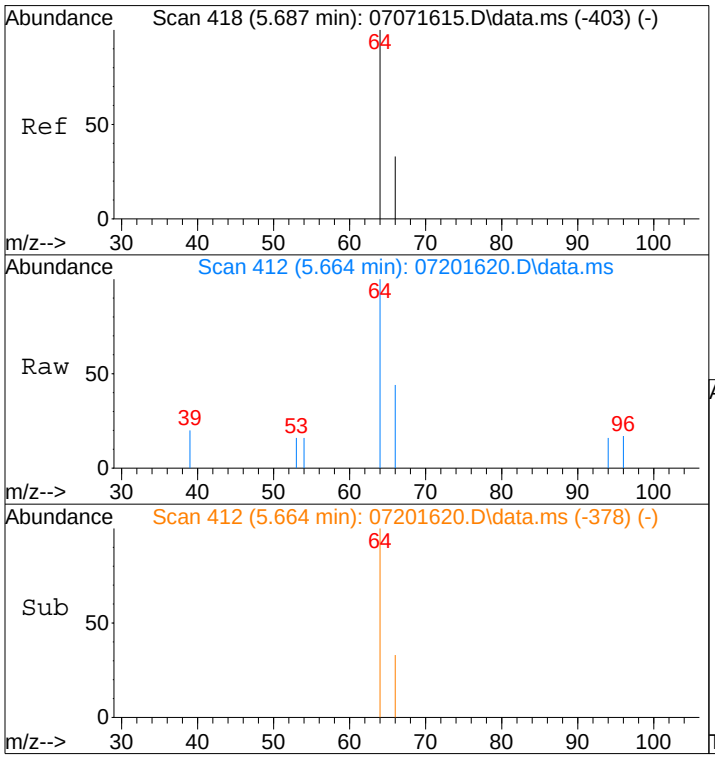


#7
Bromomethane
Concen: 23.51 pg
RT: 5.44 min Scan# 356
Delta R.T. -0.008 min
Lab File: 07201620.D
Acq: 20 Jul 2016 20:48

Tgt Ion: 94 Resp: 416

Ion	Ratio	Lower	Upper
94	100		
96	99.8	75.3	112.9

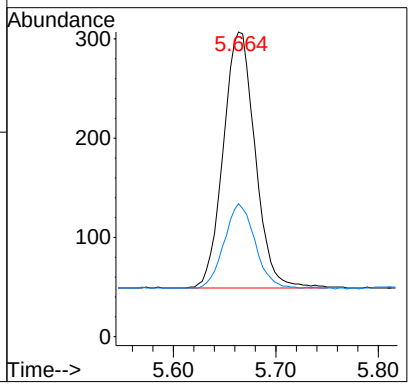


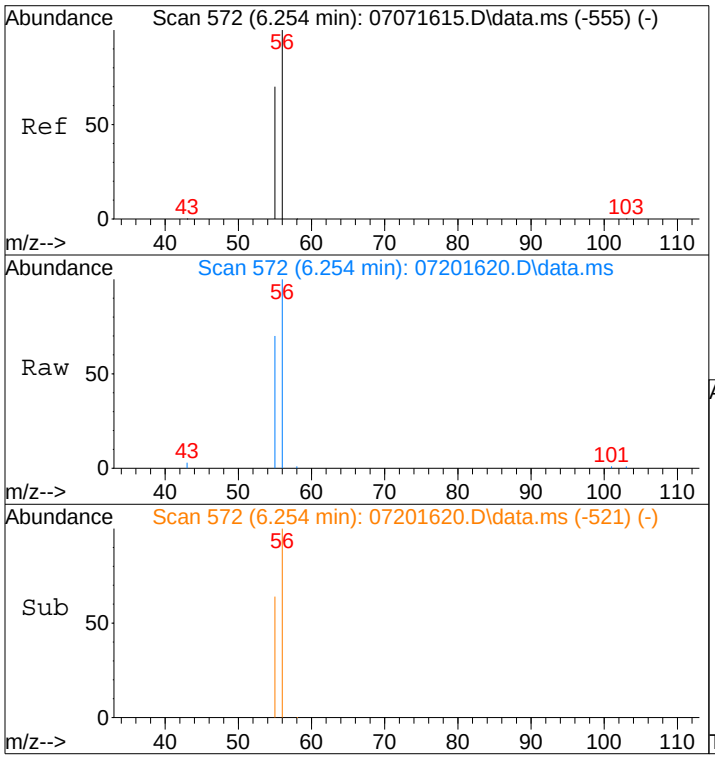


#8
Chloroethane
Concen: 35.10 pg
RT: 5.66 min Scan# 412
Delta R.T. -0.015 min
Lab File: 07201620.D
Acq: 20 Jul 2016 20:48

Tgt Ion: 64 Resp: 557

Ion	Ratio	Lower	Upper
64	100		
66	31.6	12.2	52.2

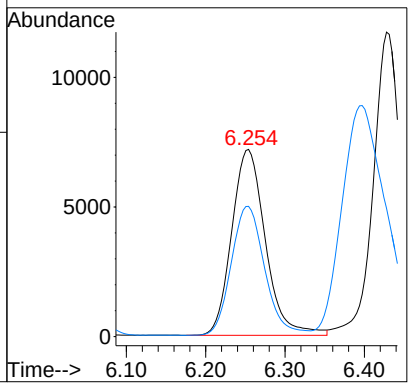


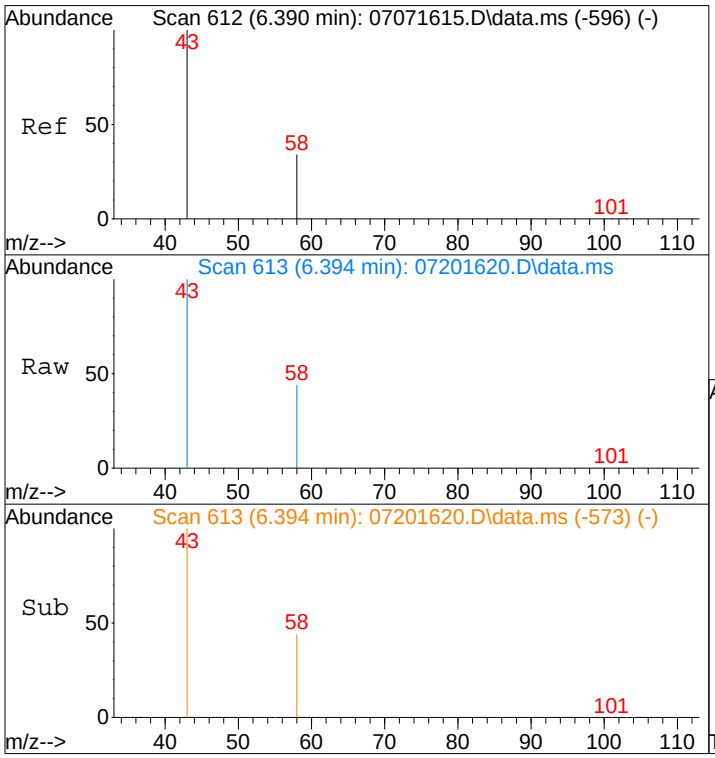


#9
Acrolein
Concen: 1929.13 pg
RT: 6.25 min Scan# 572
Delta R.T. 0.004 min
Lab File: 07201620.D
Acq: 20 Jul 2016 20:48

Tgt Ion: 56 Resp: 21200

Ion	Ratio	Lower	Upper
56	100		
55	68.8	47.1	70.7

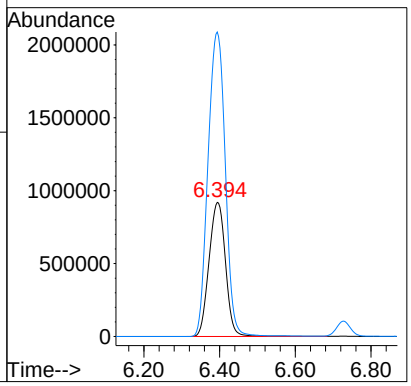


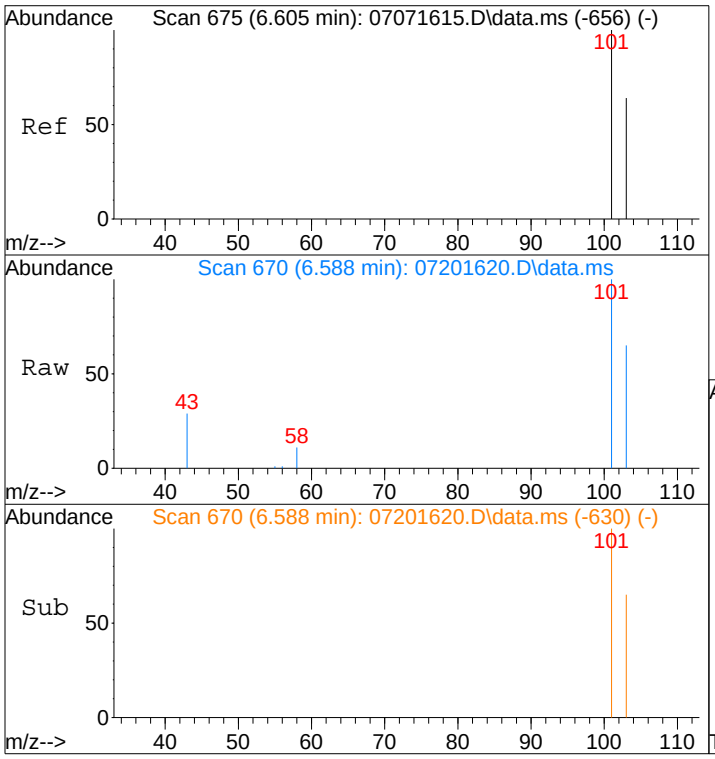


#10
Acetone
Concen: 192914.82 pg
RT: 6.39 min Scan# 613
Delta R.T. -0.013 min
Lab File: 07201620.D
Acq: 20 Jul 2016 20:48

Tgt Ion: 58 Resp: 2772161

Ion	Ratio	Lower	Upper
58	100		
43	239.4	262.3	302.3#

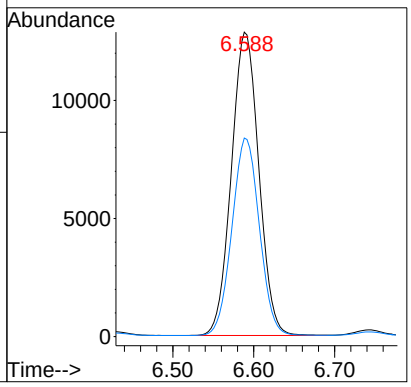


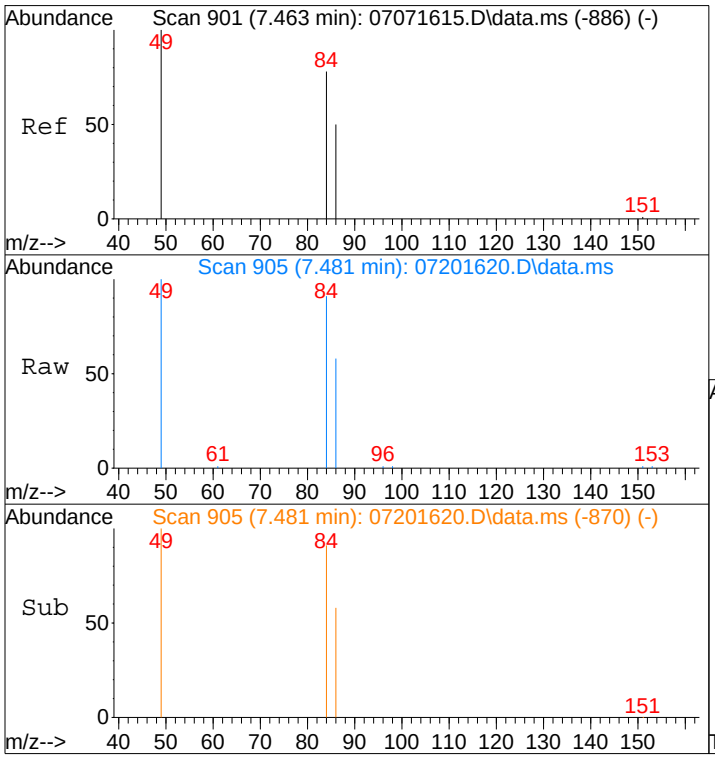


#11
Trichlorofluoromethane
Concen: 964.03 pg
RT: 6.59 min Scan# 670
Delta R.T. -0.014 min
Lab File: 07201620.D
Acq: 20 Jul 2016 20:48

Tgt Ion:101 Resp: 30270

Ion	Ratio	Lower	Upper
101	100		
103	65.0	51.8	77.6

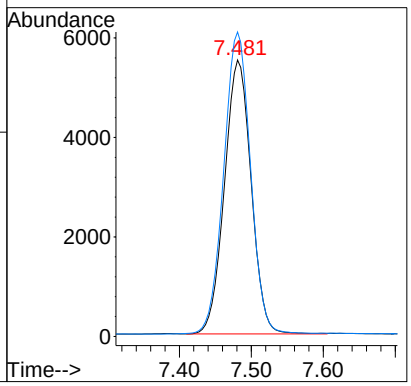


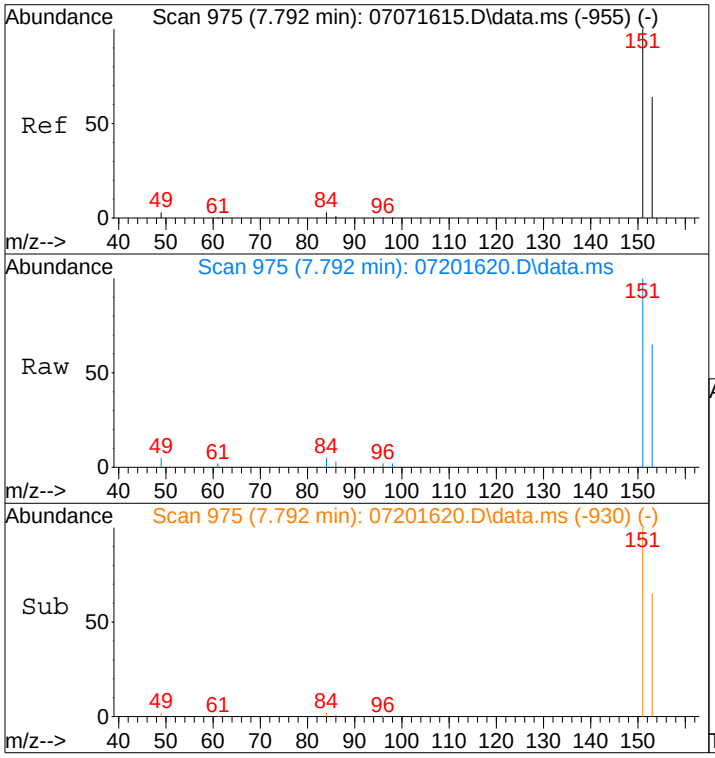


#13
Methylene Chloride
Concen: 673.49 pg
RT: 7.48 min Scan# 905
Delta R.T. -0.004 min
Lab File: 07201620.D
Acq: 20 Jul 2016 20:48

Tgt Ion: 84 Resp: 14211

Ion	Ratio	Lower	Upper
84	100		
49	111.3	101.0	141.0

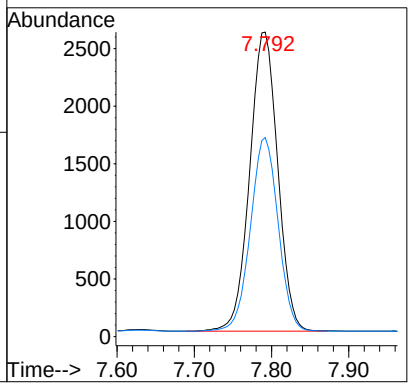


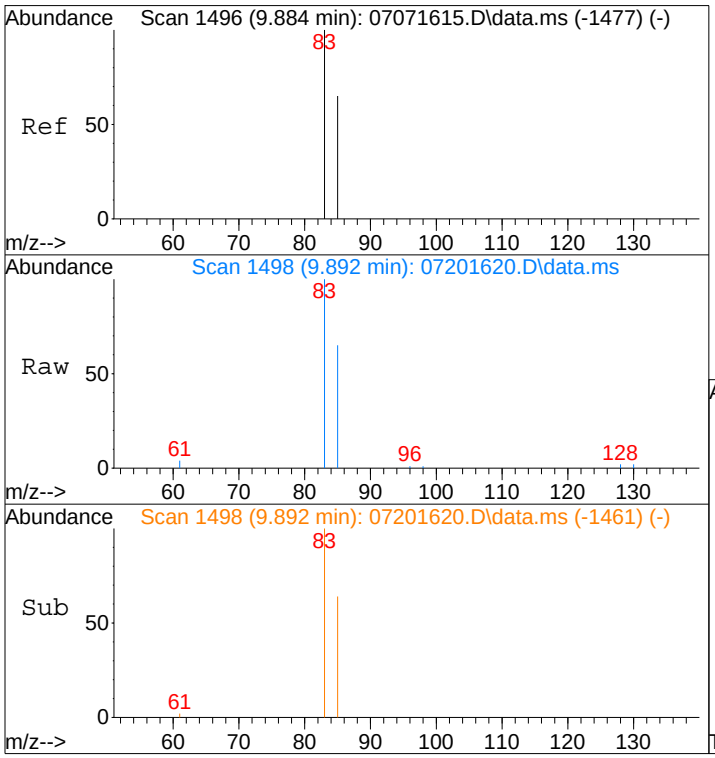


#14
Trichlorotrifluoroethane
Concen: 359.51 pg
RT: 7.79 min Scan# 975
Delta R.T. -0.000 min
Lab File: 07201620.D
Acq: 20 Jul 2016 20:48

Tgt Ion:151 Resp: 6542

Ion	Ratio	Lower	Upper
151	100		
153	64.2	44.0	84.0

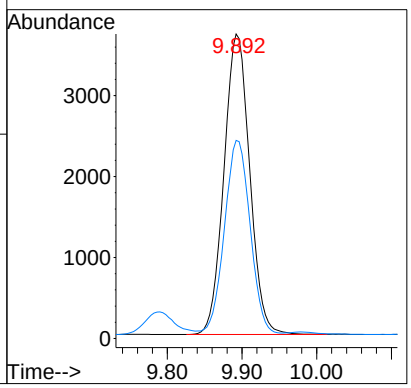


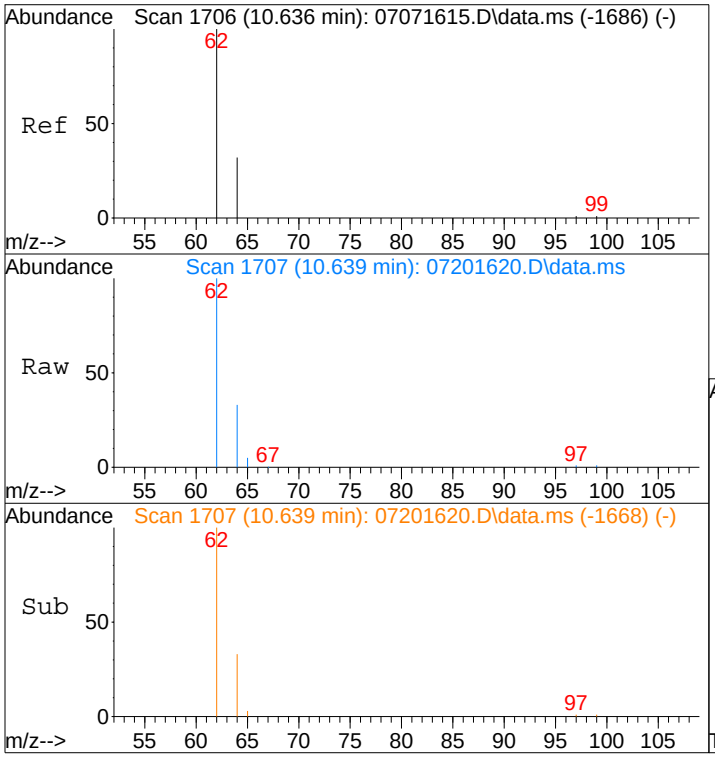


#19
Chloroform
Concen: 248.76 pg
RT: 9.89 min Scan# 1498
Delta R.T. -0.024 min
Lab File: 07201620.D
Acq: 20 Jul 2016 20:48

Tgt Ion: 83 Resp: 8900

Ion	Ratio	Lower	Upper
83	100		
85	64.5	45.1	85.1

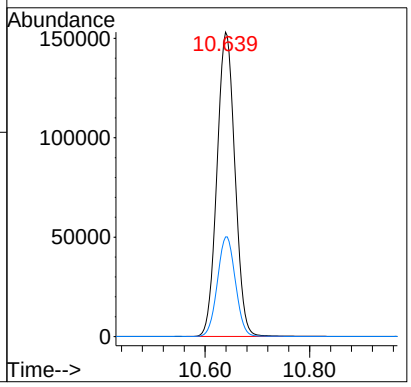


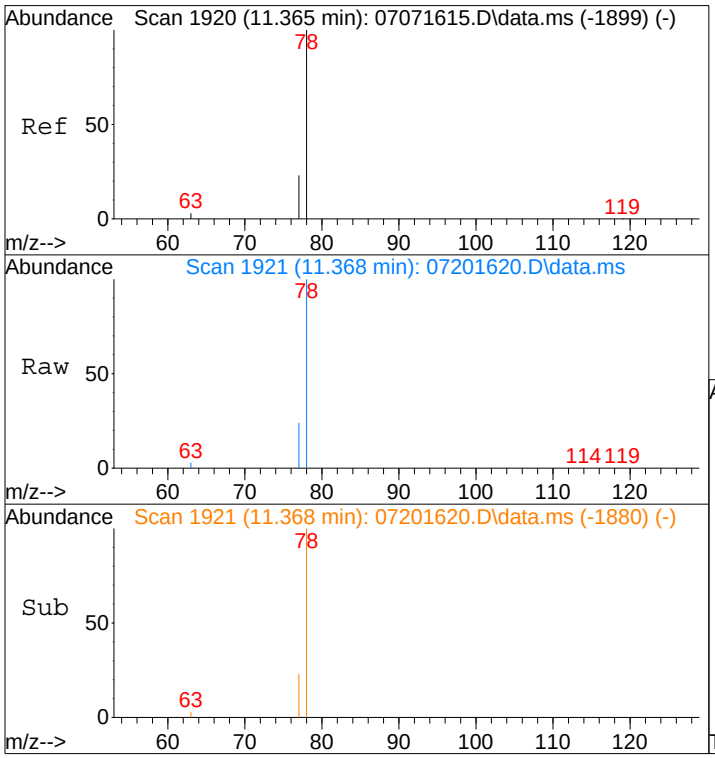


#21
1,2-Dichloroethane
Concen: 13649.11 pg
RT: 10.64 min Scan# 1707
Delta R.T. -0.017 min
Lab File: 07201620.D
Acq: 20 Jul 2016 20:48

Tgt Ion: 62 Resp: 364774

Ion	Ratio	Lower	Upper
62	100		
64	32.8	12.1	52.1

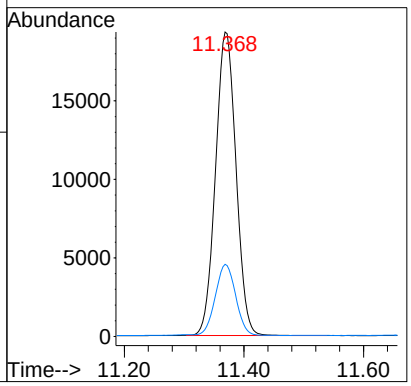


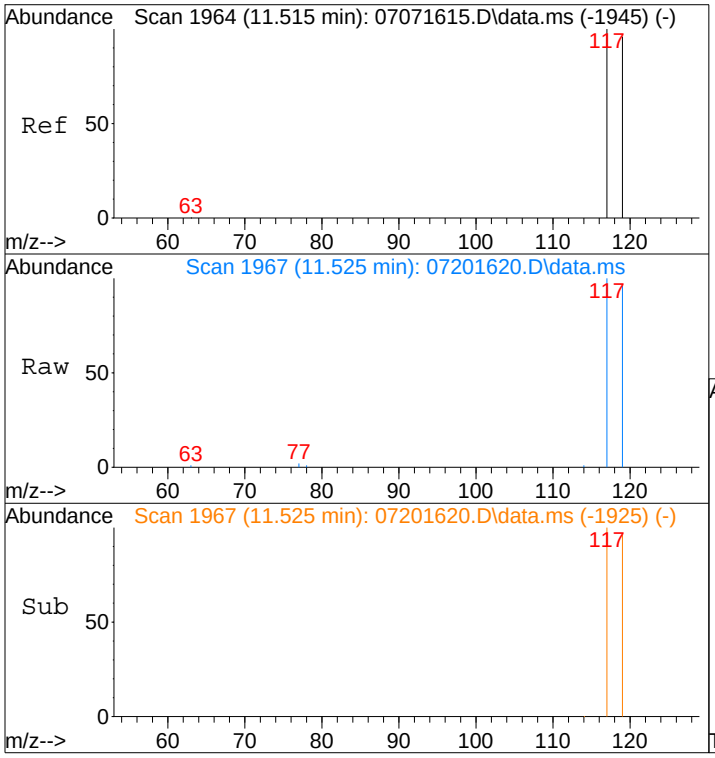


#23
Benzene
Concen: 549.13 pg
RT: 11.37 min Scan# 1921
Delta R.T. -0.011 min
Lab File: 07201620.D
Acq: 20 Jul 2016 20:48

Tgt Ion: 78 Resp: 45907

Ion	Ratio	Lower	Upper
78	100		
77	23.3	3.3	43.3

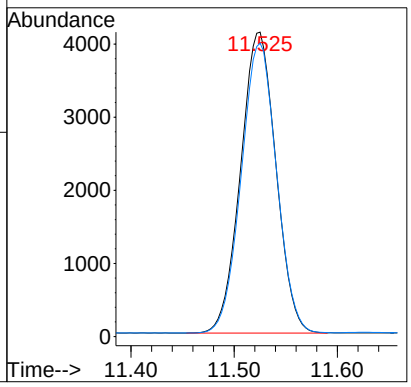


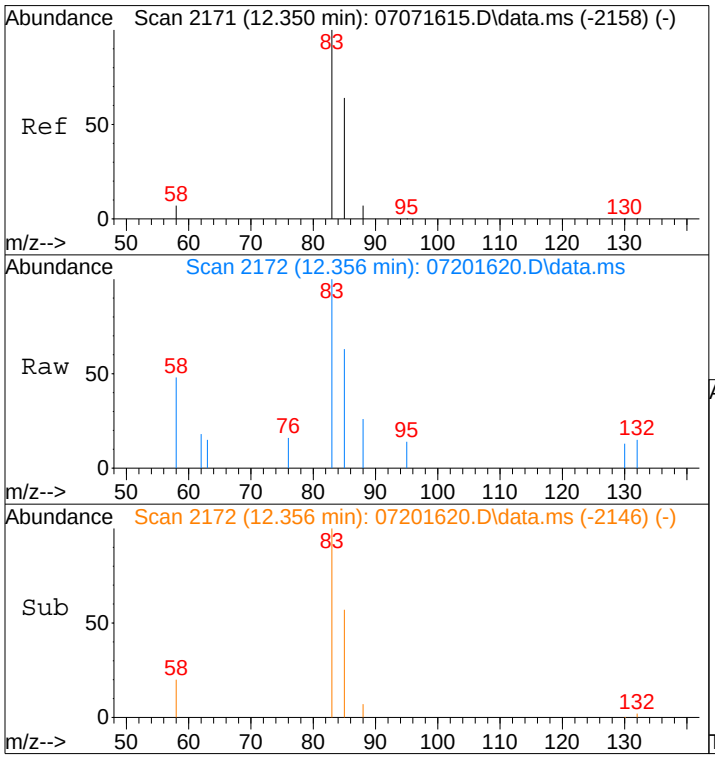


#24
Carbon Tetrachloride
Concen: 378.58 pg
RT: 11.53 min Scan# 1967
Delta R.T. -0.007 min
Lab File: 07201620.D
Acq: 20 Jul 2016 20:48

Tgt Ion:117 Resp: 9821

Ion	Ratio	Lower	Upper
117	100		
119	96.3	75.6	115.6

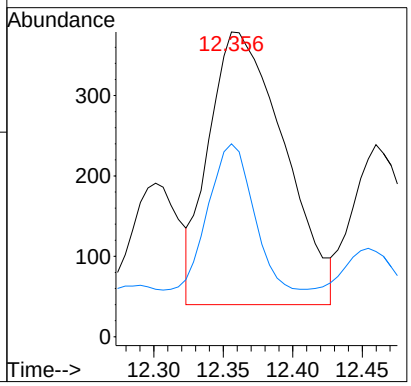


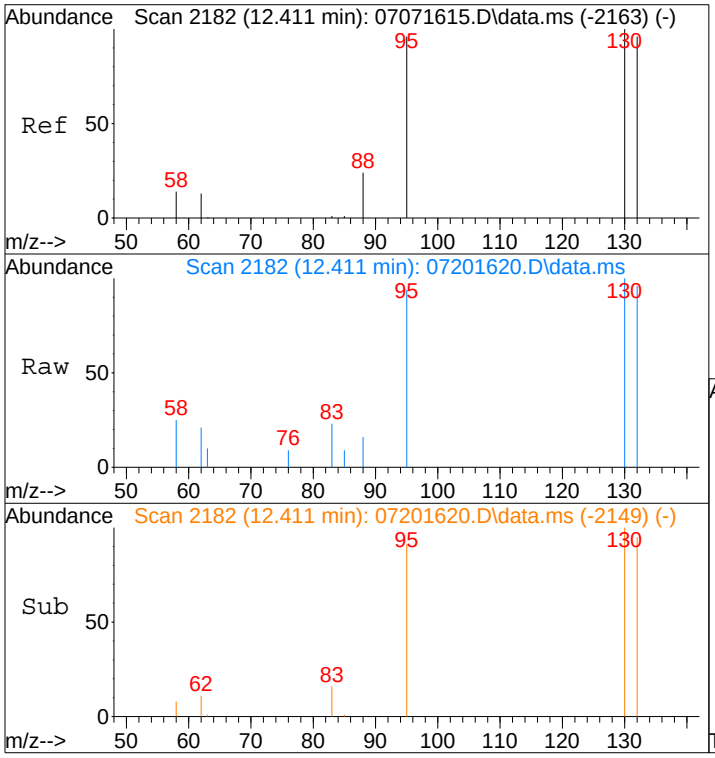


#27
Bromodichloromethane
Concen: 48.25 pg m
RT: 12.36 min Scan# 2172
Delta R.T. -0.005 min
Lab File: 07201620.D
Acq: 20 Jul 2016 20:48

Tgt Ion: 83 Resp: 1276

Ion	Ratio	Lower	Upper
83	100		
85	31.7	51.2	76.8#

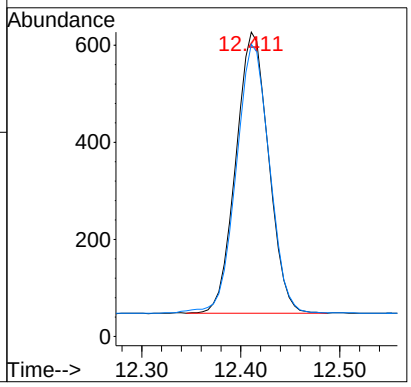


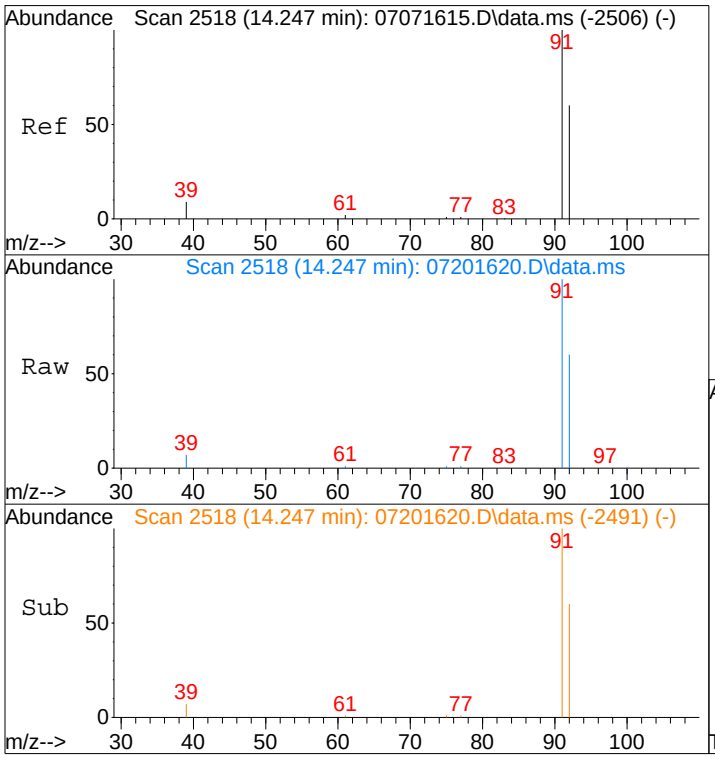


#28
Trichloroethene
Concen: 59.75 pg
RT: 12.41 min Scan# 2182
Delta R.T. -0.010 min
Lab File: 07201620.D
Acq: 20 Jul 2016 20:48

Tgt Ion:130 Resp: 1331

Ion	Ratio	Lower	Upper
130	100		
132	97.1	75.8	115.8

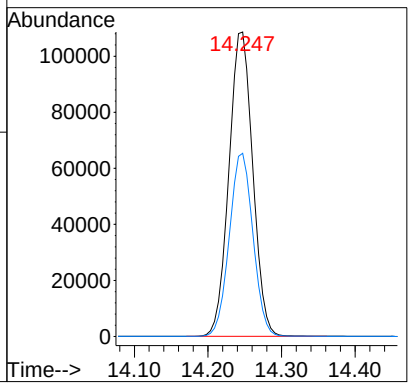


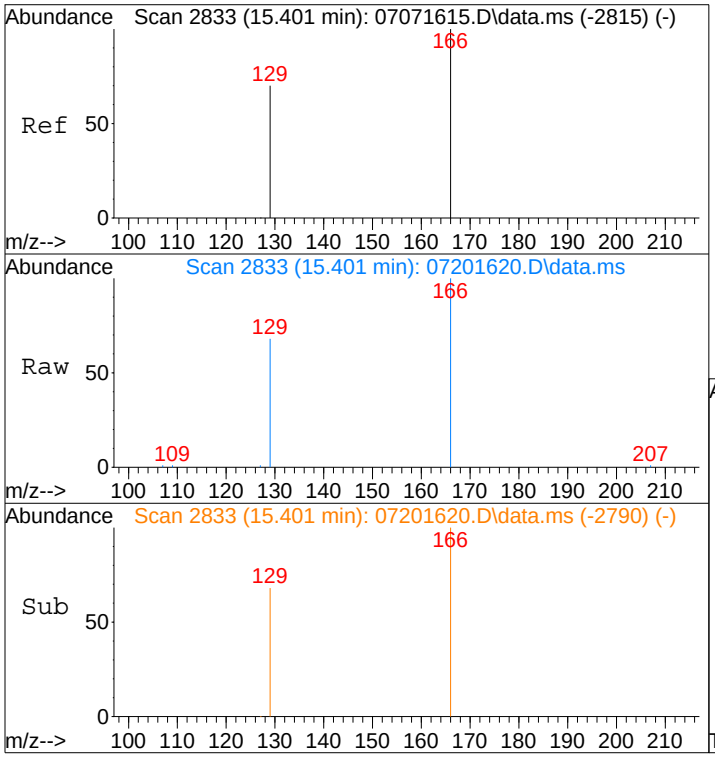


#34
Toluene
Concen: 2894.42 pg
RT: 14.25 min Scan# 2518
Delta R.T. -0.005 min
Lab File: 07201620.D
Acq: 20 Jul 2016 20:48

Tgt Ion: 91 Resp: 244102

Ion	Ratio	Lower	Upper
91	100		
92	59.8	39.4	79.4

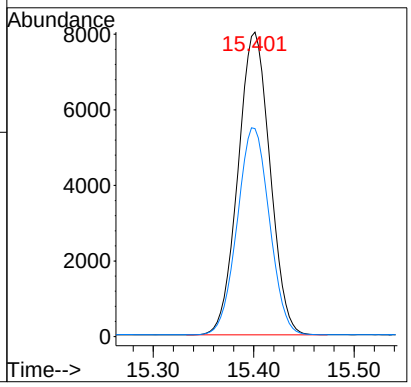


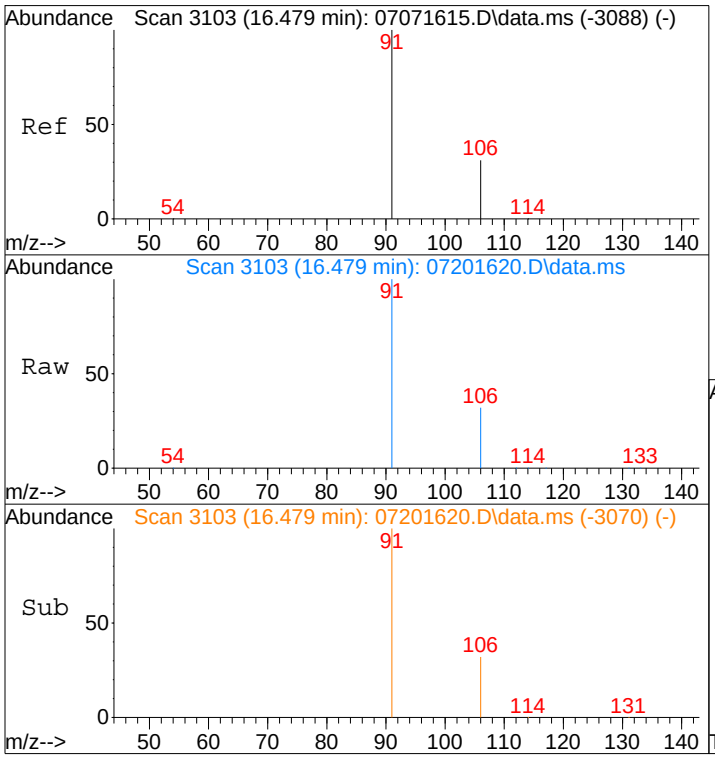


#37
Tetrachloroethene
Concen: 728.81 pg
RT: 15.40 min Scan# 2833
Delta R.T. -0.004 min
Lab File: 07201620.D
Acq: 20 Jul 2016 20:48

Tgt Ion:166 Resp: 17700

Ion	Ratio	Lower	Upper
166	100		
129	68.8	50.0	90.0

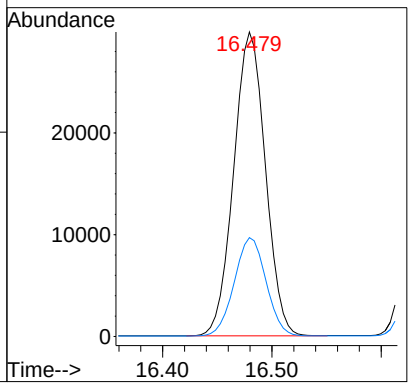


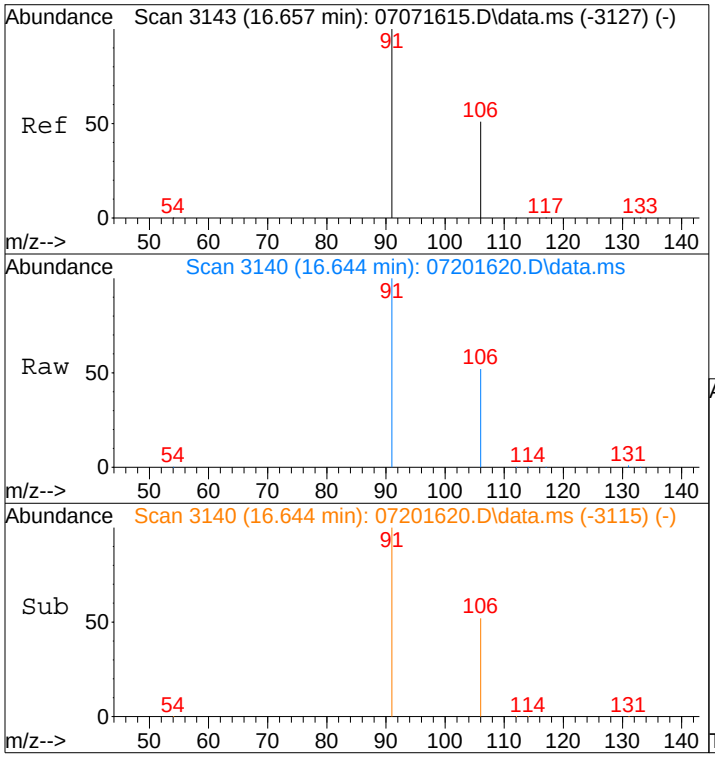


#40
Ethylbenzene
Concen: 763.29 pg
RT: 16.48 min Scan# 3103
Delta R.T. -0.005 min
Lab File: 07201620.D
Acq: 20 Jul 2016 20:48

Tgt Ion: 91 Resp: 60126

Ion	Ratio	Lower	Upper
91	100		
106	32.5	11.6	51.6

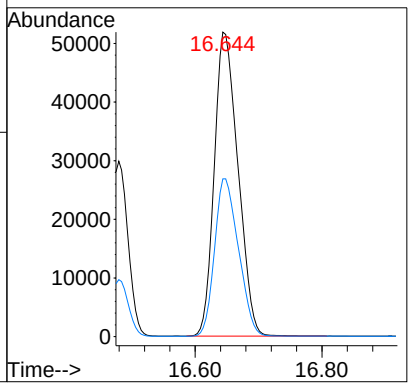


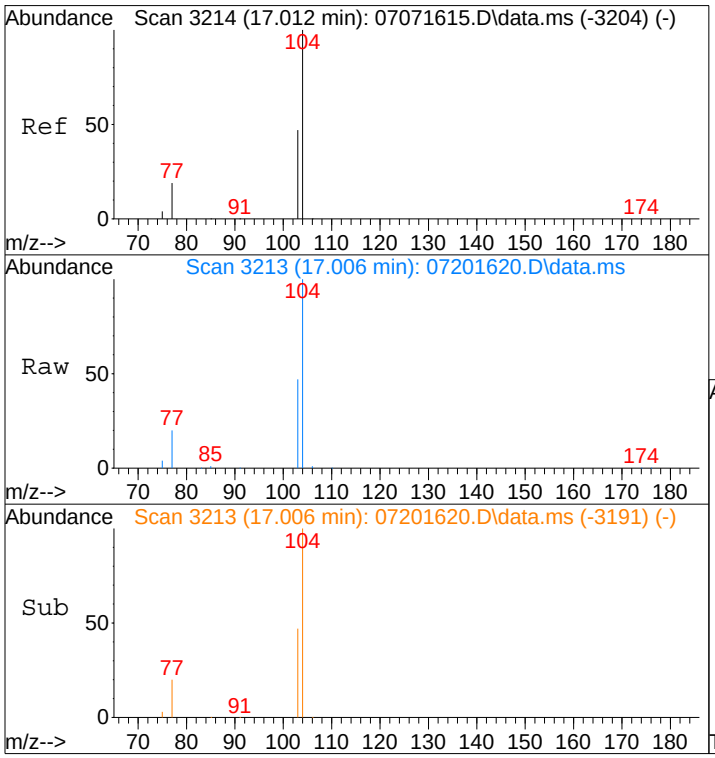


#41
m,p-Xylene
Concen: 2235.49 pg
RT: 16.64 min Scan# 3140
Delta R.T. -0.017 min
Lab File: 07201620.D
Acq: 20 Jul 2016 20:48

Tgt Ion: 91 Resp: 134545

Ion	Ratio	Lower	Upper
91	100		
106	52.2	30.7	70.7

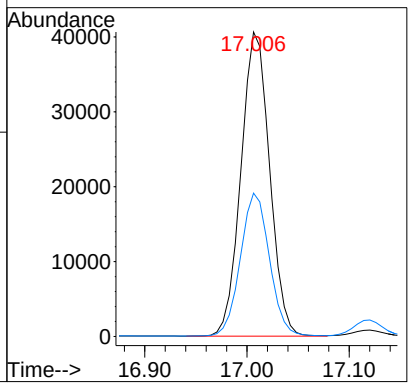


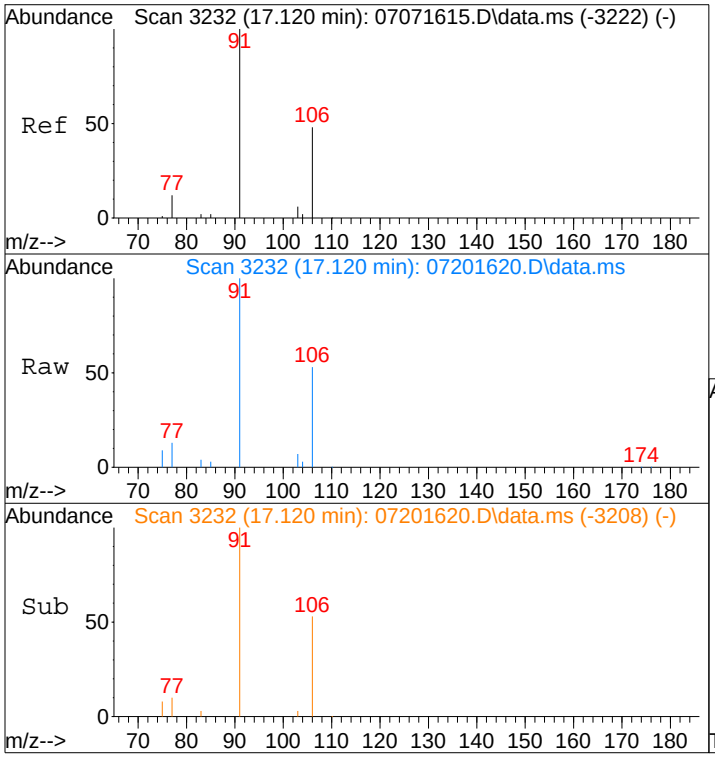


#42
Styrene
Concen: 1793.80 pg
RT: 17.01 min Scan# 3213
Delta R.T. -0.006 min
Lab File: 07201620.D
Acq: 20 Jul 2016 20:48

Tgt Ion:104 Resp: 79134

Ion	Ratio	Lower	Upper
104	100		
103	47.5	37.8	56.6

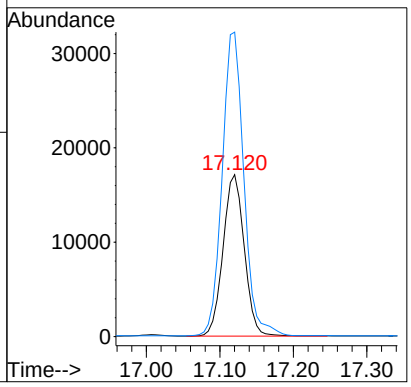


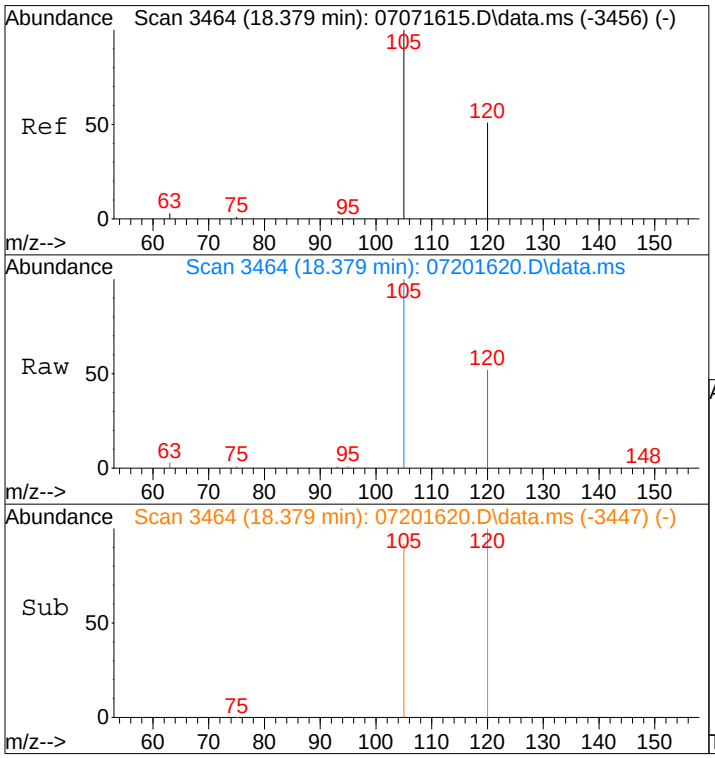


#43
o-Xylene
Concen: 1120.80 pg
RT: 17.12 min Scan# 3232
Delta R.T. -0.006 min
Lab File: 07201620.D
Acq: 20 Jul 2016 20:48

Tgt Ion:106 Resp: 34289

Ion	Ratio	Lower	Upper
106	100		
91	192.2	189.7	229.7

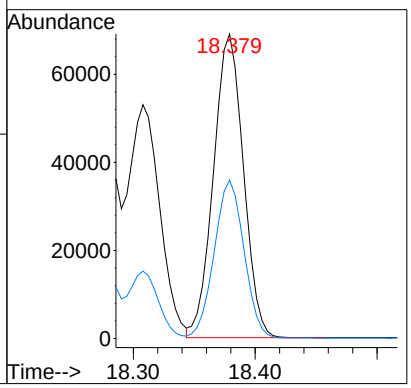


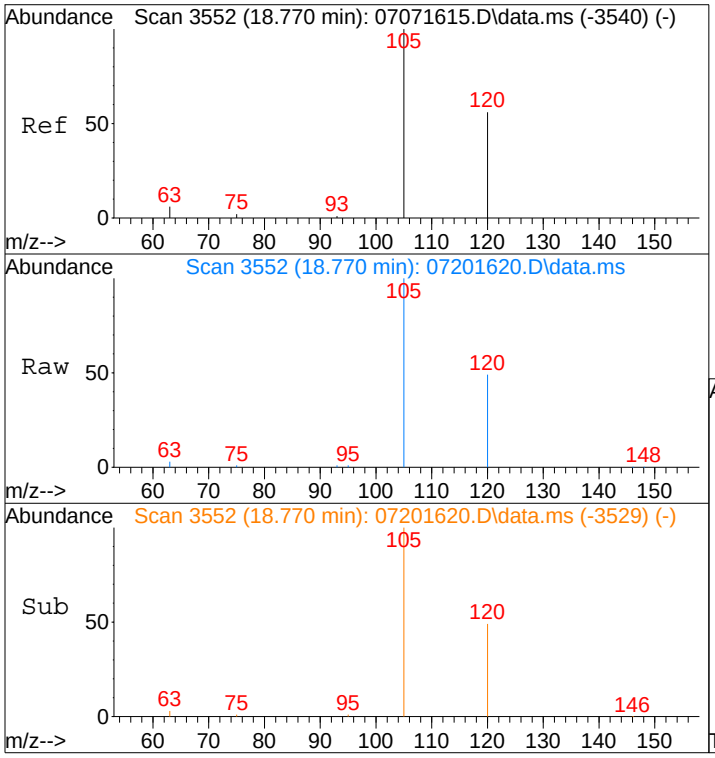


#46
1,3,5-Trimethylbenzene
Concen: 1895.82 pg
RT: 18.38 min Scan# 3464
Delta R.T. -0.004 min
Lab File: 07201620.D
Acq: 20 Jul 2016 20:48

Tgt Ion:105 Resp: 117603

Ion	Ratio	Lower	Upper
105	100		
120	51.7	40.4	60.6

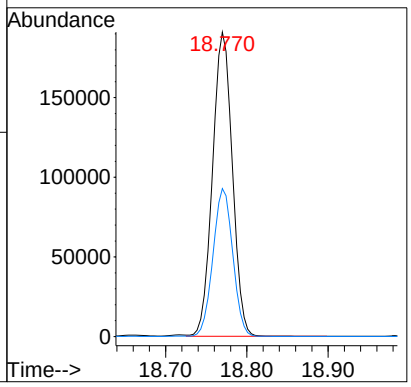


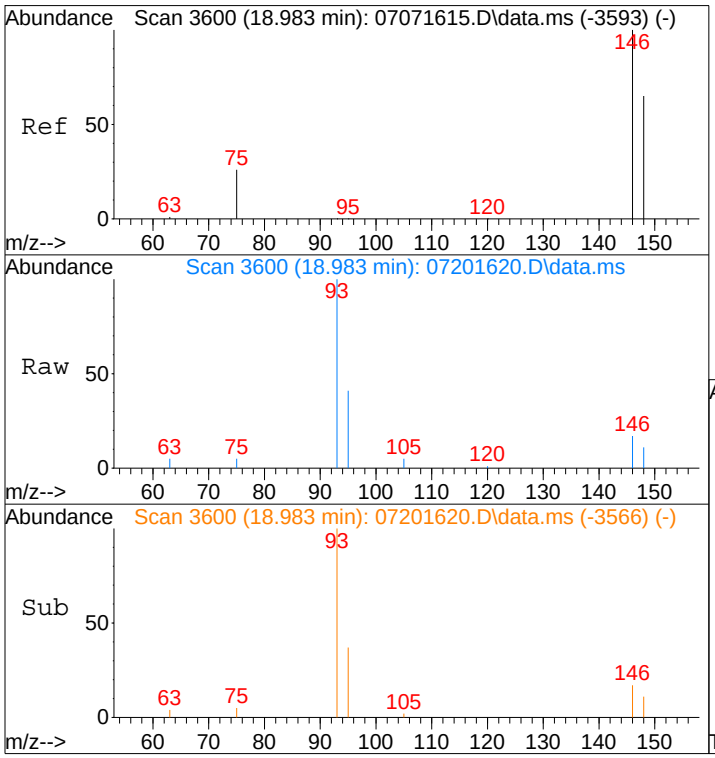


#47
1,2,4-Trimethylbenzene
Concen: 5232.55 pg
RT: 18.77 min Scan# 3552
Delta R.T. -0.009 min
Lab File: 07201620.D
Acq: 20 Jul 2016 20:48

Tgt Ion:105 Resp: 324144

Ion	Ratio	Lower	Upper
105	100		
120	48.5	44.8	67.2

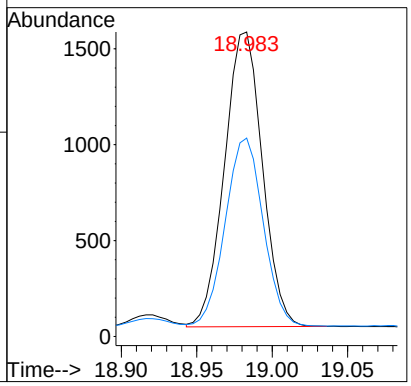


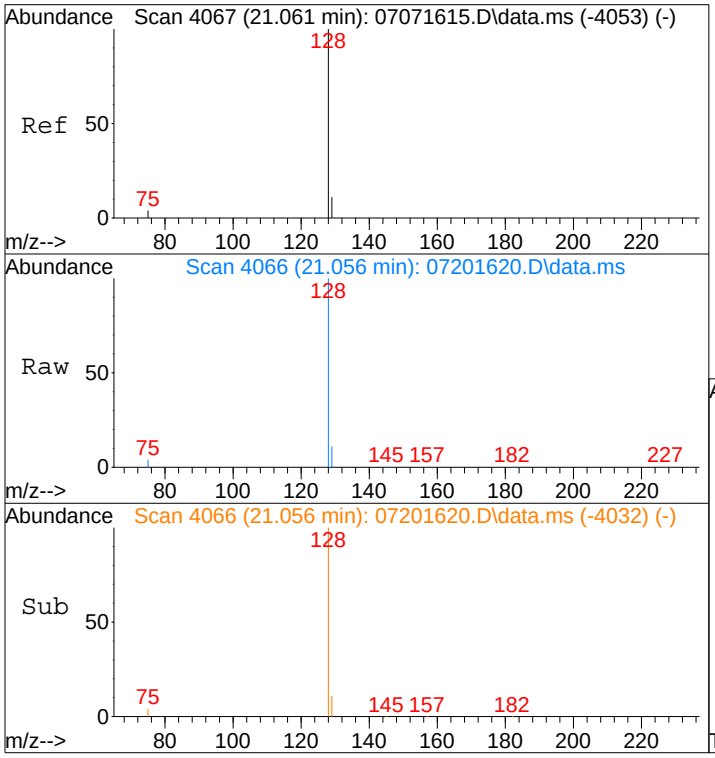


#49
1,4-Dichlorobenzene
Concen: 72.78 pg
RT: 18.98 min Scan# 3600
Delta R.T. 0.000 min
Lab File: 07201620.D
Acq: 20 Jul 2016 20:48

Tgt Ion:146 Resp: 2686

Ion	Ratio	Lower	Upper
146	100		
148	63.8	44.1	84.1

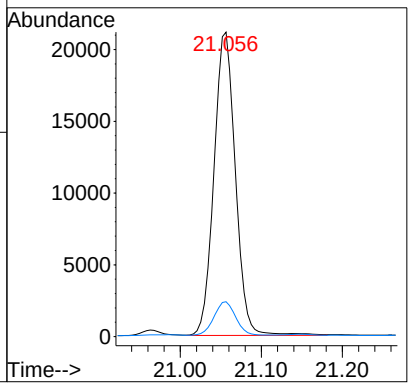




#53
Naphthalene
Concen: 504.39 pg
RT: 21.06 min Scan# 4066
Delta R.T. 0.000 min
Lab File: 07201620.D
Acq: 20 Jul 2016 20:48

Tgt Ion:128 Resp: 38890

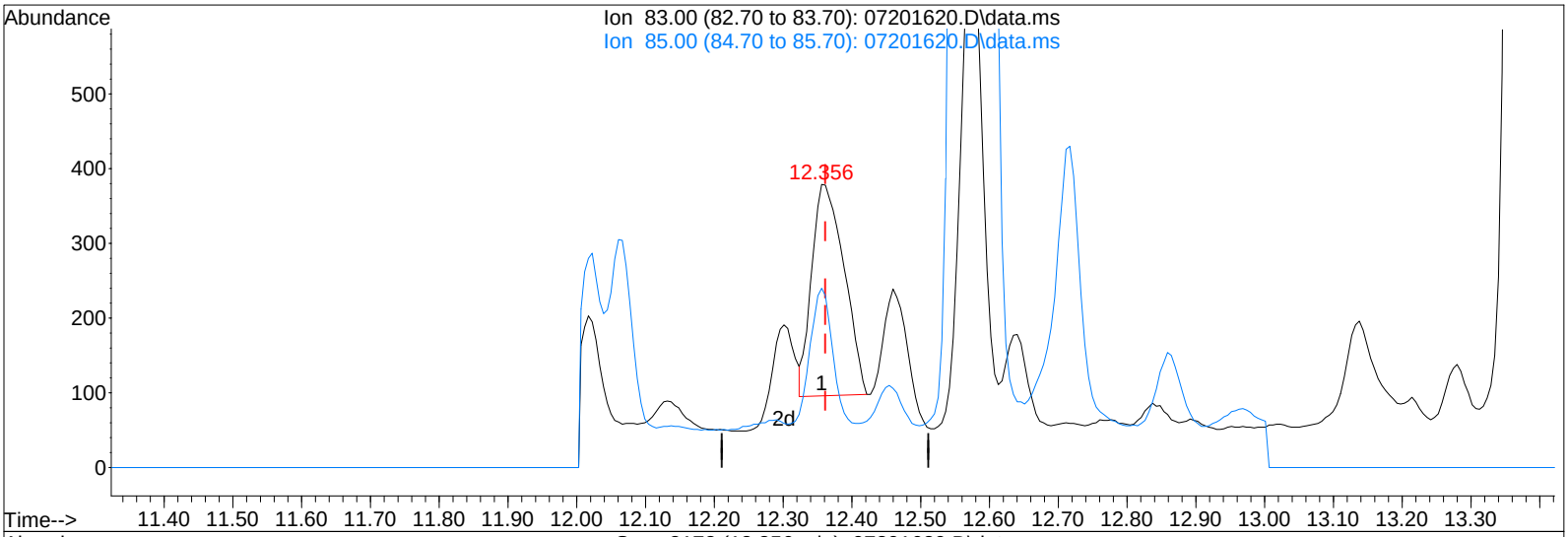
Ion	Ratio	Lower	Upper
128	100		
129	11.2	0.0	30.7

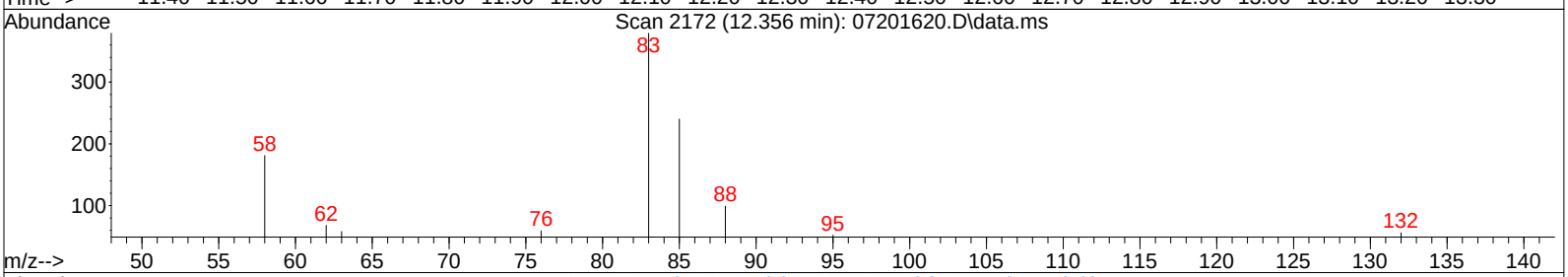


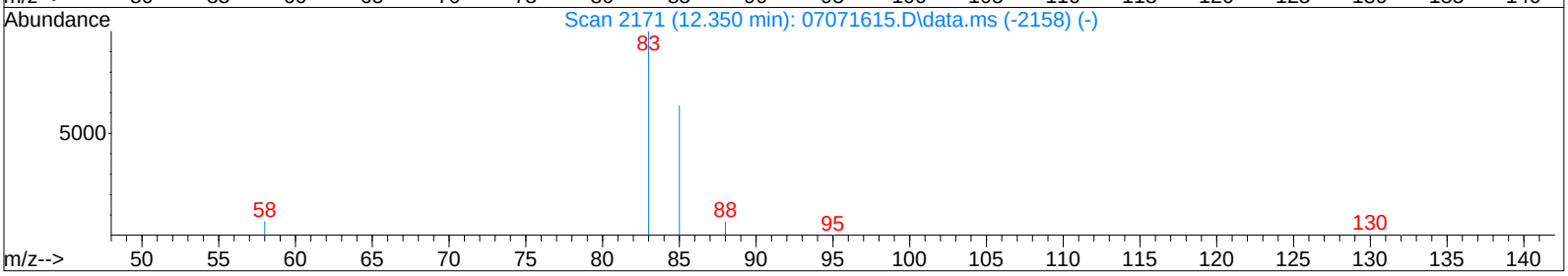
Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 07\20\07201620.D Vial: 9
Acq On : 20 Jul 2016 20:48 Operator: CL
Sample : P1603571-002 (1000mL) Inst : MS19
Misc : S29-06141602

Quant Time: Jul 21 08:46:52 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 07201620.D\data.ms

(27) Bromodichloromethane (T)

12.356min (-0.005) 34.94pg

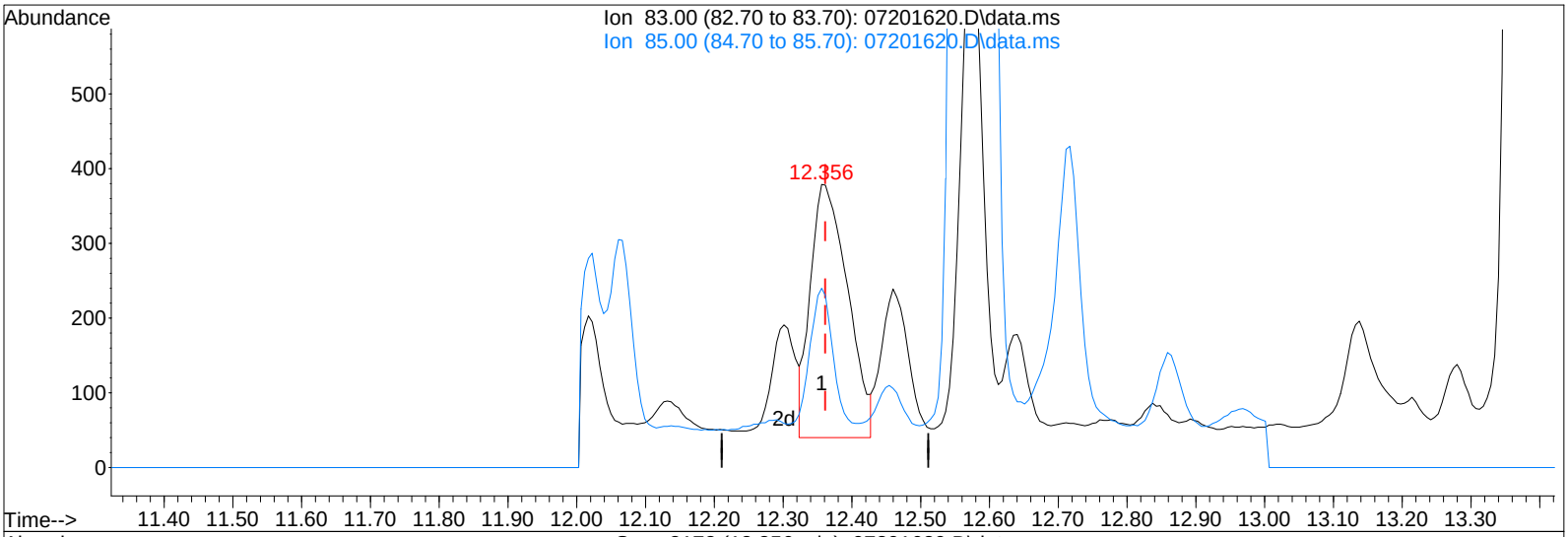
response 924

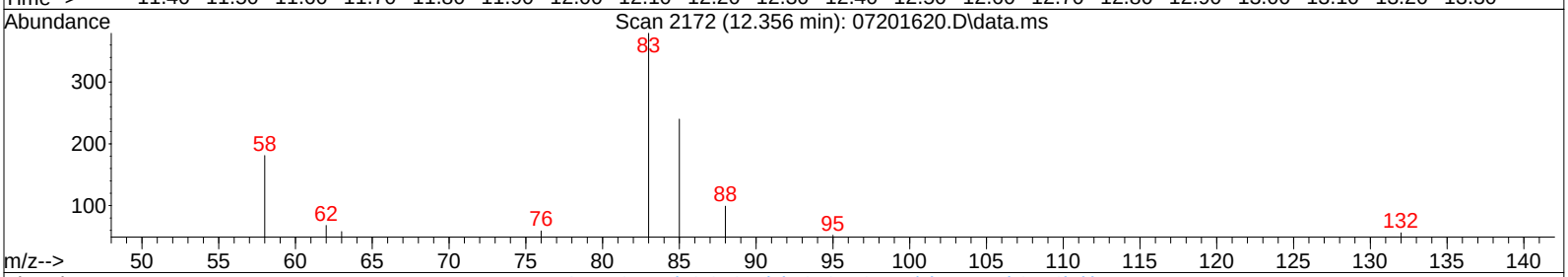
Ion	Exp%	Act%
83.00	100	100
85.00	64.00	43.83#
0.00	0.00	0.00
0.00	0.00	0.00

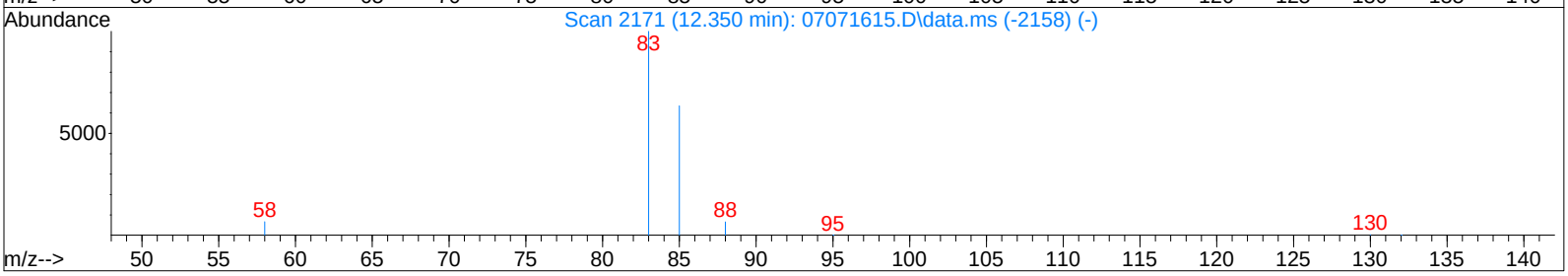
Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 07\20\07201620.D Vial: 9
Acq On : 20 Jul 2016 20:48 Operator: CL
Sample : P1603571-002 (1000mL) Inst : MS19
Misc : S29-06141602

Quant Time: Jul 21 08:46:52 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 07201620.D\data.ms

(27) Bromodichloromethane (T)

12.356min (-0.005) 48.25pg m

response 1276

Ion	Exp%	Act%
83.00	100	100
85.00	64.00	31.74#
0.00	0.00	0.00
0.00	0.00	0.00

BLC

CL 7/22/16

WA 7/28/16

Quantitation Report (QT Reviewed)

Data File: I:\MS19\DATA\2016 07\20\07201621.D
Acq On : 20 Jul 2016 21:19 Operator: CL
Sample : P1603571-003 (1000mL)
Misc : S29-06141602
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 28 08:42:38 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

WA 7/28/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.77	130	18710	1000.000 pg	0.00
25) 1,4-Difluorobenzene (IS2)	11.72	114	91751	1000.000 pg	0.00
38) Chlorobenzene-d5 (IS3)	16.05	54	13152	1000.000 pg	0.00

System Monitoring Compounds

20) 1,2-Dichloroethane-d4 ...	10.55	65	24949	857.667 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 85.77%		
33) Toluene-d8 (SS2)	14.15	98	94930	987.059 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 98.71%		
45) Bromofluorobenzene (SS3)	17.55	174	41406	1295.934 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 129.59%		

Target Compounds

					Qvalue
2) Dichlorodifluoromethan...	4.40	85	69862	1531.562 pg	100
3) Chloromethane	4.61	52	6630	567.002 pg	98
4) 1,2-Dichloro,1,1,2,2-t...	4.78	85	2159	64.986 pg	99
5) Vinyl Chloride	4.92	62	100	N.D.	
6) 1,3-Butadiene	5.11	54	1305	58.526 pg	86
7) Bromomethane	5.44	94	4113	233.705 pg	98
8) Chloroethane	5.67	64	452	28.631 pg	98
9) Acrolein	6.26	56	20650	1888.928 pg	86
10) Acetone	6.45	58	8454317	591417.950 pg #	70
11) Trichlorofluoromethane	6.59	101	41553	1330.295 pg	100
12) 1,1-Dichloroethene	0.00	96	0	N.D.	
13) Methylene Chloride	7.51	84	7192	342.628 pg	91
14) Trichlorotrifluoroethane	7.79	151	7077	390.943 pg	100
15) trans-1,2-Dichloroethene	8.52	96	214	N.D.	
16) 1,1-Dichloroethane	8.73	63	1063m	27.479 pg	
17) Methyl tert-Butyl Ether	0.00	73	0	N.D. d	
18) cis-1,2-Dichloroethene	9.61	96	11111	494.641 pg	100
19) Chloroform	9.91	83	18509	520.054 pg	99
21) 1,2-Dichloroethane	10.65	62	95917	3607.820 pg	99
22) 1,1,1-Trichloroethane	10.93	97	434	N.D.	
23) Benzene	11.38	78	30750	369.749 pg	100
24) Carbon Tetrachloride	11.53	117	11256	436.170 pg	86
26) 1,2-Dichloropropane	12.18	63	228	N.D.	
27) Bromodichloromethane	12.37	83	2595m	96.720 pg	
28) Trichloroethene	12.42	130	6104	270.074 pg	100
29) 1,4-Dioxane	0.00	88	0	N.D. d	
30) cis-1,3-Dichloropropene	13.25	75	100	N.D.	
31) trans-1,3-Dichloropropene	13.73	75	175	N.D.	
32) 1,1,2-Trichloroethane	13.93	83	301	N.D.	
34) Toluene	14.25	91	767609	8971.499 pg	99
35) Dibromochloromethane	14.66	129	703	35.020 pg	99
36) 1,2-Dibromoethane	0.00	107	0	N.D.	
37) Tetrachloroethene	15.40	166	101764	4130.193 pg	98
39) Chlorobenzene	16.11	112	812	N.D.	
40) Ethylbenzene	16.48	91	80756	1037.971 pg	98
41) m,p-Xylene	16.65	91	191349	3218.940 pg	98
42) Styrene	17.01	104	162175	3722.010 pg	100
43) o-Xylene	17.12	106	50912	1684.898 pg	95
44) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
46) 1,3,5-Trimethylbenzene	18.38	105	260159	4246.181 pg	98
47) 1,2,4-Trimethylbenzene	18.77	105	678878	11095.557 pg	90
48) 1,3-Dichlorobenzene	18.92	146	75	N.D.	
49) 1,4-Dichlorobenzene	18.98	146	6886	188.912 pg	99
50) 1,2-Dichlorobenzene	19.31	146	719	21.067 pg	98
51) 1,2-Dibromo-3-chloropr...	19.76	157	51	N.D.	
52) 1,2,4-Trichlorobenzene	20.94	182	108	N.D.	

Quantitation Report (QT Reviewed)

Data File: I:\MS19\DATA\2016 07\20\07201621.D
Acq On : 20 Jul 2016 21:19 Operator: CL
Sample : P1603571-003 (1000mL)
Misc : S29-06141602
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 28 08:42:38 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

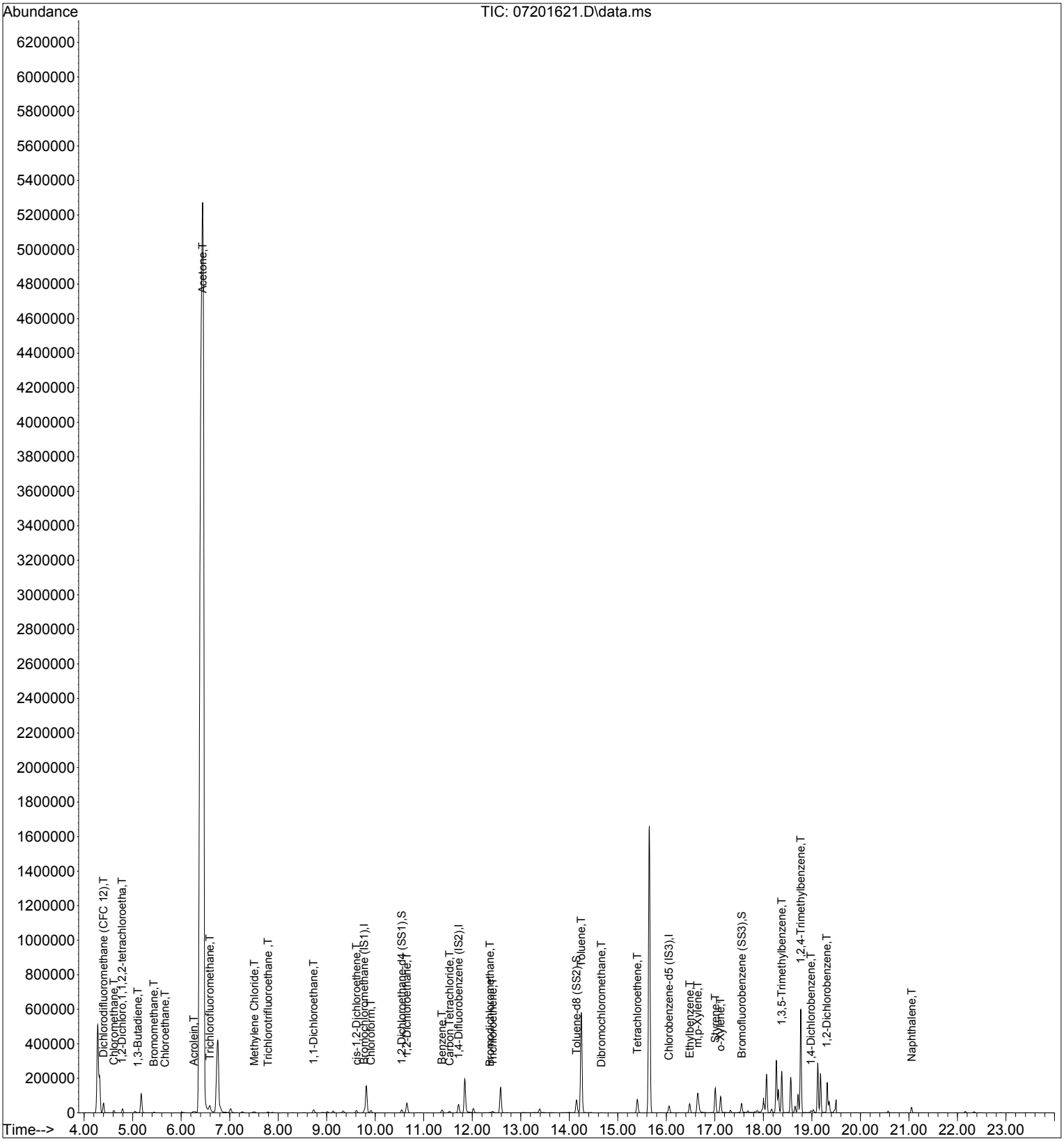
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
53) Naphthalene	21.06	128	50304	660.564 pg	98
54) Hexachlorobutadiene	21.41	225	97	N.D.	

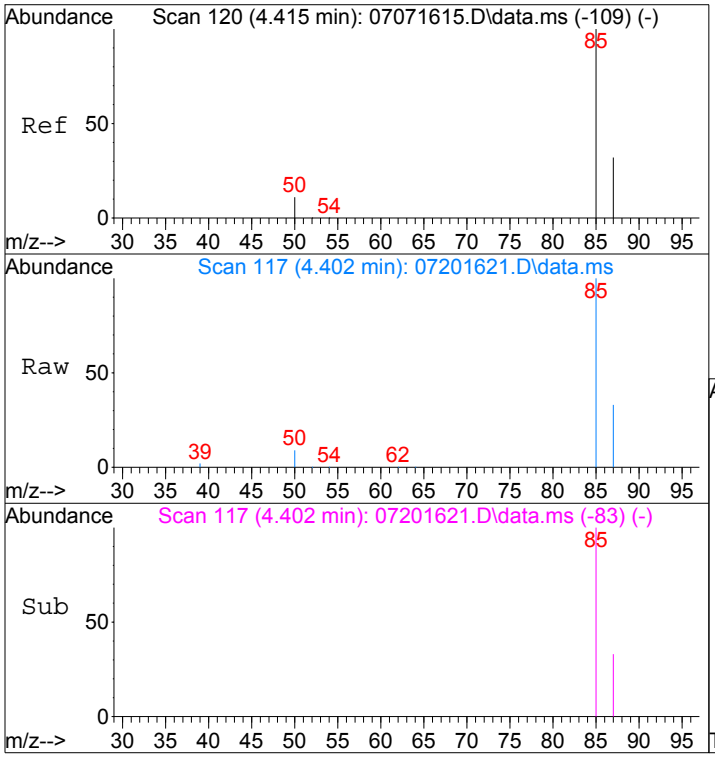
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS19\DATA\2016 07\20\07201621.D
Acq On : 20 Jul 2016 21:19 Operator: CL
Sample : P1603571-003 (1000mL)
Misc : S29-06141602
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 28 08:42:38 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

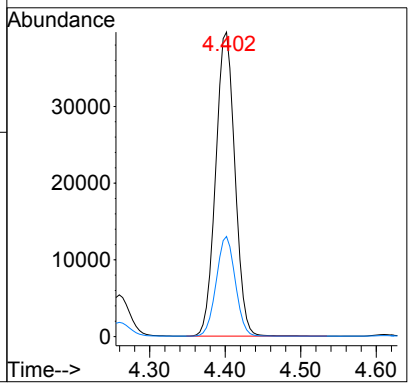


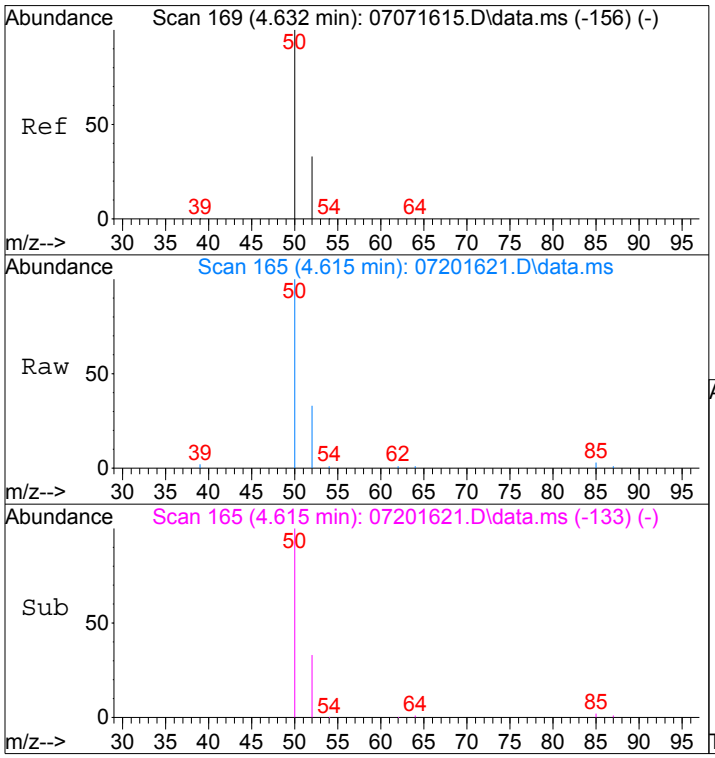


#2
Dichlorodifluoromethane (CFC 12)
Concen: 1531.56 pg
RT: 4.40 min Scan# 117
Delta R.T. -0.000 min
Lab File: 07201621.D
Acq: 20 Jul 2016 21:19

Tgt Ion: 85 Resp: 69862

Ion	Ratio	Lower	Upper
85	100		
87	32.5	12.5	52.5

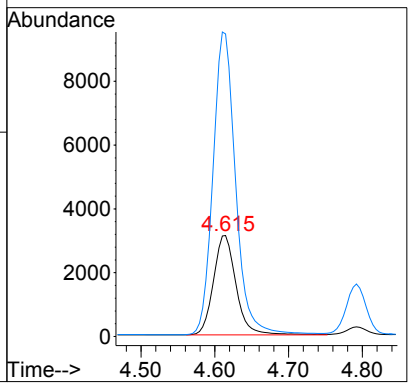


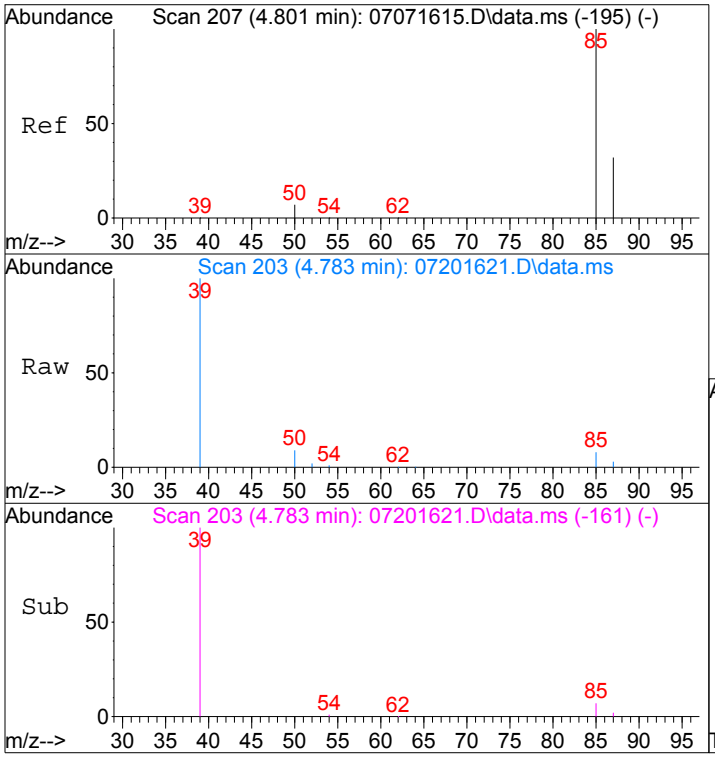


#3
Chloromethane
Concen: 567.00 pg
RT: 4.61 min Scan# 165
Delta R.T. -0.008 min
Lab File: 07201621.D
Acq: 20 Jul 2016 21:19

Tgt Ion: 52 Resp: 6630

Ion	Ratio	Lower	Upper
52	100		
50	305.1	280.8	320.8

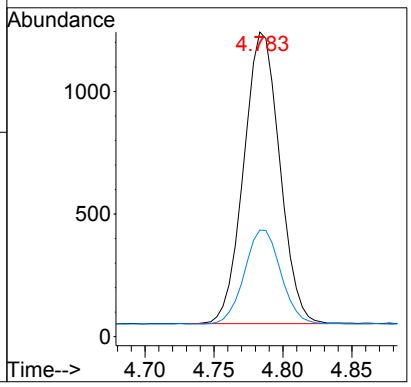


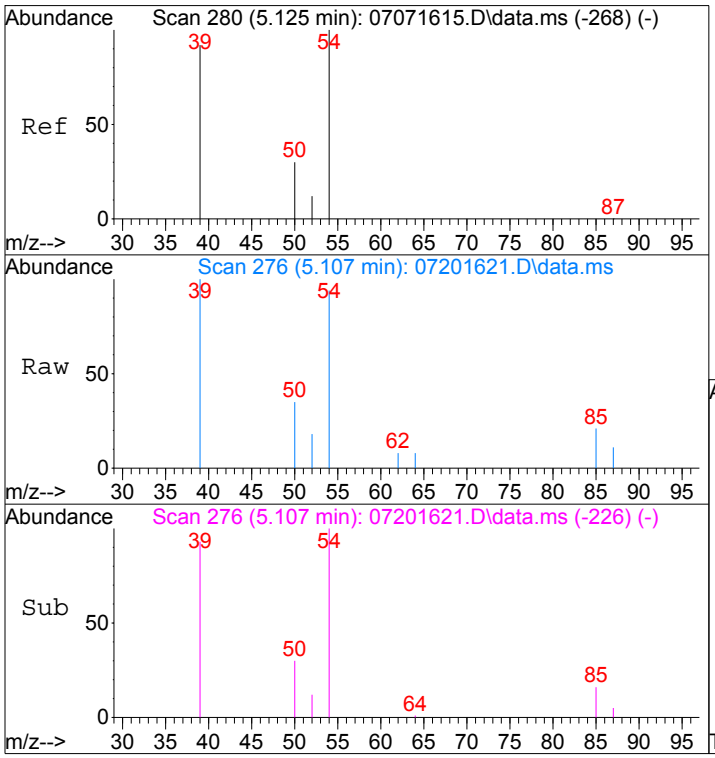


#4
1,2-Dichloro,1,1,2,2-tetrachloroetha
Concen: 64.99 pg
RT: 4.78 min Scan# 203
Delta R.T. -0.013 min
Lab File: 07201621.D
Acq: 20 Jul 2016 21:19

Tgt Ion: 85 Resp: 2159

Ion	Ratio	Lower	Upper
85	100		
87	32.4	25.7	38.5

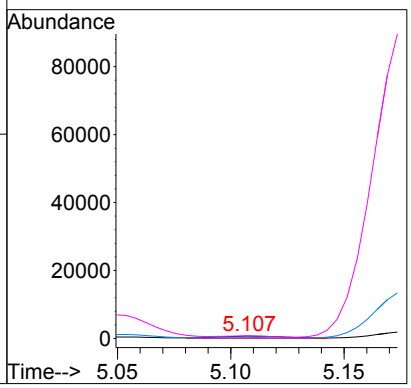


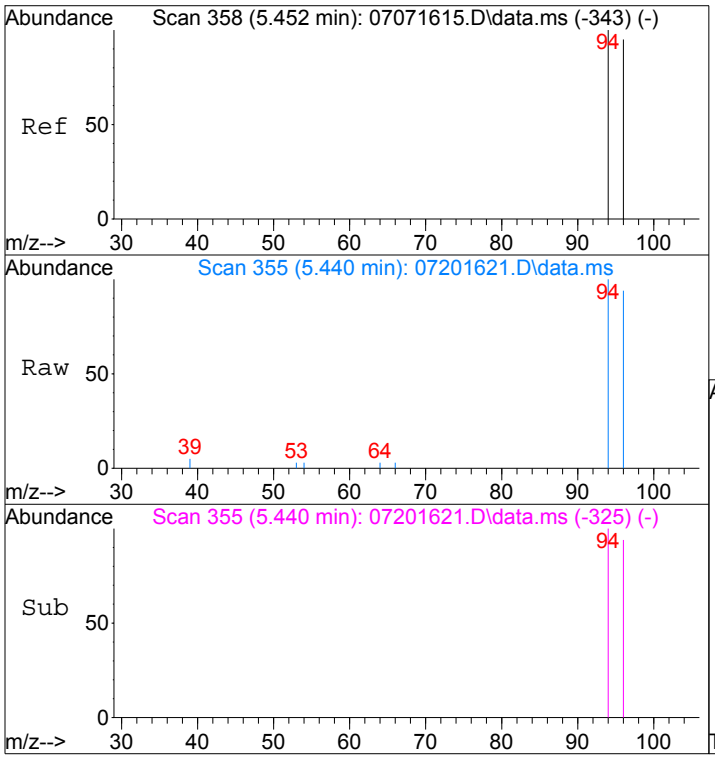


#6
1,3-Butadiene
Concen: 58.53 pg
RT: 5.11 min Scan# 276
Delta R.T. -0.009 min
Lab File: 07201621.D
Acq: 20 Jul 2016 21:19

Tgt Ion: 54 Resp: 1305

Ion	Ratio	Lower	Upper
54	100		
50	26.7	23.6	35.4
39	77.6	74.9	112.3

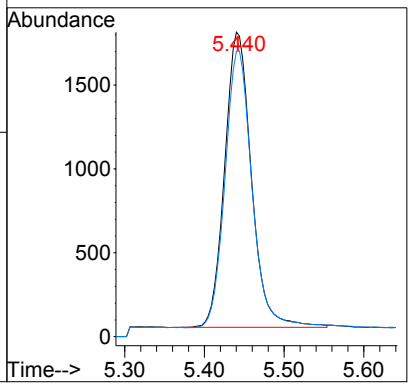


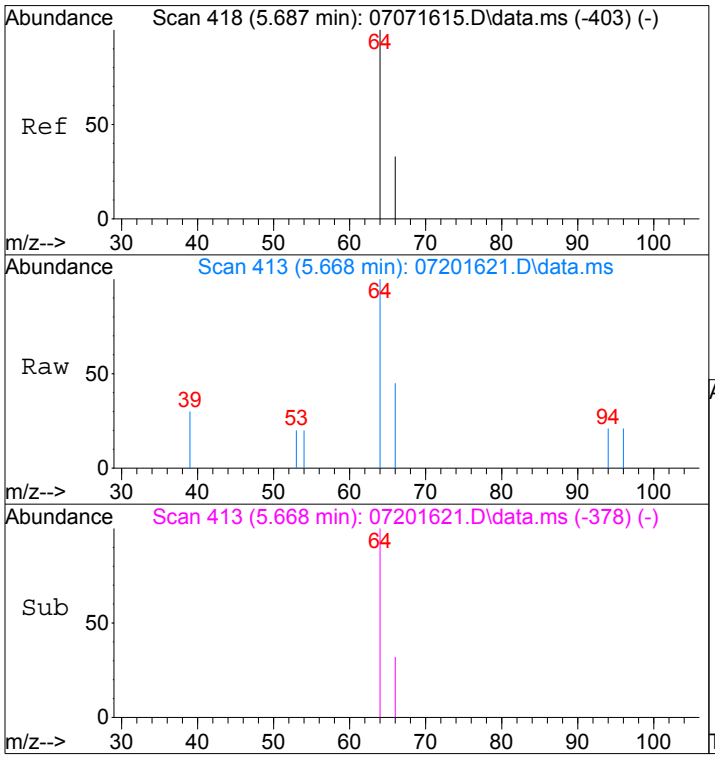


#7
Bromomethane
Concen: 233.70 pg
RT: 5.44 min Scan# 355
Delta R.T. -0.012 min
Lab File: 07201621.D
Acq: 20 Jul 2016 21:19

Tgt Ion: 94 Resp: 4113

Ion	Ratio	Lower	Upper
94	100		
96	95.6	75.3	112.9

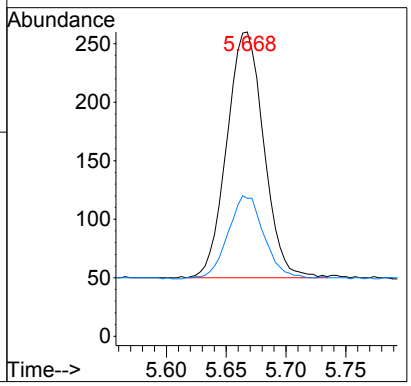


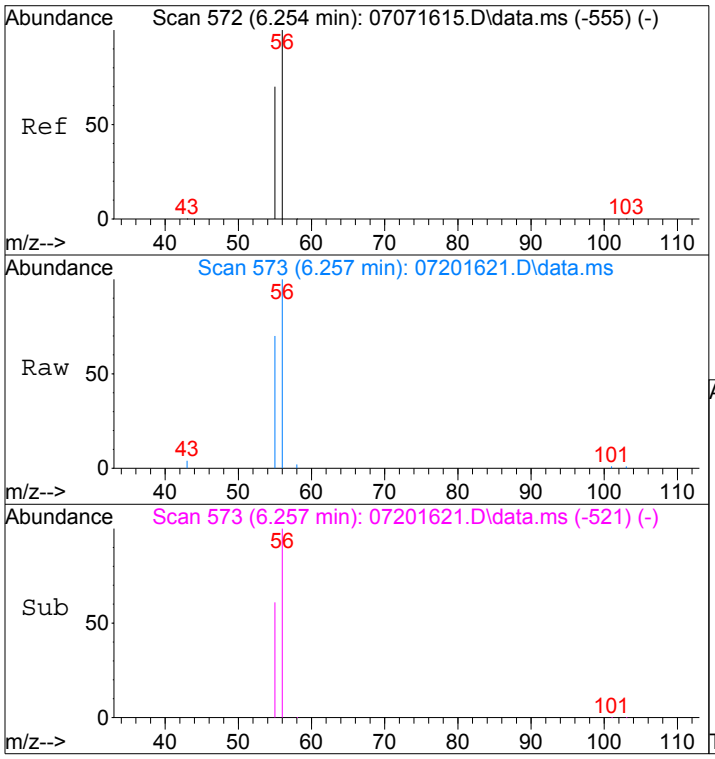


#8
Chloroethane
Concen: 28.63 pg
RT: 5.67 min Scan# 413
Delta R.T. -0.011 min
Lab File: 07201621.D
Acq: 20 Jul 2016 21:19

Tgt Ion: 64 Resp: 452

Ion	Ratio	Lower	Upper
64	100		
66	33.2	12.2	52.2

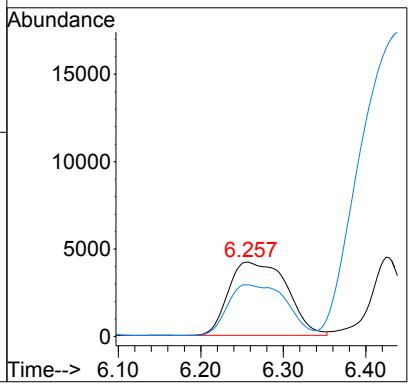


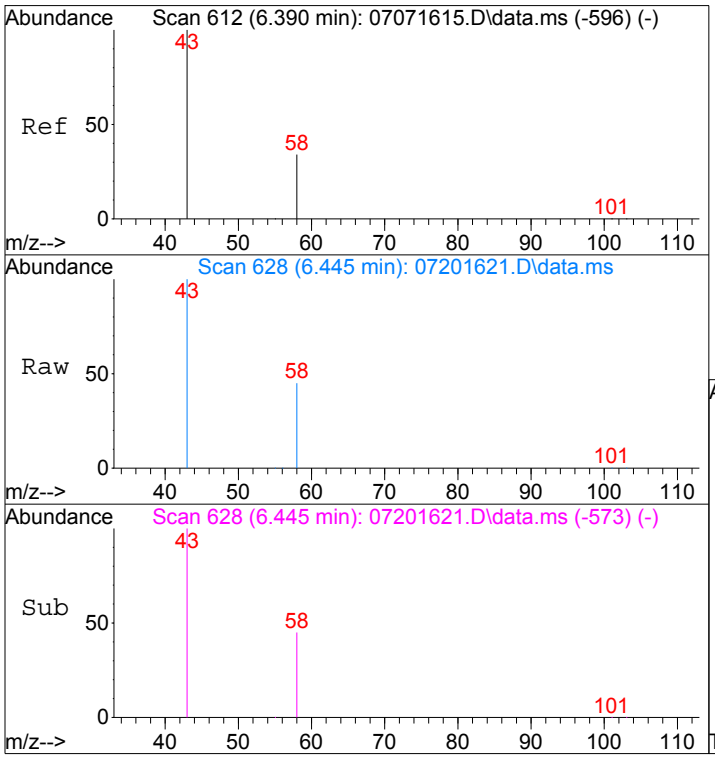


#9
Acrolein
Concen: 1888.93 pg
RT: 6.26 min Scan# 573
Delta R.T. 0.007 min
Lab File: 07201621.D
Acq: 20 Jul 2016 21:19

Tgt Ion: 56 Resp: 20650

Ion	Ratio	Lower	Upper
56	100		
55	69.2	47.1	70.7

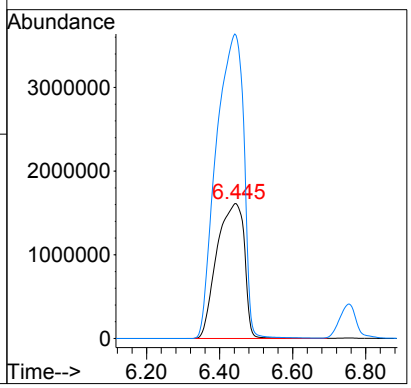


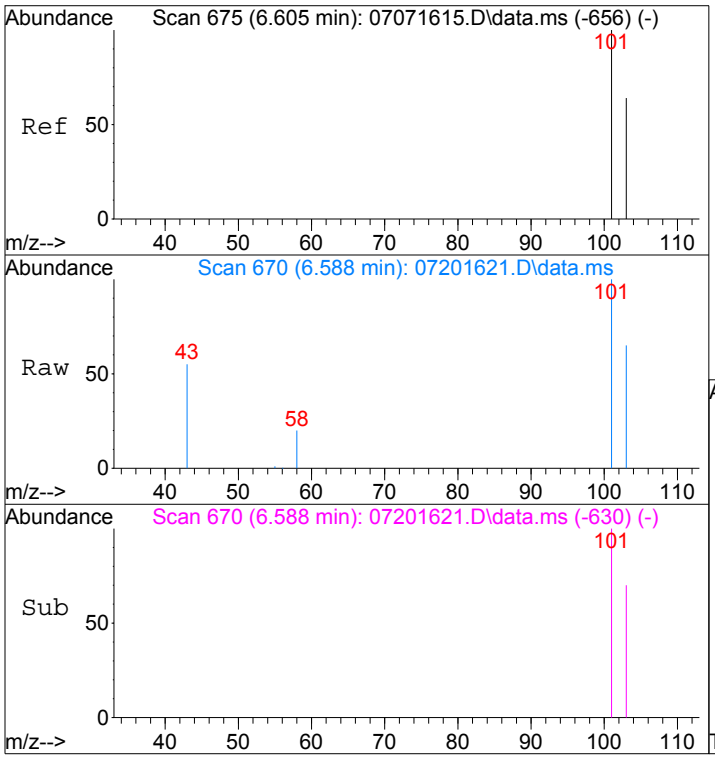


#10
Acetone
Concen: 591417.95 pg
RT: 6.45 min Scan# 628
Delta R.T. 0.038 min
Lab File: 07201621.D
Acq: 20 Jul 2016 21:19

Tgt Ion: 58 Resp: 8454317

Ion	Ratio	Lower	Upper
58	100		
43	225.6	262.3	302.3#

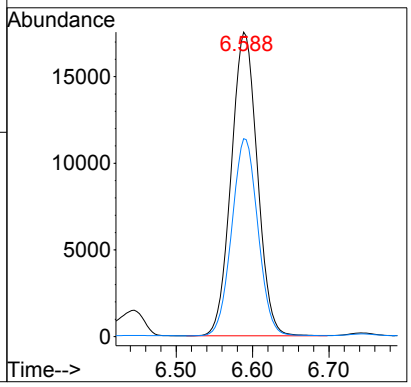


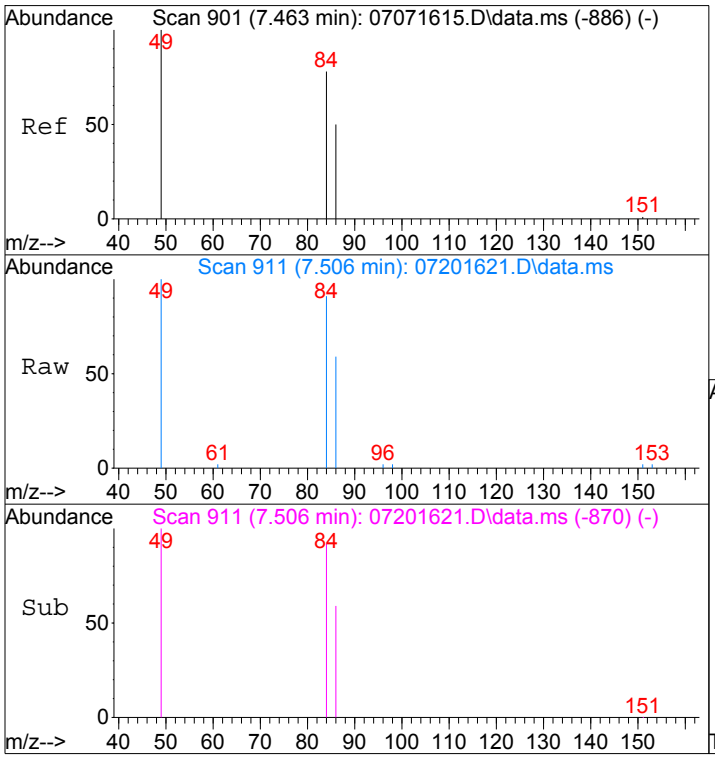


#11
Trichlorofluoromethane
Concen: 1330.30 pg
RT: 6.59 min Scan# 670
Delta R.T. -0.014 min
Lab File: 07201621.D
Acq: 20 Jul 2016 21:19

Tgt Ion:101 Resp: 41553

Ion	Ratio	Lower	Upper
101	100		
103	65.0	51.8	77.6

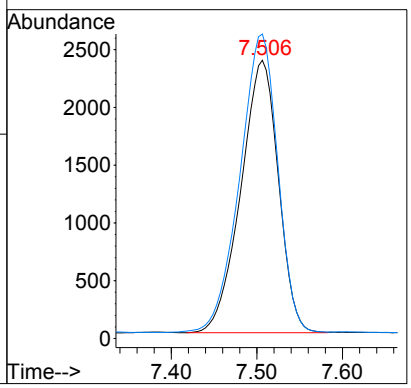


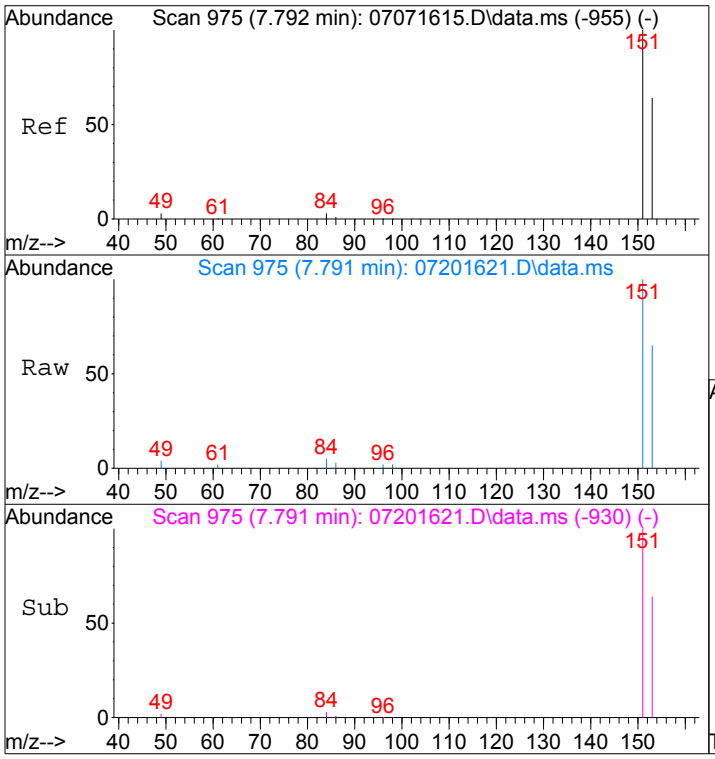


#13
Methylene Chloride
Concen: 342.63 pg
RT: 7.51 min Scan# 911
Delta R.T. 0.021 min
Lab File: 07201621.D
Acq: 20 Jul 2016 21:19

Tgt Ion: 84 Resp: 7192

Ion	Ratio	Lower	Upper
84	100		
49	110.9	101.0	141.0

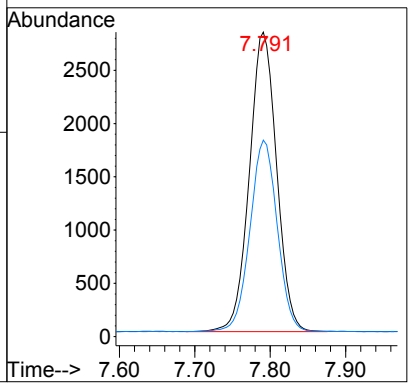


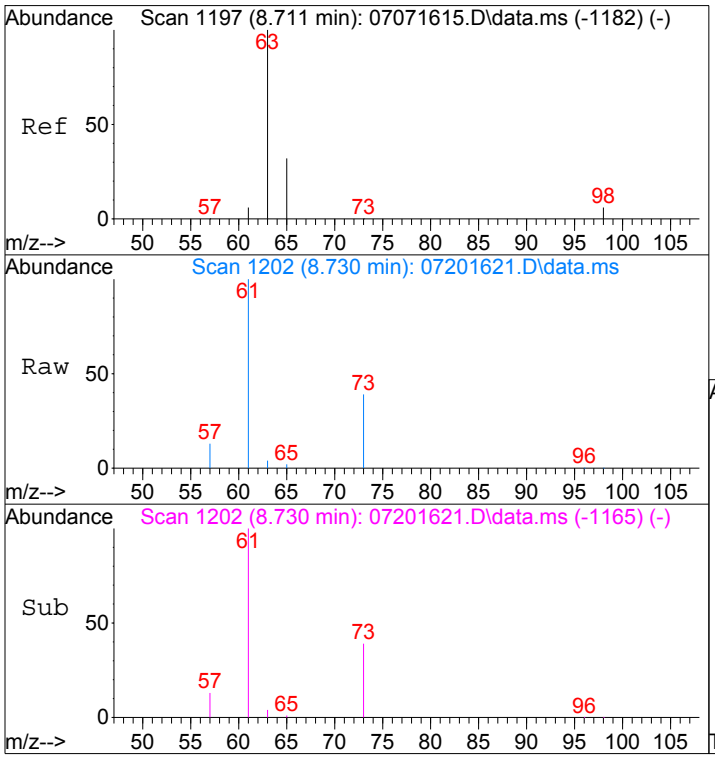


#14
Trichlorotrifluoroethane
Concen: 390.94 pg
RT: 7.79 min Scan# 975
Delta R.T. -0.001 min
Lab File: 07201621.D
Acq: 20 Jul 2016 21:19

Tgt Ion:151 Resp: 7077

Ion	Ratio	Lower	Upper
151	100		
153	63.9	44.0	84.0

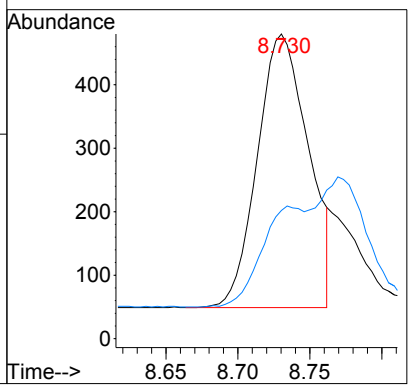


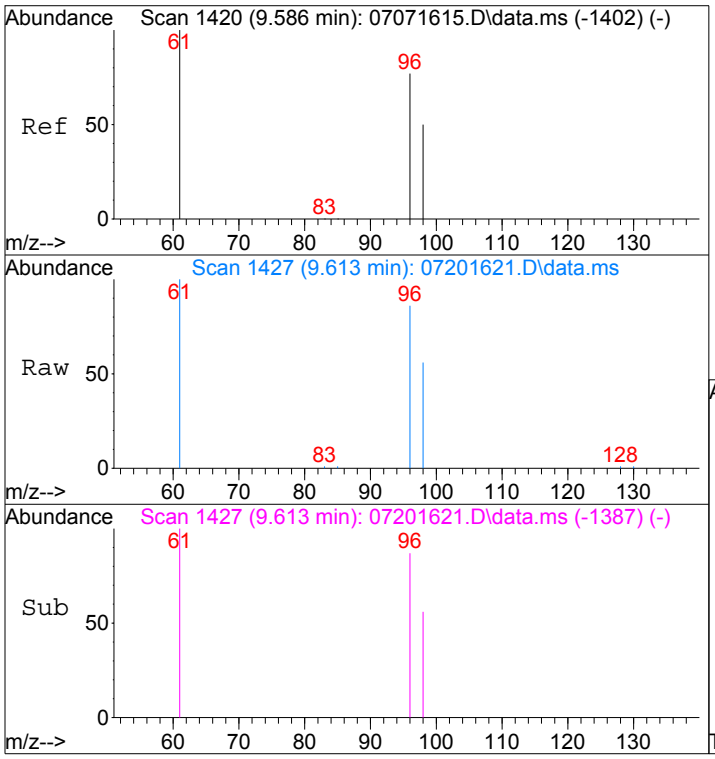


#16
1,1-Dichloroethane
Concen: 27.48 pg m
RT: 8.73 min Scan# 1202
Delta R.T. -0.005 min
Lab File: 07201621.D
Acq: 20 Jul 2016 21:19

Tgt Ion: 63 Resp: 1063

Ion	Ratio	Lower	Upper
63	100		
65	36.6	11.7	51.7

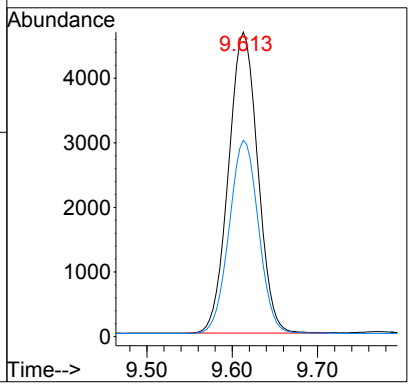


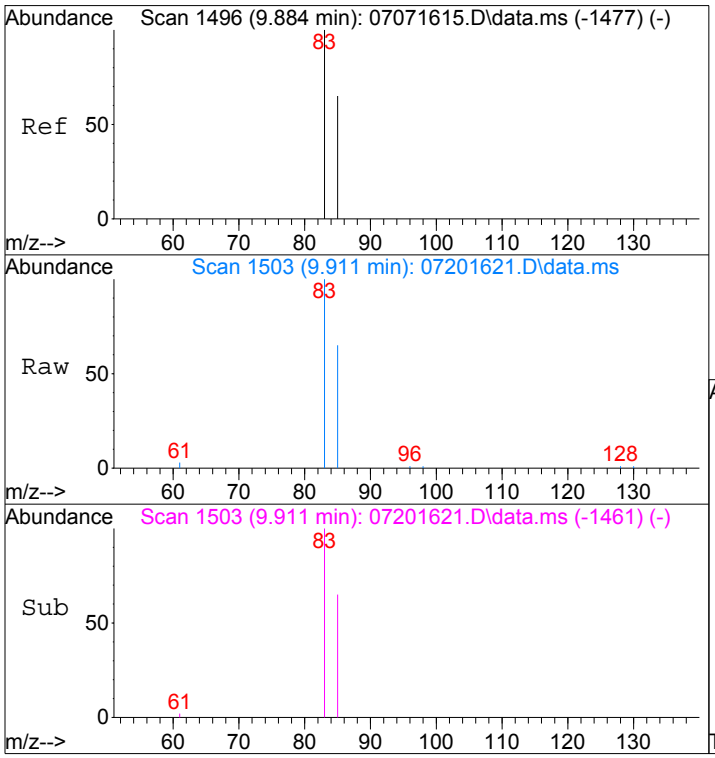


#18
cis-1,2-Dichloroethene
Concen: 494.64 pg
RT: 9.61 min Scan# 1427
Delta R.T. 0.008 min
Lab File: 07201621.D
Acq: 20 Jul 2016 21:19

Tgt Ion: 96 Resp: 11111

Ion	Ratio	Lower	Upper
96	100		
98	64.4	44.5	84.5

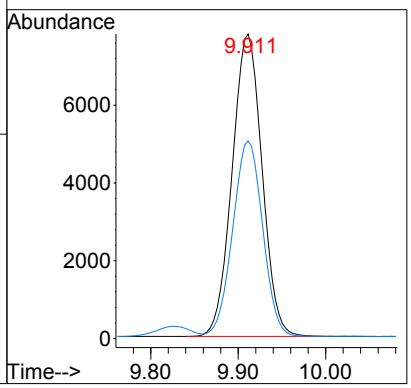


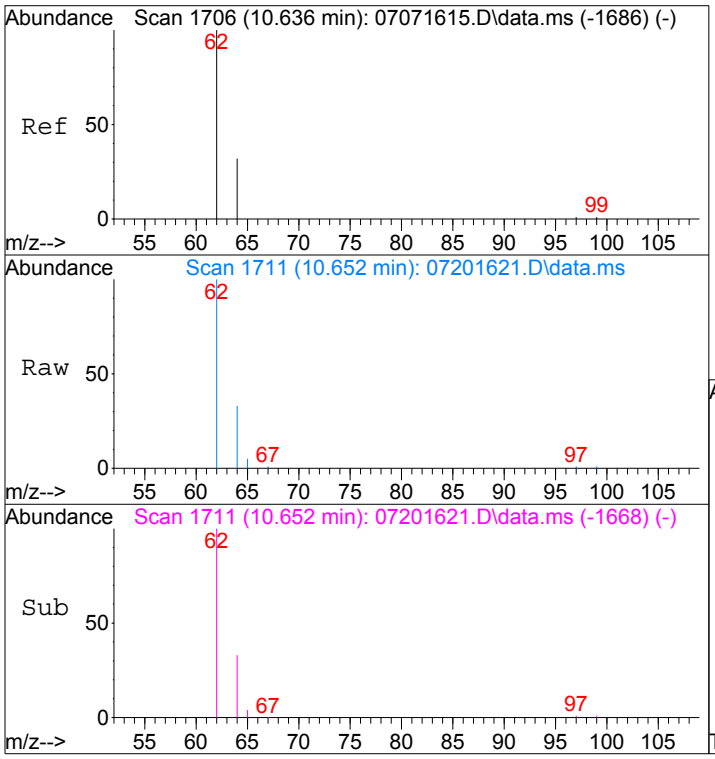


#19
Chloroform
Concen: 520.05 pg
RT: 9.91 min Scan# 1503
Delta R.T. -0.005 min
Lab File: 07201621.D
Acq: 20 Jul 2016 21:19

Tgt Ion: 83 Resp: 18509

Ion	Ratio	Lower	Upper
83	100		
85	64.6	45.1	85.1

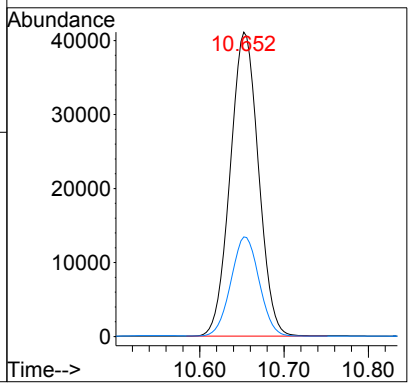


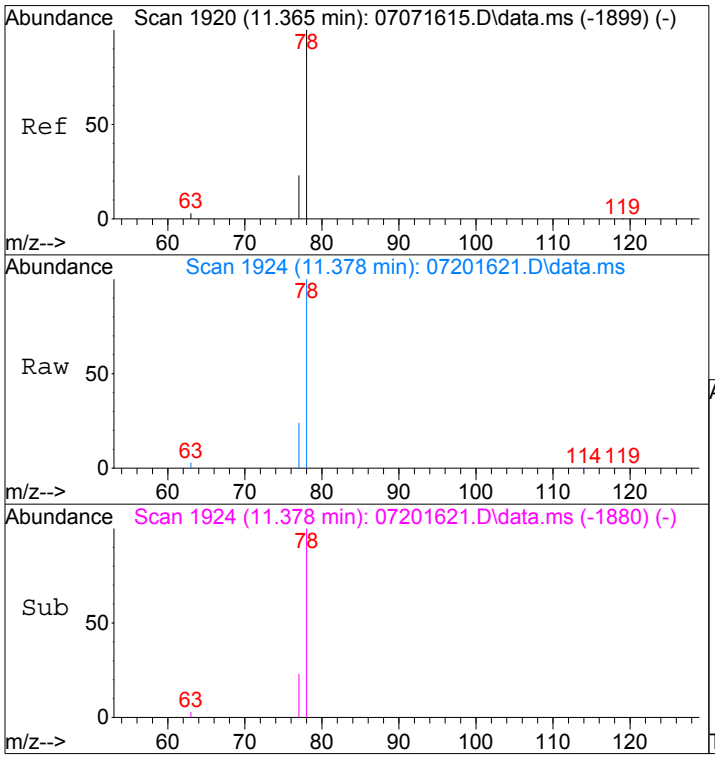


#21
1,2-Dichloroethane
Concen: 3607.82 pg
RT: 10.65 min Scan# 1711
Delta R.T. -0.004 min
Lab File: 07201621.D
Acq: 20 Jul 2016 21:19

Tgt Ion: 62 Resp: 95917

Ion	Ratio	Lower	Upper
62	100		
64	32.6	12.1	52.1

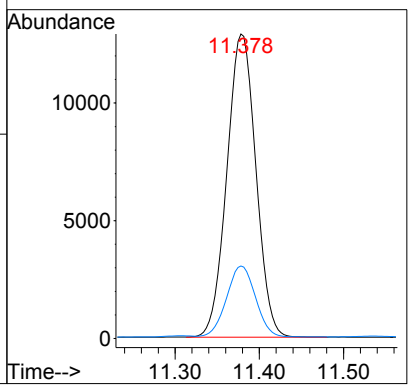


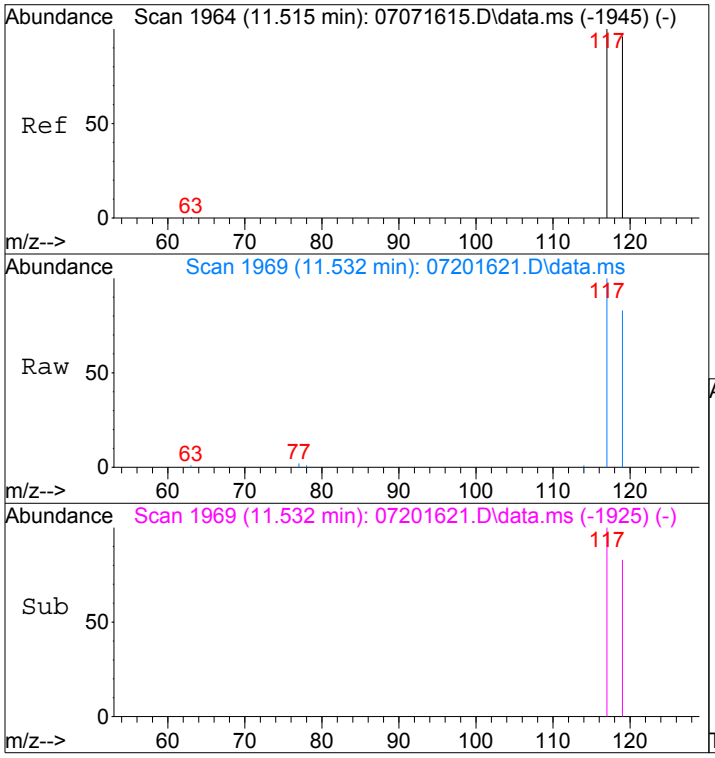


#23
Benzene
Concen: 369.75 pg
RT: 11.38 min Scan# 1924
Delta R.T. -0.001 min
Lab File: 07201621.D
Acq: 20 Jul 2016 21:19

Tgt Ion: 78 Resp: 30750

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.3	43.3

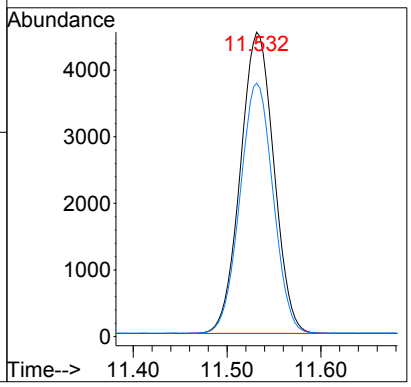


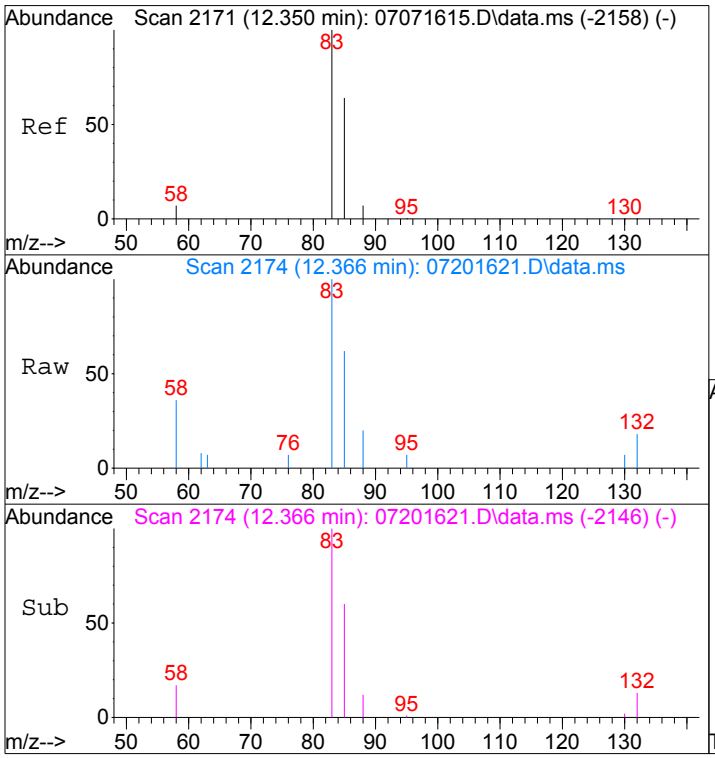


#24
Carbon Tetrachloride
Concen: 436.17 pg
RT: 11.53 min Scan# 1969
Delta R.T. -0.000 min
Lab File: 07201621.D
Acq: 20 Jul 2016 21:19

Tgt Ion:117 Resp: 11256

Ion	Ratio	Lower	Upper
117	100		
119	82.1	75.6	115.6

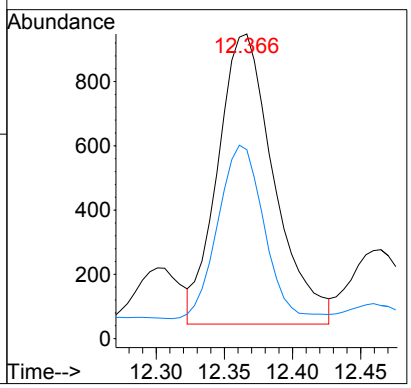


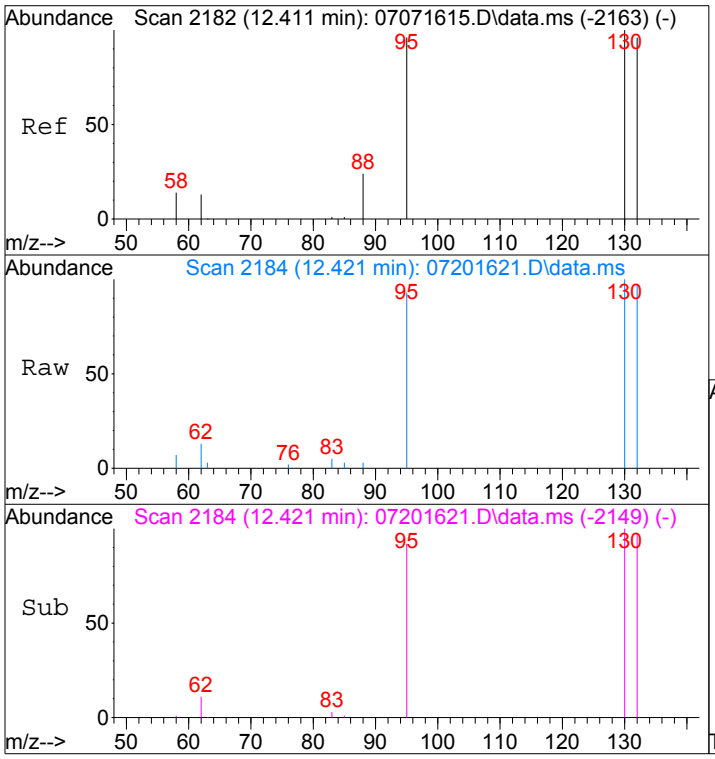


#27
Bromodichloromethane
Concen: 96.72 pg m
RT: 12.37 min Scan# 2174
Delta R.T. 0.005 min
Lab File: 07201621.D
Acq: 20 Jul 2016 21:19

Tgt Ion: 83 Resp: 2595

Ion	Ratio	Lower	Upper
83	100		
85	48.7	51.2	76.8#

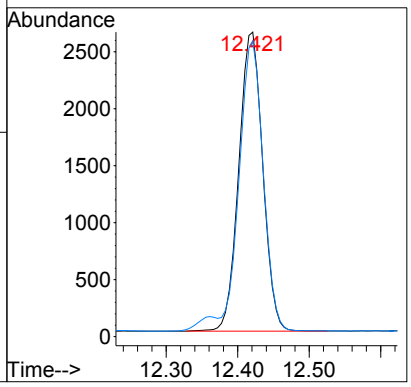


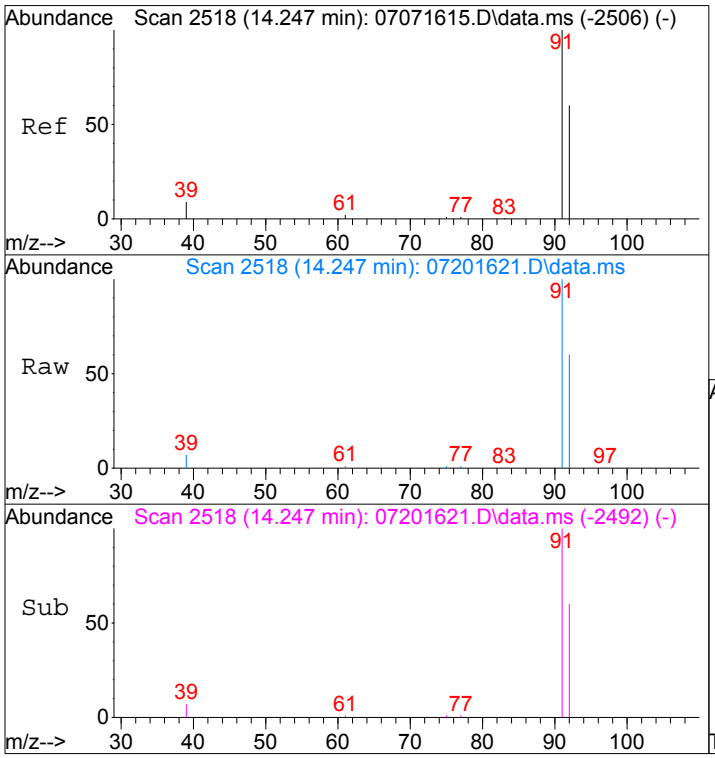


#28
Trichloroethene
Concen: 270.07 pg
RT: 12.42 min Scan# 2184
Delta R.T. 0.000 min
Lab File: 07201621.D
Acq: 20 Jul 2016 21:19

Tgt Ion:130 Resp: 6104

Ion	Ratio	Lower	Upper
130	100		
132	96.3	75.8	115.8

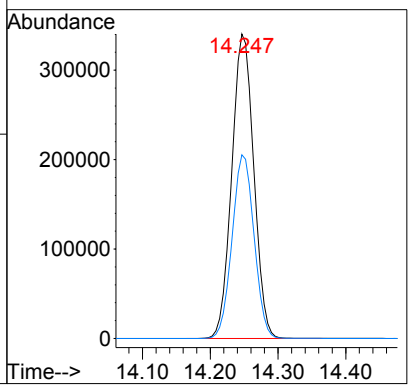


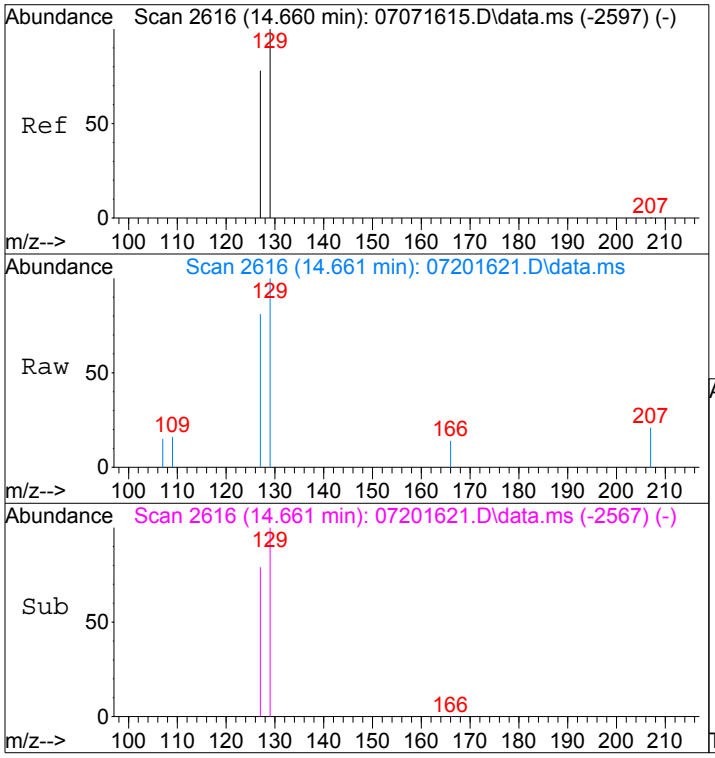


#34
Toluene
Concen: 8971.50 pg
RT: 14.25 min Scan# 2518
Delta R.T. -0.005 min
Lab File: 07201621.D
Acq: 20 Jul 2016 21:19

Tgt Ion: 91 Resp: 767609

Ion	Ratio	Lower	Upper
91	100		
92	60.2	39.4	79.4

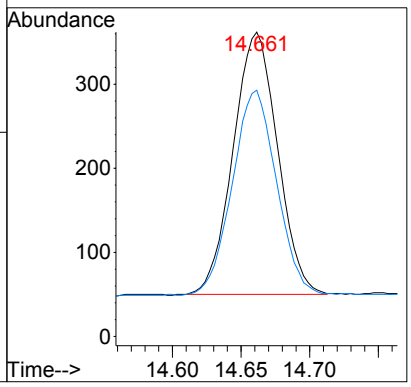


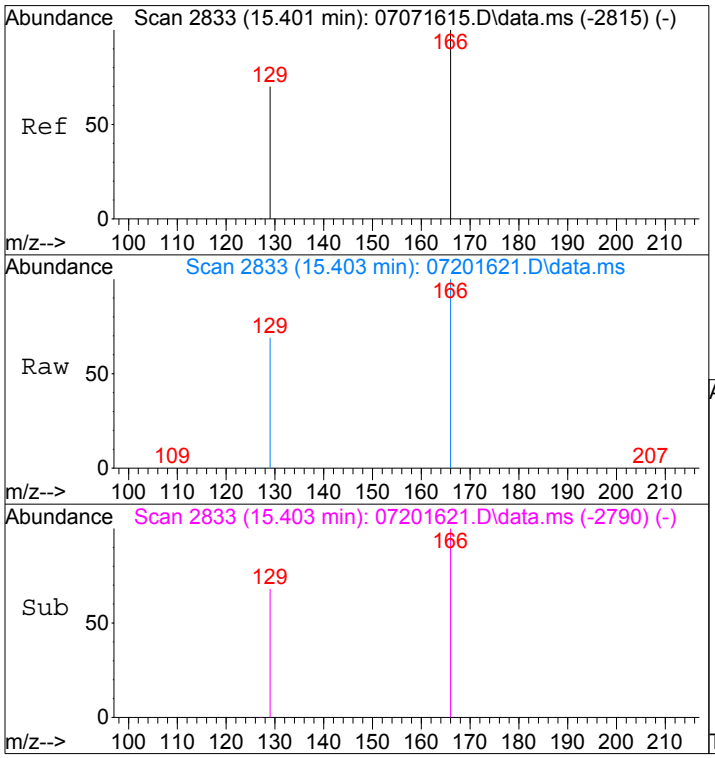


#35
Dibromochloromethane
Concen: 35.02 pg
RT: 14.66 min Scan# 2616
Delta R.T. -0.002 min
Lab File: 07201621.D
Acq: 20 Jul 2016 21:19

Tgt Ion:129 Resp: 703

Ion	Ratio	Lower	Upper
129	100		
127	78.0	62.0	93.0

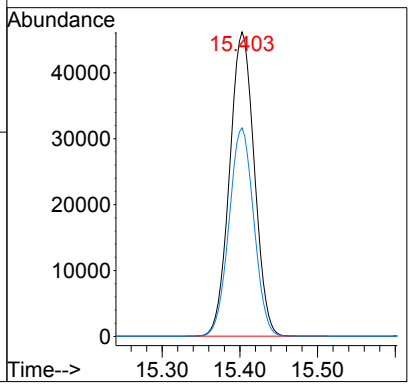


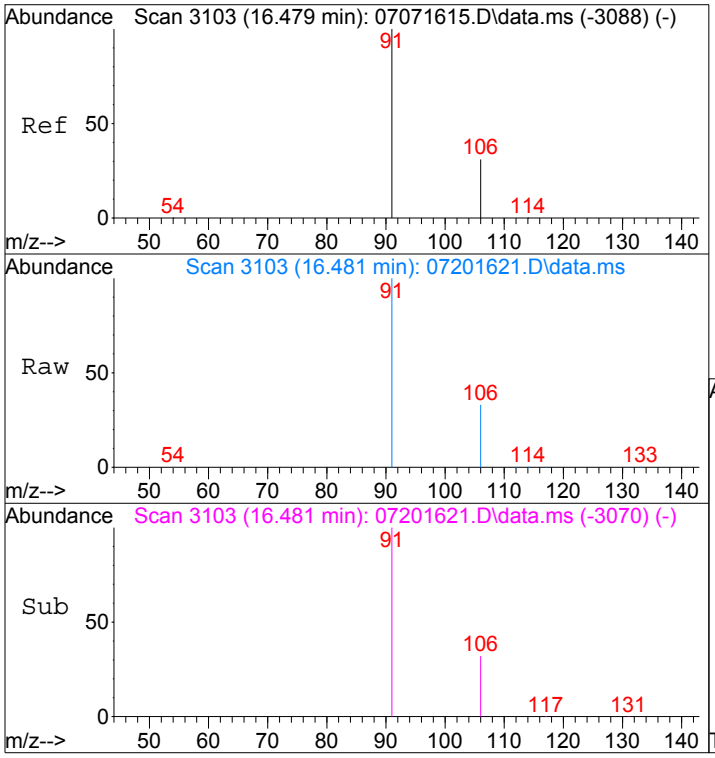


#37
Tetrachloroethene
Concen: 4130.19 pg
RT: 15.40 min Scan# 2833
Delta R.T. -0.002 min
Lab File: 07201621.D
Acq: 20 Jul 2016 21:19

Tgt Ion:166 Resp: 101764

Ion	Ratio	Lower	Upper
166	100		
129	68.6	50.0	90.0

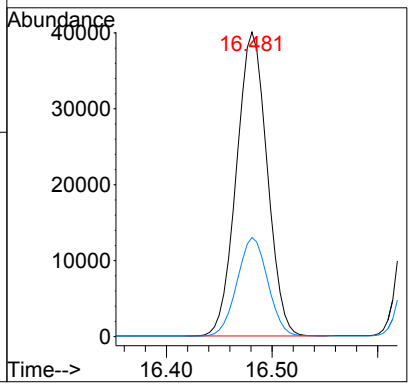


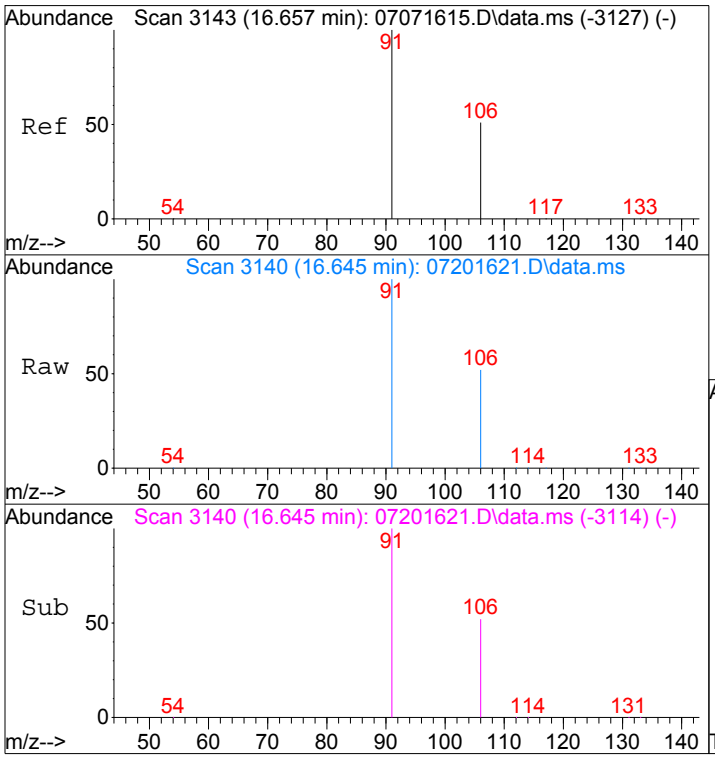


#40
Ethylbenzene
Concen: 1037.97 pg
RT: 16.48 min Scan# 3103
Delta R.T. -0.003 min
Lab File: 07201621.D
Acq: 20 Jul 2016 21:19

Tgt Ion: 91 Resp: 80756

Ion	Ratio	Lower	Upper
91	100		
106	32.7	11.6	51.6

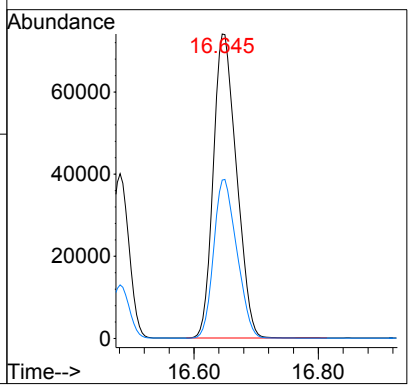


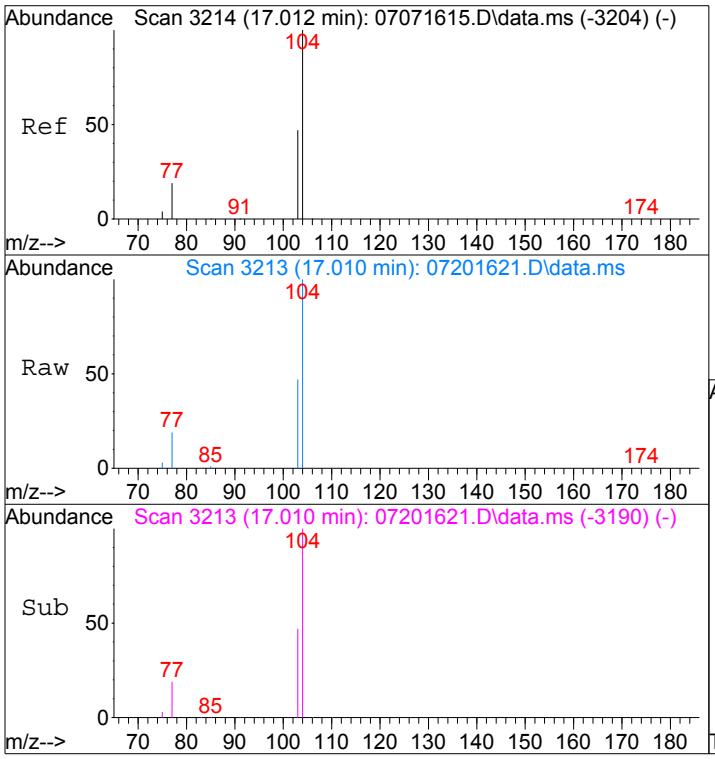


#41
m,p-Xylene
Concen: 3218.94 pg
RT: 16.65 min Scan# 3140
Delta R.T. -0.016 min
Lab File: 07201621.D
Acq: 20 Jul 2016 21:19

Tgt Ion: 91 Resp: 191349

Ion	Ratio	Lower	Upper
91	100		
106	52.1	30.7	70.7

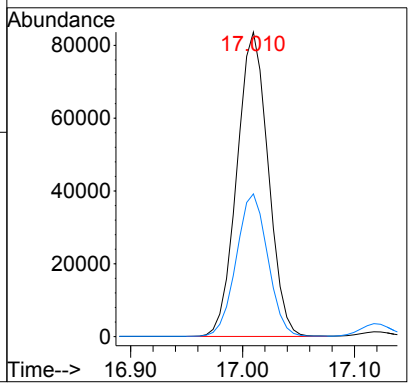


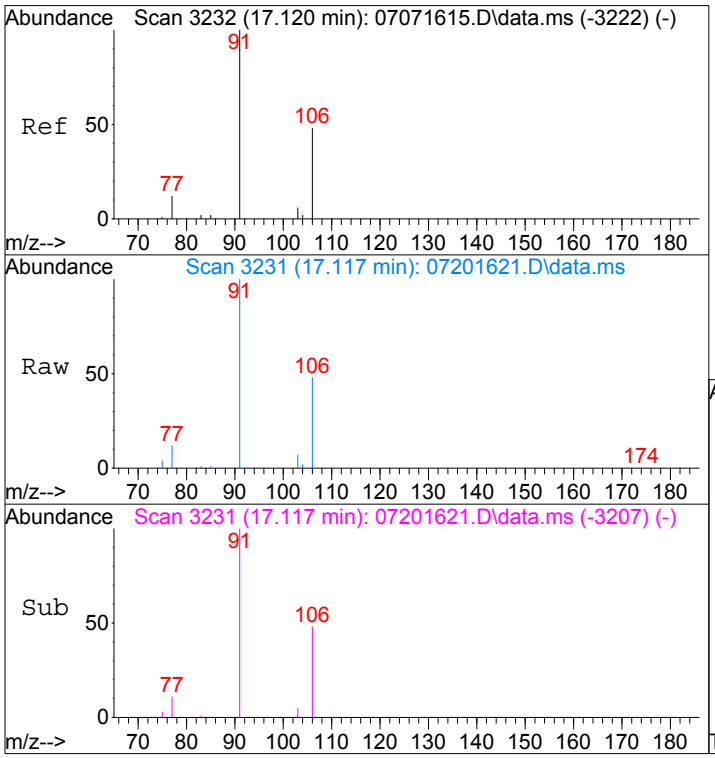


#42
Styrene
Concen: 3722.01 pg
RT: 17.01 min Scan# 3213
Delta R.T. -0.002 min
Lab File: 07201621.D
Acq: 20 Jul 2016 21:19

Tgt Ion:104 Resp: 162175

Ion	Ratio	Lower	Upper
104	100		
103	47.2	37.8	56.6

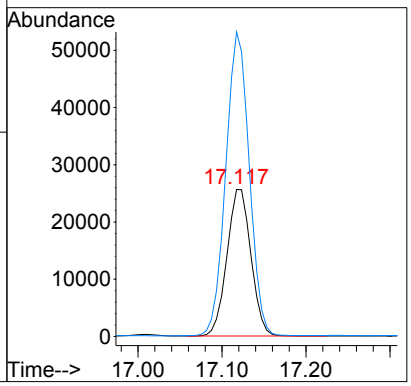


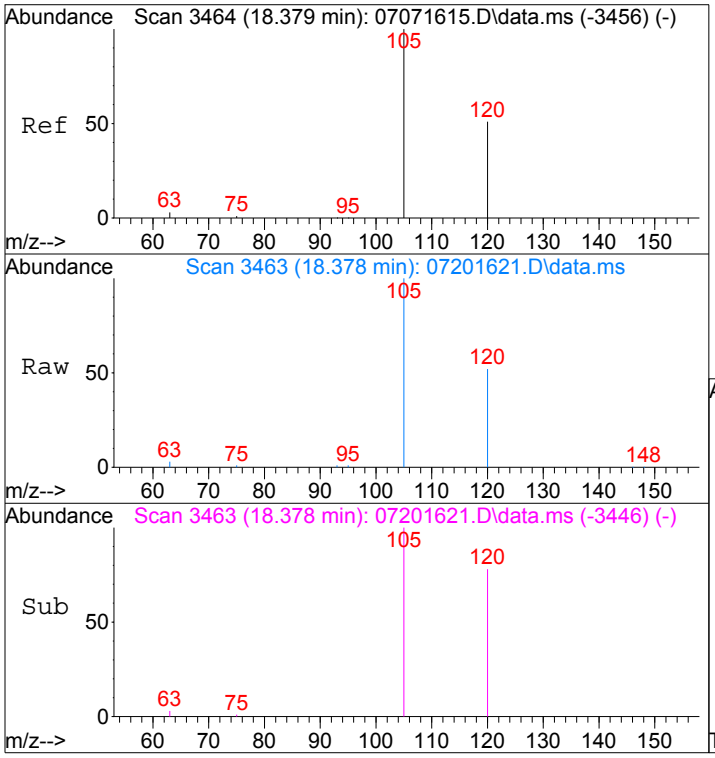


#43
o-Xylene
Concen: 1684.90 pg
RT: 17.12 min Scan# 3231
Delta R.T. -0.009 min
Lab File: 07201621.D
Acq: 20 Jul 2016 21:19

Tgt Ion:106 Resp: 50912

Ion	Ratio	Lower	Upper
106	100		
91	202.7	189.7	229.7

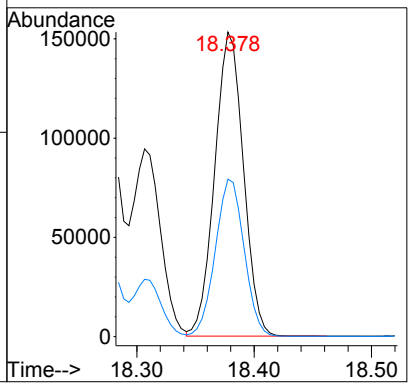


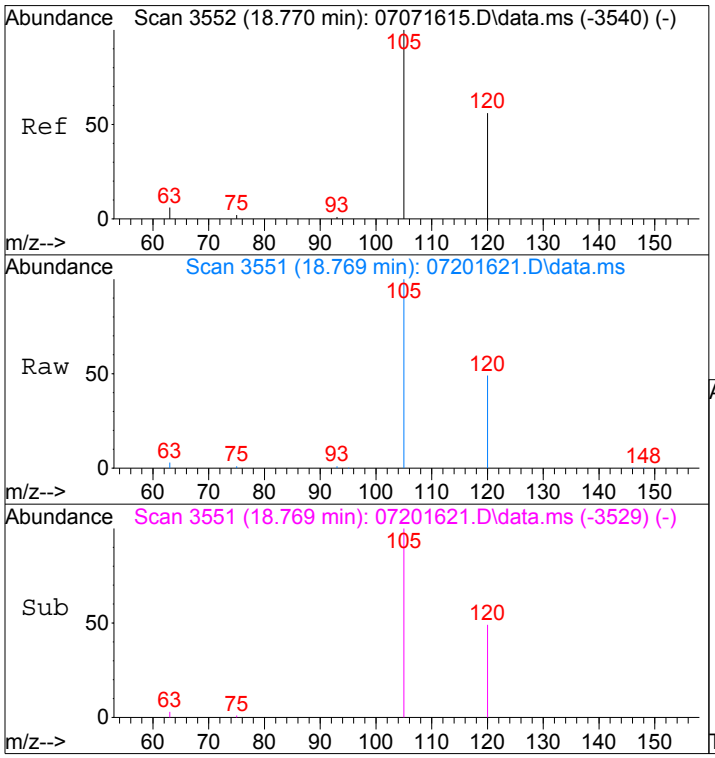


#46
1,3,5-Trimethylbenzene
Concen: 4246.18 pg
RT: 18.38 min Scan# 3463
Delta R.T. -0.005 min
Lab File: 07201621.D
Acq: 20 Jul 2016 21:19

Tgt Ion:105 Resp: 260159

Ion	Ratio	Lower	Upper
105	100		
120	51.9	40.4	60.6

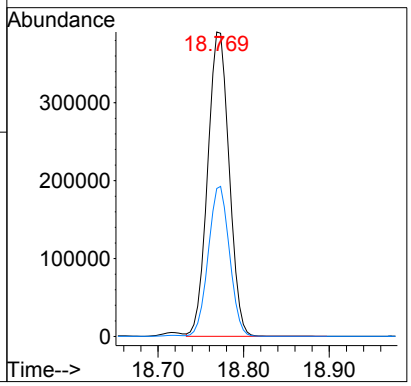


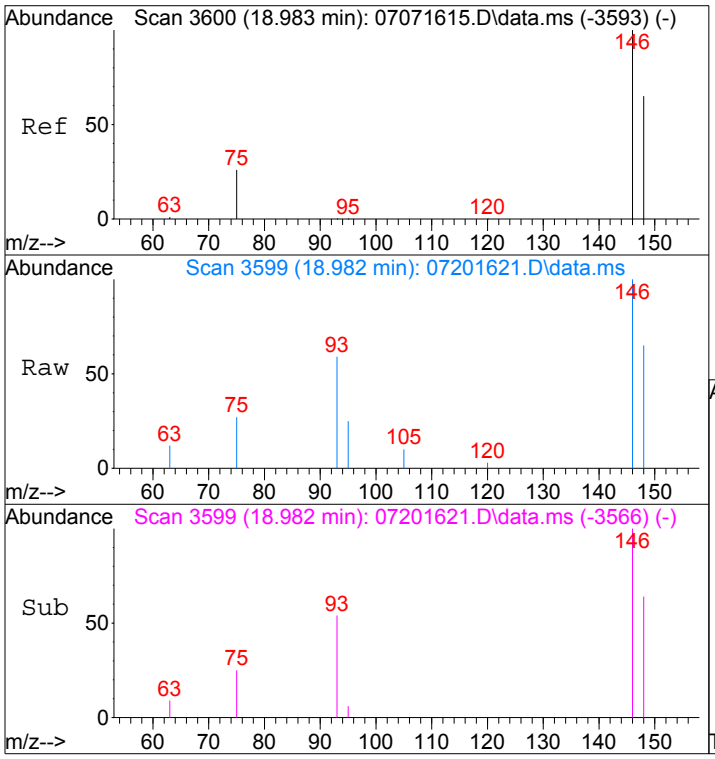


#47
1,2,4-Trimethylbenzene
Concen: 11095.56 pg
RT: 18.77 min Scan# 3551
Delta R.T. -0.010 min
Lab File: 07201621.D
Acq: 20 Jul 2016 21:19

Tgt Ion:105 Resp: 678878

Ion	Ratio	Lower	Upper
105	100		
120	48.9	44.8	67.2

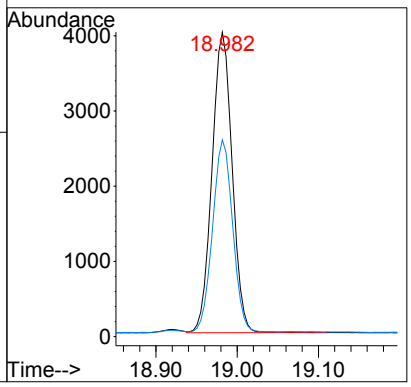


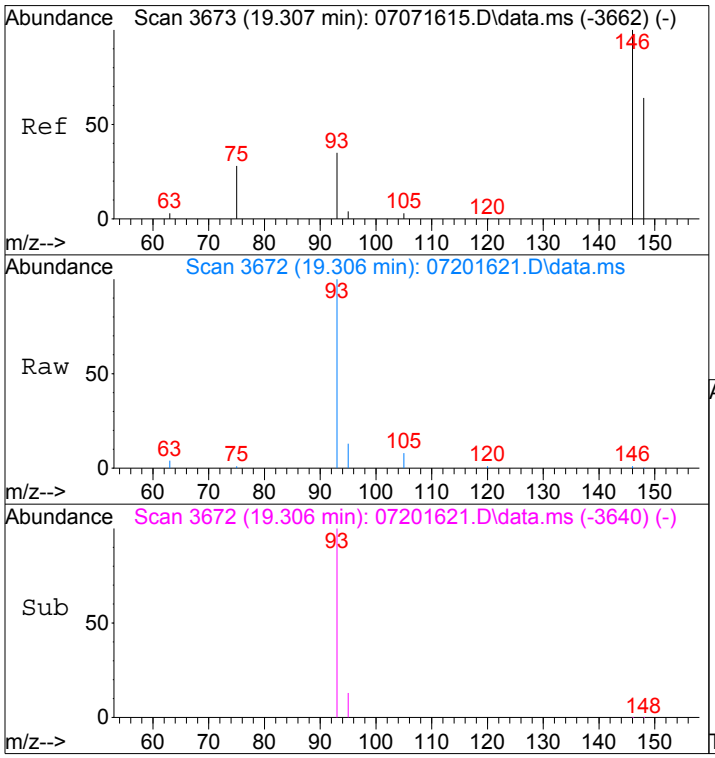


#49
1,4-Dichlorobenzene
Concen: 188.91 pg
RT: 18.98 min Scan# 3599
Delta R.T. -0.001 min
Lab File: 07201621.D
Acq: 20 Jul 2016 21:19

Tgt Ion:146 Resp: 6886

Ion	Ratio	Lower	Upper
146	100		
148	63.7	44.1	84.1

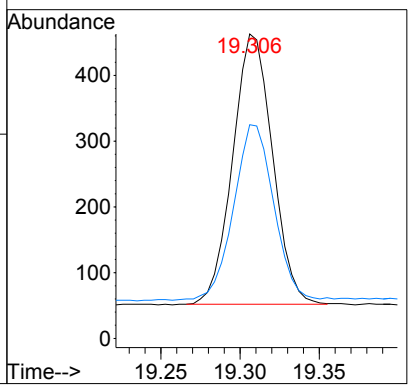


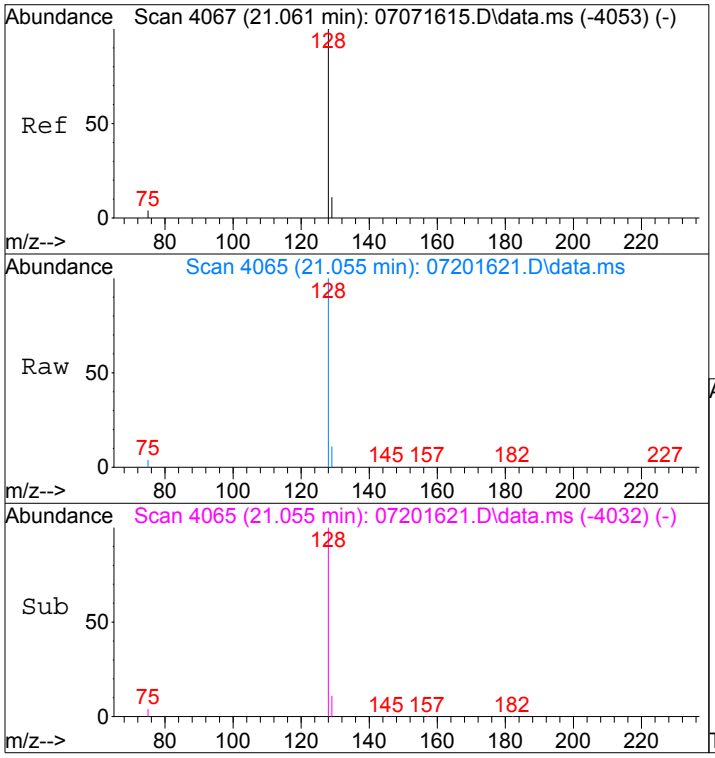


#50
1,2-Dichlorobenzene
Concen: 21.07 pg
RT: 19.31 min Scan# 3672
Delta R.T. -0.006 min
Lab File: 07201621.D
Acq: 20 Jul 2016 21:19

Tgt Ion:146 Resp: 719

Ion	Ratio	Lower	Upper
146	100		
148	65.4	43.8	83.8

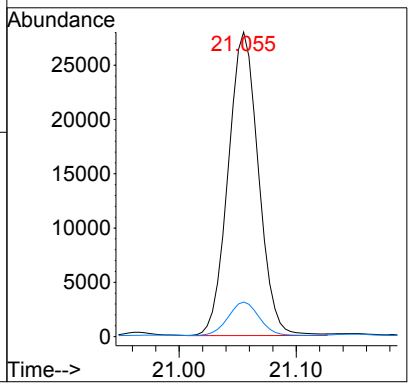




#53
Naphthalene
Concen: 660.56 pg
RT: 21.06 min Scan# 4065
Delta R.T. -0.001 min
Lab File: 07201621.D
Acq: 20 Jul 2016 21:19

Tgt Ion:128 Resp: 50304

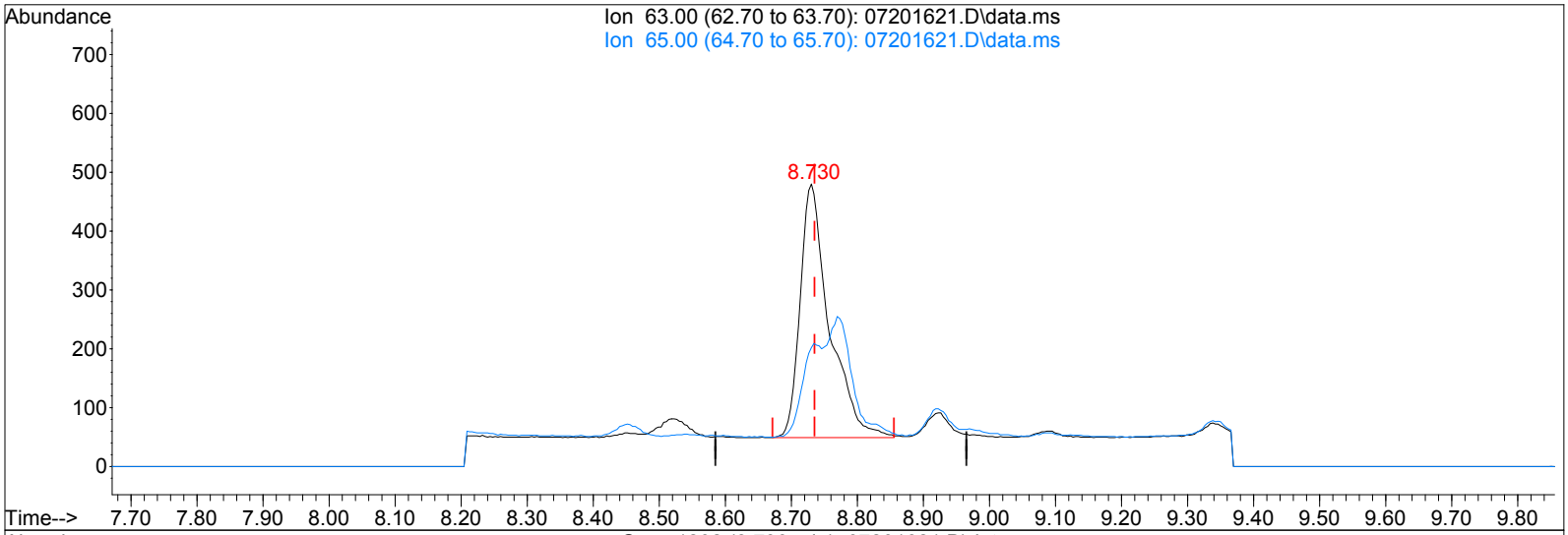
Ion	Ratio	Lower	Upper
128	100		
129	11.4	0.0	30.7

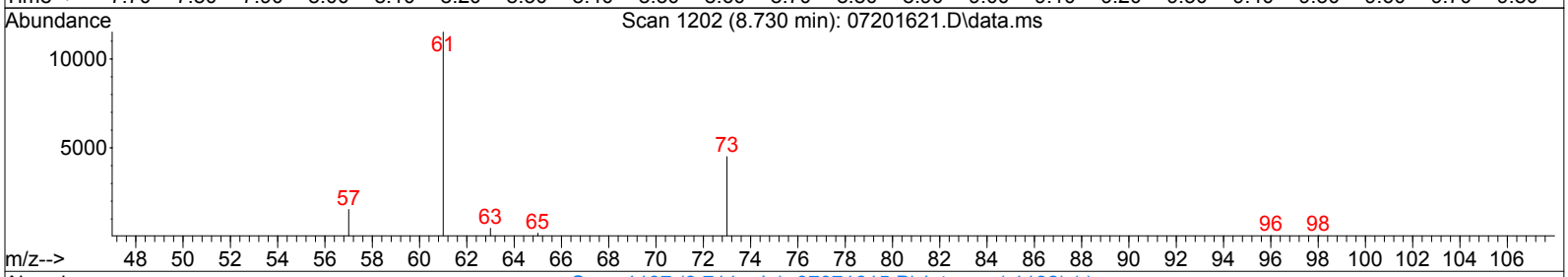


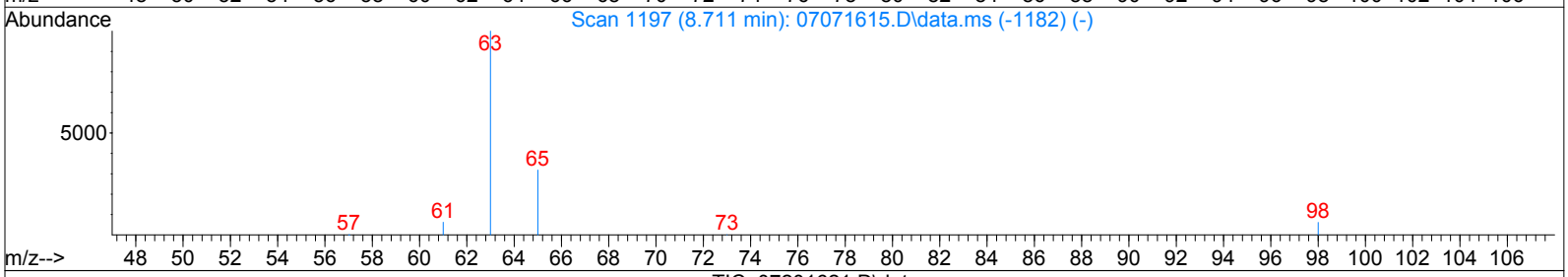
Quantitation Report (Qedit)

Data File: I:\MS19\DATA\2016 07\20\07201621.D
Acq On : 20 Jul 2016 21:19 Operator: CL
Sample : P1603571-003 (1000mL)
Misc : S29-06141602
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 22 13:30:33 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 07201621.D\data.ms

(16) 1,1-Dichloroethane (T)

8.730min (-0.005) 34.17pg

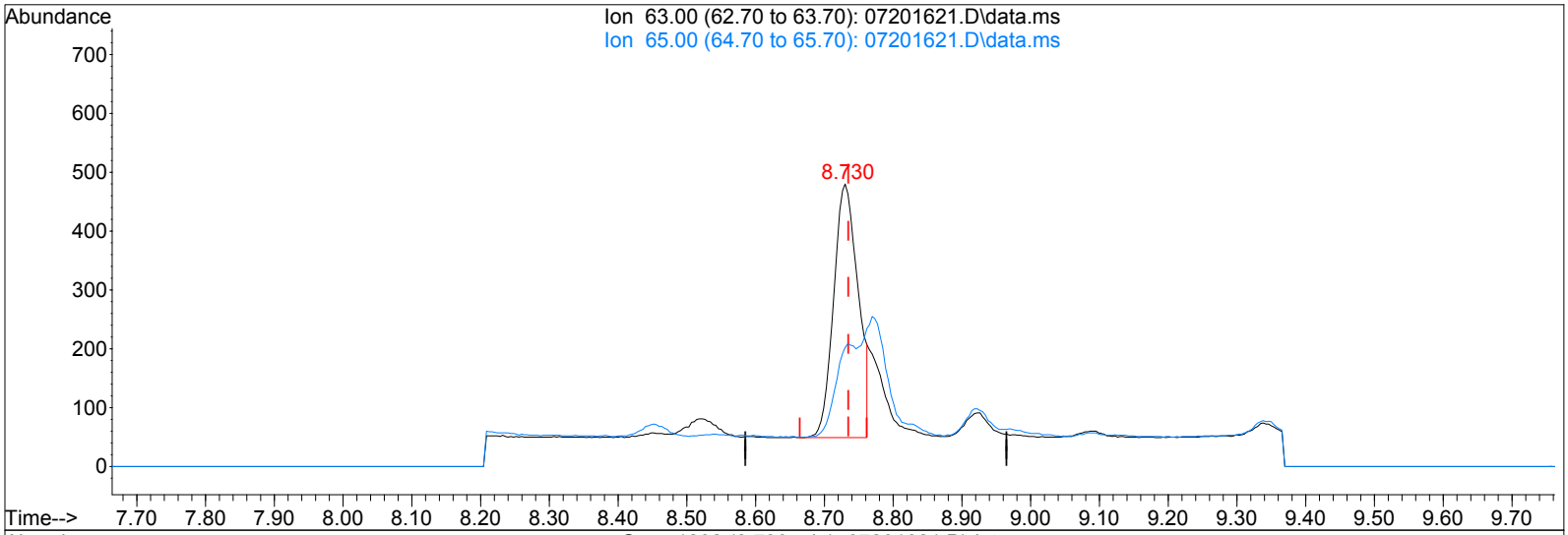
response 1322

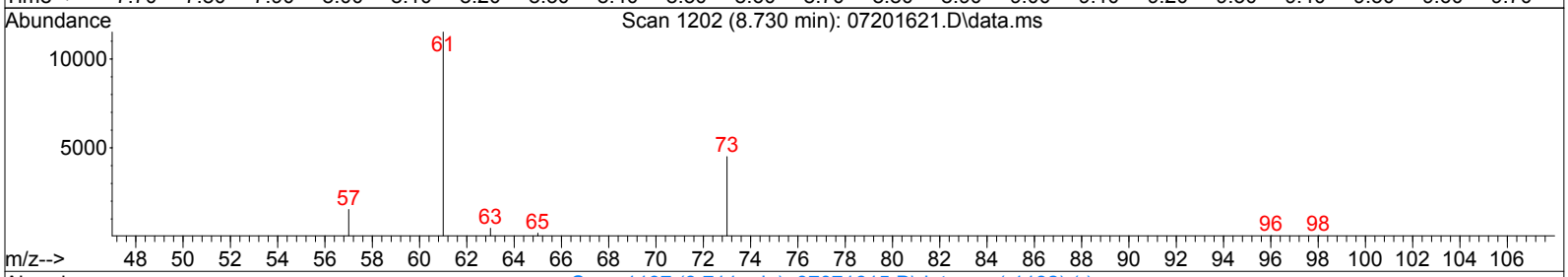
Ion	Exp%	Act%
63.00	100	100
65.00	31.70	29.43
0.00	0.00	0.00
0.00	0.00	0.00

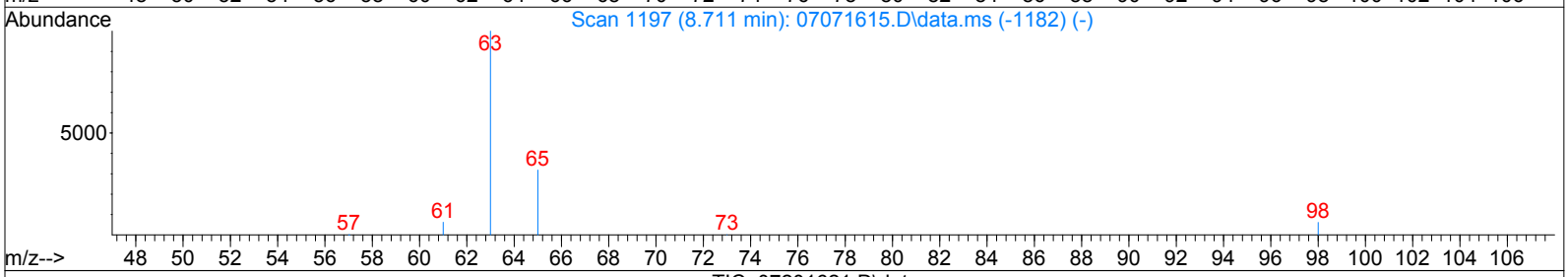
Quantitation Report (Qedit)

Data File: I:\MS19\DATA\2016 07\20\07201621.D
Acq On : 20 Jul 2016 21:19 Operator: CL
Sample : P1603571-003 (1000mL)
Misc : S29-06141602
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 22 13:30:33 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 07201621.D\data.ms

(16) 1,1-Dichloroethane (T)

8.730min (-0.005) 27.48pg m

response 1063

IPC

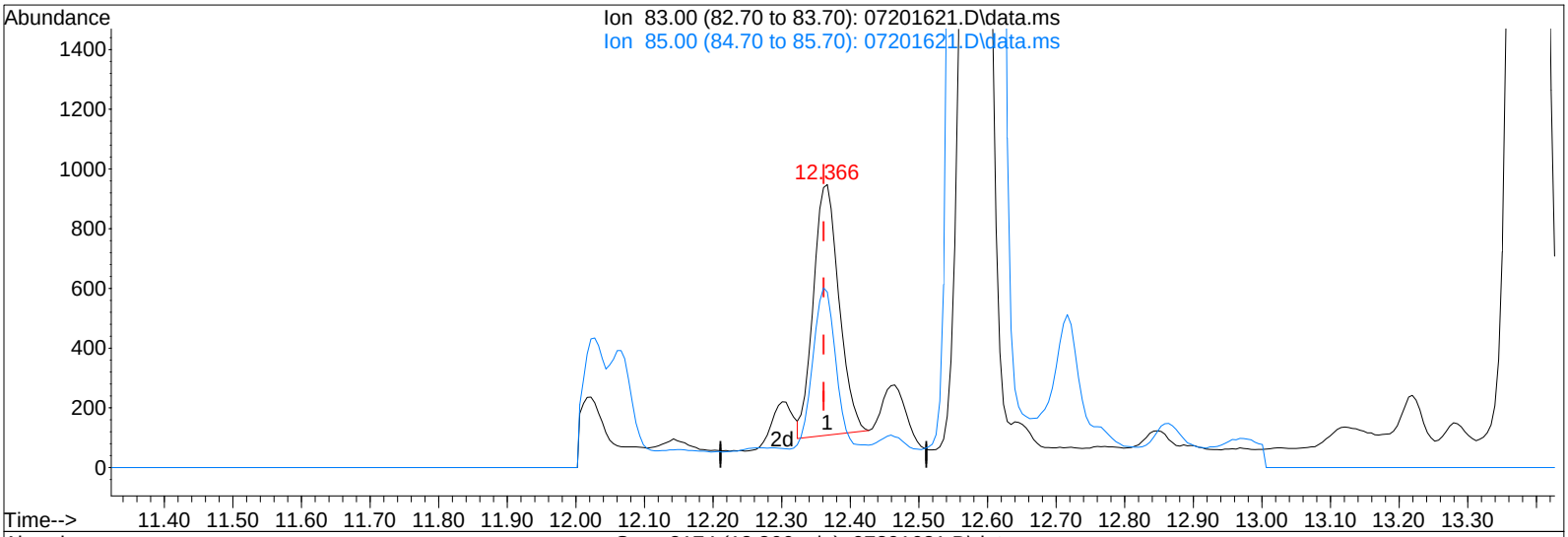
WA 7/28/16

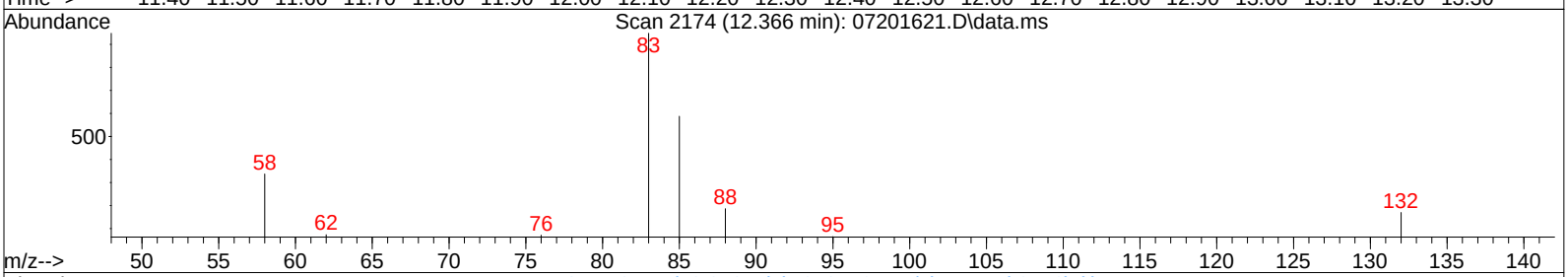
Ion	Exp%	Act%
63.00	100	100
65.00	31.70	36.59
0.00	0.00	0.00
0.00	0.00	0.00

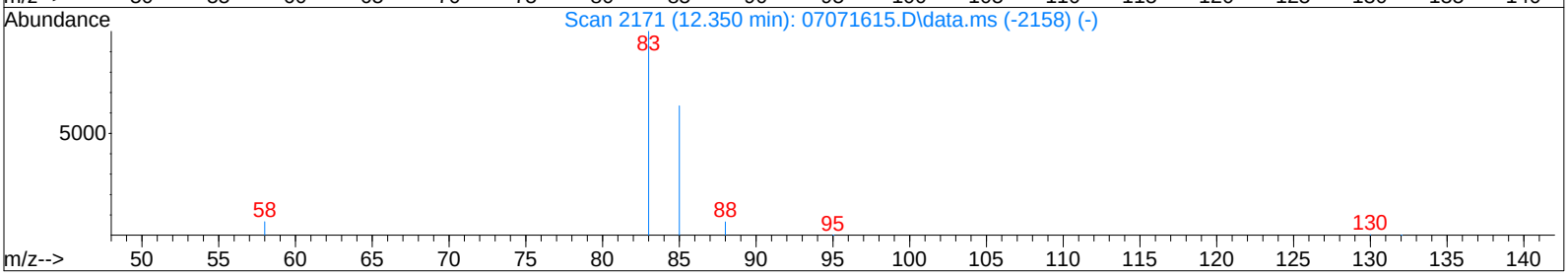
Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 07\20\07201621.D Vial: 10
Acq On : 20 Jul 2016 21:19 Operator: CL
Sample : P1603571-003 (1000mL) Inst : MS19
Misc : S29-06141602

Quant Time: Jul 21 08:46:53 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 07201621.D\data.ms

(27) Bromodichloromethane (T)

12.366min (+0.005) 81.51pg

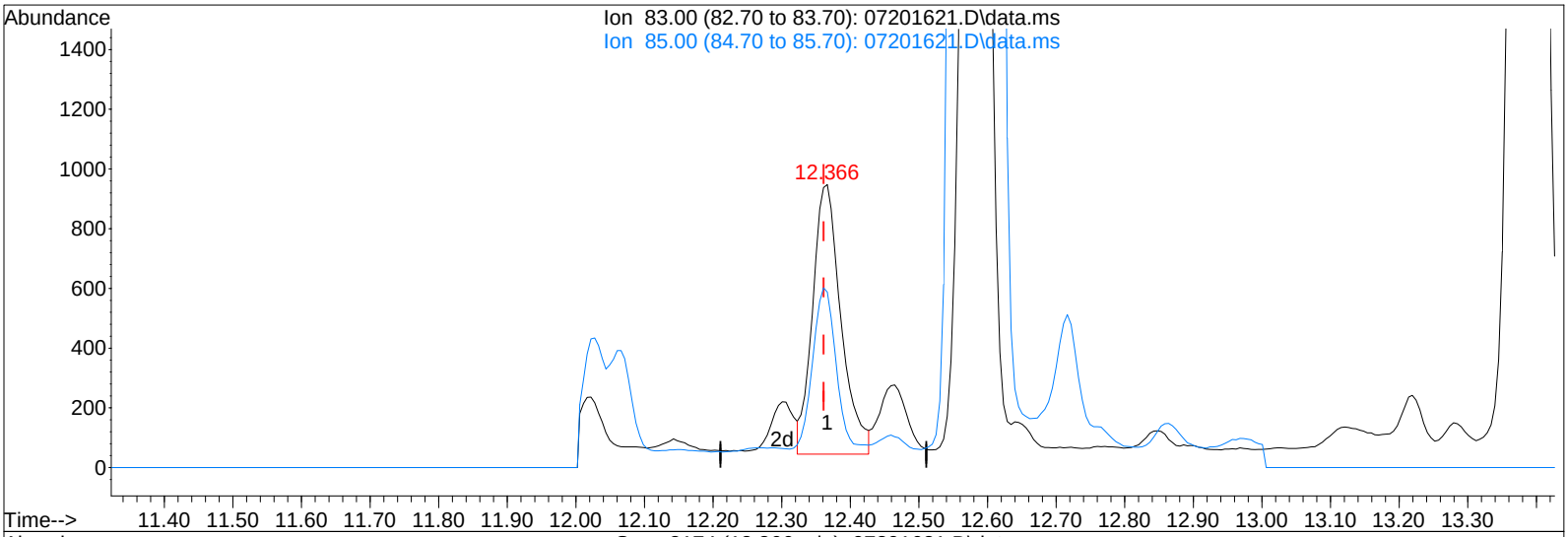
response 2187

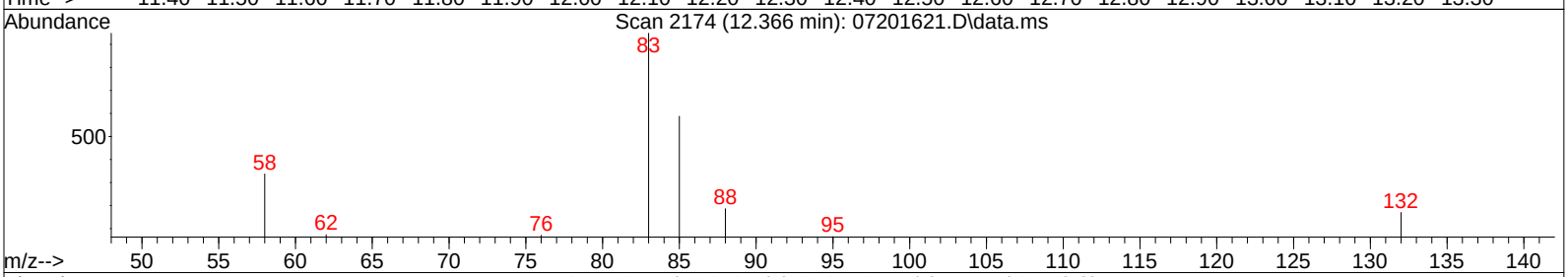
Ion	Exp%	Act%
83.00	100	100
85.00	64.00	57.84
0.00	0.00	0.00
0.00	0.00	0.00

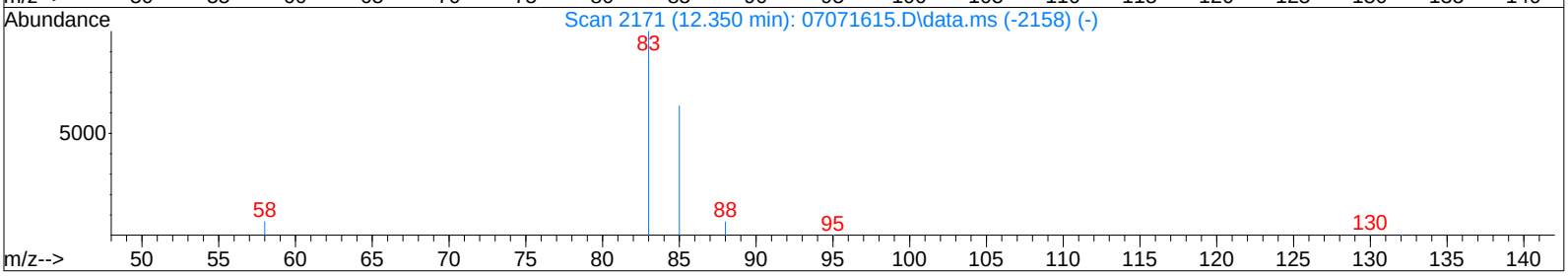
Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 07\20\07201621.D Vial: 10
Acq On : 20 Jul 2016 21:19 Operator: CL
Sample : P1603571-003 (1000mL) Inst : MS19
Misc : S29-06141602

Quant Time: Jul 21 08:46:53 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 07201621.D\data.ms

(27) Bromodichloromethane (T)

12.366min (+0.005) 96.72pg m

response 2595

BLC

CL 7/22/16

Ion	Exp%	Act%
83.00	100	100
85.00	64.00	48.75#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\21\07211606.D Vial: 10
Acq On : 21 Jul 2016 12:26 Operator: CL
Sample : P1603571-003dil (100mL) Inst : MS19
Misc : S29-06141602

Quant Time: Jul 22 11:58:01 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 7/22/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.76	130	18141	1000.000 pg	-0.02
25) 1,4-Difluorobenzene (IS2)	11.71	114	88846	1000.000 pg	-0.01
38) Chlorobenzene-d5 (IS3)	16.05	54	12332	1000.000 pg	0.00

System Monitoring Compounds

20) 1,2-Dichloroethane-d4 ...	10.53	65	24388	864.677 pg	-0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 86.47%		
33) Toluene-d8 (SS2)	14.14	98	91557	983.114 pg	-0.01
Spiked Amount 1000.000	Range 70 - 130		Recovery = 98.31%		
45) Bromofluorobenzene (SS3)	17.55	174	36726	1225.890 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 122.59%		

Target Compounds					Qvalue
2) Dichlorodifluoromethan...	4.41	85	7666	173.330 pg	100
3) Chloromethane	4.63	52	1463	129.041 pg	94
4) 1,2-Dichloro,1,1,2,2-t...	4.81	85	235	N.D.	
5) Vinyl Chloride	0.00	62	0	N.D.	
6) 1,3-Butadiene	5.08	54	57	N.D.	
7) Bromomethane	5.47	94	479	28.071 pg	98
8) Chloroethane	5.69	64	50	N.D.	
9) Acrolein	6.26	56	2000	188.685 pg	87
10) Acetone	6.39	58	1554065	112123.777 pg #	83
11) Trichlorofluoromethane	6.61	101	4141	136.730 pg	100
12) 1,1-Dichloroethene	0.00	96	0	N.D.	
13) Methylene Chloride	7.48	84	711	34.935 pg	91
14) Trichlorotrifluoroethane	7.79	151	697	39.711 pg	100
15) trans-1,2-Dichloroethene	0.00	96	0	N.D.	
16) 1,1-Dichloroethane	8.72	63	97	N.D.	
17) Methyl tert-Butyl Ether	8.72	73	1091	N.D.	
18) cis-1,2-Dichloroethene	9.60	96	1065	48.899 pg	100
19) Chloroform	9.89	83	3145	91.138 pg	99
21) 1,2-Dichloroethane	10.64	62	9492	368.230 pg	99
22) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
23) Benzene	11.37	78	3697	45.848 pg	99
24) Carbon Tetrachloride	11.52	117	1028	41.084 pg	97
26) 1,2-Dichloropropane	0.00	63	0	N.D.	
27) Bromodichloromethane	12.36	83	216	N.D.	
28) Trichloroethene	12.41	130	605	27.644 pg	99
29) 1,4-Dioxane	12.39	88	85	N.D.	
30) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
31) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
32) 1,1,2-Trichloroethane	0.00	83	0	N.D.	
34) Toluene	14.24	91	78600	948.682 pg	100
35) Dibromochloromethane	14.66	129	63	N.D.	
36) 1,2-Dibromoethane	0.00	107	0	N.D.	
37) Tetrachloroethene	15.40	166	10094	423.070 pg	99
39) Chlorobenzene	16.13	112	133	N.D.	
40) Ethylbenzene	16.48	91	7639	104.714 pg	99
41) m,p-Xylene	16.65	91	18317	328.624 pg	98
42) Styrene	17.01	104	14538	355.842 pg	100
43) o-Xylene	17.12	106	4980	175.768 pg	99
44) 1,1,2,2-Tetrachloroethane	17.12	83	75	N.D.	
46) 1,3,5-Trimethylbenzene	18.38	105	26314	458.041 pg	99
47) 1,2,4-Trimethylbenzene	18.77	105	71008	1237.722 pg	89
48) 1,3-Dichlorobenzene	18.98	146	661	20.391 pg	100
49) 1,4-Dichlorobenzene	18.98	146	661	N.D.	
50) 1,2-Dichlorobenzene	19.31	146	84	N.D.	
51) 1,2-Dibromo-3-chloropr...	0.00	157	0	N.D.	
52) 1,2,4-Trichlorobenzene	0.00	182	0	N.D.	
53) Naphthalene	21.06	128	4422	61.928 pg	100

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\21\07211606.D Vial: 10
Acq On : 21 Jul 2016 12:26 Operator: CL
Sample : P1603571-003dil (100mL) Inst : MS19
Misc : S29-06141602

Quant Time: Jul 22 11:58:01 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

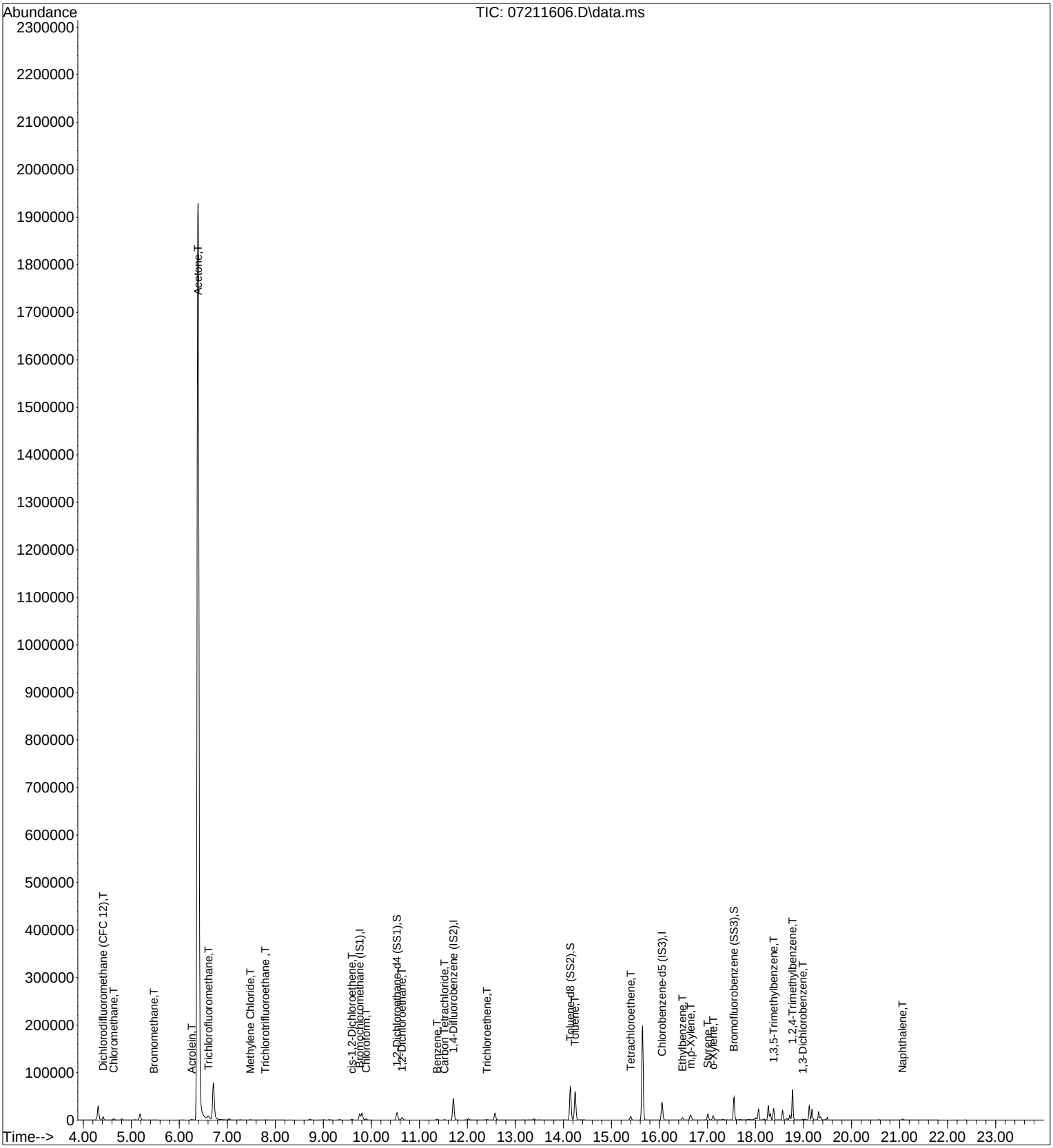
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
54) Hexachlorobutadiene	0.00	225	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\21\07211606.D Vial: 10
Acq On : 21 Jul 2016 12:26 Operator: CL
Sample : P1603571-003dil (100mL) Inst : MS19
Misc : S29-06141602

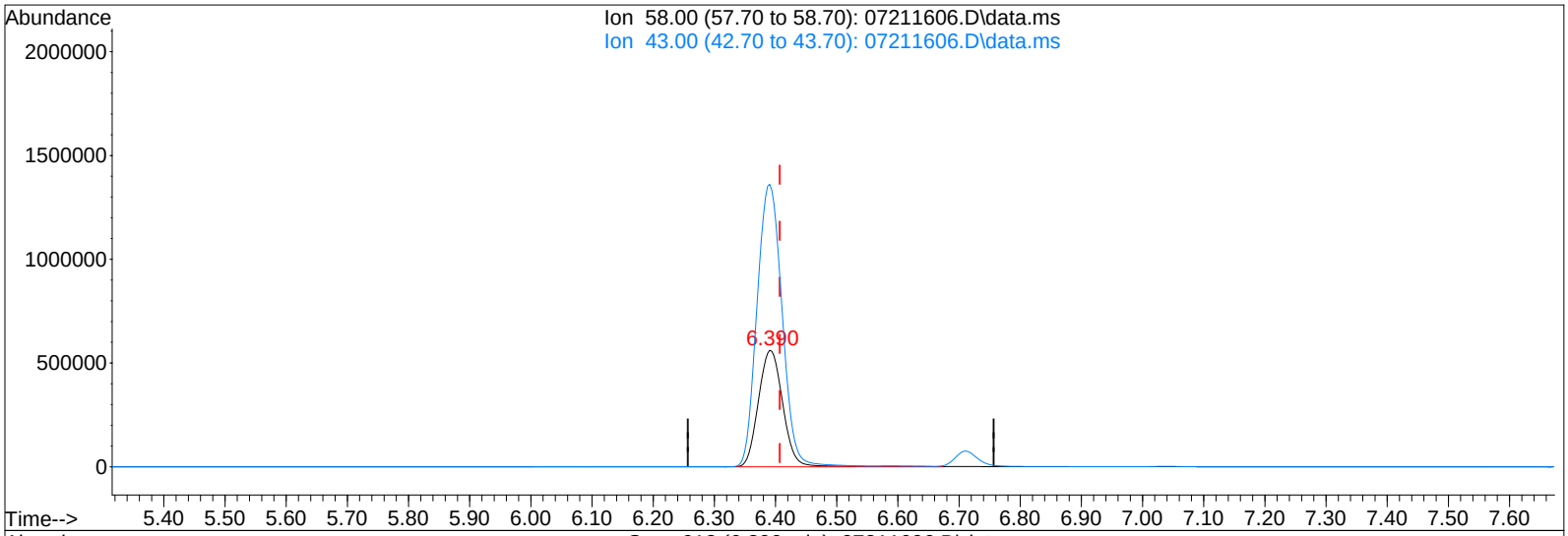
Quant Time: Jul 22 11:58:01 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

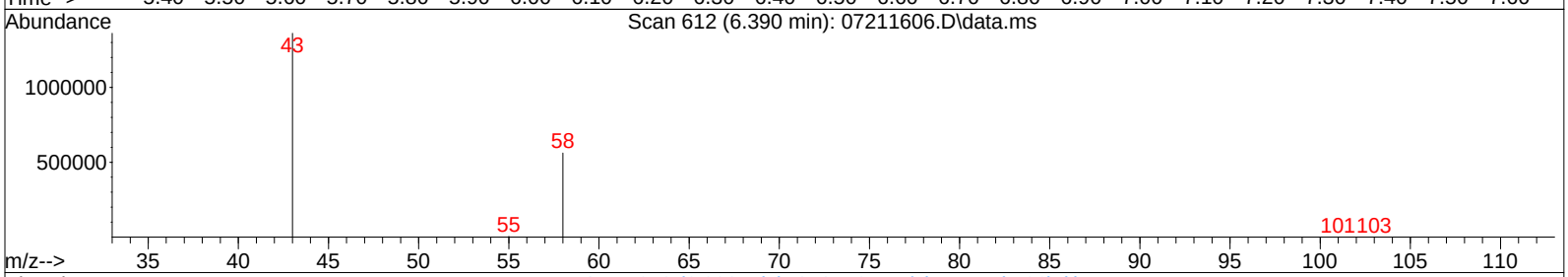


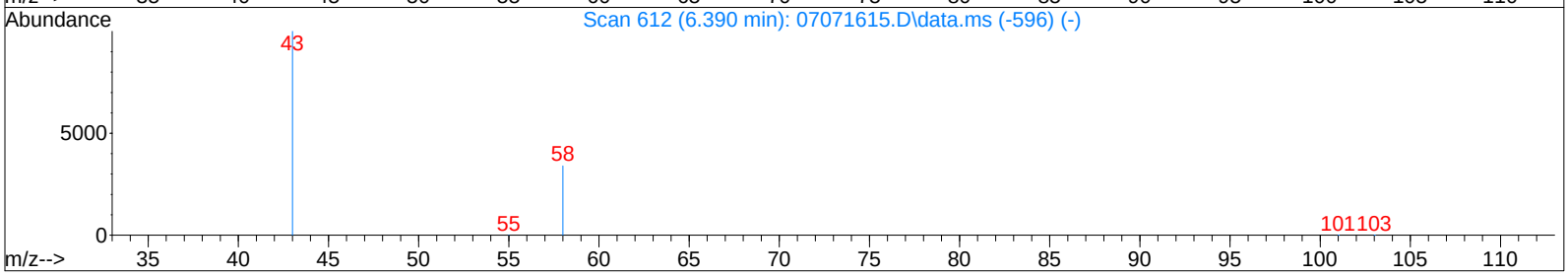
Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 07\21\07211606.D Vial: 10
Acq On : 21 Jul 2016 12:26 Operator: CL
Sample : P1603571-003dil (100mL) Inst : MS19
Misc : S29-06141602

Quant Time: Jul 22 11:58:01 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 07211606.D\data.ms

(10) Acetone (T)

6.390min (-0.017) 112123.78pg

response 1554065

Ion	Exp%	Act%
58.00	100	100
43.00	282.30	250.90#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS19\DATA\2016 07\28\07281607.D
Acq On : 28 Jul 2016 17:00 Operator: WA
Sample : P1603571-005 RA (1000mL)
Misc : S29-06141602/AC01205
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 29 14:31:01 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

WA 7/29/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.74	130	15205	1000.000 pg	-0.03
25) 1,4-Difluorobenzene (IS2)	11.70	114	74021	1000.000 pg	-0.02
38) Chlorobenzene-d5 (IS3)	16.05	54	11771	1000.000 pg	0.00

System Monitoring Compounds

20) 1,2-Dichloroethane-d4 ...	10.52	65	23703	1002.665 pg	-0.03
Spiked Amount 1000.000	Range 70 - 130		Recovery = 100.27%		
33) Toluene-d8 (SS2)	14.14	98	77870	1003.611 pg	-0.01
Spiked Amount 1000.000	Range 70 - 130		Recovery = 100.36%		
45) Bromofluorobenzene (SS3)	17.55	174	30547	1068.235 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 106.82%		

Target Compounds

						Qvalue
2) Dichlorodifluoromethan...	4.39	85	52902	1427.095 pg		100
3) Chloromethane	4.62	52	2673	281.292 pg		91
4) 1,2-Dichloro,1,1,2,2-t...	4.79	85	1694	62.743 pg		100
5) Vinyl Chloride	4.92	62	188	N.D.		
6) 1,3-Butadiene	5.12	54	284	N.D.		
7) Bromomethane	5.44	94	351	24.542 pg		94
8) Chloroethane	5.67	64	975	75.996 pg		93
9) Acrolein	6.25	56	5732	645.192 pg		90
10) Acetone	6.41	58	214464	18461.107 pg		100
11) Trichlorofluoromethane	6.59	101	21622	851.783 pg		90
12) 1,1-Dichloroethene	0.00	96	0	N.D.		
13) Methylene Chloride	7.45	84	3293	193.042 pg		95
14) Trichlorotrifluoroethane	7.78	151	4986	338.925 pg		97
15) trans-1,2-Dichloroethene	8.49	96	294	N.D.		
16) 1,1-Dichloroethane	8.71	63	140	N.D.		
17) Methyl tert-Butyl Ether	8.71	73	959	N.D.		
18) cis-1,2-Dichloroethene	9.58	96	1445m	79.157 pg		
19) Chloroform	9.88	83	3865	133.630 pg		100
21) 1,2-Dichloroethane	10.63	62	1196	55.356 pg		100
22) 1,1,1-Trichloroethane	10.90	97	730	28.516 pg		99
23) Benzene	11.36	78	22475	332.544 pg		94
24) Carbon Tetrachloride	11.51	117	6931	330.487 pg		98
26) 1,2-Dichloropropane	12.17	63	168	N.D.		
27) Bromodichloromethane	12.30	83	328	N.D.		
28) Trichloroethene	12.41	130	1705	93.508 pg		98
29) 1,4-Dioxane	12.38	88	1919	139.792 pg		99
30) cis-1,3-Dichloropropene	13.25	75	107	N.D.		
31) trans-1,3-Dichloropropene	13.74	75	273	N.D.		
32) 1,1,2-Trichloroethane	13.93	83	257	N.D.		
34) Toluene	14.24	91	92191	1335.578 pg		100
35) Dibromochloromethane	14.65	129	55	N.D.		
36) 1,2-Dibromoethane	0.00	107	0	N.D.		
37) Tetrachloroethene	15.40	166	12552	631.459 pg		98
39) Chlorobenzene	16.10	112	788	N.D.		
40) Ethylbenzene	16.48	91	12427	178.466 pg		100
41) m,p-Xylene	16.64	91	34086	640.680 pg		99
42) Styrene	17.01	104	3433	88.033 pg	#	67
43) o-Xylene	17.12	106	6209	229.590 pg		97
44) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d		
46) 1,3,5-Trimethylbenzene	18.38	105	4360	79.511 pg		99
47) 1,2,4-Trimethylbenzene	18.77	105	14728	268.955 pg		88
48) 1,3-Dichlorobenzene	18.92	146	91	N.D.		
49) 1,4-Dichlorobenzene	18.98	146	1250	38.316 pg		99
50) 1,2-Dichlorobenzene	19.31	146	231	N.D.		
51) 1,2-Dibromo-3-chloropr...	0.00	157	0	N.D.		
52) 1,2,4-Trichlorobenzene	20.95	182	76	N.D.		

Quantitation Report (QT Reviewed)

Data File: I:\MS19\DATA\2016 07\28\07281607.D
Acq On : 28 Jul 2016 17:00 Operator: WA
Sample : P1603571-005 RA (1000mL)
Misc : S29-06141602/AC01205
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 29 14:31:01 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

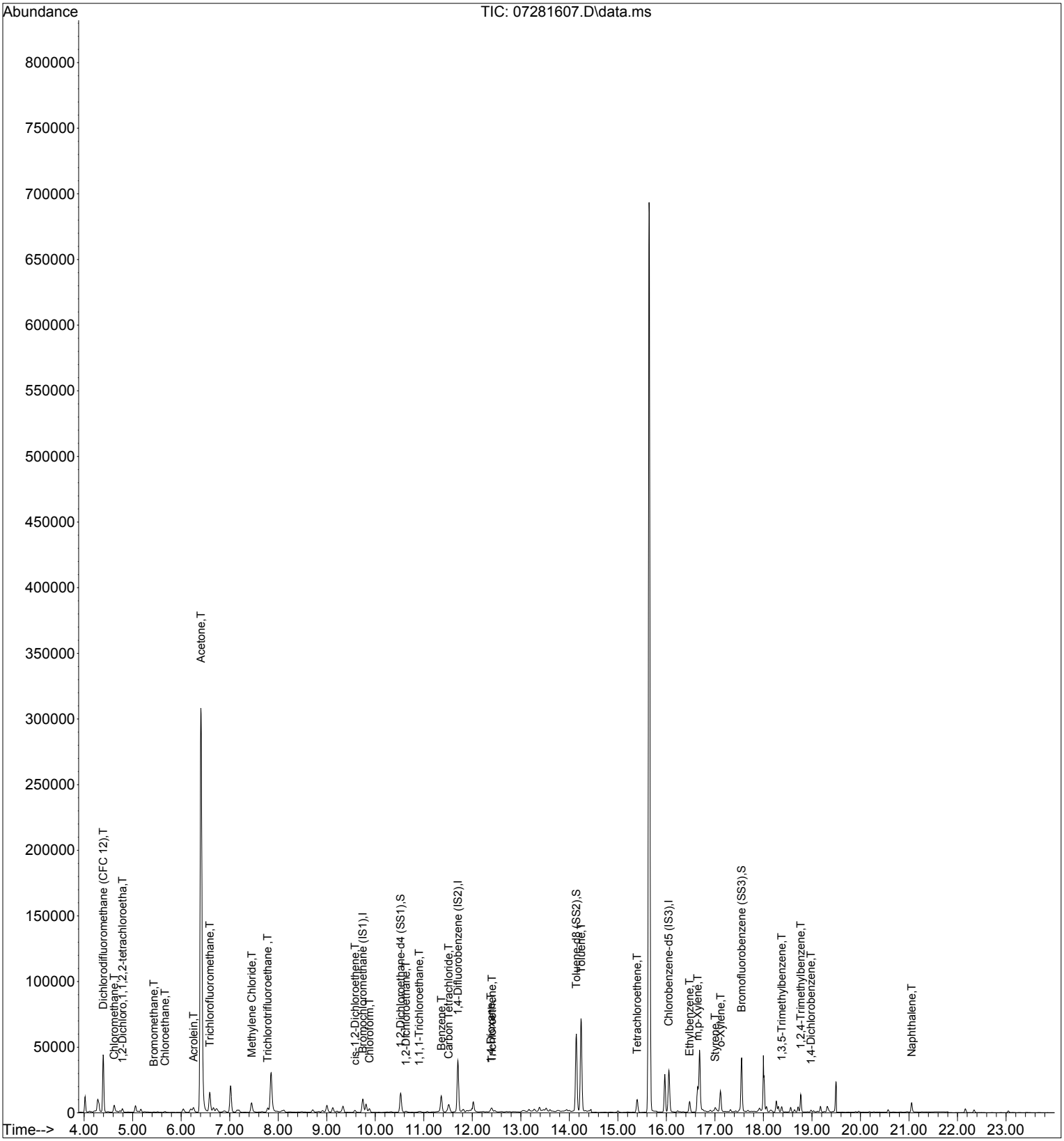
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
53) Naphthalene	21.06	128	11680	171.369	pg	97
54) Hexachlorobutadiene	0.00	225	0	N.D.		

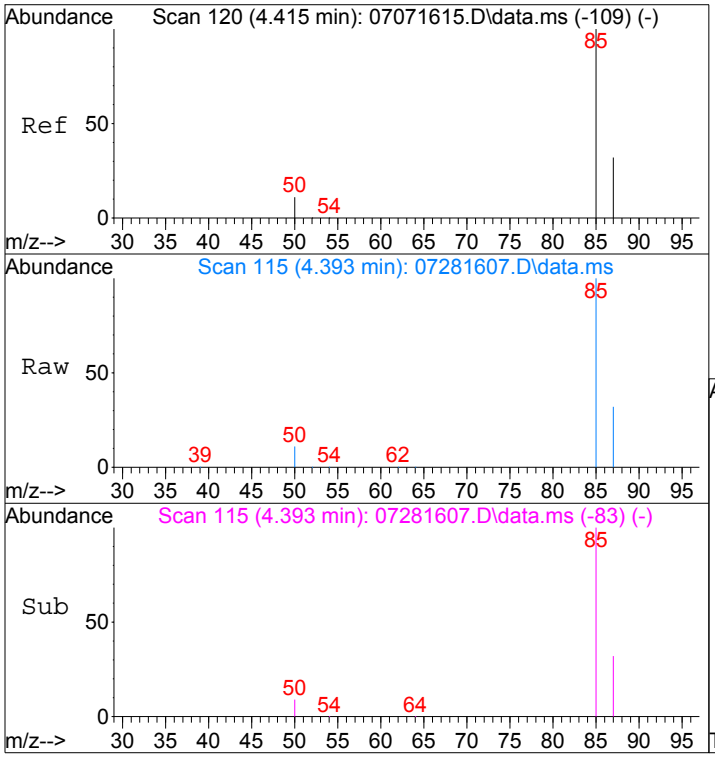
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS19\DATA\2016 07\28\07281607.D
Acq On : 28 Jul 2016 17:00 Operator: WA
Sample : P1603571-005 RA (1000mL)
Misc : S29-06141602/AC01205
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 29 14:31:01 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

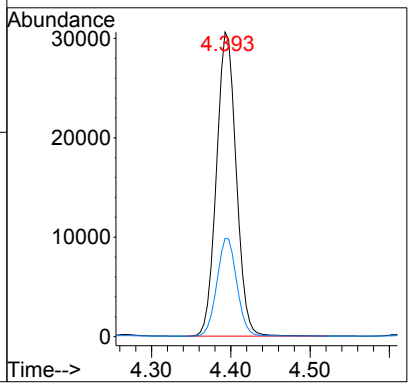


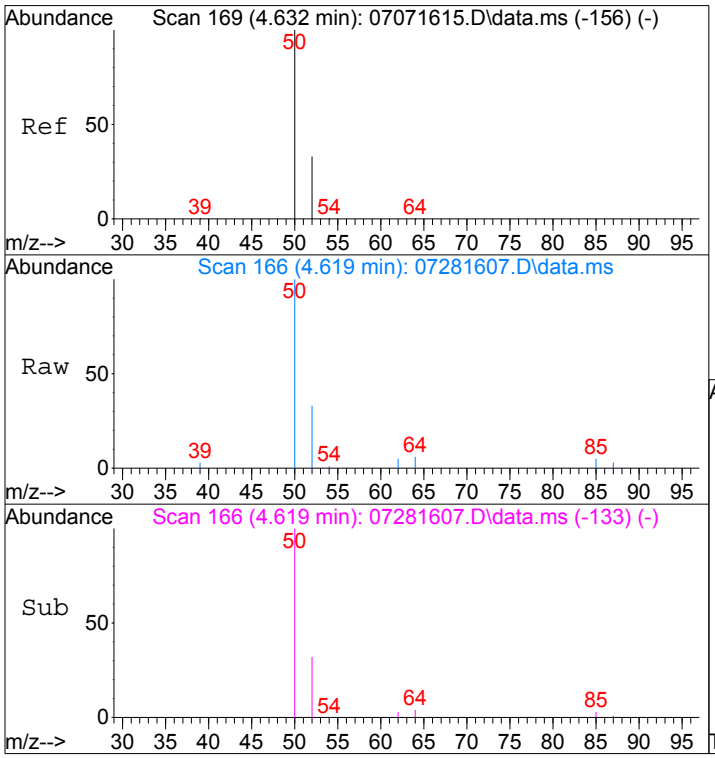


#2
Dichlorodifluoromethane (CFC 12)
Concen: 1427.10 pg
RT: 4.39 min Scan# 115
Delta R.T. -0.009 min
Lab File: 07281607.D
Acq: 28 Jul 2016 17:00

Tgt Ion: 85 Resp: 52902

Ion	Ratio	Lower	Upper
85	100		
87	32.5	12.5	52.5

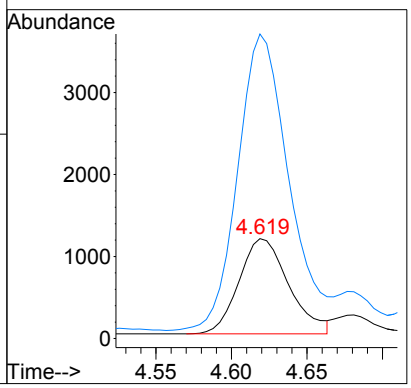


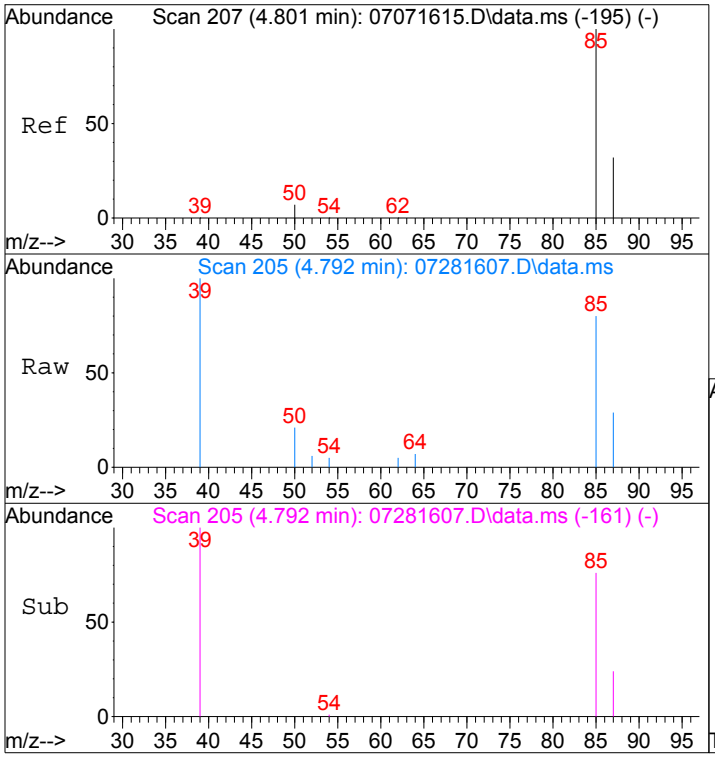


#3
Chloromethane
Concen: 281.29 pg
RT: 4.62 min Scan# 166
Delta R.T. -0.004 min
Lab File: 07281607.D
Acq: 28 Jul 2016 17:00

Tgt Ion: 52 Resp: 2673

Ion	Ratio	Lower	Upper
52	100		
50	319.3	280.8	320.8

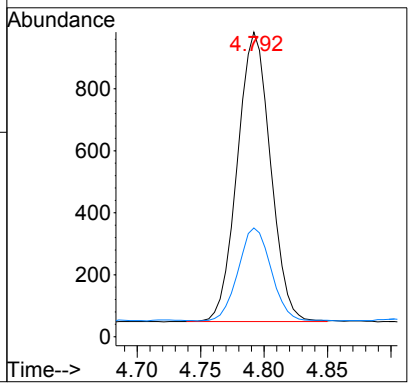


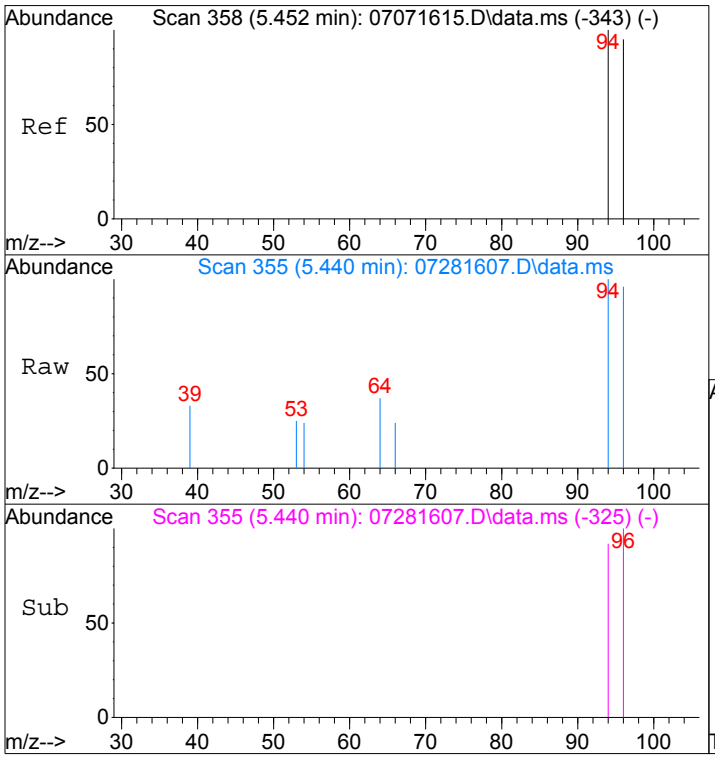


#4
1,2-Dichloro,1,1,2,2-tetrachloroetha
Concen: 62.74 pg
RT: 4.79 min Scan# 205
Delta R.T. -0.004 min
Lab File: 07281607.D
Acq: 28 Jul 2016 17:00

Tgt Ion: 85 Resp: 1694

Ion	Ratio	Lower	Upper
85	100		
87	32.0	25.7	38.5

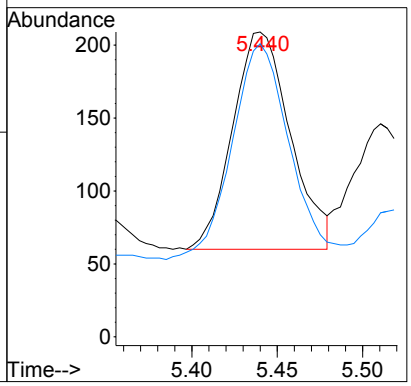


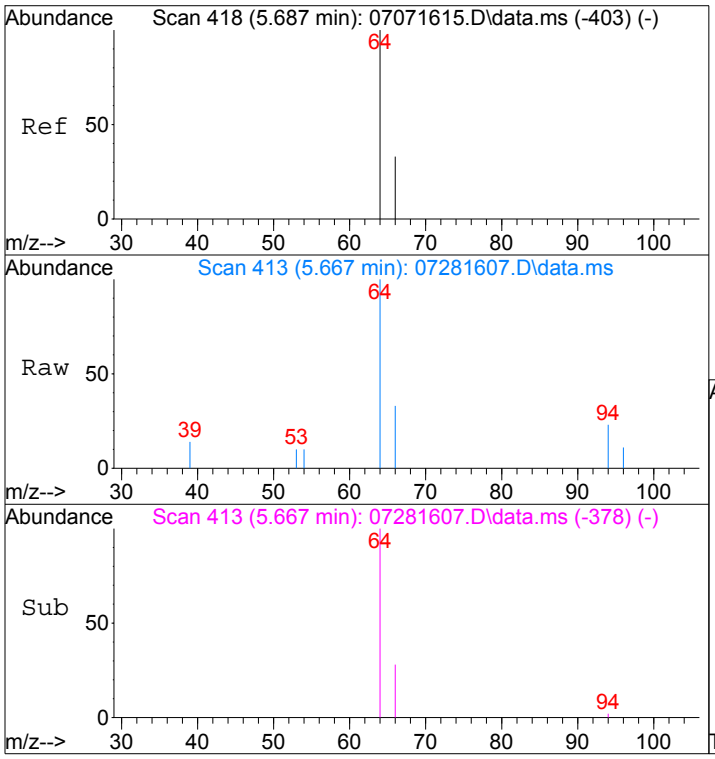


#7
Bromomethane
Concen: 24.54 pg
RT: 5.44 min Scan# 355
Delta R.T. -0.012 min
Lab File: 07281607.D
Acq: 28 Jul 2016 17:00

Tgt Ion: 94 Resp: 351

Ion	Ratio	Lower	Upper
94	100		
96	99.7	75.3	112.9

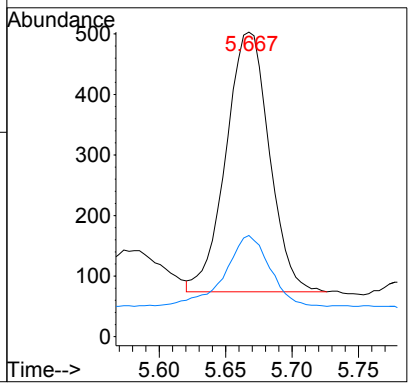


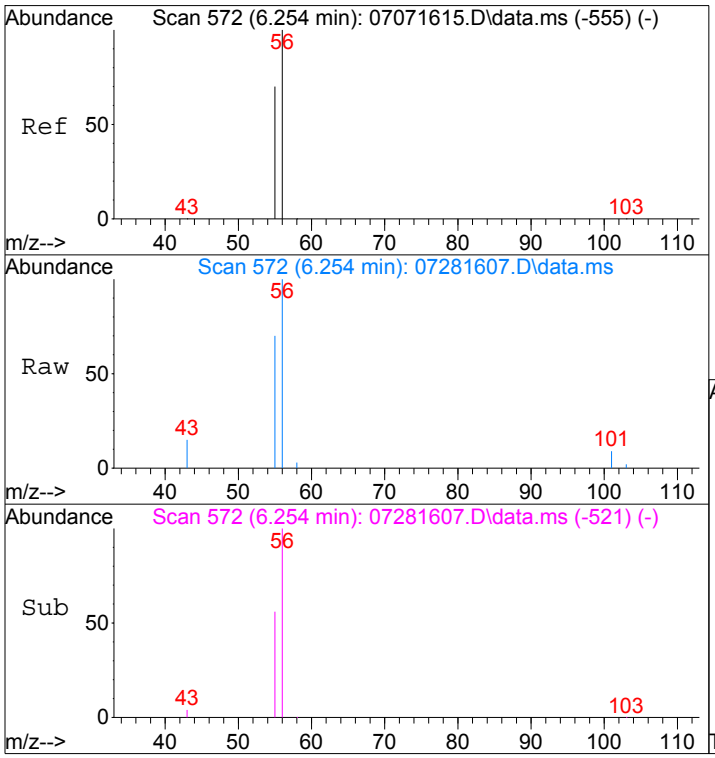


#8
Chloroethane
Concen: 76.00 pg
RT: 5.67 min Scan# 413
Delta R.T. -0.012 min
Lab File: 07281607.D
Acq: 28 Jul 2016 17:00

Tgt Ion: 64 Resp: 975

Ion	Ratio	Lower	Upper
64	100		
66	28.5	12.2	52.2

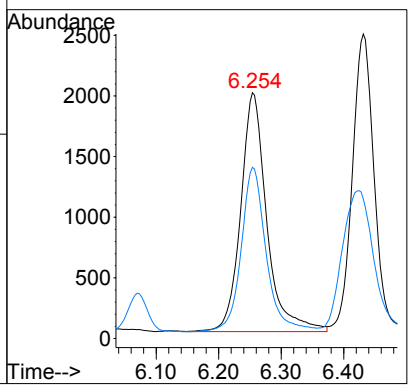


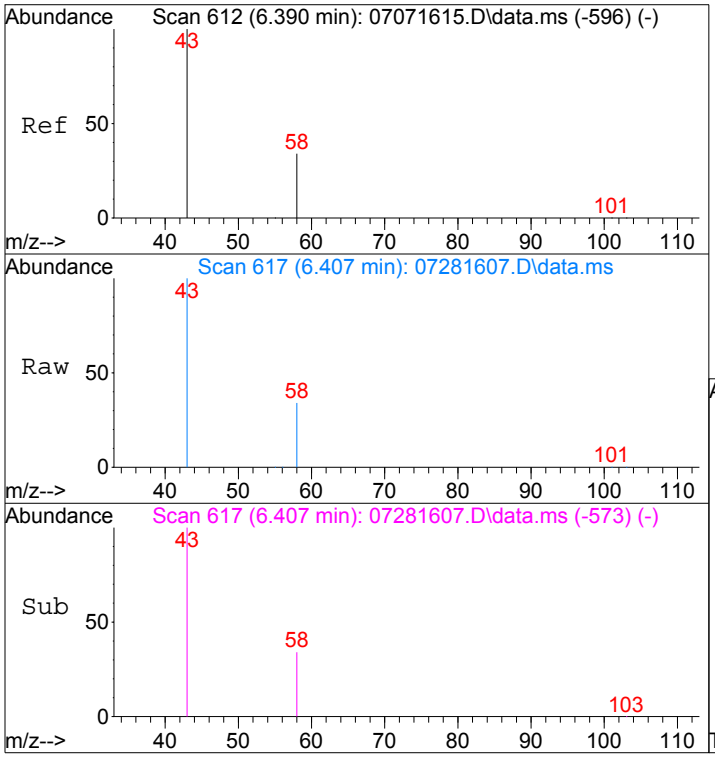


#9
Acrolein
Concen: 645.19 pg
RT: 6.25 min Scan# 572
Delta R.T. 0.004 min
Lab File: 07281607.D
Acq: 28 Jul 2016 17:00

Tgt Ion: 56 Resp: 5732

Ion	Ratio	Lower	Upper
56	100		
55	66.1	47.1	70.7

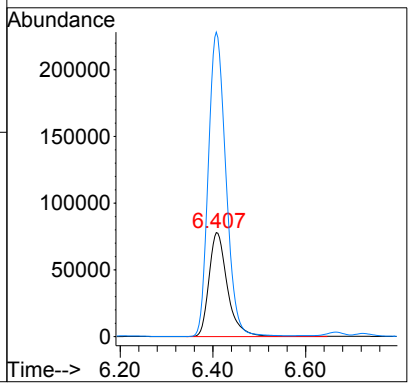


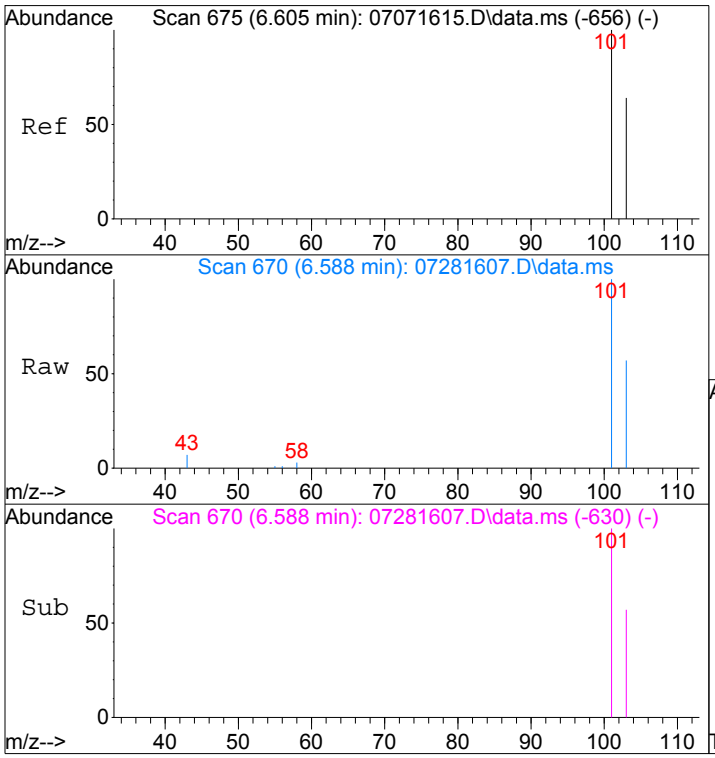


#10
Acetone
Concen: 18461.11 pg
RT: 6.41 min Scan# 617
Delta R.T. 0.000 min
Lab File: 07281607.D
Acq: 28 Jul 2016 17:00

Tgt Ion: 58 Resp: 214464

Ion	Ratio	Lower	Upper
58	100		
43	281.4	262.3	302.3

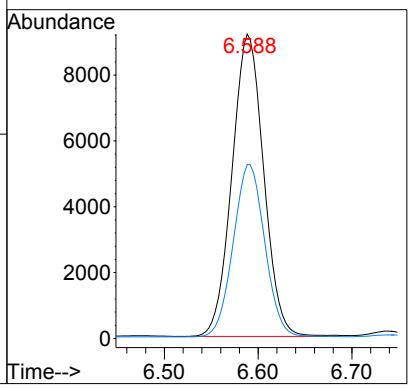


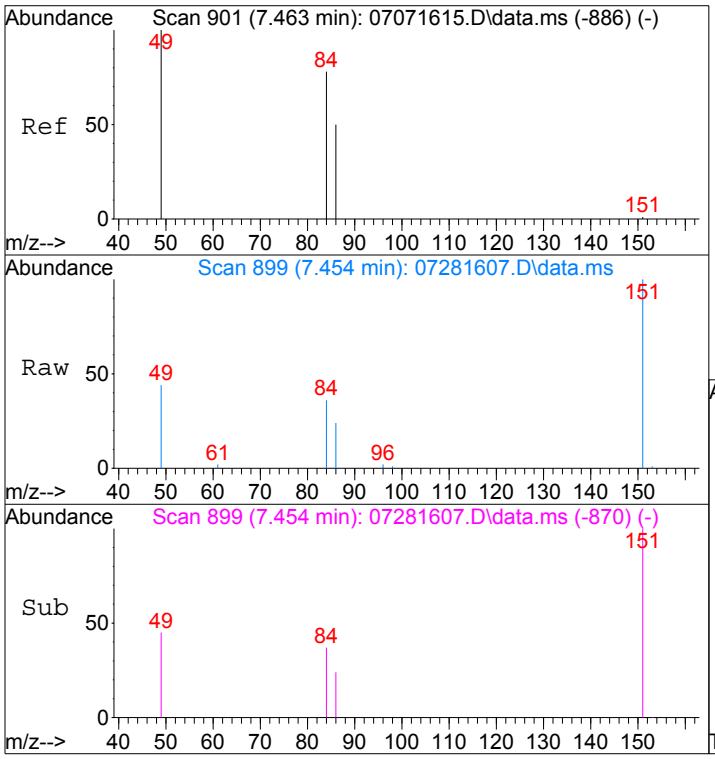


#11
Trichlorofluoromethane
Concen: 851.78 pg
RT: 6.59 min Scan# 670
Delta R.T. -0.014 min
Lab File: 07281607.D
Acq: 28 Jul 2016 17:00

Tgt Ion:101 Resp: 21622

Ion	Ratio	Lower	Upper
101	100		
103	56.8	51.8	77.6

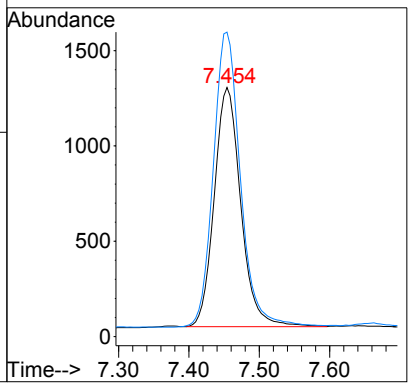


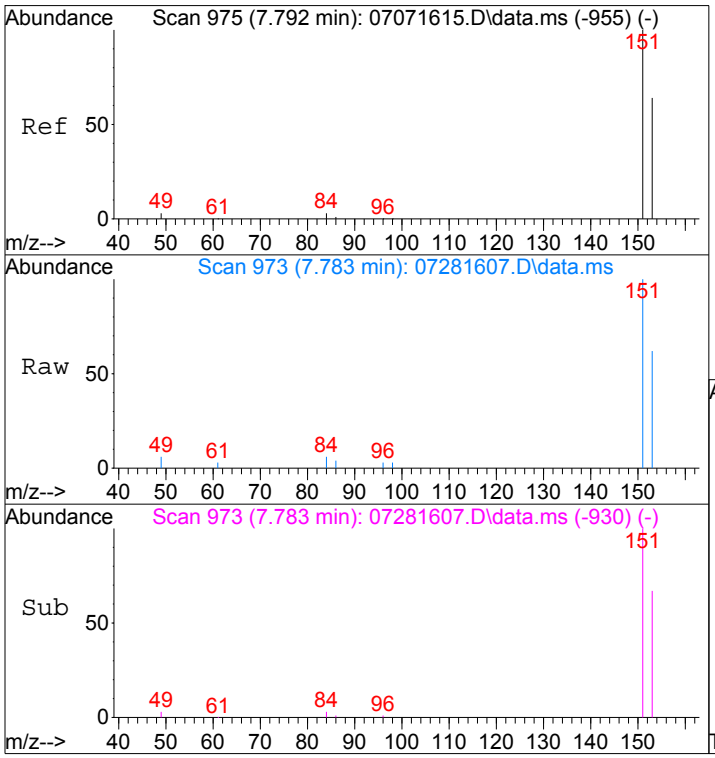


#13
Methylene Chloride
Concen: 193.04 pg
RT: 7.45 min Scan# 899
Delta R.T. -0.031 min
Lab File: 07281607.D
Acq: 28 Jul 2016 17:00

Tgt Ion: 84 Resp: 3293

Ion	Ratio	Lower	Upper
84	100		
49	126.8	101.0	141.0

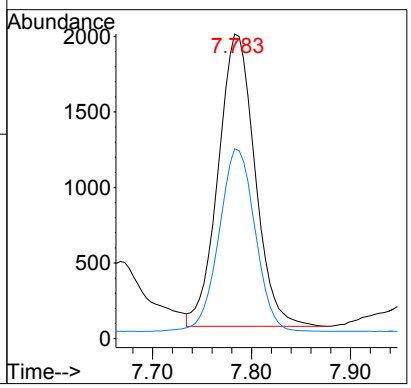


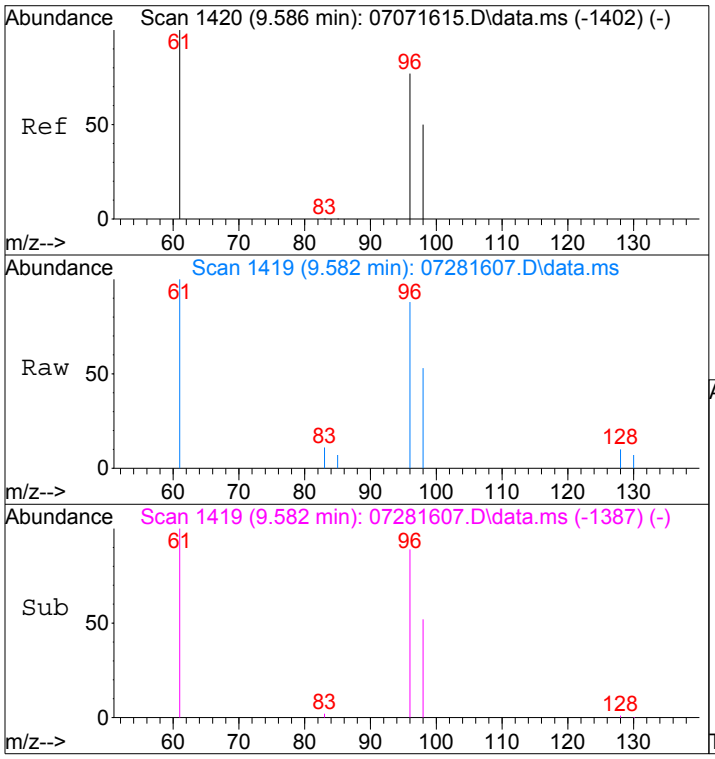


#14
Trichlorotrifluoroethane
Concen: 338.93 pg
RT: 7.78 min Scan# 973
Delta R.T. -0.009 min
Lab File: 07281607.D
Acq: 28 Jul 2016 17:00

Tgt Ion:151 Resp: 4986

Ion	Ratio	Lower	Upper
151	100		
153	61.5	44.0	84.0

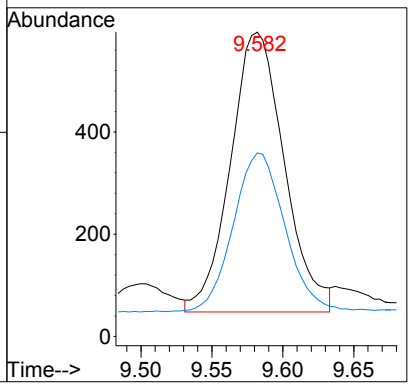


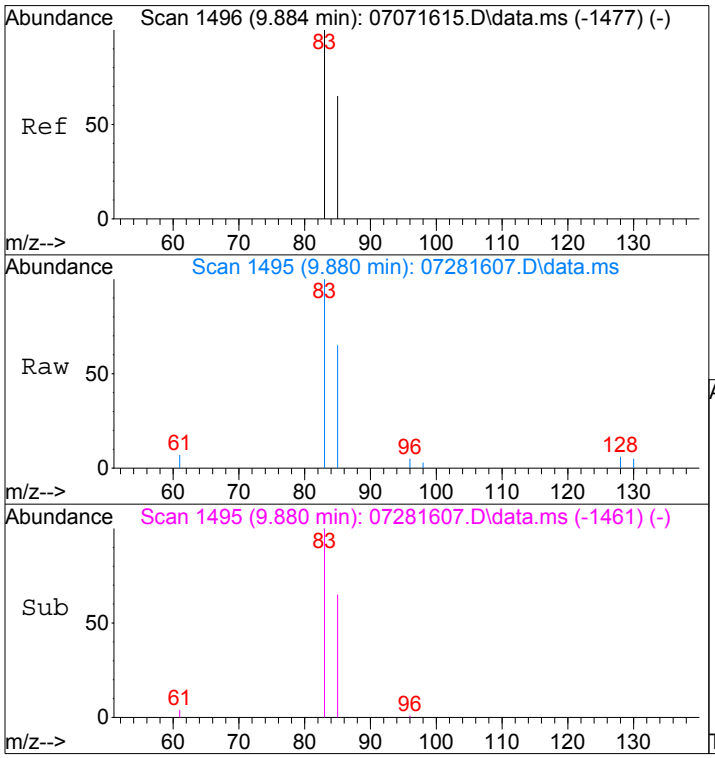


#18
cis-1,2-Dichloroethene
Concen: 79.16 pg m
RT: 9.58 min Scan# 1419
Delta R.T. -0.023 min
Lab File: 07281607.D
Acq: 28 Jul 2016 17:00

Tgt Ion: 96 Resp: 1445

Ion	Ratio	Lower	Upper
96	100		
98	54.2	44.5	84.5

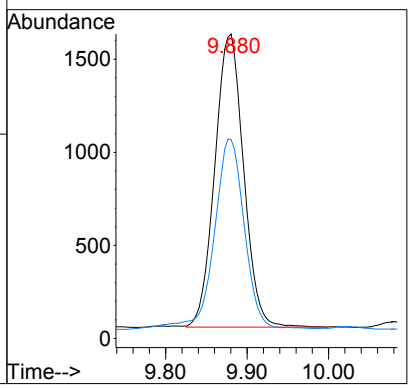


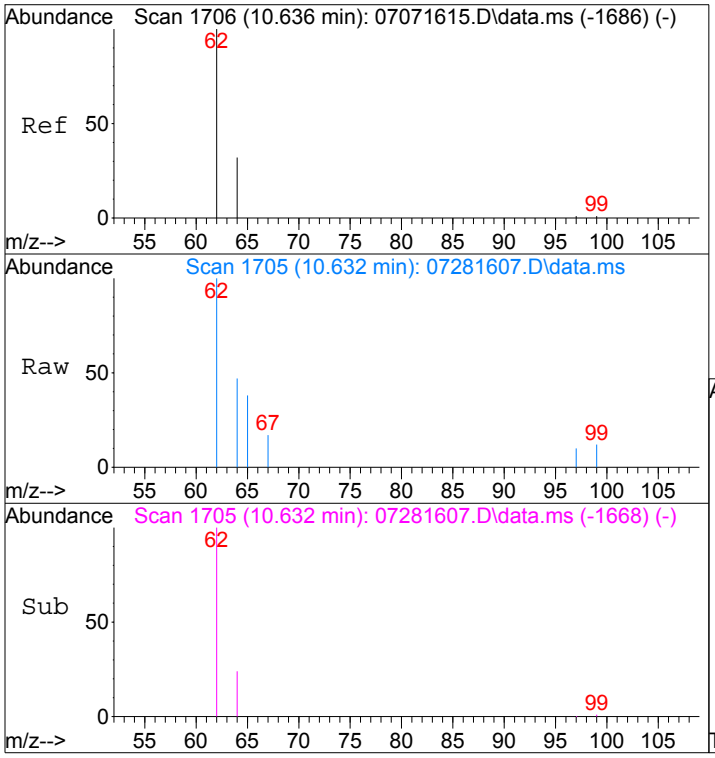


#19
Chloroform
Concen: 133.63 pg
RT: 9.88 min Scan# 1495
Delta R.T. -0.036 min
Lab File: 07281607.D
Acq: 28 Jul 2016 17:00

Tgt Ion: 83 Resp: 3865

Ion	Ratio	Lower	Upper
83	100		
85	64.9	45.1	85.1

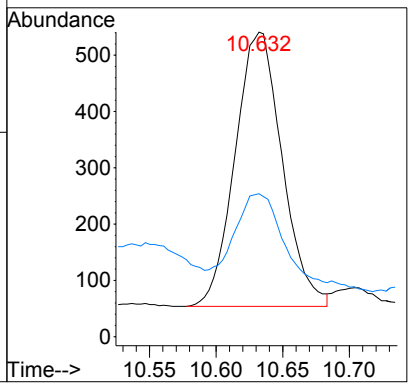


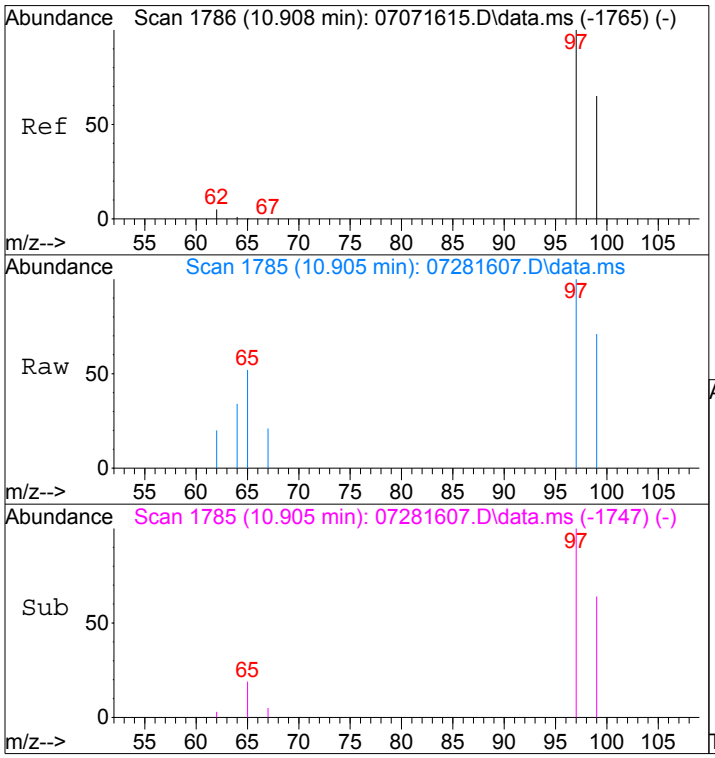


#21
1,2-Dichloroethane
Concen: 55.36 pg
RT: 10.63 min Scan# 1705
Delta R.T. -0.024 min
Lab File: 07281607.D
Acq: 28 Jul 2016 17:00

Tgt Ion: 62 Resp: 1196

Ion	Ratio	Lower	Upper
62	100		
64	32.3	12.1	52.1

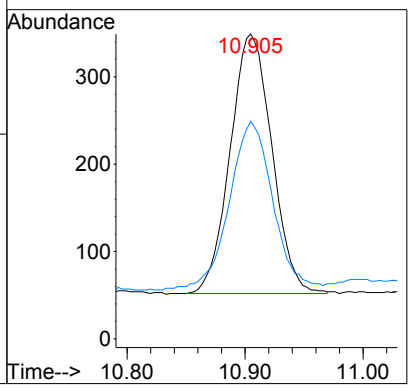


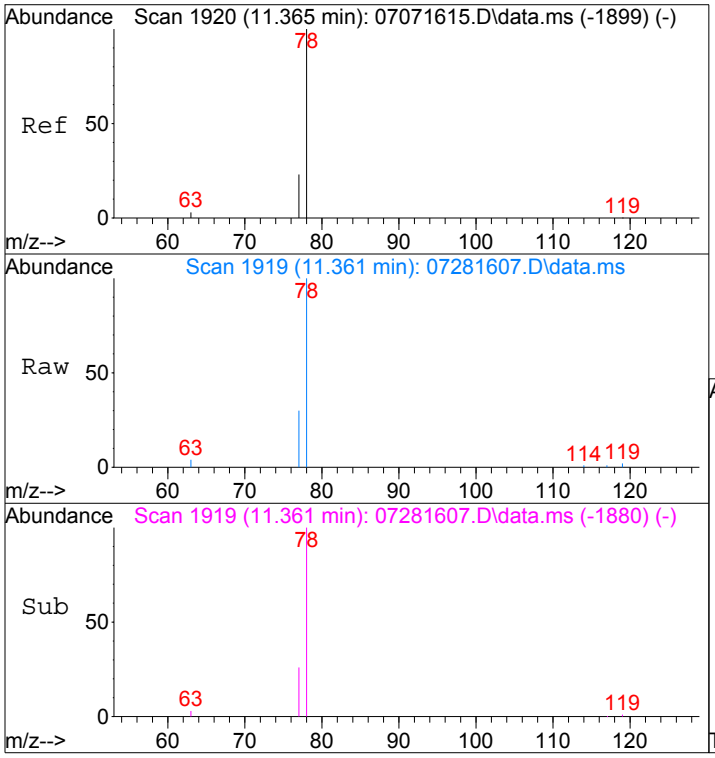


#22
1,1,1-Trichloroethane
Concen: 28.52 pg
RT: 10.90 min Scan# 1785
Delta R.T. -0.020 min
Lab File: 07281607.D
Acq: 28 Jul 2016 17:00

Tgt Ion: 97 Resp: 730

Ion	Ratio	Lower	Upper
97	100		
99	63.6	44.2	84.2

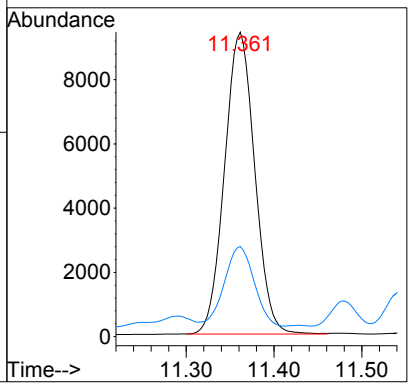


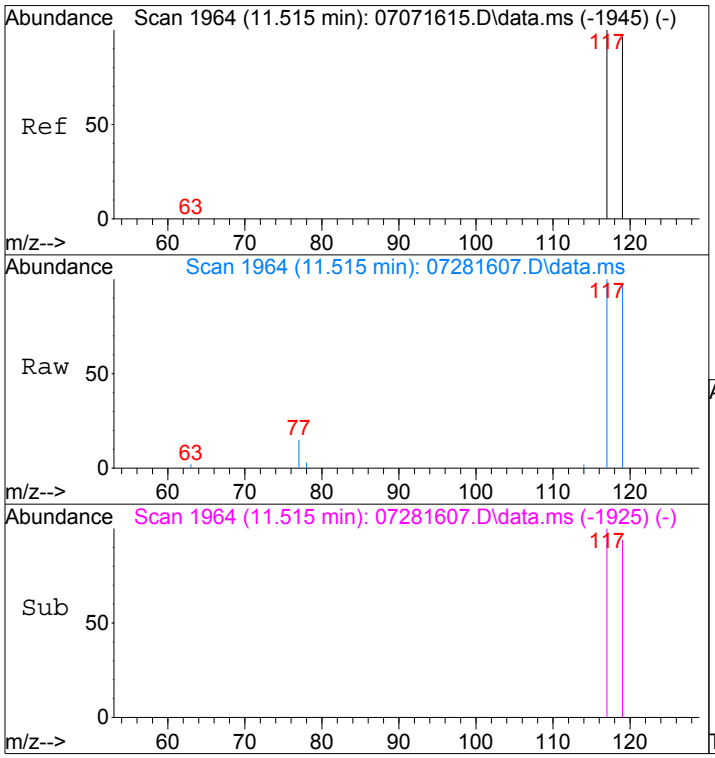


#23
Benzene
Concen: 332.54 pg
RT: 11.36 min Scan# 1919
Delta R.T. -0.018 min
Lab File: 07281607.D
Acq: 28 Jul 2016 17:00

Tgt Ion: 78 Resp: 22475

Ion	Ratio	Lower	Upper
78	100		
77	26.1	3.3	43.3

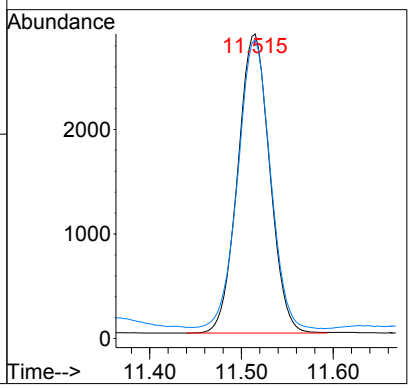


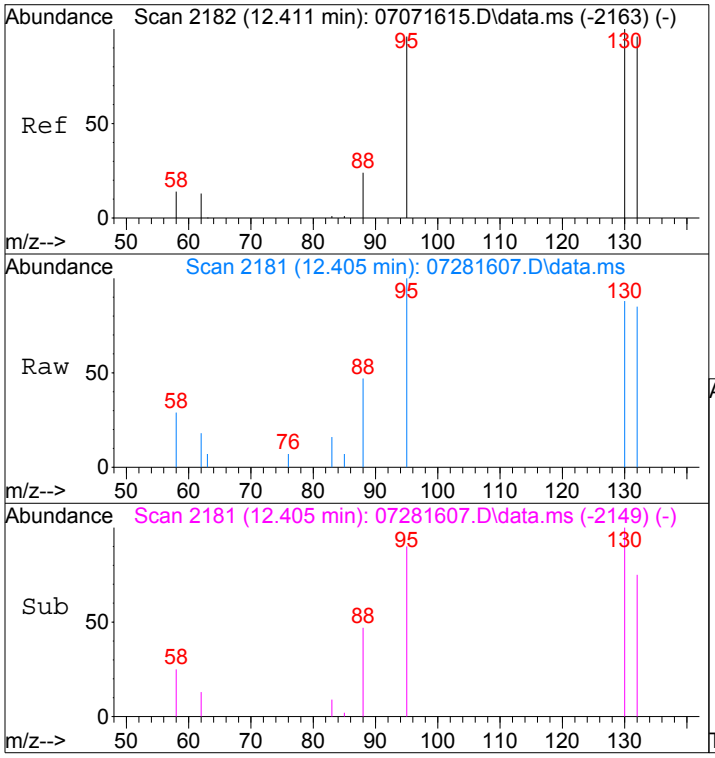


#24
Carbon Tetrachloride
Concen: 330.49 pg
RT: 11.51 min Scan# 1964
Delta R.T. -0.017 min
Lab File: 07281607.D
Acq: 28 Jul 2016 17:00

Tgt Ion:117 Resp: 6931

Ion	Ratio	Lower	Upper
117	100		
119	97.7	75.6	115.6

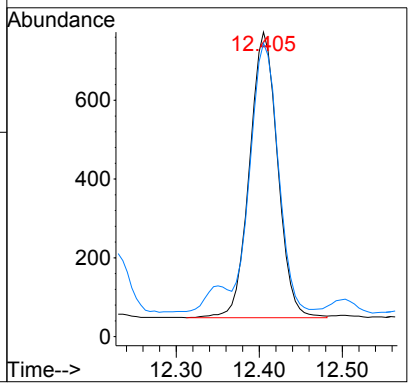


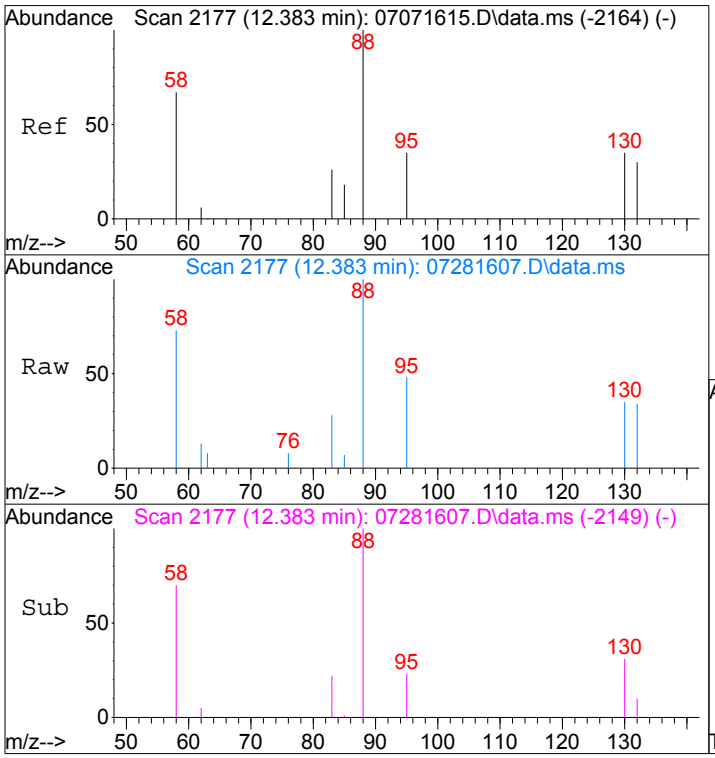


#28
Trichloroethene
Concen: 93.51 pg
RT: 12.41 min Scan# 2181
Delta R.T. -0.016 min
Lab File: 07281607.D
Acq: 28 Jul 2016 17:00

Tgt Ion:130 Resp: 1705

Ion	Ratio	Lower	Upper
130	100		
132	93.5	75.8	115.8

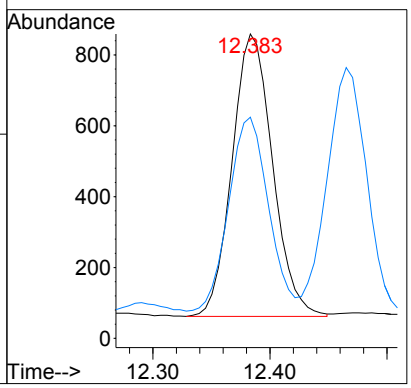


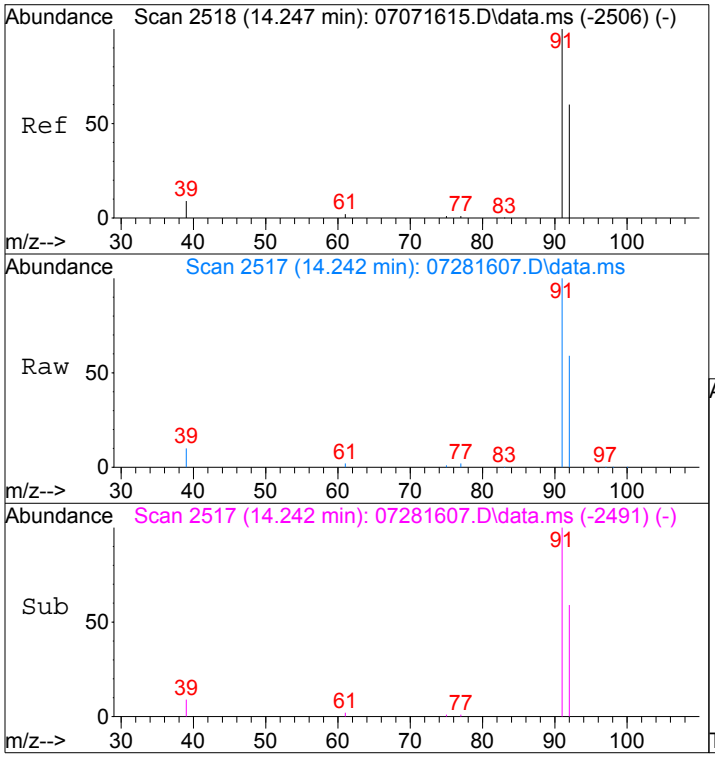


#29
1,4-Dioxane
Concen: 139.79 pg
RT: 12.38 min Scan# 2177
Delta R.T. 0.005 min
Lab File: 07281607.D
Acq: 28 Jul 2016 17:00

Tgt Ion: 88 Resp: 1919

Ion	Ratio	Lower	Upper
88	100		
58	68.0	47.5	87.5

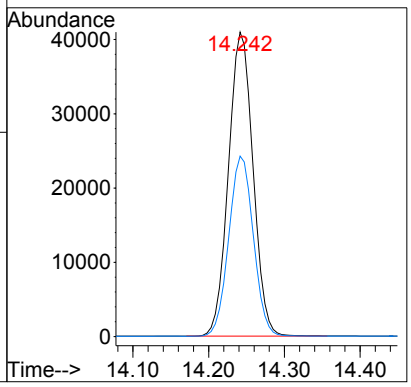


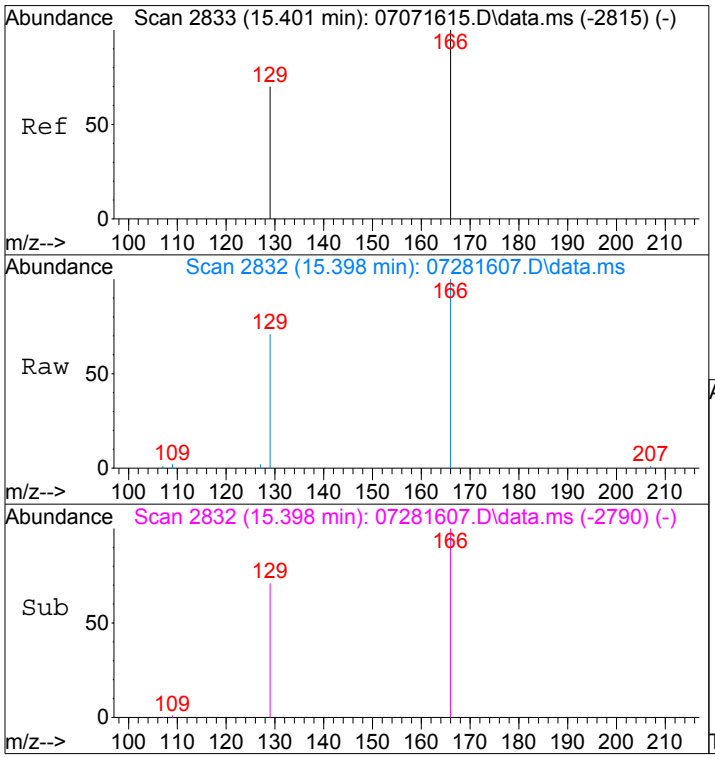


#34
Toluene
Concen: 1335.58 pg
RT: 14.24 min Scan# 2517
Delta R.T. -0.010 min
Lab File: 07281607.D
Acq: 28 Jul 2016 17:00

Tgt Ion: 91 Resp: 92191

Ion	Ratio	Lower	Upper
91	100		
92	59.3	39.4	79.4

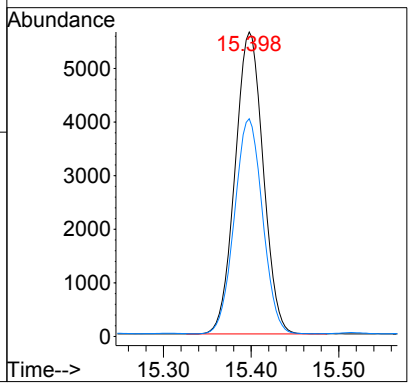


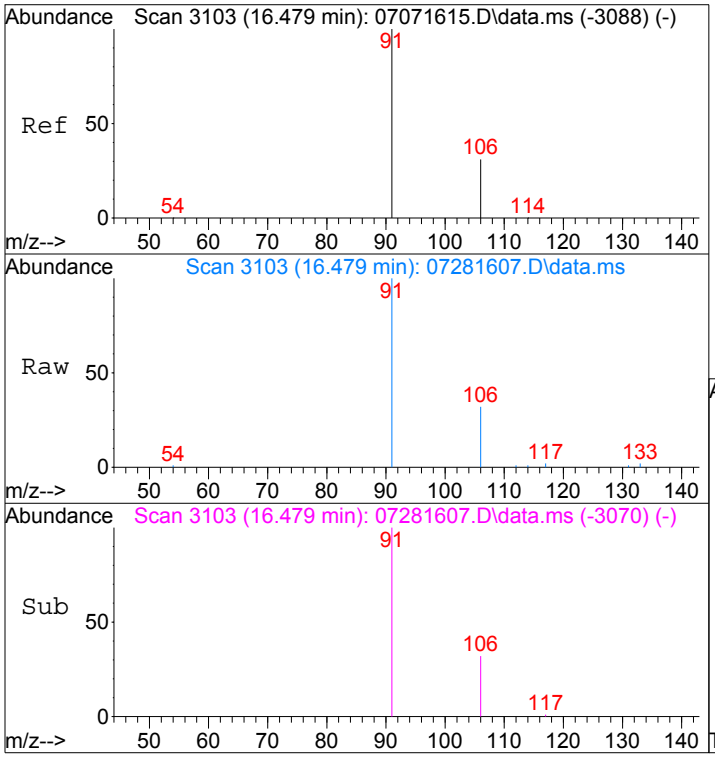


#37
Tetrachloroethene
Concen: 631.46 pg
RT: 15.40 min Scan# 2832
Delta R.T. -0.007 min
Lab File: 07281607.D
Acq: 28 Jul 2016 17:00

Tgt Ion:166 Resp: 12552

Ion	Ratio	Lower	Upper
166	100		
129	71.3	50.0	90.0

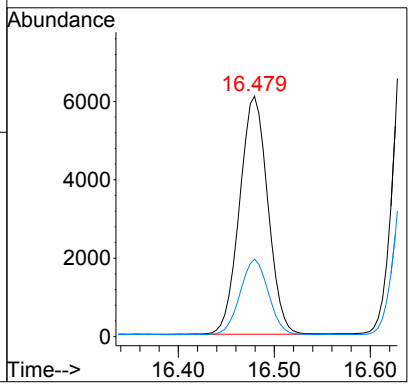


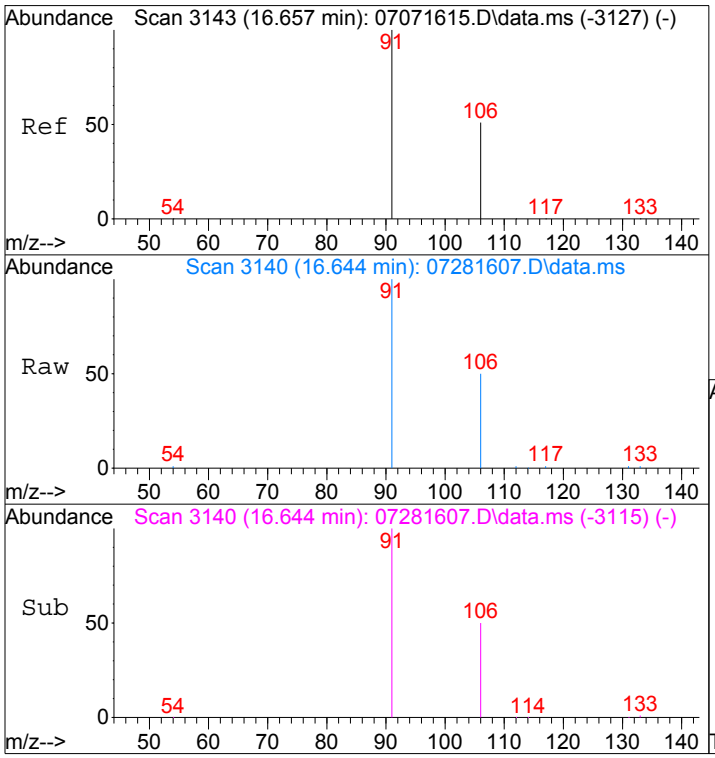


#40
Ethylbenzene
Concen: 178.47 pg
RT: 16.48 min Scan# 3103
Delta R.T. -0.005 min
Lab File: 07281607.D
Acq: 28 Jul 2016 17:00

Tgt Ion: 91 Resp: 12427

Ion	Ratio	Lower	Upper
91	100		
106	31.6	11.6	51.6

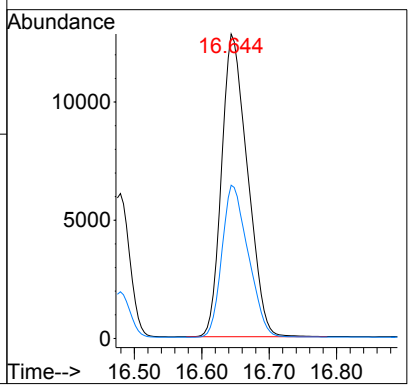


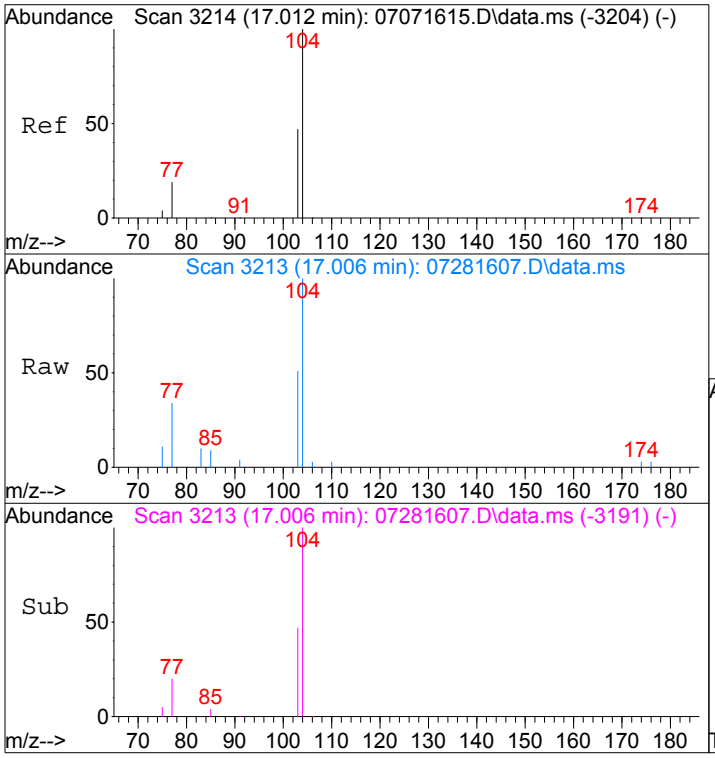


#41
m,p-Xylene
Concen: 640.68 pg
RT: 16.64 min Scan# 3140
Delta R.T. -0.017 min
Lab File: 07281607.D
Acq: 28 Jul 2016 17:00

Tgt Ion: 91 Resp: 34086

Ion	Ratio	Lower	Upper
91	100		
106	51.3	30.7	70.7

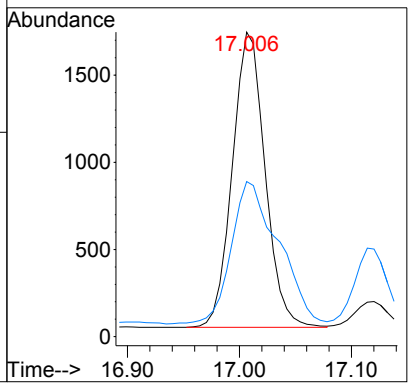


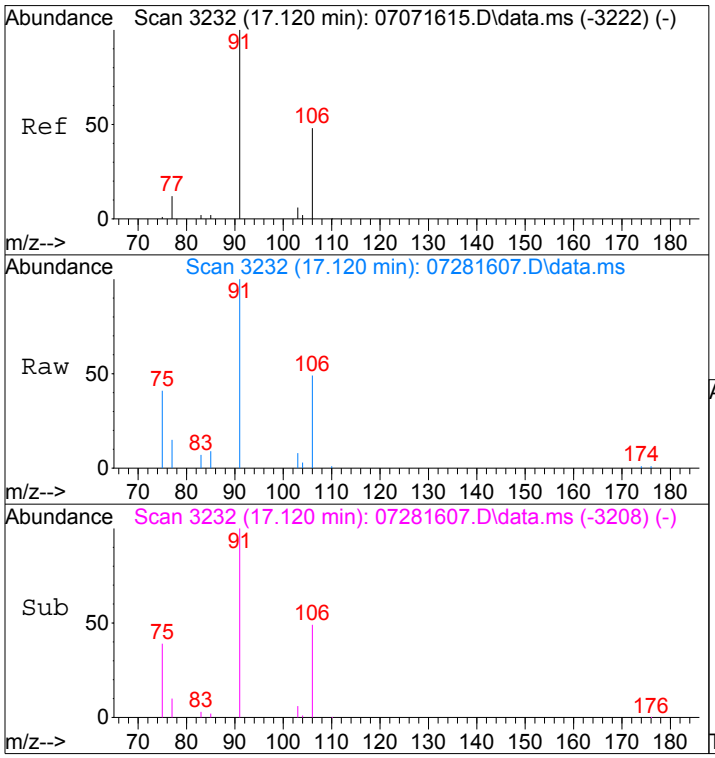


#42
Styrene
Concen: 88.03 pg
RT: 17.01 min Scan# 3213
Delta R.T. -0.006 min
Lab File: 07281607.D
Acq: 28 Jul 2016 17:00

Tgt Ion:104 Resp: 3433

Ion	Ratio	Lower	Upper
104	100		
103	69.5	37.8	56.6#

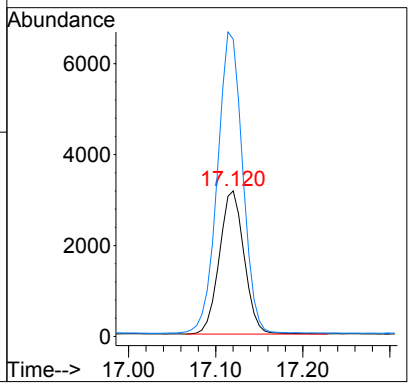


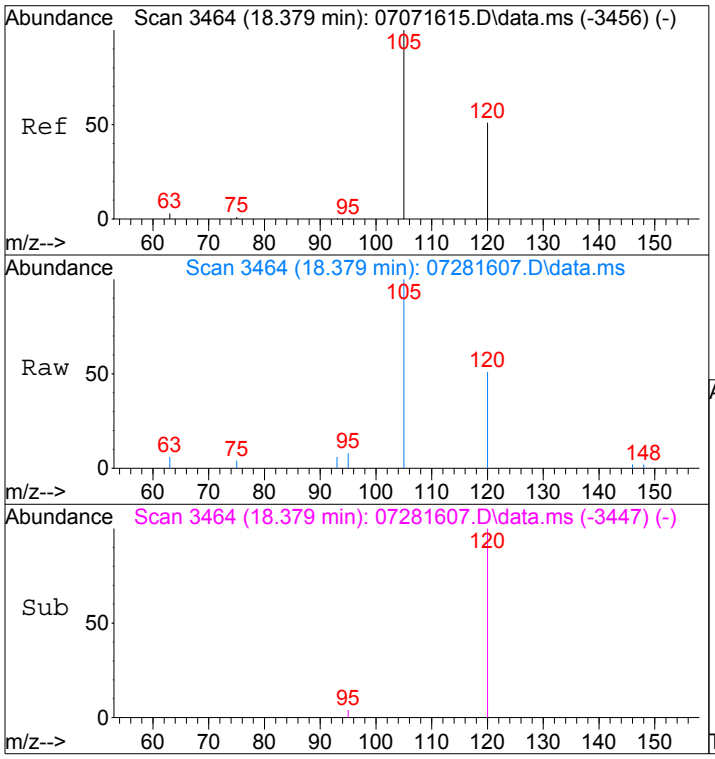


#43
o-Xylene
Concen: 229.59 pg
RT: 17.12 min Scan# 3232
Delta R.T. -0.006 min
Lab File: 07281607.D
Acq: 28 Jul 2016 17:00

Tgt Ion:106 Resp: 6209

Ion	Ratio	Lower	Upper
106	100		
91	214.5	189.7	229.7

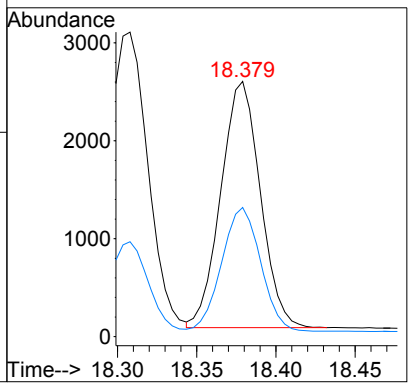


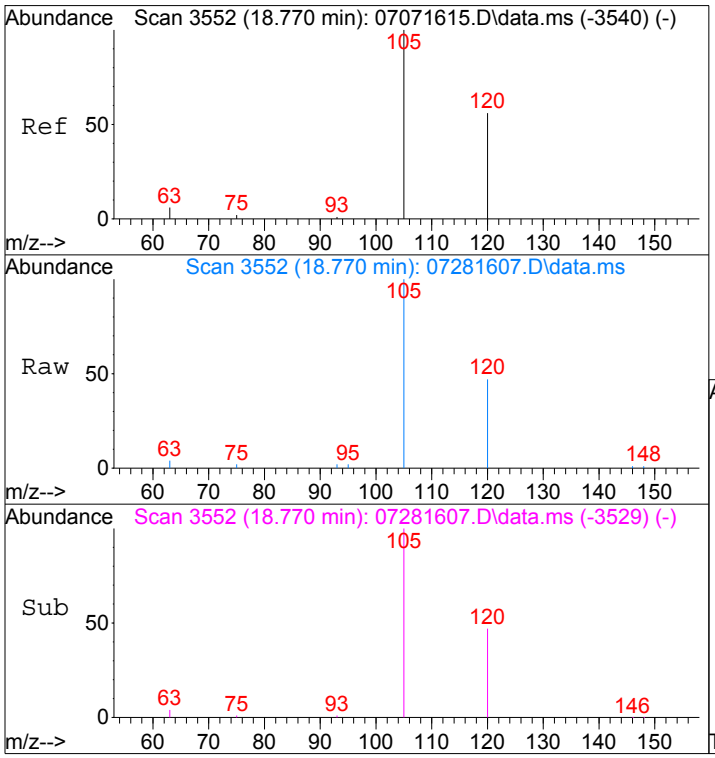


#46
1,3,5-Trimethylbenzene
Concen: 79.51 pg
RT: 18.38 min Scan# 3464
Delta R.T. -0.004 min
Lab File: 07281607.D
Acq: 28 Jul 2016 17:00

Tgt Ion:105 Resp: 4360

Ion	Ratio	Lower	Upper
105	100		
120	49.5	40.4	60.6

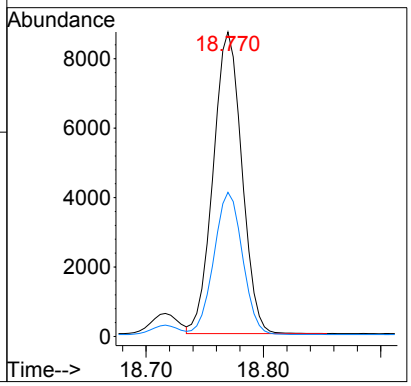


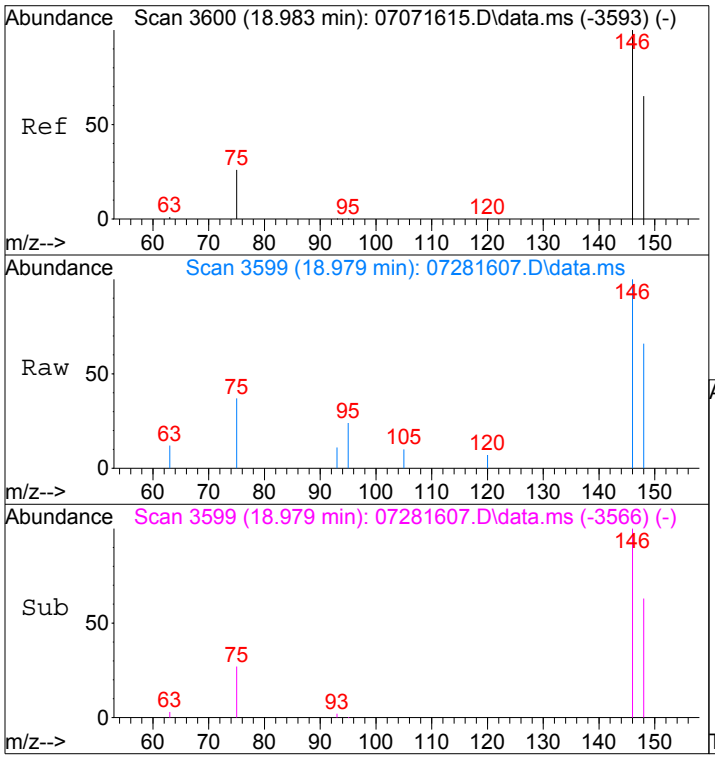


#47
1,2,4-Trimethylbenzene
Concen: 268.95 pg
RT: 18.77 min Scan# 3552
Delta R.T. -0.009 min
Lab File: 07281607.D
Acq: 28 Jul 2016 17:00

Tgt Ion:105 Resp: 14728

Ion	Ratio	Lower	Upper
105	100		
120	47.1	44.8	67.2

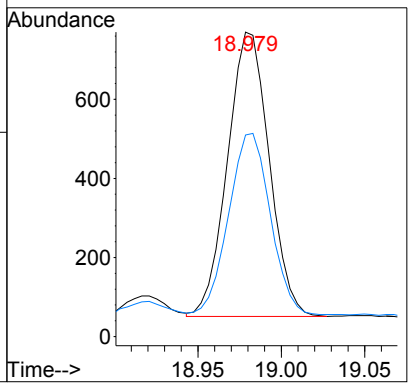


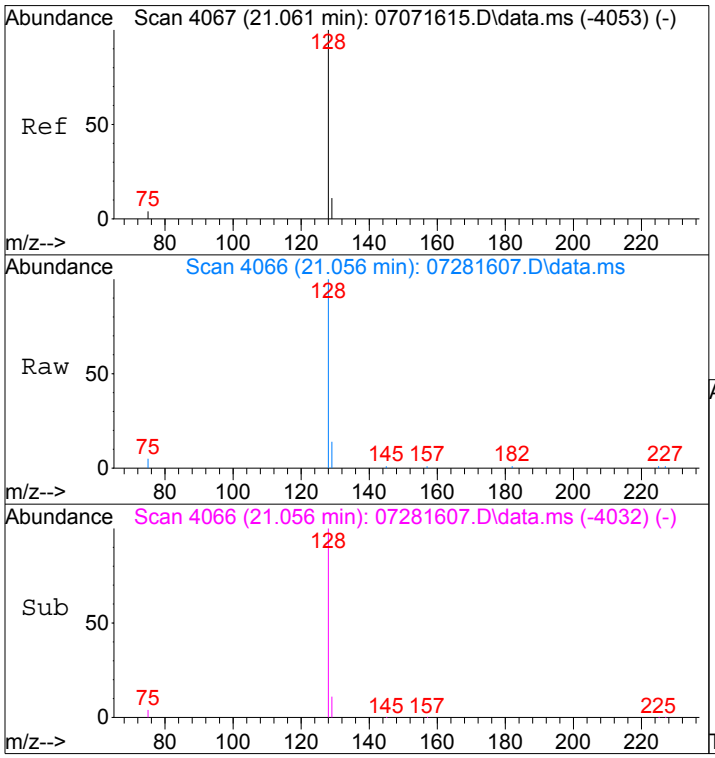


#49
1,4-Dichlorobenzene
Concen: 38.32 pg
RT: 18.98 min Scan# 3599
Delta R.T. -0.004 min
Lab File: 07281607.D
Acq: 28 Jul 2016 17:00

Tgt Ion:146 Resp: 1250

Ion	Ratio	Lower	Upper
146	100		
148	63.6	44.1	84.1

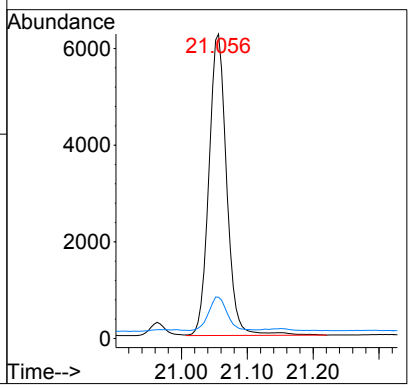




#53
Naphthalene
Concen: 171.37 pg
RT: 21.06 min Scan# 4066
Delta R.T. 0.000 min
Lab File: 07281607.D
Acq: 28 Jul 2016 17:00

Tgt Ion:128 Resp: 11680

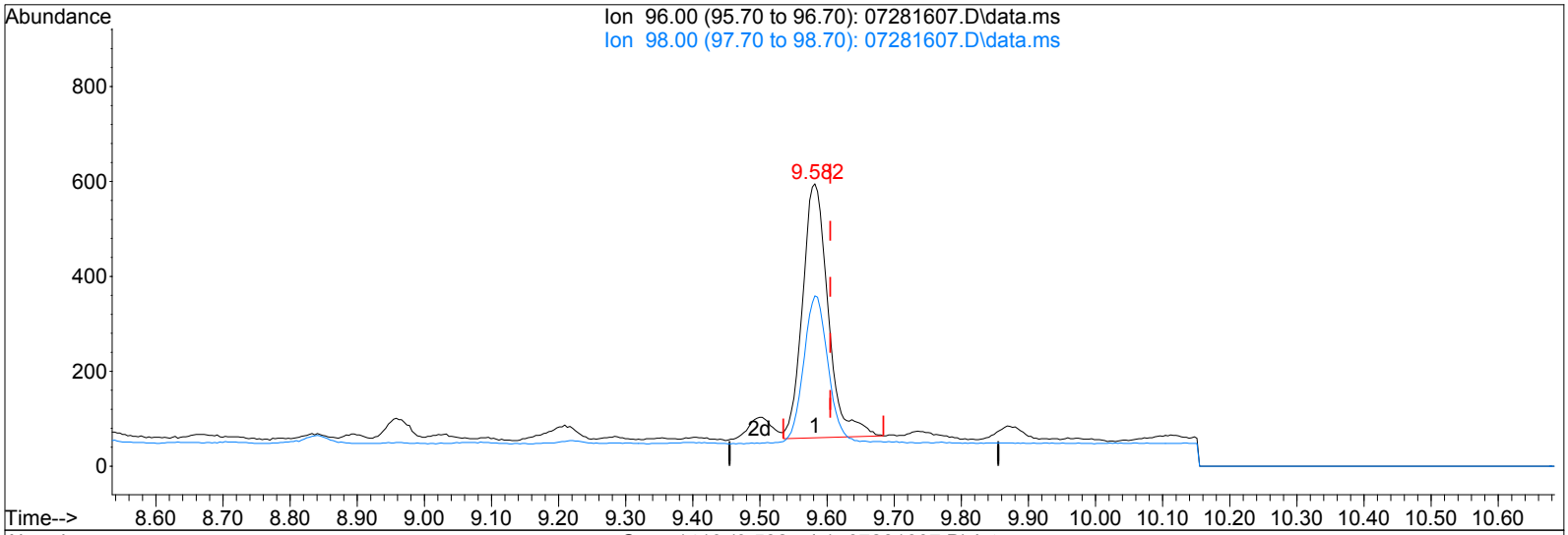
Ion	Ratio	Lower	Upper
128	100		
129	11.7	0.0	30.7

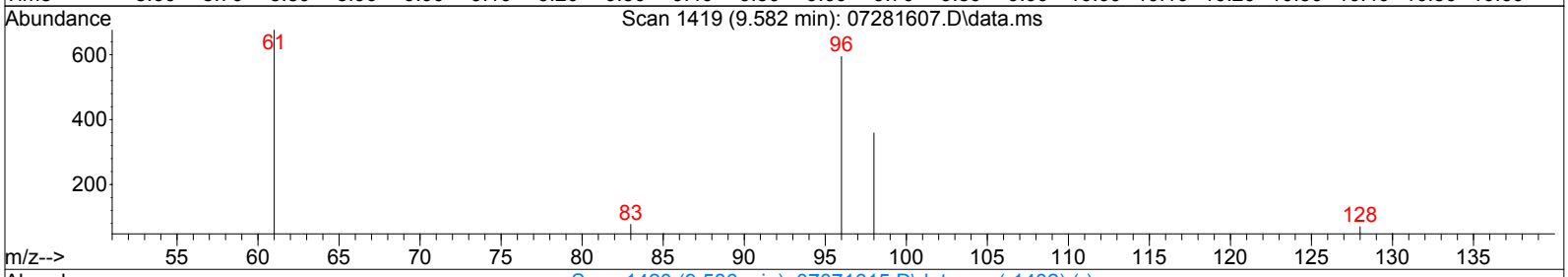


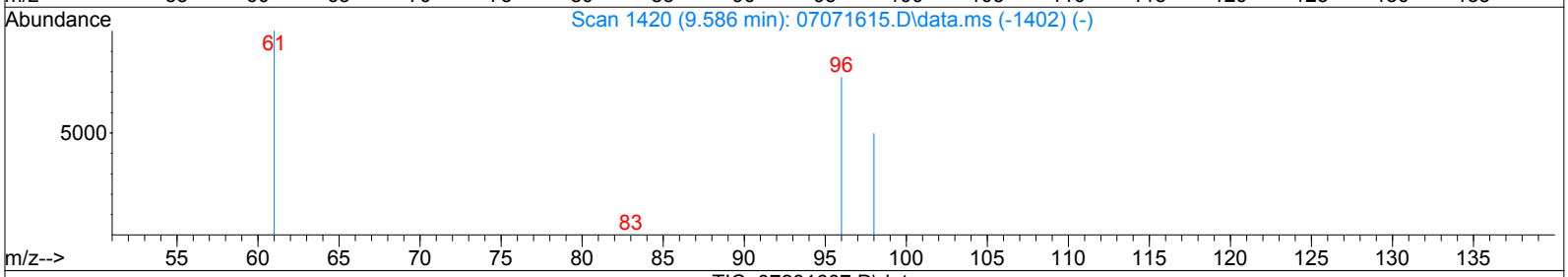
Quantitation Report (Qedit)

Data File: I:\MS19\DATA\2016 07\28\07281607.D
Acq On : 28 Jul 2016 17:00 Operator: WA
Sample : P1603571-005 RA (1000mL)
Misc : S29-06141602/AC01205
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 29 07:06:49 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 07281607.D\data.ms

(18) cis-1,2-Dichloroethene (T)

9.582min (-0.023) 77.79pg

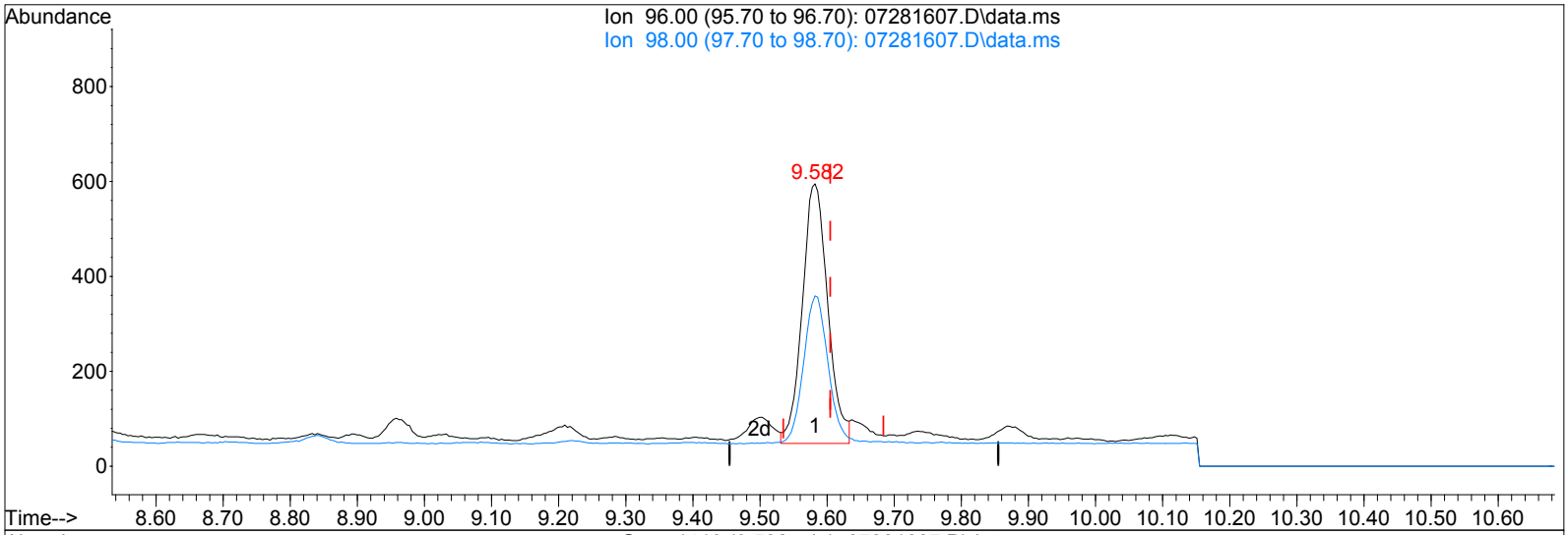
response 1420

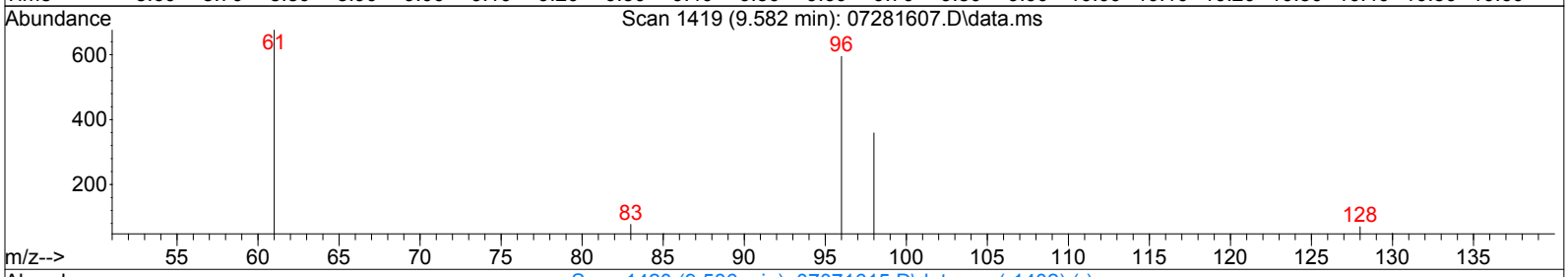
Ion	Exp%	Act%
96.00	100	100
98.00	64.50	55.14
0.00	0.00	0.00
0.00	0.00	0.00

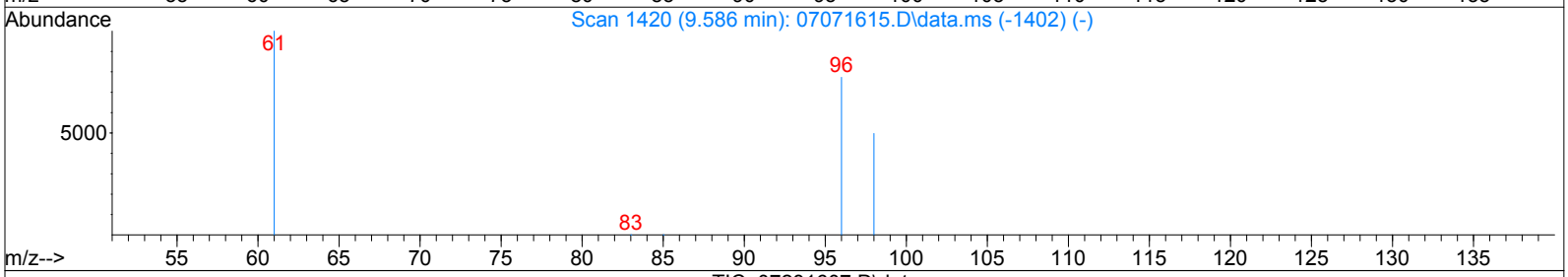
Quantitation Report (Qedit)

Data File: I:\MS19\DATA\2016 07\28\07281607.D
Acq On : 28 Jul 2016 17:00 Operator: WA
Sample : P1603571-005 RA (1000mL)
Misc : S29-06141602/AC01205
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 29 07:06:49 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 07281607.D\data.ms

(18) cis-1,2-Dichloroethene (T)

9.582min (-0.023) 79.16pg m

response 1445

Ion	Exp%	Act%
96.00	100	100
98.00	64.50	54.19
0.00	0.00	0.00
0.00	0.00	0.00

IPC

WA 7/29/16

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\20\07201623.D Vial: 12
Acq On : 20 Jul 2016 22:22 Operator: CL
Sample : P1603571-007 (1000mL) Inst : MS19
Misc : S29-06141602

Quant Time: Jul 22 13:53:51 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 7/22/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.77	130	18214	1000.000 pg	0.00
25) 1,4-Difluorobenzene (IS2)	11.71	114	90550	1000.000 pg	-0.01
38) Chlorobenzene-d5 (IS3)	16.05	54	13080	1000.000 pg	0.00

System Monitoring Compounds

20) 1,2-Dichloroethane-d4 ...	10.54	65	24473	864.213 pg	-0.01
Spiked Amount 1000.000	Range 70 - 130		Recovery = 86.42%		
33) Toluene-d8 (SS2)	14.15	98	93536	985.464 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 98.55%		
45) Bromofluorobenzene (SS3)	17.55	174	40932	1288.151 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 128.82%		

Target Compounds

						Qvalue
2) Dichlorodifluoromethan...	4.41	85	50264	1131.928 pg		100
3) Chloromethane	4.62	52	3098	272.158 pg		99
4) 1,2-Dichloro,1,1,2,2-t...	4.79	85	1666	51.512 pg		99
5) Vinyl Chloride	4.93	62	5065	162.597 pg		99
6) 1,3-Butadiene	5.11	54	716	32.985 pg	#	80
7) Bromomethane	5.45	94	922	53.816 pg		96
8) Chloroethane	5.67	64	460	29.931 pg		97
9) Acrolein	6.26	56	9390	882.326 pg		86
10) Acetone	6.41	58	4225597	303649.454 pg	#	72
11) Trichlorofluoromethane	6.59	101	21045	692.091 pg		100
12) 1,1-Dichloroethene	7.33	96	93	N.D.		
13) Methylene Chloride	7.49	84	4222	206.614 pg		90
14) Trichlorotrifluoroethane	7.79	151	5284	299.844 pg		99
15) trans-1,2-Dichloroethene	8.51	96	741	34.672 pg		98
16) 1,1-Dichloroethane	8.72	63	146	N.D.		
17) Methyl tert-Butyl Ether	8.79	73	250	N.D.		
18) cis-1,2-Dichloroethene	9.60	96	58519	2676.099 pg		100
19) Chloroform	9.90	83	11236	324.299 pg		99
21) 1,2-Dichloroethane	10.64	62	24298	938.833 pg		99
22) 1,1,1-Trichloroethane	10.92	97	389	N.D.		
23) Benzene	11.37	78	22239	274.691 pg		100
24) Carbon Tetrachloride	11.53	117	7061	281.065 pg		99
26) 1,2-Dichloropropane	12.17	63	127	N.D.		
27) Bromodichloromethane	0.00	83	0	N.D. d		
28) Trichloroethene	12.41	130	37714	1690.806 pg		99
29) 1,4-Dioxane	12.37	88	38776	2309.067 pg		94
30) cis-1,3-Dichloropropene	0.00	75	0	N.D. d		
31) trans-1,3-Dichloropropene	13.76	75	149	N.D.		
32) 1,1,2-Trichloroethane	13.93	83	187	N.D.		
34) Toluene	14.25	91	201867	2390.632 pg		100
35) Dibromochloromethane	14.66	129	475	23.976 pg		99
36) 1,2-Dibromoethane	14.91	107	89	N.D.		
37) Tetrachloroethene	15.40	166	1534337	63098.540 pg		97
39) Chlorobenzene	16.10	112	544	N.D.		
40) Ethylbenzene	16.48	91	33319	430.612 pg		98
41) m,p-Xylene	16.65	91	109768	1856.720 pg		98
42) Styrene	17.01	104	22661	522.946 pg		100
43) o-Xylene	17.12	106	38249	1272.792 pg	#	68
44) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d		
46) 1,3,5-Trimethylbenzene	18.38	105	100699	1652.604 pg		98
47) 1,2,4-Trimethylbenzene	18.77	105	272671	4481.056 pg		90
48) 1,3-Dichlorobenzene	18.92	146	182	N.D.		
49) 1,4-Dichlorobenzene	18.98	146	2348	64.770 pg		99
50) 1,2-Dichlorobenzene	19.31	146	270	N.D.		
51) 1,2-Dibromo-3-chloropr...	0.00	157	0	N.D.		
52) 1,2,4-Trichlorobenzene	20.94	182	179	N.D.		
53) Naphthalene	21.06	128	197260	2604.566 pg		99

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\20\07201623.D Vial: 12
Acq On : 20 Jul 2016 22:22 Operator: CL
Sample : P1603571-007 (1000mL) Inst : MS19
Misc : S29-06141602

Quant Time: Jul 22 13:53:51 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

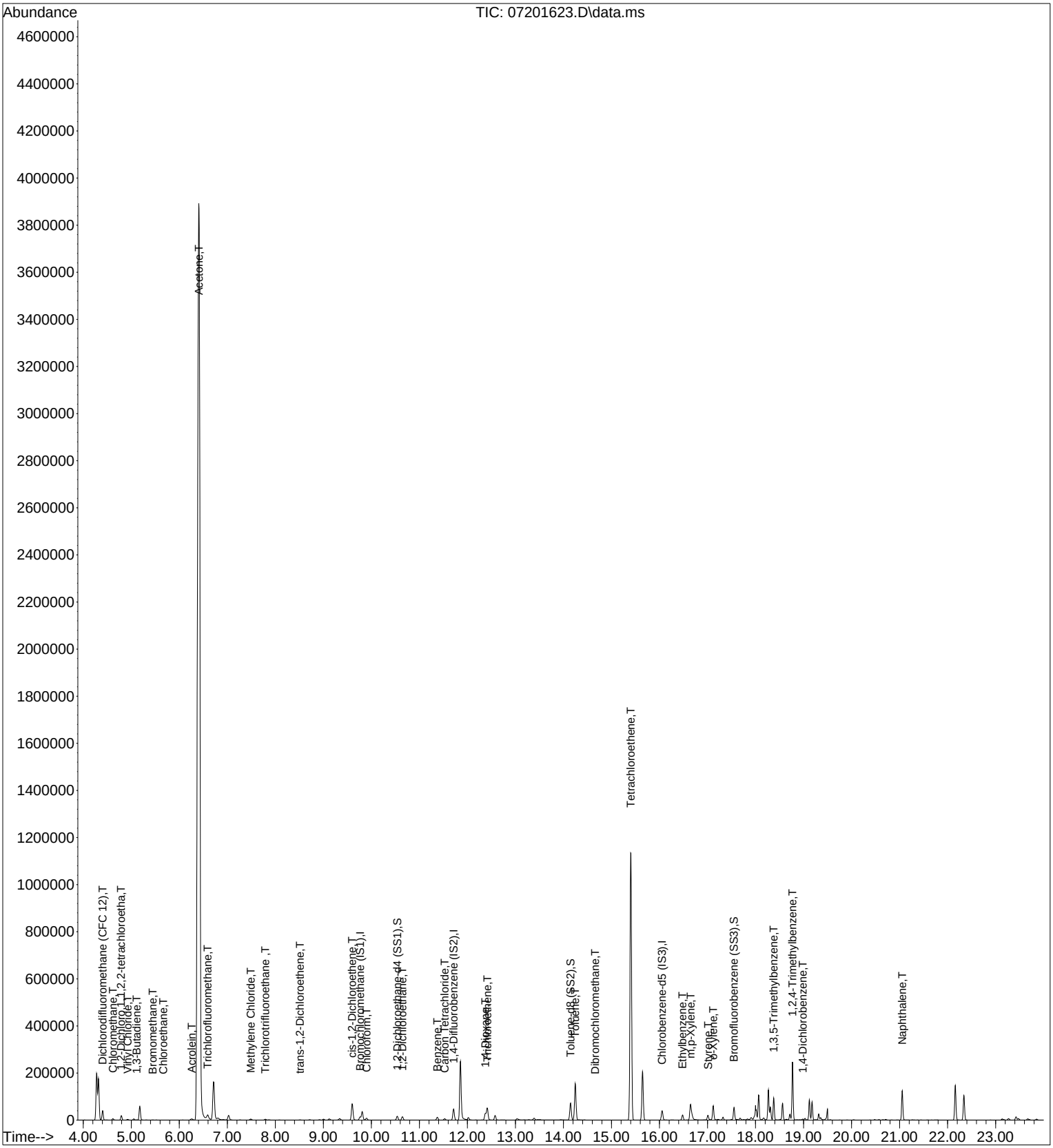
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
54) Hexachlorobutadiene	0.00	225	0	N.D.	

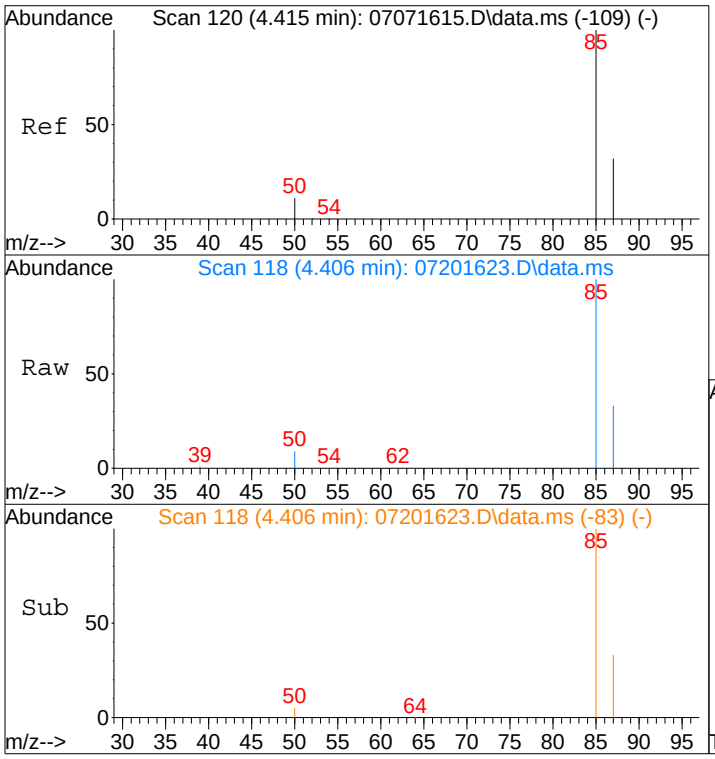
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\20\07201623.D Vial: 12
Acq On : 20 Jul 2016 22:22 Operator: CL
Sample : P1603571-007 (1000mL) Inst : MS19
Misc : S29-06141602

Quant Time: Jul 22 13:53:51 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

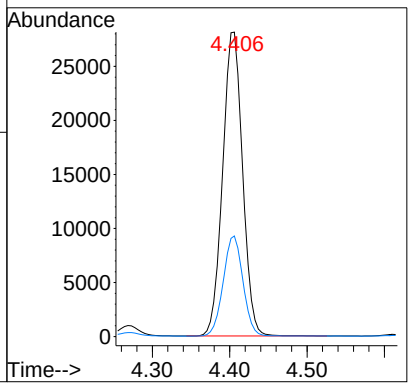


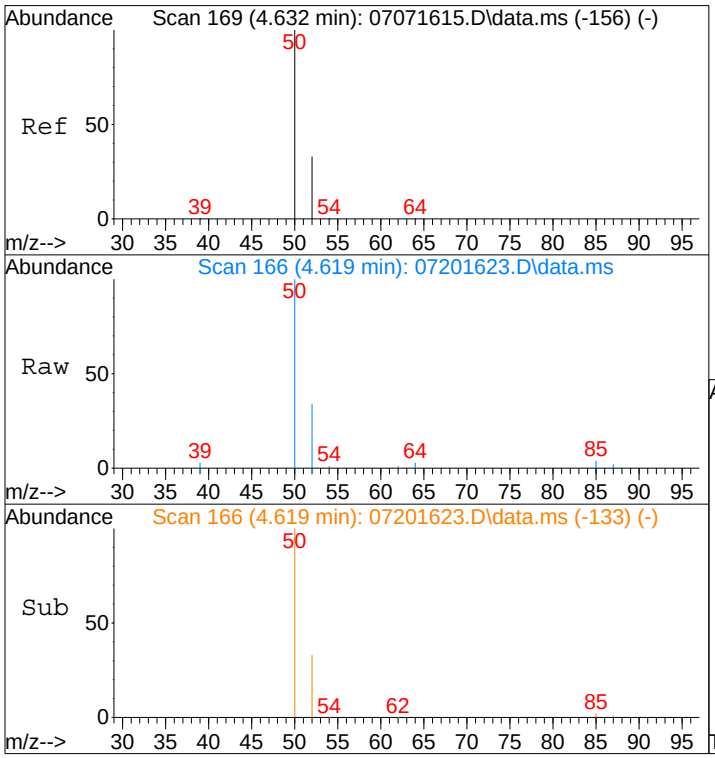


#2
Dichlorodifluoromethane (CFC 12)
Concen: 1131.93 pg
RT: 4.41 min Scan# 118
Delta R.T. 0.004 min
Lab File: 07201623.D
Acq: 20 Jul 2016 22:22

Tgt Ion: 85 Resp: 50264

Ion	Ratio	Lower	Upper
85	100		
87	32.6	12.5	52.5

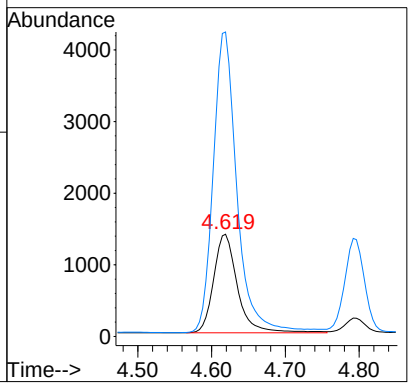


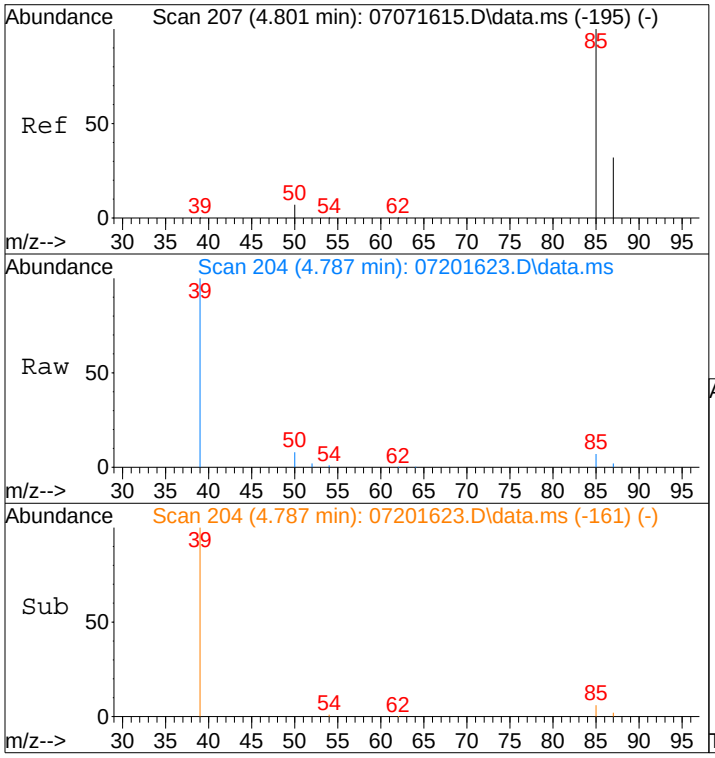


#3
Chloromethane
Concen: 272.16 pg
RT: 4.62 min Scan# 166
Delta R.T. -0.004 min
Lab File: 07201623.D
Acq: 20 Jul 2016 22:22

Tgt Ion: 52 Resp: 3098

Ion	Ratio	Lower	Upper
52	100		
50	303.4	280.8	320.8

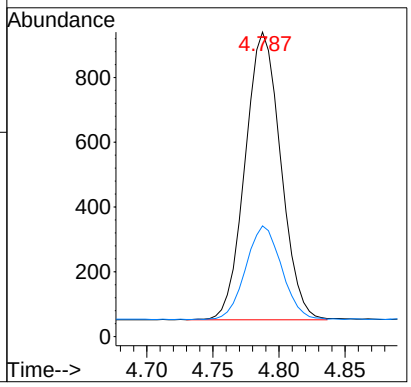


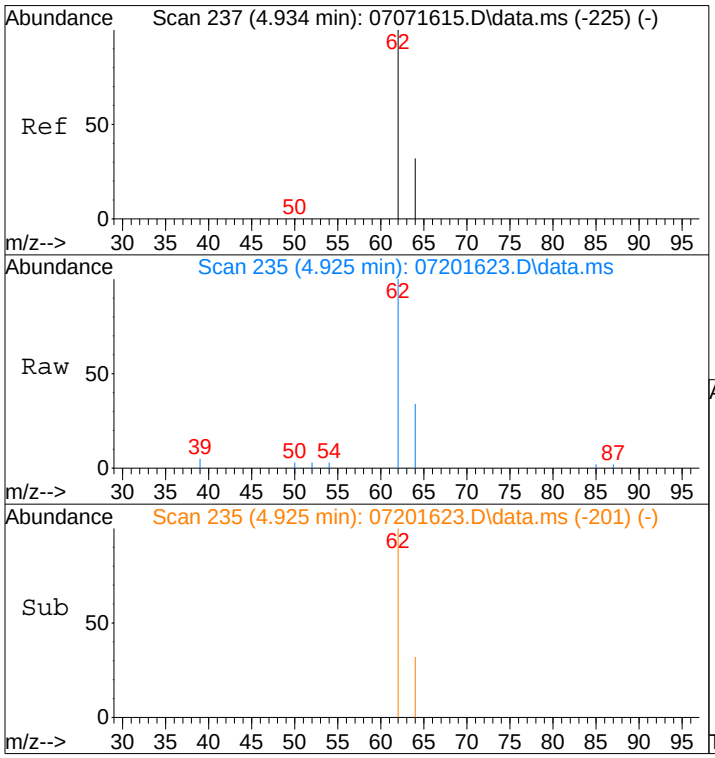


#4
1,2-Dichloro,1,1,2,2-tetrachloroetha
Concen: 51.51 pg
RT: 4.79 min Scan# 204
Delta R.T. -0.009 min
Lab File: 07201623.D
Acq: 20 Jul 2016 22:22

Tgt Ion: 85 Resp: 1666

Ion	Ratio	Lower	Upper
85	100		
87	32.7	25.7	38.5

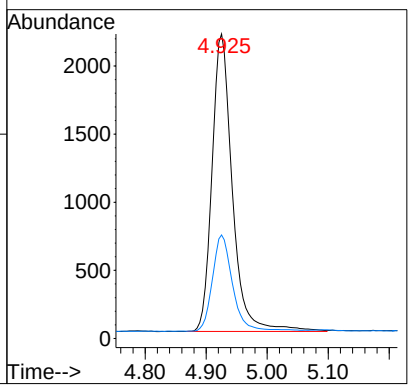


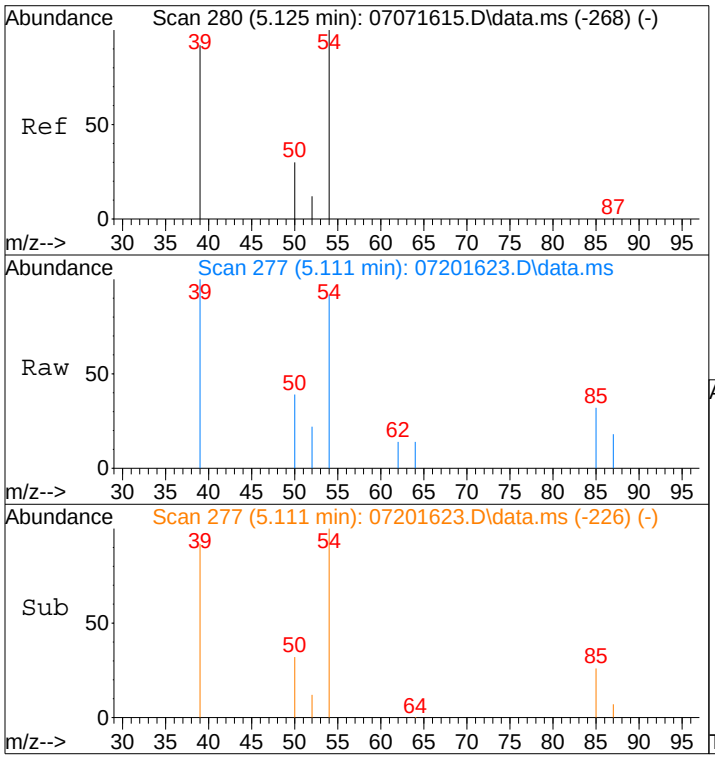


#5
Vinyl Chloride
Concen: 162.60 pg
RT: 4.93 min Scan# 235
Delta R.T. 0.000 min
Lab File: 07201623.D
Acq: 20 Jul 2016 22:22

Tgt Ion: 62 Resp: 5065

Ion	Ratio	Lower	Upper
62	100		
64	32.2	11.9	51.9

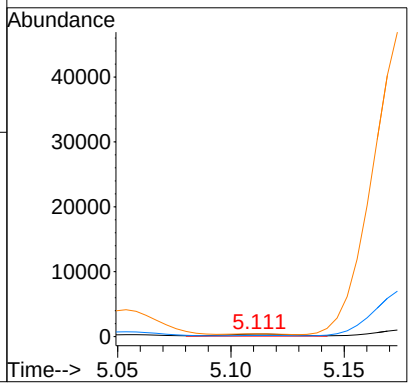


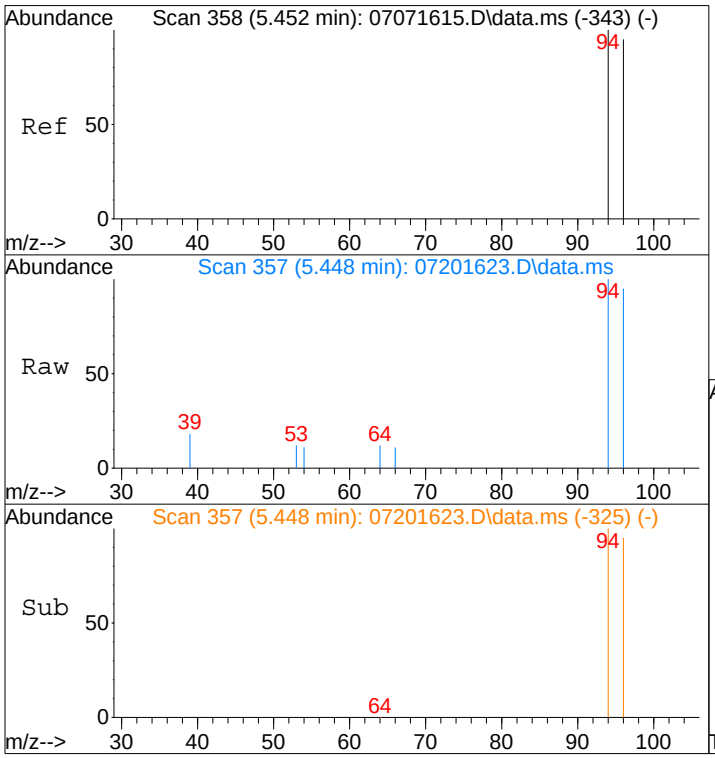


#6
1,3-Butadiene
Concen: 32.99 pg
RT: 5.11 min Scan# 277
Delta R.T. -0.005 min
Lab File: 07201623.D
Acq: 20 Jul 2016 22:22

Tgt Ion: 54 Resp: 716

Ion	Ratio	Lower	Upper
54	100		
50	26.8	23.6	35.4
39	69.8	74.9	112.3#

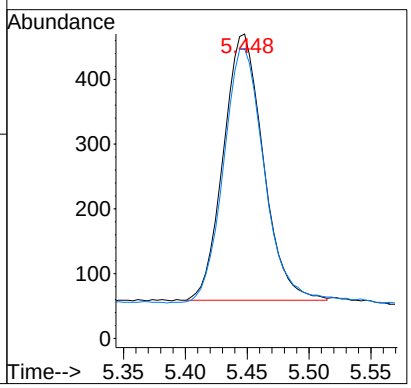


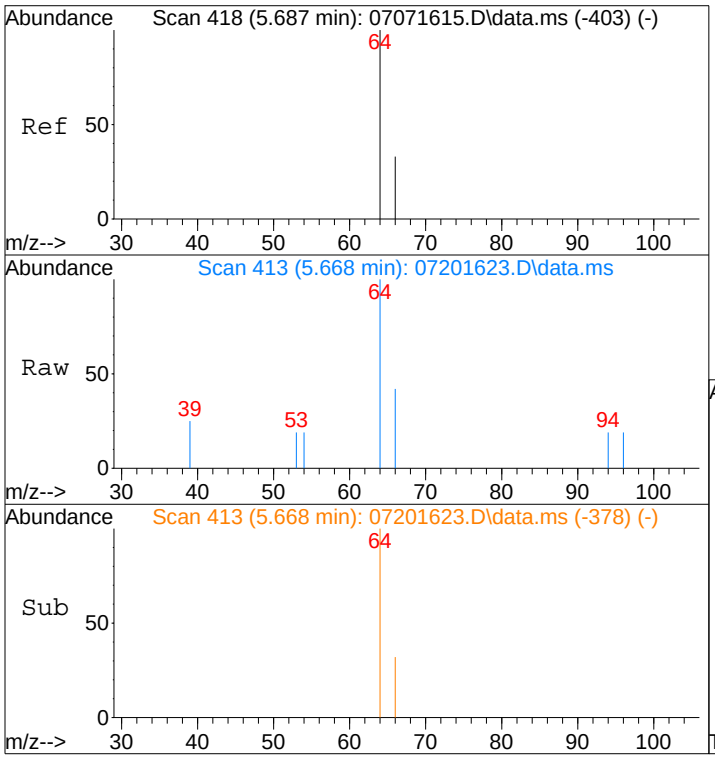


#7
Bromomethane
Concen: 53.82 pg
RT: 5.45 min Scan# 357
Delta R.T. -0.004 min
Lab File: 07201623.D
Acq: 20 Jul 2016 22:22

Tgt Ion: 94 Resp: 922

Ion	Ratio	Lower	Upper
94	100		
96	98.0	75.3	112.9

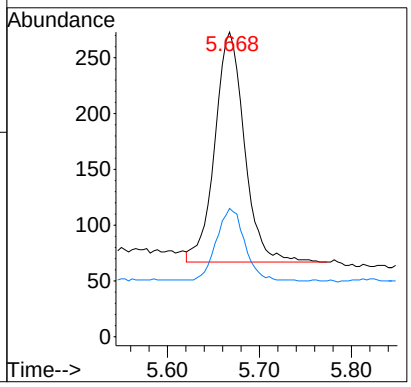


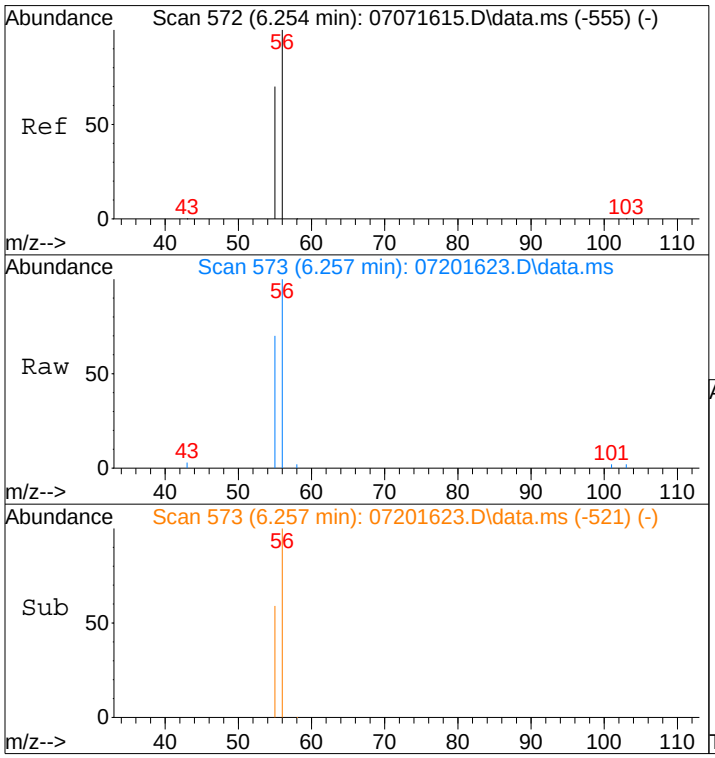


#8
Chloroethane
Concen: 29.93 pg
RT: 5.67 min Scan# 413
Delta R.T. -0.011 min
Lab File: 07201623.D
Acq: 20 Jul 2016 22:22

Tgt Ion: 64 Resp: 460

Ion	Ratio	Lower	Upper
64	100		
66	30.4	12.2	52.2

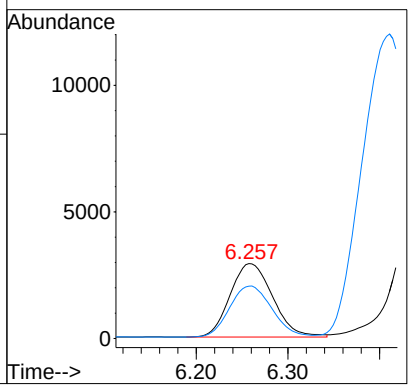


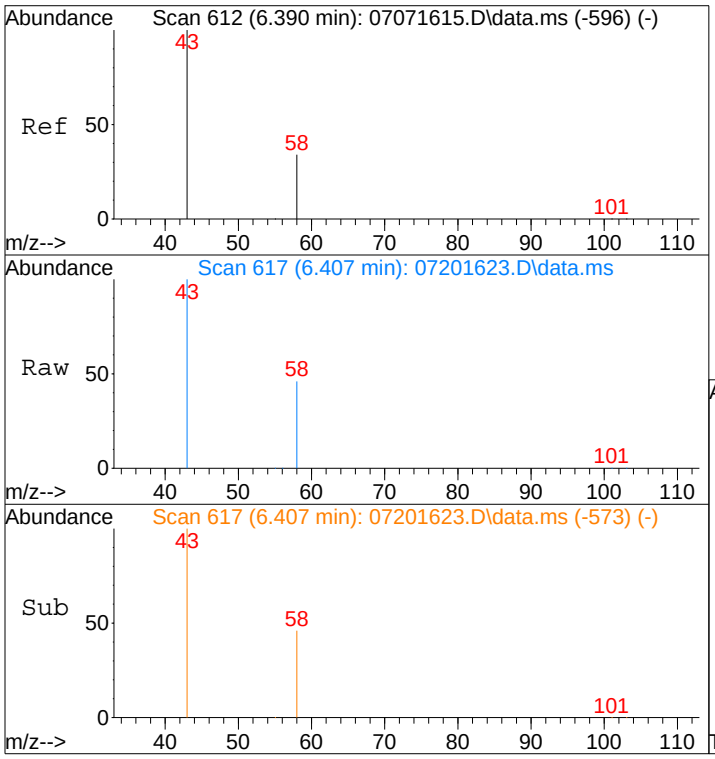


#9
Acrolein
Concen: 882.33 pg
RT: 6.26 min Scan# 573
Delta R.T. 0.007 min
Lab File: 07201623.D
Acq: 20 Jul 2016 22:22

Tgt Ion: 56 Resp: 9390

Ion	Ratio	Lower	Upper
56	100		
55	69.1	47.1	70.7

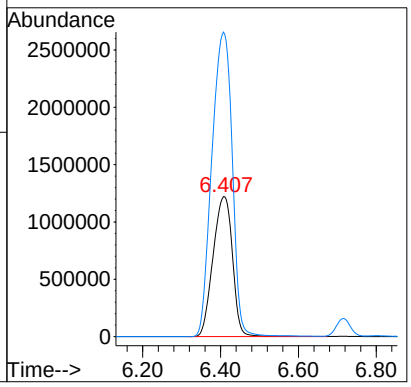


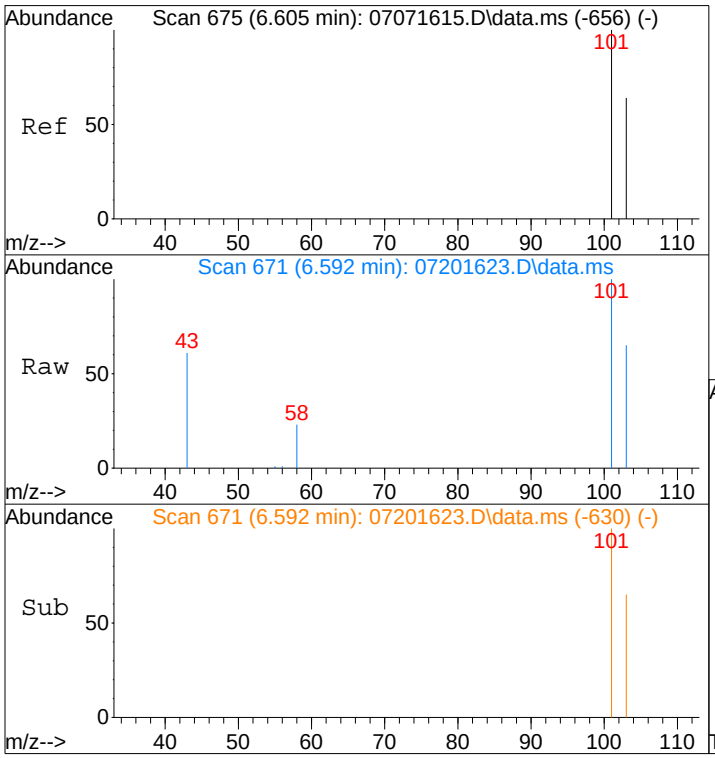


#10
Acetone
Concen: 303649.45 pg
RT: 6.41 min Scan# 617
Delta R.T. 0.000 min
Lab File: 07201623.D
Acq: 20 Jul 2016 22:22

Tgt Ion: 58 Resp: 4225597

Ion	Ratio	Lower	Upper
58	100		
43	229.2	262.3	302.3#

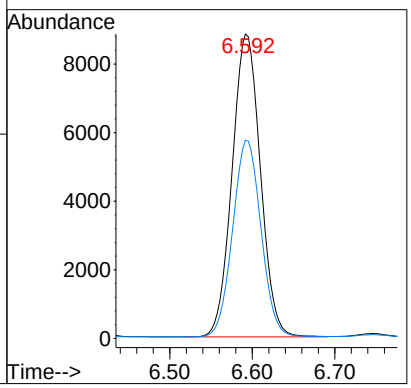


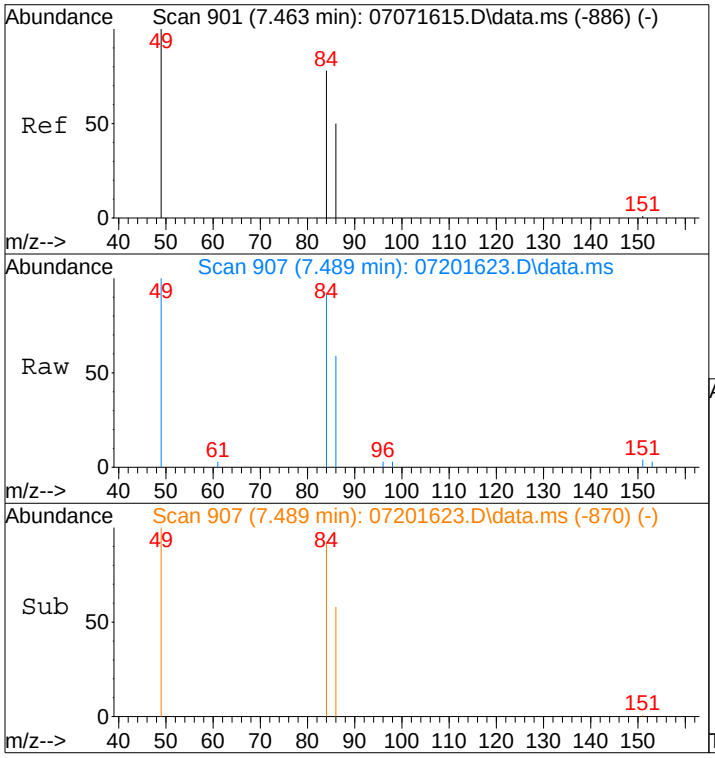


#11
Trichlorofluoromethane
Concen: 692.09 pg
RT: 6.59 min Scan# 671
Delta R.T. -0.010 min
Lab File: 07201623.D
Acq: 20 Jul 2016 22:22

Tgt Ion:101 Resp: 21045

Ion	Ratio	Lower	Upper
101	100		
103	65.0	51.8	77.6

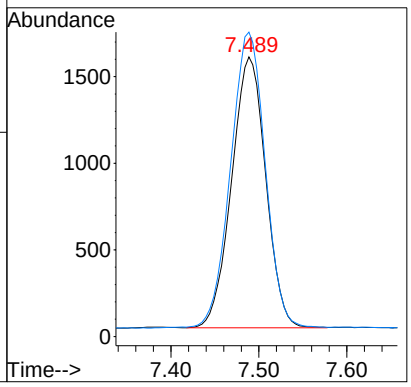


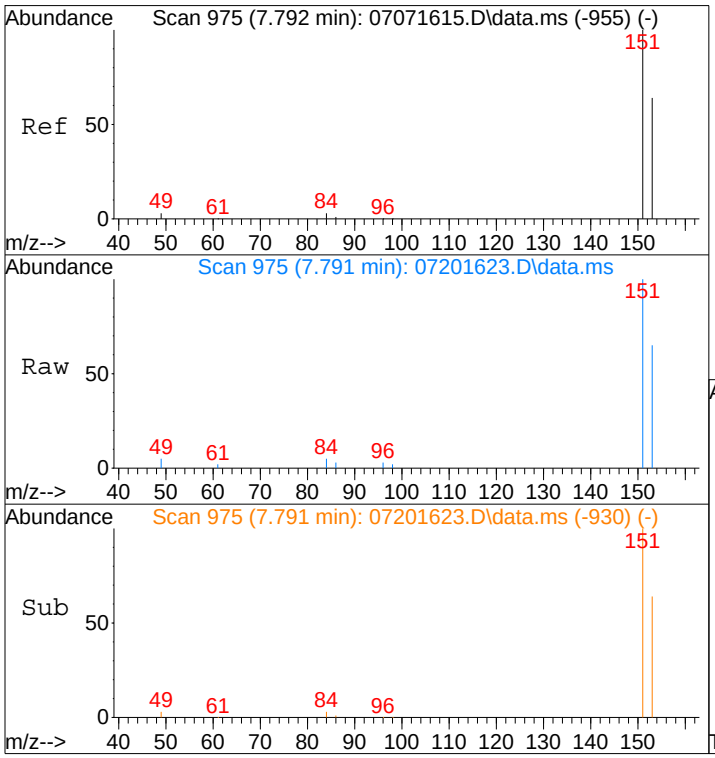


#13
Methylene Chloride
Concen: 206.61 pg
RT: 7.49 min Scan# 907
Delta R.T. 0.004 min
Lab File: 07201623.D
Acq: 20 Jul 2016 22:22

Tgt Ion: 84 Resp: 4222

Ion	Ratio	Lower	Upper
84	100		
49	109.9	101.0	141.0

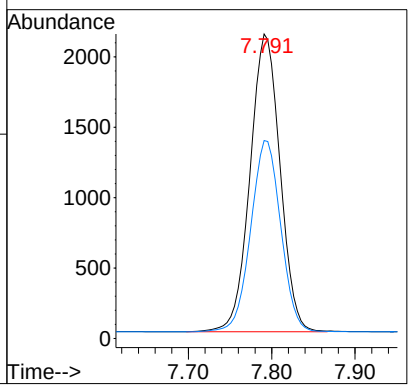


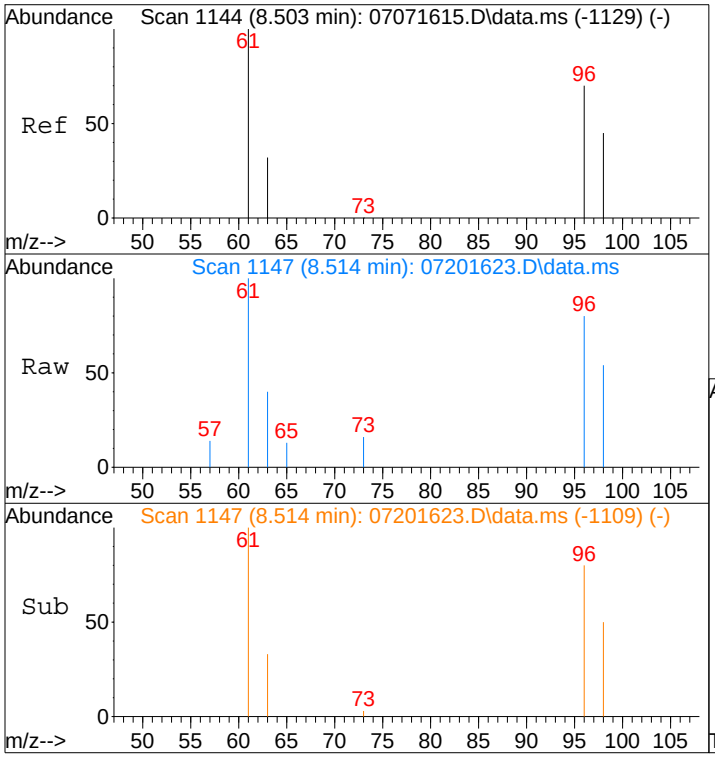


#14
Trichlorotrifluoroethane
Concen: 299.84 pg
RT: 7.79 min Scan# 975
Delta R.T. -0.001 min
Lab File: 07201623.D
Acq: 20 Jul 2016 22:22

Tgt Ion:151 Resp: 5284

Ion	Ratio	Lower	Upper
151	100		
153	64.6	44.0	84.0

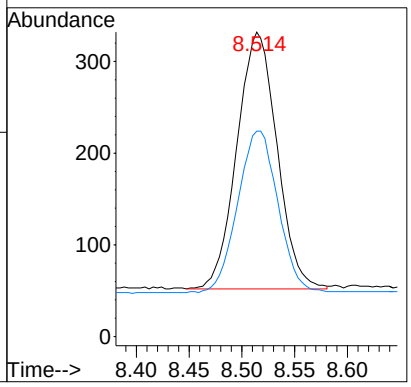


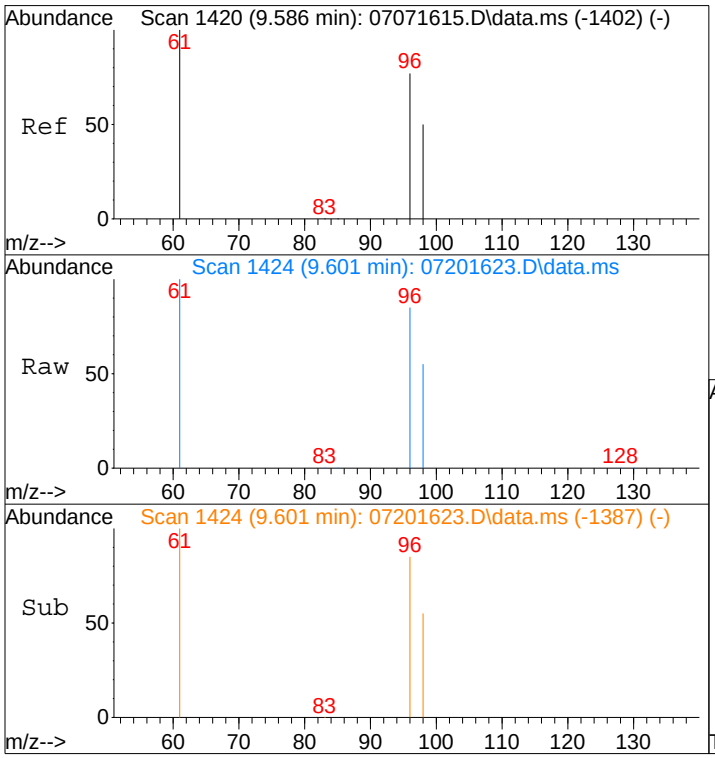


#15
trans-1,2-Dichloroethene
Concen: 34.67 pg
RT: 8.51 min Scan# 1147
Delta R.T. -0.001 min
Lab File: 07201623.D
Acq: 20 Jul 2016 22:22

Tgt Ion: 96 Resp: 741

Ion	Ratio	Lower	Upper
96	100		
98	63.6	42.3	82.3

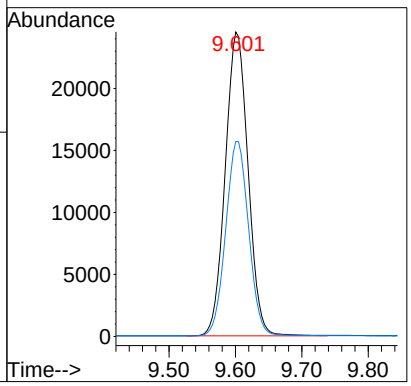


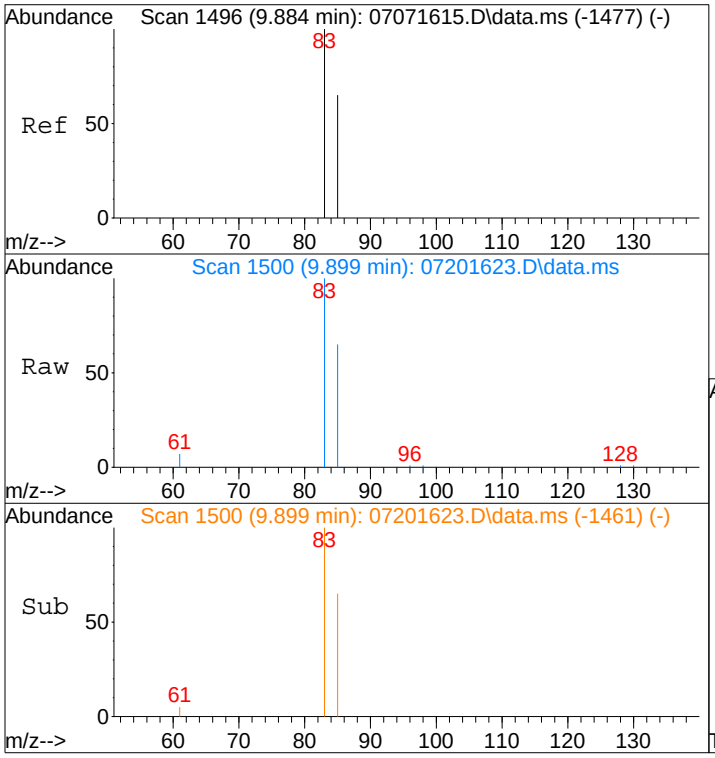


#18
cis-1,2-Dichloroethene
Concen: 2676.10 pg
RT: 9.60 min Scan# 1424
Delta R.T. -0.004 min
Lab File: 07201623.D
Acq: 20 Jul 2016 22:22

Tgt Ion: 96 Resp: 58519

Ion	Ratio	Lower	Upper
96	100		
98	64.4	44.5	84.5

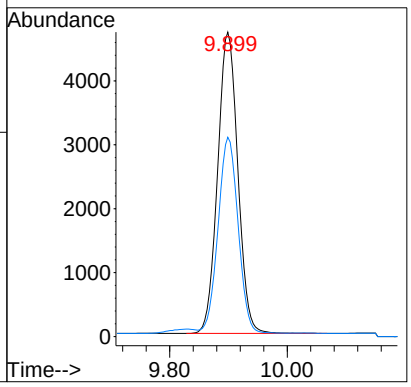


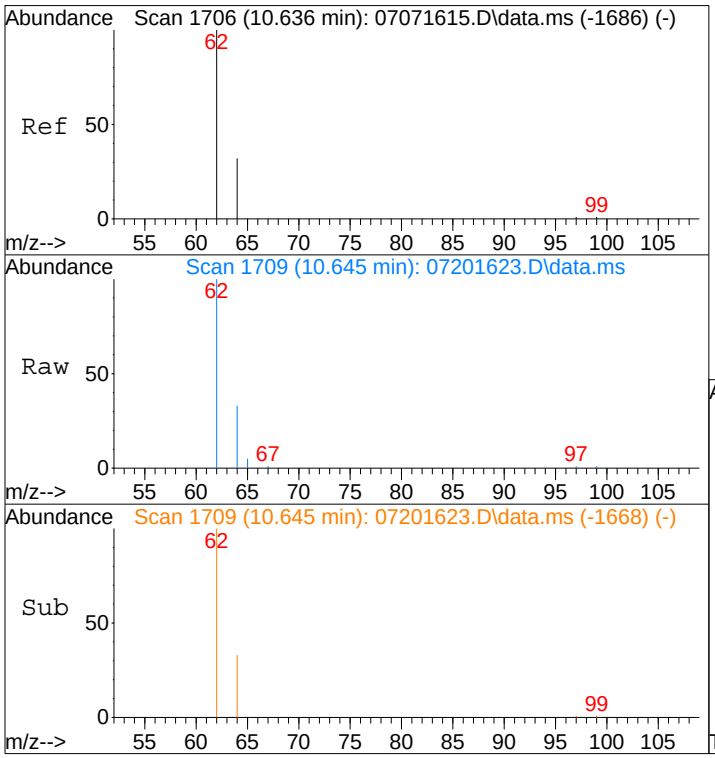


#19
Chloroform
Concen: 324.30 pg
RT: 9.90 min Scan# 1500
Delta R.T. -0.017 min
Lab File: 07201623.D
Acq: 20 Jul 2016 22:22

Tgt Ion: 83 Resp: 11236

Ion	Ratio	Lower	Upper
83	100		
85	64.6	45.1	85.1

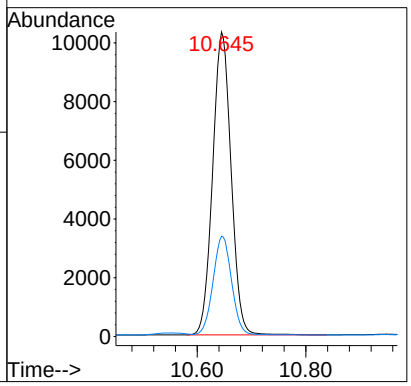


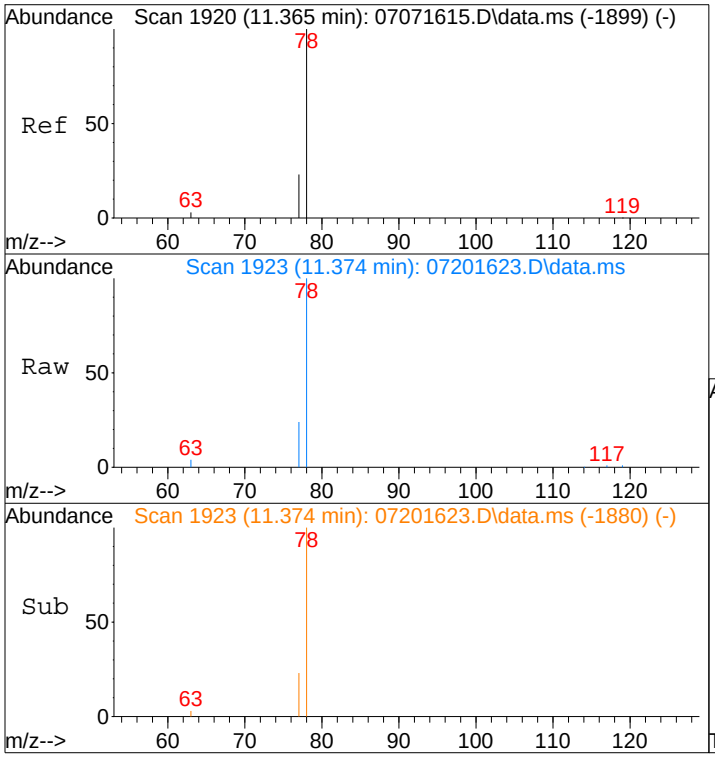


#21
1,2-Dichloroethane
Concen: 938.83 pg
RT: 10.64 min Scan# 1709
Delta R.T. -0.011 min
Lab File: 07201623.D
Acq: 20 Jul 2016 22:22

Tgt Ion: 62 Resp: 24298

Ion	Ratio	Lower	Upper
62	100		
64	32.4	12.1	52.1

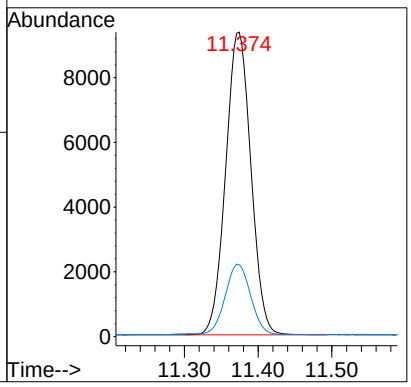


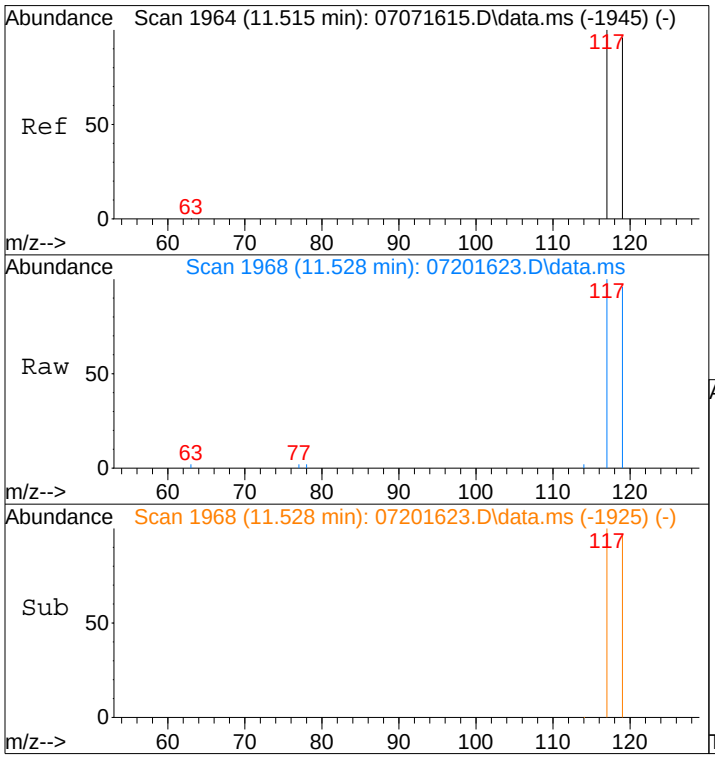


#23
Benzene
Concen: 274.69 pg
RT: 11.37 min Scan# 1923
Delta R.T. -0.005 min
Lab File: 07201623.D
Acq: 20 Jul 2016 22:22

Tgt Ion: 78 Resp: 22239

Ion	Ratio	Lower	Upper
78	100		
77	23.3	3.3	43.3

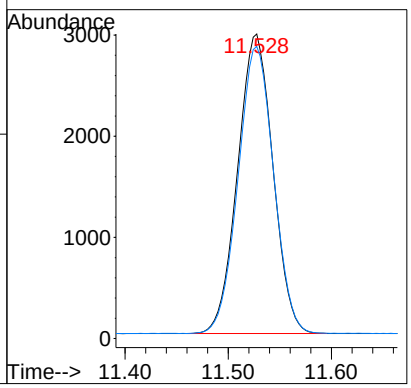


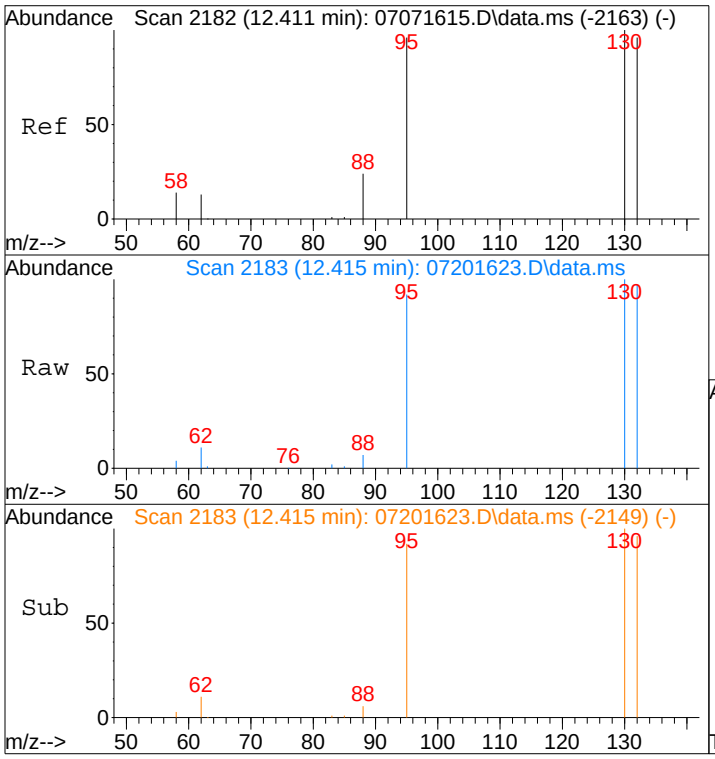


#24
Carbon Tetrachloride
Concen: 281.06 pg
RT: 11.53 min Scan# 1968
Delta R.T. -0.004 min
Lab File: 07201623.D
Acq: 20 Jul 2016 22:22

Tgt Ion:117 Resp: 7061

Ion	Ratio	Lower	Upper
117	100		
119	96.3	75.6	115.6

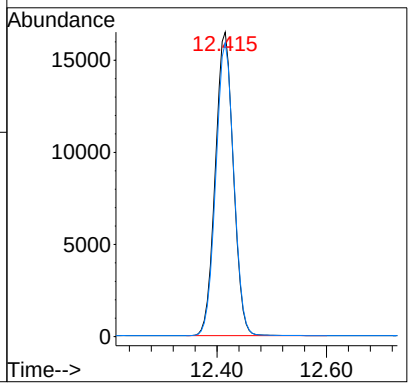


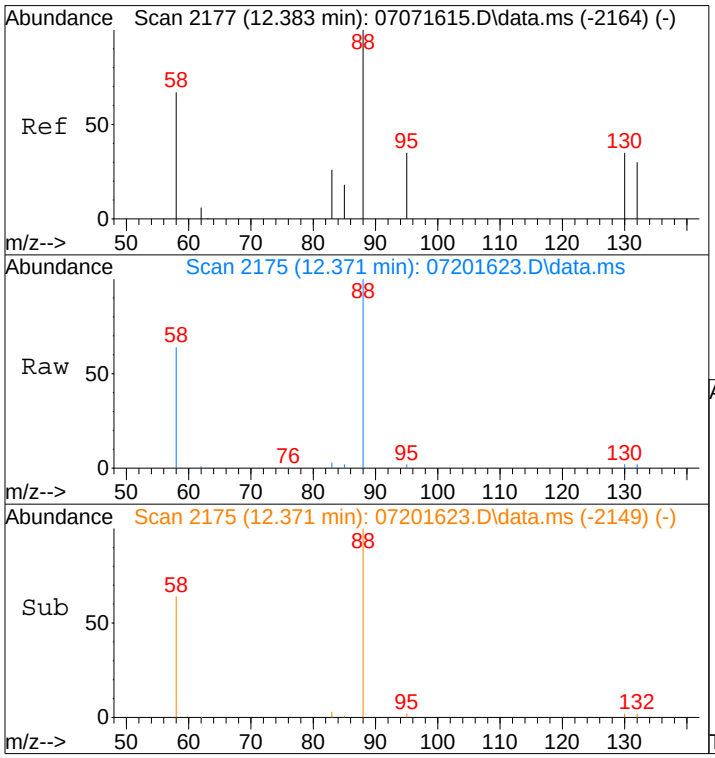


#28
Trichloroethene
Concen: 1690.81 pg
RT: 12.41 min Scan# 2183
Delta R.T. -0.006 min
Lab File: 07201623.D
Acq: 20 Jul 2016 22:22

Tgt Ion:130 Resp: 37714

Ion	Ratio	Lower	Upper
130	100		
132	96.4	75.8	115.8

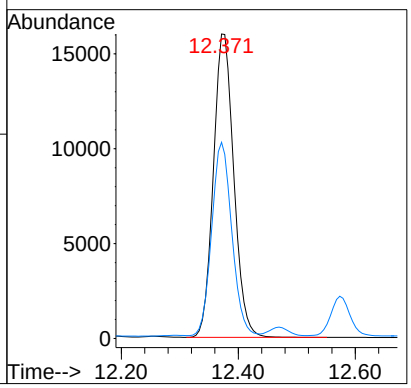


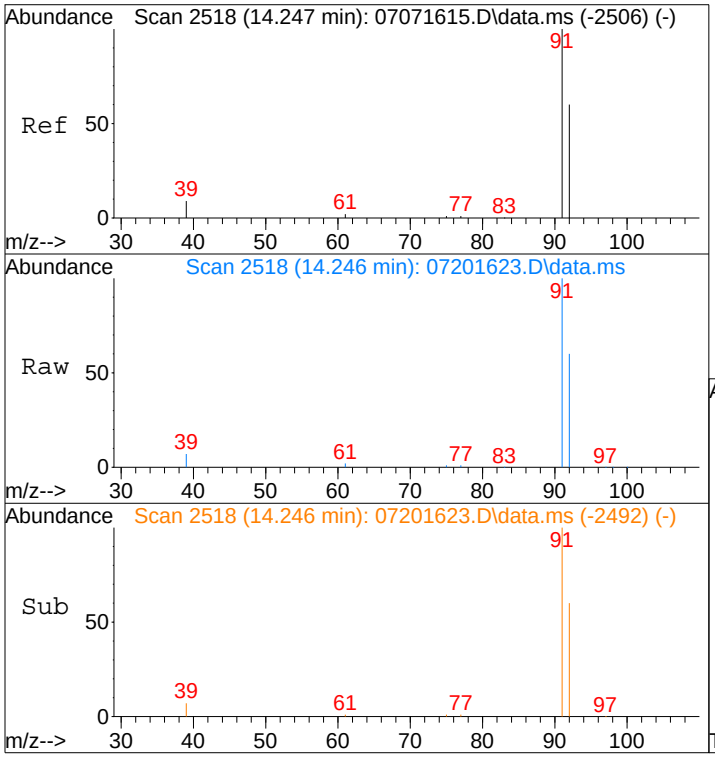


#29
1,4-Dioxane
Concen: 2309.07 pg
RT: 12.37 min Scan# 2175
Delta R.T. -0.007 min
Lab File: 07201623.D
Acq: 20 Jul 2016 22:22

Tgt Ion: 88 Resp: 38776

Ion	Ratio	Lower	Upper
88	100		
58	63.0	47.5	87.5

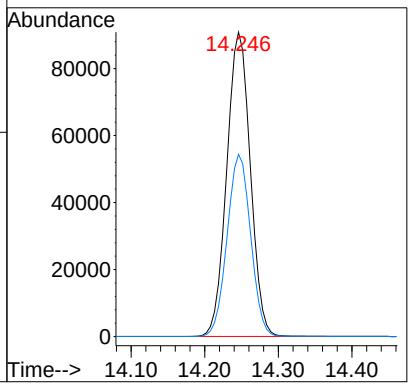


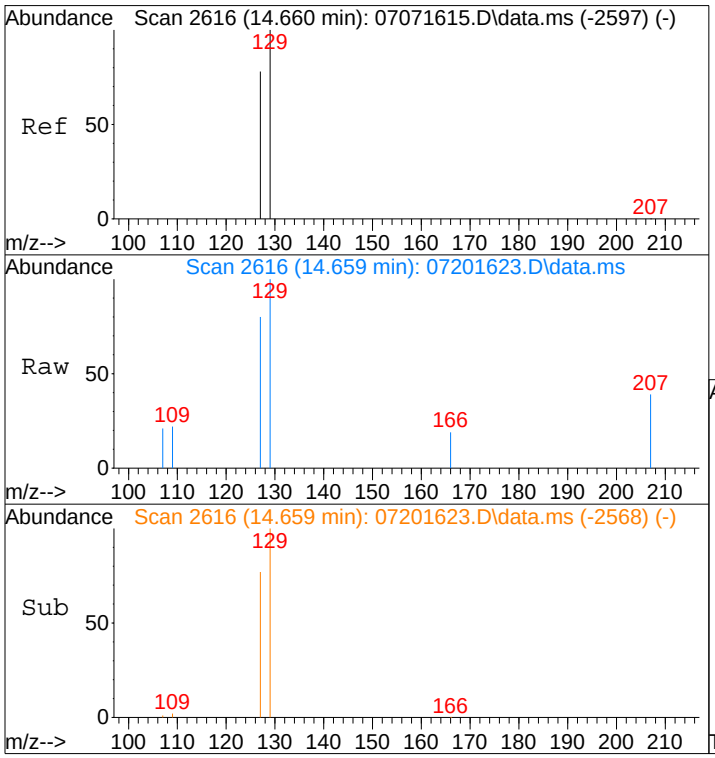


#34
Toluene
Concen: 2390.63 pg
RT: 14.25 min Scan# 2518
Delta R.T. -0.006 min
Lab File: 07201623.D
Acq: 20 Jul 2016 22:22

Tgt Ion: 91 Resp: 201867

Ion	Ratio	Lower	Upper
91	100		
92	59.7	39.4	79.4

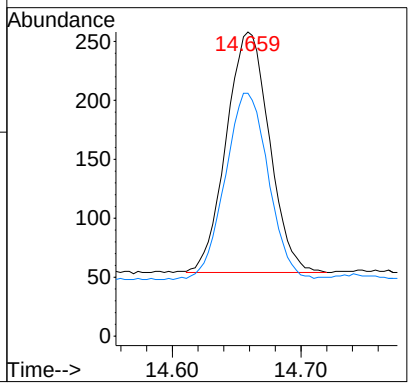


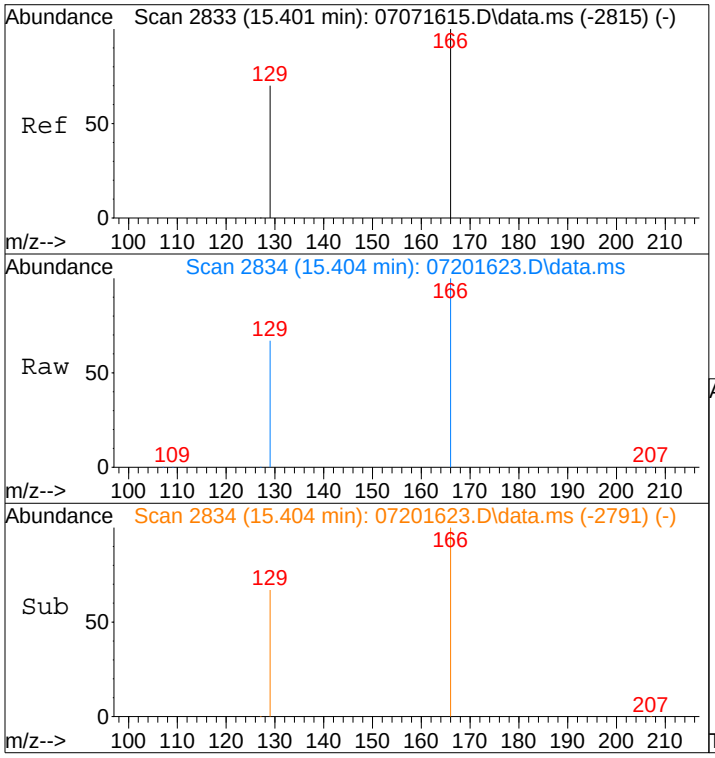


#35
Dibromochloromethane
Concen: 23.98 pg
RT: 14.66 min Scan# 2616
Delta R.T. -0.004 min
Lab File: 07201623.D
Acq: 20 Jul 2016 22:22

Tgt Ion:129 Resp: 475

Ion	Ratio	Lower	Upper
129	100		
127	76.4	62.0	93.0

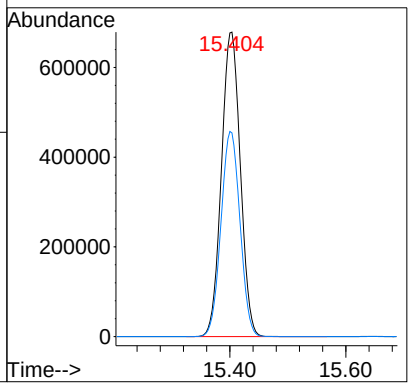


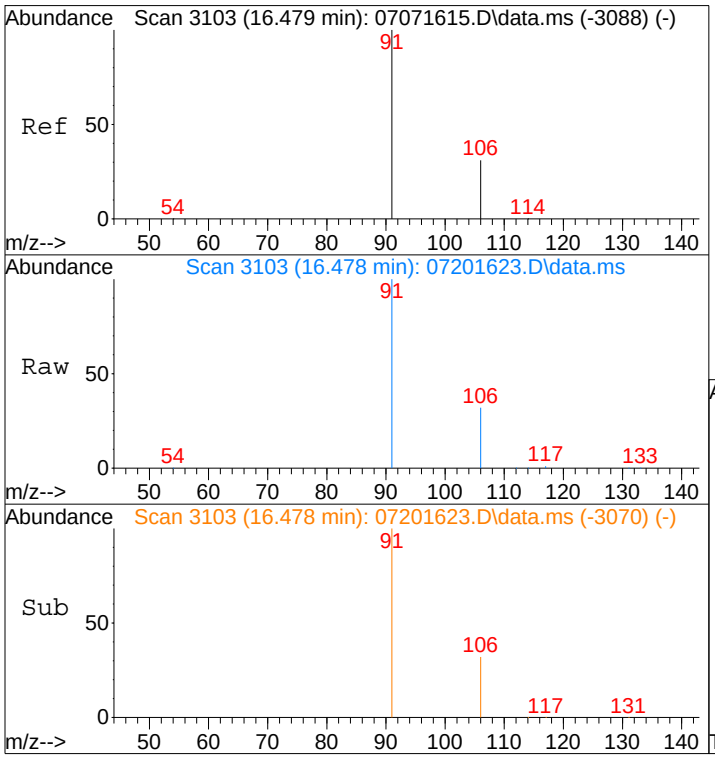


#37
Tetrachloroethene
Concen: 63098.54 pg
RT: 15.40 min Scan# 2834
Delta R.T. -0.001 min
Lab File: 07201623.D
Acq: 20 Jul 2016 22:22

Tgt Ion:166 Resp: 1534337

Ion	Ratio	Lower	Upper
166	100		
129	67.8	50.0	90.0

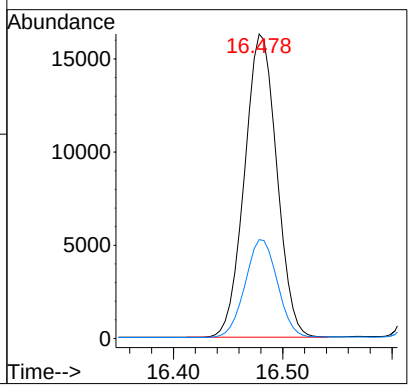


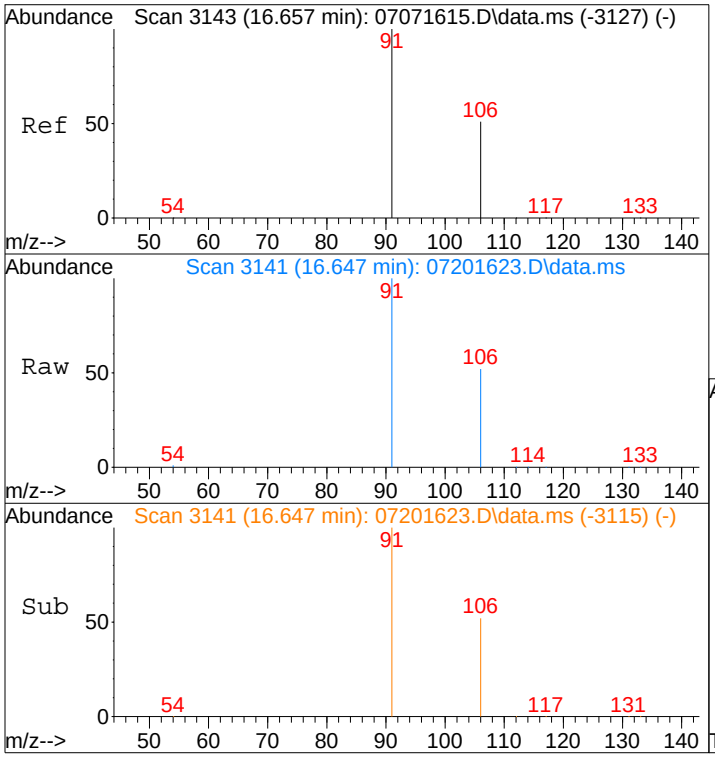


#40
Ethylbenzene
Concen: 430.61 pg
RT: 16.48 min Scan# 3103
Delta R.T. -0.006 min
Lab File: 07201623.D
Acq: 20 Jul 2016 22:22

Tgt Ion: 91 Resp: 33319

Ion	Ratio	Lower	Upper
91	100		
106	32.5	11.6	51.6

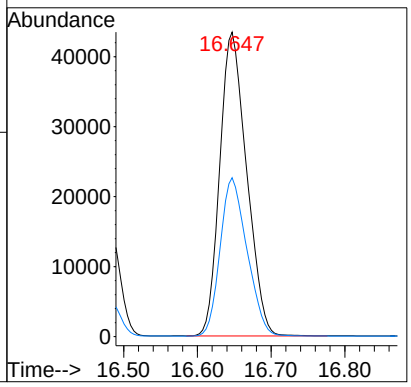


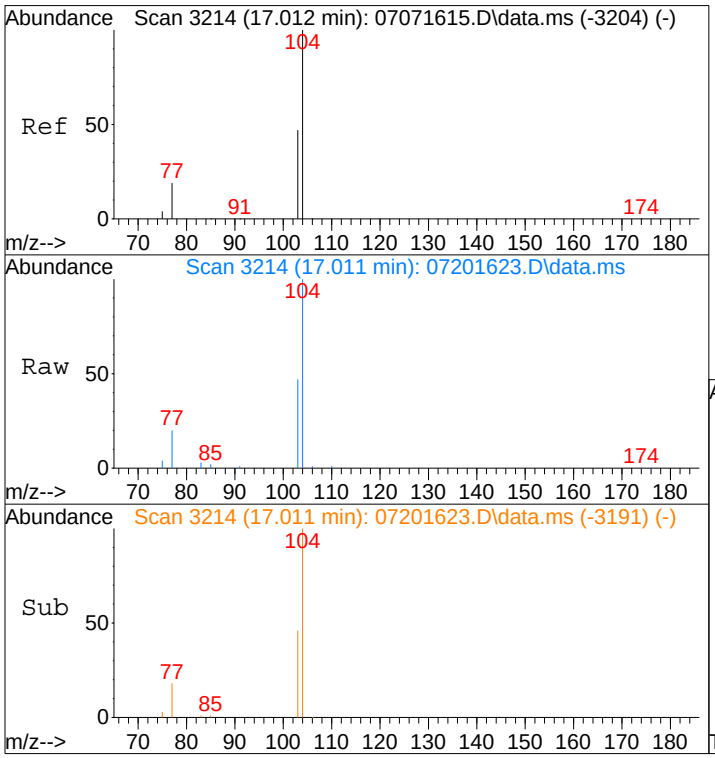


#41
m,p-Xylene
Concen: 1856.72 pg
RT: 16.65 min Scan# 3141
Delta R.T. -0.014 min
Lab File: 07201623.D
Acq: 20 Jul 2016 22:22

Tgt Ion: 91 Resp: 109768

Ion	Ratio	Lower	Upper
91	100		
106	52.1	30.7	70.7

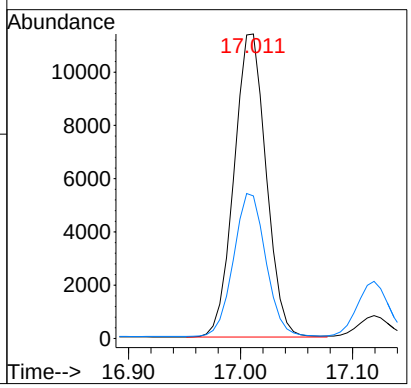


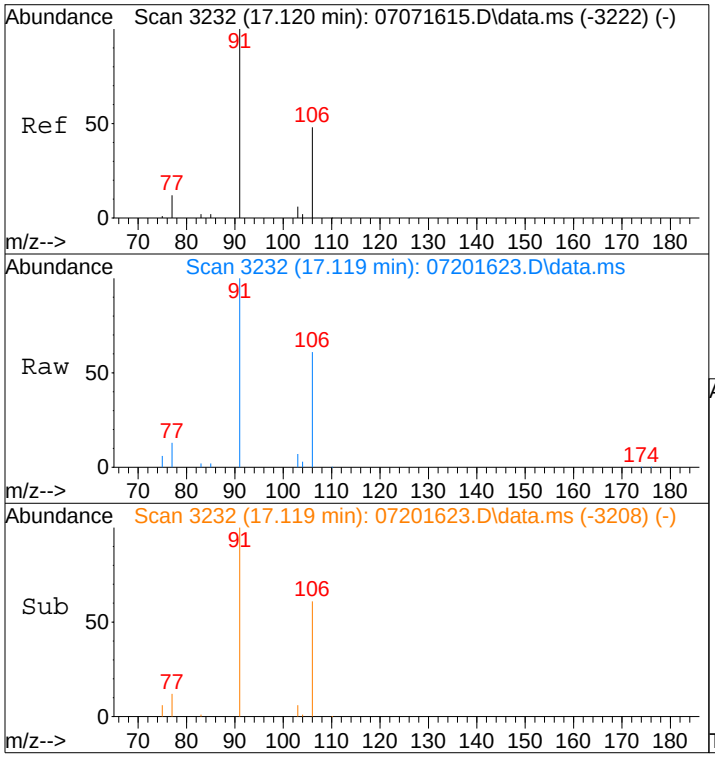


#42
Styrene
Concen: 522.95 pg
RT: 17.01 min Scan# 3214
Delta R.T. -0.001 min
Lab File: 07201623.D
Acq: 20 Jul 2016 22:22

Tgt Ion:104 Resp: 22661

Ion	Ratio	Lower	Upper
104	100		
103	47.4	37.8	56.6

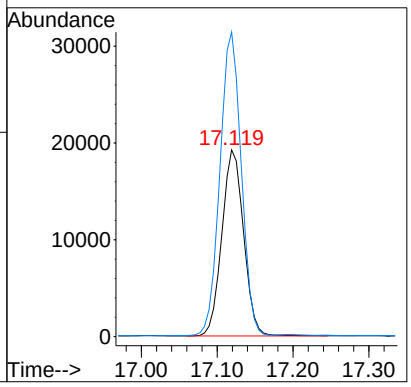


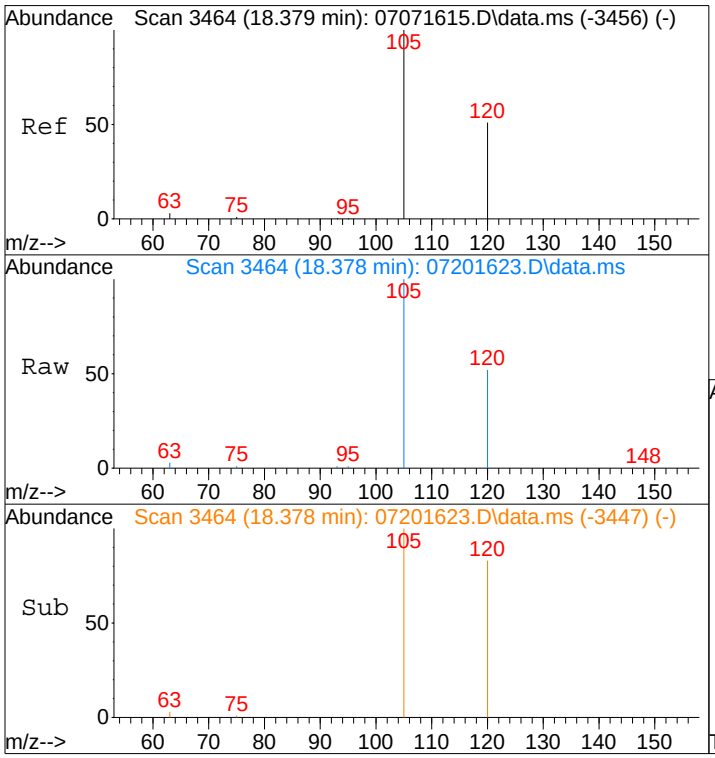


#43
o-Xylene
Concen: 1272.79 pg
RT: 17.12 min Scan# 3232
Delta R.T. -0.007 min
Lab File: 07201623.D
Acq: 20 Jul 2016 22:22

Tgt Ion:106 Resp: 38249

Ion	Ratio	Lower	Upper
106	100		
91	160.1	189.7	229.7#

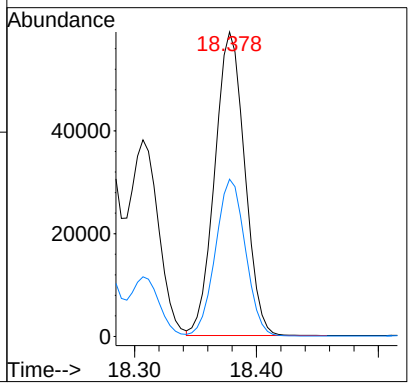


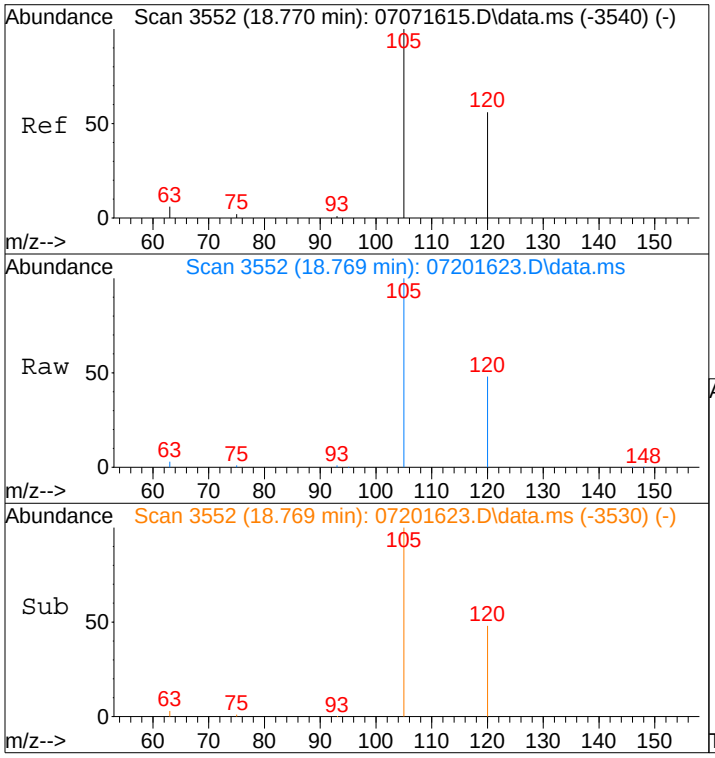


#46
1,3,5-Trimethylbenzene
Concen: 1652.60 pg
RT: 18.38 min Scan# 3464
Delta R.T. -0.005 min
Lab File: 07201623.D
Acq: 20 Jul 2016 22:22

Tgt Ion:105 Resp: 100699

Ion	Ratio	Lower	Upper
105	100		
120	51.6	40.4	60.6

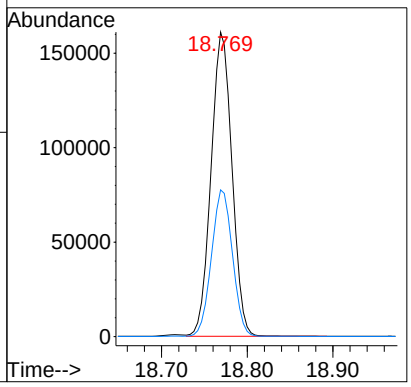


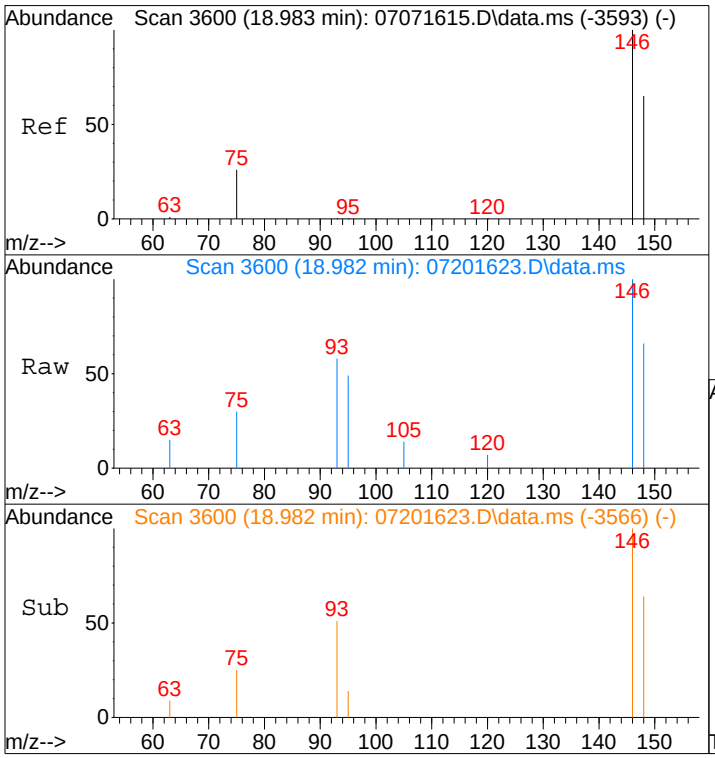


#47
1,2,4-Trimethylbenzene
Concen: 4481.06 pg
RT: 18.77 min Scan# 3552
Delta R.T. -0.010 min
Lab File: 07201623.D
Acq: 20 Jul 2016 22:22

Tgt Ion:105 Resp: 272671

Ion	Ratio	Lower	Upper
105	100		
120	48.4	44.8	67.2

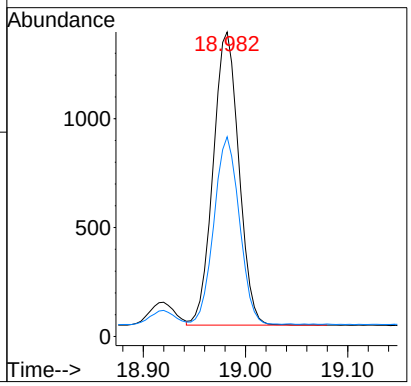


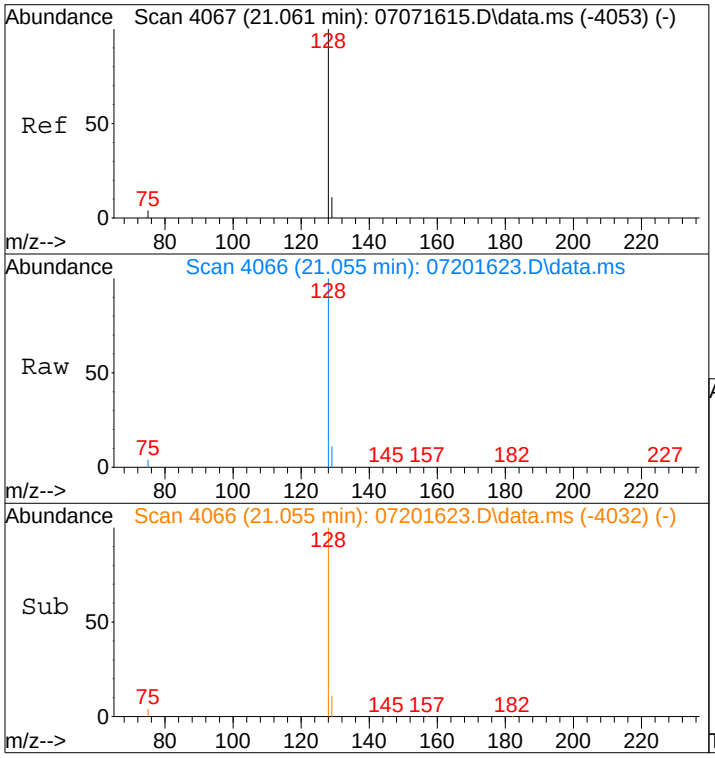


#49
1,4-Dichlorobenzene
Concen: 64.77 pg
RT: 18.98 min Scan# 3600
Delta R.T. -0.001 min
Lab File: 07201623.D
Acq: 20 Jul 2016 22:22

Tgt Ion:146 Resp: 2348

Ion	Ratio	Lower	Upper
146	100		
148	63.3	44.1	84.1

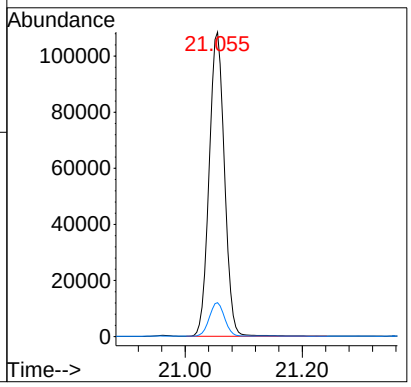




#53
Naphthalene
Concen: 2604.57 pg
RT: 21.06 min Scan# 4066
Delta R.T. -0.001 min
Lab File: 07201623.D
Acq: 20 Jul 2016 22:22

Tgt Ion:128 Resp: 197260

Ion	Ratio	Lower	Upper
128	100		
129	11.0	0.0	30.7



Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\21\07211607.D Vial: 12
Acq On : 21 Jul 2016 12:57 Operator: CL
Sample : P1603571-007dil (100mL) Inst : MS19
Misc : S29-06141602

Quant Time: Jul 22 11:58:02 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 7/22/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.75	130	17620	1000.000 pg	-0.02
25) 1,4-Difluorobenzene (IS2)	11.71	114	86170	1000.000 pg	-0.01
38) Chlorobenzene-d5 (IS3)	16.05	54	12265	1000.000 pg	0.00

System Monitoring Compounds					
20) 1,2-Dichloroethane-d4 ...	10.53	65	24019	876.775 pg	-0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 87.68%		
33) Toluene-d8 (SS2)	14.14	98	88912	984.361 pg	-0.01
Spiked Amount 1000.000	Range 70 - 130		Recovery = 98.44%		
45) Bromofluorobenzene (SS3)	17.55	174	36205	1215.101 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 121.51%		

Target Compounds					Qvalue
2) Dichlorodifluoromethan...	4.42	85	5223	121.585 pg	100
3) Chloromethane	4.65	52	797	72.376 pg	97
4) 1,2-Dichloro,1,1,2,2-t...	4.82	85	173	N.D.	
5) Vinyl Chloride	4.96	62	522	N.D.	
6) 1,3-Butadiene	0.00	54	0	N.D.	
7) Bromomethane	5.48	94	125	N.D.	
8) Chloroethane	0.00	64	0	N.D.	
9) Acrolein	6.26	56	954	92.664 pg	89
10) Acetone	6.38	58	567542	42158.181 pg	90
11) Trichlorofluoromethane	6.62	101	2079	70.675 pg	100
12) 1,1-Dichloroethene	0.00	96	0	N.D.	
13) Methylene Chloride	7.47	84	417	21.095 pg	93
14) Trichlorotrifluoroethane	7.80	151	520	30.503 pg	100
15) trans-1,2-Dichloroethene	8.51	96	71	N.D.	
16) 1,1-Dichloroethane	0.00	63	0	N.D.	
17) Methyl tert-Butyl Ether	8.73	73	96	N.D.	
18) cis-1,2-Dichloroethene	9.59	96	5550	262.360 pg	100
19) Chloroform	9.89	83	1613	48.125 pg	99
21) 1,2-Dichloroethane	10.64	62	2333	93.182 pg	99
22) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
23) Benzene	11.37	78	3041	38.828 pg	100
24) Carbon Tetrachloride	11.52	117	692	28.474 pg	99
26) 1,2-Dichloropropane	0.00	63	0	N.D.	
27) Bromodichloromethane	12.35	83	135	N.D.	
28) Trichloroethene	12.41	130	3659	172.380 pg	99
29) 1,4-Dioxane	12.39	88	3707	231.968 pg	95
30) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
31) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
32) 1,1,2-Trichloroethane	0.00	83	0	N.D.	
34) Toluene	14.25	91	19472	242.321 pg	100
35) Dibromochloromethane	0.00	129	0	N.D.	
36) 1,2-Dibromoethane	0.00	107	0	N.D.	
37) Tetrachloroethene	15.40	166	157919	6824.413 pg	99
39) Chlorobenzene	16.10	112	89	N.D.	
40) Ethylbenzene	16.48	91	3124	43.057 pg	99
41) m,p-Xylene	16.65	91	10227	184.484 pg	98
42) Styrene	17.01	104	1991	48.999 pg	99
43) o-Xylene	17.12	106	3438	122.007 pg #	78
44) 1,1,2,2-Tetrachloroethane	17.13	83	61	N.D.	
46) 1,3,5-Trimethylbenzene	18.38	105	9673	169.295 pg	99
47) 1,2,4-Trimethylbenzene	18.77	105	26584	465.910 pg	89
48) 1,3-Dichlorobenzene	18.92	146	56	N.D.	
49) 1,4-Dichlorobenzene	18.98	146	270	N.D.	
50) 1,2-Dichlorobenzene	19.31	146	58	N.D.	
51) 1,2-Dibromo-3-chloropr...	0.00	157	0	N.D.	
52) 1,2,4-Trichlorobenzene	20.94	182	64	N.D.	
53) Naphthalene	21.06	128	17853	251.390 pg	100

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\21\07211607.D Vial: 12
Acq On : 21 Jul 2016 12:57 Operator: CL
Sample : P1603571-007dil (100mL) Inst : MS19
Misc : S29-06141602

Quant Time: Jul 22 11:58:02 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

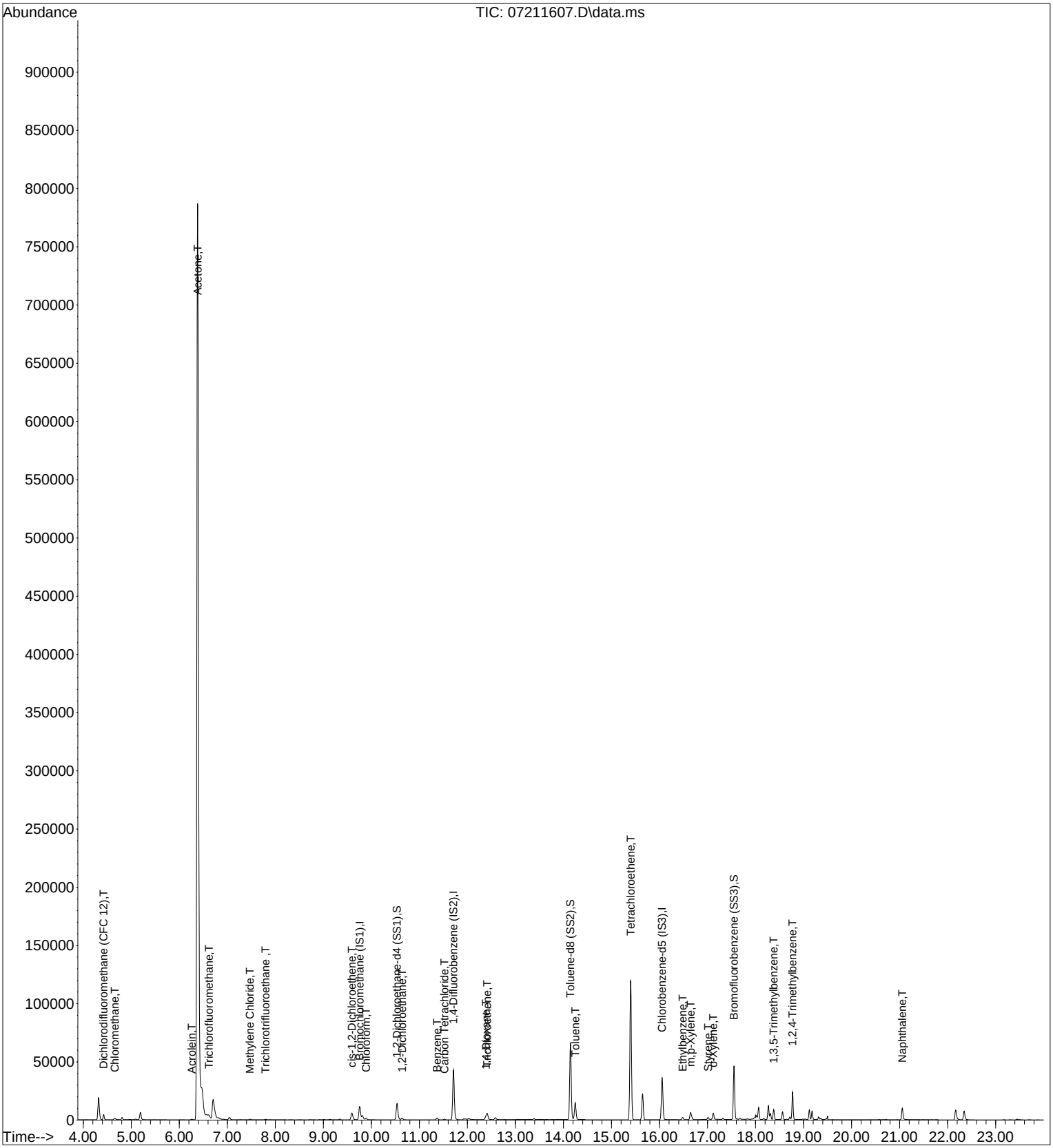
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
54) Hexachlorobutadiene	0.00	225	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\21\07211607.D Vial: 12
Acq On : 21 Jul 2016 12:57 Operator: CL
Sample : P1603571-007dil (100mL) Inst : MS19
Misc : S29-06141602

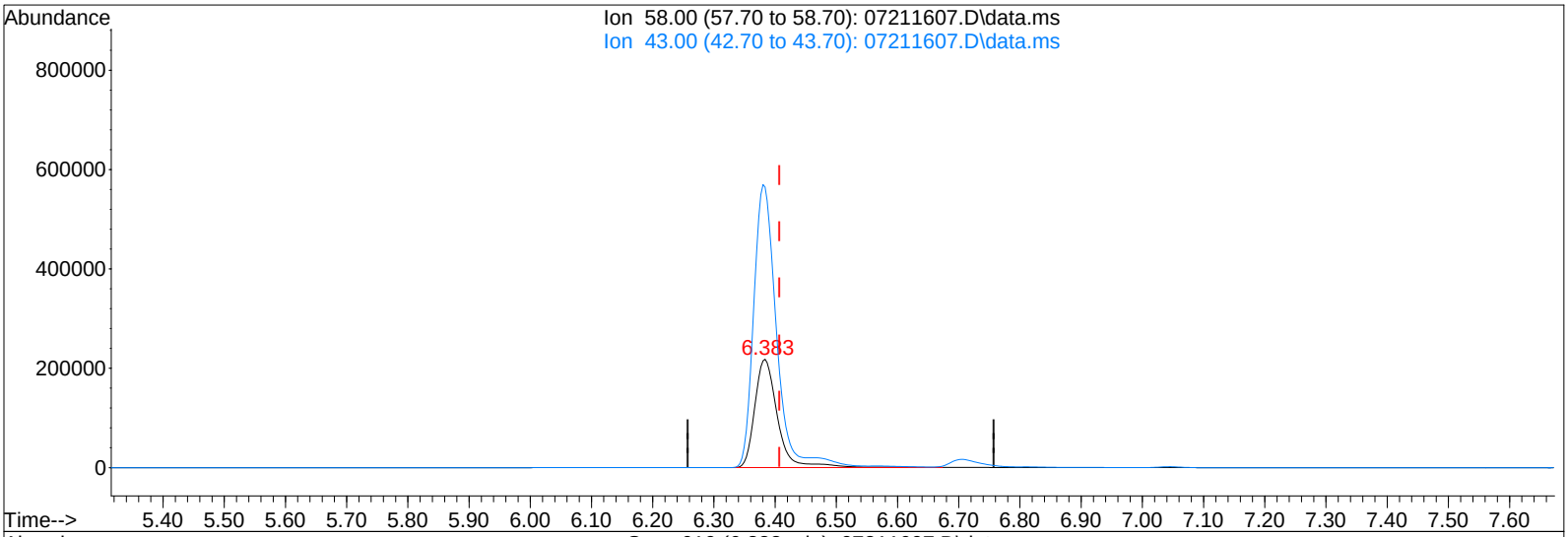
Quant Time: Jul 22 11:58:02 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

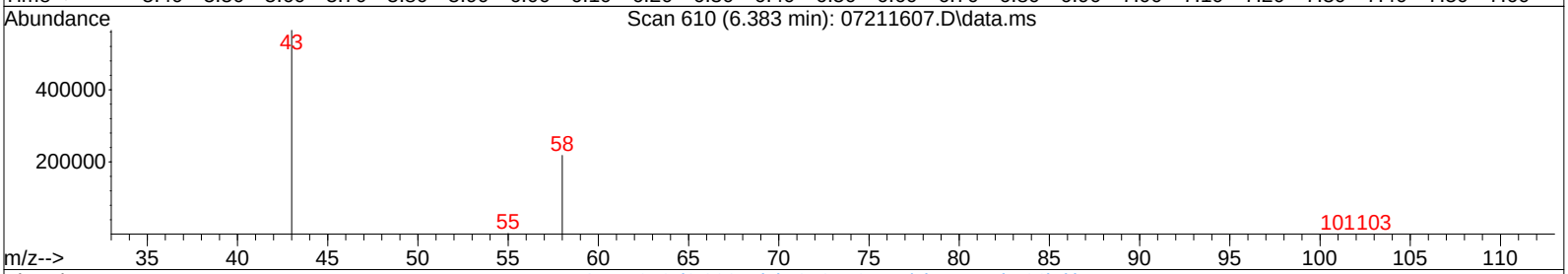


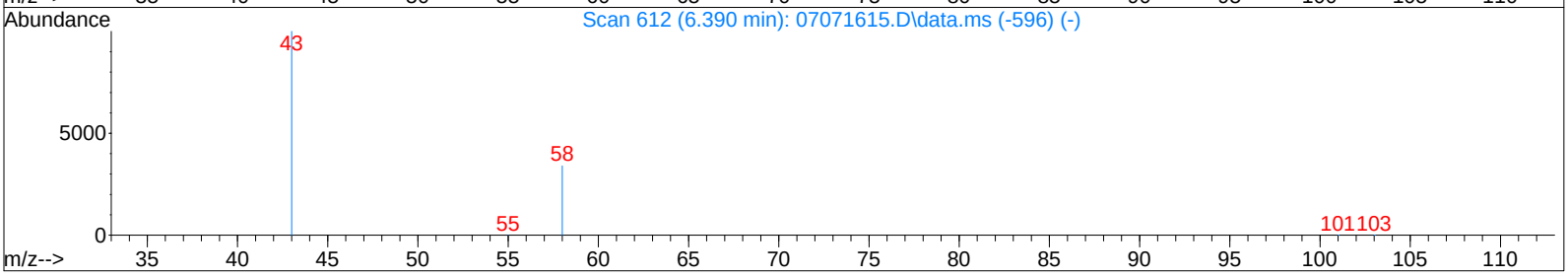
Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 07\21\07211607.D Vial: 12
Acq On : 21 Jul 2016 12:57 Operator: CL
Sample : P1603571-007dil (100mL) Inst : MS19
Misc : S29-06141602

Quant Time: Jul 22 11:58:02 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 07211607.D\data.ms

(10) Acetone (T)

6.383min (-0.024) 42158.18pg

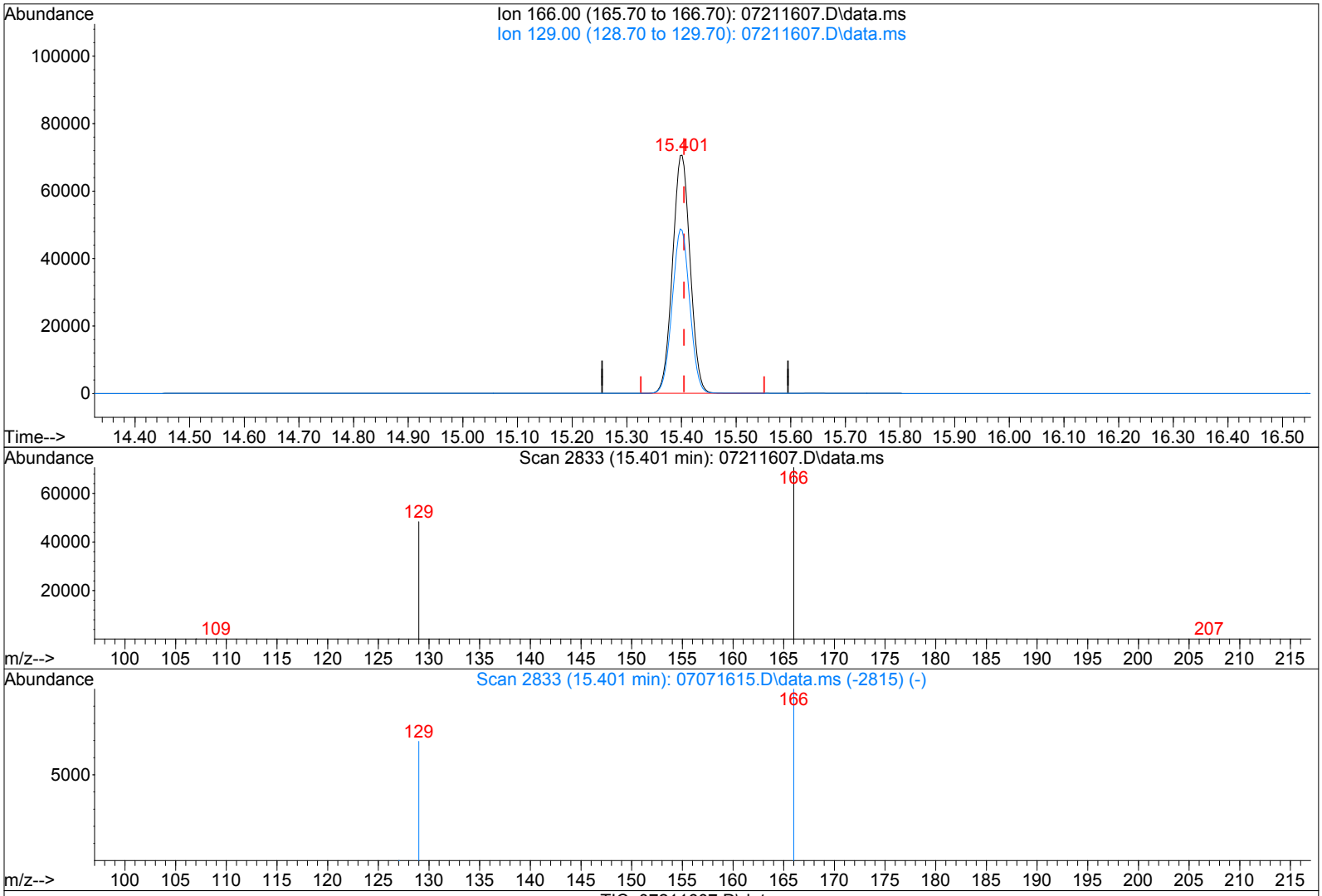
response 567542

Ion	Exp%	Act%
58.00	100	100
43.00	282.30	264.02
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File: I:\MS19\DATA\2016 07\21\07211607.D
Acq On : 21 Jul 2016 12:57 Operator: CL
Sample : P1603571-007dil (100mL)
Misc : S29-06141602
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jul 22 11:58:02 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



TIC: 07211607.D\data.ms

(37) Tetrachloroethene (T)

15.401min (-0.004) 6824.41pg

response 157919

Ion	Exp%	Act%
166.00	100	100
129.00	70.00	69.01
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS19\DATA\2016 07\28\07281608.D
Acq On : 28 Jul 2016 17:31 Operator: WA
Sample : P1603571-008 RA (1000mL)
Misc : S29-06141602/AC01205
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 29 14:35:13 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016 WA 7/29/16
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.75	130	15534	1000.000 pg	-0.03
25) 1,4-Difluorobenzene (IS2)	11.71	114	76373	1000.000 pg	-0.02
38) Chlorobenzene-d5 (IS3)	16.05	54	12299	1000.000 pg	0.00

System Monitoring Compounds					
20) 1,2-Dichloroethane-d4 ...	10.53	65	24039	995.342 pg	-0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 99.53%		
33) Toluene-d8 (SS2)	14.14	98	79883	997.849 pg	-0.01
Spiked Amount 1000.000	Range 70 - 130		Recovery = 99.78%		
45) Bromofluorobenzene (SS3)	17.55	174	32700	1094.434 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 109.44%		

Target Compounds						Qvalue
2) Dichlorodifluoromethan...	4.40	85	38919	1027.651 pg		100
3) Chloromethane	4.63	52	2173	223.832 pg		98
4) 1,2-Dichloro,1,1,2,2-t...	4.80	85	1274	46.188 pg		98
5) Vinyl Chloride	4.93	62	21085	793.651 pg		100
6) 1,3-Butadiene	0.00	54	0	N.D. d		
7) Bromomethane	5.46	94	244	N.D.		
8) Chloroethane	0.00	64	0	N.D. d		
9) Acrolein	6.24	56	5733	631.637 pg		98
10) Acetone	6.39	58	143290	12073.199 pg		100
11) Trichlorofluoromethane	6.59	101	19974	770.196 pg	#	77
12) 1,1-Dichloroethene	7.33	96	91	N.D.		
13) Methylene Chloride	7.47	84	3428	196.700 pg		96
14) Trichlorotrifluoroethane	7.79	151	4100	272.796 pg		91
15) trans-1,2-Dichloroethene	8.50	96	499	27.377 pg		89
16) 1,1-Dichloroethane	0.00	63	0	N.D. d		
17) Methyl tert-Butyl Ether	0.00	73	0	N.D. d		
18) cis-1,2-Dichloroethene	9.59	96	9446	506.495 pg		95
19) Chloroform	9.88	83	2299	77.803 pg		100
21) 1,2-Dichloroethane	10.64	62	1236m	55.996 pg		
22) 1,1,1-Trichloroethane	10.90	97	324	N.D.		
23) Benzene	11.36	78	13781	199.587 pg		87
24) Carbon Tetrachloride	11.51	117	5211	243.211 pg		95
26) 1,2-Dichloropropane	12.17	63	94	N.D.		
27) Bromodichloromethane	12.38	83	242	N.D.		
28) Trichloroethene	12.41	130	2665	141.657 pg		96
29) 1,4-Dioxane	12.38	88	202	N.D.		
30) cis-1,3-Dichloropropene	13.25	75	368	N.D.		
31) trans-1,3-Dichloropropene	0.00	75	0	N.D. d		
32) 1,1,2-Trichloroethane	13.94	83	155	N.D.		
34) Toluene	14.24	91	55923	785.211 pg		100
35) Dibromochloromethane	14.65	129	101	N.D.		
36) 1,2-Dibromoethane	14.92	107	190	N.D.		
37) Tetrachloroethene	15.40	166	14764	719.865 pg		98
39) Chlorobenzene	16.10	112	714	N.D.		
40) Ethylbenzene	16.48	91	8428	115.840 pg		99
41) m,p-Xylene	16.65	91	21247	382.214 pg		99
42) Styrene	17.01	104	3519	86.364 pg	#	1
43) o-Xylene	17.12	106	4388	155.289 pg		99
44) 1,1,2,2-Tetrachloroethane	17.12	83	521	N.D.		
46) 1,3,5-Trimethylbenzene	18.38	105	2297	40.091 pg		100
47) 1,2,4-Trimethylbenzene	18.77	105	8602	150.341 pg		88
48) 1,3-Dichlorobenzene	18.92	146	458	N.D.		
49) 1,4-Dichlorobenzene	18.98	146	1385	40.632 pg		99
50) 1,2-Dichlorobenzene	19.31	146	370	N.D.		
51) 1,2-Dibromo-3-chloropr...	19.72	157	70	N.D.		
52) 1,2,4-Trichlorobenzene	20.94	182	314	N.D.		

Quantitation Report (QT Reviewed)

Data File: I:\MS19\DATA\2016 07\28\07281608.D
Acq On : 28 Jul 2016 17:31 Operator: WA
Sample : P1603571-008 RA (1000mL)
Misc : S29-06141602/AC01205
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 29 14:35:13 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

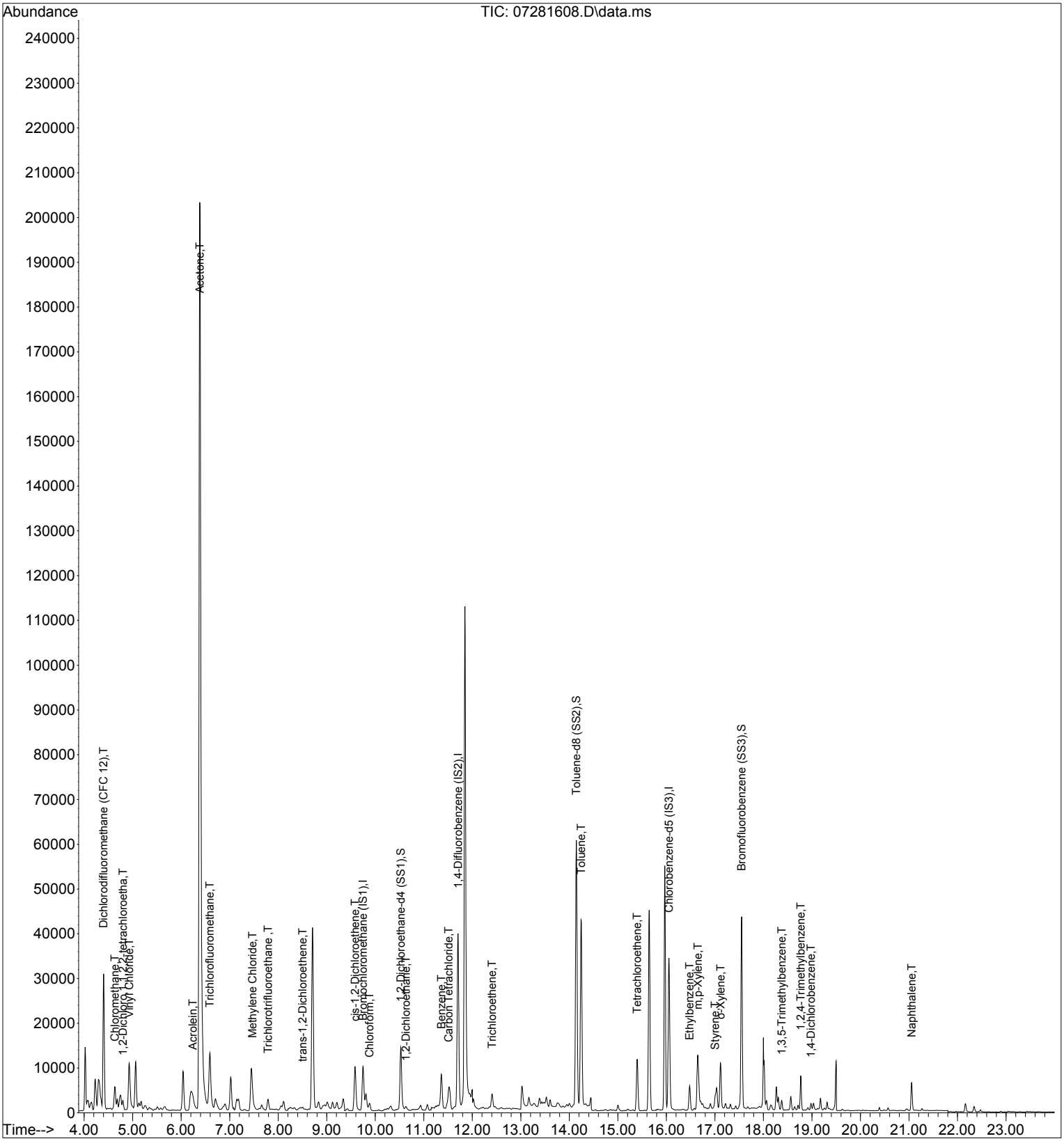
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
53) Naphthalene	21.06	128	10329	145.042	pg	99
54) Hexachlorobutadiene	0.00	225	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS19\DATA\2016 07\28\07281608.D
Acq On : 28 Jul 2016 17:31 Operator: WA
Sample : P1603571-008 RA (1000mL)
Misc : S29-06141602/AC01205
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 29 14:35:13 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (QT Reviewed)

Data File: I:\MS19\DATA\2016 07\28\07281608.D
Acq On : 28 Jul 2016 17:31 Operator: WA
Sample : P1603571-008 RA (1000mL)
Misc : S29-06141602/AC01205
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 29 14:35:13 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

WA 7/29/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.75	130	15534	1000.000 pg	-0.03
25) 1,4-Difluorobenzene (IS2)	11.71	114	76373	1000.000 pg	-0.02
38) Chlorobenzene-d5 (IS3)	16.05	54	12299	1000.000 pg	0.00

System Monitoring Compounds					
20) 1,2-Dichloroethane-d4 ...	10.53	65	24039	995.342 pg	-0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 99.53%		
33) Toluene-d8 (SS2)	14.14	98	79883	997.849 pg	-0.01
Spiked Amount 1000.000	Range 70 - 130		Recovery = 99.78%		
45) Bromofluorobenzene (SS3)	17.55	174	32700	1094.434 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 109.44%		

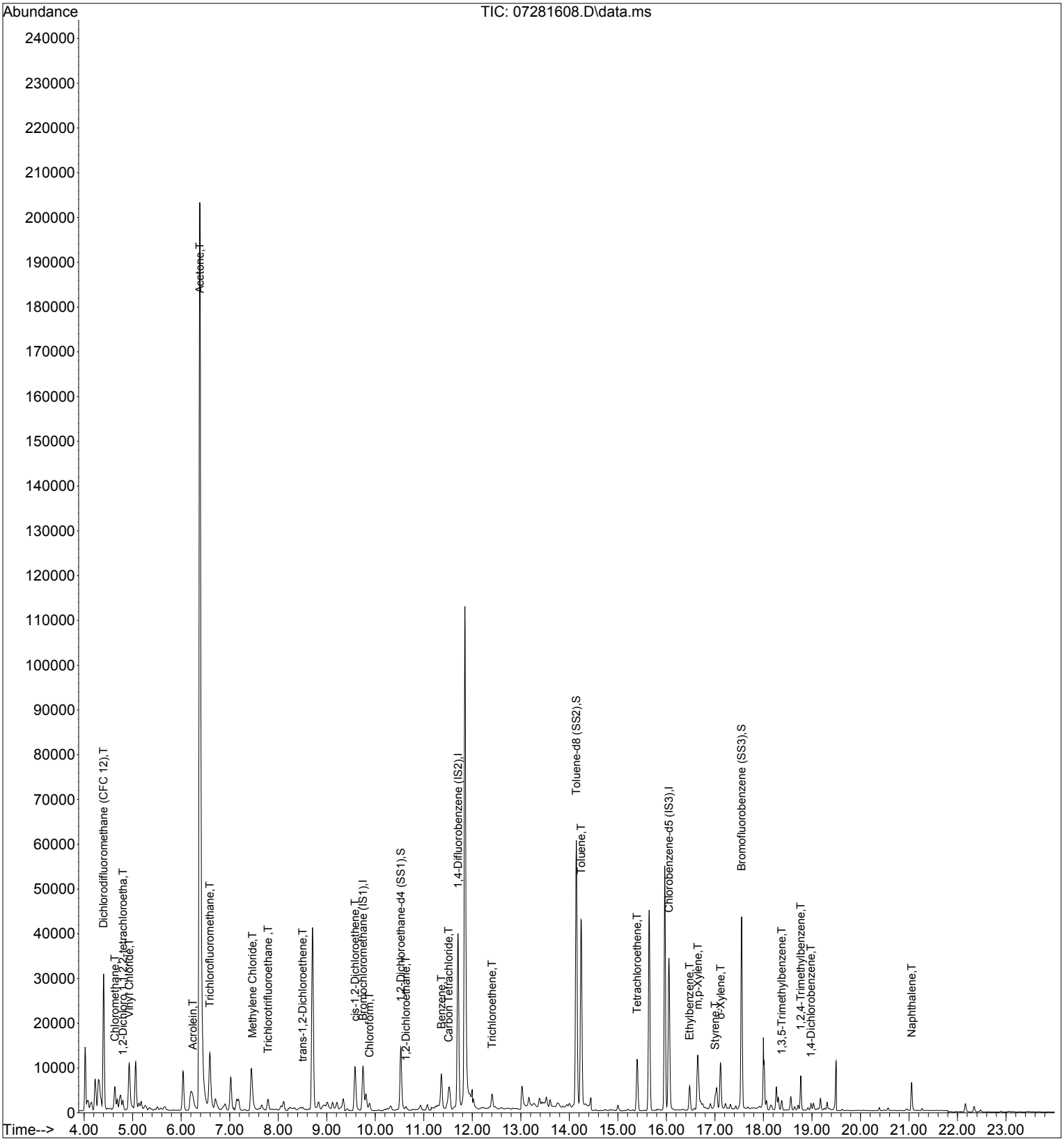
Target Compounds						Qvalue
2) Dichlorodifluoromethan...	4.40	85	38919	1027.651 pg		100
3) Chloromethane	4.63	52	2173	223.832 pg		98
4) 1,2-Dichloro,1,1,2,2-t...	4.80	85	1274	46.188 pg		98
5) Vinyl Chloride	4.93	62	21085	793.651 pg		100
9) Acrolein	6.24	56	5733	631.637 pg		98
10) Acetone	6.39	58	143290	12073.199 pg		100
11) Trichlorofluoromethane	6.59	101	19974	770.196 pg	#	77
13) Methylene Chloride	7.47	84	3428	196.700 pg		96
14) Trichlorotrifluoroethane	7.79	151	4100	272.796 pg		91
15) trans-1,2-Dichloroethene	8.50	96	499	27.377 pg		89
18) cis-1,2-Dichloroethene	9.59	96	9446	506.495 pg		95
19) Chloroform	9.88	83	2299	77.803 pg		100
21) 1,2-Dichloroethane	10.64	62	1236m	55.996 pg		
23) Benzene	11.36	78	13781	199.587 pg		87
24) Carbon Tetrachloride	11.51	117	5211	243.211 pg		95
28) Trichloroethene	12.41	130	2665	141.657 pg		96
34) Toluene	14.24	91	55923	785.211 pg		100
37) Tetrachloroethene	15.40	166	14764	719.865 pg		98
40) Ethylbenzene	16.48	91	8428	115.840 pg		99
41) m,p-Xylene	16.65	91	21247	382.214 pg		99
42) Styrene	17.01	104	3519	86.364 pg	#	1
43) o-Xylene	17.12	106	4388	155.289 pg		99
46) 1,3,5-Trimethylbenzene	18.38	105	2297	40.091 pg		100
47) 1,2,4-Trimethylbenzene	18.77	105	8602	150.341 pg		88
49) 1,4-Dichlorobenzene	18.98	146	1385	40.632 pg		99
53) Naphthalene	21.06	128	10329	145.042 pg		99

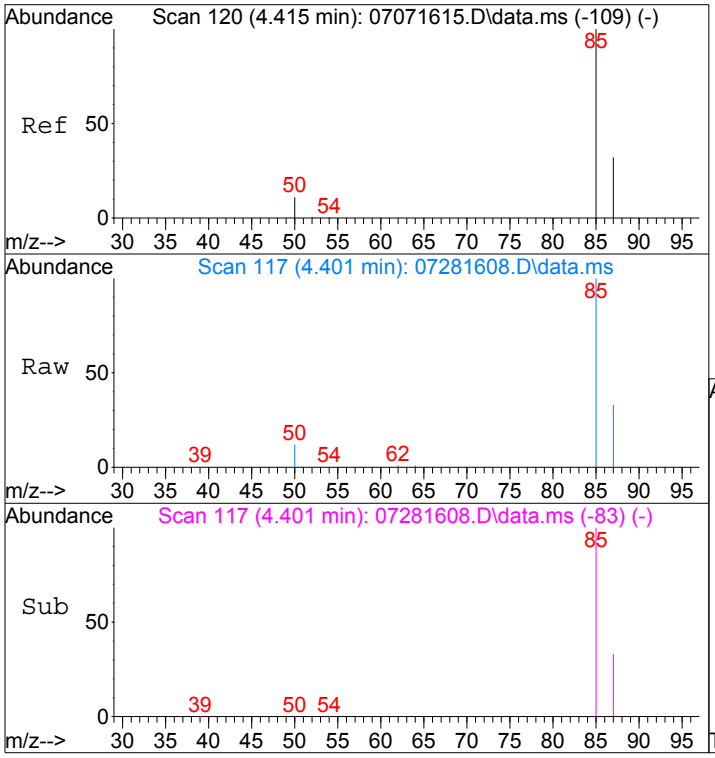
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS19\DATA\2016 07\28\07281608.D
Acq On : 28 Jul 2016 17:31 Operator: WA
Sample : P1603571-008 RA (1000mL)
Misc : S29-06141602/AC01205
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 29 14:35:13 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

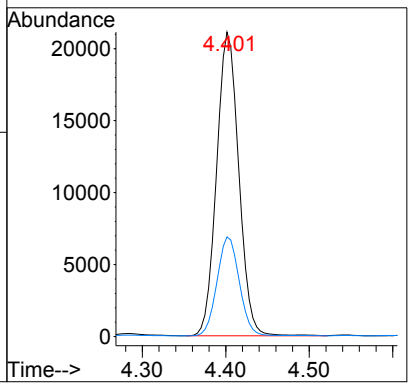


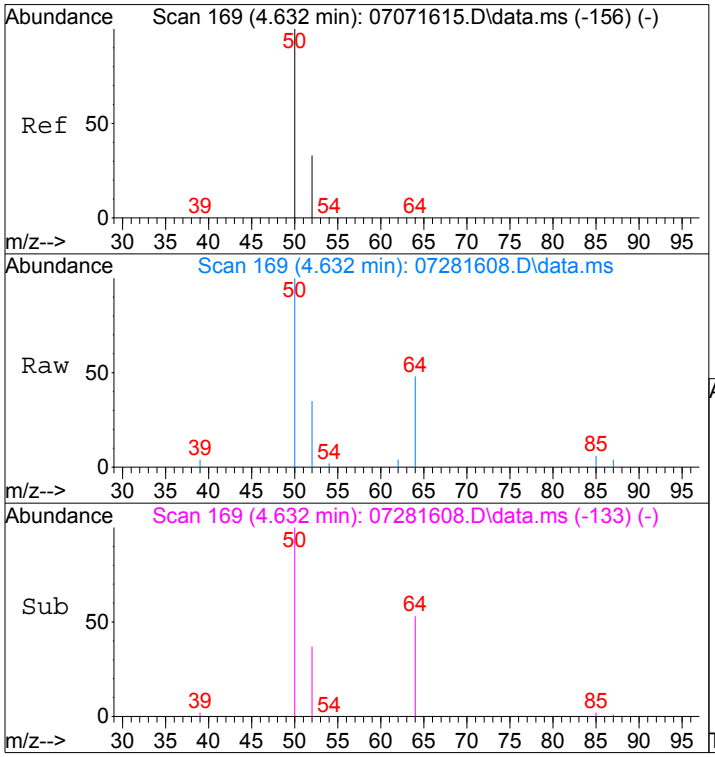


#2
Dichlorodifluoromethane (CFC 12)
Concen: 1027.65 pg
RT: 4.40 min Scan# 117
Delta R.T. -0.001 min
Lab File: 07281608.D
Acq: 28 Jul 2016 17:31

Tgt Ion: 85 Resp: 38919

Ion	Ratio	Lower	Upper
85	100		
87	32.8	12.5	52.5

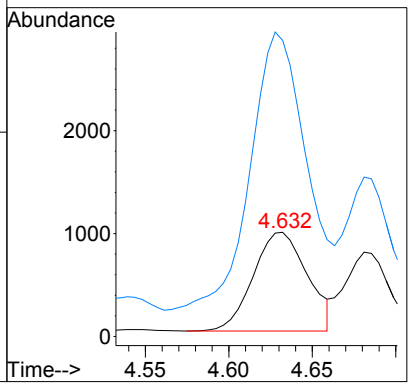


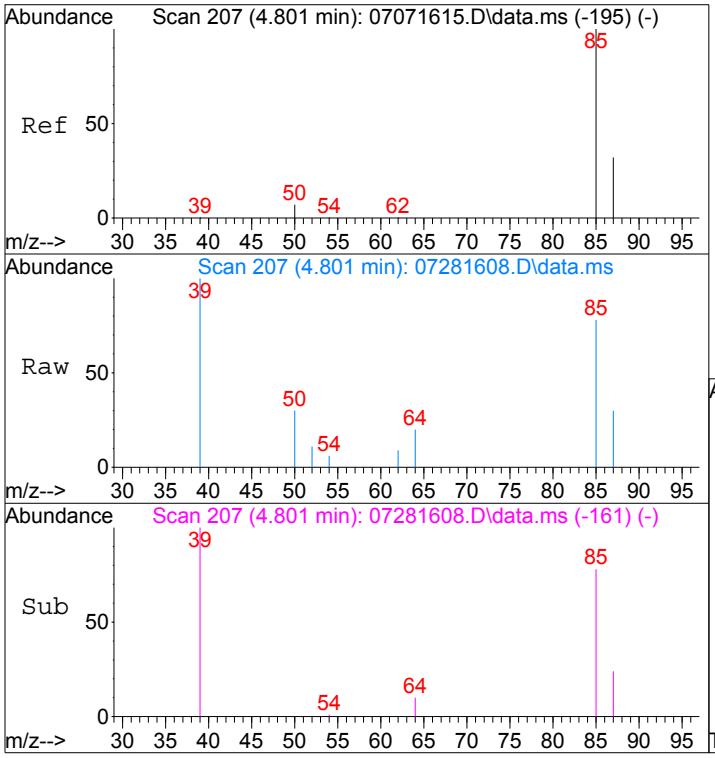


#3
Chloromethane
Concen: 223.83 pg
RT: 4.63 min Scan# 169
Delta R.T. 0.009 min
Lab File: 07281608.D
Acq: 28 Jul 2016 17:31

Tgt Ion: 52 Resp: 2173

Ion	Ratio	Lower	Upper
52	100		
50	296.3	280.8	320.8

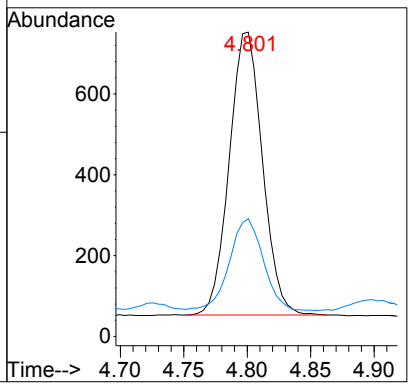


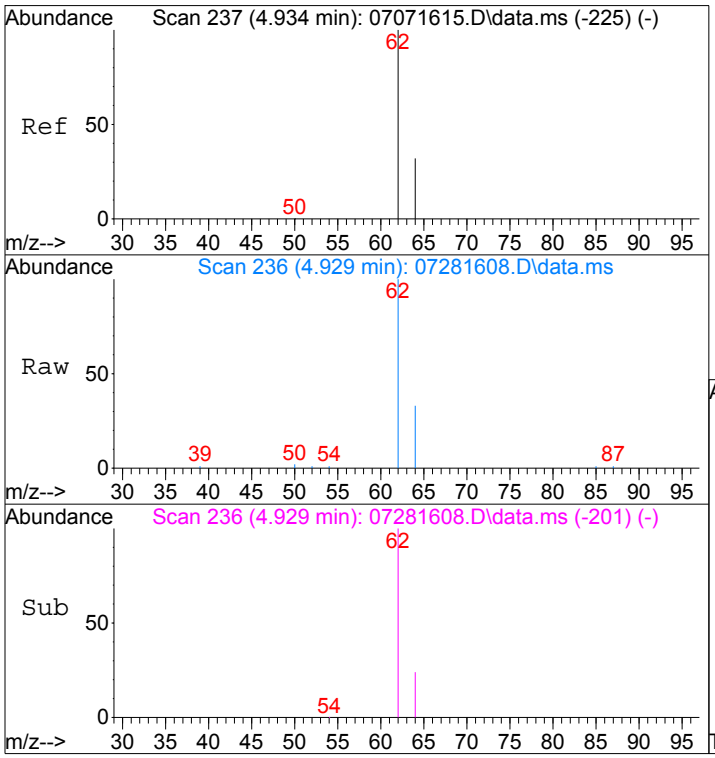


#4
1,2-Dichloro,1,1,2,2-tetrachloroetha
Concen: 46.19 pg
RT: 4.80 min Scan# 207
Delta R.T. 0.005 min
Lab File: 07281608.D
Acq: 28 Jul 2016 17:31

Tgt Ion: 85 Resp: 1274

Ion	Ratio	Lower	Upper
85	100		
87	33.2	25.7	38.5

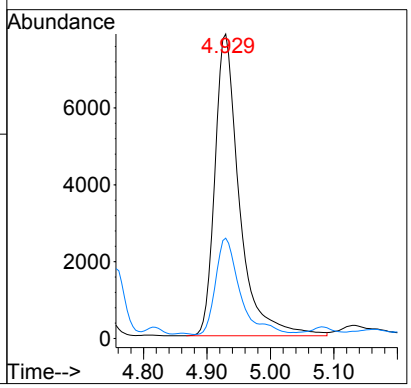


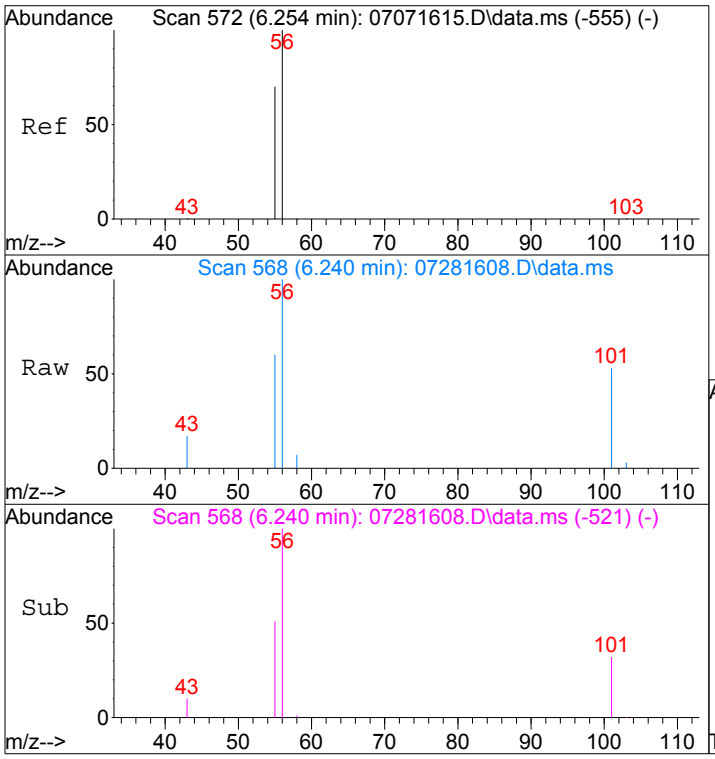


#5
Vinyl Chloride
Concen: 793.65 pg
RT: 4.93 min Scan# 236
Delta R.T. 0.004 min
Lab File: 07281608.D
Acq: 28 Jul 2016 17:31

Tgt Ion: 62 Resp: 21085

Ion	Ratio	Lower	Upper
62	100		
64	32.0	11.9	51.9

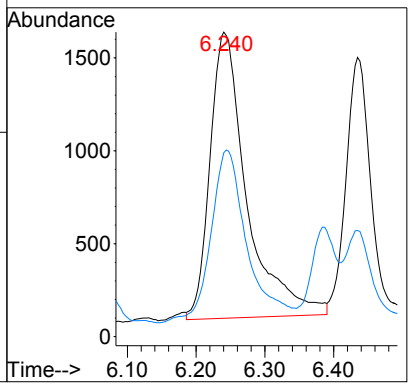


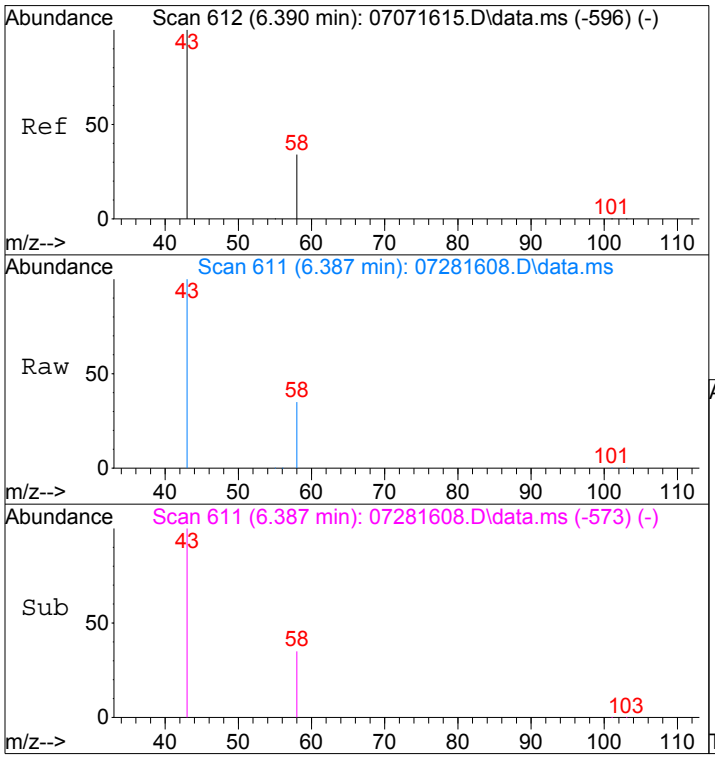


#9
Acrolein
Concen: 631.64 pg
RT: 6.24 min Scan# 568
Delta R.T. -0.010 min
Lab File: 07281608.D
Acq: 28 Jul 2016 17:31

Tgt Ion: 56 Resp: 5733

Ion	Ratio	Lower	Upper
56	100		
55	60.1	47.1	70.7

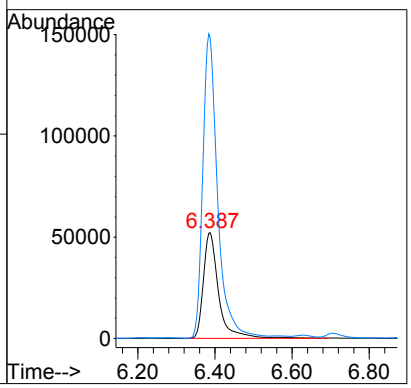


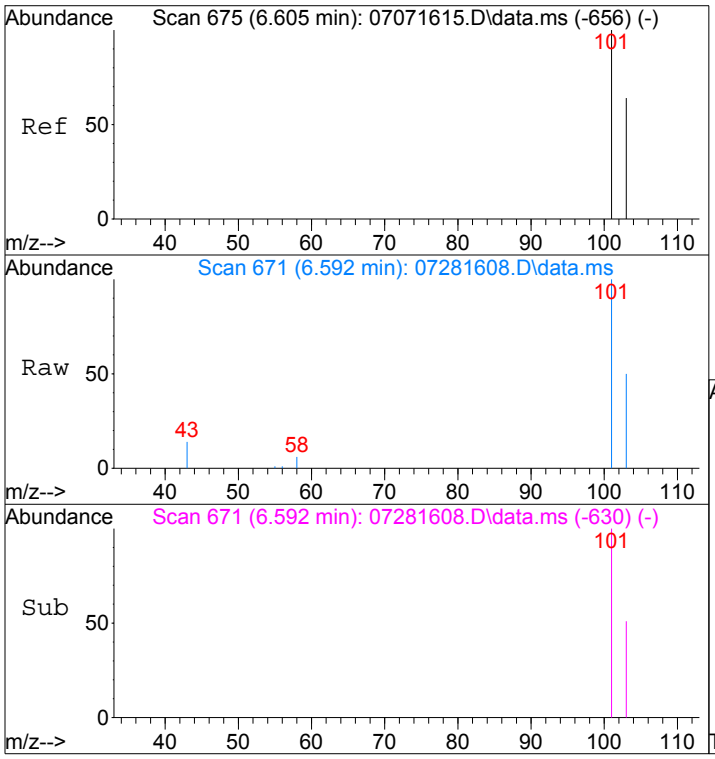


#10
Acetone
Concen: 12073.20 pg
RT: 6.39 min Scan# 611
Delta R.T. -0.020 min
Lab File: 07281608.D
Acq: 28 Jul 2016 17:31

Tgt Ion: 58 Resp: 143290

Ion	Ratio	Lower	Upper
58	100		
43	282.3	262.3	302.3

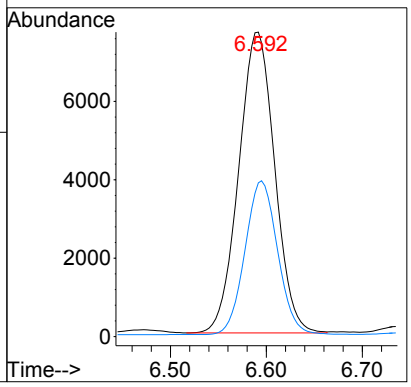


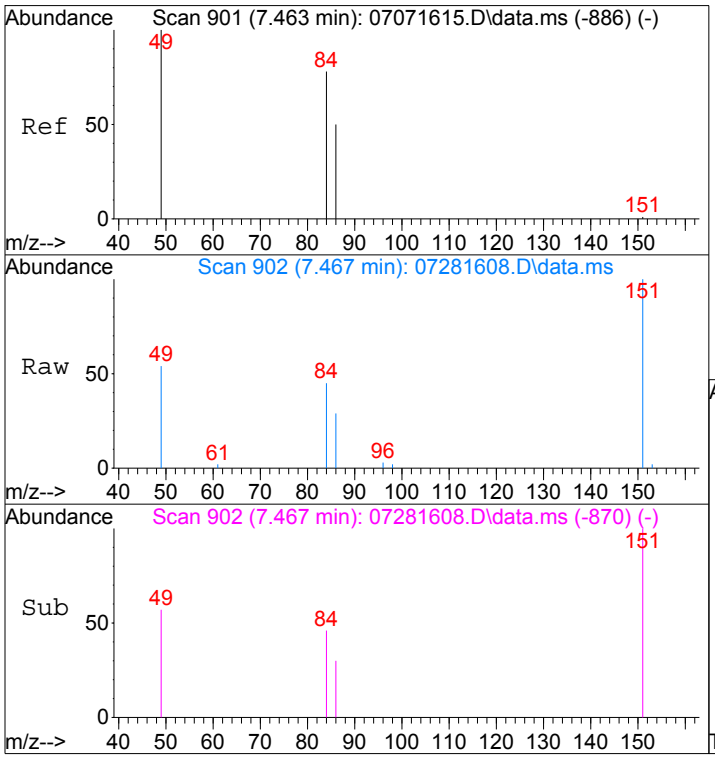


#11
Trichlorofluoromethane
Concen: 770.20 pg
RT: 6.59 min Scan# 671
Delta R.T. -0.010 min
Lab File: 07281608.D
Acq: 28 Jul 2016 17:31

Tgt Ion:101 Resp: 19974

Ion	Ratio	Lower	Upper
101	100		
103	46.4	51.8	77.6#

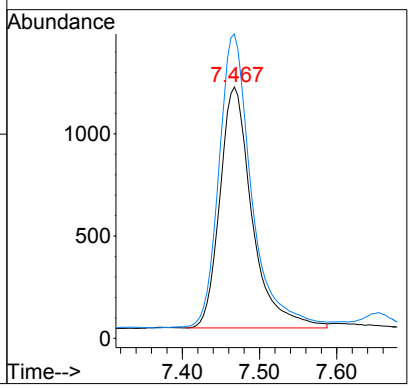


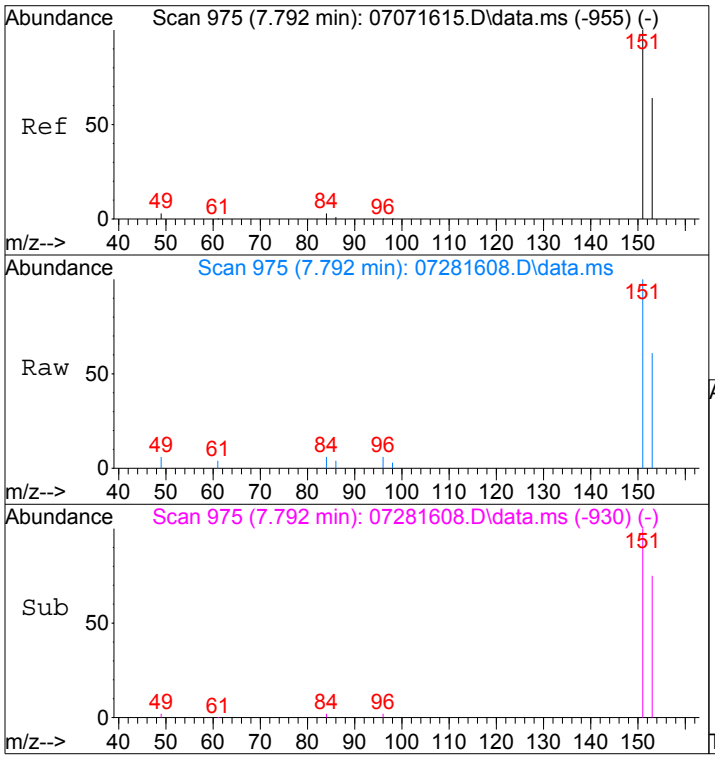


#13
Methylene Chloride
Concen: 196.70 pg
RT: 7.47 min Scan# 902
Delta R.T. -0.018 min
Lab File: 07281608.D
Acq: 28 Jul 2016 17:31

Tgt Ion: 84 Resp: 3428

Ion	Ratio	Lower	Upper
84	100		
49	125.8	101.0	141.0

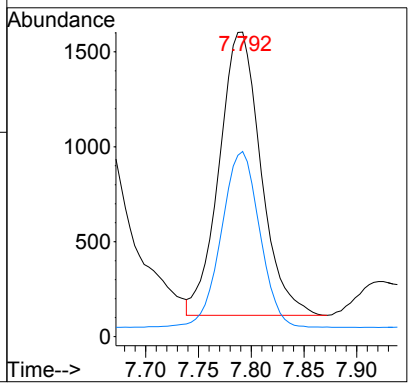


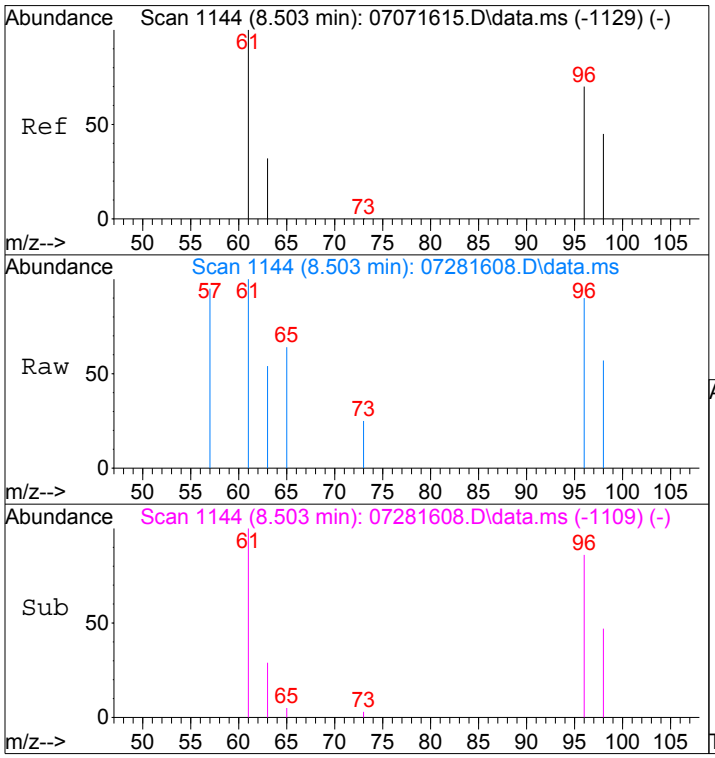


#14
Trichlorotrifluoroethane
Concen: 272.80 pg
RT: 7.79 min Scan# 975
Delta R.T. -0.000 min
Lab File: 07281608.D
Acq: 28 Jul 2016 17:31

Tgt Ion:151 Resp: 4100

Ion	Ratio	Lower	Upper
151	100		
153	56.7	44.0	84.0

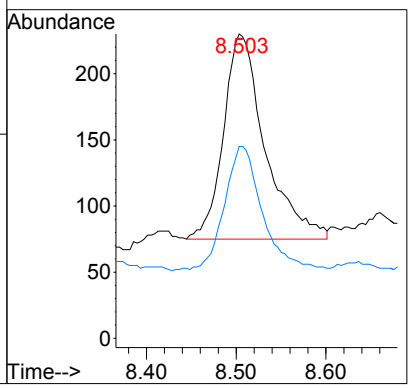


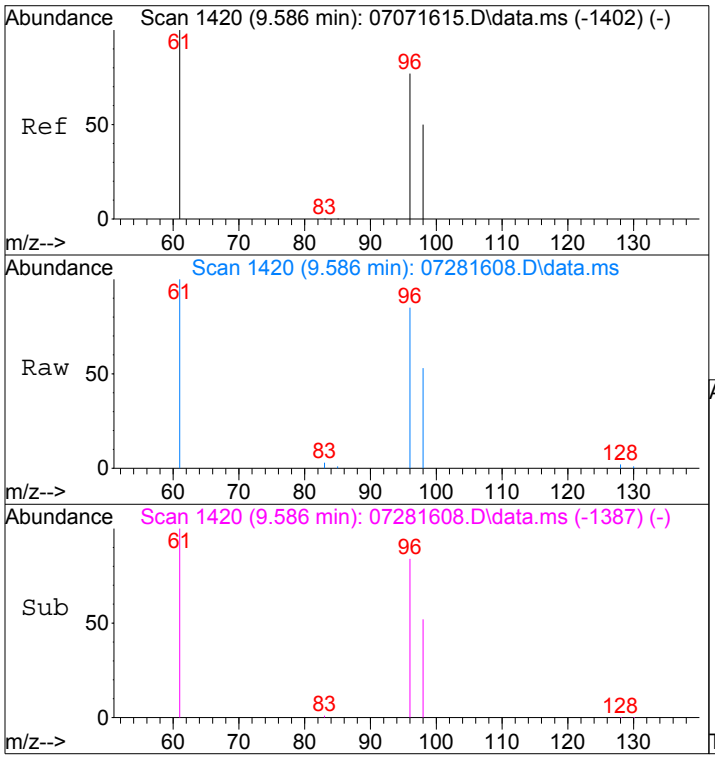


#15
trans-1,2-Dichloroethene
Concen: 27.38 pg
RT: 8.50 min Scan# 1144
Delta R.T. -0.012 min
Lab File: 07281608.D
Acq: 28 Jul 2016 17:31

Tgt Ion: 96 Resp: 499

Ion	Ratio	Lower	Upper
96	100		
98	53.9	42.3	82.3

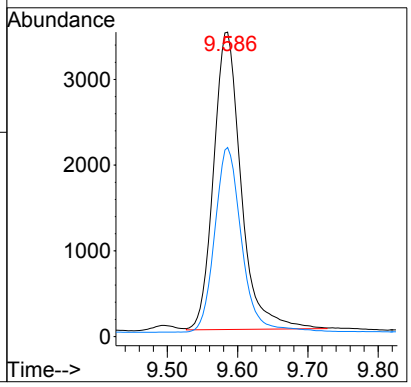


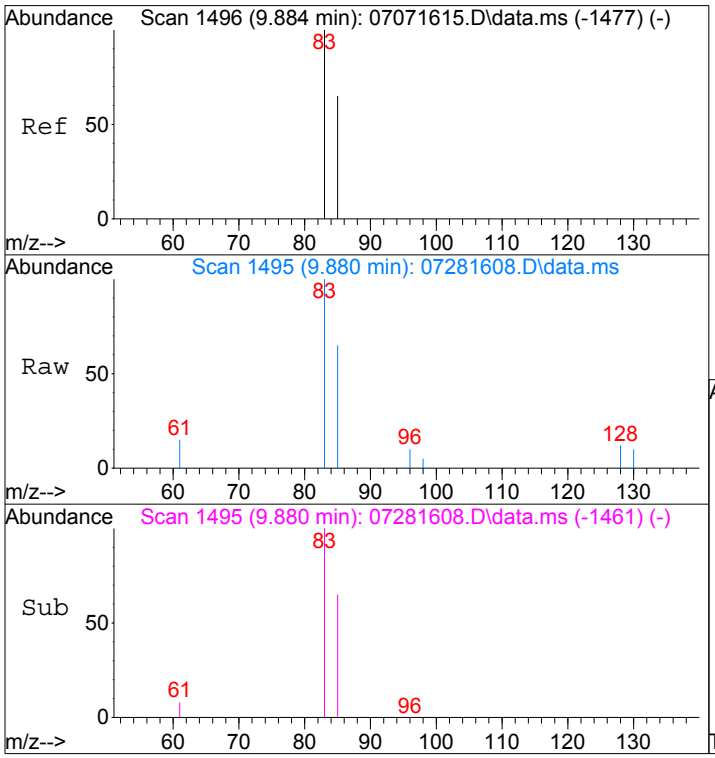


#18
cis-1,2-Dichloroethene
Concen: 506.50 pg
RT: 9.59 min Scan# 1420
Delta R.T. -0.019 min
Lab File: 07281608.D
Acq: 28 Jul 2016 17:31

Tgt Ion: 96 Resp: 9446

Ion	Ratio	Lower	Upper
96	100		
98	60.8	44.5	84.5

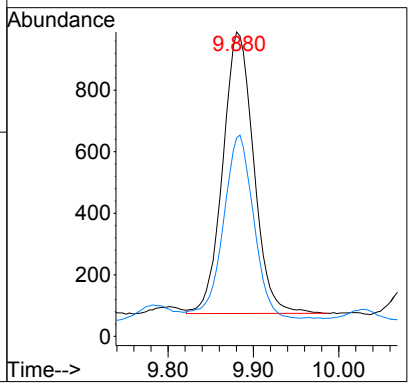


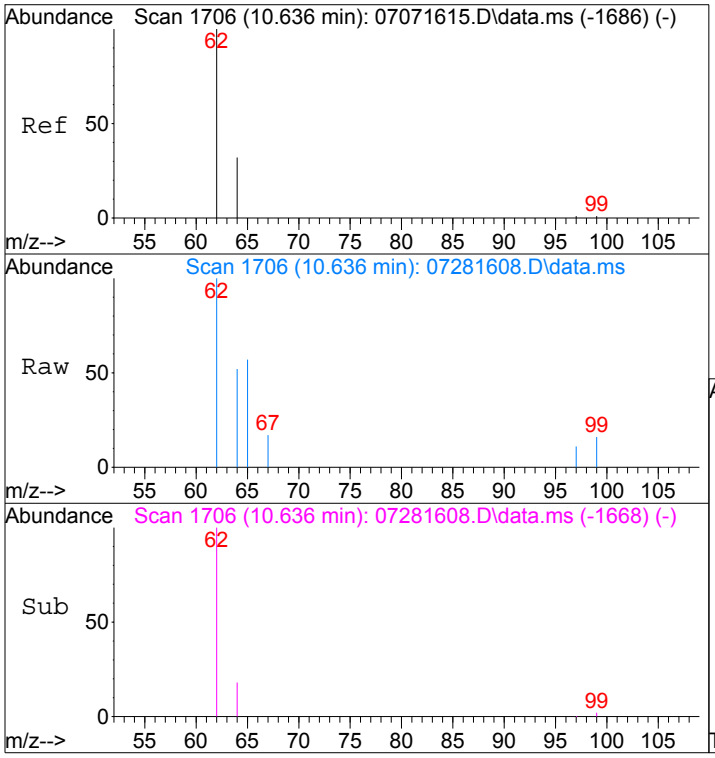


#19
Chloroform
Concen: 77.80 pg
RT: 9.88 min Scan# 1495
Delta R.T. -0.036 min
Lab File: 07281608.D
Acq: 28 Jul 2016 17:31

Tgt Ion: 83 Resp: 2299

Ion	Ratio	Lower	Upper
83	100		
85	64.8	45.1	85.1

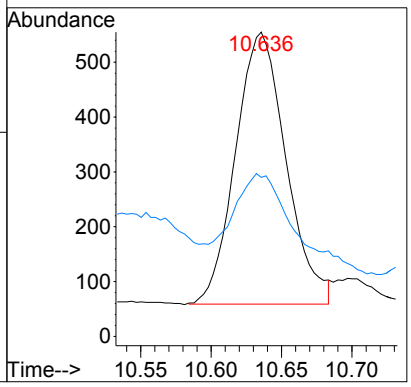


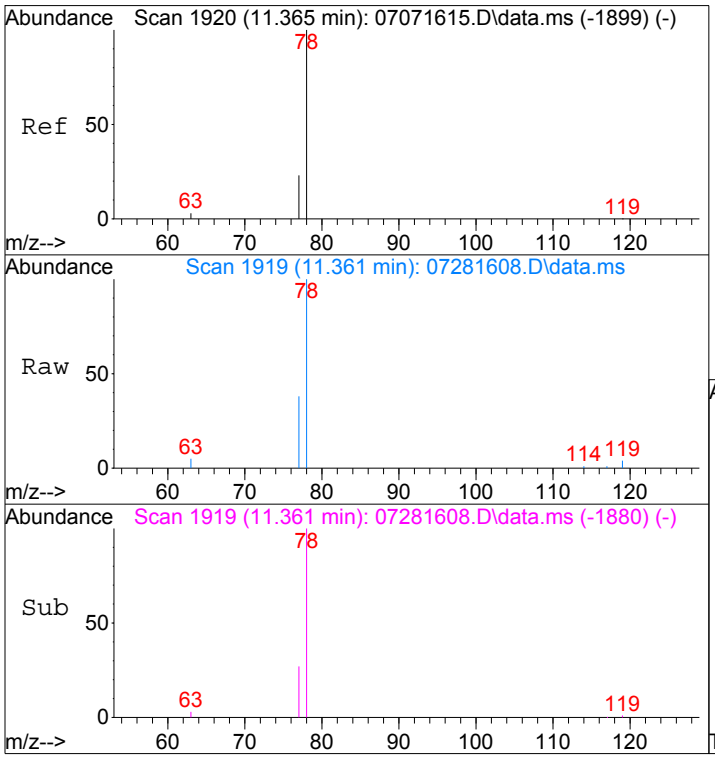


#21
1,2-Dichloroethane
Concen: 56.00 pg m
RT: 10.64 min Scan# 1706
Delta R.T. -0.021 min
Lab File: 07281608.D
Acq: 28 Jul 2016 17:31

Tgt Ion: 62 Resp: 1236

Ion	Ratio	Lower	Upper
62	100		
64	45.9	12.1	52.1

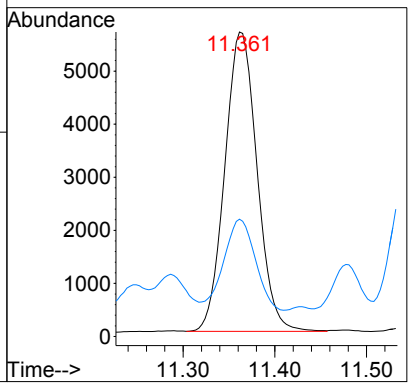


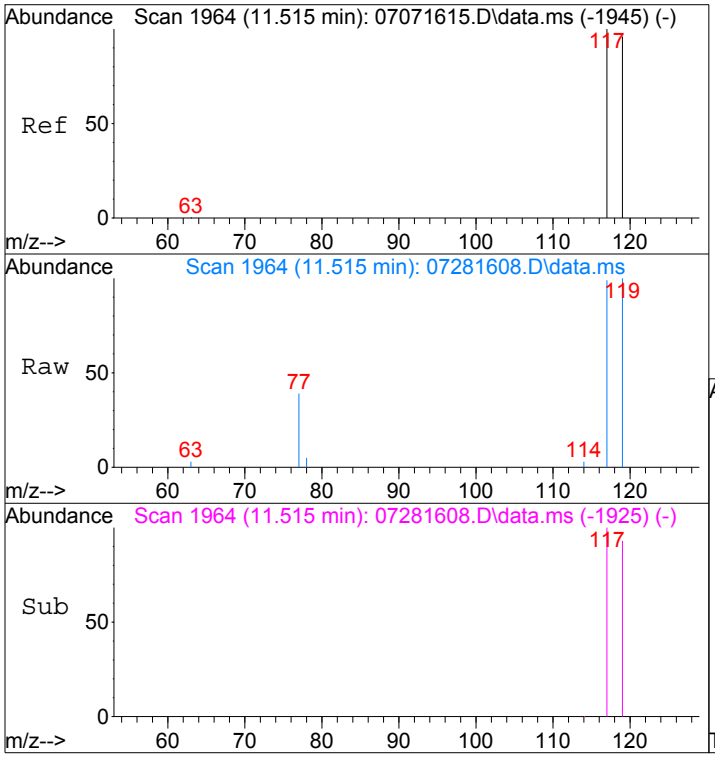


#23
Benzene
Concen: 199.59 pg
RT: 11.36 min Scan# 1919
Delta R.T. -0.018 min
Lab File: 07281608.D
Acq: 28 Jul 2016 17:31

Tgt Ion: 78 Resp: 13781

Ion	Ratio	Lower	Upper
78	100		
77	29.8	3.3	43.3

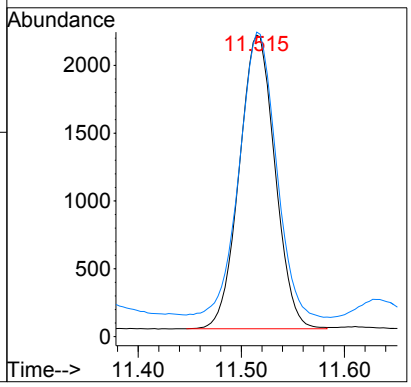


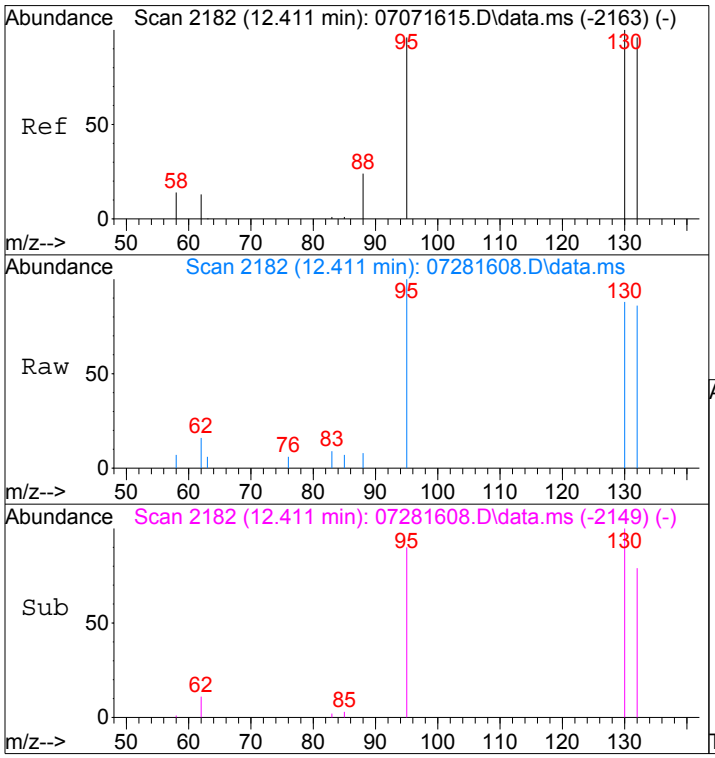


#24
Carbon Tetrachloride
Concen: 243.21 pg
RT: 11.51 min Scan# 1964
Delta R.T. -0.017 min
Lab File: 07281608.D
Acq: 28 Jul 2016 17:31

Tgt Ion:117 Resp: 5211

Ion	Ratio	Lower	Upper
117	100		
119	100.1	75.6	115.6

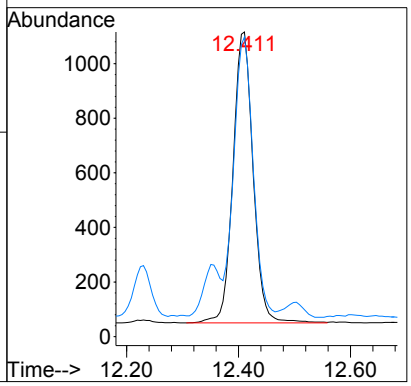


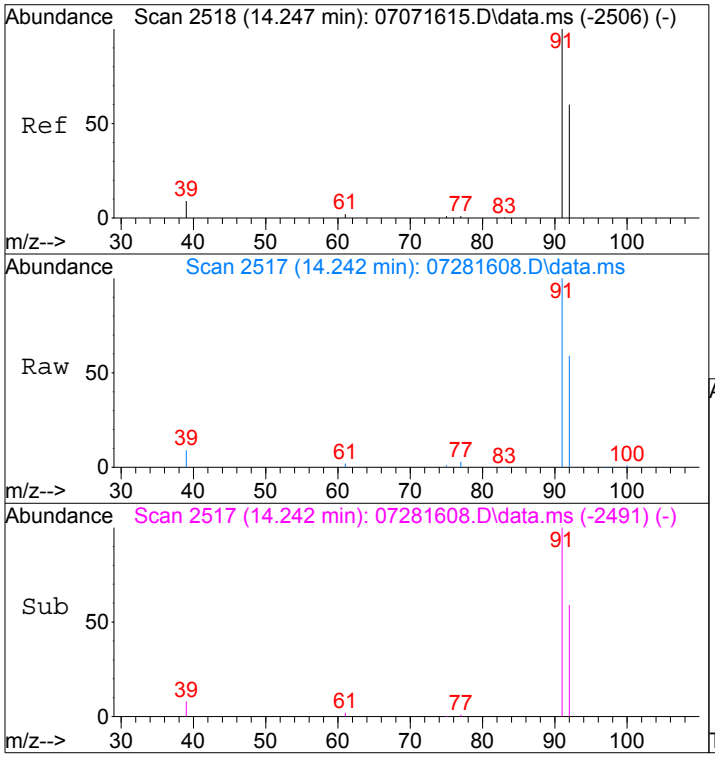


#28
Trichloroethene
Concen: 141.66 pg
RT: 12.41 min Scan# 2182
Delta R.T. -0.010 min
Lab File: 07281608.D
Acq: 28 Jul 2016 17:31

Tgt Ion:130 Resp: 2665

Ion	Ratio	Lower	Upper
130	100		
132	92.0	75.8	115.8

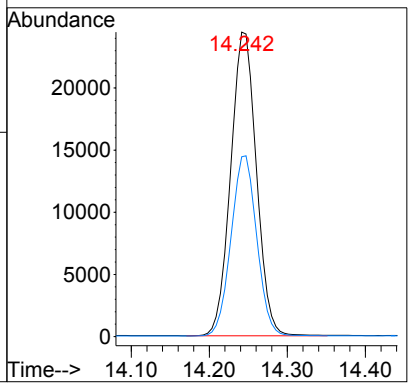


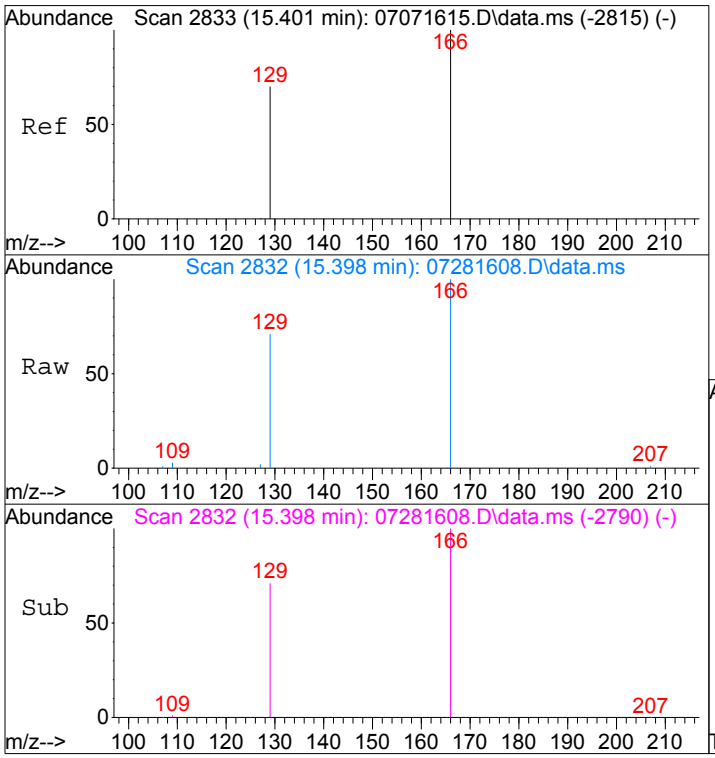


#34
Toluene
Concen: 785.21 pg
RT: 14.24 min Scan# 2517
Delta R.T. -0.010 min
Lab File: 07281608.D
Acq: 28 Jul 2016 17:31

Tgt Ion: 91 Resp: 55923

Ion	Ratio	Lower	Upper
91	100		
92	59.3	39.4	79.4

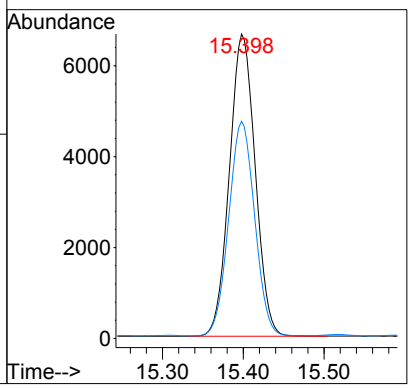


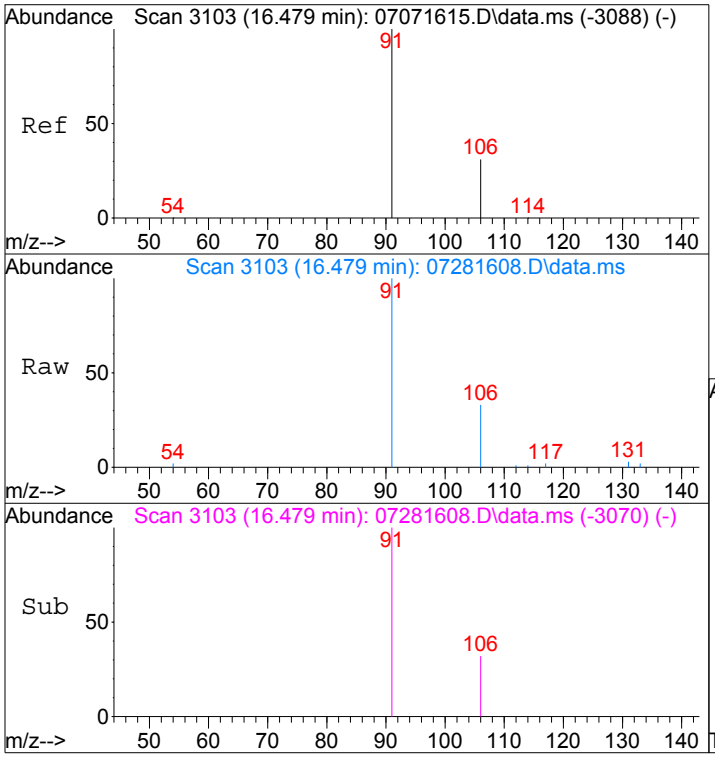


#37
Tetrachloroethene
Concen: 719.87 pg
RT: 15.40 min Scan# 2832
Delta R.T. -0.007 min
Lab File: 07281608.D
Acq: 28 Jul 2016 17:31

Tgt Ion:166 Resp: 14764

Ion	Ratio	Lower	Upper
166	100		
129	71.3	50.0	90.0

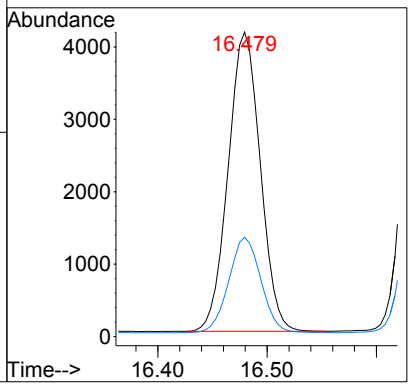


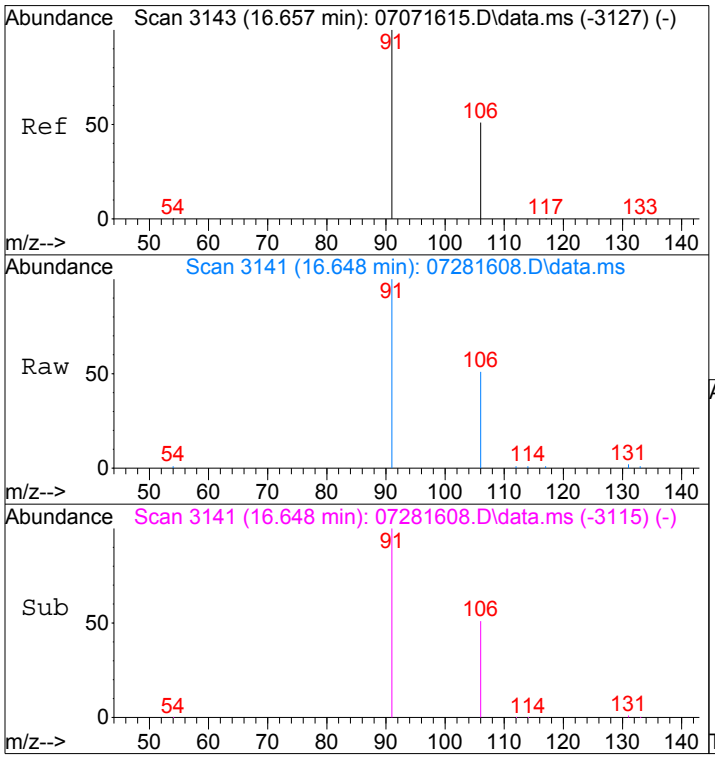


#40
Ethylbenzene
Concen: 115.84 pg
RT: 16.48 min Scan# 3103
Delta R.T. -0.005 min
Lab File: 07281608.D
Acq: 28 Jul 2016 17:31

Tgt Ion: 91 Resp: 8428

Ion	Ratio	Lower	Upper
91	100		
106	32.0	11.6	51.6

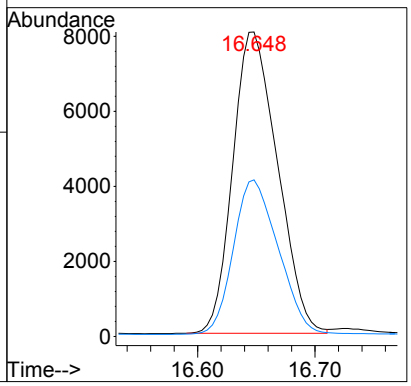


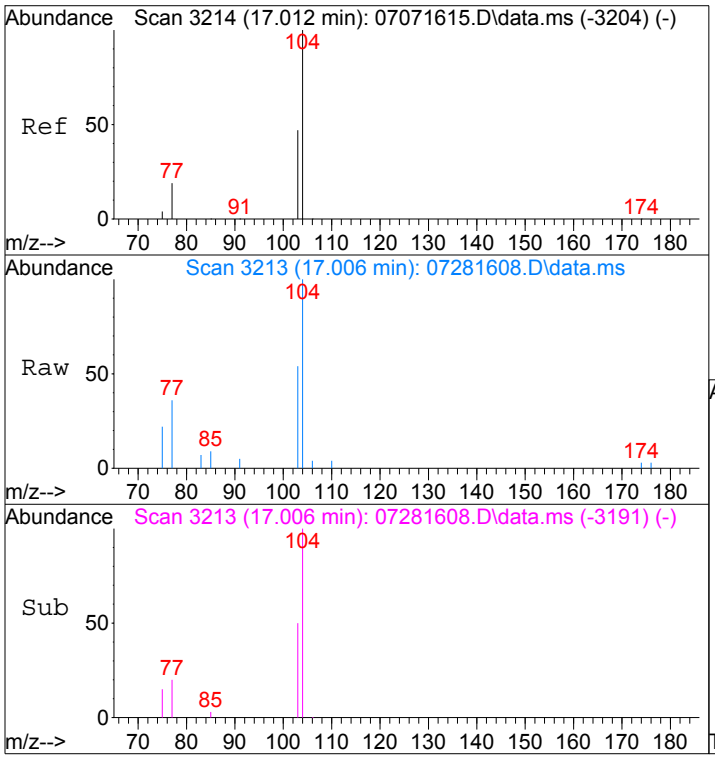


#41
m,p-Xylene
Concen: 382.21 pg
RT: 16.65 min Scan# 3141
Delta R.T. -0.013 min
Lab File: 07281608.D
Acq: 28 Jul 2016 17:31

Tgt Ion: 91 Resp: 21247

Ion	Ratio	Lower	Upper
91	100		
106	51.7	30.7	70.7

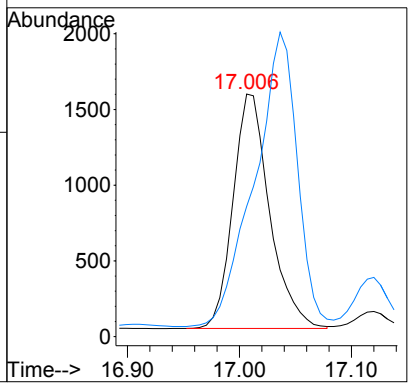


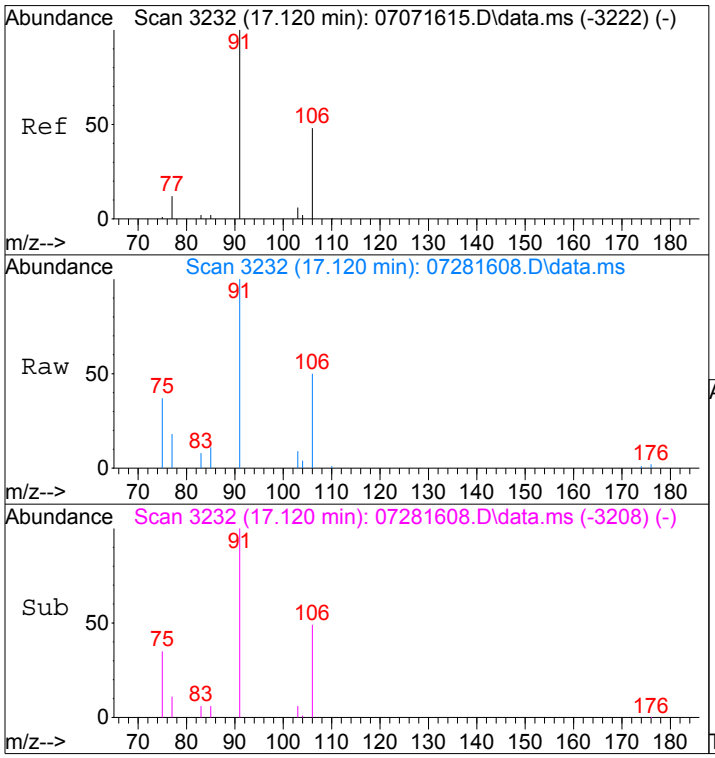


#42
Styrene
Concen: 86.36 pg
RT: 17.01 min Scan# 3213
Delta R.T. -0.006 min
Lab File: 07281608.D
Acq: 28 Jul 2016 17:31

Tgt Ion:104 Resp: 3519

Ion	Ratio	Lower	Upper
104	100		
103	145.8	37.8	56.6#

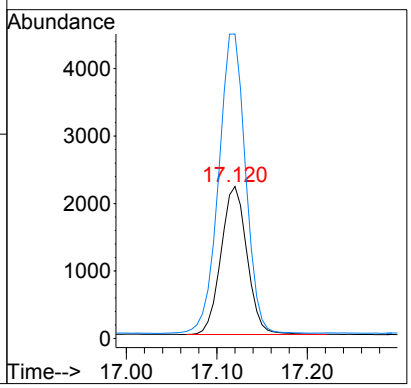


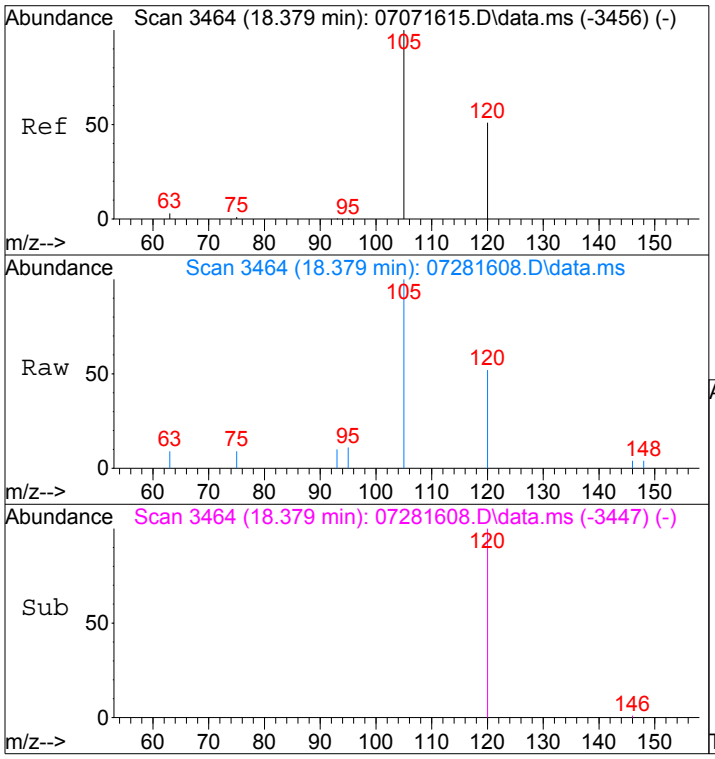


#43
o-Xylene
Concen: 155.29 pg
RT: 17.12 min Scan# 3232
Delta R.T. -0.006 min
Lab File: 07281608.D
Acq: 28 Jul 2016 17:31

Tgt Ion:106 Resp: 4388

Ion	Ratio	Lower	Upper
106	100		
91	208.4	189.7	229.7

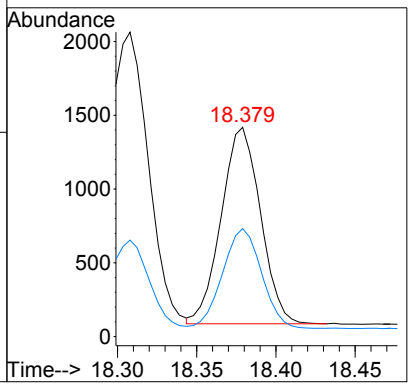


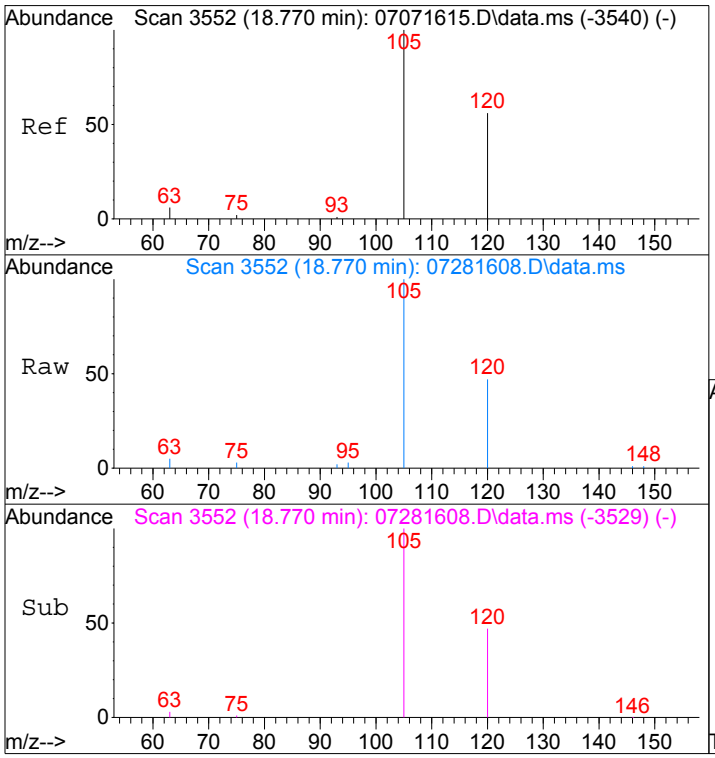


#46
1,3,5-Trimethylbenzene
Concen: 40.09 pg
RT: 18.38 min Scan# 3464
Delta R.T. -0.004 min
Lab File: 07281608.D
Acq: 28 Jul 2016 17:31

Tgt Ion:105 Resp: 2297

Ion	Ratio	Lower	Upper
105	100		
120	50.2	40.4	60.6

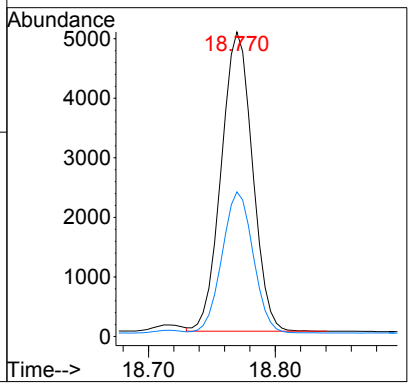


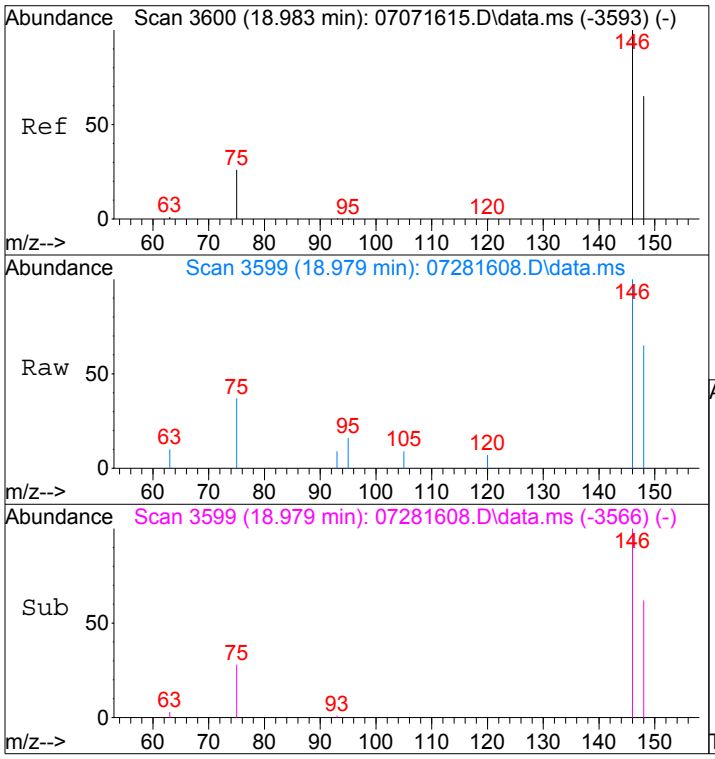


#47
1,2,4-Trimethylbenzene
Concen: 150.34 pg
RT: 18.77 min Scan# 3552
Delta R.T. -0.009 min
Lab File: 07281608.D
Acq: 28 Jul 2016 17:31

Tgt Ion:105 Resp: 8602

Ion	Ratio	Lower	Upper
105	100		
120	47.1	44.8	67.2

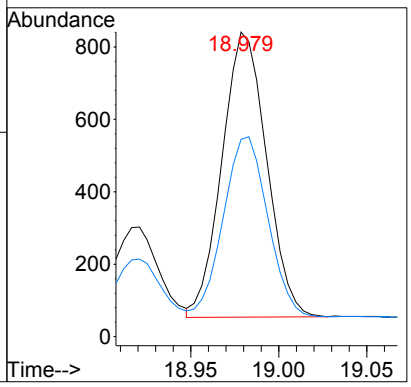


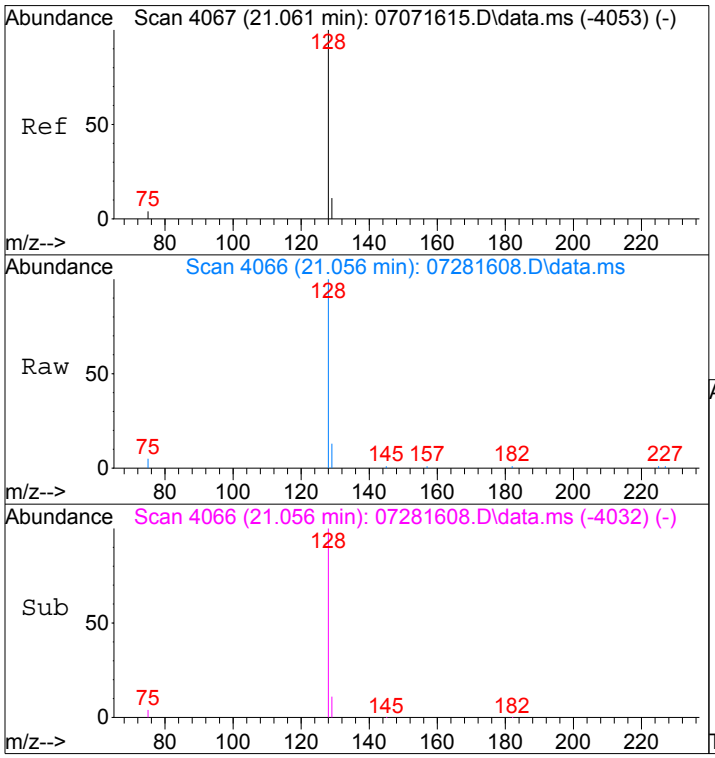


#49
1,4-Dichlorobenzene
Concen: 40.63 pg
RT: 18.98 min Scan# 3599
Delta R.T. -0.004 min
Lab File: 07281608.D
Acq: 28 Jul 2016 17:31

Tgt Ion:146 Resp: 1385

Ion	Ratio	Lower	Upper
146	100		
148	63.2	44.1	84.1

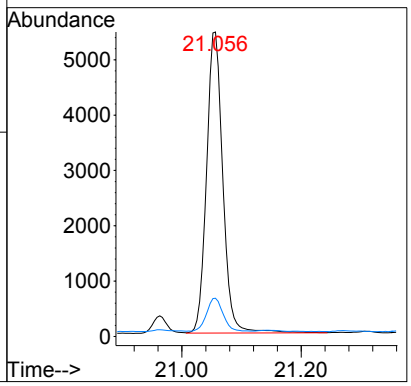




#53
Naphthalene
Concen: 145.04 pg
RT: 21.06 min Scan# 4066
Delta R.T. 0.000 min
Lab File: 07281608.D
Acq: 28 Jul 2016 17:31

Tgt Ion:128 Resp: 10329

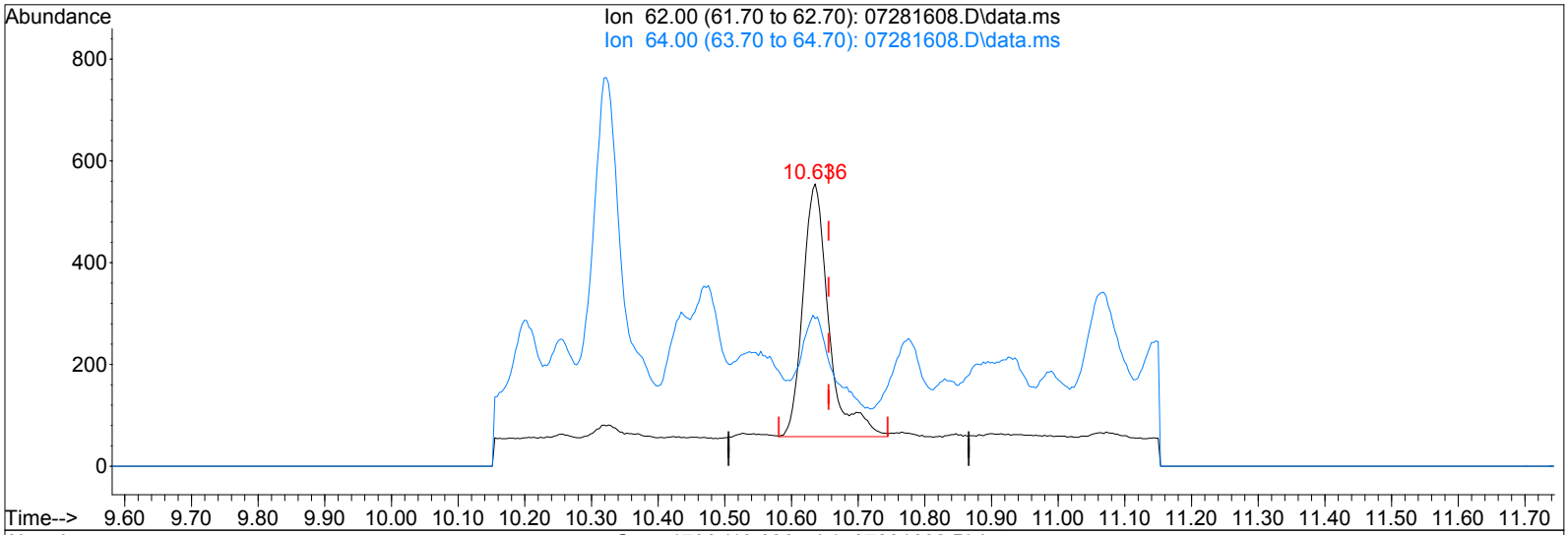
Ion	Ratio	Lower	Upper
128	100		
129	10.9	0.0	30.7

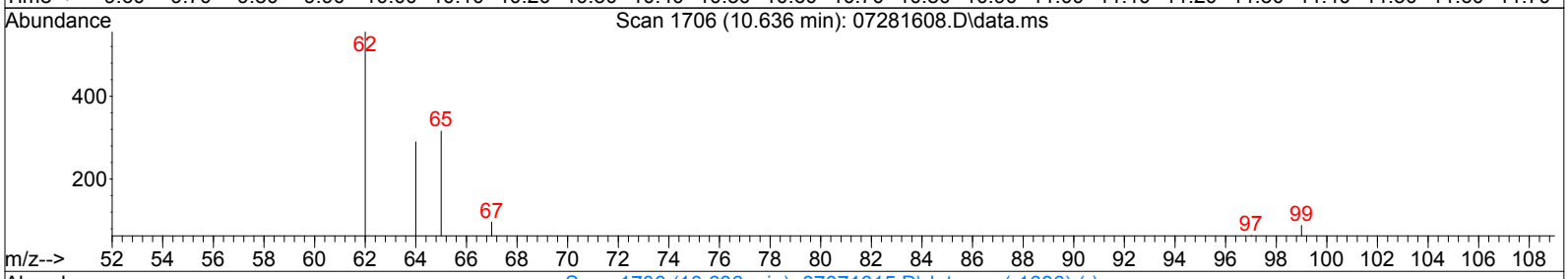


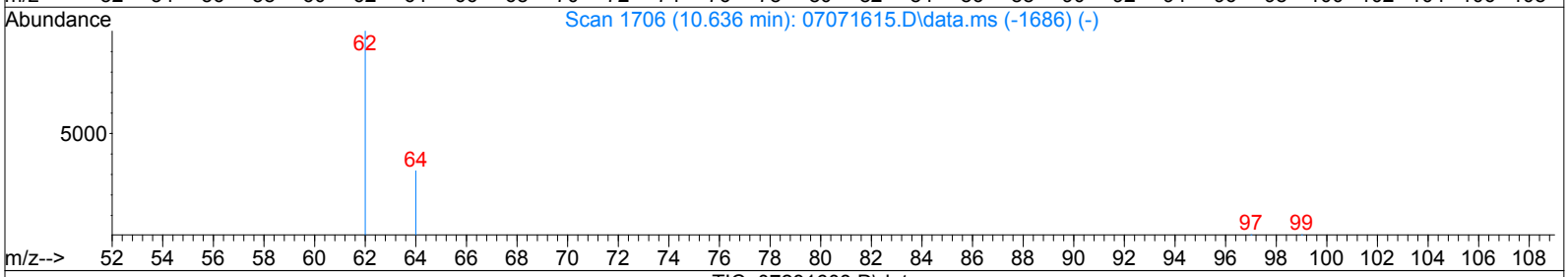
Quantitation Report (Qedit)

Data File: I:\MS19\DATA\2016 07\28\07281608.D
Acq On : 28 Jul 2016 17:31 Operator: WA
Sample : P1603571-008 RA (1000mL)
Misc : S29-06141602/AC01205
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 29 07:06:50 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 07281608.D\data.ms

(21) 1,2-Dichloroethane (T)

10.636min (-0.021) 60.84pg

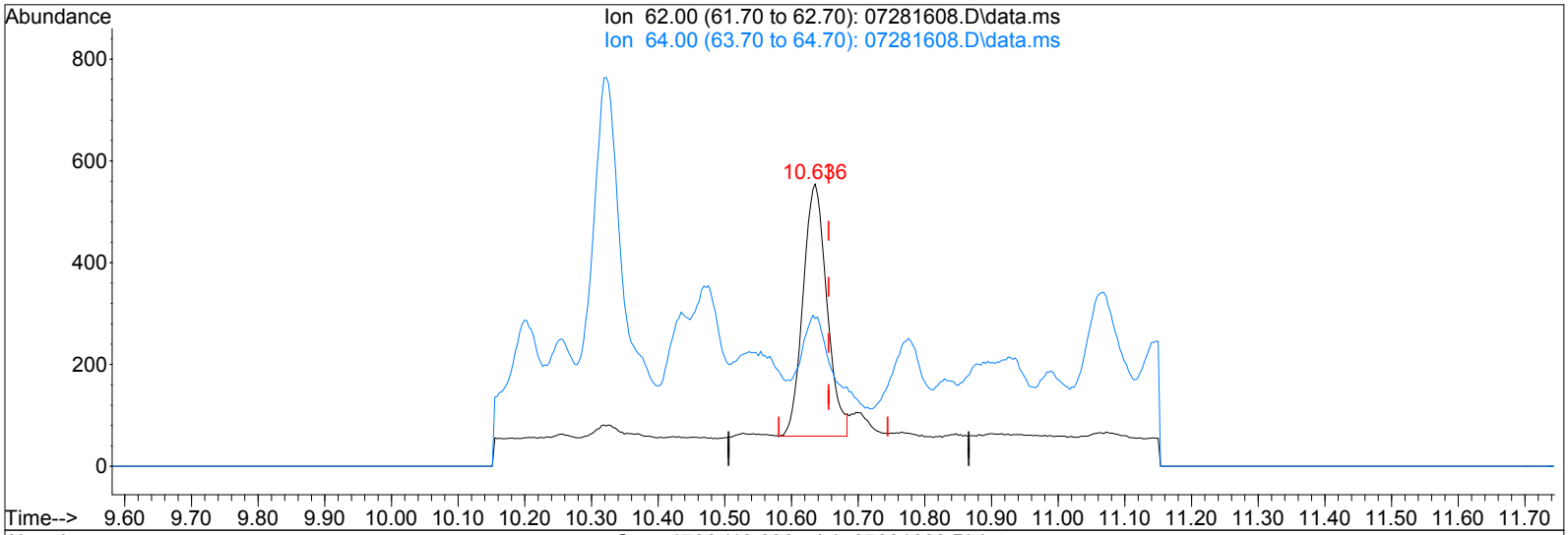
response 1343

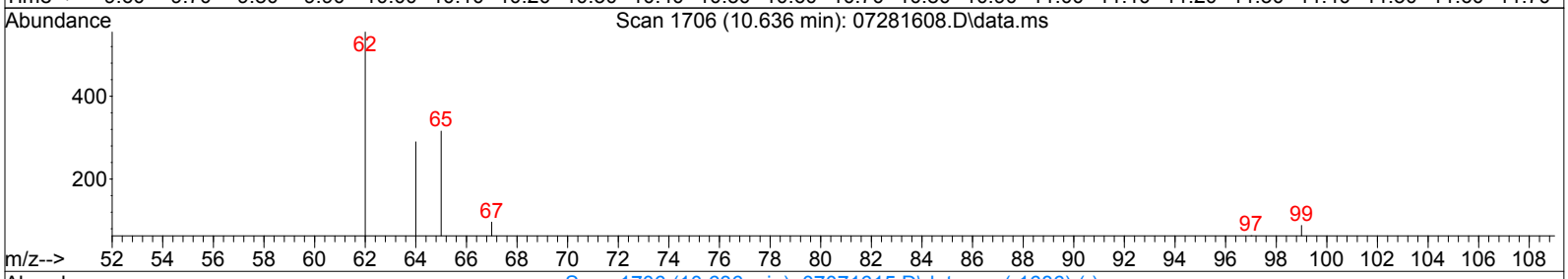
Ion	Exp%	Act%
62.00	100	100
64.00	32.10	42.22
0.00	0.00	0.00
0.00	0.00	0.00

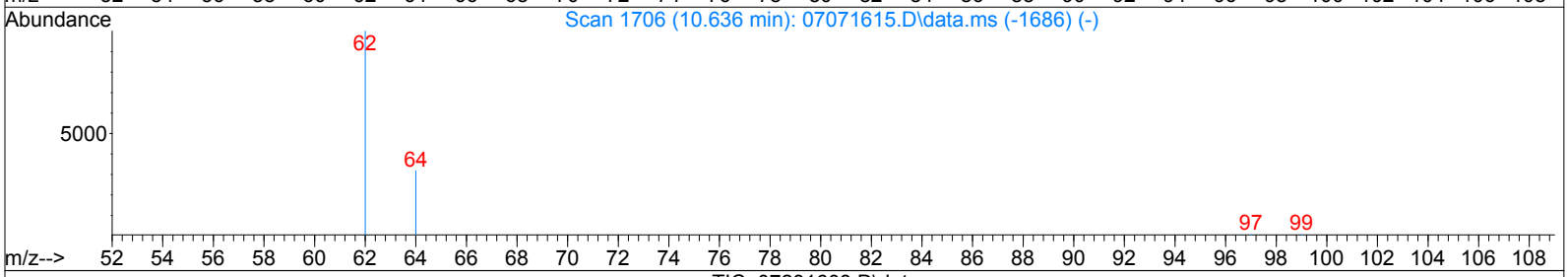
Quantitation Report (Qedit)

Data File: I:\MS19\DATA\2016 07\28\07281608.D
Acq On : 28 Jul 2016 17:31 Operator: WA
Sample : P1603571-008 RA (1000mL)
Misc : S29-06141602/AC01205
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 29 07:06:50 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 07281608.D\data.ms

(21) 1,2-Dichloroethane (T)

10.636min (-0.021) 56.00pg m

response 1236

IPC

Ion	Exp%	Act%
62.00	100	100
64.00	32.10	45.87
0.00	0.00	0.00
0.00	0.00	0.00

WA 7/29/16

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\20\07201625.D Vial: 14
Acq On : 20 Jul 2016 23:24 Operator: CL
Sample : P1603571-011 (1000mL) Inst : MS19
Misc : S29-06141602

Quant Time: Jul 22 14:10:59 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 7/22/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.78	130	18195	1000.000 pg	0.00
25) 1,4-Difluorobenzene (IS2)	11.72	114	87705	1000.000 pg	0.00
38) Chlorobenzene-d5 (IS3)	16.05	54	12745	1000.000 pg	0.00

System Monitoring Compounds					
20) 1,2-Dichloroethane-d4 ...	10.55	65	24007	848.643 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 84.86%		
33) Toluene-d8 (SS2)	14.15	98	91638	996.785 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 99.68%		
45) Bromofluorobenzene (SS3)	17.55	174	39579	1278.311 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 127.83%		

Target Compounds					Qvalue
2) Dichlorodifluoromethan...	4.41	85	69377	1563.978 pg	100
3) Chloromethane	4.61	52	3705	325.822 pg	100
4) 1,2-Dichloro,1,1,2,2-t...	4.79	85	2197	68.001 pg	99
5) Vinyl Chloride	4.92	62	172	N.D.	
6) 1,3-Butadiene	5.11	54	1913	88.222 pg	86
7) Bromomethane	5.44	94	489	28.572 pg	100
8) Chloroethane	5.66	64	716m	46.637 pg	
9) Acrolein	6.30	56	21683	2039.559 pg	87
10) Acetone	6.48	58	12766247	918334.593 pg #	68
11) Trichlorofluoromethane	6.59	101	23773	782.621 pg	100
12) 1,1-Dichloroethene	7.33	96	114	N.D.	
13) Methylene Chloride	7.52	84	93951	4602.523 pg	90
14) Trichlorotrifluoroethane	7.79	151	5908	335.604 pg	100
15) trans-1,2-Dichloroethene	8.53	96	659	30.867 pg	99
16) 1,1-Dichloroethane	8.74	63	358	N.D.	
17) Methyl tert-Butyl Ether	0.00	73	0	N.D. d	
18) cis-1,2-Dichloroethene	9.62	96	1051	48.113 pg	99
19) Chloroform	9.92	83	22098	638.470 pg	100
21) 1,2-Dichloroethane	10.66	62	2328862	90077.186 pg	97
22) 1,1,1-Trichloroethane	10.93	97	442	N.D.	
23) Benzene	11.38	78	48972	605.524 pg	100
24) Carbon Tetrachloride	11.54	117	9412	375.038 pg	92
26) 1,2-Dichloropropane	12.19	63	1000	47.998 pg	96
27) Bromodichloromethane	12.37	83	1984m	77.359 pg	
28) Trichloroethene	12.42	130	4551	210.650 pg	99
29) 1,4-Dioxane	12.39	88	1862	114.477 pg	99
30) cis-1,3-Dichloropropene	13.26	75	192	N.D.	
31) trans-1,3-Dichloropropene	13.72	75	296	N.D.	
32) 1,1,2-Trichloroethane	0.00	83	0	N.D.	
34) Toluene	14.25	91	1518928	18571.569 pg	98
35) Dibromochloromethane	14.66	129	429	22.357 pg	97
36) 1,2-Dibromoethane	0.00	107	0	N.D.	
37) Tetrachloroethene	15.40	166	34708	1473.643 pg	99
39) Chlorobenzene	0.00	112	0	N.D. d	
40) Ethylbenzene	16.48	91	323519	4291.034 pg	98
41) m,p-Xylene	16.65	91	690767	11991.408 pg	97
42) Styrene	17.01	104	304112	7202.432 pg	100
43) o-Xylene	17.12	106	137238	4686.836 pg	95
44) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
46) 1,3,5-Trimethylbenzene	18.38	105	183335	3087.855 pg	98
47) 1,2,4-Trimethylbenzene	18.77	105	451531	7615.473 pg	90
48) 1,3-Dichlorobenzene	18.92	146	173	N.D.	
49) 1,4-Dichlorobenzene	18.98	146	2380	67.379 pg	100
50) 1,2-Dichlorobenzene	19.31	146	134	N.D.	
51) 1,2-Dibromo-3-chloropr...	0.00	157	0	N.D.	
52) 1,2,4-Trichlorobenzene	20.94	182	88	N.D.	
53) Naphthalene	21.06	128	26926	364.868 pg	97

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\20\07201625.D Vial: 14
Acq On : 20 Jul 2016 23:24 Operator: CL
Sample : P1603571-011 (1000mL) Inst : MS19
Misc : S29-06141602

Quant Time: Jul 22 14:10:59 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

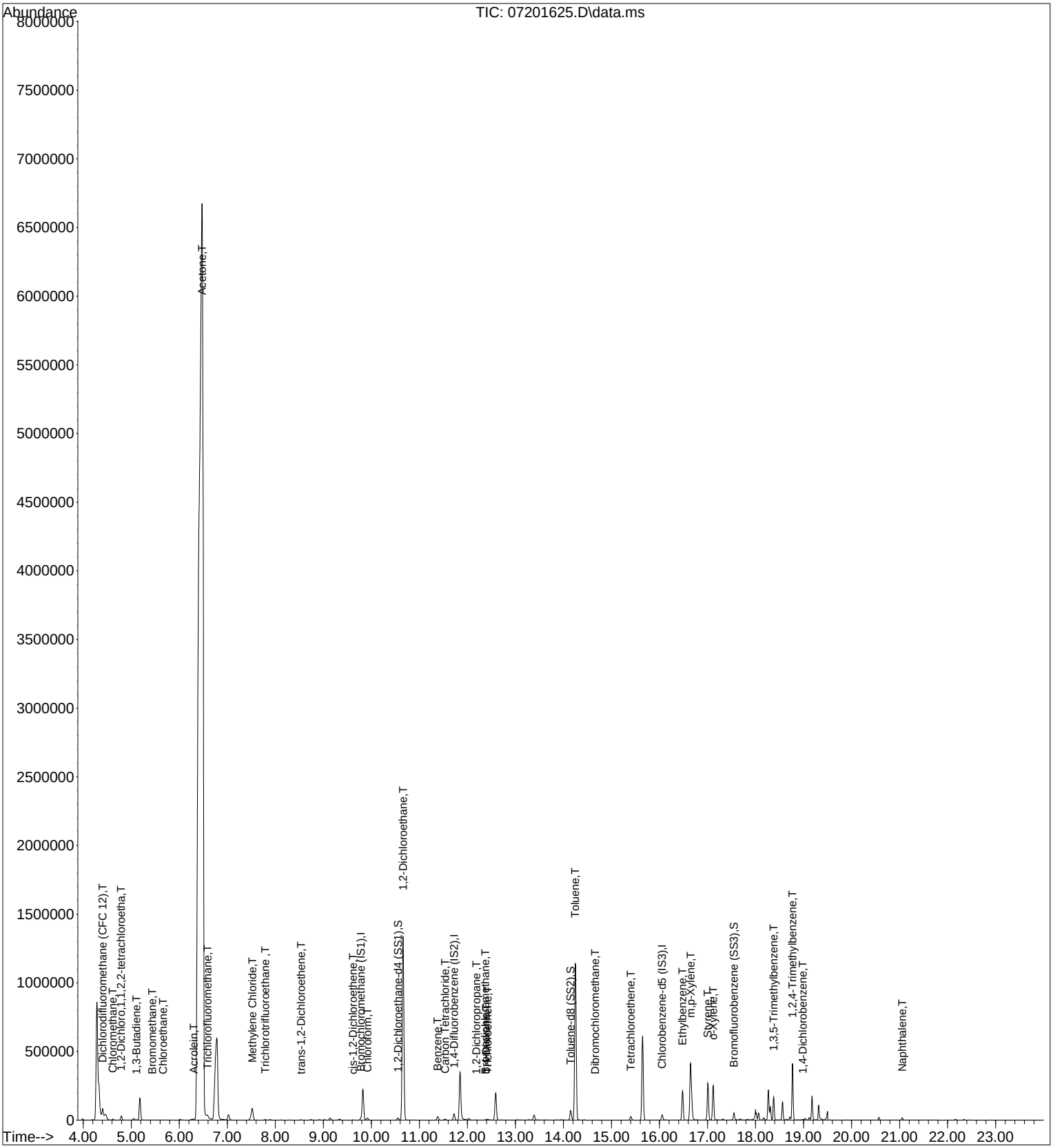
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
54) Hexachlorobutadiene	0.00	225	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\20\07201625.D Vial: 14
Acq On : 20 Jul 2016 23:24 Operator: CL
Sample : P1603571-011 (1000mL) Inst : MS19
Misc : S29-06141602

Quant Time: Jul 22 14:10:59 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\20\07201625.D Vial: 14
Acq On : 20 Jul 2016 23:24 Operator: CL
Sample : P1603571-011 (1000mL) Inst : MS19
Misc : S29-06141602

Quant Time: Jul 22 14:10:59 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 7/22/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.78	130	18195	1000.000 pg	0.00
25) 1,4-Difluorobenzene (IS2)	11.72	114	87705	1000.000 pg	0.00
38) Chlorobenzene-d5 (IS3)	16.05	54	12745	1000.000 pg	0.00

System Monitoring Compounds

20) 1,2-Dichloroethane-d4 ...	10.55	65	24007	848.643 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 84.86%		
33) Toluene-d8 (SS2)	14.15	98	91638	996.785 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 99.68%		
45) Bromofluorobenzene (SS3)	17.55	174	39579	1278.311 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 127.83%		

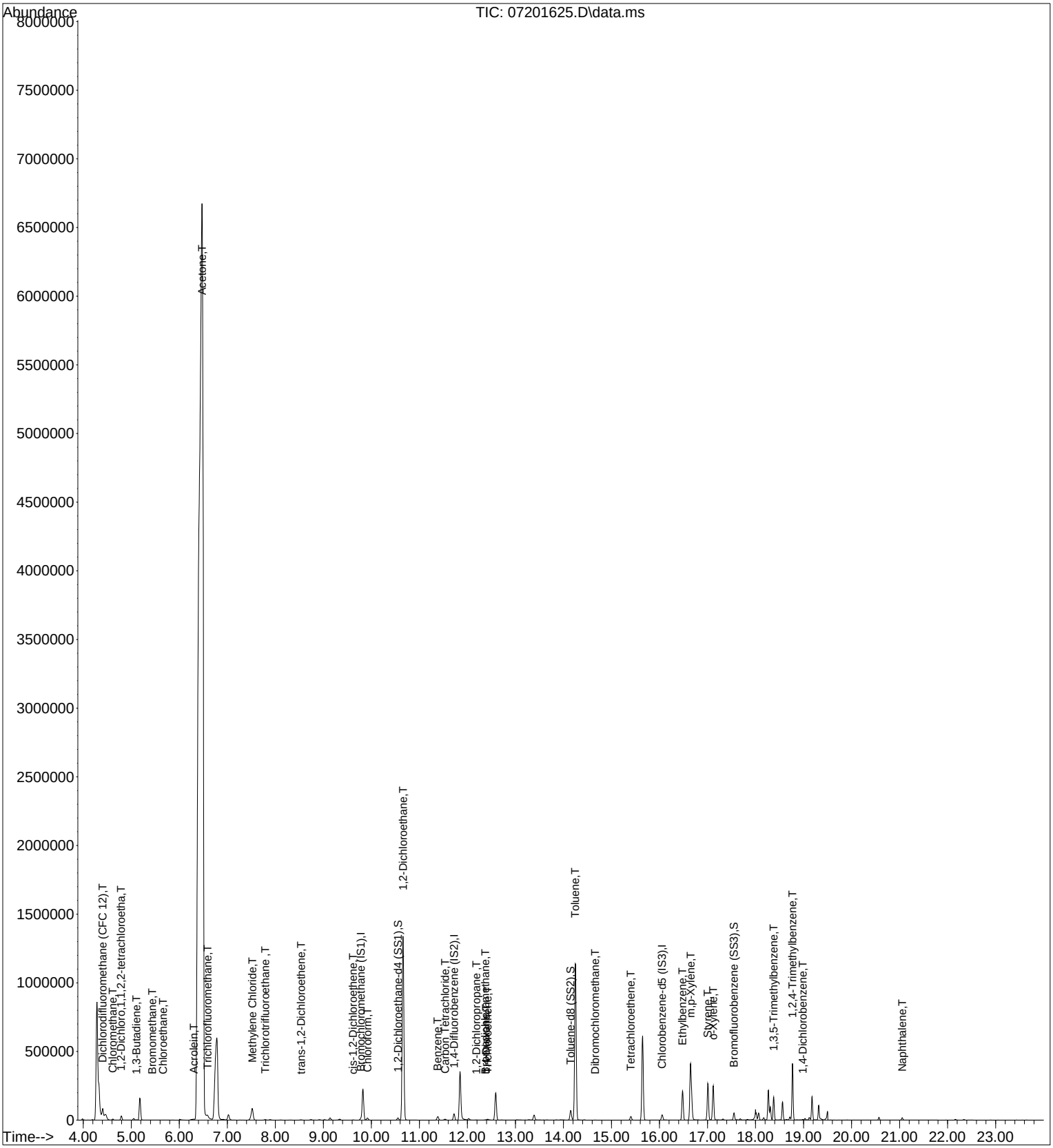
Target Compounds					Qvalue
2) Dichlorodifluoromethan...	4.41	85	69377	1563.978 pg	100
3) Chloromethane	4.61	52	3705	325.822 pg	100
4) 1,2-Dichloro,1,1,2,2-t...	4.79	85	2197	68.001 pg	99
6) 1,3-Butadiene	5.11	54	1913	88.222 pg	86
7) Bromomethane	5.44	94	489	28.572 pg	100
8) Chloroethane	5.66	64	716m	46.637 pg	
9) Acrolein	6.30	56	21683	2039.559 pg	87
10) Acetone	6.48	58	12766247	918334.593 pg	# 68
11) Trichlorofluoromethane	6.59	101	23773	782.621 pg	100
13) Methylene Chloride	7.52	84	93951	4602.523 pg	90
14) Trichlorotrifluoroethane	7.79	151	5908	335.604 pg	100
15) trans-1,2-Dichloroethene	8.53	96	659	30.867 pg	99
18) cis-1,2-Dichloroethene	9.62	96	1051	48.113 pg	99
19) Chloroform	9.92	83	22098	638.470 pg	100
21) 1,2-Dichloroethane	10.66	62	2328862	90077.186 pg	97
23) Benzene	11.38	78	48972	605.524 pg	100
24) Carbon Tetrachloride	11.54	117	9412	375.038 pg	92
26) 1,2-Dichloropropane	12.19	63	1000	47.998 pg	96
27) Bromodichloromethane	12.37	83	1984m	77.359 pg	
28) Trichloroethene	12.42	130	4551	210.650 pg	99
29) 1,4-Dioxane	12.39	88	1862	114.477 pg	99
34) Toluene	14.25	91	1518928	18571.569 pg	98
35) Dibromochloromethane	14.66	129	429	22.357 pg	97
37) Tetrachloroethene	15.40	166	34708	1473.643 pg	99
40) Ethylbenzene	16.48	91	323519	4291.034 pg	98
41) m,p-Xylene	16.65	91	690767	11991.408 pg	97
42) Styrene	17.01	104	304112	7202.432 pg	100
43) o-Xylene	17.12	106	137238	4686.836 pg	95
46) 1,3,5-Trimethylbenzene	18.38	105	183335	3087.855 pg	98
47) 1,2,4-Trimethylbenzene	18.77	105	451531	7615.473 pg	90
49) 1,4-Dichlorobenzene	18.98	146	2380	67.379 pg	100
53) Naphthalene	21.06	128	26926	364.868 pg	97

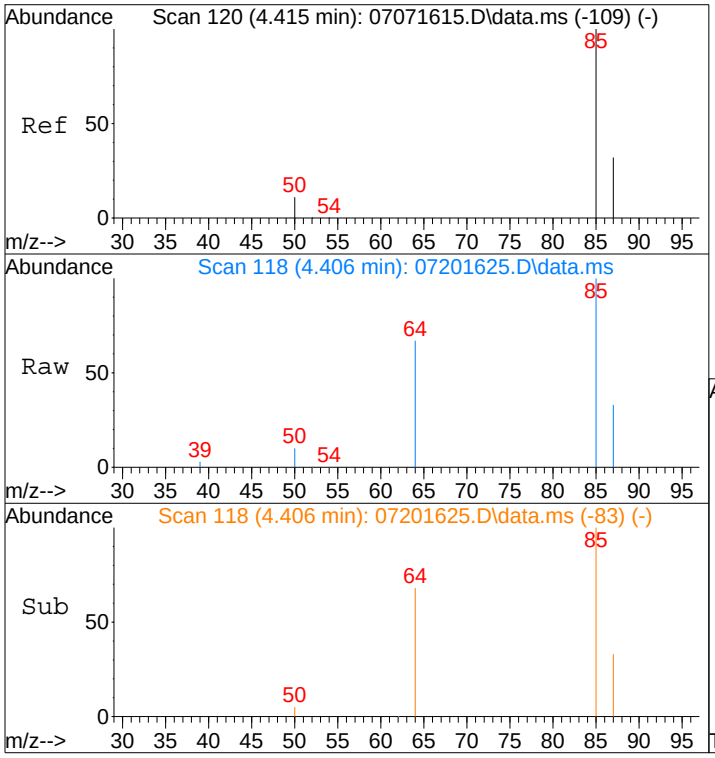
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\20\07201625.D Vial: 14
Acq On : 20 Jul 2016 23:24 Operator: CL
Sample : P1603571-011 (1000mL) Inst : MS19
Misc : S29-06141602

Quant Time: Jul 22 14:10:59 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

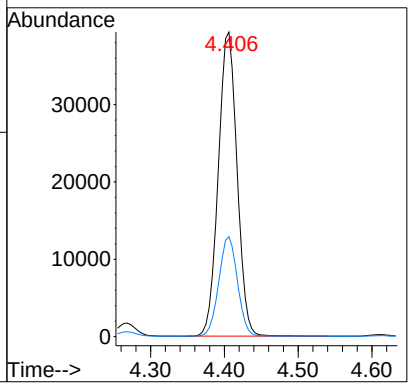


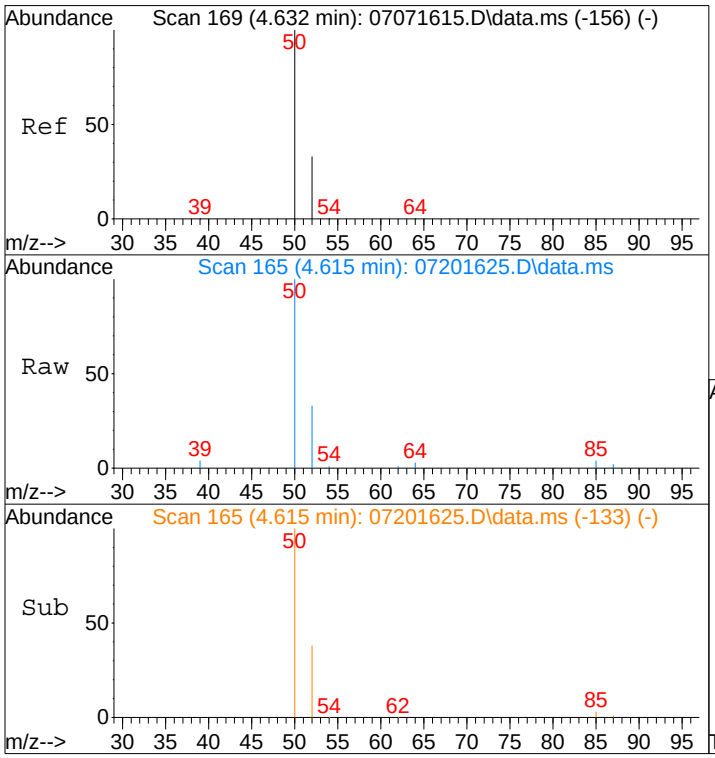


#2
Dichlorodifluoromethane (CFC 12)
Concen: 1563.98 pg
RT: 4.41 min Scan# 118
Delta R.T. 0.004 min
Lab File: 07201625.D
Acq: 20 Jul 2016 23:24

Tgt Ion: 85 Resp: 69377

Ion	Ratio	Lower	Upper
85	100		
87	32.6	12.5	52.5

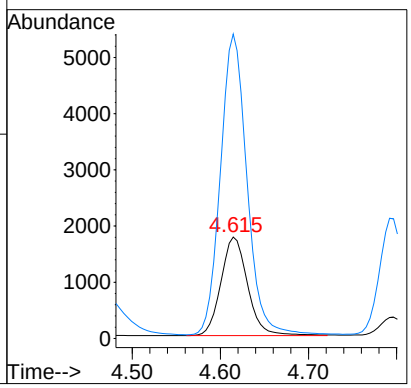


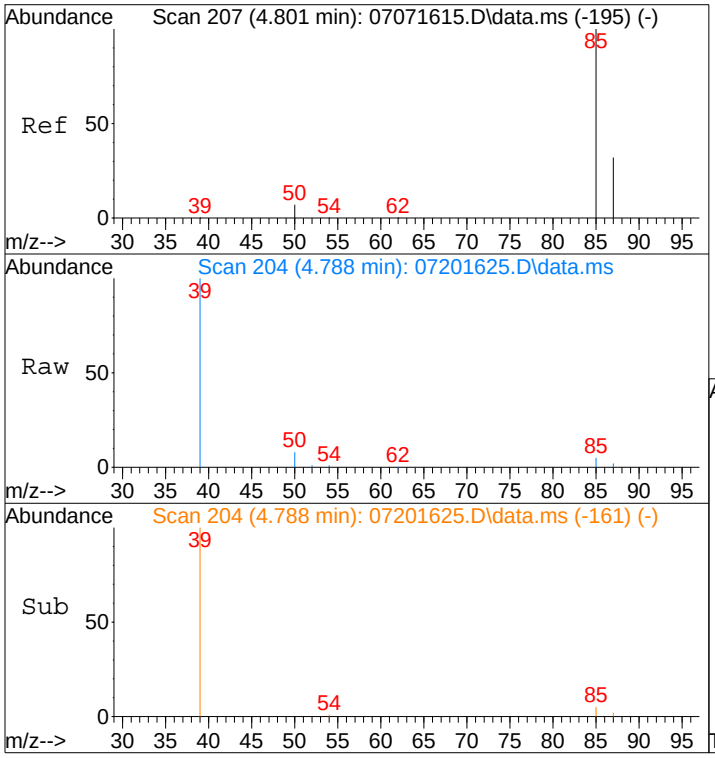


#3
Chloromethane
Concen: 325.82 pg
RT: 4.61 min Scan# 165
Delta R.T. -0.008 min
Lab File: 07201625.D
Acq: 20 Jul 2016 23:24

Tgt Ion: 52 Resp: 3705

Ion	Ratio	Lower	Upper
52	100		
50	301.6	280.8	320.8

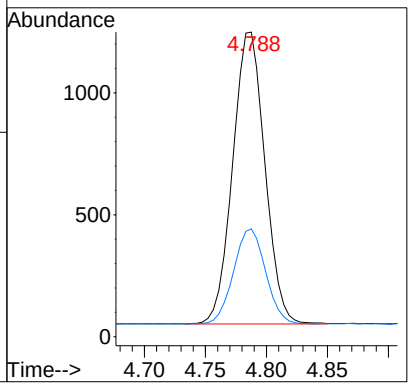


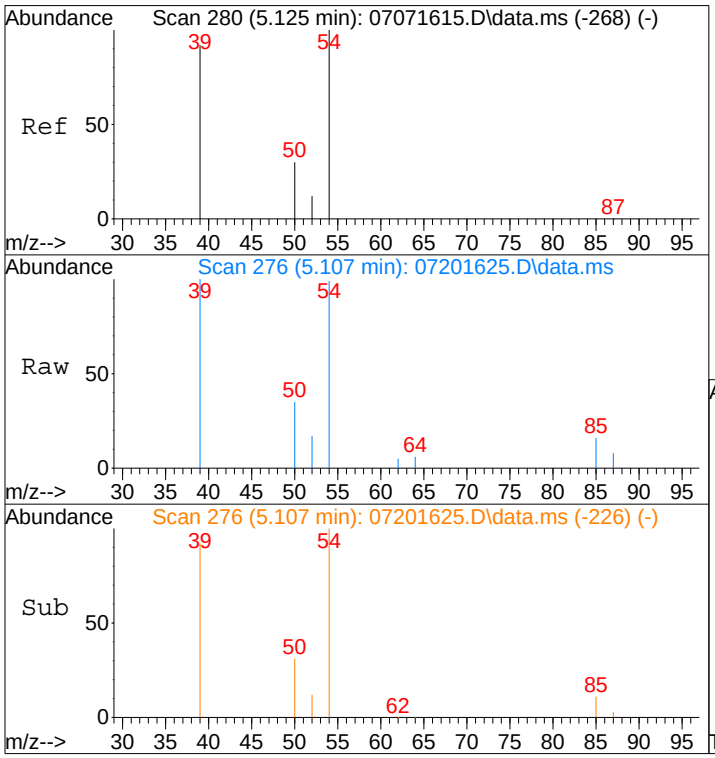


#4
1,2-Dichloro,1,1,2,2-tetrachloroetha
Concen: 68.00 pg
RT: 4.79 min Scan# 204
Delta R.T. -0.008 min
Lab File: 07201625.D
Acq: 20 Jul 2016 23:24

Tgt Ion: 85 Resp: 2197

Ion	Ratio	Lower	Upper
85	100		
87	32.4	25.7	38.5

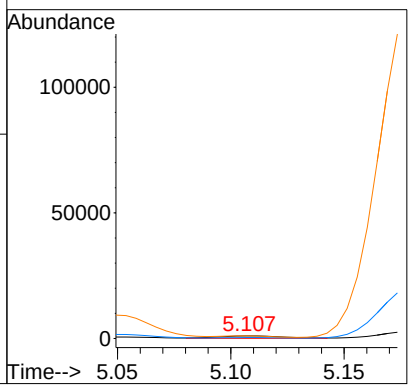


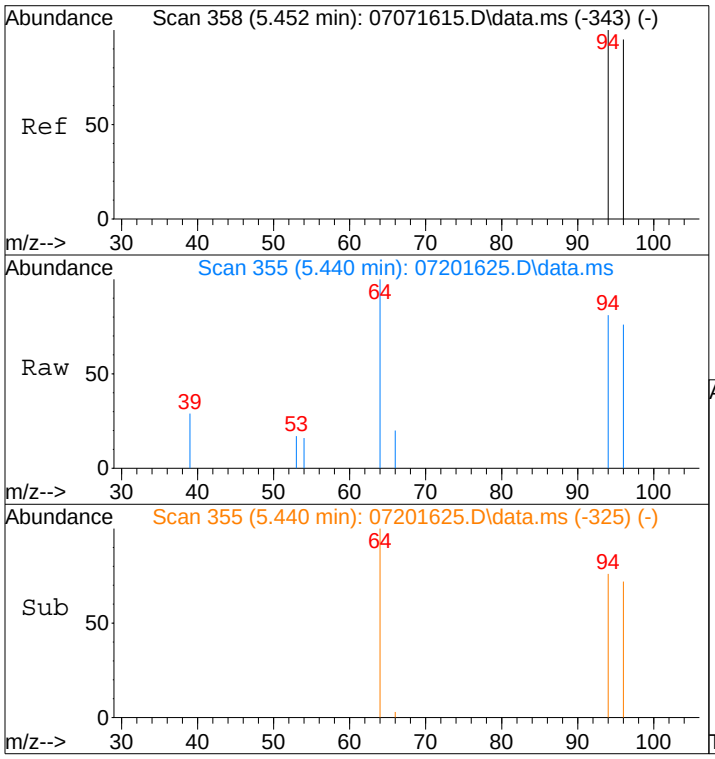


#6
1,3-Butadiene
Concen: 88.22 pg
RT: 5.11 min Scan# 276
Delta R.T. -0.009 min
Lab File: 07201625.D
Acq: 20 Jul 2016 23:24

Tgt Ion: 54 Resp: 1913

Ion	Ratio	Lower	Upper
54	100		
50	28.5	23.6	35.4
39	76.0	74.9	112.3

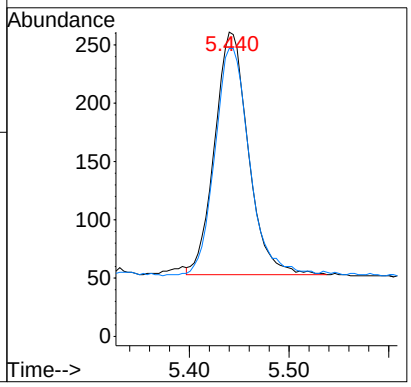


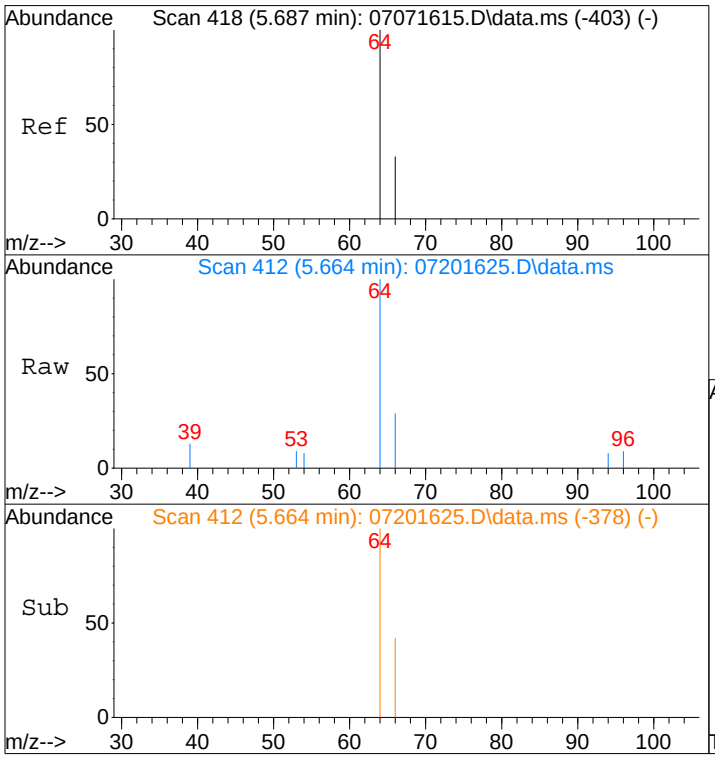


#7
Bromomethane
Concen: 28.57 pg
RT: 5.44 min Scan# 355
Delta R.T. -0.012 min
Lab File: 07201625.D
Acq: 20 Jul 2016 23:24

Tgt Ion: 94 Resp: 489

Ion	Ratio	Lower	Upper
94	100		
96	94.1	75.3	112.9

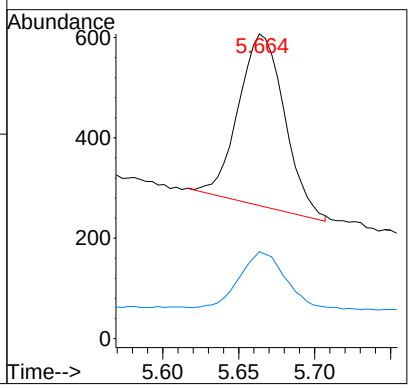


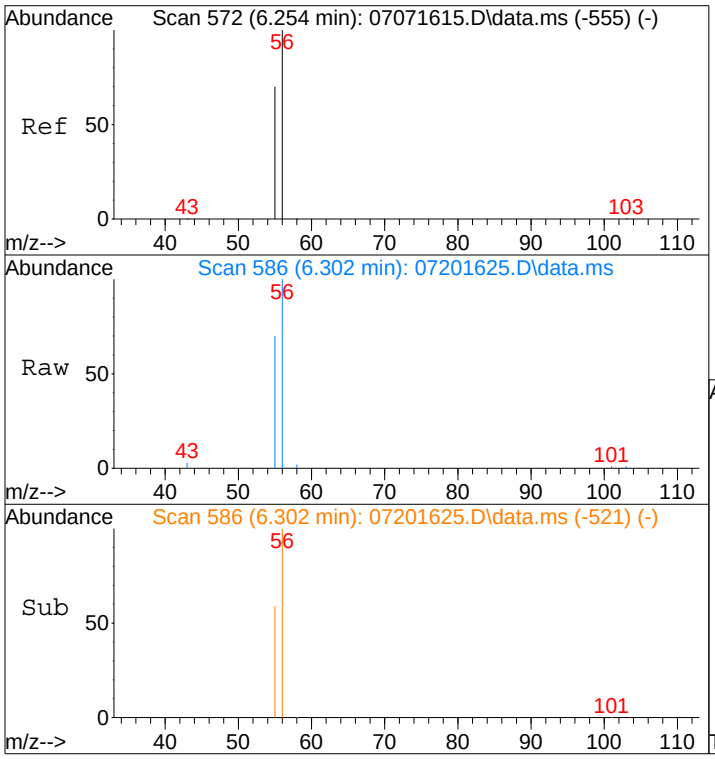


#8
Chloroethane
Concen: 46.64 pg m
RT: 5.66 min Scan# 412
Delta R.T. -0.015 min
Lab File: 07201625.D
Acq: 20 Jul 2016 23:24

Tgt Ion: 64 Resp: 716

Ion	Ratio	Lower	Upper
64	100		
66	33.8	12.2	52.2

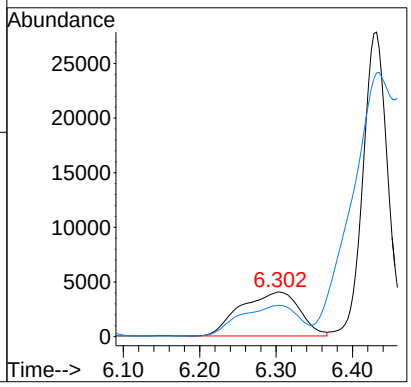


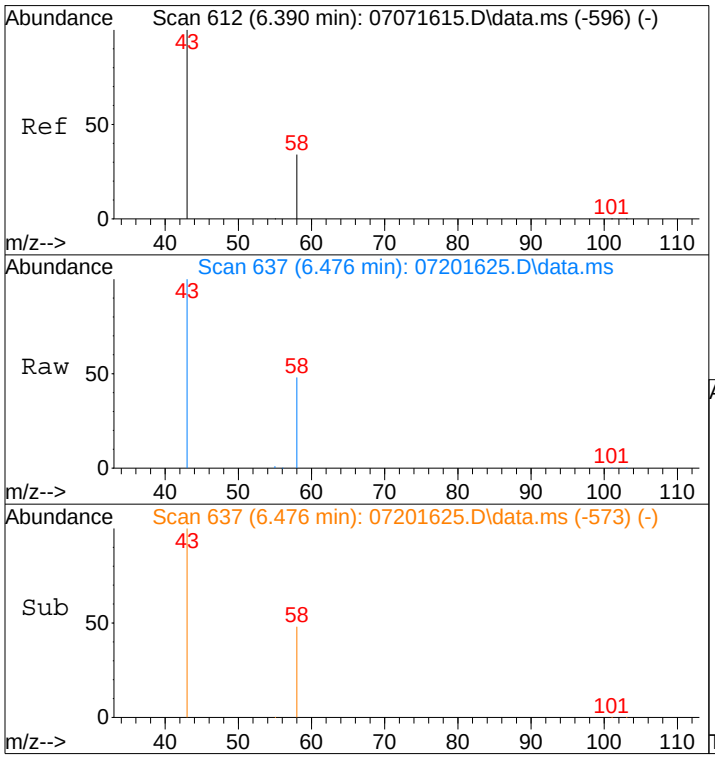


#9
Acrolein
Concen: 2039.56 pg
RT: 6.30 min Scan# 586
Delta R.T. 0.052 min
Lab File: 07201625.D
Acq: 20 Jul 2016 23:24

Tgt Ion: 56 Resp: 21683

Ion	Ratio	Lower	Upper
56	100		
55	68.4	47.1	70.7

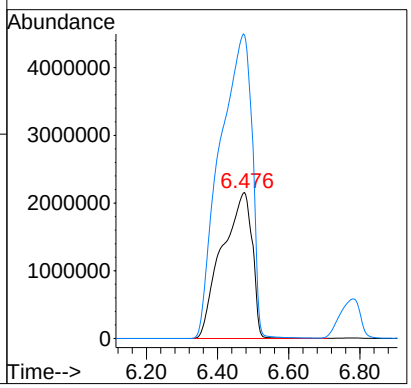


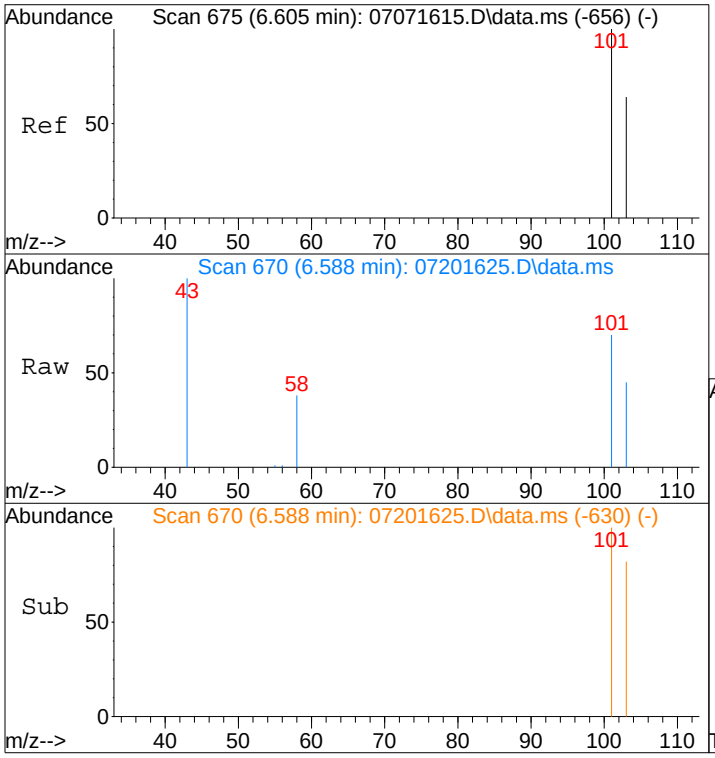


#10
Acetone
Concen: 918334.59 pg
RT: 6.48 min Scan# 637
Delta R.T. 0.069 min
Lab File: 07201625.D
Acq: 20 Jul 2016 23:24

Tgt Ion: 58 Resp:12766247

Ion	Ratio	Lower	Upper
58	100		
43	222.1	262.3	302.3#

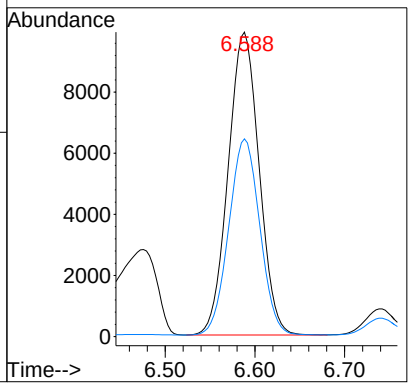


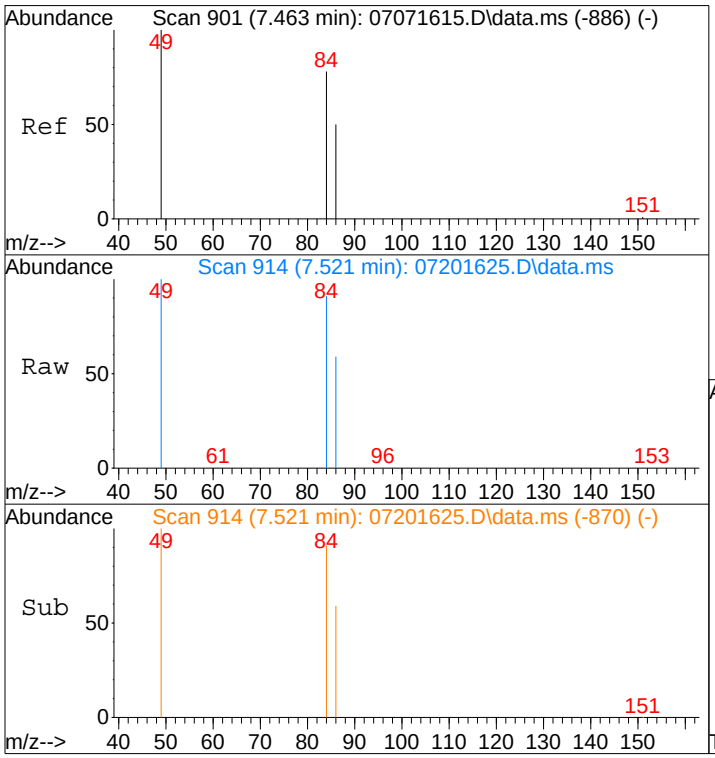


#11
Trichlorofluoromethane
Concen: 782.62 pg
RT: 6.59 min Scan# 670
Delta R.T. -0.014 min
Lab File: 07201625.D
Acq: 20 Jul 2016 23:24

Tgt Ion:101 Resp: 23773

Ion	Ratio	Lower	Upper
101	100		
103	65.0	51.8	77.6

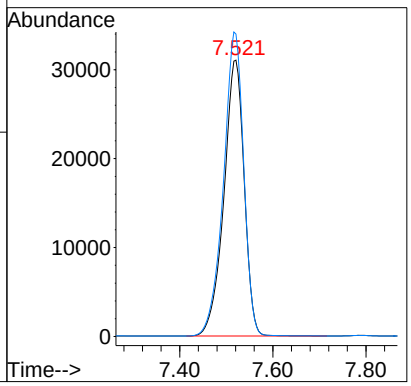


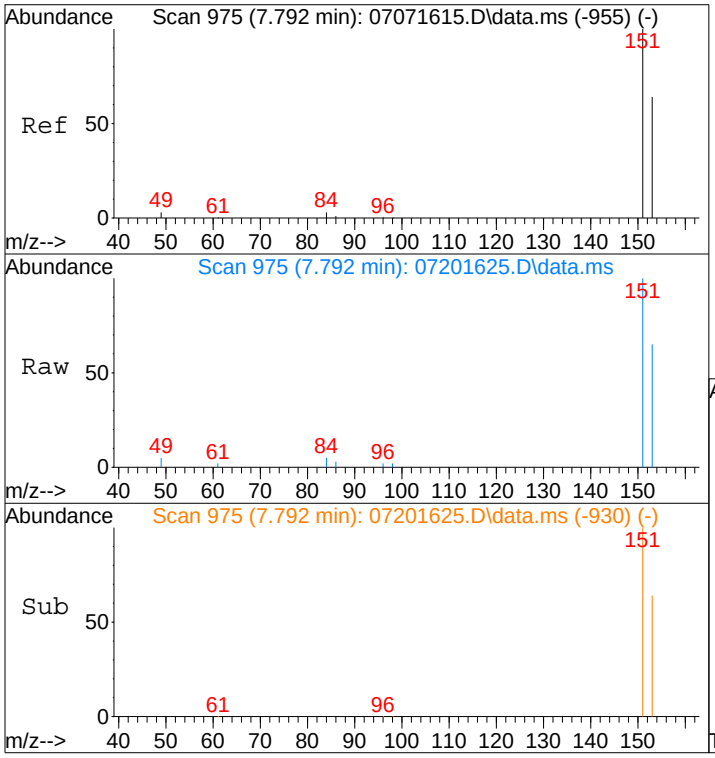


#13
Methylene Chloride
Concen: 4602.52 pg
RT: 7.52 min Scan# 914
Delta R.T. 0.036 min
Lab File: 07201625.D
Acq: 20 Jul 2016 23:24

Tgt Ion: 84 Resp: 93951

Ion	Ratio	Lower	Upper
84	100		
49	110.0	101.0	141.0

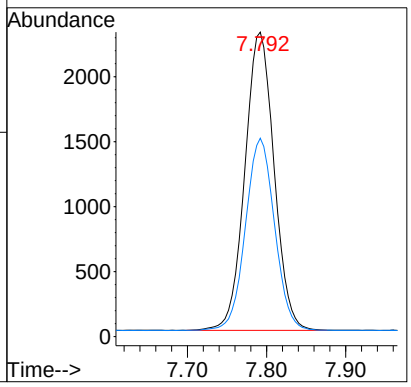


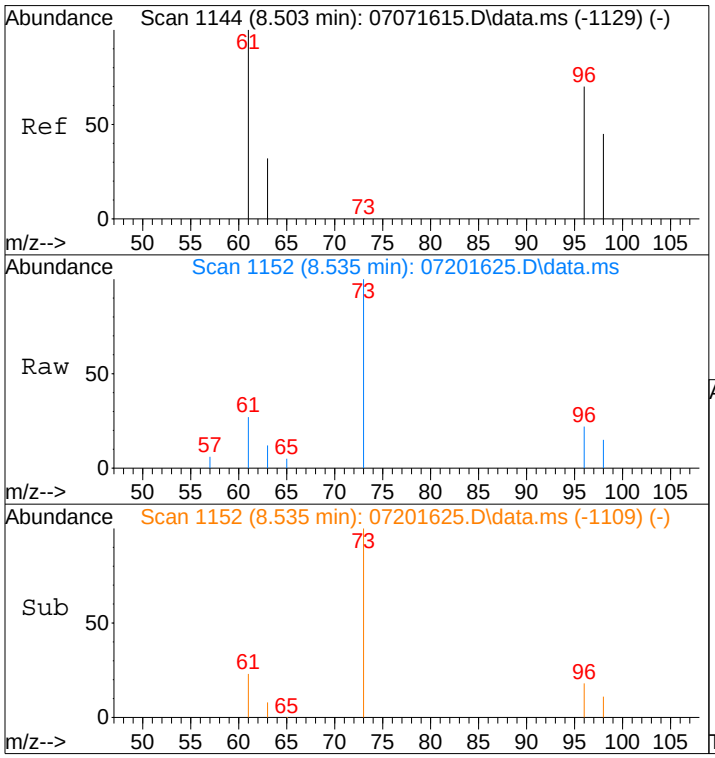


#14
Trichlorotrifluoroethane
Concen: 335.60 pg
RT: 7.79 min Scan# 975
Delta R.T. -0.000 min
Lab File: 07201625.D
Acq: 20 Jul 2016 23:24

Tgt Ion:151 Resp: 5908

Ion	Ratio	Lower	Upper
151	100		
153	64.1	44.0	84.0

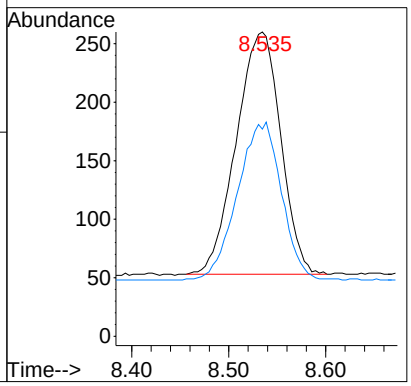


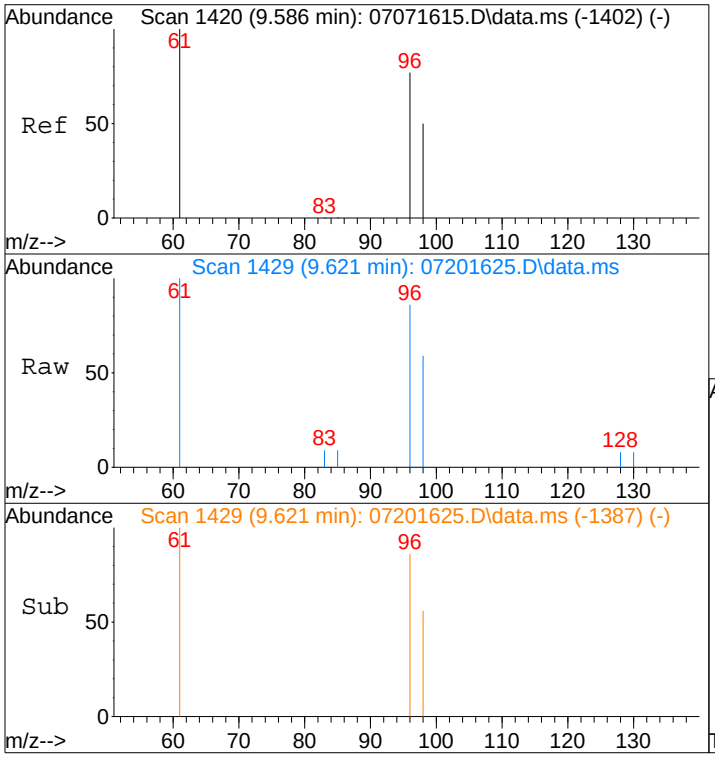


#15
trans-1,2-Dichloroethene
Concen: 30.87 pg
RT: 8.53 min Scan# 1152
Delta R.T. 0.020 min
Lab File: 07201625.D
Acq: 20 Jul 2016 23:24

Tgt Ion: 96 Resp: 659

Ion	Ratio	Lower	Upper
96	100		
98	63.0	42.3	82.3

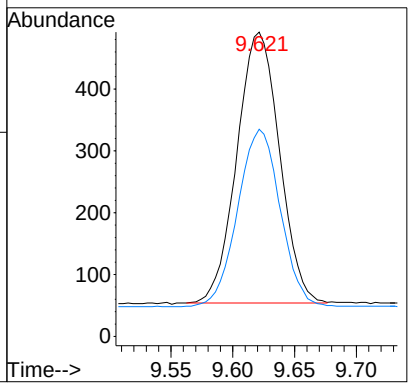


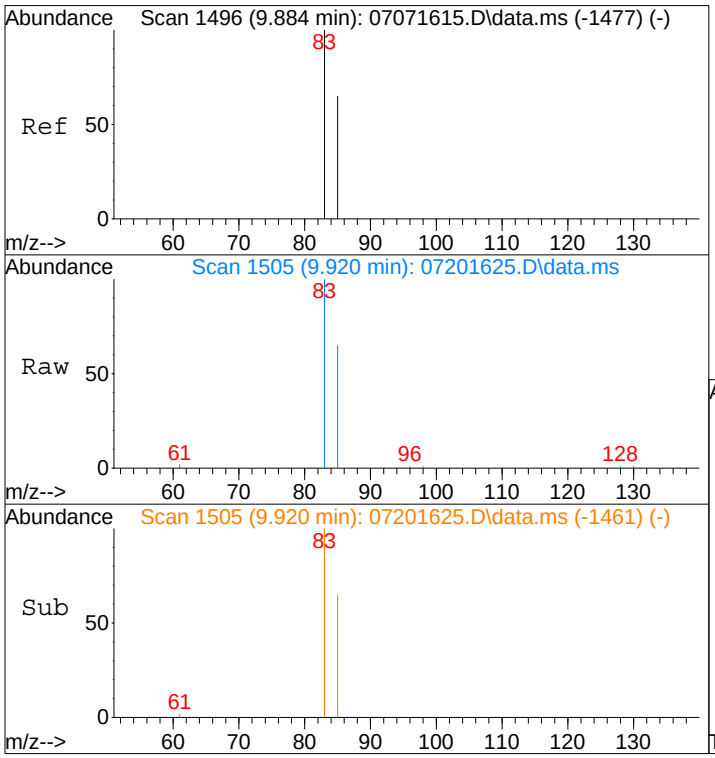


#18
cis-1,2-Dichloroethene
Concen: 48.11 pg
RT: 9.62 min Scan# 1429
Delta R.T. 0.016 min
Lab File: 07201625.D
Acq: 20 Jul 2016 23:24

Tgt Ion: 96 Resp: 1051

Ion	Ratio	Lower	Upper
96	100		
98	65.6	44.5	84.5

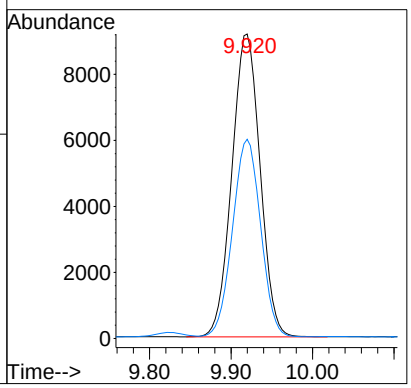


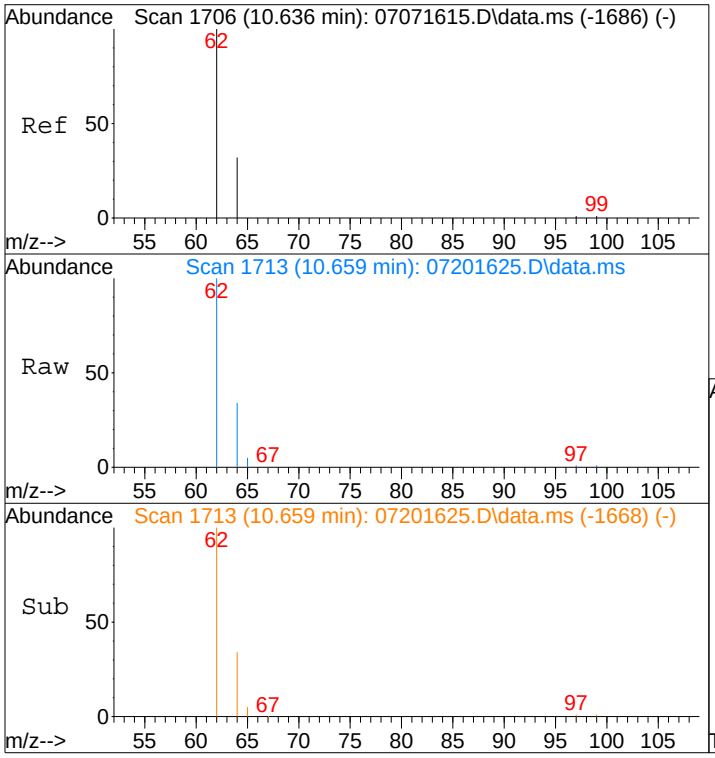


#19
Chloroform
Concen: 638.47 pg
RT: 9.92 min Scan# 1505
Delta R.T. 0.004 min
Lab File: 07201625.D
Acq: 20 Jul 2016 23:24

Tgt Ion: 83 Resp: 22098

Ion	Ratio	Lower	Upper
83	100		
85	64.8	45.1	85.1

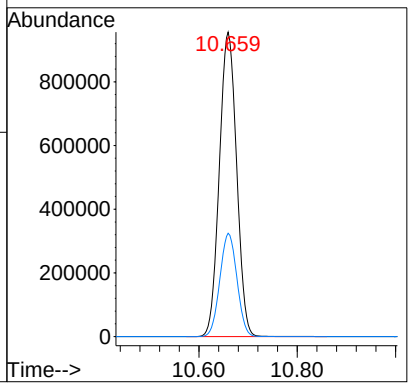


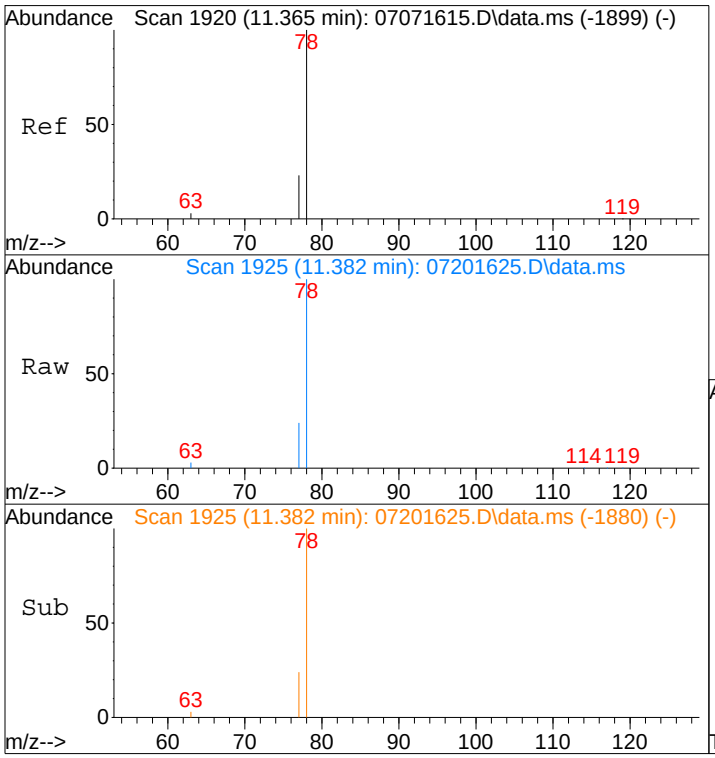


#21
1,2-Dichloroethane
Concen: 90077.19 pg
RT: 10.66 min Scan# 1713
Delta R.T. 0.003 min
Lab File: 07201625.D
Acq: 20 Jul 2016 23:24

Tgt Ion: 62 Resp: 2328862

Ion	Ratio	Lower	Upper
62	100		
64	33.6	12.1	52.1

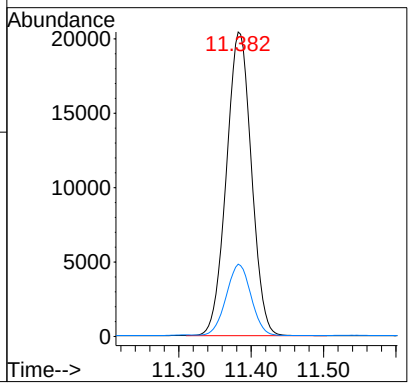


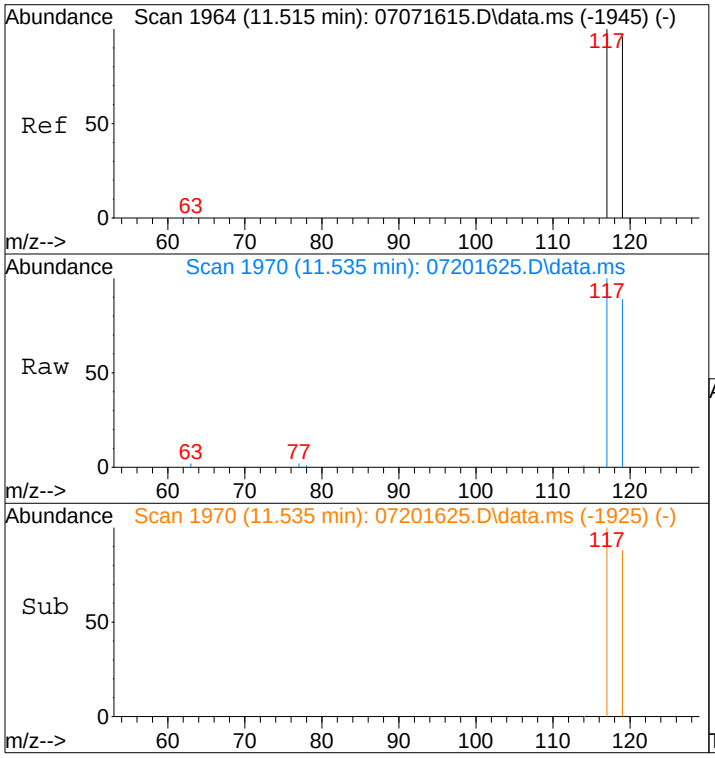


#23
Benzene
Concen: 605.52 pg
RT: 11.38 min Scan# 1925
Delta R.T. 0.003 min
Lab File: 07201625.D
Acq: 20 Jul 2016 23:24

Tgt Ion: 78 Resp: 48972

Ion	Ratio	Lower	Upper
78	100		
77	23.3	3.3	43.3

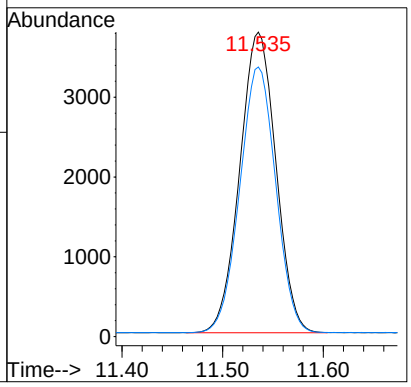


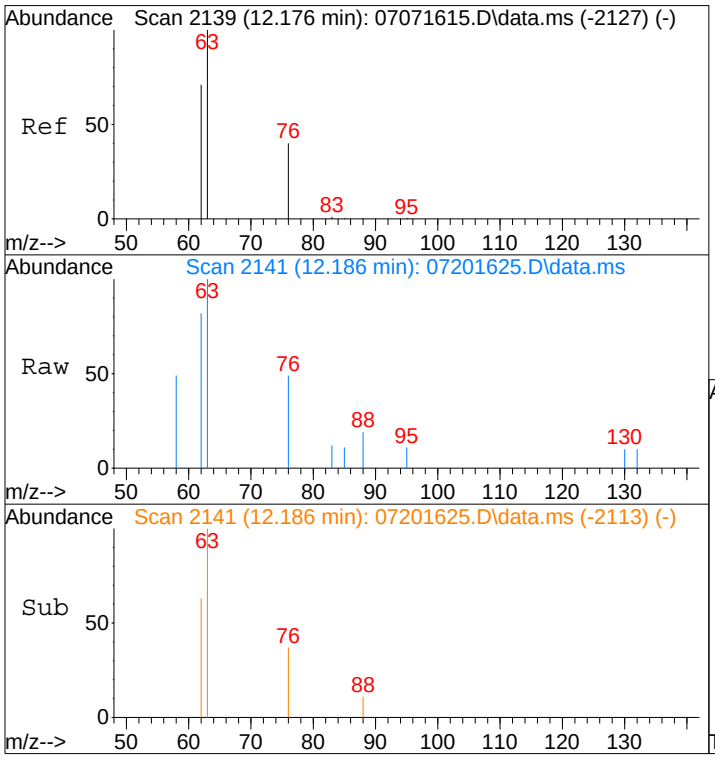


#24
Carbon Tetrachloride
Concen: 375.04 pg
RT: 11.54 min Scan# 1970
Delta R.T. 0.003 min
Lab File: 07201625.D
Acq: 20 Jul 2016 23:24

Tgt Ion:117 Resp: 9412

Ion	Ratio	Lower	Upper
117	100		
119	87.8	75.6	115.6

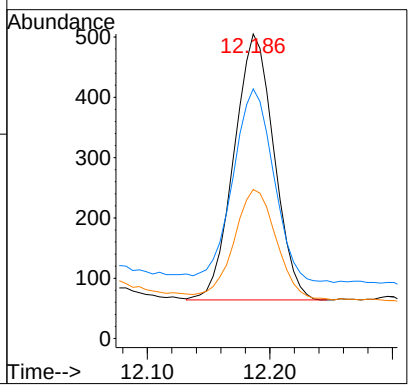


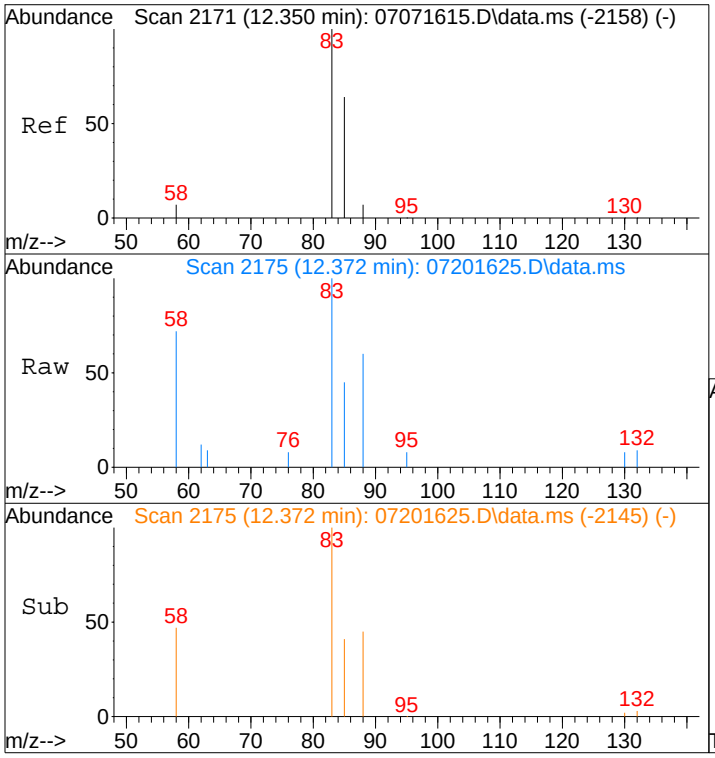


#26
1,2-Dichloropropane
Concen: 48.00 pg
RT: 12.19 min Scan# 2141
Delta R.T. 0.000 min
Lab File: 07201625.D
Acq: 20 Jul 2016 23:24

Tgt Ion: 63 Resp: 1000

Ion	Ratio	Lower	Upper
63	100		
62	73.3	51.6	91.6
76	44.5	19.3	59.3

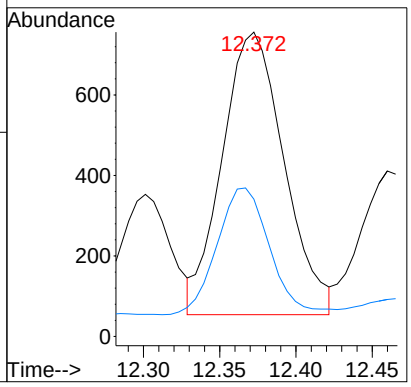


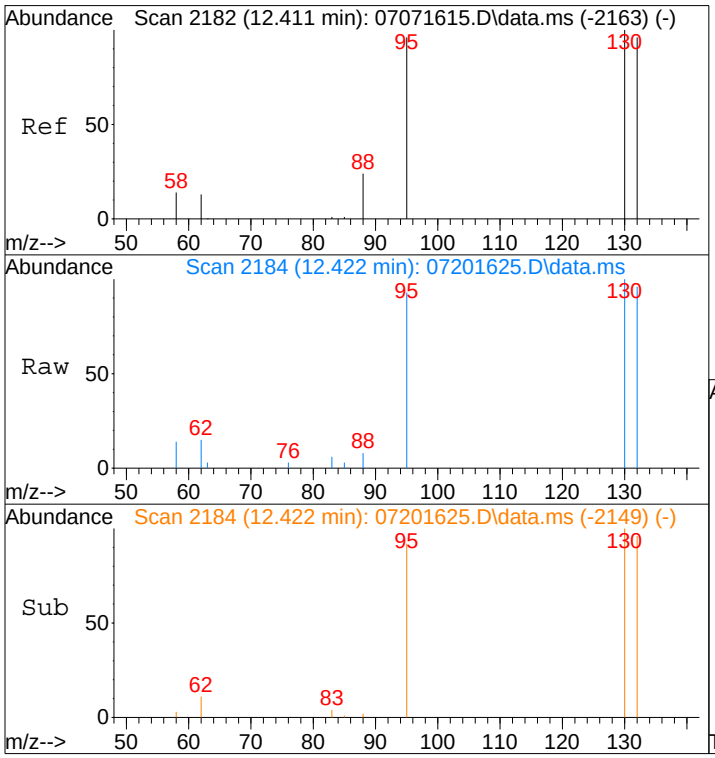


#27
Bromodichloromethane
Concen: 77.36 pg m
RT: 12.37 min Scan# 2175
Delta R.T. 0.011 min
Lab File: 07201625.D
Acq: 20 Jul 2016 23:24

Tgt Ion: 83 Resp: 1984

Ion	Ratio	Lower	Upper
83	100		
85	38.3	51.2	76.8#

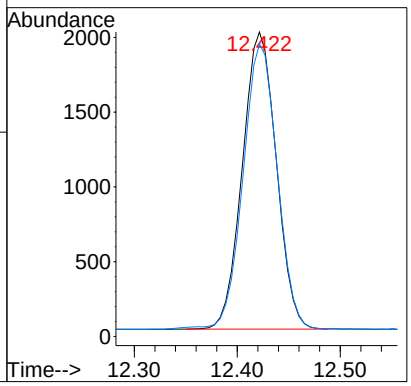


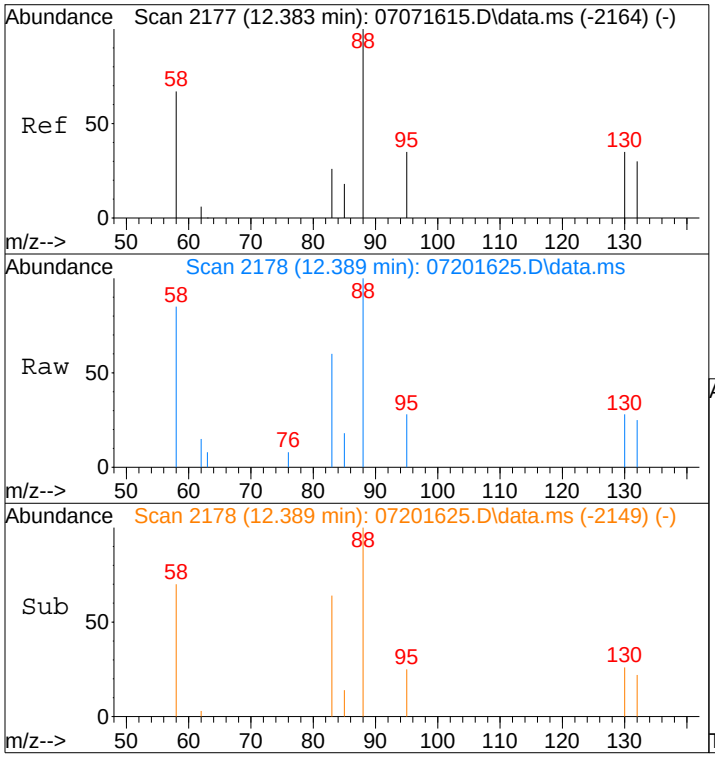


#28
Trichloroethene
Concen: 210.65 pg
RT: 12.42 min Scan# 2184
Delta R.T. 0.001 min
Lab File: 07201625.D
Acq: 20 Jul 2016 23:24

Tgt Ion:130 Resp: 4551

Ion	Ratio	Lower	Upper
130	100		
132	96.6	75.8	115.8

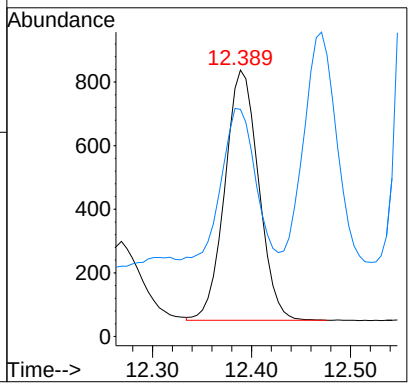


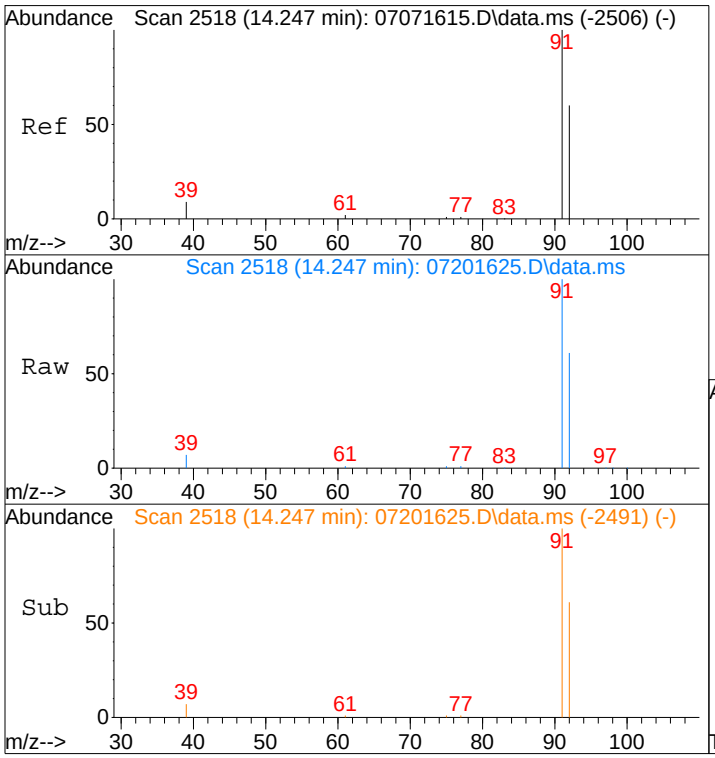


#29
1,4-Dioxane
Concen: 114.48 pg
RT: 12.39 min Scan# 2178
Delta R.T. 0.011 min
Lab File: 07201625.D
Acq: 20 Jul 2016 23:24

Tgt Ion: 88 Resp: 1862

Ion	Ratio	Lower	Upper
88	100		
58	67.0	47.5	87.5

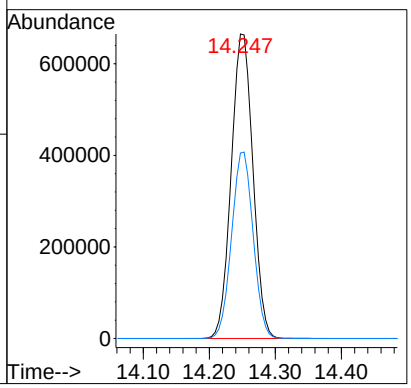


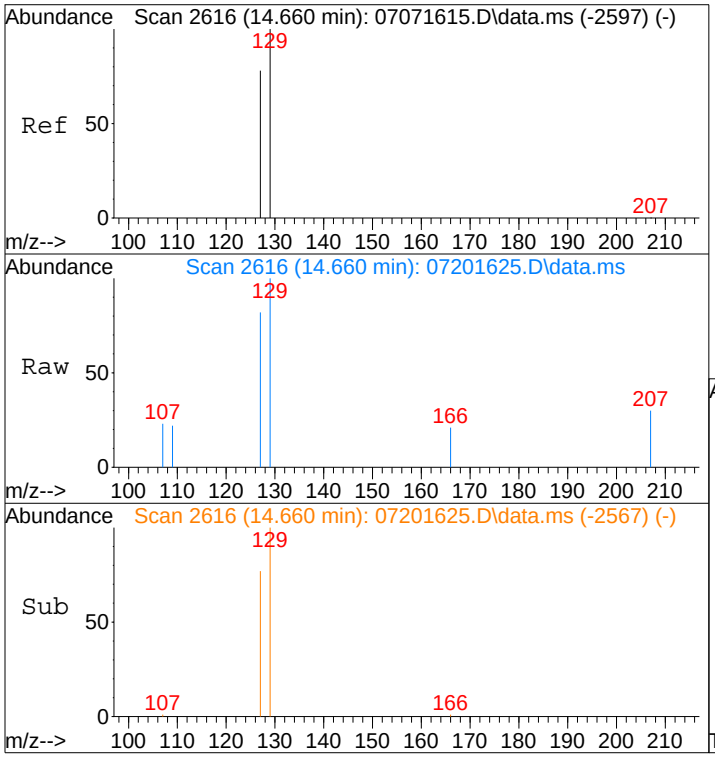


#34
Toluene
Concen: 18571.57 pg
RT: 14.25 min Scan# 2518
Delta R.T. -0.005 min
Lab File: 07201625.D
Acq: 20 Jul 2016 23:24

Tgt Ion: 91 Resp: 1518928

Ion	Ratio	Lower	Upper
91	100		
92	60.7	39.4	79.4

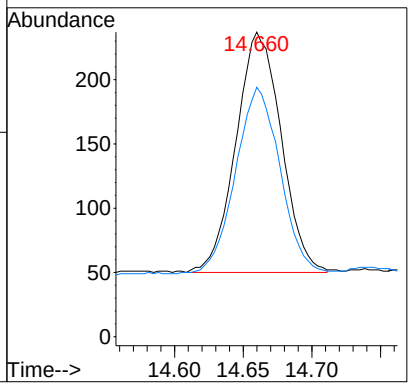


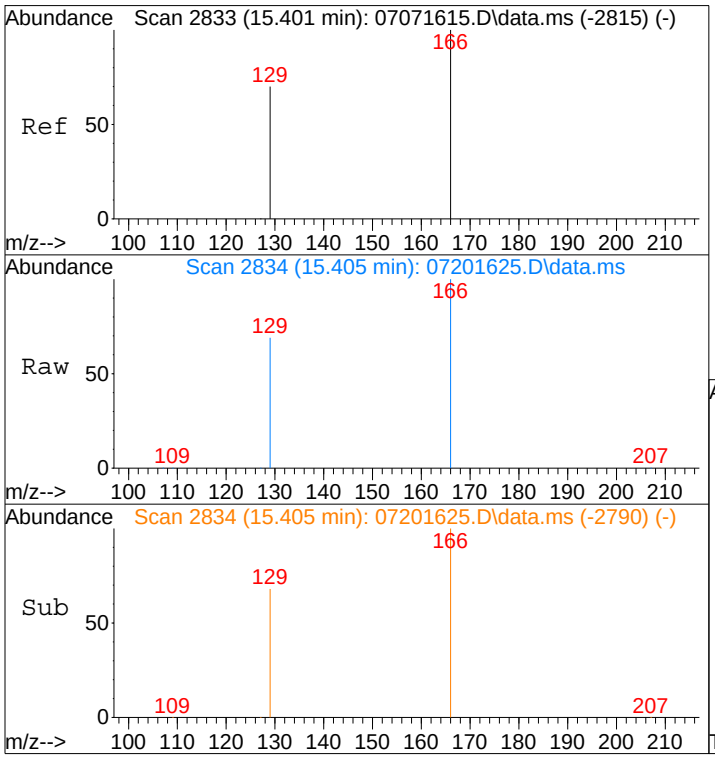


#35
Dibromochloromethane
Concen: 22.36 pg
RT: 14.66 min Scan# 2616
Delta R.T. -0.003 min
Lab File: 07201625.D
Acq: 20 Jul 2016 23:24

Tgt Ion:129 Resp: 429

Ion	Ratio	Lower	Upper
129	100		
127	75.1	62.0	93.0

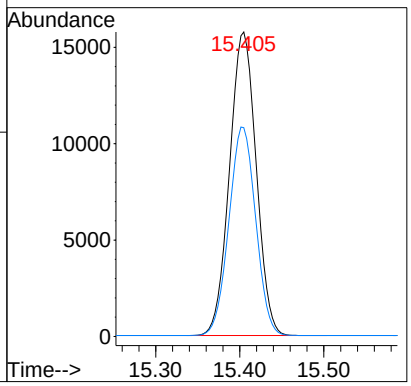


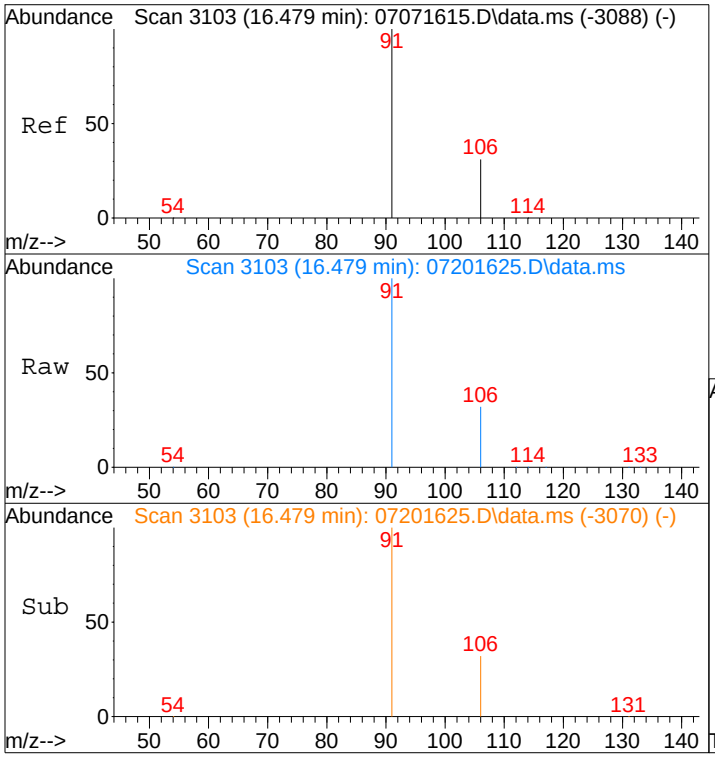


#37
Tetrachloroethene
Concen: 1473.64 pg
RT: 15.40 min Scan# 2834
Delta R.T. -0.000 min
Lab File: 07201625.D
Acq: 20 Jul 2016 23:24

Tgt Ion:166 Resp: 34708

Ion	Ratio	Lower	Upper
166	100		
129	68.9	50.0	90.0

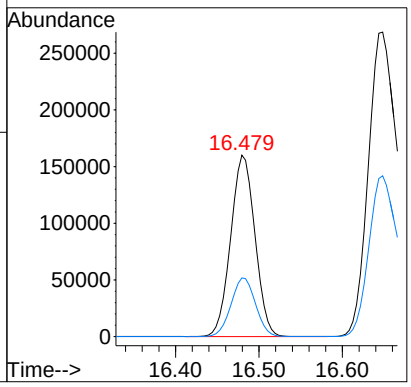


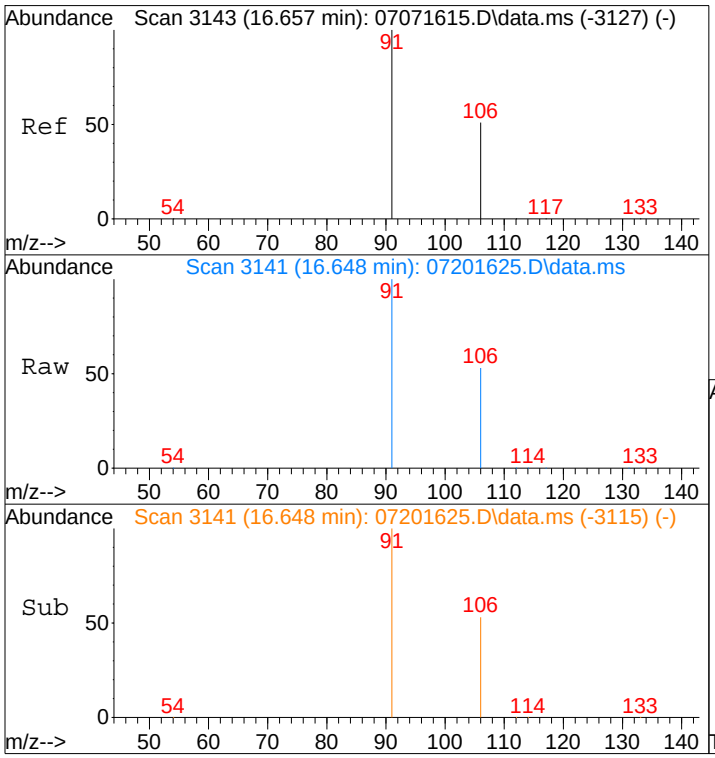


#40
Ethylbenzene
Concen: 4291.03 pg
RT: 16.48 min Scan# 3103
Delta R.T. -0.005 min
Lab File: 07201625.D
Acq: 20 Jul 2016 23:24

Tgt Ion: 91 Resp: 323519

Ion	Ratio	Lower	Upper
91	100		
106	32.5	11.6	51.6

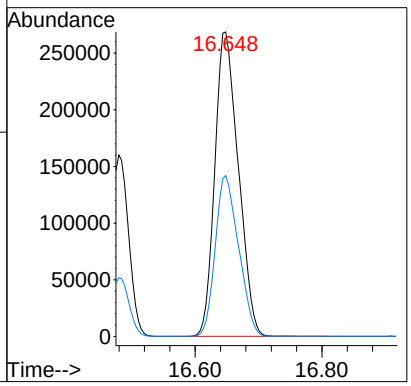


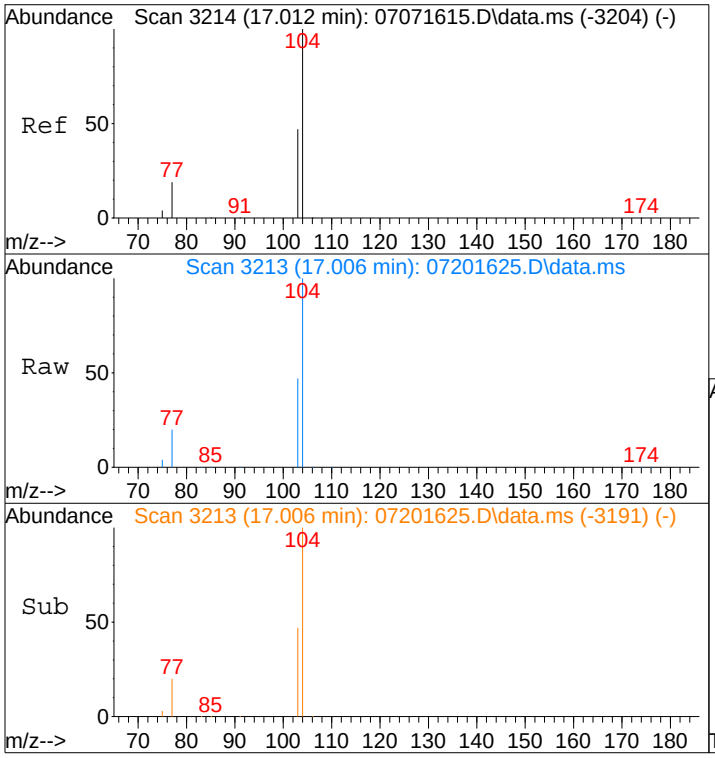


#41
m,p-Xylene
Concen: 11991.41 pg
RT: 16.65 min Scan# 3141
Delta R.T. -0.013 min
Lab File: 07201625.D
Acq: 20 Jul 2016 23:24

Tgt Ion: 91 Resp: 690767

Ion	Ratio	Lower	Upper
91	100		
106	52.5	30.7	70.7

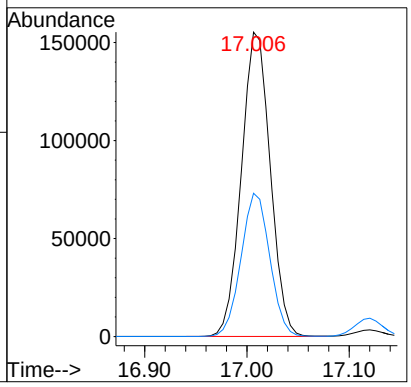


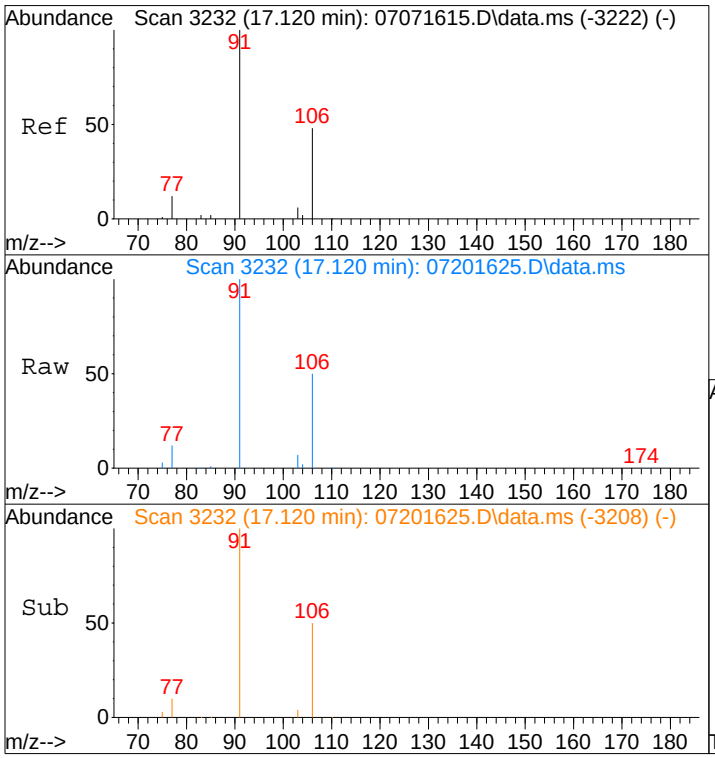


#42
Styrene
Concen: 7202.43 pg
RT: 17.01 min Scan# 3213
Delta R.T. -0.006 min
Lab File: 07201625.D
Acq: 20 Jul 2016 23:24

Tgt Ion:104 Resp: 304112

Ion	Ratio	Lower	Upper
104	100		
103	46.9	37.8	56.6

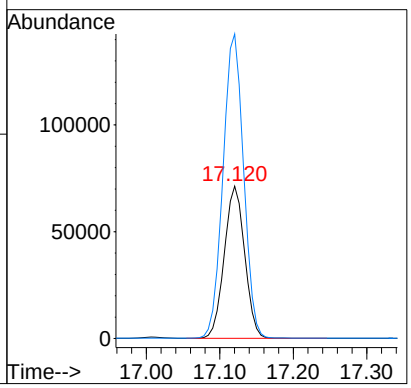


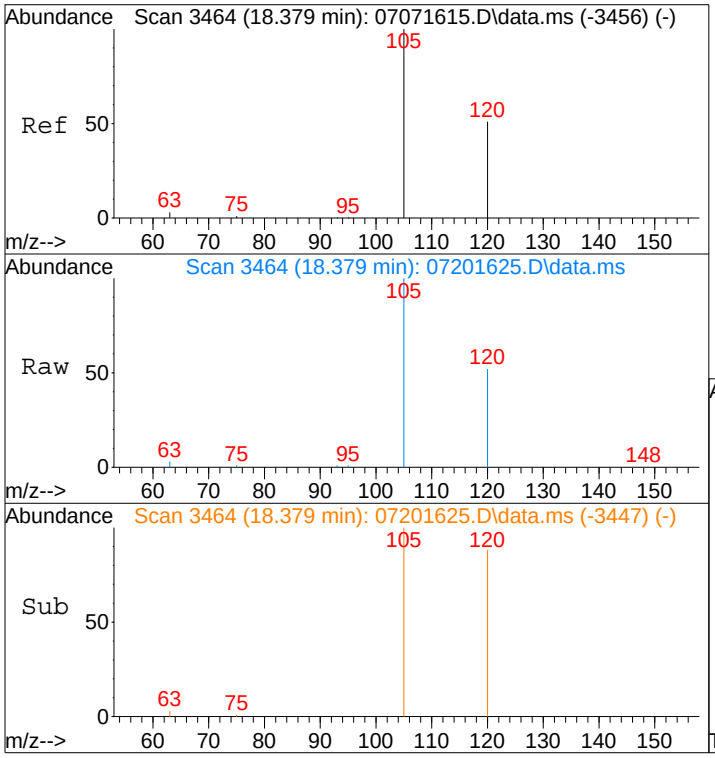


#43
o-Xylene
Concen: 4686.84 pg
RT: 17.12 min Scan# 3232
Delta R.T. -0.006 min
Lab File: 07201625.D
Acq: 20 Jul 2016 23:24

Tgt Ion:106 Resp: 137238

Ion	Ratio	Lower	Upper
106	100		
91	202.0	189.7	229.7

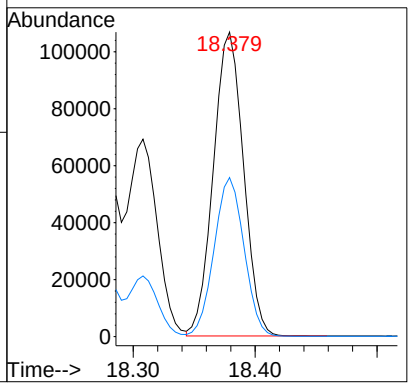


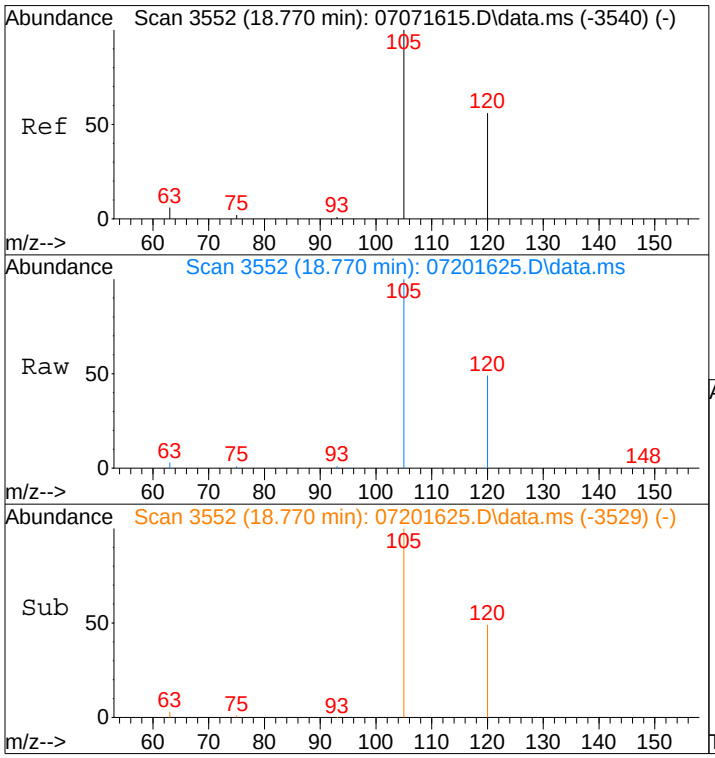


#46
1,3,5-Trimethylbenzene
Concen: 3087.86 pg
RT: 18.38 min Scan# 3464
Delta R.T. -0.004 min
Lab File: 07201625.D
Acq: 20 Jul 2016 23:24

Tgt Ion:105 Resp: 183335

Ion	Ratio	Lower	Upper
105	100		
120	51.9	40.4	60.6

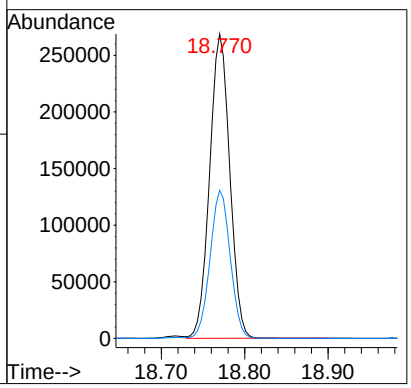


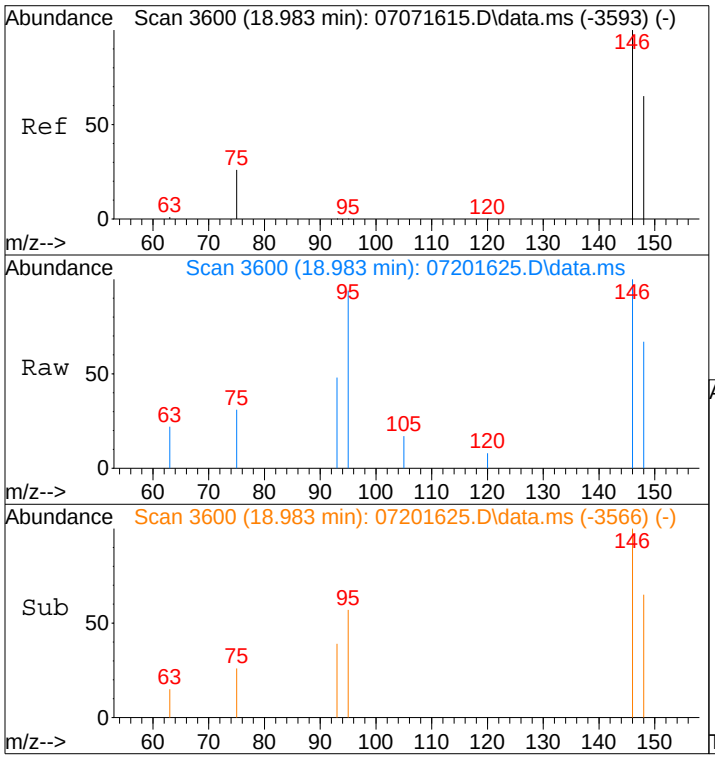


#47
1,2,4-Trimethylbenzene
Concen: 7615.47 pg
RT: 18.77 min Scan# 3552
Delta R.T. -0.009 min
Lab File: 07201625.D
Acq: 20 Jul 2016 23:24

Tgt Ion:105 Resp: 451531

Ion	Ratio	Lower	Upper
105	100		
120	48.6	44.8	67.2

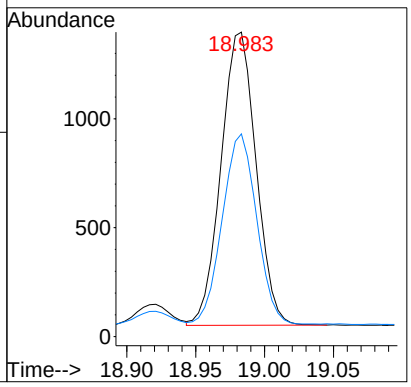


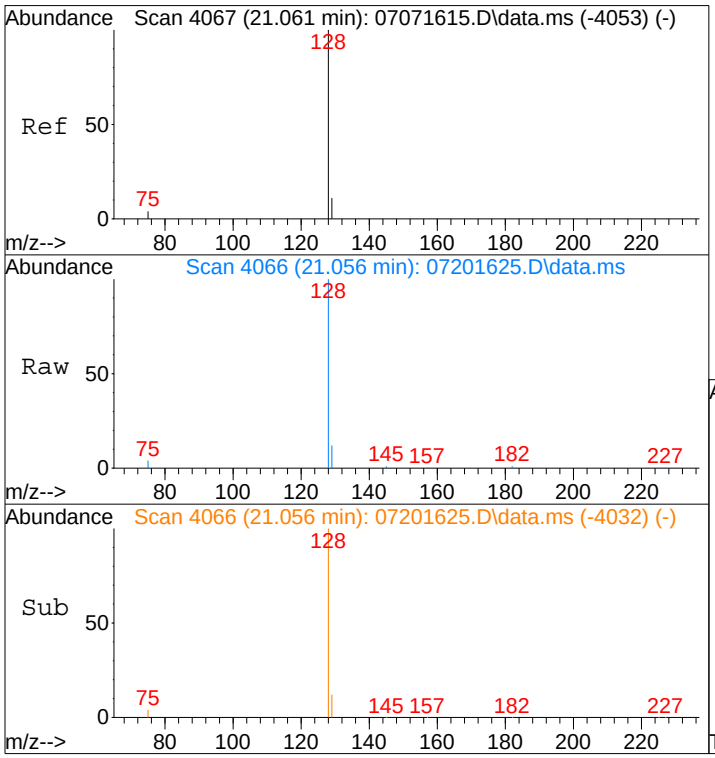


#49
1,4-Dichlorobenzene
Concen: 67.38 pg
RT: 18.98 min Scan# 3600
Delta R.T. 0.000 min
Lab File: 07201625.D
Acq: 20 Jul 2016 23:24

Tgt Ion:146 Resp: 2380

Ion	Ratio	Lower	Upper
146	100		
148	63.9	44.1	84.1

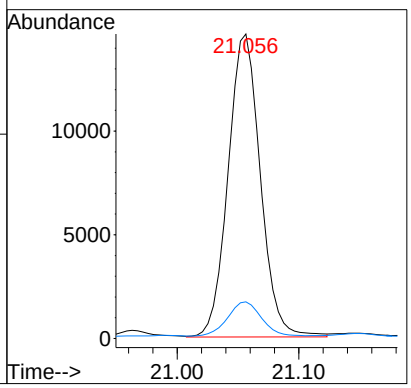




#53
Naphthalene
Concen: 364.87 pg
RT: 21.06 min Scan# 4066
Delta R.T. 0.000 min
Lab File: 07201625.D
Acq: 20 Jul 2016 23:24

Tgt Ion:128 Resp: 26926

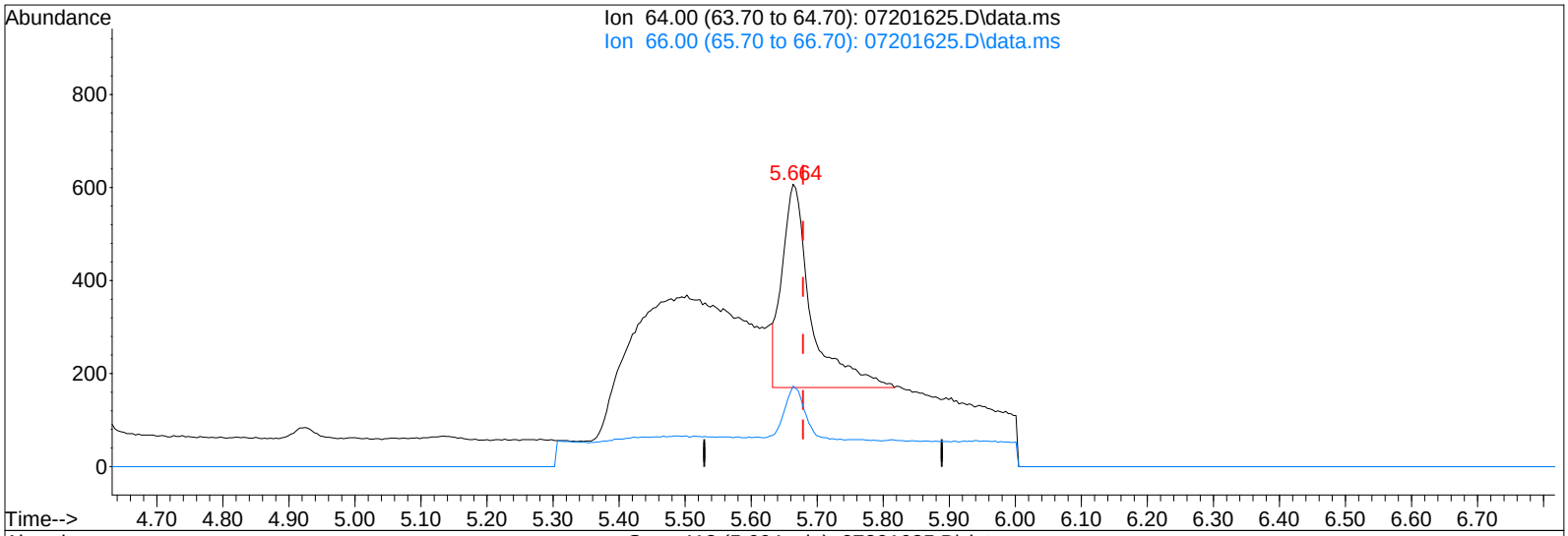
Ion	Ratio	Lower	Upper
128	100		
129	11.9	0.0	30.7

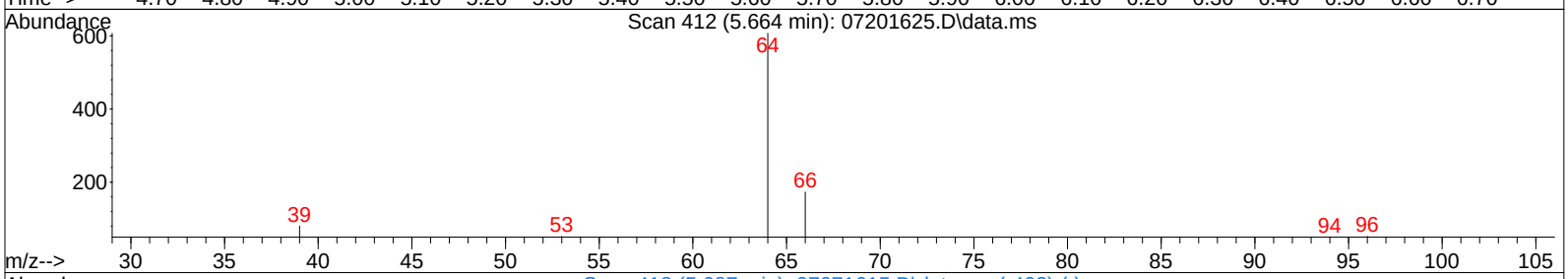


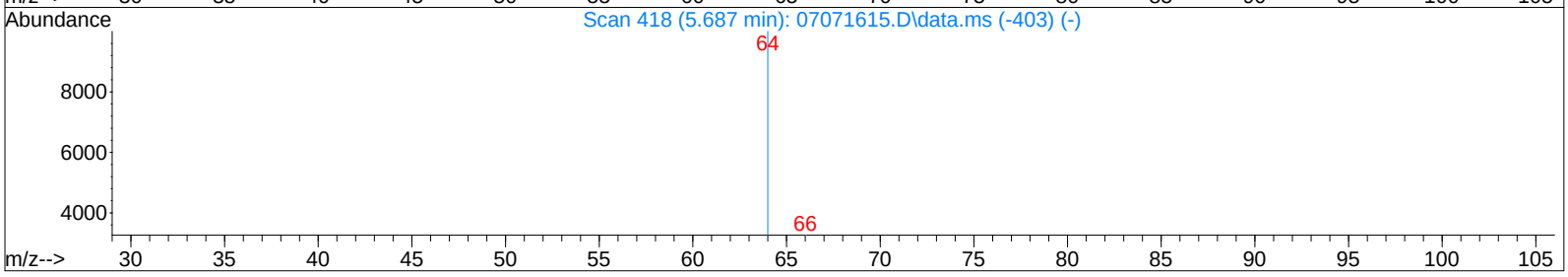
Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 07\20\07201625.D Vial: 14
Acq On : 20 Jul 2016 23:24 Operator: CL
Sample : P1603571-011 (1000mL) Inst : MS19
Misc : S29-06141602

Quant Time: Jul 21 08:46:57 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 07201625.D\data.ms

(8) Chloroethane (T)

5.664min (-0.015) 87.35pg

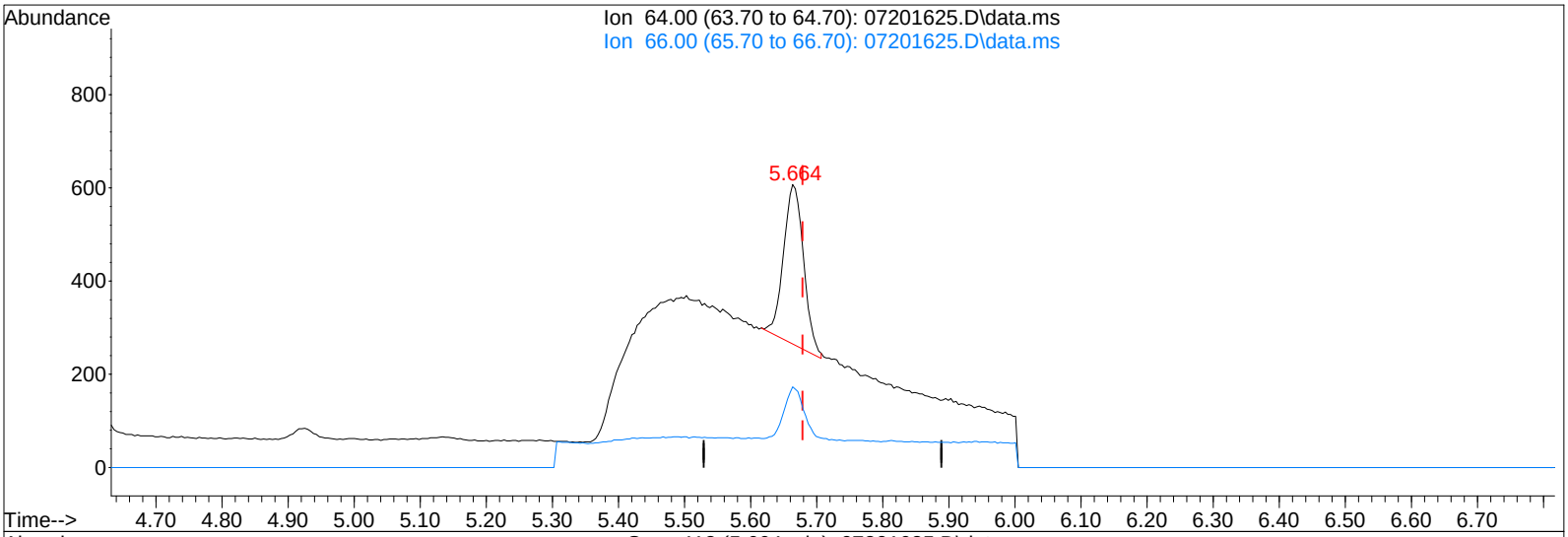
response 1341

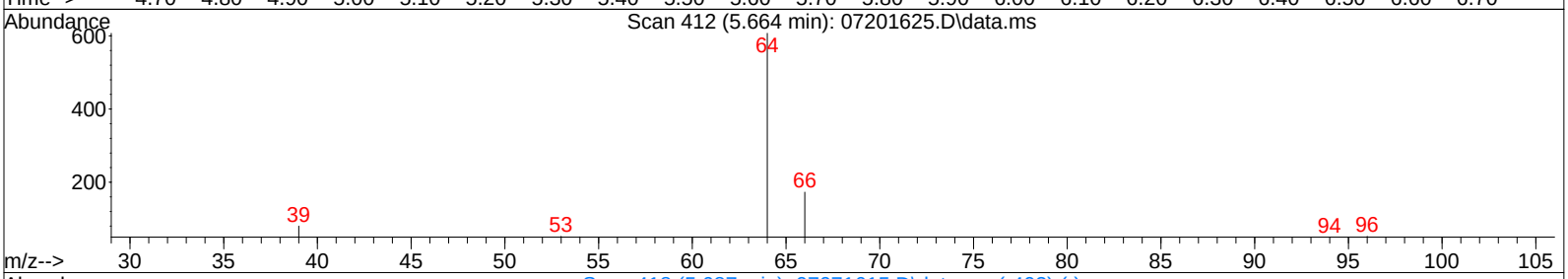
Ion	Exp%	Act%
64.00	100	100
66.00	32.20	18.05
0.00	0.00	0.00
0.00	0.00	0.00

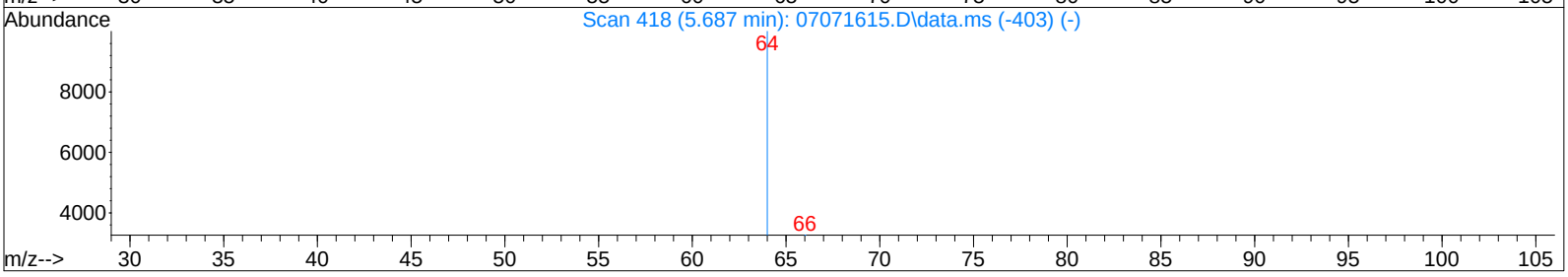
Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 07\20\07201625.D Vial: 14
Acq On : 20 Jul 2016 23:24 Operator: CL
Sample : P1603571-011 (1000mL) Inst : MS19
Misc : S29-06141602

Quant Time: Jul 21 08:46:57 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 07201625.D\data.ms

(8) Chloroethane (T)

5.664min (-0.015) 46.64pg m

response 716

Ion	Exp%	Act%
64.00	100	100
66.00	32.20	33.80
0.00	0.00	0.00
0.00	0.00	0.00

BLC

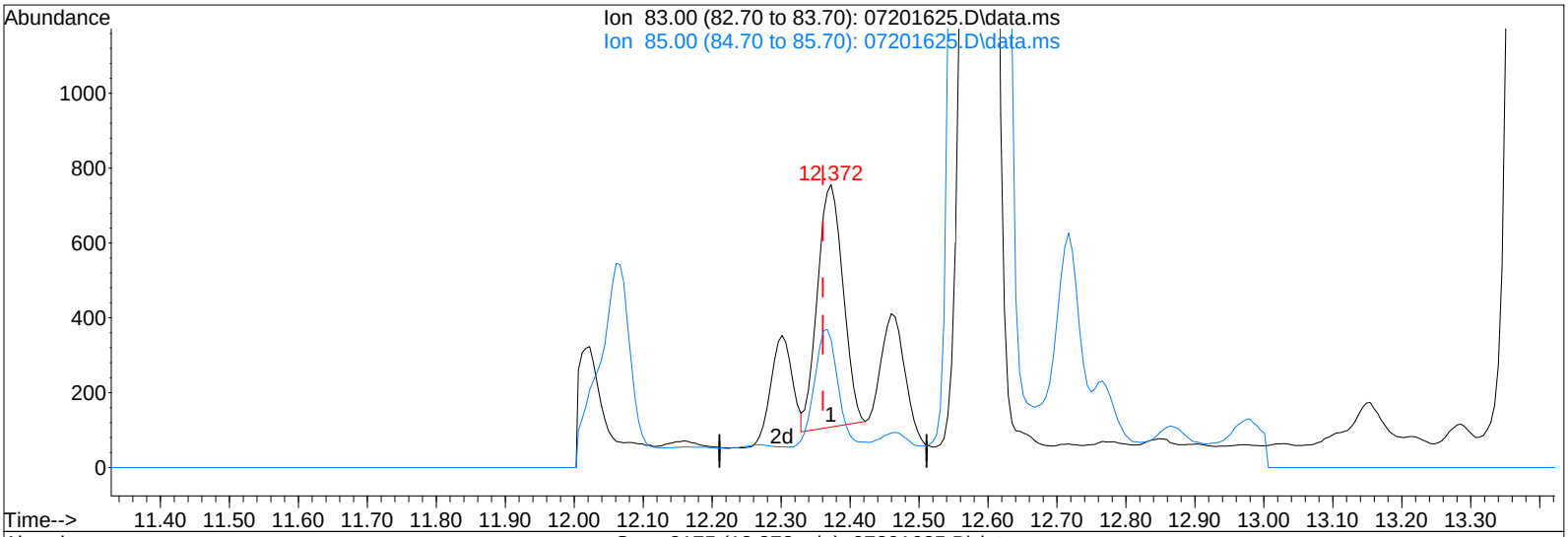
CL 7/22/16

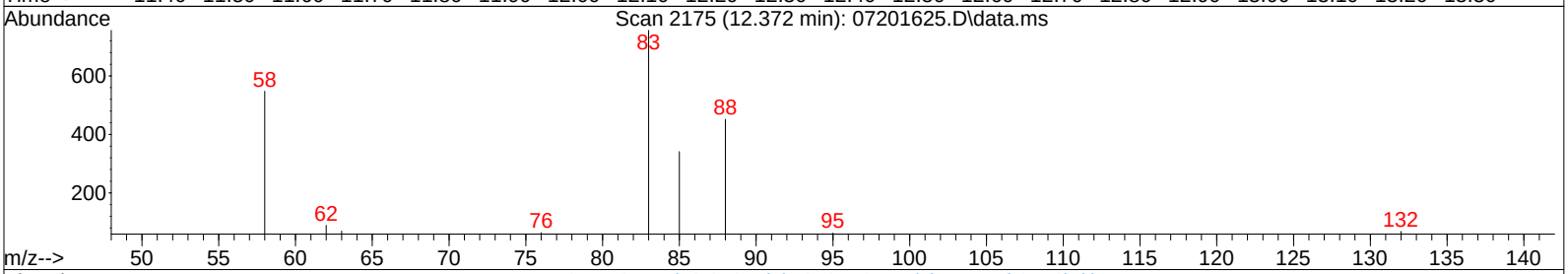
WA 7/28/16

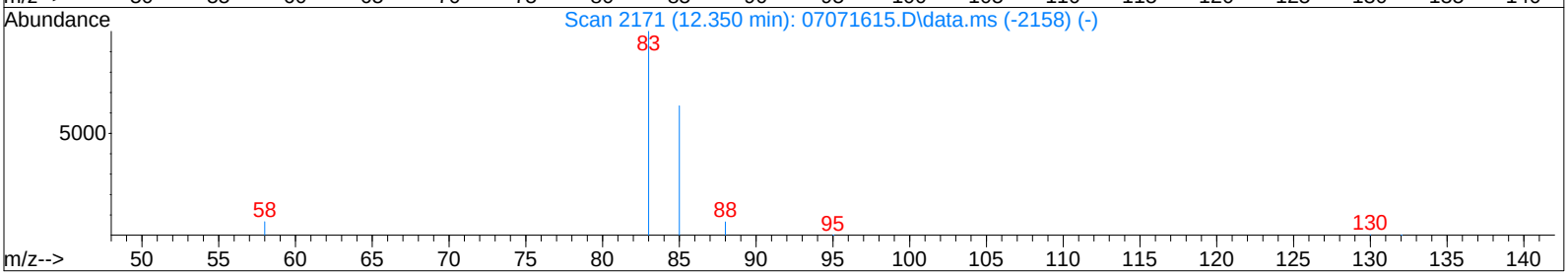
Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 07\20\07201625.D Vial: 14
Acq On : 20 Jul 2016 23:24 Operator: CL
Sample : P1603571-011 (1000mL) Inst : MS19
Misc : S29-06141602

Quant Time: Jul 21 08:46:57 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 07201625.D\data.ms

(27) Bromodichloromethane (T)

12.372min (+0.011) 65.43pg

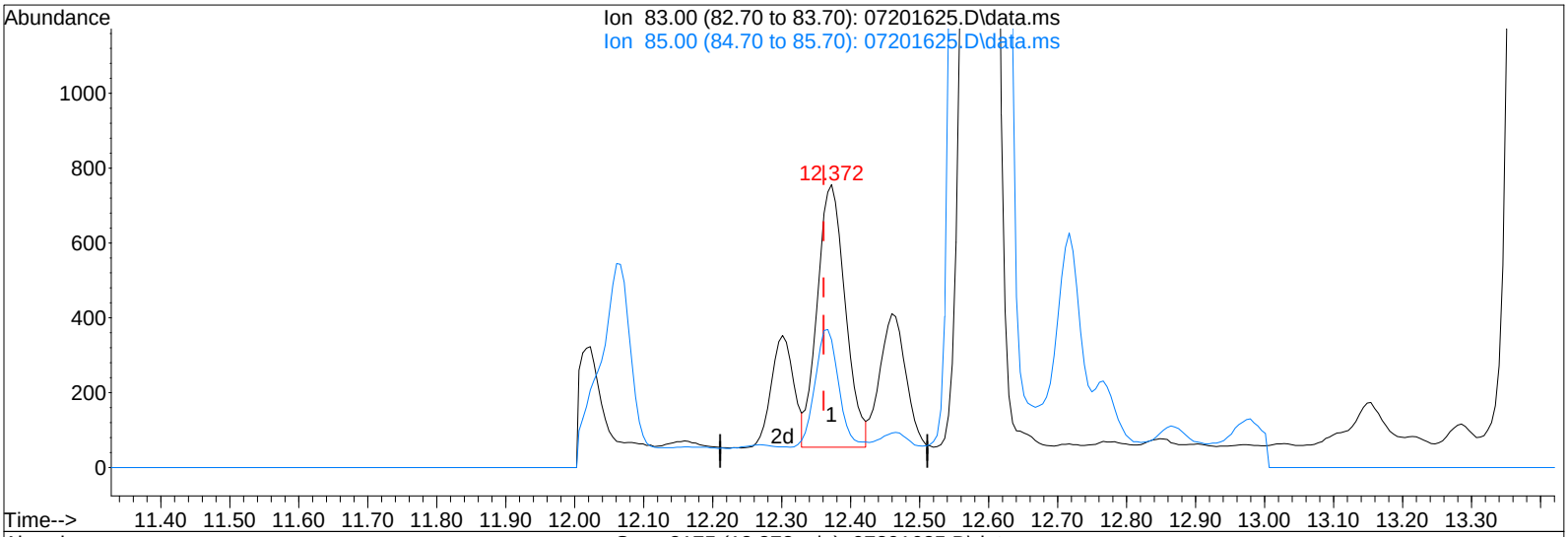
response 1678

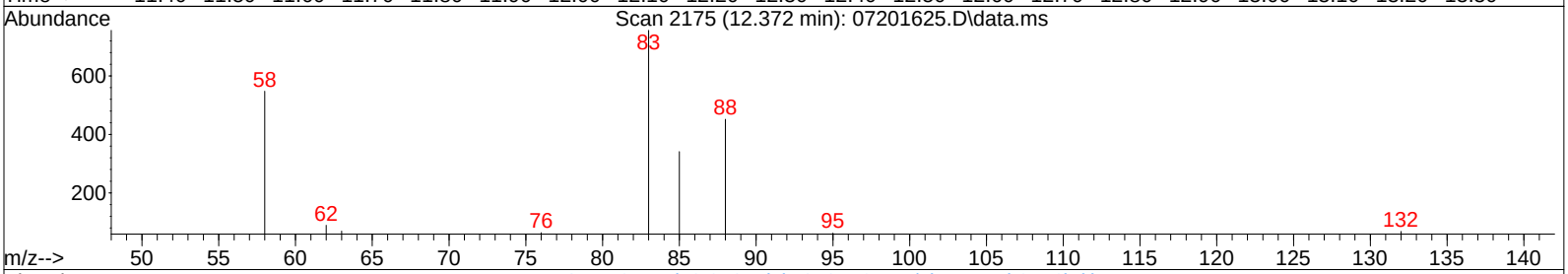
Ion	Exp%	Act%
83.00	100	100
85.00	64.00	45.23#
0.00	0.00	0.00
0.00	0.00	0.00

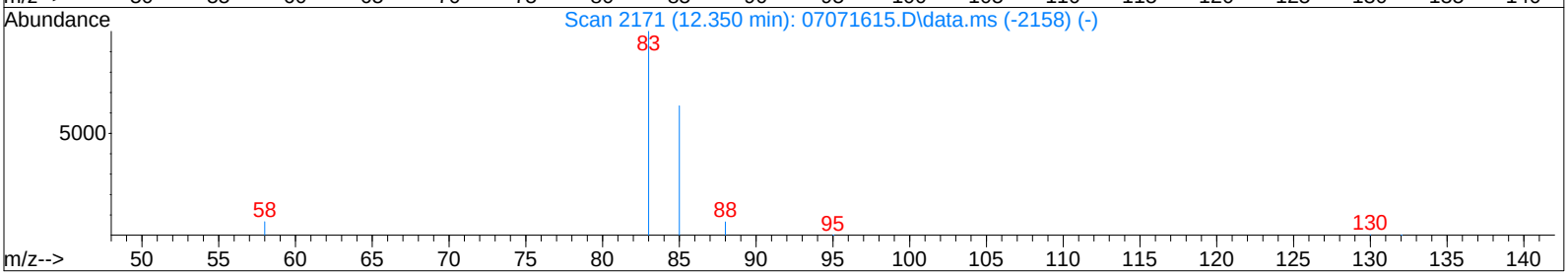
Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 07\20\07201625.D Vial: 14
Acq On : 20 Jul 2016 23:24 Operator: CL
Sample : P1603571-011 (1000mL) Inst : MS19
Misc : S29-06141602

Quant Time: Jul 22 14:10:59 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 07201625.D\data.ms

(27) Bromodichloromethane (T)

12.372min (+0.011) 77.36pg m

response 1984

BLC

CL 7/22/16 WA 7/28/16

Ion	Exp%	Act%
83.00	100	100
85.00	64.00	38.26#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\21\07211608.D Vial: 14
Acq On : 21 Jul 2016 13:29 Operator: CL
Sample : P1603571-011dil (100mL) Inst : MS19
Misc : S29-06141602

Quant Time: Jul 22 11:58:03 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 7/22/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.76	130	17659	1000.000 pg	-0.01
25) 1,4-Difluorobenzene (IS2)	11.71	114	85527	1000.000 pg	-0.01
38) Chlorobenzene-d5 (IS3)	16.05	54	12184	1000.000 pg	0.00

System Monitoring Compounds

20) 1,2-Dichloroethane-d4 ...	10.54	65	23912	870.941 pg	-0.01
Spiked Amount 1000.000	Range 70 - 130		Recovery = 87.09%		
33) Toluene-d8 (SS2)	14.14	98	88461	986.731 pg	-0.01
Spiked Amount 1000.000	Range 70 - 130		Recovery = 98.67%		
45) Bromofluorobenzene (SS3)	17.55	174	35506	1199.564 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 119.96%		

Target Compounds

					Qvalue
2) Dichlorodifluoromethan...	4.41	85	7653	177.760 pg	100
3) Chloromethane	4.63	52	912	82.637 pg	99
4) 1,2-Dichloro,1,1,2,2-t...	4.81	85	220	N.D.	
5) Vinyl Chloride	0.00	62	0	N.D.	
6) 1,3-Butadiene	5.07	54	85	N.D.	
7) Bromomethane	5.47	94	69	N.D.	
8) Chloroethane	5.69	64	85	N.D.	
9) Acrolein	6.26	56	2111	204.593 pg	87
10) Acetone	6.40	58	2791808	206923.208 pg #	78
11) Trichlorofluoromethane	6.61	101	2396	81.272 pg	100
12) 1,1-Dichloroethene	0.00	96	0	N.D.	
13) Methylene Chloride	7.49	84	9250	466.898 pg	92
14) Trichlorotrifluoroethane	7.80	151	584	34.181 pg	100
15) trans-1,2-Dichloroethene	8.51	96	61	N.D.	
16) 1,1-Dichloroethane	0.00	63	0	N.D.	
17) Methyl tert-Butyl Ether	8.79	73	72	N.D.	
18) cis-1,2-Dichloroethene	9.60	96	110	N.D.	
19) Chloroform	9.90	83	2925	87.076 pg	98
21) 1,2-Dichloroethane	10.64	62	270841	10793.727 pg	99
22) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
23) Benzene	11.37	78	5655	72.045 pg	100
24) Carbon Tetrachloride	11.53	117	896	36.786 pg	98
26) 1,2-Dichloropropane	12.18	63	108	N.D.	
27) Bromodichloromethane	12.36	83	156	N.D.	
28) Trichloroethene	12.42	130	453	21.502 pg	98
29) 1,4-Dioxane	12.39	88	200	N.D.	
30) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
31) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
32) 1,1,2-Trichloroethane	0.00	83	0	N.D.	
34) Toluene	14.25	91	161893	2029.834 pg	100
35) Dibromochloromethane	0.00	129	0	N.D.	
36) 1,2-Dibromoethane	0.00	107	0	N.D.	
37) Tetrachloroethene	15.40	166	3444	149.950 pg	99
39) Chlorobenzene	16.13	112	329	N.D.	
40) Ethylbenzene	16.48	91	31579	438.138 pg	99
41) m,p-Xylene	16.65	91	70403	1278.438 pg	98
42) Styrene	17.01	104	27949	692.408 pg	100
43) o-Xylene	17.12	106	13810	493.343 pg	97
44) 1,1,2,2-Tetrachloroethane	17.10	83	90	N.D.	
46) 1,3,5-Trimethylbenzene	18.38	105	18149	319.753 pg	99
47) 1,2,4-Trimethylbenzene	18.77	105	45573	804.020 pg	89
48) 1,3-Dichlorobenzene	18.98	146	228	N.D.	
49) 1,4-Dichlorobenzene	18.98	146	228	N.D.	
50) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
51) 1,2-Dibromo-3-chloropr...	0.00	157	0	N.D.	
52) 1,2,4-Trichlorobenzene	0.00	182	0	N.D.	
53) Naphthalene	21.07	128	2306	32.687 pg	99

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\21\07211608.D Vial: 14
Acq On : 21 Jul 2016 13:29 Operator: CL
Sample : P1603571-011dil (100mL) Inst : MS19
Misc : S29-06141602

Quant Time: Jul 22 11:58:03 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

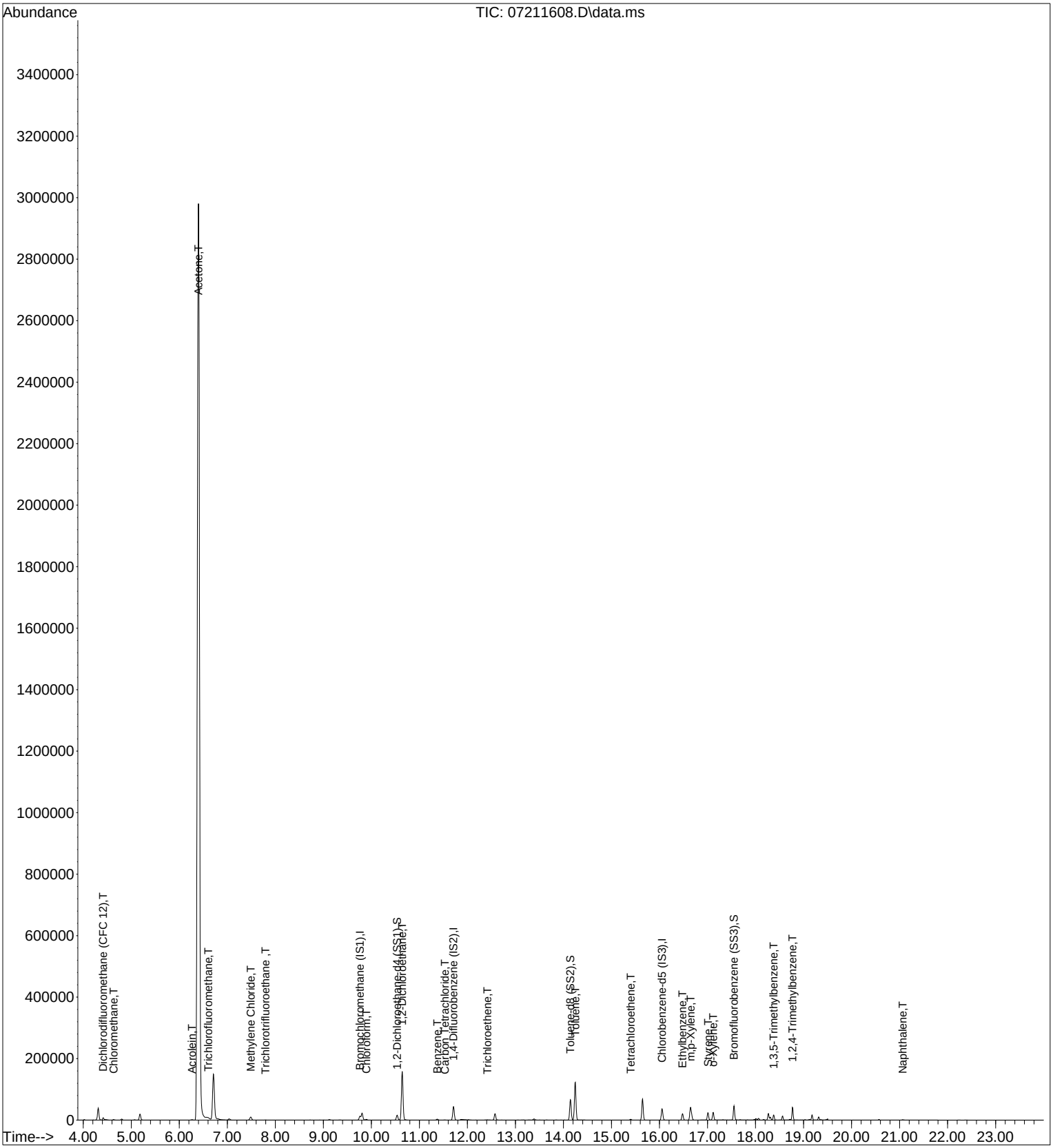
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
54) Hexachlorobutadiene	0.00	225	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\21\07211608.D Vial: 14
Acq On : 21 Jul 2016 13:29 Operator: CL
Sample : P1603571-011dil (100mL) Inst : MS19
Misc : S29-06141602

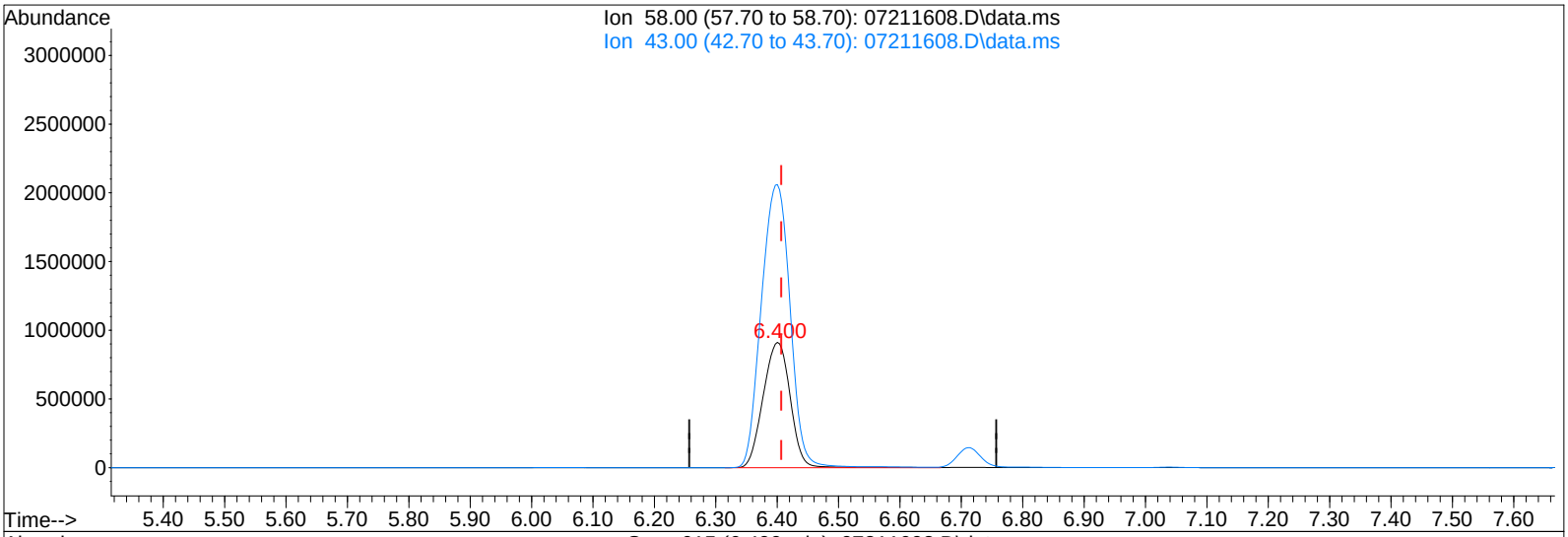
Quant Time: Jul 22 11:58:03 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

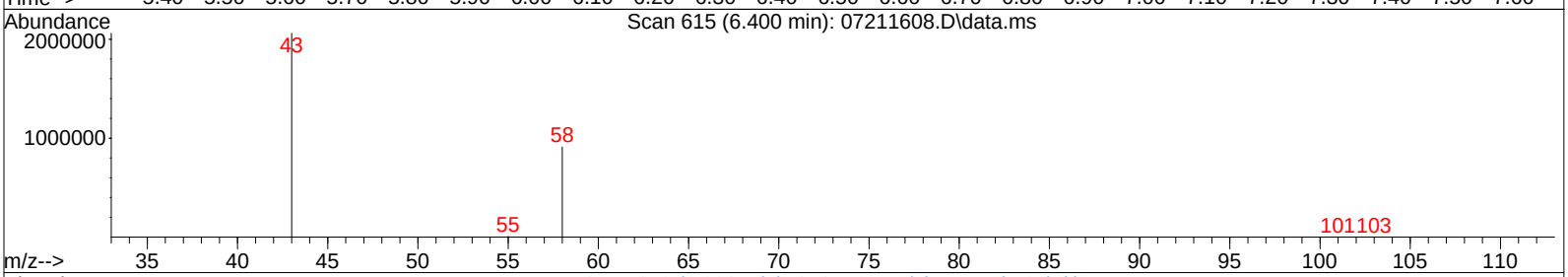


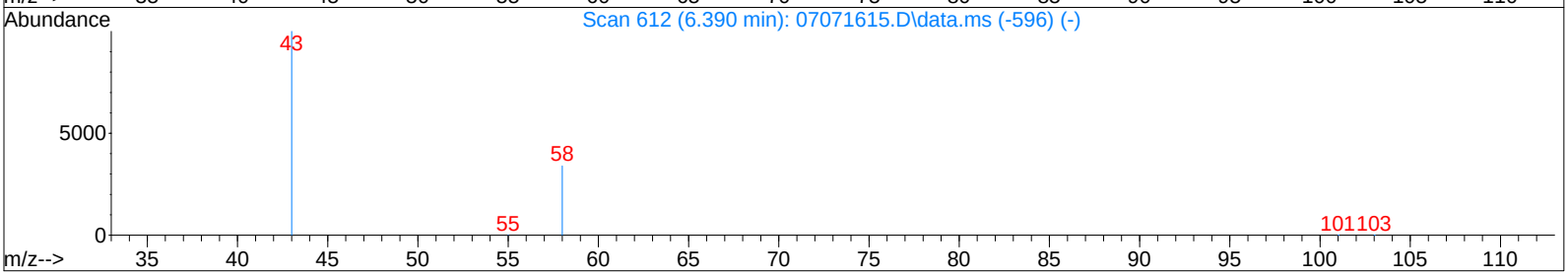
Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 07\21\07211608.D Vial: 14
Acq On : 21 Jul 2016 13:29 Operator: CL
Sample : P1603571-011dil (100mL) Inst : MS19
Misc : S29-06141602

Quant Time: Jul 22 11:58:03 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 07211608.D\data.ms

(10) Acetone (T)

6.400min (-0.007) 206923.21pg

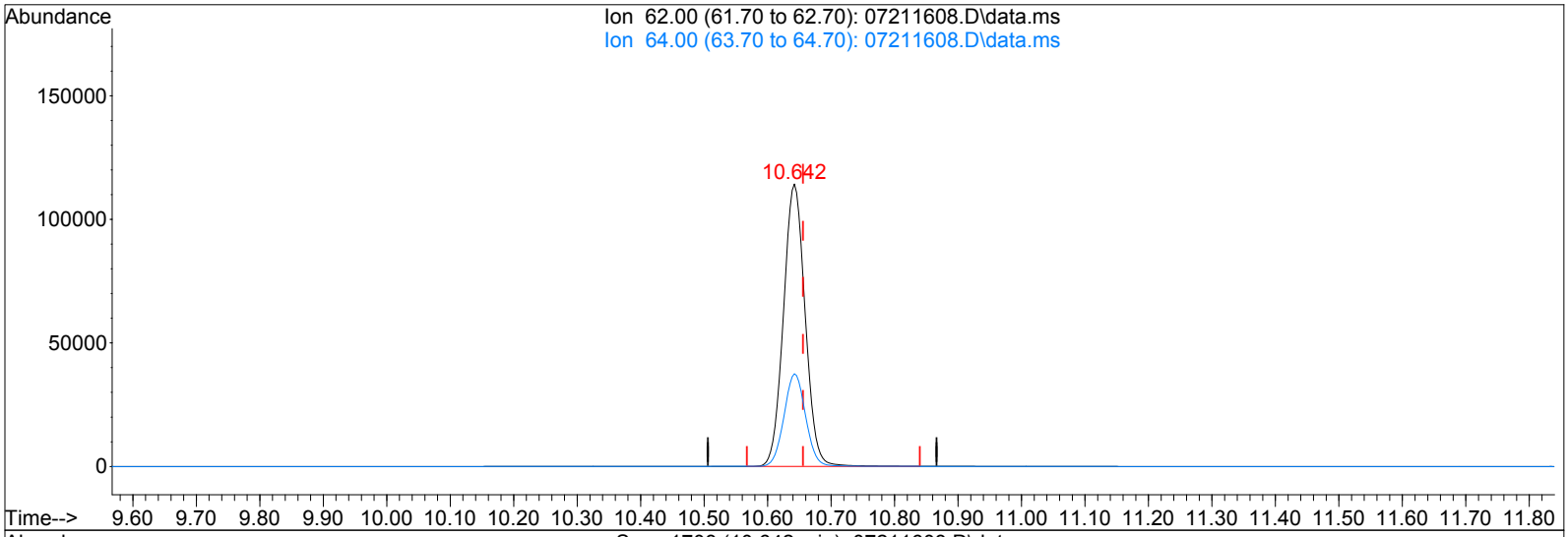
response 2791808

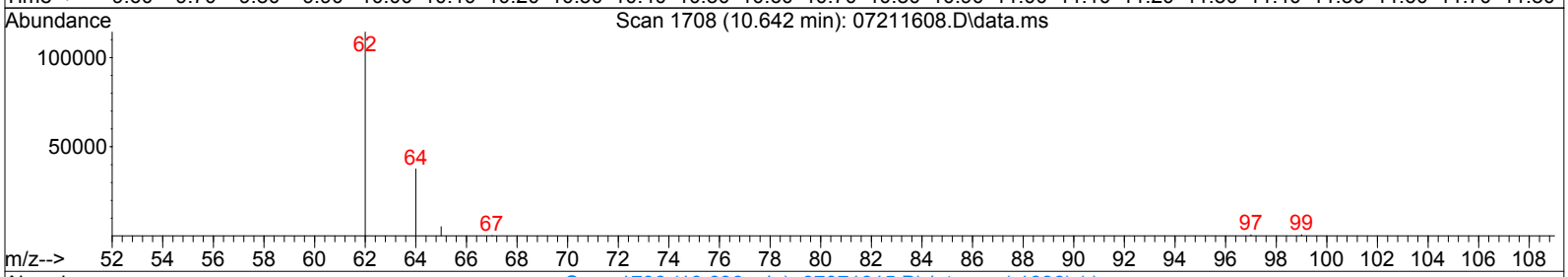
Ion	Exp%	Act%
58.00	100	100
43.00	282.30	240.54#
0.00	0.00	0.00
0.00	0.00	0.00

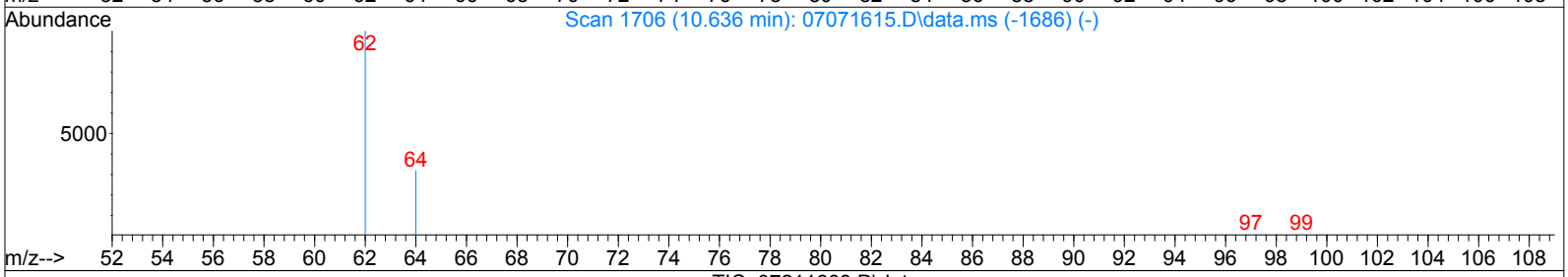
Quantitation Report (Qedit)

Data File: I:\MS19\DATA\2016 07\21\07211608.D
Acq On : 21 Jul 2016 13:29 Operator: CL
Sample : P1603571-011dil (100mL)
Misc : S29-06141602
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 22 11:58:03 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 07211608.D\data.ms

(21) 1,2-Dichloroethane (T)

10.642min (-0.014) 10793.73pg

response 270841

Ion	Exp%	Act%
62.00	100	100
64.00	32.10	32.73
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS19\DATA\2016 07\20\07201608.D
Acq On : 20 Jul 2016 12:29 Operator: CL
Sample : MB S19072016 1000mL
Misc : S29-06141602/AC01205
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 20 14:06:47 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

WJA 7/26/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.77	130	19393	1000.000 pg	0.00
25) 1,4-Difluorobenzene (IS2)	11.71	114	94860	1000.000 pg	-0.01
38) Chlorobenzene-d5 (IS3)	16.06	54	13203	1000.000 pg	0.00

System Monitoring Compounds					
20) 1,2-Dichloroethane-d4 ...	10.54	65	25604	849.184 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 84.92%		
33) Toluene-d8 (SS2)	14.15	98	96787	973.384 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 97.34%		
45) Bromofluorobenzene (SS3)	17.56	174	41181	1283.913 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 128.39%		

Target Compounds						Qvalue
2) Dichlorodifluoromethan...	4.45	85	74	N.D.		
3) Chloromethane	4.66	52	55	N.D.		
4) 1,2-Dichloro,1,1,2,2-t...	0.00	85	0	N.D.		
5) Vinyl Chloride	0.00	62	0	N.D.		
6) 1,3-Butadiene	0.00	54	0	N.D.		
7) Bromomethane	0.00	94	0	N.D.		
8) Chloroethane	0.00	64	0	N.D.		
9) Acrolein	6.31	56	1517	133.878 pg		98
10) Acetone	6.44	58	12113	817.516 pg	#	68
11) Trichlorofluoromethane	0.00	101	0	N.D.		
12) 1,1-Dichloroethene	0.00	96	0	N.D.		
13) Methylene Chloride	0.00	84	0	N.D.		
14) Trichlorotrifluoroethane	0.00	151	0	N.D.		
15) trans-1,2-Dichloroethene	0.00	96	0	N.D.		
16) 1,1-Dichloroethane	0.00	63	0	N.D.		
17) Methyl tert-Butyl Ether	8.73	73	242	N.D.		
18) cis-1,2-Dichloroethene	0.00	96	0	N.D.		
19) Chloroform	9.90	83	1119	30.334 pg		99
21) 1,2-Dichloroethane	0.00	62	0	N.D.		
22) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
23) Benzene	11.38	78	5033	58.387 pg		100
24) Carbon Tetrachloride	0.00	117	0	N.D.		
26) 1,2-Dichloropropane	0.00	63	0	N.D.		
27) Bromodichloromethane	0.00	83	0	N.D.		
28) Trichloroethene	0.00	130	0	N.D.		
29) 1,4-Dioxane	0.00	88	0	N.D.		
30) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
31) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
32) 1,1,2-Trichloroethane	0.00	83	0	N.D.		
34) Toluene	14.25	91	867	N.D.		
35) Dibromochloromethane	0.00	129	0	N.D.		
36) 1,2-Dibromoethane	0.00	107	0	N.D.		
37) Tetrachloroethene	0.00	166	0	N.D.		
39) Chlorobenzene	16.11	112	68	N.D.		
40) Ethylbenzene	16.48	91	101	N.D.		
41) m,p-Xylene	16.65	91	229	N.D.		
42) Styrene	17.02	104	100	N.D.		
43) o-Xylene	0.00	106	0	N.D.		
44) 1,1,2,2-Tetrachloroethane	17.13	83	78	N.D.		
46) 1,3,5-Trimethylbenzene	18.38	105	93	N.D.		
47) 1,2,4-Trimethylbenzene	18.77	105	88	N.D.		
48) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
49) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
50) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
51) 1,2-Dibromo-3-chloropr...	0.00	157	0	N.D.		
52) 1,2,4-Trichlorobenzene	0.00	182	0	N.D.		

Quantitation Report (QT Reviewed)

Data File: I:\MS19\DATA\2016 07\20\07201608.D
Acq On : 20 Jul 2016 12:29 Operator: CL
Sample : MB S19072016 1000mL
Misc : S29-06141602/AC01205
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 20 14:06:47 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

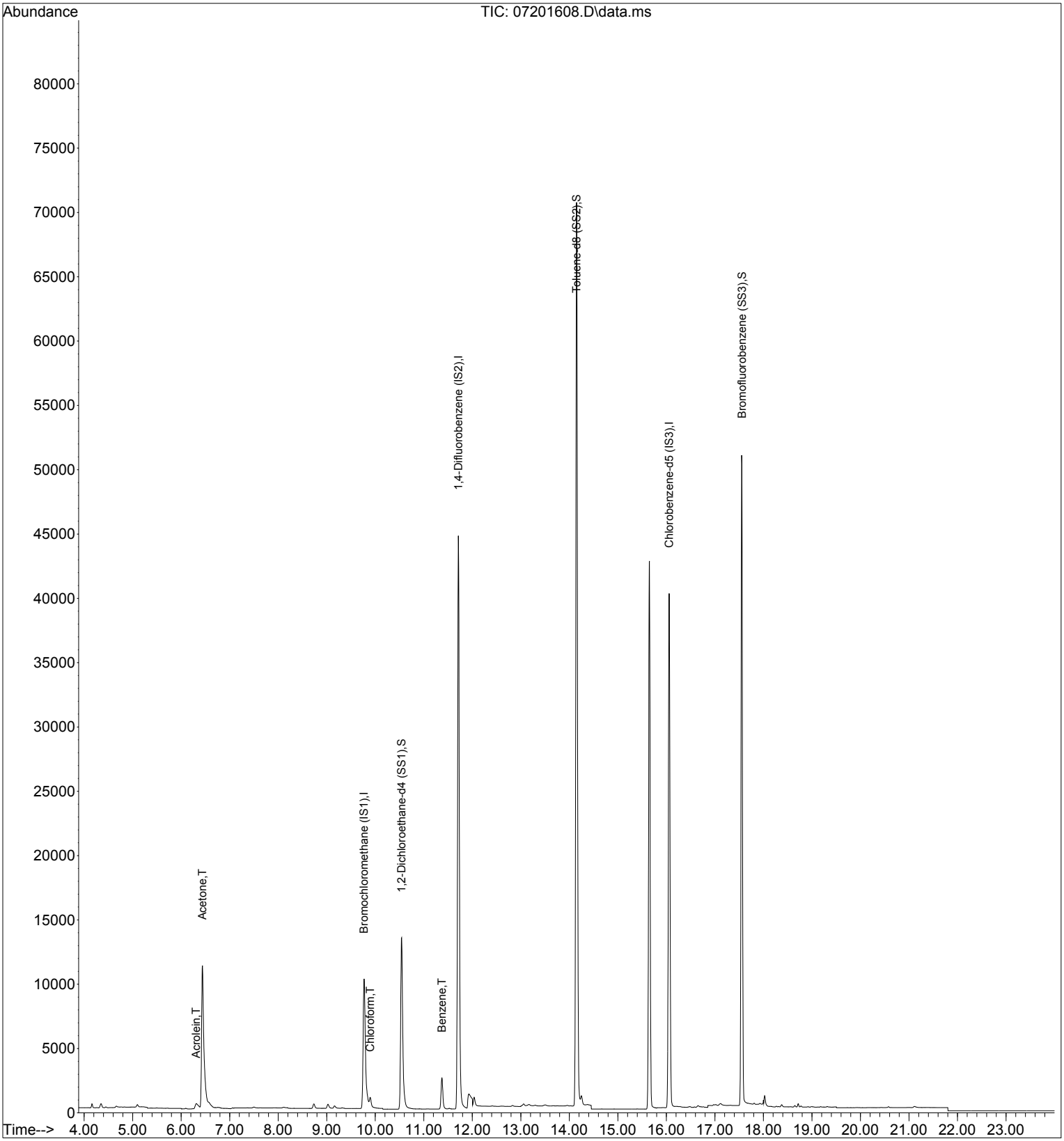
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
53) Naphthalene	21.11	128	325	N.D.	
54) Hexachlorobutadiene	0.00	225	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS19\DATA\2016 07\20\07201608.D
Acq On : 20 Jul 2016 12:29 Operator: CL
Sample : MB S19072016 1000mL
Misc : S29-06141602/AC01205
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 20 14:06:47 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\21\07211603.D Vial: 2
Acq On : 21 Jul 2016 10:42 Operator: CL
Sample : MB S19072116 1000mL Inst : MS19
Misc : S29-06141602/AC01205

Quant Time: Jul 21 12:03:17 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 7/21/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.77	130	18289	1000.000 pg	0.00
25) 1,4-Difluorobenzene (IS2)	11.71	114	90046	1000.000 pg	-0.01
38) Chlorobenzene-d5 (IS3)	16.06	54	12569	1000.000 pg	0.00

System Monitoring Compounds

20) 1,2-Dichloroethane-d4 ...	10.54	65	23999	844.000 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 84.40%		
33) Toluene-d8 (SS2)	14.15	98	91624	970.723 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 97.07%		
45) Bromofluorobenzene (SS3)	17.56	174	38248	1252.620 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 125.26%		

Target Compounds						Qvalue
2) Dichlorodifluoromethan...	4.45	85	107	N.D.		
3) Chloromethane	4.66	52	52	N.D.		
4) 1,2-Dichloro,1,1,2,2-t...	0.00	85	0	N.D.		
5) Vinyl Chloride	0.00	62	0	N.D.		
6) 1,3-Butadiene	0.00	54	0	N.D.		
7) Bromomethane	0.00	94	0	N.D.		
8) Chloroethane	0.00	64	0	N.D.		
9) Acrolein	6.32	56	1525	142.708 pg		97
10) Acetone	6.44	58	13656	977.290 pg	#	69
11) Trichlorofluoromethane	0.00	101	0	N.D.		
12) 1,1-Dichloroethene	0.00	96	0	N.D.		
13) Methylene Chloride	0.00	84	0	N.D.		
14) Trichlorotrifluoroethane	0.00	151	0	N.D.		
15) trans-1,2-Dichloroethene	0.00	96	0	N.D.		
16) 1,1-Dichloroethane	0.00	63	0	N.D.		
17) Methyl tert-Butyl Ether	8.74	73	242	N.D.		
18) cis-1,2-Dichloroethene	0.00	96	0	N.D.		
19) Chloroform	9.90	83	941	27.048 pg		99
21) 1,2-Dichloroethane	10.66	62	59	N.D.		
22) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
23) Benzene	11.37	78	4503	55.392 pg		99
24) Carbon Tetrachloride	0.00	117	0	N.D.		
26) 1,2-Dichloropropane	0.00	63	0	N.D.		
27) Bromodichloromethane	0.00	83	0	N.D.		
28) Trichloroethene	0.00	130	0	N.D.		
29) 1,4-Dioxane	0.00	88	0	N.D.		
30) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
31) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
32) 1,1,2-Trichloroethane	0.00	83	0	N.D.		
34) Toluene	14.25	91	1048	12.481 pg		99
35) Dibromochloromethane	0.00	129	0	N.D.		
36) 1,2-Dibromoethane	0.00	107	0	N.D.		
37) Tetrachloroethene	0.00	166	0	N.D.		
39) Chlorobenzene	16.10	112	72	N.D.		
40) Ethylbenzene	16.48	91	103	N.D.		
41) m,p-Xylene	16.65	91	253	N.D.		
42) Styrene	17.02	104	94	N.D.		
43) o-Xylene	0.00	106	0	N.D.		
44) 1,1,2,2-Tetrachloroethane	17.12	83	61	N.D.		
46) 1,3,5-Trimethylbenzene	18.38	105	106	N.D.		
47) 1,2,4-Trimethylbenzene	18.78	105	101	N.D.		
48) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
49) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
50) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
51) 1,2-Dibromo-3-chloropr...	0.00	157	0	N.D.		
52) 1,2,4-Trichlorobenzene	0.00	182	0	N.D.		
53) Naphthalene	21.12	128	443	6.087 pg	#	72

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\21\07211603.D Vial: 2
Acq On : 21 Jul 2016 10:42 Operator: CL
Sample : MB S19072116 1000mL Inst : MS19
Misc : S29-06141602/AC01205

Quant Time: Jul 21 12:03:17 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

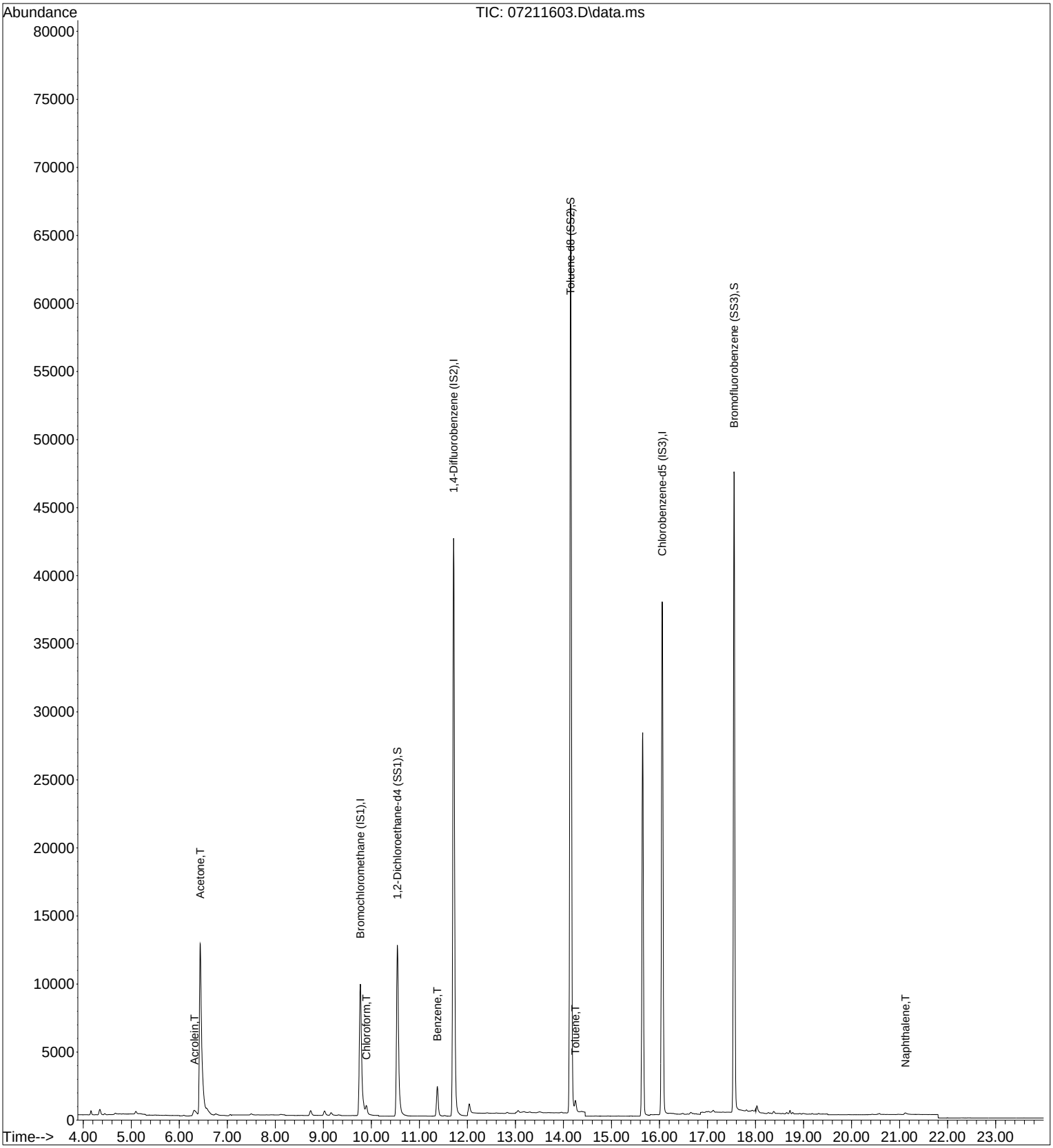
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
54) Hexachlorobutadiene	0.00	225	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\21\07211603.D Vial: 2
Acq On : 21 Jul 2016 10:42 Operator: CL
Sample : MB S19072116 1000mL Inst : MS19
Misc : S29-06141602/AC01205

Quant Time: Jul 21 12:03:17 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (QT Reviewed)

Data File: I:\MS19\DATA\2016 07\28\07281606.D
Acq On : 28 Jul 2016 15:31 Operator: WA
Sample : MB S19072816 1000mL
Misc : S29-06141602/AC01205
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 28 16:31:25 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

WA 7/29/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.77	130	15887	1000.000 pg	0.00
25) 1,4-Difluorobenzene (IS2)	11.72	114	76835	1000.000 pg	0.00
38) Chlorobenzene-d5 (IS3)	16.06	54	12450	1000.000 pg	0.00

System Monitoring Compounds

20) 1,2-Dichloroethane-d4 ...	10.55	65	23775	962.538 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 96.25%		
33) Toluene-d8 (SS2)	14.15	98	79463	986.634 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 98.66%		
45) Bromofluorobenzene (SS3)	17.56	174	32137	1062.545 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 106.26%		

Target Compounds					Qvalue
2) Dichlorodifluoromethan...	4.45	85	62	N.D.	
3) Chloromethane	0.00	52	0	N.D.	
4) 1,2-Dichloro,1,1,2,2-t...	0.00	85	0	N.D.	
5) Vinyl Chloride	0.00	62	0	N.D.	
6) 1,3-Butadiene	0.00	54	0	N.D.	
7) Bromomethane	0.00	94	0	N.D.	
8) Chloroethane	0.00	64	0	N.D.	
9) Acrolein	0.00	56	0	N.D.	
10) Acetone	6.47	58	1800	148.293 pg #	80
11) Trichlorofluoromethane	0.00	101	0	N.D.	
12) 1,1-Dichloroethene	0.00	96	0	N.D.	
13) Methylene Chloride	0.00	84	0	N.D.	
14) Trichlorotrifluoroethane	0.00	151	0	N.D.	
15) trans-1,2-Dichloroethene	0.00	96	0	N.D.	
16) 1,1-Dichloroethane	0.00	63	0	N.D.	
17) Methyl tert-Butyl Ether	0.00	73	0	N.D.	
18) cis-1,2-Dichloroethene	0.00	96	0	N.D.	
19) Chloroform	9.90	83	1022	33.818 pg	99
21) 1,2-Dichloroethane	0.00	62	0	N.D.	
22) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
23) Benzene	11.38	78	1384	N.D.	
24) Carbon Tetrachloride	0.00	117	0	N.D.	
26) 1,2-Dichloropropane	0.00	63	0	N.D.	
27) Bromodichloromethane	0.00	83	0	N.D.	
28) Trichloroethene	0.00	130	0	N.D.	
29) 1,4-Dioxane	0.00	88	0	N.D.	
30) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
31) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
32) 1,1,2-Trichloroethane	0.00	83	0	N.D.	
34) Toluene	14.25	91	665	N.D.	
35) Dibromochloromethane	0.00	129	0	N.D.	
36) 1,2-Dibromoethane	0.00	107	0	N.D.	
37) Tetrachloroethene	0.00	166	0	N.D.	
39) Chlorobenzene	0.00	112	0	N.D.	
40) Ethylbenzene	0.00	91	0	N.D.	
41) m,p-Xylene	16.65	91	134	N.D.	
42) Styrene	17.02	104	54	N.D.	
43) o-Xylene	0.00	106	0	N.D.	
44) 1,1,2,2-Tetrachloroethane	17.13	83	53	N.D.	
46) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
47) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
48) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
49) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
50) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
51) 1,2-Dibromo-3-chloropr...	0.00	157	0	N.D.	
52) 1,2,4-Trichlorobenzene	0.00	182	0	N.D.	

Quantitation Report (QT Reviewed)

Data File: I:\MS19\DATA\2016 07\28\07281606.D
Acq On : 28 Jul 2016 15:31 Operator: WA
Sample : MB S19072816 1000mL
Misc : S29-06141602/AC01205
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 28 16:31:25 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

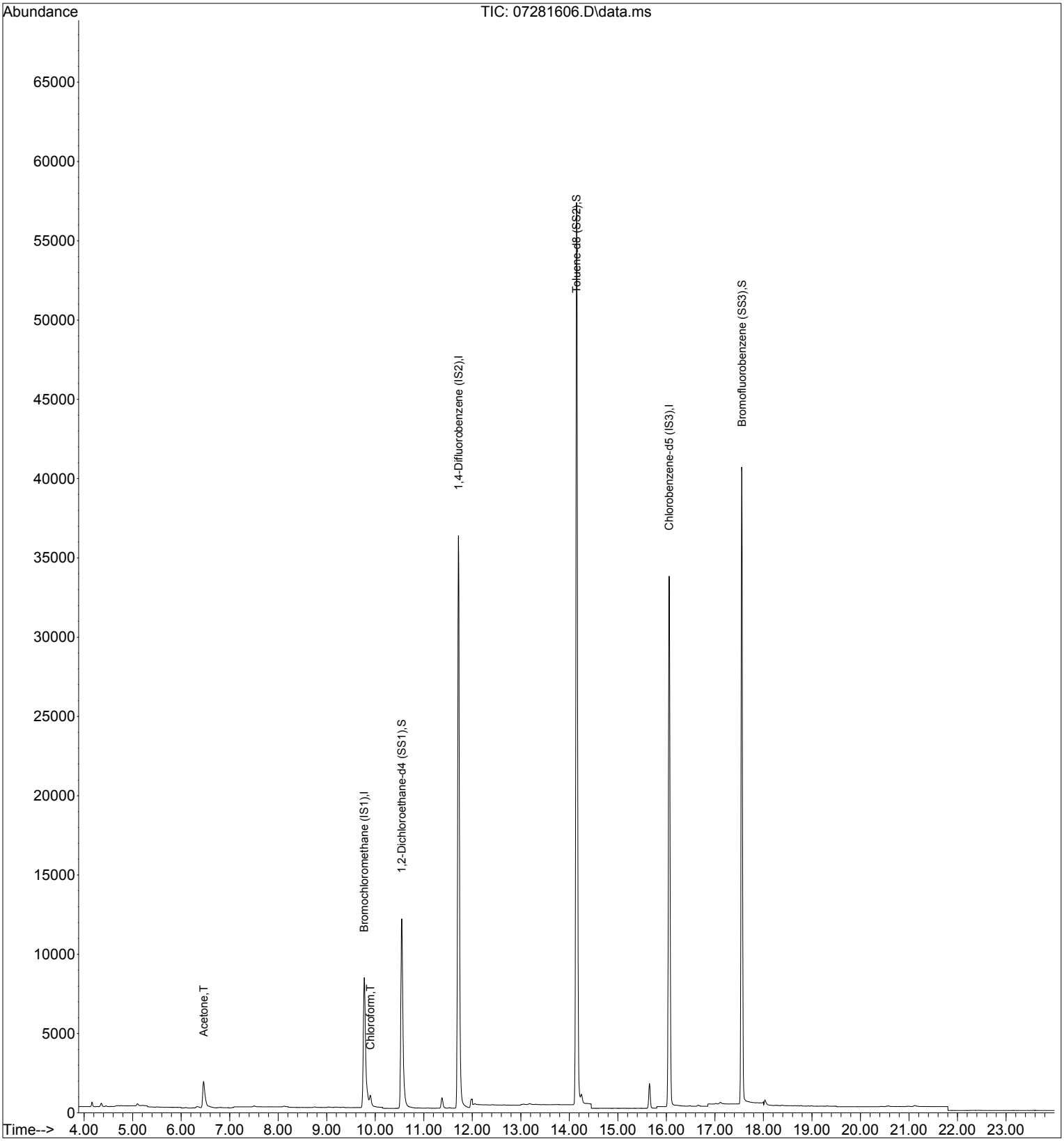
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
53) Naphthalene	21.12	128	236	N.D.	
54) Hexachlorobutadiene	0.00	225	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS19\DATA\2016 07\28\07281606.D
Acq On : 28 Jul 2016 15:31 Operator: WA
Sample : MB S19072816 1000mL
Misc : S29-06141602/AC01205
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 28 16:31:25 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\20\07201609.D Vial: 2
Acq On : 20 Jul 2016 13:00 Operator: CL
Sample : LCS S19072016 500pg Inst : MS19
Misc : S29-06141602/S29-06301605 (7/29)

Quant Time: Jul 20 14:07:21 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 7/20/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.75	130	19302	1000.000 pg	-0.02
25) 1,4-Difluorobenzene (IS2)	11.71	114	93317	1000.000 pg	-0.01
38) Chlorobenzene-d5 (IS3)	16.05	54	13006	1000.000 pg	0.00

System Monitoring Compounds

20) 1,2-Dichloroethane-d4 ...	10.53	65	25360	845.057 pg	-0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 84.51%		
33) Toluene-d8 (SS2)	14.15	98	95234	973.602 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 97.36%		
45) Bromofluorobenzene (SS3)	17.55	174	39412	1247.372 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 124.74%		

Target Compounds					Qvalue
2) Dichlorodifluoromethan...	4.43	85	18670	396.743 pg	100
3) Chloromethane	4.65	52	4502	373.205 pg	99
4) 1,2-Dichloro,1,1,2,2-t...	4.81	85	13303	388.139 pg	99
5) Vinyl Chloride	4.95	62	13489	408.617 pg	99
6) 1,3-Butadiene	5.14	54	9785	425.376 pg	91
7) Bromomethane	5.46	94	8149	448.833 pg	100
8) Chloroethane	5.69	64	6813	418.318 pg	100
9) Acrolein	6.26	56	5396	478.452 pg	98
10) Acetone	6.40	58	38516	2611.732 pg #	86
11) Trichlorofluoromethane	6.61	101	13897	431.259 pg	100
12) 1,1-Dichloroethene	7.34	96	9994	492.876 pg	91
13) Methylene Chloride	7.48	84	10489	484.371 pg	86
14) Trichlorotrifluoroethane	7.80	151	9617	514.962 pg	100
15) trans-1,2-Dichloroethene	8.51	96	10710	472.878 pg	100
16) 1,1-Dichloroethane	8.72	63	17693	443.350 pg	100
17) Methyl tert-Butyl Ether	8.79	73	30839	461.472 pg	97
18) cis-1,2-Dichloroethene	9.59	96	11551	498.457 pg	99
19) Chloroform	9.89	83	18155	494.462 pg	100
21) 1,2-Dichloroethane	10.64	62	11725	427.498 pg	99
22) 1,1,1-Trichloroethane	10.91	97	14999	461.545 pg	100
23) Benzene	11.36	78	46053	536.773 pg	100
24) Carbon Tetrachloride	11.52	117	12556	471.622 pg	99
26) 1,2-Dichloropropane	12.17	63	10251	462.440 pg	100
27) Bromodichloromethane	12.35	83	12963	475.046 pg	100
28) Trichloroethene	12.41	130	11454	498.283 pg	100
29) 1,4-Dioxane	12.38	88	8912	514.963 pg	94
30) cis-1,3-Dichloropropene	13.25	75	14986	451.658 pg	100
31) trans-1,3-Dichloropropene	13.76	75	13057	448.645 pg	100
32) 1,1,2-Trichloroethane	13.95	83	8556	488.346 pg	95
34) Toluene	14.25	91	42601	489.547 pg	100
35) Dibromochloromethane	14.66	129	10522	515.358 pg	100
36) 1,2-Dibromoethane	14.92	107	10893	503.275 pg	100
37) Tetrachloroethene	15.40	166	12265	489.434 pg	98
39) Chlorobenzene	16.10	112	28166	618.274 pg	100
40) Ethylbenzene	16.48	91	46817	608.502 pg	98
41) m,p-Xylene	16.66	91	71605	1218.086 pg	98
42) Styrene	17.01	104	27190	631.031 pg	100
43) o-Xylene	17.12	106	18463	617.879 pg	97
44) 1,1,2,2-Tetrachloroethane	17.09	83	17406	599.192 pg	100
46) 1,3,5-Trimethylbenzene	18.38	105	39045	644.426 pg	98
47) 1,2,4-Trimethylbenzene	18.77	105	39326	649.958 pg	99
48) 1,3-Dichlorobenzene	18.92	146	22952	671.342 pg	100
49) 1,4-Dichlorobenzene	18.98	146	22039	611.410 pg	100
50) 1,2-Dichlorobenzene	19.31	146	22369	662.786 pg	100
51) 1,2-Dibromo-3-chloropr...	19.72	157	7794	662.439 pg	89
52) 1,2,4-Trichlorobenzene	20.94	182	14005	617.048 pg	99
53) Naphthalene	21.06	128	39815	528.697 pg	100

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\20\07201609.D Vial: 2
Acq On : 20 Jul 2016 13:00 Operator: CL
Sample : LCS S19072016 500pg Inst : MS19
Misc : S29-06141602/S29-06301605 (7/29)

Quant Time: Jul 20 14:07:21 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

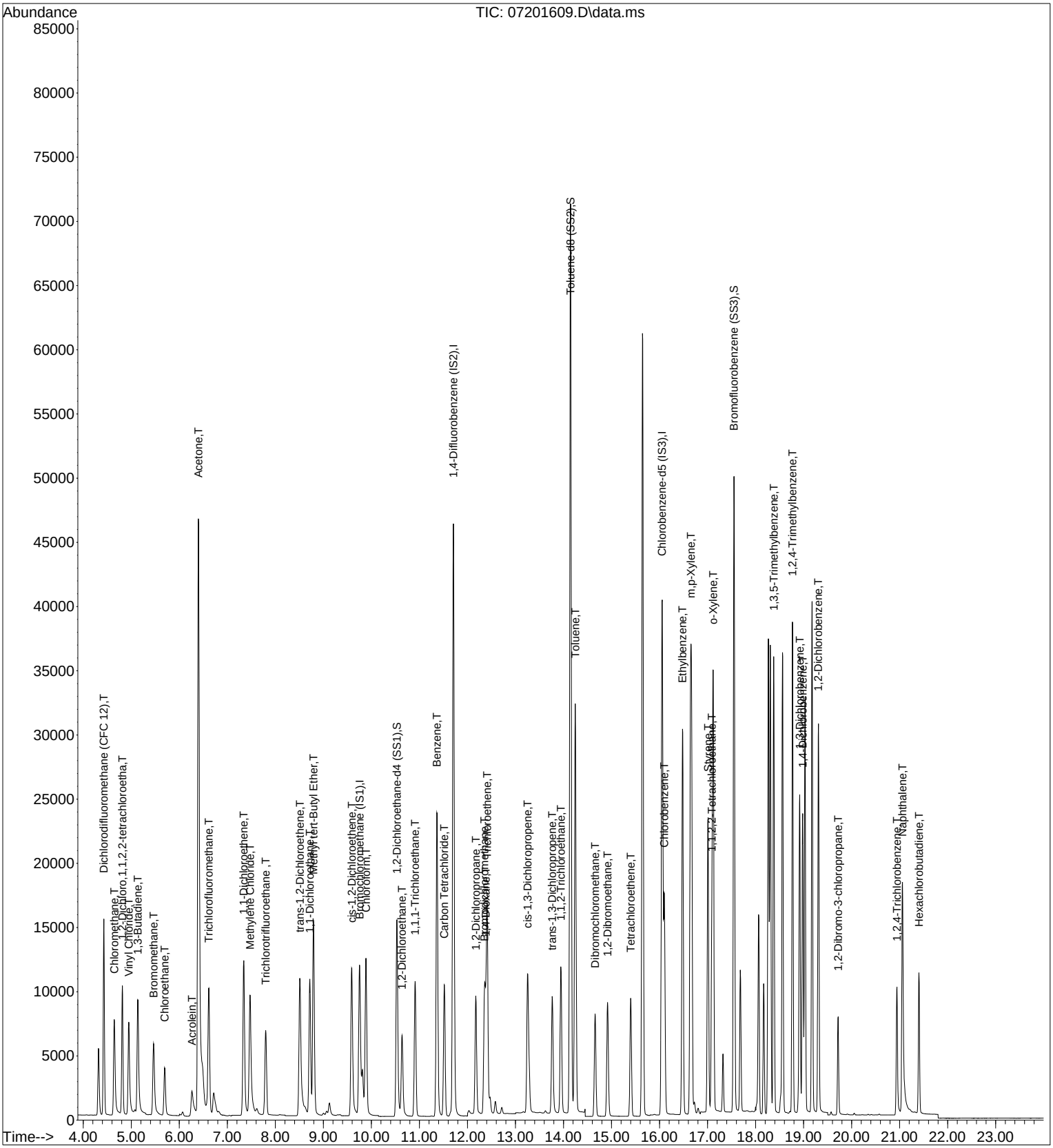
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
54) Hexachlorobutadiene	21.40	225	10854	714.671 pg	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\20\07201609.D Vial: 2
Acq On : 20 Jul 2016 13:00 Operator: CL
Sample : LCS S19072016 500pg Inst : MS19
Misc : S29-06141602/S29-06301605 (7/29)

Quant Time: Jul 20 14:07:21 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\21\07211604.D Vial: 2
Acq On : 21 Jul 2016 11:13 Operator: CL
Sample : LCS S19072116 500pg Inst : MS19
Misc : S29-06141602/S29-06301605 (7/29)

Quant Time: Jul 21 12:04:55 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 7/21/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.75	130	18475	1000.000 pg	-0.02
25) 1,4-Difluorobenzene (IS2)	11.71	114	90060	1000.000 pg	-0.02
38) Chlorobenzene-d5 (IS3)	16.05	54	12487	1000.000 pg	0.00

System Monitoring Compounds

20) 1,2-Dichloroethane-d4 ...	10.53	65	24521	853.676 pg	-0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 85.37%		
33) Toluene-d8 (SS2)	14.14	98	91612	970.445 pg	-0.01
Spiked Amount 1000.000	Range 70 - 130		Recovery = 97.04%		
45) Bromofluorobenzene (SS3)	17.55	174	37037	1220.925 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 122.09%		

Target Compounds

						Qvalue
2) Dichlorodifluoromethan...	4.43	85	17435	387.084 pg		100
3) Chloromethane	4.65	52	4274	370.165 pg		99
4) 1,2-Dichloro,1,1,2,2-t...	4.81	85	12725	387.894 pg		99
5) Vinyl Chloride	4.95	62	13003	411.527 pg		99
6) 1,3-Butadiene	5.14	54	9418	427.749 pg		94
7) Bromomethane	5.47	94	7604	437.563 pg		100
8) Chloroethane	5.69	64	6349	407.279 pg		100
9) Acrolein	6.27	56	5094	471.893 pg		100
10) Acetone	6.40	58	36317	2572.855 pg	#	86
11) Trichlorofluoromethane	6.62	101	13053	423.200 pg		100
12) 1,1-Dichloroethene	7.34	96	9378	483.199 pg		91
13) Methylene Chloride	7.48	84	9824	473.970 pg		86
14) Trichlorotrifluoroethane	7.80	151	8918	498.909 pg		100
15) trans-1,2-Dichloroethene	8.51	96	10038	463.046 pg		100
16) 1,1-Dichloroethane	8.72	63	16657	436.074 pg		99
17) Methyl tert-Butyl Ether	8.79	73	29178	456.162 pg		97
18) cis-1,2-Dichloroethene	9.59	96	10835	488.489 pg		99
19) Chloroform	9.89	83	17256	491.015 pg		100
21) 1,2-Dichloroethane	10.64	62	11029	420.121 pg		99
22) 1,1,1-Trichloroethane	10.91	97	14142	454.654 pg		100
23) Benzene	11.36	78	44503	541.926 pg		100
24) Carbon Tetrachloride	11.52	117	11838	464.557 pg		99
26) 1,2-Dichloropropane	12.18	63	9583	447.939 pg		100
27) Bromodichloromethane	12.36	83	12204	463.406 pg		99
28) Trichloroethene	12.41	130	10740	484.119 pg		100
29) 1,4-Dioxane	12.38	88	8362	500.657 pg		93
30) cis-1,3-Dichloropropene	13.25	75	14148	441.823 pg		100
31) trans-1,3-Dichloropropene	13.77	75	12289	437.527 pg		100
32) 1,1,2-Trichloroethane	13.95	83	8008	473.598 pg		95
34) Toluene	14.25	91	40149	478.056 pg		100
35) Dibromochloromethane	14.66	129	9882	501.515 pg		100
36) 1,2-Dibromoethane	14.92	107	10209	488.731 pg		100
37) Tetrachloroethene	15.40	166	11418	472.112 pg		99
39) Chlorobenzene	16.10	112	26266	600.531 pg		100
40) Ethylbenzene	16.48	91	44141	597.566 pg		99
41) m,p-Xylene	16.66	91	67405	1194.297 pg		98
42) Styrene	17.01	104	25390	613.748 pg		100
43) o-Xylene	17.12	106	17300	603.022 pg		97
44) 1,1,2,2-Tetrachloroethane	17.09	83	16336	585.732 pg		100
46) 1,3,5-Trimethylbenzene	18.38	105	36775	632.188 pg		99
47) 1,2,4-Trimethylbenzene	18.77	105	37050	637.792 pg		99
48) 1,3-Dichlorobenzene	18.92	146	21441	653.212 pg		100
49) 1,4-Dichlorobenzene	18.98	146	20429	590.301 pg		100
50) 1,2-Dichlorobenzene	19.31	146	20812	642.283 pg		100
51) 1,2-Dibromo-3-chloropr...	19.72	157	7282	644.647 pg		90
52) 1,2,4-Trichlorobenzene	20.94	182	12913	592.582 pg		100
53) Naphthalene	21.06	128	36633	506.662 pg		99

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\21\07211604.D Vial: 2
Acq On : 21 Jul 2016 11:13 Operator: CL
Sample : LCS S19072116 500pg Inst : MS19
Misc : S29-06141602/S29-06301605 (7/29)

Quant Time: Jul 21 12:04:55 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

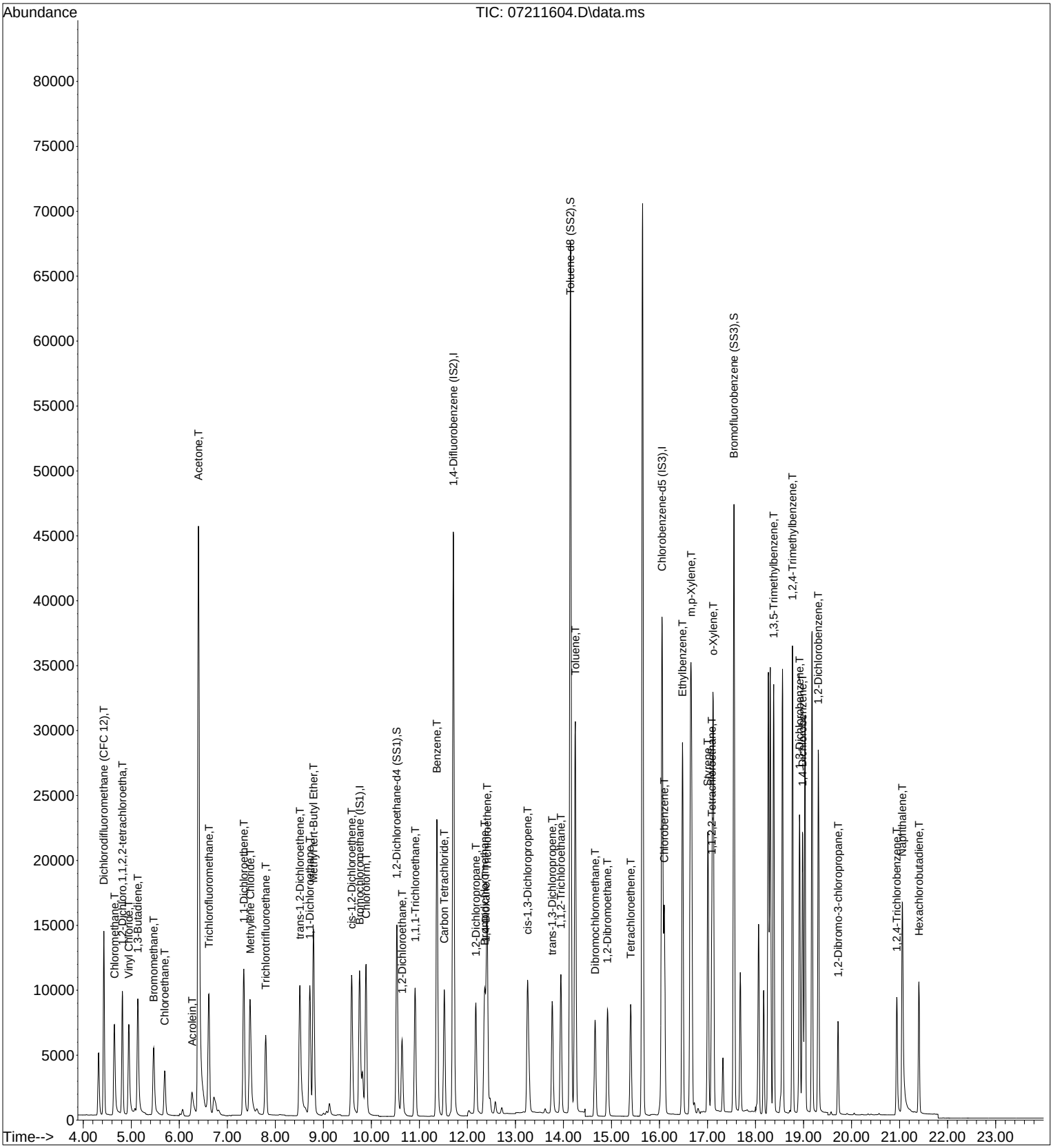
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Hexachlorobutadiene	21.40	225	10051	689.305	pg	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\21\07211604.D Vial: 2
Acq On : 21 Jul 2016 11:13 Operator: CL
Sample : LCS S19072116 500pg Inst : MS19
Misc : S29-06141602/S29-06301605 (7/29)

Quant Time: Jul 21 12:04:55 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (QT Reviewed)

Data File: I:\MS19\DATA\2016 07\28\07281604.D
Acq On : 28 Jul 2016 14:28 Operator: WA
Sample : LCS S19072816 500pg
Misc : S29-06141602/S29-07221605 (8/20)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 28 15:42:07 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

WA 7/29/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.75	130	16611	1000.000 pg	-0.02
25) 1,4-Difluorobenzene (IS2)	11.71	114	80379	1000.000 pg	-0.02
38) Chlorobenzene-d5 (IS3)	16.05	54	12729	1000.000 pg	0.00

System Monitoring Compounds

20) 1,2-Dichloroethane-d4 ...	10.53	65	24346	942.694 pg	-0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 94.27%		
33) Toluene-d8 (SS2)	14.14	98	82646	980.911 pg	-0.01
Spiked Amount 1000.000	Range 70 - 130		Recovery = 98.09%		
45) Bromofluorobenzene (SS3)	17.55	174	33374	1079.258 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 107.93%		

Target Compounds					Qvalue
2) Dichlorodifluoromethan...	4.42	85	17732	437.854 pg	100
3) Chloromethane	4.64	52	4457	429.330 pg	99
4) 1,2-Dichloro,1,1,2,2-t...	4.81	85	12310	417.351 pg	99
5) Vinyl Chloride	4.94	62	12830	451.617 pg	99
6) 1,3-Butadiene	5.13	54	9291	469.333 pg	96
7) Bromomethane	5.46	94	7192	460.295 pg	100
8) Chloroethane	5.69	64	6338	452.197 pg	99
9) Acrolein	6.26	56	4929	507.846 pg	99
10) Acetone	6.39	58	34031	2681.444 pg	98
11) Trichlorofluoromethane	6.61	101	12983	468.165 pg	100
12) 1,1-Dichloroethene	7.34	96	8950	512.894 pg	97
13) Methylene Chloride	7.47	84	9744	522.863 pg	94
14) Trichlorotrifluoroethane	7.79	151	8393	522.227 pg	100
15) trans-1,2-Dichloroethene	8.51	96	9599	492.484 pg	100
16) 1,1-Dichloroethane	8.71	63	16915	492.520 pg	100
17) Methyl tert-Butyl Ether	8.79	73	28148	489.440 pg	99
18) cis-1,2-Dichloroethene	9.59	96	10326	517.782 pg	99
19) Chloroform	9.88	83	17377	549.944 pg	100
21) 1,2-Dichloroethane	10.64	62	11487	486.669 pg	100
22) 1,1,1-Trichloroethane	10.91	97	13870	495.947 pg	100
23) Benzene	11.36	78	42583	576.734 pg	100
24) Carbon Tetrachloride	11.52	117	11826	516.164 pg	100
26) 1,2-Dichloropropane	12.18	63	9652	505.504 pg	100
27) Bromodichloromethane	12.35	83	12132	516.156 pg	100
28) Trichloroethene	12.41	130	10049	507.528 pg	100
29) 1,4-Dioxane	12.38	88	7860	527.281 pg	98
30) cis-1,3-Dichloropropene	13.25	75	13772	481.881 pg	100
31) trans-1,3-Dichloropropene	13.77	75	12156	484.918 pg	100
32) 1,1,2-Trichloroethane	13.95	83	7855	520.501 pg	98
34) Toluene	14.25	91	38704	516.356 pg	100
35) Dibromochloromethane	14.66	129	9454	537.582 pg	100
36) 1,2-Dibromoethane	14.92	107	9825	526.997 pg	100
37) Tetrachloroethene	15.40	166	10494	486.167 pg	100
39) Chlorobenzene	16.10	112	25082	562.558 pg	100
40) Ethylbenzene	16.48	91	41858	555.887 pg	100
41) m,p-Xylene	16.66	91	64238	1116.545 pg	100
42) Styrene	17.01	104	24503	581.046 pg	100
43) o-Xylene	17.12	106	16145	552.063 pg	100
44) 1,1,2,2-Tetrachloroethane	17.09	83	16020	563.481 pg	100
46) 1,3,5-Trimethylbenzene	18.38	105	34198	576.710 pg	100
47) 1,2,4-Trimethylbenzene	18.77	105	34648	585.104 pg	100
48) 1,3-Dichlorobenzene	18.92	146	20752	620.202 pg	100
49) 1,4-Dichlorobenzene	18.98	146	20120	570.319 pg	100
50) 1,2-Dichlorobenzene	19.31	146	19630	594.287 pg	100
51) 1,2-Dibromo-3-chloropr...	19.72	157	6697	581.588 pg	96
52) 1,2,4-Trichlorobenzene	20.94	182	13165	592.661 pg	100

Quantitation Report (QT Reviewed)

Data File: I:\MS19\DATA\2016 07\28\07281604.D
Acq On : 28 Jul 2016 14:28 Operator: WA
Sample : LCS S19072816 500pg
Misc : S29-06141602/S29-07221605 (8/20)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 28 15:42:07 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

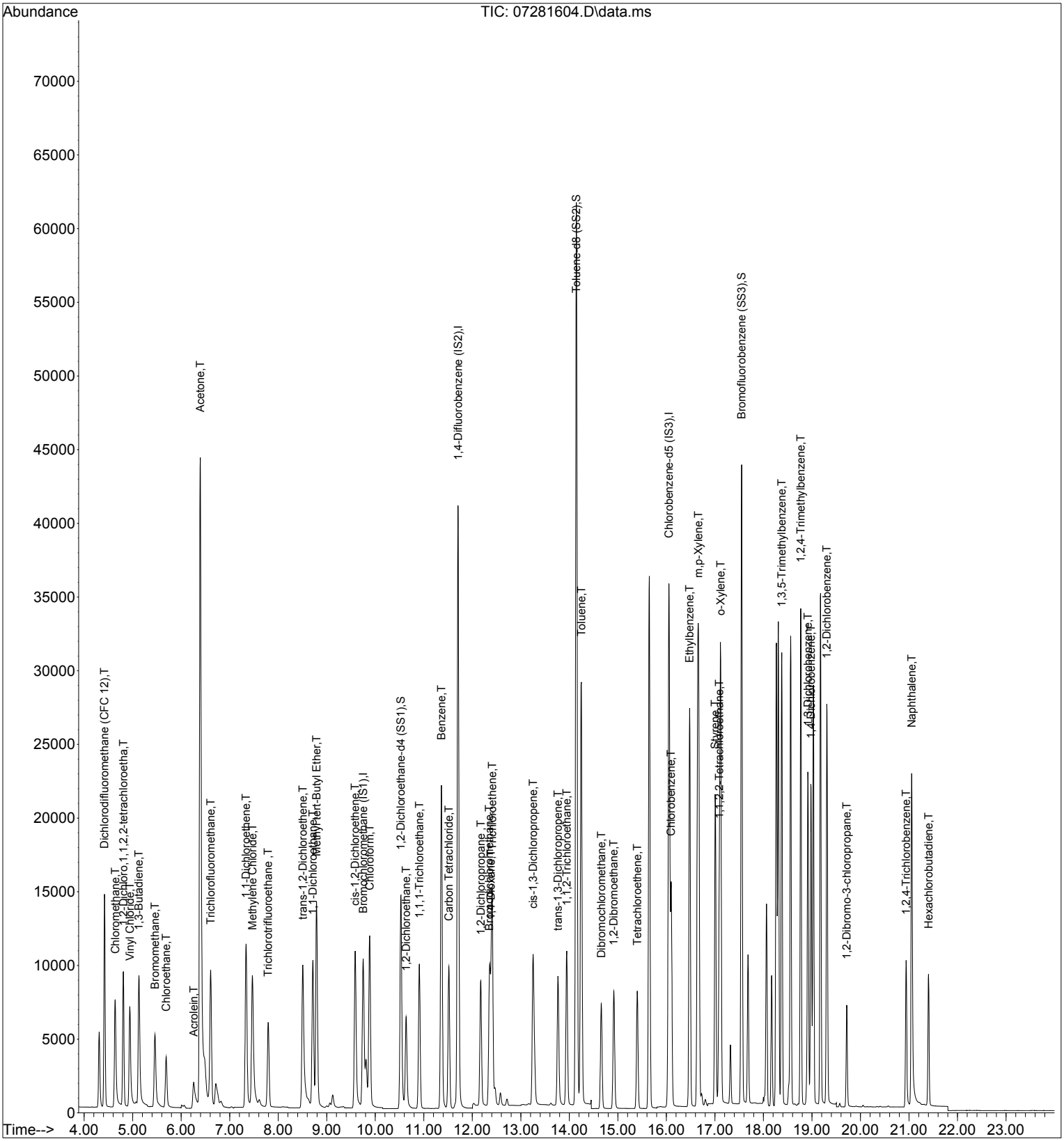
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
53) Naphthalene	21.06	128	42202	572.589 pg	99
54) Hexachlorobutadiene	21.40	225	8797	591.835 pg	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS19\DATA\2016 07\28\07281604.D
Acq On : 28 Jul 2016 14:28 Operator: WA
Sample : LCS S19072816 500pg
Misc : S29-06141602/S29-07221605 (8/20)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 28 15:42:07 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Response Factor Report MS19

Method Path : I:\MS19\METHODS\
Method File : S19070716.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri Jul 08 11:28:49 2016
Response Via : Initial Calibration

CL 7/8/16

Calibration Files
10 =06301603.D 20 =07071612.D 50 =07071613.D 100 =07071614.D 500 =07071615.D 1000=07071616.D 2000=07071617.D
5000=07071618.D 10K =07071619.D 50K =07071620.D

		Compound	10	20	50	100	500	1000	2000	5000	10K	50K	Avg	%RSD
1)	I	Bromochloromethane...	----------ISTD----------											
2)	T	Dichlorodifluo...	2.674	2.516	2.325	2.496	2.731	2.451	2.367	2.307	2.074	2.438	8.18
3)	T	Chloromethane	0.775	0.682	0.593	0.635	0.689	0.618	0.588	0.507	0.537	0.625	13.16
4)	T	1,2-Dichloro,1...	1.911	1.858	1.708	1.828	1.974	1.759	1.692	1.664	1.588	1.776	7.08
5)	T	Vinyl Chloride	1.857	1.793	1.644	1.748	1.905	1.694	1.626	1.599	1.527	1.710	7.33
6)	T	1,3-Butadiene	1.198	1.141	1.024	1.205	1.351	1.244	1.211	1.182	1.172	1.192	7.26
7)	T	Bromomethane	1.078	1.006	0.905	0.942	1.030	0.921	0.869	0.854	0.860	0.941	8.57
8)	T	Chloroethane	0.942	0.854	0.809	0.860	0.936	0.836	0.797	0.785	0.775	0.844	7.27
9)	T	Acrolein			0.591	0.615	0.607	0.562	0.557	0.566	0.592	0.584	3.90
10)	T	Acetone			0.865	0.895	0.870	0.762	0.709	0.669	0.578	0.764	15.60
11)	T	Trichlorofluor...	1.883	1.762	1.633	1.720	1.855	1.634	1.550	1.514	1.473	1.669	8.75
12)	T	1,1-Dichloroet...	1.076	1.062	0.997	1.071	1.167	1.047	1.015	1.011	1.009	1.051	5.01
13)	T	Methylene Chlo...	1.343	1.180	1.029	1.132	1.225	1.092	1.044	1.029	1.023	1.122	9.80
14)	T	Trichlorotrifl...	1.030	1.015	0.931	0.986	1.072	0.949	0.911	0.885	0.930	0.968	6.39
15)	T	trans-1,2-Dich...	1.281	1.177	1.103	1.180	1.294	1.167	1.126	1.119	1.113	1.173	6.03
16)	T	1,1-Dichloroet...	2.173	2.093	1.981	2.135	2.323	2.073	1.990	1.952	1.889	2.068	6.41
17)	T	Methyl tert-Bu...	3.584	3.533	3.275	3.564	3.908	3.496	3.352	3.285	3.163	3.462	6.44
18)	T	cis-1,2-Dichlo...	1.287	1.217	1.123	1.201	1.325	1.195	1.160	1.155	1.141	1.201	5.62
19)	T	Chloroform			2.135	1.988	2.116	1.862	1.779	1.749	1.687	1.902	9.45
20)	S	1,2-Dichloroet...	1.528	1.539	1.558	1.553	1.562	1.561	1.585	1.582	1.525	1.555	1.36
21)	T	1,2-Dichloroet...	1.505	1.427	1.328	1.436	1.585	1.424	1.390	1.374	1.319	1.421	5.92
22)	T	1,1,1-Trichlor...	1.777	1.712	1.589	1.712	1.876	1.686	1.633	1.612	1.556	1.684	5.94
23)	T	Benzene		5.541	4.479	4.467	4.835	4.307	4.109	4.021	3.801	4.445	12.27
24)	T	Carbon Tetrach...	1.574	1.419	1.297	1.383	1.512	1.355	1.308	1.293	1.273	1.379	7.61
25)	I	1,4-Difluorobenzen...	----------ISTD----------											
26)	T	1,2-Dichloropr...	0.245	0.236	0.221	0.238	0.263	0.238	0.232	0.232	0.232	0.238	4.74
27)	T	Bromodichlorom...	0.292	0.285	0.265	0.291	0.323	0.297	0.293	0.293	0.293	0.292	5.07
28)	T	Trichloroethene	0.263	0.257	0.233	0.248	0.272	0.243	0.233	0.231	0.236	0.246	6.00
29)	T	1,4-Dioxane	0.187	0.185	0.172	0.186	0.206	0.186	0.182	0.181	0.185	0.185	4.79
30)	T	cis-1,3-Dichlo...	0.343	0.337	0.308	0.349	0.391	0.365	0.366	0.369	0.372	0.356	6.85
31)	T	trans-1,3-Dich...	0.283	0.279	0.267	0.303	0.342	0.324	0.330	0.336	0.343	0.312	9.47
32)	T	1,1,2-Trichlor...	0.189	0.185	0.174	0.189	0.208	0.189	0.185	0.185	0.186	0.188	4.80
33)	S	Toluene-d8 (SS2)	1.034	1.036	1.033	1.038	1.044	1.053	1.064	1.070	1.061	1.048	1.37
34)	T	Toluene		1.038	0.914	0.928	1.021	0.925	0.896	0.888	0.851	0.933	6.94
35)	T	Dibromochlorom...	0.209	0.201	0.189	0.214	0.241	0.225	0.225	0.228	0.237	0.219	7.69
36)	T	1,2-Dibromoethane	0.233	0.224	0.206	0.229	0.254	0.235	0.233	0.234	0.238	0.232	5.46
37)	T	Tetrachloroethene	0.284	0.275	0.250	0.267	0.292	0.264	0.258	0.259	0.269	0.269	4.92
38)	I	Chlorobenzene-d5 (...	----------ISTD----------											
39)	T	Chlorobenzene	4.011	3.789	3.434	3.592	3.867	3.471	3.297	3.231	2.831	3.503	10.36
40)	T	Ethylbenzene	6.426	6.120	5.639	6.182	6.756	6.097	5.768	5.586	4.665	5.916	10.15
41)	T	m,p-Xylene	4.906	4.742	4.276	4.795	5.219	4.668	4.359	4.196	3.518	4.520	11.00

Method Path : I:\MS19\METHODS\
Method File : S19070716.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

42)	T	Styrene	3.162	3.094	2.942	3.411	3.831	3.534	3.417	3.372	3.054	3.313	8.38
43)	T	o-Xylene	2.450	2.367	2.214	2.445	2.635	2.350	2.196	2.128	1.893	2.297	9.44
44)	T	1,1,2,2-Tetrac...	2.201	2.186	2.113	2.381	2.577	2.344	2.227	2.170	1.901	2.234	8.44
45)	S	Bromofluoroben...	2.515	2.508	2.503	2.481	2.481	2.456	2.417	2.400	2.102	2.429	5.30
46)	T	1,3,5-Trimethy...	4.703	4.600	4.390	5.084	5.473	4.888	4.574	4.417	3.798	4.659	10.13
47)	T	1,2,4-Trimethy...	4.330	4.527	4.383	5.067	5.485	4.955	4.698	4.564	3.860	4.652	10.16
48)	T	1,3-Dichlorobe...	2.393	2.643	2.545	2.841	3.053	2.735	2.594	2.547	2.307	2.629	8.61
49)	T	1,4-Dichlorobe...	2.960	2.874	2.747	2.888	3.108	2.809	2.657	2.574	2.326	2.772	8.32
50)	T	1,2-Dichlorobe...	2.609	2.648	2.528	2.756	2.937	2.644	2.516	2.465	2.250	2.595	7.40
51)	T	1,2-Dibromo-3-...		0.717	0.722	0.927	1.002	0.964	0.972	0.987	0.946	0.905	12.90
52)	T	1,2,4-Trichlor...	1.494	1.537	1.542	1.847	1.941	1.832	1.820	1.842	1.850	1.745	9.72
53)	T	Naphthalene	5.654	4.995	5.078	6.116	6.430	6.119	5.998	5.931	5.791	5.790	8.29
54)	T	Hexachlorobuta...	1.112	1.228	1.156	1.250	1.277	1.165	1.132	1.120	1.070	1.168	5.98

(#) = Out of Range

Primary Source Standards Concentrations (Working & Initial Calibration)

CL 7/8/16

0.2ng/L Std. ID:
1ng/L Std. ID: S29-06291610
4ng/L Std. ID: S29-06291608
20ng/L Std. ID: S29-06081608
200ng/L Std. ID: S29-06081605

Dilution Factors:		5	50	250	1000	5000	Working STD Conc.(ng/L):	NA	0.2	0.2	0.2	4	20	NA	200	NA	200
	Source Std.	Primary Working Standards					Injection (L):	NA	0.100	0.250	0.500	0.125	0.050	NA	0.050	NA	0.250
Compounds	mg/m^3	200ng/L	20ng/L	4ng/L	1ng/L	0.2ng/L	ICAL Points:	0.01ng	0.02ng	0.05ng	0.1ng	0.5ng	1ng	2.5ng	10ng	20ng	50ng
Propene	1.03	206	20.6	4.12	1.03	0.206		NA	0.0206	0.0515	0.103	0.515	1.03	NA	10.30	NA	51.5
Dichlorodifluoromethane	1.00	200	20.0	4.00	1.00	0.200		NA	0.0200	0.0500	0.100	0.500	1.00	NA	10.00	NA	50.0
Chloromethane	0.98	196	19.6	3.92	0.98	0.196		NA	0.0196	0.0490	0.098	0.490	0.98	NA	9.80	NA	49.0
Freon-114	1.03	206	20.6	4.12	1.03	0.206		NA	0.0206	0.0515	0.103	0.515	1.03	NA	10.30	NA	51.5
Vinyl Chloride	1.00	200	20.0	4.00	1.00	0.200		NA	0.0200	0.0500	0.100	0.500	1.00	NA	10.00	NA	50.0
1,3-Butadiene	1.06	212	21.2	4.24	1.06	0.212		NA	0.0212	0.0530	0.106	0.530	1.06	NA	10.60	NA	53.0
Bromomethane	1.00	200	20.0	4.00	1.00	0.200		NA	0.0200	0.0500	0.100	0.500	1.00	NA	10.00	NA	50.0
Chloroethane	1.01	202	20.2	4.04	1.01	0.202		NA	0.0202	0.0505	0.101	0.505	1.01	NA	10.10	NA	50.5
Ethanol	5.06	1012	101.2	20.24	5.06	1.012		NA	0.1012	0.2530	0.506	2.530	5.06	NA	50.60	NA	253.0
Acetonitrile	1.02	204	20.4	4.08	1.02	0.204		NA	0.0204	0.0510	0.102	0.510	1.02	NA	10.20	NA	51.0
Acrolein	1.07	214	21.4	4.28	1.07	0.214		NA	0.0214	0.0535	0.107	0.535	1.07	NA	10.70	NA	53.5
Acetone	5.37	1074	107.4	21.48	5.37	1.074		NA	0.1074	0.2685	0.537	2.685	5.37	NA	53.70	NA	268.5
Trichlorofluoromethane	0.99	198	19.8	3.96	0.99	0.198		NA	0.0198	0.0495	0.099	0.495	0.99	NA	9.90	NA	49.5
Isopropanol	2.09	418	41.8	8.36	2.09	0.418		NA	0.0418	0.1045	0.209	1.045	2.09	NA	20.90	NA	104.5
Acrylonitrile	1.03	206	20.6	4.12	1.03	0.206		NA	0.0206	0.0515	0.103	0.515	1.03	NA	10.30	NA	51.5
1,1-Dichloroethene	1.07	214	21.4	4.28	1.07	0.214		NA	0.0214	0.0535	0.107	0.535	1.07	NA	10.70	NA	53.5
tert-Butanol	2.09	418	41.8	8.36	2.09	0.418		NA	0.0418	0.1045	0.209	1.045	2.09	NA	20.90	NA	104.5
Methylene Chloride	1.08	216	21.6	4.32	1.08	0.216		NA	0.0216	0.0540	0.108	0.540	1.08	NA	10.80	NA	54.0
Allyl Chloride	1.08	216	21.6	4.32	1.08	0.216		NA	0.0216	0.0540	0.108	0.540	1.08	NA	10.80	NA	54.0
Trichlorotrifluoroethane	1.08	216	21.6	4.32	1.08	0.216		NA	0.0216	0.0540	0.108	0.540	1.08	NA	10.80	NA	54.0
Carbon Disulfide	0.98	196	19.6	3.92	0.98	0.196		NA	0.0196	0.0490	0.098	0.490	0.98	NA	9.80	NA	49.0
trans-1,2-Dichloroethene	1.06	212	21.2	4.24	1.06	0.212		NA	0.0212	0.0530	0.106	0.530	1.06	NA	10.60	NA	53.0
1,1-Dichloroethane	1.04	208	20.8	4.16	1.04	0.208		NA	0.0208	0.0520	0.104	0.520	1.04	NA	10.40	NA	52.0
Methyl tert-Butyl Ether	1.05	210	21.0	4.20	1.05	0.210		NA	0.0210	0.0525	0.105	0.525	1.05	NA	10.50	NA	52.5
Vinyl Acetate	5.07	1014	101.4	20.28	5.07	1.014		NA	0.1014	0.2535	0.507	2.535	5.07	NA	50.70	NA	253.5
2-Butanone	1.07	214	21.4	4.28	1.07	0.214		NA	0.0214	0.0535	0.107	0.535	1.07	NA	10.70	NA	53.5
cis-1,2-Dichloroethene	1.07	214	21.4	4.28	1.07	0.214		NA	0.0214	0.0535	0.107	0.535	1.07	NA	10.70	NA	53.5
Diisopropyl Ether	1.08	216	21.6	4.32	1.08	0.216		NA	0.0216	0.0540	0.108	0.540	1.08	NA	10.80	NA	54.0
Ethyl Acetate	2.12	424	42.4	8.48	2.12	0.424		NA	0.0424	0.1060	0.212	1.060	2.12	NA	21.20	NA	106.0
n-Hexane	1.04	208	20.8	4.16	1.04	0.208		NA	0.0208	0.0520	0.104	0.520	1.04	NA	10.40	NA	52.0
Chloroform	1.07	214	21.4	4.28	1.07	0.214		NA	0.0214	0.0535	0.107	0.535	1.07	NA	10.70	NA	53.5
Tetrahydrofuran	1.02	204	20.4	4.08	1.02	0.204		NA	0.0204	0.0510	0.102	0.510	1.02	NA	10.20	NA	51.0
Ethyl tert-Butyl Ether	1.05	210	21.0	4.20	1.05	0.210		NA	0.0210	0.0525	0.105	0.525	1.05	NA	10.50	NA	52.5
1,2-Dichloroethane	1.05	210	21.0	4.20	1.05	0.210		NA	0.0210	0.0525	0.105	0.525	1.05	NA	10.50	NA	52.5
1,1,1-Trichloroethane	1.03	206	20.6	4.12	1.03	0.206		NA	0.0206	0.0515	0.103	0.515	1.03	NA	10.30	NA	51.5
Isopropyl Acetate	2.21	442	44.2	8.84	2.21	0.442		NA	0.0442	0.1105	0.221	1.105	2.21	NA	22.10	NA	110.5
1-Butanol	2.26	452	45.2	9.04	2.26	0.452		NA	0.0452	0.1130	0.226	1.130	2.26	NA	22.60	NA	113.0
Benzene	1.11	222	22.2	4.44	1.11	0.222		NA	0.0222	0.0555	0.111	0.555	1.11	NA	11.10	NA	55.5
Carbon Tetrachloride	1.08	216	21.6	4.32	1.08	0.216		NA	0.0216	0.0540	0.108	0.540	1.08	NA	10.80	NA	54.0
Cyclohexane	2.09	418	41.8	8.36	2.09	0.418		NA	0.0418	0.1045	0.209	1.045	2.09	NA	20.90	NA	104.5
tert-Amyl Methyl Ether	1.04	208	20.8	4.16	1.04	0.208		NA	0.0208	0.0520	0.104	0.520	1.04	NA	10.40	NA	52.0
1,2-Dichloropropane	1.05	210	21.0	4.20	1.05	0.210		NA	0.0210	0.0525	0.105	0.525	1.05	NA	10.50	NA	52.5
Bromodichloromethane	1.07	214	21.4	4.28	1.07	0.214		NA	0.0214	0.0535	0.107	0.535	1.07	NA	10.70	NA	53.5
Trichloroethene	1.03	206	20.6	4.12	1.03	0.206		NA	0.0206	0.0515	0.103	0.515	1.03	NA	10.30	NA	51.5
1,4-Dioxane	1.08	216	21.6	4.32	1.08	0.216		NA	0.0216	0.0540	0.108	0.540	1.08	NA	10.80	NA	54.0
Isooctane	1.03	206	20.6	4.12	1.03	0.206		NA	0.0206	0.0515	0.103	0.515	1.03	NA	10.30	NA	51.5
Methyl Methacrylate	2.08	416	41.6	8.32	2.08	0.416		NA	0.0416	0.1040	0.208	1.040	2.08	NA	20.80	NA	104.0
n-Heptane	1.07	214	21.4	4.28	1.07	0.214		NA	0.0214	0.0535	0.107	0.535	1.07	NA	10.70	NA	53.5

Primary Source Standards Concentrations (Working & Initial Calibration)

0.2ng/L Std. ID:		20ng/L Std. ID:	S29-06081608
1ng/L Std. ID:	S29-06291610	200ng/L Std. ID:	S29-06081605
4ng/L Std. ID:	S29-06291608		

Dilution Factors:		5	50	250	1000	5000	Working STD Conc.(ng/L):	NA	0.2	0.2	0.2	4	20	NA	200	NA	200
	Source Std.	Primary Working Standards					Injection (L):	NA	0.100	0.250	0.500	0.125	0.050	NA	0.050	NA	0.250
Compounds	mg/m^3	200ng/L	20ng/L	4ng/L	1ng/L	0.2ng/L	ICAL Points:	0.01ng	0.02ng	0.05ng	0.1ng	0.5ng	1ng	2.5ng	10ng	20ng	50ng
cis-1,3-Dichloropropene	1.12	224	22.4	4.48	1.12	0.224		NA	0.0224	0.0560	0.112	0.560	1.12	NA	11.20	NA	56.0

Primary Source Standards Concentrations (Working & Initial Calibration)

0.2ng/L Std. ID:
1ng/L Std. ID: S29-06291610
4ng/L Std. ID: S29-06291608
20ng/L Std. ID: S29-06081608
200ng/L Std. ID: S29-06081605

Dilution Factors:		5	50	250	1000	5000	Working STD Conc.(ng/L):	NA	0.2	0.2	0.2	4	20	NA	200	NA	200
	Source Std.	Primary Working Standards					Injection (L):	NA	0.100	0.250	0.500	0.125	0.050	NA	0.050	NA	0.250
Compounds	mg/m^3	200ng/L	20ng/L	4ng/L	1ng/L	0.2ng/L	ICAL Points:	0.01ng	0.02ng	0.05ng	0.1ng	0.5ng	1ng	2.5ng	10ng	20ng	50ng
4-Methyl-2-pentanone	1.08	216	21.6	4.32	1.08	0.216		NA	0.0216	0.0540	0.108	0.540	1.08	NA	10.80	NA	54.0
trans-1,3-Dichloropropene	1.07	214	21.4	4.28	1.07	0.214		NA	0.0214	0.0535	0.107	0.535	1.07	NA	10.70	NA	53.5
1,1,2-Trichloroethane	1.05	210	21.0	4.20	1.05	0.210		NA	0.0210	0.0525	0.105	0.525	1.05	NA	10.50	NA	52.5
Toluene	1.05	210	21.0	4.20	1.05	0.210		NA	0.0210	0.0525	0.105	0.525	1.05	NA	10.50	NA	52.5
2-Hexanone	1.11	222	22.2	4.44	1.11	0.222		NA	0.0222	0.0555	0.111	0.555	1.11	NA	11.10	NA	55.5
Dibromochloromethane	1.10	220	22.0	4.40	1.10	0.220		NA	0.0220	0.0550	0.110	0.550	1.10	NA	11.00	NA	55.0
1,2-Dibromoethane	1.07	214	21.4	4.28	1.07	0.214		NA	0.0214	0.0535	0.107	0.535	1.07	NA	10.70	NA	53.5
n-Butyl Acetate	1.11	222	22.2	4.44	1.11	0.222		NA	0.0222	0.0555	0.111	0.555	1.11	NA	11.10	NA	55.5
n-Octane	1.03	206	20.6	4.12	1.03	0.206		NA	0.0206	0.0515	0.103	0.515	1.03	NA	10.30	NA	51.5
Tetrachloroethene	0.99	198	19.8	3.96	0.99	0.198		NA	0.0198	0.0495	0.099	0.495	0.99	NA	9.90	NA	49.5
Chlorobenzene	1.07	214	21.4	4.28	1.07	0.214		NA	0.0214	0.0535	0.107	0.535	1.07	NA	10.70	NA	53.5
Ethylbenzene	1.05	210	21.0	4.20	1.05	0.210		NA	0.0210	0.0525	0.105	0.525	1.05	NA	10.50	NA	52.5
m-&p-Xylene	2.08	416	41.6	8.32	2.08	0.416		NA	0.0416	0.1040	0.208	1.040	2.08	NA	20.80	NA	104.0
Bromoform	1.07	214	21.4	4.28	1.07	0.214		NA	0.0214	0.0535	0.107	0.535	1.07	NA	10.70	NA	53.5
Styrene	1.08	216	21.6	4.32	1.08	0.216		NA	0.0216	0.0540	0.108	0.540	1.08	NA	10.80	NA	54.0
o-Xylene	1.02	204	20.4	4.08	1.02	0.204		NA	0.0204	0.0510	0.102	0.510	1.02	NA	10.20	NA	51.0
n-Nonane	1.01	202	20.2	4.04	1.01	0.202		NA	0.0202	0.0505	0.101	0.505	1.01	NA	10.10	NA	50.5
1,1,2,2-Tetrachloroethane	1.00	200	20.0	4.00	1.00	0.200		NA	0.0200	0.0500	0.100	0.500	1.00	NA	10.00	NA	50.0
Cumene	1.01	202	20.2	4.04	1.01	0.202		NA	0.0202	0.0505	0.101	0.505	1.01	NA	10.10	NA	50.5
alpha-Pinene	1.03	206	20.6	4.12	1.03	0.206		NA	0.0206	0.0515	0.103	0.515	1.03	NA	10.30	NA	51.5
n-Propylbenzene	1.00	200	20.0	4.00	1.00	0.200		NA	0.0200	0.0500	0.100	0.500	1.00	NA	10.00	NA	50.0
3-Ethyltoluene	1.04	208	20.8	4.16	1.04	0.208		NA	0.0208	0.0520	0.104	0.520	1.04	NA	10.40	NA	52.0
4-Ethyltoluene	1.05	210	21.0	4.20	1.05	0.210		NA	0.0210	0.0525	0.105	0.525	1.05	NA	10.50	NA	52.5
1,3,5-Trimethylbenzene	1.04	208	20.8	4.16	1.04	0.208		NA	0.0208	0.0520	0.104	0.520	1.04	NA	10.40	NA	52.0
alpha-Methylstyrene	1.03	206	20.6	4.12	1.03	0.206		NA	0.0206	0.0515	0.103	0.515	1.03	NA	10.30	NA	51.5
2-Ethyltoluene	1.04	208	20.8	4.16	1.04	0.208		NA	0.0208	0.0520	0.104	0.520	1.04	NA	10.40	NA	52.0
1,2,4-Trimethylbenzene	1.04	208	20.8	4.16	1.04	0.208		NA	0.0208	0.0520	0.104	0.520	1.04	NA	10.40	NA	52.0
n-Decane	1.01	202	20.2	4.04	1.01	0.202		NA	0.0202	0.0505	0.101	0.505	1.01	NA	10.10	NA	50.5
Benzyl Chloride	1.08	216	21.6	4.32	1.08	0.216		NA	0.0216	0.0540	0.108	0.540	1.08	NA	10.80	NA	54.0
1,3-Dichlorobenzene	1.08	216	21.6	4.32	1.08	0.216		NA	0.0216	0.0540	0.108	0.540	1.08	NA	10.80	NA	54.0
1,4-Dichlorobenzene	1.05	210	21.0	4.20	1.05	0.210		NA	0.0210	0.0525	0.105	0.525	1.05	NA	10.50	NA	52.5
sec-Butylbenzene	1.06	212	21.2	4.24	1.06	0.212		NA	0.0212	0.0530	0.106	0.530	1.06	NA	10.60	NA	53.0
p-Isopropyltoluene	1.00	200	20.0	4.00	1.00	0.200		NA	0.0200	0.0500	0.100	0.500	1.00	NA	10.00	NA	50.0
1,2,3-Trimethylbenzene	1.04	208	20.8	4.16	1.04	0.208		NA	0.0208	0.0520	0.104	0.520	1.04	NA	10.40	NA	52.0
1,2-Dichlorobenzene	1.07	214	21.4	4.28	1.07	0.214		NA	0.0214	0.0535	0.107	0.535	1.07	NA	10.70	NA	53.5
d-Limonene	1.04	208	20.8	4.16	1.04	0.208		NA	0.0208	0.0520	0.104	0.520	1.04	NA	10.40	NA	52.0
1,2-Dibromo-3-chloropropane	1.04	208	20.8	4.16	1.04	0.208		NA	0.0208	0.0520	0.104	0.520	1.04	NA	10.40	NA	52.0
n-Undecane	1.01	202	20.2	4.04	1.01	0.202		NA	0.0202	0.0505	0.101	0.505	1.01	NA	10.10	NA	50.5
1,2,4-Trichlorobenzene	1.04	208	20.8	4.16	1.04	0.208		NA	0.0208	0.0520	0.104	0.520	1.04	NA	10.40	NA	52.0
Naphthalene	1.00	200	20.0	4.00	1.00	0.200		NA	0.0200	0.0500	0.100	0.500	1.00	NA	10.00	NA	50.0
n-Dodecane	1.04	208	20.8	4.16	1.04	0.208		NA	0.0208	0.0520	0.104	0.520	1.04	NA	10.40	NA	52.0
Hexachloro-1,3-butadiene	1.07	214	21.4	4.28	1.07	0.214		NA	0.0214	0.0535	0.107	0.535	1.07	NA	10.70	NA	53.5
Methacrylonitrile	1.03	206	20.6	4.12	1.03	0.206		NA	0.0206	0.0515	0.103	0.515	1.03	NA	10.30	NA	51.5
Cyclohexanone	1.12	224	22.4	4.48	1.12	0.224		NA	0.0224	0.0560	0.112	0.560	1.12	NA	11.20	NA	56.0
tert-Butylbenzene	1.05	210	21.0	4.20	1.05	0.210		NA	0.0210	0.0525	0.105	0.525	1.05	NA	10.50	NA	52.5
n-Butylbenzene	1.08	216	21.6	4.32	1.08	0.216		NA	0.0216	0.0540	0.108	0.540	1.08	NA	10.80	NA	54.0

Calibration Status Report MS19

Method : I:\MS19\METHODS\S19070716.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration

CL 7/8/16

#	ID	Conc	ISTD Conc	Path\File
1	20	1000	1000	I:\MS19\DATA\2016_07\07\07071612.D
2	50	1000	1000	I:\MS19\DATA\2016_07\07\07071613.D
3	100	1000	1000	I:\MS19\DATA\2016_07\07\07071614.D
4	500	1000	1000	I:\MS19\DATA\2016_07\07\07071615.D
5	1000	1000	1000	I:\MS19\DATA\2016_07\07\07071616.D
6	2000	1000	1000	I:\MS19\DATA\2016_07\07\07071617.D
7	5000	1000	1000	I:\MS19\DATA\2016_07\07\07071618.D
8	10K	1000	1000	I:\MS19\DATA\2016_07\07\07071619.D
9	50K	1000	1000	I:\MS19\DATA\2016_07\07\07071620.D

#	ID	Update Time	Quant Time	Acquisition Time
1	20	Jul 08 11:24 2016	Jul 08 08:06 2016	7 Jul 2016 14:58
2	50	Jul 08 11:24 2016	Jul 08 08:08 2016	7 Jul 2016 15:29
3	100	Jul 08 11:24 2016	Jul 08 08:09 2016	7 Jul 2016 16:00
4	500	Jul 08 11:24 2016	Jul 08 08:10 2016	7 Jul 2016 16:32
5	1000	Jul 08 11:24 2016	Jul 08 08:11 2016	7 Jul 2016 17:03
6	2000	Jul 08 11:24 2016	Jul 08 07:53 2016	7 Jul 2016 17:35
7	5000	Jul 08 11:24 2016	Jul 08 08:13 2016	7 Jul 2016 18:06
8	10K	Jul 08 11:25 2016	Jul 08 07:53 2016	7 Jul 2016 18:38
9	50K	Jul 08 11:25 2016	Jul 08 07:53 2016	7 Jul 2016 19:09

S19070716.M Fri Jul 08 14:01:33 2016

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\07\07071612.D Vial: 13
Acq On : 7 Jul 2016 14:58 Operator: CL
Sample : 20pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06291610 (7/28)

Quant Time: Jul 08 08:06:15 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 7/8/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.77	130	13034	1000.000 pg	0.02
25) 1,4-Difluorobenzene (IS2)	11.72	114	64653	1000.000 pg	0.01
38) Chlorobenzene-d5 (IS3)	16.06	54	10426	1000.000 pg	0.00

System Monitoring Compounds					
20) 1,2-Dichloroethane-d4 ...	10.55	65	19910	855.788 pg	0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 85.58%		
33) Toluene-d8 (SS2)	14.15	98	66855	1002.907 pg	0.01
Spiked Amount 1000.000	Range 70 - 130		Recovery = 100.29%		
45) Bromofluorobenzene (SS3)	17.56	174	26225	1239.224 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 123.92%		

Target Compounds					Qvalue
2) Dichlorodifluoromethan...	4.45	85	697	19.842 pg	99
3) Chloromethane	4.67	52	198	19.330 pg	99
4) 1,2-Dichloro,1,1,2,2-t...	4.83	85	513	15.385 pg	99
5) Vinyl Chloride	4.98	62	484	15.614 pg	96
6) 1,3-Butadiene	5.18	54	331	16.372 pg	94
7) Bromomethane	5.50	94	281	21.514 pg	99
8) Chloroethane	5.73	64	248	24.545 pg	91
9) Acrolein	6.33	56	273	35.763 pg	86
10) Acetone	6.46	58	2173	219.961 pg	92
11) Trichlorofluoromethane	6.63	101	486	19.732 pg	99
12) 1,1-Dichloroethene	7.37	96	300	22.465 pg	96
13) Methylene Chloride	7.50	84	378	25.360 pg	94
14) Trichlorotrifluoroethane	7.81	151	290	22.903 pg	98
15) trans-1,2-Dichloroethene	8.54	96	354	24.523 pg	91
16) 1,1-Dichloroethane	8.73	63	589	21.559 pg	99
17) Methyl tert-Butyl Ether	8.83	73	981	24.885 pg	100
18) cis-1,2-Dichloroethene	9.61	96	359	24.049 pg	99
19) Chloroform	9.90	83	1437	47.759 pg	100
21) 1,2-Dichloroethane	10.65	62	412	19.452 pg	91
22) 1,1,1-Trichloroethane	10.92	97	477	19.573 pg	97
23) Benzene	11.38	78	2229	36.212 pg	99
24) Carbon Tetrachloride	11.53	117	443	20.808 pg	99
26) 1,2-Dichloropropane	12.19	63	332	20.425 pg	99
27) Bromodichloromethane	12.37	83	404	17.799 pg	99
28) Trichloroethene	12.42	130	350	20.925 pg	98
29) 1,4-Dioxane	12.42	88	261	23.563 pg	96
30) cis-1,3-Dichloropropene	13.27	75	497	21.481 pg	97
31) trans-1,3-Dichloropropene	13.78	75	392	19.278 pg	95
32) 1,1,2-Trichloroethane	13.96	83	257	18.806 pg	99
34) Toluene	14.25	91	1957	30.551 pg	100
35) Dibromochloromethane	14.67	129	297	18.502 pg	98
36) 1,2-Dibromoethane	14.93	107	323	20.034 pg	100
37) Tetrachloroethene	15.40	166	363	20.820 pg	100
39) Chlorobenzene	16.11	112	895	26.310 pg	97
40) Ethylbenzene	16.49	91	1407	27.160 pg	99
41) m,p-Xylene	16.66	91	2128	53.038 pg	100
42) Styrene	17.02	104	712	26.139 pg	100
43) o-Xylene	17.13	106	521	26.057 pg	99
44) 1,1,2,2-Tetrachloroethane	17.10	83	459	19.173 pg	96
46) 1,3,5-Trimethylbenzene	18.38	105	1020	24.806 pg	96
47) 1,2,4-Trimethylbenzene	18.77	105	939	23.031 pg	98
48) 1,3-Dichlorobenzene	18.93	146	539	21.628 pg	97
49) 1,4-Dichlorobenzene	18.99	146	648	25.150 pg	98
50) 1,2-Dichlorobenzene	19.32	146	582	23.541 pg	100
51) 1,2-Dibromo-3-chloropr...	19.74	157	147	18.097 pg	97
52) 1,2,4-Trichlorobenzene	21.00	182	324	21.564 pg	98
53) Naphthalene	21.15	128	1179m	21.498 pg	

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\07\07071612.D Vial: 13
Acq On : 7 Jul 2016 14:58 Operator: CL
Sample : 20pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06291610 (7/28)

Quant Time: Jul 08 08:06:15 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

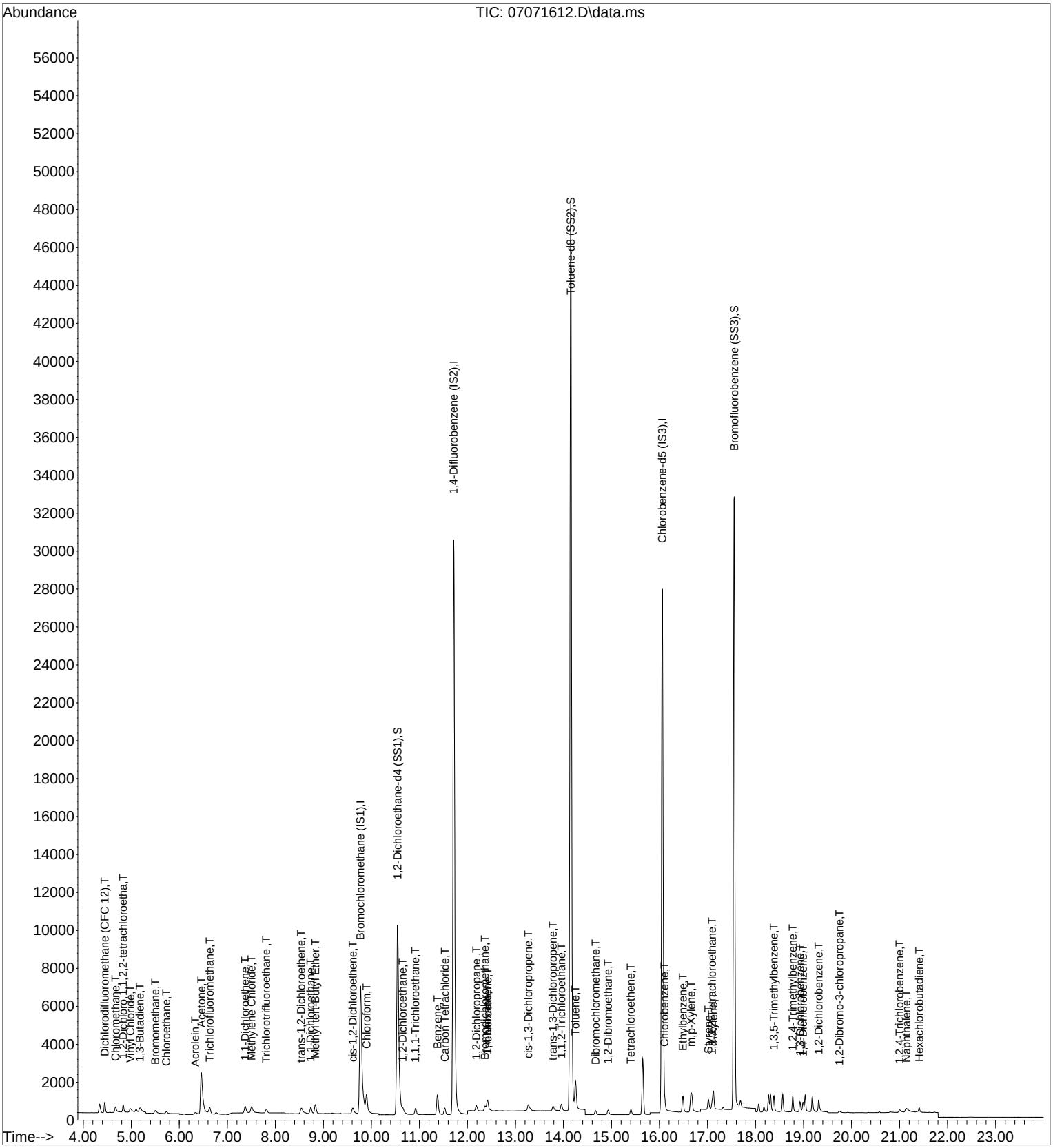
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Hexachlorobutadiene	21.41	225	248	23.329	pg	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\07\07071612.D Vial: 13
Acq On : 7 Jul 2016 14:58 Operator: CL
Sample : 20pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06291610 (7/28)

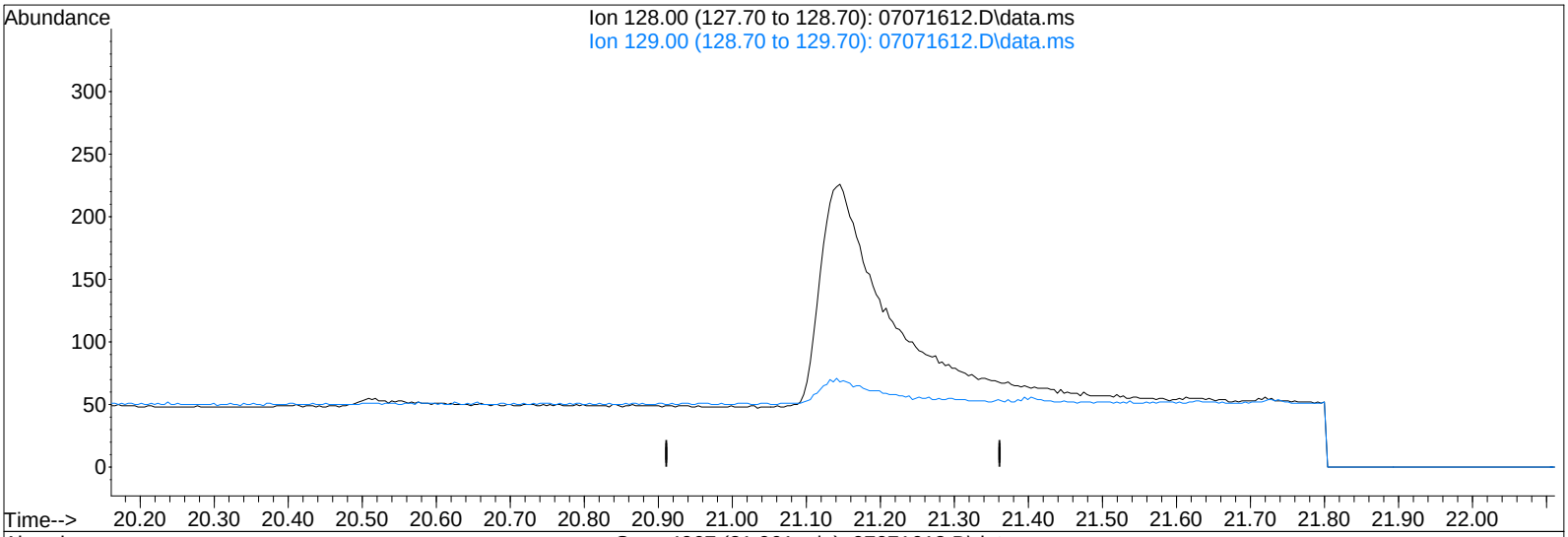
Quant Time: Jul 08 08:06:15 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

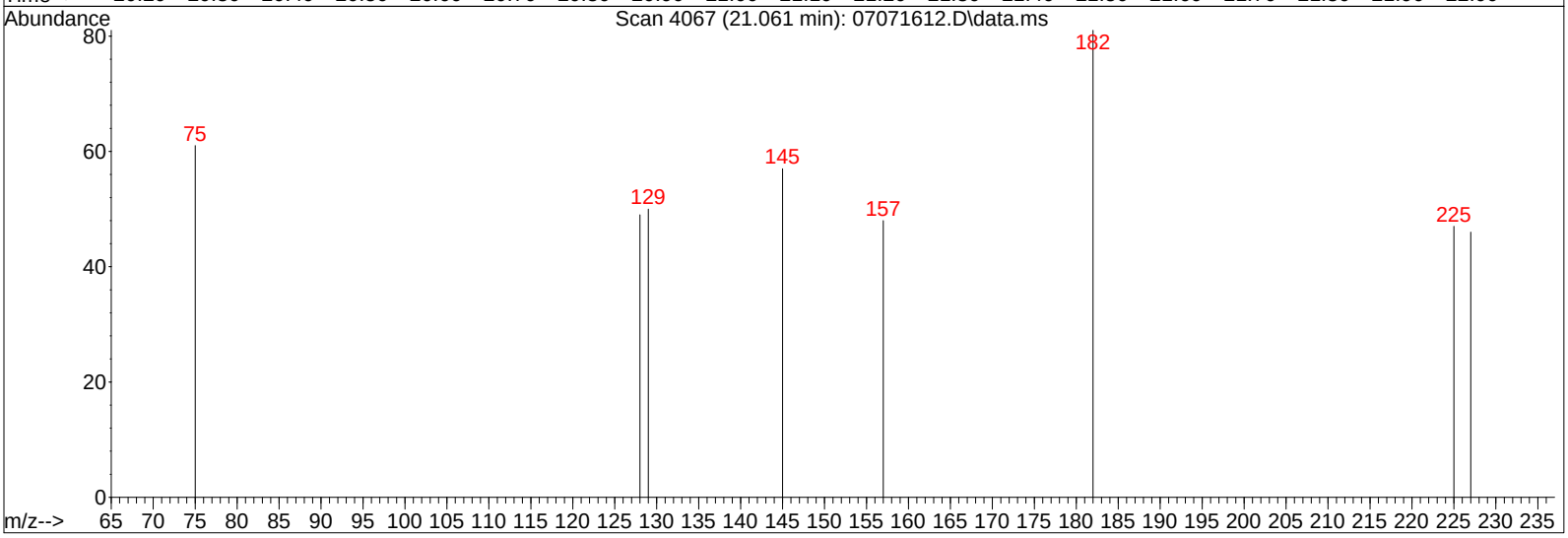


Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 07\07\07071612.D Vial: 13
Acq On : 7 Jul 2016 14:58 Operator: CL
Sample : 20pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06291610 (7/28)

Quant Time: Jul 08 07:53:08 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M





TIC: 07071612.D\data.ms

(53) Naphthalene (T)

21.061min (-21.061) 0.00pg

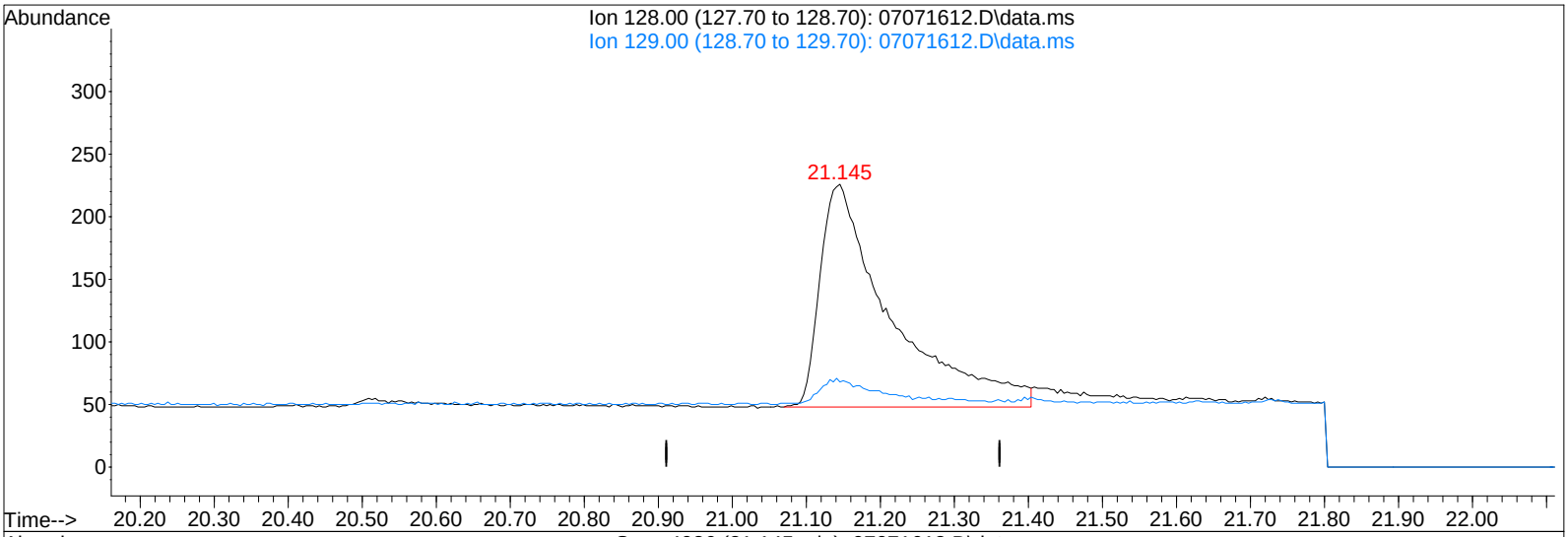
response 0

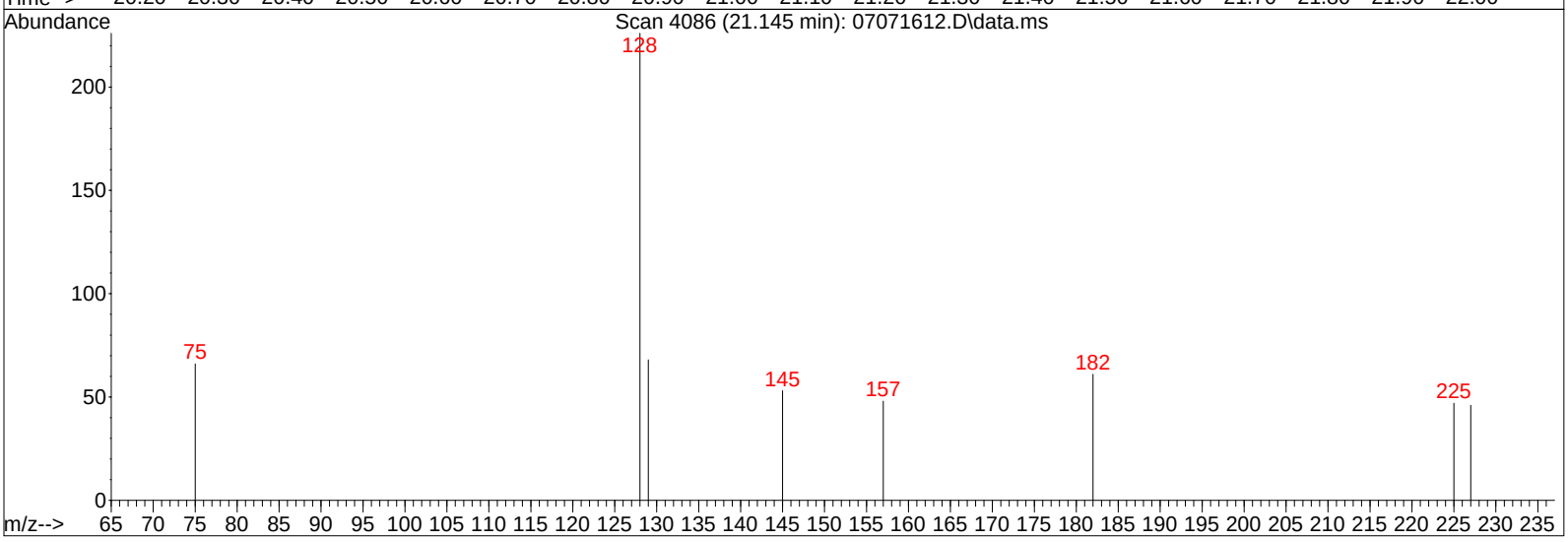
Ion	Exp%	Act%
128.00	100	0.00
129.00	10.70	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 07\07\07071612.D Vial: 13
Acq On : 7 Jul 2016 14:58 Operator: CL
Sample : 20pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06291610 (7/28)

Quant Time: Jul 08 07:53:08 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M





TIC: 07071612.D\data.ms

(53) Naphthalene (T)

21.145min (+0.085) 21.50pg m PIM

response 1179 CL 7/8/16

Ion	Exp%	Act%
128.00	100	100
129.00	10.70	0.00
0.00	0.00	0.00
0.00	0.00	0.00

WA 7/22/16

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\07\07071613.D Vial: 13
Acq On : 7 Jul 2016 15:29 Operator: CL
Sample : 50pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06291610 (7/28)

Quant Time: Jul 08 08:08:31 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 7/8/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.77	130	12919	1000.000 pg	0.02
25) 1,4-Difluorobenzene (IS2)	11.71	114	63885	1000.000 pg	0.00
38) Chlorobenzene-d5 (IS3)	16.06	54	10438	1000.000 pg	0.00

System Monitoring Compounds					
20) 1,2-Dichloroethane-d4 ...	10.54	65	19884	862.279 pg	0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 86.23%		
33) Toluene-d8 (SS2)	14.15	98	66208	1005.141 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 100.51%		
45) Bromofluorobenzene (SS3)	17.56	174	26182	1235.769 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 123.58%		

Target Compounds					Qvalue
2) Dichlorodifluoromethan...	4.44	85	1625	46.673 pg	100
3) Chloromethane	4.66	52	432	42.551 pg	99
4) 1,2-Dichloro,1,1,2,2-t...	4.83	85	1236	37.399 pg	100
5) Vinyl Chloride	4.97	62	1158	37.689 pg	100
6) 1,3-Butadiene	5.17	54	781	38.973 pg	98
7) Bromomethane	5.49	94	650	50.208 pg	98
8) Chloroethane	5.72	64	557	55.619 pg	99
9) Acrolein	6.32	56	520m	68.727 pg	
10) Acetone	6.45	58	3730	380.929 pg	99
11) Trichlorofluoromethane	6.63	101	1127	46.163 pg	100
12) 1,1-Dichloroethene	7.37	96	734	55.454 pg	99
13) Methylene Chloride	7.50	84	823	55.707 pg	100
14) Trichlorotrifluoroethane	7.81	151	708	56.413 pg	99
15) trans-1,2-Dichloroethene	8.54	96	806	56.331 pg	98
16) 1,1-Dichloroethane	8.73	63	1406	51.922 pg	100
17) Methyl tert-Butyl Ether	8.82	73	2396	61.319 pg	100
18) cis-1,2-Dichloroethene	9.61	96	841	56.838 pg	99
19) Chloroform	9.90	83	2105	70.582 pg	100
21) 1,2-Dichloroethane	10.65	62	968	46.109 pg	100
22) 1,1,1-Trichloroethane	10.91	97	1139	47.152 pg	100
23) Benzene	11.38	78	3973	65.119 pg	100
24) Carbon Tetrachloride	11.53	117	990	46.916 pg	100
26) 1,2-Dichloropropane	12.18	63	793	49.373 pg	99
27) Bromodichloromethane	12.36	83	974	43.428 pg	99
28) Trichloroethene	12.42	130	847	51.247 pg	99
29) 1,4-Dioxane	12.41	88	637	58.200 pg	99
30) cis-1,3-Dichloropropene	13.26	75	1206	52.753 pg	99
31) trans-1,3-Dichloropropene	13.78	75	952	47.381 pg	98
32) 1,1,2-Trichloroethane	13.95	83	621	45.988 pg	99
34) Toluene	14.25	91	3481	54.995 pg	99
35) Dibromochloromethane	14.67	129	708	44.637 pg	100
36) 1,2-Dibromoethane	14.93	107	766	48.081 pg	100
37) Tetrachloroethene	15.40	166	869	50.441 pg	100
39) Chlorobenzene	16.10	112	2116	62.131 pg	99
40) Ethylbenzene	16.48	91	3354	64.669 pg	100
41) m,p-Xylene	16.66	91	5148	128.161 pg	98
42) Styrene	17.02	104	1744	63.953 pg	100
43) o-Xylene	17.13	106	1260	62.944 pg	99
44) 1,1,2,2-Tetrachloroethane	17.10	83	1141	47.605 pg	100
46) 1,3,5-Trimethylbenzene	18.38	105	2497	60.656 pg	99
47) 1,2,4-Trimethylbenzene	18.77	105	2457	60.193 pg	99
48) 1,3-Dichlorobenzene	18.93	146	1490	59.720 pg	100
49) 1,4-Dichlorobenzene	18.99	146	1575	61.058 pg	99
50) 1,2-Dichlorobenzene	19.31	146	1479	59.754 pg	99
51) 1,2-Dibromo-3-chloropr...	19.73	157	389	47.835 pg	93
52) 1,2,4-Trichlorobenzene	20.99	182	834	55.445 pg	100
53) Naphthalene	21.12	128	2607	47.483 pg	95

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\07\07071613.D Vial: 13
Acq On : 7 Jul 2016 15:29 Operator: CL
Sample : 50pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06291610 (7/28)

Quant Time: Jul 08 08:08:31 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

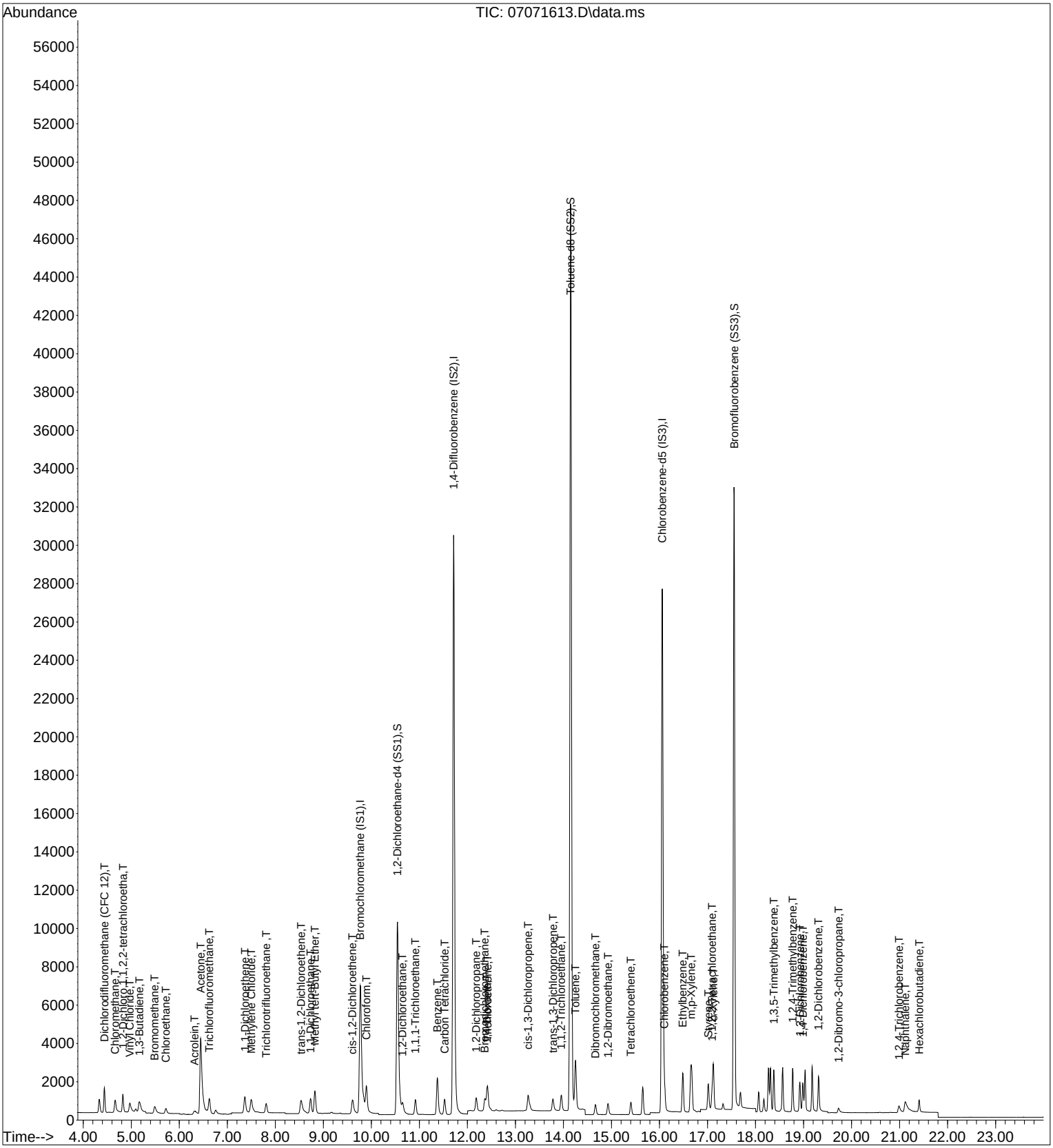
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Hexachlorobutadiene	21.41	225	686	64.456	pg	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\07\07071613.D Vial: 13
Acq On : 7 Jul 2016 15:29 Operator: CL
Sample : 50pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06291610 (7/28)

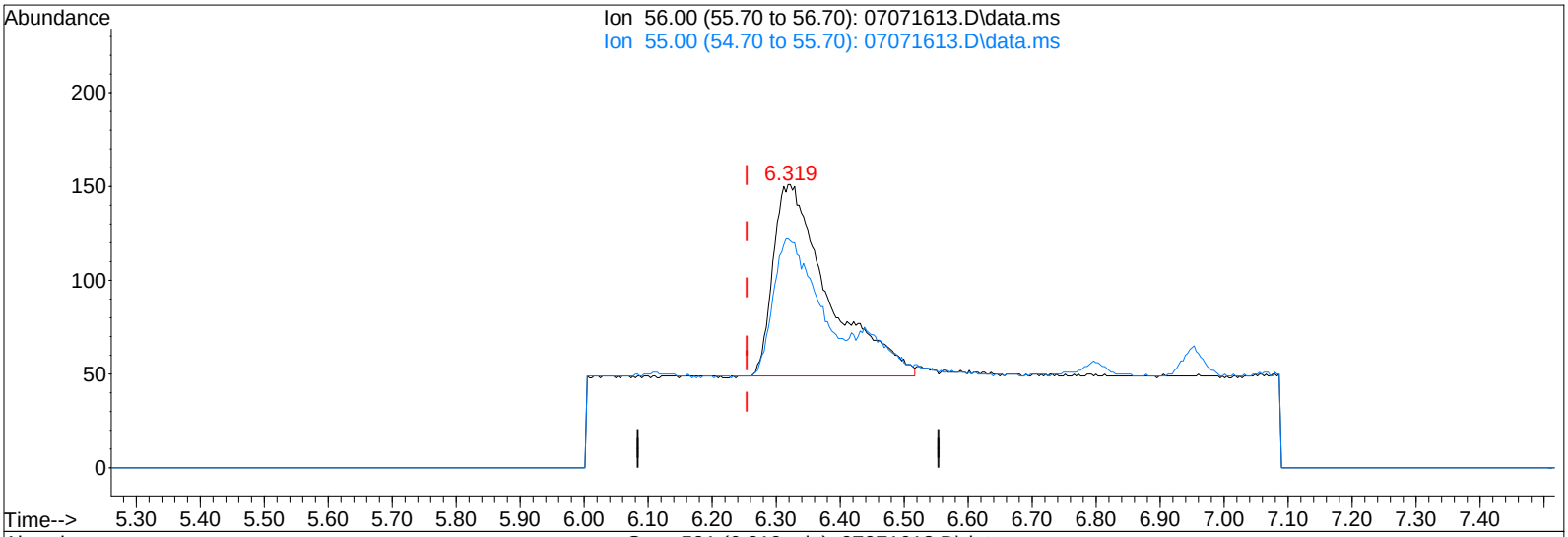
Quant Time: Jul 08 08:08:31 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

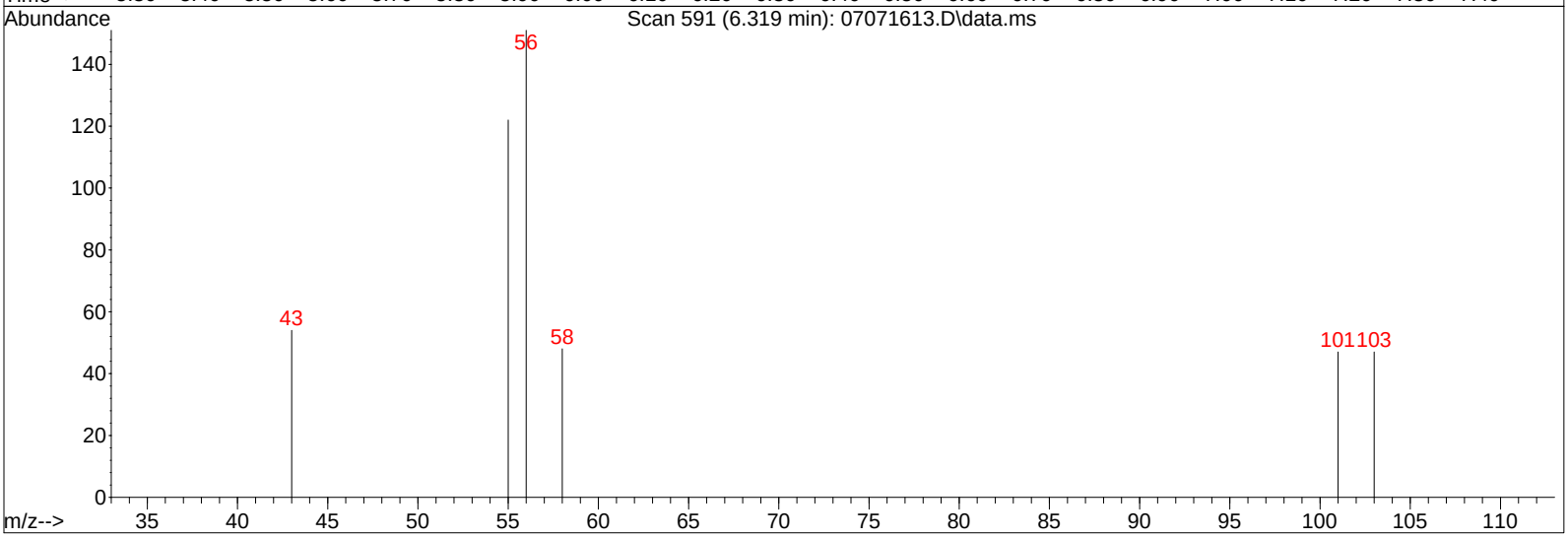


Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 07\07\07071613.D Vial: 13
Acq On : 7 Jul 2016 15:29 Operator: CL
Sample : 50pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06291610 (7/28)

Quant Time: Jul 08 07:53:09 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M





TIC: 07071613.D\data.ms

(9) Acrolein (T)

6.319min (+0.065) 81.02pg

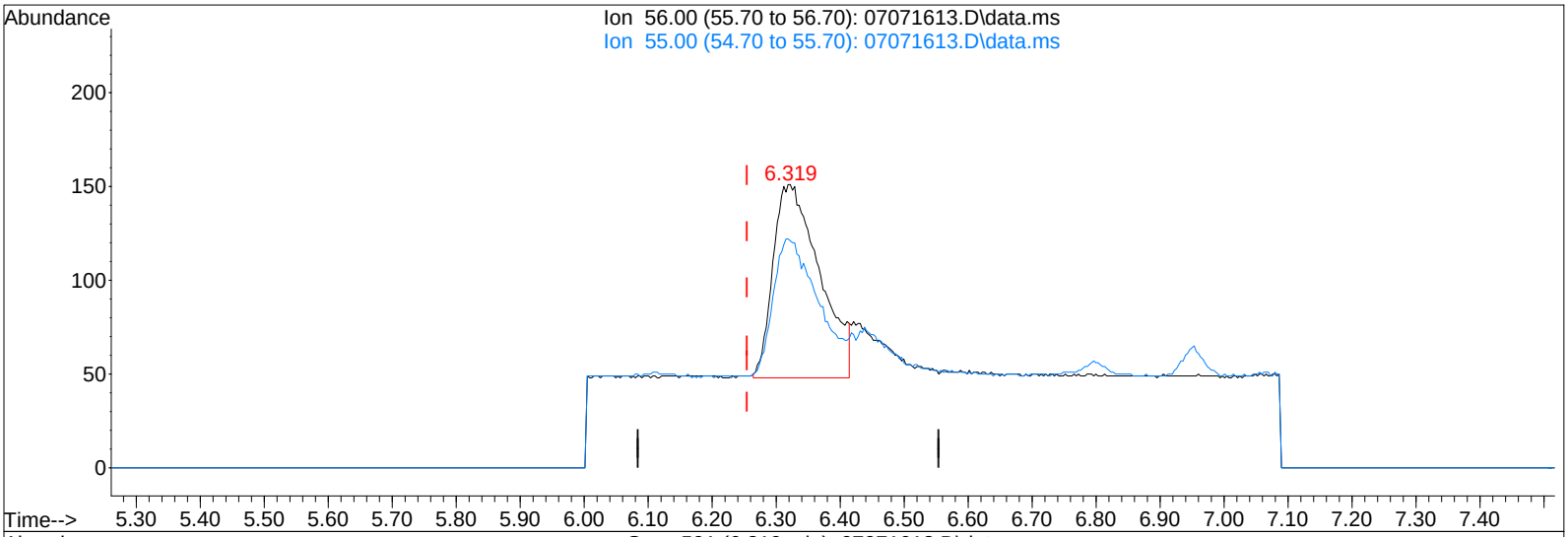
response 613

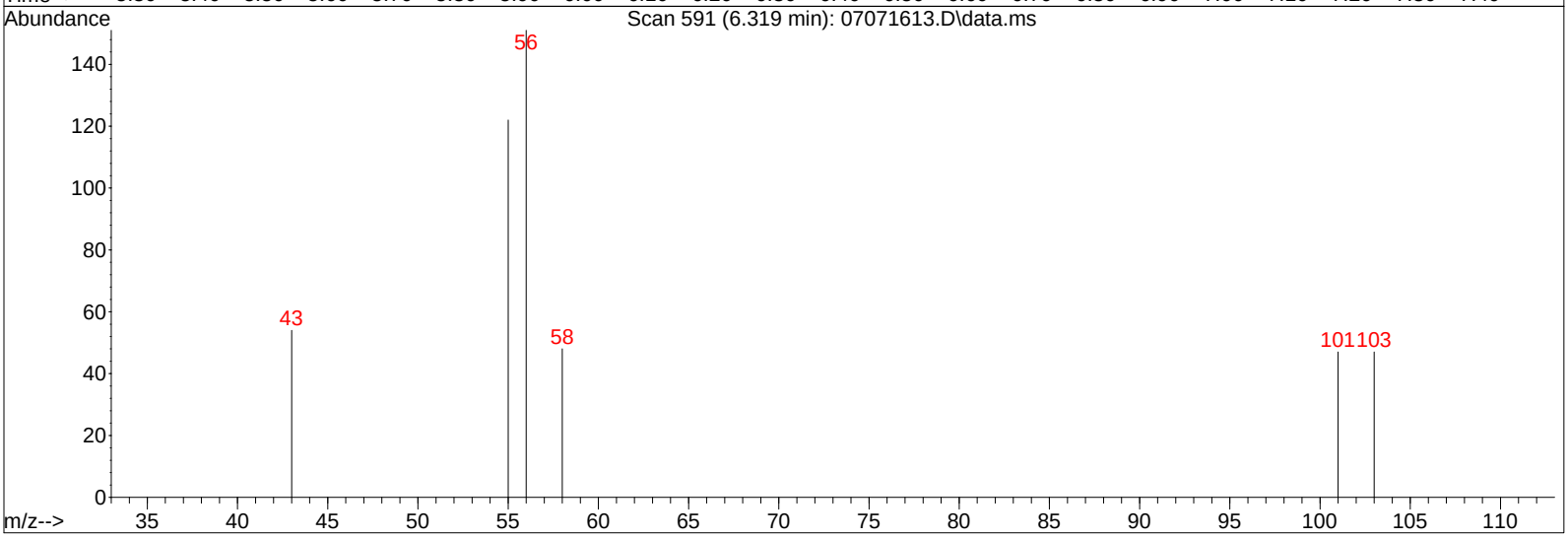
Ion	Exp%	Act%
56.00	100	100
55.00	58.90	57.75
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 07\07\07071613.D Vial: 13
Acq On : 7 Jul 2016 15:29 Operator: CL
Sample : 50pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06291610 (7/28)

Quant Time: Jul 08 07:53:09 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M





TIC: 07071613.D\data.ms

(9) Acrolein (T)

6.319min (+0.065) 68.73pg m

response 520

Ion	Exp%	Act%
56.00	100	100
55.00	58.90	68.08
0.00	0.00	0.00
0.00	0.00	0.00

IPC

CL 7/8/16

WA 7/22/16

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\07\07071614.D Vial: 13
Acq On : 7 Jul 2016 16:00 Operator: CL
Sample : 100pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06291610 (7/28)

Quant Time: Jul 08 08:09:12 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 7/8/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.77	130	13878	1000.000 pg	0.02
25) 1,4-Difluorobenzene (IS2)	11.71	114	68799	1000.000 pg	0.00
38) Chlorobenzene-d5 (IS3)	16.05	54	11266	1000.000 pg	0.00
System Monitoring Compounds					
20) 1,2-Dichloroethane-d4 ...	10.54	65	21616	872.612 pg	0.01
Spiked Amount 1000.000	Range 70 - 130		Recovery = 87.26%		
33) Toluene-d8 (SS2)	14.15	98	71072	1001.917 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 100.19%		
45) Bromofluorobenzene (SS3)	17.56	174	28194	1232.931 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 123.29%		

Target Compounds					Qvalue
2) Dichlorodifluoromethan...	4.44	85	3227	86.280 pg	100
3) Chloromethane	4.66	52	807	73.995 pg	98
4) 1,2-Dichloro,1,1,2,2-t...	4.82	85	2441	68.756 pg	100
5) Vinyl Chloride	4.97	62	2282	69.140 pg	99
6) 1,3-Butadiene	5.16	54	1506	69.958 pg	99
7) Bromomethane	5.48	94	1256	90.313 pg	98
8) Chloroethane	5.72	64	1134	105.410 pg	98
9) Acrolein	6.31	56	877m	107.901 pg	
10) Acetone	6.44	58	6446	612.812 pg	98
11) Trichlorofluoromethane	6.62	101	2244	85.565 pg	100
12) 1,1-Dichloroethene	7.36	96	1481	104.159 pg	99
13) Methylene Chloride	7.49	84	1543	97.225 pg	95
14) Trichlorotrifluoroethane	7.81	151	1395	103.471 pg	99
15) trans-1,2-Dichloroethene	8.53	96	1622	105.528 pg	100
16) 1,1-Dichloroethane	8.73	63	2859	98.284 pg	99
17) Methyl tert-Butyl Ether	8.82	73	4773	113.712 pg	100
18) cis-1,2-Dichloroethene	9.61	96	1668	104.941 pg	100
19) Chloroform	9.89	83	3171	98.979 pg	100
21) 1,2-Dichloroethane	10.65	62	1935	85.802 pg	100
22) 1,1,1-Trichloroethane	10.91	97	2272	87.557 pg	100
23) Benzene	11.38	78	6899	105.263 pg	99
24) Carbon Tetrachloride	11.52	117	1944	85.759 pg	100
26) 1,2-Dichloropropane	12.18	63	1600	92.502 pg	100
27) Bromodichloromethane	12.36	83	1953	80.860 pg	99
28) Trichloroethene	12.42	130	1651	92.758 pg	99
29) 1,4-Dioxane	12.40	88	1276	108.257 pg	99
30) cis-1,3-Dichloropropene	13.26	75	2372	96.345 pg	99
31) trans-1,3-Dichloropropene	13.78	75	1962	90.674 pg	100
32) 1,1,2-Trichloroethane	13.95	83	1254	86.232 pg	99
34) Toluene	14.25	91	6600	96.823 pg	100
35) Dibromochloromethane	14.67	129	1433	83.893 pg	100
36) 1,2-Dibromoethane	14.93	107	1519	88.536 pg	100
37) Tetrachloroethene	15.40	166	1703	91.790 pg	100
39) Chlorobenzene	16.10	112	4139	112.600 pg	99
40) Ethylbenzene	16.48	91	6671	119.171 pg	100
41) m,p-Xylene	16.66	91	10020	231.117 pg	100
42) Styrene	17.01	104	3580	121.631 pg	100
43) o-Xylene	17.12	106	2544	117.746 pg	99
44) 1,1,2,2-Tetrachloroethane	17.10	83	2381	92.040 pg	100
46) 1,3,5-Trimethylbenzene	18.38	105	5144	115.773 pg	100
47) 1,2,4-Trimethylbenzene	18.77	105	5135	116.555 pg	100
48) 1,3-Dichlorobenzene	18.92	146	3096	114.969 pg	100
49) 1,4-Dichlorobenzene	18.98	146	3250	116.733 pg	99
50) 1,2-Dichlorobenzene	19.31	146	3048	114.094 pg	99
51) 1,2-Dibromo-3-chloropr...	19.73	157	846	96.386 pg	96
52) 1,2,4-Trichlorobenzene	20.97	182	1807	111.301 pg	99
53) Naphthalene	21.09	128	5721	96.541 pg	99

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\07\07071614.D Vial: 13
Acq On : 7 Jul 2016 16:00 Operator: CL
Sample : 100pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06291610 (7/28)

Quant Time: Jul 08 08:09:12 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

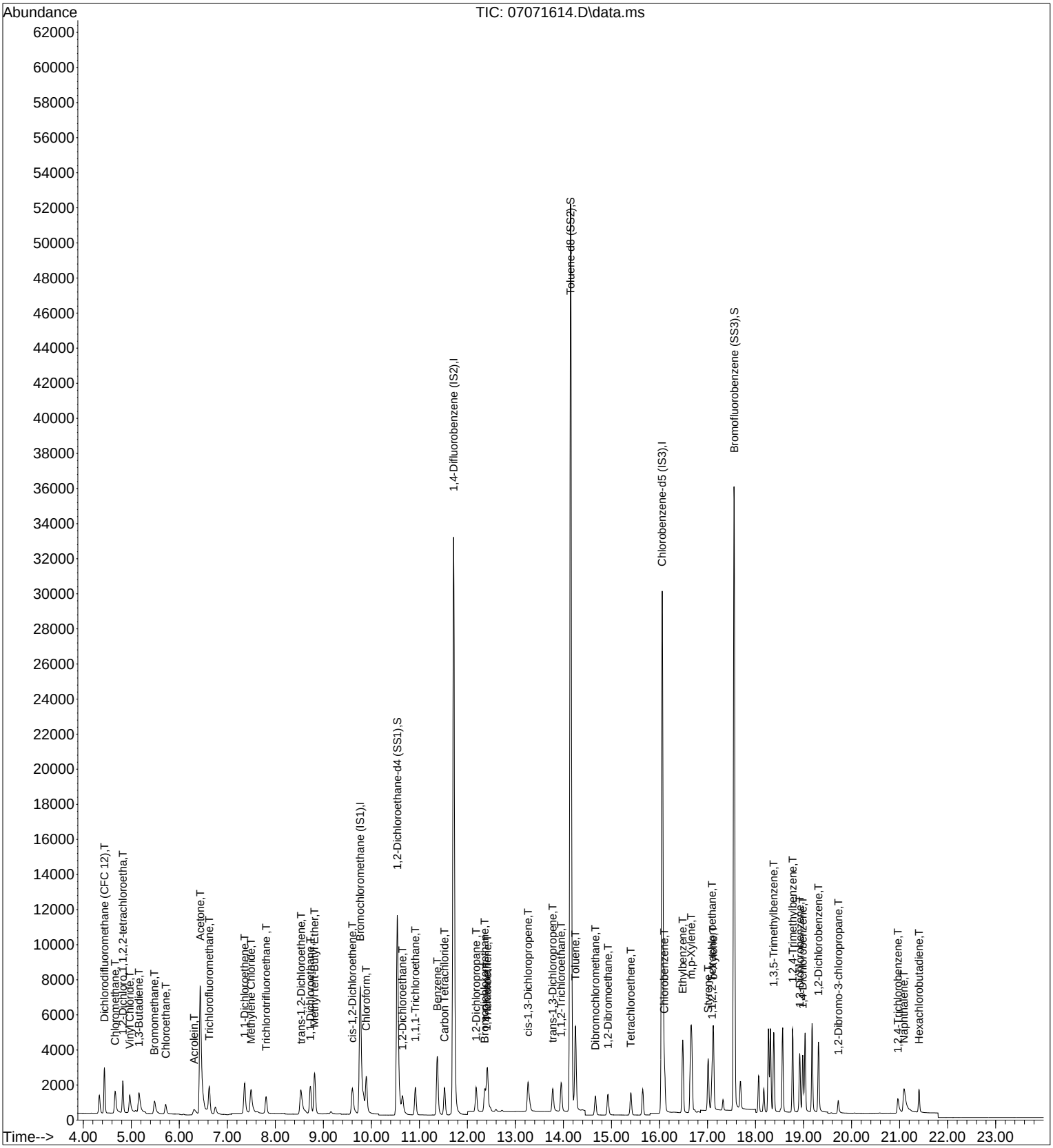
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Hexachlorobutadiene	21.40	225	1393	121.265	pg	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\07\07071614.D Vial: 13
Acq On : 7 Jul 2016 16:00 Operator: CL
Sample : 100pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06291610 (7/28)

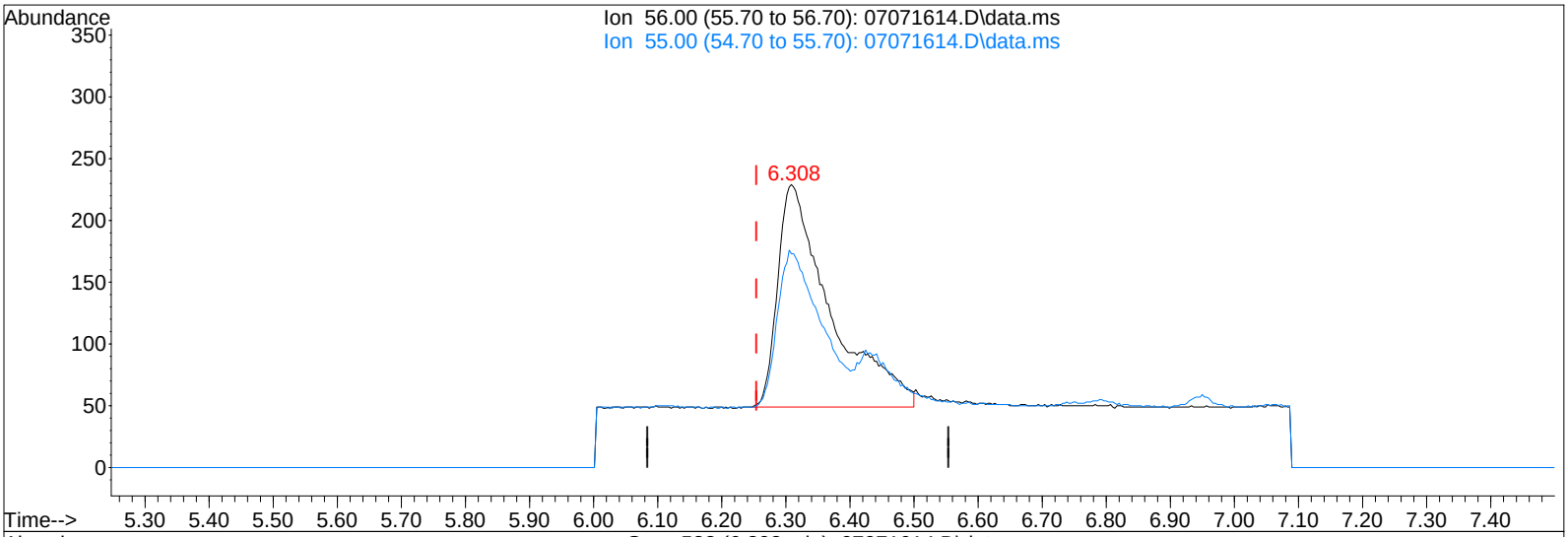
Quant Time: Jul 08 08:09:12 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

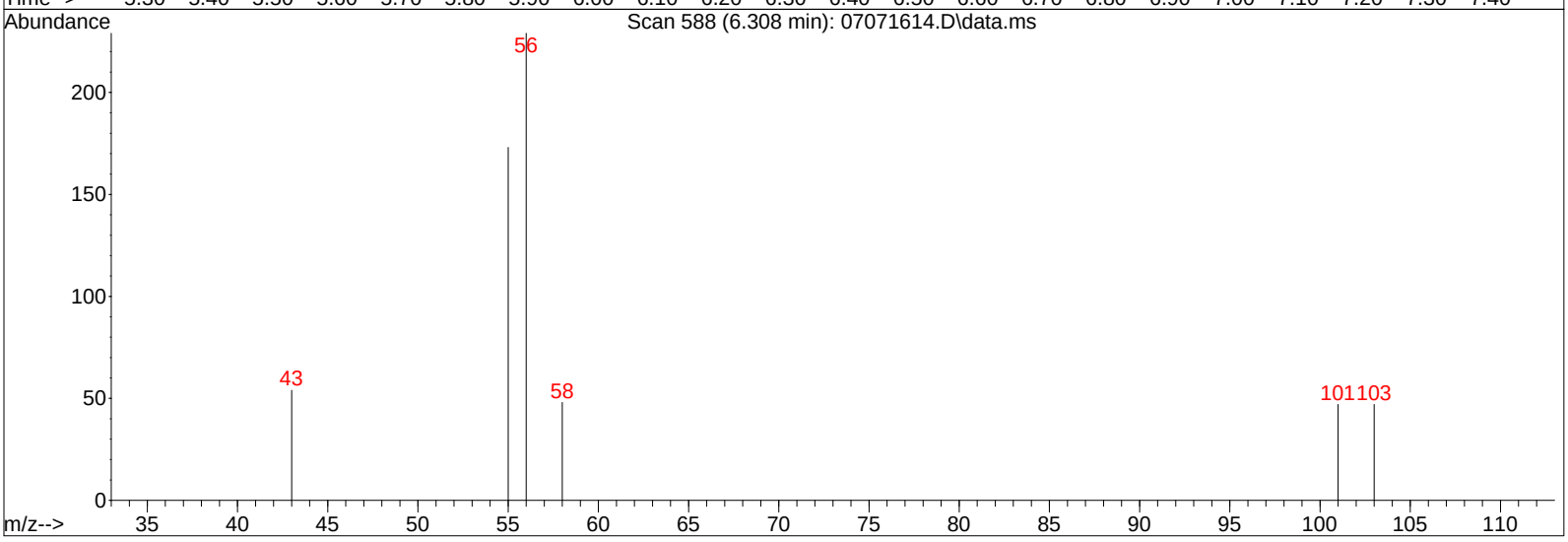


Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 07\07\07071614.D Vial: 13
Acq On : 7 Jul 2016 16:00 Operator: CL
Sample : 100pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06291610 (7/28)

Quant Time: Jul 08 07:53:10 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M





TIC: 07071614.D\data.ms

(9) Acrolein (T)

6.308min (+0.054) 125.99pg

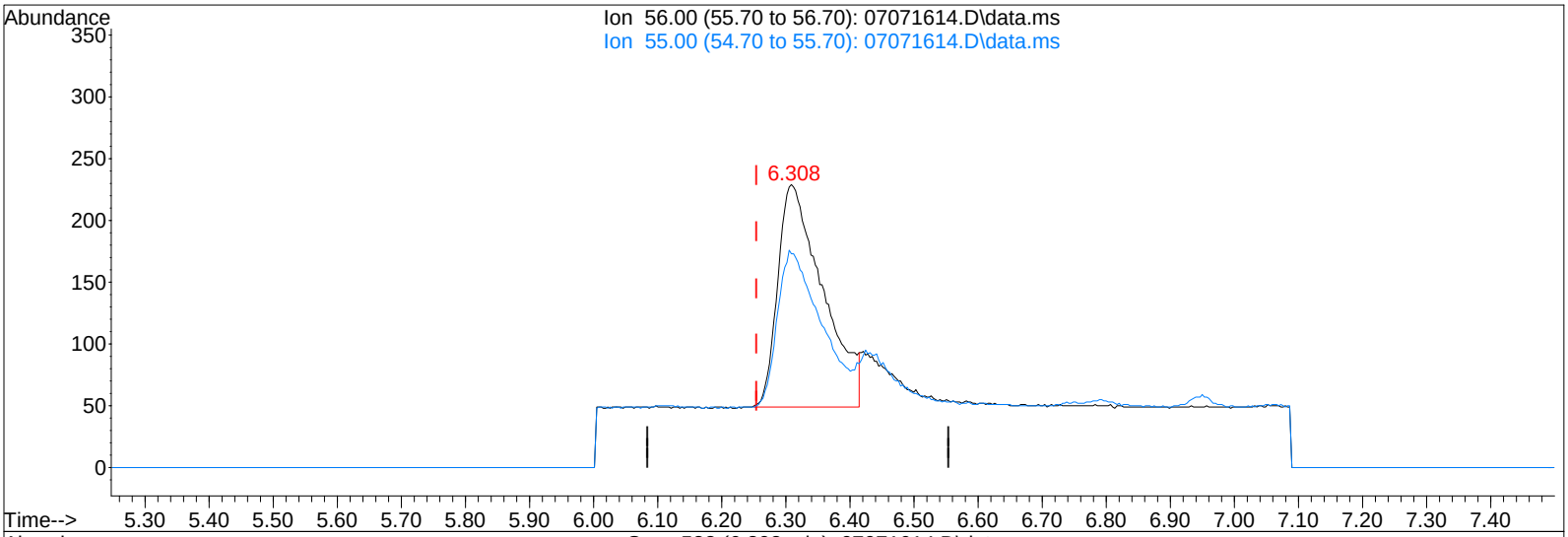
response 1024

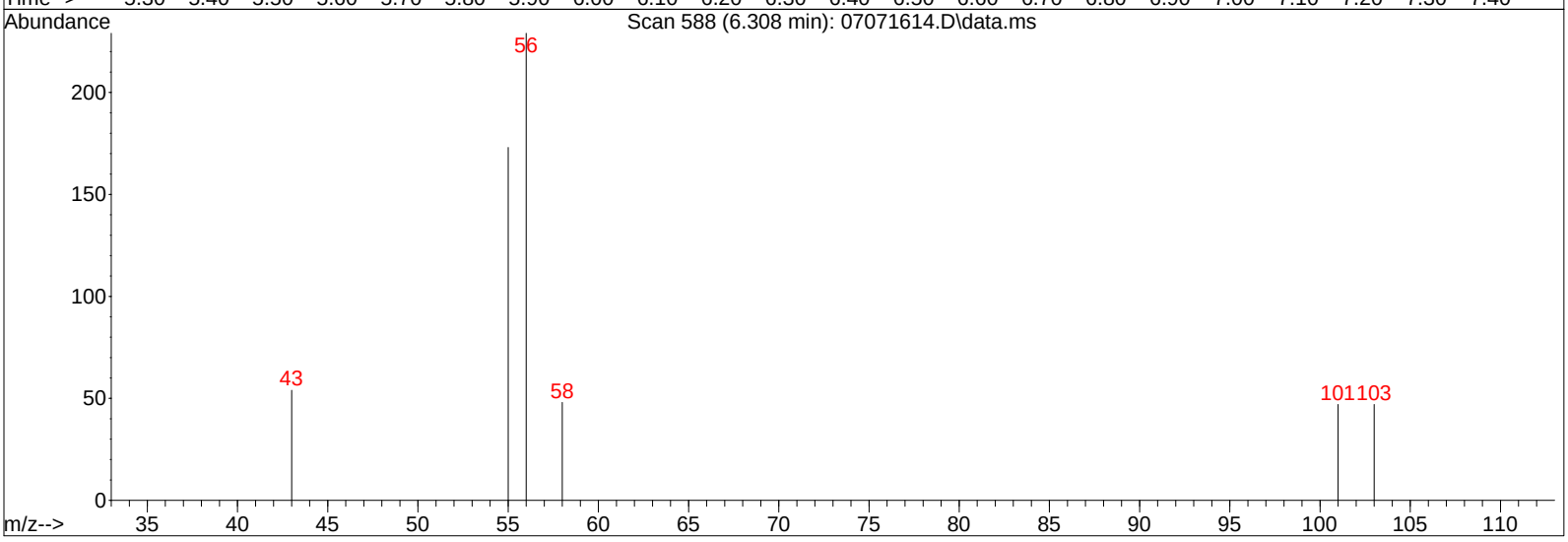
Ion	Exp%	Act%
56.00	100	100
55.00	58.90	58.30
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 07\07\07071614.D Vial: 13
Acq On : 7 Jul 2016 16:00 Operator: CL
Sample : 100pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06291610 (7/28)

Quant Time: Jul 08 07:53:10 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M





TIC: 07071614.D\data.ms

(9) Acrolein (T)

6.308min (+0.054) 107.90pg m

response 877

IPC

CL 7/8/16 WA 7/22/16

Ion	Exp%	Act%
56.00	100	100
55.00	58.90	68.07
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\07\07071615.D Vial: 16
Acq On : 7 Jul 2016 16:32 Operator: CL
Sample : 500pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06291608 (7/28)

Quant Time: Jul 08 08:10:23 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 7/8/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.75	130	13395	1000.000 pg	0.00
25) 1,4-Difluorobenzene (IS2)	11.71	114	66827	1000.000 pg	0.00
38) Chlorobenzene-d5 (IS3)	16.05	54	11116	1000.000 pg	0.00

System Monitoring Compounds

20) 1,2-Dichloroethane-d4 ...	10.53	65	20799	869.907 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 86.99%		
33) Toluene-d8 (SS2)	14.14	98	69350	1006.491 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 100.65%		
45) Bromofluorobenzene (SS3)	17.55	174	27580	1222.356 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 122.24%		

Target Compounds					Qvalue
2) Dichlorodifluoromethan...	4.41	85	16719	463.133 pg	100
3) Chloromethane	4.63	52	4167	395.855 pg	100
4) 1,2-Dichloro,1,1,2,2-t...	4.80	85	12611	368.026 pg	100
5) Vinyl Chloride	4.93	62	11710	367.582 pg	100
6) 1,3-Butadiene	5.12	54	8553	411.640 pg	100
7) Bromomethane	5.45	94	6311	470.156 pg	100
8) Chloroethane	5.69	64	5818	560.308 pg	100
9) Acrolein	6.25	56	4406m	561.635 pg	
10) Acetone	6.39	58	32198	3171.394 pg	100
11) Trichlorofluoromethane	6.61	101	11403	450.483 pg	100
12) 1,1-Dichloroethene	7.33	96	7676	559.319 pg	100
13) Methylene Chloride	7.46	84	8191	534.730 pg	100
14) Trichlorotrifluoroethane	7.79	151	7132	548.075 pg	100
15) trans-1,2-Dichloroethene	8.50	96	8378	564.730 pg	100
16) 1,1-Dichloroethane	8.71	63	14870	529.617 pg	100
17) Methyl tert-Butyl Ether	8.79	73	25061	618.580 pg	100
18) cis-1,2-Dichloroethene	9.59	96	8610	561.222 pg	100
19) Chloroform	9.88	83	14245	460.673 pg	100
21) 1,2-Dichloroethane	10.64	62	10102	464.094 pg	100
22) 1,1,1-Trichloroethane	10.91	97	11809	471.496 pg	100
23) Benzene	11.36	78	33208	524.950 pg	100
24) Carbon Tetrachloride	11.51	117	10005	457.284 pg	100
26) 1,2-Dichloropropane	12.18	63	8355	497.289 pg	100
27) Bromodichloromethane	12.35	83	10396	443.124 pg	100
28) Trichloroethene	12.41	130	8538	493.843 pg	100
29) 1,4-Dioxane	12.38	88	6711	586.167 pg	100
30) cis-1,3-Dichloropropene	13.25	75	13050	545.701 pg	100
31) trans-1,3-Dichloropropene	13.77	75	10849	516.182 pg	100
32) 1,1,2-Trichloroethane	13.95	83	6644	470.360 pg	100
34) Toluene	14.25	91	32541	491.468 pg	100
35) Dibromochloromethane	14.66	129	7881	474.995 pg	100
36) 1,2-Dibromoethane	14.92	107	8200	492.047 pg	100
37) Tetrachloroethene	15.40	166	8829	489.917 pg	100
39) Chlorobenzene	16.10	112	21363	589.013 pg	100
40) Ethylbenzene	16.48	91	36078	653.197 pg	100
41) m,p-Xylene	16.66	91	55433	1295.846 pg	100
42) Styrene	17.01	104	20476	705.060 pg	100
43) o-Xylene	17.12	106	13862	650.242 pg	100
44) 1,1,2,2-Tetrachloroethane	17.09	83	13231	518.358 pg	100
46) 1,3,5-Trimethylbenzene	18.38	105	29385	670.275 pg	100
47) 1,2,4-Trimethylbenzene	18.77	105	29291	673.824 pg	100
48) 1,3-Dichlorobenzene	18.92	146	17051	641.729 pg	100
49) 1,4-Dichlorobenzene	18.98	146	16852	613.453 pg	100
50) 1,2-Dichlorobenzene	19.31	146	16392	621.871 pg	100
51) 1,2-Dibromo-3-chloropr...	19.72	157	5356	618.451 pg	100
52) 1,2,4-Trichlorobenzene	20.95	182	10676	666.457 pg	100
53) Naphthalene	21.06	128	33995	581.402 pg	100

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\07\07071615.D Vial: 16
Acq On : 7 Jul 2016 16:32 Operator: CL
Sample : 500pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06291608 (7/28)

Quant Time: Jul 08 08:10:23 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

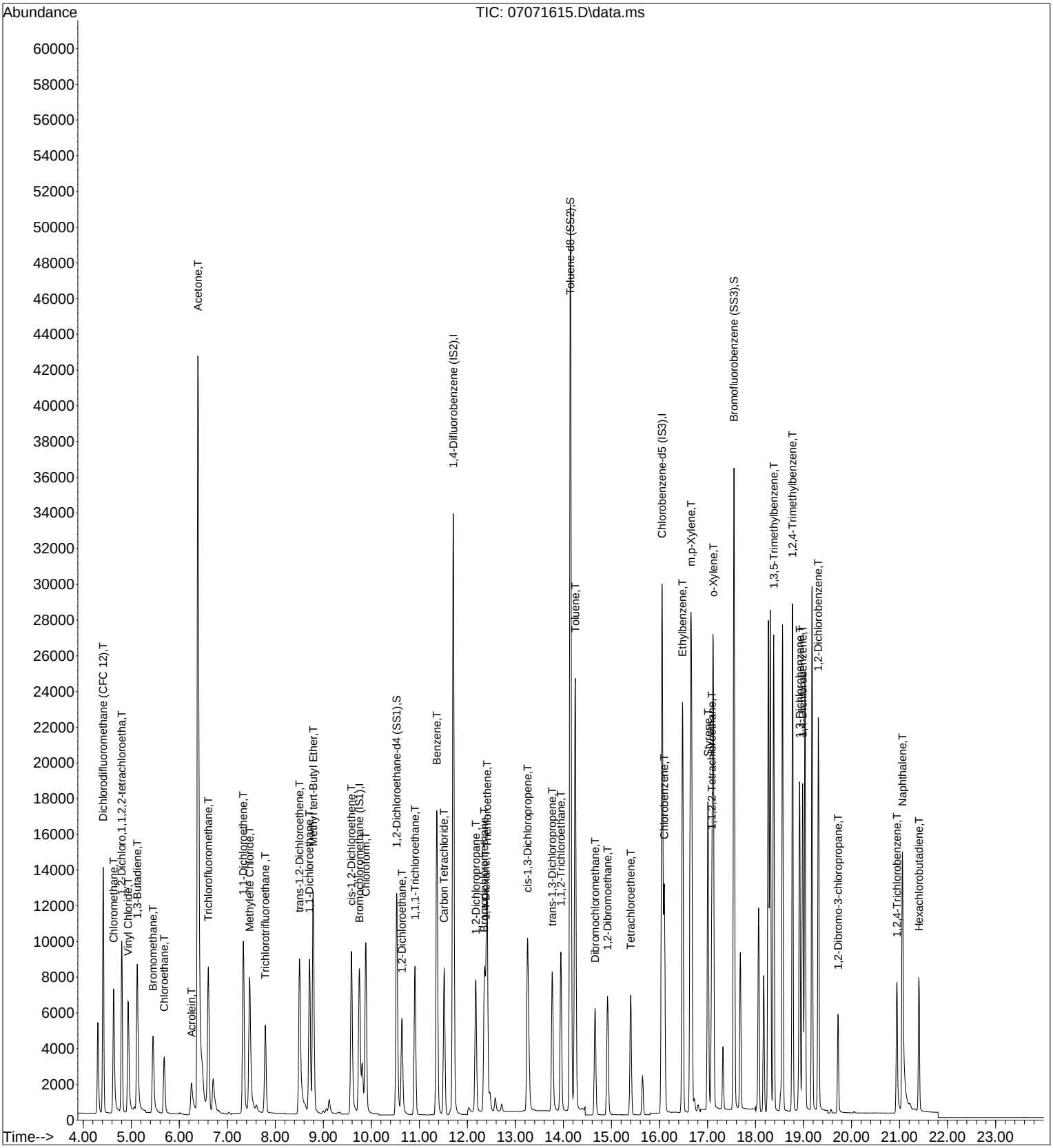
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Hexachlorobutadiene	21.40	225	7434	655.888	pg	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\07\07071615.D Vial: 16
Acq On : 7 Jul 2016 16:32 Operator: CL
Sample : 500pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06291608 (7/28)

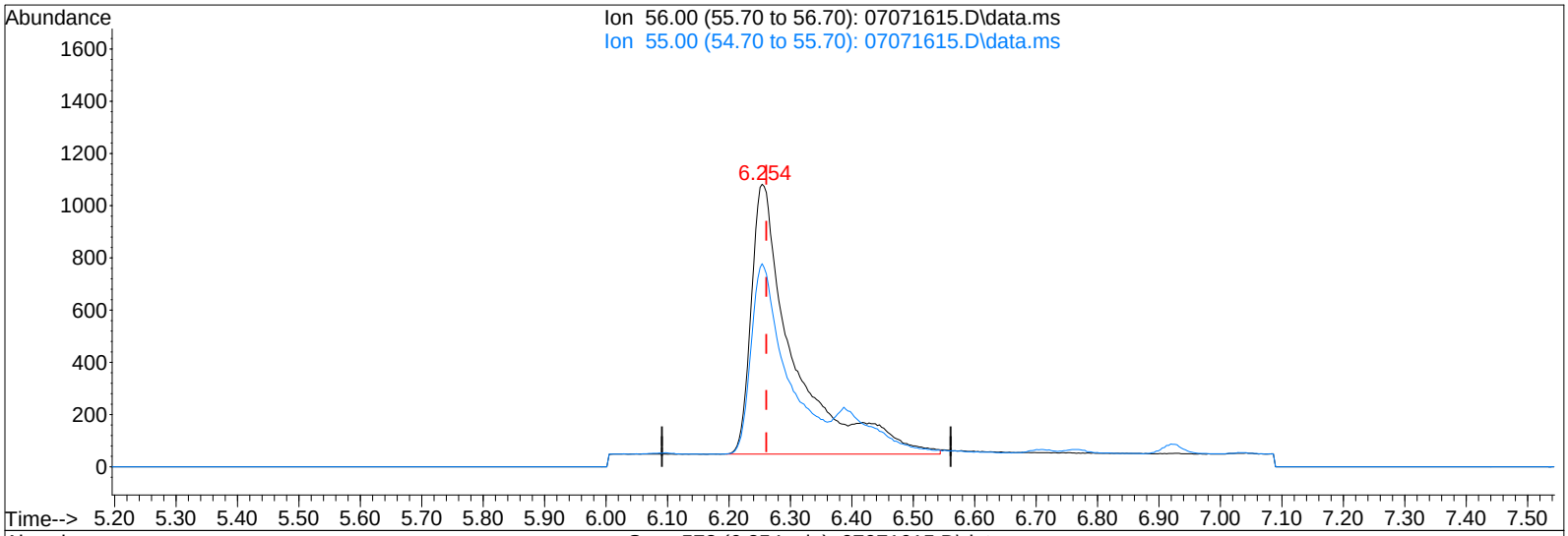
Quant Time: Jul 08 08:10:23 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

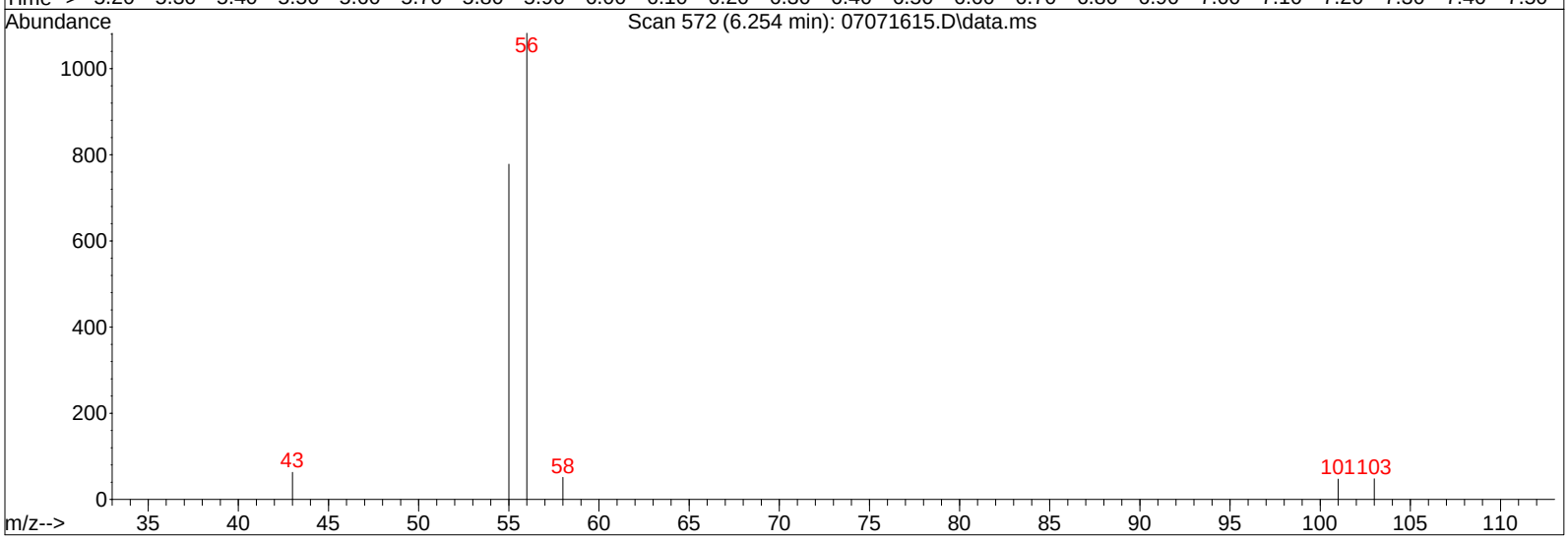


Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 07\07\07071615.D Vial: 16
Acq On : 7 Jul 2016 16:32 Operator: CL
Sample : 500pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06291608 (7/28)

Quant Time: Jul 08 07:48:55 2016
Quant Method : I:\MS19\METHODS\S19063016.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 01 07:57:33 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M





TIC: 07071615.D\data.ms

(9) Acrolein (T)

6.254min (-0.007) 632.51pg

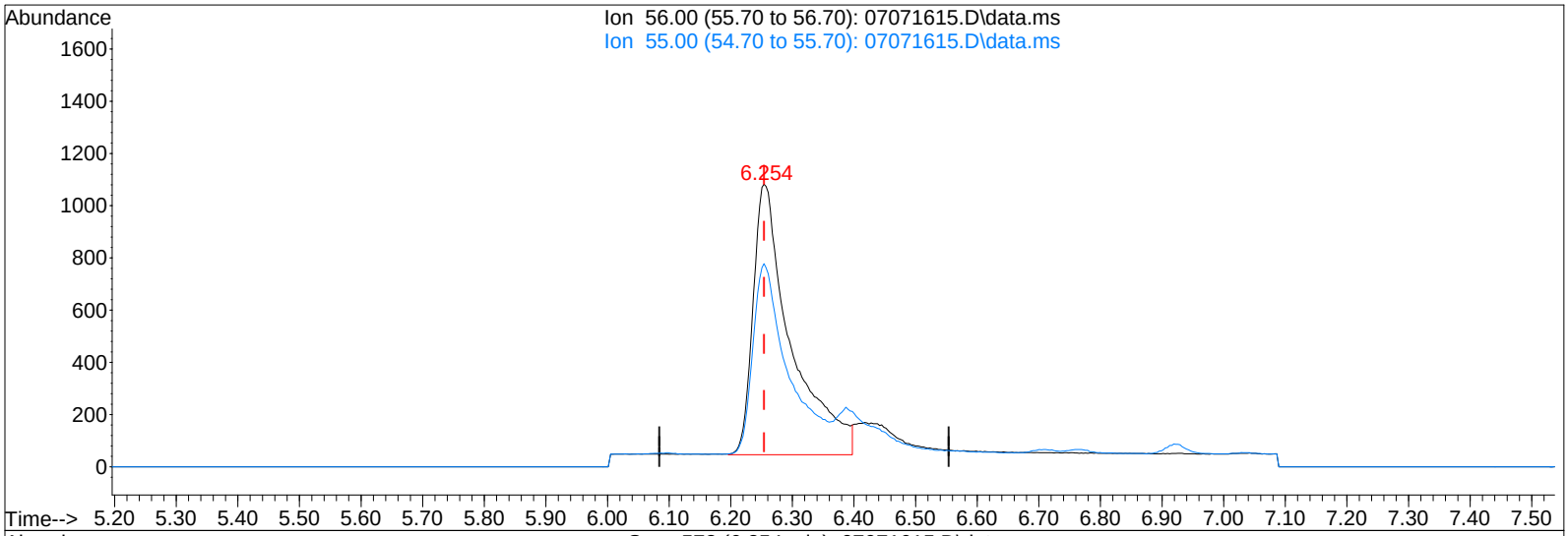
response 4962

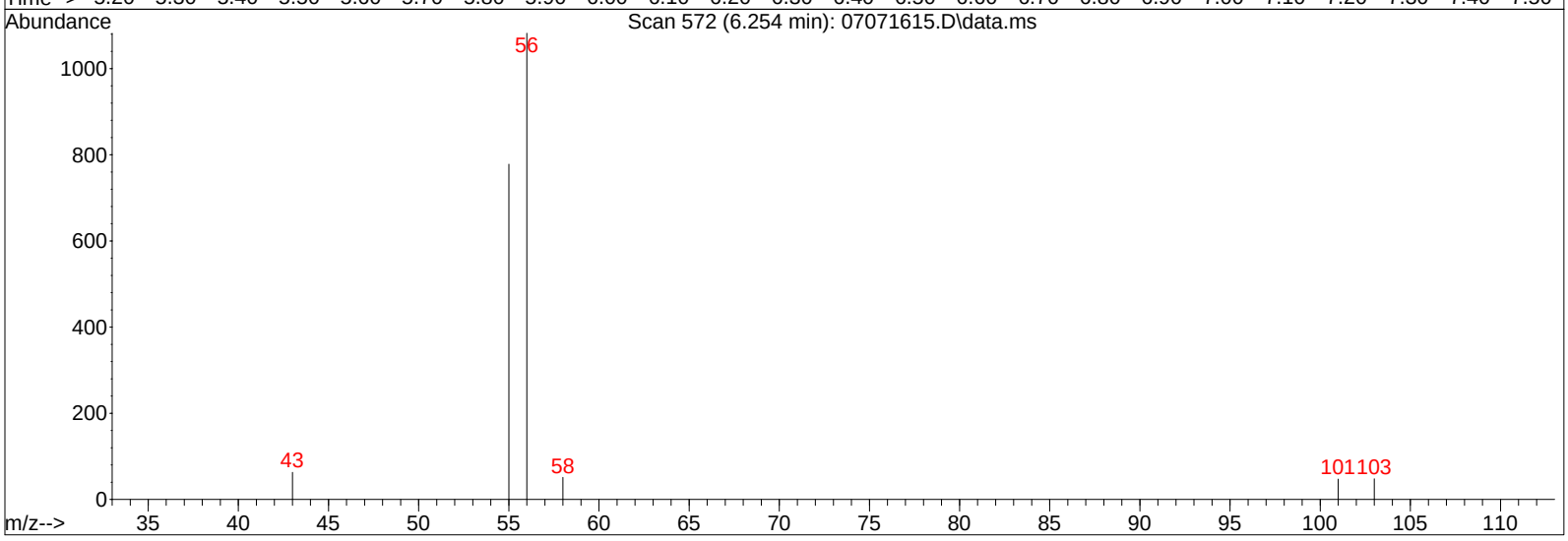
Ion	Exp%	Act%
56.00	100	100
55.00	66.70	58.95
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 07\07\07071615.D Vial: 16
Acq On : 7 Jul 2016 16:32 Operator: CL
Sample : 500pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06291608 (7/28)

Quant Time: Jul 08 07:53:11 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M





TIC: 07071615.D\data.ms

(9) Acrolein (T)

6.254min (0.000) 561.63pg m

response 4406

IPC

Ion	Exp%	Act%
56.00	100	100
55.00	58.90	66.39
0.00	0.00	0.00
0.00	0.00	0.00

CL 7/8/16 WA 7/22/16

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\07\07071616.D Vial: 14
Acq On : 7 Jul 2016 17:03 Operator: CL
Sample : 1000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06081608 (7/7)

Quant Time: Jul 08 08:11:50 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 7/8/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.75	130	12073	1000.000 pg	0.00
25) 1,4-Difluorobenzene (IS2)	11.70	114	60289	1000.000 pg	0.00
38) Chlorobenzene-d5 (IS3)	16.05	54	10234	1000.000 pg	0.00
System Monitoring Compounds					
20) 1,2-Dichloroethane-d4 ...	10.53	65	18862	875.277 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 87.53%		
33) Toluene-d8 (SS2)	14.14	98	62926	1012.296 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 101.23%		
45) Bromofluorobenzene (SS3)	17.55	174	25390	1222.276 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 122.23%		
Target Compounds					Qvalue
2) Dichlorodifluoromethan...	4.41	85	32972	1013.370 pg	100
3) Chloromethane	4.63	52	8149	858.904 pg	98
4) 1,2-Dichloro,1,1,2,2-t...	4.80	85	24542	794.633 pg	100
5) Vinyl Chloride	4.93	62	23001	801.072 pg	100
6) 1,3-Butadiene	5.12	54	17286	923.041 pg	99
7) Bromomethane	5.45	94	12438	1028.067 pg	100
8) Chloroethane	5.68	64	11411	1219.283 pg	100
9) Acrolein	6.25	56	7841m	1108.941 pg	
10) Acetone	6.38	58	56422	6165.912 pg	95
11) Trichlorofluoromethane	6.60	101	22170	971.745 pg	100
12) 1,1-Dichloroethene	7.33	96	15075	1218.735 pg	100
13) Methylene Chloride	7.46	84	15968	1156.579 pg	100
14) Trichlorotrifluoroethane	7.79	151	13976	1191.624 pg	100
15) trans-1,2-Dichloroethene	8.50	96	16559	1238.403 pg	100
16) 1,1-Dichloroethane	8.71	63	29170	1152.697 pg	100
17) Methyl tert-Butyl Ether	8.78	73	49539	1356.665 pg	100
18) cis-1,2-Dichloroethene	9.58	96	17116	1237.832 pg	99
19) Chloroform	9.88	83	27329	980.577 pg	100
21) 1,2-Dichloroethane	10.63	62	20091	1024.064 pg	100
22) 1,1,1-Trichloroethane	10.91	97	23328	1033.402 pg	100
23) Benzene	11.36	78	64795	1136.434 pg	100
24) Carbon Tetrachloride	11.52	117	19713	999.654 pg	100
26) 1,2-Dichloropropane	12.17	63	16620	1096.497 pg	100
27) Bromodichloromethane	12.35	83	20842	984.719 pg	100
28) Trichloroethene	12.41	130	16890	1082.870 pg	100
29) 1,4-Dioxane	12.38	88	13384	1295.787 pg	99
30) cis-1,3-Dichloropropene	13.25	75	26414	1224.313 pg	100
31) trans-1,3-Dichloropropene	13.77	75	22061	1163.461 pg	100
32) 1,1,2-Trichloroethane	13.95	83	13171	1033.555 pg	100
34) Toluene	14.25	91	64641	1082.148 pg	100
35) Dibromochloromethane	14.66	129	16010	1069.580 pg	100
36) 1,2-Dibromoethane	14.91	107	16417	1091.944 pg	100
37) Tetrachloroethene	15.40	166	17433	1072.253 pg	100
39) Chlorobenzene	16.10	112	42344	1268.112 pg	100
40) Ethylbenzene	16.48	91	72602	1427.754 pg	100
41) m,p-Xylene	16.66	91	111085	2820.612 pg	100
42) Styrene	17.01	104	42343	1583.673 pg	100
43) o-Xylene	17.12	106	27507	1401.508 pg	100
44) 1,1,2,2-Tetrachloroethane	17.09	83	26375	1122.361 pg	100
46) 1,3,5-Trimethylbenzene	18.38	105	58250	1443.199 pg	100
47) 1,2,4-Trimethylbenzene	18.77	105	58381	1458.769 pg	100
48) 1,3-Dichlorobenzene	18.92	146	33740	1379.272 pg	100
49) 1,4-Dichlorobenzene	18.98	146	33397	1320.507 pg	100
50) 1,2-Dichlorobenzene	19.31	146	32161	1325.260 pg	100
51) 1,2-Dibromo-3-chloropr...	19.72	157	10669	1338.110 pg	99
52) 1,2,4-Trichlorobenzene	20.94	182	20660	1400.867 pg	100
53) Naphthalene	21.06	128	65801	1222.354 pg	99

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\07\07071616.D Vial: 14
Acq On : 7 Jul 2016 17:03 Operator: CL
Sample : 1000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06081608 (7/7)

Quant Time: Jul 08 08:11:50 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

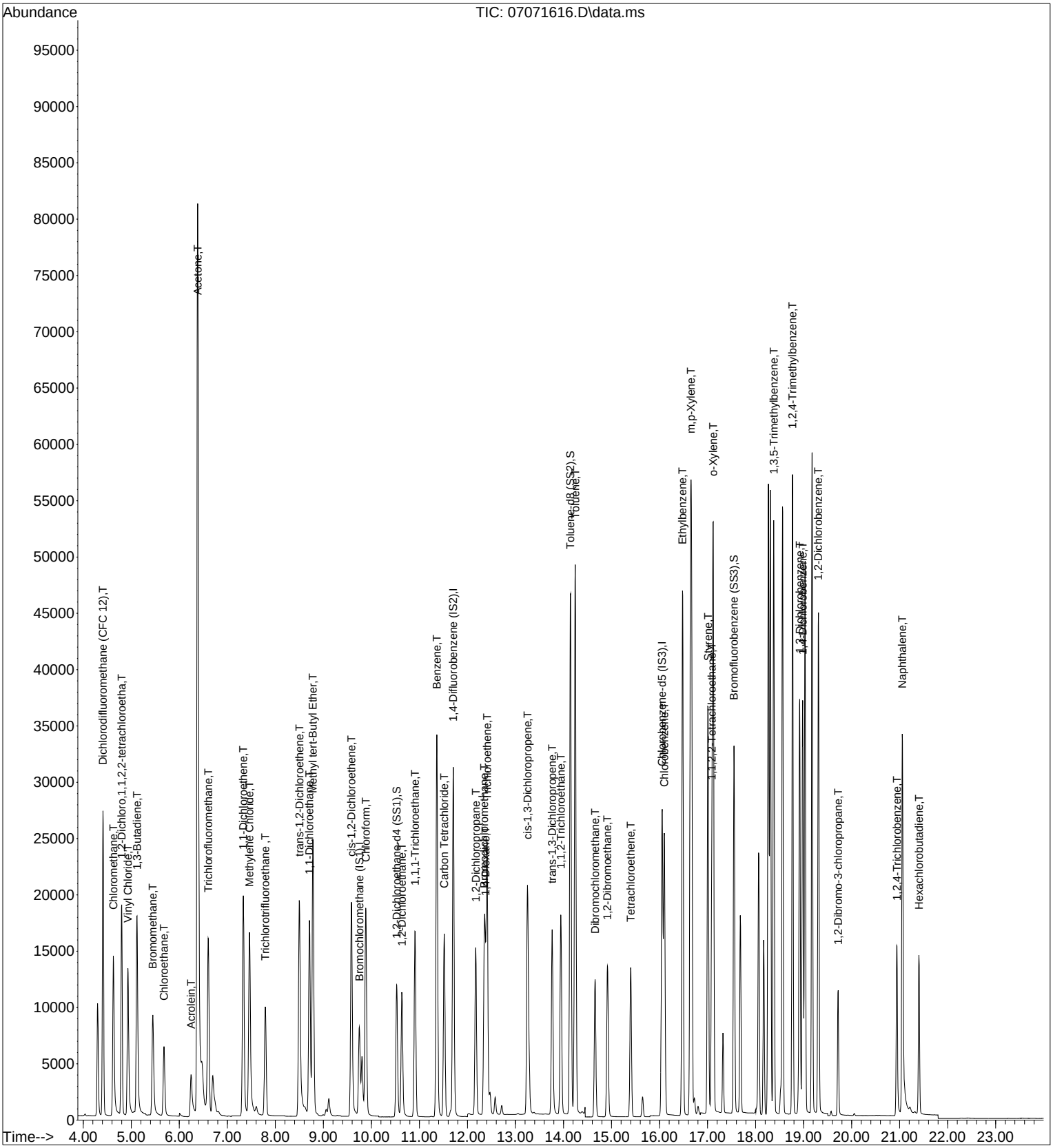
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
54) Hexachlorobutadiene	21.40	225	13988	1340.498 pg	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\07\07071616.D Vial: 14
Acq On : 7 Jul 2016 17:03 Operator: CL
Sample : 1000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06081608 (7/7)

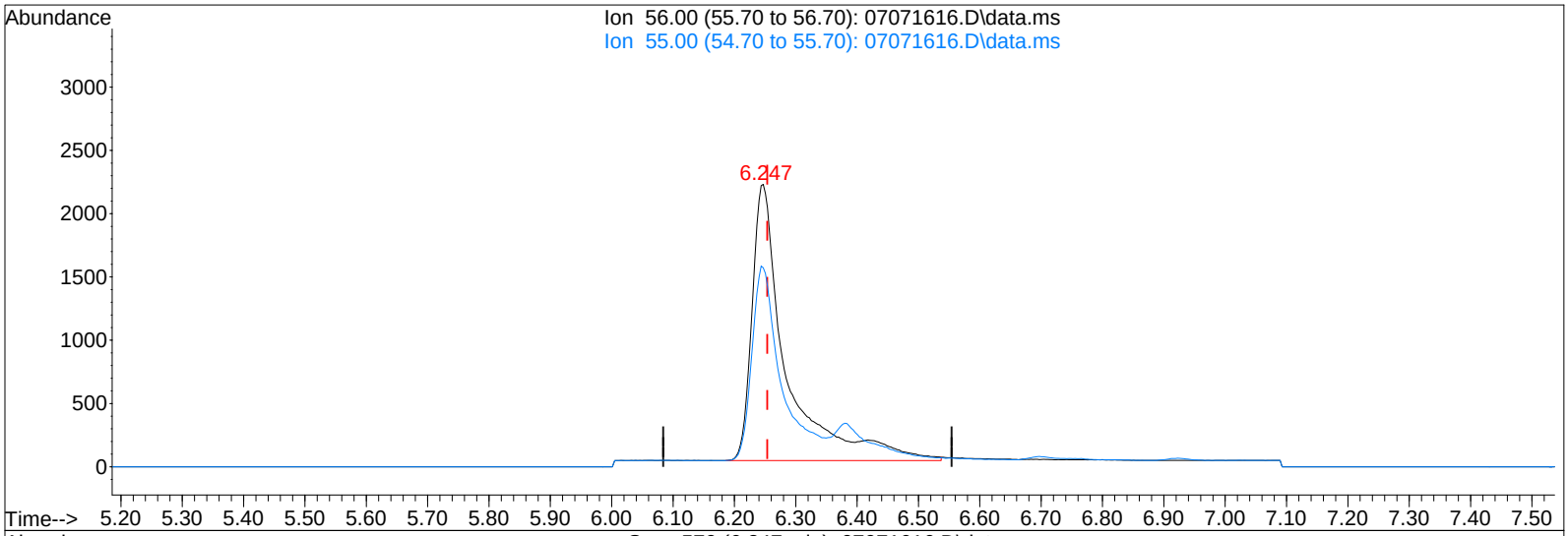
Quant Time: Jul 08 08:11:50 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

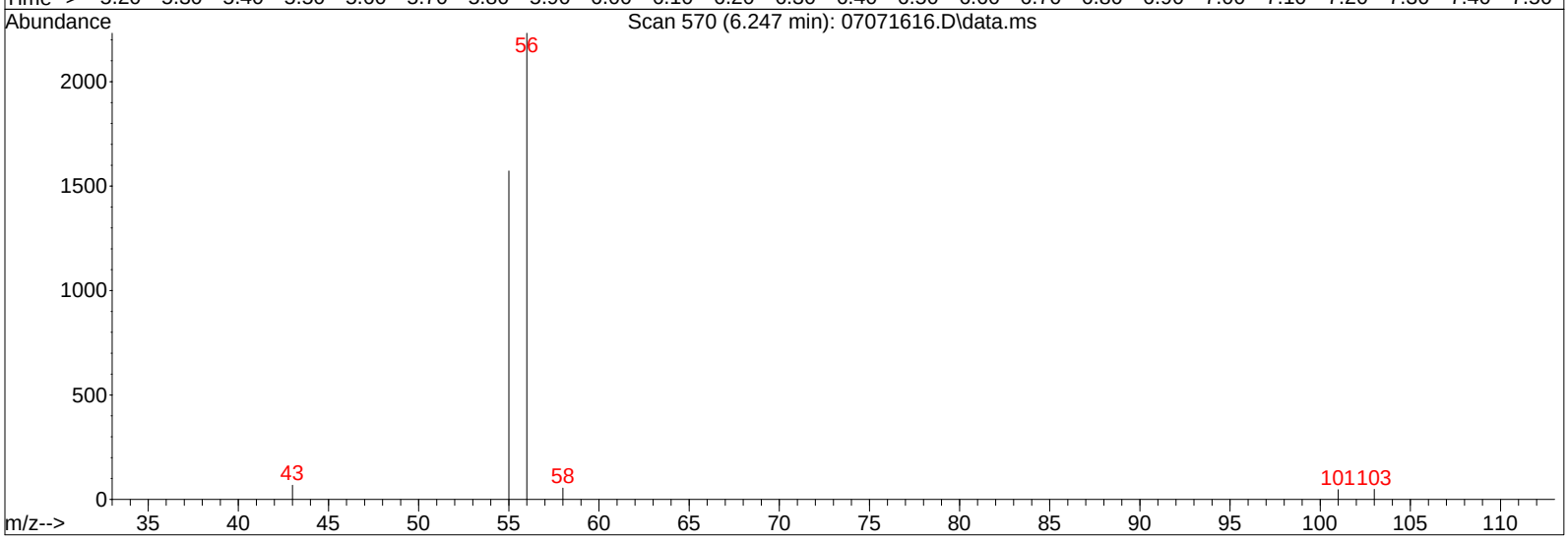


Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 07\07\07071616.D Vial: 14
Acq On : 7 Jul 2016 17:03 Operator: CL
Sample : 1000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06081608 (7/7)

Quant Time: Jul 08 07:53:12 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M





TIC: 07071616.D\data.ms

(9) Acrolein (T)

6.247min (-0.007) 1208.79pg

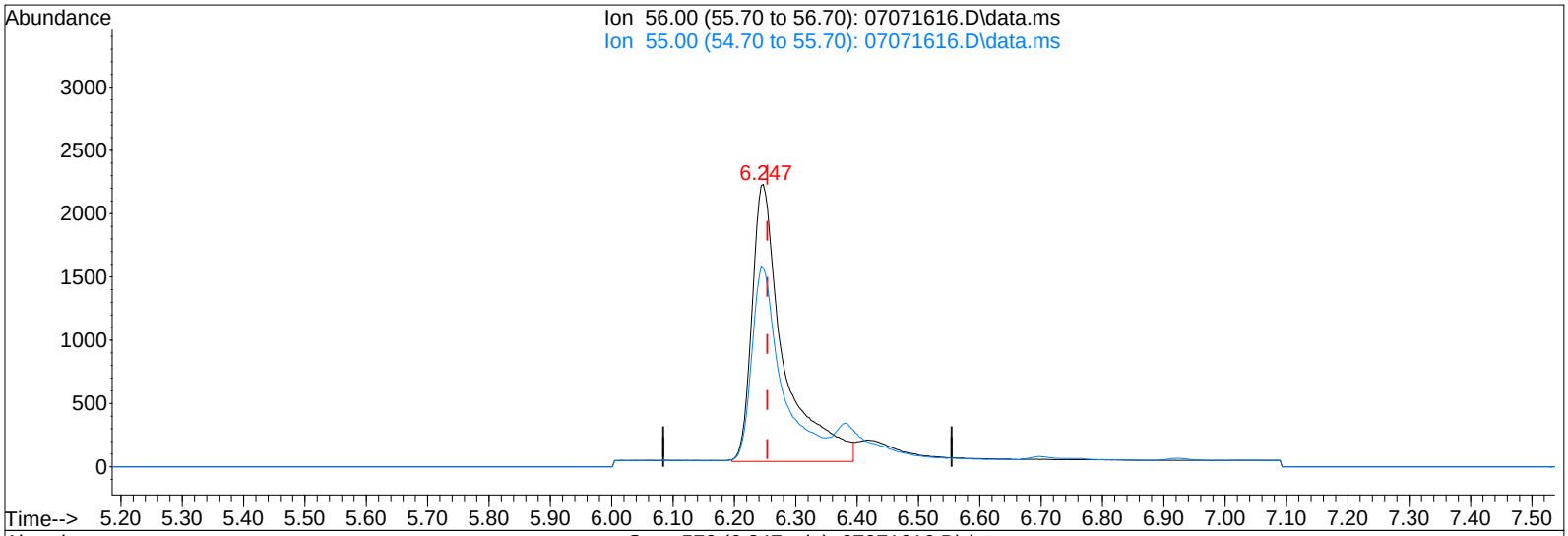
response 8547

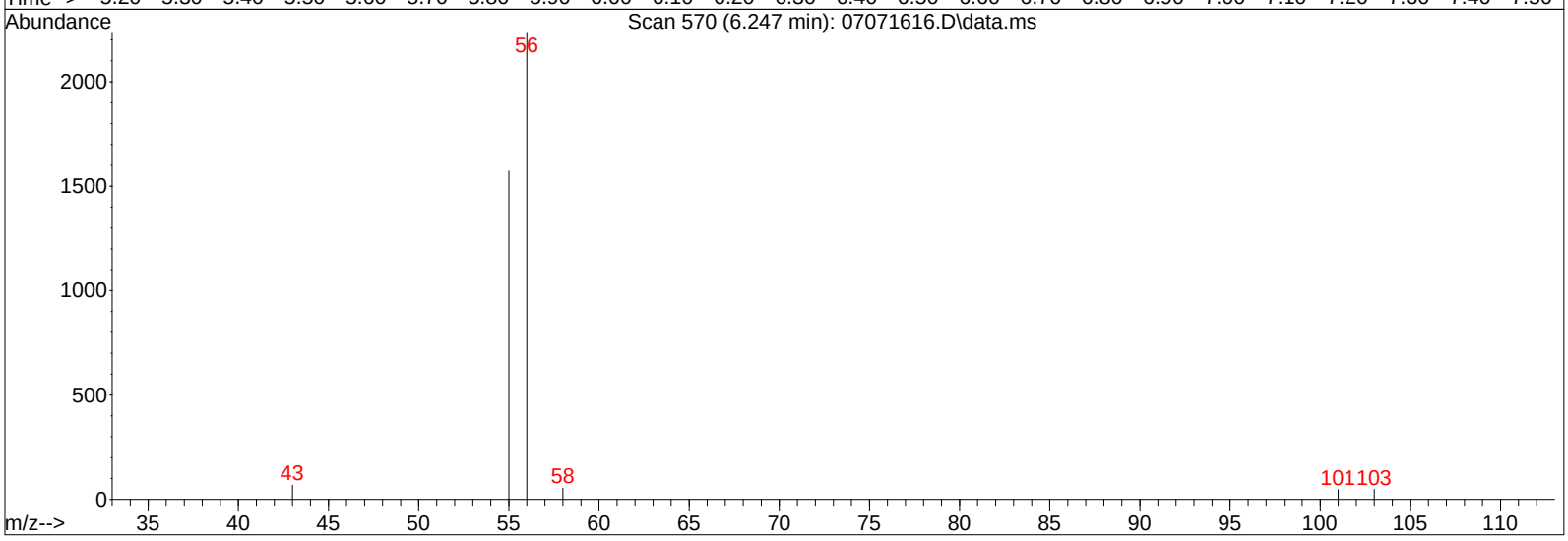
Ion	Exp%	Act%
56.00	100	100
55.00	58.90	60.65
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 07\07\07071616.D Vial: 14
Acq On : 7 Jul 2016 17:03 Operator: CL
Sample : 1000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06081608 (7/7)

Quant Time: Jul 08 07:53:12 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M





TIC: 07071616.D\data.ms

(9) Acrolein (T)

6.247min (-0.007) 1108.94pg m

response 7841

IPC

CL 7/8/16 WA 7/22/16

Ion	Exp%	Act%
56.00	100	100
55.00	58.90	66.11
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\07\07071617.D Vial: 14
Acq On : 7 Jul 2016 17:35 Operator: CL
Sample : 2000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06081608 (7/7)

Quant Time: Jul 08 07:53:13 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 7/8/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.75	130	13230	1000.000 pg	0.00
25) 1,4-Difluorobenzene (IS2)	11.71	114	65651	1000.000 pg	0.00
38) Chlorobenzene-d5 (IS3)	16.05	54	11328	1000.000 pg	0.00

System Monitoring Compounds					
20) 1,2-Dichloroethane-d4 ...	10.53	65	20658	874.785 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 87.48%		
33) Toluene-d8 (SS2)	14.14	98	69151	1021.581 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 102.16%		
45) Bromofluorobenzene (SS3)	17.55	174	27817	1209.787 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 120.98%		

Target Compounds					Qvalue
2) Dichlorodifluoromethan...	4.41	85	64855	1818.954 pg	100
3) Chloromethane	4.62	52	16032	1541.996 pg	99
4) 1,2-Dichloro,1,1,2,2-t...	4.79	85	47940	1416.478 pg	100
5) Vinyl Chloride	4.93	62	44828	1424.719 pg	100
6) 1,3-Butadiene	5.11	54	34890	1700.132 pg	98
7) Bromomethane	5.44	94	24366	1837.852 pg	100
8) Chloroethane	5.67	64	22345	2178.795 pg	100
9) Acrolein	6.24	56	15902	2052.316 pg	90
10) Acetone	6.38	58	108235	10793.740 pg	95
11) Trichlorofluoromethane	6.60	101	42809	1712.290 pg	100
12) 1,1-Dichloroethene	7.33	96	29630	2185.943 pg	100
13) Methylene Chloride	7.46	84	31207	2062.682 pg	98
14) Trichlorotrifluoroethane	7.79	151	27122	2110.247 pg	100
15) trans-1,2-Dichloroethene	8.50	96	32732	2233.859 pg	100
16) 1,1-Dichloroethane	8.71	63	57034	2056.686 pg	100
17) Methyl tert-Butyl Ether	8.78	73	97132	2427.409 pg	100
18) cis-1,2-Dichloroethene	9.59	96	33840	2233.289 pg	99
19) Chloroform	9.88	83	52715	1726.028 pg	100
21) 1,2-Dichloroethane	10.64	62	39566	1840.362 pg	100
22) 1,1,1-Trichloroethane	10.91	97	45948	1857.436 pg	100
23) Benzene	11.36	78	126512	2024.836 pg	100
24) Carbon Tetrachloride	11.52	117	38723	1791.930 pg	100
26) 1,2-Dichloropropane	12.17	63	32789	1986.558 pg	100
27) Bromodichloromethane	12.35	83	41721	1810.191 pg	100
28) Trichloroethene	12.41	130	32892	1936.571 pg	100
29) 1,4-Dioxane	12.37	88	26423	2349.235 pg	99
30) cis-1,3-Dichloropropene	13.25	75	53620	2282.348 pg	100
31) trans-1,3-Dichloropropene	13.76	75	45577	2207.340 pg	100
32) 1,1,2-Trichloroethane	13.94	83	26082	1879.544 pg	100
34) Toluene	14.24	91	127541	1960.762 pg	100
35) Dibromochloromethane	14.66	129	32431	1989.661 pg	100
36) 1,2-Dibromoethane	14.92	107	33054	2018.958 pg	100
37) Tetrachloroethene	15.40	166	34377	1941.734 pg	100
39) Chlorobenzene	16.10	112	84143	2276.543 pg	100
40) Ethylbenzene	16.48	91	145052	2577.037 pg	100
41) m,p-Xylene	16.66	91	219985	5046.302 pg	100
42) Styrene	17.01	104	86473	2921.841 pg	100
43) o-Xylene	17.12	106	54301	2499.495 pg	100
44) 1,1,2,2-Tetrachloroethane	17.09	83	53116	2042.009 pg	100
46) 1,3,5-Trimethylbenzene	18.38	105	115175	2577.987 pg	100
47) 1,2,4-Trimethylbenzene	18.77	105	116751	2635.529 pg	100
48) 1,3-Dichlorobenzene	18.92	146	66913	2471.197 pg	99
49) 1,4-Dichlorobenzene	18.98	146	66833	2387.351 pg	99
50) 1,2-Dichlorobenzene	19.31	146	64103	2386.394 pg	100
51) 1,2-Dibromo-3-chloropr...	19.72	157	22721	2574.469 pg	97
52) 1,2,4-Trichlorobenzene	20.94	182	43175	2644.789 pg	100
53) Naphthalene	21.06	128	138621	2326.407 pg	99

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\07\07071617.D Vial: 14
Acq On : 7 Jul 2016 17:35 Operator: CL
Sample : 2000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06081608 (7/7)

Quant Time: Jul 08 07:53:13 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

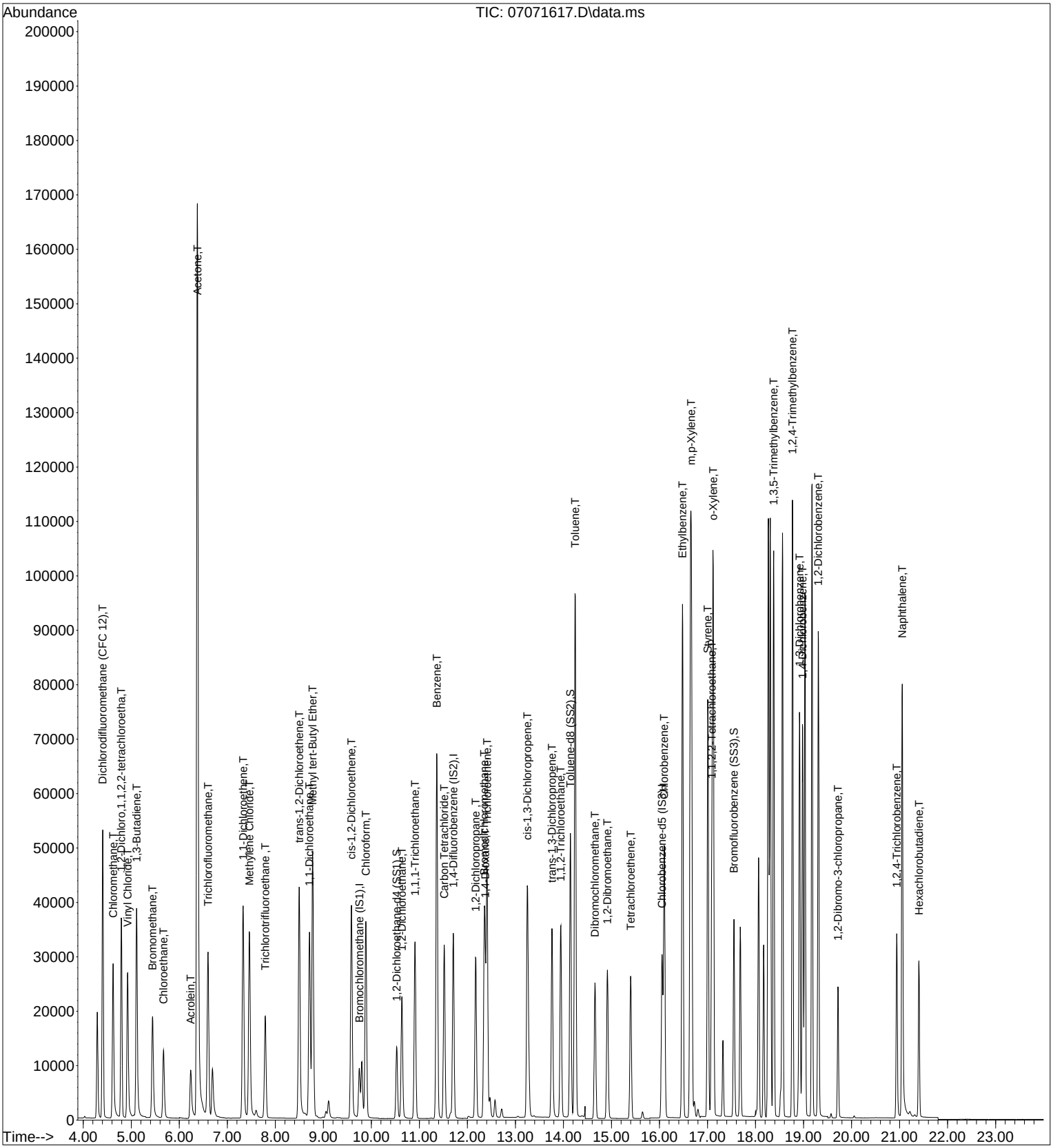
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
54) Hexachlorobutadiene	21.40	225	28252	2445.974 pg	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\07\07071617.D Vial: 14
Acq On : 7 Jul 2016 17:35 Operator: CL
Sample : 2000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06081608 (7/7)

Quant Time: Jul 08 07:53:13 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\07\07071618.D Vial: 14
Acq On : 7 Jul 2016 18:06 Operator: CL
Sample : 5000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06081608 (7/7)

Quant Time: Jul 08 08:13:42 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 7/8/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.75	130	13115	1000.000 pg	0.00
25) 1,4-Difluorobenzene (IS2)	11.71	114	65077	1000.000 pg	0.00
38) Chlorobenzene-d5 (IS3)	16.05	54	11573	1000.000 pg	0.00

System Monitoring Compounds					
20) 1,2-Dichloroethane-d4 ...	10.53	65	20787	887.966 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 88.80%		
33) Toluene-d8 (SS2)	14.14	98	69268	1032.335 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 103.23%		
45) Bromofluorobenzene (SS3)	17.55	174	27976	1190.945 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 119.09%		

Target Compounds					Qvalue
2) Dichlorodifluoromethan...	4.40	85	155221	4391.574 pg	100
3) Chloromethane	4.61	52	37809	3668.448 pg	98
4) 1,2-Dichloro,1,1,2,2-t...	4.79	85	114268	3405.870 pg	100
5) Vinyl Chloride	4.92	62	106604	3417.787 pg	100
6) 1,3-Butadiene	5.10	54	84154	4136.643 pg	99
7) Bromomethane	5.44	94	57006	4337.489 pg	100
8) Chloroethane	5.66	64	52791	5192.632 pg	100
9) Acrolein	6.23	56	39117m	5092.717 pg	
10) Acetone	6.37	58	249637	25113.354 pg	95
11) Trichlorofluoromethane	6.59	101	100617	4059.804 pg	100
12) 1,1-Dichloroethene	7.32	96	71246	5302.239 pg	100
13) Methylene Chloride	7.46	84	73939	4929.983 pg	97
14) Trichlorotrifluoroethane	7.79	151	64484	5061.219 pg	100
15) trans-1,2-Dichloroethene	8.50	96	78271	5388.597 pg	99
16) 1,1-Dichloroethane	8.71	63	135714	4936.855 pg	100
17) Methyl tert-Butyl Ether	8.77	73	230813	5818.787 pg	100
18) cis-1,2-Dichloroethene	9.59	96	81411	5419.875 pg	99
19) Chloroform	9.89	83	124790	4121.780 pg	100
21) 1,2-Dichloroethane	10.64	62	95735	4492.038 pg	100
22) 1,1,1-Trichloroethane	10.91	97	110323	4498.886 pg	100
23) Benzene	11.36	78	299057	4828.404 pg	100
24) Carbon Tetrachloride	11.52	117	92651	4325.077 pg	99
26) 1,2-Dichloropropane	12.18	63	79433	4854.985 pg	100
27) Bromodichloromethane	12.35	83	101857	4458.353 pg	100
28) Trichloroethene	12.41	130	78240	4647.141 pg	100
29) 1,4-Dioxane	12.37	88	63791	5721.602 pg	99
30) cis-1,3-Dichloropropene	13.25	75	133327	5725.151 pg	100
31) trans-1,3-Dichloropropene	13.76	75	114954	5616.443 pg	100
32) 1,1,2-Trichloroethane	13.94	83	63110	4588.001 pg	100
34) Toluene	14.25	91	306195	4748.835 pg	100
35) Dibromochloromethane	14.66	129	80397	4975.908 pg	100
36) 1,2-Dibromoethane	14.92	107	81034	4993.263 pg	100
37) Tetrachloroethene	15.40	166	82962	4727.318 pg	100
39) Chlorobenzene	16.10	112	204150	5406.480 pg	100
40) Ethylbenzene	16.48	91	350440	6094.217 pg	100
41) m,p-Xylene	16.65	91	524594	11779.064 pg	100
42) Styrene	17.01	104	213550	7062.898 pg	100
43) o-Xylene	17.12	106	129619	5840.102 pg	100
44) 1,1,2,2-Tetrachloroethane	17.09	83	128890	4850.189 pg	100
46) 1,3,5-Trimethylbenzene	18.38	105	275245	6030.444 pg	99
47) 1,2,4-Trimethylbenzene	18.77	105	282747	6247.591 pg	100
48) 1,3-Dichlorobenzene	18.92	146	162119	5860.547 pg	99
49) 1,4-Dichlorobenzene	18.98	146	161454	5645.228 pg	99
50) 1,2-Dichlorobenzene	19.31	146	155790	5676.893 pg	100
51) 1,2-Dibromo-3-chloropr...	19.72	157	58496	6487.744 pg	96
52) 1,2,4-Trichlorobenzene	20.94	182	109553	6568.863 pg	100
53) Naphthalene	21.06	128	347081	5701.575 pg	99

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\07\07071618.D Vial: 14
Acq On : 7 Jul 2016 18:06 Operator: CL
Sample : 5000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06081608 (7/7)

Quant Time: Jul 08 08:13:42 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

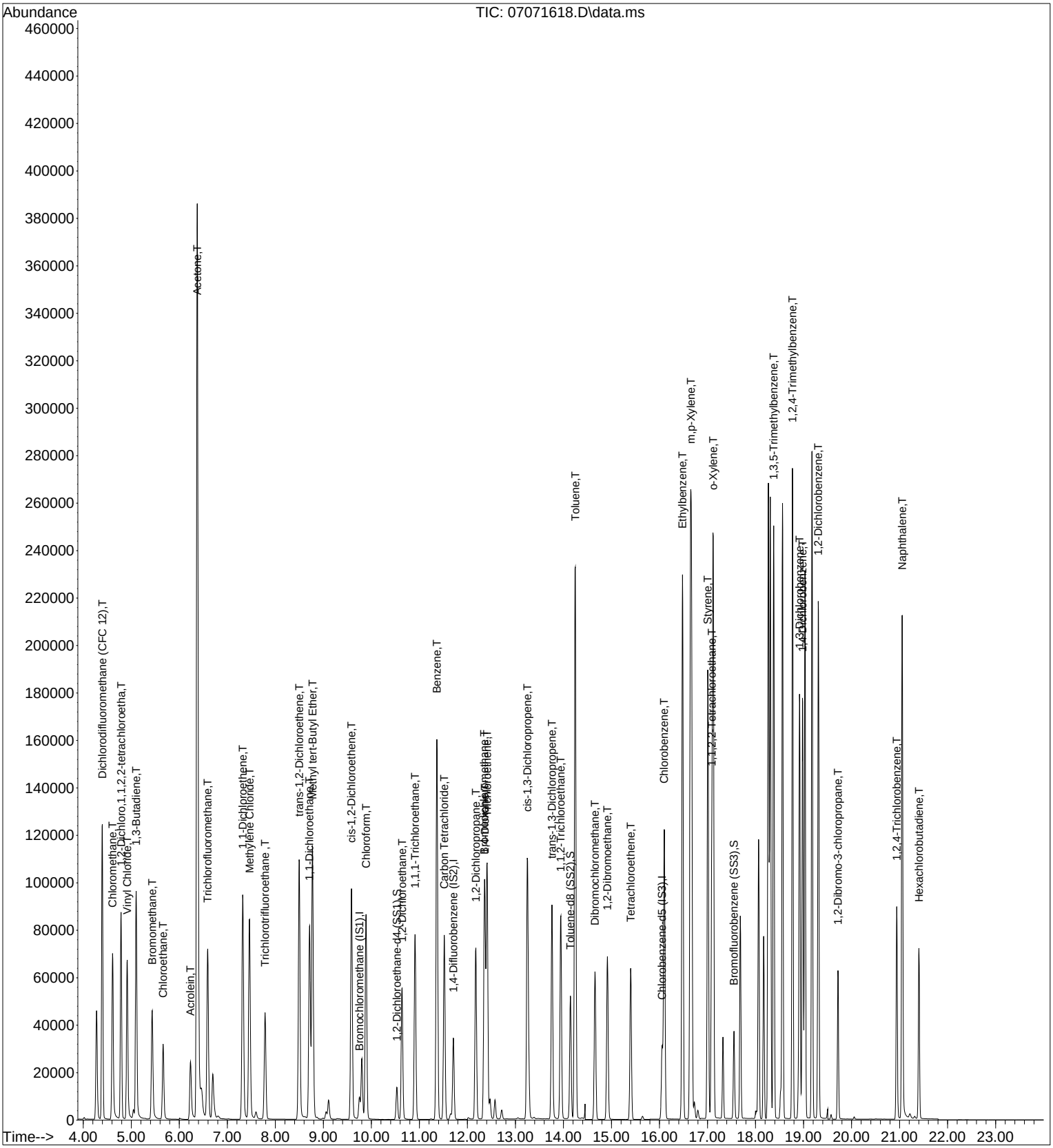
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
54) Hexachlorobutadiene	21.40	225	70075	5938.449 pg	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\07\07071618.D Vial: 14
Acq On : 7 Jul 2016 18:06 Operator: CL
Sample : 5000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06081608 (7/7)

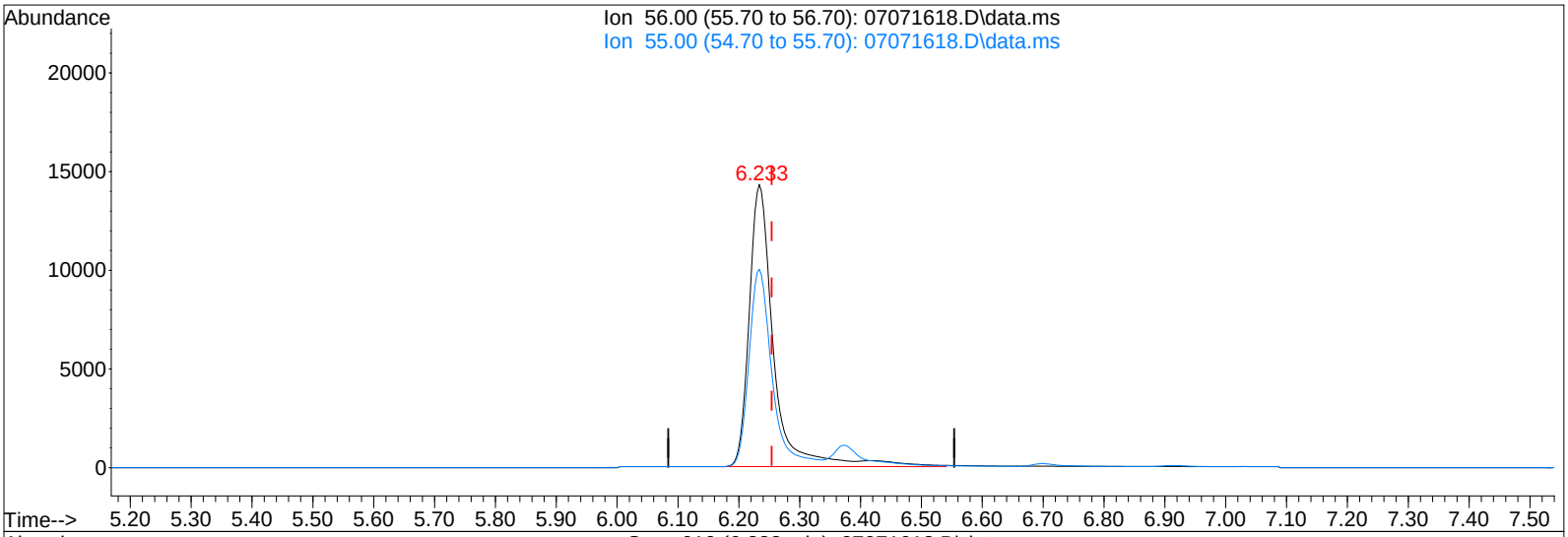
Quant Time: Jul 08 08:13:42 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

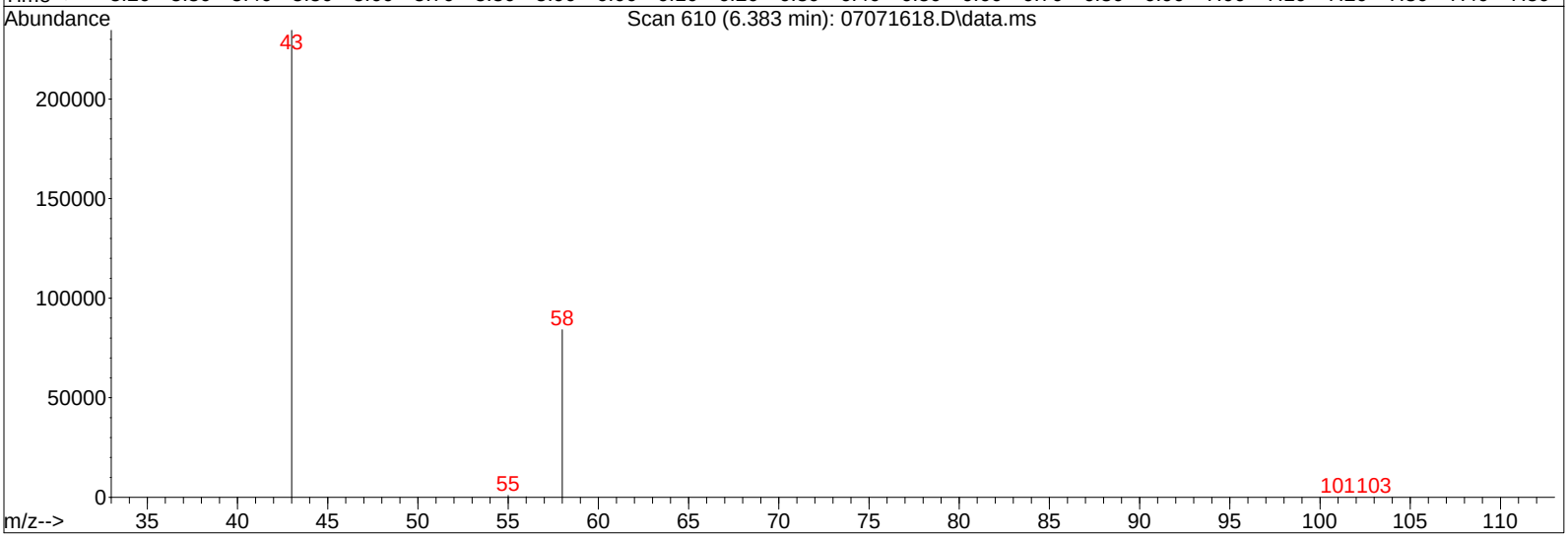


Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 07\07\07071618.D Vial: 14
Acq On : 7 Jul 2016 18:06 Operator: CL
Sample : 5000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06081608 (7/7)

Quant Time: Jul 08 07:53:14 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M





TIC: 07071618.D\data.ms

(9) Acrolein (T)

6.233min (-0.021) 5254.94pg

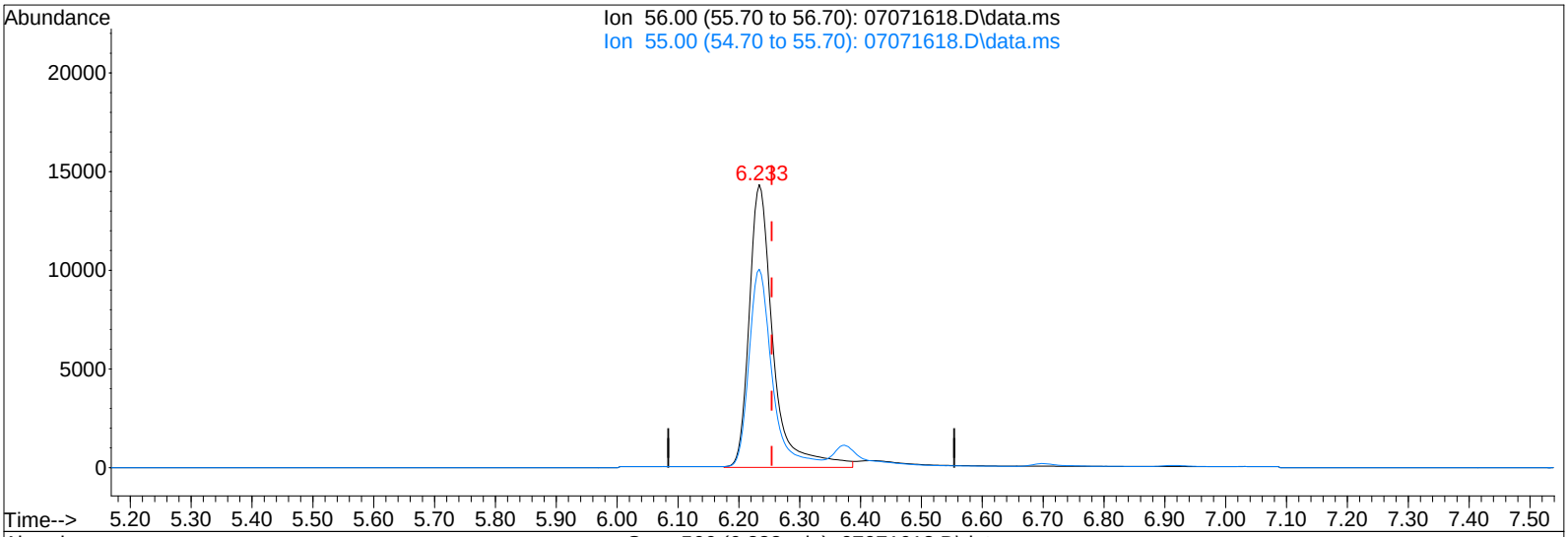
response 40363

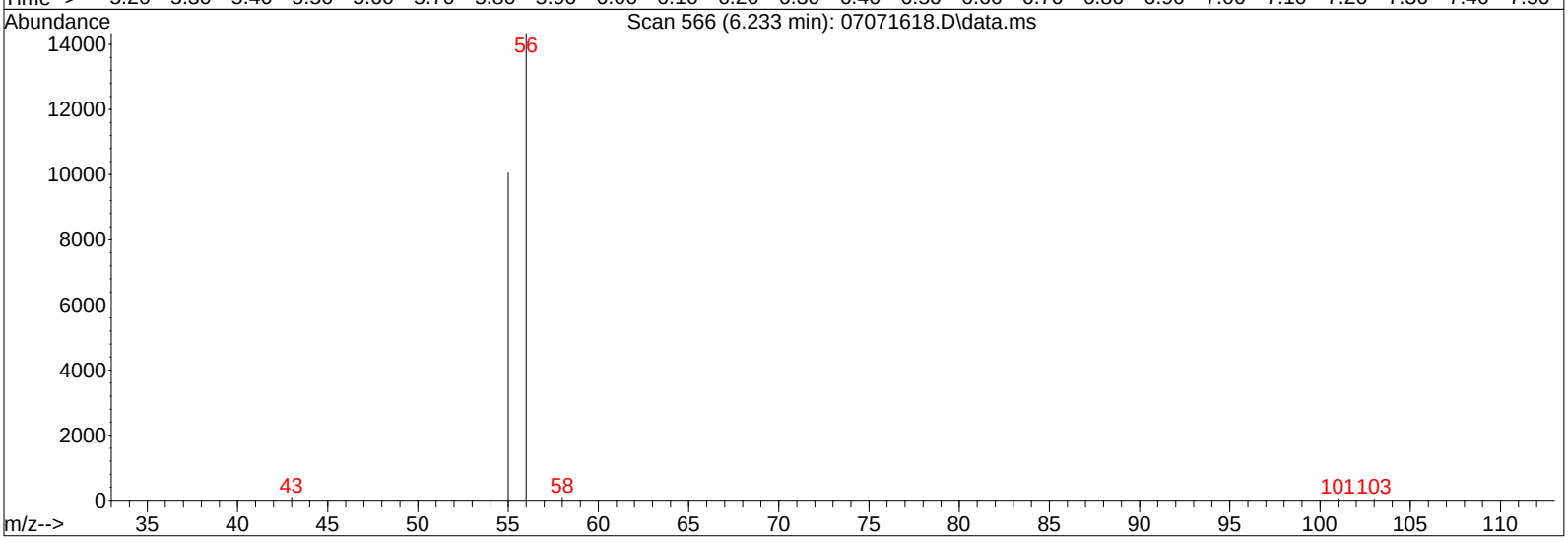
Ion	Exp%	Act%
56.00	100	100
55.00	58.90	65.48
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2016 07\07\07071618.D Vial: 14
Acq On : 7 Jul 2016 18:06 Operator: CL
Sample : 5000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06081608 (7/7)

Quant Time: Jul 08 07:53:14 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M





TIC: 07071618.D\data.ms

(9) Acrolein (T)

6.233min (-0.021) 5092.72pg m

response 39117

IPC

CL 7/8/16 WA 7/22/16

Ion	Exp%	Act%
56.00	100	100
55.00	58.90	67.56
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\07\07071619.D Vial: 14
Acq On : 7 Jul 2016 18:38 Operator: CL
Sample : 10000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06081608 (7/7)

Quant Time: Jul 08 07:53:15 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 7/8/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.76	130	13070	1000.000 pg	0.00
25) 1,4-Difluorobenzene (IS2)	11.71	114	64813	1000.000 pg	0.00
38) Chlorobenzene-d5 (IS3)	16.05	54	11785	1000.000 pg	0.00
System Monitoring Compounds					
20) 1,2-Dichloroethane-d4 ...	10.54	65	20671	886.051 pg	0.01
Spiked Amount 1000.000	Range 70 - 130		Recovery = 88.61%		
33) Toluene-d8 (SS2)	14.15	98	69379	1038.201 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 103.82%		
45) Bromofluorobenzene (SS3)	17.55	174	28288	1182.564 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 118.26%		

Target Compounds					Qvalue
2) Dichlorodifluoromethan...	4.40	85	301577	8561.713 pg	100
3) Chloromethane	4.61	52	64949	6323.425 pg	98
4) 1,2-Dichloro,1,1,2,2-t...	4.79	85	224031	6700.455 pg	100
5) Vinyl Chloride	4.92	62	208940	6721.803 pg	100
6) 1,3-Butadiene	5.11	54	163690	8073.988 pg	99
7) Bromomethane	5.44	94	111598	8520.537 pg	100
8) Chloroethane	5.67	64	103660	10231.317 pg	100
9) Acrolein	6.24	56	79176	10343.566 pg	89
10) Acetone	6.38	58	469295	47373.383 pg	97
11) Trichlorofluoromethane	6.60	101	195944	7933.382 pg	100
12) 1,1-Dichloroethene	7.33	96	141357	10556.230 pg	99
13) Methylene Chloride	7.47	84	145316	9722.501 pg	97
14) Trichlorotrifluoroethane	7.79	151	124904	9837.217 pg	100
15) trans-1,2-Dichloroethene	8.50	96	155089	10713.923 pg	98
16) 1,1-Dichloroethane	8.72	63	265368	9686.503 pg	100
17) Methyl tert-Butyl Ether	8.78	73	450773	11403.097 pg	100
18) cis-1,2-Dichloroethene	9.59	96	161530	10790.761 pg	99
19) Chloroform	9.89	83	244575	8106.061 pg	100
21) 1,2-Dichloroethane	10.64	62	188503	8875.312 pg	99
22) 1,1,1-Trichloroethane	10.91	97	216969	8878.289 pg	100
23) Benzene	11.37	78	583383	9451.400 pg	100
24) Carbon Tetrachloride	11.52	117	182488	8548.122 pg	99
26) 1,2-Dichloropropane	12.18	63	157915	9691.158 pg	100
27) Bromodichloromethane	12.35	83	203188	8929.910 pg	100
28) Trichloroethene	12.41	130	154241	9198.611 pg	100
29) 1,4-Dioxane	12.37	88	126686	11409.123 pg	99
30) cis-1,3-Dichloropropene	13.25	75	268178	11562.651 pg	100
31) trans-1,3-Dichloropropene	13.76	75	232994	11430.032 pg	99
32) 1,1,2-Trichloroethane	13.94	83	125660	9172.502 pg	99
34) Toluene	14.24	91	604062	9406.670 pg	99
35) Dibromochloromethane	14.66	129	162384	10091.161 pg	100
36) 1,2-Dibromoethane	14.92	107	162229	10037.165 pg	100
37) Tetrachloroethene	15.40	166	166070	9501.500 pg	100
39) Chlorobenzene	16.10	112	407489	10597.354 pg	100
40) Ethylbenzene	16.48	91	691171	11803.373 pg	99
41) m,p-Xylene	16.66	91	1028479	22677.712 pg	99
42) Styrene	17.01	104	429122	13937.359 pg	100
43) o-Xylene	17.12	106	255846	11320.008 pg	99
44) 1,1,2,2-Tetrachloroethane	17.09	83	255762	9451.307 pg	100
46) 1,3,5-Trimethylbenzene	18.38	105	541308	11646.373 pg	99
47) 1,2,4-Trimethylbenzene	18.77	105	559403	12138.240 pg	100
48) 1,3-Dichlorobenzene	18.92	146	324166	11507.687 pg	100
49) 1,4-Dichlorobenzene	18.98	146	318548	10937.647 pg	100
50) 1,2-Dichlorobenzene	19.31	146	310897	11125.103 pg	100
51) 1,2-Dibromo-3-chloropr...	19.72	157	120972	13175.549 pg	95
52) 1,2,4-Trichlorobenzene	20.94	182	225742	13292.133 pg	100
53) Naphthalene	21.06	128	698999	11276.049 pg	99

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\07\07071619.D Vial: 14
Acq On : 7 Jul 2016 18:38 Operator: CL
Sample : 10000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06081608 (7/7)

Quant Time: Jul 08 07:53:15 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

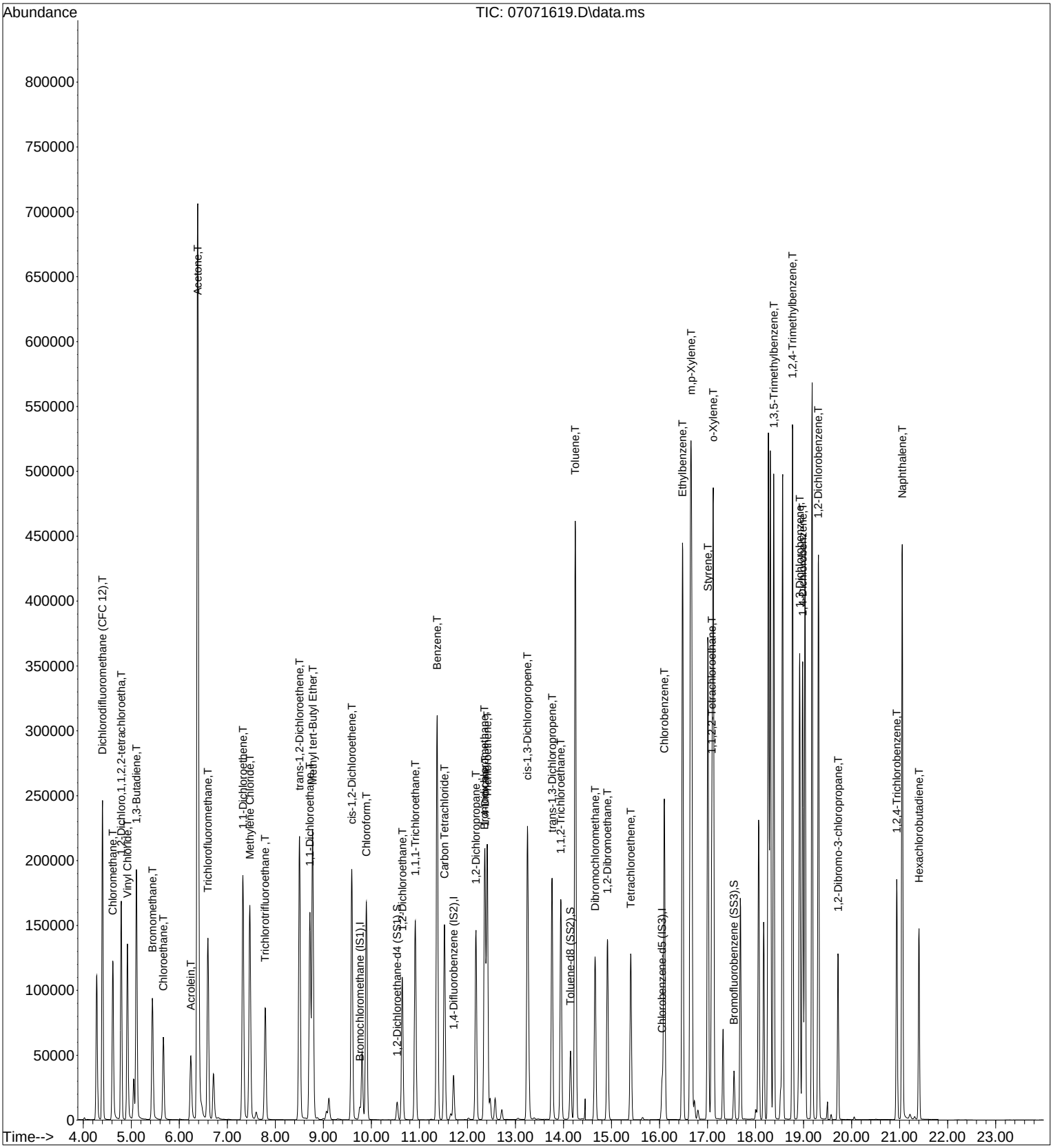
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
54) Hexachlorobutadiene	21.40	225	141191	11749.877 pg	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\07\07071619.D Vial: 14
Acq On : 7 Jul 2016 18:38 Operator: CL
Sample : 10000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06081608 (7/7)

Quant Time: Jul 08 07:53:15 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\07\07071620.D Vial: 15
Acq On : 7 Jul 2016 19:09 Operator: CL
Sample : 50000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06081605 (7/7)

Quant Time: Jul 08 07:53:16 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 7/8/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.77	130	13771	1000.000 pg	0.02
25) 1,4-Difluorobenzene (IS2)	11.72	114	67198	1000.000 pg	0.02
38) Chlorobenzene-d5 (IS3)	16.06	54	13886	1000.000 pg	0.00

System Monitoring Compounds					
20) 1,2-Dichloroethane-d4 ...	10.55	65	21007	854.617 pg	0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 85.46%		
33) Toluene-d8 (SS2)	14.15	98	71284	1028.848 pg	0.01
Spiked Amount 1000.000	Range 70 - 130		Recovery = 102.88%		
45) Bromofluorobenzene (SS3)	17.56	174	29195	1035.817 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 103.58%		

Target Compounds					Qvalue
2) Dichlorodifluoromethan...	4.40	85	1428293	38484.855 pg	99
3) Chloromethane	4.62	52	362040	33453.887 pg	100
4) 1,2-Dichloro,1,1,2,2-t...	4.80	85	1115481	31664.196 pg	99
5) Vinyl Chloride	4.92	62	1051080	32092.983 pg	99
6) 1,3-Butadiene	5.12	54	855279	40039.062 pg	98
7) Bromomethane	5.45	94	592039	42901.353 pg	100
8) Chloroethane	5.68	64	538921	50484.210 pg	99
9) Acrolein	6.25	56	436409	54110.377 pg	87
10) Acetone	6.41	58	2138782	204910.921 pg	91
11) Trichlorofluoromethane	6.60	101	1004371	38594.966 pg	99
12) 1,1-Dichloroethene	7.33	96	743303	52682.640 pg	96
13) Methylene Chloride	7.49	84	760488	48291.092 pg	99
14) Trichlorotrifluoroethane	7.79	151	691357	51678.317 pg	99
15) trans-1,2-Dichloroethene	8.51	96	812339	53261.689 pg	98
16) 1,1-Dichloroethane	8.73	63	1352380	46851.911 pg	99
17) Methyl tert-Butyl Ether	8.79	73	2286865	54905.465 pg	100
18) cis-1,2-Dichloroethene	9.61	96	840691	53302.233 pg	100
19) Chloroform	9.92	83	1243261	39108.414 pg	100
21) 1,2-Dichloroethane	10.66	62	953382	42603.219 pg	99
22) 1,1,1-Trichloroethane	10.93	97	1103450	42854.297 pg	99
23) Benzene	11.38	78	2904742	44664.248 pg	100
24) Carbon Tetrachloride	11.53	117	946491	42078.768 pg	99
26) 1,2-Dichloropropane	12.19	63	819944	48533.572 pg	99
27) Bromodichloromethane	12.36	83	1053898	44673.849 pg	99
28) Trichloroethene	12.42	130	816678	46976.329 pg	100
29) 1,4-Dioxane	12.38	88	672956	58454.249 pg	98
30) cis-1,3-Dichloropropene	13.25	75	1400395	58235.872 pg	99
31) trans-1,3-Dichloropropene	13.77	75	1231349	58262.569 pg	99
32) 1,1,2-Trichloroethane	13.95	83	655275	46133.897 pg	98
34) Toluene	14.25	91	3002843	45101.686 pg	97
35) Dibromochloromethane	14.66	129	874802	52434.057 pg	100
36) 1,2-Dibromoethane	14.92	107	854842	51012.218 pg	100
37) Tetrachloroethene	15.40	166	893723	49318.484 pg	99
39) Chlorobenzene	16.10	112	2103345	46424.206 pg	99
40) Ethylbenzene	16.48	91	3400775	49289.106 pg	96
41) m,p-Xylene	16.66	91	5080325	95070.929 pg	96
42) Styrene	17.01	104	2289734	63115.664 pg	99
43) o-Xylene	17.13	106	1340331	50330.657 pg	94
44) 1,1,2,2-Tetrachloroethane	17.10	83	1319787	41391.591 pg	99
46) 1,3,5-Trimethylbenzene	18.38	105	2742140	50071.233 pg	95
47) 1,2,4-Trimethylbenzene	18.78	105	2786901	51322.155 pg	96
48) 1,3-Dichlorobenzene	18.93	146	1730258	52129.539 pg	99
49) 1,4-Dichlorobenzene	18.98	146	1695513	49408.604 pg	99
50) 1,2-Dichlorobenzene	19.31	146	1671413	50760.244 pg	99
51) 1,2-Dibromo-3-chloropr...	19.72	157	683057	63138.352 pg	90
52) 1,2,4-Trichlorobenzene	20.95	182	1336078	66767.718 pg	99
53) Naphthalene	21.06	128	4020477	55044.052 pg	97

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\07\07071620.D Vial: 15
Acq On : 7 Jul 2016 19:09 Operator: CL
Sample : 50000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06081605 (7/7)

Quant Time: Jul 08 07:53:16 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

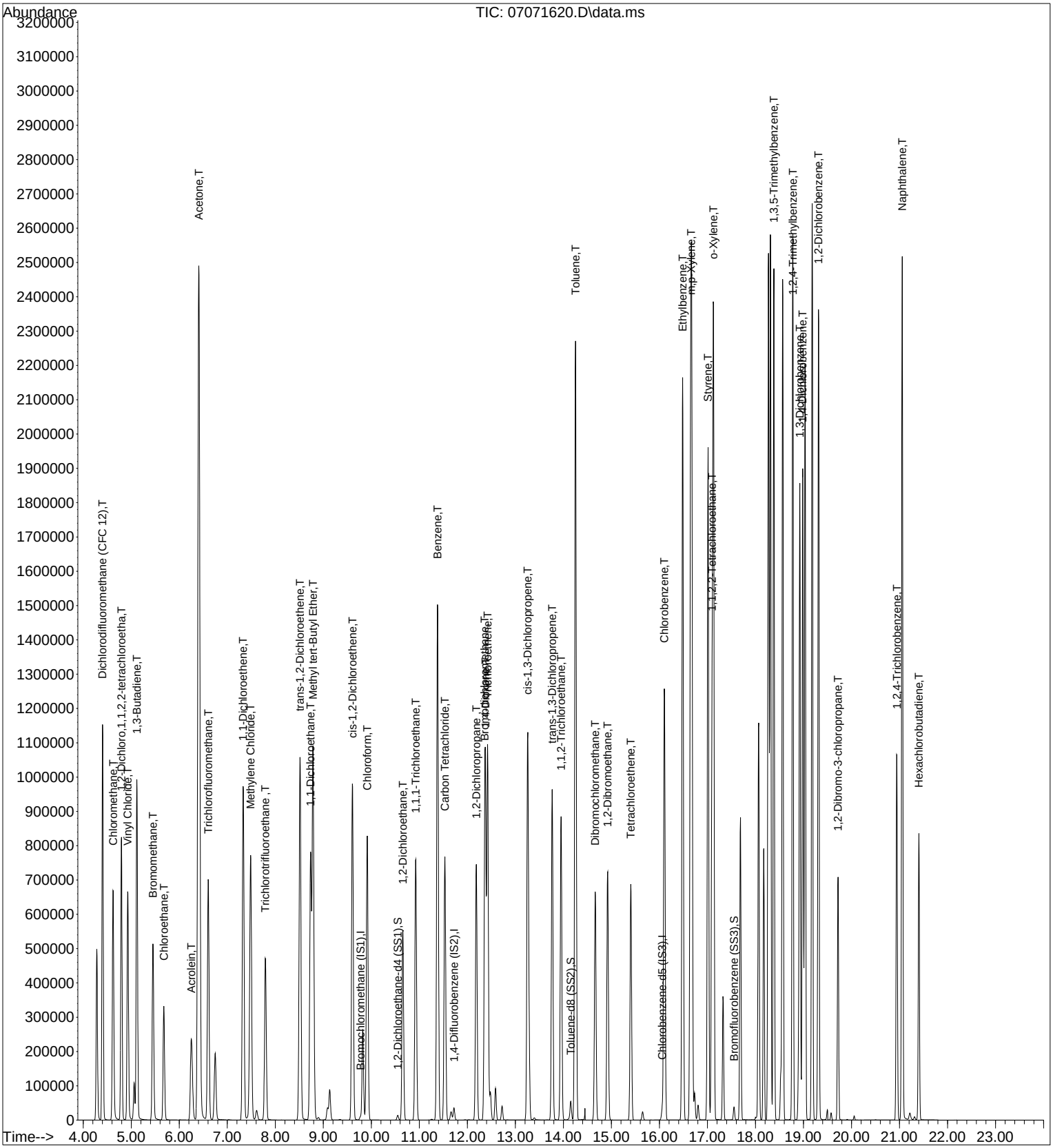
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
54) Hexachlorobutadiene	21.40	225	794649	56124.703 pg	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\07\07071620.D Vial: 15
Acq On : 7 Jul 2016 19:09 Operator: CL
Sample : 50000pg TO15SIM ICAL STD Inst : MS19
Misc : S29-06141602/S29-06081605 (7/7)

Quant Time: Jul 08 07:53:16 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 07:52:42 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\07\07071621.D Vial: 2
Acq On : 7 Jul 2016 19:40 Operator: CL
Sample : 500pg TO15SIM ICV Inst : MS19
Misc : S29-06141602/S29-06301605 (7/29)

Quant Time: Jul 08 08:28:45 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 08:28:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 7/8/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.75	130	14757	1000.000 pg	-0.02
25) 1,4-Difluorobenzene (IS2)	11.71	114	74001	1000.000 pg	-0.01
38) Chlorobenzene-d5 (IS3)	16.05	54	11055	1000.000 pg	0.00

System Monitoring Compounds

20) 1,2-Dichloroethane-d4 ...	10.53	65	21490	936.650 pg	-0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 93.66%		
33) Toluene-d8 (SS2)	14.15	98	76585	987.317 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 98.73%		
45) Bromofluorobenzene (SS3)	17.56	174	31329	1166.539 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 116.65%		

Target Compounds

					Qvalue
2) Dichlorodifluoromethan...	4.42	85	14626	406.532 pg	100
3) Chloromethane	4.64	52	3901	422.983 pg	99
4) 1,2-Dichloro,1,1,2,2-t...	4.81	85	11322	432.081 pg	100
5) Vinyl Chloride	4.94	62	11826	468.575 pg	100
6) 1,3-Butadiene	5.13	54	8549	486.107 pg	95
7) Bromomethane	5.46	94	6573	473.531 pg	100
8) Chloroethane	5.69	64	5596	449.418 pg	99
9) Acrolein	6.26	56	4057	470.518 pg	88
10) Acetone	6.39	58	30062	2666.303 pg	94
11) Trichlorofluoromethane	6.61	101	10785	437.765 pg	100
12) 1,1-Dichloroethene	7.34	96	7803	503.343 pg	94
13) Methylene Chloride	7.47	84	8239	497.649 pg	92
14) Trichlorotrifluoroethane	7.80	151	7383	517.098 pg	100
15) trans-1,2-Dichloroethene	8.51	96	8292	478.876 pg	99
16) 1,1-Dichloroethane	8.71	63	14295	468.526 pg	100
17) Methyl tert-Butyl Ether	8.79	73	25167	492.585 pg	98
18) cis-1,2-Dichloroethene	9.59	96	8938	504.490 pg	99
19) Chloroform	9.88	83	14233	507.035 pg	100
21) 1,2-Dichloroethane	10.64	62	9621	458.823 pg	99
22) 1,1,1-Trichloroethane	10.91	97	11724	471.881 pg	100
23) Benzene	11.36	78	37347	569.368 pg	100
24) Carbon Tetrachloride	11.52	117	9773	480.148 pg	99
26) 1,2-Dichloropropane	12.17	63	8314	472.957 pg	100
27) Bromodichloromethane	12.35	83	10315	476.676 pg	100
28) Trichloroethene	12.41	130	8853	485.660 pg	99
29) 1,4-Dioxane	12.38	88	7246	527.986 pg	95
30) cis-1,3-Dichloropropene	13.25	75	12213	464.162 pg	100
31) trans-1,3-Dichloropropene	13.77	75	10693	463.321 pg	98
32) 1,1,2-Trichloroethane	13.95	83	6813	490.364 pg	97
34) Toluene	14.25	91	37067	537.138 pg	95
35) Dibromochloromethane	14.66	129	8095	499.978 pg	100
36) 1,2-Dibromoethane	14.92	107	8612	501.747 pg	100
37) Tetrachloroethene	15.40	166	9377	471.860 pg	98
39) Chlorobenzene	16.10	112	22351	577.215 pg	100
40) Ethylbenzene	16.48	91	38352	586.450 pg	99
41) m,p-Xylene	16.66	91	58881	1178.406 pg	100
42) Styrene	17.01	104	22946	626.518 pg	100
43) o-Xylene	17.12	106	14857	584.948 pg	98
44) 1,1,2,2-Tetrachloroethane	17.09	83	13905	563.149 pg	99
46) 1,3,5-Trimethylbenzene	18.38	105	31898	619.378 pg	99
47) 1,2,4-Trimethylbenzene	18.77	105	32521	632.345 pg	99
48) 1,3-Dichlorobenzene	18.92	146	18780	646.255 pg	100
49) 1,4-Dichlorobenzene	18.98	146	18693	610.105 pg	100
50) 1,2-Dichlorobenzene	19.31	146	18224	635.266 pg	100
51) 1,2-Dibromo-3-chloropr...	19.72	157	6342	634.157 pg	92
52) 1,2,4-Trichlorobenzene	20.94	182	13530	701.324 pg	100
53) Naphthalene	21.06	128	45081	704.269 pg	100

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\07\07071621.D Vial: 2
Acq On : 7 Jul 2016 19:40 Operator: CL
Sample : 500pg TO15SIM ICV Inst : MS19
Misc : S29-06141602/S29-06301605 (7/29)

Quant Time: Jul 08 08:28:45 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 08:28:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

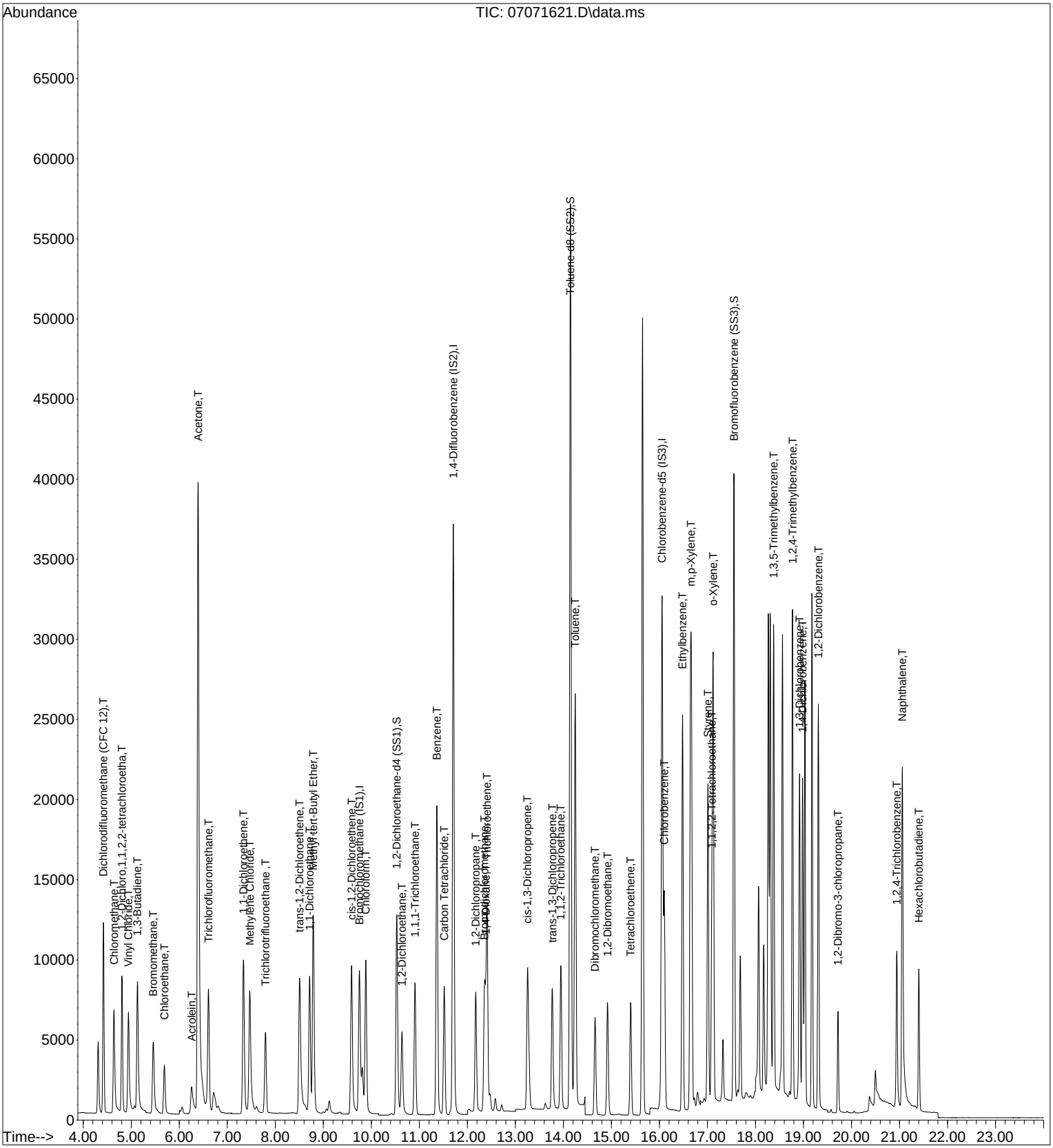
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Hexachlorobutadiene	21.40	225	8766	679.052	pg	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\07\07071621.D Vial: 2
Acq On : 7 Jul 2016 19:40 Operator: CL
Sample : 500pg TO15SIM ICV Inst : MS19
Misc : S29-06141602/S29-06301605 (7/29)

Quant Time: Jul 08 08:28:45 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 08:28:11 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Data File Name:	**07071621.D**
Data File Path:	**I:\MS19\DATA\2016_07\07**
Operator:	**CL**
Instrument Name:	**MS19**
Sample Name:	**500pg TO15SIM ICV**
Misc Info:	**S29-06141602/S29-06301605 (7/29)**
Date Acquired:	**7/7/16 19:40**
Acq. Method File:	**TO15SIM.M**

CL 7/8/16

#	Compound Name	Ret. Time	Amount Spiked (pg)	Amount Found (pg)	Percent Recovery	Lower Limit	Upper Limit	Flag
2)	Dichlorodifluoromethane (CFC 12)	4.42	470.0	406.5	86.5	70	130	*
3)	Chloromethane	4.64	500.0	423.0	84.6	70	130	*
4)	*1,2-Dichloro,1,1,2,2-tetrachloroetha*	4.81	510.0	432.1	84.7	70	130	*
5)	Vinyl Chloride	4.94	500.0	468.6	93.7	70	130	*
6)	*1,3-Butadiene*	5.13	515.0	486.1	94.4	70	130	*
7)	Bromomethane	5.46	505.0	473.5	93.8	70	130	*
8)	Chloroethane	5.69	500.0	449.4	89.9	70	130	*
9)	*Acrolein*	6.26	535.0	470.5	87.9	70	130	*
10)	Acetone	6.39	2695.0	2666.3	98.9	70	130	*
11)	Trichlorofluoromethane	6.61	540.0	437.8	81.1	70	130	*
12)	1,1-Dichloroethene	7.34	540.0	503.3	93.2	70	130	*
13)	Methylene Chloride	7.47	555.0	497.6	89.7	70	130	*
14)	Trichlorotrifluoroethane	7.80	550.0	517.1	94.0	70	130	*
15)	trans-1,2-Dichloroethene	8.51	525.0	478.9	91.2	70	130	*
16)	1,1-Dichloroethane	8.71	530.0	468.5	88.4	70	130	*
17)	Methyl tert-Butyl Ether	8.79	540.0	492.6	91.2	70	130	*
18)	cis-1,2-Dichloroethene	9.59	545.0	504.5	92.6	70	130	*
19)	Chloroform	9.88	560.0	507.0	90.5	70	130	*
21)	1,2-Dichloroethane	10.64	535.0	458.8	85.8	70	130	*
22)	1,1,1-Trichloroethane	10.91	525.0	471.9	89.9	70	130	*
25)	Benzene	11.36	565.0	569.4	100.8	70	130	*
24)	Carbon Tetrachloride	11.52	575.0	480.1	83.5	70	130	*
26)	1,2-Dichloropropane	12.17	540.0	473.0	87.6	70	130	*
27)	Bromodichloromethane	12.35	545.0	476.7	87.5	70	130	*
28)	Trichloroethene	12.41	540.0	485.7	89.9	70	130	*
29)	1,4-Dioxane	12.38	525.0	528.0	100.6	70	130	*
30)	cis-1,3-Dichloropropene	13.25	520.0	464.2	89.3	70	130	*
31)	trans-1,3-Dichloropropene	13.77	525.0	463.3	88.3	70	130	*
32)	1,1,2-Trichloroethane	13.95	540.0	490.4	90.8	70	130	*
34)	Toluene	14.15	545.0	537.1	98.6	70	130	*
35)	*Dibromochloromethane*	14.66	550.0	500.0	90.9	70	130	*
36)	1,2-Dibromoethane	14.92	545.0	501.7	92.1	70	130	*
37)	Tetrachloroethene	15.40	505.0	495.0	98.0	70	130	*
39)	Chlorobenzene	16.10	550.0	577.2	104.9	70	130	*
40)	Ethylbenzene	16.48	545.0	586.5	107.6	70	130	*
41)	m,p-Xylene	16.66	1070.0	1178.4	110.1	70	130	*
42)	*Styrene*	17.01	555.0	626.5	112.9	70	130	*
43)	o-Xylene	17.12	525.0	584.9	111.4	70	130	*
44)	1,1,2,2-Tetrachloroethane	17.09	525.0	563.1	107.3	70	130	*
46)	*1,3,5-Trimethylbenzene*	18.38	535.0	619.4	115.8	70	130	*
47)	*1,2,4-Trimethylbenzene*	18.77	545.0	632.3	116.0	70	130	*
48)	1,3-Dichlorobenzene	18.92	570.0	646.3	113.4	70	130	*
49)	1,4-Dichlorobenzene	18.98	520.0	610.1	117.3	70	130	*
50)	1,2-Dichlorobenzene	19.31	550.0	635.3	115.5	70	130	*
51)	*1,2-Dibromo-3-chloropropane*	19.72	545.0	634.2	116.4	70	130	*
52)	1,2,4-Trichlorobenzene	20.94	575.0	701.3	122.0	70	130	*
53)	Naphthalene	19.31	545.0	704.3	129.2	70	130	*
54)	Hexachlorobutadiene	21.40	575.0	679.1	118.1	70	130	*

Evaluate Continuing Calibration Report

Data File : I:\MS19\DATA\2016 07\20\07201605.D Vial: 16
Acq On : 20 Jul 2016 9:23 Operator: CL
Sample : CCV S19072016 500pg Inst : MS19
Misc : S29-06141602/S29-06291607 (7/28)

Quant Time: Jul 20 10:56:51 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 7/20/16

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane (IS1)	1.000	1.000	0.0	147	-0.02
2	T	Dichlorodifluoromethane (CF	2.438	2.080	14.7	122	0.02
3	T	Chloromethane	0.625	0.471	24.6	109	0.02
4	T	1,2-Dichloro,1,1,2,2-tetrac	1.776	1.596	10.1	128	0.01
5	T	Vinyl Chloride	1.710	1.453	15.0	122	0.02
6	T	1,3-Butadiene	1.192	1.050	11.9	128	0.02
7	T	Bromomethane	0.941	0.864	8.2	134	0.01
8	T	Chloroethane	0.844	0.718	14.9	122	0.01
9	T	Acrolein	0.584	0.532	8.9	127	0.00
10	T	Acetone	0.764	0.633	17.1	104	0.00
11	T	Trichlorofluoromethane	1.669	1.500	10.1	128	0.00
12	T	1,1-Dichloroethene	1.051	0.975	7.2	133	0.00
13	T	Methylene Chloride	1.122	1.003	10.6	130	-0.01
14	T	Trichlorotrifluoroethane	0.968	0.933	3.6	139	0.00
15	T	trans-1,2-Dichloroethene	1.173	1.080	7.9	134	0.00
16	T	1,1-Dichloroethane	2.068	1.739	15.9	119	-0.02
17	T	Methyl tert-Butyl Ether	3.462	3.026	12.6	124	0.00
18	T	cis-1,2-Dichloroethene	1.201	1.105	8.0	135	-0.02
19	T	Chloroform	1.902	1.711	10.0	126	-0.03
20	S	1,2-Dichloroethane-d4 (SS1)	1.555	1.282	17.6	121	-0.02
21	T	1,2-Dichloroethane	1.421	1.117	21.4	114	-0.02
22	T	1,1,1-Trichloroethane	1.684	1.494	11.3	128	-0.02
23	T	Benzene	4.445	4.016	9.7	132	-0.01
24	T	Carbon Tetrachloride	1.379	1.252	9.2	133	-0.01
25	I	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	142	-0.02
26	T	1,2-Dichloropropane	0.238	0.203	14.7	121	-0.01
27	T	Bromodichloromethane	0.292	0.259	11.3	127	-0.01
28	T	Trichloroethene	0.246	0.241	2.0	138	-0.01
29	T	1,4-Dioxane	0.185	0.172	7.0	132	0.00
30	T	cis-1,3-Dichloropropene	0.356	0.313	12.1	127	0.00
31	T	trans-1,3-Dichloropropene	0.312	0.269	13.8	126	0.00
32	T	1,1,2-Trichloroethane	0.188	0.171	9.0	128	0.00
33	S	Toluene-d8 (SS2)	1.048	1.016	3.1	139	-0.01
34	T	Toluene	0.933	0.861	7.7	132	0.00
35	T	Dibromochloromethane	0.219	0.209	4.6	138	0.00
36	T	1,2-Dibromoethane	0.232	0.218	6.0	135	0.00
37	T	Tetrachloroethene	0.269	0.267	0.7	142	0.00
38	I	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	117	0.00
39	T	Chlorobenzene	3.503	4.123	-17.7	135	0.00
40	T	Ethylbenzene	5.916	6.902	-16.7	131	0.00
41	T	m,p-Xylene	4.520	5.340	-18.1	131	0.00
42	T	Styrene	3.313	3.998	-20.7	138	0.00
43	T	o-Xylene	2.297	2.805	-22.1	135	0.00
44	T	1,1,2,2-Tetrachloroethane	2.234	2.652	-18.7	131	0.00
45	S	Bromofluorobenzene (SS3)	2.429	3.099	-27.6	147	0.00
46	T	1,3,5-Trimethylbenzene	4.659	5.774	-23.9	133	0.00
47	T	1,2,4-Trimethylbenzene	4.652	5.781	-24.3	134	0.00
48	T	1,3-Dichlorobenzene	2.629	3.302	-25.6	137	0.00
49	T	1,4-Dichlorobenzene	2.772	3.410	-23.0	139	0.00
50	T	1,2-Dichlorobenzene	2.595	3.234	-24.6	138	0.00
51	T	1,2-Dibromo-3-chloropropane	0.905	1.150	-27.1	146	0.00
52	T	1,2,4-Trichlorobenzene	1.745	2.218	-27.1	141	0.00
53	T	Naphthalene	5.790	7.493	-29.4	144	0.00
54	T	Hexachlorobutadiene	1.168	1.494	-27.9	140	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS19\DATA\2016 07\20\07201605.D Vial: 16
Acq On : 20 Jul 2016 9:23 Operator: CL
Sample : CCV S19072016 500pg Inst : MS19
Misc : S29-06141602/S29-06291607 (7/28)

Quant Time: Jul 20 10:56:51 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\20\07201605.D Vial: 16
Acq On : 20 Jul 2016 9:23 Operator: CL
Sample : CCV S19072016 500pg Inst : MS19
Misc : S29-06141602/S29-06291607 (7/28)

Quant Time: Jul 20 10:56:51 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 7/20/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.75	130	19637	1000.000 pg	-0.02
25) 1,4-Difluorobenzene (IS2)	11.71	114	95029	1000.000 pg	-0.02
38) Chlorobenzene-d5 (IS3)	16.05	54	13059	1000.000 pg	0.00

System Monitoring Compounds					
20) 1,2-Dichloroethane-d4 ...	10.53	65	25183	824.843 pg	-0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 82.48%		
33) Toluene-d8 (SS2)	14.14	98	96574	969.515 pg	-0.01
Spiked Amount 1000.000	Range 70 - 130		Recovery = 96.95%		
45) Bromofluorobenzene (SS3)	17.55	174	40465	1275.502 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 127.55%		

Target Compounds					Qvalue
2) Dichlorodifluoromethan...	4.42	85	20426	426.654 pg	100
3) Chloromethane	4.64	52	4533	369.365 pg	100
4) 1,2-Dichloro,1,1,2,2-t...	4.81	85	16143	462.966 pg	100
5) Vinyl Chloride	4.94	62	14269	424.872 pg	100
6) 1,3-Butadiene	5.13	54	10932	467.131 pg	93
7) Bromomethane	5.46	94	8487	459.475 pg	100
8) Chloroethane	5.69	64	7122	429.831 pg	100
9) Acrolein	6.26	56	5589	487.111 pg	99
10) Acetone	6.40	58	33384	2225.118 pg	90
11) Trichlorofluoromethane	6.61	101	14583	444.827 pg	99
12) 1,1-Dichloroethene	7.34	96	10242	496.489 pg	90
13) Methylene Chloride	7.47	84	10633	482.644 pg	84
14) Trichlorotrifluoroethane	7.80	151	9897	520.915 pg	100
15) trans-1,2-Dichloroethene	8.51	96	11241	487.856 pg	100
16) 1,1-Dichloroethane	8.72	63	17755	437.314 pg	99
17) Methyl tert-Butyl Ether	8.79	73	31197	458.865 pg	98
18) cis-1,2-Dichloroethene	9.59	96	11611	492.499 pg	99
19) Chloroform	9.88	83	17974	481.181 pg	99
21) 1,2-Dichloroethane	10.64	62	11520	412.858 pg	99
22) 1,1,1-Trichloroethane	10.91	97	15110	457.029 pg	99
23) Benzene	11.36	78	43768	501.437 pg	100
24) Carbon Tetrachloride	11.52	117	13279	490.270 pg	99
26) 1,2-Dichloropropane	12.18	63	10106	447.685 pg	100
27) Bromodichloromethane	12.35	83	13161	473.613 pg	100
28) Trichloroethene	12.41	130	11797	503.959 pg	100
29) 1,4-Dioxane	12.38	88	8842	501.714 pg	92
30) cis-1,3-Dichloropropene	13.25	75	16637	492.384 pg	100
31) trans-1,3-Dichloropropene	13.77	75	13666	461.111 pg	100
32) 1,1,2-Trichloroethane	13.95	83	8528	477.979 pg	95
34) Toluene	14.25	91	42971	484.903 pg	100
35) Dibromochloromethane	14.66	129	10912	524.831 pg	100
36) 1,2-Dibromoethane	14.92	107	11083	502.828 pg	100
37) Tetrachloroethene	15.40	166	12538	491.314 pg	98
39) Chlorobenzene	16.10	112	28805	629.735 pg	100
40) Ethylbenzene	16.48	91	47317	612.505 pg	98
41) m,p-Xylene	16.65	91	72527	1228.763 pg	97
42) Styrene	17.01	104	28194	651.677 pg	100
43) o-Xylene	17.12	106	18684	622.738 pg	96
44) 1,1,2,2-Tetrachloroethane	17.09	83	17317	593.709 pg	100
46) 1,3,5-Trimethylbenzene	18.38	105	39211	644.539 pg	98
47) 1,2,4-Trimethylbenzene	18.77	105	39255	646.151 pg	98
48) 1,3-Dichlorobenzene	18.92	146	23288	678.406 pg	99
49) 1,4-Dichlorobenzene	18.98	146	23377	645.897 pg	99
50) 1,2-Dichlorobenzene	19.31	146	22596	666.795 pg	100
51) 1,2-Dibromo-3-chloropr...	19.72	157	7810	661.105 pg	87
52) 1,2,4-Trichlorobenzene	20.94	182	15065	661.057 pg	100
53) Naphthalene	21.06	128	48925	647.031 pg	100

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\20\07201605.D Vial: 16
Acq On : 20 Jul 2016 9:23 Operator: CL
Sample : CCV S19072016 500pg Inst : MS19
Misc : S29-06141602/S29-06291607 (7/28)

Quant Time: Jul 20 10:56:51 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

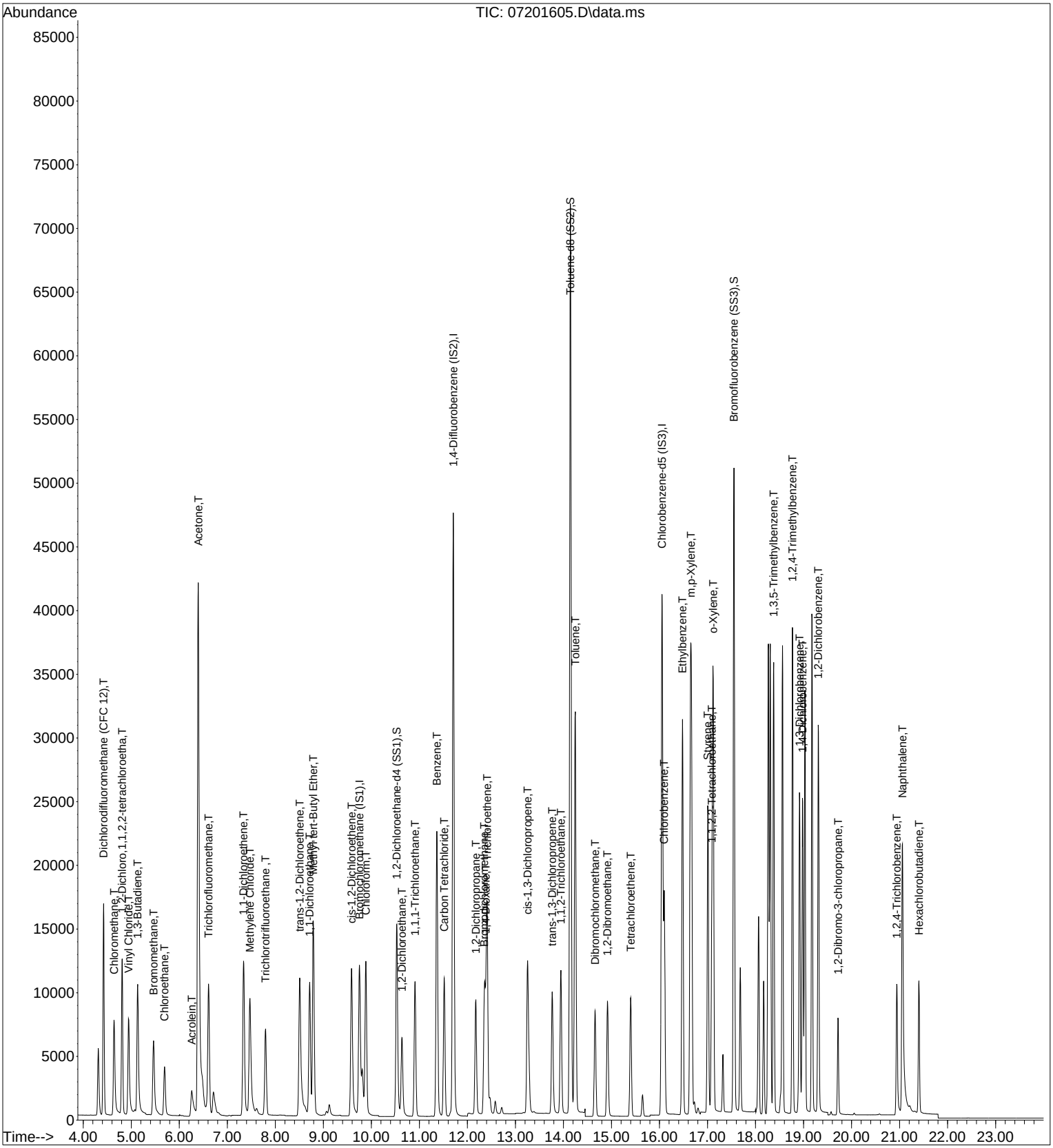
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
54) Hexachlorobutadiene	21.40	225	10439	684.556 pg	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\20\07201605.D Vial: 16
Acq On : 20 Jul 2016 9:23 Operator: CL
Sample : CCV S19072016 500pg Inst : MS19
Misc : S29-06141602/S29-06291607 (7/28)

Quant Time: Jul 20 10:56:51 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Evaluate Continuing Calibration Report

Data File : I:\MS19\DATA\2016 07\21\07211602.D Vial: 16
Acq On : 21 Jul 2016 10:11 Operator: CL
Sample : CCV S19072116 500pg Inst : MS19
Misc : S29-06141602/S29-06291607 (7/28)

Quant Time: Jul 21 12:02:34 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 7/21/16

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane (IS1)	1.000	1.000	0.0	136	-0.02
2	T	Dichlorodifluoromethane (CF	2.438	2.162	11.3	118	0.03
3	T	Chloromethane	0.625	0.480	23.2	103	0.02
4	T	1,2-Dichloro,1,1,2,2-tetrac	1.776	1.631	8.2	121	0.02
5	T	Vinyl Chloride	1.710	1.494	12.6	116	0.02
6	T	1,3-Butadiene	1.192	1.048	12.1	118	0.02
7	T	Bromomethane	0.941	0.871	7.4	126	0.01
8	T	Chloroethane	0.844	0.738	12.6	117	0.02
9	T	Acrolein	0.584	0.511	12.5	113	0.01
10	T	Acetone	0.764	0.679	11.1	103	0.00
11	T	Trichlorofluoromethane	1.669	1.558	6.7	123	0.01
12	T	1,1-Dichloroethene	1.051	1.002	4.7	127	0.00
13	T	Methylene Chloride	1.122	1.008	10.2	121	-0.01
14	T	Trichlorotrifluoroethane	0.968	0.951	1.8	131	0.00
15	T	trans-1,2-Dichloroethene	1.173	1.108	5.5	128	0.00
16	T	1,1-Dichloroethane	2.068	1.813	12.3	115	-0.02
17	T	Methyl tert-Butyl Ether	3.462	3.157	8.8	120	0.00
18	T	cis-1,2-Dichloroethene	1.201	1.152	4.1	130	-0.02
19	T	Chloroform	1.902	1.829	3.8	125	-0.03
20	S	1,2-Dichloroethane-d4 (SS1)	1.555	1.313	15.6	115	-0.02
21	T	1,2-Dichloroethane	1.421	1.182	16.8	112	-0.02
22	T	1,1,1-Trichloroethane	1.684	1.554	7.7	123	-0.02
23	T	Benzene	4.445	4.013	9.7	122	-0.01
24	T	Carbon Tetrachloride	1.379	1.298	5.9	128	-0.02
25	I	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	132	-0.02
26	T	1,2-Dichloropropane	0.238	0.210	11.8	116	-0.01
27	T	Bromodichloromethane	0.292	0.269	7.9	122	-0.01
28	T	Trichloroethene	0.246	0.246	0.0	130	-0.01
29	T	1,4-Dioxane	0.185	0.176	4.9	125	0.00
30	T	cis-1,3-Dichloropropene	0.356	0.327	8.1	123	0.00
31	T	trans-1,3-Dichloropropene	0.312	0.282	9.6	122	0.00
32	T	1,1,2-Trichloroethane	0.188	0.176	6.4	122	0.00
33	S	Toluene-d8 (SS2)	1.048	1.018	2.9	129	-0.01
34	T	Toluene	0.933	0.883	5.4	125	0.00
35	T	Dibromochloromethane	0.219	0.215	1.8	132	0.00
36	T	1,2-Dibromoethane	0.232	0.223	3.9	128	0.00
37	T	Tetrachloroethene	0.269	0.269	0.0	133	0.00
38	I	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	111	0.00
39	T	Chlorobenzene	3.503	4.102	-17.1	127	0.00
40	T	Ethylbenzene	5.916	6.935	-17.2	125	0.00
41	T	m,p-Xylene	4.520	5.368	-18.8	125	0.00
42	T	Styrene	3.313	3.976	-20.0	130	0.00
43	T	o-Xylene	2.297	2.792	-21.5	127	0.00
44	T	1,1,2,2-Tetrachloroethane	2.234	2.674	-19.7	125	0.00
45	S	Bromofluorobenzene (SS3)	2.429	2.959	-21.8	133	0.00
46	T	1,3,5-Trimethylbenzene	4.659	5.753	-23.5	126	0.00
47	T	1,2,4-Trimethylbenzene	4.652	5.769	-24.0	127	0.00
48	T	1,3-Dichlorobenzene	2.629	3.258	-23.9	128	0.00
49	T	1,4-Dichlorobenzene	2.772	3.359	-21.2	129	0.00
50	T	1,2-Dichlorobenzene	2.595	3.189	-22.9	129	0.00
51	T	1,2-Dibromo-3-chloropropane	0.905	1.145	-26.5	138	0.00
52	T	1,2,4-Trichlorobenzene	1.745	2.218	-27.1	134	0.00
53	T	Naphthalene	5.790	7.538	-30.2#	137	0.00
54	T	Hexachlorobutadiene	1.168	1.482	-26.9	132	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS19\DATA\2016 07\21\07211602.D Vial: 16
Acq On : 21 Jul 2016 10:11 Operator: CL
Sample : CCV S19072116 500pg Inst : MS19
Misc : S29-06141602/S29-06291607 (7/28)

Quant Time: Jul 21 12:02:34 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\21\07211602.D Vial: 16
Acq On : 21 Jul 2016 10:11 Operator: CL
Sample : CCV S19072116 500pg Inst : MS19
Misc : S29-06141602/S29-06291607 (7/28)

Quant Time: Jul 21 12:02:34 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 7/21/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.75	130	18213	1000.000 pg	-0.02
25) 1,4-Difluorobenzene (IS2)	11.71	114	87937	1000.000 pg	-0.02
38) Chlorobenzene-d5 (IS3)	16.05	54	12371	1000.000 pg	0.00

System Monitoring Compounds

20) 1,2-Dichloroethane-d4 ...	10.53	65	23918	844.661 pg	-0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 84.47%		
33) Toluene-d8 (SS2)	14.14	98	89520	971.178 pg	-0.01
Spiked Amount 1000.000	Range 70 - 130		Recovery = 97.12%		
45) Bromofluorobenzene (SS3)	17.55	174	36610	1218.166 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 121.82%		

Target Compounds

					Qvalue
2) Dichlorodifluoromethan...	4.43	85	19690	443.437 pg	100
3) Chloromethane	4.65	52	4285	376.456 pg	99
4) 1,2-Dichloro,1,1,2,2-t...	4.81	85	15294	472.911 pg	100
5) Vinyl Chloride	4.95	62	13608	436.870 pg	99
6) 1,3-Butadiene	5.13	54	10119	466.198 pg	91
7) Bromomethane	5.46	94	7932	463.003 pg	99
8) Chloroethane	5.69	64	6788	441.704 pg	100
9) Acrolein	6.26	56	4984	468.345 pg	92
10) Acetone	6.40	58	33218	2387.161 pg	91
11) Trichlorofluoromethane	6.61	101	14050	462.077 pg	100
12) 1,1-Dichloroethene	7.34	96	9766	510.429 pg	91
13) Methylene Chloride	7.47	84	9913	485.143 pg	88
14) Trichlorotrifluoroethane	7.80	151	9353	530.772 pg	100
15) trans-1,2-Dichloroethene	8.51	96	10693	500.357 pg	100
16) 1,1-Dichloroethane	8.71	63	17173	456.050 pg	100
17) Methyl tert-Butyl Ether	8.79	73	30190	478.773 pg	98
18) cis-1,2-Dichloroethene	9.59	96	11221	513.169 pg	99
19) Chloroform	9.88	83	17821	514.387 pg	100
21) 1,2-Dichloroethane	10.64	62	11298	436.559 pg	100
22) 1,1,1-Trichloroethane	10.91	97	14576	475.347 pg	100
23) Benzene	11.36	78	40562	501.041 pg	100
24) Carbon Tetrachloride	11.51	117	12761	507.982 pg	99
26) 1,2-Dichloropropane	12.18	63	9714	465.025 pg	100
27) Bromodichloromethane	12.35	83	12655	492.132 pg	99
28) Trichloroethene	12.41	130	11131	513.857 pg	100
29) 1,4-Dioxane	12.38	88	8374	513.480 pg	94
30) cis-1,3-Dichloropropene	13.25	75	16084	514.408 pg	100
31) trans-1,3-Dichloropropene	13.77	75	13287	484.479 pg	100
32) 1,1,2-Trichloroethane	13.95	83	8126	492.179 pg	95
34) Toluene	14.25	91	40749	496.914 pg	100
35) Dibromochloromethane	14.66	129	10392	540.131 pg	100
36) 1,2-Dibromoethane	14.92	107	10485	514.062 pg	100
37) Tetrachloroethene	15.40	166	11710	495.875 pg	98
39) Chlorobenzene	16.10	112	27146	626.471 pg	100
40) Ethylbenzene	16.48	91	45042	615.481 pg	99
41) m,p-Xylene	16.66	91	69063	1235.148 pg	98
42) Styrene	17.01	104	26560	648.050 pg	100
43) o-Xylene	17.12	106	17614	619.724 pg	97
44) 1,1,2,2-Tetrachloroethane	17.09	83	16542	598.679 pg	100
46) 1,3,5-Trimethylbenzene	18.38	105	37010	642.193 pg	99
47) 1,2,4-Trimethylbenzene	18.77	105	37110	644.815 pg	99
48) 1,3-Dichlorobenzene	18.92	146	21762	669.208 pg	99
49) 1,4-Dichlorobenzene	18.98	146	21814	636.231 pg	99
50) 1,2-Dichlorobenzene	19.31	146	21106	657.463 pg	100
51) 1,2-Dibromo-3-chloropr...	19.72	157	7366	658.197 pg	89
52) 1,2,4-Trichlorobenzene	20.95	182	14268	660.903 pg	100
53) Naphthalene	21.06	128	46624	650.892 pg	100

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\21\07211602.D Vial: 16
Acq On : 21 Jul 2016 10:11 Operator: CL
Sample : CCV S19072116 500pg Inst : MS19
Misc : S29-06141602/S29-06291607 (7/28)

Quant Time: Jul 21 12:02:34 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

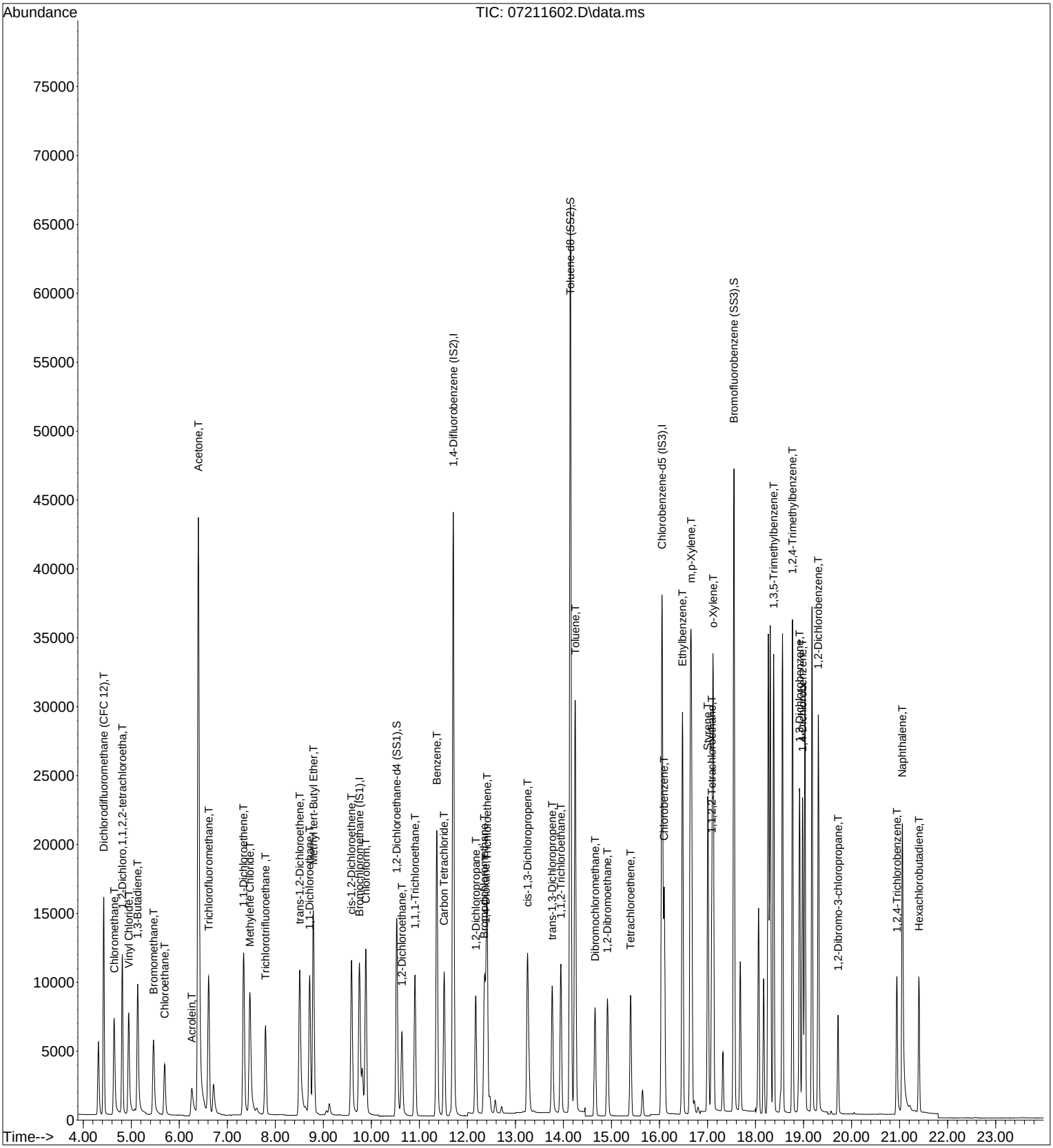
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Hexachlorobutadiene	21.40	225	9811	679.155	pg	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2016 07\21\07211602.D Vial: 16
Acq On : 21 Jul 2016 10:11 Operator: CL
Sample : CCV S19072116 500pg Inst : MS19
Misc : S29-06141602/S29-06291607 (7/28)

Quant Time: Jul 21 12:02:34 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Evaluate Continuing Calibration Report

Data File: I:\MS19\DATA\2016 07\28\07281602.D
Acq On : 28 Jul 2016 12:04 Operator: WA
Sample : CCV S19072816 500pg
Misc : S29-06141602/S29-07211609 (8/19)
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jul 28 13:01:52 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

WA 7/28/16

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane (IS1)	1.000	1.000	0.0	125	-0.02
2	T	Dichlorodifluoromethane (CF	2.438	2.285	6.3	115	0.03
3	T	Chloromethane	0.625	0.552	11.7	109	0.02
4	T	1,2-Dichloro,1,1,2,2-tetrac	1.776	1.706	3.9	117	0.02
5	T	Vinyl Chloride	1.710	1.585	7.3	114	0.02
6	T	1,3-Butadiene	1.192	1.118	6.2	116	0.02
7	T	Bromomethane	0.941	0.880	6.5	117	0.01
8	T	Chloroethane	0.844	0.779	7.7	114	0.02
9	T	Acrolein	0.584	0.541	7.4	110	0.01
10	T	Acetone	0.764	0.675	11.6	95	0.00
11	T	Trichlorofluoromethane	1.669	1.637	1.9	119	0.01
12	T	1,1-Dichloroethene	1.051	1.011	3.8	118	0.01
13	T	Methylene Chloride	1.122	1.073	4.4	119	-0.01
14	T	Trichlorotrifluoroethane	0.968	0.924	4.5	118	0.00
15	T	trans-1,2-Dichloroethene	1.173	1.109	5.5	118	0.00
16	T	1,1-Dichloroethane	2.068	1.910	7.6	112	-0.02
17	T	Methyl tert-Butyl Ether	3.462	3.180	8.1	112	0.00
18	T	cis-1,2-Dichloroethene	1.201	1.135	5.5	118	-0.02
19	T	Chloroform	1.902	1.953	-2.7	123	-0.03
20	S	1,2-Dichloroethane-d4 (SS1)	1.555	1.434	7.8	116	-0.02
21	T	1,2-Dichloroethane	1.421	1.259	11.4	110	-0.02
22	T	1,1,1-Trichloroethane	1.684	1.593	5.4	117	-0.02
23	T	Benzene	4.445	4.068	8.5	114	-0.01
24	T	Carbon Tetrachloride	1.379	1.323	4.1	120	-0.01
25	I	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	121	-0.02
26	T	1,2-Dichloropropane	0.238	0.220	7.6	112	-0.01
27	T	Bromodichloromethane	0.292	0.279	4.5	116	-0.01
28	T	Trichloroethene	0.246	0.240	2.4	117	-0.01
29	T	1,4-Dioxane	0.185	0.174	5.9	113	0.00
30	T	cis-1,3-Dichloropropene	0.356	0.327	8.1	113	0.00
31	T	trans-1,3-Dichloropropene	0.312	0.280	10.3	112	0.00
32	T	1,1,2-Trichloroethane	0.188	0.179	4.8	114	0.00
33	S	Toluene-d8 (SS2)	1.048	1.021	2.6	119	-0.01
34	T	Toluene	0.933	0.869	6.9	113	0.00
35	T	Dibromochloromethane	0.219	0.212	3.2	120	0.00
36	T	1,2-Dibromoethane	0.232	0.219	5.6	116	0.00
37	T	Tetrachloroethene	0.269	0.258	4.1	117	0.00
38	I	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	113	0.00
39	T	Chlorobenzene	3.503	3.586	-2.4	112	0.00
40	T	Ethylbenzene	5.916	6.139	-3.8	112	0.00
41	T	m,p-Xylene	4.520	4.739	-4.8	111	0.00
42	T	Styrene	3.313	3.322	-0.3	110	0.00
43	T	o-Xylene	2.297	2.448	-6.6	113	0.00
44	T	1,1,2,2-Tetrachloroethane	2.234	2.453	-9.8	116	0.00
45	S	Bromofluorobenzene (SS3)	2.429	2.647	-9.0	120	0.00
46	T	1,3,5-Trimethylbenzene	4.659	5.047	-8.3	112	0.00
47	T	1,2,4-Trimethylbenzene	4.652	4.978	-7.0	111	0.00
48	T	1,3-Dichlorobenzene	2.629	2.660	-1.2	105	0.00
49	T	1,4-Dichlorobenzene	2.772	2.598	6.3	101	0.00
50	T	1,2-Dichlorobenzene	2.595	2.635	-1.5	108	0.00
51	T	1,2-Dibromo-3-chloropropane	0.905	0.944	-4.3	115	0.00
52	T	1,2,4-Trichlorobenzene	1.745	1.450	16.9	88	0.00
53	T	Naphthalene	5.790	4.457	23.0	82	0.00

Evaluate Continuing Calibration Report

Data File: I:\MS19\DATA\2016 07\28\07281602.D
Acq On : 28 Jul 2016 12:04 Operator: WA
Sample : CCV S19072816 500pg
Misc : S29-06141602/S29-07211609 (8/19)
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jul 28 13:01:52 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
54 T	Hexachlorobutadiene	1.168	1.263	-8.1	114	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File: I:\MS19\DATA\2016 07\28\07281602.D
Acq On : 28 Jul 2016 12:04 Operator: WA
Sample : CCV S19072816 500pg
Misc : S29-06141602/S29-07211609 (8/19)
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jul 28 13:01:52 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

WA 7/28/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.75	130	16800	1000.000 pg	-0.02
25) 1,4-Difluorobenzene (IS2)	11.71	114	80752	1000.000 pg	-0.02
38) Chlorobenzene-d5 (IS3)	16.05	54	12514	1000.000 pg	0.00

System Monitoring Compounds					
20) 1,2-Dichloroethane-d4 ...	10.53	65	24086	922.135 pg	-0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 92.21%		
33) Toluene-d8 (SS2)	14.14	98	82413	973.627 pg	-0.01
Spiked Amount 1000.000	Range 70 - 130		Recovery = 97.36%		
45) Bromofluorobenzene (SS3)	17.55	174	33127	1089.676 pg	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 108.97%		

Target Compounds					Qvalue
2) Dichlorodifluoromethan...	4.43	85	19194	468.623 pg	100
3) Chloromethane	4.65	52	4548	433.168 pg	100
4) 1,2-Dichloro,1,1,2,2-t...	4.81	85	14758	494.718 pg	100
5) Vinyl Chloride	4.95	62	13318	463.521 pg	100
6) 1,3-Butadiene	5.13	54	9956	497.267 pg	96
7) Bromomethane	5.46	94	7394	467.900 pg	100
8) Chloroethane	5.70	64	6612	466.439 pg	100
9) Acrolein	6.26	56	4866	495.715 pg	93
10) Acetone	6.40	58	30466	2373.537 pg	97
11) Trichlorofluoromethane	6.61	101	13615	485.431 pg	100
12) 1,1-Dichloroethene	7.34	96	9091	515.113 pg	96
13) Methylene Chloride	7.47	84	9732	516.344 pg	92
14) Trichlorotrifluoroethane	7.80	151	8387	515.983 pg	100
15) trans-1,2-Dichloroethene	8.51	96	9873	500.843 pg	100
16) 1,1-Dichloroethane	8.72	63	16690	480.501 pg	100
17) Methyl tert-Butyl Ether	8.79	73	28045	482.163 pg	99
18) cis-1,2-Dichloroethene	9.59	96	10199	505.660 pg	99
19) Chloroform	9.88	83	17551	549.202 pg	100
21) 1,2-Dichloroethane	10.64	62	11100	464.983 pg	100
22) 1,1,1-Trichloroethane	10.91	97	13779	487.150 pg	100
23) Benzene	11.36	78	37930	507.936 pg	100
24) Carbon Tetrachloride	11.52	117	12006	518.125 pg	99
26) 1,2-Dichloropropane	12.18	63	9342	487.008 pg	100
27) Bromodichloromethane	12.35	83	12036	509.706 pg	99
28) Trichloroethene	12.41	130	9964	500.910 pg	100
29) 1,4-Dioxane	12.38	88	7592	506.950 pg	98
30) cis-1,3-Dichloropropene	13.25	75	14794	515.249 pg	100
31) trans-1,3-Dichloropropene	13.77	75	12099	480.414 pg	99
32) 1,1,2-Trichloroethane	13.95	83	7603	501.475 pg	98
34) Toluene	14.25	91	36822	488.979 pg	100
35) Dibromochloromethane	14.66	129	9421	533.231 pg	100
36) 1,2-Dibromoethane	14.92	107	9475	505.876 pg	100
37) Tetrachloroethene	15.40	166	10332	476.451 pg	100
39) Chlorobenzene	16.10	112	24010	547.767 pg	100
40) Ethylbenzene	16.48	91	40330	544.796 pg	100
41) m,p-Xylene	16.66	91	61671	1090.343 pg	99
42) Styrene	17.01	104	22450	541.509 pg	99
43) o-Xylene	17.12	106	15623	543.392 pg	100
44) 1,1,2,2-Tetrachloroethane	17.09	83	15349	549.155 pg	100
46) 1,3,5-Trimethylbenzene	18.38	105	32842	563.359 pg	100
47) 1,2,4-Trimethylbenzene	18.77	105	32391	556.388 pg	99
48) 1,3-Dichlorobenzene	18.92	146	17975	546.437 pg	100
49) 1,4-Dichlorobenzene	18.98	146	17069	492.149 pg	100
50) 1,2-Dichlorobenzene	19.31	146	17643	543.309 pg	100
51) 1,2-Dibromo-3-chloropr...	19.72	157	6141	542.466 pg	96
52) 1,2,4-Trichlorobenzene	20.95	182	9434	431.996 pg	100

Quantitation Report (QT Reviewed)

Data File: I:\MS19\DATA\2016 07\28\07281602.D
Acq On : 28 Jul 2016 12:04 Operator: WA
Sample : CCV S19072816 500pg
Misc : S29-06141602/S29-07211609 (8/19)
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jul 28 13:01:52 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

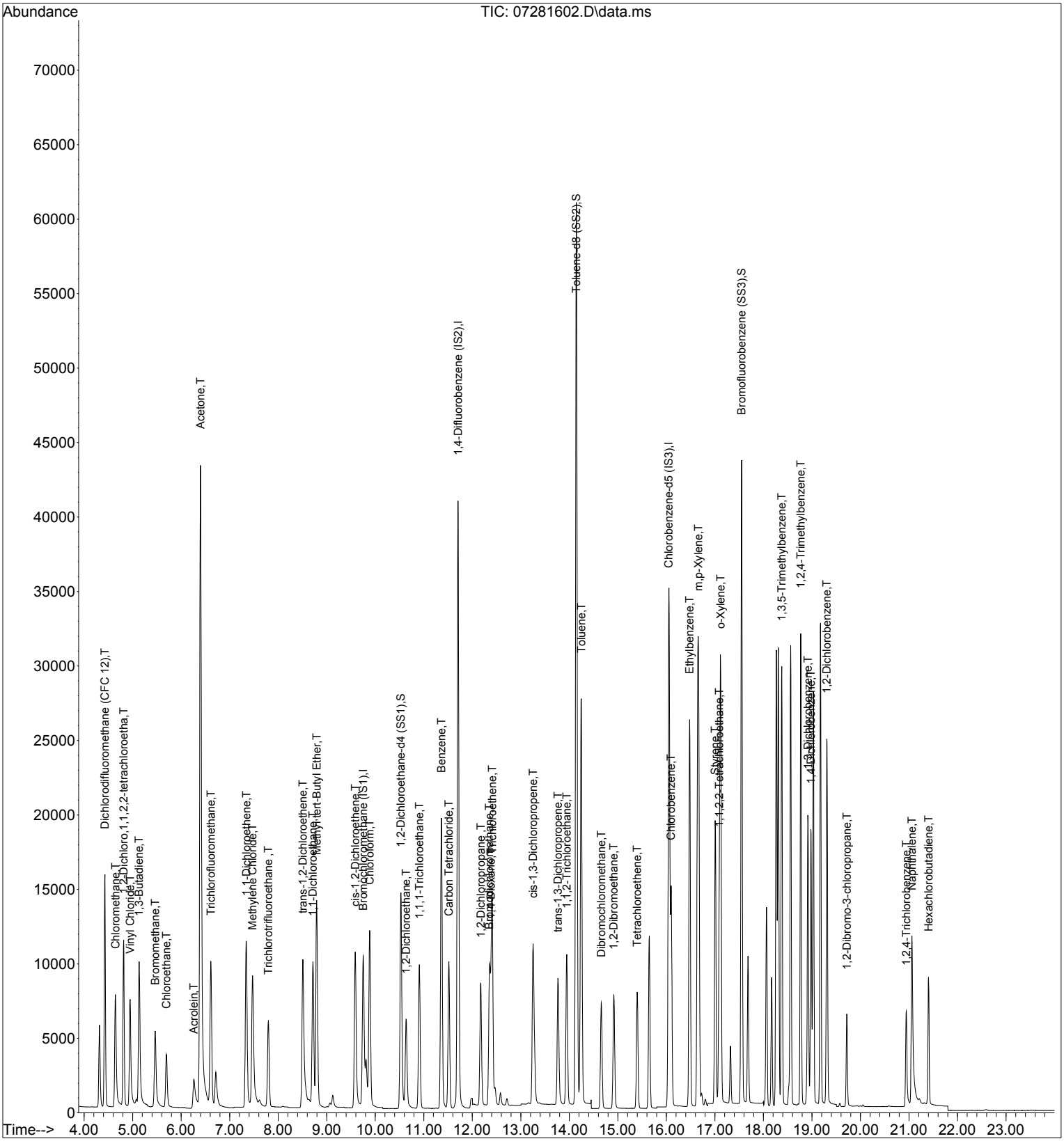
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
53) Naphthalene	21.06	128	27887	384.866	pg	99
54) Hexachlorobutadiene	21.40	225	8458	578.804	pg	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS19\DATA\2016 07\28\07281602.D
Acq On : 28 Jul 2016 12:04 Operator: WA
Sample : CCV S19072816 500pg
Misc : S29-06141602/S29-07211609 (8/19)
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jul 28 13:01:52 2016
Quant Method : I:\MS19\METHODS\S19070716.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jul 08 11:28:49 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

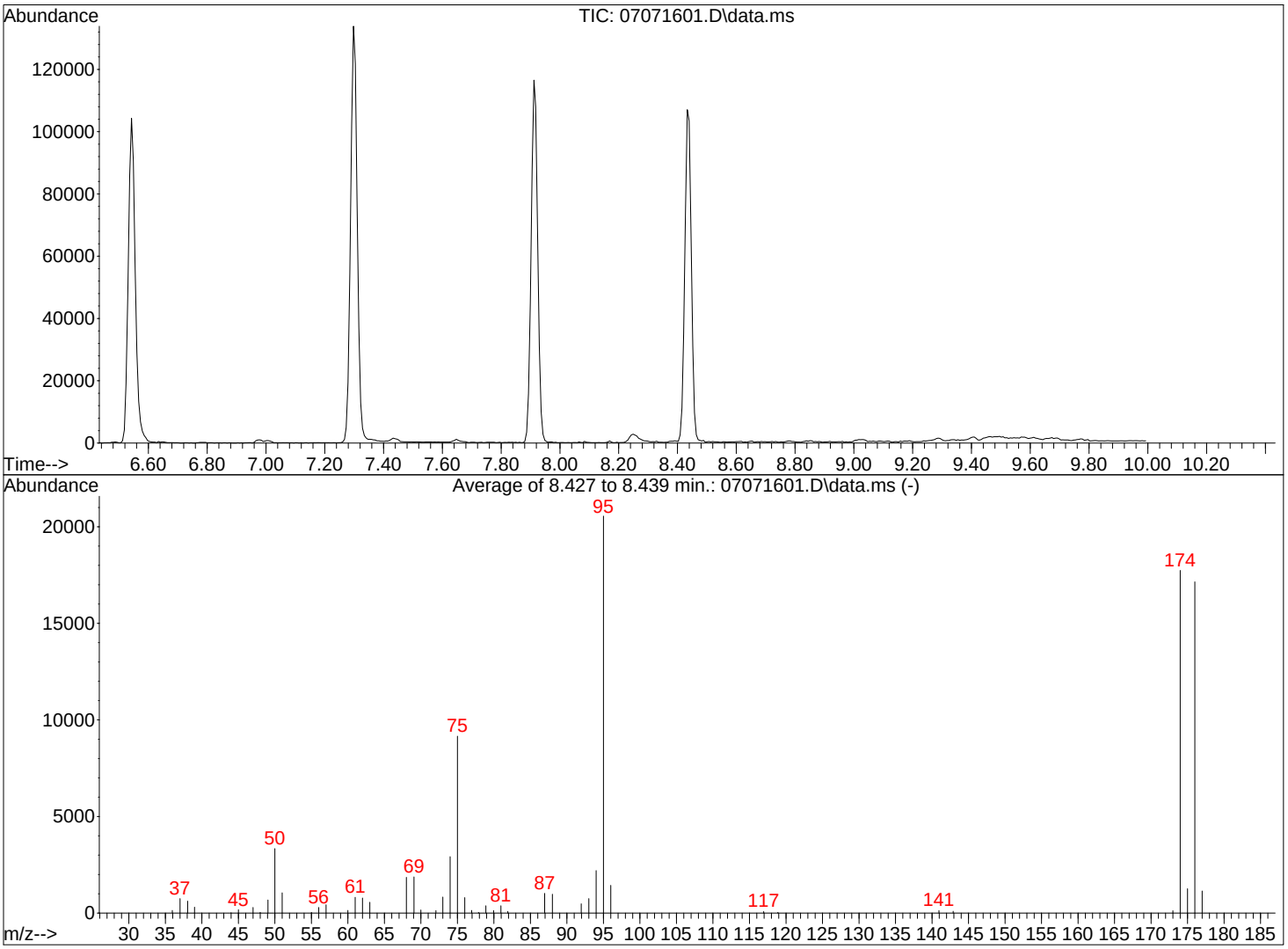


Data Path : I:\MS19\DATA\2016 07\07\
Data File : 07071601.D
Acq On : 7 Jul 2016 9:09
Operator : CL
Sample : BFB S19070716
Misc : S29-06141602
ALS Vial : 2 Sample Multiplier: 1

Integration File: rteint.p

Method : I:\MS19\METHODS\T19022216.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Feb 23 09:57:00 2016

CL 7/7/16



AutoFind: Scans 707, 708, 709; Background Corrected with Scan 701

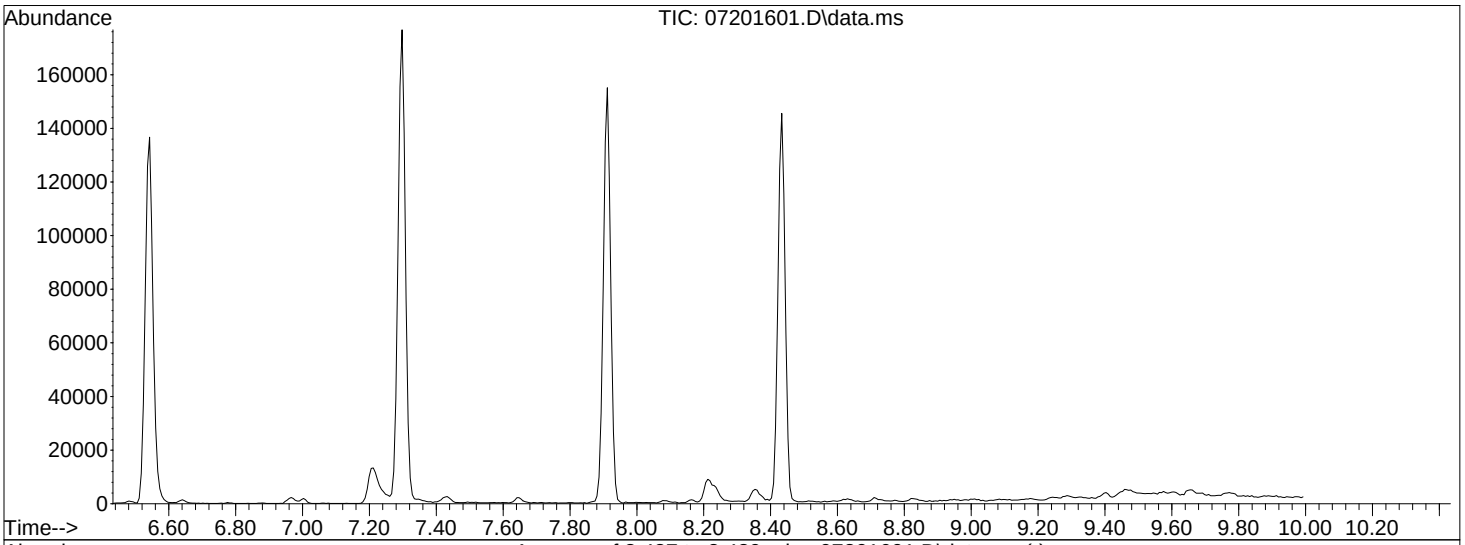
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	16.3	3340	PASS
75	95	30	66	44.5	9155	PASS
95	95	100	100	100.0	20552	PASS
96	95	5	9	7.0	1437	PASS
173	174	0.00	2	0.7	122	PASS
174	95	50	120	86.3	17742	PASS
175	174	4	9	7.1	1264	PASS
176	174	93	101	96.7	17154	PASS
177	176	5	9	6.7	1142	PASS

Data Path : I:\MS19\DATA\2016 07\20\
Data File : 07201601.D
Acq On : 20 Jul 2016 7:19
Operator : CL
Sample : BFB S19072016
Misc : S29-06141602
ALS Vial : 2 Sample Multiplier: 1

Integration File: rteint.p

Method : I:\MS19\METHODS\S19070716.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri Jul 08 11:28:49 2016

CL 7/20/16



AutoFind: Scans 707, 708, 709; Background Corrected with Scan 701

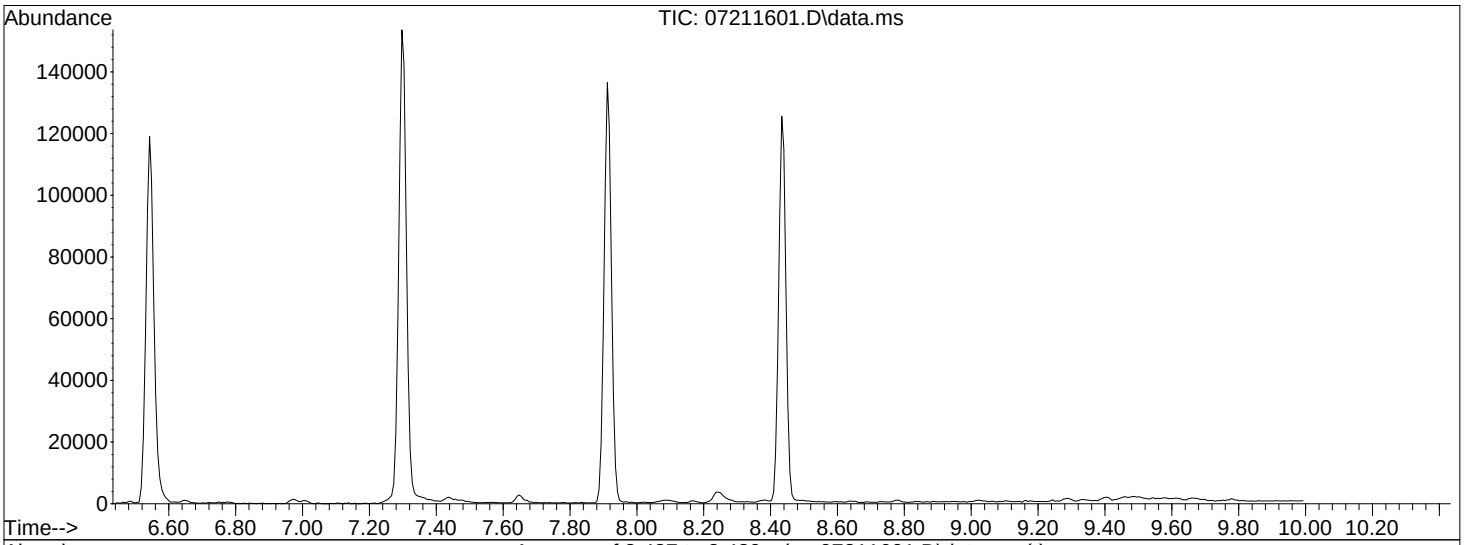
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	14.0	3828	PASS
75	95	30	66	41.6	11409	PASS
95	95	100	100	100.0	27416	PASS
96	95	5	9	6.8	1860	PASS
173	174	0.00	2	0.8	199	PASS
174	95	50	120	93.6	25653	PASS
175	174	4	9	7.4	1894	PASS
176	174	93	101	98.1	25168	PASS
177	176	5	9	6.5	1637	PASS

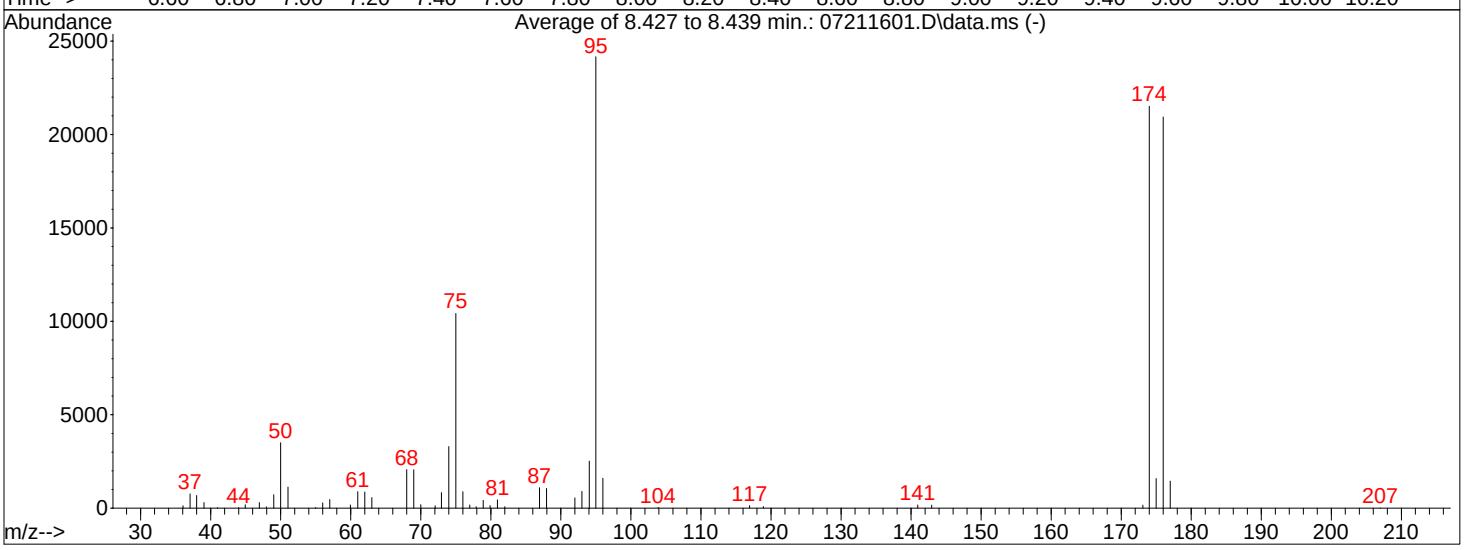
Data Path : I:\MS19\DATA\2016 07\21\
Data File : 07211601.D
Acq On : 21 Jul 2016 9:48
Operator : CL
Sample : BFB S19072116
Misc : S29-06141602
ALS Vial : 2 Sample Multiplier: 1

Integration File: rteint.p

Method : I:\MS19\METHODS\S19070716.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri Jul 08 11:28:49 2016

CL 7/21/16





AutoFind: Scans 707, 708, 709; Background Corrected with Scan 701

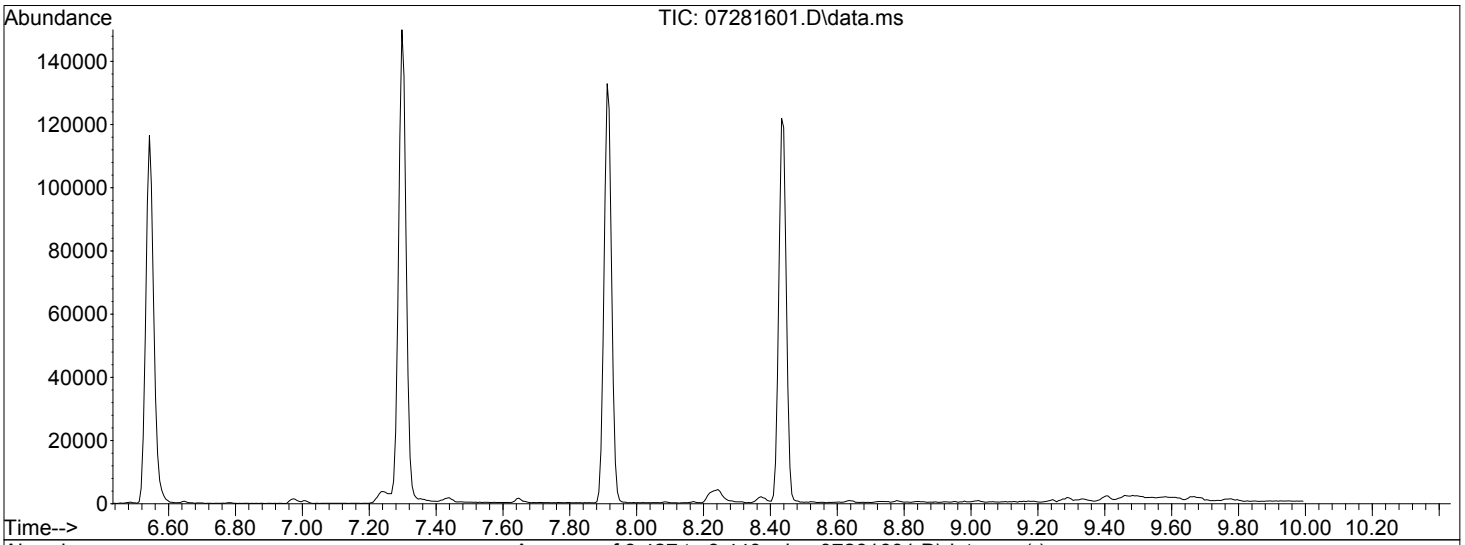
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	14.5	3500	PASS
75	95	30	66	43.1	10423	PASS
95	95	100	100	100.0	24160	PASS
96	95	5	9	6.6	1599	PASS
173	174	0.00	2	0.8	165	PASS
174	95	50	120	89.1	21515	PASS
175	174	4	9	7.4	1584	PASS
176	174	93	101	97.3	20937	PASS
177	176	5	9	6.9	1449	PASS

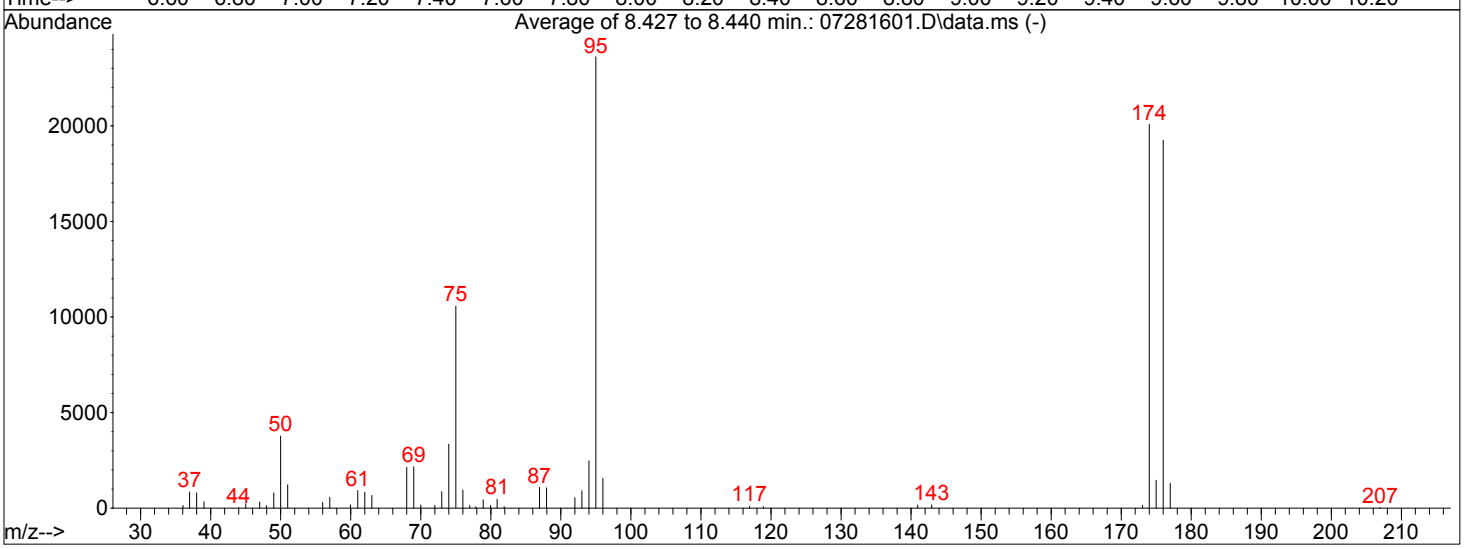
Data Path : I:\MS19\DATA\2016 07\28\
Data File : 07281601.D
Acq On : 28 Jul 2016 11:41
Operator : WA
Sample : BFB S19072816
Misc : S29-06141602
ALS Vial : 2 Sample Multiplier: 1

Integration File: rteint.p

Method : I:\MS19\METHODS\S19070716.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri Jul 08 11:28:49 2016

WA 7/29/16





AutoFind: Scans 707, 708, 709; Background Corrected with Scan 702

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	16.0	3775	PASS
75	95	30	66	44.8	10575	PASS
95	95	100	100	100.0	23613	PASS
96	95	5	9	6.6	1557	PASS
173	174	0.00	2	0.8	155	PASS
174	95	50	120	85.0	20079	PASS
175	174	4	9	7.3	1468	PASS
176	174	93	101	95.9	19251	PASS
177	176	5	9	6.8	1301	PASS

Injection Log

Directory: I:\MS19\DATA\2016_07\07\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	7/7/16 9:09	07071601.D	BFB S19070716	S29-06141602	CL	2	Pass
2	7/7/16 9:40	07071602.D	MB S19070716_1000mL	S29-06141602/AC01205	CL	2	Pass
3	7/7/16 10:11	07071603.D	20pg TO15SIM Custom ICAL STD	S29-06141602/S29-07061607 (8/4)	CL	1	
4	7/7/16 10:46	07071604.D	50pg TO15SIM Custom ICAL STD	S29-06141602/S29-07061607 (8/4)	CL	1	
5	7/7/16 11:18	07071605.D	100pg TO15SIM Custom ICAL STD	S29-06141602/S29-07061607 (8/4)	CL	1	
6	7/7/16 11:49	07071606.D	200pg TO15SIM Custom ICAL STD	S29-06141602/S29-07061607 (8/4)	CL	1	
7	7/7/16 12:21	07071607.D	500pg TO15SIM Custom ICAL STD	S29-06141602/S29-07061606 (8/4)	CL	3	
8	7/7/16 12:52	07071608.D	2000pg TO15SIM Custom ICAL STD	S29-06141602/S29-07061604 (8/4)	CL	4	
9	7/7/16 13:24	07071609.D	5000pg TO15SIM Custom ICAL STD	S29-06141602/S29-07061604 (8/4)	CL	4	
10	7/7/16 13:55	07071610.D	10000pg TO15SIM Custom ICAL STD	S29-06141602/S29-07061604 (8/4)	CL	4	
11	7/7/16 14:27	07071611.D	500pg TO15SIM Custom ICV	S29-06141602/S29-07011610 (7/30)	CL	5	Pass
12	7/7/16 14:58	07071612.D	20pg TO15SIM ICAL STD	S29-06141602/S29-06291610 (7/28)	CL	13	
13	7/7/16 15:29	07071613.D	50pg TO15SIM ICAL STD	S29-06141602/S29-06291610 (7/28)	CL	13	
14	7/7/16 16:00	07071614.D	100pg TO15SIM ICAL STD	S29-06141602/S29-06291610 (7/28)	CL	13	
15	7/7/16 16:32	07071615.D	500pg TO15SIM ICAL STD	S29-06141602/S29-06291608 (7/28)	CL	16	
16	7/7/16 17:03	07071616.D	1000pg TO15SIM ICAL STD	S29-06141602/S29-06081608 (7/7)	CL	14	
17	7/7/16 17:35	07071617.D	2000pg TO15SIM ICAL STD	S29-06141602/S29-06081608 (7/7)	CL	14	
18	7/7/16 18:06	07071618.D	5000pg TO15SIM ICAL STD	S29-06141602/S29-06081608 (7/7)	CL	14	
19	7/7/16 18:38	07071619.D	10000pg TO15SIM ICAL STD	S29-06141602/S29-06081608 (7/7)	CL	14	
20	7/7/16 19:09	07071620.D	50000pg TO15SIM ICAL STD	S29-06141602/S29-06081605 (7/7)	CL	15	
21	7/7/16 19:40	07071621.D	500pg TO15SIM ICV	S29-06141602/S29-06301605 (7/29)	CL	2	Pass
				CL 7/8/16			

Injection Log

Directory: I:\MS19\DATA\2016_07\20\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	7/20/16 7:19	07201601.D	BFB S19072016	S29-06141602	CL	2	Pass
2	7/20/16 7:41	07021602.D	xxCCV S19072016_500pgxx	S29-06141602/S29-06291608 (7/28)	CL	16	Failed
3	7/20/16 8:12	07201603.D	xxMB S19072016_1000mLxx	S29-06141602/AC01205	CL	2	Not Used
4	7/20/16 8:52	07201604.D	Blank	S29-06141602/AC01205	CL	2	
5	7/20/16 9:23	07201605.D	CCV S19072016_500pg	S29-06141602/S29-06291607 (7/28)	CL	16	Pass
6	7/20/16 11:26	07201606.D	AS00017-FCA01019-FCA00405-FCA00278-FCA00474	S29-06141602	CL	1	
7	7/20/16 11:58	07201607.D	AS00665-FCA01011	S29-06141602	CL	3	
8	7/20/16 12:29	07201608.D	MB S19072016_1000mL	S29-06141602/AC01205	CL	2	Pass
9	7/20/16 13:00	07201609.D	LCS S19072016_500pg	S29-06141602/S29-06301605 (7/29)	CL	2	Pass
10	7/20/16 13:31	07201610.D	LCSD S19072016_500pg	S29-06141602/S29-06301605 (7/29)	CL	2	Pass
11	7/20/16 16:06	07201611.D	P1603528-001 (1000mL)	S29-06141602	CL	1	
12	7/20/16 16:37	07201612.D	P1603528-002 (1000mL)	S29-06141602	CL	3	
13	7/20/16 17:09	07201613.D	blank	S29-06141602	CL	2	
14	7/20/16 17:40	07201614.D	P1603526-001 (1000mL)	S29-06141602	CL	4	
15	7/20/16 18:11	07201615.D	P1603526-002 (1000mL)	S29-06141602	CL	5	
16	7/20/16 18:43	07201616.D	P1603526-003 (1000mL)	S29-06141602	CL	6	
17	7/20/16 19:14	07201617.D	P1603526-004 (1000mL)	S29-06141602	CL	7	
18	7/20/16 19:45	07201618.D	P1603526-005 (1000mL)	S29-06141602	CL	8	
19	7/20/16 20:17	07201619.D	blank	S29-06141602	CL	2	
20	7/20/16 20:48	07201620.D	P1603571-002 (1000mL)	S29-06141602	CL	9	
21	7/20/16 21:19	07201621.D	P1603571-003 (1000mL)	S29-06141602	CL	10	
22	7/20/16 21:50	07201622.D	P1603571-005 (1000mL)	S29-06141602	CL	11	
23	7/20/16 22:22	07201623.D	P1603571-007 (1000mL)	S29-06141602	CL	12	
24	7/20/16 22:53	07201624.D	P1603571-008 (1000mL)	S29-06141602	CL	13	
25	7/20/16 23:24	07201625.D	P1603571-011 (1000mL)	S29-06141602	CL	14	
				CL 7/21/16			

Injection Log

Directory: I:\MS19\DATA\2016_07\21\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	7/21/16 0:00	07211601.D	BFB S19072116	S29-06141602	CL	2	Pass
2	7/21/16 10:11	07211602.D	CCV S19072116_500pg	S29-06141602/S29-06291607 (7/28)	CL	16	Pass
3	7/21/16 10:42	07211603.D	MB S19072116_1000mL	S29-06141602/AC01205	CL	2	Pass
4	7/21/16 11:13	07211604.D	LCS S19072116_500pg	S29-06141602/S29-06301605 (7/29)	CL	2	Pass
5	7/21/16 11:45	07211605.D	LCSD S19072116_500pg	S29-06141602/S29-06301605 (7/29)	CL	2	Pass
6	7/21/16 12:26	07211606.D	P1603571-003dil (100mL)	S29-06141602	CL	10	
7	7/21/16 12:57	07211607.D	P1603571-007dil (100mL)	S29-06141602	CL	12	
8	7/21/16 13:29	07211608.D	P1603571-011dil (100mL)	S29-06141602	CL	14	
9	7/21/16 15:30	07211609.D	P1603570-001 (1000mL)	S29-06141602	CL	1	
10	7/21/16 16:01	07211610.D	P1603570-002 (1000mL)	S29-06141602	CL	3	
11	7/21/16 16:32	07211611.D	P1603570-003 (1000mL)	S29-06141602	CL	4	
12	7/21/16 17:03	07211612.D	P1603570-004 (1000mL)	S29-06141602	CL	5	
13	7/21/16 17:35	07211613.D	P1603570-005 (1000mL)	S29-06141602	CL	6	
14	7/21/16 18:05	07211614.D	P1603570-005dup (1000mL)	S29-06141602	CL	6	Pass for Dup
15	7/21/16 18:37	07211615.D	P1603570-006 (1000mL)	S29-06141602	CL	7	
16	7/21/16 19:08	07211616.D	P1603570-007 (1000mL)	S29-06141602	CL	8	
17	7/21/16 19:39	07211617.D	P1603570-008 (1000mL)	S29-06141602	CL	9	
				CL 7/22/16			

Injection Log

Directory: I:\MS19\DATA\2016_07\28\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	7/28/16 0:00	07281601.D	BFB S19072816	S29-06141602	WA	2	Passed
2	7/28/16 12:04	07281602.D	CCV S19072816_500pg	S29-06141602/S29-07211609 (8/19)	WA	16	Passed
3	7/28/16 13:57	07281603.D	MB S19072816_1000mL	S29-06141602/AC01205	WA	2	rerun
4	7/28/16 14:28	07281604.D	LCS S19072816_500pg	S29-06141602/S29-07221605 (8/20)	WA	2	Passed
5	7/28/16 14:59	07281605.D	LCSD S19072816_500pg	S29-06141602/S29-07221605 (8/20)	WA	2	Passed
6	7/28/16 15:31	07281606.D	MB S19072816_1000mL	S29-06141602/AC01205	WA	2	Passed
7	7/28/16 17:00	07281607.D	P1603571-005 RA (1000mL)	S29-06141602/AC01205	WA	3	
8	7/28/16 17:31	07281608.D	P1603571-008 RA (1000mL)	S29-06141602/AC01205	WA	4	
9	7/28/16 18:02	07281609.D	P1603571-005 RA (500mL)	S29-06141602/AC01205	WA	3	not needed
10	7/28/16 18:34	07281610.D	P1603571-008 RA (500mL)	S29-06141602/AC01205	WA	4	not needed
						WA 7/29/16	

SIMIVALLEY QC Certification

Conditioner: P-Conditioner-02
Cycles: 99
Batch: 19206

Batch Started By: SMOH on 6/24/16 0521
Finished Cleaning By: SMOH on 6/24/16 0521

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuu	Date/Time	User	Vacuum	Date/Time	User	
SC00884*	6/24/16	6/27/16	Pass w/ Conditions	-14.3	6/27/16 0521	SMOH	-14.0	6/30/16 0224	WHENTON	MS21 06271608
SC01983	6/24/16	6/27/16	Pass w/ Conditions	-14.3	6/27/16 0521	SMOH	-14.0	6/30/16 0224	WHENTON	
SSC00264	6/24/16	6/27/16	Pass w/ Conditions	-14.3	6/27/16 0521	SMOH	-14.0	6/30/16 0224	WHENTON	
SC02093	6/24/16	6/27/16	Pass w/ Conditions	-14.3	6/27/16 0521	SMOH	-14.0	6/30/16 0224	WHENTON	
SSC00088	6/24/16	6/27/16	Pass w/ Conditions	-14.3	6/27/16 0521	SMOH	-14.0	6/30/16 0224	WHENTON	
SC02146	6/24/16	6/27/16	Pass w/ Conditions	-14.3	6/27/16 0521	SMOH	-14.0	6/30/16 0224	WHENTON	
SC01989	6/24/16	6/27/16	Pass w/ Conditions	-14.3	6/27/16 0521	SMOH	-14.0	6/30/16 0224	WHENTON	
SC01498	6/24/16	6/27/16	Pass w/ Conditions	-14.3	6/27/16 0521	SMOH	-14.0	6/30/16 0224	WHENTON	
SC00950	6/24/16	6/27/16	Pass w/ Conditions	-14.3	6/27/16 0521	SMOH	-14.0	6/30/16 0224	WHENTON	

Passed For: EPA TO-15 (75 Cmpds. LL + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2016_06\27\
Data File : 06271608.D
Acq On : 27 Jun 2016 1:50 pm
Operator : ML
Sample : 062716_SC00884_B.19206
Misc : S29-06151603
ALS Vial : 215 Sample Multiplier: 1

Quant Time: Jun 27 15:40:15 2016
Quant Method : I:\MS21\Methods\F21061516.M
Quant Title : EPA TO-15
QLast Update : Thu Jun 16 11:52:56 2016
Response via : Initial Calibration

LL+TICS
SM
6/27/16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	7.59	130	55973	1000.000 pg	0.00
37) 1,4-Difluorobenzene (IS2)	9.77	114	172507	1000.000 pg	0.00
56) Chlorobenzene-d5 (IS3)	14.77	117	174104	1000.000 pg	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4 ...	8.41	65	68778	746.406 pg	0.00
Spiked Amount 1000.000			Recovery = 74.64%		
57) Toluene-d8 (SS2)	12.68	98	163974	791.767 pg	0.00
Spiked Amount 1000.000			Recovery = 79.18%		
74) Bromofluorobenzene (SS3)	16.19	174	93058	1095.535 pg	0.00
Spiked Amount 1000.000			Recovery = 109.55%		

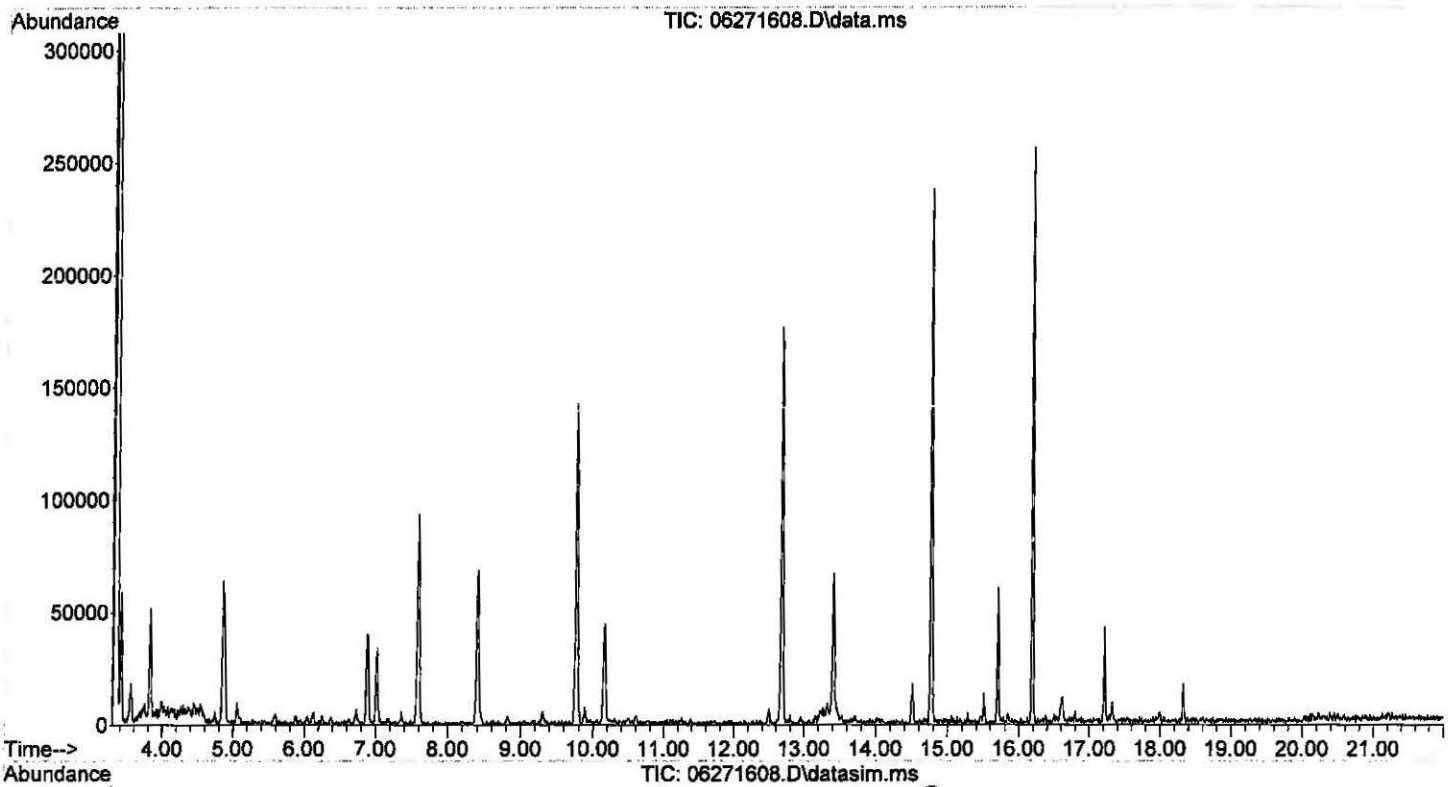
Target Compounds					Qvalue
2) * Propene	3.54	42	1984	49.180 pg	94
9) * Chloroethane	4.38	64	281	11.448 pg #	43
10) * Ethanol	4.46	45	4522	249.362 pg	97
12) * Acrolein	4.74	56	3077	114.445 pg	93
13) * Acetone	4.88	58	56585	1259.689 pg #	8
15) * 2-Propanol (Isopropa...	5.06	45	9029	89.954 pg	98
18) tert-Butanol	5.58	59	3908	44.456 pg #	88
22) * Carbon Disulfide	5.88	76	4424	21.908 pg	100
26) * Vinyl Acetate	6.74	86	1310	119.391 pg #	1
27) * 2-Butanone (MEK)	7.02	72	13867	389.538 pg	67
41) 1-Butanol	9.30	56	2571	110.322 pg #	22
48) * 1,4-Dioxane	10.62	88	579	19.535 pg	87
53) * 4-Methyl-2-pentanone	11.71	58	360	14.919 pg	88
59) * 2-Hexanone	13.15	58	1586	38.147 pg	100
69) Cyclohexanone	15.51	98	1273	69.854 pg	95
98) * Naphthalene	19.33	128	771	12.798 pg	94

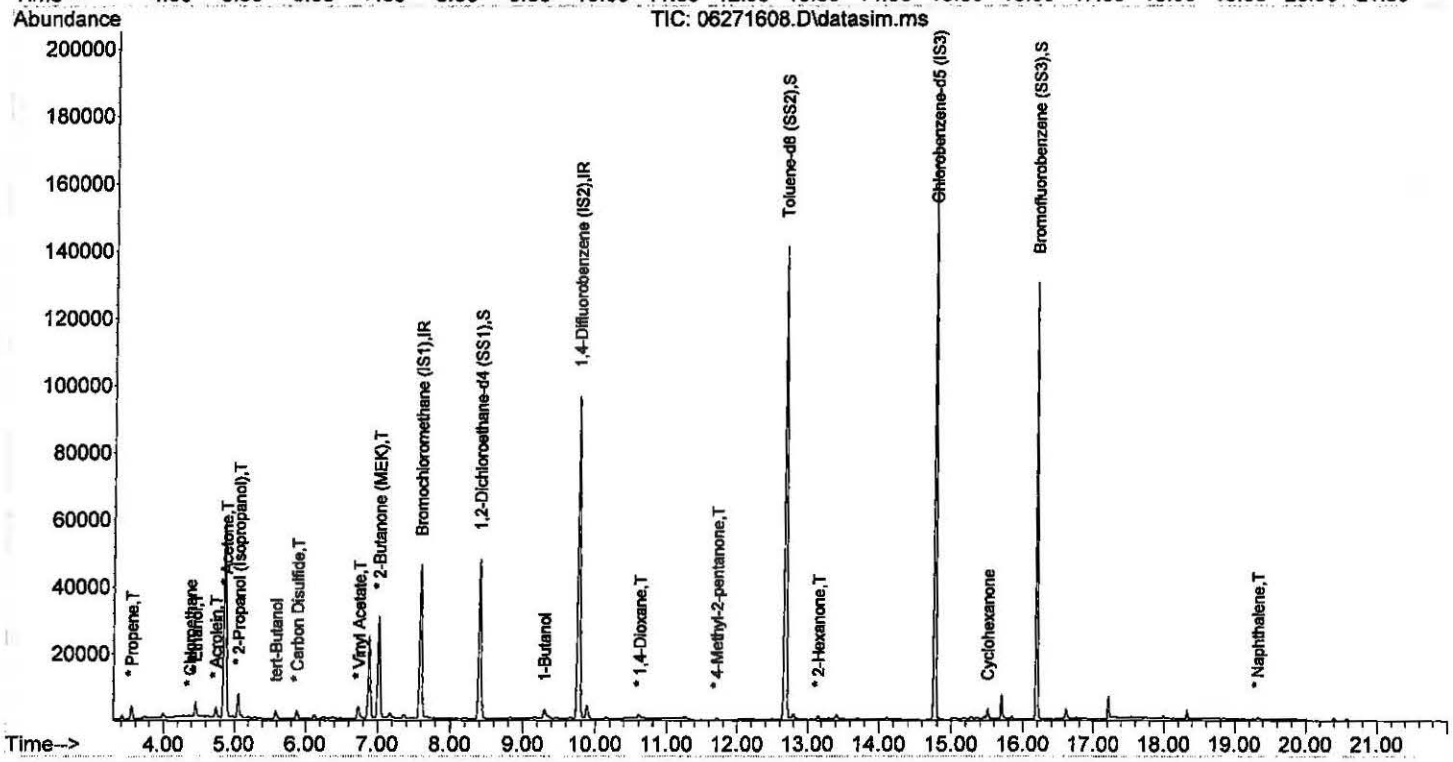
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2016_06\27\
Data File : 06271608.D
Acq On : 27 Jun 2016 1:50 pm
Operator : ML
Sample : 062716_SC00884_B.19206
Misc : S29-06151603
ALS Vial : 215 Sample Multiplier: 1

Quant Time: Jun 27 15:40:15 2016
Quant Method : I:\MS21\Methods\F21061516.M
Quant Title : EPA TO-15
QLast Update : Thu Jun 16 11:52:56 2016
Response via : Initial Calibration





SIMIVALLEY QC Certification

Conditioner: P-Conditioner-05
Cycles: 30
Batch: 18993

Batch Started By: SMOH on 5/18/16 0502
Finished Cleaning By: SMOH on 5/18/16 0502

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuu	Date/Time	User	Vacuum	Date/Time	User	
AS01103	5/18/16	5/20/16	Pass w/ Conditions	-14.3	5/18/16 0502	SMOH	-14.0	5/23/16 1102	SMOH	
AS01099	5/18/16	5/20/16	Pass w/ Conditions	-14.3	5/18/16 0502	SMOH	-14.0	5/23/16 1102	SMOH	
AS00170	5/18/16	5/20/16	Pass w/ Conditions	-14.3	5/18/16 0502	SMOH	-14.0	5/23/16 1102	SMOH	
AS00671	5/18/16	5/20/16	Pass w/ Conditions	-14.3	5/18/16 0502	SMOH	-14.0	5/23/16 1102	SMOH	
AS01111	5/18/16	5/20/16	Pass w/ Conditions	-14.3	5/18/16 0502	SMOH	-14.0	5/23/16 1102	SMOH	
AC02119	5/18/16	5/20/16	Pass w/ Conditions	-14.3	5/18/16 0502	SMOH	-14.0	5/23/16 1102	SMOH	
AS00658	5/18/16	5/20/16	Pass w/ Conditions	-14.3	5/18/16 0502	SMOH	-14.0	5/23/16 1102	SMOH	
AC01909	5/18/16	5/20/16	Pass w/ Conditions	-14.3	5/18/16 0502	SMOH	-14.0	5/25/16 1037	SMOH	
AC02116	5/18/16	5/20/16	Pass w/ Conditions	-14.3	5/18/16 0502	SMOH	-14.0	5/25/16 1037	SMOH	
AC01905	5/18/16	5/20/16	Pass w/ Conditions	-14.3	5/18/16 0502	SMOH	-14.0	5/23/16 1102	SMOH	
AS01043	5/18/16	5/20/16	Pass w/ Conditions	-14.3	5/18/16 0502	SMOH	-14.0	5/23/16 1102	SMOH	
AS00190	5/18/16	5/20/16	Pass w/ Conditions	-14.3	5/18/16 0502	SMOH	-14.0	5/23/16 1102	SMOH	
AC00870*	5/18/16	5/20/16	Pass w/ Conditions	-14.3	5/18/16 0502	SMOH	-14.0	5/24/16 1202	SMOH	MS21 05201605.D
AS00050	5/18/16	5/20/16	Pass w/ Conditions	-14.3	5/18/16 0502	SMOH	-14.0	5/23/16 1102	SMOH	

Passed For: EPA TO-15 (75 Cmpds. LL + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2016_05\20\
Data File : 05201605.D
Acq On : 20 May 2016 10:31
Operator : CP/EA
Sample : 052016_AC00870_B.18993
Misc : LL+TICS (Sig #1); S29-04191603 (Sig #2)
ALS Vial : 2 Sample Multiplier: 1

5/20/16
SA

Quant Time: May 20 18:39:14 2016
Quant Method : I:\MS21\Methods\F21051616.M
Quant Title : EPA TO-15
QLast Update : Tue May 17 08:48:45 2016
Response via : Initial Calibration

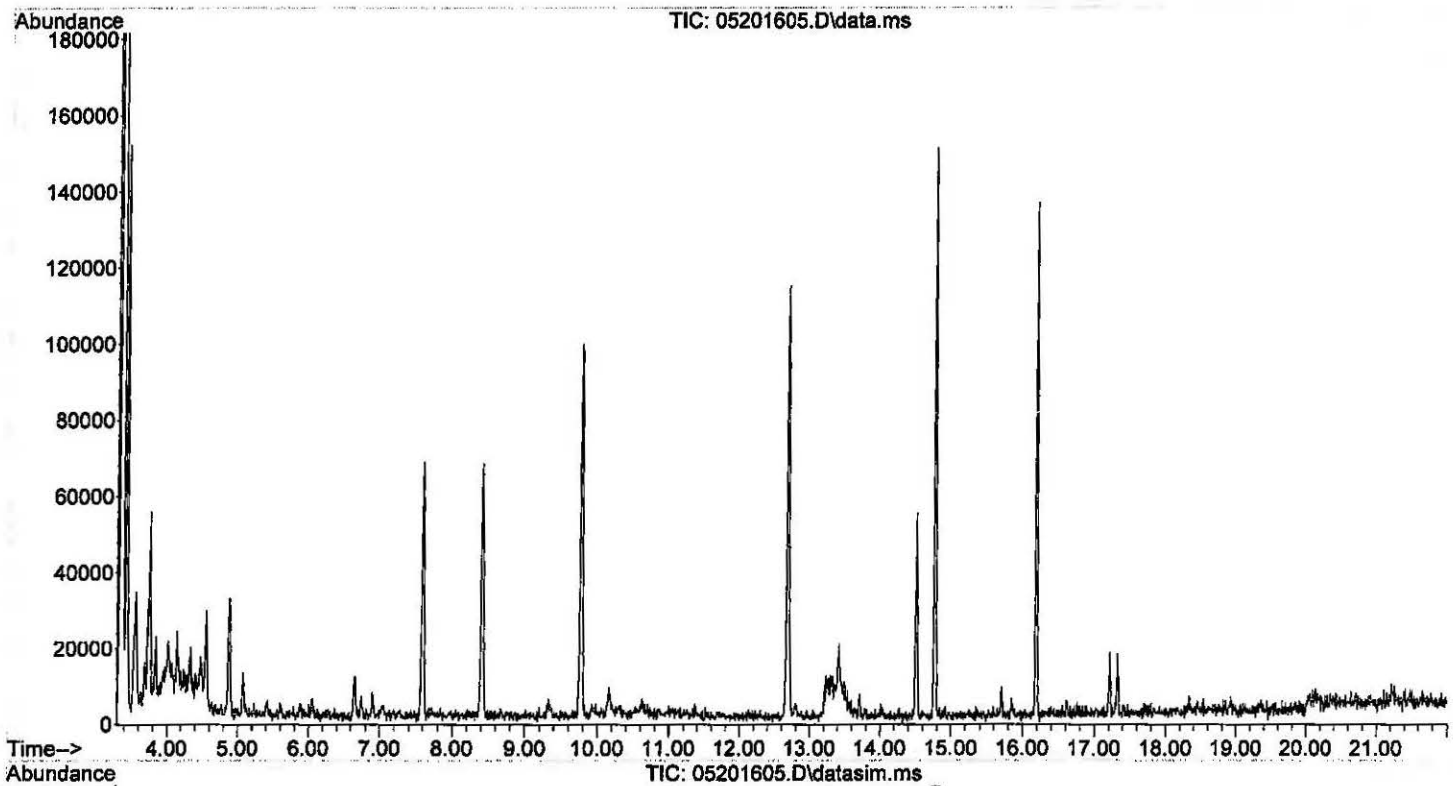
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	7.59	130	28190	1000.000 pg		0.00
37) 1,4-Difluorobenzene (IS2)	9.77	114	101429	1000.000 pg		0.00
56) Chlorobenzene-d5 (IS3)	14.78	117	90348	1000.000 pg		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4 ...	8.41	65	69895	1013.094 pg		0.00
Spiked Amount 1000.000			Recovery = 101.31%			
57) Toluene-d8 (SS2)	12.68	98	94786	918.283 pg		0.00
Spiked Amount 1000.000			Recovery = 91.83%			
74) Bromofluorobenzene (SS3)	16.19	174	40734	871.321 pg		0.00
Spiked Amount 1000.000			Recovery = 87.13%			
Target Compounds						Qvalue
2) * Propene	3.56	42	1576	27.538 pg		79
4) * Chloromethane	3.75	50	1830	28.784 pg	#	53
10) * Ethanol	4.47	45	6903	241.619 pg		96
11) * Acetonitrile	4.64	41	896	10.162 pg	#	6
12) * Acrolein	4.75	56	976	32.294 pg		86
13) * Acetone	4.87	58	11669	260.278 pg		67
15) * 2-Propanol (Isopropa...	5.07	45	11499	82.490 pg	#	84
18) tert-Butanol	5.61	59	1148	11.034 pg	#	83
19) * Methylene Chloride	5.61	84	659	13.609 pg		96
22) * Carbon Disulfide	5.88	76	5611	29.798 pg		99
26) * Vinyl Acetate	6.74	86	417	40.015 pg	#	47
27) * 2-Butanone (MEK)	7.05	72	922	27.448 pg		76
39) * Benzene	9.35	78	1886	14.275 pg		92
41) 1-Butanol	9.32	56	1332	48.165 pg	#	64
48) * 1,4-Dioxane	10.62	88	1597	49.662 pg		96
58) * Toluene	12.80	91	2810	18.439 pg		98
83) tert-Butylbenzene	17.33	134	279	11.344 pg	#	1

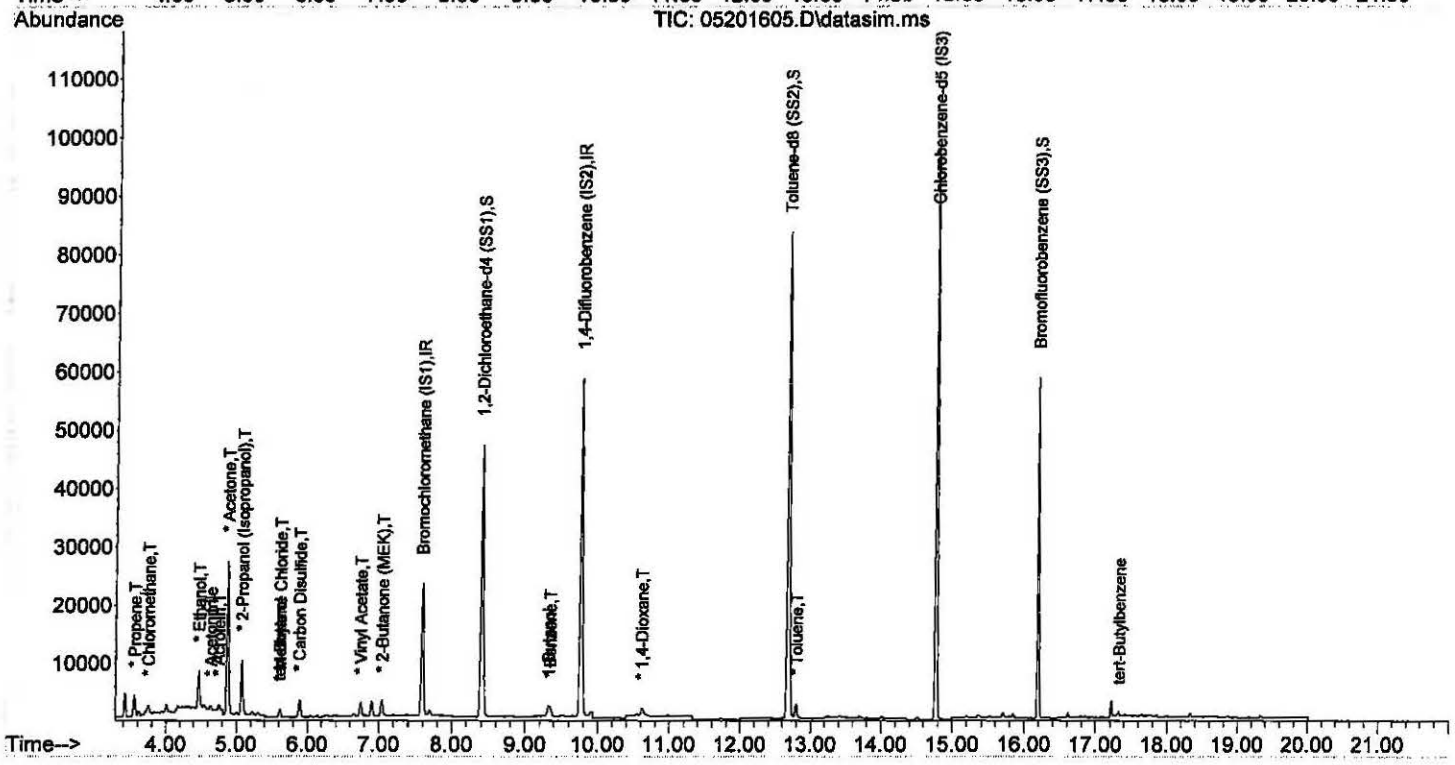
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2016_05\20\
Data File : 05201605.D
Acq On : 20 May 2016 10:31
Operator : CP/EA
Sample : 052016_AC00870_B.18993
Misc : LL+TICS (Sig #1); S29-04191603 (Sig #2)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 20 18:39:14 2016
Quant Method : I:\MS21\Methods\F21051616.M
Quant Title : EPA TO-15
QLast Update : Tue May 17 08:48:45 2016
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2016_05\19\
Data File : 05191622.D
Acq On : 20 May 2016 2:58
Operator : CP/EA
Sample : AC01096-FCA00375
Misc : 0.5+tics (Sig #1); S29-04191603 (Sig #2)
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 21 17:41:45 2016
Quant Method : I:\MS21\Methods\F21051616.M
Quant Title : EPA TO-15
QLast Update : Tue May 17 08:48:45 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	7.60	130	31005	1000.000 pg	0.00
37) 1,4-Difluorobenzene (IS2)	9.77	114	122290	1000.000 pg	0.00
56) Chlorobenzene-d5 (IS3)	14.77	117	105760	1000.000 pg	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4 ...	8.41	65	76538	1008.658 pg	0.00
Spiked Amount 1000.000			Recovery = 100.87%		
57) Toluene-d8 (SS2)	12.68	98	109203	903.783 pg	0.00
Spiked Amount 1000.000			Recovery = 90.38%		
74) Bromofluorobenzene (SS3)	16.19	174	47046	859.688 pg	0.00
Spiked Amount 1000.000			Recovery = 85.97%		

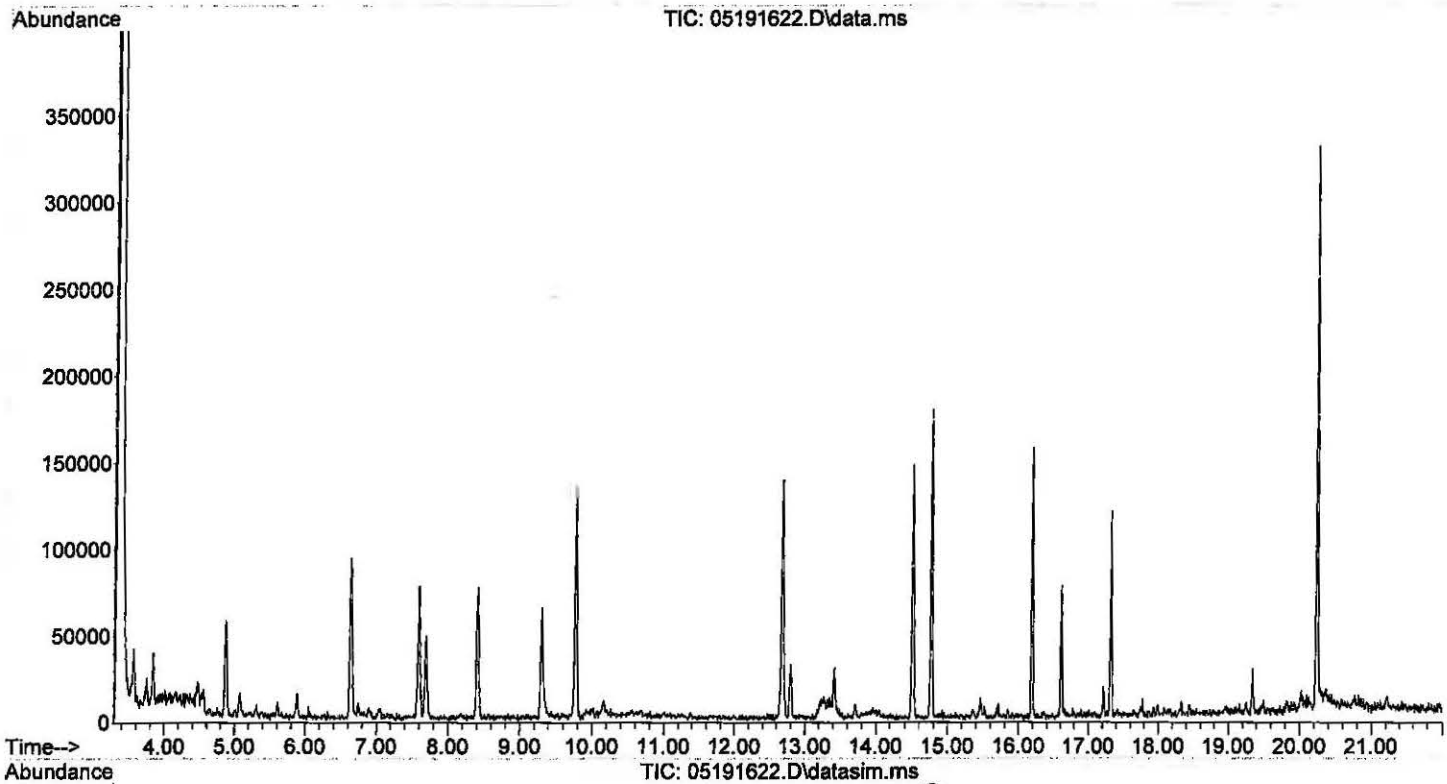
Target Compounds						Qvalue
2) * Propene	3.56	42	2651	42.116 pg	#	35
3) * Dichlorodifluoromethane	3.62	85	6209	40.235 pg		96
4) * Chloromethane	3.75	50	1891	27.043 pg		92
10) * Ethanol	4.47	45	10902	346.947 pg		96
11) * Acetonitrile	4.64	41	2065	21.294 pg	#	62
12) * Acrolein	4.76	56	1329	39.982 pg		98
13) * Acetone	4.87	58	22574	457.799 pg		90
14) * Trichlorofluoromethane	5.01	101	2634	21.879 pg		99
15) * 2-Propanol (Isopropa...	5.07	45	15424	100.601 pg		95
18) tert-Butanol	5.61	59	2196	19.190 pg		92
19) * Methylene Chloride	5.61	84	1687	31.675 pg		98
21) * Trichlorotrifluoroet...	5.87	151	511	11.641 pg	#	62
22) * Carbon Disulfide	5.89	76	22457	108.434 pg		98
26) * Vinyl Acetate	6.75	86	842	73.462 pg		58
27) * 2-Butanone (MEK)	7.05	72	1612	43.633 pg		97
29) DIPE	7.69	45	9732	55.819 pg	#	58
30) * Ethyl Acetate	7.69	61	8408	513.448 pg		91
31) * n-Hexane	7.69	57	1158	16.870 pg	#	75
39) * Benzene	9.35	78	3183	19.982 pg	#	89
41) 1-Butanol	9.30	56	38743	1161.965 pg	#	54
42) * Carbon Tetrachloride	9.53	117	838	10.504 pg	#	78
48) * 1,4-Dioxane	10.62	88	1531	39.488 pg		88
49) Isooctane	10.67	56	1103	14.611 pg	#	63
58) * Toluene	12.80	91	24340	136.442 pg		98
59) * 2-Hexanone	13.17	58	734	15.401 pg		96
63) * n-Octane	14.01	85	342	11.125 pg		95
67) * m- & p-Xylenes	15.36	91	2950	22.571 pg		95
69) Cyclohexanone	15.52	98	296	18.164 pg		82
83) tert-Butylbenzene	17.32	134	1873	65.056 pg	#	1
84) * 1,2,4-Trimethylbenzene	17.30	105	2131	17.173 pg		85
93) D-Limonene	17.78	68	1283	34.085 pg		93
96) n-Undecane	18.45	85	216	13.562 pg		87
98) * Naphthalene	19.33	128	1475	19.076 pg		97
99) n-Dodecane	19.34	85	1609	127.495 pg		97

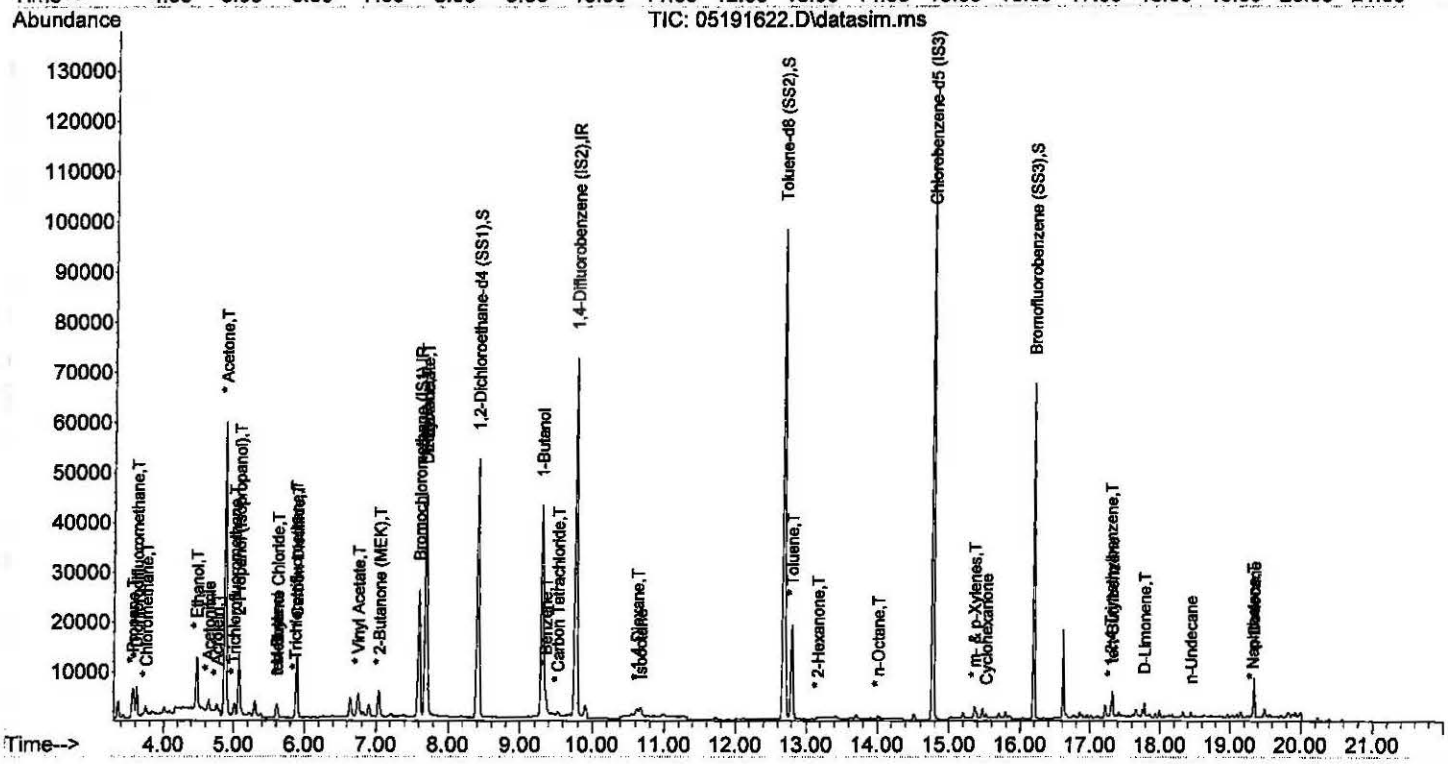
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2016_05\19\
Data File : 05191622.D
Acq On : 20 May 2016 2:58
Operator : CP/EA
Sample : AC01096-FCA00375
Misc : 0.5+tics (Sig #1); S29-04191603 (Sig #2)
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 21 17:41:45 2016
Quant Method : I:\MS21\Methods\F21051616.M
Quant Title : EPA TO-15
QLast Update : Tue May 17 08:48:45 2016
Response via : Initial Calibration





SIMIVALLEY QC Certification

Conditioner: P-Conditioner-01
Cycles: 30
Batch: 18941

Batch Started By: WHENTON on 5/12/16 0852
Finished Cleaning By: EALVAREZ on 5/12/16 1132

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuu	Date/Time	User	Vacuum	Date/Time	User	
AC02030*	5/12/16	5/12/16	Pass w/ Conditions	-14.3	5/12/16 1132	EALVAREZ	-14.0	5/24/16 1202	SMOH	MS13 05121604.D
AS01018	5/12/16	5/12/16	Pass w/ Conditions	-14.3	5/12/16 1132	EALVAREZ	-14.0	5/24/16 1202	SMOH	
AC01848	5/12/16	5/12/16	Pass w/ Conditions	-14.3	5/12/16 1132	EALVAREZ	-14.0	5/20/16 1121	SMOH	
AC01940	5/12/16	5/12/16	Pass w/ Conditions	-14.3	5/12/16 1132	EALVAREZ	-14.0	5/24/16 1202	SMOH	
AS00442	5/12/16	5/12/16	Pass w/ Conditions	-14.3	5/12/16 1132	EALVAREZ	-14.0	5/24/16 1202	SMOH	
AC02144	5/12/16	5/12/16	Pass w/ Conditions	-14.3	5/12/16 1132	EALVAREZ	-14.0	5/24/16 1202	SMOH	
AS01084	5/12/16	5/12/16	Pass w/ Conditions	-14.3	5/12/16 1132	EALVAREZ	-14.0	5/24/16 1202	SMOH	
AC01528	5/12/16	5/12/16	Pass w/ Conditions	-14.3	5/12/16 1132	EALVAREZ	-14.0	5/24/16 1202	SMOH	
AS01056	5/12/16	5/12/16	Pass w/ Conditions	-14.3	5/12/16 1132	EALVAREZ	-14.0	5/24/16 1202	SMOH	
AS01011	5/12/16	5/12/16	Pass w/ Conditions	-14.3	5/12/16 1132	EALVAREZ	-14.0	5/24/16 1202	SMOH	

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS13\DATA\2016_05\12\
Data File : 05121604.D
Acq On : 12 May 2016 11:05
Operator : EA
Sample : 051216_AC02030_B.18941
Misc : LL+TT&S
ALS Vial : 2 Sample Multiplier: 1

5/12/16
EA

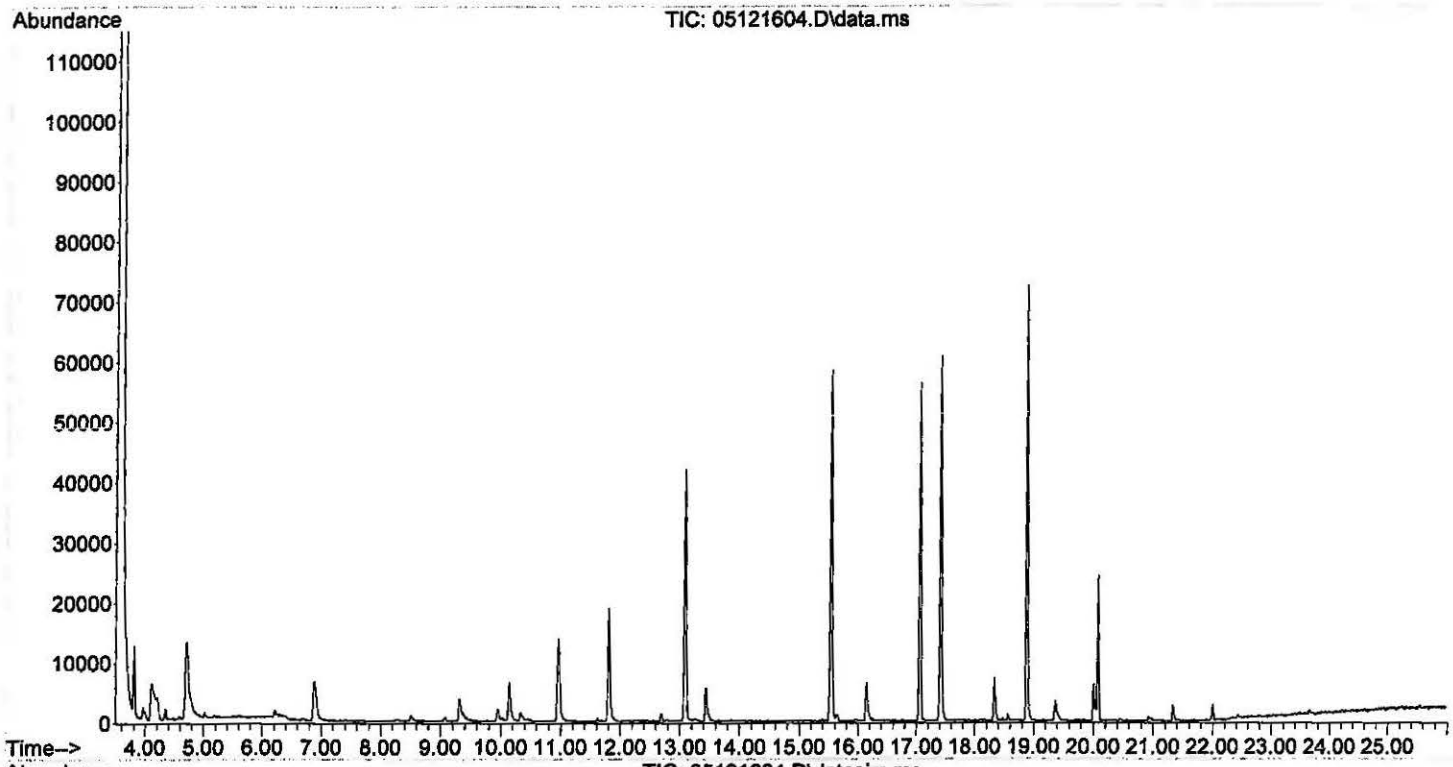
Quant Time: May 12 11:30:21 2016
Quant Method : I:\MS13\METHODS\F13050816.M
Quant Title : EPA TO-15
QLast Update : Mon May 09 16:39:31 2016
Response via : Initial Calibration

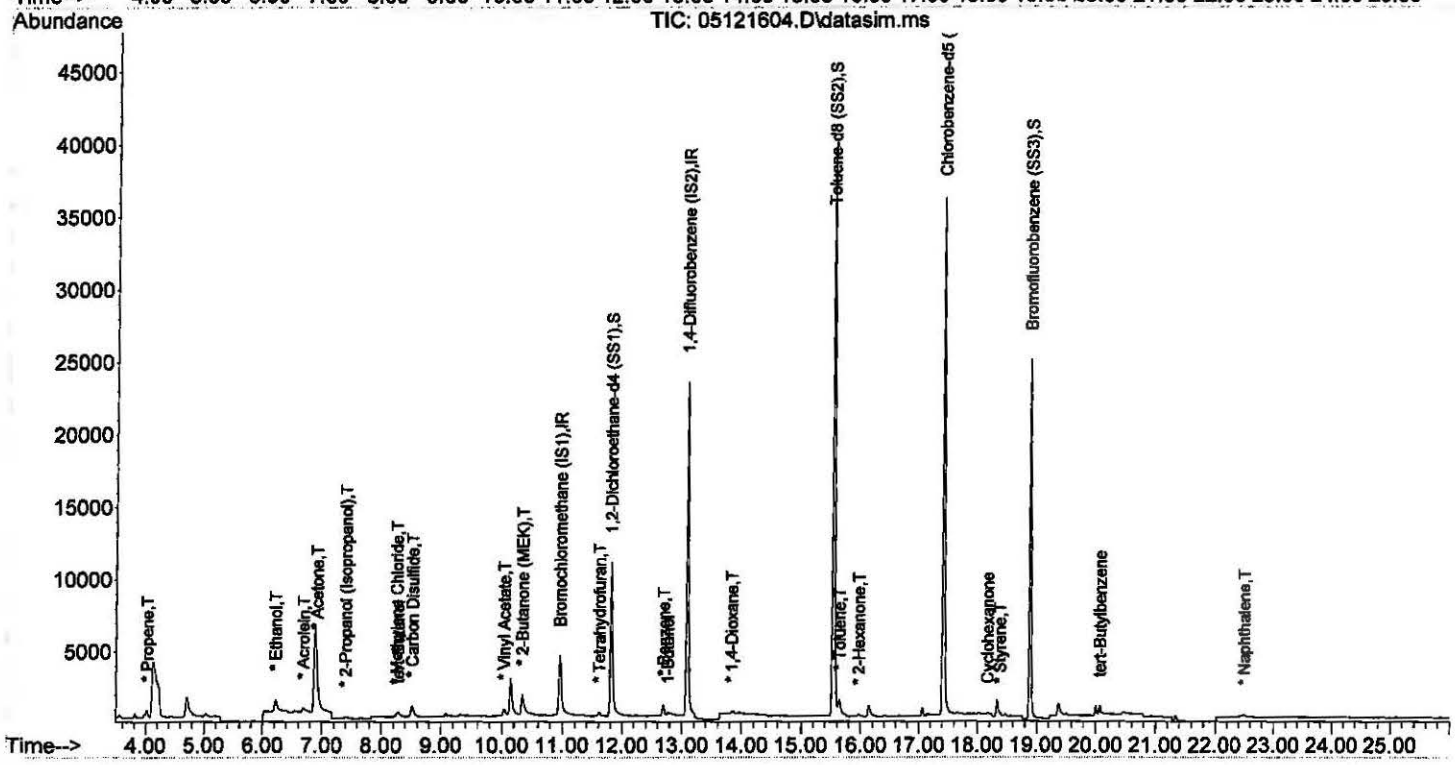
Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) Bromochloromethane (IS1)	10.960	130	7408	1000.00 pg		0.00
37) 1,4-Difluorobenzene (IS2)	13.086	114	42164	1000.00 pg		0.00
56) Chlorobenzene-d5 (IS3)	17.422	117	41580	1000.00 pg		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4 ...	11.815	65	18529	996.45 pg		0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 99.65%			
57) Toluene-d8 (SS2)	15.533	98	46687	1071.43 pg		0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 107.14%			
74) Bromofluorobenzene (SS3)	18.888	174	23167	906.53 pg		0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 90.65%			
Target Compounds						Qvalue
2] * Propene	4.022	42	647	47.84 pg		94
10] * Ethanol	6.218	45	2212	240.24 pg		100
12] * Acrolein	6.689	56	1129	193.94 pg		100
13] * Acetone	6.914	58	7780	779.75 pg	#	40
15] * 2-Propanol (Isopropa...	7.402	45	579	21.82 pg	#	46
18] tert-Butanol	8.280	59	970	46.13 pg		100
19] * Methylene Chloride	8.252	84	206	19.38 pg		94
22] * Carbon Disulfide	8.515	76	2577	58.03 pg		97
26] * Vinyl Acetate	10.032	86	157	106.09 pg	#	1
27] * 2-Butanone (MEK)	10.336	72	686	117.94 pg	#	57
34] * Tetrahydrofuran	11.613	71	176	29.74 pg		91
39] * Benzene	12.699	78	1568	33.94 pg		100
41] 1-Butanol	12.773	56	713	94.03 pg		91
48] * 1,4-Dioxane	13.835	88	89	14.02 pg		92
58] * Toluene	15.643	91	1347	21.61 pg		98
59] * 2-Hexanone	15.970	58	170	23.95 pg	#	66
69] Cyclohexanone	18.174	98	68	20.64 pg		78
70] * Styrene	18.384	104	169	13.27 pg	#	86
83] tert-Butylbenzene	20.074	134	264	56.06 pg	#	1
98] * Naphthalene	22.499	128	428	22.00 pg		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS13\DATA\2016_05\12\
Data File : 05121604.D
Acq On : 12 May 2016 11:05
Operator : EA
Sample : 051216_AC02030_B.18941
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 12 11:30:21 2016
Quant Method : I:\MS13\METHODS\F13050816.M
Quant Title : EPA TO-15
QLast Update : Mon May 09 16:39:31 2016
Response via : Initial Calibration





SIMIVALLEY QC Certification

Conditioner: P-Conditioner-07
Cycles: 30
Batch: 19181

Batch Started By: SMOH on 6/21/16 0354
Finished Cleaning By: SMOH on 6/21/16 0354

Container IDs	Cleaned Date	QC Date Analyzed	QC Results	Initial Vacuum			Final Vacuum			Comments
				Vacuu	Date/Time	User	Vacuum	Date/Time	User	
SC01859*	6/21/16	6/21/16	Pass w/ Conditions	-14.3	6/21/16 0354	SMOH	-14.0	6/30/16 0224	WHENTON	MS21 06211606.D
SC01495	6/21/16	6/21/16	Pass w/ Conditions	-14.3	6/21/16 0354	SMOH	-14.0	6/30/16 0224	WHENTON	
SC00958	6/21/16	6/21/16	Pass w/ Conditions	-14.3	6/21/16 0354	SMOH	-14.0	6/30/16 0224	WHENTON	
SC00973	6/21/16	6/21/16	Pass w/ Conditions	-14.3	6/21/16 0354	SMOH	-14.0	6/30/16 0224	WHENTON	
SC01069	6/21/16	6/21/16	Pass w/ Conditions	-14.3	6/21/16 0354	SMOH	-14.0	6/30/16 0224	WHENTON	
SC02063	6/21/16	6/21/16	Pass w/ Conditions	-14.3	6/21/16 0354	SMOH	-14.0	6/30/16 0224	WHENTON	
SSC00082	6/21/16	6/21/16	Pass w/ Conditions	-14.3	6/21/16 0354	SMOH	-14.0	7/6/16 1140	SMOH	
SC00623	6/21/16	6/21/16	Pass w/ Conditions	-14.3	6/21/16 0354	SMOH	-14.0	6/30/16 0224	WHENTON	
SC00271	6/21/16	6/21/16	Pass w/ Conditions	-14.3	6/21/16 0354	SMOH	-14.0	6/30/16 0224	WHENTON	
SC00901	6/21/16	6/21/16	Pass w/ Conditions	-14.3	6/21/16 0354	SMOH	-14.0	6/30/16 0224	WHENTON	

Passed For: TO-15 (75 Comp 0.1 ug/m3 + TICs)

Exceptions:

COMPONENTID	Date / Time	MODULE	USER	COMMENTS

Batch Comment:

*** QC Canister**

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2016_06\21\
Data File : 06211606.D
Acq On : 21 Jun 2016 2:38 pm
Operator : ML/SM
Sample : 062116_SC01859_B
Misc : S29-06151603
ALS Vial : 2 Sample Multiplier: 1

LL + TICS
ML | SM 6/21/16

Quant Time: Jun 21 15:12:18 2016
Quant Method : I:\MS21\Methods\F21061516.M
Quant Title : EPA TO-15
QLast Update : Thu Jun 16 11:52:56 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	7.59	130	68752	1000.000 pg	0.00
37) 1,4-Difluorobenzene (IS2)	9.77	114	212450	1000.000 pg	0.00
56) Chlorobenzene-d5 (IS3)	14.77	117	182559	1000.000 pg	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4 ...	8.41	65	100151	884.859 pg	0.00
Spiked Amount 1000.000			Recovery = 88.49%		
57) Toluene-d8 (SS2)	12.68	98	198464	913.923 pg	0.00
Spiked Amount 1000.000			Recovery = 91.39%		
74) Bromofluorobenzene (SS3)	16.19	174	82209	922.991 pg	0.00
Spiked Amount 1000.000			Recovery = 92.30%		

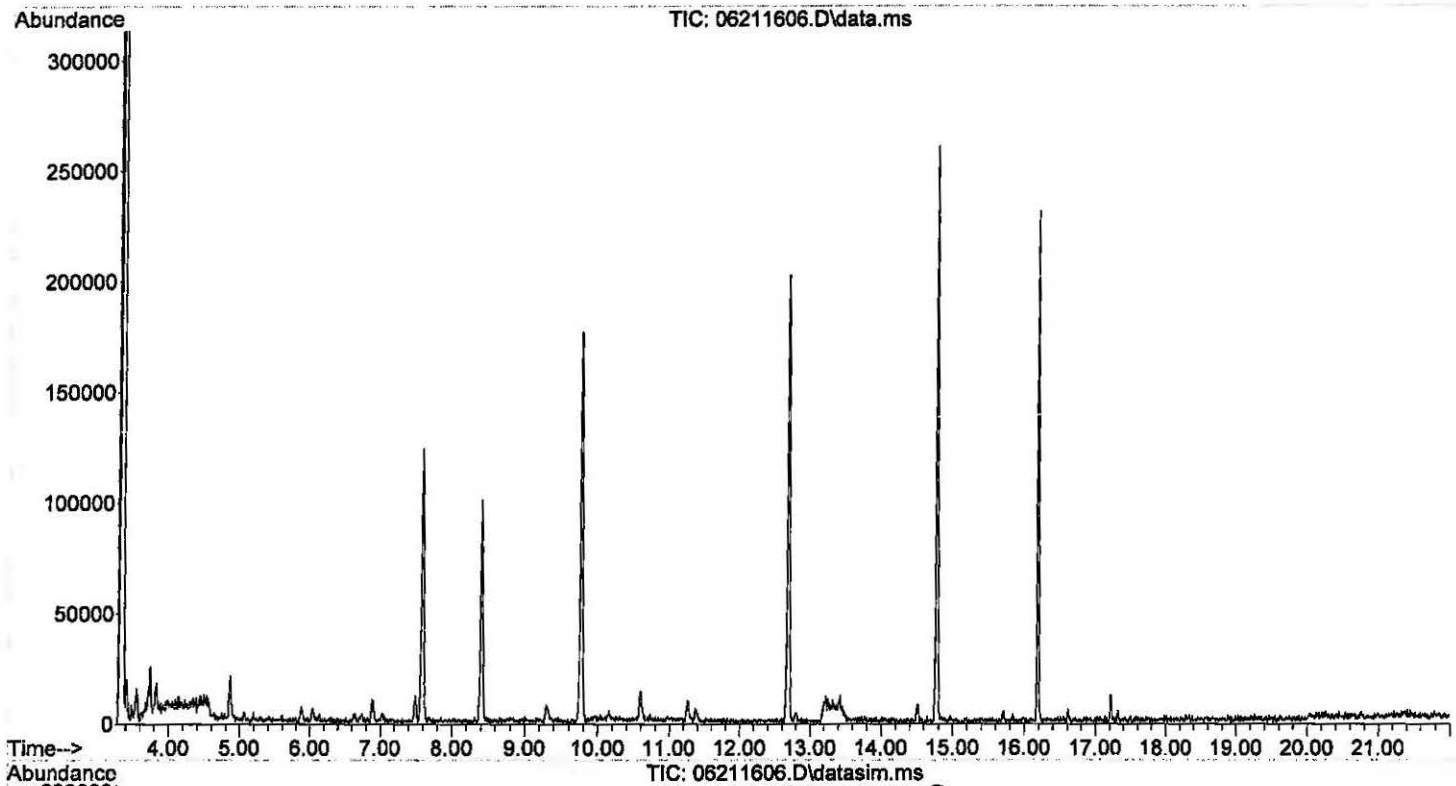
Target Compounds						Qvalue
2) * Propene	3.54	42	506	10.212 pg	#	58
4) * Chloromethane	3.73	50	985	17.213 pg		97
10) * Ethanol	4.46	45	2116	94.997 pg		100
11) * Acetonitrile	4.63	41	1582m	19.196 pg		
12) * Acrolein	4.74	56	1984	60.076 pg		98
13) * Acetone	4.87	58	11392	206.469 pg	#	58
15) * 2-Propanol (Isopropa...	5.06	45	3222	26.134 pg		95
22) * Carbon Disulfide	5.88	76	7660	30.882 pg	#	89
26) * Vinyl Acetate	6.74	86	952	70.637 pg	#	11
27) * 2-Butanone (MEK)	7.03	72	1144	26.163 pg		70
41) 1-Butanol	9.30	56	4581	159.614 pg	#	56
48) * 1,4-Dioxane	10.60	88	11397	312.238 pg		97
58) * Toluene	12.80	91	2854	14.751 pg		99
99) n-Dodecane	19.35	85	142	14.408 pg	#	41

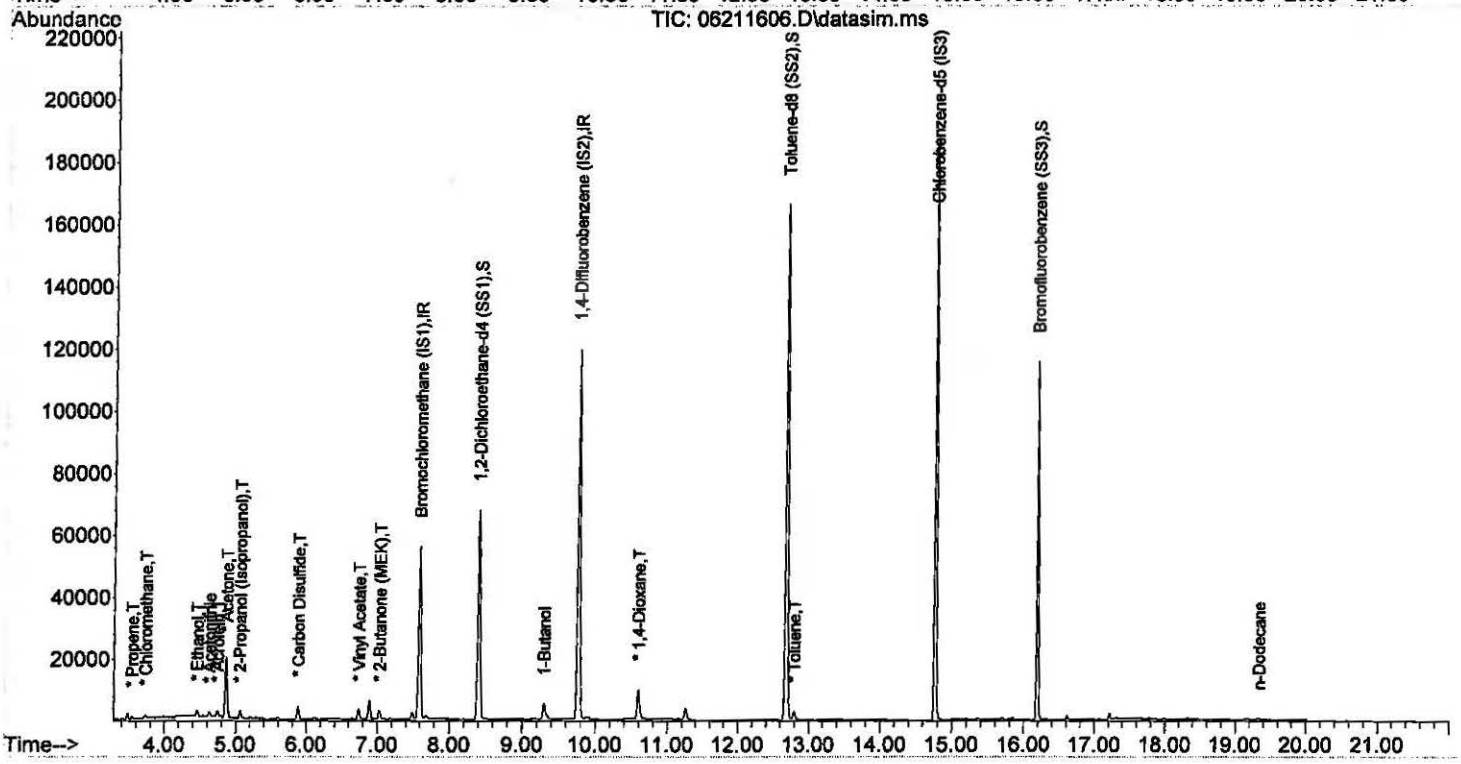
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2016_06\21\
Data File : 06211606.D
Acq On : 21 Jun 2016 2:38 pm
Operator : ML/SM
Sample : 062116_SC01859_B
Misc : S29-06151603
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 21 15:12:18 2016
Quant Method : I:\MS21\Methods\F21061516.M
Quant Title : EPA TO-15
QLast Update : Thu Jun 16 11:52:56 2016
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2016_06\27\
Data File : 06271622.D
Acq On : 28 Jun 2016 2:14 am
Operator : ML
Sample : AS00245-FCA00486
Misc : S29-06151603
ALS Vial : 15 Sample Multiplier: 1

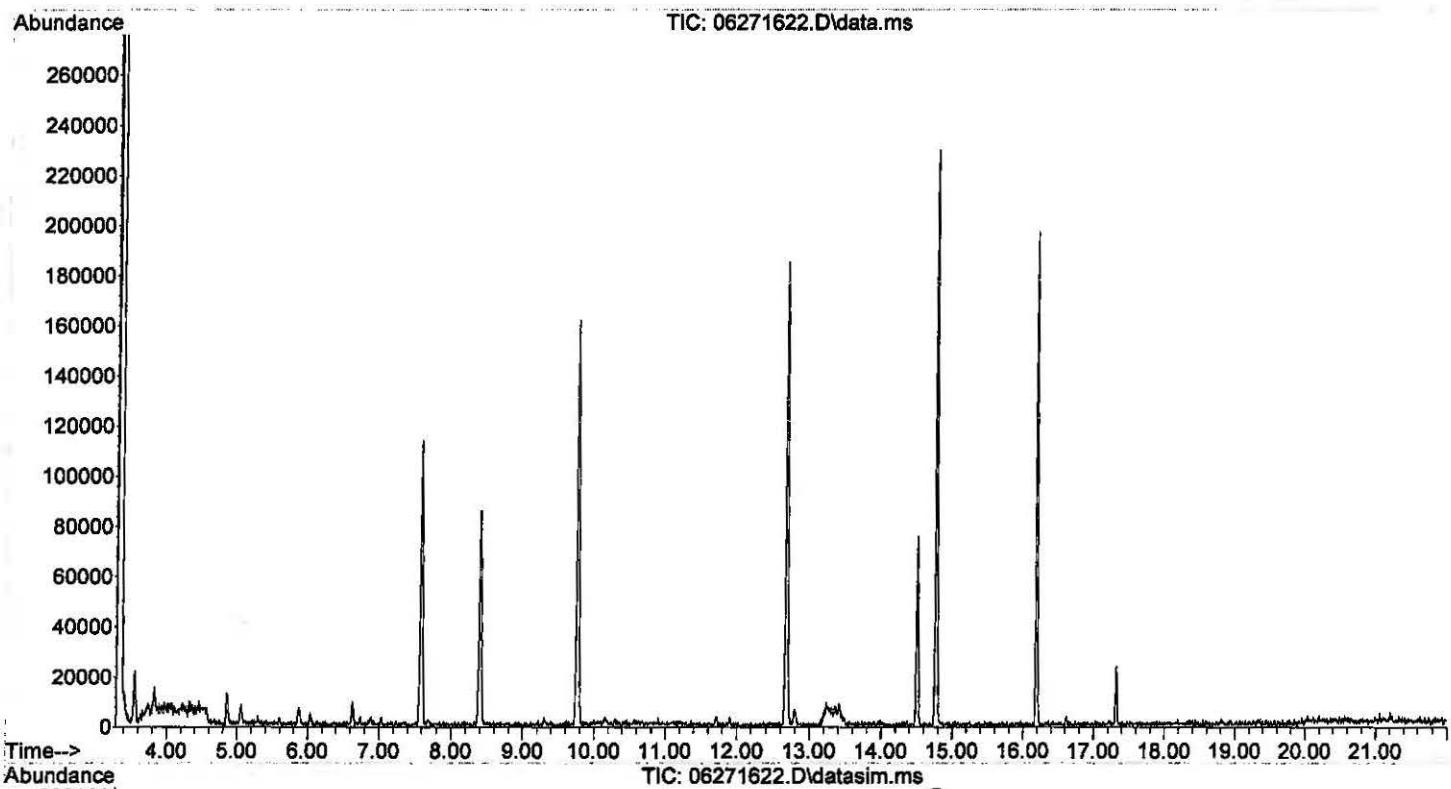
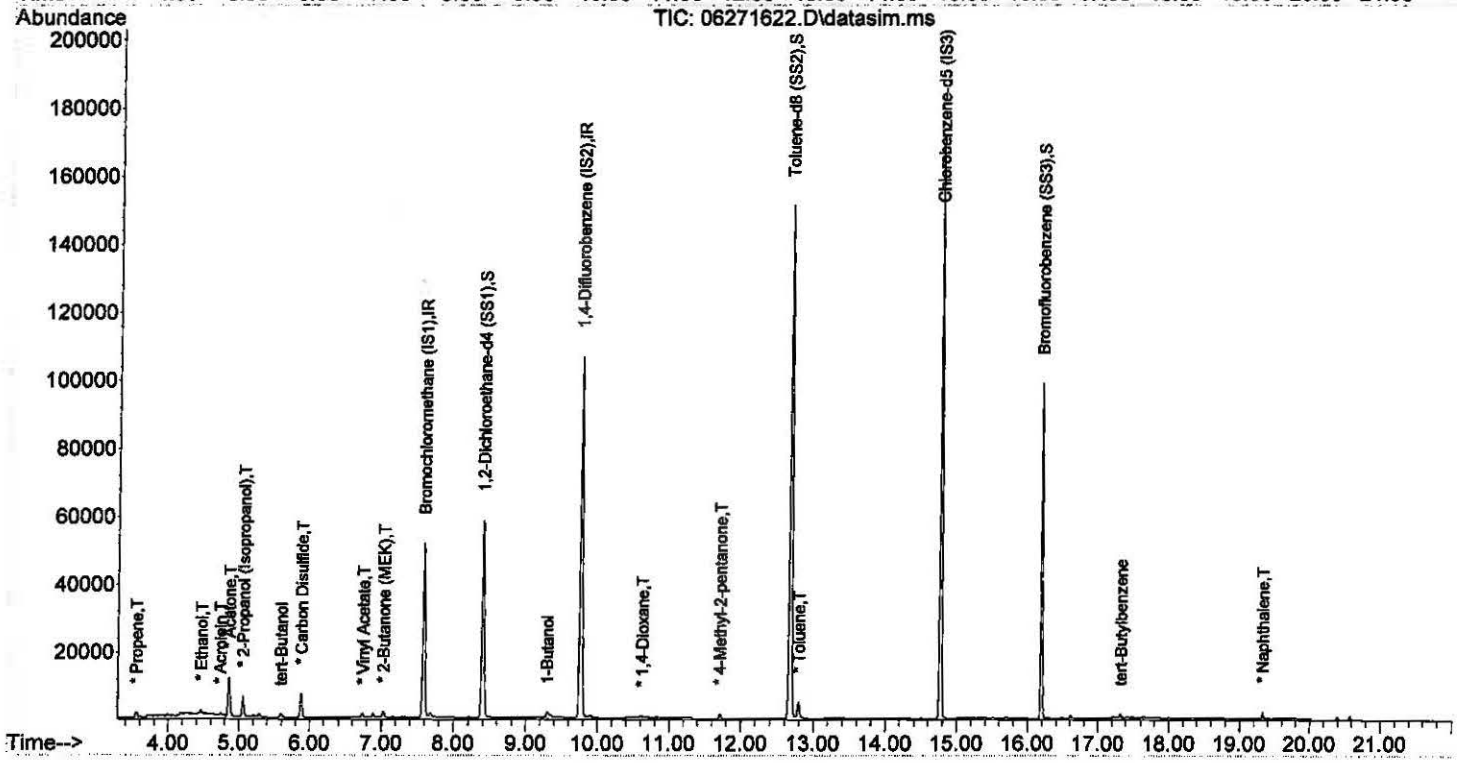
Quant Time: Jun 28 07:08:56 2016
Quant Method : I:\MS21\Methods\F21061516.M
Quant Title : EPA TO-15
QLast Update : Thu Jun 16 11:52:56 2016
Response via : Initial Calibration

MR 71396

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	7.59	130	63648	1000.000 pg	0.00
37) 1,4-Difluorobenzene (IS2)	9.77	114	191442	1000.000 pg	0.00
56) Chlorobenzene-d5 (IS3)	14.77	117	171173	1000.000 pg	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4 ...	8.40	65	86366	824.256 pg	0.00
Spiked Amount 1000.000			Recovery = 82.43%		
57) Toluene-d8 (SS2)	12.68	98	175604	862.443 pg	0.00
Spiked Amount 1000.000			Recovery = 86.24%		
74) Bromofluorobenzene (SS3)	16.19	174	71809	859.854 pg	0.00
Spiked Amount 1000.000			Recovery = 85.98%		
Target Compounds					Qvalue
2) * Propene	3.55	42	711	15.499 pg #	49
10) * Ethanol	4.46	45	1364	66.147 pg	97
12) * Acrolein	4.73	56	507	16.583 pg	85
13) * Acetone	4.86	58	6343	124.180 pg #	60
15) * 2-Propanol (Isopropa...	5.06	45	7555	66.192 pg	96
18) tert-Butanol	5.59	59	1016	10.164 pg	100
22) * Carbon Disulfide	5.88	76	12823	55.843 pg	98
26) * Vinyl Acetate	6.74	86	269	21.560 pg #	38
27) * 2-Butanone (MEK)	7.03	72	779	19.244 pg #	65
41) 1-Butanol	9.30	56	1354	52.354 pg #	52
48) * 1,4-Dioxane	10.63	88	499	15.171 pg	97
53) * 4-Methyl-2-pentanone	11.71	58	877	32.749 pg #	86
58) * Toluene	12.80	91	5671	31.260 pg	97
83) tert-Butylbenzene	17.33	134	367	13.223 pg #	1
98) * Naphthalene	19.33	128	2162	36.503 pg	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS21\DATA\2016_06\27\
Data File : 06271622.D
Acq On : 28 Jun 2016 2:14 am
Operator : ML
Sample : AS00245-FCA00486
Misc : S29-06151603
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jun 28 07:08:56 2016
Quant Method : I:\MS21\Methods\F21061516.M
Quant Title : EPA TO-15
QLast Update : Thu Jun 16 11:52:56 2016
Response via : Initial Calibration