

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL111220\
 Data File : VL035917.D
 Acq On : 12 Nov 2020 17:23
 Operator : SY/AP
 Sample : L4720-03
 Misc : 400ml/MSVOA L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 CVS-3

Quant Time: Nov 13 00:58:54 2020
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL110320AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_LWed Nov 04 02:40:06 2020
 QLast Update : Wed Nov 04 02:40:06 2020
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	5.66	49	1158147	10.00	ppbv	0.00
33) 1,4-Difluorobenzene	7.17	114	4010315	10.00	ppbv	0.00
55) Chlorobenzene-d5	12.09	117	3680560	10.00	ppbv	0.00

System Monitoring Compounds

68) 1-Bromo-4-Fluorobenzene	14.42	95	2661370	10.18	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	=	101.80%

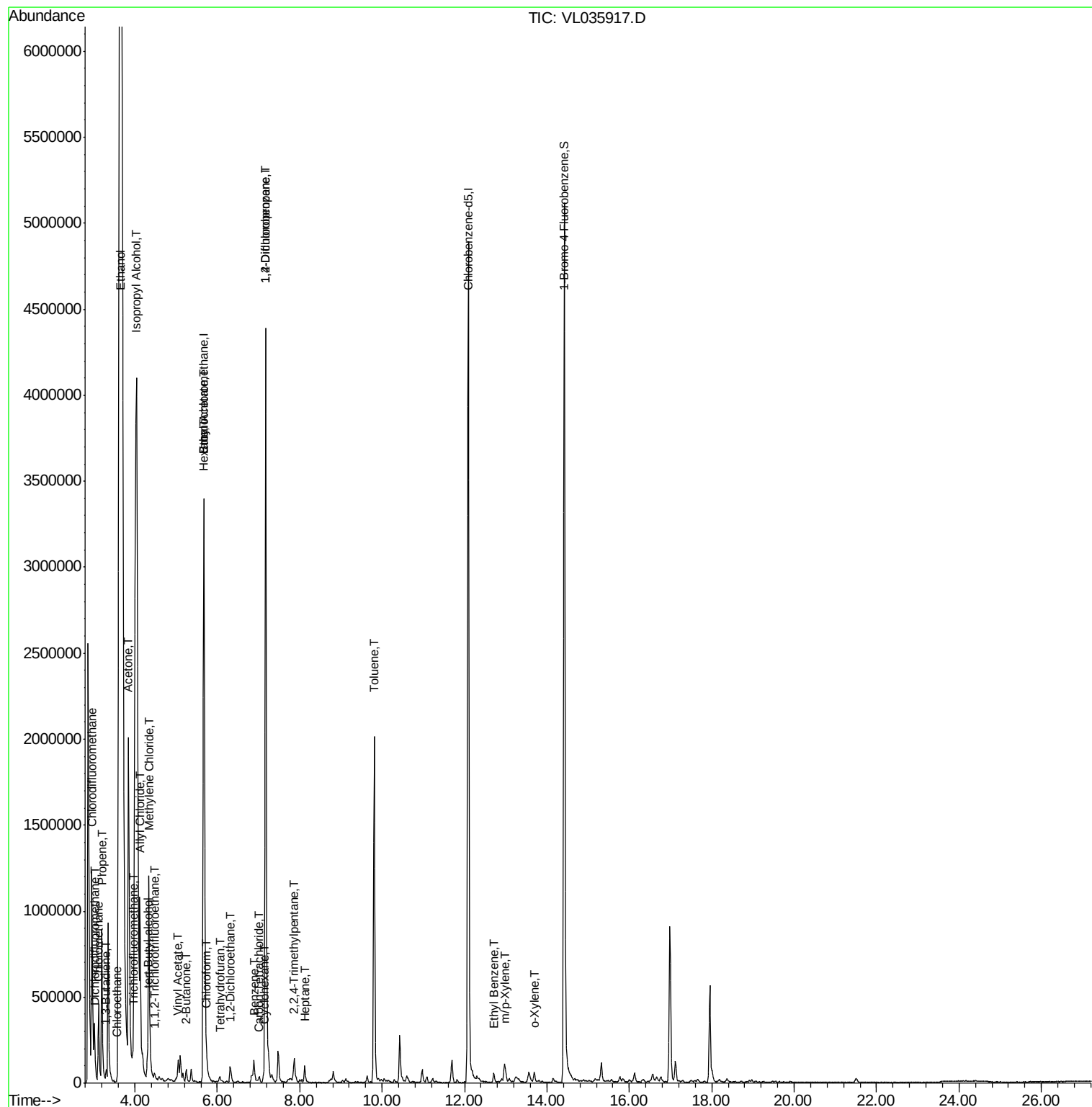
Target Compounds	R.T.	QIon	Response	Conc	Units	Ovalue
2) Dichlorodifluoromethane	3.04	85	21876	0.100	ppbv	92
3) Chlorodifluoromethane	2.95	51	1036006	7.470	ppbv #	57
4) Chloromethane	3.13	50	39802	0.591	ppbv	98
7) Chloroethane	3.55	64	4091	0.135	ppbv	90
9) Propene	3.20	41	290184	5.716	ppbv	99
10) Heptane	8.12	43	29535	0.211	ppbv	98
11) Trichlorofluoromethane	3.94	101	68232	0.249	ppbv	95
12) 1,1,2-Trichlorotrifluoroet	4.48	101	15490	0.076	ppbv	100
13) Ethanol	3.65	45	12718480	1154.890	ppbv #	4
15) Acetone	3.84	43	2441575	19.719	ppbv	99
16) 1,3-Butadiene	3.29	39	17052	0.320	ppbv #	1
17) tert-Butyl alcohol	4.31	59	25799	0.157	ppbv #	72
19) Isopropyl Alcohol	4.03	45	11489360	150.999	ppbv #	97
20) Methylene Chloride	4.34	84	622971	7.147	ppbv	98
21) Allyl Chloride	4.12	41	290827	4.343	ppbv #	47
23) Vinyl Acetate	5.06	43	52258	0.301	ppbv #	23
25) Ethyl Acetate	5.68	43	707023	2.899	ppbv #	86
26) Hexane	5.68	57	795003	5.910	ppbv #	59
29) Chloroform	5.75	83	24762	0.094	ppbv	90
30) Cyclohexane	7.12	84	8690	0.059	ppbv #	1
34) 2-Butanone	5.24	43	82465	0.634	ppbv	100
35) Carbon Tetrachloride	7.01	117	18451	0.086	ppbv	94
36) Benzene	6.89	78	103167	0.346	ppbv	94
37) 1,2-Dichloroethane	6.30	62	19908	0.147	ppbv #	95
39) 1,2-Dichloropropane	7.17	63	826459	8.234	ppbv #	31
41) Tetrahydrofuran	6.06	42	4899	0.066	ppbv #	37
44) 2,2,4-Trimethylpentane	7.86	57	53636	0.136	ppbv #	18
53) Toluene	9.80	91	1784801	4.961	ppbv	97
58) Ethyl Benzene	12.71	91	48009	0.107	ppbv	90
59) m/p-Xylene	13.00	91	29491	0.078	ppbv #	28
60) o-Xylene	13.70	91	41482	0.112	ppbv	99

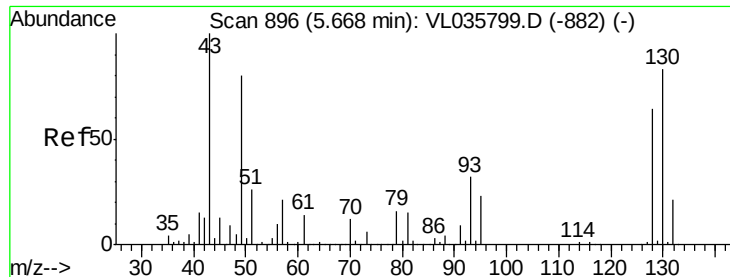
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL111220\
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CVS-3

Quant Time: Nov 13 00:58:54 2020
Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL110320AIR.M
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Wed Nov 04 02:40:06 2020
QLast Update : Wed Nov 04 02:40:06 2020
Response via : Initial Calibration





#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.66 min Scan# 894

Delta R.T. -0.01 min

Lab File: VL035917.D

Acq: 12 Nov 2020 17:23

Instrument :

MSVOA_L

ClientSampleId :

CVS-3

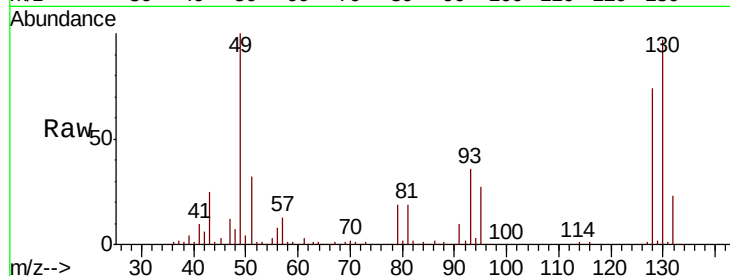
Tot Ion: 49 Resp: 1158147

Ion Ratio Lower Upper

49 100

128 75.9 41.5 124.6

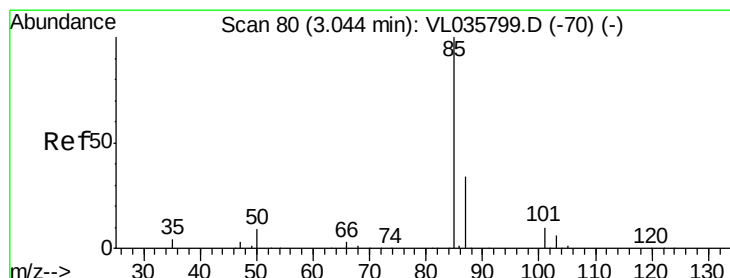
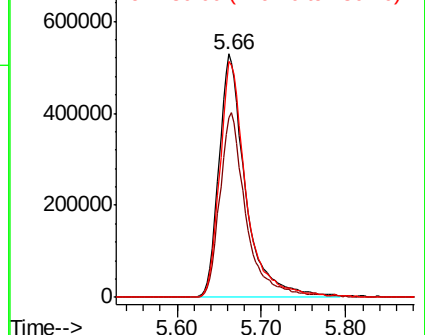
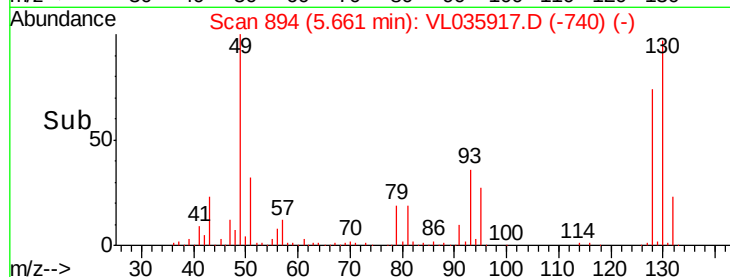
130 97.1 53.7 161.1



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: 0.100 ppbv

RT: 3.04 min Scan# 78

Delta R.T. -0.01 min

Lab File: VL035917.D

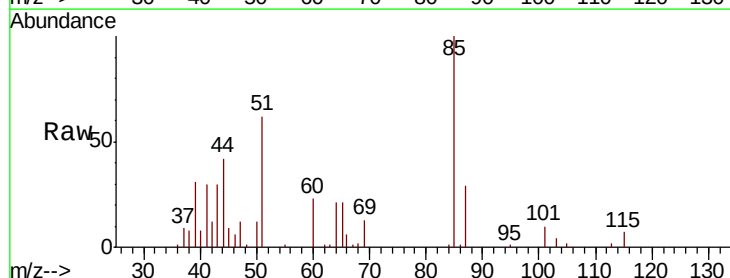
Acq: 12 Nov 2020 17:23

Tgt Ion: 85 Resp: 21876

Ion Ratio Lower Upper

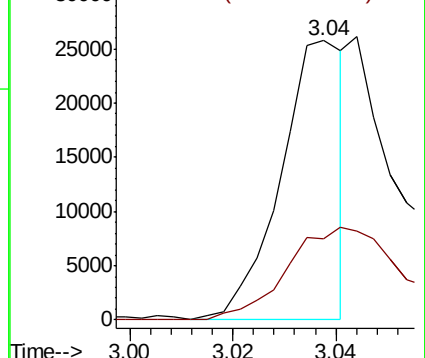
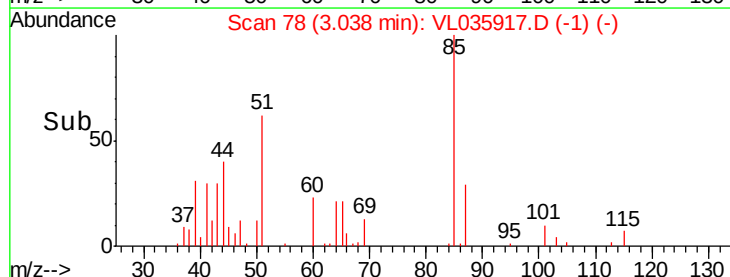
85 100

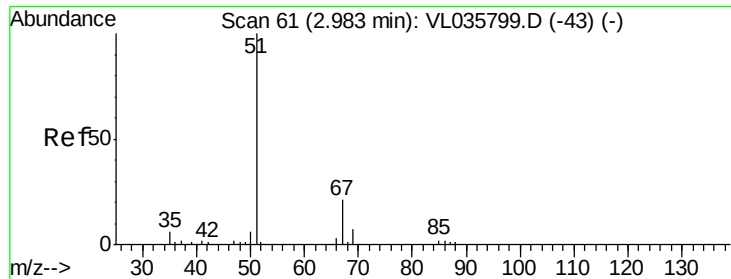
87 29.2 27.1 40.7



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 87.00 (86.70 to 87.70): VL0





#3

Chlorodifluoromethane

Concen: 7.470 ppbv

RT: 2.95 min Scan# 52

Delta R.T. -0.03 min

Lab File: VL035917.D

Acq: 12 Nov 2020 17:23

Instrument :

MSVOA_L

ClientSampleId :

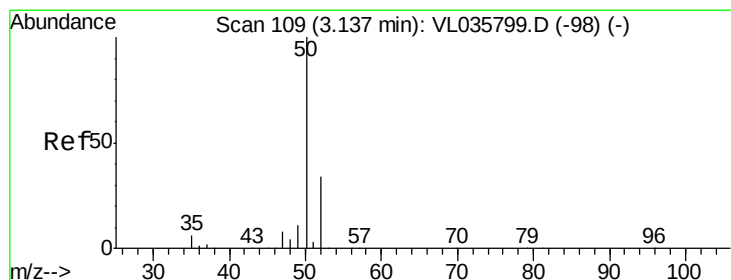
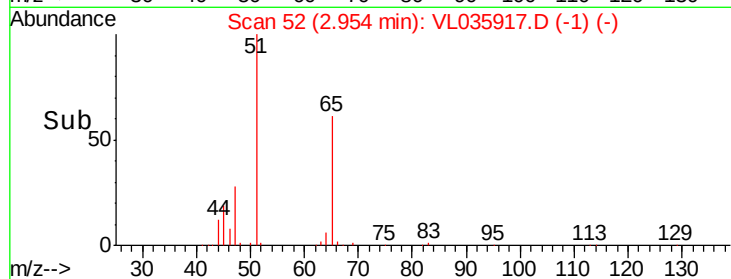
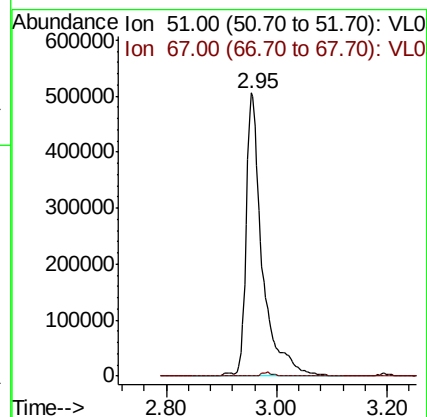
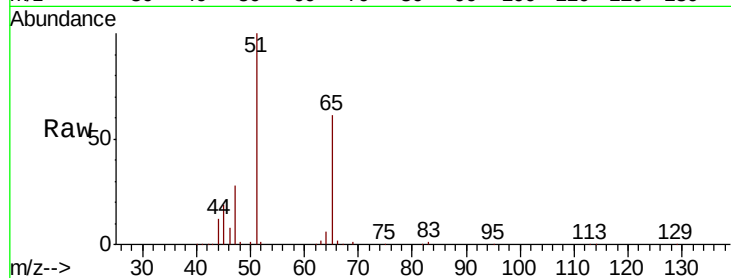
CVS-3

Tot Ion: 51 Resp: 1036006

Ion Ratio Lower Upper

51 100

67 1.1 17.0 25.4#



#4

Chloromethane

Concen: 0.591 ppbv

RT: 3.13 min Scan# 108

Delta R.T. -0.00 min

Lab File: VL035917.D

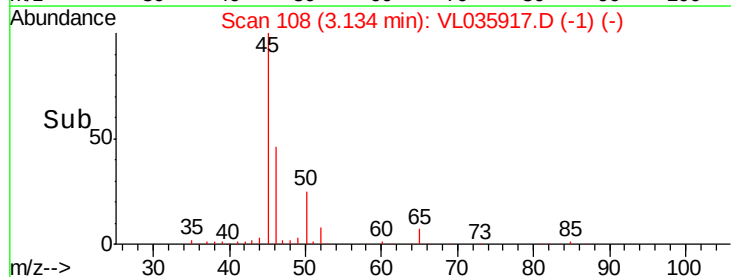
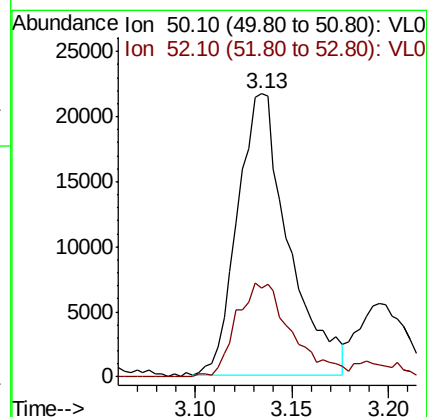
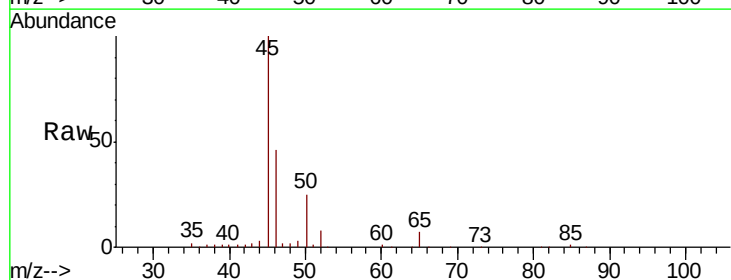
Acq: 12 Nov 2020 17:23

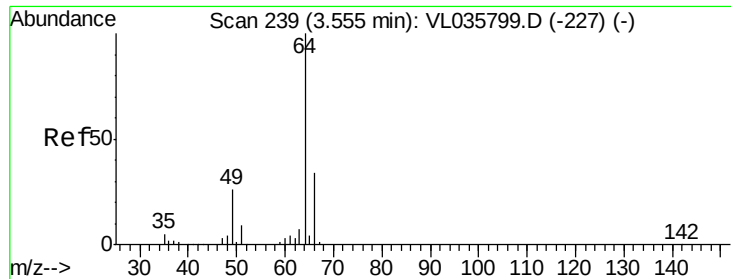
Tgt Ion: 50 Resp: 39802

Ion Ratio Lower Upper

50 100

52 32.5 27.1 40.7





#7

Chloroethane

Concen: 0.135 ppbv

RT: 3.55 min Scan# 238

Delta R.T. -0.00 min

Lab File: VL035917.D

Acq: 12 Nov 2020 17:23

Instrument :

MSVOA_L

ClientSampleId :

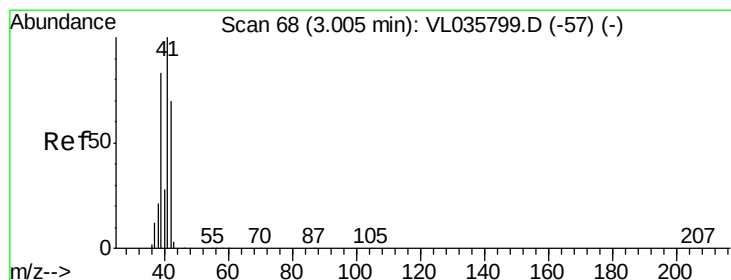
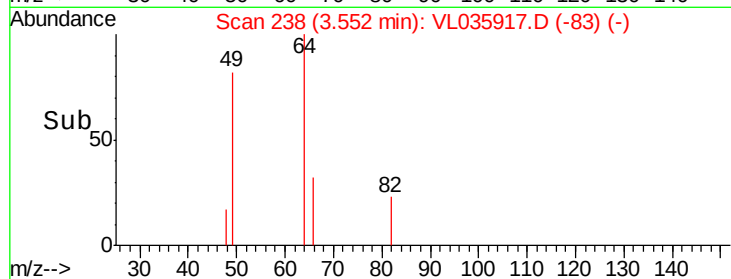
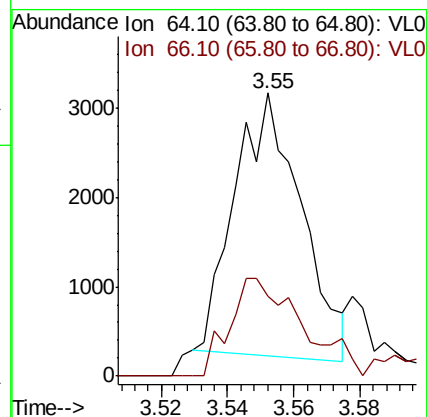
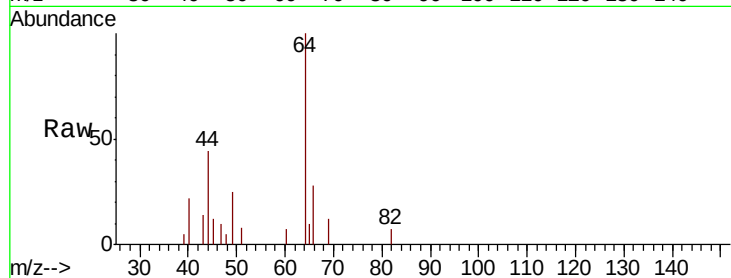
CVS-3

Tot Ion: 64 Resp: 4091

Ion Ratio Lower Upper

64 100

66 28.3 27.0 40.6



#9

Propene

Concen: 5.716 ppbv

RT: 3.20 min Scan# 127

Delta R.T. 0.19 min

Lab File: VL035917.D

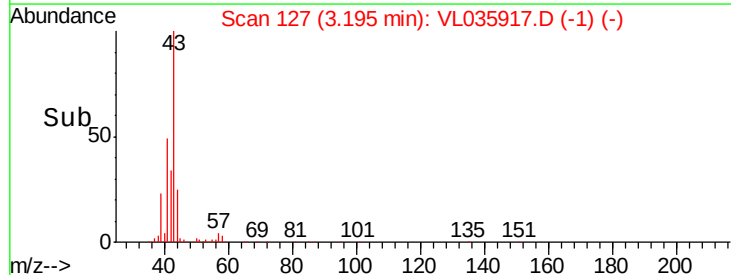
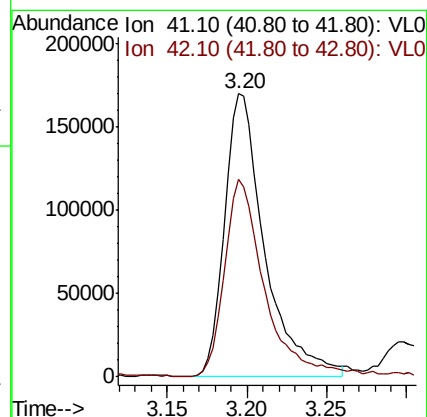
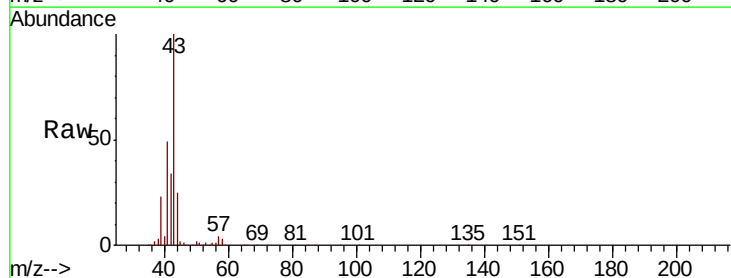
Acq: 12 Nov 2020 17:23

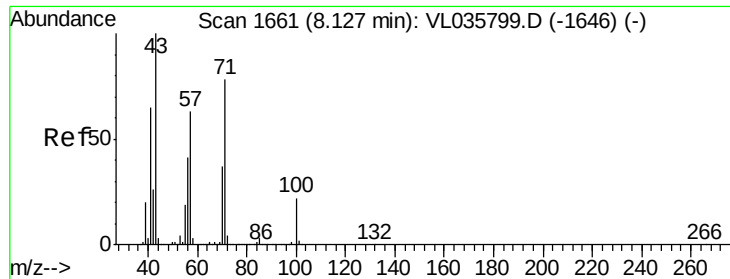
Tgt Ion: 41 Resp: 290184

Ion Ratio Lower Upper

41 100

42 69.7 56.2 84.4





#10

Heptane

Concen: 0.211 ppbv

RT: 8.12 min Scan# 1659

Delta R.T. -0.01 min

Lab File: VL035917.D

Acq: 12 Nov 2020 17:23

Instrument :

MSVOA_L

ClientSampleId :

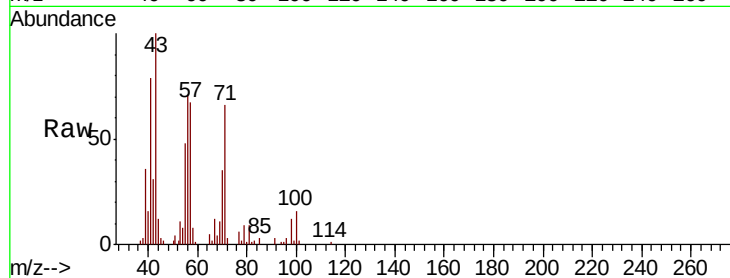
CVS-3

Tot Ion: 43 Resp: 29535

Ion Ratio Lower Upper

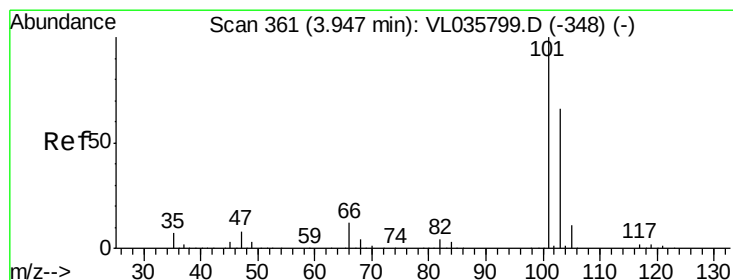
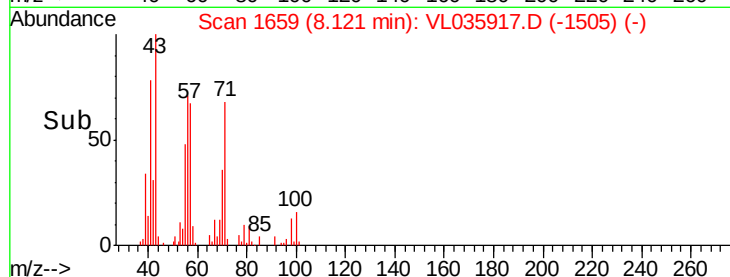
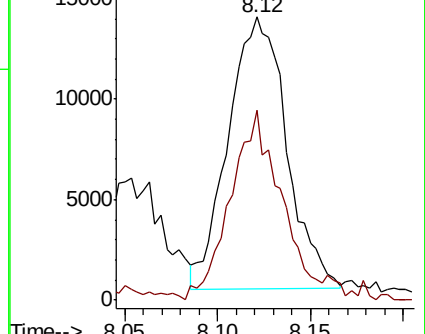
43 100

57 64.1 50.0 75.0



Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 57.10 (56.80 to 57.80): VL0



#11

Trichlorofluoromethane

Concen: 0.249 ppbv

RT: 3.94 min Scan# 360

Delta R.T. -0.00 min

Lab File: VL035917.D

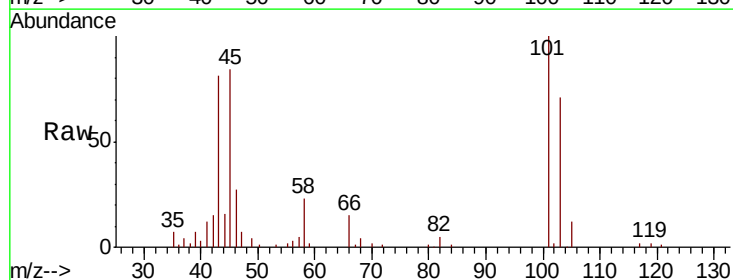
Acq: 12 Nov 2020 17:23

Tgt Ion: 101 Resp: 68232

Ion Ratio Lower Upper

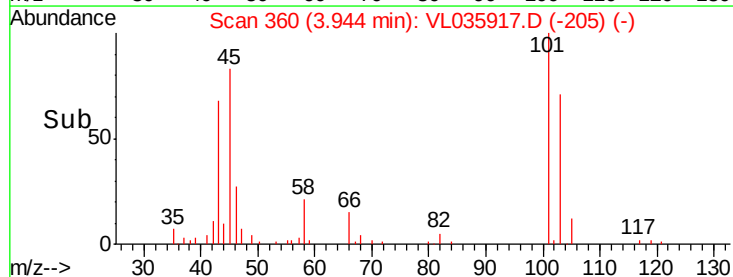
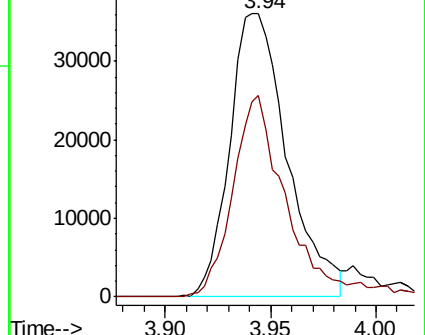
101 100

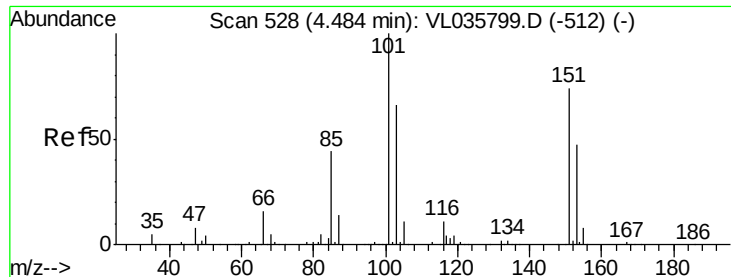
103 70.2 53.0 79.4



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: 0.076 ppbv

RT: 4.48 min Scan# 527

Delta R.T. -0.00 min

Lab File: VL035917.D

Acq: 12 Nov 2020 17:23

Instrument :

MSVOA_L

ClientSampleId :

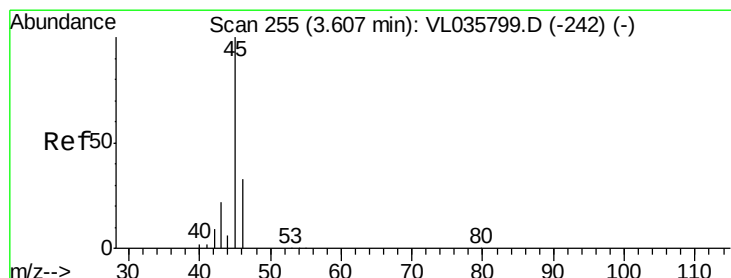
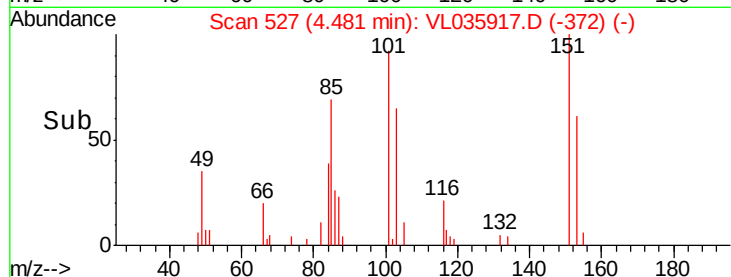
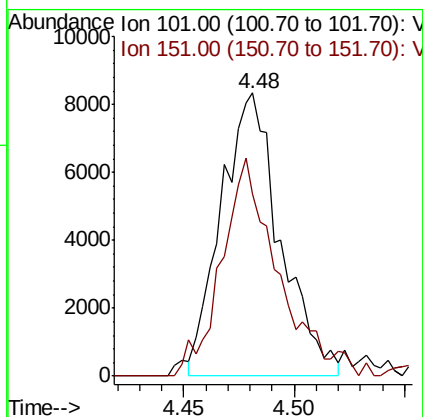
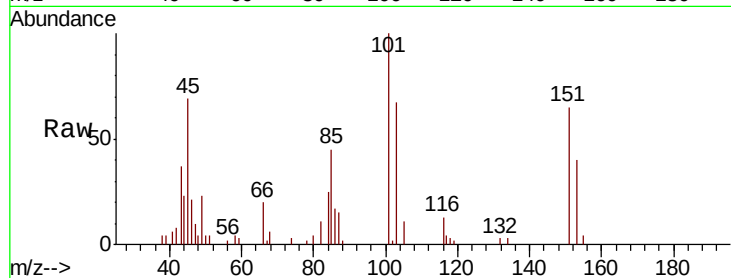
CVS-3

Tot Ion:101 Resp: 15490

Ion Ratio Lower Upper

101 100

151 73.8 58.9 88.3



#13

Ethanol

Concen: 1154.890 ppbv

RT: 3.65 min Scan# 269

Delta R.T. 0.05 min

Lab File: VL035917.D

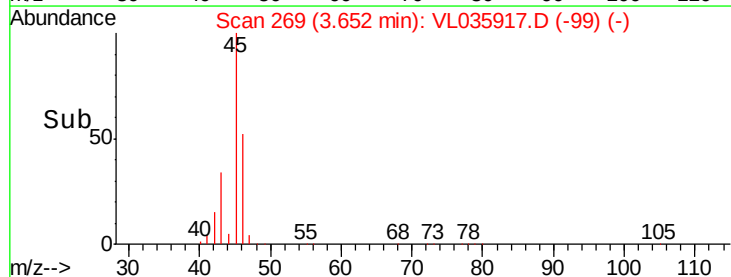
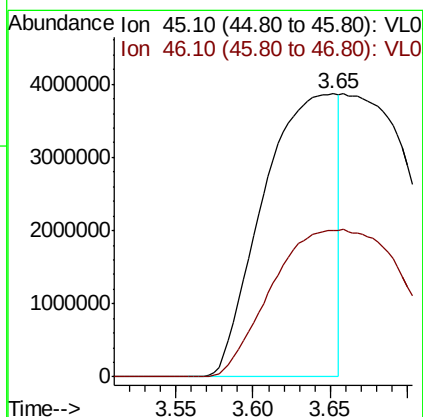
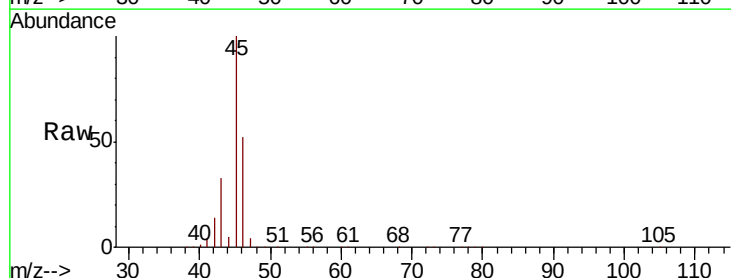
Acq: 12 Nov 2020 17:23

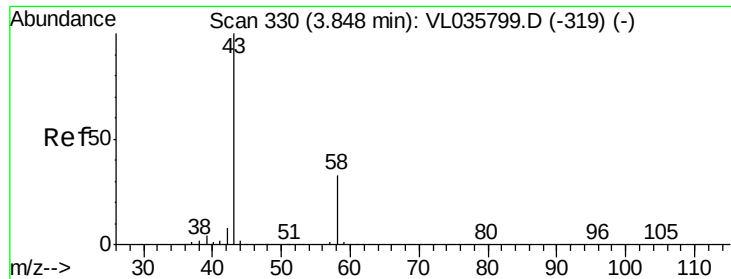
Tgt Ion: 45 Resp:12718480

Ion Ratio Lower Upper

45 100

46 99.9 16.1 64.5#





#15

Acetone

Concen: 19.719 ppbv

RT: 3.84 min Scan# 328

Delta R.T. -0.01 min

Lab File: VL035917.D

Acq: 12 Nov 2020 17:23

Instrument :

MSVOA_L

ClientSampleId :

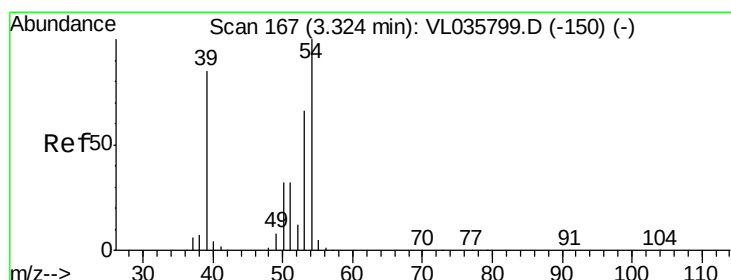
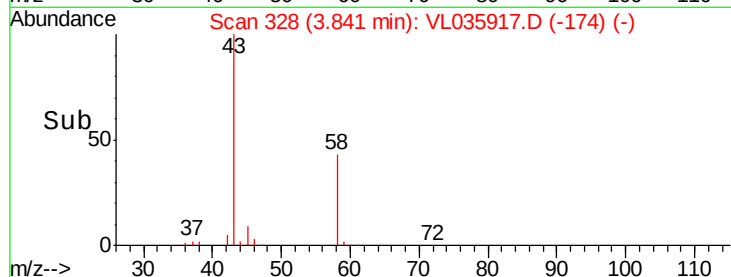
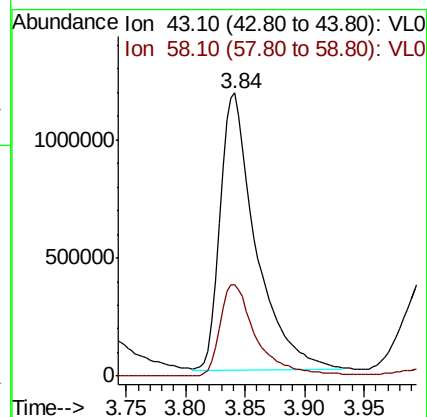
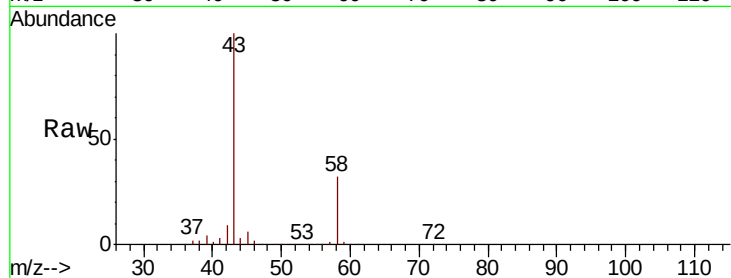
CVS-3

Tot Ion: 43 Resp: 2441575

Ion Ratio Lower Upper

43 100

58 33.9 27.5 41.3



#16

1,3-Butadiene

Concen: 0.320 ppbv

RT: 3.29 min Scan# 158

Delta R.T. -0.03 min

Lab File: VL035917.D

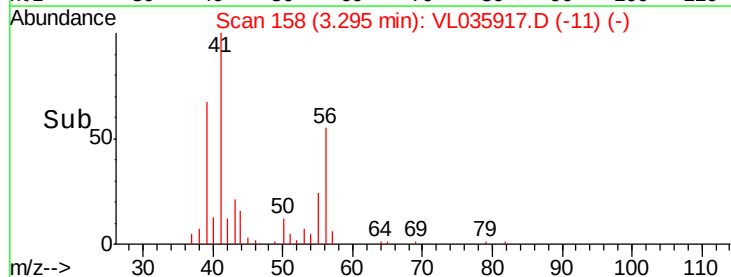
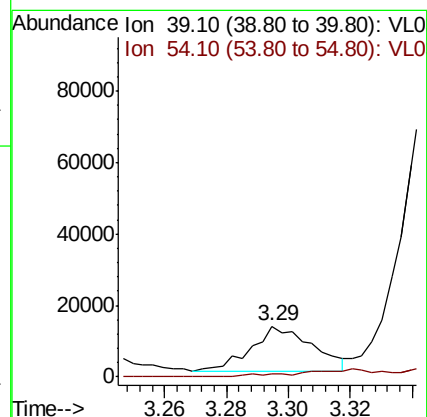
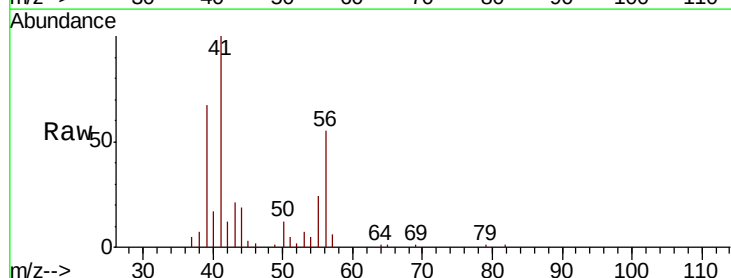
Acq: 12 Nov 2020 17:23

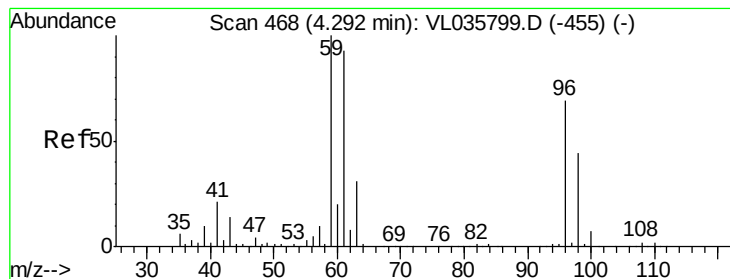
Tgt Ion: 39 Resp: 17052

Ion Ratio Lower Upper

39 100

54 0.0 87.1 130.7#





#17

tert-Butyl alcohol

Concen: 0.157 ppbv

RT: 4.31 min Scan# 473

Delta R.T. 0.02 min

Lab File: VL035917.D

Acq: 12 Nov 2020 17:23

Instrument :

MSVOA_L

ClientSampleId :

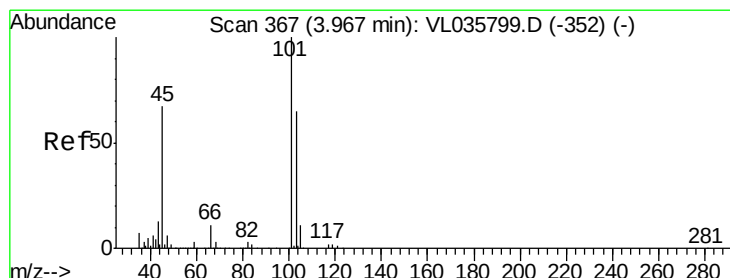
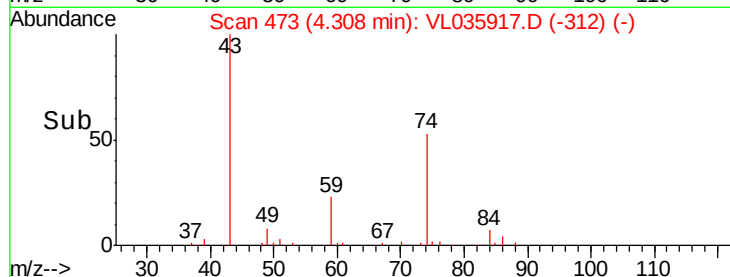
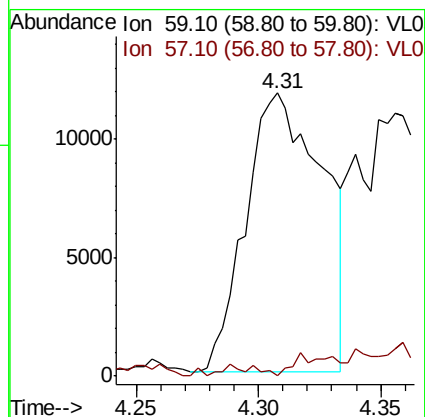
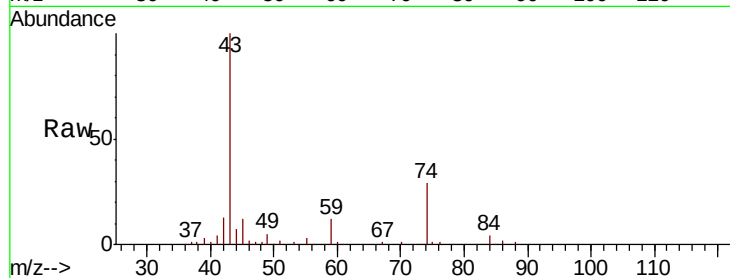
CVS-3

Tot Ion: 59 Resp: 25799

Ion Ratio Lower Upper

59 100

57 0.0 8.2 12.4#



#19

Isopropyl Alcohol

Concen: 150.999 ppbv

RT: 4.03 min Scan# 388

Delta R.T. 0.07 min

Lab File: VL035917.D

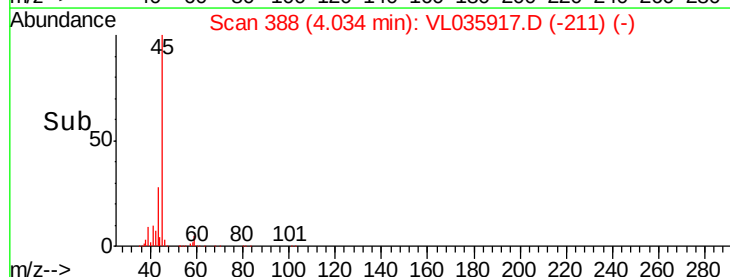
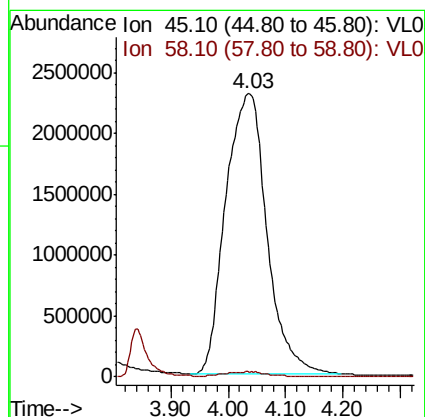
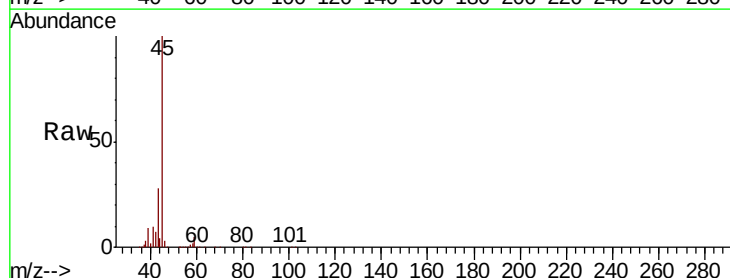
Acq: 12 Nov 2020 17:23

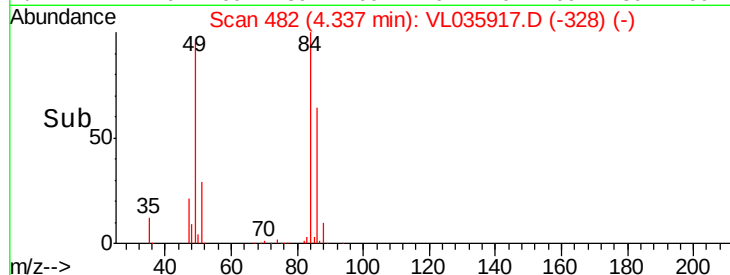
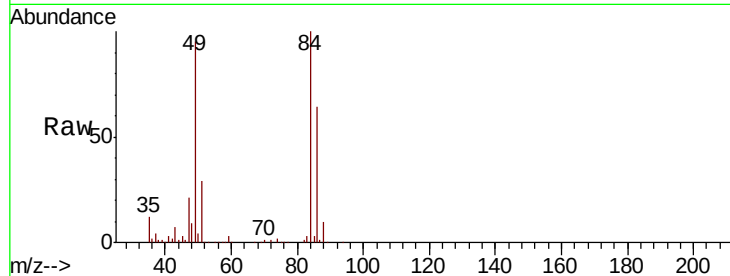
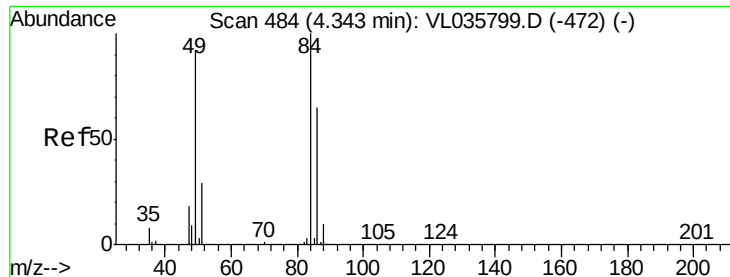
Tgt Ion: 45 Resp: 11489360

Ion Ratio Lower Upper

45 100

58 2.1 2.6 3.8#





#20

Methylene Chloride

Concen: 7.147 ppbv

RT: 4.34 min Scan# 482

Delta R.T. -0.01 min

Lab File: VL035917.D

Acq: 12 Nov 2020 17:23

Instrument :

MSVOA_L

ClientSampleId :

CVS-3

Tot Ion: 84 Resp: 622971

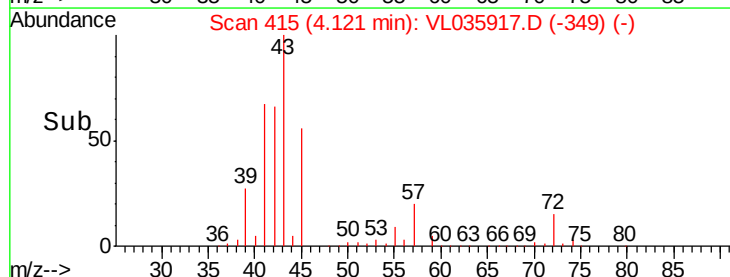
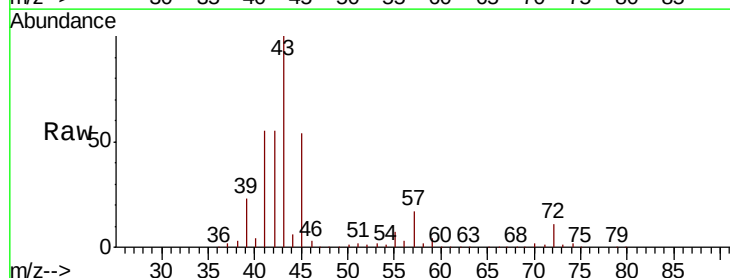
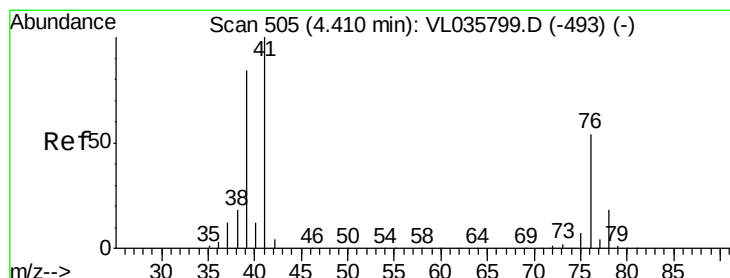
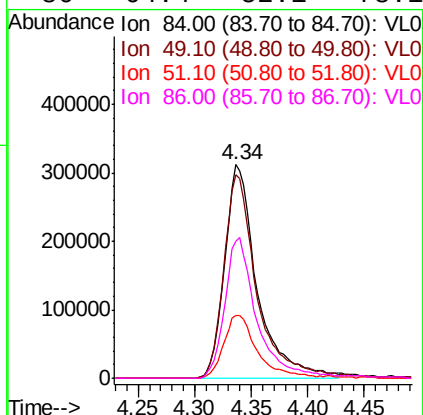
Ion Ratio Lower Upper

84 100

49 95.3 73.8 110.8

51 29.3 23.0 34.4

86 64.4 52.1 78.1



#21

Allyl Chloride

Concen: 4.343 ppbv

RT: 4.12 min Scan# 415

Delta R.T. -0.29 min

Lab File: VL035917.D

Acq: 12 Nov 2020 17:23

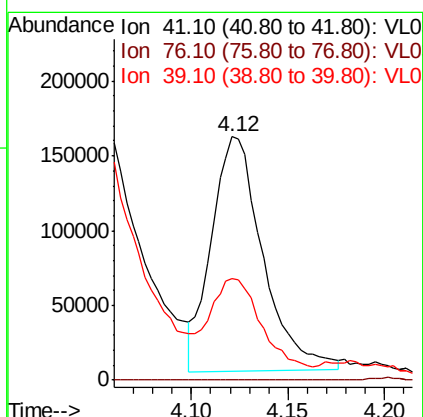
Tgt Ion: 41 Resp: 290827

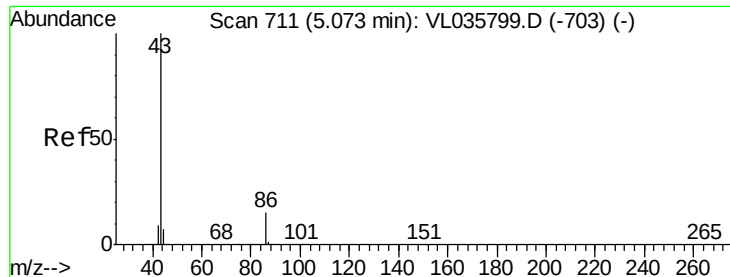
Ion Ratio Lower Upper

41 100

76 0.9 42.6 63.8#

39 47.0 67.0 100.4#





#23

Vinyl Acetate

Concen: 0.301 ppbv

RT: 5.06 min Scan# 706

Delta R.T. -0.02 min

Lab File: VL035917.D

Acq: 12 Nov 2020 17:23

Instrument :

MSVOA_L

ClientSampleId :

CVS-3

Tot Ion: 43 Resp: 52258

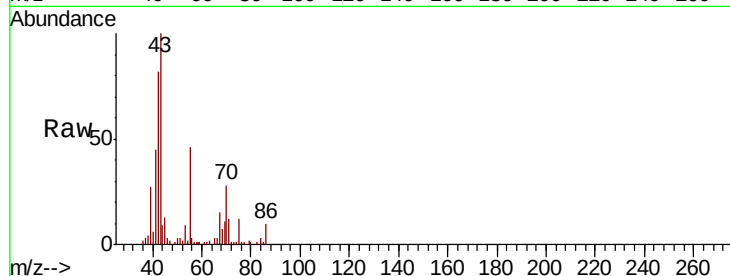
Ion Ratio Lower Upper

43 100

86 10.4 9.8 14.6

42 84.3 8.1 12.1#

44 1.4 4.2 6.4#

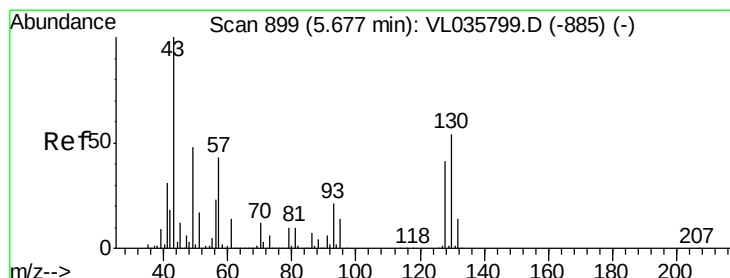
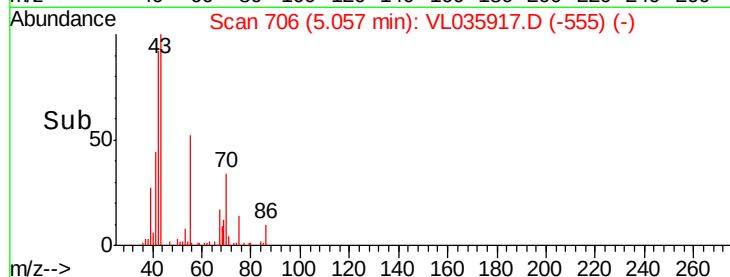
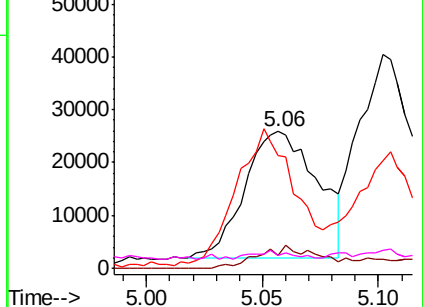


Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 86.10 (85.80 to 86.80): VL0

Ion 42.10 (41.80 to 42.80): VL0

Ion 44.10 (43.80 to 44.80): VL0



#25

Ethyl Acetate

Concen: 2.899 ppbv

RT: 5.68 min Scan# 899

Delta R.T. 0.00 min

Lab File: VL035917.D

Acq: 12 Nov 2020 17:23

Tgt Ion: 43 Resp: 707023

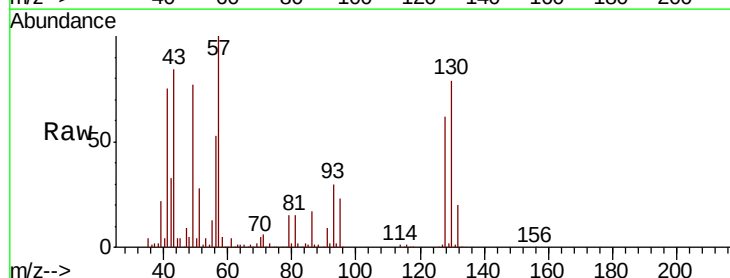
Ion Ratio Lower Upper

43 100

45 6.6 8.5 12.7#

61 5.9 10.7 16.1#

70 6.0 8.6 12.8#

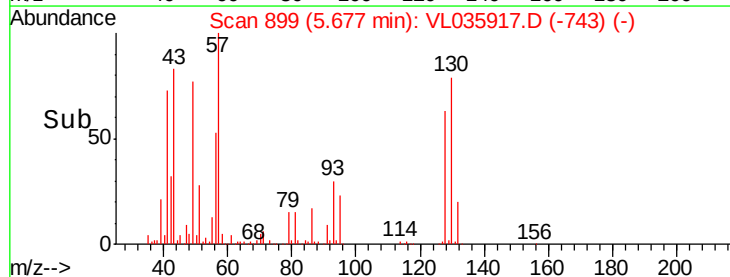
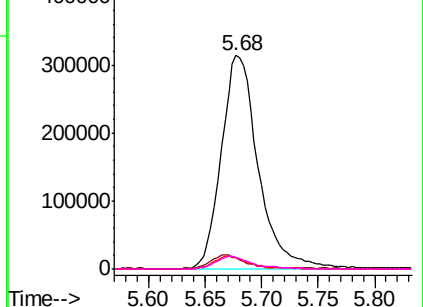


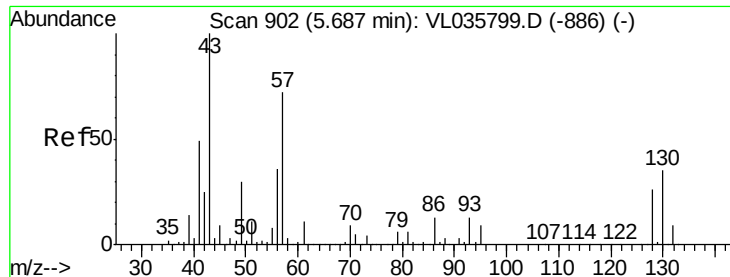
Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 45.10 (44.80 to 45.80): VL0

Ion 61.10 (60.80 to 61.80): VL0

Ion 70.10 (69.80 to 70.80): VL0

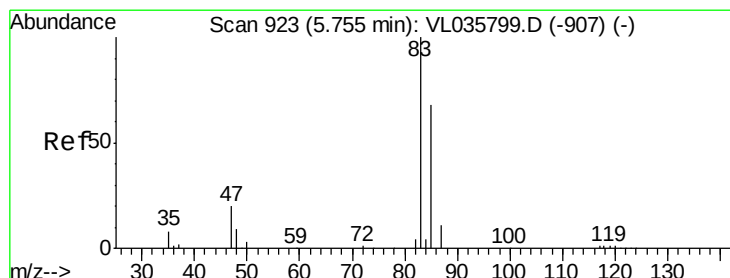
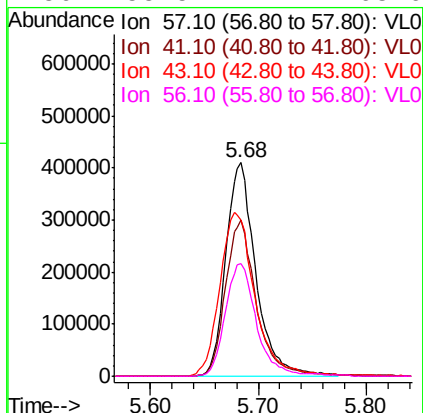
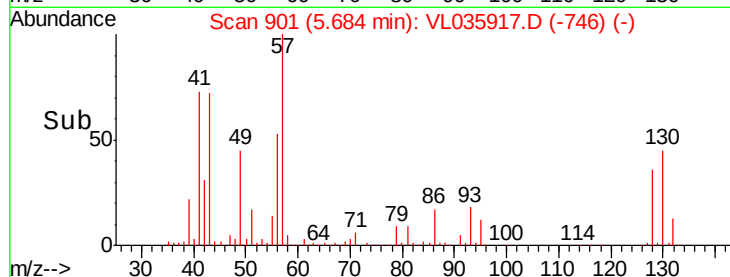
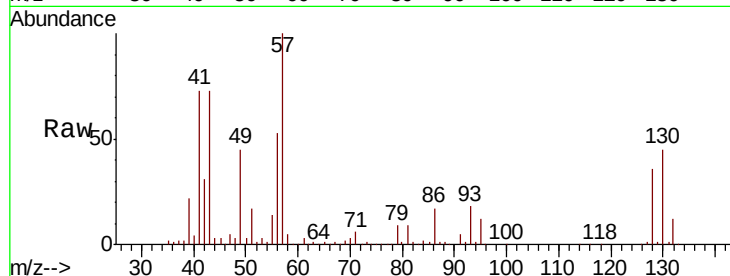




#26
Hexane
Concen: 5.910 ppbv
RT: 5.68 min Scan# 901
Delta R.T. -0.00 min
Lab File: VL035917.D
Acq: 12 Nov 2020 17:23

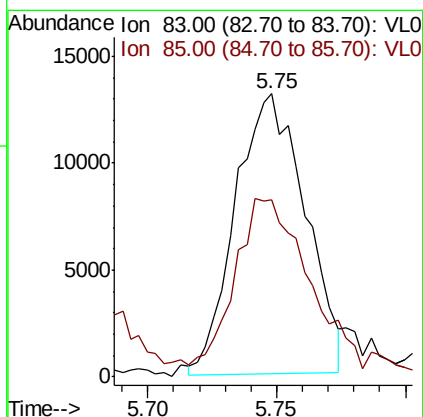
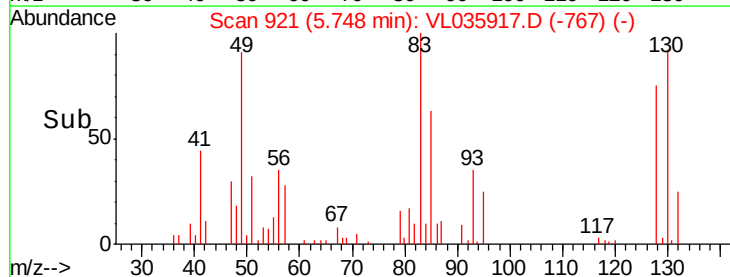
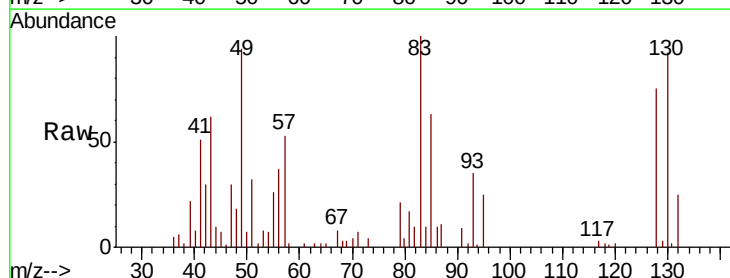
Instrument :
MSVOA_L
ClientSampleId :
CVS-3

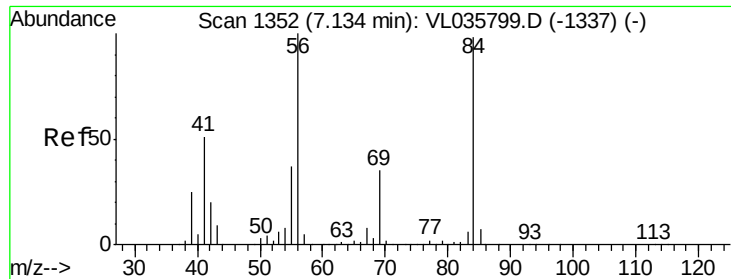
Tot Ion: 57 Resp: 795003
Ion Ratio Lower Upper
57 100
41 76.2 58.9 88.3
43 90.0 150.2 225.2#
56 55.5 42.4 63.6



#29
Chloroform
Concen: 0.094 ppbv
RT: 5.75 min Scan# 921
Delta R.T. -0.01 min
Lab File: VL035917.D
Acq: 12 Nov 2020 17:23

Tgt Ion: 83 Resp: 24762
Ion Ratio Lower Upper
83 100
85 60.4 54.6 81.8

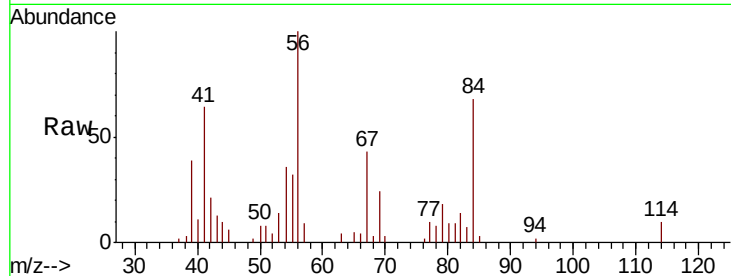




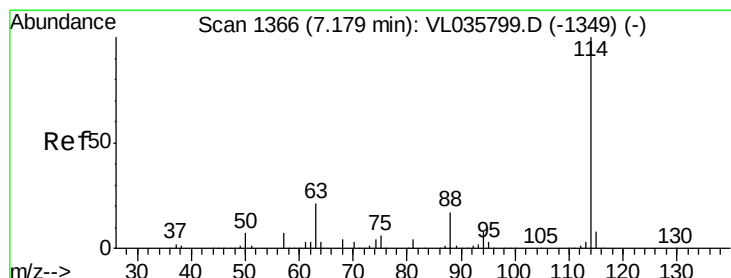
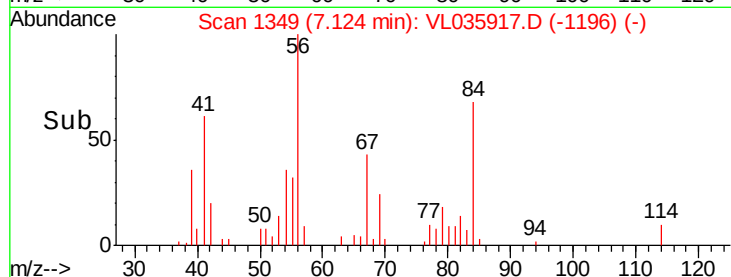
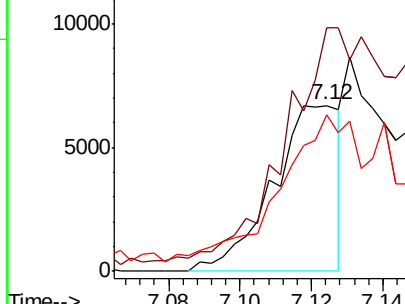
#30
Cyclohexane
Concen: 0.059 ppbv
RT: 7.12 min Scan# 1349
Delta R.T. -0.01 min
Lab File: VL035917.D
Acq: 12 Nov 2020 17:23

Instrument :
MSVOA_L
ClientSampleId :
CVS-3

Tot Ion: 84 Resp: 8690
Ion Ratio Lower Upper
84 100
56 0.0 86.4 129.6#
41 175.0 42.1 63.1#

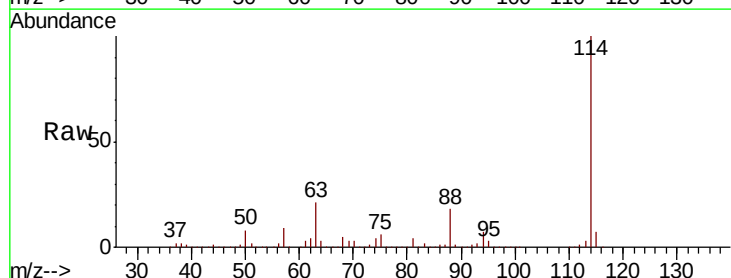


Abundance Ion 84.20 (83.90 to 84.90): VL0
Ion 56.10 (55.80 to 56.80): VL0
Ion 41.10 (40.80 to 41.80): VL0

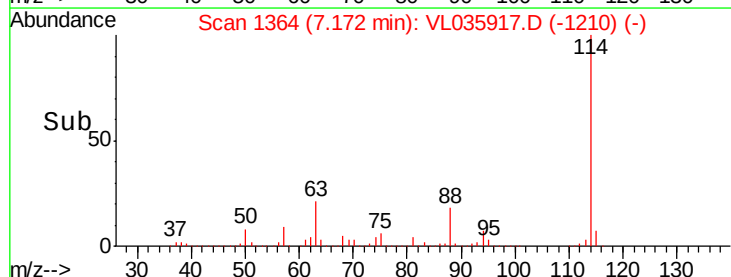
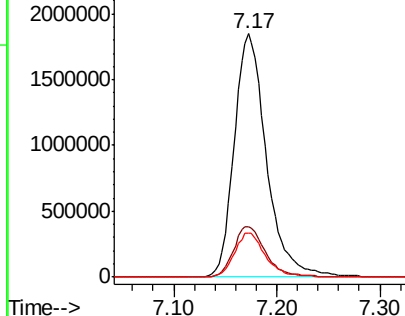


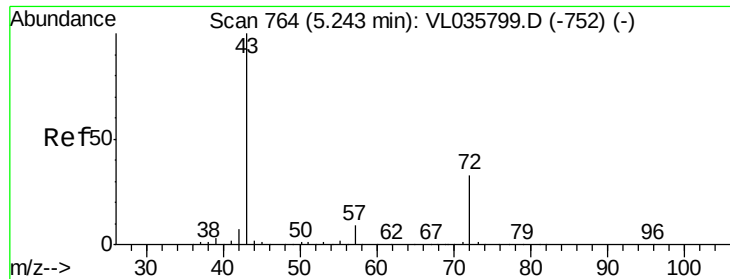
#33
1,4-Difluorobenzene
Concen: 10.000 ppbv
RT: 7.17 min Scan# 1364
Delta R.T. -0.01 min
Lab File: VL035917.D
Acq: 12 Nov 2020 17:23

Tgt Ion: 114 Resp: 4010315
Ion Ratio Lower Upper
114 100
63 20.9 16.1 24.1
88 17.7 13.7 20.5



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: 0.634 ppbv

RT: 5.24 min Scan# 764

Delta R.T. 0.00 min

Lab File: VL035917.D

Acq: 12 Nov 2020 17:23

Instrument :

MSVOA_L

ClientSampled :

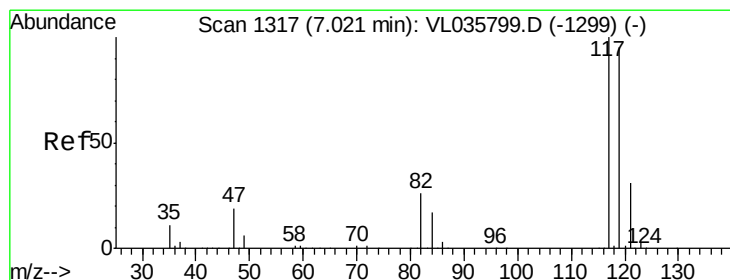
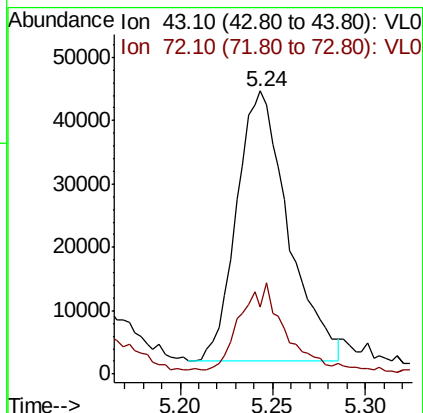
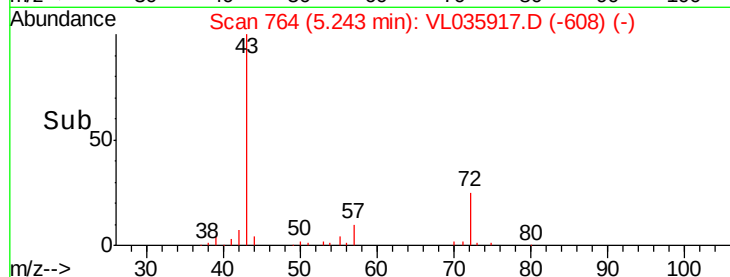
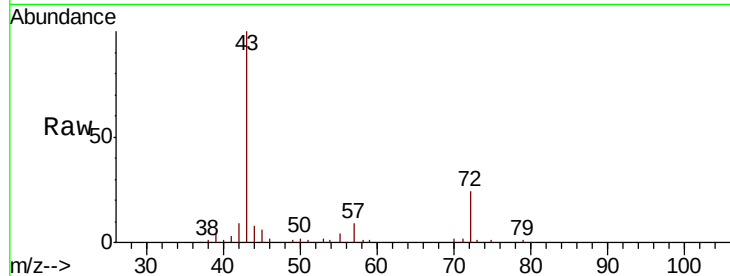
CVS-3

Tot Ion: 43 Resp: 82465

Ion Ratio Lower Upper

43 100

72 32.9 26.5 39.7



#35

Carbon Tetrachloride

Concen: 0.086 ppbv

RT: 7.01 min Scan# 1314

Delta R.T. -0.01 min

Lab File: VL035917.D

Acq: 12 Nov 2020 17:23

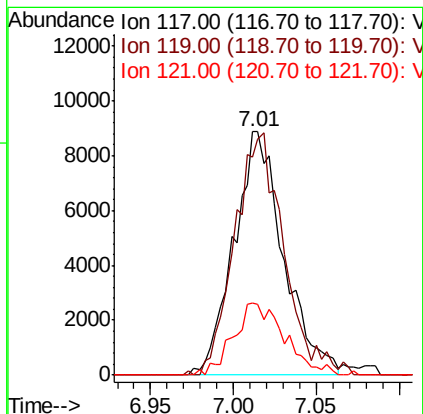
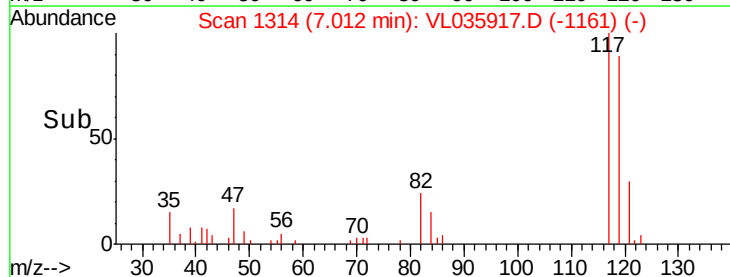
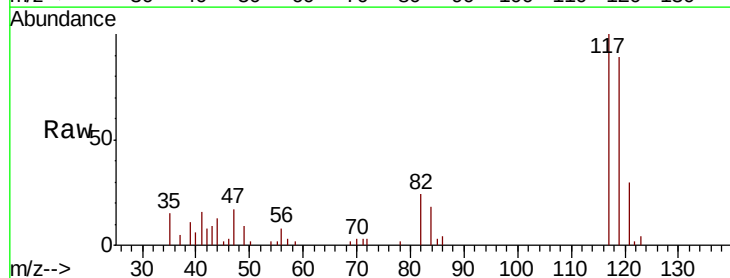
Tgt Ion: 117 Resp: 18451

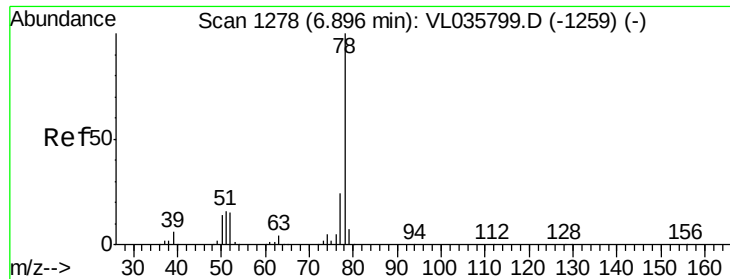
Ion Ratio Lower Upper

117 100

119 87.5 75.6 113.4

121 29.9 25.1 37.7





#36

Benzene

Concen: 0.346 ppbv

RT: 6.89 min Scan# 1276

Delta R.T. -0.01 min

Lab File: VL035917.D

Acq: 12 Nov 2020 17:23

Instrument :

MSVOA_L

ClientSampleId :

CVS-3

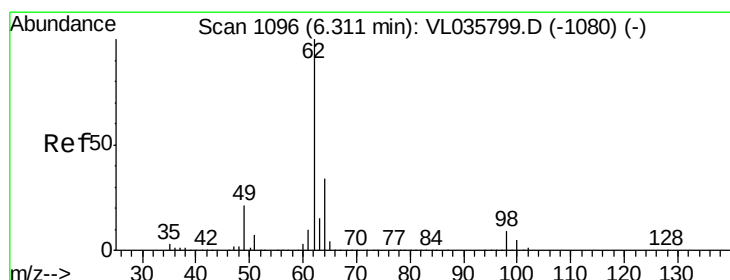
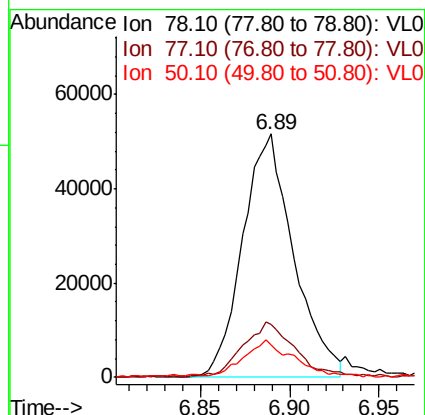
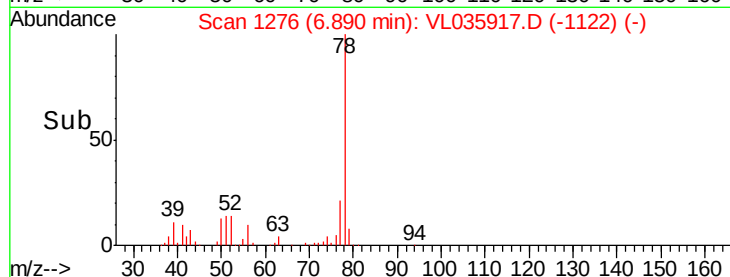
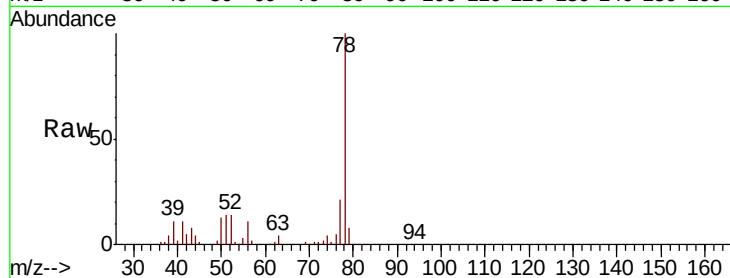
Tot Ion: 78 Resp: 103167

Ion Ratio Lower Upper

78 100

77 20.9 19.3 28.9

50 12.2 11.4 17.2



#37

1,2-Dichloroethane

Concen: 0.147 ppbv

RT: 6.30 min Scan# 1093

Delta R.T. -0.01 min

Lab File: VL035917.D

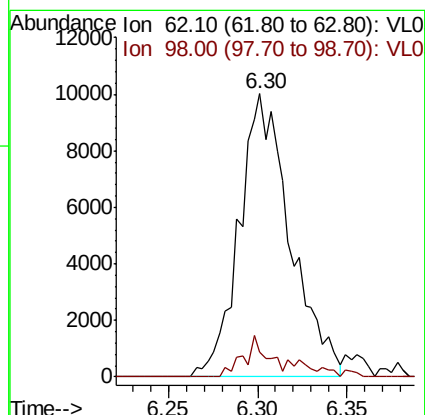
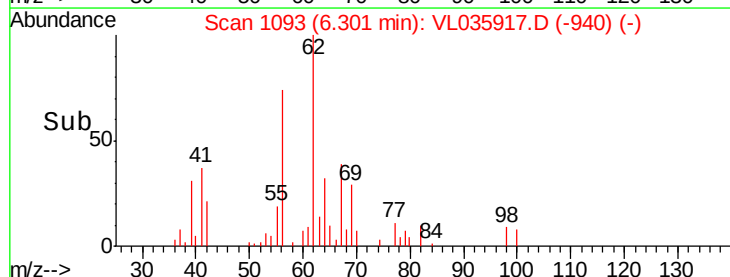
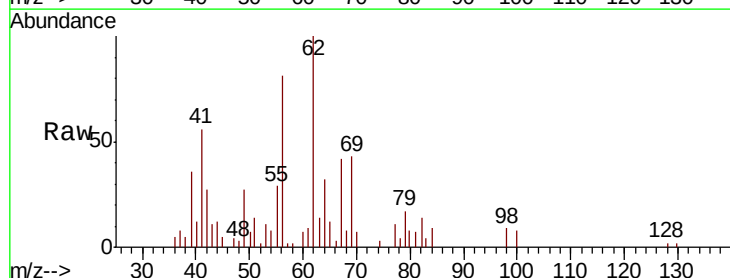
Acq: 12 Nov 2020 17:23

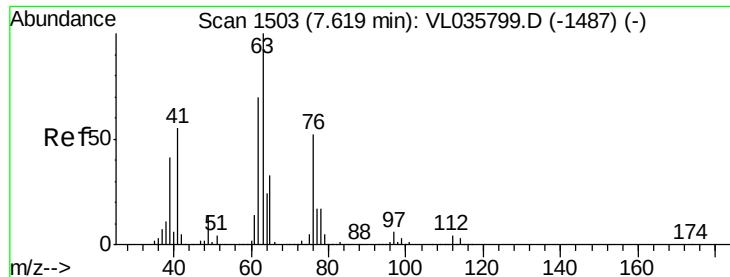
Tgt Ion: 62 Resp: 19908

Ion Ratio Lower Upper

62 100

98 10.5 6.9 10.3#

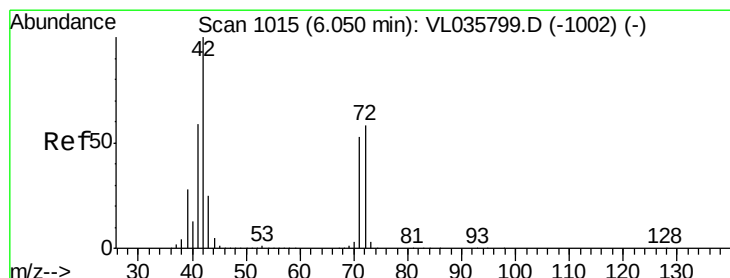
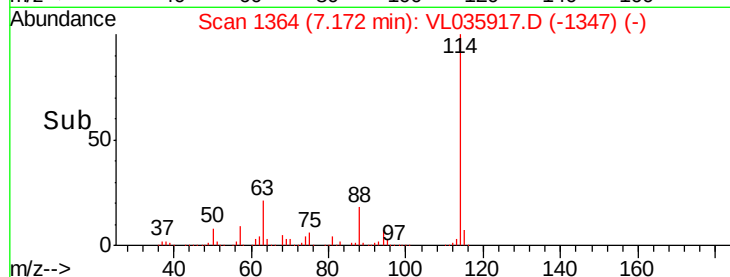
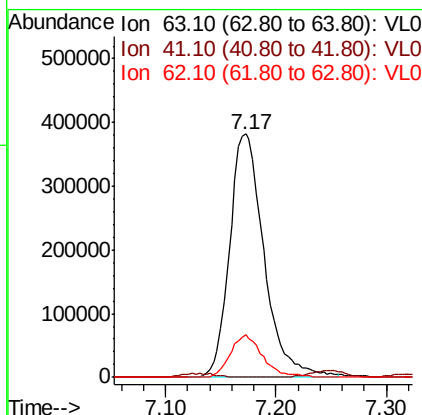
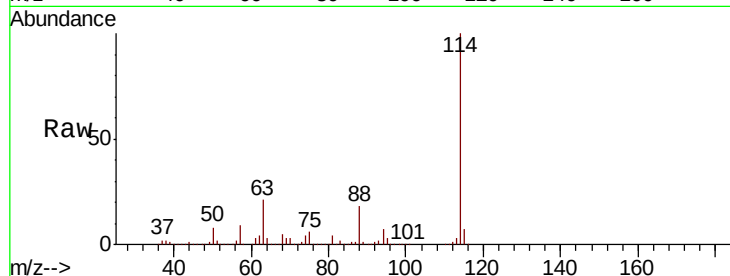




#39
 1,2-Dichloropropane
 Concen: 8.234 ppbv
 RT: 7.17 min Scan# 1364
 Delta R.T. -0.45 min
 Lab File: VL035917.D
 Acq: 12 Nov 2020 17:23

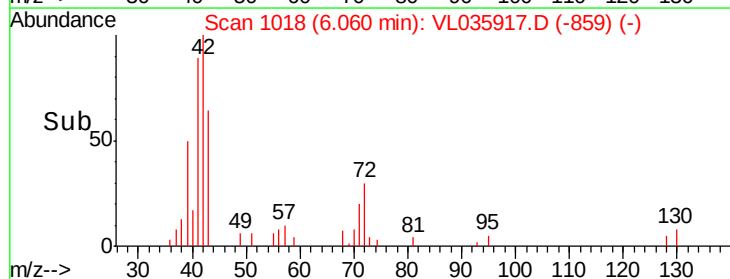
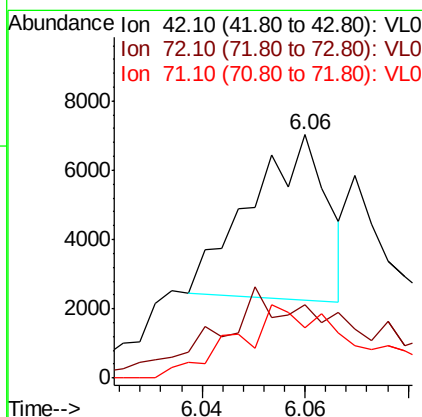
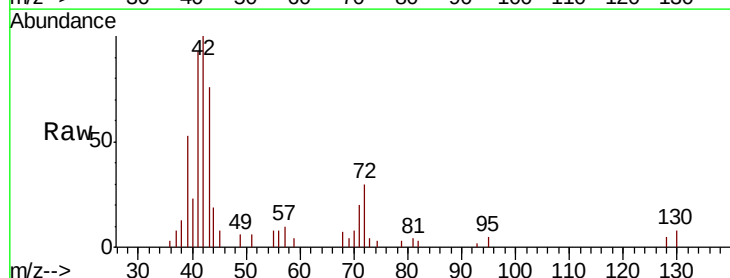
Instrument :
 MSVOA_L
 ClientSampled :
 CVS-3

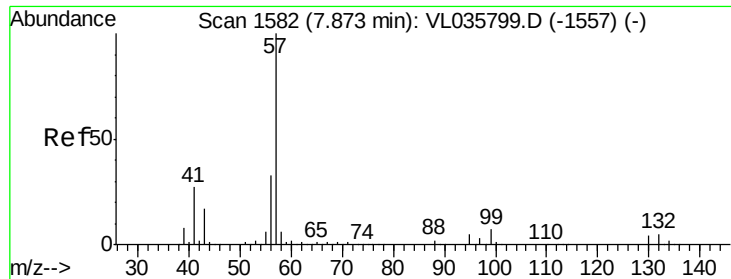
Tot Ion	Ratio	Lower	Upper
63	100		
41	0.0	43.8	65.6#
62	17.4	56.2	84.2#



#41
 Tetrahydrofuran
 Concen: 0.066 ppbv
 RT: 6.06 min Scan# 1018
 Delta R.T. 0.01 min
 Lab File: VL035917.D
 Acq: 12 Nov 2020 17:23

Tgt Ion	Ratio	Lower	Upper
42	100		
72	126.4	45.4	68.0#
71	76.3	43.4	65.2#

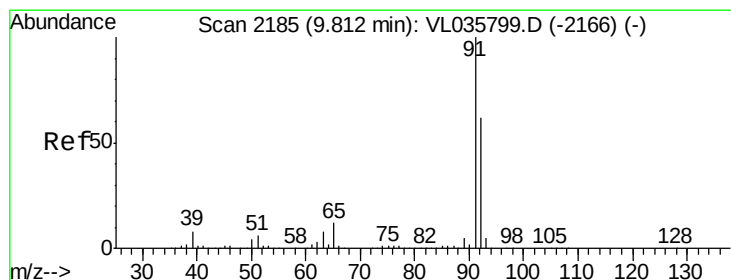
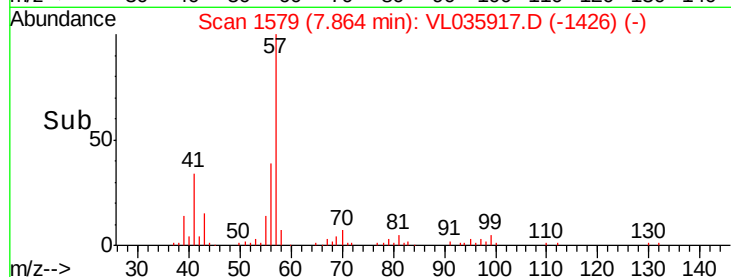
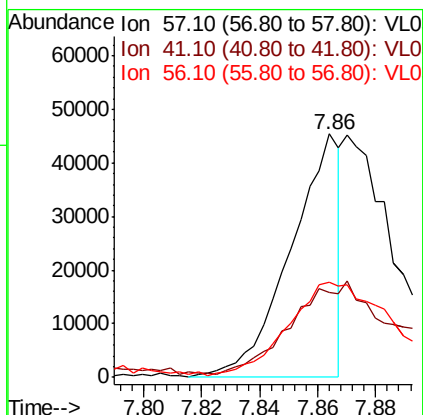
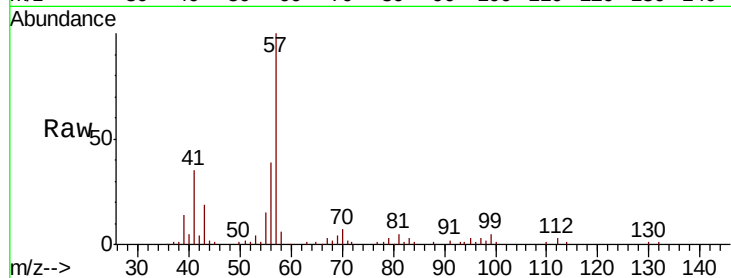




#44
 2,2,4-Trimethylpentane
 Concen: 0.136 ppbv
 RT: 7.86 min Scan# 1579
 Delta R.T. -0.01 min
 Lab File: VL035917.D
 Acq: 12 Nov 2020 17:23

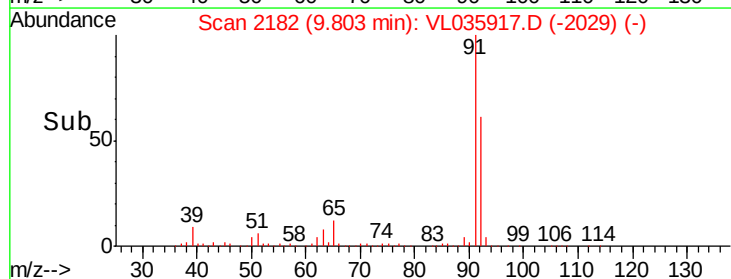
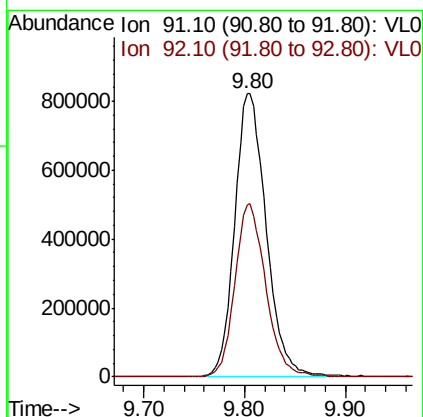
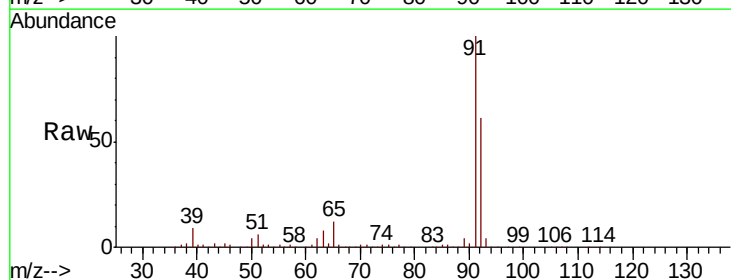
Instrument :
 MSVOA_L
 ClientSampleId :
 CVS-3

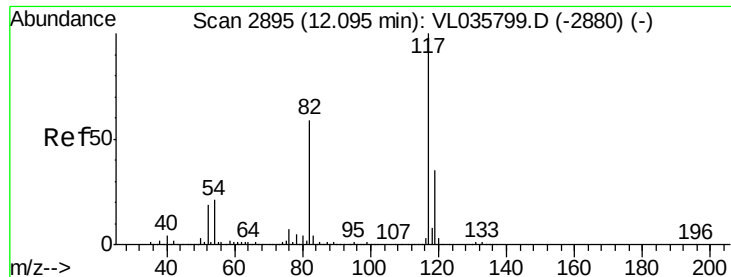
Tot Ion: 57 Resp: 53636
 Ion Ratio Lower Upper
 57 100
 41 0.0 21.0 31.4#
 56 91.4 25.4 38.0#



#53
 Toluene
 Concen: 4.961 ppbv
 RT: 9.80 min Scan# 2182
 Delta R.T. -0.01 min
 Lab File: VL035917.D
 Acq: 12 Nov 2020 17:23

Tgt Ion: 91 Resp: 1784801
 Ion Ratio Lower Upper
 91 100
 92 60.1 49.8 74.6

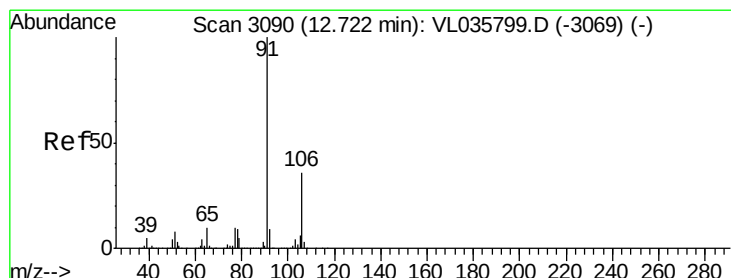
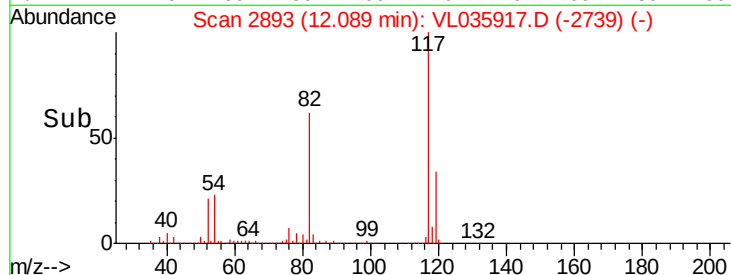
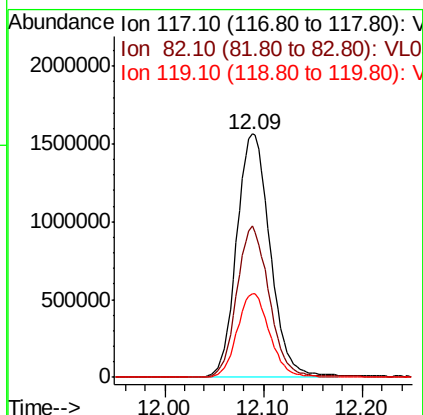
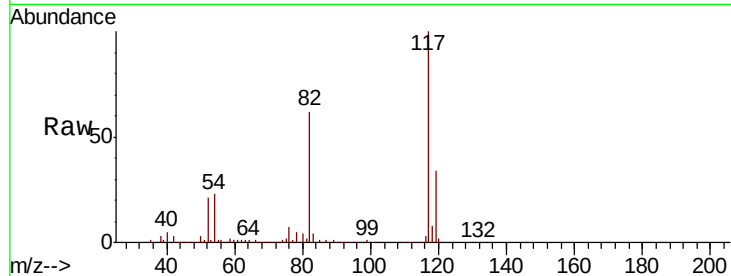




#55
Chlorobenzene-d5
Concen: 10.000 ppbv
RT: 12.09 min Scan# 2893
Delta R.T. -0.01 min
Lab File: VL035917.D
Acq: 12 Nov 2020 17:23

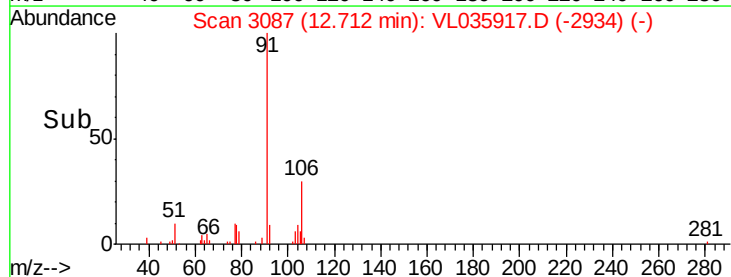
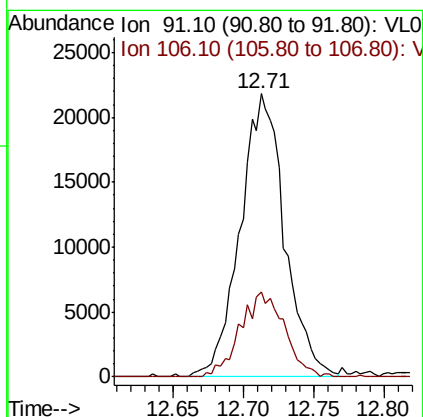
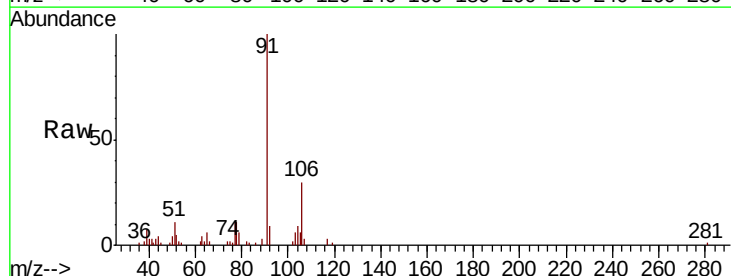
Instrument :
MSVOA_L
ClientSampleId :
CVS-3

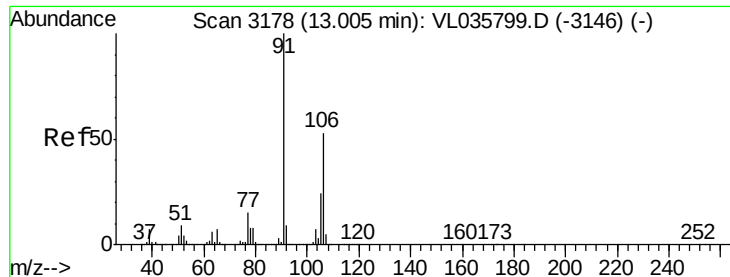
Tot Ion:117 Resp: 3680560
Ion Ratio Lower Upper
117 100
82 61.3 50.6 76.0
119 33.8 52.6 78.8#



#58
Ethyl Benzene
Concen: 0.107 ppbv
RT: 12.71 min Scan# 3087
Delta R.T. -0.01 min
Lab File: VL035917.D
Acq: 12 Nov 2020 17:23

Tgt Ion: 91 Resp: 48009
Ion Ratio Lower Upper
91 100
106 29.9 28.6 43.0





#59

m/p-Xylene

Concen: 0.078 ppbv

RT: 13.00 min Scan# 3175

Delta R.T. -0.01 min

Lab File: VL035917.D

Acq: 12 Nov 2020 17:23

Instrument :

MSVOA_L

ClientSampleId :

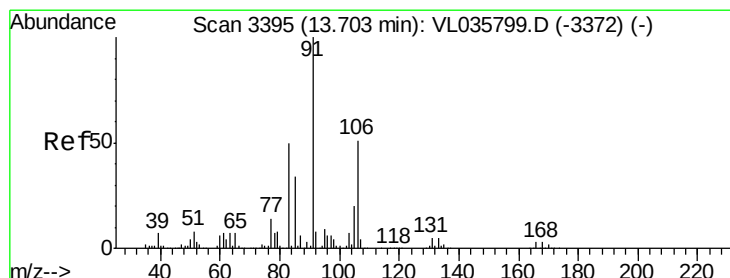
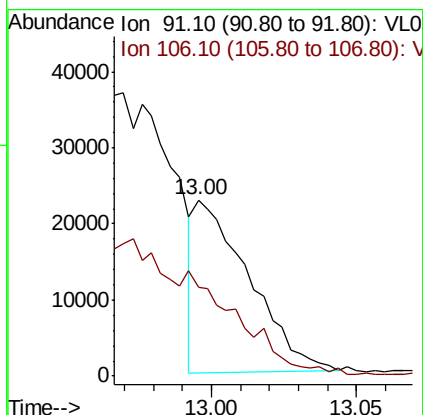
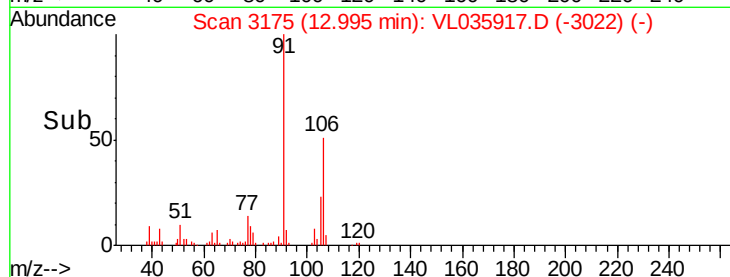
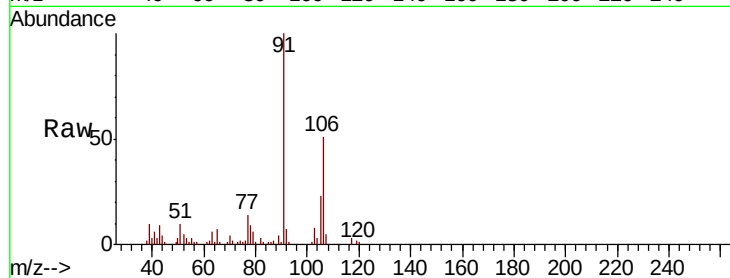
CVS-3

Tot Ion: 91 Resp: 29491

Ion Ratio Lower Upper

91 100

106 0.0 39.5 59.3#



#60

o-Xylene

Concen: 0.112 ppbv

RT: 13.70 min Scan# 3393

Delta R.T. -0.01 min

Lab File: VL035917.D

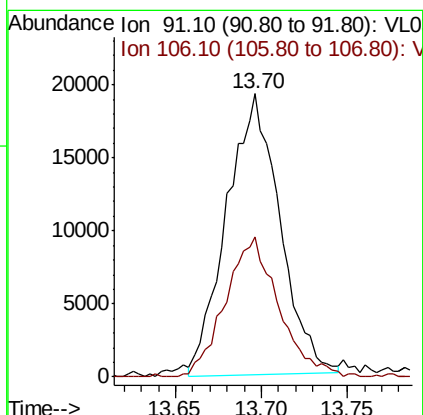
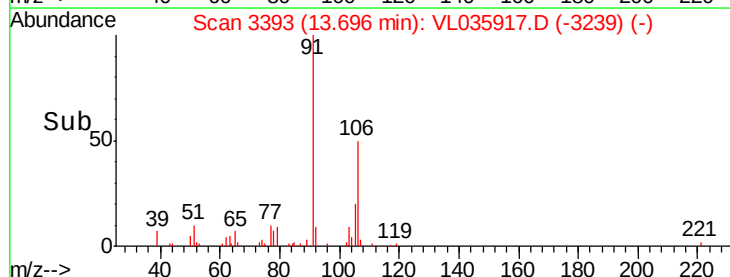
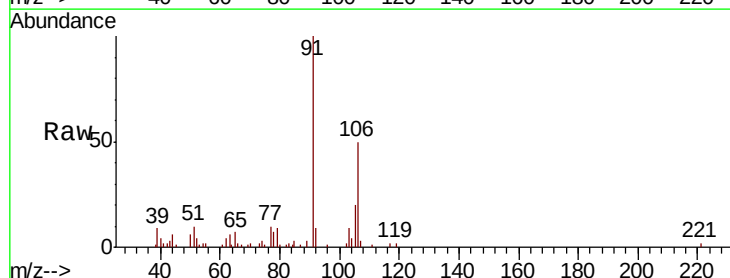
Acq: 12 Nov 2020 17:23

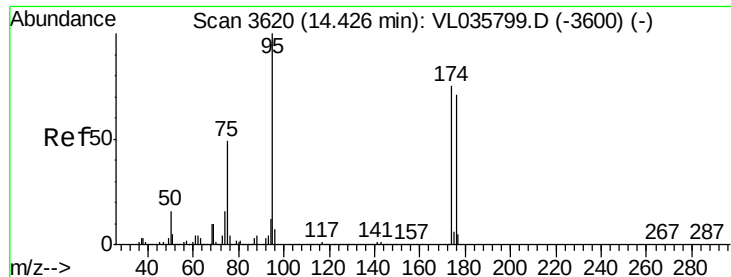
Tgt Ion: 91 Resp: 41482

Ion Ratio Lower Upper

91 100

106 50.2 24.8 74.4





#68

1-Bromo-4-Fluorobenzene

Concen: 10.177 ppbv

RT: 14.42 min Scan# 3618

Delta R.T. -0.01 min

Lab File: VL035917.D

Acq: 12 Nov 2020 17:23

Instrument :

MSVOA_L

ClientSampleId :

CVS-3

Tot Ion: 95 Resp: 2661370

Ion Ratio Lower Upper

95 100

174 73.9 59.8 89.6

175 5.3 4.3 6.5

