

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL071620\
 Data File : VL035193.D
 Acq On : 16 Jul 2020 14:34
 Operator : SY/AP
 Sample : OC071320 CAN 10473
 Misc : 400ml/MSVOA L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 QC071320 CAN 10473

Quant Time: Jul 17 06:10:26 2020
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL070820AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Wed Jul 08 07:05:23 2020
 QLast Update : Wed Jul 08 07:05:23 2020
 Response via : Initial Calibration

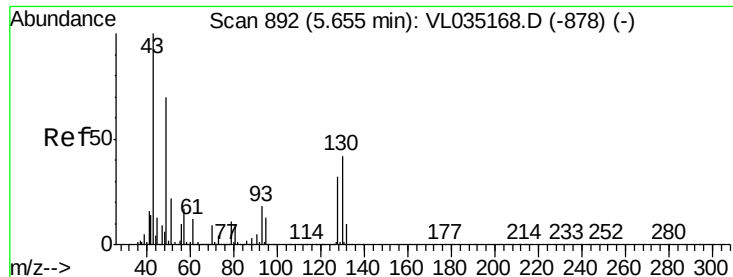
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	5.64	49	1210032	10.00	ppbv	-0.02
33) 1,4-Difluorobenzene	7.15	114	2867746	10.00	ppbv	-0.03
55) Chlorobenzene-d5	12.09	117	2623599	10.00	ppbv	-0.03

System Monitoring Compounds

68) 1-Bromo-4-Fluorobenzene	14.42	95	2144958	10.06	ppbv	-0.03
Spiked Amount	10.000	Range	65 - 135	Recovery	=	100.60%

Target Compounds	R.T.	QIon	Response	Conc	Units	Ovalue
4) Chloromethane	3.08	50	10068	0.134	ppbv	89
5) Vinyl Chloride	3.20	62	7560m	0.094	ppbv	
8) Dichlorotetrafluoroethane	3.13	85	19457	0.105	ppbv	92
9) Propene	2.95	41	10111	0.200	ppbv	88
11) Trichlorofluoromethane	3.90	101	18697	0.098	ppbv	89
15) Acetone	3.82	43	51124m	0.312	ppbv	
17) tert-Butyl alcohol	4.27	59	15601m	0.108	ppbv	
19) Isopropyl Alcohol	3.94	45	14315m	0.145	ppbv	
20) Methylene Chloride	4.30	84	33995m	0.477	ppbv	
26) Hexane	5.65	57	19230	0.172	ppbv #	78
29) Chloroform	5.72	83	19057	0.101	ppbv	99
31) cis-1,2-Dichloroethene	5.51	61	11676	0.110	ppbv #	77
32) 1,1,1-Trichloroethane	6.49	97	18219m	0.097	ppbv	
34) 2-Butanone	5.23	43	20892m	0.136	ppbv	
35) Carbon Tetrachloride	7.00	117	16805m	0.090	ppbv	
36) Benzene	6.87	78	22023	0.106	ppbv #	90
37) 1,2-Dichloroethane	6.28	62	15180m	0.109	ppbv	
38) Trichloroethene	7.82	130	8966m	0.106	ppbv	
39) 1,2-Dichloropropane	7.59	63	10592m	0.128	ppbv	
42) Bromodichloromethane	7.78	83	19992m	0.107	ppbv	
47) 1,1,2-Trichloroethane	9.47	97	9455m	0.105	ppbv	
52) Tetrachloroethene	11.22	164	7712m	0.099	ppbv	
63) 1,1,2,2-Tetrachloroethane	13.68	83	22993m	0.107	ppbv	
75) 1,3-Dichlorobenzene	17.01	146	28359m	0.145	ppbv	
76) 1,4-Dichlorobenzene	17.15	146	20059m	0.110	ppbv	
77) 1,2-Dichlorobenzene	17.84	146	18213m	0.103	ppbv	
78) Hexachloro-1,3-Butadiene	23.41	225	28152m	0.202	ppbv	

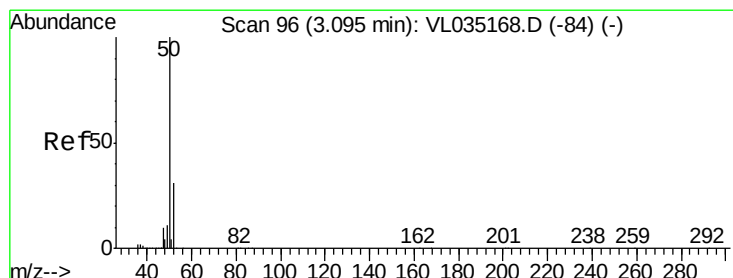
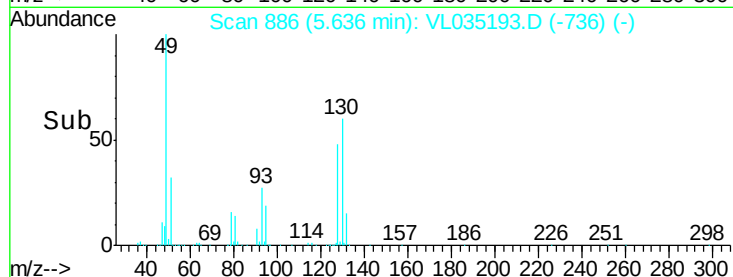
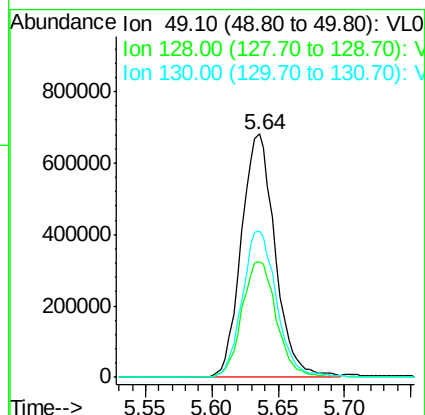
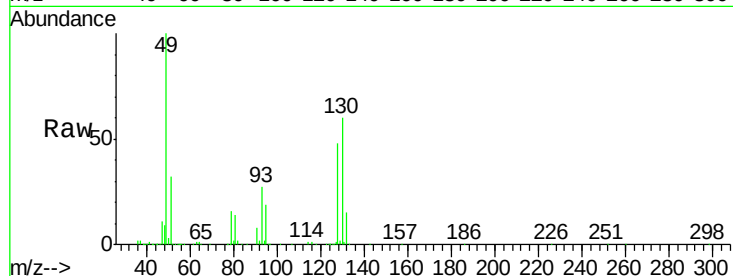
(#) = qualifier out of range (m) = manual integration (+) = signals summed



#1
 Bromochloromethane
 Concen: 10.000 ppbv
 RT: 5.64 min Scan# 886
 Delta R.T. -0.02 min
 Lab File: VL035193.D
 Acq: 16 Jul 2020 14:34

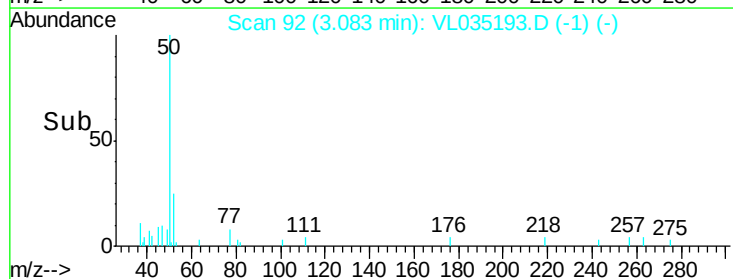
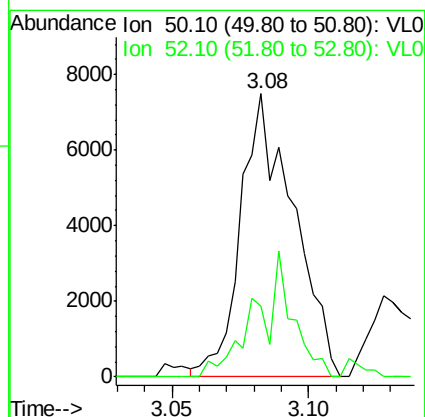
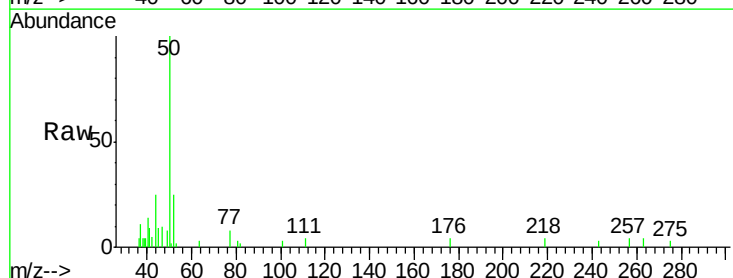
Instrument :
 MSVOA_L
 ClientSampleId :
 QC071320 CAN 10473

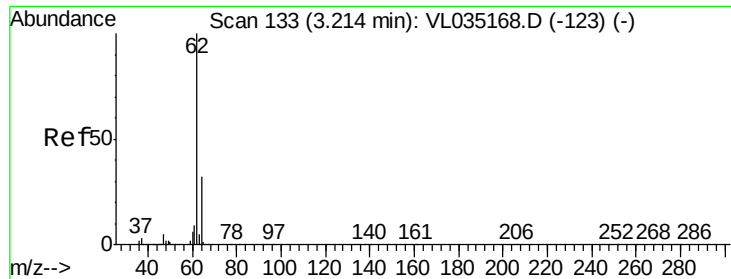
Tot Ion: 49 Resp: 1210032
 Ion Ratio Lower Upper
 49 100
 128 48.6 23.8 71.4
 130 61.1 29.9 89.8



#4
 Chloromethane
 Concen: 0.134 ppbv
 RT: 3.08 min Scan# 92
 Delta R.T. -0.01 min
 Lab File: VL035193.D
 Acq: 16 Jul 2020 14:34

Tgt Ion: 50 Resp: 10068
 Ion Ratio Lower Upper
 50 100
 52 25.2 25.0 37.6





#5

Vinyl Chloride

Concen: 0.094 ppbv m

RT: 3.20 min Scan# 130

Delta R.T. -0.01 min

Lab File: VL035193.D

Acq: 16 Jul 2020 14:34

Instrument :

MSVOA_L

ClientSampleId :

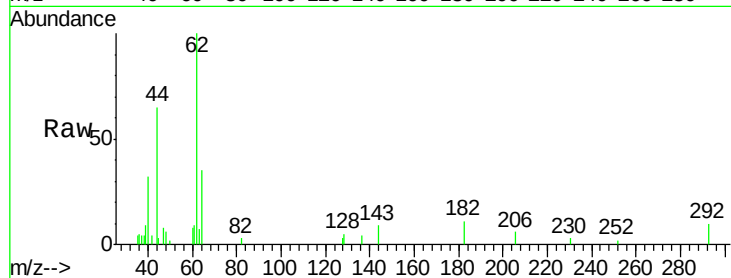
QC071320 CAN 10473

Tot Ion: 62 Resp: 7560

Ion Ratio Lower Upper

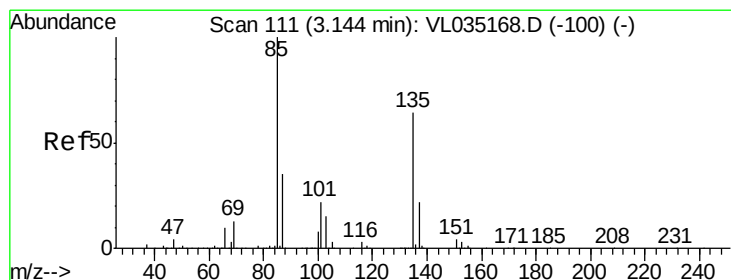
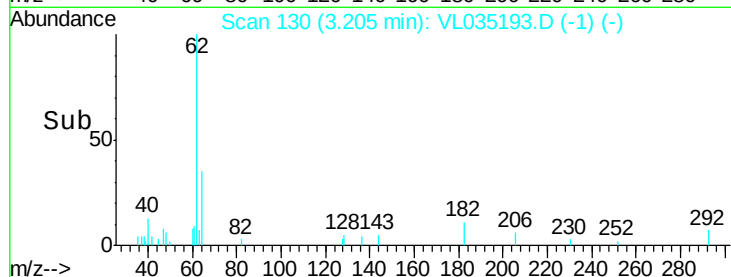
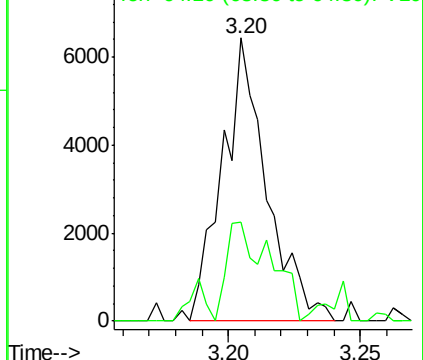
62 100

64 35.0 25.9 38.9



Abundance Ion 62.10 (61.80 to 62.80): VL0

Ion 64.10 (63.80 to 64.80): VL0



#8

Dichlorotetrafluoroethane

Concen: 0.105 ppbv

RT: 3.13 min Scan# 106

Delta R.T. -0.02 min

Lab File: VL035193.D

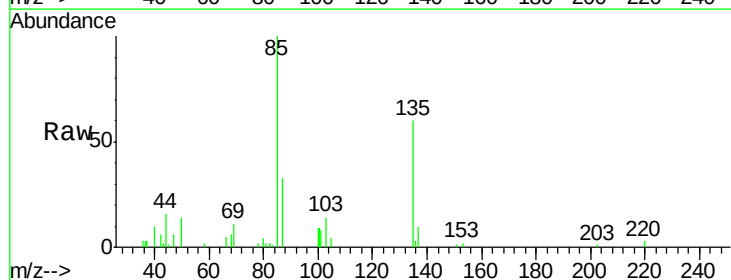
Acq: 16 Jul 2020 14:34

Tgt Ion: 85 Resp: 19457

Ion Ratio Lower Upper

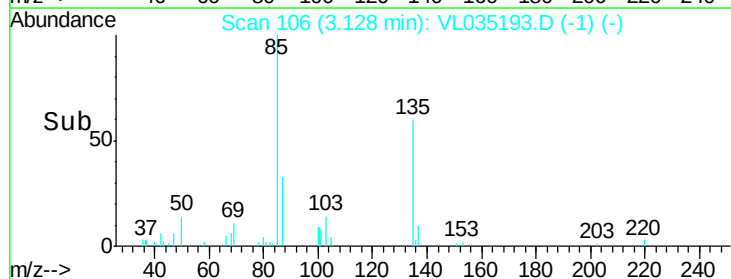
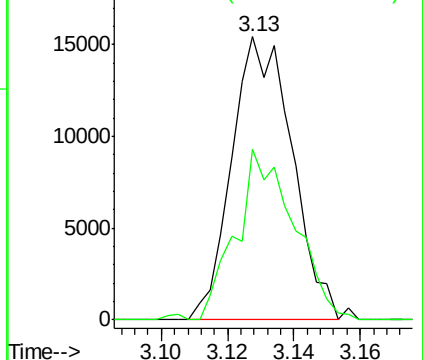
85 100

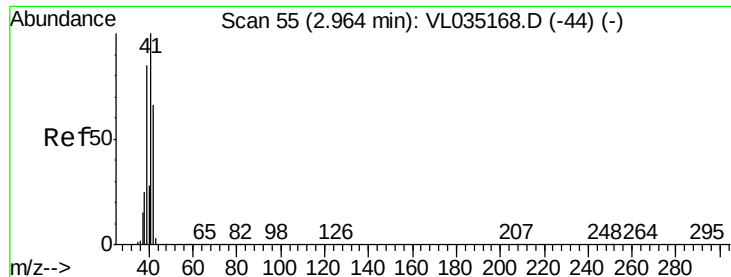
135 58.5 52.1 78.1



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 135.00 (134.70 to 135.70): V





#9

Propene

Concen: 0.200 ppbv

RT: 2.95 min Scan# 51

Delta R.T. -0.01 min

Lab File: VL035193.D

Acq: 16 Jul 2020 14:34

Instrument :

MSVOA_L

ClientSampleId :

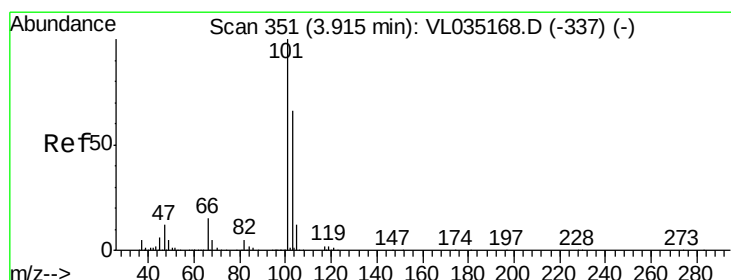
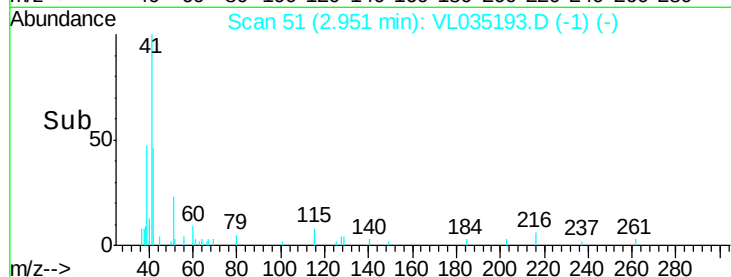
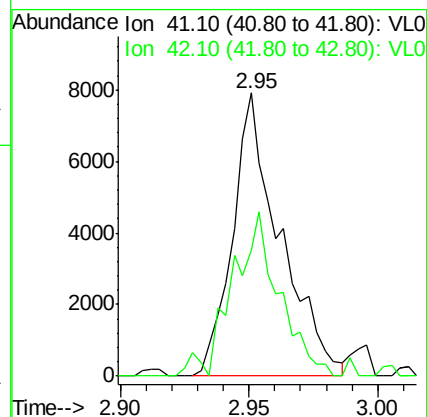
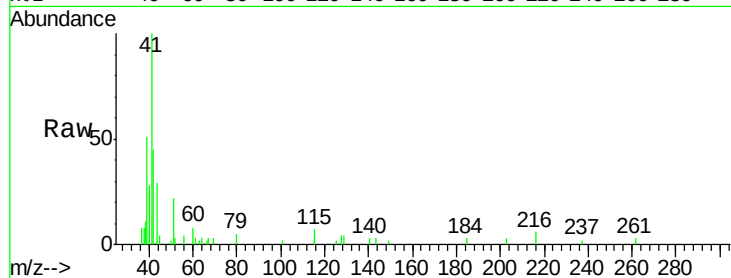
QC071320 CAN 10473

Tot Ion: 41 Resp: 10111

Ion Ratio Lower Upper

41 100

42 58.6 54.6 81.8



#11

Trichlorofluoromethane

Concen: 0.098 ppbv

RT: 3.90 min Scan# 347

Delta R.T. -0.01 min

Lab File: VL035193.D

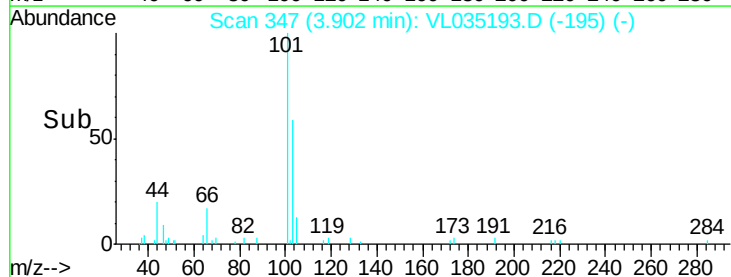
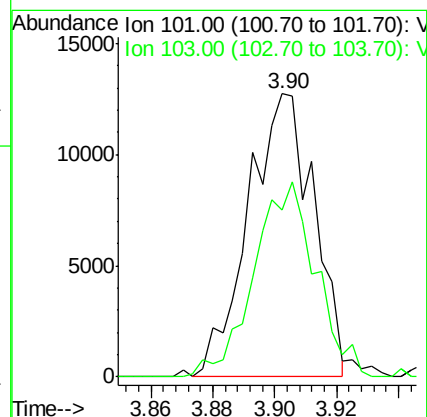
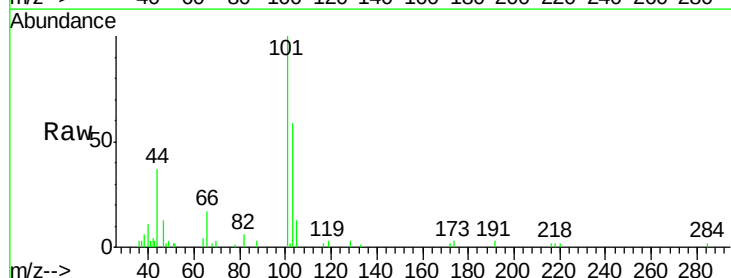
Acq: 16 Jul 2020 14:34

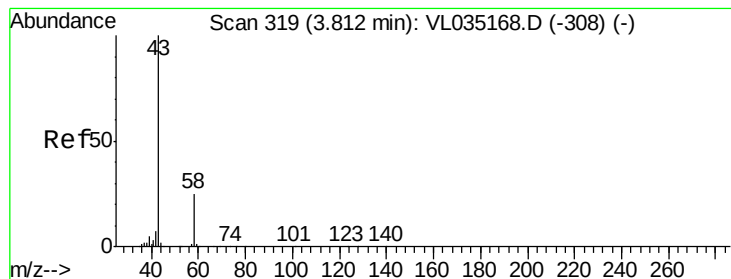
Tgt Ion: 101 Resp: 18697

Ion Ratio Lower Upper

101 100

103 57.8 53.1 79.7





#15

Acetone

Concen: 0.312 ppbv m

RT: 3.82 min Scan# 322

Delta R.T. 0.01 min

Lab File: VL035193.D

Acq: 16 Jul 2020 14:34

Instrument :

MSVOA_L

ClientSampleId :

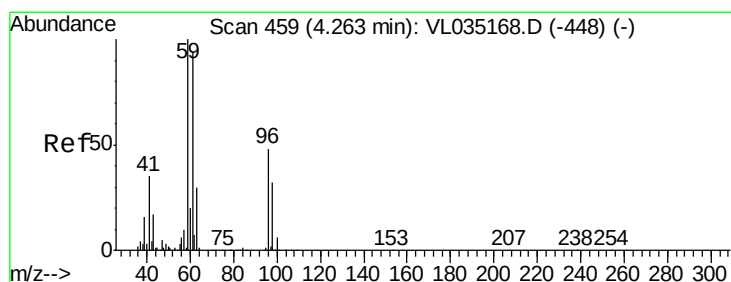
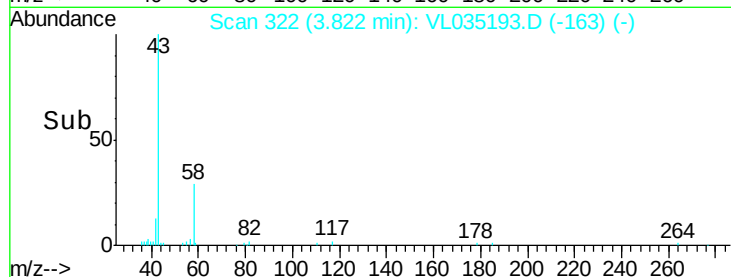
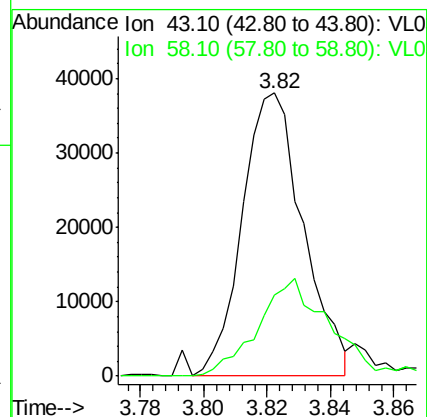
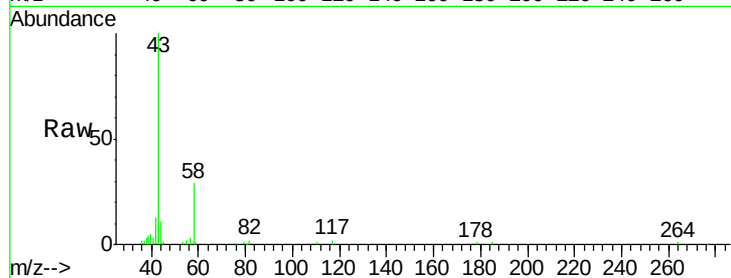
QC071320 CAN 10473

Tot Ion: 43 Resp: 51124

Ion Ratio Lower Upper

43 100

58 0.0 21.3 31.9#



#17

tert-Butyl alcohol

Concen: 0.108 ppbv m

RT: 4.27 min Scan# 462

Delta R.T. 0.01 min

Lab File: VL035193.D

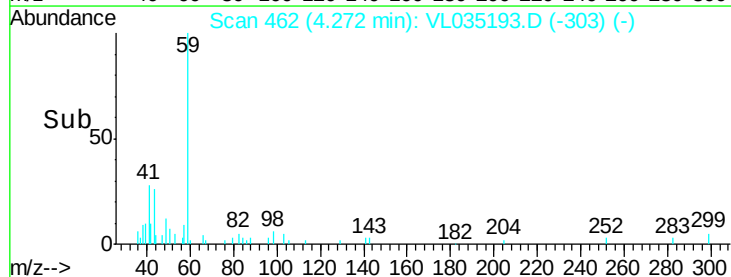
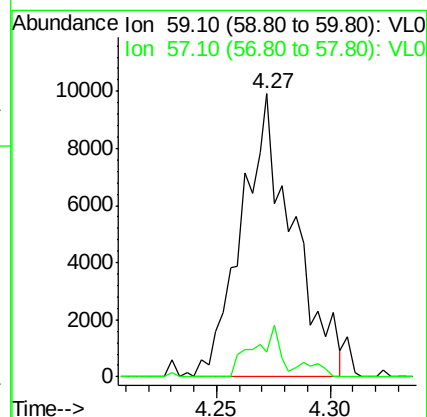
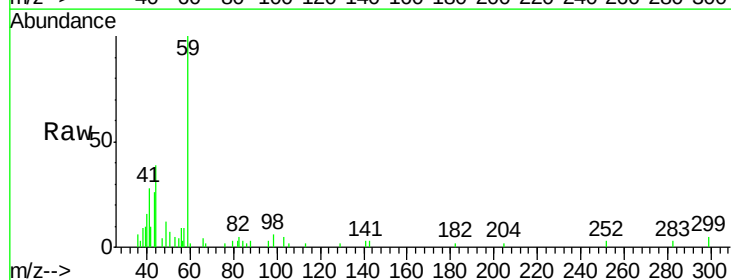
Acq: 16 Jul 2020 14:34

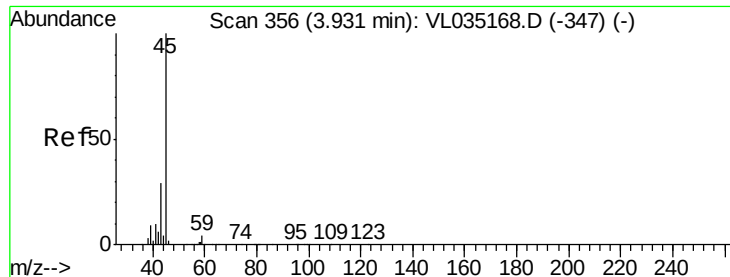
Tgt Ion: 59 Resp: 15601

Ion Ratio Lower Upper

59 100

57 0.0 8.6 12.8#





#19

Isopropyl Alcohol

Concen: 0.145 ppbv m

RT: 3.94 min Scan# 360

Delta R.T. 0.01 min

Lab File: VL035193.D

Acq: 16 Jul 2020 14:34

Instrument :

MSVOA_L

ClientSampleId :

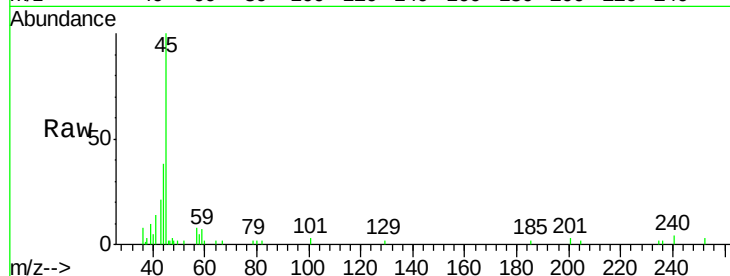
QC071320 CAN 10473

Tot Ion: 45 Resp: 14315

Ion Ratio Lower Upper

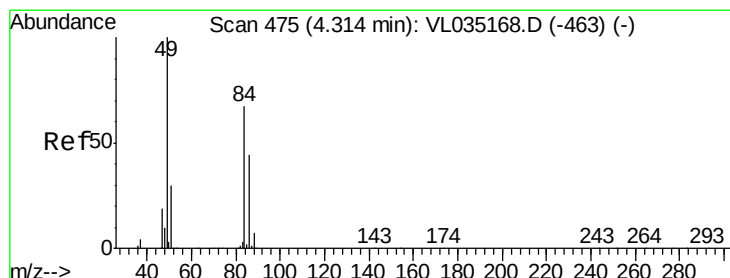
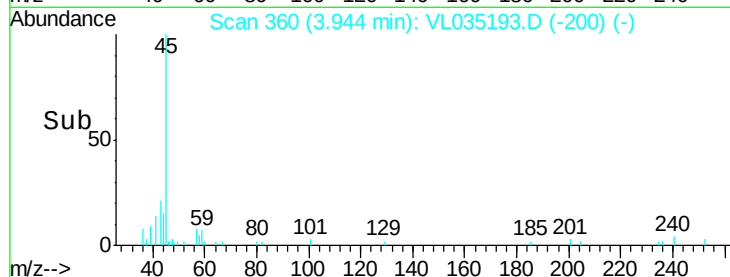
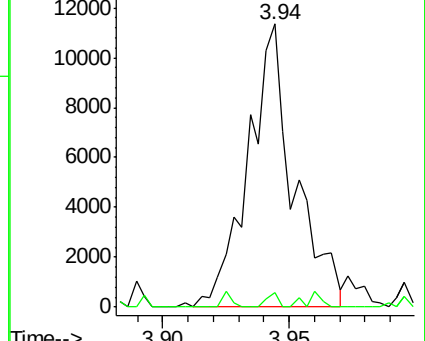
45 100

58 0.0 2.1 3.1#



Abundance Ion 45.10 (44.80 to 45.80): VL0

Ion 58.10 (57.80 to 58.80): VL0



#20

Methylene Chloride

Concen: 0.477 ppbv m

RT: 4.30 min Scan# 471

Delta R.T. -0.01 min

Lab File: VL035193.D

Acq: 16 Jul 2020 14:34

Tgt Ion: 84 Resp: 33995

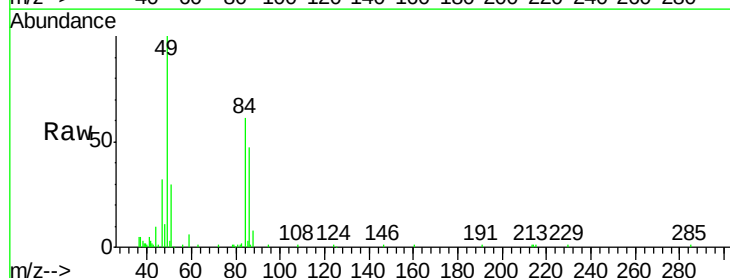
Ion Ratio Lower Upper

84 100

49 164.3 119.4 179.0

51 50.0 36.6 55.0

86 76.5 52.5 78.7

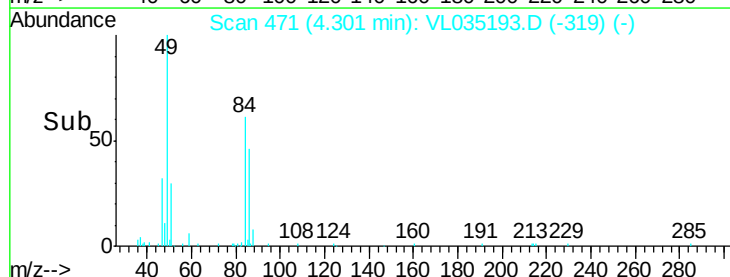
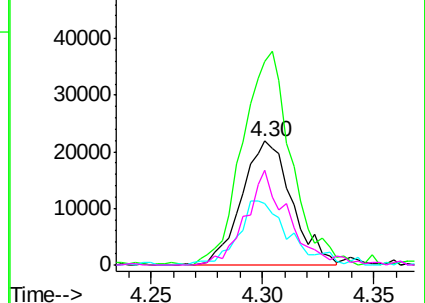


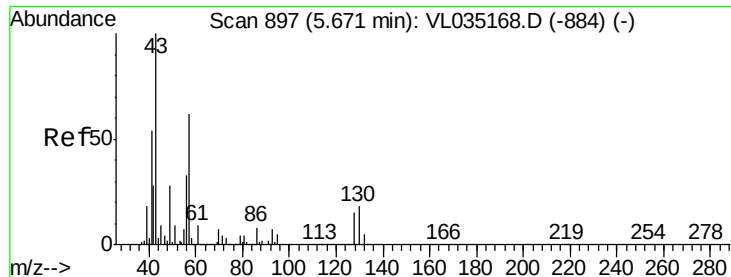
Abundance Ion 84.00 (83.70 to 84.70): VL0

Ion 49.10 (48.80 to 49.80): VL0

Ion 51.10 (50.80 to 51.80): VL0

Ion 86.00 (85.70 to 86.70): VL0





#26

Hexane

Concen: 0.172 ppbv

RT: 5.65 min Scan# 892

Delta R.T. -0.02 min

Lab File: VL035193.D

Acq: 16 Jul 2020 14:34

Instrument :

MSVOA_L

ClientSampleId :

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Tot Ion: 57 Resp: 19230

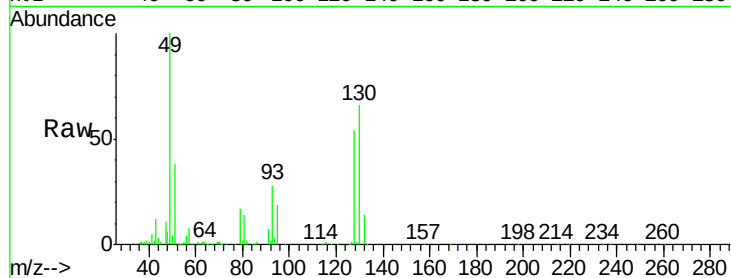
Ion Ratio Lower Upper

57 100

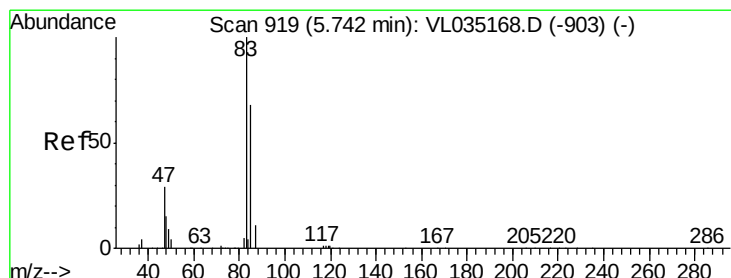
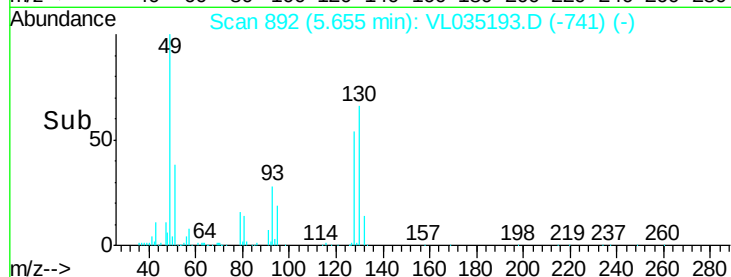
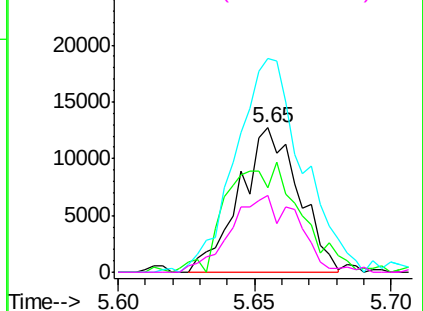
41 95.4 72.9 109.3

43 172.6 179.5 269.3#

56 60.5 42.9 64.3



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



#29

Chloroform

Concen: 0.101 ppbv

RT: 5.72 min Scan# 913

Delta R.T. -0.02 min

Lab File: VL035193.D

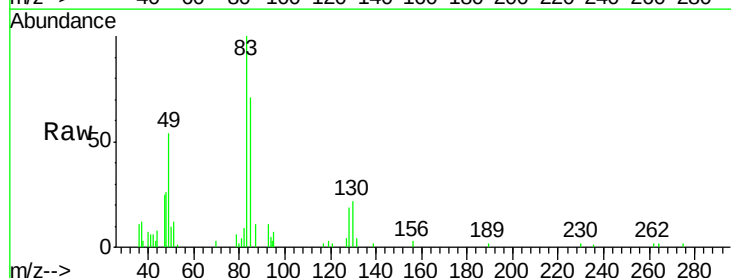
Acq: 16 Jul 2020 14:34

Tgt Ion: 83 Resp: 19057

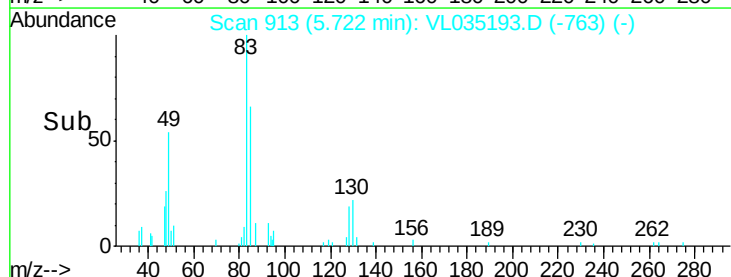
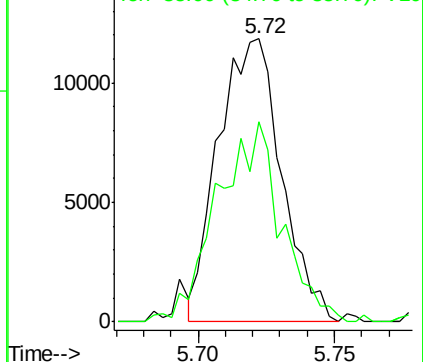
Ion Ratio Lower Upper

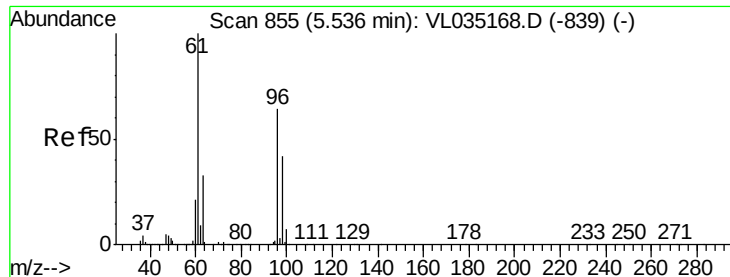
83 100

85 68.6 54.3 81.5



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



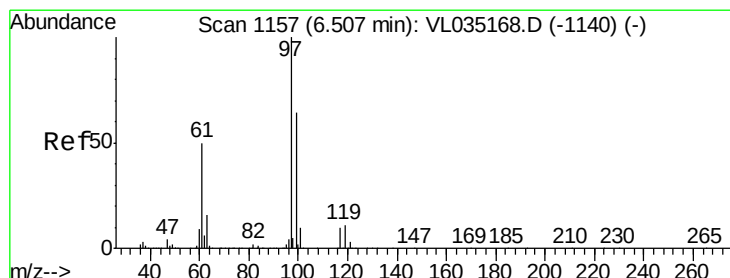
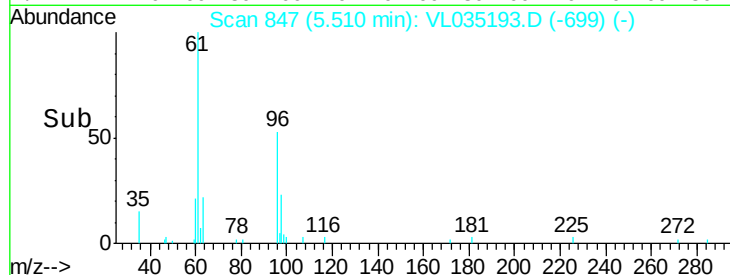
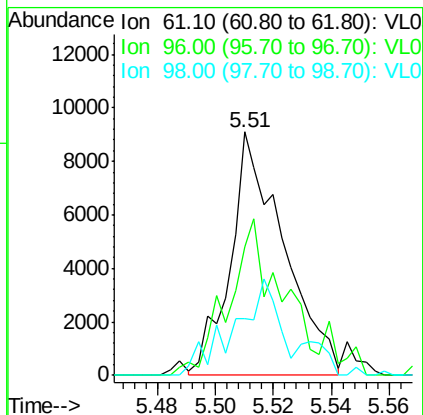
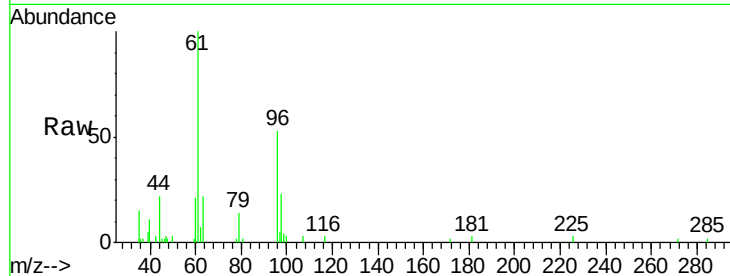


#31

cis-1,2-Dichloroethene
Concen: 0.110 ppbv
RT: 5.51 min Scan# 847
Delta R.T. -0.03 min
Lab File: VL035193.D
Acq: 16 Jul 2020 14:34

Instrument :
MSVOA_L
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QC071320 CAN 10473

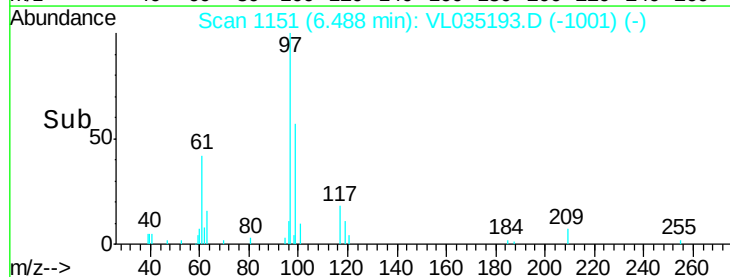
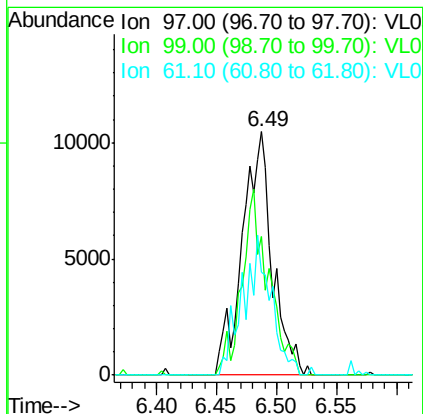
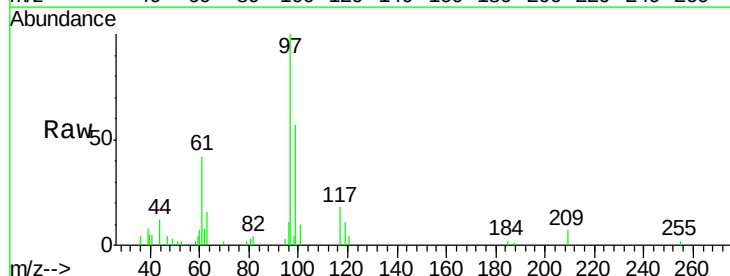
Tot Ion: 61 Resp: 11676
Ion Ratio Lower Upper
61 100
96 49.3 51.3 76.9#
98 23.9 33.8 50.8#

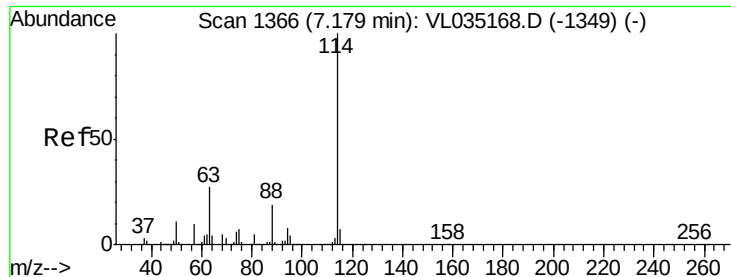


#32

1,1,1-Trichloroethane
Concen: 0.097 ppbv m
RT: 6.49 min Scan# 1151
Delta R.T. -0.02 min
Lab File: VL035193.D
Acq: 16 Jul 2020 14:34

Tgt Ion: 97 Resp: 18219
Ion Ratio Lower Upper
97 100
99 68.0 51.2 76.8
61 54.1 40.9 61.3

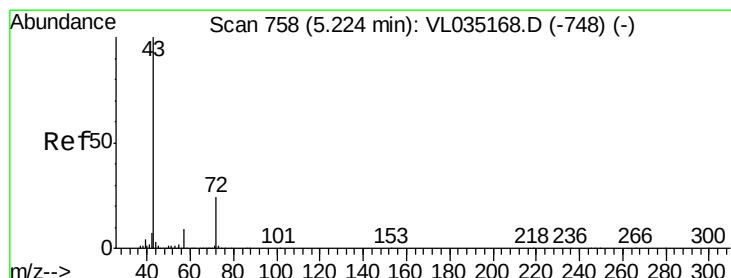
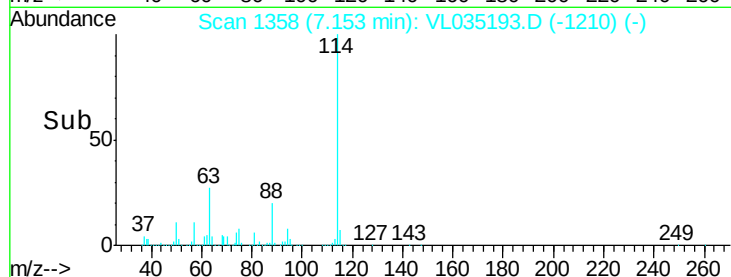
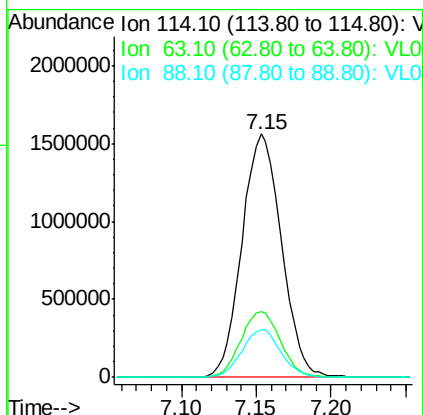
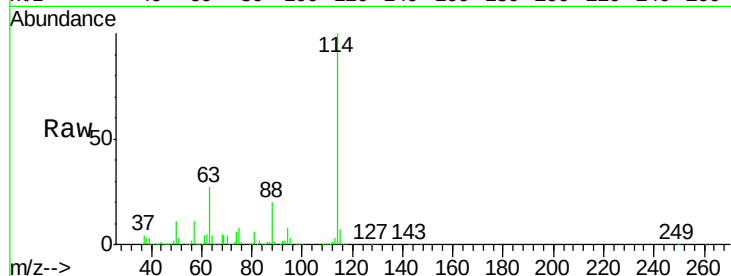




#33
 1,4-Difluorobenzene
 Concen: 10.000 ppbv
 RT: 7.15 min Scan# 1358
 Delta R.T. -0.03 min
 Lab File: VL035193.D
 Acq: 16 Jul 2020 14:34

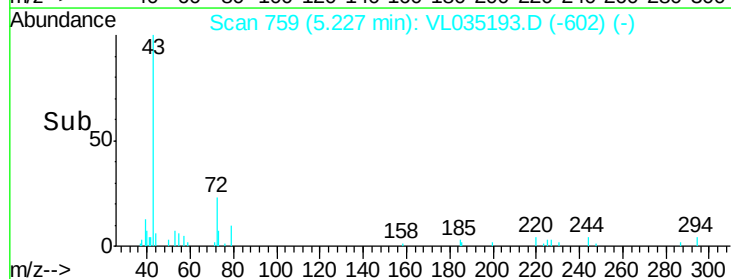
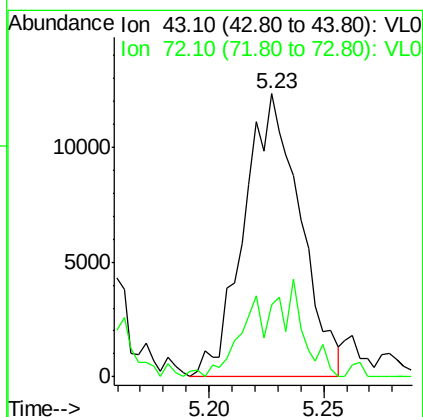
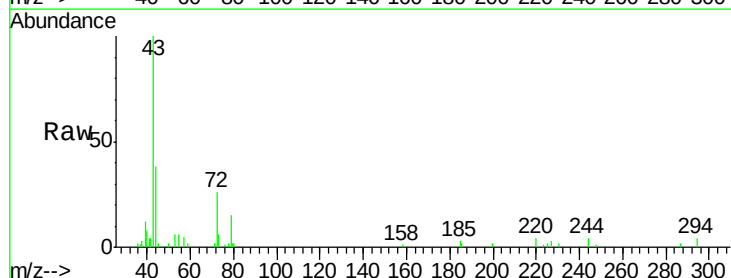
Instrument :
 MSVOA_L
 ClientSampleId :
 QC071320 CAN 10473

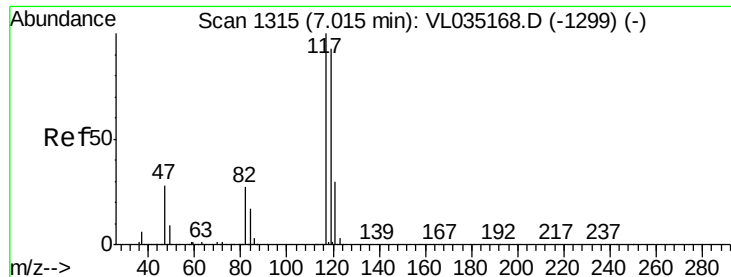
Tot Ion:114 Resp: 2867746
 Ion Ratio Lower Upper
 114 100
 63 27.3 22.0 33.0
 88 19.4 15.4 23.0



#34
 2-Butanone
 Concen: 0.136 ppbv m
 RT: 5.23 min Scan# 759
 Delta R.T. 0.00 min
 Lab File: VL035193.D
 Acq: 16 Jul 2020 14:34

Tgt Ion: 43 Resp: 20892
 Ion Ratio Lower Upper
 43 100
 72 0.0 18.6 28.0#





#35

Carbon Tetrachloride

Concen: 0.090 ppbv m

RT: 7.00 min Scan# 1309

Delta R.T. -0.02 min

Lab File: VL035193.D

Acq: 16 Jul 2020 14:34

Instrument :

MSVOA_L

ClientSampleId :

QC071320 CAN 10473

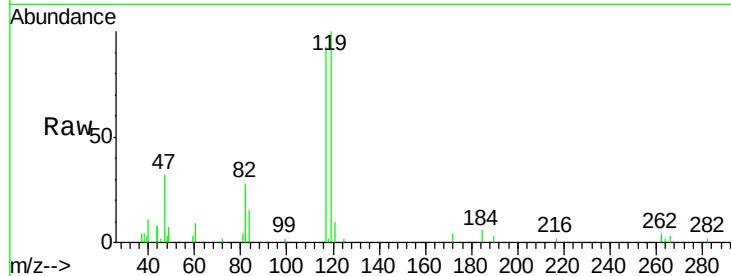
Tot Ion:117 Resp: 16805

Ion Ratio Lower Upper

117 100

119 108.0 74.8 112.2

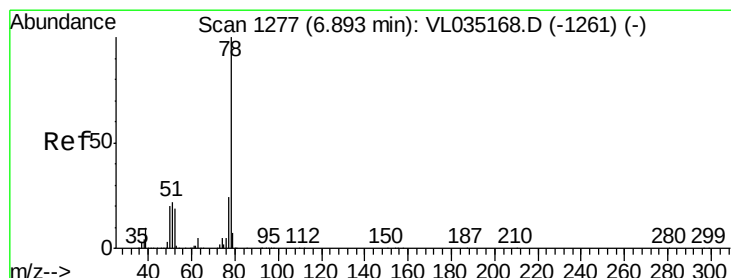
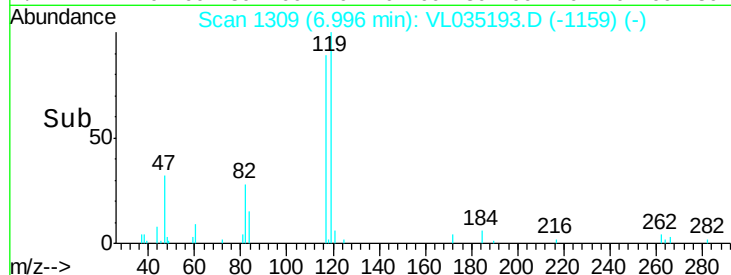
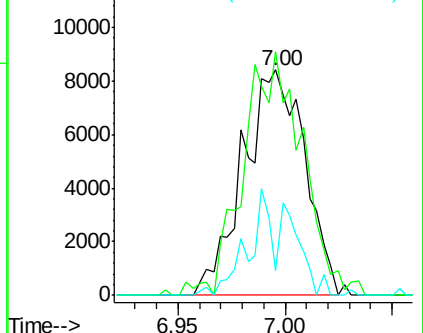
121 11.0 24.2 36.2#



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: 0.106 ppbv

RT: 6.87 min Scan# 1269

Delta R.T. -0.03 min

Lab File: VL035193.D

Acq: 16 Jul 2020 14:34

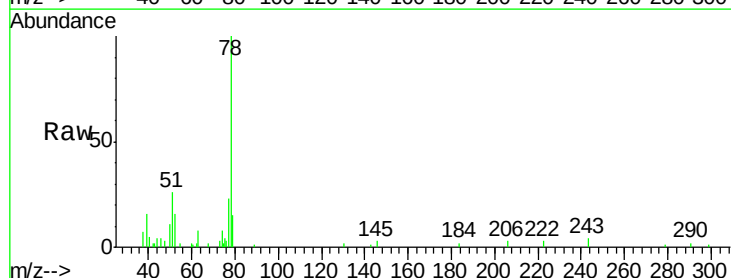
Tgt Ion: 78 Resp: 22023

Ion Ratio Lower Upper

78 100

77 22.7 19.3 28.9

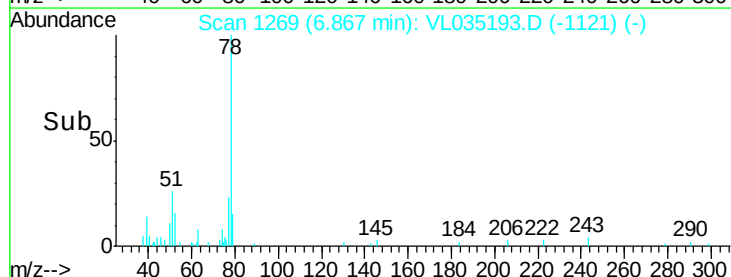
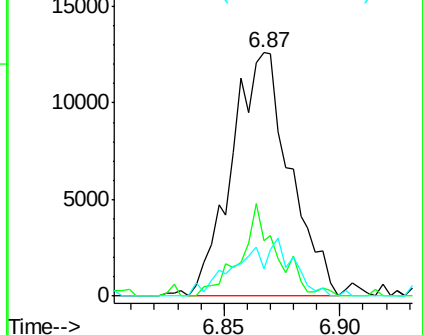
50 11.0 16.0 24.0#

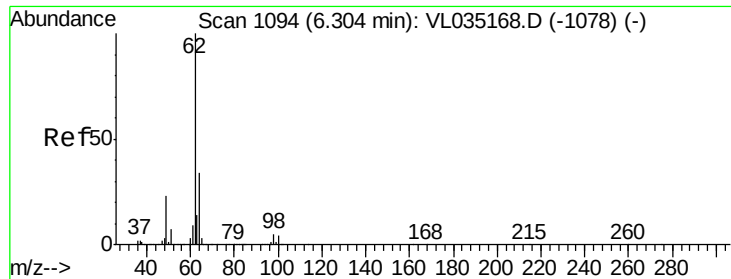


Abundance Ion 78.10 (77.80 to 78.80): VL0

Ion 77.10 (76.80 to 77.80): VL0

Ion 50.10 (49.80 to 50.80): VL0

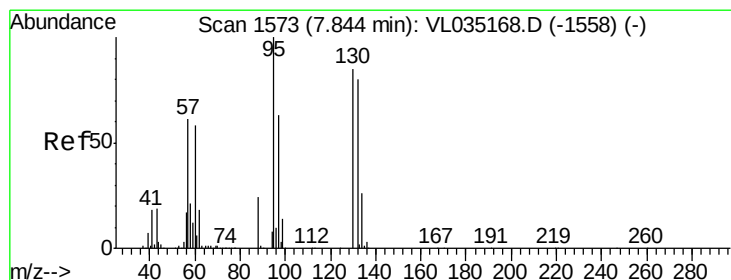
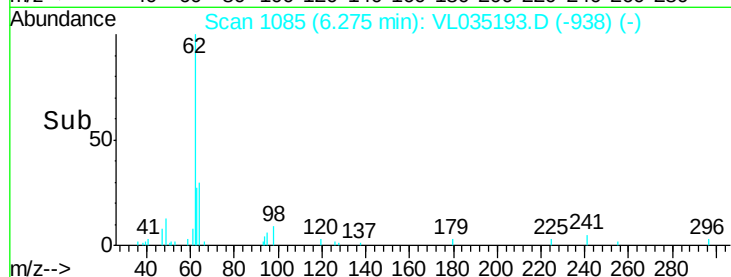
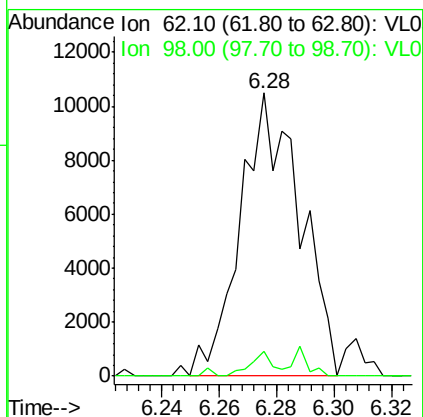
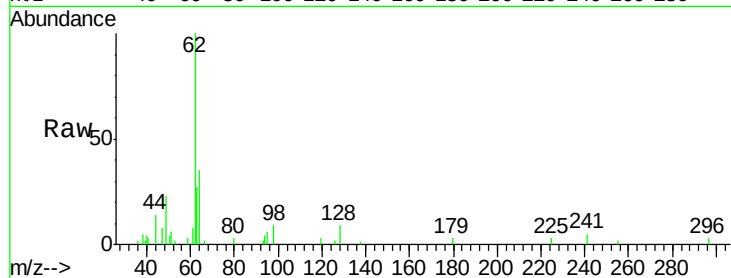




#37
 1,2-Dichloroethane
 Concen: 0.109 ppbv m
 RT: 6.28 min Scan# 1085
 Delta R.T. -0.03 min
 Lab File: VL035193.D
 Acq: 16 Jul 2020 14:34

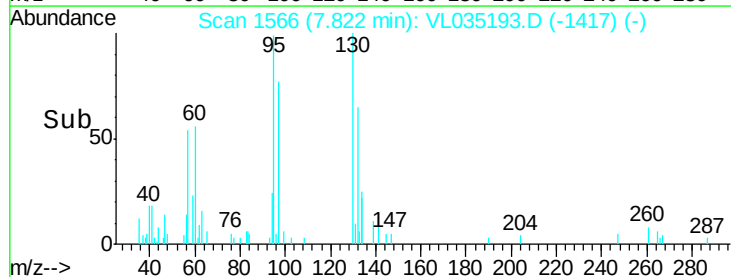
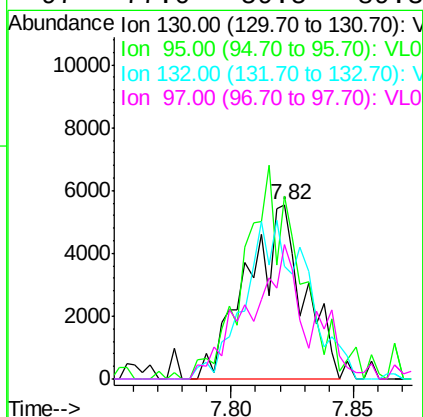
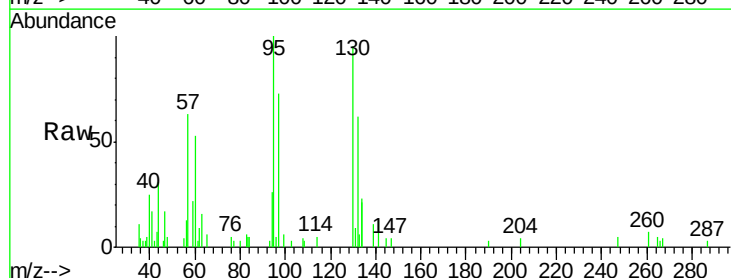
Instrument :
 MSVOA_L
 ClientSampleId :
 QC071320 CAN 10473

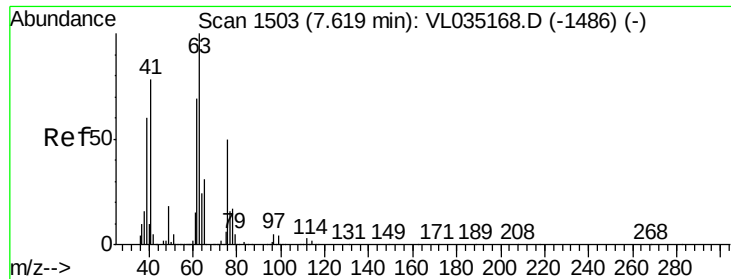
Tot Ion: 62 Resp: 15180
 Ion Ratio Lower Upper
 62 100
 98 6.2 4.6 6.8



#38
 Trichloroethene
 Concen: 0.106 ppbv m
 RT: 7.82 min Scan# 1566
 Delta R.T. -0.02 min
 Lab File: VL035193.D
 Acq: 16 Jul 2020 14:34

Tgt Ion: 130 Resp: 8966
 Ion Ratio Lower Upper
 130 100
 95 104.9 93.8 140.8
 132 64.8 75.0 112.4#
 97 77.0 59.5 89.3





#39

1,2-Dichloropropane

Concen: 0.128 ppbv m

RT: 7.59 min Scan# 1495

Delta R.T. -0.03 min

Lab File: VL035193.D

Acq: 16 Jul 2020 14:34

Instrument :

MSVOA_L

ClientSampleId :

QC071320 CAN 10473

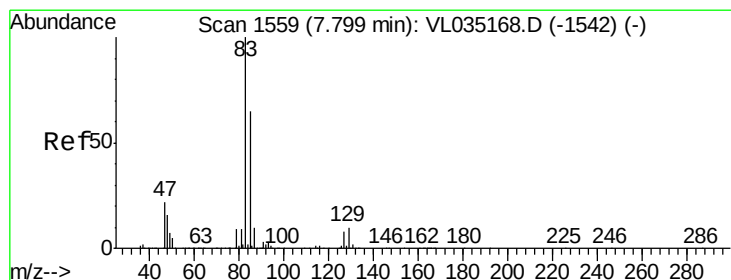
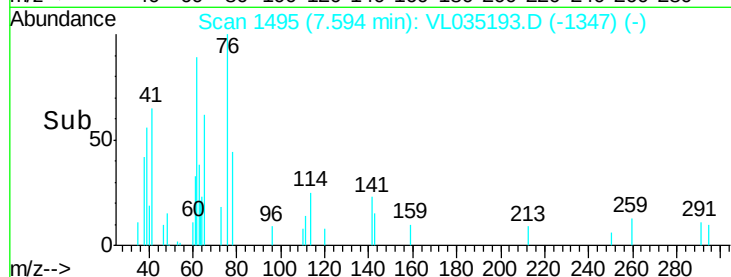
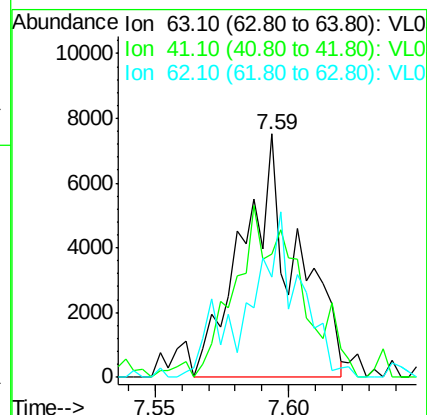
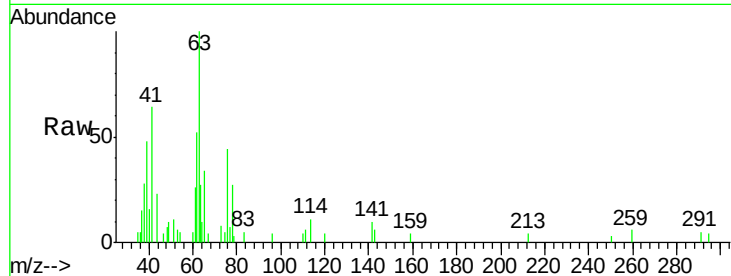
Tot Ion: 63 Resp: 10592

Ion Ratio Lower Upper

63 100

41 64.3 62.6 94.0

62 52.4 55.0 82.6#



#42

Bromodichloromethane

Concen: 0.107 ppbv m

RT: 7.78 min Scan# 1552

Delta R.T. -0.02 min

Lab File: VL035193.D

Acq: 16 Jul 2020 14:34

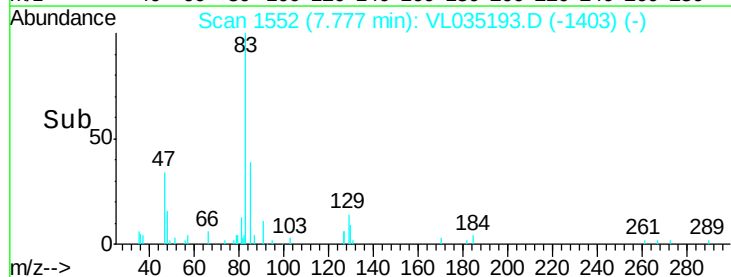
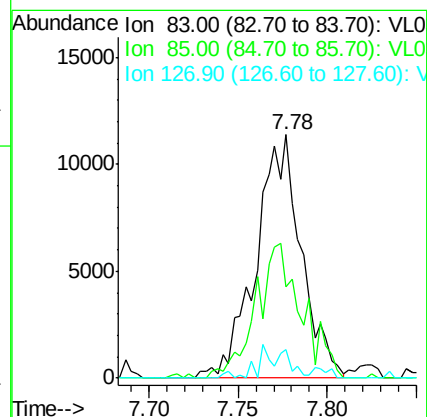
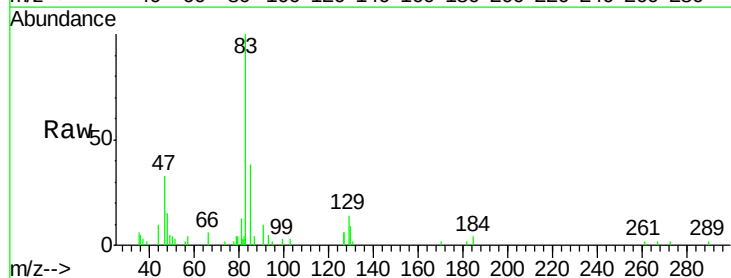
Tgt Ion: 83 Resp: 19992

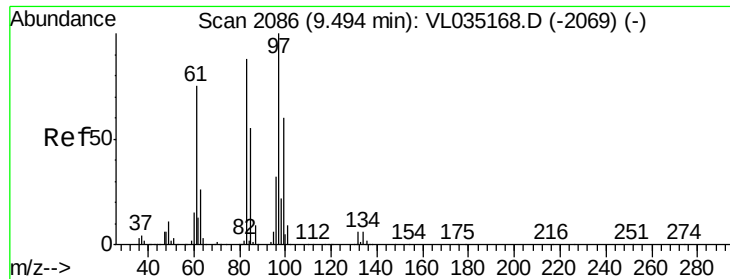
Ion Ratio Lower Upper

83 100

85 37.6 52.2 78.4#

127 6.1 6.3 9.5#

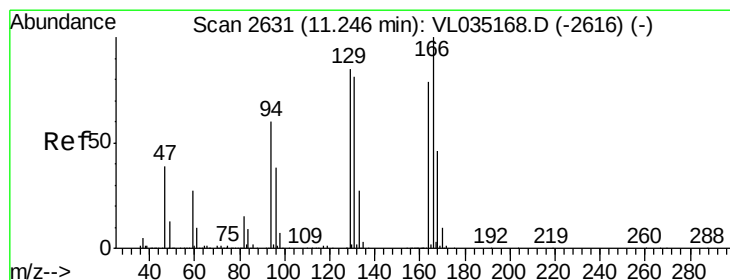
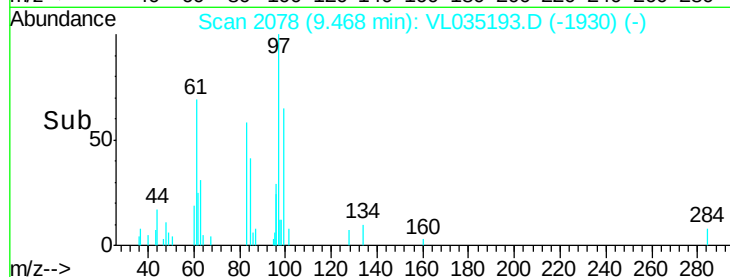
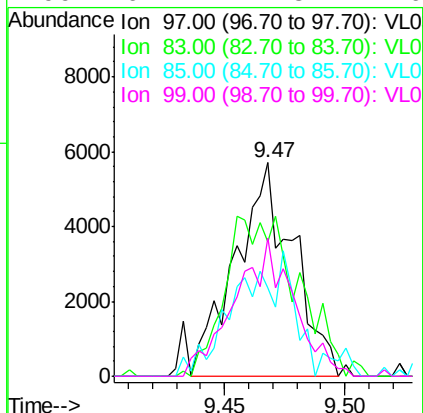
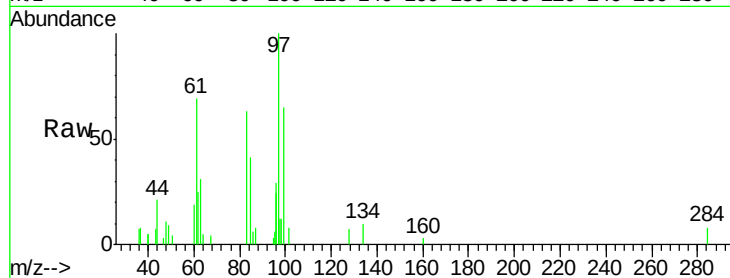




#47
 1,1,2-Trichloroethane
 Concen: 0.105 ppbv m
 RT: 9.47 min Scan# 2078
 Delta R.T. -0.03 min
 Lab File: VL035193.D
 Acq: 16 Jul 2020 14:34

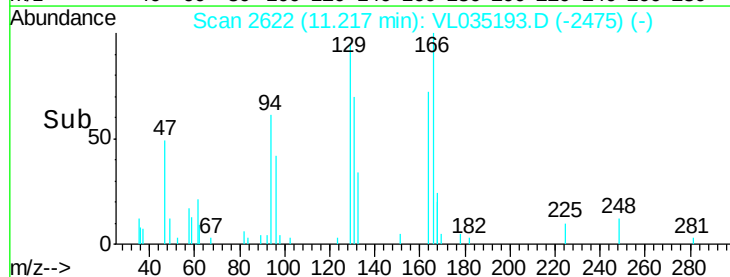
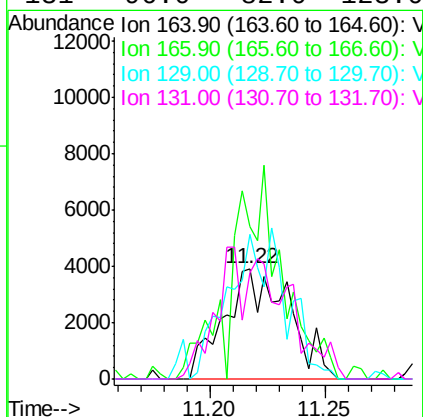
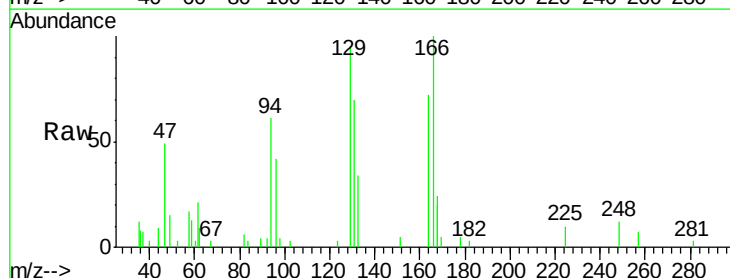
Instrument :
 MSVOA_L
 ClientSampleId :
 QC071320 CAN 10473

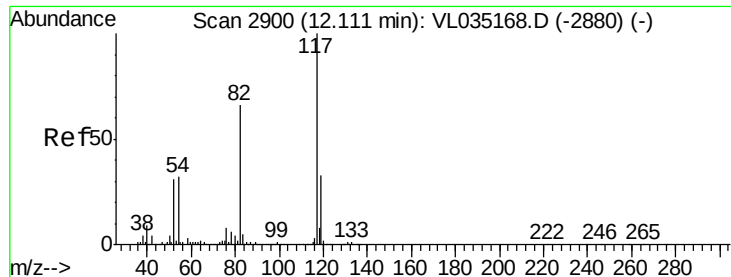
Tot Ion:	97	Resp:	9455
Ion	Ratio	Lower	Upper
97	100		
83	63.2	70.3	105.5#
85	41.5	44.3	66.5#
99	64.7	47.8	71.6



#52
 Tetrachloroethene
 Concen: 0.099 ppbv m
 RT: 11.22 min Scan# 2622
 Delta R.T. -0.03 min
 Lab File: VL035193.D
 Acq: 16 Jul 2020 14:34

Tgt Ion:	164	Resp:	7712
Ion	Ratio	Lower	Upper
164	100		
166	138.2	100.7	151.1
129	131.0	85.8	128.6#
131	96.0	82.0	123.0

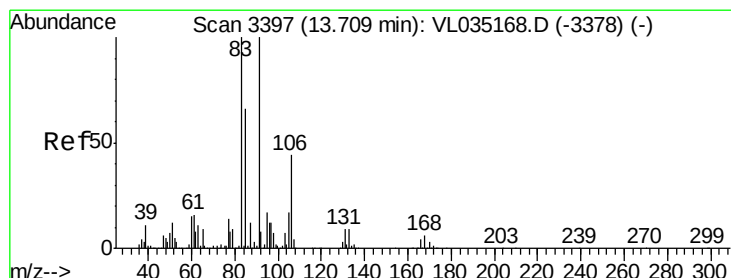
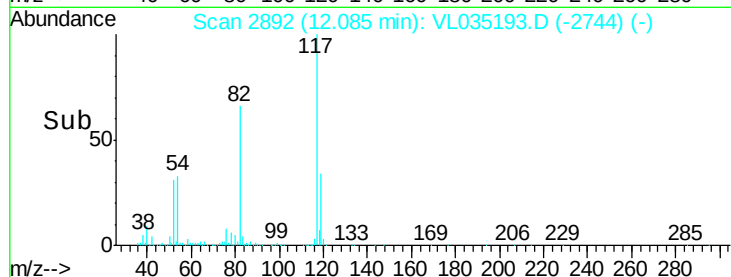
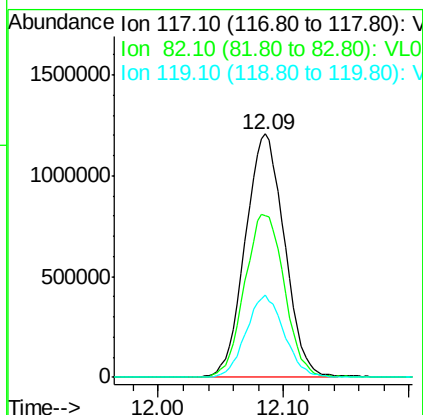
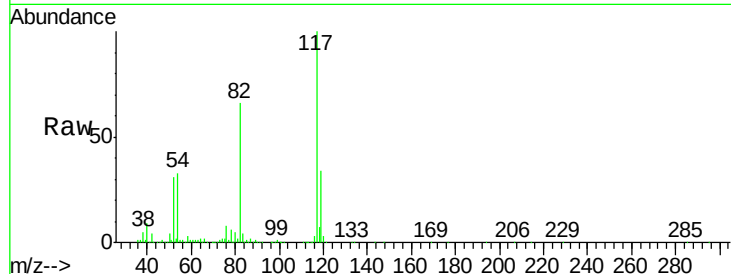




#55
 Chlorobenzene-d5
 Concen: 10.000 ppbv
 RT: 12.09 min Scan# 2892
 Delta R.T. -0.03 min
 Lab File: VL035193.D
 Acq: 16 Jul 2020 14:34

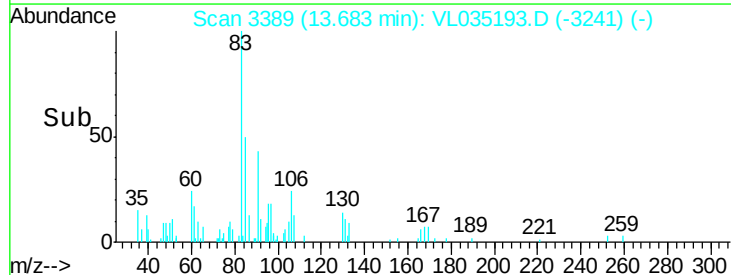
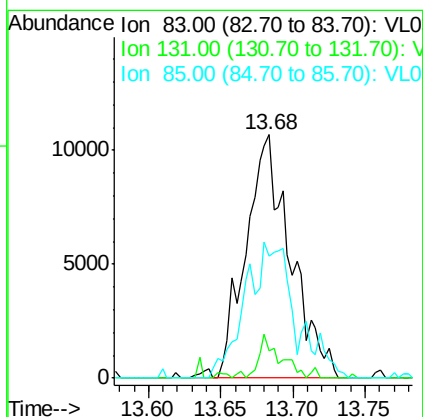
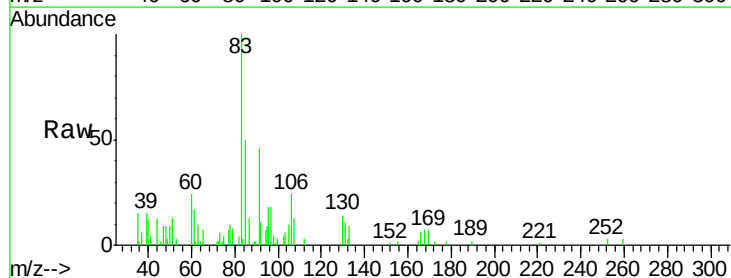
Instrument :
 MSVOA_L
 ClientSampleId :
 QC071320 CAN 10473

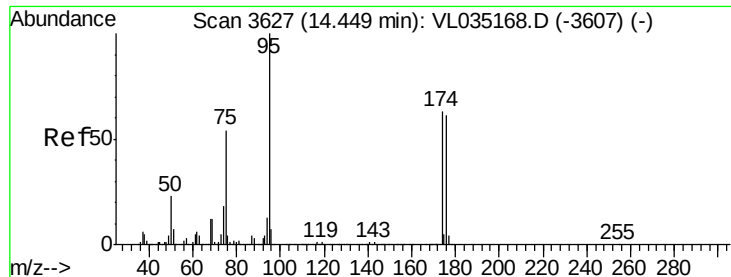
Tot Ion:117 Resp: 2623599
 Ion Ratio Lower Upper
 117 100
 82 68.3 52.3 78.5
 119 33.0 24.9 37.3



#63
 1,1,2,2-Tetrachloroethane
 Concen: 0.107 ppbv m
 RT: 13.68 min Scan# 3389
 Delta R.T. -0.03 min
 Lab File: VL035193.D
 Acq: 16 Jul 2020 14:34

Tgt Ion: 83 Resp: 22993
 Ion Ratio Lower Upper
 83 100
 131 9.2 4.7 14.0
 85 62.6 33.0 99.0

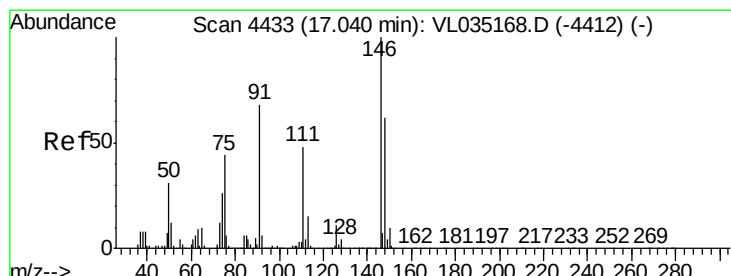
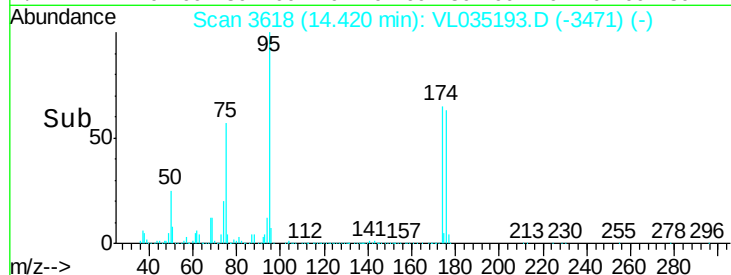
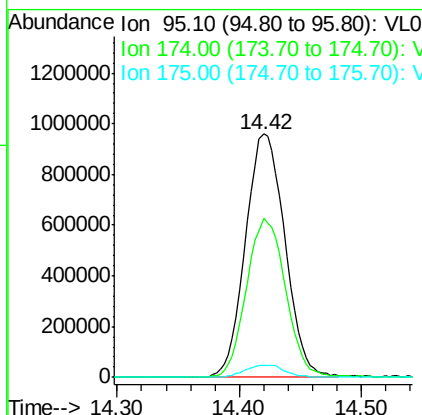
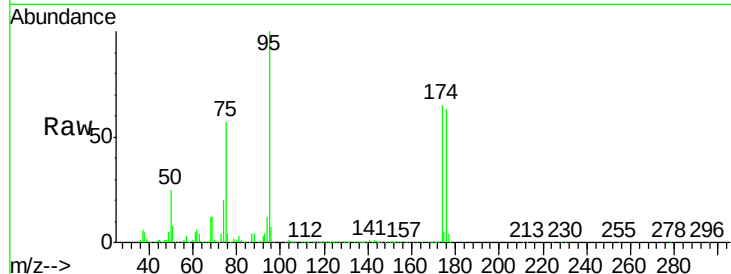




#68
 1-Bromo-4-Fluorobenzene
 Concen: 10.064 ppbv
 RT: 14.42 min Scan# 3618
 Delta R.T. -0.03 min
 Lab File: VL035193.D
 Acq: 16 Jul 2020 14:34

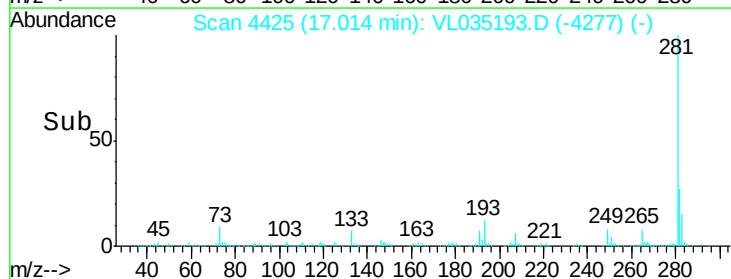
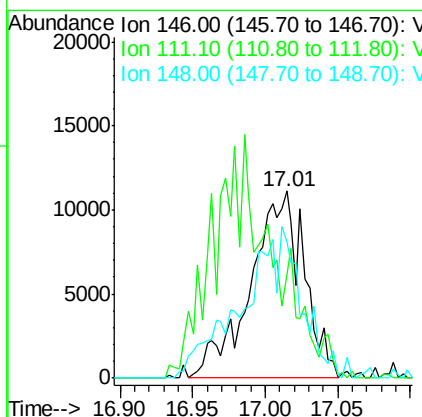
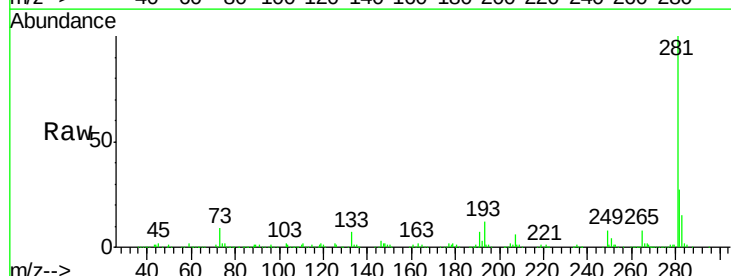
Instrument :
 MSVOA_L
 ClientSampleId :
 QC071320 CAN 10473

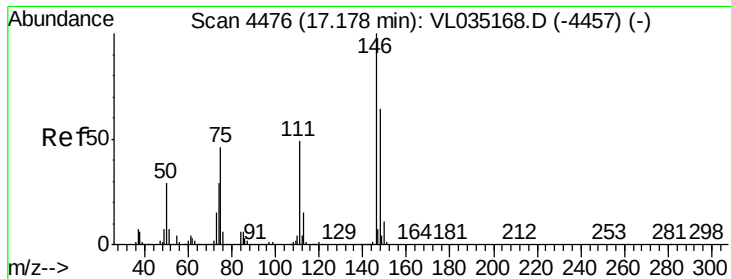
Tot Ion: 95 Resp: 2144958
 Ion Ratio Lower Upper
 95 100
 174 65.3 52.2 78.2
 175 5.0 4.0 6.0



#75
 1,3-Dichlorobenzene
 Concen: 0.145 ppbv m
 RT: 17.01 min Scan# 4425
 Delta R.T. -0.03 min
 Lab File: VL035193.D
 Acq: 16 Jul 2020 14:34

Tgt Ion: 146 Resp: 28359
 Ion Ratio Lower Upper
 146 100
 111 0.0 24.7 74.1#
 148 0.0 32.4 97.0#

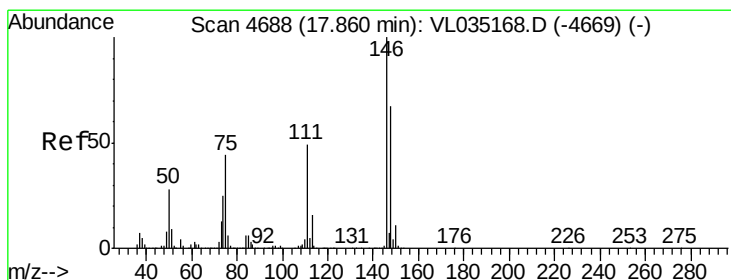
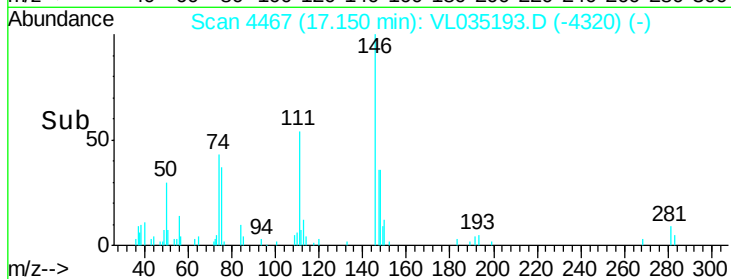
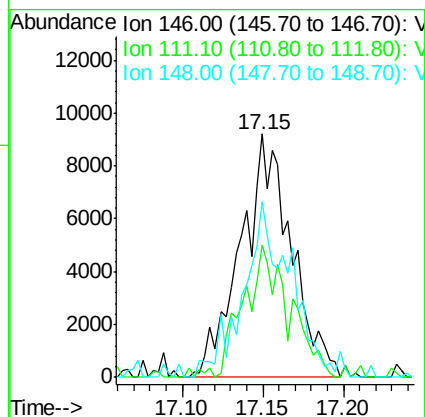
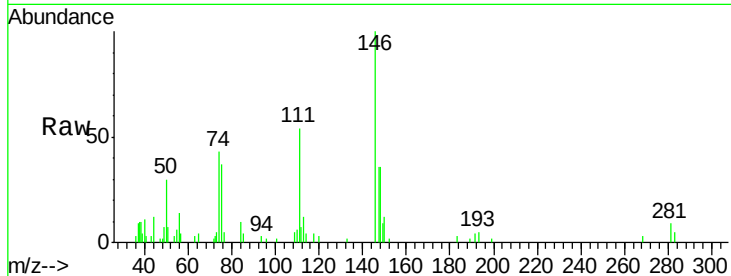




#76
1,4-Dichlorobenzene
Concen: 0.110 ppbv m
RT: 17.15 min Scan# 4467
Delta R.T. -0.03 min
Lab File: VL035193.D
Acq: 16 Jul 2020 14:34

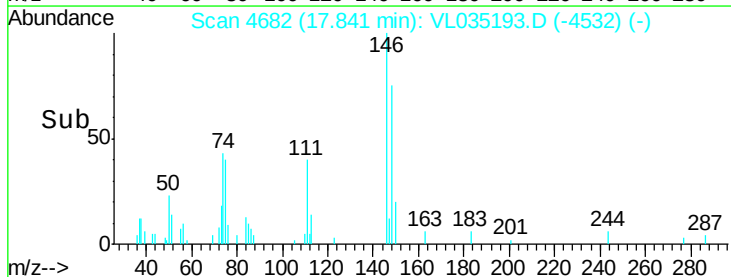
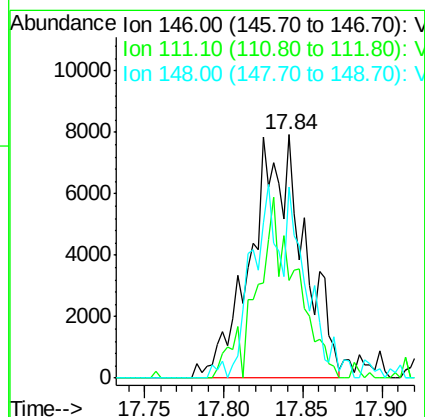
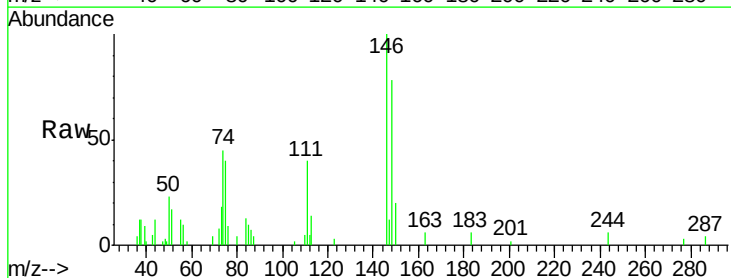
Instrument :
MSVOA_L
ClientSampleId :
QC071320 CAN 10473

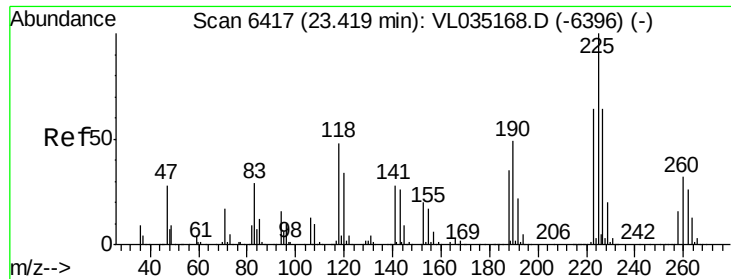
Tot Ion	Ratio	Lower	Upper
146	100		
111	0.0	23.8	71.2#
148	0.0	32.3	96.9#



#77
1,2-Dichlorobenzene
Concen: 0.103 ppbv m
RT: 17.84 min Scan# 4682
Delta R.T. -0.02 min
Lab File: VL035193.D
Acq: 16 Jul 2020 14:34

Tgt Ion	Ratio	Lower	Upper
146	100		
111	0.0	25.1	75.2#
148	0.0	32.4	97.0#





#78

Hexachloro-1,3-Butadiene

Concen: 0.202 ppbv m

RT: 23.41 min Scan# 6413

Delta R.T. -0.01 min

Lab File: VL035193.D

Acq: 16 Jul 2020 14:34

Instrument :

MSVOA_L

ClientSampleId :

QC071320 CAN 10473

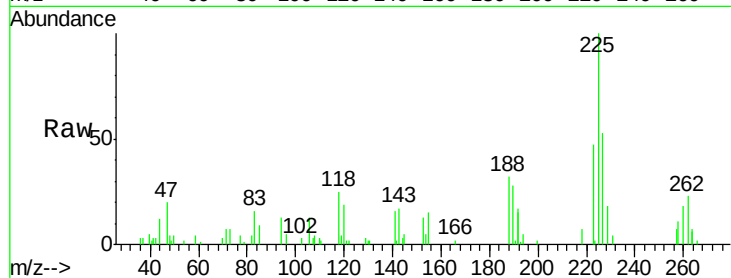
Tot Ion: 225 Resp: 28152

Ion Ratio Lower Upper

225 100

223 0.0 50.2 75.2#

227 0.0 51.2 76.8#



Abundance Ion 224.90 (224.60 to 225.60): V

Ion 222.90 (222.60 to 223.60): V

Ion 226.90 (226.60 to 227.60): V

