

Grenada Manufacturing

DATA REVIEW

Grenada, Mississippi

Volatile Organic Compound (VOC) Analyses

SDG #P1701088

Analyses Performed By:

ALS Environmental

Simi Valley, California

Report #27366R

Review Level: Tier III

Project: LA003307.0004.00001

A large, solid orange geometric shape, resembling a stylized triangle or a section of a larger triangle, is positioned in the bottom right corner of the page. It is composed of two overlapping triangles, creating a complex, angular form that extends from the bottom edge towards the top right corner.

DATA REVIEW REPORT

SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) #P1701088 for samples collected in association with the Grenada Manufacturing site, located in Grenada, Mississippi. The review was conducted as a Tier III evaluation and included review of data package completeness. Only analytical data associated with constituents of concern were reviewed for this validation. Field documentation was not included in this review. Included with this assessment are the validation annotated sample result sheets, and chain of custody. Analyses were performed on the following samples:

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis			
					VOC	SVOC	MET	MISC
A-9 (030117)	P1701088-001	Air	3/2/2017		X			
A-2 (030117)	P1701088-002	Air	3/2/2017		X			
A-7 (030117)	P1701088-003	Air	3/2/2017		X			
A-1 (030117)	P1701088-004	Air	3/2/2017		X			
A-10 (030117)	P1701088-005	Air	3/2/2017		X			
A-5 (030117)	P1701088-006	Air	3/2/2017		X			
B-6 (030117)	P1701088-007	Air	3/2/2017		X			
B-10 (030117)	P1701088-008	Air	3/2/2017		X			
B-4 (030117)	P1701088-009	Air	3/2/2017		X			
B-1 (030117)	P1701088-010	Air	3/2/2017		X			
B-9 (030117)	P1701088-011	Air	3/2/2017		X			
B-3 (030117)	P1701088-012	Air	3/2/2017		X			
B-8 (030117)	P1701088-013	Air	3/2/2017		X			
B-7 (030117)	P1701088-014	Air	3/2/2017		X			
B-2 (030117)	P1701088-015	Air	3/2/2017		X			
BS-1 (030117)	P1701088-016	Air	3/2/2017		X			
AMB-W (030117)	P1701088-017	Air	3/2/2017		X			
AMB-S (030117)	P1701088-018	Air	3/2/2017		X			
AMB-E (030117)	P1701088-019	Air	3/2/2017		X			
AMB-N (030117)	P1701088-020	Air	3/2/2017		X			
DUP-3 (030117)	P1701088-021	Air	3/2/2017	A-7 (030117)	X			
DUP-4 (030117)	P1701088-022	Air	3/2/2017	B-8 (030117)	X			

DATA REVIEW REPORT

ANALYTICAL DATA PACKAGE DOCUMENTATION

The table below is the evaluation of the data package completeness.

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:

QA - Quality Assurance

DATA REVIEW REPORT

ORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to United States Environmental Protection Agency (USEPA) Method TO-15. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999 and USEPA Region II SOP HW-31- Validating Air Samples Volatile Organic Analysis of Ambient Air In Canister by Method TO-15 of October 2006.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with USEPA National Functional Guidelines:

- Concentration (C) Qualifiers
 - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
 - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
 - E The compound was quantitated above the calibration range.
 - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
 - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
 - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
 - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
 - UB Compound considered non-detect at the listed value due to associated blank contamination.
 - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
 - R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

DATA REVIEW REPORT

VOLATILE ORGANIC COMPOUND (VOC) ANALYSIS

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation	Return Canister Pressure
EPA TO-15	Air	30 days from collection to analysis	Ambient temperature	< -1" Hg

All samples were analyzed within the specified holding time and canister pressure criteria with the following exception:

- As noted in the laboratory case narrative, the sample container for field duplicate sample DUP-4 (030117) had a leaking valve. The sample was re-pressurized. As shown below in Section 9, the results are in agreement with the parent sample, hence, no qualifiers were assigned to the sample results during data review.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore detected sample results were not associated with blank contamination.

3. Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 24-hour tune clock.

System performance and column resolution were acceptable.

4. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

DATA REVIEW REPORT

4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (30%) and an RRF value greater than control limit (0.05).

4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (30%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits.

5. Internal Standard Performance

Internal standard performance criteria insure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the VOC exhibit area counts are $\pm 40\%$ of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

6. Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

7. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

8. Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 25% for air matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for air matrices.

Laboratory duplicate analysis was not performed using a sample from this SDG.

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9. Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 50% for air matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of three times the RL is applied for air matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result (µg/m ³)	Duplicate Result (µg/m ³)	RPD
A-7 (030117)/ DUP-3 (030117)	cis-1,2-Dichloroethene	0.87	0.62	AC
	Tetrachloroethene	0.21	0.19	
	Benzene	0.92	0.79	15.2%
	Trichloroethene	3.1	2.6	17.5%
	Toluene	3.9	3.7	5.3%
B-8 (030117)/ DUP-4 (030117)	cis-1,2-Dichloroethene	1.2	0.82	AC
	Benzene	0.57	0.52	
	Toluene	2.0	1.8	
	Tetrachloroethene	0.18	0.18	
	Trichloroethene	11	9.5	14.6%

Note:

AC Acceptable

The calculated RPDs between the parent sample and field duplicate were acceptable.

10. Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

11. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA REVIEW REPORT

DATA VALIDATION CHECKLIST FOR VOCs

VOCs: EPA TO-15	Reported		Performance Acceptable		Not Required	
	No	Yes	No	Yes		
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)						
Tier II Validation						
Canister return pressure (<-1"Hg)		X		X		
Holding times		X		X		
Reporting limits (units)		X		X		
Blanks						
A. Method blanks		X		X		
B. Equipment blanks					X	
Laboratory Control Sample (LCS) %R		X		X		
Laboratory Control Sample Duplicate (LCSD) %R					X	
LCS/LCSD Precision (RPD)					X	
Field/Lab Duplicate (RPD)		X		X		
Surrogate Spike Recoveries		X		X		
Dilution Factor		X		X		
Tier III Validation						
System performance and column resolution		X		X		
Initial calibration %RSDs		X		X		
Continuing calibration RRFs		X		X		
Continuing calibration %Ds		X		X		
Instrument tune and performance check		X		X		
Ion abundance criteria for each instrument used		X		X		
Internal standard		X		X		
Compound identification and quantitation						
A. Reconstructed ion chromatograms		X		X		
B. Quantitation Reports		X		X		
C. RT of sample compounds within the established RT windows		X		X		
D. Transcription/calculation errors present		X		X		
E. Reporting limits adjusted to reflect sample dilutions		X		X		

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VOCs: EPA TO-15	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					

%RSD Percent relative difference

%R Percent recovery

RPD Relative percent difference

%D Percent difference

DATA REVIEW REPORT

VALIDATION PERFORMED BY: Jennifer Singer

SIGNATURE:



DATE: March 21, 2017

PEER REVIEW: Dennis Capria

DATE: March 23, 2017

**CHAIN OF CUSTODY
CORRECTED SAMPLE ANALYSIS DATA
SHEETS**





Air - Chain of Custody Record & Analytical Service Request

Page 1 of 2

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
PIOTO 1088

Company Name & Address (Reporting Information) <u>Arcadis</u> <u>132 E. Washington St., Suite 600</u> <u>Indianapolis, IN 46204</u>				Project Name <u>Grenada Manufacturing</u>				ALS Contact <u>Kelly Horiuchi</u>		TO-15 Project List	Analysis Method	Comments e.g. Actual Preservative or specific instructions
Project Manager <u>Rob Uppencamp</u>				Project Number <u>LA 003307.0003.00001</u>								
Phone <u>317-231-6500</u>				P.O. # / Billing Information <u>LA 003307.0003.00001</u> <u>Arcadis - Accounts Payable</u> <u>Highlands Ranch, CO</u>								
Fax <u>317-231-6514</u>				Sampler (Print & Sign) <u>[Signature]</u>								
Email Address for Result Reporting <u>Sarah.Jonker@arcadis.com</u>												
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				
A-9 (030117)	①	3-1-17 → 3-2-17	1539 1647	AC 01507	FCR 00253	-30.2	-5.0	6 L	X			
A-2 (030117)	②		1549 1648	AS 01081	FCR 00110	-30.2	-5.0		X			
A-7 (030117)	③		1552 1620	SC 02215	FCR 00186	-30.2	-4.3		X			
A-1 (030117)	④		1556 1715	AC 02239	FCR 00289	-30.2	-6.4		X			
A-10 (030117)	⑤		1604 1653	SC 00278	FCR 00011	-30.0	-4.5		X			
A-5 (030117)	⑥		1611 1656	AS 00535	FCR 00081	-30.2	-5.6		X			
B-6 (030117)	⑦		1614 1658	AS 00327	FCR 00069	-30.2	-5.8		X			
B-10 (030117)	⑧		1619 1659	AC 02231	FCR 00035	-30.2	-4.4		X			
B-4 (030117)	⑨		1622 1750	AS 00928	FCR 00121	-30.2	-3.4		X			
B-1 (030117)	⑩		1627 1743	AS 00263	FCR 00111	-30.2	-3.3		X			
B-9 (030117)	⑪		1643 1746	AC 02103	FCR 00296	-30.2	-5.0		X			
B-3 (030117)	⑫		1649 1708	SC 01738	FCR 00006	-30.2	-5.0		X			
B-8 (030117)	⑬		1657 1748	AS 01198	FCR 00102	-30.2	-4.7		X			
B-7 (030117)	⑭	✓	1705 1711	AS 00647	FCR 00302	-30.2	-4.8	✓	X			
Report Tier Levels - please select												
Tier I - Results (Default in not specified) <u>X</u>				Tier III (Results + QC & Calibration Summaries) <u>X</u>				EDD required <u>YES</u> / No				Project Requirements (MRLs, QAPP)
Tier II (Results + QC Summaries)				Tier IV (Date Validation Package) 10% Surcharge				Type: <u>Excel</u> Units: <u>2</u>				
Relinquished by: (Signature) <u>[Signature]</u>				Date: <u>3-2-17</u> Time: <u>1900</u>				Received by: (Signature) <u>[Signature]</u>				Cooler / Blank Temperature _____ °C
Relinquished by: (Signature)				Date: _____ Time: _____				Received by: (Signature) <u>[Signature]</u>				
								3/3/17 - 3/6/17				
								928				



Air - Chain of Custody Record & Analytical Service Request

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Requested Turnaround Time in Business Days (Surcharges) please circle
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ALS Project No. P15701088

Company Name & Address (Reporting Information) Arcadis 132 E. Washington St., Suite 600 Indianapolis, IN 46204				Project Name Grenada Manufacturing				ALS Contact: Kelly Horiuchi		Analysis Method	Comments e.g. Actual Preservative or specific instructions
Project Manager Rob Uppencamp				Project Number LA 003307.0003.00001				TD-15 Project List			
Phone 317-231-6500 Fax 317-231-6514				P.O. # / Billing Information LA003307.0003.00001 Arcadis - Accounts Payable Highlands Ranch, CO							
Email Address for Result Reporting Sarah.Jonker@arcadis.com				Sampler (Print & Sign) <i>[Signature]</i>							
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			
B-Z (030117)	(18)	3-1-17 → 3-2-17	1715	1745	AC02072	FCR00079	-30.2	-4.6	6L	X	
BS-1 (030117)	(16)		1720	1639	AS00895	FCR00151	-30.2	-4.3		X	
AMB-W (030117)	(10)		1805	1558	AS00918	FCA00042	-30.3	-3.0		X	
AMB-S (030117)	(10)		1750	1603	AC02069	FCA01076	-30.3	-4.5		X	
AMB-E (030117)	(12)		1756	1612	AC01850	FCA00997	-30.3	-4.3		X	
AMB-N (030117)	(20)		1800	1722	SC01083	FCA01090	-30.3	-5.7		X	
DUP-3 (030117)	(20)		1800	-	AS00823	FCR00300	-30.2	-4.6		X	
DUP-4 (030117)	(22)		-	-	AS01134	FCR00208	-30.2	-5.1		X	
Report Tier Levels - please select Tier I - Results (Default in not specified) _____ Tier II (Results + QC Summaries) _____ Tier III (Results + QC & Calibration Summaries) <u>X</u> Tier IV (Date Validation Package) 10% Surcharge _____ EDD required <u>YES</u> No Type: <u>Excel</u> Units: _____ Chain of Custody Seal: (Circle) INTACT <u>INTACT</u> BROKEN ABSENT											
Relinquished by: (Signature) <i>[Signature]</i>				Date: <u>3/2/17</u> Time: <u>1900</u>		Received by: (Signature) <i>[Signature]</i>		Date: <u>3/3/17</u> Time: <u>928</u>		Project Requirements (MRLs, QAPP)	
Relinquished by: (Signature) _____				Date: _____ Time: _____		Received by: (Signature) _____		Date: <u>9/3/17</u> Time: _____			
										Cooler / Blank Temperature _____ °C	

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: ARCADIS U.S., Inc.

Client Sample ID: A-9 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-001

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Summa Canister

Test Notes:

Container ID: AC01507

Date Collected: 3/2/17

Date Received: 3/3/17

Date Analyzed: 3/10/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): 1.91 Final Pressure (psig): 4.92

Canister Dilution Factor: 1.18

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.12	ND	0.046	
75-35-4	1,1-Dichloroethene	ND	0.12	ND	0.030	
75-09-2	Methylene Chloride	ND	0.59	ND	0.17	
156-60-5	trans-1,2-Dichloroethene	ND	0.12	ND	0.030	
156-59-2	cis-1,2-Dichloroethene	0.69	0.12	0.17	0.030	
107-06-2	1,2-Dichloroethane	ND	0.12	ND	0.029	
71-43-2	Benzene	0.76	0.12	0.24	0.037	
79-01-6	Trichloroethene	2.4	0.12	0.45	0.022	
79-00-5	1,1,2-Trichloroethane	ND	0.12	ND	0.022	
108-88-3	Toluene	3.1	0.59	0.83	0.16	
127-18-4	Tetrachloroethene	0.20	0.12	0.030	0.017	

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

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Client: ARCADIS U.S., Inc.

Client Sample ID: A-2 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-002

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS01081

Date Collected: 3/2/17

Date Received: 3/3/17

Date Analyzed: 3/10/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.88 Final Pressure (psig): 3.66

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.14	ND	0.056	
75-35-4	1,1-Dichloroethene	ND	0.14	ND	0.036	
75-09-2	Methylene Chloride	ND	0.72	ND	0.21	
156-60-5	trans-1,2-Dichloroethene	ND	0.14	ND	0.036	
156-59-2	cis-1,2-Dichloroethene	0.88	0.14	0.22	0.036	
107-06-2	1,2-Dichloroethane	ND	0.14	ND	0.035	
71-43-2	Benzene	0.93	0.14	0.29	0.045	
79-01-6	Trichloroethene	3.1	0.14	0.58	0.027	
79-00-5	1,1,2-Trichloroethane	ND	0.14	ND	0.026	
108-88-3	Toluene	3.8	0.72	1.0	0.19	
127-18-4	Tetrachloroethene	0.31	0.14	0.045	0.021	

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

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Client: ARCADIS U.S., Inc.

Client Sample ID: A-7 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-003

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Summa Canister

Test Notes:

Container ID: SC02215

Date Collected: 3/2/17

Date Received: 3/3/17

Date Analyzed: 3/10/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.54 Final Pressure (psig): 3.78

Canister Dilution Factor: 1.40

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.14	ND	0.055	
75-35-4	1,1-Dichloroethene	ND	0.14	ND	0.035	
75-09-2	Methylene Chloride	ND	0.70	ND	0.20	
156-60-5	trans-1,2-Dichloroethene	ND	0.14	ND	0.035	
156-59-2	cis-1,2-Dichloroethene	0.87	0.14	0.22	0.035	
107-06-2	1,2-Dichloroethane	ND	0.14	ND	0.035	
71-43-2	Benzene	0.92	0.14	0.29	0.044	
79-01-6	Trichloroethene	3.1	0.14	0.58	0.026	
79-00-5	1,1,2-Trichloroethane	ND	0.14	ND	0.026	
108-88-3	Toluene	3.9	0.70	1.0	0.19	
127-18-4	Tetrachloroethene	0.21	0.14	0.032	0.021	

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

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Client: ARCADIS U.S., Inc.

Client Sample ID: A-1 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-004

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Summa Canister

Test Notes:

Container ID: AC02239

Date Collected: 3/2/17

Date Received: 3/3/17

Date Analyzed: 3/11/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.52 Final Pressure (psig): 4.28

Canister Dilution Factor: 1.56

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.16	ND	0.061	
75-35-4	1,1-Dichloroethene	ND	0.16	ND	0.039	
75-09-2	Methylene Chloride	ND	0.78	ND	0.22	
156-60-5	trans-1,2-Dichloroethene	ND	0.16	ND	0.039	
156-59-2	cis-1,2-Dichloroethene	0.83	0.16	0.21	0.039	
107-06-2	1,2-Dichloroethane	ND	0.16	ND	0.039	
71-43-2	Benzene	0.87	0.16	0.27	0.049	
79-01-6	Trichloroethene	3.2	0.16	0.59	0.029	
79-00-5	1,1,2-Trichloroethane	ND	0.16	ND	0.029	
108-88-3	Toluene	4.3	0.78	1.1	0.21	
127-18-4	Tetrachloroethene	0.29	0.16	0.043	0.023	

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

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Client: ARCADIS U.S., Inc.

Client Sample ID: A-10 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-005

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Summa Canister

Test Notes:

Container ID: SC00278

Date Collected: 3/2/17

Date Received: 3/3/17

Date Analyzed: 3/11/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.59 Final Pressure (psig): 4.17

Canister Dilution Factor: 1.44

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.14	ND	0.056	
75-35-4	1,1-Dichloroethene	ND	0.14	ND	0.036	
75-09-2	Methylene Chloride	ND	0.72	ND	0.21	
156-60-5	trans-1,2-Dichloroethene	ND	0.14	ND	0.036	
156-59-2	cis-1,2-Dichloroethene	0.80	0.14	0.20	0.036	
107-06-2	1,2-Dichloroethane	ND	0.14	ND	0.036	
71-43-2	Benzene	1.1	0.14	0.35	0.045	
79-01-6	Trichloroethene	4.4	0.14	0.82	0.027	
79-00-5	1,1,2-Trichloroethane	ND	0.14	ND	0.026	
108-88-3	Toluene	4.4	0.72	1.2	0.19	
127-18-4	Tetrachloroethene	0.49	0.14	0.072	0.021	

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.

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Client: ARCADIS U.S., Inc.

Client Sample ID: A-5 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-006

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00535

Date Collected: 3/2/17

Date Received: 3/3/17

Date Analyzed: 3/11/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.12 Final Pressure (psig): 3.81

Canister Dilution Factor: 1.47

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.15	ND	0.058	
75-35-4	1,1-Dichloroethene	ND	0.15	ND	0.037	
75-09-2	Methylene Chloride	ND	0.74	ND	0.21	
156-60-5	trans-1,2-Dichloroethene	ND	0.15	ND	0.037	
156-59-2	cis-1,2-Dichloroethene	1.5	0.15	0.38	0.037	
107-06-2	1,2-Dichloroethane	ND	0.15	ND	0.036	
71-43-2	Benzene	0.75	0.15	0.23	0.046	
79-01-6	Trichloroethene	9.6	0.15	1.8	0.027	
79-00-5	1,1,2-Trichloroethane	ND	0.15	ND	0.027	
108-88-3	Toluene	4.4	0.74	1.2	0.20	
127-18-4	Tetrachloroethene	0.29	0.15	0.042	0.022	

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.

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Client: ARCADIS U.S., Inc.

Client Sample ID: B-6 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-007

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00327

Date Collected: 3/2/17

Date Received: 3/3/17

Date Analyzed: 3/11/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.27 Final Pressure (psig): 3.61

Canister Dilution Factor: 1.47

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.15	ND	0.058	
75-35-4	1,1-Dichloroethene	ND	0.15	ND	0.037	
75-09-2	Methylene Chloride	ND	0.74	ND	0.21	
156-60-5	trans-1,2-Dichloroethene	ND	0.15	ND	0.037	
156-59-2	cis-1,2-Dichloroethene	4.2	0.15	1.1	0.037	
107-06-2	1,2-Dichloroethane	ND	0.15	ND	0.036	
71-43-2	Benzene	0.56	0.15	0.17	0.046	
79-01-6	Trichloroethene	13	0.15	2.5	0.027	
79-00-5	1,1,2-Trichloroethane	ND	0.15	ND	0.027	
108-88-3	Toluene	2.8	0.74	0.73	0.20	
127-18-4	Tetrachloroethene	0.42	0.15	0.062	0.022	

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.

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Client: ARCADIS U.S., Inc.

Client Sample ID: B-10 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-008

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Summa Canister

Test Notes:

Container ID: AC02231

Date Collected: 3/2/17

Date Received: 3/3/17

Date Analyzed: 3/11/17

Volume(s) Analyzed: 1.00 Liter(s)

0.10 Liter(s)

Initial Pressure (psig): -1.59 Final Pressure (psig): 4.17

Canister Dilution Factor: 1.44

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	0.77	0.14	0.30	0.056	
75-35-4	1,1-Dichloroethene	ND	0.14	ND	0.036	
75-09-2	Methylene Chloride	5.1	0.72	1.5	0.21	
156-60-5	trans-1,2-Dichloroethene	ND	0.14	ND	0.036	
156-59-2	cis-1,2-Dichloroethene	2.7	0.14	0.69	0.036	
107-06-2	1,2-Dichloroethane	ND	0.14	ND	0.036	
71-43-2	Benzene	1.0	0.14	0.33	0.045	
79-01-6	Trichloroethene	5.8	0.14	1.1	0.027	
79-00-5	1,1,2-Trichloroethane	ND	0.14	ND	0.026	
108-88-3	Toluene	160	7.2	41	1.9	D
127-18-4	Tetrachloroethene	1.2	0.14	0.18	0.021	

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.

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Client: ARCADIS U.S., Inc.

Client Sample ID: B-4 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-009

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00928

Date Collected: 3/2/17

Date Received: 3/3/17

Date Analyzed: 3/11/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.11 Final Pressure (psig): 3.87

Canister Dilution Factor: 1.37

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.14	ND	0.054	
75-35-4	1,1-Dichloroethene	ND	0.14	ND	0.035	
75-09-2	Methylene Chloride	ND	0.69	ND	0.20	
156-60-5	trans-1,2-Dichloroethene	ND	0.14	ND	0.035	
156-59-2	cis-1,2-Dichloroethene	2.8	0.14	0.71	0.035	
107-06-2	1,2-Dichloroethane	ND	0.14	ND	0.034	
71-43-2	Benzene	0.63	0.14	0.20	0.043	
79-01-6	Trichloroethene	24	0.14	4.5	0.026	
79-00-5	1,1,2-Trichloroethane	ND	0.14	ND	0.025	
108-88-3	Toluene	3.0	0.69	0.80	0.18	
127-18-4	Tetrachloroethene	0.32	0.14	0.047	0.020	

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.

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Client: ARCADIS U.S., Inc.

Client Sample ID: B-1 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-010

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00263

Date Collected: 3/2/17

Date Received: 3/3/17

Date Analyzed: 3/11/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.99 Final Pressure (psig): 3.59

Canister Dilution Factor: 1.33

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.13	ND	0.052	
75-35-4	1,1-Dichloroethene	ND	0.13	ND	0.034	
75-09-2	Methylene Chloride	ND	0.67	ND	0.19	
156-60-5	trans-1,2-Dichloroethene	ND	0.13	ND	0.034	
156-59-2	cis-1,2-Dichloroethene	0.38	0.13	0.095	0.034	
107-06-2	1,2-Dichloroethane	ND	0.13	ND	0.033	
71-43-2	Benzene	0.70	0.13	0.22	0.042	
79-01-6	Trichloroethene	3.6	0.13	0.66	0.025	
79-00-5	1,1,2-Trichloroethane	ND	0.13	ND	0.024	
108-88-3	Toluene	1.6	0.67	0.43	0.18	
127-18-4	Tetrachloroethene	0.21	0.13	0.031	0.020	

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.

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Client: ARCADIS U.S., Inc.

Client Sample ID: B-9 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-011

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Summa Canister

Test Notes:

Container ID: AC02103

Date Collected: 3/2/17

Date Received: 3/3/17

Date Analyzed: 3/11/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.80 Final Pressure (psig): 4.85

Canister Dilution Factor: 1.52

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.15	ND	0.059	
75-35-4	1,1-Dichloroethene	ND	0.15	ND	0.038	
75-09-2	Methylene Chloride	ND	0.76	ND	0.22	
156-60-5	trans-1,2-Dichloroethene	ND	0.15	ND	0.038	
156-59-2	cis-1,2-Dichloroethene	3.7	0.15	0.95	0.038	
107-06-2	1,2-Dichloroethane	ND	0.15	ND	0.038	
71-43-2	Benzene	0.66	0.15	0.21	0.048	
79-01-6	Trichloroethene	17	0.15	3.2	0.028	
79-00-5	1,1,2-Trichloroethane	ND	0.15	ND	0.028	
108-88-3	Toluene	2.1	0.76	0.55	0.20	
127-18-4	Tetrachloroethene	0.24	0.15	0.036	0.022	

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.

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Client: ARCADIS U.S., Inc.

Client Sample ID: B-3 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-012

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Summa Canister

Test Notes:

Container ID: SC01738

Date Collected: 3/2/17

Date Received: 3/6/17

Date Analyzed: 3/13/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.83 Final Pressure (psig): 3.60

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.14	ND	0.056	
75-35-4	1,1-Dichloroethene	ND	0.14	ND	0.036	
75-09-2	Methylene Chloride	ND	0.71	ND	0.20	
156-60-5	trans-1,2-Dichloroethene	ND	0.14	ND	0.036	
156-59-2	cis-1,2-Dichloroethene	0.98	0.14	0.25	0.036	
107-06-2	1,2-Dichloroethane	ND	0.14	ND	0.035	
71-43-2	Benzene	0.52	0.14	0.16	0.044	
79-01-6	Trichloroethene	9.8	0.14	1.8	0.026	
79-00-5	1,1,2-Trichloroethane	ND	0.14	ND	0.026	
108-88-3	Toluene	1.6	0.71	0.44	0.19	
127-18-4	Tetrachloroethene	0.19	0.14	0.028	0.021	

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.

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Client: ARCADIS U.S., Inc.

Client Sample ID: B-8 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-013

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS01198

Date Collected: 3/2/17

Date Received: 3/6/17

Date Analyzed: 3/13/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.66 Final Pressure (psig): 4.01

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.14	ND	0.056	
75-35-4	1,1-Dichloroethene	ND	0.14	ND	0.036	
75-09-2	Methylene Chloride	ND	0.72	ND	0.21	
156-60-5	trans-1,2-Dichloroethene	ND	0.14	ND	0.036	
156-59-2	cis-1,2-Dichloroethene	1.2	0.14	0.29	0.036	
107-06-2	1,2-Dichloroethane	ND	0.14	ND	0.035	
71-43-2	Benzene	0.57	0.14	0.18	0.045	
79-01-6	Trichloroethene	11	0.14	2.1	0.027	
79-00-5	1,1,2-Trichloroethane	ND	0.14	ND	0.026	
108-88-3	Toluene	2.0	0.72	0.53	0.19	
127-18-4	Tetrachloroethene	0.18	0.14	0.026	0.021	

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.

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Client: ARCADIS U.S., Inc.

Client Sample ID: B-7 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-014

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00647

Date Collected: 3/2/17

Date Received: 3/6/17

Date Analyzed: 3/13/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.67 Final Pressure (psig): 4.41

Canister Dilution Factor: 1.47

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.15	ND	0.058	
75-35-4	1,1-Dichloroethene	ND	0.15	ND	0.037	
75-09-2	Methylene Chloride	ND	0.74	ND	0.21	
156-60-5	trans-1,2-Dichloroethene	ND	0.15	ND	0.037	
156-59-2	cis-1,2-Dichloroethene	0.85	0.15	0.21	0.037	
107-06-2	1,2-Dichloroethane	ND	0.15	ND	0.036	
71-43-2	Benzene	0.72	0.15	0.22	0.046	
79-01-6	Trichloroethene	3.8	0.15	0.71	0.027	
79-00-5	1,1,2-Trichloroethane	ND	0.15	ND	0.027	
108-88-3	Toluene	1.3	0.74	0.35	0.20	
127-18-4	Tetrachloroethene	ND	0.15	ND	0.022	

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.

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Client: ARCADIS U.S., Inc.

Client Sample ID: B-2 9(030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-015

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Summa Canister

Test Notes:

Container ID: AC02072

Date Collected: 3/2/17

Date Received: 3/6/17

Date Analyzed: 3/13/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.62 Final Pressure (psig): 5.35

Canister Dilution Factor: 1.53

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.15	ND	0.060	
75-35-4	1,1-Dichloroethene	ND	0.15	ND	0.039	
75-09-2	Methylene Chloride	ND	0.77	ND	0.22	
156-60-5	trans-1,2-Dichloroethene	ND	0.15	ND	0.039	
156-59-2	cis-1,2-Dichloroethene	0.41	0.15	0.10	0.039	
107-06-2	1,2-Dichloroethane	ND	0.15	ND	0.038	
71-43-2	Benzene	1.1	0.15	0.35	0.048	
79-01-6	Trichloroethene	2.4	0.15	0.44	0.028	
79-00-5	1,1,2-Trichloroethane	ND	0.15	ND	0.028	
108-88-3	Toluene	1.7	0.77	0.44	0.20	
127-18-4	Tetrachloroethene	ND	0.15	ND	0.023	

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

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Client: ARCADIS U.S., Inc.

Client Sample ID: BS-1 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-016

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00895

Date Collected: 3/2/17

Date Received: 3/6/17

Date Analyzed: 3/13/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.37 Final Pressure (psig): 3.81

Canister Dilution Factor: 1.39

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.14	ND	0.054	
75-35-4	1,1-Dichloroethene	ND	0.14	ND	0.035	
75-09-2	Methylene Chloride	ND	0.70	ND	0.20	
156-60-5	trans-1,2-Dichloroethene	ND	0.14	ND	0.035	
156-59-2	cis-1,2-Dichloroethene	0.31	0.14	0.079	0.035	
107-06-2	1,2-Dichloroethane	ND	0.14	ND	0.034	
71-43-2	Benzene	0.38	0.14	0.12	0.044	
79-01-6	Trichloroethene	0.73	0.14	0.14	0.026	
79-00-5	1,1,2-Trichloroethane	ND	0.14	ND	0.025	
108-88-3	Toluene	ND	0.70	ND	0.18	
127-18-4	Tetrachloroethene	ND	0.14	ND	0.021	

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

Page 1 of 1

Client: ARCADIS U.S., Inc.

Client Sample ID: AMB-W (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-017

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00918

Date Collected: 3/2/17

Date Received: 3/6/17

Date Analyzed: 3/13/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.91 Final Pressure (psig): 3.76

Canister Dilution Factor: 1.34

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.13	ND	0.052	
75-35-4	1,1-Dichloroethene	ND	0.13	ND	0.034	
75-09-2	Methylene Chloride	ND	0.67	ND	0.19	
156-60-5	trans-1,2-Dichloroethene	ND	0.13	ND	0.034	
156-59-2	cis-1,2-Dichloroethene	ND	0.13	ND	0.034	
107-06-2	1,2-Dichloroethane	ND	0.13	ND	0.033	
71-43-2	Benzene	0.37	0.13	0.12	0.042	
79-01-6	Trichloroethene	ND	0.13	ND	0.025	
79-00-5	1,1,2-Trichloroethane	ND	0.13	ND	0.025	
108-88-3	Toluene	ND	0.67	ND	0.18	
127-18-4	Tetrachloroethene	ND	0.13	ND	0.020	

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

Page 1 of 1

Client: ARCADIS U.S., Inc.

Client Sample ID: AMB-S (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-018

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Summa Canister

Test Notes:

Container ID: AC02069

Date Collected: 3/2/17

Date Received: 3/6/17

Date Analyzed: 3/13/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.62 Final Pressure (psig): 4.51
Initial Pressure 2 (psig): -0.45 Final Pressure 2 (psig): 2.28

Canister Dilution Factor: 1.75

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.18	ND	0.068	
75-35-4	1,1-Dichloroethene	ND	0.18	ND	0.044	
75-09-2	Methylene Chloride	ND	0.88	ND	0.25	
156-60-5	trans-1,2-Dichloroethene	ND	0.18	ND	0.044	
156-59-2	cis-1,2-Dichloroethene	ND	0.18	ND	0.044	
107-06-2	1,2-Dichloroethane	ND	0.18	ND	0.043	
71-43-2	Benzene	0.44	0.18	0.14	0.055	
79-01-6	Trichloroethene	0.53	0.18	0.099	0.033	
79-00-5	1,1,2-Trichloroethane	ND	0.18	ND	0.032	
108-88-3	Toluene	0.97	0.88	0.26	0.23	
127-18-4	Tetrachloroethene	ND	0.18	ND	0.026	

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

Page 1 of 1

Client: ARCADIS U.S., Inc.

Client Sample ID: AMB-E (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-019

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Summa Canister

Test Notes:

Container ID: AC01850

Date Collected: 3/2/17

Date Received: 3/6/17

Date Analyzed: 3/13/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.61 Final Pressure (psig): 3.70

Canister Dilution Factor: 1.41

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.14	ND	0.055	
75-35-4	1,1-Dichloroethene	ND	0.14	ND	0.036	
75-09-2	Methylene Chloride	ND	0.71	ND	0.20	
156-60-5	trans-1,2-Dichloroethene	ND	0.14	ND	0.036	
156-59-2	cis-1,2-Dichloroethene	ND	0.14	ND	0.036	
107-06-2	1,2-Dichloroethane	ND	0.14	ND	0.035	
71-43-2	Benzene	0.37	0.14	0.12	0.044	
79-01-6	Trichloroethene	0.32	0.14	0.060	0.026	
79-00-5	1,1,2-Trichloroethane	ND	0.14	ND	0.026	
108-88-3	Toluene	7.3	0.71	1.9	0.19	
127-18-4	Tetrachloroethene	ND	0.14	ND	0.021	

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

Page 1 of 1

Client: ARCADIS U.S., Inc.

Client Sample ID: AMB-N (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-020

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9

Analyst: Simon Cao

Sample Type: 6.0 L Summa Canister

Test Notes:

Container ID: SC01083

Date Collected: 3/2/17

Date Received: 3/6/17

Date Analyzed: 3/13/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.04 Final Pressure (psig): 4.06

Canister Dilution Factor: 1.48

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.15	ND	0.058	
75-35-4	1,1-Dichloroethene	ND	0.15	ND	0.037	
75-09-2	Methylene Chloride	ND	0.74	ND	0.21	
156-60-5	trans-1,2-Dichloroethene	ND	0.15	ND	0.037	
156-59-2	cis-1,2-Dichloroethene	ND	0.15	ND	0.037	
107-06-2	1,2-Dichloroethane	ND	0.15	ND	0.037	
71-43-2	Benzene	0.34	0.15	0.11	0.046	
79-01-6	Trichloroethene	ND	0.15	ND	0.028	
79-00-5	1,1,2-Trichloroethane	ND	0.15	ND	0.027	
108-88-3	Toluene	ND	0.74	ND	0.20	
127-18-4	Tetrachloroethene	ND	0.15	ND	0.022	

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

Page 1 of 1

Client: ARCADIS U.S., Inc.

Client Sample ID: DUP-3 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-021

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9

Analyst: Simon Cao

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00823

Date Collected: 3/2/17

Date Received: 3/6/17

Date Analyzed: 3/13/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.72 Final Pressure (psig): 4.10

Canister Dilution Factor: 1.45

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.15	ND	0.057	
75-35-4	1,1-Dichloroethene	ND	0.15	ND	0.037	
75-09-2	Methylene Chloride	ND	0.73	ND	0.21	
156-60-5	trans-1,2-Dichloroethene	ND	0.15	ND	0.037	
156-59-2	cis-1,2-Dichloroethene	0.62	0.15	0.16	0.037	
107-06-2	1,2-Dichloroethane	ND	0.15	ND	0.036	
71-43-2	Benzene	0.79	0.15	0.25	0.045	
79-01-6	Trichloroethene	2.6	0.15	0.49	0.027	
79-00-5	1,1,2-Trichloroethane	ND	0.15	ND	0.027	
108-88-3	Toluene	3.7	0.73	0.98	0.19	
127-18-4	Tetrachloroethene	0.19	0.15	0.028	0.021	

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

Page 1 of 1

Client: ARCADIS U.S., Inc.

Client Sample ID: DUP-4 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-022

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9

Analyst: Simon Cao

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS01134

Date Collected: 3/2/17

Date Received: 3/6/17

Date Analyzed: 3/13/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.88 Final Pressure (psig): 3.76
Initial Pressure 2 (psig): 0.02 Final Pressure 2 (psig): 3.44

Canister Dilution Factor: 1.77

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.18	ND	0.069	
75-35-4	1,1-Dichloroethene	ND	0.18	ND	0.045	
75-09-2	Methylene Chloride	ND	0.89	ND	0.25	
156-60-5	trans-1,2-Dichloroethene	ND	0.18	ND	0.045	
156-59-2	cis-1,2-Dichloroethene	0.82	0.18	0.21	0.045	
107-06-2	1,2-Dichloroethane	ND	0.18	ND	0.044	
71-43-2	Benzene	0.52	0.18	0.16	0.055	
79-01-6	Trichloroethene	9.5	0.18	1.8	0.033	
79-00-5	1,1,2-Trichloroethane	ND	0.18	ND	0.032	
108-88-3	Toluene	1.8	0.89	0.49	0.23	
127-18-4	Tetrachloroethene	0.18	0.18	0.026	0.026	

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.

Grenada Manufacturing

DATA REVIEW

Grenada, Mississippi

Volatile Organic Compound (VOC) Analyses

SDG #P1701055

Analyses Performed By:

ALS Environmental

Simi Valley, California

Report #27339R

Review Level: Tier II

Project: LA003307.0004.00001



DATA REVIEW REPORT

SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) #P1701055 for samples collected in association with the Grenada Manufacturing site, located in Grenada, Mississippi. The review was conducted as a Tier II evaluation and included review of data package completeness. Only analytical data associated with constituents of concern were reviewed for this validation. Field documentation was not included in this review. Included with this assessment are the validation annotated sample result sheets, and chain of custody. Analyses were performed on the following samples:

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis			
					VOC	SVOC	MET	MISC
SS-7 (030117)	P1701055-001	Air	3/1/2017		X			
SS-8 (030117)	P1701055-002	Air	3/1/2017		X			
SS-9 (030117)	P1701055-003	Air	3/1/2017		X			
SS-10 (030117)	P1701055-004	Air	3/1/2017		X			
SS-11 (030117)	P1701055-005	Air	3/1/2017		X			
SS-12 (030117)	P1701055-006	Air	3/1/2017		X			
SS-13 (030117)	P1701055-007	Air	3/1/2017		X			
SS-14 (030117)	P1701055-008	Air	3/1/2017		X			
SS-15 (030117)	P1701055-009	Air	3/1/2017		X			
SS-16 (030117)	P1701055-010	Air	3/1/2017		X			
SS-17 (030117)	P1701055-011	Air	3/1/2017		X			
SS-18 (030117)	P1701055-012	Air	3/1/2017		X			
SS-20 (030117)	P1701055-013	Air	3/1/2017		X			
SS-21 (030117)	P1701055-014	Air	3/1/2017		X			
SS-22 (030117)	P1701055-015	Air	3/1/2017		X			
DUP-1 (030117)	P1701055-016	Air	3/1/2017	SS-9 (030117)	X			

DATA REVIEW REPORT

ANALYTICAL DATA PACKAGE DOCUMENTATION

The table below is the evaluation of the data package completeness.

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:

QA - Quality Assurance

DATA REVIEW REPORT

ORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to United States Environmental Protection Agency (USEPA) Method TO-15. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999 and USEPA Region II SOP HW-31- Validating Air Samples Volatile Organic Analysis of Ambient Air In Canister by Method TO-15 of October 2006.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with USEPA National Functional Guidelines:

- Concentration (C) Qualifiers
 - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
 - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
 - E The compound was quantitated above the calibration range.
 - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
 - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
 - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
 - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
 - UB Compound considered non-detect at the listed value due to associated blank contamination.
 - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
 - R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

DATA REVIEW REPORT

VOLATILE ORGANIC COMPOUND (VOC) ANALYSIS

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation	Return Canister Pressure
EPA TO-15	Air	30 days from collection to analysis	Ambient temperature	< -1" Hg

All samples were analyzed within the specified holding time criteria.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore detected sample results were not associated with blank contamination.

3. Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

4. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

5. Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 25% for air matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample

DATA REVIEW REPORT

concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for air matrices.

The laboratory duplicate analysis performed using sample SS-11 (030117) exhibited acceptable RPD.

6. Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 50% for air matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of three times the RL is applied for air matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result (µg/m³)	Duplicate Result (µg/m³)	RPD
SS-9 (030117)/ DUP-1 (030117)	cis-1,2-Dichloroethene	97	130	AC
	Tetrachloroethene	56	52 U	
	Trichloroethene	8,900 D	9,000 D	1.1%

Note:

AC = Acceptable

The calculated RPDs between the parent sample and field duplicate were acceptable.

7. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA REVIEW REPORT

DATA VALIDATION CHECKLIST FOR VOCs

VOCs: EPA TO-15	Reported		Performance Acceptable		Not Required	
	No	Yes	No	Yes		
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)						
Tier II Validation						
Canister return pressure (<-1"Hg)		X		X		
Holding times		X		X		
Reporting limits (units)		X		X		
Blanks						
A. Method blanks		X		X		
B. Equipment blanks					X	
Laboratory Control Sample (LCS) %R		X		X		
Laboratory Control Sample Duplicate (LCSD) %R					X	
LCS/LCSD Precision (RPD)					X	
Field/Lab Duplicate (RPD)		X		X		
Surrogate Spike Recoveries		X		X		
Dilution Factor		X		X		

Notes:

%R Percent recovery

RPD Relative percent difference

DATA REVIEW REPORT

VALIDATION PERFORMED BY: Jennifer Singer

SIGNATURE:



DATE: March 15, 2017

PEER REVIEW: Dennis Capria

DATE: March 16, 2017

CHAIN OF CUSTODY CORRECTED SAMPLE ANALYSIS DATA SHEETS





Air - Chain of Custody Record & Analytical Service Request

Page 1 of 2

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 P1701076

Company Name & Address (Reporting Information) <u>ARCADIS</u> <u>132 E. WASHINGTON ST. STE. 600</u> <u>INDIANA POLIS, IN 46204</u>				Project Name <u>GRENADE MANUFACTURING</u>				ALS Contact: <u>KELLY HORNECH</u>		TO-15 Project List	Analysis Method	Comments e.g. Actual Preservative or specific instructions
Project Manager <u>BOB UPPEL CAMP</u>				Project Number <u>LA003307-0003-00001</u>								
Phone <u>317-231-6500</u>				P.O. # / Billing Information <u>LA003307-0003-00001</u> <u>ARCADIS - ACCTS PAY</u> <u>MC CHAMBERS RANCH, IN</u>								
Fax <u>317-231-6514</u>				Sampler (Print & Sign) <u>KATHY WOOD</u>								
Email Address for Result Reporting <u>SARAH.JONKER@ARCADIS.COM</u>												
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				
SS-7(030117)	1	03-01-17	1247-1300	ISC00778	OA00473	-29.5	-4.4	1L	X			
SS-8(030117)	2		1259-1310	ISC00123	OA01213	-30.0	-2.5		X			
SS-9(030117)	3		1205-1215	ISC00612	OA02041	-29.7	-4.2		X			
SS-10(030117)	4		1113-1129	ISC00613	OA00639	-30.0	-1.38		X			
SS-11(030117)	5		1152-1203	ISC01281	OA00719	-30.0	-4.1		X			
SS-12(030117)	6		1021-1038	ISS00217	OA00164	-30.0	-2.1		X			
SS-13(030117)	7		1048-1059	ISC00927	OA00054	-30.0	-4.3		X			
SS-14(030117)	8		1121-1134	ISS00109	OA01753	-30.0	-4.5		X			
SS-15(030117)	9		1230-1243	ISS00222	OA01237	-30.0	-2.8		X			
SS-16(030117)	10		1025-1036	ISC00442	OA01880	-30.0	-3.9		X			
SS-17(030117)	11		0957-1008	ISS00768	OA02140	-25.4	-2.8		X			
SS-18(030117)	12		0952-1007	ISS00042	OA01862	-30.0	-2.7		X			
SS-19(030117)				ISS00110	OA01434	24.1			X			
SS-20(030117)	13	V	0845-0856	ISC01204	OA00175	-30.0	-4.3	V	X			
Report Tier Levels - please select Tier I - Results (Default in not specified) _____ Tier II (Results + QC Summaries) _____ Tier III (Results + QC & Calibration Summaries) <u>X</u> Tier IV (Date Validation Package) 10% Surcharge _____ Tier V (Date Validation Package) 10% Surcharge _____												
Relinquished by: (Signature) <u>[Signature]</u> Date: <u>3-2-17</u> Time: <u>1900</u>												
Received by: (Signature) <u>[Signature]</u> Date: <u>3/3/17</u> Time: <u>1934</u>												
Relinquished by: (Signature) _____ Date: _____ Time: _____												
Received by: (Signature) _____ Date: _____ Time: _____												
Cooler / Blank Temperature _____ °C												

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Air - Chain of Custody Record & Analytical Service Request

Page 2 of 2

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 P1701055

Company Name & Address (Reporting Information) <u>ARCADIS</u> <u>132 E. WASHINGTON ST. STE. 600</u> <u>INDIANAPOLIS, IN 46204</u>				Project Name <u>GRENADE MANUFACTURE</u>				ALS Contact: <u>Kelly Hottel</u>		TO-15 Project List	Analysis Method	Comments e.g. Actual Preservative or specific instructions
Project Manager <u>ROB LIPPINCOTT</u>				Project Number <u>LA 003307.0003.00001</u>								
Phone <u>317-231-6500</u>				P.O. # / Billing Information <u>LA 003307.0003.00001</u> <u>ARCADIS - ACCTS PAY</u> <u>HIGHLAND RANCH, CO</u>								
Fax <u>317-231-6504</u>				Sampler (Print & Sign) <u>KATHY WOODRICK</u>								
Email Address for Result Reporting <u>SARAH.JONKER@ARCADIS.COM</u>												
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				
<u>SS-21 (030117)</u>	<u>14</u>	<u>03-01-17</u>	<u>0843-0855</u>	<u>1SC00590</u>	<u>0A00430</u>	<u>-30.0</u>	<u>-2.2</u>	<u>1 L</u>	<u>x</u>			
<u>SS-22 (030117)</u>	<u>15</u>	<u>↓</u>	<u>0922-0934</u>	<u>1SC00332</u>	<u>0A01378</u>	<u>-29.6</u>	<u>-3.0</u>	<u>↓</u>	<u>x</u>			
<u>DUP-1 (030117)</u>	<u>16</u>	<u>↓</u>	<u>—</u>	<u>1SC00152</u>	<u>0A01163</u>	<u>-26.2</u>	<u>-4.5</u>	<u>↓</u>	<u>x</u>			
Report Tier Levels - please select												
Tier I - Results (Default in not specified) _____ Tier III (Results + QC & Calibration Summaries) <u>X</u>												
Tier II (Results + QC Summaries) _____ Tier IV (Date Validation Package) 10% Surcharge _____												
EDD required <u>YES</u> No _____ Type: <u>EXCEL</u> Units: _____												
Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT												
Relinquished by: (Signature) <u>[Signature]</u> / <u>ARCADIS</u>				Date: <u>3-2-17</u> Time: <u>1900</u>		Received by: (Signature) <u>[Signature]</u>		Date: <u>3/3/17</u> Time: <u>0934</u>		Project Requirements (MRLs, QAPP)		
Relinquished by: (Signature)				Date: _____ Time: _____		Received by: (Signature)		Date: _____ Time: _____		Cooler / Blank Temperature _____ °C		

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: ARCADIS U.S., Inc.

Client Sample ID: SS-7 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P1701055-001

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Summa Canister

Test Notes:

Container ID: 1SC00778

Date Collected: 3/1/17

Date Received: 3/3/17

Date Analyzed: 3/8/17

Volume(s) Analyzed: 0.25 Liter(s)

Initial Pressure (psig): -1.97 Final Pressure (psig): 5.83

Canister Dilution Factor: 1.61

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	3.2	ND	1.3	
75-35-4	1,1-Dichloroethene	ND	3.2	ND	0.81	
75-09-2	Methylene Chloride	ND	3.2	ND	0.93	
156-60-5	trans-1,2-Dichloroethene	ND	3.2	ND	0.81	
156-59-2	cis-1,2-Dichloroethene	ND	3.2	ND	0.81	
107-06-2	1,2-Dichloroethane	ND	3.2	ND	0.80	
71-43-2	Benzene	ND	3.2	ND	1.0	
79-01-6	Trichloroethene	600	3.2	110	0.60	
79-00-5	1,1,2-Trichloroethane	ND	3.2	ND	0.59	
108-88-3	Toluene	ND	3.2	ND	0.85	
127-18-4	Tetrachloroethene	11	3.2	1.6	0.48	

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

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Client: ARCADIS U.S., Inc.

Client Sample ID: SS-8 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P1701055-002

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Summa Canister

Test Notes:

Container ID: 1SC00123

Date Collected: 3/1/17

Date Received: 3/3/17

Date Analyzed: 3/8/17

Volume(s) Analyzed: 0.010 Liter(s)

Initial Pressure (psig): -1.33 Final Pressure (psig): 6.46

Canister Dilution Factor: 1.58

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	79	ND	31	
75-35-4	1,1-Dichloroethene	ND	79	ND	20	
75-09-2	Methylene Chloride	ND	79	ND	23	
156-60-5	trans-1,2-Dichloroethene	92	79	23	20	
156-59-2	cis-1,2-Dichloroethene	360	79	90	20	
107-06-2	1,2-Dichloroethane	ND	79	ND	20	
71-43-2	Benzene	ND	79	ND	25	
79-01-6	Trichloroethene	12,000	79	2,200	15	
79-00-5	1,1,2-Trichloroethane	ND	79	ND	14	
108-88-3	Toluene	ND	79	ND	21	
127-18-4	Tetrachloroethene	ND	79	ND	12	

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

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Client: ARCADIS U.S., Inc.

Client Sample ID: SS-9 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P1701055-003

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Summa Canister

Test Notes:

Container ID: 1SC00612

Date Collected: 3/1/17

Date Received: 3/3/17

Date Analyzed: 3/8 - 3/9/17

Volume(s) Analyzed: 0.015 Liter(s)

0.0050 Liter(s)

Initial Pressure (psig): -1.83 Final Pressure (psig): 6.53

Canister Dilution Factor: 1.65

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	55	ND	22	
75-35-4	1,1-Dichloroethene	ND	55	ND	14	
75-09-2	Methylene Chloride	ND	55	ND	16	
156-60-5	trans-1,2-Dichloroethene	ND	55	ND	14	
156-59-2	cis-1,2-Dichloroethene	97	55	25	14	
107-06-2	1,2-Dichloroethane	ND	55	ND	14	
71-43-2	Benzene	ND	55	ND	17	
79-01-6	Trichloroethene	8,900	170	1,700	31	D
79-00-5	1,1,2-Trichloroethane	ND	55	ND	10	
108-88-3	Toluene	ND	55	ND	15	
127-18-4	Tetrachloroethene	56	55	8.2	8.1	

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

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Client: ARCADIS U.S., Inc.

Client Sample ID: SS-10 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P1701055-004

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Summa Canister

Test Notes:

Container ID: 1SC00613

Date Collected: 3/1/17

Date Received: 3/3/17

Date Analyzed: 3/8/17

Volume(s) Analyzed: 0.0000060 Liter(s)

Initial Pressure (psig): -0.89 Final Pressure (psig): 7.51

Canister Dilution Factor: 1.61

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	130,000	ND	53,000	
75-35-4	1,1-Dichloroethene	ND	130,000	ND	34,000	
75-09-2	Methylene Chloride	ND	130,000	ND	39,000	
156-60-5	trans-1,2-Dichloroethene	ND	130,000	ND	34,000	
156-59-2	cis-1,2-Dichloroethene	180,000	130,000	45,000	34,000	
107-06-2	1,2-Dichloroethane	ND	130,000	ND	33,000	
71-43-2	Benzene	ND	130,000	ND	42,000	
79-01-6	Trichloroethene	23,000,000	130,000	4,300,000	25,000	
79-00-5	1,1,2-Trichloroethane	ND	130,000	ND	25,000	
108-88-3	Toluene	ND	130,000	ND	36,000	
127-18-4	Tetrachloroethene	ND	130,000	ND	20,000	

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

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Client: ARCADIS U.S., Inc.

Client Sample ID: SS-11 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P1701055-005

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Summa Canister

Test Notes:

Container ID: 1SC01281

Date Collected: 3/1/17

Date Received: 3/3/17

Date Analyzed: 3/8/17

Volume(s) Analyzed: 0.015 Liter(s)

Initial Pressure (psig): -2.02 Final Pressure (psig): 6.17

Canister Dilution Factor: 1.65

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	3,200	55	1,200	22	
75-35-4	1,1-Dichloroethene	61	55	15	14	
75-09-2	Methylene Chloride	ND	55	ND	16	
156-60-5	trans-1,2-Dichloroethene	ND	55	ND	14	
156-59-2	cis-1,2-Dichloroethene	7,600	55	1,900	14	
107-06-2	1,2-Dichloroethane	ND	55	ND	14	
71-43-2	Benzene	ND	55	ND	17	
79-01-6	Trichloroethene	11,000	55	2,100	10	
79-00-5	1,1,2-Trichloroethane	ND	55	ND	10	
108-88-3	Toluene	ND	55	ND	15	
127-18-4	Tetrachloroethene	100	55	15	8.1	

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

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Client: ARCADIS U.S., Inc.

Client Sample ID: SS-12 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P1701055-006

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00217

Date Collected: 3/1/17

Date Received: 3/3/17

Date Analyzed: 3/8/17

Volume(s) Analyzed: 0.0080 Liter(s)

Initial Pressure (psig): -1.14 Final Pressure (psig): 5.60

Canister Dilution Factor: 1.50

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	94	ND	37	
75-35-4	1,1-Dichloroethene	1,400	94	350	24	
75-09-2	Methylene Chloride	ND	94	ND	27	
156-60-5	trans-1,2-Dichloroethene	180	94	45	24	
156-59-2	cis-1,2-Dichloroethene	9,000	94	2,300	24	
107-06-2	1,2-Dichloroethane	ND	94	ND	23	
71-43-2	Benzene	ND	94	ND	29	
79-01-6	Trichloroethene	920	94	170	17	
79-00-5	1,1,2-Trichloroethane	ND	94	ND	17	
108-88-3	Toluene	ND	94	ND	25	
127-18-4	Tetrachloroethene	110	94	17	14	

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

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Client: ARCADIS U.S., Inc.

Client Sample ID: SS-13 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P1701055-007

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Summa Canister

Test Notes:

Container ID: 1SC00927

Date Collected: 3/1/17

Date Received: 3/3/17

Date Analyzed: 3/8/17

Volume(s) Analyzed: 0.00015 Liter(s)

0.000050 Liter(s)

Initial Pressure (psig): -2.16 Final Pressure (psig): 8.16

Canister Dilution Factor: 1.82

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	6,100	ND	2,400	
75-35-4	1,1-Dichloroethene	ND	6,100	ND	1,500	
75-09-2	Methylene Chloride	ND	6,100	ND	1,700	
156-60-5	trans-1,2-Dichloroethene	17,000	6,100	4,200	1,500	
156-59-2	cis-1,2-Dichloroethene	1,500,000	18,000	390,000	4,600	D
107-06-2	1,2-Dichloroethane	ND	6,100	ND	1,500	
71-43-2	Benzene	ND	6,100	ND	1,900	
79-01-6	Trichloroethene	1,100,000	6,100	200,000	1,100	
79-00-5	1,1,2-Trichloroethane	ND	6,100	ND	1,100	
108-88-3	Toluene	ND	6,100	ND	1,600	
127-18-4	Tetrachloroethene	12,000	6,100	1,700	890	

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

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Client: ARCADIS U.S., Inc.

Client Sample ID: SS-14 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P1701055-008

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00109

Date Collected: 3/1/17

Date Received: 3/3/17

Date Analyzed: 3/8/17

Volume(s) Analyzed: 0.000025 Liter(s)

Initial Pressure (psig): -2.16 Final Pressure (psig): 5.17

Canister Dilution Factor: 1.58

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	32,000	ND	12,000	
75-35-4	1,1-Dichloroethene	ND	32,000	ND	8,000	
75-09-2	Methylene Chloride	ND	32,000	ND	9,100	
156-60-5	trans-1,2-Dichloroethene	ND	32,000	ND	8,000	
156-59-2	cis-1,2-Dichloroethene	6,300,000	32,000	1,600,000	8,000	
107-06-2	1,2-Dichloroethane	ND	32,000	ND	7,800	
71-43-2	Benzene	ND	32,000	ND	9,900	
79-01-6	Trichloroethene	1,800,000	32,000	330,000	5,900	
79-00-5	1,1,2-Trichloroethane	ND	32,000	ND	5,800	
108-88-3	Toluene	ND	32,000	ND	8,400	
127-18-4	Tetrachloroethene	ND	32,000	ND	4,700	

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

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Client: ARCADIS U.S., Inc.

Client Sample ID: SS-15 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P1701055-009

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00222

Date Collected: 3/1/17

Date Received: 3/3/17

Date Analyzed: 3/8/17

Volume(s) Analyzed: 0.0000015 Liter(s)

Initial Pressure (psig): -1.46 Final Pressure (psig): 5.38

Canister Dilution Factor: 1.52

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	510,000	ND	200,000	
75-35-4	1,1-Dichloroethene	ND	510,000	ND	130,000	
75-09-2	Methylene Chloride	ND	510,000	ND	150,000	
156-60-5	trans-1,2-Dichloroethene	ND	510,000	ND	130,000	
156-59-2	cis-1,2-Dichloroethene	880,000	510,000	220,000	130,000	
107-06-2	1,2-Dichloroethane	ND	510,000	ND	130,000	
71-43-2	Benzene	ND	510,000	ND	160,000	
79-01-6	Trichloroethene	79,000,000	510,000	15,000,000	94,000	
79-00-5	1,1,2-Trichloroethane	ND	510,000	ND	93,000	
108-88-3	Toluene	ND	510,000	ND	130,000	
127-18-4	Tetrachloroethene	ND	510,000	ND	75,000	

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

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Client: ARCADIS U.S., Inc.

Client Sample ID: SS-16 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P1701055-010

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Summa Canister

Test Notes:

Container ID: 1SC00442

Date Collected: 3/1/17

Date Received: 3/3/17

Date Analyzed: 3/8/17

Volume(s) Analyzed: 0.00050 Liter(s)

Initial Pressure (psig): -1.92 Final Pressure (psig): 7.02

Canister Dilution Factor: 1.70

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	88,000	1,700	34,000	670	
75-35-4	1,1-Dichloroethene	63,000	1,700	16,000	430	
75-09-2	Methylene Chloride	ND	1,700	ND	490	
156-60-5	trans-1,2-Dichloroethene	ND	1,700	ND	430	
156-59-2	cis-1,2-Dichloroethene	300,000	1,700	76,000	430	
107-06-2	1,2-Dichloroethane	ND	1,700	ND	420	
71-43-2	Benzene	ND	1,700	ND	530	
79-01-6	Trichloroethene	23,000	1,700	4,200	320	
79-00-5	1,1,2-Trichloroethane	ND	1,700	ND	310	
108-88-3	Toluene	ND	1,700	ND	450	
127-18-4	Tetrachloroethene	1,800	1,700	260	250	

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

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Client: ARCADIS U.S., Inc.

Client Sample ID: SS-17 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P1701055-011

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00768

Date Collected: 3/1/17

Date Received: 3/3/17

Date Analyzed: 3/8 - 3/9/17

Volume(s) Analyzed: 0.025 Liter(s)

0.015 Liter(s)

Initial Pressure (psig): -1.39 Final Pressure (psig): 5.43

Canister Dilution Factor: 1.51

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	30	ND	12	
75-35-4	1,1-Dichloroethene	ND	30	ND	7.6	
75-09-2	Methylene Chloride	ND	30	ND	8.7	
156-60-5	trans-1,2-Dichloroethene	290	30	73	7.6	
156-59-2	cis-1,2-Dichloroethene	5,300	30	1,300	7.6	
107-06-2	1,2-Dichloroethane	ND	30	ND	7.5	
71-43-2	Benzene	32	30	10	9.5	
79-01-6	Trichloroethene	7,200	50	1,300	9.4	D
79-00-5	1,1,2-Trichloroethane	ND	30	ND	5.5	
108-88-3	Toluene	ND	30	ND	8.0	
127-18-4	Tetrachloroethene	170	30	25	4.5	

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.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: ARCADIS U.S., Inc.

Client Sample ID: SS-18 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P1701055-012

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00042

Date Collected: 3/1/17

Date Received: 3/3/17

Date Analyzed: 3/8 - 3/9/17

Volume(s) Analyzed: 0.035 Liter(s)

0.015 Liter(s)

Initial Pressure (psig): -1.37 Final Pressure (psig): 5.00

Canister Dilution Factor: 1.48

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	140	21	54	8.3	
75-35-4	1,1-Dichloroethene	130	21	33	5.3	
75-09-2	Methylene Chloride	ND	21	ND	6.1	
156-60-5	trans-1,2-Dichloroethene	5,600	49	1,400	12	D
156-59-2	cis-1,2-Dichloroethene	4,400	49	1,100	12	D
107-06-2	1,2-Dichloroethane	ND	21	ND	5.2	
71-43-2	Benzene	ND	21	ND	6.6	
79-01-6	Trichloroethene	850	21	160	3.9	
79-00-5	1,1,2-Trichloroethane	ND	21	ND	3.9	
108-88-3	Toluene	ND	21	ND	5.6	
127-18-4	Tetrachloroethene	150	21	22	3.1	

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

Page 1 of 1

Client: ARCADIS U.S., Inc.

Client Sample ID: SS-20 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P1701055-013

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Summa Canister

Test Notes:

Container ID: 1SC01204

Date Collected: 3/1/17

Date Received: 3/3/17

Date Analyzed: 3/9/17

Volume(s) Analyzed: 0.015 Liter(s)

0.0050 Liter(s)

Initial Pressure (psig): -2.10 Final Pressure (psig): 5.31

Canister Dilution Factor: 1.59

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	53	ND	21	
75-35-4	1,1-Dichloroethene	530	53	130	13	
75-09-2	Methylene Chloride	ND	53	ND	15	
156-60-5	trans-1,2-Dichloroethene	93	53	23	13	
156-59-2	cis-1,2-Dichloroethene	4,800	53	1,200	13	
107-06-2	1,2-Dichloroethane	ND	53	ND	13	
71-43-2	Benzene	ND	53	ND	17	
79-01-6	Trichloroethene	9,000	160	1,700	30	D
79-00-5	1,1,2-Trichloroethane	ND	53	ND	9.7	
108-88-3	Toluene	ND	53	ND	14	
127-18-4	Tetrachloroethene	360	53	52	7.8	

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.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: ARCADIS U.S., Inc.

Client Sample ID: SS-21 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P1701055-014

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Summa Canister

Test Notes:

Container ID: 1SC00590

Date Collected: 3/1/17

Date Received: 3/3/17

Date Analyzed: 3/9/17

Volume(s) Analyzed: 0.055 Liter(s)

0.020 Liter(s)

Initial Pressure (psig): -1.09 Final Pressure (psig): 6.41

Canister Dilution Factor: 1.55

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	14	ND	5.5	
75-35-4	1,1-Dichloroethene	ND	14	ND	3.6	
75-09-2	Methylene Chloride	ND	14	ND	4.1	
156-60-5	trans-1,2-Dichloroethene	37	14	9.3	3.6	
156-59-2	cis-1,2-Dichloroethene	290	14	74	3.6	
107-06-2	1,2-Dichloroethane	ND	14	ND	3.5	
71-43-2	Benzene	ND	14	ND	4.4	
79-01-6	Trichloroethene	3,300	39	610	7.2	D
79-00-5	1,1,2-Trichloroethane	ND	14	ND	2.6	
108-88-3	Toluene	ND	14	ND	3.7	
127-18-4	Tetrachloroethene	20	14	2.9	2.1	

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

Page 1 of 1

Client: ARCADIS U.S., Inc.

Client Sample ID: SS-22 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P1701055-015

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Summa Canister

Test Notes:

Container ID: 1SC00332

Date Collected: 3/1/17

Date Received: 3/3/17

Date Analyzed: 3/8/17

Volume(s) Analyzed: 0.0015 Liter(s)

Initial Pressure (psig): -1.48 Final Pressure (psig): 8.45

Canister Dilution Factor: 1.75

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	580	ND	230	
75-35-4	1,1-Dichloroethene	ND	580	ND	150	
75-09-2	Methylene Chloride	ND	580	ND	170	
156-60-5	trans-1,2-Dichloroethene	3,400	580	860	150	
156-59-2	cis-1,2-Dichloroethene	110,000	580	28,000	150	
107-06-2	1,2-Dichloroethane	ND	580	ND	140	
71-43-2	Benzene	ND	580	ND	180	
79-01-6	Trichloroethene	34,000	580	6,300	110	
79-00-5	1,1,2-Trichloroethane	ND	580	ND	110	
108-88-3	Toluene	ND	580	ND	150	
127-18-4	Tetrachloroethene	5,300	580	780	86	

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

Page 1 of 1

Client: ARCADIS U.S., Inc.

Client Sample ID: DUP-1 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P1701055-016

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Summa Canister

Test Notes:

Container ID: 1SC00152

Date Collected: 3/1/17

Date Received: 3/3/17

Date Analyzed: 3/9/17

Volume(s) Analyzed: 0.015 Liter(s)

0.0050 Liter(s)

Initial Pressure (psig): -1.86 Final Pressure (psig): 5.15

Canister Dilution Factor: 1.55

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	52	ND	20	
75-35-4	1,1-Dichloroethene	ND	52	ND	13	
75-09-2	Methylene Chloride	ND	52	ND	15	
156-60-5	trans-1,2-Dichloroethene	ND	52	ND	13	
156-59-2	cis-1,2-Dichloroethene	130	52	32	13	
107-06-2	1,2-Dichloroethane	ND	52	ND	13	
71-43-2	Benzene	ND	52	ND	16	
79-01-6	Trichloroethene	9,000	160	1,700	29	D
79-00-5	1,1,2-Trichloroethane	ND	52	ND	9.5	
108-88-3	Toluene	ND	52	ND	14	
127-18-4	Tetrachloroethene	ND	52	ND	7.6	

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.



2655 Park Center Dr., Suite A
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T: +1 805 526 7161
F: +1 805 526 7270
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LABORATORY REPORT

March 17, 2017

Rob Uppencamp
ARCADIS U.S., Inc.
132 East Washington Street, Suite 600
Indianapolis, IN 46204

RE: Grenada Manufacturing / LA003307.0004.00001

Dear Rob:

Enclosed are the results of the samples submitted to our laboratory on March 3, 2017. For your reference, these analyses have been assigned our service request number P1701088.

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 Kelly Horiuchi at 5:32 pm, Mar 17, 2017

Kelly Horiuchi
Laboratory Director



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

Client: ARCADIS U.S., Inc.
Project: Grenada Manufacturing / LA003307.0004.00001

Service Request No: P1701088

CASE NARRATIVE

The samples were received intact under chain of custody on March 3, 2017 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 samples were analyzed 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. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The sample container for sample DUP-4 (030117) P1701088-022 has a leaking valve; however, the sample was repressurized, analyzed and the results reported. Results from this sample should be considered estimated and utilized accordingly.

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
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 F: +1 805 526 7270
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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/labcert.htm	2016036
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1177034
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	4068-004
Pennsylvania DEP	http://www.depweb.state.pa.us/labs	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704413-16-7
Utah DOH (NELAP)	http://health.utah.gov/lab/environmental-lab-certification/	CA01627201 6-6
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: ARCADIS U.S., Inc.
Project ID: Grenada Manufacturing / LA003307.0004.00001

Service Request: P1701088

Date Received: 3/3/2017
Time Received: 09:28

TO-15 - VOC Cans

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	2nd Pi (psig)	2nd Pf (psig)	TO-15 - VOC Cans
A-9 (030117)	P1701088-001	Air	3/2/2017	16:47	AC01507	-1.91	4.92			X
A-2 (030117)	P1701088-002	Air	3/2/2017	16:48	AS01081	-1.88	3.66			X
A-7 (030117)	P1701088-003	Air	3/2/2017	16:20	SC02215	-1.54	3.78			X
A-1 (030117)	P1701088-004	Air	3/2/2017	17:15	AC02239	-2.52	4.28			X
A-10 (030117)	P1701088-005	Air	3/2/2017	16:53	SC00278	-1.59	4.17			X
A-5 (030117)	P1701088-006	Air	3/2/2017	16:56	AS00535	-2.12	3.81			X
B-6 (030117)	P1701088-007	Air	3/2/2017	16:58	AS00327	-2.27	3.61			X
B-10 (030117)	P1701088-008	Air	3/2/2017	16:59	AC02231	-1.59	4.17			X
B-4 (030117)	P1701088-009	Air	3/2/2017	17:50	AS00928	-1.11	3.87			X
B-1 (030117)	P1701088-010	Air	3/2/2017	17:43	AS00263	-0.99	3.59			X
B-9 (030117)	P1701088-011	Air	3/2/2017	17:46	AC02103	-1.80	4.85			X
B-3 (030117)	P1701088-012	Air	3/2/2017	17:08	SC01738	-1.83	3.60			X
B-8 (030117)	P1701088-013	Air	3/2/2017	17:48	AS01198	-1.66	4.01			X
B-7 (030117)	P1701088-014	Air	3/2/2017	17:11	AS00647	-1.67	4.41			X
B-2 (030117)	P1701088-015	Air	3/2/2017	17:45	AC02072	-1.62	5.35			X
BS-1 (030117)	P1701088-016	Air	3/2/2017	16:39	AS00895	-1.37	3.81			X
AMB-W (030117)	P1701088-017	Air	3/2/2017	15:58	AS00918	-0.91	3.76			X
AMB-S (030117)	P1701088-018	Air	3/2/2017	16:03	AC02069	-1.62	4.51	-0.45	2.28	X
AMB-E (030117)	P1701088-019	Air	3/2/2017	16:12	AC01850	-1.61	3.70			X
AMB-N (030117)	P1701088-020	Air	3/2/2017	17:22	SC01083	-2.04	4.06			X
DUP-3 (030117)	P1701088-021	Air	3/2/2017	00:00	AS00823	-1.72	4.10			X
DUP-4 (030117)	P1701088-022	Air	3/2/2017	00:00	AS01134	-1.88	3.76	0.02	3.44	X



Air - Chain of Custody Record & Analytical Service Request

Page 1 of 2

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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
P10701088

Company Name & Address (Reporting Information) <u>Arcadis</u> <u>132 E. Washington St., Suite 600</u> <u>Indianapolis, IN 46204</u>				Project Name <u>Grenada Manufacturing</u>				ALS Contact <u>Kelly Horiuchi</u>		TO-15 Project List	Comments e.g. Actual Preservative or specific instructions
Project Manager <u>Rob Uppencamp</u>				Project Number <u>LA 003307.0003.00001</u>				Analysis Method			
Phone <u>317-231-6500</u>				P.O. # / Billing Information <u>LA 003307.0003.00001</u> <u>Arcadis - Accounts Payable</u> <u>Highlands Ranch, CO</u>							
Fax <u>317-231-6514</u>				Sampler (Print & Sign) <u>[Signature]</u>							
Email Address for Result Reporting <u>Sarah.Jonker@arcadis.com</u>											
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			
A-9 (030117)	①	3-1-17 → 3-2-17	1539 1647	AC 01507	FCR00253	-30.2	-5.0	6 L	X		
A-2 (030117)	②		1549 1648	AS 01081	FCR00110	-30.2	-5.0		X		
A-7 (030117)	③		1552 1620	SC 02215	FCR00186	-30.2	-4.3		X		
A-1 (030117)	④		1556 1715	AC 02239	FCR00289	-30.2	-6.4		X		
A-10 (030117)	⑤		1604 1653	SC 00278	FCR00011	-30.0	-4.5		X		
A-5 (030117)	⑥		1611 1656	AS 00535	FCR00081	-30.2	-5.6		X		
B-6 (030117)	⑦		1614 1658	AS 00327	FCR00069	-30.2	-5.8		X		
B-10 (030117)	⑧		1619 1659	AC 02231	FCR00035	-30.2	-4.4		X		
B-4 (030117)	⑨		1622 1750	AS 00928	FCR00121	-30.2	-3.4		X		
B-1 (030117)	⑩		1627 1743	AS 00263	FCR00111	-30.2	-3.3		X		
B-9 (030117)	⑪		1643 1746	AC 02103	FCR00296	-30.2	-5.0		X		
B-3 (030117)	⑫		1649 1708	SC 01738	FCR00006	-30.2	-5.0		X		
B-8 (030117)	⑬		1657 1748	AS 01198	FCR00102	-30.2	-4.7		X		
B-7 (030117)	⑭	✓	1705 1711	AS 00647	FCR00302	-30.2	-4.8	✓	X		
Report Tier Levels - please select Tier I - Results (Default in not specified) <u>X</u> Tier II (Results + QC Summaries) _____ Tier III (Results + QC & Calibration Summaries) _____ Tier IV (Date Validation Package) 10% Surcharge _____											
EDD required <u>YES</u> / No Type: <u>Excel</u> Units: _____ Chain of Custody Seal: (Circle) INTACT <u>INTACT</u> BROKEN ABSENT											
Relinquished by: (Signature) <u>[Signature]</u>				Date: <u>3-2-17</u>		Time: <u>1900</u>		Received by: (Signature) <u>[Signature]</u>		Date: <u>3/3/17</u>	
Relinquished by: (Signature)				Date:		Time:		Received by: (Signature) 5 of 376		Date: <u>3/3/17</u>	
Project Requirements (MRLs, QAPP) Cooler / Blank Temperature _____ °C											



Air - Chain of Custody Record & Analytical Service Request

Page 2 of 2

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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. P15701088

Company Name & Address (Reporting Information) Arcadis 132 E. Washington St., Suite 600 Indianapolis, IN 46204				Project Name Grenada Manufacturing				ALS Contact: Kelly Horiuchi		Analysis Method	Comments e.g. Actual Preservative or specific instructions		
Project Manager Rob Uppencamp				Project Number LA 003307.0003.00001				P.O. # / Billing Information LA003307.0003.00001 Arcadis - Accounts Payable Highlands Ranch, CO					
Phone 317-231-6500		Fax 317-231-6514		Sampler (Print & Sign) <i>[Signature]</i>									
Email Address for Result Reporting Sarah.Jonker@arcadis.com													
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	TD-15 Project List				
B-Z (030117)	(18)	3-1-17 → 3-2-17	1715	1745	AC02072	FCR00079	-30.2	-4.6		6L	X		
BS-1 (030117)	(16)		1720	1639	AS00895	FCR00151	-30.2	-4.3			X		
AMB-W (030117)	(10)		1805	1558	AS00918	FCA00042	-30.3	-3.0			X		
AMB-S (030117)	(10)		1750	1603	AC02069	FCA01076	-30.3	-4.5			X		
AMB-E (030117)	(12)		1756	1612	AC01850	FCA00997	-30.3	-4.3			X		
AMB-N (030117)	(20)		1800	1722	SC01083	FCA01090	-30.3	-5.7			X		
DUP-3 (030117)	(20)		1800	-	AS00823	FCR00300	-30.2	-4.6			X		
DUP-4 (030117)	(22)		-	-	AS01134	FCR00208	-30.2	-5.1			X		
Report Tier Levels - please select													
Tier I - Results (Default in not specified) _____ Tier III (Results + QC & Calibration Summaries) <u>X</u>													
Tier II (Results + QC Summaries) _____ Tier IV (Date Validation Package) 10% Surcharge _____													
Relinquished by: (Signature) <i>[Signature]</i>				Date: <u>3-2-17</u>		Time: <u>1900</u>		Received by: (Signature) <i>[Signature]</i>		Date: <u>3/3/17</u>		Time: <u>928</u>	
Relinquished by: (Signature) _____				Date: _____		Time: _____		Received by: (Signature) _____		Date: <u>3/3/17</u>		Time: <u>937</u>	
6 of 376													
Chain of Custody Seal: (Circle) INTACT ☒ BROKEN ☐ ABSENT ☐													
Project Requirements (MRLs, QAPP)													
Cooler / Blank Temperature _____ °C													

ALS Environmental Sample Acceptance Check Form

Client: ARCADIS U.S., Inc. Work order: P1701088
 Project: Grenada Manufacturing / LA003307.0004.00001
 Sample(s) received on: 3/3/2017 - 3/6/17 Date opened: 3/3/17 by: ADDAVID

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 <u>if necessary</u> 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
P1701088-001.01	6.0 L Ambient Can					
P1701088-002.01	6.0 L Silonite Can					
P1701088-003.01	6.0 L Source Can					
P1701088-004.01	6.0 L Ambient Can					
P1701088-005.01	6.0 L Source Can					
P1701088-006.01	6.0 L Silonite Can					
P1701088-007.01	6.0 L Silonite Can					
P1701088-008.01	6.0 L Ambient Can					
P1701088-009.01	6.0 L Silonite Can					
P1701088-010.01	6.0 L Silonite Can					
P1701088-011.01	6.0 L Ambient Can					
P1701088-012.01	6.0 L Source Can					
P1701088-013.01	6.0 L Silonite Can					
P1701088-014.01	6.0 L Silonite Can					
P1701088-015.01	6.0 L Ambient Can					

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

Client: ARCADIS U.S., Inc.	Work order:	P1701088
Project: Grenada Manufacturing / LA003307.0004.00001		
Sample(s) received on: 3/3/2017 - 3/6/17	Date opened: 3/3/17	by: ADAVID

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

ALS ENVIRONMENTAL

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Client: ARCADIS U.S., Inc.

Client Sample ID: A-9 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-001

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Summa Canister

Test Notes:

Container ID: AC01507

Date Collected: 3/2/17

Date Received: 3/3/17

Date Analyzed: 3/10/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): 1.91 Final Pressure (psig): 4.92

Canister Dilution Factor: 1.18

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.12	ND	0.046	
75-35-4	1,1-Dichloroethene	ND	0.12	ND	0.030	
75-09-2	Methylene Chloride	ND	0.59	ND	0.17	
156-60-5	trans-1,2-Dichloroethene	ND	0.12	ND	0.030	
156-59-2	cis-1,2-Dichloroethene	0.69	0.12	0.17	0.030	
107-06-2	1,2-Dichloroethane	ND	0.12	ND	0.029	
71-43-2	Benzene	0.76	0.12	0.24	0.037	
79-01-6	Trichloroethene	2.4	0.12	0.45	0.022	
79-00-5	1,1,2-Trichloroethane	ND	0.12	ND	0.022	
108-88-3	Toluene	3.1	0.59	0.83	0.16	
127-18-4	Tetrachloroethene	0.20	0.12	0.030	0.017	

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

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Client: ARCADIS U.S., Inc.

Client Sample ID: A-2 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-002

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS01081

Date Collected: 3/2/17

Date Received: 3/3/17

Date Analyzed: 3/10/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.88 Final Pressure (psig): 3.66

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.14	ND	0.056	
75-35-4	1,1-Dichloroethene	ND	0.14	ND	0.036	
75-09-2	Methylene Chloride	ND	0.72	ND	0.21	
156-60-5	trans-1,2-Dichloroethene	ND	0.14	ND	0.036	
156-59-2	cis-1,2-Dichloroethene	0.88	0.14	0.22	0.036	
107-06-2	1,2-Dichloroethane	ND	0.14	ND	0.035	
71-43-2	Benzene	0.93	0.14	0.29	0.045	
79-01-6	Trichloroethene	3.1	0.14	0.58	0.027	
79-00-5	1,1,2-Trichloroethane	ND	0.14	ND	0.026	
108-88-3	Toluene	3.8	0.72	1.0	0.19	
127-18-4	Tetrachloroethene	0.31	0.14	0.045	0.021	

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

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Client: ARCADIS U.S., Inc.

Client Sample ID: A-7 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-003

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Summa Canister

Test Notes:

Container ID: SC02215

Date Collected: 3/2/17

Date Received: 3/3/17

Date Analyzed: 3/10/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.54 Final Pressure (psig): 3.78

Canister Dilution Factor: 1.40

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.14	ND	0.055	
75-35-4	1,1-Dichloroethene	ND	0.14	ND	0.035	
75-09-2	Methylene Chloride	ND	0.70	ND	0.20	
156-60-5	trans-1,2-Dichloroethene	ND	0.14	ND	0.035	
156-59-2	cis-1,2-Dichloroethene	0.87	0.14	0.22	0.035	
107-06-2	1,2-Dichloroethane	ND	0.14	ND	0.035	
71-43-2	Benzene	0.92	0.14	0.29	0.044	
79-01-6	Trichloroethene	3.1	0.14	0.58	0.026	
79-00-5	1,1,2-Trichloroethane	ND	0.14	ND	0.026	
108-88-3	Toluene	3.9	0.70	1.0	0.19	
127-18-4	Tetrachloroethene	0.21	0.14	0.032	0.021	

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

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Client: ARCADIS U.S., Inc.

Client Sample ID: A-1 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-004

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Summa Canister

Test Notes:

Container ID: AC02239

Date Collected: 3/2/17

Date Received: 3/3/17

Date Analyzed: 3/11/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.52 Final Pressure (psig): 4.28

Canister Dilution Factor: 1.56

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.16	ND	0.061	
75-35-4	1,1-Dichloroethene	ND	0.16	ND	0.039	
75-09-2	Methylene Chloride	ND	0.78	ND	0.22	
156-60-5	trans-1,2-Dichloroethene	ND	0.16	ND	0.039	
156-59-2	cis-1,2-Dichloroethene	0.83	0.16	0.21	0.039	
107-06-2	1,2-Dichloroethane	ND	0.16	ND	0.039	
71-43-2	Benzene	0.87	0.16	0.27	0.049	
79-01-6	Trichloroethene	3.2	0.16	0.59	0.029	
79-00-5	1,1,2-Trichloroethane	ND	0.16	ND	0.029	
108-88-3	Toluene	4.3	0.78	1.1	0.21	
127-18-4	Tetrachloroethene	0.29	0.16	0.043	0.023	

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.

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Client: ARCADIS U.S., Inc.

Client Sample ID: A-10 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-005

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Summa Canister

Test Notes:

Container ID: SC00278

Date Collected: 3/2/17

Date Received: 3/3/17

Date Analyzed: 3/11/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.59 Final Pressure (psig): 4.17

Canister Dilution Factor: 1.44

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.14	ND	0.056	
75-35-4	1,1-Dichloroethene	ND	0.14	ND	0.036	
75-09-2	Methylene Chloride	ND	0.72	ND	0.21	
156-60-5	trans-1,2-Dichloroethene	ND	0.14	ND	0.036	
156-59-2	cis-1,2-Dichloroethene	0.80	0.14	0.20	0.036	
107-06-2	1,2-Dichloroethane	ND	0.14	ND	0.036	
71-43-2	Benzene	1.1	0.14	0.35	0.045	
79-01-6	Trichloroethene	4.4	0.14	0.82	0.027	
79-00-5	1,1,2-Trichloroethane	ND	0.14	ND	0.026	
108-88-3	Toluene	4.4	0.72	1.2	0.19	
127-18-4	Tetrachloroethene	0.49	0.14	0.072	0.021	

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.

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Client: ARCADIS U.S., Inc.

Client Sample ID: A-5 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-006

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00535

Date Collected: 3/2/17

Date Received: 3/3/17

Date Analyzed: 3/11/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.12 Final Pressure (psig): 3.81

Canister Dilution Factor: 1.47

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.15	ND	0.058	
75-35-4	1,1-Dichloroethene	ND	0.15	ND	0.037	
75-09-2	Methylene Chloride	ND	0.74	ND	0.21	
156-60-5	trans-1,2-Dichloroethene	ND	0.15	ND	0.037	
156-59-2	cis-1,2-Dichloroethene	1.5	0.15	0.38	0.037	
107-06-2	1,2-Dichloroethane	ND	0.15	ND	0.036	
71-43-2	Benzene	0.75	0.15	0.23	0.046	
79-01-6	Trichloroethene	9.6	0.15	1.8	0.027	
79-00-5	1,1,2-Trichloroethane	ND	0.15	ND	0.027	
108-88-3	Toluene	4.4	0.74	1.2	0.20	
127-18-4	Tetrachloroethene	0.29	0.15	0.042	0.022	

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.

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Client: ARCADIS U.S., Inc.

Client Sample ID: B-6 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-007

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00327

Date Collected: 3/2/17

Date Received: 3/3/17

Date Analyzed: 3/11/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.27 Final Pressure (psig): 3.61

Canister Dilution Factor: 1.47

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.15	ND	0.058	
75-35-4	1,1-Dichloroethene	ND	0.15	ND	0.037	
75-09-2	Methylene Chloride	ND	0.74	ND	0.21	
156-60-5	trans-1,2-Dichloroethene	ND	0.15	ND	0.037	
156-59-2	cis-1,2-Dichloroethene	4.2	0.15	1.1	0.037	
107-06-2	1,2-Dichloroethane	ND	0.15	ND	0.036	
71-43-2	Benzene	0.56	0.15	0.17	0.046	
79-01-6	Trichloroethene	13	0.15	2.5	0.027	
79-00-5	1,1,2-Trichloroethane	ND	0.15	ND	0.027	
108-88-3	Toluene	2.8	0.74	0.73	0.20	
127-18-4	Tetrachloroethene	0.42	0.15	0.062	0.022	

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.

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Client: ARCADIS U.S., Inc.

Client Sample ID: B-10 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-008

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Summa Canister

Test Notes:

Container ID: AC02231

Date Collected: 3/2/17

Date Received: 3/3/17

Date Analyzed: 3/11/17

Volume(s) Analyzed: 1.00 Liter(s)

0.10 Liter(s)

Initial Pressure (psig): -1.59 Final Pressure (psig): 4.17

Canister Dilution Factor: 1.44

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	0.77	0.14	0.30	0.056	
75-35-4	1,1-Dichloroethene	ND	0.14	ND	0.036	
75-09-2	Methylene Chloride	5.1	0.72	1.5	0.21	
156-60-5	trans-1,2-Dichloroethene	ND	0.14	ND	0.036	
156-59-2	cis-1,2-Dichloroethene	2.7	0.14	0.69	0.036	
107-06-2	1,2-Dichloroethane	ND	0.14	ND	0.036	
71-43-2	Benzene	1.0	0.14	0.33	0.045	
79-01-6	Trichloroethene	5.8	0.14	1.1	0.027	
79-00-5	1,1,2-Trichloroethane	ND	0.14	ND	0.026	
108-88-3	Toluene	160	7.2	41	1.9	D
127-18-4	Tetrachloroethene	1.2	0.14	0.18	0.021	

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

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Client: ARCADIS U.S., Inc.

Client Sample ID: B-4 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-009

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00928

Date Collected: 3/2/17

Date Received: 3/3/17

Date Analyzed: 3/11/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.11 Final Pressure (psig): 3.87

Canister Dilution Factor: 1.37

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.14	ND	0.054	
75-35-4	1,1-Dichloroethene	ND	0.14	ND	0.035	
75-09-2	Methylene Chloride	ND	0.69	ND	0.20	
156-60-5	trans-1,2-Dichloroethene	ND	0.14	ND	0.035	
156-59-2	cis-1,2-Dichloroethene	2.8	0.14	0.71	0.035	
107-06-2	1,2-Dichloroethane	ND	0.14	ND	0.034	
71-43-2	Benzene	0.63	0.14	0.20	0.043	
79-01-6	Trichloroethene	24	0.14	4.5	0.026	
79-00-5	1,1,2-Trichloroethane	ND	0.14	ND	0.025	
108-88-3	Toluene	3.0	0.69	0.80	0.18	
127-18-4	Tetrachloroethene	0.32	0.14	0.047	0.020	

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

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Client: ARCADIS U.S., Inc.

Client Sample ID: B-1 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-010

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00263

Date Collected: 3/2/17

Date Received: 3/3/17

Date Analyzed: 3/11/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.99 Final Pressure (psig): 3.59

Canister Dilution Factor: 1.33

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.13	ND	0.052	
75-35-4	1,1-Dichloroethene	ND	0.13	ND	0.034	
75-09-2	Methylene Chloride	ND	0.67	ND	0.19	
156-60-5	trans-1,2-Dichloroethene	ND	0.13	ND	0.034	
156-59-2	cis-1,2-Dichloroethene	0.38	0.13	0.095	0.034	
107-06-2	1,2-Dichloroethane	ND	0.13	ND	0.033	
71-43-2	Benzene	0.70	0.13	0.22	0.042	
79-01-6	Trichloroethene	3.6	0.13	0.66	0.025	
79-00-5	1,1,2-Trichloroethane	ND	0.13	ND	0.024	
108-88-3	Toluene	1.6	0.67	0.43	0.18	
127-18-4	Tetrachloroethene	0.21	0.13	0.031	0.020	

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

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Client: ARCADIS U.S., Inc.

Client Sample ID: B-9 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-011

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Summa Canister

Test Notes:

Container ID: AC02103

Date Collected: 3/2/17

Date Received: 3/3/17

Date Analyzed: 3/11/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.80 Final Pressure (psig): 4.85

Canister Dilution Factor: 1.52

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.15	ND	0.059	
75-35-4	1,1-Dichloroethene	ND	0.15	ND	0.038	
75-09-2	Methylene Chloride	ND	0.76	ND	0.22	
156-60-5	trans-1,2-Dichloroethene	ND	0.15	ND	0.038	
156-59-2	cis-1,2-Dichloroethene	3.7	0.15	0.95	0.038	
107-06-2	1,2-Dichloroethane	ND	0.15	ND	0.038	
71-43-2	Benzene	0.66	0.15	0.21	0.048	
79-01-6	Trichloroethene	17	0.15	3.2	0.028	
79-00-5	1,1,2-Trichloroethane	ND	0.15	ND	0.028	
108-88-3	Toluene	2.1	0.76	0.55	0.20	
127-18-4	Tetrachloroethene	0.24	0.15	0.036	0.022	

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

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Client: ARCADIS U.S., Inc.

Client Sample ID: B-3 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-012

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Summa Canister

Test Notes:

Container ID: SC01738

Date Collected: 3/2/17

Date Received: 3/6/17

Date Analyzed: 3/13/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.83 Final Pressure (psig): 3.60

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.14	ND	0.056	
75-35-4	1,1-Dichloroethene	ND	0.14	ND	0.036	
75-09-2	Methylene Chloride	ND	0.71	ND	0.20	
156-60-5	trans-1,2-Dichloroethene	ND	0.14	ND	0.036	
156-59-2	cis-1,2-Dichloroethene	0.98	0.14	0.25	0.036	
107-06-2	1,2-Dichloroethane	ND	0.14	ND	0.035	
71-43-2	Benzene	0.52	0.14	0.16	0.044	
79-01-6	Trichloroethene	9.8	0.14	1.8	0.026	
79-00-5	1,1,2-Trichloroethane	ND	0.14	ND	0.026	
108-88-3	Toluene	1.6	0.71	0.44	0.19	
127-18-4	Tetrachloroethene	0.19	0.14	0.028	0.021	

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.

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Client: ARCADIS U.S., Inc.

Client Sample ID: B-8 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-013

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS01198

Date Collected: 3/2/17

Date Received: 3/6/17

Date Analyzed: 3/13/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.66 Final Pressure (psig): 4.01

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.14	ND	0.056	
75-35-4	1,1-Dichloroethene	ND	0.14	ND	0.036	
75-09-2	Methylene Chloride	ND	0.72	ND	0.21	
156-60-5	trans-1,2-Dichloroethene	ND	0.14	ND	0.036	
156-59-2	cis-1,2-Dichloroethene	1.2	0.14	0.29	0.036	
107-06-2	1,2-Dichloroethane	ND	0.14	ND	0.035	
71-43-2	Benzene	0.57	0.14	0.18	0.045	
79-01-6	Trichloroethene	11	0.14	2.1	0.027	
79-00-5	1,1,2-Trichloroethane	ND	0.14	ND	0.026	
108-88-3	Toluene	2.0	0.72	0.53	0.19	
127-18-4	Tetrachloroethene	0.18	0.14	0.026	0.021	

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.

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Client: ARCADIS U.S., Inc.

Client Sample ID: B-7 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-014

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00647

Date Collected: 3/2/17

Date Received: 3/6/17

Date Analyzed: 3/13/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.67 Final Pressure (psig): 4.41

Canister Dilution Factor: 1.47

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.15	ND	0.058	
75-35-4	1,1-Dichloroethene	ND	0.15	ND	0.037	
75-09-2	Methylene Chloride	ND	0.74	ND	0.21	
156-60-5	trans-1,2-Dichloroethene	ND	0.15	ND	0.037	
156-59-2	cis-1,2-Dichloroethene	0.85	0.15	0.21	0.037	
107-06-2	1,2-Dichloroethane	ND	0.15	ND	0.036	
71-43-2	Benzene	0.72	0.15	0.22	0.046	
79-01-6	Trichloroethene	3.8	0.15	0.71	0.027	
79-00-5	1,1,2-Trichloroethane	ND	0.15	ND	0.027	
108-88-3	Toluene	1.3	0.74	0.35	0.20	
127-18-4	Tetrachloroethene	ND	0.15	ND	0.022	

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.

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Client: ARCADIS U.S., Inc.

Client Sample ID: B-2 9(030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-015

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Summa Canister

Test Notes:

Container ID: AC02072

Date Collected: 3/2/17

Date Received: 3/6/17

Date Analyzed: 3/13/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.62 Final Pressure (psig): 5.35

Canister Dilution Factor: 1.53

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.15	ND	0.060	
75-35-4	1,1-Dichloroethene	ND	0.15	ND	0.039	
75-09-2	Methylene Chloride	ND	0.77	ND	0.22	
156-60-5	trans-1,2-Dichloroethene	ND	0.15	ND	0.039	
156-59-2	cis-1,2-Dichloroethene	0.41	0.15	0.10	0.039	
107-06-2	1,2-Dichloroethane	ND	0.15	ND	0.038	
71-43-2	Benzene	1.1	0.15	0.35	0.048	
79-01-6	Trichloroethene	2.4	0.15	0.44	0.028	
79-00-5	1,1,2-Trichloroethane	ND	0.15	ND	0.028	
108-88-3	Toluene	1.7	0.77	0.44	0.20	
127-18-4	Tetrachloroethene	ND	0.15	ND	0.023	

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.

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Client: ARCADIS U.S., Inc.

Client Sample ID: BS-1 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-016

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00895

Date Collected: 3/2/17

Date Received: 3/6/17

Date Analyzed: 3/13/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.37 Final Pressure (psig): 3.81

Canister Dilution Factor: 1.39

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.14	ND	0.054	
75-35-4	1,1-Dichloroethene	ND	0.14	ND	0.035	
75-09-2	Methylene Chloride	ND	0.70	ND	0.20	
156-60-5	trans-1,2-Dichloroethene	ND	0.14	ND	0.035	
156-59-2	cis-1,2-Dichloroethene	0.31	0.14	0.079	0.035	
107-06-2	1,2-Dichloroethane	ND	0.14	ND	0.034	
71-43-2	Benzene	0.38	0.14	0.12	0.044	
79-01-6	Trichloroethene	0.73	0.14	0.14	0.026	
79-00-5	1,1,2-Trichloroethane	ND	0.14	ND	0.025	
108-88-3	Toluene	ND	0.70	ND	0.18	
127-18-4	Tetrachloroethene	ND	0.14	ND	0.021	

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.

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Client: ARCADIS U.S., Inc.

Client Sample ID: AMB-W (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-017

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00918

Date Collected: 3/2/17

Date Received: 3/6/17

Date Analyzed: 3/13/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.91 Final Pressure (psig): 3.76

Canister Dilution Factor: 1.34

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.13	ND	0.052	
75-35-4	1,1-Dichloroethene	ND	0.13	ND	0.034	
75-09-2	Methylene Chloride	ND	0.67	ND	0.19	
156-60-5	trans-1,2-Dichloroethene	ND	0.13	ND	0.034	
156-59-2	cis-1,2-Dichloroethene	ND	0.13	ND	0.034	
107-06-2	1,2-Dichloroethane	ND	0.13	ND	0.033	
71-43-2	Benzene	0.37	0.13	0.12	0.042	
79-01-6	Trichloroethene	ND	0.13	ND	0.025	
79-00-5	1,1,2-Trichloroethane	ND	0.13	ND	0.025	
108-88-3	Toluene	ND	0.67	ND	0.18	
127-18-4	Tetrachloroethene	ND	0.13	ND	0.020	

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.

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Client: ARCADIS U.S., Inc.

Client Sample ID: AMB-S (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-018

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Summa Canister

Test Notes:

Container ID: AC02069

Date Collected: 3/2/17

Date Received: 3/6/17

Date Analyzed: 3/13/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.62 Final Pressure (psig): 4.51
Initial Pressure 2 (psig): -0.45 Final Pressure 2 (psig): 2.28

Canister Dilution Factor: 1.75

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.18	ND	0.068	
75-35-4	1,1-Dichloroethene	ND	0.18	ND	0.044	
75-09-2	Methylene Chloride	ND	0.88	ND	0.25	
156-60-5	trans-1,2-Dichloroethene	ND	0.18	ND	0.044	
156-59-2	cis-1,2-Dichloroethene	ND	0.18	ND	0.044	
107-06-2	1,2-Dichloroethane	ND	0.18	ND	0.043	
71-43-2	Benzene	0.44	0.18	0.14	0.055	
79-01-6	Trichloroethene	0.53	0.18	0.099	0.033	
79-00-5	1,1,2-Trichloroethane	ND	0.18	ND	0.032	
108-88-3	Toluene	0.97	0.88	0.26	0.23	
127-18-4	Tetrachloroethene	ND	0.18	ND	0.026	

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.

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Client: ARCADIS U.S., Inc.

Client Sample ID: AMB-E (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-019

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Summa Canister

Test Notes:

Container ID: AC01850

Date Collected: 3/2/17

Date Received: 3/6/17

Date Analyzed: 3/13/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.61 Final Pressure (psig): 3.70

Canister Dilution Factor: 1.41

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.14	ND	0.055	
75-35-4	1,1-Dichloroethene	ND	0.14	ND	0.036	
75-09-2	Methylene Chloride	ND	0.71	ND	0.20	
156-60-5	trans-1,2-Dichloroethene	ND	0.14	ND	0.036	
156-59-2	cis-1,2-Dichloroethene	ND	0.14	ND	0.036	
107-06-2	1,2-Dichloroethane	ND	0.14	ND	0.035	
71-43-2	Benzene	0.37	0.14	0.12	0.044	
79-01-6	Trichloroethene	0.32	0.14	0.060	0.026	
79-00-5	1,1,2-Trichloroethane	ND	0.14	ND	0.026	
108-88-3	Toluene	7.3	0.71	1.9	0.19	
127-18-4	Tetrachloroethene	ND	0.14	ND	0.021	

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.

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Client: ARCADIS U.S., Inc.

Client Sample ID: AMB-N (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-020

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9

Analyst: Simon Cao

Sample Type: 6.0 L Summa Canister

Test Notes:

Container ID: SC01083

Date Collected: 3/2/17

Date Received: 3/6/17

Date Analyzed: 3/13/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.04 Final Pressure (psig): 4.06

Canister Dilution Factor: 1.48

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.15	ND	0.058	
75-35-4	1,1-Dichloroethene	ND	0.15	ND	0.037	
75-09-2	Methylene Chloride	ND	0.74	ND	0.21	
156-60-5	trans-1,2-Dichloroethene	ND	0.15	ND	0.037	
156-59-2	cis-1,2-Dichloroethene	ND	0.15	ND	0.037	
107-06-2	1,2-Dichloroethane	ND	0.15	ND	0.037	
71-43-2	Benzene	0.34	0.15	0.11	0.046	
79-01-6	Trichloroethene	ND	0.15	ND	0.028	
79-00-5	1,1,2-Trichloroethane	ND	0.15	ND	0.027	
108-88-3	Toluene	ND	0.74	ND	0.20	
127-18-4	Tetrachloroethene	ND	0.15	ND	0.022	

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.

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Client: ARCADIS U.S., Inc.

Client Sample ID: DUP-3 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-021

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9

Analyst: Simon Cao

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00823

Date Collected: 3/2/17

Date Received: 3/6/17

Date Analyzed: 3/13/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.72 Final Pressure (psig): 4.10

Canister Dilution Factor: 1.45

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.15	ND	0.057	
75-35-4	1,1-Dichloroethene	ND	0.15	ND	0.037	
75-09-2	Methylene Chloride	ND	0.73	ND	0.21	
156-60-5	trans-1,2-Dichloroethene	ND	0.15	ND	0.037	
156-59-2	cis-1,2-Dichloroethene	0.62	0.15	0.16	0.037	
107-06-2	1,2-Dichloroethane	ND	0.15	ND	0.036	
71-43-2	Benzene	0.79	0.15	0.25	0.045	
79-01-6	Trichloroethene	2.6	0.15	0.49	0.027	
79-00-5	1,1,2-Trichloroethane	ND	0.15	ND	0.027	
108-88-3	Toluene	3.7	0.73	0.98	0.19	
127-18-4	Tetrachloroethene	0.19	0.15	0.028	0.021	

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.

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Client: ARCADIS U.S., Inc.

Client Sample ID: DUP-4 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P1701088-022

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9

Analyst: Simon Cao

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS01134

Date Collected: 3/2/17

Date Received: 3/6/17

Date Analyzed: 3/13/17

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.88 Final Pressure (psig): 3.76
Initial Pressure 2 (psig): 0.02 Final Pressure 2 (psig): 3.44

Canister Dilution Factor: 1.77

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.18	ND	0.069	
75-35-4	1,1-Dichloroethene	ND	0.18	ND	0.045	
75-09-2	Methylene Chloride	ND	0.89	ND	0.25	
156-60-5	trans-1,2-Dichloroethene	ND	0.18	ND	0.045	
156-59-2	cis-1,2-Dichloroethene	0.82	0.18	0.21	0.045	
107-06-2	1,2-Dichloroethane	ND	0.18	ND	0.044	
71-43-2	Benzene	0.52	0.18	0.16	0.055	
79-01-6	Trichloroethene	9.5	0.18	1.8	0.033	
79-00-5	1,1,2-Trichloroethane	ND	0.18	ND	0.032	
108-88-3	Toluene	1.8	0.89	0.49	0.23	
127-18-4	Tetrachloroethene	0.18	0.18	0.026	0.026	

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.

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Client: ARCADIS U.S., Inc.

Client Sample ID: Method Blank

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P170310-MB

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 3/10/17

Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.10	ND	0.039	
75-35-4	1,1-Dichloroethene	ND	0.10	ND	0.025	
75-09-2	Methylene Chloride	ND	0.50	ND	0.14	
156-60-5	trans-1,2-Dichloroethene	ND	0.10	ND	0.025	
156-59-2	cis-1,2-Dichloroethene	ND	0.10	ND	0.025	
107-06-2	1,2-Dichloroethane	ND	0.10	ND	0.025	
71-43-2	Benzene	ND	0.10	ND	0.031	
79-01-6	Trichloroethene	ND	0.10	ND	0.019	
79-00-5	1,1,2-Trichloroethane	ND	0.10	ND	0.018	
108-88-3	Toluene	ND	0.50	ND	0.13	
127-18-4	Tetrachloroethene	ND	0.10	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

Page 1 of 1

Client: ARCADIS U.S., Inc.
Client Sample ID: Method Blank
Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088
 ALS Sample ID: P170311-MB

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sample Type: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 3/11/17
Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.10	ND	0.039	
75-35-4	1,1-Dichloroethene	ND	0.10	ND	0.025	
75-09-2	Methylene Chloride	ND	0.50	ND	0.14	
156-60-5	trans-1,2-Dichloroethene	ND	0.10	ND	0.025	
156-59-2	cis-1,2-Dichloroethene	ND	0.10	ND	0.025	
107-06-2	1,2-Dichloroethane	ND	0.10	ND	0.025	
71-43-2	Benzene	ND	0.10	ND	0.031	
79-01-6	Trichloroethene	ND	0.10	ND	0.019	
79-00-5	1,1,2-Trichloroethane	ND	0.10	ND	0.018	
108-88-3	Toluene	ND	0.50	ND	0.13	
127-18-4	Tetrachloroethene	ND	0.10	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

Page 1 of 1

Client: ARCADIS U.S., Inc.

Client Sample ID: Method Blank

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P170313-MB

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8

Analyst: Wida Ang

Sample Type: 6.0 L Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 3/13/17

Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.10	ND	0.039	
75-35-4	1,1-Dichloroethene	ND	0.10	ND	0.025	
75-09-2	Methylene Chloride	ND	0.50	ND	0.14	
156-60-5	trans-1,2-Dichloroethene	ND	0.10	ND	0.025	
156-59-2	cis-1,2-Dichloroethene	ND	0.10	ND	0.025	
107-06-2	1,2-Dichloroethane	ND	0.10	ND	0.025	
71-43-2	Benzene	ND	0.10	ND	0.031	
79-01-6	Trichloroethene	ND	0.10	ND	0.019	
79-00-5	1,1,2-Trichloroethane	ND	0.10	ND	0.018	
108-88-3	Toluene	ND	0.50	ND	0.13	
127-18-4	Tetrachloroethene	ND	0.10	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

Page 1 of 1

Client: ARCADIS U.S., Inc.

Client Sample ID: Method Blank

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

ALS Sample ID: P170313-MB

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9

Analyst: Simon Cao

Sample Type: 6.0 L Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 3/13/17

Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.10	ND	0.039	
75-35-4	1,1-Dichloroethene	ND	0.10	ND	0.025	
75-09-2	Methylene Chloride	ND	0.50	ND	0.14	
156-60-5	trans-1,2-Dichloroethene	ND	0.10	ND	0.025	
156-59-2	cis-1,2-Dichloroethene	ND	0.10	ND	0.025	
107-06-2	1,2-Dichloroethane	ND	0.10	ND	0.025	
71-43-2	Benzene	ND	0.10	ND	0.031	
79-01-6	Trichloroethene	ND	0.10	ND	0.019	
79-00-5	1,1,2-Trichloroethane	ND	0.10	ND	0.018	
108-88-3	Toluene	ND	0.50	ND	0.13	
127-18-4	Tetrachloroethene	ND	0.10	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

SURROGATE SPIKE RECOVERY RESULTS

Page 1 of 1

Client: ARCADIS U.S., Inc.
Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sample Type: 6.0 L Summa Canister(s) / 6.0 L Silonite Canister(s)
Test Notes:

Date(s) Collected: 3/2/17
Date(s) Received: 3/3 - 3/6/17
Date(s) Analyzed: 3/10 - 3/13/17

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4	Toluene-d8	Bromofluorobenzene	Acceptance Limits	Data Qualifier
		Percent Recovered	Percent Recovered	Percent Recovered		
Method Blank	P170310-MB	102	106	92	70-130	
Method Blank	P170311-MB	100	104	95	70-130	
Method Blank	P170313-MB	105	102	94	70-130	
Method Blank	P170313-MB	81	106	117	70-130	
Lab Control Sample	P170310-LCS	102	101	95	70-130	
Lab Control Sample	P170311-LCS	99	101	96	70-130	
Lab Control Sample	P170313-LCS	102	100	95	70-130	
Lab Control Sample	P170313-LCS	80	106	118	70-130	
A-9 (030117)	P1701088-001	104	103	94	70-130	
A-2 (030117)	P1701088-002	103	102	95	70-130	
A-7 (030117)	P1701088-003	101	102	97	70-130	
A-1 (030117)	P1701088-004	100	103	97	70-130	
A-10 (030117)	P1701088-005	100	103	97	70-130	
A-5 (030117)	P1701088-006	99	102	98	70-130	
B-6 (030117)	P1701088-007	98	103	97	70-130	
B-10 (030117)	P1701088-008	98	103	96	70-130	
B-4 (030117)	P1701088-009	99	103	97	70-130	
B-1 (030117)	P1701088-010	99	101	99	70-130	
B-9 (030117)	P1701088-011	98	104	98	70-130	
B-3 (030117)	P1701088-012	104	100	94	70-130	
B-8 (030117)	P1701088-013	104	100	95	70-130	
B-7 (030117)	P1701088-014	104	99	104	70-130	
B-2 9(030117)	P1701088-015	98	102	100	70-130	
BS-1 (030117)	P1701088-016	100	101	98	70-130	
AMB-W (030117)	P1701088-017	102	102	97	70-130	
AMB-S (030117)	P1701088-018	103	102	97	70-130	
AMB-E (030117)	P1701088-019	104	102	95	70-130	
AMB-N (030117)	P1701088-020	81	106	116	70-130	
DUP-3 (030117)	P1701088-021	80	107	118	70-130	
DUP-4 (030117)	P1701088-022	81	106	118	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

Page 1 of 1

Client: ARCADIS U.S., Inc.
Client Sample ID: Lab Control Sample
Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088
 ALS Sample ID: P170310-LCS

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sample Type: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 3/10/17
Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m ³	Result µg/m ³	% Recovery	ALS Acceptance Limits	Data Qualifier
75-01-4	Vinyl Chloride	210	178	85	61-125	
75-35-4	1,1-Dichloroethene	213	201	94	76-118	
75-09-2	Methylene Chloride	212	202	95	60-118	
156-60-5	trans-1,2-Dichloroethene	213	210	99	74-123	
156-59-2	cis-1,2-Dichloroethene	212	201	95	72-117	
107-06-2	1,2-Dichloroethane	212	192	91	69-113	
71-43-2	Benzene	212	181	85	65-107	
79-01-6	Trichloroethene	212	191	90	68-114	
79-00-5	1,1,2-Trichloroethane	212	199	94	75-119	
108-88-3	Toluene	212	188	89	59-118	
127-18-4	Tetrachloroethene	213	197	92	65-130	

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

Page 1 of 1

Client: ARCADIS U.S., Inc.
Client Sample ID: Lab Control Sample
Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088
 ALS Sample ID: P170311-LCS

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sample Type: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 3/11/17
Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m ³	Result µg/m ³	% Recovery	ALS Acceptance Limits	Data Qualifier
75-01-4	Vinyl Chloride	210	175	83	61-125	
75-35-4	1,1-Dichloroethene	213	202	95	76-118	
75-09-2	Methylene Chloride	212	202	95	60-118	
156-60-5	trans-1,2-Dichloroethene	213	207	97	74-123	
156-59-2	cis-1,2-Dichloroethene	212	200	94	72-117	
107-06-2	1,2-Dichloroethane	212	190	90	69-113	
71-43-2	Benzene	212	182	86	65-107	
79-01-6	Trichloroethene	212	194	92	68-114	
79-00-5	1,1,2-Trichloroethane	212	201	95	75-119	
108-88-3	Toluene	212	190	90	59-118	
127-18-4	Tetrachloroethene	213	201	94	65-130	

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

Page 1 of 1

Client: ARCADIS U.S., Inc.
Client Sample ID: Lab Control Sample
Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088
 ALS Sample ID: P170313-LCS

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sample Type: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 3/13/17
Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m ³	Result µg/m ³	% Recovery	ALS Acceptance Limits	Data Qualifier
75-01-4	Vinyl Chloride	210	192	91	61-125	
75-35-4	1,1-Dichloroethene	213	206	97	76-118	
75-09-2	Methylene Chloride	212	206	97	60-118	
156-60-5	trans-1,2-Dichloroethene	213	214	100	74-123	
156-59-2	cis-1,2-Dichloroethene	212	205	97	72-117	
107-06-2	1,2-Dichloroethane	212	197	93	69-113	
71-43-2	Benzene	212	185	87	65-107	
79-01-6	Trichloroethene	212	195	92	68-114	
79-00-5	1,1,2-Trichloroethane	212	205	97	75-119	
108-88-3	Toluene	212	190	90	59-118	
127-18-4	Tetrachloroethene	213	199	93	65-130	

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

Page 1 of 1

Client: ARCADIS U.S., Inc.
Client Sample ID: Lab Control Sample
Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088
 ALS Sample ID: P170313-LCS

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Simon Cao
Sample Type: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 3/13/17
Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m ³	Result µg/m ³	% Recovery	ALS Acceptance Limits	Data Qualifier
75-01-4	Vinyl Chloride	210	153	73	61-125	
75-35-4	1,1-Dichloroethene	213	184	86	76-118	
75-09-2	Methylene Chloride	212	164	77	60-118	
156-60-5	trans-1,2-Dichloroethene	213	165	77	74-123	
156-59-2	cis-1,2-Dichloroethene	212	160	75	72-117	
107-06-2	1,2-Dichloroethane	212	154	73	69-113	
71-43-2	Benzene	212	169	80	65-107	
79-01-6	Trichloroethene	212	184	87	68-114	
79-00-5	1,1,2-Trichloroethane	212	192	91	75-119	
108-88-3	Toluene	212	201	95	59-118	
127-18-4	Tetrachloroethene	213	236	111	65-130	

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

Page 1 of 1

Client: ARCADIS U.S., Inc.
Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sample Type: 6.0 L Summa Canister(s)
Test Notes:

Lab File ID: 03101722.D
Date Analyzed: 3/10/17
Time Analyzed: 17:26

	IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
	AREA	#	RT	#	AREA	#
24 Hour Standard	157881	8.81	737958	10.54	326222	14.57
Upper Limit	221033	9.14	1033141	10.87	456711	14.90
Lower Limit	94729	8.48	442775	10.21	195733	14.24

Client Sample ID						
01	Method Blank	152477	8.80	751233	10.53	317575 14.56
02	Lab Control Sample	169695	8.81	777795	10.54	349229 14.57
03	A-9 (030117)	153301	8.80	741689	10.54	320060 14.57
04	A-2 (030117)	157256	8.79	759462	10.53	330566 14.56
05	A-7 (030117)	158167	8.79	757752	10.53	329897 14.56
06	A-1 (030117)	161945	8.80	775073	10.53	334567 14.56
07	A-10 (030117)	159710	8.80	770008	10.54	333091 14.56
08	A-5 (030117)	162115	8.79	764626	10.53	328799 14.57
09	B-6 (030117)	161375	8.79	779652	10.53	334876 14.56
10	B-10 (030117)	162822	8.80	782157	10.53	338299 14.56
11	B-4 (030117)	163764	8.79	784391	10.53	337999 14.56
12	B-1 (030117)	161238	8.79	757671	10.53	327639 14.56
13	B-9 (030117)	163175	8.79	784210	10.53	334403 14.56
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

Page 1 of 1

Client: ARCADIS U.S., Inc.
Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sample Type: 6.0 L Summa Canister(s)
Test Notes:

Lab File ID: 03111702.D
Date Analyzed: 3/11/17
Time Analyzed: 05:48

	IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
	AREA	#	RT	#	AREA	#
24 Hour Standard	164838		8.80		767336	
Upper Limit	230773		9.13		1074270	
Lower Limit	98903		8.47		460402	

Client Sample ID		IS1 (BCM)	IS2 (DFB)	IS3 (CBZ)
01	Method Blank	159010	8.79	774377
02	Lab Control Sample	170499	8.81	782272
03	B-10 (030117) (Dilution)	165935	8.80	781768
04				
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.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: ARCADIS U.S., Inc.
Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sample Type: 6.0 L Summa Canister(s)
Test Notes:
Lab File ID: 03131701.D
Date Analyzed: 3/13/17
Time Analyzed: 06:52

	IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
	AREA	#	RT	#	AREA	#
24 Hour Standard	163851		8.82		703693	
Upper Limit	229391		9.15		985170	
Lower Limit	98311		8.49		422216	

Client Sample ID		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA	#	RT	#	AREA	#
01	Method Blank	150785		8.79		734544	
02	Lab Control Sample	159583		8.82		733446	
03	B-3 (030117)	154202		8.80		743955	
04	B-8 (030117)	156516		8.80		749439	
05	B-7 (030117)	156668		8.79		744864	
06	B-2 9(030117)	160434		8.80		767800	
07	BS-1 (030117)	160107		8.79		769149	
08	AMB-W (030117)	160093		8.80		778161	
09	AMB-S (030117)	155057		8.80		754744	
10	AMB-E (030117)	153811		8.80		750901	
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

Page 1 of 1

Client: ARCADIS U.S., Inc.
Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701088

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Simon Cao
Sample Type: 6.0 L Summa Canister(s)
Test Notes:

Lab File ID: 03131705.D
Date Analyzed: 3/13/17
Time Analyzed: 11:15

	IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
	AREA	#	RT	#	AREA	#
24 Hour Standard	144444	9.13	716966	11.10	320237	15.44
Upper Limit	202222	9.46	1003752	11.43	448332	15.77
Lower Limit	86666	8.80	430180	10.77	192142	15.11

Client Sample ID						
01	Method Blank	150003	9.11	748304	11.08	334485
02	Lab Control Sample	142990	9.13	705626	11.10	318874
03	AMB-N (030117)	147415	9.11	739272	11.09	331049
04	DUP-3 (030117)	140426	9.11	698743	11.09	310905
05	DUP-4 (030117)	141750	9.11	712814	11.09	321588
06						
07						
08						
09						
10						
11						
12						
13						
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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.

Data File: I:\MS08\Data\2017 03\10\03101732.D

Acq On : 10 Mar 2017 22:49

Operator: WA

Sample : P1701088-001 (1000mL)

Misc : S29-01231701

ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 13 10:05:12 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

3/13/17

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.80	130	153301	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	10.54	114	741689	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.57	82	320060	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	285785	12.941	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	103.52%
57) Toluene-d8 (SS2)	12.77	98	771607	12.830	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	102.64%
73) Bromofluorobenzene (SS3)	16.07	174	232572	11.793	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	94.32%

Target Compounds

						Qvalue
2) Propene	3.89	42	117008	7.330	ng	# 1
3) Dichlorodifluoromethan...	4.00	85	50147	1.701	ng	98
4) Chloromethane	4.21	50	9650	0.468	ng	95
5) 1,2-Dichloro-1,1,2,2-t...	4.36	135	929	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.67	54	5179	0.288	ng	93
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.39	45	584354	51.517	ng	100
11) Acetonitrile	5.59	41	22986	0.763	ng	92
12) Acrolein	5.72	56	9688	1.115	ng	99
13) Acetone	5.84	58	250665	22.551	ng	97
14) Trichlorofluoromethane	6.02	101	22456	0.860	ng	100
15) 2-Propanol (Isopropanol)	6.15	45	377738	9.096	ng	99
16) Acrylonitrile	0.00	53	0	N.D.	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	6.79	84	4378	0.323	ng	95
20) 3-Chloro-1-propene (Al...	6.91	41	520	N.D.		
21) Trichlorotrifluoroethane	7.07	151	4287	0.354	ng	99
22) Carbon Disulfide	7.05	76	6775	0.140	ng	95
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	d	
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d	
25) Methyl tert-Butyl Ether	7.90	73	497	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	8.25	72	21522	2.291	ng	99
28) cis-1,2-Dichloroethene	8.65	61	11863	0.583	ng	98
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	8.85	61	16934	3.781	ng	93
31) n-Hexane	8.87	57	172190	7.094	ng	100
32) Chloroform	8.92	83	4844	0.188	ng	100
34) Tetrahydrofuran (THF)	9.27	72	14273	1.521	ng	# 84
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	9.59	62	1308	N.D.		
38) 1,1,1-Trichloroethane	9.83	97	4101	0.167	ng	97
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	10.23	78	37825	0.646	ng	100
42) Carbon Tetrachloride	10.37	117	6559	0.326	ng	97
43) Cyclohexane	10.49	84	25557	1.008	ng	97
44) tert-Amyl Methyl Ether	10.86	73	784	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.17	130	31259	2.045	ng	100
48) 1,4-Dioxane	0.00	88	0	N.D.	d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	

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Data File: I:\MS08\Data\2017 03\10\03101732.D

Acq On : 10 Mar 2017 22:49

Operator: WA

Sample : P1701088-001 (1000mL)

Misc : S29-01231701

ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 13 10:05:12 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

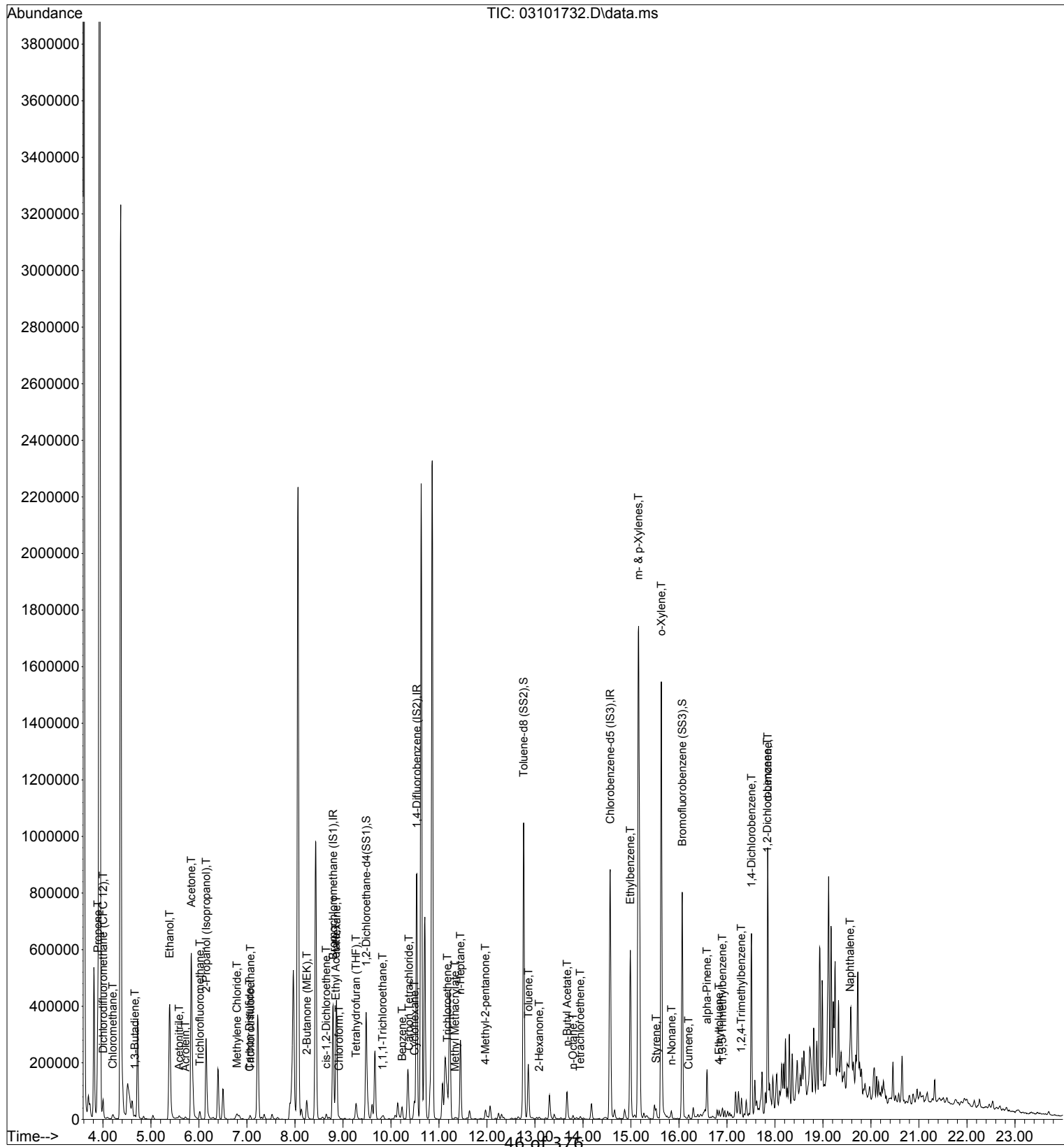
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.33	100	887	0.158	ng	# 87
51) n-Heptane	11.45	71	65515	4.382	ng	100
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.97	58	10051	0.793	ng	97
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.86	91	147821	2.642	ng	98
59) 2-Hexanone	13.09	43	5146	0.177	ng	93
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.67	43	83174	2.362	ng	99
63) n-Octane	13.79	57	2466	0.199	ng	94
64) Tetrachloroethene	13.94	166	2541	0.171	ng	98
65) Chlorobenzene	14.61	112	663	N.D.		
66) Ethylbenzene	14.99	91	503247	8.030	ng	100
67) m- & p-Xylenes	15.16	91	1526830	30.579	ng	99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.53	104	18327	0.526	ng	99
70) o-Xylene	15.63	91	456569	8.884	ng	99
71) n-Nonane	15.84	43	11128	0.359	ng	98
72) 1,1,2,2-Tetrachloroethane	15.69	83	570	N.D.		
74) Cumene	16.20	105	7951	0.122	ng	99
75) alpha-Pinene	16.58	93	69174	2.056	ng	96
76) n-Propylbenzene	16.70	91	6753	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	16.84	105	5712	0.095	ng	99
79) 1,3,5-Trimethylbenzene	16.91	105	6924	0.126	ng	98
80) alpha-Methylstyrene	0.00	118	0	N.D.	d	
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	17.30	105	22712	0.430	ng	90
83) n-Decane	0.00	57	0	N.D.	d	
84) Benzyl Chloride	17.53	91	2057	N.D.		
85) 1,3-Dichlorobenzene	17.45	146	476	N.D.		
86) 1,4-Dichlorobenzene	17.51	146	256335	8.516	ng	99
87) sec-Butylbenzene	17.56	105	1588	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	17.84	146	2918	0.105	ng	98
91) d-Limonene	17.85	68	206687	10.089	ng	99
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	19.46	180	683	N.D.		
95) Naphthalene	19.57	128	17211	0.283	ng	96
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	17.30	119	3160	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.	d	

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

ALS Vial : 2 Sample Multiplier: 1

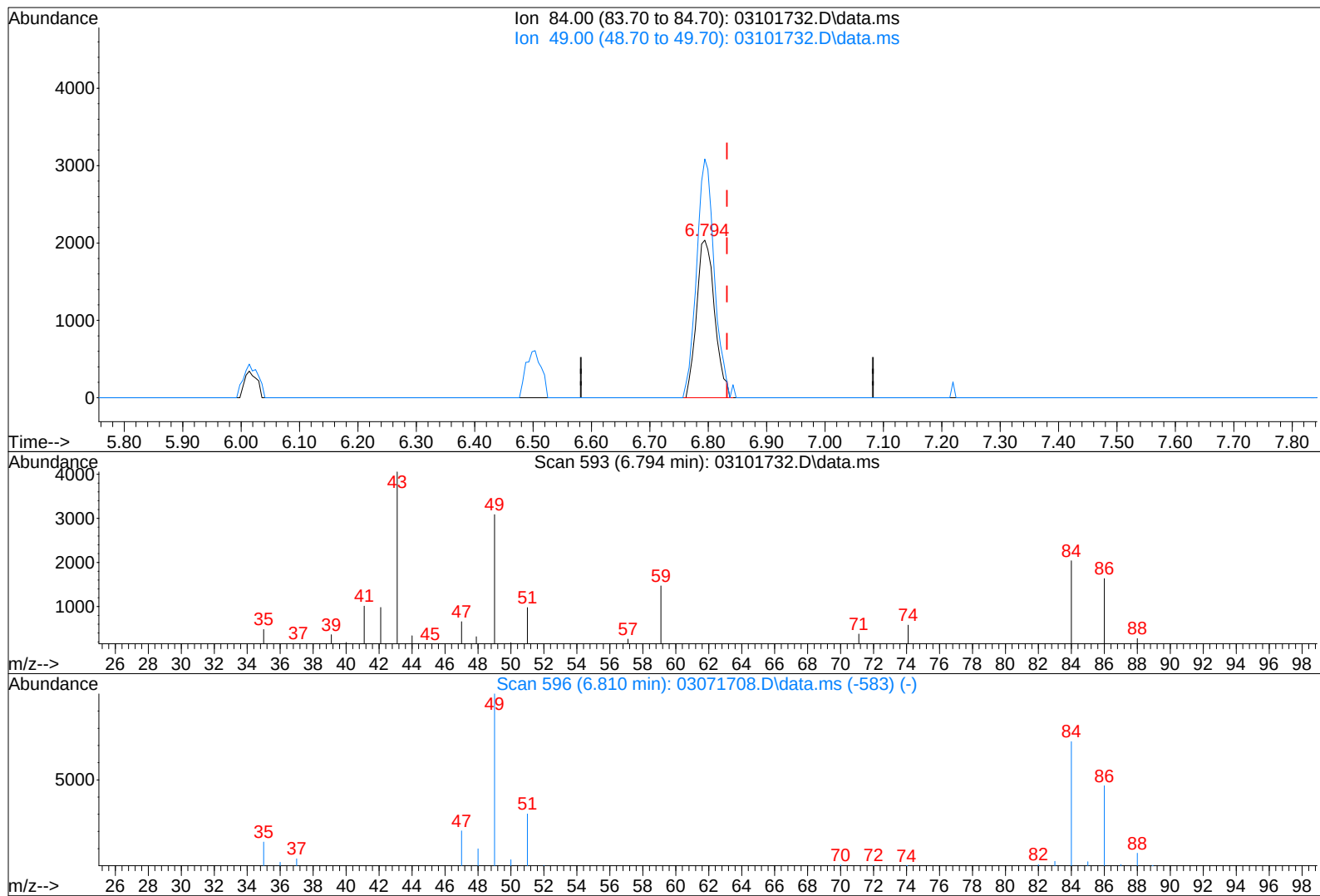
DataAcq Meth:T015.M



Data File : I:\MS08\Data\2017 03\10\03101732.D
Acq On : 10 Mar 2017 22:49
Sample : P1701088-001 (1000mL)
Misc : S29-01231701

Vial: 2
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:05:12 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101732.D\data.ms

(19) Methylene Chloride (T)

6.794min (-0.038) 0.32ng

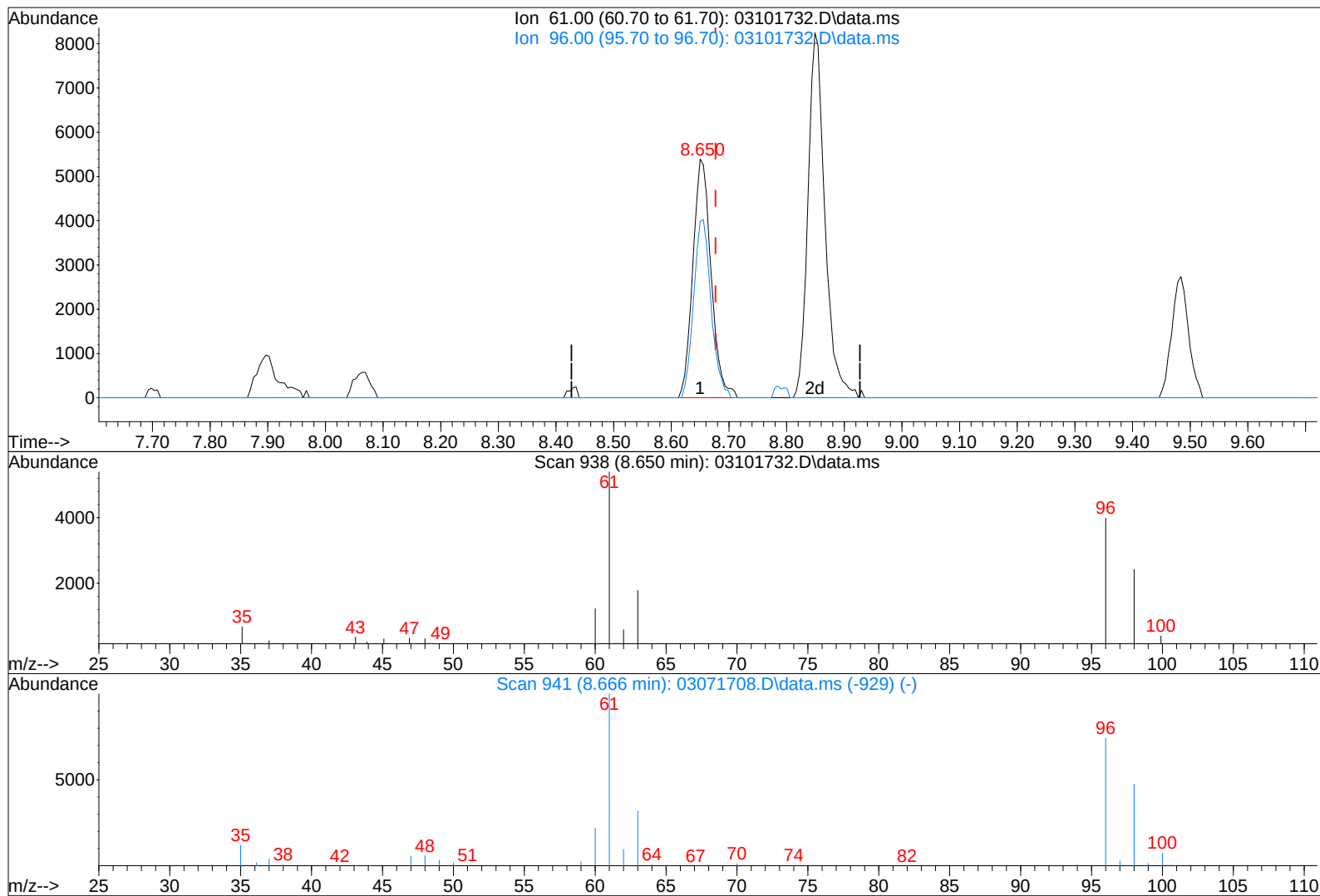
response 4378

Ion	Exp%	Act%
84.00	100	100
49.00	143.20	149.84
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101732.D
Acq On : 10 Mar 2017 22:49
Sample : P1701088-001 (1000mL)
Misc : S29-01231701

Vial: 2
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:05:12 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101732.D\data.ms

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

8.650min (-0.027) 0.58ng

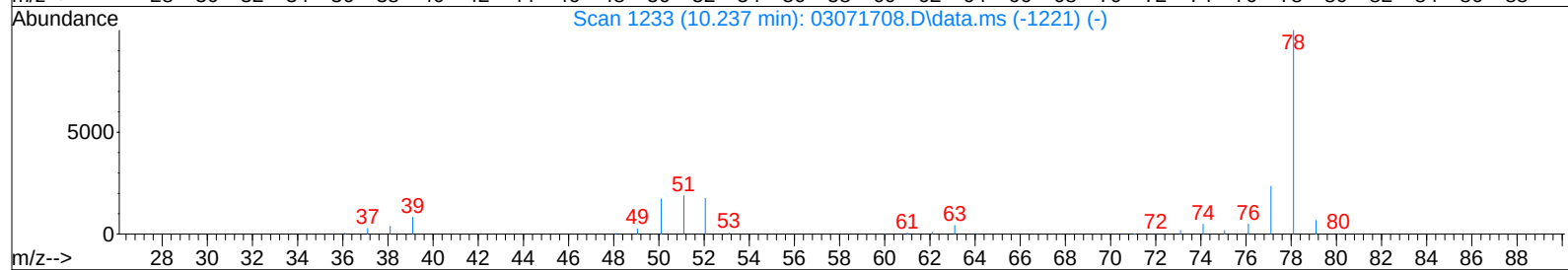
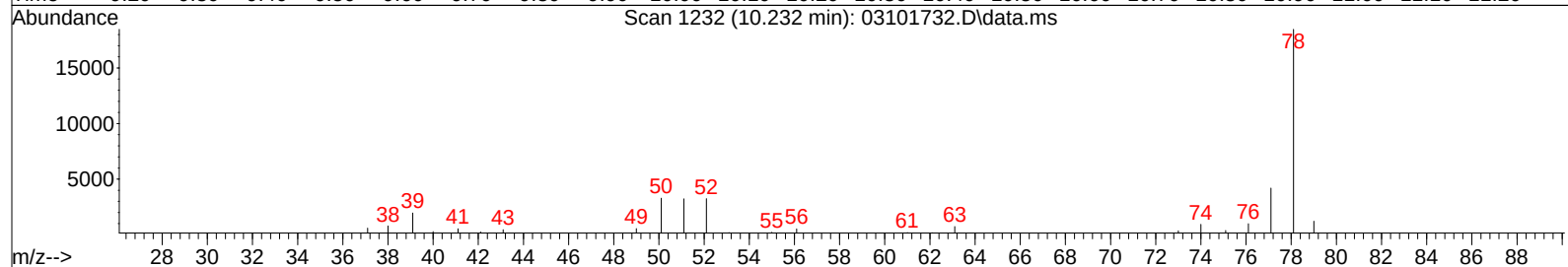
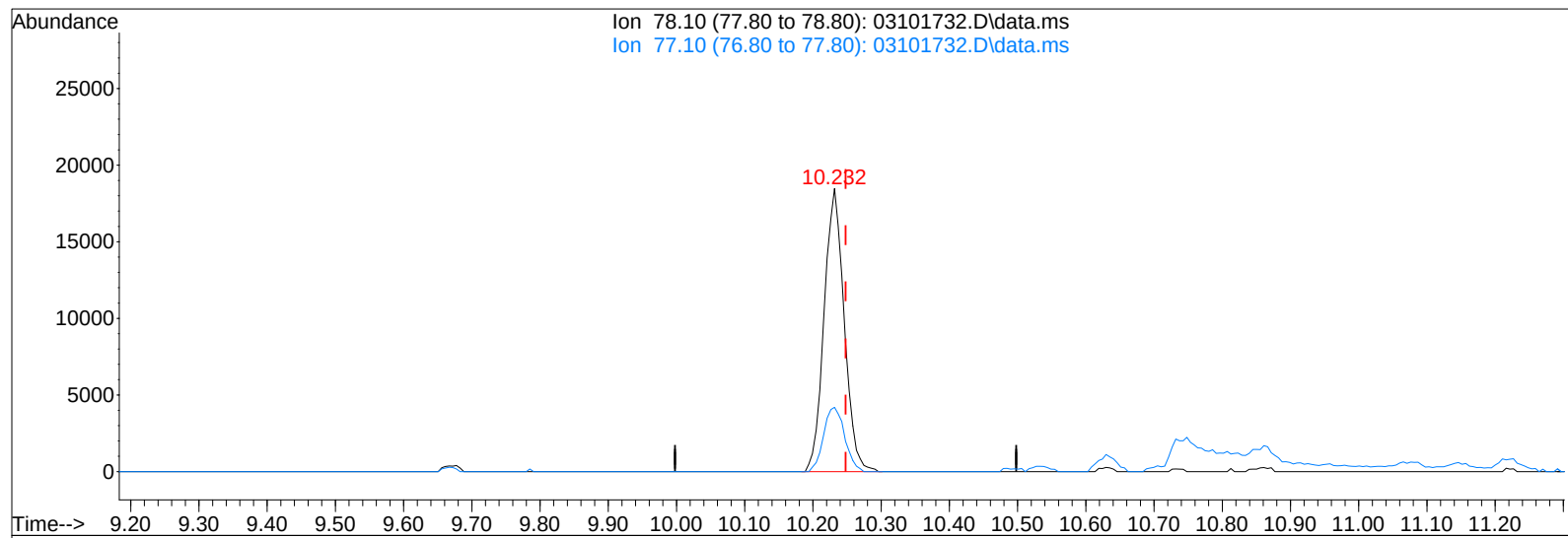
response 11863

Ion	Exp%	Act%
61.00	100	100
96.00	73.50	71.46
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101732.D
Acq On : 10 Mar 2017 22:49
Sample : P1701088-001 (1000mL)
Misc : S29-01231701

Vial: 2
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:05:12 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101732.D\data.ms

(41) Benzene (T)

10.232min (-0.016) 0.65ng

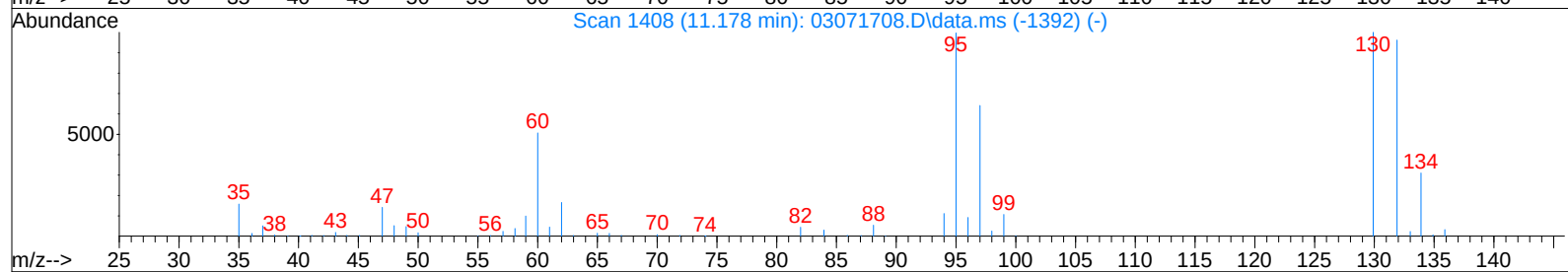
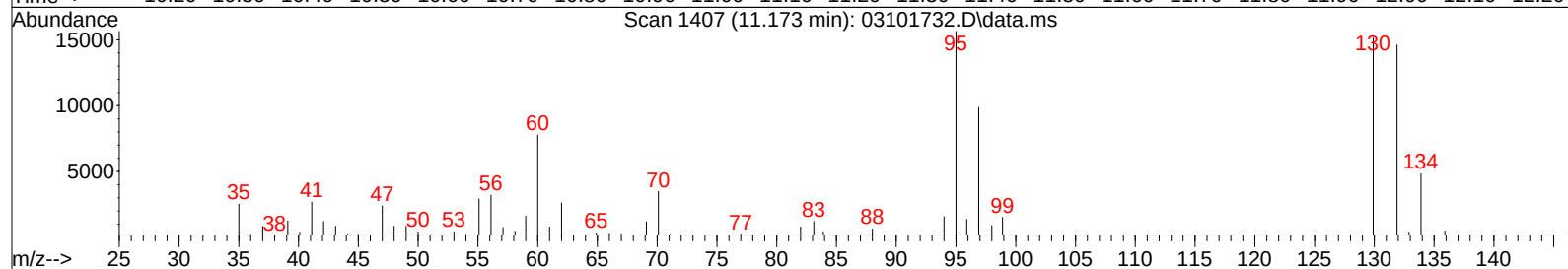
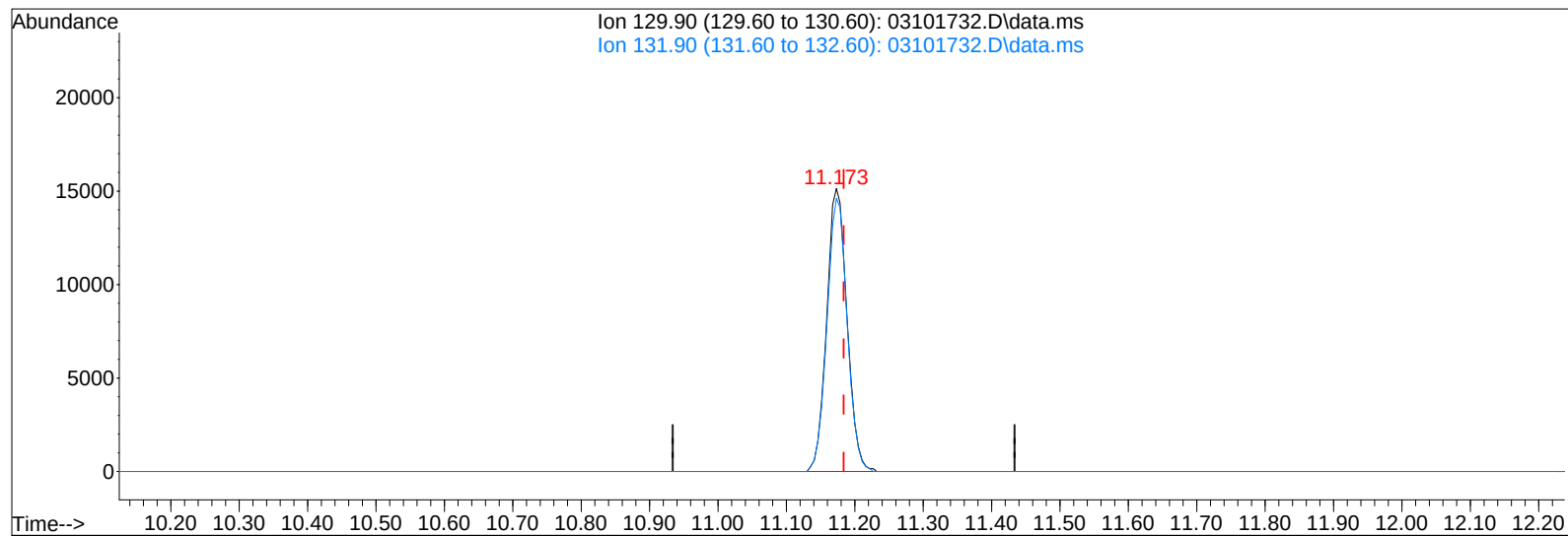
response 37825

Ion	Exp%	Act%
78.10	100	100
77.10	23.60	23.73
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101732.D
Acq On : 10 Mar 2017 22:49
Sample : P1701088-001 (1000mL)
Misc : S29-01231701

Vial: 2
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:05:12 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101732.D\data.ms

(47) Trichloroethene (T)

11.173min (-0.011) 2.05ng

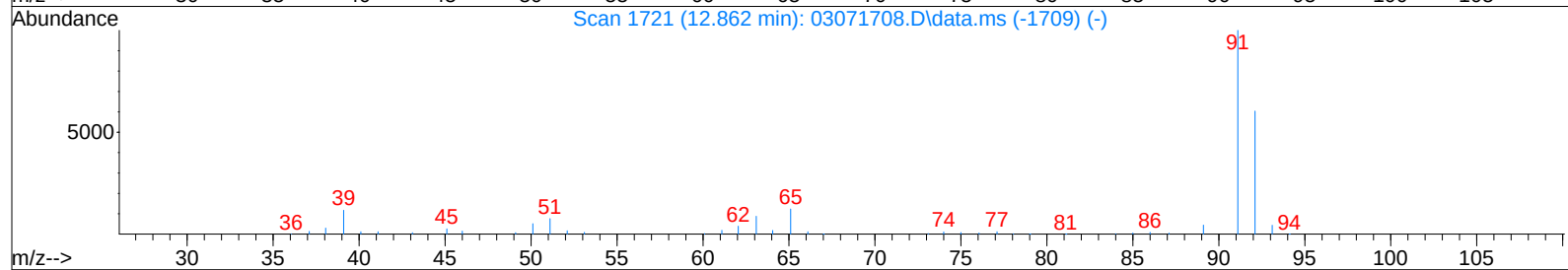
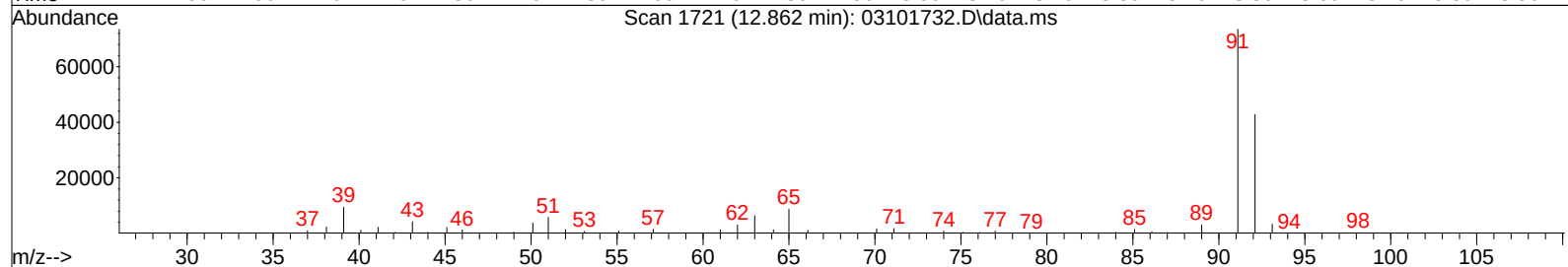
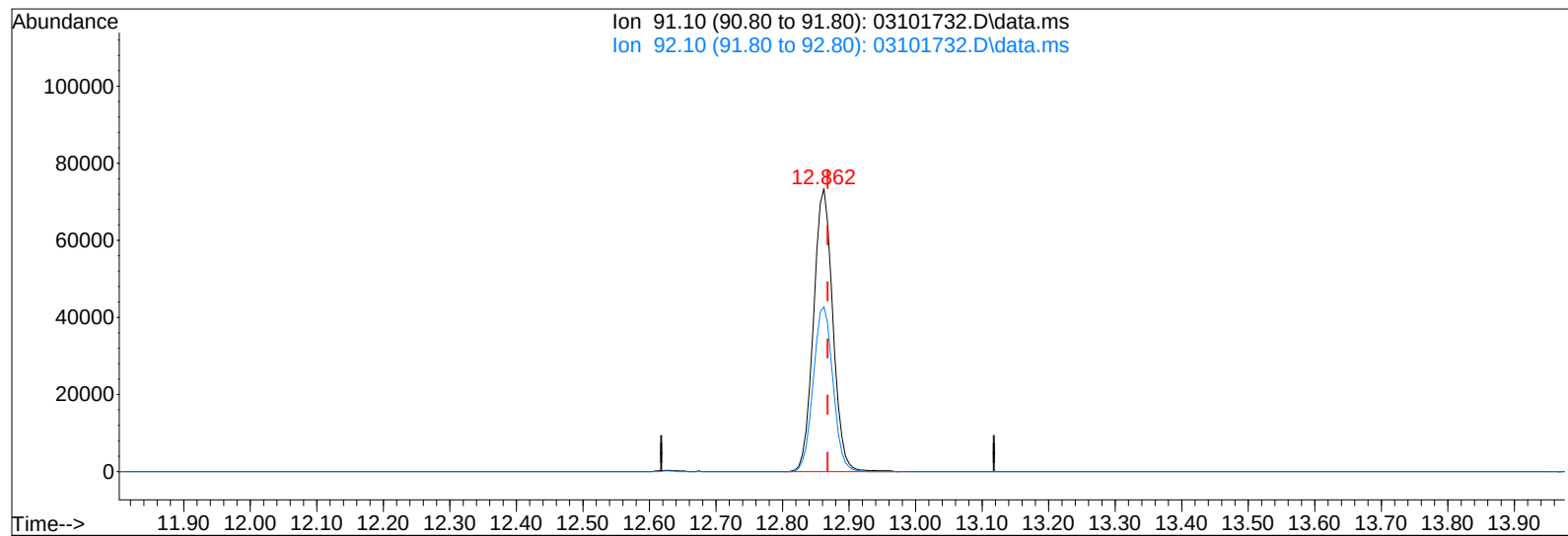
response 31259

Ion	Exp%	Act%
129.90	100	100
131.90	95.60	95.82
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101732.D
Acq On : 10 Mar 2017 22:49
Sample : P1701088-001 (1000mL)
Misc : S29-01231701

Vial: 2
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:05:12 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101732.D\data.ms

(58) Toluene (T)

12.862min (-0.006) 2.64ng

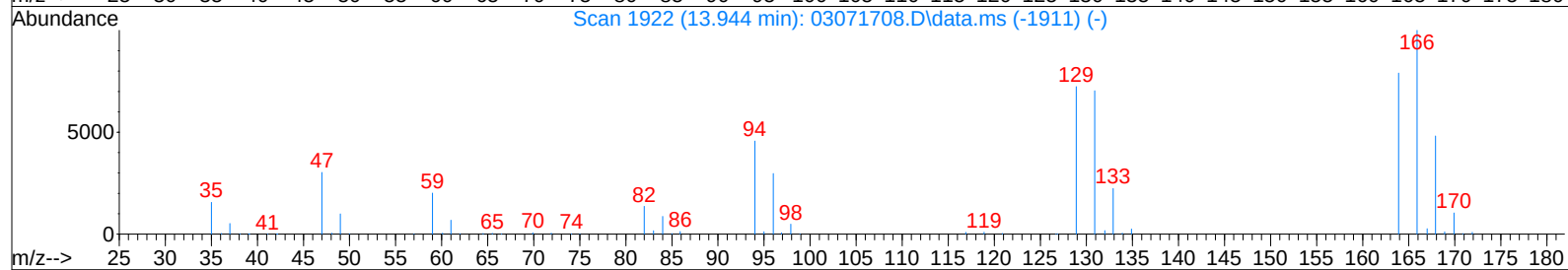
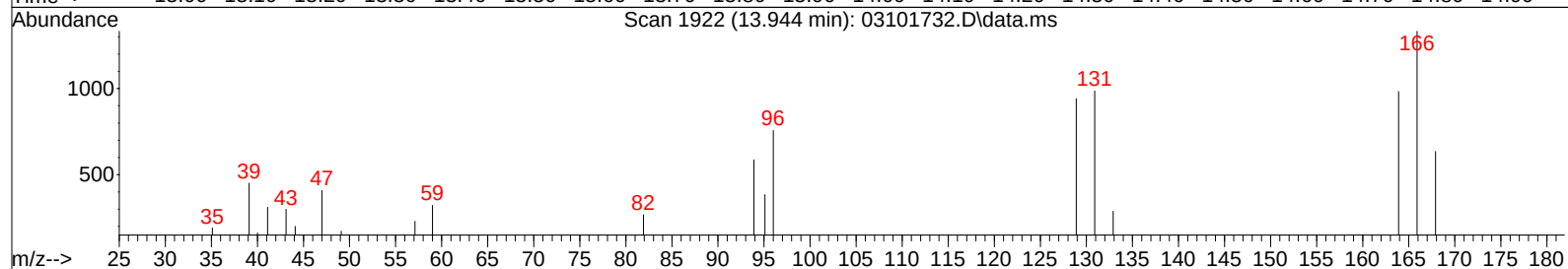
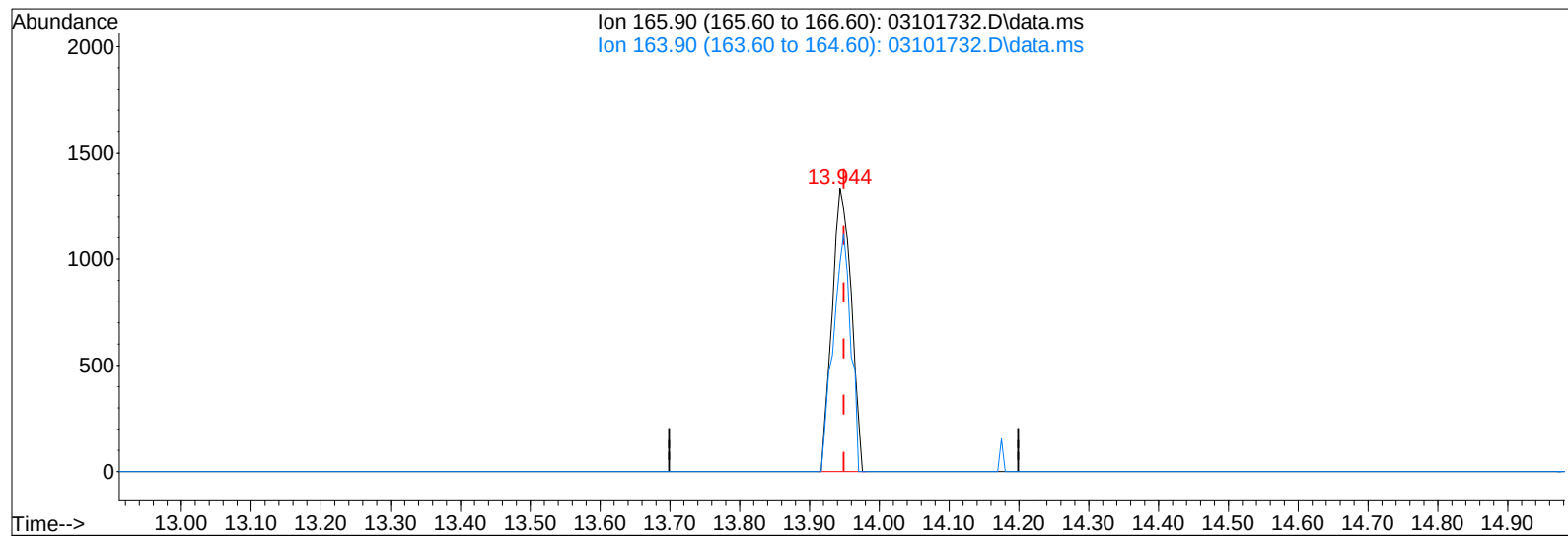
response 147821

Ion	Exp%	Act%
91.10	100	100
92.10	60.40	59.25
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101732.D
Acq On : 10 Mar 2017 22:49
Sample : P1701088-001 (1000mL)
Misc : S29-01231701

Vial: 2
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:05:12 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101732.D\data.ms

(64) Tetrachloroethene (T)

13.944min (-0.006) 0.17ng

response 2541

Ion	Exp%	Act%
165.90	100	100
163.90	78.70	77.10
0.00	0.00	0.00
0.00	0.00	0.00

Data File: I:\MS08\Data\2017 03\10\03101733.D

Acq On : 10 Mar 2017 23:21

Operator: WA

Sample : P1701088-002 (1000mL)

Misc : S29-01231701

ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 13 10:07:39 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

WA 3/13/17

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.79	130	157256	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	10.53	114	759462	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	330566	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	290259	12.813	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	102.48%
57) Toluene-d8 (SS2)	12.77	98	791421	12.741	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	101.92%
73) Bromofluorobenzene (SS3)	16.07	174	242404	11.901	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	95.20%

Target Compounds

						Qvalue
2) Propene	0.00	42	0	N.D.	d	
3) Dichlorodifluoromethan...	4.00	85	52844	1.747	ng	98
4) Chloromethane	4.21	50	8883	0.420	ng	95
5) 1,2-Dichloro-1,1,2,2-t...	4.36	135	922	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.67	54	3732	0.202	ng	96
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.38	45	557950	47.952	ng	100
11) Acetonitrile	5.59	41	22134	0.717	ng	95
12) Acrolein	5.72	56	7649	0.859	ng	99
13) Acetone	5.84	58	293329	25.726	ng	96
14) Trichlorofluoromethane	6.01	101	23704	0.885	ng	99
15) 2-Propanol (Isopropanol)	6.14	45	381148	8.947	ng	99
16) Acrylonitrile	0.00	53	0	N.D.	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	6.79	84	4710	0.339	ng	96
20) 3-Chloro-1-propene (Al...	6.90	41	527	N.D.		
21) Trichlorotrifluoroethane	7.07	151	4633	0.373	ng	99
22) Carbon Disulfide	7.06	76	6190	0.124	ng	99
23) trans-1,2-Dichloroethene	7.90	61	745	N.D.		
24) 1,1-Dichloroethane	7.88	63	2384	N.D.		
25) Methyl tert-Butyl Ether	8.06	73	887	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	8.24	72	25608	2.657	ng	99
28) cis-1,2-Dichloroethene	8.65	61	12903	0.618	ng	96
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	8.85	61	16776	3.651	ng	93
31) n-Hexane	8.87	57	180446	7.247	ng	100
32) Chloroform	8.92	83	4817	0.183	ng	97
34) Tetrahydrofuran (THF)	9.27	72	14024	1.457	ng	# 85
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	9.58	62	1359	N.D.		
38) 1,1,1-Trichloroethane	9.82	97	4520	0.180	ng	97
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	10.23	78	38861	0.648	ng	99
42) Carbon Tetrachloride	10.37	117	7065	0.343	ng	97
43) Cyclohexane	10.48	84	26388	1.016	ng	98
44) tert-Amyl Methyl Ether	10.85	73	1050	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.17	130	34326	2.193	ng	100
48) 1,4-Dioxane	0.00	88	0	N.D.	d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	

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Data File: I:\MS08\Data\2017 03\10\03101733.D

Acq On : 10 Mar 2017 23:21

Operator: WA

Sample : P1701088-002 (1000mL)

Misc : S29-01231701

ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 13 10:07:39 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.34	100	814	0.142	ng	# 75
51) n-Heptane	11.45	71	68804	4.495	ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.97	58	9726	0.750	ng	100
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.86	91	153424	2.655	ng	98
59) 2-Hexanone	0.00	43	0	N.D.	d	
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.66	43	84555	2.325	ng	99
63) n-Octane	13.79	57	2499	0.195	ng	95
64) Tetrachloroethene	13.95	166	3302	0.215	ng	99
65) Chlorobenzene	14.64	112	682	N.D.		
66) Ethylbenzene	14.99	91	539203	8.330	ng	100
67) m- & p-Xylenes	15.15	91	1548731	30.032	ng	99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.53	104	15143	0.421	ng	100
70) o-Xylene	15.63	91	475568	8.959	ng	99
71) n-Nonane	15.84	43	11352	0.355	ng	97
72) 1,1,2,2-Tetrachloroethane	15.63	83	430	N.D.		
74) Cumene	16.21	105	8776	0.130	ng	98
75) alpha-Pinene	16.59	93	60346	1.737	ng	92
76) n-Propylbenzene	16.70	91	7565	0.096	ng	94
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	16.84	105	6609	0.106	ng	95
79) 1,3,5-Trimethylbenzene	16.91	105	6043	0.106	ng	98
80) alpha-Methylstyrene	17.05	118	1667	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	17.30	105	20781	0.381	ng	91
83) n-Decane	0.00	57	0	N.D.	d	
84) Benzyl Chloride	17.42	91	821	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	d	
86) 1,4-Dichlorobenzene	17.51	146	295195	9.495	ng	99
87) sec-Butylbenzene	17.56	105	1745	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	17.84	146	3151	0.109	ng	97
91) d-Limonene	17.85	68	103847	4.908	ng	96
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	19.46	180	558	N.D.		
95) Naphthalene	19.57	128	19561	0.312	ng	97
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	17.31	119	3132	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.	d	

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

Data File: I:\MS08\Data\2017 03\10\03101733.D

Acq On : 10 Mar 2017 23:21

Operator: WA

Sample : P1701088-002 (1000mL)

Misc : S29-01231701

ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 13 10:07:39 2017

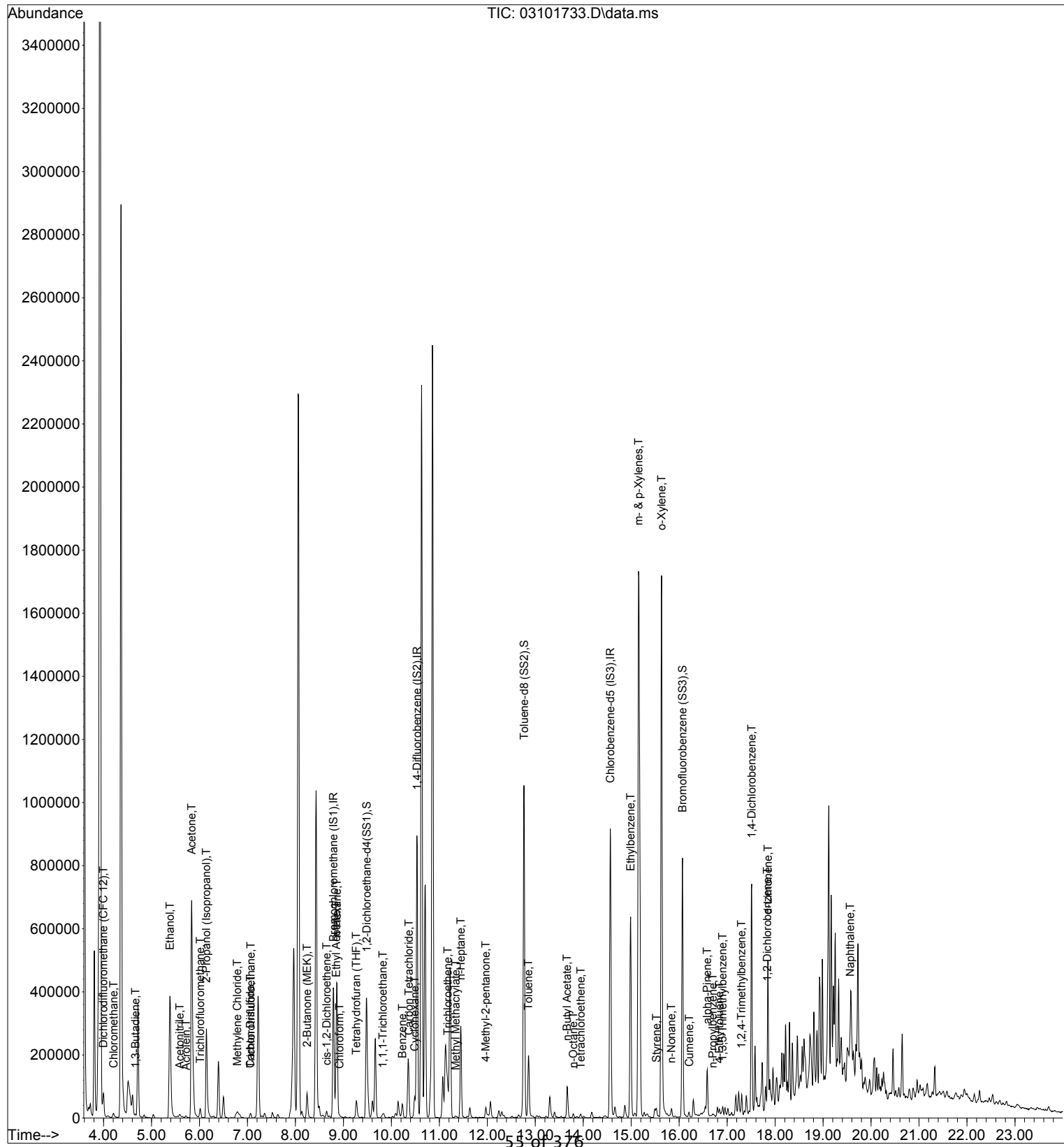
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

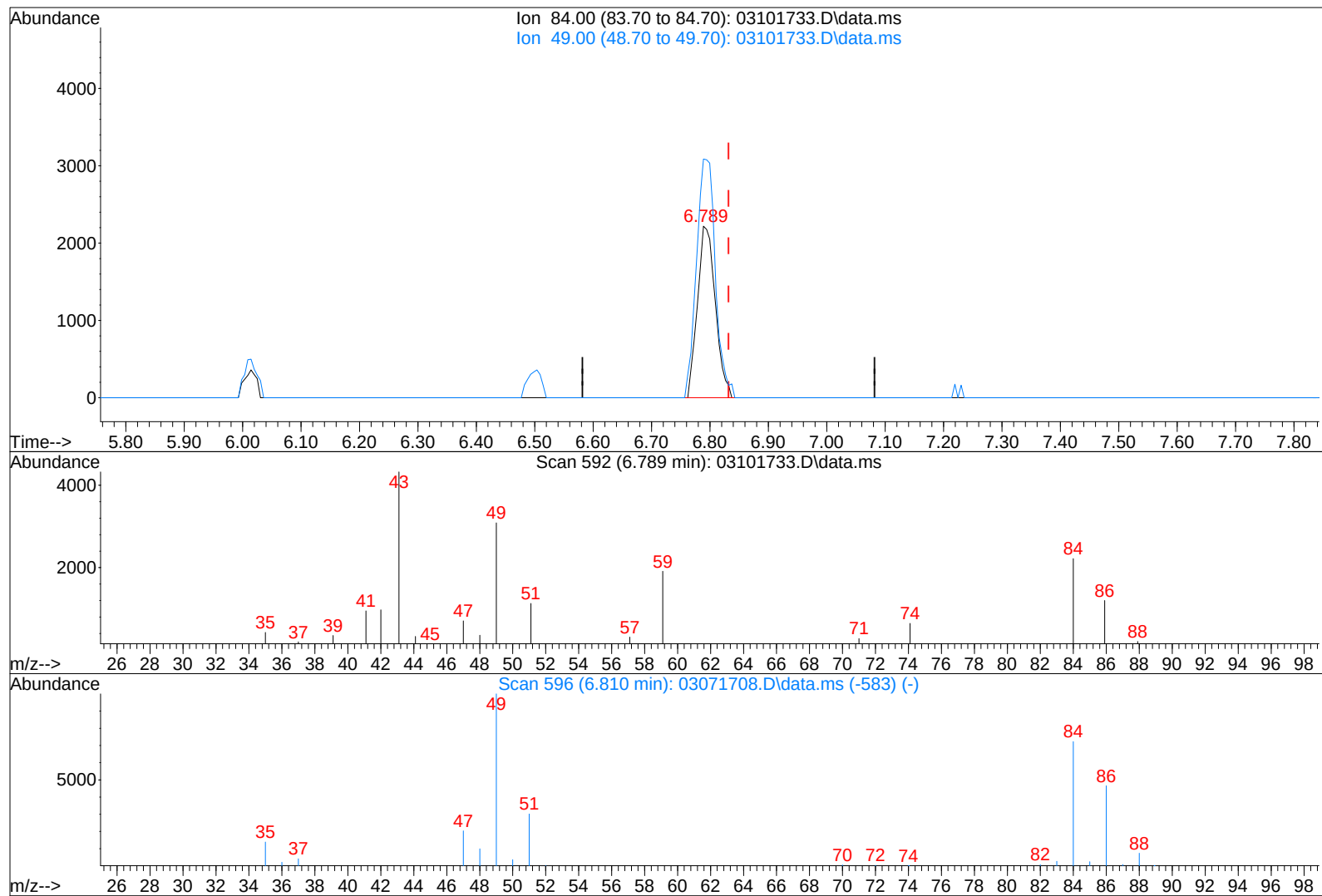
DataAcq Meth:TO15.M



Data File : I:\MS08\Data\2017 03\10\03101733.D
Acq On : 10 Mar 2017 23:21
Sample : P1701088-002 (1000mL)
Misc : S29-01231701

Vial: 3
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:07:39 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101733.D\data.ms

(19) Methylene Chloride (T)

6.789min (-0.043) 0.34ng

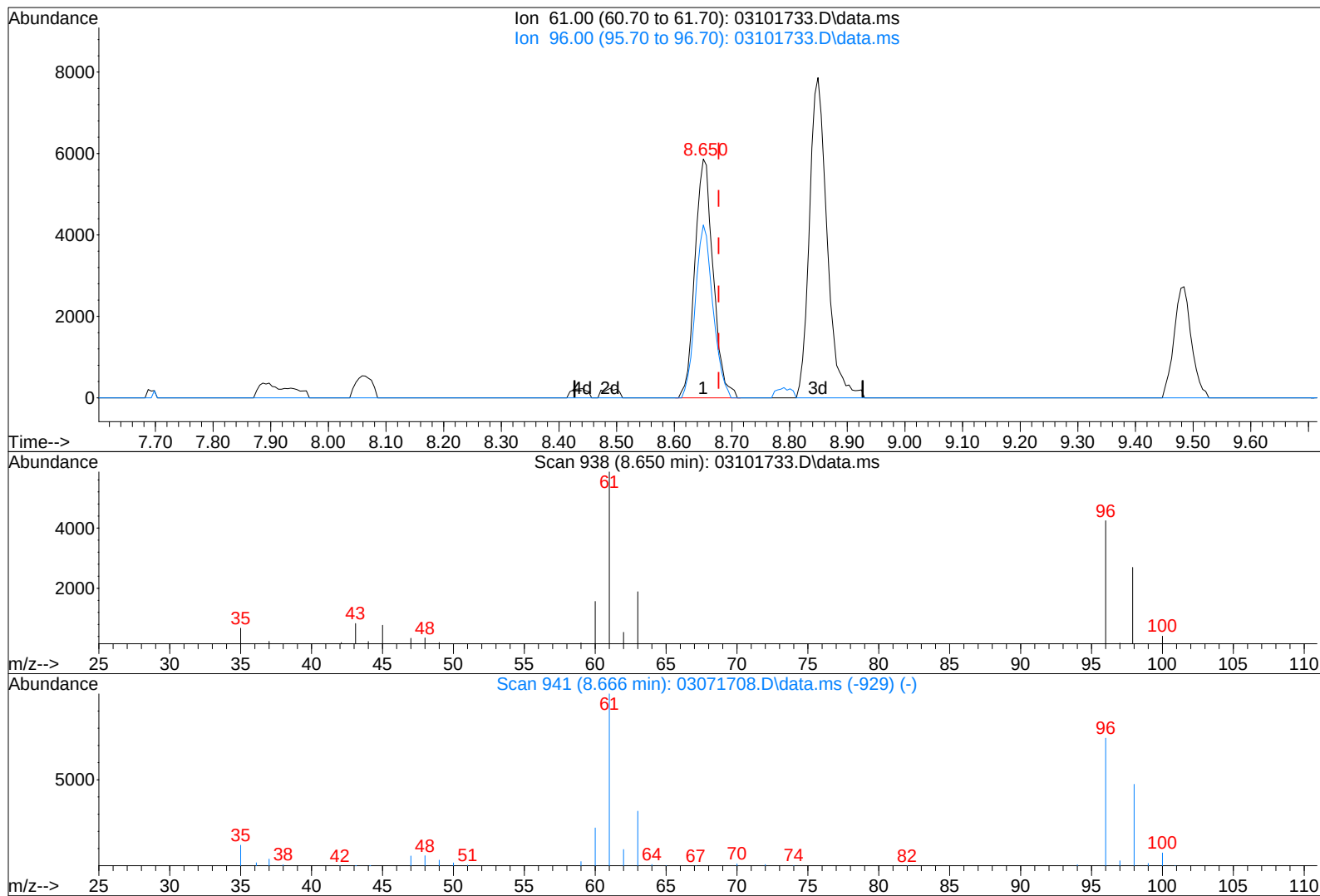
response 4710

Ion	Exp%	Act%
84.00	100	100
49.00	143.20	147.90
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101733.D
Acq On : 10 Mar 2017 23:21
Sample : P1701088-002 (1000mL)
Misc : S29-01231701

Vial: 3
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:07:39 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101733.D\data.ms

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

8.650min (-0.027) 0.62ng

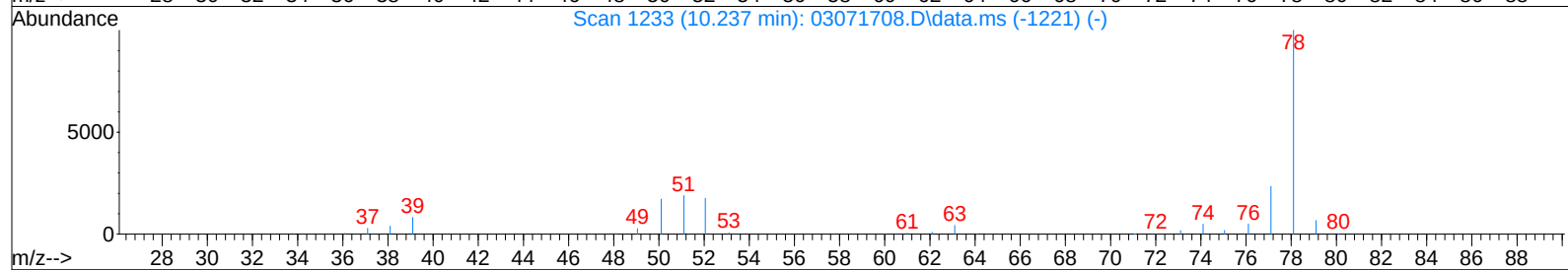
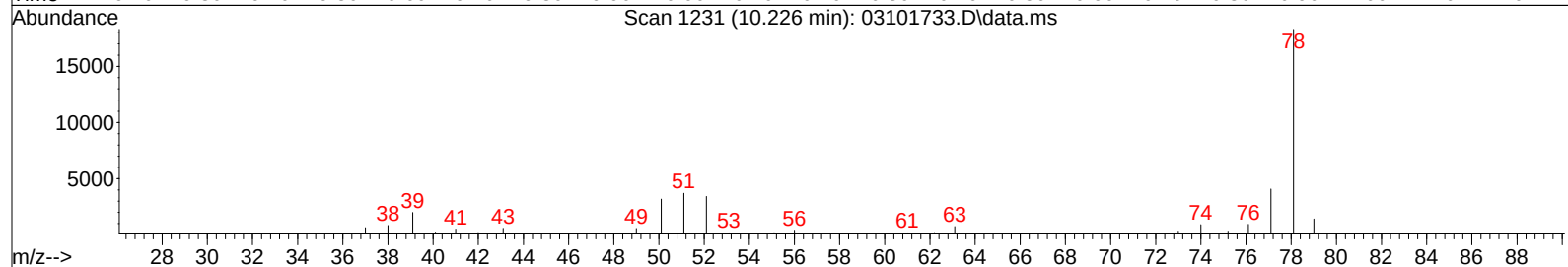
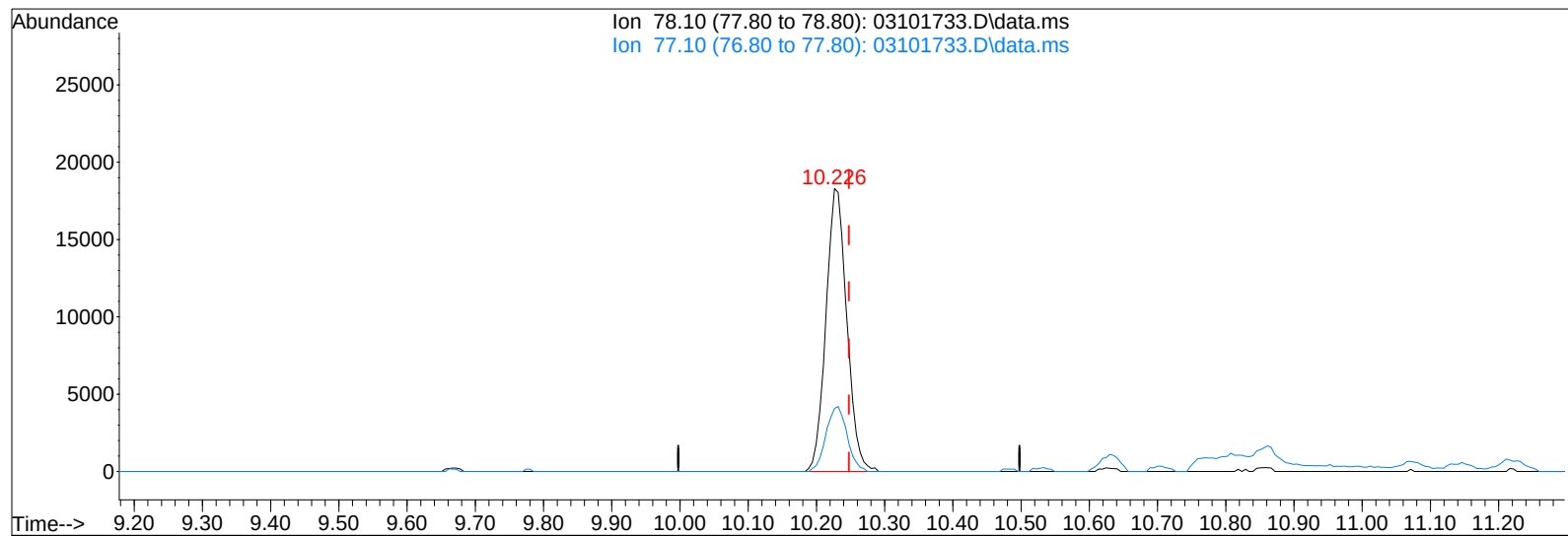
response 12903

Ion	Exp%	Act%
61.00	100	100
96.00	73.50	69.94
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101733.D
Acq On : 10 Mar 2017 23:21
Sample : P1701088-002 (1000mL)
Misc : S29-01231701

Vial: 3
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:07:39 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101733.D\data.ms

(41) Benzene (T)

10.226min (-0.021) 0.65ng

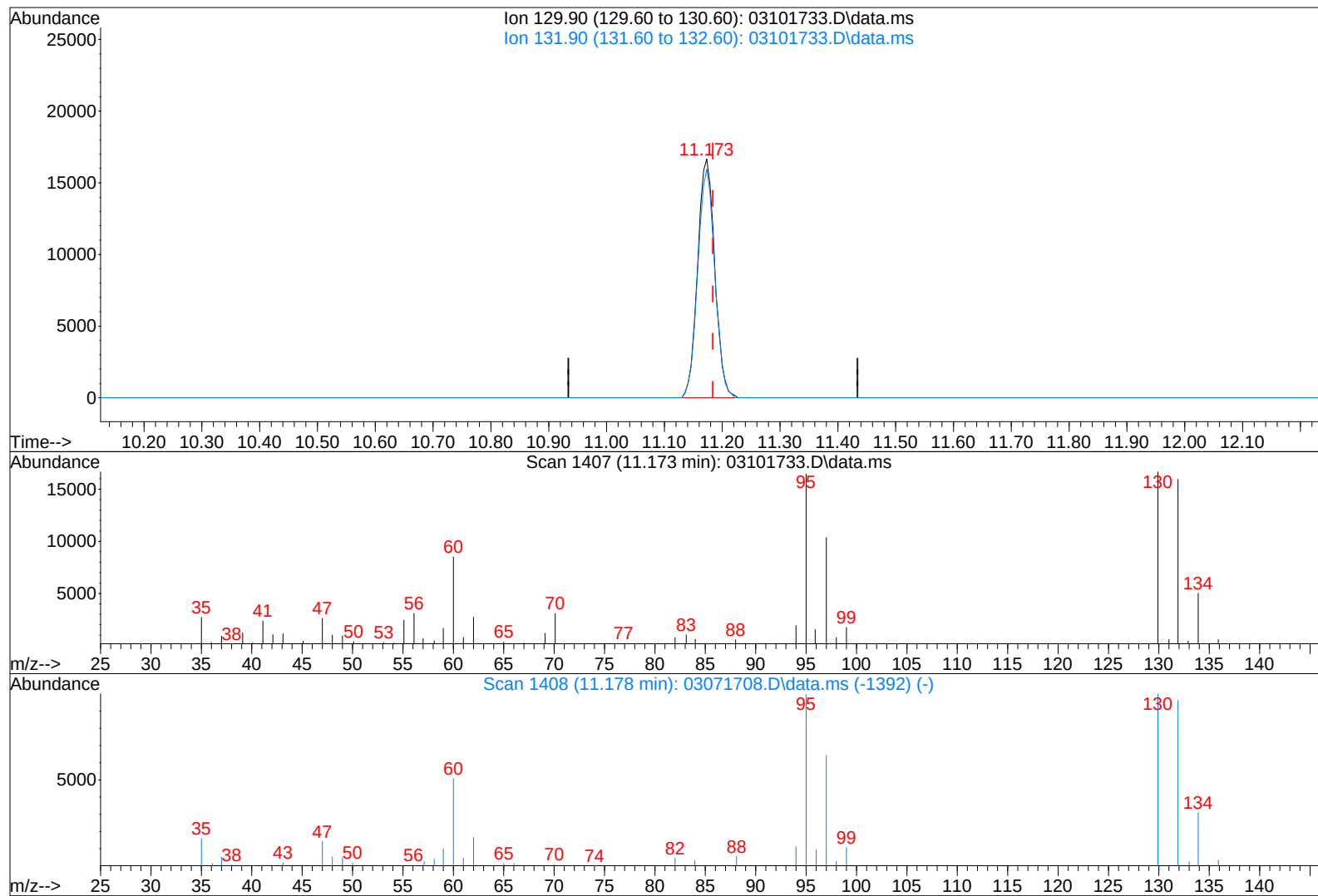
response 38861

Ion	Exp%	Act%
78.10	100	100
77.10	23.60	23.26
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101733.D
Acq On : 10 Mar 2017 23:21
Sample : P1701088-002 (1000mL)
Misc : S29-01231701

Vial: 3
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:07:39 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101733.D\data.ms

(47) Trichloroethene (T)

11.173min (-0.011) 2.19ng

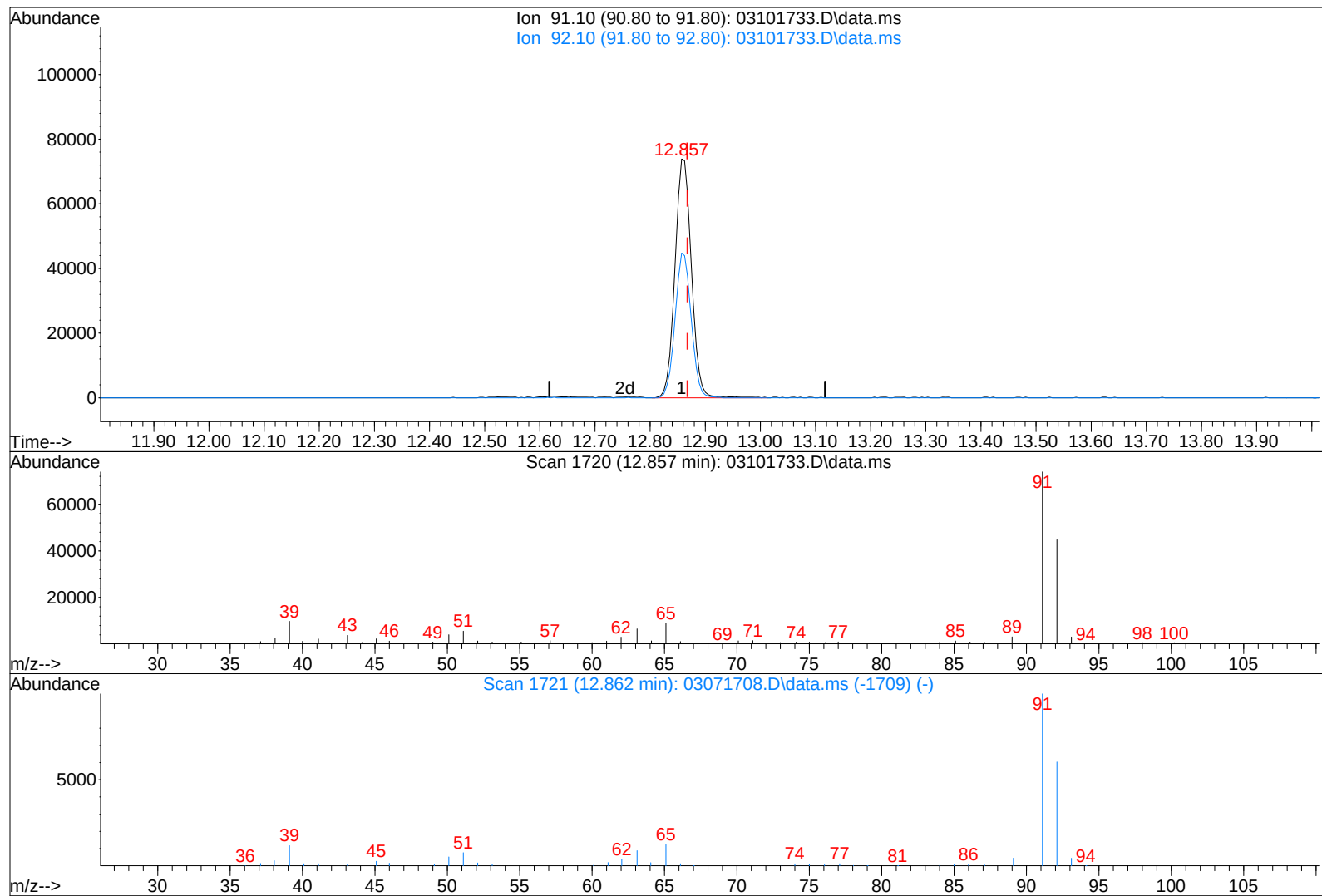
response 34326

Ion	Exp%	Act%
129.90	100	100
131.90	95.60	95.15
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101733.D
Acq On : 10 Mar 2017 23:21
Sample : P1701088-002 (1000mL)
Misc : S29-01231701

Vial: 3
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:07:39 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101733.D\data.ms

(58) Toluene (T)

12.857min (-0.011) 2.65ng

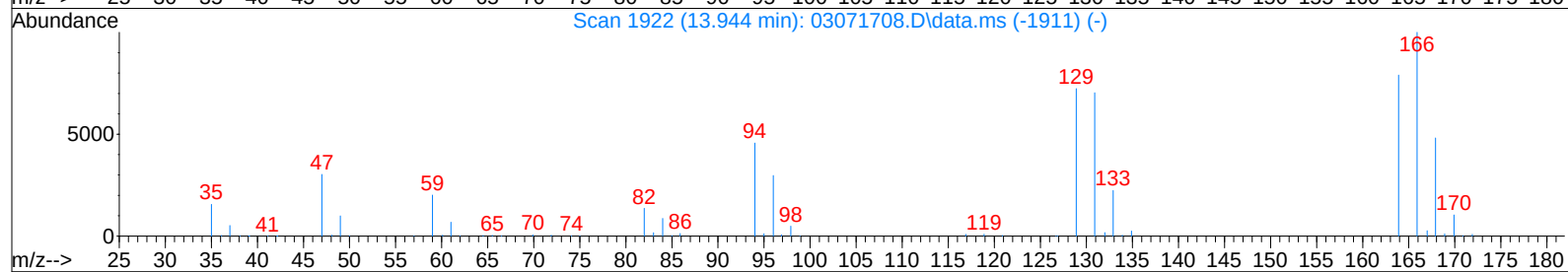
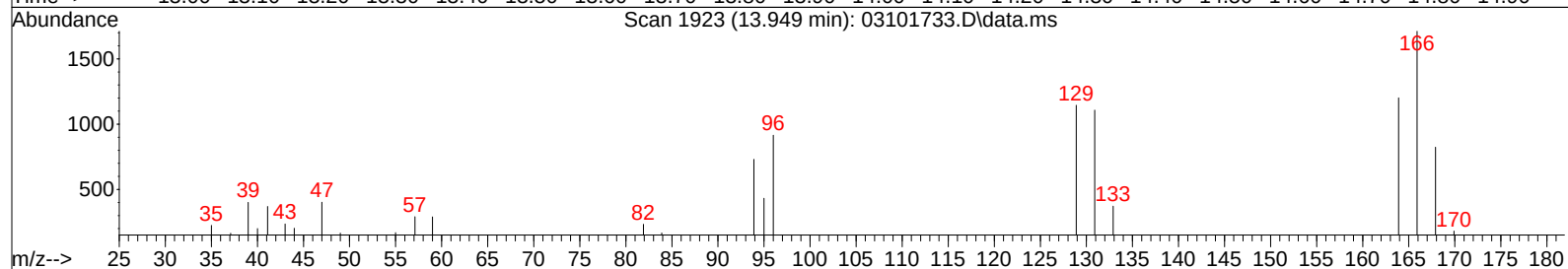
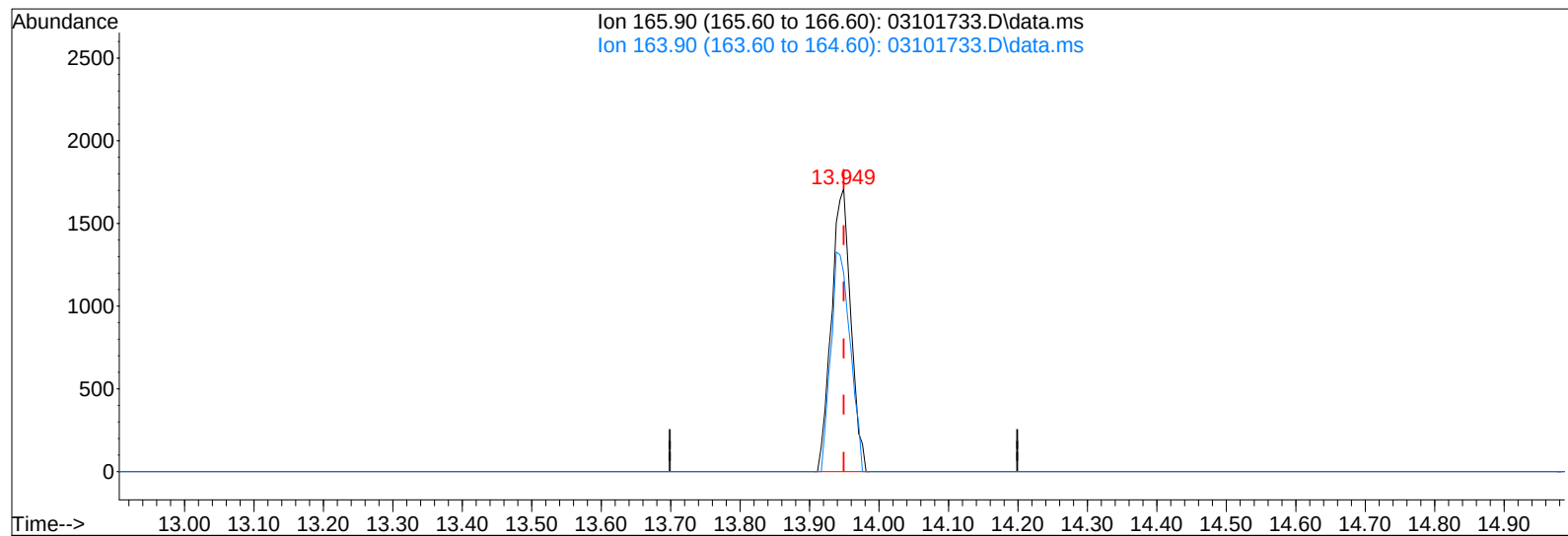
response 153424

Ion	Exp%	Act%
91.10	100	100
92.10	60.40	59.25
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101733.D
Acq On : 10 Mar 2017 23:21
Sample : P1701088-002 (1000mL)
Misc : S29-01231701

Vial: 3
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:07:39 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101733.D\data.ms

(64) Tetrachloroethene (T)

13.949min (+0.000) 0.22ng

response 3302

Ion	Exp%	Act%
165.90	100	100
163.90	78.70	77.56
0.00	0.00	0.00
0.00	0.00	0.00

Data File: I:\MS08\Data\2017 03\10\03101734.D

Acq On : 10 Mar 2017 23:54

Operator: WA

Sample : P1701088-003 (1000mL)

Misc : S29-01231701

ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 13 10:10:18 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

3/13/17

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.79	130	158167	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	10.53	114	757752	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	329897	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	288566	12.665	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	101.28%
57) Toluene-d8 (SS2)	12.77	98	787856	12.709	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	101.68%
73) Bromofluorobenzene (SS3)	16.07	174	245512	12.078	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	96.64%

Target Compounds

						Qvalue
2) Propene	0.00	42	0	N.D.	d	
3) Dichlorodifluoromethan...	4.00	85	54145	1.780	ng	99
4) Chloromethane	4.21	50	8942	0.421	ng	95
5) 1,2-Dichloro-1,1,2,2-t...	4.36	135	1050	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.66	54	4573	0.247	ng	96
8) Bromomethane	4.97	94	712	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.38	45	557282	47.619	ng	100
11) Acetonitrile	5.59	41	21322	0.686	ng	93
12) Acrolein	5.71	56	8552	0.954	ng	99
13) Acetone	5.84	58	260930	22.753	ng	96
14) Trichlorofluoromethane	6.01	101	24402	0.906	ng	100
15) 2-Propanol (Isopropanol)	6.14	45	398109	9.292	ng	99
16) Acrylonitrile	0.00	53	0	N.D.	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	6.79	84	4953	0.354	ng	95
20) 3-Chloro-1-propene (Al...	6.90	41	708	N.D.		
21) Trichlorotrifluoroethane	7.07	151	4705	0.376	ng	98
22) Carbon Disulfide	7.05	76	8948	0.179	ng	98
23) trans-1,2-Dichloroethene	7.89	61	1178	N.D.		
24) 1,1-Dichloroethane	7.88	63	2462	0.092	ng	97
25) Methyl tert-Butyl Ether	8.06	73	874	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	8.24	72	28694	2.960	ng	99
28) cis-1,2-Dichloroethene	8.65	61	13025	0.620	ng	97
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	8.84	61	25484	5.515	ng	93
31) n-Hexane	8.87	57	191522	7.647	ng	100
32) Chloroform	8.91	83	5158	0.195	ng	99
34) Tetrahydrofuran (THF)	9.27	72	14778	1.526	ng	# 85
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	9.59	62	1379	N.D.		
38) 1,1,1-Trichloroethane	9.82	97	4301	0.172	ng	99
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	10.23	78	39244	0.656	ng	100
42) Carbon Tetrachloride	10.37	117	7235	0.352	ng	99
43) Cyclohexane	10.48	84	27760	1.071	ng	99
44) tert-Amyl Methyl Ether	10.86	73	1058	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.17	130	34485	2.208	ng	100
48) 1,4-Dioxane	0.00	88	0	N.D.	d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	

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Data File: I:\MS08\Data\2017 03\10\03101734.D

Acq On : 10 Mar 2017 23:54

Operator: WA

Sample : P1701088-003 (1000mL)

Misc : S29-01231701

ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 13 10:10:18 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.33	100	849	0.148	ng	# 62
51) n-Heptane	11.45	71	72226	4.729	ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.97	58	12383	0.957	ng	95
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.86	91	160931	2.790	ng	98
59) 2-Hexanone	0.00	43	0	N.D.	d	
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.66	43	110800	3.053	ng	100
63) n-Octane	13.79	57	3489	0.273	ng	87
64) Tetrachloroethene	13.95	166	2345	0.153	ng	94
65) Chlorobenzene	14.62	112	820	N.D.		
66) Ethylbenzene	14.99	91	566570	8.771	ng	100
67) m- & p-Xylenes	15.15	91	1694890	32.932	ng	99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.53	104	19989	0.556	ng	100
70) o-Xylene	15.63	91	502359	9.483	ng	99
71) n-Nonane	15.84	43	13395	0.419	ng	98
72) 1,1,2,2-Tetrachloroethane	15.64	83	875	N.D.		
74) Cumene	16.21	105	9146	0.136	ng	99
75) alpha-Pinene	16.59	93	73803	2.129	ng	99
76) n-Propylbenzene	16.69	91	8901	0.113	ng	84
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	16.83	105	8852	0.142	ng	100
79) 1,3,5-Trimethylbenzene	16.91	105	8399	0.148	ng	96
80) alpha-Methylstyrene	0.00	118	0	N.D.	d	
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	17.30	105	30610	0.563	ng	90
83) n-Decane	0.00	57	0	N.D.	d	
84) Benzyl Chloride	17.52	91	2150	N.D.		
85) 1,3-Dichlorobenzene	17.46	146	521	N.D.		
86) 1,4-Dichlorobenzene	17.51	146	310157	9.997	ng	100
87) sec-Butylbenzene	17.56	105	2176	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	17.84	146	3273	0.114	ng	99
91) d-Limonene	17.85	68	174931	8.285	ng	95
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	19.46	180	567	N.D.		
95) Naphthalene	19.57	128	23473	0.375	ng	96
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	17.30	119	4384	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.	d	

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

Data File: I:\MS08\Data\2017 03\10\03101734.D

Acq On : 10 Mar 2017 23:54

Operator: WA

Sample : P1701088-003 (1000mL)

Misc : S29-01231701

ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 13 10:10:18 2017

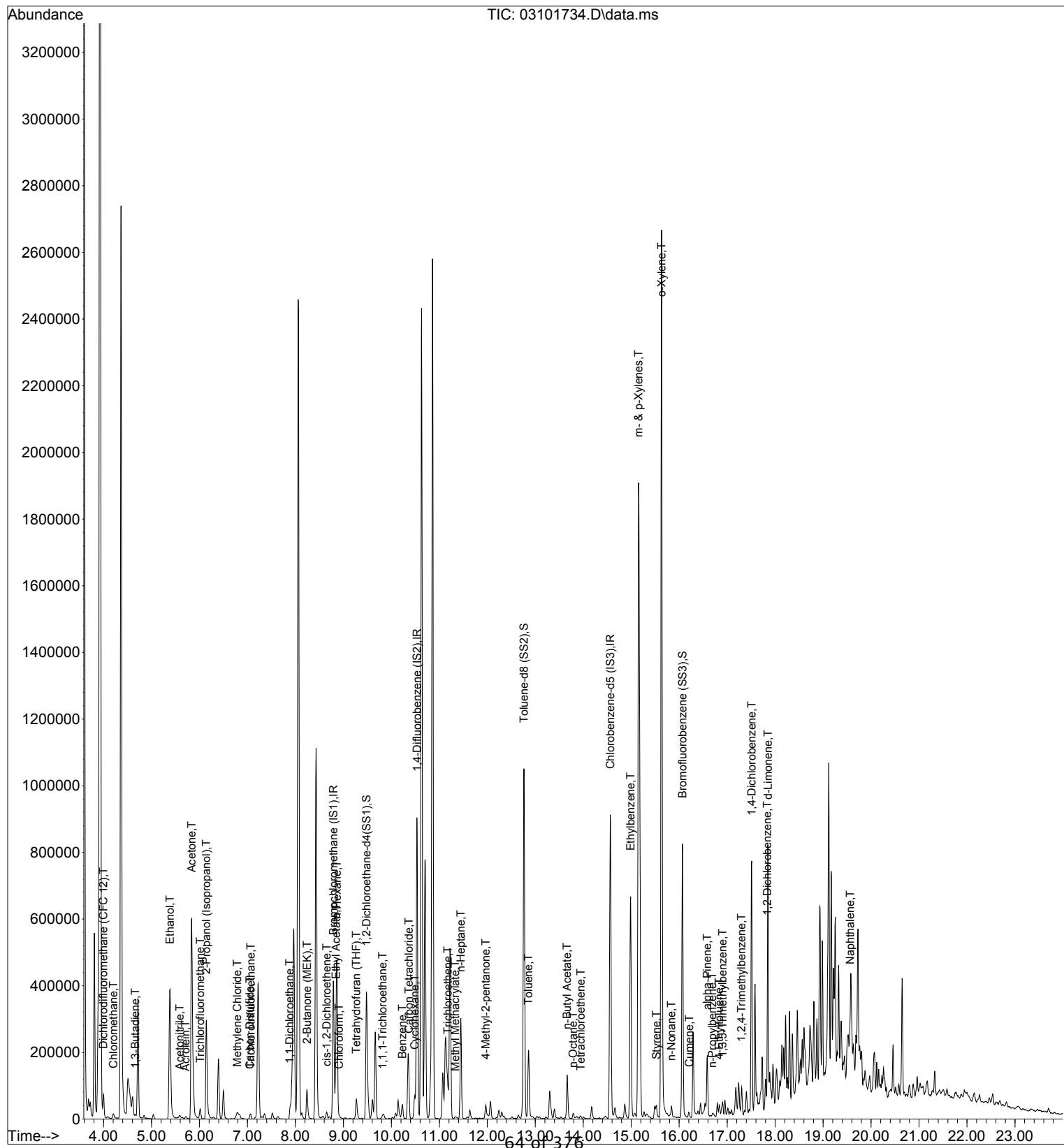
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

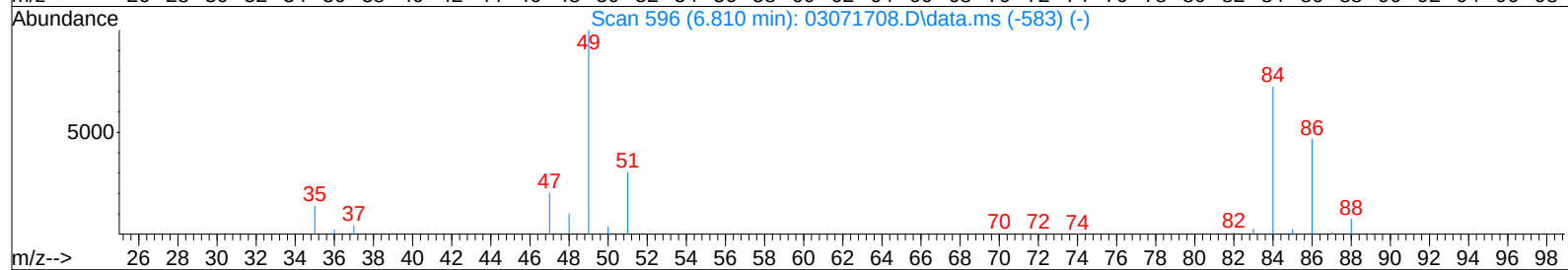
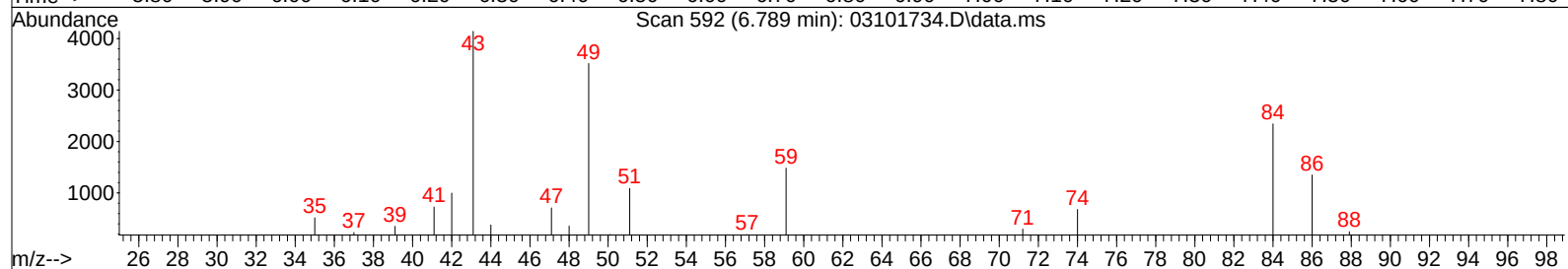
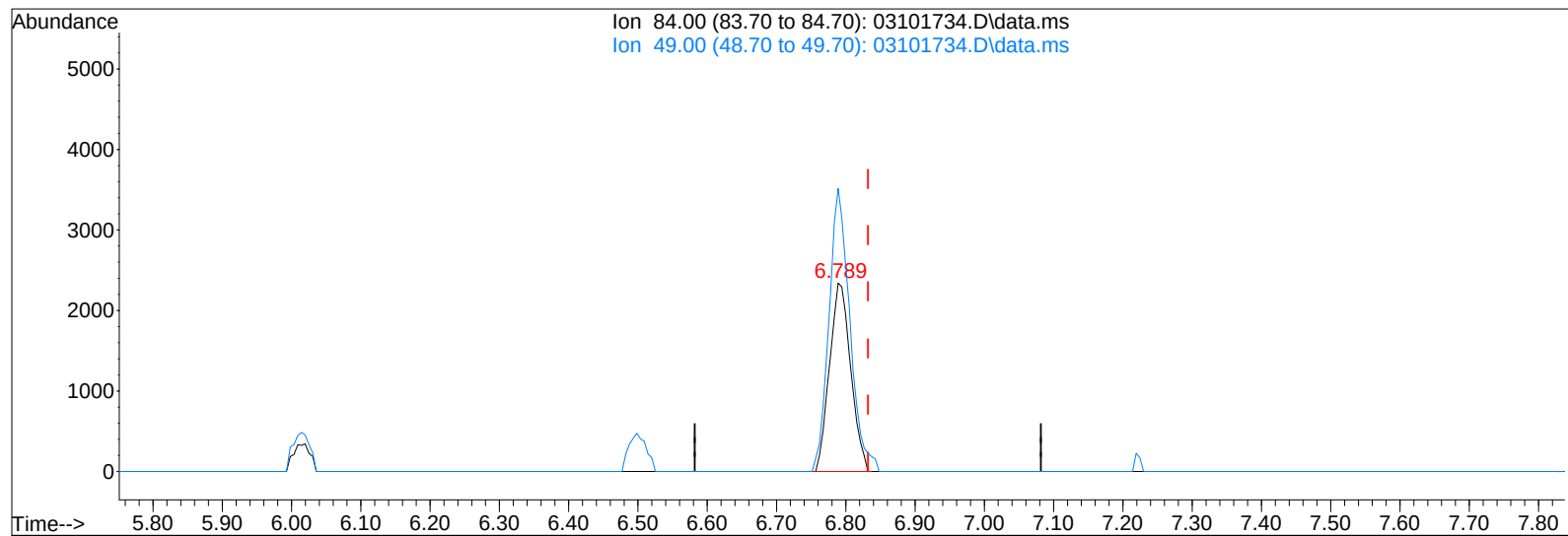
DataAcq Meth:TO15.M



Data File : I:\MS08\Data\2017 03\10\03101734.D
Acq On : 10 Mar 2017 23:54
Sample : P1701088-003 (1000mL)
Misc : S29-01231701

Vial: 4
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:10:18 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101734.D\data.ms

(19) Methylene Chloride (T)

6.789min (-0.043) 0.35ng

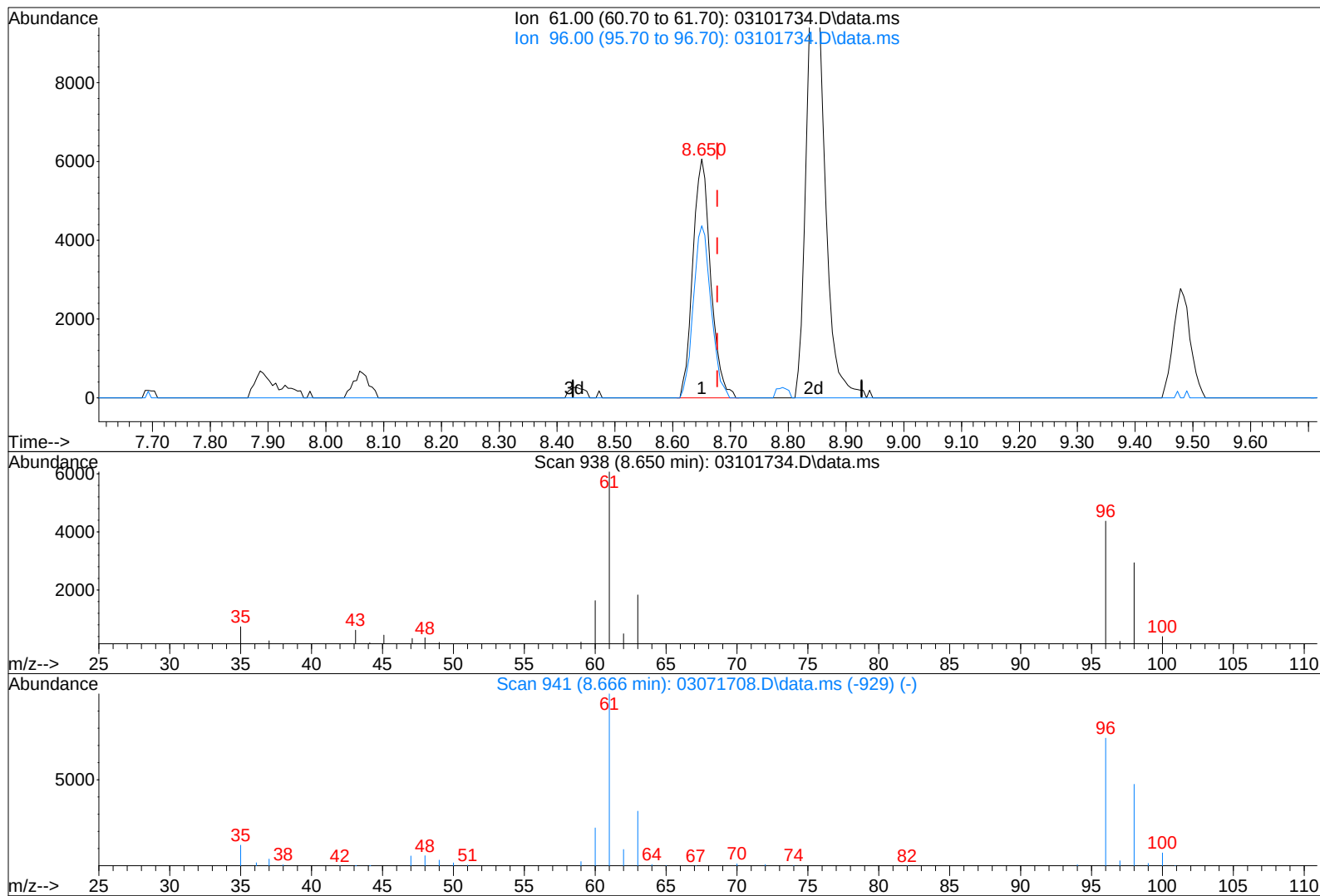
response 4953

Ion	Exp%	Act%
84.00	100	100
49.00	143.20	148.98
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101734.D
Acq On : 10 Mar 2017 23:54
Sample : P1701088-003 (1000mL)
Misc : S29-01231701

Vial: 4
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:10:18 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101734.D\data.ms

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

8.650min (-0.027) 0.62ng

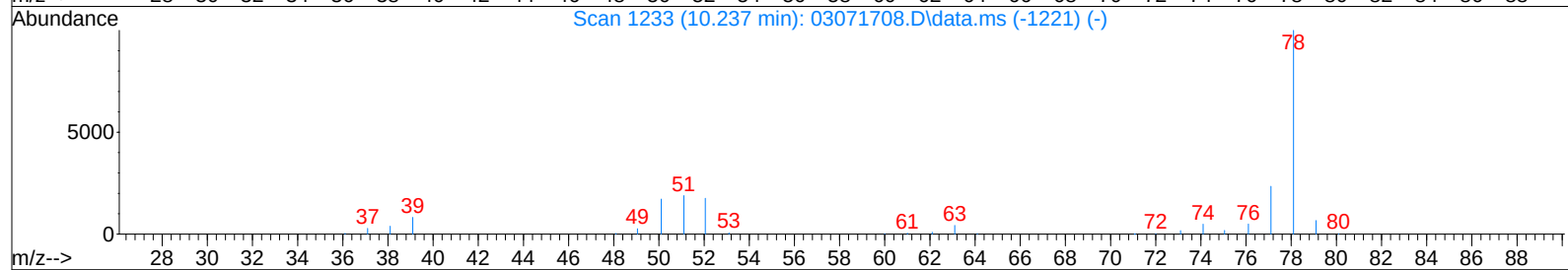
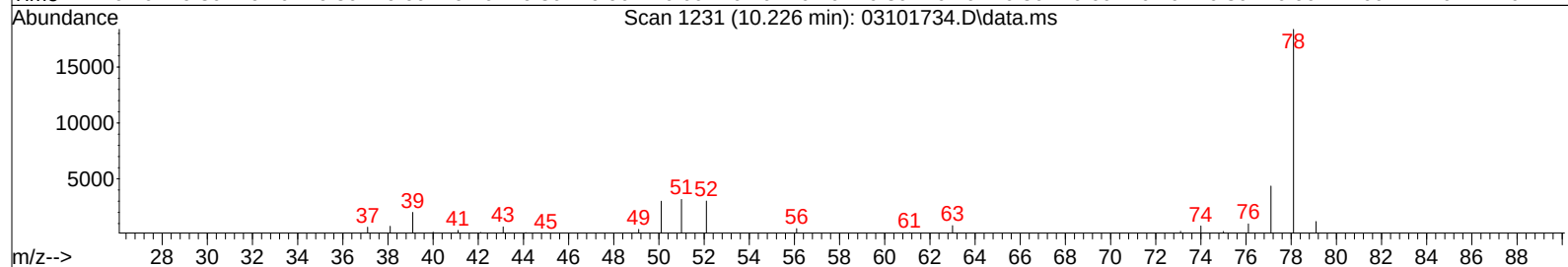
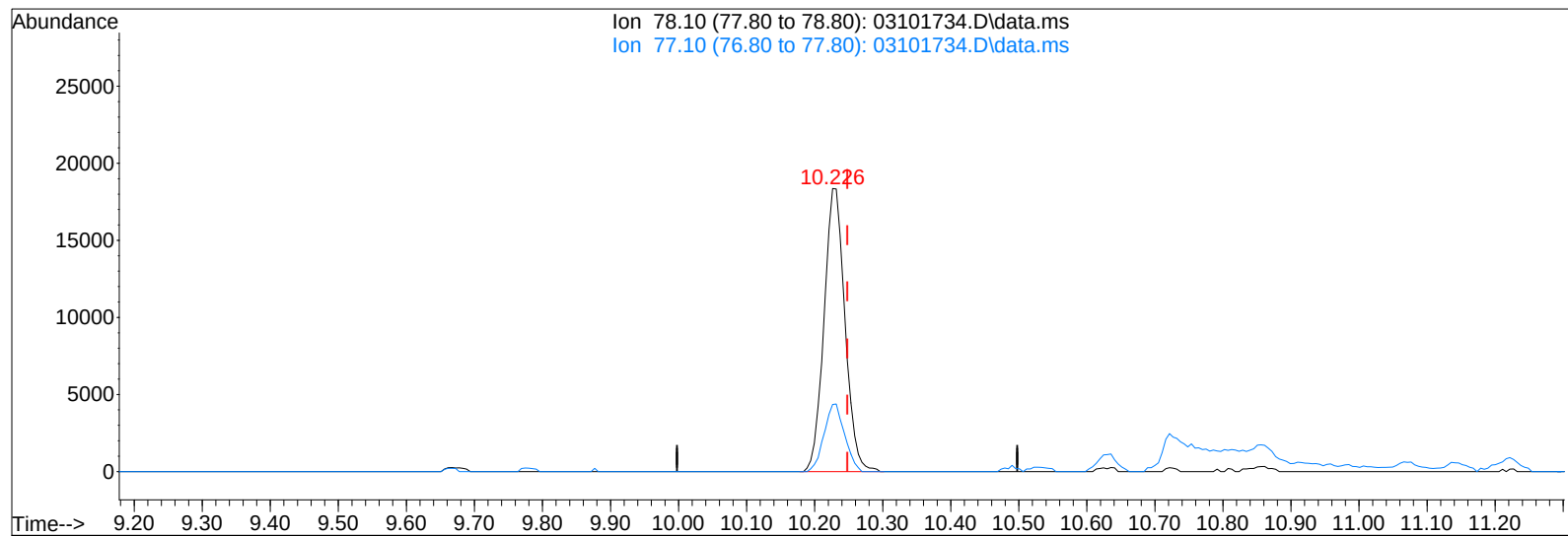
response 13025

Ion	Exp%	Act%
61.00	100	100
96.00	73.50	71.22
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101734.D
Acq On : 10 Mar 2017 23:54
Sample : P1701088-003 (1000mL)
Misc : S29-01231701

Vial: 4
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:10:18 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101734.D\data.ms

(41) Benzene (T)

10.226min (-0.021) 0.66ng

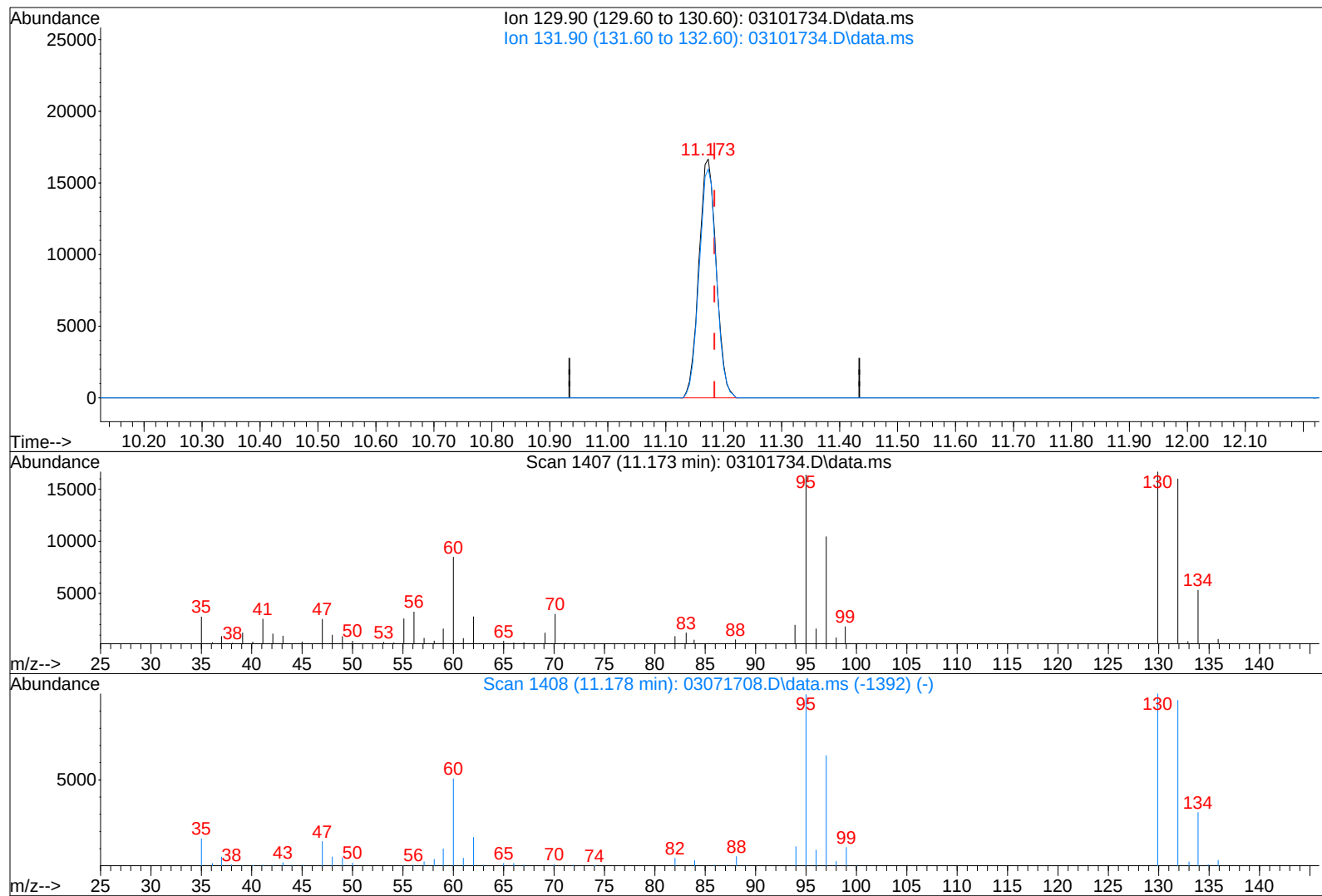
response 39244

Ion	Exp%	Act%
78.10	100	100
77.10	23.60	23.39
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101734.D
Acq On : 10 Mar 2017 23:54
Sample : P1701088-003 (1000mL)
Misc : S29-01231701

Vial: 4
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:10:18 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101734.D\data.ms

(47) Trichloroethene (T)

11.173min (-0.011) 2.21ng

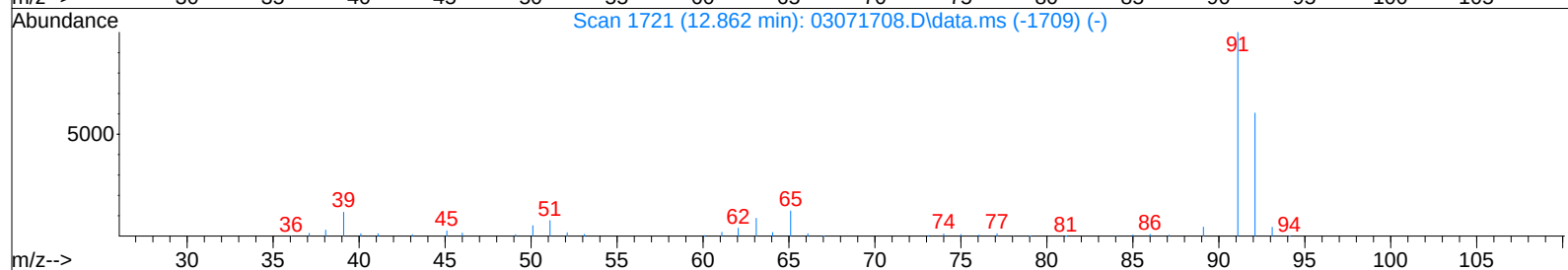
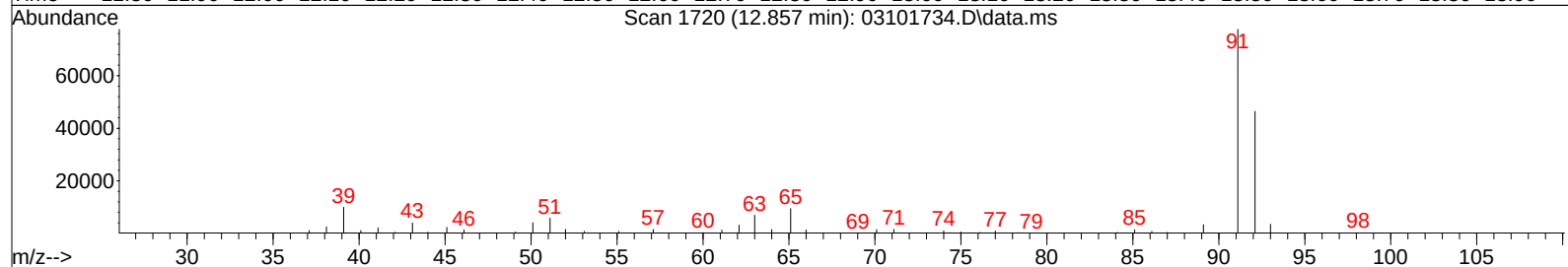
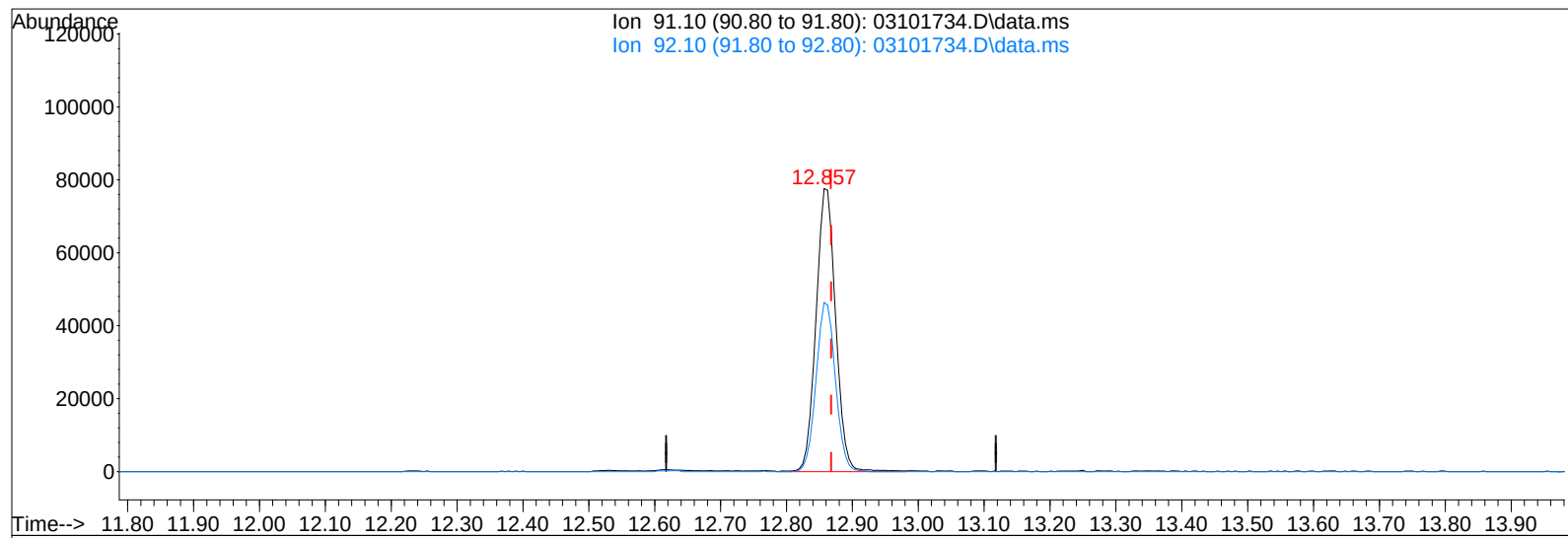
response 34485

Ion	Exp%	Act%
129.90	100	100
131.90	95.60	95.26
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101734.D
Acq On : 10 Mar 2017 23:54
Sample : P1701088-003 (1000mL)
Misc : S29-01231701

Vial: 4
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:10:18 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101734.D\data.ms

(58) Toluene (T)

12.857min (-0.011) 2.79ng

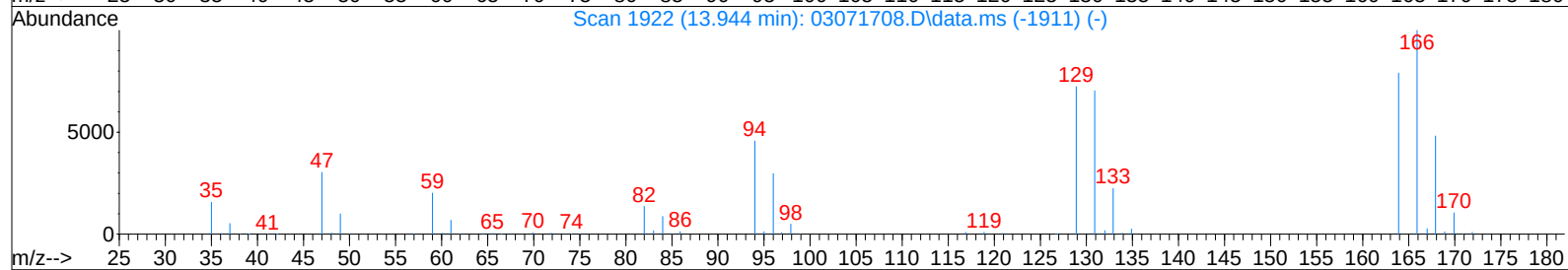
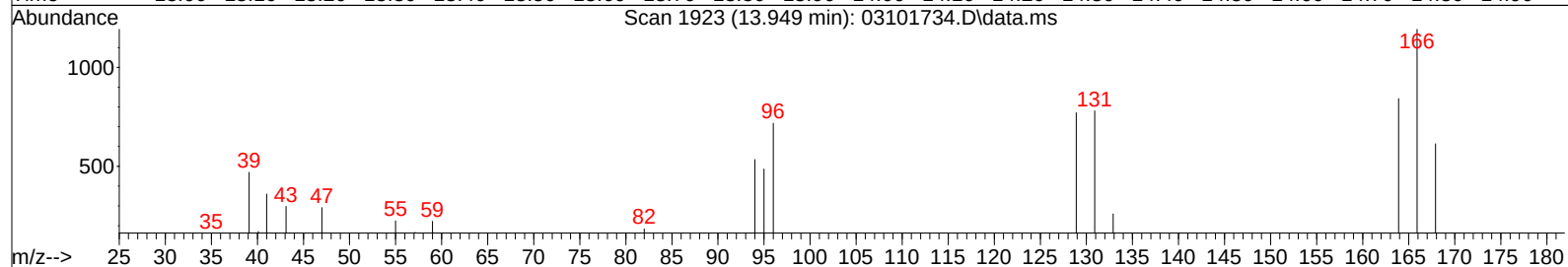
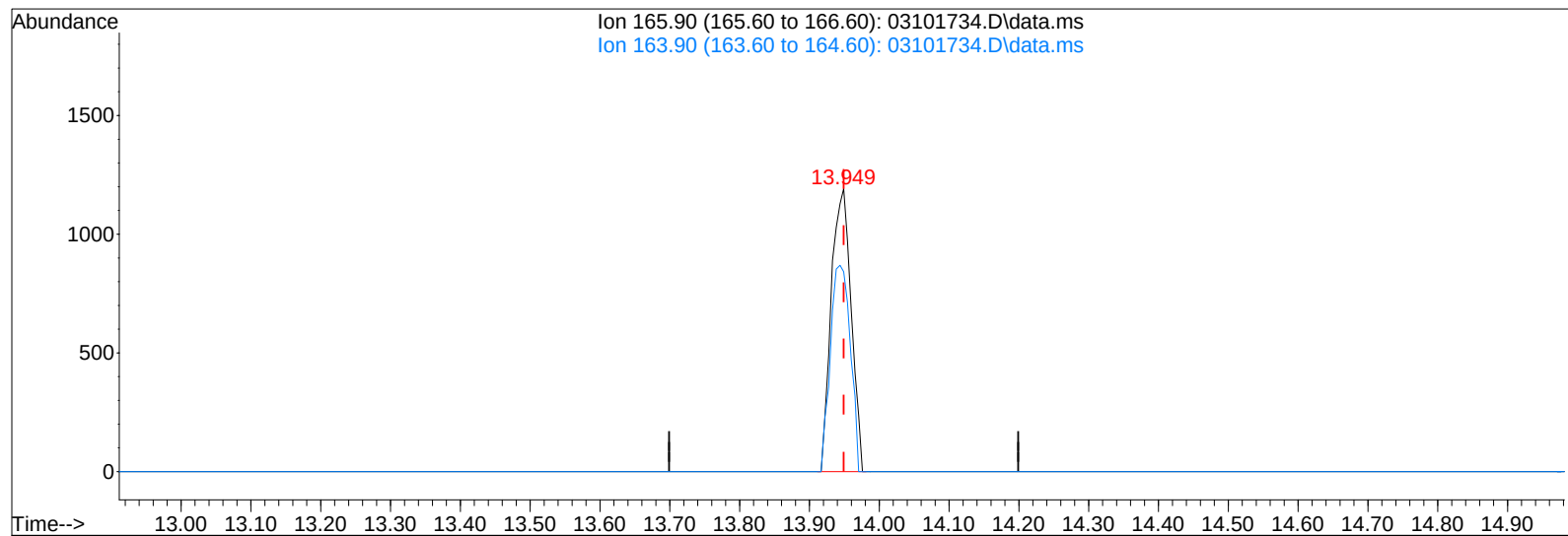
response 160931

Ion	Exp%	Act%
91.10	100	100
92.10	60.40	58.70
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101734.D
Acq On : 10 Mar 2017 23:54
Sample : P1701088-003 (1000mL)
Misc : S29-01231701

Vial: 4
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:10:18 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101734.D\data.ms

(64) Tetrachloroethene (T)

13.949min (+0.000) 0.15ng

response 2345

Ion	Exp%	Act%
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165.90	100	100
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163.90	78.70	73.35
--------	-------	-------

0.00	0.00	0.00
------	------	------

0.00	0.00	0.00
------	------	------

Data File: I:\MS08\Data\2017 03\10\03101735.D

Acq On : 11 Mar 2017 00:26

Operator: WA

Sample : P1701088-004 (1000mL)

Misc : S29-01231701

ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 13 10:39:22 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

3/13/17

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.80	130	161945	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	10.53	114	775073	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	334567	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	291240	12.484	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	99.84%
57) Toluene-d8 (SS2)	12.77	98	806677	12.831	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	102.64%
73) Bromofluorobenzene (SS3)	16.07	174	250389	12.146	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	97.20%

Target Compounds

						Qvalue
2) Propene	0.00	42	0	N.D.	d	
3) Dichlorodifluoromethan...	4.00	85	47827	1.536	ng	99
4) Chloromethane	4.21	50	8217	0.377	ng	95
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	845	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.66	54	3391	0.179	ng	88
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.38	45	507441	42.349	ng	100
11) Acetonitrile	5.59	41	19500	0.613	ng	100
12) Acrolein	5.72	56	7272	0.793	ng	95
13) Acetone	5.84	58	315670	26.884	ng	99
14) Trichlorofluoromethane	6.01	101	21709	0.787	ng	100
15) 2-Propanol (Isopropanol)	6.14	45	332685	7.584	ng	99
16) Acrylonitrile	0.00	53	0	N.D.	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	6.79	84	4409	0.308	ng	96
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	7.07	151	4454	0.348	ng	94
22) Carbon Disulfide	7.05	76	6453	0.126	ng	98
23) trans-1,2-Dichloroethene	7.89	61	1126	N.D.		
24) 1,1-Dichloroethane	7.88	63	2072	N.D.		
25) Methyl tert-Butyl Ether	8.06	73	1116	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	8.24	72	24606	2.479	ng	98
28) cis-1,2-Dichloroethene	8.65	61	11440	0.532	ng	98
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	8.85	61	24482	5.174	ng	91
31) n-Hexane	8.87	57	247459	9.650	ng	100
32) Chloroform	8.92	83	4697	0.173	ng	98
34) Tetrahydrofuran (THF)	9.27	72	13383	1.350	ng	92
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	9.59	62	1183	N.D.		
38) 1,1,1-Trichloroethane	9.82	97	3697	0.144	ng	96
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	10.23	78	34136	0.558	ng	100
42) Carbon Tetrachloride	10.37	117	6780	0.323	ng	99
43) Cyclohexane	10.49	84	30879	1.165	ng	99
44) tert-Amyl Methyl Ether	10.86	73	1073	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.17	130	32454	2.032	ng	100
48) 1,4-Dioxane	0.00	88	0	N.D.	d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	

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Data File: I:\MS08\Data\2017 03\10\03101735.D

Acq On : 11 Mar 2017 00:26

Operator: WA

Sample : P1701088-004 (1000mL)

Misc : S29-01231701

ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 13 10:39:22 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

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	11.45	71	79745	5.104	ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.97	58	7954	0.601	ng	96
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.86	91	160391	2.742	ng	99
59) 2-Hexanone	0.00	43	0	N.D.	d	
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.66	43	55981	1.521	ng	98
63) n-Octane	13.79	57	2713	0.210	ng	84
64) Tetrachloroethene	13.94	166	2910	0.188	ng	98
65) Chlorobenzene	14.63	112	1103	N.D.		
66) Ethylbenzene	14.99	91	622254	9.498	ng	100
67) m- & p-Xylenes	15.15	91	1803600	34.555	ng	100
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.53	104	14798	0.406	ng	99
70) o-Xylene	15.63	91	549678	10.232	ng	99
71) n-Nonane	15.84	43	10393	0.321	ng	98
72) 1,1,2,2-Tetrachloroethane	15.63	83	460	N.D.		
74) Cumene	16.20	105	9535	0.140	ng	99
75) alpha-Pinene	16.59	93	55805	1.587	ng	95
76) n-Propylbenzene	16.69	91	6889	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	16.84	105	6423	0.102	ng	92
79) 1,3,5-Trimethylbenzene	16.91	105	5663	0.098	ng	94
80) alpha-Methylstyrene	17.06	118	1515	N.D.		
81) 2-Ethyltoluene	17.09	105	5843	N.D.		
82) 1,2,4-Trimethylbenzene	17.30	105	20438	0.370	ng	89
83) n-Decane	0.00	57	0	N.D.	d	
84) Benzyl Chloride	17.43	91	423	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	d	
86) 1,4-Dichlorobenzene	17.51	146	280083	8.902	ng	100
87) sec-Butylbenzene	17.56	105	1401	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	17.84	146	2804	0.096	ng	93
91) d-Limonene	17.85	68	89593	4.184	ng	95
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	19.58	180	1032	N.D.		
95) Naphthalene	19.57	128	21405	0.337	ng	97
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	17.30	119	2897	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.	d	

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

Data File: I:\MS08\Data\2017 03\10\03101735.D

Acq On : 11 Mar 2017 00:26

Operator: WA

Sample : P1701088-004 (1000mL)

Misc : S29-01231701

ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 13 10:39:22 2017

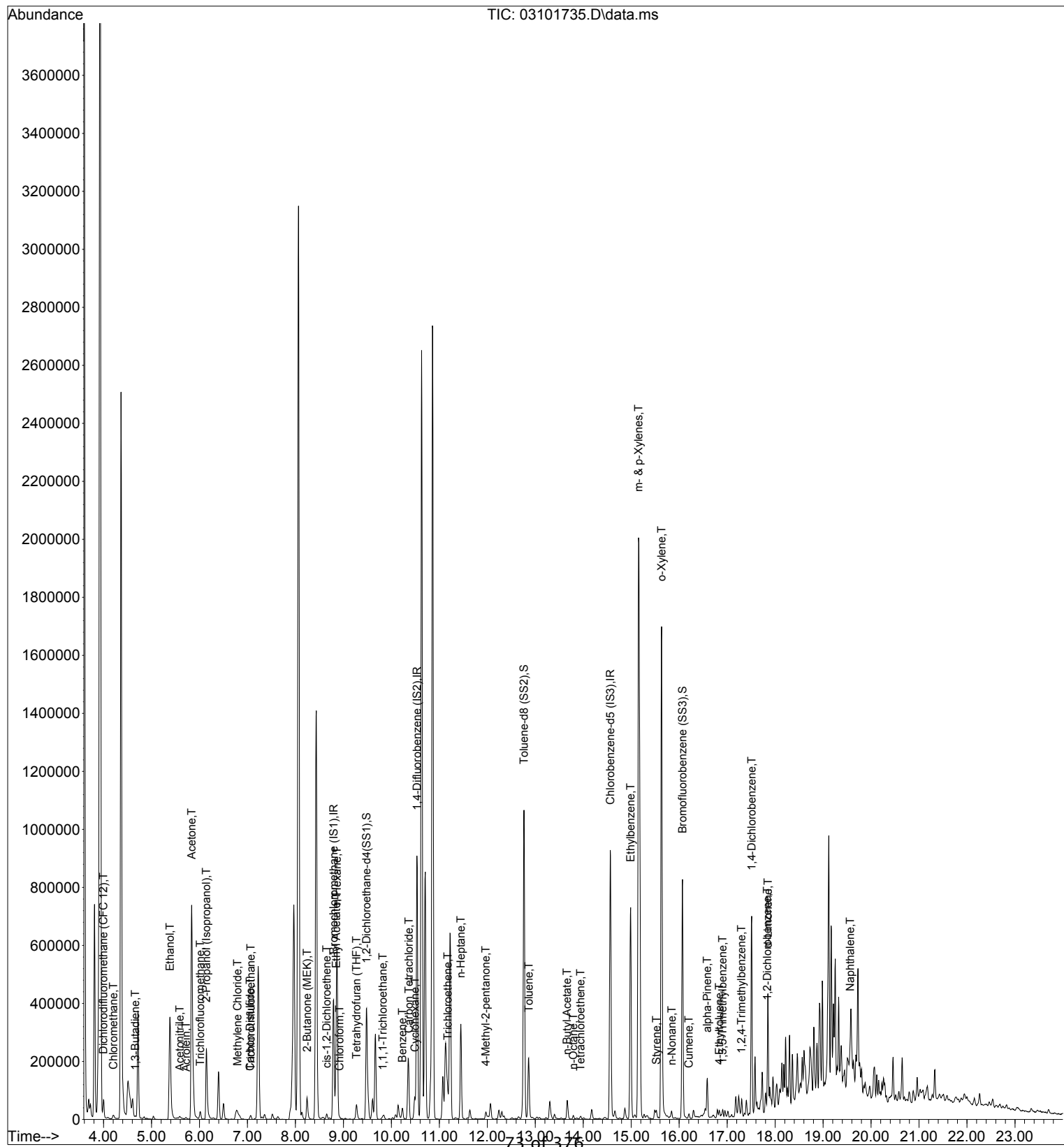
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

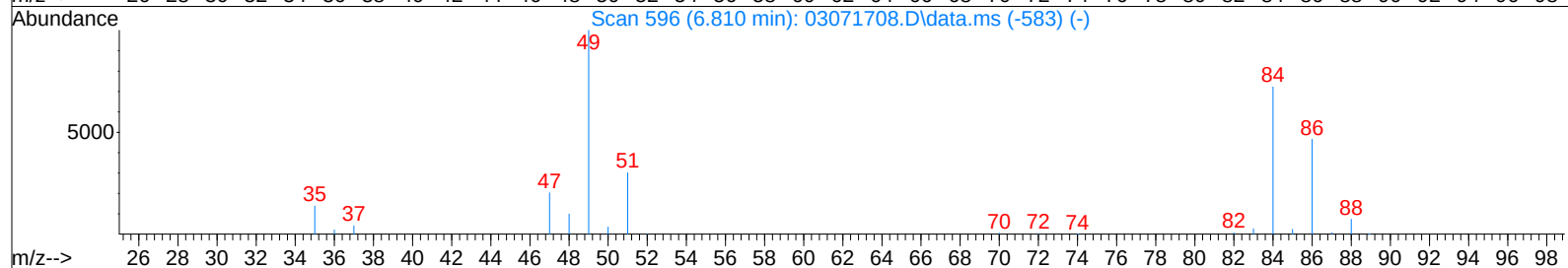
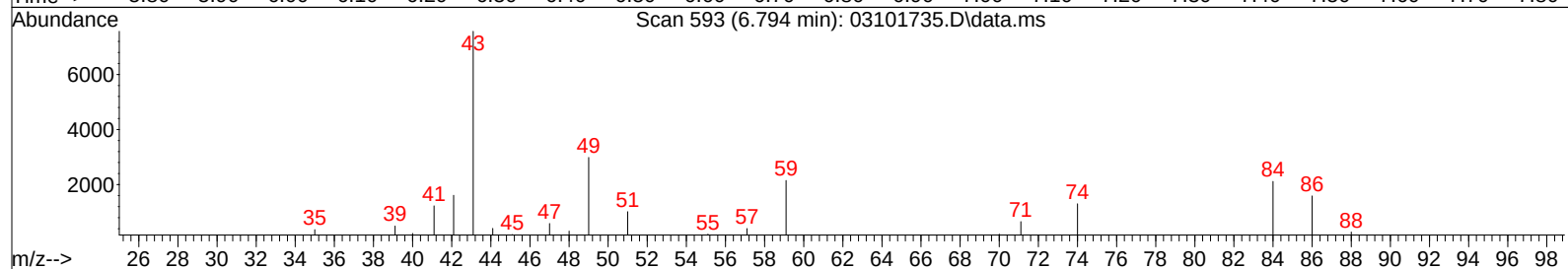
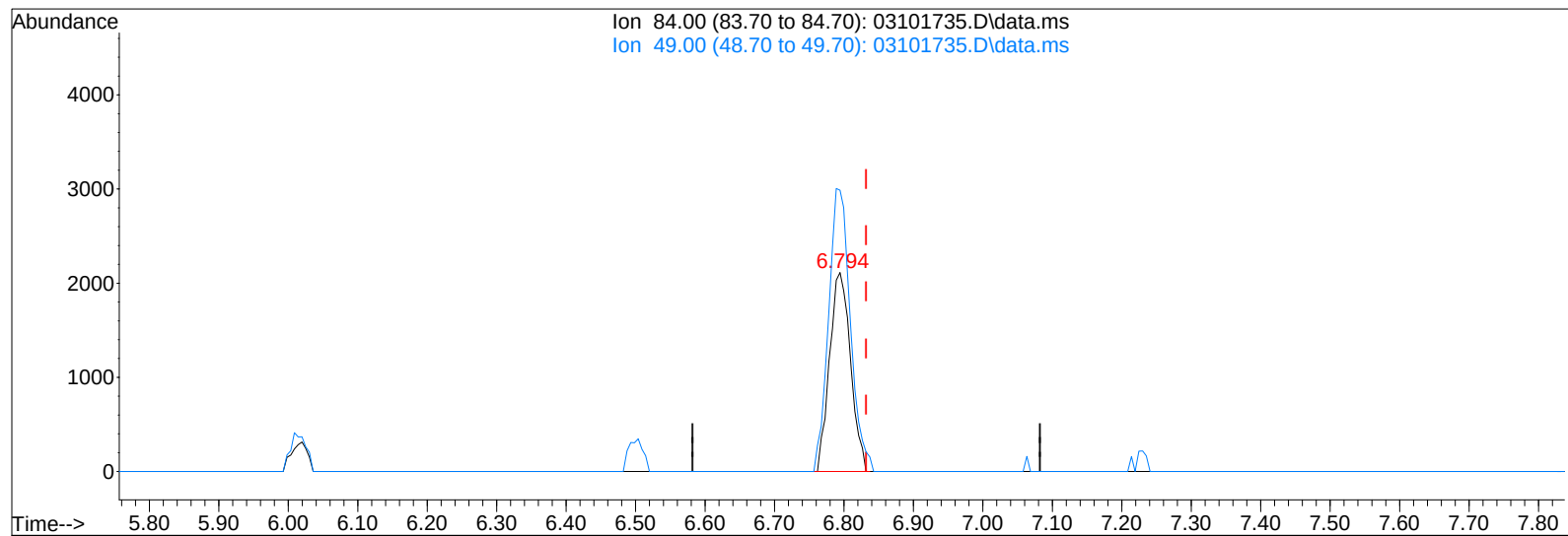
DataAcq Meth:TO15.M



Data File : I:\MS08\Data\2017 03\10\03101735.D
Acq On : 11 Mar 2017 00:26
Sample : P1701088-004 (1000mL)
Misc : S29-01231701

Vial: 5
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:39:22 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101735.D\data.ms

(19) Methylene Chloride (T)

6.794min (-0.038) 0.31ng

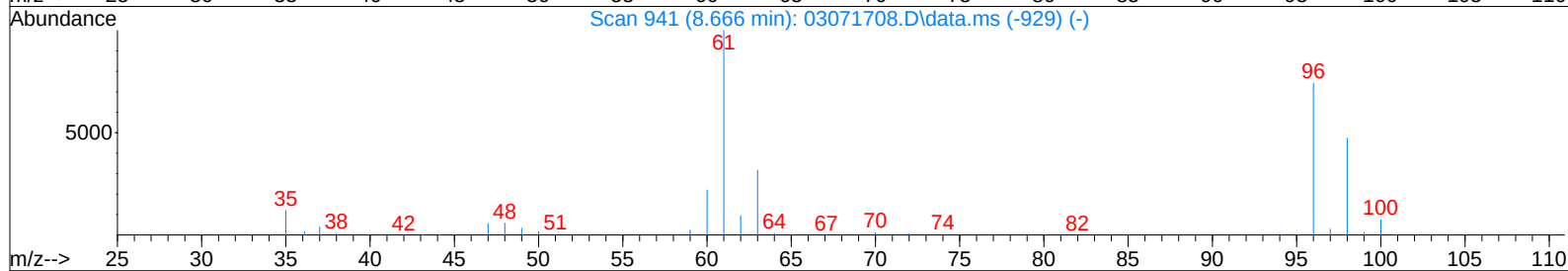
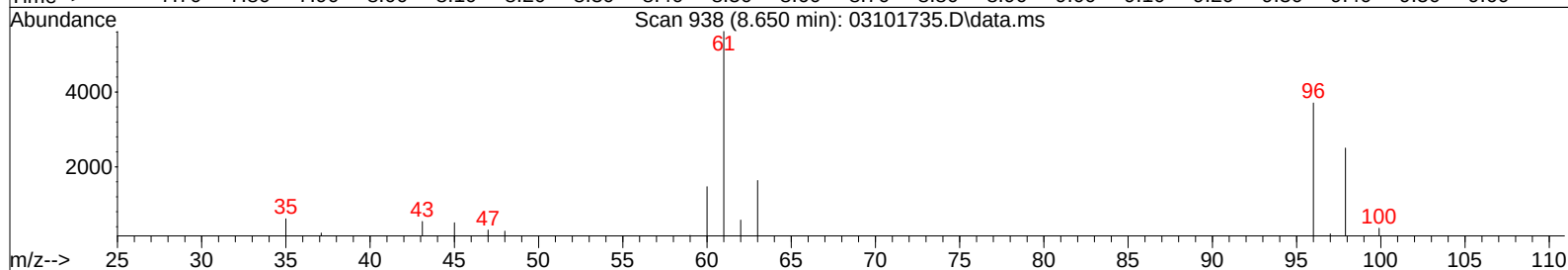
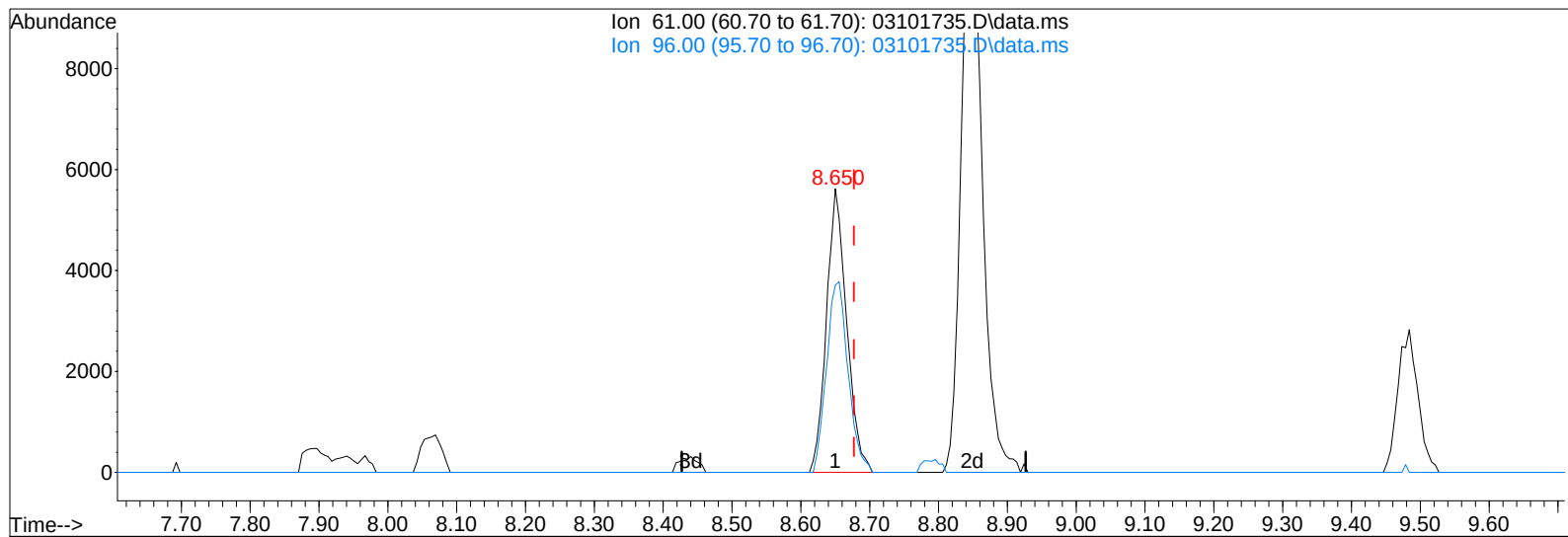
response 4409

Ion	Exp%	Act%
84.00	100	100
49.00	143.20	148.56
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101735.D
Acq On : 11 Mar 2017 00:26
Sample : P1701088-004 (1000mL)
Misc : S29-01231701

Vial: 5
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:39:22 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101735.D\data.ms

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

8.650min (-0.027) 0.53ng

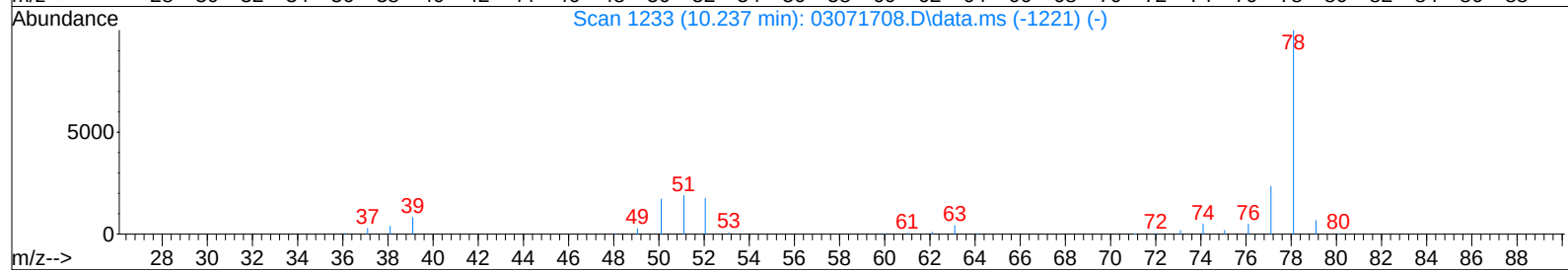
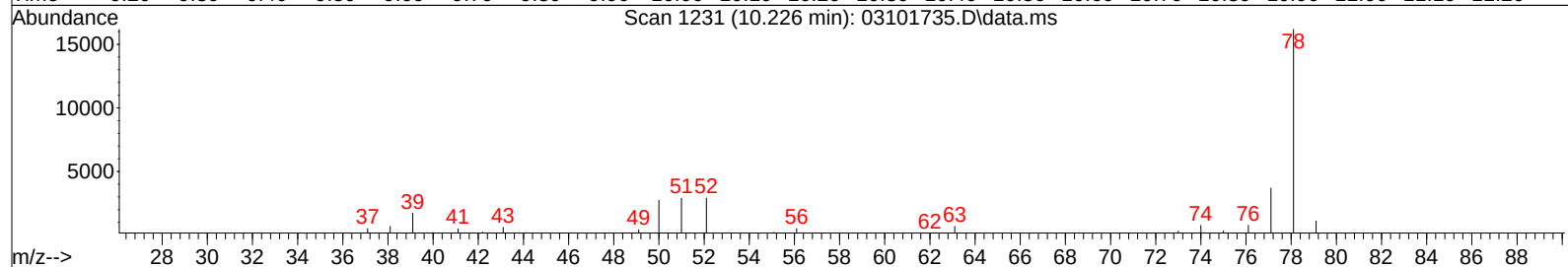
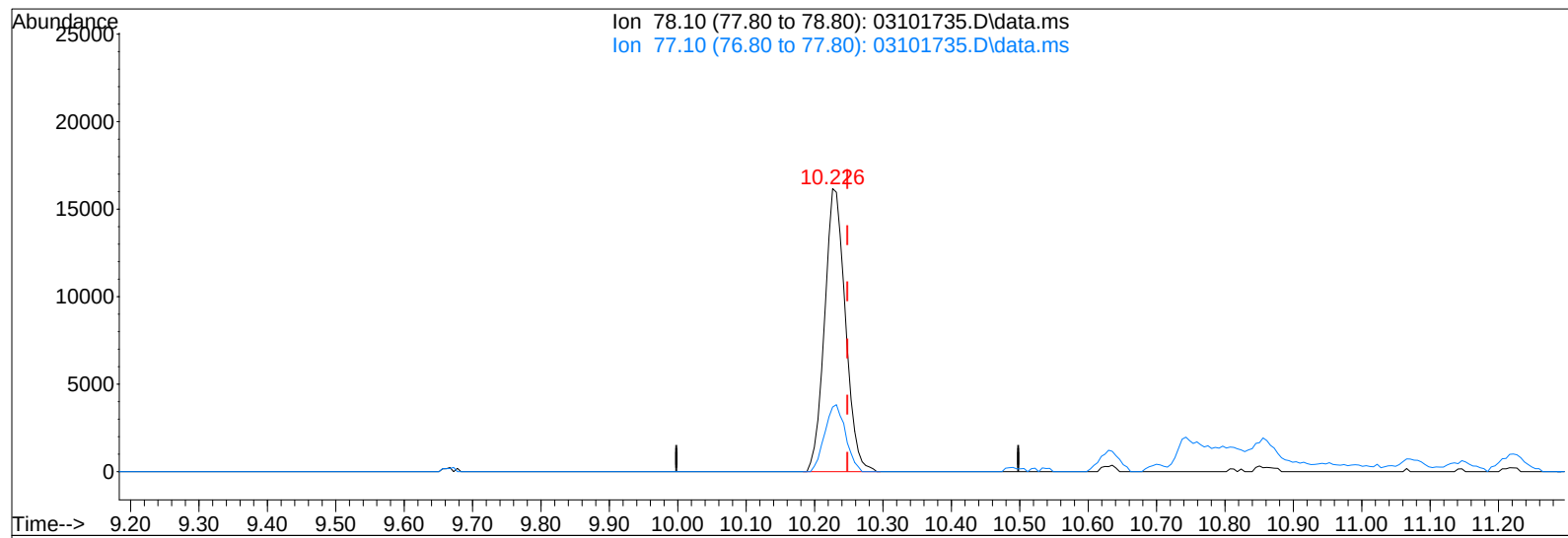
response 11440

Ion	Exp%	Act%
61.00	100	100
96.00	73.50	71.81
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101735.D
Acq On : 11 Mar 2017 00:26
Sample : P1701088-004 (1000mL)
Misc : S29-01231701

Vial: 5
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:39:22 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101735.D\data.ms

(41) Benzene (T)

10.226min (-0.022) 0.56ng

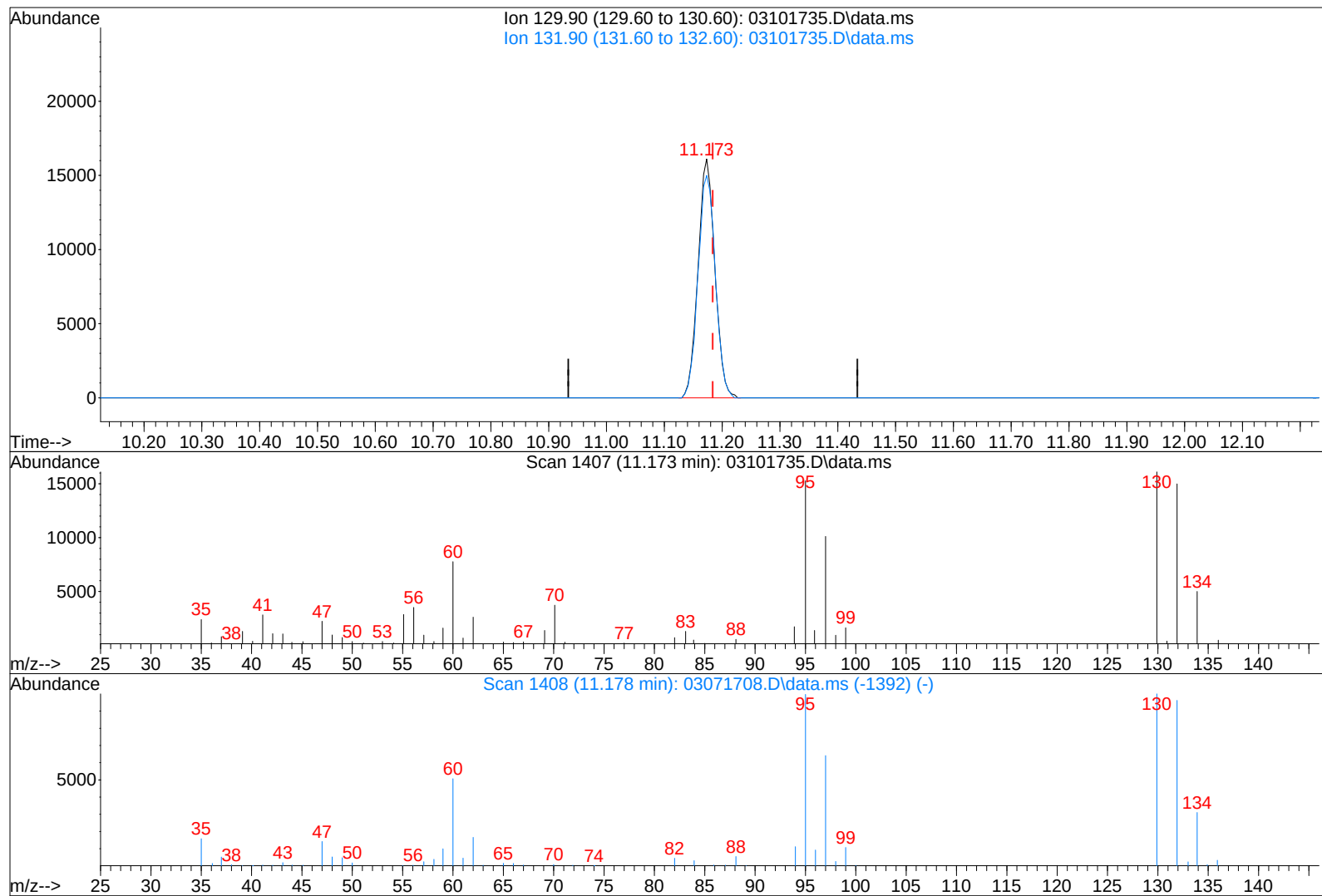
response 34136

Ion	Exp%	Act%
78.10	100	100
77.10	23.60	23.61
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101735.D
Acq On : 11 Mar 2017 00:26
Sample : P1701088-004 (1000mL)
Misc : S29-01231701

Vial: 5
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:39:22 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101735.D\data.ms

(47) Trichloroethene (T)

11.173min (-0.011) 2.03ng

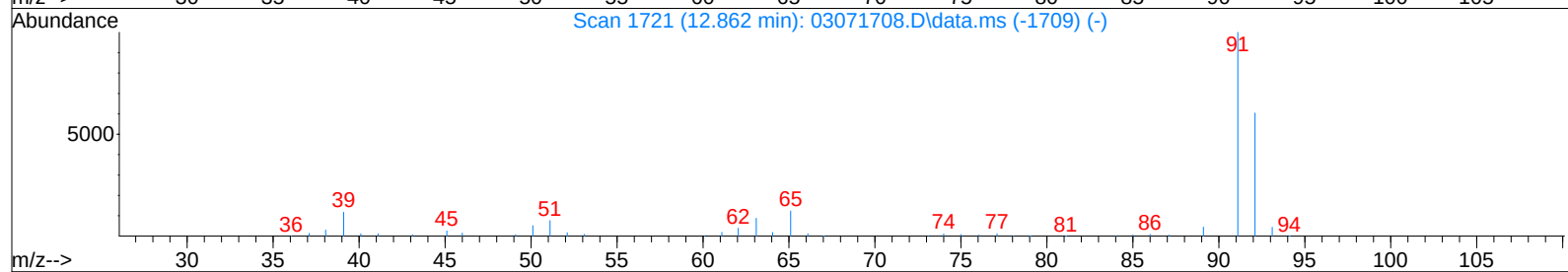
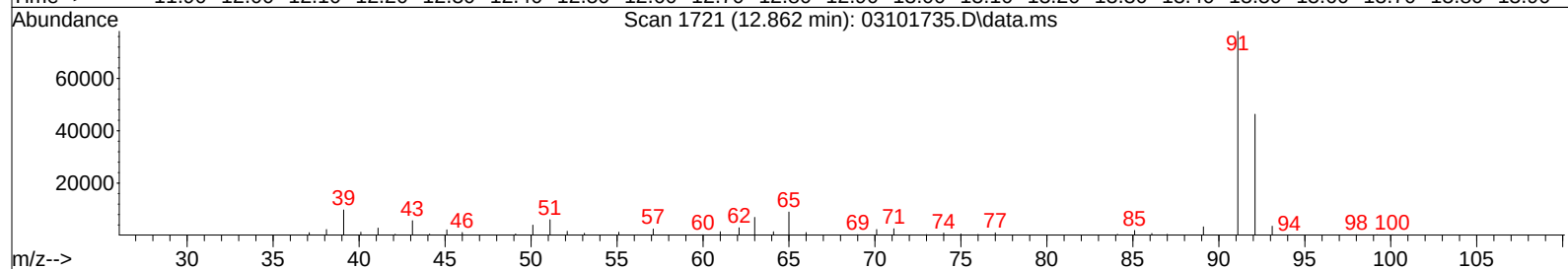
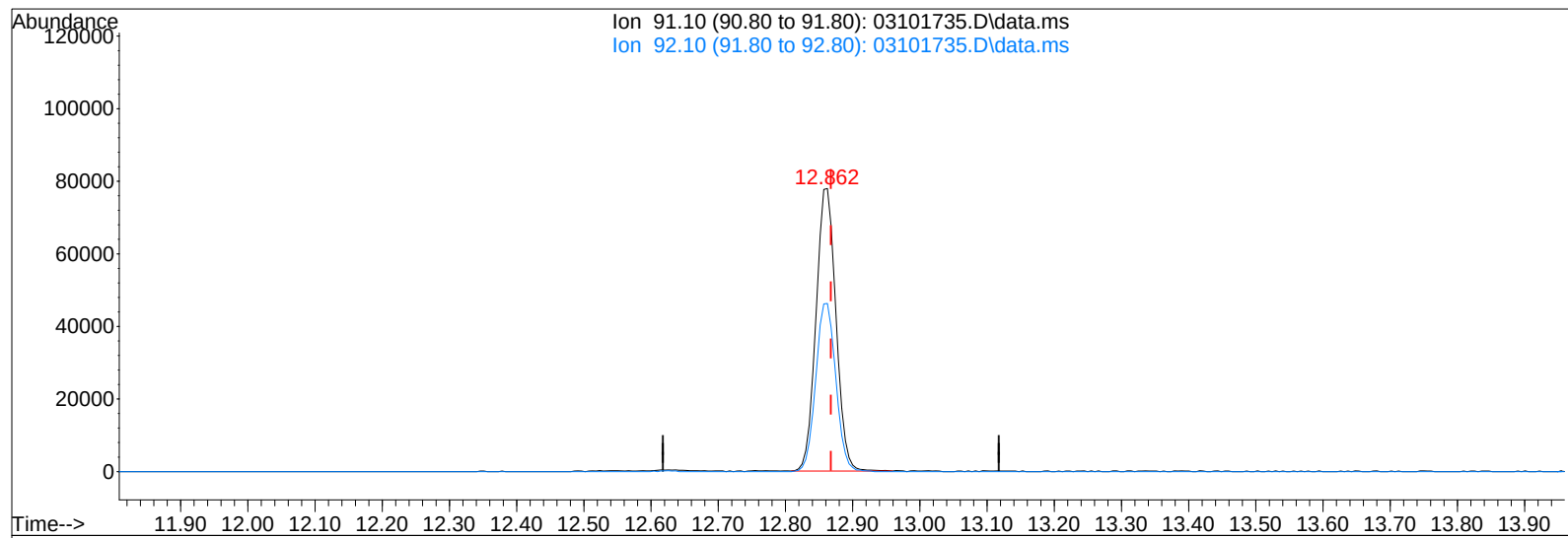
response 32454

Ion	Exp%	Act%
129.90	100	100
131.90	95.60	95.96
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101735.D
Acq On : 11 Mar 2017 00:26
Sample : P1701088-004 (1000mL)
Misc : S29-01231701

Vial: 5
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:39:22 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101735.D\data.ms

(58) Toluene (T)

12.862min (-0.005) 2.74ng

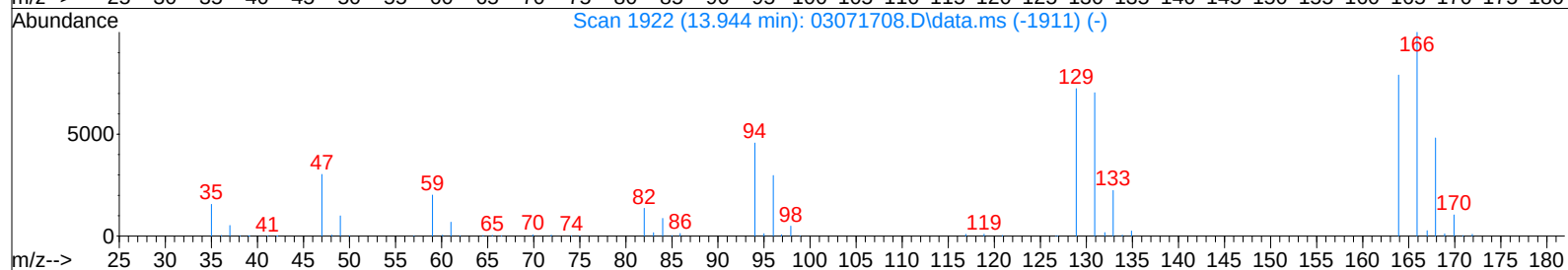
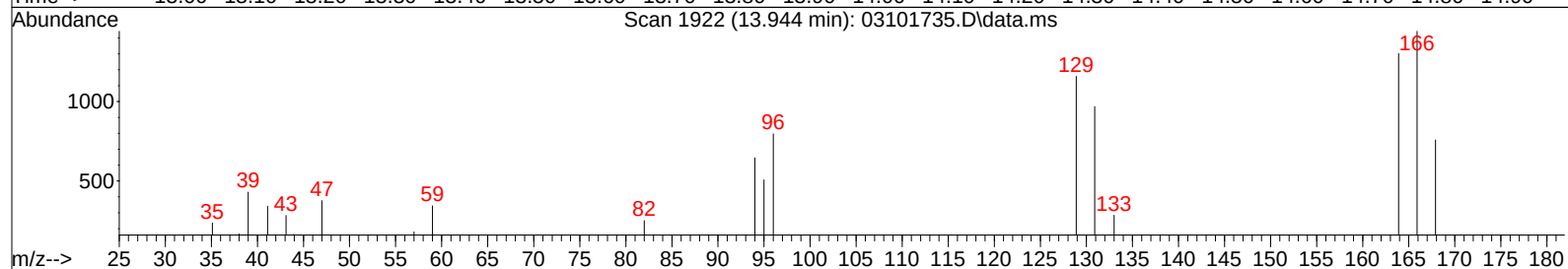
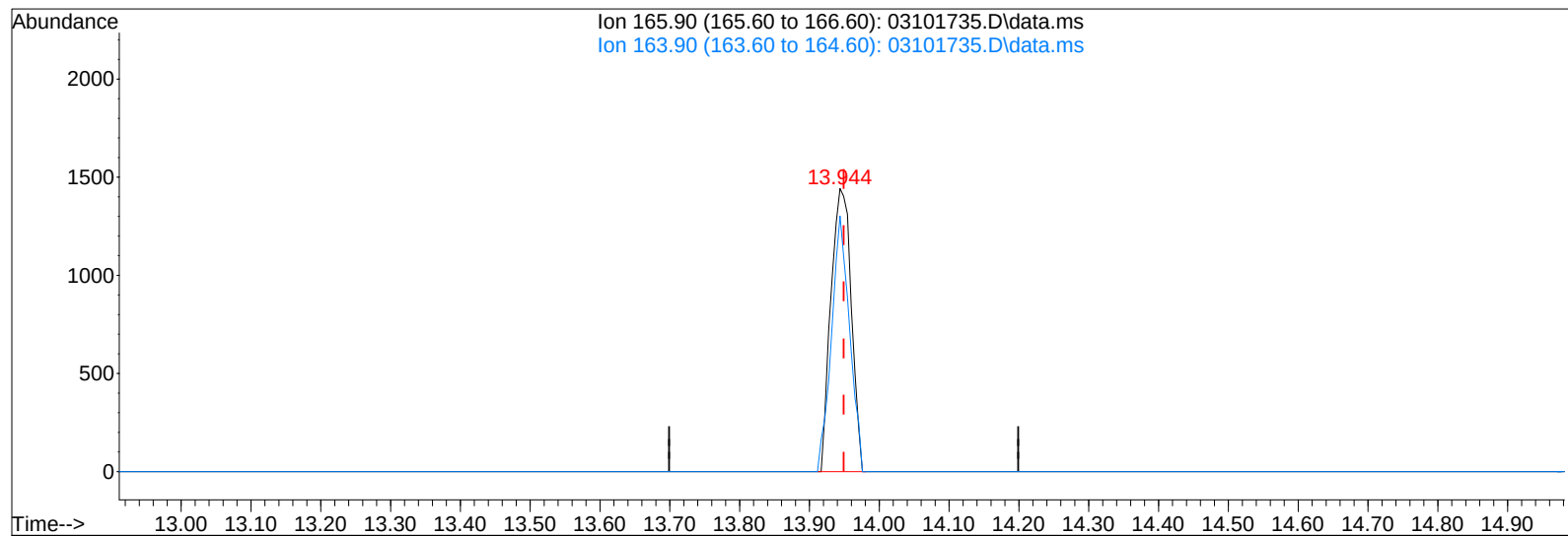
response 160391

Ion	Exp%	Act%
91.10	100	100
92.10	60.40	59.98
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101735.D
Acq On : 11 Mar 2017 00:26
Sample : P1701088-004 (1000mL)
Misc : S29-01231701

Vial: 5
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:39:22 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101735.D\data.ms

(64) Tetrachloroethene (T)

13.944min (-0.005) 0.19ng

response 2910

Ion	Exp%	Act%
165.90	100	100
163.90	78.70	80.62
0.00	0.00	0.00
0.00	0.00	0.00

Data File: I:\MS08\Data\2017 03\10\03101736.D

Acq On : 11 Mar 2017 00:58

Operator: WA

Sample : P1701088-005 (1000mL)

Misc : S29-01231701

ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 13 10:41:22 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

3/13/17

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.80	130	159710	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	10.54	114	770008	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	333091	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	287516	12.497	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	100.00%
57) Toluene-d8 (SS2)	12.77	98	804746	12.857	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	102.88%
73) Bromofluorobenzene (SS3)	16.07	174	249867	12.174	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	97.36%

Target Compounds

						Qvalue
2) Propene	0.00	42	0	N.D.	d	
3) Dichlorodifluoromethan...	4.00	85	52304	1.703	ng	99
4) Chloromethane	4.21	50	10427	0.486	ng	93
5) 1,2-Dichloro-1,1,2,2-t...	4.36	135	911	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.66	54	7489	0.400	ng	93
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.41	45	1463657	123.859	ng	100
11) Acetonitrile	5.59	41	29721	0.948	ng	93
12) Acrolein	5.72	56	6872	0.759	ng	97
13) Acetone	5.85	58	147606	12.747	ng	93
14) Trichlorofluoromethane	6.01	101	23358	0.859	ng	99
15) 2-Propanol (Isopropanol)	6.16	45	264707	6.119	ng	98
16) Acrylonitrile	0.00	53	0	N.D.	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	6.79	84	6256	0.443	ng	98
20) 3-Chloro-1-propene (Al...	6.91	41	754	N.D.		
21) Trichlorotrifluoroethane	7.07	151	4918	0.390	ng	94
22) Carbon Disulfide	7.05	76	21577	0.427	ng	95
23) trans-1,2-Dichloroethene	7.90	61	927	N.D.		
24) 1,1-Dichloroethane	7.89	63	934	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	8.25	72	11143	1.139	ng	93
28) cis-1,2-Dichloroethene	8.65	61	11835	0.558	ng	100
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	8.84	61	57794	12.385	ng	100
31) n-Hexane	8.86	57	35624	1.409	ng	99
32) Chloroform	8.92	83	5314	0.198	ng	96
34) Tetrahydrofuran (THF)	9.28	72	6512	0.666	ng	# 90
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	9.59	62	1055	N.D.		
38) 1,1,1-Trichloroethane	9.82	97	1259	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	10.23	78	47076	0.774	ng	100
42) Carbon Tetrachloride	10.37	117	7415	0.355	ng	98
43) Cyclohexane	10.48	84	20070	0.762	ng	98
44) tert-Amyl Methyl Ether	10.86	73	842	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.17	130	48574	3.061	ng	100
48) 1,4-Dioxane	0.00	88	0	N.D.	d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	

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Data File: I:\MS08\Data\2017 03\10\03101736.D

Acq On : 11 Mar 2017 00:58

Operator: WA

Sample : P1701088-005 (1000mL)

Misc : S29-01231701

ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 13 10:41:22 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

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	11.45	71	67192	4.329	ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.97	58	2990	0.227	ng	97
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.86	91	176853	3.037	ng	99
59) 2-Hexanone	0.00	43	0	N.D.	d	
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.67	43	24013	0.655	ng	99
63) n-Octane	13.80	57	2620	0.203	ng	94
64) Tetrachloroethene	13.95	166	5249	0.340	ng	98
65) Chlorobenzene	14.64	112	567	N.D.		
66) Ethylbenzene	14.99	91	553265	8.483	ng	100
67) m- & p-Xylenes	15.15	91	1684467	32.416	ng	100
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.53	104	20636	0.569	ng	99
70) o-Xylene	15.63	91	491430	9.188	ng	99
71) n-Nonane	15.84	43	11701	0.363	ng	94
72) 1,1,2,2-Tetrachloroethane	15.63	83	469	N.D.		
74) Cumene	16.20	105	8355	0.123	ng	99
75) alpha-Pinene	16.59	93	75742	2.164	ng	99
76) n-Propylbenzene	16.70	91	5403	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	16.83	105	5076	N.D.		
79) 1,3,5-Trimethylbenzene	16.91	105	5271	0.092	ng	91
80) alpha-Methylstyrene	17.05	118	1479	N.D.		
81) 2-Ethyltoluene	17.09	105	4472	N.D.		
82) 1,2,4-Trimethylbenzene	17.30	105	15710	0.286	ng	89
83) n-Decane	0.00	57	0	N.D.	d	
84) Benzyl Chloride	17.53	91	1040	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	d	
86) 1,4-Dichlorobenzene	17.51	146	386784	12.347	ng	100
87) sec-Butylbenzene	17.56	105	1444	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	17.84	146	1021	N.D.		
91) d-Limonene	17.85	68	86711	4.067	ng	99
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	19.46	180	653	N.D.		
95) Naphthalene	19.57	128	18882	0.299	ng	94
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	17.30	119	2356	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.	d	

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

Data File: I:\MS08\Data\2017 03\10\03101736.D

Acq On : 11 Mar 2017 00:58

Operator: WA

Sample : P1701088-005 (1000mL)

Misc : S29-01231701

ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 13 10:41:22 2017

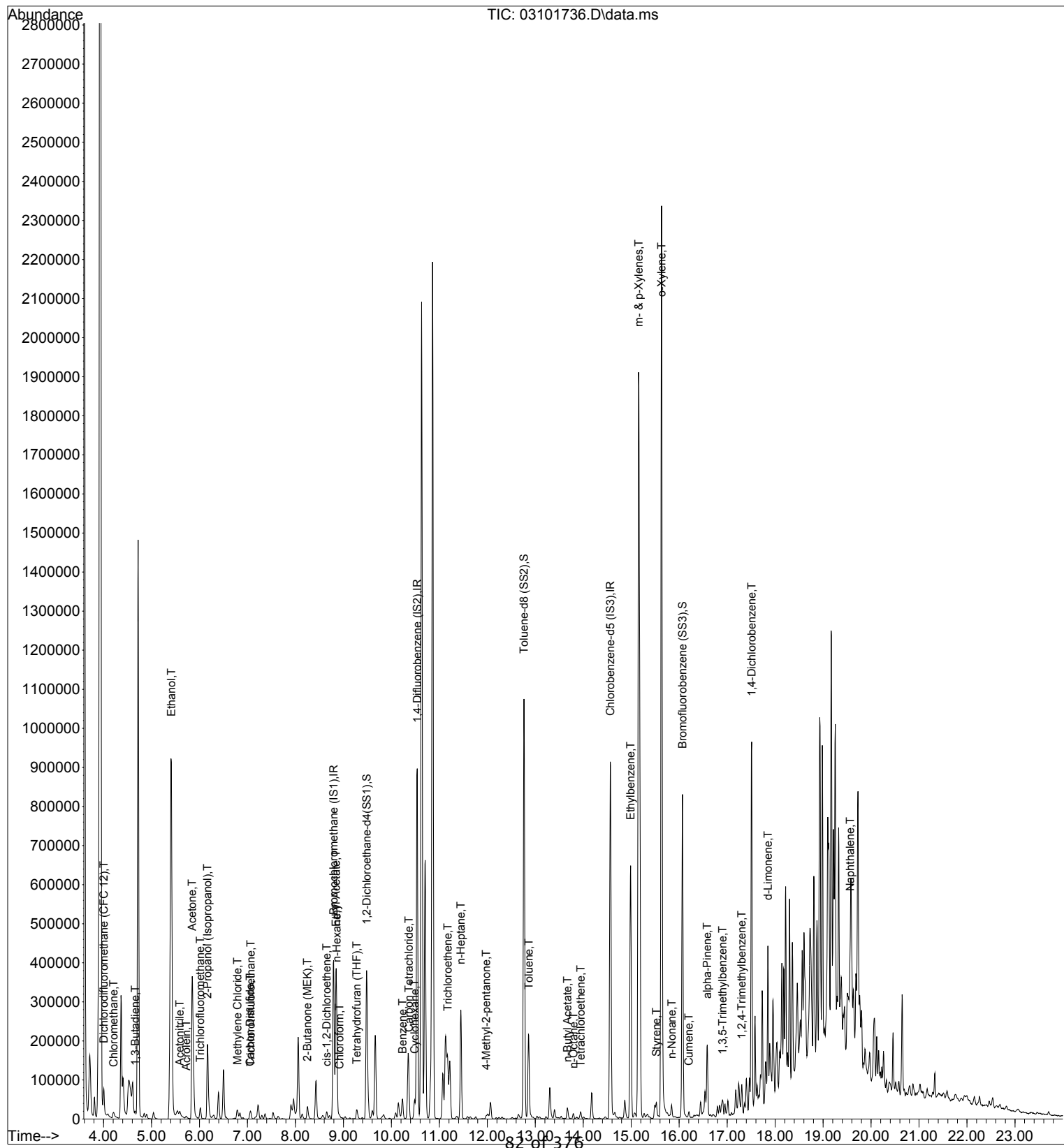
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

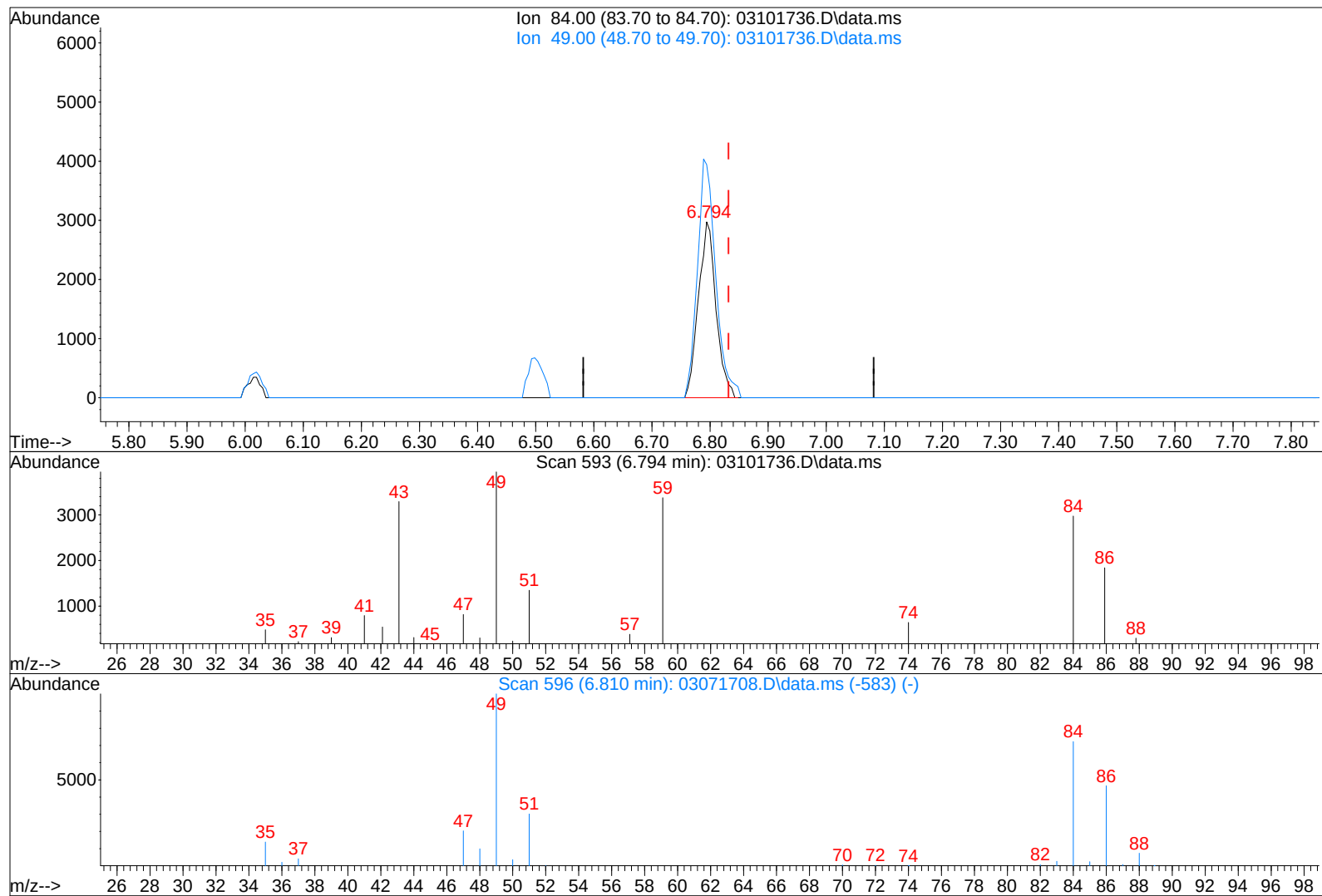
DataAcq Meth:TO15.M



Data File : I:\MS08\Data\2017 03\10\03101736.D
Acq On : 11 Mar 2017 00:58
Sample : P1701088-005 (1000mL)
Misc : S29-01231701

Vial: 6
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:41:22 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101736.D\data.ms

(19) Methylene Chloride (T)

6.794min (-0.038) 0.44ng

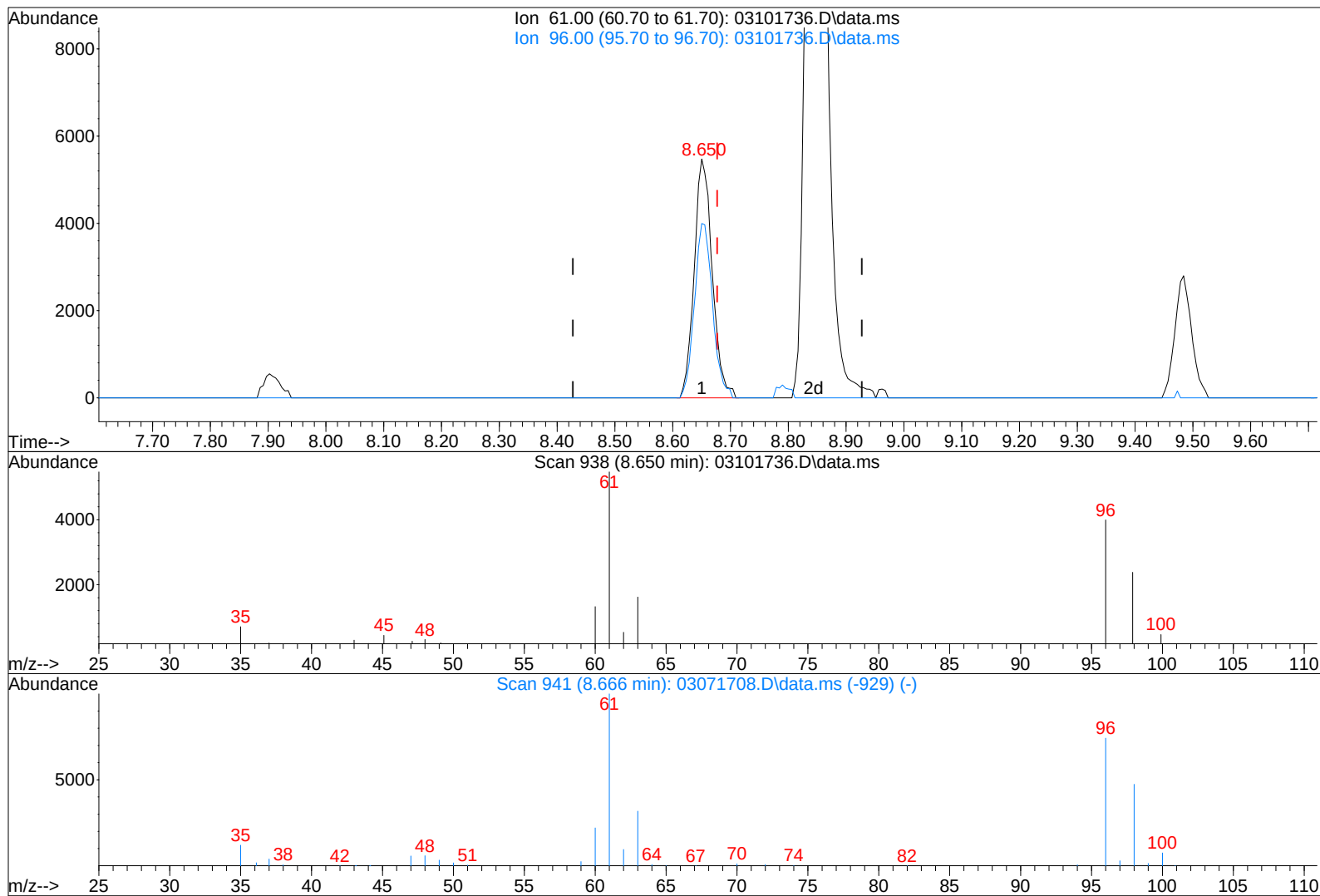
response 6256

Ion	Exp%	Act%
84.00	100	100
49.00	143.20	141.00
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101736.D
Acq On : 11 Mar 2017 00:58
Sample : P1701088-005 (1000mL)
Misc : S29-01231701

Vial: 6
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:41:22 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101736.D\data.ms

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

8.650min (-0.027) 0.56ng

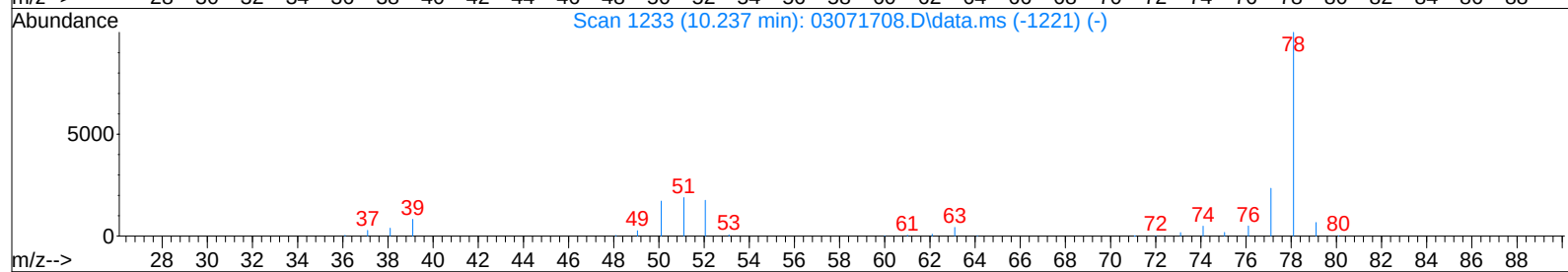
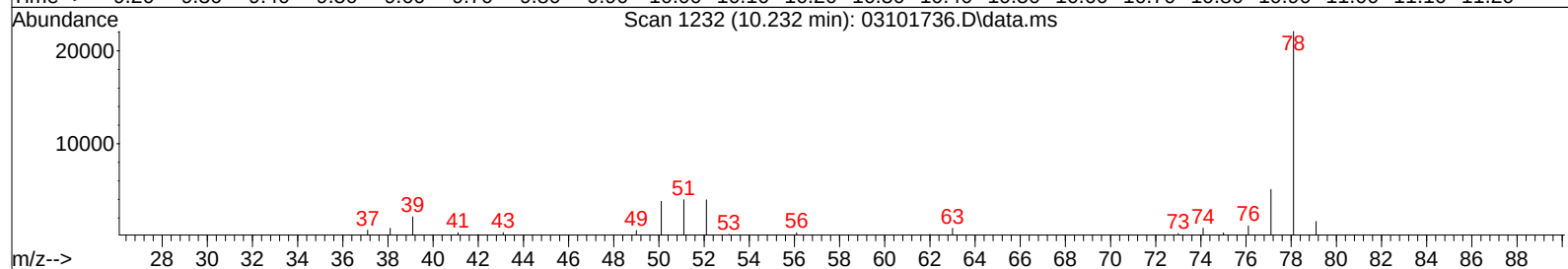
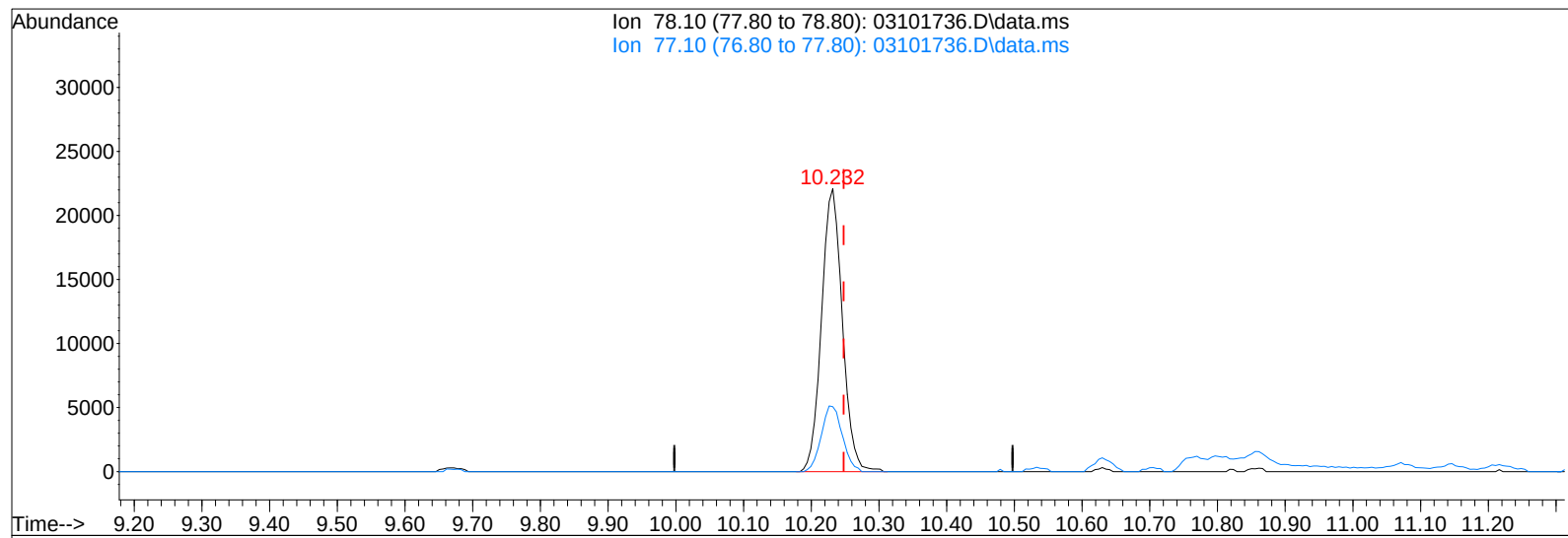
response 11835

Ion	Exp%	Act%
61.00	100	100
96.00	73.50	73.46
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101736.D
Acq On : 11 Mar 2017 00:58
Sample : P1701088-005 (1000mL)
Misc : S29-01231701

Vial: 6
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:41:22 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101736.D\data.ms

(41) Benzene (T)

10.232min (-0.016) 0.77ng

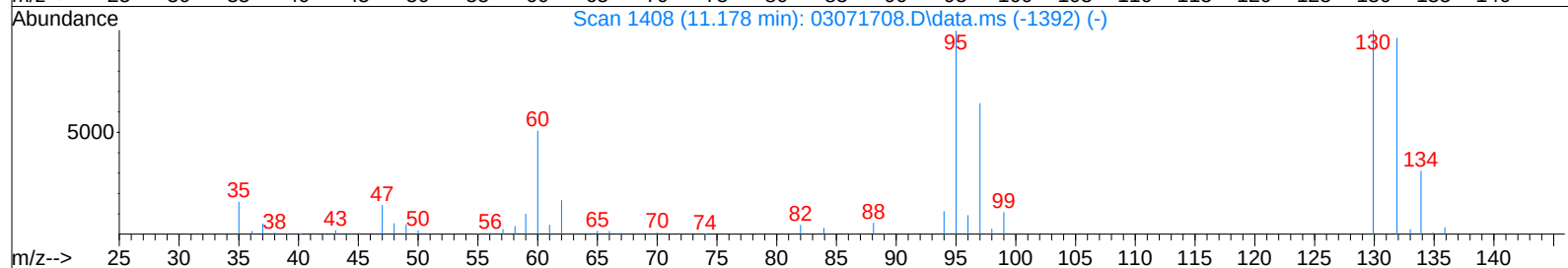
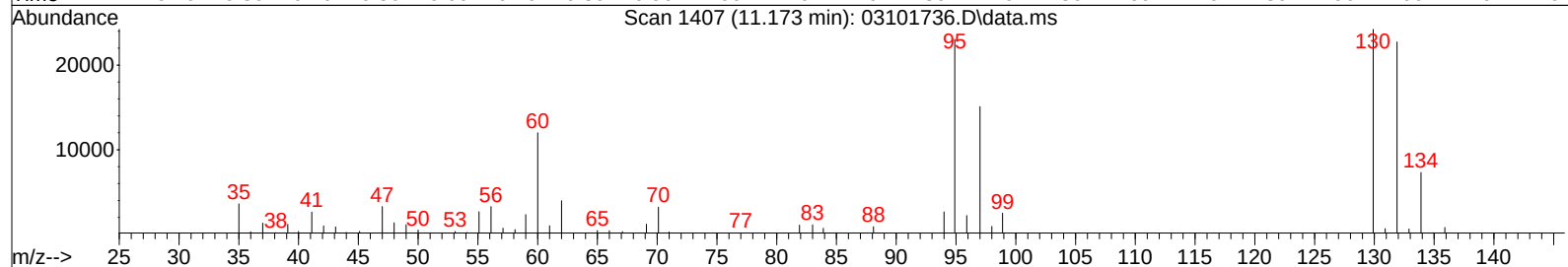
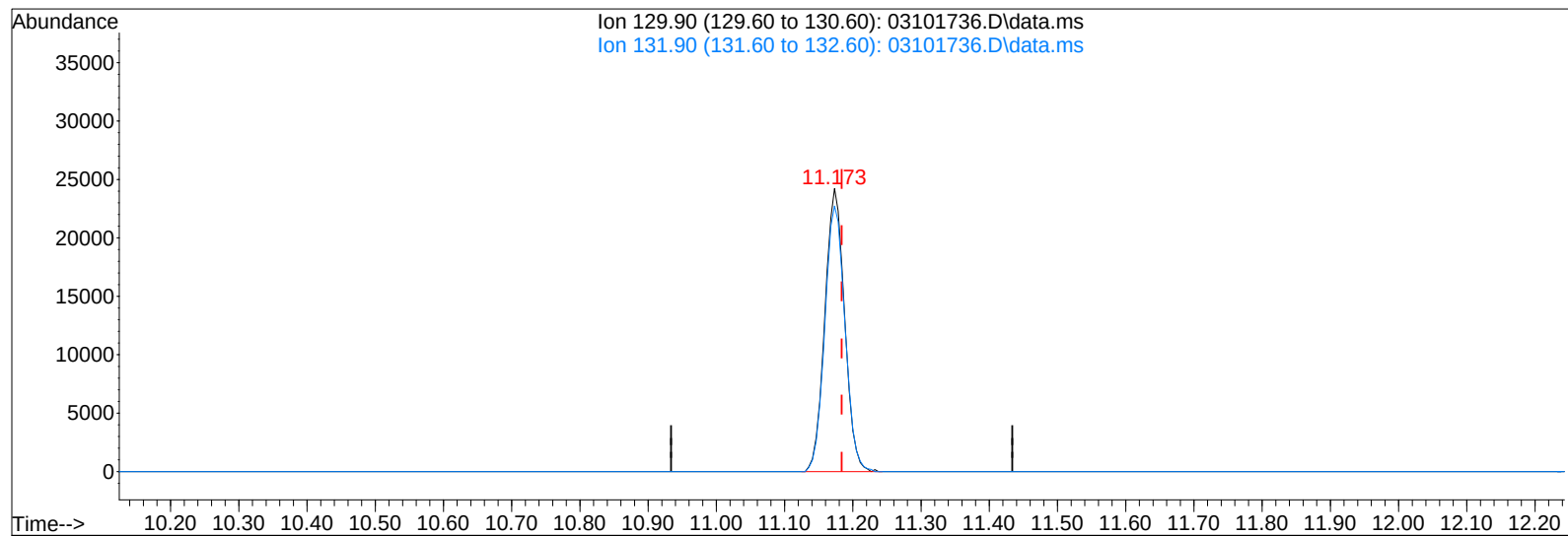
response 47076

Ion	Exp%	Act%
78.10	100	100
77.10	23.60	23.54
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101736.D
Acq On : 11 Mar 2017 00:58
Sample : P1701088-005 (1000mL)
Misc : S29-01231701

Vial: 6
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:41:22 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101736.D\data.ms

(47) Trichloroethene (T)

11.173min (-0.011) 3.06ng

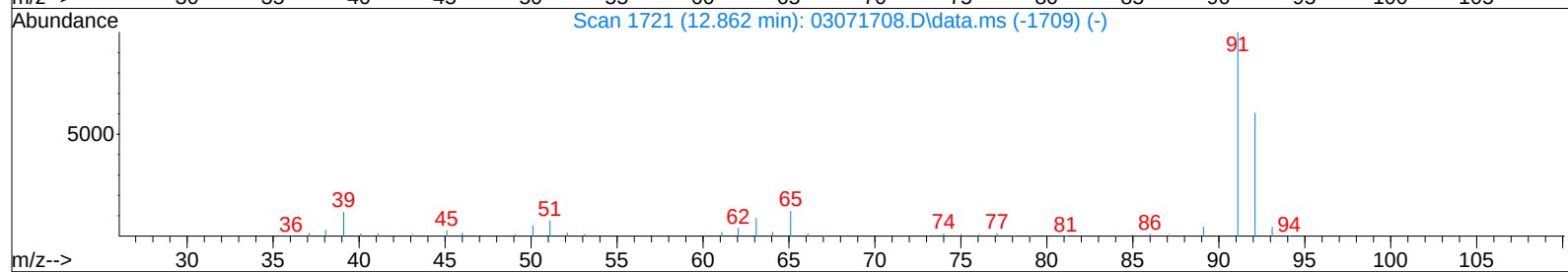
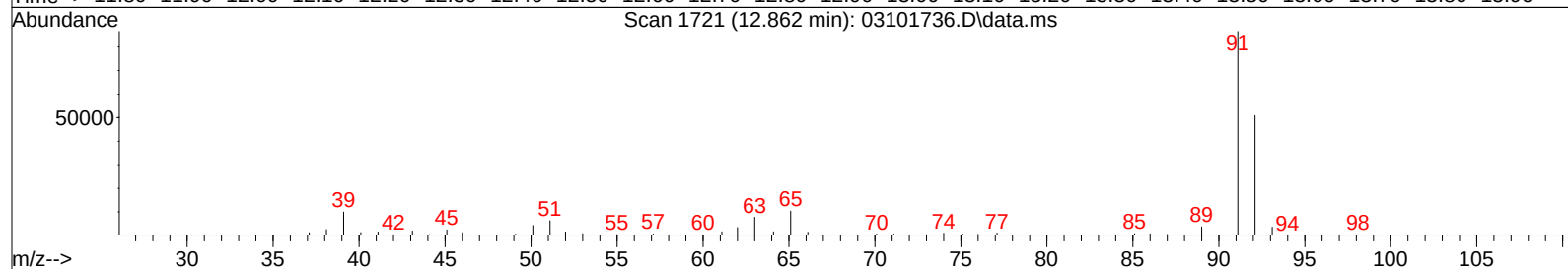
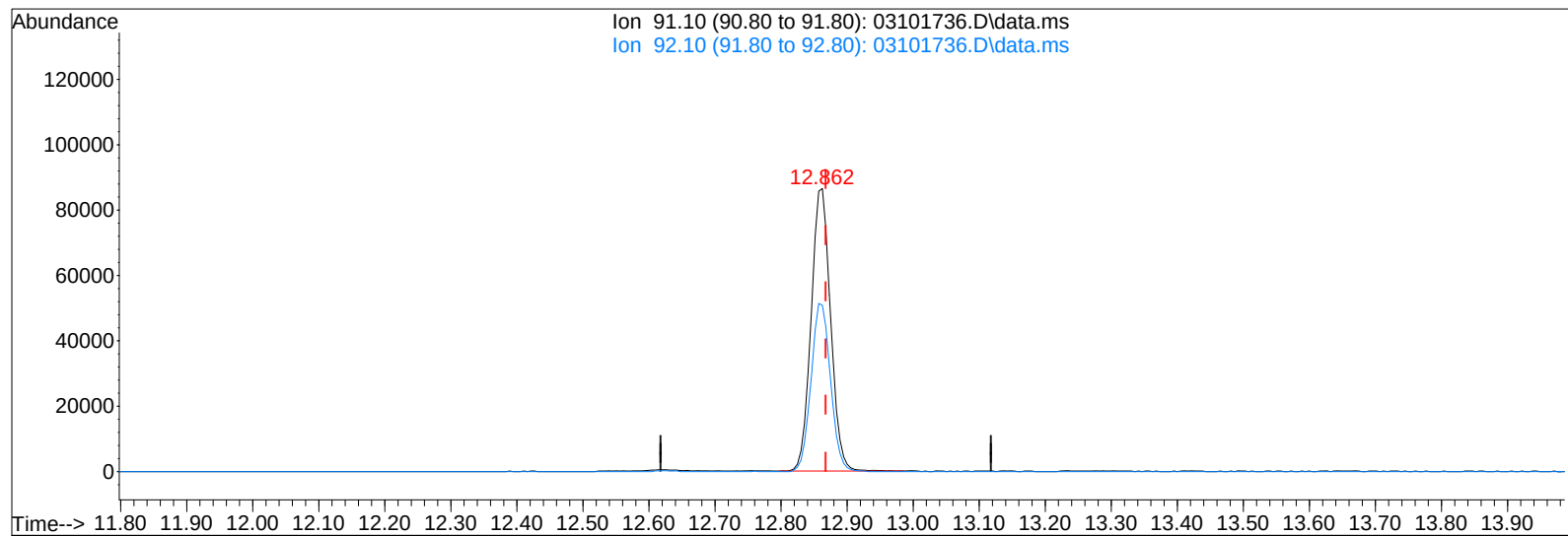
response 48574

Ion	Exp%	Act%
129.90	100	100
131.90	95.60	96.03
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101736.D
Acq On : 11 Mar 2017 00:58
Sample : P1701088-005 (1000mL)
Misc : S29-01231701

Vial: 6
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:41:22 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101736.D\data.ms

(58) Toluene (T)

12.862min (-0.005) 3.04ng

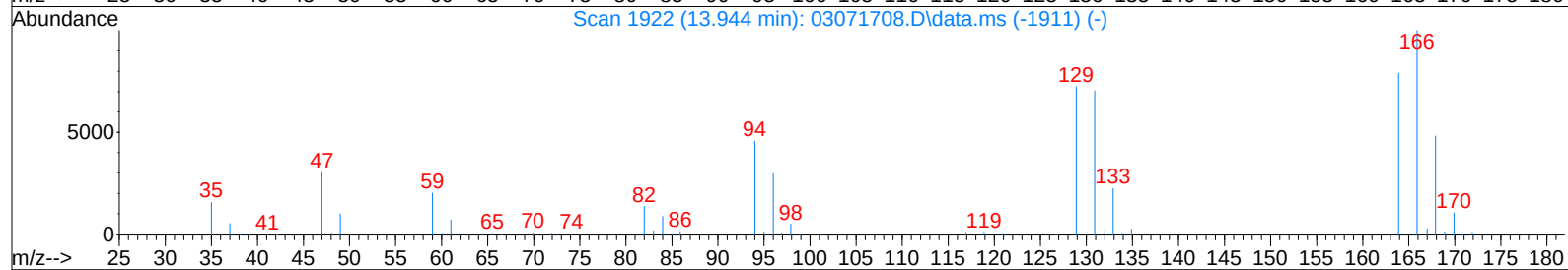
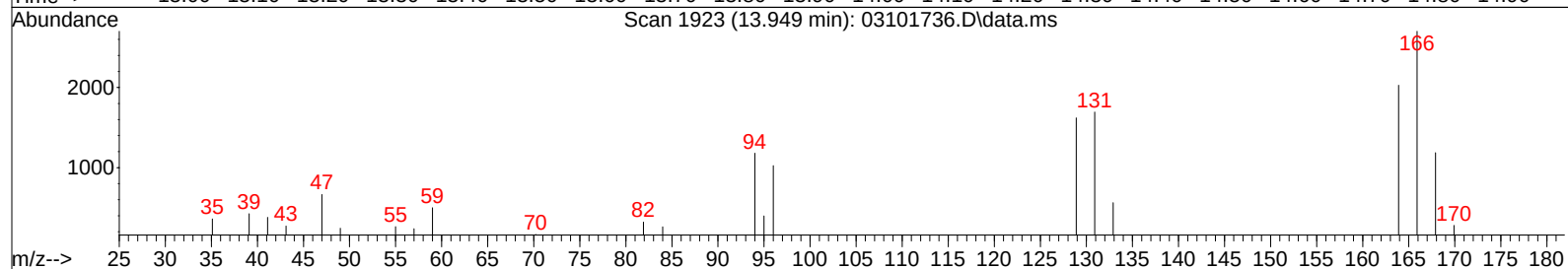
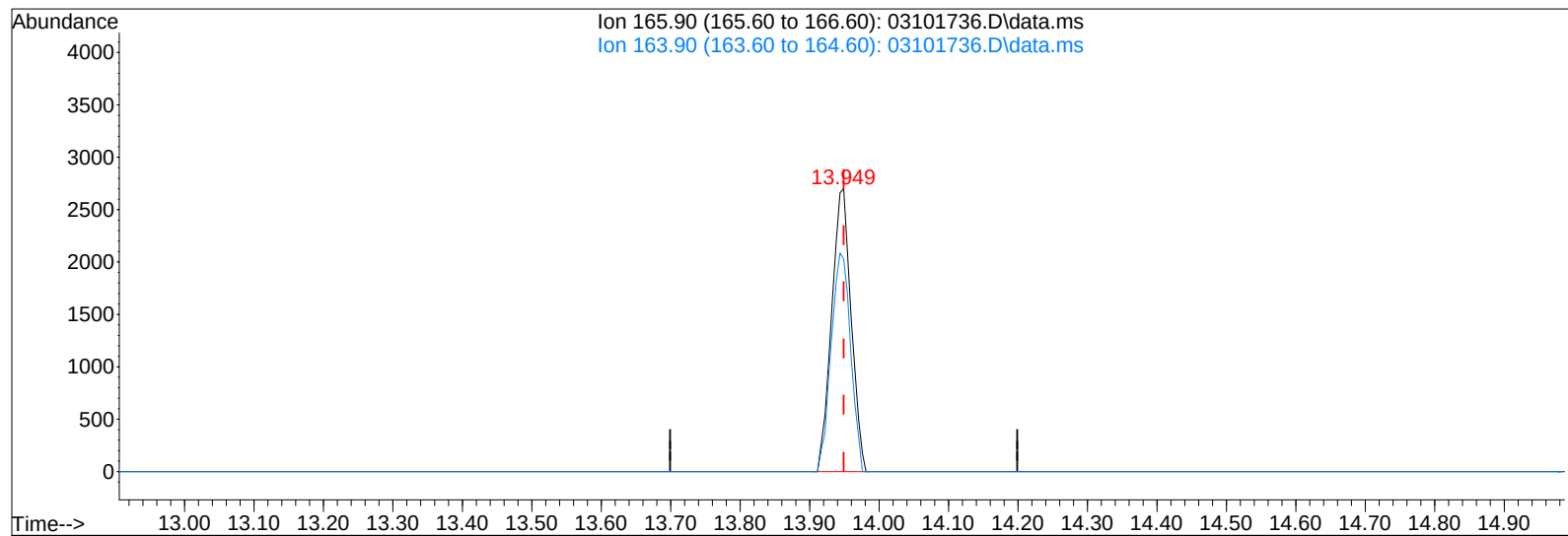
response 176853

Ion	Exp%	Act%
91.10	100	100
92.10	60.40	59.65
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101736.D
Acq On : 11 Mar 2017 00:58
Sample : P1701088-005 (1000mL)
Misc : S29-01231701

Vial: 6
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:41:22 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101736.D\data.ms

(64) Tetrachloroethene (T)

13.949min (-0.000) 0.34ng

response 5249

Ion	Exp%	Act%
-----	------	------

165.90	100	100
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163.90	78.70	77.27
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0.00	0.00	0.00
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0.00	0.00	0.00
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Data File: I:\MS08\Data\2017 03\10\03101738.D

Acq On : 11 Mar 2017 2:02

Operator: WA

Sample : P1701088-006 (1000mL)

Misc : S29-01231701

ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 13 10:45:20 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

3/13/17

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.79	130	162115	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	10.53	114	764626	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.57	82	328799	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	289717	12.405	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	99.28%
57) Toluene-d8 (SS2)	12.77	98	787979	12.754	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	102.00%
73) Bromofluorobenzene (SS3)	16.07	174	248346	12.258	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	98.08%

Target Compounds

						Qvalue
2) Propene	0.00	42	0	N.D.	d	
3) Dichlorodifluoromethan...	4.01	85	50789	1.629	ng	98
4) Chloromethane	4.21	50	8261	0.379	ng	97
5) 1,2-Dichloro-1,1,2,2-t...	4.38	135	879	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.63	54	923	N.D.		
8) Bromomethane	4.98	94	469	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.49	45	13908906	1159.554	ng	99
11) Acetonitrile	5.58	41	19475	0.612	ng	89
12) Acrolein	5.72	56	9761	1.063	ng	99
13) Acetone	5.84	58	230808	19.636	ng	# 81
14) Trichlorofluoromethane	6.03	101	23551	0.853	ng	99
15) 2-Propanol (Isopropanol)	6.21	45	132717	3.022	ng	100
16) Acrylonitrile	0.00	53	0	N.D.	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	6.79	84	5897	0.411	ng	98
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	7.07	151	4902	0.383	ng	96
22) Carbon Disulfide	7.06	76	7766	0.151	ng	99
23) trans-1,2-Dichloroethene	7.55	61	516	N.D.		
24) 1,1-Dichloroethane	8.06	63	1133	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	8.24	72	21082	2.122	ng	95
28) cis-1,2-Dichloroethene	8.65	61	21838	1.014	ng	100
29) Diisopropyl Ether	8.86	87	768	N.D.		
30) Ethyl Acetate	8.85	61	15437	3.259	ng	99
31) n-Hexane	8.87	57	39529	1.540	ng	99
32) Chloroform	8.92	83	2487	0.092	ng	93
34) Tetrahydrofuran (THF)	9.28	72	1410	0.142	ng	# 27
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	9.58	62	1206	N.D.		
38) 1,1,1-Trichloroethane	9.82	97	582	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	10.23	78	30807	0.510	ng	99
42) Carbon Tetrachloride	10.37	117	7091	0.342	ng	99
43) Cyclohexane	10.48	84	36398	1.392	ng	94
44) tert-Amyl Methyl Ether	10.86	73	1854	N.D.		
45) 1,2-Dichloropropane	10.96	63	453	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.17	130	102387	6.498	ng	99
48) 1,4-Dioxane	0.00	88	0	N.D.	d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	

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Data File: I:\MS08\Data\2017 03\10\03101738.D

Acq On : 11 Mar 2017 2:02

Operator: WA

Sample : P1701088-006 (1000mL)

Misc : S29-01231701

ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 13 10:45:20 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

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	11.45	71	234050	15.186	ng	100
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.97	58	5192	0.397	ng	# 89
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.86	91	173578	3.020	ng	99
59) 2-Hexanone	0.00	43	0	N.D.	d	
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.67	43	19041	0.526	ng	99
63) n-Octane	13.79	57	4676	0.367	ng	96
64) Tetrachloroethene	13.94	166	2957	0.194	ng	96
65) Chlorobenzene	14.64	112	2505	N.D.		
66) Ethylbenzene	14.99	91	1115279	17.323	ng	100
67) m- & p-Xylenes	15.16	91	3459387	67.442	ng	100
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.53	104	14850	0.415	ng	97
70) o-Xylene	15.63	91	1071694	20.298	ng	99
71) n-Nonane	15.84	43	17665	0.555	ng	95
72) 1,1,2,2-Tetrachloroethane	15.61	83	767	N.D.		
74) Cumene	16.20	105	18283	0.273	ng	99
75) alpha-Pinene	16.58	93	63232	1.830	ng	97
76) n-Propylbenzene	16.70	91	12815	0.163	ng	94
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	16.84	105	6125	0.099	ng	100
79) 1,3,5-Trimethylbenzene	16.91	105	6969	0.123	ng	93
80) alpha-Methylstyrene	17.05	118	1492	N.D.		
81) 2-Ethyltoluene	17.09	105	5673	N.D.		
82) 1,2,4-Trimethylbenzene	17.30	105	22290	0.411	ng	89
83) n-Decane	0.00	57	0	N.D.	d	
84) Benzyl Chloride	17.43	91	1883	N.D.		
85) 1,3-Dichlorobenzene	17.45	146	1138	N.D.		
86) 1,4-Dichlorobenzene	17.51	146	31817	1.029	ng	100
87) sec-Butylbenzene	17.56	105	2398	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	17.84	146	1402	N.D.		
91) d-Limonene	17.85	68	99048	4.707	ng	94
92) 1,2-Dibromo-3-Chloropr...	18.25	157	891	N.D.		
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	19.46	180	3292	0.166	ng	93
95) Naphthalene	19.57	128	45466	0.728	ng	98
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	19.90	225	749	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	17.30	119	3425	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.	d	

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

Data File: I:\MS08\Data\2017 03\10\03101738.D

Acq On : 11 Mar 2017 2:02

Operator: WA

Sample : P1701088-006 (1000mL)

Misc : S29-01231701

ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 13 10:45:20 2017

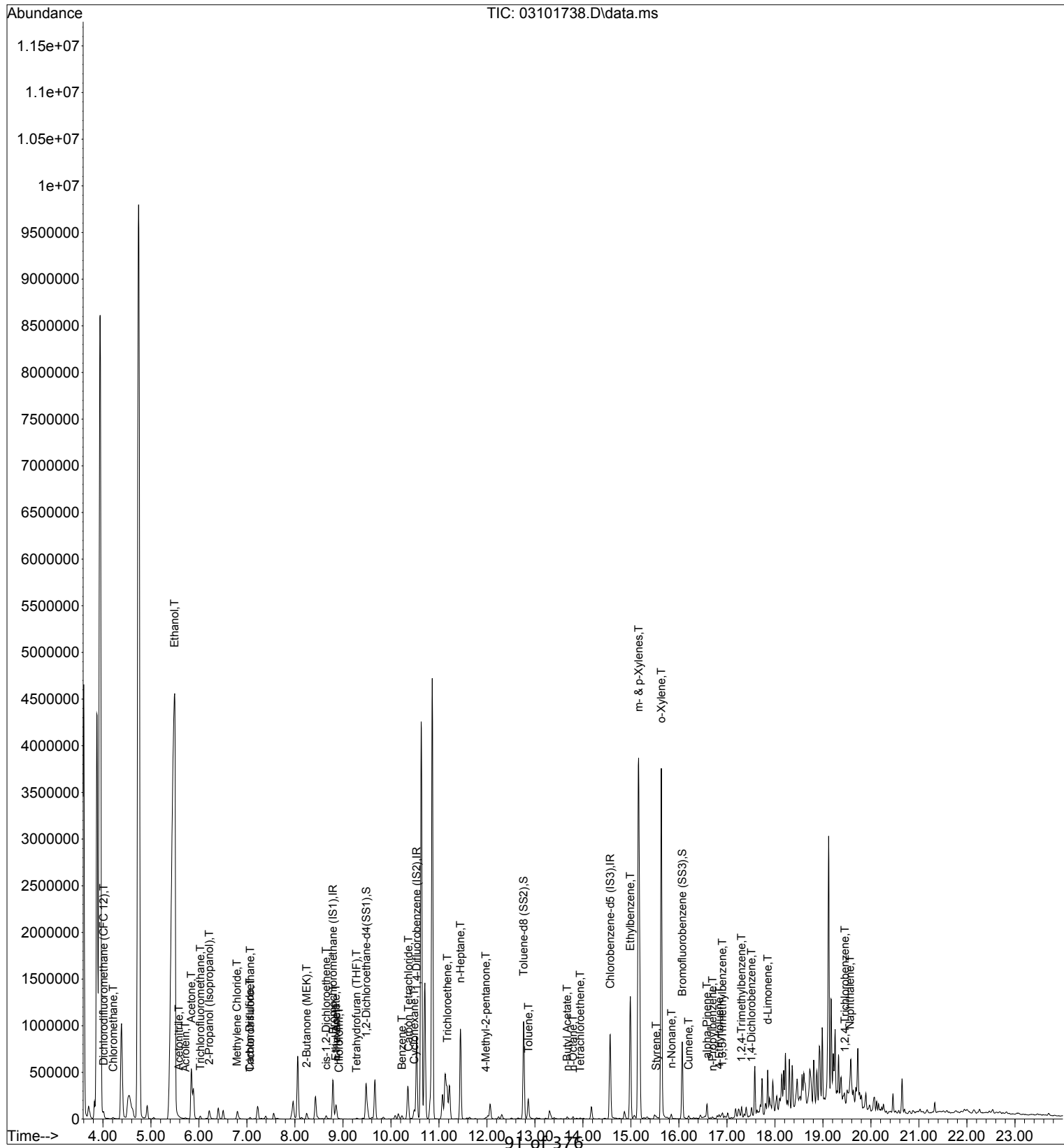
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

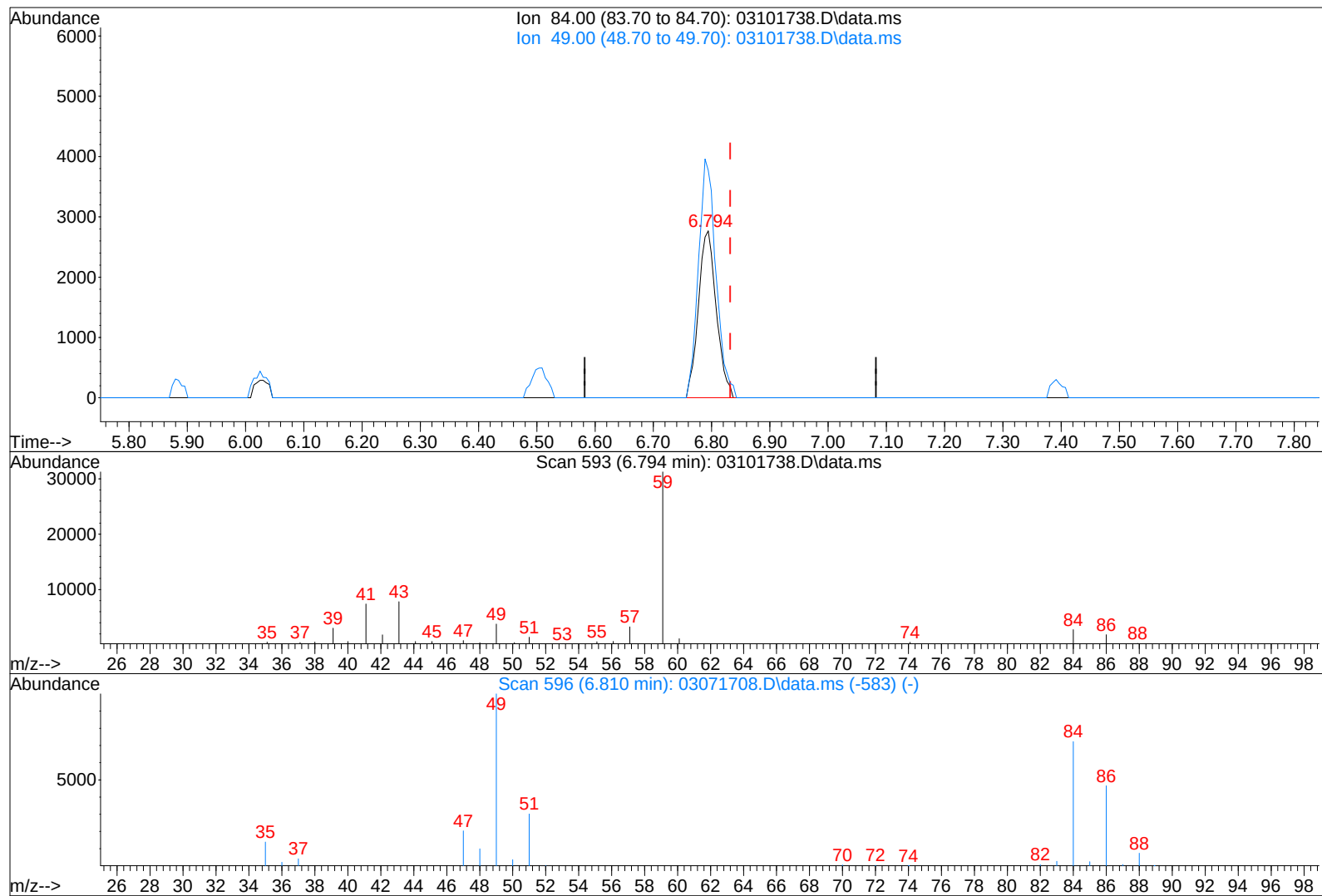
DataAcq Meth:TO15.M



Data File : I:\MS08\Data\2017 03\10\03101738.D
Acq On : 11 Mar 2017 2:02
Sample : P1701088-006 (1000mL)
Misc : S29-01231701

Vial: 9
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:45:20 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101738.D\data.ms

(19) Methylene Chloride (T)

6.794min (-0.038) 0.41ng

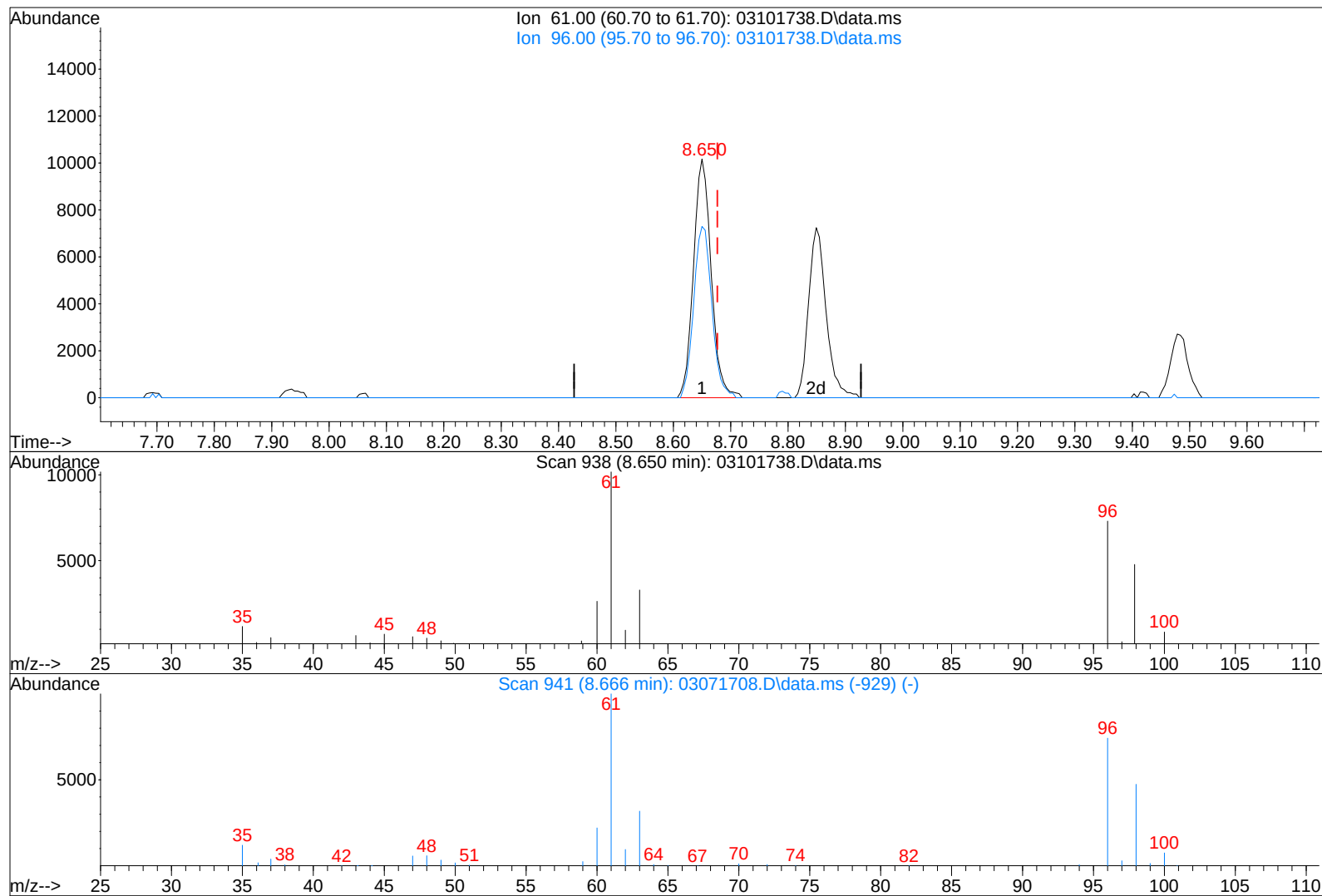
response 5897

Ion	Exp%	Act%
84.00	100	100
49.00	143.20	140.29
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101738.D
Acq On : 11 Mar 2017 2:02
Sample : P1701088-006 (1000mL)
Misc : S29-01231701

Vial: 9
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:45:20 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101738.D\data.ms

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

8.650min (-0.027) 1.01ng

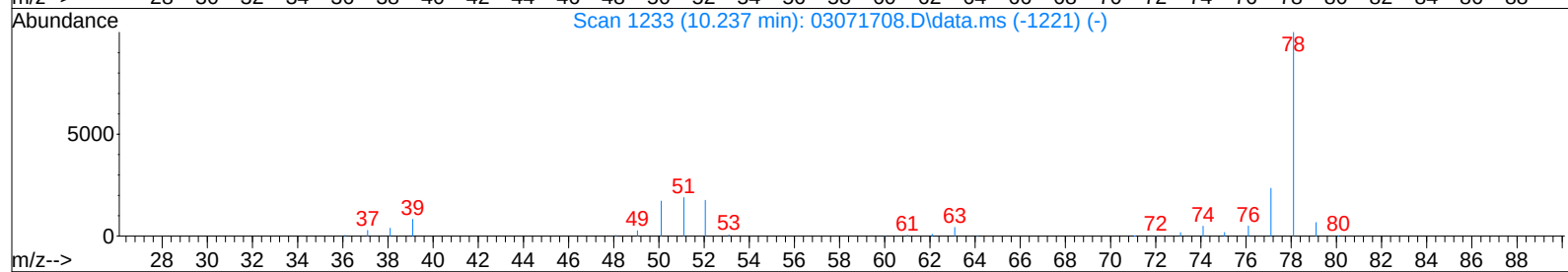
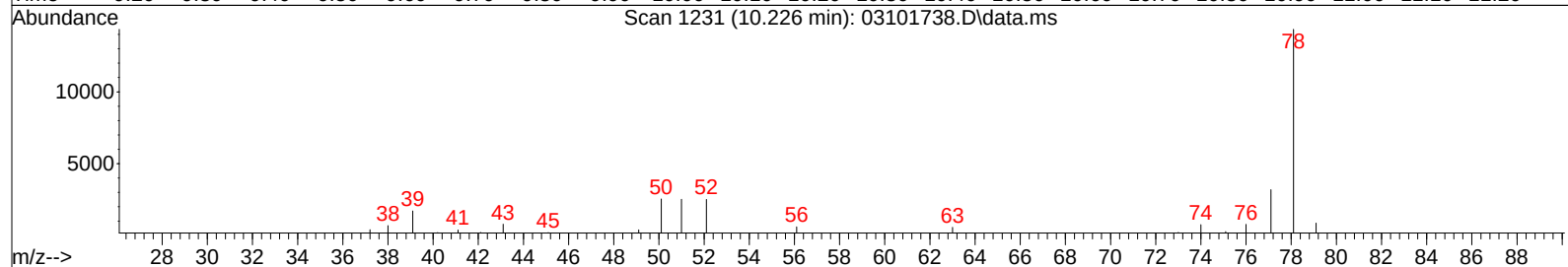
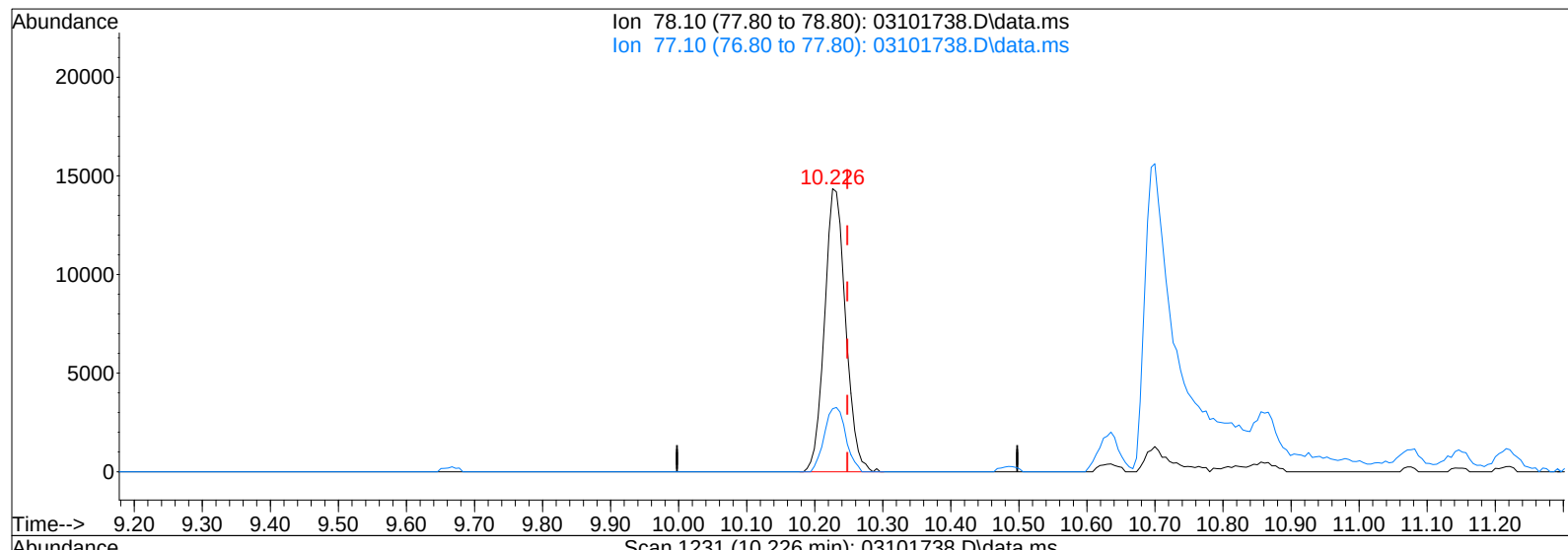
response 21838

Ion	Exp%	Act%
61.00	100	100
96.00	73.50	73.50
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101738.D
Acq On : 11 Mar 2017 2:02
Sample : P1701088-006 (1000mL)
Misc : S29-01231701

Vial: 9
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:45:20 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101738.D\data.ms

(41) Benzene (T)

10.226min (-0.022) 0.51ng

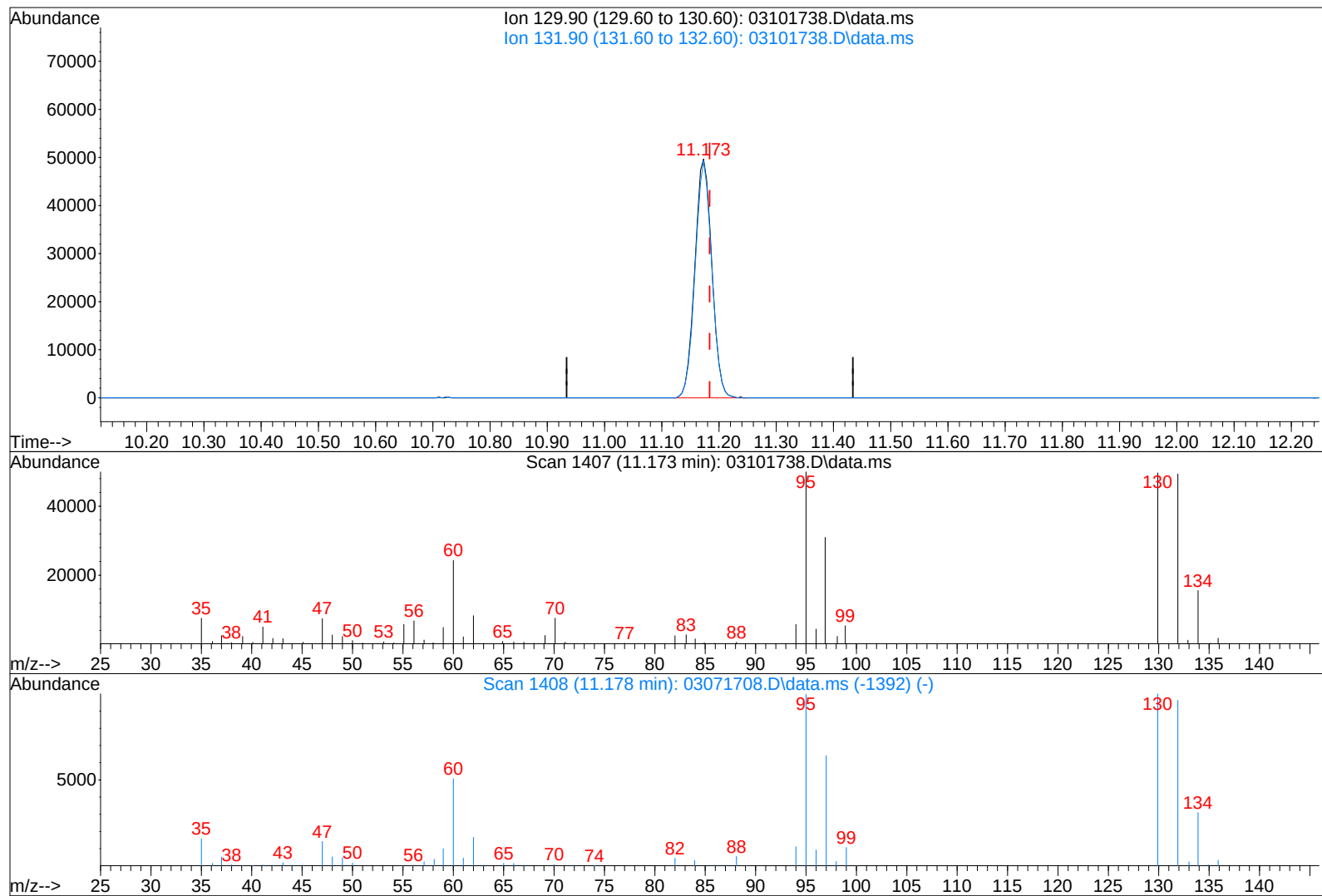
response 30807

Ion	Exp%	Act%
78.10	100	100
77.10	23.60	23.21
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101738.D
Acq On : 11 Mar 2017 2:02
Sample : P1701088-006 (1000mL)
Misc : S29-01231701

Vial: 9
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:45:20 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101738.D\data.ms

(47) Trichloroethene (T)

11.173min (-0.011) 6.50ng

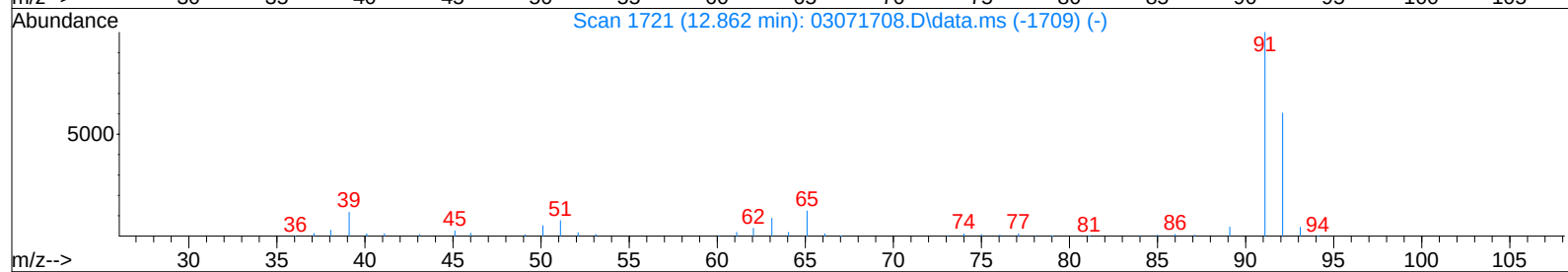
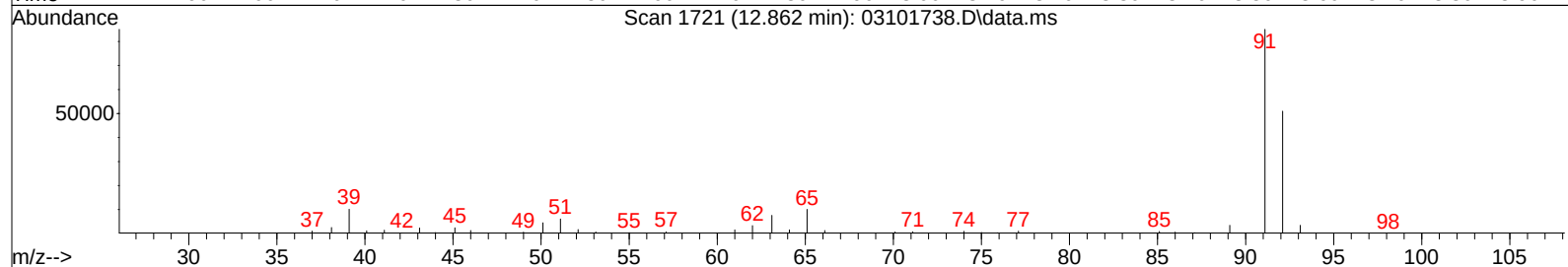
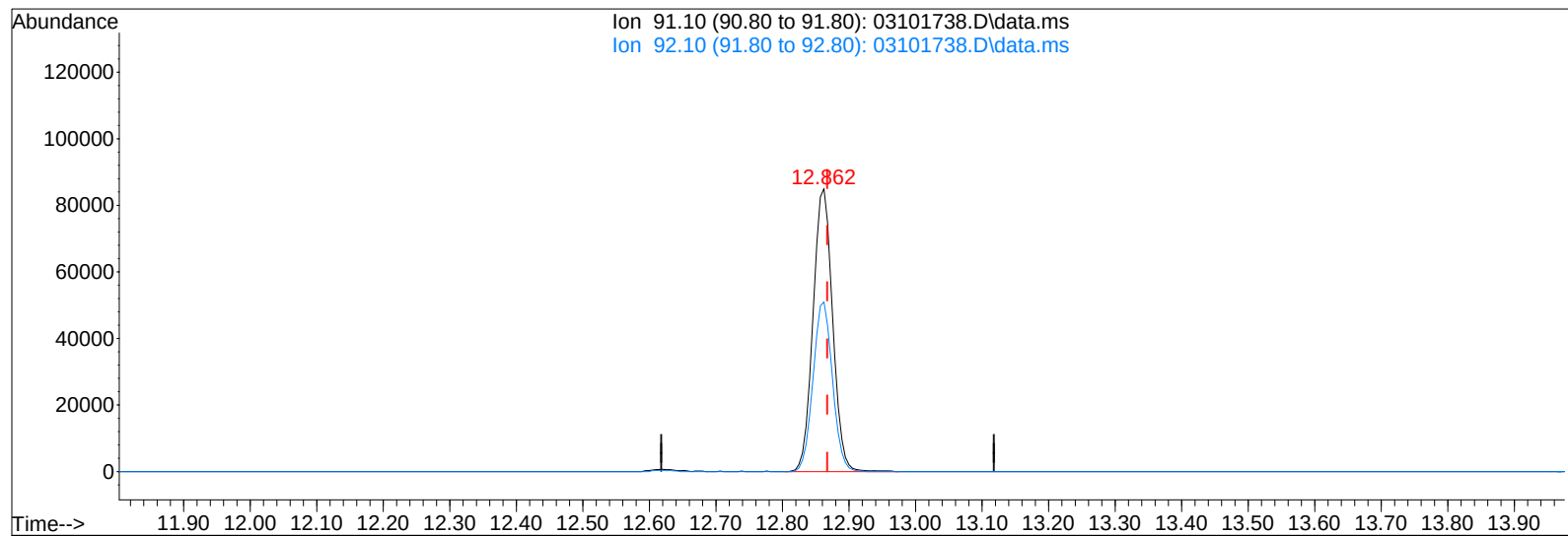
response 102387

Ion	Exp%	Act%
129.90	100	100
131.90	95.60	96.66
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101738.D
Acq On : 11 Mar 2017 2:02
Sample : P1701088-006 (1000mL)
Misc : S29-01231701

Vial: 9
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:45:20 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101738.D\data.ms

(58) Toluene (T)

12.862min (-0.005) 3.02ng

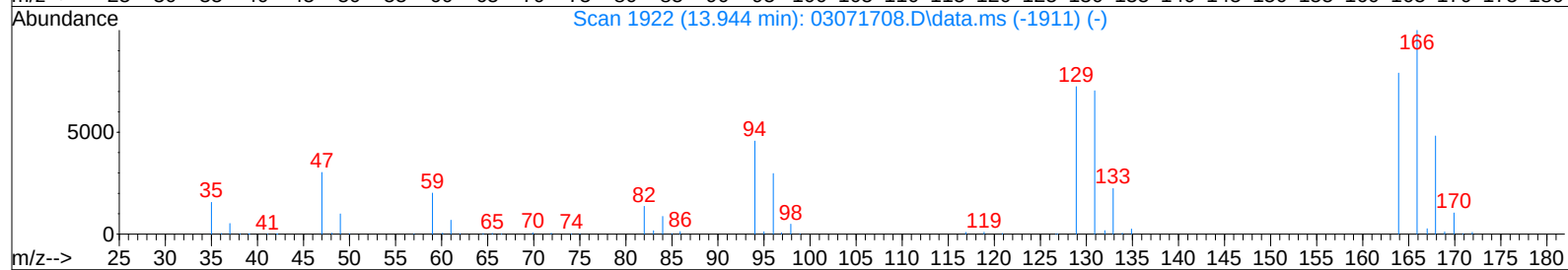
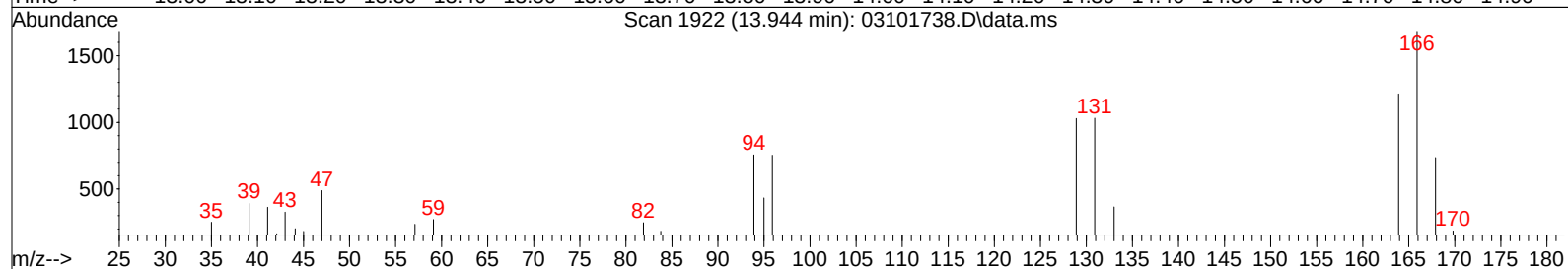
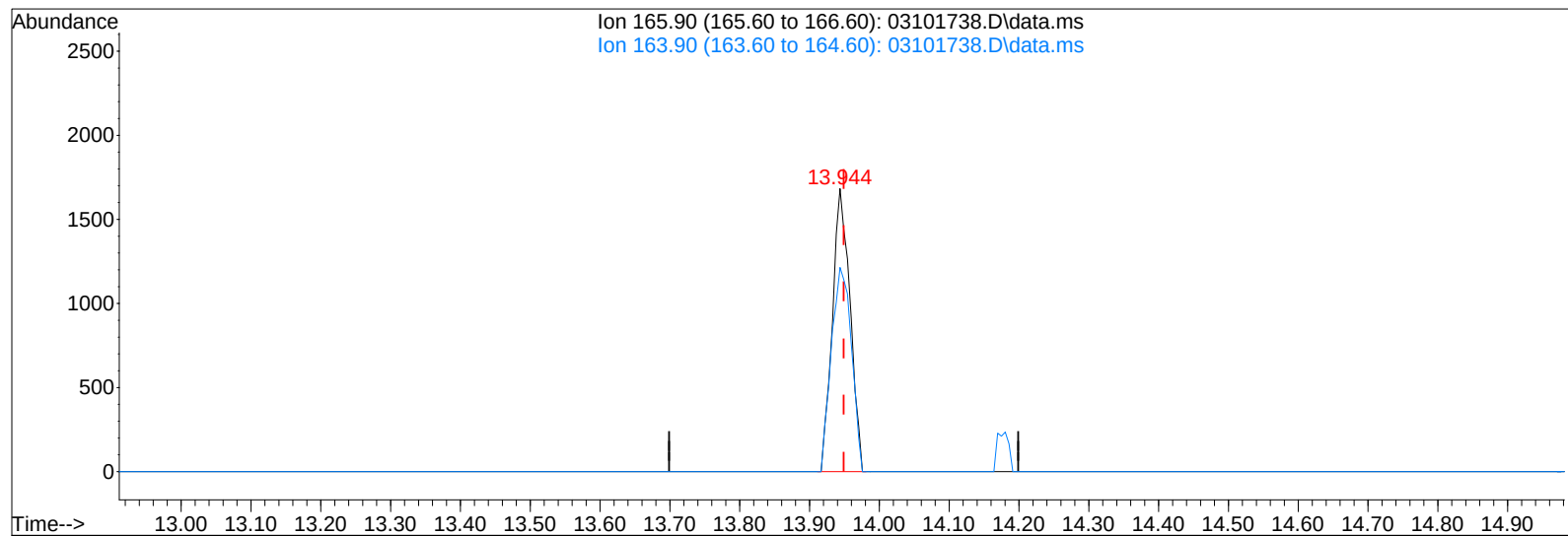
response 173578

Ion	Exp%	Act%
91.10	100	100
92.10	60.40	59.45
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101738.D
Acq On : 11 Mar 2017 2:02
Sample : P1701088-006 (1000mL)
Misc : S29-01231701

Vial: 9
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:45:20 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101738.D\data.ms

(64) Tetrachloroethene (T)

13.944min (-0.005) 0.19ng

response 2957

Ion	Exp%	Act%
165.90	100	100
163.90	78.70	81.91
0.00	0.00	0.00
0.00	0.00	0.00

Data File: I:\MS08\Data\2017 03\10\03101739.D

Acq On : 11 Mar 2017 2:35

Operator: WA

Sample : P1701088-007 (1000mL)

Misc : S29-01231701

ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 13 10:48:13 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

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Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.79	130	161375	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	10.53	114	779652	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	334876	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	286227	12.312	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	98.48%
57) Toluene-d8 (SS2)	12.77	98	812413	12.911	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	103.28%
73) Bromofluorobenzene (SS3)	16.07	174	251129	12.171	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	97.36%

Target Compounds

						Qvalue
2) Propene	0.00	42	0	N.D.	d	
3) Dichlorodifluoromethan...	4.00	85	51329	1.654	ng	99
4) Chloromethane	4.22	50	6996	0.323	ng	94
5) 1,2-Dichloro-1,1,2,2-t...	4.36	135	953	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.68	54	851	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.37	45	231184	19.362	ng	99
11) Acetonitrile	5.61	41	9079	0.286	ng	93
12) Acrolein	5.73	56	2559	0.280	ng	97
13) Acetone	5.85	58	72047	6.157	ng	99
14) Trichlorofluoromethane	6.01	101	23582	0.858	ng	99
15) 2-Propanol (Isopropanol)	6.15	45	29838	0.683	ng	100
16) Acrylonitrile	6.39	53	325	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	6.76	59	3570	N.D.		
19) Methylene Chloride	6.79	84	4167	0.292	ng	99
20) 3-Chloro-1-propene (Al...	6.83	41	771	N.D.		
21) Trichlorotrifluoroethane	7.07	151	4735	0.371	ng	99
22) Carbon Disulfide	7.06	76	4880	0.095	ng	95
23) trans-1,2-Dichloroethene	7.89	61	955	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.	d	
27) 2-Butanone (MEK)	8.26	72	5244	0.530	ng	# 89
28) cis-1,2-Dichloroethene	8.64	61	61009	2.847	ng	99
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	8.85	61	15604	3.309	ng	100
31) n-Hexane	8.86	57	17308	0.677	ng	100
32) Chloroform	8.91	83	2053	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	9.58	62	932	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	0.00	56	0	N.D.	d	
41) Benzene	10.23	78	23278	0.378	ng	100
42) Carbon Tetrachloride	10.36	117	6938	0.328	ng	98
43) Cyclohexane	10.48	84	12691	0.476	ng	93
44) tert-Amyl Methyl Ether	10.85	73	540	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.17	130	146995	9.149	ng	100
48) 1,4-Dioxane	11.16	88	545	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	

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Data File: I:\MS08\Data\2017 03\10\03101739.D

Acq On : 11 Mar 2017 2:35

Operator: WA

Sample : P1701088-007 (1000mL)

Misc : S29-01231701

ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 13 10:48:13 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

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	11.45	71	44102	2.806	ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.98	58	1776	0.133	ng	# 94
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.86	91	109554	1.871	ng	100
59) 2-Hexanone	13.08	43	1854	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.67	43	7929	0.215	ng	96
63) n-Octane	13.79	57	2400	0.185	ng	87
64) Tetrachloroethene	13.94	166	4467	0.288	ng	100
65) Chlorobenzene	14.62	112	873	N.D.		
66) Ethylbenzene	14.99	91	369811	5.640	ng	99
67) m- & p-Xylenes	15.15	91	1139570	21.813	ng	99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.53	104	11778	0.323	ng	100
70) o-Xylene	15.63	91	344806	6.412	ng	99
71) n-Nonane	15.84	43	9646	0.298	ng	96
72) 1,1,2,2-Tetrachloroethane	15.64	83	424	N.D.		
74) Cumene	16.20	105	6788	0.100	ng	96
75) alpha-Pinene	16.58	93	63896	1.815	ng	88
76) n-Propylbenzene	16.70	91	4670	N.D.		
77) 3-Ethyltoluene	16.79	105	4630	N.D.		
78) 4-Ethyltoluene	16.83	105	2579	N.D.		
79) 1,3,5-Trimethylbenzene	16.91	105	2437	N.D.		
80) alpha-Methylstyrene	17.06	118	753	N.D.		
81) 2-Ethyltoluene	17.09	105	2198	N.D.		
82) 1,2,4-Trimethylbenzene	17.31	105	7224	0.131	ng	85
83) n-Decane	0.00	57	0	N.D.	d	
84) Benzyl Chloride	17.52	91	623	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	d	
86) 1,4-Dichlorobenzene	17.51	146	5971	0.190	ng	97
87) sec-Butylbenzene	17.56	105	1464	N.D.		
88) 4-Isopropyltoluene (p-...	17.71	119	4141	N.D.		
89) 1,2,3-Trimethylbenzene	17.71	105	4975	N.D.		
90) 1,2-Dichlorobenzene	17.84	146	447	N.D.		
91) d-Limonene	17.85	68	27967	1.305	ng	89
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	19.46	180	528	N.D.		
95) Naphthalene	19.57	128	15187	0.239	ng	100
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	17.30	119	1112	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.	d	

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

Data File: I:\MS08\Data\2017 03\10\03101739.D

Acq On : 11 Mar 2017 2:35

Operator: WA

Sample : P1701088-007 (1000mL)

Misc : S29-01231701

ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 13 10:48:13 2017

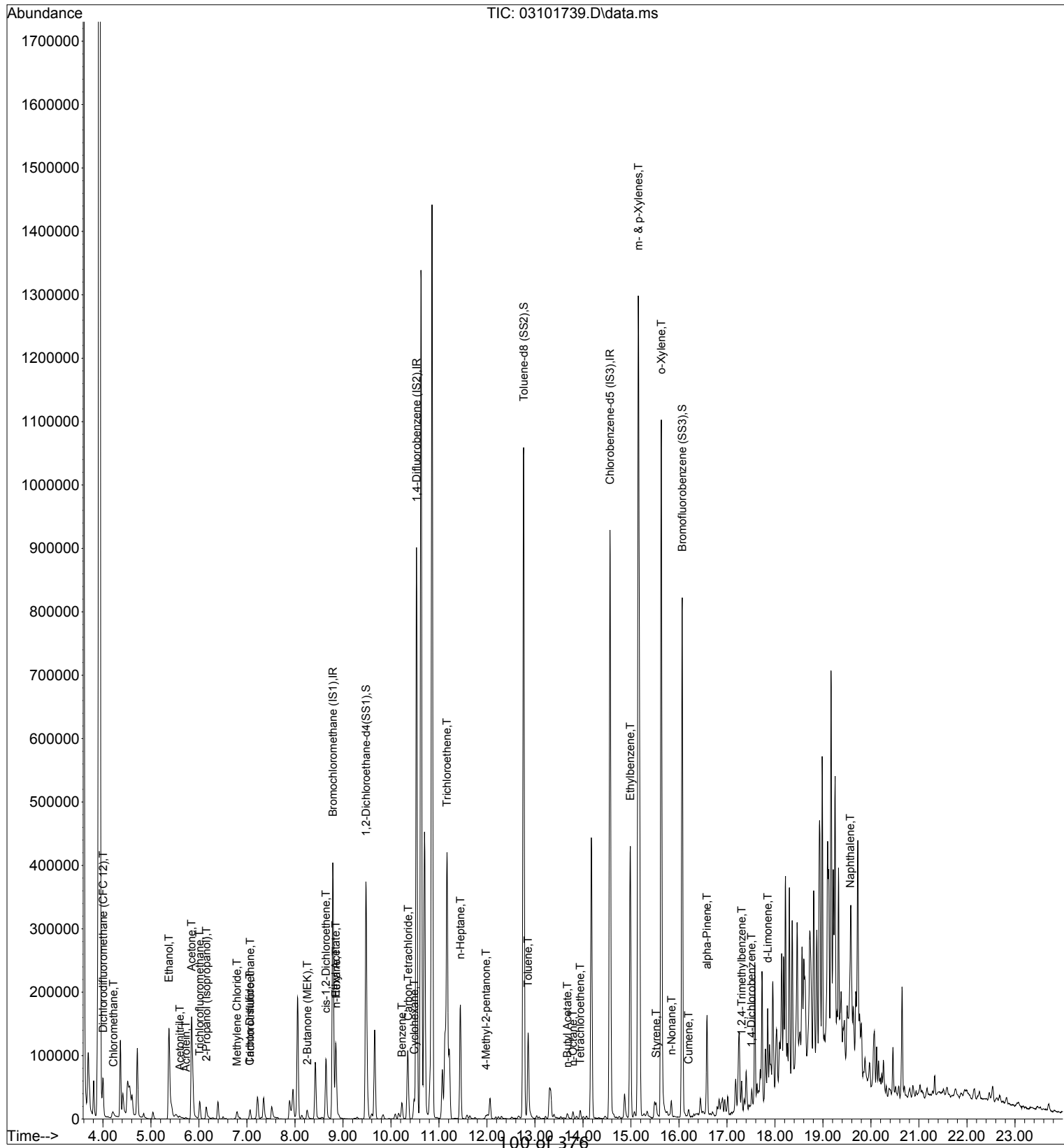
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

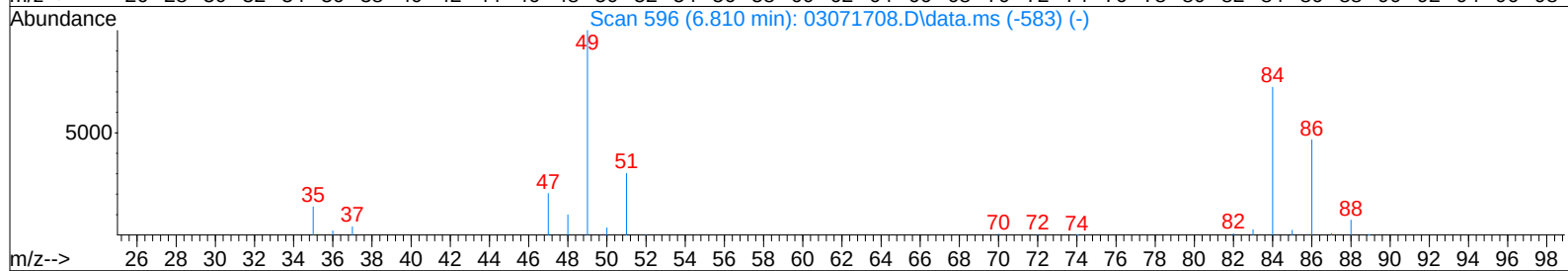
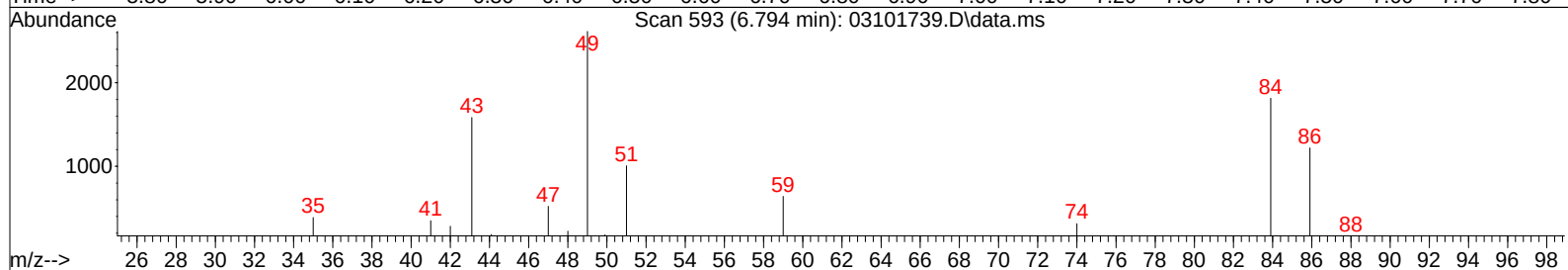
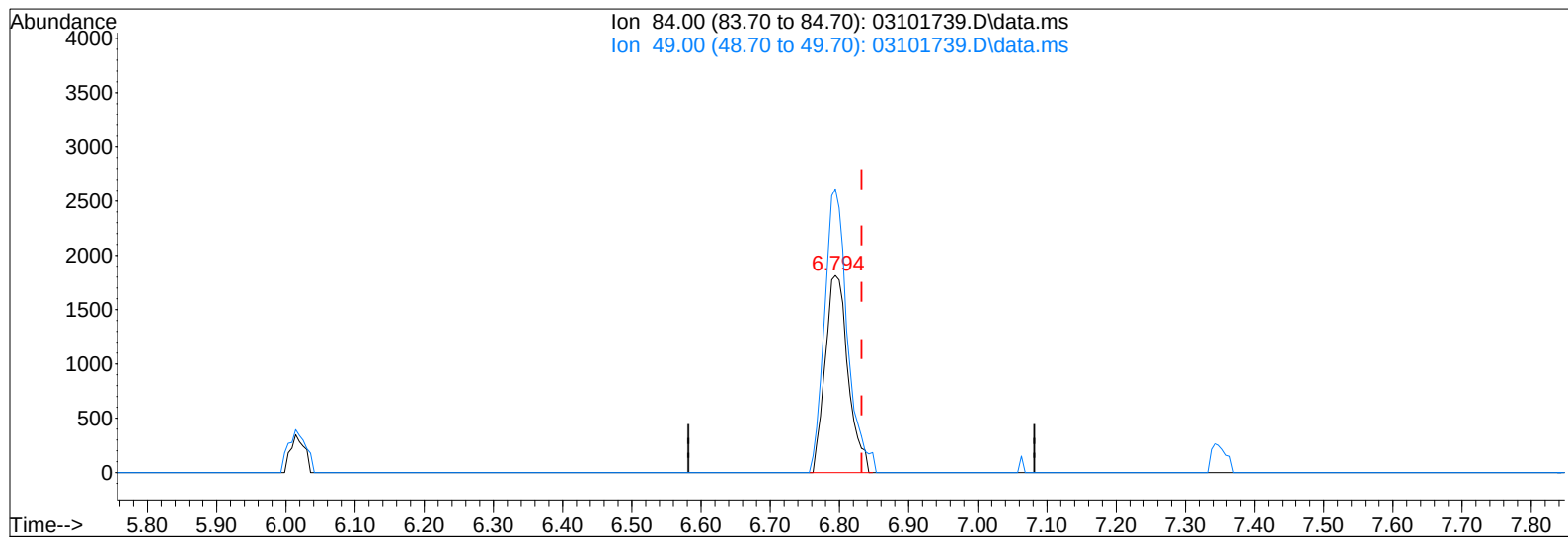
DataAcq Meth:TO15.M



Data File : I:\MS08\Data\2017 03\10\03101739.D
Acq On : 11 Mar 2017 2:35
Sample : P1701088-007 (1000mL)
Misc : S29-01231701

Vial: 10
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:48:13 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101739.D\data.ms

(19) Methylene Chloride (T)

6.794min (-0.038) 0.29ng

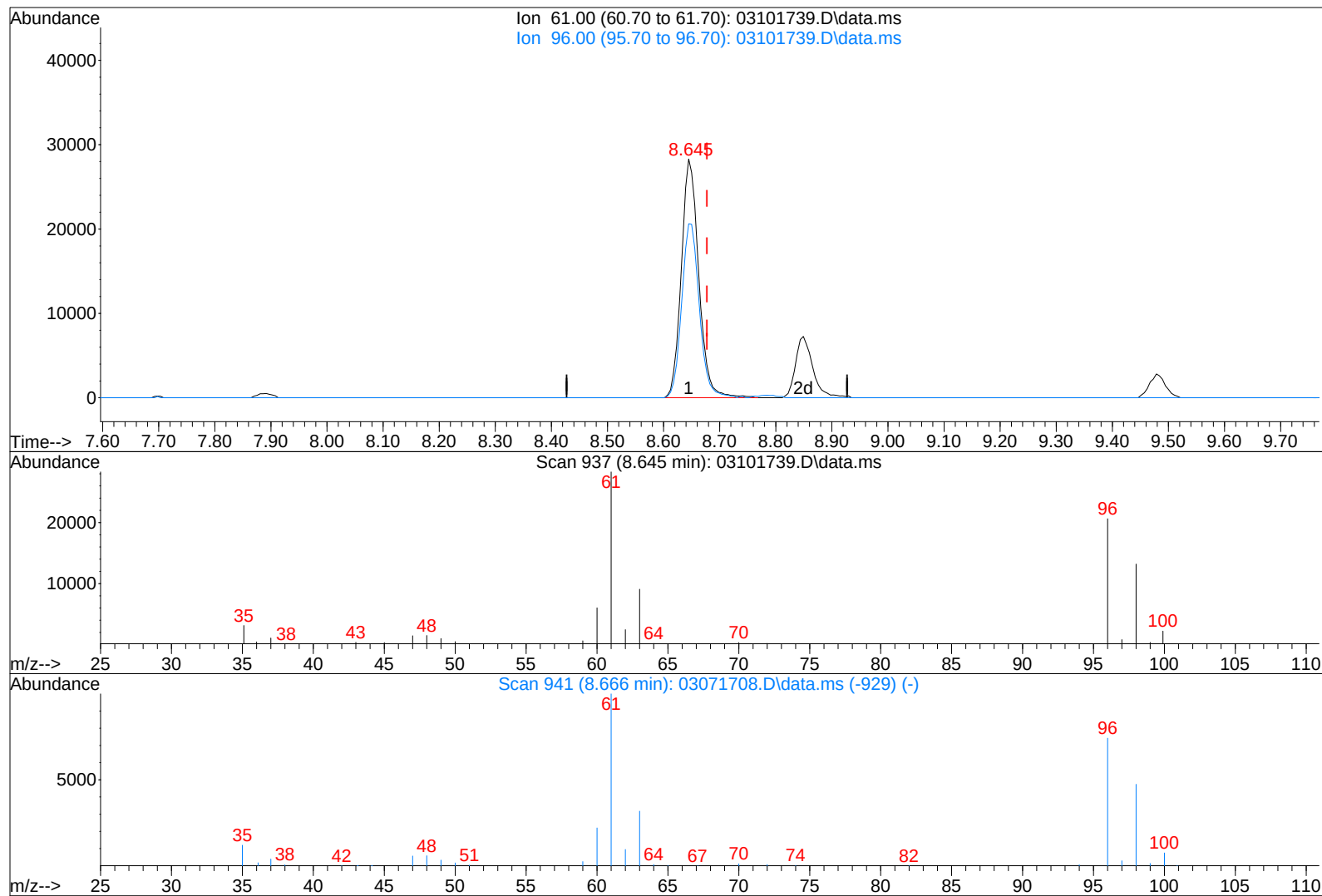
response 4167

Ion	Exp%	Act%
84.00	100	100
49.00	143.20	144.13
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101739.D
Acq On : 11 Mar 2017 2:35
Sample : P1701088-007 (1000mL)
Misc : S29-01231701

Vial: 10
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:48:13 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101739.D\data.ms

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

8.645min (-0.032) 2.85ng

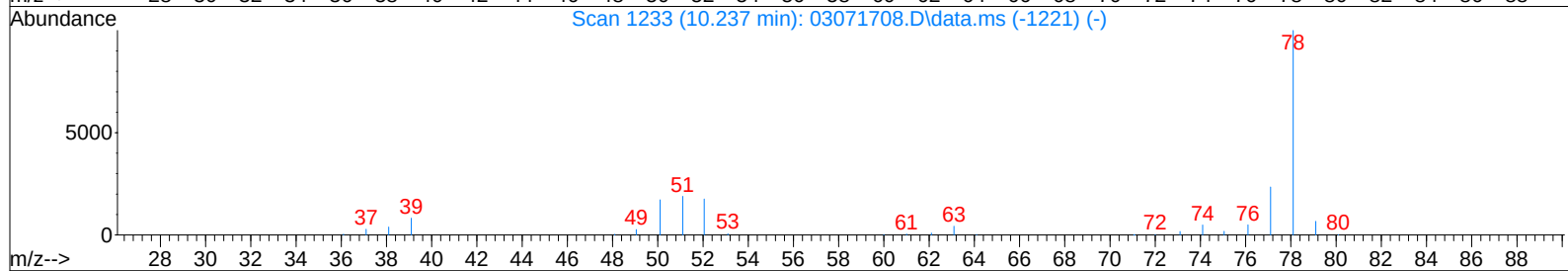
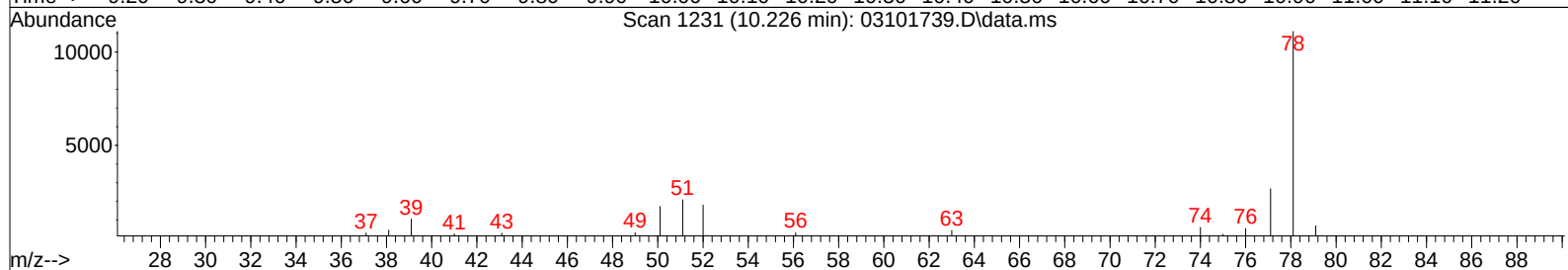
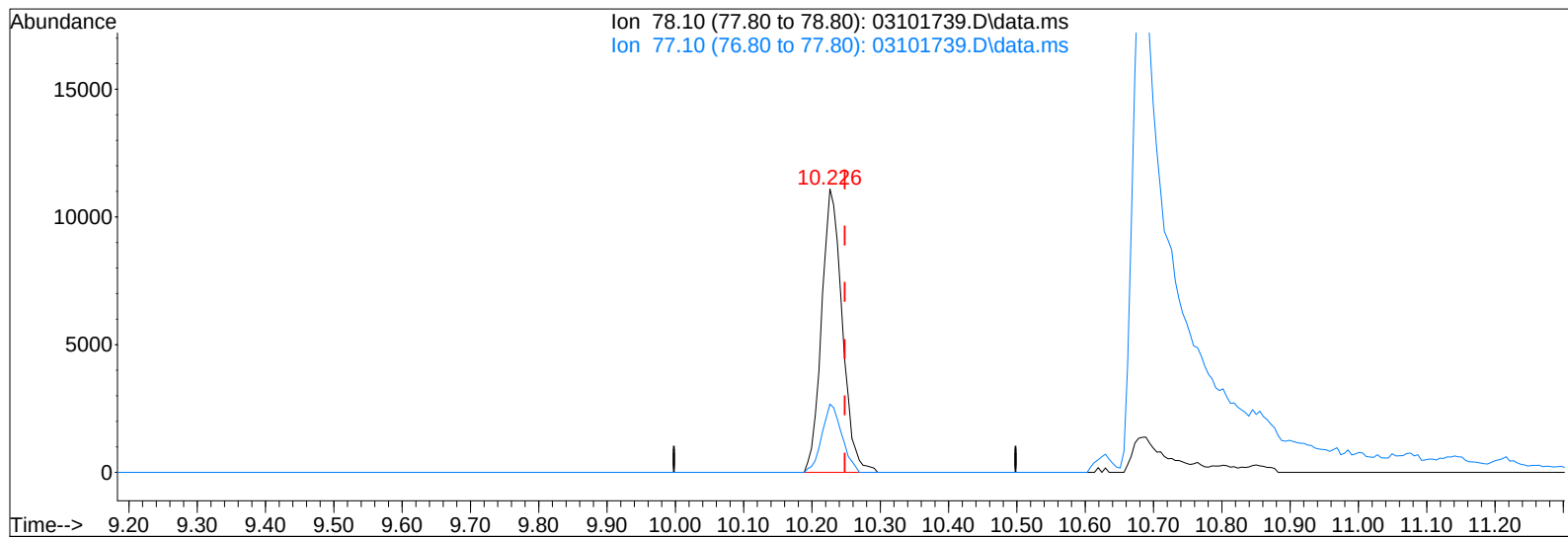
response 61009

Ion	Exp%	Act%
61.00	100	100
96.00	73.50	74.03
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101739.D
Acq On : 11 Mar 2017 2:35
Sample : P1701088-007 (1000mL)
Misc : S29-01231701

Vial: 10
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:48:13 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101739.D\data.ms

(41) Benzene (T)

10.226min (-0.022) 0.38ng

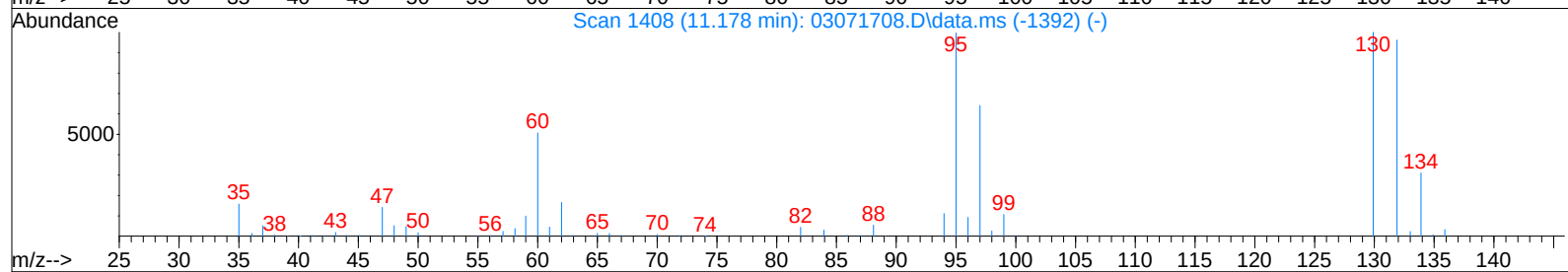
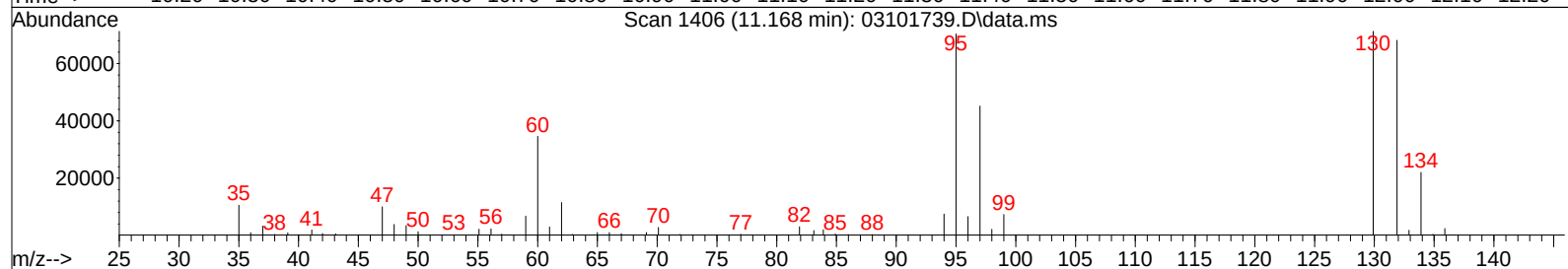
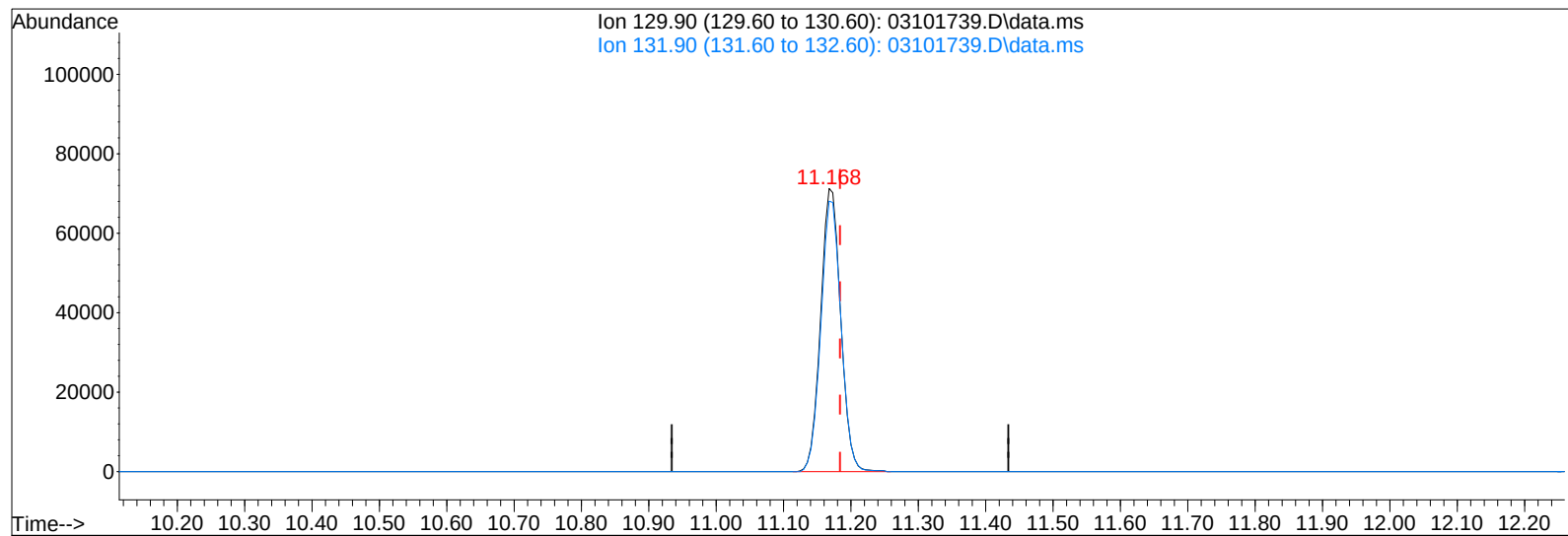
response 23278

Ion	Exp%	Act%
78.10	100	100
77.10	23.60	23.37
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101739.D
Acq On : 11 Mar 2017 2:35
Sample : P1701088-007 (1000mL)
Misc : S29-01231701

Vial: 10
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:48:13 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101739.D\data.ms

(47) Trichloroethene (T)

11.168min (-0.016) 9.15ng

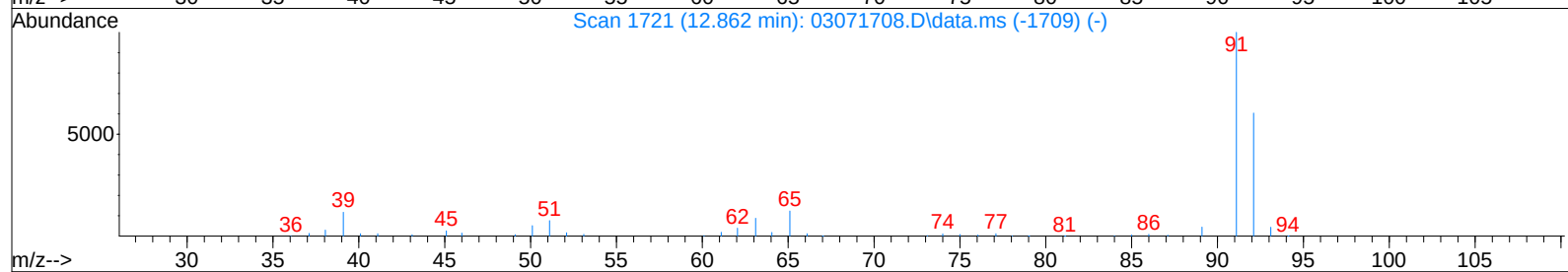
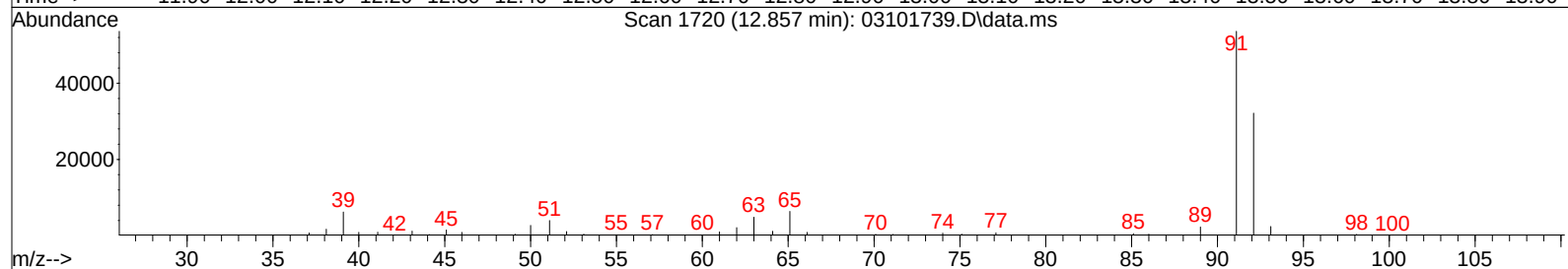
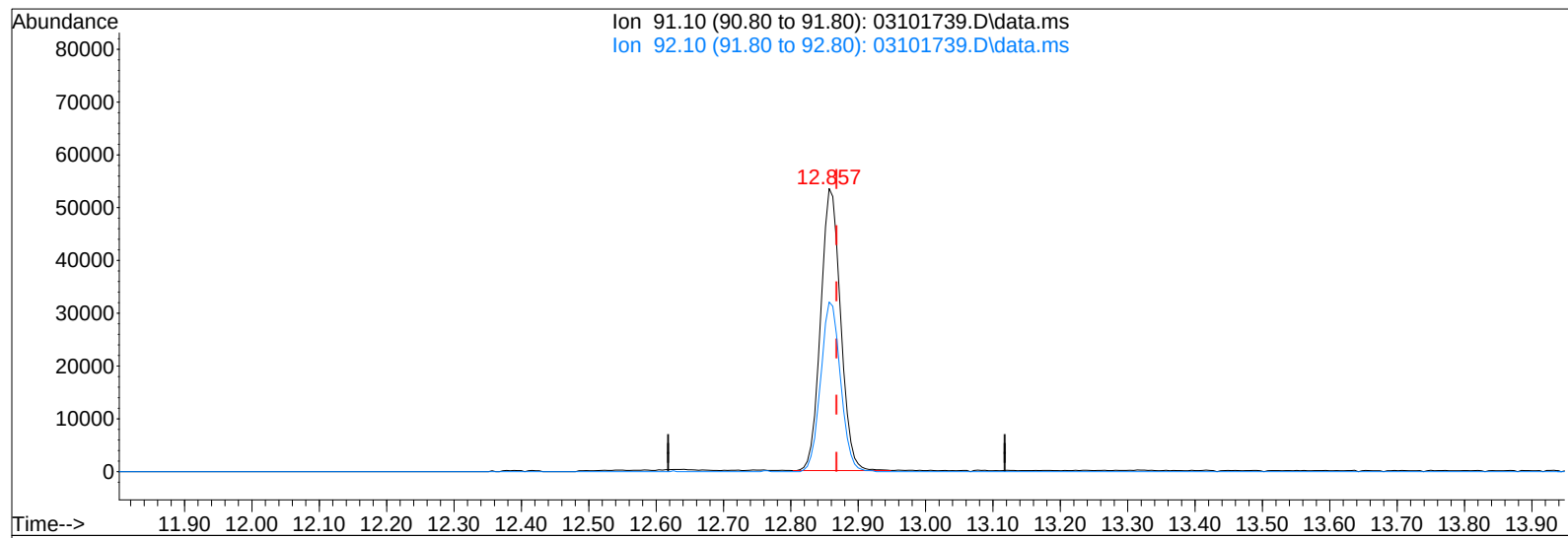
response 146995

Ion	Exp%	Act%
129.90	100	100
131.90	95.60	95.87
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101739.D
Acq On : 11 Mar 2017 2:35
Sample : P1701088-007 (1000mL)
Misc : S29-01231701

Vial: 10
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:48:13 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101739.D\data.ms

(58) Toluene (T)

12.857min (-0.011) 1.87ng

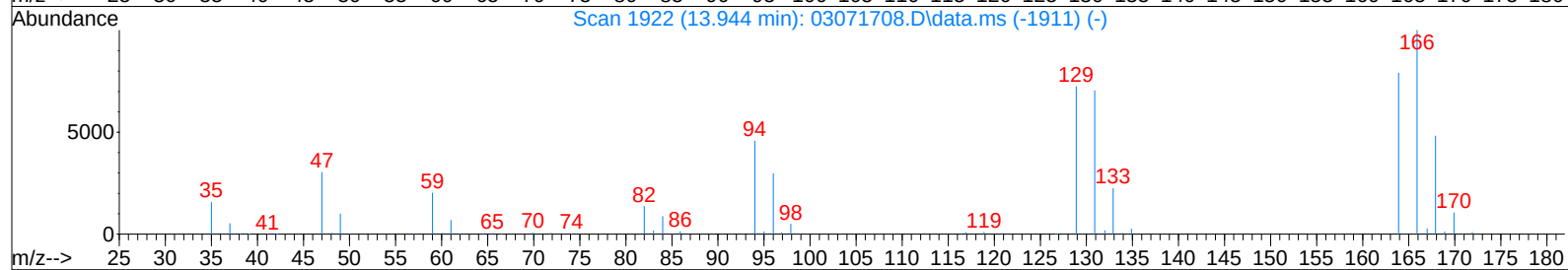
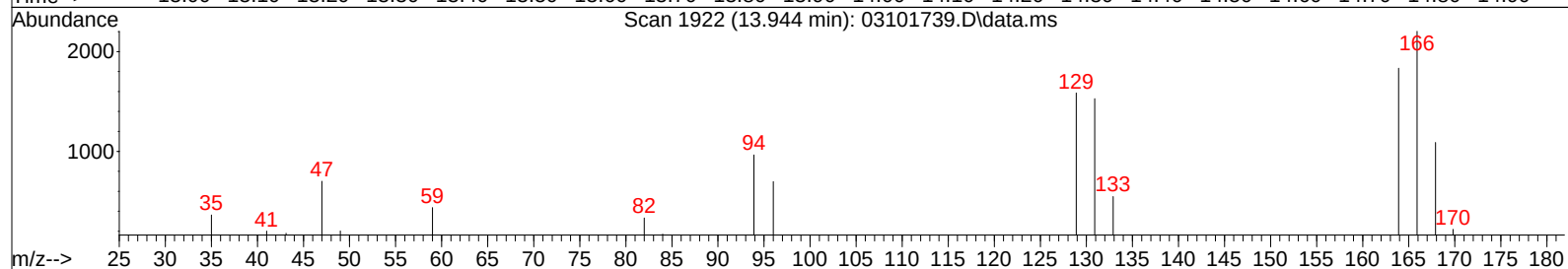
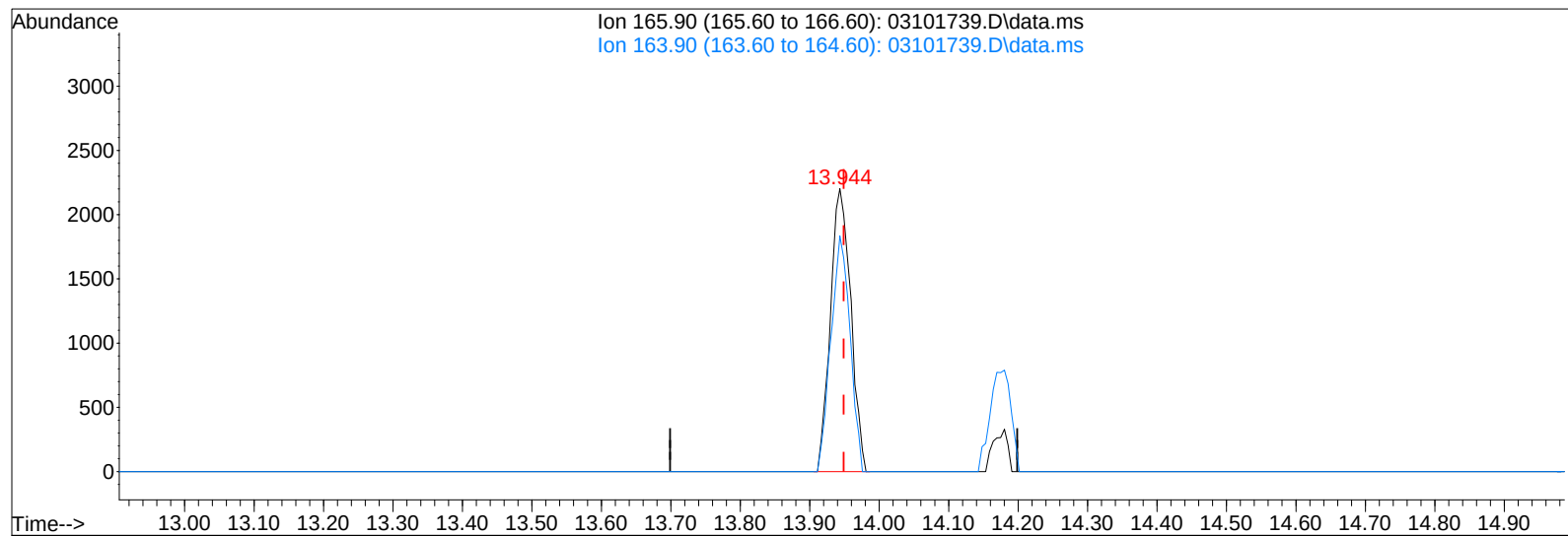
response 109554

Ion	Exp%	Act%
91.10	100	100
92.10	60.40	60.10
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101739.D
Acq On : 11 Mar 2017 2:35
Sample : P1701088-007 (1000mL)
Misc : S29-01231701

Vial: 10
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:48:13 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101739.D\data.ms

(64) Tetrachloroethene (T)

13.944min (-0.006) 0.29ng

response 4467

Ion	Exp%	Act%
165.90	100	100
163.90	78.70	78.51
0.00	0.00	0.00
0.00	0.00	0.00

Data File: I:\MS08\Data\2017 03\10\03101740.D

Acq On : 11 Mar 2017 3:07

Operator: WA

Sample : P1701088-008 (1000mL)

Misc : S29-01231701

ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 13 10:50:10 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

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DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.80	130	162822	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	10.53	114	782157	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	338299	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	287609	12.262	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	98.08%
57) Toluene-d8 (SS2)	12.77	98	815640	12.831	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	102.64%
73) Bromofluorobenzene (SS3)	16.07	174	249779	11.983	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	95.84%

Target Compounds

						Qvalue
2) Propene	3.88	42	158624	9.357	ng	# 1
3) Dichlorodifluoromethan...	3.99	85	53247	1.701	ng	99
4) Chloromethane	4.21	50	7015	0.321	ng	93
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	986	N.D.		
6) Vinyl Chloride	4.48	62	12868	0.532	ng	98
7) 1,3-Butadiene	4.66	54	1839	0.096	ng	# 85
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.37	45	95565	7.932	ng	100
11) Acetonitrile	5.59	41	6522	0.204	ng	79
12) Acrolein	5.72	56	3941	0.427	ng	88
13) Acetone	5.84	58	1011189	85.653	ng	98
14) Trichlorofluoromethane	6.01	101	23787	0.858	ng	100
15) 2-Propanol (Isopropanol)	6.13	45	906126	20.544	ng	99
16) Acrylonitrile	0.00	53	0	N.D.	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	6.79	84	50752	3.525	ng	96
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	7.06	151	4802	0.373	ng	98
22) Carbon Disulfide	7.05	76	6435	0.125	ng	99
23) trans-1,2-Dichloroethene	7.89	61	790	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.	d	
27) 2-Butanone (MEK)	8.24	72	18192	1.823	ng	95
28) cis-1,2-Dichloroethene	8.65	61	40816	1.888	ng	100
29) Diisopropyl Ether	8.85	87	931	N.D.		
30) Ethyl Acetate	8.85	61	14383	3.023	ng	97
31) n-Hexane	8.85	57	61512	2.386	ng	100
32) Chloroform	8.91	83	1799	N.D.		
34) Tetrahydrofuran (THF)	9.27	72	16278	1.633	ng	92
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	9.59	62	985	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	0.00	56	0	N.D.	d	
41) Benzene	10.23	78	44537	0.721	ng	99
42) Carbon Tetrachloride	10.37	117	7234	0.341	ng	98
43) Cyclohexane	10.48	84	14101	0.527	ng	93
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	10.85	63	622	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.17	130	64656	4.011	ng	100
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	

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Data File: I:\MS08\Data\2017 03\10\03101740.D

Acq On : 11 Mar 2017 3:07

Operator: WA

Sample : P1701088-008 (1000mL)

Misc : S29-01231701

ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 13 10:50:10 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.33	100	2534	0.428	ng	97
51) n-Heptane	11.44	71	33113	2.100	ng	98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.97	58	3541	0.265	ng	# 81
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	12.86	91	6293939	106.417	ng	99
59) 2-Hexanone	0.00	43	0	N.D.	d	
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.66	43	70097	1.884	ng	# 76
63) n-Octane	13.79	57	87002	6.645	ng	99
64) Tetrachloroethene	13.94	166	13350	0.851	ng	98
65) Chlorobenzene	0.00	112	0	N.D.	d	
66) Ethylbenzene	14.99	91	270718	4.087	ng	100
67) m- & p-Xylenes	15.15	91	1011219	19.160	ng	100
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.53	104	20057	0.544	ng	99
70) o-Xylene	15.63	91	334944	6.166	ng	100
71) n-Nonane	15.84	43	177479	5.418	ng	99
72) 1,1,2,2-Tetrachloroethane	15.64	83	1538	N.D.		
74) Cumene	16.21	105	4768	N.D.		
75) alpha-Pinene	16.59	93	62326	1.753	ng	94
76) n-Propylbenzene	16.70	91	4780	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	16.84	105	4313	N.D.		
79) 1,3,5-Trimethylbenzene	16.91	105	3826	N.D.		
80) alpha-Methylstyrene	17.06	118	711	N.D.		
81) 2-Ethyltoluene	17.09	105	3529	N.D.		
82) 1,2,4-Trimethylbenzene	17.31	105	11421	0.205	ng	89
83) n-Decane	0.00	57	0	N.D.	d	
84) Benzyl Chloride	17.42	91	503	N.D.		
85) 1,3-Dichlorobenzene	17.51	146	2113	N.D.		
86) 1,4-Dichlorobenzene	17.51	146	2113	N.D.		
87) sec-Butylbenzene	17.56	105	1120	N.D.		
88) 4-Isopropyltoluene (p-...	17.71	119	4151	N.D.		
89) 1,2,3-Trimethylbenzene	17.71	105	4510	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	17.85	68	12796	0.591	ng	# 72
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	19.57	128	10992	0.171	ng	99
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	17.30	119	1539	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.	d	

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

Data File: I:\MS08\Data\2017 03\10\03101740.D

Acq On : 11 Mar 2017 3:07

Operator: WA

Sample : P1701088-008 (1000mL)

Misc : S29-01231701

ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 13 10:50:10 2017

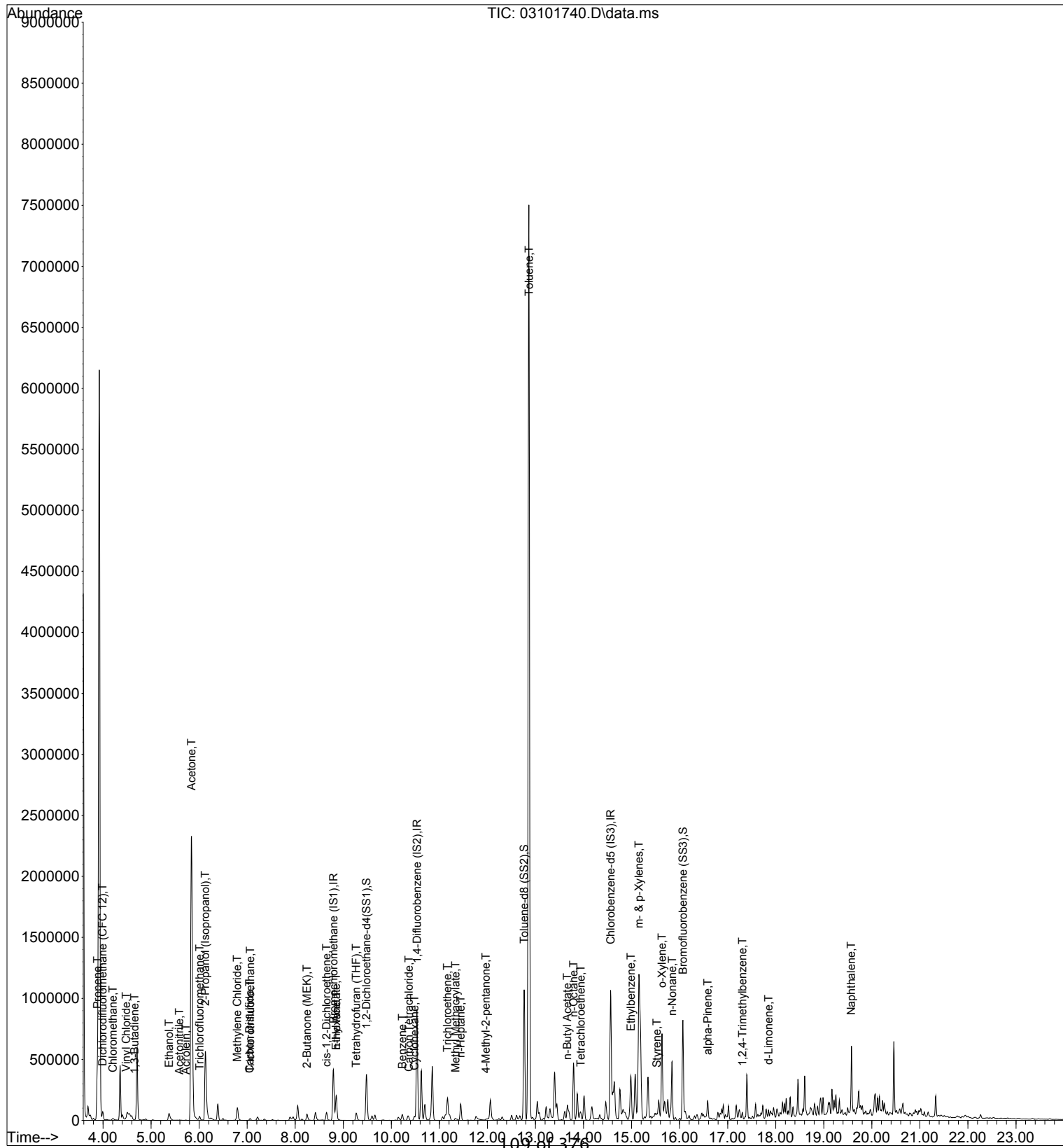
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

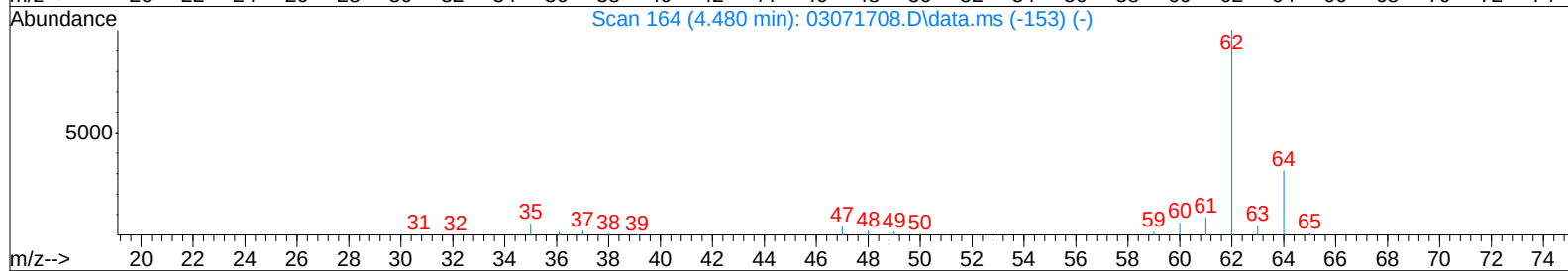
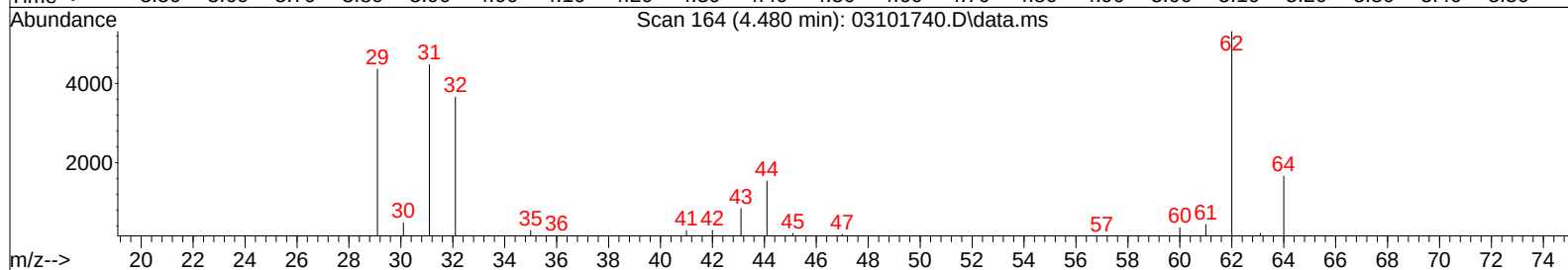
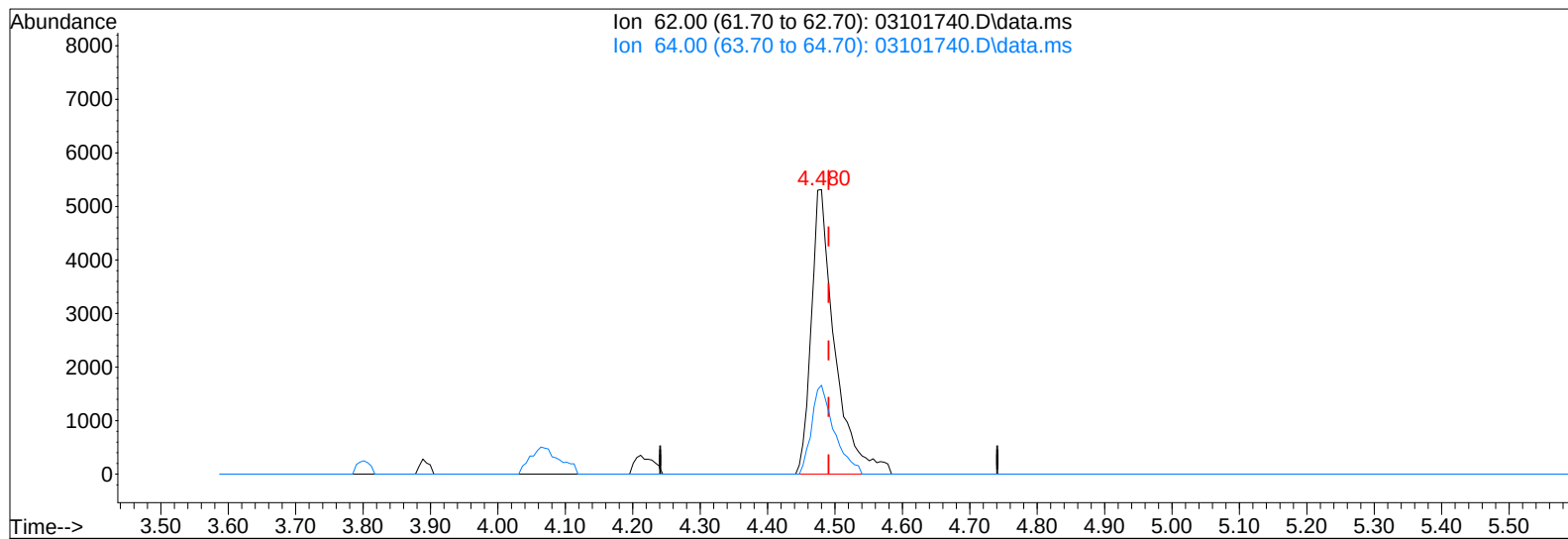
DataAcq Meth:TO15.M



Data File : I:\MS08\Data\2017 03\10\03101740.D
Acq On : 11 Mar 2017 3:07
Sample : P1701088-008 (1000mL)
Misc : S29-01231701

Vial: 11
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:50:10 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101740.D\data.ms

(6) Vinyl Chloride (T)

4.480min (-0.011) 0.53ng

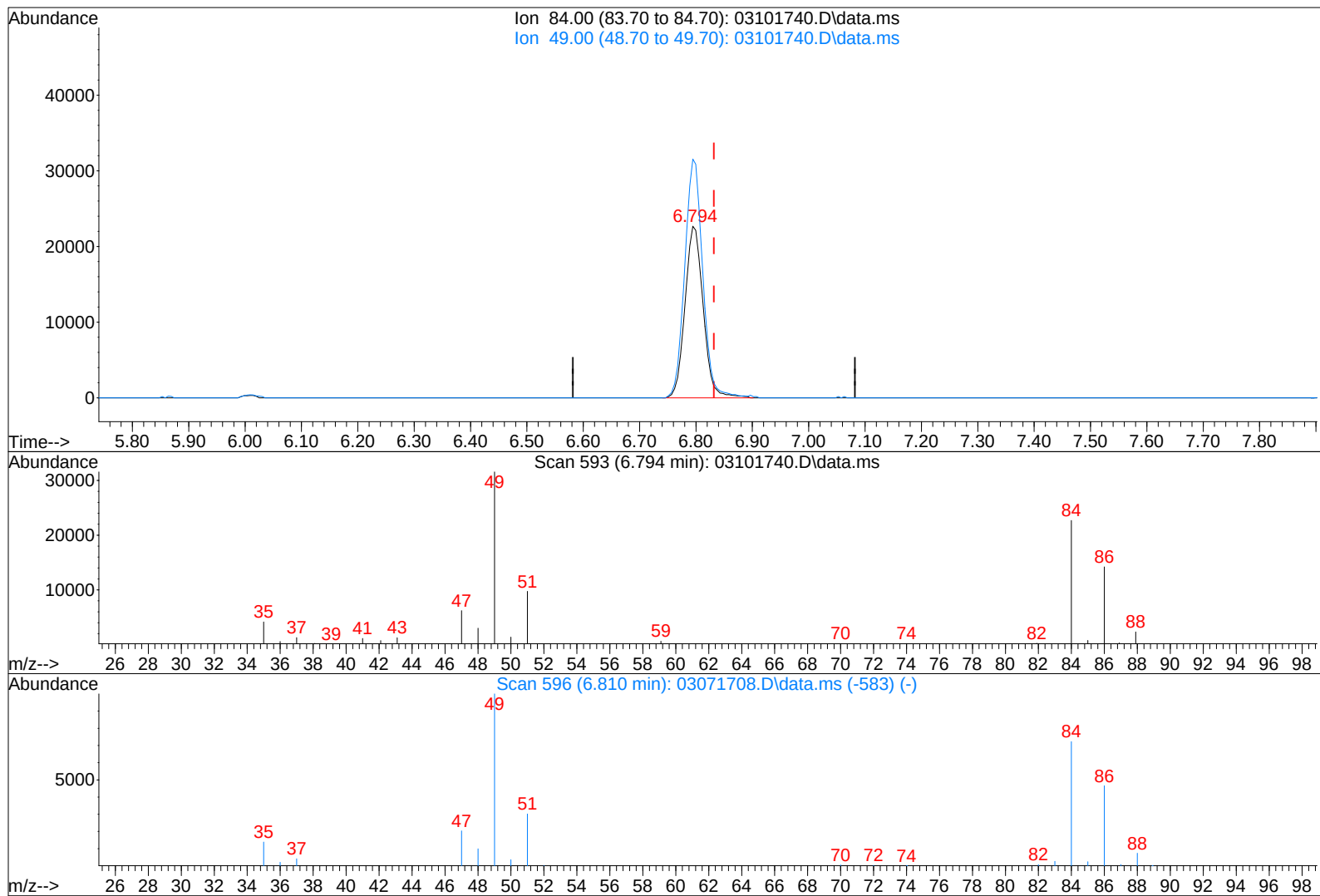
response 12868

Ion	Exp%	Act%
62.00	100	100
64.00	31.00	30.07
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101740.D
Acq On : 11 Mar 2017 3:07
Sample : P1701088-008 (1000mL)
Misc : S29-01231701

Vial: 11
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:50:10 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101740.D\data.ms

(19) Methylene Chloride (T)

6.794min (-0.038) 3.53ng

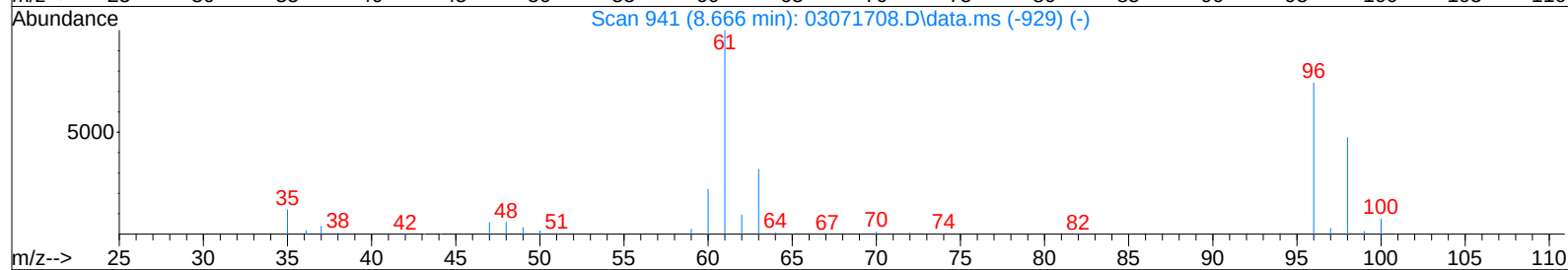
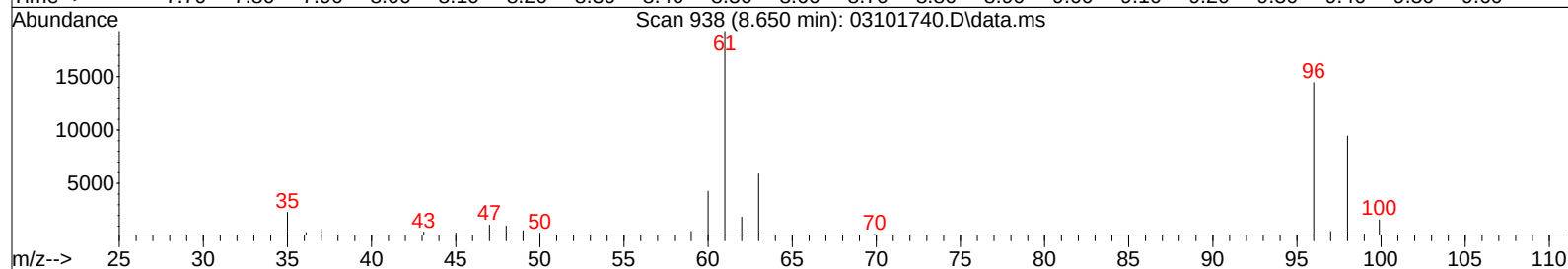
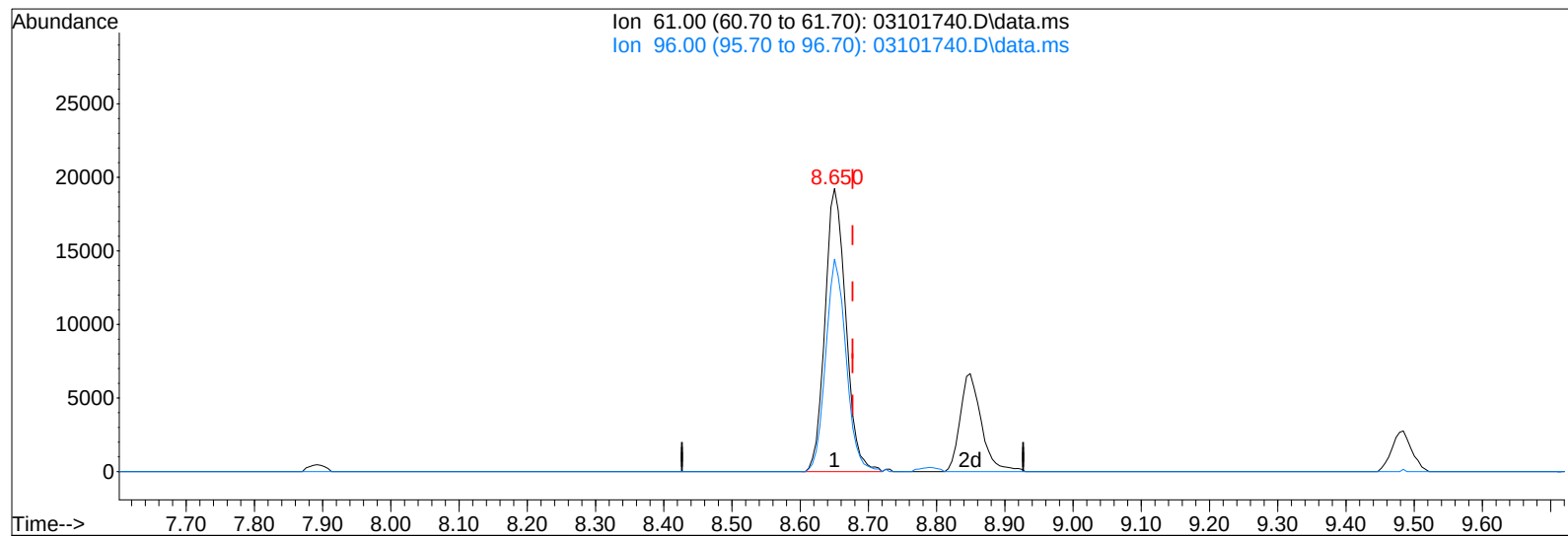
response 50752

Ion	Exp%	Act%
84.00	100	100
49.00	143.20	138.37
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101740.D
Acq On : 11 Mar 2017 3:07
Sample : P1701088-008 (1000mL)
Misc : S29-01231701

Vial: 11
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:50:10 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101740.D\data.ms

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

8.650min (-0.027) 1.89ng

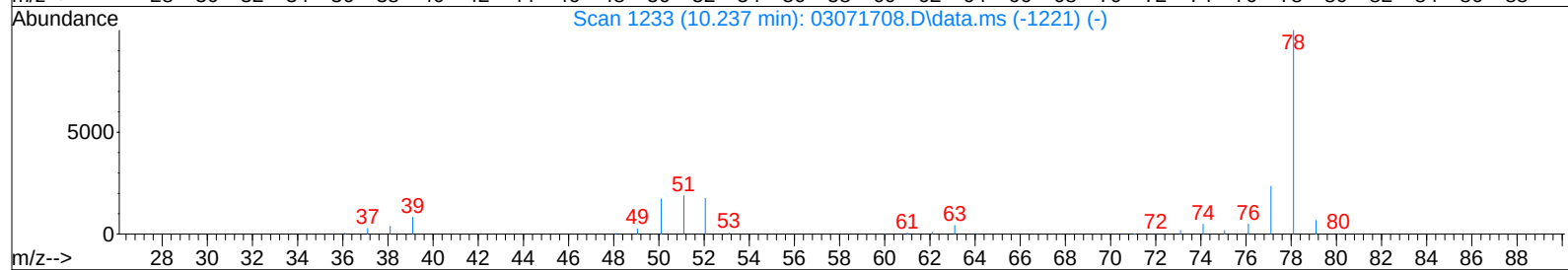
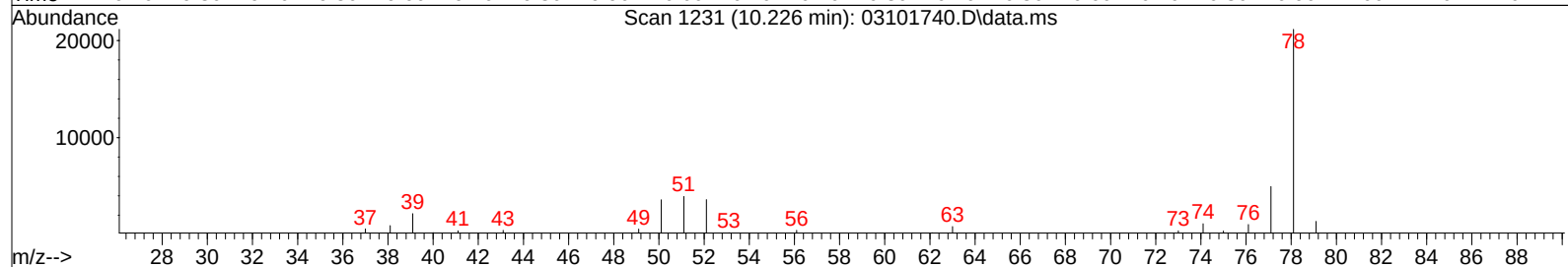
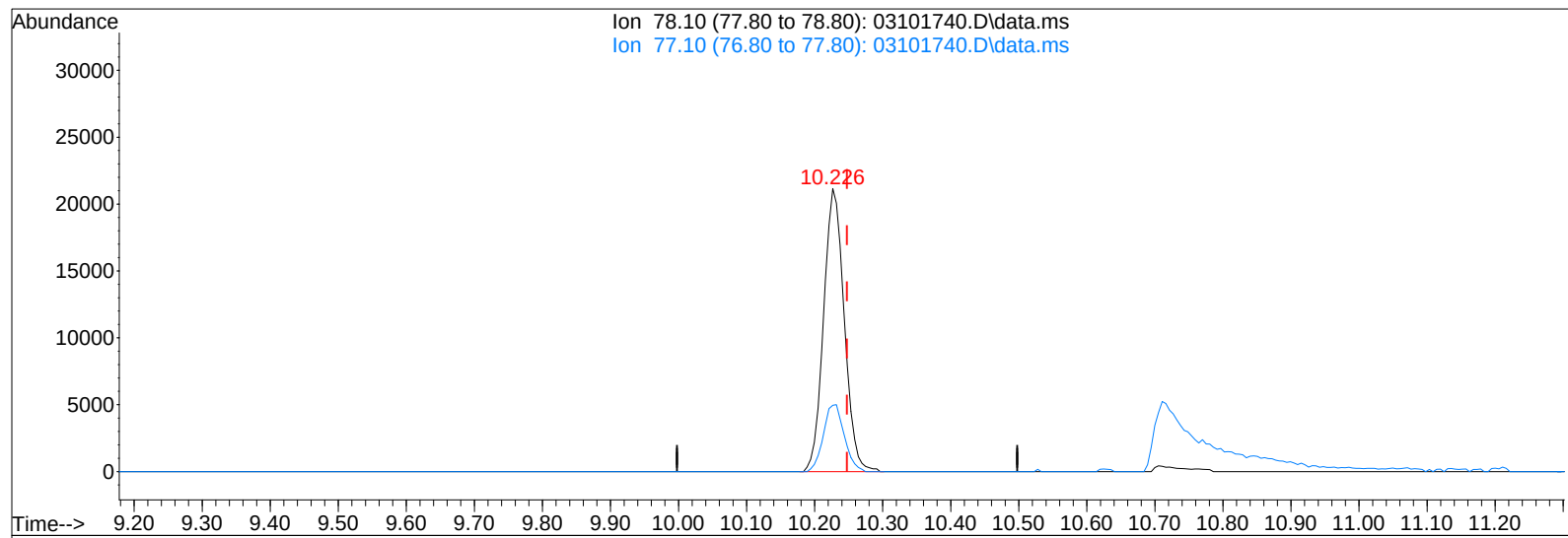
response 40816

Ion	Exp%	Act%
61.00	100	100
96.00	73.50	73.65
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101740.D
Acq On : 11 Mar 2017 3:07
Sample : P1701088-008 (1000mL)
Misc : S29-01231701

Vial: 11
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:50:10 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101740.D\data.ms

(41) Benzene (T)

10.226min (-0.021) 0.72ng

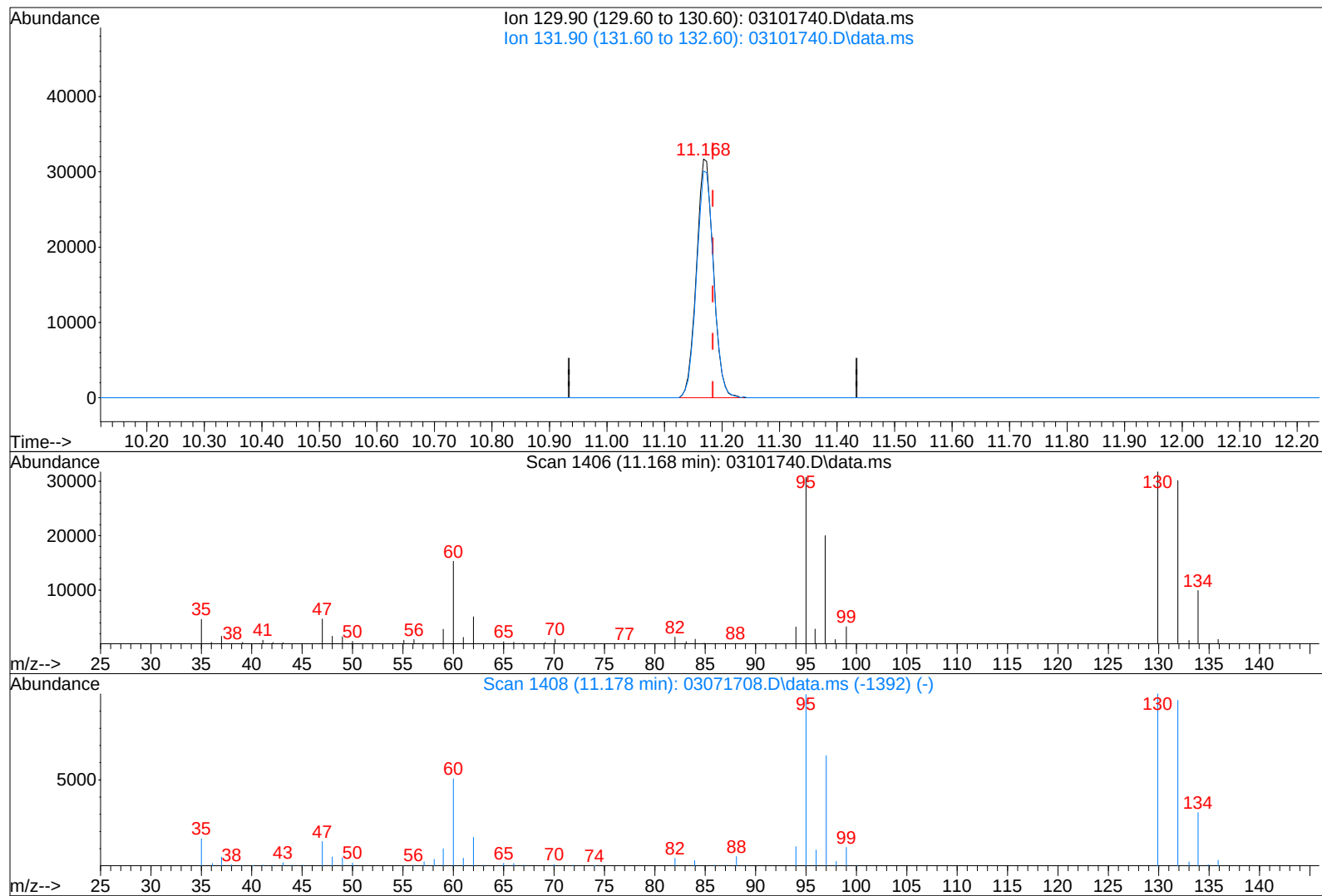
response 44537

Ion	Exp%	Act%
78.10	100	100
77.10	23.60	23.96
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101740.D
Acq On : 11 Mar 2017 3:07
Sample : P1701088-008 (1000mL)
Misc : S29-01231701

Vial: 11
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:50:10 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101740.D\data.ms

(47) Trichloroethene (T)

11.168min (-0.016) 4.01ng

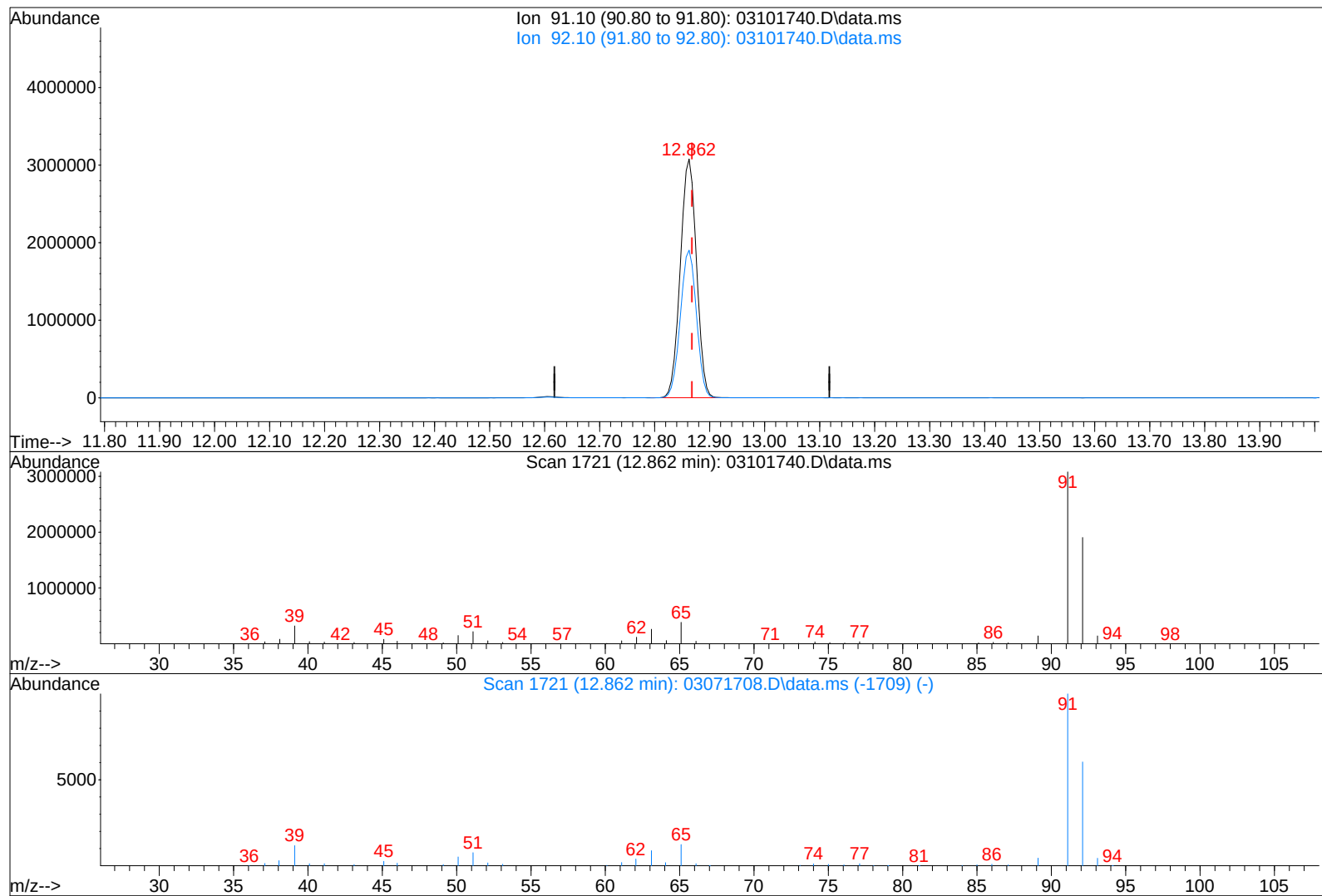
response 64656

Ion	Exp%	Act%
129.90	100	100
131.90	95.60	96.07
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101740.D
Acq On : 11 Mar 2017 3:07
Sample : P1701088-008 (1000mL)
Misc : S29-01231701

Vial: 11
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:50:10 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101740.D\data.ms

(58) Toluene (T)

12.862min (-0.005) 106.42ng

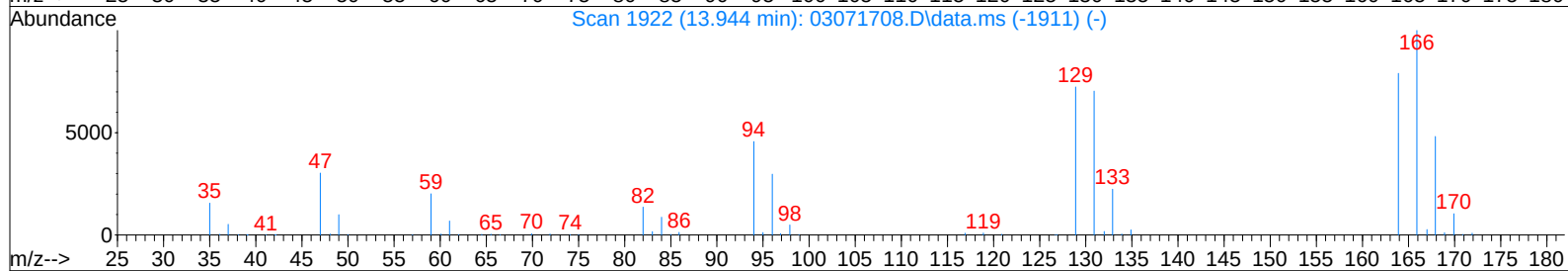
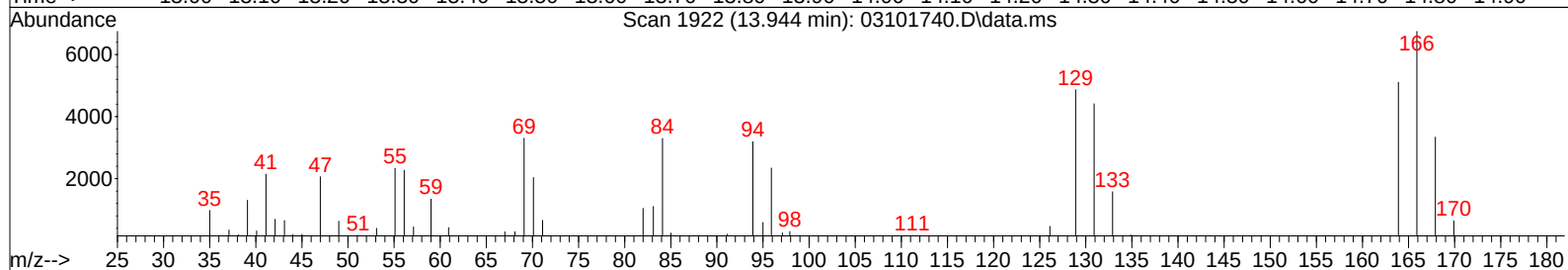
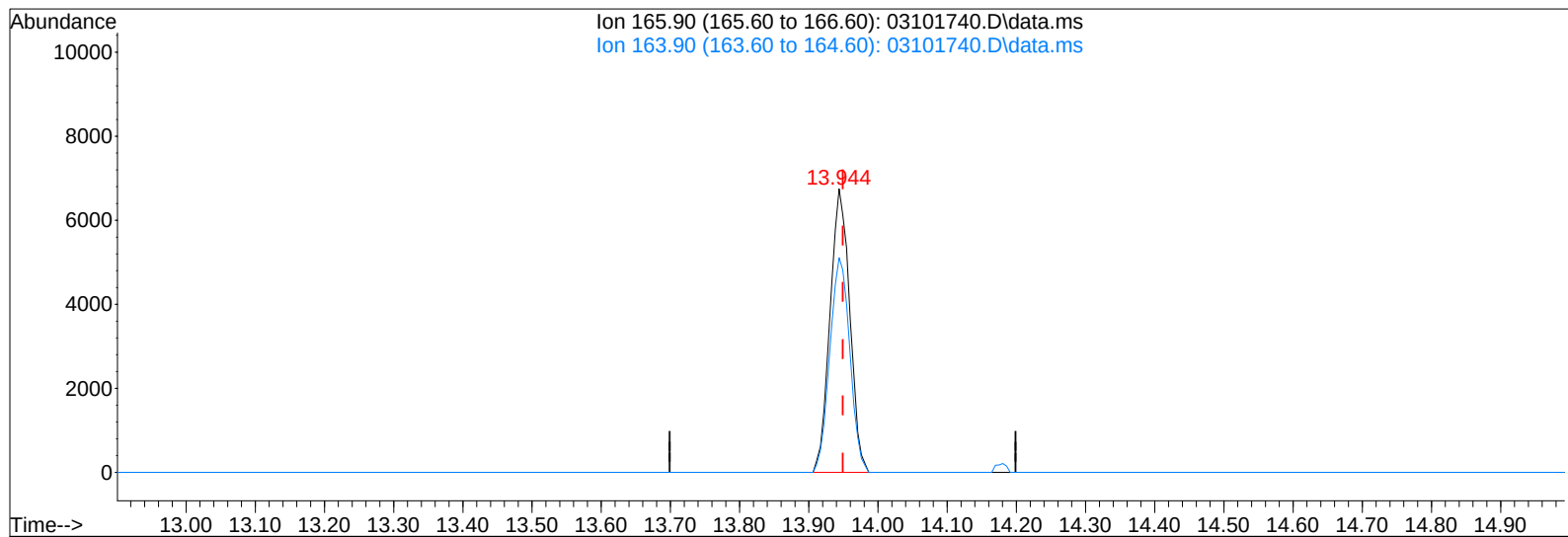
response 6293939

Ion	Exp%	Act%
91.10	100	100
92.10	60.40	61.53
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101740.D
Acq On : 11 Mar 2017 3:07
Sample : P1701088-008 (1000mL)
Misc : S29-01231701

Vial: 11
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:50:10 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101740.D\data.ms

(64) Tetrachloroethene (T)

13.944min (-0.005) 0.85ng

response 13350

Ion	Exp%	Act%
165.90	100	100
163.90	78.70	77.03
0.00	0.00	0.00
0.00	0.00	0.00

Data File: I:\MS08\Data\2017 03\11\03111709.D

Acq On : 11 Mar 2017 10:58

Operator: WA

Sample : P1701088-008dil (100mL)

Misc : S29-01231701

ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 13 15:26:42 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

3/13/17

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.80	130	165935	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	10.53	114	781768	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	351763	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	303576	12.700	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	101.60%
57) Toluene-d8 (SS2)	12.77	98	828392	12.533	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	100.24%
73) Bromofluorobenzene (SS3)	16.07	174	259089	11.954	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	95.60%

Target Compounds

						Qvalue
2) Propene	0.00	42	0	N.D.	d	
3) Dichlorodifluoromethan...	4.01	85	5652	0.177	ng	# 94
4) Chloromethane	4.25	50	1377	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	4.54	62	940	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	5.40	45	9893	0.806	ng	95
11) Acetonitrile	5.67	41	533	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	5.85	58	107424	8.929	ng	92
14) Trichlorofluoromethane	6.03	101	2394	N.D.		
15) 2-Propanol (Isopropanol)	6.14	45	133120	2.962	ng	100
16) Acrylonitrile	6.52	53	429	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	6.79	59	393	N.D.		
19) Methylene Chloride	6.79	84	5482	0.374	ng	99
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	7.08	76	4555	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)	8.27	72	1311	0.129	ng	# 29
28) cis-1,2-Dichloroethene	8.66	61	3970	0.180	ng	95
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	8.87	61	989	0.204	ng	97
31) n-Hexane	8.86	57	6139	0.234	ng	98
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	9.30	72	1468	0.145	ng	# 87
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	10.20	56	1276	N.D.		
41) Benzene	10.23	78	4689	N.D.		
42) Carbon Tetrachloride	10.36	117	691	N.D.		
43) Cyclohexane	10.48	84	1261	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	11.18	130	6050	0.376	ng	99
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	11.23	57	11701376	N.D.		

Data File: I:\MS08\Data\2017 03\11\03111709.D

Acq On : 11 Mar 2017 10:58

Operator: WA

Sample : P1701088-008dil (100mL)

Misc : S29-01231701

ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 13 15:26:42 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

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	11.45	71	3279	0.208	ng	98
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	12.86	91	667081	10.847	ng	99
59) 2-Hexanone	0.00	43	0	N.D.	d	
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.69	43	6292	0.163	ng	# 73
63) n-Octane	13.79	57	9098	0.668	ng	96
64) Tetrachloroethene	13.95	166	1205	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.	d	
66) Ethylbenzene	14.99	91	27336	0.397	ng	98
67) m- & p-Xylenes	15.16	91	102992	1.877	ng	99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.54	104	1663	N.D.		
70) o-Xylene	15.63	91	33338	0.590	ng	98
71) n-Nonane	15.84	43	19277	0.566	ng	99
72) 1,1,2,2-Tetrachloroethane	15.56	83	983	N.D.		
74) Cumene	0.00	105	0	N.D.		
75) alpha-Pinene	16.58	93	5809	0.157	ng	96
76) n-Propylbenzene	16.70	91	496	N.D.		
77) 3-Ethyltoluene	16.81	105	927	N.D.		
78) 4-Ethyltoluene	16.81	105	927	N.D.		
79) 1,3,5-Trimethylbenzene	16.81	105	927	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.31	105	763	N.D.		
82) 1,2,4-Trimethylbenzene	17.31	105	1078	N.D.		
83) n-Decane	0.00	57	0	N.D.	d	
84) Benzyl Chloride	17.24	91	584	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	17.85	68	1108	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	19.59	128	1347	N.D.		
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.	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

Data File: I:\MS08\Data\2017 03\11\03111709.D

Acq On : 11 Mar 2017 10:58

Operator: WA

Sample : P1701088-008dil (100mL)

Misc : S29-01231701

ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 13 15:26:42 2017

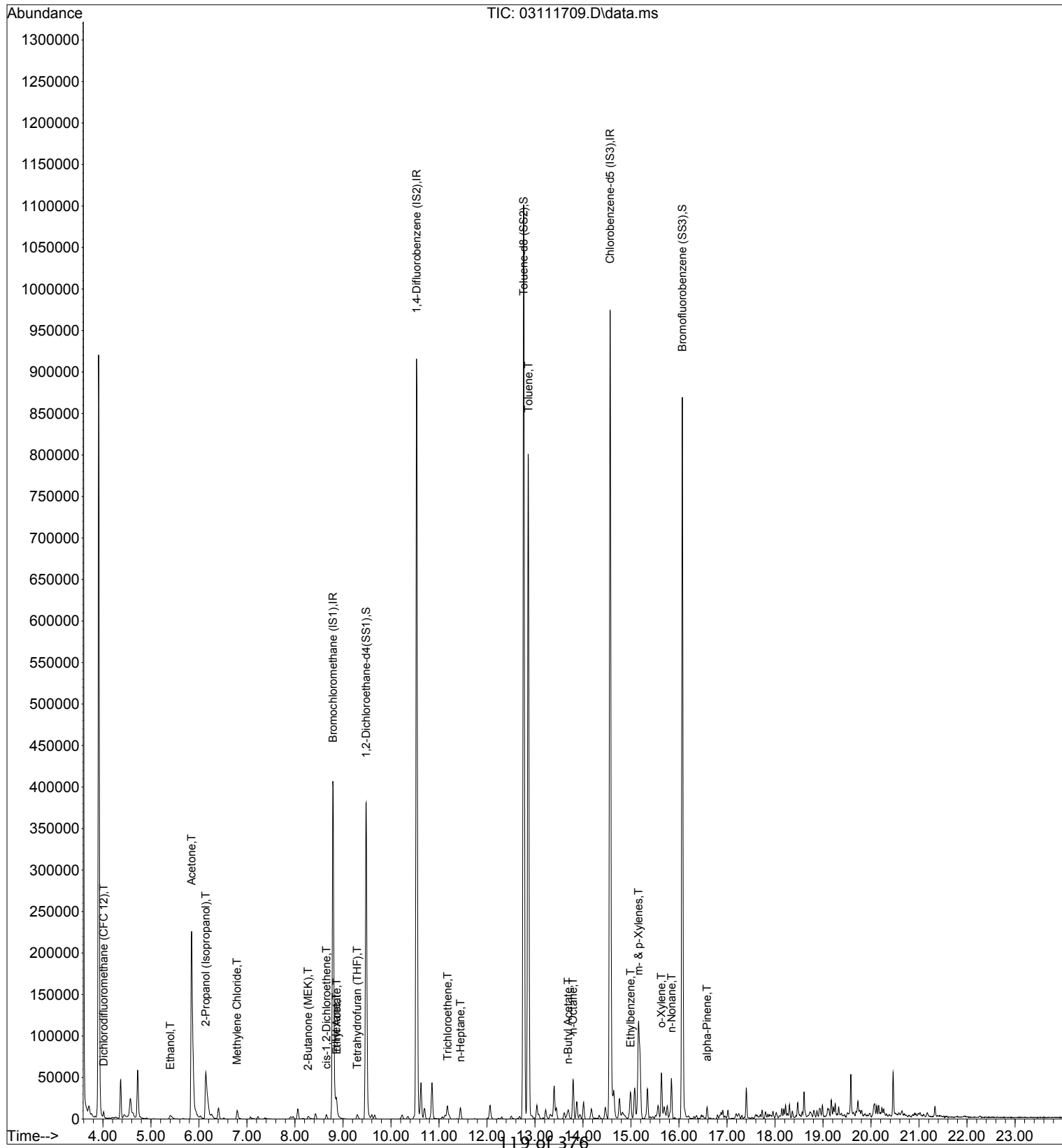
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

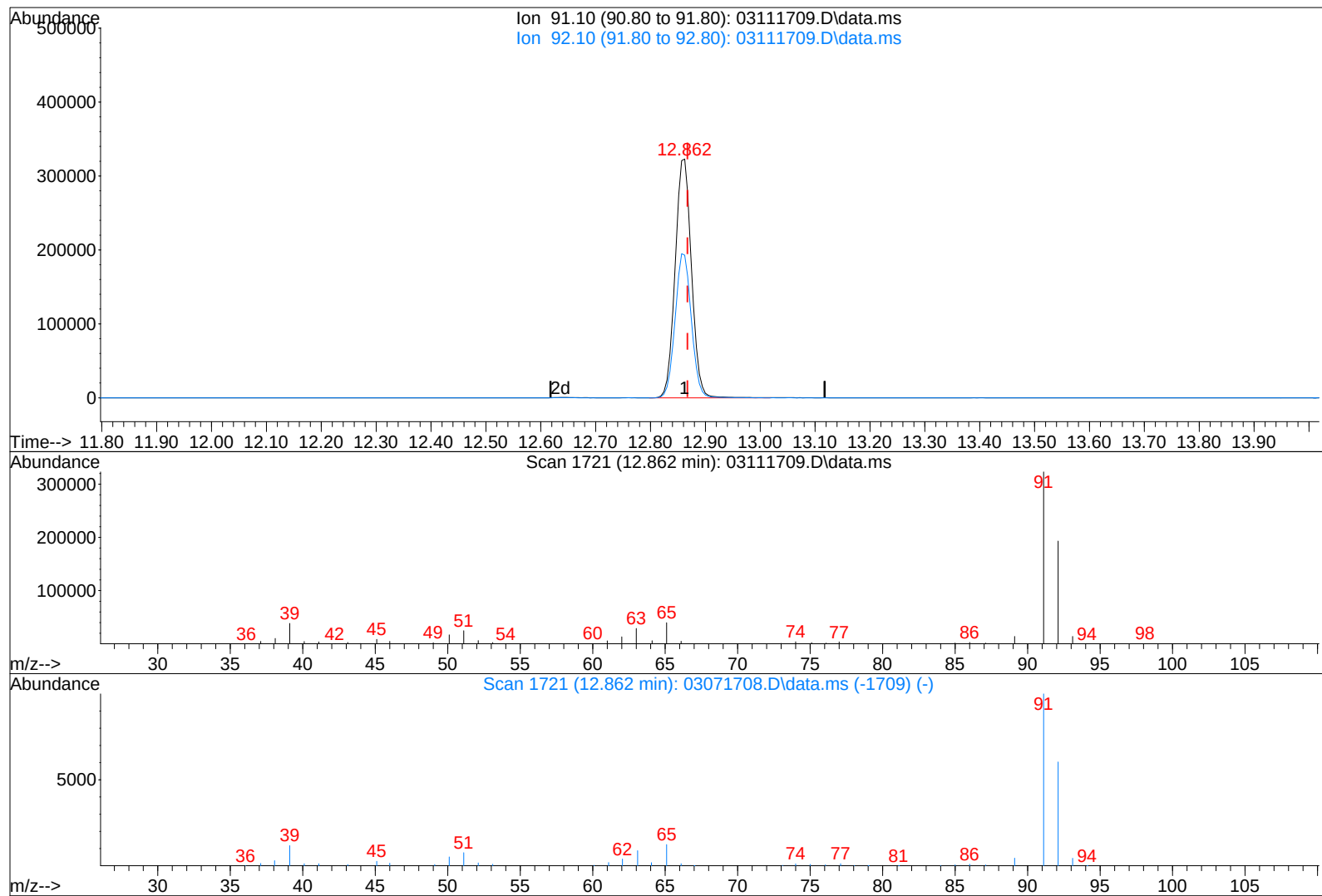
DataAcq Meth:TO15.M



Data File : I:\MS08\Data\2017 03\11\03111709.D
Acq On : 11 Mar 2017 10:58
Sample : P1701088-008dil (100mL)
Misc : S29-01231701

Vial: 11
Operator: WA
Inst : MS08

Quant Time: Mar 13 15:26:42 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03111709.D\data.ms

(58) Toluene (T)

12.862min (-0.005) 10.85ng

response 667081

Ion	Exp%	Act%
91.10	100	100
92.10	60.40	59.96
0.00	0.00	0.00
0.00	0.00	0.00

Data File: I:\MS08\Data\2017 03\10\03101741.D

Acq On : 11 Mar 2017 3:39

Operator: WA

Sample : P1701088-009 (1000mL)

Misc : S29-01231701

ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 13 10:52:32 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

3/13/17

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.79	130	163764	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	10.53	114	784391	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	337999	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	291005	12.335	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	98.72%
57) Toluene-d8 (SS2)	12.77	98	816450	12.855	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	102.80%
73) Bromofluorobenzene (SS3)	16.07	174	251815	12.091	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	96.72%

Target Compounds

						Qvalue
2) Propene	0.00	42	0	N.D.	d	
3) Dichlorodifluoromethan...	4.00	85	56557	1.796	ng	99
4) Chloromethane	4.21	50	8161	0.371	ng	91
5) 1,2-Dichloro-1,1,2,2-t...	4.36	135	1092	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.67	54	1072	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.38	45	345817	28.540	ng	100
11) Acetonitrile	5.59	41	11114	0.346	ng	89
12) Acrolein	5.72	56	4595	0.495	ng	97
13) Acetone	5.84	58	121835	10.261	ng	93
14) Trichlorofluoromethane	6.01	101	25312	0.908	ng	99
15) 2-Propanol (Isopropanol)	6.15	45	54965	1.239	ng	100
16) Acrylonitrile	6.39	53	528	N.D.		
17) 1,1-Dichloroethene	6.66	96	644	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d	
19) Methylene Chloride	6.79	84	5348	0.369	ng	99
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	7.06	151	5189	0.401	ng	95
22) Carbon Disulfide	7.06	76	5270	0.102	ng	100
23) trans-1,2-Dichloroethene	7.69	61	415	N.D.		
24) 1,1-Dichloroethane	7.95	63	510	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	8.25	72	11055	1.102	ng	98
28) cis-1,2-Dichloroethene	8.64	61	44615	2.052	ng	99
29) Diisopropyl Ether	8.86	87	1119	N.D.		
30) Ethyl Acetate	8.85	61	14150	2.957	ng	94
31) n-Hexane	8.86	57	69074	2.664	ng	99
32) Chloroform	8.92	83	2214	N.D.		
34) Tetrahydrofuran (THF)	9.29	72	1161	0.116	ng	# 1
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	9.59	62	1005	N.D.		
38) 1,1,1-Trichloroethane	9.81	97	748	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	10.23	78	28497	0.460	ng	99
42) Carbon Tetrachloride	10.36	117	7622	0.359	ng	98
43) Cyclohexane	10.48	84	17640	0.658	ng	98
44) tert-Amyl Methyl Ether	10.86	73	735	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.17	130	287114	17.761	ng	99
48) 1,4-Dioxane	0.00	88	0	N.D.	d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	

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Data File: I:\MS08\Data\2017 03\10\03101741.D

Acq On : 11 Mar 2017 3:39

Operator: WA

Sample : P1701088-009 (1000mL)

Misc : S29-01231701

ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 13 10:52:32 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

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	11.45	71	65941	4.171	ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.97	58	6460	0.482	ng	93
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.86	91	130510	2.209	ng	99
59) 2-Hexanone	13.09	43	2747	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.67	43	5922	0.159	ng	95
63) n-Octane	13.79	57	2949	0.225	ng	95
64) Tetrachloroethene	13.95	166	3669	0.234	ng	98
65) Chlorobenzene	14.64	112	1276	N.D.		
66) Ethylbenzene	14.99	91	546616	8.259	ng	100
67) m- & p-Xylenes	15.15	91	1545401	29.308	ng	100
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.53	104	9394	0.255	ng	99
70) o-Xylene	15.63	91	478700	8.820	ng	99
71) n-Nonane	15.84	43	27610	0.844	ng	100
72) 1,1,2,2-Tetrachloroethane	15.63	83	463	N.D.		
74) Cumene	16.20	105	7572	0.110	ng	98
75) alpha-Pinene	16.58	93	51704	1.455	ng	84
76) n-Propylbenzene	16.70	91	3061	N.D.		
77) 3-Ethyltoluene	16.79	105	4426	N.D.		
78) 4-Ethyltoluene	16.84	105	2336	N.D.		
79) 1,3,5-Trimethylbenzene	16.91	105	1853	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.10	105	2121	N.D.		
82) 1,2,4-Trimethylbenzene	17.30	105	7501	0.135	ng	86
83) n-Decane	0.00	57	0	N.D.	d	
84) Benzyl Chloride	17.52	91	1118	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	d	
86) 1,4-Dichlorobenzene	17.52	146	4052	0.127	ng	100
87) sec-Butylbenzene	17.56	105	991	N.D.		
88) 4-Isopropyltoluene (p-...	17.71	119	4385	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	17.85	68	5046	0.233	ng	# 61
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	19.46	180	708	N.D.		
95) Naphthalene	19.57	128	21656	0.337	ng	96
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	17.31	119	1149	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.	d	

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

Data File: I:\MS08\Data\2017 03\10\03101741.D

Acq On : 11 Mar 2017 3:39

Operator: WA

Sample : P1701088-009 (1000mL)

Misc : S29-01231701

ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 13 10:52:32 2017

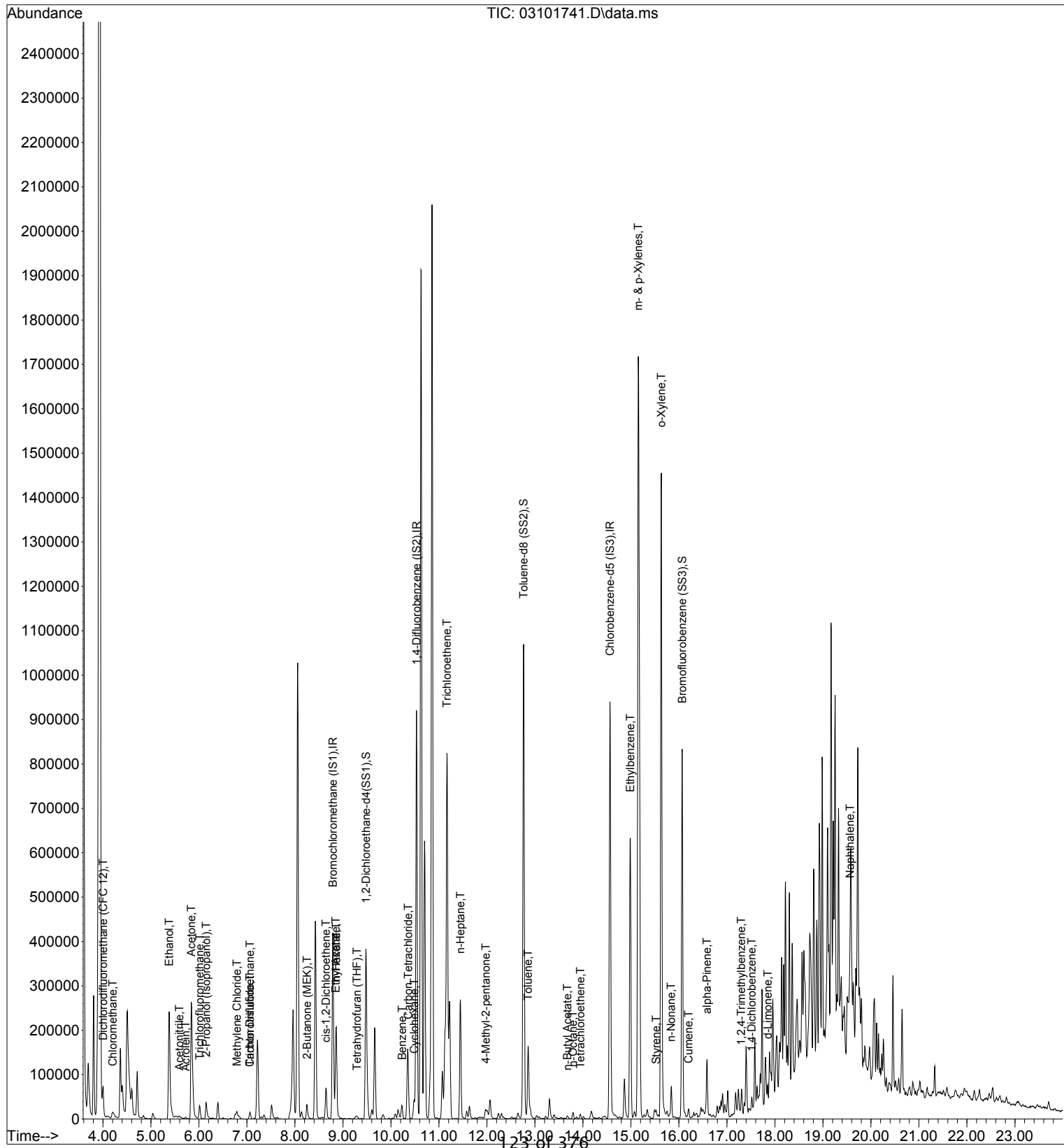
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

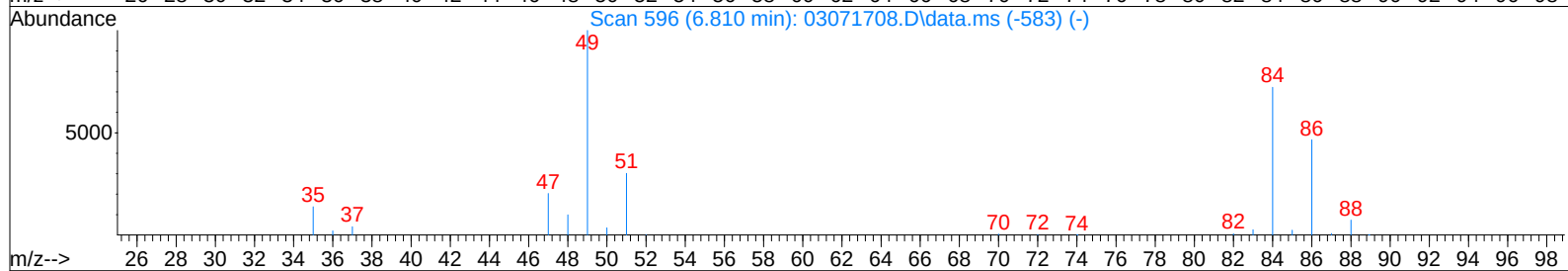
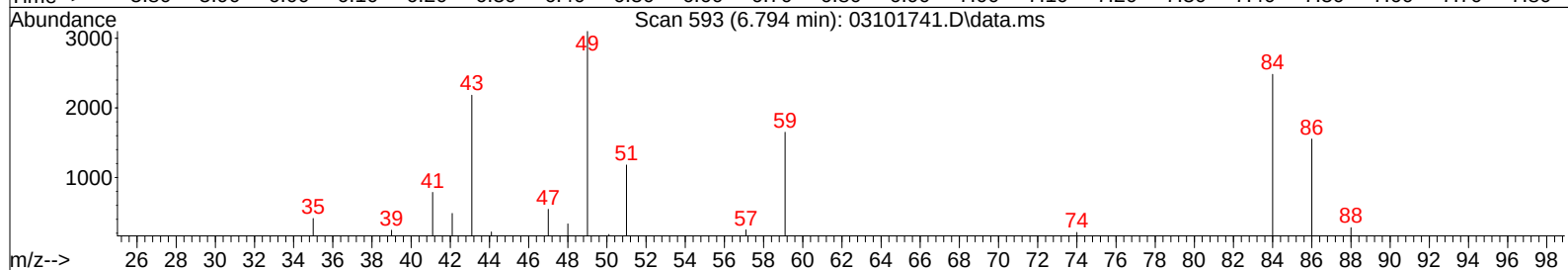
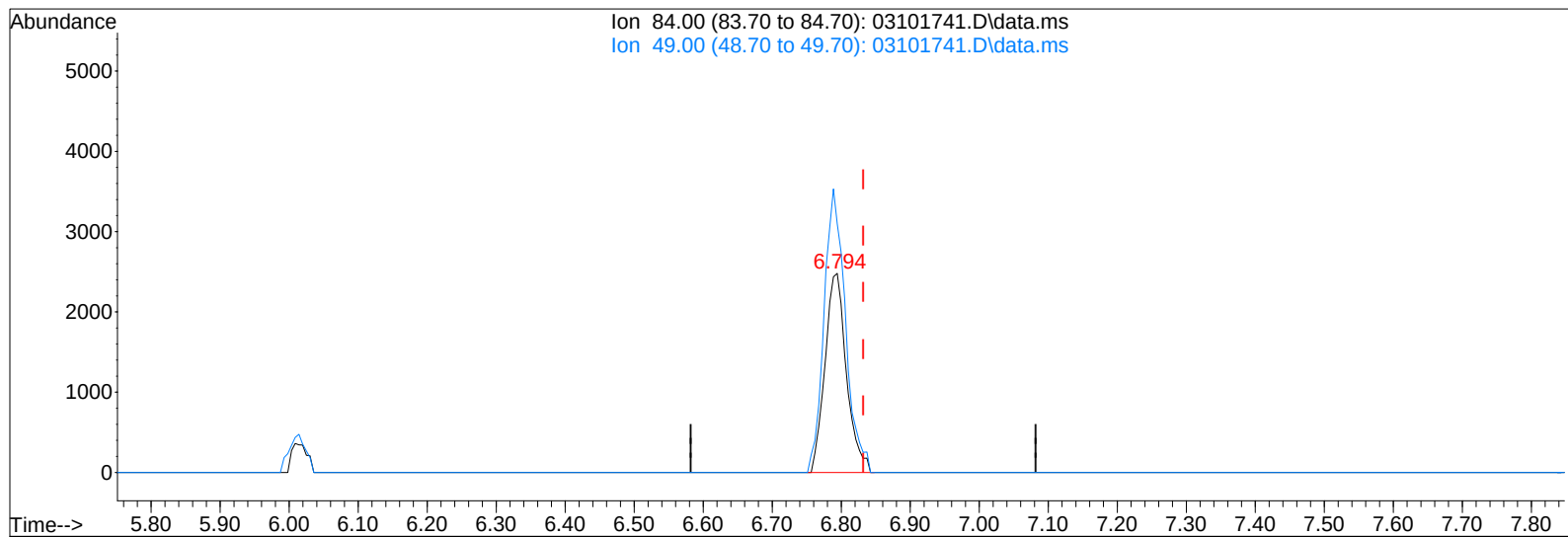
DataAcq Meth:TO15.M



Data File : I:\MS08\Data\2017 03\10\03101741.D
Acq On : 11 Mar 2017 3:39
Sample : P1701088-009 (1000mL)
Misc : S29-01231701

Vial: 12
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:52:32 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101741.D\data.ms

(19) Methylene Chloride (T)

6.794min (-0.038) 0.37ng

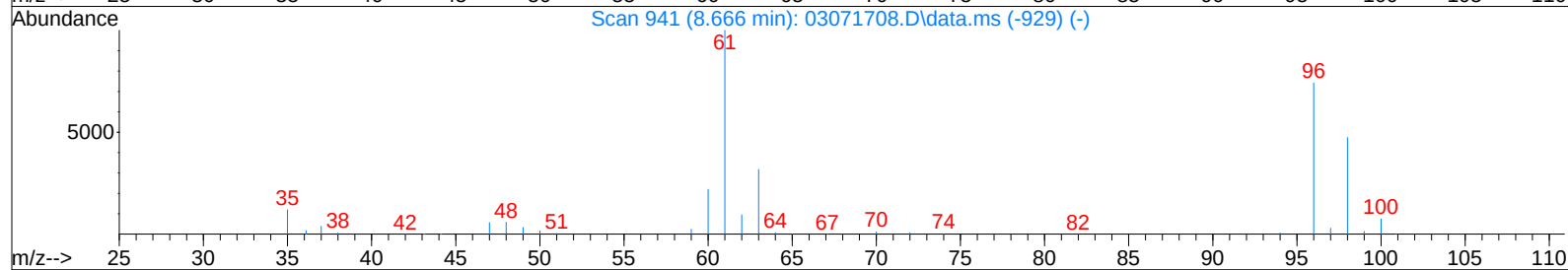
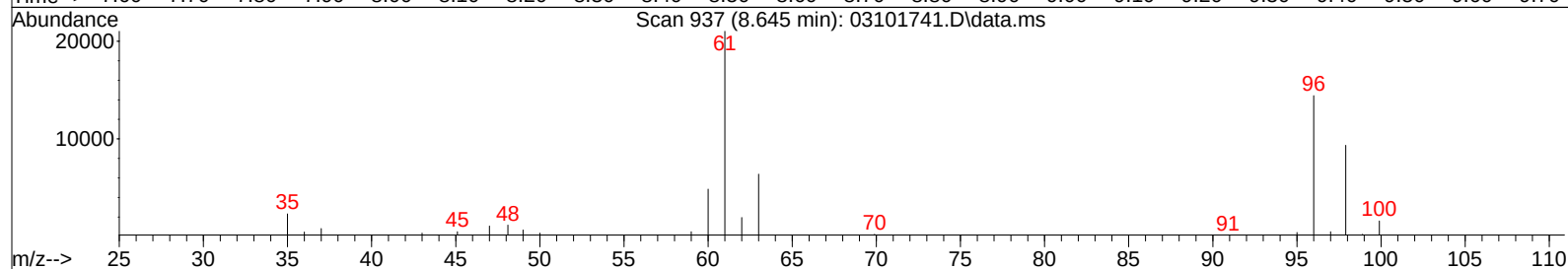
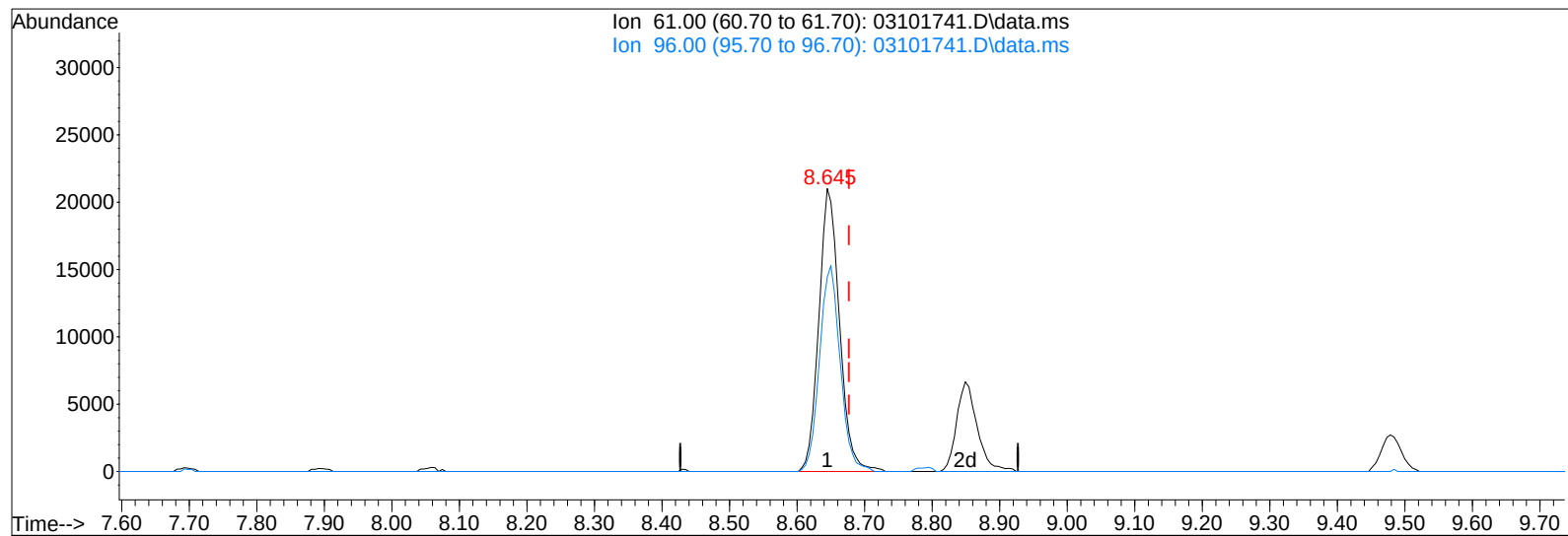
response 5348

Ion	Exp%	Act%
84.00	100	100
49.00	143.20	142.46
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101741.D
Acq On : 11 Mar 2017 3:39
Sample : P1701088-009 (1000mL)
Misc : S29-01231701

Vial: 12
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:52:32 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101741.D\data.ms

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

8.645min (-0.032) 2.05ng

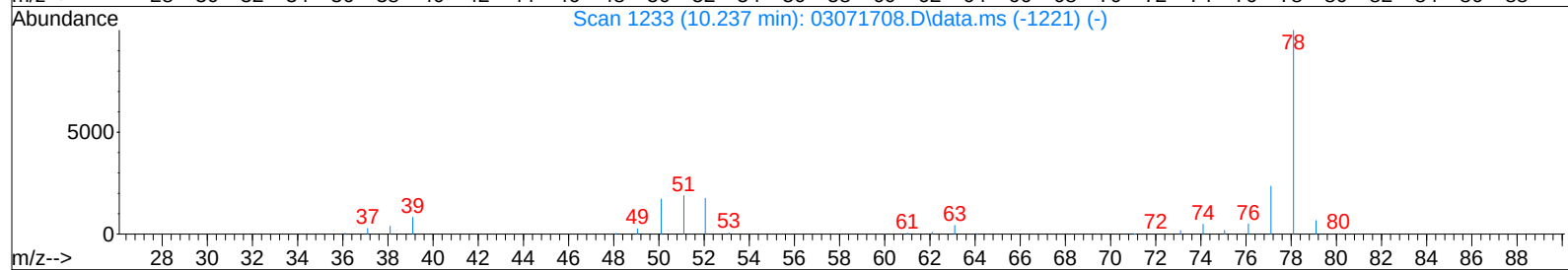
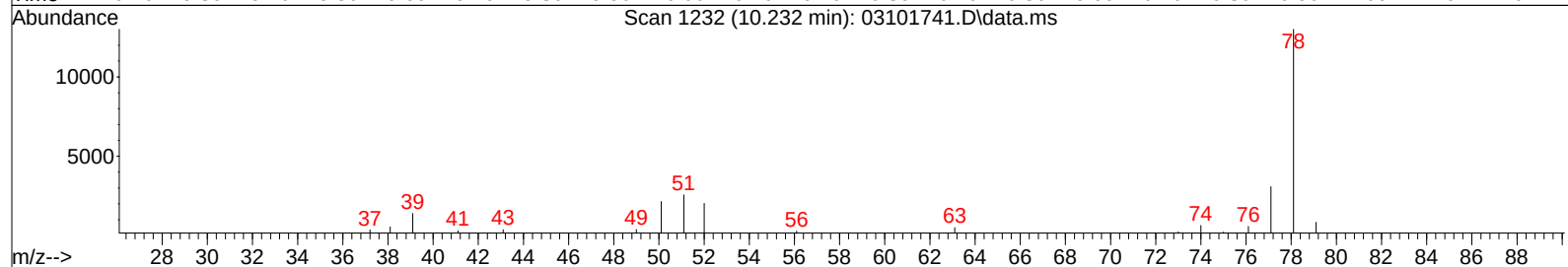
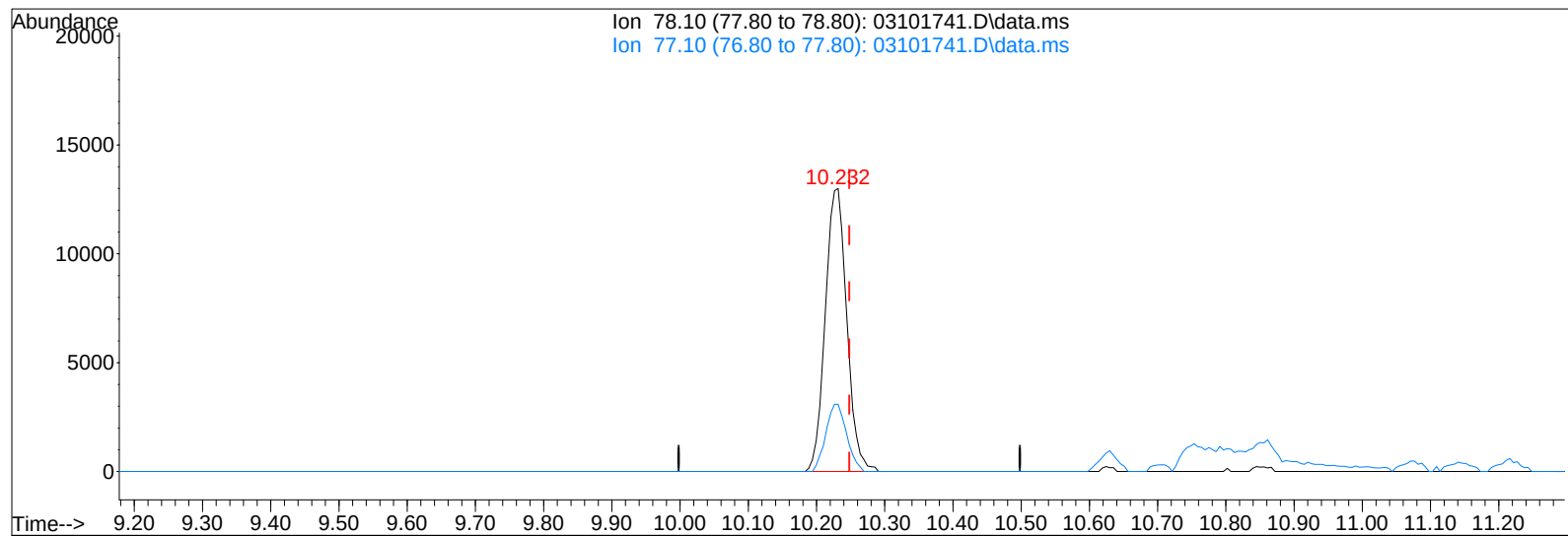
response 44615

Ion	Exp%	Act%
61.00	100	100
96.00	73.50	72.76
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101741.D
Acq On : 11 Mar 2017 3:39
Sample : P1701088-009 (1000mL)
Misc : S29-01231701

Vial: 12
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:52:32 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101741.D\data.ms

(41) Benzene (T)

10.232min (-0.016) 0.46ng

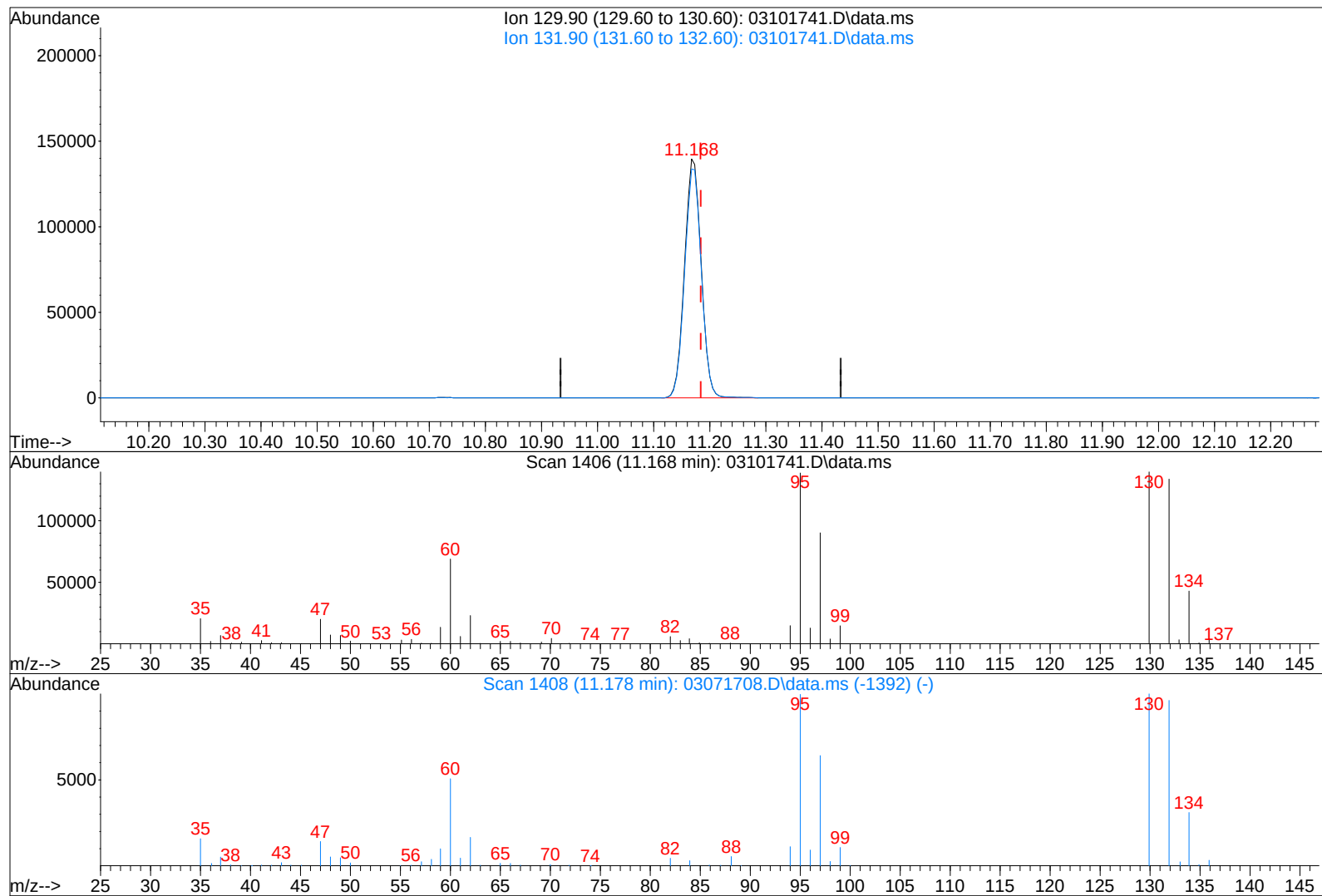
response 28497

Ion	Exp%	Act%
78.10	100	100
77.10	23.60	23.02
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101741.D
Acq On : 11 Mar 2017 3:39
Sample : P1701088-009 (1000mL)
Misc : S29-01231701

Vial: 12
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:52:32 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101741.D\data.ms

(47) Trichloroethene (T)

11.168min (-0.016) 17.76ng

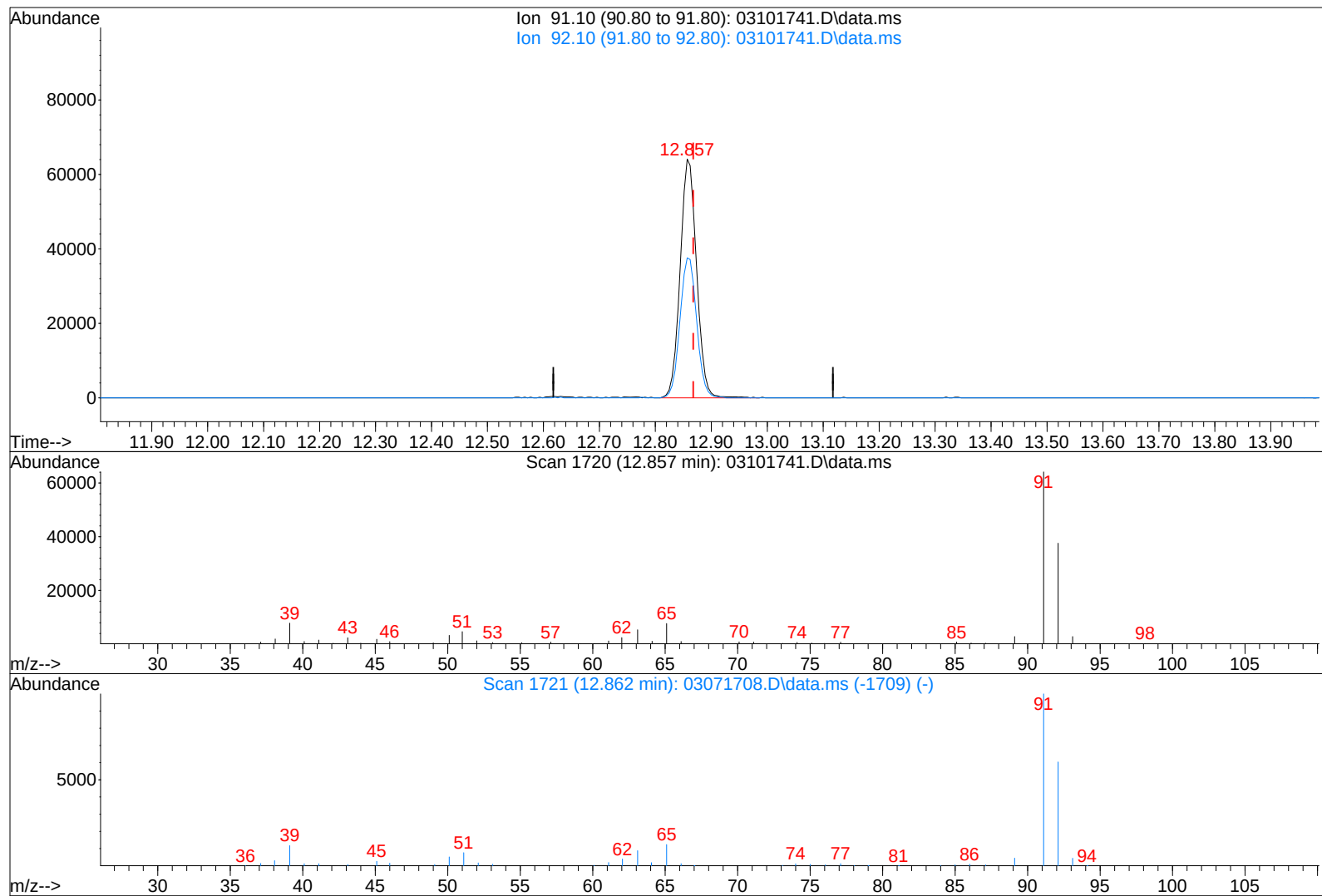
response 287114

Ion	Exp%	Act%
129.90	100	100
131.90	95.60	96.31
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101741.D
Acq On : 11 Mar 2017 3:39
Sample : P1701088-009 (1000mL)
Misc : S29-01231701

Vial: 12
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:52:32 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101741.D\data.ms

(58) Toluene (T)

12.857min (-0.011) 2.21ng

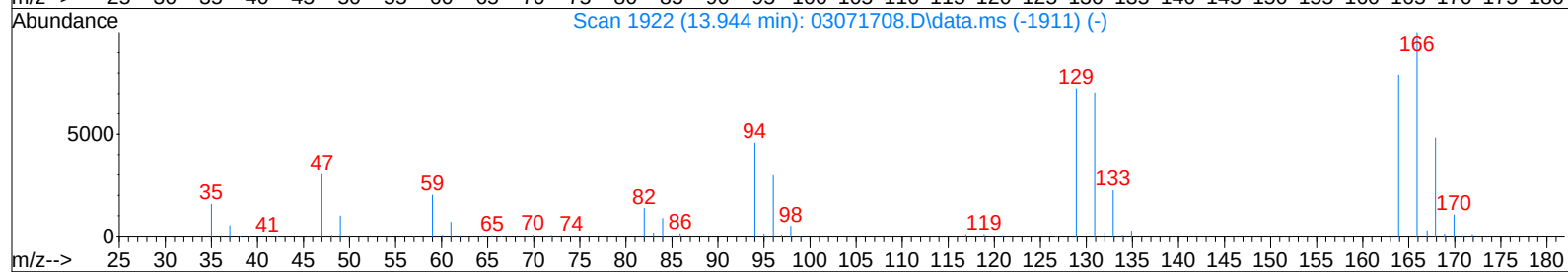
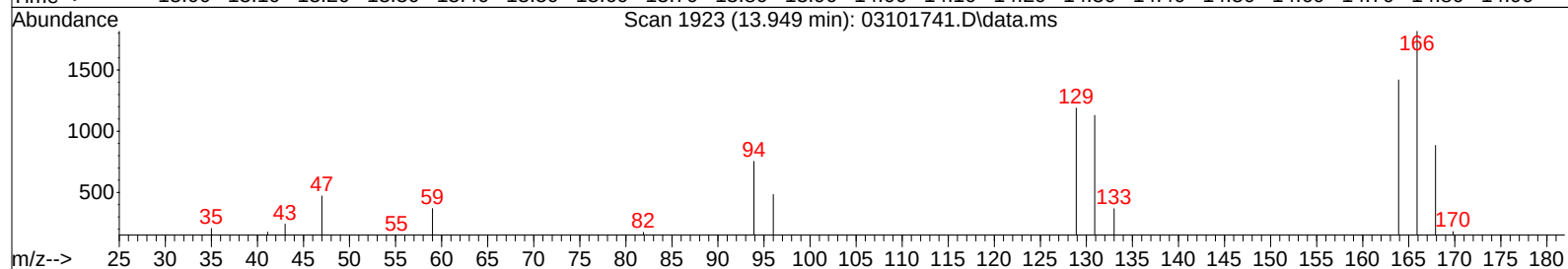
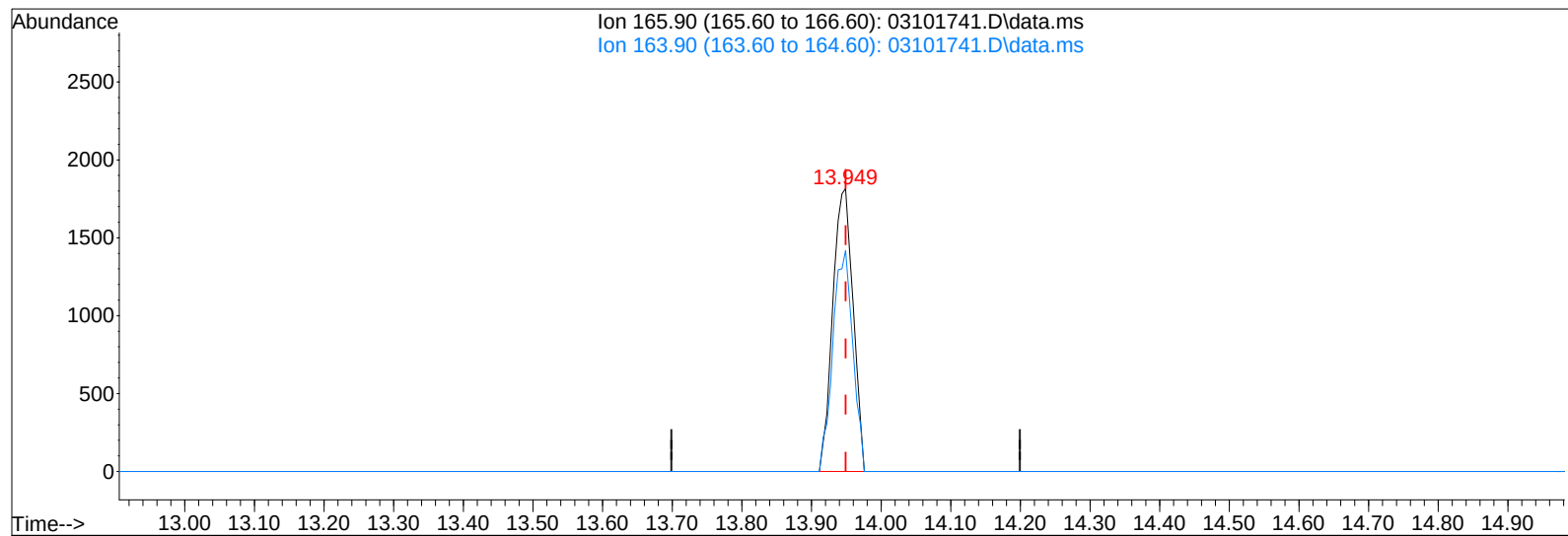
response 130510

Ion	Exp%	Act%
91.10	100	100
92.10	60.40	59.60
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101741.D
Acq On : 11 Mar 2017 3:39
Sample : P1701088-009 (1000mL)
Misc : S29-01231701

Vial: 12
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:52:32 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101741.D\data.ms

(64) Tetrachloroethene (T)

13.949min (-0.000) 0.23ng

response 3669

Ion	Exp%	Act%
165.90	100	100
163.90	78.70	77.00
0.00	0.00	0.00
0.00	0.00	0.00

Data File: I:\MS08\Data\2017 03\10\03101742.D

Acq On : 11 Mar 2017 4:12

Operator: WA

Sample : P1701088-010 (1000mL)

Misc : S29-01231701

ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 13 10:54:37 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

3/13/17

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.79	130	161238	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	10.53	114	757671	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	327639	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	286569	12.337	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	98.72%
57) Toluene-d8 (SS2)	12.77	98	777942	12.636	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	101.12%
73) Bromofluorobenzene (SS3)	16.07	174	248851	12.327	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	98.64%

Target Compounds

						Qvalue
2) Propene	0.00	42	0	N.D.	d	
3) Dichlorodifluoromethan...	3.99	85	56977	1.838	ng	99
4) Chloromethane	4.21	50	7252	0.335	ng	95
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	1045	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.66	54	3193	0.169	ng	94
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.37	45	278511	23.345	ng	99
11) Acetonitrile	5.59	41	9959	0.315	ng	88
12) Acrolein	5.72	56	3581	0.392	ng	97
13) Acetone	5.84	58	74670	6.387	ng	94
14) Trichlorofluoromethane	6.01	101	26097	0.950	ng	99
15) 2-Propanol (Isopropanol)	6.15	45	30116	0.690	ng	90
16) Acrylonitrile	6.39	53	284	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	6.79	84	4303	0.302	ng	92
20) 3-Chloro-1-propene (Al...	6.76	41	1352	N.D.		
21) Trichlorotrifluoroethane	7.06	151	5233	0.411	ng	97
22) Carbon Disulfide	0.00	76	0	N.D.	d	
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	d	
24) 1,1-Dichloroethane	7.88	63	2413	N.D.		
25) Methyl tert-Butyl Ether	7.88	73	750	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	8.25	72	6761	0.684	ng	100
28) cis-1,2-Dichloroethene	8.65	61	6053	0.283	ng	98
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	8.85	61	9320	1.978	ng	97
31) n-Hexane	8.85	57	19767	0.774	ng	100
32) Chloroform	8.91	83	3473	0.128	ng	98
34) Tetrahydrofuran (THF)	9.28	72	1676	0.170	ng	# 65
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	9.58	62	1100	N.D.		
38) 1,1,1-Trichloroethane	9.82	97	2202	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	10.23	78	31437	0.525	ng	100
42) Carbon Tetrachloride	10.36	117	8047	0.392	ng	99
43) Cyclohexane	10.48	84	6064	0.234	ng	93
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	10.85	63	1015	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.17	130	41835	2.679	ng	98
48) 1,4-Dioxane	0.00	88	0	N.D.	d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	

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Data File: I:\MS08\Data\2017 03\10\03101742.D

Acq On : 11 Mar 2017 4:12

Operator: WA

Sample : P1701088-010 (1000mL)

Misc : S29-01231701

ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 13 10:54:37 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.44	100	5772	1.007	ng	# 1
51) n-Heptane	11.44	71	16845	1.103	ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.97	58	1291	0.100	ng	# 87
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.86	91	69484	1.213	ng	97
59) 2-Hexanone	0.00	43	0	N.D.	d	
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.67	43	5847	0.162	ng	94
63) n-Octane	13.79	57	1502	0.118	ng	# 77
64) Tetrachloroethene	13.94	166	2427	0.160	ng	97
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	14.99	91	151878	2.367	ng	100
67) m- & p-Xylenes	15.15	91	465687	9.111	ng	99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.53	104	16627	0.466	ng	99
70) o-Xylene	15.63	91	144191	2.741	ng	98
71) n-Nonane	15.84	43	5893	0.186	ng	91
72) 1,1,2,2-Tetrachloroethane	15.64	83	535	N.D.		
74) Cumene	16.21	105	3060	N.D.		
75) alpha-Pinene	16.58	93	71516	2.077	ng	98
76) n-Propylbenzene	16.70	91	3393	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	16.84	105	3977	N.D.		
79) 1,3,5-Trimethylbenzene	16.91	105	4023	N.D.		
80) alpha-Methylstyrene	17.05	118	440	N.D.		
81) 2-Ethyltoluene	17.09	105	3065	N.D.		
82) 1,2,4-Trimethylbenzene	17.31	105	12059	0.223	ng	89
83) n-Decane	0.00	57	0	N.D.	d	
84) Benzyl Chloride	17.43	91	612	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	d	
86) 1,4-Dichlorobenzene	17.51	146	29958	0.972	ng	99
87) sec-Butylbenzene	17.56	105	1531	N.D.		
88) 4-Isopropyltoluene (p-...	17.71	119	4285	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	17.84	146	405	N.D.		
91) d-Limonene	17.85	68	12800	0.610	ng	# 69
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	19.58	180	1141	N.D.		
95) Naphthalene	19.57	128	25975	0.418	ng	91
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	17.30	119	1695	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.	d	

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

Data File: I:\MS08\Data\2017 03\10\03101742.D

Acq On : 11 Mar 2017 4:12

Operator: WA

Sample : P1701088-010 (1000mL)

Misc : S29-01231701

ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 13 10:54:37 2017

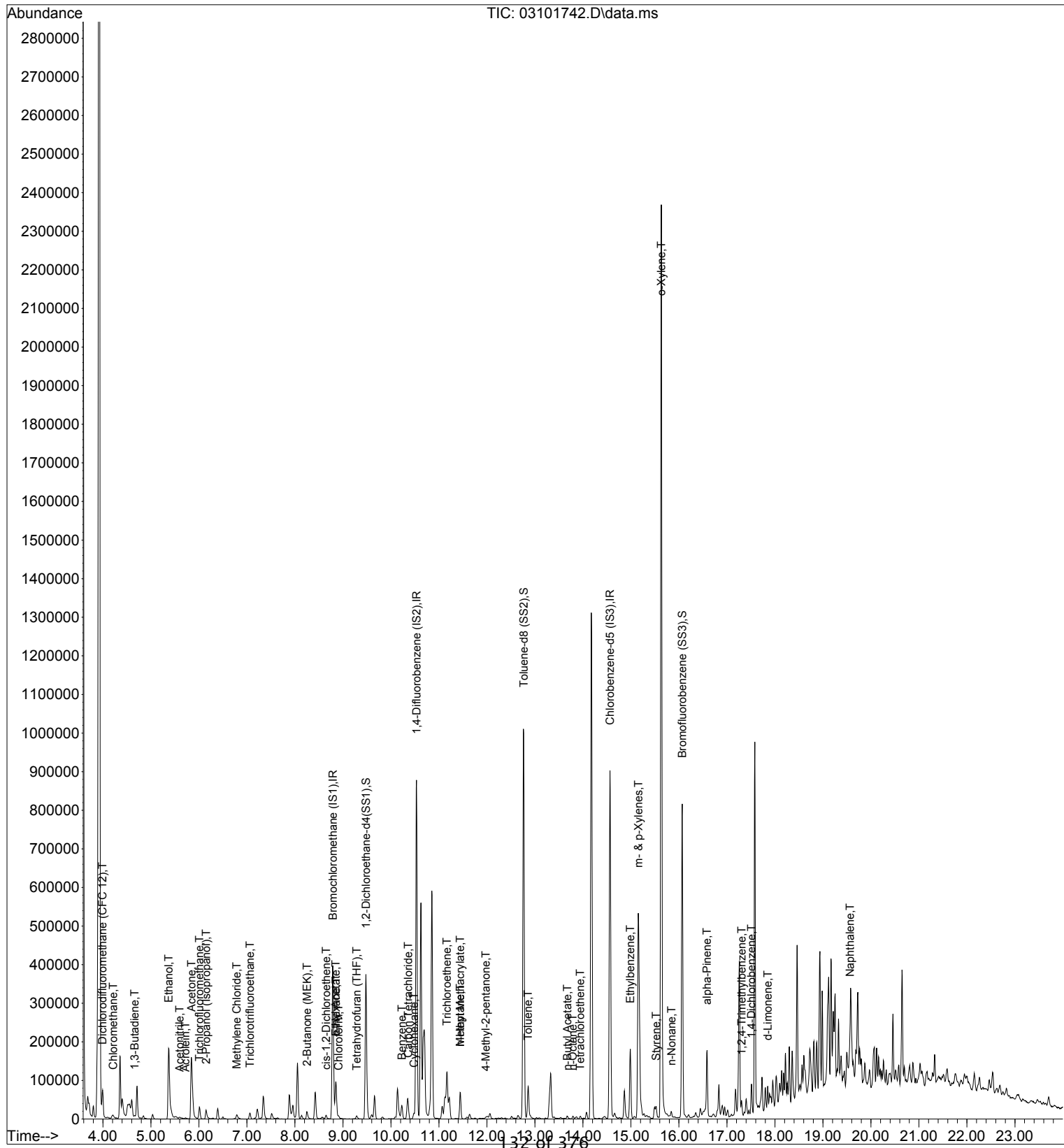
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

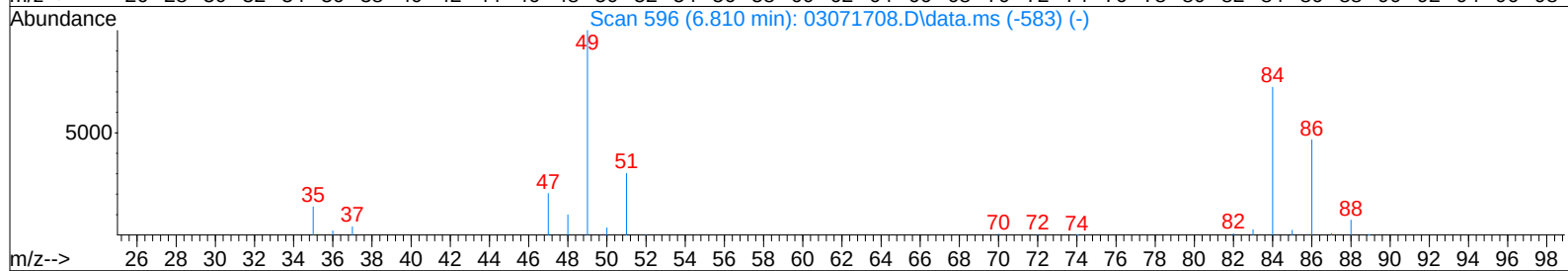
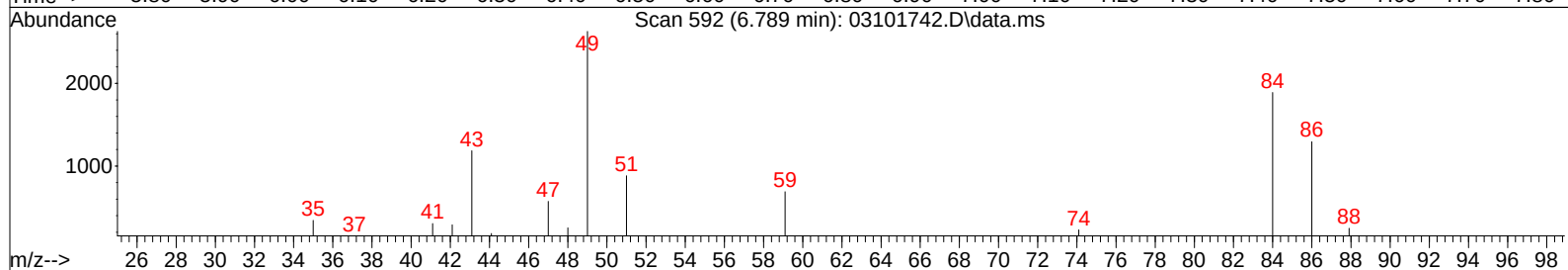
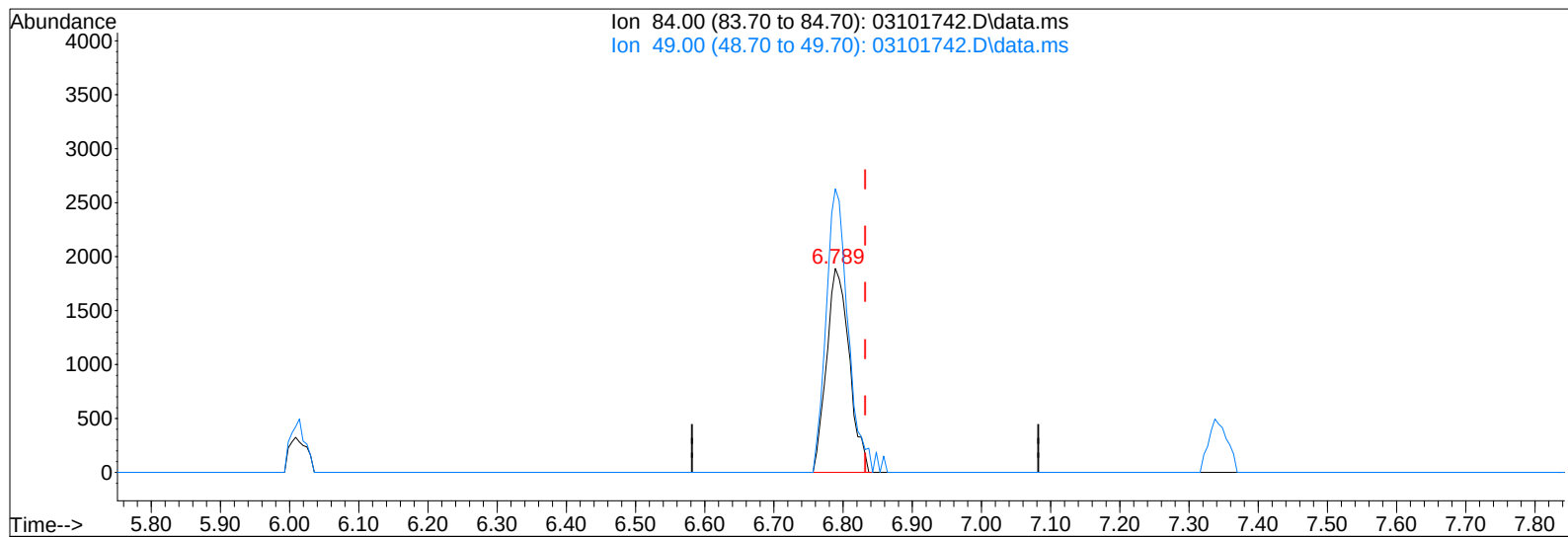
DataAcq Meth:TO15.M



Data File : I:\MS08\Data\2017 03\10\03101742.D
Acq On : 11 Mar 2017 4:12
Sample : P1701088-010 (1000mL)
Misc : S29-01231701

Vial: 13
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:54:37 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101742.D\data.ms

(19) Methylene Chloride (T)

6.789min (-0.043) 0.30ng

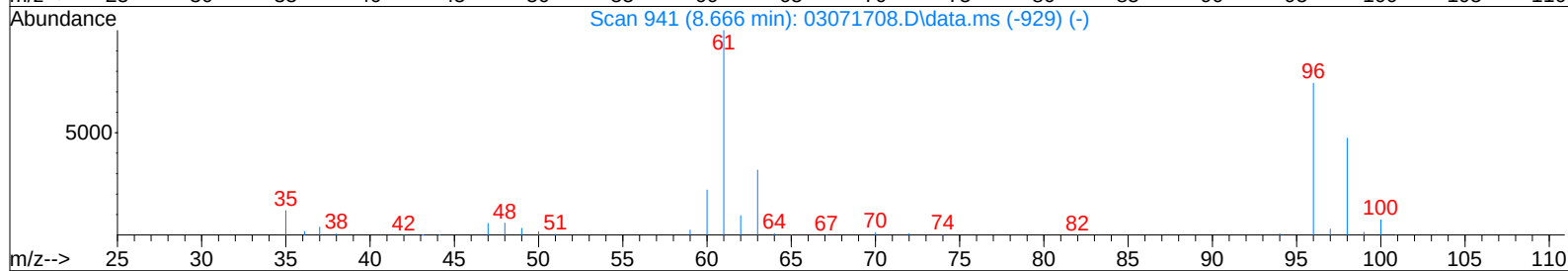
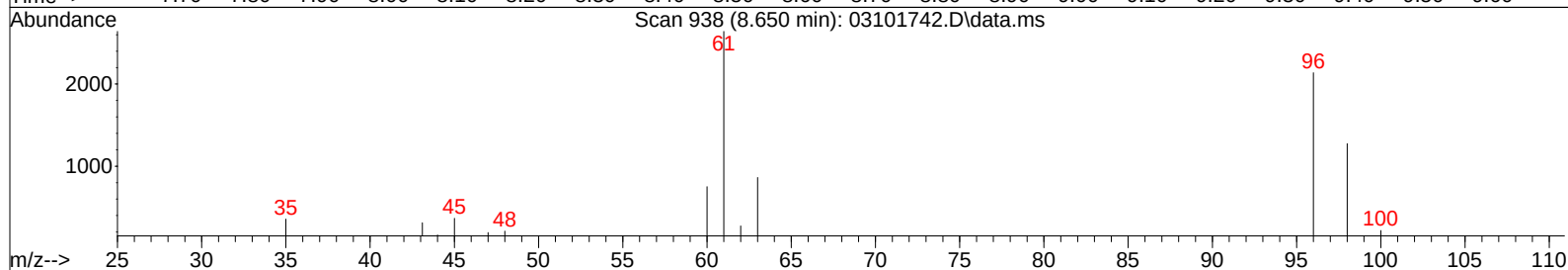
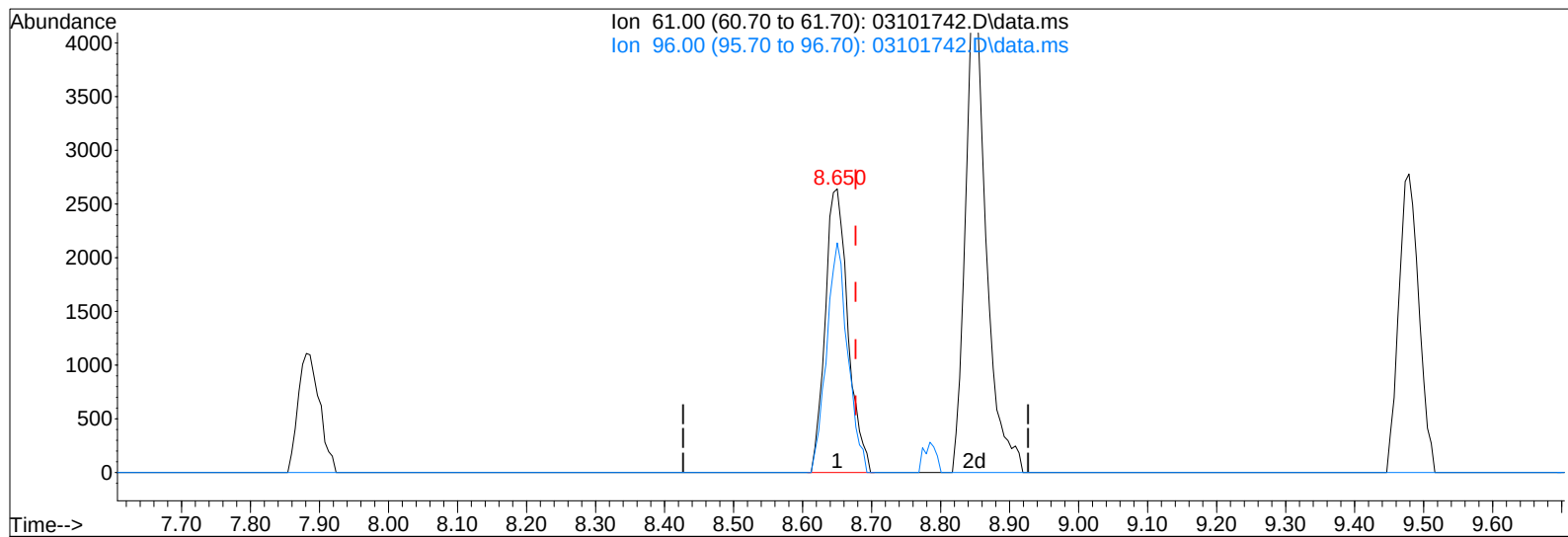
response 4303

Ion	Exp%	Act%
84.00	100	100
49.00	143.20	133.81
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101742.D
Acq On : 11 Mar 2017 4:12
Sample : P1701088-010 (1000mL)
Misc : S29-01231701

Vial: 13
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:54:37 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101742.D\data.ms

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

8.650min (-0.027) 0.28ng

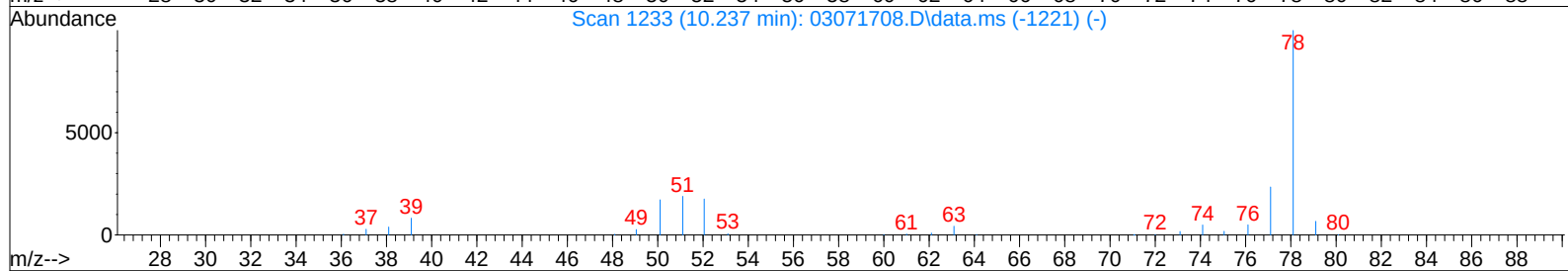
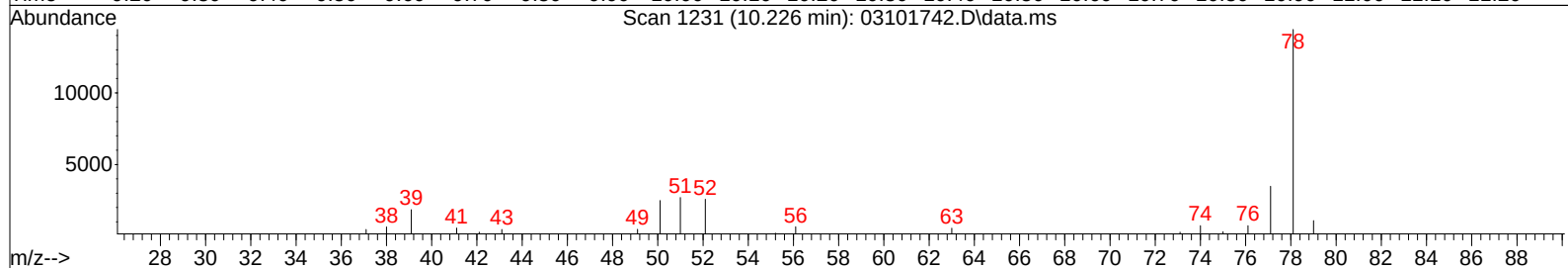
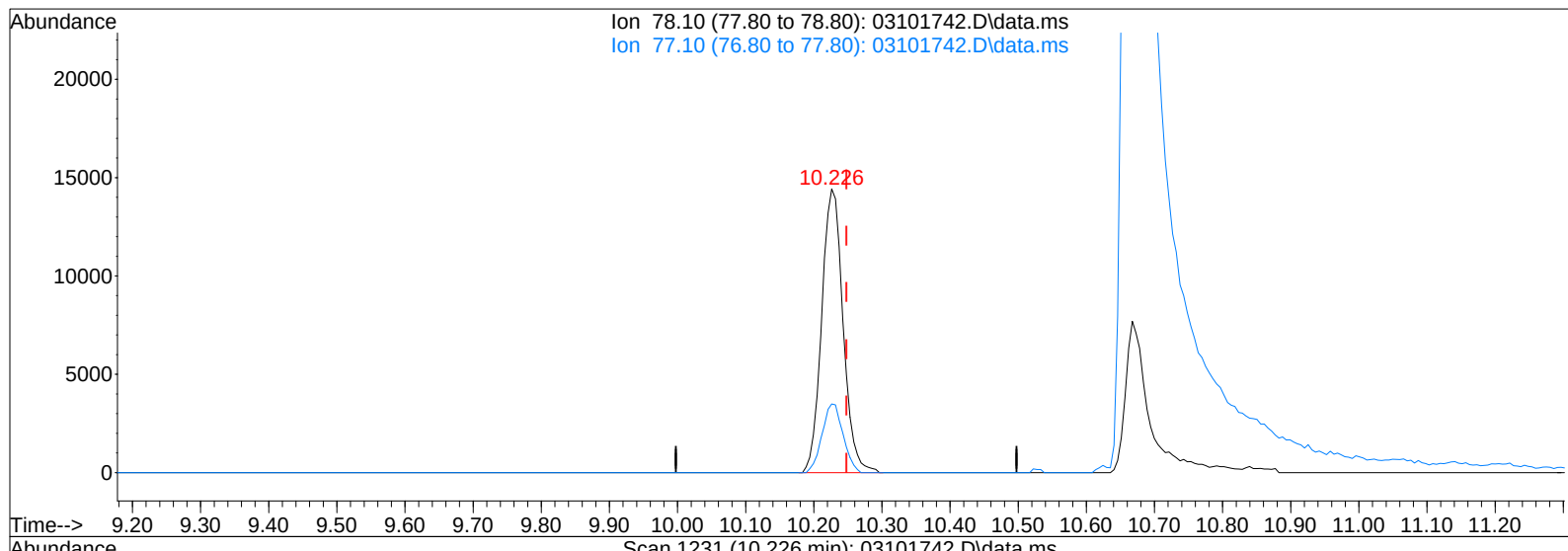
response 6053

Ion	Exp%	Act%
61.00	100	100
96.00	73.50	75.07
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101742.D
Acq On : 11 Mar 2017 4:12
Sample : P1701088-010 (1000mL)
Misc : S29-01231701

Vial: 13
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:54:37 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101742.D\data.ms

(41) Benzene (T)

10.226min (-0.022) 0.53ng

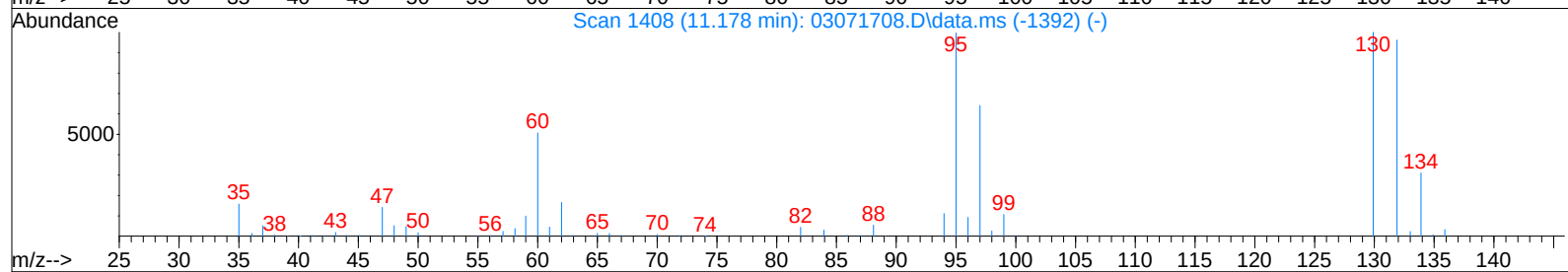
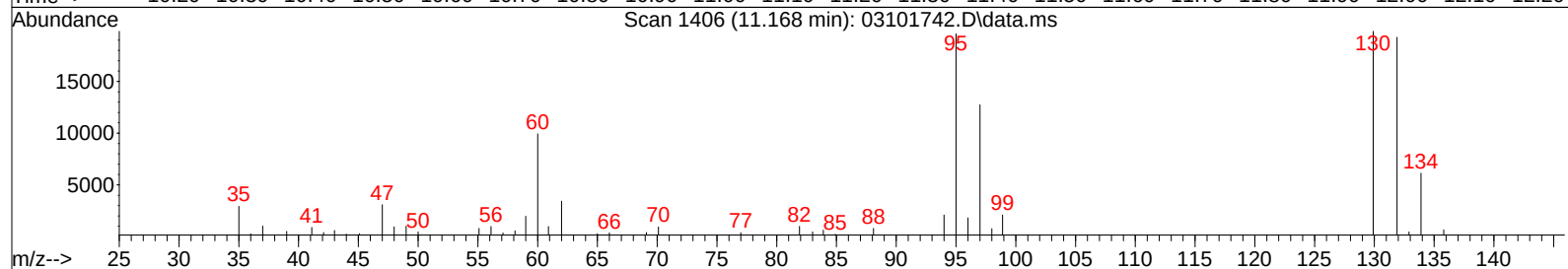
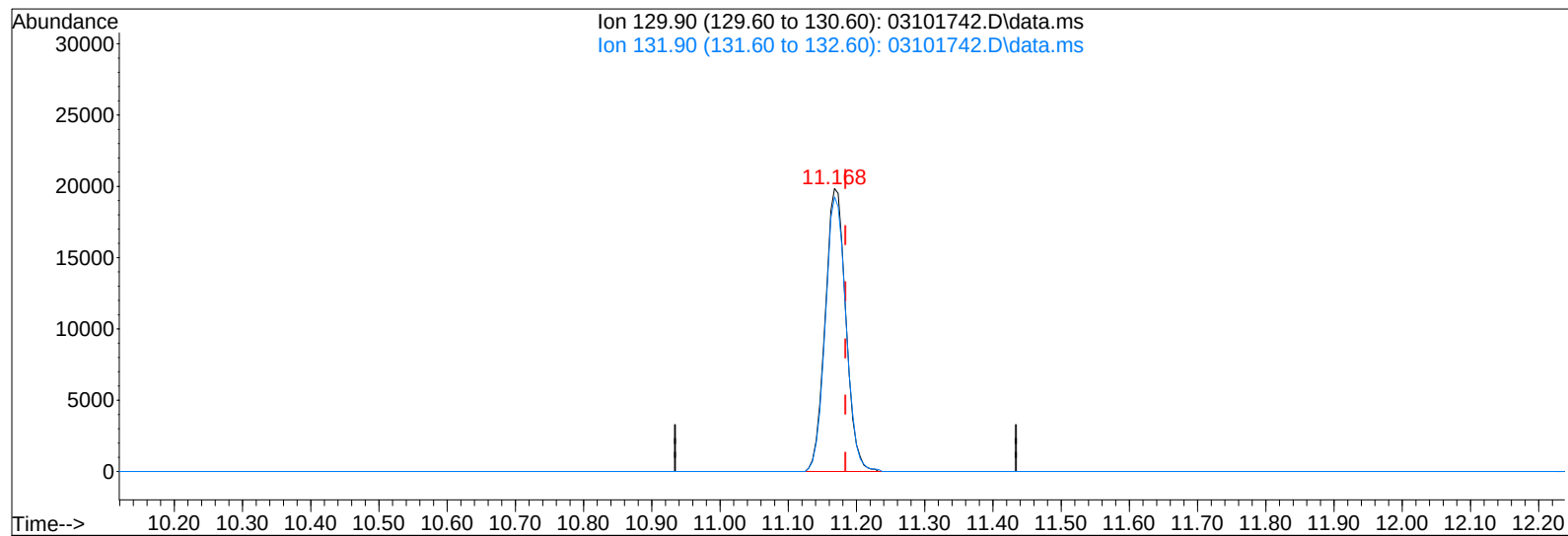
response 31437

Ion	Exp%	Act%
78.10	100	100
77.10	23.60	23.76
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101742.D
Acq On : 11 Mar 2017 4:12
Sample : P1701088-010 (1000mL)
Misc : S29-01231701

Vial: 13
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:54:37 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101742.D\data.ms

(47) Trichloroethene (T)

11.168min (-0.016) 2.68ng

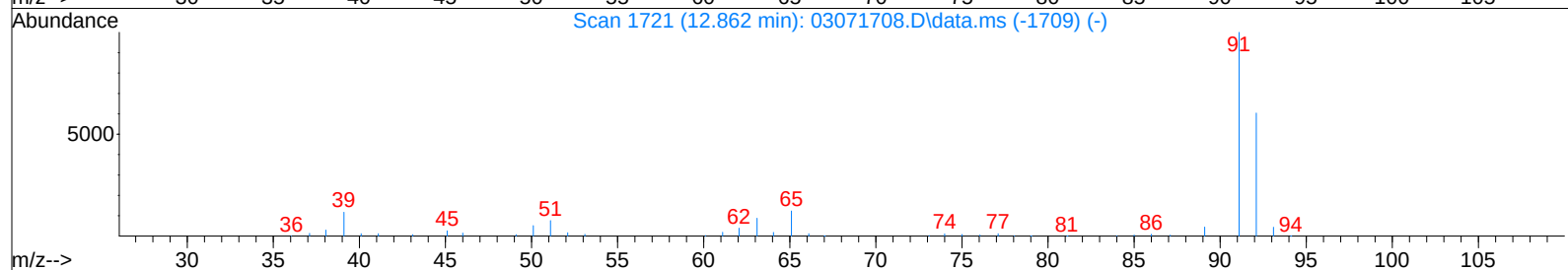
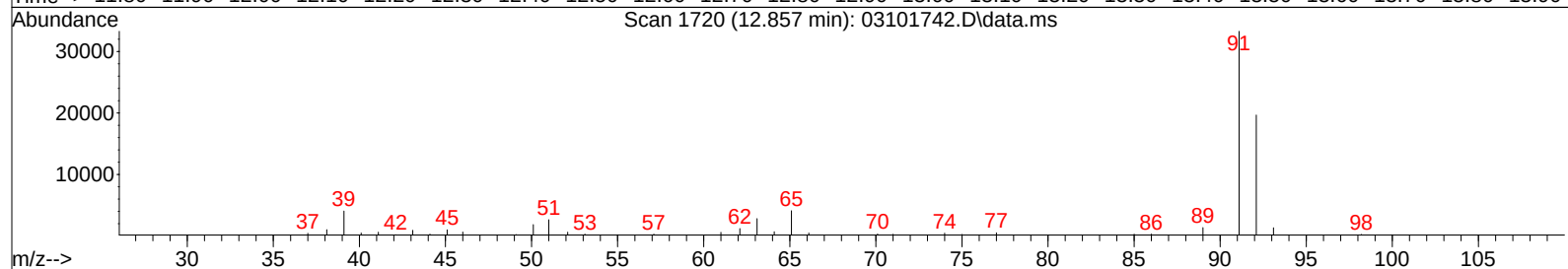
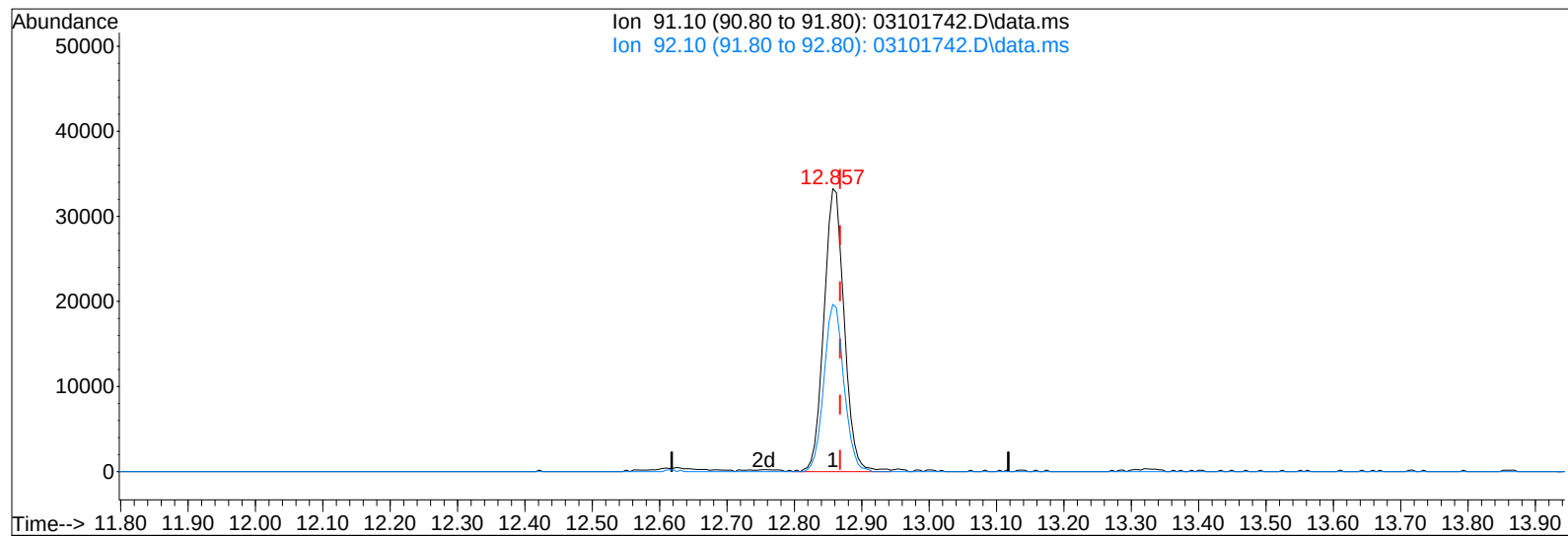
response 41835

Ion	Exp%	Act%
129.90	100	100
131.90	95.60	97.18
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101742.D
Acq On : 11 Mar 2017 4:12
Sample : P1701088-010 (1000mL)
Misc : S29-01231701

Vial: 13
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:54:37 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101742.D\data.ms

(58) Toluene (T)

12.857min (-0.011) 1.21ng

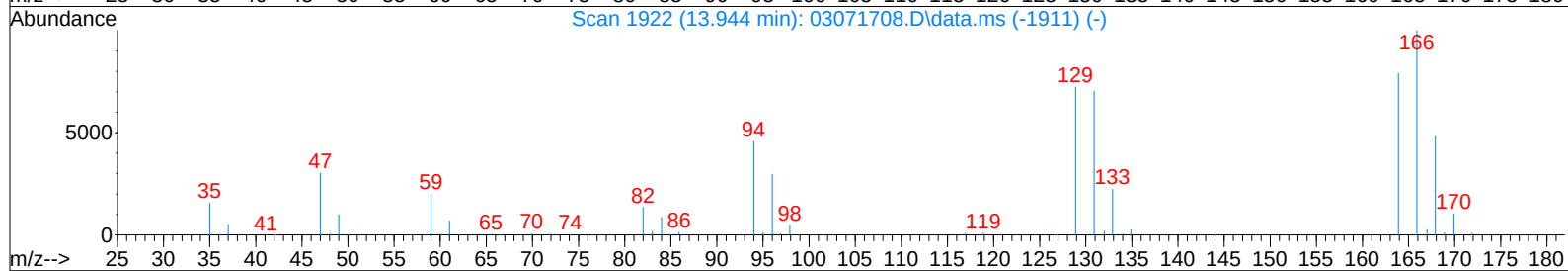
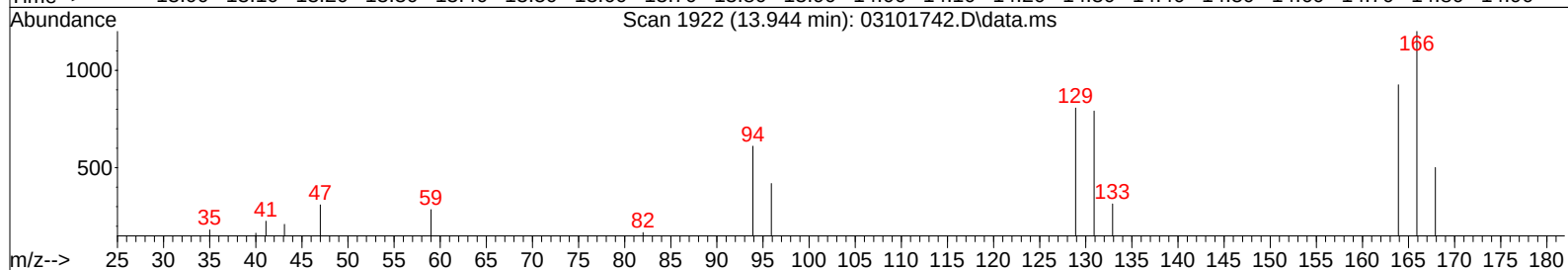
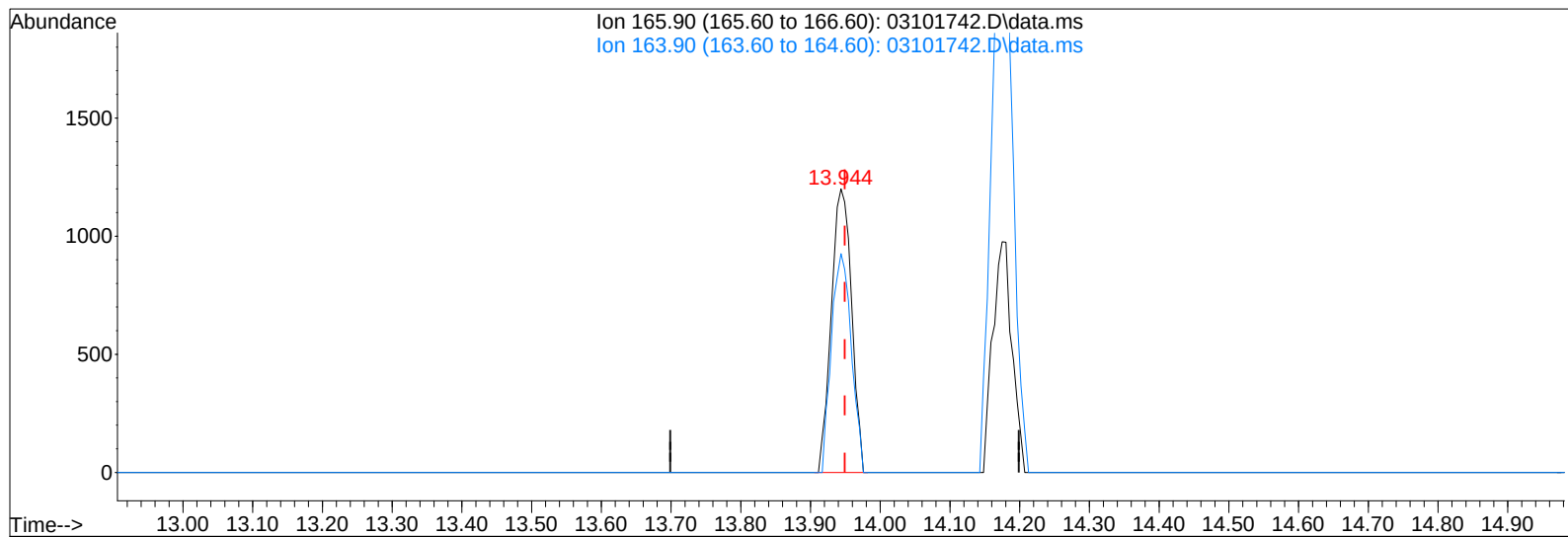
response 69484

Ion	Exp%	Act%
91.10	100	100
92.10	60.40	58.29
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101742.D
Acq On : 11 Mar 2017 4:12
Sample : P1701088-010 (1000mL)
Misc : S29-01231701

Vial: 13
Operator: WA
Inst : MS08

Quant Time: Mar 13 10:54:37 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101742.D\data.ms

(64) Tetrachloroethene (T)

13.944min (-0.005) 0.16ng

response 2427

Ion	Exp%	Act%
-----	------	------

165.90	100	100
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163.90	78.70	75.65
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0.00	0.00	0.00
------	------	------

0.00	0.00	0.00
------	------	------

Data File: I:\MS08\Data\2017 03\10\03101743.D

Acq On : 11 Mar 2017 4:44

Operator: WA

Sample : P1701088-011 (1000mL)

Misc : S29-01231701

ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 13 11:16:28 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

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Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.79	130	163175	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	10.53	114	784210	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	334403	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	286977	12.208	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	97.68%
57) Toluene-d8 (SS2)	12.77	98	814200	12.957	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	103.68%
73) Bromofluorobenzene (SS3)	16.07	174	252484	12.254	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	98.00%

Target Compounds

						Qvalue
2) Propene	0.00	42	0	N.D.	d	
3) Dichlorodifluoromethan...	4.00	85	50834	1.620	ng	99
4) Chloromethane	4.21	50	7567	0.345	ng	95
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	1095	N.D.		
6) Vinyl Chloride	4.49	62	792	N.D.		
7) 1,3-Butadiene	4.67	54	1842	0.096	ng	# 85
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.37	45	222020	18.389	ng	100
11) Acetonitrile	5.58	41	10170	0.317	ng	92
12) Acrolein	5.71	56	13722	1.484	ng	99
13) Acetone	5.84	58	87389m	7.386	ng	
14) Trichlorofluoromethane	6.01	101	23076	0.830	ng	100
15) 2-Propanol (Isopropanol)	6.14	45	36375	0.823	ng	91
16) Acrylonitrile	6.40	53	844	N.D.		
17) 1,1-Dichloroethene	6.67	96	467	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d	
19) Methylene Chloride	6.79	84	4116	0.285	ng	98
20) 3-Chloro-1-propene (Al...	6.90	41	423	N.D.		
21) Trichlorotrifluoroethane	7.06	151	4719	0.366	ng	99
22) Carbon Disulfide	7.05	76	5929	0.115	ng	97
23) trans-1,2-Dichloroethene	7.70	61	683	N.D.		
24) 1,1-Dichloroethane	7.88	63	847	N.D.		
25) Methyl tert-Butyl Ether	7.89	73	700	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	8.25	72	13104	1.310	ng	# 78
28) cis-1,2-Dichloroethene	8.65	61	53445	2.466	ng	99
29) Diisopropyl Ether	8.85	87	673	N.D.		
30) Ethyl Acetate	8.85	61	12836	2.692	ng	98
31) n-Hexane	8.86	57	23991	0.929	ng	99
32) Chloroform	8.91	83	2538	0.093	ng	94
34) Tetrahydrofuran (THF)	9.28	72	2588	0.259	ng	# 78
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	9.58	62	1376	N.D.		
38) 1,1,1-Trichloroethane	9.82	97	779	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	10.23	78	26722	0.432	ng	100
42) Carbon Tetrachloride	10.36	117	7247	0.341	ng	100
43) Cyclohexane	10.48	84	16828	0.628	ng	96
44) tert-Amyl Methyl Ether	10.86	73	743	N.D.		
45) 1,2-Dichloropropane	10.96	63	424	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.17	130	183369	11.346	ng	99
48) 1,4-Dioxane	0.00	88	0	N.D.	d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	

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Data File: I:\MS08\Data\2017 03\10\03101743.D

Acq On : 11 Mar 2017 4:44

Operator: WA

Sample : P1701088-011 (1000mL)

Misc : S29-01231701

ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 13 11:16:28 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

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	11.45	71	54518	3.449	ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.97	58	3472	0.259	ng	95
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.86	91	79351	1.357	ng	100
59) 2-Hexanone	13.08	43	6257	0.206	ng	99
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.67	43	5403	0.147	ng	88
63) n-Octane	13.79	57	2219	0.171	ng	91
64) Tetrachloroethene	13.94	166	2486	0.160	ng	97
65) Chlorobenzene	14.61	112	1304	N.D.		
66) Ethylbenzene	14.99	91	441347	6.740	ng	100
67) m- & p-Xylenes	15.15	91	1360966	26.088	ng	100
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.53	104	11602	0.319	ng	99
70) o-Xylene	15.63	91	407943	7.597	ng	99
71) n-Nonane	15.84	43	13122	0.405	ng	96
72) 1,1,2,2-Tetrachloroethane	15.61	83	479	N.D.		
74) Cumene	16.20	105	7382	0.108	ng	98
75) alpha-Pinene	16.58	93	46007	1.309	ng	75
76) n-Propylbenzene	16.70	91	5067	N.D.		
77) 3-Ethyltoluene	16.79	105	5611	N.D.		
78) 4-Ethyltoluene	16.84	105	3716	N.D.		
79) 1,3,5-Trimethylbenzene	16.91	105	3414	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.09	105	3248	N.D.		
82) 1,2,4-Trimethylbenzene	17.30	105	9667	0.175	ng	92
83) n-Decane	0.00	57	0	N.D.	d	
84) Benzyl Chloride	17.53	91	746	N.D.		
85) 1,3-Dichlorobenzene	17.45	146	441	N.D.		
86) 1,4-Dichlorobenzene	17.52	146	5790	0.184	ng	97
87) sec-Butylbenzene	17.56	105	2190	N.D.		
88) 4-Isopropyltoluene (p-...	17.71	119	5288	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	17.84	146	534	N.D.		
91) d-Limonene	17.85	68	2621	0.122	ng	91
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	19.46	180	1191	N.D.		
95) Naphthalene	19.57	128	16915	0.266	ng	98
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	17.31	119	2166	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.	d	

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

Data File: I:\MS08\Data\2017 03\10\03101743.D

Acq On : 11 Mar 2017 4:44

Operator: WA

Sample : P1701088-011 (1000mL)

Misc : S29-01231701

ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 13 11:16:28 2017

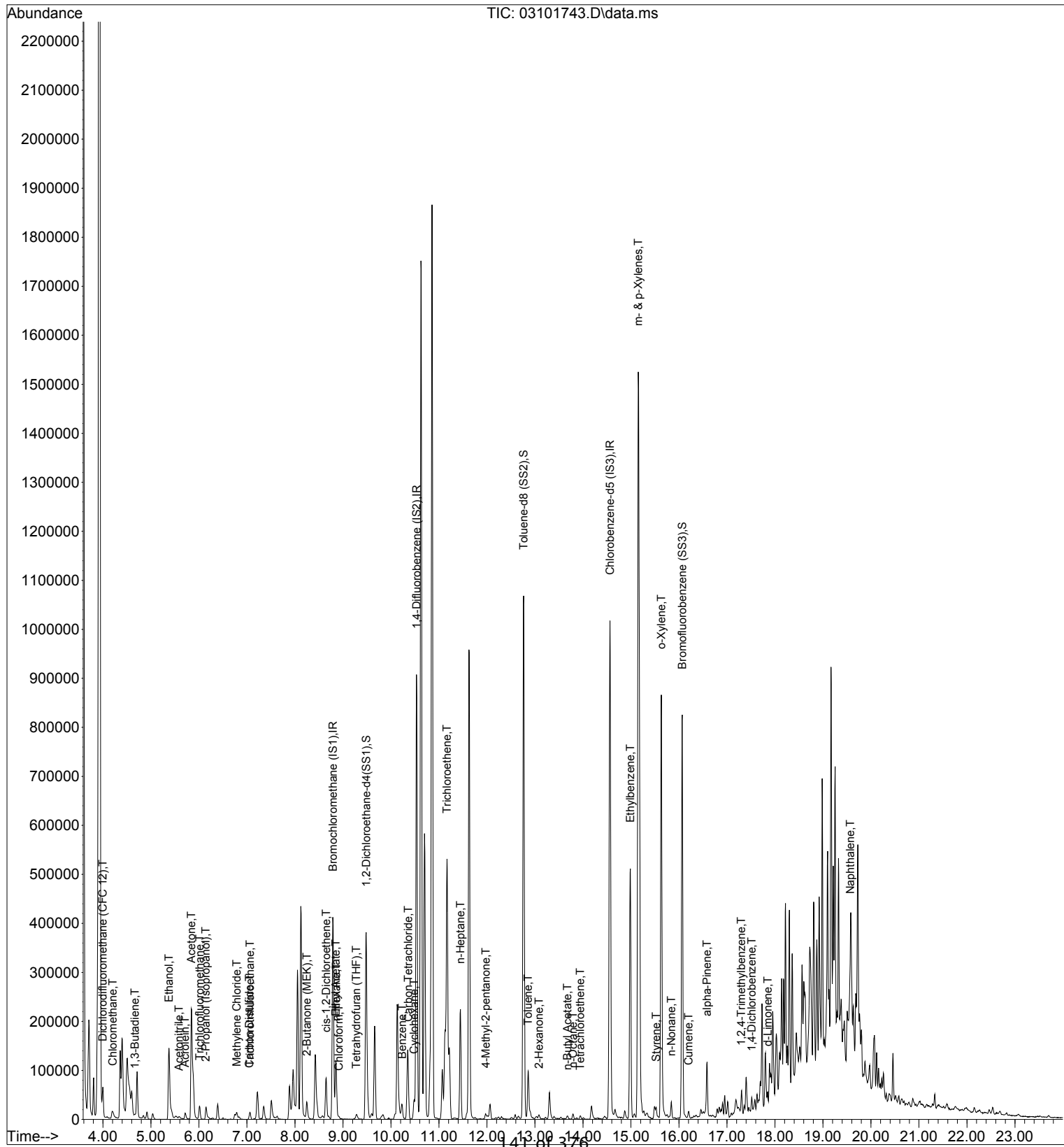
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M



Data File: I:\MS08\Data\2017 03\10\03101743.D

Acq On : 11 Mar 2017 4:44

Operator: WA

Sample : P1701088-011 (1000mL)

Misc : S29-01231701

ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 13 07:27:52 2017

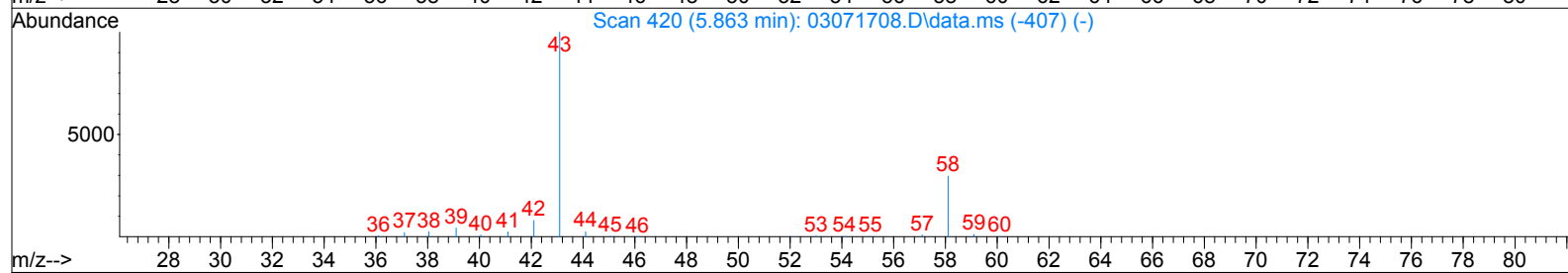
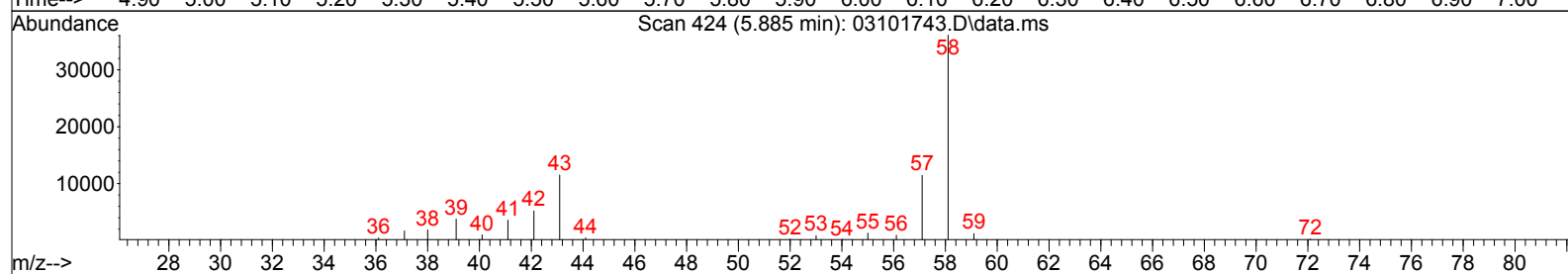
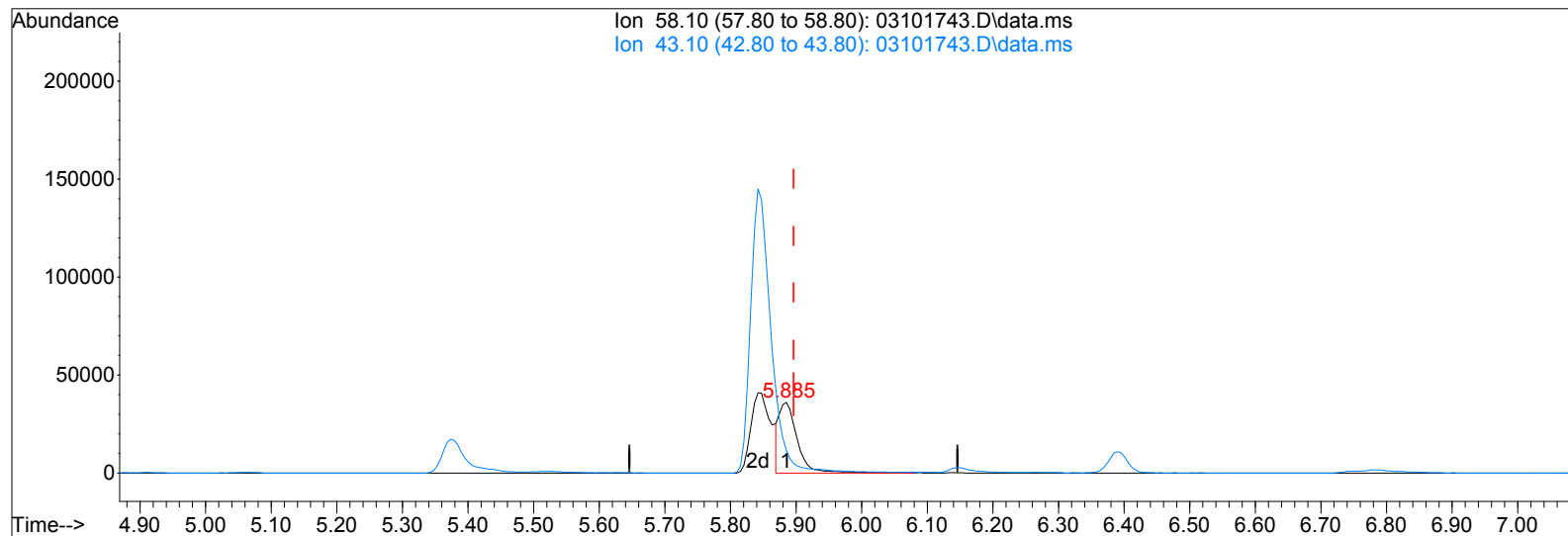
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M



TIC: 03101743.D\data.ms

(13) Acetone (T)

5.885min (-0.011) 5.94ng

response 70227

Ion	Exp%	Act%
58.10	100	100
43.10	343.90	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Data File: I:\MS08\Data\2017 03\10\03101743.D

Acq On : 11 Mar 2017 4:44

Operator: WA

Sample : P1701088-011 (1000mL)

Misc : S29-01231701

ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 13 07:27:52 2017

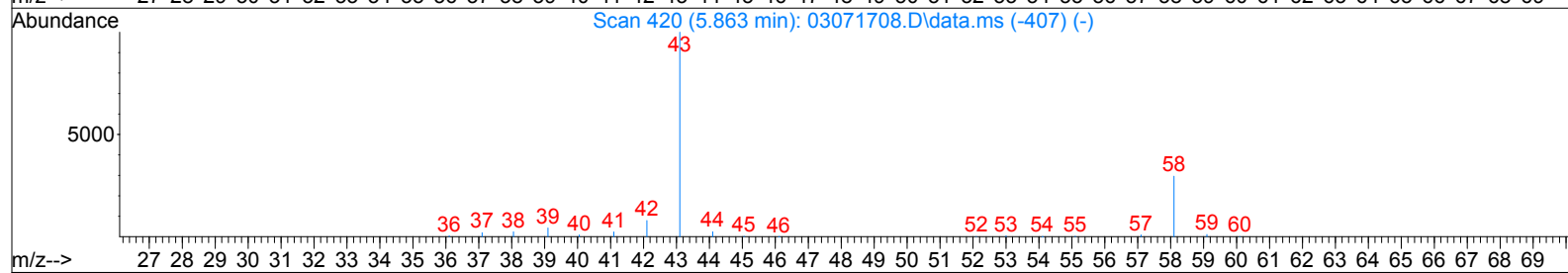
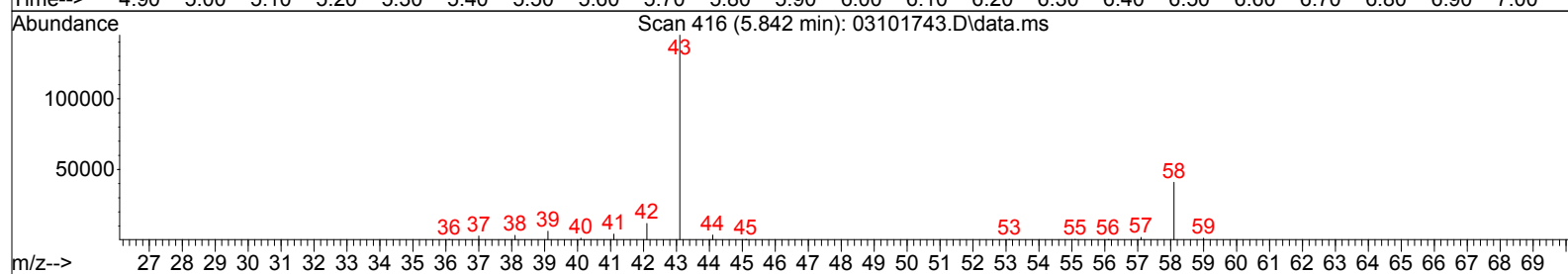
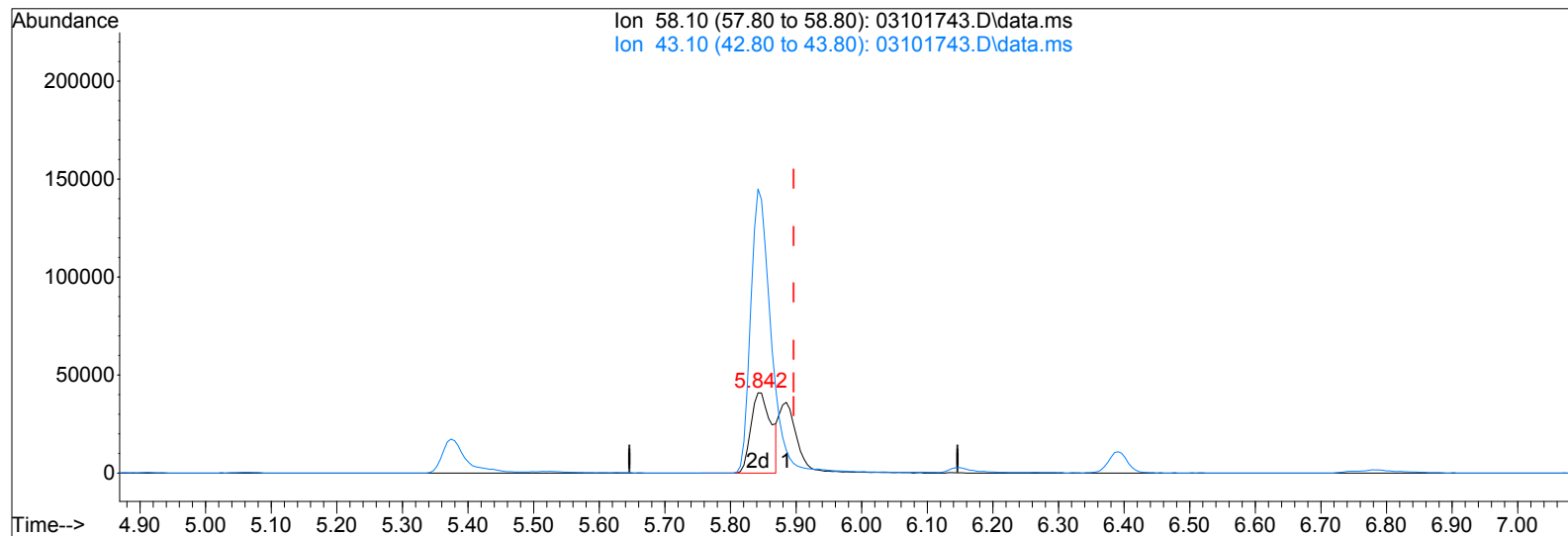
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M



TIC: 03101743.D\data.ms

(13) Acetone (T)

5.842min (-0.054) 7.39ng m

response 87389

WP

Ion	Exp%	Act%
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58.10	100	100
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43.10	343.90	0.00#
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0.00	0.00	0.00
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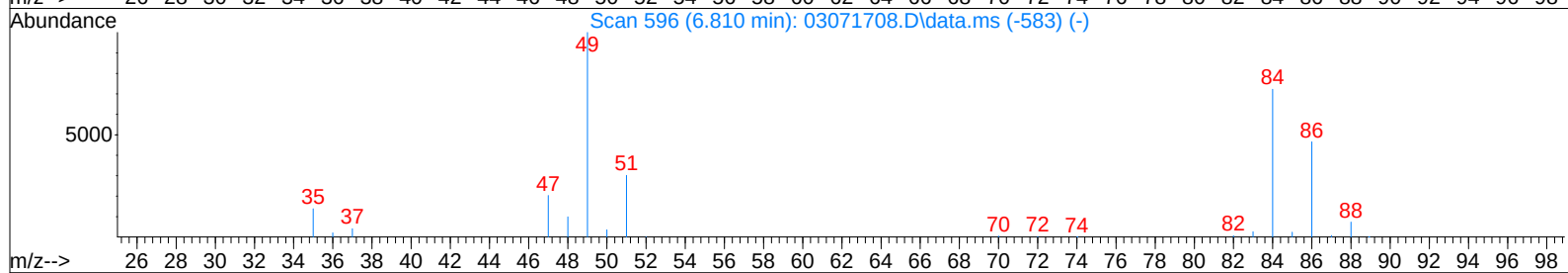
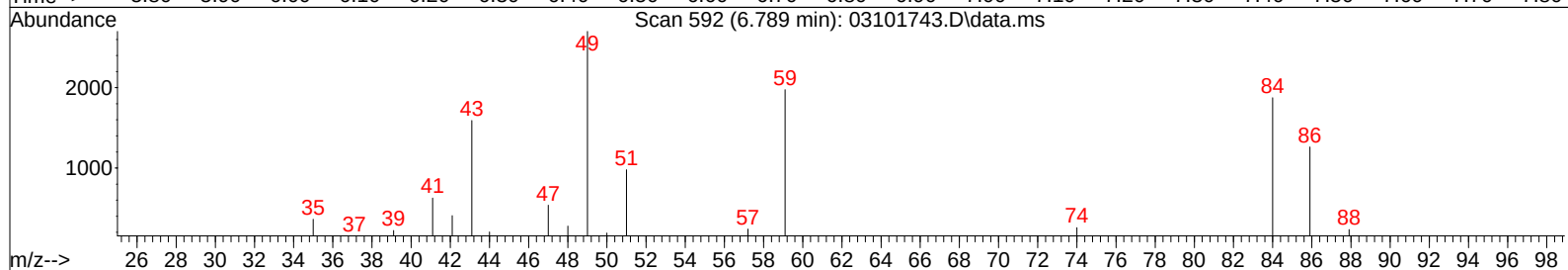
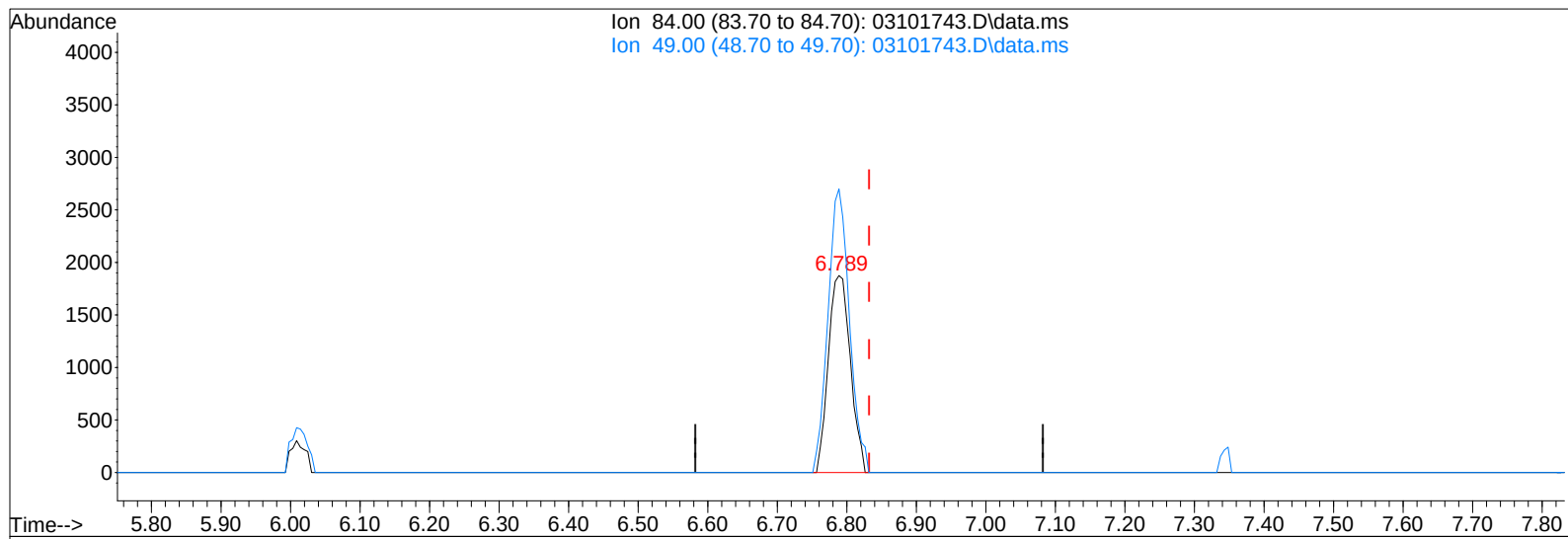
0.00	0.00	0.00
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WA 3/13/17

Data File : I:\MS08\Data\2017 03\10\03101743.D
Acq On : 11 Mar 2017 4:44
Sample : P1701088-011 (1000mL)
Misc : S29-01231701

Vial: 14
Operator: WA
Inst : MS08

Quant Time: Mar 13 11:16:28 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101743.D\data.ms

(19) Methylene Chloride (T)

6.789min (-0.043) 0.29ng

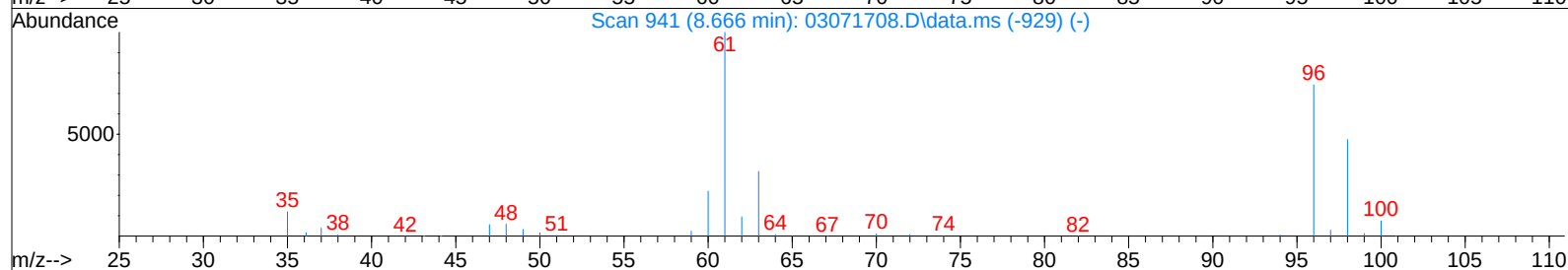
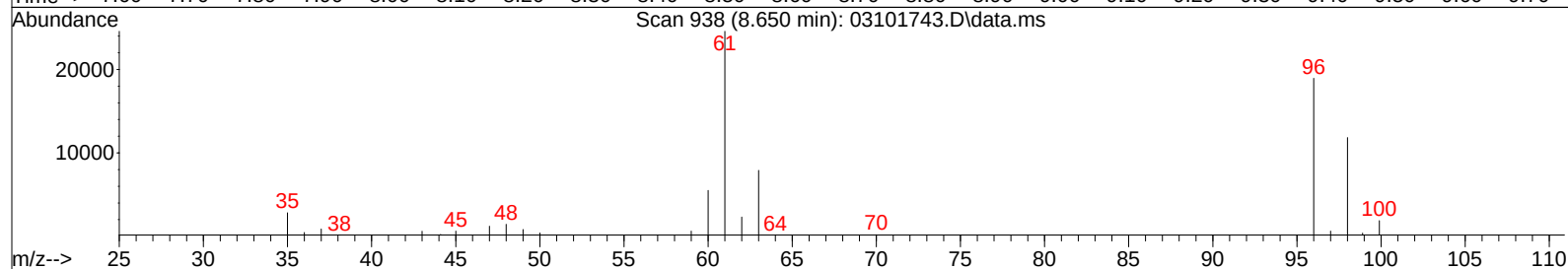
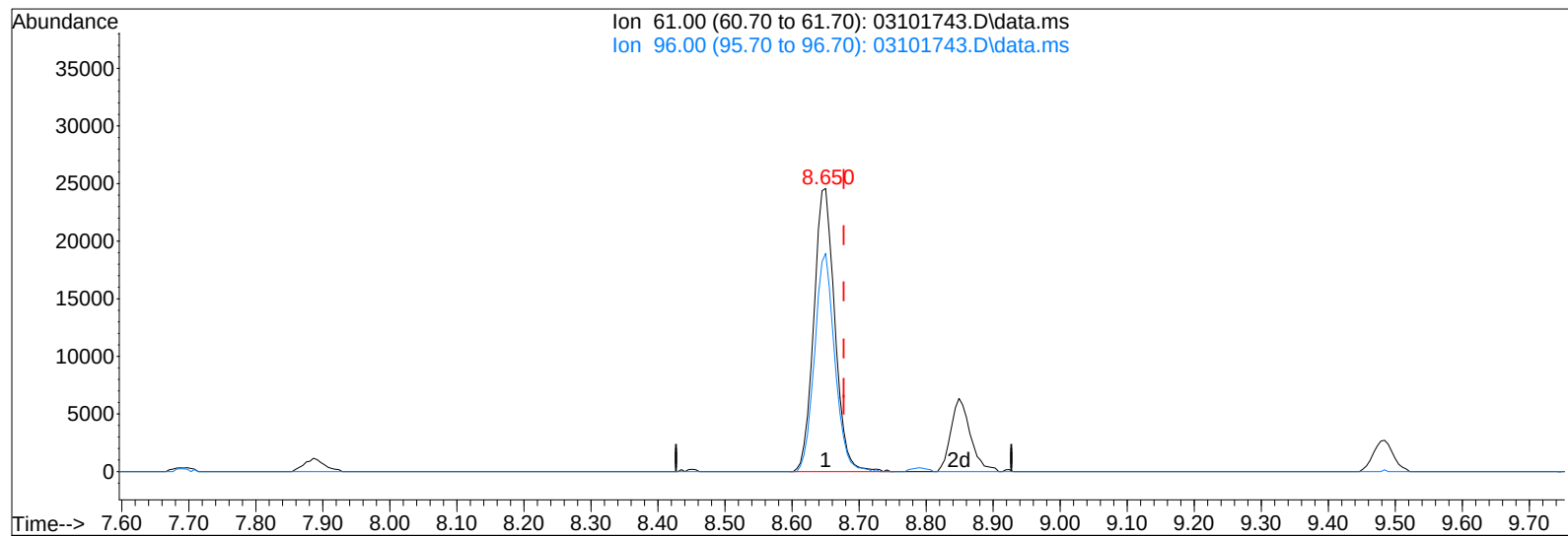
response 4116

Ion	Exp%	Act%
84.00	100	100
49.00	143.20	141.11
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101743.D
Acq On : 11 Mar 2017 4:44
Sample : P1701088-011 (1000mL)
Misc : S29-01231701

Vial: 14
Operator: WA
Inst : MS08

Quant Time: Mar 13 11:16:28 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101743.D\data.ms

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

8.650min (-0.027) 2.47ng

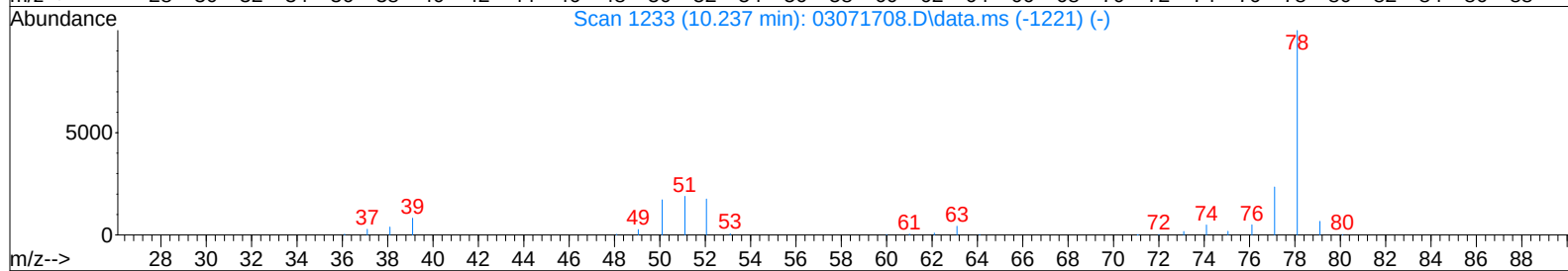
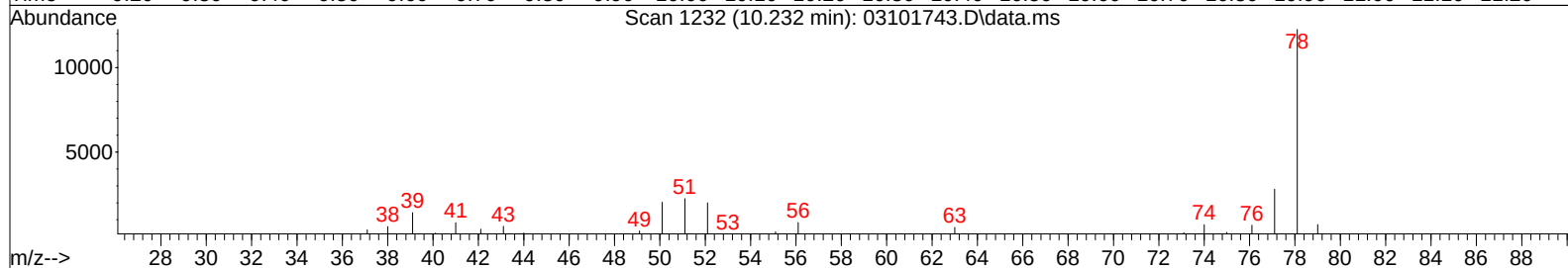
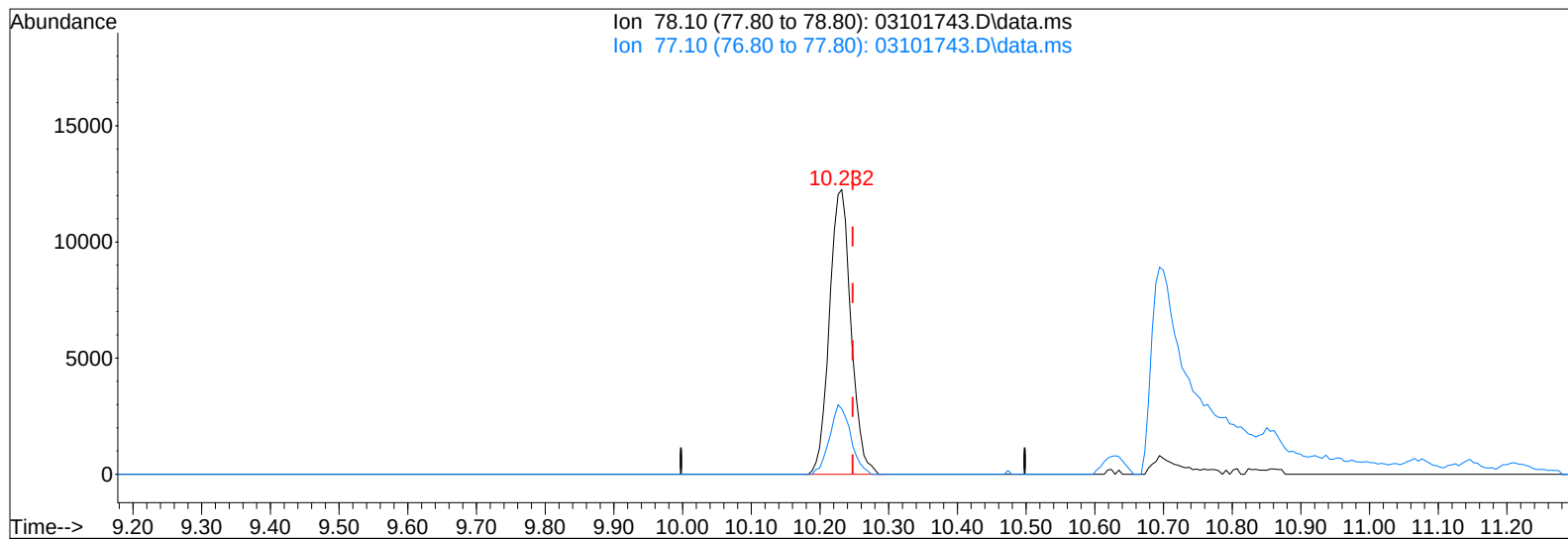
response 53445

Ion	Exp%	Act%
61.00	100	100
96.00	73.50	74.31
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101743.D
Acq On : 11 Mar 2017 4:44
Sample : P1701088-011 (1000mL)
Misc : S29-01231701

Vial: 14
Operator: WA
Inst : MS08

Quant Time: Mar 13 11:16:28 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101743.D\data.ms

(41) Benzene (T)

10.232min (-0.016) 0.43ng

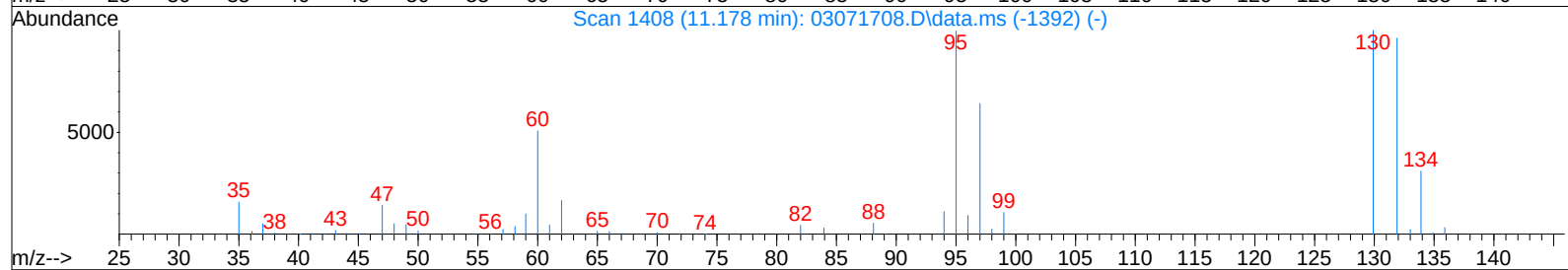
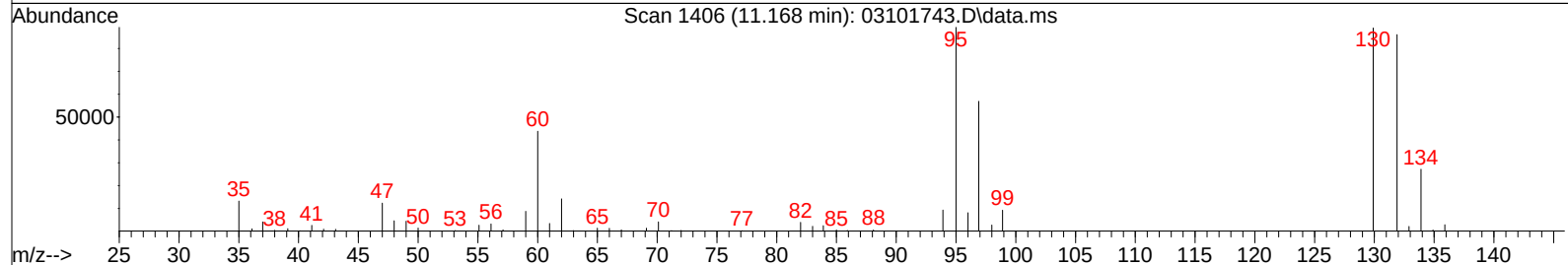
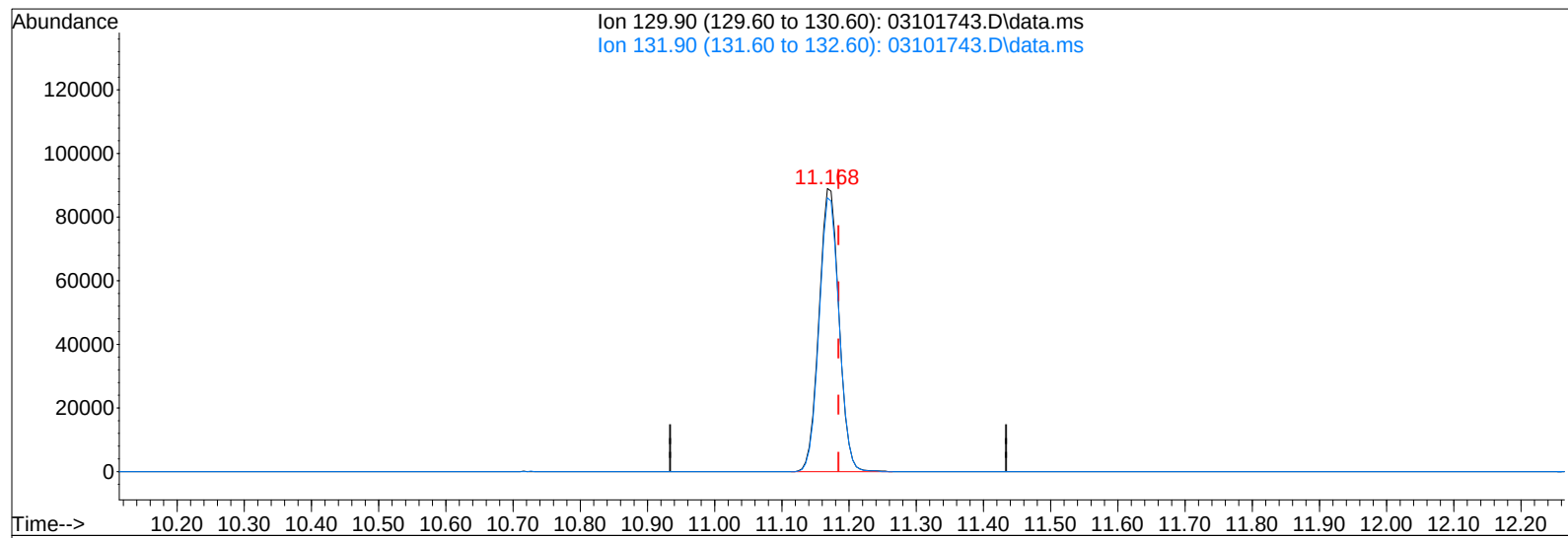
response 26722

Ion	Exp%	Act%
78.10	100	100
77.10	23.60	23.73
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101743.D
Acq On : 11 Mar 2017 4:44
Sample : P1701088-011 (1000mL)
Misc : S29-01231701

Vial: 14
Operator: WA
Inst : MS08

Quant Time: Mar 13 11:16:28 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101743.D\data.ms

(47) Trichloroethene (T)

11.168min (-0.016) 11.35ng

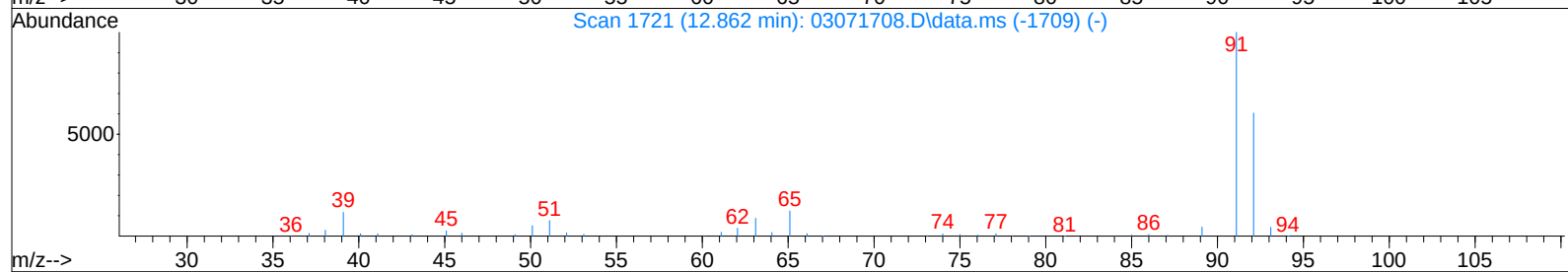
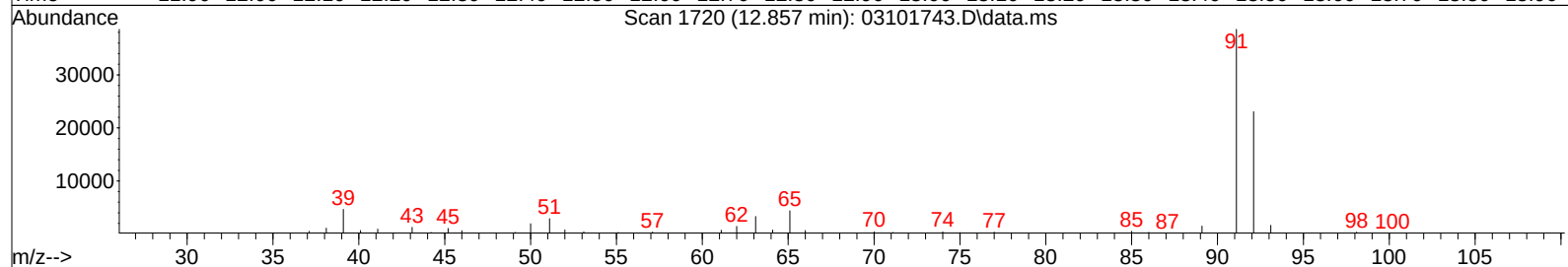
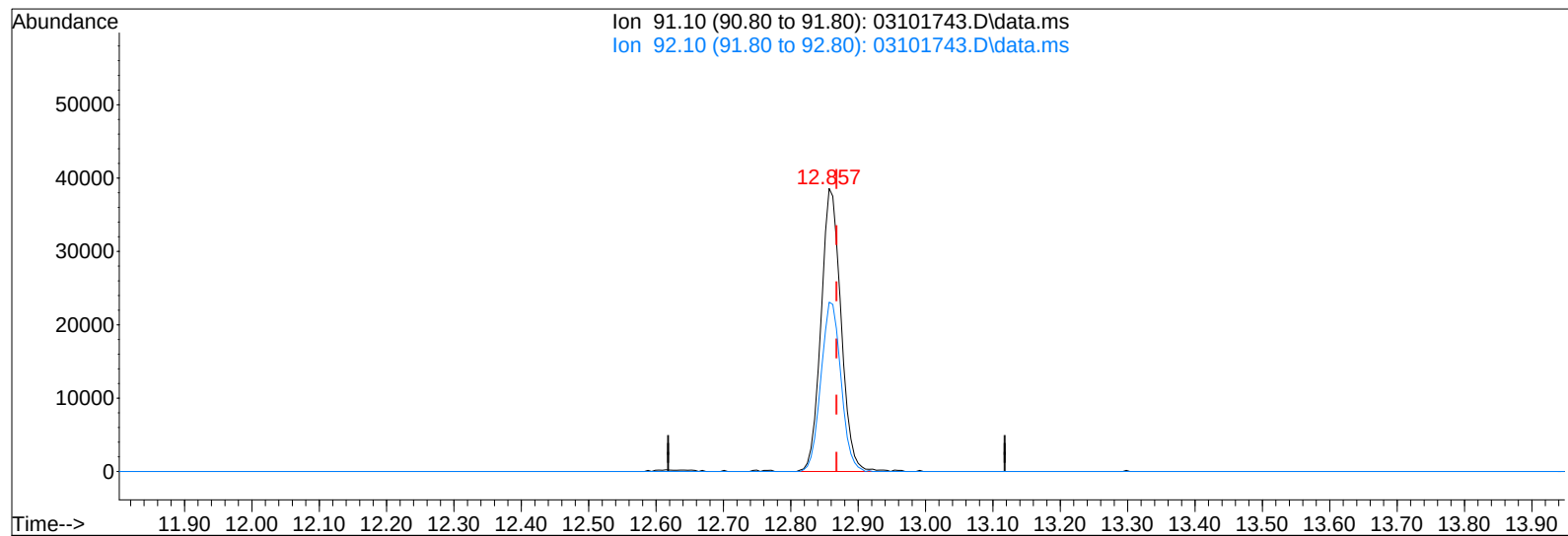
response 183369

Ion	Exp%	Act%
129.90	100	100
131.90	95.60	96.58
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101743.D
Acq On : 11 Mar 2017 4:44
Sample : P1701088-011 (1000mL)
Misc : S29-01231701

Vial: 14
Operator: WA
Inst : MS08

Quant Time: Mar 13 11:16:28 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101743.D\data.ms

(58) Toluene (T)

12.857min (-0.011) 1.36ng

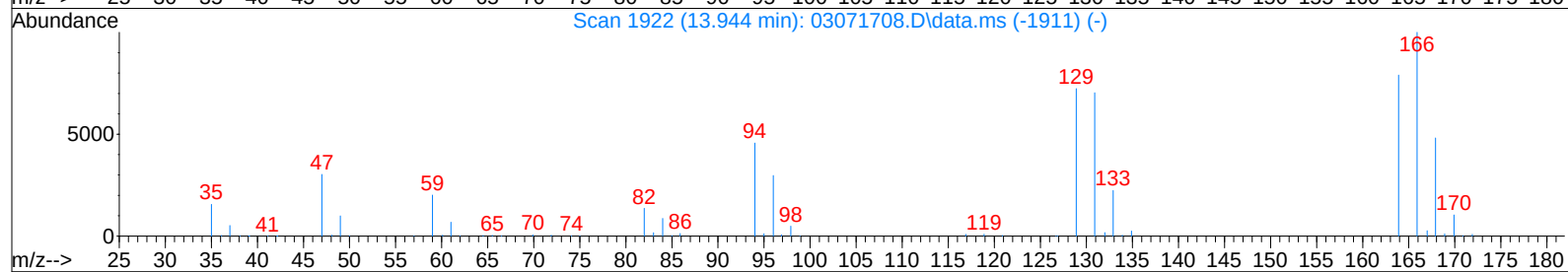
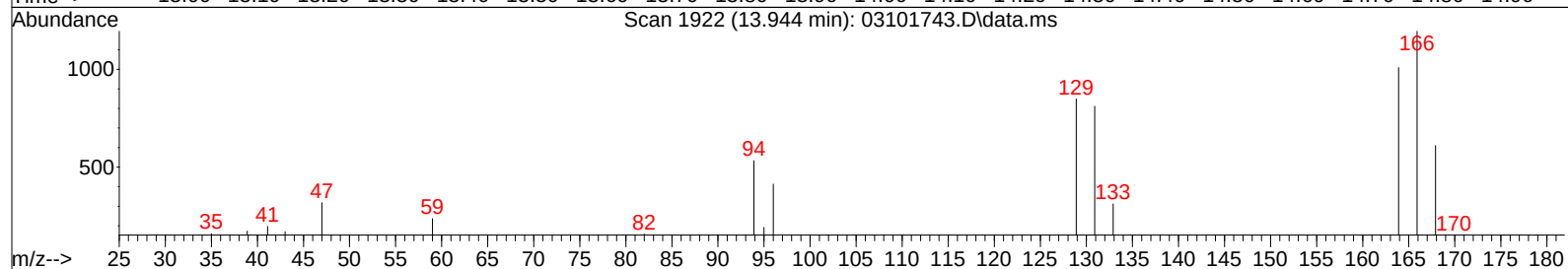
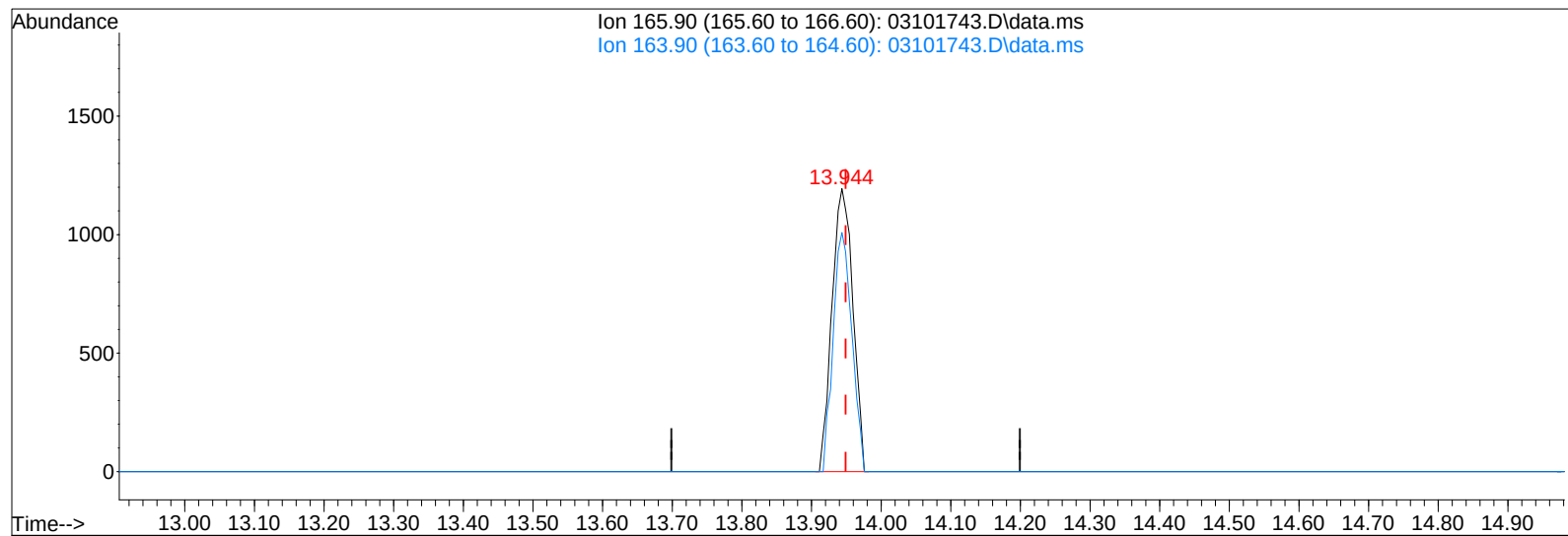
response 79351

Ion	Exp%	Act%
91.10	100	100
92.10	60.40	60.10
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\10\03101743.D
Acq On : 11 Mar 2017 4:44
Sample : P1701088-011 (1000mL)
Misc : S29-01231701

Vial: 14
Operator: WA
Inst : MS08

Quant Time: Mar 13 11:16:28 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03101743.D\data.ms

(64) Tetrachloroethene (T)

13.944min (-0.006) 0.16ng

response 2486

Ion	Exp%	Act%
165.90	100	100
163.90	78.70	75.99
0.00	0.00	0.00
0.00	0.00	0.00

Data File: I:\MS08\Data\2017 03\13\03131707.D

Acq On : 13 Mar 2017 10:28

Operator: WA

Sample : P1701088-012 (1000mL)

Misc : S29-01231701

ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 13 11:51:56 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

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DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.80	130	154202	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	10.53	114	743955	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	332853	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	288133	12.971	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	103.76%
57) Toluene-d8 (SS2)	12.77	98	782106	12.505	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	100.00%
73) Bromofluorobenzene (SS3)	16.07	174	241627	11.781	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	94.24%

Target Compounds

						Qvalue
2) Propene	0.00	42	0	N.D.	d	
3) Dichlorodifluoromethan...	4.00	85	52163	1.759	ng	99
4) Chloromethane	4.22	50	5172	0.250	ng	95
5) 1,2-Dichloro-1,1,2,2-t...	4.37	135	1133	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.67	54	1044	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.38	45	118154	10.356	ng	100
11) Acetonitrile	5.61	41	7131	0.235	ng	84
12) Acrolein	5.73	56	4302	0.492	ng	99
13) Acetone	5.85	58	59005	5.277	ng	97
14) Trichlorofluoromethane	6.02	101	23608	0.899	ng	98
15) 2-Propanol (Isopropanol)	6.16	45	22451	0.537	ng	86
16) Acrylonitrile	6.40	53	538	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	6.79	84	5748	0.422	ng	100
20) 3-Chloro-1-propene (Al...	6.79	41	1234	N.D.		
21) Trichlorotrifluoroethane	7.07	151	4552	0.373	ng	96
22) Carbon Disulfide	7.06	76	5296	0.108	ng	98
23) trans-1,2-Dichloroethene	7.89	61	951	N.D.		
24) 1,1-Dichloroethane	8.06	63	439	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	8.26	72	5596	0.592	ng	# 91
28) cis-1,2-Dichloroethene	8.66	61	14191	0.693	ng	99
29) Diisopropyl Ether	8.87	87	537	N.D.		
30) Ethyl Acetate	8.85	61	14174	3.146	ng	99
31) n-Hexane	8.87	57	22505	0.922	ng	98
32) Chloroform	8.91	83	1925	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	9.59	62	1109	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	0.00	56	0	N.D.	d	
41) Benzene	10.23	78	21500	0.366	ng	100
42) Carbon Tetrachloride	10.37	117	6258	0.310	ng	99
43) Cyclohexane	10.48	84	13618	0.535	ng	97
44) tert-Amyl Methyl Ether	10.85	73	511	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.17	130	106241	6.929	ng	100
48) 1,4-Dioxane	11.17	88	992	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	

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Data File: I:\MS08\Data\2017 03\13\03131707.D

Acq On : 13 Mar 2017 10:28

Operator: WA

Sample : P1701088-012 (1000mL)

Misc : S29-01231701

ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 13 11:51:56 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

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	11.45	71	51161	3.412	ng	100
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.99	58	1869	0.147	ng	# 65
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.86	91	67313	1.157	ng	99
59) 2-Hexanone	13.11	43	1591	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.70	43	3873	0.106	ng	# 86
63) n-Octane	13.80	57	1384	0.107	ng	95
64) Tetrachloroethene	13.95	166	2065	0.134	ng	94
65) Chlorobenzene	14.61	112	1022	N.D.		
66) Ethylbenzene	14.99	91	387788	5.950	ng	100
67) m- & p-Xylenes	15.15	91	1165502	22.445	ng	100
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.53	104	9296	0.256	ng	99
70) o-Xylene	15.63	91	341255	6.385	ng	100
71) n-Nonane	15.84	43	8018	0.249	ng	91
72) 1,1,2,2-Tetrachloroethane	15.70	83	407	N.D.		
74) Cumene	16.21	105	5300	N.D.		
75) alpha-Pinene	16.58	93	49005	1.401	ng	91
76) n-Propylbenzene	16.70	91	2360	N.D.		
77) 3-Ethyltoluene	16.80	105	3401	N.D.		
78) 4-Ethyltoluene	16.84	105	2035	N.D.		
79) 1,3,5-Trimethylbenzene	16.91	105	1792	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.09	105	1752	N.D.		
82) 1,2,4-Trimethylbenzene	17.31	105	5799	0.106	ng	89
83) n-Decane	0.00	57	0	N.D.	d	
84) Benzyl Chloride	17.53	91	511	N.D.		
85) 1,3-Dichlorobenzene	17.52	146	2047	N.D.		
86) 1,4-Dichlorobenzene	17.52	146	2047	N.D.		
87) sec-Butylbenzene	17.57	105	870	N.D.		
88) 4-Isopropyltoluene (p-...	17.71	119	2783	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	17.85	68	5989	0.281	ng	99
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	19.46	180	695	N.D.		
95) Naphthalene	19.57	128	9201	0.146	ng	97
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	17.30	119	1068	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.	d	

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

Data File: I:\MS08\Data\2017 03\13\03131707.D

Acq On : 13 Mar 2017 10:28

Operator: WA

Sample : P1701088-012 (1000mL)

Misc : S29-01231701

ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 13 11:51:56 2017

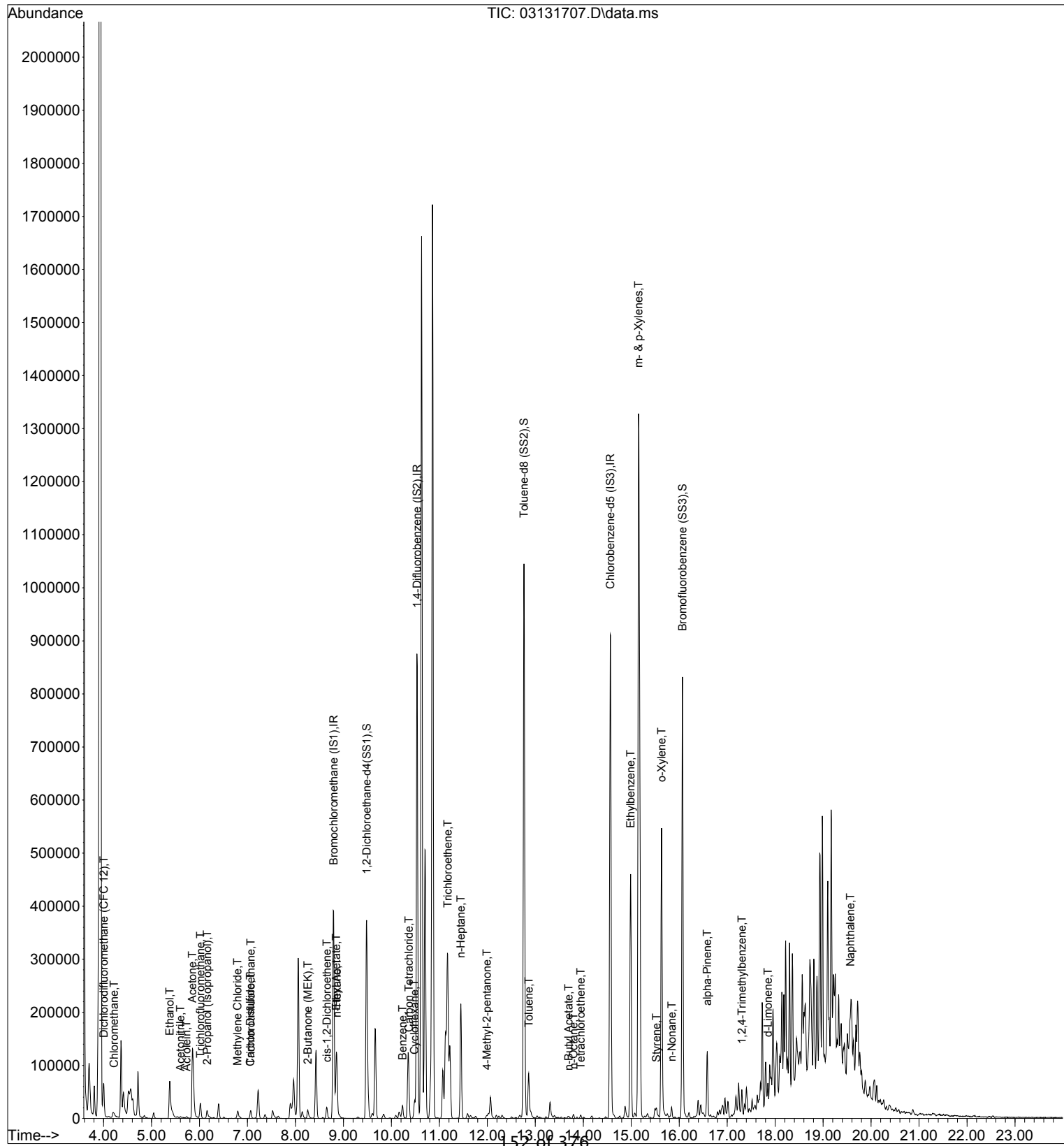
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

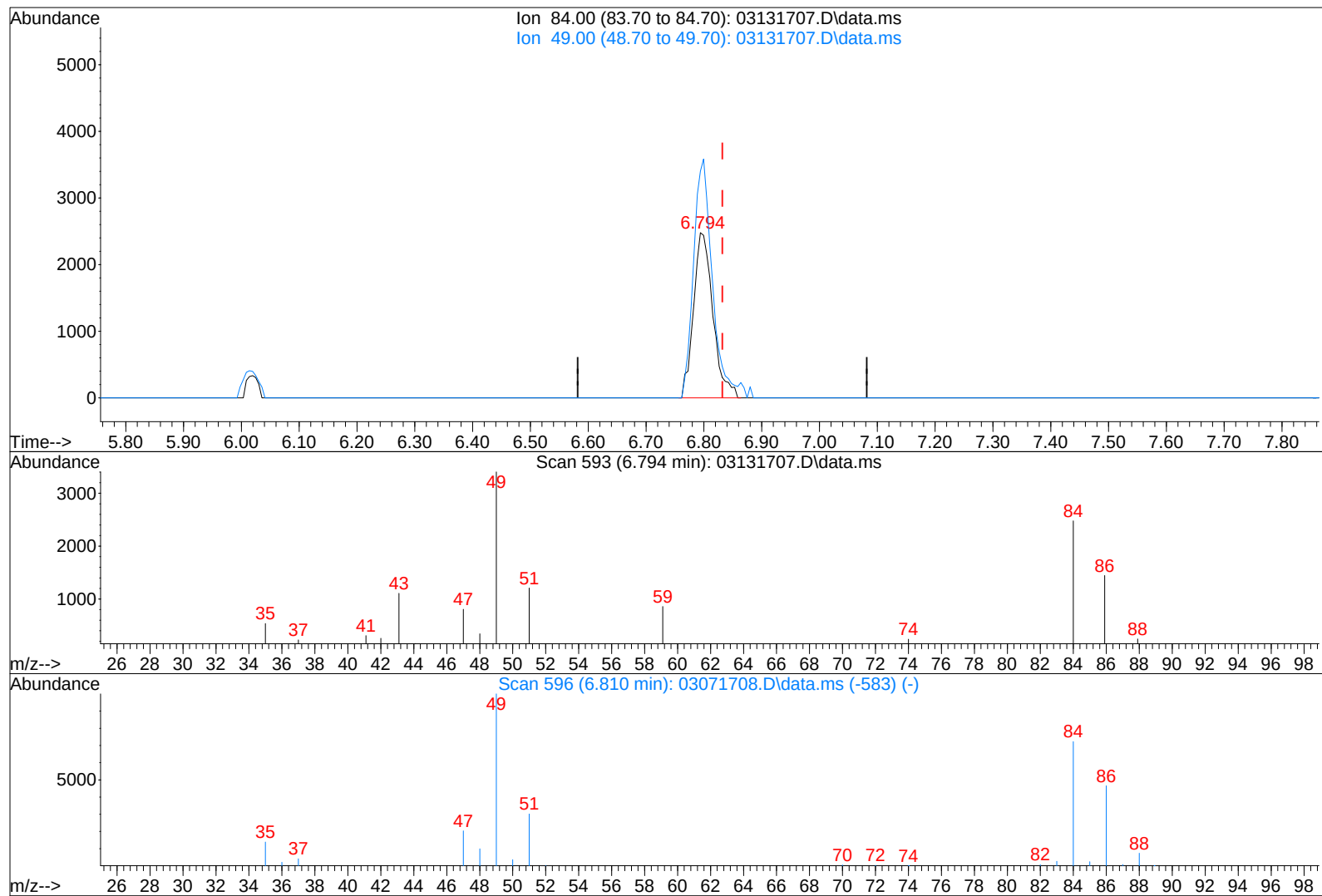
DataAcq Meth:TO15.M



Data File : I:\MS08\Data\2017 03\13\03131707.D
Acq On : 13 Mar 2017 10:28
Sample : P1701088-012 (1000mL)
Misc : S29-01231701

Vial: 2
Operator: WA
Inst : MS08

Quant Time: Mar 13 11:51:56 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131707.D\data.ms

(19) Methylene Chloride (T)

6.794min (-0.038) 0.42ng

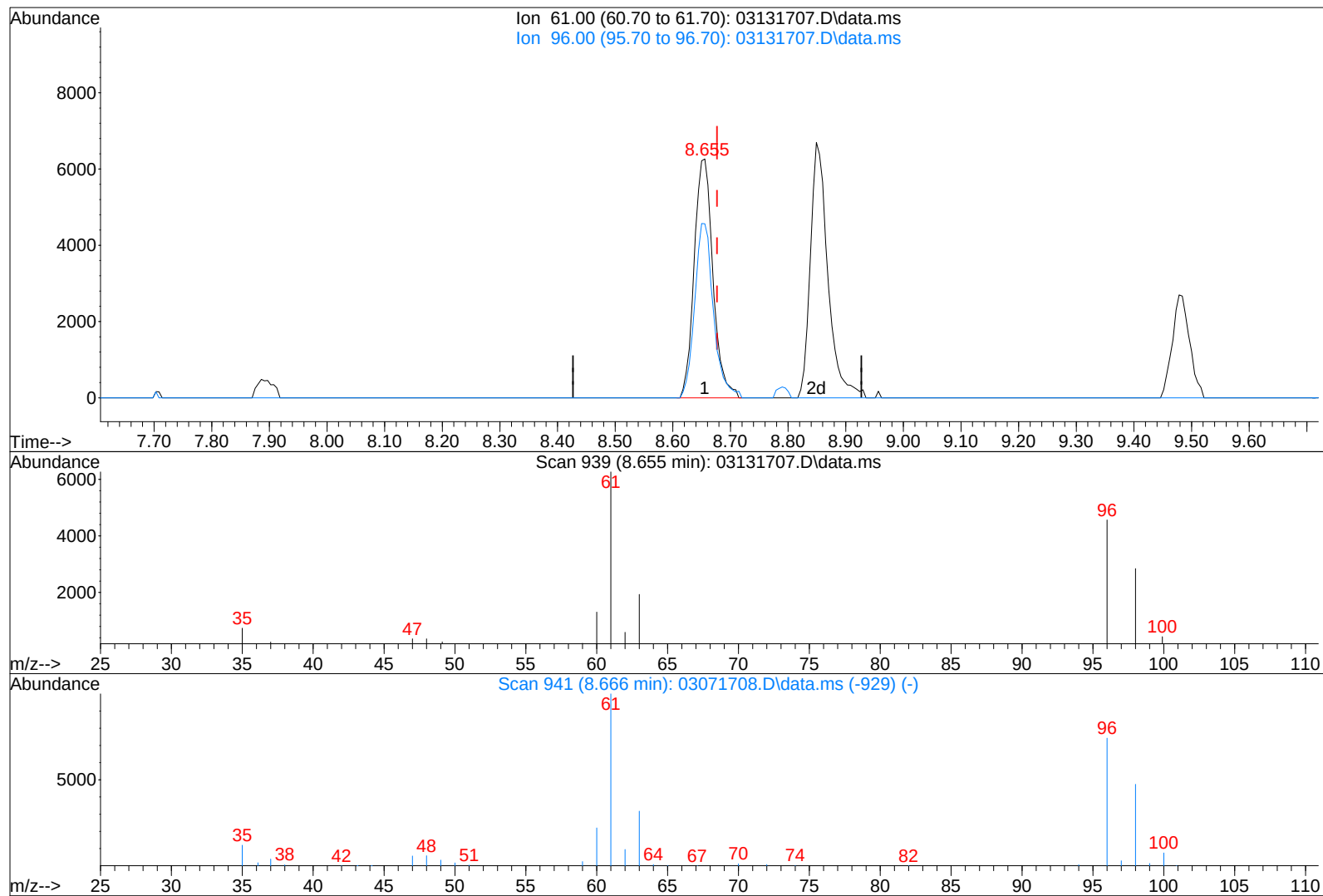
response 5748

Ion	Exp%	Act%
84.00	100	100
49.00	143.20	142.97
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\13\03131707.D
Acq On : 13 Mar 2017 10:28
Sample : P1701088-012 (1000mL)
Misc : S29-01231701

Vial: 2
Operator: WA
Inst : MS08

Quant Time: Mar 13 11:51:56 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131707.D\data.ms

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

8.655min (-0.022) 0.69ng

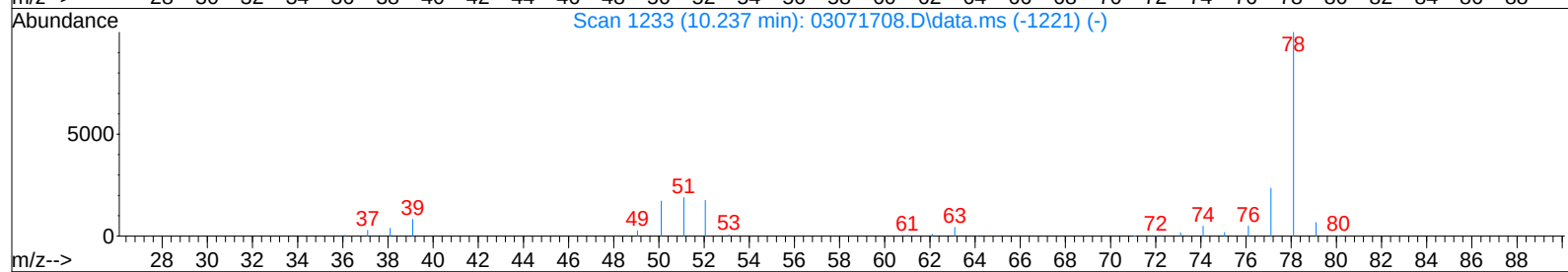
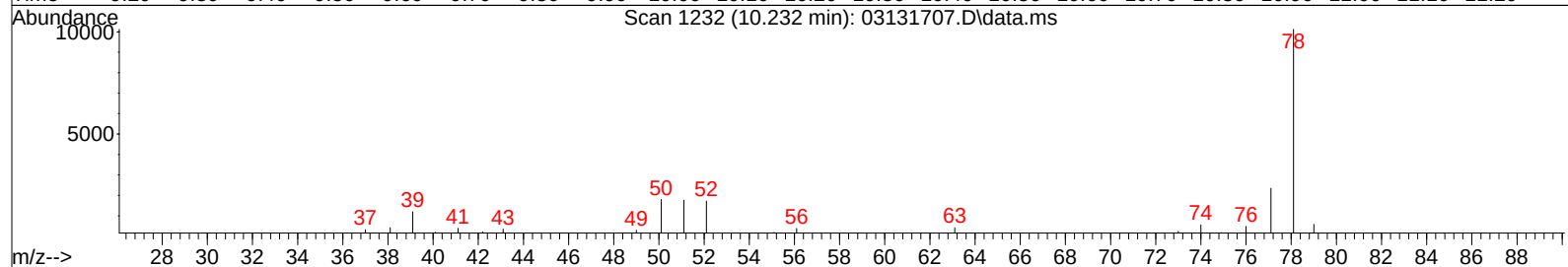
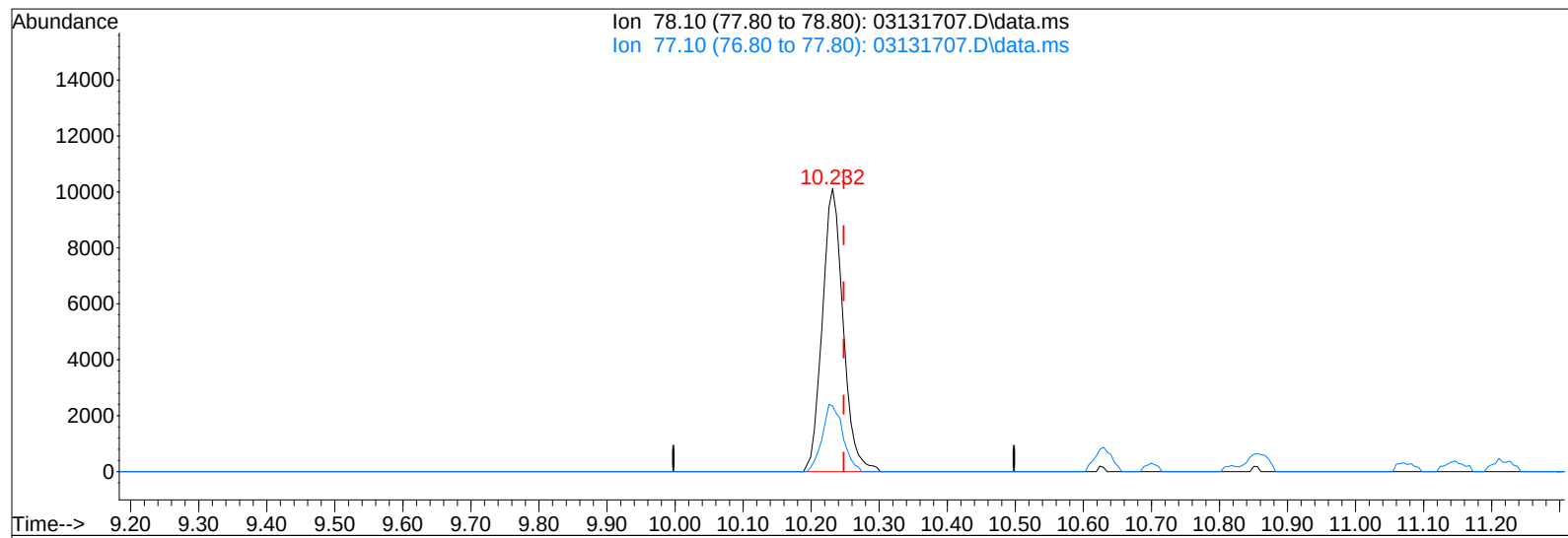
response 14191

Ion	Exp%	Act%
61.00	100	100
96.00	73.50	72.98
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\13\03131707.D
Acq On : 13 Mar 2017 10:28
Sample : P1701088-012 (1000mL)
Misc : S29-01231701

Vial: 2
Operator: WA
Inst : MS08

Quant Time: Mar 13 11:51:56 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131707.D\data.ms

(41) Benzene (T)

10.232min (-0.016) 0.37ng

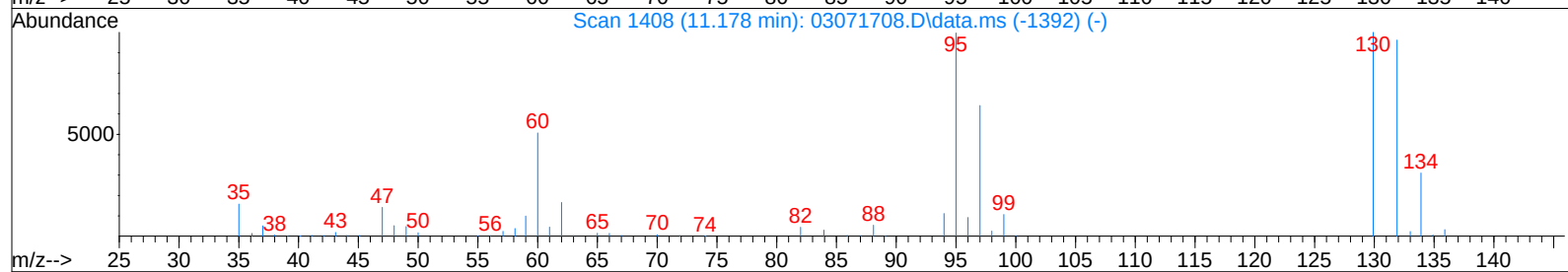
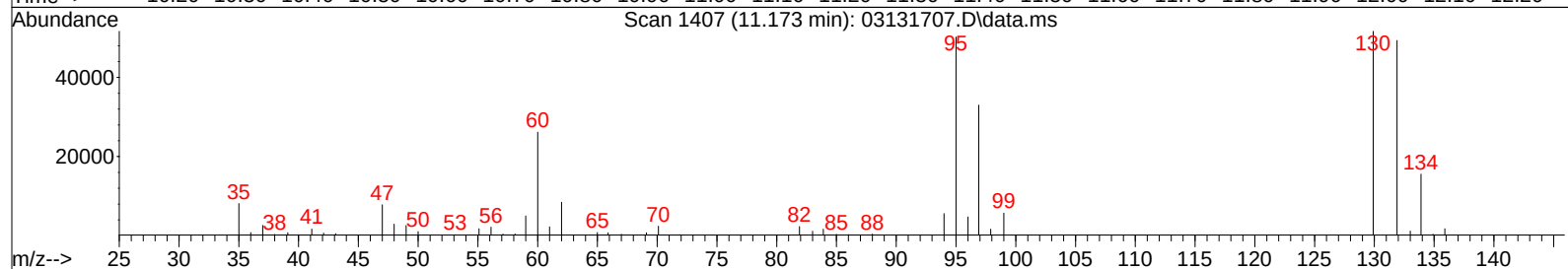
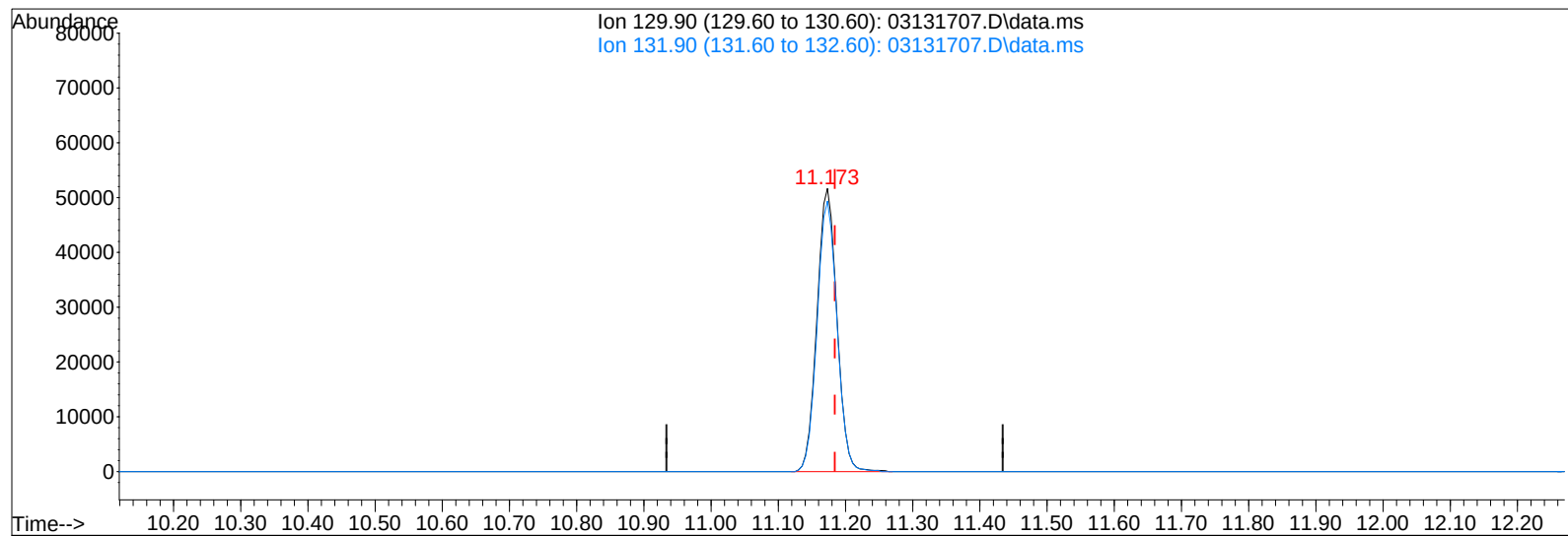
response 21500

Ion	Exp%	Act%
78.10	100	100
77.10	23.60	23.53
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\13\03131707.D
Acq On : 13 Mar 2017 10:28
Sample : P1701088-012 (1000mL)
Misc : S29-01231701

Vial: 2
Operator: WA
Inst : MS08

Quant Time: Mar 13 11:51:56 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131707.D\data.ms

(47) Trichloroethene (T)

11.173min (-0.011) 6.93ng

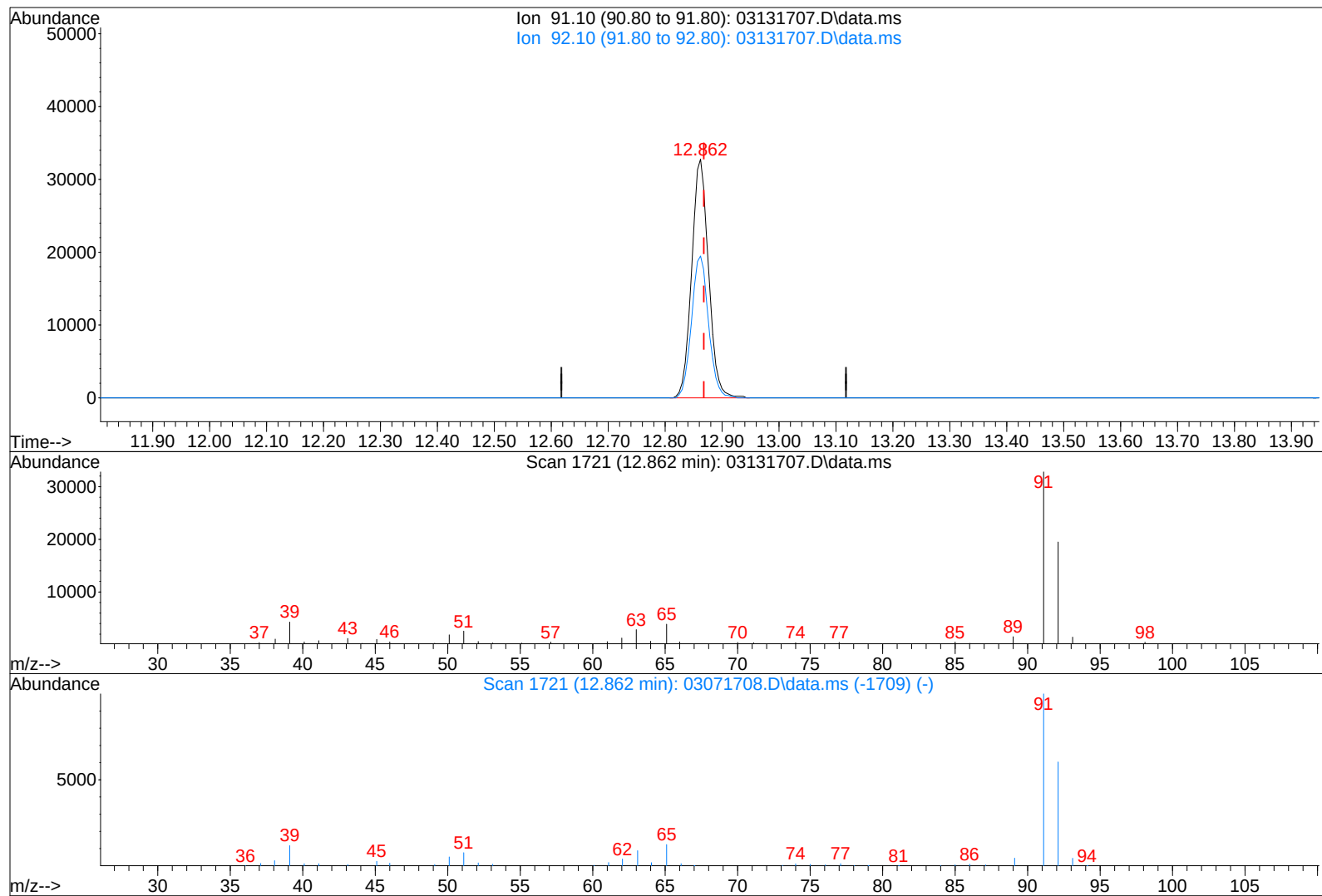
response 106241

Ion	Exp%	Act%
129.90	100	100
131.90	95.60	95.42
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\13\03131707.D
Acq On : 13 Mar 2017 10:28
Sample : P1701088-012 (1000mL)
Misc : S29-01231701

Vial: 2
Operator: WA
Inst : MS08

Quant Time: Mar 13 11:51:56 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131707.D\data.ms

(58) Toluene (T)

12.862min (-0.006) 1.16ng

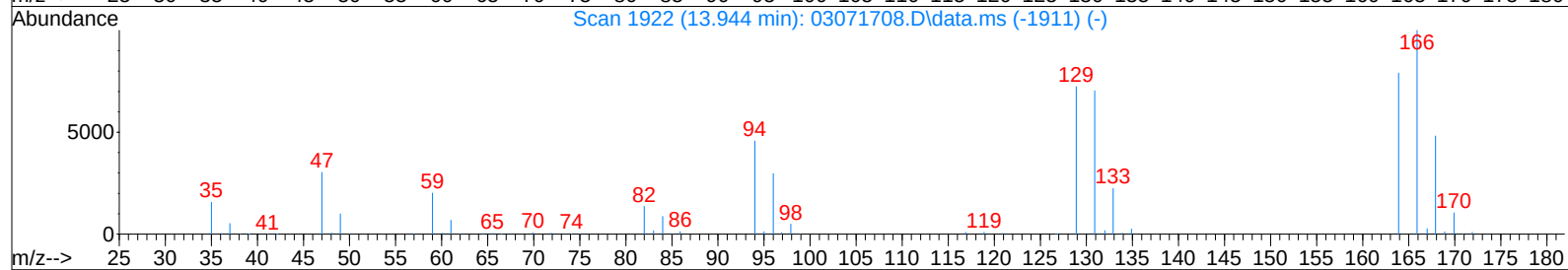
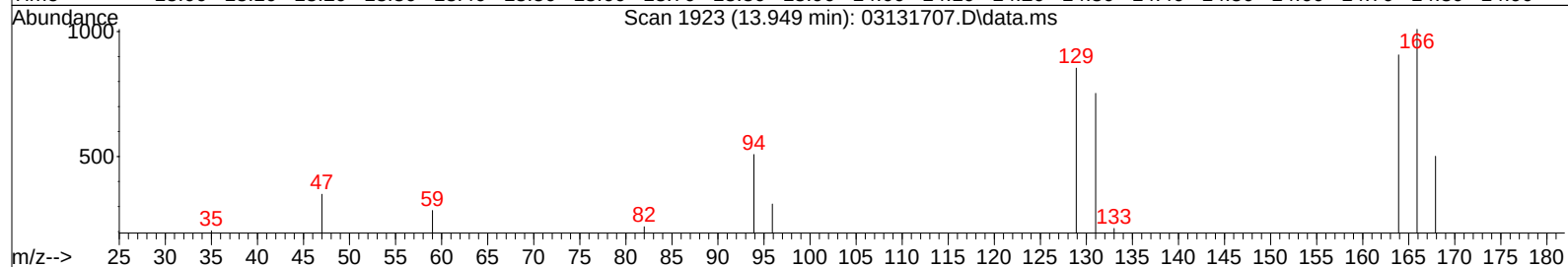
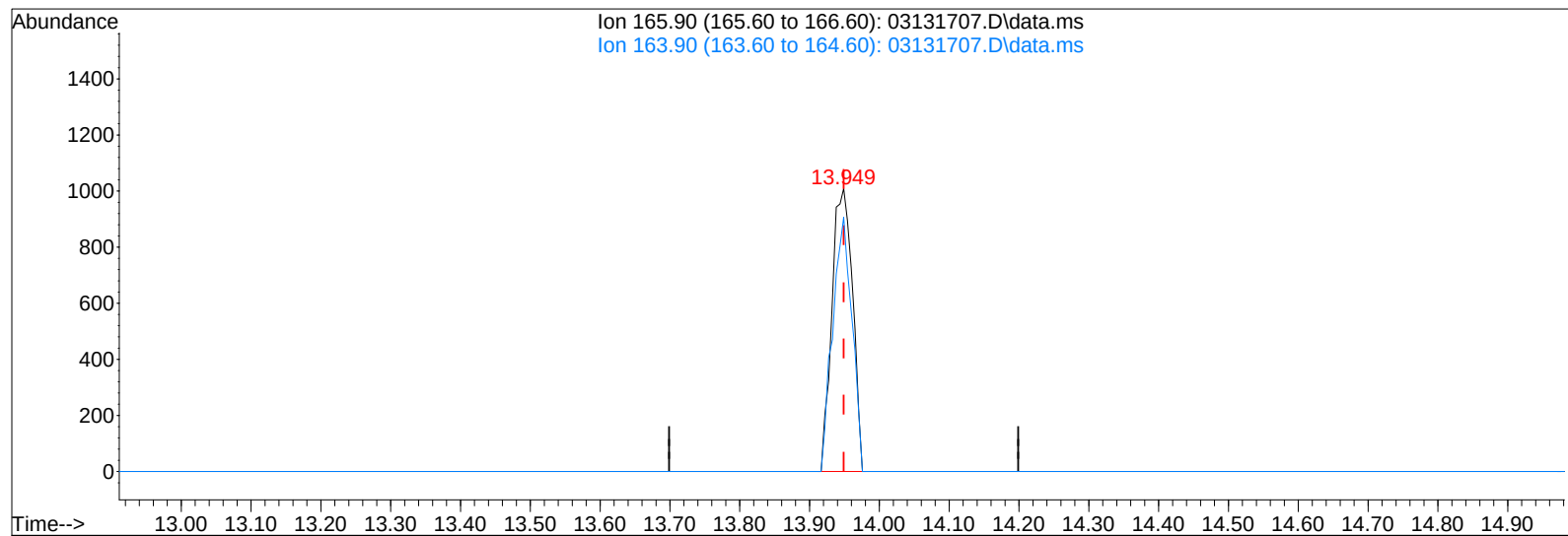
response 67313

Ion	Exp%	Act%
91.10	100	100
92.10	60.40	59.95
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\13\03131707.D
Acq On : 13 Mar 2017 10:28
Sample : P1701088-012 (1000mL)
Misc : S29-01231701

Vial: 2
Operator: WA
Inst : MS08

Quant Time: Mar 13 11:51:56 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131707.D\data.ms

(64) Tetrachloroethene (T)

13.949min (-0.000) 0.13ng

response 2065

Ion	Exp%	Act%
165.90	100	100
163.90	78.70	84.12
0.00	0.00	0.00
0.00	0.00	0.00

Data File: I:\MS08\Data\2017 03\13\03131708.D

Acq On : 13 Mar 2017 11:00

Operator: WA

Sample : P1701088-013 (1000mL)

Misc : S29-01231701

ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 13 11:53:47 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

407 3/13/17

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.80	130	156516	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	10.53	114	749439	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	335958	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	292172	12.958	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	103.68%
57) Toluene-d8 (SS2)	12.77	98	786602	12.460	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	99.68%
73) Bromofluorobenzene (SS3)	16.07	174	246695	11.917	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	95.36%

Target Compounds

						Qvalue
2) Propene	0.00	42	0	N.D.	d	
3) Dichlorodifluoromethan...	4.00	85	52207	1.734	ng	99
4) Chloromethane	4.22	50	6081	0.289	ng	90
5) 1,2-Dichloro-1,1,2,2-t...	4.36	135	981	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.68	54	914	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.38	45	139259	12.025	ng	100
11) Acetonitrile	5.61	41	7499	0.244	ng	83
12) Acrolein	5.73	56	3527	0.398	ng	98
13) Acetone	5.85	58	61460	5.416	ng	90
14) Trichlorofluoromethane	6.02	101	23106	0.867	ng	100
15) 2-Propanol (Isopropanol)	6.16	45	26015	0.614	ng	83
16) Acrylonitrile	6.40	53	521	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	6.80	84	4102	0.296	ng	94
20) 3-Chloro-1-propene (Al...	6.77	41	497	N.D.		
21) Trichlorotrifluoroethane	7.07	151	4647	0.376	ng	100
22) Carbon Disulfide	7.06	76	5550	0.112	ng	94
23) trans-1,2-Dichloroethene	7.89	61	523	N.D.		
24) 1,1-Dichloroethane	8.05	63	638	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	8.26	72	4891	0.510	ng	# 91
28) cis-1,2-Dichloroethene	8.66	61	16780	0.807	ng	98
29) Diisopropyl Ether	8.86	87	563	N.D.		
30) Ethyl Acetate	8.85	61	13945	3.049	ng	100
31) n-Hexane	8.87	57	30066	1.213	ng	98
32) Chloroform	8.91	83	1873	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	9.59	62	971	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	0.00	56	0	N.D.	d	
41) Benzene	10.23	78	23508	0.397	ng	99
42) Carbon Tetrachloride	10.37	117	6746	0.332	ng	98
43) Cyclohexane	10.48	84	15373	0.600	ng	98
44) tert-Amyl Methyl Ether	10.86	73	518	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.17	130	123660	8.007	ng	99
48) 1,4-Dioxane	0.00	88	0	N.D.	d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	

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Data File: I:\MS08\Data\2017 03\13\03131708.D

Acq On : 13 Mar 2017 11:00

Operator: WA

Sample : P1701088-013 (1000mL)

Misc : S29-01231701

ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 13 11:53:47 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

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	11.45	71	54509	3.608	ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.98	58	2066	0.161	ng	# 75
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.86	91	81296	1.384	ng	99
59) 2-Hexanone	13.09	43	1446	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.68	43	5312	0.144	ng	86
63) n-Octane	13.80	57	1675	0.129	ng	95
64) Tetrachloroethene	13.95	166	1928	0.124	ng	95
65) Chlorobenzene	14.62	112	436	N.D.		
66) Ethylbenzene	14.99	91	420523	6.393	ng	100
67) m- & p-Xylenes	15.15	91	1269169	24.216	ng	99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.53	104	10725	0.293	ng	99
70) o-Xylene	15.63	91	371709	6.890	ng	99
71) n-Nonane	15.84	43	9185	0.282	ng	91
72) 1,1,2,2-Tetrachloroethane	15.63	83	594	N.D.		
74) Cumene	16.20	105	5747	N.D.		
75) alpha-Pinene	16.59	93	48270	1.367	ng	84
76) n-Propylbenzene	16.70	91	2540	N.D.		
77) 3-Ethyltoluene	16.79	105	3656	N.D.		
78) 4-Ethyltoluene	16.83	105	1797	N.D.		
79) 1,3,5-Trimethylbenzene	16.91	105	1718	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.09	105	1620	N.D.		
82) 1,2,4-Trimethylbenzene	17.31	105	6440	0.116	ng	89
83) n-Decane	0.00	57	0	N.D.	d	
84) Benzyl Chloride	17.52	91	622	N.D.		
85) 1,3-Dichlorobenzene	17.52	146	2659	N.D.		
86) 1,4-Dichlorobenzene	17.52	146	2659	N.D.		
87) sec-Butylbenzene	17.56	105	757	N.D.		
88) 4-Isopropyltoluene (p-...	17.71	119	2890	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	17.85	68	5758	0.268	ng	79
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	19.46	180	727	N.D.		
95) Naphthalene	19.57	128	23245	0.364	ng	99
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	17.31	119	948	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.	d	

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

Data File: I:\MS08\Data\2017 03\13\03131708.D

Acq On : 13 Mar 2017 11:00

Operator: WA

Sample : P1701088-013 (1000mL)

Misc : S29-01231701

ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 13 11:53:47 2017

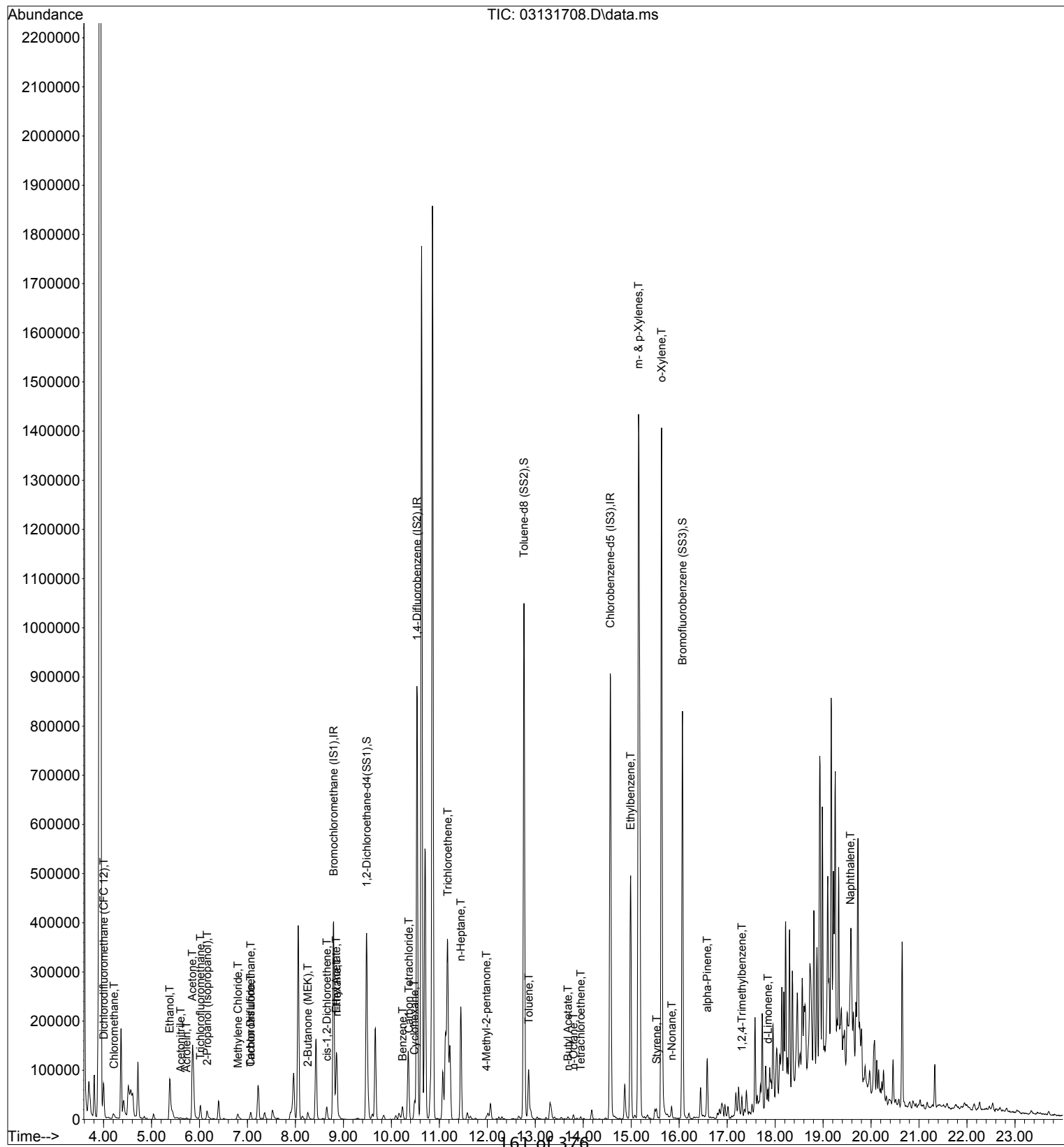
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

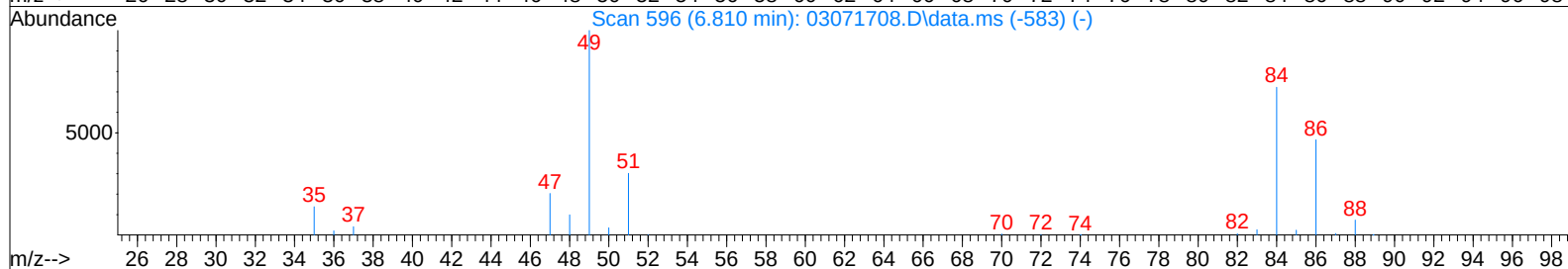
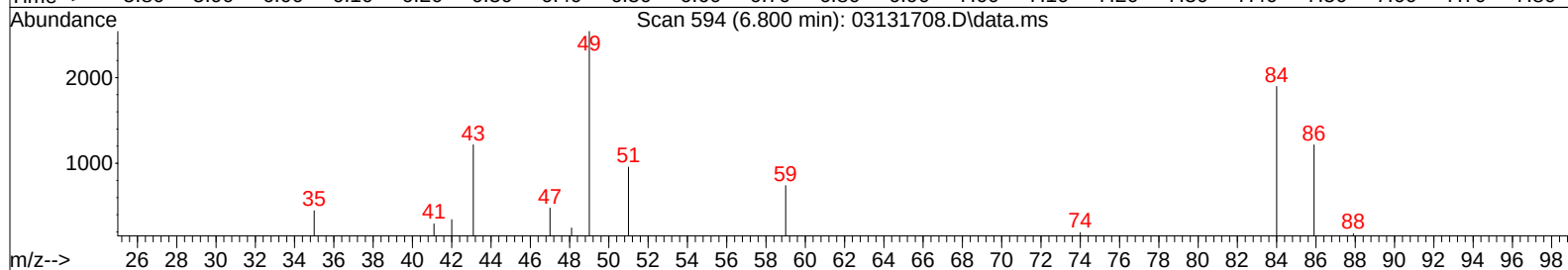
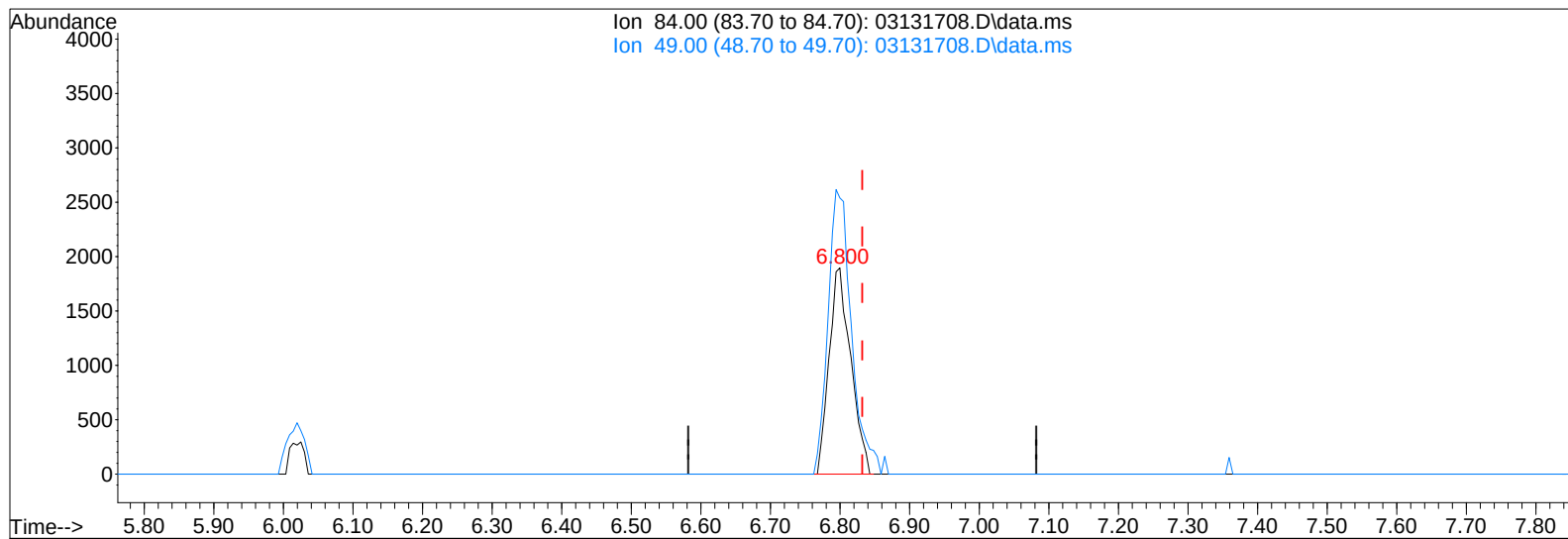
DataAcq Meth:TO15.M



Data File : I:\MS08\Data\2017 03\13\03131708.D
Acq On : 13 Mar 2017 11:00
Sample : P1701088-013 (1000mL)
Misc : S29-01231701

Vial: 3
Operator: WA
Inst : MS08

Quant Time: Mar 13 11:53:47 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131708.D\data.ms

(19) Methylene Chloride (T)

6.800min (-0.032) 0.30ng

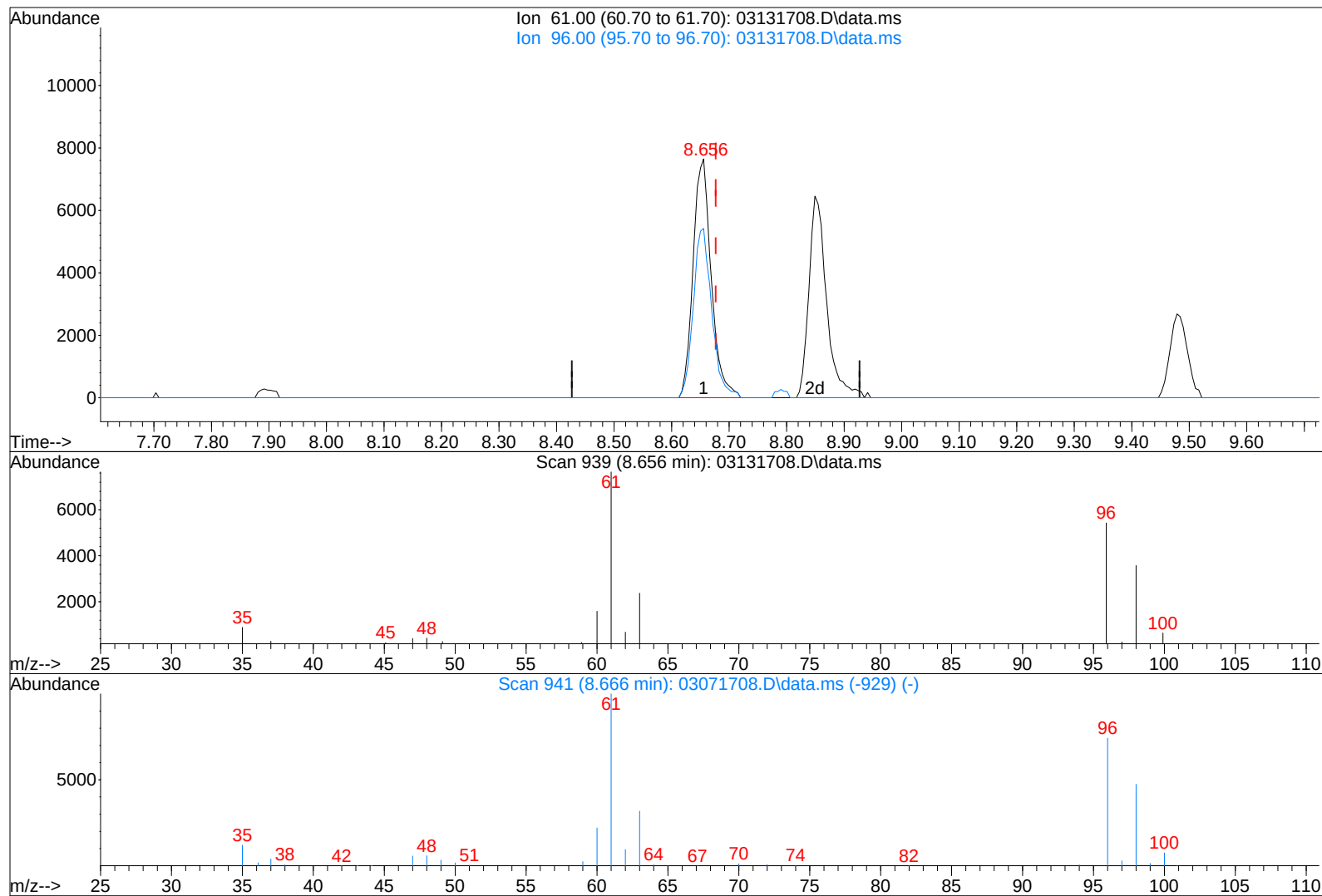
response 4102

Ion	Exp%	Act%
84.00	100	100
49.00	143.20	150.61
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\13\03131708.D
Acq On : 13 Mar 2017 11:00
Sample : P1701088-013 (1000mL)
Misc : S29-01231701

Vial: 3
Operator: WA
Inst : MS08

Quant Time: Mar 13 11:53:47 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131708.D\data.ms

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

8.656min (-0.021) 0.81ng

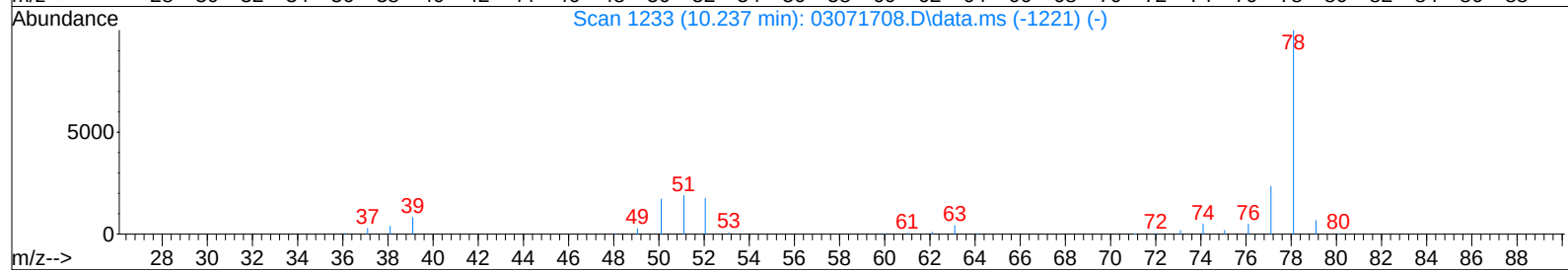
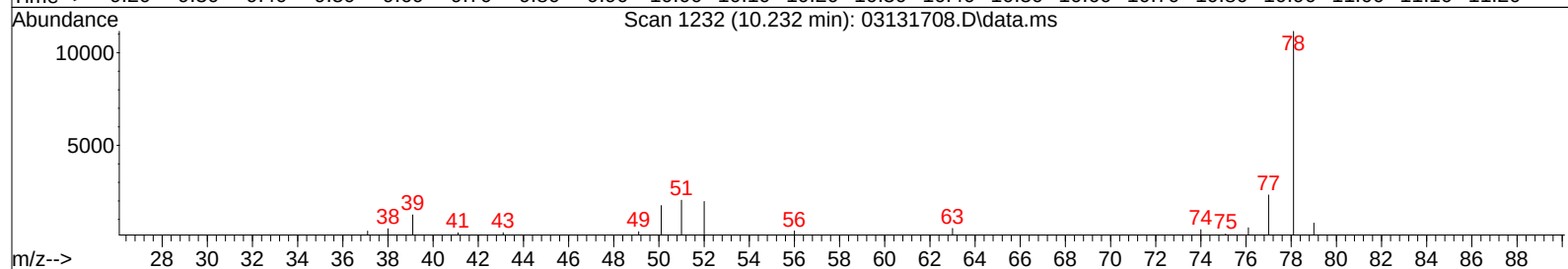
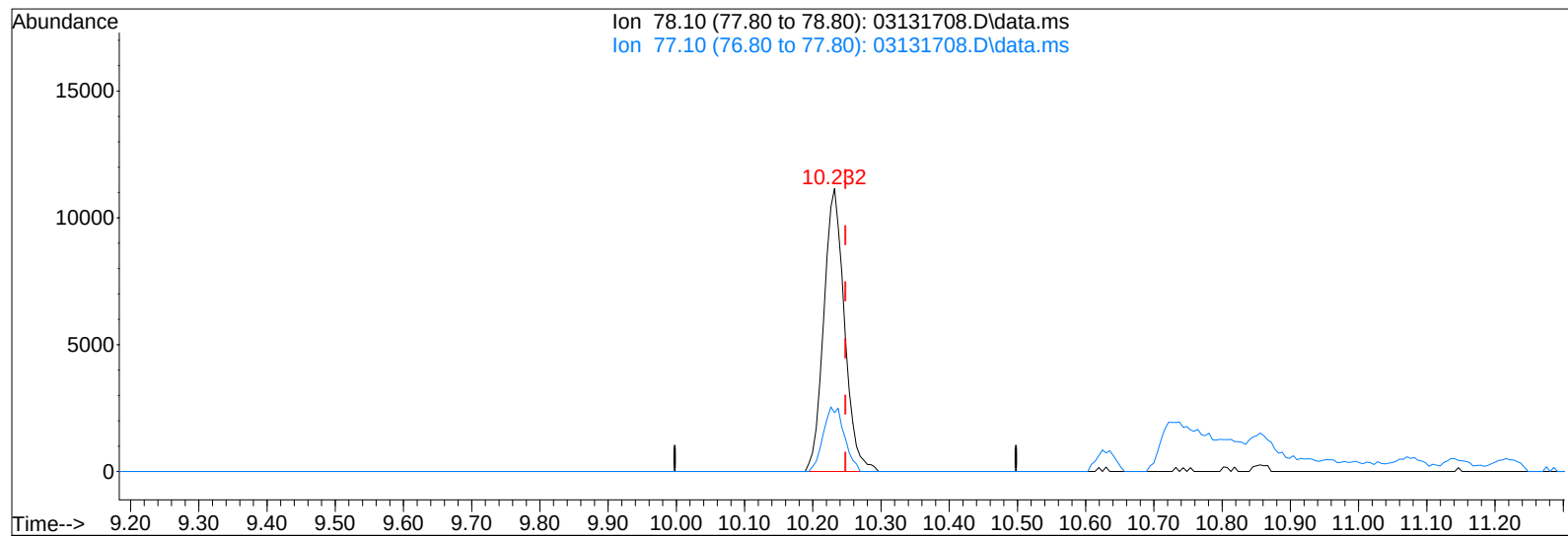
response 16780

Ion	Exp%	Act%
61.00	100	100
96.00	73.50	72.19
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\13\03131708.D
Acq On : 13 Mar 2017 11:00
Sample : P1701088-013 (1000mL)
Misc : S29-01231701

Vial: 3
Operator: WA
Inst : MS08

Quant Time: Mar 13 11:53:47 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131708.D\data.ms

(41) Benzene (T)

10.232min (-0.016) 0.40ng

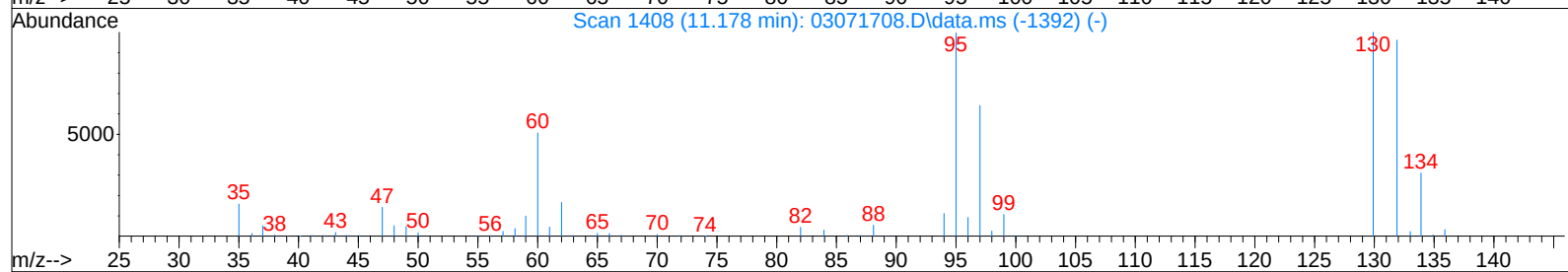
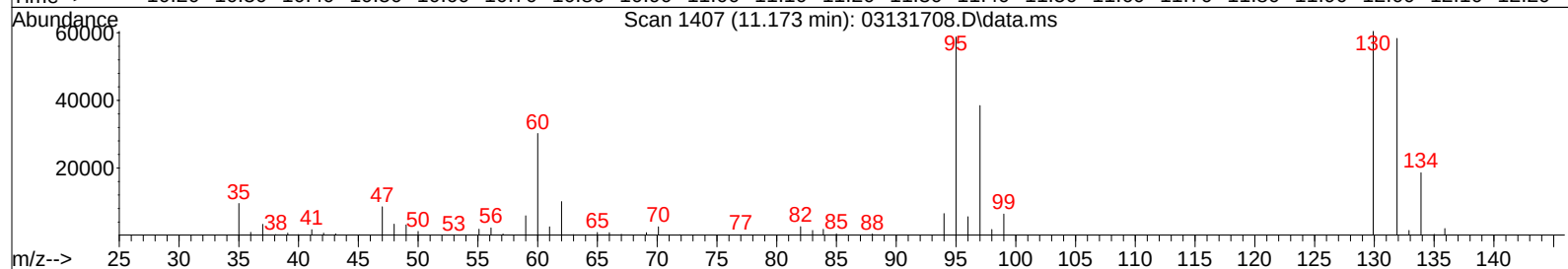
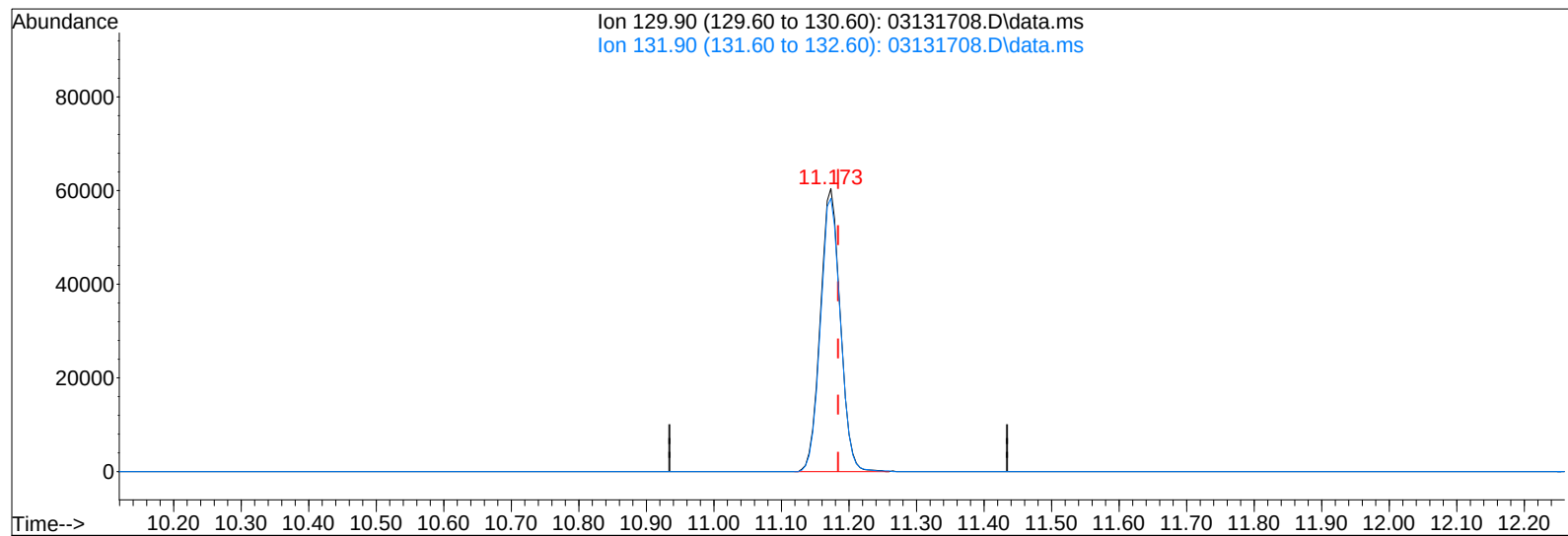
response 23508

Ion	Exp%	Act%
78.10	100	100
77.10	23.60	23.30
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\13\03131708.D
Acq On : 13 Mar 2017 11:00
Sample : P1701088-013 (1000mL)
Misc : S29-01231701

Vial: 3
Operator: WA
Inst : MS08

Quant Time: Mar 13 11:53:47 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131708.D\data.ms

(47) Trichloroethene (T)

11.173min (-0.011) 8.01ng

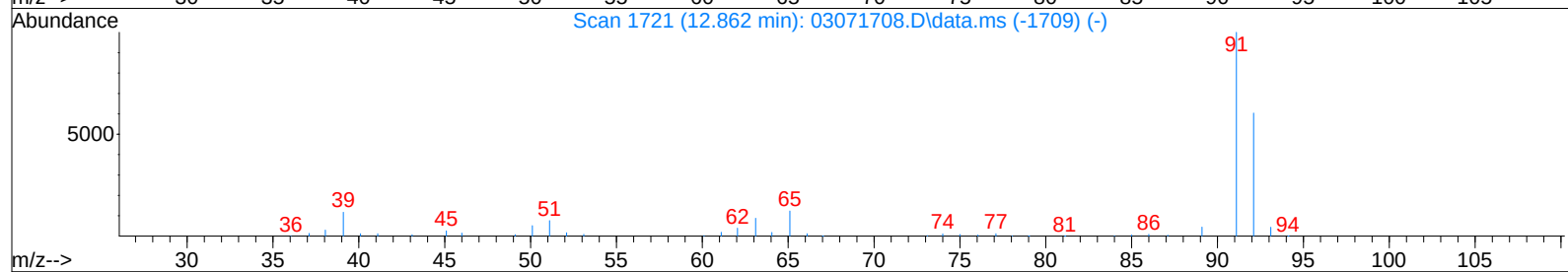
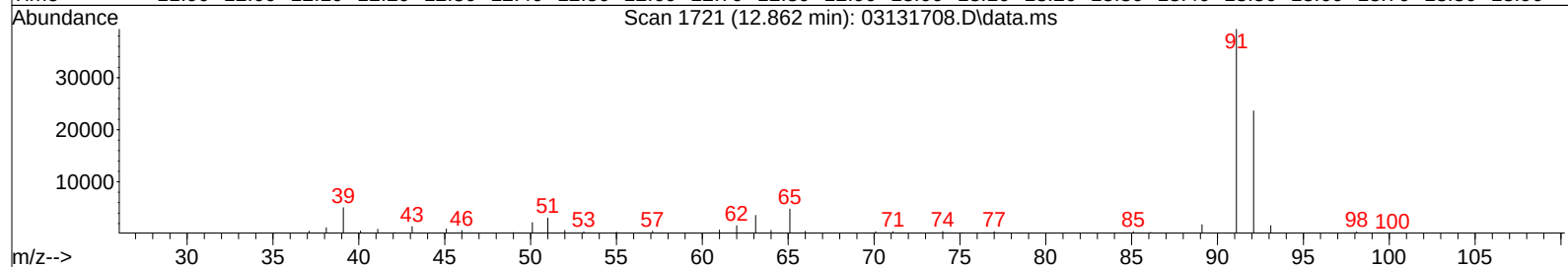
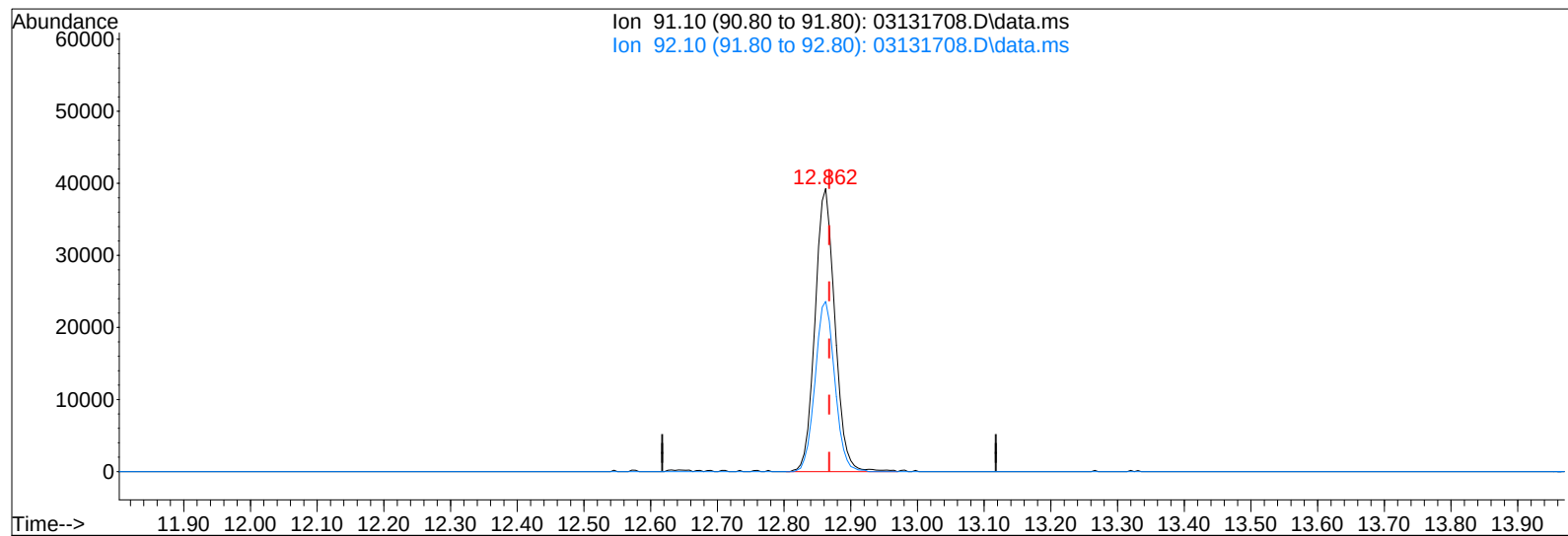
response 123660

Ion	Exp%	Act%
129.90	100	100
131.90	95.60	96.71
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\13\03131708.D
Acq On : 13 Mar 2017 11:00
Sample : P1701088-013 (1000mL)
Misc : S29-01231701

Vial: 3
Operator: WA
Inst : MS08

Quant Time: Mar 13 11:53:47 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131708.D\data.ms

(58) Toluene (T)

12.862min (-0.005) 1.38ng

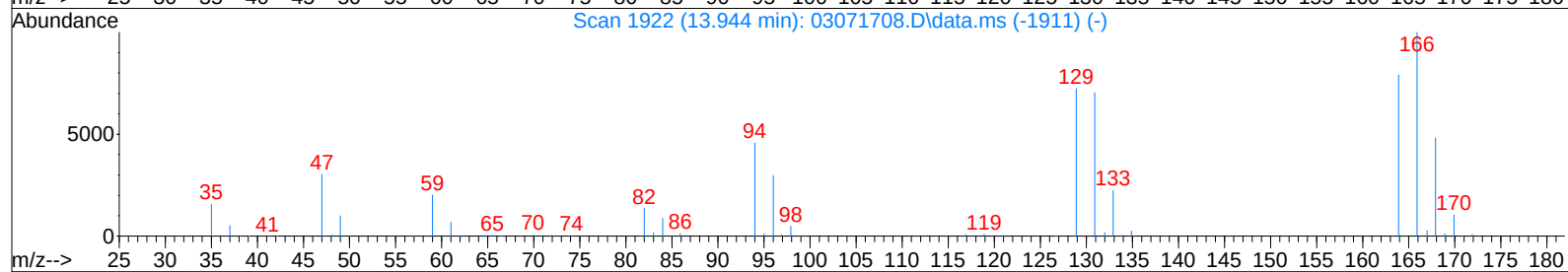
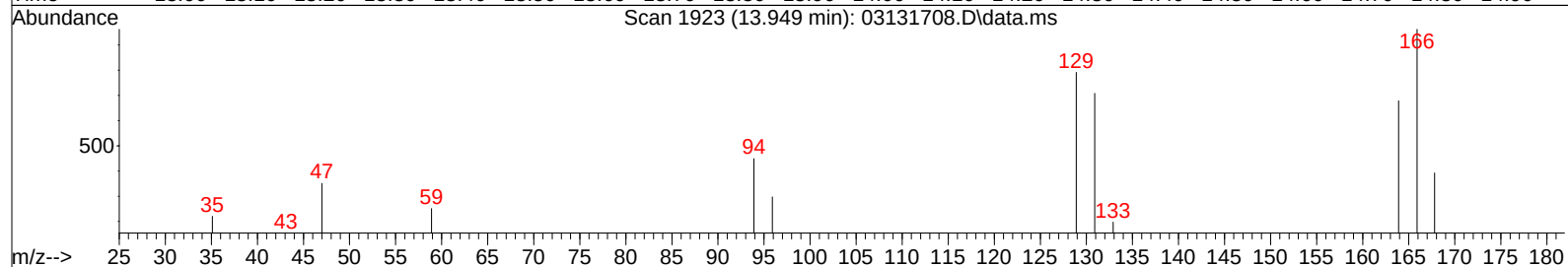
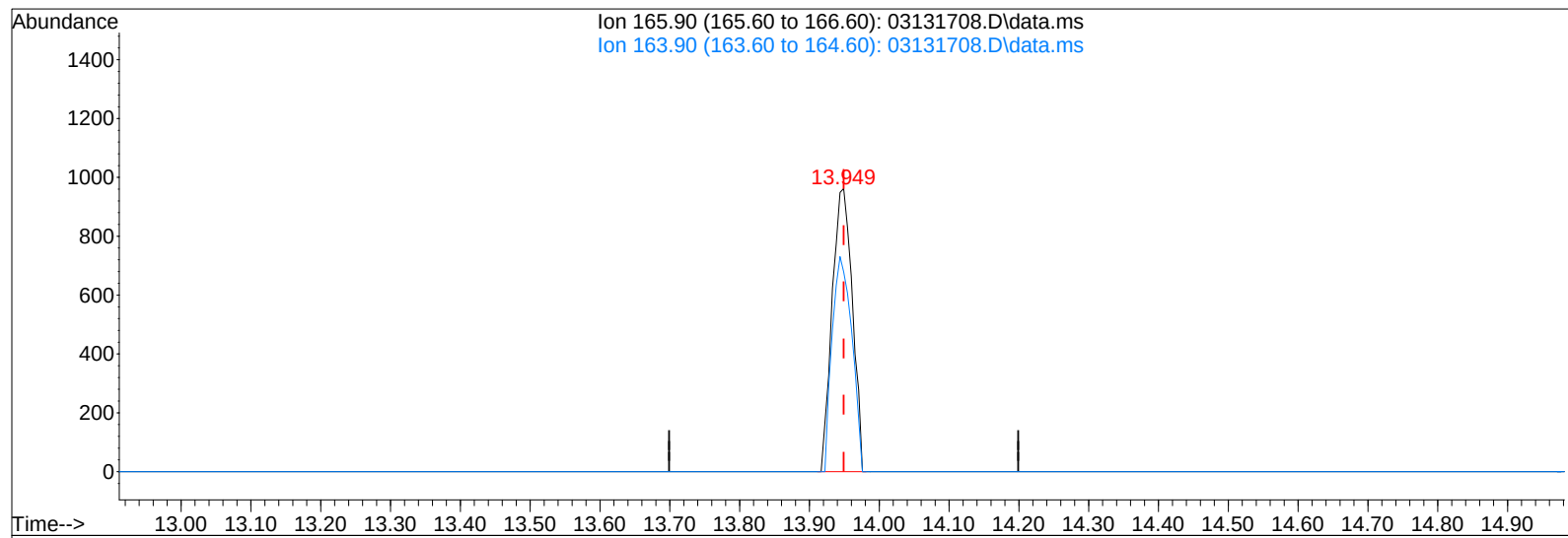
response 81296

Ion	Exp%	Act%
91.10	100	100
92.10	60.40	59.59
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\13\03131708.D
Acq On : 13 Mar 2017 11:00
Sample : P1701088-013 (1000mL)
Misc : S29-01231701

Vial: 3
Operator: WA
Inst : MS08

Quant Time: Mar 13 11:53:47 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131708.D\data.ms

(64) Tetrachloroethene (T)

13.949min (+0.000) 0.12ng

response 1928

Ion	Exp%	Act%
165.90	100	100
163.90	78.70	74.48
0.00	0.00	0.00
0.00	0.00	0.00

Data File: I:\MS08\Data\2017 03\13\03131709.D

Acq On : 13 Mar 2017 11:32

Operator: WA

Sample : P1701088-014 (1000mL)

Misc : S29-01231701

ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 13 13:36:11 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

3/13/17

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.79	130	156668	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	10.53	114	744864	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	327312	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	293758	13.016	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	104.16%
57) Toluene-d8 (SS2)	12.77	98	757762	12.320	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	98.56%
73) Bromofluorobenzene (SS3)	16.07	174	262360	13.009	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	104.08%

Target Compounds

						Qvalue
2) Propene	0.00	42	0	N.D.	d	
3) Dichlorodifluoromethan...	4.00	85	50912	1.690	ng	99
4) Chloromethane	4.21	50	6165	0.293	ng	94
5) 1,2-Dichloro-1,1,2,2-t...	4.36	135	928	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.67	54	3348	0.182	ng	91
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.38	45	285314	24.613	ng	100
11) Acetonitrile	5.61	41	7777	0.253	ng	91
12) Acrolein	5.73	56	3842	0.433	ng	99
13) Acetone	5.85	58	68396	6.021	ng	93
14) Trichlorofluoromethane	6.01	101	22653	0.849	ng	100
15) 2-Propanol (Isopropanol)	6.15	45	29768	0.701	ng	91
16) Acrylonitrile	6.40	53	713	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	6.78	59	3220	N.D.		
19) Methylene Chloride	6.80	84	3776	0.273	ng	89
20) 3-Chloro-1-propene (Al...	6.77	41	1107	N.D.		
21) Trichlorotrifluoroethane	7.07	151	4332	0.350	ng	99
22) Carbon Disulfide	7.05	76	6256	0.126	ng	98
23) trans-1,2-Dichloroethene	7.89	61	436	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.	d	
27) 2-Butanone (MEK)	8.26	72	5568	0.580	ng	93
28) cis-1,2-Dichloroethene	8.65	61	12054	0.579	ng	98
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	8.85	61	12192	2.663	ng	98
31) n-Hexane	8.87	57	15685	0.632	ng	99
32) Chloroform	8.92	83	2261	N.D.		
34) Tetrahydrofuran (THF)	9.28	72	1982	0.207	ng	# 84
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	9.59	62	1123	N.D.		
38) 1,1,1-Trichloroethane	9.81	97	424	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	10.23	78	28701	0.488	ng	100
42) Carbon Tetrachloride	10.37	117	6766	0.335	ng	97
43) Cyclohexane	10.48	84	8991	0.353	ng	94
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.17	130	39781	2.592	ng	99
48) 1,4-Dioxane	11.17	88	786	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	

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Data File: I:\MS08\Data\2017 03\13\03131709.D

Acq On : 13 Mar 2017 11:32

Operator: WA

Sample : P1701088-014 (1000mL)

Misc : S29-01231701

ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 13 13:36:11 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

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	11.45	71	25476	1.697	ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	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	12.86	91	52007	0.909	ng	98
59) 2-Hexanone	13.09	43	1720	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.69	43	3646	0.101	ng	96
63) n-Octane	13.79	57	1703	0.134	ng	94
64) Tetrachloroethene	13.94	166	1316	N.D.		
65) Chlorobenzene	14.62	112	811	N.D.		
66) Ethylbenzene	14.99	91	215441	3.361	ng	100
67) m- & p-Xylenes	15.15	91	662180	12.968	ng	100
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.53	104	12033	0.338	ng	99
70) o-Xylene	15.63	91	198057	3.768	ng	98
71) n-Nonane	15.84	43	15597	0.492	ng	# 39
72) 1,1,2,2-Tetrachloroethane	15.64	83	1749	N.D.		
74) Cumene	16.21	105	3634	N.D.		
75) alpha-Pinene	16.58	93	62290	1.811	ng	87
76) n-Propylbenzene	16.70	91	2987	N.D.		
77) 3-Ethyltoluene	16.79	105	4928	N.D.		
78) 4-Ethyltoluene	16.84	105	2537	N.D.		
79) 1,3,5-Trimethylbenzene	16.91	105	2351	N.D.		
80) alpha-Methylstyrene	17.26	118	1058	N.D.		
81) 2-Ethyltoluene	17.10	105	2326	N.D.		
82) 1,2,4-Trimethylbenzene	17.30	105	8207	0.152	ng	88
83) n-Decane	0.00	57	0	N.D.	d	
84) Benzyl Chloride	17.43	91	524	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	d	
86) 1,4-Dichlorobenzene	17.52	146	6519	0.212	ng	98
87) sec-Butylbenzene	17.56	105	915	N.D.		
88) 4-Isopropyltoluene (p-...	17.71	119	3455	N.D.		
89) 1,2,3-Trimethylbenzene	17.71	105	4576	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	17.85	68	8927	0.426	ng	# 60
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	19.46	180	499	N.D.		
95) Naphthalene	19.57	128	15360	0.247	ng	99
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	17.30	119	1232	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.	d	

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

Data File: I:\MS08\Data\2017 03\13\03131709.D

Acq On : 13 Mar 2017 11:32

Operator: WA

Sample : P1701088-014 (1000mL)

Misc : S29-01231701

ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 13 13:36:11 2017

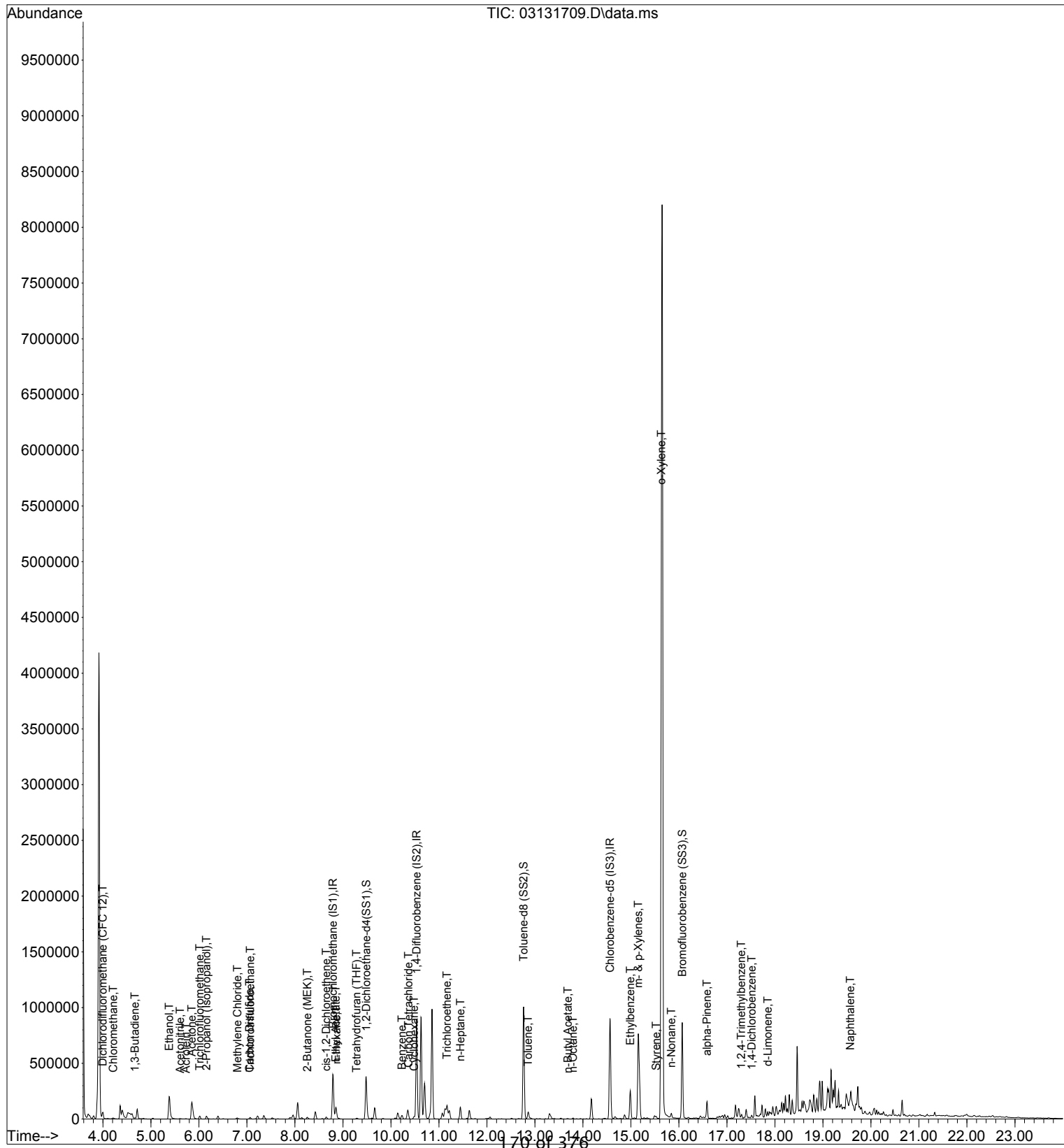
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

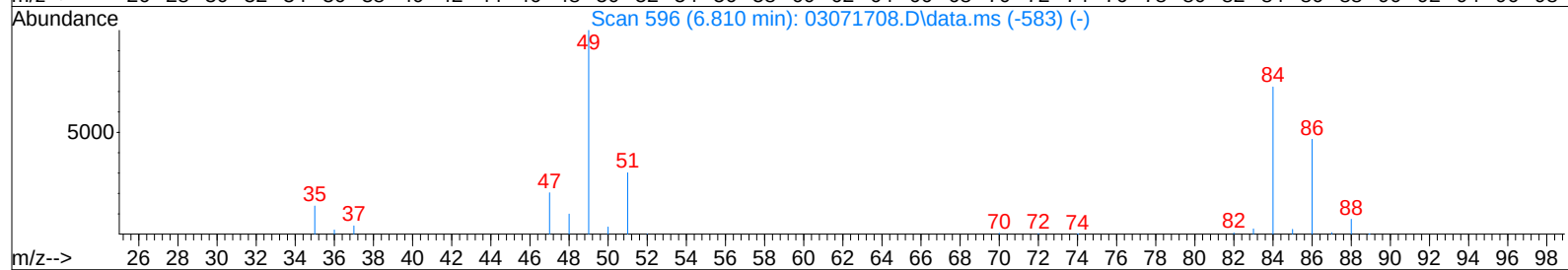
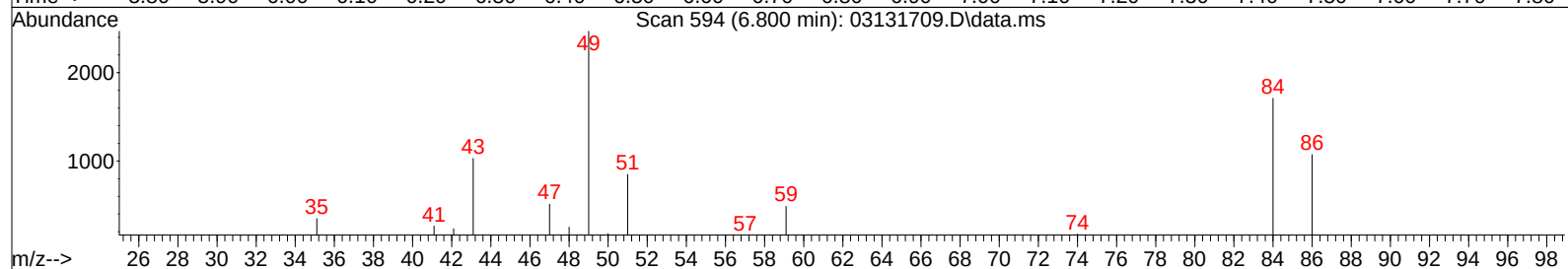
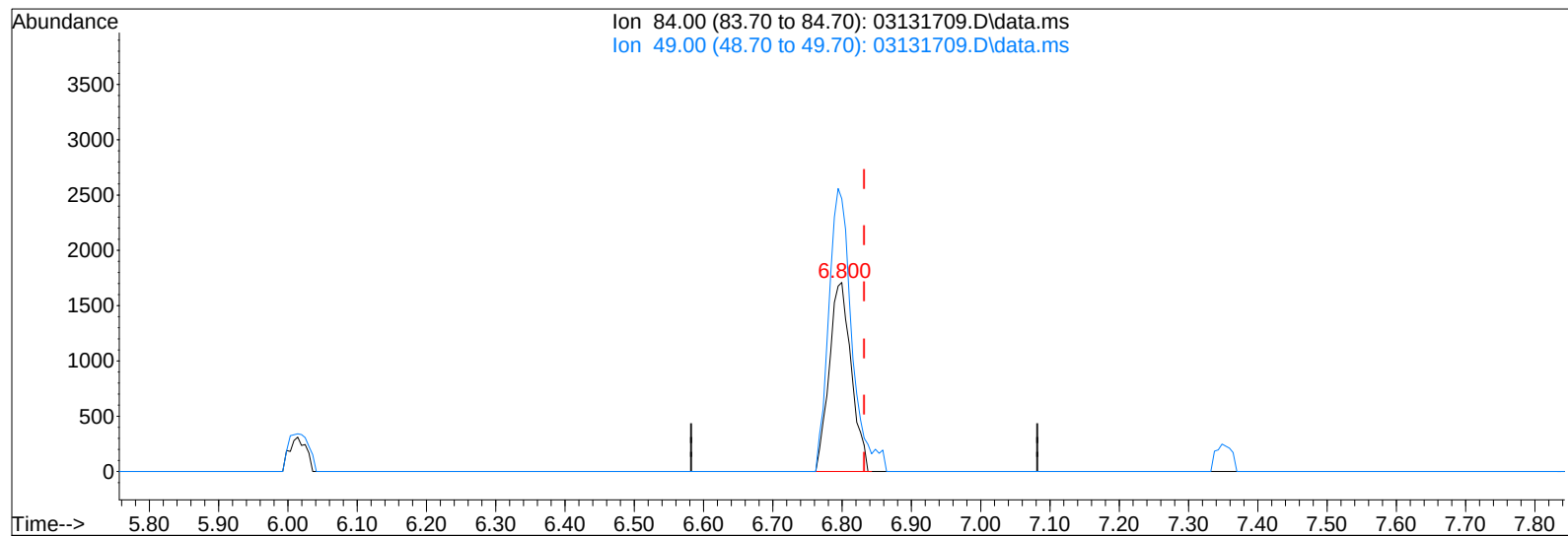
DataAcq Meth:TO15.M



Data File : I:\MS08\Data\2017 03\13\03131709.D
Acq On : 13 Mar 2017 11:32
Sample : P1701088-014 (1000mL)
Misc : S29-01231701

Vial: 5
Operator: WA
Inst : MS08

Quant Time: Mar 13 13:36:11 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131709.D\data.ms

(19) Methylene Chloride (T)

6.800min (-0.032) 0.27ng

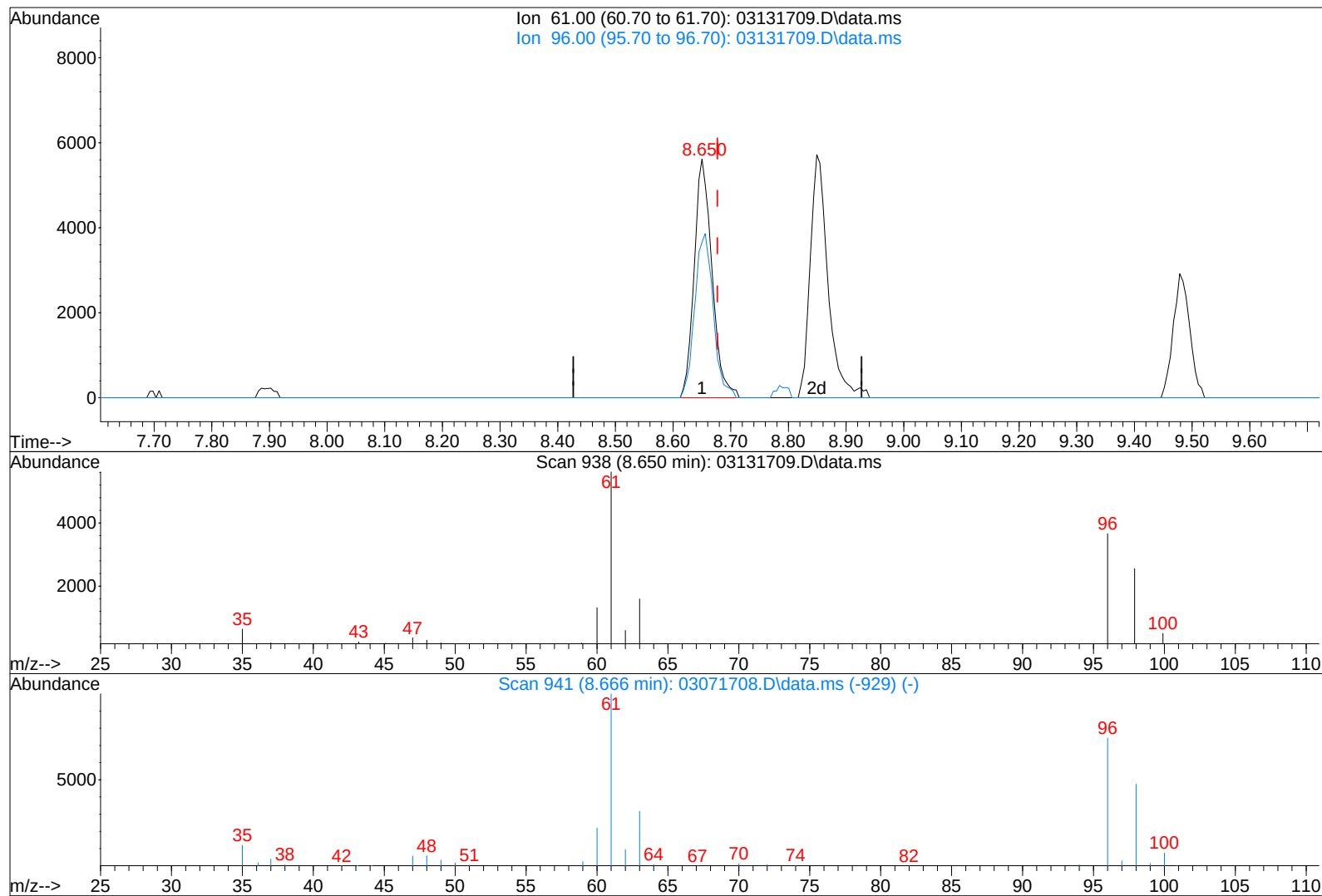
response 3776

Ion	Exp%	Act%
84.00	100	100
49.00	143.20	157.04
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\13\03131709.D
Acq On : 13 Mar 2017 11:32
Sample : P1701088-014 (1000mL)
Misc : S29-01231701

Vial: 5
Operator: WA
Inst : MS08

Quant Time: Mar 13 13:36:11 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131709.D\data.ms

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

8.650min (-0.027) 0.58ng

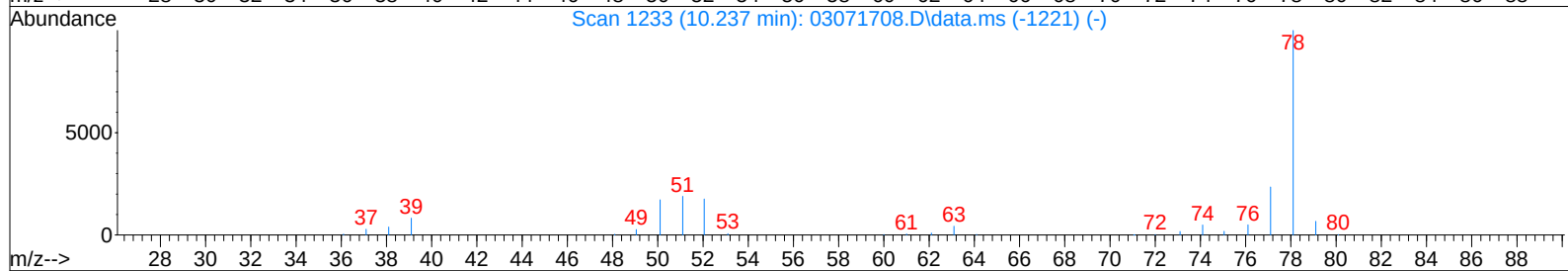
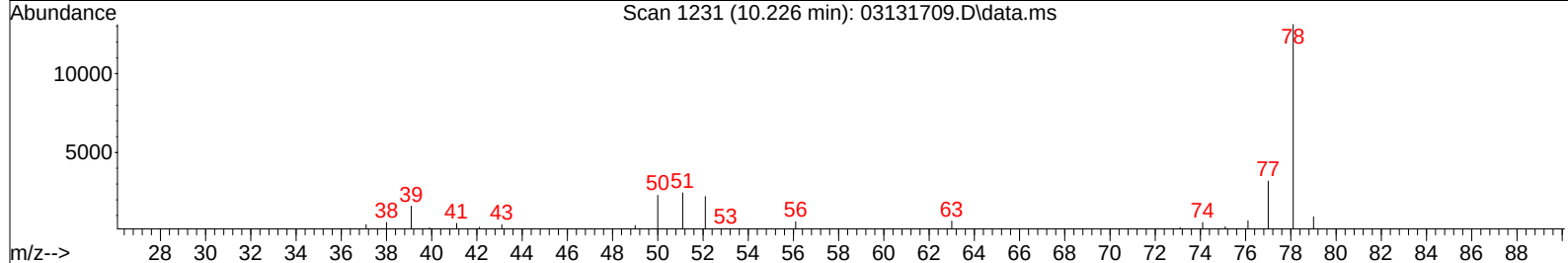
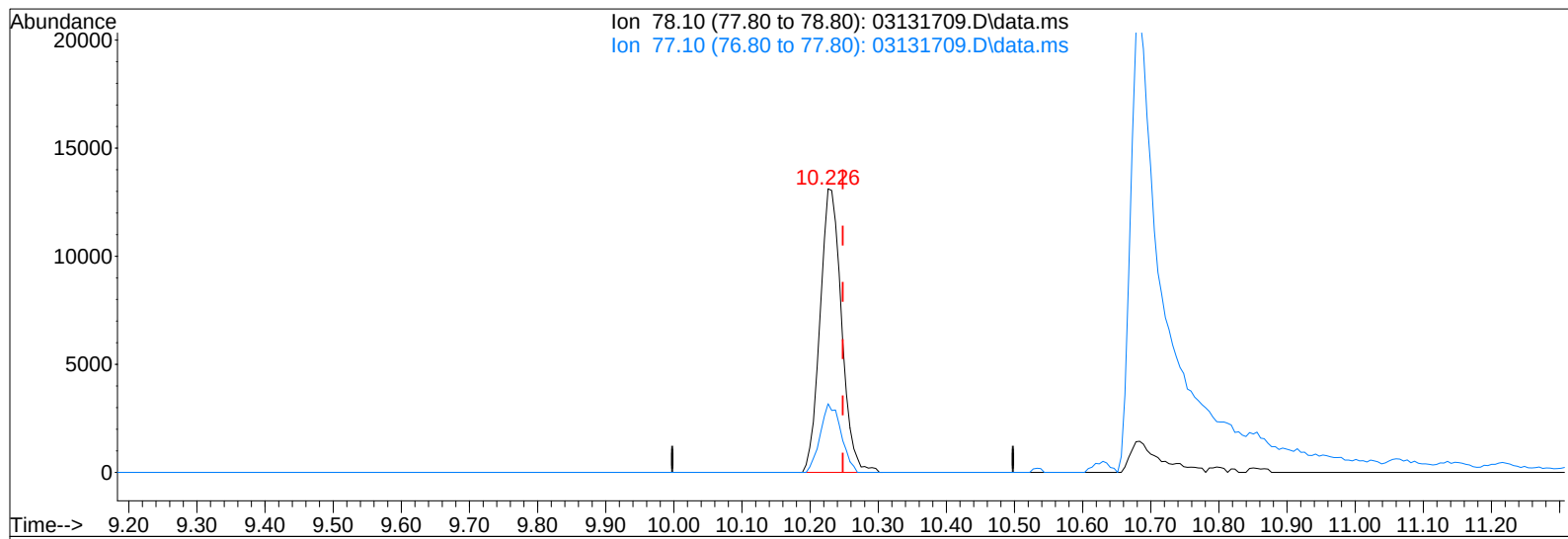
response 12054

Ion	Exp%	Act%
61.00	100	100
96.00	73.50	71.65
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\13\03131709.D
Acq On : 13 Mar 2017 11:32
Sample : P1701088-014 (1000mL)
Misc : S29-01231701

Vial: 5
Operator: WA
Inst : MS08

Quant Time: Mar 13 13:36:11 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131709.D\data.ms

(41) Benzene (T)

10.226min (-0.022) 0.49ng

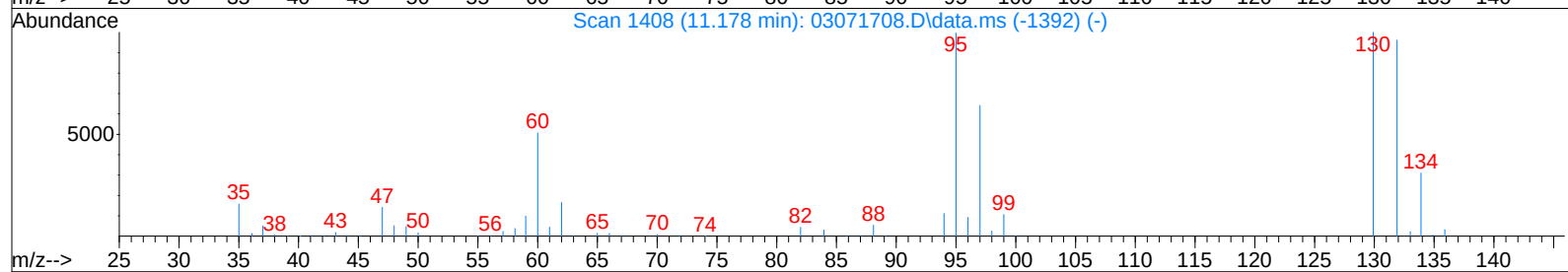
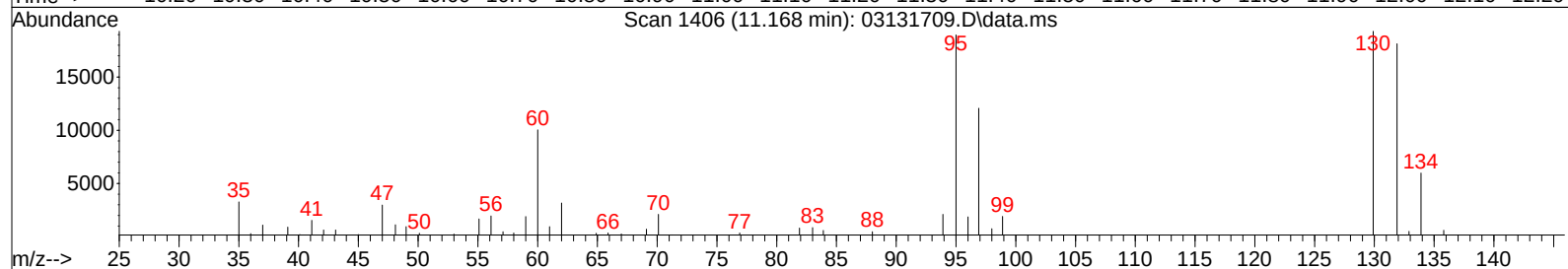
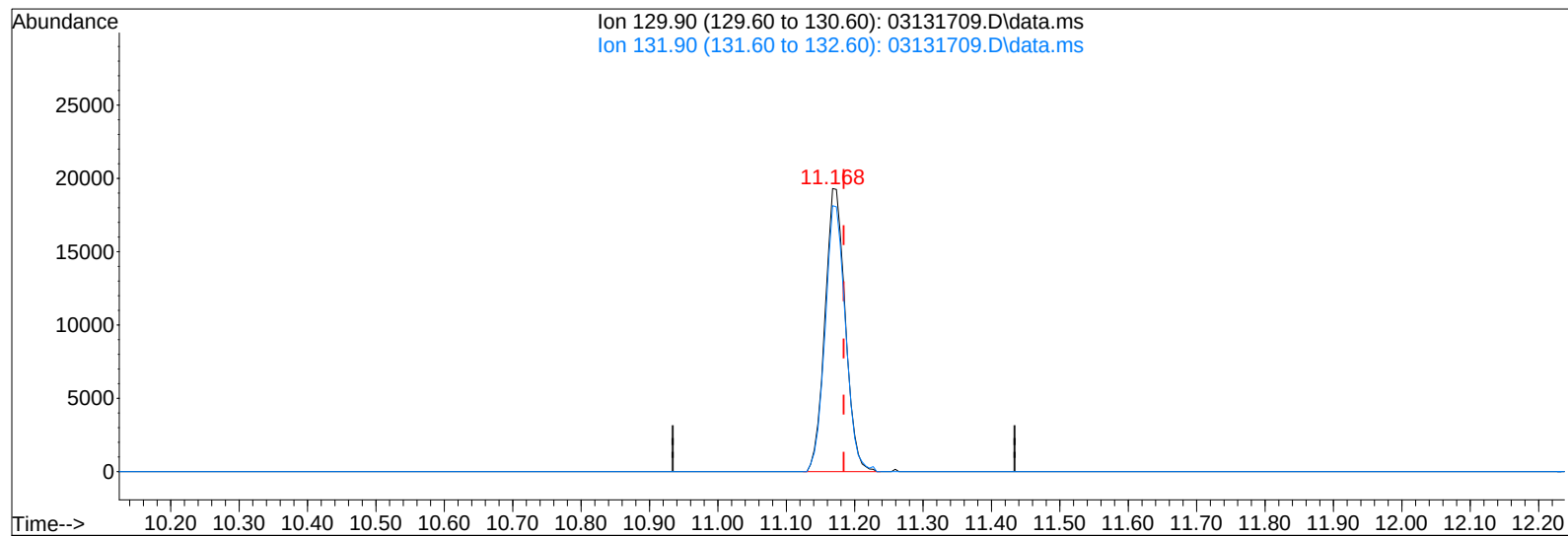
response 28701

Ion	Exp%	Act%
78.10	100	100
77.10	23.60	23.52
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\13\03131709.D
Acq On : 13 Mar 2017 11:32
Sample : P1701088-014 (1000mL)
Misc : S29-01231701

Vial: 5
Operator: WA
Inst : MS08

Quant Time: Mar 13 13:36:11 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131709.D\data.ms

(47) Trichloroethene (T)

11.168min (-0.016) 2.59ng

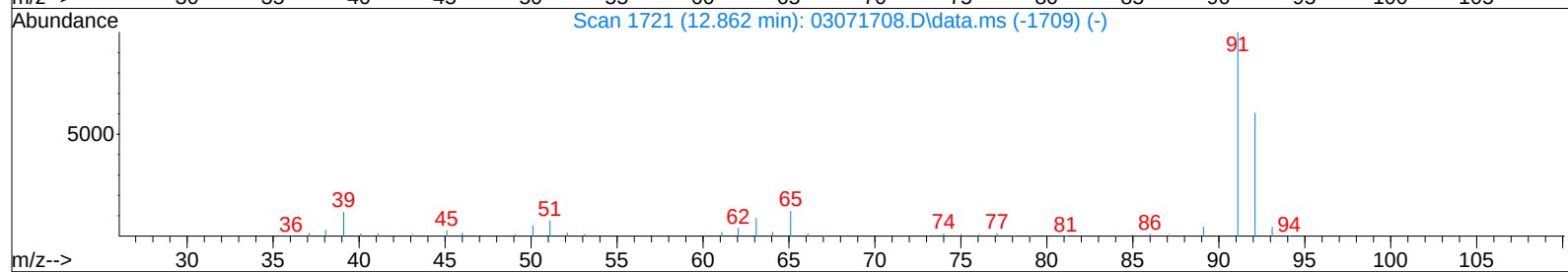
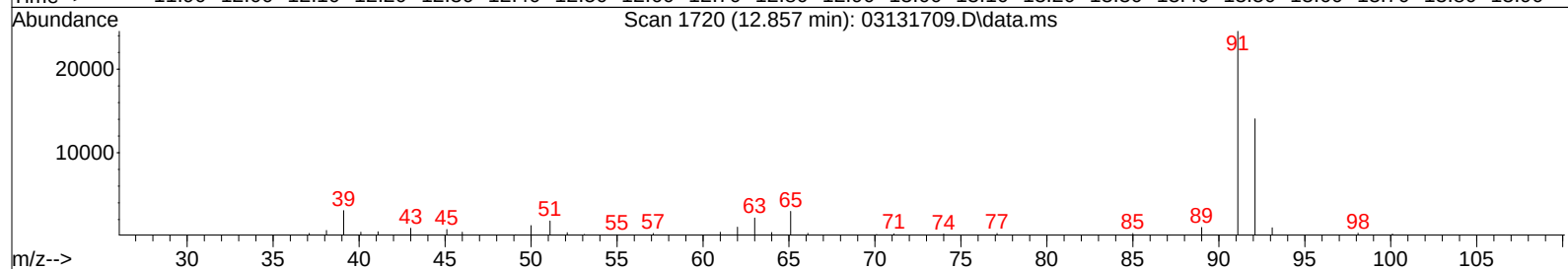
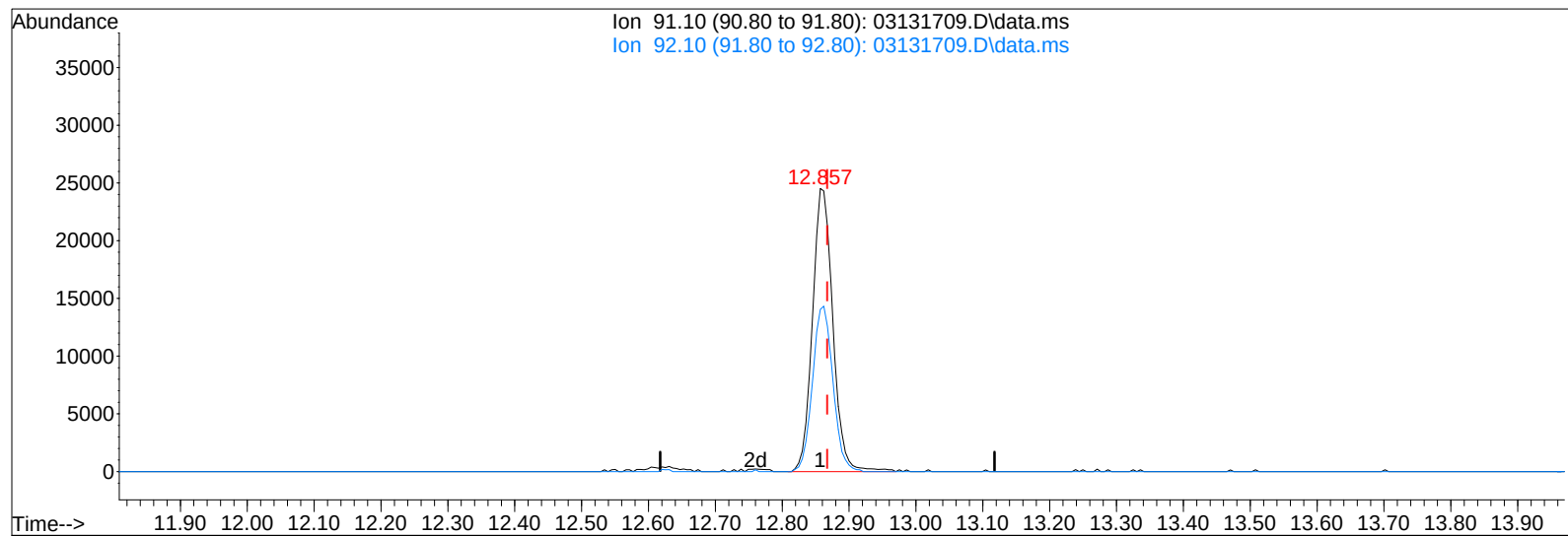
response 39781

Ion	Exp%	Act%
129.90	100	100
131.90	95.60	94.72
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\13\03131709.D
Acq On : 13 Mar 2017 11:32
Sample : P1701088-014 (1000mL)
Misc : S29-01231701

Vial: 5
Operator: WA
Inst : MS08

Quant Time: Mar 13 13:36:11 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131709.D\data.ms

(58) Toluene (T)

12.857min (-0.011) 0.91ng

response 52007

Ion	Exp%	Act%
91.10	100	100
92.10	60.40	58.51
0.00	0.00	0.00
0.00	0.00	0.00

Data File: I:\MS08\Data\2017 03\13\03131710.D

Acq On : 13 Mar 2017 12:04

Operator: WA

Sample : P1701088-015 (1000mL)

Misc : S29-01231701

ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 13 14:50:41 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

3/13/17

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.80	130	160434	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	10.53	114	767800	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	337165	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	284435	12.307	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	98.48%
57) Toluene-d8 (SS2)	12.77	98	804556	12.699	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	101.60%
73) Bromofluorobenzene (SS3)	16.07	174	259156	12.474	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	99.76%

Target Compounds

						Qvalue
2) Propene	0.00	42	0	N.D.	d	
3) Dichlorodifluoromethan...	4.00	85	49464	1.603	ng	99
4) Chloromethane	4.22	50	6098	0.283	ng	94
5) 1,2-Dichloro-1,1,2,2-t...	4.37	135	888	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.67	54	8371	0.445	ng	90
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.38	45	156808	13.210	ng	100
11) Acetonitrile	5.61	41	7475	0.237	ng	93
12) Acrolein	5.72	56	16570	1.823	ng	99
13) Acetone	5.85	58	71565	6.152	ng	# 84
14) Trichlorofluoromethane	6.01	101	22528	0.824	ng	99
15) 2-Propanol (Isopropanol)	6.15	45	28973	0.667	ng	86
16) Acrylonitrile	6.40	53	518	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	6.80	84	3973	0.280	ng	96
20) 3-Chloro-1-propene (Al...	6.84	41	689	N.D.		
21) Trichlorotrifluoroethane	7.07	151	4498	0.355	ng	95
22) Carbon Disulfide	7.06	76	5357	0.105	ng	97
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	d	
24) 1,1-Dichloroethane	7.89	63	417	N.D.		
25) Methyl tert-Butyl Ether	7.89	73	1026	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	8.25	72	10298	1.047	ng	# 85
28) cis-1,2-Dichloroethene	8.66	61	5653	0.265	ng	97
29) Diisopropyl Ether	8.85	87	708	N.D.		
30) Ethyl Acetate	8.85	61	17843	3.807	ng	99
31) n-Hexane	8.86	57	27212	1.071	ng	99
32) Chloroform	8.92	83	2169	N.D.		
34) Tetrahydrofuran (THF)	9.29	72	1076	0.110	ng	# 57
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	9.59	62	849	N.D.		
38) 1,1,1-Trichloroethane	9.82	97	581	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	10.23	78	43785	0.722	ng	100
42) Carbon Tetrachloride	10.36	117	6026	0.290	ng	97
43) Cyclohexane	10.48	84	5426	0.207	ng	92
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	10.86	63	783	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.17	130	24386	1.541	ng	100
48) 1,4-Dioxane	11.17	88	786	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	

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Data File: I:\MS08\Data\2017 03\13\03131710.D

Acq On : 13 Mar 2017 12:04

Operator: WA

Sample : P1701088-015 (1000mL)

Misc : S29-01231701

ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 13 14:50:41 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

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	11.45	71	18530	1.197	ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	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	12.86	91	64434	1.093	ng	99
59) 2-Hexanone	13.09	43	4476	0.146	ng	93
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.68	43	4821	0.130	ng	96
63) n-Octane	13.79	57	3082	0.236	ng	97
64) Tetrachloroethene	13.94	166	1512	0.097	ng	95
65) Chlorobenzene	14.62	112	669	N.D.		
66) Ethylbenzene	14.99	91	130811	1.981	ng	100
67) m- & p-Xylenes	15.15	91	403919	7.679	ng	99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.53	104	14350	0.391	ng	99
70) o-Xylene	15.63	91	121571	2.245	ng	100
71) n-Nonane	15.84	43	9369	0.287	ng	92
72) 1,1,2,2-Tetrachloroethane	15.63	83	426	N.D.		
74) Cumene	16.20	105	2340	N.D.		
75) alpha-Pinene	16.59	93	81342	2.295	ng	95
76) n-Propylbenzene	16.69	91	2636	N.D.		
77) 3-Ethyltoluene	16.79	105	5230	N.D.		
78) 4-Ethyltoluene	16.84	105	2606	N.D.		
79) 1,3,5-Trimethylbenzene	16.91	105	2414	N.D.		
80) alpha-Methylstyrene	17.26	118	986	N.D.		
81) 2-Ethyltoluene	17.09	105	2191	N.D.		
82) 1,2,4-Trimethylbenzene	17.31	105	7973	0.143	ng	92
83) n-Decane	0.00	57	0	N.D.	d	
84) Benzyl Chloride	17.52	91	518	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	d	
86) 1,4-Dichlorobenzene	17.51	146	15016	0.474	ng	98
87) sec-Butylbenzene	17.56	105	737	N.D.		
88) 4-Isopropyltoluene (p-...	17.71	119	3148	N.D.		
89) 1,2,3-Trimethylbenzene	17.71	105	3751	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	17.85	68	4691	0.217	ng	98
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	19.57	128	35254	0.551	ng	99
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	17.31	119	1254	N.D.		
100) n-Butylbenzene	18.11	91	4926	N.D.		

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

Data File: I:\MS08\Data\2017 03\13\03131710.D

Acq On : 13 Mar 2017 12:04

Operator: WA

Sample : P1701088-015 (1000mL)

Misc : S29-01231701

ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 13 14:50:41 2017

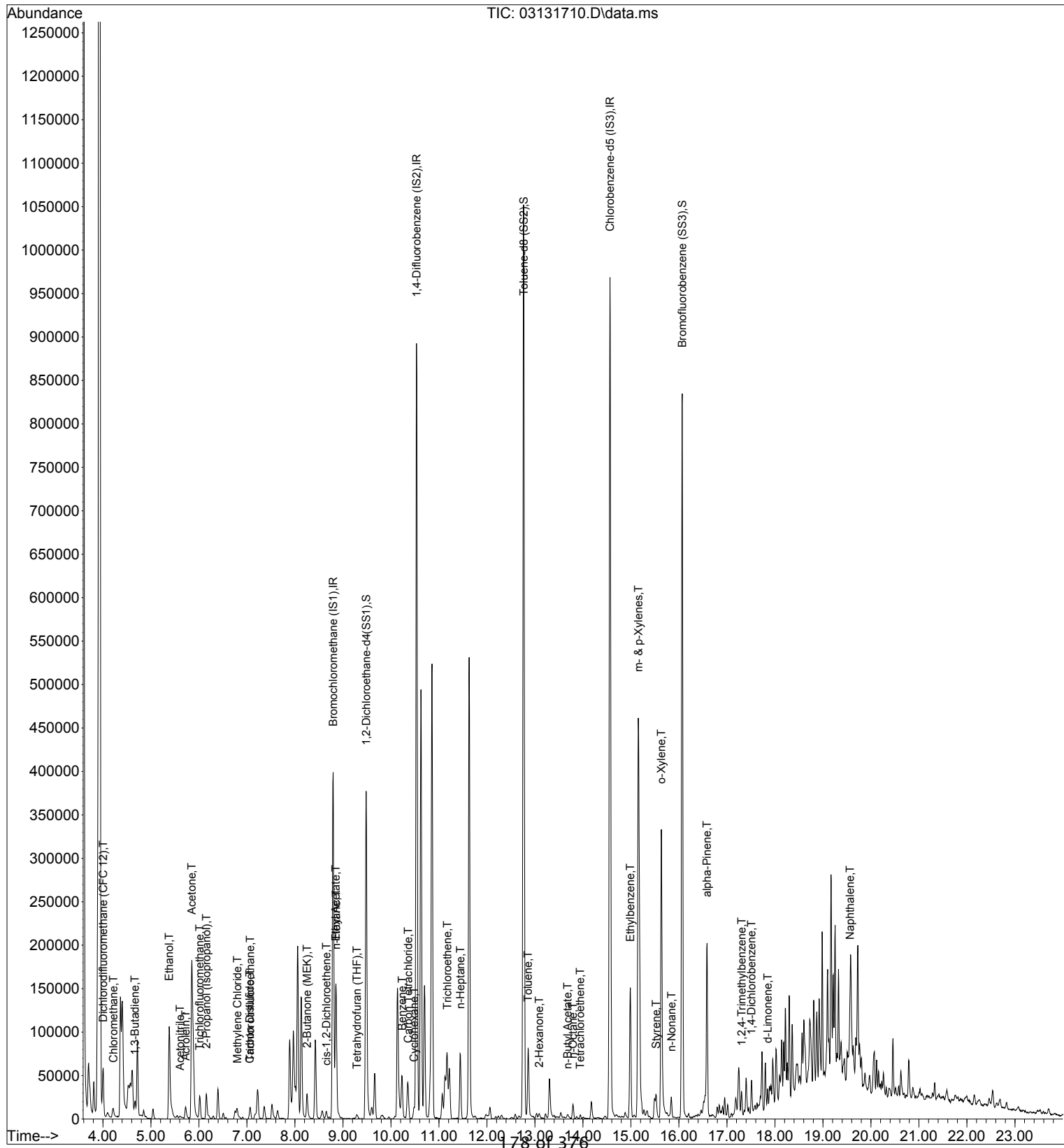
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

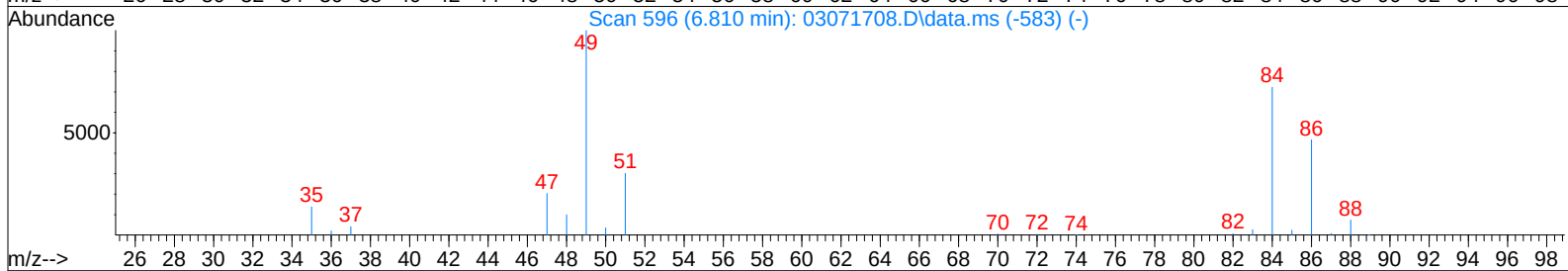
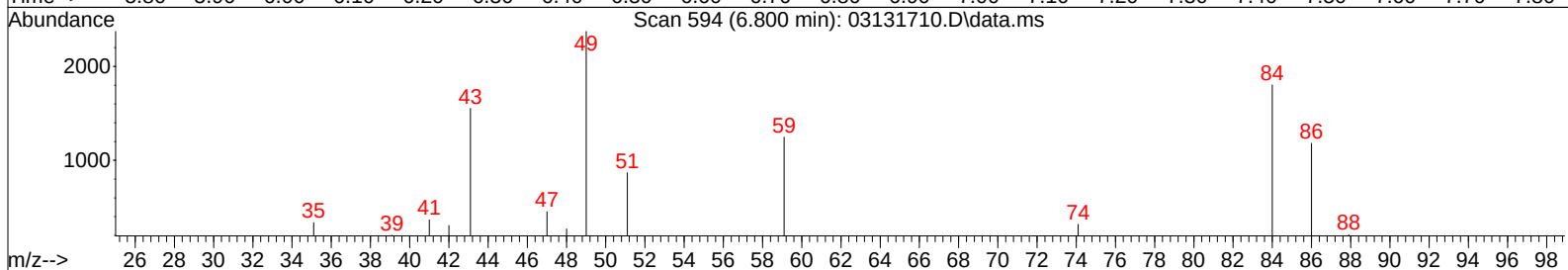
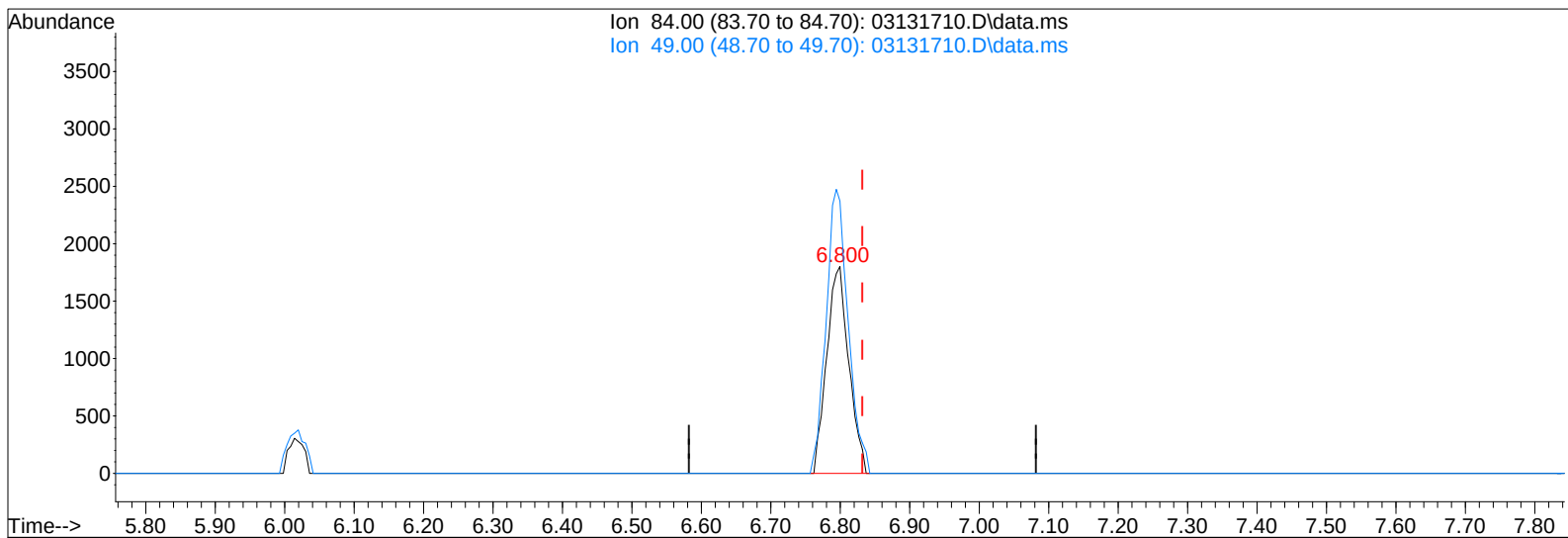
DataAcq Meth:TO15.M



Data File : I:\MS08\Data\2017 03\13\03131710.D
Acq On : 13 Mar 2017 12:04
Sample : P1701088-015 (1000mL)
Misc : S29-01231701

Vial: 6
Operator: WA
Inst : MS08

Quant Time: Mar 13 14:50:41 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131710.D\data.ms

(19) Methylene Chloride (T)

6.800min (-0.032) 0.28ng

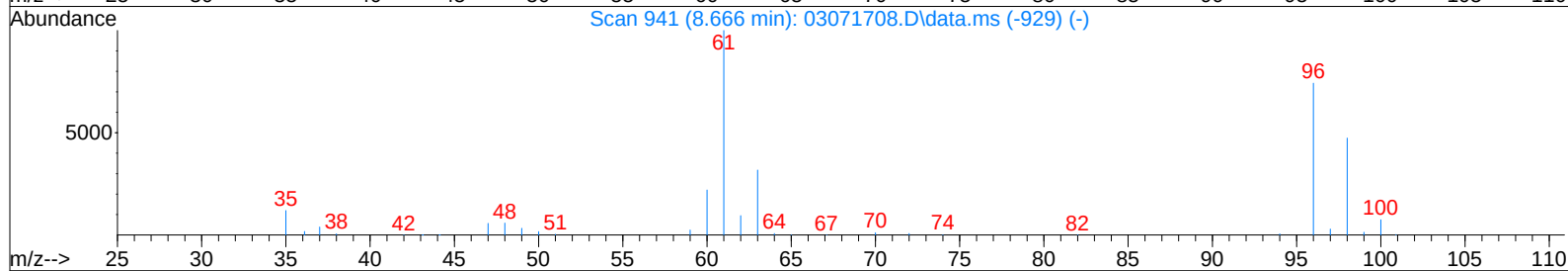
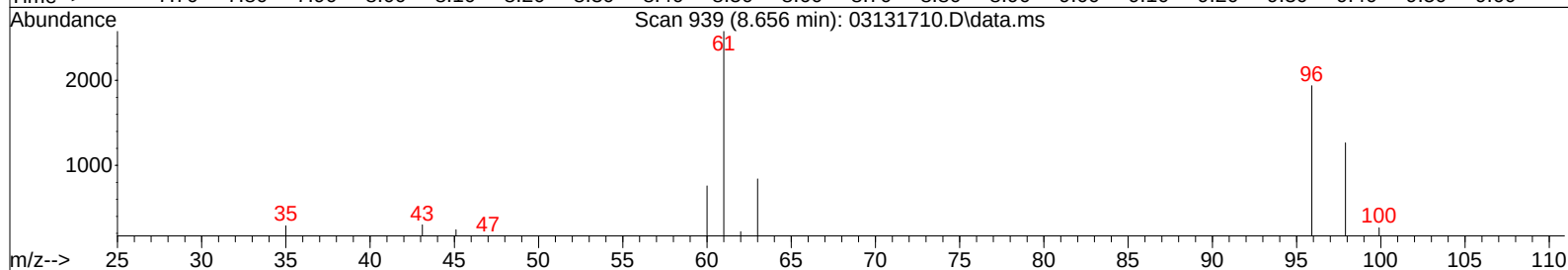
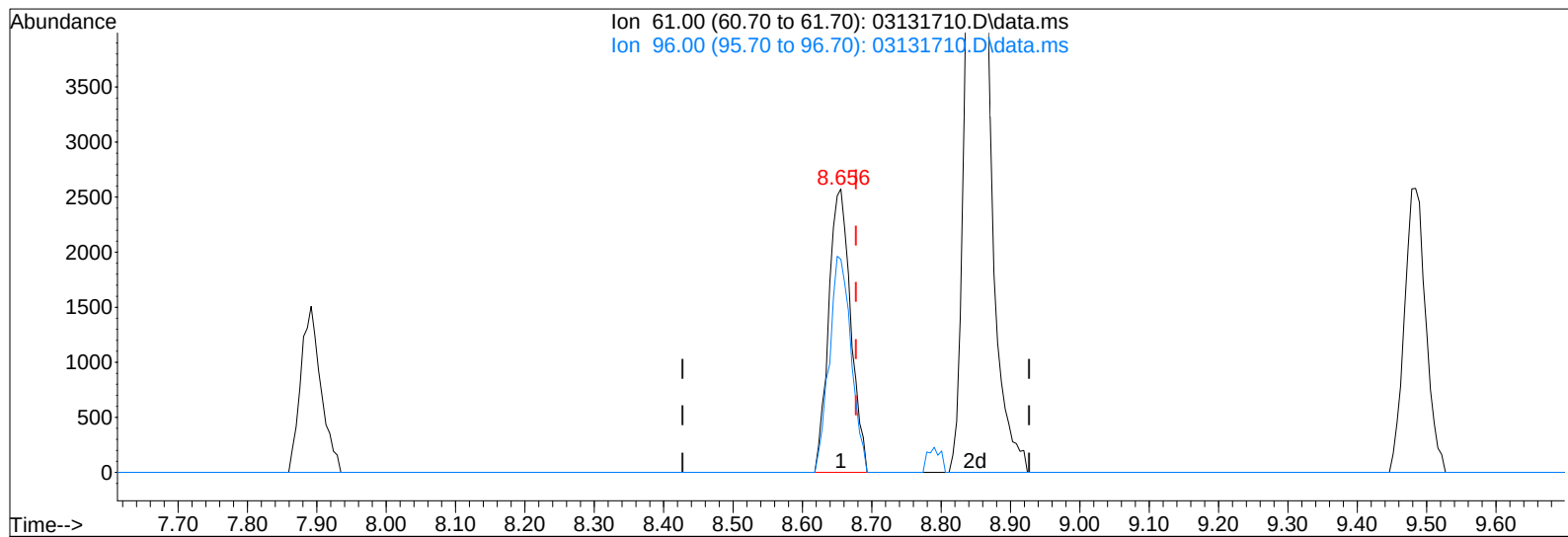
response 3973

Ion	Exp%	Act%
84.00	100	100
49.00	143.20	137.68
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\13\03131710.D
Acq On : 13 Mar 2017 12:04
Sample : P1701088-015 (1000mL)
Misc : S29-01231701

Vial: 6
Operator: WA
Inst : MS08

Quant Time: Mar 13 14:50:41 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131710.D\data.ms

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

8.656min (-0.022) 0.27ng

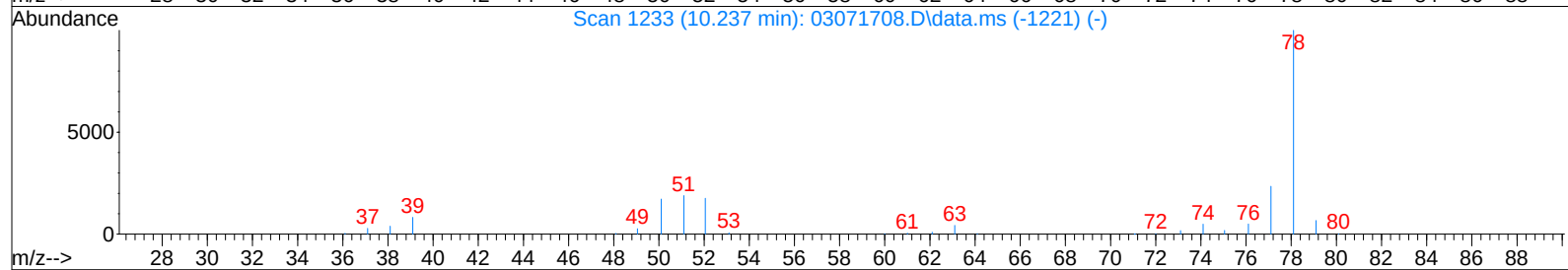
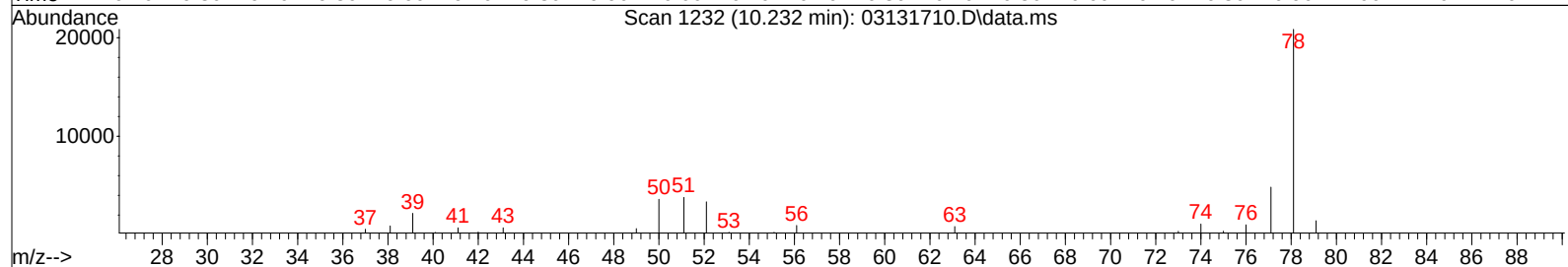
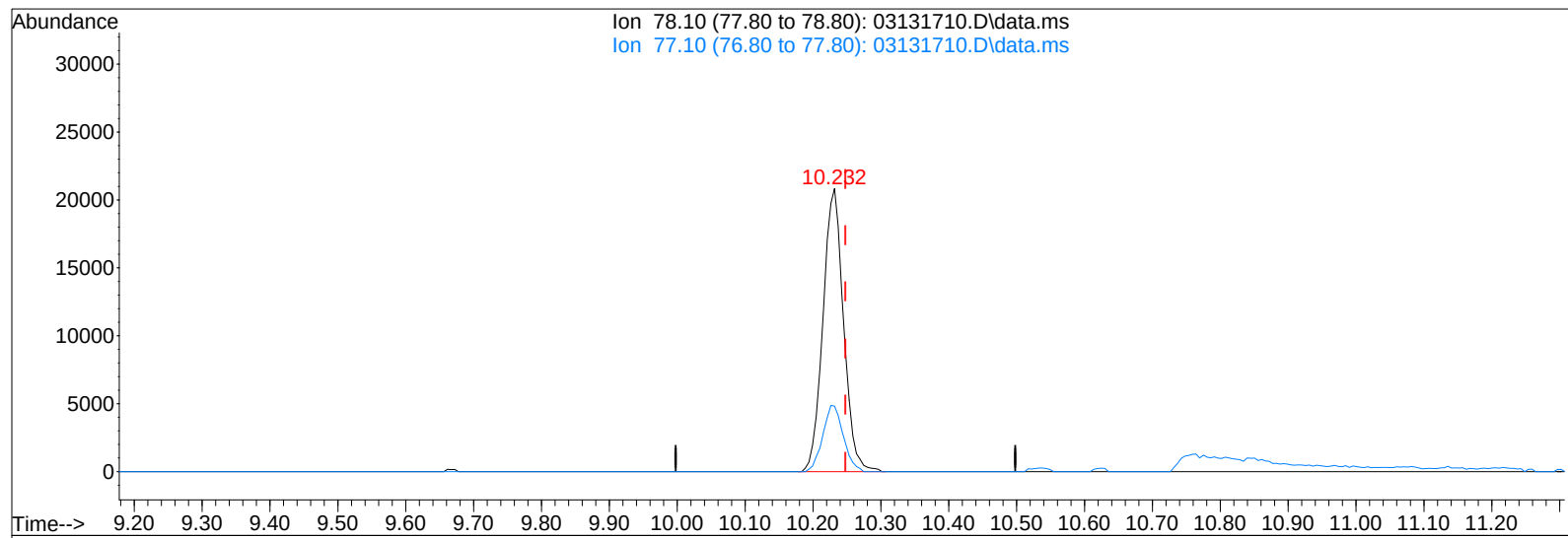
response 5653

Ion	Exp%	Act%
61.00	100	100
96.00	73.50	75.92
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\13\03131710.D
Acq On : 13 Mar 2017 12:04
Sample : P1701088-015 (1000mL)
Misc : S29-01231701

Vial: 6
Operator: WA
Inst : MS08

Quant Time: Mar 13 14:50:41 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131710.D\data.ms

(41) Benzene (T)

10.232min (-0.016) 0.72ng

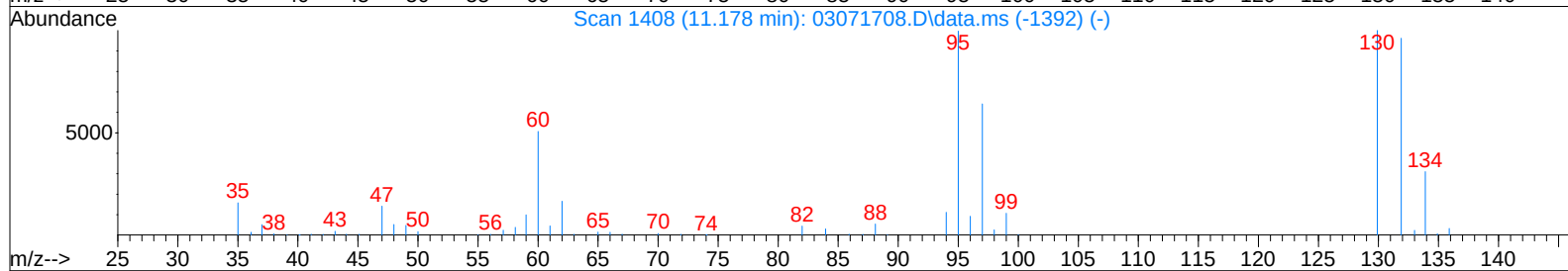
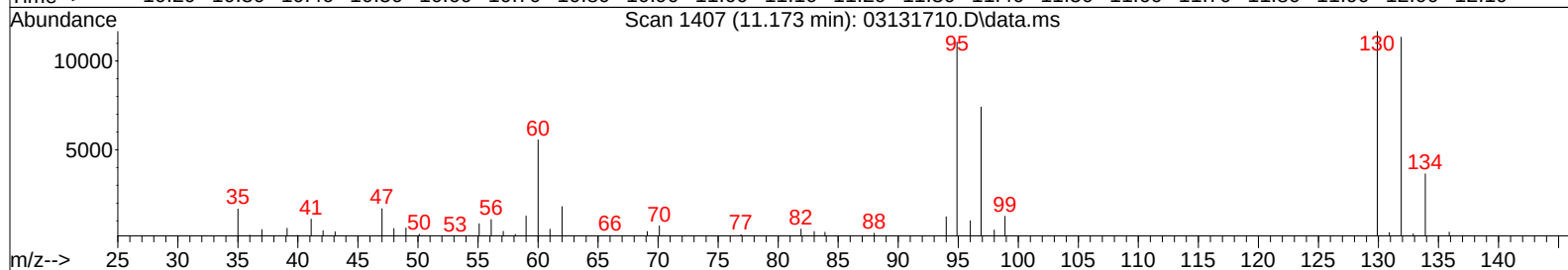
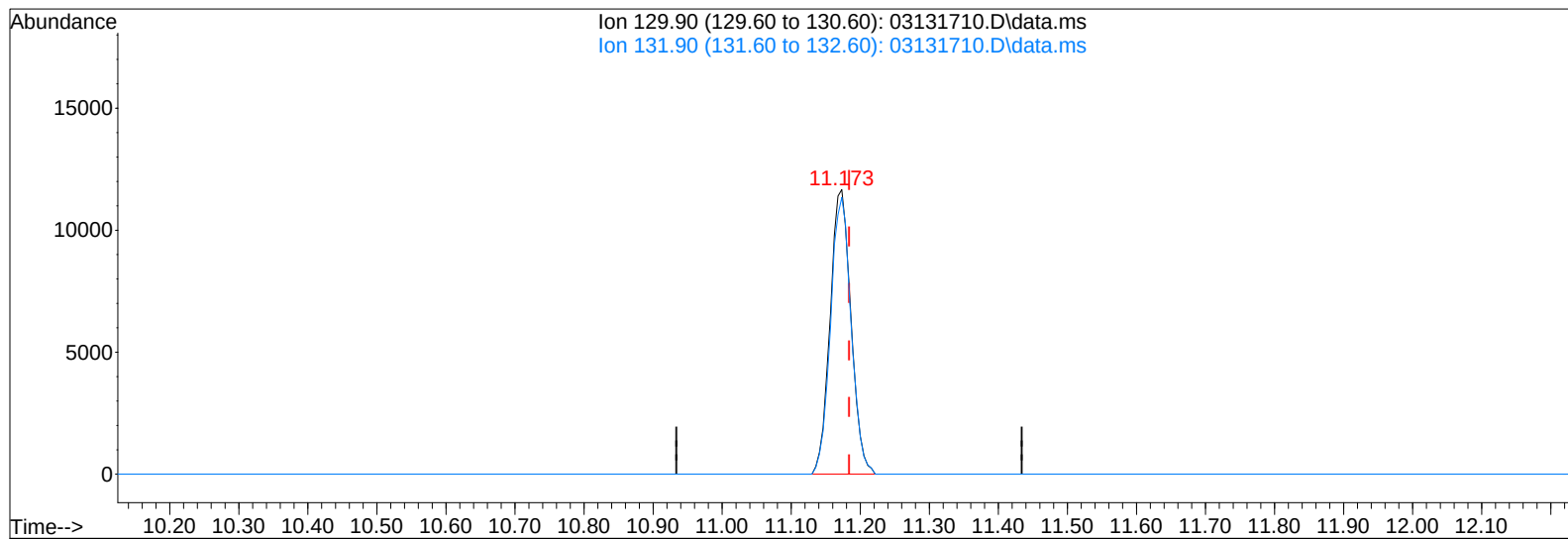
response 43785

Ion	Exp%	Act%
78.10	100	100
77.10	23.60	23.38
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\13\03131710.D
Acq On : 13 Mar 2017 12:04
Sample : P1701088-015 (1000mL)
Misc : S29-01231701

Vial: 6
Operator: WA
Inst : MS08

Quant Time: Mar 13 14:50:41 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131710.D\data.ms

(47) Trichloroethene (T)

11.173min (-0.011) 1.54ng

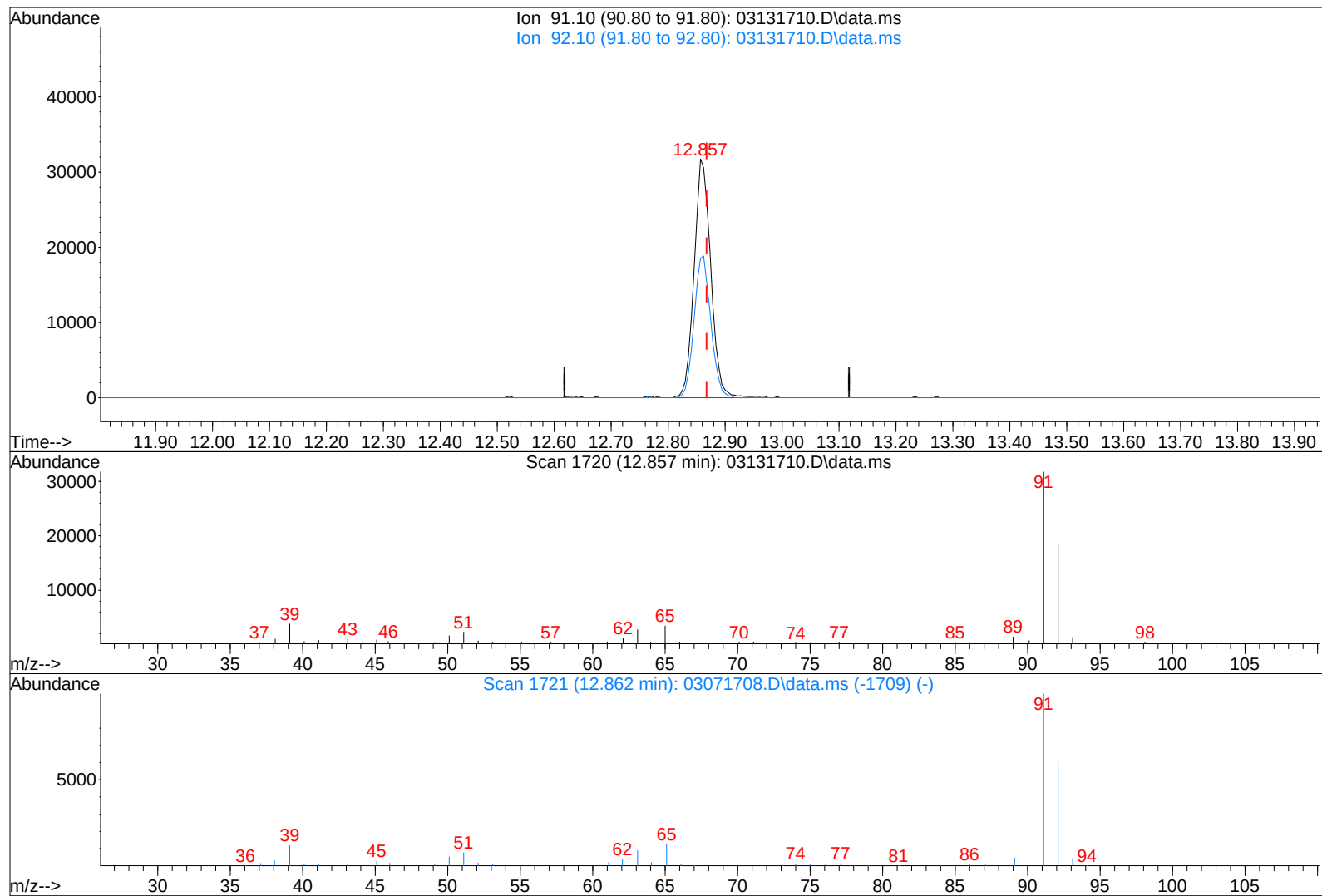
response 24386

Ion	Exp%	Act%
129.90	100	100
131.90	95.60	96.03
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\13\03131710.D
Acq On : 13 Mar 2017 12:04
Sample : P1701088-015 (1000mL)
Misc : S29-01231701

Vial: 6
Operator: WA
Inst : MS08

Quant Time: Mar 13 14:50:41 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131710.D\data.ms

(58) Toluene (T)

12.857min (-0.011) 1.09ng

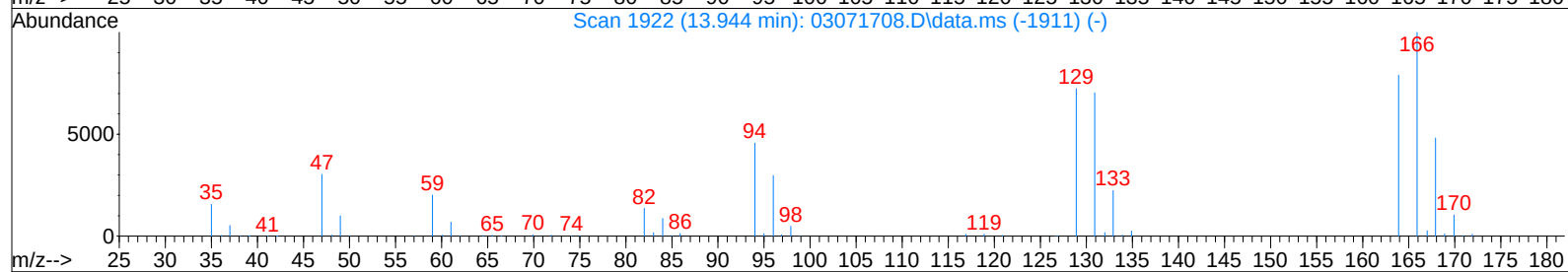
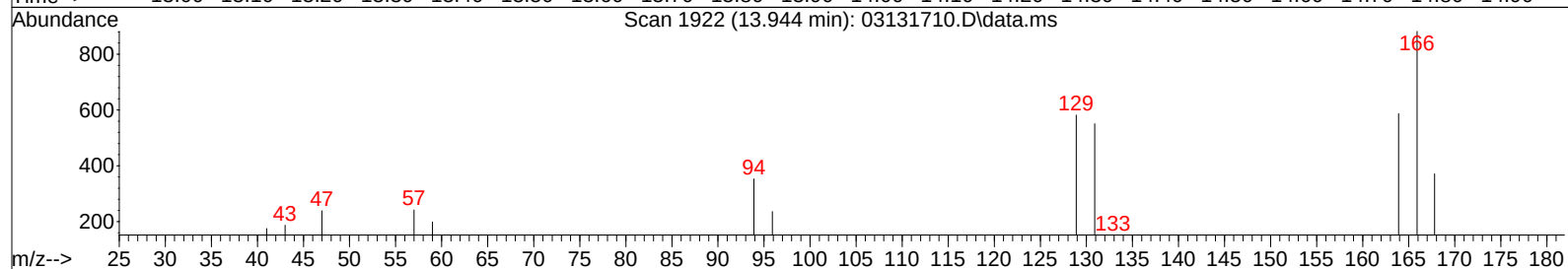
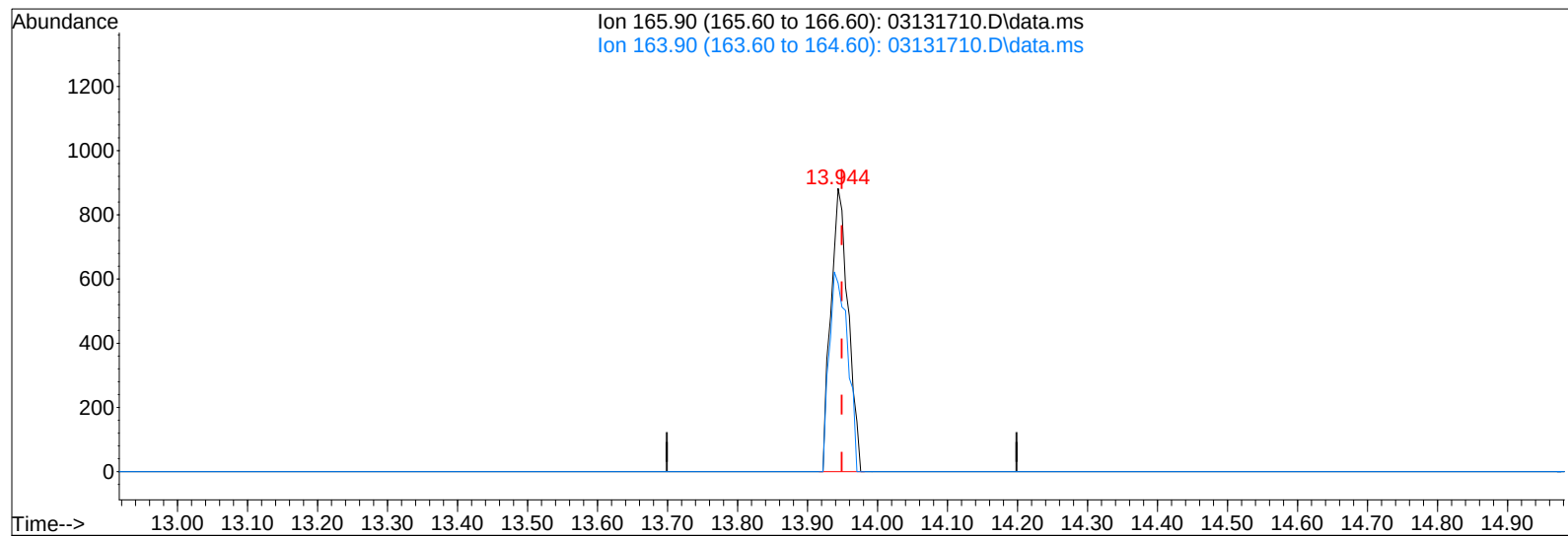
response 64434

Ion	Exp%	Act%
91.10	100	100
92.10	60.40	59.50
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\13\03131710.D
Acq On : 13 Mar 2017 12:04
Sample : P1701088-015 (1000mL)
Misc : S29-01231701

Vial: 6
Operator: WA
Inst : MS08

Quant Time: Mar 13 14:50:41 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131710.D\data.ms

(64) Tetrachloroethene (T)

13.944min (-0.005) 0.10ng

response 1512

Ion	Exp%	Act%
165.90	100	100
163.90	78.70	74.47
0.00	0.00	0.00
0.00	0.00	0.00

Data File: I:\MS08\Data\2017 03\13\03131712.D

Acq On : 13 Mar 2017 13:08

Operator: WA

Sample : P1701088-016 (1000mL)

Misc : S29-01231701

ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 13 14:30:46 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

10A 3/13/17

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.79	130	160107	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	10.53	114	769149	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	343496	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	289293	12.543	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	100.32%
57) Toluene-d8 (SS2)	12.77	98	818057	12.674	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	101.36%
73) Bromofluorobenzene (SS3)	16.07	174	260223	12.295	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	98.32%

Target Compounds

						Qvalue
2) Propene	0.00	42	0	N.D.	d	
3) Dichlorodifluoromethan...	4.00	85	53308	1.731	ng	99
4) Chloromethane	4.23	50	5044	0.234	ng	95
5) 1,2-Dichloro-1,1,2,2-t...	4.37	135	1036	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.67	54	488	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.38	45	467801	39.489	ng	100
11) Acetonitrile	5.61	41	4942	0.157	ng	84
12) Acrolein	5.73	56	2039	0.225	ng	84
13) Acetone	5.85	58	54723	4.714	ng	100
14) Trichlorofluoromethane	6.01	101	24477	0.898	ng	99
15) 2-Propanol (Isopropanol)	6.16	45	34438	0.794	ng	89
16) Acrylonitrile	6.29	53	104	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	6.80	84	3443	0.243	ng	95
20) 3-Chloro-1-propene (Al...	6.77	41	1795	N.D.		
21) Trichlorotrifluoroethane	7.07	151	4692	0.371	ng	99
22) Carbon Disulfide	7.05	76	5240	0.103	ng	98
23) trans-1,2-Dichloroethene	7.89	61	814	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	8.14	73	690	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	8.25	72	8807	0.898	ng	# 78
28) cis-1,2-Dichloroethene	8.66	61	4771	0.224	ng	98
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	8.84	61	17216	3.680	ng	99
31) n-Hexane	8.87	57	3549	0.140	ng	97
32) Chloroform	8.92	83	1821	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	9.58	62	974	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	0.00	56	0	N.D.	d	
41) Benzene	10.23	78	16487	0.271	ng	98
42) Carbon Tetrachloride	10.36	117	7052	0.338	ng	98
43) Cyclohexane	10.48	84	921	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	11.17	130	8336	0.526	ng	96
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	11.22	57	5569	N.D.		

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Data File: I:\MS08\Data\2017 03\13\03131712.D

Acq On : 13 Mar 2017 13:08

Operator: WA

Sample : P1701088-016 (1000mL)

Misc : S29-01231701

ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 13 14:30:46 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

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	11.45	71	1253	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.99	58	900	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	12.86	91	15271	0.254 ng		97
59) 2-Hexanone	13.09	43	2671	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.69	43	1446	N.D.		
63) n-Octane	13.79	57	757	N.D.		
64) Tetrachloroethene	13.94	166	663	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	14.99	91	9431	0.140 ng		95
67) m- & p-Xylenes	15.15	91	27276	0.509 ng		100
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.53	104	8021	0.214 ng		99
70) o-Xylene	15.63	91	9432	0.171 ng		100
71) n-Nonane	15.84	43	1920	N.D.		
72) 1,1,2,2-Tetrachloroethane	15.58	83	505	N.D.		
74) Cumene	16.21	105	472	N.D.		
75) alpha-Pinene	16.58	93	36112	1.000 ng		79
76) n-Propylbenzene	16.69	91	1091	N.D.		
77) 3-Ethyltoluene	16.79	105	2211	N.D.		
78) 4-Ethyltoluene	16.84	105	1070	N.D.		
79) 1,3,5-Trimethylbenzene	16.91	105	973	N.D.		
80) alpha-Methylstyrene	17.06	118	462	N.D.		
81) 2-Ethyltoluene	17.10	105	1099	N.D.		
82) 1,2,4-Trimethylbenzene	17.31	105	3419	N.D.		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	17.30	91	475	N.D.		
85) 1,3-Dichlorobenzene	17.52	146	1155	N.D.		
86) 1,4-Dichlorobenzene	17.52	146	1155	N.D.		
87) sec-Butylbenzene	17.71	105	2109	N.D.		
88) 4-Isopropyltoluene (p-...	17.71	119	1259	N.D.		
89) 1,2,3-Trimethylbenzene	17.71	105	2109	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	17.85	68	1930	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	19.57	128	8292	0.127 ng		99
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	15.32	55	1331	N.D.		
99) tert-Butylbenzene	17.31	119	425	N.D.		
100) n-Butylbenzene	18.11	91	2764	N.D.		

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

Data File: I:\MS08\Data\2017 03\13\03131712.D

Acq On : 13 Mar 2017 13:08

Operator: WA

Sample : P1701088-016 (1000mL)

Misc : S29-01231701

ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 13 14:30:46 2017

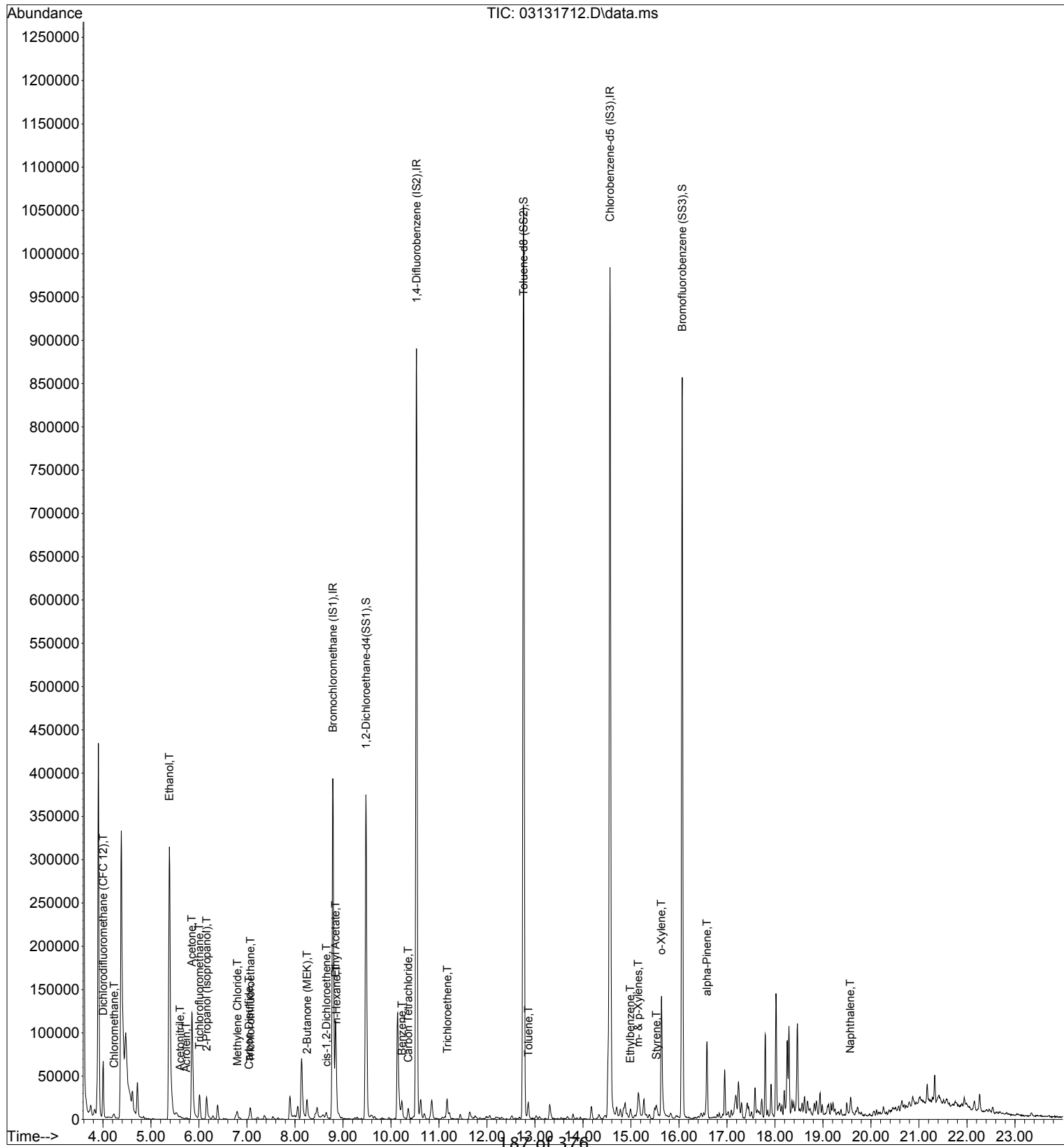
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

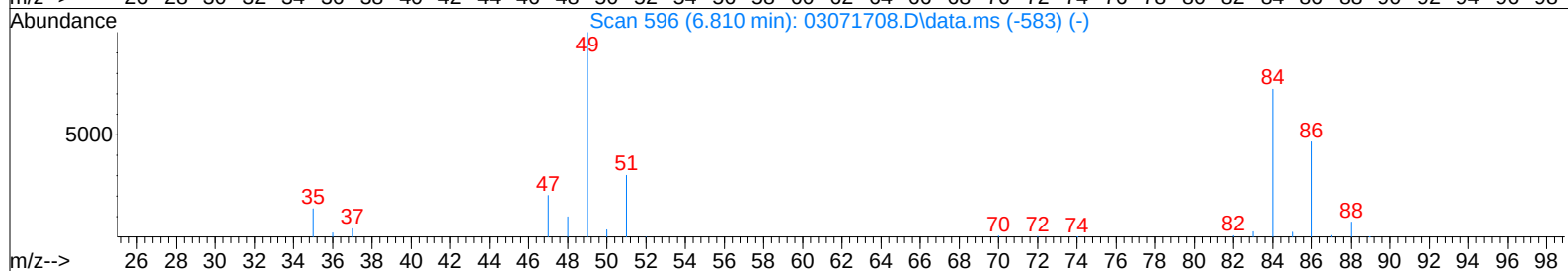
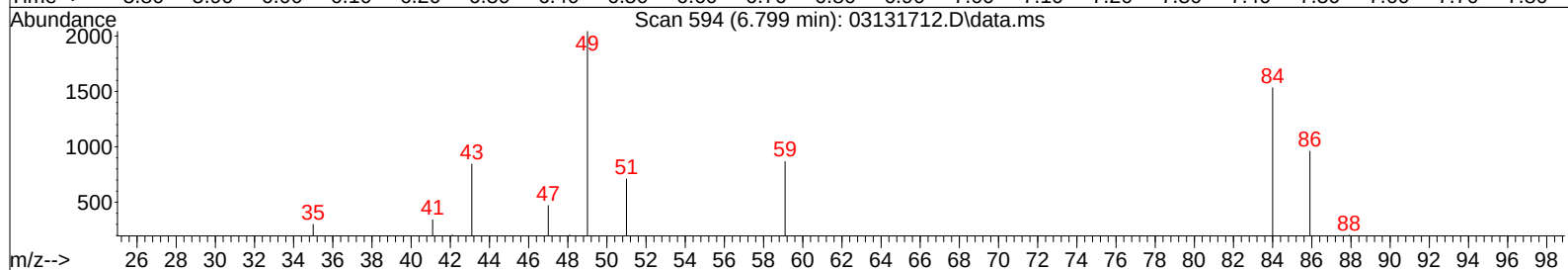
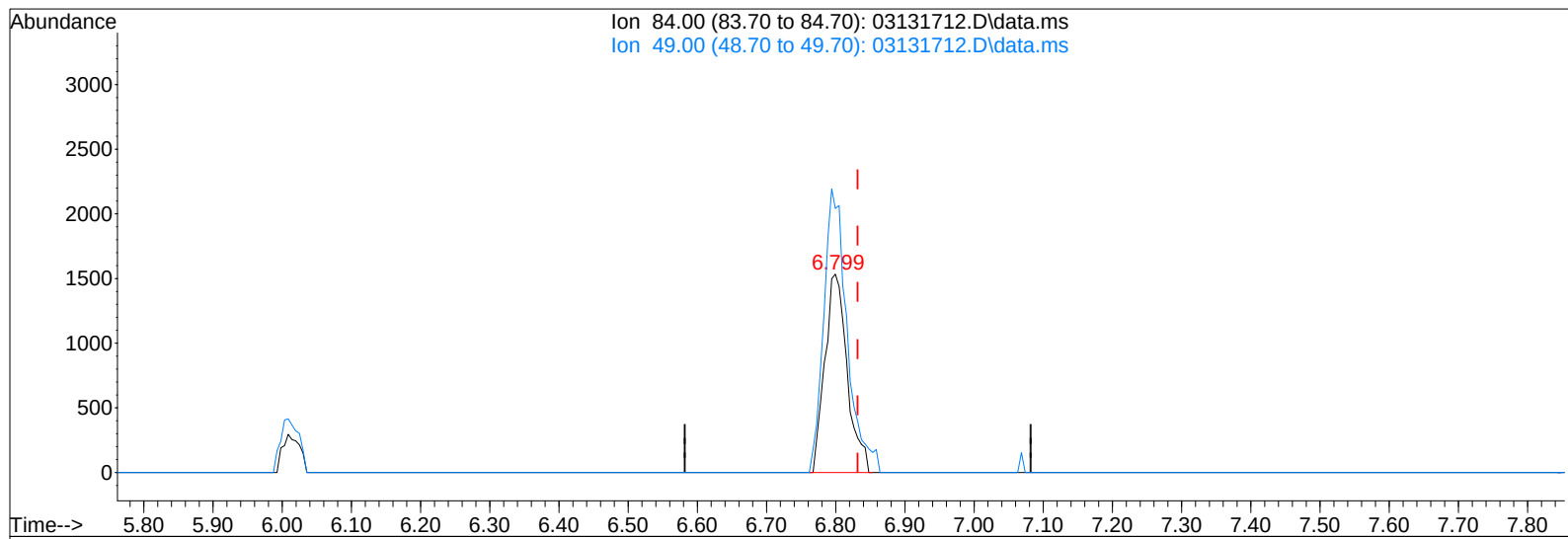
DataAcq Meth:TO15.M



Data File : I:\MS08\Data\2017 03\13\03131712.D
Acq On : 13 Mar 2017 13:08
Sample : P1701088-016 (1000mL)
Misc : S29-01231701

Vial: 7
Operator: WA
Inst : MS08

Quant Time: Mar 13 14:30:46 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131712.D\data.ms

(19) Methylene Chloride (T)

6.799min (-0.033) 0.24ng

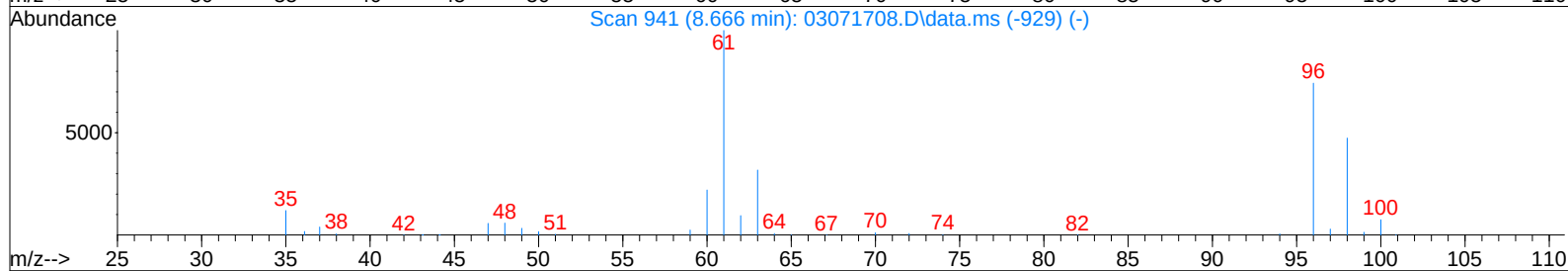
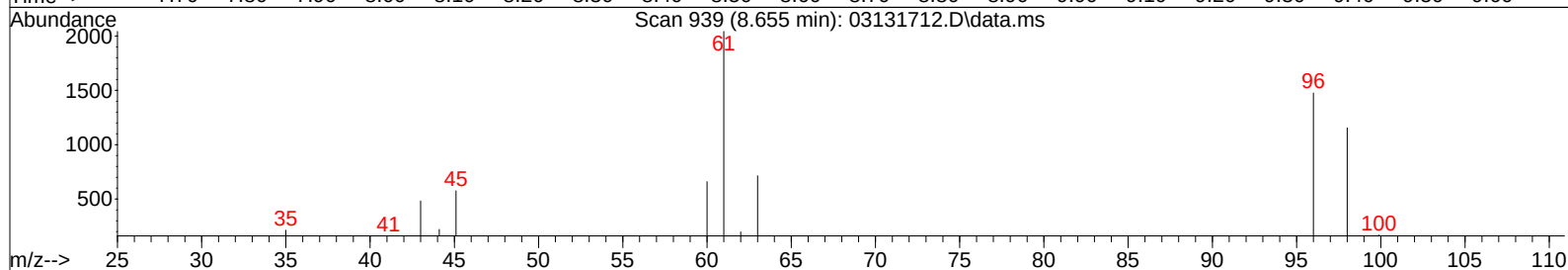
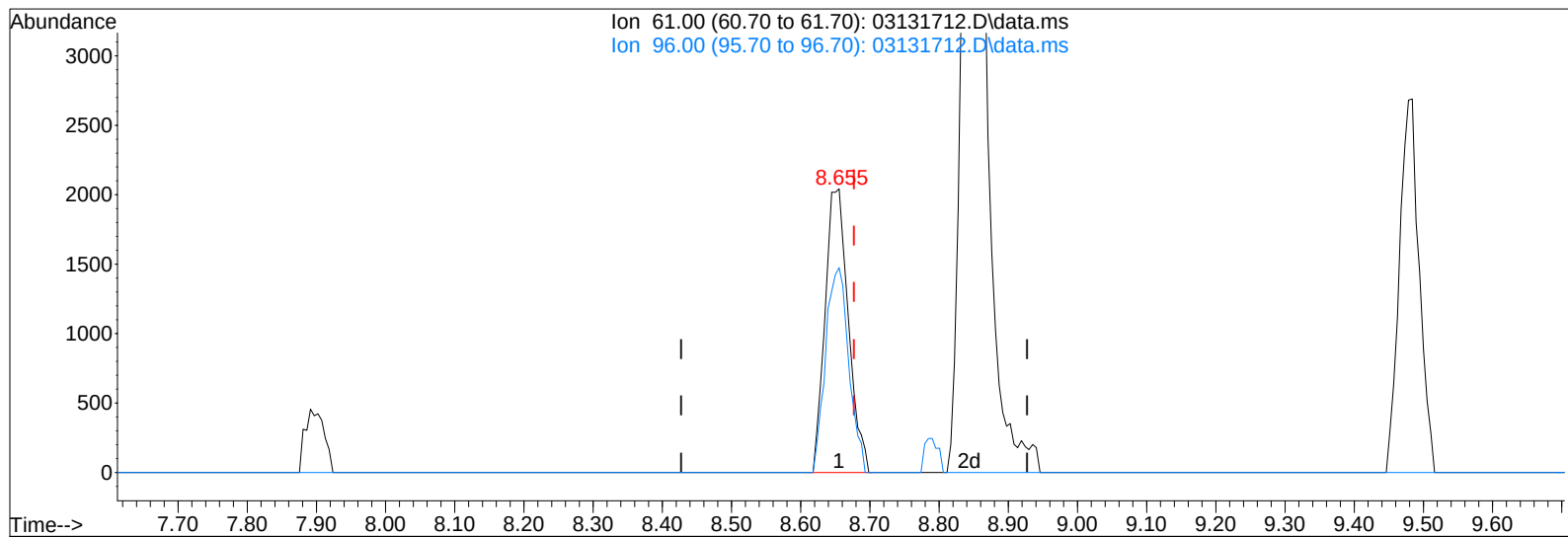
response 3443

Ion	Exp%	Act%
84.00	100	100
49.00	143.20	149.64
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\13\03131712.D
Acq On : 13 Mar 2017 13:08
Sample : P1701088-016 (1000mL)
Misc : S29-01231701

Vial: 7
Operator: WA
Inst : MS08

Quant Time: Mar 13 14:30:46 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131712.D\data.ms

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

8.655min (-0.022) 0.22ng

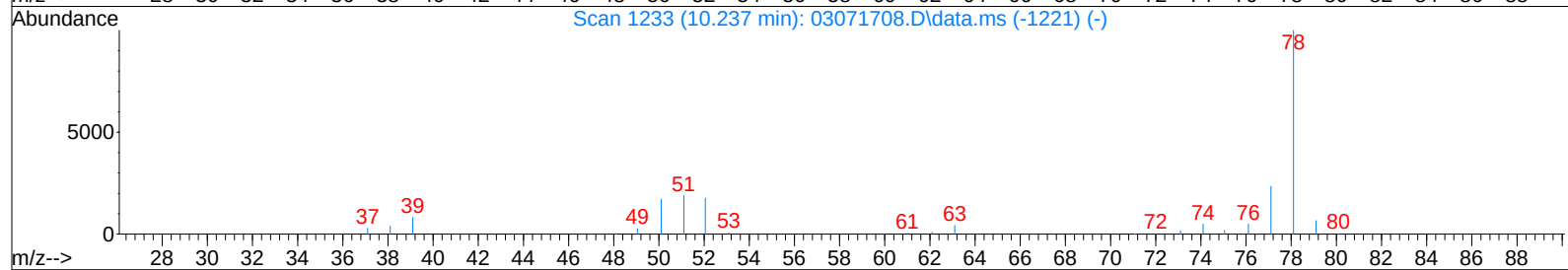
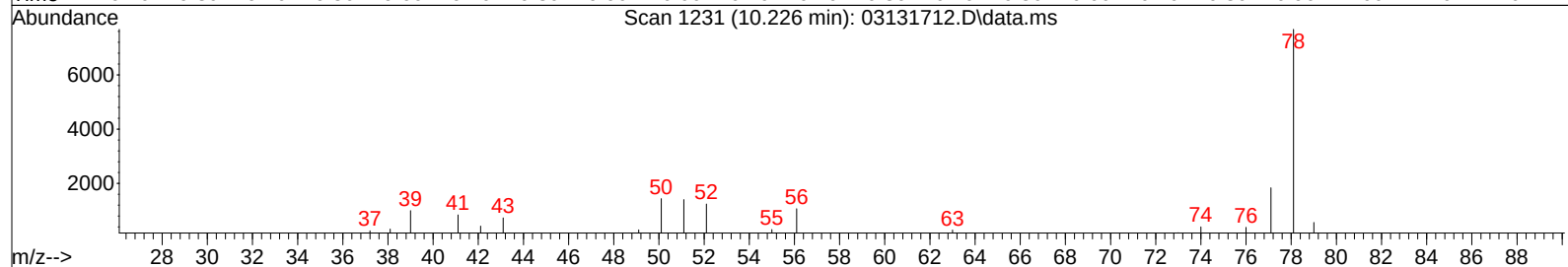
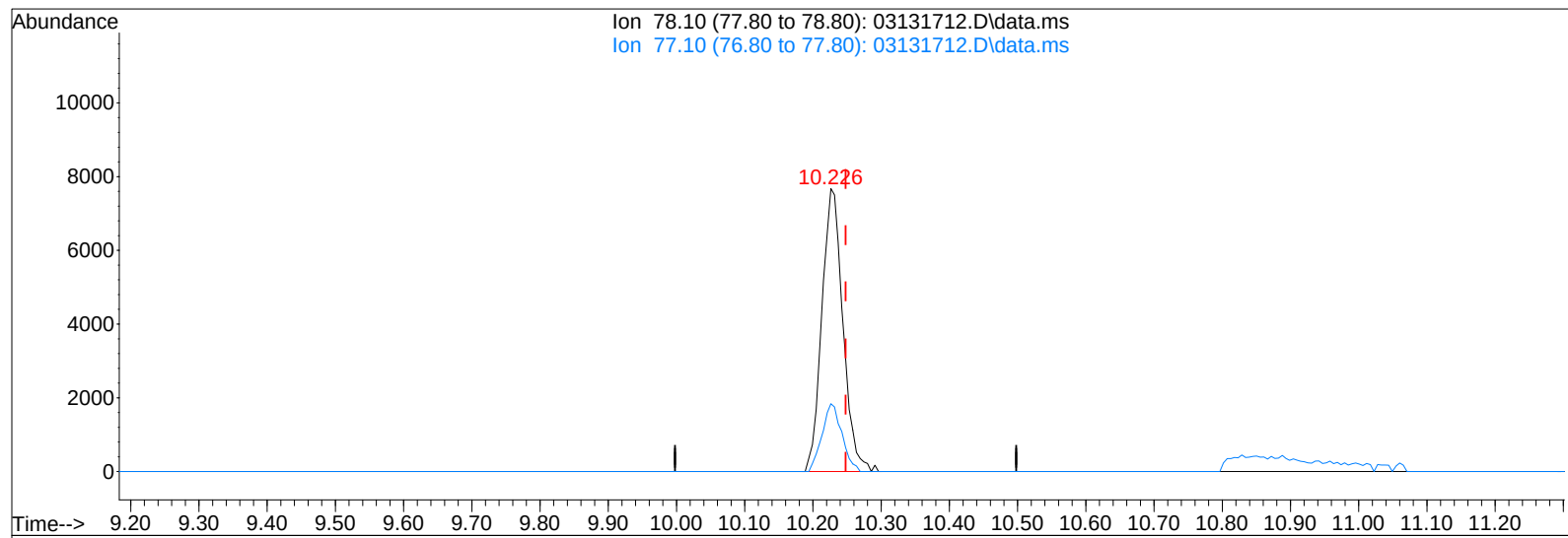
response 4771

Ion	Exp%	Act%
61.00	100	100
96.00	73.50	71.73
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\13\03131712.D
Acq On : 13 Mar 2017 13:08
Sample : P1701088-016 (1000mL)
Misc : S29-01231701

Vial: 7
Operator: WA
Inst : MS08

Quant Time: Mar 13 14:30:46 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131712.D\data.ms

(41) Benzene (T)

10.226min (-0.022) 0.27ng

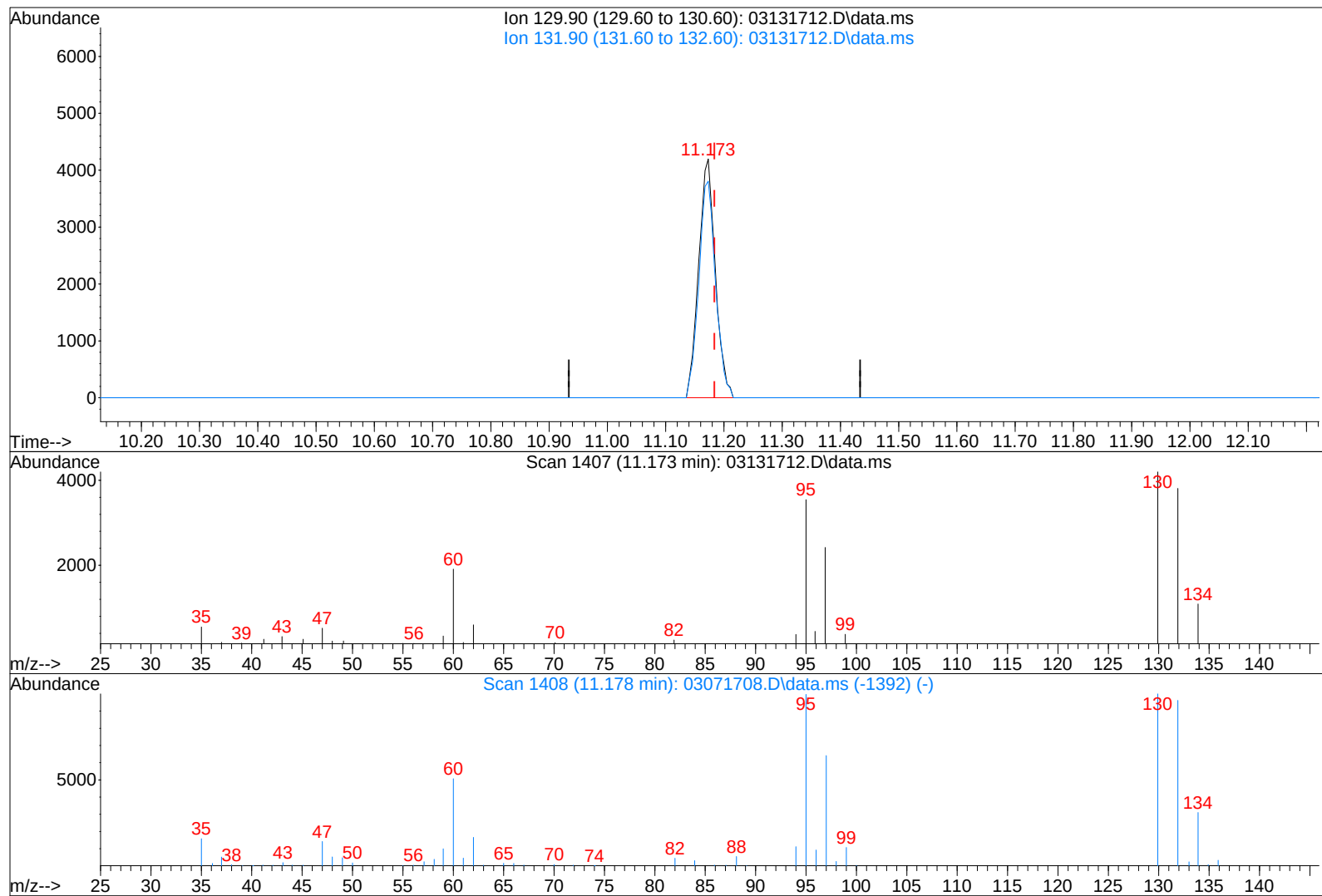
response 16487

Ion	Exp%	Act%
78.10	100	100
77.10	23.60	22.61
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\13\03131712.D
Acq On : 13 Mar 2017 13:08
Sample : P1701088-016 (1000mL)
Misc : S29-01231701

Vial: 7
Operator: WA
Inst : MS08

Quant Time: Mar 13 14:30:46 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131712.D\data.ms

(47) Trichloroethene (T)

11.173min (-0.011) 0.53ng

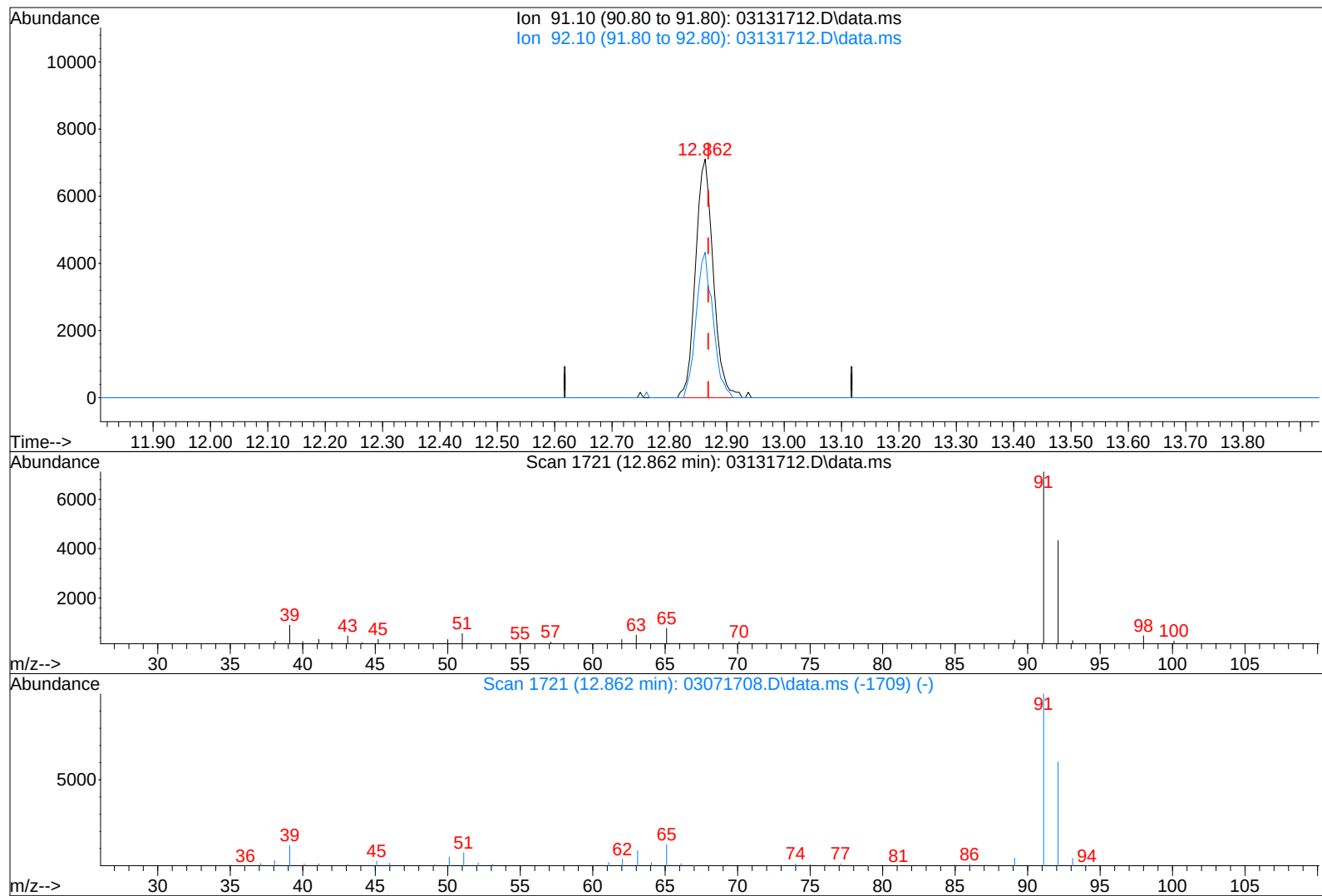
response 8336

Ion	Exp%	Act%
129.90	100	100
131.90	95.60	91.67
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\13\03131712.D
Acq On : 13 Mar 2017 13:08
Sample : P1701088-016 (1000mL)
Misc : S29-01231701

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Quant Time: Mar 13 14:30:46 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131712.D\data.ms

(58) Toluene (T)

12.862min (-0.006) 0.25ng

response 15271

Ion	Exp%	Act%
91.10	100	100
92.10	60.40	57.80
0.00	0.00	0.00
0.00	0.00	0.00

Data File: I:\MS08\Data\2017 03\13\03131713.D

Acq On : 13 Mar 2017 13:40

Operator: WA

Sample : P1701088-017 (1000mL)

Misc : S29-01231701

ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 13 14:31:55 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

3/13/17

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.80	130	160093	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	10.53	114	778161	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	345979	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	292740	12.693	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	101.52%
57) Toluene-d8 (SS2)	12.77	98	825121	12.692	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	101.52%
73) Bromofluorobenzene (SS3)	16.07	174	259805	12.187	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	97.52%

Target Compounds

						Qvalue
2) Propene	0.00	42	0	N.D.	d	
3) Dichlorodifluoromethan...	4.01	85	57103	1.855	ng	99
4) Chloromethane	4.25	50	6443	0.299	ng	93
5) 1,2-Dichloro-1,1,2,2-t...	4.38	135	965	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	5.40	45	25070	2.116	ng	97
11) Acetonitrile	5.68	41	3253	0.103	ng	81
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	5.87	58	38403	3.308	ng	98
14) Trichlorofluoromethane	6.03	101	25820	0.947	ng	100
15) 2-Propanol (Isopropanol)	6.17	45	13097	0.302	ng	76
16) Acrylonitrile	6.40	53	49	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	6.78	59	2563	N.D.		
19) Methylene Chloride	6.80	84	4139	0.292	ng	99
20) 3-Chloro-1-propene (Al...	6.81	41	607	N.D.		
21) Trichlorotrifluoroethane	7.08	151	4902	0.387	ng	98
22) Carbon Disulfide	0.00	76	0	N.D.	d	
23) trans-1,2-Dichloroethene	7.90	61	521	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.	d	
27) 2-Butanone (MEK)	8.27	72	4502	0.459	ng	# 90
28) cis-1,2-Dichloroethene	8.66	61	870	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	8.85	61	12265	2.622	ng	99
31) n-Hexane	8.87	57	2532	0.100	ng	# 90
32) Chloroform	8.91	83	1683	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	9.59	62	997	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	0.00	56	0	N.D.	d	
41) Benzene	10.23	78	16950	0.276	ng	99
42) Carbon Tetrachloride	10.37	117	7180	0.341	ng	99
43) Cyclohexane	10.48	84	814	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	11.17	130	1273	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	11.22	57	193	4217	N.D.	376

Data File: I:\MS08\Data\2017 03\13\03131713.D

Acq On : 13 Mar 2017 13:40

Operator: WA

Sample : P1701088-017 (1000mL)

Misc : S29-01231701

ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 13 14:31:55 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

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	11.45	71	837	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	12.86	91	22051	0.365	ng	98
59) 2-Hexanone	13.03	43	828	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.69	43	1584	N.D.		
63) n-Octane	13.79	57	816	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	14.99	91	9133	0.135	ng	99
67) m- & p-Xylenes	15.16	91	23753	0.440	ng	99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.53	104	13281	0.352	ng	100
70) o-Xylene	15.64	91	7698	0.139	ng	98
71) n-Nonane	15.84	43	2243	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	16.58	93	62954	1.731	ng	94
76) n-Propylbenzene	16.70	91	1525	N.D.		
77) 3-Ethyltoluene	16.79	105	2655	N.D.		
78) 4-Ethyltoluene	16.84	105	1587	N.D.		
79) 1,3,5-Trimethylbenzene	16.92	105	906	N.D.		
80) alpha-Methylstyrene	17.26	118	1079	N.D.		
81) 2-Ethyltoluene	17.10	105	1019	N.D.		
82) 1,2,4-Trimethylbenzene	17.31	105	3142	N.D.		
83) n-Decane	0.00	57	0	N.D.	d	
84) Benzyl Chloride	17.31	91	448	N.D.		
85) 1,3-Dichlorobenzene	17.52	146	601	N.D.		
86) 1,4-Dichlorobenzene	17.52	146	601	N.D.		
87) sec-Butylbenzene	17.71	105	904	N.D.		
88) 4-Isopropyltoluene (p-...	17.71	119	1548	N.D.		
89) 1,2,3-Trimethylbenzene	17.71	105	904	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	17.85	68	1690	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	19.58	128	2369	N.D.		
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	15.33	55	1519	N.D.		
99) tert-Butylbenzene	17.26	119	2204	N.D.		
100) n-Butylbenzene	18.09	91	2924	N.D.		

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

Data File: I:\MS08\Data\2017 03\13\03131713.D

Acq On : 13 Mar 2017 13:40

Operator: WA

Sample : P1701088-017 (1000mL)

Misc : S29-01231701

ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 13 14:31:55 2017

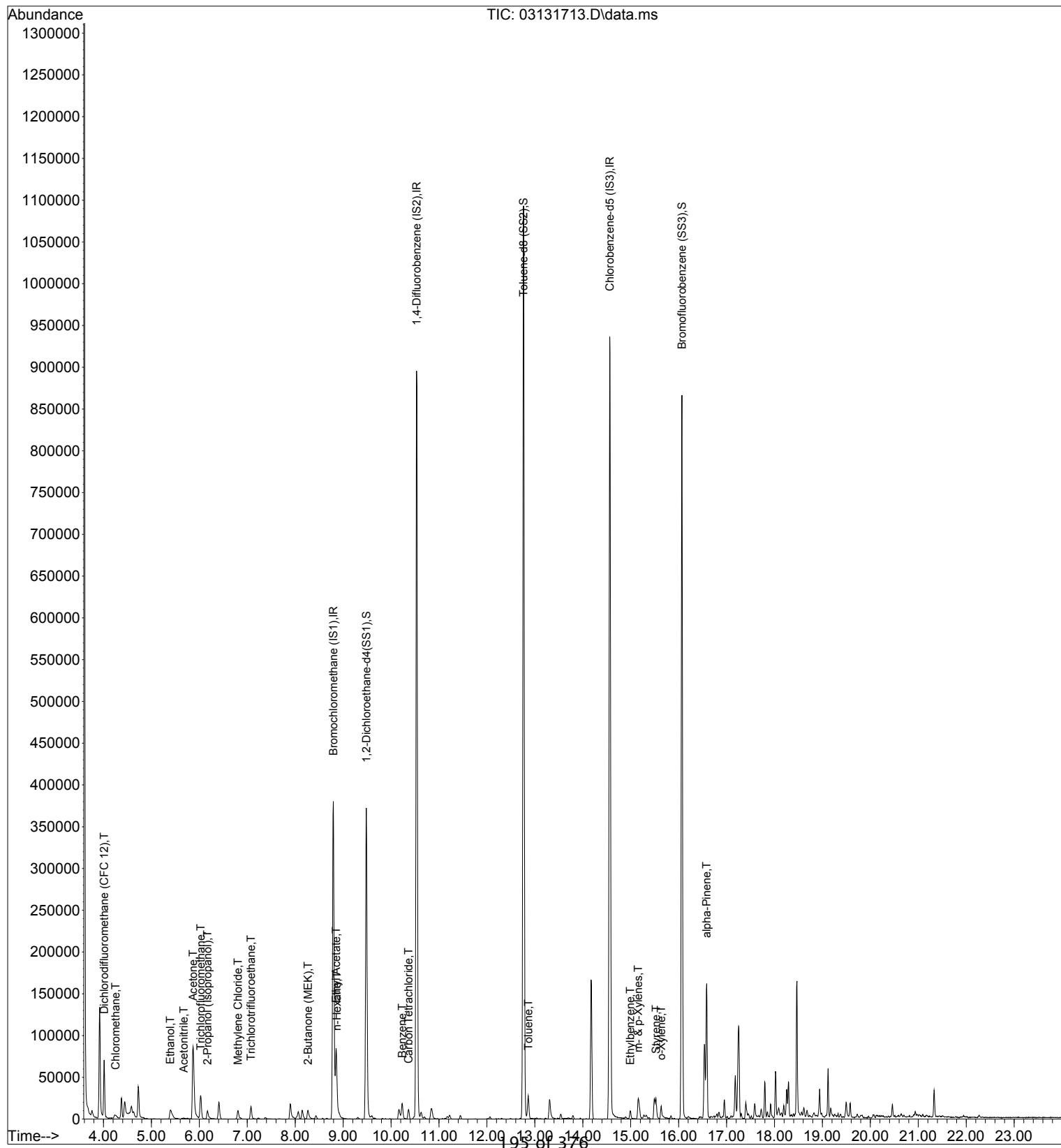
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

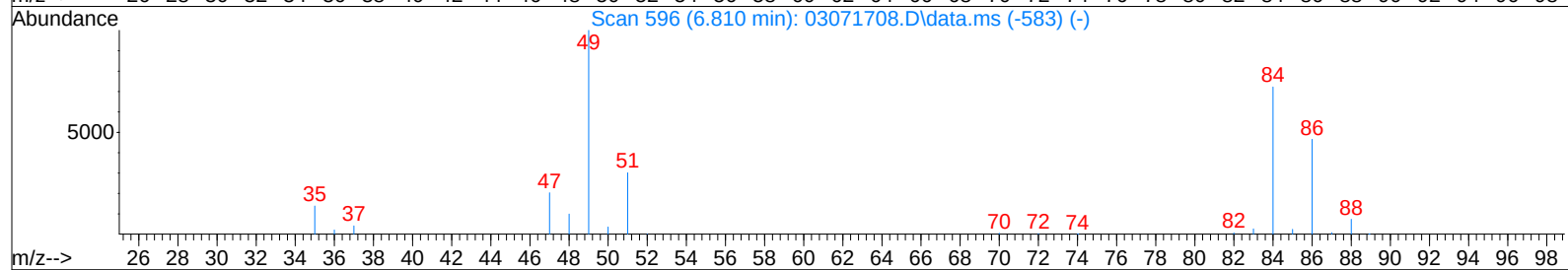
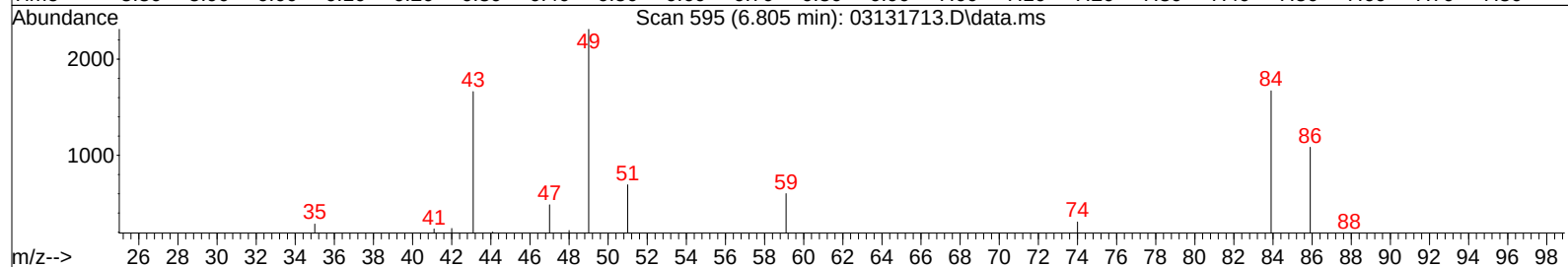
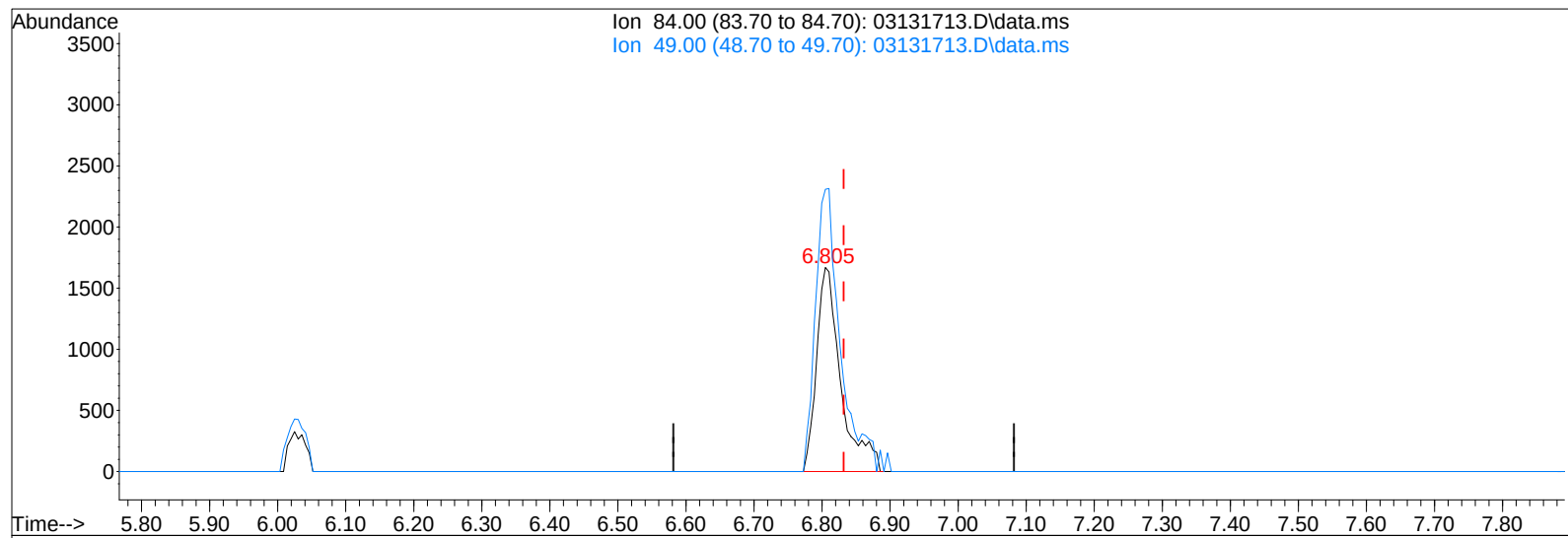
DataAcq Meth:TO15.M



Data File : I:\MS08\Data\2017 03\13\03131713.D
Acq On : 13 Mar 2017 13:40
Sample : P1701088-017 (1000mL)
Misc : S29-01231701

Vial: 8
Operator: WA
Inst : MS08

Quant Time: Mar 13 14:31:55 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131713.D\data.ms

(19) Methylene Chloride (T)

6.805min (-0.027) 0.29ng

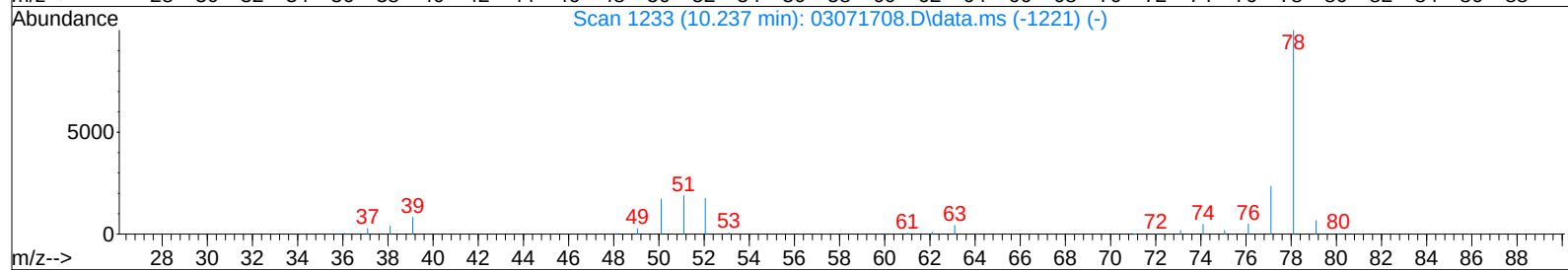
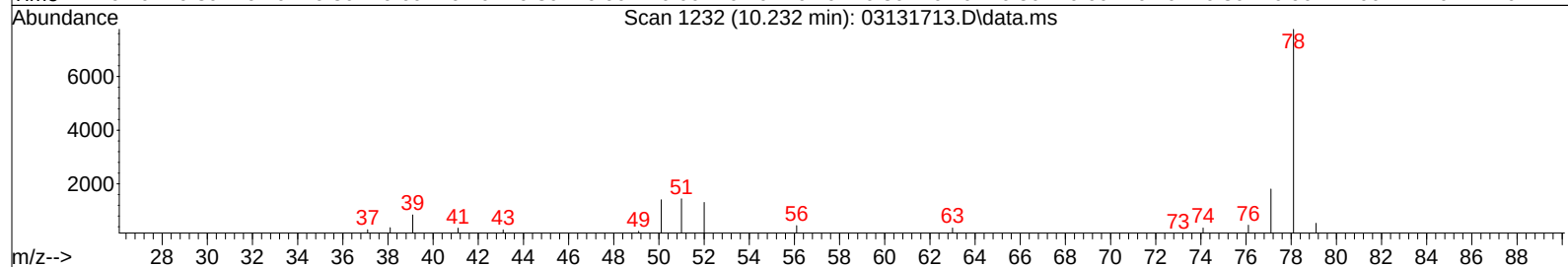
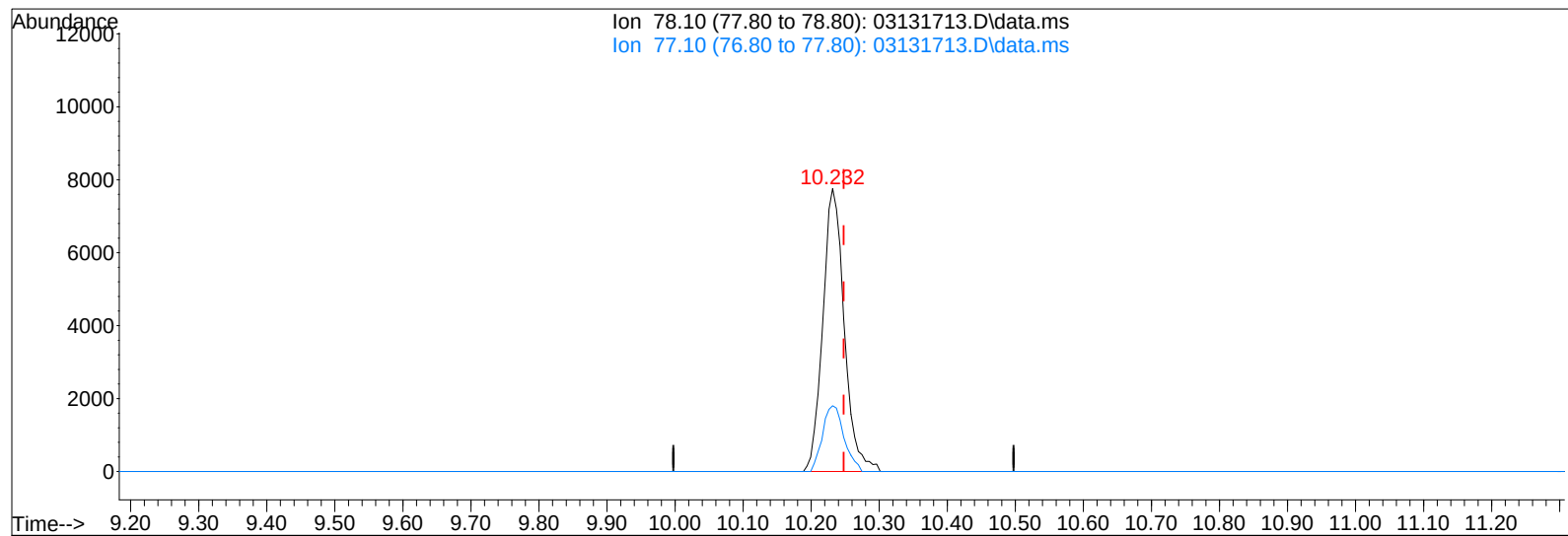
response 4139

Ion	Exp%	Act%
84.00	100	100
49.00	143.20	144.31
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\13\03131713.D
Acq On : 13 Mar 2017 13:40
Sample : P1701088-017 (1000mL)
Misc : S29-01231701

Vial: 8
Operator: WA
Inst : MS08

Quant Time: Mar 13 14:31:55 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131713.D\data.ms

(41) Benzene (T)

10.232min (-0.016) 0.28ng

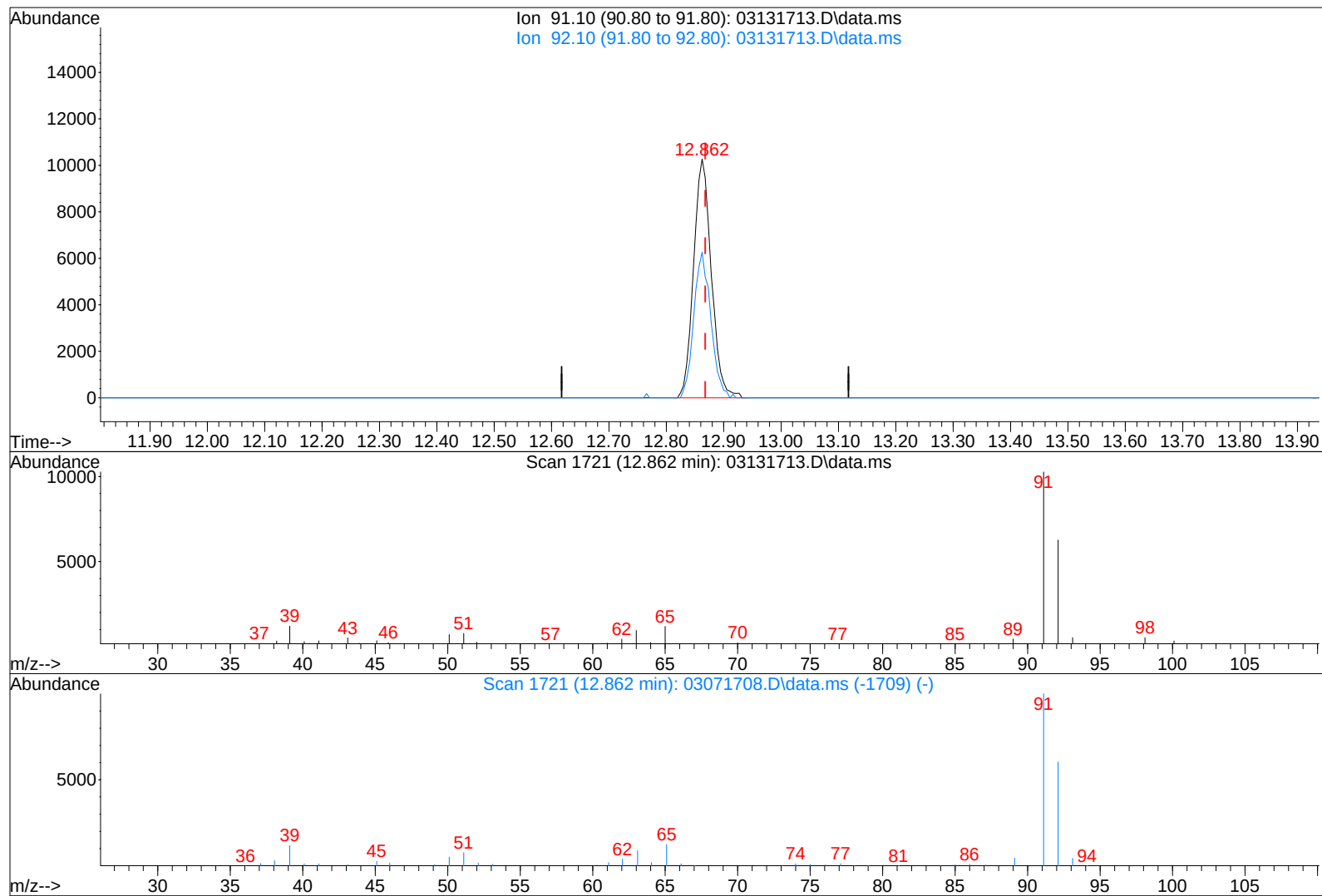
response 16950

Ion	Exp%	Act%
78.10	100	100
77.10	23.60	23.32
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\13\03131713.D
Acq On : 13 Mar 2017 13:40
Sample : P1701088-017 (1000mL)
Misc : S29-01231701

Vial: 8
Operator: WA
Inst : MS08

Quant Time: Mar 13 14:31:55 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131713.D\data.ms

(58) Toluene (T)

12.862min (-0.006) 0.36ng

response 22051

Ion	Exp%	Act%
91.10	100	100
92.10	60.40	58.70
0.00	0.00	0.00
0.00	0.00	0.00

Data File: I:\MS08\Data\2017 03\13\03131714.D

Acq On : 13 Mar 2017 14:13

Operator: WA

Sample : P1701088-018 (1000mL) **PF2**

Misc : S29-01231701

ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 13 14:52:48 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

3/13/17

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.80	130	155057	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	10.53	114	754744	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	335869	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	287584	12.875	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	102.96%
57) Toluene-d8 (SS2)	12.77	98	806175	12.774	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	102.16%
73) Bromofluorobenzene (SS3)	16.07	174	250270	12.093	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	96.72%

Target Compounds

						Qvalue
2) Propene	0.00	42	0	N.D.	d	
3) Dichlorodifluoromethan...	4.01	85	42977	1.441	ng	99
4) Chloromethane	4.24	50	5297	0.254	ng	93
5) 1,2-Dichloro-1,1,2,2-t...	4.38	135	840	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	5.40	45	17699	1.543	ng	97
11) Acetonitrile	5.68	41	2870	0.094	ng	73
12) Acrolein	5.74	56	5362	0.610	ng	97
13) Acetone	5.86	58	58402	5.195	ng	# 80
14) Trichlorofluoromethane	6.02	101	19412	0.735	ng	99
15) 2-Propanol (Isopropanol)	6.17	45	14660	0.349	ng	76
16) Acrylonitrile	6.40	53	162	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	6.81	84	3473	0.253	ng	91
20) 3-Chloro-1-propene (Al...	6.85	41	476	N.D.		
21) Trichlorotrifluoroethane	7.08	151	3695	0.301	ng	99
22) Carbon Disulfide	0.00	76	0	N.D.	d	
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	d	
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	7.89	73	1052	N.D.		
26) Vinyl Acetate	8.02	86	2935	0.785	ng	# 79
27) 2-Butanone (MEK)	8.26	72	6487	0.683	ng	98
28) cis-1,2-Dichloroethene	8.66	61	841	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	8.86	61	9648	2.130	ng	100
31) n-Hexane	8.87	57	2997	0.122	ng	96
32) Chloroform	8.92	83	1265	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	9.60	62	706	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	0.00	56	0	N.D.	d	
41) Benzene	10.23	78	14902	0.250	ng	99
42) Carbon Tetrachloride	10.37	117	4233	0.207	ng	99
43) Cyclohexane	10.48	84	1065	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	11.17	130	4743	0.305	ng	98
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	

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Data File: I:\MS08\Data\2017 03\13\03131714.D

Acq On : 13 Mar 2017 14:13

Operator: WA

Sample : P1701088-018 (1000mL) PF2

Misc : S29-01231701

ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 13 14:52:48 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

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	11.45	71	1748	0.115	ng	98
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	12.86	91	32441	0.552	ng	99
59) 2-Hexanone	0.00	43	0	N.D.	d	
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.70	43	1313	N.D.		
63) n-Octane	13.79	57	646	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	14.99	91	10271	0.156	ng	98
67) m- & p-Xylenes	15.16	91	28717	0.548	ng	100
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.53	104	7681	0.210	ng	97
70) o-Xylene	15.64	91	9376	0.174	ng	98
71) n-Nonane	15.84	43	1966	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	16.59	93	27538	0.780	ng	# 1
76) n-Propylbenzene	16.70	91	1286	N.D.		
77) 3-Ethyltoluene	16.80	105	3188	N.D.		
78) 4-Ethyltoluene	16.84	105	1563	N.D.		
79) 1,3,5-Trimethylbenzene	16.91	105	1360	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.10	105	1096	N.D.		
82) 1,2,4-Trimethylbenzene	17.31	105	3494	N.D.		
83) n-Decane	0.00	57	0	N.D.	d	
84) Benzyl Chloride	17.24	91	1451	N.D.		
85) 1,3-Dichlorobenzene	17.52	146	1015	N.D.		
86) 1,4-Dichlorobenzene	17.52	146	1015	N.D.		
87) sec-Butylbenzene	17.71	105	1060	N.D.		
88) 4-Isopropyltoluene (p-...	17.72	119	2060	N.D.		
89) 1,2,3-Trimethylbenzene	17.71	105	1060	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	17.86	68	529	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	18.61	57	2775	N.D.		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	19.60	128	1195	N.D.		
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	17.25	119	559	N.D.		
100) n-Butylbenzene	18.10	91	741	N.D.		

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

Data File: I:\MS08\Data\2017 03\13\03131714.D

Acq On : 13 Mar 2017 14:13

Operator: WA

Sample : P1701088-018 (1000mL) PF2

Misc : S29-01231701

ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 13 14:52:48 2017

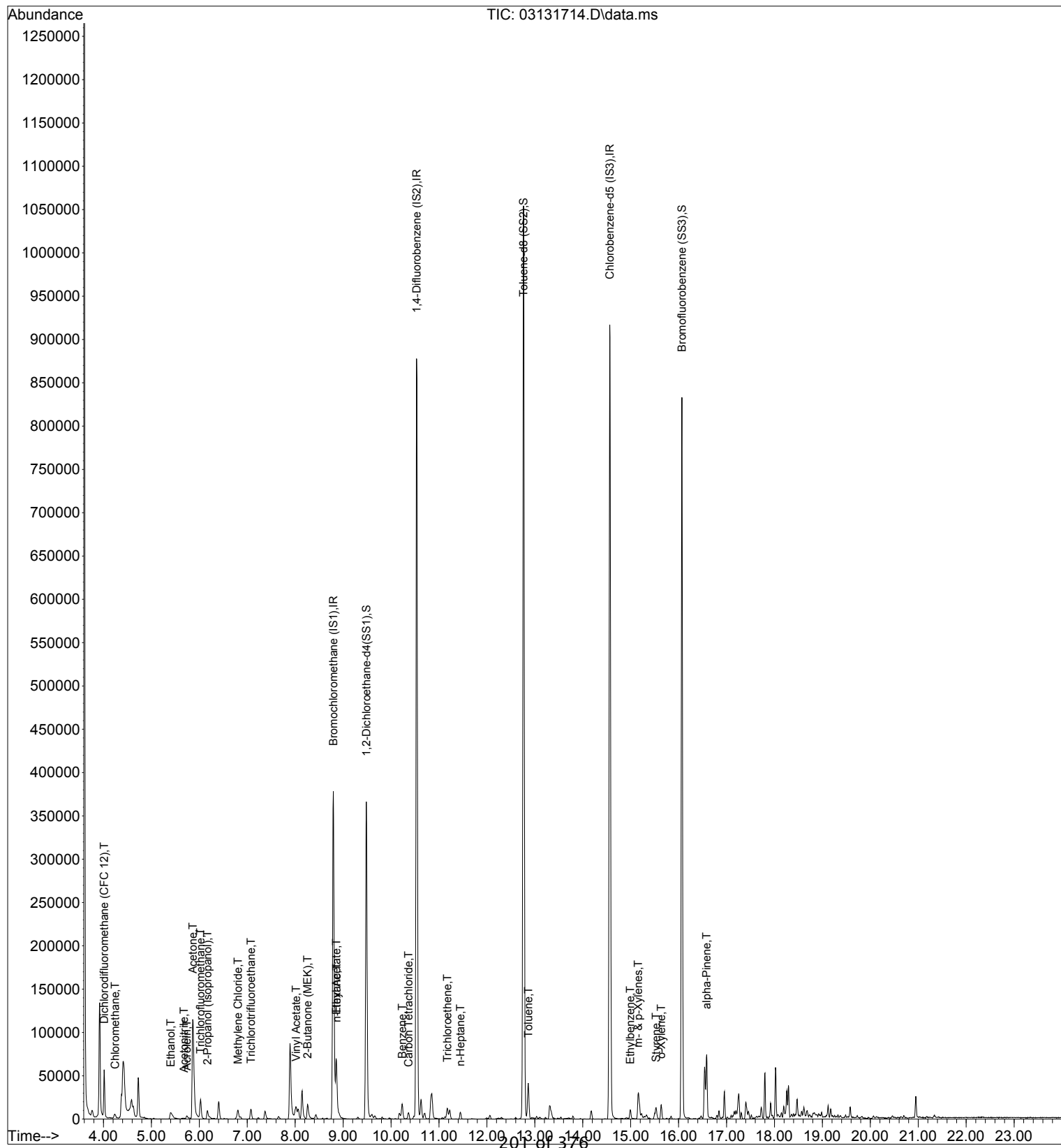
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

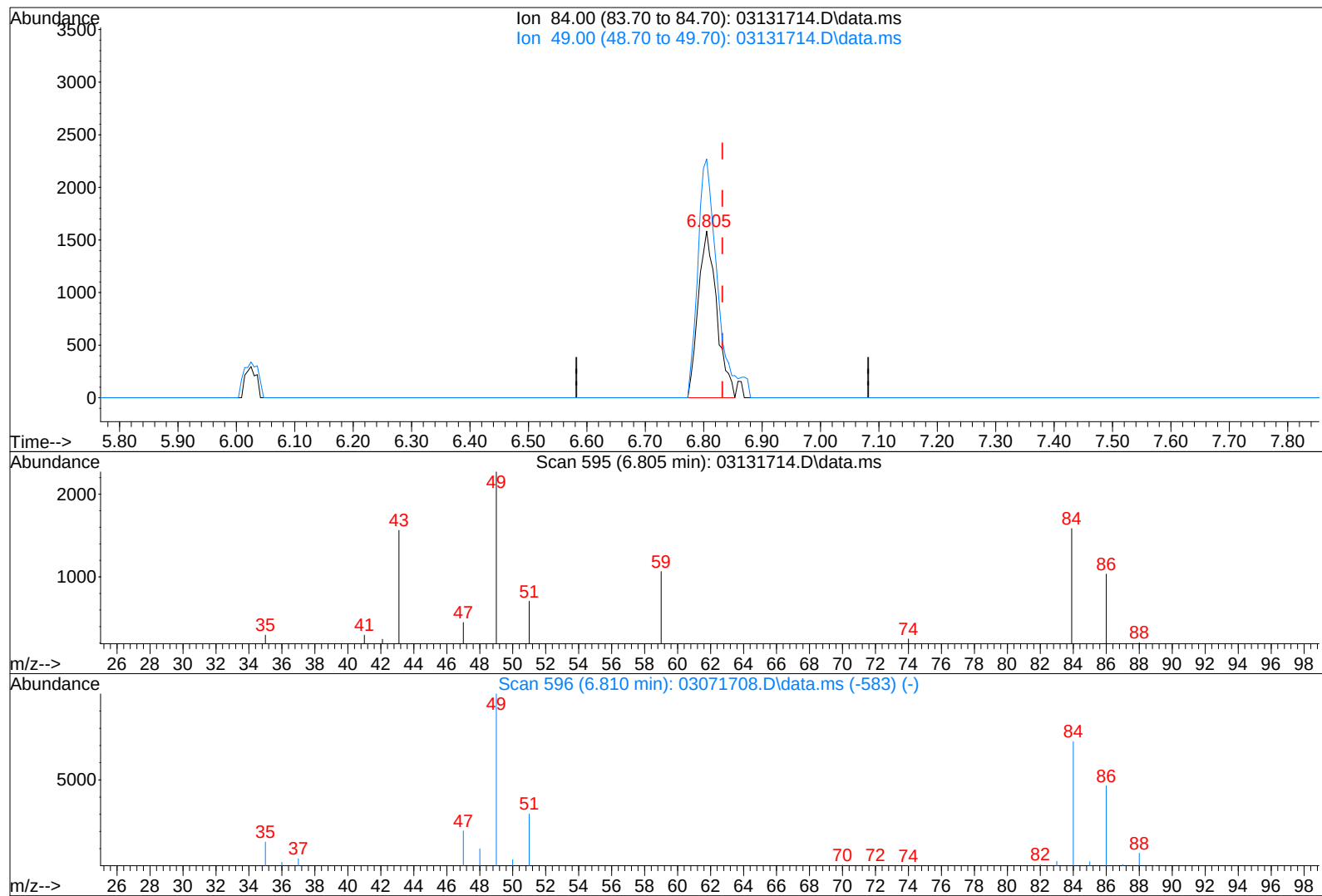
DataAcq Meth:TO15.M



Data File : I:\MS08\Data\2017 03\13\03131714.D
Acq On : 13 Mar 2017 14:13
Sample : P1701088-018 (1000mL) PF2
Misc : S29-01231701

Vial: 9
Operator: WA
Inst : MS08

Quant Time: Mar 13 14:52:48 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131714.D\data.ms

(19) Methylene Chloride (T)

6.805min (-0.027) 0.25ng

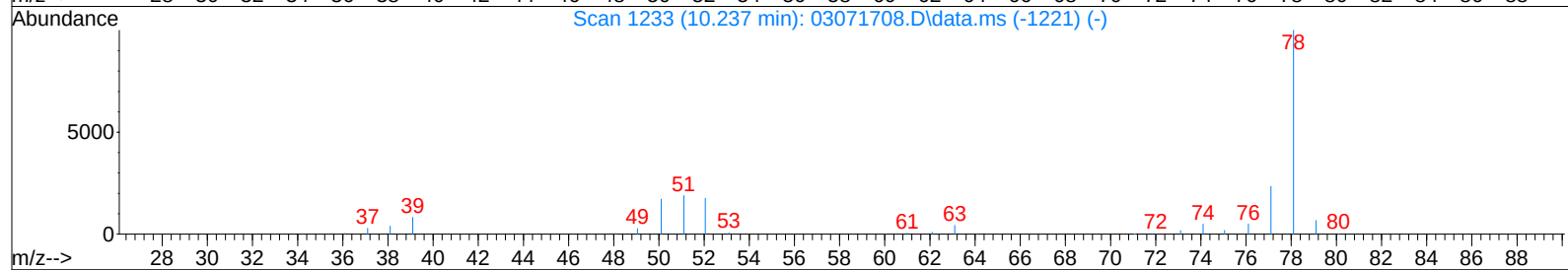
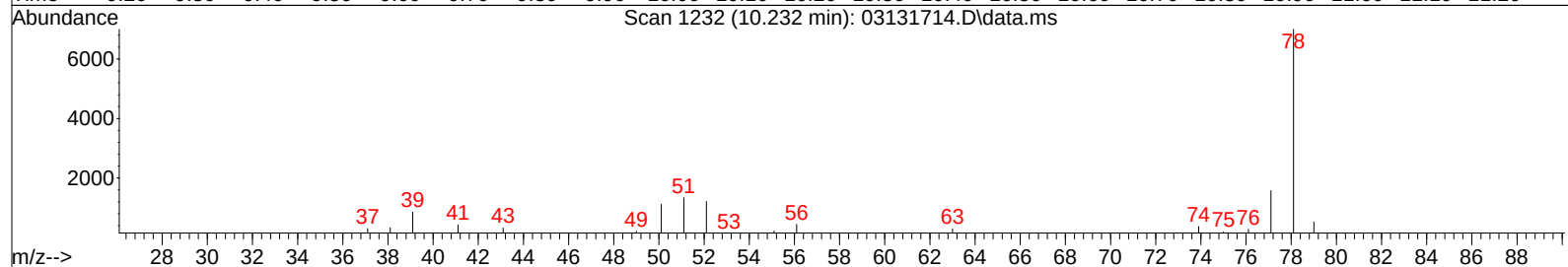
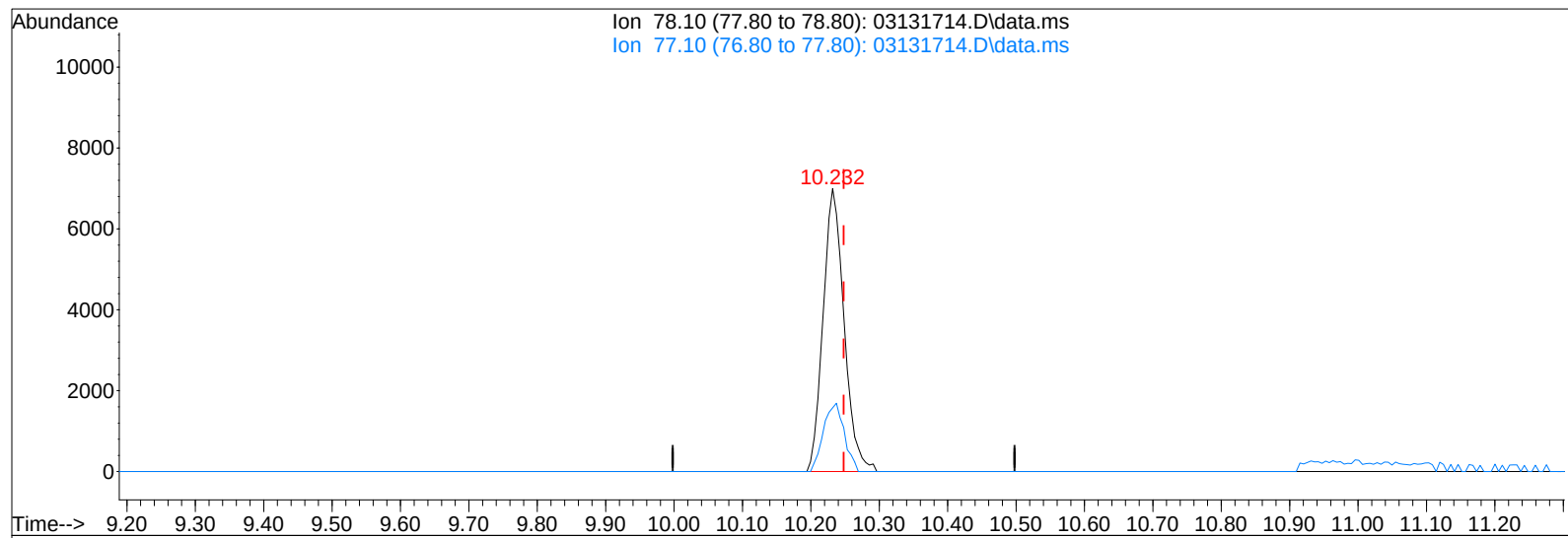
response 3473

Ion	Exp%	Act%
84.00	100	100
49.00	143.20	153.73
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\13\03131714.D
Acq On : 13 Mar 2017 14:13
Sample : P1701088-018 (1000mL) PF2
Misc : S29-01231701

Vial: 9
Operator: WA
Inst : MS08

Quant Time: Mar 13 14:52:48 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131714.D\data.ms

(41) Benzene (T)

10.232min (-0.016) 0.25ng

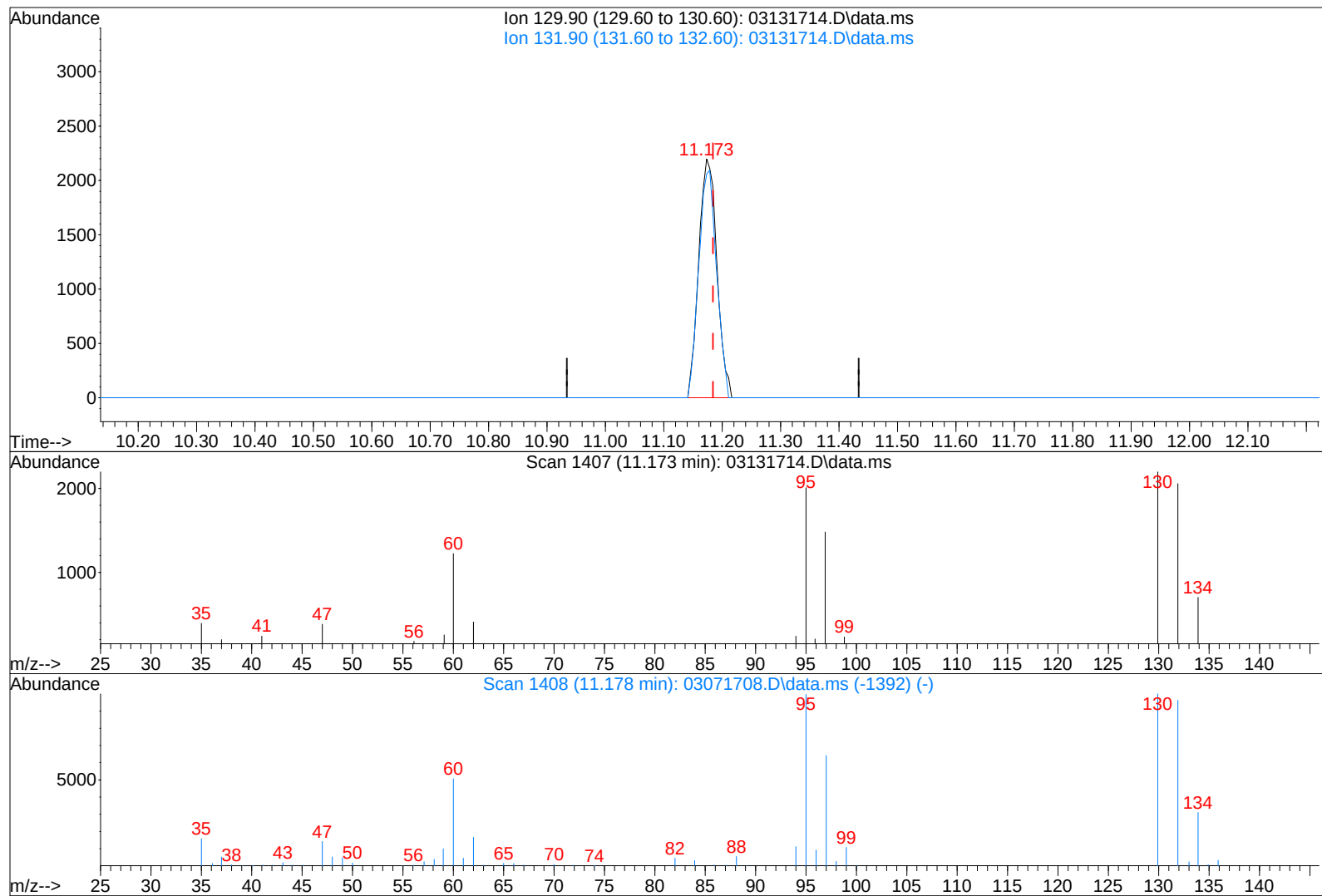
response 14902

Ion	Exp%	Act%
78.10	100	100
77.10	23.60	23.96
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\13\03131714.D
Acq On : 13 Mar 2017 14:13
Sample : P1701088-018 (1000mL) PF2
Misc : S29-01231701

Vial: 9
Operator: WA
Inst : MS08

Quant Time: Mar 13 14:52:48 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131714.D\data.ms

(47) Trichloroethene (T)

11.173min (-0.011) 0.30ng

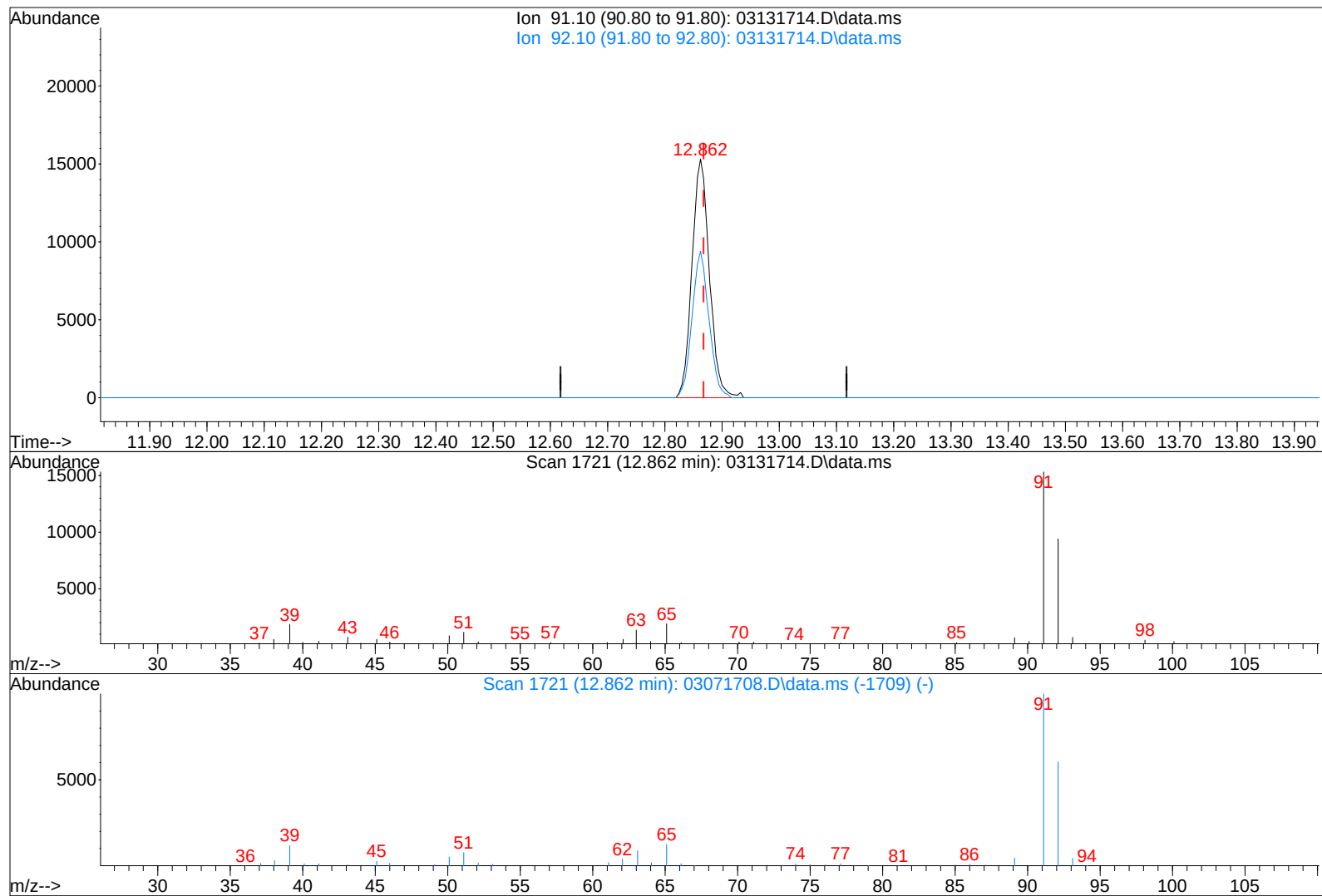
response 4743

Ion	Exp%	Act%
129.90	100	100
131.90	95.60	93.61
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\13\03131714.D
Acq On : 13 Mar 2017 14:13
Sample : P1701088-018 (1000mL) PF2
Misc : S29-01231701

Vial: 9
Operator: WA
Inst : MS08

Quant Time: Mar 13 14:52:48 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131714.D\data.ms

(58) Toluene (T)

12.862min (-0.005) 0.55ng

response 32441

Ion	Exp%	Act%
91.10	100	100
92.10	60.40	59.62
0.00	0.00	0.00
0.00	0.00	0.00

Data File: I:\MS08\Data\2017 03\13\03131715.D

Acq On : 13 Mar 2017 14:45

Operator: WA

Sample : P1701088-019 (1000mL)

Misc : S29-01231701

ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 13 15:20:08 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

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Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.80	130	153811	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	10.53	114	750901	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	334696	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	286914	12.949	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	103.60%
57) Toluene-d8 (SS2)	12.77	98	802630	12.762	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	102.08%
73) Bromofluorobenzene (SS3)	16.07	174	245873	11.922	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	95.36%

Target Compounds

						Qvalue
2) Propene	0.00	42	0	N.D.	d	
3) Dichlorodifluoromethan...	4.01	85	53420	1.806	ng	99
4) Chloromethane	4.24	50	6106	0.295	ng	65
5) 1,2-Dichloro-1,1,2,2-t...	4.38	135	963	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	5.38	45	46140	4.054	ng	98
11) Acetonitrile	5.66	41	2813	0.093	ng	# 66
12) Acrolein	5.76	56	569	N.D.		
13) Acetone	5.86	58	27105	2.430	ng	90
14) Trichlorofluoromethane	6.02	101	24119	0.921	ng	98
15) 2-Propanol (Isopropanol)	6.16	45	16688	0.401	ng	94
16) Acrylonitrile	6.40	53	261	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	6.79	59	2049	N.D.		
19) Methylene Chloride	6.80	84	3934	0.289	ng	94
20) 3-Chloro-1-propene (Al...	6.85	41	555	N.D.		
21) Trichlorotrifluoroethane	7.07	151	4607	0.379	ng	96
22) Carbon Disulfide	7.08	76	3796	N.D.		
23) trans-1,2-Dichloroethene	7.90	61	1346	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)	8.26	72	4238	0.450	ng	99
28) cis-1,2-Dichloroethene	8.67	61	1206	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	8.85	61	12102	2.693	ng	95
31) n-Hexane	8.87	57	5364	0.220	ng	98
32) Chloroform	8.91	83	1716	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	9.59	62	979	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	0.00	56	0	N.D.	d	
41) Benzene	10.23	78	15713	0.265	ng	96
42) Carbon Tetrachloride	10.37	117	6551	0.322	ng	98
43) Cyclohexane	10.48	84	15644	0.609	ng	93
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	10.86	63	418	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.18	130	3539	0.229	ng	97
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	

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Data File: I:\MS08\Data\2017 03\13\03131715.D

Acq On : 13 Mar 2017 14:45

Operator: WA

Sample : P1701088-019 (1000mL)

Misc : S29-01231701

ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 13 15:20:08 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

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	11.45	71	60979	4.029	ng	99
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	12.86	91	302158	5.164	ng	99
59) 2-Hexanone	13.04	43	2055	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.70	43	562	N.D.		
63) n-Octane	13.80	57	604	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	14.99	91	9783	0.149	ng	99
67) m- & p-Xylenes	15.16	91	26102	0.500	ng	99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.54	104	4990	0.137	ng	96
70) o-Xylene	15.64	91	8535	0.159	ng	98
71) n-Nonane	15.84	43	1473	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	16.58	93	46254	1.315	ng	95
76) n-Propylbenzene	16.70	91	1046	N.D.		
77) 3-Ethyltoluene	16.80	105	1691	N.D.		
78) 4-Ethyltoluene	16.84	105	907	N.D.		
79) 1,3,5-Trimethylbenzene	16.92	105	744	N.D.		
80) alpha-Methylstyrene	17.26	118	1502	N.D.		
81) 2-Ethyltoluene	17.10	105	617	N.D.		
82) 1,2,4-Trimethylbenzene	17.31	105	1937	N.D.		
83) n-Decane	0.00	57	0	N.D.	d	
84) Benzyl Chloride	0.00	91	0	N.D.	d	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	17.72	105	459	N.D.		
88) 4-Isopropyltoluene (p-...	17.71	119	814	N.D.		
89) 1,2,3-Trimethylbenzene	17.72	105	459	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	17.85	68	1714	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	18.62	57	1477	N.D.		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	0.00	128	0	N.D.		
96) n-Dodecane	19.58	57	644	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	15.34	55	1608	N.D.		
99) tert-Butylbenzene	17.25	119	3039	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.		

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

Data File: I:\MS08\Data\2017 03\13\03131715.D

Acq On : 13 Mar 2017 14:45

Operator: WA

Sample : P1701088-019 (1000mL)

Misc : S29-01231701

ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 13 15:20:08 2017

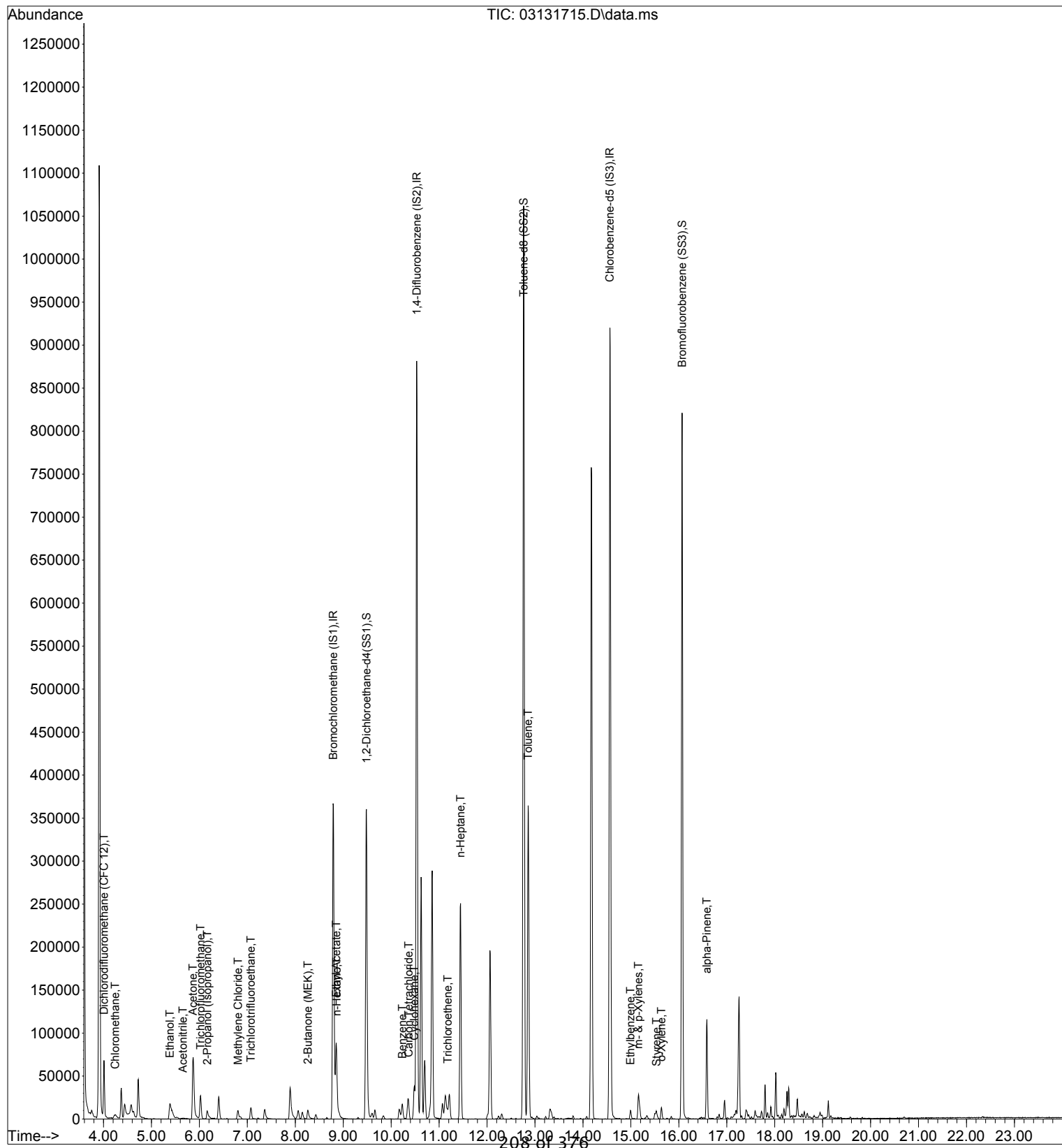
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

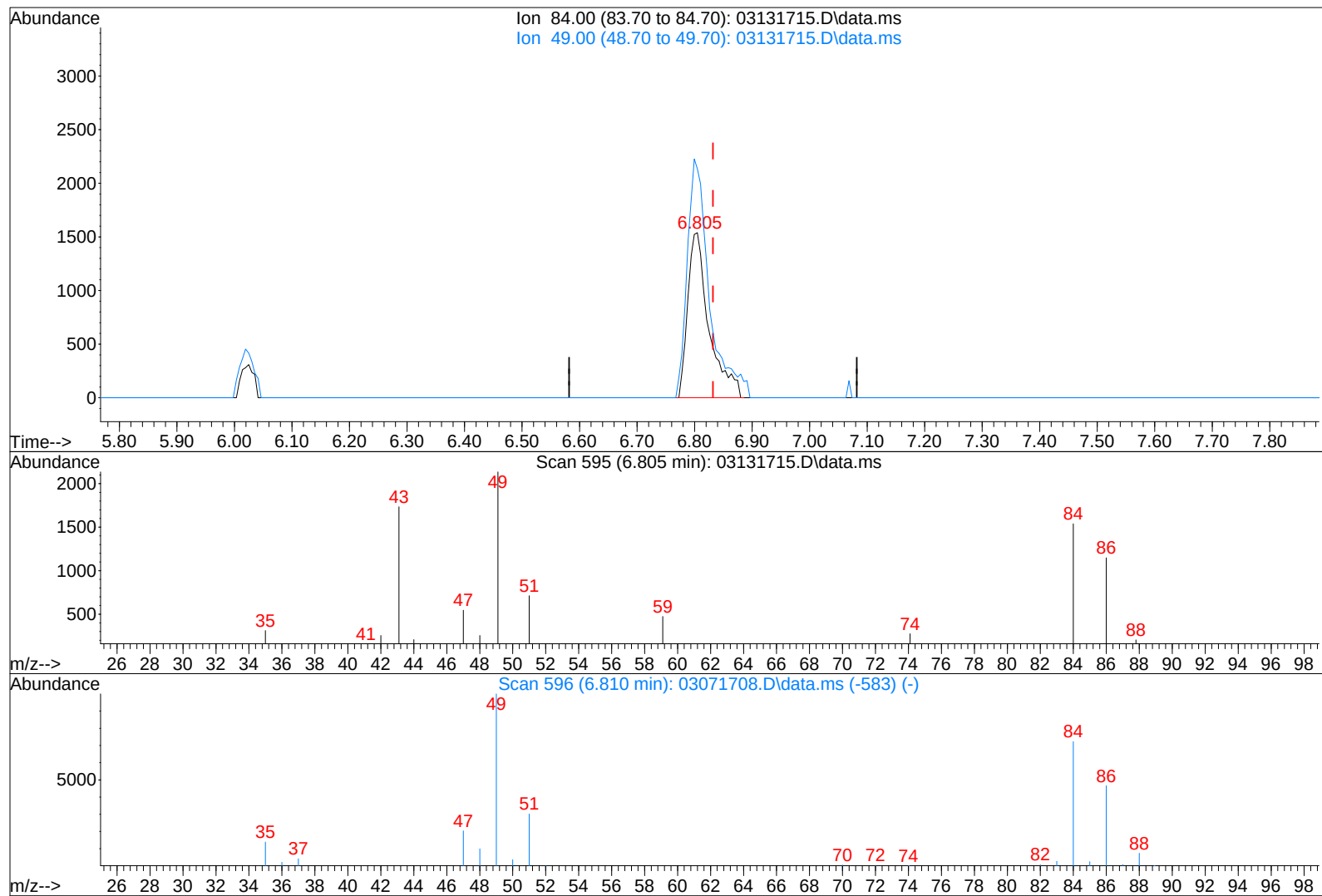
DataAcq Meth:TO15.M



Data File : I:\MS08\Data\2017 03\13\03131715.D
Acq On : 13 Mar 2017 14:45
Sample : P1701088-019 (1000mL)
Misc : S29-01231701

Vial: 10
Operator: WA
Inst : MS08

Quant Time: Mar 13 15:20:08 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131715.D\data.ms

(19) Methylene Chloride (T)

6.805min (-0.027) 0.29ng

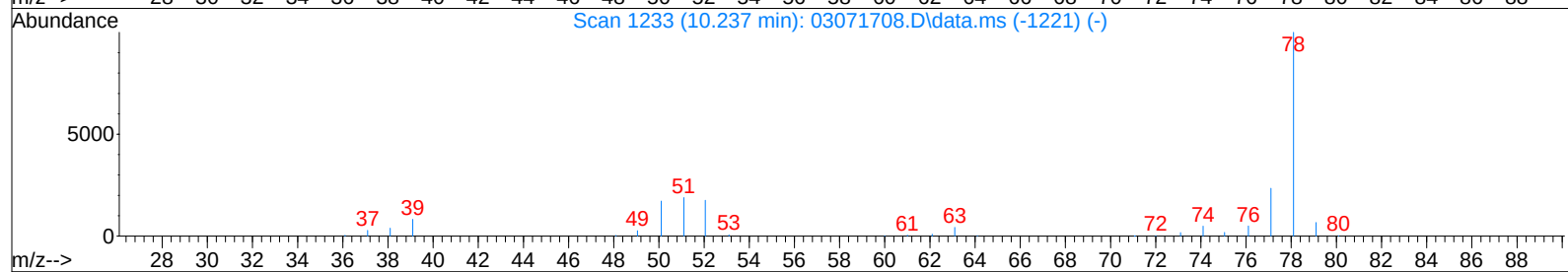
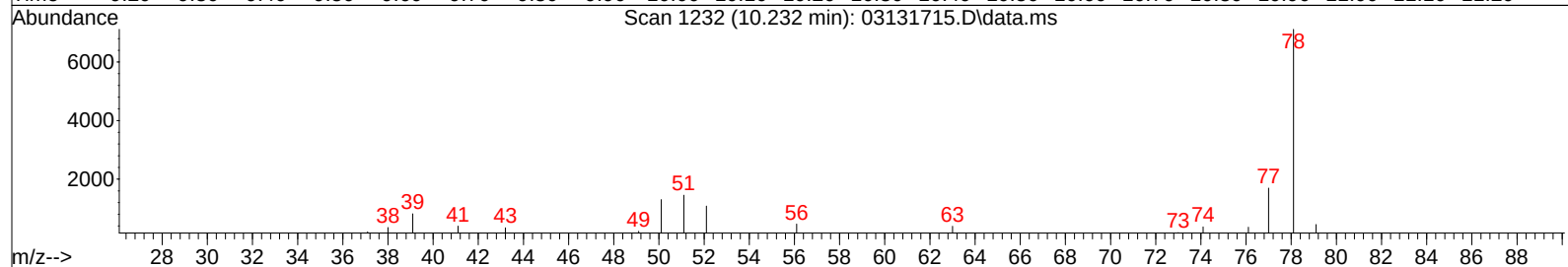
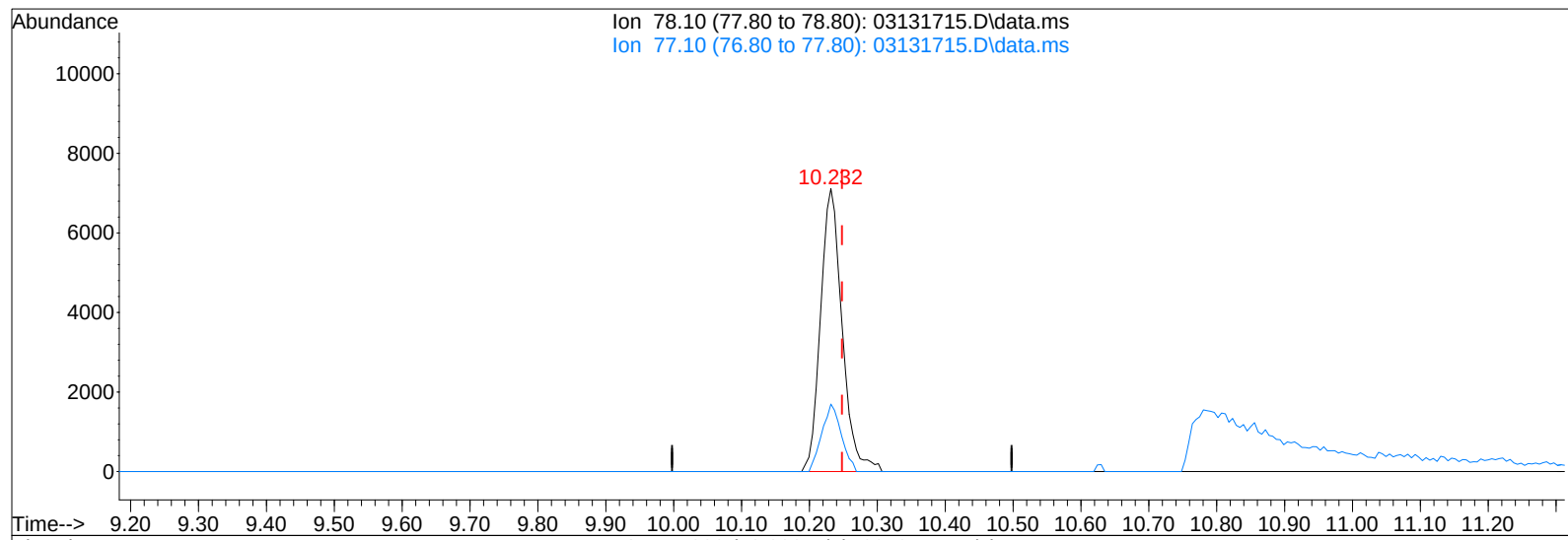
response 3934

Ion	Exp%	Act%
84.00	100	100
49.00	143.20	151.22
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\13\03131715.D
Acq On : 13 Mar 2017 14:45
Sample : P1701088-019 (1000mL)
Misc : S29-01231701

Vial: 10
Operator: WA
Inst : MS08

Quant Time: Mar 13 15:20:08 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131715.D\data.ms

(41) Benzene (T)

10.232min (-0.016) 0.26ng

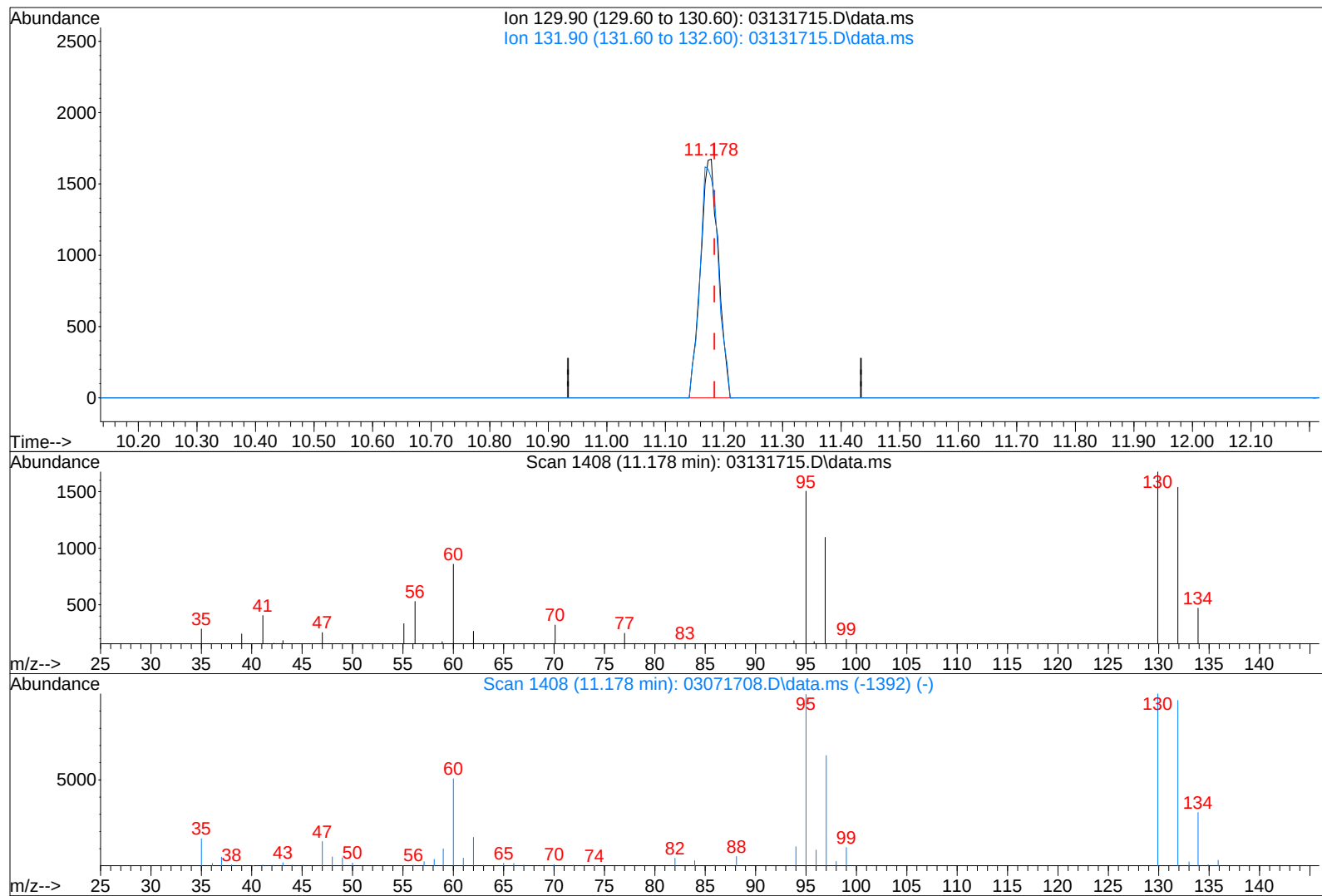
response 15713

Ion	Exp%	Act%
78.10	100	100
77.10	23.60	21.57
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\13\03131715.D
Acq On : 13 Mar 2017 14:45
Sample : P1701088-019 (1000mL)
Misc : S29-01231701

Vial: 10
Operator: WA
Inst : MS08

Quant Time: Mar 13 15:20:08 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131715.D\data.ms

(47) Trichloroethene (T)

11.178min (-0.006) 0.23ng

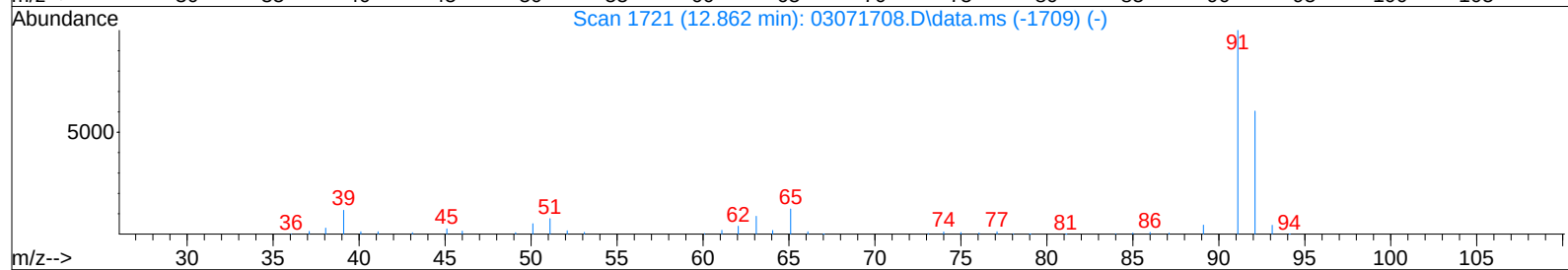
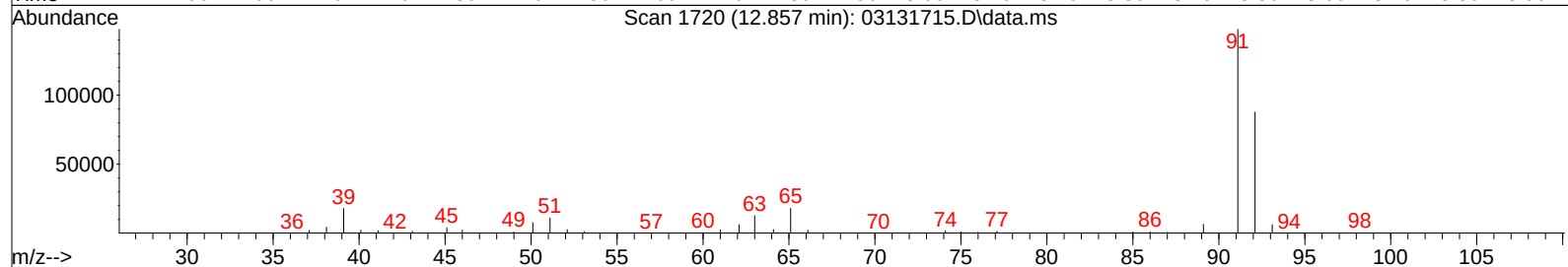
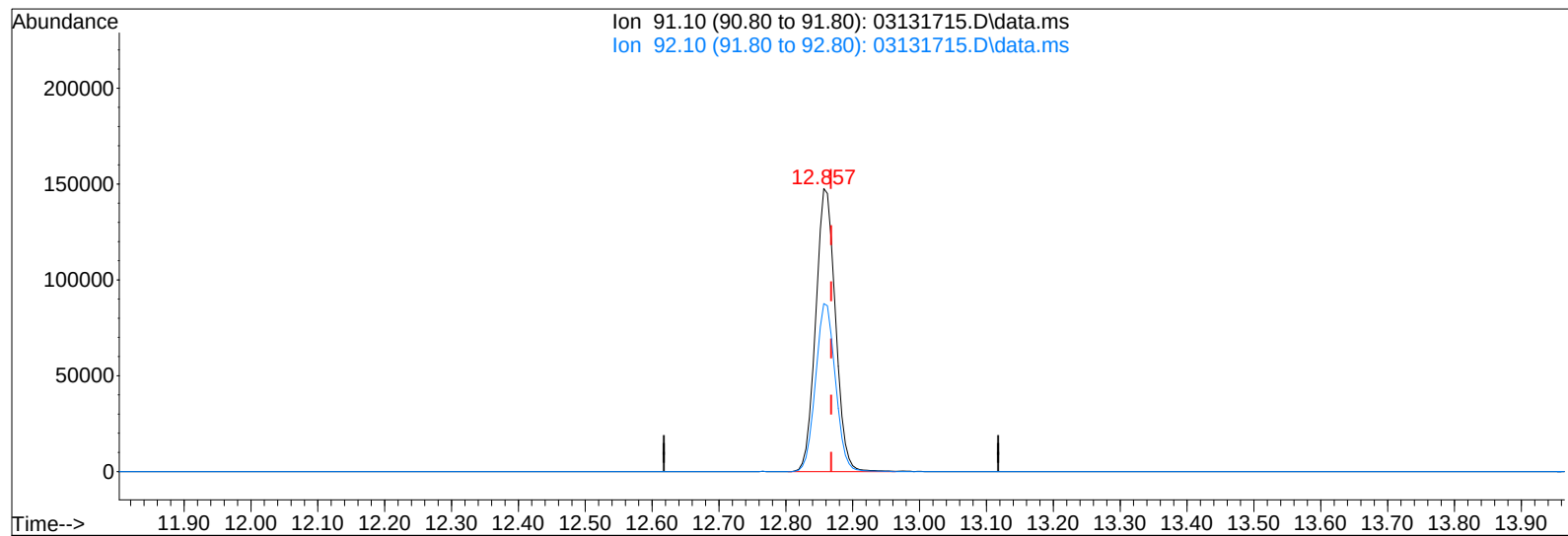
response 3539

Ion	Exp%	Act%
129.90	100	100
131.90	95.60	98.98
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS08\Data\2017 03\13\03131715.D
Acq On : 13 Mar 2017 14:45
Sample : P1701088-019 (1000mL)
Misc : S29-01231701

Vial: 10
Operator: WA
Inst : MS08

Quant Time: Mar 13 15:20:08 2017
Quant Method : I:\MS08\Methods\R8030717.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 07 07:25:36 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131715.D\data.ms

(58) Toluene (T)

12.857min (-0.011) 5.16ng

response 302158

Ion	Exp%	Act%
91.10	100	100
92.10	60.40	59.71
0.00	0.00	0.00
0.00	0.00	0.00

Data File: I:\MS09\Data\2017 03\13\03131708.D

Acq On : 13 Mar 2017 13:34

Operator: SC

Sample : P1701088-020 (1000mL)

Misc : S29-03031701

ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 13 14:00:30 2017

 3/13/17

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:48:38 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.11	130	147415	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.09	114	739272	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.44	82	331049	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.89	65	231369	10.113	ng	-0.04
Spiked Amount	12.500	Range	70 - 130	Recovery	=	80.88%
57) Toluene-d8 (SS2)	13.53	98	811791	13.273	ng	-0.01
Spiked Amount	12.500	Range	70 - 130	Recovery	=	106.16%
73) Bromofluorobenzene (SS3)	17.04	174	220021	14.543	ng	-0.01
Spiked Amount	12.500	Range	70 - 130	Recovery	=	116.32%

Target Compounds

						Qvalue
2) Propene	0.00	42	0	N.D.	d	
3) Dichlorodifluoromethan...	3.97	85	46681	1.252	ng	100
4) Chloromethane	4.18	50	7144	0.176	ng	98
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	949	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.63	54	623	N.D.		
8) Bromomethane	4.92	94	620	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.32	45	25788	1.265	ng	93
11) Acetonitrile	5.54	41	4162	N.D.		
12) Acrolein	5.68	56	3470	0.234	ng	97
13) Acetone	5.82	58	47813	2.596	ng	# 78
14) Trichlorofluoromethane	6.01	101	19030	0.664	ng	98
15) 2-Propanol (Isopropanol)	6.14	45	8858	0.139	ng	98
16) Acrylonitrile	6.35	53	123	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	6.82	59	1540	N.D.		
19) Methylene Chloride	6.84	84	3866	0.179	ng	# 78
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	7.16	151	4067	0.321	ng	89
22) Carbon Disulfide	7.14	76	3179	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	8.11	73	1175	N.D.		
26) Vinyl Acetate	8.23	86	1281	0.360	ng	# 19
27) 2-Butanone (MEK)	8.50	72	7297	0.545	ng	# 87
28) cis-1,2-Dichloroethene	8.95	61	615	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	9.19	61	14588	1.785	ng	98
31) n-Hexane	9.20	57	2627	N.D.		
32) Chloroform	9.26	83	1440	N.D.		
34) Tetrahydrofuran (THF)	9.68	72	460	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	10.01	62	666	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	0.00	56	0	N.D.	d	
41) Benzene	10.72	78	19518	0.230	ng	98
42) Carbon Tetrachloride	10.88	117	3821	0.178	ng	94
43) Cyclohexane	11.01	84	637	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	11.79	130	1125	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	11.84	57	3988	N.D.		

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Data File: I:\MS09\Data\2017 03\13\03131708.D

Acq On : 13 Mar 2017 13:34

Operator: SC

Sample : P1701088-020 (1000mL)

Misc : S29-03031701

ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 13 14:00:30 2017

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:48:38 2017

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	12.11	71	910	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	12.68	58	486	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	13.63	91	22446	0.314	ng	98
59) 2-Hexanone	13.89	43	3628	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	14.53	43	1463	N.D.		
63) n-Octane	14.64	57	431	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.89	91	7127	0.092	ng	95
67) m- & p-Xylenes	16.07	91	18237	0.307	ng	97
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.46	104	6904	0.156	ng	97
70) o-Xylene	16.57	91	6024	0.100	ng	98
71) n-Nonane	16.81	43	1616	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.19	105	773	N.D.		
75) alpha-Pinene	17.59	93	42890	1.106	ng	99
76) n-Propylbenzene	17.72	91	1270	N.D.		
77) 3-Ethyltoluene	17.83	105	2035	N.D.		
78) 4-Ethyltoluene	17.87	105	1149	N.D.		
79) 1,3,5-Trimethylbenzene	17.94	105	816	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	18.14	105	993	N.D.		
82) 1,2,4-Trimethylbenzene	18.38	105	2121	N.D.		
83) n-Decane	0.00	57	0	N.D.	d	
84) Benzyl Chloride	18.51	91	505	N.D.		
85) 1,3-Dichlorobenzene	18.60	146	627	N.D.		
86) 1,4-Dichlorobenzene	18.60	146	627	N.D.		
87) sec-Butylbenzene	18.83	105	585	N.D.		
88) 4-Isopropyltoluene (p-...	18.83	119	1451	N.D.		
89) 1,2,3-Trimethylbenzene	18.83	105	585	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	18.98	68	3925	0.130	ng	83
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	19.83	57	1823	N.D.		
94) 1,2,4-Trichlorobenzene	20.78	180	448	N.D.		
95) Naphthalene	20.89	128	3293	N.D.		
96) n-Dodecane	20.92	57	759	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	0.00	119	0	N.D.		
100) n-Butylbenzene	19.26	91	919	N.D.		

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

Data File: I:\MS09\Data\2017 03\13\03131708.D

Acq On : 13 Mar 2017 13:34

Operator: SC

Sample : P1701088-020 (1000mL)

Misc : S29-03031701

ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 13 14:00:30 2017

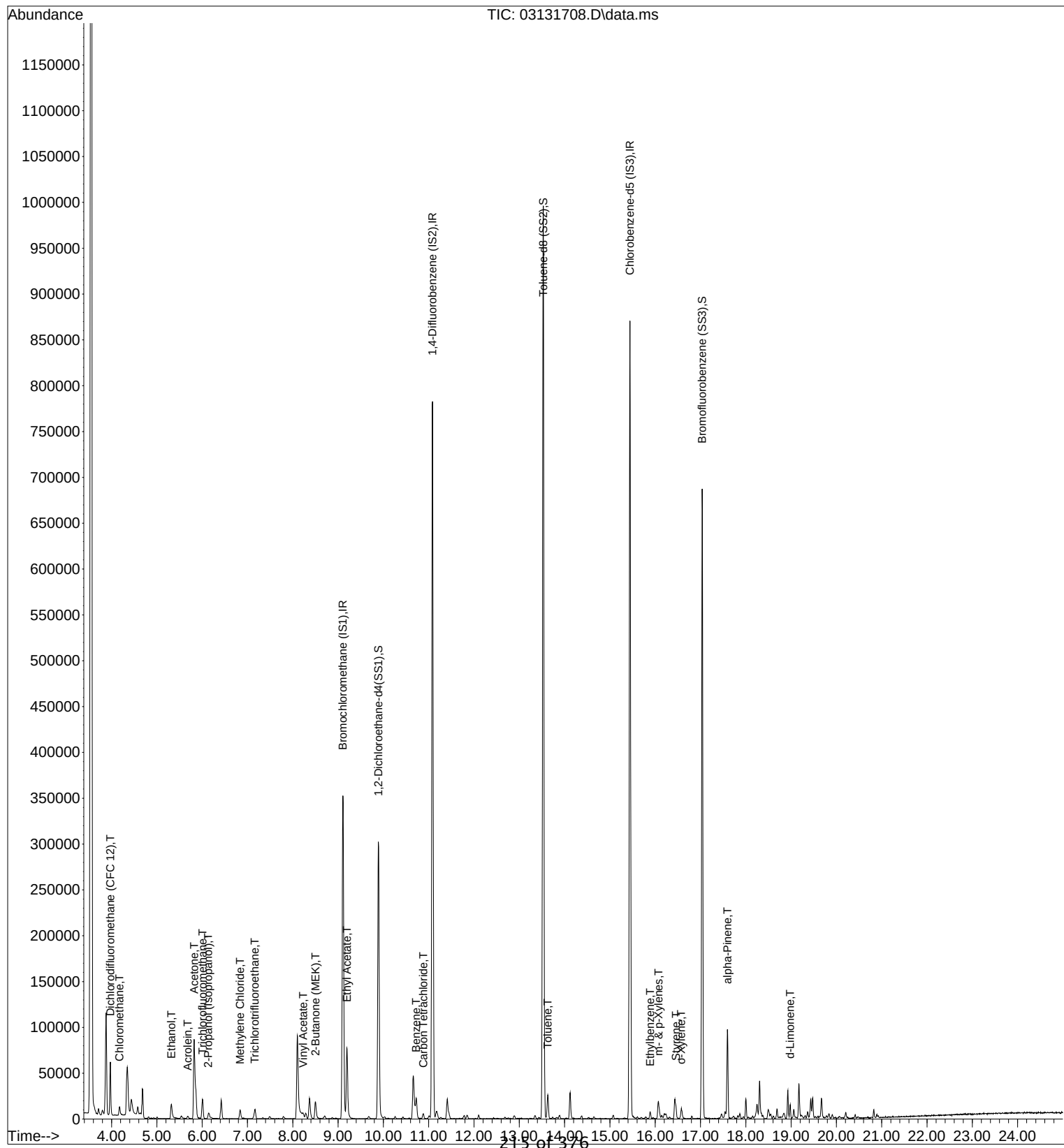
Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:48:38 2017

Response via : Initial Calibration

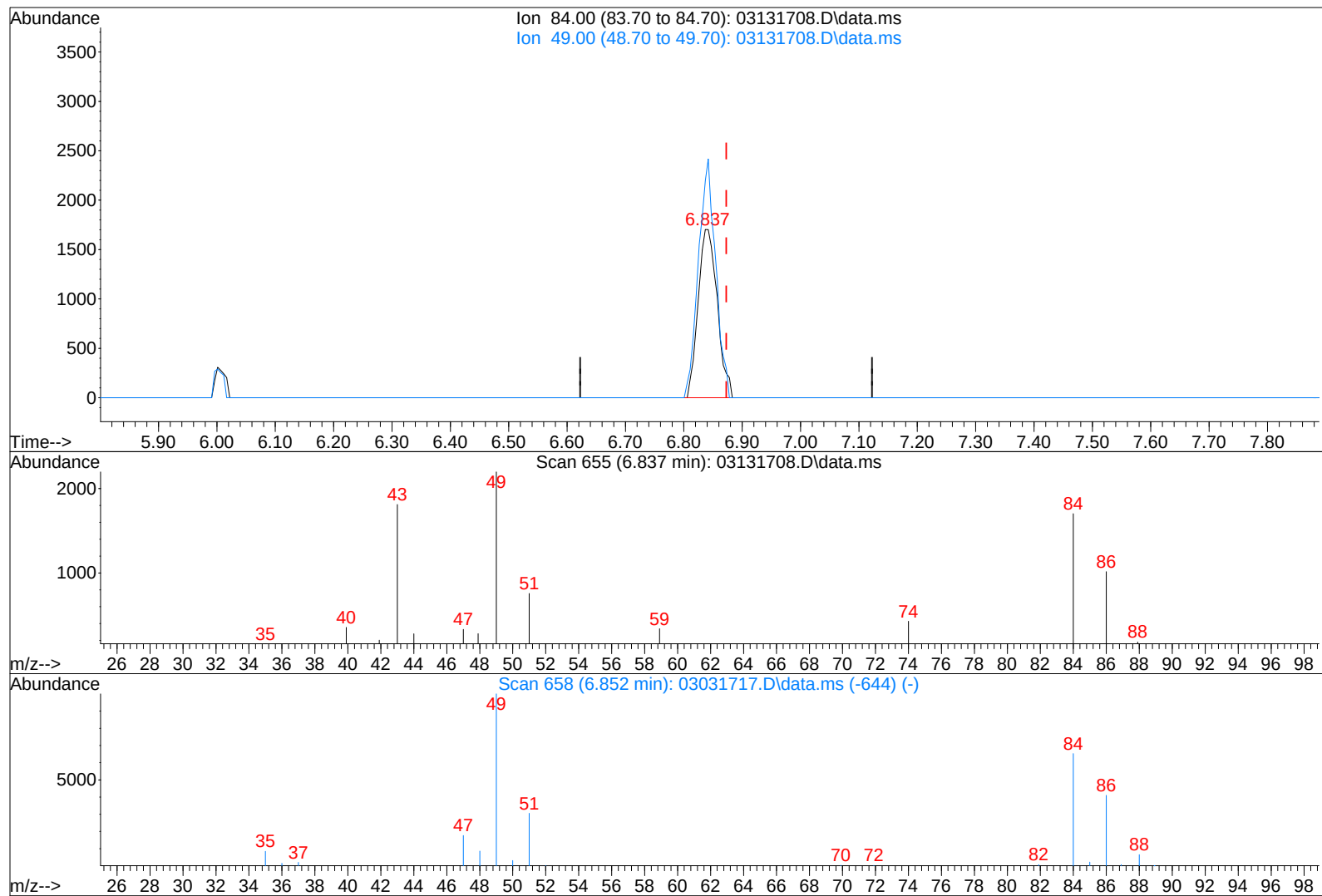
DataAcq Meth:TO15.M



Data File : I:\MS09\Data\2017 03\13\03131708.D
Acq On : 13 Mar 2017 13:34
Sample : P1701088-020 (1000mL)
Misc : S29-03031701

Vial: 5
Operator: SC
Inst : MS09

Quant Time: Mar 13 14:00:30 2017
Quant Method : I:\MS09\Methods\R9030317.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 06 08:48:38 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131708.D\data.ms

(19) Methylene Chloride (T)

6.837min (-0.036) 0.18ng

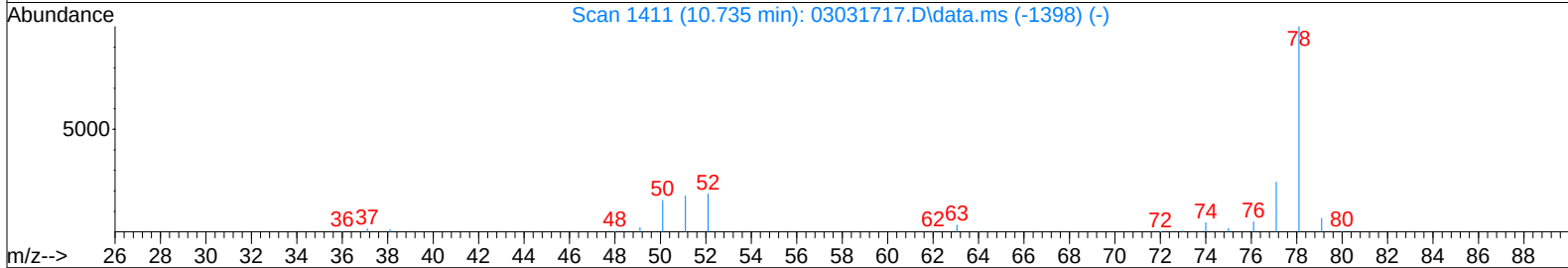
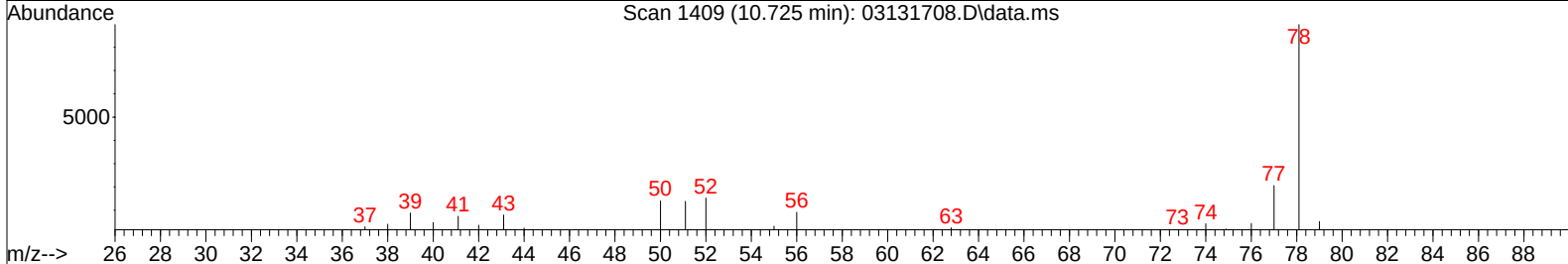
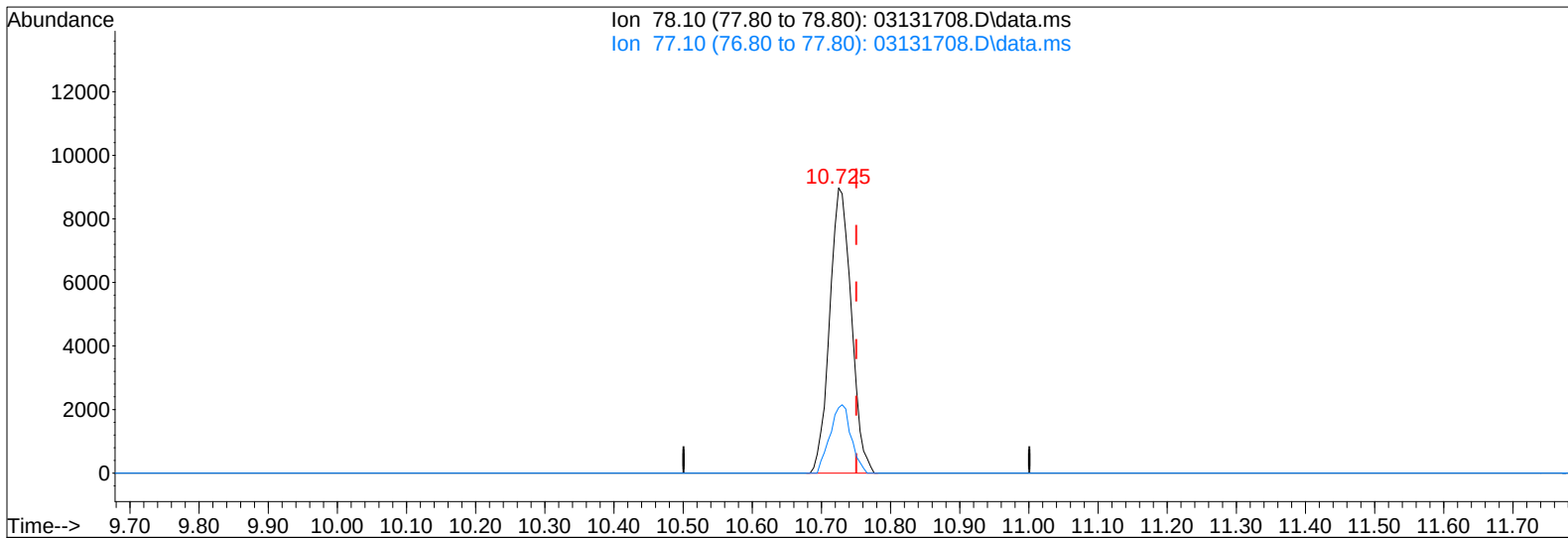
response 3866

Ion	Exp%	Act%
84.00	100	100
49.00	157.10	128.27#
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS09\Data\2017 03\13\03131708.D
Acq On : 13 Mar 2017 13:34
Sample : P1701088-020 (1000mL)
Misc : S29-03031701

Vial: 5
Operator: SC
Inst : MS09

Quant Time: Mar 13 14:00:30 2017
Quant Method : I:\MS09\Methods\R9030317.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 06 08:48:38 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131708.D\data.ms

(41) Benzene (T)

10.725min (-0.026) 0.23ng

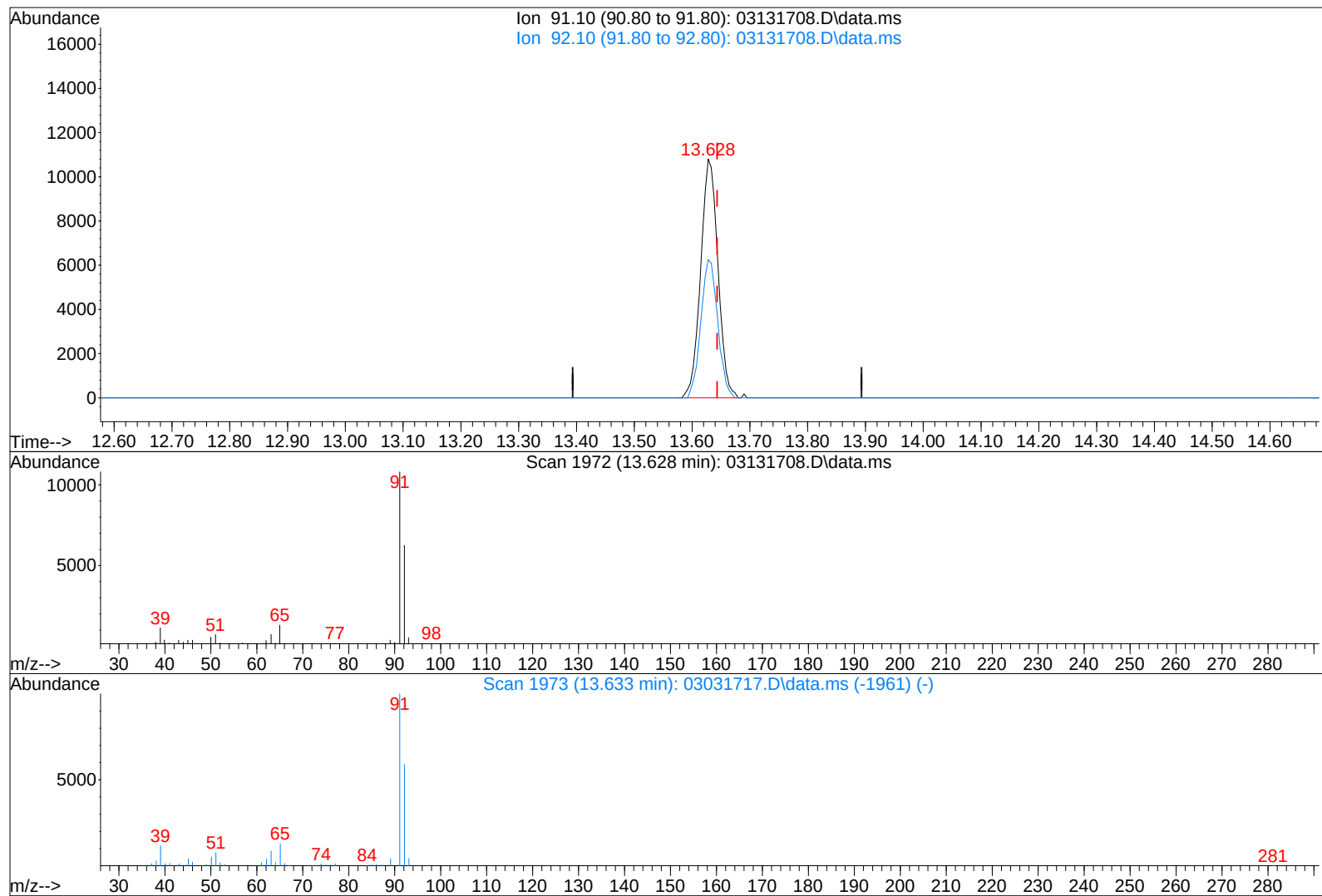
response 19518

Ion	Exp%	Act%
78.10	100	100
77.10	24.10	23.27
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS09\Data\2017 03\13\03131708.D
Acq On : 13 Mar 2017 13:34
Sample : P1701088-020 (1000mL)
Misc : S29-03031701

Vial: 5
Operator: SC
Inst : MS09

Quant Time: Mar 13 14:00:30 2017
Quant Method : I:\MS09\Methods\R9030317.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 06 08:48:38 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131708.D\data.ms

(58) Toluene (T)

13.628min (-0.015) 0.31ng

response 22446

Ion	Exp%	Act%
91.10	100	100
92.10	58.20	56.48
0.00	0.00	0.00
0.00	0.00	0.00

Data File: I:\MS09\Data\2017 03\13\03131709.D

Acq On : 13 Mar 2017 14:08

Operator: SC

Sample : P1701088-021 (1000mL)

Misc : S29-03031701

ALS Vial : 6 Sample Multiplier: 1

 3/13/17

Quant Time: Mar 13 14:36:04 2017

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:48:38 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.11	130	140426	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.09	114	698743	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.44	82	310905	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.89	65	219053	10.051	ng	-0.04
Spiked Amount	12.500	Range	70 - 130	Recovery	=	80.40%
57) Toluene-d8 (SS2)	13.53	98	768673	13.382	ng	-0.01
Spiked Amount	12.500	Range	70 - 130	Recovery	=	107.04%
73) Bromofluorobenzene (SS3)	17.04	174	209376	14.736	ng	-0.01
Spiked Amount	12.500	Range	70 - 130	Recovery	=	117.92%

Target Compounds

						Qvalue
2) Propene	3.84	42	170876	5.985	ng	# 87
3) Dichlorodifluoromethan...	3.96	85	47482	1.336	ng	100
4) Chloromethane	4.15	50	8716	0.226	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.32	135	1000	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.61	54	5728	0.259	ng	94
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.33	45	600171	30.913	ng	99
11) Acetonitrile	5.53	41	21056	0.434	ng	96
12) Acrolein	5.67	56	7202	0.510	ng	97
13) Acetone	5.80	58	239110	13.629	ng	92
14) Trichlorofluoromethane	6.00	101	19592	0.717	ng	98
15) 2-Propanol (Isopropanol)	6.13	45	260871	4.303	ng	100
16) Acrylonitrile	6.34	53	1569	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	6.81	59	2976	N.D.		
19) Methylene Chloride	6.83	84	4783	0.232	ng	# 80
20) 3-Chloro-1-propene (Al...	6.96	41	527	N.D.		
21) Trichlorotrifluoroethane	7.16	151	4242	0.351	ng	# 81
22) Carbon Disulfide	7.13	76	6659	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	8.07	63	2118	N.D.		
25) Methyl tert-Butyl Ether	8.11	73	801	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	8.49	72	25507	2.000	ng	# 90
28) cis-1,2-Dichloroethene	8.95	61	12364	0.427	ng	91
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	9.19	61	18675	2.399	ng	87
31) n-Hexane	9.20	57	203235	5.142	ng	99
32) Chloroform	9.26	83	4504	0.143	ng	99
34) Tetrahydrofuran (THF)	9.65	72	15187	1.100	ng	# 88
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	10.01	62	1029	N.D.		
38) 1,1,1-Trichloroethane	10.27	97	3485	0.139	ng	92
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	10.73	78	43688	0.544	ng	98
42) Carbon Tetrachloride	10.88	117	6103	0.301	ng	99
43) Cyclohexane	11.01	84	25400	0.893	ng	90
44) tert-Amyl Methyl Ether	11.44	73	952	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.78	130	32145	1.813	ng	99
48) 1,4-Dioxane	0.00	88	0	N.D.	d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	

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Data File: I:\MS09\Data\2017 03\13\03131709.D

Acq On : 13 Mar 2017 14:08

Operator: SC

Sample : P1701088-021 (1000mL)

Misc : S29-03031701

ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 13 14:36:04 2017

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:48:38 2017

Response via : Initial Calibration

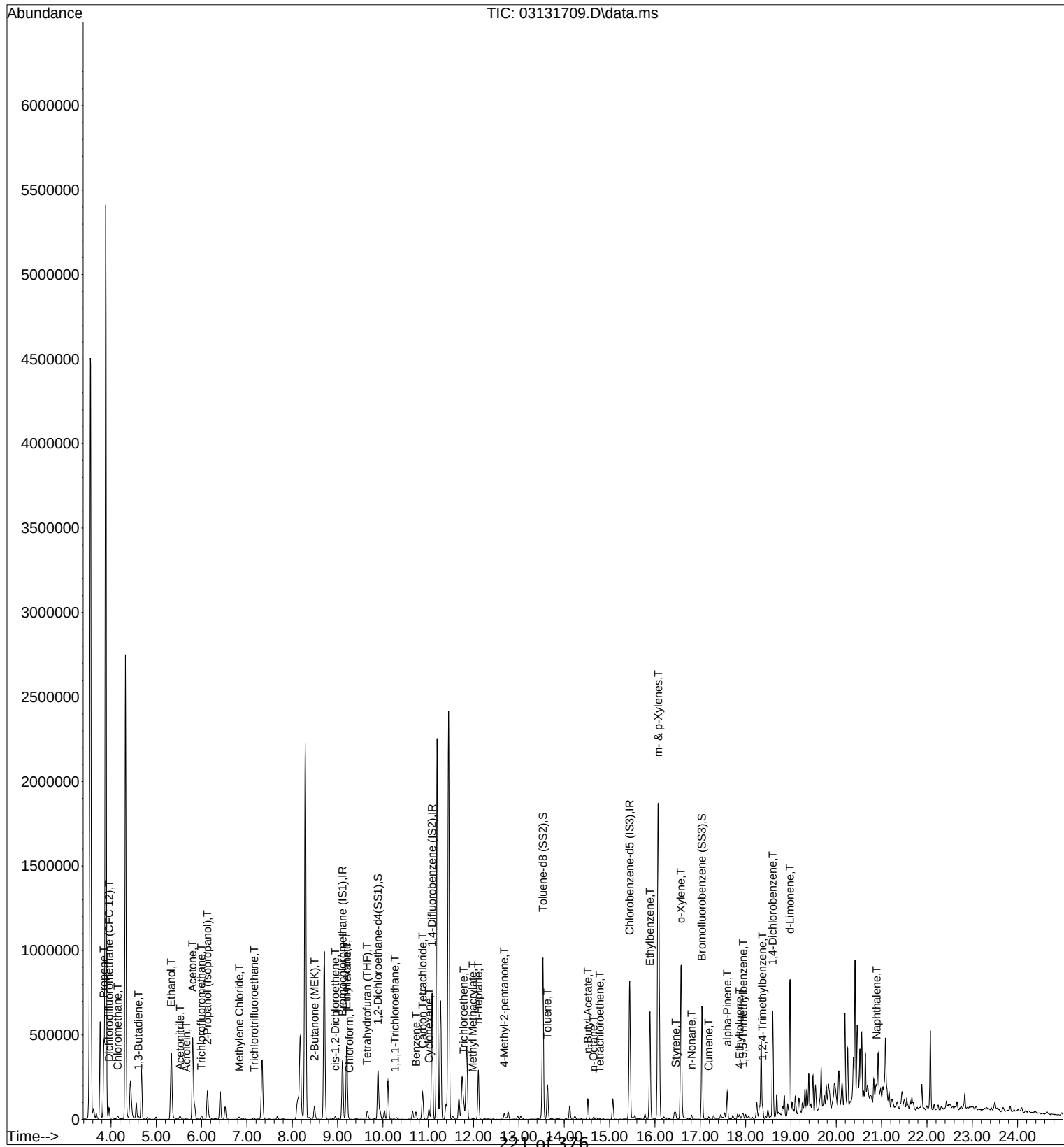
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.98	100	861	0.134	ng	98
51) n-Heptane	12.11	71	76546	3.804	ng	94
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	12.68	58	12022	0.588	ng	87
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	13.63	91	169848	2.534	ng	99
59) 2-Hexanone	13.88	43	3634	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	14.52	43	100072	1.985	ng	95
63) n-Octane	14.64	57	2550	0.149	ng	95
64) Tetrachloroethene	14.78	166	1816	0.133	ng	94
65) Chlorobenzene	15.49	112	581	N.D.		
66) Ethylbenzene	15.89	91	570256	7.860	ng	98
67) m- & p-Xylenes	16.07	91	1745314	31.280	ng	97
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.46	104	20745	0.500	ng	97
70) o-Xylene	16.57	91	500852	8.821	ng	97
71) n-Nonane	16.81	43	11159	0.254	ng	97
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.19	105	8211	0.120	ng	98
75) alpha-Pinene	17.59	93	71311	1.958	ng	97
76) n-Propylbenzene	17.72	91	7456	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	17.87	105	7352	0.115	ng	99
79) 1,3,5-Trimethylbenzene	17.94	105	7245	0.129	ng	99
80) alpha-Methylstyrene	18.10	118	1841	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	18.37	105	28403	0.501	ng	91
83) n-Decane	0.00	57	0	N.D.	d	
84) Benzyl Chloride	18.51	91	794	N.D.		
85) 1,3-Dichlorobenzene	18.53	146	531	N.D.		
86) 1,4-Dichlorobenzene	18.60	146	274530	9.406	ng	100
87) sec-Butylbenzene	18.66	105	1403	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	d	
91) d-Limonene	18.98	68	216033	7.616	ng	90
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	20.78	180	607	N.D.		
95) Naphthalene	20.89	128	21403	0.306	ng	97
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	18.34	119	4547	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.	d	

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

Operator: SC

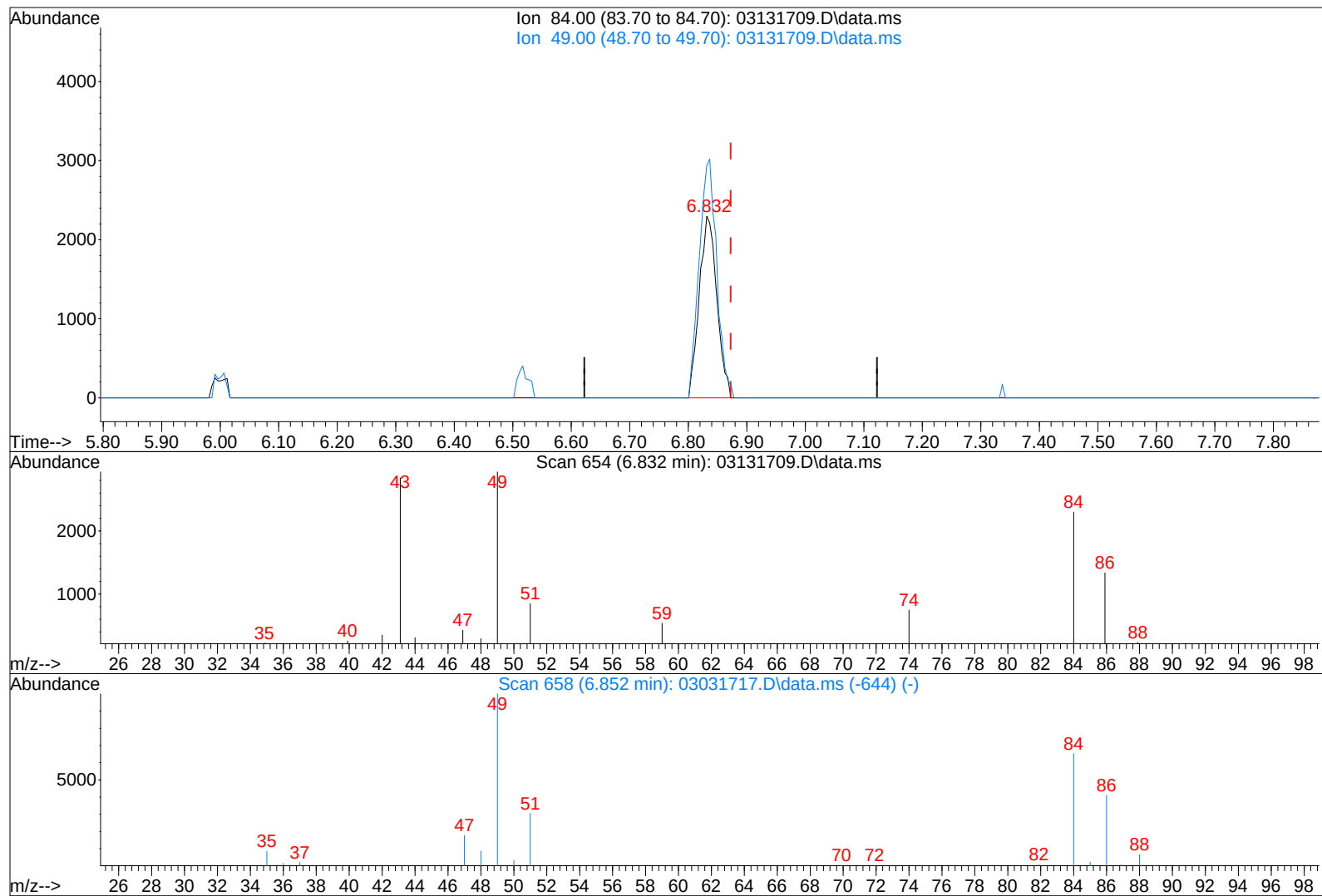
DataAcq Meth:T015.M



Data File : I:\MS09\Data\2017 03\13\03131709.D
Acq On : 13 Mar 2017 14:08
Sample : P1701088-021 (1000mL)
Misc : S29-03031701

Vial: 6
Operator: SC
Inst : MS09

Quant Time: Mar 13 14:36:04 2017
Quant Method : I:\MS09\Methods\R9030317.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 06 08:48:38 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131709.D\data.ms

(19) Methylene Chloride (T)

6.832min (-0.041) 0.23ng

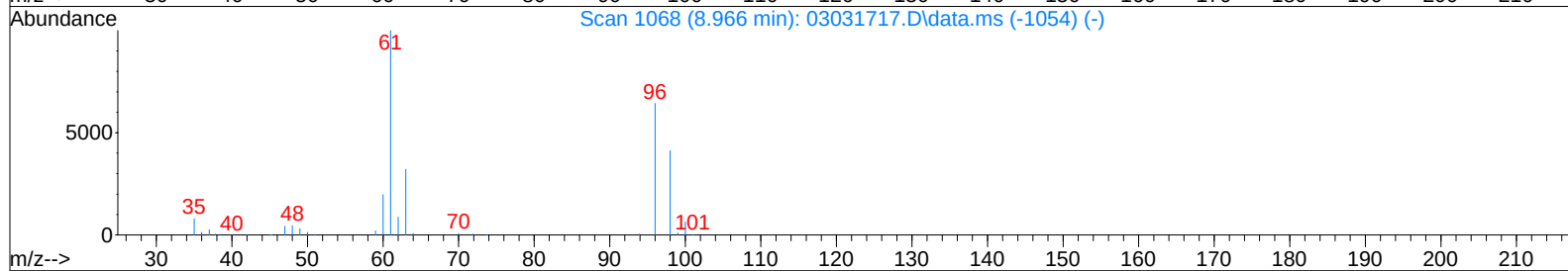
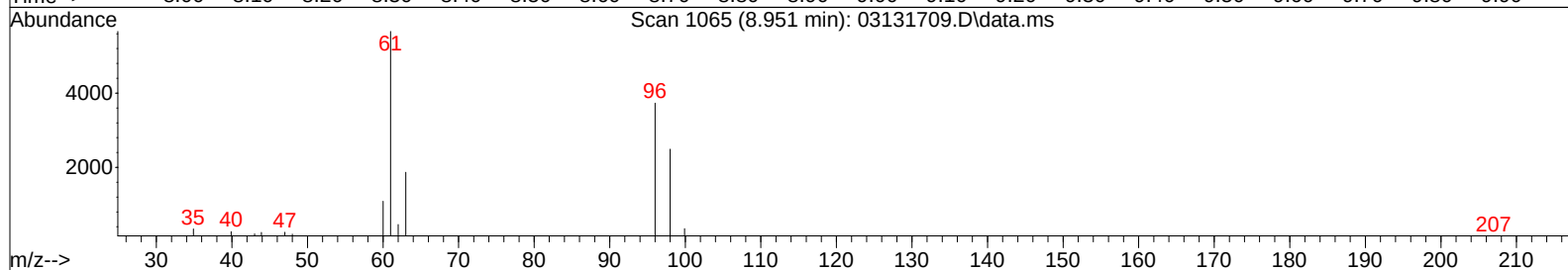
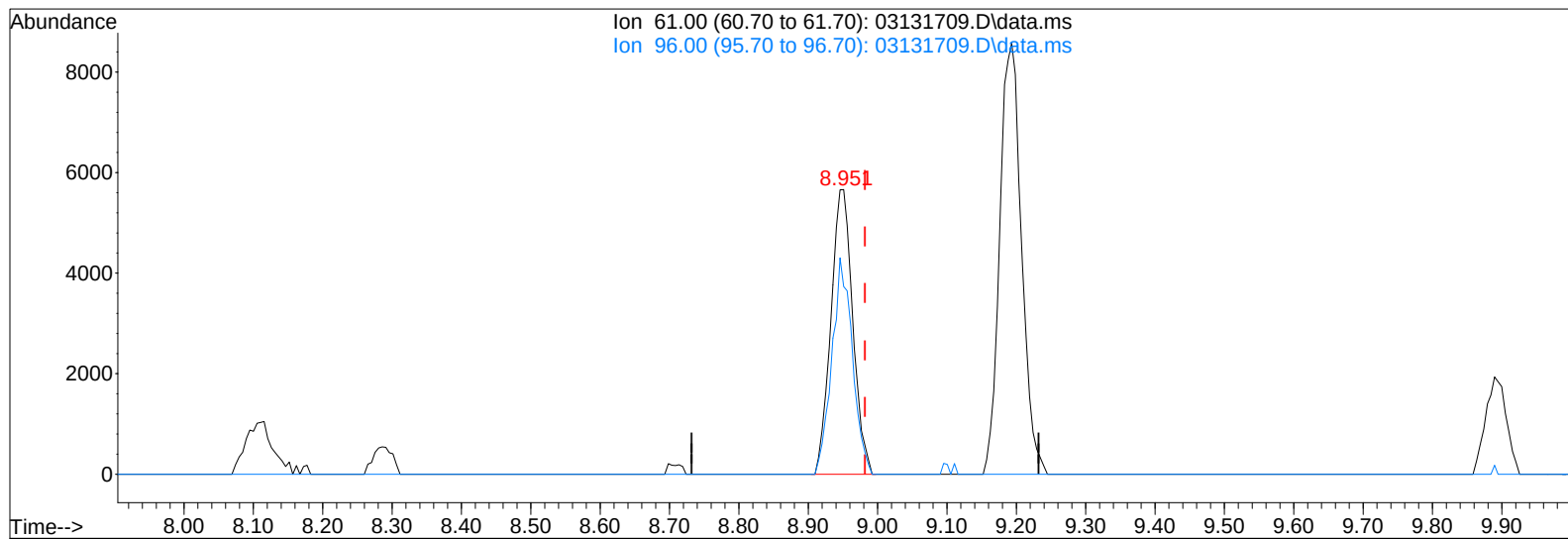
response 4783

Ion	Exp%	Act%
84.00	100	100
49.00	157.10	131.51#
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS09\Data\2017 03\13\03131709.D
Acq On : 13 Mar 2017 14:08
Sample : P1701088-021 (1000mL)
Misc : S29-03031701

Vial: 6
Operator: SC
Inst : MS09

Quant Time: Mar 13 14:36:04 2017
Quant Method : I:\MS09\Methods\R9030317.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 06 08:48:38 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131709.D\data.ms

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

8.951min (-0.031) 0.43ng

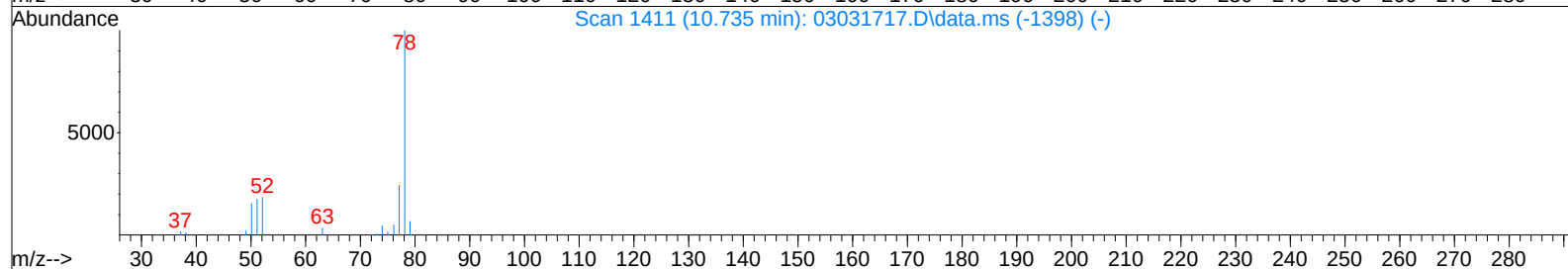
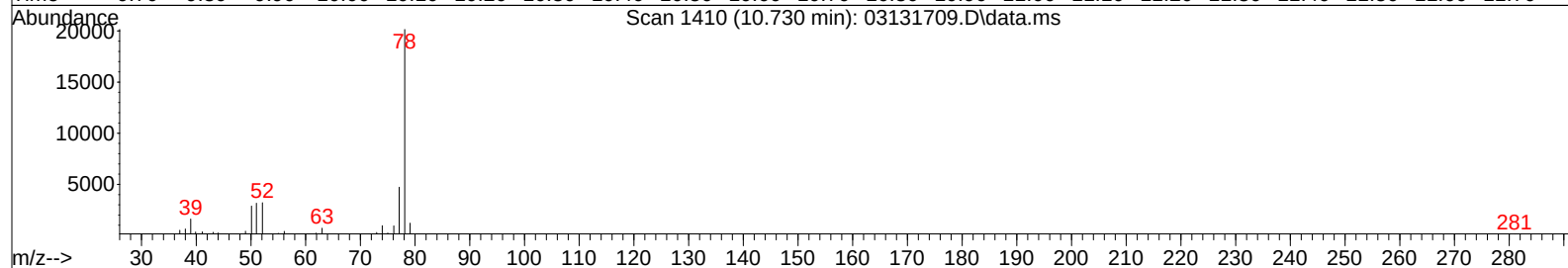
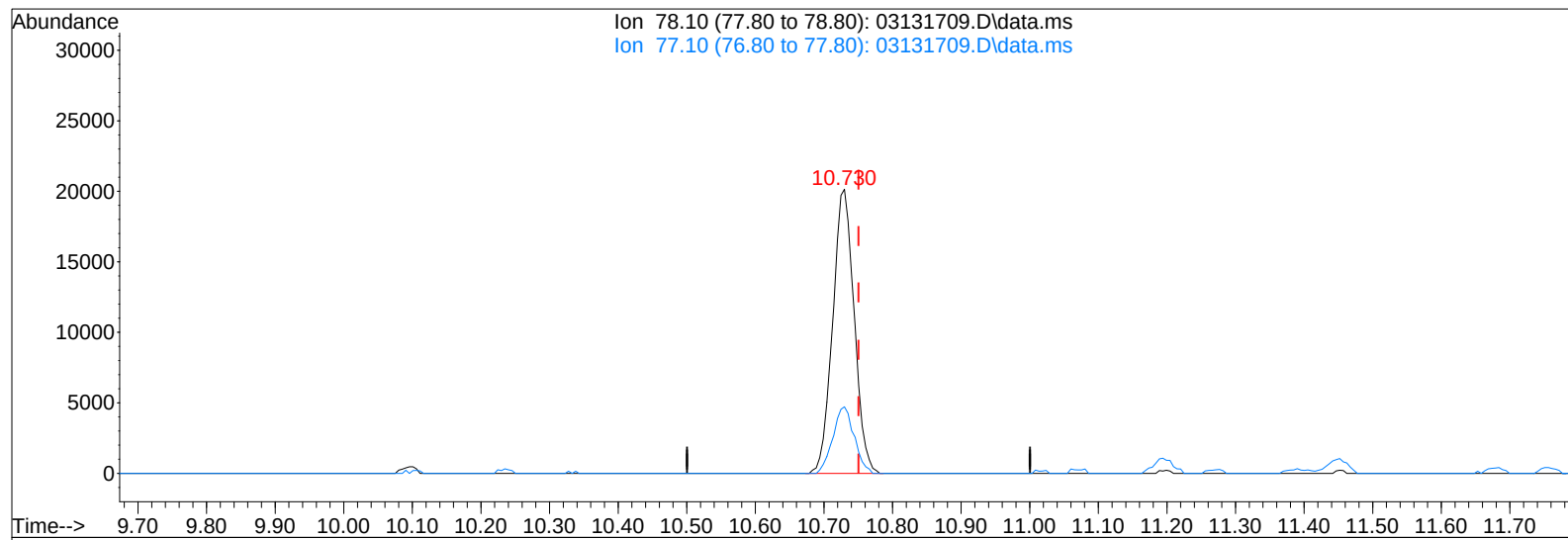
response 12364

Ion	Exp%	Act%
61.00	100	100
96.00	64.10	71.20
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS09\Data\2017 03\13\03131709.D
Acq On : 13 Mar 2017 14:08
Sample : P1701088-021 (1000mL)
Misc : S29-03031701

Vial: 6
Operator: SC
Inst : MS09

Quant Time: Mar 13 14:36:04 2017
Quant Method : I:\MS09\Methods\R9030317.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 06 08:48:38 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131709.D\data.ms

(41) Benzene (T)

10.730min (-0.021) 0.54ng

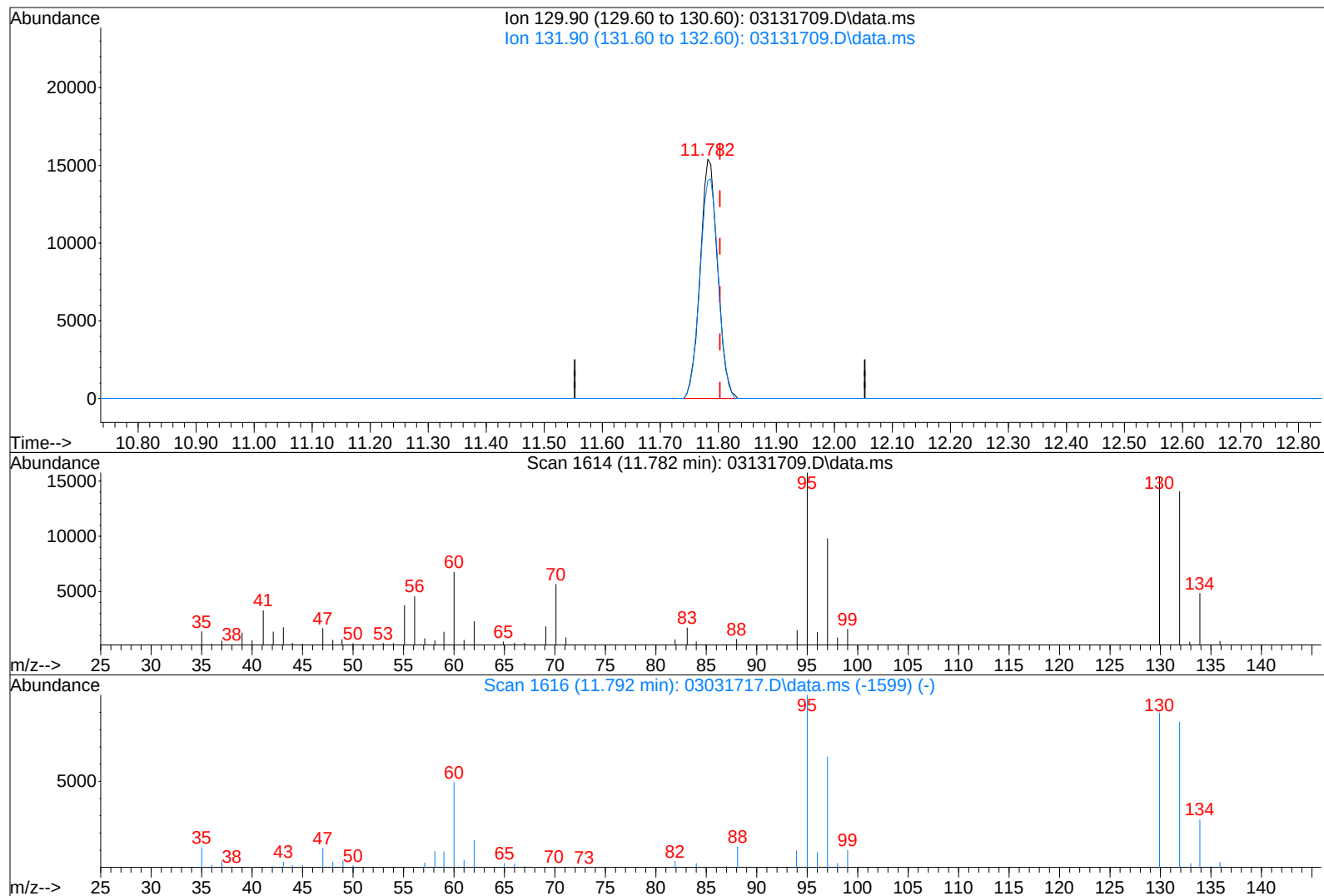
response 43688

Ion	Exp%	Act%
78.10	100	100
77.10	24.10	23.26
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS09\Data\2017 03\13\03131709.D
Acq On : 13 Mar 2017 14:08
Sample : P1701088-021 (1000mL)
Misc : S29-03031701

Vial: 6
Operator: SC
Inst : MS09

Quant Time: Mar 13 14:36:04 2017
Quant Method : I:\MS09\Methods\R9030317.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 06 08:48:38 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131709.D\data.ms

(47) Trichloroethene (T)

11.782min (-0.021) 1.81ng

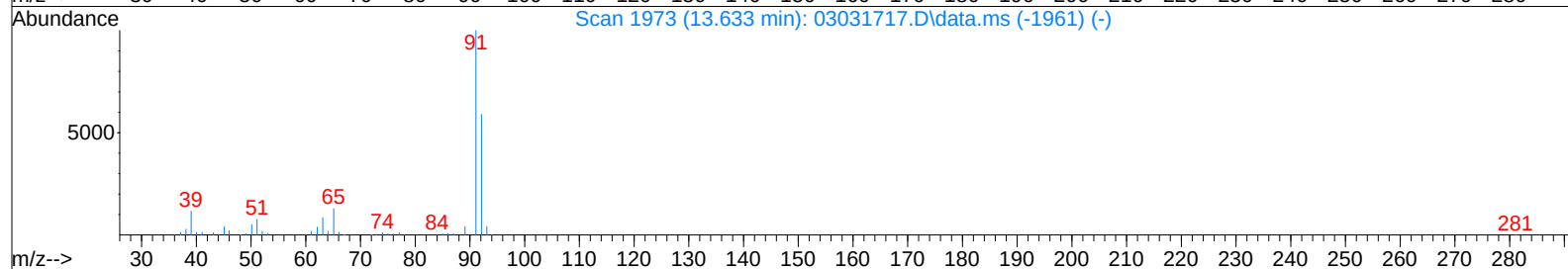
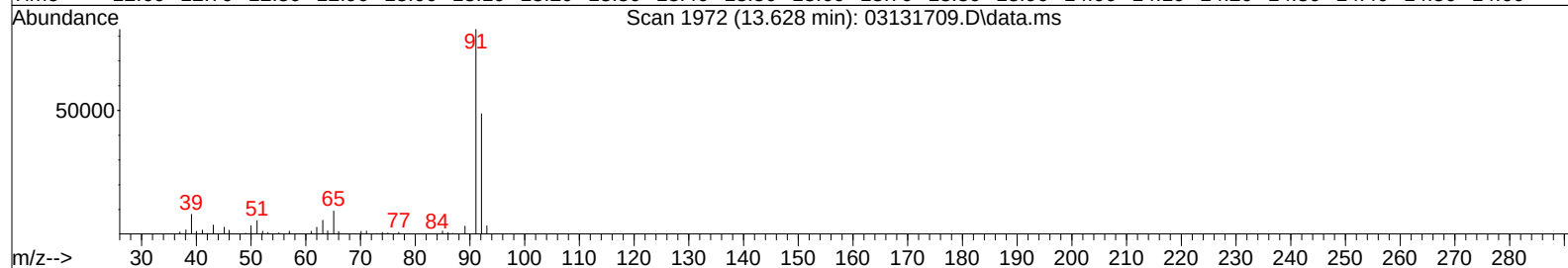
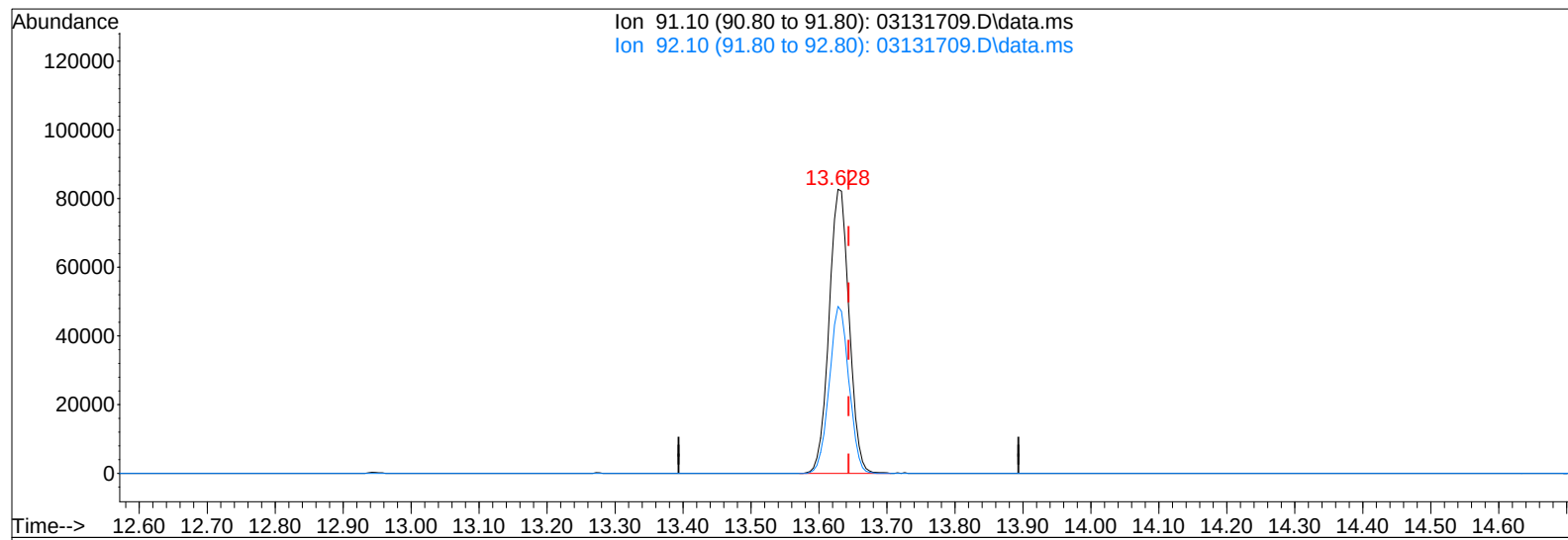
response 32145

Ion	Exp%	Act%
129.90	100	100
131.90	95.20	96.30
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS09\Data\2017 03\13\03131709.D
Acq On : 13 Mar 2017 14:08
Sample : P1701088-021 (1000mL)
Misc : S29-03031701

Vial: 6
Operator: SC
Inst : MS09

Quant Time: Mar 13 14:36:04 2017
Quant Method : I:\MS09\Methods\R9030317.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 06 08:48:38 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131709.D\data.ms

(58) Toluene (T)

13.628min (-0.016) 2.53ng

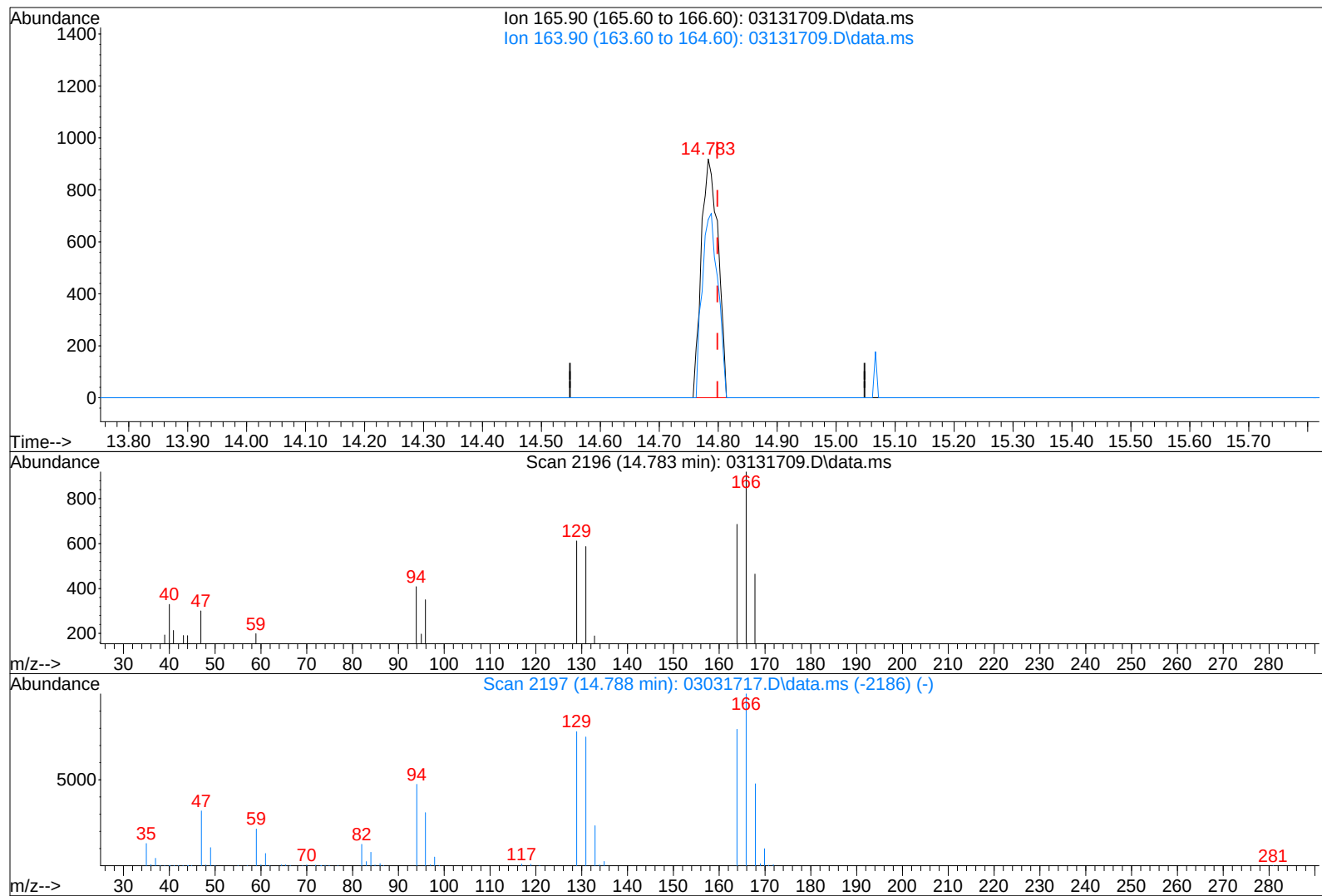
response 169848

Ion	Exp%	Act%
91.10	100	100
92.10	58.20	57.65
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS09\Data\2017 03\13\03131709.D
Acq On : 13 Mar 2017 14:08
Sample : P1701088-021 (1000mL)
Misc : S29-03031701

Vial: 6
Operator: SC
Inst : MS09

Quant Time: Mar 13 14:36:04 2017
Quant Method : I:\MS09\Methods\R9030317.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 06 08:48:38 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131709.D\data.ms

(64) Tetrachloroethene (T)

14.783min (-0.016) 0.13ng

response 1816

Ion	Exp%	Act%
165.90	100	100
163.90	78.30	73.02
0.00	0.00	0.00
0.00	0.00	0.00

Data File: I:\MS09\Data\2017 03\13\03131710.D

Acq On : 13 Mar 2017 14:42
 Sample : P1701088-022 (1000mL) PF2
 Misc : S29-03031701
 ALS Vial : 7 Sample Multiplier: 1

Operator: SC

 3/13/17

Quant Time: Mar 13 15:09:01 2017

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:48:38 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.11	130	141750	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.09	114	712814	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.44	82	321588	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.89	65	223580	10.163	ng	-0.04
Spiked Amount	12.500	Range	70 - 130	Recovery	=	81.28%
57) Toluene-d8 (SS2)	13.53	98	789377	13.286	ng	-0.01
Spiked Amount	12.500	Range	70 - 130	Recovery	=	106.32%
73) Bromofluorobenzene (SS3)	17.04	174	217113	14.773	ng	-0.01
Spiked Amount	12.500	Range	70 - 130	Recovery	=	118.16%

Target Compounds

						Qvalue
2) Propene	3.84	42	58933	2.045	ng	# 1
3) Dichlorodifluoromethan...	3.96	85	38664	1.078	ng	100
4) Chloromethane	4.16	50	5573	0.143	ng	98
5) 1,2-Dichloro-1,1,2,2-t...	4.32	135	798	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.56	54	668	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.33	45	126146	6.437	ng	100
11) Acetonitrile	5.53	41	7727	0.158	ng	82
12) Acrolein	5.67	56	4277	0.300	ng	100
13) Acetone	5.81	58	124165	7.011	ng	86
14) Trichlorofluoromethane	6.00	101	15891	0.576	ng	99
15) 2-Propanol (Isopropanol)	6.13	45	25138	0.411	ng	93
16) Acrylonitrile	6.33	53	505	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	6.83	84	5084	0.245	ng	83
20) 3-Chloro-1-propene (Al...	6.89	41	621	N.D.		
21) Trichlorotrifluoroethane	7.15	151	3320	0.272	ng	95
22) Carbon Disulfide	7.12	76	3763	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.	d	
27) 2-Butanone (MEK)	8.50	72	11271	0.876	ng	100
28) cis-1,2-Dichloroethene	8.95	61	13532	0.463	ng	89
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	9.19	61	16272	2.071	ng	95
31) n-Hexane	9.20	57	24827	0.622	ng	100
32) Chloroform	9.24	83	1454	N.D.		
34) Tetrahydrofuran (THF)	9.68	72	1356	0.097	ng	# 90
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	9.99	62	629	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	0.00	56	0	N.D.	d	
41) Benzene	10.73	78	23828	0.291	ng	99
42) Carbon Tetrachloride	10.88	117	4841	0.234	ng	99
43) Cyclohexane	11.01	84	10923	0.376	ng	92
44) tert-Amyl Methyl Ether	11.45	73	532	N.D.		
45) 1,2-Dichloropropane	11.44	63	1586	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.78	130	97230	5.375	ng	100
48) 1,4-Dioxane	11.77	88	744	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	

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Data File: I:\MS09\Data\2017 03\13\03131710.D

Acq On : 13 Mar 2017 14:42

Operator: SC

Sample : P1701088-022 (1000mL) PF2

Misc : S29-03031701

ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 13 15:09:01 2017

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:48:38 2017

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	12.11	71	45304	2.207	ng	93
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	12.68	58	1953	0.094	ng	90
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	13.63	91	71918	1.037	ng	99
59) 2-Hexanone	13.89	43	3495	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	14.53	43	4089	N.D.		
63) n-Octane	14.65	57	1447	N.D.		
64) Tetrachloroethene	14.79	166	1408	0.100	ng	97
65) Chlorobenzene	15.48	112	683	N.D.		
66) Ethylbenzene	15.89	91	340453	4.537	ng	98
67) m- & p-Xylenes	16.07	91	875273	15.166	ng	97
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.46	104	5218	0.122	ng	97
70) o-Xylene	16.57	91	272537	4.640	ng	98
71) n-Nonane	16.81	43	7248	0.159	ng	96
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.19	105	4315	N.D.		
75) alpha-Pinene	17.59	93	21948	0.582	ng	98
76) n-Propylbenzene	17.71	91	2147	N.D.		
77) 3-Ethyltoluene	17.82	105	2672	N.D.		
78) 4-Ethyltoluene	17.87	105	1645	N.D.		
79) 1,3,5-Trimethylbenzene	17.94	105	887	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	18.14	105	1332	N.D.		
82) 1,2,4-Trimethylbenzene	18.37	105	3778	N.D.		
83) n-Decane	0.00	57	0	N.D.	d	
84) Benzyl Chloride	18.51	91	1065	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	d	
86) 1,4-Dichlorobenzene	18.60	146	2744	0.091	ng	98
87) sec-Butylbenzene	18.66	105	509	N.D.		
88) 4-Isopropyltoluene (p-...	18.83	119	2115	N.D.		
89) 1,2,3-Trimethylbenzene	18.82	105	3277	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	18.99	68	1358	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	20.78	180	424	N.D.		
95) Naphthalene	20.89	128	14026	0.194	ng	100
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	18.38	119	783	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.	d	

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

Data File: I:\MS09\Data\2017 03\13\03131710.D

Acq On : 13 Mar 2017 14:42

Operator: SC

Sample : P1701088-022 (1000mL) PF2

Misc : S29-03031701

ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 13 15:09:01 2017

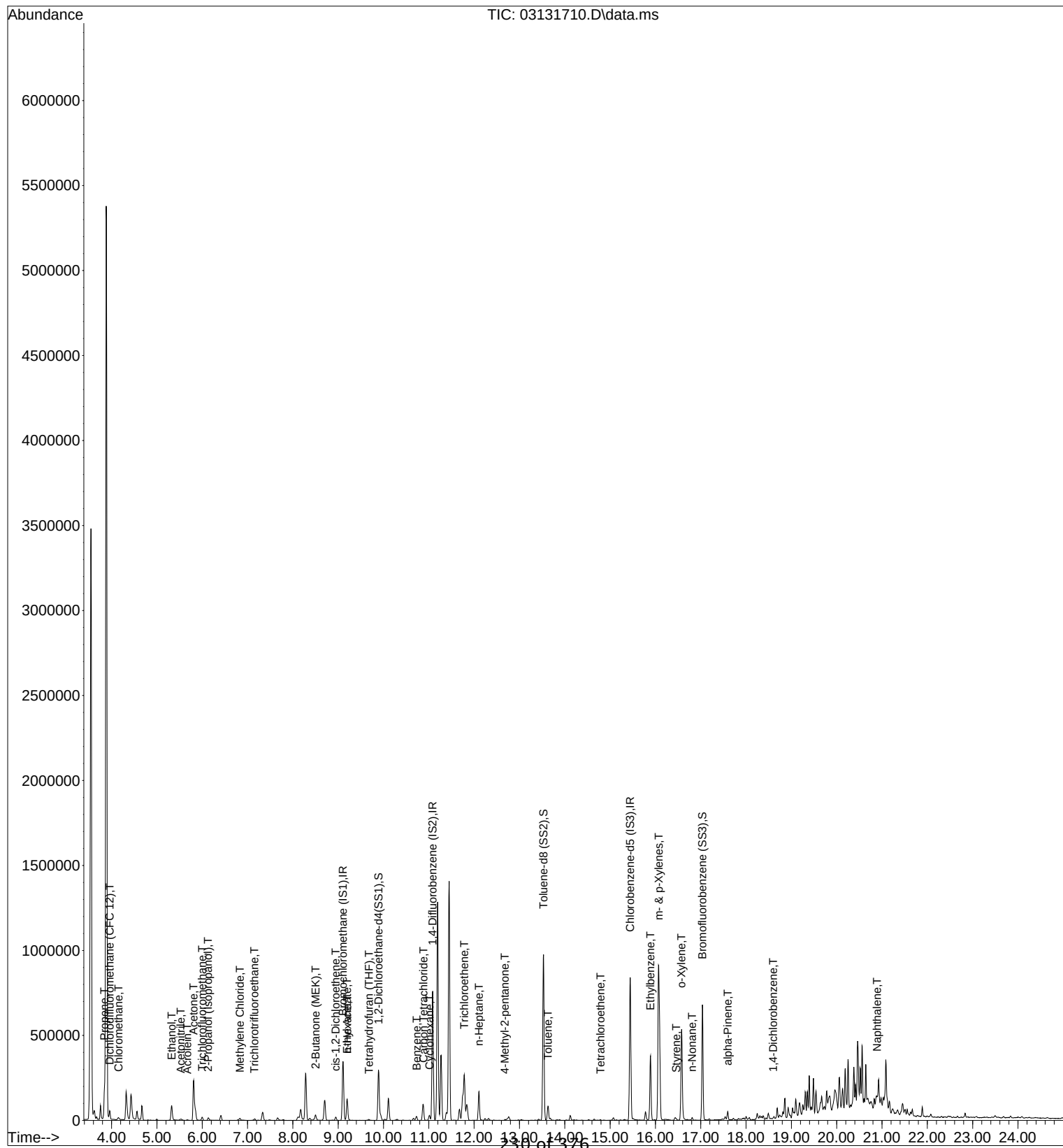
Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:48:38 2017

Response via : Initial Calibration

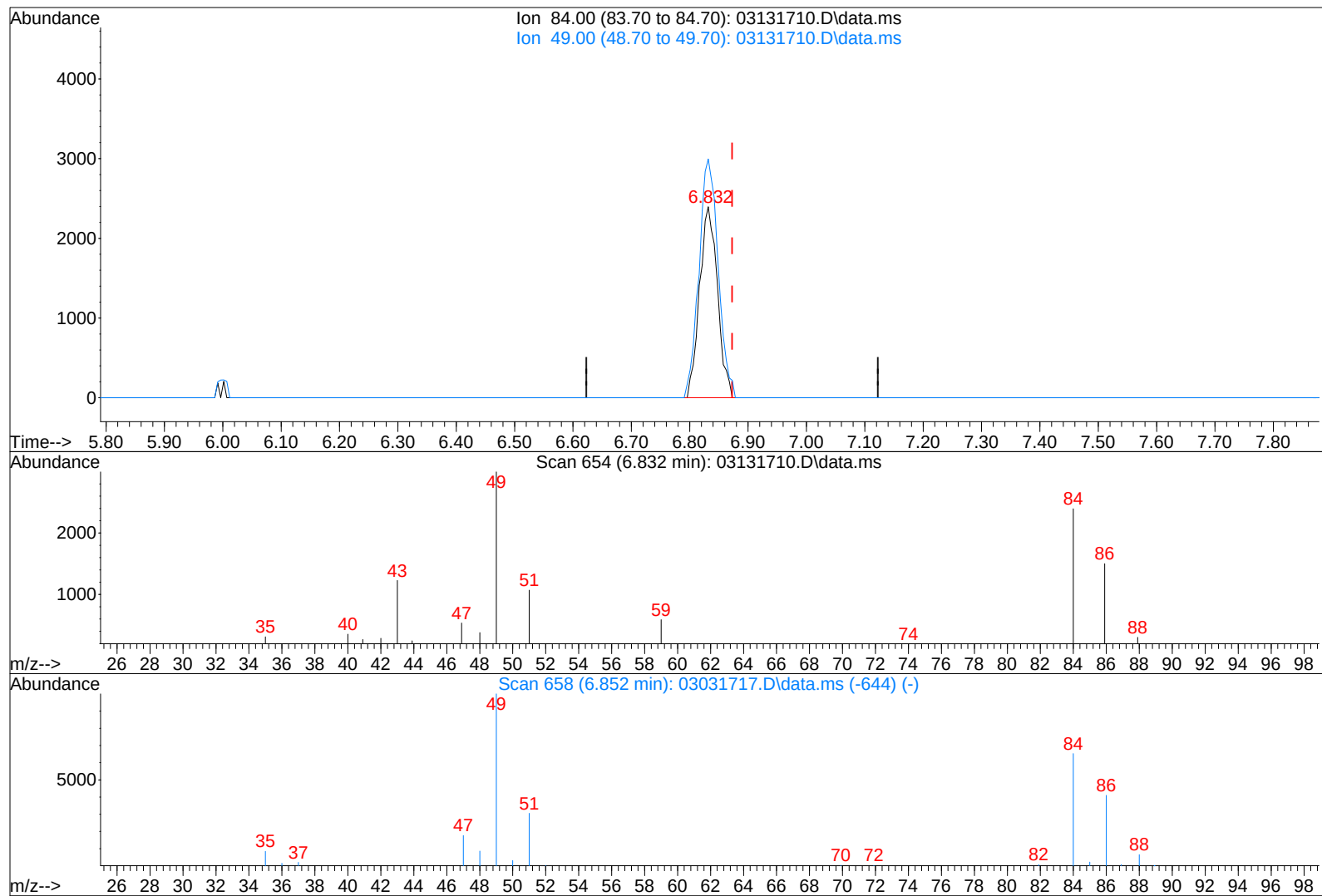
DataAcq Meth:TO15.M



Data File : I:\MS09\Data\2017 03\13\03131710.D
Acq On : 13 Mar 2017 14:42
Sample : P1701088-022 (1000mL) PF2
Misc : S29-03031701

Vial: 7
Operator: SC
Inst : MS09

Quant Time: Mar 13 15:09:01 2017
Quant Method : I:\MS09\Methods\R9030317.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 06 08:48:38 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131710.D\data.ms

(19) Methylene Chloride (T)

6.832min (-0.041) 0.24ng

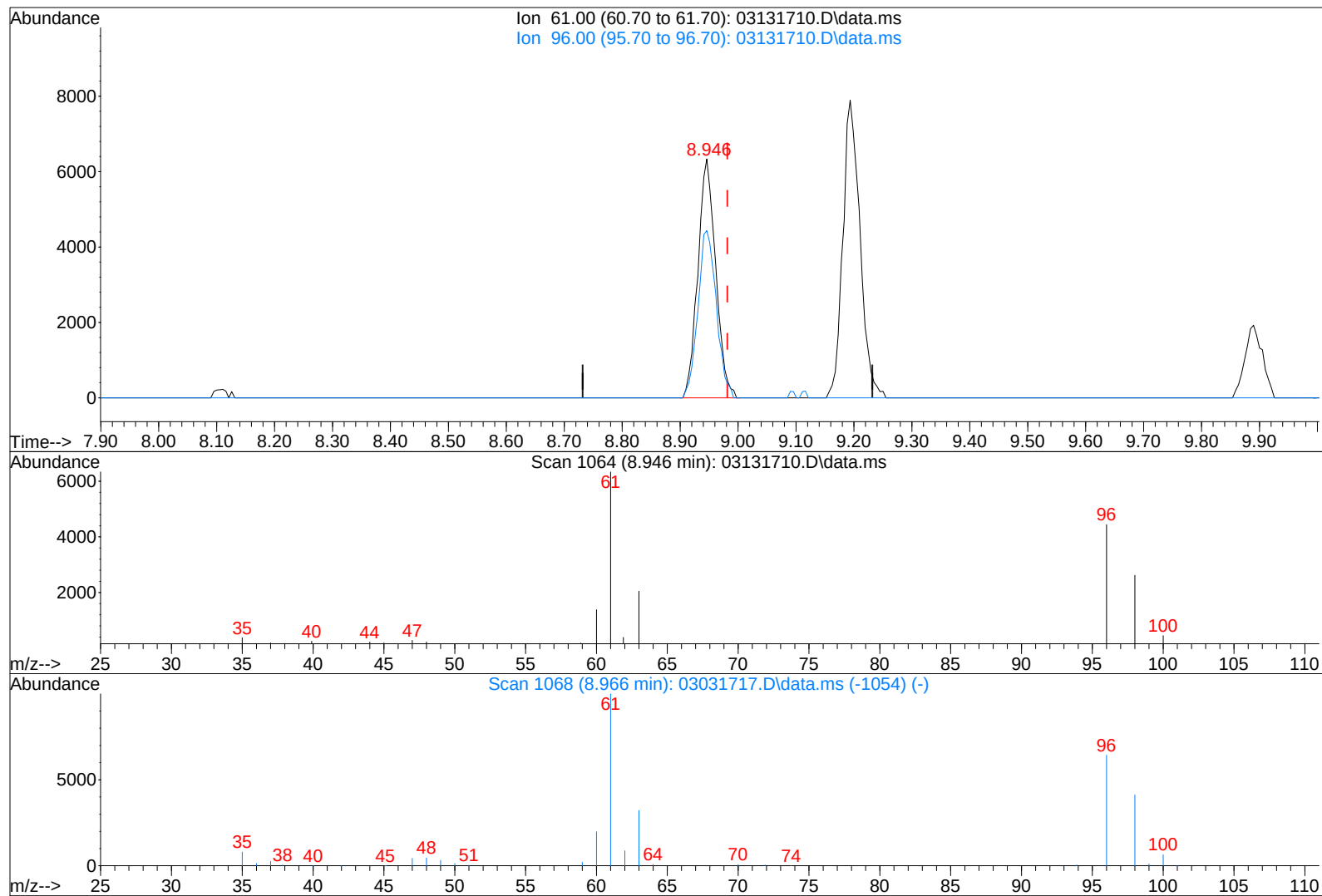
response 5084

Ion	Exp%	Act%
84.00	100	100
49.00	157.10	134.74
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS09\Data\2017 03\13\03131710.D
Acq On : 13 Mar 2017 14:42
Sample : P1701088-022 (1000mL) PF2
Misc : S29-03031701

Vial: 7
Operator: SC
Inst : MS09

Quant Time: Mar 13 15:09:01 2017
Quant Method : I:\MS09\Methods\R9030317.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 06 08:48:38 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131710.D\data.ms

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

8.946min (-0.036) 0.46ng

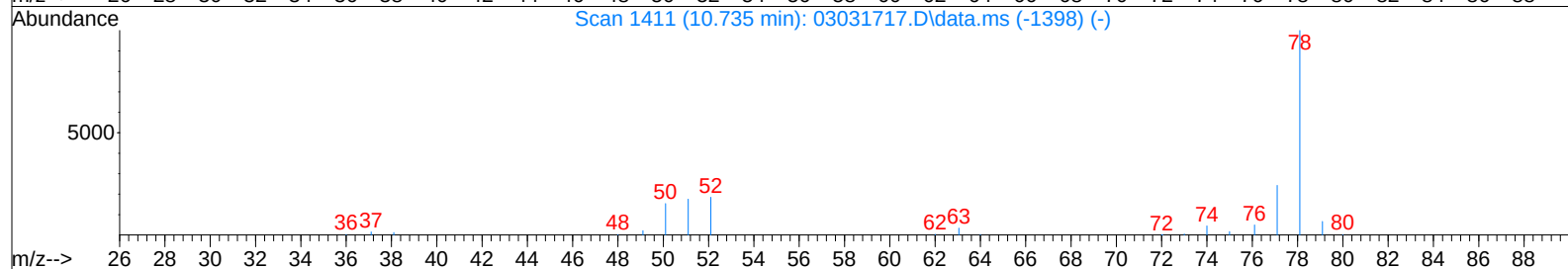
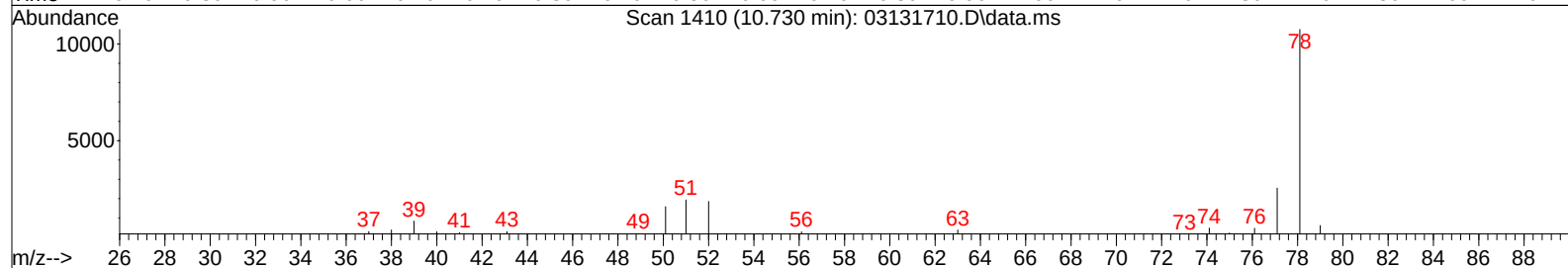
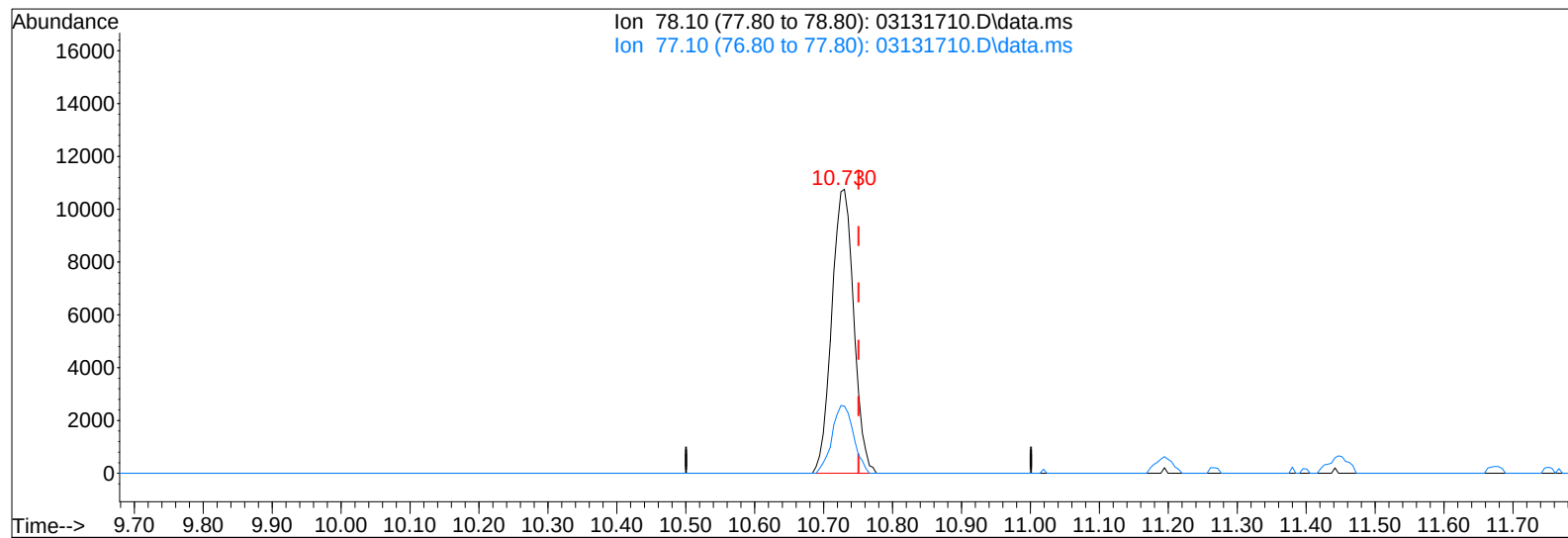
response 13532

Ion	Exp%	Act%
61.00	100	100
96.00	64.10	72.47
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS09\Data\2017 03\13\03131710.D
Acq On : 13 Mar 2017 14:42
Sample : P1701088-022 (1000mL) PF2
Misc : S29-03031701

Vial: 7
Operator: SC
Inst : MS09

Quant Time: Mar 13 15:09:01 2017
Quant Method : I:\MS09\Methods\R9030317.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 06 08:48:38 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131710.D\data.ms

(41) Benzene (T)

10.730min (-0.020) 0.29ng

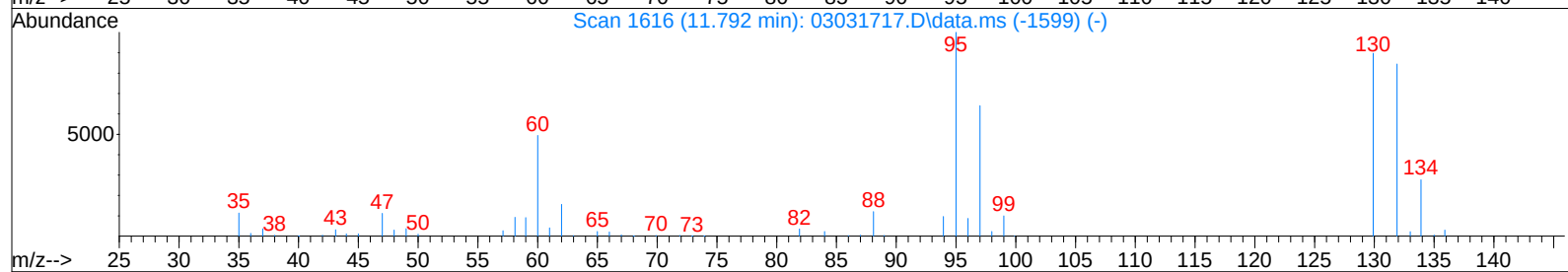
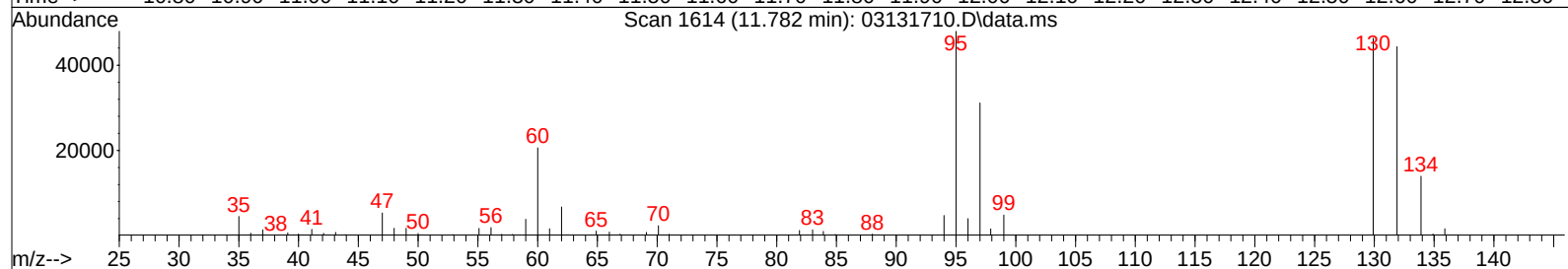
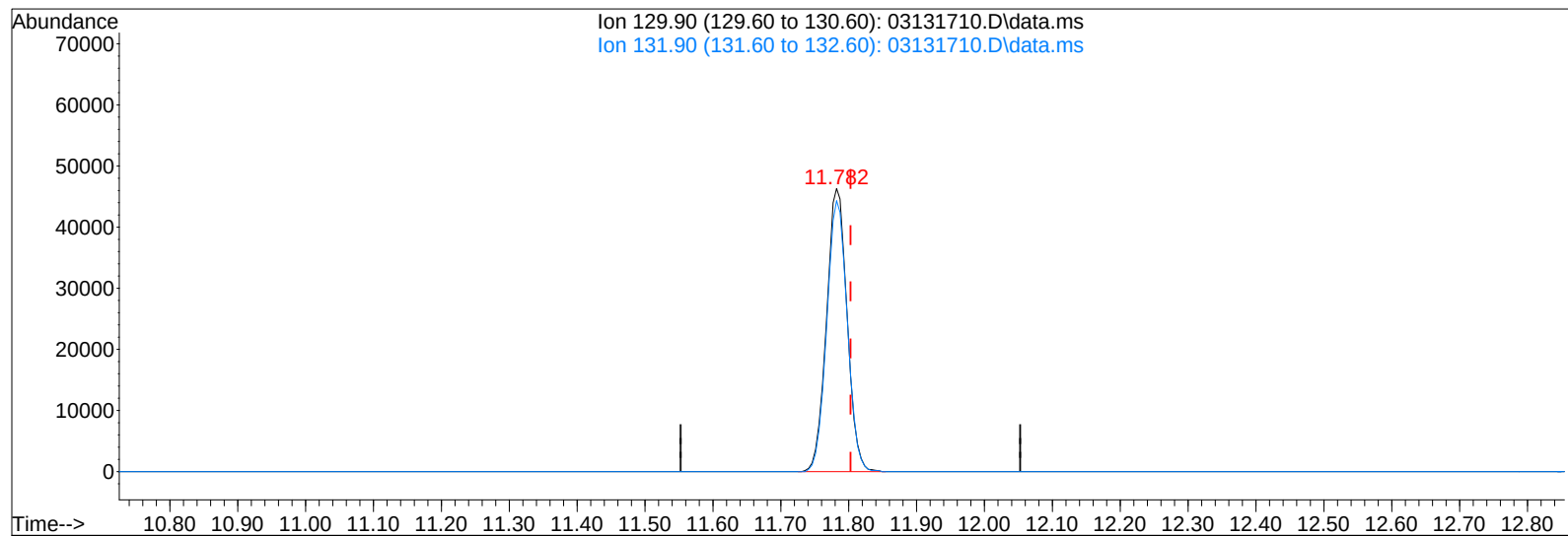
response 23828

Ion	Exp%	Act%
78.10	100	100
77.10	24.10	23.42
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS09\Data\2017 03\13\03131710.D
Acq On : 13 Mar 2017 14:42
Sample : P1701088-022 (1000mL) PF2
Misc : S29-03031701

Vial: 7
Operator: SC
Inst : MS09

Quant Time: Mar 13 15:09:01 2017
Quant Method : I:\MS09\Methods\R9030317.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 06 08:48:38 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131710.D\data.ms

(47) Trichloroethene (T)

11.782min (-0.020) 5.37ng

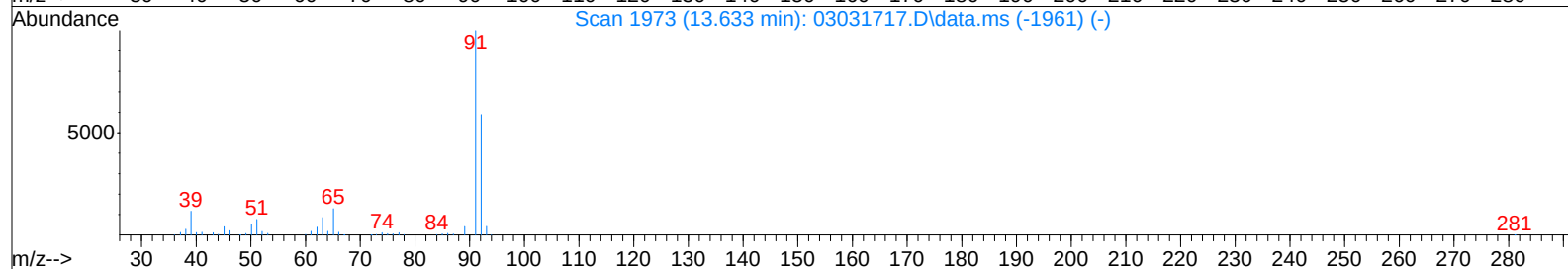
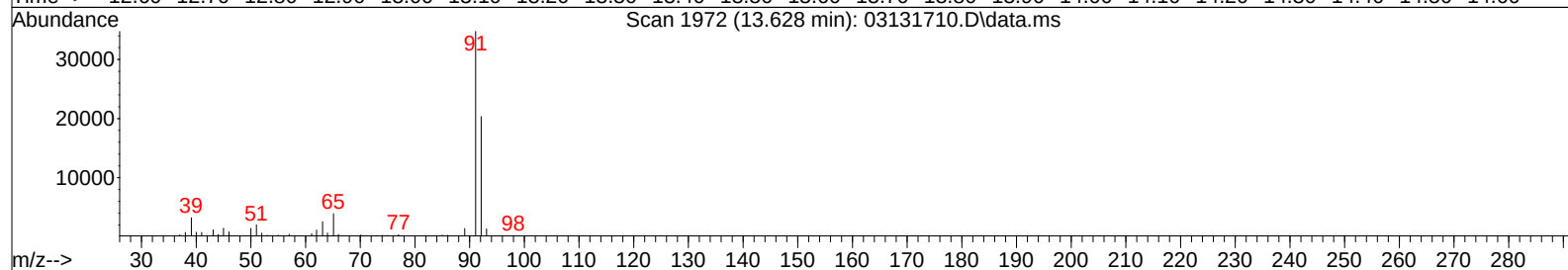
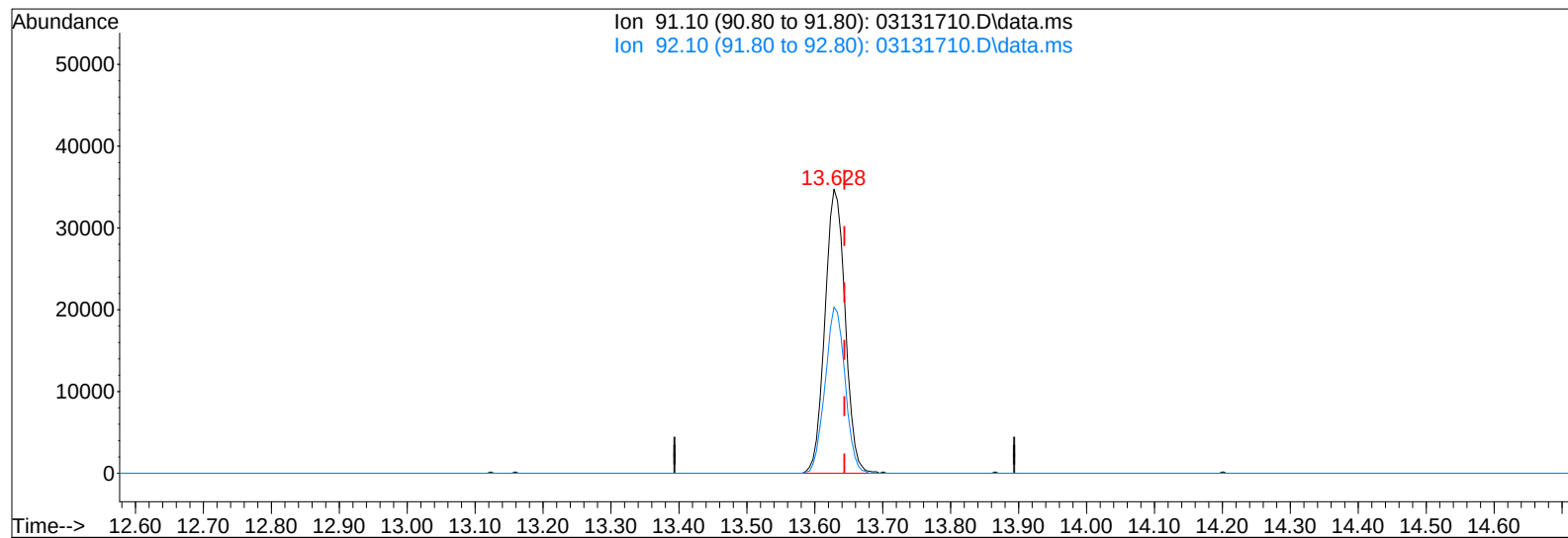
response 97230

Ion	Exp%	Act%
129.90	100	100
131.90	95.20	95.50
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS09\Data\2017 03\13\03131710.D
Acq On : 13 Mar 2017 14:42
Sample : P1701088-022 (1000mL) PF2
Misc : S29-03031701

Vial: 7
Operator: SC
Inst : MS09

Quant Time: Mar 13 15:09:01 2017
Quant Method : I:\MS09\Methods\R9030317.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 06 08:48:38 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131710.D\data.ms

(58) Toluene (T)

13.628min (-0.015) 1.04ng

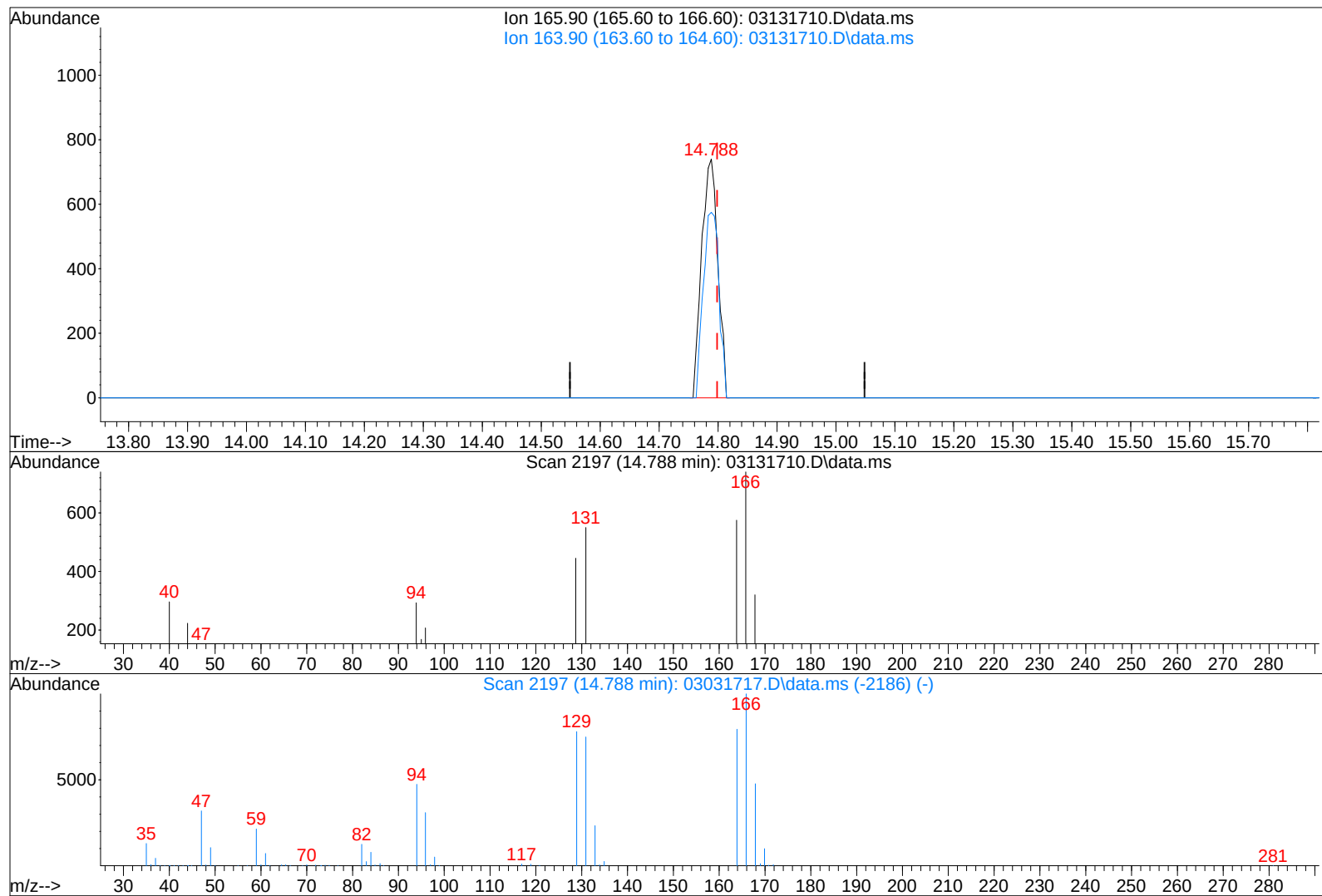
response 71918

Ion	Exp%	Act%
91.10	100	100
92.10	58.20	57.81
0.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS09\Data\2017 03\13\03131710.D
Acq On : 13 Mar 2017 14:42
Sample : P1701088-022 (1000mL) PF2
Misc : S29-03031701

Vial: 7
Operator: SC
Inst : MS09

Quant Time: Mar 13 15:09:01 2017
Quant Method : I:\MS09\Methods\R9030317.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 06 08:48:38 2017
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03131710.D\data.ms

(64) Tetrachloroethene (T)

14.788min (-0.010) 0.10ng

response 1408

Ion	Exp%	Act%
165.90	100	100
163.90	78.30	75.57
0.00	0.00	0.00
0.00	0.00	0.00

Data File: I:\MS08\Data\2017 03\10\03101725.D

Acq On : 10 Mar 2017 19:03

Operator: WA

Sample : MB2 R8031017 1000mL

Misc : S29-01231701 AS00703

ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 13 07:27:16 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

WA 3/13/17

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.80	130	152477	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	10.53	114	751233	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	317575	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	281209	12.802	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	102.40%
57) Toluene-d8 (SS2)	12.77	98	790229	13.242	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	105.92%
73) Bromofluorobenzene (SS3)	16.07	174	225545	11.526	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	92.24%

Target Compounds

						Qvalue
2) Propene	3.95	42	601	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	5.44	45	1825	0.162	ng	89
11) Acetonitrile	5.69	41	1090	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	5.91	58	2092	0.189	ng	# 85
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	6.20	45	582	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	6.80	84	435	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	7.08	76	3091	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)	0.00	72	0	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	0.00	56	0	N.D.		
41) Benzene	10.23	78	990	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	10.52	84	494	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.		

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Data File: I:\MS08\Data\2017 03\10\03101725.D

Acq On : 10 Mar 2017 19:03

Operator: WA

Sample : MB2 R8031017 1000mL

Misc : S29-01231701 AS00703

ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 13 07:27:16 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

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	12.87	91	656	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	15.02	91	2254	N.D.		
67) m- & p-Xylenes	15.19	91	897	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	15.64	91	1300	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	16.21	105	452	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	16.68	91	671	N.D.		
77) 3-Ethyltoluene	16.81	105	586	N.D.		
78) 4-Ethyltoluene	16.81	105	586	N.D.		
79) 1,3,5-Trimethylbenzene	16.92	105	466	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	16.92	105	466	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	0.00	57	0	N.D.		
94) 1,2,4-Trichlorobenzene	19.47	180	819	N.D.		
95) Naphthalene	19.59	128	4917	N.D.		
96) n-Dodecane	0.00	57	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	15.35	55	422	N.D.		
99) tert-Butylbenzene	0.00	119	0	N.D.		
100) n-Butylbenzene	18.15	91	421	N.D.		

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

Data File: I:\MS08\Data\2017 03\10\03101725.D

Acq On : 10 Mar 2017 19:03

Operator: WA

Sample : MB2 R8031017 1000mL

Misc : S29-01231701 AS00703

ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 13 07:27:16 2017

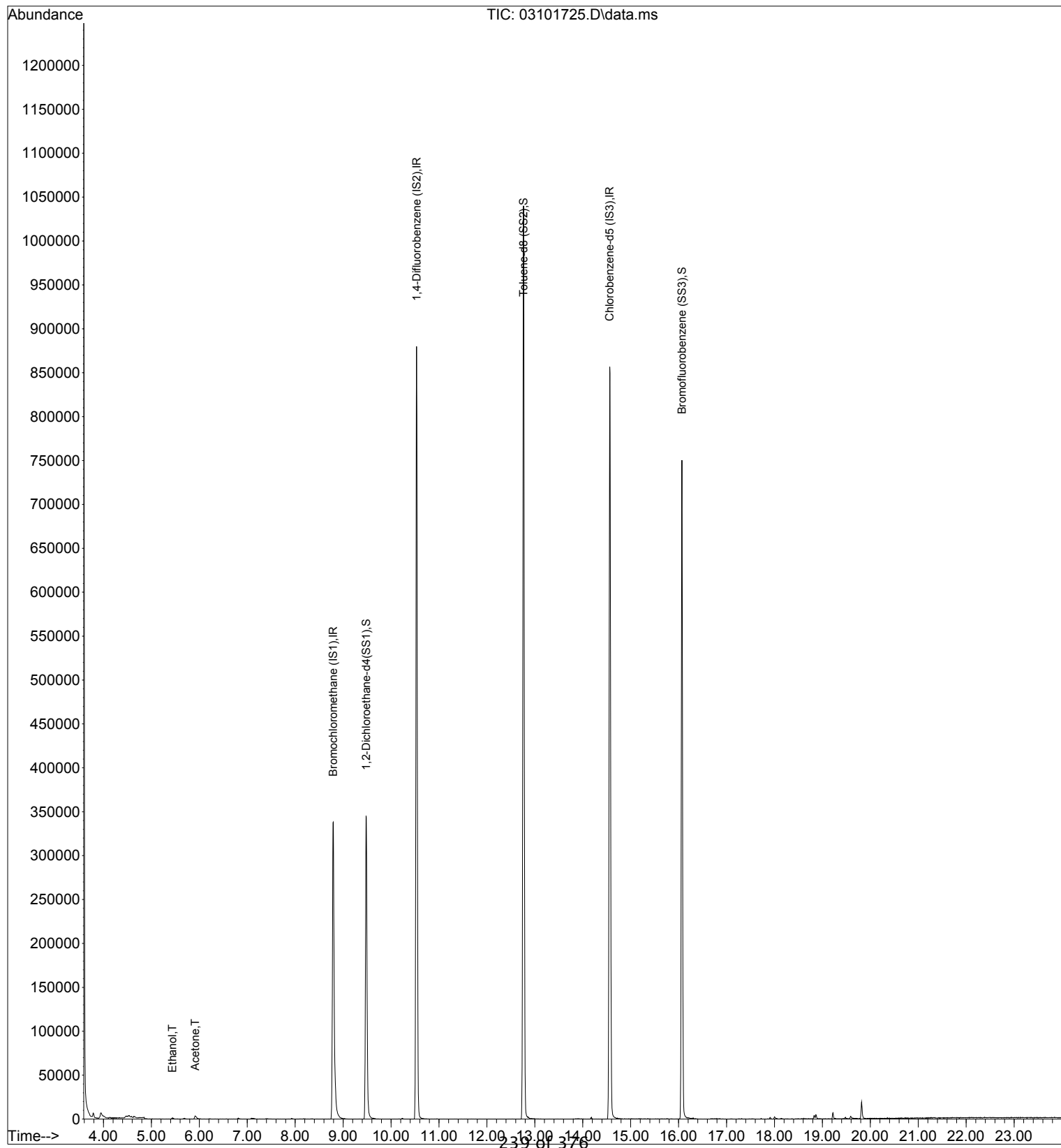
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M



Data File: I:\MS08\Data\2017 03\11\03111703.D

Acq On : 11 Mar 2017 6:20

Operator: WA

Sample : MB R8031117 1000mL

Misc : S29-01231701 AS00703

ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 13 07:54:28 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

3/13/17

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.79	130	159010	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	10.53	114	774377	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	335309	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	287218	12.539	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	100.32%
57) Toluene-d8 (SS2)	12.76	98	819255	13.003	ng	-0.01
Spiked Amount	12.500	Range	70 - 130	Recovery	=	104.00%
73) Bromofluorobenzene (SS3)	16.07	174	244624	11.840	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	94.72%

Target Compounds

						Qvalue
2) Propene	0.00	42	0	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	5.43	45	2276	0.193	ng	86
11) Acetonitrile	5.68	41	1297	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	5.91	58	1764	0.153	ng	92
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	6.21	45	367	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	6.80	84	440	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	7.09	76	3159	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)	0.00	72	0	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	0.00	56	0	N.D.		
41) Benzene	10.23	78	680	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	10.52	84	462	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.		

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Data File: I:\MS08\Data\2017 03\11\03111703.D

Acq On : 11 Mar 2017 6:20

Operator: WA

Sample : MB R8031117 1000mL

Misc : S29-01231701 AS00703

ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 13 07:54:28 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

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	12.86	91	481	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	15.01	91	603	N.D.		
67) m- & p-Xylenes	15.20	91	1183	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	16.07	105	892	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	16.71	91	635	N.D.		
77) 3-Ethyltoluene	16.82	105	751	N.D.		
78) 4-Ethyltoluene	16.82	105	751	N.D.		
79) 1,3,5-Trimethylbenzene	16.93	105	757	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.11	105	565	N.D.		
82) 1,2,4-Trimethylbenzene	17.32	105	537	N.D.		
83) n-Decane	0.00	57	0	N.D.		
84) Benzyl Chloride	17.45	91	435	N.D.		
85) 1,3-Dichlorobenzene	17.48	146	425	N.D.		
86) 1,4-Dichlorobenzene	17.54	146	758	N.D.		
87) sec-Butylbenzene	17.73	105	526	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.		
89) 1,2,3-Trimethylbenzene	17.73	105	526	N.D.		
90) 1,2-Dichlorobenzene	17.85	146	520	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	0.00	57	0	N.D.		
94) 1,2,4-Trichlorobenzene	19.47	180	1440	N.D.		
95) Naphthalene	19.58	128	10018	0.157 ng		90
96) n-Dodecane	0.00	57	0	N.D.		
97) Hexachlorobutadiene	19.90	225	467	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	0.00	119	0	N.D.		
100) n-Butylbenzene	18.14	91	579	N.D.		

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

Data File: I:\MS08\Data\2017 03\11\03111703.D

Acq On : 11 Mar 2017 6:20

Operator: WA

Sample : MB R8031117 1000mL

Misc : S29-01231701 AS00703

ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 13 07:54:28 2017

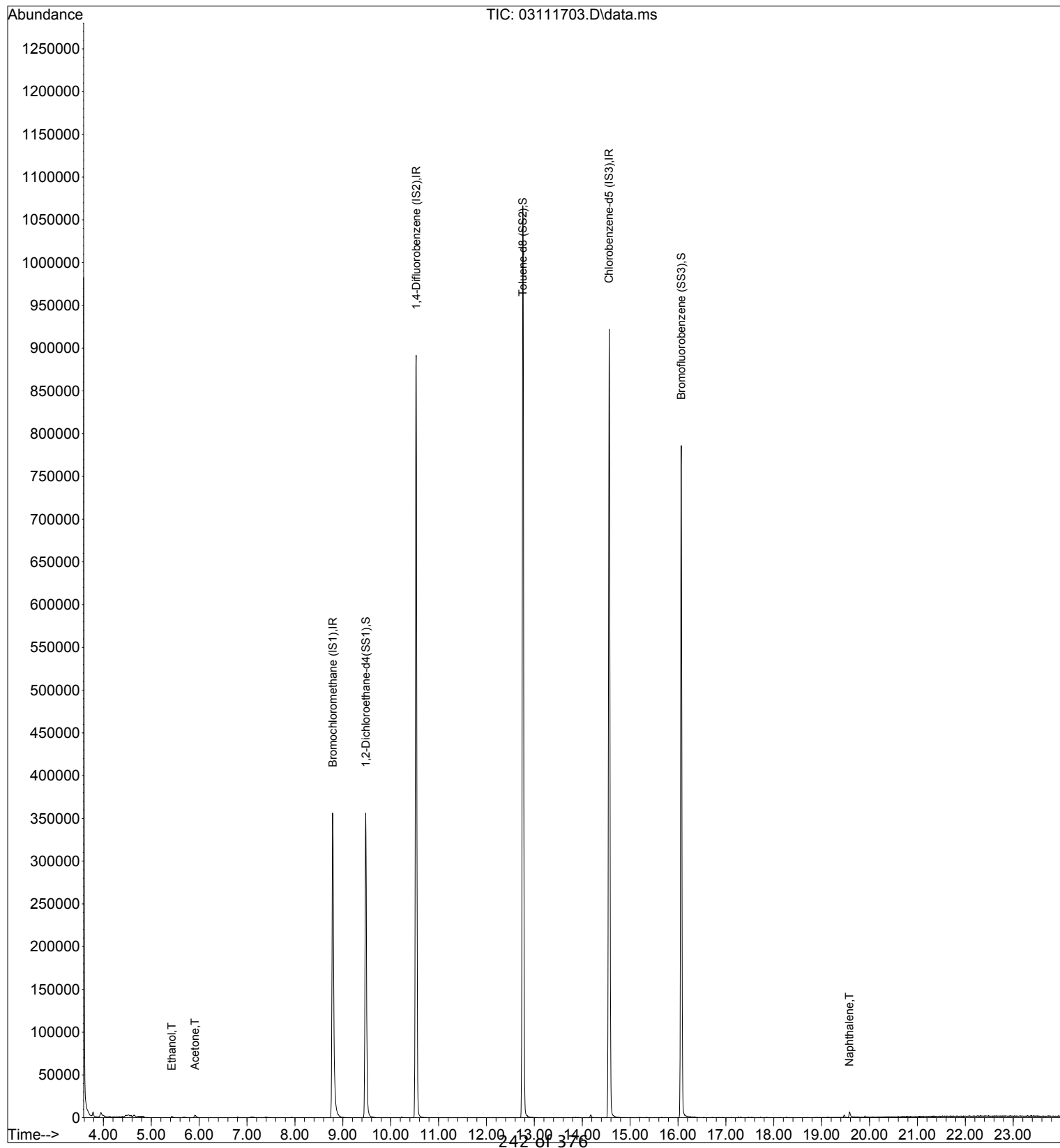
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M



Data File: I:\MS08\Data\2017 03\13\03131703.D

Acq On : 13 Mar 2017 7:56

Operator: WA

Sample : MB R8031317 1000mL

Misc : S29-01231701 AS00703

ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 13 11:48:05 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

3/13/17

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.79	130	150785	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	10.53	114	734544	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	326950	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	283798	13.065	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	104.56%
57) Toluene-d8 (SS2)	12.77	98	783464	12.752	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	102.00%
73) Bromofluorobenzene (SS3)	16.07	174	237848	11.806	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	94.48%

Target Compounds

						Qvalue
2) Propene	3.95	42	639	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	5.45	45	1536	0.138	ng	89
11) Acetonitrile	5.69	41	1108	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	5.92	58	2295	0.210	ng	87
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	6.21	45	835	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...	6.82	59	63	N.D.		
19) Methylene Chloride	6.80	84	470	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	0.00	76	0	N.D.	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)	0.00	72	0	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	0.00	56	0	N.D.		
41) Benzene	10.24	78	1180	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	10.48	84	454	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...	11.22	57	785	N.D.		

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Data File: I:\MS08\Data\2017 03\13\03131703.D

Acq On : 13 Mar 2017 7:56

Operator: WA

Sample : MB R8031317 1000mL

Misc : S29-01231701 AS00703

ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 13 11:48:05 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

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	12.87	91	1232	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	13.80	43	628	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	14.61	112	688	N.D.		
66) Ethylbenzene	15.01	91	2756	N.D.		
67) m- & p-Xylenes	15.20	91	1505	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	15.64	91	618	N.D.		
71) n-Nonane	15.84	43	572	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	16.21	105	1016	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	16.71	91	1737	N.D.		
77) 3-Ethyltoluene	16.82	105	927	N.D.		
78) 4-Ethyltoluene	16.82	105	927	N.D.		
79) 1,3,5-Trimethylbenzene	16.92	105	930	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.10	105	855	N.D.		
82) 1,2,4-Trimethylbenzene	17.32	105	803	N.D.		
83) n-Decane	0.00	57	0	N.D.		
84) Benzyl Chloride	17.31	91	533	N.D.		
85) 1,3-Dichlorobenzene	17.53	146	722	N.D.		
86) 1,4-Dichlorobenzene	17.53	146	722	N.D.		
87) sec-Butylbenzene	17.57	105	788	N.D.		
88) 4-Isopropyltoluene (p-...	17.72	119	994	N.D.		
89) 1,2,3-Trimethylbenzene	17.72	105	574	N.D.		
90) 1,2-Dichlorobenzene	17.85	146	460	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	0.00	57	0	N.D.		
94) 1,2,4-Trichlorobenzene	19.48	180	899	N.D.		
95) Naphthalene	19.60	128	4759	N.D.		
96) n-Dodecane	0.00	57	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	17.30	119	681	N.D.		
100) n-Butylbenzene	18.14	91	742	N.D.		

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

Data File: I:\MS08\Data\2017 03\13\03131703.D

Acq On : 13 Mar 2017 7:56

Operator: WA

Sample : MB R8031317 1000mL

Misc : S29-01231701 AS00703

ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 13 11:48:05 2017

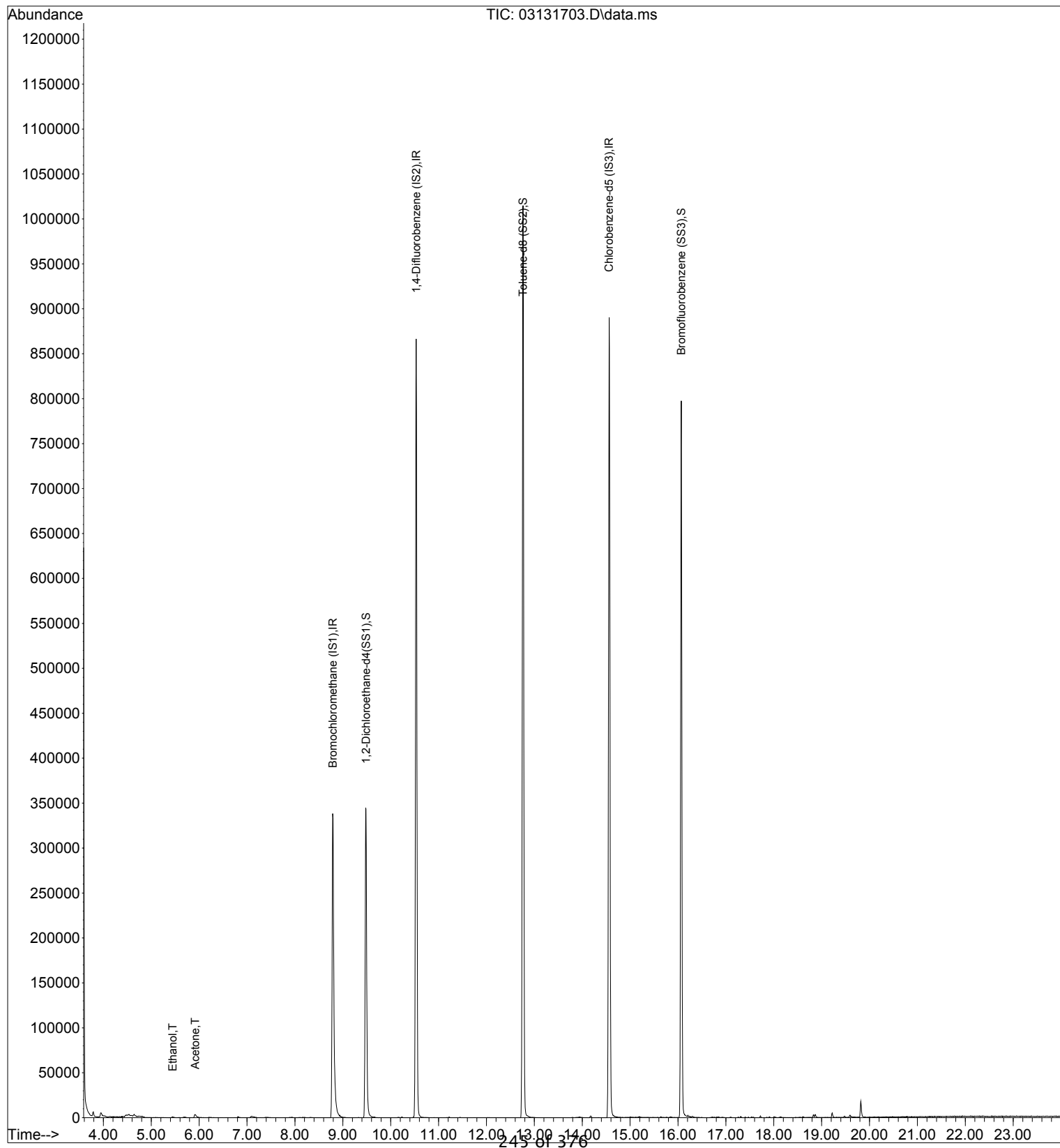
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M



Data File: I:\MS09\Data\2017 03\13\03131706.D

Acq On : 13 Mar 2017 12:11

Operator: SC

Sample : MB R9031317 1000mL

Misc : S29-03031701

ALS Vial : 2 Sample Multiplier: 1

3/13/17

Quant Time: Mar 13 12:37:37 2017

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:48:38 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.11	130	150003	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.08	114	748304	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	15.44	82	334485	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.89	65	236626	10.164	ng	-0.04
Spiked Amount	12.500	Range	70 - 130	Recovery	=	81.28%
57) Toluene-d8 (SS2)	13.53	98	820761	13.281	ng	-0.02
Spiked Amount	12.500	Range	70 - 130	Recovery	=	106.24%
73) Bromofluorobenzene (SS3)	17.04	174	223894	14.647	ng	-0.01
Spiked Amount	12.500	Range	70 - 130	Recovery	=	117.20%

Target Compounds

						Qvalue
2) Propene	3.89	42	1862	N.D.		
3) Dichlorodifluoromethan...	3.99	85	750	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	4.46	62	642	N.D.		
7) 1,3-Butadiene	4.64	54	612	N.D.		
8) Bromomethane	4.94	94	493	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.41	45	64	N.D.		
11) Acetonitrile	5.55	41	2306	N.D.		
12) Acrolein	5.69	56	1085	N.D.		
13) Acetone	5.85	58	8859	0.473	ng	# 80
14) Trichlorofluoromethane	6.01	101	494	N.D.		
15) 2-Propanol (Isopropanol)	6.17	45	1203	N.D.		
16) Acrylonitrile	6.36	53	397	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	6.85	59	161	N.D.		
19) Methylene Chloride	6.83	84	913	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	7.15	76	3356	N.D.		
23) trans-1,2-Dichloroethene	7.86	61	461	N.D.		
24) 1,1-Dichloroethane	8.08	63	633	N.D.		
25) Methyl tert-Butyl Ether	8.20	73	516	N.D.		
26) Vinyl Acetate	8.23	86	841	0.232	ng	# 15
27) 2-Butanone (MEK)	8.52	72	846	N.D.		
28) cis-1,2-Dichloroethene	8.95	61	476	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	9.20	57	775	N.D.		
32) Chloroform	9.24	83	629	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	0.00	56	0	N.D.	d	
41) Benzene	10.73	78	5875	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	11.01	84	1261	N.D.		
44) tert-Amyl Methyl Ether	11.36	73	476	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	11.73	83	401	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...	11.84	57	246 01 376	N.D.		

Data File: I:\MS09\Data\2017 03\13\03131706.D

Acq On : 13 Mar 2017 12:11

Operator: SC

Sample : MB R9031317 1000mL

Misc : S29-03031701

ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 13 12:37:37 2017

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:48:38 2017

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	13.63	91	2467	N.D.		
59) 2-Hexanone	13.89	43	1182	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	14.53	43	982	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	14.78	166	468	N.D.		
65) Chlorobenzene	15.49	112	1360	N.D.		
66) Ethylbenzene	15.89	91	2316	N.D.		
67) m- & p-Xylenes	16.07	91	3448	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.46	104	1146	N.D.		
70) o-Xylene	16.57	91	1698	N.D.		
71) n-Nonane	16.82	43	957	N.D.		
72) 1,1,2,2-Tetrachloroethane	16.55	83	582	N.D.		
74) Cumene	17.19	105	2134	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.72	91	2596	N.D.		
77) 3-Ethyltoluene	17.82	105	2059	N.D.		
78) 4-Ethyltoluene	17.86	105	1961	N.D.		
79) 1,3,5-Trimethylbenzene	17.95	105	1503	N.D.		
80) alpha-Methylstyrene	18.10	118	619	N.D.		
81) 2-Ethyltoluene	18.15	105	1688	N.D.		
82) 1,2,4-Trimethylbenzene	18.37	105	1512	N.D.		
83) n-Decane	18.49	57	1127	N.D.		
84) Benzyl Chloride	18.51	91	939	N.D.		
85) 1,3-Dichlorobenzene	18.53	146	1097	N.D.		
86) 1,4-Dichlorobenzene	18.60	146	1160	N.D.		
87) sec-Butylbenzene	18.66	105	1878	N.D.		
88) 4-Isopropyltoluene (p-...	18.83	119	2607	N.D.		
89) 1,2,3-Trimethylbenzene	18.82	105	1559	N.D.		
90) 1,2-Dichlorobenzene	18.96	146	1002	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	19.83	57	846	N.D.		
94) 1,2,4-Trichlorobenzene	20.78	180	951	N.D.		
95) Naphthalene	20.89	128	5177	N.D.		
96) n-Dodecane	20.92	57	970	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	16.25	55	851	N.D.		
99) tert-Butylbenzene	18.37	119	1343	N.D.		
100) n-Butylbenzene	19.26	91	1805	N.D.		

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

Data File: I:\MS09\Data\2017 03\13\03131706.D

Acq On : 13 Mar 2017 12:11

Operator: SC

Sample : MB R9031317 1000mL

Misc : S29-03031701

ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 13 12:37:37 2017

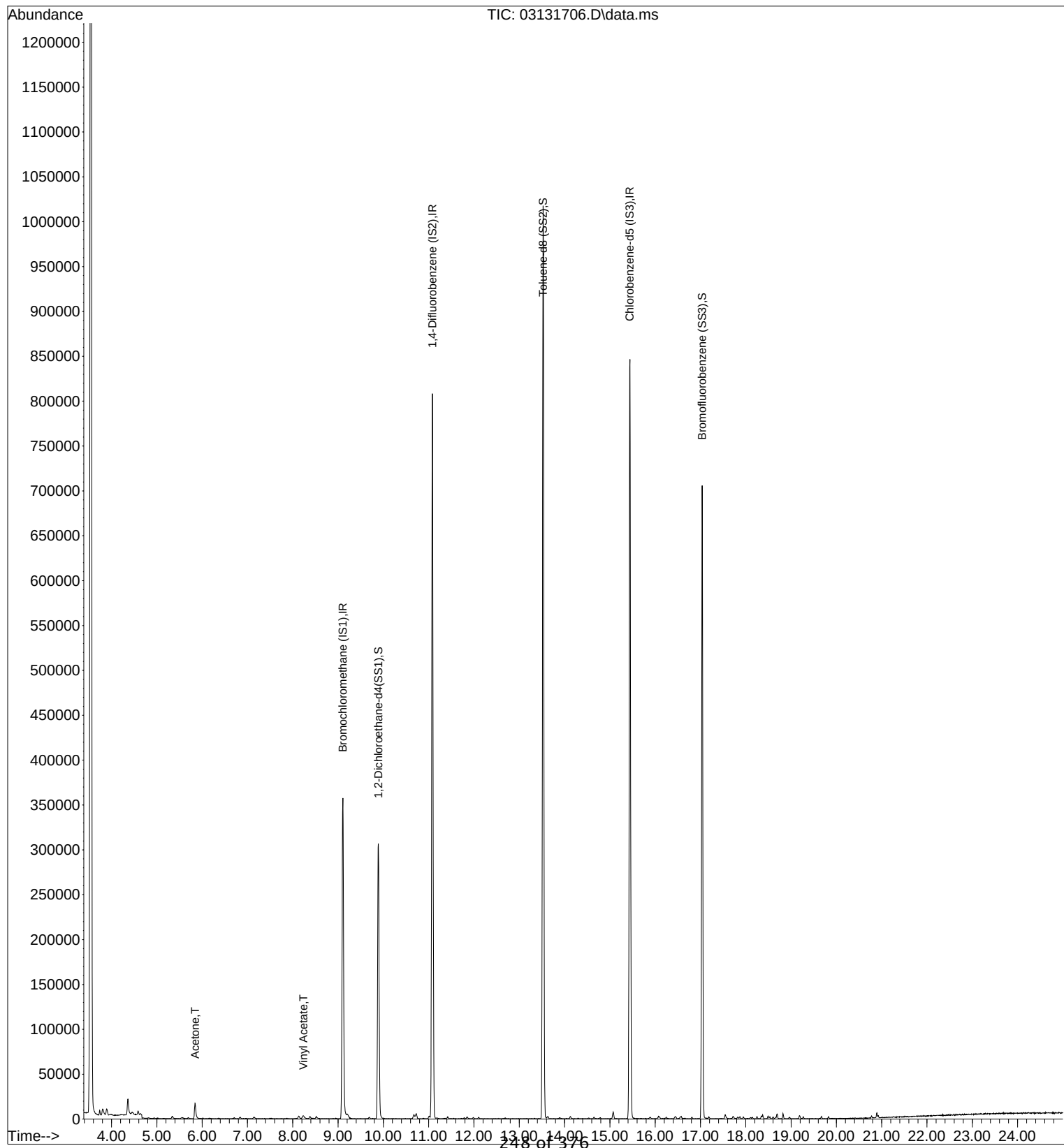
Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:48:38 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M



Data File: I:\MS08\Data\2017 03\10\03101726.D

Acq On : 10 Mar 2017 19:35

Operator: WA

Sample : LCS2 R8031017 25ng

Misc : S29-01231701/S29-02201703 (3/21)

ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 13 07:27:18 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

3/13/17

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.81	130	169695	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	10.54	114	777795	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	14.57	82	349229	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.50	65	310593	12.705	ng	-0.01
Spiked Amount	12.500	Range	70 - 130	Recovery	=	101.68%
57) Toluene-d8 (SS2)	12.77	98	828010	12.618	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	100.96%
73) Bromofluorobenzene (SS3)	16.07	174	254631	11.833	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	94.64%

Target Compounds

						Qvalue
2) Propene	3.88	42	481522	27.253	ng	99
3) Dichlorodifluoromethan...	3.99	85	775426	23.761	ng	100
4) Chloromethane	4.20	50	581830	25.507	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.36	135	335140	20.311	ng	100
6) Vinyl Chloride	4.48	62	562515	22.311	ng	100
7) 1,3-Butadiene	4.65	54	458037	23.030	ng	99
8) Bromomethane	4.97	94	339966	25.679	ng	99
9) Chloroethane	5.17	64	309427	26.333	ng	100
10) Ethanol	5.41	45	1519465	121.016	ng	100
11) Acetonitrile	5.61	41	837848	25.140	ng	100
12) Acrolein	5.72	56	258668	26.905	ng	100
13) Acetone	5.86	58	1534308	124.700	ng	96
14) Trichlorofluoromethane	6.02	101	668976	23.146	ng	100
15) 2-Propanol (Isopropanol)	6.17	45	2384197	51.867	ng	100
16) Acrylonitrile	6.36	53	560143	27.820	ng	100
17) 1,1-Dichloroethene	6.67	96	367360	25.148	ng	96
18) 2-Methyl-2-Propanol (t...	6.76	59	2375874	51.984	ng	100
19) Methylene Chloride	6.81	84	379780	25.311	ng	96
20) 3-Chloro-1-propene (Al...	6.92	41	736651	27.264	ng	98
21) Trichlorotrifluoroethane	7.07	151	316637	23.607	ng	100
22) Carbon Disulfide	7.05	76	1359606	25.298	ng	100
23) trans-1,2-Dichloroethene	7.70	61	608274	26.213	ng	98
24) 1,1-Dichloroethane	7.90	63	700834	24.312	ng	100
25) Methyl tert-Butyl Ether	7.95	73	1287268	24.629	ng	100
26) Vinyl Acetate	8.04	86	511368	124.920	ng	# 90
27) 2-Butanone (MEK)	8.25	72	266175	25.595	ng	93
28) cis-1,2-Dichloroethene	8.67	61	567444	25.180	ng	97
29) Diisopropyl Ether	8.85	87	324128	23.654	ng	98
30) Ethyl Acetate	8.85	61	274588	55.382	ng	99
31) n-Hexane	8.87	57	600387	22.345	ng	100
32) Chloroform	8.94	83	668903	23.513	ng	100
34) Tetrahydrofuran (THF)	9.27	72	262392	25.261	ng	96
35) Ethyl tert-Butyl Ether	9.34	87	513590	24.216	ng	98
36) 1,2-Dichloroethane	9.59	62	588387	24.024	ng	100
38) 1,1,1-Trichloroethane	9.83	97	638491	24.866	ng	100
39) Isopropyl Acetate	10.13	61	477499	51.114	ng	98
40) 1-Butanol	10.14	56	983707	54.260	ng	95
41) Benzene	10.24	78	1389447	22.622	ng	100
42) Carbon Tetrachloride	10.37	117	559588	26.552	ng	100
43) Cyclohexane	10.49	84	1230151	46.256	ng	98
44) tert-Amyl Methyl Ether	10.75	73	1193215	25.127	ng	99
45) 1,2-Dichloropropane	10.97	63	364864	24.185	ng	100
46) Bromodichloromethane	11.13	83	537844	26.439	ng	99
47) Trichloroethene	11.18	130	382324	23.852	ng	100
48) 1,4-Dioxane	11.15	88	325510	26.238	ng	98
49) 2,2,4-Trimethylpentane...	11.23	57	1787796	24.868	ng	100

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Data File: I:\MS08\Data\2017 03\10\03101726.D

Acq On : 10 Mar 2017 19:35

Operator: WA

Sample : LCS2 R8031017 25ng

Misc : S29-01231701/S29-02201703 (3/21)

ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 13 07:27:18 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.33	100	308245	52.402	ng	97
51) n-Heptane	11.45	71	360886	23.019	ng	99
52) cis-1,3-Dichloropropene	11.94	75	621485	27.464	ng	99
53) 4-Methyl-2-pentanone	11.96	58	390177	29.365	ng	98
54) trans-1,3-Dichloropropene	12.42	75	607397	27.883	ng	100
55) 1,1,2-Trichloroethane	12.59	97	357403	24.883	ng	100
58) Toluene	12.86	91	1437748	23.548	ng	100
59) 2-Hexanone	13.07	43	1011756	31.872	ng	98
60) Dibromochloromethane	13.25	129	433543	29.441	ng	100
61) 1,2-Dibromoethane	13.49	107	398755	27.736	ng	100
62) n-Butyl Acetate	13.66	43	1153252	30.021	ng	99
63) n-Octane	13.79	57	340390	25.186	ng	98
64) Tetrachloroethene	13.95	166	398965	24.631	ng	100
65) Chlorobenzene	14.61	112	963615	24.138	ng	100
66) Ethylbenzene	14.99	91	1750081	25.593	ng	99
67) m- & p-Xylenes	15.17	91	2719762	49.921	ng	99
68) Bromoform	15.24	173	351204	29.382	ng	100
69) Styrene	15.53	104	1053419	27.694	ng	99
70) o-Xylene	15.63	91	1425764	25.425	ng	98
71) n-Nonane	15.84	43	898342	26.568	ng	98
72) 1,1,2,2-Tetrachloroethane	15.61	83	638349	26.384	ng	100
74) Cumene	16.20	105	1774394	24.946	ng	100
75) alpha-Pinene	16.59	93	963362	26.246	ng	99
76) n-Propylbenzene	16.69	91	2153853	25.792	ng	99
77) 3-Ethyltoluene	16.79	105	1752494	25.617	ng	96
78) 4-Ethyltoluene	16.84	105	1674759	25.414	ng	97
79) 1,3,5-Trimethylbenzene	16.91	105	1481873	24.626	ng	99
80) alpha-Methylstyrene	17.05	118	777705	28.071	ng	100
81) 2-Ethyltoluene	17.09	105	1719352	24.855	ng	99
82) 1,2,4-Trimethylbenzene	17.31	105	1499713	26.039	ng	99
83) n-Decane	17.40	57	883244	26.900	ng	99
84) Benzyl Chloride	17.43	91	1405765	30.389	ng	99
85) 1,3-Dichlorobenzene	17.45	146	789920	24.919	ng	99
86) 1,4-Dichlorobenzene	17.51	146	804333	24.490	ng	100
87) sec-Butylbenzene	17.56	105	1955256	25.203	ng	99
88) 4-Isopropyltoluene (p-...	17.71	119	1844735	25.625	ng	99
89) 1,2,3-Trimethylbenzene	17.71	105	1552574	26.438	ng	99
90) 1,2-Dichlorobenzene	17.84	146	765463	25.178	ng	100
91) d-Limonene	17.85	68	642852	28.760	ng	99
92) 1,2-Dibromo-3-Chloropr...	18.25	157	302553	28.597	ng	93
93) n-Undecane	18.60	57	941879	28.960	ng	99
94) 1,2,4-Trichlorobenzene	19.46	180	589238	27.954	ng	99
95) Naphthalene	19.57	128	1815923	27.385	ng	100
96) n-Dodecane	19.58	57	967157	32.459	ng	99
97) Hexachlorobutadiene	19.90	225	373025	25.693	ng	100
98) Cyclohexanone	15.32	55	633324	29.225	ng	98
99) tert-Butylbenzene	17.30	119	1452161	24.925	ng	100
100) n-Butylbenzene	18.11	91	1643417	27.059	ng	100

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

Data File: I:\MS08\Data\2017 03\10\03101726.D

Acq On : 10 Mar 2017 19:35

Operator: WA

Sample : LCS2 R8031017 25ng

Misc : S29-01231701/S29-02201703 (3/21)

ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 13 07:27:18 2017

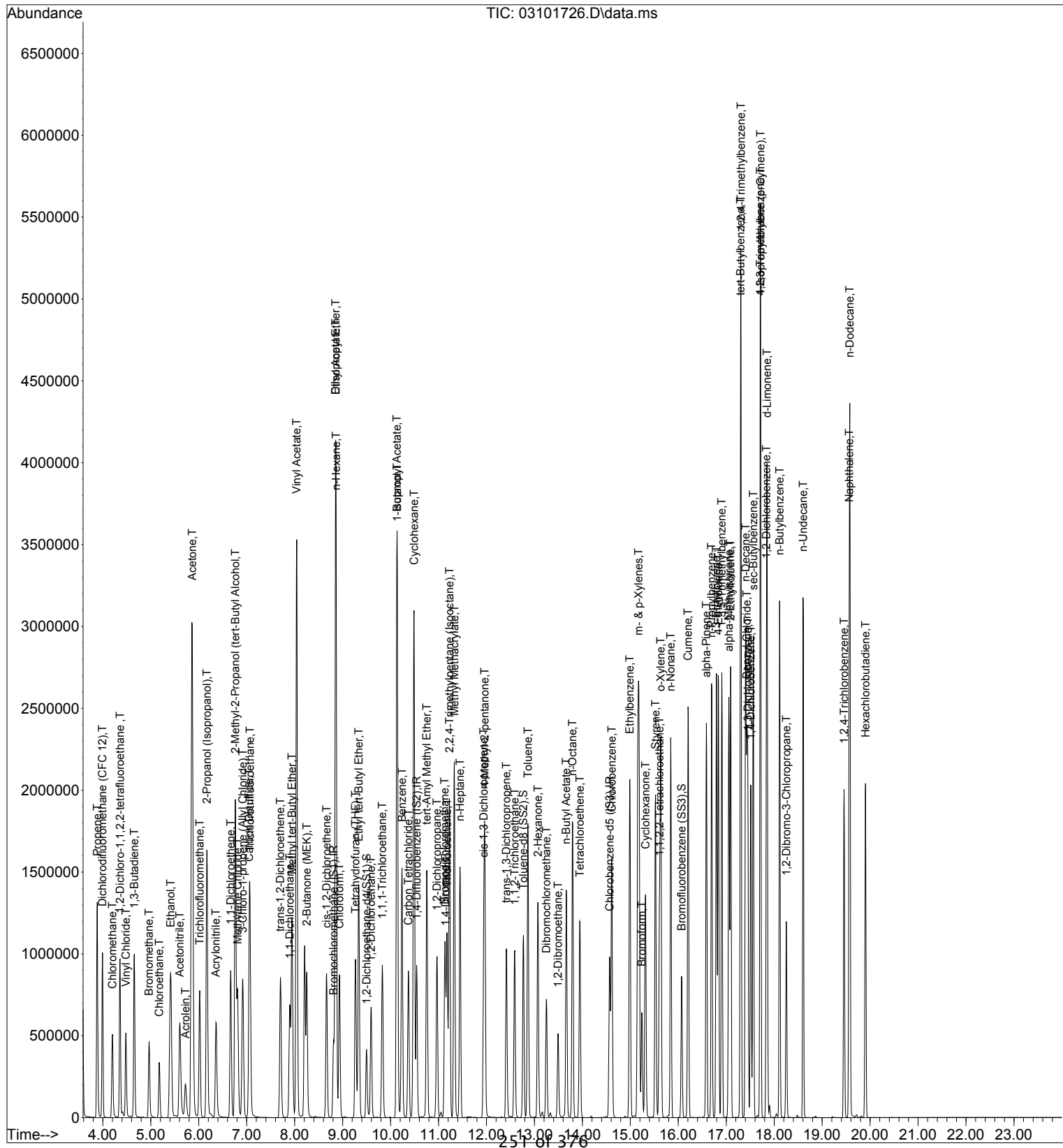
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M



Data File: I:\MS08\Data\2017 03\11\03111704.D

Acq On : 11 Mar 2017 6:52

Operator: WA

Sample : LCS R8031117 25ng

Misc : S29-01231701/S29-02201703 (3/21)

ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 13 07:54:31 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

107 3/13/17

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.81	130	170499	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	10.54	114	782272	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	14.57	82	352797	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.49	65	305088	12.421	ng	-0.02
Spiked Amount	12.500	Range	70 - 130	Recovery	=	99.36%
57) Toluene-d8 (SS2)	12.77	98	835308	12.600	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	100.80%
73) Bromofluorobenzene (SS3)	16.07	174	260521	11.984	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	95.84%

Target Compounds

						Qvalue
2) Propene	3.88	42	475410	26.780	ng	99
3) Dichlorodifluoromethan...	3.99	85	778528	23.744	ng	100
4) Chloromethane	4.20	50	564218	24.618	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	335190	20.219	ng	100
6) Vinyl Chloride	4.48	62	554876	21.904	ng	100
7) 1,3-Butadiene	4.65	54	453074	22.673	ng	99
8) Bromomethane	4.97	94	341744	25.692	ng	99
9) Chloroethane	5.17	64	306652	25.974	ng	100
10) Ethanol	5.41	45	1475923	116.994	ng	100
11) Acetonitrile	5.60	41	816635	24.388	ng	99
12) Acrolein	5.72	56	253073	26.198	ng	100
13) Acetone	5.86	58	1507304	121.928	ng	100
14) Trichlorofluoromethane	6.01	101	667914	23.001	ng	100
15) 2-Propanol (Isopropanol)	6.16	45	2314084	50.104	ng	100
16) Acrylonitrile	6.36	53	553853	27.378	ng	100
17) 1,1-Dichloroethene	6.67	96	369842	25.198	ng	99
18) 2-Methyl-2-Propanol (t...	6.76	59	2334955	50.847	ng	99
19) Methylene Chloride	6.80	84	380318	25.227	ng	100
20) 3-Chloro-1-propene (Al...	6.91	41	717677	26.436	ng	99
21) Trichlorotrifluoroethane	7.07	151	321898	23.886	ng	99
22) Carbon Disulfide	7.05	76	1357053	25.132	ng	100
23) trans-1,2-Dichloroethene	7.70	61	601930	25.817	ng	99
24) 1,1-Dichloroethane	7.90	63	696836	24.059	ng	100
25) Methyl tert-Butyl Ether	7.94	73	1281651	24.405	ng	100
26) Vinyl Acetate	8.04	86	524371	127.492	ng	99
27) 2-Butanone (MEK)	8.25	72	267878	25.638	ng	98
28) cis-1,2-Dichloroethene	8.66	61	564911	24.950	ng	98
29) Diisopropyl Ether	8.85	87	329232	23.913	ng	# 93
30) Ethyl Acetate	8.85	61	275163	55.236	ng	99
31) n-Hexane	8.86	57	600130	22.230	ng	100
32) Chloroform	8.93	83	669182	23.411	ng	100
34) Tetrahydrofuran (THF)	9.26	72	264502	25.344	ng	100
35) Ethyl tert-Butyl Ether	9.33	87	517210	24.271	ng	100
36) 1,2-Dichloroethane	9.59	62	583684	23.720	ng	100
38) 1,1,1-Trichloroethane	9.83	97	642580	24.882	ng	99
39) Isopropyl Acetate	10.13	61	479626	51.048	ng	95
40) 1-Butanol	10.14	56	964664	52.905	ng	97
41) Benzene	10.24	78	1407686	22.788	ng	100
42) Carbon Tetrachloride	10.37	117	564154	26.616	ng	100
43) Cyclohexane	10.48	84	1236944	46.246	ng	100
44) tert-Amyl Methyl Ether	10.75	73	1194504	25.010	ng	99
45) 1,2-Dichloropropane	10.96	63	366036	24.123	ng	100
46) Bromodichloromethane	11.13	83	542617	26.521	ng	100
47) Trichloroethene	11.18	130	390993	24.253	ng	100
48) 1,4-Dioxane	11.14	88	328718	26.345	ng	100
49) 2,2,4-Trimethylpentane...	11.23	57	1757676	24.309	ng	99

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Data File: I:\MS08\Data\2017 03\11\03111704.D

Acq On : 11 Mar 2017 6:52

Operator: WA

Sample : LCS R8031117 25ng

Misc : S29-01231701/S29-02201703 (3/21)

ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 13 07:54:31 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.33	100	317076	53.595	ng	100
51) n-Heptane	11.45	71	367797	23.325	ng	100
52) cis-1,3-Dichloropropene	11.94	75	625750	27.494	ng	100
53) 4-Methyl-2-pentanone	11.96	58	389370	29.136	ng	100
54) trans-1,3-Dichloropropene	12.42	75	611496	27.910	ng	99
55) 1,1,2-Trichloroethane	12.58	97	363516	25.163	ng	100
58) Toluene	12.86	91	1463143	23.722	ng	100
59) 2-Hexanone	13.07	43	996554	31.076	ng	100
60) Dibromochloromethane	13.25	129	445585	29.953	ng	100
61) 1,2-Dibromoethane	13.49	107	408562	28.130	ng	100
62) n-Butyl Acetate	13.66	43	1129730	29.111	ng	100
63) n-Octane	13.79	57	342030	25.052	ng	100
64) Tetrachloroethene	13.94	166	410711	25.099	ng	100
65) Chlorobenzene	14.61	112	989270	24.530	ng	99
66) Ethylbenzene	14.99	91	1767840	25.591	ng	100
67) m- & p-Xylenes	15.17	91	2750699	49.978	ng	100
68) Bromoform	15.24	173	361614	29.947	ng	100
69) Styrene	15.52	104	1080901	28.129	ng	99
70) o-Xylene	15.63	91	1433416	25.302	ng	100
71) n-Nonane	15.84	43	879489	25.747	ng	100
72) 1,1,2,2-Tetrachloroethane	15.61	83	643548	26.330	ng	100
74) Cumene	16.20	105	1803785	25.103	ng	100
75) alpha-Pinene	16.59	93	977817	26.370	ng	100
76) n-Propylbenzene	16.69	91	2171191	25.737	ng	100
77) 3-Ethyltoluene	16.79	105	1808497	26.168	ng	96
78) 4-Ethyltoluene	16.83	105	1681713	25.261	ng	96
79) 1,3,5-Trimethylbenzene	16.91	105	1499208	24.662	ng	100
80) alpha-Methylstyrene	17.05	118	798020	28.513	ng	100
81) 2-Ethyltoluene	17.09	105	1746790	24.996	ng	100
82) 1,2,4-Trimethylbenzene	17.30	105	1519796	26.121	ng	100
83) n-Decane	17.40	57	873156	26.323	ng	100
84) Benzyl Chloride	17.42	91	1414740	30.274	ng	100
85) 1,3-Dichlorobenzene	17.45	146	809421	25.276	ng	99
86) 1,4-Dichlorobenzene	17.51	146	826403	24.908	ng	100
87) sec-Butylbenzene	17.56	105	1987980	25.366	ng	100
88) 4-Isopropyltoluene (p-...	17.71	119	1878287	25.827	ng	100
89) 1,2,3-Trimethylbenzene	17.71	105	1563721	26.358	ng	100
90) 1,2-Dichlorobenzene	17.84	146	787800	25.651	ng	100
91) d-Limonene	17.85	68	641116	28.392	ng	99
92) 1,2-Dibromo-3-Chloropr...	18.25	157	309024	28.913	ng	97
93) n-Undecane	18.60	57	937920	28.547	ng	100
94) 1,2,4-Trichlorobenzene	19.46	180	601591	28.252	ng	100
95) Naphthalene	19.57	128	1848986	27.602	ng	100
96) n-Dodecane	19.58	57	939455	31.211	ng	100
97) Hexachlorobutadiene	19.90	225	383558	26.151	ng	100
98) Cyclohexanone	15.31	55	627359	28.657	ng	100
99) tert-Butylbenzene	17.30	119	1480665	25.157	ng	100
100) n-Butylbenzene	18.11	91	1652407	26.931	ng	100

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

Data File: I:\MS08\Data\2017 03\11\03111704.D

Acq On : 11 Mar 2017 6:52

Operator: WA

Sample : LCS R8031117 25ng

Misc : S29-01231701/S29-02201703 (3/21)

ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 13 07:54:31 2017

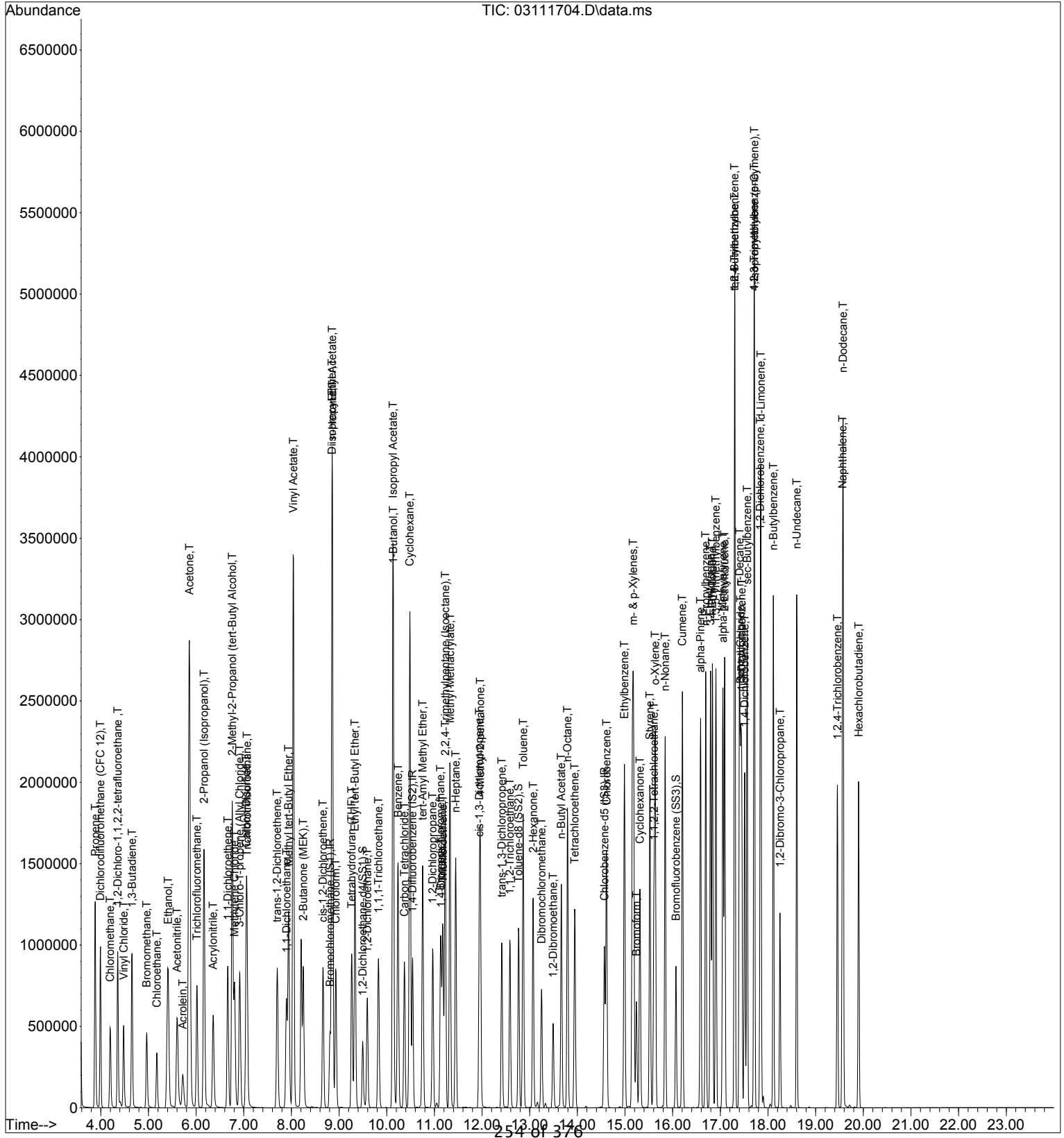
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M



Data File: I:\MS08\Data\2017 03\13\03131704.D

Acq On : 13 Mar 2017 8:29

Operator: WA

Sample : LCS R8031317 25ng

Misc : S29-01231701/S29-02201703 (3/21)

ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 13 11:20:14 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

3/13/17

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.82	130	159583	12.500	ng	-0.01
37) 1,4-Difluorobenzene (IS2)	10.55	114	733446	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.57	82	335125	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.50	65	293937	12.786	ng	-0.01
Spiked Amount	12.500	Range	70 - 130	Recovery	=	102.32%
57) Toluene-d8 (SS2)	12.77	98	787886	12.512	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	100.08%
73) Bromofluorobenzene (SS3)	16.07	174	244915	11.861	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	94.88%

Target Compounds

						Qvalue
2) Propene	3.88	42	463914	27.920	ng	100
3) Dichlorodifluoromethan...	4.00	85	749058	24.408	ng	100
4) Chloromethane	4.21	50	571787	26.655	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.36	135	333929	21.520	ng	100
6) Vinyl Chloride	4.49	62	568346	23.970	ng	100
7) 1,3-Butadiene	4.66	54	468782	25.064	ng	100
8) Bromomethane	4.97	94	324486	26.063	ng	100
9) Chloroethane	5.19	64	293918	26.598	ng	100
10) Ethanol	5.42	45	1485779	125.831	ng	100
11) Acetonitrile	5.61	41	811774	25.902	ng	99
12) Acrolein	5.73	56	245945	27.202	ng	99
13) Acetone	5.87	58	1480667	127.966	ng	97
14) Trichlorofluoromethane	6.02	101	649187	23.885	ng	99
15) 2-Propanol (Isopropanol)	6.18	45	2288732	52.945	ng	100
16) Acrylonitrile	6.36	53	535409	28.277	ng	100
17) 1,1-Dichloroethene	6.67	96	354226	25.785	ng	96
18) 2-Methyl-2-Propanol (t...	6.77	59	2264970	52.697	ng	100
19) Methylene Chloride	6.82	84	363240	25.742	ng	97
20) 3-Chloro-1-propene (Al...	6.92	41	707837	27.857	ng	97
21) Trichlorotrifluoroethane	7.07	151	304879	24.171	ng	100
22) Carbon Disulfide	7.06	76	1325997	26.236	ng	100
23) trans-1,2-Dichloroethene	7.71	61	583939	26.759	ng	97
24) 1,1-Dichloroethane	7.90	63	675338	24.912	ng	100
25) Methyl tert-Butyl Ether	7.95	73	1237352	25.174	ng	98
26) Vinyl Acetate	8.05	86	493205	128.117	ng	# 91
27) 2-Butanone (MEK)	8.26	72	251758	25.743	ng	93
28) cis-1,2-Dichloroethene	8.67	61	544057	25.672	ng	97
29) Diisopropyl Ether	8.86	87	314278	24.388	ng	99
30) Ethyl Acetate	8.86	61	266045	57.059	ng	99
31) n-Hexane	8.87	57	586976	23.230	ng	100
32) Chloroform	8.94	83	641773	23.988	ng	100
34) Tetrahydrofuran (THF)	9.27	72	252997	25.900	ng	97
35) Ethyl tert-Butyl Ether	9.34	87	493784	24.757	ng	98
36) 1,2-Dichloroethane	9.60	62	567869	24.656	ng	100
38) 1,1,1-Trichloroethane	9.83	97	617828	25.516	ng	100
39) Isopropyl Acetate	10.13	61	467168	53.032	ng	99
40) 1-Butanol	10.15	56	937265	54.824	ng	94
41) Benzene	10.24	78	1339477	23.127	ng	100
42) Carbon Tetrachloride	10.37	117	539054	27.124	ng	100
43) Cyclohexane	10.49	84	1190369	47.467	ng	98
44) tert-Amyl Methyl Ether	10.76	73	1149854	25.678	ng	100
45) 1,2-Dichloropropane	10.97	63	356160	25.035	ng	100
46) Bromodichloromethane	11.13	83	525876	27.414	ng	100
47) Trichloroethene	11.18	130	368288	24.365	ng	100
48) 1,4-Dioxane	11.15	88	314656	26.897	ng	98
49) 2,2,4-Trimethylpentane...	11.23	57	1724106	25.432	ng	100

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Data File: I:\MS08\Data\2017 03\13\03131704.D

Acq On : 13 Mar 2017 8:29

Operator: WA

Sample : LCS R8031317 25ng

Misc : S29-01231701/S29-02201703 (3/21)

ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 13 11:20:14 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

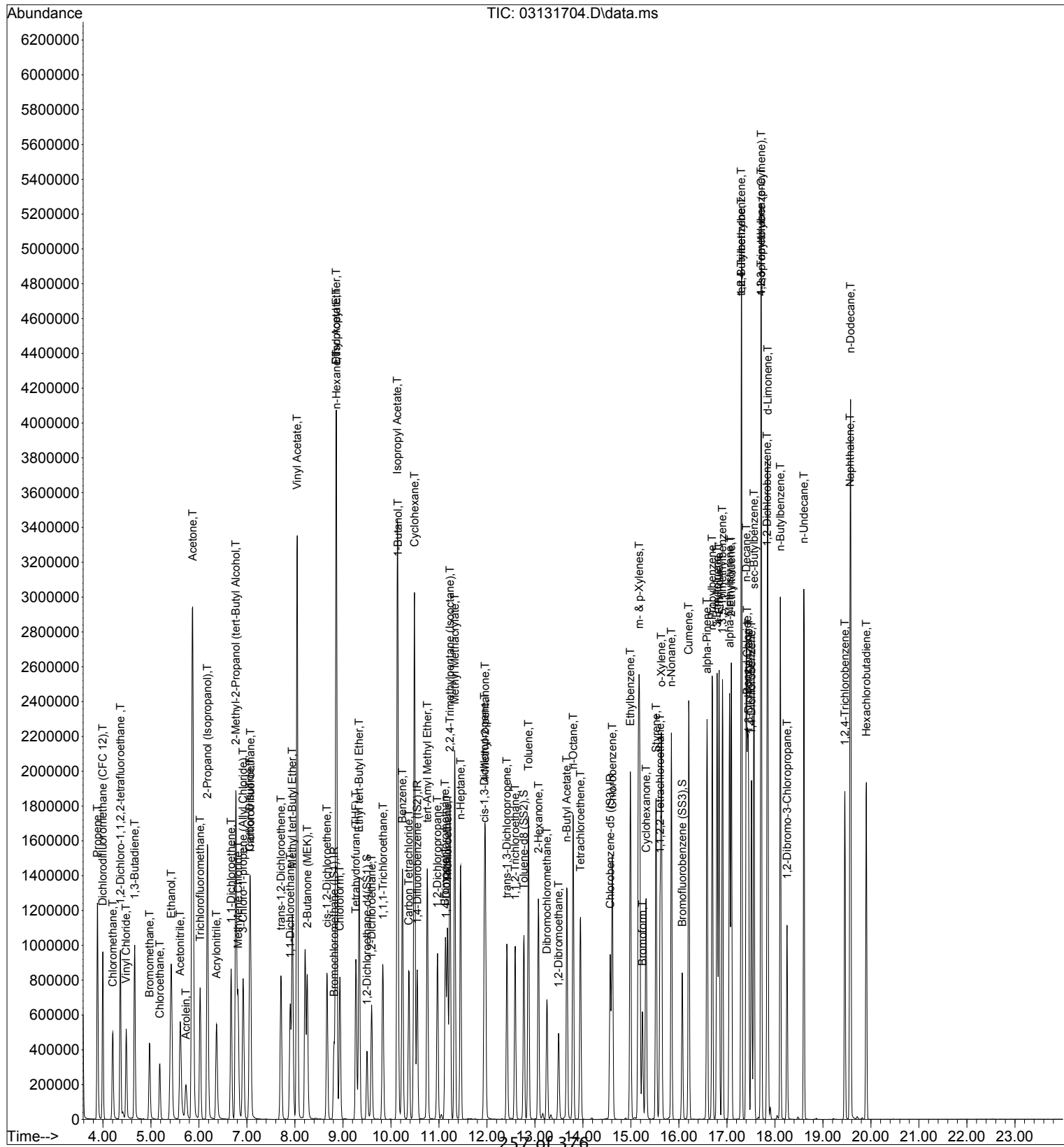
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.33	100	299151	53.931	ng	97
51) n-Heptane	11.45	71	352135	23.819	ng	99
52) cis-1,3-Dichloropropene	11.95	75	603685	28.291	ng	100
53) 4-Methyl-2-pentanone	11.96	58	378603	30.217	ng	98
54) trans-1,3-Dichloropropene	12.42	75	586009	28.528	ng	100
55) 1,1,2-Trichloroethane	12.59	97	347456	25.653	ng	100
58) Toluene	12.86	91	1391791	23.755	ng	100
59) 2-Hexanone	13.07	43	972096	31.912	ng	98
60) Dibromochloromethane	13.25	129	417942	29.576	ng	100
61) 1,2-Dibromoethane	13.49	107	386932	28.046	ng	100
62) n-Butyl Acetate	13.66	43	1108790	30.078	ng	99
63) n-Octane	13.80	57	330245	25.464	ng	99
64) Tetrachloroethene	13.95	166	385917	24.828	ng	100
65) Chlorobenzene	14.61	112	931752	24.323	ng	100
66) Ethylbenzene	14.99	91	1682895	25.646	ng	99
67) m- & p-Xylenes	15.17	91	2609138	49.906	ng	99
68) Bromoform	15.24	173	333586	29.082	ng	99
69) Styrene	15.53	104	1003862	27.502	ng	99
70) o-Xylene	15.63	91	1362016	25.310	ng	99
71) n-Nonane	15.84	43	856390	26.393	ng	98
72) 1,1,2,2-Tetrachloroethane	15.61	83	609852	26.267	ng	100
74) Cumene	16.20	105	1688614	24.740	ng	100
75) alpha-Pinene	16.58	93	922629	26.194	ng	100
76) n-Propylbenzene	16.69	91	2055862	25.655	ng	99
77) 3-Ethyltoluene	16.79	105	1667604	25.402	ng	96
78) 4-Ethyltoluene	16.84	105	1587949	25.111	ng	97
79) 1,3,5-Trimethylbenzene	16.91	105	1398231	24.214	ng	99
80) alpha-Methylstyrene	17.05	118	735365	27.660	ng	99
81) 2-Ethyltoluene	17.09	105	1623399	24.455	ng	99
82) 1,2,4-Trimethylbenzene	17.30	105	1429939	25.873	ng	100
83) n-Decane	17.40	57	834586	26.487	ng	99
84) Benzyl Chloride	17.42	91	1321333	29.766	ng	99
85) 1,3-Dichlorobenzene	17.45	146	746329	24.535	ng	100
86) 1,4-Dichlorobenzene	17.51	146	760071	24.116	ng	100
87) sec-Butylbenzene	17.56	105	1858362	24.962	ng	99
88) 4-Isopropyltoluene (p-...	17.71	119	1758674	25.457	ng	99
89) 1,2,3-Trimethylbenzene	17.71	105	1474516	26.165	ng	99
90) 1,2-Dichlorobenzene	17.84	146	730857	25.052	ng	100
91) d-Limonene	17.85	68	609922	28.435	ng	98
92) 1,2-Dibromo-3-Chloropr...	18.25	157	283389	27.913	ng	93
93) n-Undecane	18.60	57	892915	28.610	ng	99
94) 1,2,4-Trichlorobenzene	19.46	180	550602	27.221	ng	100
95) Naphthalene	19.57	128	1704921	26.793	ng	100
96) n-Dodecane	19.58	57	905534	31.670	ng	99
97) Hexachlorobutadiene	19.90	225	355723	25.533	ng	100
98) Cyclohexanone	15.32	55	602153	28.956	ng	98
99) tert-Butylbenzene	17.30	119	1383319	24.742	ng	100
100) n-Butylbenzene	18.11	91	1554055	26.664	ng	99

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

ALS Vial : 1 Sample Multiplier: 1

DataAcq Meth:T015.M



Data File: I:\MS09\Data\2017 03\13\03131707.D

Acq On : 13 Mar 2017 12:45

Operator: SC

Sample : LCS R9031317 25ng

Misc : S29-03031701/S29-02221703 (3/23)

ALS Vial : 4 Sample Multiplier: 1

3/13/17

Quant Time: Mar 13 13:10:30 2017

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:48:38 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	142990	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	11.10	114	705626	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	15.44	82	318874	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.91	65	221580	9.985	ng	-0.02
Spiked Amount	12.500	Range	70 - 130	Recovery	=	79.84%
57) Toluene-d8 (SS2)	13.54	98	781784	13.270	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	106.16%
73) Bromofluorobenzene (SS3)	17.04	174	214473	14.717	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	117.76%

Target Compounds

						Qvalue
2) Propene	3.84	42	508348	17.485	ng	100
3) Dichlorodifluoromethan...	3.95	85	732730	20.253	ng	100
4) Chloromethane	4.15	50	672129	17.080	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	4.31	135	372101	23.784	ng	99
6) Vinyl Chloride	4.43	62	673815	19.148	ng	99
7) 1,3-Butadiene	4.61	54	495222	22.001	ng	94
8) Bromomethane	4.91	94	376358	23.069	ng	99
9) Chloroethane	5.13	64	326442	19.828	ng	99
10) Ethanol	5.36	45	1670418	84.495	ng	100
11) Acetonitrile	5.55	41	856374	17.323	ng	100
12) Acrolein	5.68	56	278862	19.397	ng	99
13) Acetone	5.83	58	1665915	93.250	ng	89
14) Trichlorofluoromethane	6.00	101	587191	21.108	ng	99
15) 2-Propanol (Isopropanol)	6.16	45	2263272	36.665	ng	100
16) Acrylonitrile	6.36	53	621673	20.853	ng	100
17) 1,1-Dichloroethene	6.70	96	395215	22.981	ng	# 82
18) 2-Methyl-2-Propanol (t...	6.80	59	2212075	42.085	ng	98
19) Methylene Chloride	6.85	84	428939	20.476	ng	# 80
20) 3-Chloro-1-propene (Al...	6.98	41	698471	18.781	ng	90
21) Trichlorotrifluoroethane	7.16	151	308955	25.116	ng	90
22) Carbon Disulfide	7.13	76	1597837	20.150	ng	100
23) trans-1,2-Dichloroethene	7.87	61	625676	20.665	ng	88
24) 1,1-Dichloroethane	8.09	63	754965	19.364	ng	100
25) Methyl tert-Butyl Ether	8.15	73	1268917	21.094	ng	96
26) Vinyl Acetate	8.27	86	462080	133.802	ng	# 47
27) 2-Butanone (MEK)	8.50	72	307303	23.666	ng	# 73
28) cis-1,2-Dichloroethene	8.97	61	589471	19.973	ng	88
29) Diisopropyl Ether	9.20	87	348369	21.038	ng	# 54
30) Ethyl Acetate	9.20	61	341078	43.028	ng	92
31) n-Hexane	9.20	57	761412	18.919	ng	99
32) Chloroform	9.27	83	674285	21.005	ng	99
34) Tetrahydrofuran (THF)	9.65	72	295823	21.050	ng	# 81
35) Ethyl tert-Butyl Ether	9.75	87	489816	22.657	ng	# 86
36) 1,2-Dichloroethane	10.01	62	508647	19.238	ng	100
38) 1,1,1-Trichloroethane	10.28	97	557893	22.007	ng	97
39) Isopropyl Acetate	10.65	61	578447	42.799	ng	# 75
40) 1-Butanol	10.66	56	917695	37.556	ng	98
41) Benzene	10.74	78	1718998	21.181	ng	100
42) Carbon Tetrachloride	10.89	117	472072	23.070	ng	100
43) Cyclohexane	11.02	84	1304243	45.410	ng	89
44) tert-Amyl Methyl Ether	11.33	73	1232117	21.632	ng	95
45) 1,2-Dichloropropane	11.56	63	440609	20.242	ng	99
46) Bromodichloromethane	11.74	83	543894	22.824	ng	100
47) Trichloroethene	11.79	130	412941	23.060	ng	100
48) 1,4-Dioxane	11.76	88	352276	24.188	ng	89
49) 2,2,4-Trimethylpentane...	11.85	57	1907245	19.894	ng	97

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Data File: I:\MS09\Data\2017 03\13\03131707.D

Acq On : 13 Mar 2017 12:45

Operator: SC

Sample : LCS R9031317 25ng

Misc : S29-03031701/S29-02221703 (3/23)

ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 13 13:10:30 2017

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:48:38 2017

Response via : Initial Calibration

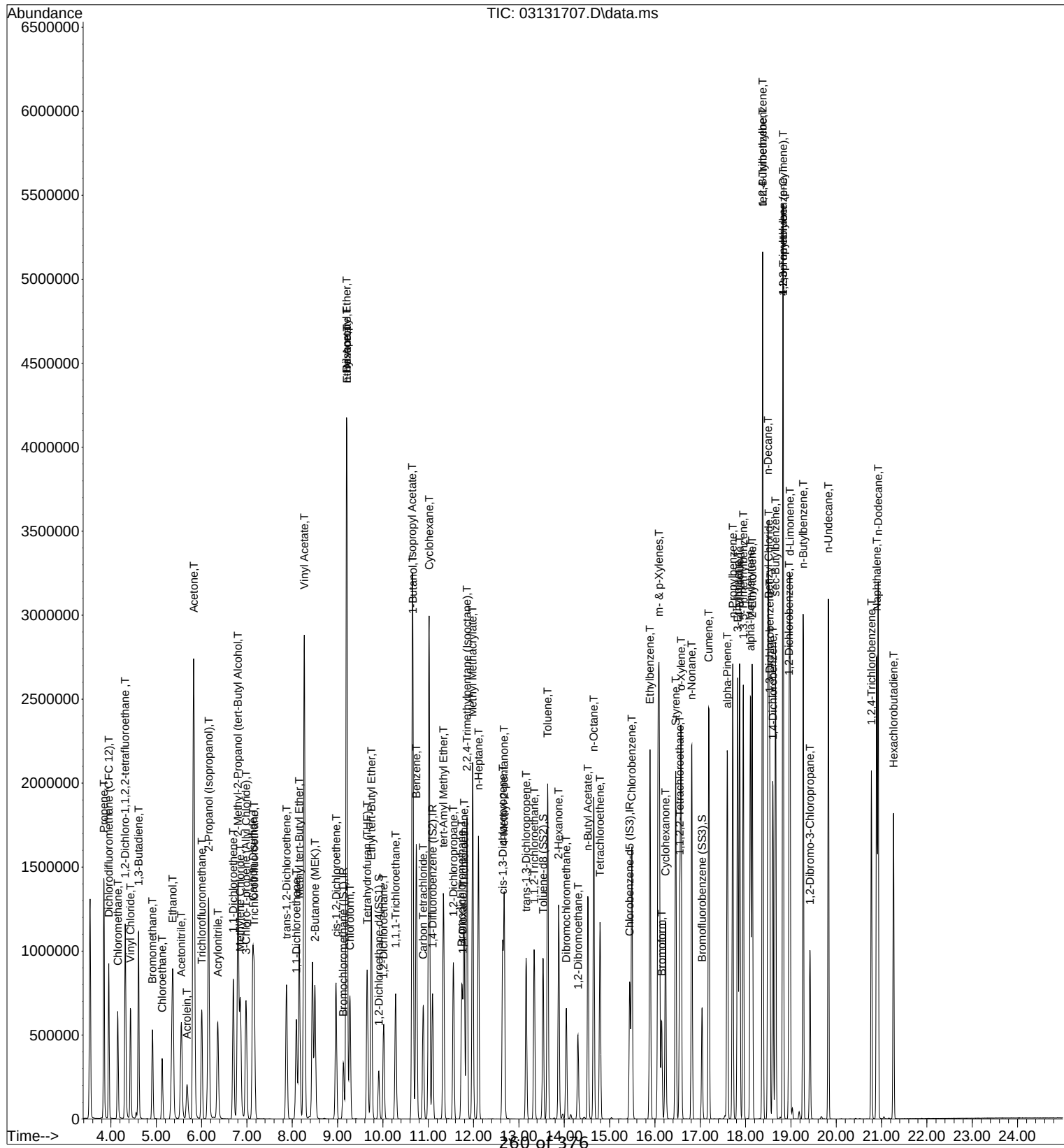
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.98	100	349042	53.964	ng	# 81
51) n-Heptane	12.11	71	445430	21.919	ng	94
52) cis-1,3-Dichloropropene	12.64	75	708309	22.839	ng	99
53) 4-Methyl-2-pentanone	12.67	58	428772	20.773	ng	88
54) trans-1,3-Dichloropropene	13.16	75	638158	24.304	ng	100
55) 1,1,2-Trichloroethane	13.34	97	402648	24.034	ng	95
58) Toluene	13.63	91	1725666	25.099	ng	100
59) 2-Hexanone	13.88	43	991850	21.102	ng	93
60) Dibromochloromethane	14.05	129	432214	28.243	ng	99
61) 1,2-Dibromoethane	14.30	107	440251	28.035	ng	100
62) n-Butyl Acetate	14.52	43	1128089	21.822	ng	95
63) n-Octane	14.65	57	400763	22.870	ng	90
64) Tetrachloroethene	14.79	166	413477	29.511	ng	100
65) Chlorobenzene	15.49	112	1081280	26.400	ng	100
66) Ethylbenzene	15.89	91	1936771	26.029	ng	98
67) m- & p-Xylenes	16.09	91	2988120	52.216	ng	97
68) Bromoform	16.15	173	345862	30.701	ng	100
69) Styrene	16.46	104	1199802	28.193	ng	97
70) o-Xylene	16.58	91	1515290	26.020	ng	97
71) n-Nonane	16.81	43	935050	20.712	ng	91
72) 1,1,2,2-Tetrachloroethane	16.55	83	746966	27.541	ng	99
74) Cumene	17.19	105	1880290	26.768	ng	98
75) alpha-Pinene	17.60	93	1013152	27.117	ng	97
76) n-Propylbenzene	17.72	91	2356808	26.499	ng	97
77) 3-Ethyltoluene	17.83	105	1850624	26.519	ng	98
78) 4-Ethyltoluene	17.87	105	1871316	28.510	ng	98
79) 1,3,5-Trimethylbenzene	17.95	105	1551921	27.020	ng	98
80) alpha-Methylstyrene	18.11	118	834854	28.761	ng	98
81) 2-Ethyltoluene	18.15	105	1856717	27.283	ng	98
82) 1,2,4-Trimethylbenzene	18.38	105	1608810	27.646	ng	98
83) n-Decane	18.50	57	1002878	23.025	ng	95
84) Benzyl Chloride	18.51	91	1521710	27.934	ng	97
85) 1,3-Dichlorobenzene	18.53	146	888654	29.526	ng	100
86) 1,4-Dichlorobenzene	18.60	146	888660	29.688	ng	99
87) sec-Butylbenzene	18.66	105	2113321	27.025	ng	98
88) 4-Isopropyltoluene (p-...	18.83	119	1930878	27.579	ng	97
89) 1,2,3-Trimethylbenzene	18.83	105	1643982	28.169	ng	98
90) 1,2-Dichlorobenzene	18.96	146	847278	29.186	ng	100
91) d-Limonene	18.98	68	709024	24.372	ng	92
92) 1,2-Dibromo-3-Chloropr...	19.42	157	296479	32.210	ng	# 80
93) n-Undecane	19.83	57	1053798	23.237	ng	95
94) 1,2,4-Trichlorobenzene	20.78	180	641793	32.174	ng	100
95) Naphthalene	20.89	128	2168887	30.276	ng	100
96) n-Dodecane	20.92	57	1033805	23.637	ng	94
97) Hexachlorobutadiene	21.27	225	355772	30.476	ng	99
98) Cyclohexanone	16.23	55	604617	20.724	ng	92
99) tert-Butylbenzene	18.38	119	1496884	27.701	ng	99
100) n-Butylbenzene	19.27	91	1774942	26.285	ng	99

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

ALS Vial : 4 Sample Multiplier: 1

DataAcq Meth:T015.M



Method Path : I:\MS09\Methods\
Method File : R9030317.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Mon Mar 06 08:48:38 2017
Response Via : Initial Calibration

3/6/17

Calibration Files

0.08=03031711.D 0.10=03031712.D 0.20=03031713.D 0.40=03031714.D 1.0 =03031715.D 5.0 =03031716.D 25 =03031717.D
50 =03031718.D 100 =03031719.D

Compound	0.08	0.10	0.20	0.40	1.0	5.0	25	50	100	Avg	%RSD
-----ISTD-----											
1) IR Bromochloromethane...											
2) T Propene			2.660	2.430	2.480	2.230	2.478	2.550	2.962	2.542	8.92
3) T Dichlorodifluo...	4.018	3.571	3.188	3.023	3.191	2.841	3.062	2.877	2.695	3.163	12.91
4) T Chloromethane	4.452	4.210	3.517	3.411	3.583	2.940	3.383	3.114	2.352	3.440	18.35
5) T 1,2-Dichloro-1...	1.647	1.545	1.343	1.319	1.356	1.224	1.341	1.290	1.244	1.368	10.19
6) T Vinyl Chloride	3.843	3.391	3.065	2.909	3.080	2.722	3.033	2.895	2.747	3.076	11.40
7) T 1,3-Butadiene	2.281	2.063	1.844	1.792	1.845	1.728	2.137	2.084	1.936	1.968	9.32
8) T Bromomethane	1.744	1.583	1.428	1.386	1.416	1.224	1.411	1.371	1.273	1.426	10.96
9) T Chloroethane	1.705	1.697	1.407	1.416	1.437	1.269	1.401	1.344	1.279	1.439	11.09
10) T Ethanol	2.225	1.952	1.778	1.641	1.732	1.484	1.666	1.592	1.485	1.728	13.70
11) T Acetonitrile			4.808	4.599	4.435	4.062	4.274	4.110	3.965	4.322	7.12
12) T Acrolein	1.413	1.462	1.270	1.233	1.278	1.131	1.221	1.173	1.130	1.257	9.25
13) T Acetone	2.091	1.904	1.593	1.502	1.537	1.392	1.443	1.347	1.246	1.562	17.40
14) T Trichlorofluor...	2.978	2.811	2.462	2.422	2.436	2.167	2.302	2.200	2.108	2.432	12.07
15) T 2-Propanol (Is...	6.814	6.096	5.453	5.259	5.579	5.012	5.591	5.010	3.754	5.396	15.49
16) T Acrylonitrile	2.839	2.411	2.386	2.440	2.759	2.525	2.792	2.694	2.609	2.606	6.65
17) T 1,1-Dichloroet...	1.862	1.695	1.444	1.410	1.518	1.315	1.473	1.426	1.387	1.503	11.37
18) T Methyl-2-Pro...			4.746	4.760	4.914	4.529	5.035	4.662	3.519	4.595	10.93
19) T Methylene Chlo...	2.688	2.192	1.844	1.662	1.724	1.519	1.661	1.616	1.575	1.831	20.64
20) T 3-Chloro-1-pro...	3.782	3.671	3.088	3.205	3.149	2.941	3.269	3.138	3.020	3.251	8.83
21) T Trichlorotrifl...	1.338	1.052	1.052	1.069	1.100	0.963	1.064	1.032	1.007	1.075	9.84
22) T Carbon Disulfide	9.580	8.598	7.138	6.308	6.478	5.698	6.428	6.218	5.944	6.932	18.87
23) T trans-1,2-Dich...	3.062	2.669	2.537	2.530	2.742	2.470	2.700	2.602	2.509	2.647	6.84
24) T 1,1-Dichloroet...	4.326	3.703	3.435	3.302	3.441	3.047	3.278	3.141	3.000	3.408	11.96
25) T Methyl tert-Bu...	6.320	5.768	5.154	5.054	5.159	4.803	5.199	5.036	4.834	5.259	9.24
26) T Vinyl Acetate			0.197	0.235	0.355	0.364	0.359	0.302			26.39
27) T 2-Butanone (MEK)	1.047	0.976	1.051	1.080	1.224	1.133	1.275	1.235	1.194	1.135	9.03
28) T cis-1,2-Dichlo...	3.081	2.848	2.488	2.456	2.584	2.344	2.573	2.474	2.373	2.580	9.26
29) T Diisopropyl Ether	1.959	1.736	1.558	1.277	1.372	1.230	1.359	1.318	1.219	1.448	17.54
30) T Ethyl Acetate	0.717	0.664	0.680	0.645	0.724	0.671	0.768	0.728	0.639	0.693	6.26
31) T n-Hexane	4.477	4.043	3.566	3.440	3.518	3.145	3.454	3.244	2.779	3.518	14.10
32) T Chloroform	3.513	2.971	2.771	2.704	2.880	2.518	2.751	2.629	2.518	2.806	10.86
33) S 1,2-Dichloroet...	1.957	1.959	1.968	1.969	1.956	1.955	1.933	1.882	1.879	1.940	1.82
34) T Tetrahydrofura...	1.543	1.355	1.198	1.130	1.189	1.094	1.221	1.181	1.146	1.229	11.30
35) T Ethyl tert-But...	2.242	1.882	1.831	1.776	1.888	1.735	1.943	1.882	1.830	1.890	7.74
36) T 1,2-Dichloroet...	2.913	2.564	2.319	2.263	2.277	2.066	2.248	2.128	2.023	2.311	11.95
-----ISTD-----											
37) IR 1,4-Difluorobenzen...											
38) T 1,1,1-Trichlor...	0.567	0.504	0.443	0.431	0.435	0.402	0.435	0.421	0.404	0.449	11.86
39) T Isopropyl Acetate	0.269	0.250	0.229	0.224	0.237	0.225	0.250	0.243	0.226	0.239	6.38
40) T 1-Butanol	0.508	0.426	0.389	0.370	0.416	0.399	0.486	0.469	0.435	0.433	10.70
41) T Benzene	1.901	1.689	1.473	1.407	1.369	1.232	1.335	1.296	1.238	1.438	15.50
42) T Carbon Tetrach...	0.440	0.393	0.346	0.348	0.363	0.330	0.360	0.348	0.333	0.362	9.56

Method Path : I:\MS09\Methods\
Method File : R9030317.M

Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)													
43) T	Cyclohexane	0.639	0.565	0.505	0.469	0.494	0.456	0.503	0.491	0.457	0.509	11.54	
44) T	tert-Amyl Meth...	1.280	1.092	0.980	0.955	0.969	0.905	0.999	0.973	0.928	1.009	11.31	
45) T	1,2-Dichloropr...	0.486	0.409	0.393	0.366	0.387	0.345	0.376	0.363	0.347	0.386	11.15	
46) T	Bromodichlorom...	0.498	0.442	0.403	0.407	0.421	0.384	0.428	0.417	0.399	0.422	7.89	
47) T	Trichloroethene	0.434	0.380	0.313	0.303	0.305	0.270	0.290	0.284	0.276	0.317	17.22	
48) T	1,4-Dioxane	0.284	0.253	0.235	0.232	0.258	0.243	0.276	0.274	0.267	0.258	7.30	
49) T	2,2,4-Trimethy...	2.141	1.963	1.656	1.600	1.678	1.523	1.656	1.591	1.477	1.698	12.68	
50) T	Methyl Methacr...	0.119	0.105	0.102	0.101	0.117	0.111	0.127	0.126	0.123	0.115	8.94	
51) T	n-Heptane	0.437	0.386	0.352	0.337	0.360	0.323	0.359	0.350	0.336	0.360	9.44	
52) T	cis-1,3-Dichlo...	0.632	0.554	0.513	0.510	0.544	0.513	0.579	0.562	0.535	0.549	7.12	
53) T	4-Methyl-2-pen...	0.385	0.409	0.339	0.328	0.358	0.341	0.388	0.380	0.362	0.366	7.35	
54) T	trans-1,3-Dich...	0.474	0.408	0.425	0.435	0.467	0.462	0.522	0.509	0.484	0.465	8.08	
55) T	1,1,2-Trichlor...	0.363	0.305	0.283	0.279	0.294	0.267	0.302	0.293	0.284	0.297	9.29	
56) IR	Chlorobenzene-d5 (.....ISTD-----												
57) S	Toluene-d8 (SS2)	2.329	2.315	2.324	2.350	2.308	2.293	2.280	2.293	2.293	2.309	0.96	
58) T	Toluene	3.422	3.104	2.674	2.625	2.587	2.369	2.583	2.515	2.378	2.695	12.89	
59) T	2-Hexanone	2.093	1.896	1.641	1.625	1.863	1.755	1.980	1.917	1.814	1.843	8.29	
60) T	Dibromochlorom...	0.714	0.601	0.563	0.565	0.602	0.554	0.612	0.603	0.585	0.600	7.93	
61) T	1,2-Dibromoethane	0.663	0.616	0.603	0.586	0.624	0.570	0.638	0.629	0.611	0.616	4.47	
62) T	n-Butyl Acetate	2.248	2.072	1.756	1.759	2.032	1.954	2.225	2.166	2.027	2.027	8.90	
63) T	n-Octane	0.823	0.787	0.633	0.653	0.670	0.622	0.688	0.672	0.636	0.687	10.28	
64) T	Tetrachloroethene	0.647	0.605	0.517	0.540	0.536	0.481	0.543	0.539	0.534	0.549	8.84	
65) T	Chlorobenzene	2.061	1.846	1.531	1.512	1.565	1.415	1.553	1.518	1.450	1.606	13.06	
66) T	Ethylbenzene	3.584	3.199	2.777	2.730	2.845	2.649	2.928	2.855	2.685	2.917	10.25	
67) T	m- & p-Xylenes	2.759	2.436	2.097	2.083	2.208	2.033	2.278	2.227	2.070	2.243	10.30	
68) T	Bromoform	0.478	0.412	0.408	0.409	0.443	0.411	0.472	0.472	0.471	0.442	7.15	
69) T	Styrene	1.899	1.689	1.528	1.501	1.642	1.576	1.772	1.746	1.662	1.668	7.55	
70) T	o-Xylene	2.774	2.480	2.142	2.130	2.239	2.068	2.323	2.260	2.129	2.283	9.75	
71) T	n-Nonane	2.124	1.960	1.752	1.665	1.754	1.634	1.787	1.707	1.545	1.770	9.93	
72) T	1,1,2,2-Tetrac...	1.163	1.013	0.910	0.954	1.039	1.010	1.185	1.171	1.124	1.063	9.49	
73) S	Bromofluoroben...	0.562	0.558	0.561	0.569	0.569	0.583	0.580	0.585	0.576	0.571	1.74	
74) T	Cumene	3.337	2.920	2.636	2.585	2.736	2.542	2.805	2.705	2.516	2.754	9.23	
75) T	alpha-Pinene	1.558	1.517	1.390	1.401	1.414	1.393	1.550	1.522	1.436	1.465	4.84	
76) T	n-Propylbenzene	4.169	3.643	3.283	3.234	3.508	3.298	3.618	3.473	3.151	3.487	8.85	
77) T	3-Ethyltoluene	3.136	2.849	2.528	2.580	2.726	2.580	2.793	2.802	2.625	2.736	6.89	
78) T	4-Ethyltoluene	3.025	2.634	2.369	2.412	2.601	2.419	2.753	2.585	2.359	2.573	8.46	
79) T	1,3,5-Trimethy...	2.644	2.324	2.126	2.097	2.213	2.115	2.342	2.274	2.127	2.252	7.74	
80) T	alpha-Methylst...	1.209	1.089	1.019	1.025	1.127	1.099	1.262	1.234	1.177	1.138	7.73	
81) T	2-Ethyltoluene	3.029	2.866	2.474	2.503	2.677	2.524	2.770	2.683	2.483	2.668	7.26	
82) T	1,2,4-Trimethy...	2.638	2.362	2.105	2.063	2.245	2.173	2.491	2.406	2.047	2.281	9.03	
83) T	n-Decane	1.967	1.881	1.581	1.611	1.708	1.617	1.813	1.719	1.469	1.707	9.24	
84) T	Benzyl Chloride												
85) T	1,3-Dichlorobe...	1.370	1.216	1.083	1.035	1.160	1.096	1.243	1.232	1.184	1.180	8.57	
86) T	1,4-Dichlorobe...	1.307	1.215	1.065	1.060	1.170	1.102	1.248	1.218	1.176	1.173	7.19	
87) T	sec-Butylbenzene	3.595	3.260	2.876	2.856	3.057	2.902	3.197	3.068	2.777	3.065	8.36	
88) T	4-Isopropyltol...	3.198	2.943	2.579	2.569	2.753	2.628	2.949	2.794	2.289	2.745	9.72	
89) T	1,2,3-Trimethy...	2.481	2.358	2.132	2.125	2.293	2.196	2.522	2.437	2.047	2.288	7.52	
90) T	1,2-Dichlorobe...	1.333	1.186	1.045	1.013	1.120	1.062	1.196	1.178	1.108	1.138	8.61	
91) T	d-Limonene	1.262	1.081	1.003	1.052	1.123	1.125	1.291	1.244	1.084	1.140	8.88	
92) T	1,2-Dibromo-3-...												
93) T	n-Undecane	2.003	1.914	1.629	1.628	1.746	1.701	1.924	1.843	1.613	1.778	16.61	
94) T	1,2,4-Trichlor...	0.815	0.682	0.646	0.667	0.769	0.751	0.904	0.907	0.897	0.782	8.28	
												13.39	

Method Path : I:\MS09\Methods\
 Method File : R9030317.M
 Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

95) T	Naphthalene	3.091	2.559	2.340	2.355	2.742	2.756	3.304	3.217	2.909	2.808	12.58
96) T	n-Dodecane	1.899	1.684	1.550	1.490	1.663	1.626	1.983	1.902	1.635	1.715	10.03
97) T	Hexachlorobuta...	0.496	0.438	0.395	0.416	0.443	0.422	0.496	0.505	0.508	0.458	9.51
98) T	Cyclohexanone	1.304	1.171	1.056	0.999	1.103	1.060	1.245	1.209	1.146	1.144	8.65
99) T	tert-Butylbenzene	2.458	2.288	2.048	2.001	2.057	1.990	2.244	2.155	1.824	2.118	8.95
100) T	n-Butylbenzene	3.124	2.704	2.386	2.424	2.621	2.574	2.842	2.716	2.433	2.647	8.90

(#) = Out of Range

200ng/L Std. ID: S29-03021701															
Dilution Factors:			5		250		1000		Working STD Conc.(ng/L):						
Compounds	Source Std.	Primary Working Standards				Injection (L):	ICAL Points:								
	mg/mL	200ng/L	20ng/L	4ng/L	10ng/L			4	0.020	0.025	0.050	0.100	0.20	0.25	200
Dibromochloromethane	1.062	212.4	21.24	4.248	1.062	0.08496	0.1062	0.2124	0.4248	1.062	5.310	26.550	53.10	106.2	106.2
1,2-Dibromomethane	1.056	211.2	21.12	4.224	1.056	0.08448	0.1056	0.2112	0.4224	1.056	5.280	26.400	52.80	105.6	105.6
n-Butyl Acetate	1.064	212.8	21.28	4.256	1.064	0.08512	0.1064	0.2128	0.4256	1.064	5.320	26.600	53.20	106.4	106.4
n-Octane	1.057	211.4	21.14	4.228	1.057	0.08456	0.1057	0.2114	0.4228	1.057	5.285	26.425	52.85	105.7	105.7
Tetrachloroethene	1.061	212.2	21.22	4.244	1.061	0.08488	0.1061	0.2122	0.4244	1.061	5.305	26.525	53.05	106.1	106.1
Chlorobenzene	1.061	212.2	21.22	4.244	1.061	0.08488	0.1061	0.2122	0.4244	1.061	5.305	26.525	53.05	106.1	106.1
Ethylbenzene	1.061	212.2	21.22	4.244	1.061	0.08440	0.1055	0.2110	0.4220	1.055	5.275	26.375	52.75	105.5	105.5
m-tp-Xylene	2.123	424.6	42.46	8.492	2.123	0.16984	0.2123	0.4246	0.8492	2.123	10.615	53.075	106.15	212.3	212.3
Bromodform	1.063	212.6	21.26	4.252	1.063	0.08504	0.1063	0.2126	0.4252	1.063	5.315	26.575	53.15	106.3	106.3
Styrene	1.061	212.2	21.22	4.244	1.061	0.08488	0.1061	0.2122	0.4244	1.061	5.305	26.525	53.05	106.1	106.1
o-Xylene	1.054	210.8	21.08	4.216	1.054	0.08432	0.1054	0.2108	0.4216	1.054	5.270	26.350	52.70	105.4	105.4
n-Nonane	1.054	210.8	21.08	4.216	1.054	0.08432	0.1054	0.2108	0.4216	1.054	5.270	26.350	52.70	105.4	105.4
1,1,2,2-Tetrachloroethane	1.056	211.2	21.12	4.224	1.056	0.08448	0.1056	0.2112	0.4224	1.056	5.280	26.400	52.80	105.6	105.6
Cumene	1.050	210.0	21.00	4.200	1.050	0.08400	0.1050	0.2100	0.4200	1.050	5.250	26.250	52.50	105.0	105.0
alpha-Phenene	1.044	208.8	20.88	4.176	1.044	0.08352	0.1044	0.2088	0.4176	1.044	5.220	26.100	52.20	104.4	104.4
n-Propylbenzene	1.063	212.6	21.26	4.252	1.063	0.08504	0.1063	0.2126	0.4252	1.063	5.315	26.575	53.15	106.3	106.3
3-Ethyltoluene	1.050	210.0	21.00	4.200	1.050	0.08400	0.1050	0.2100	0.4200	1.050	5.250	26.250	52.50	105.0	105.0
4-Ethyltoluene	1.049	209.8	20.98	4.196	1.049	0.08392	0.1049	0.2098	0.4196	1.049	5.245	26.225	52.45	104.9	104.9
1,3,5-Trimethylbenzene	1.049	209.8	20.98	4.196	1.049	0.08392	0.1049	0.2098	0.4196	1.049	5.245	26.225	52.45	104.9	104.9
alpha-Methylstyrene	1.050	210.0	21.00	4.200	1.050	0.08400	0.1050	0.2100	0.4200	1.050	5.250	26.250	52.50	105.0	105.0
2-Ethyltoluene	1.062	212.4	21.24	4.248	1.062	0.08496	0.1062	0.2124	0.4248	1.062	5.310	26.550	53.10	106.2	106.2
1,2,4-Trimethylbenzene	1.052	210.4	21.04	4.208	1.052	0.08416	0.1052	0.2104	0.4208	1.052	5.260	26.300	52.60	105.2	105.2
n-Decane	1.053	210.6	21.06	4.212	1.053	0.08424	0.1053	0.2106	0.4212	1.053	5.265	26.325	52.65	105.3	105.3
Benzyl Chloride	1.061	212.2	21.22	4.244	1.061	0.08488	0.1061	0.2122	0.4244	1.061	5.305	26.525	53.05	106.1	106.1
1,3-Dichlorobenzene	1.058	211.6	21.16	4.232	1.058	0.08464	0.1058	0.2116	0.4232	1.058	5.290	26.450	52.90	105.8	105.8
1,4-Dichlorobenzene	1.058	211.6	21.16	4.232	1.058	0.08464	0.1058	0.2116	0.4232	1.058	5.290	26.450	52.90	105.8	105.8
sec-Butylbenzene	1.054	210.8	21.08	4.216	1.054	0.08432	0.1054	0.2108	0.4216	1.054	5.270	26.350	52.70	105.4	105.4
p-Isopropyltoluene	1.027	205.4	20.54	4.108	1.027	0.08216	0.1027	0.2054	0.4108	1.027	5.135	25.675	51.35	102.7	102.7
1,2,3-Trimethylbenzene	1.027	205.4	20.54	4.108	1.027	0.08216	0.1027	0.2054	0.4108	1.027	5.135	25.675	51.35	102.7	102.7
1,2-Dichlorobenzene	1.058	211.6	21.16	4.232	1.058	0.08464	0.1058	0.2116	0.4232	1.058	5.290	26.450	52.90	105.8	105.8
d-Limonene	1.005	201.0	20.10	4.020	1.005	0.08040	0.1005	0.2010	0.4020	1.005	5.025	25.125	50.25	100.5	100.5
1,2-Dibromo-3-chloropropane	1.053	210.6	21.06	4.212	1.053	0.08424	0.1053	0.2106	0.4212	1.053	5.265	26.325	52.65	105.3	105.3
n-Undecane	1.054	210.8	21.08	4.216	1.054	0.08432	0.1054	0.2108	0.4216	1.054	5.270	26.350	52.70	105.4	105.4
1,2,4-Trichlorobenzene	1.043	208.6	20.86	4.172	1.043	0.08344	0.1043	0.2086	0.4172	1.043	5.215	26.075	52.15	104.3	104.3
Naphthalene	1.083	216.6	21.66	4.332	1.083	0.08664	0.1083	0.2166	0.4332	1.083	5.415	27.075	54.15	108.3	108.3
n-Dodecane	1.045	209.0	20.90	4.180	1.045	0.08360	0.1045	0.2090	0.4180	1.045	5.225	26.125	52.25	104.5	104.5
Hexachloro-1,3-butadiene	1.059	211.8	21.18	4.236	1.059	0.08472	0.1059	0.2118	0.4236	1.059	5.295	26.475	52.95	105.9	105.9
Methacrylonitrile	1.065	213.0	21.30	4.260	1.065	0.08520	0.1065	0.2130	0.4260	1.065	5.325	26.625	53.25	106.5	106.5
Cyclohexanone	1.056	211.2	21.12	4.224	1.056	0.08448	0.1056	0.2112	0.4224	1.056	5.280	26.400	52.80	105.6	105.6
tert-Butylbenzene	1.051	210.2	21.02	4.204	1.051	0.08408	0.1051	0.2102	0.4204	1.051	5.255	26.275	52.55	105.1	105.1
n-Butylbenzene	1.056	211.2	21.12	4.224	1.056	0.08448	0.1056	0.2112	0.4224	1.056	5.280	26.400	52.80	105.6	105.6

Method : I:\MS09\Methods\R9030317.M (RTE Integrator)
 Title : EPA T0-15 per SOP VOA-T015 (CASS T0-15/GC-MS)
 Last Update : Mon Mar 06 08:48:38 2017
 Response via : Initial Calibration

 3/6/17

#	ID	Conc	ISTD Conc	Path\File
1	0.08	0	13	I:\MS09\Data\2017_03\03\03031711.D
2	0.10	0	13	I:\MS09\Data\2017_03\03\03031712.D
3	0.20	0	13	I:\MS09\Data\2017_03\03\03031713.D
4	0.40	0	13	I:\MS09\Data\2017_03\03\03031714.D
5	1.0	1	13	I:\MS09\Data\2017_03\03\03031715.D
6	5.0	5	13	I:\MS09\Data\2017_03\03\03031716.D
7	25	26	13	I:\MS09\Data\2017_03\03\03031717.D
8	50	52	13	I:\MS09\Data\2017_03\03\03031718.D
9	100	104	13	I:\MS09\Data\2017_03\03\03031719.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.08	Mar 06 08:45 2017	Mar 06 08:40 2017	3 Mar 2017 16:43
2	0.10	Mar 06 08:46 2017	Mar 06 08:39 2017	3 Mar 2017 17:17
3	0.20	Mar 06 08:46 2017	Mar 06 08:37 2017	3 Mar 2017 17:51
4	0.40	Mar 06 08:46 2017	Mar 06 08:36 2017	3 Mar 2017 18:24
5	1.0	Mar 06 08:47 2017	Mar 06 08:34 2017	3 Mar 2017 18:58
6	5.0	Mar 06 08:47 2017	Mar 06 08:32 2017	3 Mar 2017 19:32
7	25	Mar 06 08:47 2017	Mar 06 08:28 2017	3 Mar 2017 20:05
8	50	Mar 06 08:47 2017	Mar 06 08:42 2017	3 Mar 2017 20:39
9	100	Mar 06 08:48 2017	Mar 06 08:44 2017	3 Mar 2017 21:13

R9030317.M

Mon Mar 06 09:18:13 2017

Data File: I:\MS09\Data\2017 03\03\03031711.D

Acq On : 3 Mar 2017 16:43

Operator: SC

Sample : 0.08ng TO-15 ICAL STD

Misc : S29-03031701/S29-03021707 (3/31)

ALS Vial : 5 Sample Multiplier: 1

3/6/17

Quant Time: Mar 06 08:40:26 2017

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:32:44 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.11	130	128279	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	11.09	114	661988	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	15.44	82	331395	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.89	65	251091	17.395	ng	-0.02
Spiked Amount	12.500	Range	70 - 130	Recovery	=	139.20%#
57) Toluene-d8 (SS2)	13.53	98	771894	11.165	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	89.36%
73) Bromofluorobenzene (SS3)	17.04	174	186136	8.752	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	70.00%

Target Compounds

						Qvalue
2) Propene	3.89	42	3258	0.272	ng	94
3) Dichlorodifluoromethan...	3.99	85	3454	0.168	ng	# 93
4) Chloromethane	4.19	50	3673	0.213	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	1359	0.107	ng	# 43
6) Vinyl Chloride	4.46	62	3228	0.158	ng	99
7) 1,3-Butadiene	4.64	54	1979	0.161	ng	# 87
8) Bromomethane	4.94	94	1422	0.124	ng	96
9) Chloroethane	5.15	64	1412	0.151	ng	# 43
10) Ethanol	5.33	45	9511	1.097	ng	88
11) Acetonitrile	5.56	41	5533	0.264	ng	78
12) Acrolein	5.70	56	1208	0.164	ng	96
13) Acetone	5.84	58	9122	0.976	ng	89
14) Trichlorofluoromethane	6.02	101	2565	0.145	ng	100
15) 2-Propanol (Isopropanol)	6.15	45	11775	0.473	ng	98
16) Acrylonitrile	6.35	53	2459	0.164	ng	92
17) 1,1-Dichloroethene	6.71	96	1619	0.150	ng	99
18) 2-Methyl-2-Propanol (t...	6.84	59	10108	0.380	ng	90
19) Methylene Chloride	6.84	84	2333	0.195	ng	95
20) 3-Chloro-1-propene (Al...	6.97	41	3266	0.238	ng	85
21) Trichlorotrifluoroethane	7.16	151	1152	0.122	ng	84
22) Carbon Disulfide	7.15	76	8345	0.188	ng	94
23) trans-1,2-Dichloroethene	7.86	61	2682	0.184	ng	99
24) 1,1-Dichloroethane	8.08	63	3623	0.190	ng	92
25) Methyl tert-Butyl Ether	8.19	73	5531	0.167	ng	96
26) Vinyl Acetate	8.27	86	475	0.211	ng	# 1
27) 2-Butanone (MEK)	8.52	72	902	0.119	ng	# 6
28) cis-1,2-Dichloroethene	8.95	61	2691	0.193	ng	91
29) Diisopropyl Ether	9.21	87	1708	0.183	ng	# 68
30) Ethyl Acetate	9.22	61	1253	0.337	ng	94
31) n-Hexane	9.20	57	3907	0.225	ng	# 91
32) Chloroform	9.25	83	3051	0.170	ng	100
34) Tetrahydrofuran (THF)	9.68	72	1345	0.185	ng	# 82
35) Ethyl tert-Butyl Ether	9.76	87	1946	0.153	ng	96
36) 1,2-Dichloroethane	10.00	62	2516	0.196	ng	84
38) 1,1,1-Trichloroethane	10.27	97	2578	0.158	ng	97
39) Isopropyl Acetate	10.66	61	2399	0.347	ng	# 82
40) 1-Butanol	10.67	56	4528	0.394	ng	# 79
41) Benzene	10.72	78	8473	0.171	ng	98
42) Carbon Tetrachloride	10.88	117	1968	0.138	ng	98
43) Cyclohexane	11.01	84	5762	0.324	ng	99
44) tert-Amyl Methyl Ether	11.35	73	5714	0.173	ng	97
45) 1,2-Dichloropropane	11.54	63	2186	0.199	ng	100
46) Bromodichloromethane	11.73	83	2251	0.157	ng	100
47) Trichloroethene	11.78	130	1951	0.146	ng	92
48) 1,4-Dioxane	11.78	88	1279	0.136	ng	99
49) 2,2,4-Trimethylpentane...	11.85	57	9605	0.205	ng	95

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Data File: I:\MS09\Data\2017 03\03\03031711.D

Acq On : 3 Mar 2017 16:43

Operator: SC

Sample : 0.08ng TO-15 ICAL STD

Misc : S29-03031701/S29-03021707 (3/31)

ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 06 08:40:26 2017

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:32:44 2017

Response via : Initial Calibration

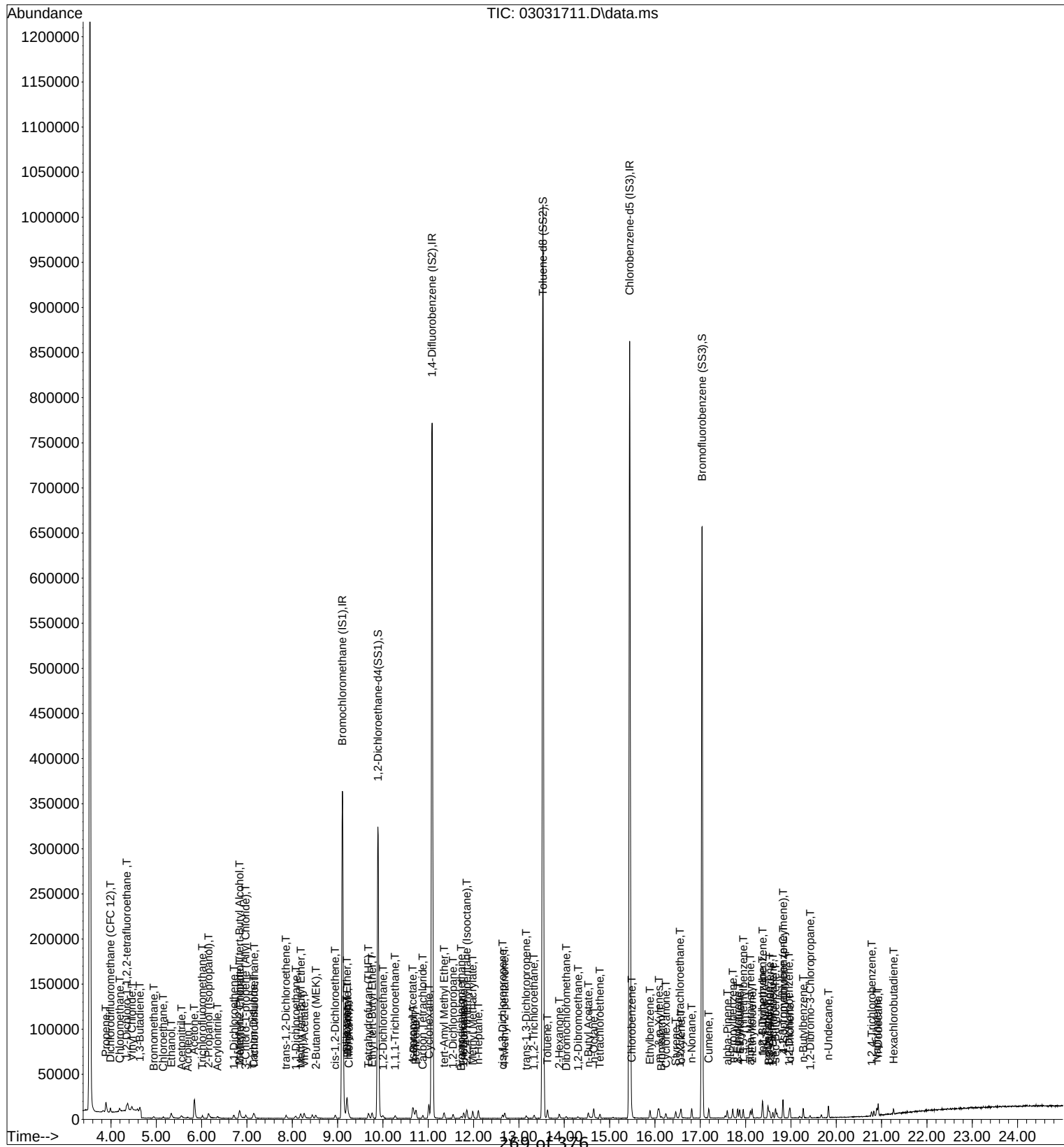
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.98	100	1063	0.230	ng	# 88
51) n-Heptane	12.11	71	1967	0.169	ng	# 91
52) cis-1,3-Dichloropropene	12.64	75	2987	0.162	ng	88
53) 4-Methyl-2-pentanone	12.68	58	1727	0.178	ng	# 69
54) trans-1,3-Dichloropropene	13.16	75	2136	0.140	ng	91
55) 1,1,2-Trichloroethane	13.33	97	1633	0.146	ng	100
58) Toluene	13.63	91	7643	0.124	ng	99
59) 2-Hexanone	13.89	43	4709	0.174	ng	87
60) Dibromochloromethane	14.05	129	1608	0.106	ng	97
61) 1,2-Dibromoethane	14.30	107	1485	0.099	ng	97
62) n-Butyl Acetate	14.53	43	5074	0.170	ng	90
63) n-Octane	14.65	57	1844	0.158	ng	97
64) Tetrachloroethene	14.78	166	1455	0.091	ng	94
65) Chlorobenzene	15.49	112	4637	0.116	ng	97
66) Ethylbenzene	15.89	91	8020	0.121	ng	94
67) m- & p-Xylenes	16.09	91	12422	0.235	ng	94
68) Bromoform	16.14	173	1077	0.084	ng	# 29
69) Styrene	16.46	104	4273	0.105	ng	95
70) o-Xylene	16.58	91	6201	0.114	ng	98
71) n-Nonane	16.81	43	4749	0.167	ng	96
72) 1,1,2,2-Tetrachloroethane	16.55	83	2604	0.103	ng	96
74) Cumene	17.19	105	7432	0.107	ng	100
75) alpha-Pinene	17.60	93	3449	0.099	ng	92
76) n-Propylbenzene	17.72	91	9400	0.114	ng	99
77) 3-Ethyltoluene	17.83	105	6984	0.099	ng	100
78) 4-Ethyltoluene	17.87	105	6731	0.104	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	5883	0.101	ng	99
80) alpha-Methylstyrene	18.10	118	2692	0.096	ng	94
81) 2-Ethyltoluene	18.15	105	6823	0.101	ng	99
82) 1,2,4-Trimethylbenzene	18.38	105	5885	0.101	ng	95
83) n-Decane	18.49	57	4394	0.140	ng	96
84) Benzyl Chloride	18.51	91	4057	0.075	ng	97
85) 1,3-Dichlorobenzene	18.53	146	3074	0.091	ng	98
86) 1,4-Dichlorobenzene	18.60	146	2932	0.088	ng	89
87) sec-Butylbenzene	18.66	105	8037	0.103	ng	97
88) 4-Isopropyltoluene (p-...	18.83	119	6966	0.095	ng	97
89) 1,2,3-Trimethylbenzene	18.83	105	5405	0.093	ng	96
90) 1,2-Dichlorobenzene	18.96	146	2992	0.092	ng	96
91) d-Limonene	18.98	68	2689	0.122	ng	95
92) 1,2-Dibromo-3-Chloropr...	19.42	157	627	0.053	ng	# 70
93) n-Undecane	19.83	57	4477	0.135	ng	95
94) 1,2,4-Trichlorobenzene	20.78	180	1802	0.069	ng	98
95) Naphthalene	20.89	128	7100	0.090	ng	97
96) n-Dodecane	20.92	57	4208	0.119	ng	93
97) Hexachlorobutadiene	21.26	225	1113	0.073	ng	97
98) Cyclohexanone	16.24	55	2921	0.151	ng	96
99) tert-Butylbenzene	18.37	119	5480	0.096	ng	98
100) n-Butylbenzene	19.27	91	6997	0.112	ng	95

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

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ALS Vial      : 5      Sample Multiplier: 1
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DataAcq Meth:T015.M



Data File: I:\MS09\Data\2017 03\03\03031712.D

Acq On : 3 Mar 2017 17:17

Operator: SC

Sample : 0.10ng TO-15 ICAL STD

Misc : S29-03031701/S29-03021707 (3/31)

ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 06 08:39:01 2017

 3/6/17

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:32:44 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.11	130	129125	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	11.08	114	666190	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.44	82	331311	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.89	65	252986	17.412	ng	-0.02
Spiked Amount	12.500	Range	70 - 130	Recovery	=	139.28%#
57) Toluene-d8 (SS2)	13.53	98	766913	11.096	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	88.80%
73) Bromofluorobenzene (SS3)	17.04	174	184885	8.695	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	69.60%#

Target Compounds

						Qvalue
2) Propene	3.89	42	3355	0.278	ng	94
3) Dichlorodifluoromethan...	3.98	85	3862	0.186	ng	# 90
4) Chloromethane	4.19	50	4371	0.251	ng	94
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	1604	0.125	ng	99
6) Vinyl Chloride	4.46	62	3583	0.174	ng	98
7) 1,3-Butadiene	4.64	54	2253	0.182	ng	91
8) Bromomethane	4.94	94	1624	0.140	ng	99
9) Chloroethane	5.16	64	1769	0.187	ng	91
10) Ethanol	5.33	45	10502	1.203	ng	89
11) Acetonitrile	5.55	41	5921	0.280	ng	96
12) Acrolein	5.69	56	1572	0.212	ng	93
13) Acetone	5.84	58	10448	1.111	ng	96
14) Trichlorofluoromethane	6.02	101	3046	0.171	ng	89
15) 2-Propanol (Isopropanol)	6.15	45	13255	0.529	ng	92
16) Acrylonitrile	6.34	53	2627	0.174	ng	96
17) 1,1-Dichloroethene	6.71	96	1854	0.170	ng	97
18) 2-Methyl-2-Propanol (t...	6.83	59	11432	0.427	ng	95
19) Methylene Chloride	6.83	84	2393	0.199	ng	90
20) 3-Chloro-1-propene (Al...	6.98	41	3989	0.288	ng	89
21) Trichlorotrifluoroethane	7.17	151	1140	0.120	ng	97
22) Carbon Disulfide	7.14	76	9424	0.211	ng	94
23) trans-1,2-Dichloroethene	7.87	61	2942	0.200	ng	97
24) 1,1-Dichloroethane	8.07	63	3902	0.203	ng	94
25) Methyl tert-Butyl Ether	8.18	73	6352	0.191	ng	97
26) Vinyl Acetate	8.26	86	474	0.209	ng	# 1
27) 2-Butanone (MEK)	8.52	72	1058	0.138	ng	# 35
28) cis-1,2-Dichloroethene	8.95	61	3130	0.223	ng	97
29) Diisopropyl Ether	9.21	87	1904	0.203	ng	# 71
30) Ethyl Acetate	9.20	61	1461	0.391	ng	93
31) n-Hexane	9.20	57	4439	0.254	ng	# 93
32) Chloroform	9.25	83	3247	0.180	ng	94
34) Tetrahydrofuran (THF)	9.68	72	1487	0.203	ng	# 85
35) Ethyl tert-Butyl Ether	9.76	87	2055	0.161	ng	# 87
36) 1,2-Dichloroethane	10.00	62	2786	0.216	ng	99
38) 1,1,1-Trichloroethane	10.27	97	2887	0.175	ng	91
39) Isopropyl Acetate	10.66	61	2807	0.404	ng	# 87
40) 1-Butanol	10.68	56	4775	0.413	ng	# 77
41) Benzene	10.72	78	9467	0.190	ng	98
42) Carbon Tetrachloride	10.88	117	2212	0.154	ng	99
43) Cyclohexane	11.01	84	6412	0.358	ng	98
44) tert-Amyl Methyl Ether	11.35	73	6133	0.184	ng	95
45) 1,2-Dichloropropane	11.54	63	2313	0.209	ng	97
46) Bromodichloromethane	11.73	83	2512	0.174	ng	97
47) Trichloroethene	11.78	130	2147	0.160	ng	88
48) 1,4-Dioxane	11.78	88	1434	0.152	ng	99
49) 2,2,4-Trimethylpentane...	11.85	57	11080	0.235	ng	98

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Data File: I:\MS09\Data\2017 03\03\03031712.D

Acq On : 3 Mar 2017 17:17

Operator: SC

Sample : 0.10ng TO-15 ICAL STD

Misc : S29-03031701/S29-03021707 (3/31)

ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 06 08:39:01 2017

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:32:44 2017

Response via : Initial Calibration

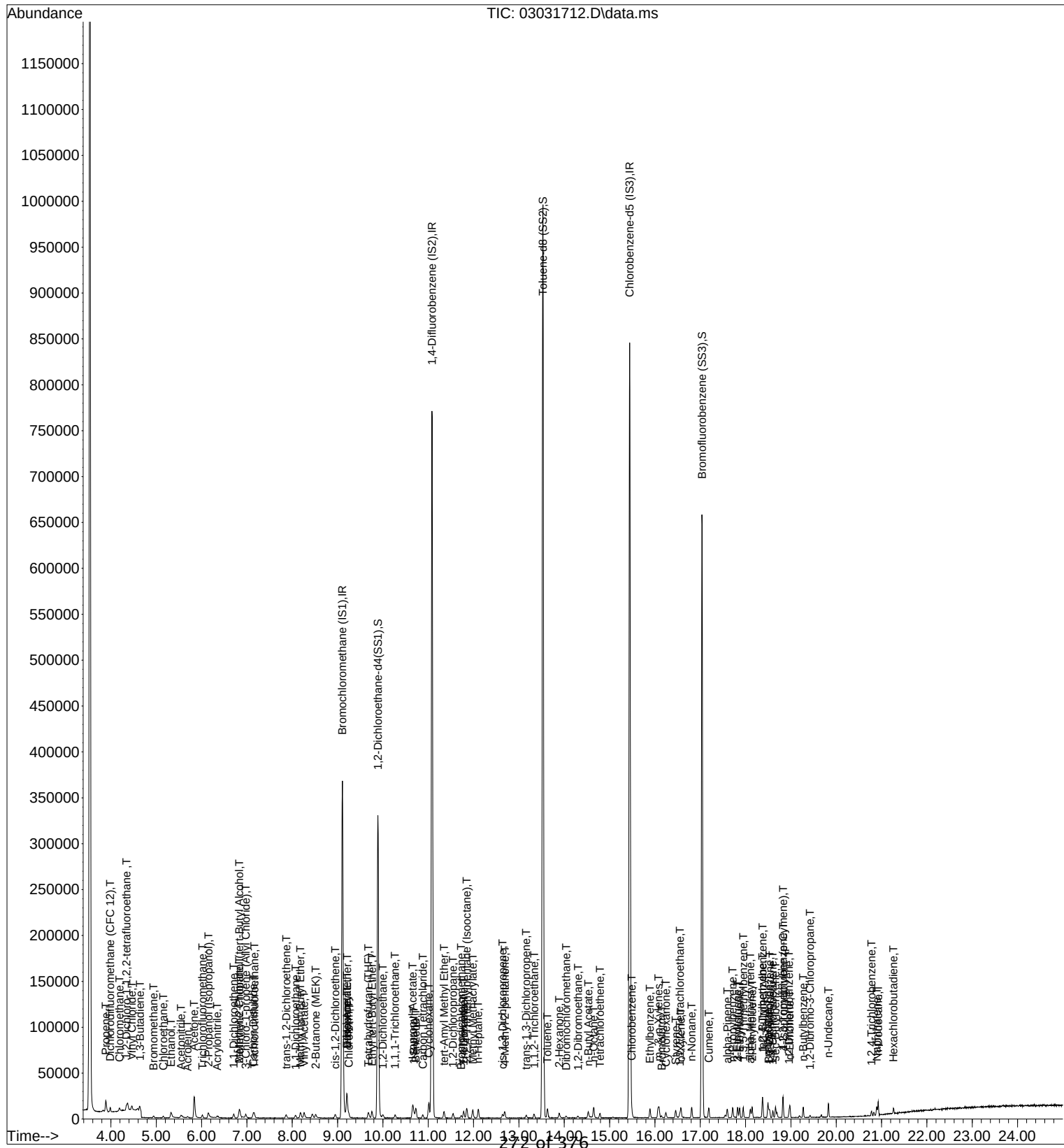
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.98	100	1177	0.254	ng	# 81
51) n-Heptane	12.10	71	2183	0.187	ng	93
52) cis-1,3-Dichloropropene	12.64	75	3298	0.178	ng	95
53) 4-Methyl-2-pentanone	12.69	58	2305	0.236	ng	# 96
54) trans-1,3-Dichloropropene	13.16	75	2315	0.151	ng	90
55) 1,1,2-Trichloroethane	13.34	97	1727	0.154	ng	95
58) Toluene	13.63	91	8664	0.140	ng	98
59) 2-Hexanone	13.89	43	5333	0.197	ng	88
60) Dibromochloromethane	14.05	129	1693	0.111	ng	95
61) 1,2-Dibromoethane	14.30	107	1724	0.115	ng	97
62) n-Butyl Acetate	14.53	43	5842	0.196	ng	88
63) n-Octane	14.65	57	2205	0.189	ng	91
64) Tetrachloroethene	14.79	166	1702	0.107	ng	96
65) Chlorobenzene	15.49	112	5190	0.130	ng	100
66) Ethylbenzene	15.89	91	8946	0.135	ng	96
67) m- & p-Xylenes	16.08	91	13708	0.260	ng	97
68) Bromoform	16.15	173	1162	0.090	ng	88
69) Styrene	16.46	104	4750	0.117	ng	97
70) o-Xylene	16.57	91	6927	0.128	ng	96
71) n-Nonane	16.81	43	5476	0.192	ng	96
72) 1,1,2,2-Tetrachloroethane	16.55	83	2836	0.112	ng	96
74) Cumene	17.19	105	8126	0.117	ng	98
75) alpha-Pinene	17.60	93	4198	0.120	ng	91
76) n-Propylbenzene	17.71	91	10263	0.124	ng	99
77) 3-Ethyltoluene	17.82	105	7929	0.112	ng	97
78) 4-Ethyltoluene	17.87	105	7324	0.113	ng	96
79) 1,3,5-Trimethylbenzene	17.95	105	6462	0.111	ng	99
80) alpha-Methylstyrene	18.10	118	3032	0.108	ng	96
81) 2-Ethyltoluene	18.15	105	8068	0.119	ng	97
82) 1,2,4-Trimethylbenzene	18.38	105	6587	0.113	ng	98
83) n-Decane	18.49	57	5251	0.168	ng	95
84) Benzyl Chloride	18.51	91	4684	0.087	ng	97
85) 1,3-Dichlorobenzene	18.53	146	3409	0.101	ng	98
86) 1,4-Dichlorobenzene	18.60	146	3408	0.102	ng	99
87) sec-Butylbenzene	18.66	105	9107	0.117	ng	98
88) 4-Isopropyltoluene (p-...	18.83	119	8012	0.109	ng	97
89) 1,2,3-Trimethylbenzene	18.83	105	6418	0.110	ng	99
90) 1,2-Dichlorobenzene	18.96	146	3327	0.102	ng	99
91) d-Limonene	18.98	68	2880	0.130	ng	96
92) 1,2-Dibromo-3-Chloropr...	19.42	157	615	0.052	ng	# 60
93) n-Undecane	19.83	57	5346	0.161	ng	93
94) 1,2,4-Trichlorobenzene	20.78	180	1885	0.072	ng	93
95) Naphthalene	20.89	128	7346	0.093	ng	98
96) n-Dodecane	20.92	57	4663	0.132	ng	98
97) Hexachlorobutadiene	21.26	225	1230	0.081	ng	98
98) Cyclohexanone	16.24	55	3277	0.170	ng	97
99) tert-Butylbenzene	18.37	119	6374	0.111	ng	96
100) n-Butylbenzene	19.27	91	7569	0.121	ng	95

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

ALS Vial : 5 Sample Multiplier: 1

DataAcq Meth:T015.M



Data File: I:\MS09\Data\2017 03\03\03031713.D

Acq On : 3 Mar 2017 17:51

Operator: SC

Sample : 0.20ng TO-15 ICAL STD

Misc : S29-03031701/S29-03021707 (3/31)

ALS Vial : 5 Sample Multiplier: 1

 3/6/17

Quant Time: Mar 06 08:37:19 2017

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:32:44 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.11	130	127556	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	11.08	114	658080	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.44	82	327768	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.89	65	251052	17.491	ng	-0.02
Spiked Amount	12.500	Range	70 - 130	Recovery	=	139.92%#
57) Toluene-d8 (SS2)	13.53	98	761764	11.140	ng	-0.01
Spiked Amount	12.500	Range	70 - 130	Recovery	=	89.12%
73) Bromofluorobenzene (SS3)	17.04	174	183872	8.741	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	69.92%#

Target Compounds

						Qvalue
2) Propene	3.88	42	5625	0.472	ng	96
3) Dichlorodifluoromethan...	3.98	85	6812	0.333	ng	# 95
4) Chloromethane	4.18	50	7213	0.420	ng	98
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	2755	0.218	ng	97
6) Vinyl Chloride	4.45	62	6400	0.315	ng	100
7) 1,3-Butadiene	4.63	54	3977	0.326	ng	91
8) Bromomethane	4.93	94	2894	0.253	ng	100
9) Chloroethane	5.15	64	2897	0.311	ng	94
10) Ethanol	5.32	45	18890	2.190	ng	89
11) Acetonitrile	5.54	41	10263	0.492	ng	93
12) Acrolein	5.68	56	2698	0.368	ng	98
13) Acetone	5.83	58	17275	1.859	ng	94
14) Trichlorofluoromethane	6.01	101	5270	0.300	ng	99
15) 2-Propanol (Isopropanol)	6.13	45	23425	0.947	ng	97
16) Acrylonitrile	6.34	53	5138	0.345	ng	97
17) 1,1-Dichloroethene	6.70	96	3121	0.290	ng	99
18) 2-Methyl-2-Propanol (t...	6.80	59	20475	0.774	ng	91
19) Methylene Chloride	6.83	84	3977	0.334	ng	97
20) 3-Chloro-1-propene (Al...	6.97	41	6629	0.485	ng	95
21) Trichlorotrifluoroethane	7.16	151	2253	0.240	ng	97
22) Carbon Disulfide	7.14	76	15456	0.350	ng	96
23) trans-1,2-Dichloroethene	7.86	61	5525	0.381	ng	98
24) 1,1-Dichloroethane	8.07	63	7151	0.377	ng	97
25) Methyl tert-Butyl Ether	8.17	73	11214	0.341	ng	100
26) Vinyl Acetate	8.27	86	1326	0.591	ng	# 62
27) 2-Butanone (MEK)	8.50	72	2250	0.297	ng	# 67
28) cis-1,2-Dichloroethene	8.94	61	5403	0.389	ng	98
29) Diisopropyl Ether	9.20	87	3377	0.364	ng	# 68
30) Ethyl Acetate	9.20	61	2954	0.800	ng	97
31) n-Hexane	9.20	57	7737	0.448	ng	99
32) Chloroform	9.25	83	5984	0.336	ng	97
34) Tetrahydrofuran (THF)	9.67	72	2596	0.359	ng	92
35) Ethyl tert-Butyl Ether	9.76	87	3950	0.313	ng	94
36) 1,2-Dichloroethane	10.00	62	4980	0.390	ng	99
38) 1,1,1-Trichloroethane	10.27	97	5008	0.308	ng	99
39) Isopropyl Acetate	10.65	61	5081	0.740	ng	99
40) 1-Butanol	10.67	56	8613	0.755	ng	86
41) Benzene	10.72	78	16311	0.332	ng	99
42) Carbon Tetrachloride	10.88	117	3841	0.271	ng	99
43) Cyclohexane	11.01	84	11323	0.640	ng	99
44) tert-Amyl Methyl Ether	11.34	73	10876	0.331	ng	97
45) 1,2-Dichloropropane	11.54	63	4390	0.402	ng	95
46) Bromodichloromethane	11.72	83	4523	0.317	ng	99
47) Trichloroethene	11.78	130	3493	0.263	ng	98
48) 1,4-Dioxane	11.77	88	2626	0.282	ng	94
49) 2,2,4-Trimethylpentane...	11.85	57	18470	0.396	ng	99

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Data File: I:\MS09\Data\2017 03\03\03031713.D

Acq On : 3 Mar 2017 17:51

Operator: SC

Sample : 0.20ng TO-15 ICAL STD

Misc : S29-03031701/S29-03021707 (3/31)

ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 06 08:37:19 2017

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:32:44 2017

Response via : Initial Calibration

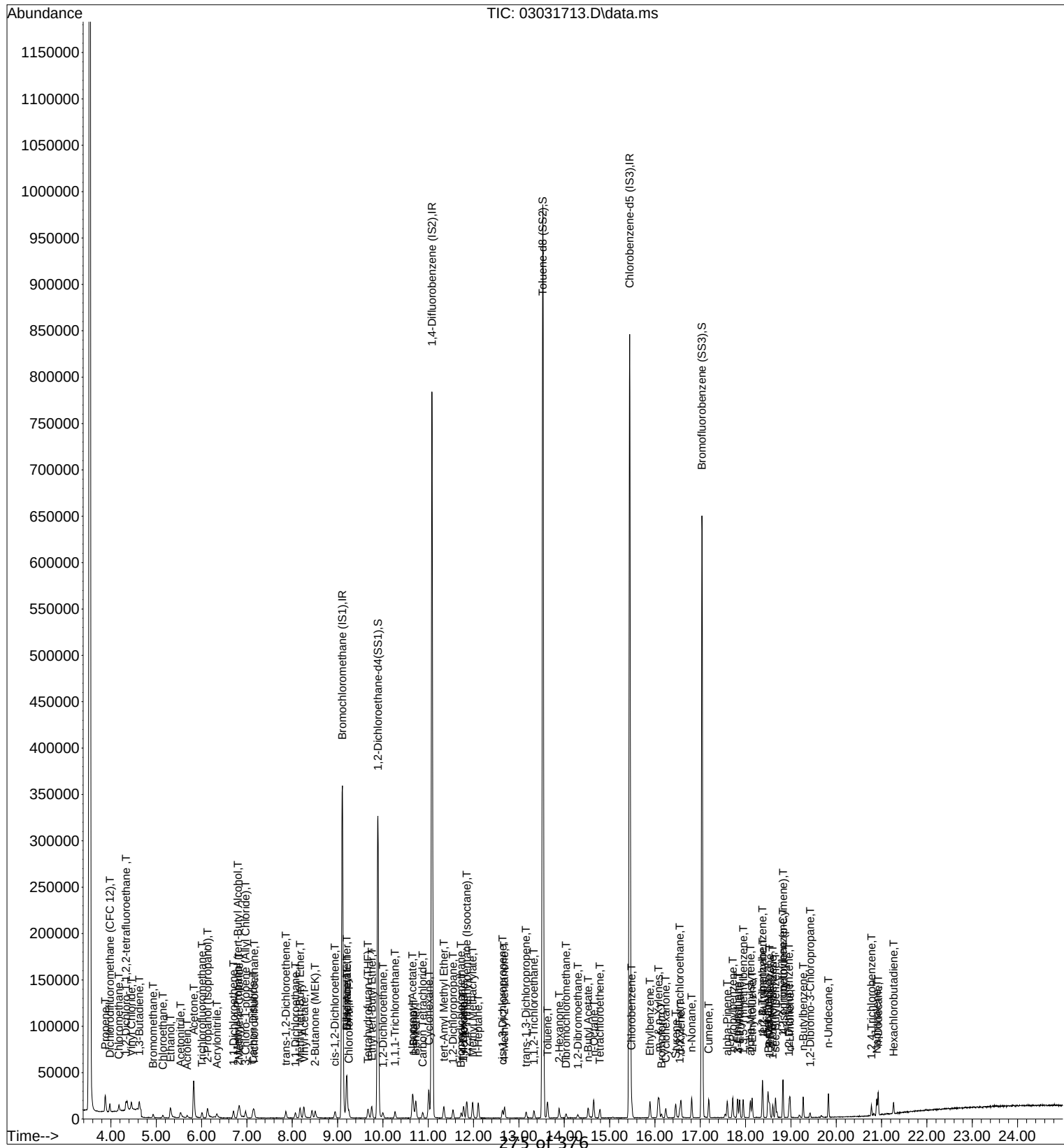
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.98	100	2273	0.496	ng	92
51) n-Heptane	12.10	71	3936	0.341	ng	96
52) cis-1,3-Dichloropropene	12.64	75	6032	0.330	ng	99
53) 4-Methyl-2-pentanone	12.68	58	3777	0.392	ng	89
54) trans-1,3-Dichloropropene	13.15	75	4764	0.314	ng	96
55) 1,1,2-Trichloroethane	13.33	97	3166	0.285	ng	98
58) Toluene	13.63	91	14767	0.242	ng	99
59) 2-Hexanone	13.89	43	9132	0.340	ng	96
60) Dibromochloromethane	14.04	129	3133	0.208	ng	94
61) 1,2-Dibromoethane	14.30	107	3340	0.226	ng	100
62) n-Butyl Acetate	14.53	43	9798	0.332	ng	95
63) n-Octane	14.65	57	3508	0.304	ng	97
64) Tetrachloroethene	14.78	166	2879	0.182	ng	99
65) Chlorobenzene	15.48	112	8519	0.215	ng	97
66) Ethylbenzene	15.89	91	15362	0.235	ng	97
67) m- & p-Xylenes	16.08	91	23344	0.447	ng	99
68) Bromoform	16.14	173	2272	0.179	ng	95
69) Styrene	16.46	104	8503	0.211	ng	96
70) o-Xylene	16.57	91	11841	0.221	ng	100
71) n-Nonane	16.81	43	9685	0.344	ng	96
72) 1,1,2,2-Tetrachloroethane	16.55	83	5038	0.201	ng	97
74) Cumene	17.19	105	14516	0.211	ng	96
75) alpha-Pinene	17.59	93	7611	0.220	ng	93
76) n-Propylbenzene	17.72	91	18304	0.224	ng	99
77) 3-Ethyltoluene	17.83	105	13922	0.199	ng	100
78) 4-Ethyltoluene	17.87	105	13032	0.204	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	11697	0.203	ng	97
80) alpha-Methylstyrene	18.11	118	5611	0.202	ng	97
81) 2-Ethyltoluene	18.15	105	13780	0.206	ng	100
82) 1,2,4-Trimethylbenzene	18.37	105	11616	0.202	ng	100
83) n-Decane	18.49	57	8733	0.282	ng	96
84) Benzyl Chloride	18.51	91	9039	0.170	ng	98
85) 1,3-Dichlorobenzene	18.53	146	6008	0.181	ng	100
86) 1,4-Dichlorobenzene	18.60	146	5910	0.179	ng	100
87) sec-Butylbenzene	18.66	105	15897	0.206	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	13889	0.191	ng	97
89) 1,2,3-Trimethylbenzene	18.82	105	11482	0.199	ng	97
90) 1,2-Dichlorobenzene	18.96	146	5798	0.180	ng	100
91) d-Limonene	18.98	68	5287	0.242	ng	100
92) 1,2-Dibromo-3-Chloropr...	19.42	157	1362	0.117	ng	# 79
93) n-Undecane	19.83	57	9003	0.274	ng	98
94) 1,2,4-Trichlorobenzene	20.78	180	3533	0.137	ng	95
95) Naphthalene	20.89	128	13289	0.170	ng	98
96) n-Dodecane	20.92	57	8493	0.243	ng	94
97) Hexachlorobutadiene	21.27	225	2192	0.146	ng	100
98) Cyclohexanone	16.24	55	5848	0.306	ng	97
99) tert-Butylbenzene	18.38	119	11287	0.199	ng	97
100) n-Butylbenzene	19.27	91	13211	0.213	ng	98

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

ALS Vial : 5 Sample Multiplier: 1

DataAcq Meth:T015.M



Data File: I:\MS09\Data\2017 03\03\03031714.D

Acq On : 3 Mar 2017 18:24

Operator: SC

Sample : 0.40ng TO-15 ICAL STD

Misc : S29-03031701/S29-03021707 (3/31)

ALS Vial : 5 Sample Multiplier: 1

 3/6/17

Quant Time: Mar 06 08:36:00 2017

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:32:44 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.11	130	125579	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	11.09	114	648921	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	15.44	82	319240	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.89	65	247268	17.499	ng	-0.02
Spiked Amount	12.500	Range	70 - 130	Recovery	=	140.00%#
57) Toluene-d8 (SS2)	13.53	98	750183	11.264	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	90.08%
73) Bromofluorobenzene (SS3)	17.04	174	181490	8.858	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	70.88%

Target Compounds

						Qvalue
2) Propene	3.88	42	10115	0.862	ng	96
3) Dichlorodifluoromethan...	3.97	85	12718	0.631	ng	99
4) Chloromethane	4.18	50	13774	0.815	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	5328	0.427	ng	99
6) Vinyl Chloride	4.45	62	11960	0.599	ng	99
7) 1,3-Butadiene	4.63	54	7611	0.633	ng	98
8) Bromomethane	4.93	94	5529	0.491	ng	94
9) Chloroethane	5.15	64	5740	0.625	ng	93
10) Ethanol	5.32	45	34332	4.043	ng	94
11) Acetonitrile	5.53	41	19331	0.942	ng	99
12) Acrolein	5.68	56	5159	0.715	ng	100
13) Acetone	5.82	58	32070	3.506	ng	95
14) Trichlorofluoromethane	6.01	101	10211	0.591	ng	97
15) 2-Propanol (Isopropanol)	6.12	45	44483	1.827	ng	90
16) Acrylonitrile	6.33	53	10346	0.705	ng	99
17) 1,1-Dichloroethene	6.71	96	6002	0.567	ng	98
18) 2-Methyl-2-Propanol (t...	6.79	59	40440	1.553	ng	95
19) Methylene Chloride	6.84	84	7059	0.603	ng	93
20) 3-Chloro-1-propene (Al...	6.98	41	13547	1.007	ng	96
21) Trichlorotrifluoroethane	7.16	151	4505	0.488	ng	99
22) Carbon Disulfide	7.14	76	26894	0.619	ng	98
23) trans-1,2-Dichloroethene	7.86	61	10848	0.759	ng	98
24) 1,1-Dichloroethane	8.07	63	13534	0.724	ng	96
25) Methyl tert-Butyl Ether	8.17	73	21649	0.669	ng	99
26) Vinyl Acetate	8.25	86	2715	1.229	ng	# 82
27) 2-Butanone (MEK)	8.50	72	4554	0.612	ng	# 78
28) cis-1,2-Dichloroethene	8.95	61	10503	0.768	ng	98
29) Diisopropyl Ether	9.20	87	5450	0.597	ng	98
30) Ethyl Acetate	9.20	61	5519	1.517	ng	99
31) n-Hexane	9.20	57	14695	0.864	ng	98
32) Chloroform	9.25	83	11498	0.656	ng	99
34) Tetrahydrofuran (THF)	9.67	72	4822	0.678	ng	# 91
35) Ethyl tert-Butyl Ether	9.75	87	7544	0.608	ng	95
36) 1,2-Dichloroethane	10.00	62	9567	0.762	ng	97
38) 1,1,1-Trichloroethane	10.27	97	9619	0.600	ng	99
39) Isopropyl Acetate	10.65	61	9790	1.445	ng	97
40) 1-Butanol	10.66	56	16162	1.436	ng	86
41) Benzene	10.73	78	30732	0.634	ng	100
42) Carbon Tetrachloride	10.87	117	7634	0.546	ng	99
43) Cyclohexane	11.01	84	20750	1.190	ng	96
44) tert-Amyl Methyl Ether	11.34	73	20911	0.646	ng	97
45) 1,2-Dichloropropane	11.55	63	8077	0.750	ng	98
46) Bromodichloromethane	11.73	83	9004	0.640	ng	97
47) Trichloroethene	11.78	130	6675	0.510	ng	99
48) 1,4-Dioxane	11.77	88	5109	0.556	ng	99
49) 2,2,4-Trimethylpentane...	11.85	57	25195	0.765	ng	99

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Data File: I:\MS09\Data\2017 03\03\03031714.D

Acq On : 3 Mar 2017 18:24

Operator: SC

Sample : 0.40ng TO-15 ICAL STD

Misc : S29-03031701/S29-03021707 (3/31)

ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 06 08:36:00 2017

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:32:44 2017

Response via : Initial Calibration

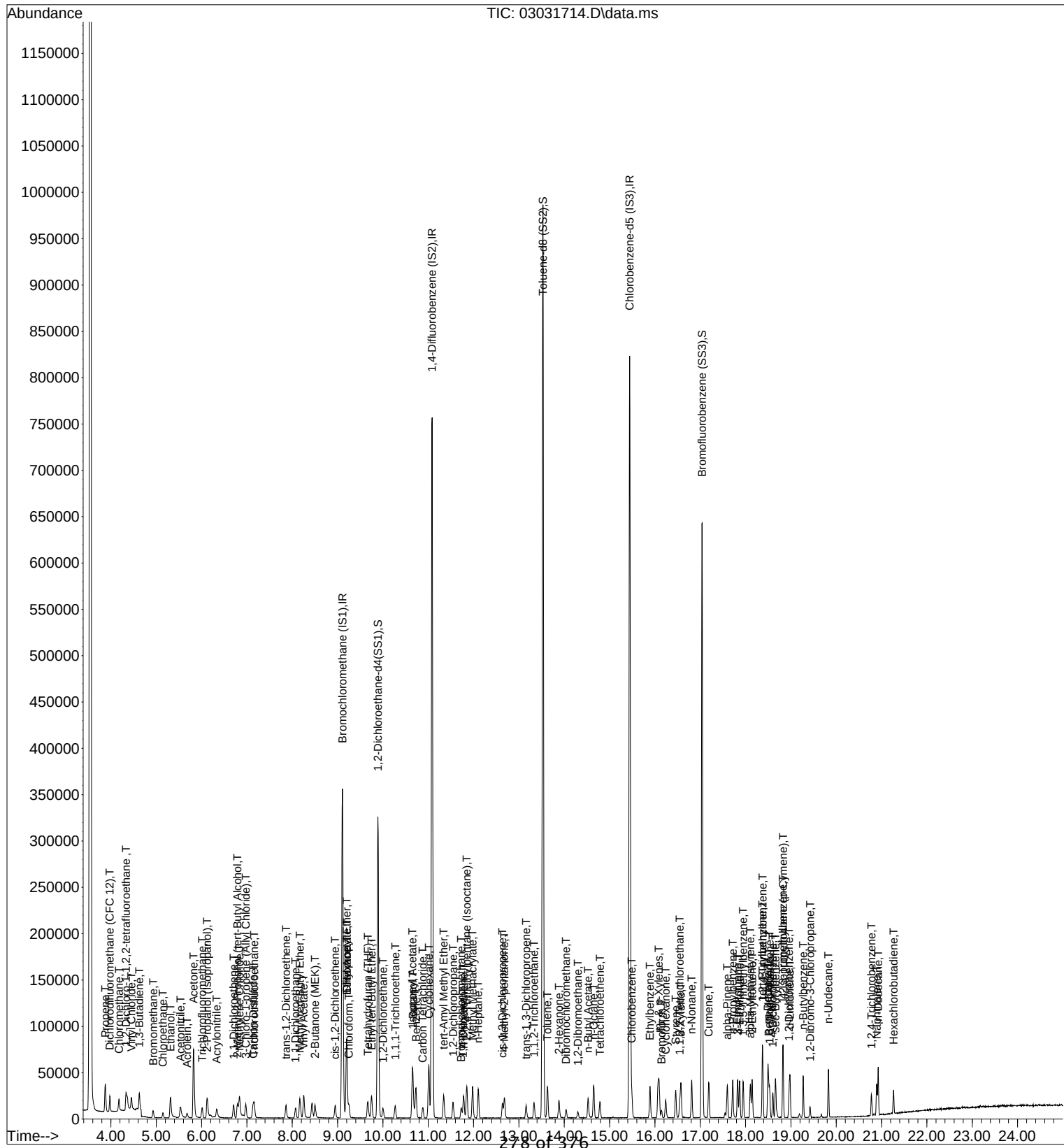
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.98	100	4419	0.977	ng	91
51) n-Heptane	12.10	71	7438	0.653	ng	98
52) cis-1,3-Dichloropropene	12.63	75	11818	0.656	ng	100
53) 4-Methyl-2-pentanone	12.68	58	7201	0.758	ng	91
54) trans-1,3-Dichloropropene	13.16	75	9608	0.643	ng	98
55) 1,1,2-Trichloroethane	13.33	97	6139	0.561	ng	98
58) Toluene	13.63	91	28236	0.475	ng	98
59) 2-Hexanone	13.88	43	17609	0.674	ng	95
60) Dibromochloromethane	14.04	129	6132	0.418	ng	99
61) 1,2-Dibromoethane	14.30	107	6325	0.439	ng	100
62) n-Butyl Acetate	14.53	43	19120	0.666	ng	96
63) n-Octane	14.65	57	7048	0.626	ng	99
64) Tetrachloroethene	14.79	166	5848	0.380	ng	99
65) Chlorobenzene	15.49	112	16390	0.424	ng	99
66) Ethylbenzene	15.89	91	29424	0.462	ng	99
67) m- & p-Xylenes	16.08	91	45170	0.889	ng	100
68) Bromoform	16.14	173	4443	0.359	ng	99
69) Styrene	16.46	104	16272	0.415	ng	99
70) o-Xylene	16.57	91	22936	0.439	ng	98
71) n-Nonane	16.81	43	17927	0.653	ng	98
72) 1,1,2,2-Tetrachloroethane	16.55	83	10294	0.421	ng	100
74) Cumene	17.19	105	27732	0.414	ng	99
75) alpha-Pinene	17.59	93	14943	0.443	ng	95
76) n-Propylbenzene	17.72	91	35118	0.441	ng	99
77) 3-Ethyltoluene	17.82	105	27674	0.406	ng	99
78) 4-Ethyltoluene	17.87	105	25843	0.415	ng	99
79) 1,3,5-Trimethylbenzene	17.94	105	22475	0.401	ng	99
80) alpha-Methylstyrene	18.10	118	10994	0.407	ng	99
81) 2-Ethyltoluene	18.15	105	27158	0.417	ng	98
82) 1,2,4-Trimethylbenzene	18.38	105	22173	0.396	ng	100
83) n-Decane	18.49	57	17332	0.574	ng	96
84) Benzyl Chloride	18.51	91	18490	0.357	ng	100
85) 1,3-Dichlorobenzene	18.53	146	11186	0.346	ng	98
86) 1,4-Dichlorobenzene	18.60	146	11453	0.356	ng	99
87) sec-Butylbenzene	18.66	105	30753	0.410	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	26950	0.380	ng	99
89) 1,2,3-Trimethylbenzene	18.82	105	22291	0.397	ng	100
90) 1,2-Dichlorobenzene	18.96	146	10946	0.349	ng	98
91) d-Limonene	18.98	68	10798	0.506	ng	100
92) 1,2-Dibromo-3-Chloropr...	19.42	157	2853	0.251	ng	# 79
93) n-Undecane	19.83	57	17524	0.547	ng	96
94) 1,2,4-Trichlorobenzene	20.78	180	7105	0.283	ng	94
95) Naphthalene	20.89	128	26052	0.342	ng	98
96) n-Dodecane	20.92	57	15905	0.468	ng	99
97) Hexachlorobutadiene	21.27	225	4502	0.309	ng	99
98) Cyclohexanone	16.24	55	10779	0.579	ng	98
99) tert-Butylbenzene	18.37	119	21481	0.390	ng	100
100) n-Butylbenzene	19.27	91	26145	0.434	ng	98

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

ALS Vial : 5 Sample Multiplier: 1

DataAcq Meth:T015.M



Data File: I:\MS09\Data\2017 03\03\03031715.D

Acq On : 3 Mar 2017 18:58

Operator: SC

Sample : 1.0ng TO-15 ICALSTD

Misc : S29-03031701/S29-03021706 (3/31)

ALS Vial : 6 Sample Multiplier: 1

 3/6/17

Quant Time: Mar 06 08:34:12 2017

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:32:44 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.11	130	126278	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	11.09	114	652368	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	15.44	82	327743	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.89	65	247021	17.384	ng	-0.02
Spiked Amount	12.500	Range	70 - 130	Recovery	=	139.04%#
57) Toluene-d8 (SS2)	13.53	98	756397	11.063	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	88.48%
73) Bromofluorobenzene (SS3)	17.04	174	186509	8.867	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	70.96%

Target Compounds

						Qvalue
2) Propene	3.86	42	25956	2.200	ng	98
3) Dichlorodifluoromethan...	3.97	85	33750	1.665	ng	99
4) Chloromethane	4.17	50	36378	2.140	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	13763	1.098	ng	100
6) Vinyl Chloride	4.44	62	31832	1.584	ng	100
7) 1,3-Butadiene	4.62	54	19701	1.630	ng	96
8) Bromomethane	4.92	94	14209	1.256	ng	99
9) Chloroethane	5.13	64	14643	1.587	ng	99
10) Ethanol	5.31	45	91088	10.668	ng	98
11) Acetonitrile	5.53	41	46862	2.270	ng	94
12) Acrolein	5.67	56	13438	1.852	ng	100
13) Acetone	5.81	58	82510	8.970	ng	93
14) Trichlorofluoromethane	6.01	101	25814	1.485	ng	100
15) 2-Propanol (Isopropanol)	6.11	45	118641	4.845	ng	94
16) Acrylonitrile	6.33	53	29402	1.993	ng	97
17) 1,1-Dichloroethene	6.70	96	16240	1.526	ng	99
18) 2-Methyl-2-Propanol (t...	6.77	59	104948	4.008	ng	97
19) Methylene Chloride	6.83	84	18413	1.564	ng	96
20) 3-Chloro-1-propene (Al...	6.97	41	33461	2.473	ng	100
21) Trichlorotrifluoroethane	7.17	151	11657	1.255	ng	98
22) Carbon Disulfide	7.13	76	69432	1.590	ng	100
23) trans-1,2-Dichloroethene	7.86	61	29555	2.057	ng	97
24) 1,1-Dichloroethane	8.07	63	35462	1.887	ng	99
25) Methyl tert-Butyl Ether	8.16	73	55561	1.707	ng	99
26) Vinyl Acetate	8.25	86	10479	4.718	ng	# 90
27) 2-Butanone (MEK)	8.49	72	12968	1.732	ng	96
28) cis-1,2-Dichloroethene	8.95	61	27779	2.019	ng	99
29) Diisopropyl Ether	9.20	87	14718	1.604	ng	99
30) Ethyl Acetate	9.19	61	15580	4.260	ng	99
31) n-Hexane	9.20	57	37777	2.208	ng	99
32) Chloroform	9.26	83	30778	1.746	ng	99
34) Tetrahydrofuran (THF)	9.66	72	12760	1.784	ng	94
35) Ethyl tert-Butyl Ether	9.74	87	20158	1.615	ng	99
36) 1,2-Dichloroethane	10.00	62	24200	1.917	ng	99
38) 1,1,1-Trichloroethane	10.27	97	24408	1.513	ng	98
39) Isopropyl Acetate	10.65	61	26070	3.828	ng	95
40) 1-Butanol	10.65	56	45665	4.037	ng	90
41) Benzene	10.72	78	75168	1.543	ng	100
42) Carbon Tetrachloride	10.88	117	19973	1.420	ng	99
43) Cyclohexane	11.01	84	54960	3.136	ng	97
44) tert-Amyl Methyl Ether	11.34	73	53311	1.637	ng	98
45) 1,2-Dichloropropane	11.54	63	21423	1.979	ng	99
46) Bromodichloromethane	11.73	83	23414	1.656	ng	100
47) Trichloroethene	11.78	130	16866	1.281	ng	99
48) 1,4-Dioxane	11.76	88	14307	1.548	ng	98
49) 2,2,4-Trimethylpentane...	11.85	57	82734	2.005	ng	99

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Data File: I:\MS09\Data\2017 03\03\03031715.D

Acq On : 3 Mar 2017 18:58

Operator: SC

Sample : 1.0ng TO-15 ICALSTD

Misc : S29-03031701/S29-03021706 (3/31)

ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 06 08:34:12 2017

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:32:44 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.98	100	12933	2.845	ng	99
51) n-Heptane	12.10	71	19928	1.740	ng	98
52) cis-1,3-Dichloropropene	12.64	75	31712	1.750	ng	99
53) 4-Methyl-2-pentanone	12.68	58	19748	2.069	ng	95
54) trans-1,3-Dichloropropene	13.16	75	25947	1.727	ng	99
55) 1,1,2-Trichloroethane	13.33	97	16298	1.482	ng	99
58) Toluene	13.63	91	71415	1.169	ng	99
59) 2-Hexanone	13.88	43	51816	1.931	ng	96
60) Dibromochloromethane	14.04	129	16752	1.112	ng	99
61) 1,2-Dibromoethane	14.30	107	17272	1.167	ng	100
62) n-Butyl Acetate	14.53	43	56685	1.924	ng	98
63) n-Octane	14.65	57	18564	1.607	ng	99
64) Tetrachloroethene	14.79	166	14913	0.944	ng	99
65) Chlorobenzene	15.49	112	43542	1.098	ng	99
66) Ethylbenzene	15.89	91	78684	1.204	ng	100
67) m- & p-Xylenes	16.08	91	122907	2.356	ng	99
68) Bromoform	16.14	173	12354	0.972	ng	98
69) Styrene	16.46	104	45676	1.135	ng	99
70) o-Xylene	16.57	91	61884	1.153	ng	100
71) n-Nonane	16.81	43	48464	1.720	ng	97
72) 1,1,2,2-Tetrachloroethane	16.55	83	28768	1.147	ng	99
74) Cumene	17.19	105	75311	1.096	ng	99
75) alpha-Pinene	17.60	93	38713	1.119	ng	96
76) n-Propylbenzene	17.72	91	97784	1.196	ng	99
77) 3-Ethyltoluene	17.83	105	75041	1.071	ng	98
78) 4-Ethyltoluene	17.87	105	71540	1.120	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	60874	1.057	ng	100
80) alpha-Methylstyrene	18.10	118	31020	1.117	ng	98
81) 2-Ethyltoluene	18.15	105	74533	1.115	ng	99
82) 1,2,4-Trimethylbenzene	18.38	105	61929	1.078	ng	99
83) n-Decane	18.49	57	47143	1.521	ng	99
84) Benzyl Chloride	18.51	91	54706	1.028	ng	100
85) 1,3-Dichlorobenzene	18.53	146	32173	0.968	ng	99
86) 1,4-Dichlorobenzene	18.60	146	32453	0.983	ng	98
87) sec-Butylbenzene	18.66	105	84471	1.096	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	74122	1.019	ng	100
89) 1,2,3-Trimethylbenzene	18.83	105	61734	1.070	ng	99
90) 1,2-Dichlorobenzene	18.96	146	31082	0.966	ng	99
91) d-Limonene	18.98	68	29588	1.352	ng	100
92) 1,2-Dibromo-3-Chloropr...	19.42	157	9033	0.774	ng	93
93) n-Undecane	19.83	57	48263	1.468	ng	99
94) 1,2,4-Trichlorobenzene	20.78	180	21030	0.815	ng	99
95) Naphthalene	20.89	128	77874	0.996	ng	99
96) n-Dodecane	20.92	57	45556	1.305	ng	98
97) Hexachlorobutadiene	21.26	225	12307	0.822	ng	100
98) Cyclohexanone	16.24	55	30533	1.598	ng	99
99) tert-Butylbenzene	18.37	119	56677	1.001	ng	100
100) n-Butylbenzene	19.27	91	72562	1.172	ng	100

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

Data File: I:\MS09\Data\2017 03\03\03031715.D

Acq On : 3 Mar 2017 18:58

Operator: SC

Sample : 1.0ng TO-15 ICALSTD

Misc : S29-03031701/S29-03021706 (3/31)

ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 06 08:34:12 2017

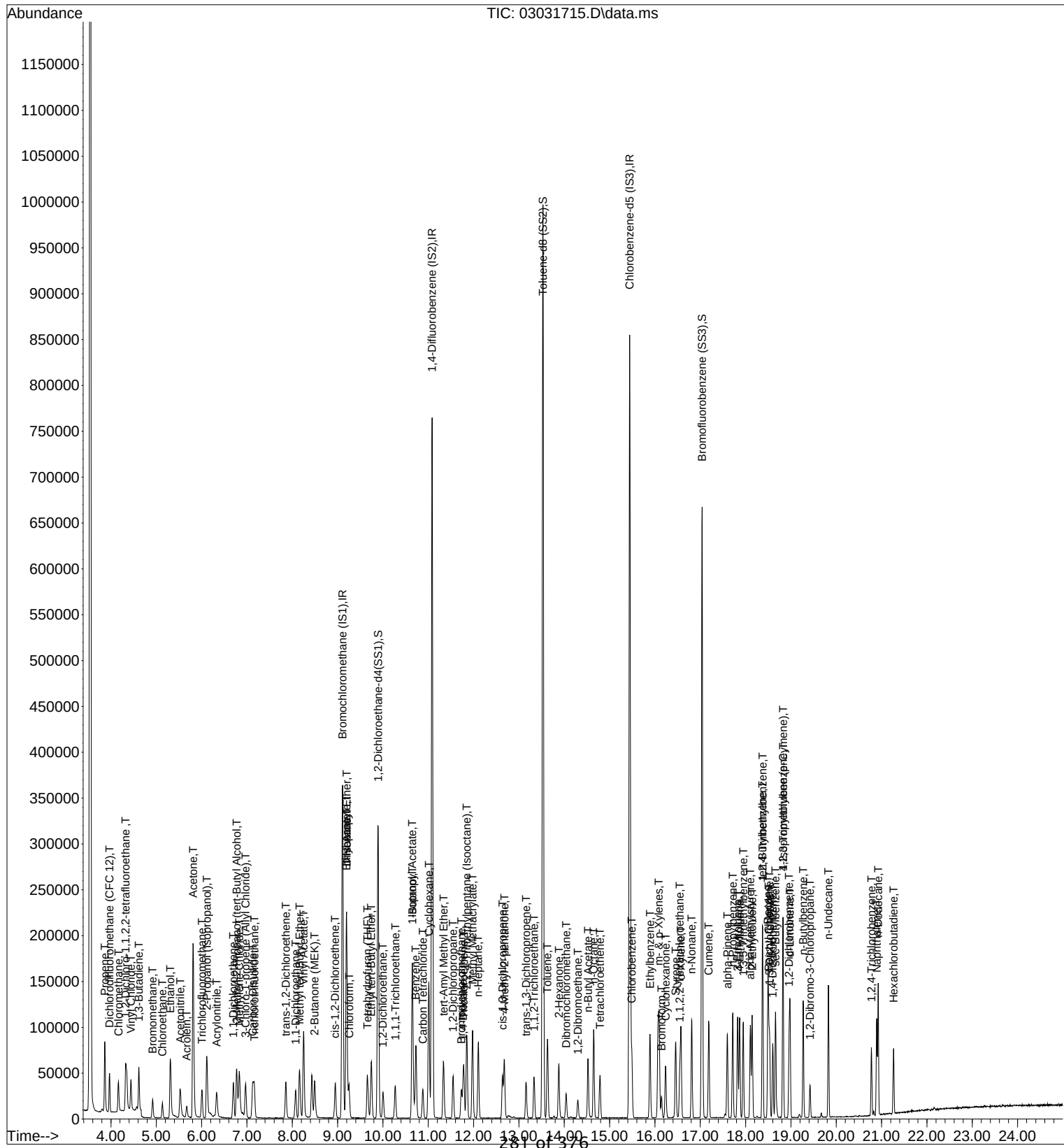
Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:32:44 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M



Data File: I:\MS09\Data\2017 03\03\03031716.D

Acq On : 3 Mar 2017 19:32

Operator: SC

Sample : 5.0ng TO-15 ICALSTD

Misc : S29-03031701/S29-03021706 (3/31)

ALS Vial : 6 Sample Multiplier: 1

 3/6/17

Quant Time: Mar 06 08:32:54 2017

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:32:44 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.12	130	128226	12.500	ng	-0.01
37) 1,4-Difluorobenzene (IS2)	11.09	114	657575	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	15.44	82	331875	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.90	65	250710	17.376	ng	-0.01
Spiked Amount	12.500	Range	70 - 130	Recovery	=	139.04%#
57) Toluene-d8 (SS2)	13.53	98	761035	10.992	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	87.92%
73) Bromofluorobenzene (SS3)	17.04	174	193466	9.083	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	72.64%

Target Compounds

						Qvalue
2) Propene	3.85	42	118494	9.891	ng	100
3) Dichlorodifluoromethan...	3.95	85	152580	7.415	ng	99
4) Chloromethane	4.15	50	151566	8.781	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	4.32	135	63103	4.958	ng	100
6) Vinyl Chloride	4.43	62	142821	7.000	ng	100
7) 1,3-Butadiene	4.61	54	93677	7.635	ng	100
8) Bromomethane	4.91	94	62316	5.425	ng	99
9) Chloroethane	5.12	64	65665	7.008	ng	100
10) Ethanol	5.33	45	396425	45.725	ng	99
11) Acetonitrile	5.53	41	217919	10.396	ng	99
12) Acrolein	5.67	56	60402	8.198	ng	100
13) Acetone	5.81	58	379427	40.621	ng	97
14) Trichlorofluoromethane	6.00	101	116604	6.607	ng	99
15) 2-Propanol (Isopropanol)	6.13	45	541083	21.761	ng	97
16) Acrylonitrile	6.34	53	136656	9.121	ng	100
17) 1,1-Dichloroethene	6.70	96	71451	6.612	ng	99
18) 2-Methyl-2-Propanol (t...	6.78	59	491108	18.471	ng	99
19) Methylene Chloride	6.84	84	82377	6.890	ng	97
20) 3-Chloro-1-propene (Al...	6.97	41	158679	11.549	ng	98
21) Trichlorotrifluoroethane	7.16	151	51839	5.497	ng	99
22) Carbon Disulfide	7.12	76	310065	6.994	ng	100
23) trans-1,2-Dichloroethene	7.86	61	135197	9.268	ng	99
24) 1,1-Dichloroethane	8.08	63	159428	8.356	ng	99
25) Methyl tert-Butyl Ether	8.15	73	262619	7.945	ng	99
26) Vinyl Acetate	8.25	86	63422	28.120	ng	# 89
27) 2-Butanone (MEK)	8.49	72	60952	8.017	ng	96
28) cis-1,2-Dichloroethene	8.95	61	127907	9.157	ng	99
29) Diisopropyl Ether	9.19	87	67004	7.190	ng	# 97
30) Ethyl Acetate	9.19	61	73290	19.735	ng	99
31) n-Hexane	9.20	57	171462	9.869	ng	99
32) Chloroform	9.26	83	136662	7.636	ng	100
34) Tetrahydrofuran (THF)	9.65	72	59569	8.201	ng	98
35) Ethyl tert-Butyl Ether	9.75	87	94044	7.420	ng	97
36) 1,2-Dichloroethane	10.01	62	111495	8.696	ng	100
38) 1,1,1-Trichloroethane	10.27	97	113543	6.984	ng	99
39) Isopropyl Acetate	10.64	61	124369	18.115	ng	99
40) 1-Butanol	10.65	56	220707	19.356	ng	95
41) Benzene	10.73	78	340874	6.942	ng	99
42) Carbon Tetrachloride	10.88	117	91549	6.459	ng	99
43) Cyclohexane	11.01	84	255606	14.470	ng	99
44) tert-Amyl Methyl Ether	11.33	73	250807	7.641	ng	99
45) 1,2-Dichloropropane	11.55	63	96360	8.832	ng	100
46) Bromodichloromethane	11.73	83	107740	7.558	ng	100
47) Trichloroethene	11.79	130	75291	5.673	ng	99
48) 1,4-Dioxane	11.76	88	67818	7.281	ng	100
49) 2,2,4-Trimethylpentane...	11.85	57	424121	9.098	ng	99

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Data File: I:\MS09\Data\2017 03\03\03031716.D

Acq On : 3 Mar 2017 19:32

Operator: SC

Sample : 5.0ng TO-15 ICALSTD

Misc : S29-03031701/S29-03021706 (3/31)

ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 06 08:32:54 2017

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:32:44 2017

Response via : Initial Calibration

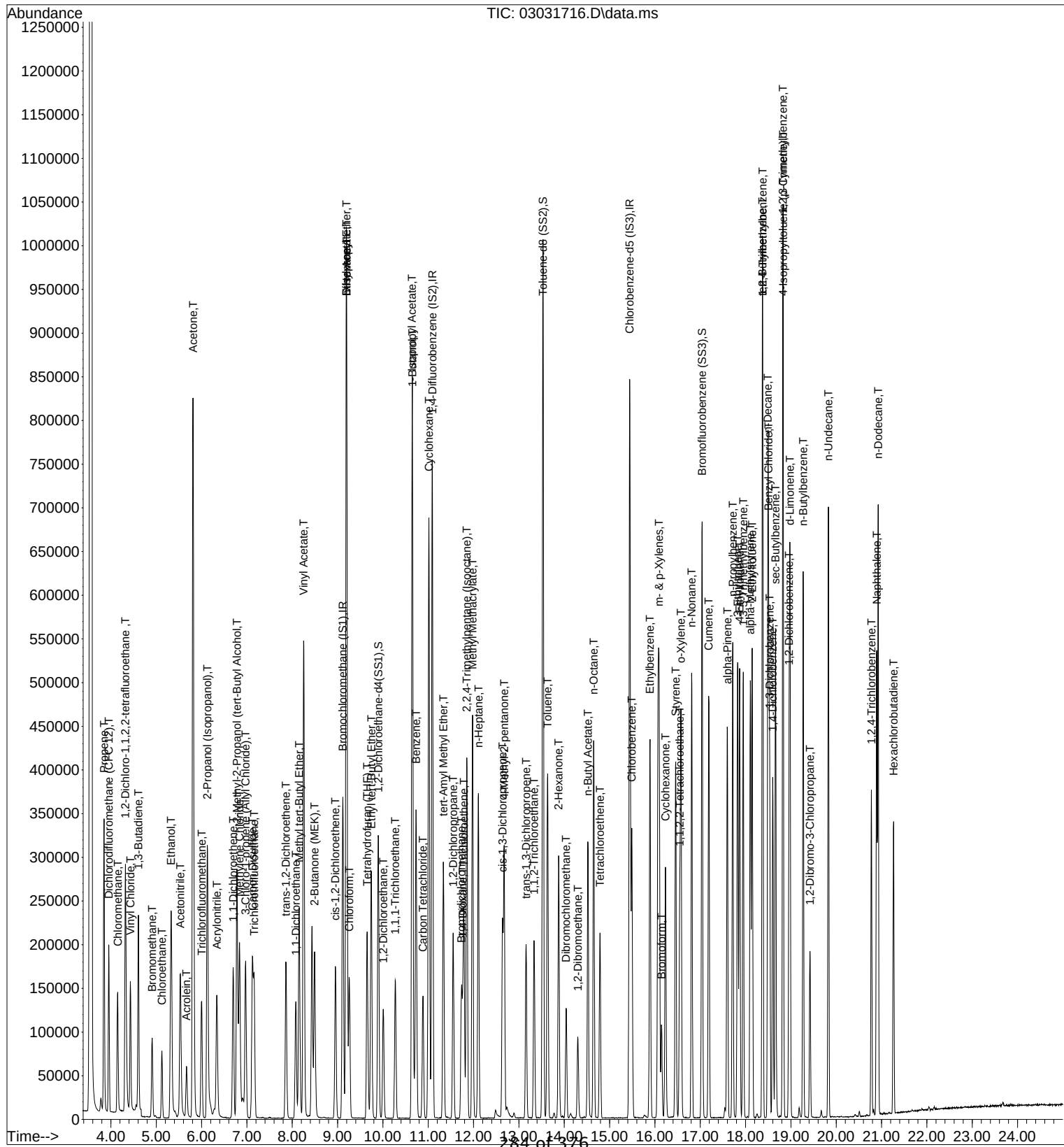
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.98	100	61462	13.414	ng	98
51) n-Heptane	12.11	71	90241	7.817	ng	99
52) cis-1,3-Dichloropropene	12.64	75	150687	8.250	ng	100
53) 4-Methyl-2-pentanone	12.67	58	95023	9.875	ng	99
54) trans-1,3-Dichloropropene	13.16	75	129307	8.540	ng	99
55) 1,1,2-Trichloroethane	13.33	97	74635	6.734	ng	100
58) Toluene	13.63	91	331088	5.353	ng	99
59) 2-Hexanone	13.88	43	247225	9.101	ng	99
60) Dibromochloromethane	14.04	129	78118	5.123	ng	98
61) 1,2-Dibromoethane	14.30	107	79967	5.336	ng	100
62) n-Butyl Acetate	14.52	43	276012	9.250	ng	99
63) n-Octane	14.65	57	87299	7.462	ng	98
64) Tetrachloroethene	14.79	166	67809	4.241	ng	99
65) Chlorobenzene	15.49	112	199343	4.966	ng	100
66) Ethylbenzene	15.89	91	371005	5.607	ng	99
67) m- & p-Xylenes	16.09	91	572887	10.845	ng	99
68) Bromoform	16.14	173	57935	4.499	ng	100
69) Styrene	16.46	104	222004	5.450	ng	99
70) o-Xylene	16.57	91	289393	5.326	ng	99
71) n-Nonane	16.81	43	228615	8.014	ng	98
72) 1,1,2,2-Tetrachloroethane	16.55	83	141583	5.576	ng	99
74) Cumene	17.19	105	354306	5.092	ng	99
75) alpha-Pinene	17.60	93	193011	5.508	ng	99
76) n-Propylbenzene	17.72	91	465439	5.623	ng	99
77) 3-Ethyltoluene	17.83	105	359688	5.072	ng	99
78) 4-Ethyltoluene	17.87	105	336830	5.207	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	294576	5.051	ng	100
80) alpha-Methylstyrene	18.10	118	153233	5.451	ng	99
81) 2-Ethyltoluene	18.15	105	355824	5.257	ng	99
82) 1,2,4-Trimethylbenzene	18.38	105	303437	5.216	ng	100
83) n-Decane	18.49	57	225978	7.198	ng	99
84) Benzyl Chloride	18.51	91	289442	5.374	ng	100
85) 1,3-Dichlorobenzene	18.53	146	153988	4.577	ng	100
86) 1,4-Dichlorobenzene	18.60	146	154737	4.629	ng	100
87) sec-Butylbenzene	18.66	105	406090	5.203	ng	100
88) 4-Isopropyltoluene (p-...	18.83	119	358240	4.864	ng	99
89) 1,2,3-Trimethylbenzene	18.82	105	299424	5.124	ng	100
90) 1,2-Dichlorobenzene	18.96	146	149097	4.575	ng	100
91) d-Limonene	18.98	68	150034	6.769	ng	100
92) 1,2-Dibromo-3-Chloropr...	19.42	157	47803	4.047	ng	97
93) n-Undecane	19.83	57	237955	7.149	ng	99
94) 1,2,4-Trichlorobenzene	20.78	180	104025	3.983	ng	100
95) Naphthalene	20.89	128	396184	5.004	ng	99
96) n-Dodecane	20.92	57	225572	6.380	ng	99
97) Hexachlorobutadiene	21.27	225	59356	3.914	ng	100
98) Cyclohexanone	16.23	55	148604	7.679	ng	100
99) tert-Butylbenzene	18.37	119	277714	4.845	ng	99
100) n-Butylbenzene	19.27	91	360863	5.757	ng	99

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

ALS Vial : 6 Sample Multiplier: 1

DataAcq Meth:T015.M



Data File: I:\MS09\Data\2017 03\03\03031717.D

Acq On : 3 Mar 2017 20:05

Operator: SC

Sample : 25ng TO-15 ICAL STD

Misc : S29-03031701/S29-03021701 (3/31)

ALS Vial : 7 Sample Multiplier: 1

3/6/17

Quant Time: Mar 06 08:28:55 2017

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Thu Feb 23 09:08:27 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	134222	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	11.10	114	693526	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.45	82	355226	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.91	65	259494	17.181	ng	-0.02
Spiked Amount	12.500	Range	70 - 130	Recovery	=	137.44%#
57) Toluene-d8 (SS2)	13.54	98	809850	10.928	ng	-0.01
Spiked Amount	12.500	Range	70 - 130	Recovery	=	87.44%
73) Bromofluorobenzene (SS3)	17.04	174	205860	9.030	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	72.24%

Target Compounds

						Qvalue
2) Propene	3.84	42	689227	54.960	ng	98
3) Dichlorodifluoromethan...	3.95	85	860576	39.951	ng	99
4) Chloromethane	4.15	50	912601	50.512	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	4.31	135	361814	27.159	ng	100
6) Vinyl Chloride	4.43	62	833006	39.005	ng	99
7) 1,3-Butadiene	4.61	54	606289	47.208	ng	92
8) Bromomethane	4.91	94	376143	31.281	ng	99
9) Chloroethane	5.13	64	379433	38.684	ng	99
10) Ethanol	5.37	45	2328083	256.533	ng	100
11) Acetonitrile	5.55	41	1199988	54.687	ng	100
12) Acrolein	5.68	56	341204	44.242	ng	100
13) Acetone	5.83	58	2057633	210.445	ng	# 84
14) Trichlorofluoromethane	6.00	101	648135	35.086	ng	100
15) 2-Propanol (Isopropanol)	6.16	45	3159165	121.377	ng	99
16) Acrylonitrile	6.36	53	790768	50.421	ng	100
17) 1,1-Dichloroethene	6.70	96	418751	37.022	ng	# 74
18) 2-Methyl-2-Propanol (t...	6.81	59	2857042	102.656	ng	96
19) Methylene Chloride	6.85	84	471209	37.649	ng	# 59
20) 3-Chloro-1-propene (Al...	6.98	41	923234	64.195	ng	80
21) Trichlorotrifluoroethane	7.16	151	299681	30.358	ng	# 74
22) Carbon Disulfide	7.13	76	1830844	39.453	ng	100
23) trans-1,2-Dichloroethene	7.87	61	773273	50.642	ng	82
24) 1,1-Dichloroethane	8.09	63	897668	44.950	ng	99
25) Methyl tert-Butyl Ether	8.15	73	1487677	42.994	ng	91
26) Vinyl Acetate	8.27	86	501497	212.418	ng	# 1
27) 2-Butanone (MEK)	8.50	72	359115	45.124	ng	# 41
28) cis-1,2-Dichloroethene	8.97	61	734849	50.257	ng	81
29) Diisopropyl Ether	9.20	87	387514	39.727	ng	# 1
30) Ethyl Acetate	9.20	61	438823	112.887	ng	85
31) n-Hexane	9.20	57	985634	54.197	ng	# 98
32) Chloroform	9.27	83	781406	41.713	ng	99
34) Tetrahydrofuran (THF)	9.65	72	348017	45.772	ng	# 63
35) Ethyl tert-Butyl Ether	9.75	87	551258	41.550	ng	# 68
36) 1,2-Dichloroethane	10.02	62	634704	47.291	ng	100
38) 1,1,1-Trichloroethane	10.28	97	647329	37.751	ng	94
39) Isopropyl Acetate	10.65	61	730216	100.848	ng	# 62
40) 1-Butanol	10.66	56	1418207	117.931	ng	93
41) Benzene	10.74	78	1948558	37.627	ng	99
42) Carbon Tetrachloride	10.89	117	527294	35.275	ng	99
43) Cyclohexane	11.02	84	1487376	79.834	ng	# 75
44) tert-Amyl Methyl Ether	11.34	73	1460662	42.193	ng	91
45) 1,2-Dichloropropane	11.56	63	553901	48.135	ng	99
46) Bromodichloromethane	11.74	83	633106	42.112	ng	99
47) Trichloroethene	11.79	130	426725	30.484	ng	99
48) 1,4-Dioxane	11.76	88	406798	41.408	ng	76
49) 2,2,4-Trimethylpentane...	11.85	57	2432991	49.484	ng	97

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Data File: I:\MS09\Data\2017 03\03\03031717.D

Acq On : 3 Mar 2017 20:05

Operator: SC

Sample : 25ng TO-15 ICAL STD

Misc : S29-03031701/S29-03021701 (3/31)

ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 06 08:28:55 2017

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Thu Feb 23 09:08:27 2017

Response via : Initial Calibration

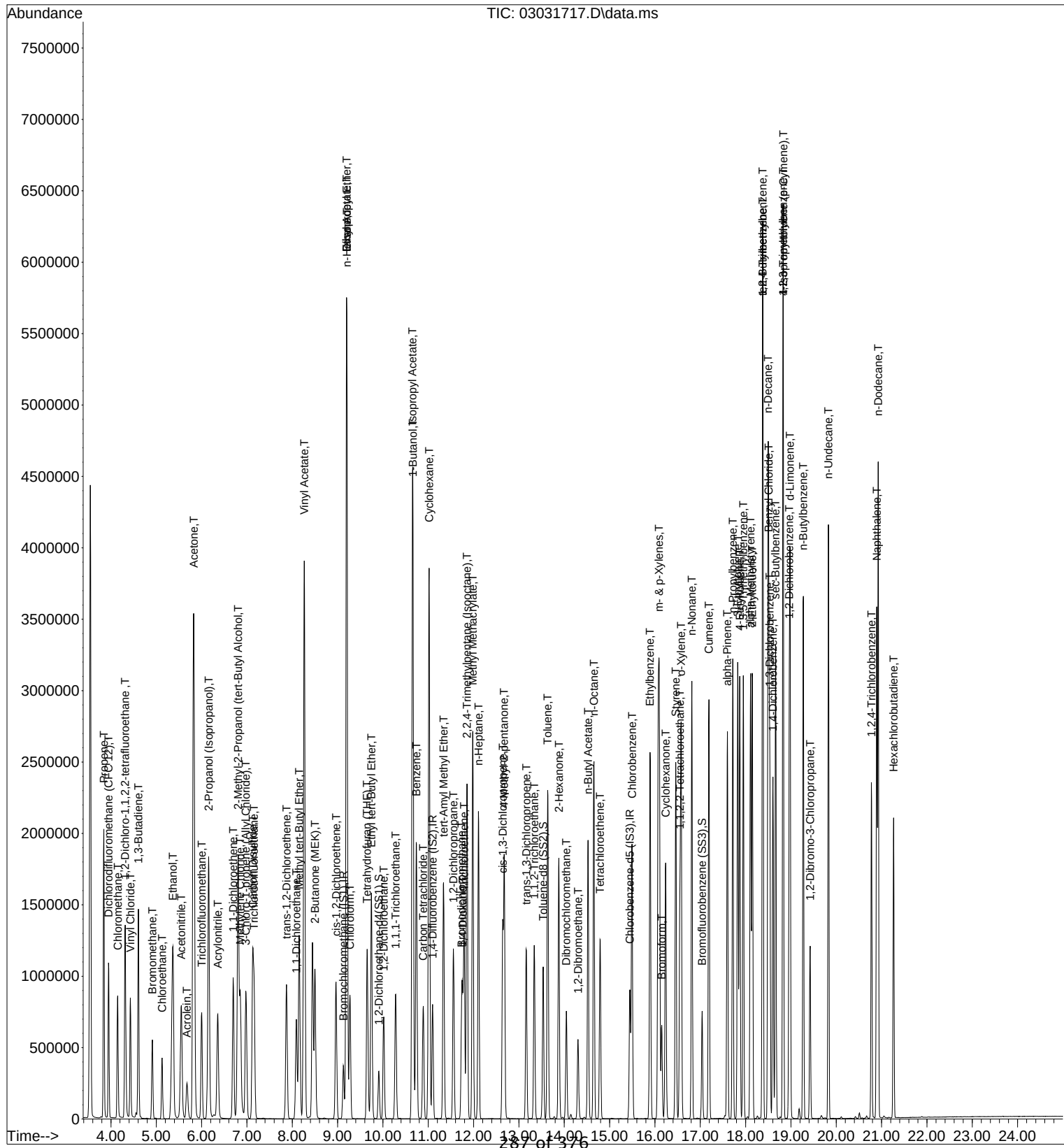
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.98	100	371598	76.896	ng	# 60
51) n-Heptane	12.11	71	529134	43.459	ng	87
52) cis-1,3-Dichloropropene	12.64	75	897005	46.564	ng	99
53) 4-Methyl-2-pentanone	12.67	58	569868	56.151	ng	# 76
54) trans-1,3-Dichloropropene	13.16	75	770028	48.222	ng	100
55) 1,1,2-Trichloroethane	13.34	97	443872	37.971	ng	91
58) Toluene	13.63	91	1932599	29.190	ng	99
59) 2-Hexanone	13.88	43	1492137	51.317	ng	89
60) Dibromochloromethane	14.05	129	461837	28.298	ng	99
61) 1,2-Dibromoethane	14.30	107	478435	29.823	ng	100
62) n-Butyl Acetate	14.53	43	1682215	52.671	ng	91
63) n-Octane	14.65	57	516568	41.254	ng	# 80
64) Tetrachloroethene	14.79	166	409588	23.932	ng	100
65) Chlorobenzene	15.49	112	1170586	27.244	ng	100
66) Ethylbenzene	15.89	91	2194345	30.985	ng	96
67) m- & p-Xylenes	16.09	91	3436167	60.770	ng	95
68) Bromoform	16.15	173	356082	25.835	ng	99
69) Styrene	16.46	104	1335408	30.628	ng	96
70) o-Xylene	16.58	91	1739796	29.916	ng	95
71) n-Nonane	16.81	43	1338140	43.827	ng	82
72) 1,1,2,2-Tetrachloroethane	16.55	83	889246	32.722	ng	99
74) Cumene	17.19	105	2092196	28.093	ng	97
75) alpha-Pinene	17.60	93	1149962	30.660	ng	95
76) n-Propylbenzene	17.72	91	2732166	30.836	ng	94
77) 3-Ethyltoluene	17.83	105	2083692	27.449	ng	97
78) 4-Ethyltoluene	17.87	105	2051366	29.625	ng	97
79) 1,3,5-Trimethylbenzene	17.95	105	1745471	27.960	ng	96
80) alpha-Methylstyrene	18.11	118	941051	31.277	ng	97
81) 2-Ethyltoluene	18.15	105	2089715	28.844	ng	97
82) 1,2,4-Trimethylbenzene	18.38	105	1861648	29.896	ng	96
83) n-Decane	18.50	57	1356402	40.366	ng	90
84) Benzyl Chloride	18.51	91	1863603	32.326	ng	93
85) 1,3-Dichlorobenzene	18.53	146	934122	25.938	ng	100
86) 1,4-Dichlorobenzene	18.60	146	938341	26.227	ng	99
87) sec-Butylbenzene	18.66	105	2394262	28.662	ng	96
88) 4-Isopropyltoluene (p-...	18.83	119	2151448	27.293	ng	96
89) 1,2,3-Trimethylbenzene	18.83	105	1840056	29.417	ng	96
90) 1,2-Dichlorobenzene	18.97	146	899087	25.773	ng	100
91) d-Limonene	18.98	68	921673	38.852	ng	84
92) 1,2-Dibromo-3-Chloropr...	19.42	157	309218	24.455	ng	# 56
93) n-Undecane	19.83	57	1440961	40.443	ng	90
94) 1,2,4-Trichlorobenzene	20.78	180	669745	23.959	ng	99
95) Naphthalene	20.89	128	2542324	29.999	ng	100
96) n-Dodecane	20.92	57	1471909	38.895	ng	89
97) Hexachlorobutadiene	21.27	225	373526	23.010	ng	100
98) Cyclohexanone	16.24	55	934186	45.101	ng	# 85
99) tert-Butylbenzene	18.38	119	1675202	27.303	ng	98
100) n-Butylbenzene	19.27	91	2132057	31.779	ng	96

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

ALS Vial : 7 Sample Multiplier: 1

DataAcq Meth:T015.M



Data File: I:\MS09\Data\2017 03\03\03031718.D

Acq On : 3 Mar 2017 20:39

Operator: SC

Sample : 50ng TO-15 ICAL STD

Misc : S29-03031701/S29-03021701 (3/31)

ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 06 08:42:26 2017

 3/6/17

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:32:44 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	143922	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	11.10	114	735863	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	15.45	82	373486	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.92	65	270852	16.725	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	133.76%#
57) Toluene-d8 (SS2)	13.54	98	856456	10.992	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	87.92%
73) Bromofluorobenzene (SS3)	17.04	174	218384	9.111	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	72.88%

Target Compounds

						Qvalue
2) Propene	3.84	42	1521106	113.121	ng	100
3) Dichlorodifluoromethan...	3.95	85	1733887	75.068	ng	100
4) Chloromethane	4.14	50	1801738	93.005	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.31	135	746426	52.252	ng	100
6) Vinyl Chloride	4.43	62	1705243	74.465	ng	100
7) 1,3-Butadiene	4.61	54	1268164	92.089	ng	100
8) Bromomethane	4.91	94	783501	60.767	ng	100
9) Chloroethane	5.13	64	780747	74.233	ng	100
10) Ethanol	5.38	45	4772700	490.462	ng	100
11) Acetonitrile	5.56	41	2474900	105.187	ng	100
12) Acrolein	5.68	56	702871	84.994	ng	99
13) Acetone	5.84	58	4119289	392.907	ng	97
14) Trichlorofluoromethane	6.00	101	1328684	67.079	ng	100
15) 2-Propanol (Isopropanol)	6.17	45	6071173	217.538	ng	100
16) Acrylonitrile	6.37	53	1636099	97.291	ng	100
17) 1,1-Dichloroethene	6.70	96	869343	71.680	ng	98
18) 2-Methyl-2-Propanol (t...	6.82	59	5673369	190.110	ng	100
19) Methylene Chloride	6.86	84	983621	73.293	ng	99
20) 3-Chloro-1-propene (Al...	6.98	41	1900575	123.245	ng	99
21) Trichlorotrifluoroethane	7.16	151	623444	58.900	ng	100
22) Carbon Disulfide	7.13	76	3798212	76.331	ng	99
23) trans-1,2-Dichloroethene	7.88	61	1598056	97.605	ng	99
24) 1,1-Dichloroethane	8.10	63	1844336	86.129	ng	100
25) Methyl tert-Butyl Ether	8.16	73	3090503	83.296	ng	100
26) Vinyl Acetate	8.28	86	1104098	436.140	ng	# 84
27) 2-Butanone (MEK)	8.51	72	745947	87.414	ng	97
28) cis-1,2-Dichloroethene	8.97	61	1515248	96.645	ng	99
29) Diisopropyl Ether	9.20	87	805683	77.029	ng	# 88
30) Ethyl Acetate	9.21	61	892082	214.020	ng	98
31) n-Hexane	9.20	57	1984916	101.788	ng	100
32) Chloroform	9.28	83	1601490	79.729	ng	100
34) Tetrahydrofuran (THF)	9.66	72	722301	88.597	ng	99
35) Ethyl tert-Butyl Ether	9.75	87	1145282	80.505	ng	99
36) 1,2-Dichloroethane	10.02	62	1288872	89.560	ng	100
38) 1,1,1-Trichloroethane	10.28	97	1331150	73.164	ng	100
39) Isopropyl Acetate	10.65	61	1507888	196.268	ng	94
40) 1-Butanol	10.68	56	2905633	227.717	ng	99
41) Benzene	10.74	78	4012204	73.019	ng	100
42) Carbon Tetrachloride	10.89	117	1081951	68.216	ng	100
43) Cyclohexane	11.02	84	3076402	155.624	ng	99
44) tert-Amyl Methyl Ether	11.34	73	3019540	82.204	ng	100
45) 1,2-Dichloropropane	11.56	63	1134834	92.946	ng	100
46) Bromodichloromethane	11.74	83	1307853	81.989	ng	100
47) Trichloroethene	11.80	130	884687	59.564	ng	100
48) 1,4-Dioxane	11.77	88	856262	82.144	ng	99
49) 2,2,4-Trimethylpentane...	11.85	57	4860355	95.083	ng	99

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Data File: I:\MS09\Data\2017 03\03\03031718.D

Acq On : 3 Mar 2017 20:39

Operator: SC

Sample : 50ng TO-15 ICAL STD

Misc : S29-03031701/S29-03021701 (3/31)

ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 06 08:42:26 2017

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:32:44 2017

Response via : Initial Calibration

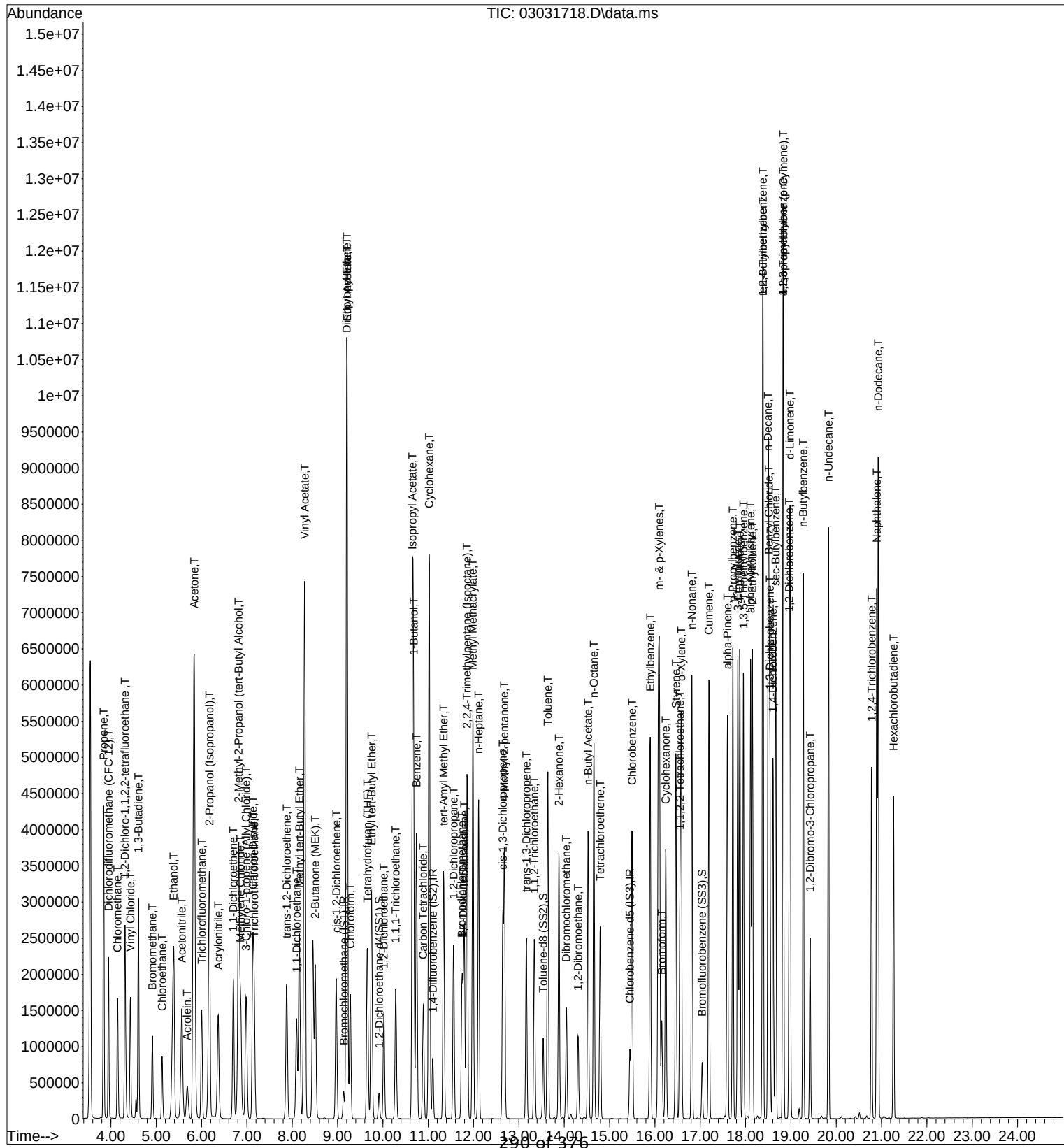
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.98	100	783760	152.855	ng	98
51) n-Heptane	12.11	71	1094635	84.732	ng	99
52) cis-1,3-Dichloropropene	12.64	75	1847276	90.375	ng	100
53) 4-Methyl-2-pentanone	12.68	58	1183663	109.921	ng	98
54) trans-1,3-Dichloropropene	13.16	75	1592950	94.018	ng	100
55) 1,1,2-Trichloroethane	13.34	97	915457	73.806	ng	100
58) Toluene	13.64	91	3957037	56.845	ng	99
59) 2-Hexanone	13.88	43	3037936	99.371	ng	99
60) Dibromochloromethane	14.05	129	957126	55.778	ng	100
61) 1,2-Dibromoethane	14.30	107	992583	58.848	ng	99
62) n-Butyl Acetate	14.53	43	3442427	102.514	ng	100
63) n-Octane	14.65	57	1060624	80.562	ng	100
64) Tetrachloroethene	14.79	166	854423	47.484	ng	99
65) Chlorobenzene	15.49	112	2405488	53.247	ng	100
66) Ethylbenzene	15.90	91	4500267	60.438	ng	100
67) m- & p-Xylenes	16.09	91	7062247	118.792	ng	99
68) Bromoform	16.15	173	749313	51.708	ng	100
69) Styrene	16.46	104	2767124	60.361	ng	100
70) o-Xylene	16.58	91	3558736	58.201	ng	99
71) n-Nonane	16.82	43	2687468	83.717	ng	99
72) 1,1,2,2-Tetrachloroethane	16.55	83	1847167	64.647	ng	100
74) Cumene	17.19	105	4243570	54.194	ng	99
75) alpha-Pinene	17.60	93	2374305	60.207	ng	99
76) n-Propylbenzene	17.72	91	5515976	59.211	ng	99
77) 3-Ethyltoluene	17.83	105	4395000	55.066	ng	100
78) 4-Ethyltoluene	17.87	105	4051446	55.649	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	3563687	54.295	ng	100
80) alpha-Methylstyrene	18.11	118	1935381	61.179	ng	100
81) 2-Ethyltoluene	18.15	105	4256589	55.880	ng	99
82) 1,2,4-Trimethylbenzene	18.38	105	3781113	57.751	ng	100
83) n-Decane	18.50	57	2703763	76.530	ng	99
84) Benzyl Chloride	18.52	91	3854566	63.592	ng	99
85) 1,3-Dichlorobenzene	18.54	146	1947003	51.419	ng	100
86) 1,4-Dichlorobenzene	18.60	146	1924441	51.160	ng	99
87) sec-Butylbenzene	18.67	105	4830906	55.005	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	4287077	51.727	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	3738307	56.842	ng	99
90) 1,2-Dichlorobenzene	18.97	146	1861964	50.765	ng	99
91) d-Limonene	18.98	68	1867836	74.886	ng	98
92) 1,2-Dibromo-3-Chloropr...	19.42	157	646026	48.595	ng	98
93) n-Undecane	19.83	57	2901298	77.449	ng	99
94) 1,2,4-Trichlorobenzene	20.78	180	1412926	48.075	ng	100
95) Naphthalene	20.89	128	5205338	58.419	ng	99
96) n-Dodecane	20.92	57	2969921	74.643	ng	99
97) Hexachlorobutadiene	21.27	225	798351	46.775	ng	100
98) Cyclohexanone	16.24	55	1906980	87.564	ng	99
99) tert-Butylbenzene	18.38	119	3383903	52.455	ng	99
100) n-Butylbenzene	19.27	91	4284453	60.739	ng	99

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

ALS Vial : 7 Sample Multiplier: 1

DataAcq Meth:T015.M



Data File: I:\MS09\Data\2017 03\03\03031719.D

Acq On : 3 Mar 2017 21:13

Operator: SC

Sample : 100ng TO-15 ICAL STD

Misc : S29-03031701/S29-03021701 (3/31)

ALS Vial : 7 Sample Multiplier: 1

 3/6/17

Quant Time: Mar 06 08:44:07 2017

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:32:44 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.15	130	154709	12.500	ng	0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	793002	12.500	ng	0.01
56) Chlorobenzene-d5 (IS3)	15.45	82	401083	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.93	65	290707	16.699	ng	0.02
Spiked Amount	12.500	Range	70 - 130	Recovery	=	133.60%#
57) Toluene-d8 (SS2)	13.54	98	919710	10.992	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	87.92%
73) Bromofluorobenzene (SS3)	17.05	174	231012	8.975	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	71.76%

Target Compounds

						Qvalue
2) Propene	3.85	42	3798139	262.763	ng	99
3) Dichlorodifluoromethan...	3.96	85	3491651	140.629	ng	99
4) Chloromethane	4.16	50	2925135	140.466	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	4.32	135	1546844	100.734	ng	99
6) Vinyl Chloride	4.44	62	3477923	141.285	ng	100
7) 1,3-Butadiene	4.62	54	2533327	171.134	ng	99
8) Bromomethane	4.92	94	1564522	112.881	ng	100
9) Chloroethane	5.14	64	1596644	141.224	ng	99
10) Ethanol	5.42	45	9567445	914.637	ng	100
11) Acetonitrile	5.59	41	5133307	202.961	ng	100
12) Acrolein	5.70	56	1455493	163.733	ng	99
13) Acetone	5.86	58	8196153	727.260	ng	93
14) Trichlorofluoromethane	6.01	101	2737194	128.552	ng	99
15) 2-Propanol (Isopropanol)	6.20	45	9780051	325.998	ng	100
16) Acrylonitrile	6.39	53	3407253	188.485	ng	100
17) 1,1-Dichloroethene	6.71	96	1817665	139.422	ng	97
18) 2-Methyl-2-Propanol (t...	6.84	59	9205947	286.975	ng	99
19) Methylene Chloride	6.87	84	2060561	142.834	ng	97
20) 3-Chloro-1-propene (Al...	7.00	41	3931712	237.179	ng	99
21) Trichlorotrifluoroethane	7.17	151	1307684	114.930	ng	100
22) Carbon Disulfide	7.14	76	7804899	145.915	ng	99
23) trans-1,2-Dichloroethene	7.89	61	3313656	188.277	ng	98
24) 1,1-Dichloroethane	8.11	63	3787022	164.519	ng	99
25) Methyl tert-Butyl Ether	8.17	73	6377367	159.899	ng	100
26) Vinyl Acetate	8.29	86	2336194	858.498	ng	# 53
27) 2-Butanone (MEK)	8.52	72	1550299	169.005	ng	96
28) cis-1,2-Dichloroethene	8.98	61	3124412	185.386	ng	99
29) Diisopropyl Ether	9.21	87	1602559	142.534	ng	# 70
30) Ethyl Acetate	9.22	61	1684285	375.904	ng	94
31) n-Hexane	9.21	57	3655875	174.404	ng	99
32) Chloroform	9.30	83	3296971	152.693	ng	100
34) Tetrahydrofuran (THF)	9.67	72	1506449	171.896	ng	97
35) Ethyl tert-Butyl Ether	9.76	87	2394026	156.550	ng	97
36) 1,2-Dichloroethane	10.03	62	2634192	170.280	ng	99
38) 1,1,1-Trichloroethane	10.29	97	2749521	140.233	ng	99
39) Isopropyl Acetate	10.66	61	3017895	364.509	ng	# 87
40) 1-Butanol	10.70	56	5810712	422.578	ng	98
41) Benzene	10.75	78	8264480	139.570	ng	99
42) Carbon Tetrachloride	10.90	117	2229040	130.412	ng	100
43) Cyclohexane	11.03	84	6176016	289.911	ng	96
44) tert-Amyl Methyl Ether	11.35	73	6205518	156.766	ng	99
45) 1,2-Dichloropropane	11.57	63	2334863	177.453	ng	99
46) Bromodichloromethane	11.75	83	2697634	156.928	ng	100
47) Trichloroethene	11.80	130	1853232	115.783	ng	100
48) 1,4-Dioxane	11.78	88	1797851	160.047	ng	99
49) 2,2,4-Trimethylpentane...	11.86	57	9820019	176.452	ng	98

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Data File: I:\MS09\Data\2017 03\03\03031719.D

Acq On : 3 Mar 2017 21:13

Operator: SC

Sample : 100ng TO-15 ICAL STD

Misc : S29-03031701/S29-03021701 (3/31)

ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 06 08:44:07 2017

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:32:44 2017

Response via : Initial Calibration

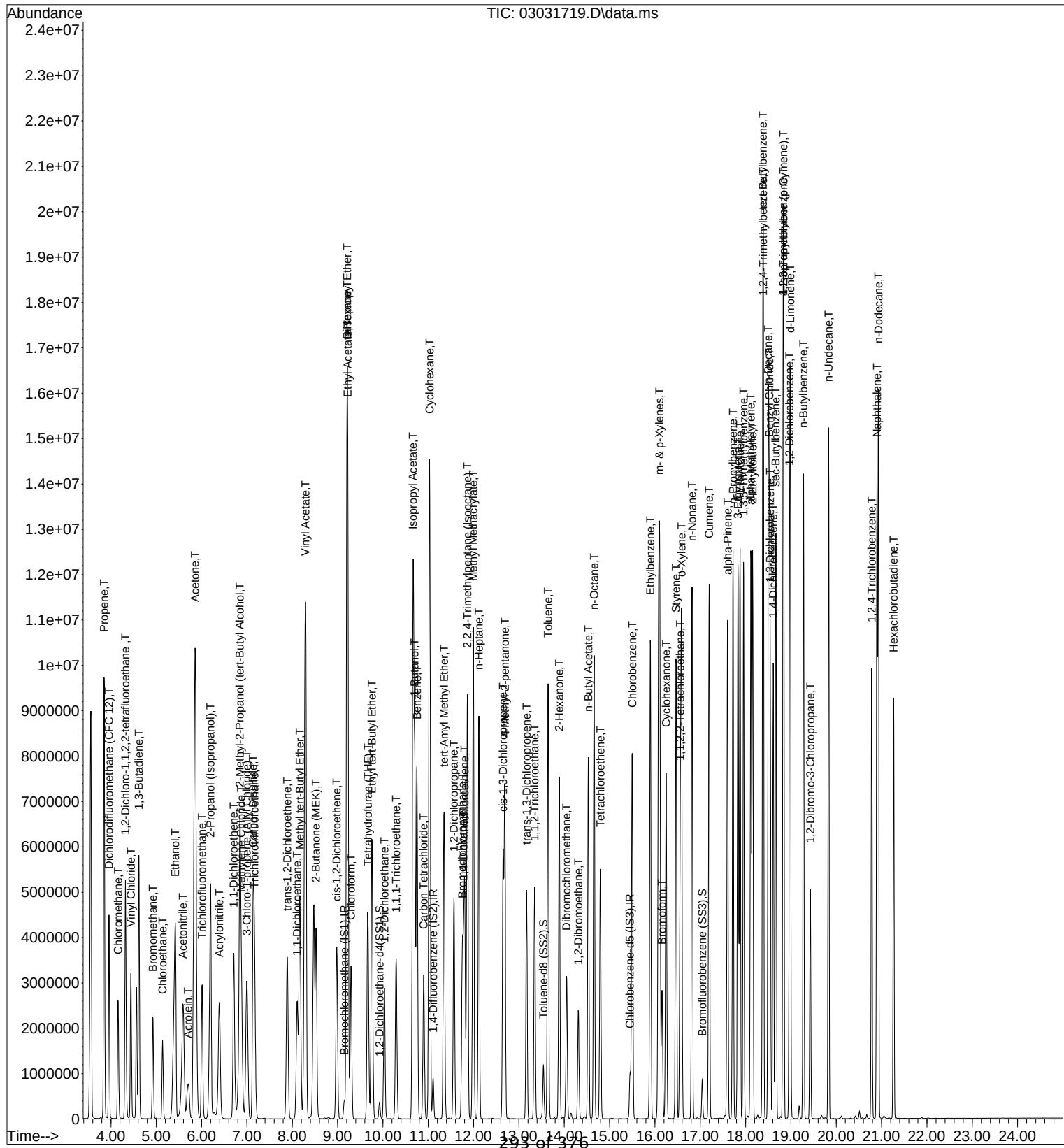
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.99	100	1648181	298.281	ng	93
51) n-Heptane	12.12	71	2262932	162.545	ng	99
52) cis-1,3-Dichloropropene	12.65	75	3790457	172.081	ng	99
53) 4-Methyl-2-pentanone	12.69	58	2432380	209.607	ng	96
54) trans-1,3-Dichloropropene	13.17	75	3269997	179.093	ng	99
55) 1,1,2-Trichloroethane	13.34	97	1909914	142.887	ng	100
58) Toluene	13.64	91	8033307	107.462	ng	98
59) 2-Hexanone	13.89	43	6175462	188.101	ng	98
60) Dibromochloromethane	14.05	129	1993133	108.160	ng	100
61) 1,2-Dibromoethane	14.31	107	2069492	114.253	ng	100
62) n-Butyl Acetate	14.53	43	6918529	191.854	ng	99
63) n-Octane	14.66	57	2155690	152.474	ng	98
64) Tetrachloroethene	14.80	166	1819368	94.152	ng	99
65) Chlorobenzene	15.50	112	4935200	101.728	ng	99
66) Ethylbenzene	15.90	91	9088187	113.656	ng	98
67) m- & p-Xylenes	16.10	91	14098937	220.837	ng	98
68) Bromoform	16.15	173	1605014	103.137	ng	99
69) Styrene	16.46	104	5656609	114.902	ng	99
70) o-Xylene	16.59	91	7200223	109.653	ng	98
71) n-Nonane	16.82	43	5224140	151.539	ng	97
72) 1,1,2,2-Tetrachloroethane	16.56	83	3807447	124.084	ng	99
74) Cumene	17.20	105	8476434	100.804	ng	97
75) alpha-Pinene	17.60	93	4810630	113.594	ng	99
76) n-Propylbenzene	17.72	91	10748681	107.443	ng	97
77) 3-Ethyltoluene	17.83	105	8844736	103.193	ng	98
78) 4-Ethyltoluene	17.88	105	7940150	101.558	ng	97
79) 1,3,5-Trimethylbenzene	17.95	105	7159423	101.573	ng	98
80) alpha-Methylstyrene	18.11	118	3966056	116.745	ng	99
81) 2-Ethyltoluene	18.16	105	8461935	103.443	ng	97
82) 1,2,4-Trimethylbenzene	18.39	105	6910603	98.287	ng	100
83) n-Decane	18.50	57	4964785	130.859	ng	98
84) Benzyl Chloride	18.52	91	7426232	114.087	ng	96
85) 1,3-Dichlorobenzene	18.54	146	4020395	98.870	ng	99
86) 1,4-Dichlorobenzene	18.61	146	3993315	98.854	ng	99
87) sec-Butylbenzene	18.67	105	9393211	99.592	ng	97
88) 4-Isopropyltoluene (p-...	18.84	119	7541733	84.736	ng	96
89) 1,2,3-Trimethylbenzene	18.83	105	6745929	95.515	ng	99
90) 1,2-Dichlorobenzene	18.97	146	3762498	95.523	ng	99
91) d-Limonene	18.99	68	3495451	130.499	ng	94
92) 1,2-Dibromo-3-Chloropr...	19.43	157	1373713	96.222	ng	95
93) n-Undecane	19.83	57	5455824	135.620	ng	97
94) 1,2,4-Trichlorobenzene	20.78	180	3003071	95.149	ng	99
95) Naphthalene	20.90	128	10109834	105.655	ng	98
96) n-Dodecane	20.93	57	5483208	128.327	ng	96
97) Hexachlorobutadiene	21.27	225	1724489	94.086	ng	100
98) Cyclohexanone	16.25	55	3883400	166.047	ng	99
99) tert-Butylbenzene	18.38	119	6149848	88.771	ng	98
100) n-Butylbenzene	19.28	91	8244759	108.840	ng	97

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

ALS Vial : 7 Sample Multiplier: 1

DataAcq Meth:T015.M



Data File: I:\MS09\Data\2017 03\03\03031721.D

Acq On : 3 Mar 2017 22:20

Operator: SC

Sample : 25ng TO-15 ICV STD

Misc : S29-03031701/S29-02221703 (3/23)

ALS Vial : 4 Sample Multiplier: 1

 3/6/17

Quant Time: Mar 06 10:26:36 2017

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:48:38 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	154120	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	11.10	114	785228	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	15.45	82	387148	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.91	65	286192	11.965	ng	-0.02
Spiked Amount	12.500	Range	70 - 130	Recovery	=	95.76%
57) Toluene-d8 (SS2)	13.54	98	901371	12.602	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	100.80%
73) Bromofluorobenzene (SS3)	17.04	174	223131	12.611	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	100.88%

Target Compounds

						Qvalue
2) Propene	3.84	42	765974	24.444	ng	100
3) Dichlorodifluoromethan...	3.95	85	937386	24.038	ng	100
4) Chloromethane	4.15	50	999180	23.557	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.31	135	423584	25.119	ng	100
6) Vinyl Chloride	4.43	62	966848	25.491	ng	100
7) 1,3-Butadiene	4.61	54	703963	29.016	ng	100
8) Bromomethane	4.91	94	457846	26.037	ng	100
9) Chloroethane	5.13	64	444283	25.037	ng	100
10) Ethanol	5.36	45	2513923	117.979	ng	100
11) Acetonitrile	5.55	41	1320579	24.783	ng	100
12) Acrolein	5.68	56	383290	24.735	ng	100
13) Acetone	5.83	58	2299914	119.441	ng	98
14) Trichlorofluoromethane	6.00	101	729226	24.321	ng	100
15) 2-Propanol (Isopropanol)	6.16	45	3436854	51.656	ng	99
16) Acrylonitrile	6.35	53	888797	27.660	ng	100
17) 1,1-Dichloroethene	6.70	96	480844	25.941	ng	97
18) 2-Methyl-2-Propanol (t...	6.80	59	3120048	55.073	ng	100
19) Methylene Chloride	6.85	84	539103	23.876	ng	98
20) 3-Chloro-1-propene (Al...	6.98	41	1067477	26.630	ng	99
21) Trichlorotrifluoroethane	7.16	151	342871	25.861	ng	99
22) Carbon Disulfide	7.13	76	2084511	24.389	ng	100
23) trans-1,2-Dichloroethene	7.87	61	863642	26.465	ng	99
24) 1,1-Dichloroethane	8.09	63	1042489	24.808	ng	100
25) Methyl tert-Butyl Ether	8.15	73	1679245	25.900	ng	99
26) Vinyl Acetate	8.27	86	581608	156.251	ng	# 91
27) 2-Butanone (MEK)	8.50	72	403763	28.849	ng	98
28) cis-1,2-Dichloroethene	8.96	61	815296	25.630	ng	99
29) Diisopropyl Ether	9.20	87	442772	24.808	ng	# 92
30) Ethyl Acetate	9.20	61	490183	57.373	ng	98
31) n-Hexane	9.20	57	1097237	25.294	ng	100
32) Chloroform	9.27	83	866052	25.031	ng	100
34) Tetrahydrofuran (THF)	9.65	72	387628	25.590	ng	99
35) Ethyl tert-Butyl Ether	9.75	87	623193	26.745	ng	99
36) 1,2-Dichloroethane	10.01	62	697891	24.490	ng	100
38) 1,1,1-Trichloroethane	10.28	97	708051	25.099	ng	99
39) Isopropyl Acetate	10.65	61	816381	54.280	ng	# 92
40) 1-Butanol	10.66	56	1388733	51.072	ng	97
41) Benzene	10.74	78	2219721	24.578	ng	100
42) Carbon Tetrachloride	10.89	117	586702	25.765	ng	100
43) Cyclohexane	11.02	84	1667623	52.176	ng	99
44) tert-Amyl Methyl Ether	11.34	73	1636975	25.826	ng	99
45) 1,2-Dichloropropane	11.56	63	615434	25.407	ng	100
46) Bromodichloromethane	11.74	83	705612	26.608	ng	100
47) Trichloroethene	11.79	130	480891	24.132	ng	99
48) 1,4-Dioxane	11.76	88	446084	27.524	ng	99
49) 2,2,4-Trimethylpentane...	11.85	57	2703303	25.338	ng	99

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Data File: I:\MS09\Data\2017 03\03\03031721.D

Acq On : 3 Mar 2017 22:20

Operator: SC

Sample : 25ng TO-15 ICV STD

Misc : S29-03031701/S29-02221703 (3/23)

ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 06 10:26:36 2017

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:48:38 2017

Response via : Initial Calibration

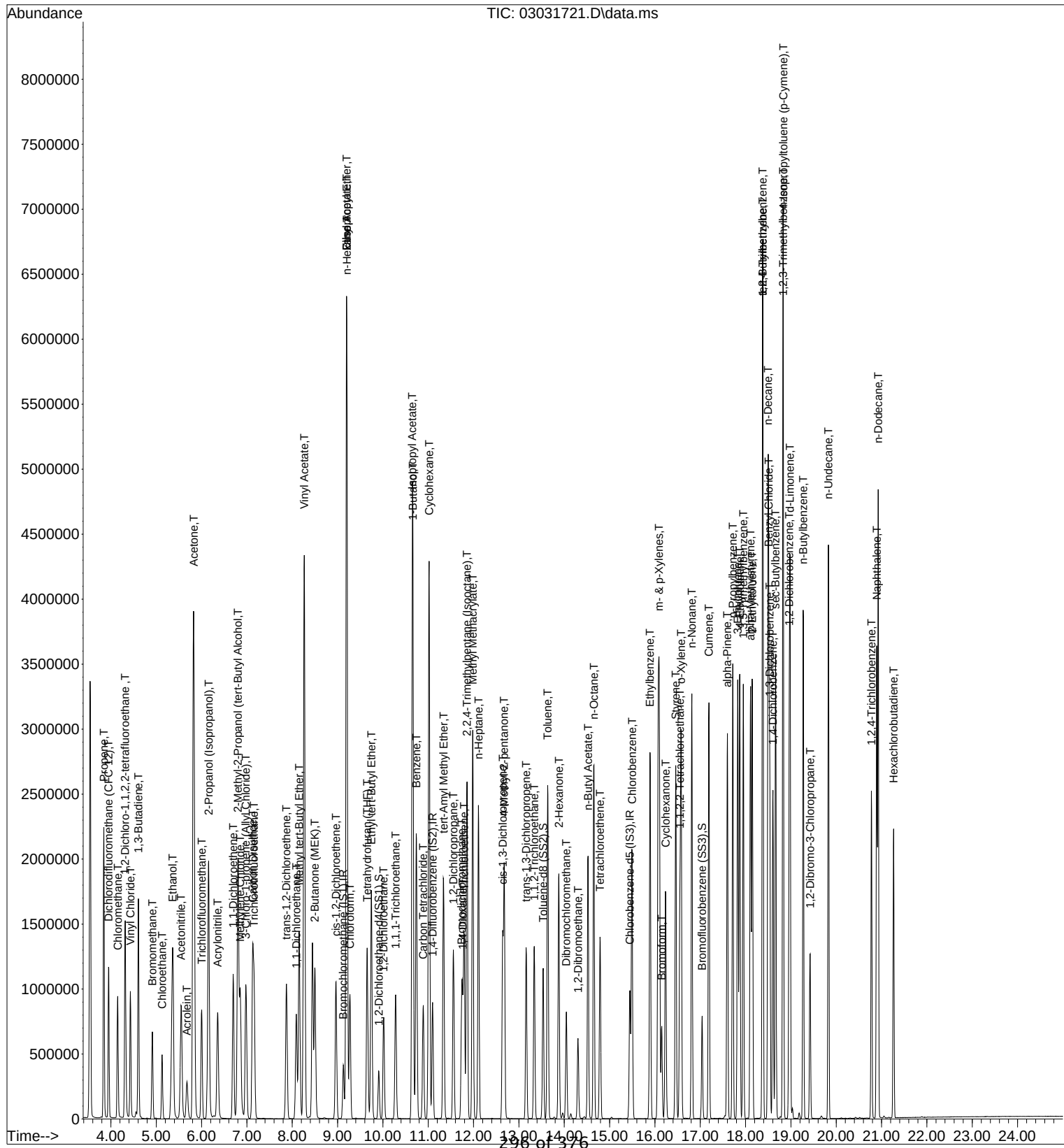
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.98	100	421979	58.627	ng	97
51) n-Heptane	12.11	71	593318	26.236	ng	99
52) cis-1,3-Dichloropropene	12.64	75	938580	27.196	ng	100
53) 4-Methyl-2-pentanone	12.67	58	612530	26.668	ng	98
54) trans-1,3-Dichloropropene	13.16	75	848272	29.031	ng	100
55) 1,1,2-Trichloroethane	13.34	97	493756	26.485	ng	99
58) Toluene	13.63	91	2145596	25.703	ng	100
59) 2-Hexanone	13.88	43	1542925	27.037	ng	99
60) Dibromochloromethane	14.05	129	511029	27.504	ng	99
61) 1,2-Dibromoethane	14.30	107	532349	27.921	ng	99
62) n-Butyl Acetate	14.53	43	1772477	28.240	ng	99
63) n-Octane	14.65	57	568011	26.698	ng	99
64) Tetrachloroethene	14.79	166	457390	26.888	ng	100
65) Chlorobenzene	15.49	112	1296050	26.063	ng	100
66) Ethylbenzene	15.89	91	2431318	26.913	ng	100
67) m- & p-Xylenes	16.09	91	3779272	54.394	ng	100
68) Bromoform	16.15	173	390156	28.525	ng	100
69) Styrene	16.46	104	1463885	28.332	ng	100
70) o-Xylene	16.58	91	1906932	26.970	ng	100
71) n-Nonane	16.81	43	1436729	26.212	ng	99
72) 1,1,2,2-Tetrachloroethane	16.55	83	957821	29.088	ng	100
74) Cumene	17.19	105	2297763	26.943	ng	100
75) alpha-Pinene	17.60	93	1277080	28.153	ng	99
76) n-Propylbenzene	17.72	91	2968348	27.489	ng	99
77) 3-Ethyltoluene	17.83	105	2229642	26.316	ng	100
78) 4-Ethyltoluene	17.87	105	2321721	29.135	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1899752	27.243	ng	100
80) alpha-Methylstyrene	18.11	118	1022819	29.023	ng	100
81) 2-Ethyltoluene	18.15	105	2267583	27.445	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	2008155	28.423	ng	100
83) n-Decane	18.50	57	1456815	27.548	ng	99
84) Benzyl Chloride	18.51	91	1985428	30.019	ng	99
85) 1,3-Dichlorobenzene	18.53	146	1016278	27.812	ng	100
86) 1,4-Dichlorobenzene	18.60	146	1014095	27.904	ng	100
87) sec-Butylbenzene	18.66	105	2589807	27.278	ng	100
88) 4-Isopropyltoluene (p-...	18.83	119	2359251	27.755	ng	100
89) 1,2,3-Trimethylbenzene	18.83	105	2053130	28.976	ng	100
90) 1,2-Dichlorobenzene	18.97	146	973212	27.612	ng	100
91) d-Limonene	18.98	68	997520	28.241	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.42	157	339131	30.346	ng	97
93) n-Undecane	19.83	57	1528512	27.761	ng	100
94) 1,2,4-Trichlorobenzene	20.78	180	725880	29.973	ng	100
95) Naphthalene	20.89	128	2617426	30.094	ng	100
96) n-Dodecane	20.92	57	1560651	29.390	ng	99
97) Hexachlorobutadiene	21.27	225	402586	28.404	ng	100
98) Cyclohexanone	16.24	55	915030	25.832	ng	99
99) tert-Butylbenzene	18.38	119	1825788	27.829	ng	100
100) n-Butylbenzene	19.27	91	2274410	27.742	ng	100

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

ALS Vial : 4 Sample Multiplier: 1

DataAcq Meth:T015.M



Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: 03031721.D

Acq. Method File: TO15.M

3/6/17

Data File Path: I:\MS09\Data\2017_03\031

Sample Name: 25ng TO-15 ICV STD

Operator: SC

Misc Info: S29-03031701/S29-02221703 (

Date Acquired: 3/3/17

22:20

Instrument Name: MS09

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	Propene	3.84	24.444	26.275	93	52	127	*	*
3)	Dichlorodifluoromethane (CFC 12)	3.95	24.038	26.250	92	68	109	*	*
4)	Chloromethane	4.15	23.557	26.225	90	51	130	*	*
5)	1,2-Dichloro-1,1,2,2-tetrafluoroethane	4.31	25.119	26.375	95	66	114	*	*
6)	Vinyl Chloride	4.43	25.491	26.250	97	61	125	*	*
7)	1,3-Butadiene	4.61	29.016	26.250	111	62	144	*	*
8)	Bromomethane	4.91	26.037	26.250	99	73	123	*	*
9)	Chloroethane	5.13	25.037	26.225	95	69	122	*	*
10)	Ethanol	5.36	117.979	132.650	89	62	124	*	*
11)	Acetonitrile	5.55	24.783	26.650	93	57	114	*	*
12)	Acrolein	5.68	24.735	26.525	93	62	116	*	*
13)	Acetone	5.83	119.441	133.050	90	57	117	*	*
14)	Trichlorofluoromethane	6.00	24.321	26.275	93	63	98	*	*
15)	2-Propanol (Isopropanol)	6.16	51.656	53.025	97	66	121	*	*
16)	Acrylonitrile	6.35	27.660	26.575	104	68	123	*	*
17)	1,1-Dichloroethene	6.70	25.941	26.575	98	76	118	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alcohol)	6.80	55.073	53.275	103	74	126	*	*
19)	Methylene Chloride	6.85	23.876	26.550	90	60	118	*	*
20)	3-Chloro-1-propene (Allyl Chloride)	6.98	26.630	26.500	100	65	126	*	*
21)	Trichlorotrifluoroethane	7.16	25.861	26.450	98	73	114	*	*
22)	Carbon Disulfide	7.13	24.389	26.675	91	57	102	*	*
23)	trans-1,2-Dichloroethene	7.87	26.465	26.675	99	74	123	*	*
24)	1,1-Dichloroethane	8.09	24.808	26.550	93	69	111	*	*
25)	Methyl tert-Butyl Ether	8.15	25.900	26.600	97	69	113	*	*
26)	Vinyl Acetate	8.27	156.251	132.550	118	76	128	*	*
27)	2-Butanone (MEK)	8.50	28.849	26.550	109	63	127	*	*
28)	cis-1,2-Dichloroethene	8.96	25.630	26.475	97	72	117	*	*
29)	Diisopropyl Ether	9.20	24.808	26.575	93	64	118	*	*
30)	Ethyl Acetate	9.20	57.373	53.275	108	68	127	*	*
31)	n-Hexane	9.20	25.294	26.600	95	55	116	*	*
32)	Chloroform	9.27	25.031	26.475	95	70	109	*	*
34)	Tetrahydrofuran (THF)	9.65	25.590	26.575	96	72	113	*	*
35)	Ethyl tert-Butyl Ether	9.75	26.745	26.525	101	73	117	*	*
36)	1,2-Dichloroethane	10.01	24.490	26.500	92	69	113	*	*
38)	1,1,1-Trichloroethane	10.28	25.099	26.475	95	72	115	*	*
39)	Isopropyl Acetate	10.65	54.280	53.050	102	68	122	*	*
40)	1-Butanol	10.66	51.072	53.075	96	75	141	*	*
41)	Benzene	10.74	24.578	26.525	93	65	107	*	*
42)	Carbon Tetrachloride	10.89	25.765	26.600	97	71	113	*	*
43)	Cyclohexane	11.02	52.176	53.125	98	71	115	*	*
44)	tert-Amyl Methyl Ether	11.34	25.826	26.525	97	73	115	*	*
45)	1,2-Dichloropropane	11.56	25.407	26.525	96	71	115	*	*
46)	Bromodichloromethane	11.74	26.608	26.700	100	75	118	*	*
47)	Trichloroethene	11.79	24.132	26.550	91	68	114	*	*
48)	1,4-Dioxane	11.76	27.524	26.600	103	81	131	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	11.85	25.338	26.525	96	68	112	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: 03031721.D

TO15.M

Data File Path: I:\MS09\Data\2017_03\03\

Sample Name: 25ng TO-15 ICV STD

Operator: SC

Misc Info: S29-03031701/S29-02221703 (

Date Acquired: 3/3/17

22:20

Instrument Name: MS09

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	Methyl Methacrylate	11.98	58.627	53.000	111	72	130	*	*
51)	n-Heptane	12.11	26.236	26.600	99	68	116	*	*
52)	cis-1,3-Dichloropropene	12.64	27.196	26.275	104	77	126	*	*
53)	4-Methyl-2-pentanone	12.67	26.668	26.575	100	69	126	*	*
54)	trans-1,3-Dichloropropene	13.16	29.031	26.675	109	79	125	*	*
55)	1,1,2-Trichloroethane	13.34	26.485	26.525	100	75	119	*	*
58)	Toluene	13.63	25.703	26.450	97	59	118	*	*
59)	2-Hexanone	13.88	27.037	26.575	102	69	129	*	*
60)	Dibromochloromethane	14.05	27.504	26.600	103	74	136	*	*
61)	1,2-Dibromoethane	14.30	27.921	26.450	106	73	131	*	*
62)	n-Butyl Acetate	14.53	28.240	26.950	105	69	130	*	*
63)	n-Octane	14.65	26.698	26.500	101	66	120	*	*
64)	Tetrachloroethene	14.79	26.888	26.575	101	65	130	*	*
65)	Chlorobenzene	15.49	26.063	26.500	98	68	120	*	*
66)	Ethylbenzene	15.89	26.913	26.450	102	68	122	*	*
67)	m- & p-Xylenes	16.09	54.394	53.025	103	68	123	*	*
68)	Bromoform	16.15	28.525	26.550	107	69	130	*	*
69)	Styrene	16.46	28.332	26.475	107	71	133	*	*
70)	o-Xylene	16.58	26.970	26.450	102	68	122	*	*
71)	n-Nonane	16.81	26.212	26.475	99	65	120	*	*
72)	1,1,2,2-Tetrachloroethane	16.55	29.088	26.500	110	69	130	*	*
74)	Cumene	17.19	26.943	26.525	102	70	123	*	*
75)	alpha-Pinene	17.60	28.153	26.575	106	70	128	*	*
76)	n-Propylbenzene	17.72	27.489	26.725	103	69	125	*	*
77)	3-Ethyltoluene	17.83	26.316	26.550	99	67	128	*	*
78)	4-Ethyltoluene	17.87	29.135	26.525	110	67	130	*	*
79)	1,3,5-Trimethylbenzene	17.95	27.243	26.525	103	67	124	*	*
80)	alpha-Methylstyrene	18.11	29.023	26.550	109	67	141	*	*
81)	2-Ethyltoluene	18.15	27.445	26.550	103	67	124	*	*
82)	1,2,4-Trimethylbenzene	18.38	28.423	26.525	107	67	129	*	*
83)	n-Decane	18.50	27.548	26.525	104	66	124	*	*
84)	Benzyl Chloride	18.51	30.019	26.550	113	79	138	*	*
85)	1,3-Dichlorobenzene	18.53	27.812	26.475	105	65	136	*	*
86)	1,4-Dichlorobenzene	18.60	27.904	26.650	105	66	141	*	*
87)	sec-Butylbenzene	18.66	27.278	26.550	103	68	125	*	*
88)	4-Isopropyltoluene (p-Cymene)	18.83	27.755	26.550	105	68	131	*	*
89)	1,2,3-Trimethylbenzene	18.83	28.976	26.500	109	68	132	*	*
90)	1,2-Dichlorobenzene	18.97	27.612	26.550	104	67	136	*	*
91)	d-Limonene	18.98	28.241	26.550	106	71	134	*	*
92)	1,2-Dibromo-3-Chloropropane	19.42	30.346	26.475	115	73	136	*	*
93)	n-Undecane	19.83	27.761	26.600	104	68	132	*	*
94)	1,2,4-Trichlorobenzene	20.78	29.973	26.500	113	64	134	*	*
95)	Naphthalene	20.89	30.094	26.700	113	62	136	*	*
96)	n-Dodecane	20.92	29.390	26.550	111	61	137	*	*
97)	Hexachlorobutadiene	21.27	28.404	26.575	107	60	133	*	*
98)	Cyclohexanone	16.23	25.832	26.575	97	64	131	*	*
99)	tert-Butylbenzene	18.38	27.829	26.500	105	67	128	*	*
100)	n-Butylbenzene	19.27	27.742	26.500	105	68	128	*	*

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

Method Path : I:\MS08\Methods\
Method File : R8030717.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Mar 07 07:25:36 2017
Response Via : Initial Calibration

Calibration Files

0.08=03071702.D 0.10=03071703.D 0.20=03071704.D 0.40=03071705.D 1.0 =03071706.D 5.0 =03071707.D 25 =03071708.D
50 =03071709.D 100 =03071710.D

Compound	0.08	0.10	0.20	0.40	1.0	5.0	25	50	100	Avg	%RSD
-----ISTD-----											
1) IR Bromochloromethane...											
2) T Propene			1.425	1.263	1.393	1.125	1.240	1.223	1.442	1.302	9.21
3) T Dichlorodifluo...	2.995	2.827	2.559	2.367	2.584	2.129	2.156	2.056	1.962	2.404	14.99
4) T Chloromethane			2.004	1.807	1.978	1.446	1.674	1.558	1.295	1.680	15.89
5) T 1,2-Dichloro-1...	1.509	1.363	1.399	1.222	1.328	1.081	1.093	1.003	0.940	1.215	16.16
6) T Vinyl Chloride	1.943	1.955	1.985	1.849	2.127	1.778	1.826	1.673	1.579	1.857	9.03
7) T 1,3-Butadiene	1.716	1.597	1.512	1.373	1.647	1.323	1.431	1.333	1.253	1.465	11.01
8) T Bromomethane	0.968	0.900	1.047	1.015	1.086	0.966	1.003	0.924	0.869	0.975	7.20
9) T Chloroethane	0.879	0.911	0.896	0.827	0.949	0.834	0.844	0.828	0.822	0.866	5.22
10) T Ethanol		1.129	1.036	0.870	1.024	0.781	0.871	0.857	0.831	0.925	13.17
11) T Acetonitrile			2.990	2.499	2.622	2.165	2.340	2.287	2.281	2.455	11.42
12) T Acrolein				0.718	0.736	0.638	0.735	0.717	0.705	0.708	5.12
13) T Acetone				0.963	1.032	0.864	0.930	0.850	0.800	0.906	9.34
14) T Trichlorofluor...	2.597	2.566	2.342	2.093	2.250	1.874	1.888	1.780	1.770	2.129	15.27
15) T 2-Propanol (Is...	3.954	3.721	3.496	3.155	3.553	3.108	3.509	3.307	2.671	3.386	11.14
16) T Acrylonitrile	1.318	1.355	1.458	1.430	1.633	1.425	1.632	1.560	1.539	1.483	7.69
17) T 1,1-Dichloroet...	1.185	1.157	1.149	0.998	1.128	0.979	1.067	1.018	1.005	1.076	7.38
18) T 2-Methyl-2-Pro...	3.815	3.597	3.404	3.144	3.545	3.088	3.442	3.262	3.004	3.367	7.88
19) T Methylene Chlo...				1.145	1.257	1.024	1.125	1.065	1.017	1.105	8.18
20) T 3-Chloro-1-pro...	2.094	2.064	2.048	1.840	2.125	1.837	2.028	1.960	1.918	1.990	5.37
21) T Trichlorotrifl...	1.123	1.153	1.061	0.975	1.047	0.885	0.929	0.878	0.841	0.988	11.44
22) T Carbon Disulfide				4.265	4.485	3.614	3.987	3.755	3.647	3.959	8.96
23) T trans-1,2-Dich...	1.848	1.723	1.803	1.641	1.850	1.572	1.706	1.636	1.607	1.709	6.11
24) T 1,1-Dichloroet...	2.494	2.500	2.203	2.030	2.258	1.868	1.969	1.900	1.888	2.123	11.85
25) T Methyl tert-Bu...	4.678	4.527	3.988	3.641	3.966	3.382	3.632	3.466	3.370	3.850	12.54
26) T Vinyl Acetate			0.285	0.281	0.334	0.306	0.324	0.304	0.277	0.302	7.30
27) T 2-Butanone (MEK)			0.748	0.700	0.840	0.759	0.804	0.761	0.750	0.766	5.83
28) T cis-1,2-Dichlo...	1.860	1.761	1.731	1.602	1.773	1.498	1.631	1.553	1.530	1.660	7.57
29) T Diisopropyl Ether	1.264	1.127	1.071	0.984	1.063	0.925	0.964	0.895	0.792	1.009	13.81
30) T Ethyl Acetate	0.323	0.256	0.349	0.374	0.428	0.386	0.415	0.401	0.355	0.365	14.47
31) T n-Hexane	2.563	2.366	2.128	1.952	2.103	1.782	1.764	1.665	1.489	1.979	17.43
32) T Chloroform	2.531	2.388	2.159	2.019	2.233	1.862	1.964	1.871	1.834	2.096	11.86
33) S 1,2-Dichloroet...	1.807	1.838	1.859	1.856	1.801	1.820	1.723	1.736	1.766	1.801	2.76
34) T Tetrahydrofura...	0.823	0.768	0.773	0.727	0.820	0.724	0.776	0.741	0.735	0.765	4.87
35) T Ethyl tert-But...	1.831	1.775	1.638	1.470	1.642	1.401	1.502	1.418	1.384	1.562	10.63
36) T 1,2-Dichloroet...	2.081	2.145	1.904	1.734	1.907	1.621	1.665	1.601	1.579	1.804	11.80
-----ISTD-----											
37) IR 1,4-Difluorobenzen...											
38) T 1,1,1-Trichlor...	0.495	0.463	0.424	0.380	0.448	0.370	0.403	0.372	0.359	0.413	11.56
39) T Isopropyl Acetate	0.152	0.162	0.149	0.136	0.162	0.141	0.162	0.149	0.138	0.150	6.78
40) T 1-Butanol				0.200	0.282	0.268	0.362	0.331	0.305	0.291	19.26
41) T Benzene	1.277	1.186	1.045	0.919	1.035	0.852	0.919	0.842	0.809	0.987	16.39
42) T Carbon Tetrach...	0.360	0.364	0.344	0.316	0.364	0.312	0.352	0.325	0.311	0.339	6.67

407 3/7/17

Method Path : I:\MS08\Methods\
Method File : R8030717.M

Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)														
43) T	Cyclohexane	0.554	0.527	0.449	0.397	0.445	0.368	0.406	0.368	0.332	0.427	17.41		
44) T	tert-Amyl Meth...	0.923	0.843	0.774	0.693	0.804	0.688	0.771	0.710	0.663	0.763	11.08		
45) T	1,2-Dichloropr...	0.282	0.288	0.240	0.234	0.258	0.214	0.233	0.220	0.213	0.242	11.54		
46) T	Bromodichlorom...	0.340	0.341	0.319	0.298	0.354	0.305	0.349	0.327	0.309	0.327	6.19		
47) T	Trichloroethene	0.310	0.278	0.271	0.248	0.276	0.232	0.250	0.233	0.220	0.258	11.06		
48) T	1,4-Dioxane	0.202	0.204	0.183	0.175	0.227	0.191	0.218	0.202	0.192	0.199	8.21		
49) T	2,2,4-Trimethy...	1.401	1.341	1.207	1.073	1.216	1.008	1.136	1.047	0.970	1.155	12.85		
50) T	Methyl Methacr...				0.077	0.101	0.093	0.106	0.098	0.093	0.095	10.71		
51) T	n-Heptane	0.298	0.296	0.266	0.253	0.269	0.224	0.233	0.216	0.212	0.252	12.93		
52) T	cis-1,3-Dichlo...	0.361	0.331	0.343	0.316	0.400	0.361	0.410	0.386	0.366	0.364	8.53		
53) T	4-Methyl-2-pen...	0.181	0.171	0.171	0.199	0.250	0.220	0.258	0.241	0.229	0.214	15.97		
54) T	trans-1,3-Dich...				0.283	0.359	0.338	0.395	0.371	0.354	0.350	10.78		
55) T	1,1,2-Trichlor...	0.262	0.244	0.230	0.213	0.251	0.209	0.237	0.221	0.210	0.231	8.29		
Chlorobenzene-d5 (.....ISTD-----														
56) IR														
57) S	Toluene-d8 (SS2)	2.383	2.390	2.367	2.375	2.320	2.350	2.315	2.323	2.315	2.349	1.32		
58) T	Toluene	2.798	2.567	2.284	2.057	2.267	1.914	2.061	1.913	1.807	2.185	15.01		
59) T	2-Hexanone	0.950	0.812	0.944	0.965	1.354	1.224	1.410	1.324	1.244	1.136	19.26		
60) T	Dibromochlorom...	0.498	0.484	0.480	0.463	0.574	0.527	0.605	0.572	0.541	0.527	9.39		
61) T	1,2-Dibromoethane	0.488	0.476	0.497	0.473	0.568	0.506	0.571	0.539	0.513	0.515	7.20		
62) T	n-Butyl Acetate				1.038	1.472	1.356	1.552	1.460	1.372	1.375	13.10		
63) T	n-Octane	0.600	0.524	0.502	0.452	0.495	0.429	0.469	0.450	0.432	0.484	11.23		
64) T	Tetrachloroethene	0.681	0.670	0.605	0.557	0.614	0.520	0.558	0.523	0.490	0.580	11.58		
65) T	Chlorobenzene	1.800	1.664	1.463	1.330	1.500	1.268	1.383	1.272	1.179	1.429	14.09		
66) T	Ethylbenzene	2.838	2.667	2.516	2.255	2.614	2.234	2.484	2.291	2.127	2.448	9.63		
67) T	m- & p-Xylenes	2.374	2.218	1.992	1.826	2.038	1.763	1.941	1.786	1.613	1.950	12.18		
68) T	Bromoform				0.309	0.418	0.419	0.503	0.472	0.445	0.428	15.56		
69) T	Styrene	1.374	1.291	1.229	1.152	1.481	1.396	1.560	1.430	1.342	1.362	9.24		
70) T	o-Xylene	2.429	2.169	2.014	1.846	2.149	1.864	2.024	1.859	1.711	2.007	10.86		
71) T	n-Nonane	1.465	1.308	1.219	1.128	1.278	1.121	1.224	1.128	1.021	1.210	10.79		
72) T	1,1,2,2-Tetrac...	0.941	0.875	0.815	0.787	0.932	0.843	0.935	0.861	0.804	0.866	6.86		
73) S	Bromofluoroben...	0.769	0.759	0.764	0.765	0.768	0.779	0.783	0.776	0.768	0.770	1.02		
74) T	Cumene	3.175	2.872	2.577	2.353	2.653	2.357	2.544	2.307	2.074	2.546	12.93		
75) T	alpha-Pinene	1.503	1.399	1.272	1.188	1.387	1.244	1.375	1.274	1.183	1.314	8.22		
76) T	n-Propylbenzene	3.462	3.295	2.958	2.752	3.249	2.848	3.069	2.783	2.484	2.989	10.35		
77) T	3-Ethyltoluene	2.767	2.580	2.443	2.329	2.634	2.362	2.494	2.384	2.046	2.449	8.46		
78) T	4-Ethyltoluene	2.930	2.517	2.310	2.046	2.567	2.294	2.465	2.120	1.979	2.359	12.64		
79) T	1,3,5-Trimethy...	2.610	2.458	2.180	1.976	2.300	2.018	2.141	1.953	1.748	2.154	12.48		
80) T	alpha-Methylst...	0.919	0.882	0.879	0.819	1.121	1.075	1.179	1.074	0.976	0.992	12.63		
81) T	2-Ethyltoluene	3.009	2.704	2.524	2.311	2.689	2.357	2.457	2.239	1.996	2.476	12.05		
82) T	1,2,4-Trimethy...	2.345	2.224	2.014	1.924	2.300	2.044	2.185	1.941	1.577	2.061	11.51		
83) T	n-Decane	1.271	1.263	1.160	1.100	1.278	1.135	1.235	1.136	1.000	1.175	7.99		
84) T	Benzyl Chloride				1.006	1.517	1.669	2.072	1.950	1.721	1.656	22.69		
85) T	1,3-Dichlorobe...	1.246	1.261	1.078	1.051	1.242	1.119	1.193	1.071	0.949	1.135	9.47		
86) T	1,4-Dichlorobe...	1.386	1.272	1.101	1.069	1.297	1.132	1.223	1.100	1.000	1.176	10.68		
87) T	sec-Butylbenzene	3.223	3.005	2.782	2.649	3.036	2.711	2.821	2.538	2.227	2.777	10.65		
88) T	4-Isopropyltol...	2.985	2.797	2.544	2.422	2.937	2.603	2.702	2.344	1.857	2.577	13.43		
89) T	1,2,3-Trimethy...	2.471	2.246	2.067	1.972	2.348	2.077	2.207	1.955	1.575	2.102	12.43		
90) T	1,2-Dichlorobe...	1.253	1.160	1.070	1.000	1.233	1.084	1.141	1.011	0.840	1.088	11.80		
91) T	d-Limonene	0.812	0.711	0.719	0.681	0.878	0.853	0.947	0.877	0.721	0.800	11.81		
92) T	1,2-Dibromo-3-...				0.266	0.383	0.385	0.451	0.411	0.377	0.379	16.31		
93) T	n-Undecane	1.257	1.093	1.088	0.996	1.267	1.152	1.335	1.219	1.069	1.164	9.59		
94) T	1,2,4-Trichlor...	0.784	0.700	0.616	0.584	0.830	0.767	0.922	0.838	0.749	0.754	14.29		

Method Path : I:\MS08\Methods\

Method File : R8030717.M

Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)														
95) T	Naphthalene	2.885	2.038	1.838	1.795	2.505	2.397	3.019	2.706	2.178	2.373			18.72
96) T	n-Dodecane	1.237	0.913	0.867	0.856	1.087	1.040	1.381	1.247	0.972	1.066			17.50
97) T	Hexachlorobuta...	0.622	0.537	0.526	0.474	0.572	0.491	0.536	0.485	0.435	0.520			10.77
98) T	Cyclohexanone	0.860	0.718	0.646	0.608	0.829	0.771	0.904	0.845	0.801	0.776			12.89
99) T	tert-Butylbenzene	2.522	2.315	2.155	2.001	2.294	2.026	2.100	1.852	1.504	2.085			14.13
100) T	n-Butylbenzene	2.335	2.120	2.082	1.941	2.453	2.214	2.380	2.152	1.887	2.174			8.85

(#) = Out of Range

Method : I:\MS08\Methods\R8030717.M (RTE Integrator)
 Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 Last Update : Tue Mar 07 07:25:36 2017
 Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.08	0	13	I:\MS08\Data\2017_03\07\03071702.D
2	0.10	0	13	I:\MS08\Data\2017_03\07\03071703.D
3	0.20	0	13	I:\MS08\Data\2017_03\07\03071704.D
4	0.40	0	13	I:\MS08\Data\2017_03\07\03071705.D
5	1.0	1	13	I:\MS08\Data\2017_03\07\03071706.D
6	5.0	5	13	I:\MS08\Data\2017_03\07\03071707.D
7	25	26	13	I:\MS08\Data\2017_03\07\03071708.D
8	50	52	13	I:\MS08\Data\2017_03\07\03071709.D
9	100	104	13	I:\MS08\Data\2017_03\07\03071710.D

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#	ID	Update Time	Quant Time	Acquisition Time
1	0.08	Mar 07 07:22 2017	Mar 07 07:08 2017	7 Mar 2017 00:34
2	0.10	Mar 07 07:22 2017	Mar 07 07:08 2017	7 Mar 2017 1:06
3	0.20	Mar 07 07:23 2017	Mar 07 07:08 2017	7 Mar 2017 1:38
4	0.40	Mar 07 07:23 2017	Mar 07 07:14 2017	7 Mar 2017 2:10
5	1.0	Mar 07 07:23 2017	Mar 07 07:16 2017	7 Mar 2017 2:42
6	5.0	Mar 07 07:23 2017	Mar 07 07:19 2017	7 Mar 2017 3:14
7	25	Mar 07 07:24 2017	Mar 07 07:08 2017	7 Mar 2017 3:46
8	50	Mar 07 07:25 2017	Mar 07 07:08 2017	7 Mar 2017 4:17
9	100	Mar 07 07:25 2017	Mar 07 07:08 2017	7 Mar 2017 4:49

R8030717.M

Tue Mar 07 08:35:04 2017

Data File: I:\MS08\Data\2017 03\07\03071702.D

Acq On : 7 Mar 2017 00:34

Operator: WA

Sample : 0.08ng TO-15 ICAL Std

Misc : S29-01231701/S29-03021707 (3/31)

ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 07 07:08:17 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:07:50 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

WA 3/7/17

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.79	130	156682	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	10.53	114	731235	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	341820	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	283054	14.094	ng	-0.02
Spiked Amount	12.500	Range	70 - 130	Recovery	=	112.72%
57) Toluene-d8 (SS2)	12.76	98	814624	12.575	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	100.56%
73) Bromofluorobenzene (SS3)	16.07	174	262697	10.980	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	87.84%

Target Compounds

						Qvalue
2) Propene	3.93	42	1919	0.114	ng	90
3) Dichlorodifluoromethan...	4.03	85	3144	0.104	ng	# 91
4) Chloromethane	4.26	50	2409	0.111	ng	79
5) 1,2-Dichloro-1,1,2,2-t...	4.38	135	1521	0.082	ng	# 42
6) Vinyl Chloride	4.54	62	1993	0.072	ng	83
7) 1,3-Butadiene	4.70	54	1819	0.094	ng	87
8) Bromomethane	5.01	94	964	0.076	ng	93
9) Chloroethane	5.22	64	889	0.080	ng	# 43
10) Ethanol	5.42	45	7083	0.615	ng	92
11) Acetonitrile	5.67	41	4028	0.145	ng	79
12) Acrolein	5.76	56	600	0.064	ng	93
13) Acetone	5.87	58	8263	0.669	ng	90
14) Trichlorofluoromethane	6.03	101	2732	0.098	ng	96
15) 2-Propanol (Isopropanol)	6.17	45	8346	0.225	ng	96
16) Acrylonitrile	6.42	53	1394	0.072	ng	93
17) 1,1-Dichloroethene	6.69	96	1258	0.088	ng	92
18) 2-Methyl-2-Propanol (t...	6.78	59	8087	0.207	ng	96
19) Methylene Chloride	6.80	84	1858	0.118	ng	97
20) 3-Chloro-1-propene (Al...	6.92	41	2209	0.122	ng	83
21) Trichlorotrifluoroethane	7.08	151	1181	0.086	ng	93
22) Carbon Disulfide	7.08	76	8367	0.149	ng	# 73
23) trans-1,2-Dichloroethene	7.71	61	1977	0.100	ng	96
24) 1,1-Dichloroethane	7.89	63	2551	0.097	ng	93
25) Methyl tert-Butyl Ether	7.97	73	5001	0.104	ng	92
26) Vinyl Acetate	8.04	86	1451	0.329	ng	# 23
27) 2-Butanone (MEK)	8.30	72	642	0.061	ng	# 1
28) cis-1,2-Dichloroethene	8.65	61	1984	0.097	ng	100
29) Diisopropyl Ether	8.86	87	1346	0.096	ng	# 83
30) Ethyl Acetate	8.88	61	689	0.120	ng	78
31) n-Hexane	8.86	57	2732	0.101	ng	# 88
32) Chloroform	8.91	83	2685	0.100	ng	97
34) Tetrahydrofuran (THF)	9.30	72	876	0.091	ng	# 79
35) Ethyl tert-Butyl Ether	9.34	87	1941	0.097	ng	98
36) 1,2-Dichloroethane	9.59	62	2195	0.100	ng	99
38) 1,1,1-Trichloroethane	9.82	97	2488	0.102	ng	98
39) Isopropyl Acetate	10.14	61	1494	0.150	ng	# 80
40) 1-Butanol	10.19	56	1843	0.114	ng	92
41) Benzene	10.23	78	6288	0.102	ng	97
42) Carbon Tetrachloride	10.36	117	1778	0.086	ng	100
43) Cyclohexane	10.48	84	5519	0.205	ng	87
44) tert-Amyl Methyl Ether	10.76	73	4553	0.103	ng	96
45) 1,2-Dichloropropane	10.96	63	1401	0.098	ng	84
46) Bromodichloromethane	11.12	83	1698	0.085	ng	96
47) Trichloroethene	11.17	130	1536	0.089	ng	99
48) 1,4-Dioxane	11.17	88	1006	0.082	ng	# 59
49) 2,2,4-Trimethylpentane...	11.22	57	6944	0.105	ng	97

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Data File: I:\MS08\Data\2017 03\07\03071702.D

Acq On : 7 Mar 2017 00:34

Operator: WA

Sample : 0.08ng TO-15 ICAL Std

Misc : S29-01231701/S29-03021707 (3/31)

ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 07 07:08:17 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:07:50 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.35	100	529	0.078	ng	# 17
51) n-Heptane	11.45	71	1482	0.093	ng	95
52) cis-1,3-Dichloropropene	11.96	75	1883	0.077	ng	94
53) 4-Methyl-2-pentanone	12.01	58	897	0.062	ng	# 34
54) trans-1,3-Dichloropropene	12.44	75	1108	0.053	ng	# 43
55) 1,1,2-Trichloroethane	12.59	97	1303	0.091	ng	93
58) Toluene	12.86	91	6446	0.097	ng	93
59) 2-Hexanone	13.14	43	2205	0.063	ng	# 26
60) Dibromochloromethane	13.26	129	1157	0.071	ng	90
61) 1,2-Dibromoethane	13.50	107	1127	0.074	ng	95
62) n-Butyl Acetate	13.70	43	2331	0.060	ng	# 84
63) n-Octane	13.80	57	1387	0.102	ng	92
64) Tetrachloroethene	13.95	166	1581	0.083	ng	94
65) Chlorobenzene	14.61	112	4179	0.093	ng	87
66) Ethylbenzene	14.99	91	6551	0.088	ng	98
67) m- & p-Xylenes	15.18	91	11026	0.186	ng	96
68) Bromoform	15.24	173	773	0.053	ng	# 28
69) Styrene	15.54	104	3189	0.077	ng	94
70) o-Xylene	15.64	91	5600	0.093	ng	94
71) n-Nonane	15.84	43	3377	0.107	ng	94
72) 1,1,2,2-Tetrachloroethane	15.61	83	2175	0.085	ng	98
74) Cumene	16.20	105	7294	0.094	ng	98
75) alpha-Pinene	16.59	93	3432	0.086	ng	98
76) n-Propylbenzene	16.70	91	8050	0.089	ng	98
77) 3-Ethyltoluene	16.79	105	6356	0.084	ng	99
78) 4-Ethyltoluene	16.84	105	6723	0.093	ng	97
79) 1,3,5-Trimethylbenzene	16.91	105	5990	0.091	ng	96
80) alpha-Methylstyrene	17.06	118	2110	0.061	ng	# 81
81) 2-Ethyltoluene	17.09	105	6991	0.093	ng	93
82) 1,2,4-Trimethylbenzene	17.31	105	5397	0.084	ng	100
83) n-Decane	17.40	57	2927	0.089	ng	98
84) Benzyl Chloride	17.44	91	2948	0.062	ng	# 56
85) 1,3-Dichlorobenzene	17.45	146	2885	0.081	ng	99
86) 1,4-Dichlorobenzene	17.52	146	3209	0.085	ng	100
87) sec-Butylbenzene	17.56	105	7432	0.087	ng	97
88) 4-Isopropyltoluene (p-...	17.71	119	6706	0.082	ng	98
89) 1,2,3-Trimethylbenzene	17.71	105	5552	0.086	ng	94
90) 1,2-Dichlorobenzene	17.84	146	2901	0.082	ng	96
91) d-Limonene	17.85	68	1786	0.071	ng	96
92) 1,2-Dibromo-3-Chloropr...	18.26	157	659	0.053	ng	# 69
93) n-Undecane	18.60	57	2899	0.082	ng	99
94) 1,2,4-Trichlorobenzene	19.47	180	1790	0.062	ng	# 85
95) Naphthalene	19.58	128	6836	0.076	ng	88
96) n-Dodecane	19.58	57	2827	0.086	ng	94
97) Hexachlorobutadiene	19.90	225	1440	0.083	ng	99
98) Cyclohexanone	15.33	55	1986	0.090	ng	97
99) tert-Butylbenzene	17.30	119	5798	0.087	ng	98
100) n-Butylbenzene	18.12	91	5394	0.083	ng	94

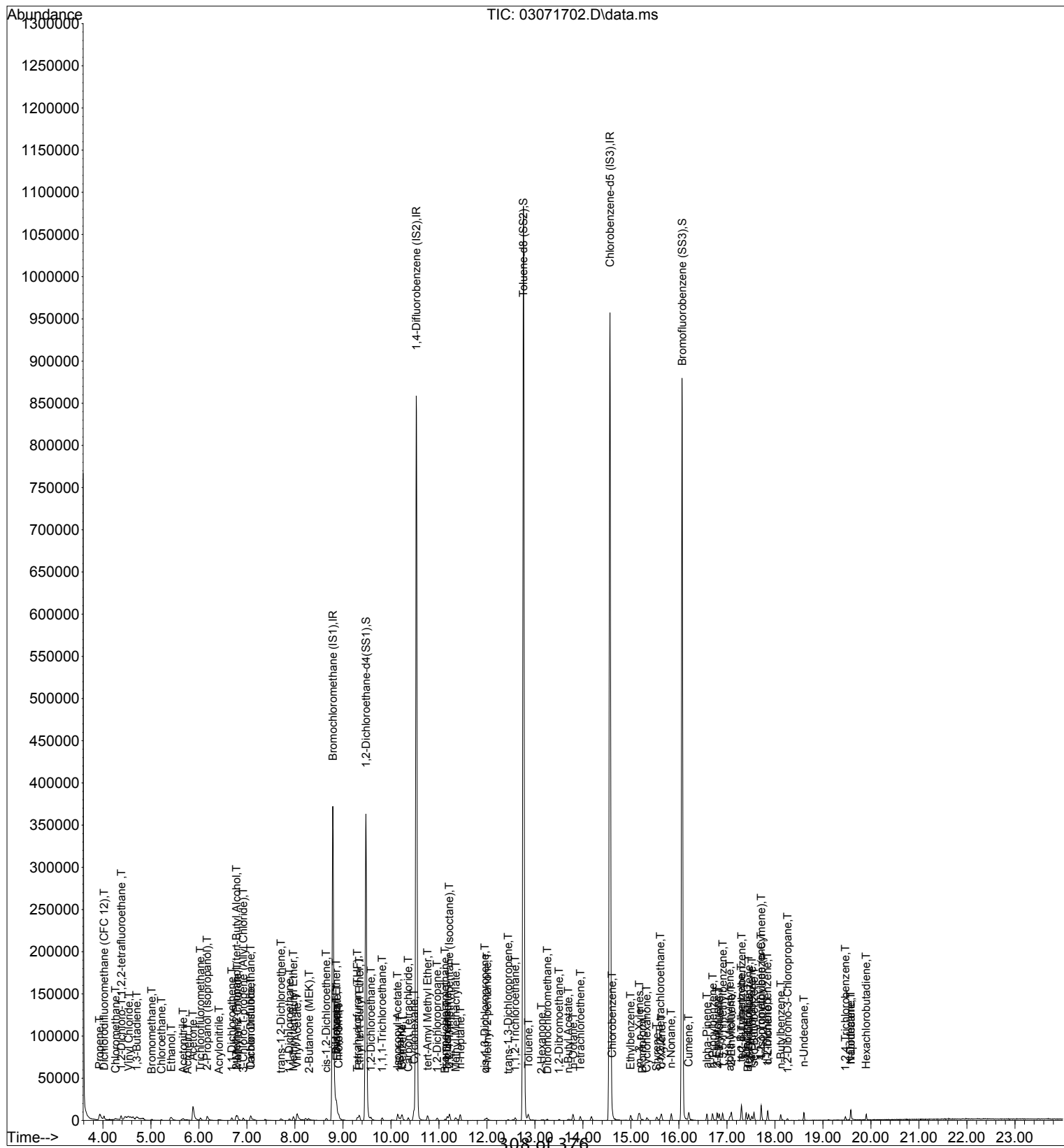
(#)=qualifier out of range (m)=manual integration (+)=signals summed

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ALS Vial      : 12      Sample Multiplier: 1

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DataAcq Meth:T015.M



Data File: I:\MS08\Data\2017 03\07\03071703.D

Acq On : 7 Mar 2017 1:06

Operator: WA

Sample : 0.10ng TO-15 ICAL Std

Misc : S29-01231701/S29-03021707 (3/31)

ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 07 07:08:18 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:07:50 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

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Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.79	130	150976	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	10.53	114	713186	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	14.56	82	333498	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	277483	14.339	ng	-0.02
Spiked Amount	12.500	Range	70 - 130	Recovery	=	114.72%
57) Toluene-d8 (SS2)	12.76	98	797144	12.612	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	100.88%
73) Bromofluorobenzene (SS3)	16.07	174	253127	10.844	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	86.72%

Target Compounds

						Qvalue
2) Propene	3.94	42	2247	0.139	ng	98
3) Dichlorodifluoromethan...	4.03	85	3575	0.122	ng	# 90
4) Chloromethane	4.27	50	2669	0.128	ng	88
5) 1,2-Dichloro-1,1,2,2-t...	4.38	135	1655	0.092	ng	98
6) Vinyl Chloride	4.55	62	2415	0.090	ng	96
7) 1,3-Butadiene	4.70	54	2039	0.110	ng	# 85
8) Bromomethane	5.01	94	1079	0.088	ng	84
9) Chloroethane	5.23	64	1110	0.103	ng	# 43
10) Ethanol	5.41	45	7101	0.640	ng	95
11) Acetonitrile	5.67	41	4330	0.162	ng	# 72
12) Acrolein	5.77	56	596	0.066	ng	83
13) Acetone	5.88	58	8935	0.750	ng	89
14) Trichlorofluoromethane	6.04	101	3251	0.121	ng	99
15) 2-Propanol (Isopropanol)	6.17	45	9461	0.265	ng	85
16) Acrylonitrile	6.42	53	1726	0.093	ng	91
17) 1,1-Dichloroethene	6.69	96	1480	0.107	ng	91
18) 2-Methyl-2-Propanol (t...	6.77	59	9183	0.244	ng	95
19) Methylene Chloride	6.81	84	1966	0.129	ng	87
20) 3-Chloro-1-propene (Al...	6.93	41	2622	0.151	ng	91
21) Trichlorotrifluoroethane	7.08	151	1461	0.111	ng	95
22) Carbon Disulfide	7.09	76	8578	0.158	ng	89
23) trans-1,2-Dichloroethene	7.70	61	2220	0.116	ng	98
24) 1,1-Dichloroethane	7.89	63	3080	0.121	ng	93
25) Methyl tert-Butyl Ether	7.97	73	5829	0.126	ng	93
26) Vinyl Acetate	8.05	86	1743	0.410	ng	# 38
27) 2-Butanone (MEK)	8.29	72	840	0.083	ng	# 19
28) cis-1,2-Dichloroethene	8.66	61	2263	0.115	ng	98
29) Diisopropyl Ether	8.87	87	1446	0.107	ng	97
30) Ethyl Acetate	8.87	61	658	0.119	ng	80
31) n-Hexane	8.86	57	3038	0.116	ng	98
32) Chloroform	8.91	83	3051	0.118	ng	97
34) Tetrahydrofuran (THF)	9.30	72	985	0.106	ng	# 67
35) Ethyl tert-Butyl Ether	9.34	87	2266	0.118	ng	99
36) 1,2-Dichloroethane	9.58	62	2725	0.129	ng	93
38) 1,1,1-Trichloroethane	9.82	97	2835	0.119	ng	99
39) Isopropyl Acetate	10.14	61	1942	0.200	ng	96
40) 1-Butanol	10.19	56	2259	0.143	ng	84
41) Benzene	10.23	78	7116	0.118	ng	95
42) Carbon Tetrachloride	10.37	117	2190	0.108	ng	99
43) Cyclohexane	10.48	84	6409	0.244	ng	84
44) tert-Amyl Methyl Ether	10.76	73	5067	0.118	ng	94
45) 1,2-Dichloropropane	10.96	63	1748	0.125	ng	86
46) Bromodichloromethane	11.13	83	2077	0.106	ng	100
47) Trichloroethene	11.17	130	1683	0.100	ng	99
48) 1,4-Dioxane	11.17	88	1238	0.104	ng	# 73
49) 2,2,4-Trimethylpentane...	11.22	57	8101	0.125	ng	99

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Data File: I:\MS08\Data\2017 03\07\03071703.D

Acq On : 7 Mar 2017 1:06

Operator: WA

Sample : 0.10ng TO-15 ICAL Std

Misc : S29-01231701/S29-03021707 (3/31)

ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 07 07:08:18 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:07:50 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.35	100	702	0.106	ng	# 69
51) n-Heptane	11.45	71	1791	0.115	ng	99
52) cis-1,3-Dichloropropene	11.96	75	2110	0.088	ng	92
53) 4-Methyl-2-pentanone	12.00	58	1034	0.073	ng	# 44
54) trans-1,3-Dichloropropene	12.44	75	1365	0.067	ng	# 43
55) 1,1,2-Trichloroethane	12.59	97	1478	0.105	ng	90
58) Toluene	12.86	91	7211	0.111	ng	98
59) 2-Hexanone	13.15	43	2298	0.067	ng	# 66
60) Dibromochloromethane	13.26	129	1370	0.086	ng	95
61) 1,2-Dibromoethane	13.50	107	1342	0.090	ng	97
62) n-Butyl Acetate	13.71	43	2681	0.071	ng	# 86
63) n-Octane	13.80	57	1479	0.112	ng	98
64) Tetrachloroethene	13.95	166	1896	0.102	ng	94
65) Chlorobenzene	14.61	112	4710	0.107	ng	97
66) Ethylbenzene	14.99	91	7508	0.104	ng	98
67) m- & p-Xylenes	15.16	91	12561	0.217	ng	97
68) Bromoform	15.24	173	952	0.067	ng	# 28
69) Styrene	15.54	104	3654	0.090	ng	94
70) o-Xylene	15.63	91	6100	0.103	ng	100
71) n-Nonane	15.84	43	3679	0.119	ng	99
72) 1,1,2,2-Tetrachloroethane	15.61	83	2466	0.099	ng	100
74) Cumene	16.21	105	8045	0.107	ng	97
75) alpha-Pinene	16.59	93	3896	0.101	ng	99
76) n-Propylbenzene	16.70	91	9345	0.105	ng	95
77) 3-Ethyltoluene	16.80	105	7227	0.098	ng	96
78) 4-Ethyltoluene	16.84	105	7044	0.100	ng	99
79) 1,3,5-Trimethylbenzene	16.91	105	6878	0.107	ng	97
80) alpha-Methylstyrene	17.06	118	2472	0.073	ng	94
81) 2-Ethyltoluene	17.09	105	7661	0.104	ng	99
82) 1,2,4-Trimethylbenzene	17.31	105	6243	0.100	ng	99
83) n-Decane	17.40	57	3548	0.111	ng	95
84) Benzyl Chloride	17.44	91	2906	0.062	ng	88
85) 1,3-Dichlorobenzene	17.46	146	3559	0.102	ng	91
86) 1,4-Dichlorobenzene	17.52	146	3591	0.097	ng	94
87) sec-Butylbenzene	17.56	105	8449	0.101	ng	98
88) 4-Isopropyltoluene (p-...	17.71	119	7663	0.096	ng	98
89) 1,2,3-Trimethylbenzene	17.71	105	6154	0.098	ng	96
90) 1,2-Dichlorobenzene	17.84	146	3274	0.095	ng	99
91) d-Limonene	17.85	68	1907	0.078	ng	97
92) 1,2-Dibromo-3-Chloropr...	18.26	157	693	0.057	ng	# 57
93) n-Undecane	18.60	57	3074	0.089	ng	97
94) 1,2,4-Trichlorobenzene	19.47	180	1947	0.069	ng	# 96
95) Naphthalene	19.59	128	5889	0.067	ng	# 71
96) n-Dodecane	19.58	57	2545	0.080	ng	96
97) Hexachlorobutadiene	19.90	225	1518	0.089	ng	99
98) Cyclohexanone	15.33	55	2023	0.094	ng	98
99) tert-Butylbenzene	17.30	119	6492	0.100	ng	97
100) n-Butylbenzene	18.12	91	5973	0.094	ng	95

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

Data File: I:\MS08\Data\2017 03\07\03071704.D

Acq On : 7 Mar 2017 1:38

Operator: WA

Sample : 0.20ng TO-15 ICAL Std

Misc : S29-01231701/S29-03021707 (3/31)

ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 07 07:08:20 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:07:50 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

3/7/17

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.79	130	146868	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	10.53	114	700425	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	14.56	82	328409	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	273058	14.505	ng	-0.02
Spiked Amount	12.500	Range	70 - 130	Recovery	=	116.00%
57) Toluene-d8 (SS2)	12.76	98	777420	12.491	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	99.92%
73) Bromofluorobenzene (SS3)	16.07	174	250906	10.916	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	87.36%

Target Compounds

						Qvalue
2) Propene	3.93	42	3470	0.220	ng	92
3) Dichlorodifluoromethan...	4.03	85	6296	0.222	ng	# 95
4) Chloromethane	4.25	50	4732	0.233	ng	89
5) 1,2-Dichloro-1,1,2,2-t...	4.38	135	3305	0.190	ng	96
6) Vinyl Chloride	4.53	62	4773	0.183	ng	97
7) 1,3-Butadiene	4.70	54	3755	0.208	ng	94
8) Bromomethane	5.00	94	2442	0.205	ng	98
9) Chloroethane	5.21	64	2124	0.203	ng	96
10) Ethanol	5.40	45	12680	1.175	ng	94
11) Acetonitrile	5.66	41	7349	0.282	ng	83
12) Acrolein	5.76	56	1324	0.152	ng	100
13) Acetone	5.87	58	14819	1.279	ng	92
14) Trichlorofluoromethane	6.03	101	5773	0.220	ng	99
15) 2-Propanol (Isopropanol)	6.15	45	17291	0.498	ng	90
16) Acrylonitrile	6.37	53	3614	0.200	ng	96
17) 1,1-Dichloroethene	6.69	96	2860	0.213	ng	98
18) 2-Methyl-2-Propanol (t...	6.76	59	16909	0.462	ng	97
19) Methylene Chloride	6.80	84	3258	0.220	ng	96
20) 3-Chloro-1-propene (Al...	6.92	41	5063	0.299	ng	93
21) Trichlorotrifluoroethane	7.08	151	2616	0.203	ng	97
22) Carbon Disulfide	7.08	76	13347	0.253	ng	91
23) trans-1,2-Dichloroethene	7.70	61	4521	0.243	ng	93
24) 1,1-Dichloroethane	7.89	63	5280	0.213	ng	99
25) Methyl tert-Butyl Ether	7.96	73	9991	0.223	ng	95
26) Vinyl Acetate	8.04	86	3528	0.854	ng	# 75
27) 2-Butanone (MEK)	8.27	72	1844	0.187	ng	# 89
28) cis-1,2-Dichloroethene	8.65	61	4327	0.226	ng	100
29) Diisopropyl Ether	8.86	87	2673	0.203	ng	# 96
30) Ethyl Acetate	8.87	61	1746	0.324	ng	94
31) n-Hexane	8.86	57	5315	0.209	ng	97
32) Chloroform	8.91	83	5367	0.214	ng	99
34) Tetrahydrofuran (THF)	9.30	72	1930	0.213	ng	# 83
35) Ethyl tert-Butyl Ether	9.34	87	4068	0.218	ng	98
36) 1,2-Dichloroethane	9.59	62	4706	0.229	ng	100
38) 1,1,1-Trichloroethane	9.82	97	5103	0.218	ng	99
39) Isopropyl Acetate	10.13	61	3520	0.369	ng	98
40) 1-Butanol	10.17	56	4508	0.290	ng	# 51
41) Benzene	10.23	78	12321	0.209	ng	96
42) Carbon Tetrachloride	10.37	117	4065	0.205	ng	100
43) Cyclohexane	10.48	84	10721	0.416	ng	96
44) tert-Amyl Methyl Ether	10.76	73	9142	0.216	ng	95
45) 1,2-Dichloropropane	10.96	63	2855	0.208	ng	96
46) Bromodichloromethane	11.12	83	3813	0.199	ng	99
47) Trichloroethene	11.17	130	3220	0.195	ng	95
48) 1,4-Dioxane	11.17	88	2166	0.185	ng	86
49) 2,2,4-Trimethylpentane...	11.22	57	14328	0.226	ng	98

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Data File: I:\MS08\Data\2017 03\07\03071704.D

Acq On : 7 Mar 2017 1:38

Operator: WA

Sample : 0.20ng TO-15 ICAL Std

Misc : S29-01231701/S29-03021707 (3/31)

ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 07 07:08:20 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:07:50 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.33	100	1694	0.261	ng	# 82
51) n-Heptane	11.44	71	3163	0.206	ng	98
52) cis-1,3-Dichloropropene	11.95	75	4288	0.182	ng	96
53) 4-Methyl-2-pentanone	11.98	58	2164	0.157	ng	# 68
54) trans-1,3-Dichloropropene	12.43	75	2917	0.146	ng	94
55) 1,1,2-Trichloroethane	12.59	97	2732	0.198	ng	97
58) Toluene	12.86	91	12640	0.197	ng	97
59) 2-Hexanone	13.10	43	5262	0.156	ng	85
60) Dibromochloromethane	13.25	129	2676	0.171	ng	98
61) 1,2-Dibromoethane	13.50	107	2755	0.187	ng	98
62) n-Butyl Acetate	13.69	43	5929	0.160	ng	92
63) n-Octane	13.79	57	2790	0.214	ng	98
64) Tetrachloroethene	13.94	166	3374	0.183	ng	95
65) Chlorobenzene	14.61	112	8154	0.188	ng	96
66) Ethylbenzene	14.99	91	13949	0.195	ng	95
67) m- & p-Xylenes	15.18	91	22217	0.390	ng	98
68) Bromoform	15.24	173	1770	0.127	ng	98
69) Styrene	15.53	104	6854	0.172	ng	98
70) o-Xylene	15.63	91	11155	0.192	ng	100
71) n-Nonane	15.84	43	6749	0.222	ng	96
72) 1,1,2,2-Tetrachloroethane	15.61	83	4520	0.184	ng	98
74) Cumene	16.20	105	14219	0.191	ng	99
75) alpha-Pinene	16.58	93	6976	0.183	ng	95
76) n-Propylbenzene	16.70	91	16524	0.189	ng	99
77) 3-Ethyltoluene	16.79	105	13478	0.186	ng	96
78) 4-Ethyltoluene	16.83	105	12731	0.184	ng	96
79) 1,3,5-Trimethylbenzene	16.91	105	12017	0.190	ng	99
80) alpha-Methylstyrene	17.06	118	4849	0.146	ng	89
81) 2-Ethyltoluene	17.09	105	14082	0.194	ng	100
82) 1,2,4-Trimethylbenzene	17.30	105	11133	0.180	ng	98
83) n-Decane	17.40	57	6417	0.203	ng	99
84) Benzyl Chloride	17.43	91	5657	0.123	ng	93
85) 1,3-Dichlorobenzene	17.45	146	5993	0.174	ng	96
86) 1,4-Dichlorobenzene	17.52	146	6119	0.168	ng	98
87) sec-Butylbenzene	17.56	105	15410	0.187	ng	97
88) 4-Isopropyltoluene (p-...	17.71	119	13731	0.174	ng	100
89) 1,2,3-Trimethylbenzene	17.71	105	11153	0.180	ng	100
90) 1,2-Dichlorobenzene	17.84	146	5947	0.175	ng	97
91) d-Limonene	17.85	68	3798	0.158	ng	99
92) 1,2-Dibromo-3-Chloropr...	18.26	157	1471	0.122	ng	# 69
93) n-Undecane	18.60	57	6027	0.177	ng	97
94) 1,2,4-Trichlorobenzene	19.47	180	3376	0.122	ng	98
95) Naphthalene	19.58	128	10459	0.121	ng	90
96) n-Dodecane	19.58	57	4758	0.151	ng	98
97) Hexachlorobutadiene	19.90	225	2925	0.175	ng	95
98) Cyclohexanone	15.33	55	3584	0.170	ng	96
99) tert-Butylbenzene	17.30	119	11903	0.187	ng	97
100) n-Butylbenzene	18.12	91	11554	0.186	ng	96

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

Data File: I:\MS08\Data\2017 03\07\03071704.D

Acq On : 7 Mar 2017 1:38

Operator: WA

Sample : 0.20ng TO-15 ICAL Std

Misc : S29-01231701/S29-03021707 (3/31)

ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 07 07:08:20 2017

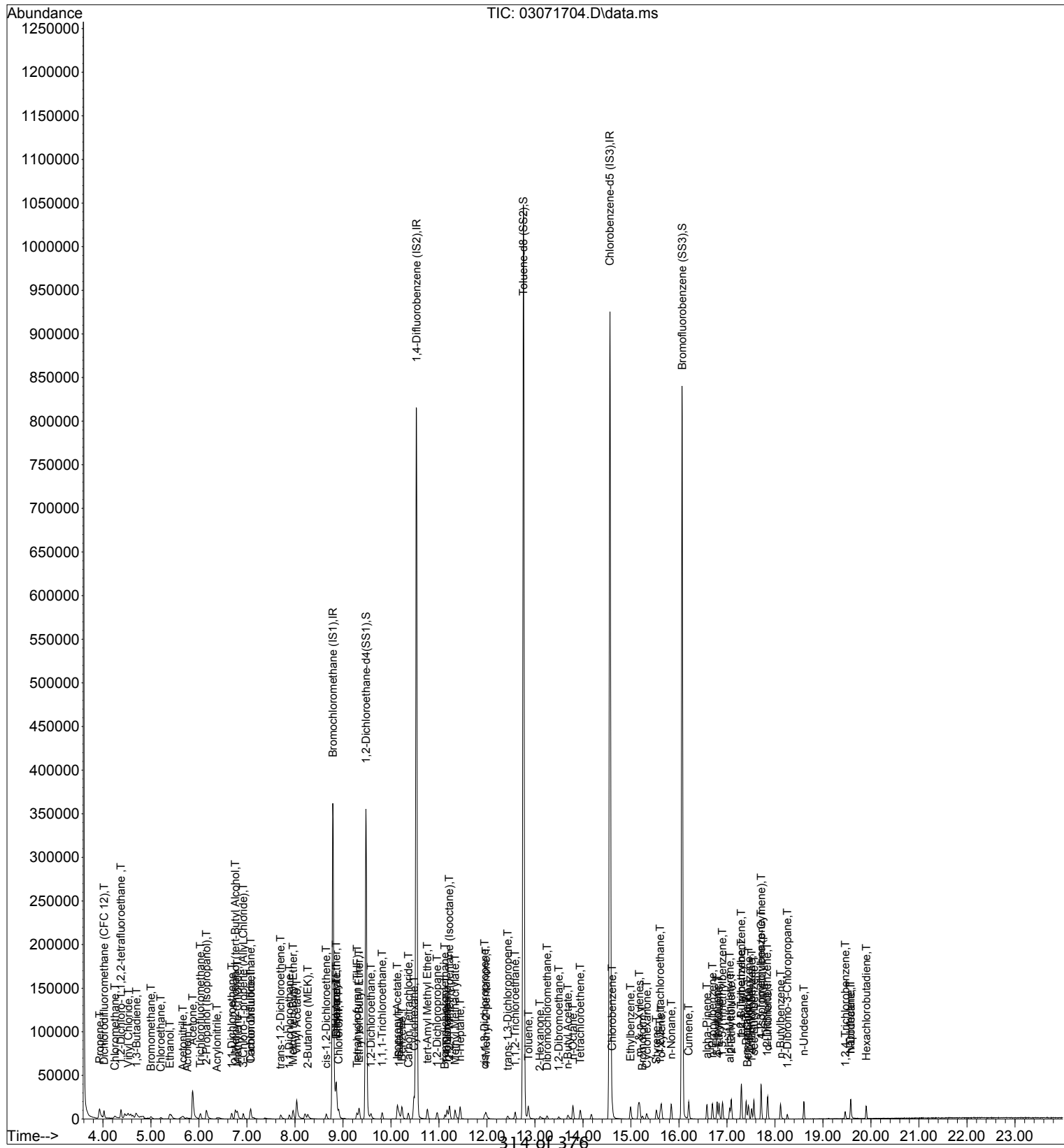
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:07:50 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M



Data File: I:\MS08\Data\2017 03\07\03071705.D

Acq On : 7 Mar 2017 2:10

Operator: WA

Sample : 0.40ng TO-15 ICAL Std

Misc : S29-01231701/S29-03021707 (3/31)

ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 07 07:14:05 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:07:50 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

3/7/17

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.79	130	157271	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	10.53	114	749796	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	14.56	82	350644	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	291928	14.482	ng	-0.02
Spiked Amount	12.500	Range	70 - 130	Recovery	=	115.84%
57) Toluene-d8 (SS2)	12.76	98	832954	12.534	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	100.24%
73) Bromofluorobenzene (SS3)	16.07	174	268382	10.936	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	87.52%

Target Compounds

						Qvalue
2) Propene	3.92	42	6583	0.390	ng	97
3) Dichlorodifluoromethan...	4.01	85	12471	0.410	ng	98
4) Chloromethane	4.23	50	9141	0.420	ng	94
5) 1,2-Dichloro-1,1,2,2-t...	4.37	135	6181	0.331	ng	95
6) Vinyl Chloride	4.51	62	9520	0.341	ng	98
7) 1,3-Butadiene	4.68	54	7303	0.378	ng	96
8) Bromomethane	4.99	94	5072	0.397	ng	93
9) Chloroethane	5.20	64	4200	0.375	ng	100
10) Ethanol	5.38	45	22800	1.973	ng	99
11) Acetonitrile	5.66	41	13153	0.472	ng	92
12) Acrolein	5.74	56	3763m	0.403	ng	
13) Acetone	5.86	58	25748	2.075	ng	89
14) Trichlorofluoromethane	6.02	101	11049	0.394	ng	100
15) 2-Propanol (Isopropanol)	6.14	45	33424	0.899	ng	92
16) Acrylonitrile	6.36	53	7594	0.392	ng	97
17) 1,1-Dichloroethene	6.68	96	5317	0.369	ng	93
18) 2-Methyl-2-Propanol (t...	6.74	59	33449	0.853	ng	97
19) Methylene Chloride	6.79	84	6089	0.384	ng	94
20) 3-Chloro-1-propene (Al...	6.92	41	9739	0.537	ng	96
21) Trichlorotrifluoroethane	7.07	151	5149	0.374	ng	98
22) Carbon Disulfide	7.07	76	22774	0.404	ng	94
23) trans-1,2-Dichloroethene	7.70	61	8814	0.443	ng	96
24) 1,1-Dichloroethane	7.88	63	10423	0.393	ng	99
25) Methyl tert-Butyl Ether	7.95	73	19532	0.406	ng	95
26) Vinyl Acetate	8.03	86	7434	1.681	ng	# 84
27) 2-Butanone (MEK)	8.26	72	3695	0.349	ng	# 83
28) cis-1,2-Dichloroethene	8.65	61	8579	0.419	ng	98
29) Diisopropyl Ether	8.85	87	5257	0.373	ng	# 97
30) Ethyl Acetate	8.86	61	4002	0.694	ng	98
31) n-Hexane	8.86	57	10442	0.384	ng	98
32) Chloroform	8.91	83	10748	0.400	ng	99
34) Tetrahydrofuran (THF)	9.28	72	3883	0.400	ng	# 90
35) Ethyl tert-Butyl Ether	9.33	87	7818	0.391	ng	99
36) 1,2-Dichloroethane	9.58	62	9180	0.417	ng	99
38) 1,1,1-Trichloroethane	9.82	97	9804	0.390	ng	97
39) Isopropyl Acetate	10.13	61	6888	0.674	ng	97
40) 1-Butanol	10.16	56	10081	0.606	ng	# 76
41) Benzene	10.23	78	23202	0.367	ng	100
42) Carbon Tetrachloride	10.36	117	8011	0.377	ng	99
43) Cyclohexane	10.48	84	20300	0.735	ng	97
44) tert-Amyl Methyl Ether	10.75	73	17526	0.387	ng	96
45) 1,2-Dichloropropane	10.96	63	5952	0.405	ng	95
46) Bromodichloromethane	11.12	83	7629	0.372	ng	98
47) Trichloroethene	11.17	130	6312	0.356	ng	96
48) 1,4-Dioxane	11.16	88	4467	0.356	ng	95
49) 2,2,4-Trimethylpentane...	11.22	57	27254	0.401	ng	97

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Data File: I:\MS08\Data\2017 03\07\03071705.D

Acq On : 7 Mar 2017 2:10

Operator: WA

Sample : 0.40ng TO-15 ICAL Std

Misc : S29-01231701/S29-03021707 (3/31)

ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 07 07:14:05 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:07:50 2017

Response via : Initial Calibration

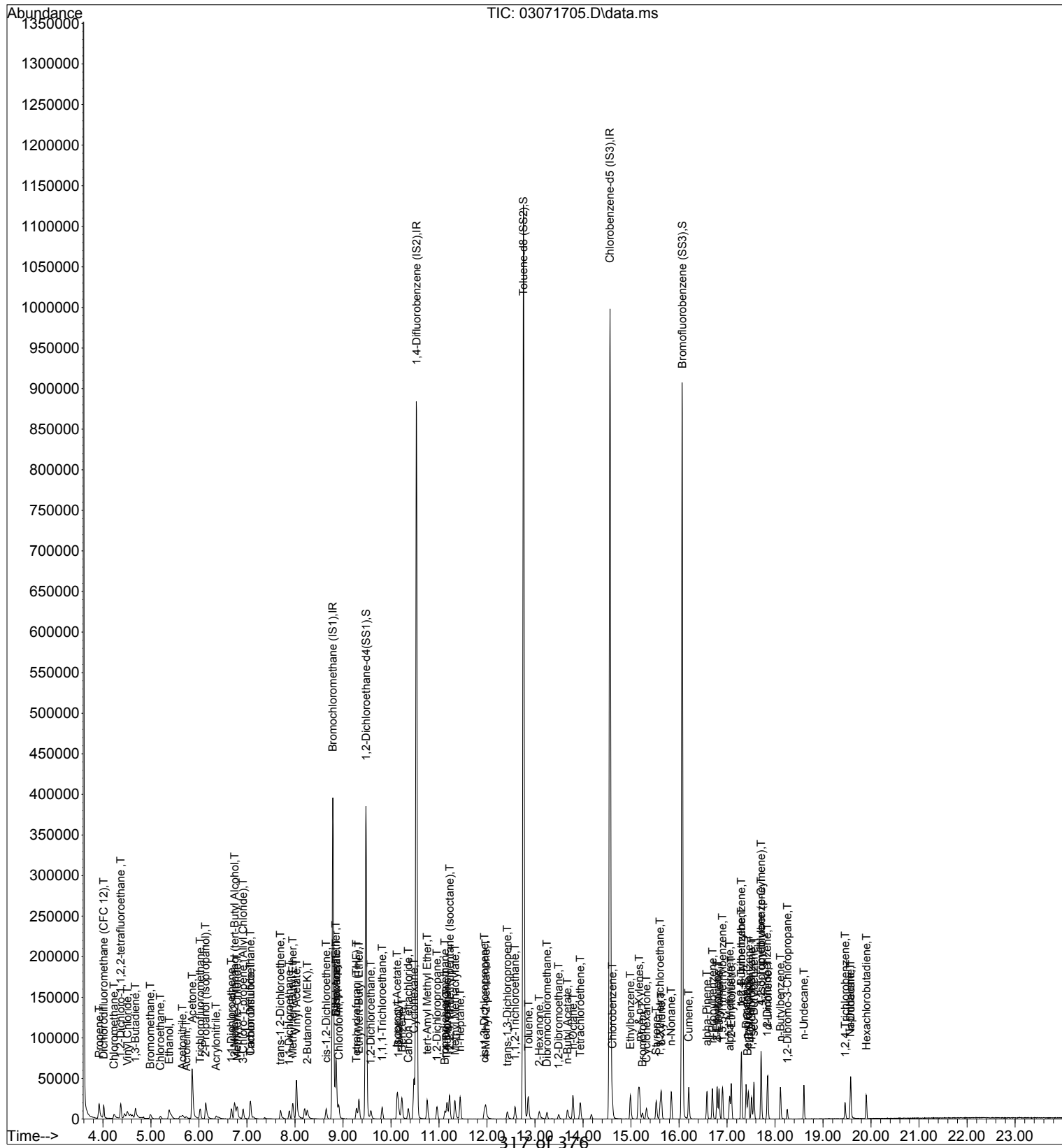
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.33	100	3873	0.558	ng	92
51) n-Heptane	11.44	71	6451	0.393	ng	97
52) cis-1,3-Dichloropropene	11.95	75	8464	0.336	ng	97
53) 4-Methyl-2-pentanone	11.97	58	5044	0.341	ng	90
54) trans-1,3-Dichloropropene	12.43	75	7233	0.337	ng	97
55) 1,1,2-Trichloroethane	12.58	97	5431	0.368	ng	100
58) Toluene	12.86	91	24301	0.356	ng	98
59) 2-Hexanone	13.09	43	11486	0.320	ng	96
60) Dibromochloromethane	13.25	129	5519	0.330	ng	97
61) 1,2-Dibromoethane	13.49	107	5605	0.357	ng	99
62) n-Butyl Acetate	13.67	43	12388	0.313	ng	96
63) n-Octane	13.79	57	5358	0.385	ng	98
64) Tetrachloroethene	13.94	166	6637	0.338	ng	100
65) Chlorobenzene	14.61	112	15839	0.343	ng	95
66) Ethylbenzene	14.99	91	26699	0.350	ng	100
67) m- & p-Xylenes	15.17	91	43500	0.714	ng	97
68) Bromoform	15.24	173	3688	0.248	ng	98
69) Styrene	15.52	104	13711	0.323	ng	99
70) o-Xylene	15.63	91	21830	0.352	ng	99
71) n-Nonane	15.84	43	13339	0.410	ng	98
72) 1,1,2,2-Tetrachloroethane	15.61	83	9322	0.356	ng	100
74) Cumene	16.20	105	27718	0.349	ng	99
75) alpha-Pinene	16.58	93	13915	0.342	ng	95
76) n-Propylbenzene	16.70	91	32827	0.352	ng	100
77) 3-Ethyltoluene	16.79	105	27441	0.355	ng	96
78) 4-Ethyltoluene	16.83	105	24087	0.326	ng	96
79) 1,3,5-Trimethylbenzene	16.91	105	23257	0.345	ng	98
80) alpha-Methylstyrene	17.06	118	9655	0.272	ng	96
81) 2-Ethyltoluene	17.09	105	27536	0.355	ng	99
82) 1,2,4-Trimethylbenzene	17.30	105	22706	0.345	ng	99
83) n-Decane	17.40	57	13000	0.385	ng	99
84) Benzyl Chloride	17.43	91	11975	0.244	ng	98
85) 1,3-Dichlorobenzene	17.45	146	12472	0.340	ng	97
86) 1,4-Dichlorobenzene	17.51	146	12685	0.327	ng	95
87) sec-Butylbenzene	17.56	105	31327	0.357	ng	99
88) 4-Isopropyltoluene (p-...	17.71	119	27912	0.332	ng	99
89) 1,2,3-Trimethylbenzene	17.71	105	22722	0.343	ng	98
90) 1,2-Dichlorobenzene	17.84	146	11874	0.327	ng	100
91) d-Limonene	17.85	68	7683	0.299	ng	97
92) 1,2-Dibromo-3-Chloropr...	18.26	157	3138	0.244	ng	# 78
93) n-Undecane	18.60	57	11777	0.324	ng	99
94) 1,2,4-Trichlorobenzene	19.46	180	6833	0.232	ng	93
95) Naphthalene	19.57	128	21818	0.237	ng	94
96) n-Dodecane	19.58	57	10034	0.299	ng	100
97) Hexachlorobutadiene	19.90	225	5630	0.315	ng	98
98) Cyclohexanone	15.32	55	7206	0.320	ng	96
99) tert-Butylbenzene	17.30	119	23595	0.347	ng	98
100) n-Butylbenzene	18.11	91	22999	0.346	ng	99

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

ALS Vial : 12 Sample Multiplier: 1

DataAcq Meth:T015.M



Data File: I:\MS08\Data\2017 03\07\03071705.D

Acq On : 7 Mar 2017 2:10

Operator: WA

Sample : 0.40ng TO-15 ICAL Std

Misc : S29-01231701/S29-03021707 (3/31)

ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 07 07:08:22 2017

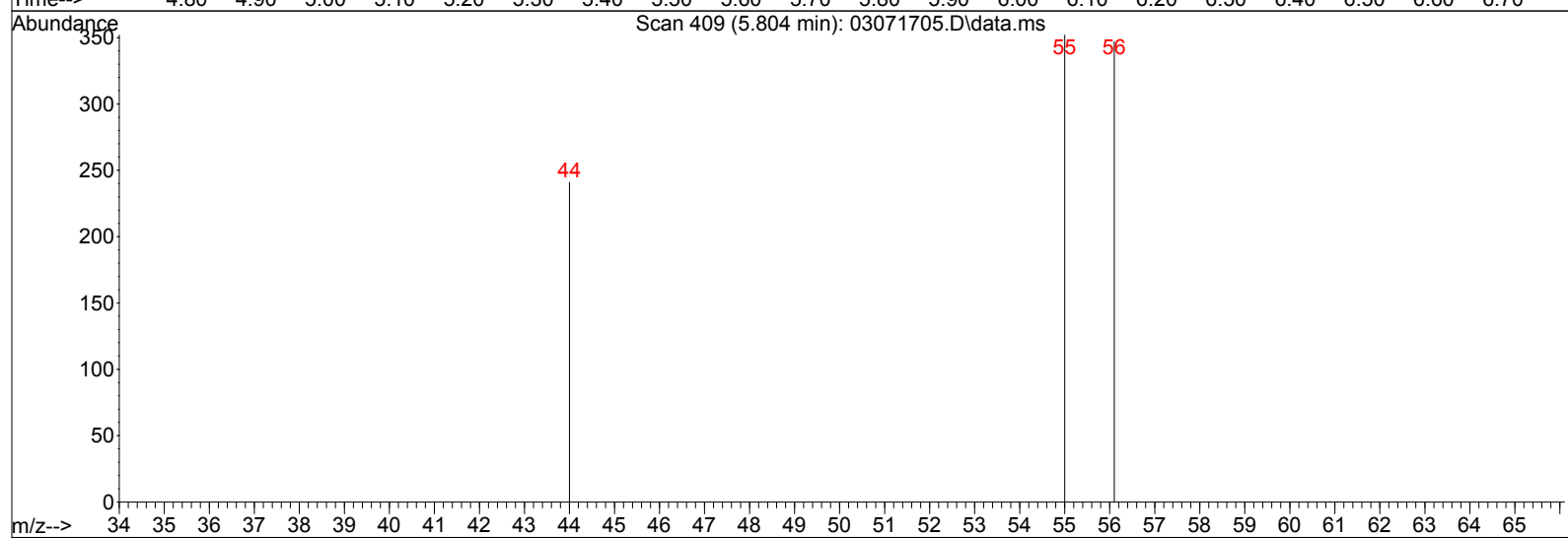
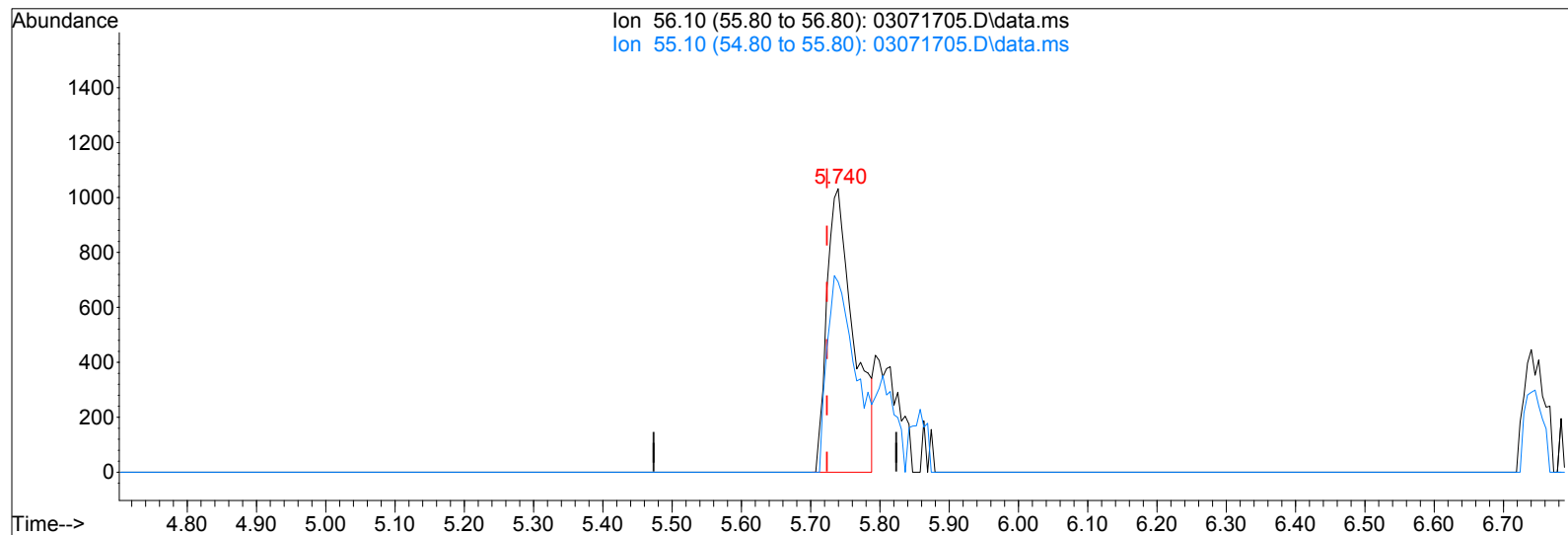
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:07:50 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M



TIC: 03071705.D\data.ms

(12) Acrolein (T)

5.740min (+0.016) 0.30ng

response 2781

Ion	Exp%	Act%
56.10	100	100
55.10	70.40	72.96
0.00	0.00	0.00
0.00	0.00	0.00

Data File: I:\MS08\Data\2017 03\07\03071705.D

Acq On : 7 Mar 2017 2:10

Operator: WA

Sample : 0.40ng TO-15 ICAL Std

Misc : S29-01231701/S29-03021707 (3/31)

ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 07 07:08:22 2017

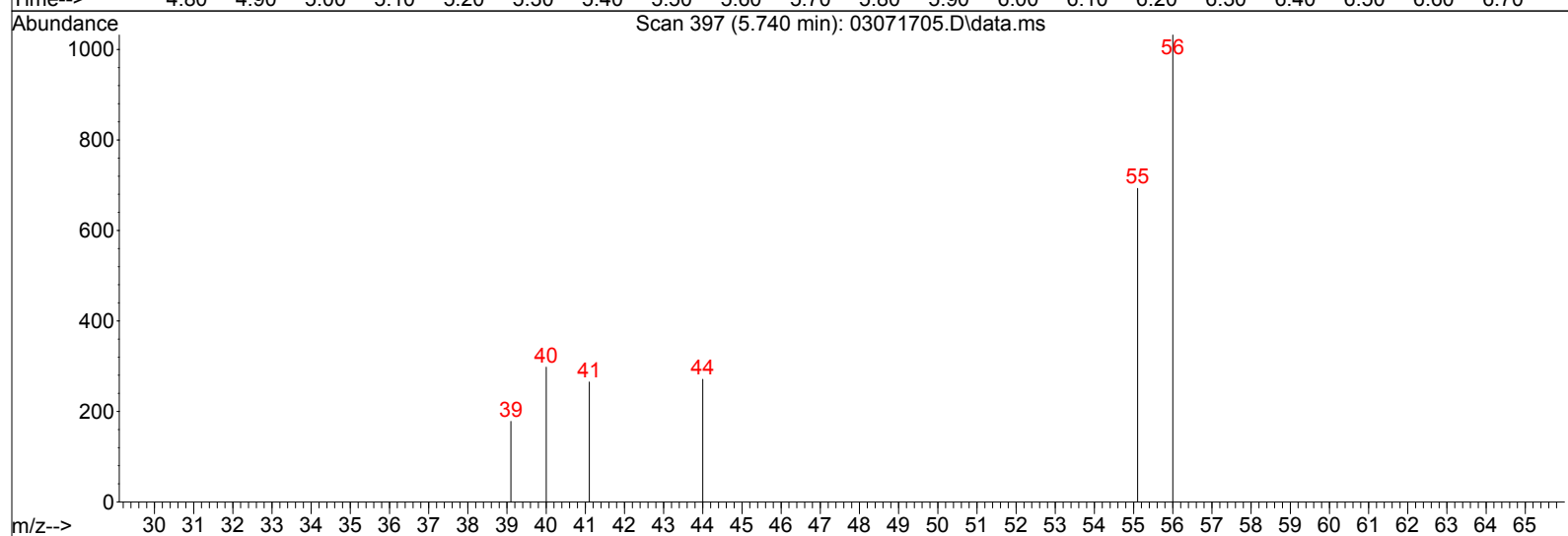
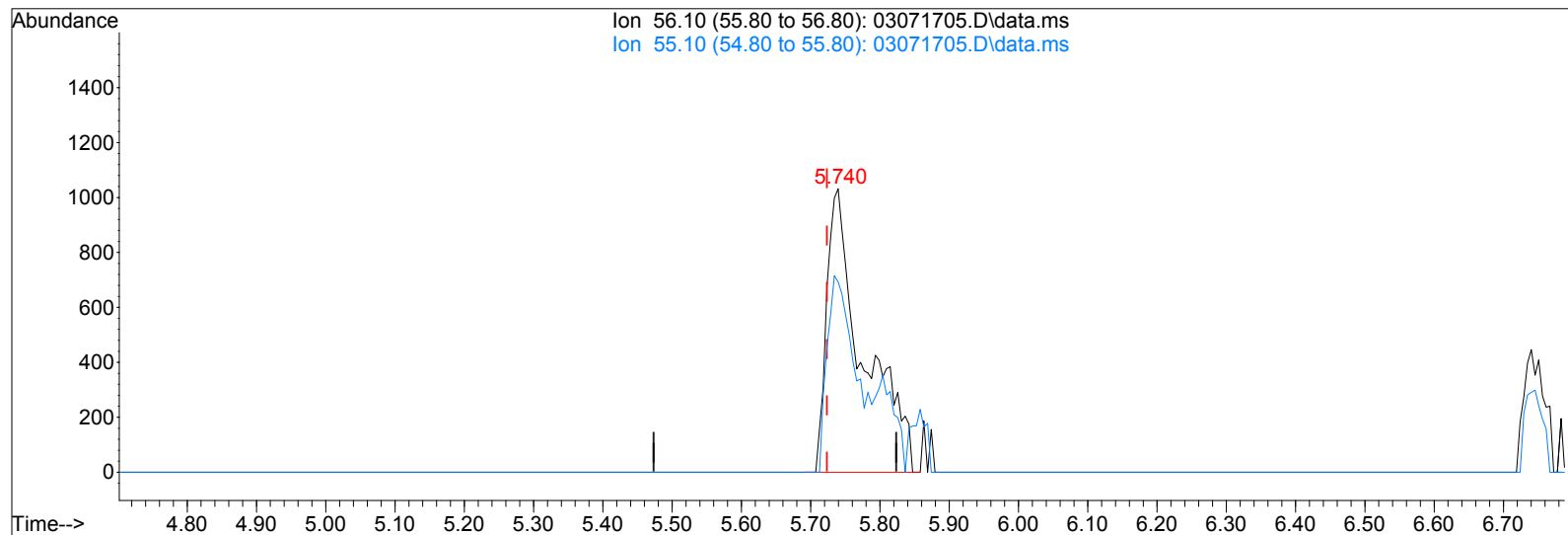
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:07:50 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M



TIC: 03071705.D\data.ms

(12) Acrolein (T)

5.740min (+0.016) 0.40ng m

response 3763

SP

Ion	Exp%	Act%
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56.10	100	100
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55.10	70.40	53.92
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0.00	0.00	0.00
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0.00	0.00	0.00
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3/7/17

3/7/17

Data File: I:\MS08\Data\2017 03\07\03071706.D

Acq On : 7 Mar 2017 2:42

Operator: WA

Sample : 1.0ng TO-15 ICAL Std

Misc : S29-01231701/S29-03021706 (3/31)

ALS Vial : 16 Sample Multiplier: 1

Quant Time: Mar 07 07:16:18 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:07:50 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

WA 3/7/17

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.79	130	147535	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	10.53	114	676554	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	325704	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	265774	14.054	ng	-0.02
Spiked Amount	12.500	Range	70 - 130	Recovery	=	112.40%
57) Toluene-d8 (SS2)	12.76	98	755774	12.244	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	97.92%
73) Bromofluorobenzene (SS3)	16.06	174	250280	10.979	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	87.84%

Target Compounds

						Qvalue
2) Propene	3.90	42	17029	1.076	ng	98
3) Dichlorodifluoromethan...	4.00	85	31936	1.119	ng	99
4) Chloromethane	4.21	50	23462	1.150	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.36	135	15749	0.900	ng	99
6) Vinyl Chloride	4.49	62	25686	0.981	ng	98
7) 1,3-Butadiene	4.66	54	20553	1.133	ng	98
8) Bromomethane	4.98	94	12724	1.061	ng	99
9) Chloroethane	5.18	64	11304	1.076	ng	100
10) Ethanol	5.37	45	62923	5.804	ng	98
11) Acetonitrile	5.59	41	32375	1.238	ng	95
12) Acrolein	5.72	56	9046m	1.032	ng	
13) Acetone	5.85	58	64699	5.559	ng	92
14) Trichlorofluoromethane	6.01	101	27861	1.059	ng	99
15) 2-Propanol (Isopropanol)	6.13	45	88285	2.531	ng	93
16) Acrylonitrile	6.34	53	20328	1.120	ng	99
17) 1,1-Dichloroethene	6.67	96	14095	1.044	ng	93
18) 2-Methyl-2-Propanol (t...	6.73	59	88458	2.405	ng	97
19) Methylene Chloride	6.79	84	15678	1.055	ng	99
20) 3-Chloro-1-propene (Al...	6.91	41	26382	1.550	ng	96
21) Trichlorotrifluoroethane	7.06	151	12957	1.003	ng	99
22) Carbon Disulfide	7.06	76	56165	1.062	ng	99
23) trans-1,2-Dichloroethene	7.69	61	23292	1.248	ng	98
24) 1,1-Dichloroethane	7.88	63	27189	1.094	ng	100
25) Methyl tert-Butyl Ether	7.95	73	49903	1.107	ng	97
26) Vinyl Acetate	8.03	86	20777	5.007	ng	98
27) 2-Butanone (MEK)	8.25	72	10403	1.048	ng	98
28) cis-1,2-Dichloroethene	8.64	61	22268	1.159	ng	100
29) Diisopropyl Ether	8.84	87	13319	1.008	ng	96
30) Ethyl Acetate	8.85	61	10747	1.986	ng	97
31) n-Hexane	8.85	57	26390	1.035	ng	99
32) Chloroform	8.91	83	27885	1.105	ng	99
34) Tetrahydrofuran (THF)	9.27	72	10273	1.128	ng	# 88
35) Ethyl tert-Butyl Ether	9.33	87	20483	1.092	ng	98
36) 1,2-Dichloroethane	9.58	62	23682	1.146	ng	99
38) 1,1,1-Trichloroethane	9.81	97	26064	1.150	ng	99
39) Isopropyl Acetate	10.12	61	18486	2.005	ng	98
40) 1-Butanol	10.14	56	32181	2.143	ng	84
41) Benzene	10.22	78	58913	1.033	ng	99
42) Carbon Tetrachloride	10.36	117	20782	1.083	ng	99
43) Cyclohexane	10.48	84	51359	2.061	ng	97
44) tert-Amyl Methyl Ether	10.75	73	45882	1.123	ng	98
45) 1,2-Dichloropropane	10.96	63	14839	1.119	ng	98
46) Bromodichloromethane	11.12	83	20405	1.102	ng	99
47) Trichloroethene	11.17	130	15855	0.992	ng	100
48) 1,4-Dioxane	11.15	88	13070	1.155	ng	95
49) 2,2,4-Trimethylpentane...	11.22	57	69687	1.136	ng	97

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Data File: I:\MS08\Data\2017 03\07\03071706.D

Acq On : 7 Mar 2017 2:42

Operator: WA

Sample : 1.0ng TO-15 ICAL Std

Misc : S29-01231701/S29-03021706 (3/31)

ALS Vial : 16 Sample Multiplier: 1

Quant Time: Mar 07 07:16:18 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:07:50 2017

Response via : Initial Calibration

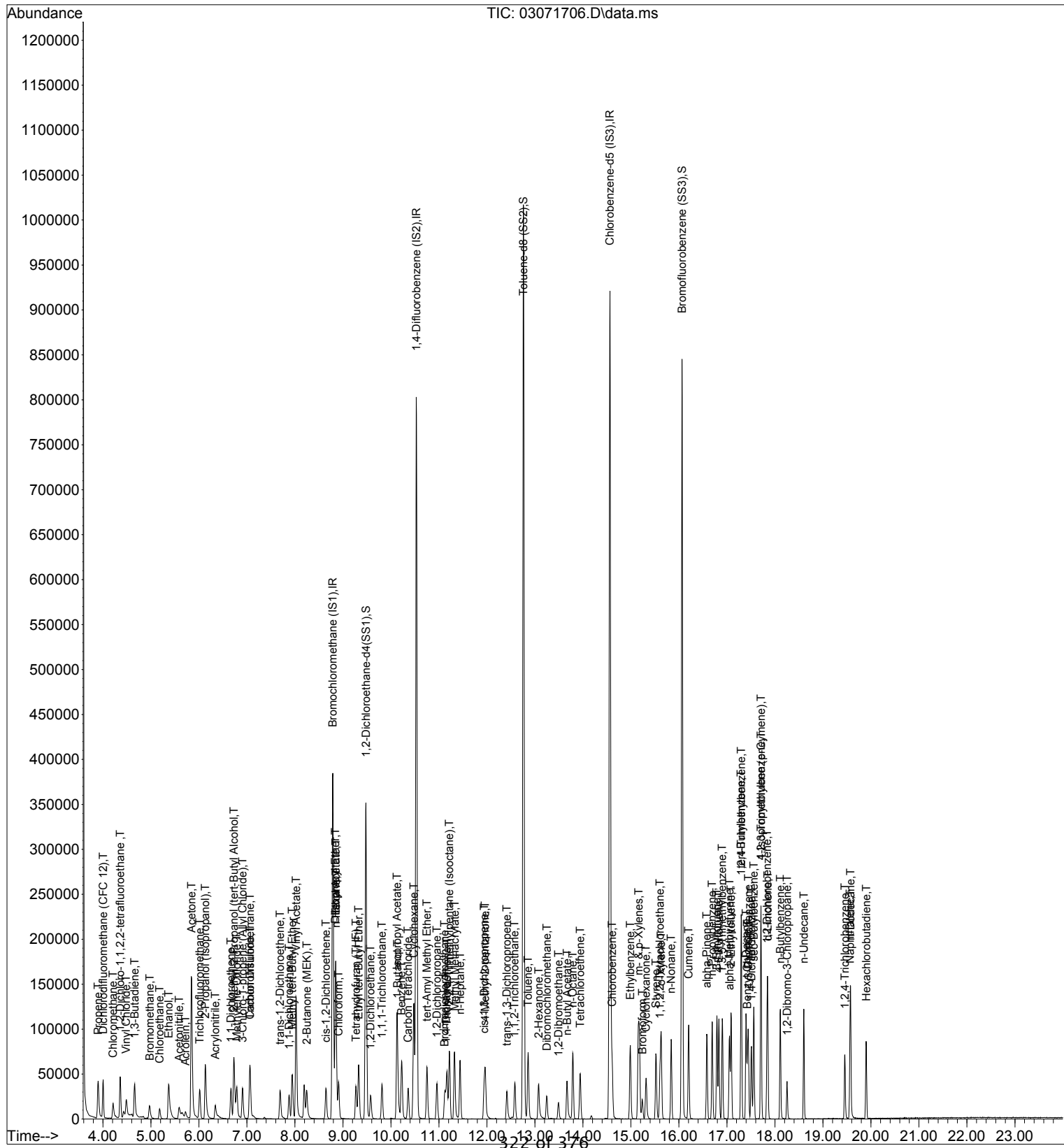
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.33	100	11482	1.832	ng	94
51) n-Heptane	11.44	71	15454	1.044	ng	99
52) cis-1,3-Dichloropropene	11.94	75	24133	1.062	ng	100
53) 4-Methyl-2-pentanone	11.96	58	14344	1.075	ng	94
54) trans-1,3-Dichloropropene	12.42	75	20689	1.070	ng	99
55) 1,1,2-Trichloroethane	12.58	97	14396	1.081	ng	96
58) Toluene	12.86	91	62207	0.980	ng	98
59) 2-Hexanone	13.08	43	37419	1.121	ng	96
60) Dibromochloromethane	13.25	129	15894	1.022	ng	100
61) 1,2-Dibromoethane	13.49	107	15634	1.072	ng	100
62) n-Butyl Acetate	13.67	43	40813	1.109	ng	98
63) n-Octane	13.79	57	13630	1.053	ng	99
64) Tetrachloroethene	13.94	166	16963	0.930	ng	98
65) Chlorobenzene	14.61	112	41475	0.966	ng	100
66) Ethylbenzene	14.99	91	71864	1.015	ng	99
67) m- & p-Xylenes	15.16	91	112729	1.993	ng	99
68) Bromoform	15.24	173	11586	0.840	ng	98
69) Styrene	15.52	104	40931	1.037	ng	100
70) o-Xylene	15.63	91	59017	1.024	ng	99
71) n-Nonane	15.84	43	35094	1.162	ng	98
72) 1,1,2,2-Tetrachloroethane	15.61	83	25650	1.054	ng	99
74) Cumene	16.20	105	72591	0.985	ng	99
75) alpha-Pinene	16.58	93	37733	0.997	ng	95
76) n-Propylbenzene	16.69	91	90004	1.040	ng	99
77) 3-Ethyltoluene	16.79	105	72051	1.003	ng	97
78) 4-Ethyltoluene	16.83	105	70169	1.021	ng	95
79) 1,3,5-Trimethylbenzene	16.90	105	62865	1.003	ng	100
80) alpha-Methylstyrene	17.05	118	30664	0.930	ng	97
81) 2-Ethyltoluene	17.09	105	74409	1.034	ng	98
82) 1,2,4-Trimethylbenzene	17.30	105	63050	1.030	ng	100
83) n-Decane	17.40	57	35056	1.118	ng	99
84) Benzyl Chloride	17.42	91	41947	0.919	ng	99
85) 1,3-Dichlorobenzene	17.45	146	34250	1.005	ng	100
86) 1,4-Dichlorobenzene	17.51	146	35753	0.992	ng	99
87) sec-Butylbenzene	17.56	105	83368	1.022	ng	100
88) 4-Isopropyltoluene (p-...	17.71	119	78592	1.005	ng	100
89) 1,2,3-Trimethylbenzene	17.71	105	62822	1.022	ng	100
90) 1,2-Dichlorobenzene	17.84	146	34002	1.009	ng	100
91) d-Limonene	17.85	68	22998	0.963	ng	98
92) 1,2-Dibromo-3-Chloropr...	18.25	157	10514	0.882	ng	88
93) n-Undecane	18.60	57	34801	1.030	ng	100
94) 1,2,4-Trichlorobenzene	19.46	180	22562	0.823	ng	98
95) Naphthalene	19.57	128	70683	0.825	ng	97
96) n-Dodecane	19.58	57	29597	0.949	ng	100
97) Hexachlorobutadiene	19.90	225	15781	0.950	ng	99
98) Cyclohexanone	15.32	55	22797	1.088	ng	98
99) tert-Butylbenzene	17.30	119	62816	0.995	ng	99
100) n-Butylbenzene	18.11	91	67496	1.093	ng	100

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

ALS Vial : 16 Sample Multiplier: 1

DataAcq Meth:T015.M



Data File: I:\MS08\Data\2017 03\07\03071706.D

Acq On : 7 Mar 2017 2:42

Operator: WA

Sample : 1.0ng TO-15 ICAL Std

Misc : S29-01231701/S29-03021706 (3/31)

ALS Vial : 16 Sample Multiplier: 1

Quant Time: Mar 07 07:08:24 2017

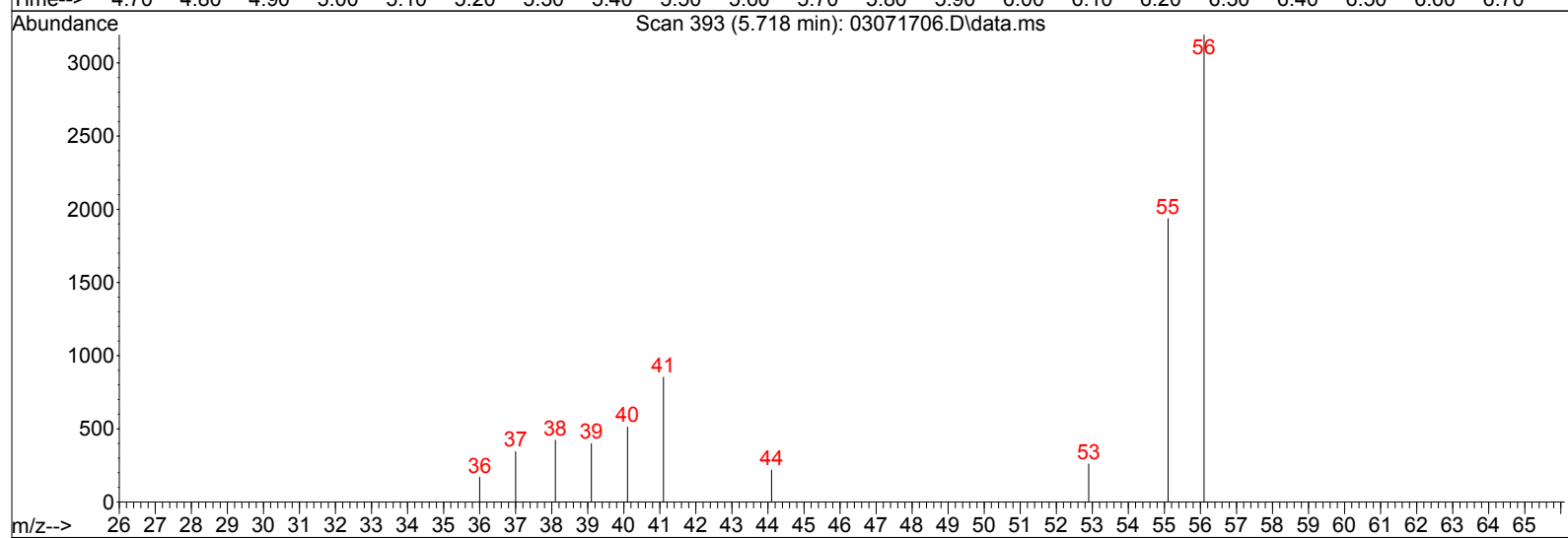
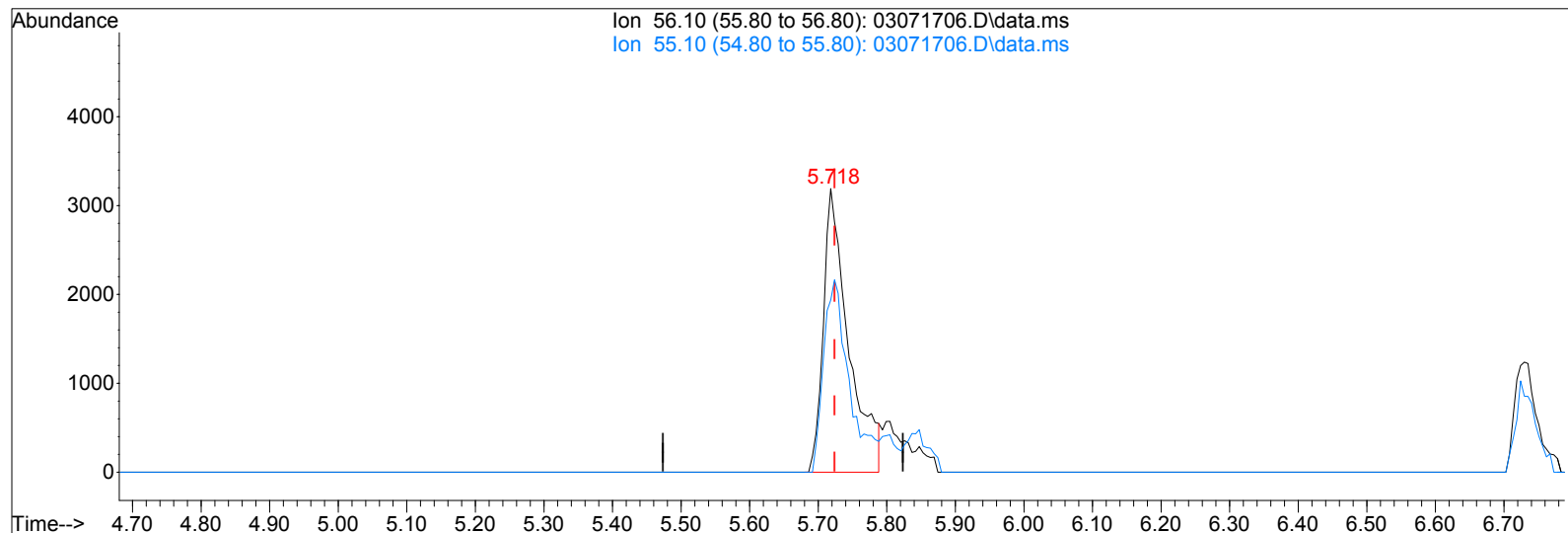
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:07:50 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M



TIC: 03071706.D\data.ms

(12) Acrolein (T)

5.718min (-0.005) 0.93ng

response 8144

Ion	Exp%	Act%
56.10	100	100
55.10	70.40	69.97
0.00	0.00	0.00
0.00	0.00	0.00

Data File: I:\MS08\Data\2017 03\07\03071706.D

Acq On : 7 Mar 2017 2:42

Operator: WA

Sample : 1.0ng TO-15 ICAL Std

Misc : S29-01231701/S29-03021706 (3/31)

ALS Vial : 16 Sample Multiplier: 1

Quant Time: Mar 07 07:08:24 2017

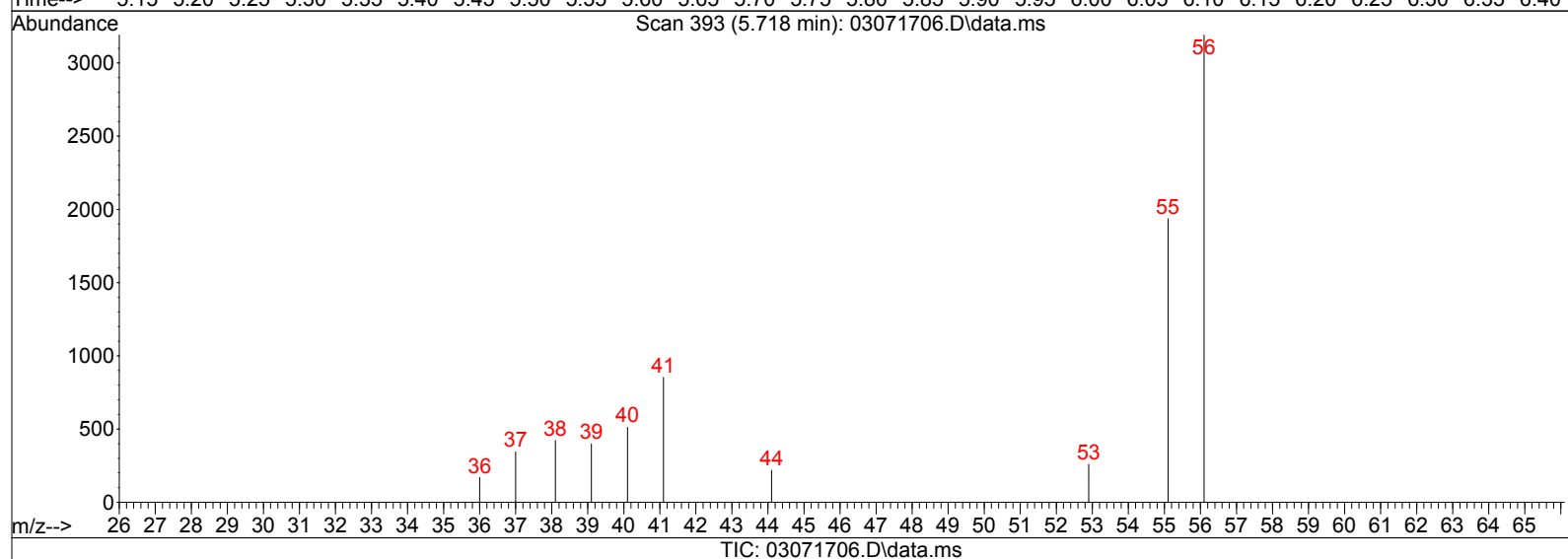
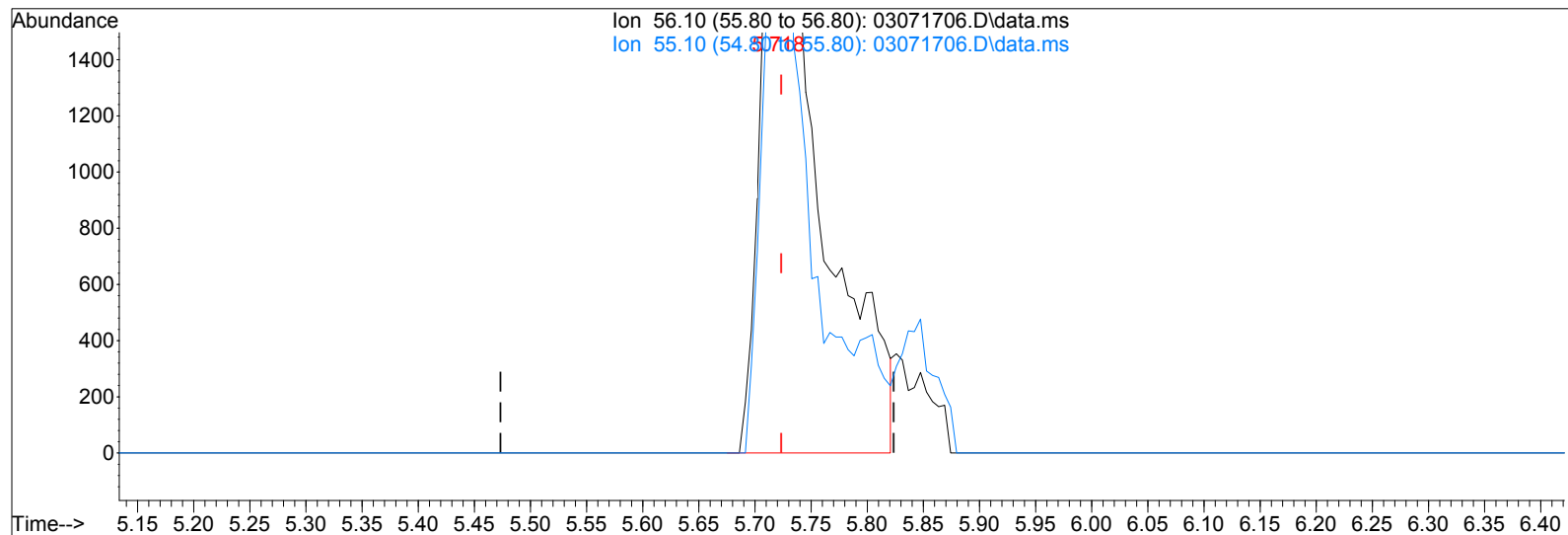
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:07:50 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M



TIC: 03071706.D\data.ms

(12) Acrolein (T)

5.718min (-0.005) 1.03ng m

response 9046

BLC

Ion	Exp%	Act%
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56.10	100	100
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55.10	70.40	62.99
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0.00	0.00	0.00
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0.00	0.00	0.00
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3/7/17

3/7/17

Data File: I:\MS08\Data\2017 03\07\03071707.D

Acq On : 7 Mar 2017 3:14

Operator: WA

Sample : 5.0ng TO-15 ICAL Std

Misc : S29-01231701/S29-03021706 (3/31)

ALS Vial : 16 Sample Multiplier: 1

Quant Time: Mar 07 07:19:20 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:07:50 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

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Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.80	130	164060	12.500	ng	-0.01
37) 1,4-Difluorobenzene (IS2)	10.54	114	772022	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.56	82	363195	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.49	65	298587	14.199	ng	-0.01
Spiked Amount	12.500	Range	70 - 130	Recovery	=	113.60%
57) Toluene-d8 (SS2)	12.77	98	853648	12.402	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	99.20%
73) Bromofluorobenzene (SS3)	16.07	174	283065	11.135	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	89.12%

Target Compounds

						Qvalue
2) Propene	3.89	42	76474	4.344	ng	98
3) Dichlorodifluoromethan...	4.00	85	146281	4.609	ng	99
4) Chloromethane	4.20	50	95380	4.203	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	4.36	135	71270	3.663	ng	100
6) Vinyl Chloride	4.48	62	119355	4.098	ng	99
7) 1,3-Butadiene	4.65	54	91737	4.547	ng	99
8) Bromomethane	4.97	94	62936	4.719	ng	99
9) Chloroethane	5.17	64	55226	4.729	ng	98
10) Ethanol	5.38	45	266913	22.141	ng	99
11) Acetonitrile	5.59	41	148630	5.110	ng	99
12) Acrolein	5.72	56	43607m	4.473	ng	
13) Acetone	5.85	58	301131	23.269	ng	93
14) Trichlorofluoromethane	6.01	101	128988	4.407	ng	99
15) 2-Propanol (Isopropanol)	6.14	45	429388	11.068	ng	96
16) Acrylonitrile	6.34	53	98656	4.888	ng	99
17) 1,1-Dichloroethene	6.67	96	68046	4.533	ng	98
18) 2-Methyl-2-Propanol (t...	6.74	59	428407	10.473	ng	98
19) Methylene Chloride	6.79	84	71042	4.297	ng	99
20) 3-Chloro-1-propene (Al...	6.91	41	126795	6.699	ng	99
21) Trichlorotrifluoroethane	7.07	151	60957	4.243	ng	99
22) Carbon Disulfide	7.05	76	251602	4.276	ng	100
23) trans-1,2-Dichloroethene	7.70	61	110038	5.303	ng	98
24) 1,1-Dichloroethane	7.89	63	125065	4.524	ng	100
25) Methyl tert-Butyl Ether	7.94	73	236608	4.720	ng	98
26) Vinyl Acetate	8.03	86	105566	22.878	ng	97
27) 2-Butanone (MEK)	8.25	72	52219	4.729	ng	97
28) cis-1,2-Dichloroethene	8.66	61	104621	4.898	ng	100
29) Diisopropyl Ether	8.85	87	64470	4.386	ng	96
30) Ethyl Acetate	8.85	61	53952	8.965	ng	99
31) n-Hexane	8.86	57	124344	4.384	ng	99
32) Chloroform	8.92	83	129283	4.609	ng	99
34) Tetrahydrofuran (THF)	9.27	72	50491	4.984	ng	92
35) Ethyl tert-Butyl Ether	9.33	87	97164	4.660	ng	100
36) 1,2-Dichloroethane	9.59	62	111919	4.869	ng	100
38) 1,1,1-Trichloroethane	9.82	97	122793	4.749	ng	99
39) Isopropyl Acetate	10.12	61	91588	8.705	ng	97
40) 1-Butanol	10.13	56	174413	10.176	ng	92
41) Benzene	10.23	78	276811	4.253	ng	100
42) Carbon Tetrachloride	10.37	117	101716	4.646	ng	99
43) Cyclohexane	10.48	84	241857	8.506	ng	97
44) tert-Amyl Methyl Ether	10.75	73	223813	4.802	ng	99
45) 1,2-Dichloropropane	10.96	63	70218	4.641	ng	99
46) Bromodichloromethane	11.12	83	100439	4.754	ng	99
47) Trichloroethene	11.17	130	75911	4.161	ng	99
48) 1,4-Dioxane	11.14	88	62570	4.847	ng	99
49) 2,2,4-Trimethylpentane...	11.22	57	329655	4.711	ng	99

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Data File: I:\MS08\Data\2017 03\07\03071707.D

Acq On : 7 Mar 2017 3:14

Operator: WA

Sample : 5.0ng TO-15 ICAL Std

Misc : S29-01231701/S29-03021706 (3/31)

ALS Vial : 16 Sample Multiplier: 1

Quant Time: Mar 07 07:19:20 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:07:50 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.32	100	60548	8.467	ng	98
51) n-Heptane	11.44	71	73625	4.358	ng	100
52) cis-1,3-Dichloropropene	11.94	75	124276	4.792	ng	99
53) 4-Methyl-2-pentanone	11.96	58	72032	4.729	ng	97
54) trans-1,3-Dichloropropene	12.42	75	111076	5.033	ng	99
55) 1,1,2-Trichloroethane	12.58	97	68457	4.504	ng	100
58) Toluene	12.86	91	292731	4.135	ng	100
59) 2-Hexanone	13.07	43	188686	5.068	ng	100
60) Dibromochloromethane	13.24	129	81340	4.691	ng	99
61) 1,2-Dibromoethane	13.49	107	77694	4.779	ng	100
62) n-Butyl Acetate	13.66	43	209587	5.106	ng	99
63) n-Octane	13.79	57	65887	4.566	ng	100
64) Tetrachloroethene	13.94	166	80124	3.939	ng	100
65) Chlorobenzene	14.61	112	195476	4.083	ng	100
66) Ethylbenzene	14.99	91	342421	4.338	ng	100
67) m- & p-Xylenes	15.17	91	543747	8.622	ng	99
68) Bromoform	15.23	173	64712	4.206	ng	100
69) Styrene	15.52	104	215138	4.887	ng	99
70) o-Xylene	15.63	91	285475	4.442	ng	100
71) n-Nonane	15.84	43	171706	5.100	ng	99
72) 1,1,2,2-Tetrachloroethane	15.61	83	129398	4.767	ng	100
74) Cumene	16.20	105	359549	4.376	ng	100
75) alpha-Pinene	16.58	93	188643	4.471	ng	98
76) n-Propylbenzene	16.69	91	439846	4.557	ng	100
77) 3-Ethyltoluene	16.79	105	360354	4.500	ng	97
78) 4-Ethyltoluene	16.83	105	349649	4.563	ng	96
79) 1,3,5-Trimethylbenzene	16.91	105	307498	4.398	ng	99
80) alpha-Methylstyrene	17.05	118	163926	4.460	ng	98
81) 2-Ethyltoluene	17.09	105	363599	4.531	ng	100
82) 1,2,4-Trimethylbenzene	17.30	105	312347	4.577	ng	99
83) n-Decane	17.40	57	173681	4.967	ng	99
84) Benzyl Chloride	17.42	91	257210	5.054	ng	99
85) 1,3-Dichlorobenzene	17.45	146	172064	4.527	ng	99
86) 1,4-Dichlorobenzene	17.51	146	174049	4.332	ng	100
87) sec-Butylbenzene	17.56	105	415182	4.566	ng	99
88) 4-Isopropyltoluene (p-...	17.71	119	388408	4.456	ng	99
89) 1,2,3-Trimethylbenzene	17.71	105	309922	4.523	ng	98
90) 1,2-Dichlorobenzene	17.84	146	166687	4.434	ng	100
91) d-Limonene	17.85	68	124533	4.675	ng	100
92) 1,2-Dibromo-3-Chloropr...	18.25	157	58940	4.432	ng	97
93) n-Undecane	18.60	57	176391	4.684	ng	99
94) 1,2,4-Trichlorobenzene	19.46	180	116246	3.803	ng	99
95) Naphthalene	19.57	128	377107	3.947	ng	99
96) n-Dodecane	19.58	57	157913	4.540	ng	99
97) Hexachlorobutadiene	19.90	225	75525	4.078	ng	100
98) Cyclohexanone	15.31	55	118275	5.064	ng	98
99) tert-Butylbenzene	17.30	119	309295	4.392	ng	99
100) n-Butylbenzene	18.11	91	339661	4.933	ng	99

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

Data File: I:\MS08\Data\2017 03\07\03071707.D

Acq On : 7 Mar 2017 3:14

Operator: WA

Sample : 5.0ng TO-15 ICAL Std

Misc : S29-01231701/S29-03021706 (3/31)

ALS Vial : 16 Sample Multiplier: 1

Quant Time: Mar 07 07:08:26 2017

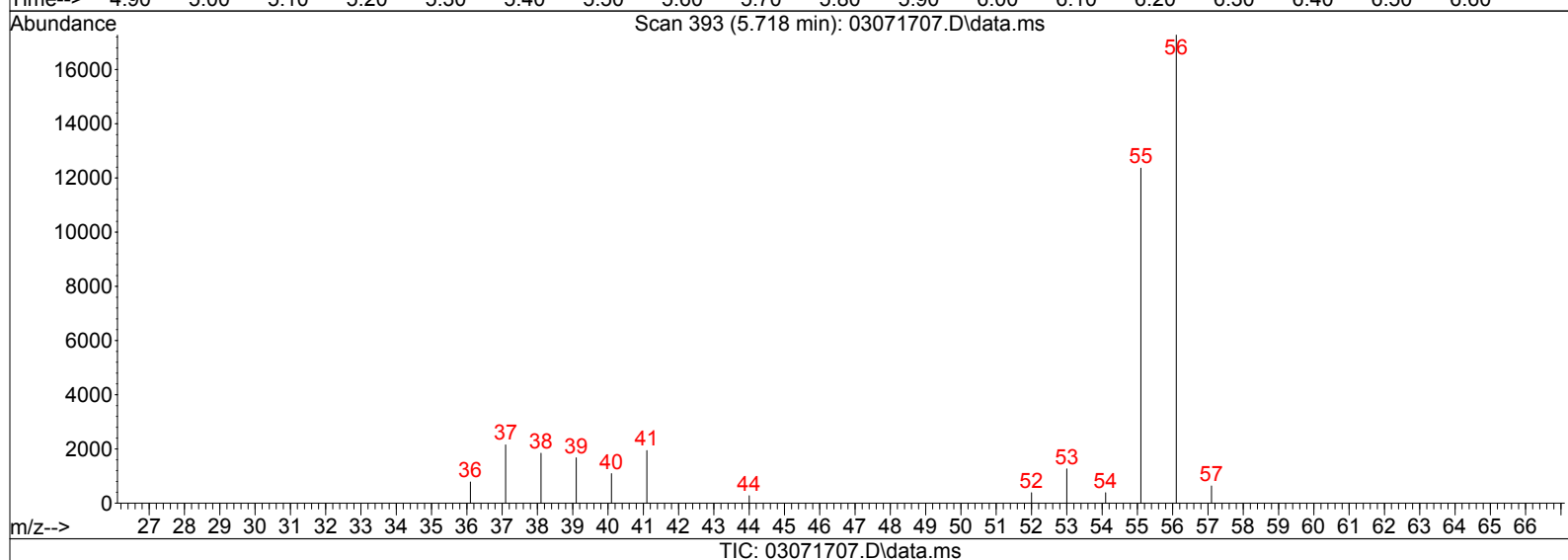
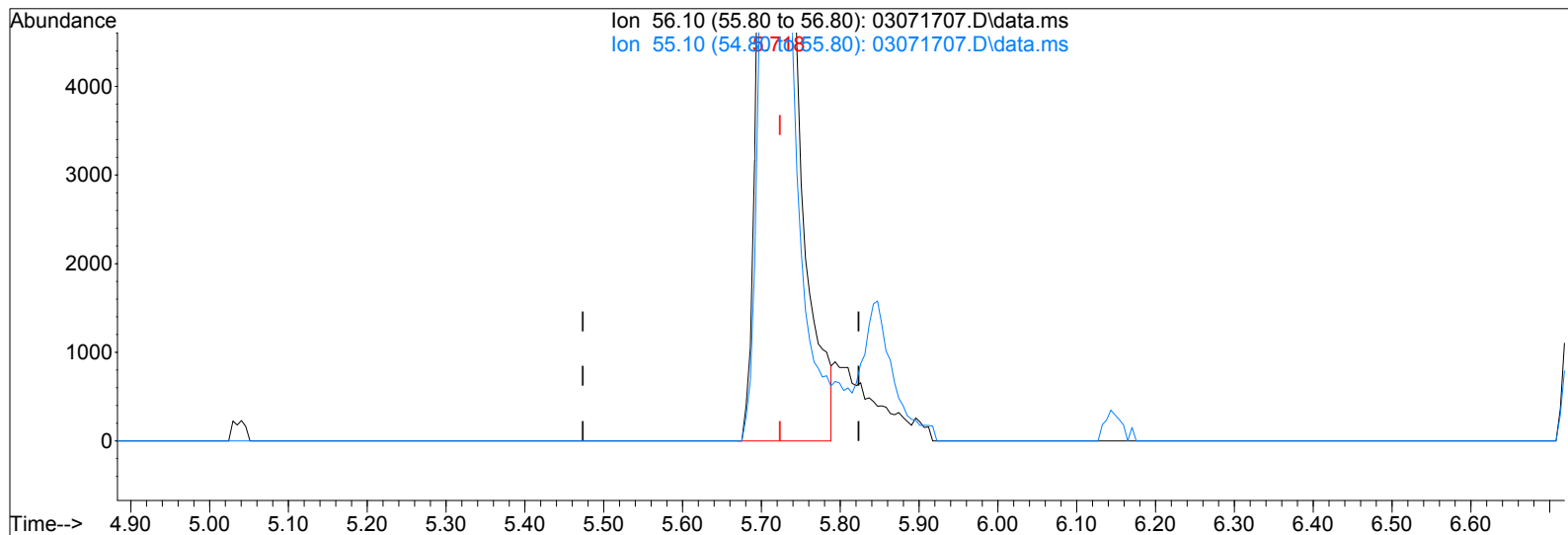
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:07:50 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M



TIC: 03071707.D\data.ms

(12) Acrolein (T)

5.718min (-0.005) 4.32ng

response 42107

Ion	Exp%	Act%
56.10	100	100
55.10	70.40	69.40
0.00	0.00	0.00
0.00	0.00	0.00

Data File: I:\MS08\Data\2017 03\07\03071707.D

Acq On : 7 Mar 2017 3:14

Operator: WA

Sample : 5.0ng TO-15 ICAL Std

Misc : S29-01231701/S29-03021706 (3/31)

ALS Vial : 16 Sample Multiplier: 1

Quant Time: Mar 07 07:08:26 2017

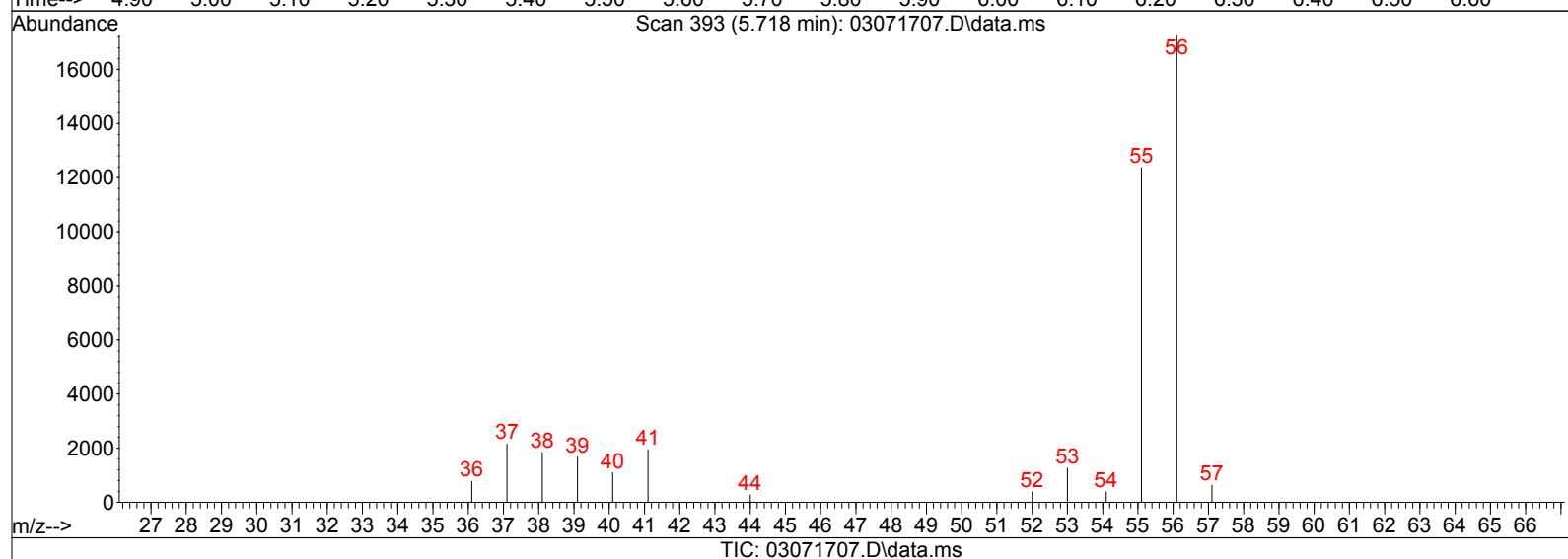
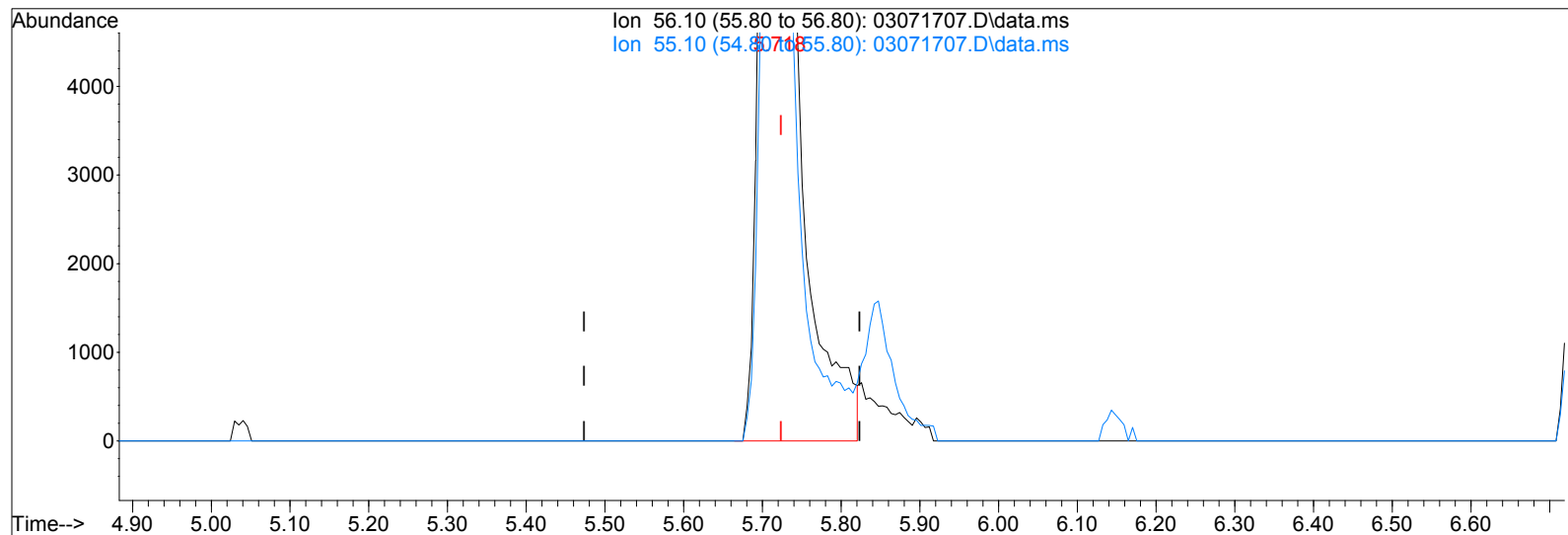
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:07:50 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M



(12) Acrolein (T)

5.718min (-0.005) 4.47ng m

response 43607

BLC

Ion	Exp%	Act%
56.10	100	100
55.10	70.40	67.01
0.00	0.00	0.00
0.00	0.00	0.00

DA 3/7/17

3/7/17

Data File: I:\MS08\Data\2017 03\07\03071708.D

Acq On : 7 Mar 2017 3:46

Operator: WA

Sample : 25ng TO-15 ICAL Std

Misc : S29-01231701/S29-03021702 (3/31)

ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 07 07:08:28 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:07:50 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

DA 3/7/17

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.81	130	175306	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	10.54	114	793281	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.57	82	378396	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.50	65	302117	13.445	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	107.60%
57) Toluene-d8 (SS2)	12.77	98	876058	12.216	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	97.76%
73) Bromofluorobenzene (SS3)	16.07	174	296372	11.190	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	89.52%

Target Compounds

						Qvalue
2) Propene	3.88	42	450400	23.944	ng	100
3) Dichlorodifluoromethan...	3.99	85	791540	23.339	ng	100
4) Chloromethane	4.19	50	590032	24.333	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	385066	18.523	ng	100
6) Vinyl Chloride	4.48	62	654766	21.040	ng	100
7) 1,3-Butadiene	4.65	54	530262	24.598	ng	100
8) Bromomethane	4.96	94	349318	24.511	ng	100
9) Chloroethane	5.17	64	298503	23.921	ng	100
10) Ethanol	5.42	45	1589455	123.391	ng	100
11) Acetonitrile	5.61	41	858040	27.609	ng	100
12) Acrolein	5.72	56	268284	25.757	ng	100
13) Acetone	5.86	58	1732324	125.272	ng	100
14) Trichlorofluoromethane	6.01	101	694549	22.209	ng	100
15) 2-Propanol (Isopropanol)	6.17	45	2589454	62.464	ng	100
16) Acrylonitrile	6.36	53	603531	27.984	ng	100
17) 1,1-Dichloroethene	6.66	96	396081	24.691	ng	100
18) 2-Methyl-2-Propanol (t...	6.76	59	2550993	58.365	ng	100
19) Methylene Chloride	6.81	84	416793	23.594	ng	100
20) 3-Chloro-1-propene (Al...	6.92	41	748059	36.985	ng	100
21) Trichlorotrifluoroethane	7.07	151	341616	22.255	ng	100
22) Carbon Disulfide	7.05	76	1483184	23.592	ng	100
23) trans-1,2-Dichloroethene	7.70	61	638144	28.781	ng	100
24) 1,1-Dichloroethane	7.90	63	704253	23.840	ng	100
25) Methyl tert-Butyl Ether	7.95	73	1357350	25.342	ng	100
26) Vinyl Acetate	8.04	86	598387	121.362	ng	100
27) 2-Butanone (MEK)	8.25	72	295709	25.060	ng	100
28) cis-1,2-Dichloroethene	8.67	61	608540	26.662	ng	100
29) Diisopropyl Ether	8.85	87	358884	22.848	ng	100
30) Ethyl Acetate	8.86	61	310013	48.208	ng	100
31) n-Hexane	8.87	57	657603	21.697	ng	100
32) Chloroform	8.94	83	728710	24.310	ng	100
34) Tetrahydrofuran (THF)	9.27	72	288961	26.694	ng	100
35) Ethyl tert-Butyl Ether	9.33	87	556594	24.981	ng	100
36) 1,2-Dichloroethane	9.59	62	613986	24.999	ng	100
38) 1,1,1-Trichloroethane	9.83	97	686327	25.835	ng	100
39) Isopropyl Acetate	10.13	61	539169	49.873	ng	100
40) 1-Butanol	10.15	56	1208451	68.619	ng	100
41) Benzene	10.24	78	1534277	22.940	ng	100
42) Carbon Tetrachloride	10.37	117	588963	26.178	ng	100
43) Cyclohexane	10.48	84	1370975	46.925	ng	100
44) tert-Amyl Methyl Ether	10.75	73	1289392	26.925	ng	100
45) 1,2-Dichloropropane	10.97	63	392124	25.225	ng	100
46) Bromodichloromethane	11.13	83	590132	27.182	ng	100
47) Trichloroethene	11.18	130	420308	22.420	ng	100
48) 1,4-Dioxane	11.15	88	366594	27.635	ng	100
49) 2,2,4-Trimethylpentane...	11.23	57	1908918	26.549	ng	100

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Data File: I:\MS08\Data\2017 03\07\03071708.D

Acq On : 7 Mar 2017 3:46

Operator: WA

Sample : 25ng TO-15 ICAL Std

Misc : S29-01231701/S29-03021702 (3/31)

ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 07 07:08:28 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:07:50 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.33	100	355473	48.380	ng	100
51) n-Heptane	11.45	71	393166	22.647	ng	100
52) cis-1,3-Dichloropropene	11.94	75	726417	27.260	ng	100
53) 4-Methyl-2-pentanone	11.96	58	433600	27.706	ng	100
54) trans-1,3-Dichloropropene	12.42	75	666174	29.374	ng	100
55) 1,1,2-Trichloroethane	12.58	97	399726	25.597	ng	100
58) Toluene	12.86	91	1642719	22.273	ng	100
59) 2-Hexanone	13.07	43	1132358	29.193	ng	100
60) Dibromochloromethane	13.25	129	485943	26.900	ng	100
61) 1,2-Dibromoethane	13.49	107	456640	26.962	ng	100
62) n-Butyl Acetate	13.66	43	1249897	29.229	ng	100
63) n-Octane	13.79	57	375249	24.962	ng	100
64) Tetrachloroethene	13.94	166	448347	21.154	ng	100
65) Chlorobenzene	14.61	112	1110461	22.263	ng	100
66) Ethylbenzene	14.99	91	1983533	24.118	ng	100
67) m- & p-Xylenes	15.17	91	3118329	47.460	ng	100
68) Bromoform	15.24	173	404520	25.236	ng	100
69) Styrene	15.52	104	1252800	27.317	ng	100
70) o-Xylene	15.63	91	1614183	24.106	ng	100
71) n-Nonane	15.84	43	976727	27.846	ng	100
72) 1,1,2,2-Tetrachloroethane	15.61	83	747265	26.425	ng	100
74) Cumene	16.20	105	2021543	23.616	ng	100
75) alpha-Pinene	16.58	93	1086765	24.720	ng	100
76) n-Propylbenzene	16.69	91	2469105	24.552	ng	100
77) 3-Ethyltoluene	16.79	105	1981896	23.757	ng	100
78) 4-Ethyltoluene	16.83	105	1957054	24.512	ng	100
79) 1,3,5-Trimethylbenzene	16.91	105	1700020	23.338	ng	100
80) alpha-Methylstyrene	17.05	118	937235	24.474	ng	100
81) 2-Ethyltoluene	17.09	105	1974451	23.617	ng	100
82) 1,2,4-Trimethylbenzene	17.30	105	1739621	24.470	ng	100
83) n-Decane	17.40	57	983819	27.006	ng	100
84) Benzyl Chloride	17.42	91	1663634	31.378	ng	100
85) 1,3-Dichlorobenzene	17.45	146	955382	24.126	ng	100
86) 1,4-Dichlorobenzene	17.51	146	979122	23.389	ng	100
87) sec-Butylbenzene	17.56	105	2249831	23.750	ng	100
88) 4-Isopropyltoluene (p-...	17.71	119	2099722	23.119	ng	100
89) 1,2,3-Trimethylbenzene	17.71	105	1715503	24.032	ng	100
90) 1,2-Dichlorobenzene	17.84	146	913917	23.337	ng	100
91) d-Limonene	17.85	68	720552	25.964	ng	100
92) 1,2-Dibromo-3-Chloropr...	18.25	157	359225	25.925	ng	100
93) n-Undecane	18.60	57	1064590	27.133	ng	100
94) 1,2,4-Trichlorobenzene	19.46	180	727446	22.844	ng	100
95) Naphthalene	19.57	128	2474057	24.852	ng	100
96) n-Dodecane	19.58	57	1092086	30.135	ng	100
97) Hexachlorobutadiene	19.90	225	429593	22.266	ng	100
98) Cyclohexanone	15.31	55	722261	29.680	ng	100
99) tert-Butylbenzene	17.30	119	1670394	22.768	ng	100
100) n-Butylbenzene	18.11	91	1902376	26.521	ng	100

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

Data File: I:\MS08\Data\2017 03\07\03071708.D

Acq On : 7 Mar 2017 3:46

Operator: WA

Sample : 25ng TO-15 ICAL Std

Misc : S29-01231701/S29-03021702 (3/31)

ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 07 07:08:28 2017

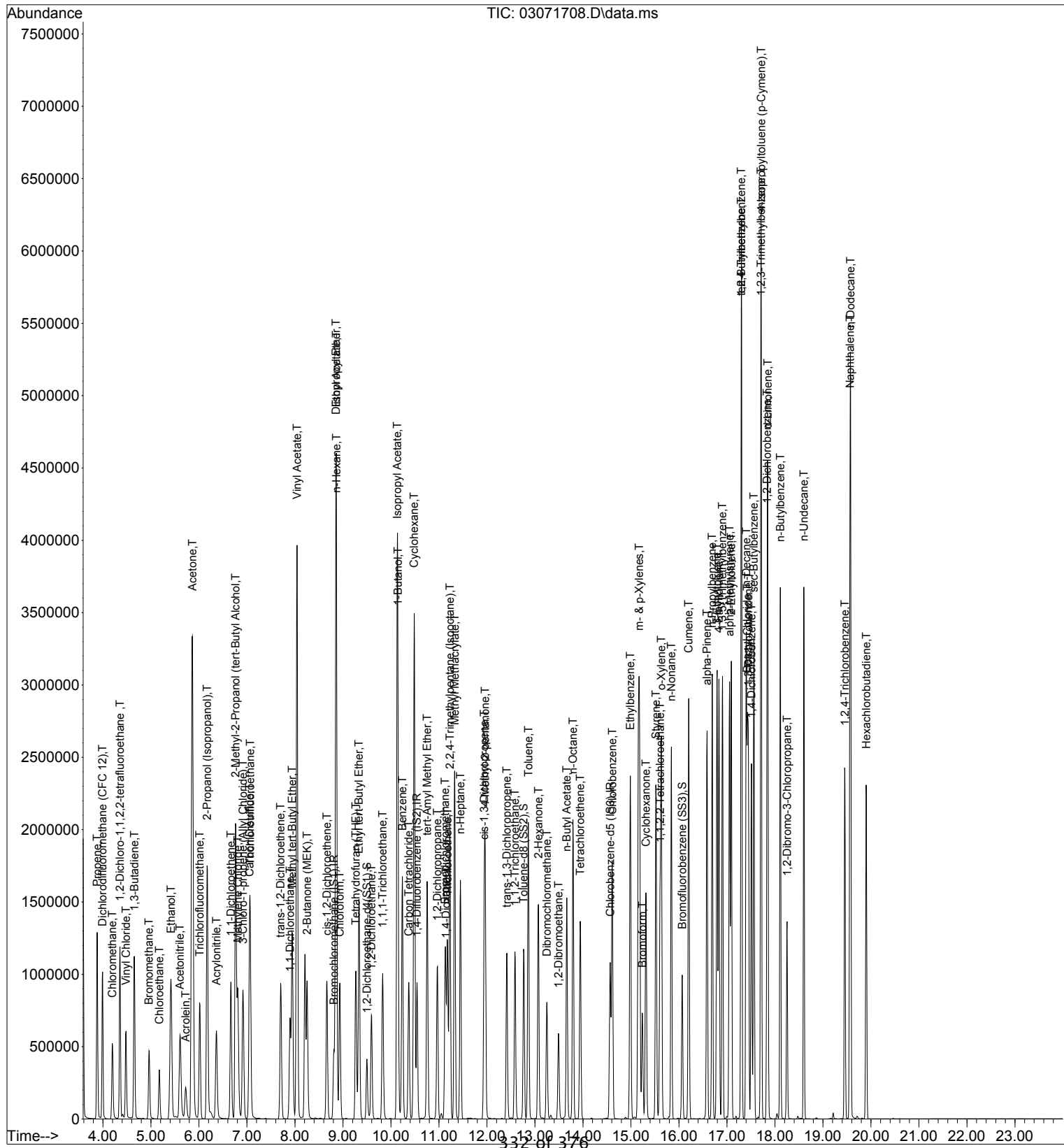
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:07:50 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M



Data File: I:\MS08\Data\2017 03\07\03071709.D

Acq On : 7 Mar 2017 4:17

Operator: WA

Sample : 50ng TO-15 ICAL Std

Misc : S29-01231701/S29-03021702 (3/31)

ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 07 07:08:30 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:07:50 2017

Response via : Initial Calibration

3/7/17

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.82	130	185056	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	10.55	114	860713	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.56	82	401073	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.50	65	321168	13.540	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	108.32%
57) Toluene-d8 (SS2)	12.77	98	931592	12.256	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	98.08%
73) Bromofluorobenzene (SS3)	16.07	174	311394	11.093	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	88.72%

Target Compounds

						Qvalue
2) Propene	3.88	42	937817	47.229	ng	99
3) Dichlorodifluoromethan...	3.99	85	1593456	44.508	ng	100
4) Chloromethane	4.20	50	1158730	45.269	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	746527	34.018	ng	100
6) Vinyl Chloride	4.48	62	1267149	38.573	ng	100
7) 1,3-Butadiene	4.66	54	1043148	45.840	ng	99
8) Bromomethane	4.97	94	678895	45.127	ng	100
9) Chloroethane	5.18	64	618697	46.968	ng	100
10) Ethanol	5.44	45	3302628	242.879	ng	100
11) Acetonitrile	5.63	41	1771148	53.988	ng	99
12) Acrolein	5.73	56	552200	50.221	ng	100
13) Acetone	5.87	58	3341741	228.925	ng	96
14) Trichlorofluoromethane	6.02	101	1382393	41.875	ng	100
15) 2-Propanol (Isopropanol)	6.19	45	5153134	117.757	ng	99
16) Acrylonitrile	6.37	53	1218053	53.503	ng	99
17) 1,1-Dichloroethene	6.67	96	797884	47.118	ng	100
18) 2-Methyl-2-Propanol (t...	6.78	59	5104401	110.631	ng	99
19) Methylene Chloride	6.82	84	832961	44.667	ng	100
20) 3-Chloro-1-propene (Al...	6.92	41	1526577	71.500	ng	99
21) Trichlorotrifluoroethane	7.07	151	681592	42.063	ng	99
22) Carbon Disulfide	7.06	76	2949210	44.439	ng	100
23) trans-1,2-Dichloroethene	7.71	61	1291855	55.194	ng	100
24) 1,1-Dichloroethane	7.90	63	1434196	45.991	ng	100
25) Methyl tert-Butyl Ether	7.95	73	2734691	48.368	ng	99
26) Vinyl Acetate	8.05	86	1183898	227.462	ng	# 89
27) 2-Butanone (MEK)	8.26	72	591078	47.451	ng	99
28) cis-1,2-Dichloroethene	8.67	61	1223450	50.779	ng	100
29) Diisopropyl Ether	8.86	87	703795	42.446	ng	# 96
30) Ethyl Acetate	8.87	61	632385	93.157	ng	99
31) n-Hexane	8.87	57	1310066	40.947	ng	100
32) Chloroform	8.94	83	1464925	46.296	ng	100
34) Tetrahydrofuran (THF)	9.27	72	582433	50.971	ng	98
35) Ethyl tert-Butyl Ether	9.34	87	1109707	47.181	ng	100
36) 1,2-Dichloroethane	9.60	62	1247066	48.101	ng	100
38) 1,1,1-Trichloroethane	9.83	97	1375553	47.722	ng	100
39) Isopropyl Acetate	10.14	61	1077435	91.854	ng	# 94
40) 1-Butanol	10.16	56	2396750	125.431	ng	98
41) Benzene	10.24	78	3048763	42.013	ng	100
42) Carbon Tetrachloride	10.38	117	1181284	48.392	ng	100
43) Cyclohexane	10.49	84	2700901	85.203	ng	100
44) tert-Amyl Methyl Ether	10.76	73	2576261	49.583	ng	100
45) 1,2-Dichloropropane	10.97	63	804616	47.705	ng	100
46) Bromodichloromethane	11.13	83	1198578	50.882	ng	99
47) Trichloroethene	11.18	130	850892	41.832	ng	100
48) 1,4-Dioxane	11.15	88	738982	51.343	ng	99
49) 2,2,4-Trimethylpentane...	11.23	57	3816291	48.919	ng	99

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Data File: I:\MS08\Data\2017 03\07\03071709.D

Acq On : 7 Mar 2017 4:17

Operator: WA

Sample : 50ng TO-15 ICAL Std

Misc : S29-01231701/S29-03021702 (3/31)

ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 07 07:08:30 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:07:50 2017

Response via : Initial Calibration

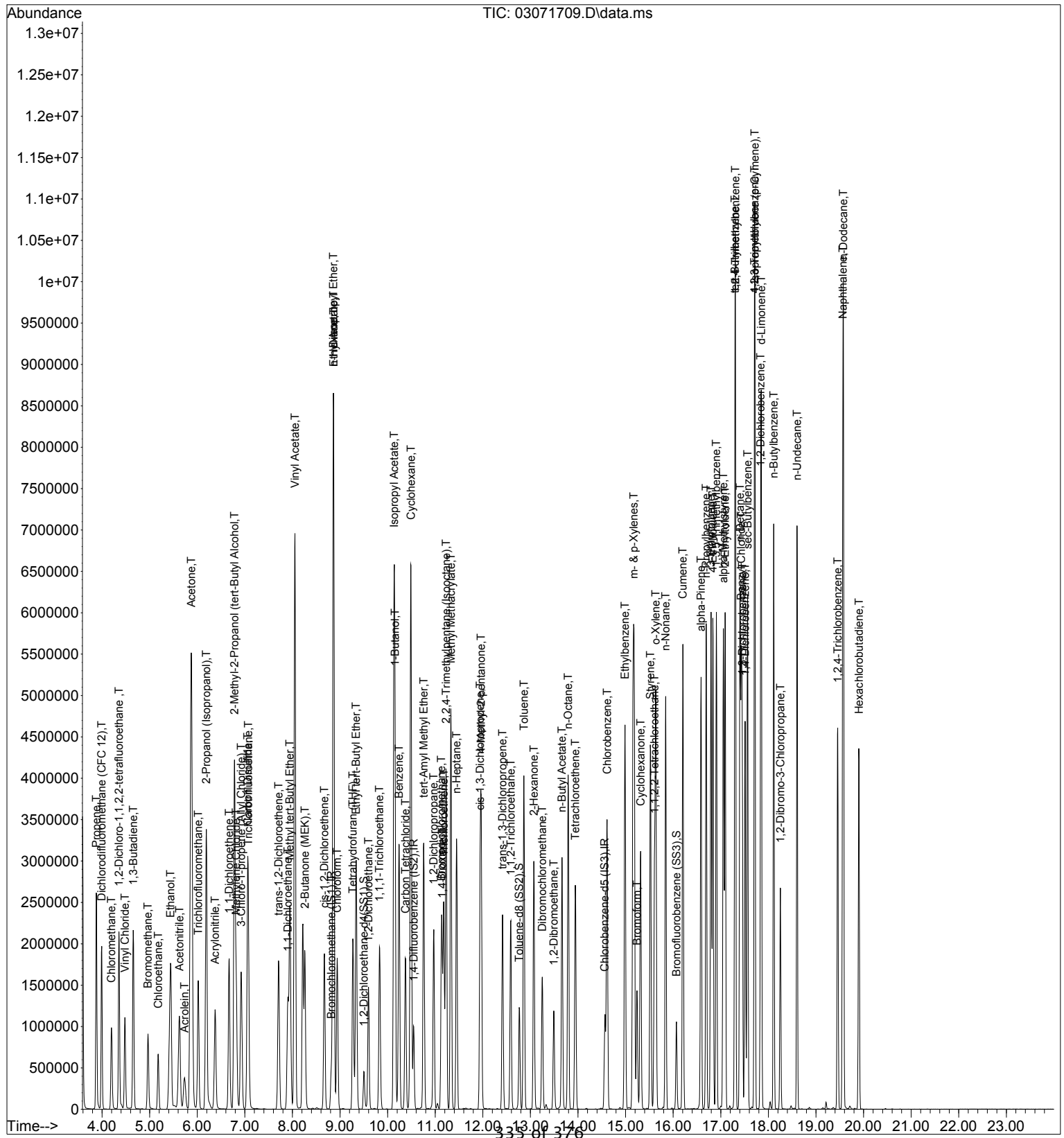
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.33	100	711158	89.205	ng	99
51) n-Heptane	11.45	71	790238	41.952	ng	99
52) cis-1,3-Dichloropropene	11.94	75	1481934	51.255	ng	100
53) 4-Methyl-2-pentanone	11.96	58	878466	51.735	ng	99
54) trans-1,3-Dichloropropene	12.42	75	1358899	55.224	ng	100
55) 1,1,2-Trichloroethane	12.59	97	805757	47.555	ng	100
58) Toluene	12.86	91	3231423	41.335	ng	100
59) 2-Hexanone	13.07	43	2253228	54.805	ng	100
60) Dibromochloromethane	13.25	129	975380	50.940	ng	100
61) 1,2-Dibromoethane	13.49	107	912700	50.843	ng	100
62) n-Butyl Acetate	13.66	43	2492330	54.988	ng	99
63) n-Octane	13.79	57	762670	47.865	ng	99
64) Tetrachloroethene	13.94	166	889482	39.595	ng	100
65) Chlorobenzene	14.61	112	2165626	40.962	ng	100
66) Ethylbenzene	14.99	91	3878149	44.488	ng	100
67) m- & p-Xylenes	15.17	91	6084593	87.369	ng	100
68) Bromoform	15.24	173	805491	47.409	ng	100
69) Styrene	15.52	104	2433574	50.062	ng	99
70) o-Xylene	15.63	91	3143298	44.288	ng	100
71) n-Nonane	15.84	43	1907956	51.319	ng	99
72) 1,1,2,2-Tetrachloroethane	15.61	83	1458760	48.669	ng	100
74) Cumene	16.20	105	3886668	42.838	ng	100
75) alpha-Pinene	16.59	93	2133965	45.796	ng	100
76) n-Propylbenzene	16.69	91	4745443	44.520	ng	100
77) 3-Ethyltoluene	16.79	105	4015735	45.415	ng	96
78) 4-Ethyltoluene	16.83	105	3568562	42.169	ng	96
79) 1,3,5-Trimethylbenzene	16.91	105	3287282	42.577	ng	100
80) alpha-Methylstyrene	17.05	118	1809494	44.579	ng	99
81) 2-Ethyltoluene	17.09	105	3814394	43.046	ng	100
82) 1,2,4-Trimethylbenzene	17.31	105	3275077	43.463	ng	100
83) n-Decane	17.40	57	1919722	49.717	ng	100
84) Benzyl Chloride	17.43	91	3318828	59.057	ng	100
85) 1,3-Dichlorobenzene	17.45	146	1818426	43.324	ng	100
86) 1,4-Dichlorobenzene	17.51	146	1866688	42.069	ng	100
87) sec-Butylbenzene	17.56	105	4291160	42.737	ng	100
88) 4-Isopropyltoluene (p-...	17.71	119	3862632	40.125	ng	99
89) 1,2,3-Trimethylbenzene	17.71	105	3220580	42.565	ng	99
90) 1,2-Dichlorobenzene	17.84	146	1716146	41.344	ng	99
91) d-Limonene	17.85	68	1413695	48.060	ng	100
92) 1,2-Dibromo-3-Chloropr...	18.25	157	693546	47.222	ng	98
93) n-Undecane	18.60	57	2061589	49.572	ng	100
94) 1,2,4-Trichlorobenzene	19.46	180	1402251	41.545	ng	99
95) Naphthalene	19.57	128	4702139	44.563	ng	100
96) n-Dodecane	19.58	57	2090775	54.430	ng	99
97) Hexachlorobutadiene	19.90	225	823801	40.284	ng	100
98) Cyclohexanone	15.32	55	1431641	55.505	ng	99
99) tert-Butylbenzene	17.30	119	3122208	40.151	ng	100
100) n-Butylbenzene	18.11	91	3646567	47.963	ng	99

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

ALS Vial : 15 Sample Multiplier: 1

DataAcq Meth:T015.M



Data File: I:\MS08\Data\2017 03\07\03071710.D

Acq On : 7 Mar 2017 4:49

Operator: WA

Sample : 100ng TO-15 ICAL Std

Misc : S29-01231701/S29-03021702 (3/31)

ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 07 07:08:32 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:07:50 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

3/7/17

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.83	130	189543	12.500	ng	0.02
37) 1,4-Difluorobenzene (IS2)	10.55	114	903636	12.500	ng	0.01
56) Chlorobenzene-d5 (IS3)	14.57	82	419114	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.51	65	334795	13.780	ng	0.01
Spiked Amount	12.500	Range	70 - 130	Recovery	=	110.24%
57) Toluene-d8 (SS2)	12.77	98	970142	12.214	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	97.68%
73) Bromofluorobenzene (SS3)	16.07	174	321681	10.966	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	87.76%

Target Compounds

						Qvalue
2) Propene	3.89	42	2265688	111.401	ng	98
3) Dichlorodifluoromethan...	4.00	85	3114838	84.942	ng	99
4) Chloromethane	4.21	50	1973262	75.266	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.36	135	1432467	63.730	ng	100
6) Vinyl Chloride	4.49	62	2449333	72.794	ng	100
7) 1,3-Butadiene	4.67	54	2008769	86.184	ng	98
8) Bromomethane	4.98	94	1308672	84.930	ng	100
9) Chloroethane	5.19	64	1257995	93.239	ng	100
10) Ethanol	5.47	45	6562641	471.199	ng	99
11) Acetonitrile	5.65	41	3617949	107.671	ng	99
12) Acrolein	5.75	56	1112426	98.777	ng	100
13) Acetone	5.90	58	6444615	431.035	ng	86
14) Trichlorofluoromethane	6.02	101	2815517	83.267	ng	100
15) 2-Propanol (Isopropanol)	6.22	45	8526352	190.228	ng	99
16) Acrylonitrile	6.40	53	2462091	105.587	ng	100
17) 1,1-Dichloroethene	6.68	96	1613041	93.001	ng	99
18) 2-Methyl-2-Propanol (t...	6.81	59	9628106	203.737	ng	98
19) Methylene Chloride	6.83	84	1629816	85.330	ng	99
20) 3-Chloro-1-propene (Al...	6.93	41	3059067	139.885	ng	99
21) Trichlorotrifluoroethane	7.08	151	1337630	80.595	ng	99
22) Carbon Disulfide	7.06	76	5867393	86.318	ng	99
23) trans-1,2-Dichloroethene	7.72	61	2599609	108.437	ng	100
24) 1,1-Dichloroethane	7.91	63	2919768	91.414	ng	99
25) Methyl tert-Butyl Ether	7.96	73	5447266	94.063	ng	99
26) Vinyl Acetate	8.07	86	2213365	415.185	ng	# 71
27) 2-Butanone (MEK)	8.27	72	1193324	93.531	ng	100
28) cis-1,2-Dichloroethene	8.68	61	2469082	100.053	ng	100
29) Diisopropyl Ether	8.87	87	1275223	75.088	ng	# 85
30) Ethyl Acetate	8.88	61	1147342	165.015	ng	99
31) n-Hexane	8.87	57	2400338	73.249	ng	100
32) Chloroform	8.96	83	2942991	90.805	ng	99
34) Tetrahydrofuran (THF)	9.28	72	1183337	101.106	ng	99
35) Ethyl tert-Butyl Ether	9.34	87	2218279	92.082	ng	99
36) 1,2-Dichloroethane	9.61	62	2519116	94.865	ng	99
38) 1,1,1-Trichloroethane	9.84	97	2783432	91.978	ng	99
39) Isopropyl Acetate	10.14	61	2105311	170.958	ng	# 84
40) 1-Butanol	10.18	56	4645094	231.549	ng	95
41) Benzene	10.25	78	6152039	80.750	ng	99
42) Carbon Tetrachloride	10.38	117	2370321	92.490	ng	100
43) Cyclohexane	10.50	84	5112100	153.606	ng	99
44) tert-Amyl Methyl Ether	10.76	73	5051237	92.599	ng	99
45) 1,2-Dichloropropane	10.97	63	1636974	92.445	ng	100
46) Bromodichloromethane	11.14	83	2379686	96.224	ng	99
47) Trichloroethene	11.18	130	1685544	78.930	ng	100
48) 1,4-Dioxane	11.16	88	1472591	97.453	ng	99
49) 2,2,4-Trimethylpentane...	11.23	57	7425477	90.662	ng	98

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Data File: I:\MS08\Data\2017 03\07\03071710.D

Acq On : 7 Mar 2017 4:49

Operator: WA

Sample : 100ng TO-15 ICAL Std

Misc : S29-01231701/S29-03021702 (3/31)

ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 07 07:08:32 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:07:50 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.34	100	1421075	169.788	ng	100
51) n-Heptane	11.45	71	1628453	82.345	ng	99
52) cis-1,3-Dichloropropene	11.95	75	2953496	97.300	ng	99
53) 4-Methyl-2-pentanone	11.97	58	1754392	98.413	ng	95
54) trans-1,3-Dichloropropene	12.42	75	2725249	105.491	ng	99
55) 1,1,2-Trichloroethane	12.59	97	1612209	90.630	ng	99
58) Toluene	12.87	91	6379455	78.091	ng	99
59) 2-Hexanone	13.08	43	4425254	103.002	ng	98
60) Dibromochloromethane	13.26	129	1925916	96.253	ng	99
61) 1,2-Dibromoethane	13.50	107	1816114	96.814	ng	100
62) n-Butyl Acetate	13.67	43	4894411	103.337	ng	98
63) n-Octane	13.80	57	1532783	92.055	ng	98
64) Tetrachloroethene	13.95	166	1743262	74.260	ng	99
65) Chlorobenzene	14.61	112	4193774	75.910	ng	99
66) Ethylbenzene	14.99	91	7523980	82.595	ng	99
67) m- & p-Xylenes	15.18	91	11482229	157.777	ng	100
68) Bromoform	15.25	173	1587231	89.399	ng	100
69) Styrene	15.53	104	4772350	93.949	ng	99
70) o-Xylene	15.64	91	6047278	81.537	ng	100
71) n-Nonane	15.84	43	3608418	92.880	ng	97
72) 1,1,2,2-Tetrachloroethane	15.61	83	2846684	90.886	ng	100
74) Cumene	16.21	105	7303232	77.029	ng	99
75) alpha-Pinene	16.59	93	4139884	85.019	ng	100
76) n-Propylbenzene	16.70	91	8854950	79.498	ng	99
77) 3-Ethyltoluene	16.79	105	7201413	77.937	ng	97
78) 4-Ethyltoluene	16.84	105	6959913	78.703	ng	95
79) 1,3,5-Trimethylbenzene	16.91	105	6148945	76.214	ng	100
80) alpha-Methylstyrene	17.06	118	3437628	81.044	ng	98
81) 2-Ethyltoluene	17.10	105	7107609	76.757	ng	99
82) 1,2,4-Trimethylbenzene	17.31	105	5562177	70.638	ng	99
83) n-Decane	17.41	57	3530097	87.488	ng	99
84) Benzyl Chloride	17.44	91	6122160	104.252	ng	99
85) 1,3-Dichlorobenzene	17.46	146	3367890	76.786	ng	100
86) 1,4-Dichlorobenzene	17.52	146	3548272	76.524	ng	100
87) sec-Butylbenzene	17.56	105	7870065	75.007	ng	98
88) 4-Isopropyltoluene (p-...	17.72	119	6393195	63.554	ng	98
89) 1,2,3-Trimethylbenzene	17.71	105	5424606	68.609	ng	99
90) 1,2-Dichlorobenzene	17.84	146	2979674	68.694	ng	99
91) d-Limonene	17.85	68	2429990	79.054	ng	98
92) 1,2-Dibromo-3-Chloropr...	18.26	157	1330116	86.667	ng	97
93) n-Undecane	18.60	57	3779338	86.965	ng	99
94) 1,2,4-Trichlorobenzene	19.46	180	2620088	74.284	ng	99
95) Naphthalene	19.57	128	7907198	71.712	ng	99
96) n-Dodecane	19.58	57	3404231	84.809	ng	96
97) Hexachlorobutadiene	19.90	225	1544388	72.270	ng	100
98) Cyclohexanone	15.32	55	2835618	105.205	ng	98
99) tert-Butylbenzene	17.31	119	5300109	65.224	ng	99
100) n-Butylbenzene	18.12	91	6681477	84.098	ng	99

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

Data File: I:\MS08\Data\2017 03\07\03071710.D

Acq On : 7 Mar 2017 4:49

Operator: WA

Sample : 100ng TO-15 ICAL Std

Misc : S29-01231701/S29-03021702 (3/31)

ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 07 07:08:32 2017

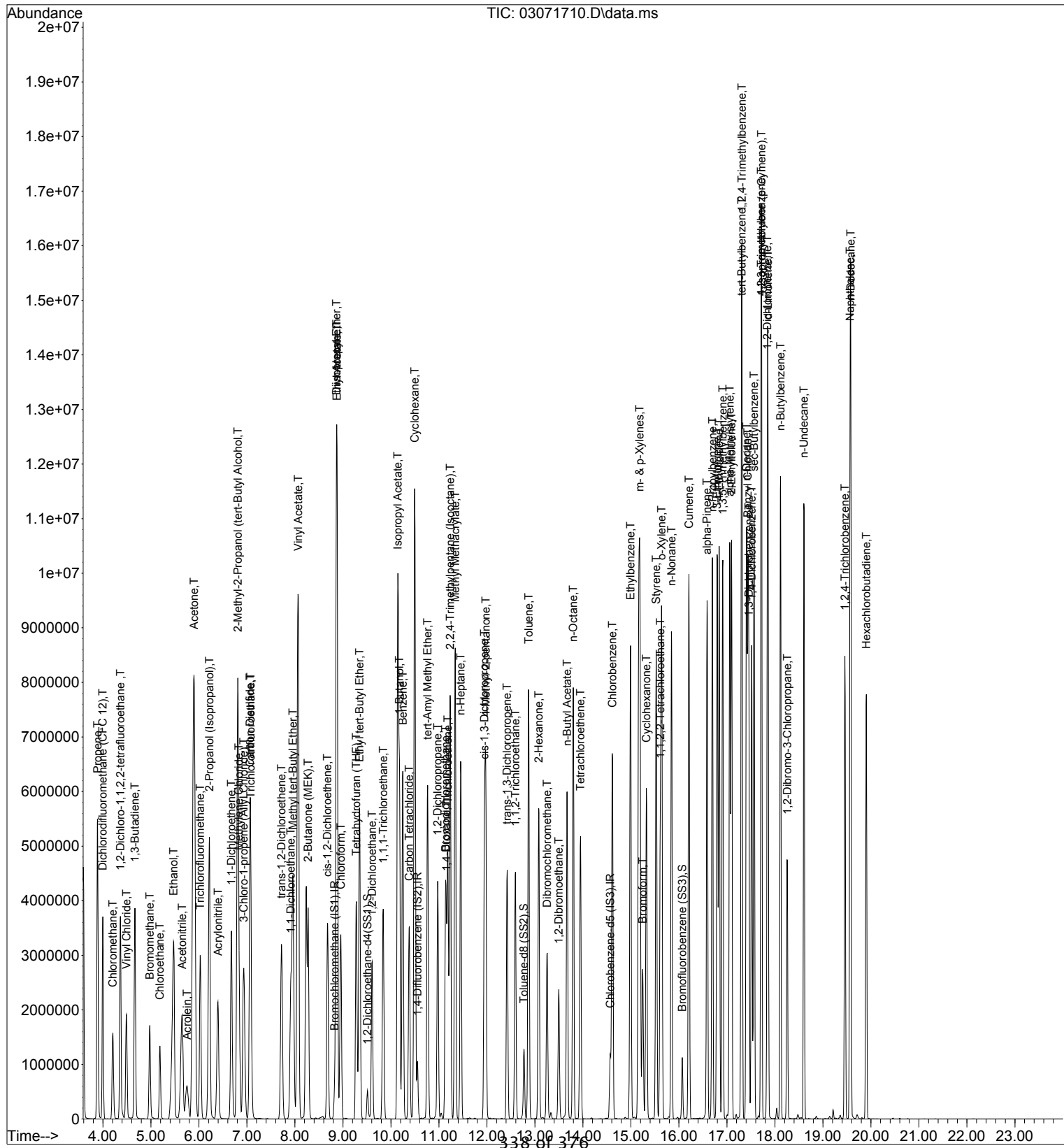
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:07:50 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M



Data File: I:\MS08\Data\2017 03\07\03071712.D

Acq On : 7 Mar 2017 5:53

Operator: WA

Sample : 25ng TO-15 ICV Std

Misc : S29-01231701/S29-02201703 (3/21)

ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 07 07:56:41 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

107 3/7/17

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.81	130	200186	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	10.54	114	924312	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	14.56	82	428935	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.49	65	345687	11.987	ng	-0.02
Spiked Amount	12.500	Range	70 - 130	Recovery	=	95.92%
57) Toluene-d8 (SS2)	12.77	98	997624	12.377	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	99.04%
73) Bromofluorobenzene (SS3)	16.07	174	331507	12.543	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	100.32%

Target Compounds

						Qvalue
2) Propene	3.88	42	493726	23.687	ng	99
3) Dichlorodifluoromethan...	3.99	85	832964	21.637	ng	100
4) Chloromethane	4.20	50	628155	23.343	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	395457	20.316	ng	100
6) Vinyl Chloride	4.47	62	668604	22.479	ng	100
7) 1,3-Butadiene	4.65	54	532687	22.704	ng	100
8) Bromomethane	4.96	94	377303	24.159	ng	100
9) Chloroethane	5.18	64	336157	24.251	ng	100
10) Ethanol	5.41	45	1629181	109.991	ng	100
11) Acetonitrile	5.61	41	921634	23.442	ng	99
12) Acrolein	5.72	56	283193	24.969	ng	100
13) Acetone	5.86	58	1743978	120.152	ng	99
14) Trichlorofluoromethane	6.01	101	727539	21.338	ng	100
15) 2-Propanol (Isopropanol)	6.17	45	2644871	48.774	ng	99
16) Acrylonitrile	6.36	53	632861	26.644	ng	100
17) 1,1-Dichloroethene	6.67	96	420266	24.387	ng	98
18) 2-Methyl-2-Propanol (t...	6.76	59	2610376	48.415	ng	100
19) Methylene Chloride	6.81	84	432325	24.424	ng	99
20) 3-Chloro-1-propene (Al...	6.91	41	814615	25.557	ng	100
21) Trichlorotrifluoroethane	7.07	151	362607	22.917	ng	99
22) Carbon Disulfide	7.05	76	1555417	24.533	ng	100
23) trans-1,2-Dichloroethene	7.70	61	660084	24.113	ng	99
24) 1,1-Dichloroethane	7.90	63	767203	22.560	ng	100
25) Methyl tert-Butyl Ether	7.94	73	1417936	22.997	ng	100
26) Vinyl Acetate	8.04	86	605589	125.404	ng	99
27) 2-Butanone (MEK)	8.25	72	306715	25.002	ng	99
28) cis-1,2-Dichloroethene	8.66	61	626966	23.584	ng	100
29) Diisopropyl Ether	8.85	87	372877	23.066	ng	# 95
30) Ethyl Acetate	8.85	61	315928	54.015	ng	100
31) n-Hexane	8.86	57	667430	21.056	ng	100
32) Chloroform	8.93	83	751120	22.381	ng	100
34) Tetrahydrofuran (THF)	9.26	72	300504	24.524	ng	99
35) Ethyl tert-Butyl Ether	9.33	87	581049	23.224	ng	99
36) 1,2-Dichloroethane	9.59	62	635744	22.004	ng	100
38) 1,1,1-Trichloroethane	9.82	97	703602	23.058	ng	100
39) Isopropyl Acetate	10.12	61	549889	49.532	ng	95
40) 1-Butanol	10.14	56	1119464	51.960	ng	97
41) Benzene	10.23	78	1601610	21.943	ng	100
42) Carbon Tetrachloride	10.37	117	613465	24.494	ng	100
43) Cyclohexane	10.48	84	1401895	44.358	ng	100
44) tert-Amyl Methyl Ether	10.75	73	1342184	23.784	ng	100
45) 1,2-Dichloropropane	10.96	63	412073	22.984	ng	100
46) Bromodichloromethane	11.12	83	609400	25.208	ng	100
47) Trichloroethene	11.17	130	439574	23.076	ng	100
48) 1,4-Dioxane	11.14	88	373797	25.354	ng	100
49) 2,2,4-Trimethylpentane...	11.22	57	1988291	23.273	ng	99

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Data File: I:\MS08\Data\2017 03\07\03071712.D

Acq On : 7 Mar 2017 5:53

Operator: WA

Sample : 25ng TO-15 ICV Std

Misc : S29-01231701/S29-02201703 (3/21)

ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 07 07:56:41 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.32	100	362546	51.863	ng	100
51) n-Heptane	11.45	71	411067	22.063	ng	100
52) cis-1,3-Dichloropropene	11.94	75	707421	26.306	ng	100
53) 4-Methyl-2-pentanone	11.96	58	442391	28.017	ng	100
54) trans-1,3-Dichloropropene	12.41	75	681782	26.337	ng	100
55) 1,1,2-Trichloroethane	12.58	97	413018	24.197	ng	100
58) Toluene	12.86	91	1668159	22.245	ng	100
59) 2-Hexanone	13.07	43	1126969	28.905	ng	100
60) Dibromochloromethane	13.24	129	497988	27.533	ng	100
61) 1,2-Dibromoethane	13.49	107	465771	26.377	ng	100
62) n-Butyl Acetate	13.66	43	1283980	27.213	ng	100
63) n-Octane	13.79	57	385851	23.245	ng	100
64) Tetrachloroethene	13.94	166	464644	23.355	ng	100
65) Chlorobenzene	14.61	112	1128053	23.007	ng	100
66) Ethylbenzene	14.99	91	2013979	23.979	ng	100
67) m- & p-Xylenes	15.16	91	3142110	46.956	ng	100
68) Bromoform	15.23	173	406662	27.699	ng	100
69) Styrene	15.52	104	1242894	26.603	ng	100
70) o-Xylene	15.63	91	1635795	23.749	ng	100
71) n-Nonane	15.84	43	997425	24.017	ng	100
72) 1,1,2,2-Tetrachloroethane	15.61	83	738888	24.865	ng	100
74) Cumene	16.20	105	2044640	23.404	ng	99
75) alpha-Pinene	16.59	93	1112357	24.674	ng	100
76) n-Propylbenzene	16.69	91	2480087	24.180	ng	100
77) 3-Ethyltoluene	16.79	105	1962311	23.353	ng	96
78) 4-Ethyltoluene	16.83	105	2012753	24.867	ng	96
79) 1,3,5-Trimethylbenzene	16.91	105	1703313	23.046	ng	100
80) alpha-Methylstyrene	17.05	118	926645	27.231	ng	99
81) 2-Ethyltoluene	17.09	105	1999475	23.533	ng	100
82) 1,2,4-Trimethylbenzene	17.30	105	1730727	24.466	ng	100
83) n-Decane	17.40	57	995412	24.682	ng	100
84) Benzyl Chloride	17.42	91	1613322	28.395	ng	100
85) 1,3-Dichlorobenzene	17.45	146	934212	23.994	ng	100
86) 1,4-Dichlorobenzene	17.51	146	951889	23.597	ng	100
87) sec-Butylbenzene	17.56	105	2264275	23.763	ng	100
88) 4-Isopropyltoluene (p-...	17.71	119	2127569	24.062	ng	100
89) 1,2,3-Trimethylbenzene	17.71	105	1781911	24.705	ng	100
90) 1,2-Dichlorobenzene	17.84	146	901852	24.152	ng	100
91) d-Limonene	17.85	68	729693	26.579	ng	100
92) 1,2-Dibromo-3-Chloropr...	18.25	157	356780	27.456	ng	100
93) n-Undecane	18.60	57	1060849	26.557	ng	100
94) 1,2,4-Trichlorobenzene	19.46	180	691058	26.693	ng	99
95) Naphthalene	19.56	128	2141167	26.290	ng	100
96) n-Dodecane	19.58	57	1063601	29.063	ng	100
97) Hexachlorobutadiene	19.90	225	432515	24.255	ng	100
98) Cyclohexanone	15.31	55	714661	26.850	ng	100
99) tert-Butylbenzene	17.30	119	1678050	23.450	ng	100
100) n-Butylbenzene	18.11	91	1888674	25.318	ng	100

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

Data File: I:\MS08\Data\2017 03\07\03071712.D

Acq On : 7 Mar 2017 5:53
Sample : 25ng TO-15 ICV Std
Misc : S29-01231701/S29-02201703 (3/21)
ALS Vial : 1 Sample Multiplier: 1

Operator: WA

Quant Time: Mar 07 07:56:41 2017

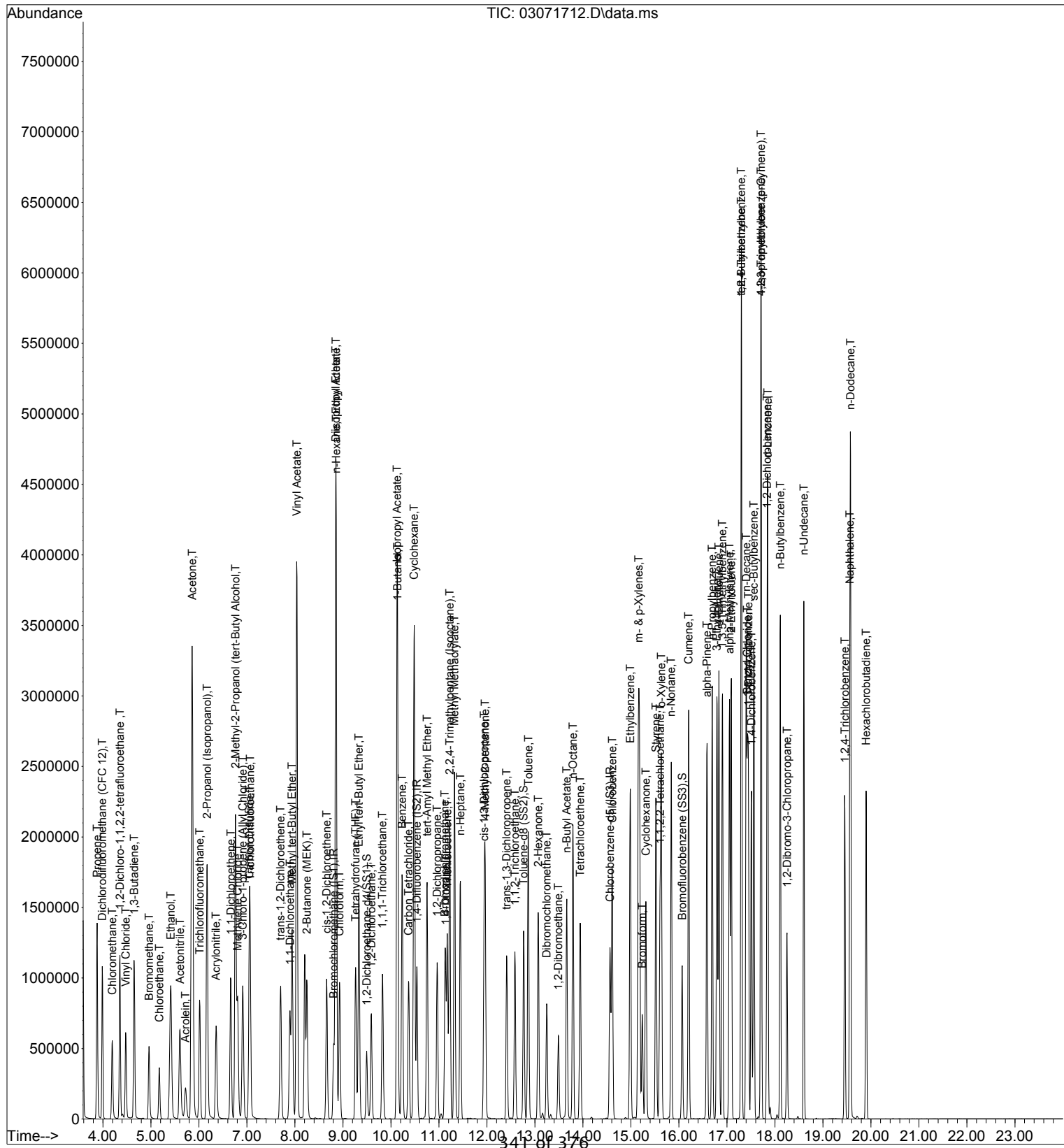
Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:T015.M



Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: 03071712.D

Acq. Method File: TO15.M

3/7/17

Data File Path: I:\MS08\Data\2017_03\071

Sample Name: 25ng TO-15 ICV Std

Operator: WA

Misc Info: S29-01231701/S29-02201703 (

Date Acquired: 3/7/2017

5:53

Instrument Name: MS08

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	Propene	3.88	23.687	26.275	90	52	127	*	*
3)	Dichlorodifluoromethane (CFC 12)	3.99	21.637	26.250	82	68	109	*	*
4)	Chloromethane	4.20	23.343	26.225	89	51	130	*	*
5)	1,2-Dichloro-1,1,2,2-tetrafluoroethane	4.35	20.316	26.375	77	66	114	*	*
6)	Vinyl Chloride	4.47	22.479	26.250	86	61	125	*	*
7)	1,3-Butadiene	4.65	22.704	26.250	86	62	144	*	*
8)	Bromomethane	4.96	24.159	26.250	92	73	123	*	*
9)	Chloroethane	5.18	24.251	26.225	92	69	122	*	*
10)	Ethanol	5.41	109.991	132.650	83	62	124	*	*
11)	Acetonitrile	5.61	23.442	26.650	88	57	114	*	*
12)	Acrolein	5.72	24.969	26.525	94	62	116	*	*
13)	Acetone	5.86	120.152	133.050	90	57	117	*	*
14)	Trichlorofluoromethane	6.01	21.338	26.275	81	63	98	*	*
15)	2-Propanol (Isopropanol)	6.17	48.774	53.025	92	66	121	*	*
16)	Acrylonitrile	6.36	26.644	26.575	100	68	123	*	*
17)	1,1-Dichloroethene	6.67	24.387	26.575	92	76	118	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alcohol)	6.76	48.415	53.275	91	74	126	*	*
19)	Methylene Chloride	6.81	24.424	26.550	92	60	118	*	*
20)	3-Chloro-1-propene (Allyl Chloride)	6.91	25.557	26.500	96	65	126	*	*
21)	Trichlorotrifluoroethane	7.07	22.917	26.450	87	73	114	*	*
22)	Carbon Disulfide	7.05	24.533	26.675	92	57	102	*	*
23)	trans-1,2-Dichloroethene	7.70	24.113	26.675	90	74	123	*	*
24)	1,1-Dichloroethane	7.90	22.560	26.550	85	69	111	*	*
25)	Methyl tert-Butyl Ether	7.94	22.997	26.600	86	69	113	*	*
26)	Vinyl Acetate	8.04	125.404	132.550	95	76	128	*	*
27)	2-Butanone (MEK)	8.25	25.002	26.550	94	63	127	*	*
28)	cis-1,2-Dichloroethene	8.66	23.584	26.475	89	72	117	*	*
29)	Diisopropyl Ether	8.85	23.066	26.575	87	64	118	*	*
30)	Ethyl Acetate	8.85	54.015	53.275	101	68	127	*	*
31)	n-Hexane	8.86	21.056	26.600	79	55	116	*	*
32)	Chloroform	8.93	22.381	26.475	85	70	109	*	*
34)	Tetrahydrofuran (THF)	9.26	24.524	26.575	92	72	113	*	*
35)	Ethyl tert-Butyl Ether	9.33	23.224	26.525	88	73	117	*	*
36)	1,2-Dichloroethane	9.59	22.004	26.500	83	69	113	*	*
38)	1,1,1-Trichloroethane	9.82	23.058	26.475	87	72	115	*	*
39)	Isopropyl Acetate	10.12	49.532	53.050	93	68	122	*	*
40)	1-Butanol	10.14	51.960	53.075	98	75	141	*	*
41)	Benzene	10.23	21.943	26.525	83	65	107	*	*
42)	Carbon Tetrachloride	10.37	24.494	26.600	92	71	113	*	*
43)	Cyclohexane	10.48	44.358	53.125	83	71	115	*	*
44)	tert-Amyl Methyl Ether	10.75	23.784	26.525	90	73	115	*	*
45)	1,2-Dichloropropane	10.96	22.984	26.525	87	71	115	*	*
46)	Bromodichloromethane	11.12	25.208	26.700	94	75	118	*	*
47)	Trichloroethene	11.17	23.076	26.550	87	68	114	*	*
48)	1,4-Dioxane	11.14	25.354	26.600	95	81	131	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	11.22	23.273	26.525	88	68	112	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: 03071712.D

TO15.M

Data File Path: I:\MS08\Data\2017_03\07\

Sample Name: 25ng TO-15 ICV Std

Operator: WA

Misc Info: S29-01231701/S29-02201703 (

Date Acquired: 3/7/2017

5:53

Instrument Name: MS08

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	Methyl Methacrylate	11.32	51.863	53.000	98	72	130	*	*
51)	n-Heptane	11.45	22.063	26.600	83	68	116	*	*
52)	cis-1,3-Dichloropropene	11.94	26.306	26.275	100	77	126	*	*
53)	4-Methyl-2-pentanone	11.96	28.017	26.575	105	69	126	*	*
54)	trans-1,3-Dichloropropene	12.41	26.337	26.675	99	79	125	*	*
55)	1,1,2-Trichloroethane	12.58	24.197	26.525	91	75	119	*	*
58)	Toluene	12.86	22.245	26.450	84	59	118	*	*
59)	2-Hexanone	13.07	28.905	26.575	109	69	129	*	*
60)	Dibromochloromethane	13.24	27.533	26.600	104	74	136	*	*
61)	1,2-Dibromoethane	13.49	26.377	26.450	100	73	131	*	*
62)	n-Butyl Acetate	13.66	27.213	26.950	101	69	130	*	*
63)	n-Octane	13.79	23.245	26.500	88	66	120	*	*
64)	Tetrachloroethene	13.94	23.355	26.575	88	65	130	*	*
65)	Chlorobenzene	14.61	23.007	26.500	87	68	120	*	*
66)	Ethylbenzene	14.99	23.979	26.450	91	68	122	*	*
67)	m- & p-Xylenes	15.16	46.956	53.025	89	68	123	*	*
68)	Bromoform	15.23	27.699	26.550	104	69	130	*	*
69)	Styrene	15.52	26.603	26.475	100	71	133	*	*
70)	o-Xylene	15.63	23.749	26.450	90	68	122	*	*
71)	n-Nonane	15.84	24.017	26.475	91	65	120	*	*
72)	1,1,2,2-Tetrachloroethane	15.61	24.865	26.500	94	69	130	*	*
74)	Cumene	16.20	23.404	26.525	88	70	123	*	*
75)	alpha-Pinene	16.59	24.674	26.575	93	70	128	*	*
76)	n-Propylbenzene	16.69	24.180	26.725	90	69	125	*	*
77)	3-Ethyltoluene	16.79	23.353	26.550	88	67	128	*	*
78)	4-Ethyltoluene	16.83	24.867	26.525	94	67	130	*	*
79)	1,3,5-Trimethylbenzene	16.91	23.046	26.525	87	67	124	*	*
80)	alpha-Methylstyrene	17.05	27.231	26.550	103	67	141	*	*
81)	2-Ethyltoluene	17.09	23.533	26.550	89	67	124	*	*
82)	1,2,4-Trimethylbenzene	17.30	24.466	26.525	92	67	129	*	*
83)	n-Decane	17.40	24.682	26.525	93	66	124	*	*
84)	Benzyl Chloride	17.42	28.395	26.550	107	79	138	*	*
85)	1,3-Dichlorobenzene	17.45	23.994	26.475	91	65	136	*	*
86)	1,4-Dichlorobenzene	17.51	23.597	26.650	89	66	141	*	*
87)	sec-Butylbenzene	17.56	23.763	26.550	90	68	125	*	*
88)	4-Isopropyltoluene (p-Cymene)	17.71	24.062	26.550	91	68	131	*	*
89)	1,2,3-Trimethylbenzene	17.71	24.705	26.500	93	68	132	*	*
90)	1,2-Dichlorobenzene	17.84	24.152	26.550	91	67	136	*	*
91)	d-Limonene	17.85	26.579	26.550	100	71	134	*	*
92)	1,2-Dibromo-3-Chloropropane	18.25	27.456	26.475	104	73	136	*	*
93)	n-Undecane	18.60	26.557	26.600	100	68	132	*	*
94)	1,2,4-Trichlorobenzene	19.46	26.693	26.500	101	64	134	*	*
95)	Naphthalene	19.56	26.290	26.700	98	62	136	*	*
96)	n-Dodecane	19.58	29.063	26.550	109	61	137	*	*
97)	Hexachlorobutadiene	19.90	24.255	26.575	91	60	133	*	*
98)	Cyclohexanone	15.31	26.850	26.575	101	64	131	*	*
99)	tert-Butylbenzene	17.30	23.450	26.500	88	67	128	*	*
100)	n-Butylbenzene	18.11	25.318	26.500	96	68	128	*	*

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

Data File: I:\MS08\Data\2017 03\10\03101722.D

Acq On : 10 Mar 2017 17:26

Operator: WA

Sample : CCV2 CCVend R8031017 25ng

Misc : S29-01231701/S29-03021702 (3/31)

ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 13 07:27:10 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

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)
1 IR	Bromochloromethane (IS1)	1.000	1.000	0.0	90	-0.02
2 T	Propene	1.302	1.479	-13.6	107	-0.01
3 T	Dichlorodifluoromethane (CF	2.404	2.411	-0.3	101	-0.01
4 T	Chloromethane	1.680	1.849	-10.1	99	-0.01
5 T	1,2-Dichloro-1,1,2,2-tetra	1.215	1.108	8.8	91	-0.01
6 T	Vinyl Chloride	1.857	1.852	0.3	91	-0.01
7 T	1,3-Butadiene	1.465	1.529	-4.4	96	-0.01
8 T	Bromomethane	0.975	1.066	-9.3	96	-0.01
9 T	Chloroethane	0.866	0.965	-11.4	103	-0.01
10 T	Ethanol	0.925	0.966	-4.4	100	-0.05
11 T	Acetonitrile	2.455	2.619	-6.7	101	-0.04
12 T	Acrolein	0.708	0.810	-14.4	99	-0.03
13 T	Acetone	0.906	0.949	-4.7	92	-0.03
14 T	Trichlorofluoromethane	2.129	2.065	3.0	98	0.00
15 T	2-Propanol (Isopropanol)	3.386	3.754	-10.9	96	-0.04
16 T	Acrylonitrile	1.483	1.749	-17.9	97	-0.03
17 T	1,1-Dichloroethene	1.076	1.135	-5.5	96	-0.01
18 T	2-Methyl-2-Propanol (tert-B	3.367	3.704	-10.0	97	-0.04
19 T	Methylene Chloride	1.105	1.166	-5.5	93	-0.02
20 T	3-Chloro-1-propene (Allyl C	1.990	2.200	-10.6	98	-0.02
21 T	Trichlorotrifluoroethane	0.988	0.981	0.7	95	-0.01
22 T	Carbon Disulfide	3.959	4.162	-5.1	94	-0.01
23 T	trans-1,2-Dichloroethene	1.709	1.874	-9.7	99	-0.02
24 T	1,1-Dichloroethane	2.123	2.177	-2.5	100	-0.02
25 T	Methyl tert-Butyl Ether	3.850	3.975	-3.2	99	-0.02
26 T	Vinyl Acetate	0.302	0.326	-7.9	91	-0.03
27 T	2-Butanone (MEK)	0.766	0.833	-8.7	93	-0.02
28 T	cis-1,2-Dichloroethene	1.660	1.771	-6.7	98	-0.01
29 T	Diisopropyl Ether	1.009	1.001	0.8	94	-0.01
30 T	Ethyl Acetate	0.365	0.436	-19.5	94	-0.02
31 T	n-Hexane	1.979	1.899	4.0	97	-0.01
32 T	Chloroform	2.096	2.102	-0.3	96	-0.02
33 S	1,2-Dichloroethane-d4 (SS1)	1.801	1.839	-2.1	96	-0.01
34 T	Tetrahydrofuran (THF)	0.765	0.823	-7.6	96	-0.01
35 T	Ethyl tert-Butyl Ether	1.562	1.586	-1.5	95	-0.01
36 T	1,2-Dichloroethane	1.804	1.859	-3.0	101	-0.02
37 IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	93	-0.01
38 T	1,1,1-Trichloroethane	0.413	0.425	-2.9	98	-0.01
39 T	Isopropyl Acetate	0.150	0.162	-8.0	93	-0.01
40 T	1-Butanol	0.291	0.357	-22.7	92	-0.04
41 T	Benzene	0.987	0.930	5.8	94	-0.01
42 T	Carbon Tetrachloride	0.339	0.369	-8.8	97	-0.01
43 T	Cyclohexane	0.427	0.405	5.2	93	-0.01
44 T	tert-Amyl Methyl Ether	0.763	0.790	-3.5	95	-0.01
45 T	1,2-Dichloropropane	0.242	0.244	-0.8	98	0.00
46 T	Bromodichloromethane	0.327	0.357	-9.2	95	0.00
47 T	Trichloroethene	0.258	0.257	0.4	96	0.00
48 T	1,4-Dioxane	0.199	0.219	-10.1	94	-0.01
49 T	2,2,4-Trimethylpentane (Iso	1.155	1.175	-1.7	96	0.00
50 T	Methyl Methacrylate	0.095	0.105	-10.5	92	-0.01
51 T	n-Heptane	0.252	0.244	3.2	97	0.00
52 T	cis-1,3-Dichloropropene	0.364	0.421	-15.7	96	0.00
53 T	4-Methyl-2-pentanone	0.214	0.264	-23.4	95	-0.01
54 T	trans-1,3-Dichloropropene	0.350	0.411	-17.4	97	0.00

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Data File: I:\MS08\Data\2017 03\10\03101722.D

Acq On : 10 Mar 2017 17:26

Operator: WA

Sample : CCV2 CCVend R8031017 25ng

Misc : S29-01231701/S29-03021702 (3/31)

ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 13 07:27:10 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

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	0.231	0.240	-3.9	94	-0.01
56 IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	86	0.00
57 S	Toluene-d8 (SS2)	2.349	2.411	-2.6	90	0.00
58 T	Toluene	2.185	2.210	-1.1	92	0.00
59 T	2-Hexanone	1.136	1.575	-38.6#	96	0.00
60 T	Dibromochloromethane	0.527	0.662	-25.6	94	0.00
61 T	1,2-Dibromoethane	0.515	0.613	-19.0	93	0.00
62 T	n-Butyl Acetate	1.375	1.727	-25.6	96	0.00
63 T	n-Octane	0.484	0.524	-8.3	96	0.00
64 T	Tetrachloroethene	0.580	0.604	-4.1	93	0.00
65 T	Chlorobenzene	1.429	1.467	-2.7	91	0.00
66 T	Ethylbenzene	2.448	2.667	-8.9	93	0.00
67 T	m- & p-Xylenes	1.950	2.076	-6.5	92	-0.01
68 T	Bromoform	0.428	0.534	-24.8	92	0.00
69 T	Styrene	1.362	1.636	-20.1	90	0.00
70 T	o-Xylene	2.007	2.159	-7.6	92	0.00
71 T	n-Nonane	1.210	1.359	-12.3	96	0.00
72 T	1,1,2,2-Tetrachloroethane	0.866	0.975	-12.6	90	0.00
73 S	Bromofluorobenzene (SS3)	0.770	0.727	5.6	80	0.00
74 T	Cumene	2.546	2.672	-4.9	91	0.00
75 T	alpha-Pinene	1.314	1.466	-11.6	92	0.00
76 T	n-Propylbenzene	2.989	3.236	-8.3	91	0.00
77 T	3-Ethyltoluene	2.449	2.778	-13.4	96	0.00
78 T	4-Ethyltoluene	2.359	2.437	-3.3	85	0.00
79 T	1,3,5-Trimethylbenzene	2.154	2.253	-4.6	91	0.00
80 T	alpha-Methylstyrene	0.992	1.220	-23.0	89	0.00
81 T	2-Ethyltoluene	2.476	2.590	-4.6	91	0.00
82 T	1,2,4-Trimethylbenzene	2.061	2.301	-11.6	91	-0.01
83 T	n-Decane	1.175	1.339	-14.0	93	0.00
84 T	Benzyl Chloride	1.656	2.220	-34.1#	92	-0.01
85 T	1,3-Dichlorobenzene	1.135	1.236	-8.9	89	-0.01
86 T	1,4-Dichlorobenzene	1.176	1.270	-8.0	90	0.00
87 T	sec-Butylbenzene	2.777	2.959	-6.6	90	0.00
88 T	4-Isopropyltoluene (p-Cymen	2.577	2.827	-9.7	90	0.00
89 T	1,2,3-Trimethylbenzene	2.102	2.332	-10.9	91	0.00
90 T	1,2-Dichlorobenzene	1.088	1.171	-7.6	88	0.00
91 T	d-Limonene	0.800	1.022	-27.7	93	0.00
92 T	1,2-Dibromo-3-Chloropropane	0.379	0.461	-21.6	88	0.00
93 T	n-Undecane	1.164	1.434	-23.2	93	0.00
94 T	1,2,4-Trichlorobenzene	0.754	0.960	-27.3	90	0.00
95 T	Naphthalene	2.373	3.117	-31.4#	89	0.00
96 T	n-Dodecane	1.066	1.486	-39.4#	93	0.00
97 T	Hexachlorobutadiene	0.520	0.565	-8.7	91	0.00
98 T	Cyclohexanone	0.776	0.969	-24.9	92	-0.01
99 T	tert-Butylbenzene	2.085	2.197	-5.4	90	0.00
100 T	n-Butylbenzene	2.174	2.512	-15.5	91	0.00

(#)= Out of Range

SPCC's out = 0 CCC's out = 0

Data File: I:\MS08\Data\2017 03\10\03101722.D

Acq On : 10 Mar 2017 17:26

Operator: WA

Sample : CCV2 CCVend R8031017 25ng

Misc : S29-01231701/S29-03021702 (3/31)

ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 13 07:27:10 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

3/13/17

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.81	130	157881	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	10.54	114	737958	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	14.57	82	326222	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.50	65	290344	12.766	ng	-0.01
Spiked Amount	12.500	Range	70 - 130	Recovery	=	102.16%
57) Toluene-d8 (SS2)	12.77	98	786442	12.829	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	102.64%
73) Bromofluorobenzene (SS3)	16.07	174	237161	11.799	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	94.40%

Target Compounds

						Qvalue
2) Propene	3.88	42	483955	29.440	ng	100
3) Dichlorodifluoromethan...	3.99	85	797148	26.255	ng	99
4) Chloromethane	4.20	50	586793	27.649	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	351468	22.895	ng	100
6) Vinyl Chloride	4.48	62	598137	25.499	ng	100
7) 1,3-Butadiene	4.66	54	510313	27.578	ng	100
8) Bromomethane	4.97	94	334194	27.132	ng	99
9) Chloroethane	5.18	64	307552	28.132	ng	100
10) Ethanol	5.42	45	1587768	135.918	ng	100
11) Acetonitrile	5.61	41	865005	27.898	ng	99
12) Acrolein	5.72	56	266148	29.754	ng	100
13) Acetone	5.86	58	1591669	139.042	ng	95
14) Trichlorofluoromethane	6.02	101	683852	25.431	ng	100
15) 2-Propanol (Isopropanol)	6.18	45	2495090	58.341	ng	100
16) Acrylonitrile	6.36	53	582534	31.097	ng	99
17) 1,1-Dichloroethene	6.67	96	379558	27.927	ng	96
18) 2-Methyl-2-Propanol (t...	6.77	59	2472763	58.152	ng	99
19) Methylene Chloride	6.81	84	389330	27.889	ng	96
20) 3-Chloro-1-propene (Al...	6.91	41	730804	29.071	ng	98
21) Trichlorotrifluoroethane	7.07	151	325065	26.049	ng	100
22) Carbon Disulfide	7.05	76	1394497	27.889	ng	100
23) trans-1,2-Dichloroethene	7.70	61	631254	29.239	ng	97
24) 1,1-Dichloroethane	7.90	63	701190	26.144	ng	100
25) Methyl tert-Butyl Ether	7.94	73	1338090	27.517	ng	98
26) Vinyl Acetate	8.04	86	541600	142.205	ng	# 91
27) 2-Butanone (MEK)	8.25	72	275969	28.523	ng	93
28) cis-1,2-Dichloroethene	8.67	61	595068	28.382	ng	97
29) Diisopropyl Ether	8.85	87	335600	26.323	ng	# 95
30) Ethyl Acetate	8.85	61	292814	63.477	ng	99
31) n-Hexane	8.86	57	637502	25.501	ng	100
32) Chloroform	8.94	83	702092	26.526	ng	100
34) Tetrahydrofuran (THF)	9.27	72	276150	28.575	ng	96
35) Ethyl tert-Butyl Ether	9.33	87	529264	26.822	ng	97
36) 1,2-Dichloroethane	9.59	62	617406	27.095	ng	100
38) 1,1,1-Trichloroethane	9.83	97	673607	27.649	ng	100
39) Isopropyl Acetate	10.13	61	502649	56.711	ng	97
40) 1-Butanol	10.14	56	1107729	64.399	ng	97
41) Benzene	10.24	78	1444463	24.787	ng	100
42) Carbon Tetrachloride	10.37	117	573914	28.702	ng	99
43) Cyclohexane	10.48	84	1272925	50.449	ng	98
44) tert-Amyl Methyl Ether	10.75	73	1228236	27.261	ng	99
45) 1,2-Dichloropropane	10.97	63	382976	26.756	ng	100
46) Bromodichloromethane	11.13	83	561510	29.092	ng	100
47) Trichloroethene	11.18	130	401533	26.402	ng	100
48) 1,4-Dioxane	11.15	88	343503	29.183	ng	98
49) 2,2,4-Trimethylpentane...	11.23	57	1837299	26.936	ng	100

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Data File: I:\MS08\Data\2017 03\10\03101722.D

Acq On : 10 Mar 2017 17:26

Operator: WA

Sample : CCV2 CCVend R8031017 25ng

Misc : S29-01231701/S29-03021702 (3/31)

ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 13 07:27:10 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

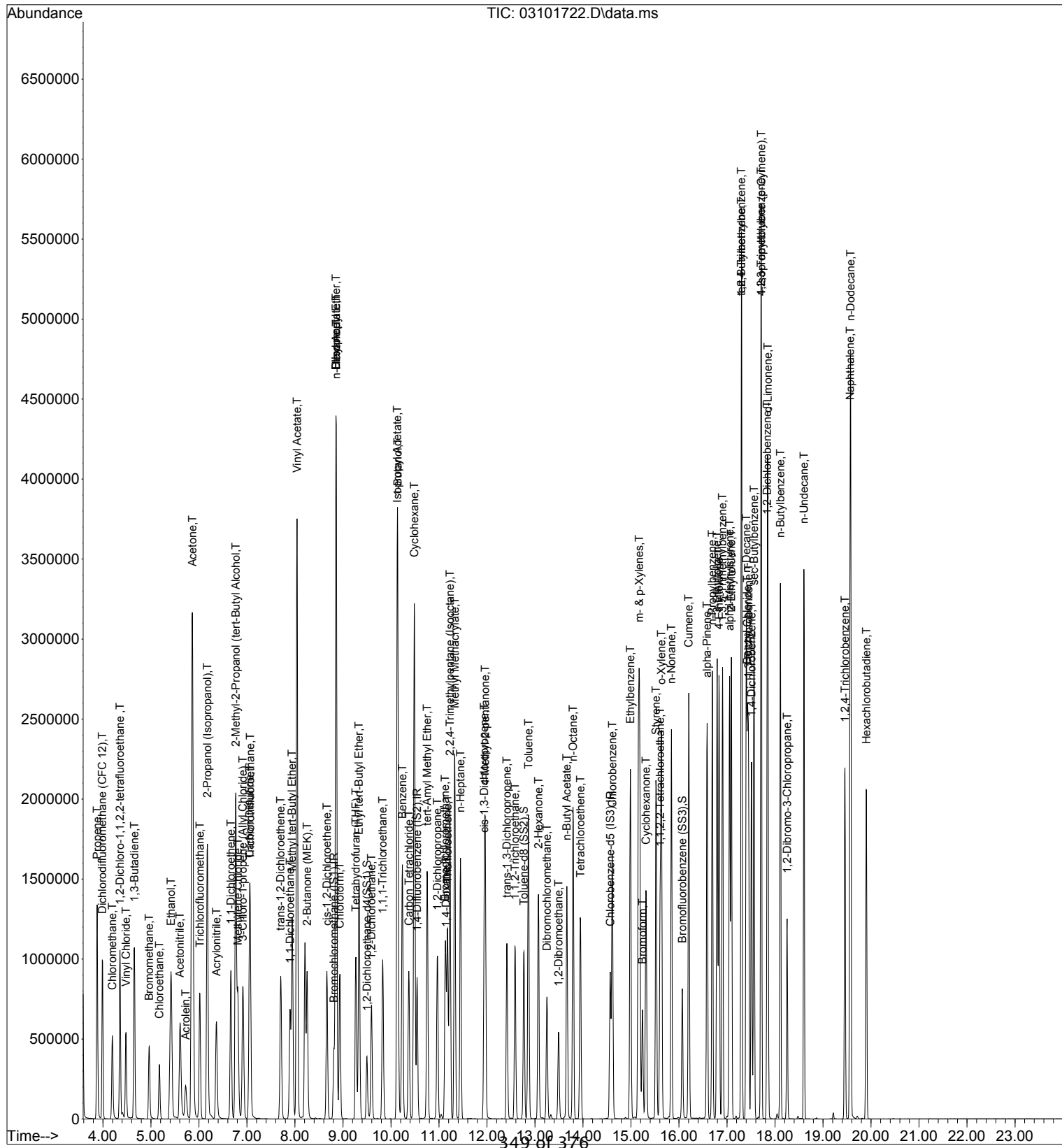
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.33	100	326789	58.553	ng	97
51) n-Heptane	11.45	71	382126	25.689	ng	99
52) cis-1,3-Dichloropropene	11.94	75	694125	32.330	ng	100
53) 4-Methyl-2-pentanone	11.96	58	411658	32.654	ng	98
54) trans-1,3-Dichloropropene	12.42	75	645308	31.222	ng	100
55) 1,1,2-Trichloroethane	12.58	97	375893	27.583	ng	100
58) Toluene	12.86	91	1518405	26.623	ng	100
59) 2-Hexanone	13.07	43	1090383	36.772	ng	98
60) Dibromochloromethane	13.25	129	458475	33.330	ng	100
61) 1,2-Dibromoethane	13.49	107	422507	31.460	ng	99
62) n-Butyl Acetate	13.66	43	1199183	33.418	ng	99
63) n-Octane	13.79	57	361140	28.606	ng	98
64) Tetrachloroethene	13.95	166	418055	27.629	ng	100
65) Chlorobenzene	14.61	112	1015840	27.241	ng	100
66) Ethylbenzene	14.99	91	1835765	28.739	ng	99
67) m- & p-Xylenes	15.17	91	2875630	56.504	ng	99
68) Bromoform	15.24	173	370667	33.197	ng	100
69) Styrene	15.52	104	1132824	31.881	ng	99
70) o-Xylene	15.63	91	1484996	28.348	ng	99
71) n-Nonane	15.84	43	934845	29.597	ng	98
72) 1,1,2,2-Tetrachloroethane	15.61	83	671600	29.716	ng	100
74) Cumene	16.20	105	1830164	27.545	ng	99
75) alpha-Pinene	16.59	93	998721	29.128	ng	99
76) n-Propylbenzene	16.69	91	2244570	28.774	ng	99
77) 3-Ethyltoluene	16.79	105	1902899	29.777	ng	96
78) 4-Ethyltoluene	16.83	105	1668229	27.100	ng	97
79) 1,3,5-Trimethylbenzene	16.91	105	1541906	27.431	ng	99
80) alpha-Methylstyrene	17.05	118	835773	32.294	ng	100
81) 2-Ethyltoluene	17.09	105	1794816	27.775	ng	99
82) 1,2,4-Trimethylbenzene	17.30	105	1579284	29.355	ng	99
83) n-Decane	17.40	57	919630	29.983	ng	99
84) Benzyl Chloride	17.42	91	1536898	35.567	ng	99
85) 1,3-Dichlorobenzene	17.45	146	853105	28.810	ng	100
86) 1,4-Dichlorobenzene	17.51	146	876528	28.571	ng	100
87) sec-Butylbenzene	17.56	105	2034867	28.079	ng	99
88) 4-Isopropyltoluene (p-...	17.71	119	1894415	28.171	ng	99
89) 1,2,3-Trimethylbenzene	17.71	105	1562374	28.481	ng	99
90) 1,2-Dichlorobenzene	17.84	146	808668	28.475	ng	100
91) d-Limonene	17.85	68	669862	32.082	ng	98
92) 1,2-Dibromo-3-Chloropr...	18.25	157	316619	32.037	ng	93
93) n-Undecane	18.60	57	986456	32.470	ng	99
94) 1,2,4-Trichlorobenzene	19.46	180	653239	33.176	ng	100
95) Naphthalene	19.57	128	2202784	35.562	ng	100
96) n-Dodecane	19.58	57	1012828	36.389	ng	99
97) Hexachlorobutadiene	19.90	225	390567	28.799	ng	100
98) Cyclohexanone	15.31	55	667571	32.978	ng	98
99) tert-Butylbenzene	17.30	119	1506615	27.683	ng	100
100) n-Butylbenzene	18.11	91	1730835	30.508	ng	100

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

ALS Vial : 15 Sample Multiplier: 1

DataAcq Meth:T015.M



Data File: I:\MS08\Data\2017 03\11\03111702.D

Acq On : 11 Mar 2017 5:48

Operator: WA

Sample : CCV R8031117 5ng

Misc : S29-01231701/S29-03021702 (3/31)

ALS Vial : 16 Sample Multiplier: 1

Quant Time: Mar 13 07:54:27 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

WA 3/13/17

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	100	-0.03
2 T	Propene	1.302	1.347	-3.5	120	0.00
3 T	Dichlorodifluoromethane (CF	2.404	2.208	8.2	104	0.00
4 T	Chloromethane	1.680	1.482	11.8	103	0.00
5 T	1,2-Dichloro-1,1,2,2-tetra	1.215	1.048	13.7	97	-0.01
6 T	Vinyl Chloride	1.857	1.608	13.4	91	-0.02
7 T	1,3-Butadiene	1.465	1.262	13.9	96	-0.02
8 T	Bromomethane	0.975	0.971	0.4	101	-0.02
9 T	Chloroethane	0.866	0.878	-1.4	106	-0.02
10 T	Ethanol	0.925	0.863	6.7	111	-0.09
11 T	Acetonitrile	2.455	2.374	3.3	110	-0.06
12 T	Acrolein	0.708	0.691	2.4	109	-0.04
13 T	Acetone	0.906	0.903	0.3	105	-0.06
14 T	Trichlorofluoromethane	2.129	1.939	8.9	104	-0.01
15 T	2-Propanol (Isopropanol)	3.386	3.275	3.3	106	-0.08
16 T	Acrylonitrile	1.483	1.565	-5.5	110	-0.05
17 T	1,1-Dichloroethene	1.076	1.072	0.4	110	-0.02
18 T	2-Methyl-2-Propanol (tert-B	3.367	3.380	-0.4	110	-0.08
19 T	Methylene Chloride	1.105	1.101	0.4	108	-0.04
20 T	3-Chloro-1-propene (Allyl C	1.990	1.950	2.0	107	-0.03
21 T	Trichlorotrifluoroethane	0.988	0.951	3.7	108	-0.02
22 T	Carbon Disulfide	3.959	3.904	1.4	109	-0.02
23 T	trans-1,2-Dichloroethene	1.709	1.676	1.9	107	-0.03
24 T	1,1-Dichloroethane	2.123	2.014	5.1	108	-0.03
25 T	Methyl tert-Butyl Ether	3.850	3.663	4.9	109	-0.02
26 T	Vinyl Acetate	0.302	0.297	1.7	98	-0.04
27 T	2-Butanone (MEK)	0.766	0.804	-5.0	106	-0.03
28 T	cis-1,2-Dichloroethene	1.660	1.602	3.5	107	-0.03
29 T	Diisopropyl Ether	1.009	0.964	4.5	105	-0.02
30 T	Ethyl Acetate	0.365	0.402	-10.1	105	-0.03
31 T	n-Hexane	1.979	1.866	5.7	105	-0.02
32 T	Chloroform	2.096	1.923	8.3	104	-0.04
33 S	1,2-Dichloroethane-d4 (SS1)	1.801	1.753	2.7	97	-0.03
34 T	Tetrahydrofuran (THF)	0.765	0.765	0.0	106	-0.02
35 T	Ethyl tert-Butyl Ether	1.562	1.498	4.1	107	-0.02
36 T	1,2-Dichloroethane	1.804	1.669	7.5	103	-0.03
37 IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	99	-0.02
38 T	1,1,1-Trichloroethane	0.413	0.391	5.3	105	-0.02
39 T	Isopropyl Acetate	0.150	0.151	-0.7	106	-0.02
40 T	1-Butanol	0.291	0.291	0.0	108	-0.05
41 T	Benzene	0.987	0.902	8.6	105	-0.02
42 T	Carbon Tetrachloride	0.339	0.335	1.2	107	-0.02
43 T	Cyclohexane	0.427	0.390	8.7	105	-0.02
44 T	tert-Amyl Methyl Ether	0.763	0.736	3.5	106	-0.02
45 T	1,2-Dichloropropane	0.242	0.228	5.8	106	-0.01
46 T	Bromodichloromethane	0.327	0.325	0.6	106	-0.01
47 T	Trichloroethene	0.258	0.254	1.6	109	-0.01
48 T	1,4-Dioxane	0.199	0.205	-3.0	107	-0.02
49 T	2,2,4-Trimethylpentane (Iso	1.155	1.087	5.9	107	-0.01
50 T	Methyl Methacrylate	0.095	0.100	-5.3	107	-0.02
51 T	n-Heptane	0.252	0.242	4.0	107	-0.01
52 T	cis-1,3-Dichloropropene	0.364	0.389	-6.9	107	-0.01
53 T	4-Methyl-2-pentanone	0.214	0.237	-10.7	107	-0.01
54 T	trans-1,3-Dichloropropene	0.350	0.362	-3.7	107	-0.01

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Data File: I:\MS08\Data\2017 03\11\03111702.D

Acq On : 11 Mar 2017 5:48

Operator: WA

Sample : CCV R8031117 5ng

Misc : S29-01231701/S29-03021702 (3/31)

ALS Vial : 16 Sample Multiplier: 1

Quant Time: Mar 13 07:54:27 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

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	0.231	0.226	2.2	108	-0.01
56 IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	93	0.00
57 S	Toluene-d8 (SS2)	2.349	2.418	-2.9	95	0.00
58 T	Toluene	2.185	2.153	1.5	104	-0.01
59 T	2-Hexanone	1.136	1.392	-22.5	105	0.00
60 T	Dibromochloromethane	0.527	0.601	-14.0	106	-0.01
61 T	1,2-Dibromoethane	0.515	0.573	-11.3	105	-0.01
62 T	n-Butyl Acetate	1.375	1.540	-12.0	105	0.00
63 T	n-Octane	0.484	0.490	-1.2	106	0.00
64 T	Tetrachloroethene	0.580	0.599	-3.3	107	0.00
65 T	Chlorobenzene	1.429	1.428	0.1	104	0.00
66 T	Ethylbenzene	2.448	2.529	-3.3	105	0.00
67 T	m- & p-Xylenes	1.950	1.953	-0.2	103	-0.02
68 T	Bromoform	0.428	0.485	-13.3	107	-0.01
69 T	Styrene	1.362	1.537	-12.8	102	0.00
70 T	o-Xylene	2.007	2.048	-2.0	102	0.00
71 T	n-Nonane	1.210	1.230	-1.7	102	0.00
72 T	1,1,2,2-Tetrachloroethane	0.866	0.916	-5.8	101	0.00
73 S	Bromofluorobenzene (SS3)	0.770	0.741	3.8	88	0.00
74 T	Cumene	2.546	2.588	-1.6	102	0.00
75 T	alpha-Pinene	1.314	1.389	-5.7	103	0.00
76 T	n-Propylbenzene	2.989	3.101	-3.7	101	0.00
77 T	3-Ethyltoluene	2.449	2.540	-3.7	100	0.00
78 T	4-Ethyltoluene	2.359	2.467	-4.6	100	0.00
79 T	1,3,5-Trimethylbenzene	2.154	2.159	-0.2	99	0.00
80 T	alpha-Methylstyrene	0.992	1.139	-14.8	98	0.00
81 T	2-Ethyltoluene	2.476	2.502	-1.1	98	0.00
82 T	1,2,4-Trimethylbenzene	2.061	2.182	-5.9	99	-0.01
83 T	n-Decane	1.175	1.226	-4.3	100	-0.01
84 T	Benzyl Chloride	1.656	1.841	-11.2	102	-0.01
85 T	1,3-Dichlorobenzene	1.135	1.190	-4.8	98	-0.01
86 T	1,4-Dichlorobenzene	1.176	1.209	-2.8	99	0.00
87 T	sec-Butylbenzene	2.777	2.861	-3.0	98	0.00
88 T	4-Isopropyltoluene (p-Cymen	2.577	2.741	-6.4	98	-0.01
89 T	1,2,3-Trimethylbenzene	2.102	2.209	-5.1	98	0.00
90 T	1,2-Dichlorobenzene	1.088	1.154	-6.1	99	0.00
91 T	d-Limonene	0.800	0.908	-13.5	99	0.00
92 T	1,2-Dibromo-3-Chloropropane	0.379	0.437	-15.3	105	0.00
93 T	n-Undecane	1.164	1.291	-10.9	104	0.00
94 T	1,2,4-Trichlorobenzene	0.754	0.874	-15.9	105	0.00
95 T	Naphthalene	2.373	2.766	-16.6	107	0.00
96 T	n-Dodecane	1.066	1.173	-10.0	104	0.00
97 T	Hexachlorobutadiene	0.520	0.566	-8.8	107	0.00
98 T	Cyclohexanone	0.776	0.867	-11.7	104	-0.01
99 T	tert-Butylbenzene	2.085	2.142	-2.7	98	0.00
100 T	n-Butylbenzene	2.174	2.374	-9.2	99	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Data File: I:\MS08\Data\2017 03\11\03111702.D

Acq On : 11 Mar 2017 5:48

Operator: WA

Sample : CCV R8031117 5ng

Misc : S29-01231701/S29-03021702 (3/31)

ALS Vial : 16 Sample Multiplier: 1

Quant Time: Mar 13 07:54:27 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

107 3/13/17

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.80	130	164838	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	10.53	114	767336	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.56	82	336346	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.48	65	288996	12.170	ng	-0.03
Spiked Amount	12.500	Range	70 - 130	Recovery	=	97.36%
57) Toluene-d8 (SS2)	12.77	98	813307	12.868	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	102.96%
73) Bromofluorobenzene (SS3)	16.07	174	249287	12.029	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	96.24%

Target Compounds

						Qvalue
2) Propene	3.88	42	91988	5.360	ng	99
3) Dichlorodifluoromethan...	3.99	85	152453	4.809	ng	99
4) Chloromethane	4.20	50	98185	4.431	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	69429	4.332	ng	99
6) Vinyl Chloride	4.47	62	108485	4.430	ng	100
7) 1,3-Butadiene	4.65	54	87922	4.551	ng	98
8) Bromomethane	4.96	94	63571	4.943	ng	98
9) Chloroethane	5.17	64	58430	5.119	ng	100
10) Ethanol	5.38	45	296143	24.281	ng	100
11) Acetonitrile	5.58	41	163715	5.057	ng	100
12) Acrolein	5.71	56	47397	5.075	ng	100
13) Acetone	5.84	58	316342	26.468	ng	99
14) Trichlorofluoromethane	6.01	101	134102	4.777	ng	100
15) 2-Propanol (Isopropanol)	6.14	45	454606	10.181	ng	99
16) Acrylonitrile	6.34	53	108889	5.567	ng	100
17) 1,1-Dichloroethene	6.66	96	74843	5.274	ng	100
18) 2-Methyl-2-Propanol (t...	6.74	59	471135	10.612	ng	98
19) Methylene Chloride	6.79	84	76723	5.264	ng	98
20) 3-Chloro-1-propene (Al...	6.91	41	135279	5.154	ng	100
21) Trichlorotrifluoroethane	7.06	151	65795	5.050	ng	98
22) Carbon Disulfide	7.05	76	273116	5.232	ng	100
23) trans-1,2-Dichloroethene	7.69	61	117883	5.230	ng	99
24) 1,1-Dichloroethane	7.88	63	135426	4.836	ng	99
25) Methyl tert-Butyl Ether	7.93	73	257433	5.070	ng	99
26) Vinyl Acetate	8.03	86	103270	25.971	ng	97
27) 2-Butanone (MEK)	8.24	72	55603	5.504	ng	95
28) cis-1,2-Dichloroethene	8.65	61	112414	5.135	ng	100
29) Diisopropyl Ether	8.84	87	67488	5.070	ng	# 95
30) Ethyl Acetate	8.84	61	56400	11.711	ng	97
31) n-Hexane	8.85	57	130752	5.010	ng	99
32) Chloroform	8.92	83	134144	4.854	ng	99
34) Tetrahydrofuran (THF)	9.26	72	53549	5.307	ng	98
35) Ethyl tert-Butyl Ether	9.33	87	104392	5.067	ng	99
36) 1,2-Dichloroethane	9.58	62	115755	4.866	ng	100
38) 1,1,1-Trichloroethane	9.82	97	128780	5.084	ng	99
39) Isopropyl Acetate	10.12	61	97246	10.552	ng	98
40) 1-Butanol	10.13	56	188080	10.516	ng	94
41) Benzene	10.23	78	291161	4.805	ng	100
42) Carbon Tetrachloride	10.36	117	108409	5.214	ng	100
43) Cyclohexane	10.48	84	255009	9.720	ng	97
44) tert-Amyl Methyl Ether	10.75	73	237957	5.079	ng	99
45) 1,2-Dichloropropane	10.96	63	74425	5.000	ng	99
46) Bromodichloromethane	11.12	83	106206	5.292	ng	100
47) Trichloroethene	11.17	130	82523	5.218	ng	99
48) 1,4-Dioxane	11.14	88	66929	5.468	ng	98
49) 2,2,4-Trimethylpentane...	11.22	57	353213	4.980	ng	98

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Data File: I:\MS08\Data\2017 03\11\03111702.D

Acq On : 11 Mar 2017 5:48

Operator: WA

Sample : CCV R8031117 5ng

Misc : S29-01231701/S29-03021702 (3/31)

ALS Vial : 16 Sample Multiplier: 1

Quant Time: Mar 13 07:54:27 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

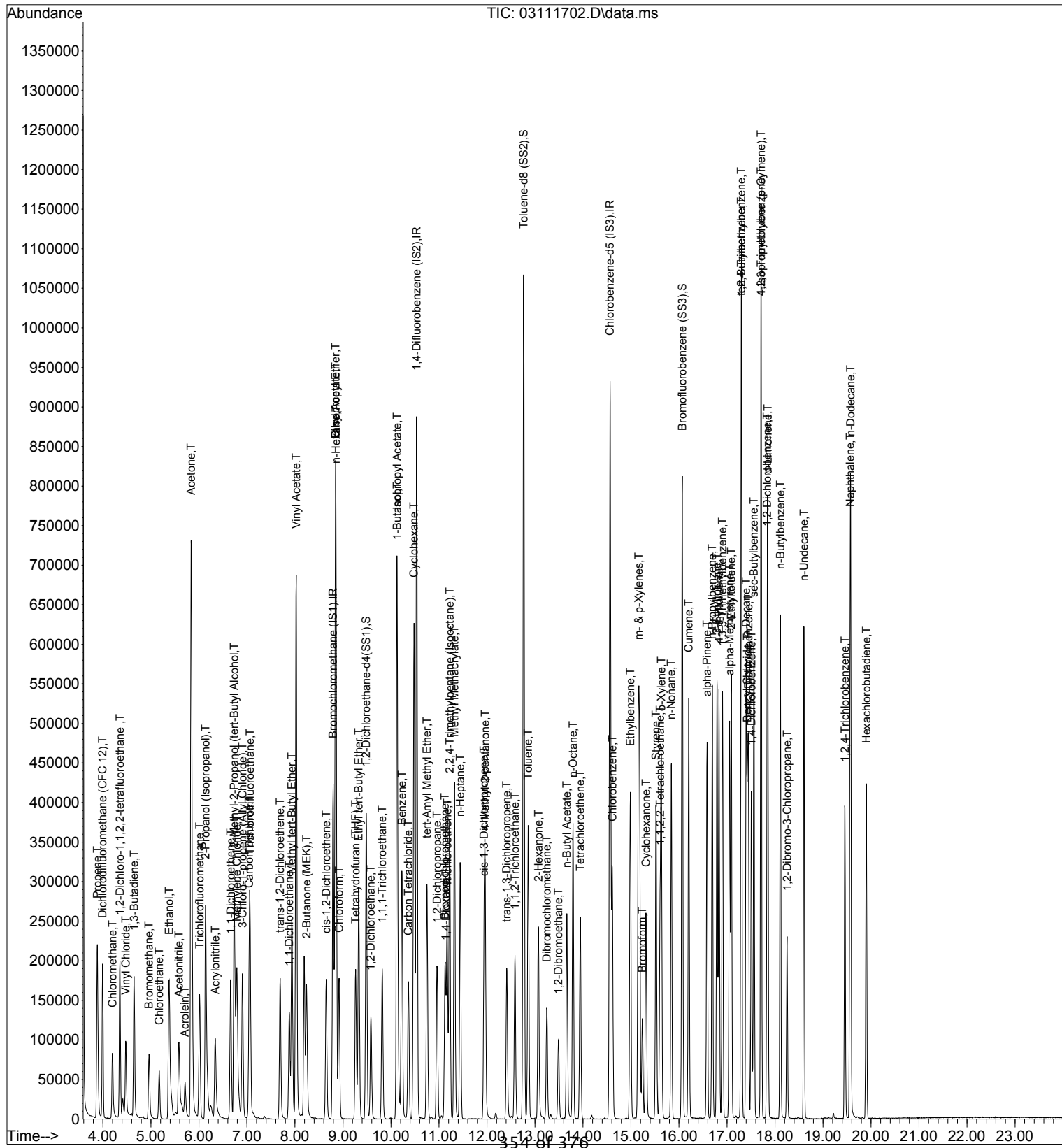
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.32	100	64618	11.135	ng	100
51) n-Heptane	11.44	71	79027	5.109	ng	99
52) cis-1,3-Dichloropropene	11.94	75	133381	5.975	ng	100
53) 4-Methyl-2-pentanone	11.96	58	76942	5.870	ng	100
54) trans-1,3-Dichloropropene	12.41	75	118512	5.515	ng	100
55) 1,1,2-Trichloroethane	12.58	97	73692	5.200	ng	99
58) Toluene	12.86	91	305028	5.187	ng	99
59) 2-Hexanone	13.07	43	198637	6.497	ng	100
60) Dibromochloromethane	13.24	129	85833	6.052	ng	99
61) 1,2-Dibromoethane	13.49	107	81385	5.878	ng	100
62) n-Butyl Acetate	13.66	43	220511	5.960	ng	100
63) n-Octane	13.79	57	69699	5.355	ng	99
64) Tetrachloroethene	13.94	166	85434	5.476	ng	100
65) Chlorobenzene	14.61	112	203902	5.303	ng	100
66) Ethylbenzene	14.99	91	358970	5.451	ng	100
67) m- & p-Xylenes	15.16	91	557755	10.630	ng	99
68) Bromoform	15.23	173	69321	6.022	ng	100
69) Styrene	15.52	104	219336	5.987	ng	99
70) o-Xylene	15.63	91	290463	5.378	ng	100
71) n-Nonane	15.84	43	174486	5.358	ng	98
72) 1,1,2,2-Tetrachloroethane	15.61	83	130078	5.582	ng	100
74) Cumene	16.20	105	365660	5.338	ng	99
75) alpha-Pinene	16.59	93	195147	5.520	ng	100
76) n-Propylbenzene	16.69	91	443544	5.515	ng	99
77) 3-Ethyltoluene	16.79	105	358769	5.445	ng	97
78) 4-Ethyltoluene	16.83	105	348111	5.485	ng	96
79) 1,3,5-Trimethylbenzene	16.91	105	304715	5.258	ng	99
80) alpha-Methylstyrene	17.05	118	160910	6.030	ng	98
81) 2-Ethyltoluene	17.09	105	357460	5.365	ng	100
82) 1,2,4-Trimethylbenzene	17.30	105	308879	5.568	ng	99
83) n-Decane	17.40	57	173739	5.494	ng	99
84) Benzyl Chloride	17.42	91	262821	5.899	ng	99
85) 1,3-Dichlorobenzene	17.45	146	169417	5.549	ng	100
86) 1,4-Dichlorobenzene	17.51	146	172057	5.439	ng	100
87) sec-Butylbenzene	17.56	105	405679	5.429	ng	99
88) 4-Isopropyltoluene (p-...	17.71	119	378729	5.462	ng	99
89) 1,2,3-Trimethylbenzene	17.71	105	305193	5.396	ng	99
90) 1,2-Dichlorobenzene	17.84	146	164276	5.610	ng	99
91) d-Limonene	17.85	68	122767	5.703	ng	99
92) 1,2-Dibromo-3-Chloropr...	18.25	157	61870	6.072	ng	99
93) n-Undecane	18.60	57	183100	5.846	ng	100
94) 1,2,4-Trichlorobenzene	19.46	180	122600	6.039	ng	100
95) Naphthalene	19.57	128	402950	6.310	ng	99
96) n-Dodecane	19.58	57	164909	5.747	ng	99
97) Hexachlorobutadiene	19.90	225	80647	5.768	ng	100
98) Cyclohexanone	15.31	55	123115	5.899	ng	100
99) tert-Butylbenzene	17.30	119	302924	5.398	ng	99
100) n-Butylbenzene	18.11	91	337332	5.767	ng	99

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

ALS Vial : 16 Sample Multiplier: 1

DataAcq Meth:T015.M



Data File: I:\MS08\Data\2017 03\13\03131701.D

Acq On : 13 Mar 2017 6:52

Operator: WA

Sample : CCV R8031317 25ng

Misc : S29-01231701/S29-03021702 (3/31)

ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 13 07:28:30 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

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%

3/13/17

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 IR	Bromochloromethane (IS1)	1.000	1.000	0.0	93	-0.01
2 T	Propene	1.302	1.518	-16.6	114	-0.01
3 T	Dichlorodifluoromethane (CF	2.404	2.368	1.5	103	0.00
4 T	Chloromethane	1.680	1.899	-13.0	106	0.00
5 T	1,2-Dichloro-1,1,2,2-tetra	1.215	1.091	10.2	93	0.00
6 T	Vinyl Chloride	1.857	1.832	1.3	94	-0.01
7 T	1,3-Butadiene	1.465	1.529	-4.4	100	-0.01
8 T	Bromomethane	0.975	1.041	-6.8	97	-0.01
9 T	Chloroethane	0.866	0.943	-8.9	104	0.00
10 T	Ethanol	0.925	0.982	-6.2	105	-0.04
11 T	Acetonitrile	2.455	2.612	-6.4	104	-0.03
12 T	Acrolein	0.708	0.798	-12.7	102	-0.02
13 T	Acetone	0.906	0.933	-3.0	94	-0.03
14 T	Trichlorofluoromethane	2.129	1.981	7.0	98	0.00
15 T	2-Propanol (Isopropanol)	3.386	3.666	-8.3	98	-0.03
16 T	Acrylonitrile	1.483	1.702	-14.8	98	-0.03
17 T	1,1-Dichloroethene	1.076	1.093	-1.6	96	-0.01
18 T	2-Methyl-2-Propanol (tert-B	3.367	3.515	-4.4	95	-0.03
19 T	Methylene Chloride	1.105	1.123	-1.6	93	-0.02
20 T	3-Chloro-1-propene (Allyl C	1.990	2.157	-8.4	99	-0.02
21 T	Trichlorotrifluoroethane	0.988	0.930	5.9	94	0.00
22 T	Carbon Disulfide	3.959	4.114	-3.9	96	-0.01
23 T	trans-1,2-Dichloroethene	1.709	1.783	-4.3	98	-0.01
24 T	1,1-Dichloroethane	2.123	2.025	4.6	96	-0.01
25 T	Methyl tert-Butyl Ether	3.850	3.755	2.5	97	-0.01
26 T	Vinyl Acetate	0.302	0.287	5.0	83	-0.02
27 T	2-Butanone (MEK)	0.766	0.753	1.7	88	-0.02
28 T	cis-1,2-Dichloroethene	1.660	1.668	-0.5	96	-0.01
29 T	Diisopropyl Ether	1.009	0.927	8.1	90	0.00
30 T	Ethyl Acetate	0.365	0.386	-5.8	87	-0.02
31 T	n-Hexane	1.979	1.601	19.1	85	0.00
32 T	Chloroform	2.096	1.946	7.2	93	-0.02
33 S	1,2-Dichloroethane-d4 (SS1)	1.801	1.802	-0.1	98	-0.01
34 T	Tetrahydrofuran (THF)	0.765	0.761	0.5	92	0.00
35 T	Ethyl tert-Butyl Ether	1.562	1.497	4.2	93	0.00
36 T	1,2-Dichloroethane	1.804	1.703	5.6	96	-0.01
37 IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	89	0.00
38 T	1,1,1-Trichloroethane	0.413	0.435	-5.3	96	0.00
39 T	Isopropyl Acetate	0.150	0.159	-6.0	87	0.00
40 T	1-Butanol	0.291	0.367	-26.1	90	-0.03
41 T	Benzene	0.987	0.901	8.7	87	0.00
42 T	Carbon Tetrachloride	0.339	0.377	-11.2	95	0.00
43 T	Cyclohexane	0.427	0.415	2.8	91	0.00
44 T	tert-Amyl Methyl Ether	0.763	0.812	-6.4	93	0.00
45 T	1,2-Dichloropropane	0.242	0.242	0.0	92	0.00
46 T	Bromodichloromethane	0.327	0.358	-9.5	91	0.00
47 T	Trichloroethene	0.258	0.251	2.7	89	0.00
48 T	1,4-Dioxane	0.199	0.221	-11.1	90	-0.01
49 T	2,2,4-Trimethylpentane (Iso	1.155	1.207	-4.5	94	0.00
50 T	Methyl Methacrylate	0.095	0.103	-8.4	86	-0.01
51 T	n-Heptane	0.252	0.228	9.5	87	0.00
52 T	cis-1,3-Dichloropropene	0.364	0.419	-15.1	91	0.00
53 T	4-Methyl-2-pentanone	0.214	0.263	-22.9	90	0.00
54 T	trans-1,3-Dichloropropene	0.350	0.410	-17.1	92	0.00

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Data File: I:\MS08\Data\2017 03\13\03131701.D

Acq On : 13 Mar 2017 6:52

Operator: WA

Sample : CCV R8031317 25ng

Misc : S29-01231701/S29-03021702 (3/31)

ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 13 07:28:30 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

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	0.231	0.242	-4.8	90	0.00
56 IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	89	0.00
57 S	Toluene-d8 (SS2)	2.349	2.250	4.2	87	0.00
58 T	Toluene	2.185	1.992	8.8	86	0.00
59 T	2-Hexanone	1.136	1.442	-26.9	91	0.00
60 T	Dibromochloromethane	0.527	0.612	-16.1	91	0.00
61 T	1,2-Dibromoethane	0.515	0.565	-9.7	88	0.00
62 T	n-Butyl Acetate	1.375	1.586	-15.3	91	0.00
63 T	n-Octane	0.484	0.467	3.5	89	0.00
64 T	Tetrachloroethene	0.580	0.550	5.2	88	0.00
65 T	Chlorobenzene	1.429	1.360	4.8	88	0.00
66 T	Ethylbenzene	2.448	2.448	0.0	88	0.00
67 T	m- & p-Xylenes	1.950	1.899	2.6	87	-0.01
68 T	Bromoform	0.428	0.499	-16.6	89	0.00
69 T	Styrene	1.362	1.507	-10.6	86	0.00
70 T	o-Xylene	2.007	1.992	0.7	88	0.00
71 T	n-Nonane	1.210	1.241	-2.6	91	0.00
72 T	1,1,2,2-Tetrachloroethane	0.866	0.903	-4.3	86	0.00
73 S	Bromofluorobenzene (SS3)	0.770	0.763	0.9	87	0.00
74 T	Cumene	2.546	2.480	2.6	87	0.00
75 T	alpha-Pinene	1.314	1.350	-2.7	88	0.00
76 T	n-Propylbenzene	2.989	2.986	0.1	87	0.00
77 T	3-Ethyltoluene	2.449	2.495	-1.9	89	0.00
78 T	4-Ethyltoluene	2.359	2.291	2.9	83	0.00
79 T	1,3,5-Trimethylbenzene	2.154	2.074	3.7	87	0.00
80 T	alpha-Methylstyrene	0.992	1.119	-12.8	85	0.00
81 T	2-Ethyltoluene	2.476	2.376	4.0	86	0.00
82 T	1,2,4-Trimethylbenzene	2.061	2.115	-2.6	87	0.00
83 T	n-Decane	1.175	1.216	-3.5	88	0.00
84 T	Benzyl Chloride	1.656	2.054	-24.0	89	0.00
85 T	1,3-Dichlorobenzene	1.135	1.137	-0.2	85	0.00
86 T	1,4-Dichlorobenzene	1.176	1.163	1.1	85	0.00
87 T	sec-Butylbenzene	2.777	2.722	2.0	86	0.00
88 T	4-Isopropyltoluene (p-Cymen	2.577	2.615	-1.5	87	0.00
89 T	1,2,3-Trimethylbenzene	2.102	2.158	-2.7	87	0.00
90 T	1,2-Dichlorobenzene	1.088	1.093	-0.5	86	0.00
91 T	d-Limonene	0.800	0.929	-16.1	88	0.00
92 T	1,2-Dibromo-3-Chloropropane	0.379	0.426	-12.4	85	0.00
93 T	n-Undecane	1.164	1.320	-13.4	88	0.00
94 T	1,2,4-Trichlorobenzene	0.754	0.897	-19.0	87	0.00
95 T	Naphthalene	2.373	2.901	-22.3	86	0.00
96 T	n-Dodecane	1.066	1.370	-28.5	89	0.00
97 T	Hexachlorobutadiene	0.520	0.528	-1.5	88	0.00
98 T	Cyclohexanone	0.776	0.892	-14.9	88	0.00
99 T	tert-Butylbenzene	2.085	2.034	2.4	87	0.00
100 T	n-Butylbenzene	2.174	2.318	-6.6	87	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Data File: I:\MS08\Data\2017 03\13\03131701.D

Acq On : 13 Mar 2017 6:52

Operator: WA

Sample : CCV R8031317 25ng

Misc : S29-01231701/S29-03021702 (3/31)

ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 13 07:28:30 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

3/13/17

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.82	130	163851	12.500	ng	-0.01
37) 1,4-Difluorobenzene (IS2)	10.55	114	703693	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.57	82	338279	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.50	65	295265	12.509	ng	-0.01
Spiked Amount	12.500	Range	70 - 130	Recovery	=	100.08%
57) Toluene-d8 (SS2)	12.77	98	761251	11.976	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	95.84%
73) Bromofluorobenzene (SS3)	16.07	174	257952	12.376	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	99.04%

Target Compounds

						Qvalue
2) Propene	3.88	42	515429	30.212	ng	99
3) Dichlorodifluoromethan...	3.99	85	812311	25.779	ng	100
4) Chloromethane	4.20	50	625486	28.398	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.36	135	359383	22.557	ng	100
6) Vinyl Chloride	4.48	62	614193	25.229	ng	100
7) 1,3-Butadiene	4.65	54	529509	27.573	ng	99
8) Bromomethane	4.97	94	338705	26.497	ng	99
9) Chloroethane	5.18	64	311804	27.482	ng	100
10) Ethanol	5.43	45	1675491	138.202	ng	99
11) Acetonitrile	5.62	41	895455	27.827	ng	99
12) Acrolein	5.73	56	272349	29.338	ng	100
13) Acetone	5.87	58	1624873	136.771	ng	97
14) Trichlorofluoromethane	6.02	101	681059	24.405	ng	100
15) 2-Propanol (Isopropanol)	6.19	45	2528565	56.969	ng	99
16) Acrylonitrile	6.37	53	588518	30.272	ng	100
17) 1,1-Dichloroethene	6.67	96	379453	26.902	ng	96
18) 2-Methyl-2-Propanol (t...	6.78	59	2434977	55.177	ng	99
19) Methylene Chloride	6.81	84	389004	26.850	ng	95
20) 3-Chloro-1-propene (Al...	6.92	41	743445	28.496	ng	97
21) Trichlorotrifluoroethane	7.07	151	319583	24.677	ng	99
22) Carbon Disulfide	7.05	76	1430420	27.565	ng	100
23) trans-1,2-Dichloroethene	7.71	61	623606	27.832	ng	98
24) 1,1-Dichloroethane	7.90	63	676868	24.318	ng	100
25) Methyl tert-Butyl Ether	7.95	73	1311724	25.992	ng	99
26) Vinyl Acetate	8.05	86	494382	125.078	ng	# 90
27) 2-Butanone (MEK)	8.26	72	258833	25.777	ng	93
28) cis-1,2-Dichloroethene	8.67	61	581742	26.736	ng	96
29) Diisopropyl Ether	8.86	87	322517	24.375	ng	97
30) Ethyl Acetate	8.86	61	269122	56.216	ng	99
31) n-Hexane	8.87	57	557662	21.495	ng	100
32) Chloroform	8.94	83	674757	24.564	ng	100
34) Tetrahydrofuran (THF)	9.27	72	264690	26.391	ng	96
35) Ethyl tert-Butyl Ether	9.34	87	518618	25.325	ng	98
36) 1,2-Dichloroethane	9.60	62	587249	24.833	ng	100
38) 1,1,1-Trichloroethane	9.83	97	657255	28.292	ng	100
39) Isopropyl Acetate	10.13	61	471256	55.758	ng	95
40) 1-Butanol	10.15	56	1088516	66.363	ng	100
41) Benzene	10.24	78	1333604	23.999	ng	100
42) Carbon Tetrachloride	10.38	117	559210	29.328	ng	100
43) Cyclohexane	10.49	84	1244967	51.743	ng	99
44) tert-Amyl Methyl Ether	10.76	73	1203977	28.024	ng	99
45) 1,2-Dichloropropane	10.97	63	361021	26.450	ng	100
46) Bromodichloromethane	11.13	83	536470	29.148	ng	100
47) Trichloroethene	11.18	130	374477	25.822	ng	100
48) 1,4-Dioxane	11.15	88	329625	29.368	ng	98
49) 2,2,4-Trimethylpentane...	11.23	57	1799364	27.664	ng	100

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Data File: I:\MS08\Data\2017 03\13\03131701.D

Acq On : 13 Mar 2017 6:52

Operator: WA

Sample : CCV R8031317 25ng

Misc : S29-01231701/S29-03021702 (3/31)

ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 13 07:28:30 2017

Quant Method : I:\MS08\Methods\R8030717.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Tue Mar 07 07:25:36 2017

Response via : Initial Calibration

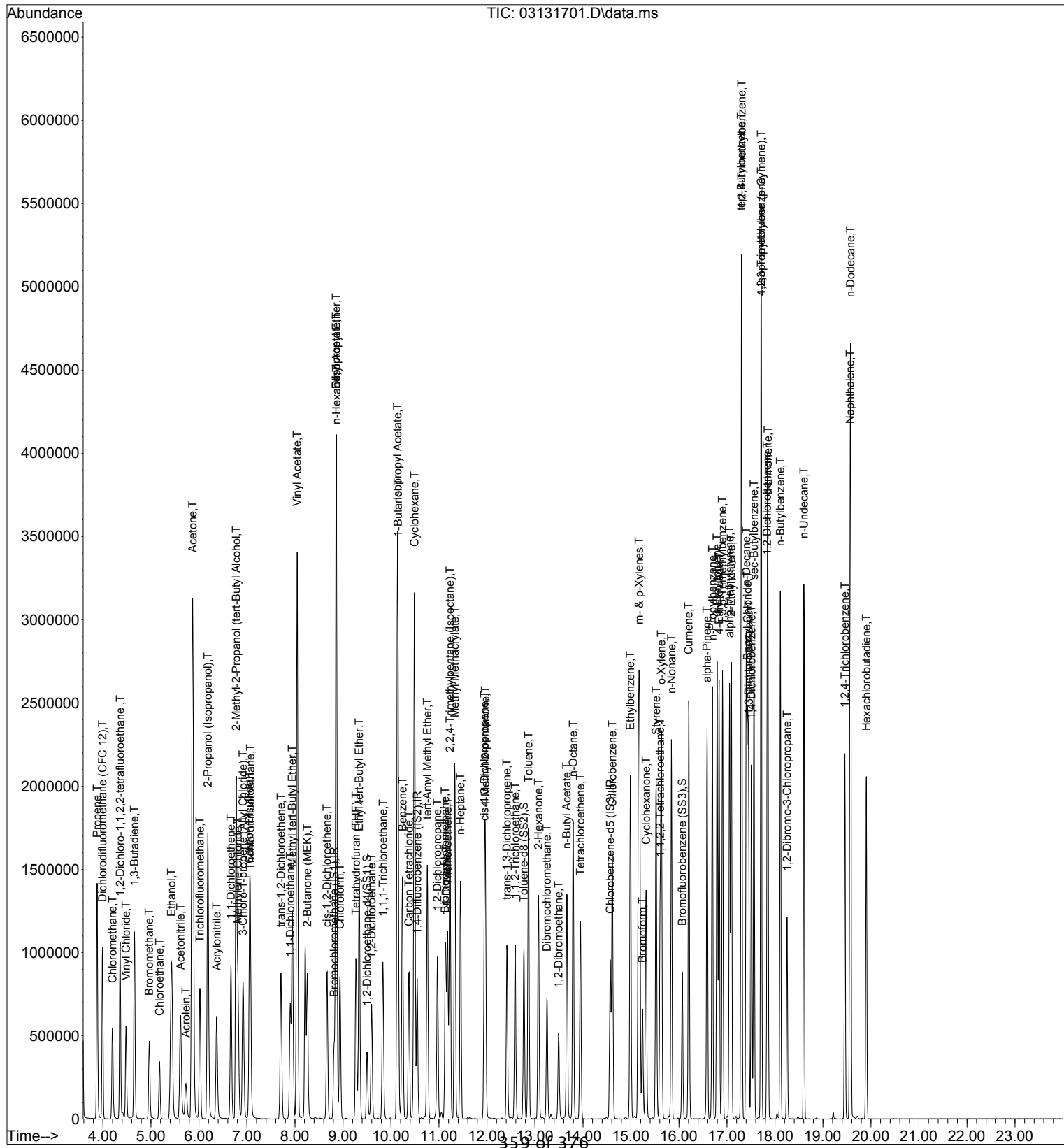
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.33	100	304623	57.239	ng	98
51) n-Heptane	11.45	71	340450	24.002	ng	99
52) cis-1,3-Dichloropropene	11.95	75	658320	32.155	ng	99
53) 4-Methyl-2-pentanone	11.97	58	391978	32.607	ng	98
54) trans-1,3-Dichloropropene	12.42	75	614026	31.156	ng	100
55) 1,1,2-Trichloroethane	12.59	97	360653	27.753	ng	100
58) Toluene	12.86	91	1419209	23.997	ng	100
59) 2-Hexanone	13.07	43	1035010	33.660	ng	98
60) Dibromochloromethane	13.25	129	440026	30.848	ng	100
61) 1,2-Dibromoethane	13.49	107	403653	28.985	ng	100
62) n-Butyl Acetate	13.66	43	1141859	30.687	ng	99
63) n-Octane	13.80	57	334003	25.513	ng	98
64) Tetrachloroethene	13.95	166	395051	25.178	ng	100
65) Chlorobenzene	14.61	112	976204	25.245	ng	100
66) Ethylbenzene	14.99	91	1747451	26.381	ng	99
67) m- & p-Xylenes	15.17	91	2727728	51.688	ng	99
68) Bromoform	15.24	173	358688	30.979	ng	100
69) Styrene	15.53	104	1082095	29.368	ng	99
70) o-Xylene	15.63	91	1420270	26.146	ng	99
71) n-Nonane	15.84	43	885080	27.023	ng	98
72) 1,1,2,2-Tetrachloroethane	15.61	83	645362	27.538	ng	100
74) Cumene	16.20	105	1761685	25.569	ng	100
75) alpha-Pinene	16.58	93	953452	26.817	ng	99
76) n-Propylbenzene	16.70	91	2147331	26.546	ng	99
77) 3-Ethyltoluene	16.79	105	1772662	26.750	ng	96
78) 4-Ethyltoluene	16.84	105	1626126	25.475	ng	97
79) 1,3,5-Trimethylbenzene	16.91	105	1471934	25.253	ng	100
80) alpha-Methylstyrene	17.05	118	794682	29.612	ng	100
81) 2-Ethyltoluene	17.09	105	1706841	25.472	ng	99
82) 1,2,4-Trimethylbenzene	17.31	105	1505210	26.981	ng	100
83) n-Decane	17.40	57	865995	27.228	ng	99
84) Benzyl Chloride	17.43	91	1474478	32.906	ng	99
85) 1,3-Dichlorobenzene	17.45	146	813600	26.497	ng	100
86) 1,4-Dichlorobenzene	17.51	146	832540	26.170	ng	100
87) sec-Butylbenzene	17.56	105	1940802	25.827	ng	100
88) 4-Isopropyltoluene (p-...	17.71	119	1817053	26.057	ng	99
89) 1,2,3-Trimethylbenzene	17.71	105	1499273	26.357	ng	99
90) 1,2-Dichlorobenzene	17.84	146	782721	26.579	ng	100
91) d-Limonene	17.85	68	631836	29.182	ng	99
92) 1,2-Dibromo-3-Chloropr...	18.25	157	303728	29.637	ng	92
93) n-Undecane	18.60	57	941262	29.878	ng	99
94) 1,2,4-Trichlorobenzene	19.46	180	632765	30.991	ng	99
95) Naphthalene	19.57	128	2125558	33.093	ng	100
96) n-Dodecane	19.58	57	968652	33.562	ng	99
97) Hexachlorobutadiene	19.90	225	378008	26.879	ng	99
98) Cyclohexanone	15.32	55	637416	30.366	ng	98
99) tert-Butylbenzene	17.30	119	1446427	25.630	ng	100
100) n-Butylbenzene	18.11	91	1655734	28.144	ng	100

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

ALS Vial : 15 Sample Multiplier: 1

DataAcq Meth:T015.M



Data File: I:\MS09\Data\2017 03\13\03131705.D

Acq On : 13 Mar 2017 11:15

Operator: SC

Sample : CCV R9031317 25ng

Misc : S29-03031701/S29-03021701 (3/31)

ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 13 11:41:09 2017

 3/13/17

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:48:38 2017

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)
1 IR	Bromochloromethane (IS1)	1.000	1.000	0.0	108	-0.02
2 T	Propene	2.542	1.692	33.4#	73	0.00
3 T	Dichlorodifluoromethane (CF	3.163	2.475	21.8	87	-0.01
4 T	Chloromethane	3.440	2.332	32.2#	74	0.00
5 T	1,2-Dichloro-1,1,2,2-tetra	1.368	1.279	6.5	103	0.00
6 T	Vinyl Chloride	3.076	2.279	25.9	81	-0.01
7 T	1,3-Butadiene	1.968	1.692	14.0	85	-0.01
8 T	Bromomethane	1.426	1.281	10.2	98	-0.01
9 T	Chloroethane	1.439	1.110	22.9	85	-0.01
10 T	Ethanol	1.728	1.191	31.1#	77	-0.06
11 T	Acetonitrile	4.322	2.976	31.1#	75	-0.04
12 T	Acrolein	1.257	0.974	22.5	86	-0.03
13 T	Acetone	1.562	1.120	28.3	84	-0.03
14 T	Trichlorofluoromethane	2.432	1.980	18.6	93	-0.01
15 T	2-Propanol (Isopropanol)	5.396	3.981	26.2	77	-0.04
16 T	Acrylonitrile	2.606	2.091	19.8	81	-0.03
17 T	1,1-Dichloroethene	1.503	1.321	12.1	97	-0.01
18 T	2-Methyl-2-Propanol (tert-B	4.595	3.867	15.8	83	-0.04
19 T	Methylene Chloride	1.831	1.433	21.7	93	-0.02
20 T	3-Chloro-1-propene (Allyl C	3.251	2.276	30.0	75	-0.02
21 T	Trichlorotrifluoroethane	1.075	1.036	3.6	105	-0.01
22 T	Carbon Disulfide	6.932	5.323	23.2	89	-0.01
23 T	trans-1,2-Dichloroethene	2.647	2.088	21.1	83	-0.02
24 T	1,1-Dichloroethane	3.408	2.542	25.4	83	-0.02
25 T	Methyl tert-Butyl Ether	5.259	4.250	19.2	88	-0.02
26 T	Vinyl Acetate	0.302	0.317	-5.0	96	-0.03
27 T	2-Butanone (MEK)	1.135	1.036	8.7	87	-0.02
28 T	cis-1,2-Dichloroethene	2.580	1.972	23.6	82	-0.02
29 T	Diisopropyl Ether	1.448	1.165	19.5	92	-0.01
30 T	Ethyl Acetate	0.693	0.576	16.9	81	-0.03
31 T	n-Hexane	3.518	2.549	27.5	79	0.00
32 T	Chloroform	2.806	2.275	18.9	89	-0.03
33 S	1,2-Dichloroethane-d4 (SS1)	1.940	1.559	19.6	87	-0.02
34 T	Tetrahydrofuran (THF)	1.229	0.997	18.9	88	-0.02
35 T	Ethyl tert-Butyl Ether	1.890	1.640	13.2	91	-0.01
36 T	1,2-Dichloroethane	2.311	1.711	26.0	82	-0.02
37 IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	103	-0.01
38 T	1,1,1-Trichloroethane	0.449	0.379	15.6	90	-0.01
39 T	Isopropyl Acetate	0.239	0.198	17.2	82	-0.02
40 T	1-Butanol	0.433	0.368	15.0	78	-0.04
41 T	Benzene	1.438	1.160	19.3	90	-0.02
42 T	Carbon Tetrachloride	0.362	0.318	12.2	91	-0.01
43 T	Cyclohexane	0.509	0.440	13.6	90	-0.01
44 T	tert-Amyl Methyl Ether	1.009	0.831	17.6	86	-0.02
45 T	1,2-Dichloropropane	0.386	0.298	22.8	82	-0.01
46 T	Bromodichloromethane	0.422	0.362	14.2	87	-0.02
47 T	Trichloroethene	0.317	0.280	11.7	100	-0.01
48 T	1,4-Dioxane	0.258	0.247	4.3	93	-0.02
49 T	2,2,4-Trimethylpentane (Iso	1.698	1.288	24.1	80	-0.01
50 T	Methyl Methacrylate	0.115	0.119	-3.5	97	-0.02
51 T	n-Heptane	0.360	0.300	16.7	86	-0.01
52 T	cis-1,3-Dichloropropene	0.549	0.479	12.8	86	0.00
53 T	4-Methyl-2-pentanone	0.366	0.303	17.2	81	-0.02
54 T	trans-1,3-Dichloropropene	0.465	0.431	7.3	85	-0.01

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Data File: I:\MS09\Data\2017 03\13\03131705.D

Acq On : 13 Mar 2017 11:15

Operator: SC

Sample : CCV R9031317 25ng

Misc : S29-03031701/S29-03021701 (3/31)

ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 13 11:41:09 2017

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:48:38 2017

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	0.297	0.269	9.4	92	0.00
56 IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	90	0.00
57 S	Toluene-d8 (SS2)	2.309	2.464	-6.7	97	-0.01
58 T	Toluene	2.695	2.635	2.2	92	-0.01
59 T	2-Hexanone	1.843	1.609	12.7	73	-0.02
60 T	Dibromochloromethane	0.600	0.651	-8.5	96	0.00
61 T	1,2-Dibromoethane	0.616	0.672	-9.1	95	0.00
62 T	n-Butyl Acetate	2.027	1.795	11.4	73	-0.01
63 T	n-Octane	0.687	0.605	11.9	79	-0.01
64 T	Tetrachloroethene	0.549	0.625	-13.8	104	-0.01
65 T	Chlorobenzene	1.606	1.635	-1.8	95	-0.01
66 T	Ethylbenzene	2.917	2.939	-0.8	90	0.00
67 T	m- & p-Xylenes	2.243	2.264	-0.9	90	-0.01
68 T	Bromoform	0.442	0.531	-20.1	102	0.00
69 T	Styrene	1.668	1.833	-9.9	93	0.00
70 T	o-Xylene	2.283	2.298	-0.7	89	-0.01
71 T	n-Nonane	1.770	1.410	20.3	71	0.00
72 T	1,1,2,2-Tetrachloroethane	1.063	1.152	-8.4	88	-0.01
73 S	Bromofluorobenzene (SS3)	0.571	0.678	-18.7	105	0.00
74 T	Cumene	2.754	2.849	-3.4	92	-0.01
75 T	alpha-Pinene	1.465	1.513	-3.3	88	-0.01
76 T	n-Propylbenzene	3.487	3.539	-1.5	88	0.00
77 T	3-Ethyltoluene	2.736	2.885	-5.4	93	0.00
78 T	4-Ethyltoluene	2.573	2.756	-7.1	90	-0.01
79 T	1,3,5-Trimethylbenzene	2.252	2.373	-5.4	91	0.00
80 T	alpha-Methylstyrene	1.138	1.284	-12.8	92	-0.01
81 T	2-Ethyltoluene	2.668	2.796	-4.8	91	-0.01
82 T	1,2,4-Trimethylbenzene	2.281	2.451	-7.5	89	-0.01
83 T	n-Decane	1.707	1.518	11.1	75	0.00
84 T	Benzyl Chloride	2.135	2.367	-10.9	86	-0.01
85 T	1,3-Dichlorobenzene	1.180	1.346	-14.1	98	-0.01
86 T	1,4-Dichlorobenzene	1.173	1.349	-15.0	97	-0.01
87 T	sec-Butylbenzene	3.065	3.208	-4.7	90	0.00
88 T	4-Isopropyltoluene (p-Cymen	2.745	2.960	-7.8	91	-0.01
89 T	1,2,3-Trimethylbenzene	2.288	2.459	-7.5	88	-0.01
90 T	1,2-Dichlorobenzene	1.138	1.280	-12.5	96	-0.01
91 T	d-Limonene	1.140	1.113	2.4	78	0.00
92 T	1,2-Dibromo-3-Chloropropane	0.361	0.454	-25.8	99	-0.01
93 T	n-Undecane	1.778	1.622	8.8	76	0.00
94 T	1,2,4-Trichlorobenzene	0.782	0.996	-27.4	99	0.00
95 T	Naphthalene	2.808	3.428	-22.1	94	0.00
96 T	n-Dodecane	1.715	1.656	3.4	75	0.00
97 T	Hexachlorobutadiene	0.458	0.548	-19.7	100	0.00
98 T	Cyclohexanone	1.144	1.060	7.3	77	-0.02
99 T	tert-Butylbenzene	2.118	2.264	-6.9	91	0.00
100 T	n-Butylbenzene	2.647	2.725	-2.9	86	-0.01

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Data File: I:\MS09\Data\2017 03\13\03131705.D

Acq On : 13 Mar 2017 11:15

Operator: SC

Sample : CCV R9031317 25ng

Misc : S29-03031701/S29-03021701 (3/31)

ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 13 11:41:09 2017

 3/13/17

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:48:38 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	144444	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	11.10	114	716966	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	15.44	82	320237	12.500	ng	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4(...	9.90	65	225215	10.047	ng	-0.02
Spiked Amount	12.500	Range	70 - 130	Recovery	=	80.40%
57) Toluene-d8 (SS2)	13.53	98	788925	13.334	ng	-0.01
Spiked Amount	12.500	Range	70 - 130	Recovery	=	106.64%
73) Bromofluorobenzene (SS3)	17.04	174	217060	14.831	ng	0.00
Spiked Amount	12.500	Range	70 - 130	Recovery	=	118.64%

Target Compounds

						Qvalue
2) Propene	3.84	42	506508	17.246	ng	100
3) Dichlorodifluoromethan...	3.95	85	748730	20.486	ng	100
4) Chloromethane	4.15	50	676961	17.029	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	4.31	135	371438	23.502	ng	100
6) Vinyl Chloride	4.43	62	673494	18.946	ng	100
7) 1,3-Butadiene	4.61	54	516789	22.728	ng	94
8) Bromomethane	4.91	94	367530	22.301	ng	99
9) Chloroethane	5.13	64	323521	19.453	ng	99
10) Ethanol	5.36	45	1790938	89.680	ng	100
11) Acetonitrile	5.55	41	899299	18.008	ng	100
12) Acrolein	5.68	56	292874	20.167	ng	99
13) Acetone	5.83	58	1719388	95.274	ng	89
14) Trichlorofluoromethane	6.00	101	600028	21.353	ng	99
15) 2-Propanol (Isopropanol)	6.16	45	2420731	38.821	ng	100
16) Acrylonitrile	6.36	53	637177	21.157	ng	100
17) 1,1-Dichloroethene	6.70	96	404122	23.262	ng	# 82
18) 2-Methyl-2-Propanol (t...	6.81	59	2361601	44.478	ng	98
19) Methylene Chloride	6.85	84	437545	20.676	ng	# 80
20) 3-Chloro-1-propene (Al...	6.98	41	691684	18.411	ng	89
21) Trichlorotrifluoroethane	7.16	151	314024	25.271	ng	90
22) Carbon Disulfide	7.13	76	1631483	20.367	ng	99
23) trans-1,2-Dichloroethene	7.87	61	643644	21.045	ng	88
24) 1,1-Dichloroethane	8.09	63	749144	19.021	ng	100
25) Methyl tert-Butyl Ether	8.15	73	1308761	21.538	ng	96
26) Vinyl Acetate	8.27	86	482101	138.194	ng	# 48
27) 2-Butanone (MEK)	8.50	72	313983	23.937	ng	# 74
28) cis-1,2-Dichloroethene	8.96	61	606113	20.330	ng	88
29) Diisopropyl Ether	9.20	87	357376	21.365	ng	# 54
30) Ethyl Acetate	9.20	61	354429	44.263	ng	93
31) n-Hexane	9.20	57	782709	19.252	ng	99
32) Chloroform	9.27	83	695442	21.446	ng	100
34) Tetrahydrofuran (THF)	9.65	72	306021	21.556	ng	# 81
35) Ethyl tert-Butyl Ether	9.75	87	500784	22.931	ng	# 86
36) 1,2-Dichloroethane	10.01	62	519959	19.468	ng	100
38) 1,1,1-Trichloroethane	10.28	97	583784	22.665	ng	97
39) Isopropyl Acetate	10.65	61	598212	43.561	ng	# 80
40) 1-Butanol	10.66	56	1109374	44.682	ng	93
41) Benzene	10.74	78	1750405	21.227	ng	99
42) Carbon Tetrachloride	10.89	117	480722	23.121	ng	100
43) Cyclohexane	11.02	84	1344229	46.062	ng	89
44) tert-Amyl Methyl Ether	11.33	73	1255881	21.700	ng	95
45) 1,2-Dichloropropane	11.56	63	453784	20.517	ng	100
46) Bromodichloromethane	11.74	83	553412	22.856	ng	100
47) Trichloroethene	11.79	130	425695	23.396	ng	99
48) 1,4-Dioxane	11.76	88	376332	25.431	ng	89
49) 2,2,4-Trimethylpentane...	11.85	57	1955842	20.077	ng	97

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Data File: I:\MS09\Data\2017 03\13\03131705.D

Acq On : 13 Mar 2017 11:15

Operator: SC

Sample : CCV R9031317 25ng

Misc : S29-03031701/S29-03021701 (3/31)

ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 13 11:41:09 2017

Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:48:38 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	11.98	100	358678	54.577	ng	# 82
51) n-Heptane	12.11	71	457128	22.138	ng	93
52) cis-1,3-Dichloropropene	12.64	75	767238	24.348	ng	99
53) 4-Methyl-2-pentanone	12.67	58	460039	21.935	ng	88
54) trans-1,3-Dichloropropene	13.16	75	656862	24.620	ng	100
55) 1,1,2-Trichloroethane	13.34	97	409351	24.048	ng	97
58) Toluene	13.63	91	1777382	25.741	ng	100
59) 2-Hexanone	13.88	43	1093292	23.161	ng	93
60) Dibromochloromethane	14.05	129	443074	28.829	ng	99
61) 1,2-Dibromoethane	14.30	107	454513	28.820	ng	100
62) n-Butyl Acetate	14.52	43	1223305	23.563	ng	95
63) n-Octane	14.65	57	409307	23.258	ng	90
64) Tetrachloroethene	14.79	166	424384	30.161	ng	100
65) Chlorobenzene	15.49	112	1110719	27.003	ng	100
66) Ethylbenzene	15.89	91	1985563	26.571	ng	98
67) m- & p-Xylenes	16.09	91	3078293	53.563	ng	97
68) Bromoform	16.15	173	361541	31.956	ng	100
69) Styrene	16.46	104	1245725	29.147	ng	97
70) o-Xylene	16.58	91	1551462	26.527	ng	97
71) n-Nonane	16.81	43	951628	20.989	ng	90
72) 1,1,2,2-Tetrachloroethane	16.55	83	778868	28.595	ng	100
74) Cumene	17.19	105	1916188	27.163	ng	98
75) alpha-Pinene	17.59	93	1011857	26.967	ng	97
76) n-Propylbenzene	17.72	91	2409552	26.976	ng	97
77) 3-Ethyltoluene	17.83	105	1939876	27.680	ng	99
78) 4-Ethyltoluene	17.87	105	1851318	28.086	ng	98
79) 1,3,5-Trimethylbenzene	17.95	105	1594546	27.644	ng	98
80) alpha-Methylstyrene	18.10	118	863794	29.632	ng	98
81) 2-Ethyltoluene	18.15	105	1901761	27.826	ng	98
82) 1,2,4-Trimethylbenzene	18.38	105	1651759	28.264	ng	98
83) n-Decane	18.50	57	1023842	23.406	ng	95
84) Benzyl Chloride	18.51	91	1608152	29.395	ng	97
85) 1,3-Dichlorobenzene	18.53	146	912209	30.180	ng	100
86) 1,4-Dichlorobenzene	18.60	146	913813	30.398	ng	99
87) sec-Butylbenzene	18.66	105	2165453	27.573	ng	98
88) 4-Isopropyltoluene (p-...	18.83	119	1947158	27.693	ng	97
89) 1,2,3-Trimethylbenzene	18.82	105	1617777	27.602	ng	98
90) 1,2-Dichlorobenzene	18.96	146	867566	29.758	ng	100
91) d-Limonene	18.98	68	716364	24.519	ng	92
92) 1,2-Dibromo-3-Chloropr...	19.42	157	306450	33.151	ng	# 79
93) n-Undecane	19.83	57	1094708	24.036	ng	95
94) 1,2,4-Trichlorobenzene	20.78	180	665634	33.228	ng	99
95) Naphthalene	20.89	128	2377490	33.047	ng	100
96) n-Dodecane	20.92	57	1108638	25.240	ng	94
97) Hexachlorobutadiene	21.27	225	371985	31.729	ng	100
98) Cyclohexanone	16.23	55	717046	24.473	ng	92
99) tert-Butylbenzene	18.38	119	1524024	28.083	ng	99
100) n-Butylbenzene	19.27	91	1843321	27.182	ng	99

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

Data File: I:\MS09\Data\2017 03\13\03131705.D

Acq On : 13 Mar 2017 11:15

Operator: SC

Sample : CCV R9031317 25ng

Misc : S29-03031701/S29-03021701 (3/31)

ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 13 11:41:09 2017

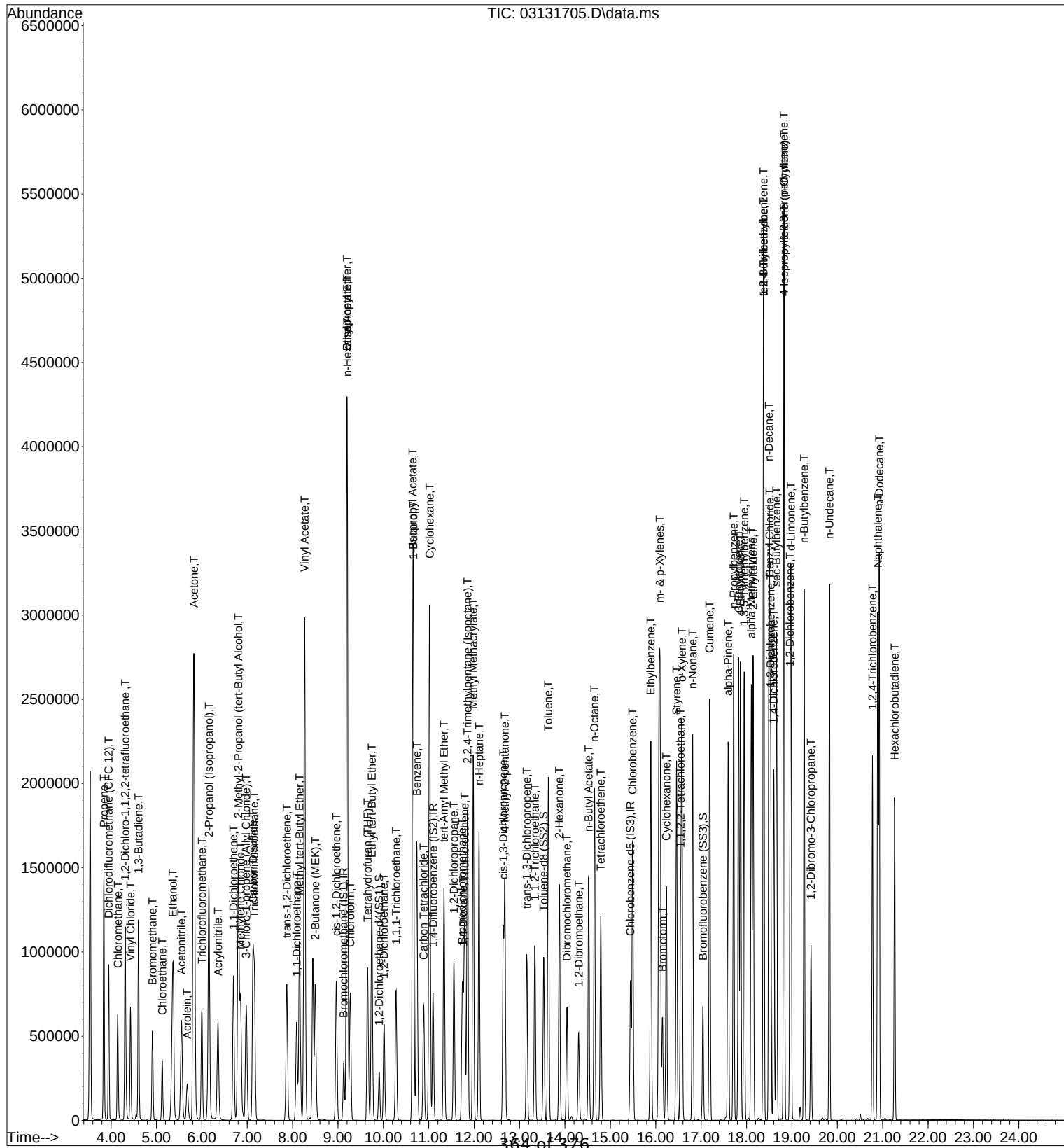
Quant Method : I:\MS09\Methods\R9030317.M

Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

QLast Update : Mon Mar 06 08:48:38 2017

Response via : Initial Calibration

DataAcq Meth:TO15.M

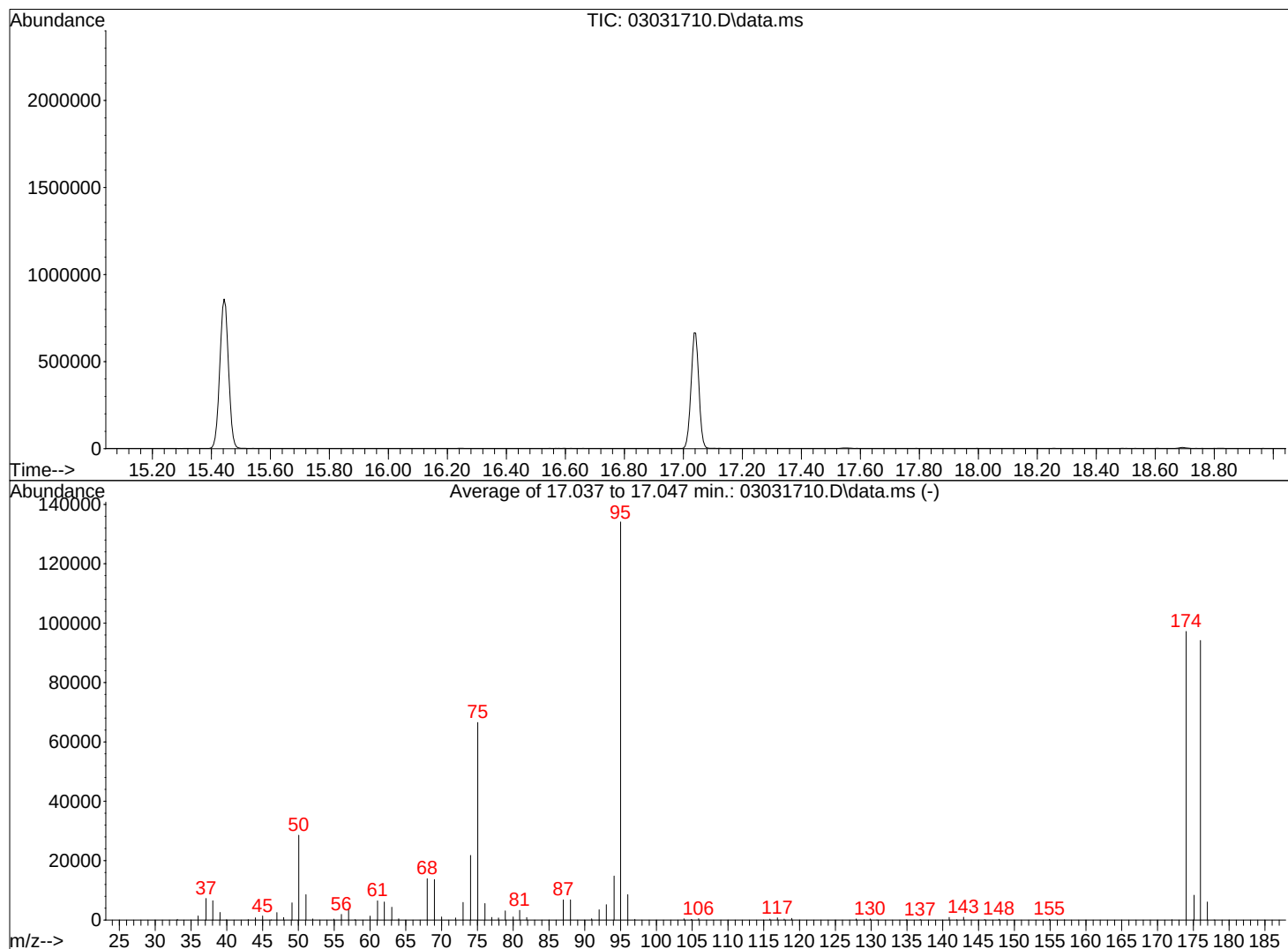


Data Path : I:\MS09\Data\2017 03\03\
 Data File : 03031710.D
 Acq On : 3 Mar 2017 16:10
 Operator : SC
 Sample : 12.5ng TO-15 BFB STD
 Misc : S29-03031701
 ALS Vial : 2 Sample Multiplier: 1

 3/6/17

Integration File: LSCINT.P

Method : I:\MS09\Methods\R9030317.M
 Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 Last Update : Mon Mar 06 08:32:44 2017



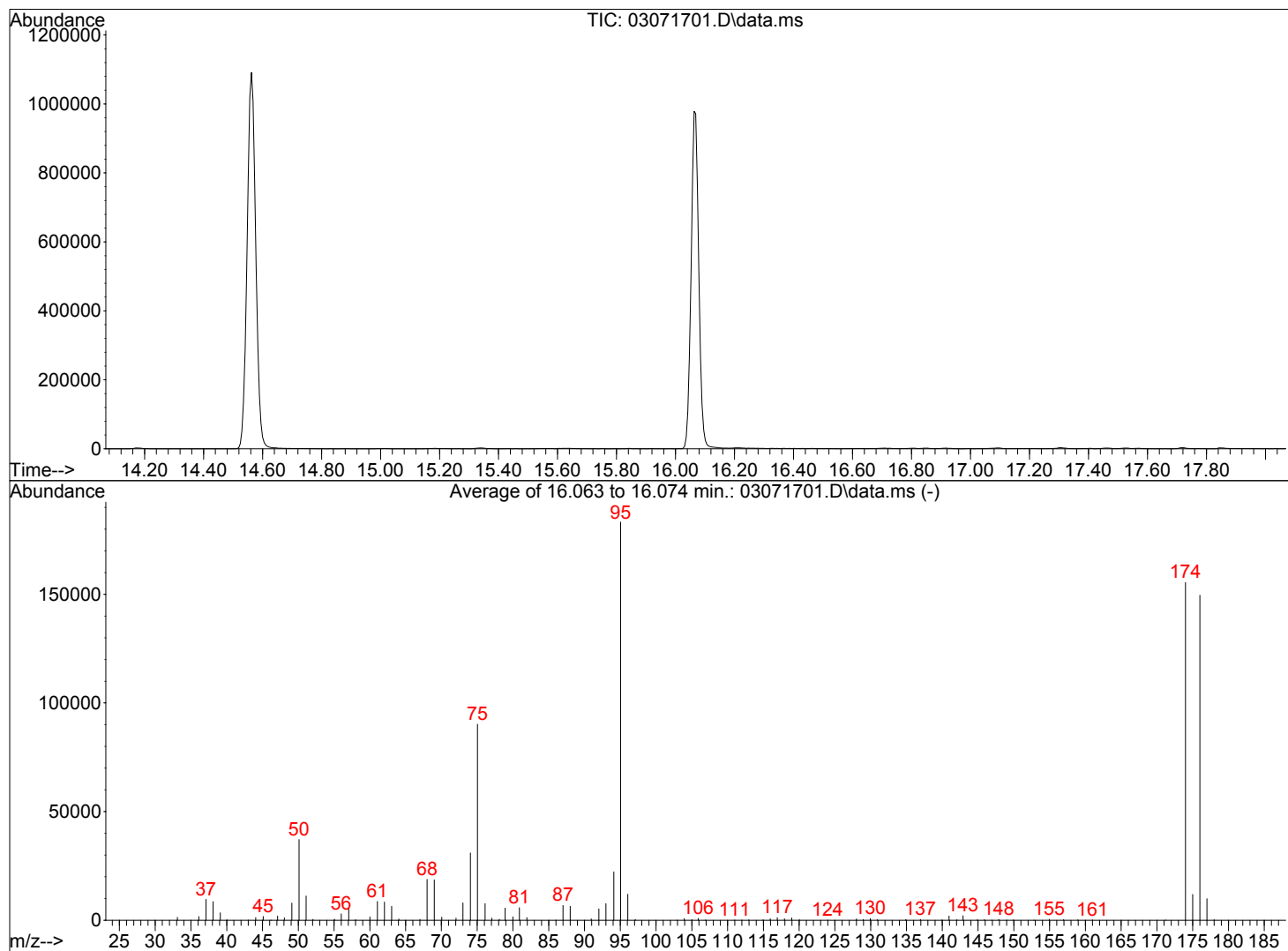
AutoFind: Scans 2633, 2634, 2635; Background Corrected with Scan 2623

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	21.3	28547	PASS
75	95	30	66	49.6	66565	PASS
95	95	100	100	100.0	134080	PASS
96	95	5	9	6.4	8565	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	72.5	97197	PASS
175	174	4	9	8.6	8359	PASS
176	174	93	101	96.9	94165	PASS
177	176	5	9	6.4	6072	PASS

Data Path : I:\MS08\Data\2017 03\07\
 Data File : 03071701.D
 Acq On : 7 Mar 2017 00:02
 Operator : WA
 Sample : BFB Std
 Misc : S29-01231701
 ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS08\Methods\R8030717.M
 Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 Last Update : Tue Mar 07 07:07:50 2017



AutoFind: Scans 2316, 2317, 2318; Background Corrected with Scan 2307

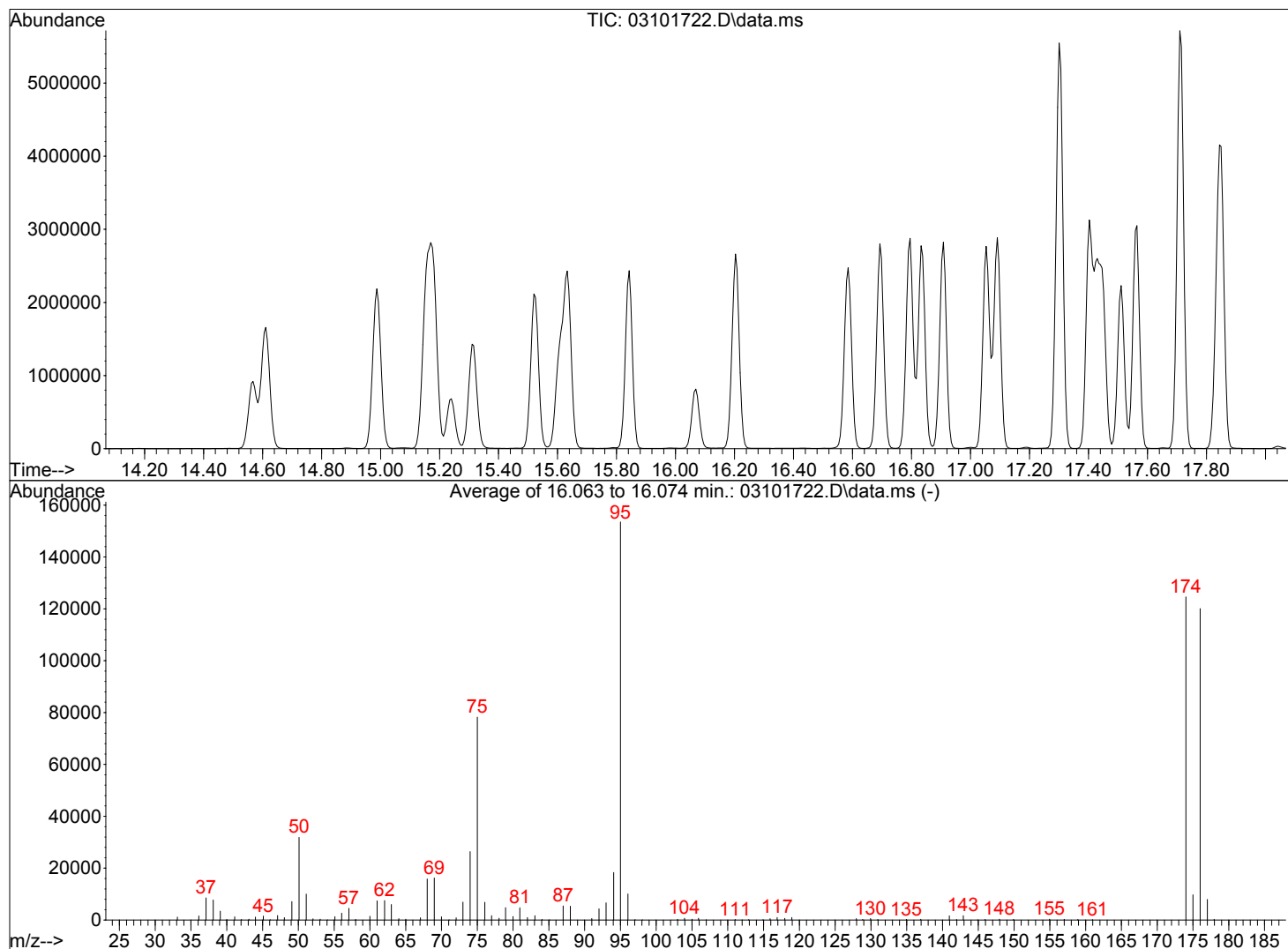
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.3	37133	PASS
75	95	30	66	49.2	90197	PASS
95	95	100	100	100.0	183232	PASS
96	95	5	9	6.5	11970	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	84.8	155456	PASS
175	174	4	9	7.7	11926	PASS
176	174	93	101	96.2	149589	PASS
177	176	5	9	6.6	9934	PASS

WA 3/7/17

Data Path : I:\MS08\Data\2017 03\10\
 Data File : 03101722.D
 Acq On : 10 Mar 2017 17:26
 Operator : WA
 Sample : CCV2 CCVend R8031017 25ng
 Misc : S29-01231701/S29-03021702 (3/31)
 ALS Vial : 15 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS08\Methods\R8030717.M
 Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 Last Update : Tue Mar 07 07:25:36 2017



AutoFind: Scans 2316, 2317, 2318; Background Corrected with Scan 2307

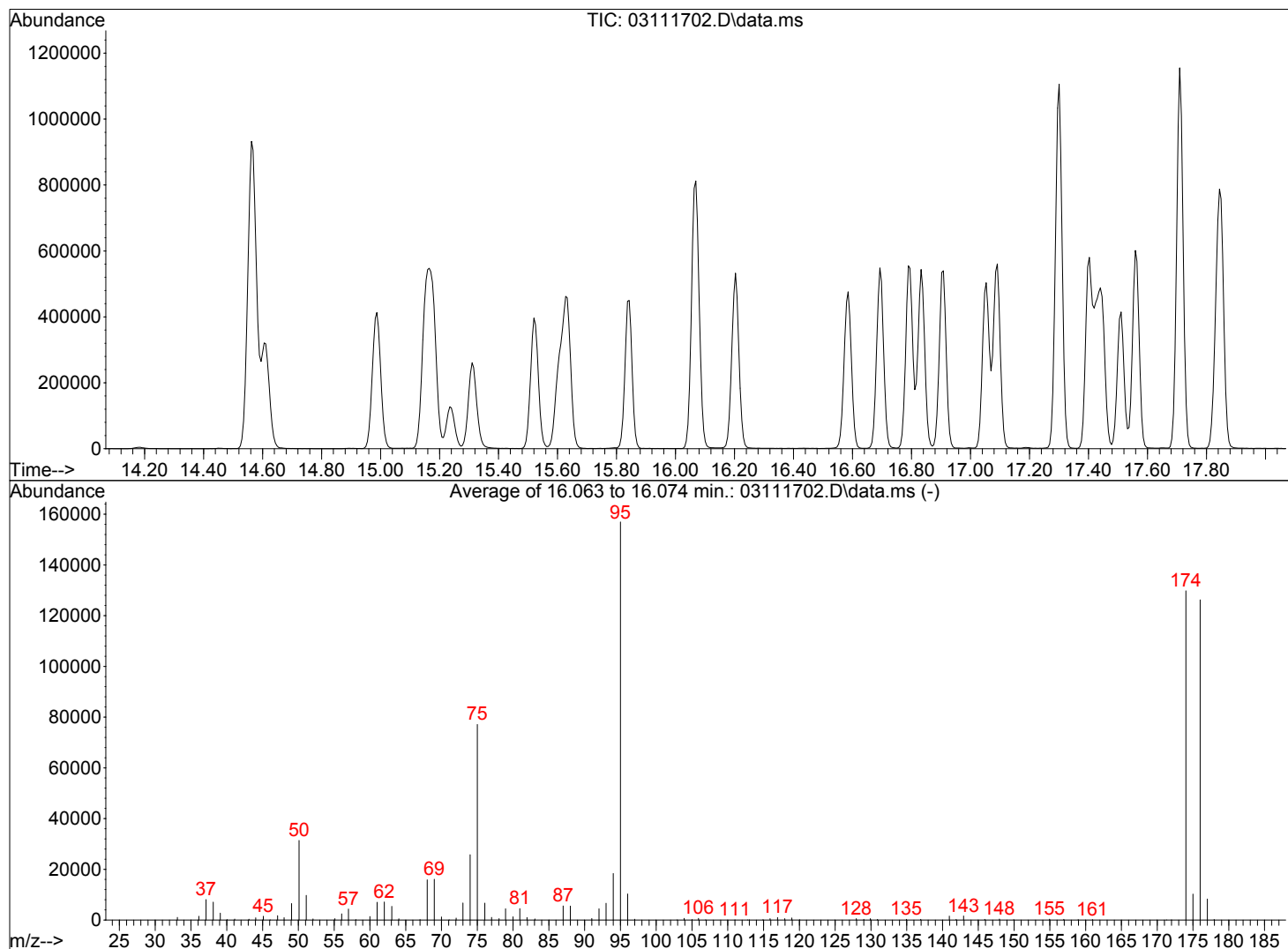
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.8	31904	PASS
75	95	30	66	51.0	78277	PASS
95	95	100	100	100.0	153506	PASS
96	95	5	9	6.6	10056	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	81.2	124592	PASS
175	174	4	9	7.8	9769	PASS
176	174	93	101	96.4	120104	PASS
177	176	5	9	6.6	7958	PASS

WA 3/11/17

Data Path : I:\MS08\Data\2017 03\11\
 Data File : 03111702.D
 Acq On : 11 Mar 2017 5:48
 Operator : WA
 Sample : CCV R8031117 5ng
 Misc : S29-01231701/S29-03021702 (3/31)
 ALS Vial : 16 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS08\Methods\R8030717.M
 Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 Last Update : Tue Mar 07 07:25:36 2017



AutoFind: Scans 2316, 2317, 2318; Background Corrected with Scan 2308

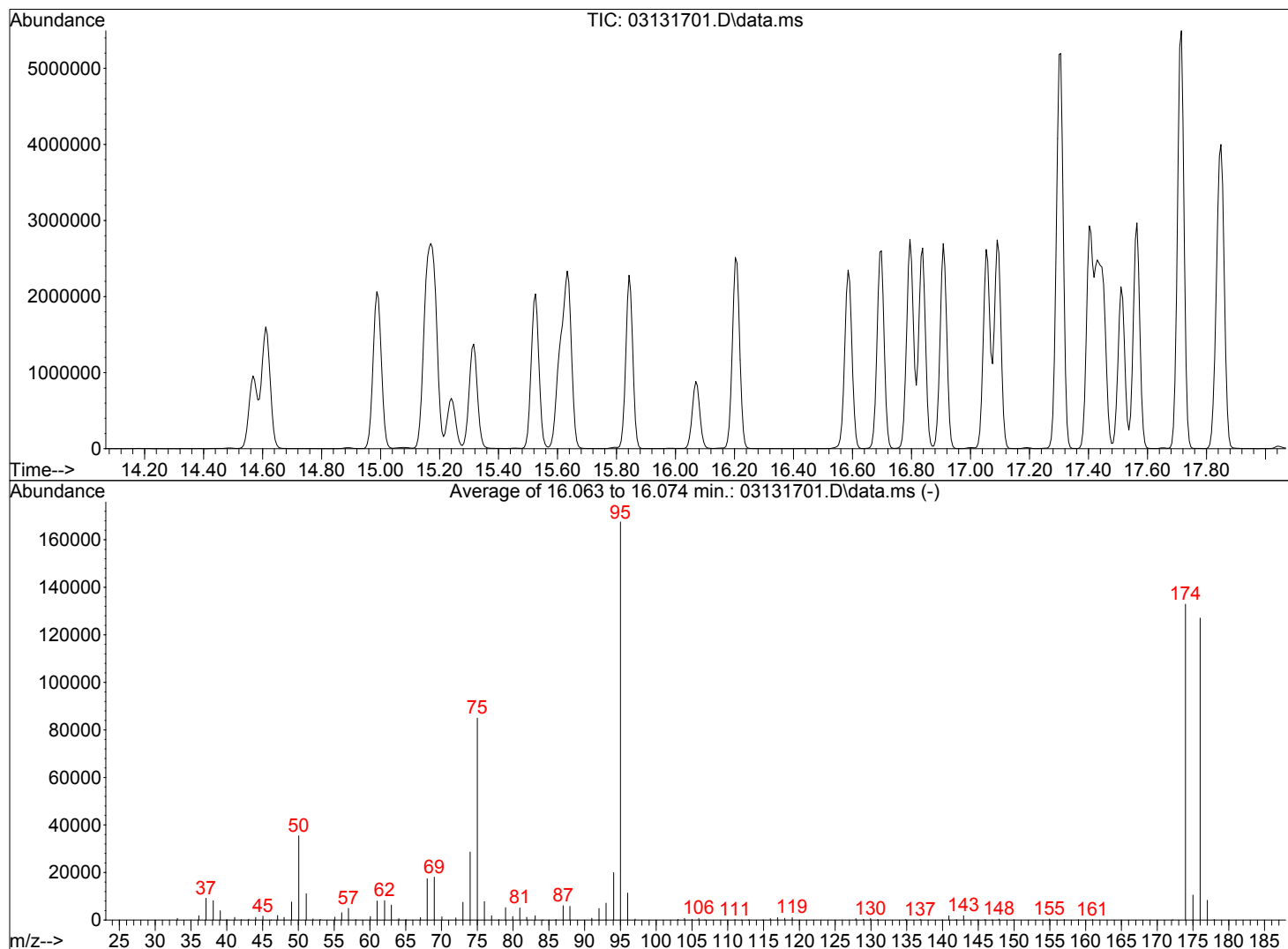
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.0	31376	PASS
75	95	30	66	49.1	77139	PASS
95	95	100	100	100.0	156949	PASS
96	95	5	9	6.6	10320	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	82.7	129819	PASS
175	174	4	9	7.9	10226	PASS
176	174	93	101	97.2	126216	PASS
177	176	5	9	6.6	8312	PASS

WA 3/13/17

Data Path : I:\MS08\Data\2017 03\13\
 Data File : 03131701.D
 Acq On : 13 Mar 2017 6:52
 Operator : WA
 Sample : CCV R8031317 25ng
 Misc : S29-01231701/S29-03021702 (3/31)
 ALS Vial : 15 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS08\Methods\R8030717.M
 Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 Last Update : Tue Mar 07 07:25:36 2017



AutoFind: Scans 2316, 2317, 2318; Background Corrected with Scan 2308

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	21.2	35479	PASS
75	95	30	66	50.7	84972	PASS
95	95	100	100	100.0	167509	PASS
96	95	5	9	6.8	11334	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	79.3	132877	PASS
175	174	4	9	7.9	10510	PASS
176	174	93	101	95.6	127052	PASS
177	176	5	9	6.6	8324	PASS

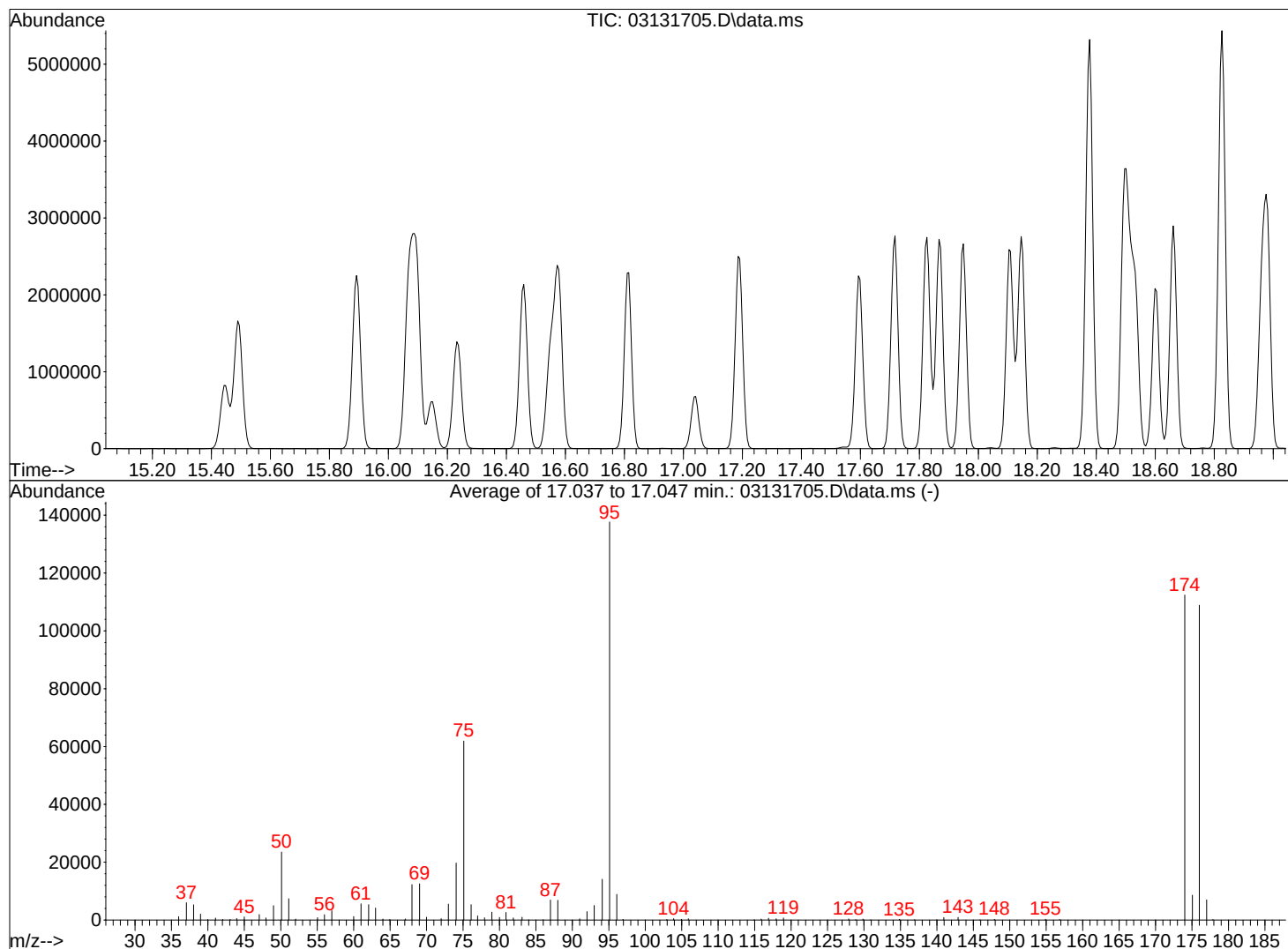
WA 3/13/17

Data Path : I:\MS09\Data\2017 03\13\
 Data File : 03131705.D
 Acq On : 13 Mar 2017 11:15
 Operator : SC
 Sample : CCV R9031317 25ng
 Misc : S29-03031701/S29-03021701 (3/31)
 ALS Vial : 3 Sample Multiplier: 1

✓ 3/13/17

Integration File: LSCINT.P

Method : I:\MS09\Methods\R9030317.M
 Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 Last Update : Mon Mar 06 08:48:38 2017



AutoFind: Scans 2633, 2634, 2635; Background Corrected with Scan 2624

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	17.1	23536	PASS
75	95	30	66	44.9	61869	PASS
95	95	100	100	100.0	137672	PASS
96	95	5	9	6.4	8873	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	81.6	112400	PASS
175	174	4	9	7.6	8573	PASS
176	174	93	101	96.9	108901	PASS
177	176	5	9	6.4	6982	PASS

Injection Log

Directory: J:\MS09\Data\2017_03\03\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	3/3/17 8:40	03031701.D	Blank (100mL)	S29-01261704	SC	2	
2	3/3/17 9:22	03031702.D	Blank (100mL)	S29-01261704	SC	2	
3	3/3/17 10:21	03031703.D	Blank (100mL)	S29-01261704	SC	2	
4	3/3/17 11:35	03031704.D	Blank (100mL)	S29-03031701	SC	2	
5	3/3/17 12:37	03031705.D	Blank (100mL)	S29-03031701	SC	2	
6	3/3/17 13:10	03031706.D	0.2ng STD	S29-03031701/S29-03021707 (3/31)	SC	5	
7	3/3/17 13:44	03031707.D	1.0ng STD	S29-03031701/S29-03021706 (3/31)	SC	6	
8	3/3/17 14:18	03031708.D	25ng STD	S29-03031701/S29-03021701 (3/31)	SC	7	
9	3/3/17 15:36	03031709.D	Blank (100mL)	S29-03031701	SC	2	
10	3/3/17 16:10	03031710.D	12.5ng TO-15 BFB STD	S29-03031701	SC	2	pass
11	3/3/17 16:43	03031711.D	0.08ng TO-15 ICAL STD	S29-03031701/S29-03021707 (3/31)	SC	5	
12	3/3/17 17:17	03031712.D	0.10ng TO-15 ICAL STD	S29-03031701/S29-03021707 (3/31)	SC	5	
13	3/3/17 17:51	03031713.D	0.20ng TO-15 ICAL STD	S29-03031701/S29-03021707 (3/31)	SC	5	
14	3/3/17 18:24	03031714.D	0.40ng TO-15 ICAL STD	S29-03031701/S29-03021707 (3/31)	SC	5	
15	3/3/17 18:58	03031715.D	1.0ng TO-15 ICALSTD	S29-03031701/S29-03021706 (3/31)	SC	6	
16	3/3/17 19:32	03031716.D	5.0ng TO-15 ICALSTD	S29-03031701/S29-03021706 (3/31)	SC	6	
17	3/3/17 20:05	03031717.D	25ng TO-15 ICAL STD	S29-03031701/S29-03021701 (3/31)	SC	7	
18	3/3/17 20:39	03031718.D	50ng TO-15 ICAL STD	S29-03031701/S29-03021701 (3/31)	SC	7	
19	3/3/17 21:13	03031719.D	100ng TO-15 ICAL STD	S29-03031701/S29-03021701 (3/31)	SC	7	
20	3/3/17 21:46	03031720.D	Blank (100mL)	S29-03031701	SC	2	
21	3/3/17 22:20	03031721.D	25ng TO-15 ICV STD	S29-03031701/S29-02221703 (3/23)	SC	4	pass
22	3/3/17 22:54	03031722.D	25ng TO-15 ICV STD	S29-03031701/S29-02221703 (3/23)	SC	4	cf
23							
24							
25							
26							
27							 3/6/17
28							cf
29							
30							pass
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Injection Log

Directory: J:\MS08\Data\2017_03\07\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	3/7/17 0:02	03071701.D	BFB Std	S29-01231701	WA	1	Pass
2	3/7/17 0:34	03071702.D	0.08ng TO-15 ICAL Std	S29-01231701/S29-03021707 (3/31)	WA	12	
3	3/7/17 1:06	03071703.D	0.10ng TO-15 ICAL Std	S29-01231701/S29-03021707 (3/31)	WA	12	
4	3/7/17 1:38	03071704.D	0.20ng TO-15 ICAL Std	S29-01231701/S29-03021707 (3/31)	WA	12	
5	3/7/17 2:10	03071705.D	0.40ng TO-15 ICAL Std	S29-01231701/S29-03021707 (3/31)	WA	12	
6	3/7/17 2:42	03071706.D	1.0ng TO-15 ICAL Std	S29-01231701/S29-03021706 (3/31)	WA	16	
7	3/7/17 3:14	03071707.D	5.0ng TO-15 ICAL Std	S29-01231701/S29-03021706 (3/31)	WA	16	
8	3/7/17 3:46	03071708.D	25ng TO-15 ICAL Std	S29-01231701/S29-03021702 (3/31)	WA	15	
9	3/7/17 4:17	03071709.D	50ng TO-15 ICAL Std	S29-01231701/S29-03021702 (3/31)	WA	15	
10	3/7/17 4:49	03071710.D	100ng TO-15 ICAL Std	S29-01231701/S29-03021702 (3/31)	WA	15	R8030717.M
11	3/7/17 5:21	03071711.D	Blank	S29-01231701	WA	1	
12	3/7/17 5:53	03071712.D	25ng TO-15 ICV Std	S29-01231701/S29-02201703 (3/21)	WA	1	Pass
13	3/7/17 6:25	03071713.D	25ng TO-15 ICV Std	S29-01231701/S29-02201703 (3/21)	WA	1	Pass
ICAL good for low level compounds ranges from 0.08ng --->100ng; exception: propene, chloromethane, acetonitrile, MEK from 0.2ng ---> 100ng;							
Acrolein, CS ₂ , MeCl ₂ , t-1,3-DCP, bromoform, benzyl-Cl, 1,2-DBCP from 0.4ng ---> 100ng; Memethacrylate, Bu-Acetate: 0.8ng ---> 200ng;							
EtOH: from 0.5ng ---> 500ng; Acetone: 2.0ng ---> 500ng; vinyl Acetate: 1.0ng ---> 500ng							

WA 3/7/17

Injection Log

Directory: I:\MS08\Data\2017_03\10\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	3/10/17 17:26	03101722.D	CCV2 R8031017_25ng_CCVend	S29-01231701/S29-03021702 (3/31)	WA	15	Pass (*)
2	3/10/17 17:59	03101723.D	System	S29-01231701/S29-03021702 (3/31)	WA	15	
3	3/10/17 18:31	03101724.D	CCV2 C8031017_25ng	S29-01231701/S29-03031704 (4/1)	WA	1	
4	3/10/17 19:03	03101725.D	MB2 R8031017_1000mL	S29-01231701_AS00703	WA	1	Pass
5	3/10/17 19:35	03101726.D	LCS2 R8031017_25ng	S29-01231701/S29-02201703 (3/21)	WA	1	Pass
6	3/10/17 20:08	03101727.D	LCSD2 R8031017_25ng	S29-01231701/S29-02201703 (3/21)	WA	1	Pass
7	3/10/17 20:40	03101728.D	P1700998-001 (25mL) PF2	S29-01231701	WA	7	
8	3/10/17 21:12	03101729.D	P1700998-001dup (25mL) PF2	S29-01231701	WA	7	Pass for dup
9	3/10/17 21:45	03101730.D	P1700998-002 (400mL) PF2	S29-01231701	WA	8	
10	3/10/17 22:17	03101731.D	Rinse	S29-01231701	WA	4	
11	3/10/17 22:49	03101732.D	P1701088-001 (1000mL)	S29-01231701	WA	2	
12	3/10/17 23:21	03101733.D	P1701088-002 (1000mL)	S29-01231701	WA	3	
13	3/10/17 23:54	03101734.D	P1701088-003 (1000mL)	S29-01231701	WA	4	
14	3/11/17 0:26	03101735.D	P1701088-004 (1000mL)	S29-01231701	WA	5	
15	3/11/17 0:58	03101736.D	P1701088-005 (1000mL)	S29-01231701	WA	6	
16	3/11/17 1:30	03101737.D	system	S29-01231701	WA	15	
17	3/11/17 2:02	03101738.D	P1701088-006 (1000mL)	S29-01231701	WA	9	
18	3/11/17 2:35	03101739.D	P1701088-007 (1000mL)	S29-01231701	WA	10	
19	3/11/17 3:07	03101740.D	P1701088-008 (1000mL)	S29-01231701	WA	11	
20	3/11/17 3:39	03101741.D	P1701088-009 (1000mL)	S29-01231701	WA	12	
21	3/11/17 4:12	03101742.D	P1701088-010 (1000mL)	S29-01231701	WA	13	
22	3/11/17 4:44	03101743.D	P1701088-011 (1000mL)	S29-01231701	WA	14	

CCV: 2-Hexanone, Benzyl -Cl, Naphthalene out high (ND for P1700998 and NT for P1701088)

~~107~~ 3/11/17

Injection Log

Directory: I:\MS08\Data\2017_03\11\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	3/11/17 5:16	03111701.D	System	S29-01231701/S29-03021702 (3/31)	WA	15	
2	3/11/17 5:48	03111702.D	CCV R8031117_5ng	S29-01231701/S29-03021702 (3/31)	WA	16	Pass
3	3/11/17 6:20	03111703.D	MB R8031117_1000mL	S29-01231701_AS00703	WA	1	Pass
4	3/11/17 6:52	03111704.D	LCS R8031117_25ng	S29-01231701/S29-02201703 (3/21)	WA	1	Pass
5	3/11/17 7:25	03111705.D	LCSD R8031117_25ng	S29-01231701/S29-02201703 (3/21)	WA	1	Pass
6	3/11/17 9:05	03111706.D	P1701109-001 (10mL)	S29-01231701	WA	4	
7	3/11/17 9:37	03111707.D	P1701109-001dup (10mL)	S29-01231701	WA	4	Pass for dup
8	3/11/17 10:09	03111708.D	P1701109-002 (500mL) PF2	S29-01231701	WA	3	
9	3/11/17 10:58	03111709.D	P1701088-008dil (100mL)	S29-01231701	WA	11	
10	3/11/17 11:36	03111710.D	P1701039-001 (1000mL)	S29-01231701	WA	10	
11	3/11/17 12:08	03111711.D	P1701039-002 (1000mL)	S29-01231701	WA	9	
12	3/11/17 12:41	03111712.D	CCVend R8031117_5ng	S29-01231701/S29-03021702 (3/31)	WA	16	Pass_DoD end
13	3/11/17 13:13	03111713.D	RL R8031117_0.5ng	S29-01231701/S29-03021702 (3/31)	WA	16	
14	3/11/17 13:45	03111714.D	P1701003-001 (1000mL)	S29-01231701	WA	5	
15	3/11/17 14:17	03111715.D	P1701003-002 (1000mL)	S29-01231701	WA	6	
16	3/11/17 14:49	03111716.D	P1701038-001 (1000mL)	S29-01231701	WA	12	
17	3/11/17 15:22	03111717.D	P1701038-001dil (100mL)	S29-01231701	WA	12	
18	3/11/17 15:54	03111718.D	P1701035-001 (400mL)	S29-01231701	WA	2	
19	3/11/17 16:27	03111719.D	P1701035-002 (400mL)	S29-01231701	WA	3	
20	3/11/17 16:59	03111720.D	P1701035-003 (400mL)	S29-01231701	WA	7	
21	3/11/17 17:31	03111721.D	P1701035-004 (400mL)	S29-01231701	WA	8	
22	3/11/17 18:04	03111722.D	P1701035-005 (400mL)	S29-01231701	WA	13	
23	3/11/17 18:36	03111723.D	P1701035-006 (400mL)	S29-01231701	WA	14	
24	3/11/17 19:09	03111724.D	Blank	S29-01231701	WA	1	
25	3/11/17 19:41	03111725.D	P1701036-001 (400mL)	S29-01231701	WA	4	can close
26	3/11/17 20:14	03111726.D	P1701036-001dil (40mL)	S29-01231701	WA	4	can close
27	3/11/17 20:46	03111727.D	P1701036-002 (400mL)	S29-01231701	WA	11	can close
28	3/11/17 21:19	03111728.D	P1701036-002dil (40mL)	S29-01231701	WA	11	can close
29	3/11/17 21:51	03111729.D	std check_5ng	S29-01231701	WA	15	
							3/13/17

Injection Log

Directory: I:\MS08\Data\2017_03\13\

[illegible]

Injection Log

Directory: I:\MS09\Data\2017_03\13\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	3/13/17 7:20	03131701.D	Blank	S29-03031701	SC	2	cf
2	3/13/17 7:54	03131702.D	CCV R9031317_25ng	S29-03031701/S29-03021701 (3/31)	SC	3	cf
3	3/13/17 8:28	03131703.D	CCV C9031117_25ng	S29-03031701/S29-03031703 (4/1)	SC	2	cf
4	3/13/17 10:42	03131704.D	Blank	S29-03031701	SC	2	
5	3/13/17 11:15	03131705.D	CCV R9031317_25ng	S29-03031701/S29-03021701 (3/31)	SC	3	pass
6	3/13/17 12:11	03131706.D	MB R9031317_1000mL	S29-03031701	SC	2	pass
7	3/13/17 12:45	03131707.D	LCS R9031317_25ng	S29-03031701/S29-02221703 (3/23)	SC	4	pass
8	3/13/17 13:34	03131708.D	P1701088-020 (1000mL)	S29-03031701	SC	5	
9	3/13/17 14:08	03131709.D	P1701088-021 (1000mL)	S29-03031701	SC	6	
10	3/13/17 14:42	03131710.D	P1701088-022 (1000mL) PF2	S29-03031701	SC	7	
11	3/13/17 15:15	03131711.D	LCSD R9031317_25ng	S29-03031701/S29-02221703 (3/23)	SC	4	pass
12	3/13/17 15:49	03131712.D	P1701075-001 (400mL)	S29-03031701	SC	8	
13	3/13/17 16:24	03131713.D	P1701123-001 (1000mL)	S29-03031701	SC	9	
14	3/13/17 16:57	03131714.D	P1701128-001 (1000mL)	S29-03031701	SC	10	
15	3/13/17 17:31	03131715.D	P1701128-002 (1000mL)	S29-03031701	SC	11	
16	3/13/17 18:12	03131716.D	P1701128-001Dil (100mL)	S29-03031701	SC	10	
17	3/13/17 18:45	03131717.D	P1701128-002Dil (100mL)	S29-03031701	SC	11	
18	3/13/17 19:19	03131718.D	P1701129-008 (1000mL)	S29-03031701	SC	12	
19	3/13/17 19:53	03131719.D	P1701129-009 (1000mL)	S29-03031701	SC	13	
20	3/13/17 20:26	03131720.D	P1701129-010 (1000mL)	S29-03031701	SC	14	
21	3/13/17 21:00	03131721.D	P1701129-011 (1000mL)	S29-03031701	SC	15	
22	3/13/17 21:34	03131722.D	P1701129-011dup (1000mL)	S29-03031701	SC	15	pass
23	3/13/17 22:08	03131723.D	P1701129-001 (1000mL)	S29-03031701	SC	5	
24	3/13/17 22:42	03131724.D	P1701129-002 (1000mL)	S29-03031701	SC	6	
25	3/13/17 23:15	03131725.D	P1701129-003 (1000mL)	S29-03031701	SC	7	
26	3/13/17 23:49	03131726.D	P1701129-004 (1000mL)	S29-03031701	SC	8	
27	3/14/17 0:23	03131727.D	P1701129-005 (1000mL)	S29-03031701	SC	9	
							 3/14/17



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

March 10, 2017

Rob Uppencamp
ARCADIS U.S., Inc.
132 East Washington Street, Suite 600
Indianapolis, IN 46204

RE: Grenada Manufacturing / LA003307.0004.00001

Dear Rob:

Enclosed are the results of the samples submitted to our laboratory on March 3, 2017. For your reference, these analyses have been assigned our service request number P1701055.

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 Kelly Horiuchi at 1:45 pm, Mar 10, 2017

Kelly Horiuchi
Laboratory Director



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

Client: ARCADIS U.S., Inc.
Project: Grenada Manufacturing / LA003307.0004.00001

Service Request No: P1701055

CASE NARRATIVE

The samples were received intact under chain of custody on March 3, 2017 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 samples were analyzed for selected 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. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

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
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/labcert.htm	2016036
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1177034
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	4068-004
Pennsylvania DEP	http://www.depweb.state.pa.us/labs	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704413-16-7
Utah DOH (NELAP)	http://health.utah.gov/lab/environmental-lab-certification/	CA01627201 6-6
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: ARCADIS U.S., Inc.
Project ID: Grenada Manufacturing / LA003307.0004.00001

Service Request: P1701055

Date Received: 3/3/2017
Time Received: 09:34

TO-15 - VOC Cans

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	
SS-7 (030117)	P1701055-001	Air	3/1/2017	13:00	1SC00778	-1.97	5.83	X
SS-8 (030117)	P1701055-002	Air	3/1/2017	13:10	1SC00123	-1.33	6.46	X
SS-9 (030117)	P1701055-003	Air	3/1/2017	12:15	1SC00612	-1.83	6.53	X
SS-10 (030117)	P1701055-004	Air	3/1/2017	11:29	1SC00613	-0.89	7.51	X
SS-11 (030117)	P1701055-005	Air	3/1/2017	12:03	1SC01281	-2.02	6.17	X
SS-12 (030117)	P1701055-006	Air	3/1/2017	10:38	1SS00217	-1.14	5.60	X
SS-13 (030117)	P1701055-007	Air	3/1/2017	10:59	1SC00927	-2.16	8.16	X
SS-14 (030117)	P1701055-008	Air	3/1/2017	11:34	1SS00109	-2.16	5.17	X
SS-15 (030117)	P1701055-009	Air	3/1/2017	12:43	1SS00222	-1.46	5.38	X
SS-16 (030117)	P1701055-010	Air	3/1/2017	10:36	1SC00442	-1.92	7.02	X
SS-17 (030117)	P1701055-011	Air	3/1/2017	10:08	1SS00768	-1.39	5.43	X
SS-18 (030117)	P1701055-012	Air	3/1/2017	10:07	1SS00042	-1.37	5.00	X
SS-20 (030117)	P1701055-013	Air	3/1/2017	08:56	1SC01204	-2.10	5.31	X
SS-21 (030117)	P1701055-014	Air	3/1/2017	08:55	1SC00590	-1.09	6.41	X
SS-22 (030117)	P1701055-015	Air	3/1/2017	09:34	1SC00332	-1.48	8.45	X
DUP-1 (030117)	P1701055-016	Air	3/1/2017	00:00	1SC00152	-1.86	5.15	X

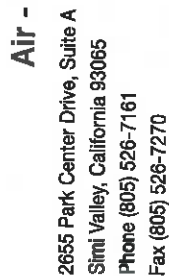


2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

Air - Chain of Custody Record & Analytical Service Request

Page 1 of 2

Company Name & Address (Reporting Information)		Project Name		Requested Turnaround Time in Business Days (Surcharges please circle)		ALS Project No		
ARCADIS 132 E. WASHINGTON ST. STE. 600 INDIANA POLIS, IN 46204		GREENAWAY MANUFACTURING		1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard		P1701076		
Project Manager KYLE VAPEN CAMP		P.O. # / Billing Information		Project Number		ALS Contact: KELLY HOEBAUGH		
Phone 317-231-6500		Fax 317-231-6574		LA003307, 0503, 00001 LA003307, 0503, 00001 ARCADIS - ACCTS PAY MC SHANOS RAN UN, CO		Analysis Method		
Email Address for Result Reporting SARAH. JONKER @ ARCADIS.COM		Sampler (Print & Sign) Sarah Jonker		TO-15 Project List		Comments e.g. Actual Preservative or specific instructions		
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
SS-7 (030117)	1	03-01-17	1247-1300	ISC00778	OA00473	-29.5	-4.4	1L
SS-8 (030117)	2		1259-1310	ISC00123	OA01213	-30.0	-2.5	
SS-9 (030117)	3		1205-1215	ISC00612	OA02041	-29.7	-4.2	
SS-10 (030117)	4		1113-1129	ISC00613	OA00639	-30.0	-1.38	
SS-11 (030117)	5		1152-1203	ISC01281	OA00719	-30.0	-4.1	
SS-12 (030117)	6		1021-1038	ISS00217	OA00164	-30.0	-2.1	
SS-13 (030117)	7		1048-1059	ISC00927	OA00054	-30.0	-4.3	
SS-14 (030117)	8		1121-1134	ISS00109	OA01753	-30.0	-4.5	
SS-15 (030117)	9		1230-1243	ISS00222	OA01237	-30.0	-2.8	
SS-16 (030117)	10		1025-1036	ISC00442	OA01880	-30.0	-3.9	
SS-17 (030117)	11		0957-1008	ISS00768	OA02140	-25.4	-2.8	
SS-18 (030117)	12		0952-1007	ISS00042	OA01862	-30.0	-2.7	
SS-19 (030117)				ISS00110	OA01434			
SS-20 (030117)	13	✓	0845-0856	ISC01204	OA00175	-30.0	-4.3	✓
Report Tier Levels - please select				Chain of Custody Seal: (Circle)				
Tier I - Results (Default in not specified)				INTACT				
Tier II (Results + QC Summaries)				BROKEN				
Tier III (Results + QC & Calibration Summaries)				ABSENT				
Tier IV (Date Validation Package) 10% Surcharge								
Relinquished by: (Signature)		Date: 3-2-17		Received by: (Signature)		Date: 3/3/17		
Relinquished by: (Signature)		Date:		Received by: (Signature)		Date:		
Project Requirements (MRLs, QAPP)				Cooler / Blank Temperature °C				



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ALS Environmental **Sample Acceptance Check Form**

Client: ARCADIS U.S., Inc. Work order: P1701055
 Project: Grenada Manufacturing / LA003307.0004.00001
 Sample(s) received on: 3/3/17 Date opened: 3/3/17 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 <u>if necessary</u> 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
P1701055-001.01	1.0 L Source Can					
P1701055-002.01	1.0 L Source Can					
P1701055-003.01	1.0 L Source Can					
P1701055-004.01	1.0 L Source Can					
P1701055-005.01	1.0 L Source Can					
P1701055-006.01	1.0 L Source Silonite Canister					
P1701055-007.01	1.0 L Source Can					
P1701055-008.01	1.0 L Source Silonite Canister					
P1701055-009.01	1.0 L Source Silonite Canister					
P1701055-010.01	1.0 L Source Can					
P1701055-011.01	1.0 L Source Silonite Canister					
P1701055-012.01	1.0 L Source Silonite Canister					
P1701055-013.01	1.0 L Source Can					
P1701055-014.01	1.0 L Source Can					
P1701055-015.01	1.0 L Source Can					

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

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

Sample Acceptance Check Form

Client: ARCADIS U.S., Inc.

Work order: P1701055

Project: Grenada Manufacturing / LA003307.0004.00001

Sample(s) received on: 3/3/17

Date opened: 3/3/17

by: KKE LPE

[illegible]

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

Page 1 of 1

Client: ARCADIS U.S., Inc.

Client Sample ID: SS-7 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P1701055-001

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Summa Canister

Test Notes:

Container ID: 1SC00778

Date Collected: 3/1/17

Date Received: 3/3/17

Date Analyzed: 3/8/17

Volume(s) Analyzed: 0.25 Liter(s)

Initial Pressure (psig): -1.97 Final Pressure (psig): 5.83

Canister Dilution Factor: 1.61

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	3.2	ND	1.3	
75-35-4	1,1-Dichloroethene	ND	3.2	ND	0.81	
75-09-2	Methylene Chloride	ND	3.2	ND	0.93	
156-60-5	trans-1,2-Dichloroethene	ND	3.2	ND	0.81	
156-59-2	cis-1,2-Dichloroethene	ND	3.2	ND	0.81	
107-06-2	1,2-Dichloroethane	ND	3.2	ND	0.80	
71-43-2	Benzene	ND	3.2	ND	1.0	
79-01-6	Trichloroethene	600	3.2	110	0.60	
79-00-5	1,1,2-Trichloroethane	ND	3.2	ND	0.59	
108-88-3	Toluene	ND	3.2	ND	0.85	
127-18-4	Tetrachloroethene	11	3.2	1.6	0.48	

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

Page 1 of 1

Client: ARCADIS U.S., Inc.

Client Sample ID: SS-8 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P1701055-002

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Summa Canister

Test Notes:

Container ID: 1SC00123

Date Collected: 3/1/17

Date Received: 3/3/17

Date Analyzed: 3/8/17

Volume(s) Analyzed: 0.010 Liter(s)

Initial Pressure (psig): -1.33 Final Pressure (psig): 6.46

Canister Dilution Factor: 1.58

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	79	ND	31	
75-35-4	1,1-Dichloroethene	ND	79	ND	20	
75-09-2	Methylene Chloride	ND	79	ND	23	
156-60-5	trans-1,2-Dichloroethene	92	79	23	20	
156-59-2	cis-1,2-Dichloroethene	360	79	90	20	
107-06-2	1,2-Dichloroethane	ND	79	ND	20	
71-43-2	Benzene	ND	79	ND	25	
79-01-6	Trichloroethene	12,000	79	2,200	15	
79-00-5	1,1,2-Trichloroethane	ND	79	ND	14	
108-88-3	Toluene	ND	79	ND	21	
127-18-4	Tetrachloroethene	ND	79	ND	12	

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

Page 1 of 1

Client: ARCADIS U.S., Inc.

Client Sample ID: SS-9 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P1701055-003

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Summa Canister

Test Notes:

Container ID: 1SC00612

Date Collected: 3/1/17

Date Received: 3/3/17

Date Analyzed: 3/8 - 3/9/17

Volume(s) Analyzed: 0.015 Liter(s)

0.0050 Liter(s)

Initial Pressure (psig): -1.83 Final Pressure (psig): 6.53

Canister Dilution Factor: 1.65

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	55	ND	22	
75-35-4	1,1-Dichloroethene	ND	55	ND	14	
75-09-2	Methylene Chloride	ND	55	ND	16	
156-60-5	trans-1,2-Dichloroethene	ND	55	ND	14	
156-59-2	cis-1,2-Dichloroethene	97	55	25	14	
107-06-2	1,2-Dichloroethane	ND	55	ND	14	
71-43-2	Benzene	ND	55	ND	17	
79-01-6	Trichloroethene	8,900	170	1,700	31	D
79-00-5	1,1,2-Trichloroethane	ND	55	ND	10	
108-88-3	Toluene	ND	55	ND	15	
127-18-4	Tetrachloroethene	56	55	8.2	8.1	

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

Page 1 of 1

Client: ARCADIS U.S., Inc.

Client Sample ID: SS-10 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P1701055-004

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Summa Canister

Test Notes:

Container ID: 1SC00613

Date Collected: 3/1/17

Date Received: 3/3/17

Date Analyzed: 3/8/17

Volume(s) Analyzed: 0.0000060 Liter(s)

Initial Pressure (psig): -0.89 Final Pressure (psig): 7.51

Canister Dilution Factor: 1.61

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	130,000	ND	53,000	
75-35-4	1,1-Dichloroethene	ND	130,000	ND	34,000	
75-09-2	Methylene Chloride	ND	130,000	ND	39,000	
156-60-5	trans-1,2-Dichloroethene	ND	130,000	ND	34,000	
156-59-2	cis-1,2-Dichloroethene	180,000	130,000	45,000	34,000	
107-06-2	1,2-Dichloroethane	ND	130,000	ND	33,000	
71-43-2	Benzene	ND	130,000	ND	42,000	
79-01-6	Trichloroethene	23,000,000	130,000	4,300,000	25,000	
79-00-5	1,1,2-Trichloroethane	ND	130,000	ND	25,000	
108-88-3	Toluene	ND	130,000	ND	36,000	
127-18-4	Tetrachloroethene	ND	130,000	ND	20,000	

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

Page 1 of 1

Client: ARCADIS U.S., Inc.

Client Sample ID: SS-11 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P1701055-005

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Summa Canister

Test Notes:

Container ID: 1SC01281

Date Collected: 3/1/17

Date Received: 3/3/17

Date Analyzed: 3/8/17

Volume(s) Analyzed: 0.015 Liter(s)

Initial Pressure (psig): -2.02 Final Pressure (psig): 6.17

Canister Dilution Factor: 1.65

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	3,200	55	1,200	22	
75-35-4	1,1-Dichloroethene	61	55	15	14	
75-09-2	Methylene Chloride	ND	55	ND	16	
156-60-5	trans-1,2-Dichloroethene	ND	55	ND	14	
156-59-2	cis-1,2-Dichloroethene	7,600	55	1,900	14	
107-06-2	1,2-Dichloroethane	ND	55	ND	14	
71-43-2	Benzene	ND	55	ND	17	
79-01-6	Trichloroethene	11,000	55	2,100	10	
79-00-5	1,1,2-Trichloroethane	ND	55	ND	10	
108-88-3	Toluene	ND	55	ND	15	
127-18-4	Tetrachloroethene	100	55	15	8.1	

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

Page 1 of 1

Client: ARCADIS U.S., Inc.

Client Sample ID: SS-12 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P1701055-006

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00217

Date Collected: 3/1/17

Date Received: 3/3/17

Date Analyzed: 3/8/17

Volume(s) Analyzed: 0.0080 Liter(s)

Initial Pressure (psig): -1.14 Final Pressure (psig): 5.60

Canister Dilution Factor: 1.50

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	94	ND	37	
75-35-4	1,1-Dichloroethene	1,400	94	350	24	
75-09-2	Methylene Chloride	ND	94	ND	27	
156-60-5	trans-1,2-Dichloroethene	180	94	45	24	
156-59-2	cis-1,2-Dichloroethene	9,000	94	2,300	24	
107-06-2	1,2-Dichloroethane	ND	94	ND	23	
71-43-2	Benzene	ND	94	ND	29	
79-01-6	Trichloroethene	920	94	170	17	
79-00-5	1,1,2-Trichloroethane	ND	94	ND	17	
108-88-3	Toluene	ND	94	ND	25	
127-18-4	Tetrachloroethene	110	94	17	14	

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

Page 1 of 1

Client: ARCADIS U.S., Inc.

Client Sample ID: SS-13 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P1701055-007

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Summa Canister

Test Notes:

Container ID: 1SC00927

Date Collected: 3/1/17

Date Received: 3/3/17

Date Analyzed: 3/8/17

Volume(s) Analyzed: 0.00015 Liter(s)

0.000050 Liter(s)

Initial Pressure (psig): -2.16 Final Pressure (psig): 8.16

Canister Dilution Factor: 1.82

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	6,100	ND	2,400	
75-35-4	1,1-Dichloroethene	ND	6,100	ND	1,500	
75-09-2	Methylene Chloride	ND	6,100	ND	1,700	
156-60-5	trans-1,2-Dichloroethene	17,000	6,100	4,200	1,500	
156-59-2	cis-1,2-Dichloroethene	1,500,000	18,000	390,000	4,600	D
107-06-2	1,2-Dichloroethane	ND	6,100	ND	1,500	
71-43-2	Benzene	ND	6,100	ND	1,900	
79-01-6	Trichloroethene	1,100,000	6,100	200,000	1,100	
79-00-5	1,1,2-Trichloroethane	ND	6,100	ND	1,100	
108-88-3	Toluene	ND	6,100	ND	1,600	
127-18-4	Tetrachloroethene	12,000	6,100	1,700	890	

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

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Client: ARCADIS U.S., Inc.

Client Sample ID: SS-14 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P1701055-008

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00109

Date Collected: 3/1/17

Date Received: 3/3/17

Date Analyzed: 3/8/17

Volume(s) Analyzed: 0.000025 Liter(s)

Initial Pressure (psig): -2.16 Final Pressure (psig): 5.17

Canister Dilution Factor: 1.58

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	32,000	ND	12,000	
75-35-4	1,1-Dichloroethene	ND	32,000	ND	8,000	
75-09-2	Methylene Chloride	ND	32,000	ND	9,100	
156-60-5	trans-1,2-Dichloroethene	ND	32,000	ND	8,000	
156-59-2	cis-1,2-Dichloroethene	6,300,000	32,000	1,600,000	8,000	
107-06-2	1,2-Dichloroethane	ND	32,000	ND	7,800	
71-43-2	Benzene	ND	32,000	ND	9,900	
79-01-6	Trichloroethene	1,800,000	32,000	330,000	5,900	
79-00-5	1,1,2-Trichloroethane	ND	32,000	ND	5,800	
108-88-3	Toluene	ND	32,000	ND	8,400	
127-18-4	Tetrachloroethene	ND	32,000	ND	4,700	

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

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Client: ARCADIS U.S., Inc.

Client Sample ID: SS-15 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P1701055-009

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00222

Date Collected: 3/1/17

Date Received: 3/3/17

Date Analyzed: 3/8/17

Volume(s) Analyzed: 0.0000015 Liter(s)

Initial Pressure (psig): -1.46 Final Pressure (psig): 5.38

Canister Dilution Factor: 1.52

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	510,000	ND	200,000	
75-35-4	1,1-Dichloroethene	ND	510,000	ND	130,000	
75-09-2	Methylene Chloride	ND	510,000	ND	150,000	
156-60-5	trans-1,2-Dichloroethene	ND	510,000	ND	130,000	
156-59-2	cis-1,2-Dichloroethene	880,000	510,000	220,000	130,000	
107-06-2	1,2-Dichloroethane	ND	510,000	ND	130,000	
71-43-2	Benzene	ND	510,000	ND	160,000	
79-01-6	Trichloroethene	79,000,000	510,000	15,000,000	94,000	
79-00-5	1,1,2-Trichloroethane	ND	510,000	ND	93,000	
108-88-3	Toluene	ND	510,000	ND	130,000	
127-18-4	Tetrachloroethene	ND	510,000	ND	75,000	

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.

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Client: ARCADIS U.S., Inc.

Client Sample ID: SS-16 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P1701055-010

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Summa Canister

Test Notes:

Container ID: 1SC00442

Date Collected: 3/1/17

Date Received: 3/3/17

Date Analyzed: 3/8/17

Volume(s) Analyzed: 0.00050 Liter(s)

Initial Pressure (psig): -1.92 Final Pressure (psig): 7.02

Canister Dilution Factor: 1.70

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	88,000	1,700	34,000	670	
75-35-4	1,1-Dichloroethene	63,000	1,700	16,000	430	
75-09-2	Methylene Chloride	ND	1,700	ND	490	
156-60-5	trans-1,2-Dichloroethene	ND	1,700	ND	430	
156-59-2	cis-1,2-Dichloroethene	300,000	1,700	76,000	430	
107-06-2	1,2-Dichloroethane	ND	1,700	ND	420	
71-43-2	Benzene	ND	1,700	ND	530	
79-01-6	Trichloroethene	23,000	1,700	4,200	320	
79-00-5	1,1,2-Trichloroethane	ND	1,700	ND	310	
108-88-3	Toluene	ND	1,700	ND	450	
127-18-4	Tetrachloroethene	1,800	1,700	260	250	

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

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Client: ARCADIS U.S., Inc.

Client Sample ID: SS-17 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P1701055-011

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00768

Date Collected: 3/1/17

Date Received: 3/3/17

Date Analyzed: 3/8 - 3/9/17

Volume(s) Analyzed: 0.025 Liter(s)

0.015 Liter(s)

Initial Pressure (psig): -1.39 Final Pressure (psig): 5.43

Canister Dilution Factor: 1.51

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	30	ND	12	
75-35-4	1,1-Dichloroethene	ND	30	ND	7.6	
75-09-2	Methylene Chloride	ND	30	ND	8.7	
156-60-5	trans-1,2-Dichloroethene	290	30	73	7.6	
156-59-2	cis-1,2-Dichloroethene	5,300	30	1,300	7.6	
107-06-2	1,2-Dichloroethane	ND	30	ND	7.5	
71-43-2	Benzene	32	30	10	9.5	
79-01-6	Trichloroethene	7,200	50	1,300	9.4	D
79-00-5	1,1,2-Trichloroethane	ND	30	ND	5.5	
108-88-3	Toluene	ND	30	ND	8.0	
127-18-4	Tetrachloroethene	170	30	25	4.5	

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.

D = The reported result is from a dilution.

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Client: ARCADIS U.S., Inc.

Client Sample ID: SS-18 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P1701055-012

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00042

Date Collected: 3/1/17

Date Received: 3/3/17

Date Analyzed: 3/8 - 3/9/17

Volume(s) Analyzed: 0.035 Liter(s)

0.015 Liter(s)

Initial Pressure (psig): -1.37 Final Pressure (psig): 5.00

Canister Dilution Factor: 1.48

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	140	21	54	8.3	
75-35-4	1,1-Dichloroethene	130	21	33	5.3	
75-09-2	Methylene Chloride	ND	21	ND	6.1	
156-60-5	trans-1,2-Dichloroethene	5,600	49	1,400	12	D
156-59-2	cis-1,2-Dichloroethene	4,400	49	1,100	12	D
107-06-2	1,2-Dichloroethane	ND	21	ND	5.2	
71-43-2	Benzene	ND	21	ND	6.6	
79-01-6	Trichloroethene	850	21	160	3.9	
79-00-5	1,1,2-Trichloroethane	ND	21	ND	3.9	
108-88-3	Toluene	ND	21	ND	5.6	
127-18-4	Tetrachloroethene	150	21	22	3.1	

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.

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Client: ARCADIS U.S., Inc.

Client Sample ID: SS-20 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P1701055-013

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Summa Canister

Test Notes:

Container ID: 1SC01204

Date Collected: 3/1/17

Date Received: 3/3/17

Date Analyzed: 3/9/17

Volume(s) Analyzed: 0.015 Liter(s)

0.0050 Liter(s)

Initial Pressure (psig): -2.10 Final Pressure (psig): 5.31

Canister Dilution Factor: 1.59

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	53	ND	21	
75-35-4	1,1-Dichloroethene	530	53	130	13	
75-09-2	Methylene Chloride	ND	53	ND	15	
156-60-5	trans-1,2-Dichloroethene	93	53	23	13	
156-59-2	cis-1,2-Dichloroethene	4,800	53	1,200	13	
107-06-2	1,2-Dichloroethane	ND	53	ND	13	
71-43-2	Benzene	ND	53	ND	17	
79-01-6	Trichloroethene	9,000	160	1,700	30	D
79-00-5	1,1,2-Trichloroethane	ND	53	ND	9.7	
108-88-3	Toluene	ND	53	ND	14	
127-18-4	Tetrachloroethene	360	53	52	7.8	

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.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

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Client: ARCADIS U.S., Inc.

Client Sample ID: SS-21 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P1701055-014

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Summa Canister

Test Notes:

Container ID: 1SC00590

Date Collected: 3/1/17

Date Received: 3/3/17

Date Analyzed: 3/9/17

Volume(s) Analyzed: 0.055 Liter(s)

0.020 Liter(s)

Initial Pressure (psig): -1.09 Final Pressure (psig): 6.41

Canister Dilution Factor: 1.55

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	14	ND	5.5	
75-35-4	1,1-Dichloroethene	ND	14	ND	3.6	
75-09-2	Methylene Chloride	ND	14	ND	4.1	
156-60-5	trans-1,2-Dichloroethene	37	14	9.3	3.6	
156-59-2	cis-1,2-Dichloroethene	290	14	74	3.6	
107-06-2	1,2-Dichloroethane	ND	14	ND	3.5	
71-43-2	Benzene	ND	14	ND	4.4	
79-01-6	Trichloroethene	3,300	39	610	7.2	D
79-00-5	1,1,2-Trichloroethane	ND	14	ND	2.6	
108-88-3	Toluene	ND	14	ND	3.7	
127-18-4	Tetrachloroethene	20	14	2.9	2.1	

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

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Client: ARCADIS U.S., Inc.

Client Sample ID: SS-22 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P1701055-015

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Summa Canister

Test Notes:

Container ID: 1SC00332

Date Collected: 3/1/17

Date Received: 3/3/17

Date Analyzed: 3/8/17

Volume(s) Analyzed: 0.0015 Liter(s)

Initial Pressure (psig): -1.48 Final Pressure (psig): 8.45

Canister Dilution Factor: 1.75

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	580	ND	230	
75-35-4	1,1-Dichloroethene	ND	580	ND	150	
75-09-2	Methylene Chloride	ND	580	ND	170	
156-60-5	trans-1,2-Dichloroethene	3,400	580	860	150	
156-59-2	cis-1,2-Dichloroethene	110,000	580	28,000	150	
107-06-2	1,2-Dichloroethane	ND	580	ND	140	
71-43-2	Benzene	ND	580	ND	180	
79-01-6	Trichloroethene	34,000	580	6,300	110	
79-00-5	1,1,2-Trichloroethane	ND	580	ND	110	
108-88-3	Toluene	ND	580	ND	150	
127-18-4	Tetrachloroethene	5,300	580	780	86	

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.

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Client: ARCADIS U.S., Inc.

Client Sample ID: DUP-1 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P1701055-016

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Summa Canister

Test Notes:

Container ID: 1SC00152

Date Collected: 3/1/17

Date Received: 3/3/17

Date Analyzed: 3/9/17

Volume(s) Analyzed: 0.015 Liter(s)

0.0050 Liter(s)

Initial Pressure (psig): -1.86 Final Pressure (psig): 5.15

Canister Dilution Factor: 1.55

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	52	ND	20	
75-35-4	1,1-Dichloroethene	ND	52	ND	13	
75-09-2	Methylene Chloride	ND	52	ND	15	
156-60-5	trans-1,2-Dichloroethene	ND	52	ND	13	
156-59-2	cis-1,2-Dichloroethene	130	52	32	13	
107-06-2	1,2-Dichloroethane	ND	52	ND	13	
71-43-2	Benzene	ND	52	ND	16	
79-01-6	Trichloroethene	9,000	160	1,700	29	D
79-00-5	1,1,2-Trichloroethane	ND	52	ND	9.5	
108-88-3	Toluene	ND	52	ND	14	
127-18-4	Tetrachloroethene	ND	52	ND	7.6	

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.

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Client: ARCADIS U.S., Inc.

Client Sample ID: Method Blank

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P170308-MB

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 3/8/17

Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.50	ND	0.20	
75-35-4	1,1-Dichloroethene	ND	0.50	ND	0.13	
75-09-2	Methylene Chloride	ND	0.50	ND	0.14	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	ND	0.13	
156-59-2	cis-1,2-Dichloroethene	ND	0.50	ND	0.13	
107-06-2	1,2-Dichloroethane	ND	0.50	ND	0.12	
71-43-2	Benzene	ND	0.50	ND	0.16	
79-01-6	Trichloroethene	ND	0.50	ND	0.093	
79-00-5	1,1,2-Trichloroethane	ND	0.50	ND	0.092	
108-88-3	Toluene	ND	0.50	ND	0.13	
127-18-4	Tetrachloroethene	ND	0.50	ND	0.074	

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

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Client: ARCADIS U.S., Inc.

Client Sample ID: Method Blank

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P170309-MB

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 3/9/17

Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.50	ND	0.20	
75-35-4	1,1-Dichloroethene	ND	0.50	ND	0.13	
75-09-2	Methylene Chloride	ND	0.50	ND	0.14	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	ND	0.13	
156-59-2	cis-1,2-Dichloroethene	ND	0.50	ND	0.13	
107-06-2	1,2-Dichloroethane	ND	0.50	ND	0.12	
71-43-2	Benzene	ND	0.50	ND	0.16	
79-01-6	Trichloroethene	ND	0.50	ND	0.093	
79-00-5	1,1,2-Trichloroethane	ND	0.50	ND	0.092	
108-88-3	Toluene	ND	0.50	ND	0.13	
127-18-4	Tetrachloroethene	ND	0.50	ND	0.074	

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

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Client: ARCADIS U.S., Inc.
Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
Analyst: Lusine Hakobyan
Sample Type: 1.0 L Summa Canister(s) / 1.0 L Silonite Canister(s)
Test Notes:

Date(s) Collected: 3/1/17
Date(s) Received: 3/3/17
Date(s) Analyzed: 3/8 - 3/9/17

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4	Toluene-d8	Bromofluorobenzene	Acceptance Limits	Data Qualifier
		Percent Recovered	Percent Recovered	Percent Recovered		
Method Blank	P170308-MB	103	97	84	70-130	
Method Blank	P170309-MB	105	98	82	70-130	
Lab Control Sample	P170308-LCS	100	95	88	70-130	
Lab Control Sample	P170309-LCS	101	96	85	70-130	
SS-7 (030117)	P1701055-001	105	94	86	70-130	
SS-8 (030117)	P1701055-002	104	96	84	70-130	
SS-9 (030117)	P1701055-003	103	96	85	70-130	
SS-10 (030117)	P1701055-004	105	97	84	70-130	
SS-11 (030117)	P1701055-005	103	97	84	70-130	
SS-11 (030117)	P1701055-005DUP	102	96	83	70-130	
SS-12 (030117)	P1701055-006	104	97	82	70-130	
SS-13 (030117)	P1701055-007	102	96	84	70-130	
SS-14 (030117)	P1701055-008	102	98	83	70-130	
SS-15 (030117)	P1701055-009	106	97	84	70-130	
SS-16 (030117)	P1701055-010	103	97	83	70-130	
SS-17 (030117)	P1701055-011	104	97	82	70-130	
SS-18 (030117)	P1701055-012	104	97	82	70-130	
SS-20 (030117)	P1701055-013	104	96	84	70-130	
SS-21 (030117)	P1701055-014	104	97	81	70-130	
SS-22 (030117)	P1701055-015	102	96	83	70-130	
DUP-1 (030117)	P1701055-016	106	98	81	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

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Client: ARCADIS U.S., Inc.

Client Sample ID: Lab Control Sample

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P170308-LCS

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 3/8/17

Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m ³	Result µg/m ³	% Recovery	ALS Acceptance Limits	Data Qualifier
75-01-4	Vinyl Chloride	210	243	116	61-125	
75-35-4	1,1-Dichloroethene	213	223	105	76-118	
75-09-2	Methylene Chloride	212	225	106	60-118	
156-60-5	trans-1,2-Dichloroethene	213	232	109	74-123	
156-59-2	cis-1,2-Dichloroethene	212	229	108	72-117	
107-06-2	1,2-Dichloroethane	212	208	98	69-113	
71-43-2	Benzene	212	212	100	65-107	
79-01-6	Trichloroethene	212	199	94	68-114	
79-00-5	1,1,2-Trichloroethane	212	216	102	75-119	
108-88-3	Toluene	212	191	90	59-118	
127-18-4	Tetrachloroethene	213	173	81	65-130	

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

Page 1 of 1

Client: ARCADIS U.S., Inc.

Client Sample ID: Lab Control Sample

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P170309-LCS

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 3/9/17

Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m ³	Result µg/m ³	% Recovery	ALS Acceptance Limits	Data Qualifier
75-01-4	Vinyl Chloride	210	245	117	61-125	
75-35-4	1,1-Dichloroethene	213	226	106	76-118	
75-09-2	Methylene Chloride	212	229	108	60-118	
156-60-5	trans-1,2-Dichloroethene	213	238	112	74-123	
156-59-2	cis-1,2-Dichloroethene	212	233	110	72-117	
107-06-2	1,2-Dichloroethane	212	212	100	69-113	
71-43-2	Benzene	212	216	102	65-107	
79-01-6	Trichloroethene	212	199	94	68-114	
79-00-5	1,1,2-Trichloroethane	212	219	103	75-119	
108-88-3	Toluene	212	197	93	59-118	
127-18-4	Tetrachloroethene	213	175	82	65-130	

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 DUPLICATE SUMMARY RESULTS

Page 1 of 1

Client: ARCADIS U.S., Inc.

Client Sample ID: SS-11 (030117)

Client Project ID: Grenada Manufacturing / LA003307.0004.00001

ALS Project ID: P1701055

ALS Sample ID: P1701055-005DUP

Test Code: EPA TO-15

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

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Summa Canister

Test Notes:

Container ID: 1SC01281

Date Collected: 3/1/17

Date Received: 3/3/17

Date Analyzed: 3/8/17

Volume(s) Analyzed: 0.015 Liter(s)

Initial Pressure (psig): -2.02

Final Pressure (psig): 6.17

Canister Dilution Factor: 1.65

Compound	Sample Result		Duplicate Sample Result		Average µg/m³	% RPD	RPD Limit	Data Qualifier
	µg/m³	ppbV	µg/m³	ppbV				
Vinyl Chloride	3,170	1,240	3,090	1,210	3130	3	25	
1,1-Dichloroethene	60.7	15.3	61.5	15.5	61.1	1	25	
Methylene Chloride	ND	ND	ND	ND	-	-	25	
trans-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
cis-1,2-Dichloroethene	7,570	1,910	7,440	1,880	7505	2	25	
1,2-Dichloroethane	ND	ND	ND	ND	-	-	25	
Benzene	ND	ND	ND	ND	-	-	25	
Trichloroethene	11,500	2,130	11,300	2,100	11400	2	25	
1,1,2-Trichloroethane	ND	ND	ND	ND	-	-	25	
Toluene	ND	ND	ND	ND	-	-	25	
Tetrachloroethene	101	14.8	98.2	14.5	99.6	3	25	

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