

Data Path : Z:\voasrv\HPCHEM1\MSVOA_L\Data\VL120825\
 Data File : VL043314.D
 Acq On : 08 Dec 2025 15:37
 Operator : SY/MD
 Sample : Q3799-04
 Misc : 400mL/MSVOA_L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 11-IA-1

Quant Time: Dec 09 00:12:22 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	138499	10.000	ppbv	0.00
33) 1,4-Difluorobenzene	3.946	114	354324	10.000	ppbv	0.00
55) Chlorobenzene-d5	8.869	117	279503	10.000	ppbv	0.00

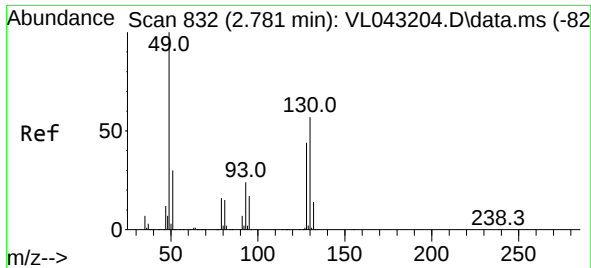
System Monitoring Compounds						
68) 1-Bromo-4-Fluorobenzene	10.364	95	214484	10.469	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	=	104.700%

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.496	85	7849	0.402	ppbv	96
3) Chlorodifluoromethane	1.473	51	9090	0.473	ppbv #	83
4) Chloromethane	1.531	50	3636	0.498	ppbv	94
9) Propene	1.483	41	6390	0.783	ppbv #	86
11) Trichlorofluoromethane	1.878	101	4305	0.227	ppbv	98
12) 1,1,2-Trichlorotrifluo...	2.140	101	1091	0.074	ppbv	100
13) Ethanol	1.722	45	1527543	532.508	ppbv	91
15) Acetone	1.832	43	153023	7.952	ppbv	100
16) 1,3-Butadiene	1.599	39	2201	0.257	ppbv #	29
17) tert-Butyl alcohol	2.040	59	3031	0.120	ppbv	100
19) Isopropyl Alcohol	1.884	45	507615	46.685	ppbv #	37
20) Methylene Chloride	2.059	84	6519	0.396	ppbv	88
21) Allyl Chloride	2.040	41	1053	0.081	ppbv #	21
23) Vinyl Acetate	2.447	43	4178	0.180	ppbv #	84
25) Ethyl Acetate	2.829	43	27132	0.654	ppbv #	95
26) Hexane	2.823	57	22119	1.216	ppbv #	58
29) Chloroform	2.845	83	1255	0.049	ppbv	93
34) 2-Butanone	2.554	43	8673	0.347	ppbv #	90
35) Carbon Tetrachloride	3.755	117	2524	0.094	ppbv #	86
36) Benzene	3.648	78	5240	0.154	ppbv	94
37) 1,2-Dichloroethane	3.205	62	720	0.036	ppbv #	80
39) 1,2-Dichloropropane	3.946	63	88097	7.094	ppbv #	23
52) Tetrachloroethene	8.205	164	443	0.035	ppbv #	53
53) Toluene	6.917	91	7807	0.194	ppbv #	70
58) Ethyl Benzene	9.345	91	2046	0.038	ppbv	93
60) o-Xylene	9.953	91	1391	0.032	ppbv	78
74) 1,2,4-Trimethylbenzene	11.523	105	2617	0.054	ppbv #	46
79) Naphthalene	13.507	128	5897	0.138	ppbv #	1

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

Quant Time: Dec 09 00:12:22 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_L\methods\VL111825AIR.M
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_LFri Aug 26 06:05:16 2022
QLast Update : Wed Nov 19 01:11:25 2025
Response via : Initial Calibration

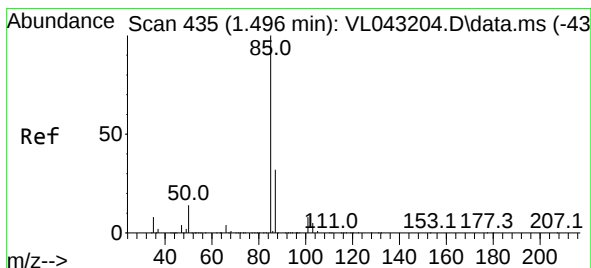
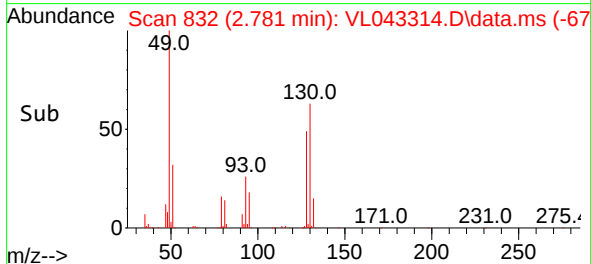
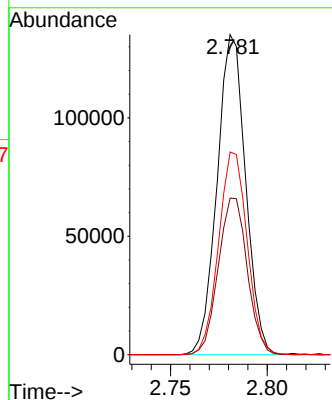
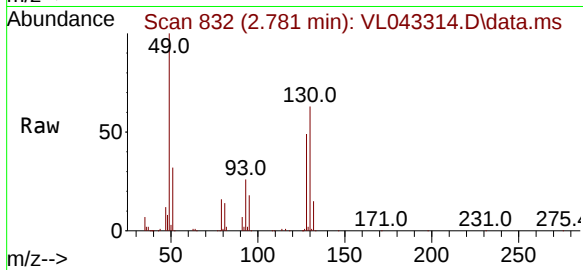




#1
Bromochloromethane
Concen: 10.000 ppbv
RT: 2.781 min Scan# 811
Delta R.T. -0.000 min
Lab File: VL043314.D
Acq: 08 Dec 2025 15:37

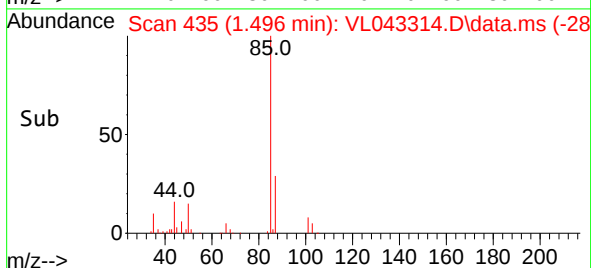
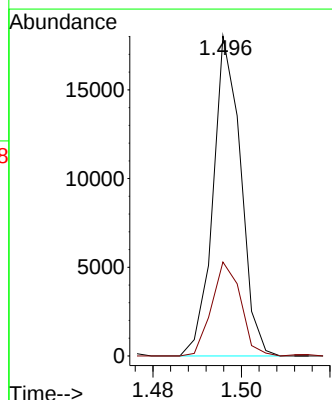
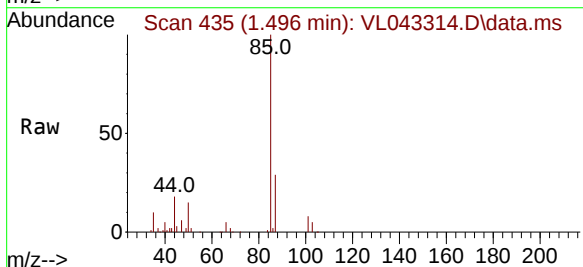
Instrument :
MSVOA_L
ClientSampleId :
11-IA-1

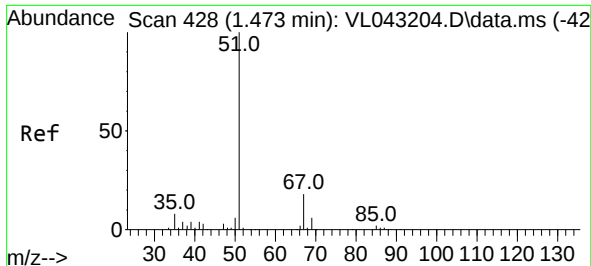
Tgt Ion: 49 Resp: 138499
Ion Ratio Lower Upper
49 100
128 49.7 23.0 69.0
130 63.4 29.9 89.7



#2
Dichlorodifluoromethane
Concen: 0.402 ppbv
RT: 1.496 min Scan# 435
Delta R.T. -0.000 min
Lab File: VL043314.D
Acq: 08 Dec 2025 15:37

Tgt Ion: 85 Resp: 7849
Ion Ratio Lower Upper
85 100
87 29.4 25.4 38.2

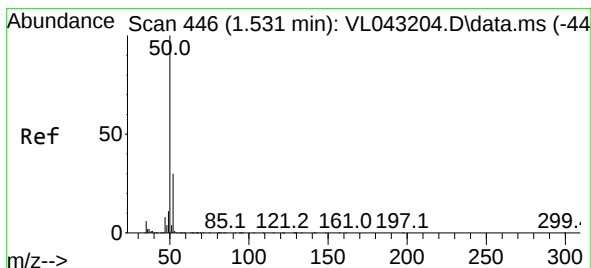
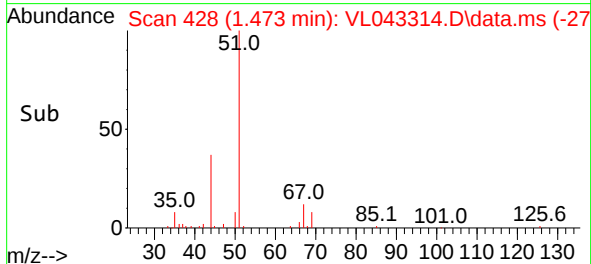
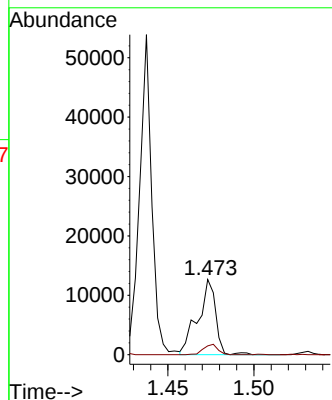
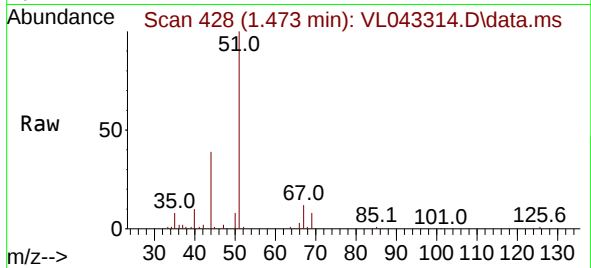




#3
Chlorodifluoromethane
Concen: 0.473 ppbv
RT: 1.473 min Scan# 411
Delta R.T. -0.000 min
Lab File: VL043314.D
Acq: 08 Dec 2025 15:37

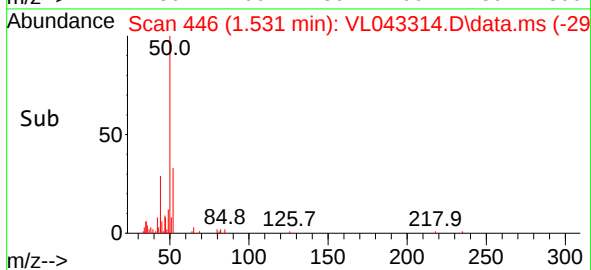
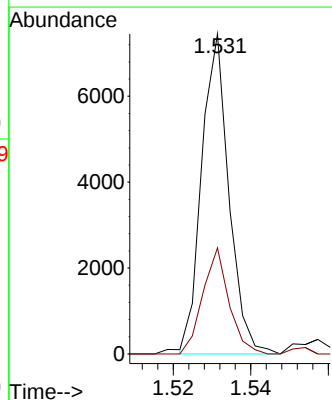
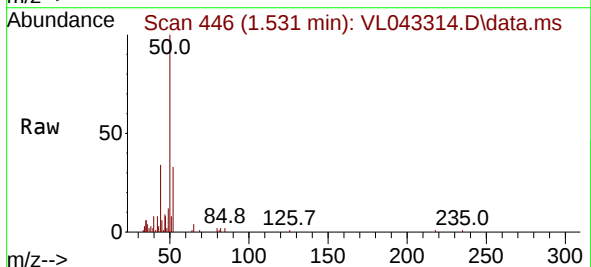
Instrument :
MSVOA_L
ClientSampleId :
11-IA-1

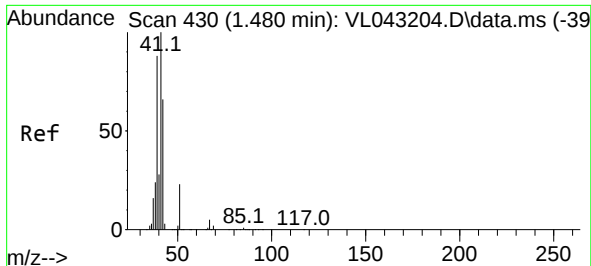
Tgt Ion: 51 Resp: 9090
Ion Ratio Lower Upper
51 100
67 11.0 14.9 22.3#



#4
Chloromethane
Concen: 0.498 ppbv
RT: 1.531 min Scan# 446
Delta R.T. -0.000 min
Lab File: VL043314.D
Acq: 08 Dec 2025 15:37

Tgt Ion: 50 Resp: 3636
Ion Ratio Lower Upper
50 100
52 33.1 24.1 36.1





#9

Propene

Concen: 0.783 ppbv

RT: 1.483 min Scan# 41

Delta R.T. 0.003 min

Lab File: VL043314.D

Acq: 08 Dec 2025 15:37

Instrument :

MSVOA_L

ClientSampleId :

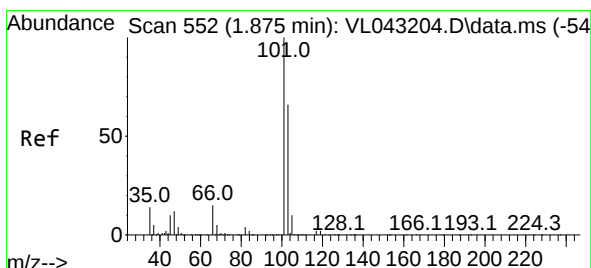
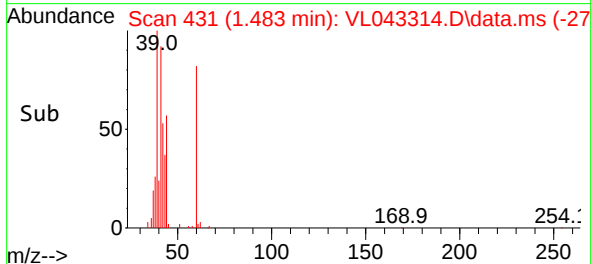
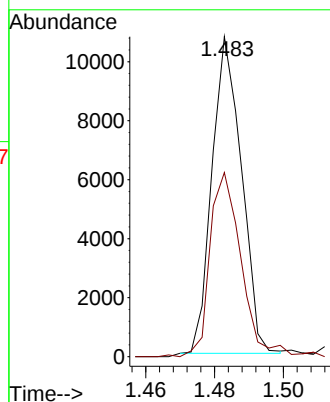
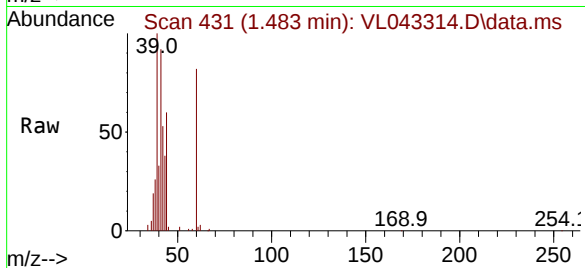
11-IA-1

Tgt Ion: 41 Resp: 6390

Ion Ratio Lower Upper

41 100

42 0.0 3.7 5.5#



#11

Trichlorofluoromethane

Concen: 0.227 ppbv

RT: 1.878 min Scan# 553

Delta R.T. 0.003 min

Lab File: VL043314.D

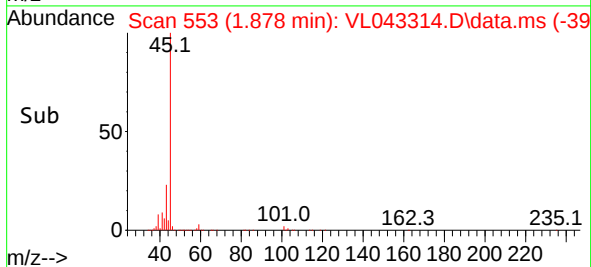
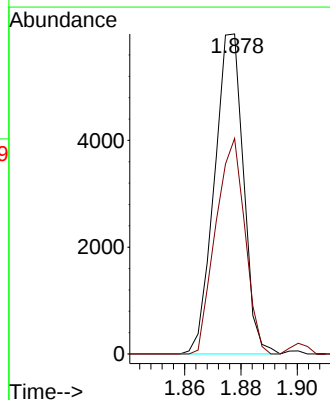
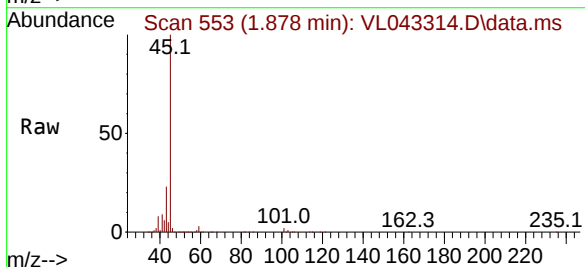
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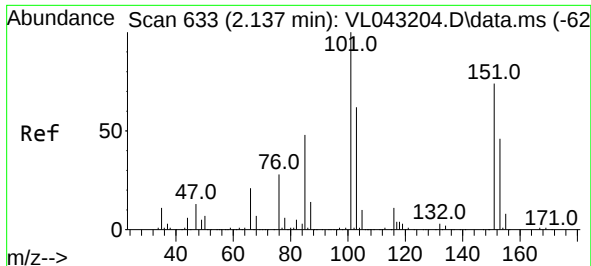
Tgt Ion: 101 Resp: 4305

Ion Ratio Lower Upper

101 100

103 67.4 52.6 79.0

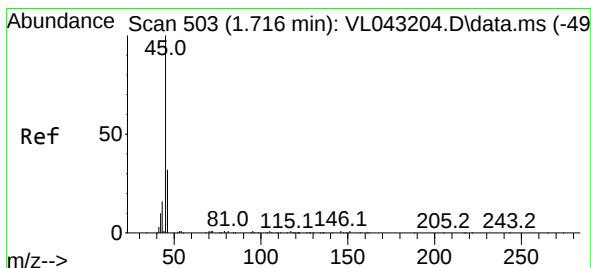
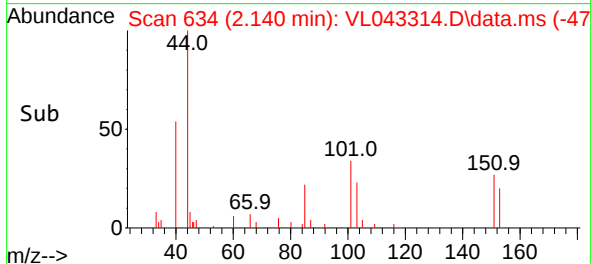
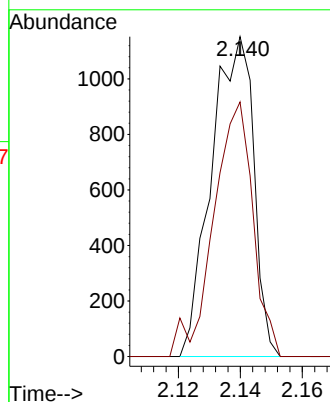
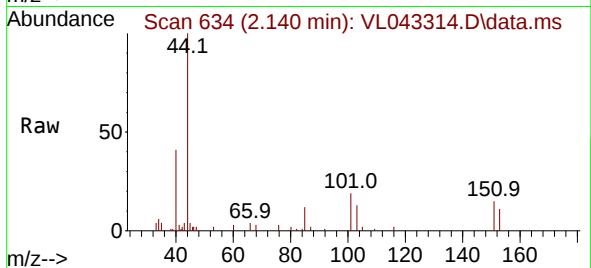




#12
1,1,2-Trichlorotrifluoroethane
Concen: 0.074 ppbv
RT: 2.140 min Scan# 611
Delta R.T. 0.003 min
Lab File: VL043314.D
Acq: 08 Dec 2025 15:37

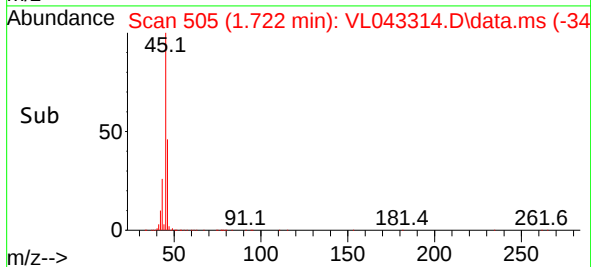
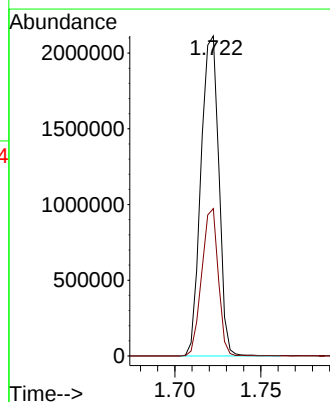
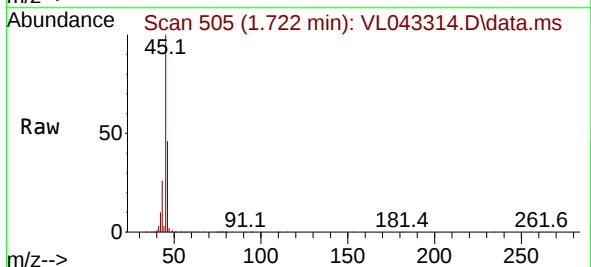
Instrument :
MSVOA_L
ClientSampleId :
11-IA-1

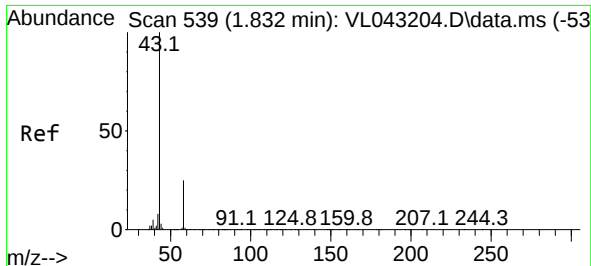
Tgt Ion:101 Resp: 1091
Ion Ratio Lower Upper
101 100
151 74.1 59.2 88.8



#13
Ethanol
Concen: 532.508 ppbv
RT: 1.722 min Scan# 505
Delta R.T. 0.006 min
Lab File: VL043314.D
Acq: 08 Dec 2025 15:37

Tgt Ion: 45 Resp: 1527543
Ion Ratio Lower Upper
45 100
46 42.8 15.0 59.8

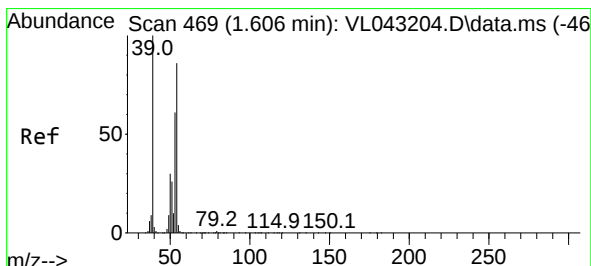
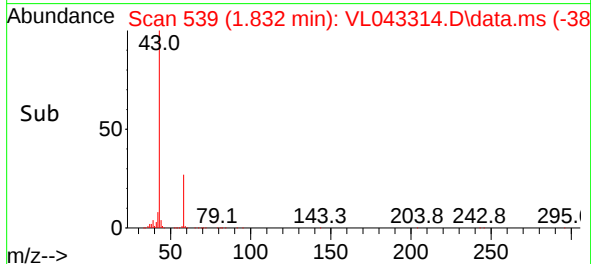
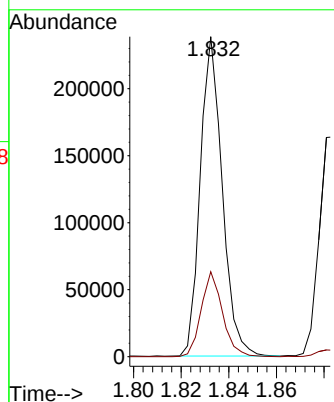
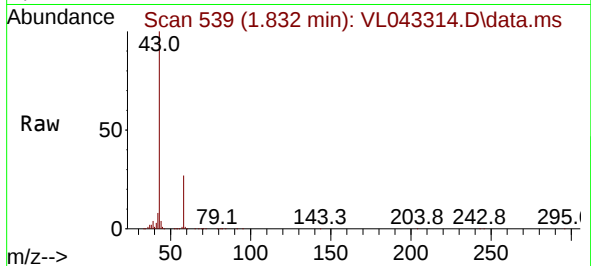




#15
Acetone
Concen: 7.952 ppbv
RT: 1.832 min Scan# 511
Delta R.T. -0.000 min
Lab File: VL043314.D
Acq: 08 Dec 2025 15:37

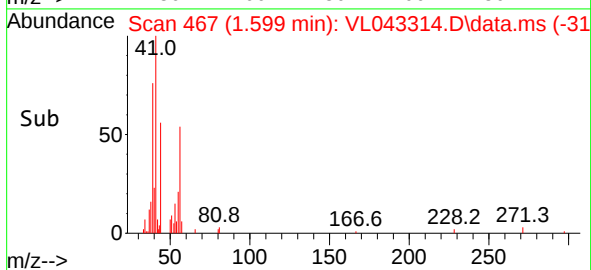
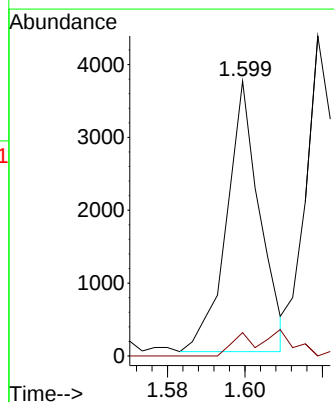
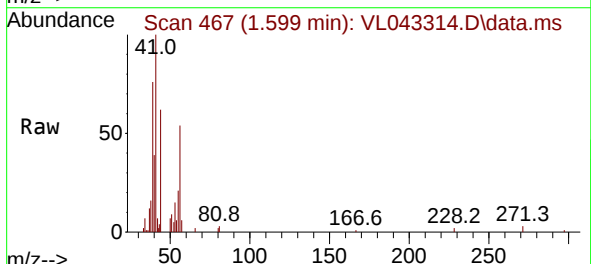
Instrument :
MSVOA_L
ClientSampleId :
11-IA-1

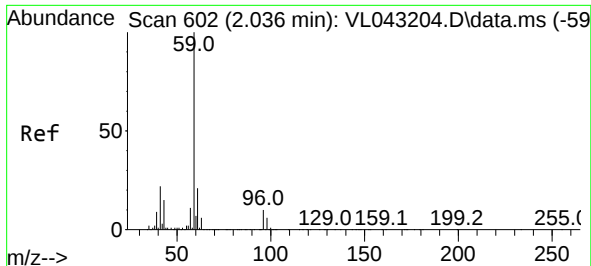
Tgt Ion: 43 Resp: 153023
Ion Ratio Lower Upper
43 100
58 25.9 20.7 31.1



#16
1,3-Butadiene
Concen: 0.257 ppbv
RT: 1.599 min Scan# 467
Delta R.T. -0.006 min
Lab File: VL043314.D
Acq: 08 Dec 2025 15:37

Tgt Ion: 39 Resp: 2201
Ion Ratio Lower Upper
39 100
54 14.1 59.4 89.2#





#17

tert-Butyl alcohol

Concen: 0.120 ppbv

RT: 2.040 min Scan# 602

Delta R.T. 0.003 min

Lab File: VL043314.D

Acq: 08 Dec 2025 15:37

Instrument :

MSVOA_L

ClientSampleId :

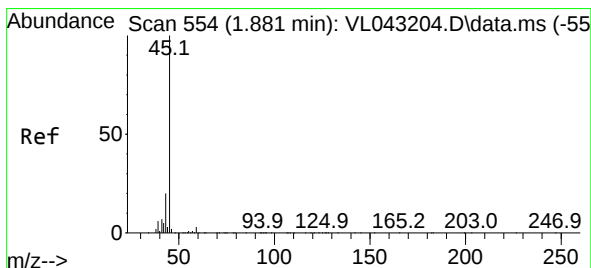
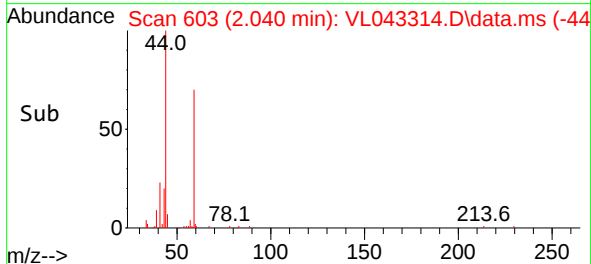
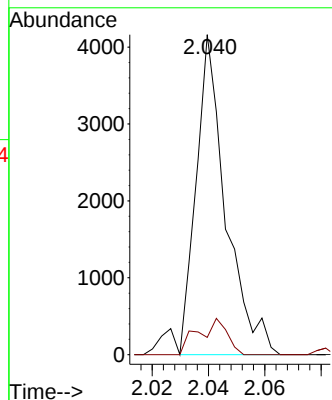
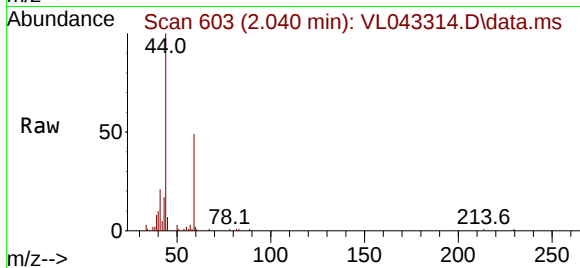
11-IA-1

Tgt Ion: 59 Resp: 3031

Ion Ratio Lower Upper

59 100

57 11.1 9.0 13.4



#19

Isopropyl Alcohol

Concen: 46.685 ppbv

RT: 1.884 min Scan# 555

Delta R.T. 0.003 min

Lab File: VL043314.D

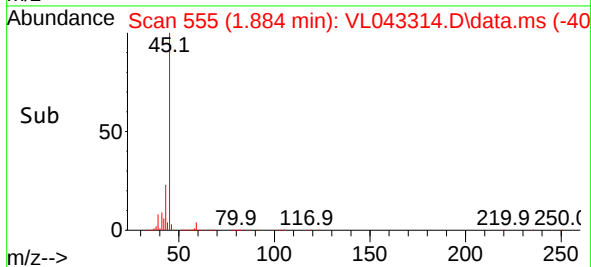
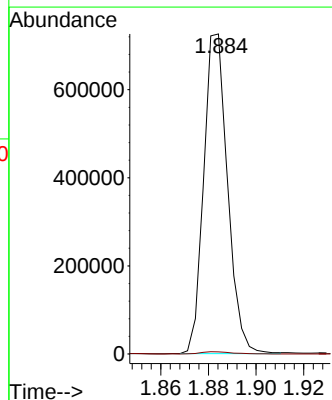
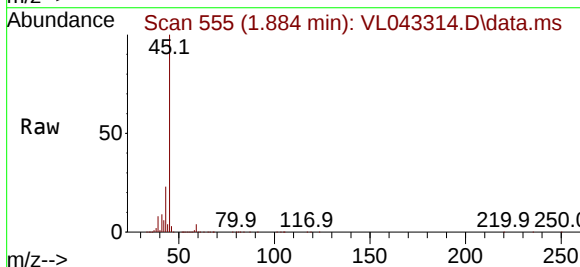
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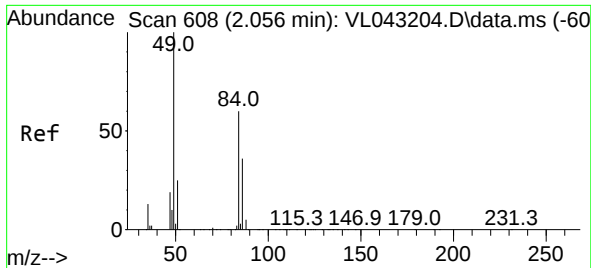
Tgt Ion: 45 Resp: 507615

Ion Ratio Lower Upper

45 100

58 0.9 31.3 46.9#

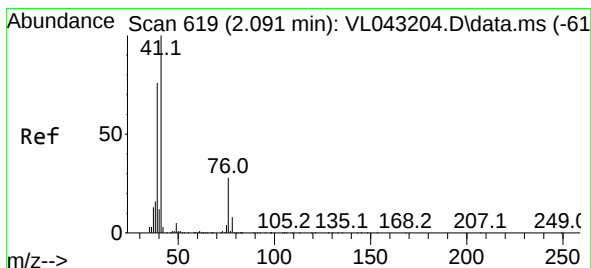
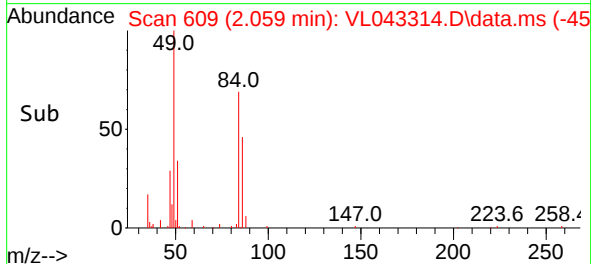
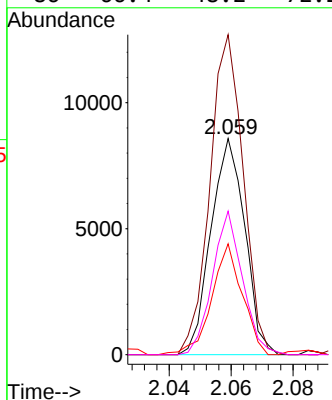
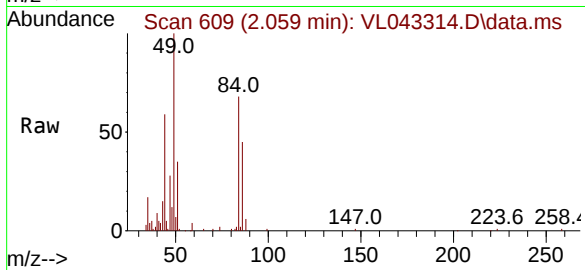




#20
Methylene Chloride
Concen: 0.396 ppbv
RT: 2.059 min Scan# 608
Delta R.T. 0.003 min
Lab File: VL043314.D
Acq: 08 Dec 2025 15:37

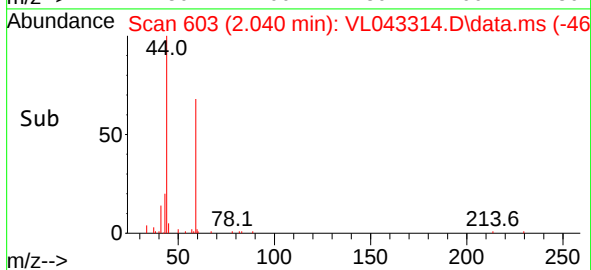
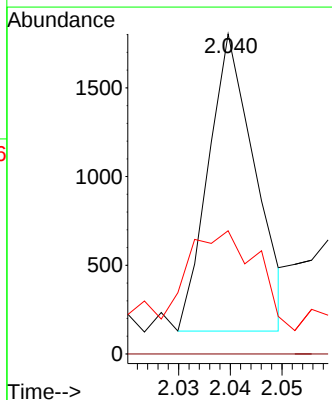
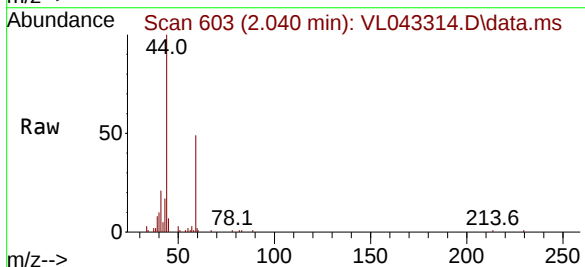
Instrument :
MSVOA_1
ClientSampleId :
11-IA-1

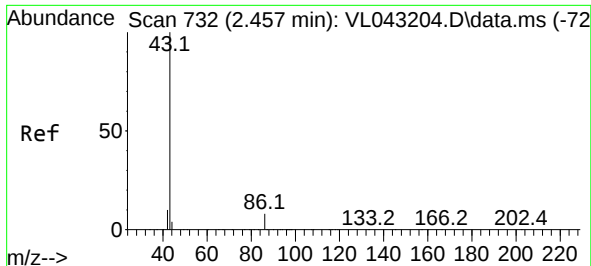
Tgt Ion:	84	Resp:	6519
Ion	Ratio	Lower	Upper
84	100		
49	148.0	132.9	199.3
51	51.3	34.8	52.2
86	66.4	48.2	72.2



#21
Allyl Chloride
Concen: 0.081 ppbv
RT: 2.040 min Scan# 603
Delta R.T. -0.052 min
Lab File: VL043314.D
Acq: 08 Dec 2025 15:37

Tgt Ion:	41	Resp:	1053
Ion	Ratio	Lower	Upper
41	100		
76	0.0	22.1	33.1#
39	0.0	61.0	91.4#



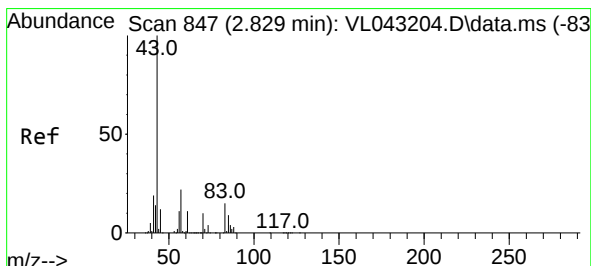
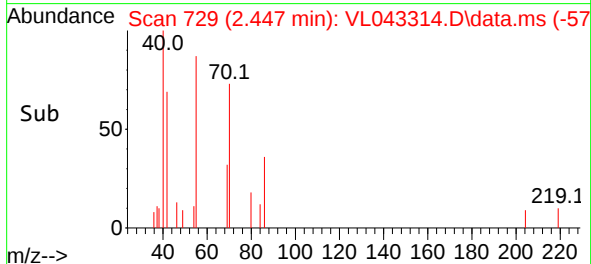
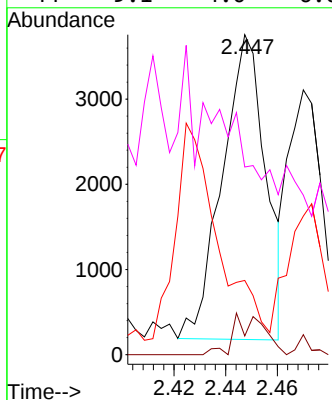
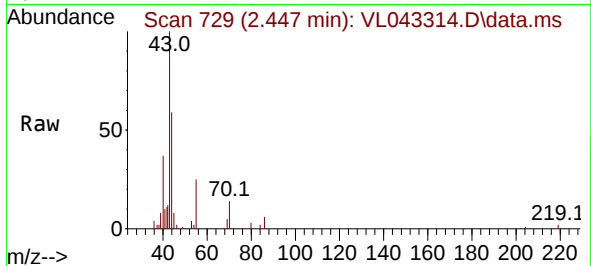


#23
 Vinyl Acetate
 Concen: 0.180 ppbv
 RT: 2.447 min Scan# 71
 Delta R.T. -0.010 min
 Lab File: VL043314.D
 Acq: 08 Dec 2025 15:37

Instrument :
 MSVOA_1
 ClientSampleId :
 11-IA-1

Tgt Ion: 43 Resp: 4178

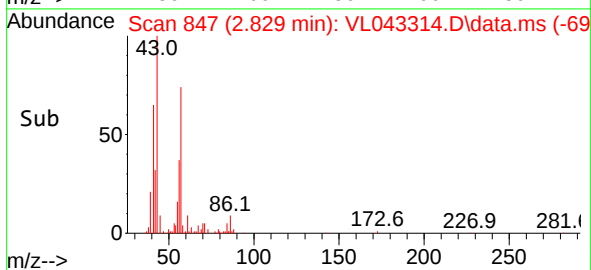
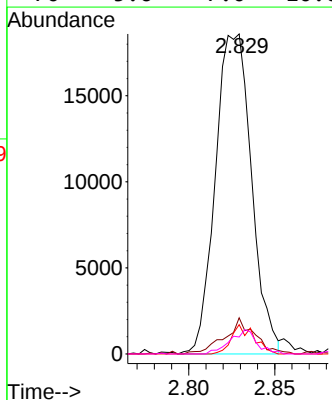
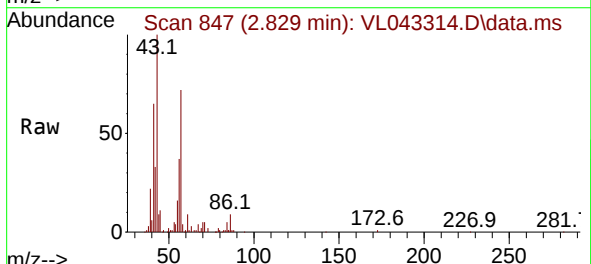
Ion	Ratio	Lower	Upper
43	100		
86	6.2	6.2	9.2
42	0.0	8.0	12.0#
44	9.1	4.0	6.0#

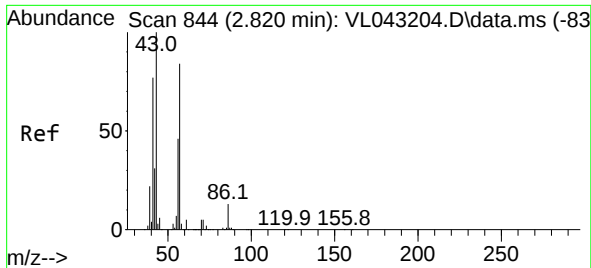


#25
 Ethyl Acetate
 Concen: 0.654 ppbv
 RT: 2.829 min Scan# 847
 Delta R.T. -0.000 min
 Lab File: VL043314.D
 Acq: 08 Dec 2025 15:37

Tgt Ion: 43 Resp: 27132

Ion	Ratio	Lower	Upper
43	100		
45	10.0	8.1	12.1
61	5.8	7.0	10.4#
70	5.6	7.0	10.6#

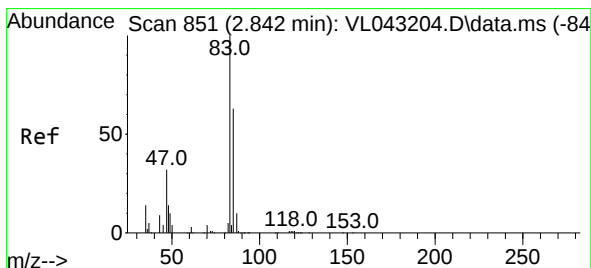
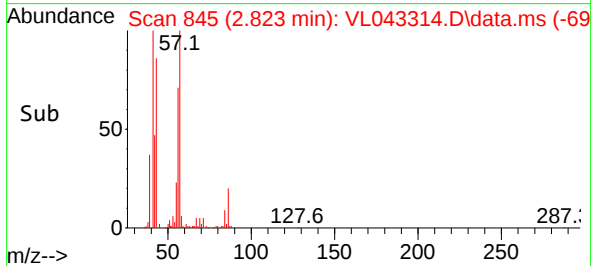
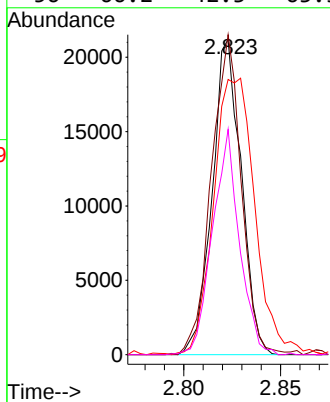
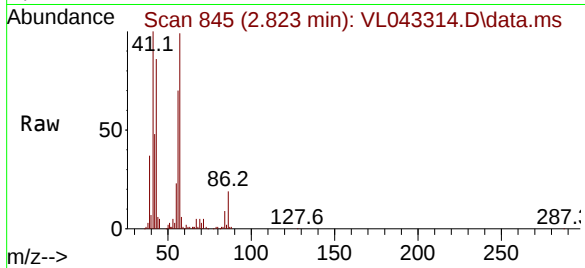




#26
Hexane
Concen: 1.216 ppbv
RT: 2.823 min Scan# 844
Delta R.T. 0.003 min
Lab File: VL043314.D
Acq: 08 Dec 2025 15:37

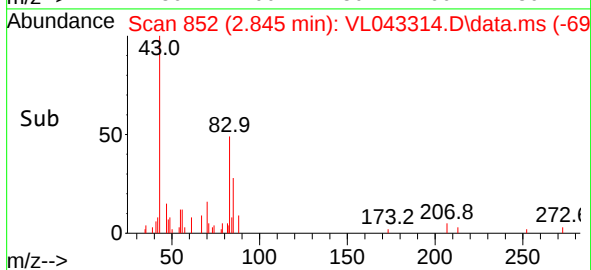
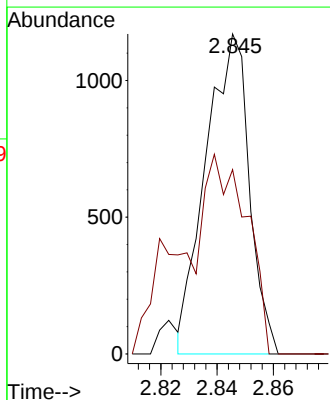
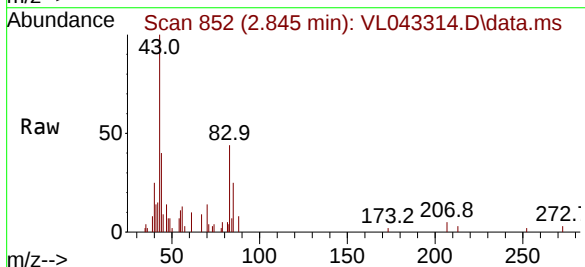
Instrument :
MSVOA_L
ClientSampleId :
11-IA-1

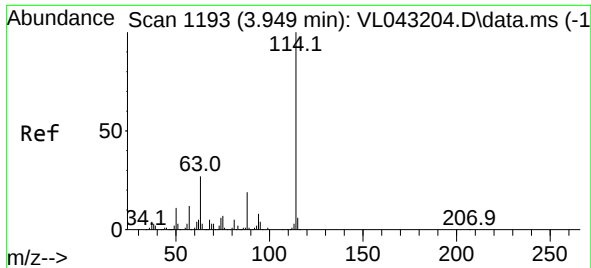
Tgt Ion: 57 Resp: 22119
Ion Ratio Lower Upper
57 100
41 104.5 74.6 111.8
43 125.3 179.0 268.4#
56 66.2 42.3 63.5#



#29
Chloroform
Concen: 0.049 ppbv
RT: 2.845 min Scan# 852
Delta R.T. 0.003 min
Lab File: VL043314.D
Acq: 08 Dec 2025 15:37

Tgt Ion: 83 Resp: 1255
Ion Ratio Lower Upper
83 100
85 57.6 50.5 75.7

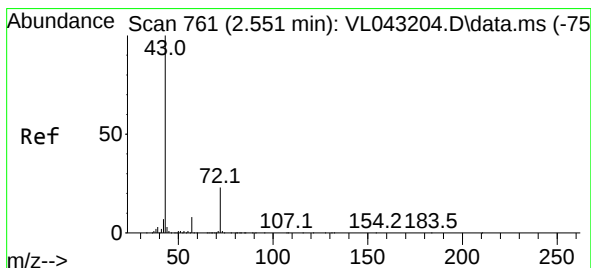
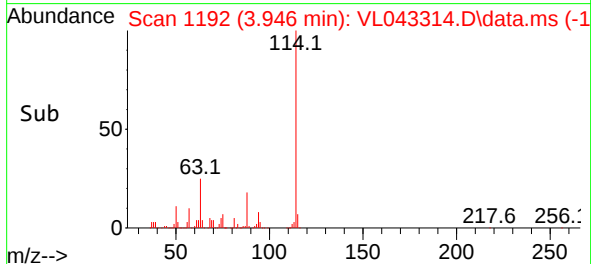
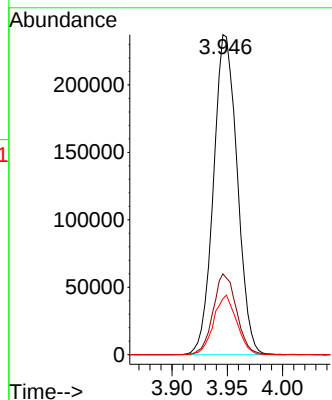
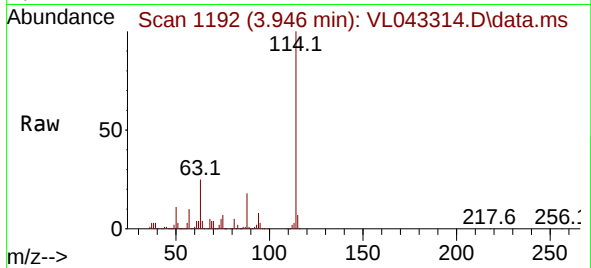




#33
 1,4-Difluorobenzene
 Concen: 10.000 ppbv
 RT: 3.946 min Scan# 1192
 Delta R.T. -0.003 min
 Lab File: VL043314.D
 Acq: 08 Dec 2025 15:37

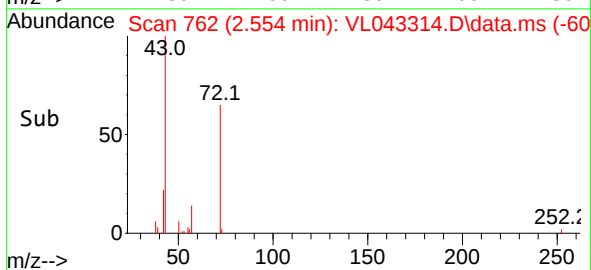
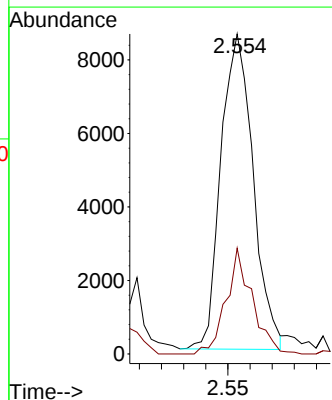
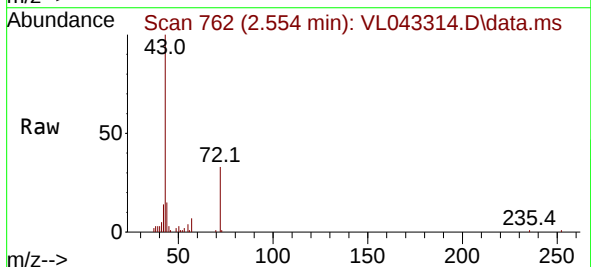
Instrument :
 MSVOA_1
 ClientSampleId :
 11-IA-1

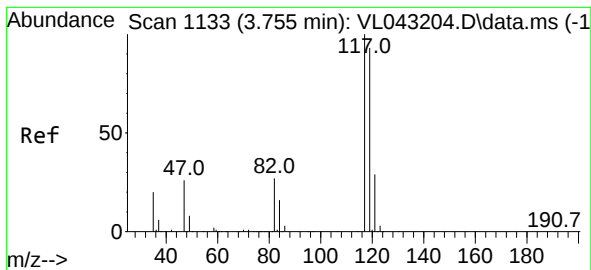
Tgt Ion:114 Resp: 354324
 Ion Ratio Lower Upper
 114 100
 63 24.9 21.0 31.6
 88 18.1 14.9 22.3



#34
 2-Butanone
 Concen: 0.347 ppbv
 RT: 2.554 min Scan# 762
 Delta R.T. 0.003 min
 Lab File: VL043314.D
 Acq: 08 Dec 2025 15:37

Tgt Ion: 43 Resp: 8673
 Ion Ratio Lower Upper
 43 100
 72 27.2 18.1 27.1#





#35

Carbon Tetrachloride

Concen: 0.094 ppbv

RT: 3.755 min Scan# 1133

Delta R.T. -0.000 min

Lab File: VL043314.D

Acq: 08 Dec 2025 15:37

Instrument :

MSVOA_L

ClientSampleId :

11-IA-1

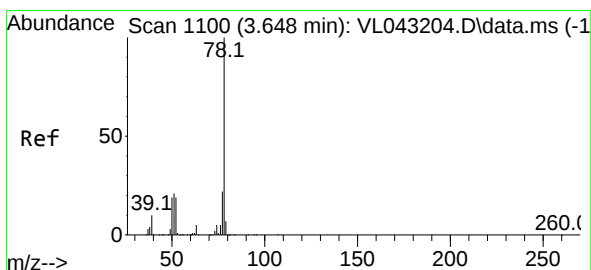
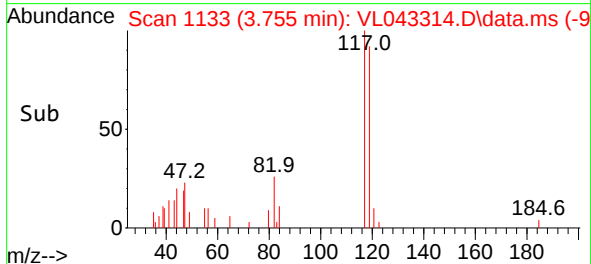
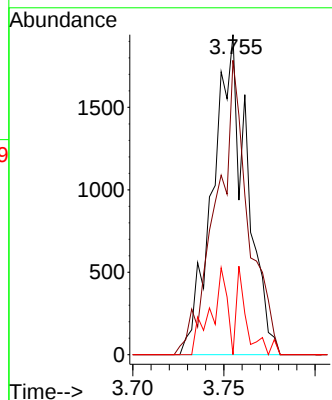
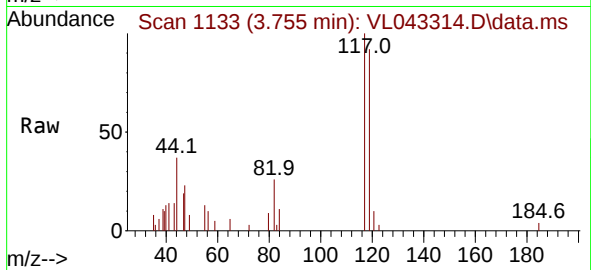
Tgt Ion:117 Resp: 2524

Ion Ratio Lower Upper

117 100

119 92.0 74.6 112.0

121 0.0 23.2 34.8#



#36

Benzene

Concen: 0.154 ppbv

RT: 3.648 min Scan# 1100

Delta R.T. -0.000 min

Lab File: VL043314.D

Acq: 08 Dec 2025 15:37

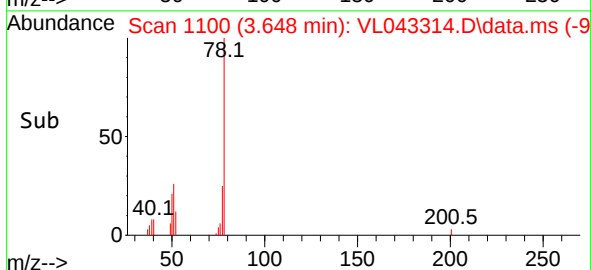
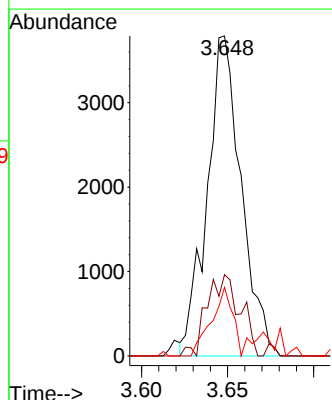
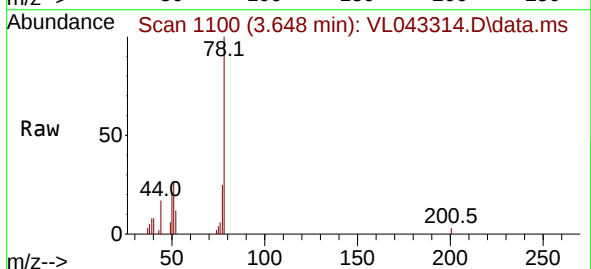
Tgt Ion: 78 Resp: 5240

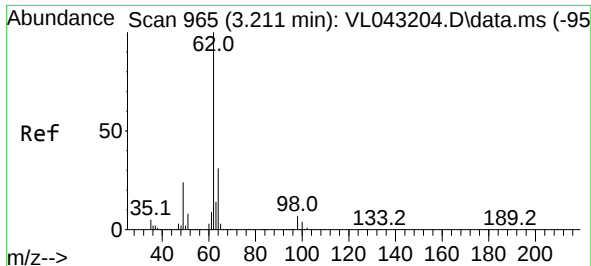
Ion Ratio Lower Upper

78 100

77 25.4 17.5 26.3

50 21.4 15.5 23.3





#37

1,2-Dichloroethane

Concen: 0.036 ppbv

RT: 3.205 min Scan# 91

Delta R.T. -0.006 min

Lab File: VL043314.D

Acq: 08 Dec 2025 15:37

Instrument :

MSVOA_L

ClientSampleId :

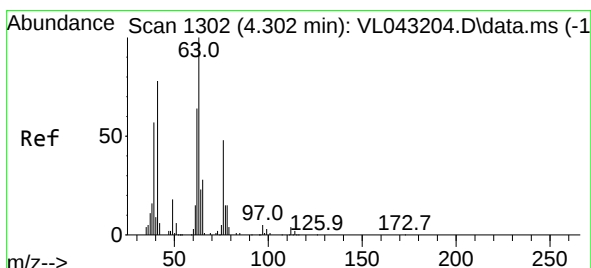
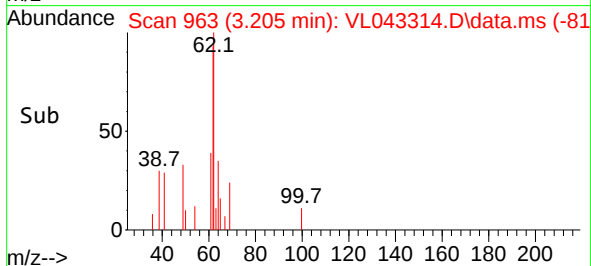
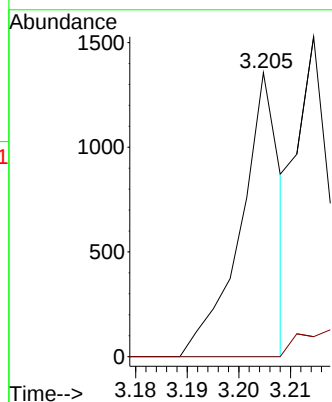
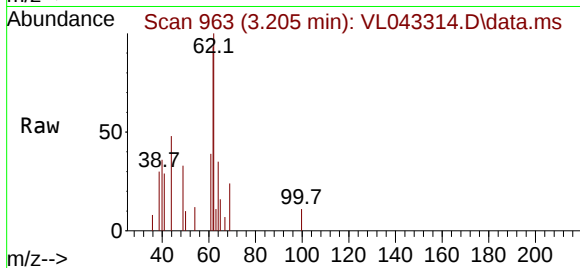
11-IA-1

Tgt Ion: 62 Resp: 720

Ion Ratio Lower Upper

62 100

98 0.0 5.5 8.3#



#39

1,2-Dichloropropane

Concen: 7.094 ppbv

RT: 3.946 min Scan# 1192

Delta R.T. -0.356 min

Lab File: VL043314.D

Acq: 08 Dec 2025 15:37

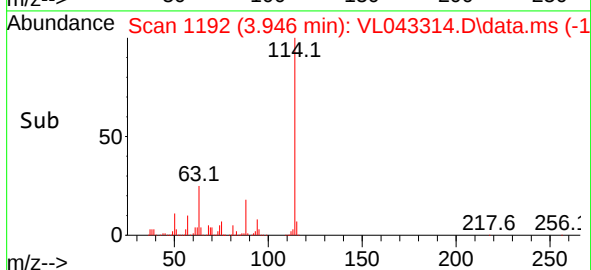
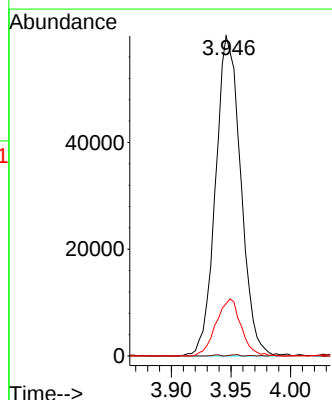
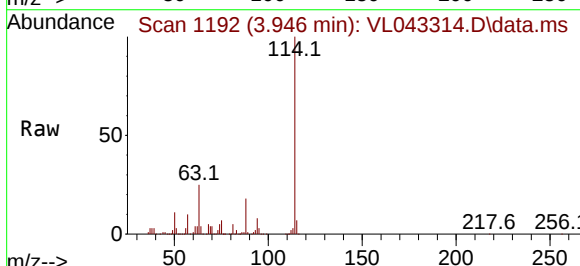
Tgt Ion: 63 Resp: 88097

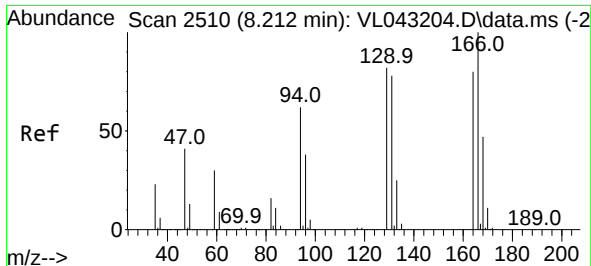
Ion Ratio Lower Upper

63 100

41 0.0 62.6 93.8#

62 16.4 51.0 76.6#

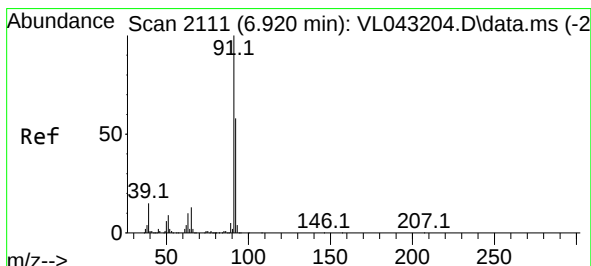
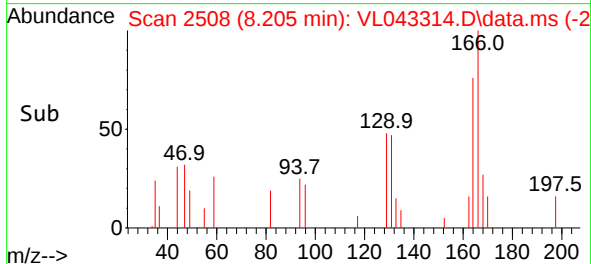
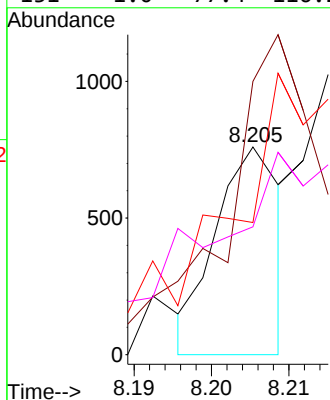
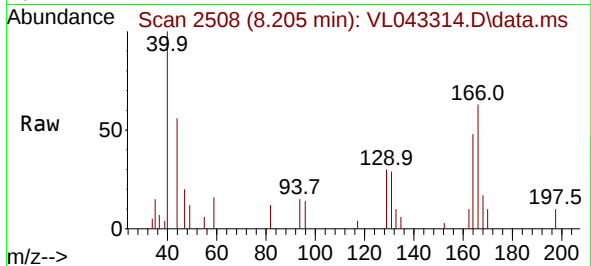




#52
Tetrachloroethene
Concen: 0.035 ppbv
RT: 8.205 min Scan# 2110
Delta R.T. -0.007 min
Lab File: VL043314.D
Acq: 08 Dec 2025 15:37

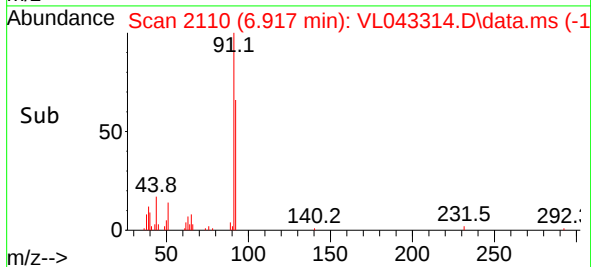
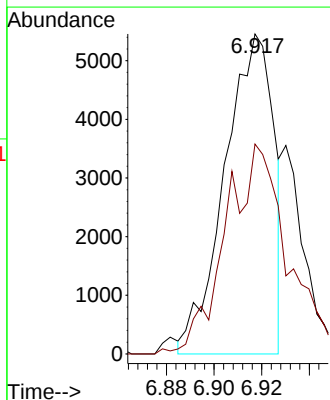
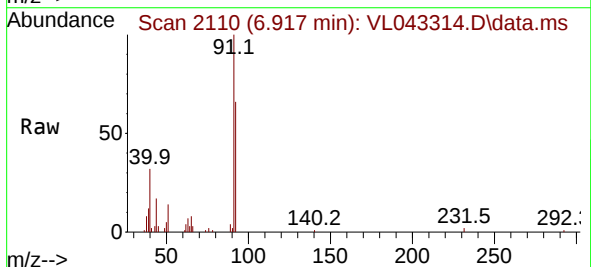
Instrument :
MSVOA_L
ClientSampleId :
11-IA-1

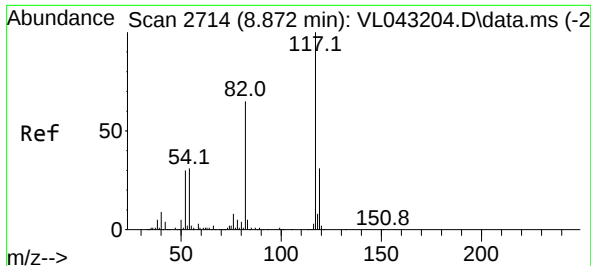
Tgt Ion:164	Resp:	443	
Ion	Ratio	Lower	Upper
164	100		
166	119.6	99.4	149.2
129	49.9	81.8	122.8#
131	1.0	77.4	116.2#



#53
Toluene
Concen: 0.194 ppbv
RT: 6.917 min Scan# 2110
Delta R.T. -0.003 min
Lab File: VL043314.D
Acq: 08 Dec 2025 15:37

Tgt Ion: 91	Resp: 7807
Ion Ratio	Lower Upper
91 100	
92 82.0	47.4 71.0#

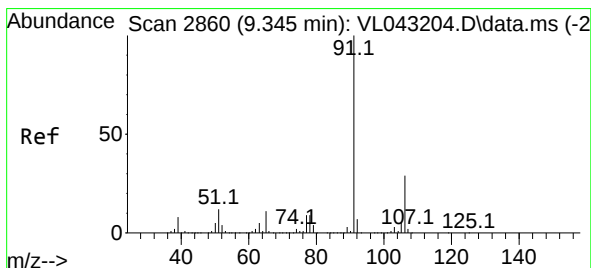
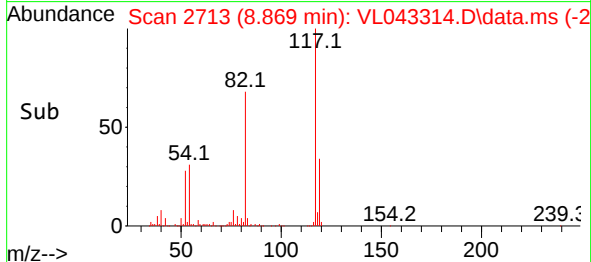
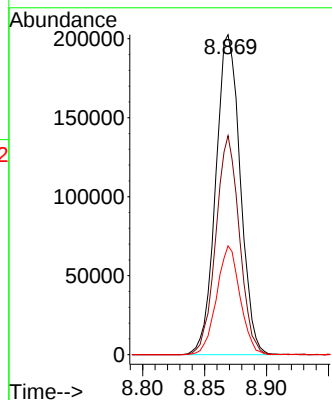
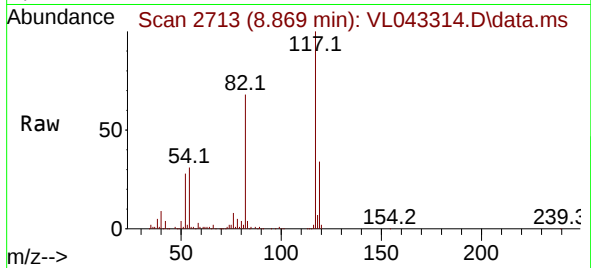




#55
Chlorobenzene-d5
Concen: 10.000 ppbv
RT: 8.869 min Scan# 21
Delta R.T. -0.003 min
Lab File: VL043314.D
Acq: 08 Dec 2025 15:37

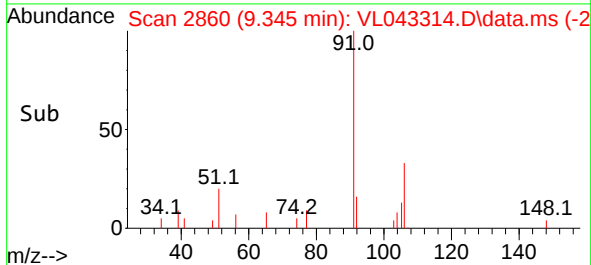
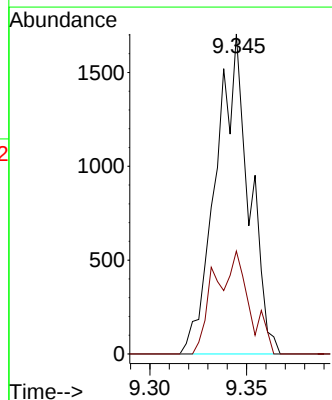
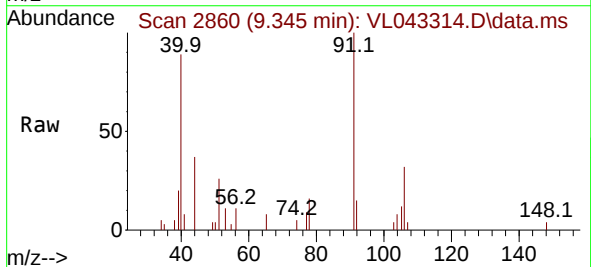
Instrument :
MSVOA_1
ClientSampleId :
11-IA-1

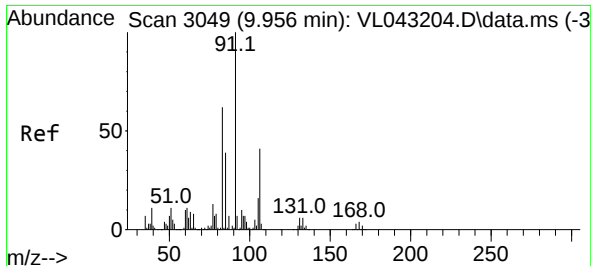
Tgt Ion:117 Resp: 279503
Ion Ratio Lower Upper
117 100
82 65.9 56.1 84.1
119 32.6 25.0 37.6



#58
Ethyl Benzene
Concen: 0.038 ppbv
RT: 9.345 min Scan# 2860
Delta R.T. -0.000 min
Lab File: VL043314.D
Acq: 08 Dec 2025 15:37

Tgt Ion: 91 Resp: 2046
Ion Ratio Lower Upper
91 100
106 32.1 22.8 34.2

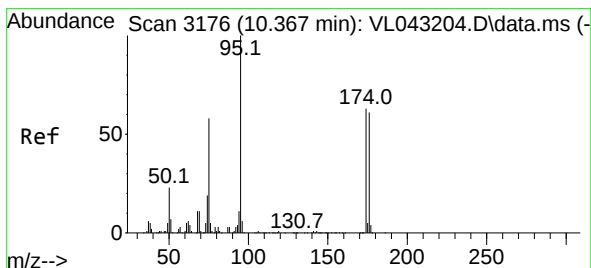
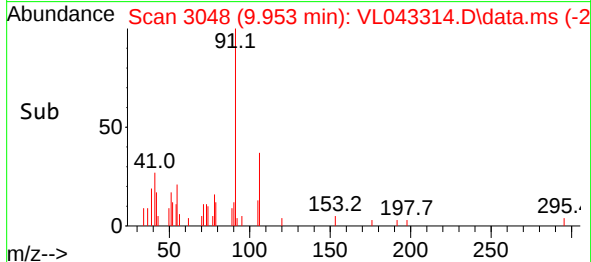
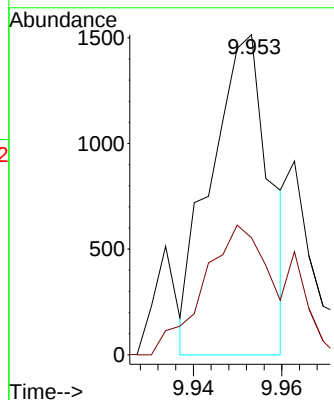
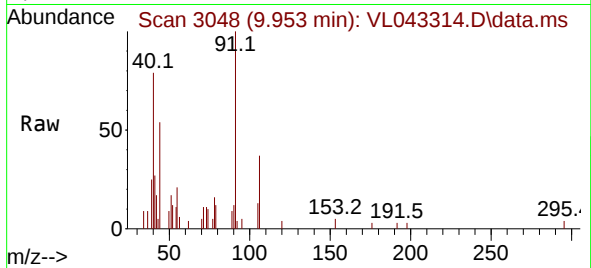




#60
o-Xylene
Concen: 0.032 ppbv
RT: 9.953 min Scan# 3049
Delta R.T. -0.003 min
Lab File: VL043314.D
Acq: 08 Dec 2025 15:37

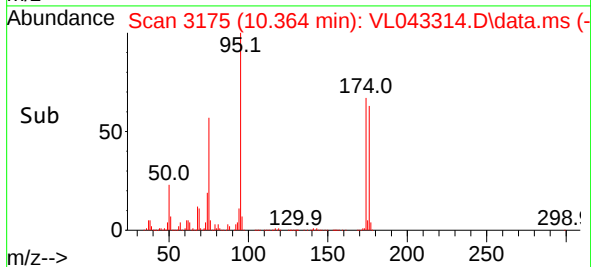
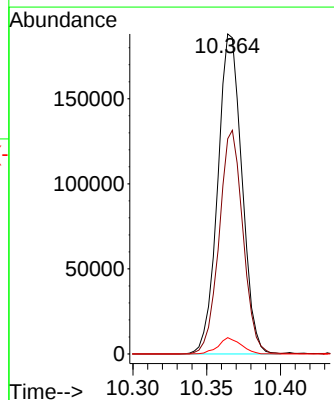
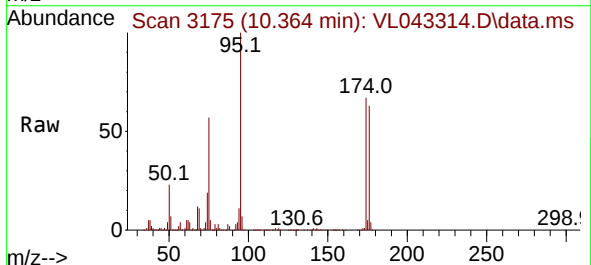
Instrument :
MSVOA_1
ClientSampleId :
11-IA-1

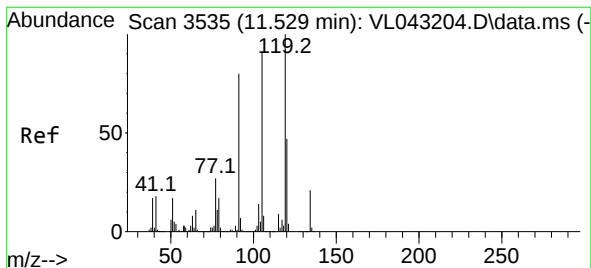
Tgt Ion: 91 Resp: 1391
Ion Ratio Lower Upper
91 100
106 55.5 20.9 62.8



#68
1-Bromo-4-Fluorobenzene
Concen: 10.469 ppbv
RT: 10.364 min Scan# 3175
Delta R.T. -0.003 min
Lab File: VL043314.D
Acq: 08 Dec 2025 15:37

Tgt Ion: 95 Resp: 214484
Ion Ratio Lower Upper
95 100
174 68.8 50.2 75.2
175 4.8 4.1 6.1





#74

1,2,4-Trimethylbenzene

Concen: 0.054 ppbv

RT: 11.523 min Scan# 3533

Delta R.T. -0.006 min

Lab File: VL043314.D

Acq: 08 Dec 2025 15:37

Instrument :

MSVOA_L

ClientSampleId :

11-IA-1

Tgt Ion:105 Resp: 2617

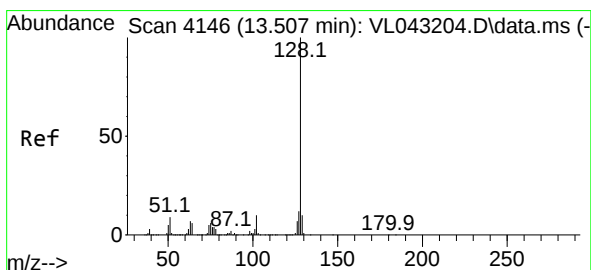
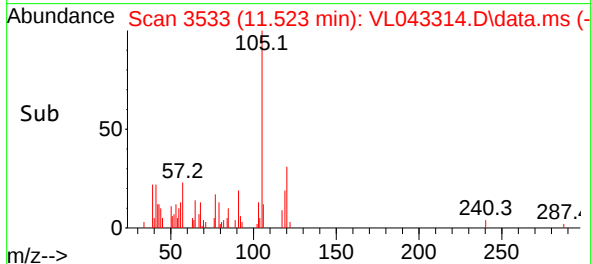
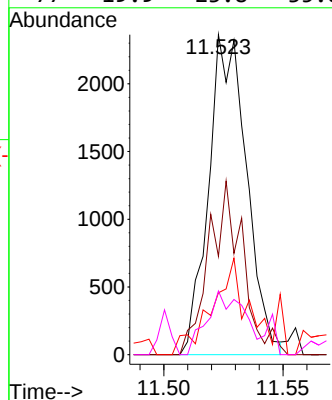
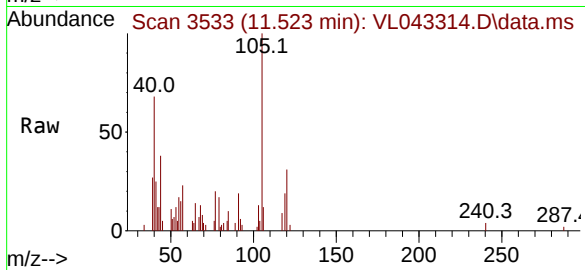
Ion Ratio Lower Upper

105 100

120 30.7 41.7 62.5#

91 13.4 70.0 105.0#

77 19.9 23.8 35.8#



#79

Naphthalene

Concen: 0.138 ppbv

RT: 13.507 min Scan# 4146

Delta R.T. -0.000 min

Lab File: VL043314.D

Acq: 08 Dec 2025 15:37

Tgt Ion:128 Resp: 5897

Ion Ratio Lower Upper

128 100

127 85.8 9.9 14.9#

129 6.9 8.4 12.6#

