

Data Path : Z:\voasrv\HPCHEM1\MSVOA_L\Data\VL120825\
 Data File : VL043320.D
 Acq On : 08 Dec 2025 19:21
 Operator : SY/MD
 Sample : Q3798-02
 Misc : 400mL/MSVOA_L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 IA1

Quant Time: Dec 09 00:15:05 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_L\methods\VL111825AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Fri Aug 26 06:05:16 2022
 QLast Update : Wed Nov 19 01:11:25 2025
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

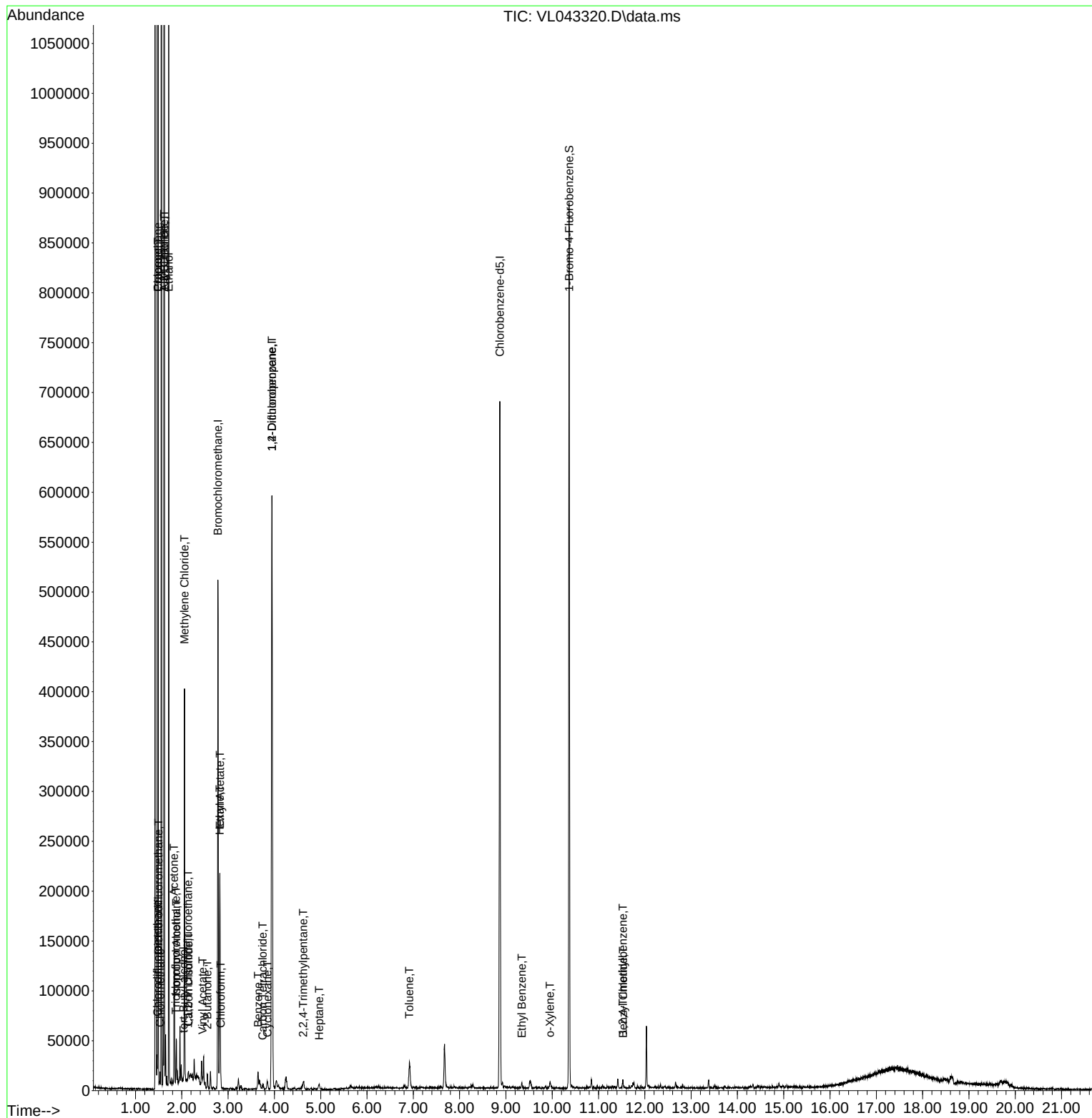
Internal Standards						
1) Bromochloromethane	2.781	49	131651	10.000	ppbv	0.00
33) 1,4-Difluorobenzene	3.946	114	343367	10.000	ppbv	0.00
55) Chlorobenzene-d5	8.869	117	273285	10.000	ppbv	0.00
System Monitoring Compounds						
68) 1-Bromo-4-Fluorobenzene	10.364	95	201922	10.080	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	= 100.800%	
Target Compounds						
					Qvalue	
2) Dichlorodifluoromethane	1.496	85	8241	0.444	ppbv	95
3) Chlorodifluoromethane	1.473	51	16546	0.906	ppbv #	75
4) Chloromethane	1.531	50	3358	0.484	ppbv	91
7) Chloroethane	1.489	64	2064	0.698	ppbv #	43
9) Propene	1.486	41	289780	37.370	ppbv #	5
10) Heptane	4.965	43	1621	0.070	ppbv	89
11) Trichlorofluoromethane	1.874	101	5386	0.299	ppbv	88
12) 1,1,2-Trichlorotrifluo...	2.136	101	1136	0.081	ppbv	99
13) Ethanol	1.719	45	444160	162.890	ppbv	98
15) Acetone	1.832	43	68576	3.749	ppbv #	49
16) 1,3-Butadiene	1.619	39	666053	81.681	ppbv #	14
17) tert-Butyl alcohol	2.036	59	2065	0.086	ppbv #	71
19) Isopropyl Alcohol	1.884	45	15295	1.480	ppbv #	36
20) Methylene Chloride	2.059	84	57923	10.811	ppbv	90
21) Allyl Chloride	1.619	41	1248669	101.469	ppbv #	65
23) Vinyl Acetate	2.450	43	2432	0.110	ppbv #	45
25) Ethyl Acetate	2.823	43	39264	0.995	ppbv #	85
26) Hexane	2.819	57	44295	2.561	ppbv #	47
27) Carbon Disulfide	2.146	76	2207	0.125	ppbv #	1
29) Chloroform	2.842	83	3322	0.135	ppbv #	79
30) Cyclohexane	3.849	84	1263	0.087	ppbv #	52
34) 2-Butanone	2.551	43	9302	0.384	ppbv	96
35) Carbon Tetrachloride	3.748	117	1231	0.047	ppbv #	66
36) Benzene	3.648	78	10557	0.321	ppbv	96
39) 1,2-Dichloropropane	3.946	63	86305	7.171	ppbv #	25
44) 2,2,4-Trimethylpentane	4.622	57	2881	0.051	ppbv #	41
53) Toluene	6.914	91	18124	0.465	ppbv	98
58) Ethyl Benzene	9.345	91	3053	0.058	ppbv #	84
60) o-Xylene	9.953	91	2152	0.051	ppbv	99
66) Benzyl Chloride	11.532	91	470	0.069	ppbv #	65
74) 1,2,4-Trimethylbenzene	11.526	105	1531	0.033	ppbv #	54

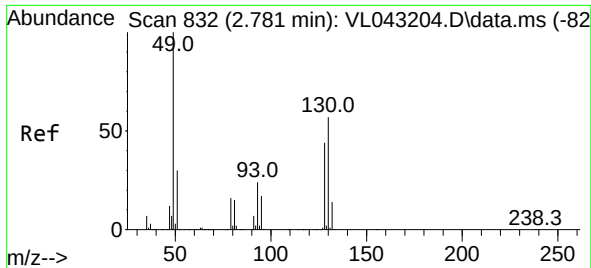
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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Quant Method : Z:\voasrv\HPCHEM1\MSVOA_L\methods\VL11825AIR.M
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Fri Aug 26 06:05:16 2022
QLast Update : Wed Nov 19 01:11:25 2025
Response via : Initial Calibration

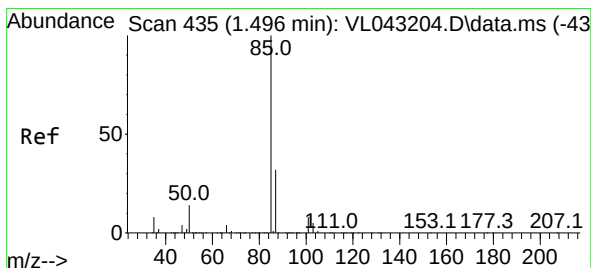
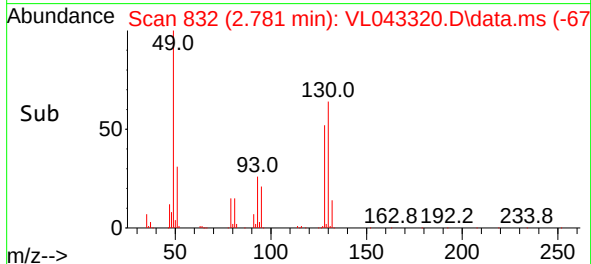
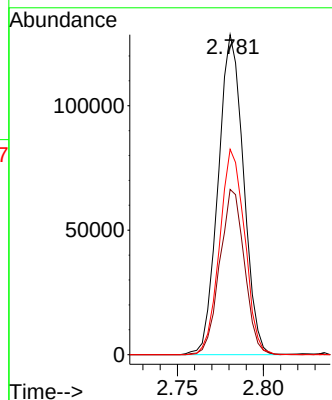
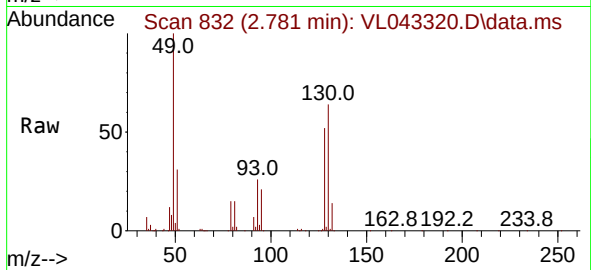




#1
Bromochloromethane
Concen: 10.000 ppbv
RT: 2.781 min Scan# 832
Delta R.T. -0.000 min
Lab File: VL043320.D
Acq: 08 Dec 2025 19:21

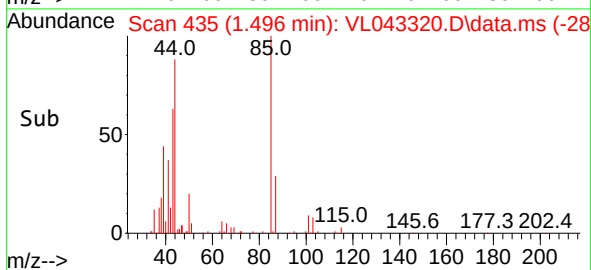
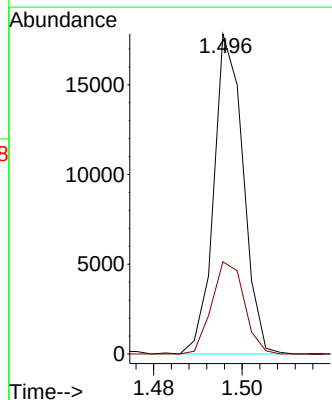
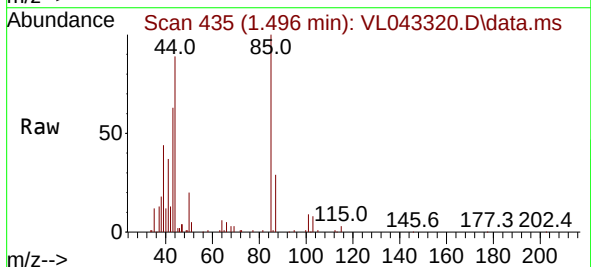
Instrument :
MSVOA_L
ClientSampleId :
IA1

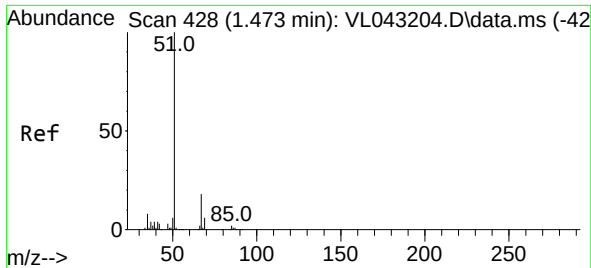
Tgt Ion: 49 Resp: 131651
Ion Ratio Lower Upper
49 100
128 50.2 23.0 69.0
130 63.5 29.9 89.7



#2
Dichlorodifluoromethane
Concen: 0.444 ppbv
RT: 1.496 min Scan# 435
Delta R.T. -0.000 min
Lab File: VL043320.D
Acq: 08 Dec 2025 19:21

Tgt Ion: 85 Resp: 8241
Ion Ratio Lower Upper
85 100
87 28.8 25.4 38.2

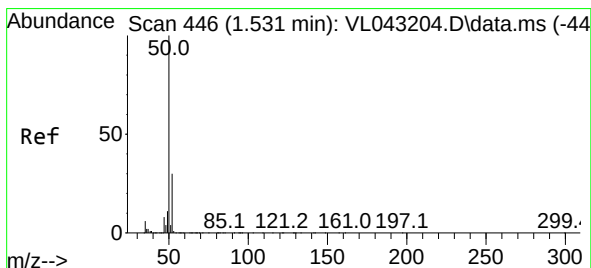
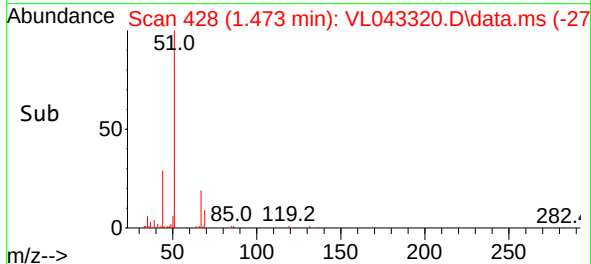
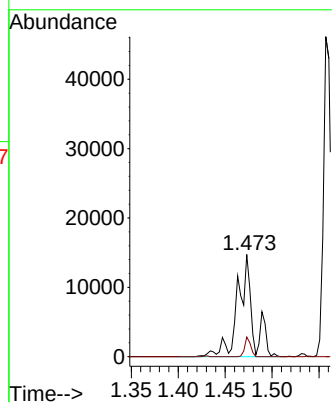
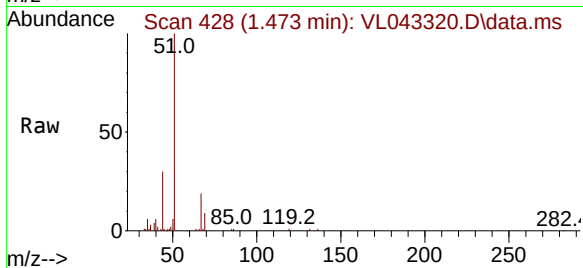




#3
Chlorodifluoromethane
Concen: 0.906 ppbv
RT: 1.473 min Scan# 428
Delta R.T. -0.000 min
Lab File: VL043320.D
Acq: 08 Dec 2025 19:21

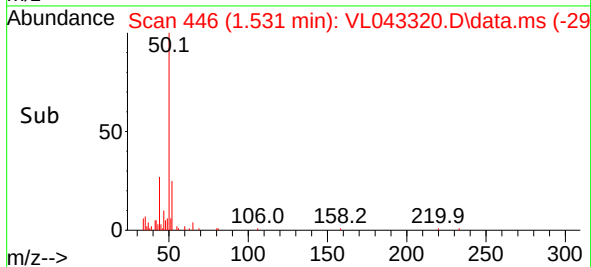
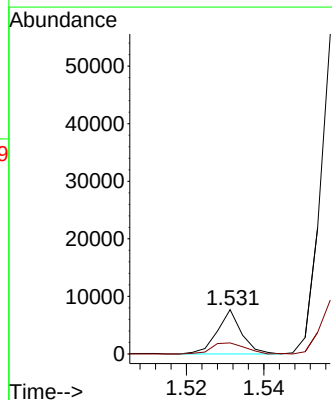
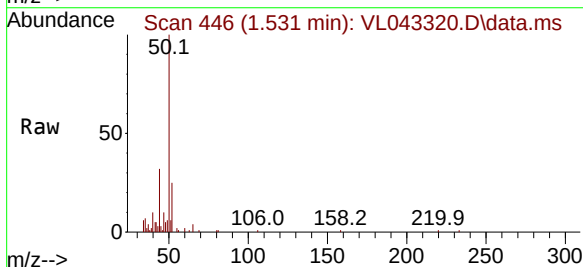
Instrument :
MSVOA_L
ClientSampleId :
IA1

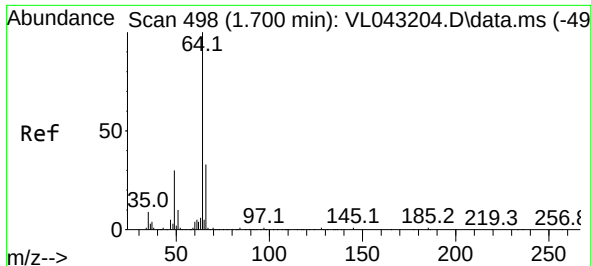
Tgt Ion: 51 Resp: 16546
Ion Ratio Lower Upper
51 100
67 7.4 14.9 22.3#



#4
Chloromethane
Concen: 0.484 ppbv
RT: 1.531 min Scan# 446
Delta R.T. -0.000 min
Lab File: VL043320.D
Acq: 08 Dec 2025 19:21

Tgt Ion: 50 Resp: 3358
Ion Ratio Lower Upper
50 100
52 25.1 24.1 36.1

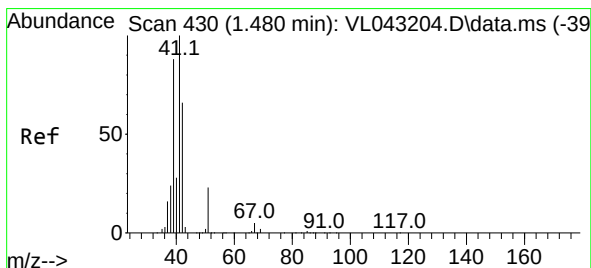
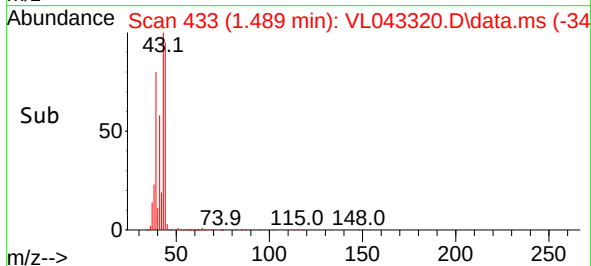
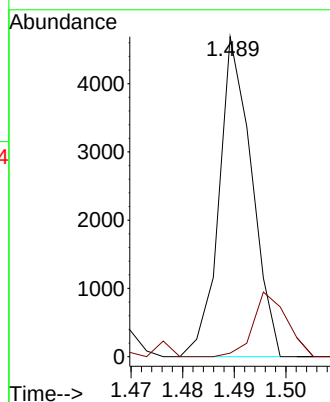
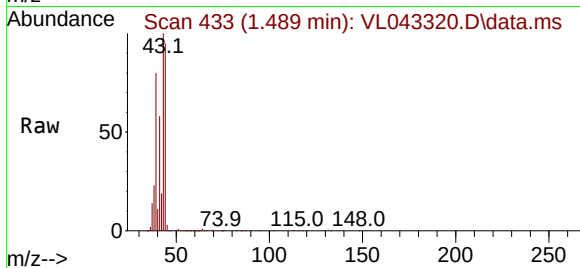




#7
Chloroethane
Concen: 0.698 ppbv
RT: 1.489 min Scan# 41
Delta R.T. -0.211 min
Lab File: VL043320.D
Acq: 08 Dec 2025 19:21

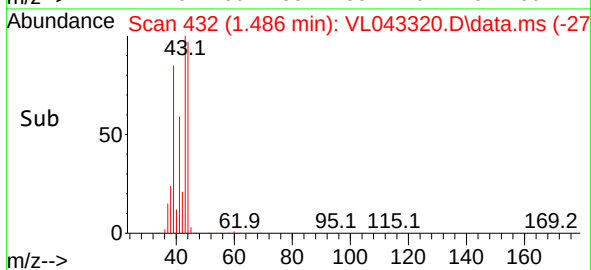
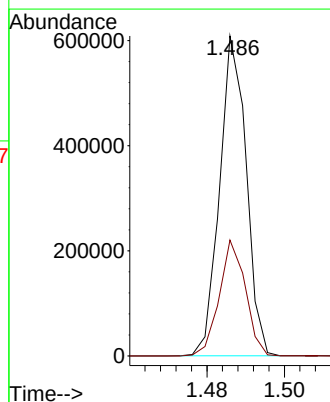
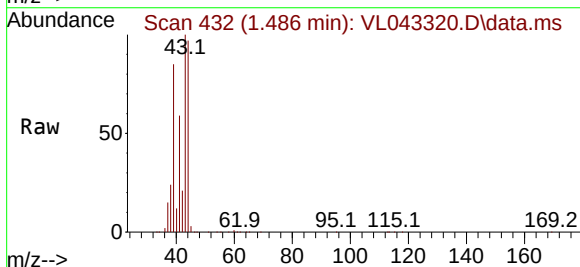
Instrument :
MSVOA_L
ClientSampleId :
IA1

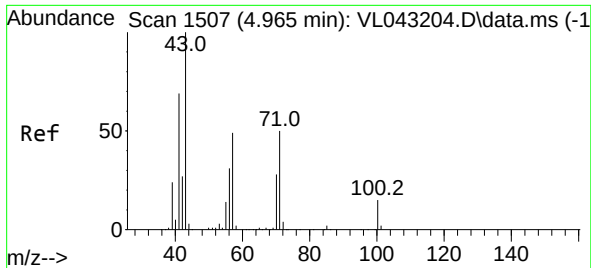
Tgt Ion: 64 Resp: 2064
Ion Ratio Lower Upper
64 100
66 1.1 26.8 40.2#



#9
Propene
Concen: 37.370 ppbv
RT: 1.486 min Scan# 432
Delta R.T. 0.006 min
Lab File: VL043320.D
Acq: 08 Dec 2025 19:21

Tgt Ion: 41 Resp: 289780
Ion Ratio Lower Upper
41 100
42 35.9 3.7 5.5#

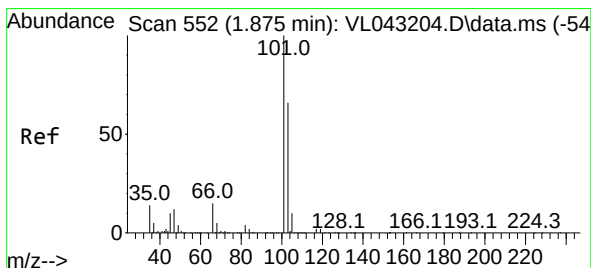
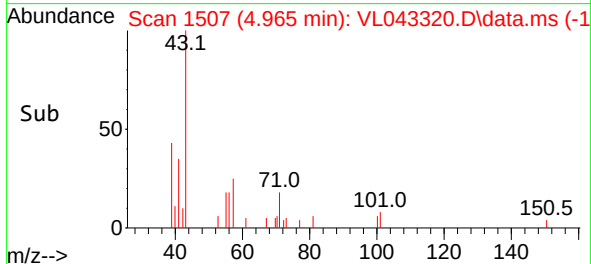
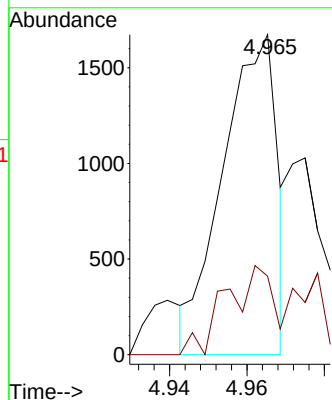
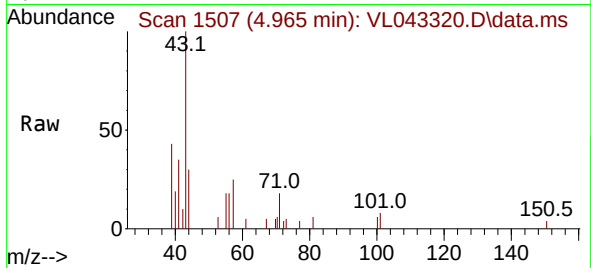




#10
Heptane
Concen: 0.070 ppbv
RT: 4.965 min Scan# 11
Delta R.T. -0.000 min
Lab File: VL043320.D
Acq: 08 Dec 2025 19:21

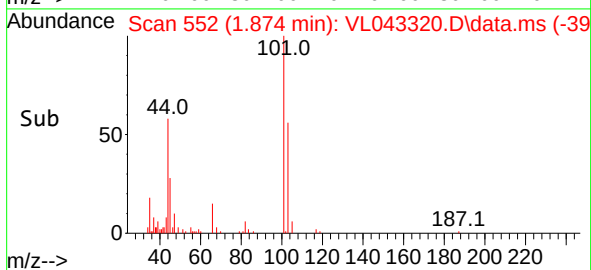
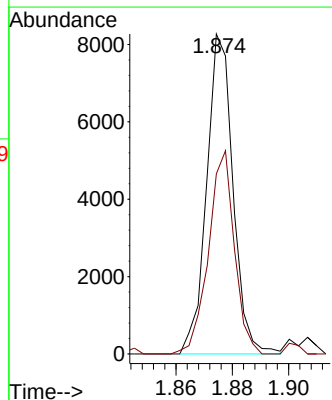
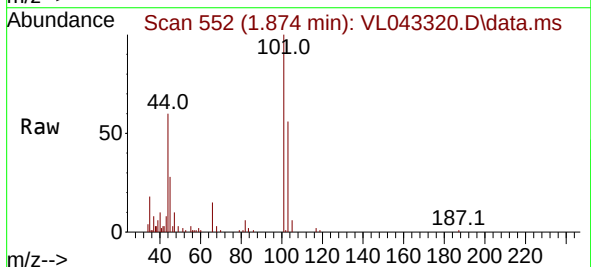
Instrument :
MSVOA_L
ClientSampleId :
IA1

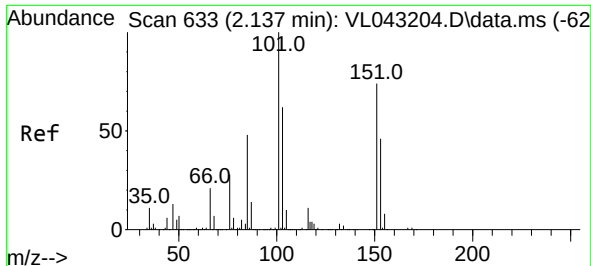
Tgt Ion: 43 Resp: 1621
Ion Ratio Lower Upper
43 100
57 42.3 39.7 59.5



#11
Trichlorofluoromethane
Concen: 0.299 ppbv
RT: 1.874 min Scan# 552
Delta R.T. -0.000 min
Lab File: VL043320.D
Acq: 08 Dec 2025 19:21

Tgt Ion:101 Resp: 5386
Ion Ratio Lower Upper
101 100
103 56.3 52.6 79.0





#12

1,1,2-Trichlorotrifluoroethane

Concen: 0.081 ppbv

RT: 2.136 min Scan# 61

Delta R.T. -0.000 min

Lab File: VL043320.D

Acq: 08 Dec 2025 19:21

Instrument :

MSVOA_L

ClientSampleId :

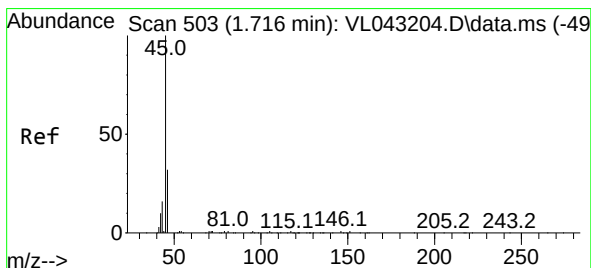
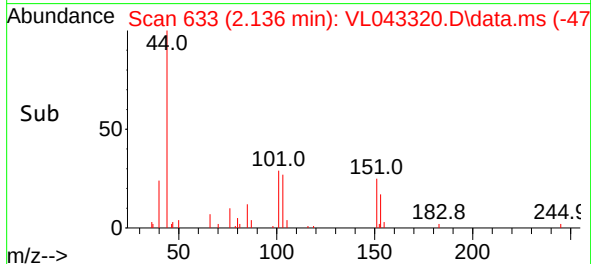
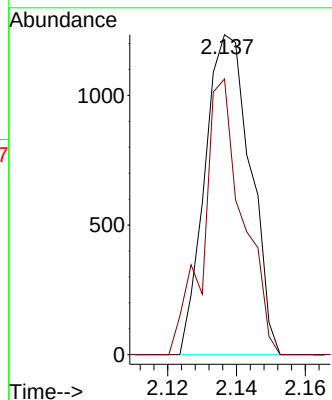
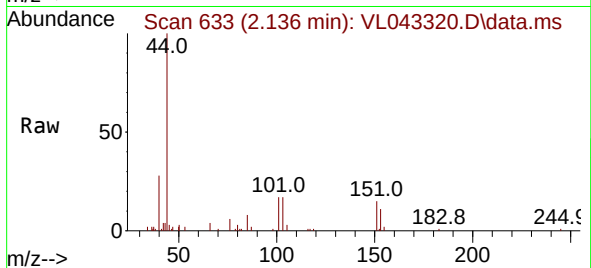
IA1

Tgt Ion:101 Resp: 1136

Ion Ratio Lower Upper

101 100

151 74.5 59.2 88.8



#13

Ethanol

Concen: 162.890 ppbv

RT: 1.719 min Scan# 504

Delta R.T. 0.003 min

Lab File: VL043320.D

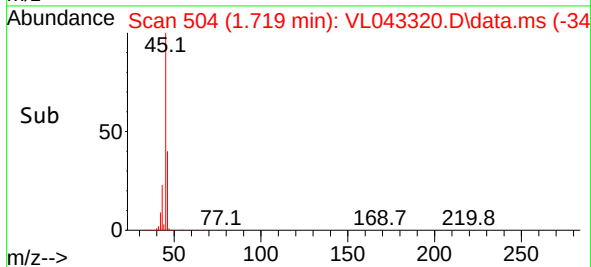
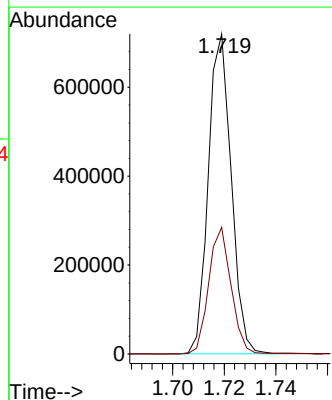
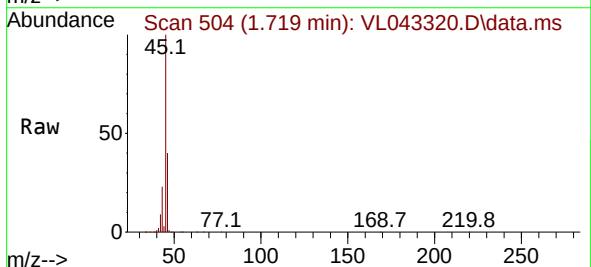
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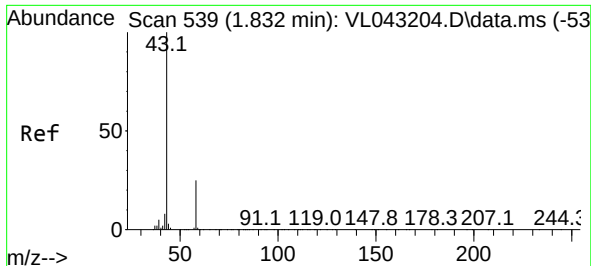
Tgt Ion: 45 Resp: 444160

Ion Ratio Lower Upper

45 100

46 38.8 15.0 59.8

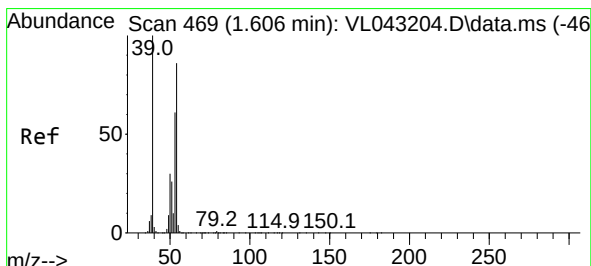
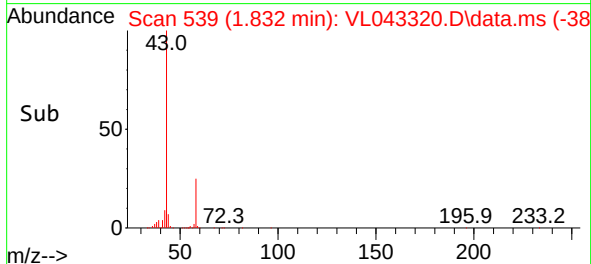
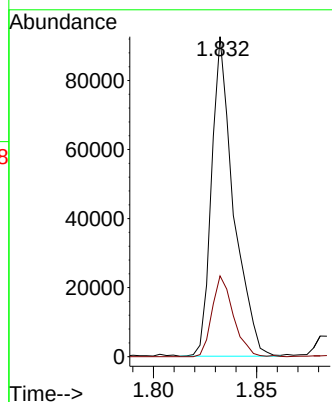
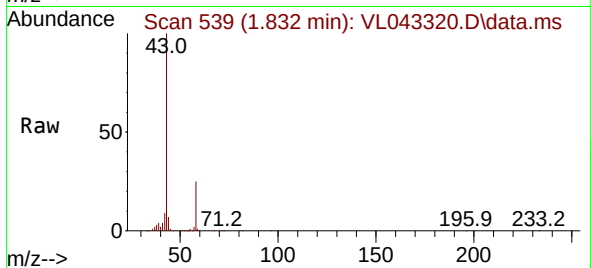




#15
Acetone
Concen: 3.749 ppbv
RT: 1.832 min Scan# 51
Delta R.T. -0.000 min
Lab File: VL043320.D
Acq: 08 Dec 2025 19:21

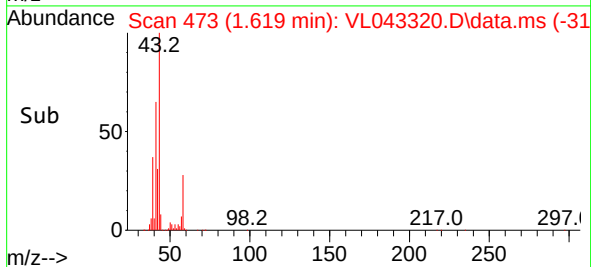
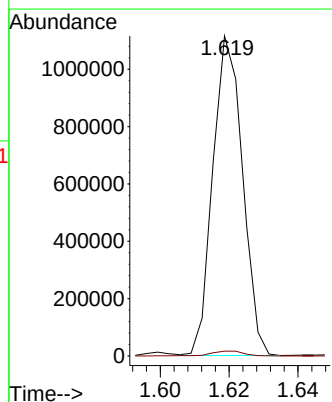
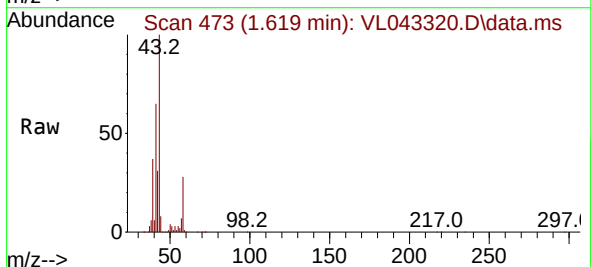
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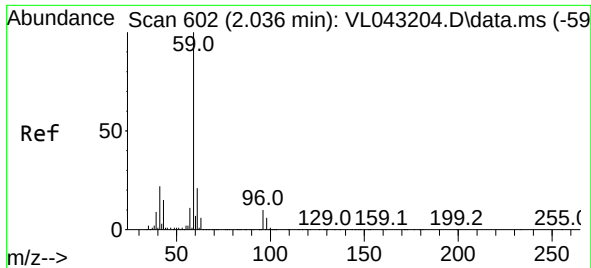
Tgt Ion: 43 Resp: 68576
Ion Ratio Lower Upper
43 100
58 0.0 20.7 31.1#



#16
1,3-Butadiene
Concen: 81.681 ppbv
RT: 1.619 min Scan# 473
Delta R.T. 0.013 min
Lab File: VL043320.D
Acq: 08 Dec 2025 19:21

Tgt Ion: 39 Resp: 666053
Ion Ratio Lower Upper
39 100
54 1.7 59.4 89.2#

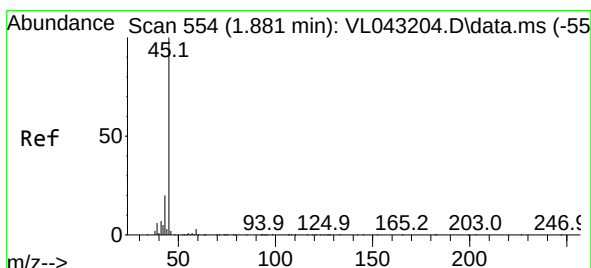
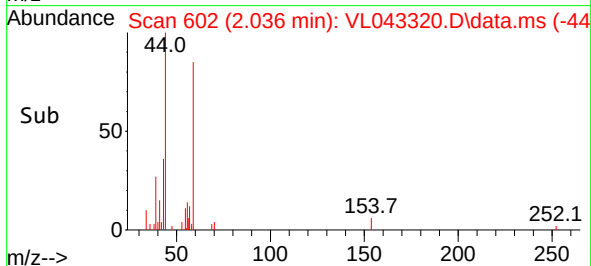
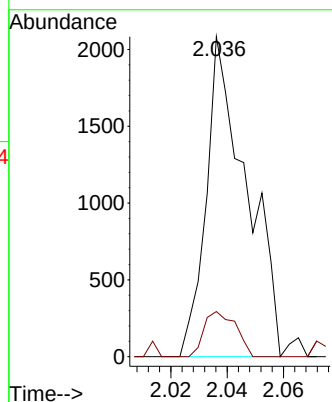
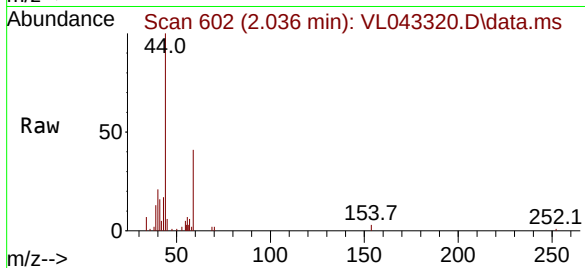




#17
tert-Butyl alcohol
Concen: 0.086 ppbv
RT: 2.036 min Scan# 602
Delta R.T. -0.000 min
Lab File: VL043320.D
Acq: 08 Dec 2025 19:21

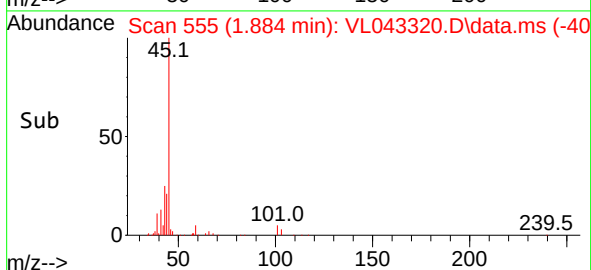
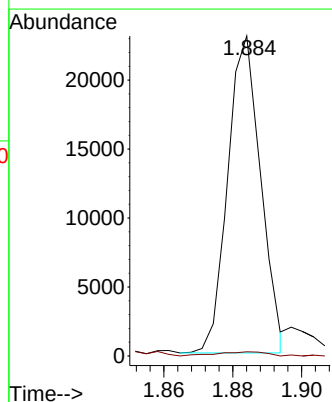
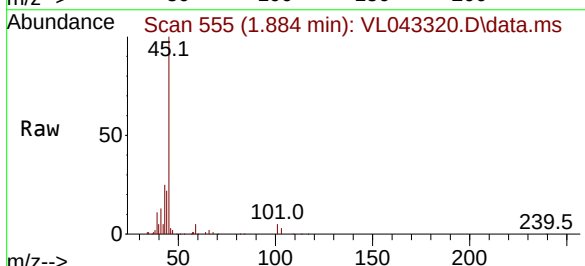
Instrument :
MSVOA_1
ClientSampleId :
1A1

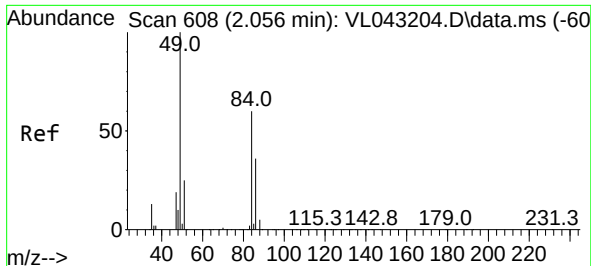
Tgt Ion: 59 Resp: 2065
Ion Ratio Lower Upper
59 100
57 0.0 9.0 13.4#



#19
Isopropyl Alcohol
Concen: 1.480 ppbv
RT: 1.884 min Scan# 555
Delta R.T. 0.003 min
Lab File: VL043320.D
Acq: 08 Dec 2025 19:21

Tgt Ion: 45 Resp: 15295
Ion Ratio Lower Upper
45 100
58 0.0 31.3 46.9#



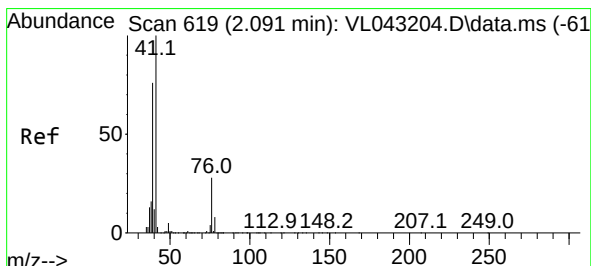
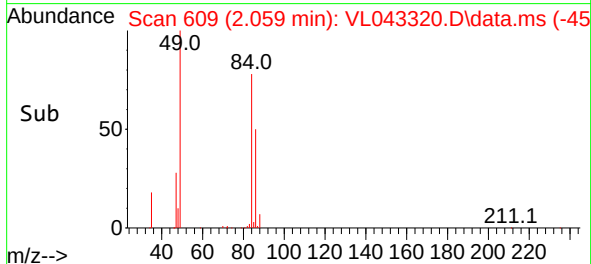
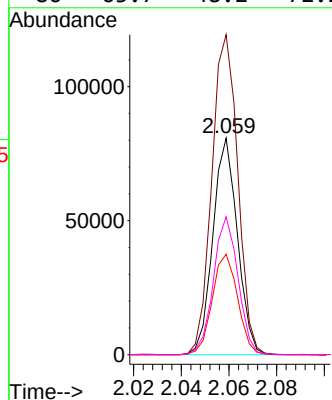
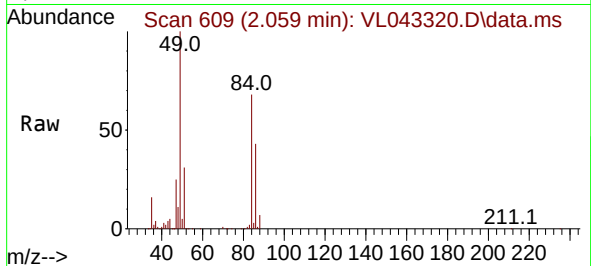


#20
Methylene Chloride
Concen: 10.811 ppbv
RT: 2.059 min Scan# 60
Delta R.T. 0.003 min
Lab File: VL043320.D
Acq: 08 Dec 2025 19:21

Instrument :
MSVOA_1
ClientSampleId :
IA1

Tgt Ion: 84 Resp: 57923

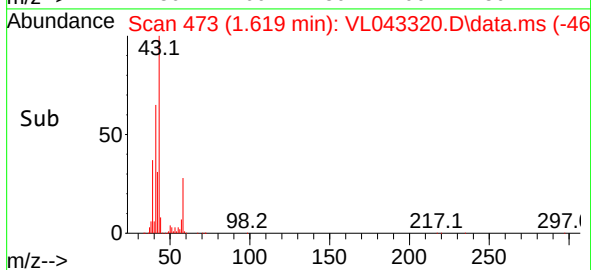
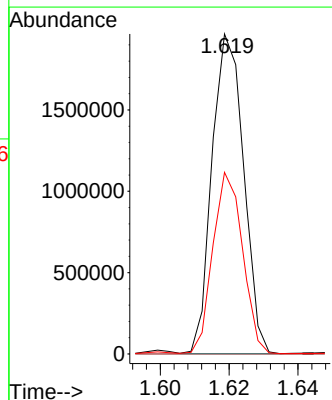
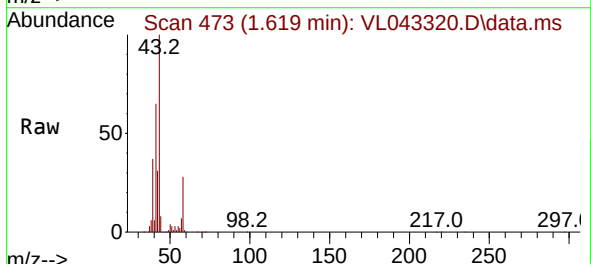
Ion	Ratio	Lower	Upper
84	100		
49	147.8	132.9	199.3
51	46.4	34.8	52.2
86	63.7	48.2	72.2

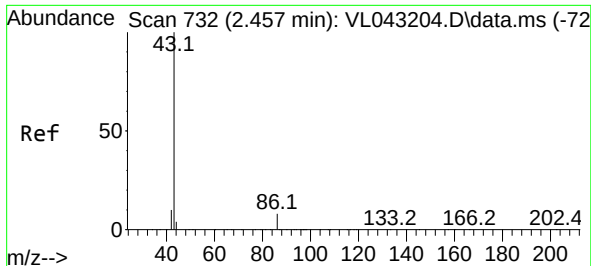


#21
Allyl Chloride
Concen: 101.469 ppbv
RT: 1.619 min Scan# 473
Delta R.T. -0.473 min
Lab File: VL043320.D
Acq: 08 Dec 2025 19:21

Tgt Ion: 41 Resp: 1248669

Ion	Ratio	Lower	Upper
41	100		
76	0.0	22.1	33.1#
39	51.7	61.0	91.4#

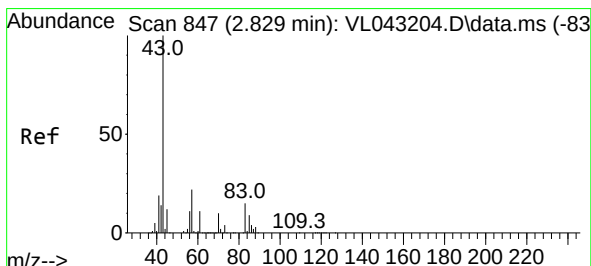
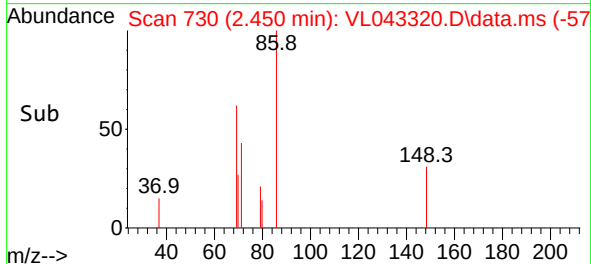
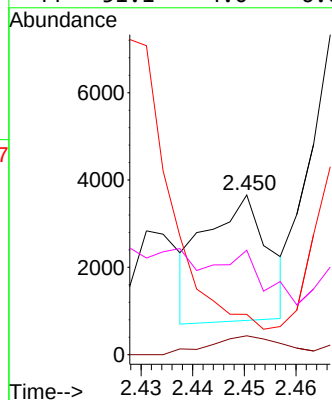
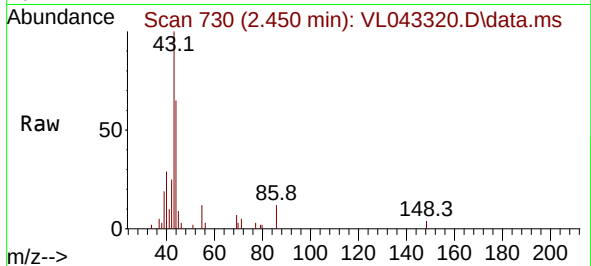




#23
 Vinyl Acetate
 Concen: 0.110 ppbv
 RT: 2.450 min Scan# 71
 Delta R.T. -0.007 min
 Lab File: VL043320.D
 Acq: 08 Dec 2025 19:21

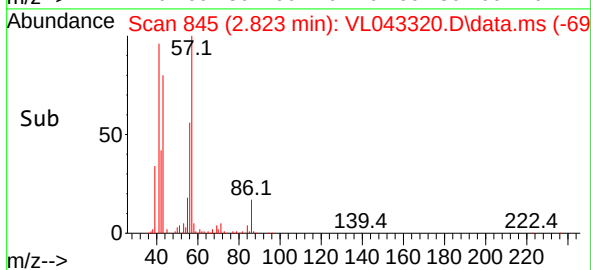
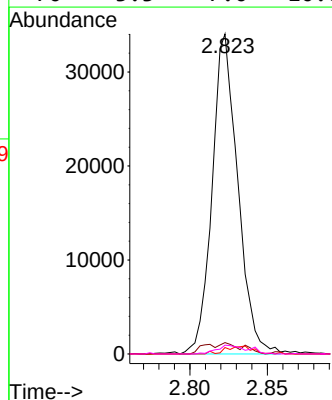
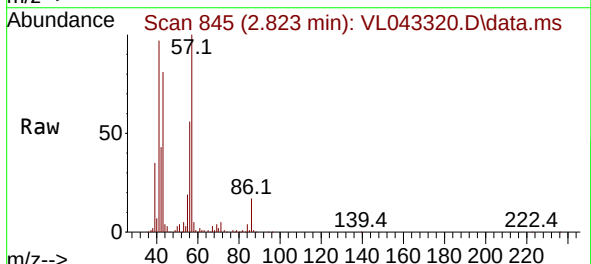
Instrument :
 MSVOA_L
 ClientSampleId :
 IA1

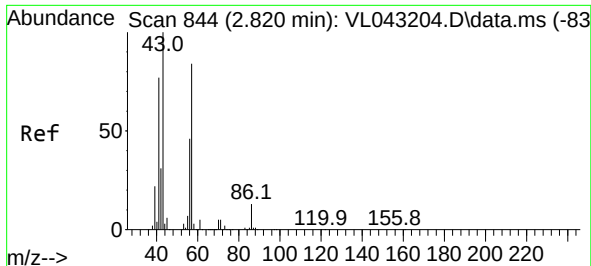
Tgt Ion: 43	Resp: 2432
Ion Ratio	Lower Upper
43 100	
86 21.4	6.2 9.2#
42 19.7	8.0 12.0#
44 51.1	4.0 6.0#



#25
 Ethyl Acetate
 Concen: 0.995 ppbv
 RT: 2.823 min Scan# 845
 Delta R.T. -0.007 min
 Lab File: VL043320.D
 Acq: 08 Dec 2025 19:21

Tgt	Ion: 43	Resp:	39264
Ion	Ratio	Lower	Upper
43	100		
45	5.4	8.1	12.1#
61	2.7	7.0	10.4#
70	3.3	7.0	10.6#

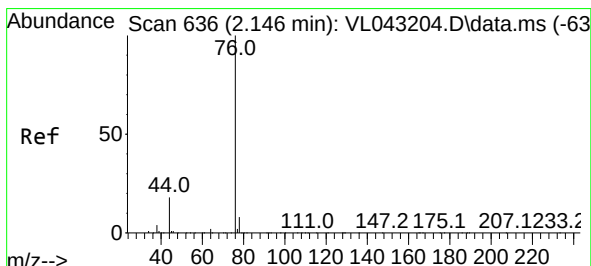
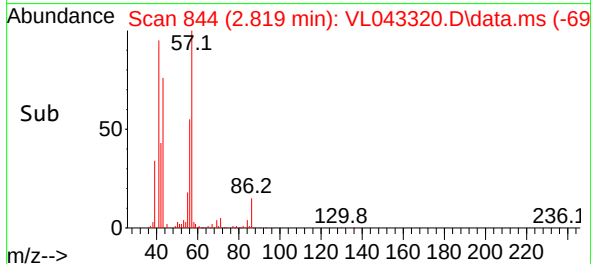
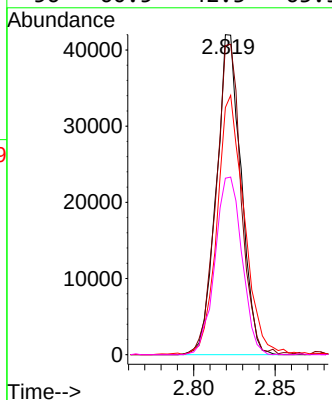
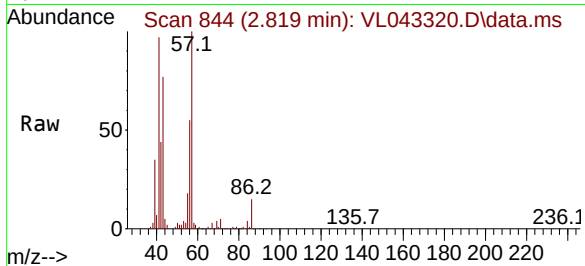




#26
Hexane
Concen: 2.561 ppbv
RT: 2.819 min Scan# 844
Delta R.T. -0.000 min
Lab File: VL043320.D
Acq: 08 Dec 2025 19:21

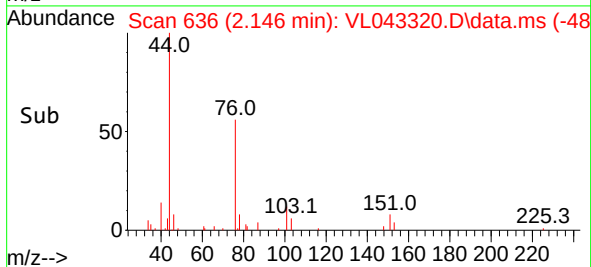
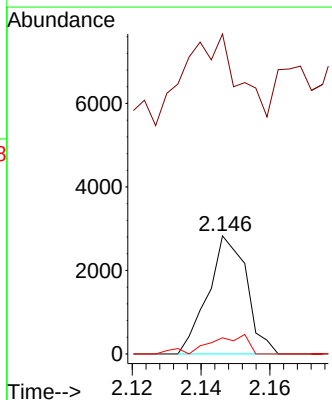
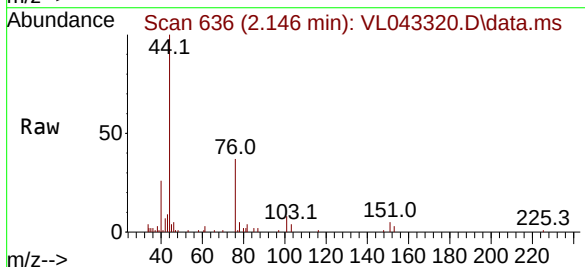
Instrument :
MSVOA_L
ClientSampleId :
IA1

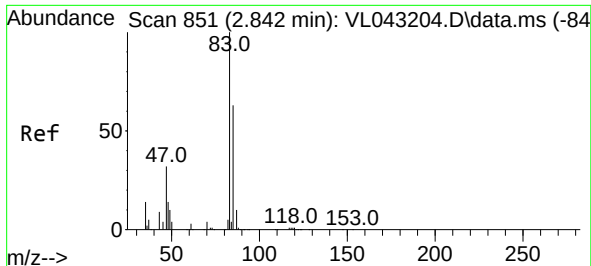
Tgt Ion:	57	Resp:	44295
Ion	Ratio	Lower	Upper
57	100		
41	98.8	74.6	111.8
43	89.6	179.0	268.4#
56	60.5	42.3	63.5



#27
Carbon Disulfide
Concen: 0.125 ppbv
RT: 2.146 min Scan# 636
Delta R.T. -0.000 min
Lab File: VL043320.D
Acq: 08 Dec 2025 19:21

Tgt Ion:	76	Resp:	2207
Ion	Ratio	Lower	Upper
76	100		
44	1093.9	16.1	24.1#
78	16.2	9.6	14.4#





#29

Chloroform

Concen: 0.135 ppbv

RT: 2.842 min Scan# 851

Delta R.T. -0.000 min

Lab File: VL043320.D

Acq: 08 Dec 2025 19:21

Instrument :

MSVOA_L

ClientSampleId :

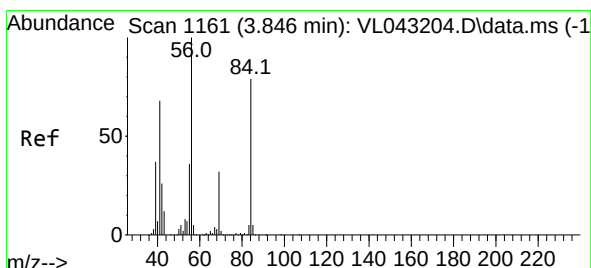
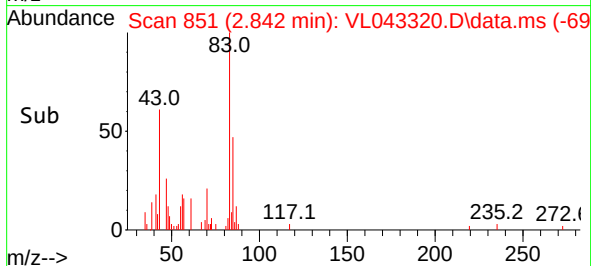
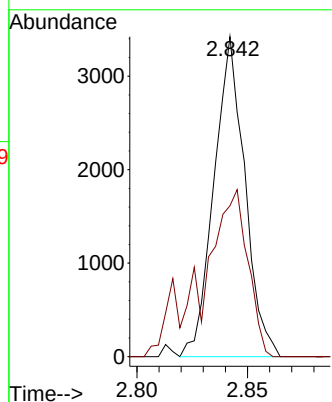
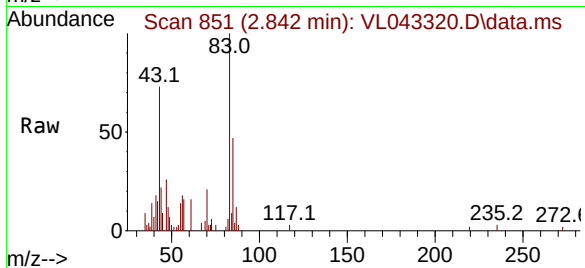
IA1

Tgt Ion: 83 Resp: 3322

Ion Ratio Lower Upper

83 100

85 47.2 50.5 75.7#



#30

Cyclohexane

Concen: 0.087 ppbv

RT: 3.849 min Scan# 1162

Delta R.T. 0.003 min

Lab File: VL043320.D

Acq: 08 Dec 2025 19:21

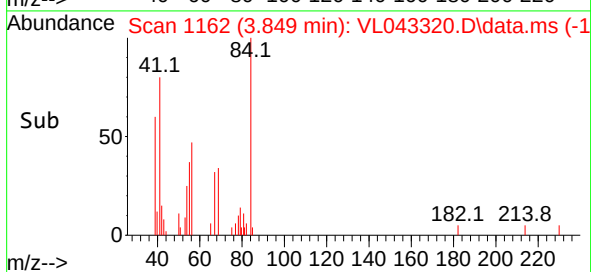
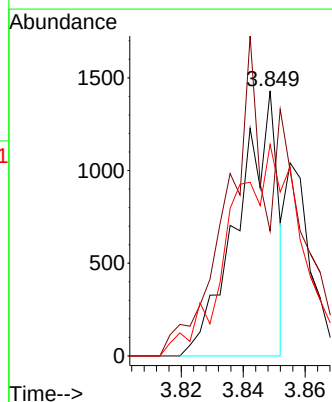
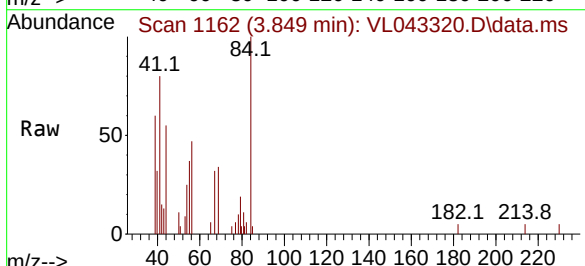
Tgt Ion: 84 Resp: 1263

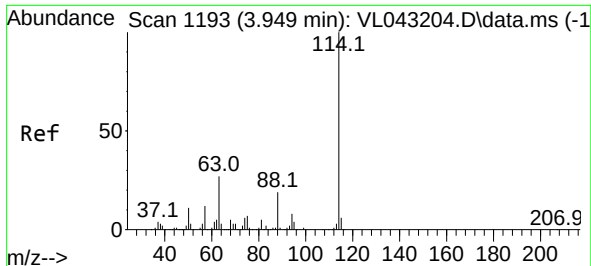
Ion Ratio Lower Upper

84 100

56 175.3 104.7 157.1#

41 143.6 69.0 103.6#





#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 3.946 min Scan# 1193

Delta R.T. -0.003 min

Lab File: VL043320.D

Acq: 08 Dec 2025 19:21

Instrument :

MSVOA_L

ClientSampleId :

IA1

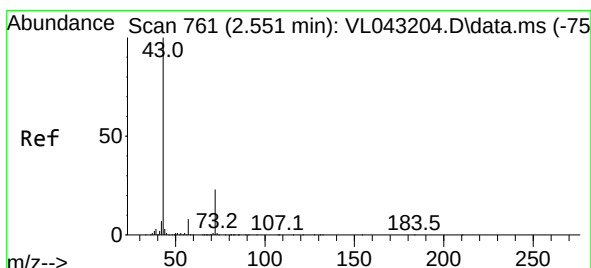
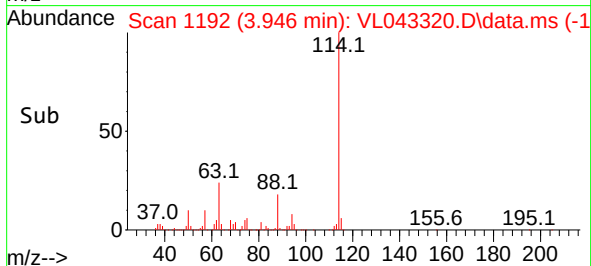
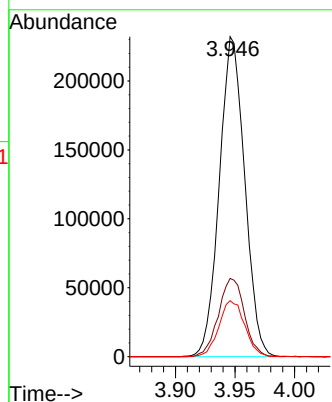
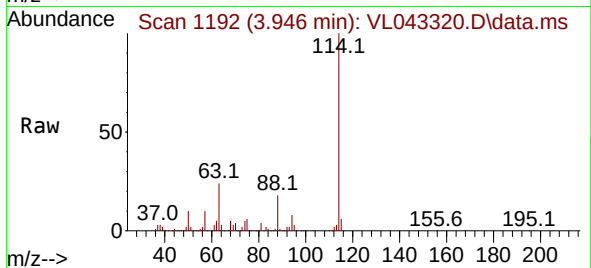
Tgt Ion:114 Resp: 343367

Ion Ratio Lower Upper

114 100

63 25.2 21.0 31.6

88 17.8 14.9 22.3



#34

2-Butanone

Concen: 0.384 ppbv

RT: 2.551 min Scan# 761

Delta R.T. -0.000 min

Lab File: VL043320.D

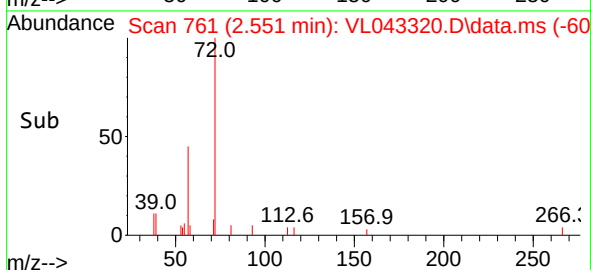
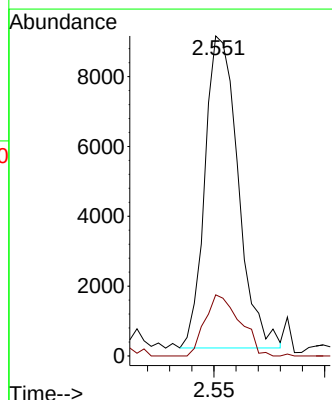
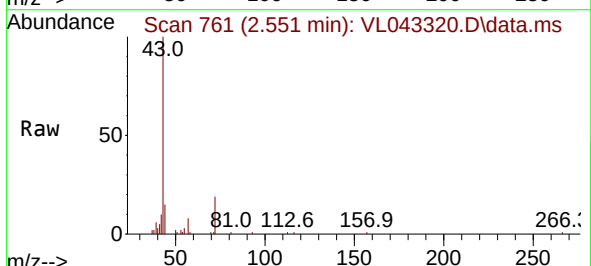
Acq: 08 Dec 2025 19:21

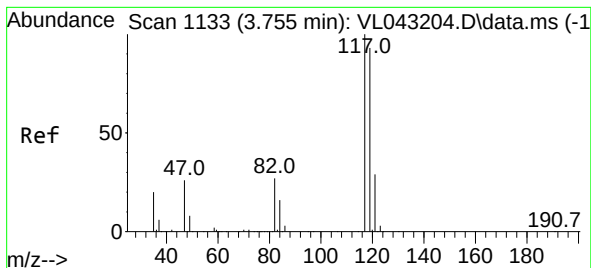
Tgt Ion: 43 Resp: 9302

Ion Ratio Lower Upper

43 100

72 20.8 18.1 27.1





#35

Carbon Tetrachloride

Concen: 0.047 ppbv

RT: 3.748 min Scan# 1133

Delta R.T. -0.007 min

Lab File: VL043320.D

Acq: 08 Dec 2025 19:21

Instrument :

MSVOA_L

ClientSampleId :

IA1

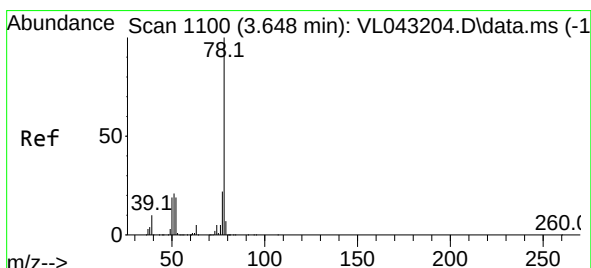
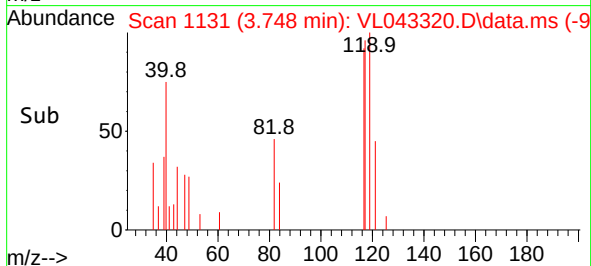
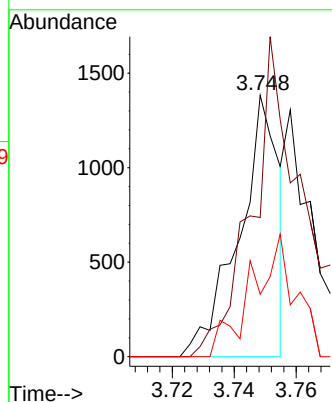
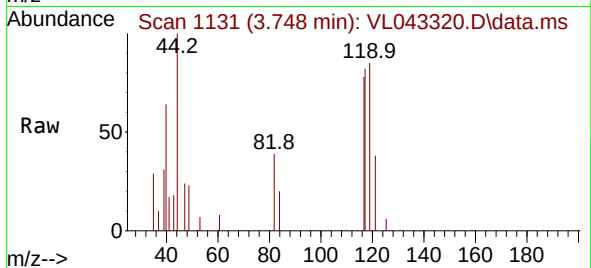
Tgt Ion:117 Resp: 1231

Ion Ratio Lower Upper

117 100

119 53.2 74.6 112.0#

121 23.9 23.2 34.8



#36

Benzene

Concen: 0.321 ppbv

RT: 3.648 min Scan# 1100

Delta R.T. -0.000 min

Lab File: VL043320.D

Acq: 08 Dec 2025 19:21

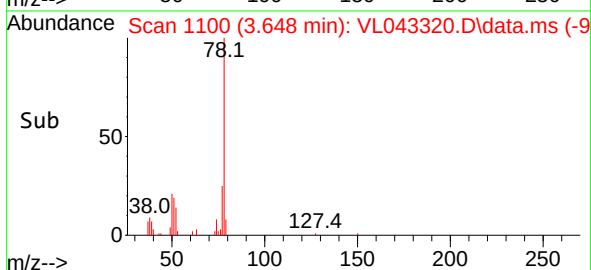
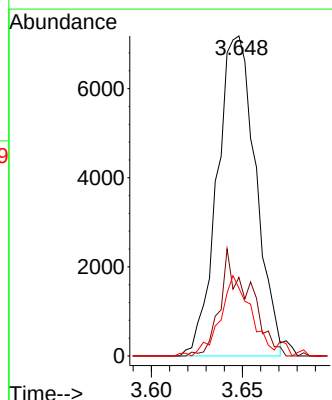
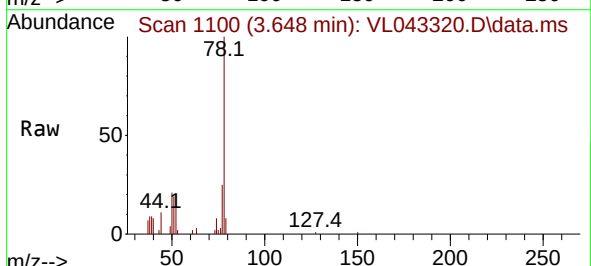
Tgt Ion: 78 Resp: 10557

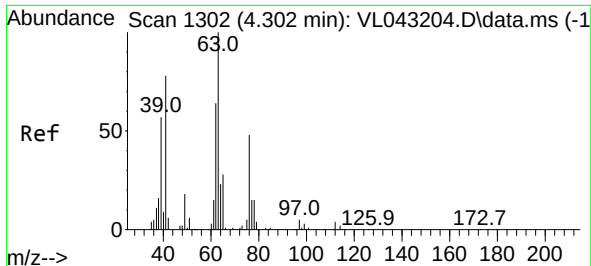
Ion Ratio Lower Upper

78 100

77 24.5 17.5 26.3

50 20.4 15.5 23.3





#39

1,2-Dichloropropane

Concen: 7.171 ppbv

RT: 3.946 min Scan# 1192

Delta R.T. -0.356 min

Lab File: VL043320.D

Acq: 08 Dec 2025 19:21

Instrument :

MSVOA_L

ClientSampleId :

IA1

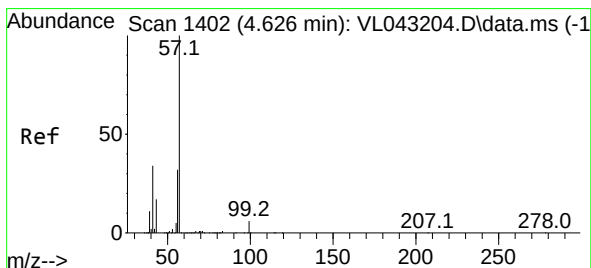
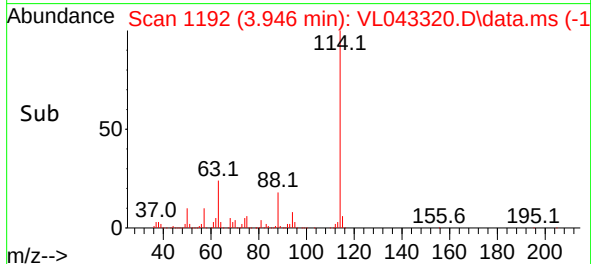
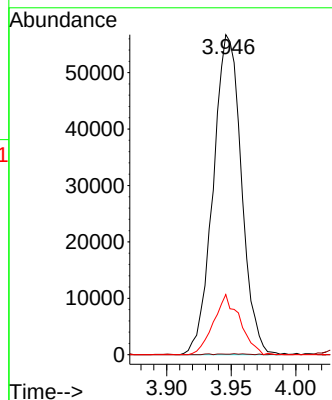
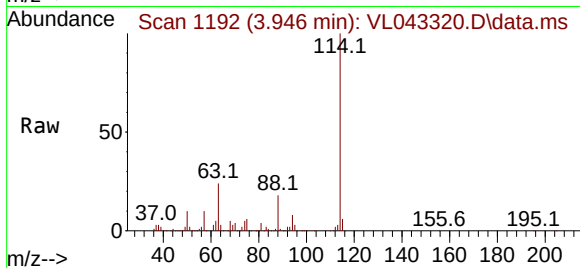
Tgt Ion: 63 Resp: 86305

Ion Ratio Lower Upper

63 100

41 0.2 62.6 93.8#

62 18.8 51.0 76.6#



#44

2,2,4-Trimethylpentane

Concen: 0.051 ppbv

RT: 4.622 min Scan# 1401

Delta R.T. -0.003 min

Lab File: VL043320.D

Acq: 08 Dec 2025 19:21

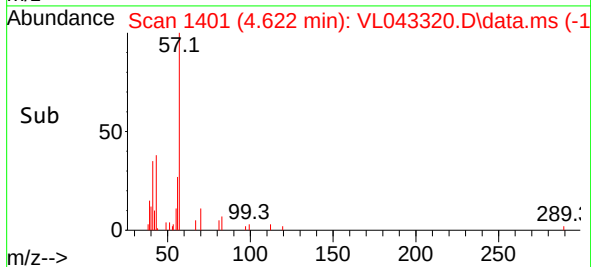
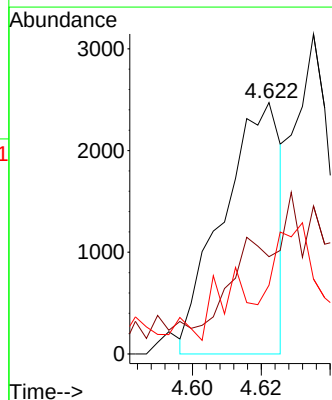
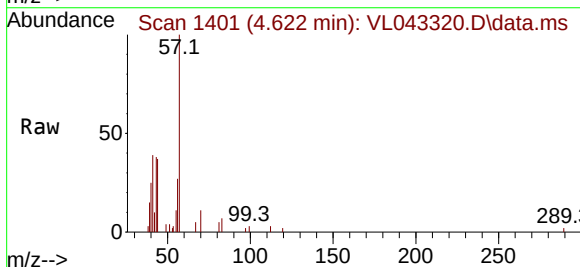
Tgt Ion: 57 Resp: 2881

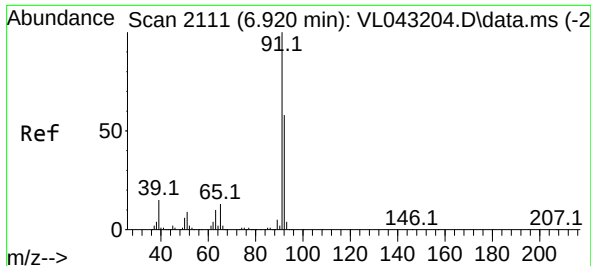
Ion Ratio Lower Upper

57 100

41 0.0 28.0 42.0#

56 0.0 25.6 38.4#

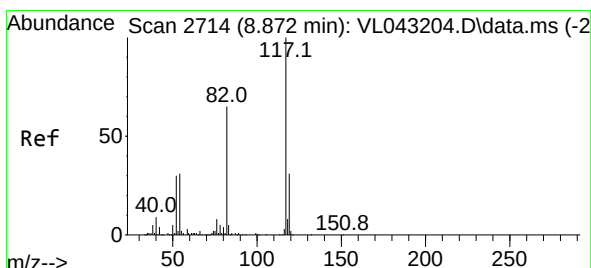
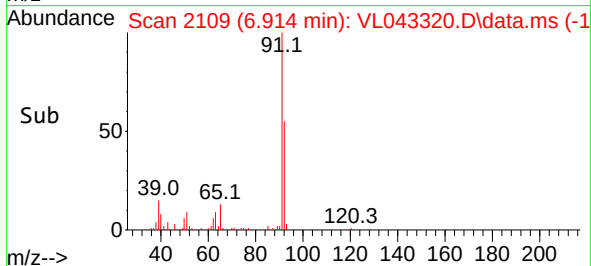
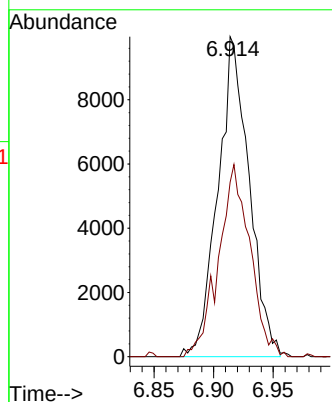
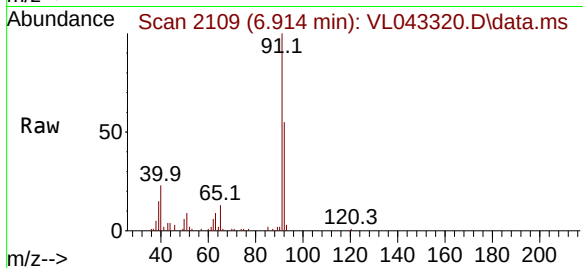




#53
Toluene
Concen: 0.465 ppbv
RT: 6.914 min Scan# 2111
Delta R.T. -0.007 min
Lab File: VL043320.D
Acq: 08 Dec 2025 19:21

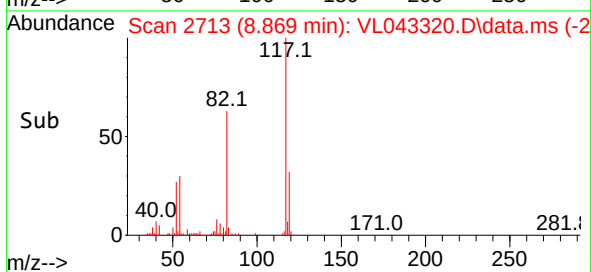
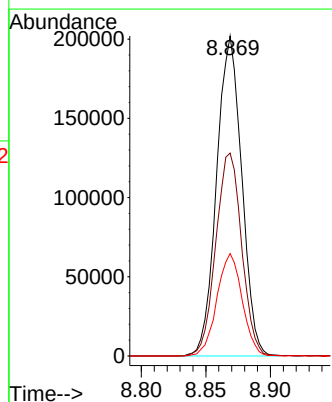
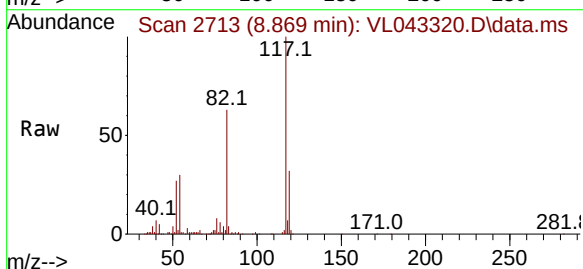
Instrument :
MSVOA_L
ClientSampleId :
IA1

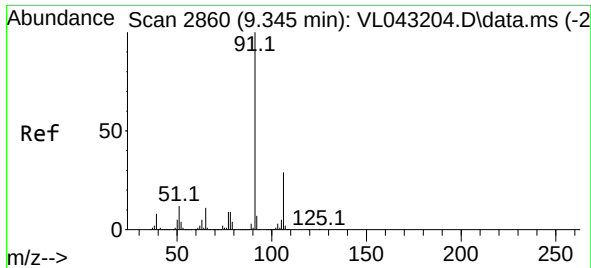
Tgt Ion: 91 Resp: 18124
Ion Ratio Lower Upper
91 100
92 60.9 47.4 71.0



#55
Chlorobenzene-d5
Concen: 10.000 ppbv
RT: 8.869 min Scan# 2713
Delta R.T. -0.003 min
Lab File: VL043320.D
Acq: 08 Dec 2025 19:21

Tgt Ion: 117 Resp: 273285
Ion Ratio Lower Upper
117 100
82 65.2 56.1 84.1
119 32.2 25.0 37.6

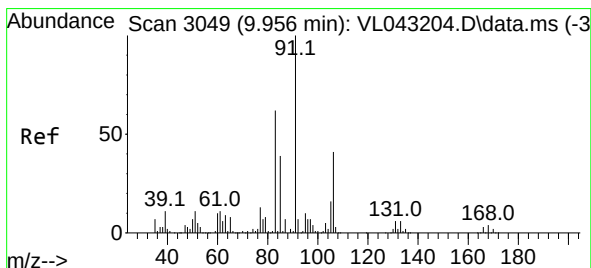
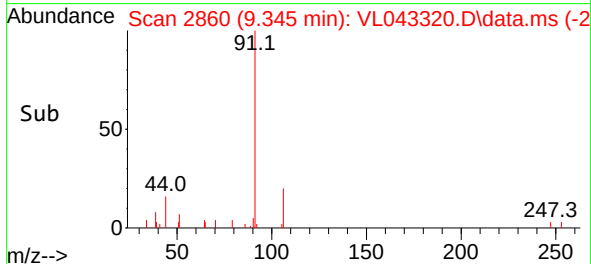
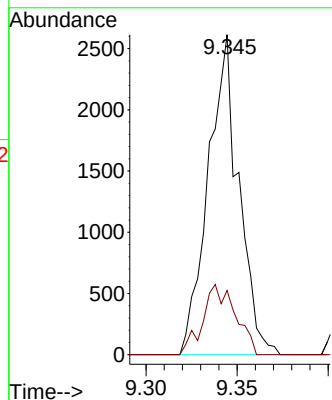
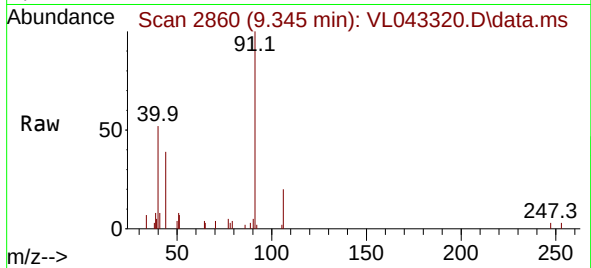




#58
Ethyl Benzene
Concen: 0.058 ppbv
RT: 9.345 min Scan# 2860
Delta R.T. -0.000 min
Lab File: VL043320.D
Acq: 08 Dec 2025 19:21

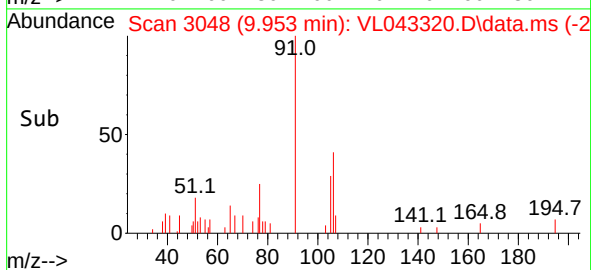
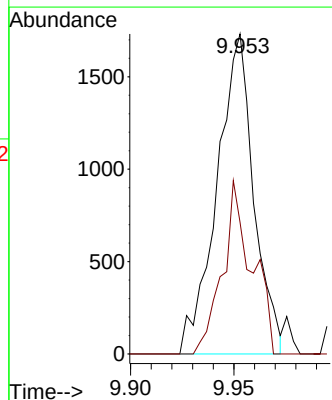
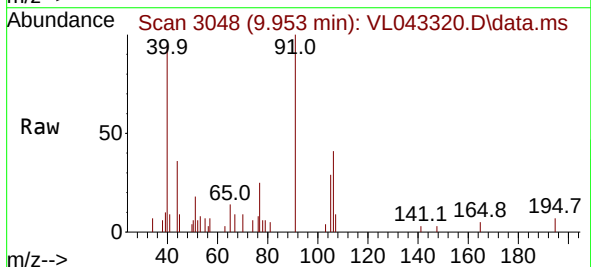
Instrument :
MSVOA_1
ClientSampleId :
IA1

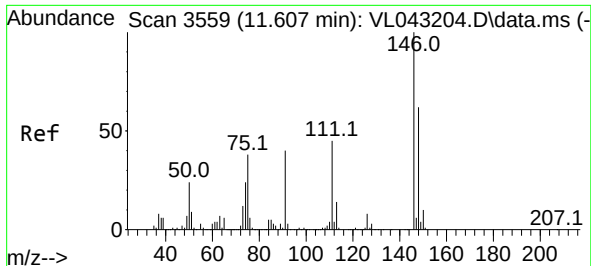
Tgt Ion: 91 Resp: 3053
Ion Ratio Lower Upper
91 100
106 20.1 22.8 34.2#



#60
o-Xylene
Concen: 0.051 ppbv
RT: 9.953 min Scan# 3048
Delta R.T. -0.003 min
Lab File: VL043320.D
Acq: 08 Dec 2025 19:21

Tgt Ion: 91 Resp: 2152
Ion Ratio Lower Upper
91 100
106 42.8 20.9 62.8

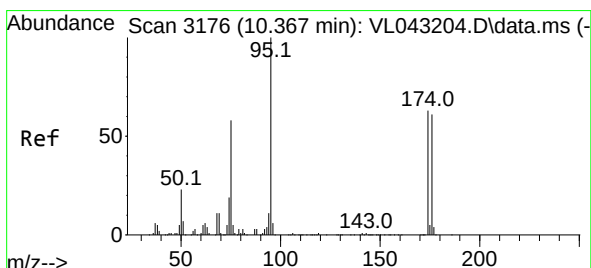
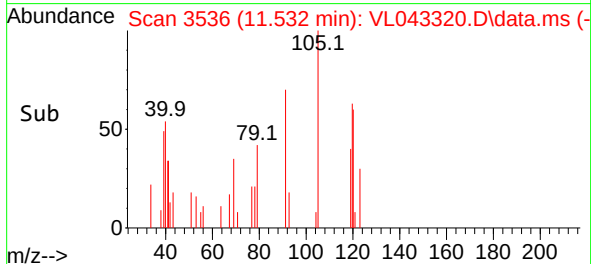
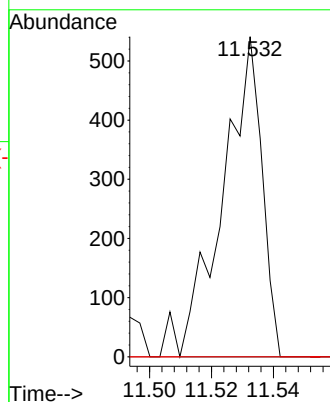
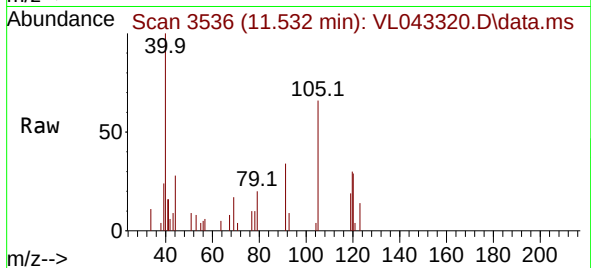




#66
Benzyl Chloride
Concen: 0.069 ppbv
RT: 11.532 min Scan# 31536
Delta R.T. -0.075 min
Lab File: VL043320.D
Acq: 08 Dec 2025 19:21

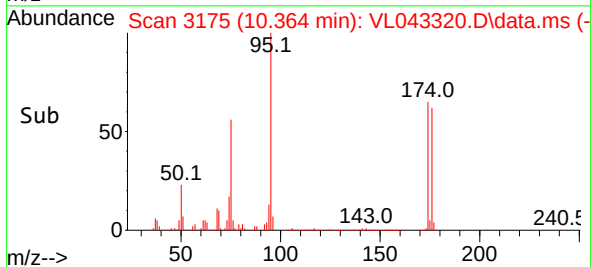
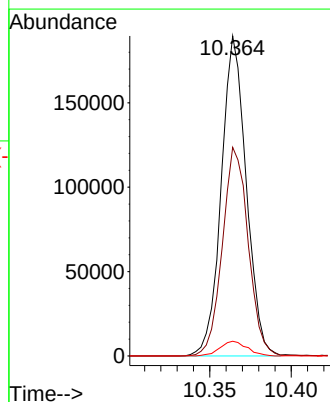
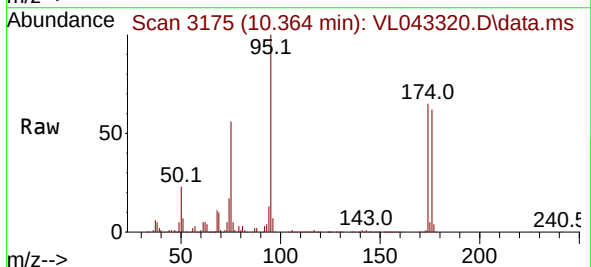
Instrument :
MSVOA_L
ClientSampleId :
IA1

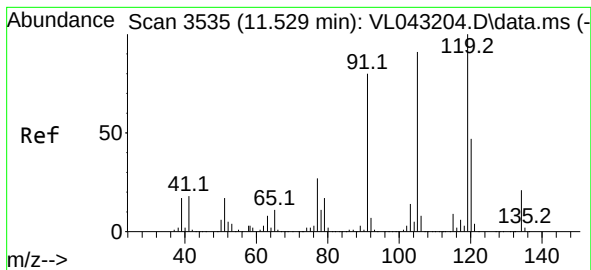
Tgt Ion: 91 Resp: 470
Ion Ratio Lower Upper
91 100
126 0.0 14.4 21.6#
128 0.0 4.6 6.8#



#68
1-Bromo-4-Fluorobenzene
Concen: 10.080 ppbv
RT: 10.364 min Scan# 3175
Delta R.T. -0.003 min
Lab File: VL043320.D
Acq: 08 Dec 2025 19:21

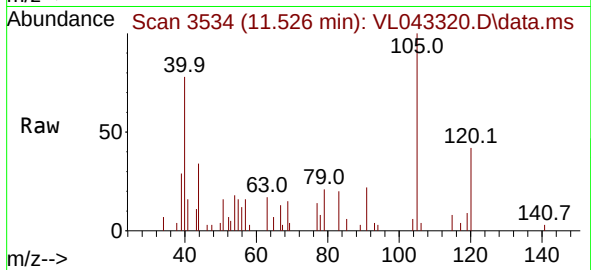
Tgt Ion: 95 Resp: 201922
Ion Ratio Lower Upper
95 100
174 67.5 50.2 75.2
175 5.0 4.1 6.1





#74
 1,2,4-Trimethylbenzene
 Concen: 0.033 ppbv
 RT: 11.526 min Scan# 31
 Delta R.T. -0.003 min
 Lab File: VL043320.D
 Acq: 08 Dec 2025 19:21

Instrument :
 MSVOA_L
 ClientSampleId :
 IA1



Tgt Ion:	105	Resp:	1531
Ion	Ratio	Lower	Upper
105	100		
120	42.2	41.7	62.5
91	22.2	70.0	105.0#
77	14.1	23.8	35.8#

