

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

Instrument :
 MSVOA_L
 ClientSampleId :
 ZONE-F

Quant Time: Feb 15 15:44:37 2019
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL020519AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_LWed Feb 06 09:13:11 2019
 QLast Update : Wed Feb 06 09:13:11 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	10.33	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	=	103.30%

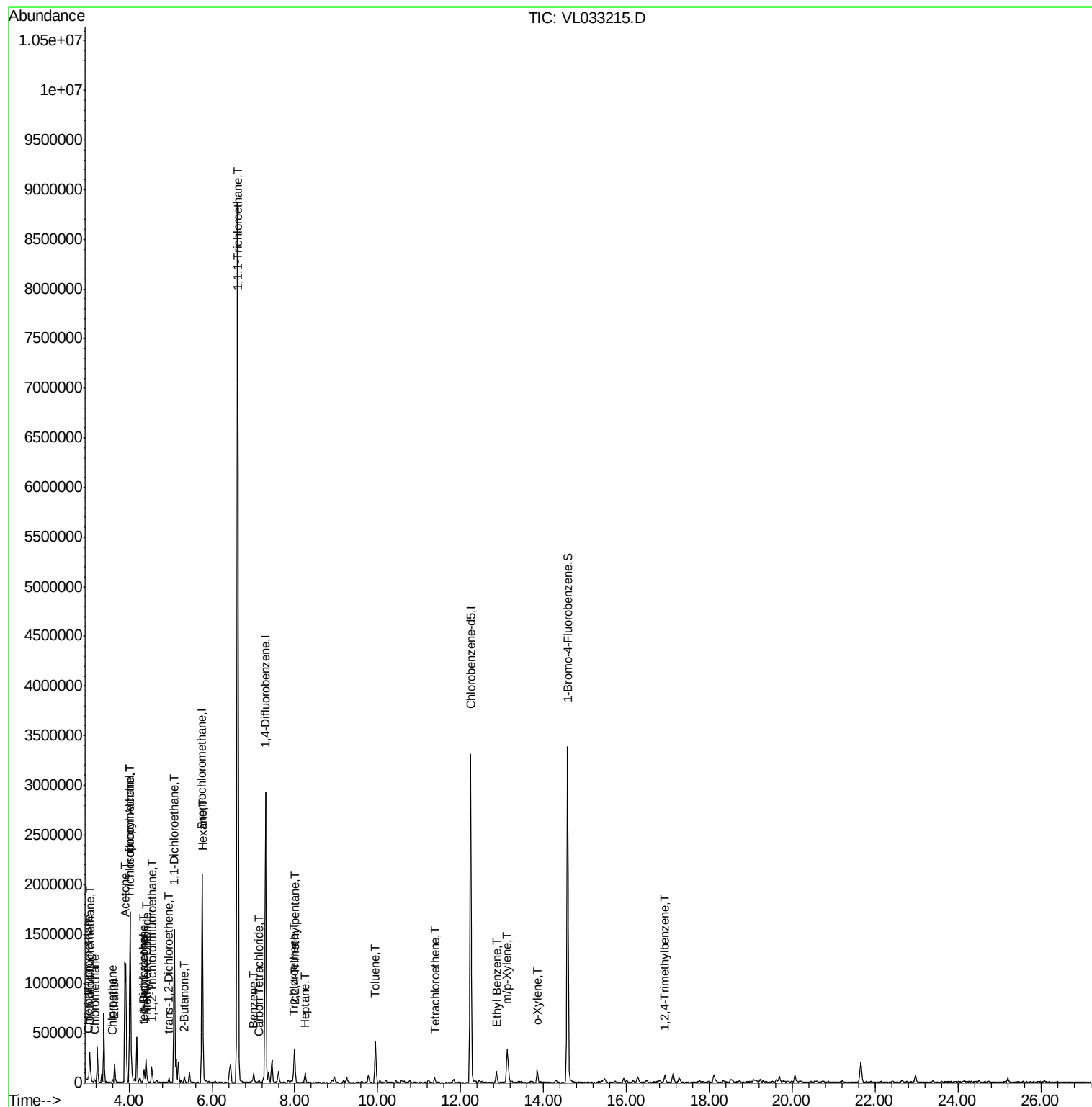
Target Compounds	R.T.	QIon	Response	Conc	Units	Ovalue
2) Dichlorodifluoromethane	3.08	85	76909	0.441	ppbv	100
3) Chlorodifluoromethane	3.02	51	28413m	0.259	ppbv	
4) Chloromethane	3.17	50	24965	0.430	ppbv	89
7) Chloroethane	3.60	64	19166m	0.968	ppbv	
10) Heptane	8.25	43	38765	0.241	ppbv	99
11) Trichlorofluoromethane	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	186747	10.554	ppbv	96
15) Acetone	3.90	43	1116573m	10.864	ppbv	
17) tert-Butyl alcohol	4.36	59	35282m	1.801	ppbv	
18) 1,1-Dichloroethene	4.35	96	29496	0.673	ppbv	93
19) Isopropyl Alcohol	4.02	45	1874748m	26.896	ppbv	
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	11759m	0.074	ppbv	
36) Benzene	7.01	78	73447	0.350	ppbv	97
38) Trichloroethene	7.97	130	9307m	0.104	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	0.275	ppbv	98
59) m/p-Xylene	13.12	91	357411	1.281	ppbv #	100
60) o-Xylene	13.85	91	96520	0.356	ppbv	98
74) 1,2,4-Trimethylbenzene	16.93	105	49151m	0.158	ppbv	

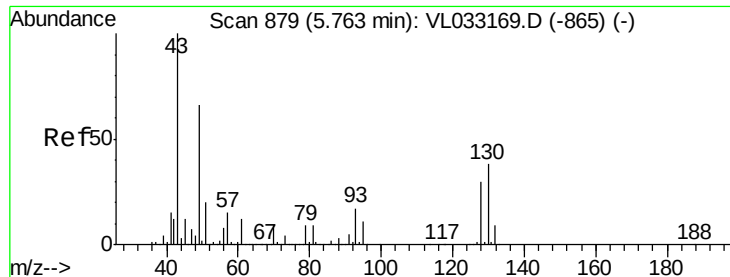
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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QLast Update : Wed Feb 06 09:13:11 2019
Response via : Initial Calibration





#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

Instrument :
MSVOA_L
ClientSampleId :
ZONE-F

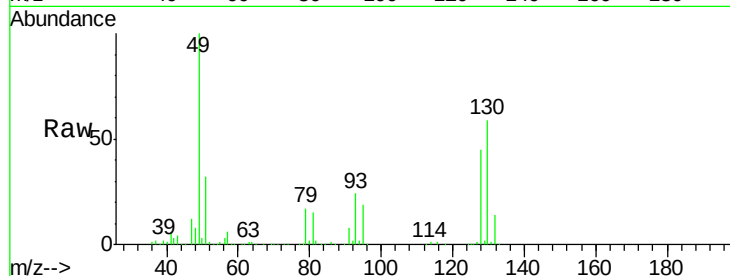
Tot Ion: 49 Resp: 912229

Ion Ratio Lower Upper

49 100

128 45.4 23.6 71.0

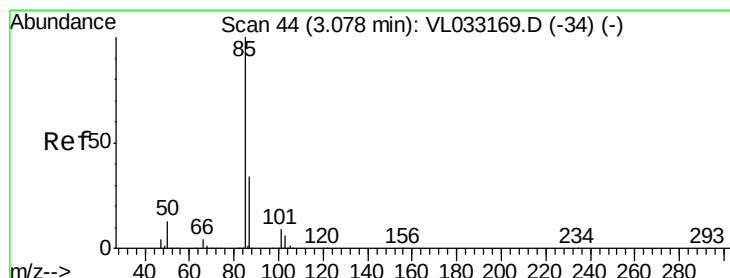
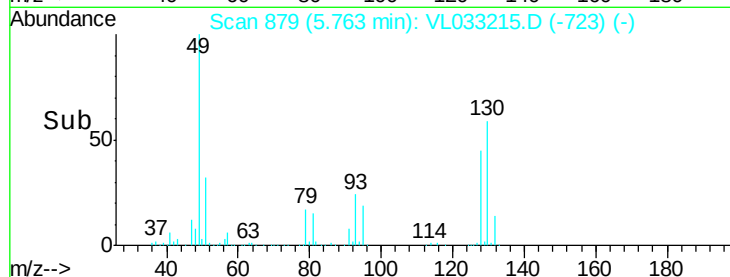
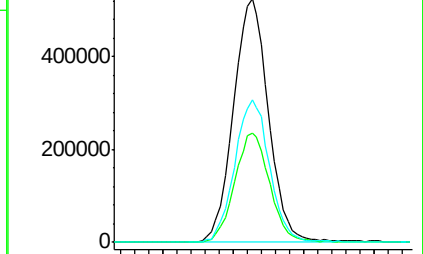
130 58.7 30.3 91.0



Abundance Ion 49.10 (48.80 to 49.80): VL0

Ion 128.00 (127.70 to 128.70): VL0

Ion 130.00 (129.70 to 130.70): VL0



#2

Dichlorodifluoromethane

Concen: 0.441 ppbv

RT: 3.08 min Scan# 43

Delta R.T. -0.00 min

Lab File: VL033215.D

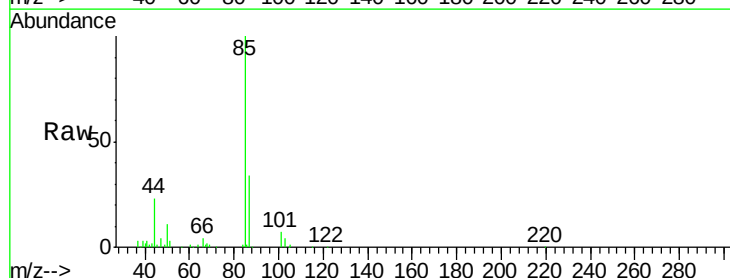
Acq: 15 Feb 2019 2:12

Tgt Ion: 85 Resp: 76909

Ion Ratio Lower Upper

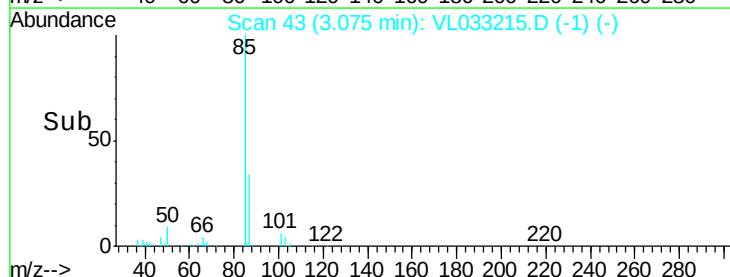
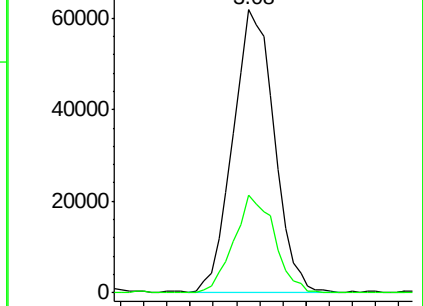
85 100

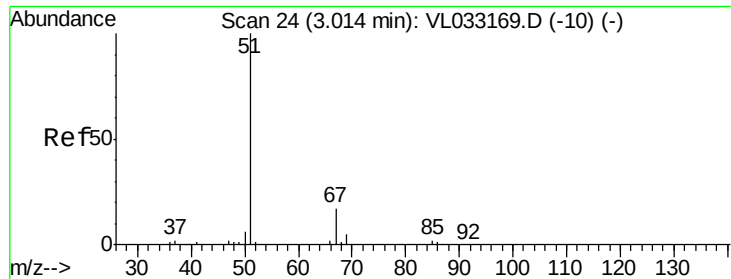
87 34.4 27.4 41.2



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 87.00 (86.70 to 87.70): VL0





#3

Chlorodifluoromethane

Concen: 0.259 ppbv

RT: 3.02 min Scan# 25

Delta R.T. 0.00 min

Lab File: VL033215.D

Acq: 15 Feb 2019 2:12

Instrument :

MSVOA_L

ClientSampleId :

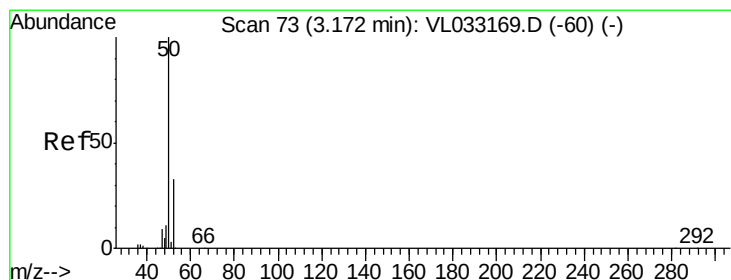
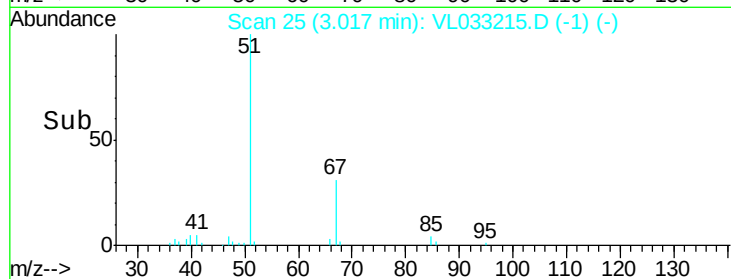
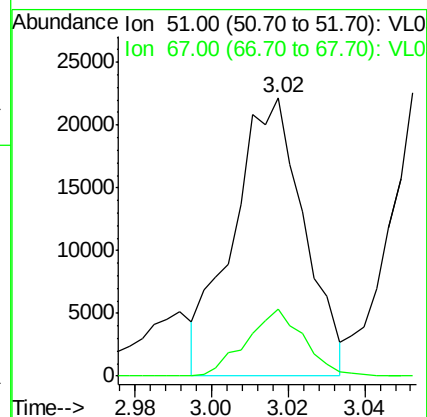
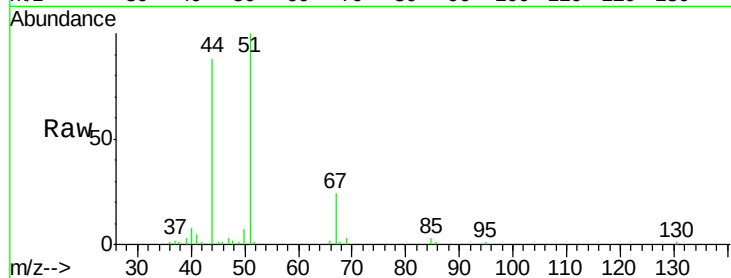
ZONE-F

Tot Ion: 51 Resp: 28413

Ion Ratio Lower Upper

51 100

67 19.6 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

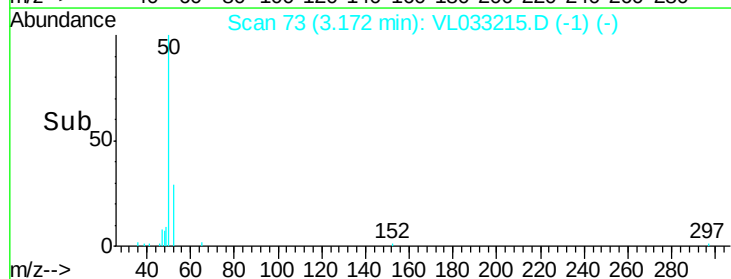
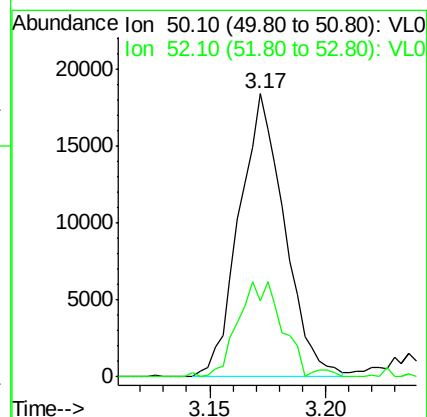
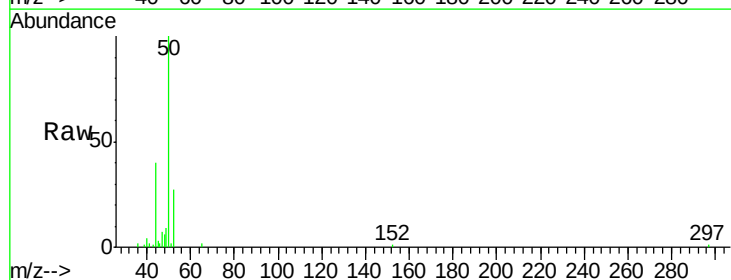
Acq: 15 Feb 2019 2:12

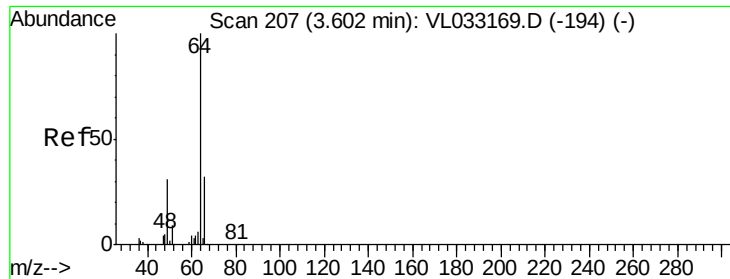
Tgt Ion: 50 Resp: 24965

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

Instrument :

MSVOA_L

ClientSampleId :

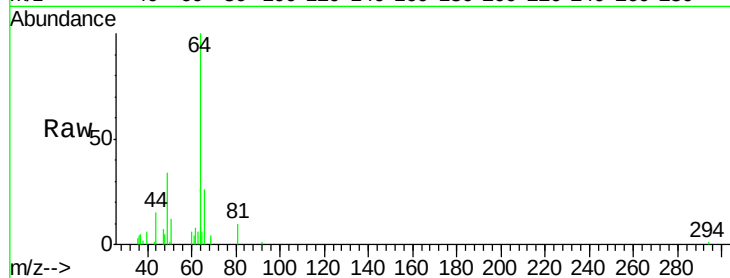
ZONE-F

Tot Ion: 64 Resp: 19166

Ion Ratio Lower Upper

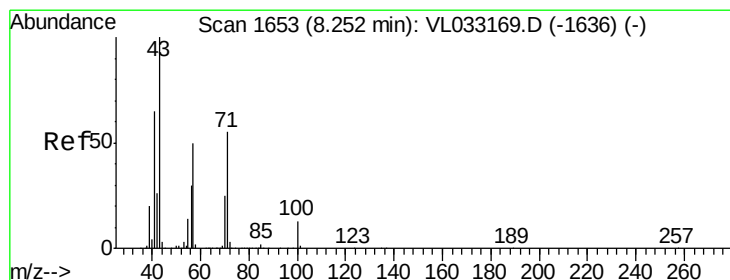
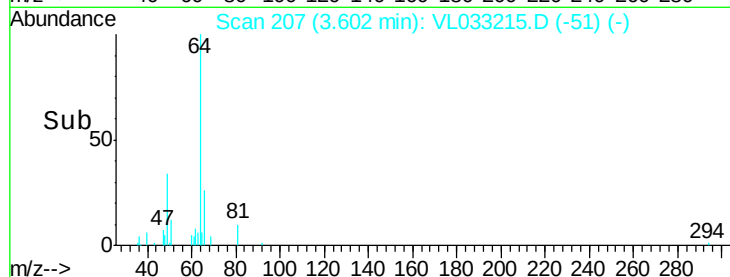
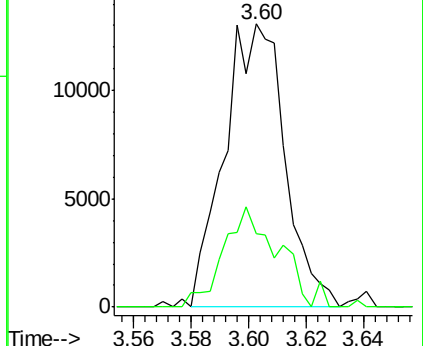
64 100

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

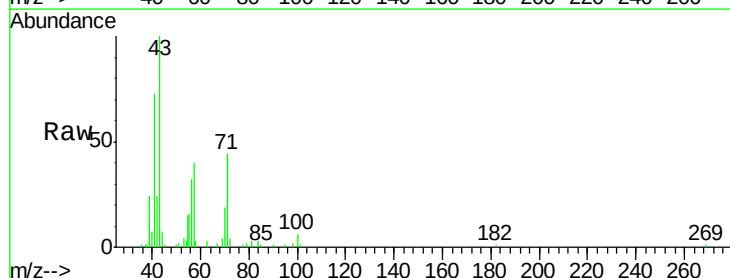
Acq: 15 Feb 2019 2:12

Tgt Ion: 43 Resp: 38765

Ion Ratio Lower Upper

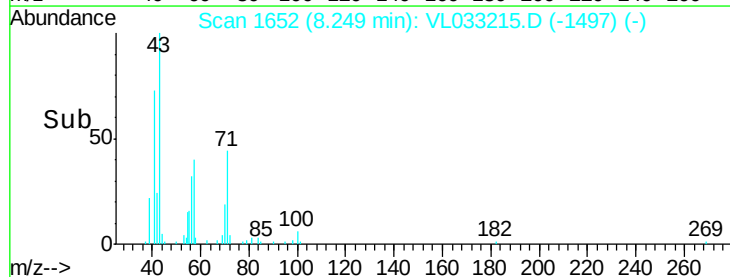
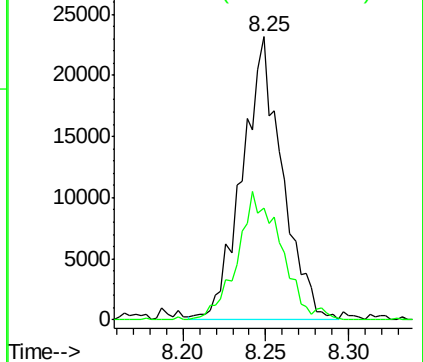
43 100

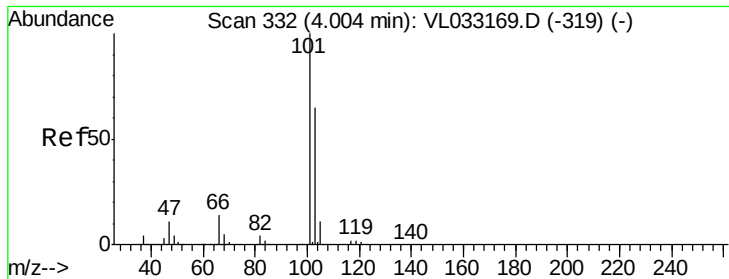
57 50.2 39.5 59.3



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

Instrument :

MSVOA_L

ClientSampleId :

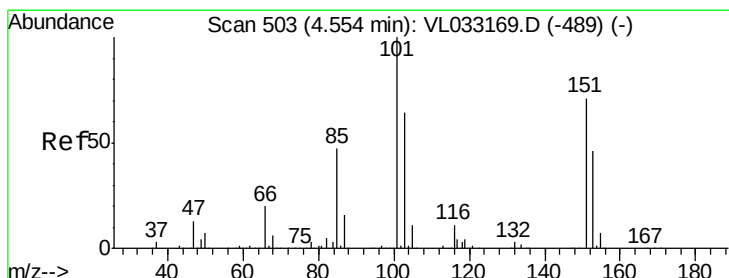
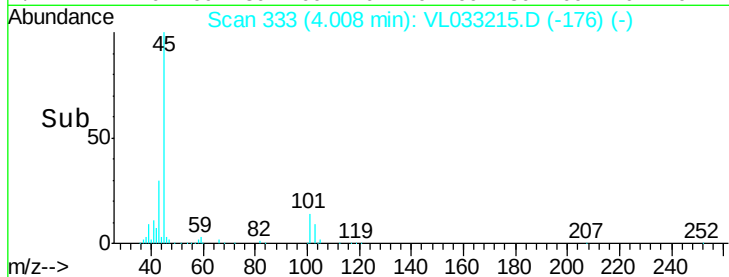
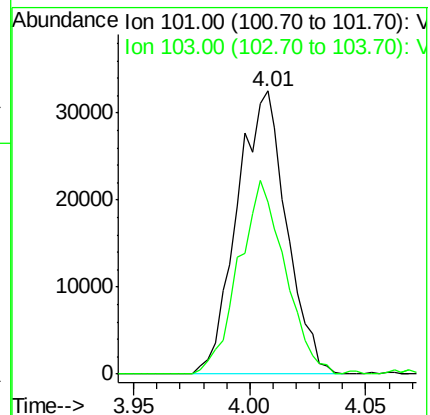
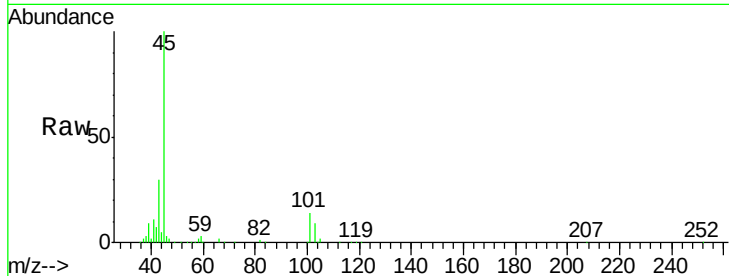
ZONE-F

Tot Ion:101 Resp: 48292

Ion Ratio Lower Upper

101 100

103 60.7 51.7 77.5



#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

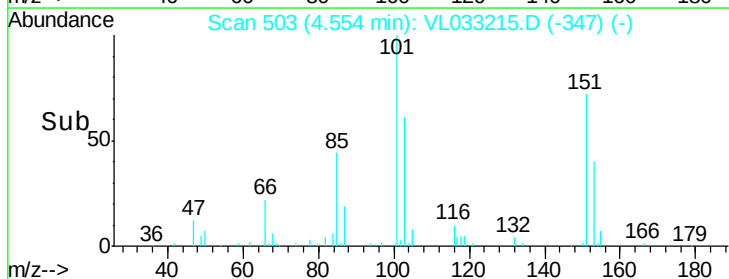
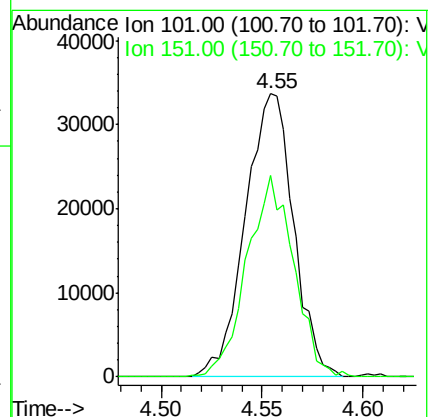
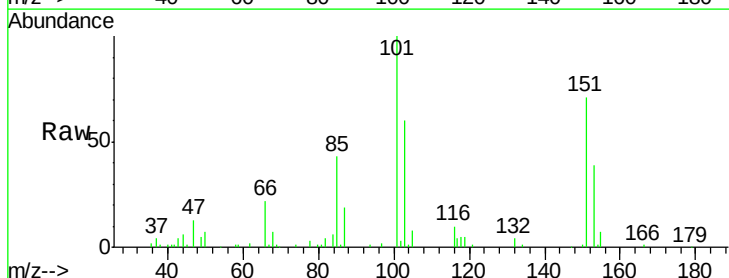
Acq: 15 Feb 2019 2:12

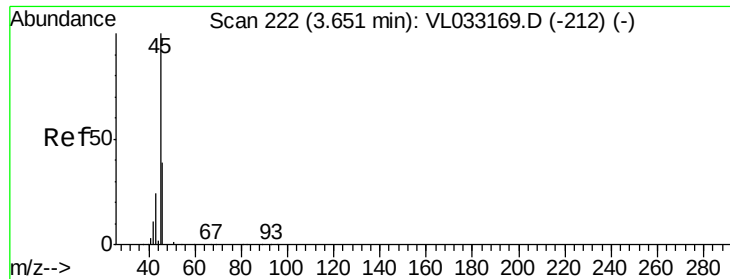
Tgt Ion:101 Resp: 56415

Ion Ratio Lower Upper

101 100

151 68.9 57.4 86.0





#13

Ethanol

Concen: 10.554 ppbv

RT: 3.65 min Scan# 222

Delta R.T. 0.00 min

Lab File: VL033215.D

Acq: 15 Feb 2019 2:12

Instrument :

MSVOA_L

ClientSampleId :

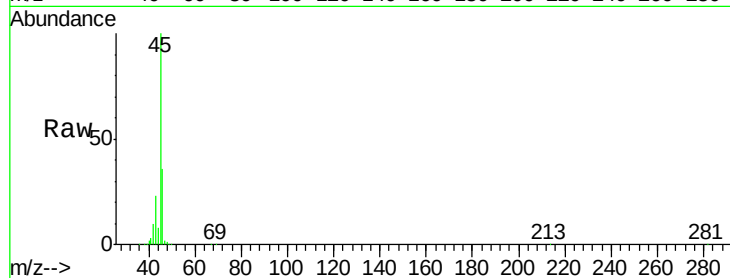
ZONE-F

Tot Ion: 45 Resp: 186747

Ion Ratio Lower Upper

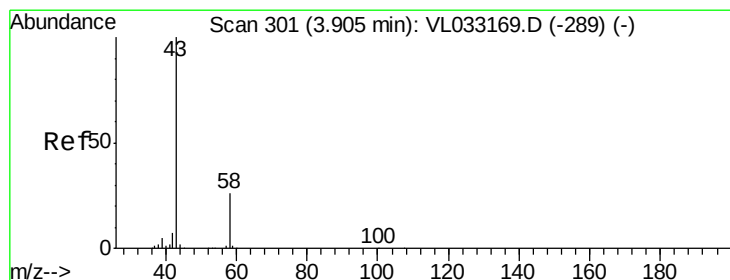
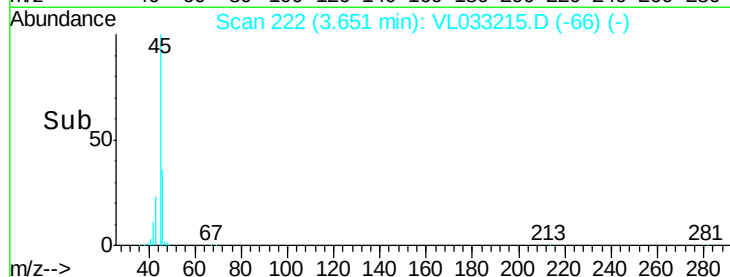
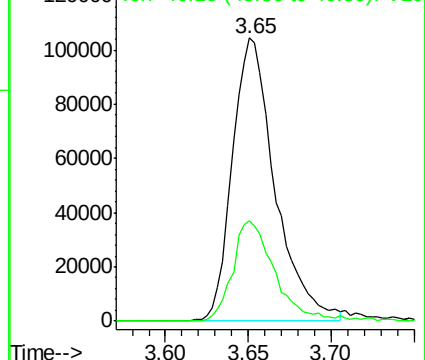
45 100

46 35.3 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

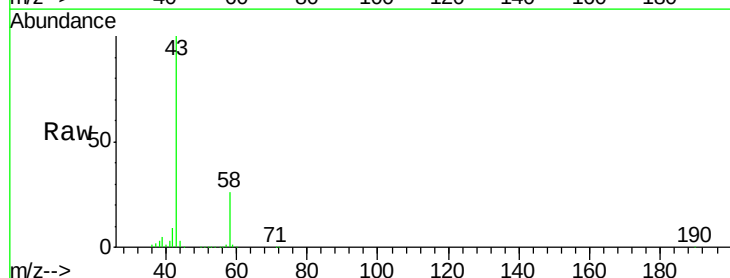
Acq: 15 Feb 2019 2:12

Tgt Ion: 43 Resp: 1116573

Ion Ratio Lower Upper

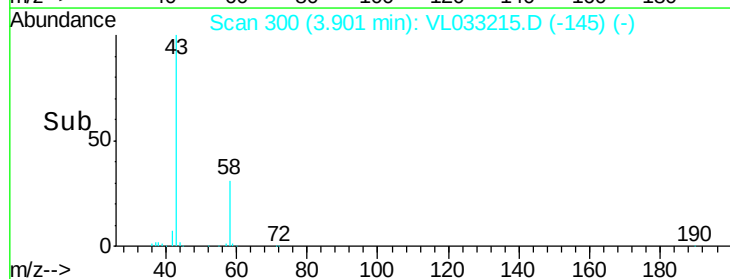
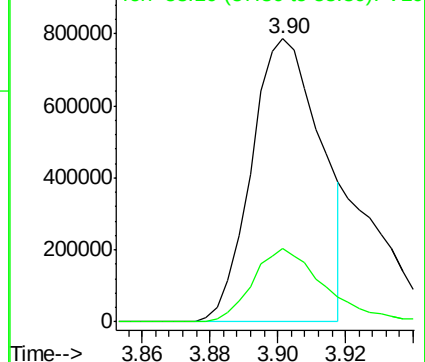
43 100

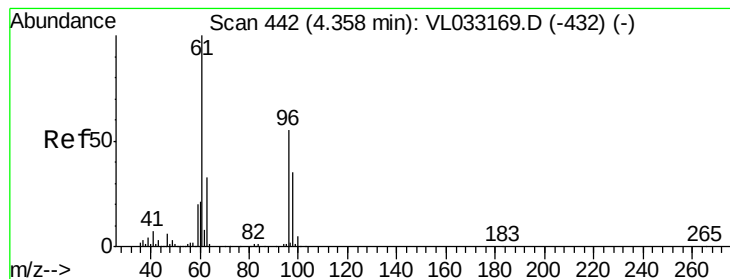
58 27.4 21.1 31.7



Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 58.10 (57.80 to 58.80): VL0





#17

tert-Butyl alcohol

Concen: 1.801 ppbv

RT: 4.36 min Scan# 443

Delta R.T. 0.00 min

Lab File: VL033215.D

Acq: 15 Feb 2019 2:12

Instrument :

MSVOA_L

ClientSampleId :

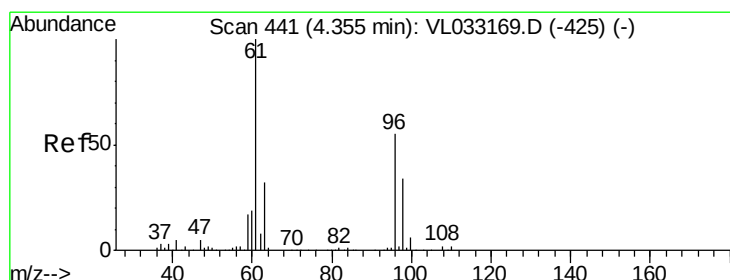
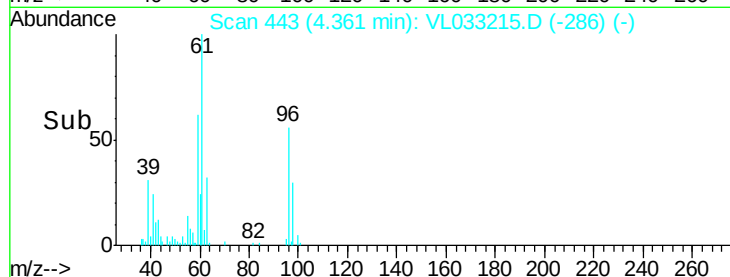
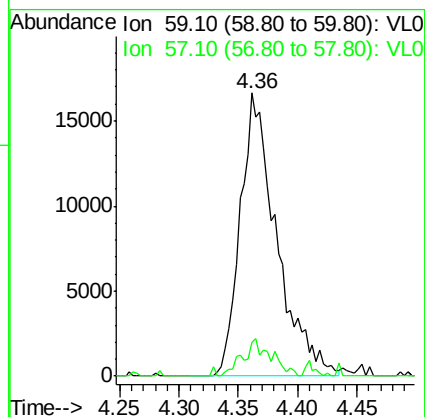
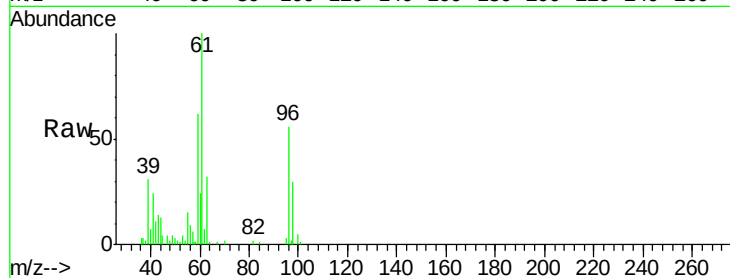
ZONE-F

Tot Ion: 59 Resp: 35282

Ion Ratio Lower Upper

59 100

57 0.0 7.6 11.4#



#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

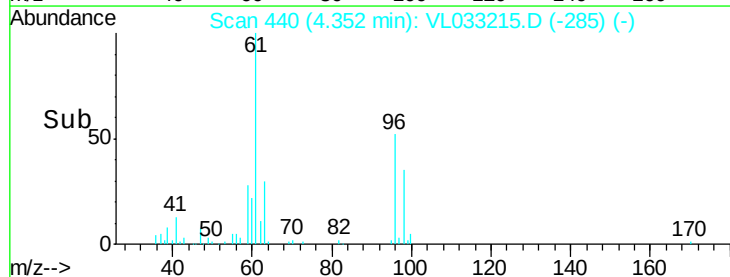
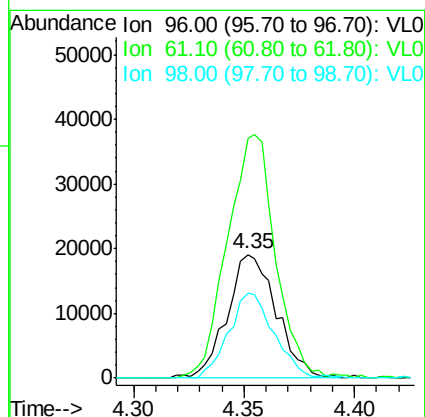
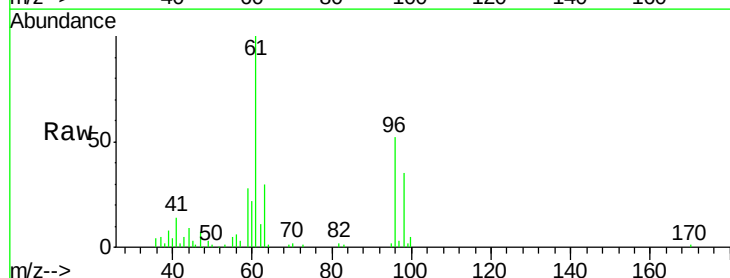
Tgt Ion: 96 Resp: 29496

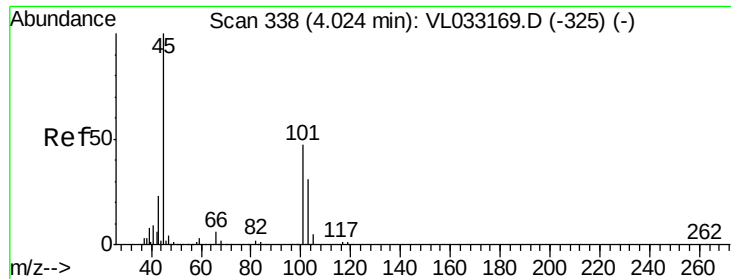
Ion Ratio Lower Upper

96 100

61 190.2 145.0 217.6

98 68.7 50.0 75.0





#19

Isopropyl Alcohol

Concen: 26.896 ppbv m

RT: 4.02 min Scan# 338

Delta R.T. 0.00 min

Lab File: VL033215.D

Acq: 15 Feb 2019 2:12

Instrument :

MSVOA_L

ClientSampleId :

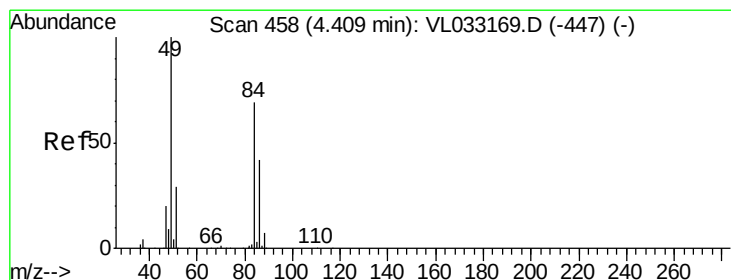
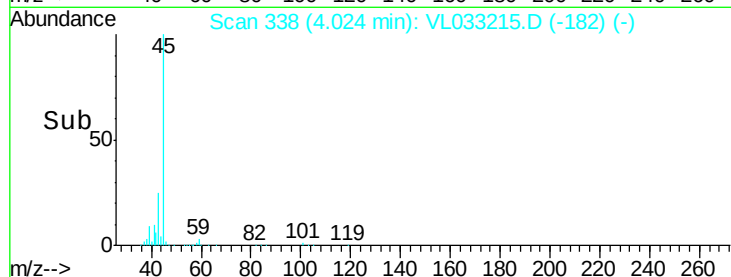
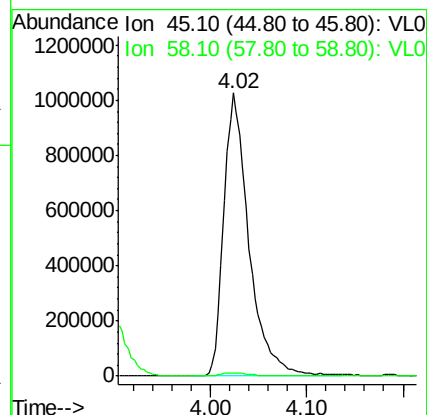
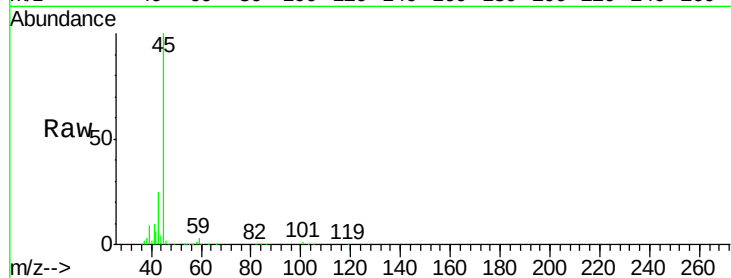
ZONE-F

Tot Ion: 45 Resp: 1874748

Ion Ratio Lower Upper

45 100

58 0.0 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

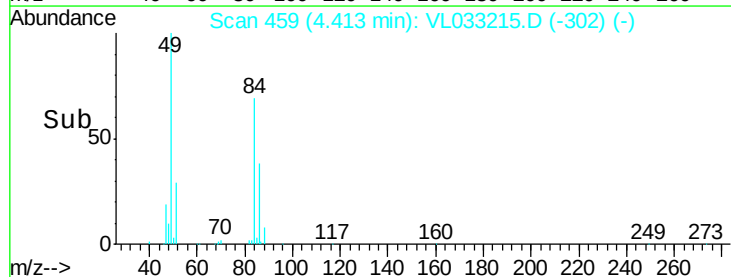
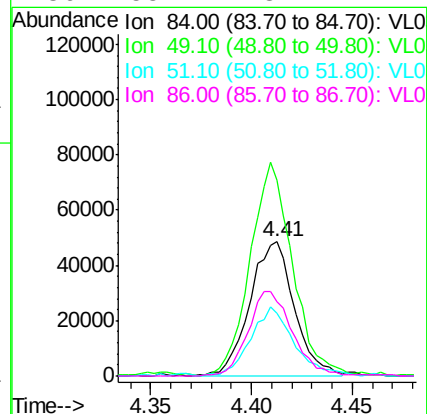
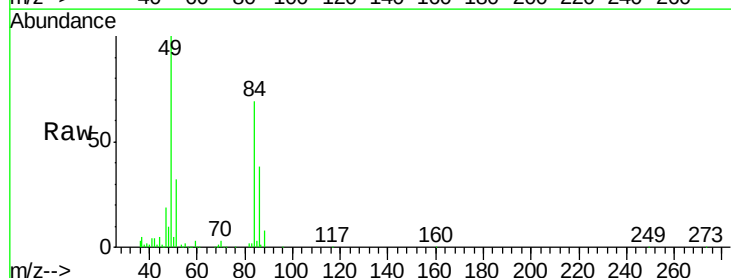
Ion Ratio Lower Upper

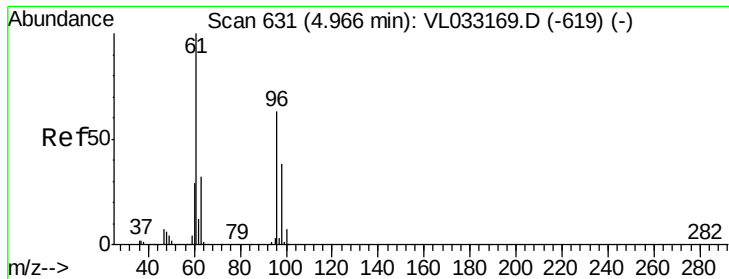
84 100

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

Instrument :

MSVOA_L

ClientSampleId :

ZONE-F

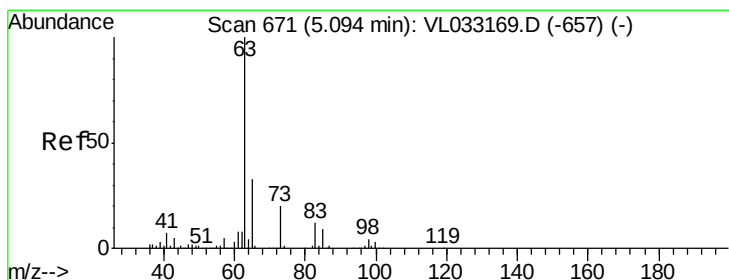
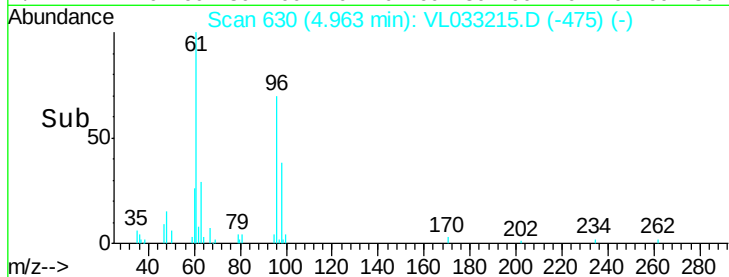
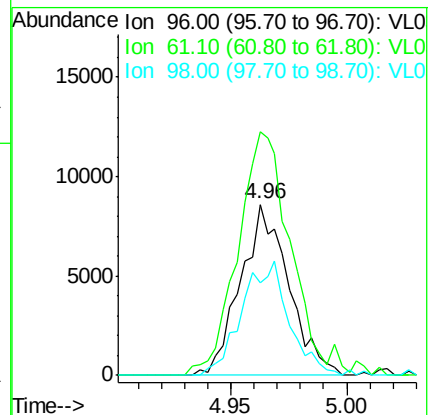
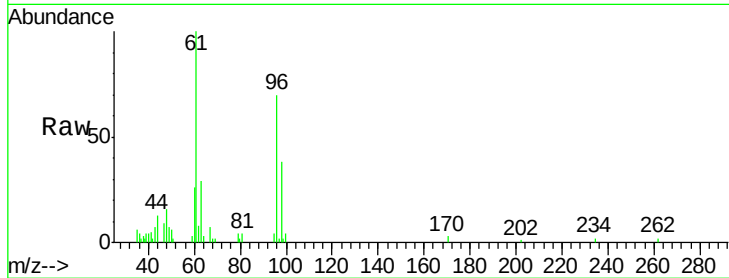
Tot Ion: 96 Resp: 12391

Ion Ratio Lower Upper

96 100

61 149.2 126.4 189.6

98 54.4 48.4 72.6



#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

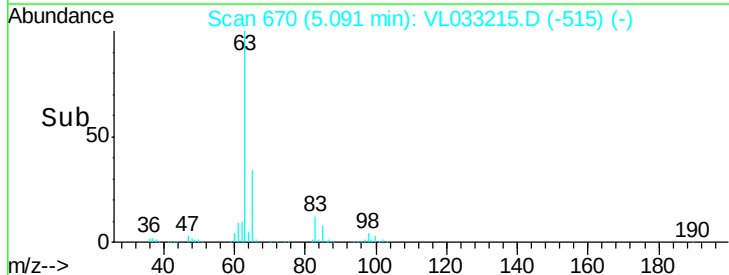
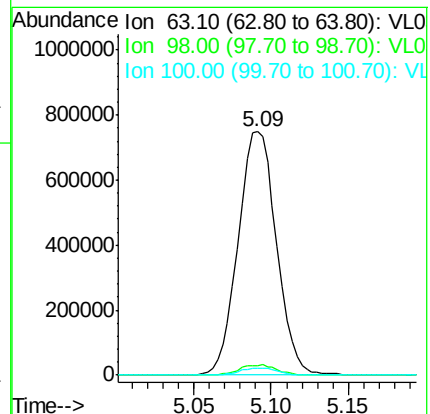
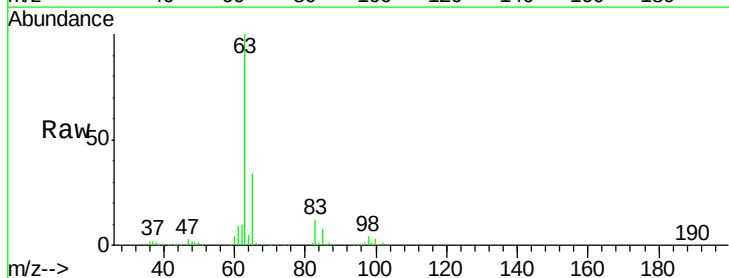
Tgt Ion: 63 Resp: 1289021

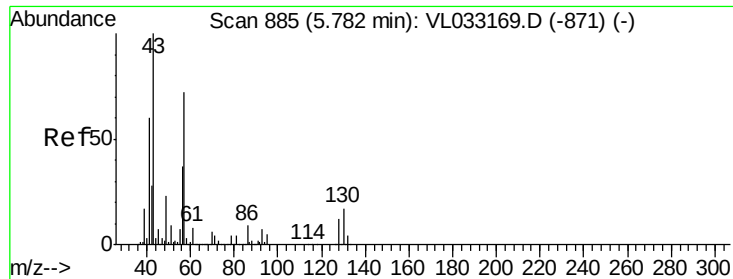
Ion Ratio Lower Upper

63 100

98 3.9 2.1 6.5

100 3.0 1.4 4.2

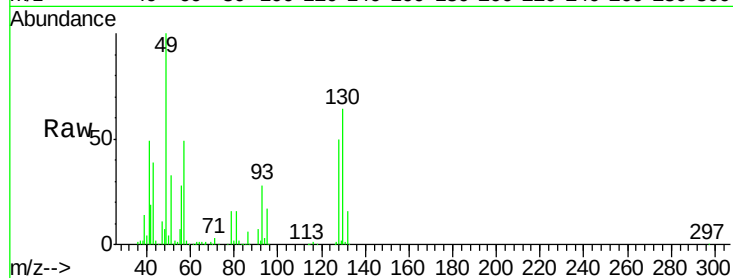




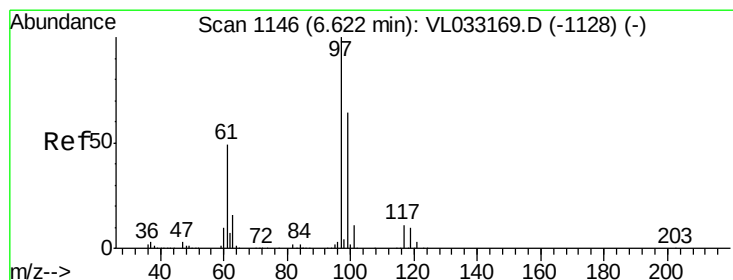
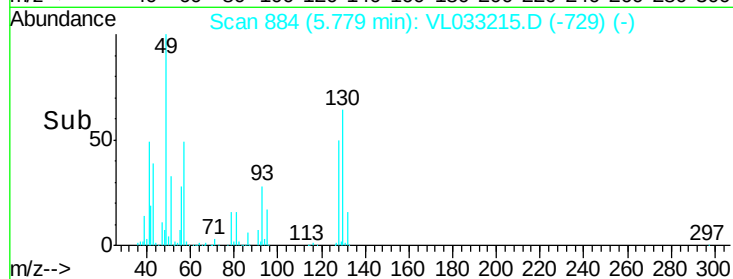
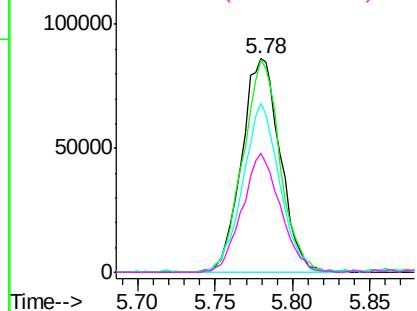
#26
Hexane
Concen: 1.380 ppbv
RT: 5.78 min Scan# 884
Delta R.T. -0.00 min
Lab File: VL033215.D
Acq: 15 Feb 2019 2:12

Instrument :
MSVOA_L
ClientSampleId :
ZONE-F

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

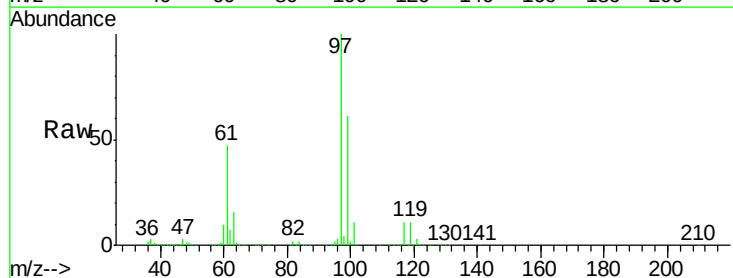


Abundance Ion 57.10 (56.80 to 57.80): VL0
Ion 41.10 (40.80 to 41.80): VL0
Ion 43.10 (42.80 to 43.80): VL0
Ion 56.10 (55.80 to 56.80): VL0

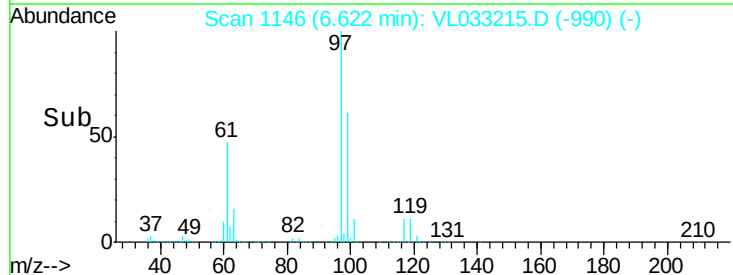
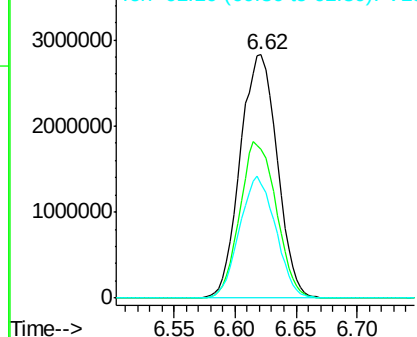


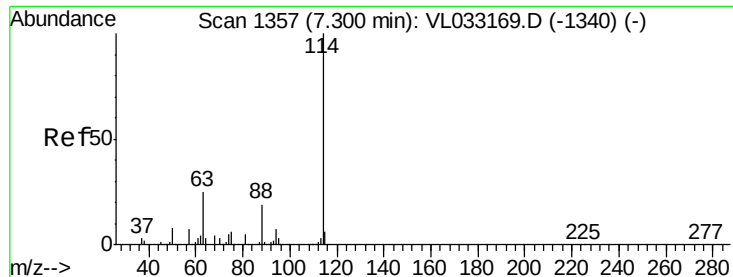
#32
1,1,1-Trichloroethane
Concen: 32.394 ppbv
RT: 6.62 min Scan# 1146
Delta R.T. 0.00 min
Lab File: VL033215.D
Acq: 15 Feb 2019 2:12

Tgt Ion: 97 Resp: 5929665
Ion Ratio Lower Upper
97 100
99 63.2 51.4 77.2
61 48.8 38.9 58.3



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

Instrument :

MSVOA_L

ClientSampled :

ZONE-F

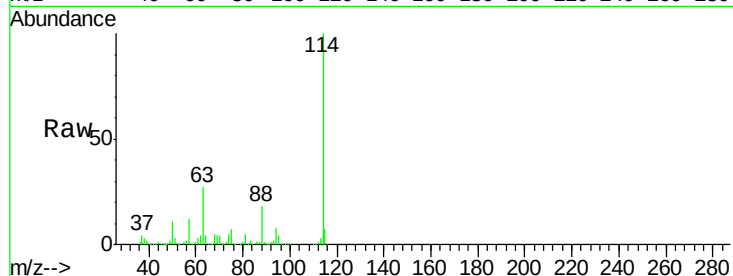
Tot Ion:114 Resp: 2070871

Ion Ratio Lower Upper

114 100

63 27.2 20.8 31.2

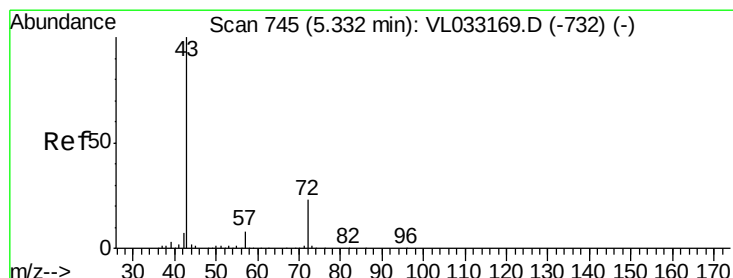
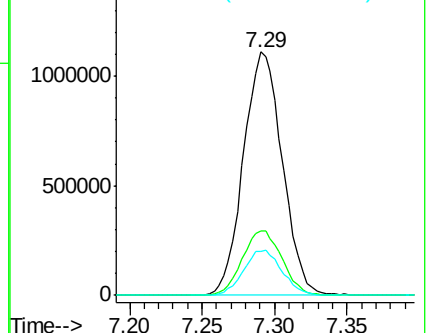
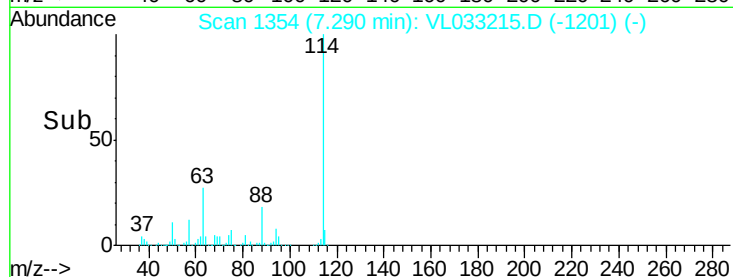
88 18.4 14.6 22.0



Abundance Ion 114.10 (113.80 to 114.80): V

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

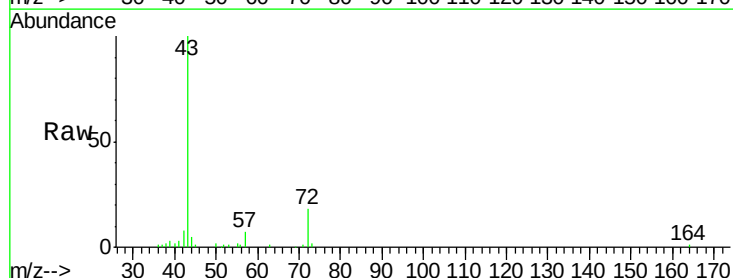
Acq: 15 Feb 2019 2:12

Tgt Ion: 43 Resp: 69694

Ion Ratio Lower Upper

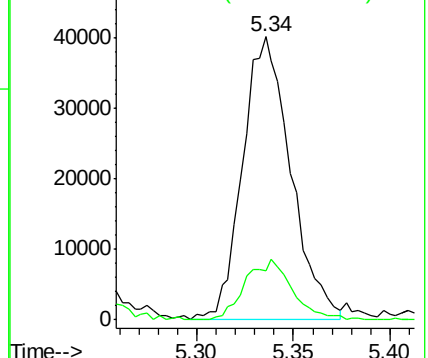
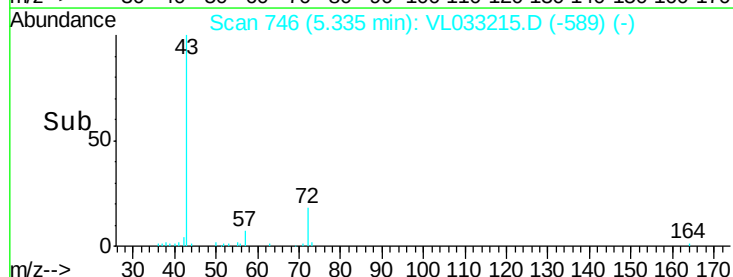
43 100

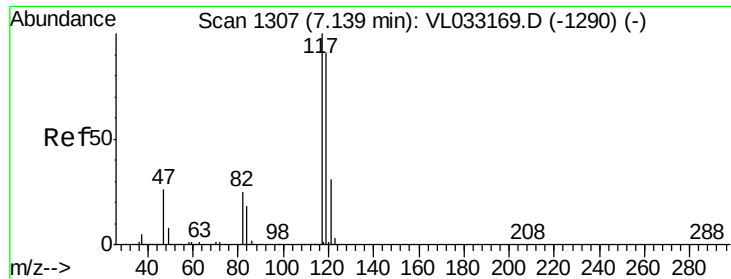
72 21.0 17.8 26.6



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

Instrument :

MSVOA_L

ClientSampleId :

ZONE-F

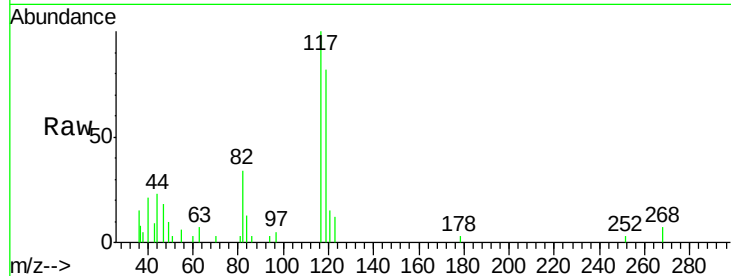
Tot Ion:117 Resp: 11759

Ion Ratio Lower Upper

117 100

119 82.4 73.0 109.6

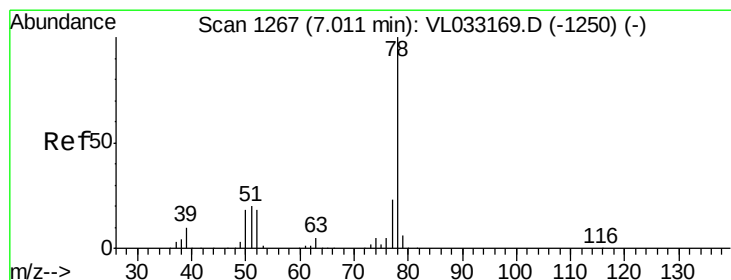
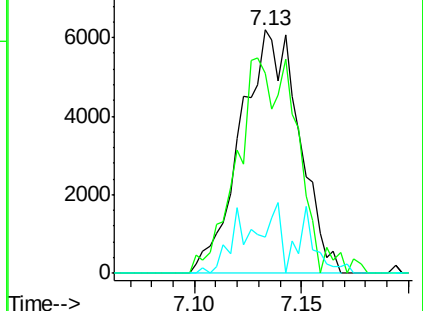
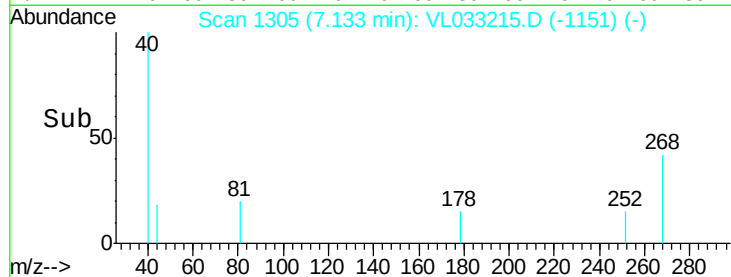
121 14.6 25.1 37.7#



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

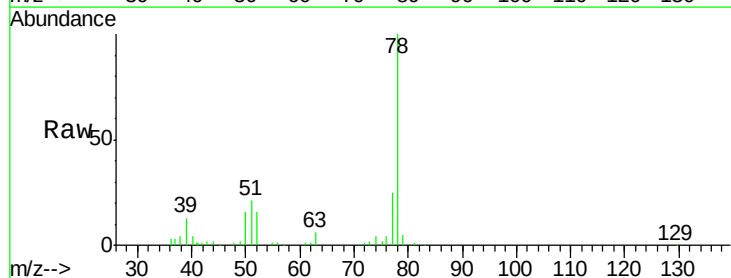
Tgt Ion: 78 Resp: 73447

Ion Ratio Lower Upper

78 100

77 23.8 18.0 27.0

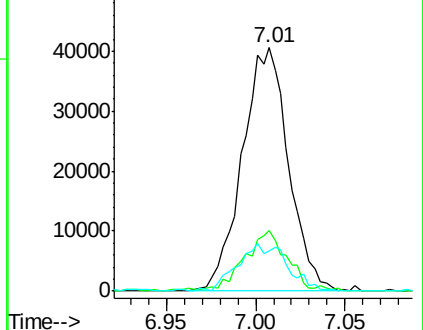
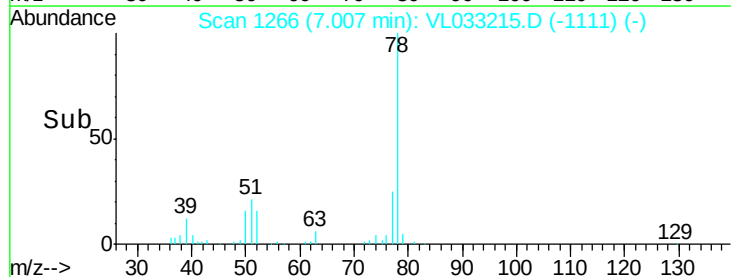
50 16.5 14.2 21.2

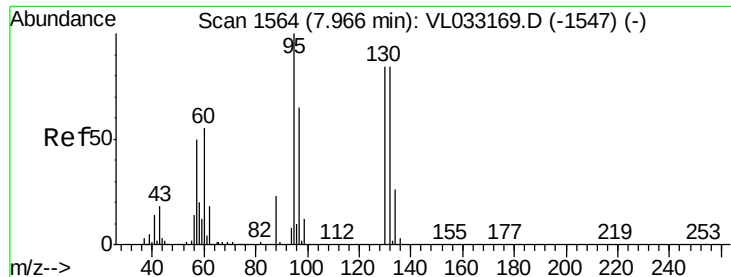


Abundance Ion 78.10 (77.80 to 78.80): VL0

Ion 77.10 (76.80 to 77.80): VL0

Ion 50.10 (49.80 to 50.80): VL0





#38

Trichloroethene

Concen: 0.104 ppbv m

RT: 7.97 min Scan# 1565

Delta R.T. 0.00 min

Lab File: VL033215.D

Acq: 15 Feb 2019 2:12

Instrument :

MSVOA_L

ClientSampleId :

ZONE-F

Tot Ion:130 Resp: 9307

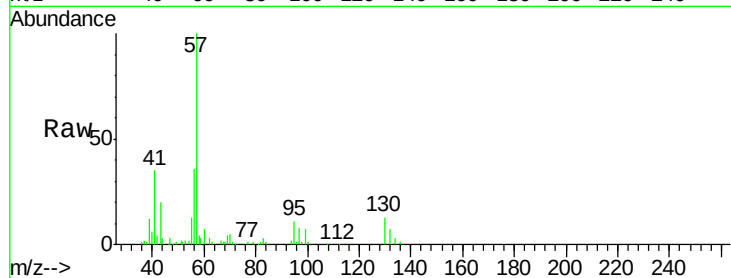
Ion Ratio Lower Upper

130 100

95 90.2 95.5 143.3#

132 58.7 80.0 120.0#

97 67.4 62.2 93.2

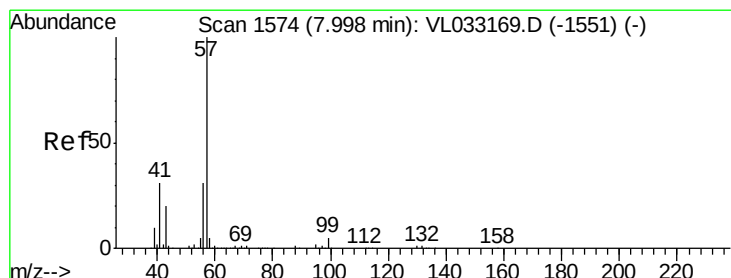
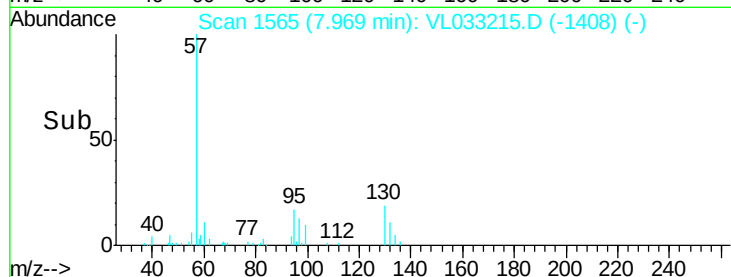
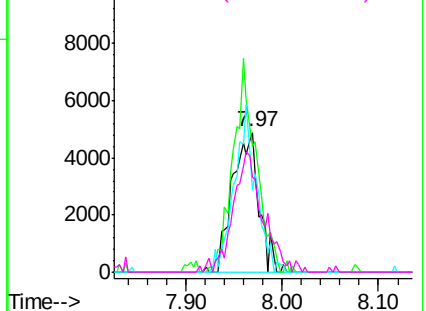


Abundance Ion 130.00 (129.70 to 130.70): V

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

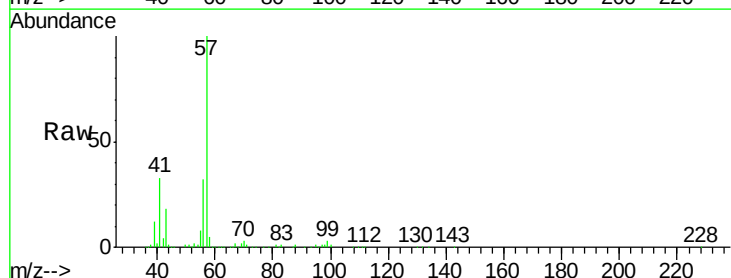
Tgt Ion: 57 Resp: 298968

Ion Ratio Lower Upper

57 100

41 34.0 25.1 37.7

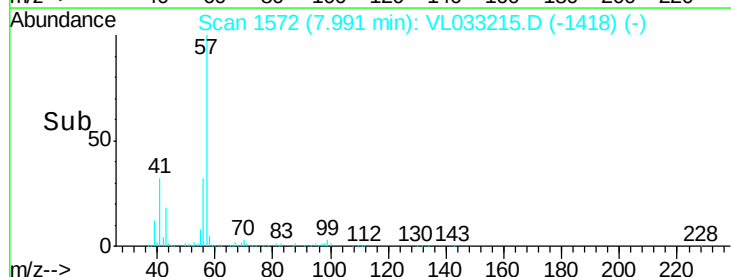
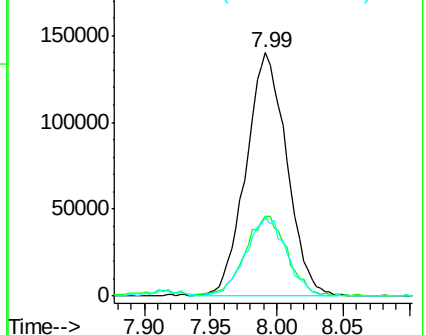
56 32.7 24.5 36.7

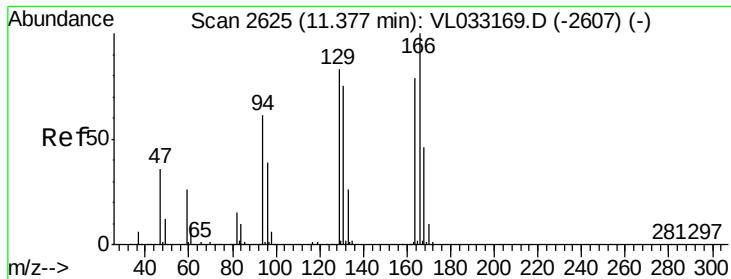


Abundance Ion 57.10 (56.80 to 57.80): VL0

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

Instrument :

MSVOA_L

ClientSampleId :

ZONE-F

Tot Ion:164 Resp: 10085

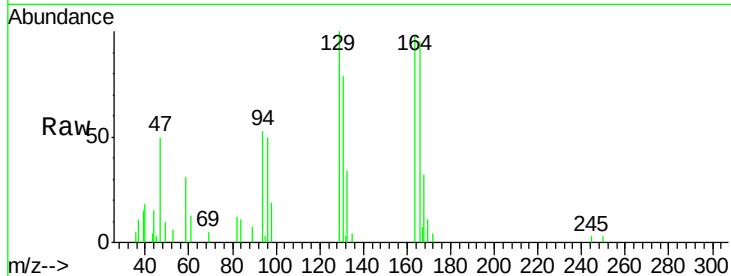
Ion Ratio Lower Upper

164 100

166 97.2 100.9 151.3#

129 101.8 83.9 125.9

131 80.4 76.2 114.2

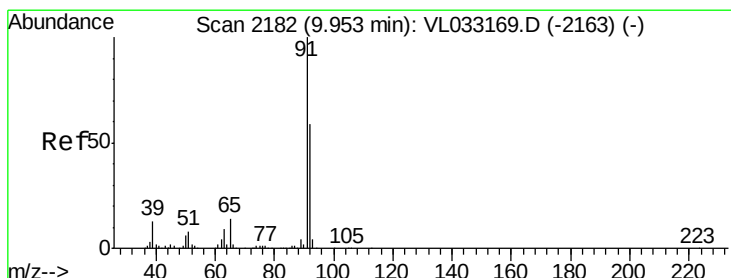
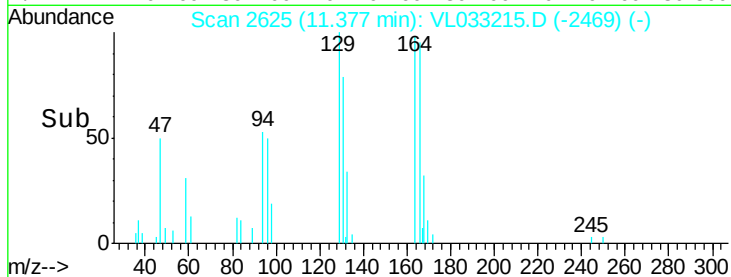
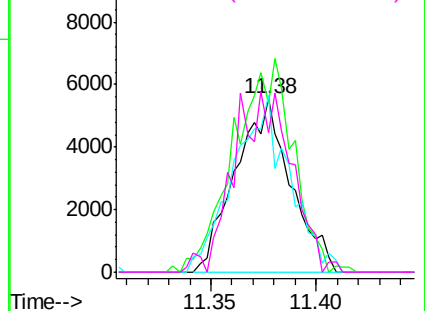


Abundance Ion 163.90 (163.60 to 164.60): V

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

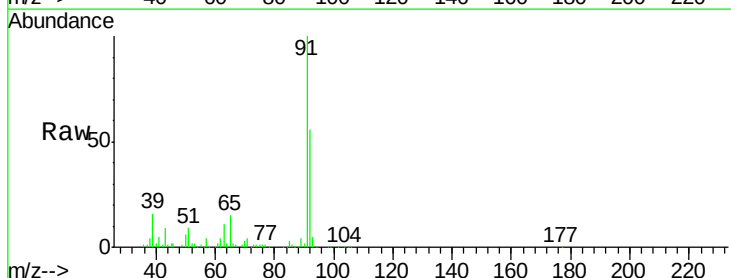
Acq: 15 Feb 2019 2:12

Tgt Ion: 91 Resp: 274070

Ion Ratio Lower Upper

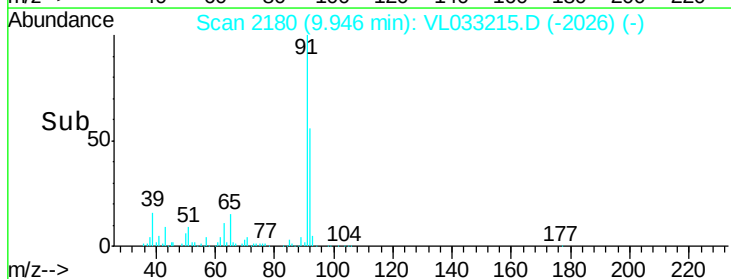
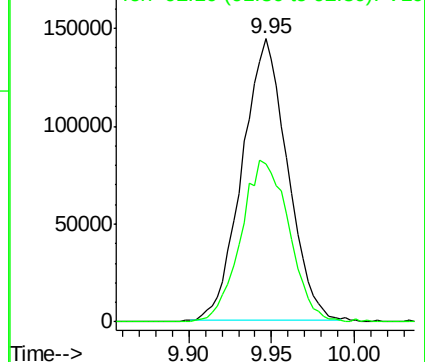
91 100

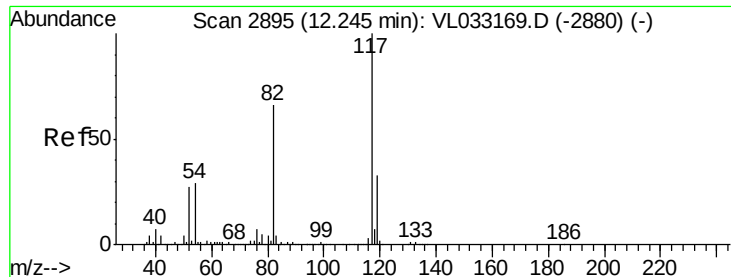
92 60.9 48.0 72.0



Abundance Ion 91.10 (90.80 to 91.80): VL0

Ion 92.10 (91.80 to 92.80): VL0

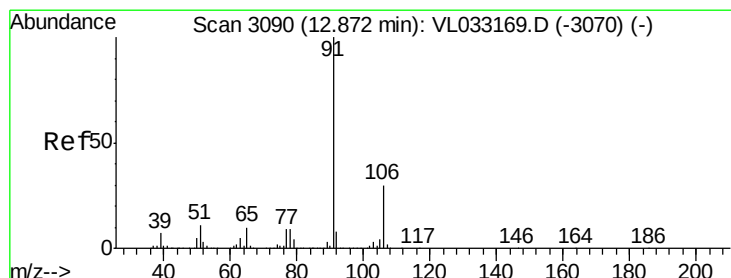
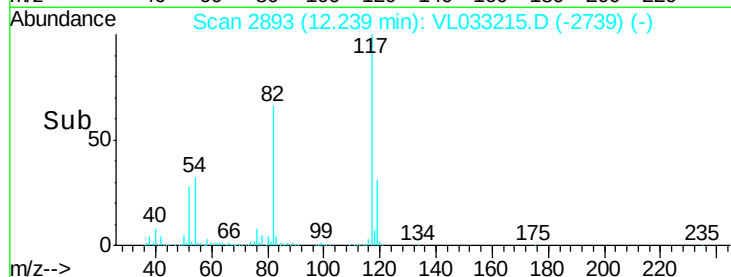
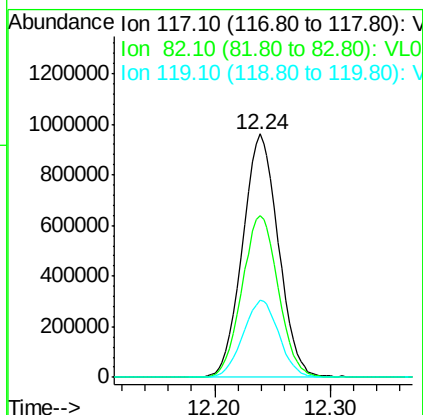
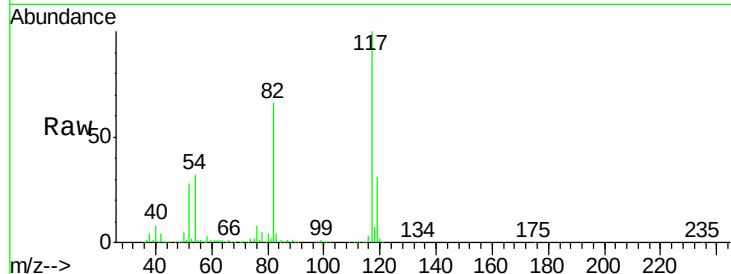




#55
Chlorobenzene-d5
Concen: 10.000 ppbv
RT: 12.24 min Scan# 2893
Delta R.T. -0.01 min
Lab File: VL033215.D
Acq: 15 Feb 2019 2:12

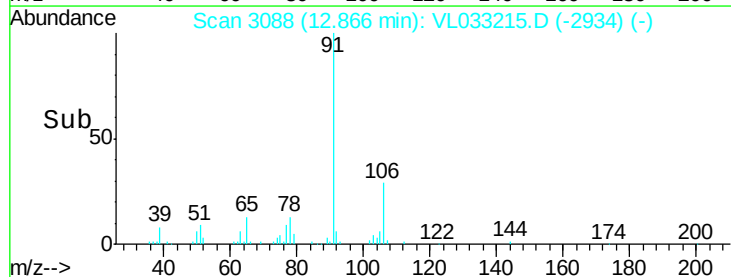
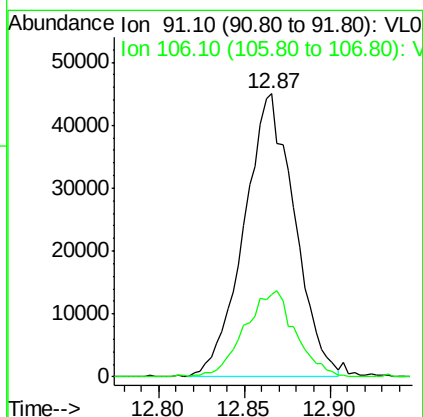
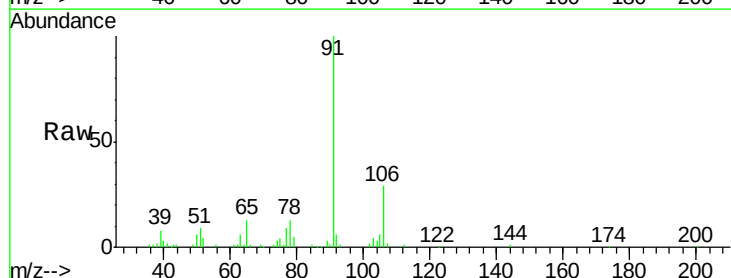
Instrument :
MSVOA_L
ClientSampleId :
ZONE-F

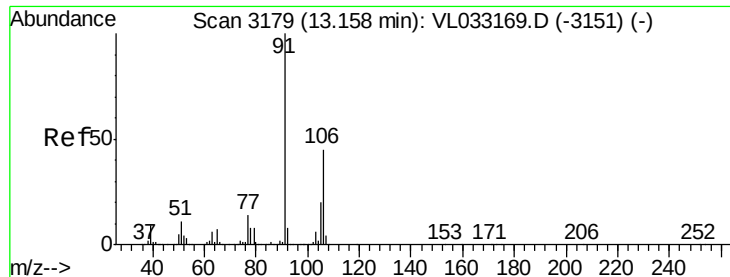
Tot Ion:117 Resp: 2066467
Ion Ratio Lower Upper
117 100
82 67.4 49.5 74.3
119 32.0 24.4 36.6



#58
Ethyl Benzene
Concen: 0.275 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





#59

m/p-Xylene

Concen: 1.281 ppbv

RT: 13.12 min Scan# 3167

Delta R.T. -0.04 min

Lab File: VL033215.D

Acq: 15 Feb 2019 2:12

Instrument :

MSVOA_L

ClientSampleId :

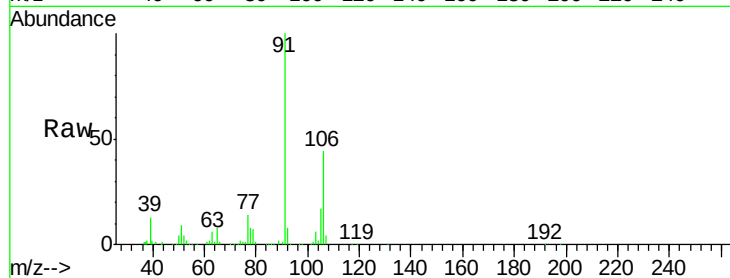
ZONE-F

Tot Ion: 91 Resp: 357411

Ion Ratio Lower Upper

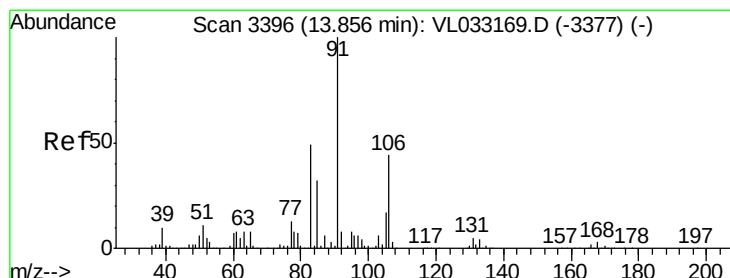
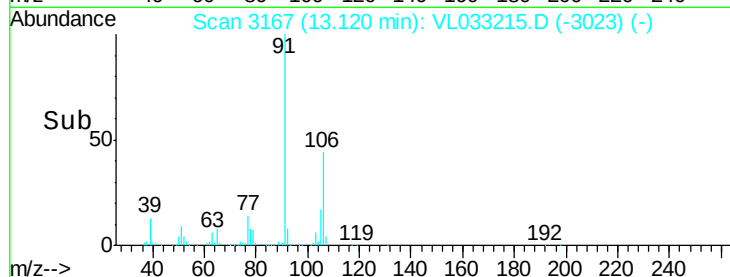
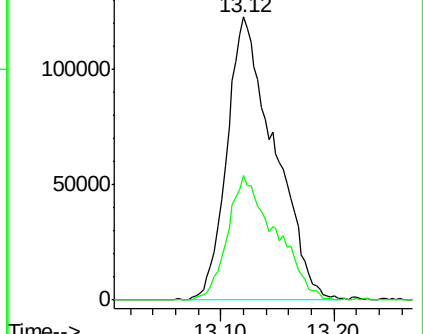
91 100

106 44.4 0.0 0.0#



Abundance Ion 91.10 (90.80 to 91.80): VL0

Ion 106.10 (105.80 to 106.80): V



#60

o-Xylene

Concen: 0.356 ppbv

RT: 13.85 min Scan# 3394

Delta R.T. -0.01 min

Lab File: VL033215.D

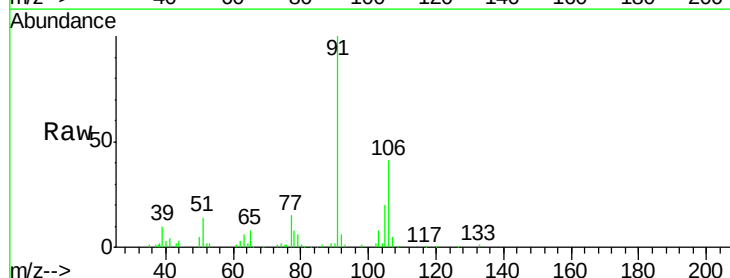
Acq: 15 Feb 2019 2:12

Tgt Ion: 91 Resp: 96520

Ion Ratio Lower Upper

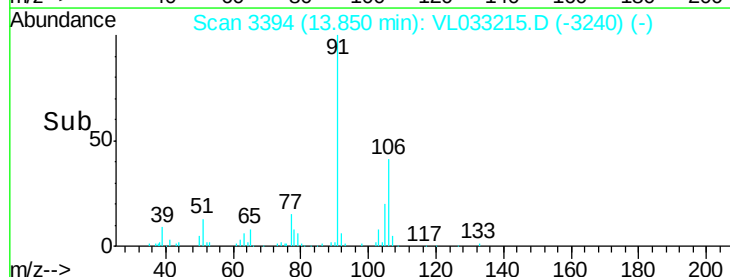
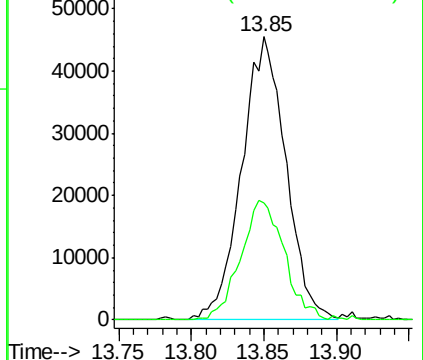
91 100

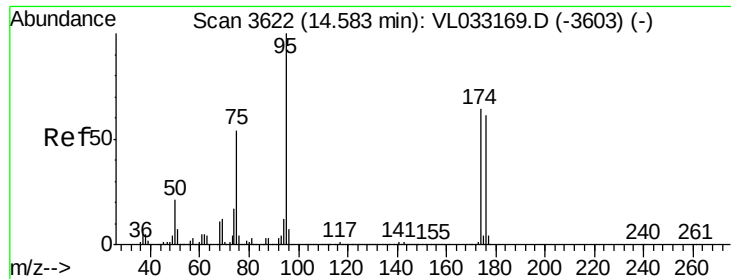
106 41.9 21.8 65.3



Abundance Ion 91.10 (90.80 to 91.80): VL0

Ion 106.10 (105.80 to 106.80): V

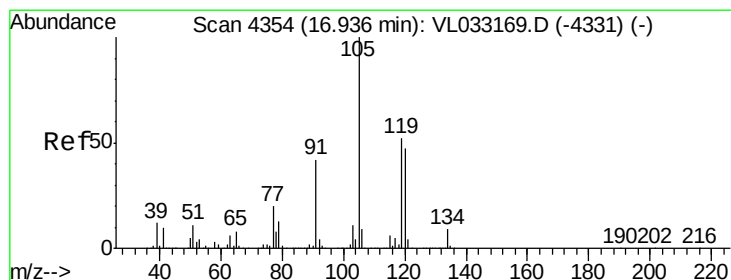
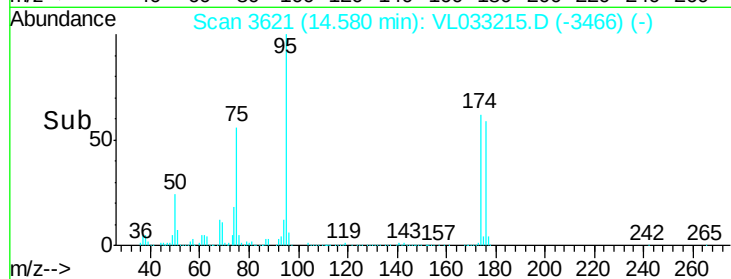
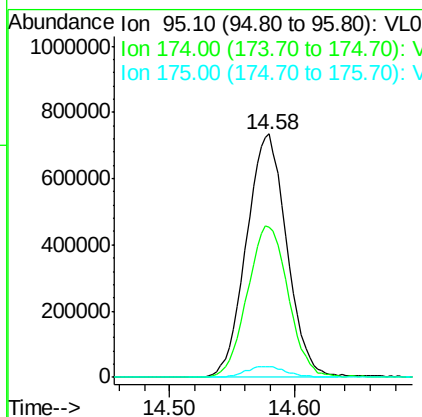
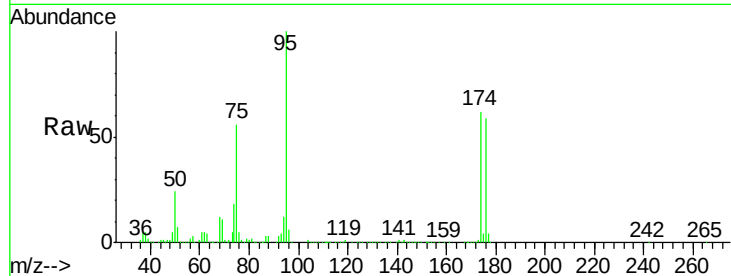




#68
 1-Bromo-4-Fluorobenzene
 Concen: 10.331 ppbv
 RT: 14.58 min Scan# 3621
 Delta R.T. -0.00 min
 Lab File: VL033215.D
 Acq: 15 Feb 2019 2:12

Instrument :
 MSVOA_L
 ClientSampleId :
 ZONE-F

Tot Ion: 95 Resp: 1644158
 Ion Ratio Lower Upper
 95 100
 174 63.8 51.2 76.8
 175 4.5 3.8 5.6



#74
 1,2,4-Trimethylbenzene
 Concen: 0.158 ppbv m
 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: 49151
 Ion Ratio Lower Upper
 105 100
 120 34.4 37.9 56.9#
 91 12.4 34.0 51.0#
 77 14.4 15.7 23.5#

