

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL021419\
 Data File : VL033215.D
 Acq On : 15 Feb 2019 2:12
 Operator : SY/AP
 Sample : K1483-09
 Misc : 400ml/MSVOA L
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Feb 21 01:30:48 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	5.76	49	912229	10.00	ppbv	0.00
33) 1,4-Difluorobenzene	7.29	114	2070871	10.00	ppbv	0.00
55) Chlorobenzene-d5	12.24	117	2066467	10.00	ppbv	0.00

System Monitoring Compounds

68) 1-Bromo-4-Fluorobenzene	14.58	95	1644158	10.21	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	=	102.10%

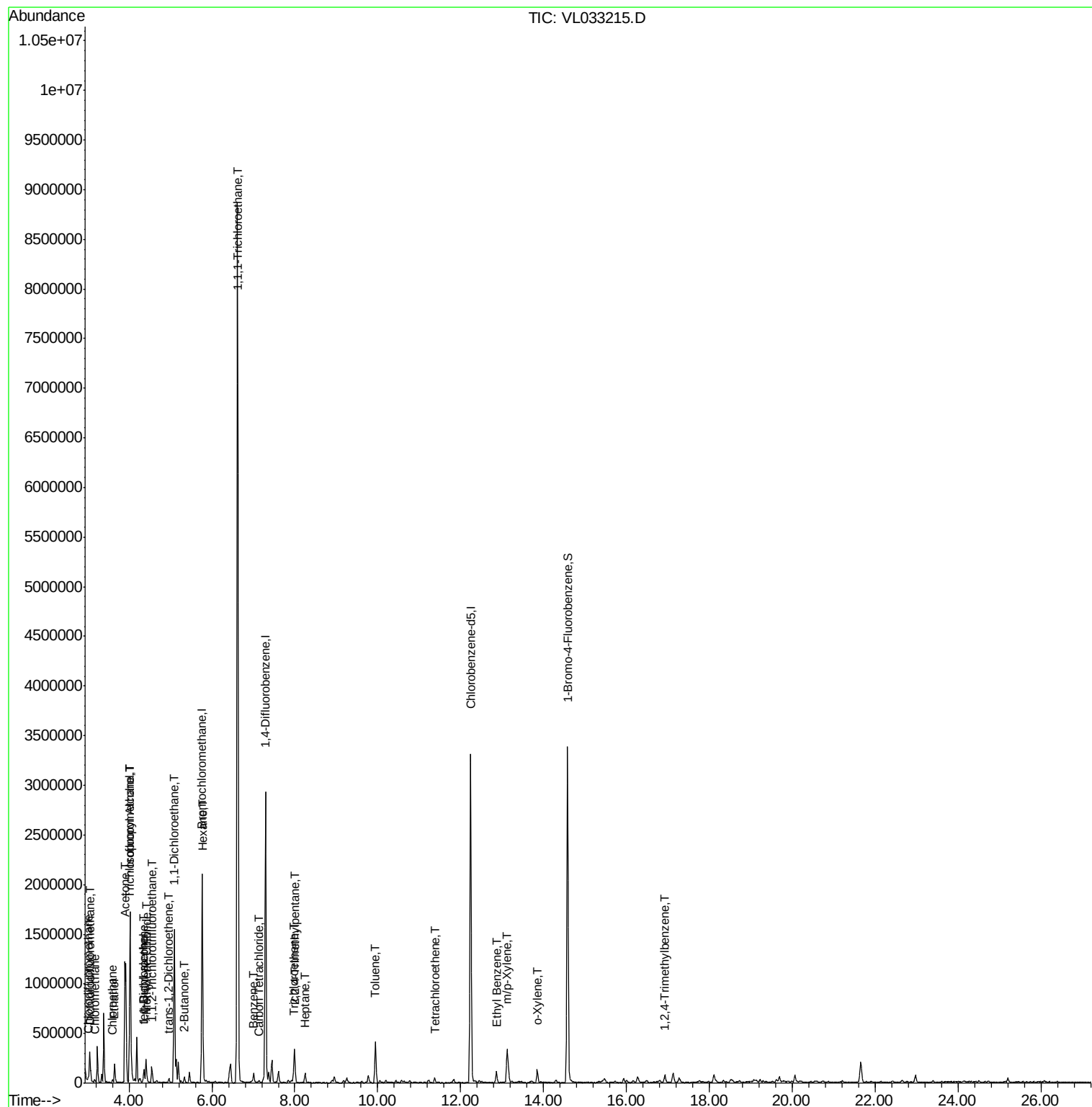
Target Compounds

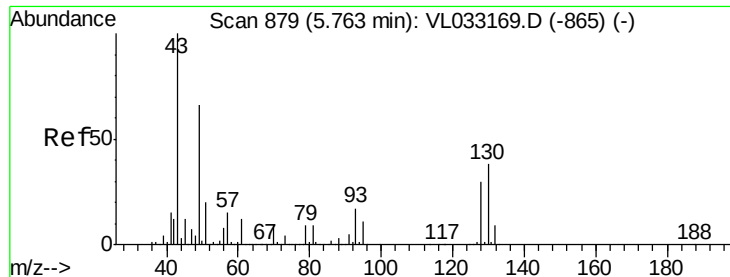
						Ovalue
2) Dichlorodifluoromethane	3.08	85	76909	0.441	ppbv	100
3) Chlorodifluoromethane	3.02	51	27492m	0.250	ppbv	
4) Chloromethane	3.17	50	24965	0.430	ppbv	89
7) Chloroethane	3.60	64	19166m	0.968	ppbv	
10) Heptane	8.25	43	38765	0.241	ppbv	99
11) Trichlorofluoromethane	4.01	101	48292	0.342	ppbv	95
12) 1,1,2-Trichlorotrifluoroet	4.55	101	56415	0.577	ppbv	97
13) Ethanol	3.65	45	187707m	10.410	ppbv	
15) Acetone	3.90	43	1116573m	10.864	ppbv	
17) tert-Butyl alcohol	4.36	59	35051	1.775	ppbv #	74
18) 1,1-Dichloroethene	4.35	96	29496	0.673	ppbv	93
19) Isopropyl Alcohol	4.02	45	1861350	26.704	ppbv	99
20) Methylene Chloride	4.41	84	75204	1.840	ppbv	97
22) trans-1,2-Dichloroethene	4.96	96	12391	0.291	ppbv	93
24) 1,1-Dichloroethane	5.09	63	1289021	10.231	ppbv	99
26) Hexane	5.78	57	149699	1.380	ppbv #	41
32) 1,1,1-Trichloroethane	6.62	97	5929665	32.394	ppbv	99
34) 2-Butanone	5.34	43	69694	0.531	ppbv	98
35) Carbon Tetrachloride	7.13	117	11714m	0.074	ppbv	
36) Benzene	7.01	78	73447	0.350	ppbv	97
38) Trichloroethene	7.97	130	8853m	0.099	ppbv	
44) 2,2,4-Trimethylpentane	7.99	57	298968	0.841	ppbv	96
52) Tetrachloroethene	11.38	164	10085m	0.125	ppbv	
53) Toluene	9.95	91	274070	1.103	ppbv	99
58) Ethyl Benzene	12.87	91	91951	0.271	ppbv	98
59) m/p-Xylene	13.12	91	357411	1.267	ppbv	98
60) o-Xylene	13.85	91	96520	0.351	ppbv	98
74) 1,2,4-Trimethylbenzene	16.93	105	48386	0.154	ppbv #	72

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

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#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.76 min Scan# 879

Delta R.T. 0.00 min

Lab File: VL033215.D

Acq: 15 Feb 2019 2:12

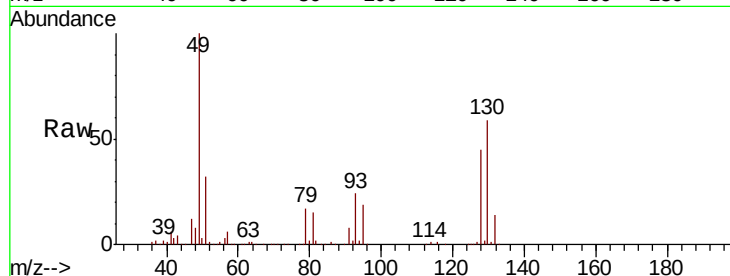
Tot Ion: 49 Resp: 912229

Ion Ratio Lower Upper

49 100

128 45.4 23.6 71.0

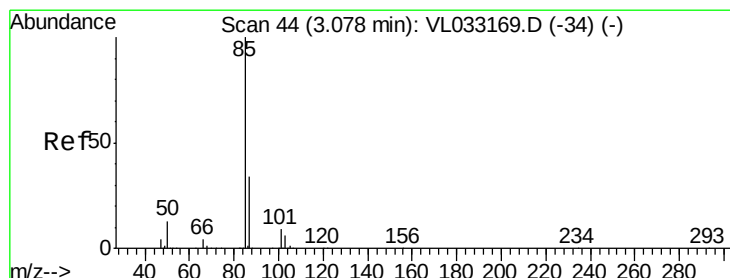
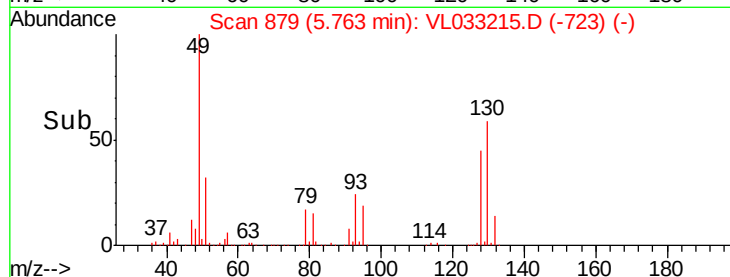
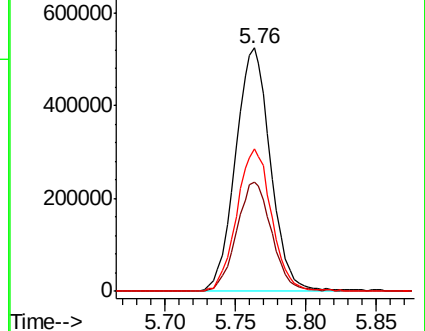
130 58.7 30.3 91.0



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: 0.441 ppbv

RT: 3.08 min Scan# 43

Delta R.T. -0.00 min

Lab File: VL033215.D

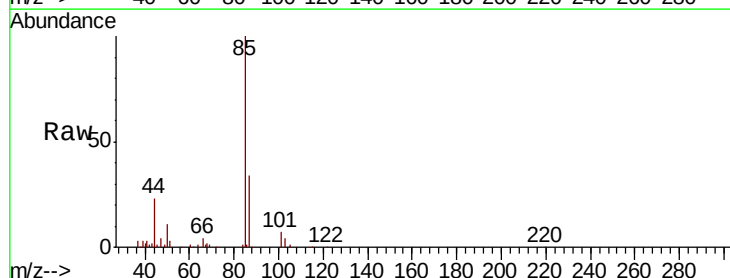
Acq: 15 Feb 2019 2:12

Tgt Ion: 85 Resp: 76909

Ion Ratio Lower Upper

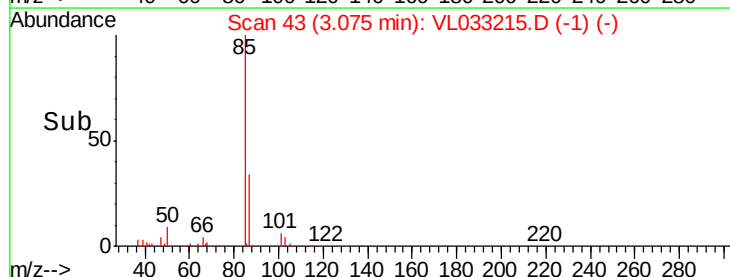
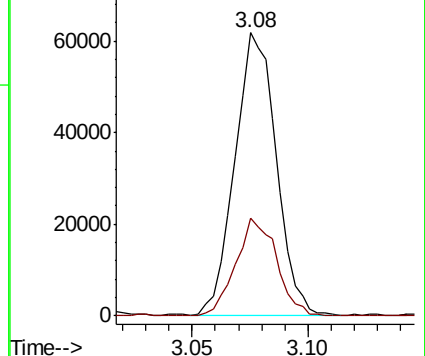
85 100

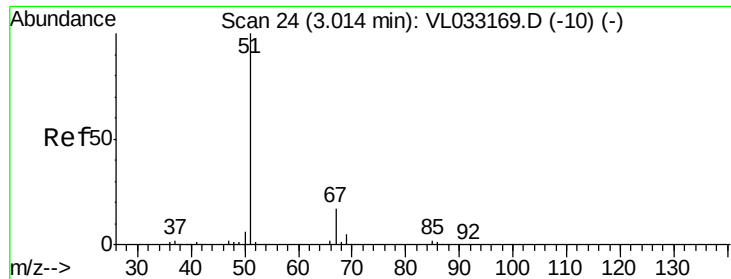
87 34.4 27.4 41.2



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 87.00 (86.70 to 87.70): VL0

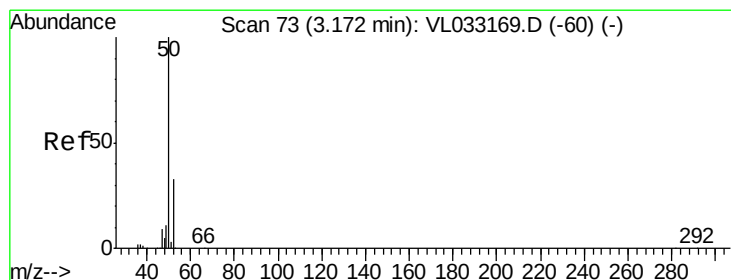
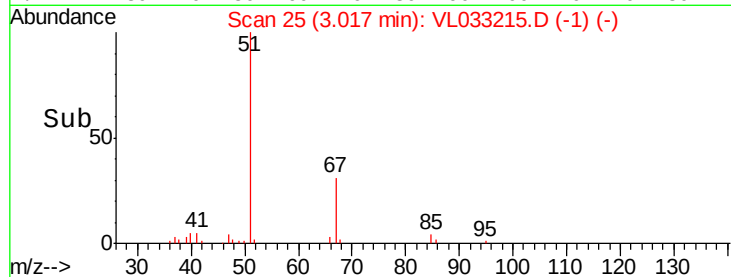
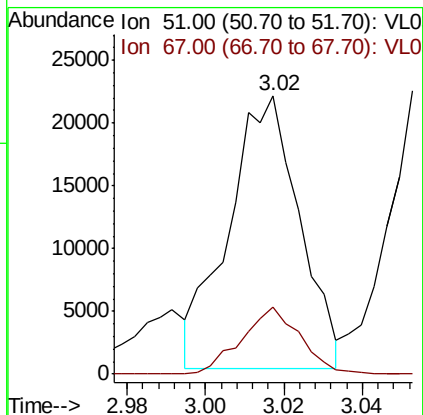
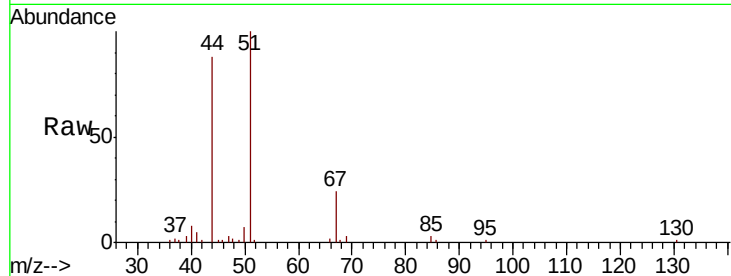




#3

Chlorodifluoromethane
 Concen: 0.250 ppbv
 RT: 3.02 min Scan# 25
 Delta R.T. 0.00 min
 Lab File: VL033215.D
 Acq: 15 Feb 2019 2:12

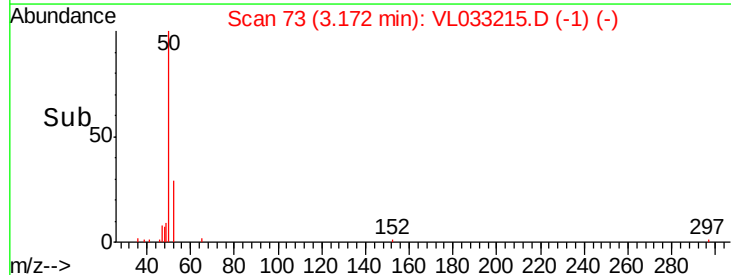
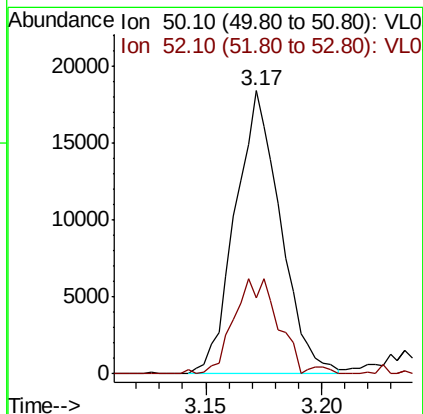
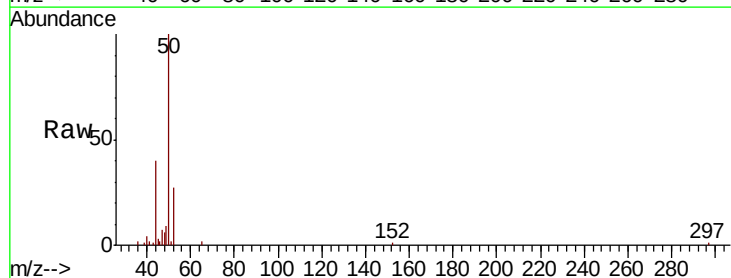
Tot Ion: 51 Resp: 27492
 Ion Ratio Lower Upper
 51 100
 67 20.2 14.0 21.0

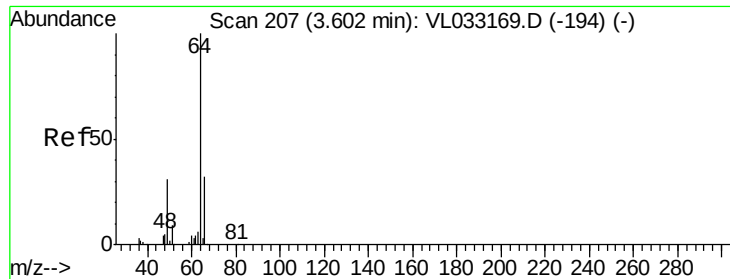


#4

Chloromethane
 Concen: 0.430 ppbv
 RT: 3.17 min Scan# 73
 Delta R.T. 0.00 min
 Lab File: VL033215.D
 Acq: 15 Feb 2019 2:12

Tgt Ion: 50 Resp: 24965
 Ion Ratio Lower Upper
 50 100
 52 26.8 26.5 39.7





#7

Chloroethane

Concen: 0.968 ppbv m

RT: 3.60 min Scan# 207

Delta R.T. 0.00 min

Lab File: VL033215.D

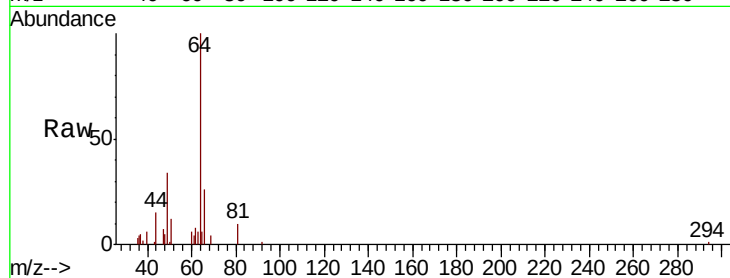
Acq: 15 Feb 2019 2:12

Tot Ion: 64 Resp: 19166

Ion Ratio Lower Upper

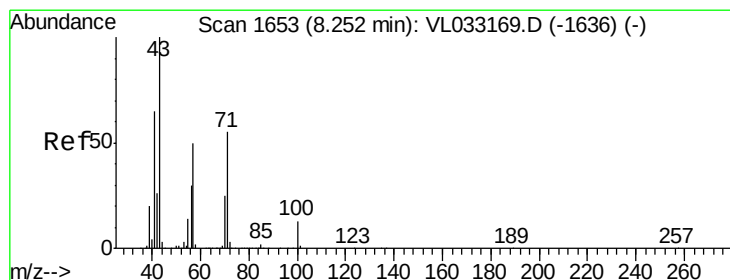
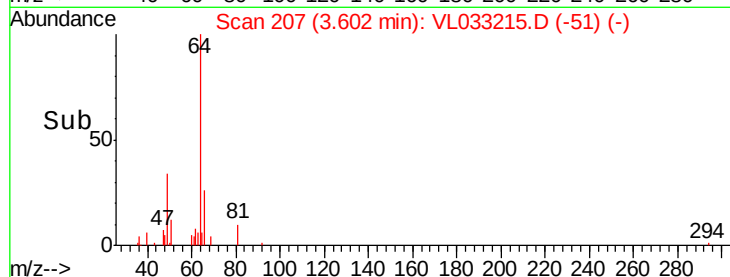
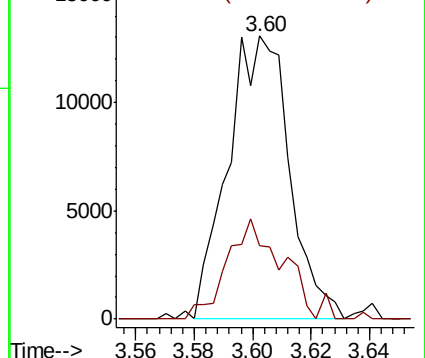
64 100

66 26.0 26.0 39.0



Abundance Ion 64.10 (63.80 to 64.80): VL0

Ion 66.10 (65.80 to 66.80): VL0



#10

Heptane

Concen: 0.241 ppbv

RT: 8.25 min Scan# 1652

Delta R.T. -0.00 min

Lab File: VL033215.D

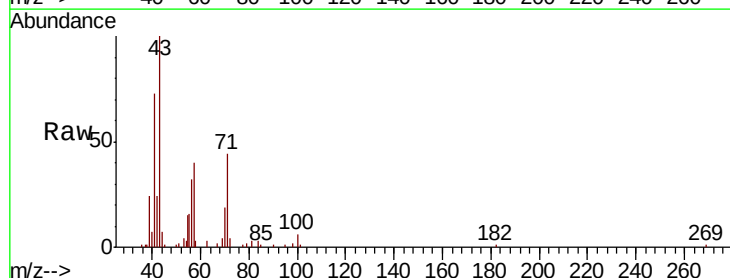
Acq: 15 Feb 2019 2:12

Tgt Ion: 43 Resp: 38765

Ion Ratio Lower Upper

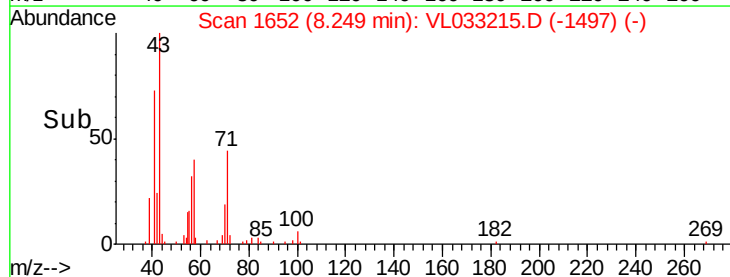
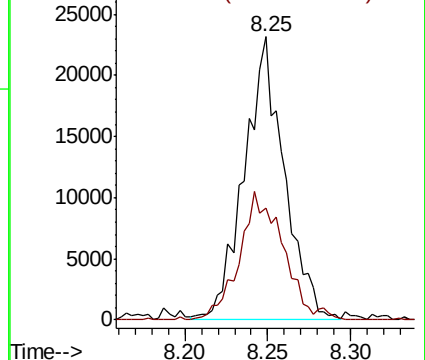
43 100

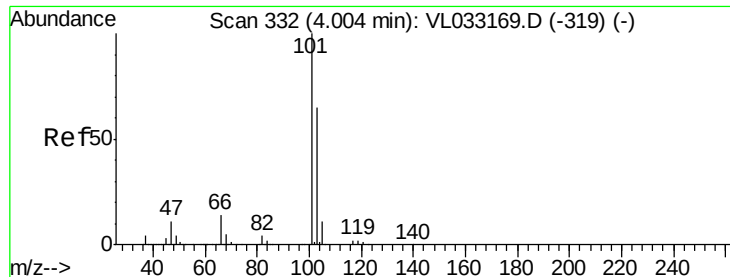
57 50.2 39.5 59.3



Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 57.10 (56.80 to 57.80): VL0





#11

Trichlorofluoromethane

Concen: 0.342 ppbv

RT: 4.01 min Scan# 333

Delta R.T. 0.00 min

Lab File: VL033215.D

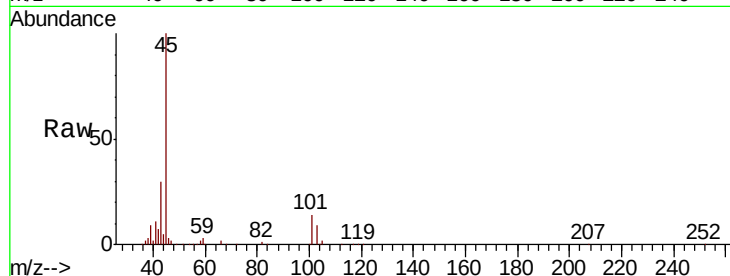
Acq: 15 Feb 2019 2:12

Tot Ion:101 Resp: 48292

Ion Ratio Lower Upper

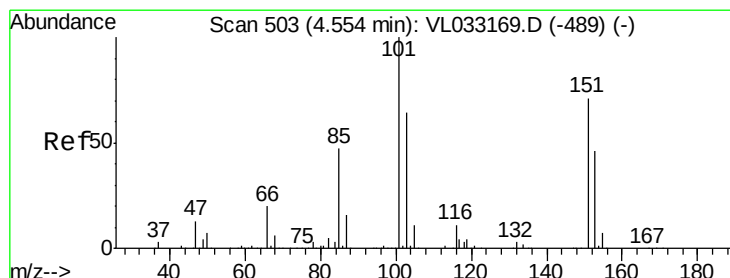
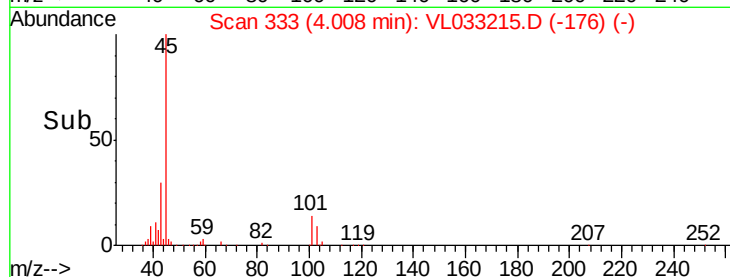
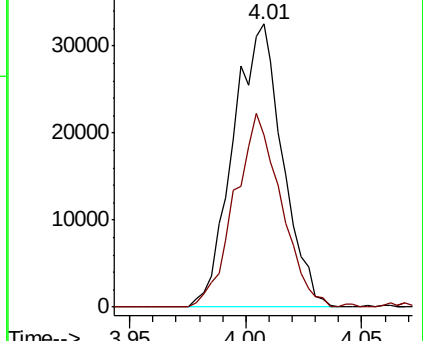
101 100

103 60.7 51.7 77.5



Abundance Ion 101.00 (100.70 to 101.70): V

Ion 103.00 (102.70 to 103.70): V



#12

1,1,2-Trichlorotrifluoroethane

Concen: 0.577 ppbv

RT: 4.55 min Scan# 503

Delta R.T. 0.00 min

Lab File: VL033215.D

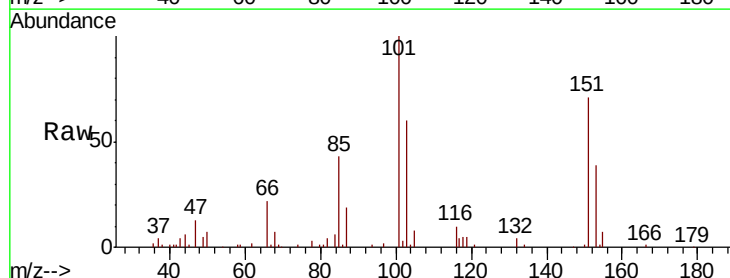
Acq: 15 Feb 2019 2:12

Tgt Ion:101 Resp: 56415

Ion Ratio Lower Upper

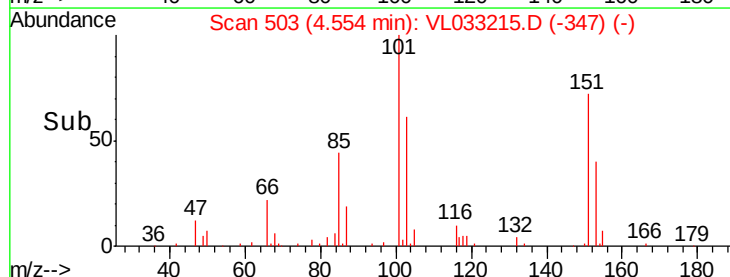
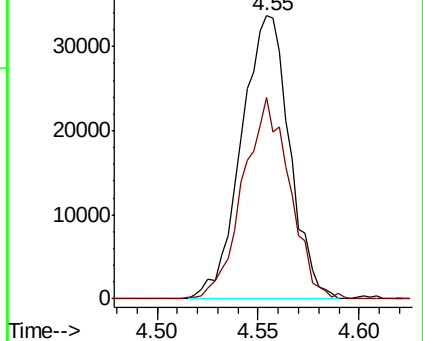
101 100

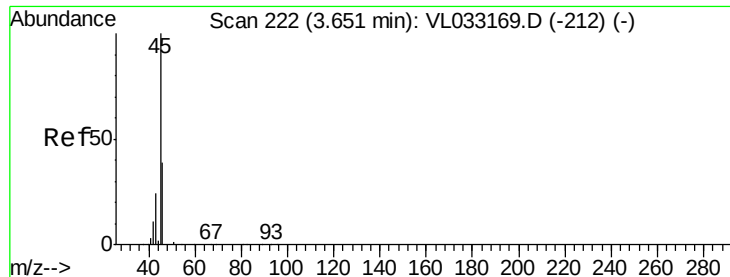
151 68.9 57.4 86.0



Abundance Ion 101.00 (100.70 to 101.70): V

Ion 151.00 (150.70 to 151.70): V





#13

Ethanol

Concen: 10.410 ppbv m

RT: 3.65 min Scan# 222

Delta R.T. 0.00 min

Lab File: VL033215.D

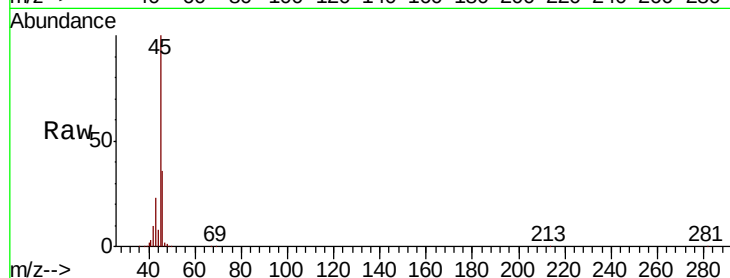
Acq: 15 Feb 2019 2:12

Tot Ion: 45 Resp: 187707

Ion Ratio Lower Upper

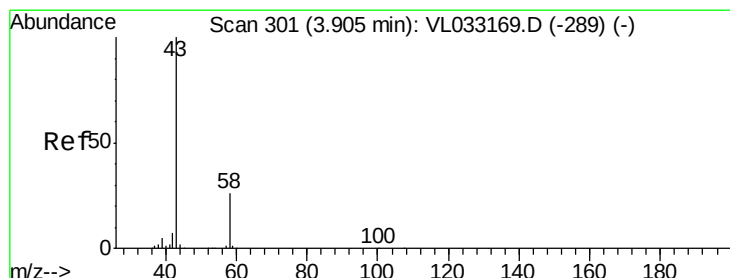
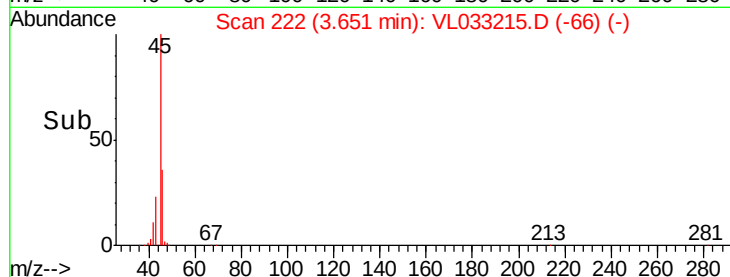
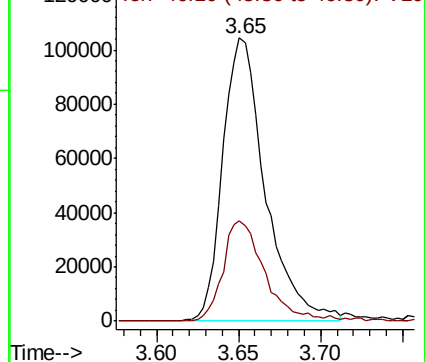
45 100

46 35.1 15.0 60.2



Abundance Ion 45.10 (44.80 to 45.80): VL0

Ion 46.10 (45.80 to 46.80): VL0



#15

Acetone

Concen: 10.864 ppbv m

RT: 3.90 min Scan# 300

Delta R.T. -0.00 min

Lab File: VL033215.D

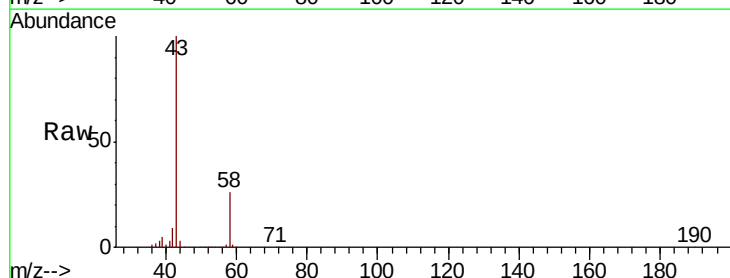
Acq: 15 Feb 2019 2:12

Tgt Ion: 43 Resp: 1116573

Ion Ratio Lower Upper

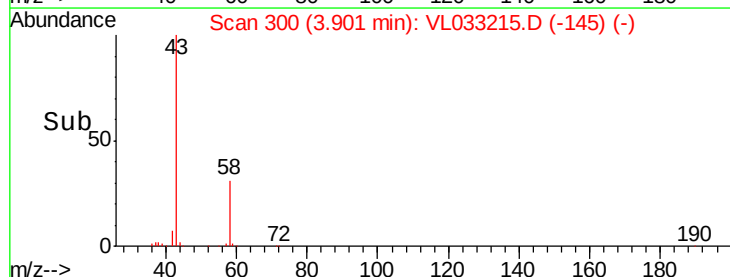
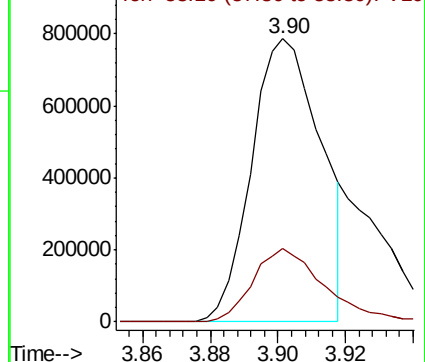
43 100

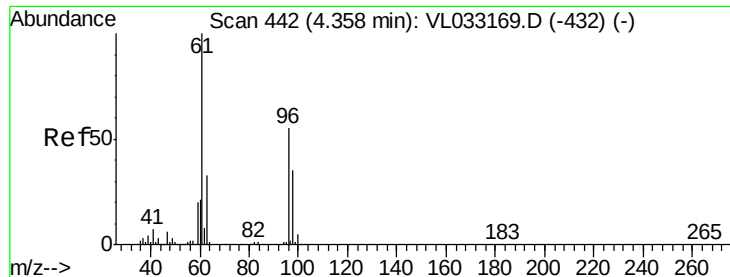
58 27.4 21.1 31.7



Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 58.10 (57.80 to 58.80): VL0





#17

tert-Butyl alcohol

Concen: 1.775 ppbv

RT: 4.36 min Scan# 443

Delta R.T. 0.00 min

Lab File: VL033215.D

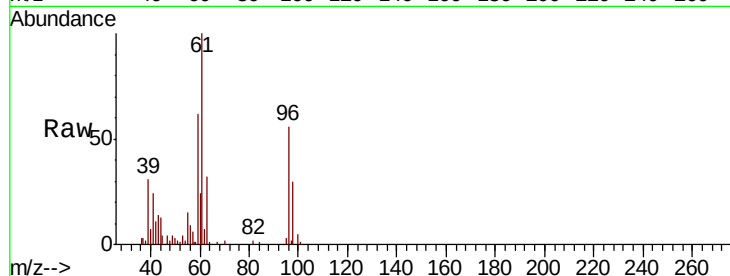
Acq: 15 Feb 2019 2:12

Tot Ion: 59 Resp: 35051

Ion Ratio Lower Upper

59 100

57 0.0 7.6 11.4#



Abundance Ion 59.10 (58.80 to 59.80): VL0

Ion 57.10 (56.80 to 57.80): VL0

4.36

15000

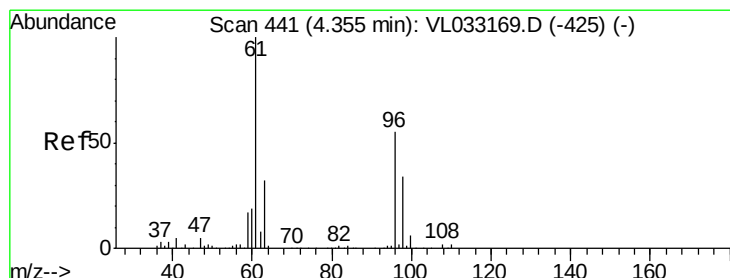
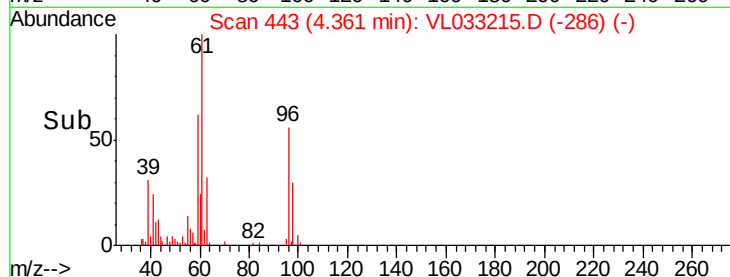
10000

5000

0

Time-->

4.30 4.35 4.40 4.45



#18

1,1-Dichloroethene

Concen: 0.673 ppbv

RT: 4.35 min Scan# 440

Delta R.T. -0.00 min

Lab File: VL033215.D

Acq: 15 Feb 2019 2:12

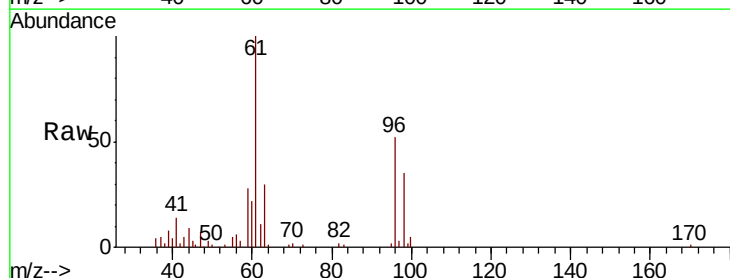
Tgt Ion: 96 Resp: 29496

Ion Ratio Lower Upper

96 100

61 190.2 145.0 217.6

98 68.7 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

50000

40000

30000

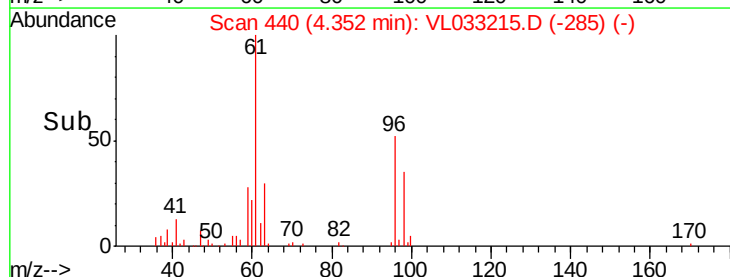
20000

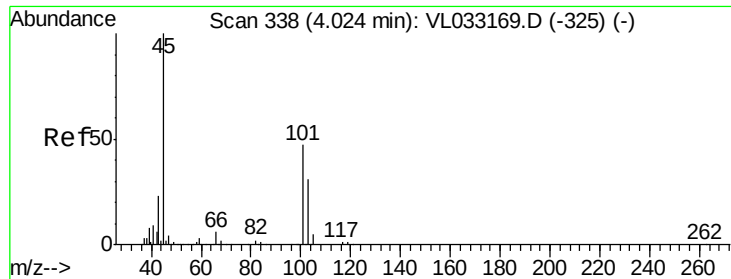
10000

0

Time-->

4.30 4.35 4.40





#19

Isopropyl Alcohol

Concen: 26.704 ppbv

RT: 4.02 min Scan# 338

Delta R.T. 0.00 min

Lab File: VL033215.D

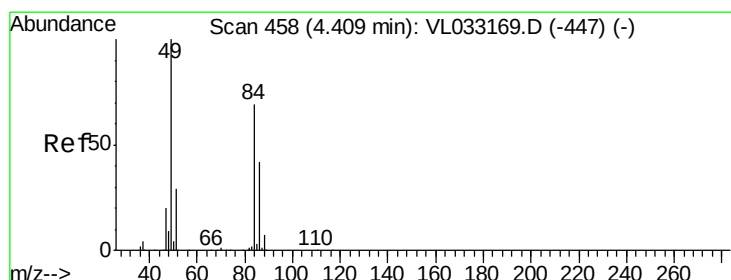
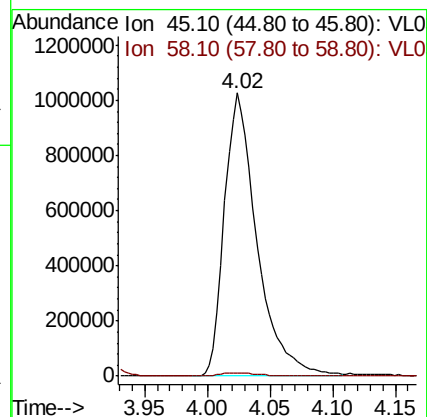
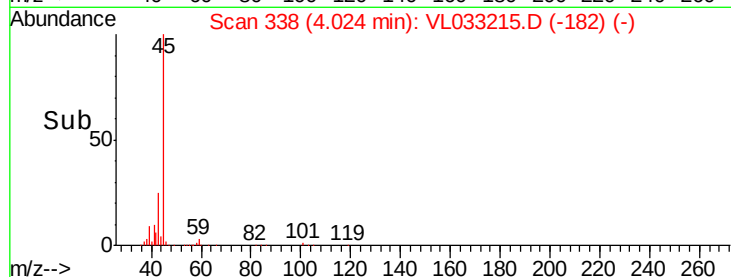
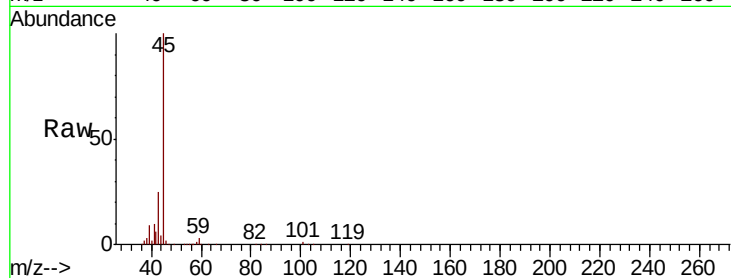
Acq: 15 Feb 2019 2:12

Tot Ion: 45 Resp: 1861350

Ion Ratio Lower Upper

45 100

58 1.7 1.5 2.3



#20

Methylene Chloride

Concen: 1.840 ppbv

RT: 4.41 min Scan# 459

Delta R.T. 0.00 min

Lab File: VL033215.D

Acq: 15 Feb 2019 2:12

Tgt Ion: 84 Resp: 75204

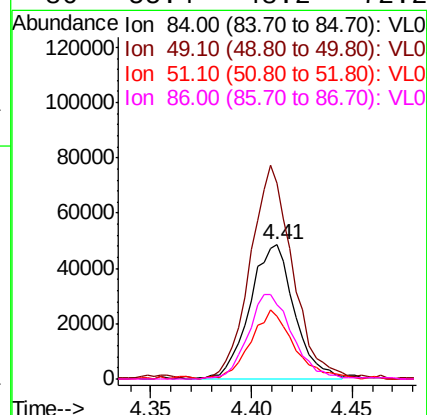
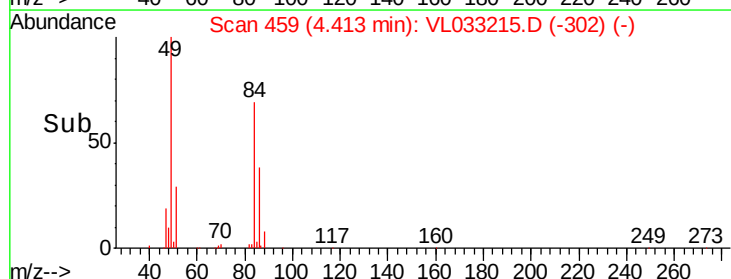
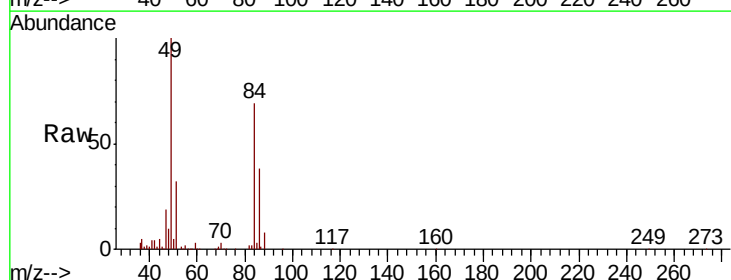
Ion Ratio Lower Upper

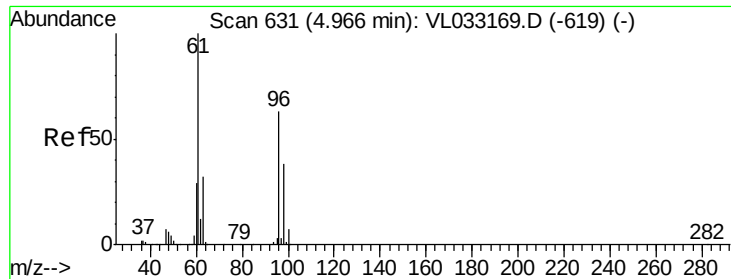
84 100

49 145.3 115.8 173.8

51 45.6 33.0 49.6

86 55.4 48.2 72.2





#22

trans-1,2-Dichloroethene

Concen: 0.291 ppbv

RT: 4.96 min Scan# 630

Delta R.T. -0.00 min

Lab File: VL033215.D

Acq: 15 Feb 2019 2:12

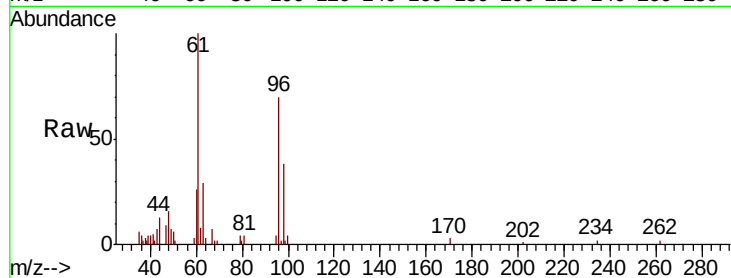
Tot Ion: 96 Resp: 12391

Ion Ratio Lower Upper

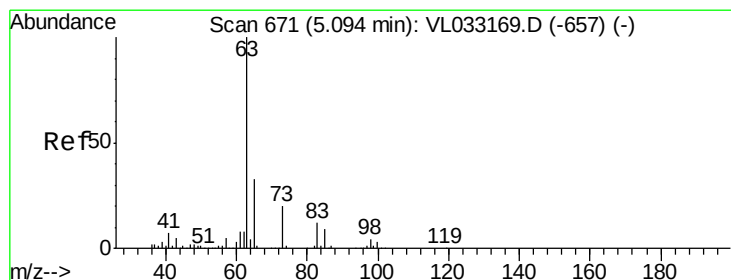
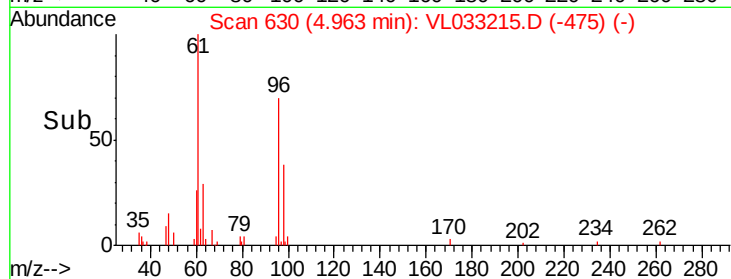
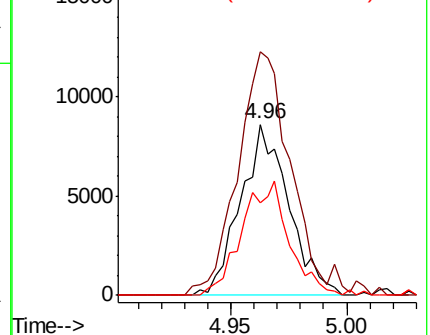
96 100

61 149.2 126.4 189.6

98 54.4 48.4 72.6



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



#24

1,1-Dichloroethane

Concen: 10.231 ppbv

RT: 5.09 min Scan# 670

Delta R.T. -0.00 min

Lab File: VL033215.D

Acq: 15 Feb 2019 2:12

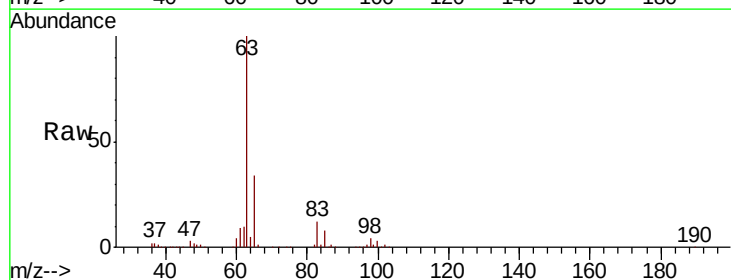
Tgt Ion: 63 Resp: 1289021

Ion Ratio Lower Upper

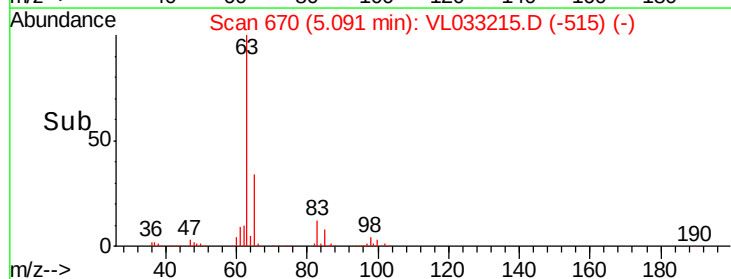
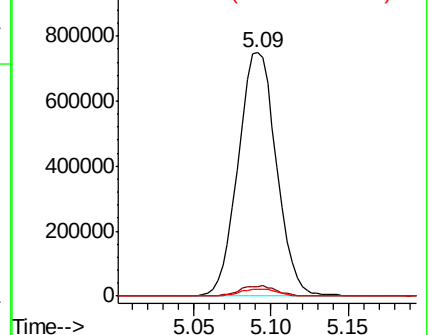
63 100

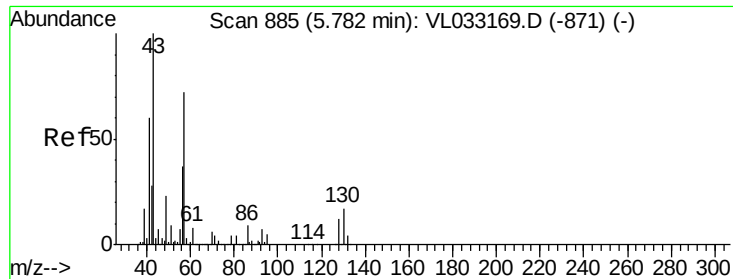
98 3.9 2.1 6.5

100 3.0 1.4 4.2



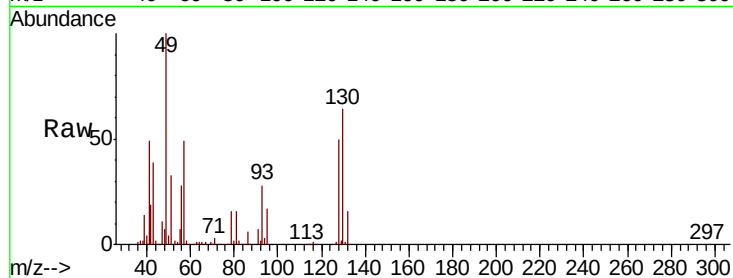
Abundance Ion 63.10 (62.80 to 63.80): VL0
Ion 98.00 (97.70 to 98.70): VL0
Ion 100.00 (99.70 to 100.70): VL0



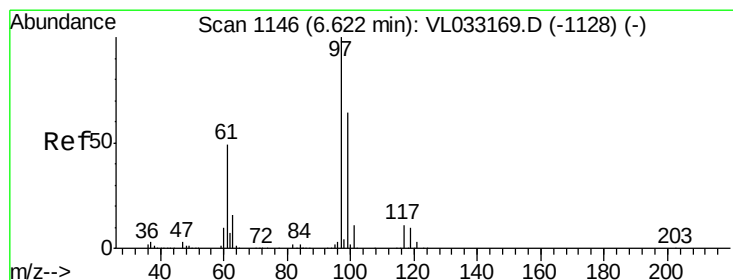
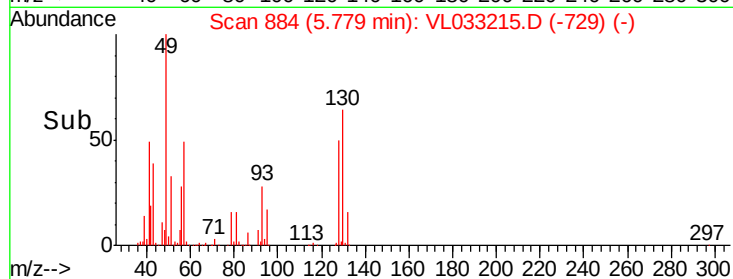
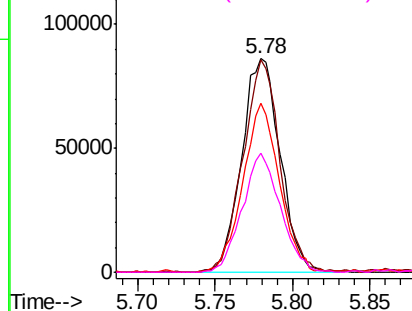


#26
Hexane
Concen: 1.380 ppbv
RT: 5.78 min Scan# 884
Delta R.T. -0.00 min
Lab File: VL033215.D
Acq: 15 Feb 2019 2:12

Tot Ion: 57 Resp: 149699
Ion Ratio Lower Upper
57 100
41 95.8 69.4 104.2
43 75.3 176.7 265.1#
56 55.3 41.4 62.0

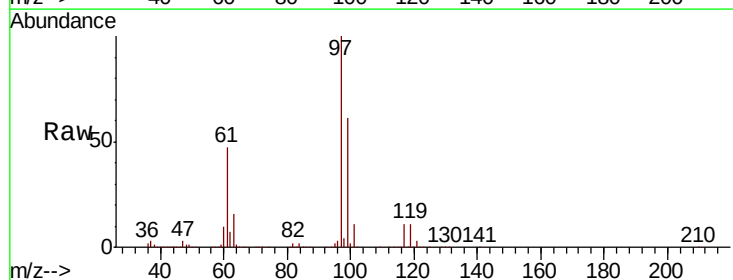


Abundance Ion 57.10 (56.80 to 57.80): VL0
Ion 41.10 (40.80 to 41.80): VL0
Ion 43.10 (42.80 to 43.80): VL0
Ion 56.10 (55.80 to 56.80): VL0

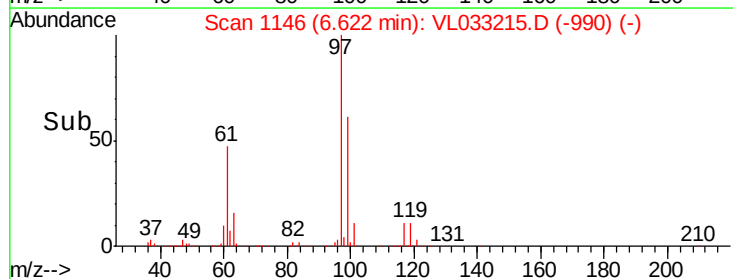
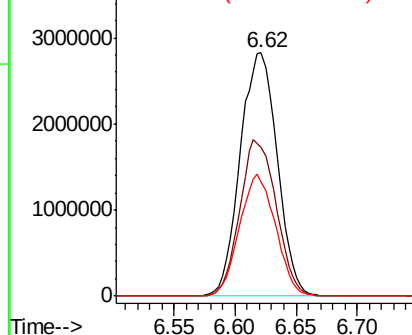


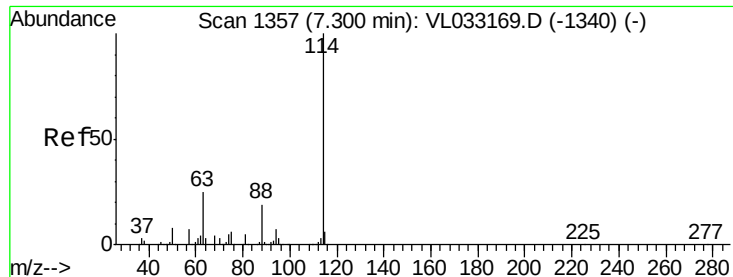
#32
1,1,1-Trichloroethane
Concen: 32.394 ppbv
RT: 6.62 min Scan# 1146
Delta R.T. 0.00 min
Lab File: VL033215.D
Acq: 15 Feb 2019 2:12

Tgt Ion: 97 Resp: 5929665
Ion Ratio Lower Upper
97 100
99 63.2 51.4 77.2
61 48.8 38.8 58.2



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: 7.29 min Scan# 1354

Delta R.T. -0.01 min

Lab File: VL033215.D

Acq: 15 Feb 2019 2:12

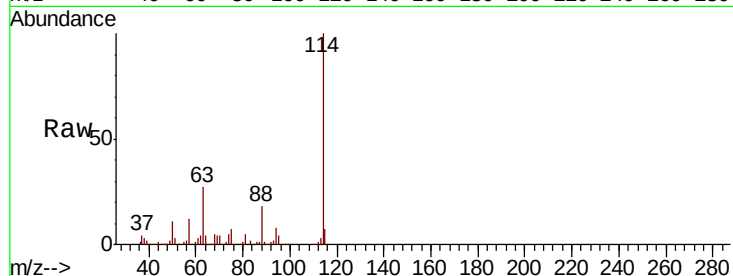
Tot Ion:114 Resp: 2070871

Ion Ratio Lower Upper

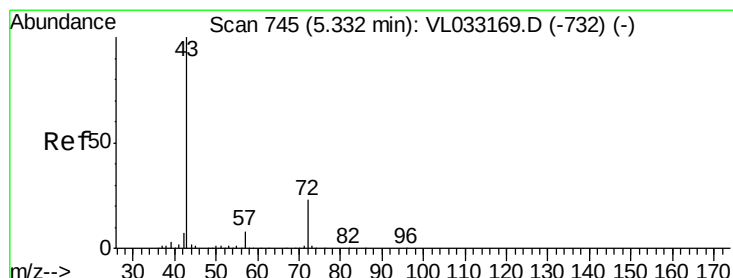
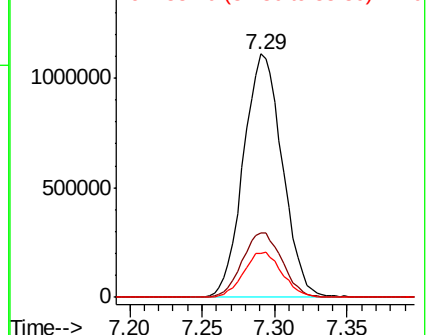
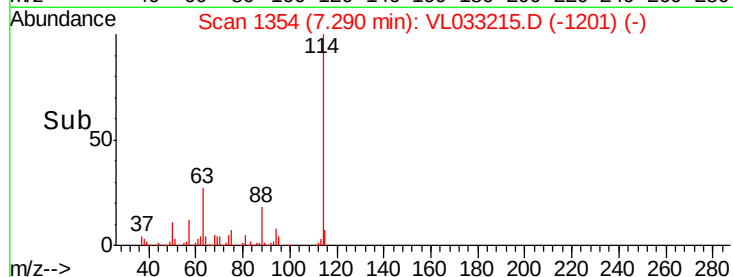
114 100

63 27.2 20.8 31.2

88 18.4 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: 0.531 ppbv

RT: 5.34 min Scan# 746

Delta R.T. 0.00 min

Lab File: VL033215.D

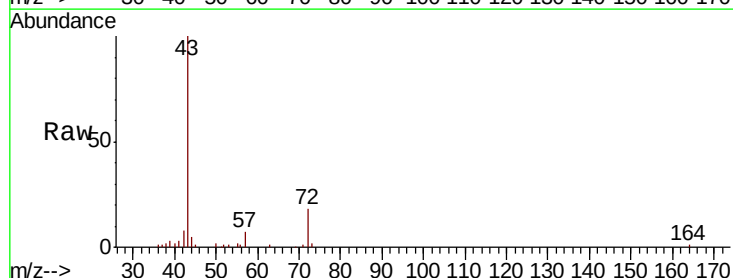
Acq: 15 Feb 2019 2:12

Tgt Ion: 43 Resp: 69694

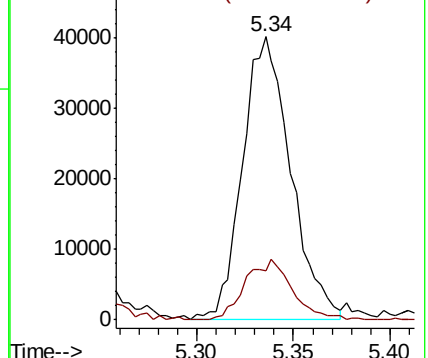
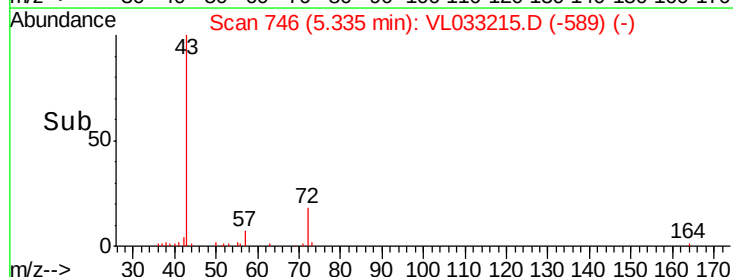
Ion Ratio Lower Upper

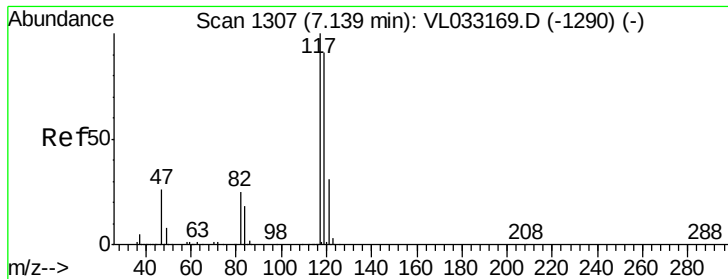
43 100

72 21.0 17.8 26.6



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





#35

Carbon Tetrachloride

Concen: 0.074 ppbv m

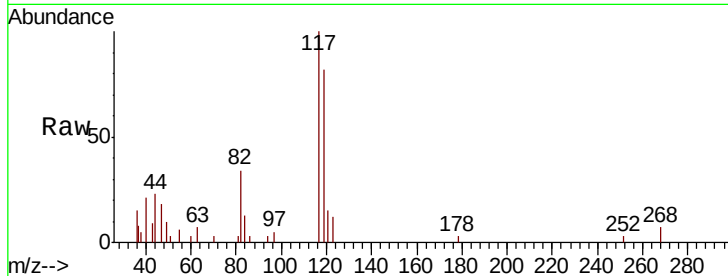
RT: 7.13 min Scan# 1305

Delta R.T. -0.01 min

Lab File: VL033215.D

Acq: 15 Feb 2019 2:12

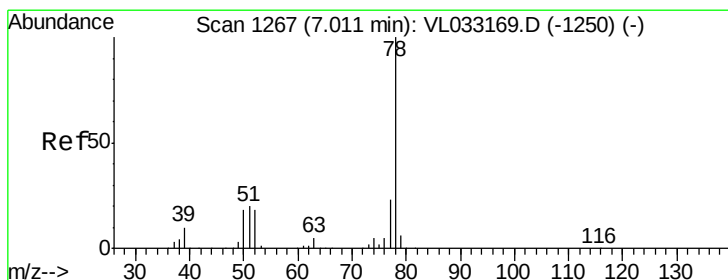
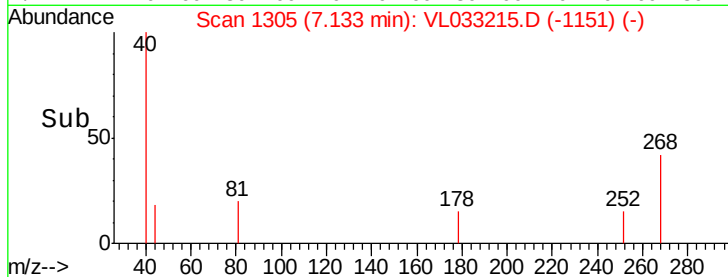
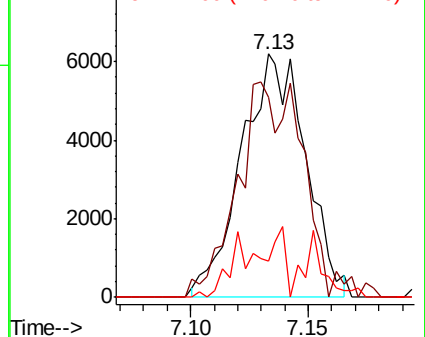
Tot Ion	Ratio	Lower	Upper
117	100		
119	82.4	73.0	109.6
121	14.6	25.1	37.7#



Abundance Ion 117.00 (116.70 to 117.70): V

Ion 119.00 (118.70 to 119.70): V

Ion 121.00 (120.70 to 121.70): V



#36

Benzene

Concen: 0.350 ppbv

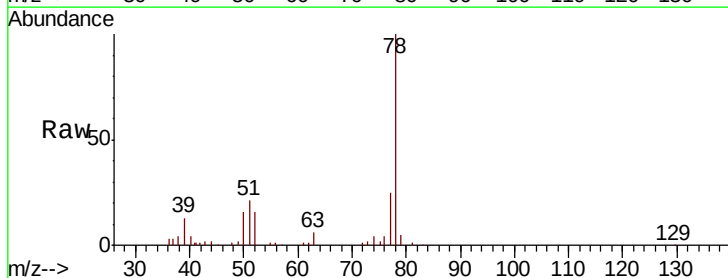
RT: 7.01 min Scan# 1266

Delta R.T. -0.00 min

Lab File: VL033215.D

Acq: 15 Feb 2019 2:12

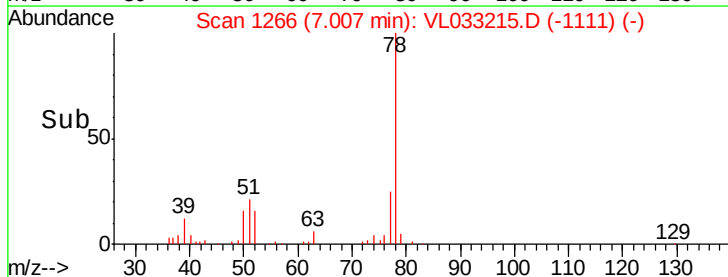
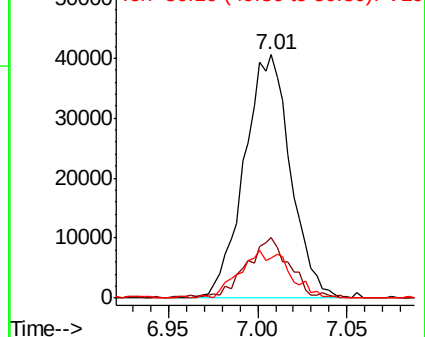
Tgt Ion	Ratio	Lower	Upper
78	100		
77	23.8	18.0	27.0
50	16.5	14.2	21.2

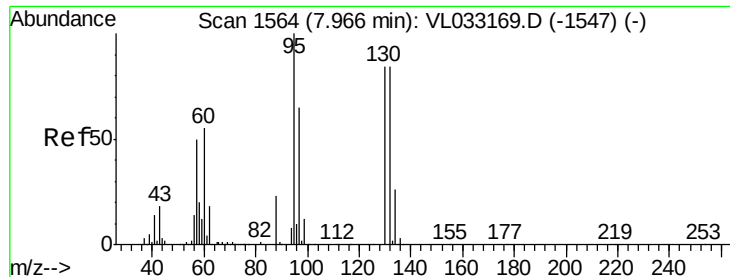


Abundance Ion 78.10 (77.80 to 78.80): VL0

Ion 77.10 (76.80 to 77.80): VL0

Ion 50.10 (49.80 to 50.80): VL0





#38

Trichloroethene

Concen: 0.099 ppbv m

RT: 7.97 min Scan# 1565

Delta R.T. 0.00 min

Lab File: VL033215.D

Acq: 15 Feb 2019 2:12

Tot Ion:130 Resp: 8853

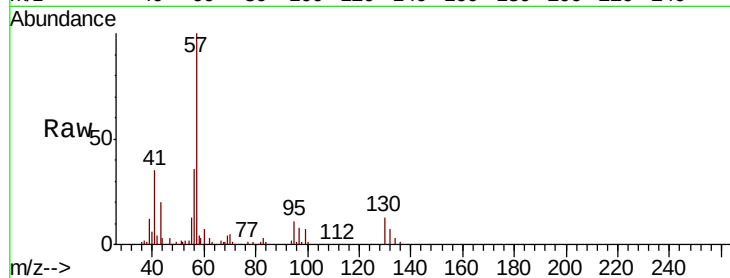
Ion Ratio Lower Upper

130 100

95 90.2 95.5 143.3#

132 58.7 80.0 120.0#

97 67.4 62.2 93.2

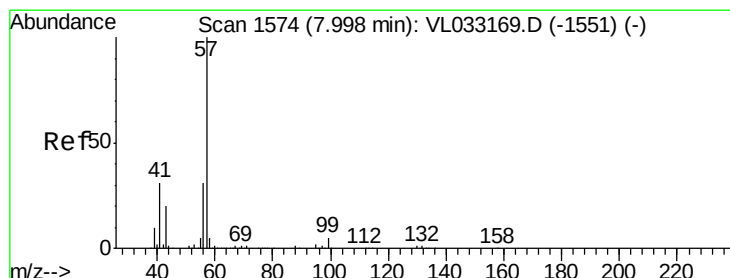
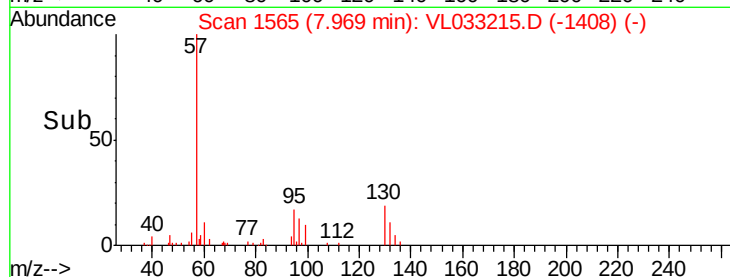
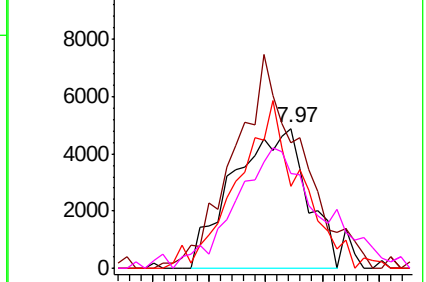


Abundance Ion 130.00 (129.70 to 130.70): V

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: 0.841 ppbv

RT: 7.99 min Scan# 1572

Delta R.T. -0.01 min

Lab File: VL033215.D

Acq: 15 Feb 2019 2:12

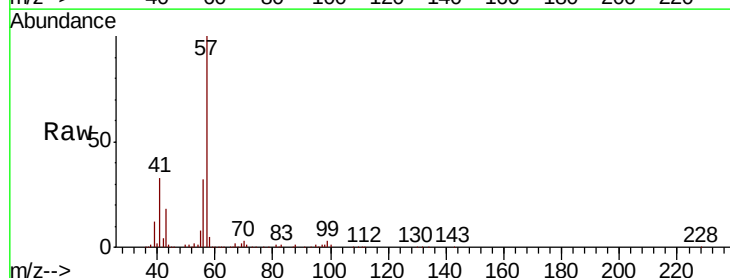
Tgt Ion: 57 Resp: 298968

Ion Ratio Lower Upper

57 100

41 34.0 25.2 37.8

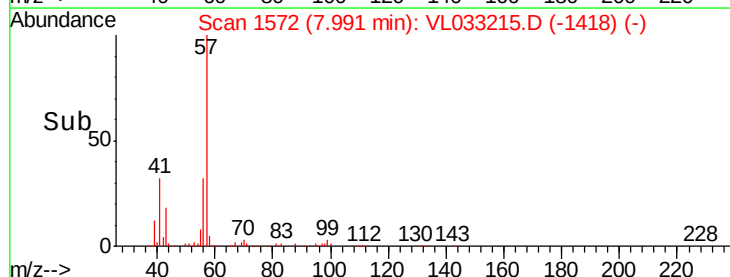
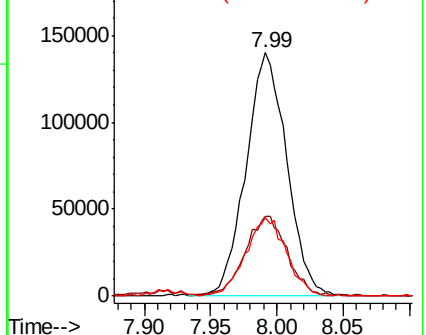
56 32.7 24.5 36.7

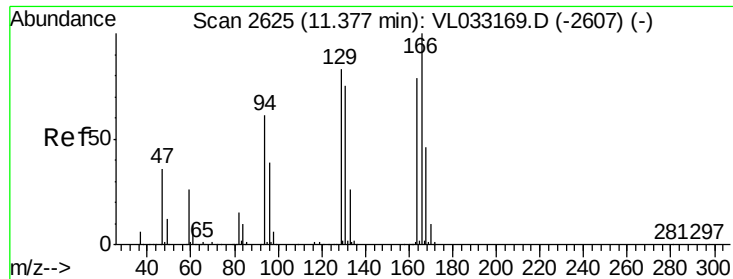


Abundance Ion 57.10 (56.80 to 57.80): VL0

Ion 41.10 (40.80 to 41.80): VL0

Ion 56.10 (55.80 to 56.80): VL0





#52

Tetrachloroethene

Concen: 0.125 ppbv m

RT: 11.38 min Scan# 2625

Delta R.T. 0.00 min

Lab File: VL033215.D

Acq: 15 Feb 2019 2:12

Tot Ion:164 Resp: 10085

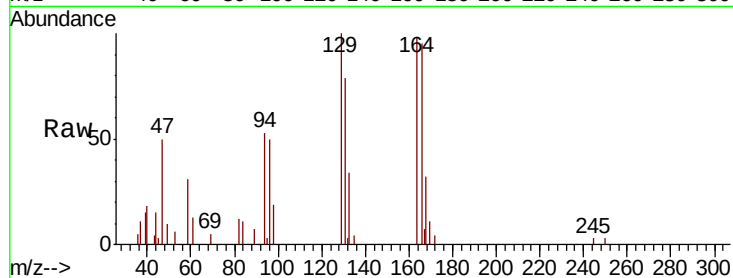
Ion Ratio Lower Upper

164 100

166 97.2 100.9 151.3#

129 101.8 83.9 125.9

131 80.4 76.2 114.2

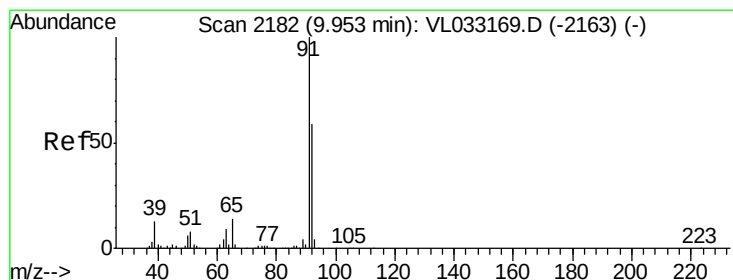
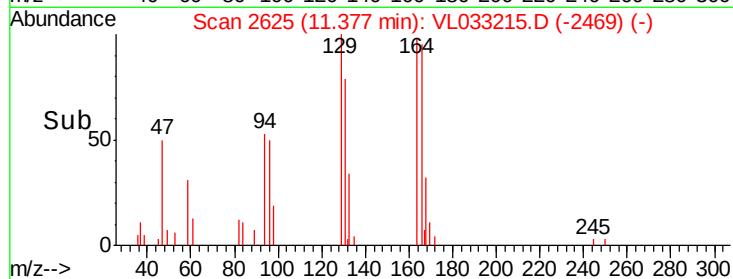
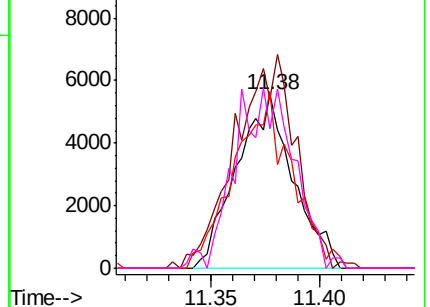


Abundance Ion 163.90 (163.60 to 164.60): V

Ion 165.90 (165.60 to 166.60): V

Ion 129.00 (128.70 to 129.70): V

Ion 131.00 (130.70 to 131.70): V



#53

Toluene

Concen: 1.103 ppbv

RT: 9.95 min Scan# 2180

Delta R.T. -0.01 min

Lab File: VL033215.D

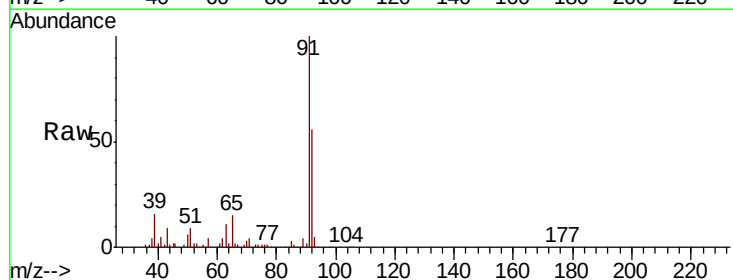
Acq: 15 Feb 2019 2:12

Tgt Ion: 91 Resp: 274070

Ion Ratio Lower Upper

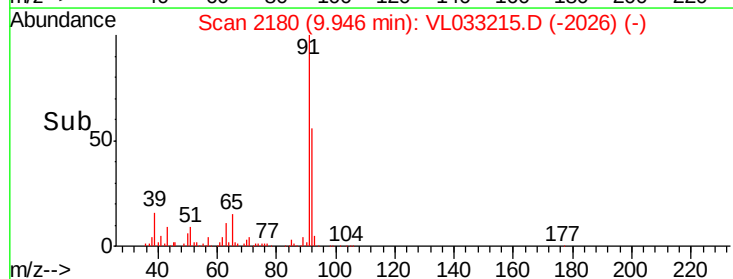
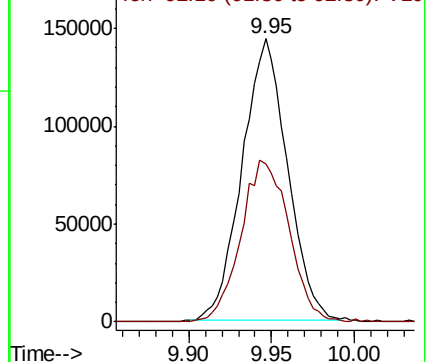
91 100

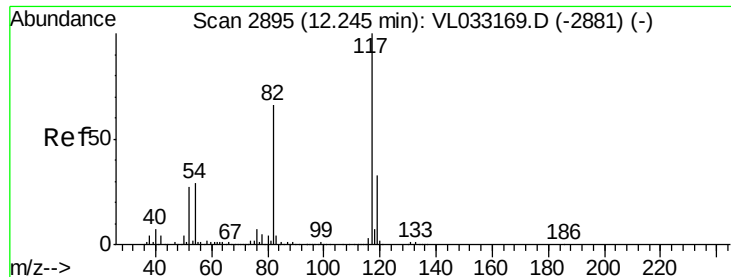
92 60.9 48.0 72.0



Abundance Ion 91.10 (90.80 to 91.80): VL0

Ion 92.10 (91.80 to 92.80): VL0





#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 12.24 min Scan# 2893

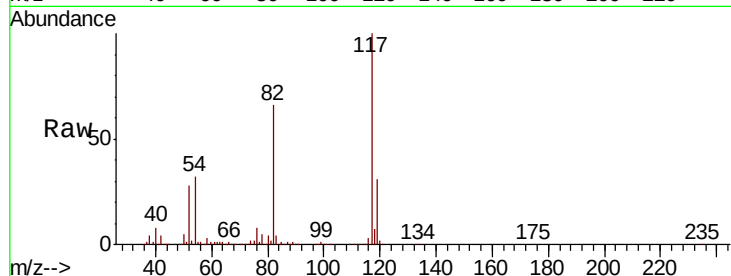
Delta R.T. -0.01 min

Lab File: VL033215.D

Acq: 15 Feb 2019 2:12

Tot Ion:117 Resp: 2066467

Ion	Ratio	Lower	Upper
117	100		
82	67.4	53.8	80.8
119	32.0	46.9	70.3

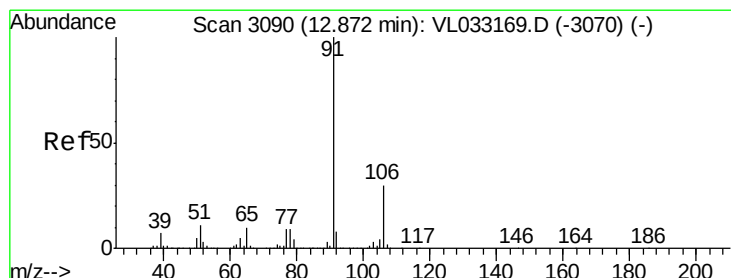
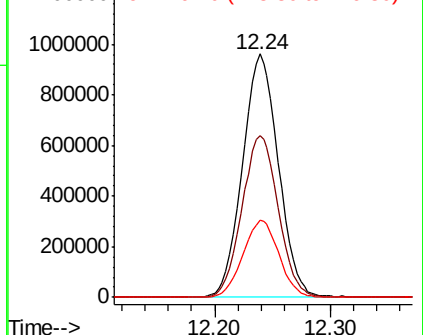
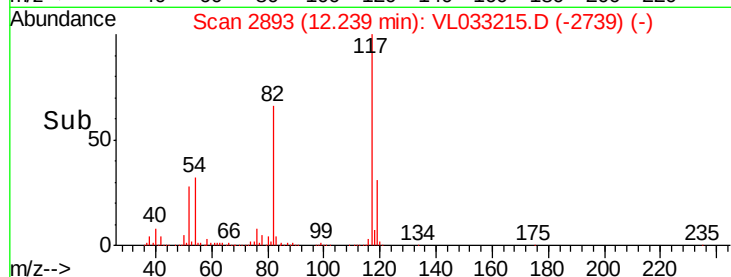


Abundance

Ion 117.10 (116.80 to 117.80): V

Ion 82.10 (81.80 to 82.80): VL0

Ion 119.10 (118.80 to 119.80): V



#58

Ethyl Benzene

Concen: 0.271 ppbv

RT: 12.87 min Scan# 3088

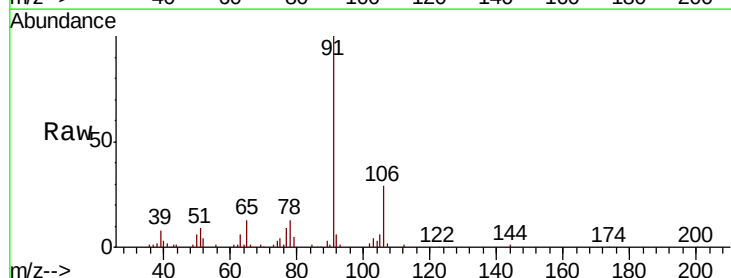
Delta R.T. -0.01 min

Lab File: VL033215.D

Acq: 15 Feb 2019 2:12

Tgt Ion: 91 Resp: 91951

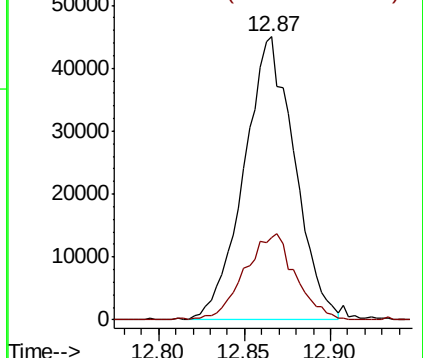
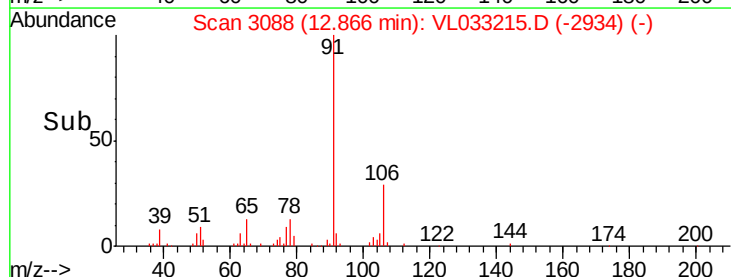
Ion	Ratio	Lower	Upper
91	100		
106	28.7	23.8	35.8

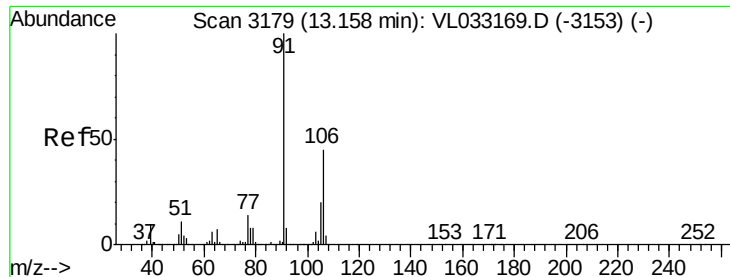


Abundance

Ion 91.10 (90.80 to 91.80): VL0

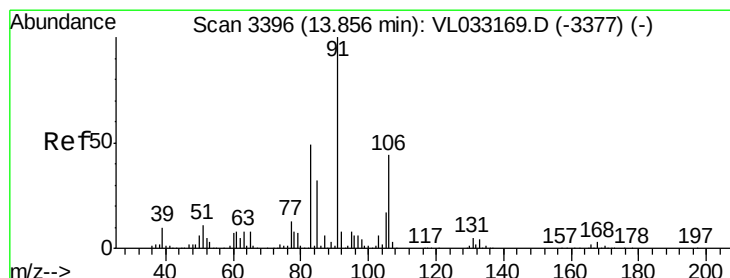
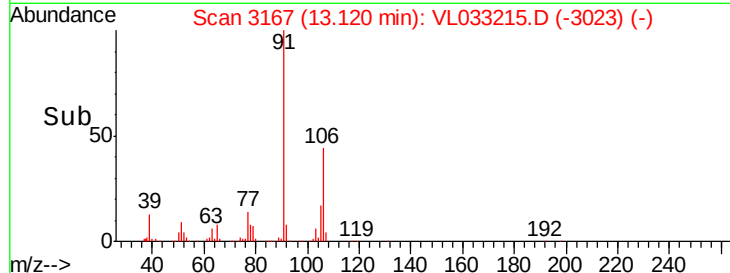
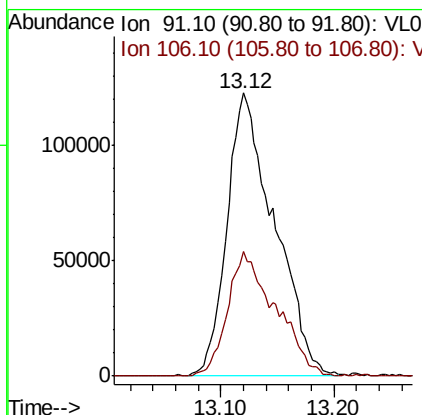
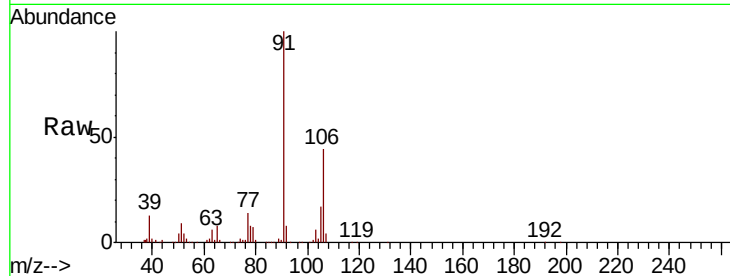
Ion 106.10 (105.80 to 106.80): V





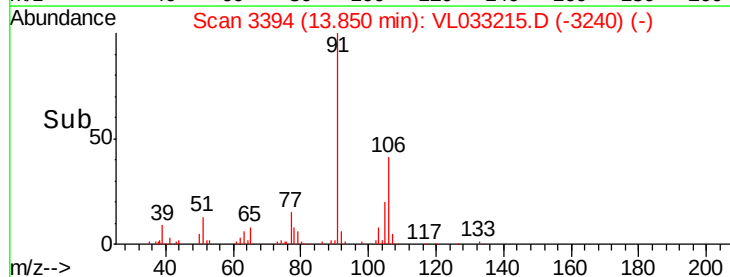
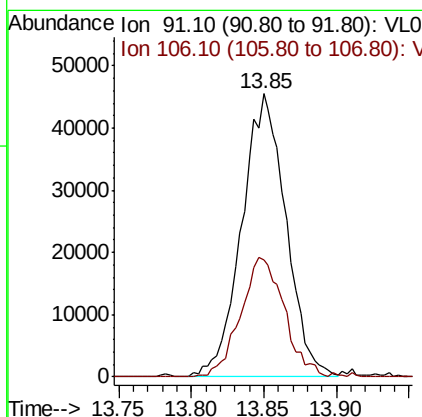
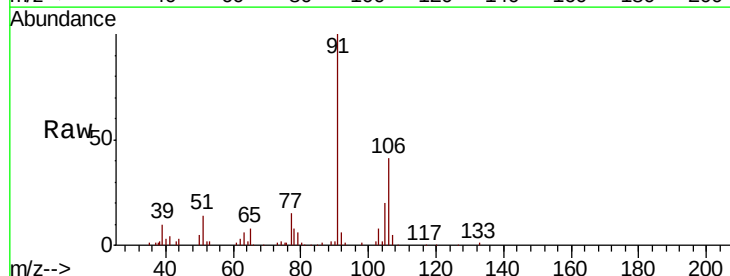
#59
m/p-Xylene
Concen: 1.267 ppbv
RT: 13.12 min Scan# 3167
Delta R.T. -0.04 min
Lab File: VL033215.D
Acq: 15 Feb 2019 2:12

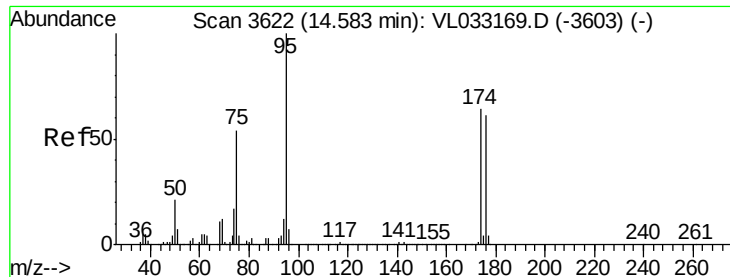
Tot Ion: 91 Resp: 357411
Ion Ratio Lower Upper
91 100
106 44.4 36.6 55.0



#60
o-Xylene
Concen: 0.351 ppbv
RT: 13.85 min Scan# 3394
Delta R.T. -0.01 min
Lab File: VL033215.D
Acq: 15 Feb 2019 2:12

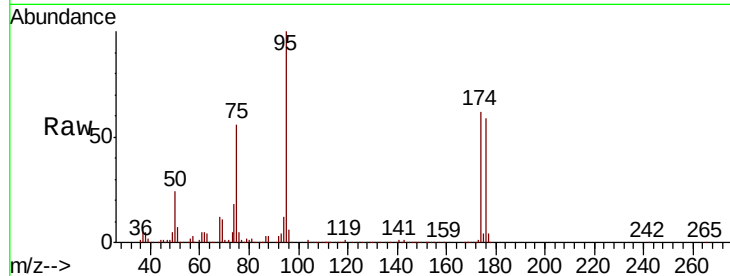
Tgt Ion: 91 Resp: 96520
Ion Ratio Lower Upper
91 100
106 41.9 21.8 65.3



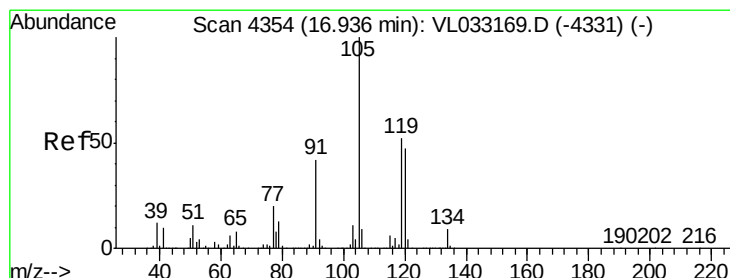
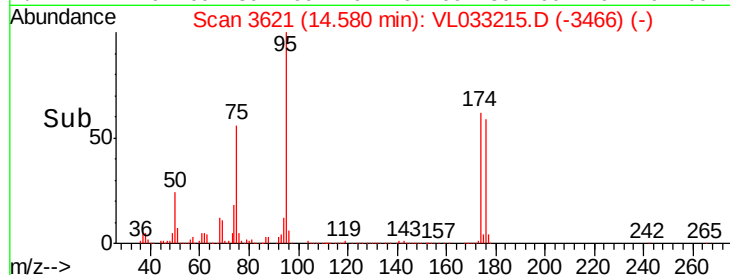
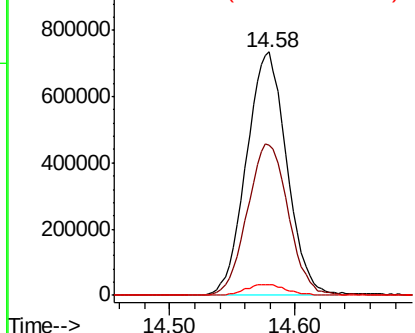


#68
 1-Bromo-4-Fluorobenzene
 Concen: 10.210 ppbv
 RT: 14.58 min Scan# 3621
 Delta R.T. -0.00 min
 Lab File: VL033215.D
 Acq: 15 Feb 2019 2:12

Tot Ion: 95 Resp: 1644158
 Ion Ratio Lower Upper
 95 100
 174 63.8 51.1 76.7
 175 4.5 3.8 5.6

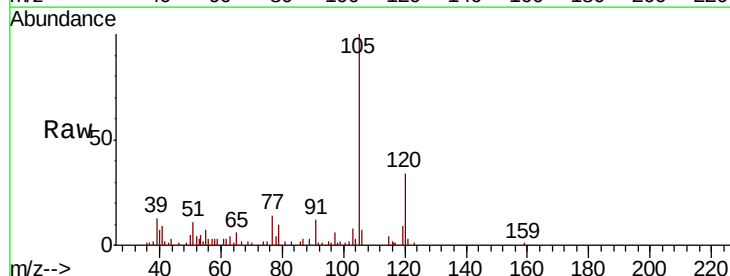


Abundance Ion 95.10 (94.80 to 95.80): VL0
 Ion 174.00 (173.70 to 174.70): V
 Ion 175.00 (174.70 to 175.70): V



#74
 1,2,4-Trimethylbenzene
 Concen: 0.154 ppbv
 RT: 16.93 min Scan# 4352
 Delta R.T. -0.01 min
 Lab File: VL033215.D
 Acq: 15 Feb 2019 2:12

Tgt Ion: 105 Resp: 48386
 Ion Ratio Lower Upper
 105 100
 120 34.4 37.9 56.9#
 91 13.1 34.0 51.0#
 77 14.4 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

