



06/22/12

Technical Report for

XTO Energy

FRU 297-8B

1106-06

Accutest Job Number: D35547

Sampling Date: 06/13/12


Report to:

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Total number of pages in report: 93



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.


Brad Madadian
Laboratory Director

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Certifications: CO, ID, NE, NM, ND (R-027) (PW), UT (NELAP CO00049), TX (T104704511-12-1)

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Test results relate only to samples analyzed.

Table of Contents

-1-

Section 1: Sample Summary	3
Section 2: Case Narrative/Conformance Summary	4
Section 3: Sample Results	5
3.1: D35547-1: CUT 1 MB DAY 3 (6/12)	6
3.2: D35547-2: CUT 1 MB DAY 4 (6/13)	9
Section 4: Misc. Forms	12
4.1: Chain of Custody	13
Section 5: GC/MS Volatiles - QC Data Summaries	15
5.1: Method Blank Summary	16
5.2: Blank Spike Summary	17
5.3: Matrix Spike/Matrix Spike Duplicate Summary	18
Section 6: GC/MS Volatiles - Raw Data	19
6.1: Samples	20
6.2: Method Blanks	50
Section 7: GC Volatiles - QC Data Summaries	60
7.1: Method Blank Summary	61
7.2: Blank Spike Summary	62
7.3: Matrix Spike/Matrix Spike Duplicate Summary	63
Section 8: GC Volatiles - Raw Data	64
8.1: Samples	65
8.2: Method Blanks	75
Section 9: GC Semi-volatiles - QC Data Summaries	80
9.1: Method Blank Summary	81
9.2: Blank Spike Summary	82
9.3: Matrix Spike/Matrix Spike Duplicate Summary	83
Section 10: GC Semi-volatiles - Raw Data	84
10.1: Samples	85
10.2: Method Blanks	91



Sample Summary

XTO Energy

Job No: D35547

FRU 297-8B

Project No: 1106-06

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
D35547-1	06/13/12	14:15 DS	06/15/12	SO	Soil	CUT 1 MB DAY 3 (6/12)
D35547-2	06/13/12	14:25 DS	06/15/12	SO	Soil	CUT 1 MB DAY 4 (6/13)

Soil samples reported on a dry weight basis unless otherwise indicated on result page.



CASE NARRATIVE / CONFORMANCE SUMMARY

Client: XTO Energy

Job No D35547

Site: FRU 297-8B

Report Date 6/22/2012 5:07:27 PM

On 06/15/2012, 2 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 4.0 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D35547 was assigned to the project. The lab sample IDs, client sample IDs, and date of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix SO

Batch ID: V5V1345

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D35545-1MS, D35545-1MSD were used as the QC samples indicated.

Volatiles by GC By Method SW846 8015B

Matrix SO

Batch ID: GGB908

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D35569-1MS, D35569-1MSD were used as the QC samples indicated.

Extractables by GC By Method SW846-8015B

Matrix SO

Batch ID: OP6079

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D35569-1MS, D35569-1MSD were used as the QC samples indicated.
- The blank spike (BS) recovery(s) of TPH-DRO (C10-C28) are outside control limits.

Wet Chemistry By Method SM19 2540B M

Matrix SO

Batch ID: GN15454

- The data for SM19 2540B M meets quality control requirements.

AMS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting AMS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

AMS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by AMS indicated via signature on the report cover.

Sample Results

Report of Analysis

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Report of Analysis

Page 1 of 1

Client Sample ID:	CUT 1 MB DAY 3 (6/12)	
Lab Sample ID:	D35547-1	Date Sampled: 06/13/12
Matrix:	SO - Soil	Date Received: 06/15/12
Method:	SW846 8260B	Percent Solids: 85.6
Project:	FRU 297-8B	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V21962.D	1	06/16/12	BD	n/a	n/a	V5V1345
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.04 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.066	0.025	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
2037-26-5	Toluene-D8	92%		61-130%		
460-00-4	4-Bromofluorobenzene	97%		53-131%		
17060-07-0	1,2-Dichloroethane-D4	105%		62-130%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

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Report of Analysis

Page 1 of 1

Client Sample ID:	CUT 1 MB DAY 3 (6/12)	Date Sampled:	06/13/12
Lab Sample ID:	D35547-1	Date Received:	06/15/12
Matrix:	SO - Soil	Percent Solids:	85.6
Method:	SW846 8015B		
Project:	FRU 297-8B		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB16375.D	1	06/18/12	SK	n/a	n/a	GGB908
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.0 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	72.8	13	6.6	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	91%		60-140%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

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Report of Analysis

Page 1 of 1

Client Sample ID:	CUT 1 MB DAY 3 (6/12)	Date Sampled:	06/13/12
Lab Sample ID:	D35547-1	Date Received:	06/15/12
Matrix:	SO - Soil	Percent Solids:	85.6
Method:	SW846-8015B SW846 3546		
Project:	FRU 297-8B		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD14644.D	1	06/22/12	AW	06/18/12	OP6079	GFD762
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	179	7.8	5.1	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	103%		43-136%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

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Report of Analysis

Page 1 of 1

Client Sample ID:	CUT 1 MB DAY 4 (6/13)	
Lab Sample ID:	D35547-2	Date Sampled: 06/13/12
Matrix:	SO - Soil	Date Received: 06/15/12
Method:	SW846 8260B	Percent Solids: 88.9
Project:	FRU 297-8B	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V21963.D	1	06/16/12	BD	n/a	n/a	V5V1345
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.02 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.062	0.024	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
2037-26-5	Toluene-D8	90%		61-130%		
460-00-4	4-Bromofluorobenzene	94%		53-131%		
17060-07-0	1,2-Dichloroethane-D4	102%		62-130%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

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Report of Analysis

Page 1 of 1

Client Sample ID:	CUT 1 MB DAY 4 (6/13)	Date Sampled:	06/13/12
Lab Sample ID:	D35547-2	Date Received:	06/15/12
Matrix:	SO - Soil	Percent Solids:	88.9
Method:	SW846 8015B		
Project:	FRU 297-8B		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB16376.D	1	06/19/12	SK	n/a	n/a	GGB908
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.0 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	77.4	12	6.2	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	93%		60-140%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

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Report of Analysis

Page 1 of 1

Client Sample ID:	CUT 1 MB DAY 4 (6/13)	Date Sampled:	06/13/12
Lab Sample ID:	D35547-2	Date Received:	06/15/12
Matrix:	SO - Soil	Percent Solids:	88.9
Method:	SW846-8015B SW846 3546		
Project:	FRU 297-8B		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD14646.D	1	06/22/12	AW	06/18/12	OP6079	GFD762
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	159	7.5	4.9	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	104%		43-136%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D35547

Client: KRW

Immediate Client Services Action Required: No

Date / Time Received: 6/15/2012 12:30:00 PM

No. Coolers: 1

Client Service Action Required at Login: No

Project: XTO

Airbill #'s: CO

Cooler Security

Y or N

Y or N

- | | | | | | |
|---------------------------|-------------------------------------|--------------------------|-----------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3. COC Present: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Custody Seals Intact: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4. Smpl Dates/Time OK | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Cooler Temperature

Y or N

- | | | |
|------------------------------|-------------------------------------|--------------------------|
| 1. Temp criteria achieved: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Cooler temp verification: | Infrared gun | |
| 3. Cooler media: | Ice (bag) | |

Quality Control Preservation

Y or N

N/A

- | | | | |
|---------------------------------|-------------------------------------|--------------------------|-------------------------------------|
| 1. Trip Blank present / cooler: | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2. Trip Blank listed on COC: | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3. Samples preserved properly: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 4. VOCs headspace free: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Sample Integrity - Documentation

Y or N

- | | | |
|--|-------------------------------------|--------------------------|
| 1. Sample labels present on bottles: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Container labeling complete: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Sample container label / COC agree: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Sample Integrity - Condition

Y or N

- | | | |
|----------------------------------|-------------------------------------|--------------------------|
| 1. Sample recvd within HT: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. All containers accounted for: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Condition of sample: | Intact | |

Sample Integrity - Instructions

Y or N N/A

- | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Analysis requested is clear: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 2. Bottles received for unspecified tests | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3. Sufficient volume rec'd for analysis: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 4. Compositing instructions clear: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. Filtering instructions clear: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Comments

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Wheat Ridge, CO
www.accutest.com

GC/MS Volatiles

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Page 1 of 1

Job Number: D35547
Account: XTOKRWR XTO Energy
Project: FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V1345-MB	5V21956.D	1	06/15/12	BD	n/a	n/a	V5V1345

The QC reported here applies to the following samples:

Method: SW846 8260B

D35547-1, D35547-2

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	50	19	ug/kg	

CAS No.	Surrogate Recoveries	Limits
2037-26-5	Toluene-D8	82% 61-130%
460-00-4	4-Bromofluorobenzene	76% 53-131%
17060-07-0	1,2-Dichloroethane-D4	102% 62-130%

Blank Spike Summary

Page 1 of 1

Job Number: D35547
Account: XTOKRWR XTO Energy
Project: FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V1345-BS	5V21955.D	1	06/15/12	BD	n/a	n/a	V5V1345

The QC reported here applies to the following samples:

Method: SW846 8260B

D35547-1, D35547-2

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	45.9	92	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
2037-26-5	Toluene-D8	86%	61-130%
460-00-4	4-Bromofluorobenzene	93%	53-131%
17060-07-0	1,2-Dichloroethane-D4	97%	62-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D35547
Account: XTOKRWR XTO Energy
Project: FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D35545-1MS	5V21958.D	1	06/15/12	BD	n/a	n/a	V5V1345
D35545-1MSD	5V21959.D	1	06/15/12	BD	n/a	n/a	V5V1345
D35545-1	5V21957.D	1	06/15/12	BD	n/a	n/a	V5V1345

The QC reported here applies to the following samples:

Method: SW846 8260B

D35547-1, D35547-2

CAS No.	Compound	D35545-1 ug/kg	Spike Q	ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	38.7	J	3240	3260	100	4380	134	29	70-134/30

CAS No.	Surrogate Recoveries	MS	MSD	D35545-1	Limits
2037-26-5	Toluene-D8	84%	108%	89%	61-130%
460-00-4	4-Bromofluorobenzene	95%	122%	96%	53-131%
17060-07-0	1,2-Dichloroethane-D4	96%	124%	114%	62-130%

* = Outside of Control Limits.

GC/MS Volatiles

Raw Data



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5061512.S\
 Data File : 5V21962.D
 Acq On : 16 Jun 2012 12:18 am
 Operator : BRETD
 Sample : D35547-1
 Misc : MS4118,V5V1345,5.041,,100,5,1
 ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jun 18 09:29:33 2012
 Quant Method : C:\msdchem\1\METHODS\V5AP1304TVH1304.M
 Quant Title : 8260
 QLast Update : Thu May 24 07:55:17 2012
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
2) Pentafluorobenzene	11.647	168	189476	50.00	ug/l	0.00
35) 1,4-Difluorobenzene	12.446	114	299458	50.00	ug/l	0.00
53) Chlorobenzene-d5	15.095	117	371237	50.00	ug/l	0.00
74) 1,4-Dichlorobenzene-d4	17.070	152	253309	50.00	ug/l	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4	12.035	102	30492	52.61	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	105.22%
61) Toluene-d8	13.851	98	578350	46.09	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	92.18%
69) 4-Bromofluorobenzene	16.043	95	248023	48.26	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	96.52%

Target Compounds

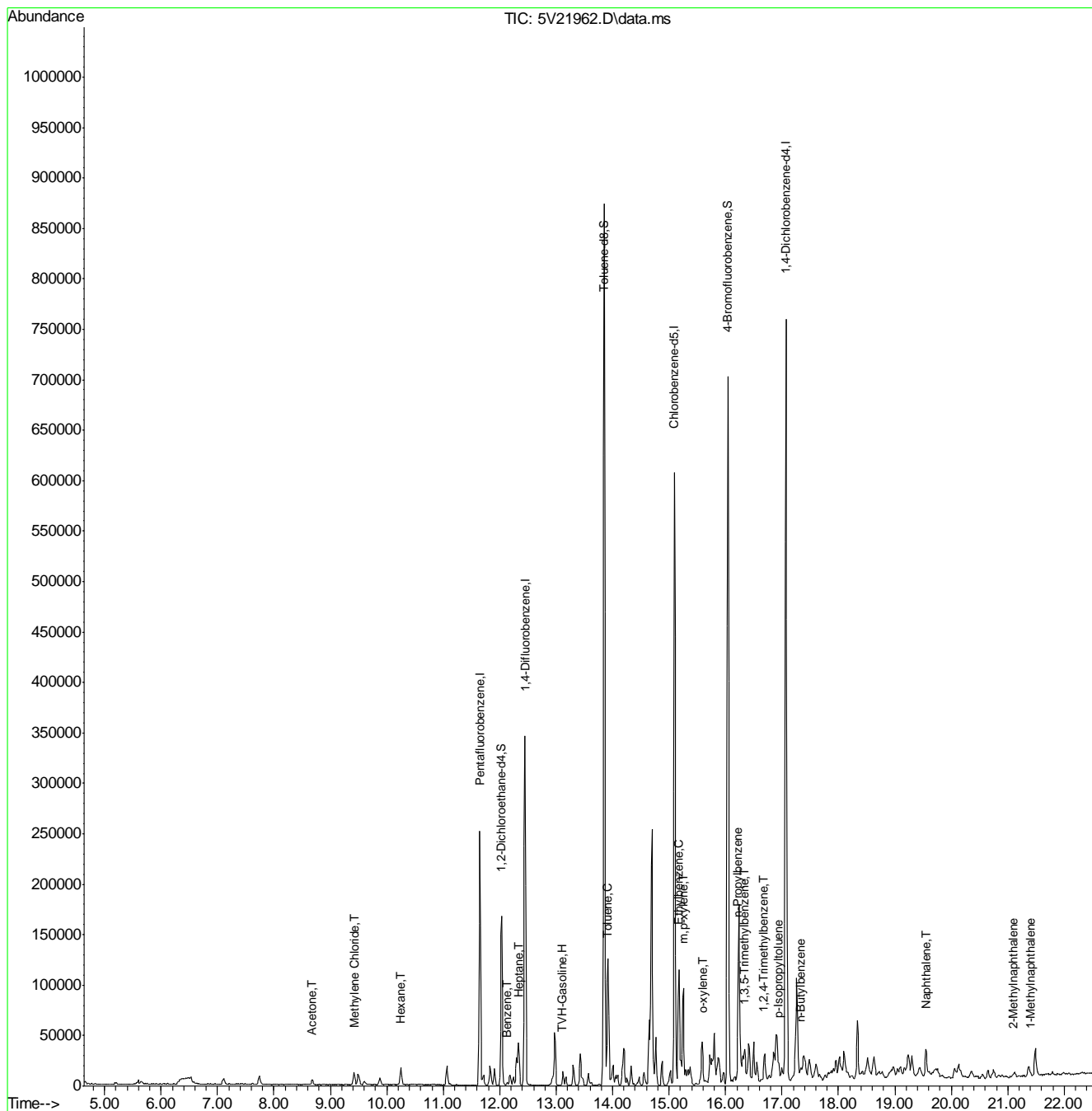
					Qvalue
1) TVH-Gasoline	13.102	TIC	2869715m	144.53	ug/l
15) Acetone	8.679	58	2781	7.61	ug/l # 63
17) Methylene Chloride	9.421	84	8089	2.55	ug/l # 83
41) Hexane	10.243	57	8910	2.15	ug/l 100
43) Heptane	12.332	43	15640	3.53	ug/l 86
50) Benzene	12.127	78	1896	0.15	ug/l 100
62) Toluene	13.908	92	32821	3.40	ug/l 99
66) Ethylbenzene	15.175	91	21635	1.21	ug/l 98
72) m,p-xylene	15.255	106	30430	4.26	ug/l 96
73) o-xylene	15.597	106	2905	0.42	ug/l 87
77) n-Propylbenzene	16.225	91	7322	0.32	ug/l 93
80) 1,3,5-Trimethylbenzene	16.339	105	1780m	0.11	ug/l
82) 1,2,4-Trimethylbenzene	16.682	105	9914	0.61	ug/l 86
86) p-Isopropyltoluene	16.945	119	7182	0.39	ug/l # 92
88) n-Butylbenzene	17.333	91	4006	0.24	ug/l # 78
91) Naphthalene	19.559	128	7046	1.13	ug/l 100
94) 2-Methylnaphthalene	21.100	142	3417	1.99	ug/l 93
95) 1-Methylnaphthalene	21.409	142	1940	1.56	ug/l 98

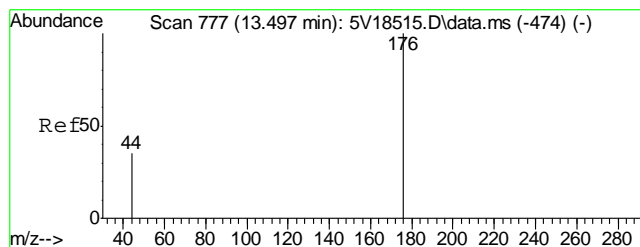
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5061512.S\
Data File : 5V21962.D
Acq On : 16 Jun 2012 12:18 am
Operator : BRETD
Sample : D35547-1
Misc : MS4118,V5V1345,5.041,,100,5,1
ALS Vial : 17 Sample Multiplier: 1

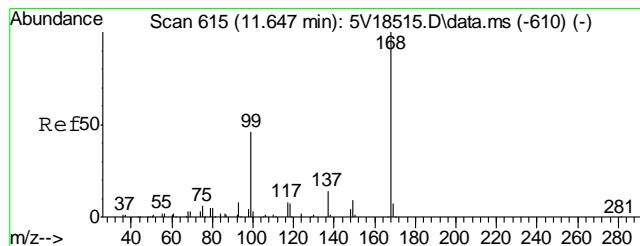
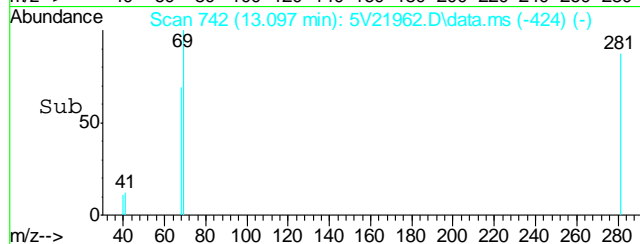
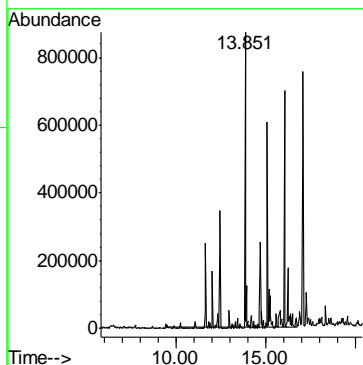
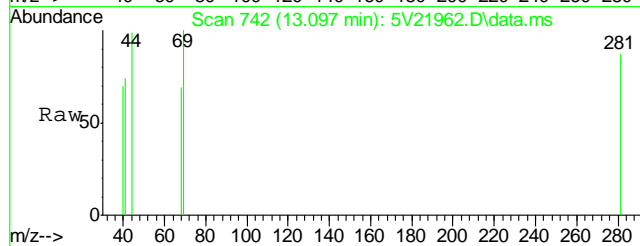
Quant Time: Jun 18 09:29:33 2012
Quant Method : C:\msdchem\1\METHODS\V5AP1304TVH1304.M
Quant Title : 8260
QLast Update : Thu May 24 07:55:17 2012
Response via : Initial Calibration





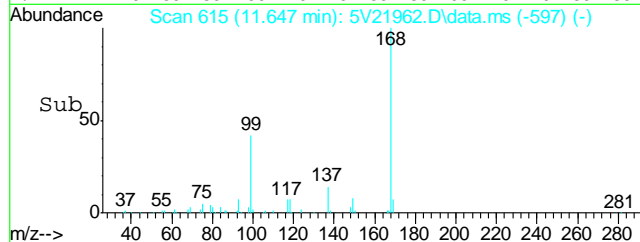
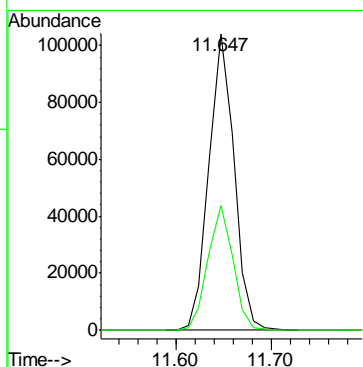
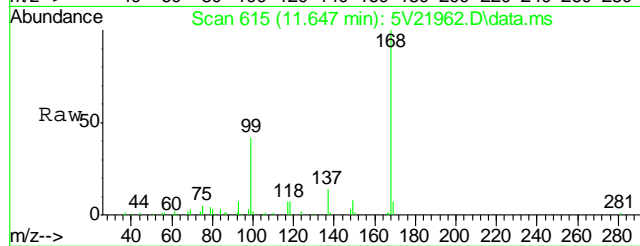
#1
TVH-Gasoline
Concen: 144.53 ug/l m
RT: 13.102 min Scan# 742
Delta R.T. 0.000 min
Lab File: 5V21962.D
Acq: 16 Jun 2012 12:18 am

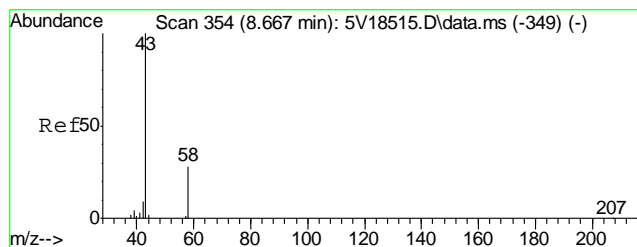
Tgt Ion:TIC Resp: 2869715



#2
Pentafluorobenzene
Concen: 50.00 ug/l
RT: 11.647 min Scan# 615
Delta R.T. 0.000 min
Lab File: 5V21962.D
Acq: 16 Jun 2012 12:18 am

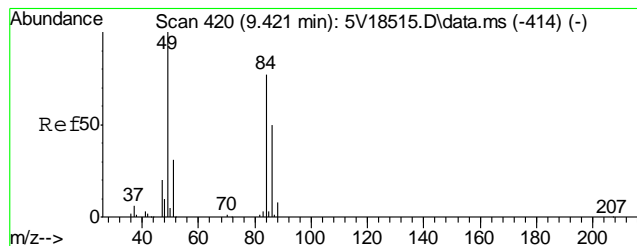
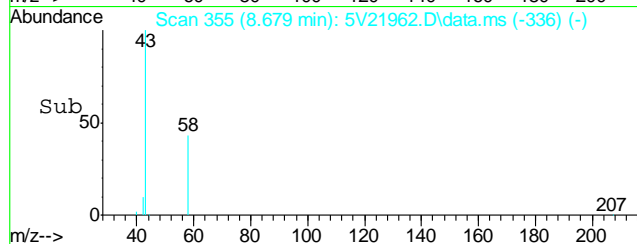
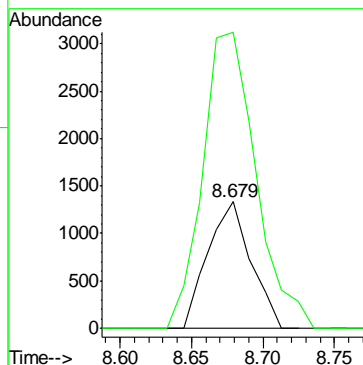
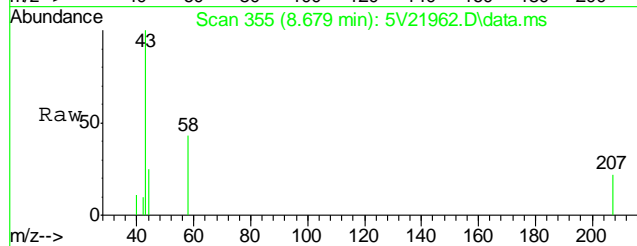
Tgt Ion:168 Resp: 189476
Ion Ratio Lower Upper
168 100
99 42.0 37.4 56.2





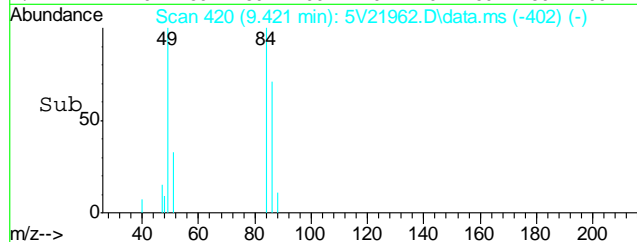
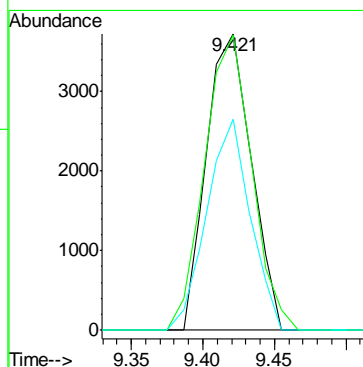
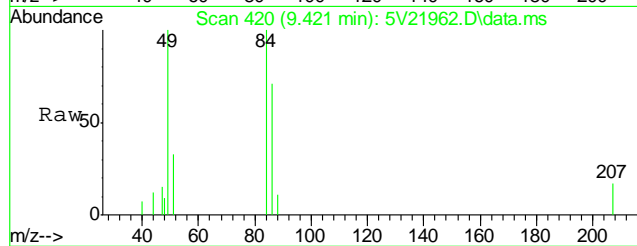
#15
Acetone
Concen: 7.61 ug/l
RT: 8.679 min Scan# 355
Delta R.T. 0.012 min
Lab File: 5V21962.D
Acq: 16 Jun 2012 12:18 am

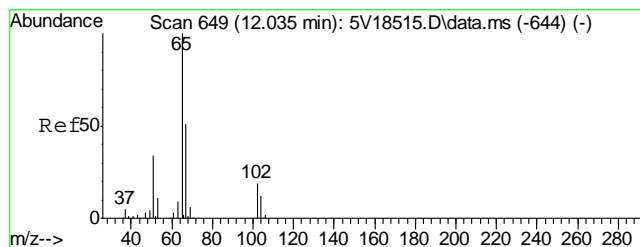
Tgt Ion: 58 Resp: 2781
Ion Ratio Lower Upper
58 100
43 288.7 353.6 393.6#



#17
Methylene Chloride
Concen: 2.55 ug/l
RT: 9.421 min Scan# 420
Delta R.T. 0.000 min
Lab File: 5V21962.D
Acq: 16 Jun 2012 12:18 am

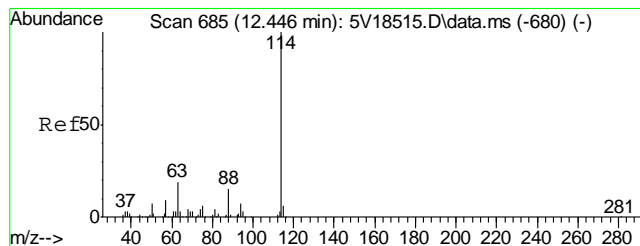
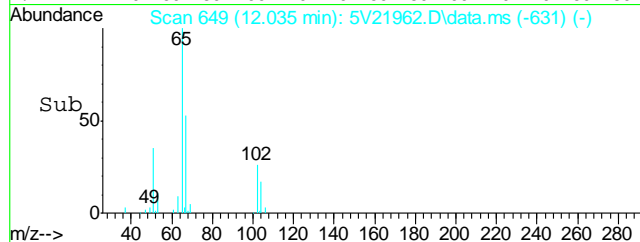
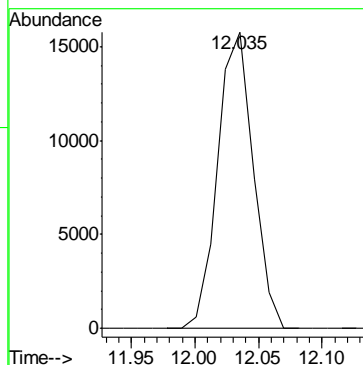
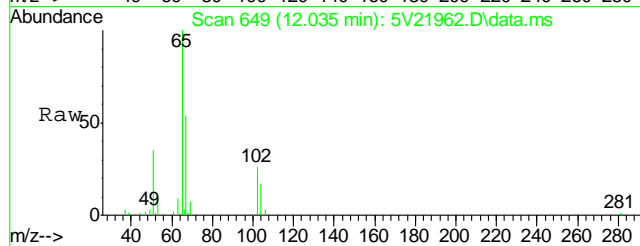
Tgt Ion: 84 Resp: 8089
Ion Ratio Lower Upper
84 100
49 104.6 110.4 150.4#
86 69.2 44.0 84.0





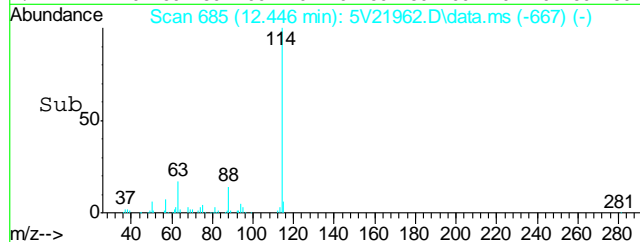
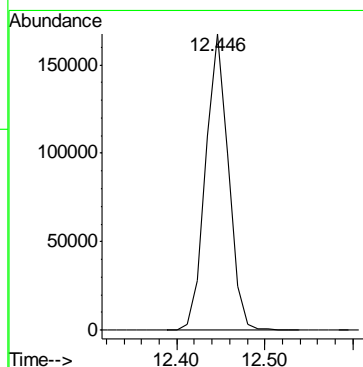
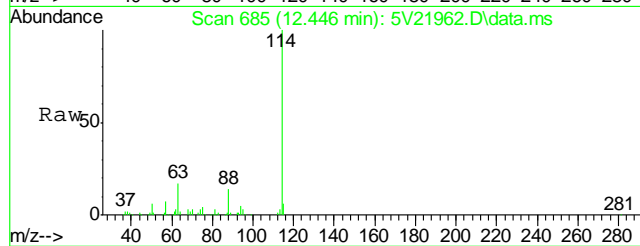
#33
1,2-Dichloroethane-d4
Concen: 52.61 ug/l
RT: 12.035 min Scan# 649
Delta R.T. 0.000 min
Lab File: 5V21962.D
Acq: 16 Jun 2012 12:18 am

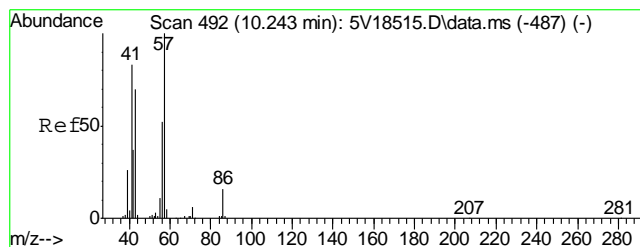
Tgt Ion:102 Resp: 30492



#35
1,4-Difluorobenzene
Concen: 50.00 ug/l
RT: 12.446 min Scan# 685
Delta R.T. 0.000 min
Lab File: 5V21962.D
Acq: 16 Jun 2012 12:18 am

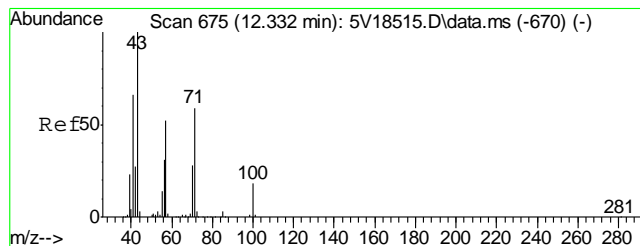
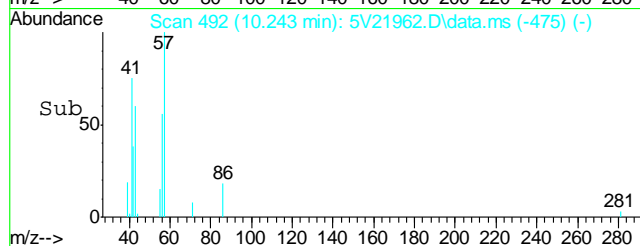
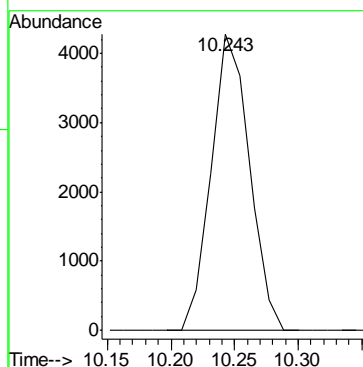
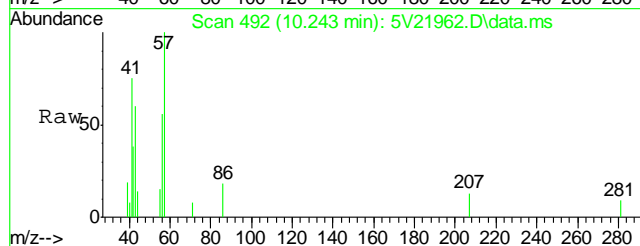
Tgt Ion:114 Resp: 299458





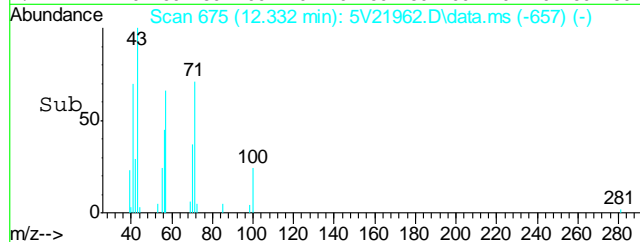
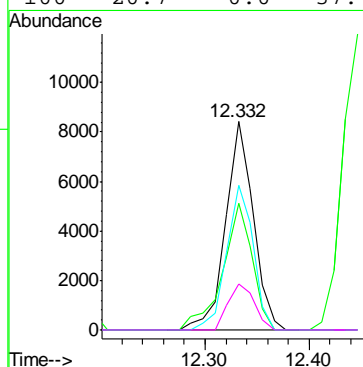
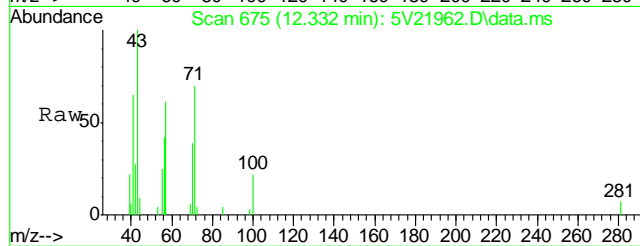
#41
Hexane
Concen: 2.15 ug/l
RT: 10.243 min Scan# 492
Delta R.T. -0.011 min
Lab File: 5V21962.D
Acq: 16 Jun 2012 12:18 am

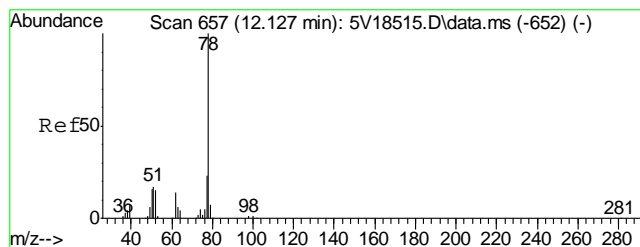
Tgt Ion: 57 Resp: 8910



#43
Heptane
Concen: 3.53 ug/l
RT: 12.332 min Scan# 675
Delta R.T. 0.000 min
Lab File: 5V21962.D
Acq: 16 Jun 2012 12:18 am

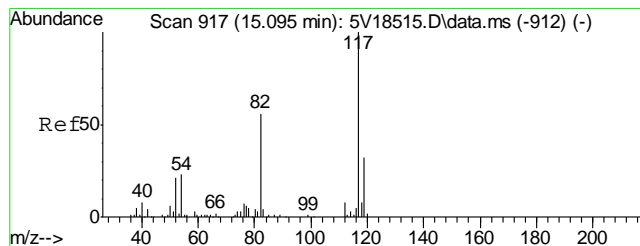
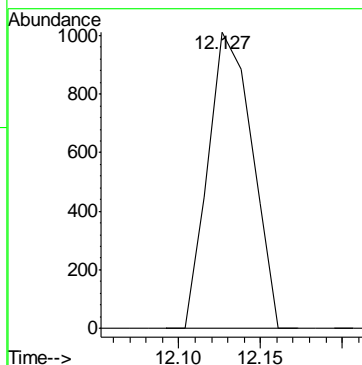
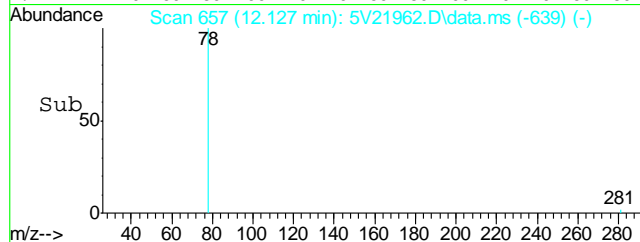
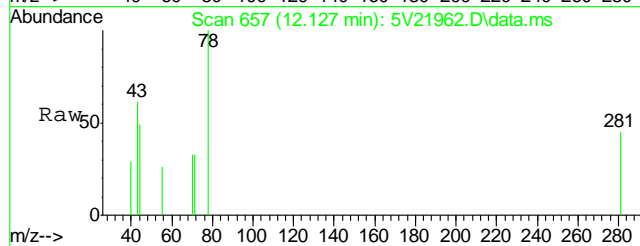
Tgt Ion: 43 Resp: 15640
Ion Ratio Lower Upper
43 100
57 64.9 30.6 70.6
71 66.8 38.9 78.9
100 20.7 0.0 37.4





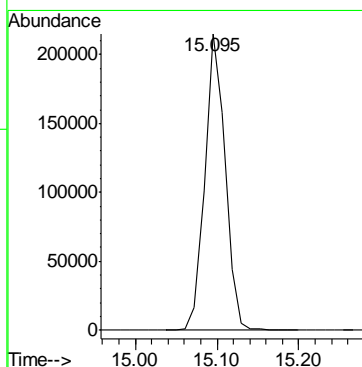
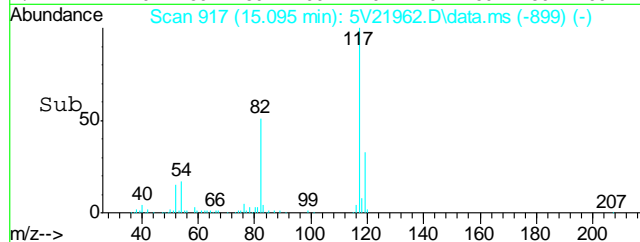
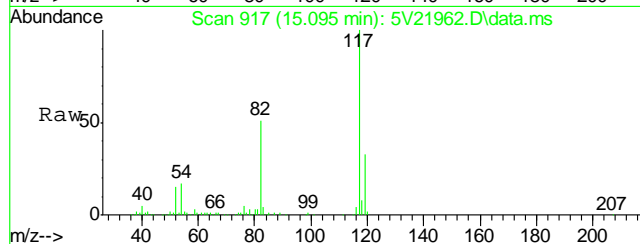
#50
Benzene
Concen: 0.15 ug/l
RT: 12.127 min Scan# 657
Delta R.T. 0.000 min
Lab File: 5V21962.D
Acq: 16 Jun 2012 12:18 am

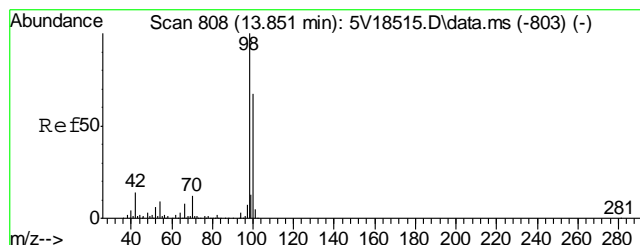
Tgt Ion: 78 Resp: 1896



#53
Chlorobenzene-d5
Concen: 50.00 ug/l
RT: 15.095 min Scan# 917
Delta R.T. 0.000 min
Lab File: 5V21962.D
Acq: 16 Jun 2012 12:18 am

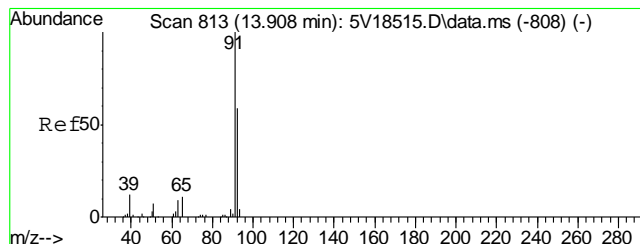
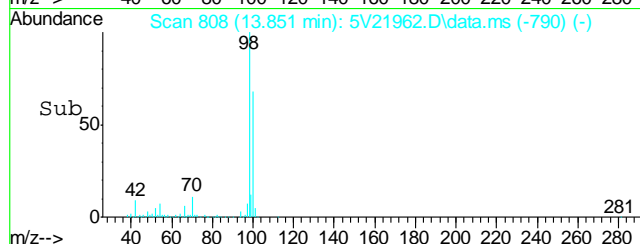
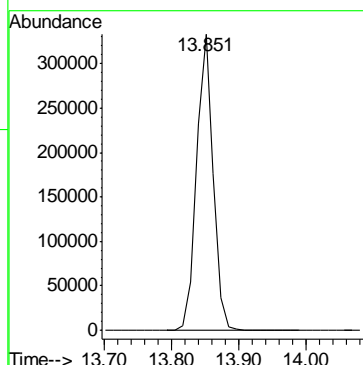
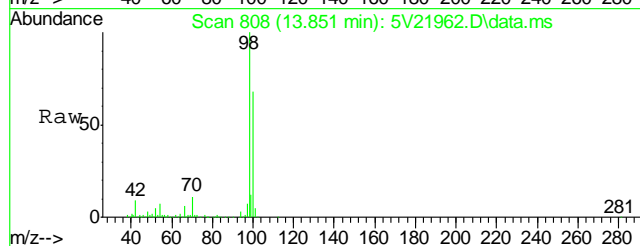
Tgt Ion: 117 Resp: 371237





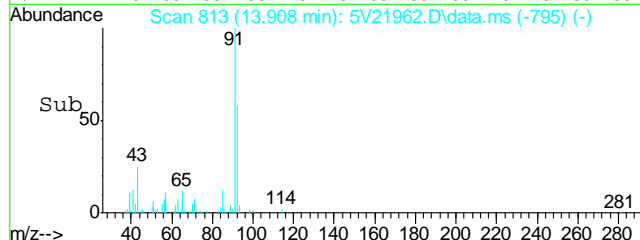
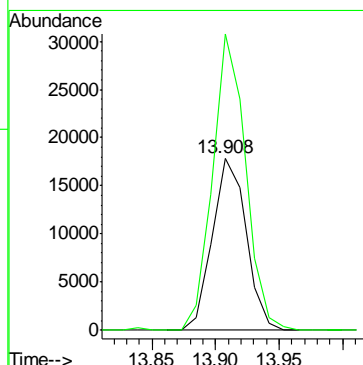
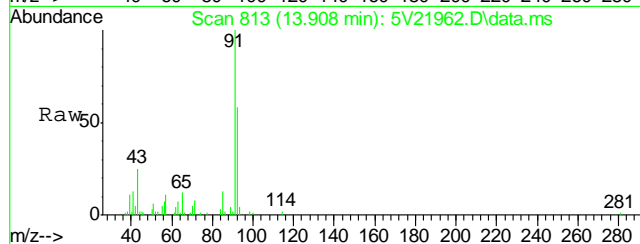
#61
Toluene-d8
Concen: 46.09 ug/l
RT: 13.851 min Scan# 808
Delta R.T. 0.000 min
Lab File: 5V21962.D
Acq: 16 Jun 2012 12:18 am

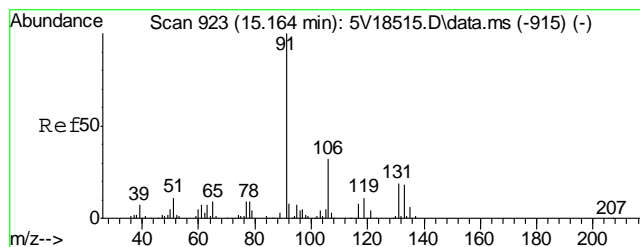
Tgt Ion: 98 Resp: 578350



#62
Toluene
Concen: 3.40 ug/l
RT: 13.908 min Scan# 813
Delta R.T. 0.000 min
Lab File: 5V21962.D
Acq: 16 Jun 2012 12:18 am

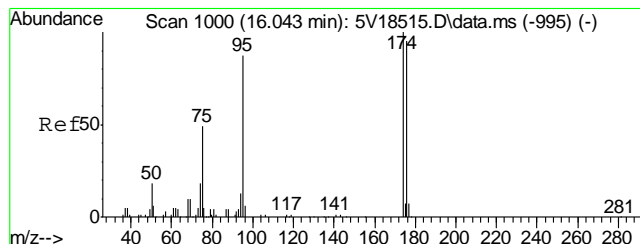
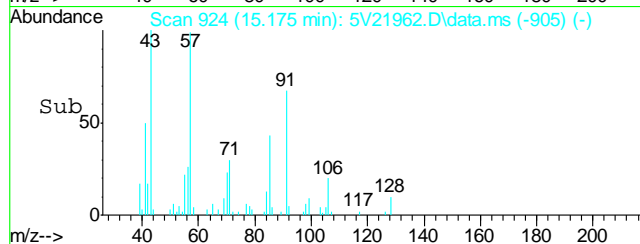
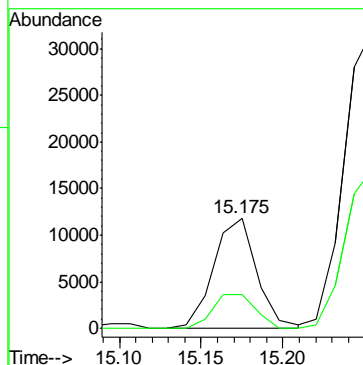
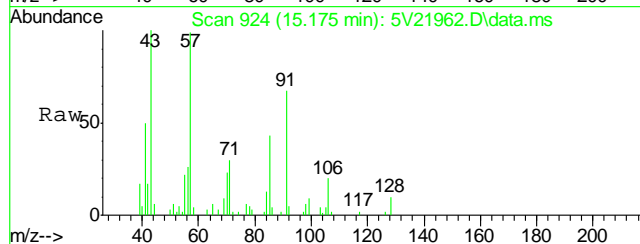
Tgt Ion: 92 Resp: 32821
Ion Ratio Lower Upper
92 100
91 168.1 149.8 189.8





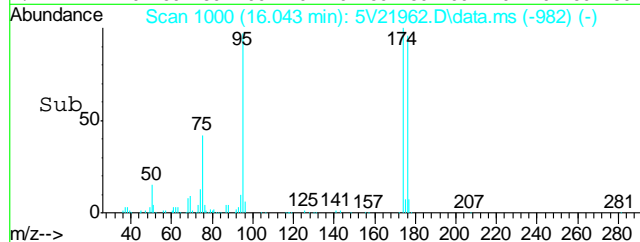
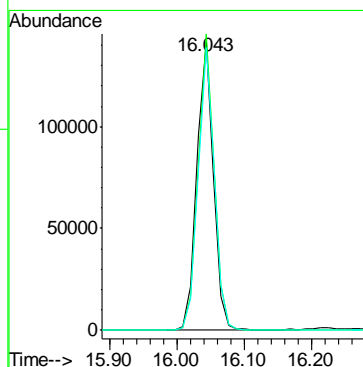
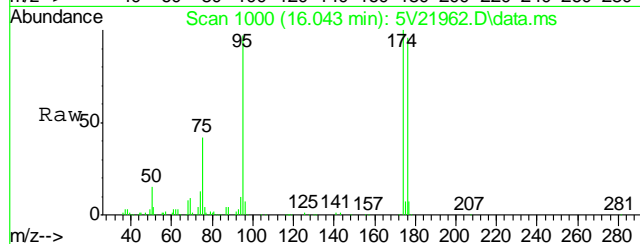
#66
Ethylbenzene
Concen: 1.21 ug/l
RT: 15.175 min Scan# 924
Delta R.T. 0.011 min
Lab File: 5V21962.D
Acq: 16 Jun 2012 12:18 am

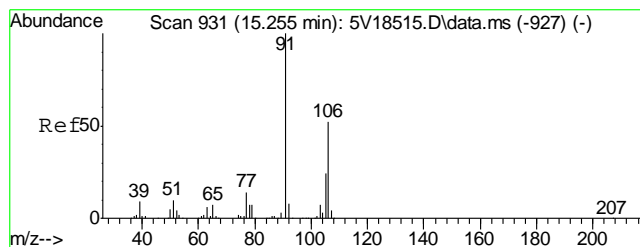
Tgt Ion: 91 Resp: 21635
Ion Ratio Lower Upper
91 100
106 30.6 11.7 51.7



#69
4-Bromofluorobenzene
Concen: 48.26 ug/l
RT: 16.043 min Scan# 1000
Delta R.T. 0.000 min
Lab File: 5V21962.D
Acq: 16 Jun 2012 12:18 am

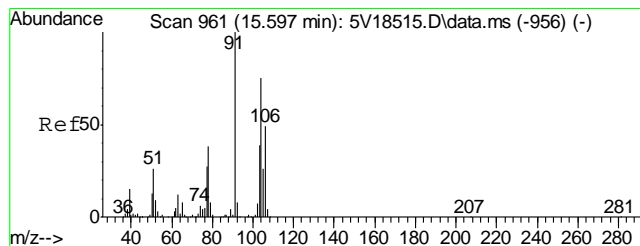
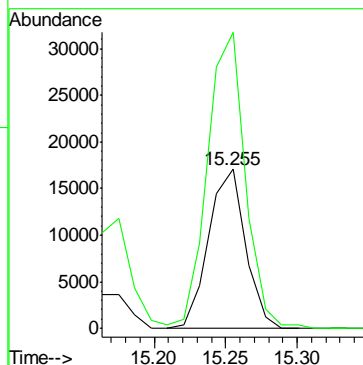
Tgt Ion: 95 Resp: 248023
Ion Ratio Lower Upper
95 100
174 99.8 77.1 117.1
176 96.2 73.4 113.4





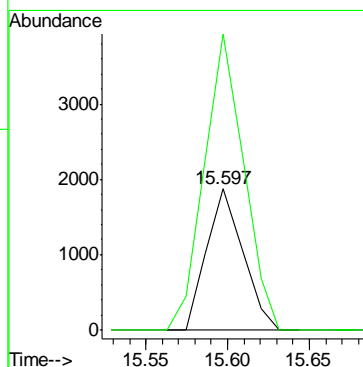
#72
m,p-xylene
Concen: 4.26 ug/l
RT: 15.255 min Scan# 931
Delta R.T. 0.000 min
Lab File: 5V21962.D
Acq: 16 Jun 2012 12:18 am

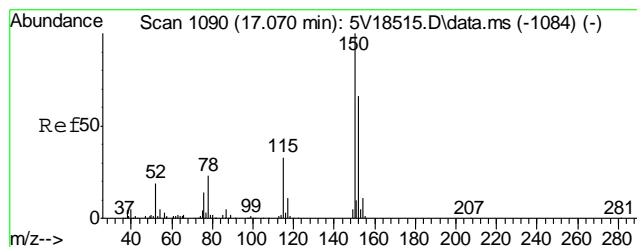
Tgt Ion:106 Resp: 30430
Ion Ratio Lower Upper
106 100
91 190.6 177.1 217.1



#73
o-xylene
Concen: 0.42 ug/l
RT: 15.597 min Scan# 961
Delta R.T. 0.000 min
Lab File: 5V21962.D
Acq: 16 Jun 2012 12:18 am

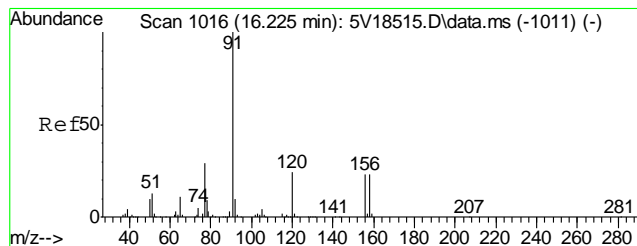
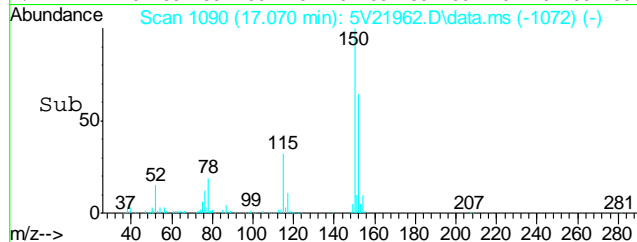
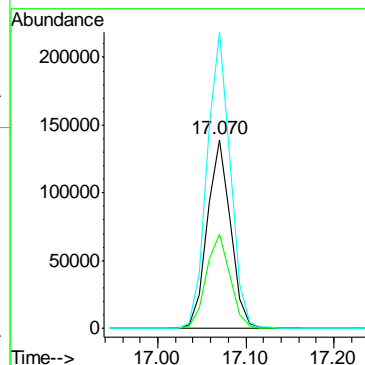
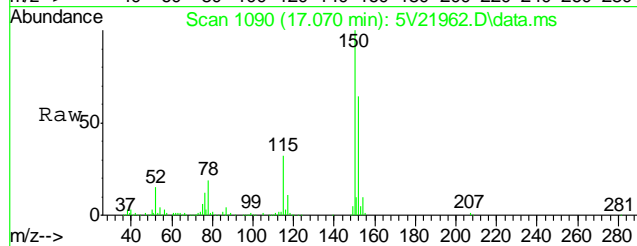
Tgt Ion:106 Resp: 2905
Ion Ratio Lower Upper
106 100
91 228.2 166.6 249.8





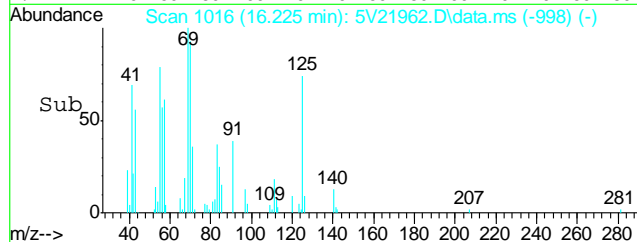
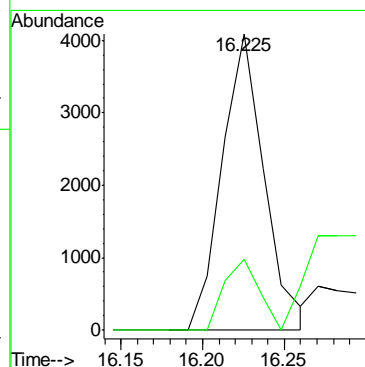
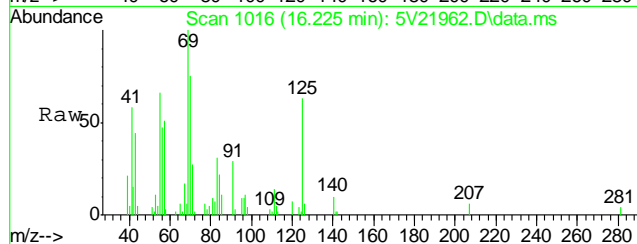
#74
1,4-Dichlorobenzene-d4
Concen: 50.00 ug/l
RT: 17.070 min Scan# 1090
Delta R.T. 0.000 min
Lab File: 5V21962.D
Acq: 16 Jun 2012 12:18 am

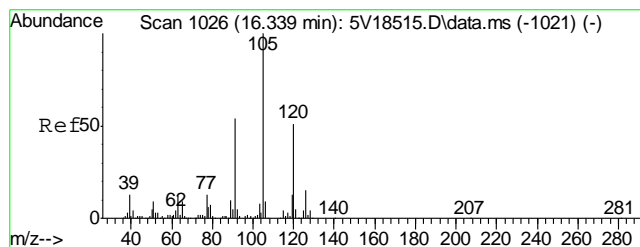
Tgt Ion	Ratio	Lower	Upper
152	100		
115	51.4	41.4	62.0
150	157.0	153.9	230.9



#77
n-Propylbenzene
Concen: 0.32 ug/l
RT: 16.225 min Scan# 1016
Delta R.T. 0.000 min
Lab File: 5V21962.D
Acq: 16 Jun 2012 12:18 am

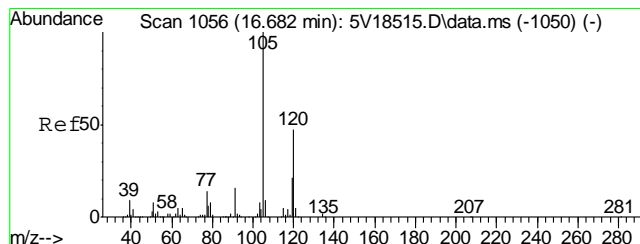
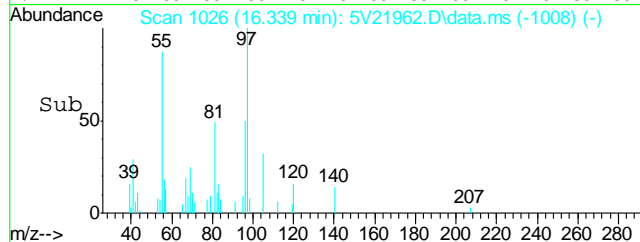
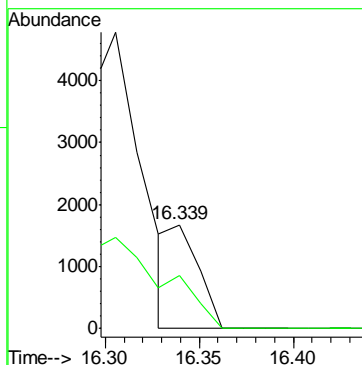
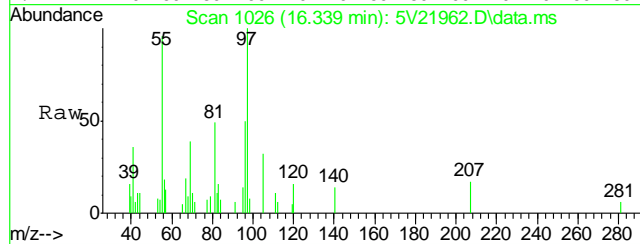
Tgt Ion	Ratio	Lower	Upper
91	100		
120	19.8	18.6	27.8





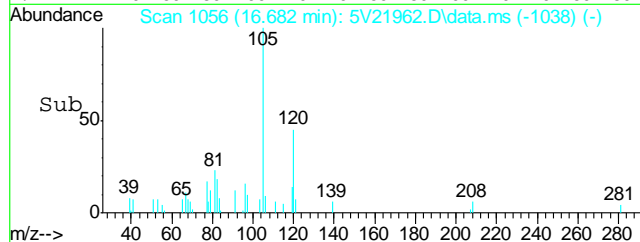
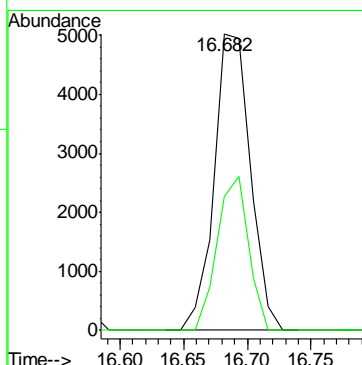
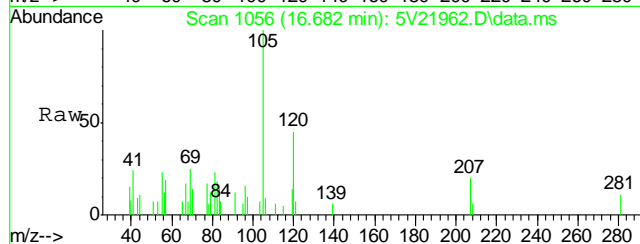
#80
1,3,5-Trimethylbenzene
Concen: 0.11 ug/l m
RT: 16.339 min Scan# 1026
Delta R.T. 0.000 min
Lab File: 5V21962.D
Acq: 16 Jun 2012 12:18 am

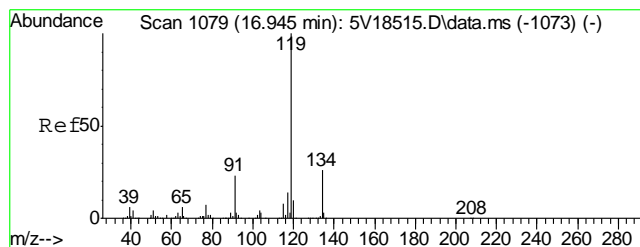
Tgt Ion:105 Resp: 1780
Ion Ratio Lower Upper
105 100
120 346.5 40.1 60.1#



#82
1,2,4-Trimethylbenzene
Concen: 0.61 ug/l
RT: 16.682 min Scan# 1056
Delta R.T. 0.000 min
Lab File: 5V21962.D
Acq: 16 Jun 2012 12:18 am

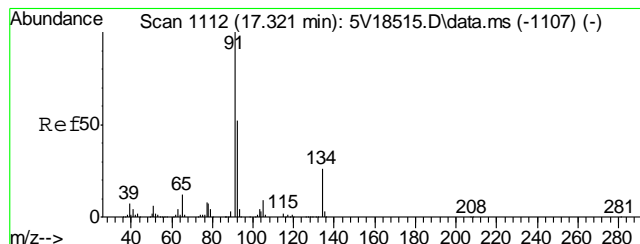
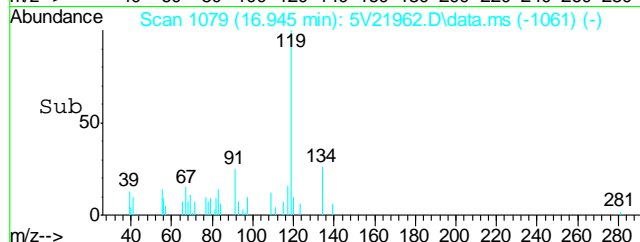
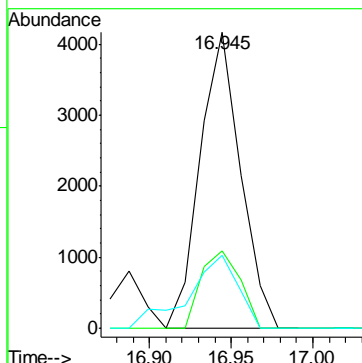
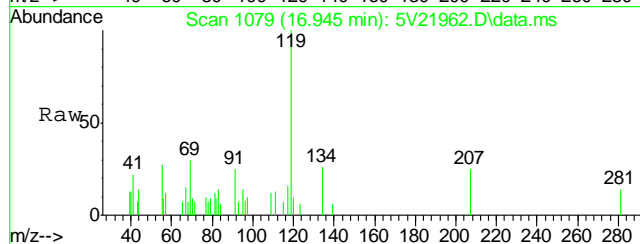
Tgt Ion:105 Resp: 9914
Ion Ratio Lower Upper
105 100
120 44.8 43.8 65.8





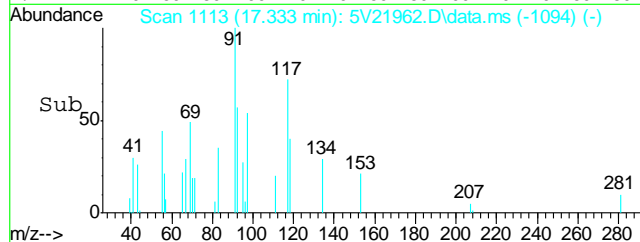
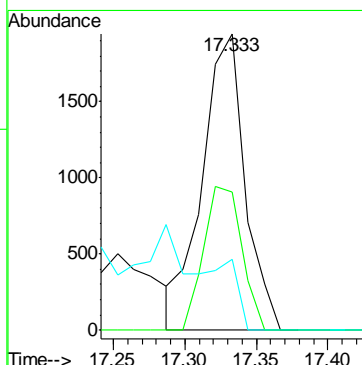
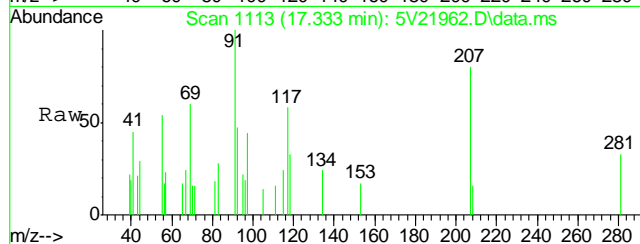
#86
p-Isopropyltoluene
Concen: 0.39 ug/l
RT: 16.945 min Scan# 1079
Delta R.T. 0.000 min
Lab File: 5V21962.D
Acq: 16 Jun 2012 12:18 am

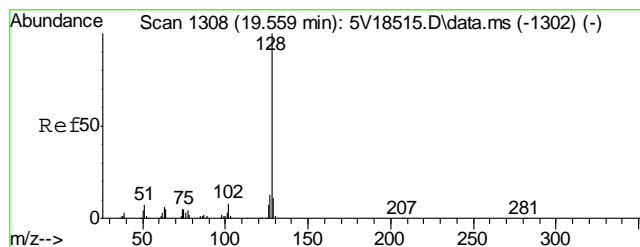
Tgt Ion:	119	Resp:	7182
Ion Ratio	100	Lower	Upper
119	100		
134	25.1	21.3	31.9
91	30.5	19.0	28.6#



#88
n-Butylbenzene
Concen: 0.24 ug/l
RT: 17.333 min Scan# 1113
Delta R.T. 0.011 min
Lab File: 5V21962.D
Acq: 16 Jun 2012 12:18 am

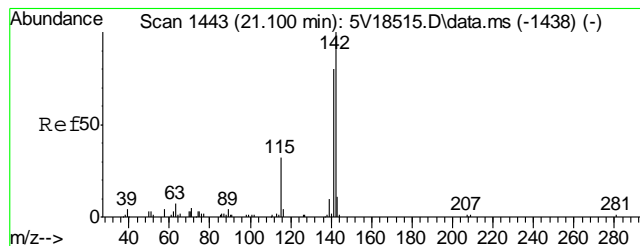
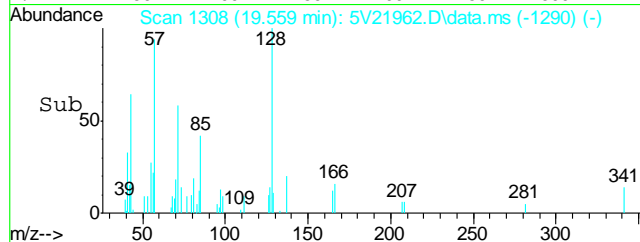
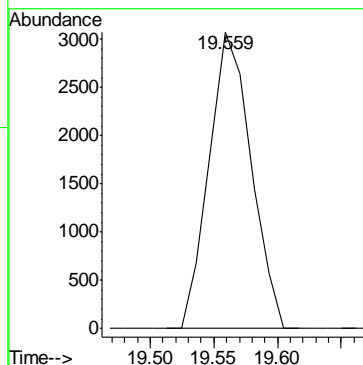
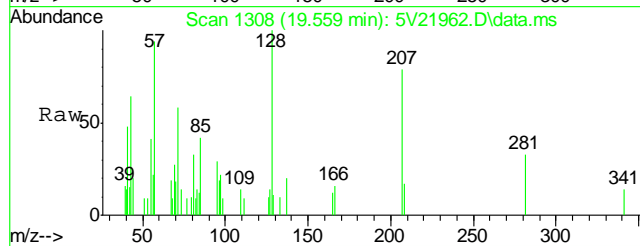
Tgt Ion:	91	Resp:	4006
Ion Ratio	100	Lower	Upper
91	100		
92	43.2	42.2	63.4
134	46.8	21.4	32.2#





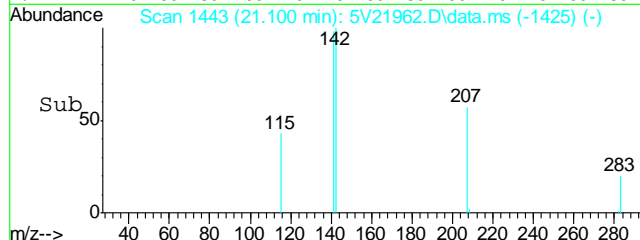
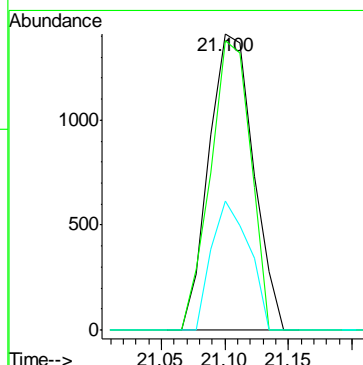
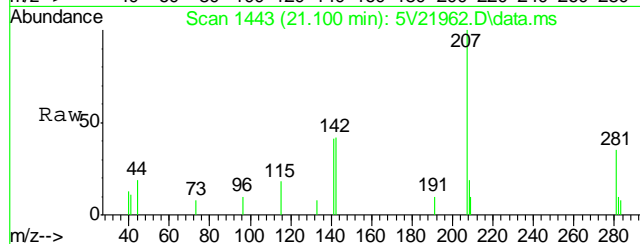
#91
Naphthalene
Concen: 1.13 ug/l
RT: 19.559 min Scan# 1308
Delta R.T. 0.001 min
Lab File: 5V21962.D
Acq: 16 Jun 2012 12:18 am

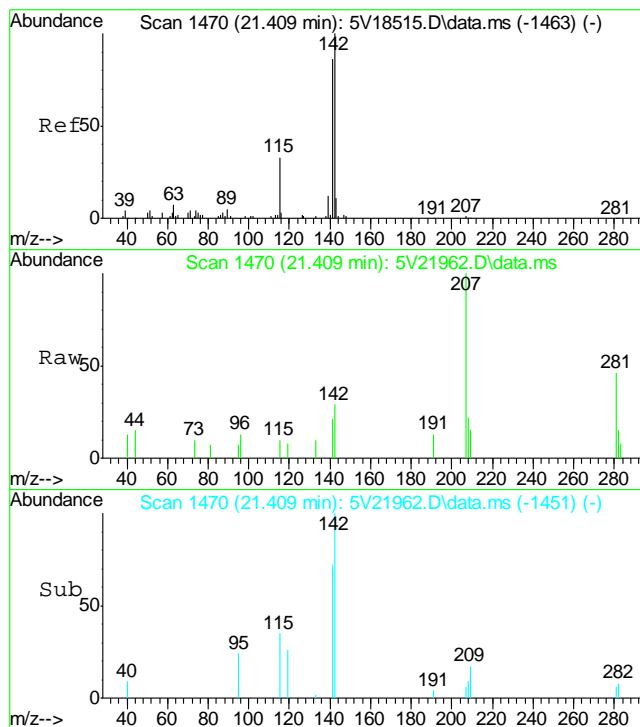
Tgt Ion:128 Resp: 7046



#94
2-Methylnaphthalene
Concen: 1.99 ug/l
RT: 21.100 min Scan# 1443
Delta R.T. 0.000 min
Lab File: 5V21962.D
Acq: 16 Jun 2012 12:18 am

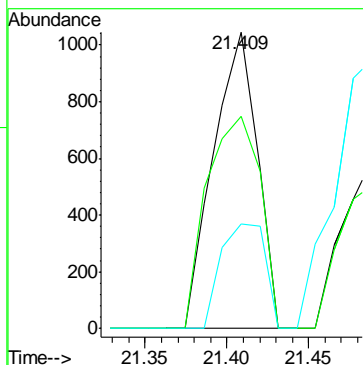
Tgt Ion:142 Resp: 3417
Ion Ratio Lower Upper
142 100
141 88.5 66.2 99.4
115 36.8 25.9 38.9





#95
 1-Methylnaphthalene
 Concen: 1.56 ug/l
 RT: 21.409 min Scan# 1470
 Delta R.T. 0.012 min
 Lab File: 5V21962.D
 Acq: 16 Jun 2012 12:18 am

Tgt Ion:142	Resp:	1940
Ion Ratio	Lower	Upper
142	100	
141	87.2	68.9 103.3
115	35.8	27.3 40.9



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5061512.S\
 Data File : 5V21963.D
 Acq On : 16 Jun 2012 12:50 am
 Operator : BRETD
 Sample : D35547-2
 Misc : MS4118,V5V1345,5.018,,100,5,1
 ALS Vial : 18 Sample Multiplier: 1

Quant Time: Jun 18 09:32:09 2012
 Quant Method : C:\msdchem\1\METHODS\V5AP1304TVH1304.M
 Quant Title : 8260
 QLast Update : Thu May 24 07:55:17 2012
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
2) Pentafluorobenzene	11.647	168	187291	50.00	ug/l	0.00
35) 1,4-Difluorobenzene	12.446	114	296908	50.00	ug/l	0.00
53) Chlorobenzene-d5	15.095	117	374401	50.00	ug/l	0.00
74) 1,4-Dichlorobenzene-d4	17.070	152	258747	50.00	ug/l	0.00

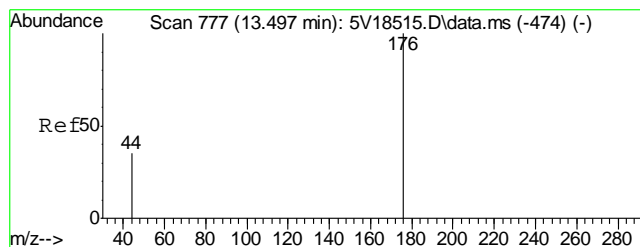
System Monitoring Compounds

33) 1,2-Dichloroethane-d4	12.035	102	29197	50.89	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	101.78%
61) Toluene-d8	13.851	98	567670	44.86	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	89.72%
69) 4-Bromofluorobenzene	16.043	95	243758	47.03	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	94.06%

Target Compounds

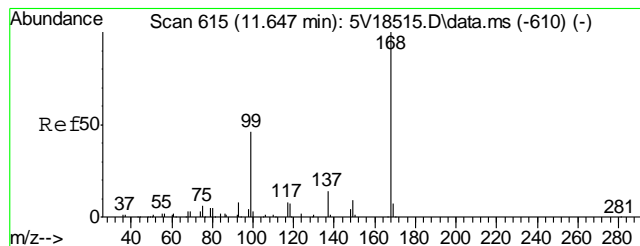
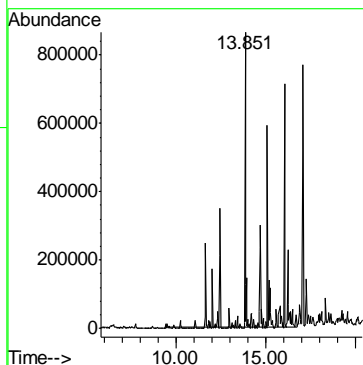
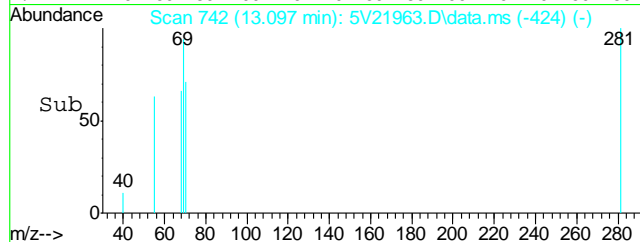
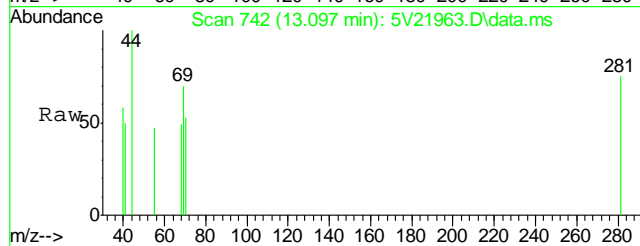
					Qvalue
1) TVH-Gasoline	13.102	TIC	3680741m	184.98	ug/l
15) Acetone	8.679	58	2685	7.39	ug/l # 63
17) Methylene Chloride	9.421	84	7011	2.24	ug/l # 86
41) Hexane	10.254	57	11530	2.81	ug/l 100
43) Heptane	12.332	43	18337	4.17	ug/l 86
50) Benzene	12.138	78	2171	0.18	ug/l 100
62) Toluene	13.908	92	37298	3.83	ug/l 100
66) Ethylbenzene	15.175	91	25253	1.40	ug/l 100
72) m,p-xylene	15.255	106	37081	5.14	ug/l 94
73) o-xylene	15.597	106	3479	0.50	ug/l 90
77) n-Propylbenzene	16.225	91	12365	0.53	ug/l # 86
80) 1,3,5-Trimethylbenzene	16.328	105	1964m	0.12	ug/l
82) 1,2,4-Trimethylbenzene	16.693	105	12599	0.76	ug/l 91
86) p-Isopropyltoluene	16.945	119	9802	0.52	ug/l # 89
88) n-Butylbenzene	17.333	91	5752	0.33	ug/l # 72
91) Naphthalene	19.559	128	9111	1.27	ug/l 100
94) 2-Methylnaphthalene	21.100	142	5523	2.36	ug/l # 86
95) 1-Methylnaphthalene	21.409	142	3025	1.76	ug/l # 87

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



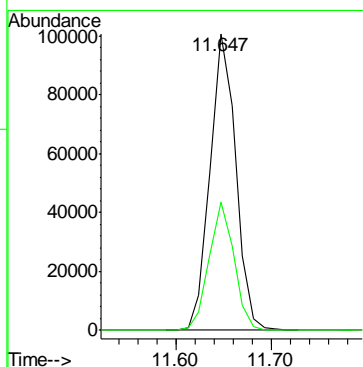
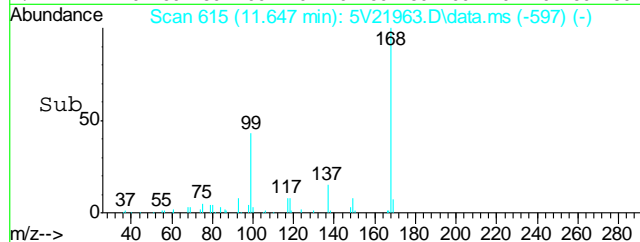
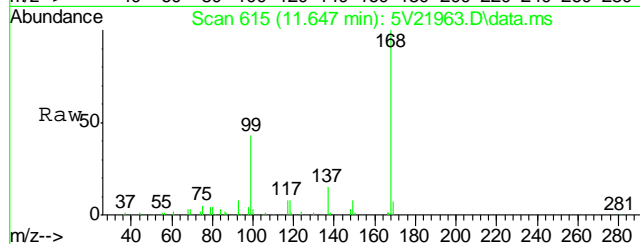
#1
TVH-Gasoline
Concen: 184.98 ug/l m
RT: 13.102 min Scan# 742
Delta R.T. 0.000 min
Lab File: 5V21963.D
Acq: 16 Jun 2012 12:50 am

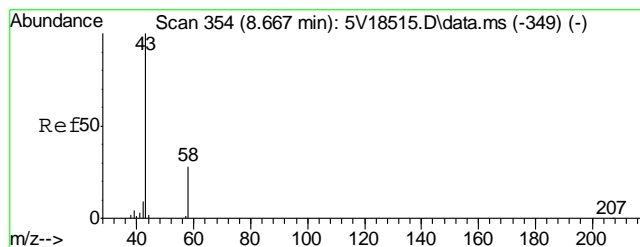
Tgt Ion:TIC Resp: 3680741



#2
Pentafluorobenzene
Concen: 50.00 ug/l
RT: 11.647 min Scan# 615
Delta R.T. 0.000 min
Lab File: 5V21963.D
Acq: 16 Jun 2012 12:50 am

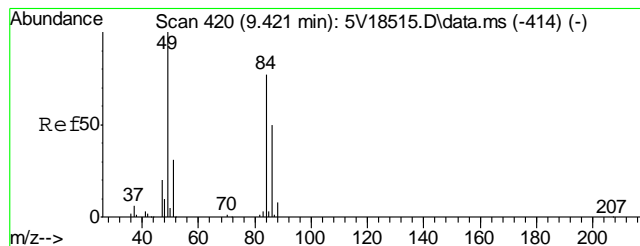
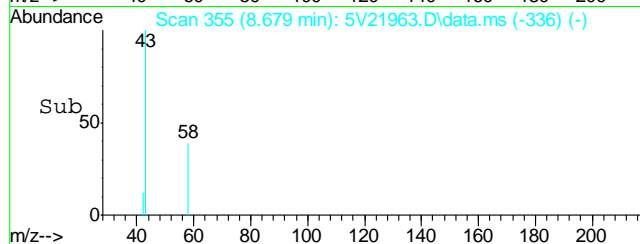
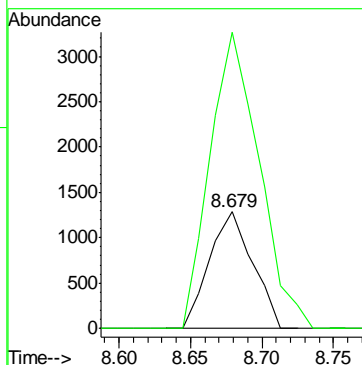
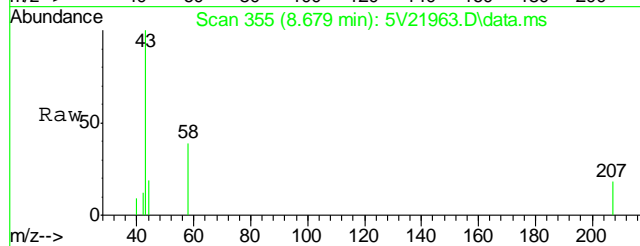
Tgt Ion:168 Resp: 187291
Ion Ratio Lower Upper
168 100
99 41.7 37.4 56.2





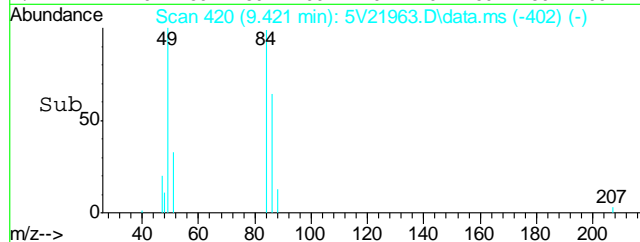
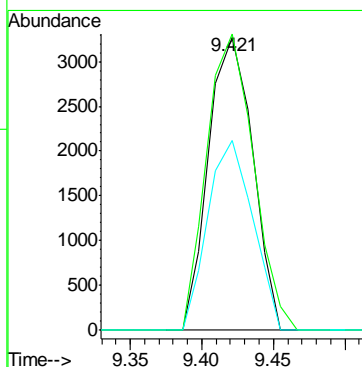
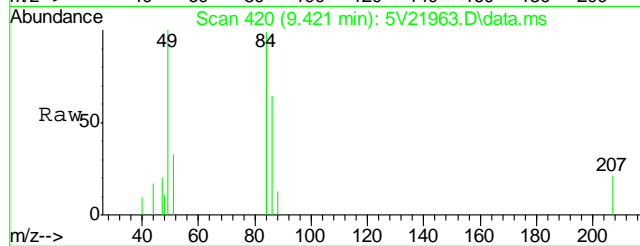
#15
Acetone
Concen: 7.39 ug/l
RT: 8.679 min Scan# 355
Delta R.T. 0.012 min
Lab File: 5V21963.D
Acq: 16 Jun 2012 12:50 am

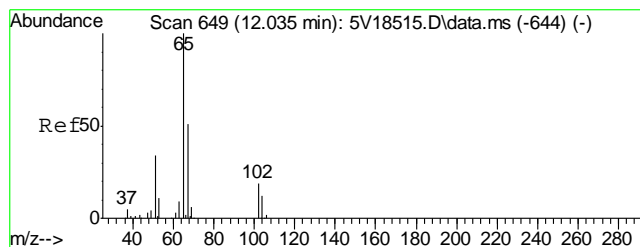
Tgt Ion: 58 Resp: 2685
Ion Ratio Lower Upper
58 100
43 290.4 353.6 393.6#



#17
Methylene Chloride
Concen: 2.24 ug/l
RT: 9.421 min Scan# 420
Delta R.T. 0.000 min
Lab File: 5V21963.D
Acq: 16 Jun 2012 12:50 am

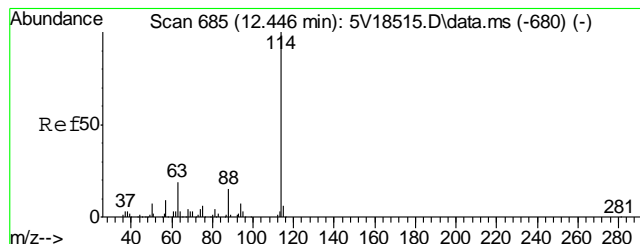
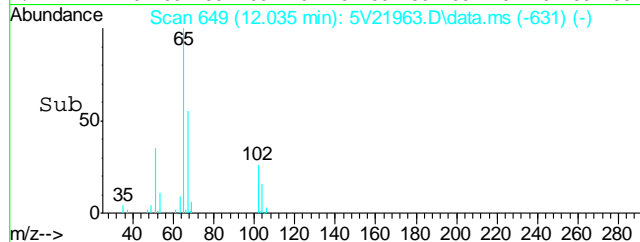
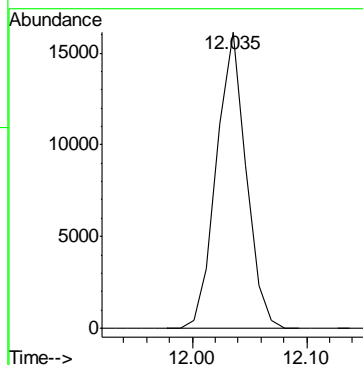
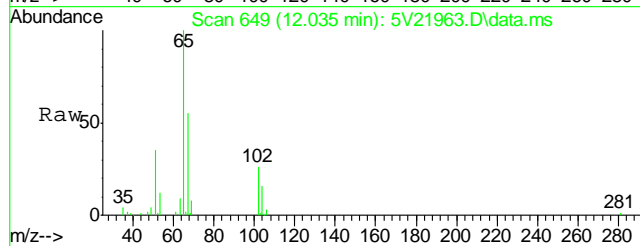
Tgt Ion: 84 Resp: 7011
Ion Ratio Lower Upper
84 100
49 106.6 110.4 150.4#
86 66.0 44.0 84.0





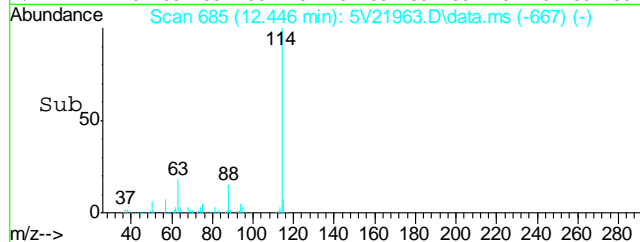
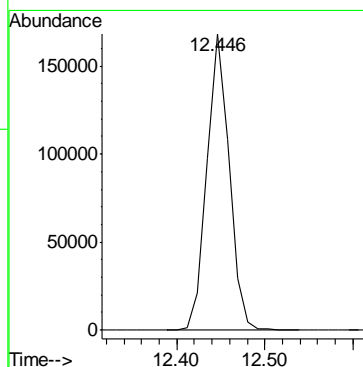
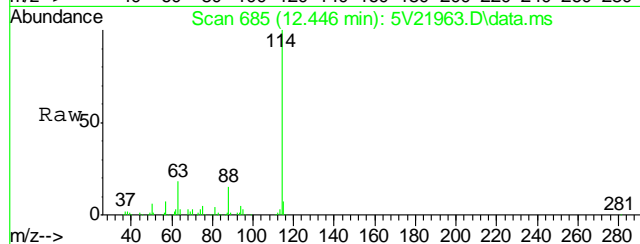
#33
1,2-Dichloroethane-d4
Concen: 50.89 ug/l
RT: 12.035 min Scan# 649
Delta R.T. 0.000 min
Lab File: 5V21963.D
Acq: 16 Jun 2012 12:50 am

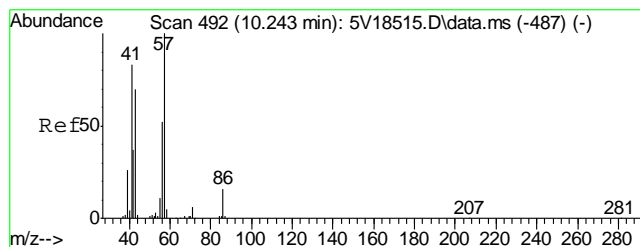
Tgt Ion:102 Resp: 29197



#35
1,4-Difluorobenzene
Concen: 50.00 ug/l
RT: 12.446 min Scan# 685
Delta R.T. 0.000 min
Lab File: 5V21963.D
Acq: 16 Jun 2012 12:50 am

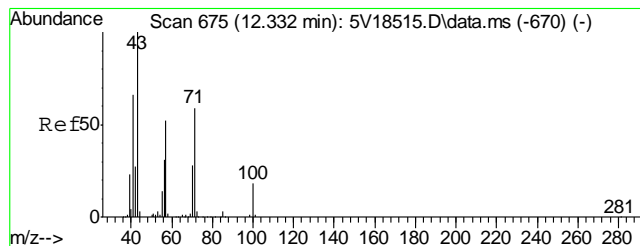
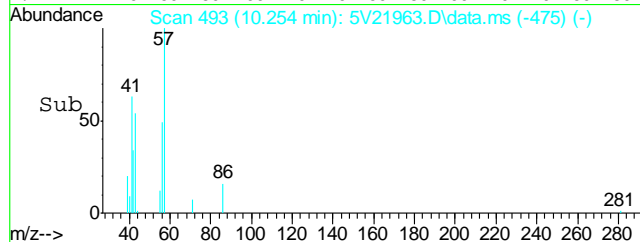
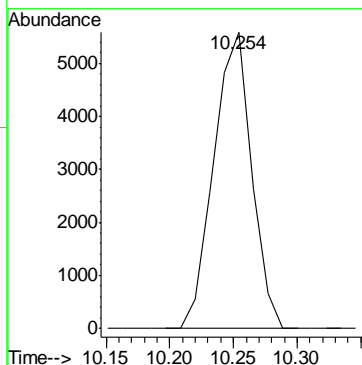
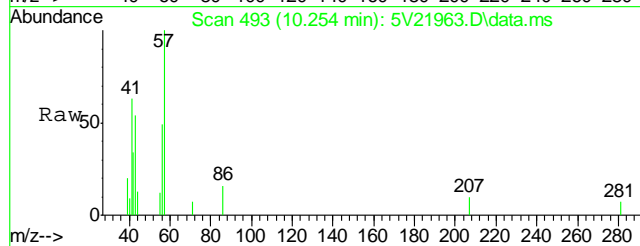
Tgt Ion:114 Resp: 296908





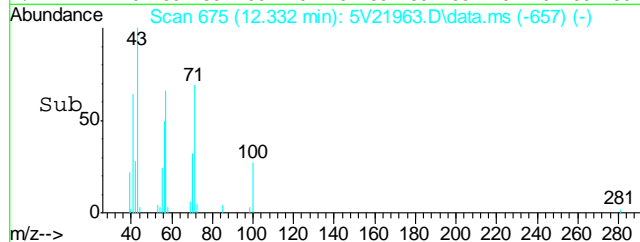
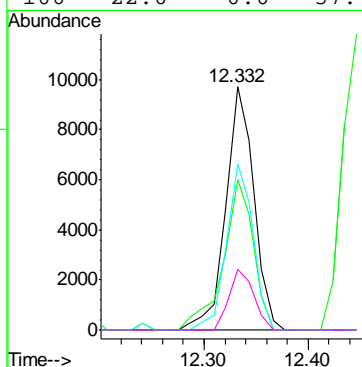
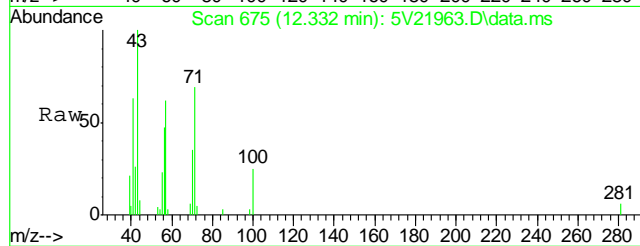
#41
Hexane
Concen: 2.81 ug/l
RT: 10.254 min Scan# 493
Delta R.T. 0.000 min
Lab File: 5V21963.D
Acq: 16 Jun 2012 12:50 am

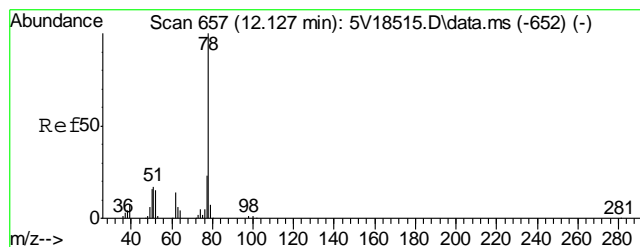
Tgt Ion: 57 Resp: 11530



#43
Heptane
Concen: 4.17 ug/l
RT: 12.332 min Scan# 675
Delta R.T. 0.000 min
Lab File: 5V21963.D
Acq: 16 Jun 2012 12:50 am

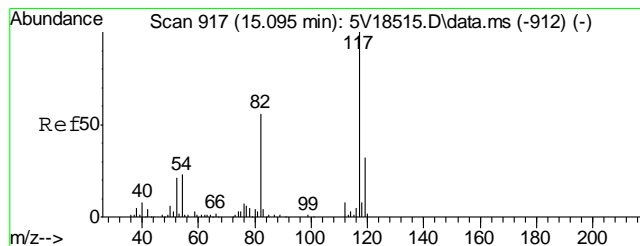
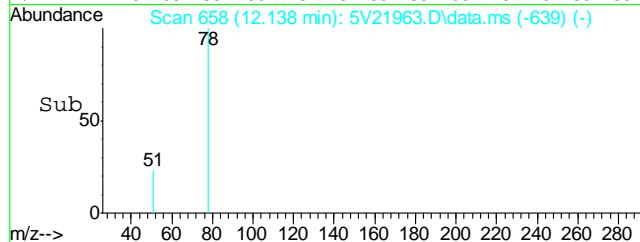
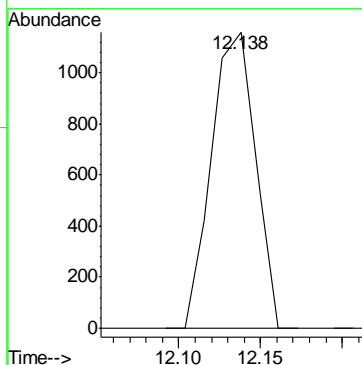
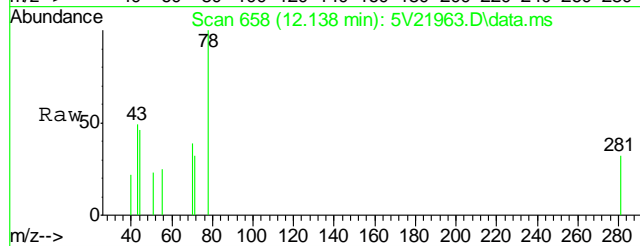
Tgt Ion: 43 Resp: 18337
Ion Ratio Lower Upper
43 100
57 65.7 30.6 70.6
71 64.5 38.9 78.9
100 22.0 0.0 37.4





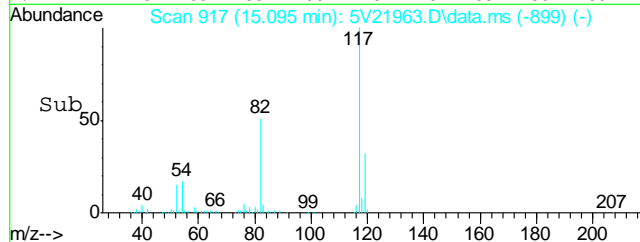
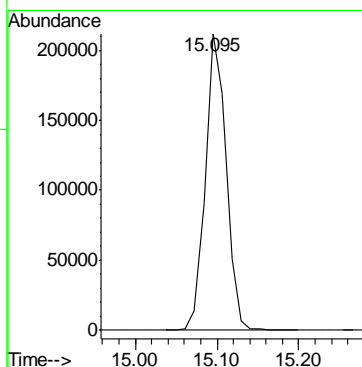
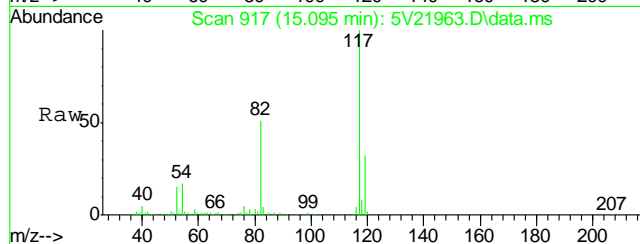
#50
Benzene
Concen: 0.18 ug/l
RT: 12.138 min Scan# 658
Delta R.T. 0.011 min
Lab File: 5V21963.D
Acq: 16 Jun 2012 12:50 am

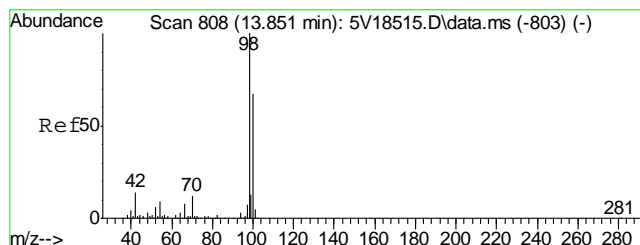
Tgt Ion: 78 Resp: 2171



#53
Chlorobenzene-d5
Concen: 50.00 ug/l
RT: 15.095 min Scan# 917
Delta R.T. 0.000 min
Lab File: 5V21963.D
Acq: 16 Jun 2012 12:50 am

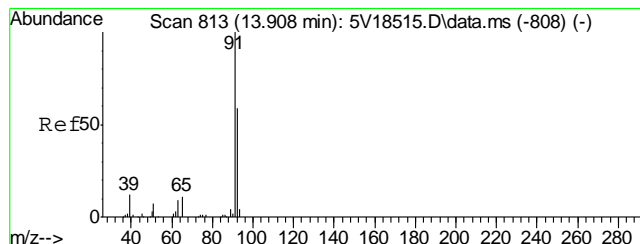
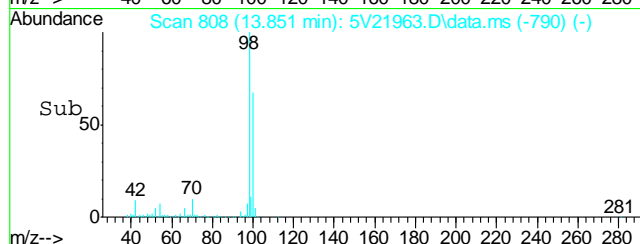
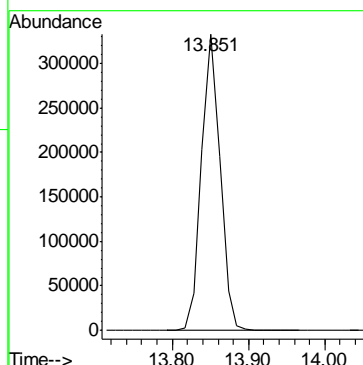
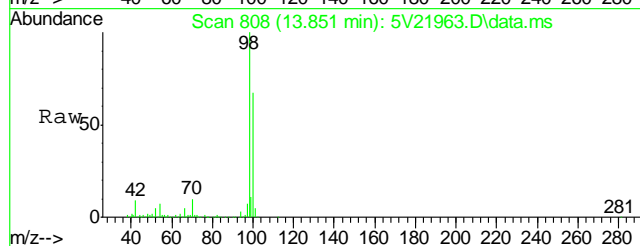
Tgt Ion: 117 Resp: 374401





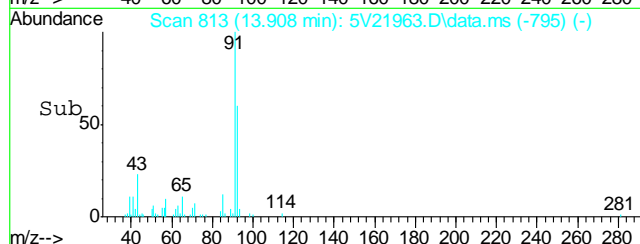
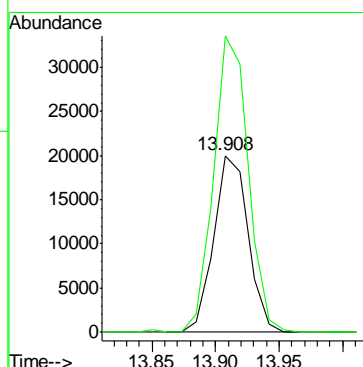
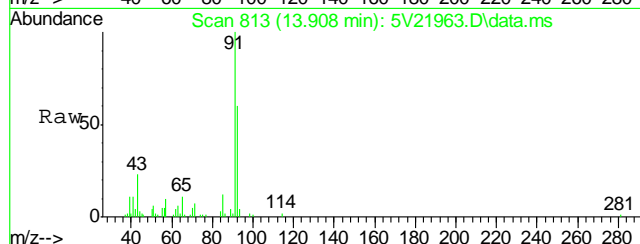
#61
Toluene-d8
Concen: 44.86 ug/l
RT: 13.851 min Scan# 808
Delta R.T. 0.000 min
Lab File: 5V21963.D
Acq: 16 Jun 2012 12:50 am

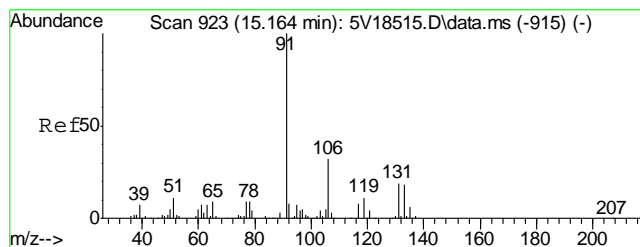
Tgt Ion: 98 Resp: 567670



#62
Toluene
Concen: 3.83 ug/l
RT: 13.908 min Scan# 813
Delta R.T. 0.000 min
Lab File: 5V21963.D
Acq: 16 Jun 2012 12:50 am

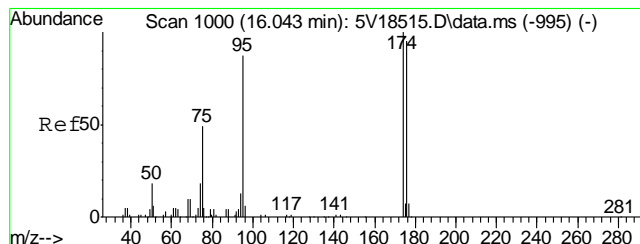
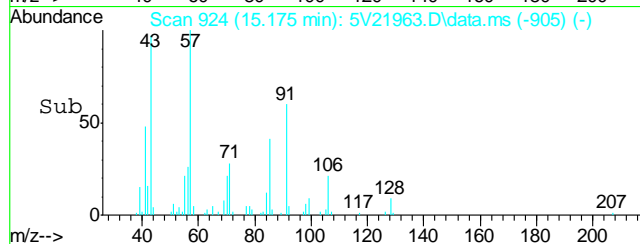
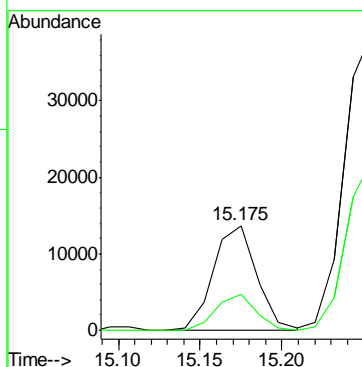
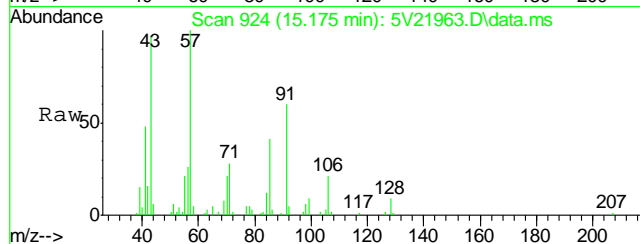
Tgt Ion: 92 Resp: 37298
Ion Ratio Lower Upper
92 100
91 169.5 149.8 189.8





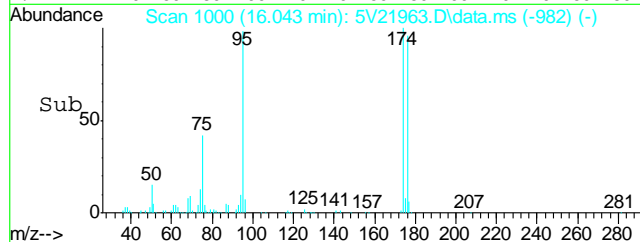
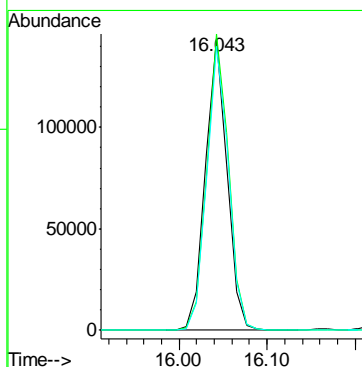
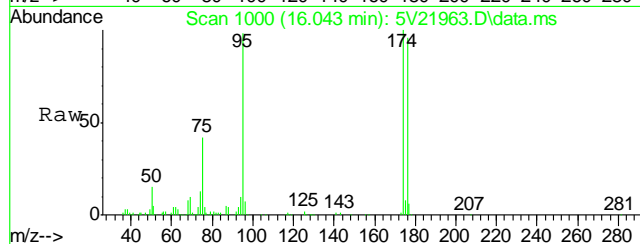
#66
Ethylbenzene
Concen: 1.40 ug/l
RT: 15.175 min Scan# 924
Delta R.T. 0.011 min
Lab File: 5V21963.D
Acq: 16 Jun 2012 12:50 am

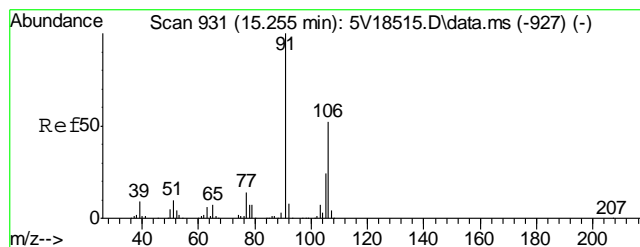
Tgt Ion: 91 Resp: 25253
Ion Ratio Lower Upper
91 100
106 31.8 11.7 51.7



#69
4-Bromofluorobenzene
Concen: 47.03 ug/l
RT: 16.043 min Scan# 1000
Delta R.T. 0.000 min
Lab File: 5V21963.D
Acq: 16 Jun 2012 12:50 am

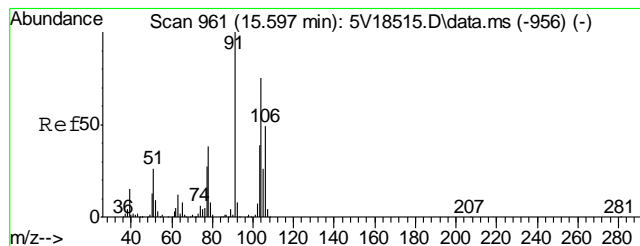
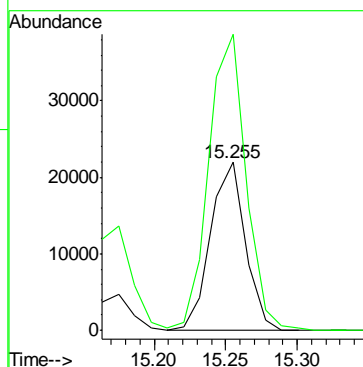
Tgt Ion: 95 Resp: 243758
Ion Ratio Lower Upper
95 100
174 102.1 77.1 117.1
176 98.4 73.4 113.4





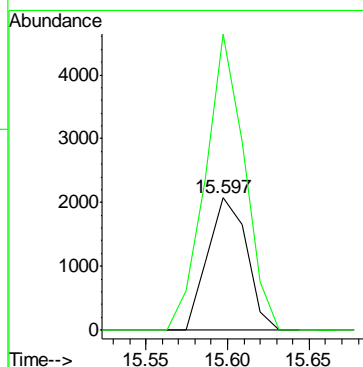
#72
m,p-xylene
Concen: 5.14 ug/l
RT: 15.255 min Scan# 931
Delta R.T. 0.000 min
Lab File: 5V21963.D
Acq: 16 Jun 2012 12:50 am

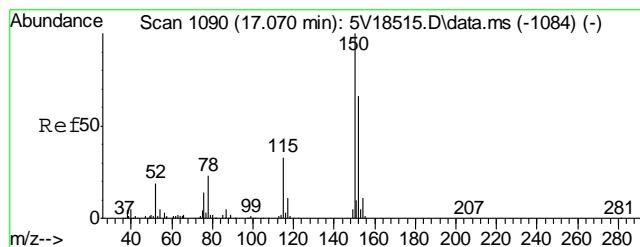
Tgt Ion:106 Resp: 37081
Ion Ratio Lower Upper
106 100
91 187.9 177.1 217.1



#73
o-xylene
Concen: 0.50 ug/l
RT: 15.597 min Scan# 961
Delta R.T. 0.000 min
Lab File: 5V21963.D
Acq: 16 Jun 2012 12:50 am

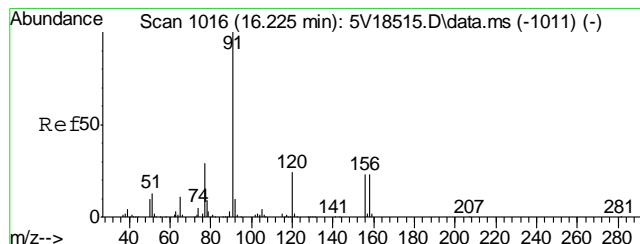
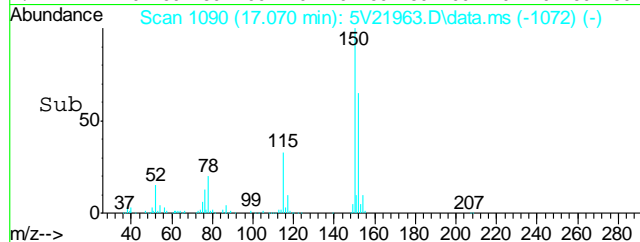
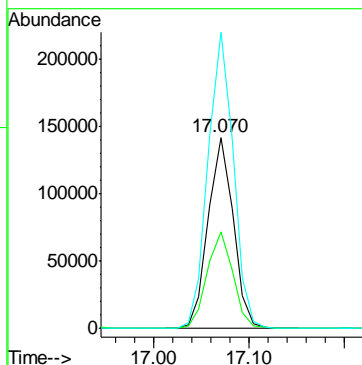
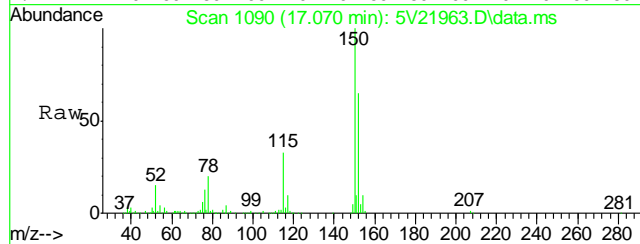
Tgt Ion:106 Resp: 3479
Ion Ratio Lower Upper
106 100
91 223.6 166.6 249.8





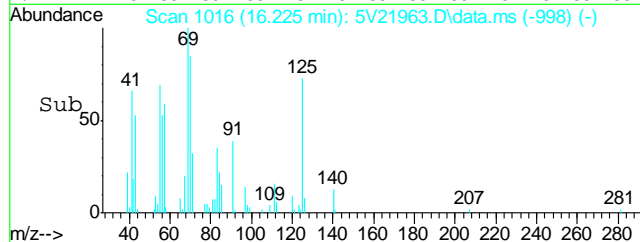
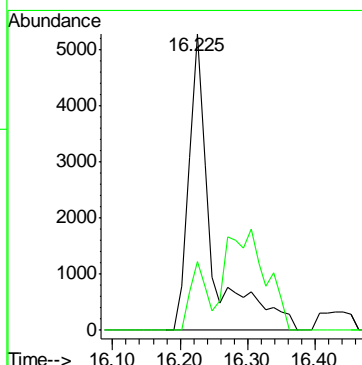
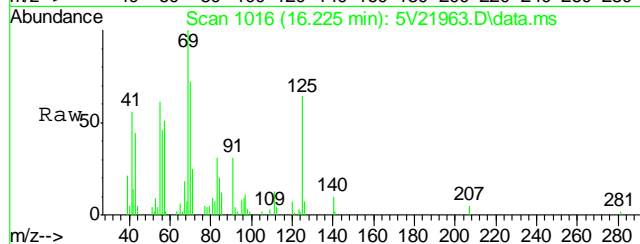
#74
1,4-Dichlorobenzene-d4
Concen: 50.00 ug/l
RT: 17.070 min Scan# 1090
Delta R.T. 0.000 min
Lab File: 5V21963.D
Acq: 16 Jun 2012 12:50 am

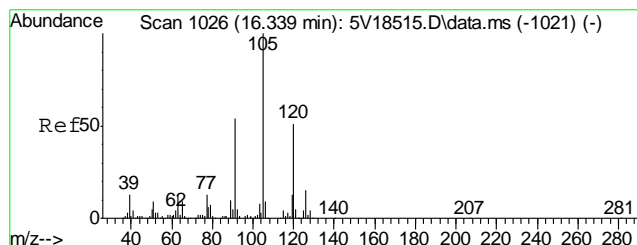
Tgt Ion	Ratio	Lower	Upper
152	100		
115	51.8	41.4	62.0
150	156.4	153.9	230.9



#77
n-Propylbenzene
Concen: 0.53 ug/l
RT: 16.225 min Scan# 1016
Delta R.T. 0.000 min
Lab File: 5V21963.D
Acq: 16 Jun 2012 12:50 am

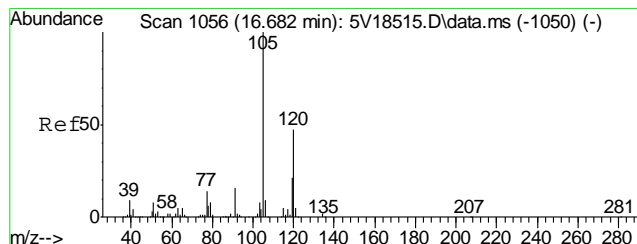
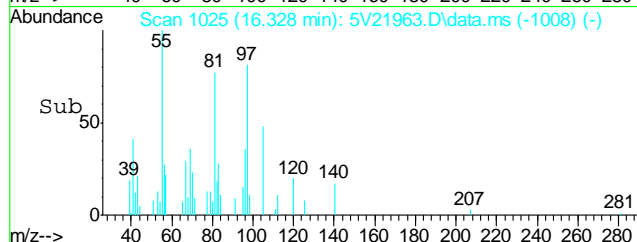
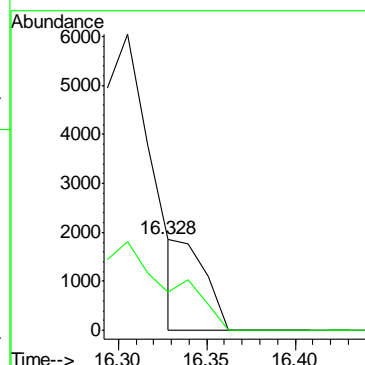
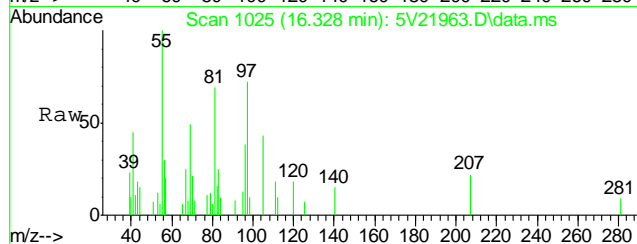
Tgt Ion	Ratio	Lower	Upper
91	100		
120	16.6	18.6	27.8#





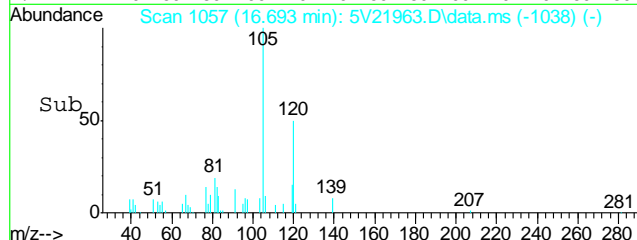
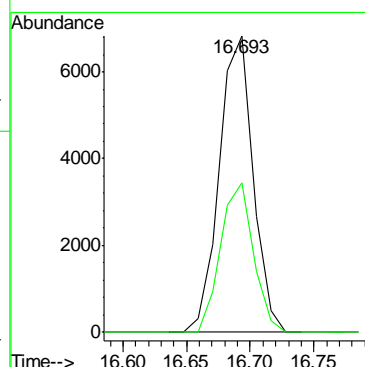
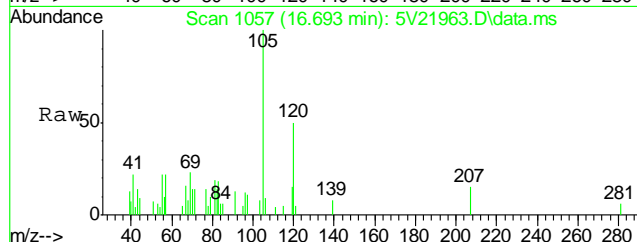
#80
1,3,5-Trimethylbenzene
Concen: 0.12 ug/l m
RT: 16.328 min Scan# 1025
Delta R.T. -0.011 min
Lab File: 5V21963.D
Acq: 16 Jun 2012 12:50 am

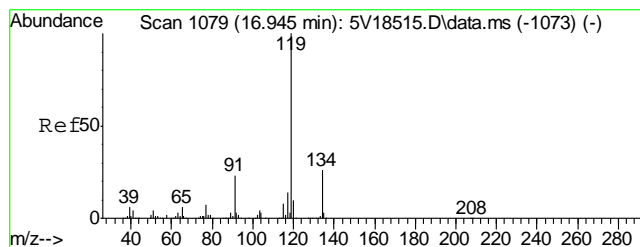
Tgt Ion:105 Resp: 1964
Ion Ratio Lower Upper
105 100
120 368.3 40.1 60.1#



#82
1,2,4-Trimethylbenzene
Concen: 0.76 ug/l
RT: 16.693 min Scan# 1057
Delta R.T. 0.011 min
Lab File: 5V21963.D
Acq: 16 Jun 2012 12:50 am

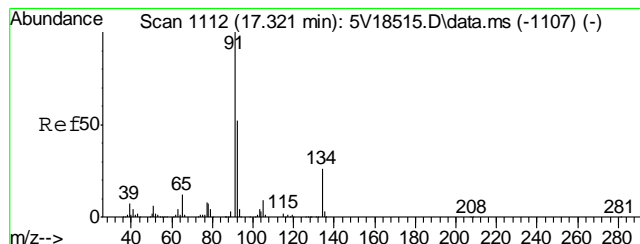
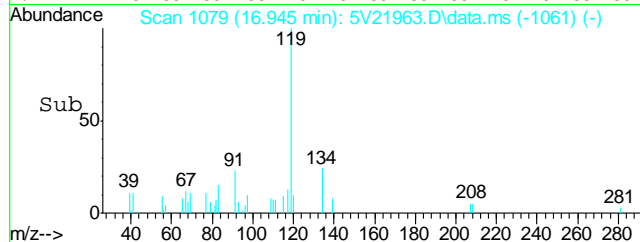
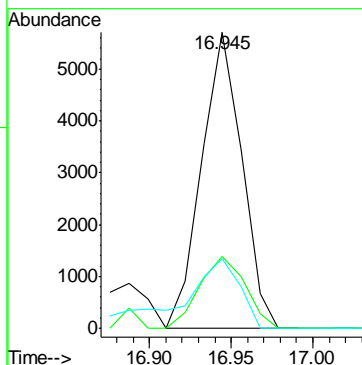
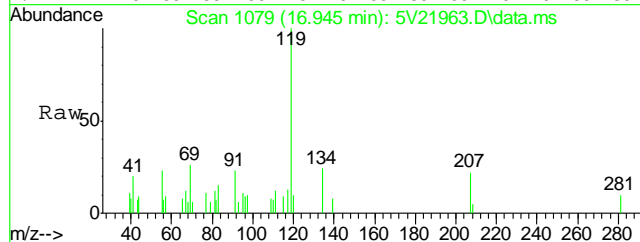
Tgt Ion:105 Resp: 12599
Ion Ratio Lower Upper
105 100
120 48.6 43.8 65.8





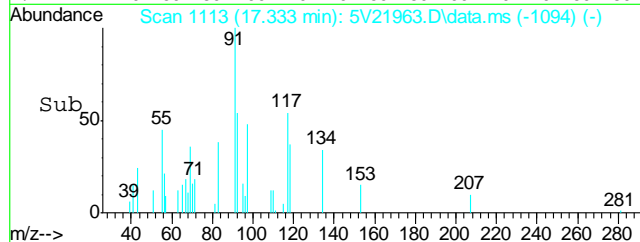
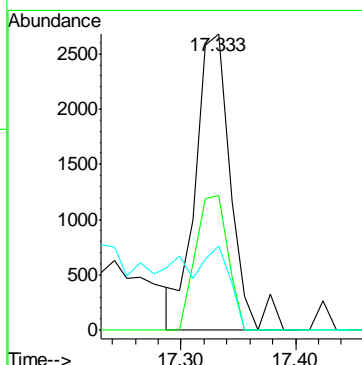
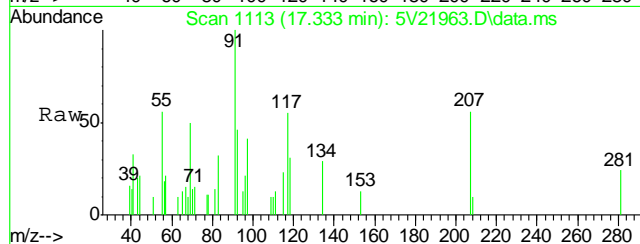
#86
p-Isopropyltoluene
Concen: 0.52 ug/l
RT: 16.945 min Scan# 1079
Delta R.T. 0.000 min
Lab File: 5V21963.D
Acq: 16 Jun 2012 12:50 am

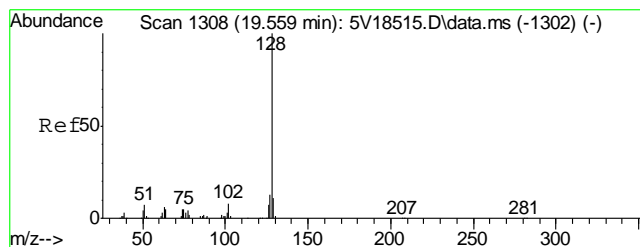
Tgt Ion:	119	Resp:	9802
Ion Ratio	Lower	Upper	
119	100		
134	27.6	21.3	31.9
91	34.1	19.0	28.6#



#88
n-Butylbenzene
Concen: 0.33 ug/l
RT: 17.333 min Scan# 1113
Delta R.T. 0.011 min
Lab File: 5V21963.D
Acq: 16 Jun 2012 12:50 am

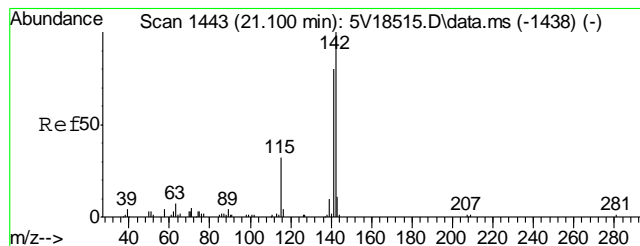
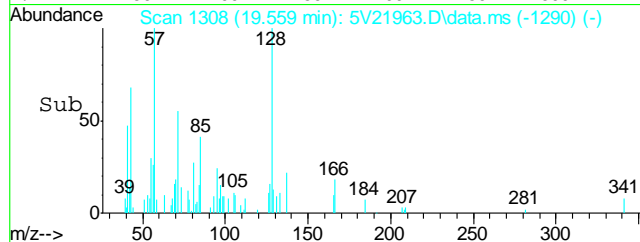
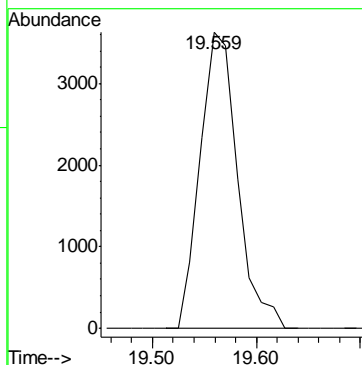
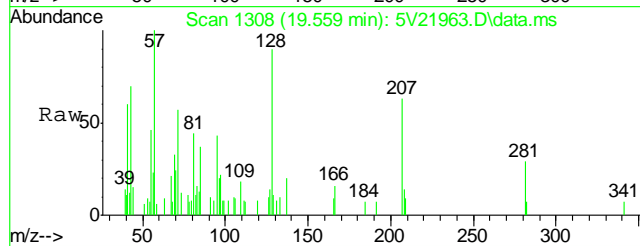
Tgt Ion:	91	Resp:	5752
Ion Ratio	Lower	Upper	
91	100		
92	41.5	42.2	63.4#
134	0.0	21.4	32.2#





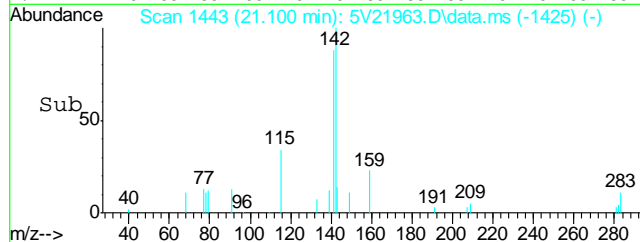
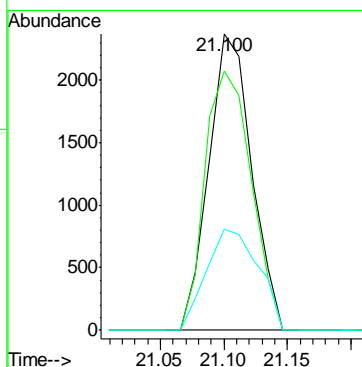
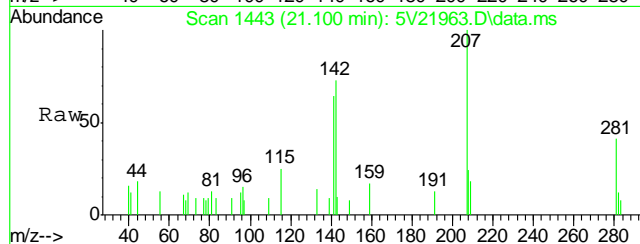
#91
Naphthalene
Concen: 1.27 ug/l
RT: 19.559 min Scan# 1308
Delta R.T. 0.001 min
Lab File: 5V21963.D
Acq: 16 Jun 2012 12:50 am

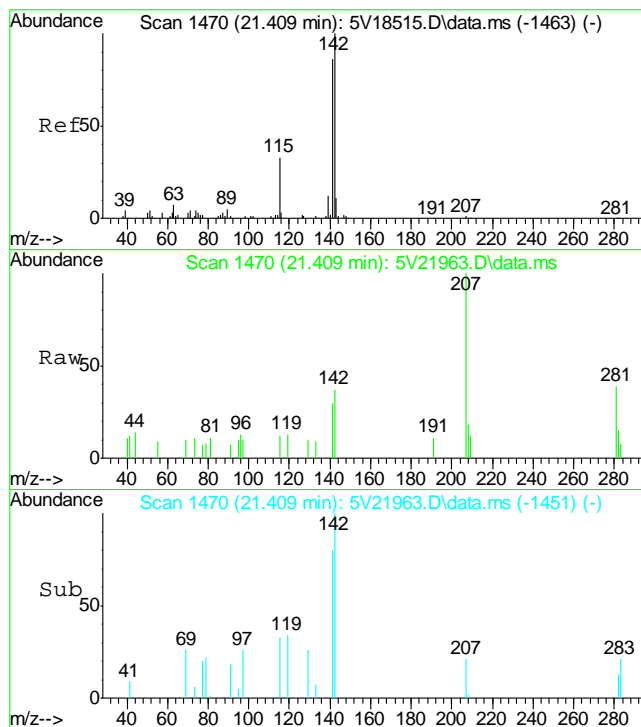
Tgt Ion:128 Resp: 9111



#94
2-Methylnaphthalene
Concen: 2.36 ug/l
RT: 21.100 min Scan# 1443
Delta R.T. 0.000 min
Lab File: 5V21963.D
Acq: 16 Jun 2012 12:50 am

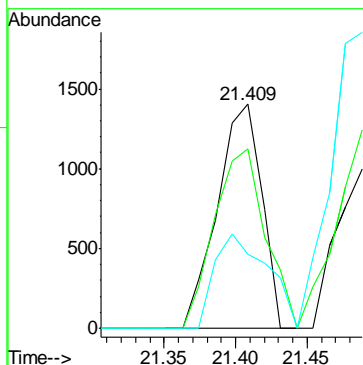
Tgt Ion:142 Resp: 5523
Ion Ratio Lower Upper
142 100
141 94.5 66.2 99.4
115 41.4 25.9 38.9#





#95
 1-Methylnaphthalene
 Concen: 1.76 ug/l
 RT: 21.409 min Scan# 1470
 Delta R.T. 0.012 min
 Lab File: 5V21963.D
 Acq: 16 Jun 2012 12:50 am

Tgt Ion:	142	Resp:	3025
Ion Ratio	Lower	Upper	
142	100		
141	92.3	68.9	103.3
115	50.0	27.3	40.9#



6.12
6

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5061512.S\
Data File : 5V21956.D
Acq On : 15 Jun 2012 9:09 pm
Operator : BRETD
Sample : MB
Misc : MS4118,V5V1345,5.00,,100,5,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jun 18 09:02:42 2012
Quant Method : C:\msdchem\1\METHODS\V5AP1304TVH1304.M
Quant Title : 8260
QLast Update : Thu May 24 07:55:17 2012
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
2) Pentafluorobenzene	11.647	168	174580	50.00	ug/l	0.00
35) 1,4-Difluorobenzene	12.446	114	283057	50.00	ug/l	0.00
53) Chlorobenzene-d5	15.095	117	353024	50.00	ug/l	0.00
74) 1,4-Dichlorobenzene-d4	17.070	152	228911	50.00	ug/l	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4	12.035	102	27292	51.04	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	102.08%
61) Toluene-d8	13.851	98	486602	40.78	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	81.56%
69) 4-Bromofluorobenzene	16.043	95	184968	37.84	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	75.68%

Target Compounds

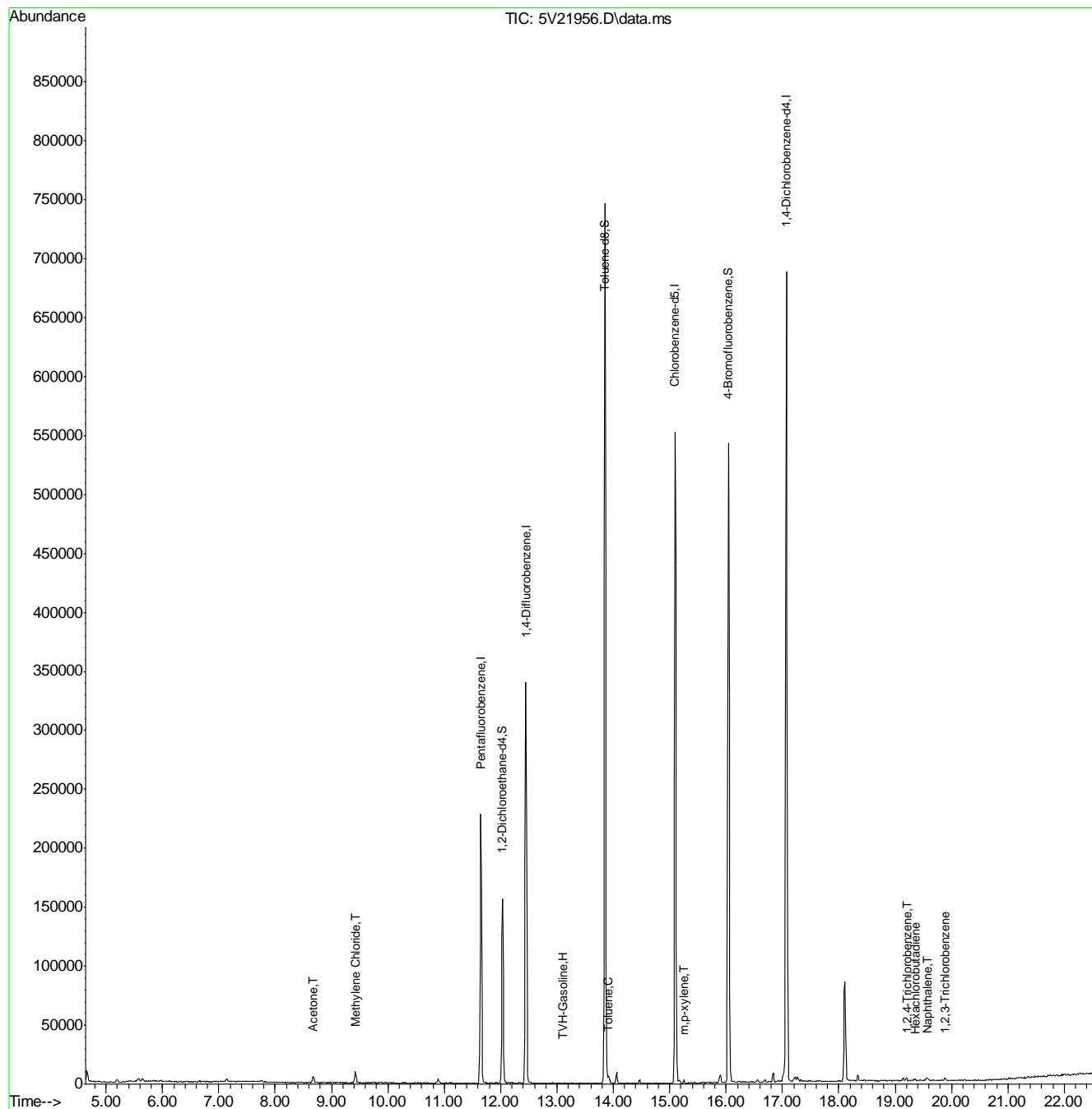
						Qvalue
1) TVH-Gasoline	13.102	TIC	11086m	1.96	ug/l	
15) Acetone	8.667	58	2535	7.51	ug/l #	78
17) Methylene Chloride	9.421	84	5312	1.82	ug/l #	84
62) Toluene	13.908	92	2743	0.30	ug/l	90
72) m,p-xylene	15.255	106	1067	0.16	ug/l #	80
90) 1,2,4-Trichlorobenzene	19.205	180	1676	0.28	ug/l #	90
91) Naphthalene	19.570	128	4207	0.95	ug/l	100
92) Hexachlorobutadiene	19.354	225	729	0.16	ug/l #	70
93) 1,2,3-Trichlorobenzene	19.879	180	1941	0.35	ug/l #	91

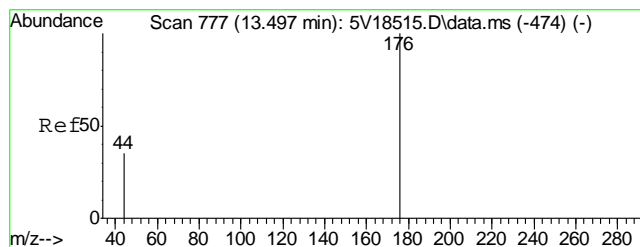
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5061512.S\
Data File : 5V21956.D
Acq On : 15 Jun 2012 9:09 pm
Operator : BRETD
Sample : MB
Misc : MS4118,V5V1345,5.00,,100,5,1
ALS Vial : 11 Sample Multiplier: 1

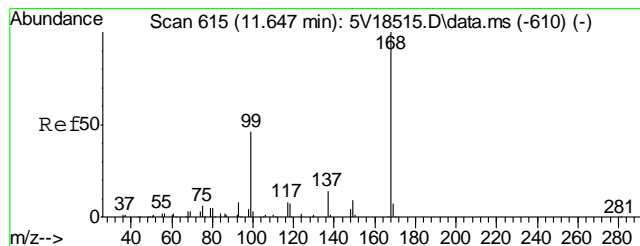
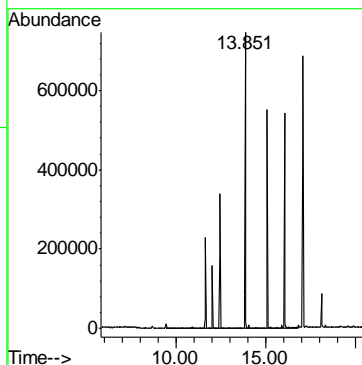
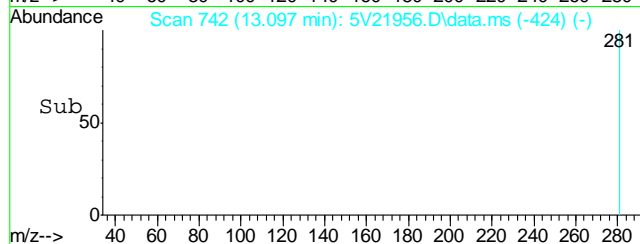
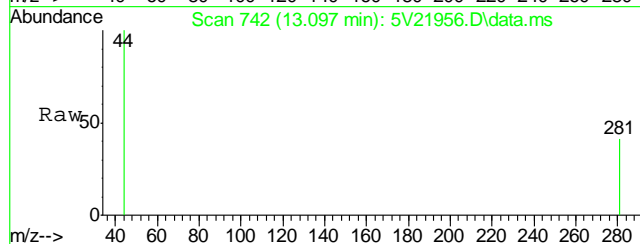
Quant Time: Jun 18 09:02:42 2012
Quant Method : C:\msdchem\1\METHODS\V5AP1304TVH1304.M
Quant Title : 8260
QLast Update : Thu May 24 07:55:17 2012
Response via : Initial Calibration





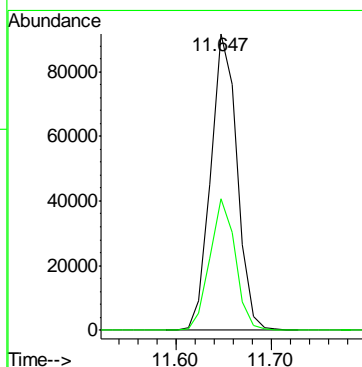
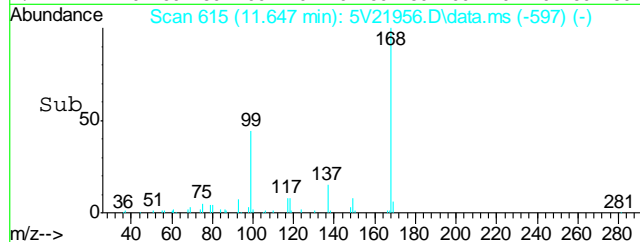
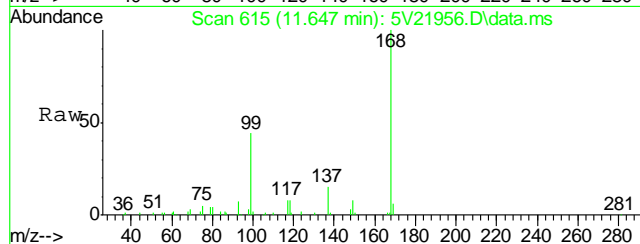
#1
TVH-Gasoline
Concen: 1.96 ug/l m
RT: 13.102 min Scan# 742
Delta R.T. 0.000 min
Lab File: 5V21956.D
Acq: 15 Jun 2012 9:09 pm

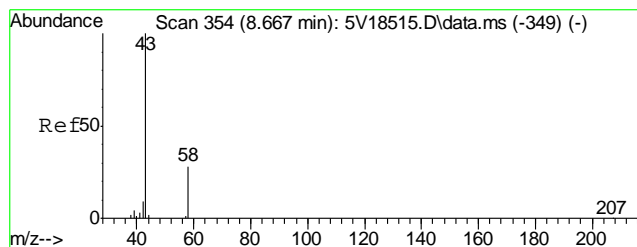
Tgt Ion:TIC Resp: 11086



#2
Pentafluorobenzene
Concen: 50.00 ug/l
RT: 11.647 min Scan# 615
Delta R.T. 0.000 min
Lab File: 5V21956.D
Acq: 15 Jun 2012 9:09 pm

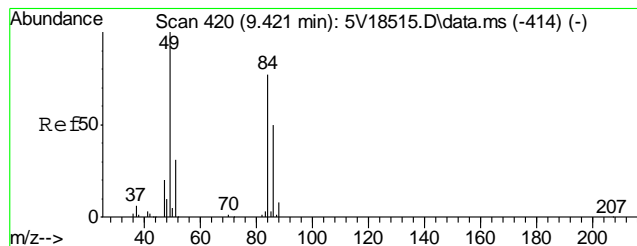
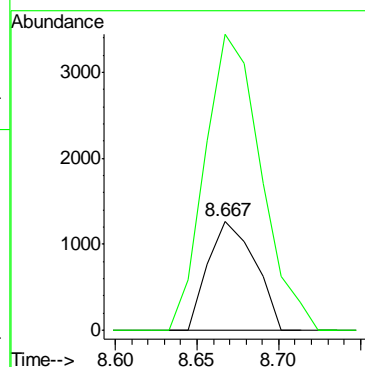
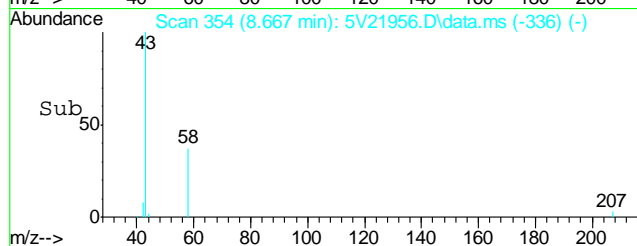
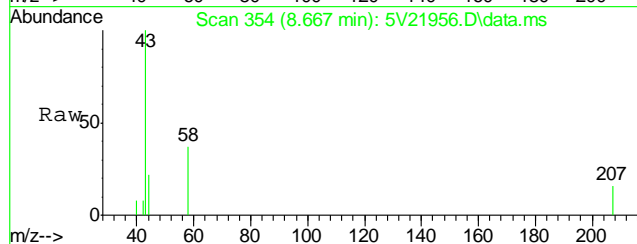
Tgt Ion:168 Resp: 174580
Ion Ratio Lower Upper
168 100
99 43.0 37.4 56.2





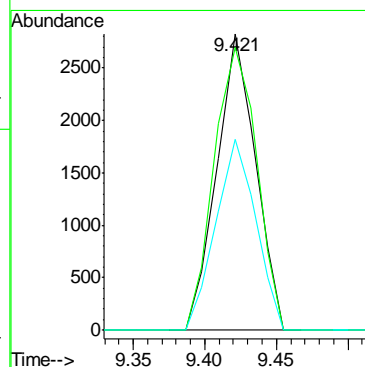
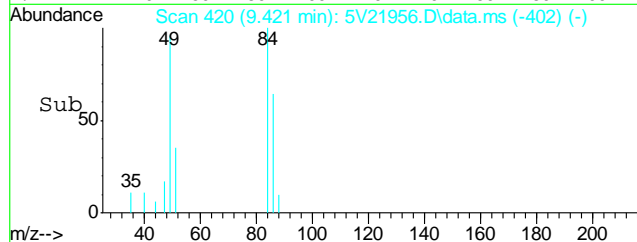
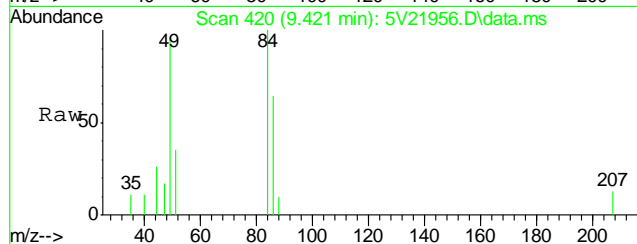
#15
Acetone
Concen: 7.51 ug/l
RT: 8.667 min Scan# 354
Delta R.T. 0.000 min
Lab File: 5V21956.D
Acq: 15 Jun 2012 9:09 pm

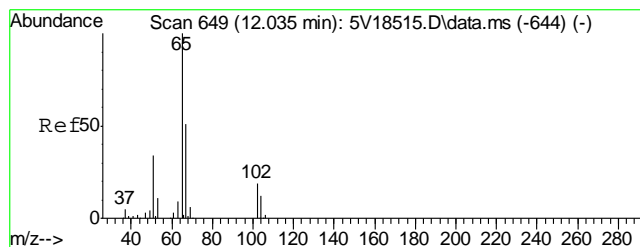
Tgt Ion: 58 Resp: 2535
Ion Ratio Lower Upper
58 100
43 324.6 353.6 393.6#



#17
Methylene Chloride
Concen: 1.82 ug/l
RT: 9.421 min Scan# 420
Delta R.T. 0.000 min
Lab File: 5V21956.D
Acq: 15 Jun 2012 9:09 pm

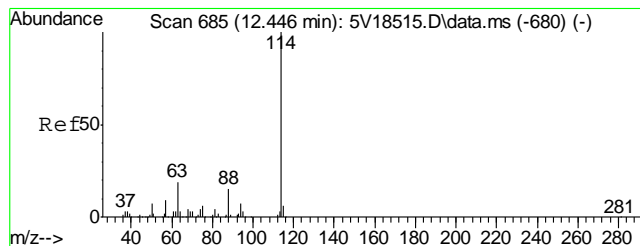
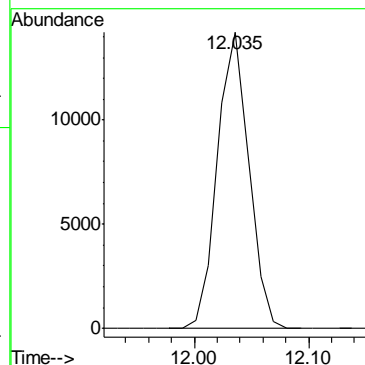
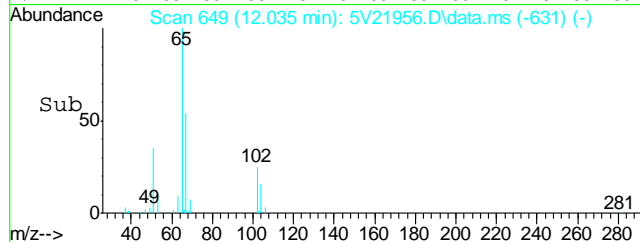
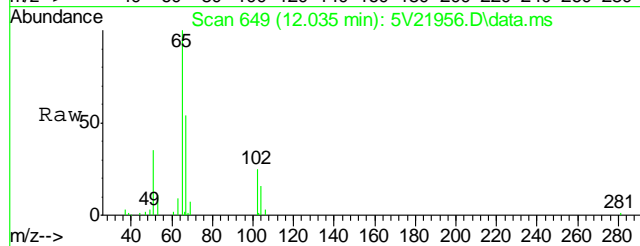
Tgt Ion: 84 Resp: 5312
Ion Ratio Lower Upper
84 100
49 105.2 110.4 150.4#
86 66.7 44.0 84.0





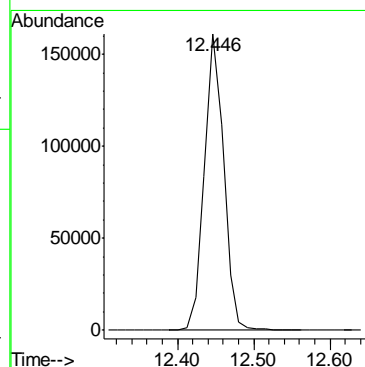
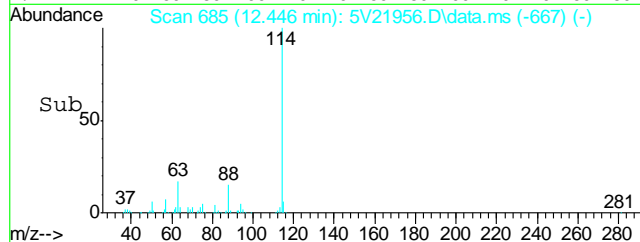
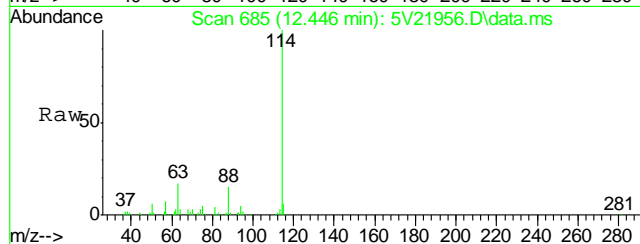
#33
1,2-Dichloroethane-d4
Concen: 51.04 ug/l
RT: 12.035 min Scan# 649
Delta R.T. 0.000 min
Lab File: 5V21956.D
Acq: 15 Jun 2012 9:09 pm

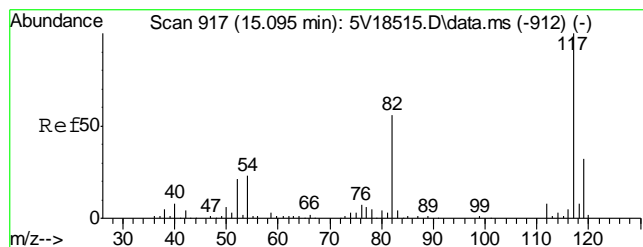
Tgt Ion:102 Resp: 27292



#35
1,4-Difluorobenzene
Concen: 50.00 ug/l
RT: 12.446 min Scan# 685
Delta R.T. 0.000 min
Lab File: 5V21956.D
Acq: 15 Jun 2012 9:09 pm

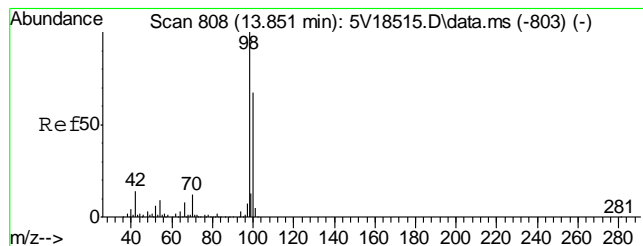
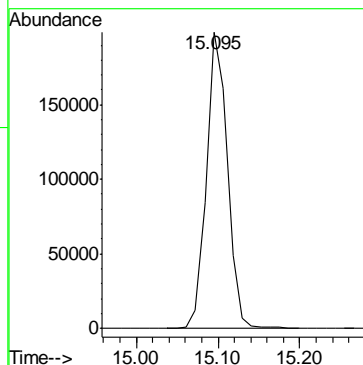
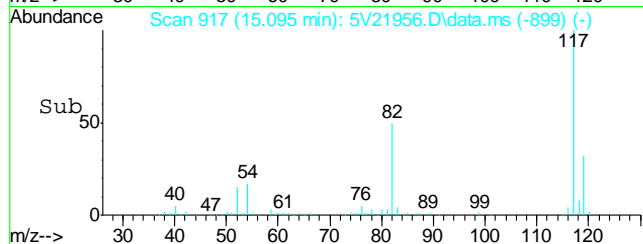
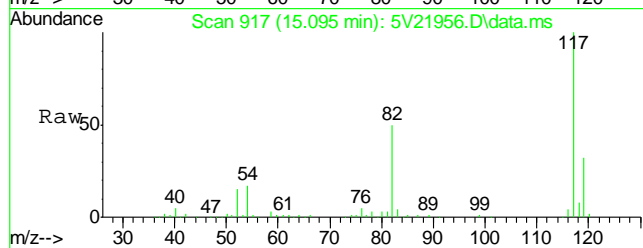
Tgt Ion:114 Resp: 283057





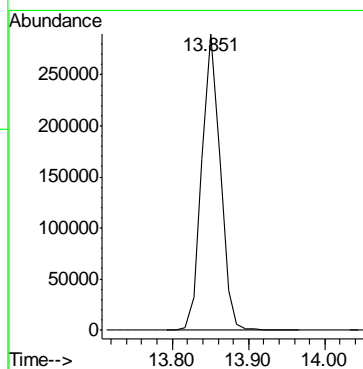
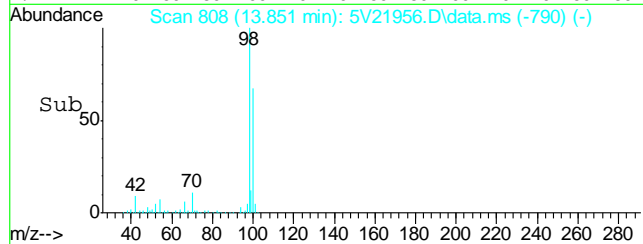
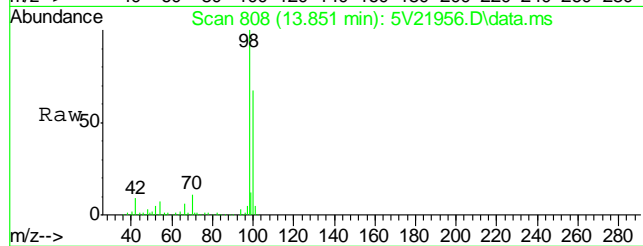
#53
Chlorobenzene-d5
Concen: 50.00 ug/l
RT: 15.095 min Scan# 917
Delta R.T. 0.000 min
Lab File: 5V21956.D
Acq: 15 Jun 2012 9:09 pm

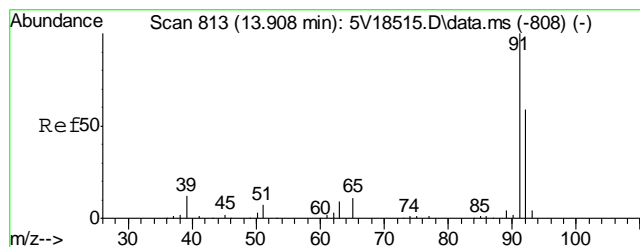
Tgt Ion: 117 Resp: 353024



#61
Toluene-d8
Concen: 40.78 ug/l
RT: 13.851 min Scan# 808
Delta R.T. 0.000 min
Lab File: 5V21956.D
Acq: 15 Jun 2012 9:09 pm

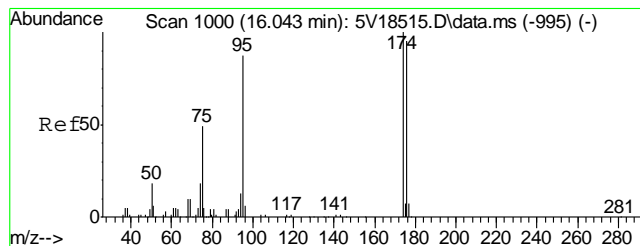
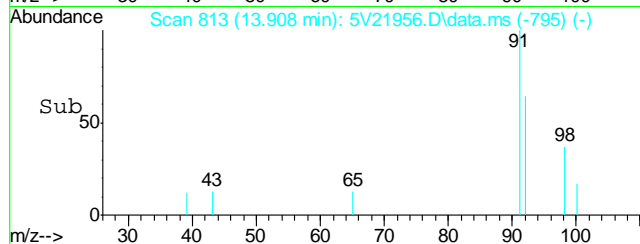
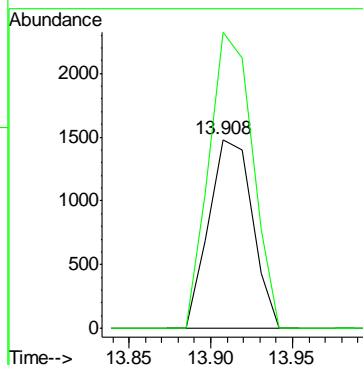
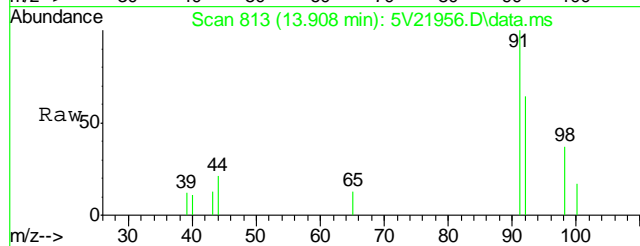
Tgt Ion: 98 Resp: 486602





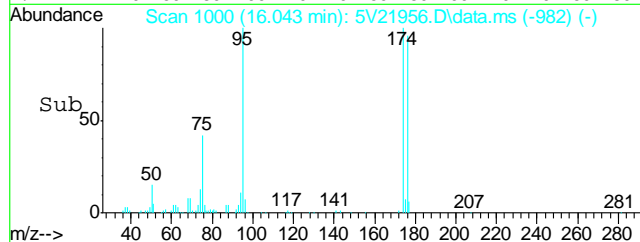
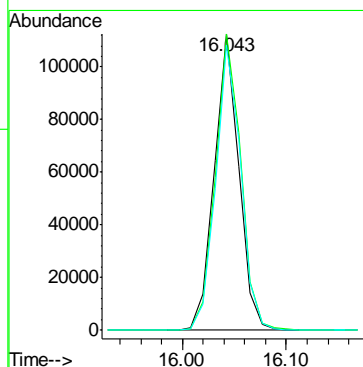
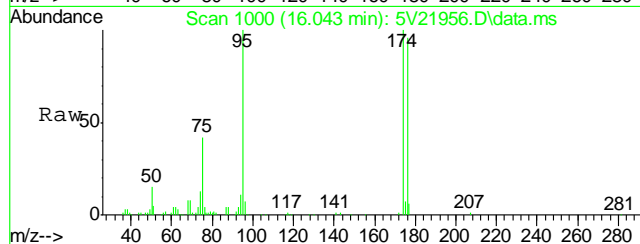
#62
Toluene
Concen: 0.30 ug/l
RT: 13.908 min Scan# 813
Delta R.T. 0.000 min
Lab File: 5V21956.D
Acq: 15 Jun 2012 9:09 pm

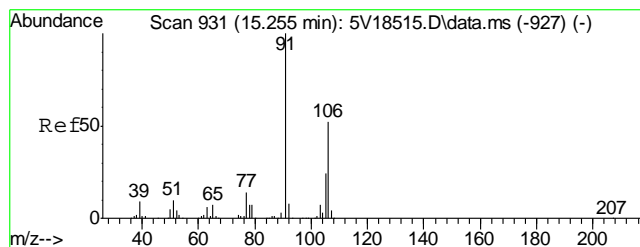
Tgt Ion: 92 Resp: 2743
Ion Ratio Lower Upper
92 100
91 156.7 149.8 189.8



#69
4-Bromofluorobenzene
Concen: 37.84 ug/l
RT: 16.043 min Scan# 1000
Delta R.T. 0.000 min
Lab File: 5V21956.D
Acq: 15 Jun 2012 9:09 pm

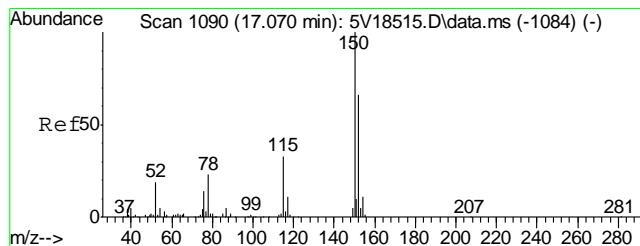
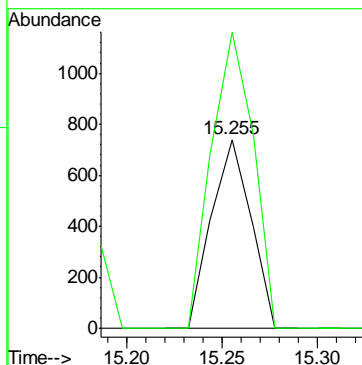
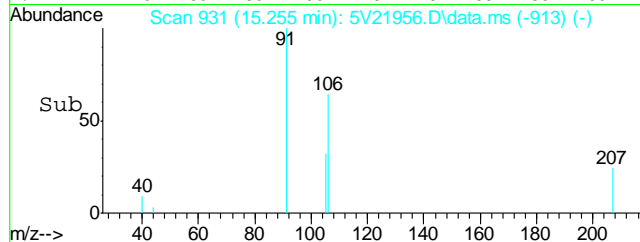
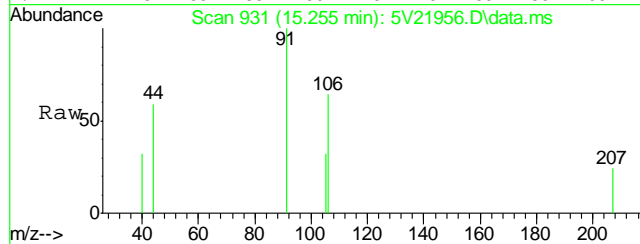
Tgt Ion: 95 Resp: 184968
Ion Ratio Lower Upper
95 100
174 103.5 77.1 117.1
176 98.6 73.4 113.4





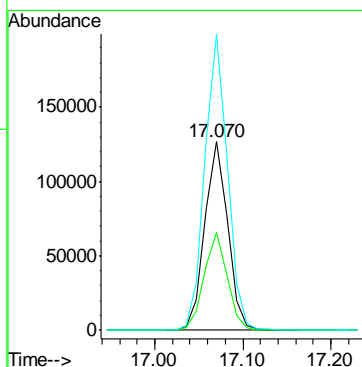
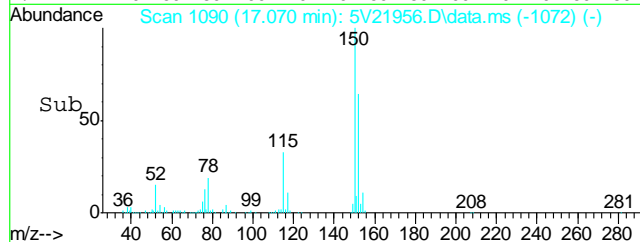
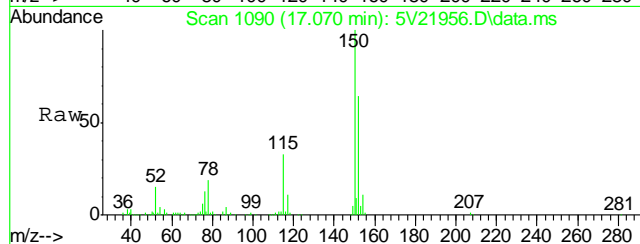
#72
m,p-xylene
Concen: 0.16 ug/l
RT: 15.255 min Scan# 931
Delta R.T. 0.000 min
Lab File: 5V21956.D
Acq: 15 Jun 2012 9:09 pm

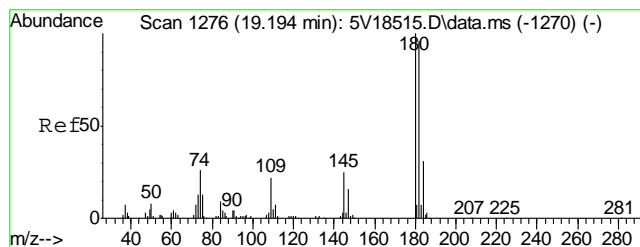
Tgt Ion	106	Resp	1067
Ion Ratio	Lower	Upper	
106	100		
91	166.6	177.1	217.1#



#74
1,4-Dichlorobenzene-d4
Concen: 50.00 ug/l
RT: 17.070 min Scan# 1090
Delta R.T. 0.000 min
Lab File: 5V21956.D
Acq: 15 Jun 2012 9:09 pm

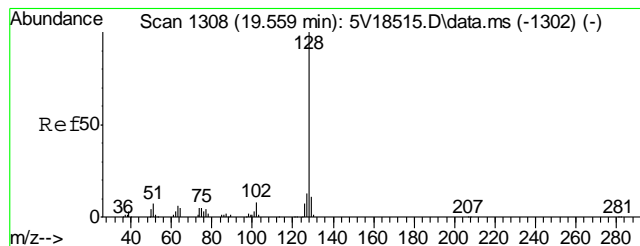
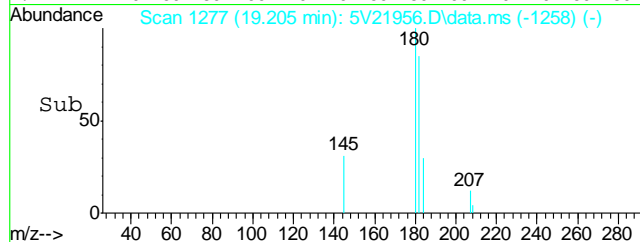
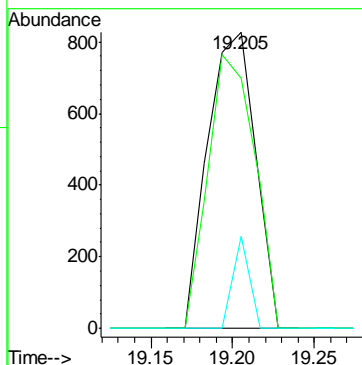
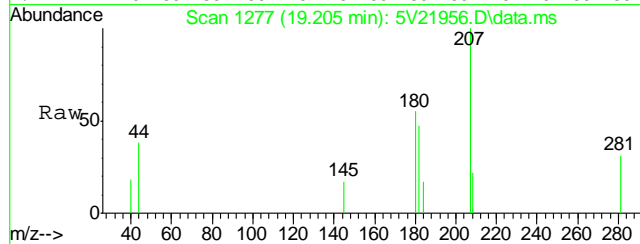
Tgt Ion	152	Resp	228911
Ion Ratio	Lower	Upper	
152	100		
115	51.8	41.4	62.0
150	155.8	153.9	230.9





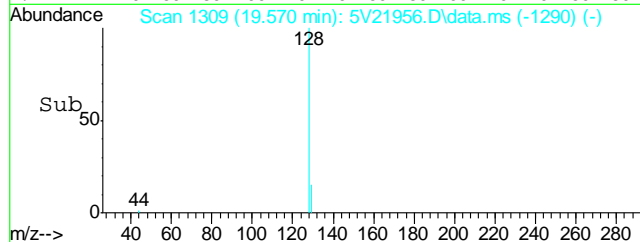
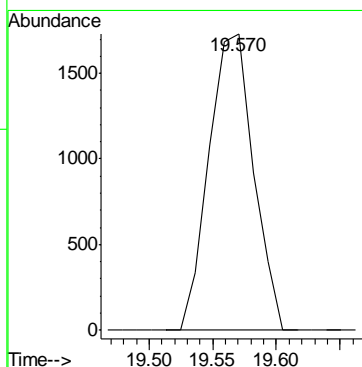
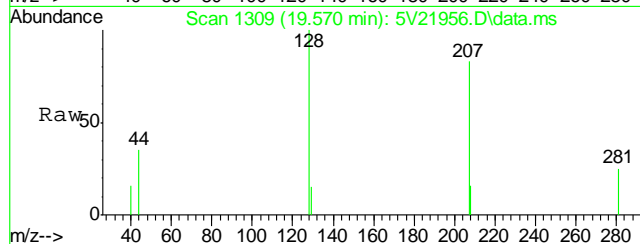
#90
1,2,4-Trichlorobenzene
Concen: 0.28 ug/l
RT: 19.205 min Scan# 1277
Delta R.T. 0.011 min
Lab File: 5V21956.D
Acq: 15 Jun 2012 9:09 pm

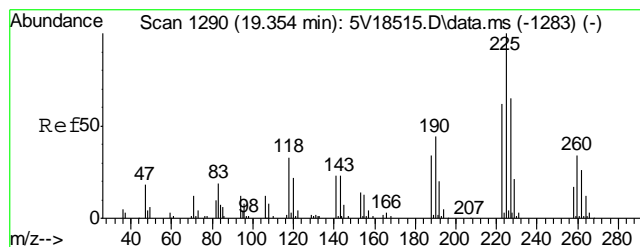
Tgt Ion:180	Resp:	1676
Ion Ratio	Lower	Upper
180	100	
182	90.9	76.2 114.4
145	10.5	20.1 30.1#



#91
Naphthalene
Concen: 0.95 ug/l
RT: 19.570 min Scan# 1309
Delta R.T. 0.012 min
Lab File: 5V21956.D
Acq: 15 Jun 2012 9:09 pm

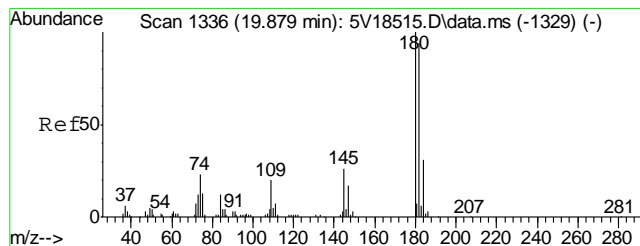
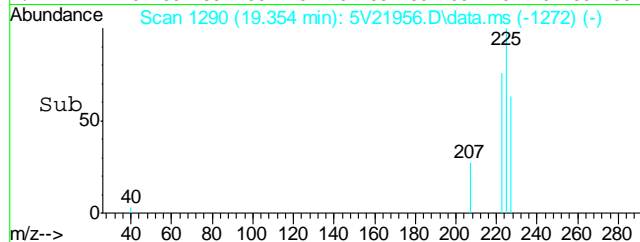
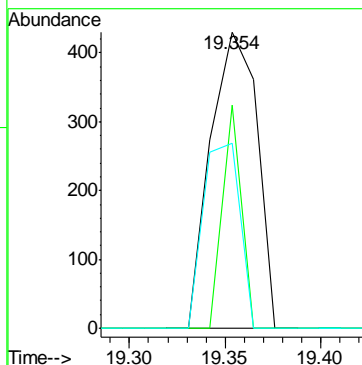
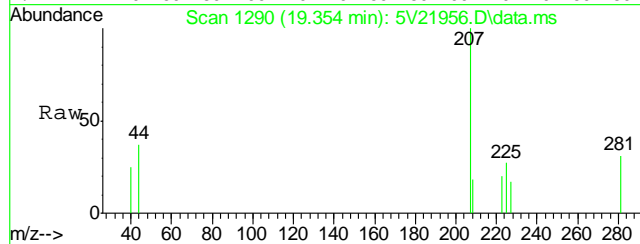
Tgt Ion:128	Resp:	4207
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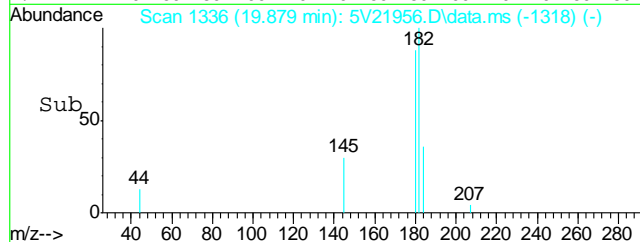
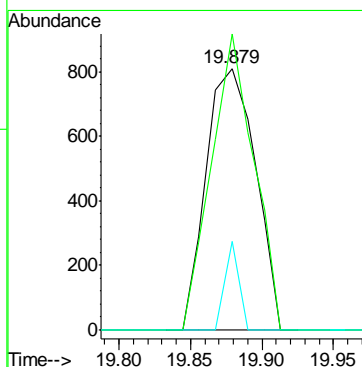
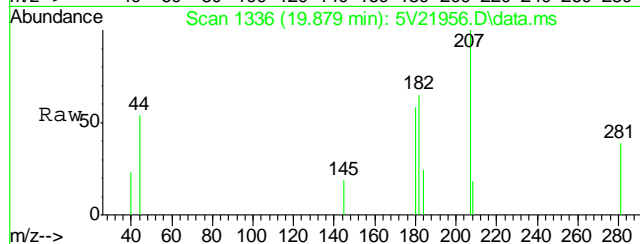
#92
Hexachlorobutadiene
Concen: 0.16 ug/l
RT: 19.354 min Scan# 1290
Delta R.T. 0.000 min
Lab File: 5V21956.D
Acq: 15 Jun 2012 9:09 pm

Tgt Ion:	225	Resp:	729
Ion Ratio	Lower	Upper	
225	100		
223	30.6	49.5	74.3#
227	49.2	51.1	76.7#



#93
1,2,3-Trichlorobenzene
Concen: 0.35 ug/l
RT: 19.879 min Scan# 1336
Delta R.T. 0.000 min
Lab File: 5V21956.D
Acq: 15 Jun 2012 9:09 pm

Tgt Ion:	180	Resp:	1941
Ion Ratio	Lower	Upper	
180	100		
182	97.4	76.0	114.0
145	9.6	21.4	32.0#



GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Page 1 of 1

Job Number: D35547
Account: XTOKRWR XTO Energy
Project: FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB908-MB	GB16357.D	1	06/18/12	SK	n/a	n/a	GGB908

The QC reported here applies to the following samples:

Method: SW846 8015B

D35547-1, D35547-2

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	10	5.0	mg/kg	

CAS No.	Surrogate Recoveries	Limits
120-82-1	1,2,4-Trichlorobenzene	122% 60-140%

Blank Spike Summary

Page 1 of 1

Job Number: D35547
Account: XTOKRWR XTO Energy
Project: FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB908-BS	GB16358.D	1	06/18/12	SK	n/a	n/a	GGB908

The QC reported here applies to the following samples:

Method: SW846 8015B

D35547-1, D35547-2

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	121	110	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	122%	60-140%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D35547
Account: XTOKRWR XTO Energy
Project: FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D35569-1MS	GB16360.D	1	06/18/12	SK	n/a	n/a	GGB908
D35569-1MSD	GB16361.D	1	06/18/12	SK	n/a	n/a	GGB908
D35569-1	GB16359.D	1	06/18/12	SK	n/a	n/a	GGB908

The QC reported here applies to the following samples:

Method: SW846 8015B

D35547-1, D35547-2

CAS No.	Compound	D35569-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		124	136	109	135	109	1	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D35569-1	Limits
120-82-1	1,2,4-Trichlorobenzene	116%	115%	111%	60-140%

* = Outside of Control Limits.

GC Volatiles

Raw Data

∞

Judy Melson
06/19/12 12:15

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\061812\GB16375.D\FID1A.CH Vial: 23
Signal #2 : Y:\1\DATA\061812\GB16375.D\FID2B.CH
Acq On : 18 Jun 2012 11:31 pm Operator: StephK
Sample : D35547-1, 50X Inst : GC/MS Ins
Misc : GC2918,GGB908,5.041,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Jun 19 08:36:50 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Mon Jun 18 13:49:47 2012
Response via : Initial Calibration
DataAcq Meth : TVB4.M

Volume Inj. :
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm

Compound		R.T.	Response	Conc	Units	

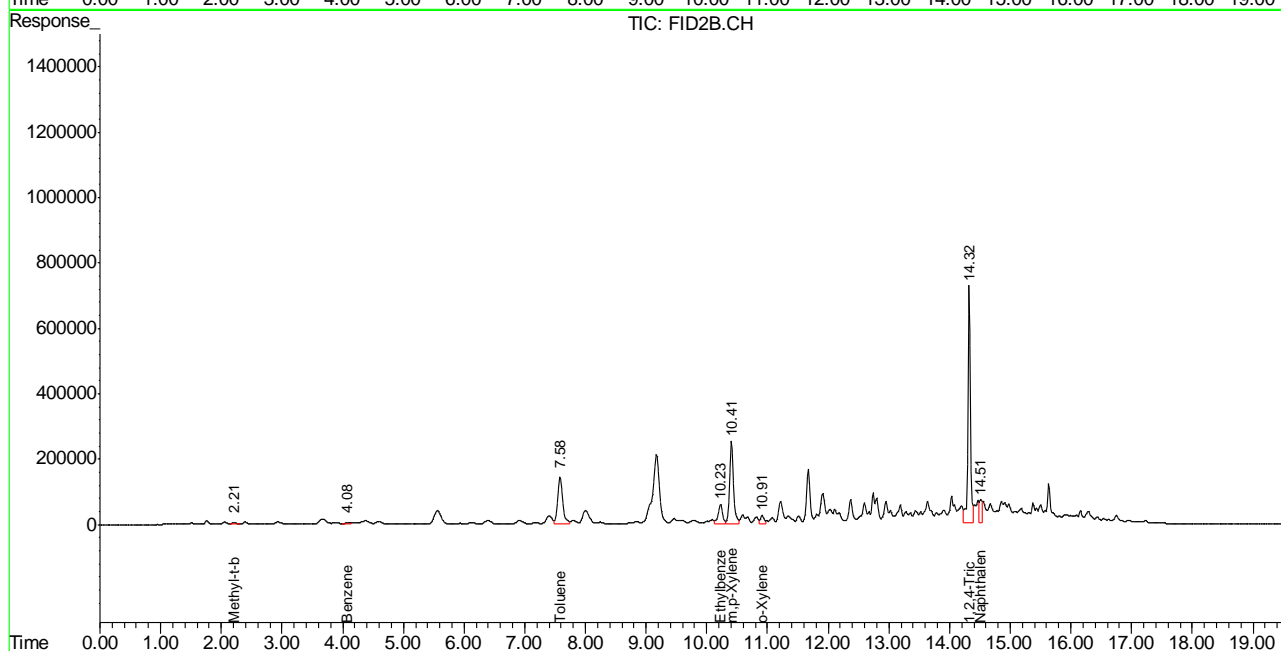
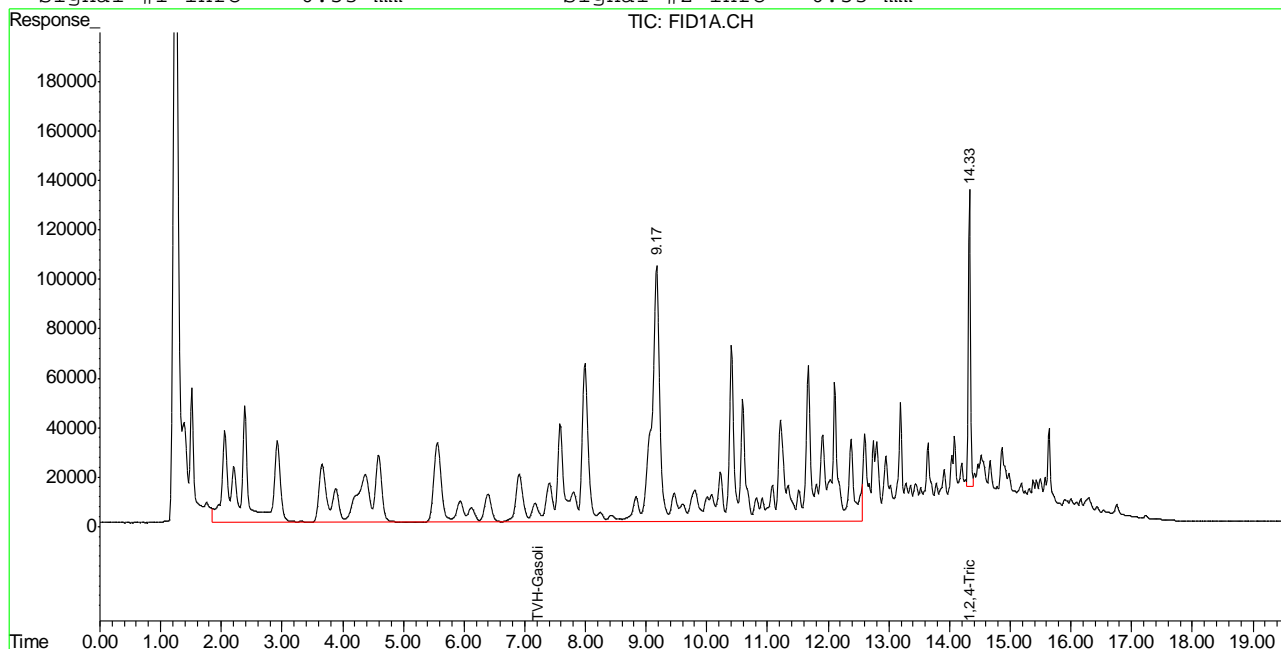
System Monitoring Compounds						
2) S	1,2,4-Trichlorobenzene	14.33	2855596	91.134 %	m	
10) S	1,2,4-Trichlorobenzene (P)	14.33	19868792	122.249 %		
Target Compounds						
1) H	TVH-Gasoline	7.23	71039910	1.097 mg/L		
4) T	Methyl-t-butyl-ether	2.21	237602	1.830 ug/L		
5) T	Benzene	4.08	326198	0.809 ug/L		
6) T	Toluene	7.58	8308660	20.967 ug/L		
7) T	Ethylbenzene	10.23	2935263	8.677 ug/L		
8) T	m,p-Xylene	10.41	10982353	29.716 ug/L		
9) T	o-Xylene	10.91	979253	2.982 ug/L		
11) T	Naphthalene	14.51	2068471	10.483 ug/L		

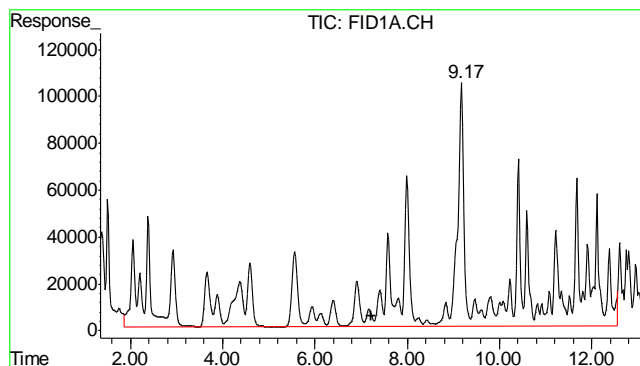
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\061812\GB16375.D\FID1A.CH Vial: 23
Signal #2 : Y:\1\DATA\061812\GB16375.D\FID2B.CH
Acq On : 18 Jun 2012 11:31 pm Operator: StephK
Sample : D35547-1, 50X Inst : GC/MS Ins
Misc : GC2918,GGB908,5.041,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Jun 19 7:52 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Mon Jun 18 13:49:47 2012
Response via : Multiple Level Calibration
DataAcq Meth : TVB4.M

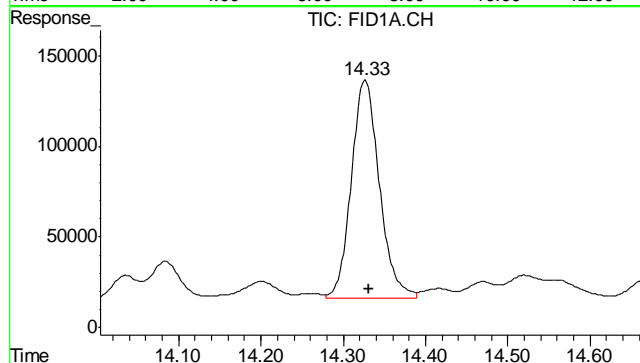
Volume Inj. :
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm





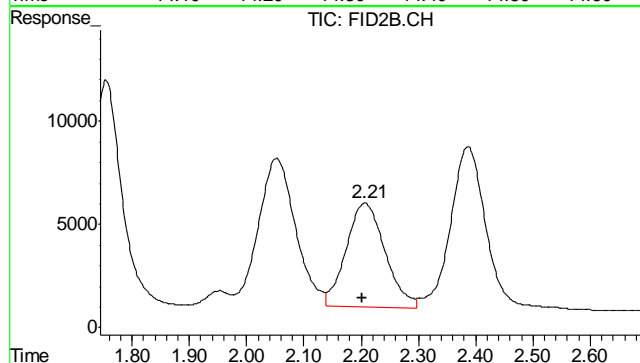
#1 TVH-Gasoline

R.T.: 7.230 min
Delta R.T.: 0.000 min
Response: 71039910
Conc: 1.10 mg/L m



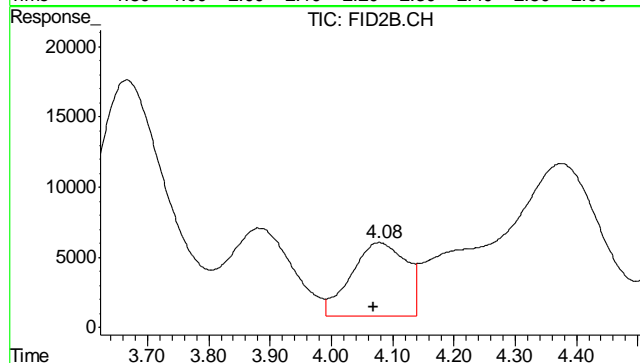
#2 1,2,4-Trichlorobenzene

R.T.: 14.326 min
Delta R.T.: -0.005 min
Response: 285596
Conc: 91.13 % m



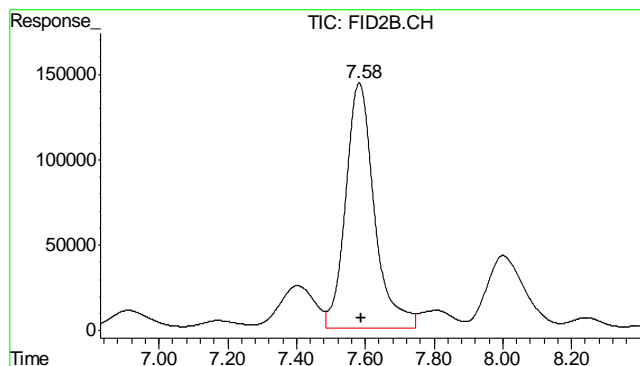
#4 Methyl-t-butyl-ether

R.T.: 2.207 min
Delta R.T.: 0.005 min
Response: 237602
Conc: 1.83 ug/L



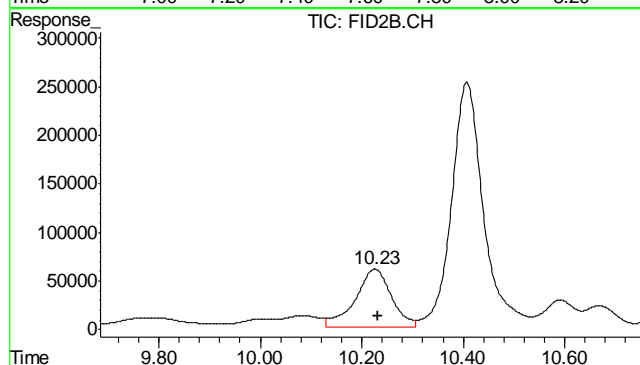
#5 Benzene

R.T.: 4.078 min
Delta R.T.: 0.009 min
Response: 326198
Conc: 0.81 ug/L



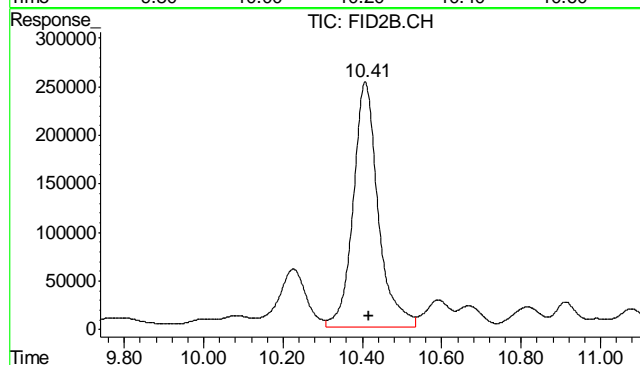
#6 Toluene

R.T.: 7.582 min
Delta R.T.: -0.006 min
Response: 8308660
Conc: 20.97 ug/L



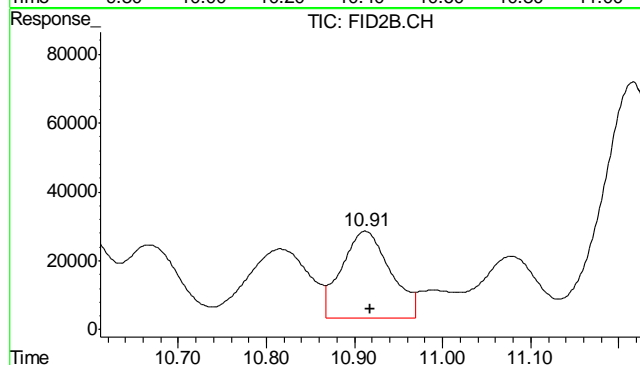
#7 Ethylbenzene

R.T.: 10.226 min
Delta R.T.: -0.006 min
Response: 2935263
Conc: 8.68 ug/L



#8 m,p-Xylene

R.T.: 10.407 min
Delta R.T.: -0.008 min
Response: 10982353
Conc: 29.72 ug/L

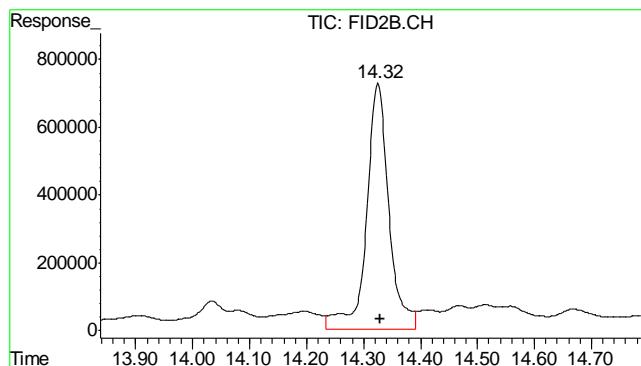


#9 o-Xylene

R.T.: 10.912 min
Delta R.T.: -0.005 min
Response: 979253
Conc: 2.98 ug/L

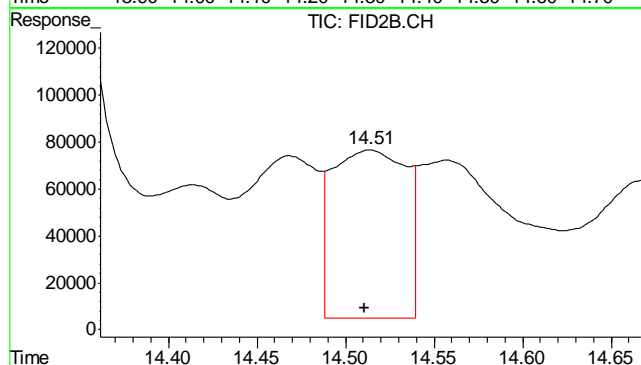
8.1.1

8



#10 1,2,4-Trichlorobenzene (P)

R.T.: 14.325 min
 Delta R.T.: -0.004 min
 Response: 19868792
 Conc: 122.25 %



#11 Naphthalene

R.T.: 14.514 min
 Delta R.T.: 0.003 min
 Response: 2068471
 Conc: 10.48 ug/L

8.1.1

8

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\061812\GB16376.D\FID1A.CH Vial: 24
Signal #2 : Y:\1\DATA\061812\GB16376.D\FID2B.CH
Acq On : 19 Jun 2012 12:06 am Operator: StephK
Sample : D35547-2, 50X Inst : GC/MS Ins
Misc : GC2918,GGB908,5.018,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Jun 19 08:36:54 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Mon Jun 18 13:49:47 2012
Response via : Initial Calibration
DataAcq Meth : TVB4.M

Volume Inj. :
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm

Compound	R.T.	Response	Conc	Units

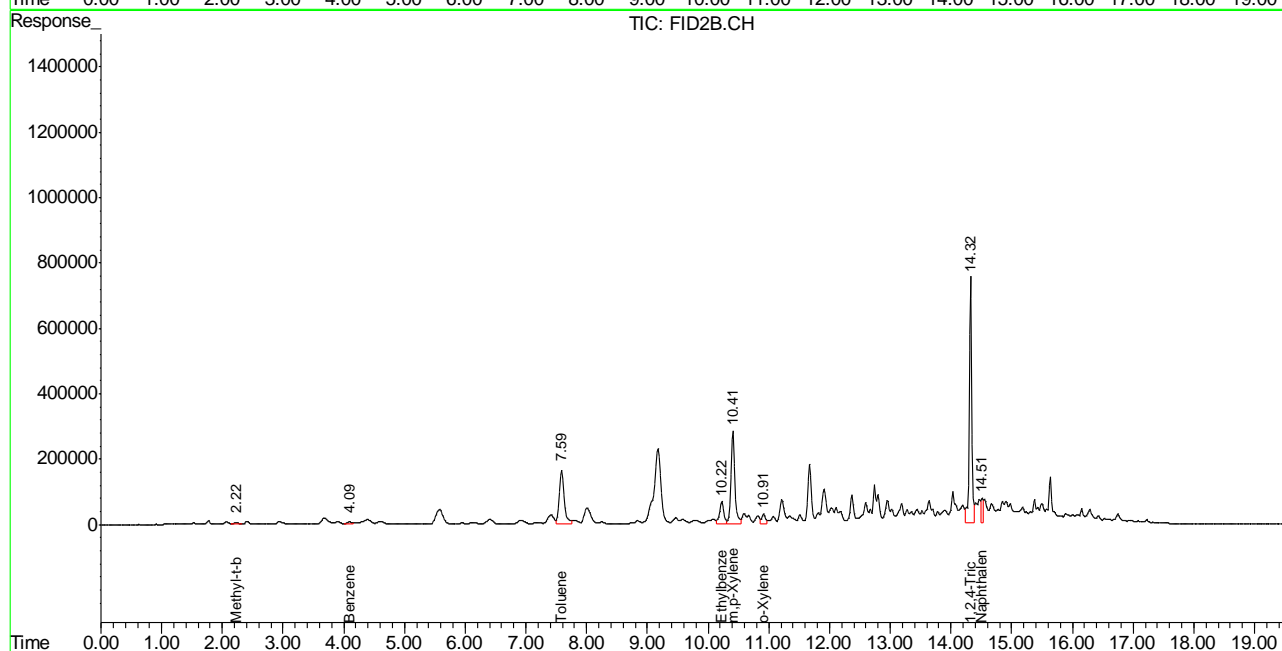
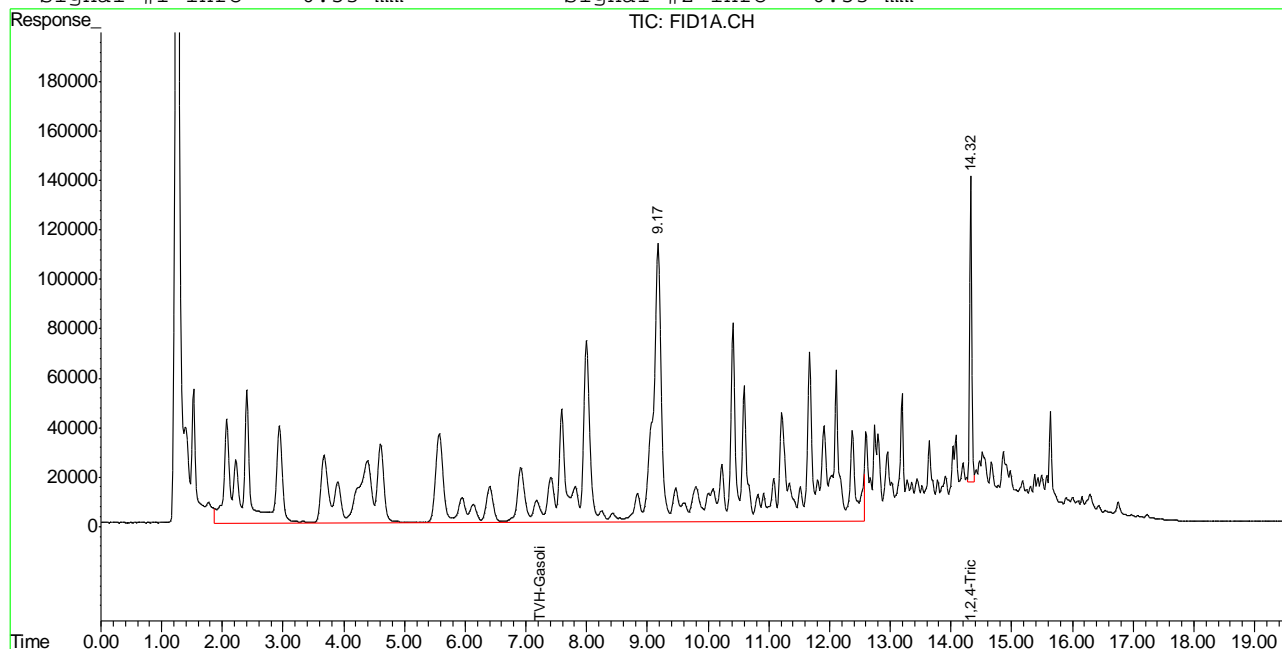
System Monitoring Compounds				
2) S 1,2,4-Trichlorobenzene	14.32	2899237	92.527 %	m
10) S 1,2,4-Trichlorobenzene (P)	14.32	20760709	127.737 %	
Target Compounds				
1) H TVH-Gasoline	7.23	80150451	1.242 mg/L	
4) T Methyl-t-butyl-ether	2.22	276349	2.128 ug/L	
5) T Benzene	4.09	438637	1.088 ug/L	
6) T Toluene	7.59	9457765	23.867 ug/L	
7) T Ethylbenzene	10.23	3381643	9.997 ug/L	
8) T m,p-Xylene	10.41	12360522	33.492 ug/L	
9) T o-Xylene	10.91	1199628	3.653 ug/L	
11) T Naphthalene	14.51	2162011	10.957 ug/L	

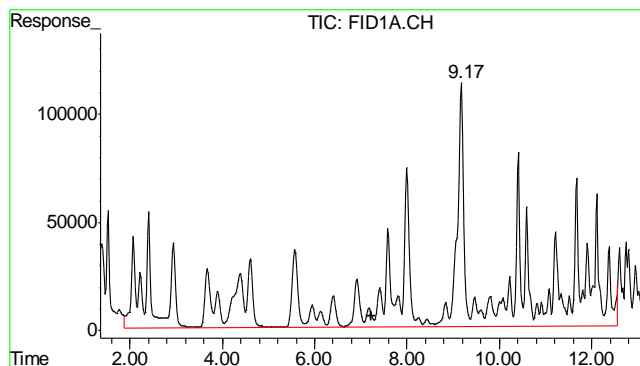
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\061812\GB16376.D\FID1A.CH Vial: 24
Signal #2 : Y:\1\DATA\061812\GB16376.D\FID2B.CH
Acq On : 19 Jun 2012 12:06 am Operator: StephK
Sample : D35547-2, 50X Inst : GC/MS Ins
Misc : GC2918,GGB908,5.018,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Jun 19 7:53 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Mon Jun 18 13:49:47 2012
Response via : Multiple Level Calibration
DataAcq Meth : TVB4.M

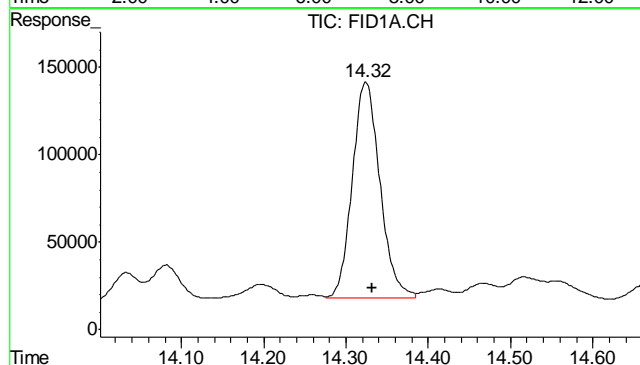
Volume Inj. :
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm





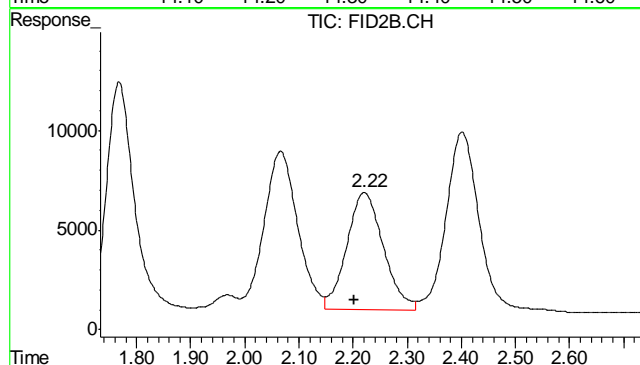
#1 TVH-Gasoline

R.T.: 7.230 min
Delta R.T.: 0.000 min
Response: 80150451
Conc: 1.24 mg/L m



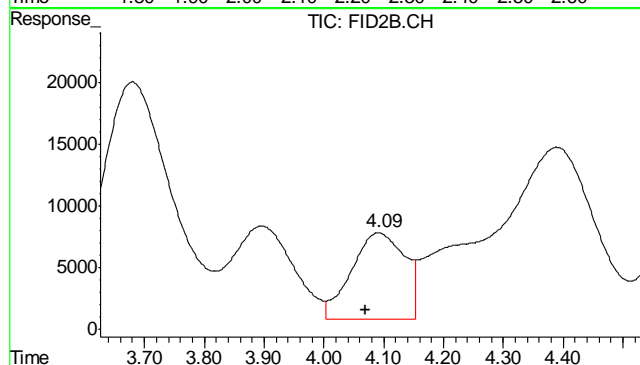
#2 1,2,4-Trichlorobenzene

R.T.: 14.324 min
Delta R.T.: -0.008 min
Response: 2899237
Conc: 92.53 % m



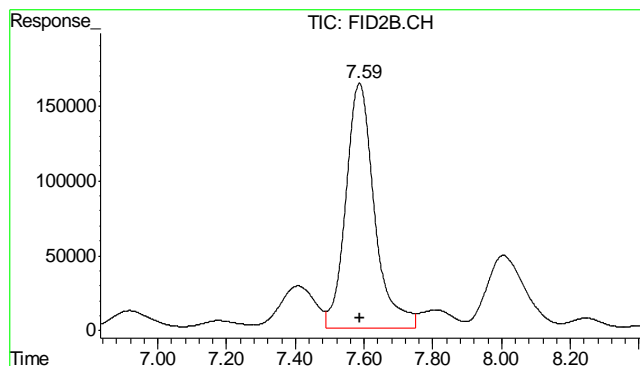
#4 Methyl-t-butyl-ether

R.T.: 2.221 min
Delta R.T.: 0.019 min
Response: 276349
Conc: 2.13 ug/L



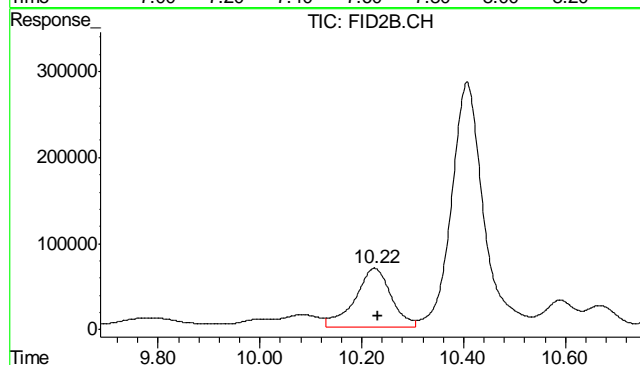
#5 Benzene

R.T.: 4.091 min
Delta R.T.: 0.022 min
Response: 438637
Conc: 1.09 ug/L



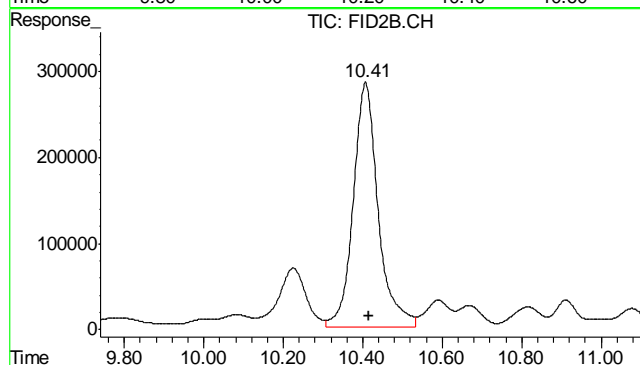
#6 Toluene

R.T.: 7.586 min
Delta R.T.: -0.002 min
Response: 9457765
Conc: 23.87 ug/L



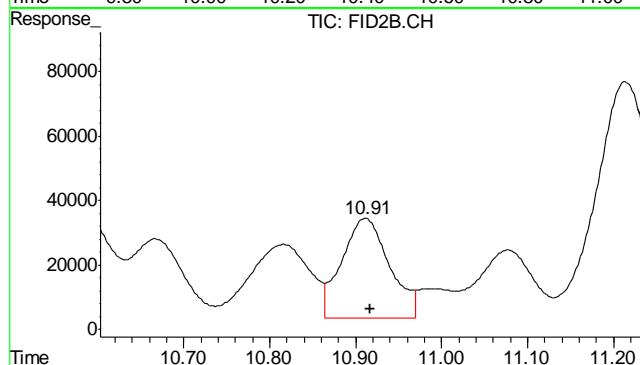
#7 Ethylbenzene

R.T.: 10.225 min
Delta R.T.: -0.007 min
Response: 3381643
Conc: 10.00 ug/L



#8 m,p-Xylene

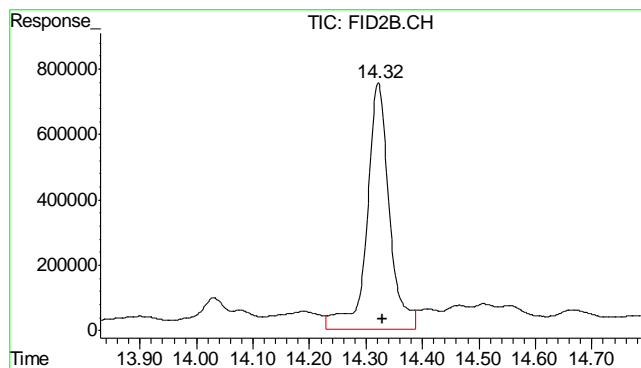
R.T.: 10.407 min
Delta R.T.: -0.008 min
Response: 12360522
Conc: 33.49 ug/L



#9 o-Xylene

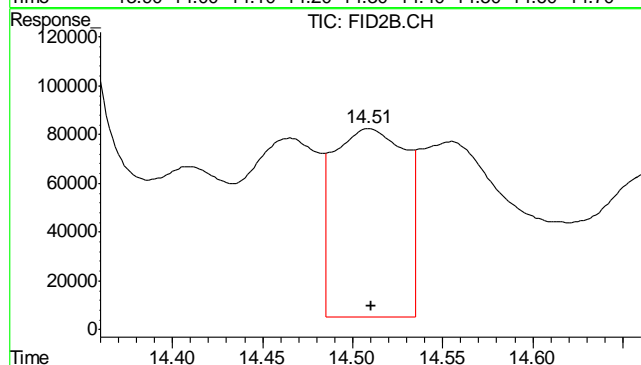
R.T.: 10.911 min
Delta R.T.: -0.006 min
Response: 1199628
Conc: 3.65 ug/L

8.12
8



#10 1,2,4-Trichlorobenzene (P)

R.T.: 14.322 min
 Delta R.T.: -0.007 min
 Response: 20760709
 Conc: 127.74 %



#11 Naphthalene

R.T.: 14.509 min
 Delta R.T.: -0.001 min
 Response: 2162011
 Conc: 10.96 ug/L

8.1.2
8

Judy Melson
06/19/12 12:15

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\061812\GB16357.D\FID1A.CH Vial: 5
Signal #2 : Y:\1\DATA\061812\GB16357.D\FID2B.CH
Acq On : 18 Jun 2012 12:53 pm Operator: StephK
Sample : MB Inst : GC/MS Ins
Misc : GC2918,GGB908,5.000,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Jun 18 13:50:04 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Mon Jun 18 13:49:47 2012
Response via : Initial Calibration
DataAcq Meth : TVB4.M

Volume Inj. :
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm

Compound		R.T.	Response	Conc	Units

System Monitoring Compounds					
2) S	1,2,4-Trichlorobenzene	14.32	3836027	122.424 %	m
10) S	1,2,4-Trichlorobenzene (P)	14.32	21039858	129.454 %	
Target Compounds					
1) H	TVH-Gasoline	7.23	4590501	<MDL	mg/L
4) T	Methyl-t-butyl-ether	0.00	0	N.D.	ug/L d
5) T	Benzene	0.00	0	N.D.	ug/L d
6) T	Toluene	7.59	224307	0.566	ug/L
7) T	Ethylbenzene	0.00	0	N.D.	ug/L d
8) T	m,p-Xylene	10.41	189652	0.146	ug/L
9) T	o-Xylene	0.00	0	N.D.	ug/L d
11) T	Naphthalene	14.50	257442	1.305	ug/L

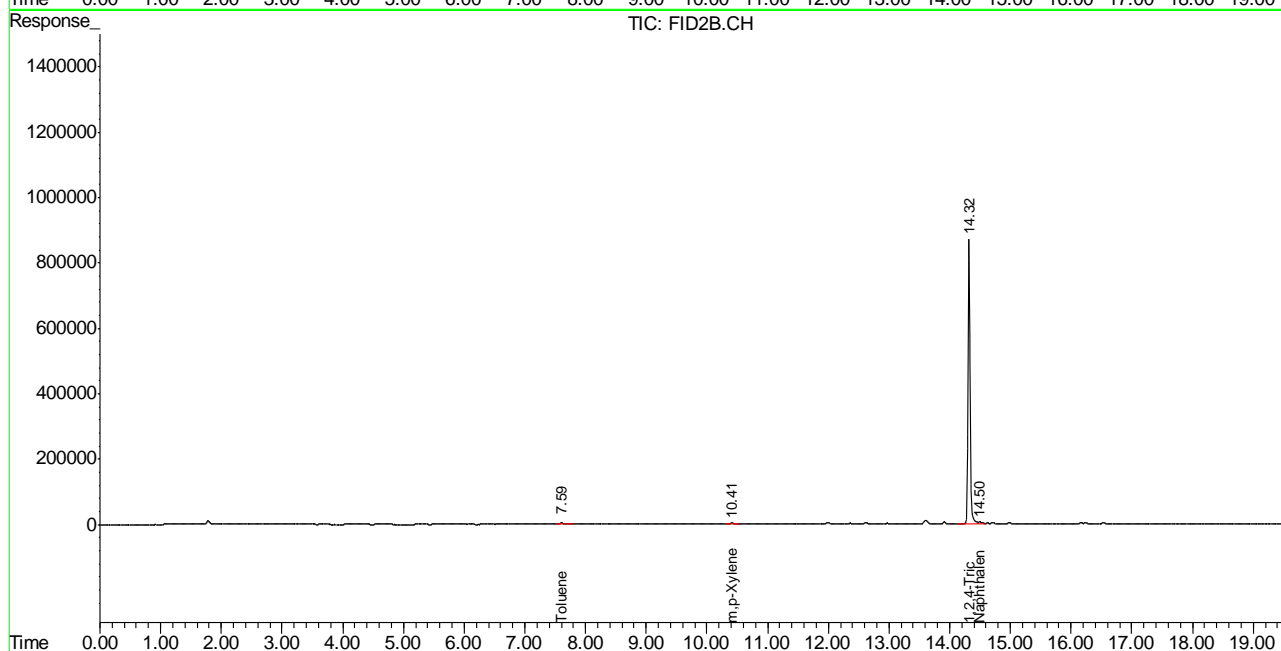
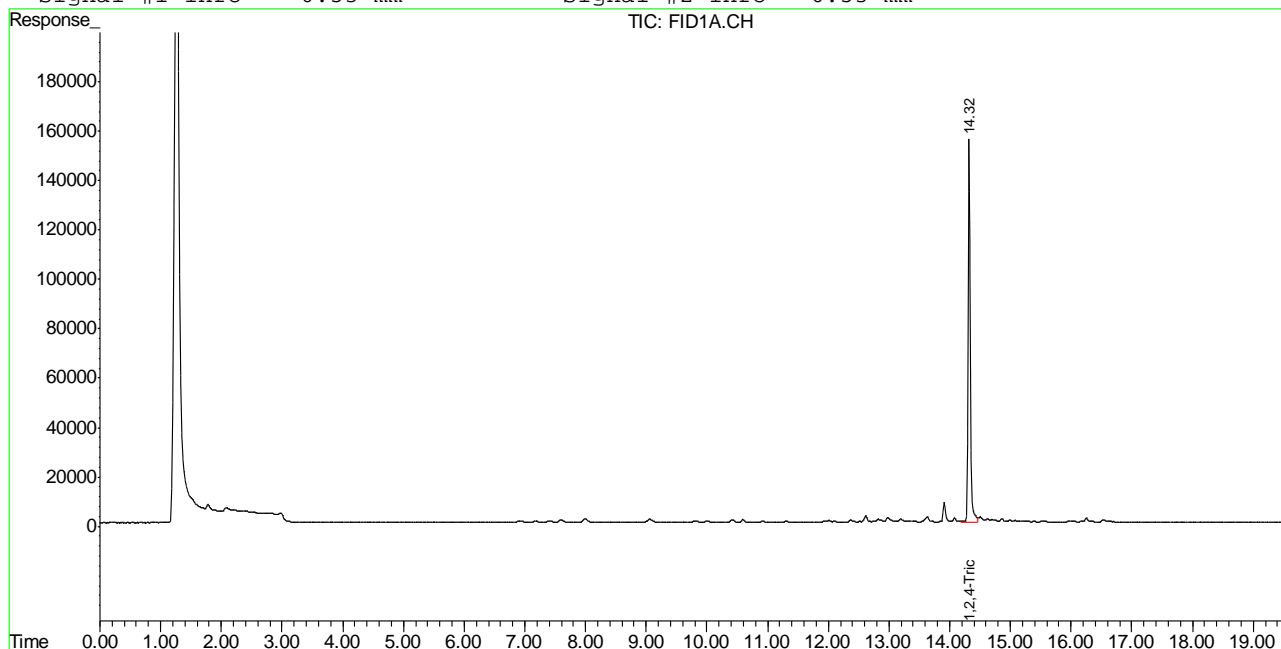
(f)=RT Delta > 1/2 Window (m)=manual int.
GB16357.D TB868GB868SOIL.M Tue Jun 19 10:02:45 2012 GC

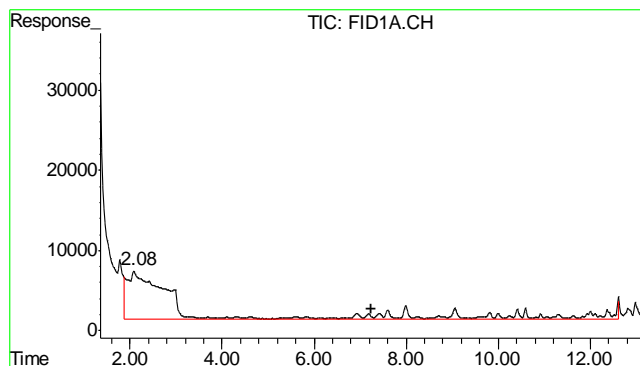
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\061812\GB16357.D\FID1A.CH Vial: 5
Signal #2 : Y:\1\DATA\061812\GB16357.D\FID2B.CH
Acq On : 18 Jun 2012 12:53 pm Operator: StephK
Sample : MB Inst : GC/MS Ins
Misc : GC2918,GGB908,5.000,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Jun 18 12:53 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Mon Jun 18 13:49:47 2012
Response via : Multiple Level Calibration
DataAcq Meth : TVB4.M

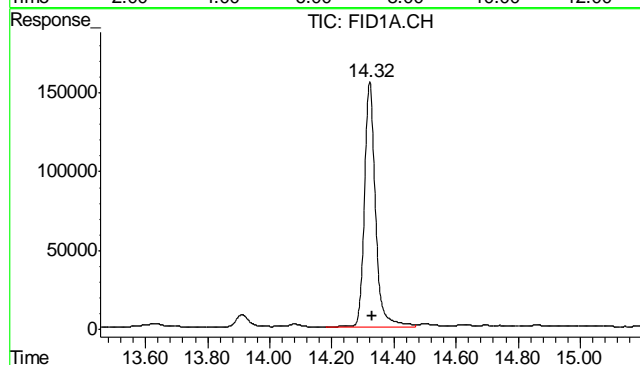
Volume Inj. :
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm





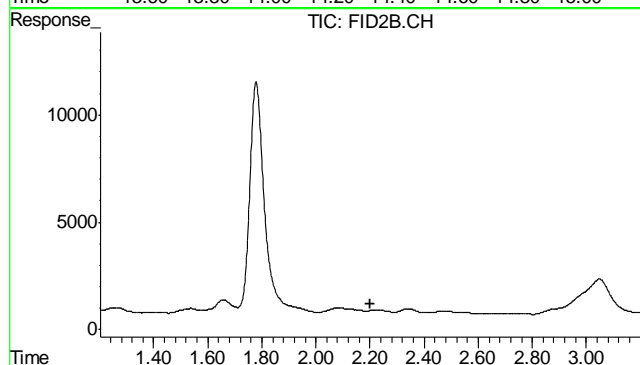
#1 TVH-Gasoline

R.T.: 7.230 min
Delta R.T.: 0.000 min
Response: 4590501
Conc: N.D.



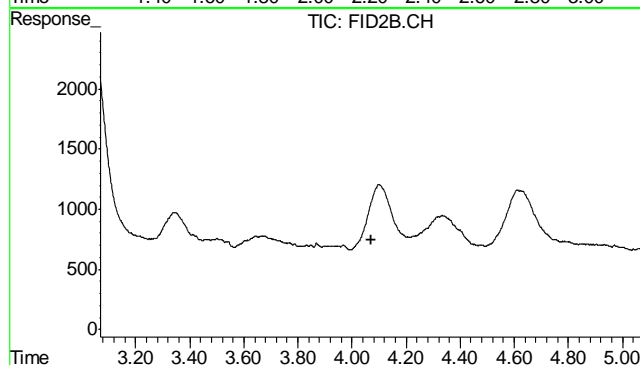
#2 1,2,4-Trichlorobenzene

R.T.: 14.321 min
Delta R.T.: -0.010 min
Response: 3836027
Conc: 122.42 % m



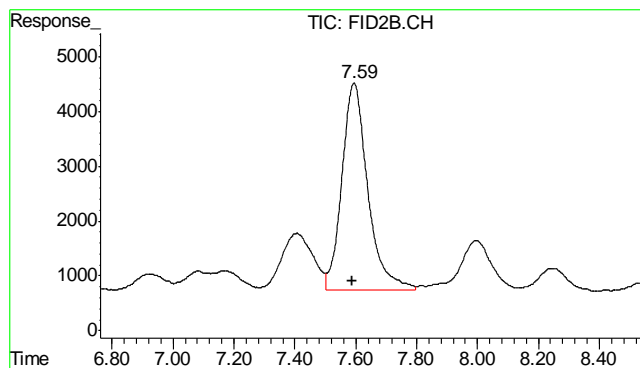
#4 Methyl-t-butyl-ether

R.T.: 0.000 min
Exp R.T.: 2.202 min
Response: 0
Conc: N.D.



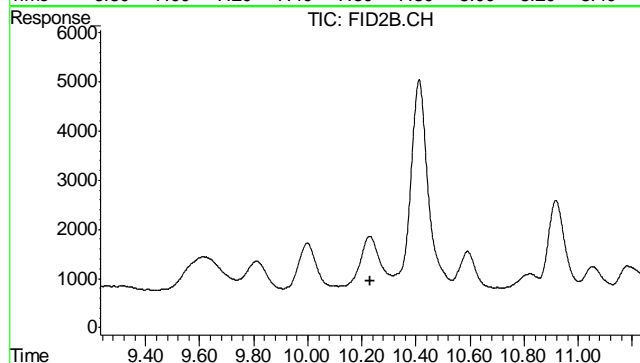
#5 Benzene

R.T.: 0.000 min
Exp R.T.: 4.070 min
Response: 0
Conc: N.D.



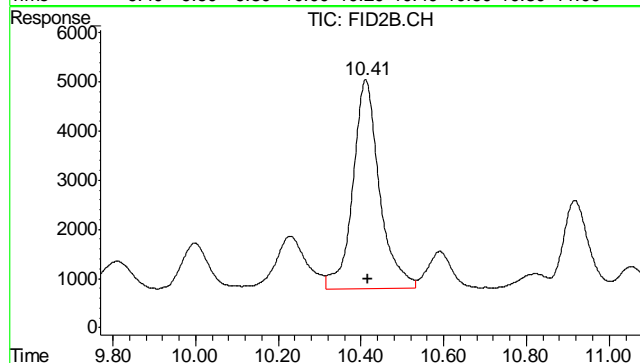
#6 Toluene

R.T.: 7.595 min
Delta R.T.: 0.006 min
Response: 224307
Conc: 0.57 ug/L



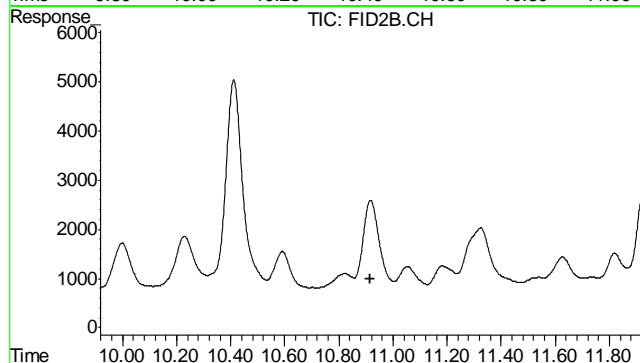
#7 Ethylbenzene

R.T.: 0.000 min
Exp R.T.: 10.232 min
Response: 0
Conc: N.D.



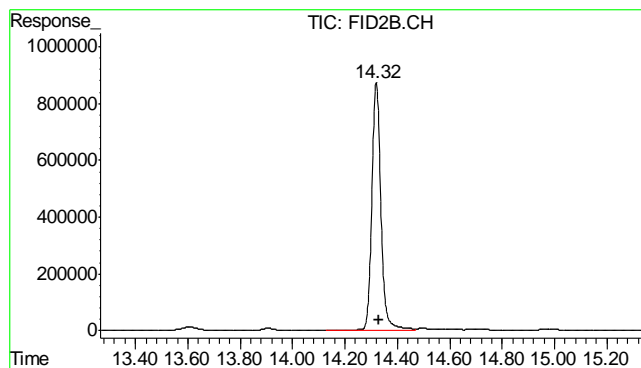
#8 m,p-Xylene

R.T.: 10.411 min
Delta R.T.: -0.004 min
Response: 189652
Conc: 0.15 ug/L



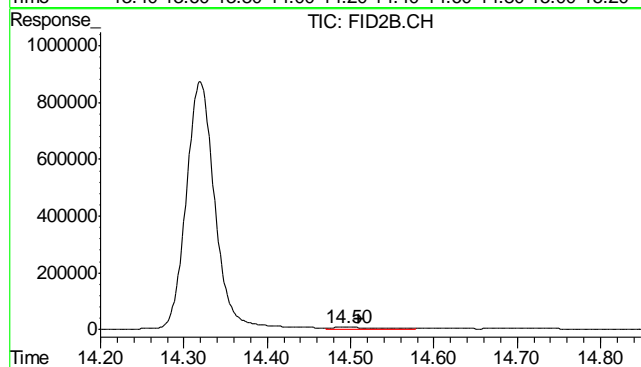
#9 o-Xylene

R.T.: 0.000 min
Exp R.T.: 10.917 min
Response: 0
Conc: N.D.



#10 1,2,4-Trichlorobenzene (P)

R.T.: 14.320 min
Delta R.T.: -0.009 min
Response: 21039858
Conc: 129.45 %



#11 Naphthalene

R.T.: 14.496 min
Delta R.T.: -0.014 min
Response: 257442
Conc: 1.30 ug/L

8.2.1

8

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Page 1 of 1

Job Number: D35547
Account: XTOKRWR XTO Energy
Project: FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6079-MB	FD14418.D	1	06/19/12	AW	06/18/12	OP6079	GFD755

The QC reported here applies to the following samples:

Method: SW846-8015B

D35547-1, D35547-2

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	6.7	4.3	mg/kg	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	96% 43-136%

9.1.1

9

Blank Spike Summary

Page 1 of 1

Job Number: D35547
Account: XTOKRWR XTO Energy
Project: FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6079-BS	FD14420.D	1	06/19/12	AW	06/18/12	OP6079	GFD755

The QC reported here applies to the following samples:

Method: SW846-8015B

D35547-1, D35547-2

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	366	55*	58-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	71%	43-136%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D35547
Account: XTOKRWR XTO Energy
Project: FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6079-MS	FD14422.D	1	06/19/12	AW	06/18/12	OP6079	GFD755
OP6079-MSD	FD14424.D	1	06/19/12	AW	06/18/12	OP6079	GFD755
D35569-1	FD14426.D	1	06/19/12	AW	06/18/12	OP6079	GFD755

The QC reported here applies to the following samples:

Method: SW846-8015B

D35547-1, D35547-2

CAS No.	Compound	D35569-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	18.2		711	431	58	527	72	20	20-183/43

CAS No.	Surrogate Recoveries	MS	MSD	D35569-1	Limits
84-15-1	o-Terphenyl	74%	86%	75%	43-136%

* = Outside of Control Limits.

GC Semi-volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\JUNE\FD062212.SEC\FD14644.D Vial: 6
Acq On : 6-22-2012 03:19:55 PM Operator: alexwl
Sample : D35547-1 Inst : FID5
Misc : OP6079,GFD762,30.05,,,1,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jun 22 15:41:23 2012 Quant Results File: DRO-GFD743R.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD743R.M (Chemstation Integrator)
Title : 8015B TEH
Last Update : Tue Jun 12 11:16:41 2012
Response via : Initial Calibration
DataAcq Meth : DRODUAL.M

Volume Inj. : 1ul
Signal Phase : RTX-5
Signal Info : 530um

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
1) S O-Terphenyl	9.62	89162957	2053.673 mg/L m
Target Compounds			
2) H TPH-DRO (c10-c28)	7.40	191381115	4608.762 mg/L

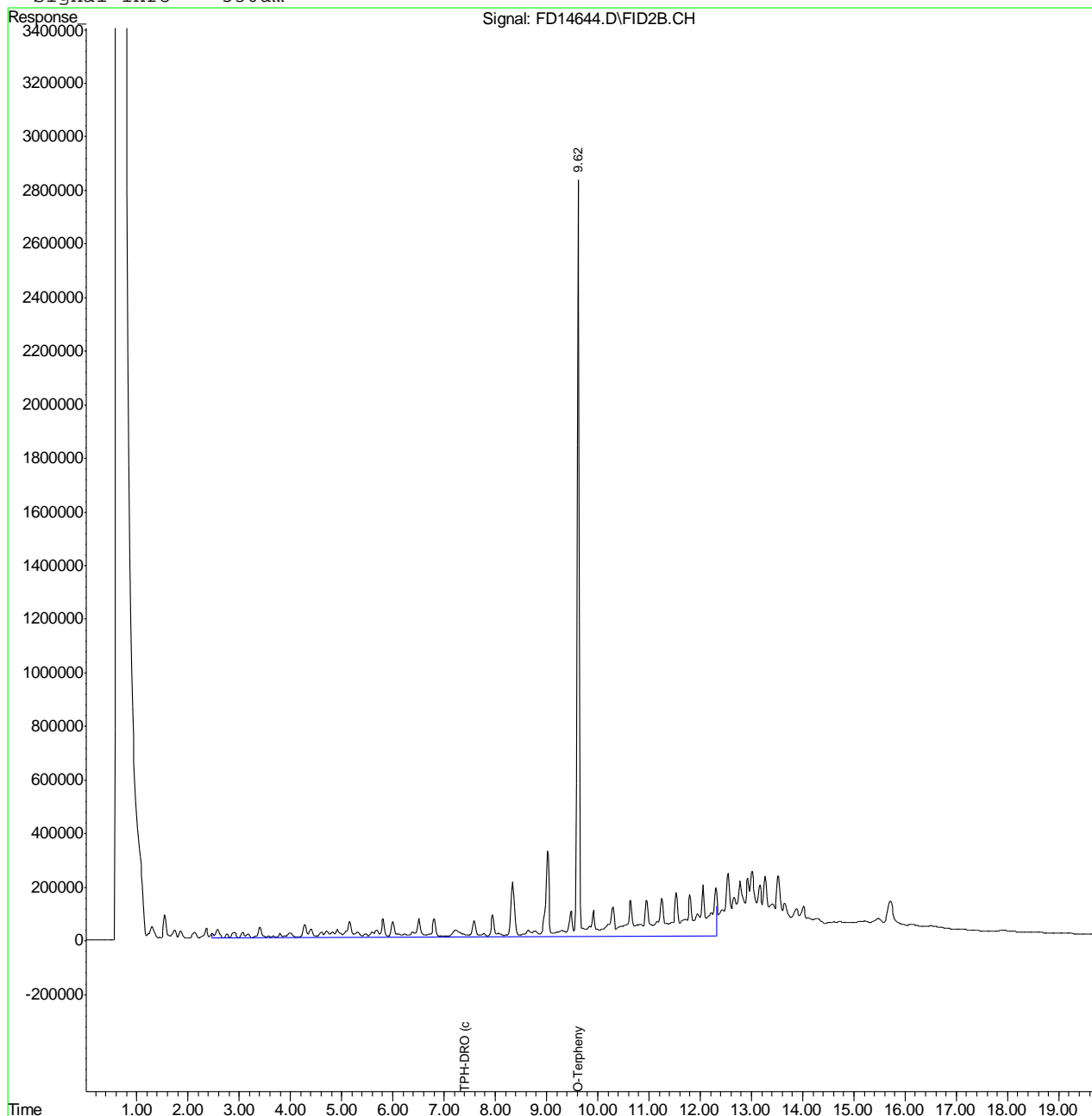
10.1.1
10

Quantitation Report (QT Reviewed)

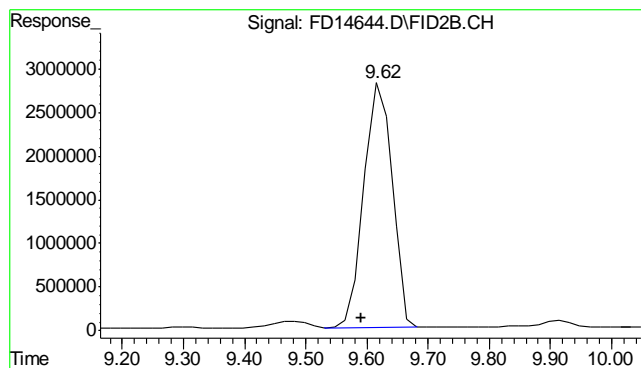
Data File : C:\MSDCHEM\2\DATA\2012\JUNE\FD062212.SEC\FD14644.D Vial: 65
 Acq On : 6-22-2012 03:19:55 PM Operator: alexwl
 Sample : D35547-1 Inst : FID5
 Misc : OP6079,GFD762,30.05,,,1,1 Multiplr: 1.00
 IntFile : autoint1.e
 Quant Time: Jun 22 15:41 2012 Quant Results File: DRO-GFD743R.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD743R.M (Chemstation Integrator)
 Title : 8015B TEH
 Last Update : Tue Jun 12 11:16:41 2012
 Response via : Multiple Level Calibration
 DataAcq Meth : DRODUAL.M

Volume Inj. : 1ul
 Signal Phase : RTX-5
 Signal Info : 530um

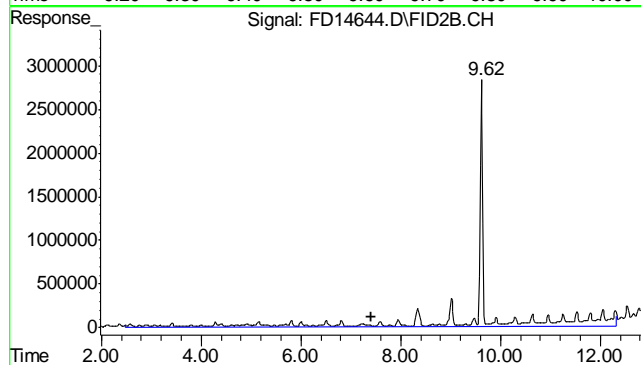


10.1.1
10



#1 O-Terphenyl

R.T.: 9.618 min
 Delta R.T.: 0.028 min
 Response: 89162957
 Conc: 2053.67 mg/L m



#2 TPH-DRO (c10-c28)

R.T.: 7.400 min
 Delta R.T.: 0.000 min
 Response: 191381115
 Conc: 4608.76 mg/L m

10.1.1
 10

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\JUNE\FD062212.SEC\FD14646.D Vial: 6
Acq On : 6-22-2012 03:46:35 PM Operator: alexwl
Sample : D35547-2 Inst : FID5
Misc : OP6079,GFD762,30.03,,,1,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jun 22 16:20:09 2012 Quant Results File: DRO-GFD743R.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD743R.M (Chemstation Integrator)
Title : 8015B TEH
Last Update : Tue Jun 12 11:16:41 2012
Response via : Initial Calibration
DataAcq Meth : DRODUAL.M

Volume Inj. : 1ul
Signal Phase : RTX-5
Signal Info : 530um

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
1) S O-Terphenyl	9.62	89893106	2070.491 mg/L m
Target Compounds			
2) H TPH-DRO (c10-c28)	7.40	176584832	4252.444 mg/L

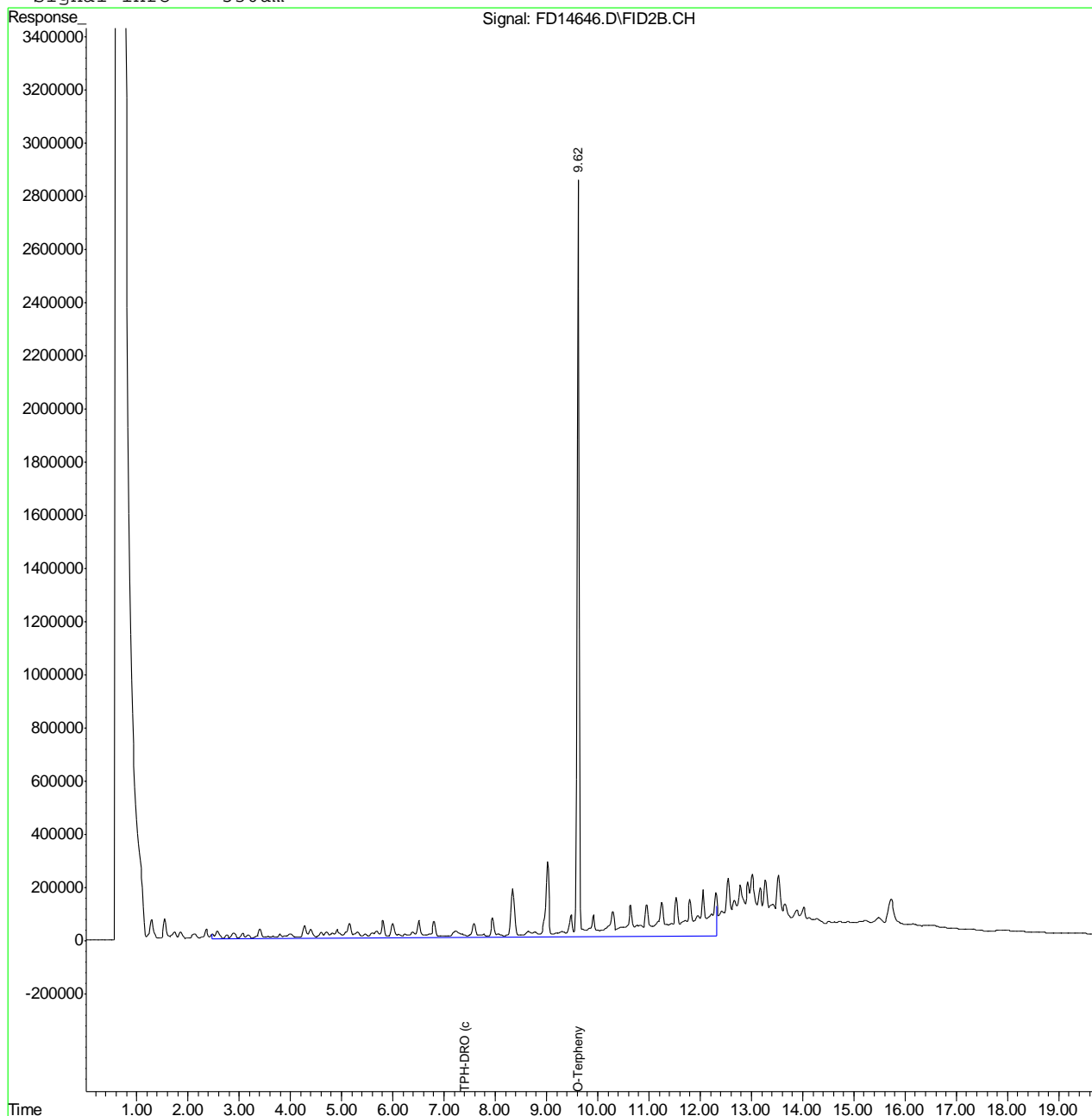
10.1.2
10

Quantitation Report (QT Reviewed)

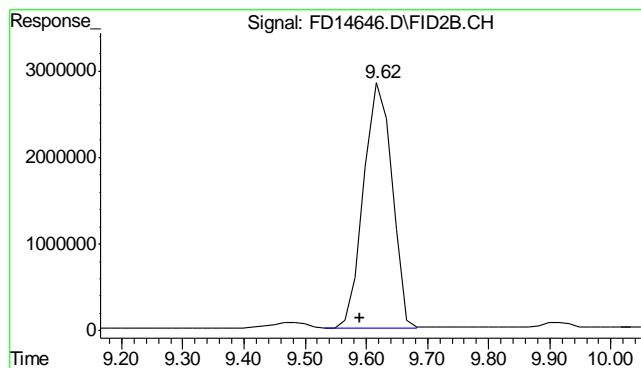
Data File : C:\MSDCHEM\2\DATA\2012\JUNE\FD062212.SEC\FD14646.D Vial: 66
 Acq On : 6-22-2012 03:46:35 PM Operator: alexwl
 Sample : D35547-2 Inst : FID5
 Misc : OP6079,GFD762,30.03,,,1,1 Multiplr: 1.00
 IntFile : autoint1.e
 Quant Time: Jun 22 16:20 2012 Quant Results File: DRO-GFD743R.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD743R.M (Chemstation Integrator)
 Title : 8015B TEH
 Last Update : Tue Jun 12 11:16:41 2012
 Response via : Multiple Level Calibration
 DataAcq Meth : DRODUAL.M

Volume Inj. : 1ul
 Signal Phase : RTX-5
 Signal Info : 530um

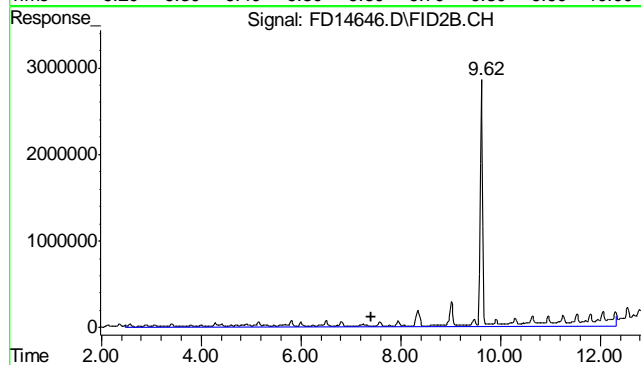


10.1.2
10



#1 O-Terphenyl

R.T.: 9.619 min
 Delta R.T.: 0.029 min
 Response: 89893106
 Conc: 2070.49 mg/L m



#2 TPH-DRO (c10-c28)

R.T.: 7.400 min
 Delta R.T.: 0.000 min
 Response: 176584832
 Conc: 4252.44 mg/L m

10.1.2
10

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\JUNE\FD061912.SEC\FD14418.D Vial: 53
Acq On : 6-19-2012 01:09:59 PM Operator: alexwl
Sample : OP6079-MB Inst : FID5
Misc : OP6079,GFD755,30.00,,,1,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jun 20 11:45:39 2012 Quant Results File: DRO-GFD743R.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD743R.M (Chemstation Integrator)
Title : 8015B TEH
Last Update : Tue Jun 12 11:16:41 2012
Response via : Initial Calibration
DataAcq Meth : DRODUAL.M

Volume Inj. : 1ul
Signal Phase : RTX-5
Signal Info : 530um

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
1) S O-Terphenyl	9.61	83642452	1926.521 mg/L
Target Compounds			
2) H TPH-DRO (c10-c28)	7.40	2289509	55.135 mg/L

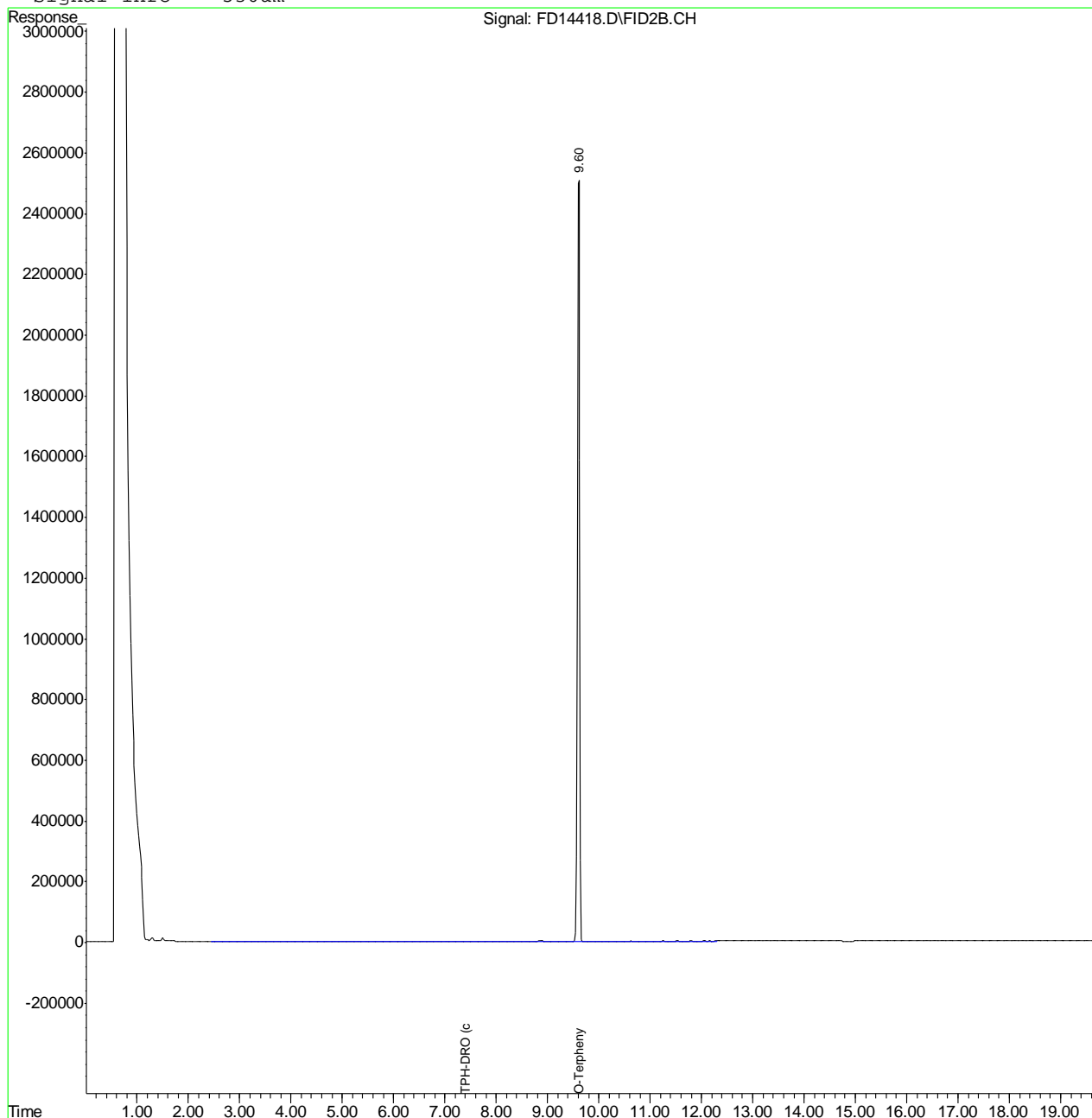
(f)=RT Delta > 1/2 Window (m)=manual int.
FD14418.D DRO-GFD743R.M Wed Jun 20 14:00:35 2012 GC

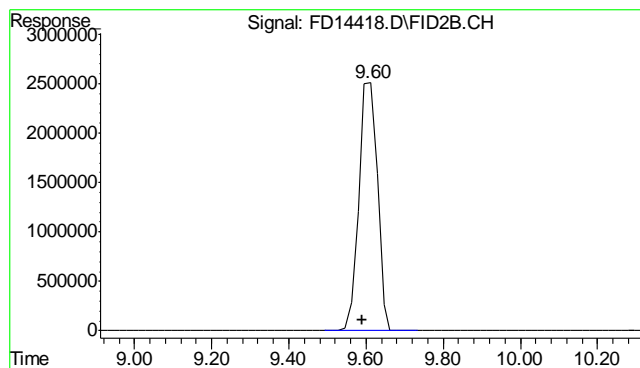
Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\JUNE\FD061912.SEC\FD14418.D Vial: 53
Acq On : 6-19-2012 01:09:59 PM Operator: alexwl
Sample : OP6079-MB Inst : FID5
Misc : OP6079,GFD755,30.00,,,1,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jun 20 11:46 2012 Quant Results File: DRO-GFD743R.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD743R.M (Chemstation Integrator)
Title : 8015B TEH
Last Update : Tue Jun 12 11:16:41 2012
Response via : Multiple Level Calibration
DataAcq Meth : DRODUAL.M

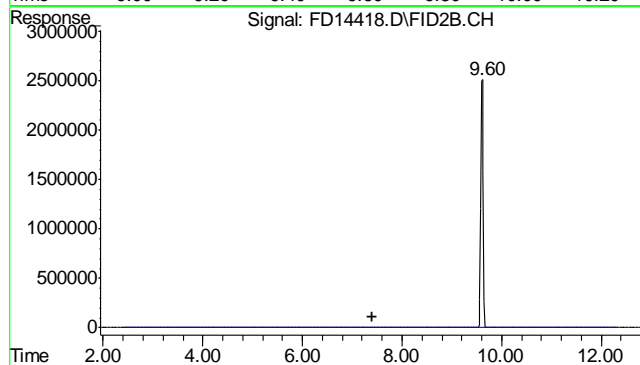
Volume Inj. : 1ul
Signal Phase : RTX-5
Signal Info : 530um





#1 O-Terphenyl

R.T.: 9.611 min
Delta R.T.: 0.021 min
Response: 83642452
Conc: 1926.52 mg/L



#2 TPH-DRO (c10-c28)

R.T.: 7.400 min
Delta R.T.: 0.000 min
Response: 2289509
Conc: 55.14 mg/L m

10.2.1
10