

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL032519\
 Data File : VL033449.D
 Acq On : 25 Mar 2019 23:26
 Operator : SY/AP
 Sample : K1991-02
 Misc : 400ml/MSVOA L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 IA-1

Manual Integrations
 APPROVED

MMDadoda
 4/1/2019 1:56:42 AM

Quant Time: Mar 31 10:45:20 2019
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL032519AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Tue Mar 2
 QLast Update : Tue Mar 26 16:00:50 2019
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	5.76	49	595072	10.00	ppbv	0.00
33) 1,4-Difluorobenzene	7.29	114	1371568	10.00	ppbv	0.00
55) Chlorobenzene-d5	12.24	117	1447256	10.00	ppbv	0.00

System Monitoring Compounds

68) 1-Bromo-4-Fluorobenzene	14.58	95	1164988	10.27	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	=	102.70%

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Ovalue
2) Dichlorodifluoromethane	3.07	85	31796m	0.366	ppbv	
4) Chloromethane	3.17	50	23323	0.643	ppbv	89
9) Propene	3.05	41	41058m	1.427	ppbv	
10) Heptane	8.25	43	13545m	0.176	ppbv	
11) Trichlorofluoromethane	4.00	101	31877	0.298	ppbv	93
12) 1,1,2-Trichlorotrifluoroet	4.56	101	6449m	0.090	ppbv	
13) Ethanol	3.65	45	675778	90.770	ppbv	65
15) Acetone	3.90	43	913707m	12.770	ppbv	
17) tert-Butyl alcohol	4.38	59	16334	1.242	ppbv #	73
19) Isopropyl Alcohol	4.03	45	221637	4.897	ppbv #	1
20) Methylene Chloride	4.41	84	198636	6.540	ppbv	96
25) Ethyl Acetate	5.77	43	472658	3.560	ppbv	98
26) Hexane	5.78	57	259143	4.390	ppbv	82
27) Carbon Disulfide	4.62	76	103736	1.478	ppbv #	93
30) Cyclohexane	7.25	84	15621m	0.335	ppbv	
34) 2-Butanone	5.33	43	108848	1.321	ppbv	99
35) Carbon Tetrachloride	7.13	117	9088m	0.094	ppbv	
36) Benzene	7.00	78	29577m	0.257	ppbv	
37) 1,2-Dichloroethane	6.41	62	17351	0.225	ppbv	100
41) Tetrahydrofuran	6.16	42	13193m	0.291	ppbv	
44) 2,2,4-Trimethylpentane	7.99	57	15608	0.078	ppbv #	54
52) Tetrachloroethene	11.37	164	3484m	0.080	ppbv	
53) Toluene	9.94	91	1934695	14.467	ppbv	100
58) Ethyl Benzene	12.86	91	42144m	0.218	ppbv	
59) m/p-Xylene	13.12	91	98987m	0.573	ppbv	
60) o-Xylene	13.85	91	40598	0.243	ppbv	96
61) Styrene	13.69	104	30623m	0.267	ppbv	
79) Naphthalene	22.42	128	24696m	0.150	ppbv	

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

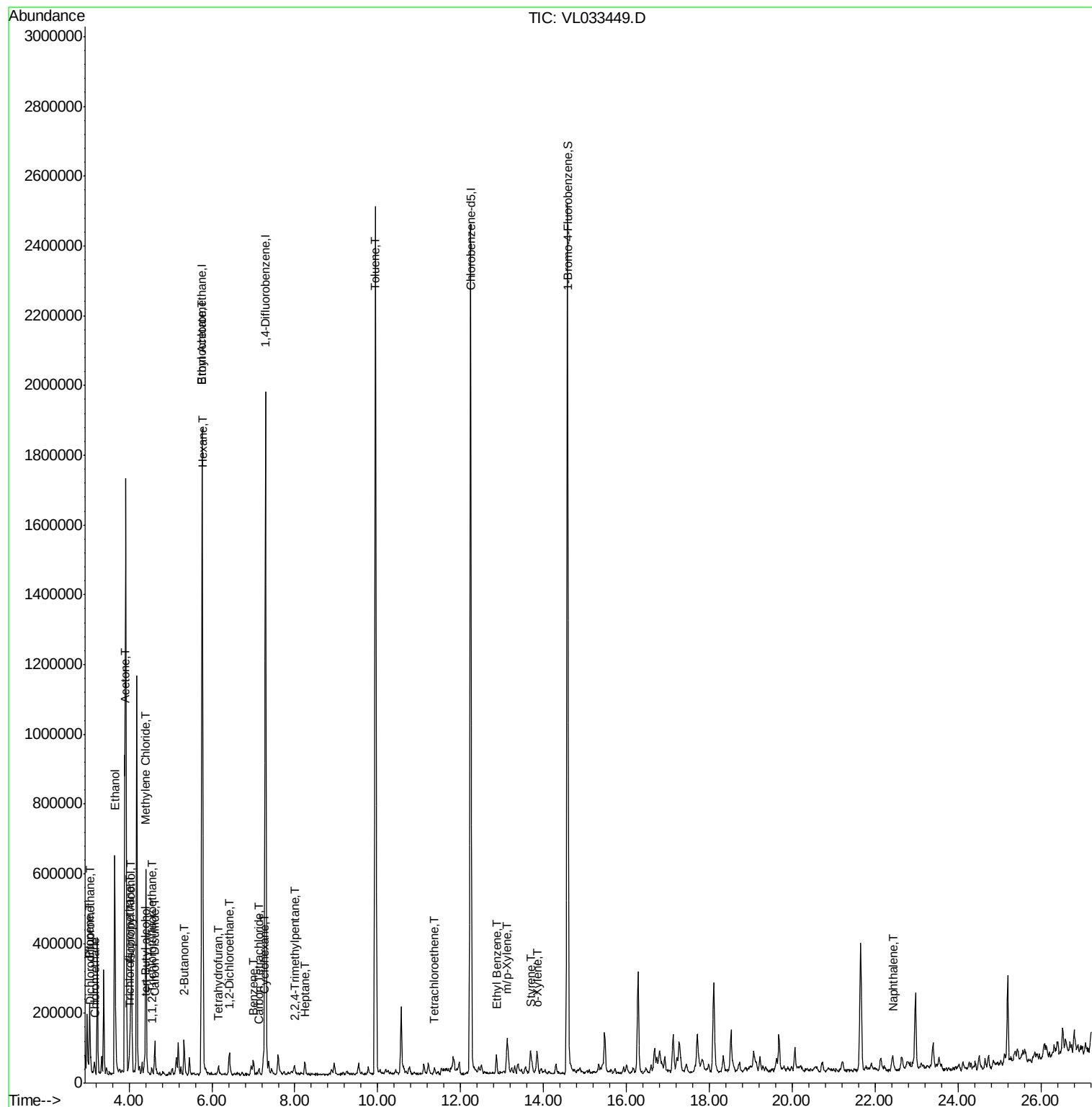
Data Path : Z:\V0ASRV\HPCHEM1\MSVOA L\DATA\VL032519\
Data File : VL033449.D
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Misc : 400ml/MSVOA L
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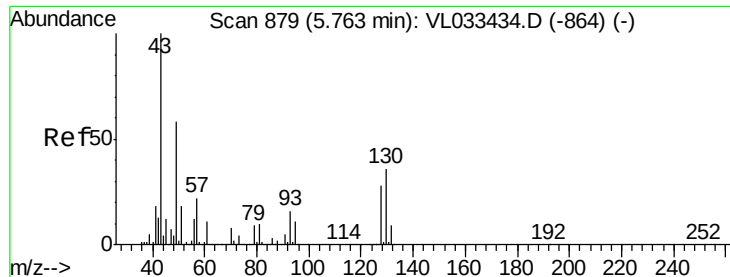
Instrument :
MSVOA_L
ClientSampleId :
IA-1

Manual Integrations
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4/1/2019 1:56:42 AM

Quant Time: Mar 31 10:45:20 2019
Quant Method : Z:\V0ASRV\HPCHEM1\MSVOA L\METHODS\VL032519AIR.M
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_LTue Mar
QLast Update : Tue Mar 26 16:00:50 2019
Response via : Initial Calibration





#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.76 min Scan# 877

Delta R.T. -0.01 min

Lab File: VL033449.D

Acq: 25 Mar 2019 23:26

Instrument :

MSVOA_L

ClientSampled :

IA-1

Tot Ion: 49 Resp: 595072

Ion Ratio Lower Upper

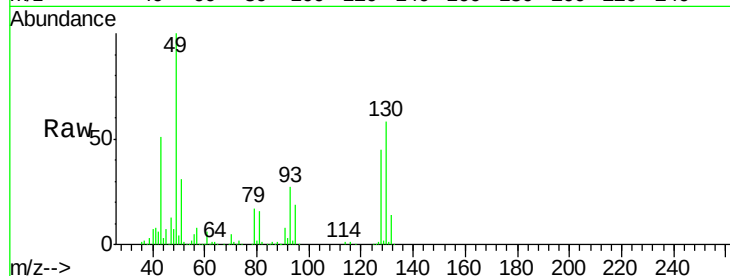
49 100

128 47.7 24.0 72.0

130 60.8 31.2 93.6

Manual Integrations
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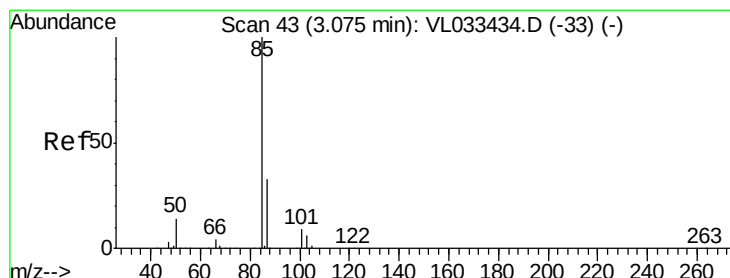
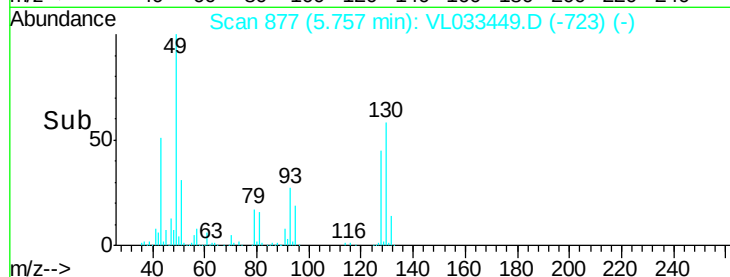
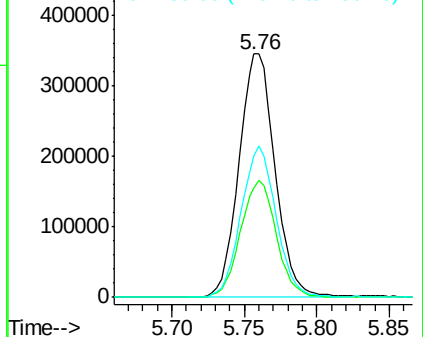
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Abundance Ion 49.10 (48.80 to 49.80): VL0

Ion 128.00 (127.70 to 128.70): VL0

Ion 130.00 (129.70 to 130.70): VL0



#2

Dichlorodifluoromethane

Concen: 0.366 ppbv m

RT: 3.07 min Scan# 42

Delta R.T. -0.00 min

Lab File: VL033449.D

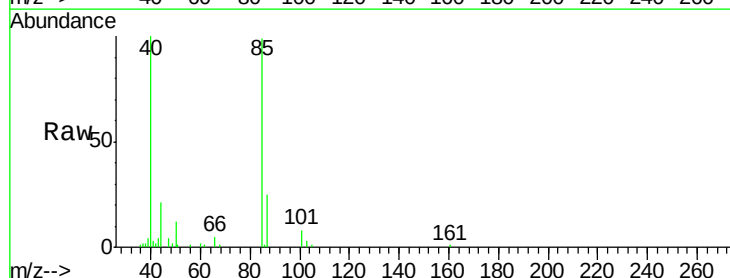
Acq: 25 Mar 2019 23:26

Tgt Ion: 85 Resp: 31796

Ion Ratio Lower Upper

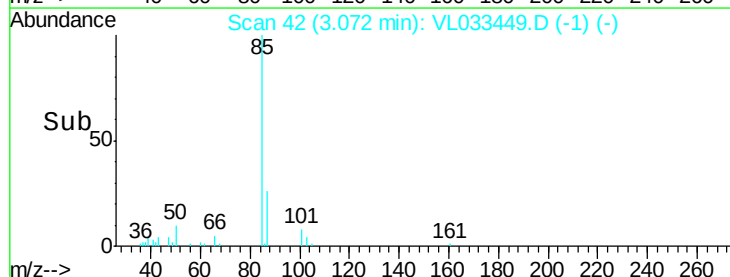
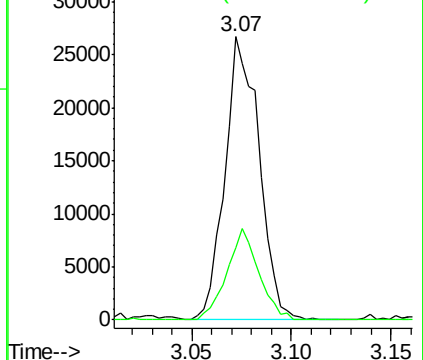
85 100

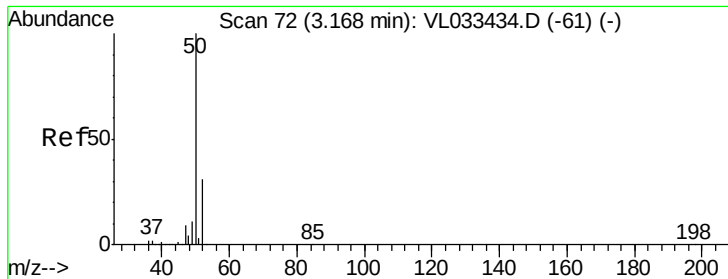
87 25.6 26.7 40.1#



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 87.00 (86.70 to 87.70): VL0





#4

Chloromethane

Concen: 0.643 ppbv

RT: 3.17 min Scan# 73

Delta R.T. 0.00 min

Lab File: VL033449.D

Acq: 25 Mar 2019 23:26

Instrument :

MSVOA_L

ClientSampleId :

IA-1

Tot Ion: 50 Resp: 23323

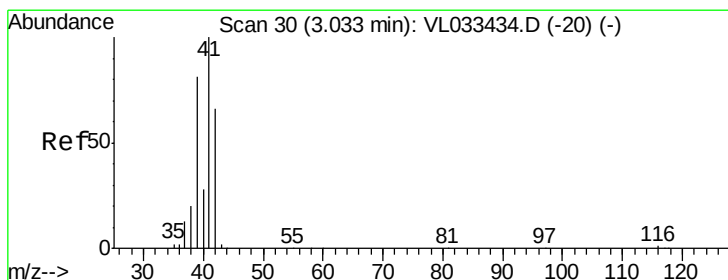
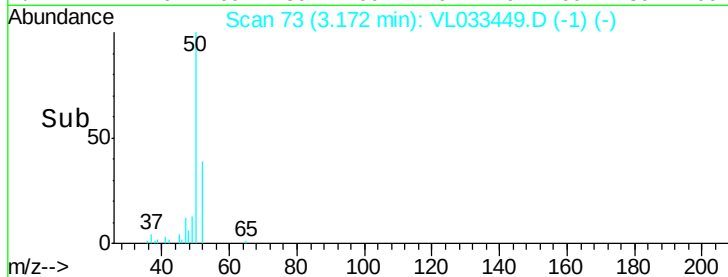
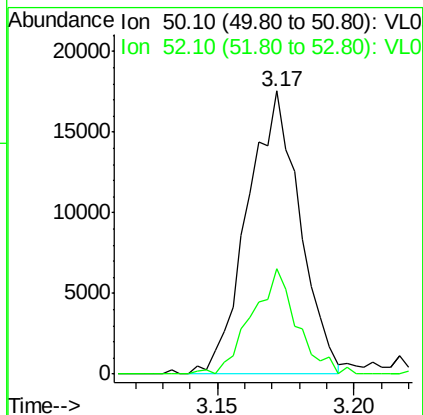
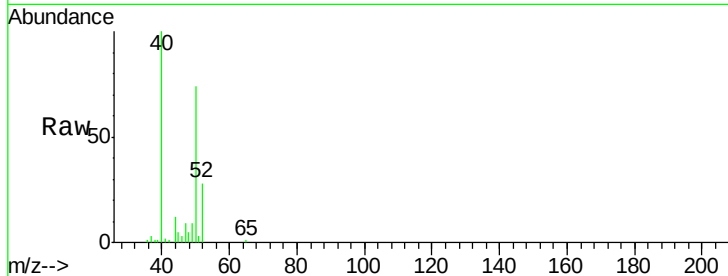
Ion Ratio Lower Upper

50 100

52 37.4 25.0 37.6

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#9

Propene

Concen: 1.427 ppbv m

RT: 3.05 min Scan# 34

Delta R.T. 0.01 min

Lab File: VL033449.D

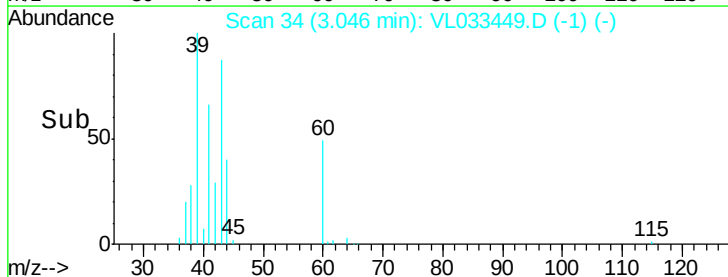
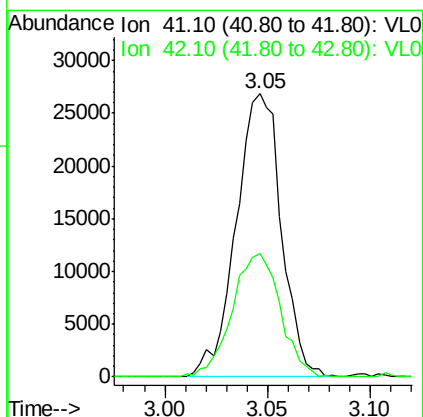
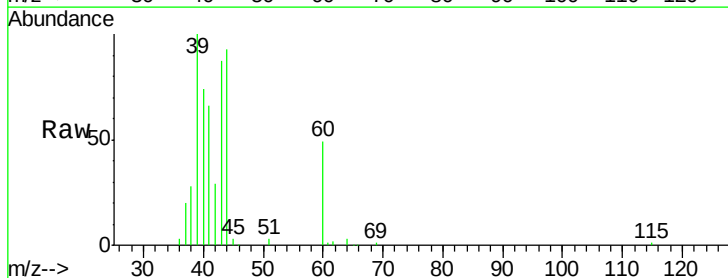
Acq: 25 Mar 2019 23:26

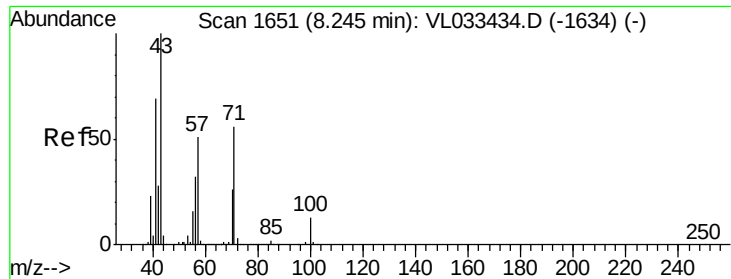
Tgt Ion: 41 Resp: 41058

Ion Ratio Lower Upper

41 100

42 152.2 53.9 80.9#





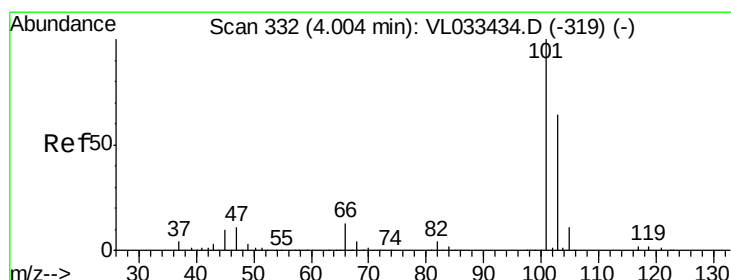
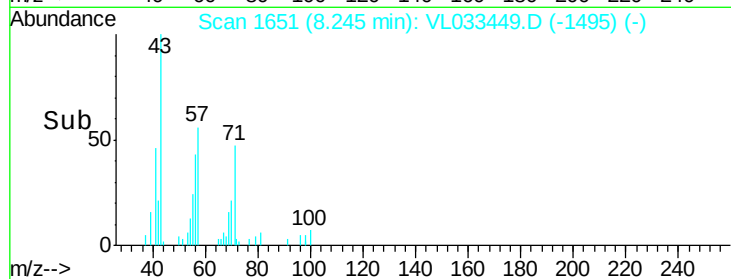
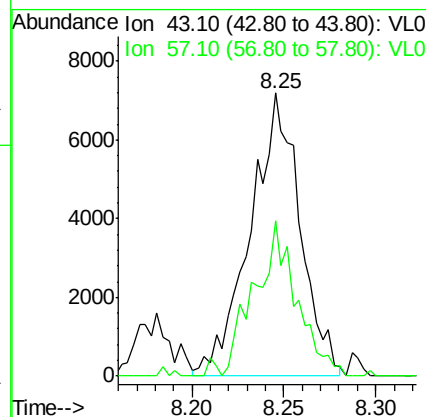
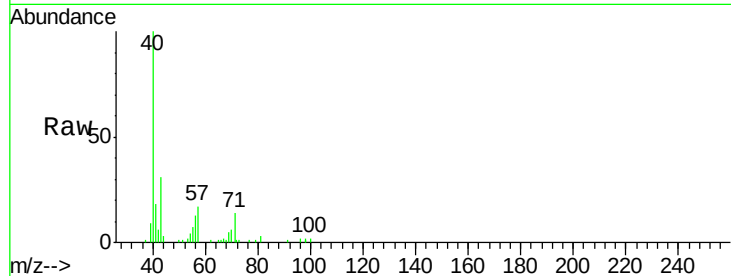
#10
Heptane
Concen: 0.176 ppbv m
RT: 8.25 min Scan# 1651
Delta R.T. -0.00 min
Lab File: VL033449.D
Acq: 25 Mar 2019 23:26

Instrument :
MSVOA_L
ClientSampleId :
IA-1

Tot Ion: 43 Resp: 13545
Ion Ratio Lower Upper
43 100
57 0.0 40.6 60.8#

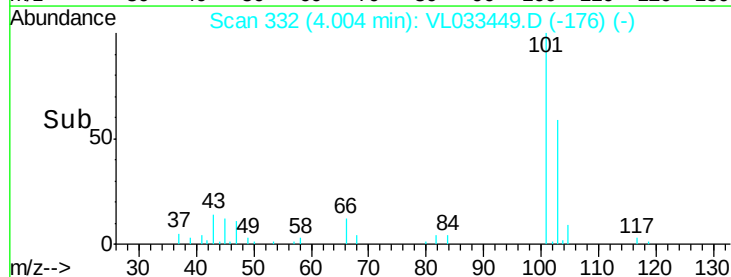
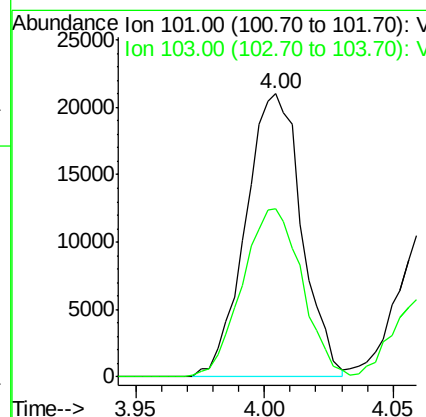
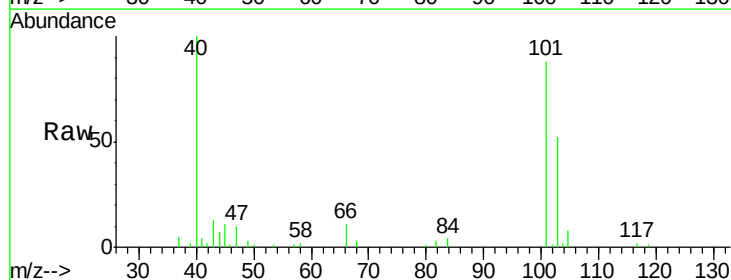
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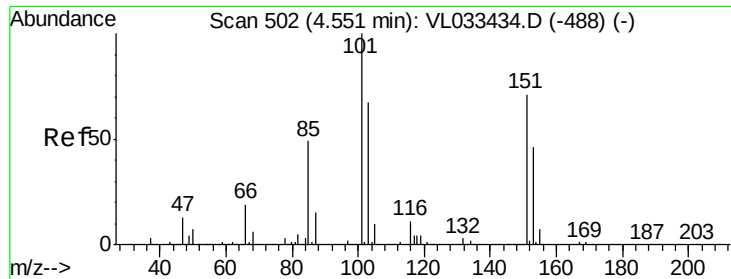
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#11
Trichlorofluoromethane
Concen: 0.298 ppbv
RT: 4.00 min Scan# 332
Delta R.T. 0.00 min
Lab File: VL033449.D
Acq: 25 Mar 2019 23:26

Tgt Ion: 101 Resp: 31877
Ion Ratio Lower Upper
101 100
103 58.7 51.3 76.9





#12

1,1,2-Trichlorotrifluoroethane

Concen: 0.090 ppbv

RT: 4.56 min Scan# 504

Delta R.T. 0.01 min

Lab File: VL033449.D

Acq: 25 Mar 2019 23:26

Instrument :

MSVOA_L

ClientSampleId :

IA-1

Tot Ion:101 Resp: 6449

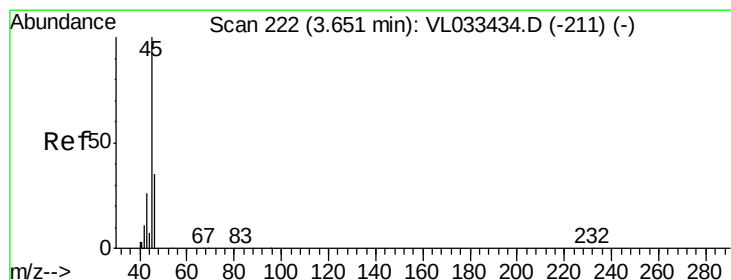
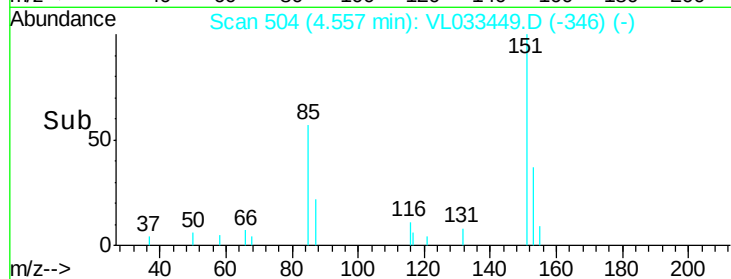
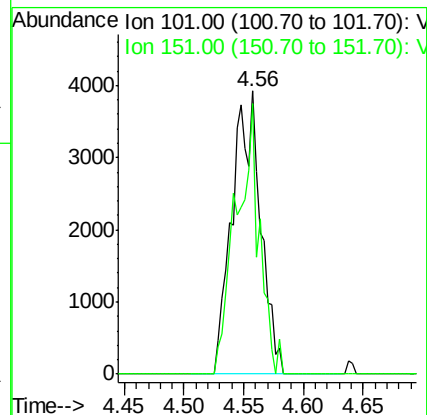
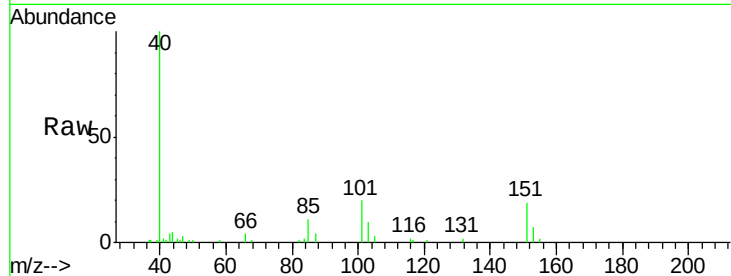
Ion Ratio Lower Upper

101 100

151 0.0 57.7 86.5#

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#13

Ethanol

Concen: 90.770 ppbv

RT: 3.65 min Scan# 223

Delta R.T. 0.00 min

Lab File: VL033449.D

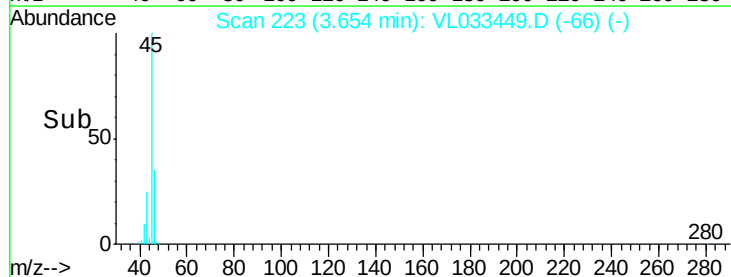
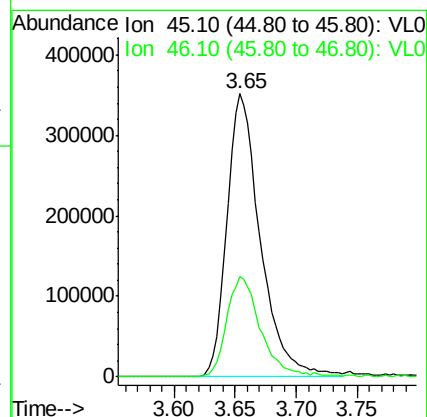
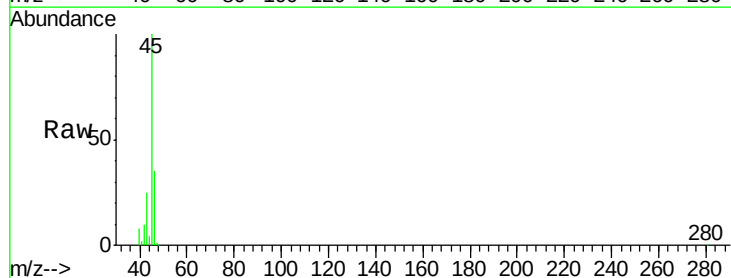
Acq: 25 Mar 2019 23:26

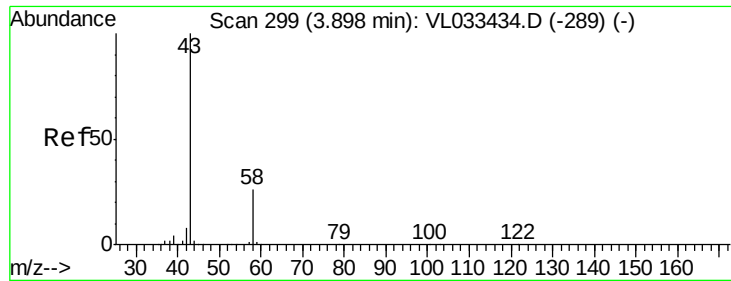
Tgt Ion: 45 Resp: 675778

Ion Ratio Lower Upper

45 100

46 36.3 25.4 101.8





#15

Acetone

Concen: 12.770 ppbv m

RT: 3.90 min Scan# 299

Delta R.T. -0.00 min

Lab File: VL033449.D

Acq: 25 Mar 2019 23:26

Tot Ion: 43 Resp: 913707

Ion Ratio Lower Upper

43 100

58 26.9 20.5 30.7

Instrument :

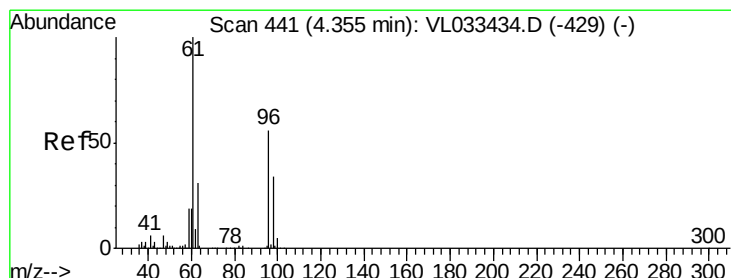
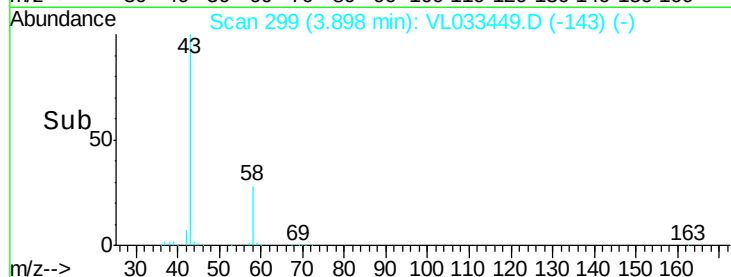
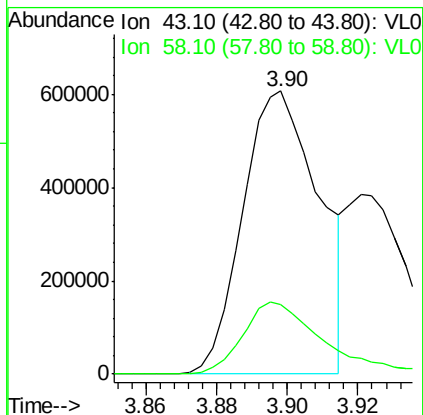
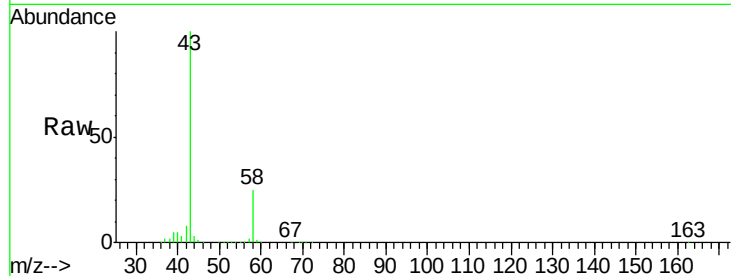
MSVOA_L

ClientSampleId :

IA-1

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#17

tert-Butyl alcohol

Concen: 1.242 ppbv

RT: 4.38 min Scan# 448

Delta R.T. 0.02 min

Lab File: VL033449.D

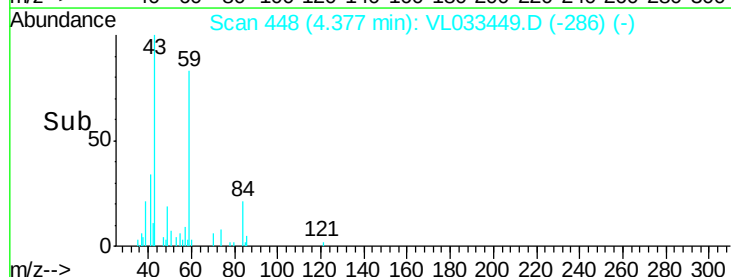
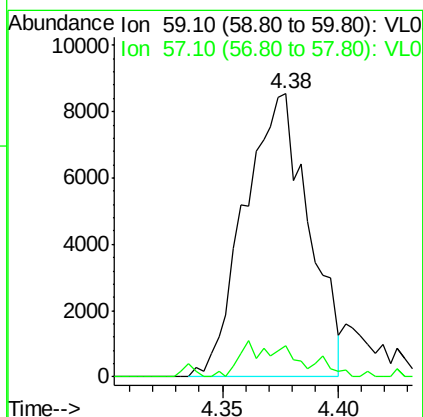
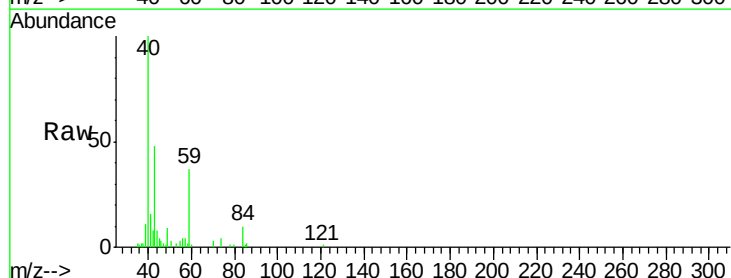
Acq: 25 Mar 2019 23:26

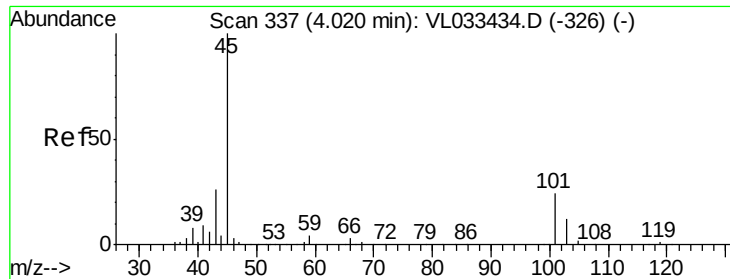
Tgt Ion: 59 Resp: 16334

Ion Ratio Lower Upper

59 100

57 0.0 7.8 11.8#





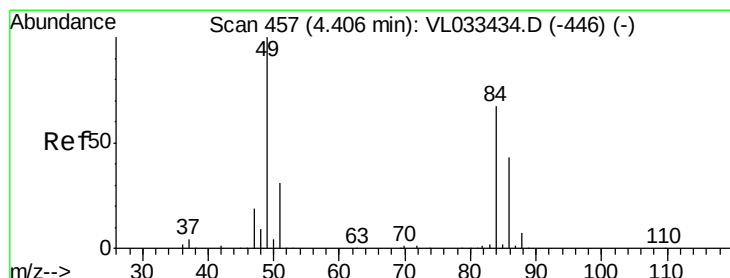
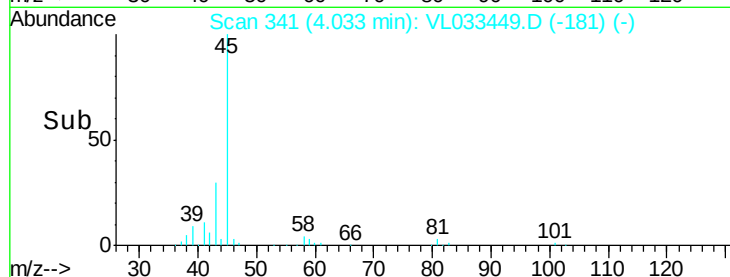
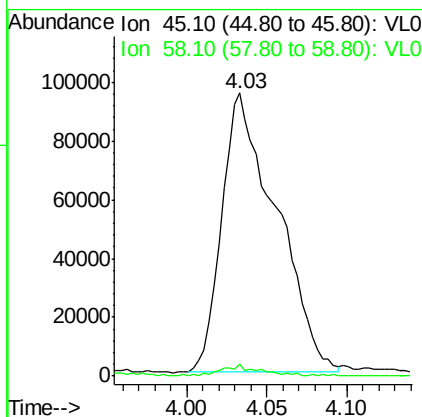
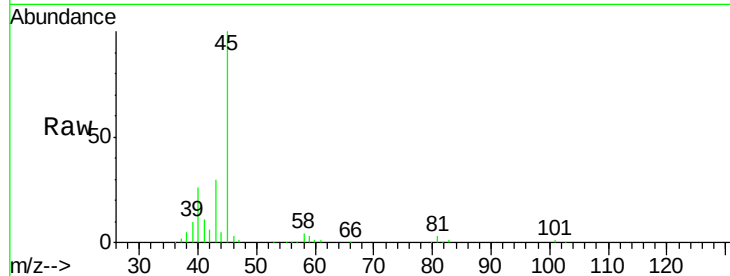
#19
Isopropyl Alcohol
Concen: 4.897 ppbv
RT: 4.03 min Scan# 341
Delta R.T. 0.01 min
Lab File: VL033449.D
Acq: 25 Mar 2019 23:26

Instrument :
MSVOA_L
ClientSampleId :
IA-1

Tot Ion: 45 Resp: 221637
Ion Ratio Lower Upper
45 100
58 111.0 1.4 2.2#

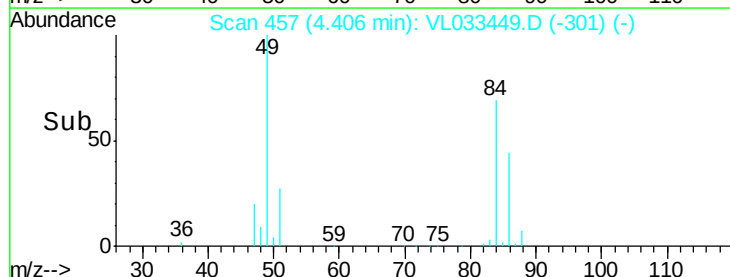
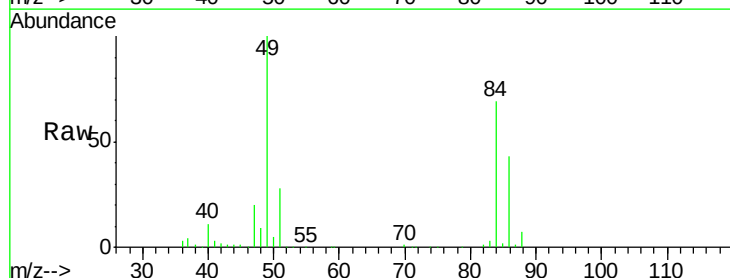
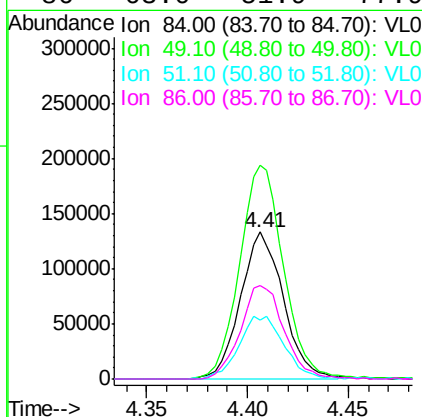
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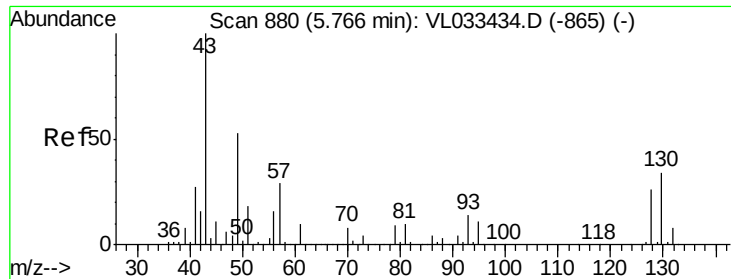
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#20
Methylene Chloride
Concen: 6.540 ppbv
RT: 4.41 min Scan# 457
Delta R.T. -0.00 min
Lab File: VL033449.D
Acq: 25 Mar 2019 23:26

Tgt Ion: 84 Resp: 198636
Ion Ratio Lower Upper
84 100
49 145.1 120.0 180.0
51 39.9 36.7 55.1
86 63.0 51.9 77.9





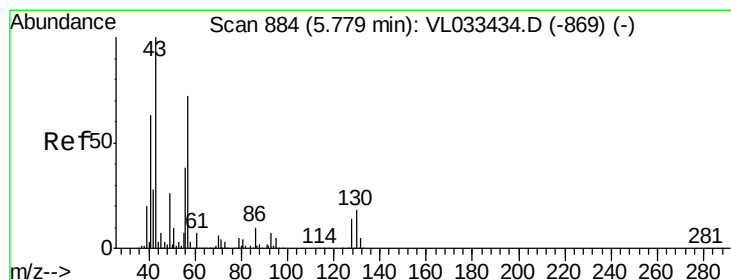
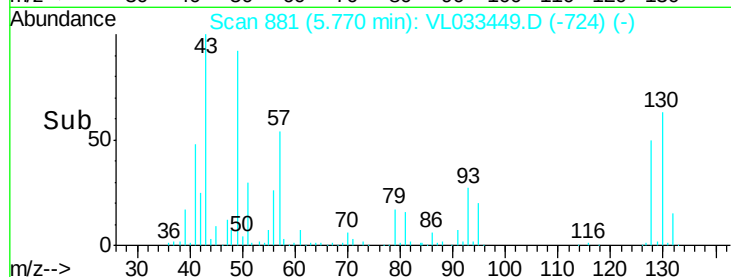
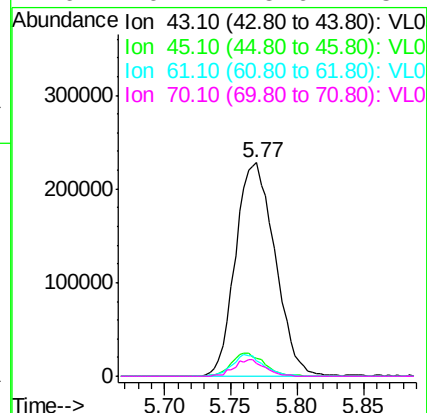
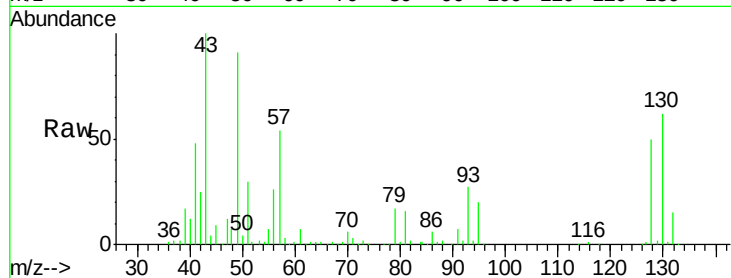
#25
Ethyl Acetate
Concen: 3.560 ppbv
RT: 5.77 min Scan# 881
Delta R.T. 0.00 min
Lab File: VL033449.D
Acq: 25 Mar 2019 23:26

Instrument :
MSVOA_L
ClientSampleId :
IA-1

Tot Ion	Ion	Ratio	Resp	Lower	Upper
43	100		472658		
45	9.3	7.8	11.6		
61	7.9	7.3	10.9		
70	6.1	5.6	8.4		

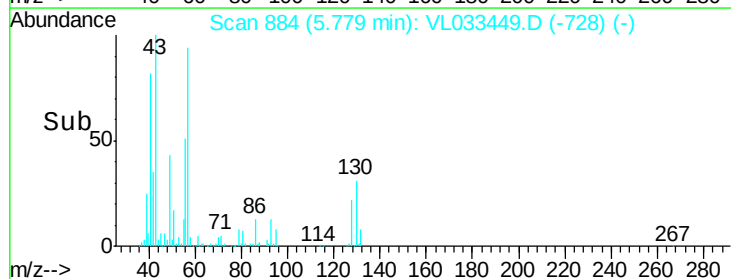
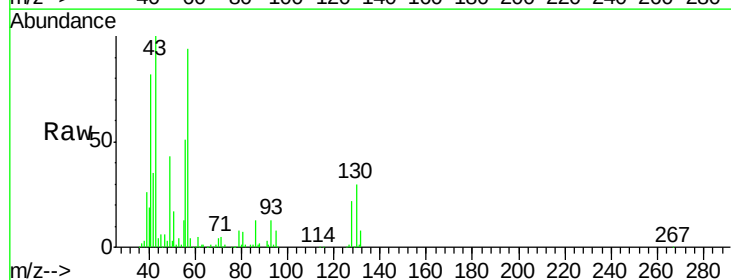
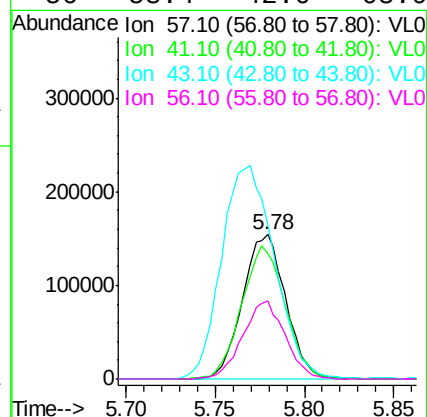
Manual Integrations
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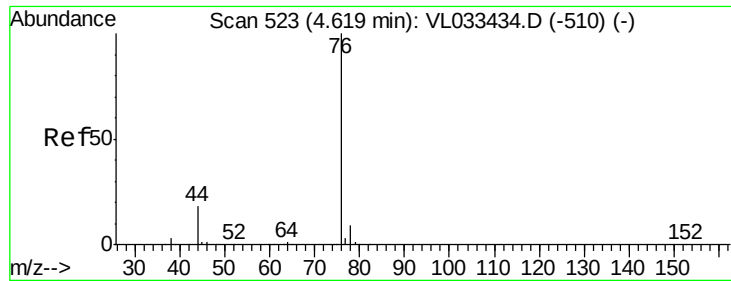
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#26
Hexane
Concen: 4.390 ppbv
RT: 5.78 min Scan# 884
Delta R.T. 0.00 min
Lab File: VL033449.D
Acq: 25 Mar 2019 23:26

Tgt Ion	Ion	Ratio	Resp	Lower	Upper
57	100		259143		
41	94.0	70.7	106.1		
43	183.5	182.6	274.0		
56	53.4	42.0	63.0		





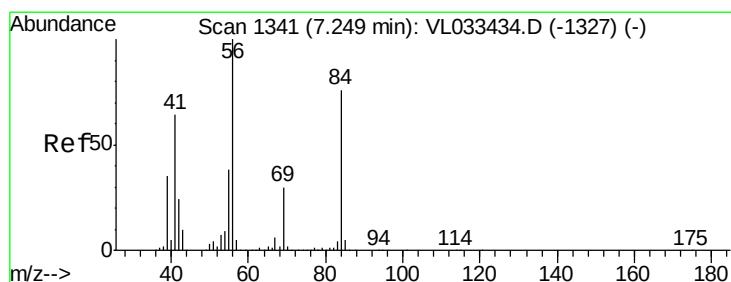
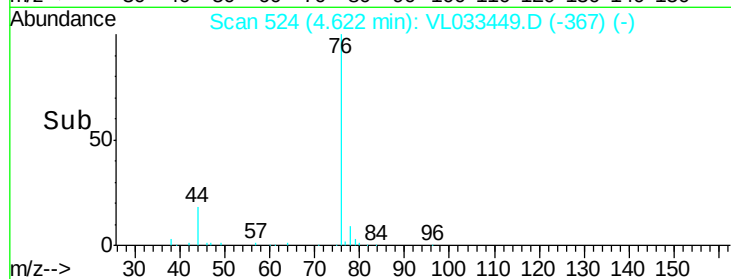
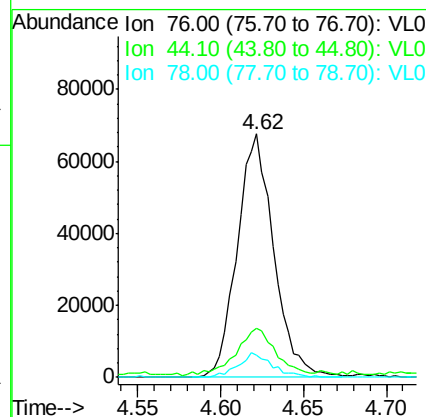
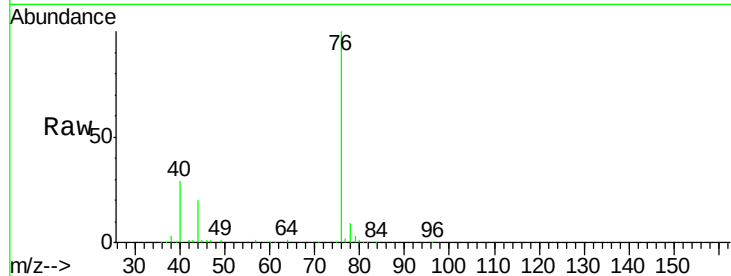
#27
Carbon Disulfide
Concen: 1.478 ppbv
RT: 4.62 min Scan# 524
Delta R.T. 0.00 min
Lab File: VL033449.D
Acq: 25 Mar 2019 23:26

Instrument :
MSVOA_L
ClientSampleId :
IA-1

Tot Ion	Ratio	Lower	Upper
76	100		
44	23.0	14.8	22.2#
78	9.4	7.6	11.4

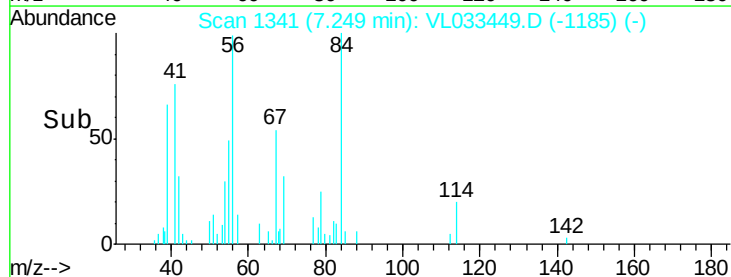
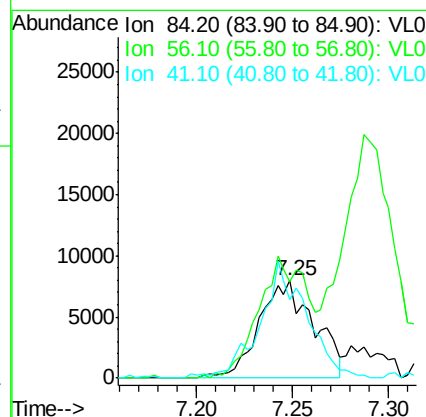
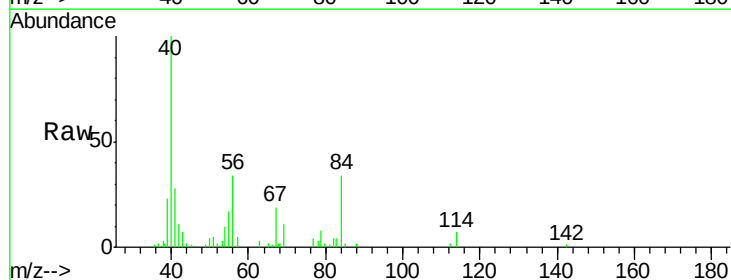
Manual Integrations
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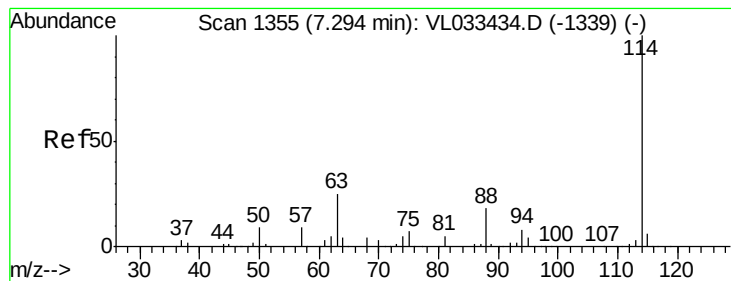
MMDadoda
4/1/2019 1:56:42 AM



#30
Cyclohexane
Concen: 0.335 ppbv m
RT: 7.25 min Scan# 1341
Delta R.T. -0.00 min
Lab File: VL033449.D
Acq: 25 Mar 2019 23:26

Tgt Ion	Ratio	Lower	Upper
84	100		
56	109.9	109.7	164.5
41	103.0	68.2	102.2#





#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 7.29 min Scan# 1354

Delta R.T. -0.00 min

Lab File: VL033449.D

Acq: 25 Mar 2019 23:26

Instrument :

MSVOA_L

ClientSampled :

IA-1

Tot Ion:114 Resp: 1371568

Ion Ratio Lower Upper

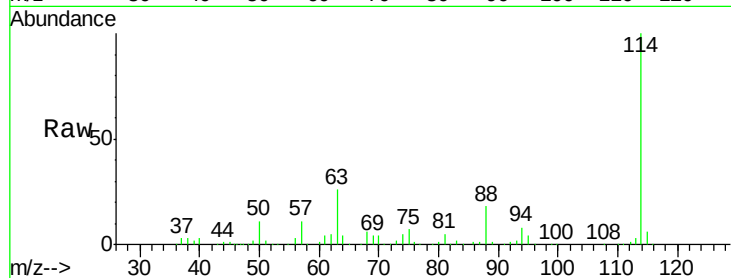
114 100

63 26.9 21.5 32.3

88 18.0 14.5 21.7

Manual Integrations
APPROVED

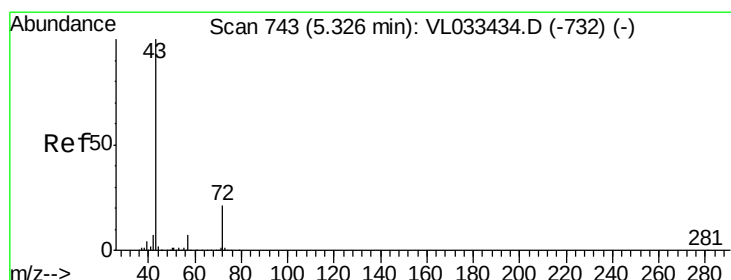
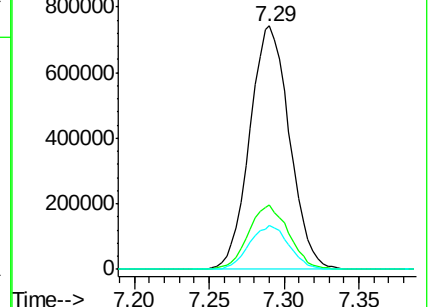
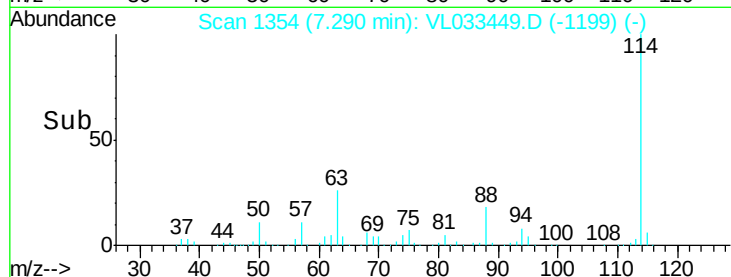
MMDadoda
4/1/2019 1:56:42 AM



Abundance Ion 114.10 (113.80 to 114.80): V

Ion 63.10 (62.80 to 63.80): VL0

Ion 88.10 (87.80 to 88.80): VL0



#34

2-Butanone

Concen: 1.321 ppbv

RT: 5.33 min Scan# 745

Delta R.T. 0.01 min

Lab File: VL033449.D

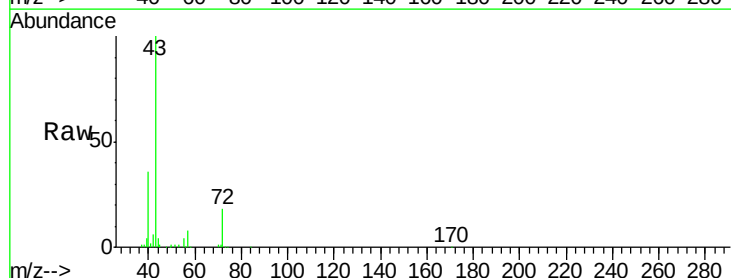
Acq: 25 Mar 2019 23:26

Tgt Ion: 43 Resp: 108848

Ion Ratio Lower Upper

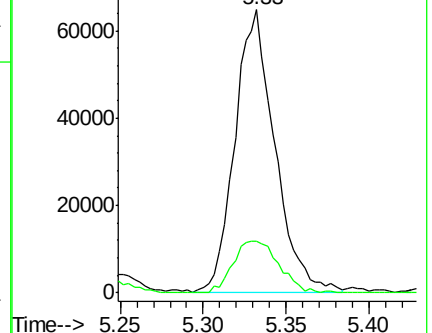
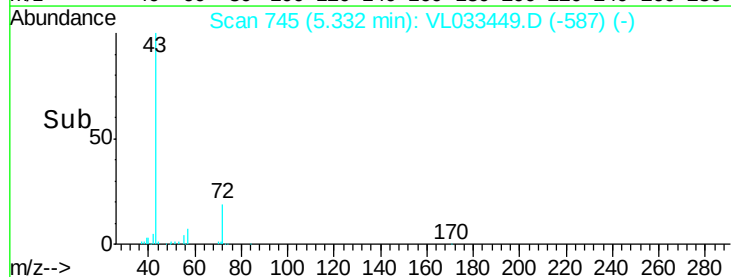
43 100

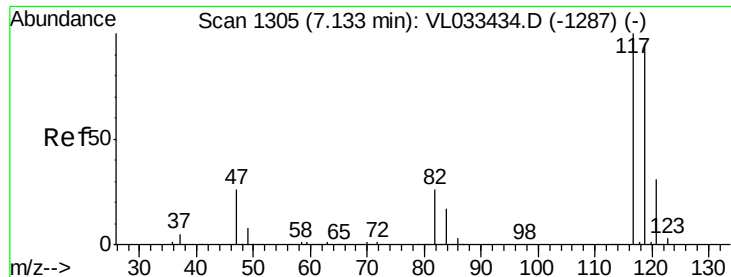
72 21.1 17.4 26.2



Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 72.10 (71.80 to 72.80): VL0





#35

Carbon Tetrachloride

Concen: 0.094 ppbv m

RT: 7.13 min Scan# 1305

Delta R.T. -0.00 min

Lab File: VL033449.D

Acq: 25 Mar 2019 23:26

Instrument :

MSVOA_L

ClientSampleId :

IA-1

Tot Ion: 117 Resp: 9088

Ion Ratio Lower Upper

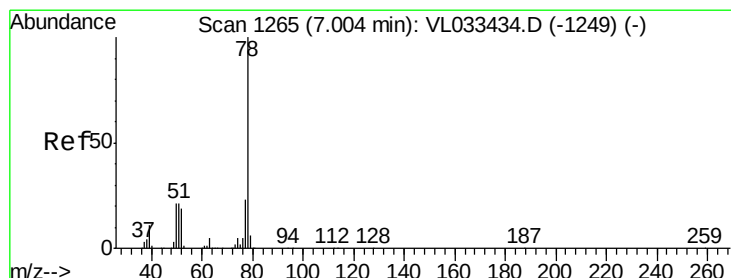
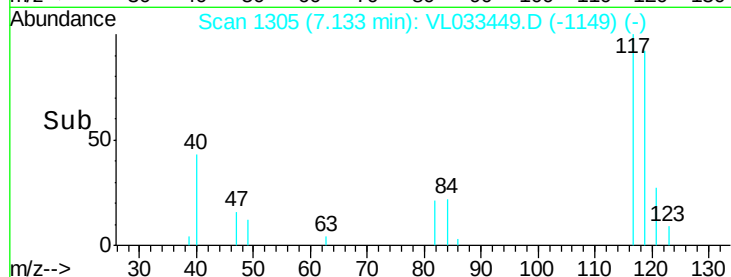
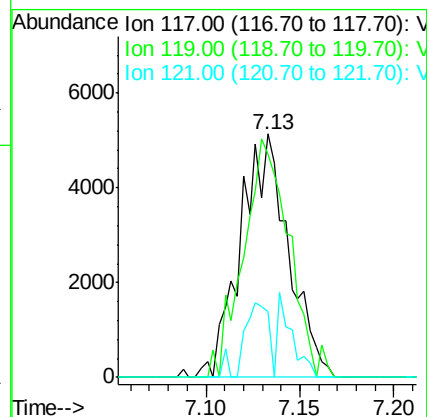
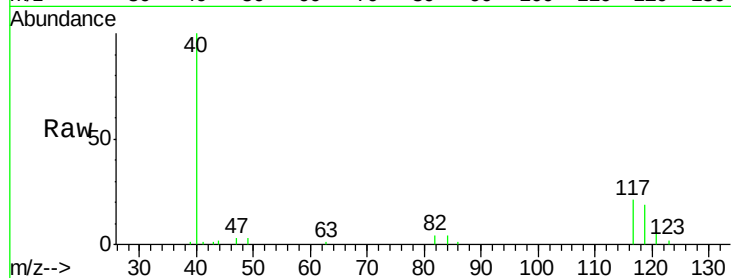
117 100

119 91.9 75.8 113.8

121 26.9 24.7 37.1

Manual Integrations
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#36

Benzene

Concen: 0.257 ppbv m

RT: 7.00 min Scan# 1263

Delta R.T. -0.01 min

Lab File: VL033449.D

Acq: 25 Mar 2019 23:26

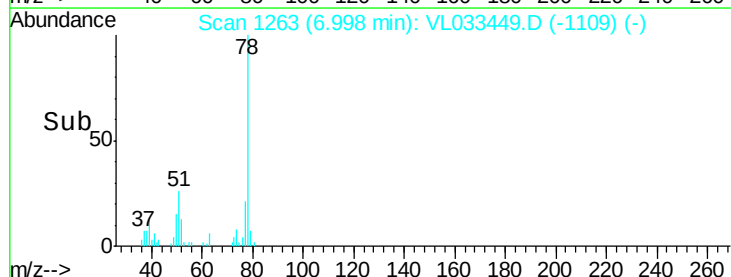
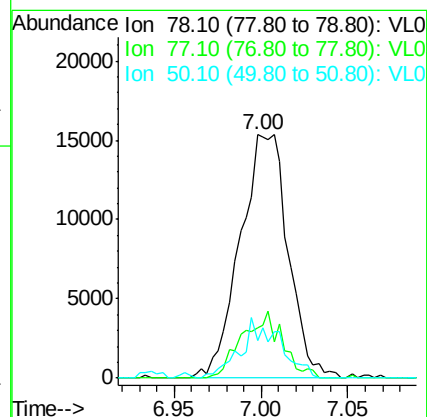
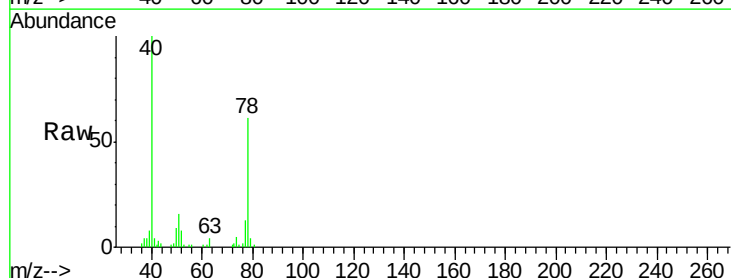
Tgt Ion: 78 Resp: 29577

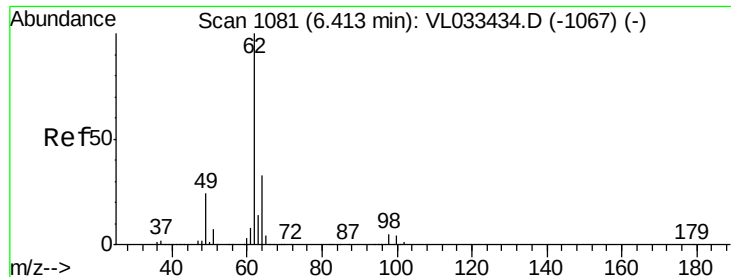
Ion Ratio Lower Upper

78 100

77 20.6 18.1 27.1

50 15.3 16.7 25.1#





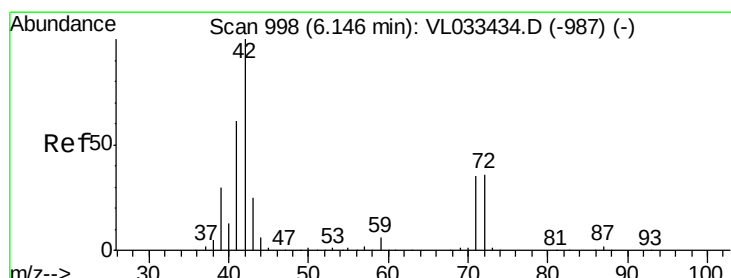
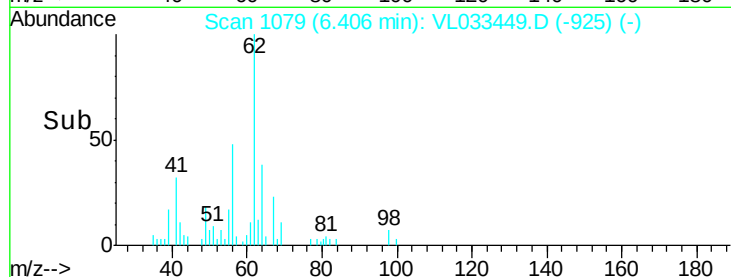
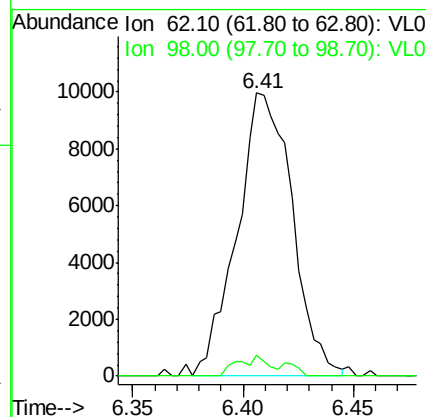
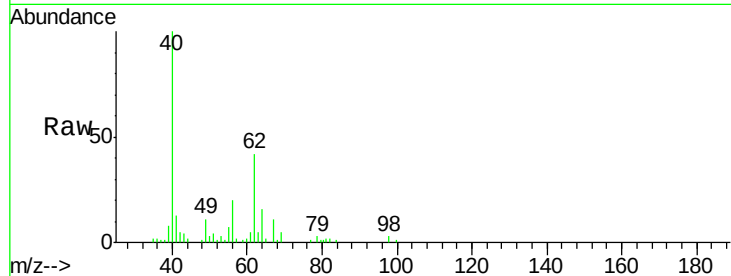
#37
 1,2-Dichloroethane
 Concen: 0.225 ppbv
 RT: 6.41 min Scan# 1079
 Delta R.T. -0.01 min
 Lab File: VL033449.D
 Acq: 25 Mar 2019 23:26

Instrument :
 MSVOA_L
 ClientSampleId :
 IA-1

Tot Ion	Ratio	Resp	Lower	Upper
62	100	17351		
98	5.4		4.4	6.6

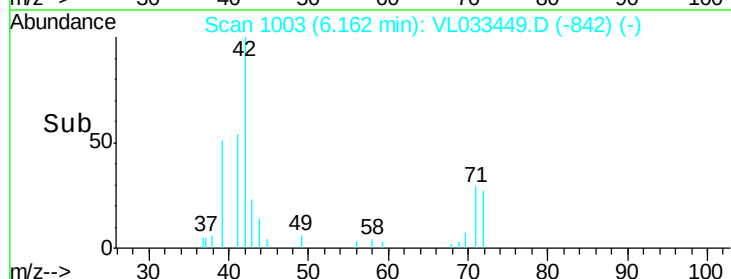
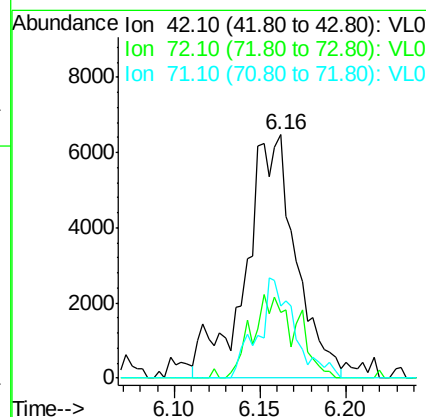
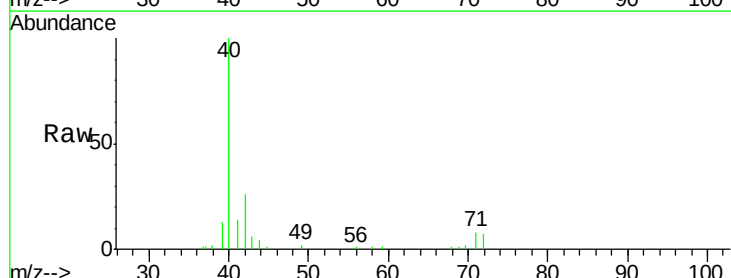
Manual Integrations
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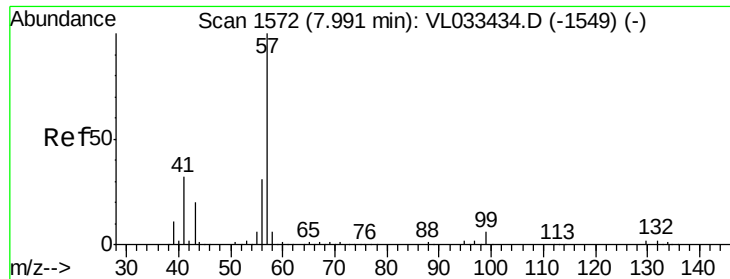
MMDadoda
 4/1/2019 1:56:42 AM



#41
 Tetrahydrofuran
 Concen: 0.291 ppbv m
 RT: 6.16 min Scan# 1003
 Delta R.T. 0.02 min
 Lab File: VL033449.D
 Acq: 25 Mar 2019 23:26

Tgt Ion	Ratio	Resp	Lower	Upper
42	100	13193		
72	30.3		30.2	45.2
71	30.0		29.4	44.2





#44

2,2,4-Trimethylpentane

Concen: 0.078 ppbv

RT: 7.99 min Scan# 1572

Delta R.T. -0.00 min

Lab File: VL033449.D

Acq: 25 Mar 2019 23:26

Instrument :

MSVOA_L

ClientSampleId :

IA-1

Tot Ion: 57 Resp: 15608

Ion Ratio Lower Upper

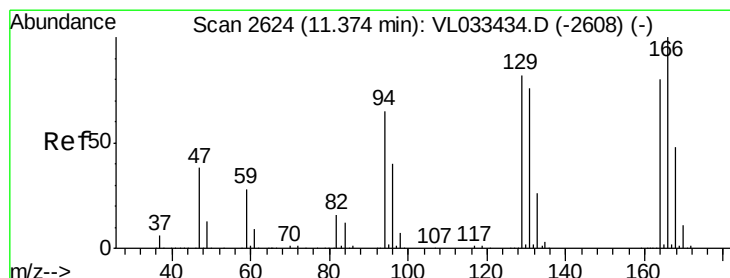
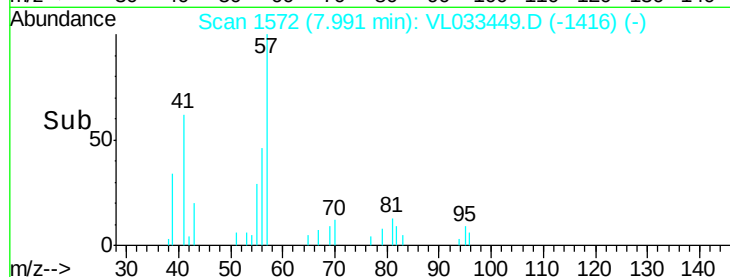
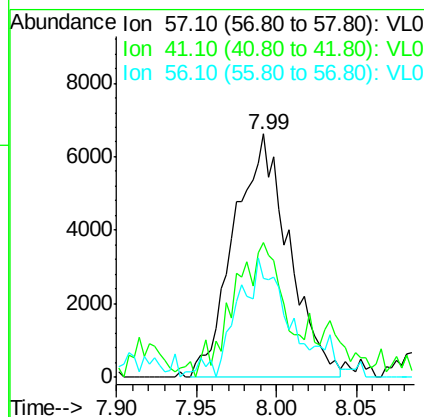
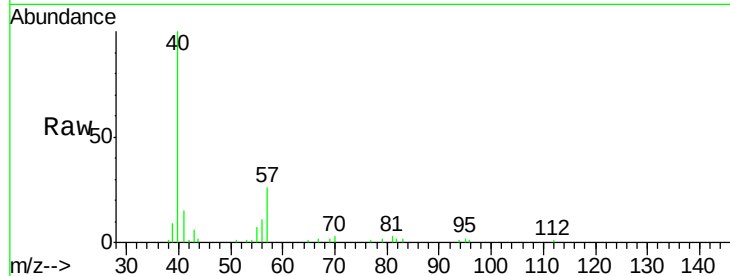
57 100

41 65.0 26.0 39.0#

56 49.6 24.6 37.0#

Manual Integrations
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#52

Tetrachloroethene

Concen: 0.080 ppbv m

RT: 11.37 min Scan# 2624

Delta R.T. -0.00 min

Lab File: VL033449.D

Acq: 25 Mar 2019 23:26

Tgt Ion: 164 Resp: 3484

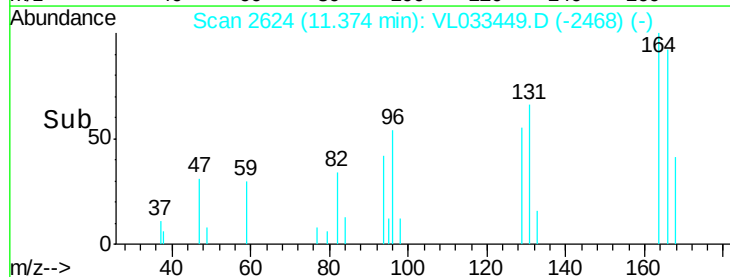
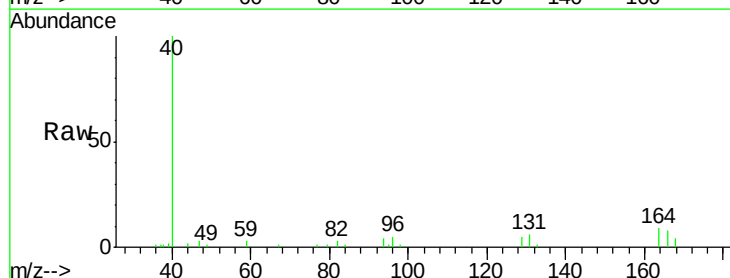
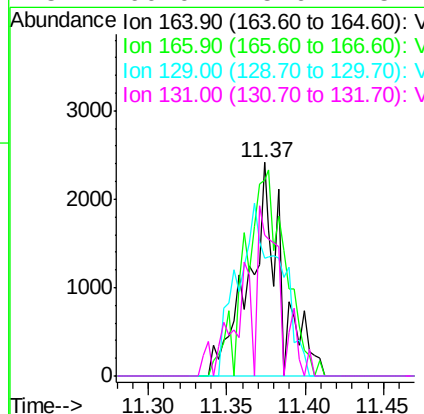
Ion Ratio Lower Upper

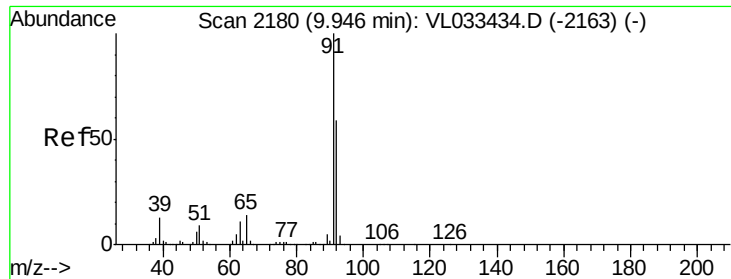
164 100

166 91.5 99.5 149.3#

129 55.4 81.4 122.2#

131 66.0 75.6 113.4#





#53

Toluene

Concen: 14.467 ppbv

RT: 9.94 min Scan# 2179

Delta R.T. -0.00 min

Lab File: VL033449.D

Acq: 25 Mar 2019 23:26

Instrument :

MSVOA_L

ClientSampled :

IA-1

Tot Ion: 91 Resp: 1934695

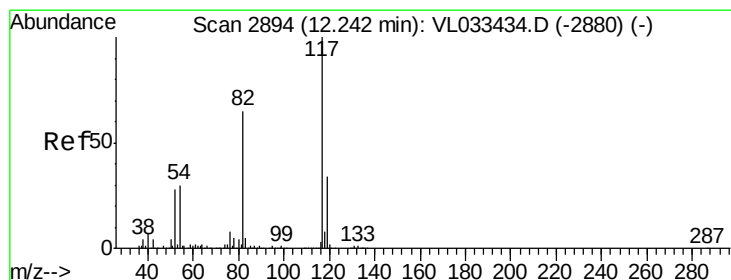
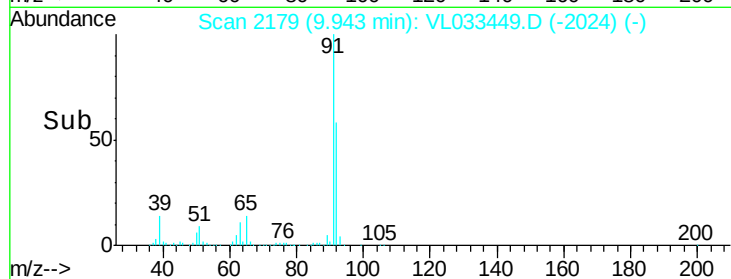
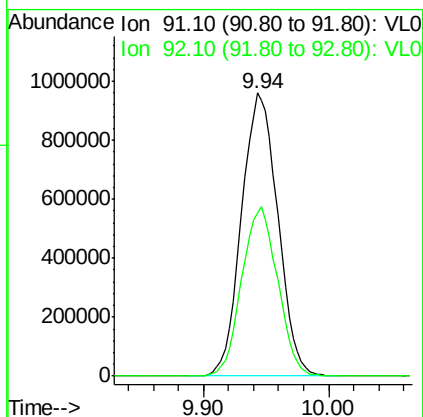
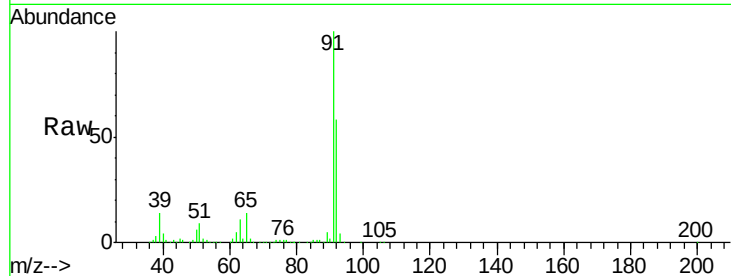
Ion Ratio Lower Upper

91 100

92 59.3 47.4 71.0

Manual Integrations
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#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 12.24 min Scan# 2893

Delta R.T. -0.00 min

Lab File: VL033449.D

Acq: 25 Mar 2019 23:26

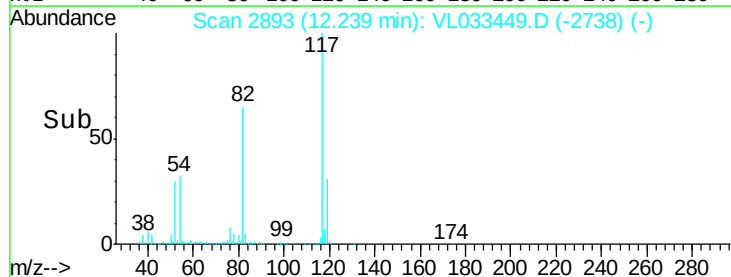
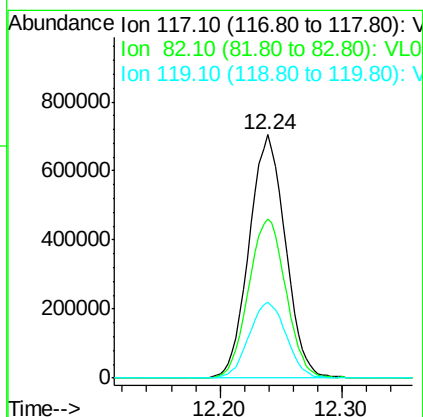
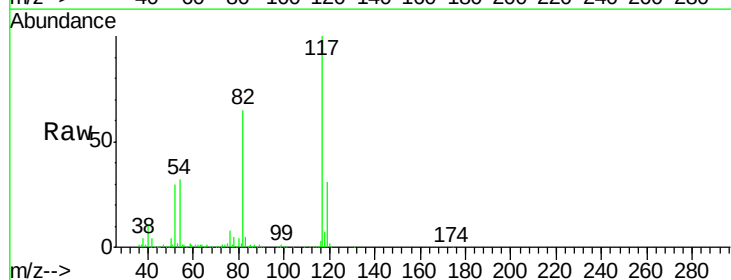
Tgt Ion: 117 Resp: 1447256

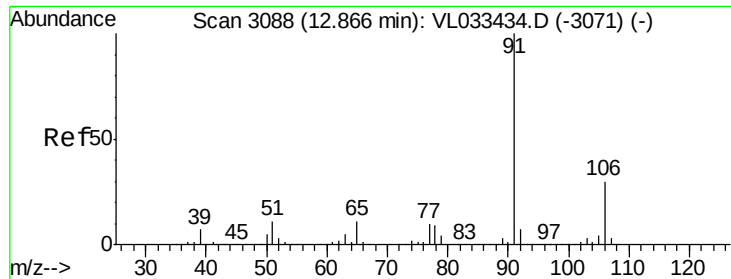
Ion Ratio Lower Upper

117 100

82 67.5 51.5 77.3

119 32.2 25.5 38.3





#58

Ethyl Benzene

Concen: 0.218 ppbv m

RT: 12.86 min Scan# 3087

Delta R.T. -0.00 min

Lab File: VL033449.D

Acq: 25 Mar 2019 23:26

Instrument :

MSVOA_L

ClientSampled :

IA-1

Tot Ion: 91 Resp: 42144

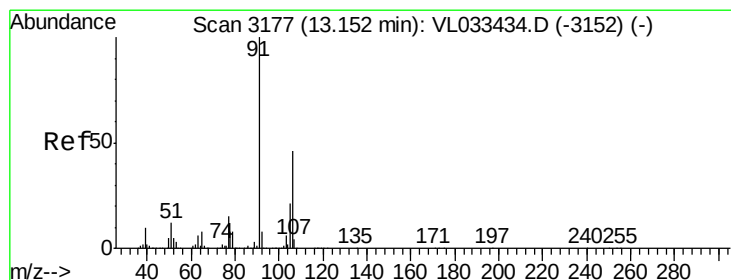
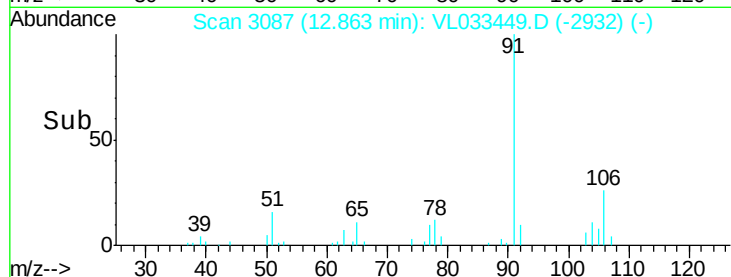
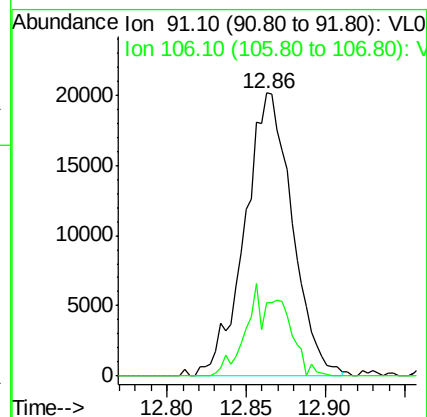
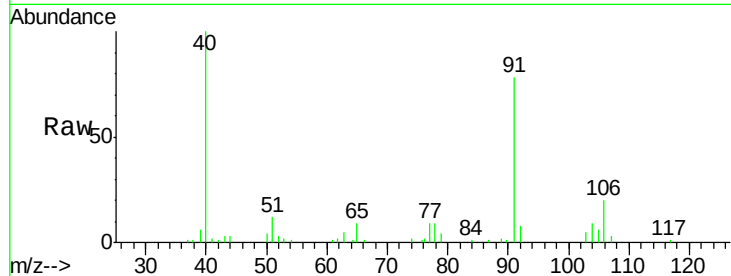
Ion Ratio Lower Upper

91 100

106 25.7 23.8 35.6

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#59

m/p-Xylene

Concen: 0.573 ppbv m

RT: 13.12 min Scan# 3167

Delta R.T. -0.03 min

Lab File: VL033449.D

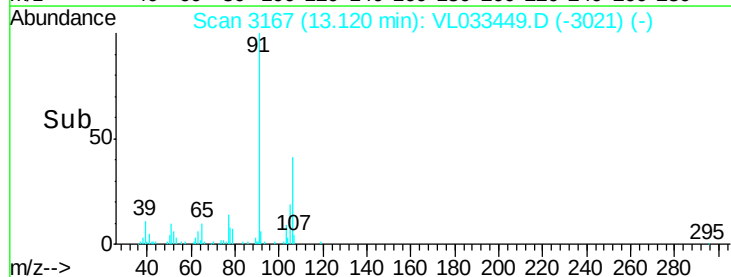
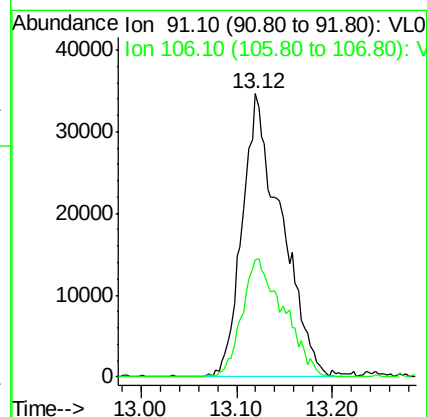
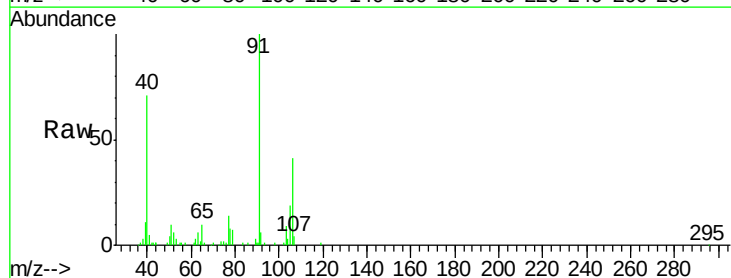
Acq: 25 Mar 2019 23:26

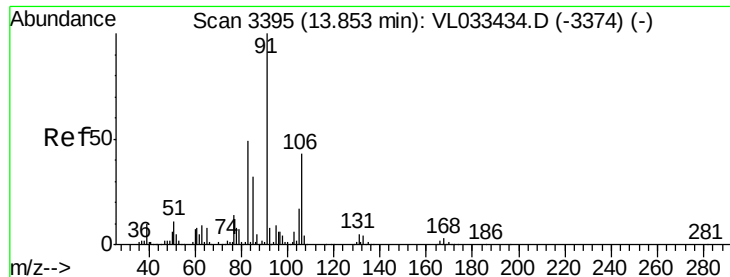
Tgt Ion: 91 Resp: 98987

Ion Ratio Lower Upper

91 100

106 44.1 0.0 0.0#





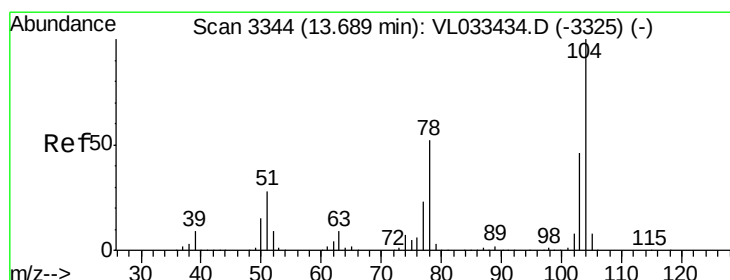
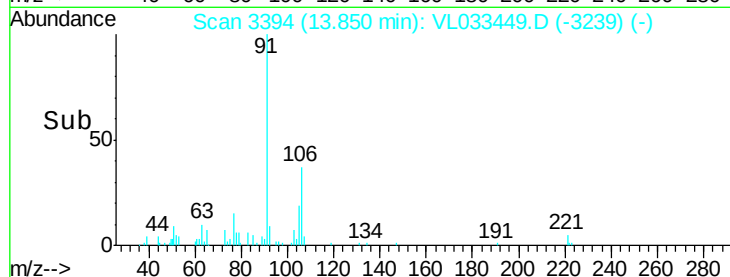
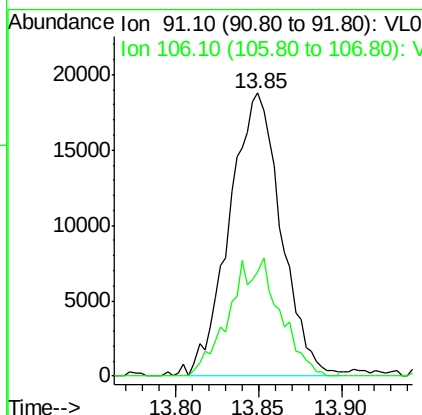
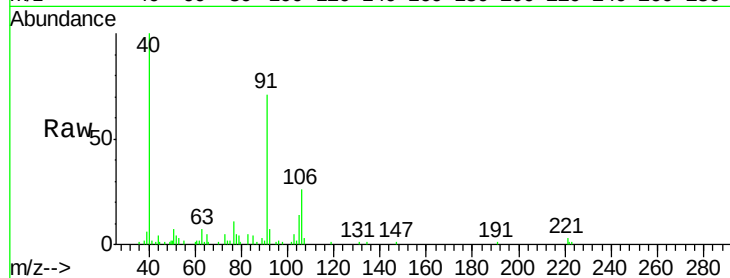
#60
o-Xylene
Concen: 0.243 ppbv
RT: 13.85 min Scan# 3394
Delta R.T. -0.00 min
Lab File: VL033449.D
Acq: 25 Mar 2019 23:26

Instrument :
MSVOA_L
ClientSampleId :
IA-1

Tot Ion	Ratio	Lower	Upper
91	100		
106	40.5	21.4	64.3

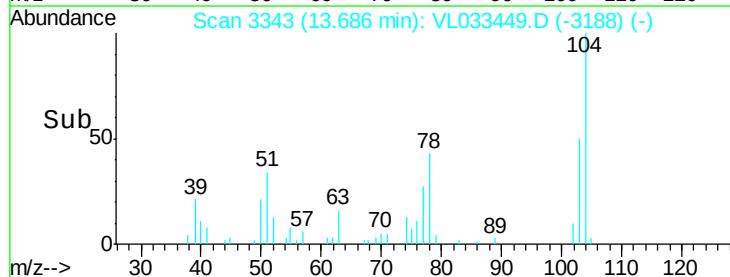
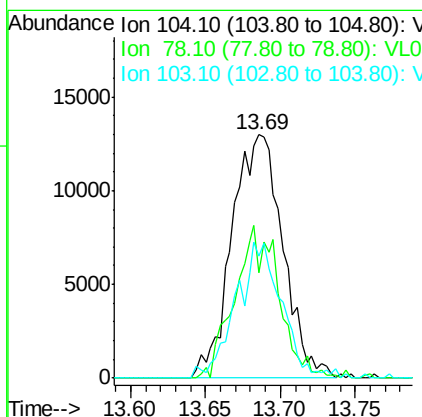
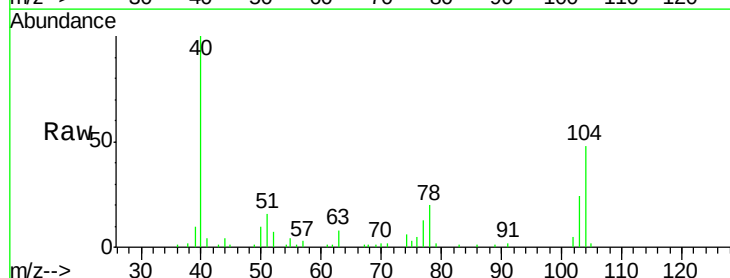
Manual Integrations
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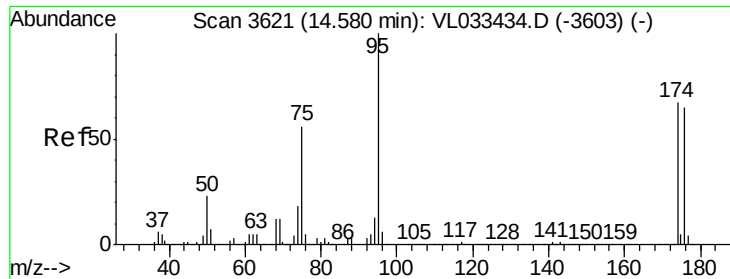
MMDadoda
4/1/2019 1:56:42 AM



#61
Styrene
Concen: 0.267 ppbv m
RT: 13.69 min Scan# 3343
Delta R.T. -0.00 min
Lab File: VL033449.D
Acq: 25 Mar 2019 23:26

Tgt Ion	Ratio	Lower	Upper
104	100		
78	54.9	43.2	64.8
103	50.4	37.8	56.8





#68

1-Bromo-4-Fluorobenzene

Concen: 10.268 ppbv

RT: 14.58 min Scan# 3620

Delta R.T. -0.00 min

Lab File: VL033449.D

Acq: 25 Mar 2019 23:26

Instrument :

MSVOA_L

ClientSampleId :

IA-1

Tot Ion: 95 Resp: 1164988

Ion Ratio Lower Upper

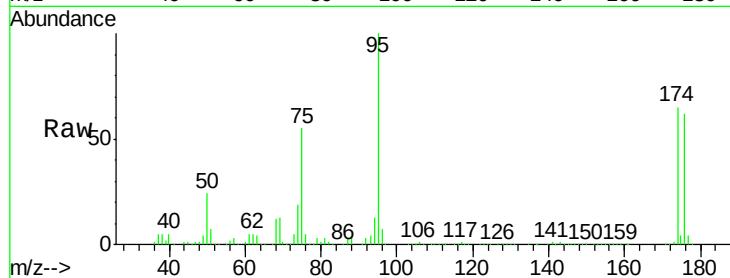
95 100

174 65.0 52.9 79.3

175 4.7 3.8 5.6

Manual Integrations
APPROVED

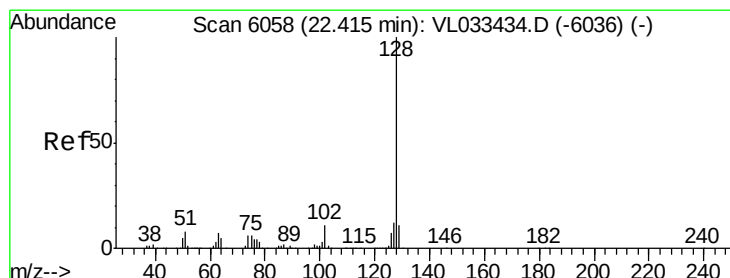
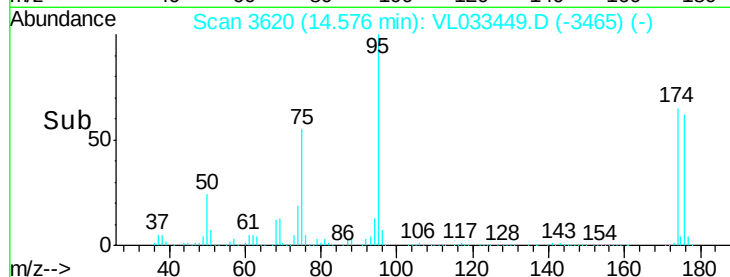
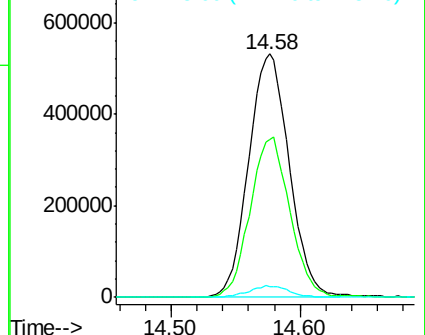
MMDadoda
4/1/2019 1:56:42 AM



Abundance Ion 95.10 (94.80 to 95.80): VL0

Ion 174.00 (173.70 to 174.70): V

Ion 175.00 (174.70 to 175.70): V



#79

Naphthalene

Concen: 0.150 ppbv m

RT: 22.42 min Scan# 6059

Delta R.T. 0.00 min

Lab File: VL033449.D

Acq: 25 Mar 2019 23:26

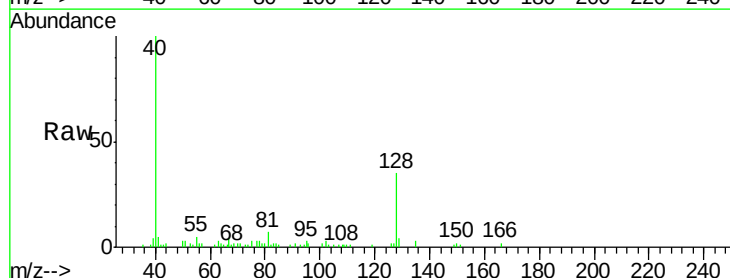
Tgt Ion:128 Resp: 24696

Ion Ratio Lower Upper

128 100

127 6.1 9.8 14.8#

129 10.0 8.6 12.8



Abundance Ion 128.10 (127.80 to 128.80): V

Ion 127.10 (126.80 to 127.80): V

Ion 129.10 (128.80 to 129.80): V

