

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL021419\
 Data File : VL033217.D
 Acq On : 15 Feb 2019 3:31
 Operator : SY/AP
 Sample : K1483-10
 Misc : 400ml/MSVOA L
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Feb 21 01:42:06 2019

Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL020519AIR.M

Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_LWed Feb 20 06:00:52 2019

QLast Update : Wed Feb 20 06:00:52 2019

Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	5.77	49	915064	10.00	ppbv	0.00
33) 1,4-Difluorobenzene	7.31	114	2041921	10.00	ppbv	0.00
55) Chlorobenzene-d5	12.25	117	2034225	10.00	ppbv	0.00

System Monitoring Compounds

68) 1-Bromo-4-Fluorobenzene	14.58	95	1617049	10.20	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	=	102.00%

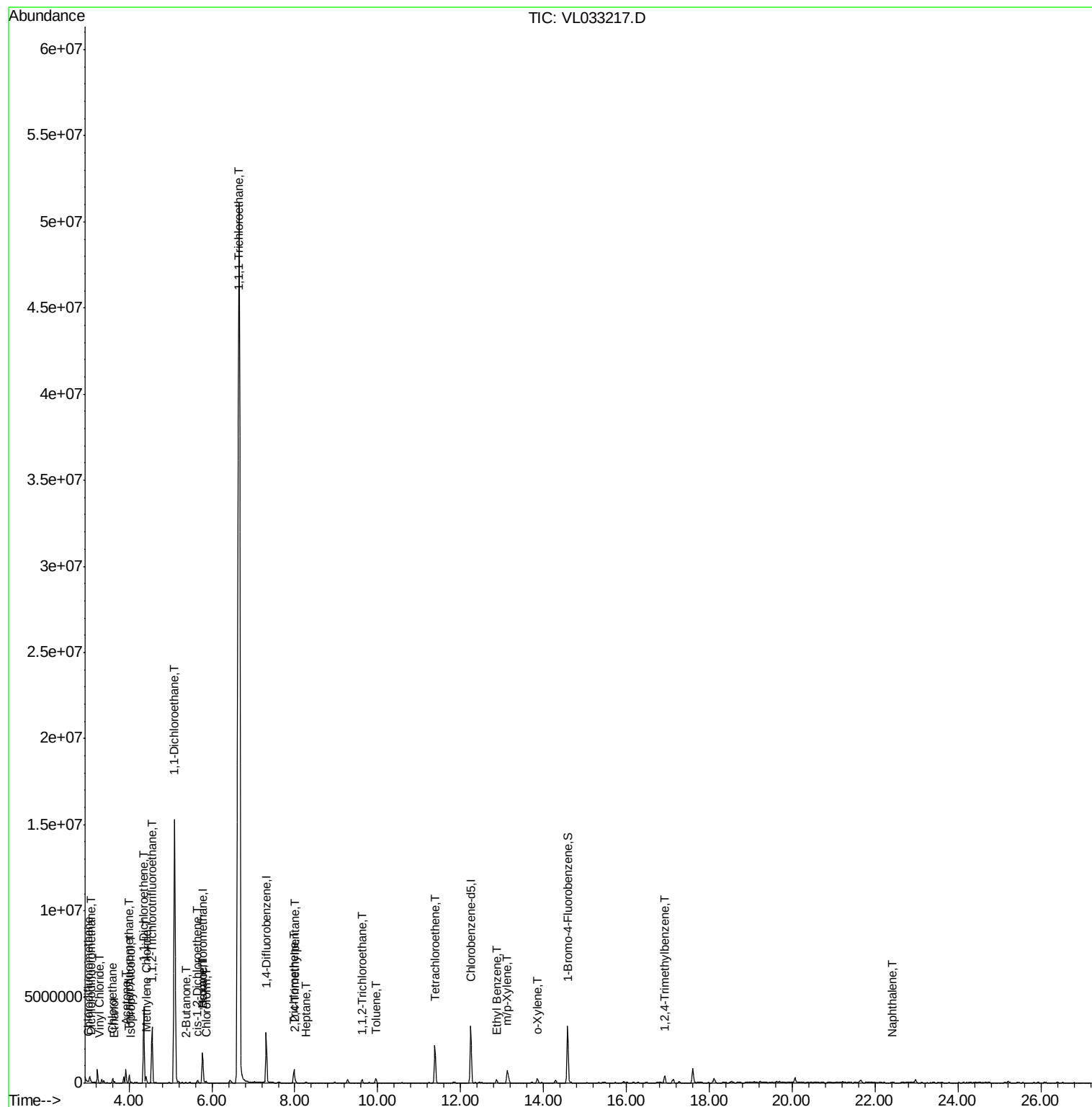
Target Compounds

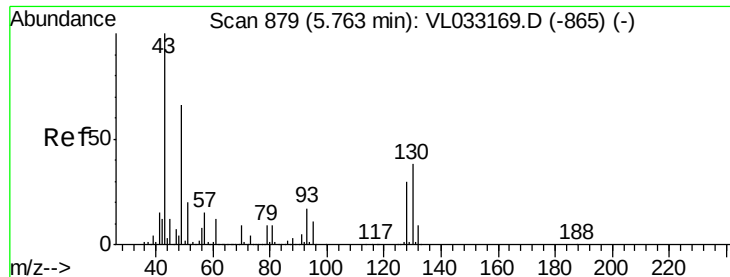
						Ovalue
2) Dichlorodifluoromethane	3.08	85	95227	0.544	ppbv	96
3) Chlorodifluoromethane	3.02	51	36783m	0.334	ppbv	
5) Vinyl Chloride	3.29	62	3372m	0.056	ppbv	
7) Chloroethane	3.60	64	148873	7.496	ppbv	99
10) Heptane	8.26	43	23962m	0.149	ppbv	
11) Trichlorofluoromethane	4.00	101	291518	2.058	ppbv	100
12) 1,1,2-Trichlorotrifluoroet	4.55	101	1176378	11.984	ppbv	100
13) Ethanol	3.66	45	33652	1.860	ppbv	95
15) Acetone	3.92	43	314007	3.046	ppbv #	84
18) 1,1-Dichloroethene	4.35	96	1323679	30.125	ppbv	97
19) Isopropyl Alcohol	4.04	45	55321m	0.791	ppbv	
20) Methylene Chloride	4.41	84	113349	2.764	ppbv	98
24) 1,1-Dichloroethane	5.10	63	15160814	119.961	ppbv #	94
26) Hexane	5.78	57	66682	0.613	ppbv #	41
29) Chloroform	5.86	83	73179	0.439	ppbv	90
31) cis-1,2-Dichloroethene	5.65	61	87403m	0.802	ppbv	
32) 1,1,1-Trichloroethane	6.64	97	39730395m	216.374	ppbv	
34) 2-Butanone	5.37	43	28960	0.224	ppbv	98
38) Trichloroethene	7.98	130	235598	2.664	ppbv	95
44) 2,2,4-Trimethylpentane	8.01	57	95126	0.271	ppbv #	87
47) 1,1,2-Trichloroethane	9.63	97	67620	0.798	ppbv	96
52) Tetrachloroethene	11.38	164	531852	6.689	ppbv	97
53) Toluene	9.96	91	164384	0.671	ppbv	99
58) Ethyl Benzene	12.87	91	170384	0.510	ppbv	99
59) m/p-Xylene	13.12	91	797109	2.870	ppbv	96
60) o-Xylene	13.85	91	205038	0.757	ppbv	97
74) 1,2,4-Trimethylbenzene	16.93	105	112448	0.363	ppbv #	76
79) Naphthalene	22.41	128	36250m	0.109	ppbv	

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

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#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.77 min Scan# 882

Delta R.T. 0.01 min

Lab File: VL033217.D

Acq: 15 Feb 2019 3:31

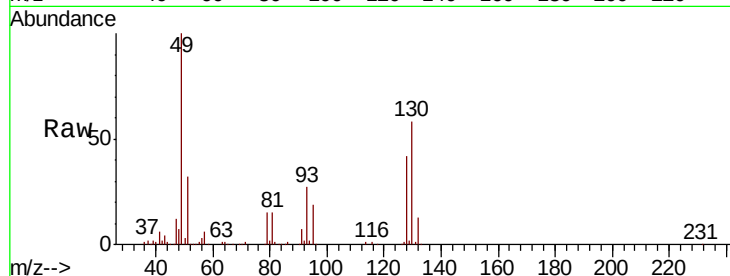
Tot Ion: 49 Resp: 915064

Ion Ratio Lower Upper

49 100

128 44.5 23.6 71.0

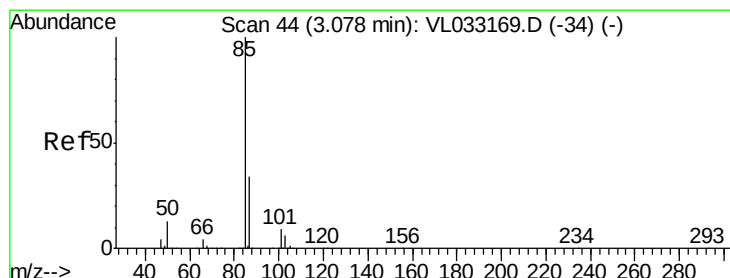
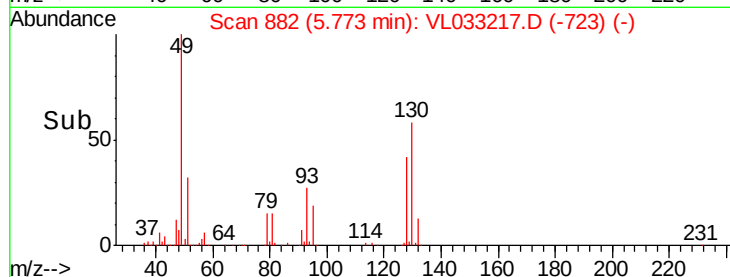
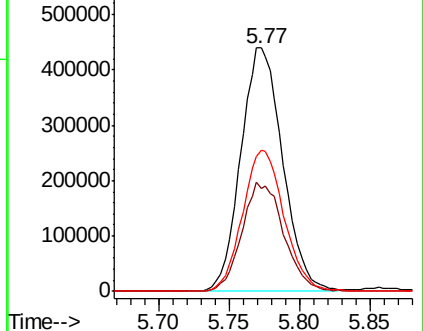
130 57.7 30.3 91.0



Abundance Ion 49.10 (48.80 to 49.80): VL0

Ion 128.00 (127.70 to 128.70): V

Ion 130.00 (129.70 to 130.70): V



#2

Dichlorodifluoromethane

Concen: 0.544 ppbv

RT: 3.08 min Scan# 44

Delta R.T. 0.00 min

Lab File: VL033217.D

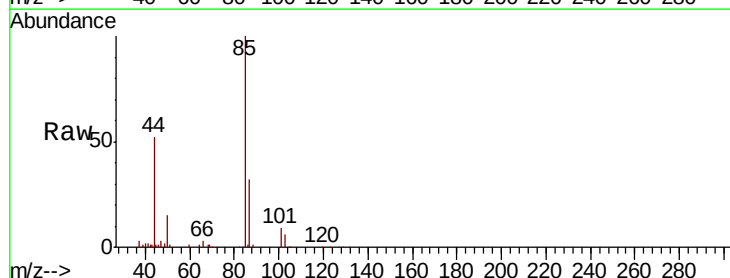
Acq: 15 Feb 2019 3:31

Tgt Ion: 85 Resp: 95227

Ion Ratio Lower Upper

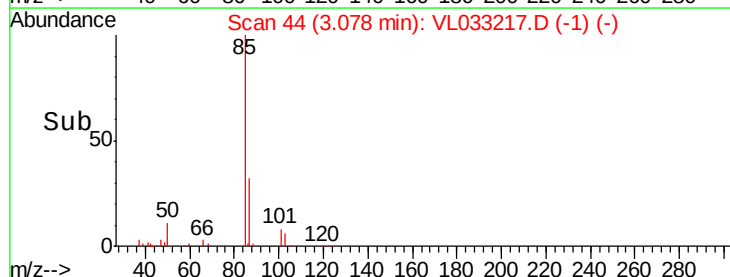
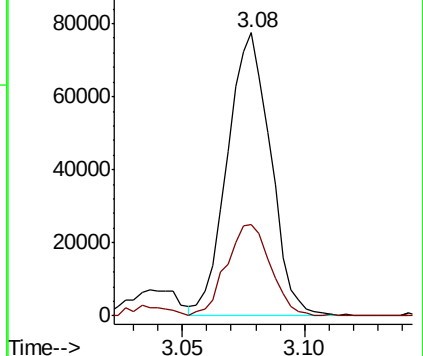
85 100

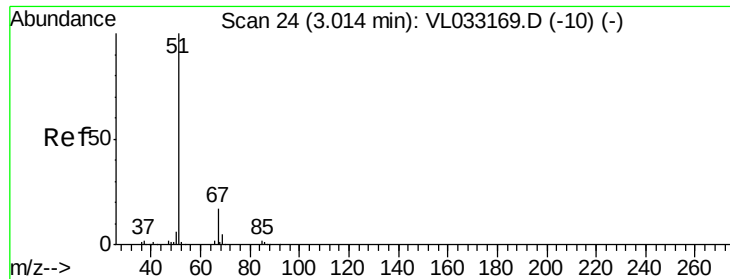
87 32.2 27.4 41.2



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 87.00 (86.70 to 87.70): VL0

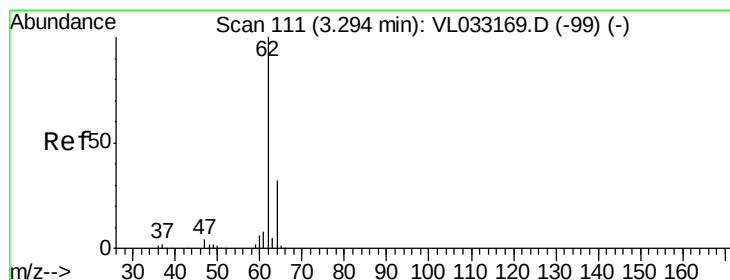
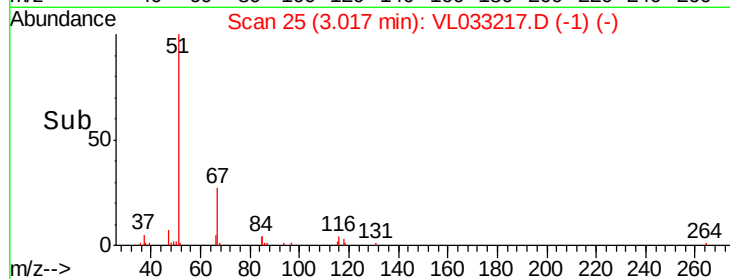
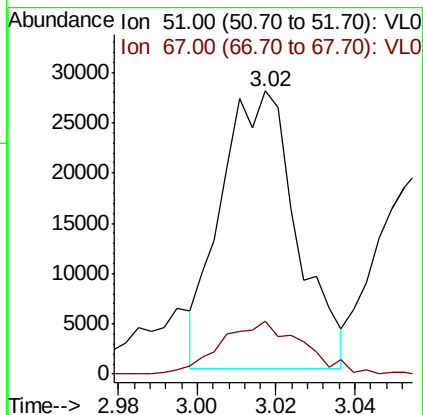
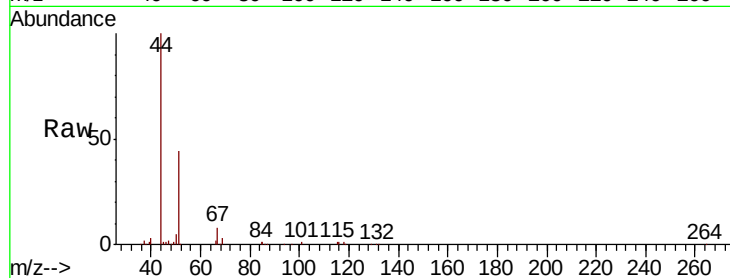




#3

Chlorodifluoromethane
 Concen: 0.334 ppbv m
 RT: 3.02 min Scan# 25
 Delta R.T. 0.00 min
 Lab File: VL033217.D
 Acq: 15 Feb 2019 3:31

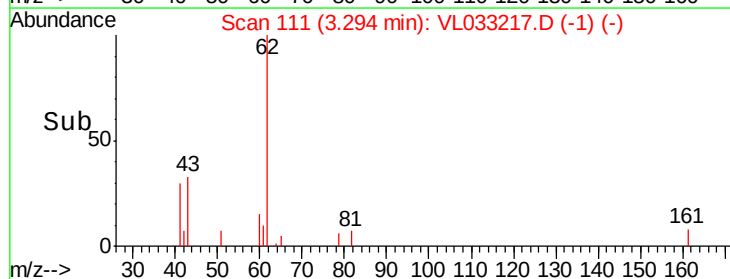
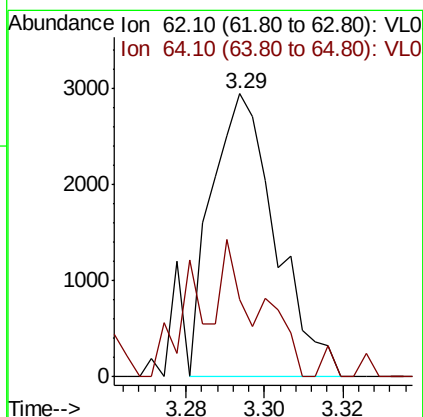
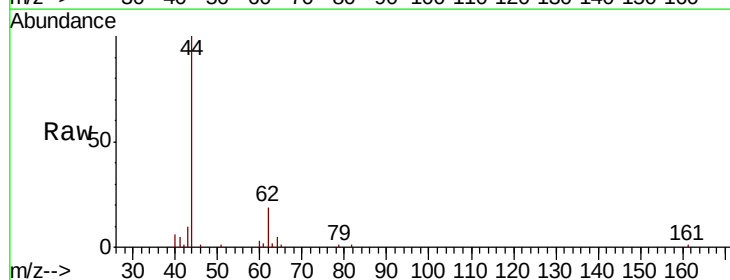
Tot Ion: 51 Resp: 36783
 Ion Ratio Lower Upper
 51 100
 67 20.6 14.0 21.0

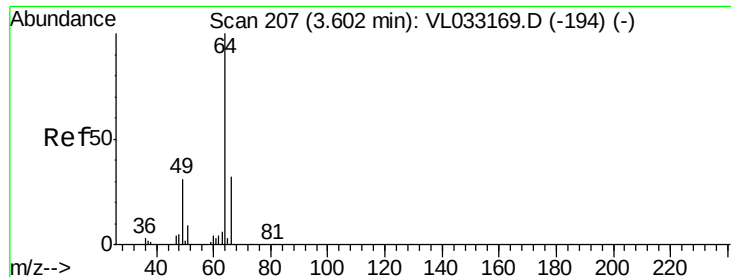


#5

Vinyl Chloride
 Concen: 0.056 ppbv m
 RT: 3.29 min Scan# 111
 Delta R.T. 0.00 min
 Lab File: VL033217.D
 Acq: 15 Feb 2019 3:31

Tgt Ion: 62 Resp: 3372
 Ion Ratio Lower Upper
 62 100
 64 27.3 25.6 38.4





#7

Chloroethane

Concen: 7.496 ppbv

RT: 3.60 min Scan# 207

Delta R.T. 0.00 min

Lab File: VL033217.D

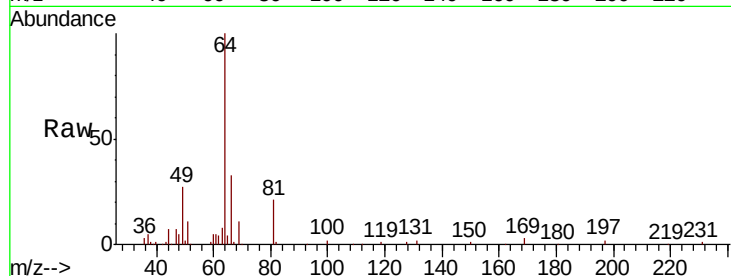
Acq: 15 Feb 2019 3:31

Tot Ion: 64 Resp: 148873

Ion Ratio Lower Upper

64 100

66 33.1 26.0 39.0



Abundance Ion 64.10 (63.80 to 64.80): VL0

Ion 66.10 (65.80 to 66.80): VL0

3.60

120000

100000

80000

60000

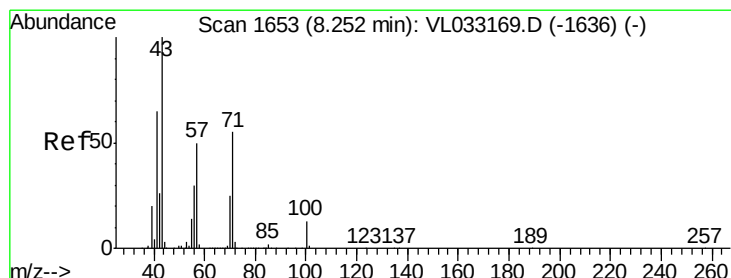
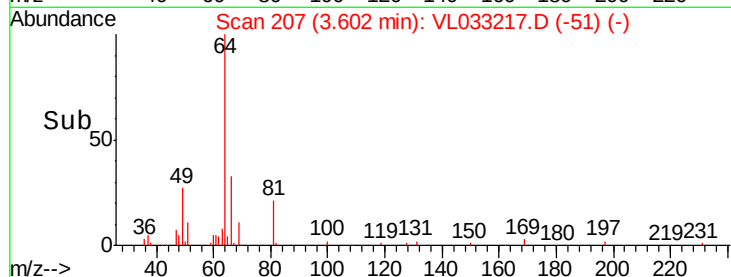
40000

20000

0

Time-->

3.55 3.60 3.65



#10

Heptane

Concen: 0.149 ppbv m

RT: 8.26 min Scan# 1657

Delta R.T. 0.01 min

Lab File: VL033217.D

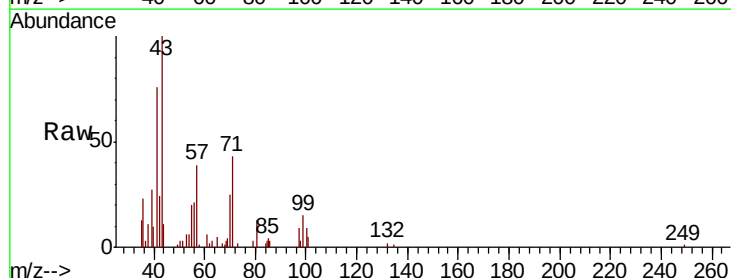
Acq: 15 Feb 2019 3:31

Tgt Ion: 43 Resp: 23962

Ion Ratio Lower Upper

43 100

57 44.9 39.5 59.3



Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 57.10 (56.80 to 57.80): VL0

15000

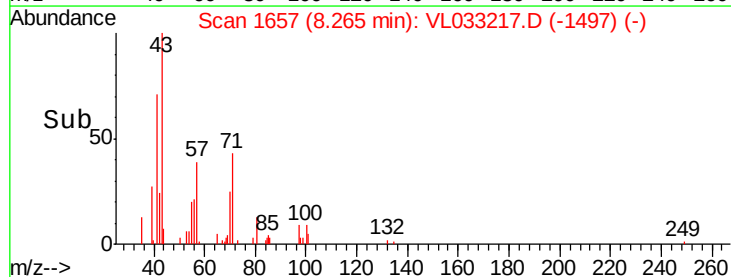
10000

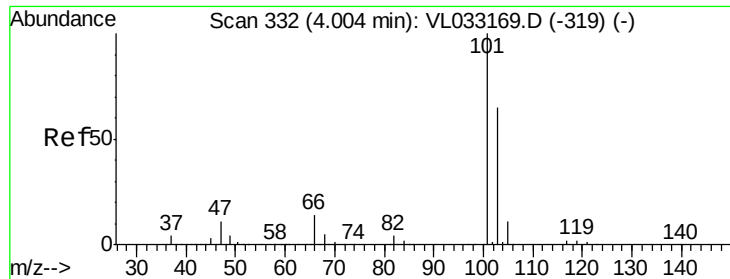
5000

0

Time-->

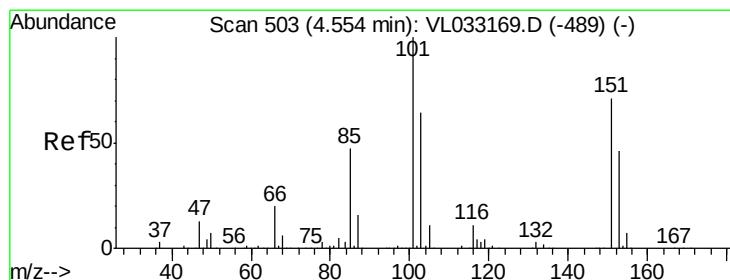
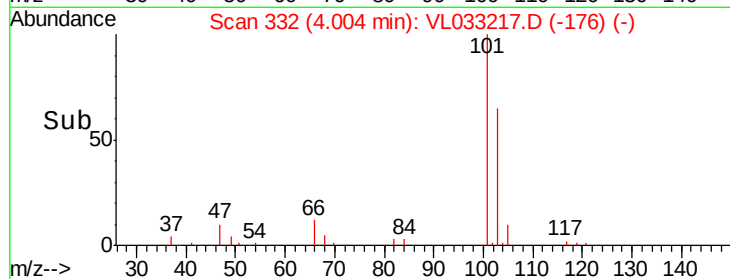
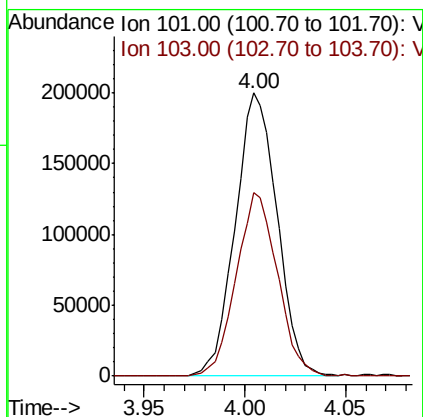
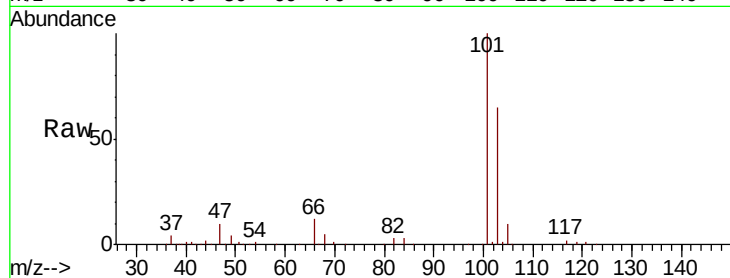
8.20 8.25 8.30





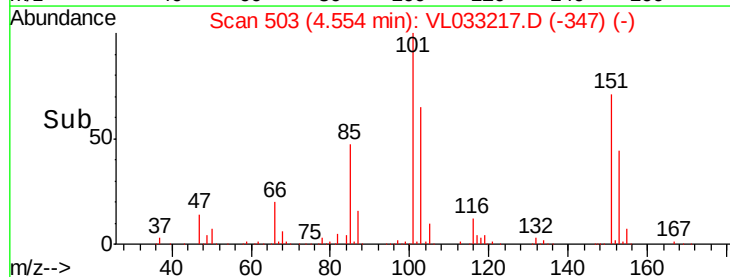
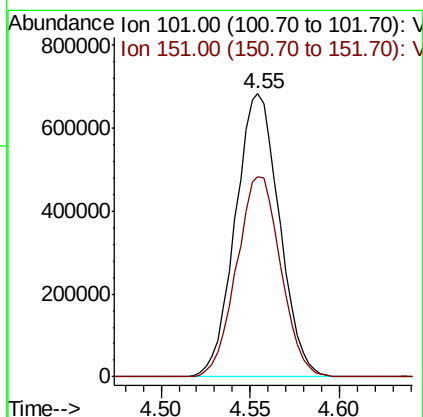
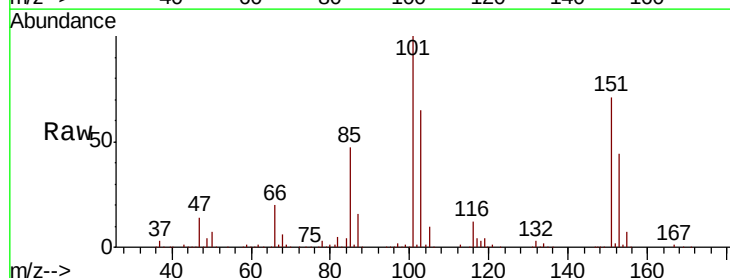
#11
 Trichlorofluoromethane
 Concen: 2.058 ppbv
 RT: 4.00 min Scan# 332
 Delta R.T. 0.00 min
 Lab File: VL033217.D
 Acq: 15 Feb 2019 3:31

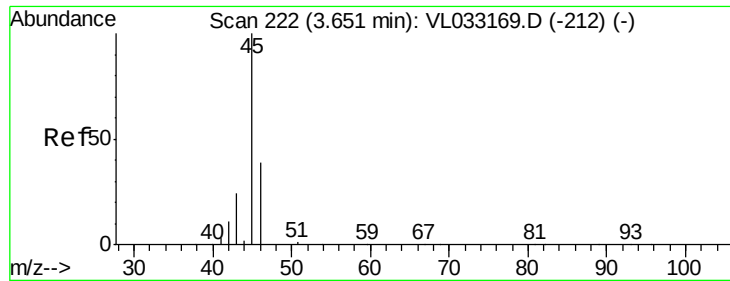
Tot Ion:101 Resp: 291518
 Ion Ratio Lower Upper
 101 100
 103 64.8 51.7 77.5



#12
 1,1,2-Trichlorotrifluoroethane
 Concen: 11.984 ppbv
 RT: 4.55 min Scan# 503
 Delta R.T. 0.00 min
 Lab File: VL033217.D
 Acq: 15 Feb 2019 3:31

Tgt Ion:101 Resp: 1176378
 Ion Ratio Lower Upper
 101 100
 151 71.3 57.4 86.0





#13

Ethanol

Concen: 1.860 ppbv

RT: 3.66 min Scan# 225

Delta R.T. 0.01 min

Lab File: VL033217.D

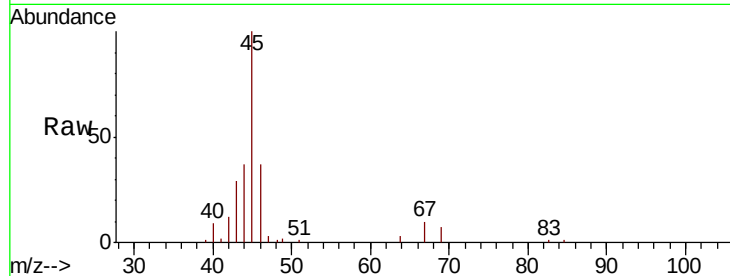
Acq: 15 Feb 2019 3:31

Tot Ion: 45 Resp: 33652

Ion Ratio Lower Upper

45 100

46 40.5 15.0 60.2



Abundance Ion 45.10 (44.80 to 45.80): VL0

Ion 46.10 (45.80 to 46.80): VL0

3.66

20000

15000

10000

5000

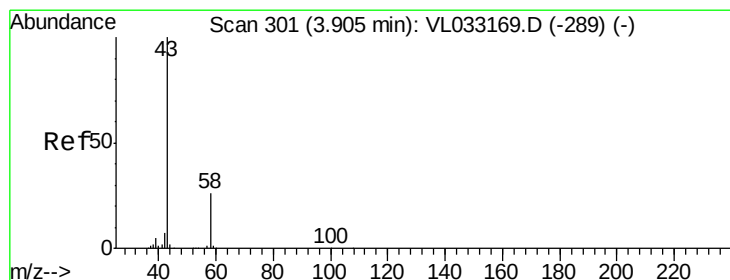
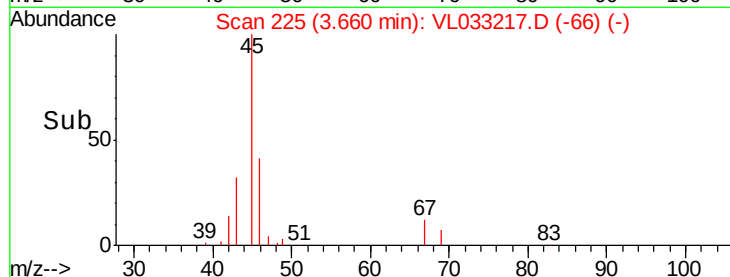
0

Time-->

3.60

3.65

3.70



#15

Acetone

Concen: 3.046 ppbv

RT: 3.92 min Scan# 306

Delta R.T. 0.02 min

Lab File: VL033217.D

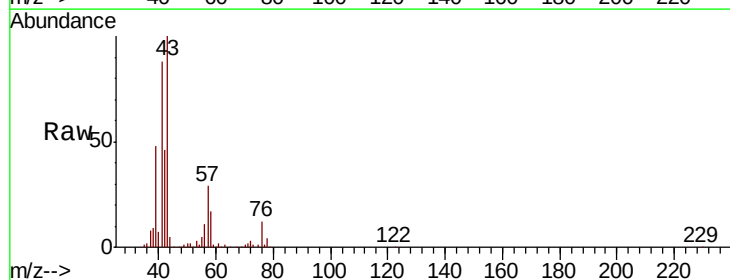
Acq: 15 Feb 2019 3:31

Tgt Ion: 43 Resp: 314007

Ion Ratio Lower Upper

43 100

58 18.2 21.1 31.7#



Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 58.10 (57.80 to 58.80): VL0

3.92

200000

150000

100000

50000

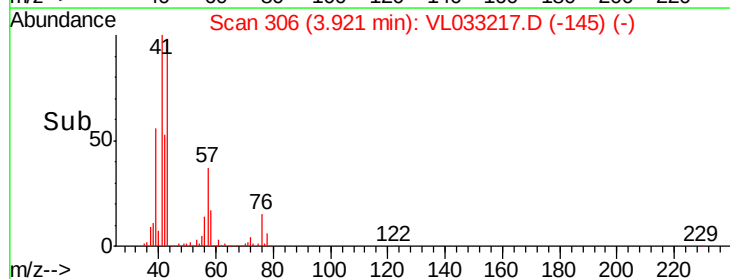
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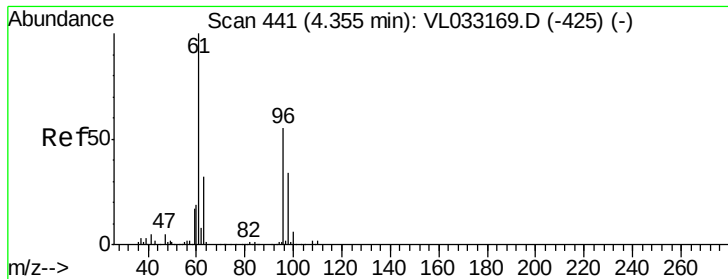
Time-->

3.85

3.90

3.95





#18

1,1-Dichloroethene

Concen: 30.125 ppbv

RT: 4.35 min Scan# 441

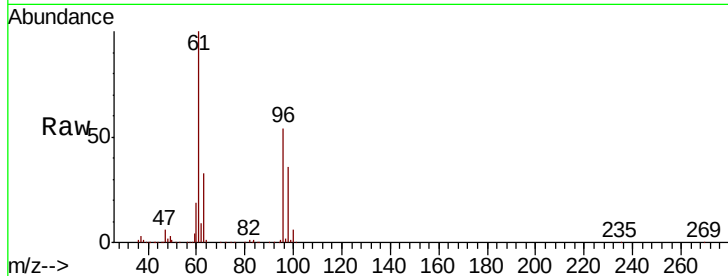
Delta R.T. 0.00 min

Lab File: VL033217.D

Acq: 15 Feb 2019 3:31

Tot Ion: 96 Resp: 1323679

Ion	Ratio	Lower	Upper
96	100		
61	185.1	145.0	217.6
98	65.8	50.0	75.0

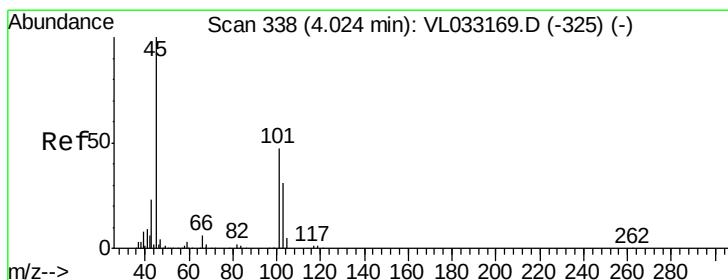
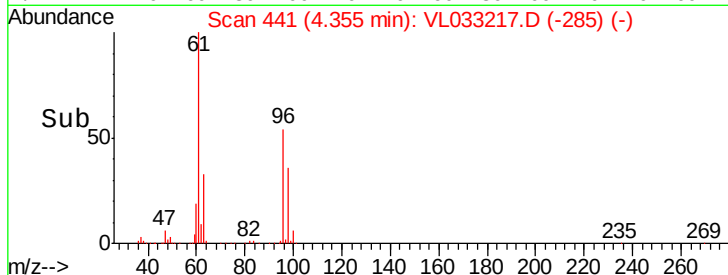
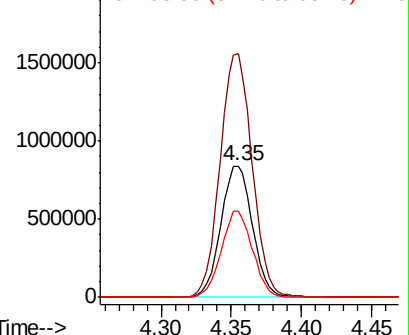


Abundance

Ion 96.00 (95.70 to 96.70): VL0

Ion 61.10 (60.80 to 61.80): VL0

Ion 98.00 (97.70 to 98.70): VL0



#19

Isopropyl Alcohol

Concen: 0.791 ppbv m

RT: 4.04 min Scan# 343

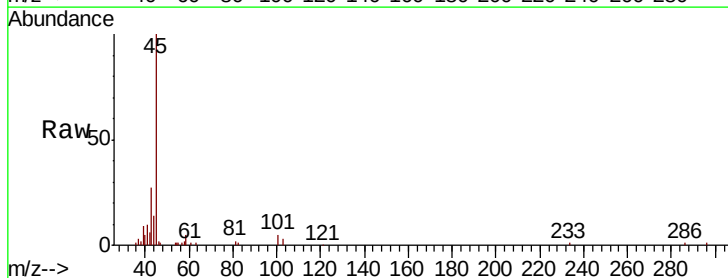
Delta R.T. 0.02 min

Lab File: VL033217.D

Acq: 15 Feb 2019 3:31

Tgt Ion: 45 Resp: 55321

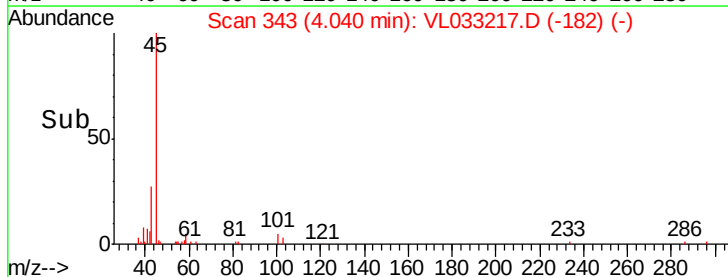
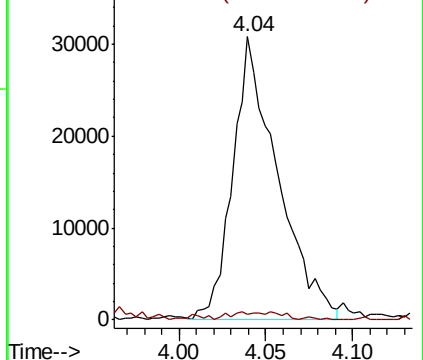
Ion	Ratio	Lower	Upper
45	100		
58	3.5	1.5	2.3#

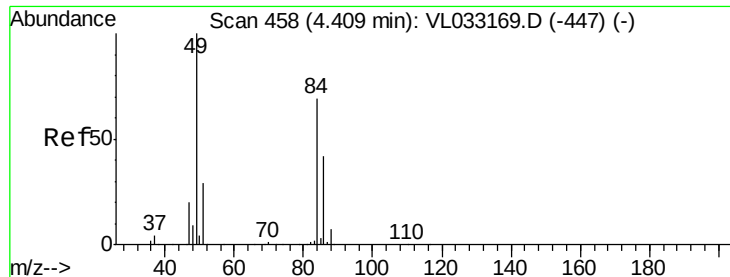


Abundance

Ion 45.10 (44.80 to 45.80): VL0

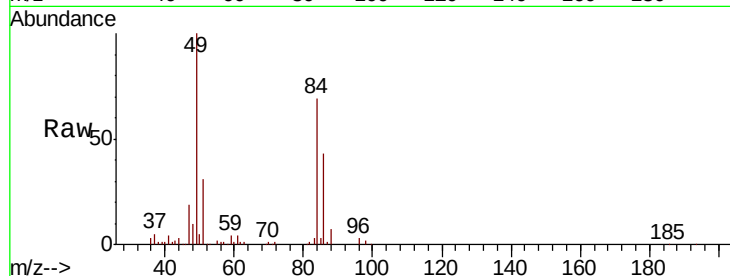
Ion 58.10 (57.80 to 58.80): VL0





#20
Methylene Chloride
Concen: 2.764 ppbv
RT: 4.41 min Scan# 458
Delta R.T. 0.00 min
Lab File: VL033217.D
Acq: 15 Feb 2019 3:31

Tot Ion	Ratio	Lower	Upper
84	100		
49	142.8	115.8	173.8
51	43.6	33.0	49.6
86	61.8	48.2	72.2



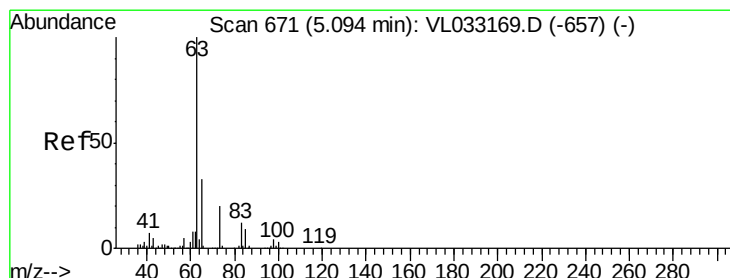
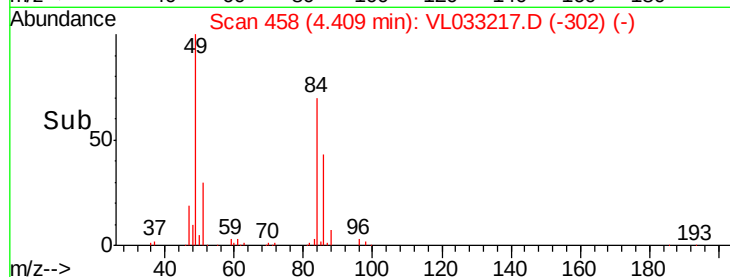
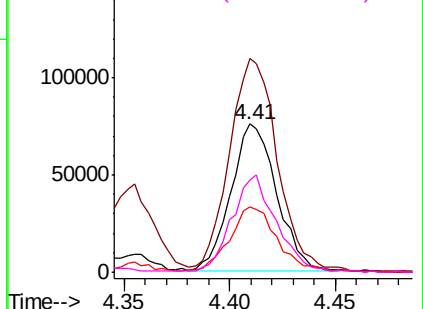
Abundance

Ion 84.00 (83.70 to 84.70): VL0

Ion 49.10 (48.80 to 49.80): VL0

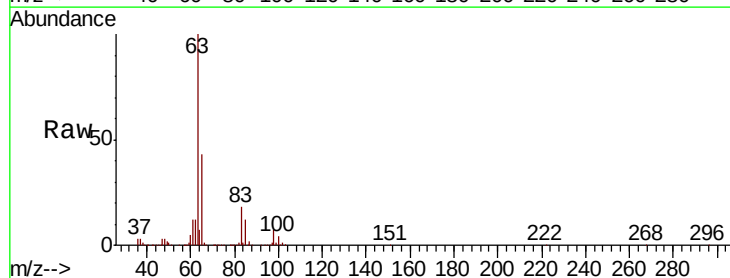
Ion 51.10 (50.80 to 51.80): VL0

Ion 86.00 (85.70 to 86.70): VL0



#24
1,1-Dichloroethane
Concen: 119.961 ppbv
RT: 5.10 min Scan# 672
Delta R.T. 0.00 min
Lab File: VL033217.D
Acq: 15 Feb 2019 3:31

Tgt Ion	Ratio	Lower	Upper
63	100		
98	6.5	2.1	6.5#
100	4.1	1.4	4.2

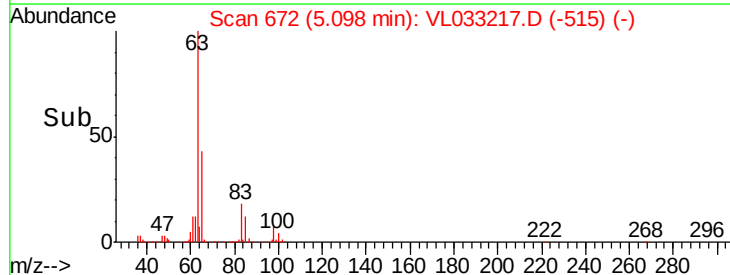
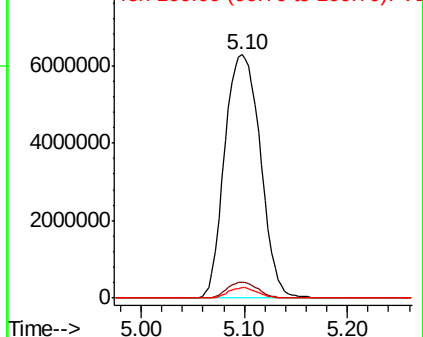


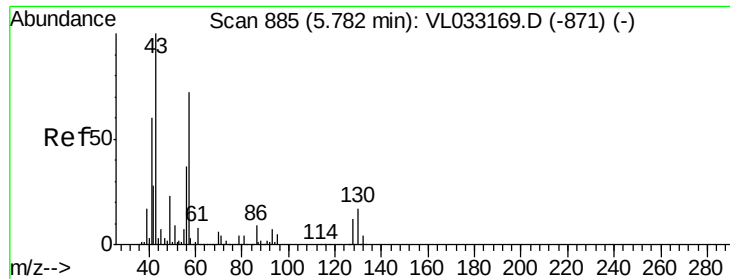
Abundance

Ion 63.10 (62.80 to 63.80): VL0

Ion 98.00 (97.70 to 98.70): VL0

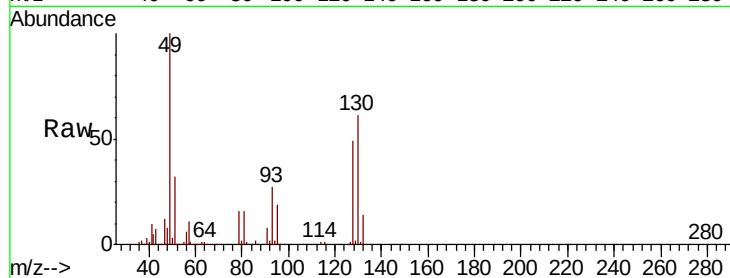
Ion 100.00 (99.70 to 100.70): VL0



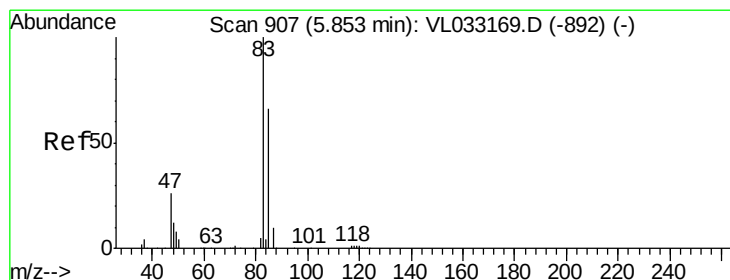
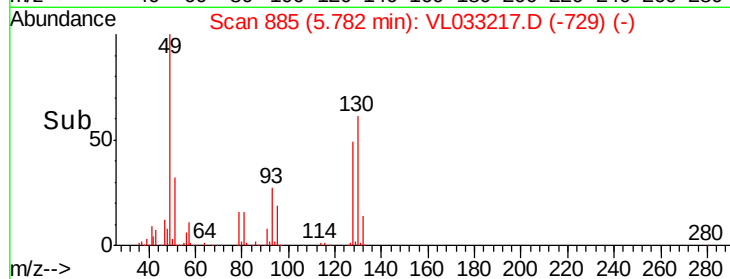
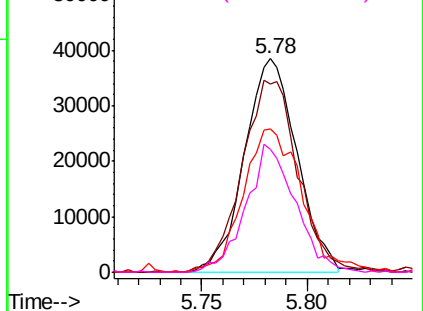


#26
Hexane
Concen: 0.613 ppbv
RT: 5.78 min Scan# 885
Delta R.T. 0.00 min
Lab File: VL033217.D
Acq: 15 Feb 2019 3:31

Tot Ion: 57 Resp: 66682
Ion Ratio Lower Upper
57 100
41 96.5 69.4 104.2
43 75.8 176.7 265.1#
56 56.3 41.4 62.0

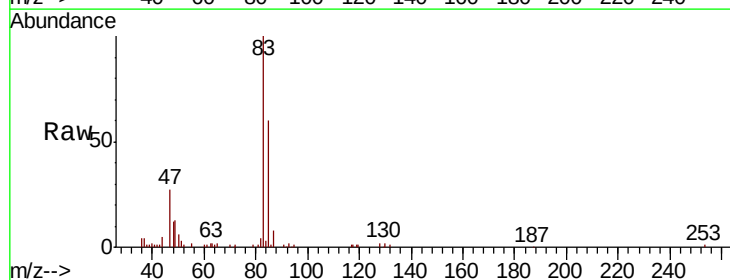


Abundance Ion 57.10 (56.80 to 57.80): VL0
Ion 41.10 (40.80 to 41.80): VL0
Ion 43.10 (42.80 to 43.80): VL0
Ion 56.10 (55.80 to 56.80): VL0

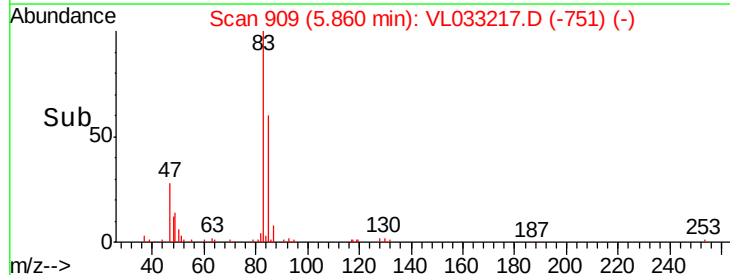
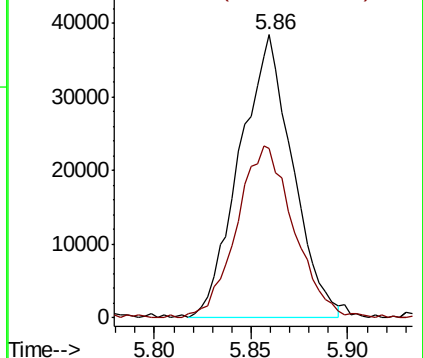


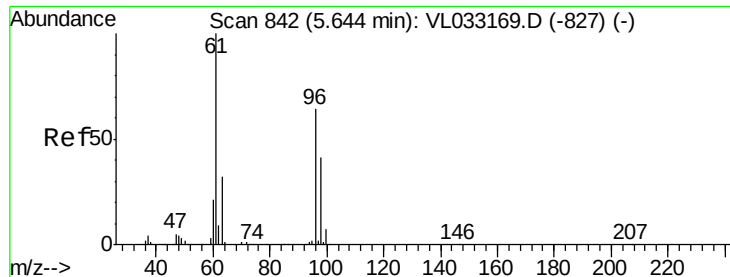
#29
Chloroform
Concen: 0.439 ppbv
RT: 5.86 min Scan# 909
Delta R.T. 0.01 min
Lab File: VL033217.D
Acq: 15 Feb 2019 3:31

Tgt Ion: 83 Resp: 73179
Ion Ratio Lower Upper
83 100
85 58.1 52.6 78.8



Abundance Ion 83.00 (82.70 to 83.70): VL0
Ion 85.00 (84.70 to 85.70): VL0

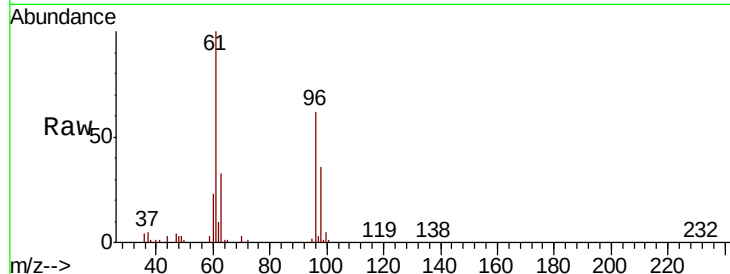




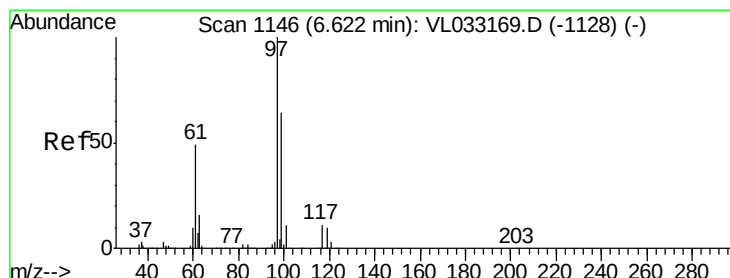
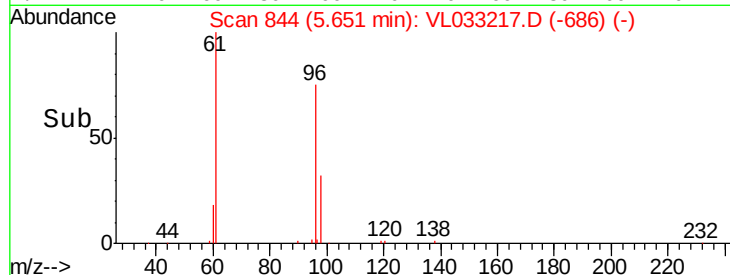
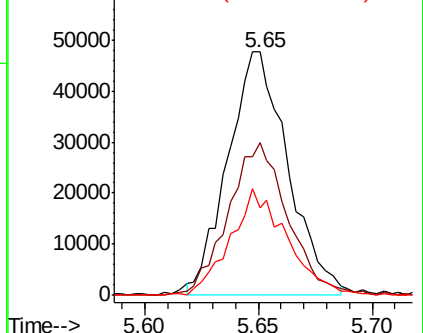
#31

cis-1,2-Dichloroethene
 Concen: 0.802 ppbv m
 RT: 5.65 min Scan# 844
 Delta R.T. 0.01 min
 Lab File: VL033217.D
 Acq: 15 Feb 2019 3:31

Tot Ion	61	Resp	87403
Ion Ratio	100		
Lower	51.2		
Upper	76.8		
96	62.5		
98	35.7		



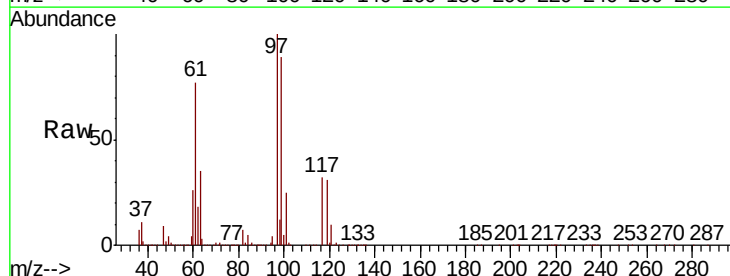
Abundance Ion 61.10 (60.80 to 61.80): VL0
 Ion 96.00 (95.70 to 96.70): VL0
 Ion 98.00 (97.70 to 98.70): VL0



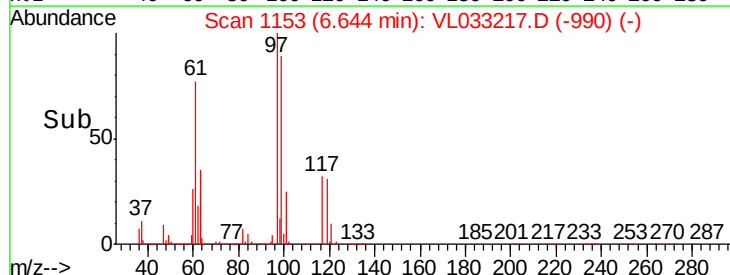
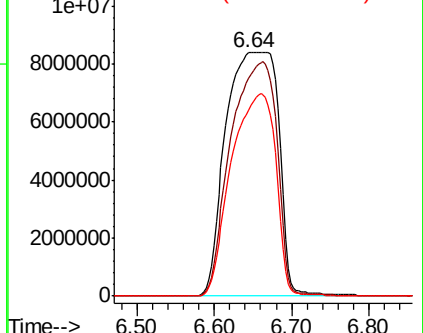
#32

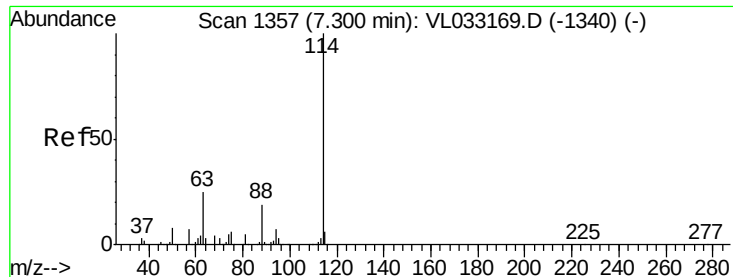
1,1,1-Trichloroethane
 Concen: 216.374 ppbv m
 RT: 6.64 min Scan# 1153
 Delta R.T. 0.02 min
 Lab File: VL033217.D
 Acq: 15 Feb 2019 3:31

Tgt Ion	97	Resp	39730395
Ion Ratio	100		
Lower	51.4		
Upper	77.2#		
99	0.0		
61	0.0		



Abundance Ion 97.00 (96.70 to 97.70): VL0
 Ion 99.00 (98.70 to 99.70): VL0
 Ion 61.10 (60.80 to 61.80): VL0





#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 7.31 min Scan# 1360

Delta R.T. 0.01 min

Lab File: VL033217.D

Acq: 15 Feb 2019 3:31

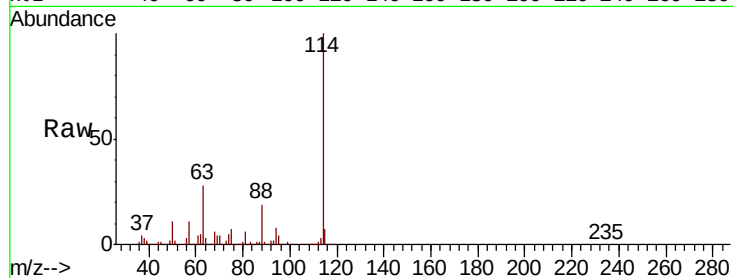
Tot Ion:114 Resp: 2041921

Ion Ratio Lower Upper

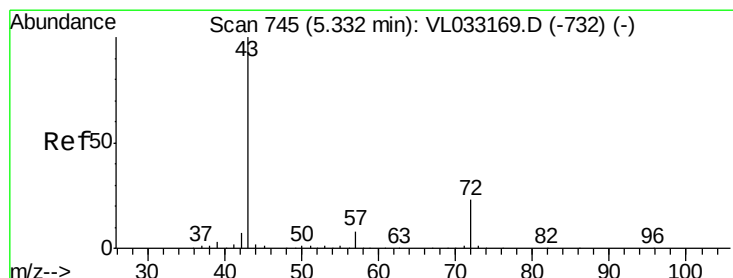
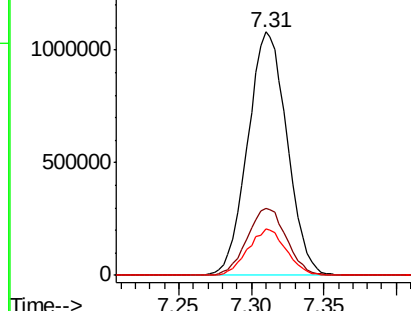
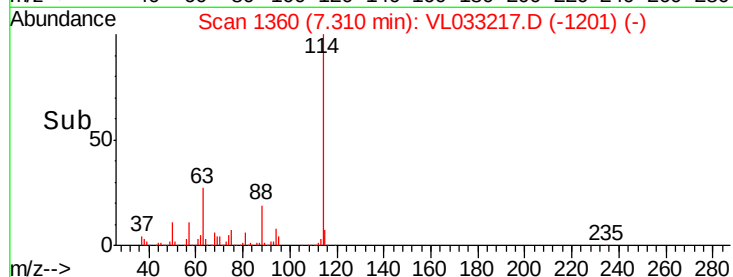
114 100

63 27.7 20.8 31.2

88 18.6 14.6 22.0



Abundance Ion 114.10 (113.80 to 114.80): VL0
Ion 63.10 (62.80 to 63.80): VL0
Ion 88.10 (87.80 to 88.80): VL0



#34

2-Butanone

Concen: 0.224 ppbv

RT: 5.37 min Scan# 756

Delta R.T. 0.04 min

Lab File: VL033217.D

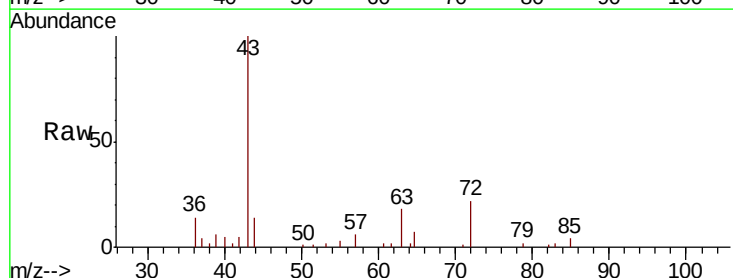
Acq: 15 Feb 2019 3:31

Tgt Ion: 43 Resp: 28960

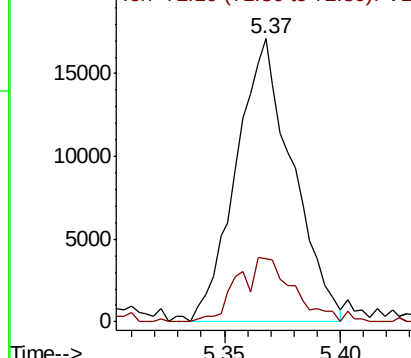
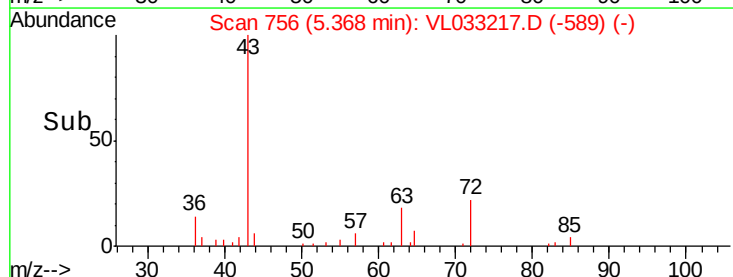
Ion Ratio Lower Upper

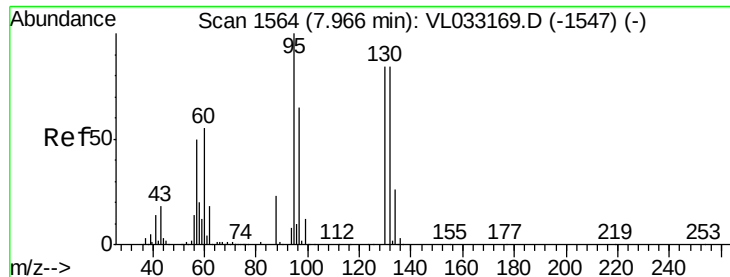
43 100

72 22.9 17.8 26.6



Abundance Ion 43.10 (42.80 to 43.80): VL0
Ion 72.10 (71.80 to 72.80): VL0





#38

Trichloroethene

Concen: 2.664 ppbv

RT: 7.98 min Scan# 1568

Delta R.T. 0.01 min

Lab File: VL033217.D

Acq: 15 Feb 2019 3:31

Tot Ion:130 Resp: 235598

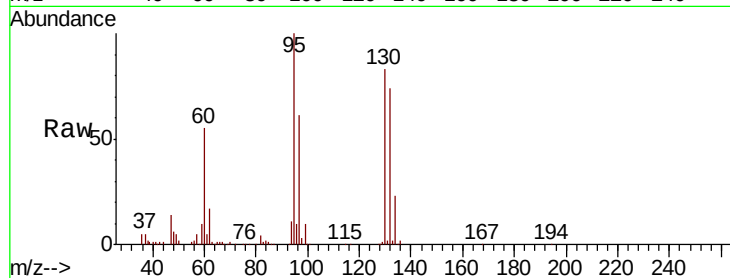
Ion Ratio Lower Upper

130 100

95 120.0 95.5 143.3

132 89.5 80.0 120.0

97 72.1 62.2 93.2

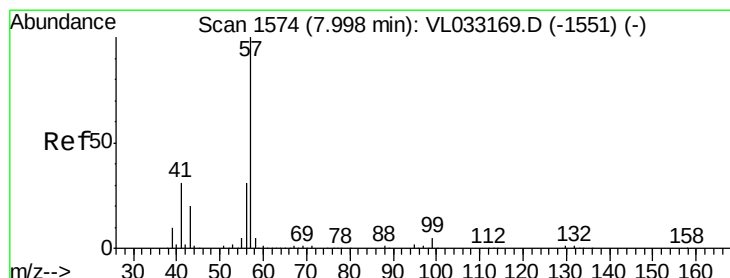
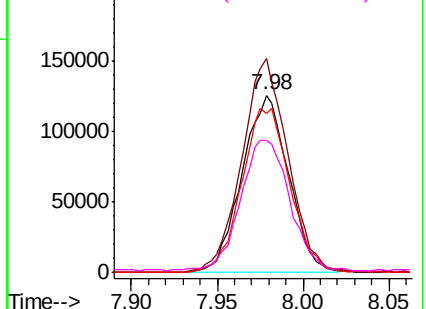
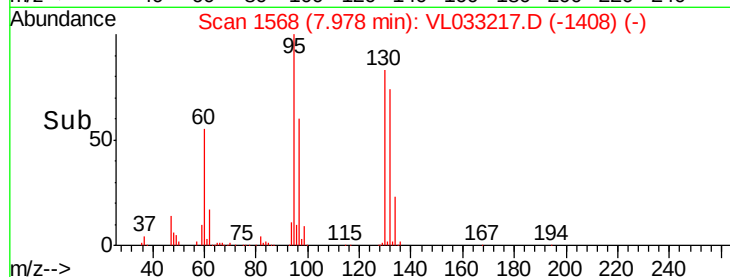


Abundance Ion 130.00 (129.70 to 130.70): V

Ion 95.00 (94.70 to 95.70): VL0

Ion 132.00 (131.70 to 132.70): V

Ion 97.00 (96.70 to 97.70): VL0



#44

2,2,4-Trimethylpentane

Concen: 0.271 ppbv

RT: 8.01 min Scan# 1577

Delta R.T. 0.01 min

Lab File: VL033217.D

Acq: 15 Feb 2019 3:31

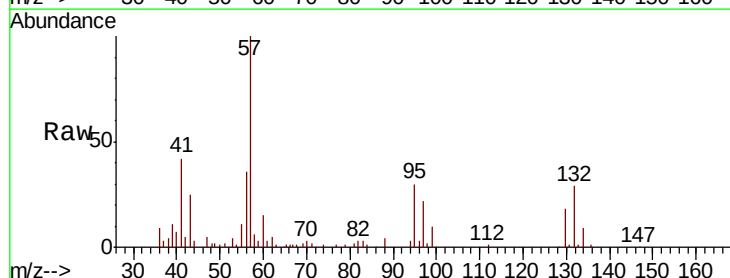
Tgt Ion: 57 Resp: 95126

Ion Ratio Lower Upper

57 100

41 39.7 25.2 37.8#

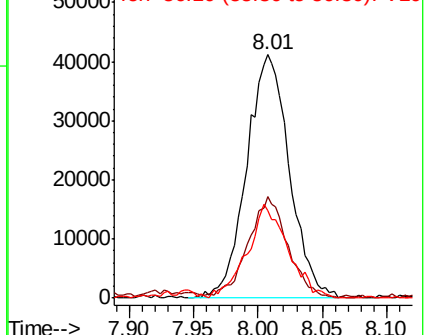
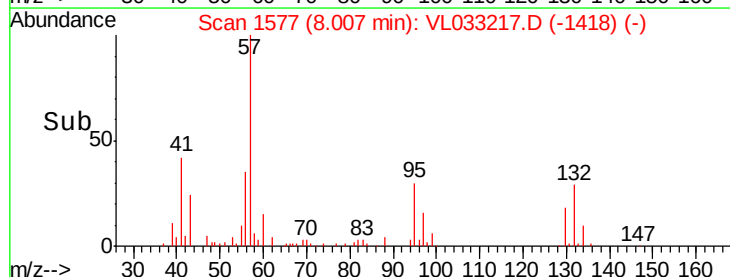
56 36.4 24.5 36.7

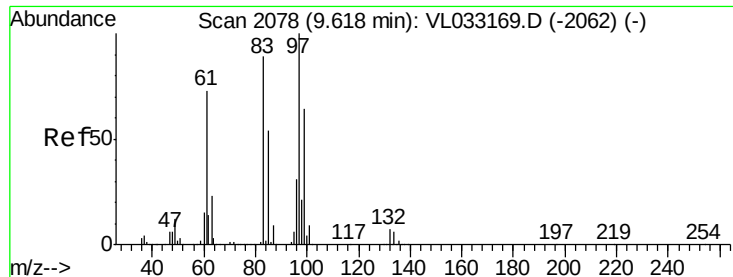


Abundance Ion 57.10 (56.80 to 57.80): VL0

Ion 41.10 (40.80 to 41.80): VL0

Ion 56.10 (55.80 to 56.80): VL0





#47

1,1,2-Trichloroethane

Concen: 0.798 ppbv

RT: 9.63 min Scan# 2081

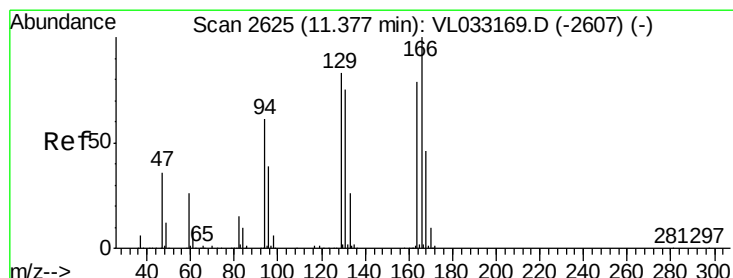
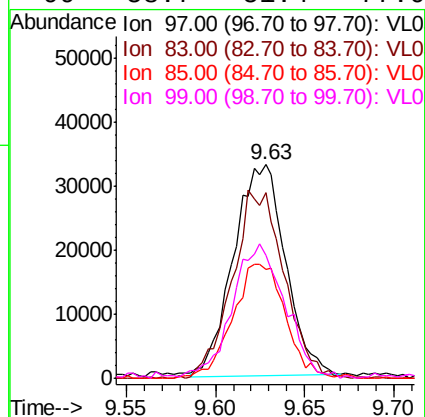
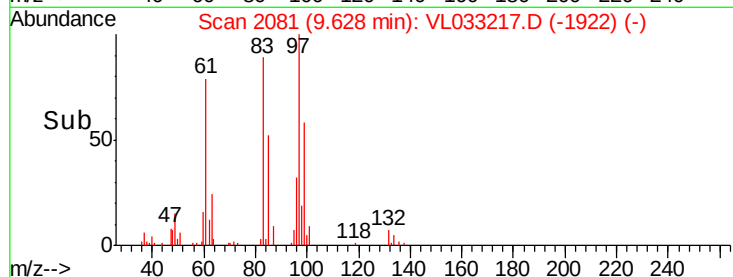
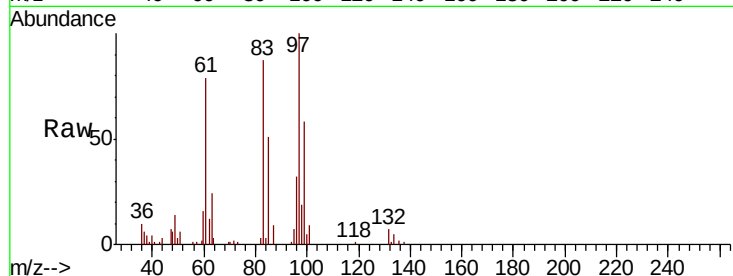
Delta R.T. 0.01 min

Lab File: VL033217.D

Acq: 15 Feb 2019 3:31

Tot Ion: 97 Resp: 67620

Ion	Ratio	Lower	Upper
97	100		
83	87.6	71.4	107.2
85	50.4	43.5	65.3
99	58.7	51.4	77.0



#52

Tetrachloroethene

Concen: 6.689 ppbv

RT: 11.38 min Scan# 2627

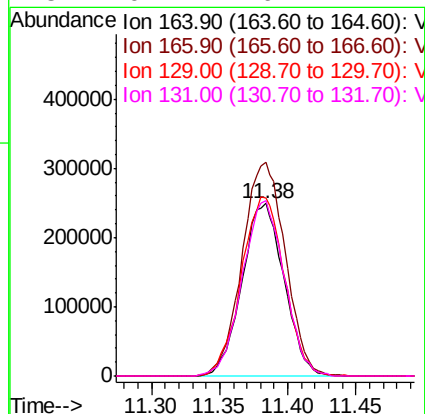
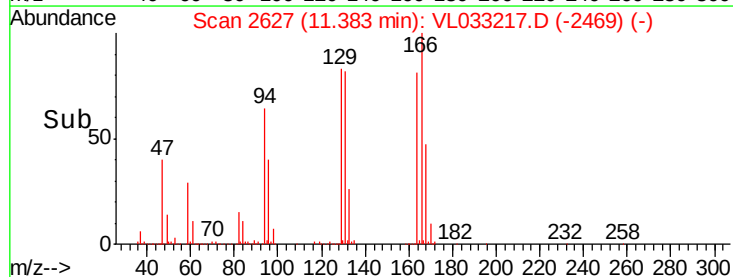
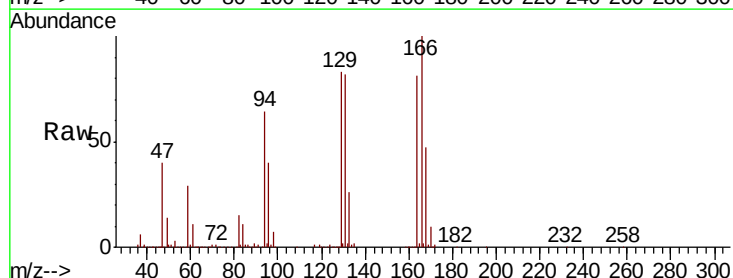
Delta R.T. 0.01 min

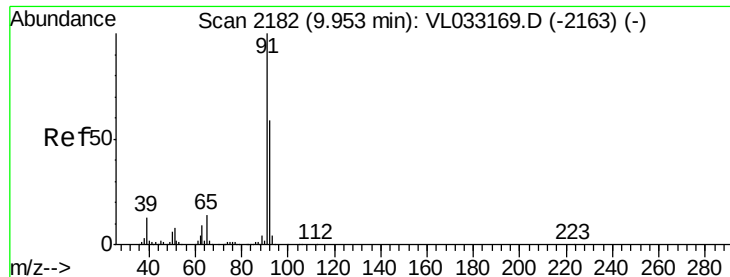
Lab File: VL033217.D

Acq: 15 Feb 2019 3:31

Tgt Ion: 164 Resp: 531852

Ion	Ratio	Lower	Upper
164	100		
166	123.3	100.9	151.3
129	102.9	83.9	125.9
131	101.1	76.2	114.2





#53

Toluene

Concen: 0.671 ppbv

RT: 9.96 min Scan# 2183

Delta R.T. 0.00 min

Lab File: VL033217.D

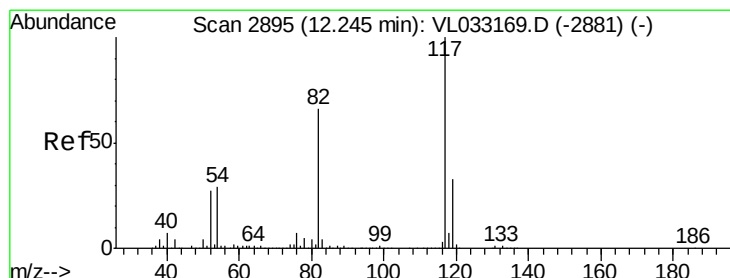
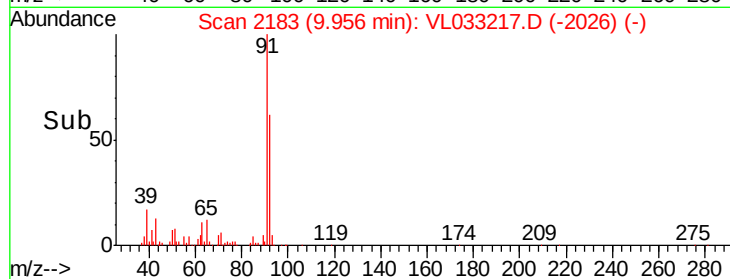
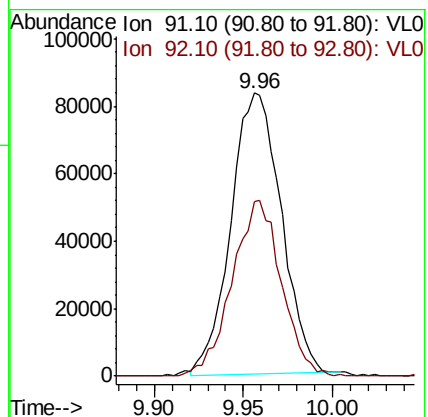
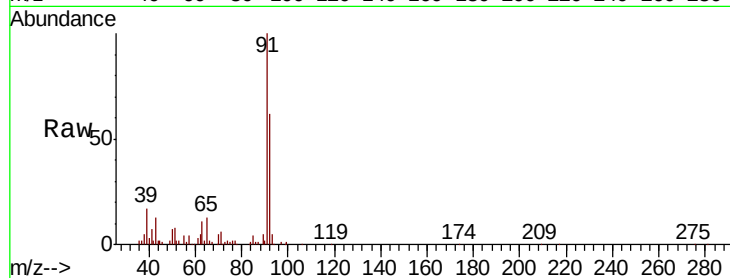
Acq: 15 Feb 2019 3:31

Tot Ion: 91 Resp: 164384

Ion Ratio Lower Upper

91 100

92 61.1 48.0 72.0



#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 12.25 min Scan# 2895

Delta R.T. 0.00 min

Lab File: VL033217.D

Acq: 15 Feb 2019 3:31

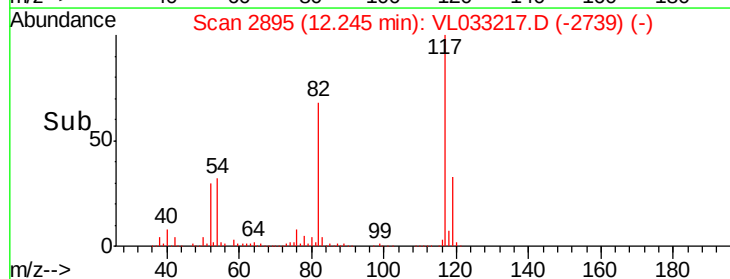
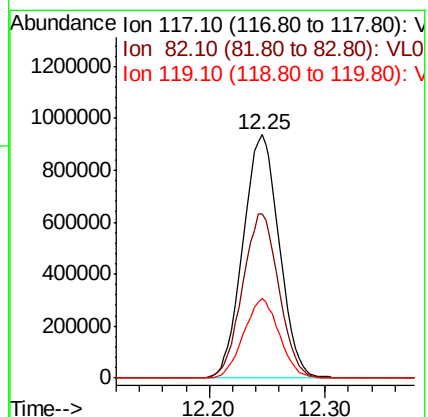
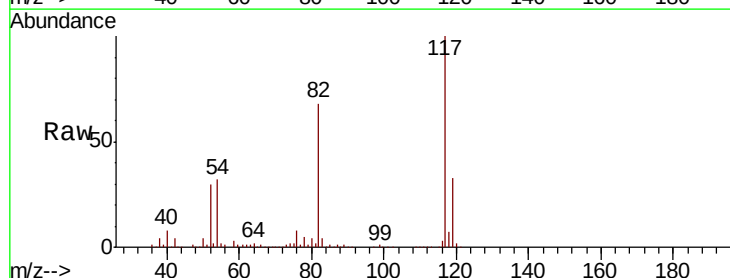
Tgt Ion: 117 Resp: 2034225

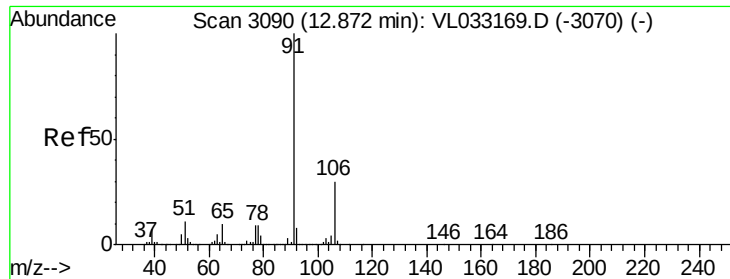
Ion Ratio Lower Upper

117 100

82 67.8 53.8 80.8

119 32.1 46.9 70.3#





#58

Ethyl Benzene

Concen: 0.510 ppbv

RT: 12.87 min Scan# 3089

Delta R.T. -0.00 min

Lab File: VL033217.D

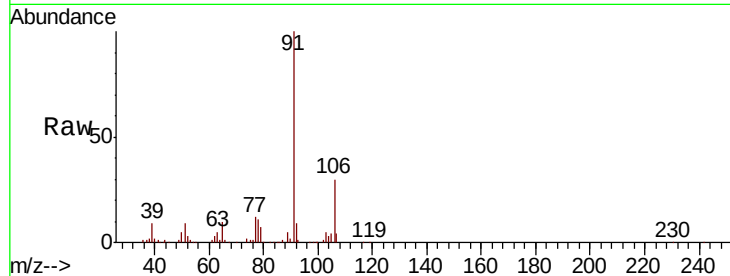
Acq: 15 Feb 2019 3:31

Tot Ion: 91 Resp: 170384

Ion Ratio Lower Upper

91 100

106 30.2 23.8 35.8



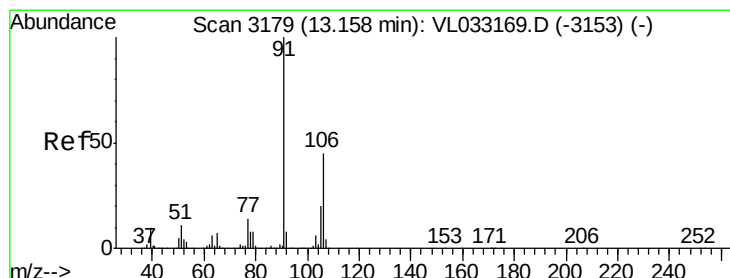
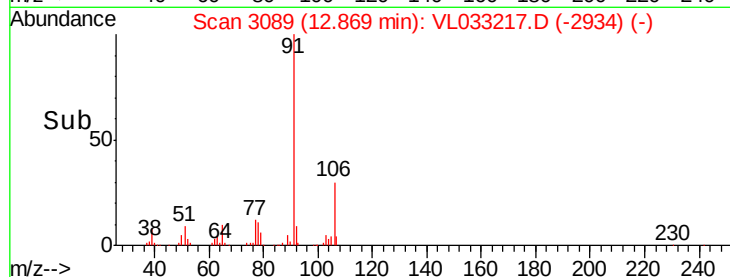
Abundance Ion 91.10 (90.80 to 91.80): VL0

Ion 106.10 (105.80 to 106.80): V

12.87

Time-->

12.80 12.85 12.90 12.95



#59

m/p-Xylene

Concen: 2.870 ppbv

RT: 13.12 min Scan# 3168

Delta R.T. -0.04 min

Lab File: VL033217.D

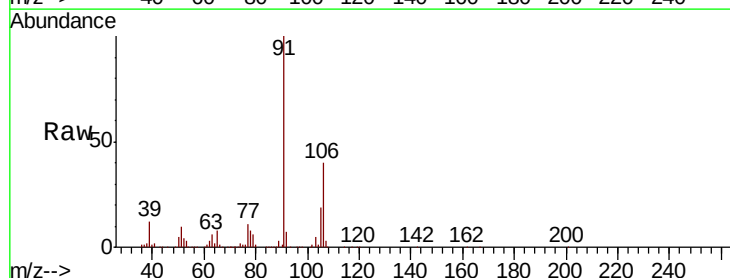
Acq: 15 Feb 2019 3:31

Tgt Ion: 91 Resp: 797109

Ion Ratio Lower Upper

91 100

106 43.3 36.6 55.0



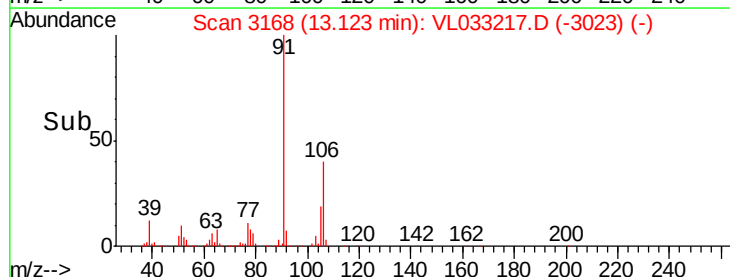
Abundance Ion 91.10 (90.80 to 91.80): VL0

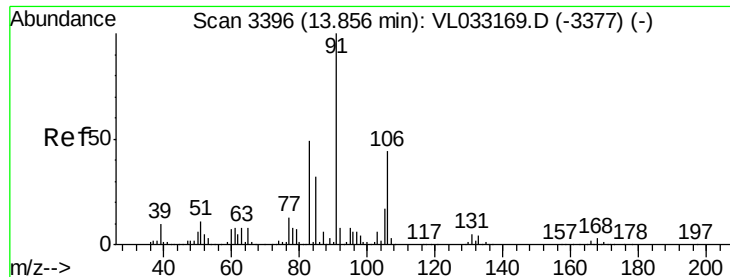
Ion 106.10 (105.80 to 106.80): V

13.12

Time-->

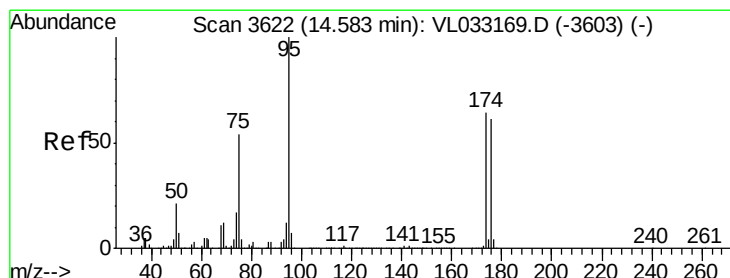
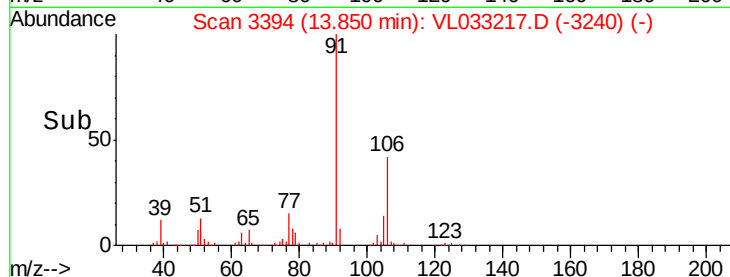
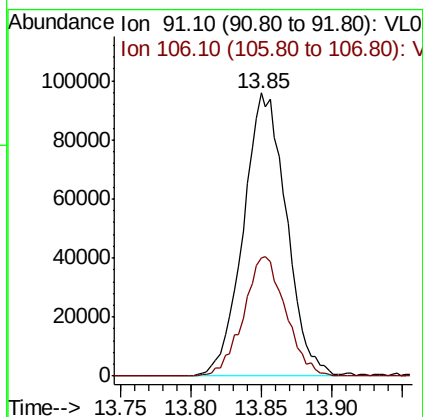
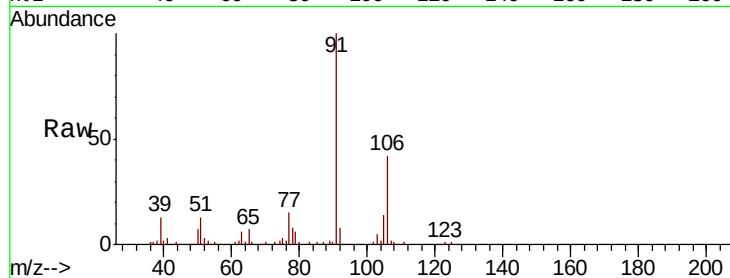
13.00 13.10 13.20





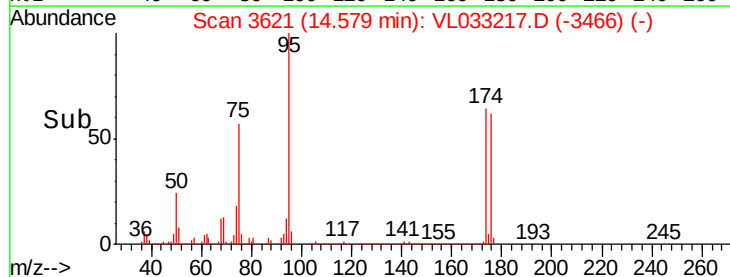
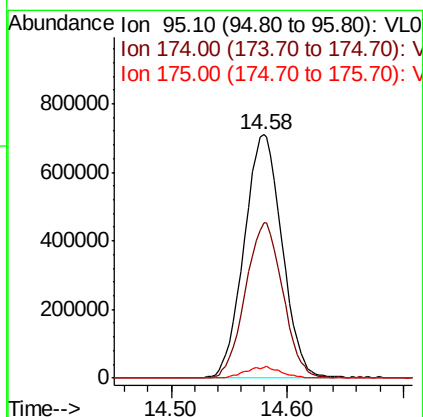
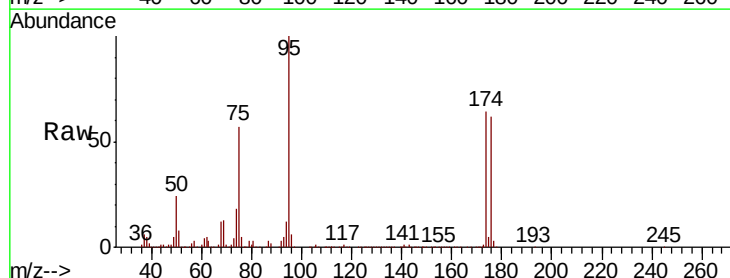
#60
o-Xylene
Concen: 0.757 ppbv
RT: 13.85 min Scan# 3394
Delta R.T. -0.01 min
Lab File: VL033217.D
Acq: 15 Feb 2019 3:31

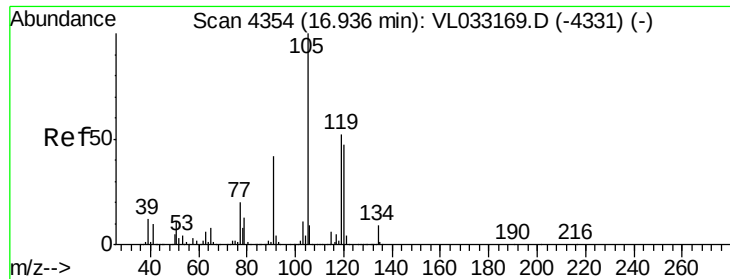
Tot Ion: 91 Resp: 205038
Ion Ratio Lower Upper
91 100
106 41.5 21.8 65.3



#68
1-Bromo-4-Fluorobenzene
Concen: 10.200 ppbv
RT: 14.58 min Scan# 3621
Delta R.T. -0.00 min
Lab File: VL033217.D
Acq: 15 Feb 2019 3:31

Tgt Ion: 95 Resp: 1617049
Ion Ratio Lower Upper
95 100
174 62.9 51.1 76.7
175 4.5 3.8 5.6

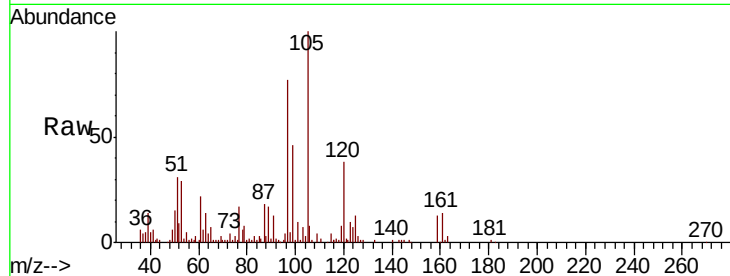




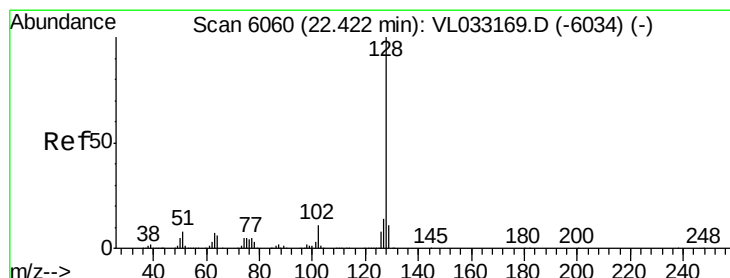
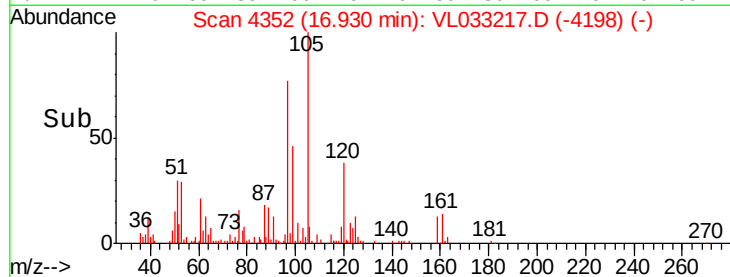
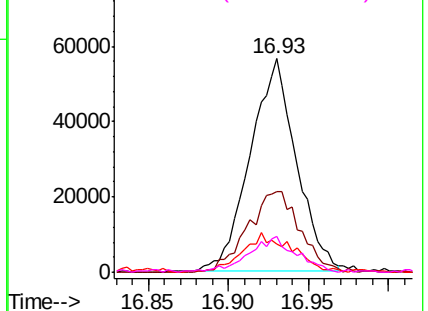
#74

1,2,4-Trimethylbenzene
Concen: 0.363 ppbv
RT: 16.93 min Scan# 4352
Delta R.T. -0.01 min
Lab File: VL033217.D
Acq: 15 Feb 2019 3:31

Tot Ion:105	Resp:	112448
Ion Ratio	Lower	Upper
105	100	
120	38.0	37.9 56.9
91	14.5	34.0 51.0#
77	17.0	15.7 23.5



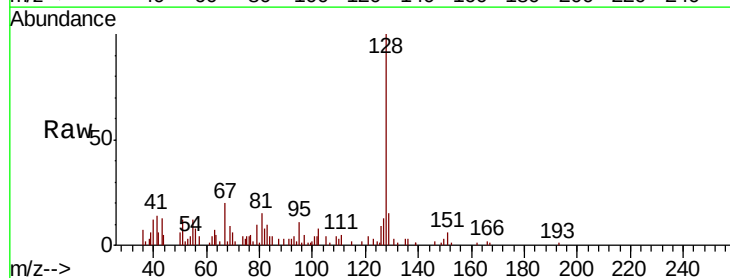
Abundance Ion 105.10 (104.80 to 105.80): V
Ion 120.20 (119.90 to 120.90): V
Ion 91.10 (90.80 to 91.80): VL0
Ion 77.10 (76.80 to 77.80): VL0



#79

Naphthalene
Concen: 0.109 ppbv m
RT: 22.41 min Scan# 6057
Delta R.T. -0.01 min
Lab File: VL033217.D
Acq: 15 Feb 2019 3:31

Tgt Ion:128	Resp:	36250
Ion Ratio	Lower	Upper
128	100	
127	13.2	11.0 16.4
129	15.4	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

