

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL022421\
 Data File : VL036370.D
 Acq On : 25 Feb 2021 4:08
 Operator : SY/AP
 Sample : M1463-11
 Misc : 400ml/MSVOA L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 NS-5

Manual Integrations
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 2/26/2021 4:18:06 PM

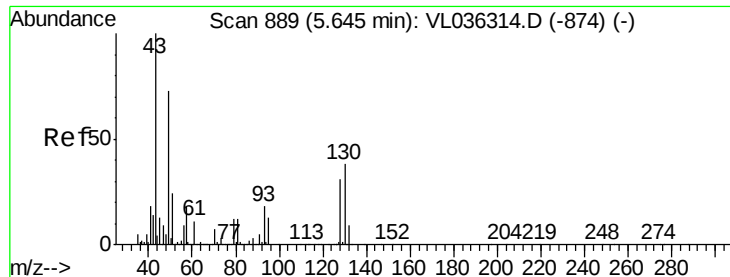
Quant Time: Feb 26 14:36:13 2021
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL021021AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_LWed Feb 10
 QLast Update : Wed Feb 10 16:04:02 2021
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	5.67	49	1628836	10.00	ppbv	0.03
33) 1,4-Difluorobenzene	7.19	114	3586217	10.00	ppbv	0.03
55) Chlorobenzene-d5	12.10	117	3345003	10.00	ppbv	0.04

System Monitoring Compounds		R.T.	QIon	Response	Conc	Units	Dev(Min)
68) 1-Bromo-4-Fluorobenzene	14.43	95	2670691	9.70	ppbv	0.04	
Spiked Amount	10.000	Range	65 - 135	Recovery	=	97.00%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Ovalue
2) Dichlorodifluoromethane	3.05	85	33081	0.136	ppbv	92
3) Chlorodifluoromethane	2.99	51	59217m	0.293	ppbv	
4) Chloromethane	3.15	50	57152m	0.585	ppbv	
9) Propene	3.02	41	114496	1.517	ppbv	85
10) Heptane	8.13	43	314356	1.414	ppbv	98
11) Trichlorofluoromethane	3.95	101	52533m	0.221	ppbv	
13) Ethanol	3.63	45	6148170	433.798	ppbv	89
15) Acetone	3.85	43	2816043	14.144	ppbv	100
17) tert-Butyl alcohol	4.32	59	101439	0.656	ppbv #	92
19) Isopropyl Alcohol	3.99	45	7352357	66.652	ppbv #	97
20) Methylene Chloride	4.35	84	97949m	1.525	ppbv	
26) Hexane	5.69	57	302955	1.918	ppbv #	50
27) Carbon Disulfide	4.56	76	102236	0.704	ppbv #	90
30) Cyclohexane	7.14	84	40864	0.311	ppbv	91
34) 2-Butanone	5.25	43	122294	0.513	ppbv	93
35) Carbon Tetrachloride	7.03	117	14936m	0.062	ppbv	
36) Benzene	6.90	78	181506	0.596	ppbv	94
44) 2,2,4-Trimethylpentane	7.88	57	1936906	3.497	ppbv	90
52) Tetrachloroethene	11.23	164	9992m	0.090	ppbv	
53) Toluene	9.82	91	2609929	7.910	ppbv	100
58) Ethyl Benzene	12.72	91	687645	1.501	ppbv	98
59) m/p-Xylene	12.98	91	1643353	4.085	ppbv	95
60) o-Xylene	13.70	91	617010	1.604	ppbv	99
62) Isopropylbenzene	14.68	105	107320	0.186	ppbv	100
64) n-propylbenzene	15.57	120	87196m	0.614	ppbv	
70) n-Butylbenzene	18.57	91	81299m	0.138	ppbv	
72) 4-Ethyltoluene	15.85	105	217836	0.509	ppbv #	97
73) 1,3,5-Trimethylbenzene	16.01	105	144267m	0.348	ppbv	
74) 1,2,4-Trimethylbenzene	16.77	105	733931	1.732	ppbv #	69

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



#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.67 min Scan# 897

Delta R.T. 0.03 min

Lab File: VL036370.D

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Instrument :

MSVOA_L

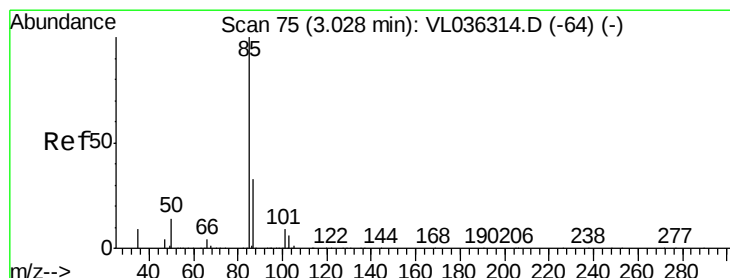
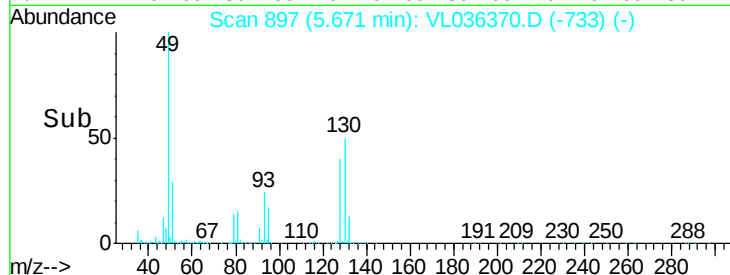
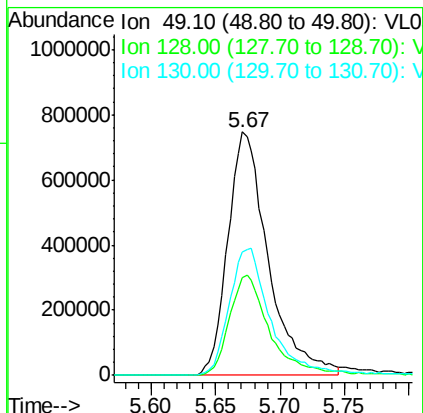
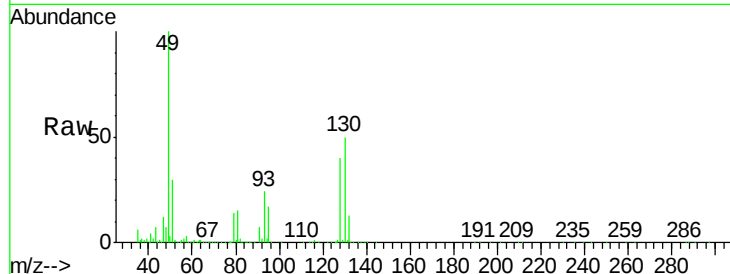
ClientSampled :

NS-5

Tot Ion	Ratio	Lower	Upper
49	100		
128	41.8	20.8	62.5
130	53.5	26.7	80.1

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#2

Dichlorodifluoromethane

Concen: 0.136 ppbv

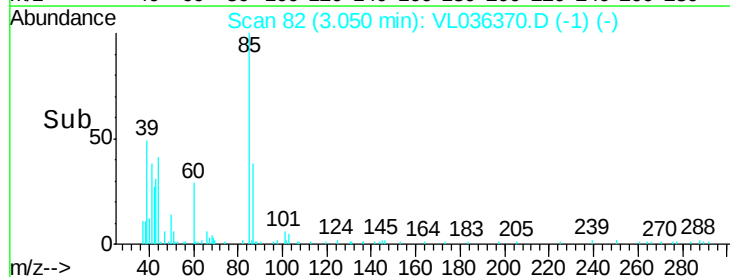
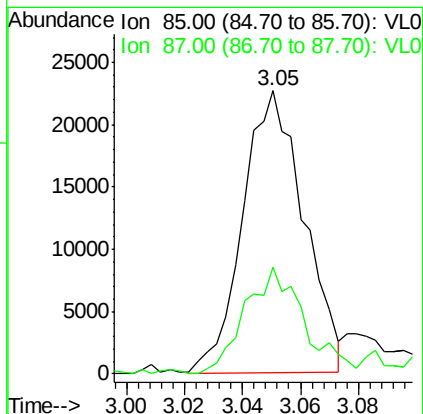
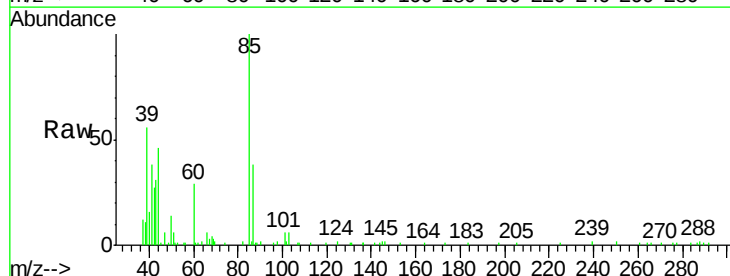
RT: 3.05 min Scan# 82

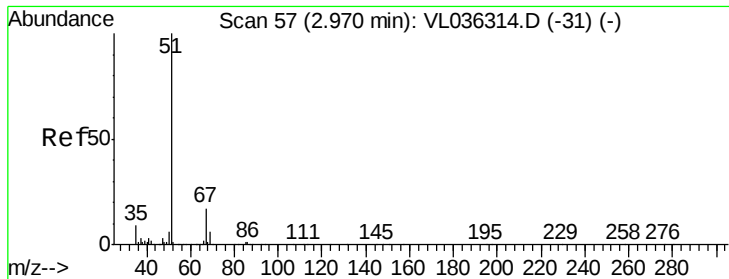
Delta R.T. 0.02 min

Lab File: VL036370.D

Acq: 25 Feb 2021 4:08

Tgt Ion	Ratio	Lower	Upper
85	100		
87	37.8	26.5	39.7





#3

Chlorodifluoromethane

Concen: 0.293 ppbv m

RT: 2.99 min Scan# 63

Delta R.T. 0.02 min

Lab File: VL036370.D

Acq: 25 Feb 2021 4:08

Instrument :

MSVOA_L

ClientSampleId :

NS-5

Tot Ion: 51 Resp: 59217

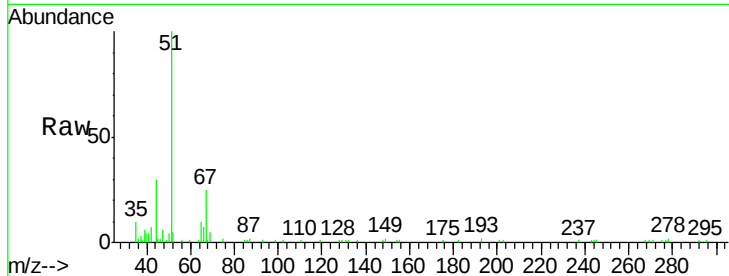
Ion Ratio Lower Upper

51 100

67 17.7 14.7 22.1

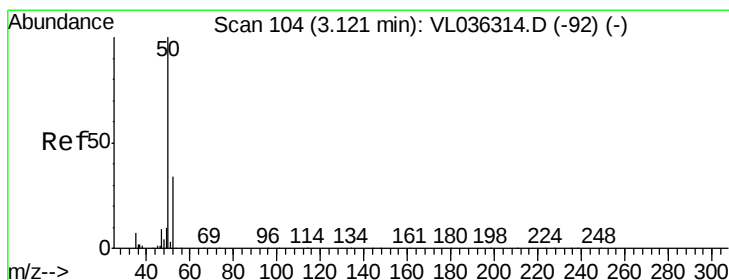
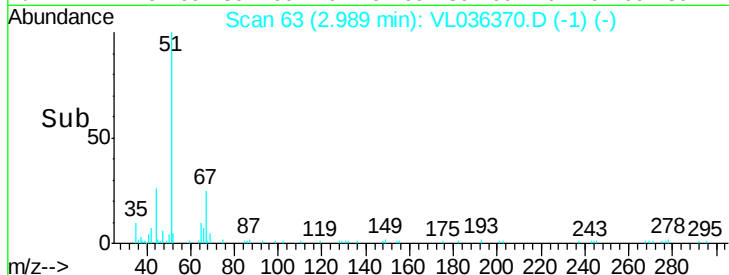
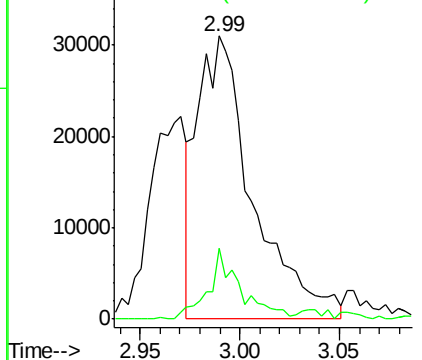
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Abundance Ion 51.00 (50.70 to 51.70): VL0

Ion 67.00 (66.70 to 67.70): VL0



#4

Chloromethane

Concen: 0.585 ppbv m

RT: 3.15 min Scan# 112

Delta R.T. 0.03 min

Lab File: VL036370.D

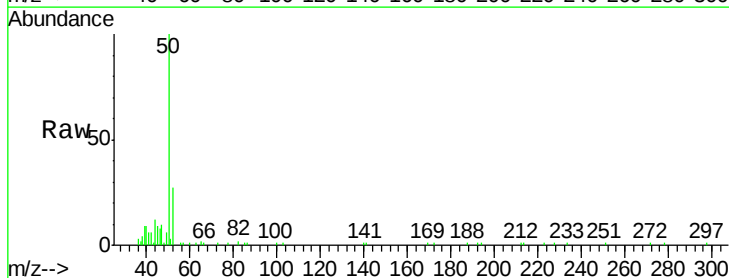
Acq: 25 Feb 2021 4:08

Tgt Ion: 50 Resp: 57152

Ion Ratio Lower Upper

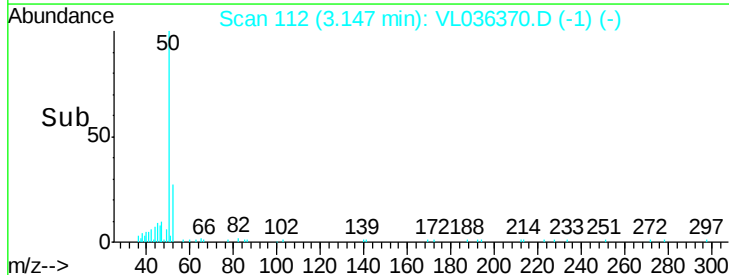
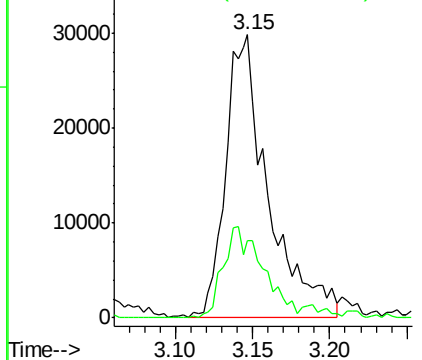
50 100

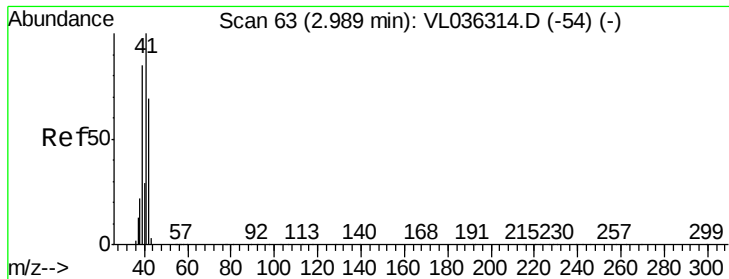
52 27.3 27.0 40.4



Abundance Ion 50.10 (49.80 to 50.80): VL0

Ion 52.10 (51.80 to 52.80): VL0





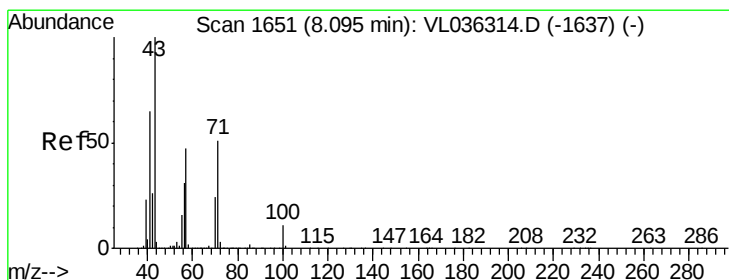
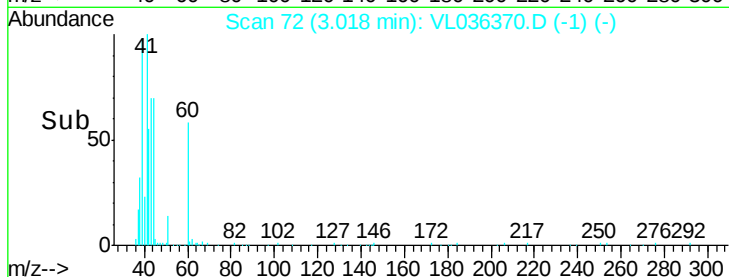
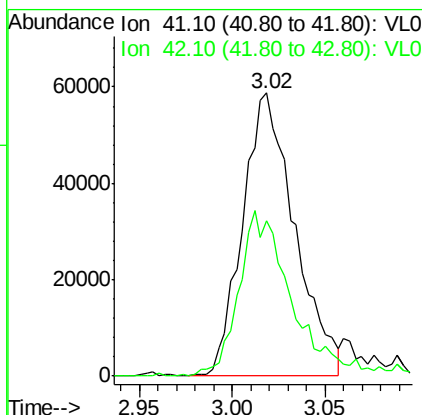
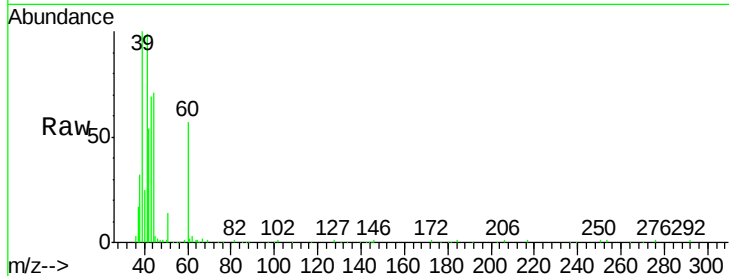
#9
 Propene
 Concen: 1.517 ppbv
 RT: 3.02 min Scan# 72
 Delta R.T. 0.03 min
 Lab File: VL036370.D
 Acq: 25 Feb 2021 4:08

Instrument :
 MSVOA_L
 ClientSampleId :
 NS-5

Tot Ion: 41 Resp: 114496
 Ion Ratio Lower Upper
 41 100
 42 58.0 56.2 84.2

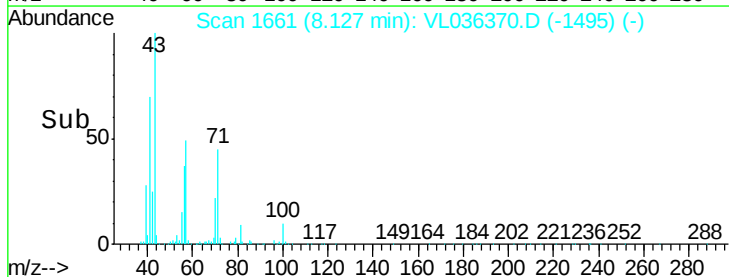
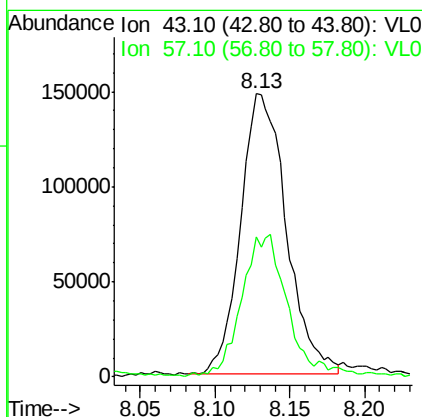
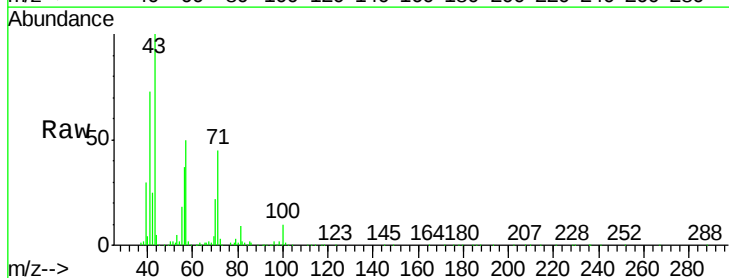
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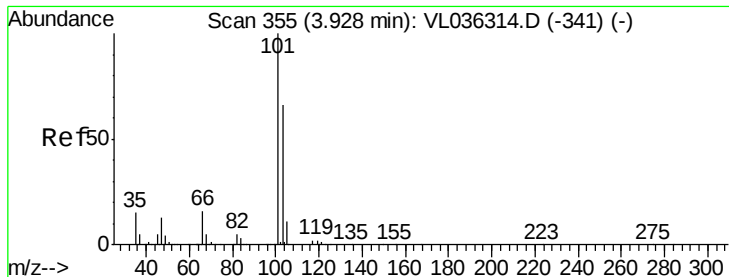
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#10
 Heptane
 Concen: 1.414 ppbv
 RT: 8.13 min Scan# 1661
 Delta R.T. 0.03 min
 Lab File: VL036370.D
 Acq: 25 Feb 2021 4:08

Tgt Ion: 43 Resp: 314356
 Ion Ratio Lower Upper
 43 100
 57 50.7 39.4 59.2





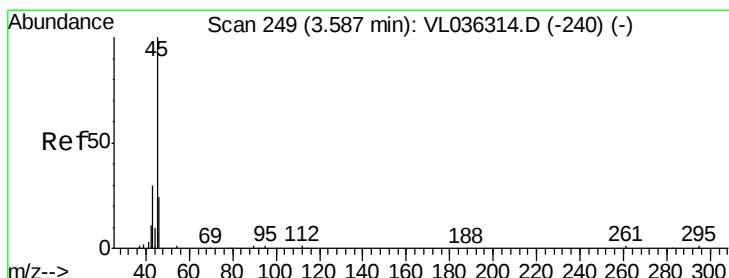
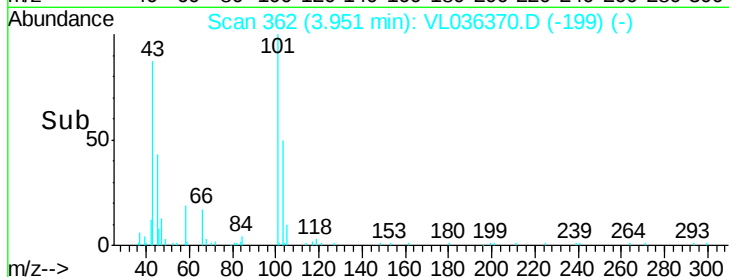
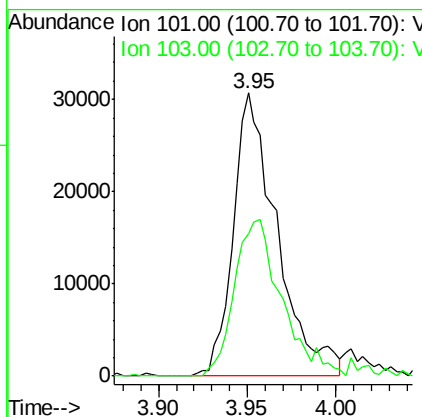
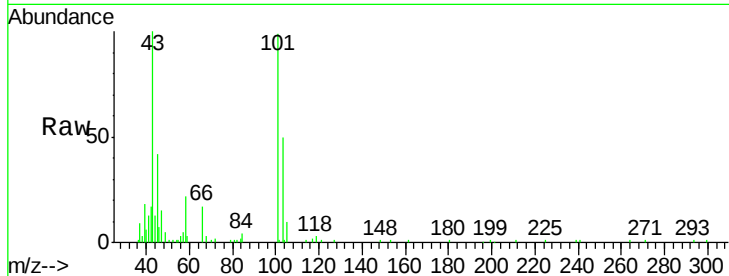
#11
 Trichlorofluoromethane
 Concen: 0.221 ppbv m
 RT: 3.95 min Scan# 362
 Delta R.T. 0.02 min
 Lab File: VL036370.D
 Acq: 25 Feb 2021 4:08

Instrument :
 MSVOA_L
 ClientSampleId :
 NS-5

Tot Ion	Ratio	Lower	Upper
101	100		
103	50.5	52.9	79.3#

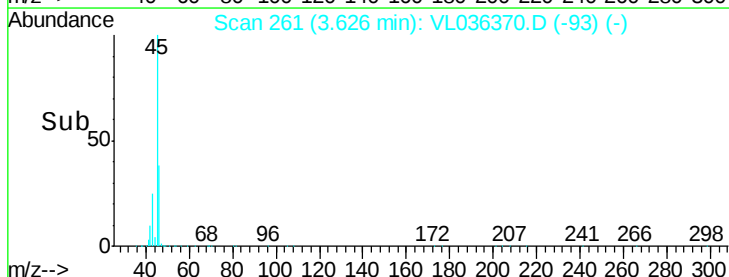
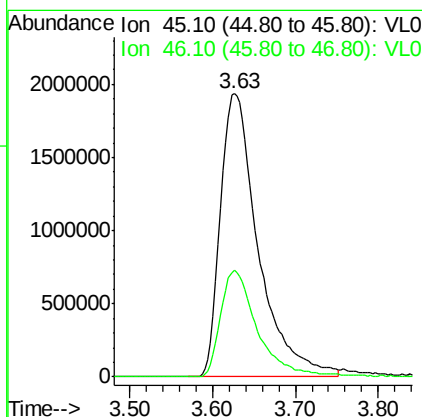
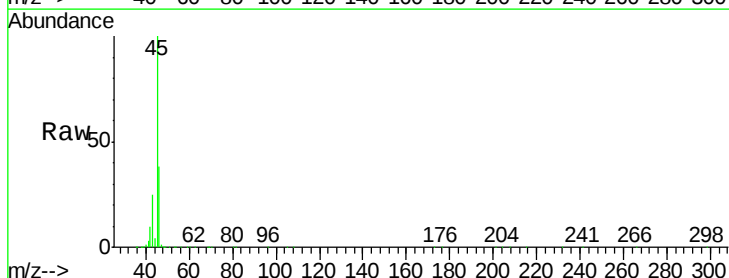
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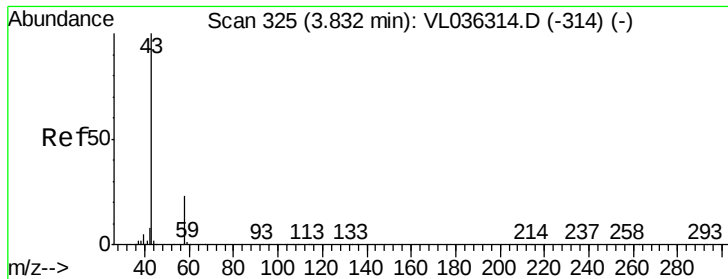
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#13
 Ethanol
 Concen: 433.798 ppbv
 RT: 3.63 min Scan# 261
 Delta R.T. 0.04 min
 Lab File: VL036370.D
 Acq: 25 Feb 2021 4:08

Tgt Ion	Ratio	Lower	Upper
45	100		
46	36.8	17.7	70.7





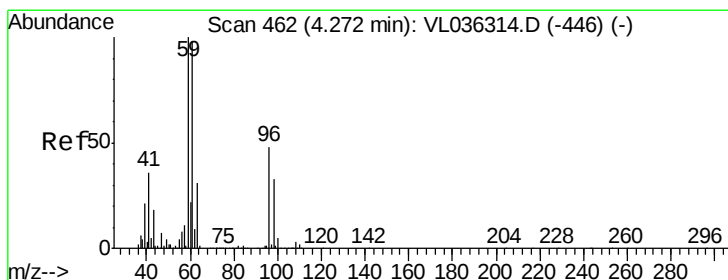
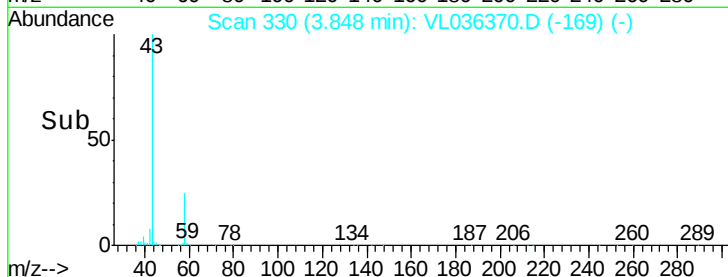
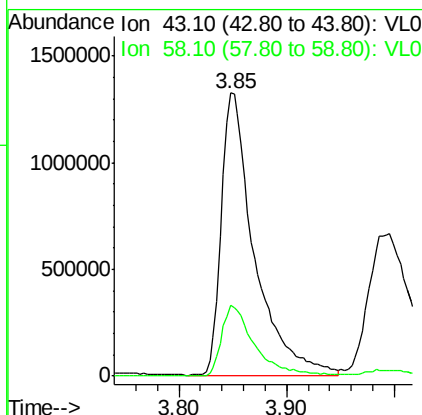
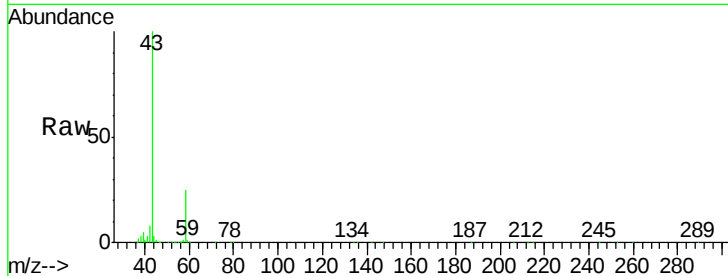
#15
Acetone
Concen: 14.144 ppbv
RT: 3.85 min Scan# 330
Delta R.T. 0.02 min
Lab File: VL036370.D
Acq: 25 Feb 2021 4:08

Instrument :
MSVOA_L
ClientSampled :
NS-5

Tot Ion: 43 Resp: 2816043
Ion Ratio Lower Upper
43 100
58 25.5 20.3 30.5

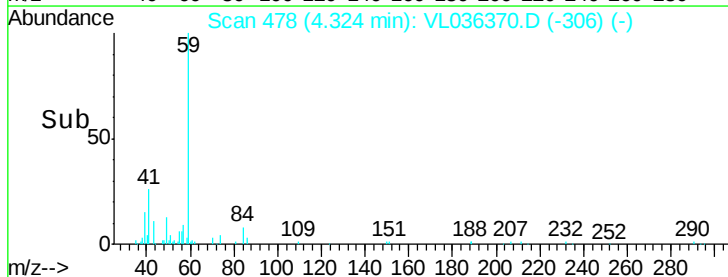
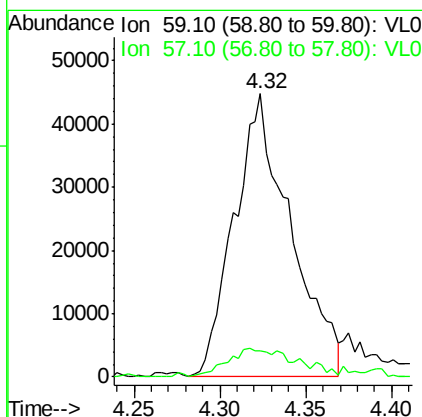
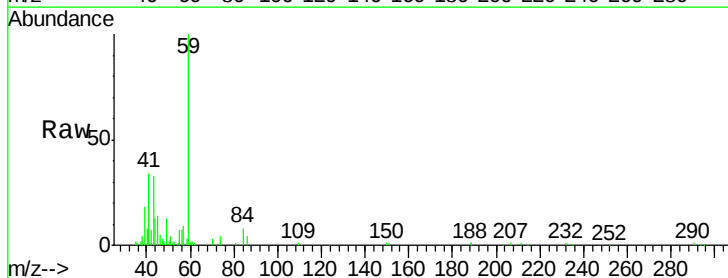
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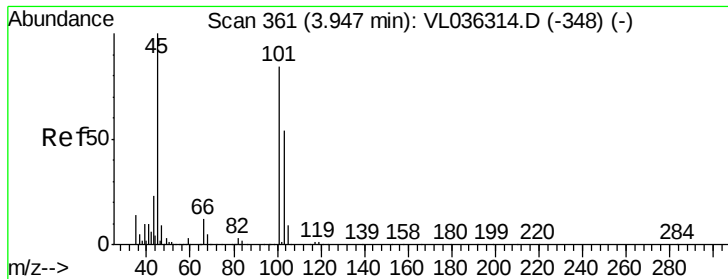
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#17
tert-Butyl alcohol
Concen: 0.656 ppbv
RT: 4.32 min Scan# 478
Delta R.T. 0.05 min
Lab File: VL036370.D
Acq: 25 Feb 2021 4:08

Tgt Ion: 59 Resp: 101439
Ion Ratio Lower Upper
59 100
57 14.3 9.0 13.4#





#19

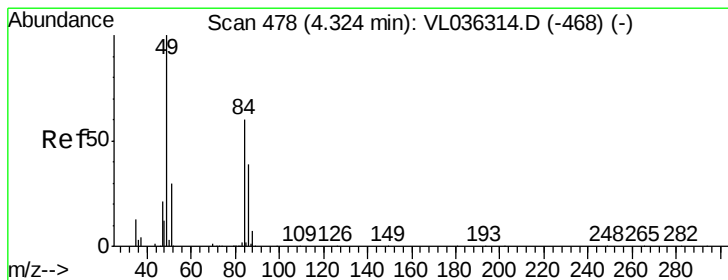
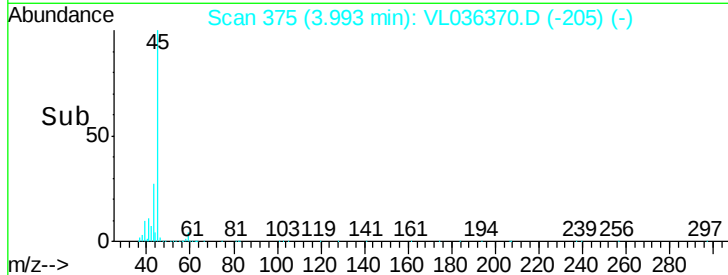
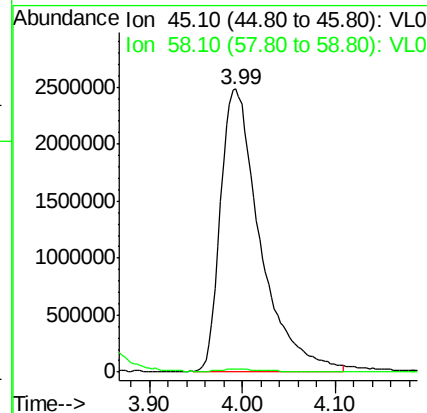
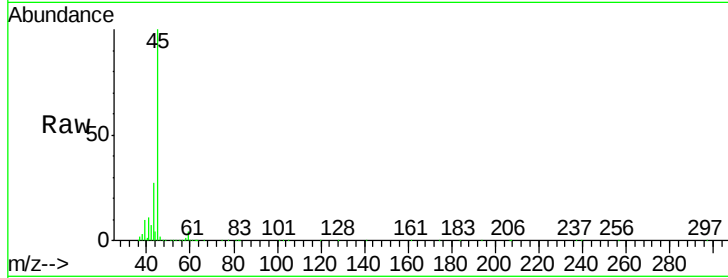
Isopropyl Alcohol
 Concen: 66.652 ppbv
 RT: 3.99 min Scan# 375
 Delta R.T. 0.05 min
 Lab File: VL036370.D
 Acq: 25 Feb 2021 4:08

Instrument :
 MSVOA_L
 ClientSampled :
 NS-5

Tot Ion: 45 Resp: 7352357
 Ion Ratio Lower Upper
 45 100
 58 1.5 1.9 2.9#

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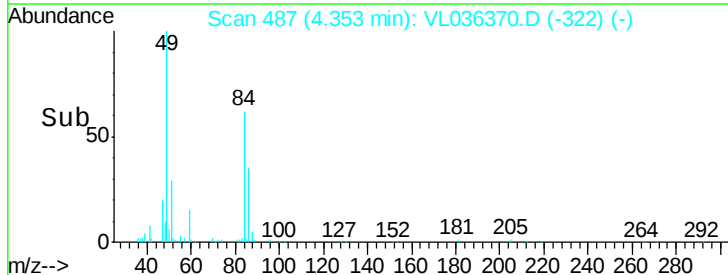
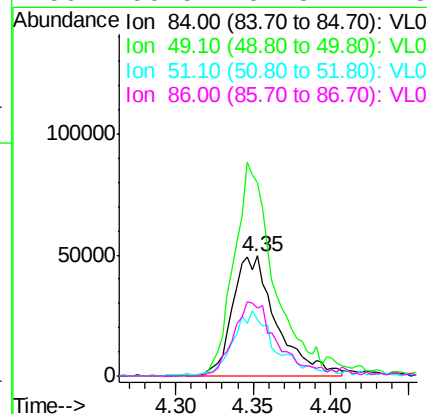
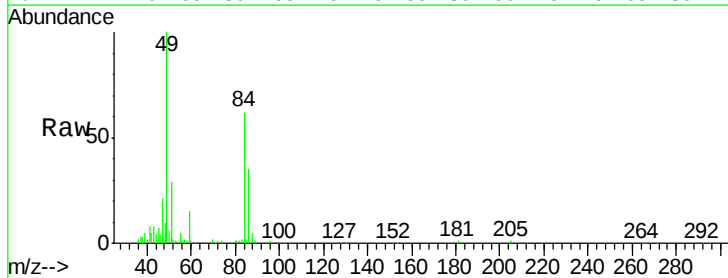
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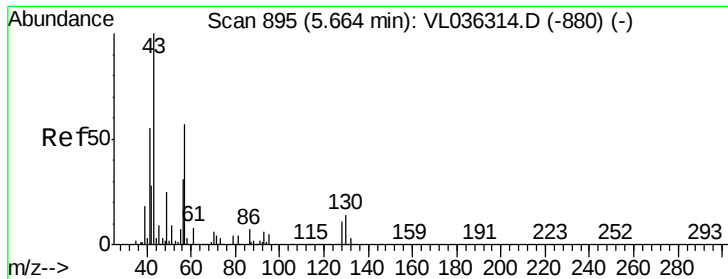


#20

Methylene Chloride
 Concen: 1.525 ppbv m
 RT: 4.35 min Scan# 487
 Delta R.T. 0.03 min
 Lab File: VL036370.D
 Acq: 25 Feb 2021 4:08

Tgt Ion: 84 Resp: 97949
 Ion Ratio Lower Upper
 84 100
 49 160.8 133.8 200.8
 51 46.8 41.4 62.0
 86 56.5 51.5 77.3





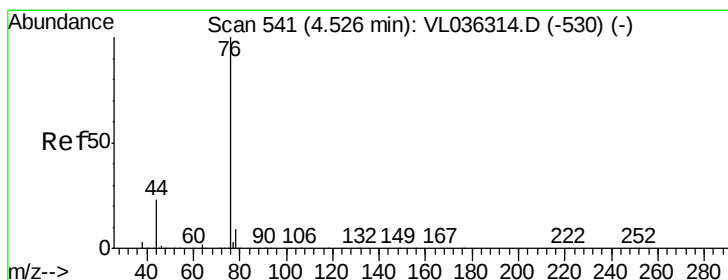
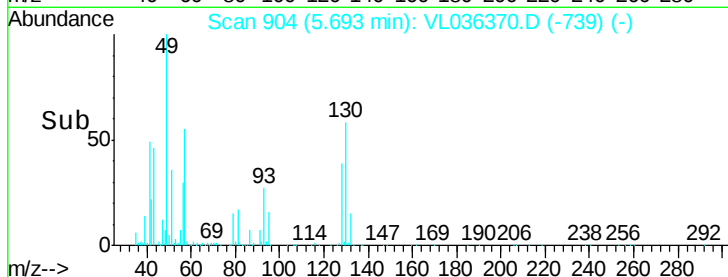
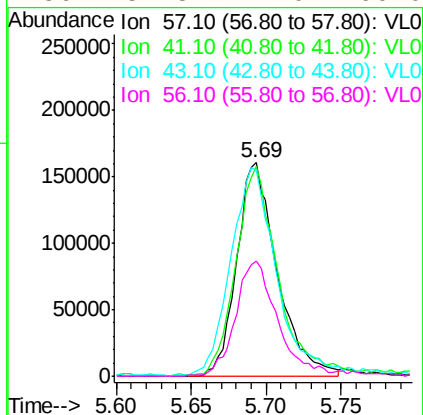
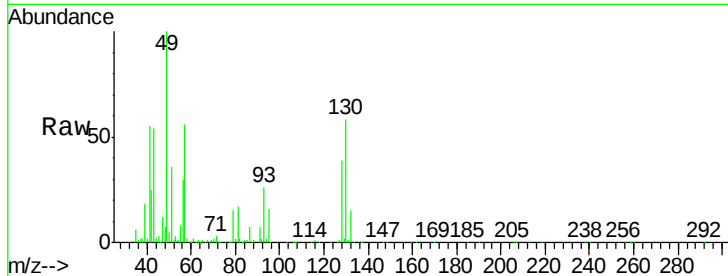
#26
Hexane
Concen: 1.918 ppbv
RT: 5.69 min Scan# 904
Delta R.T. 0.03 min
Lab File: VL036370.D
Acq: 25 Feb 2021 4:08

Instrument :
MSVOA_L
ClientSampled :
NS-5

Tot Ion	57	Resp	302955
Ion	Ratio	Lower	Upper
57	100		
41	105.0	81.7	122.5
43	111.4	199.1	298.7#
56	57.8	44.0	66.0

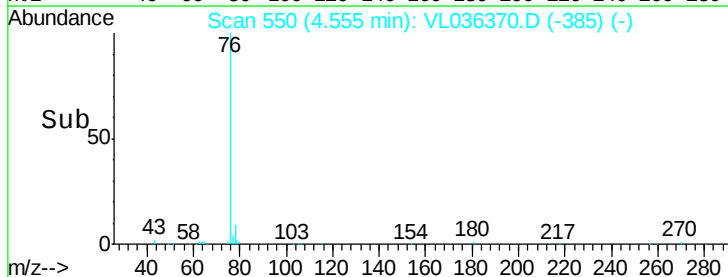
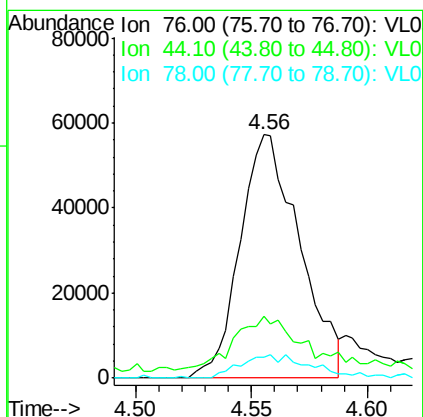
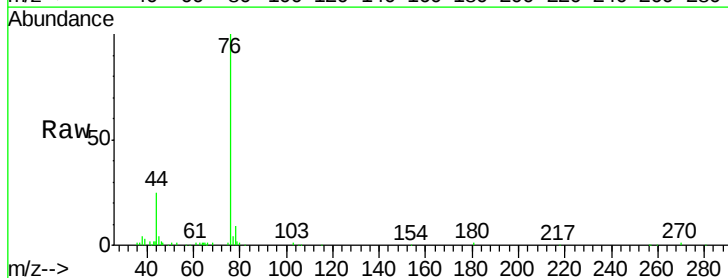
Manual Integrations
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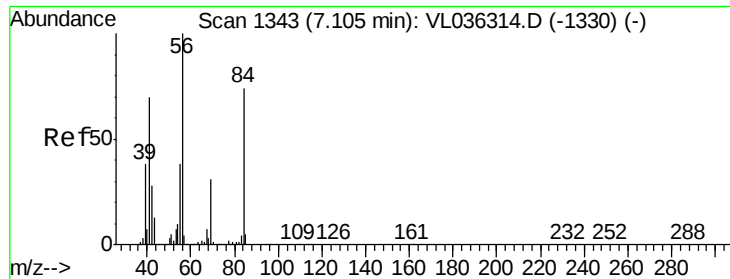
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#27
Carbon Disulfide
Concen: 0.704 ppbv
RT: 4.56 min Scan# 550
Delta R.T. 0.03 min
Lab File: VL036370.D
Acq: 25 Feb 2021 4:08

Tgt Ion	76	Resp	102236
Ion	Ratio	Lower	Upper
76	100		
44	29.2	18.4	27.6#
78	11.9	8.0	12.0





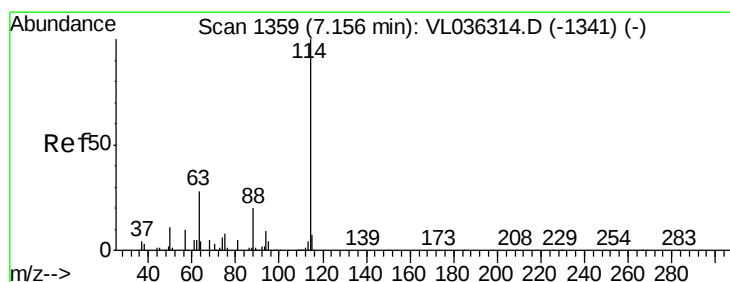
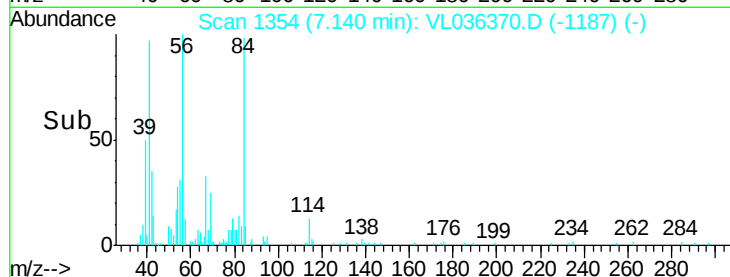
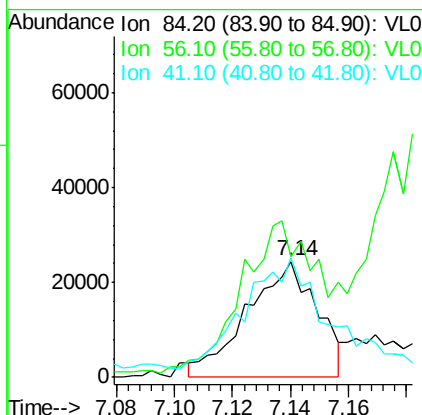
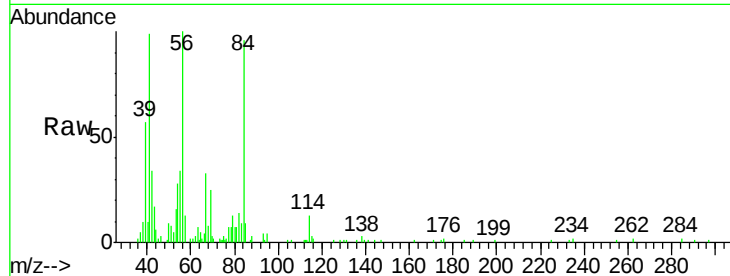
#30
Cyclohexane
Concen: 0.311 ppbv
RT: 7.14 min Scan# 1354
Delta R.T. 0.04 min
Lab File: VL036370.D
Acq: 25 Feb 2021 4:08

Instrument :
MSVOA_L
ClientSampleId :
NS-5

Tot Ion	Ratio	Lower	Upper
84	100		
56	144.7	120.2	180.4
41	114.4	79.7	119.5

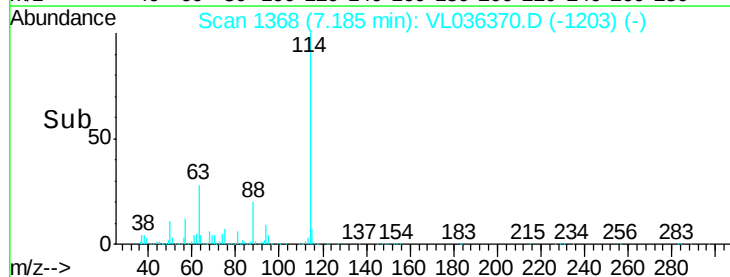
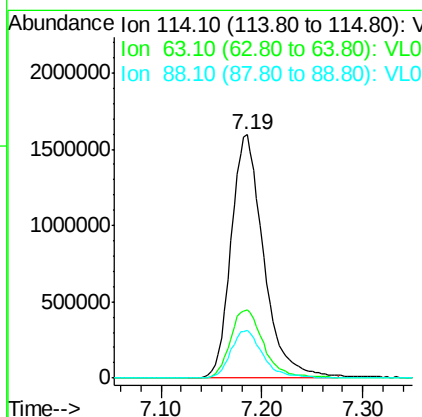
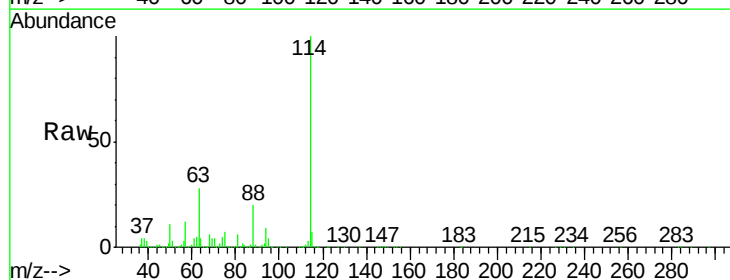
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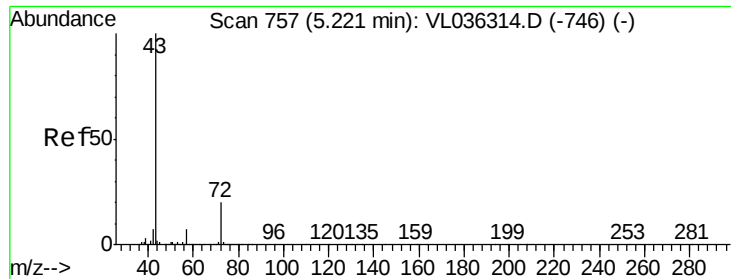
MMDadoda
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#33
1,4-Difluorobenzene
Concen: 10.000 ppbv
RT: 7.19 min Scan# 1368
Delta R.T. 0.03 min
Lab File: VL036370.D
Acq: 25 Feb 2021 4:08

Tgt Ion	Ratio	Lower	Upper
114	100		
63	29.1	24.1	36.1
88	19.5	16.0	24.0





#34

2-Butanone

Concen: 0.513 ppbv

RT: 5.25 min Scan# 767

Delta R.T. 0.03 min

Lab File: VL036370.D

Acq: 25 Feb 2021 4:08

Instrument :

MSVOA_L

ClientSampleId :

NS-5

Tot Ion: 43 Resp: 122294

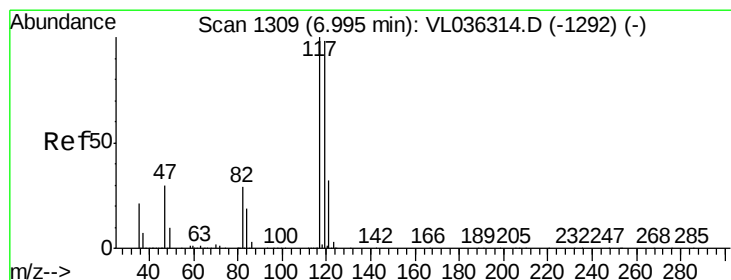
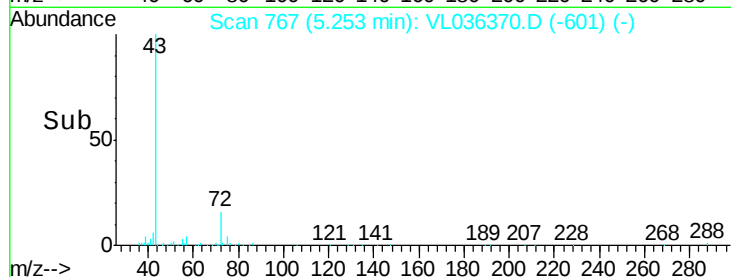
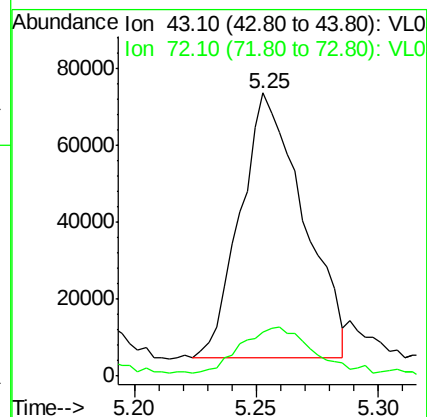
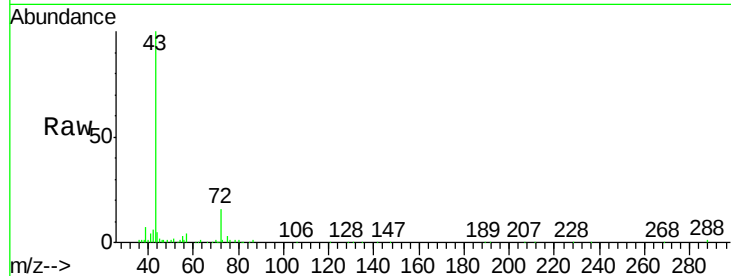
Ion Ratio Lower Upper

43 100

72 24.1 16.7 25.1

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#35

Carbon Tetrachloride

Concen: 0.062 ppbv m

RT: 7.03 min Scan# 1320

Delta R.T. 0.04 min

Lab File: VL036370.D

Acq: 25 Feb 2021 4:08

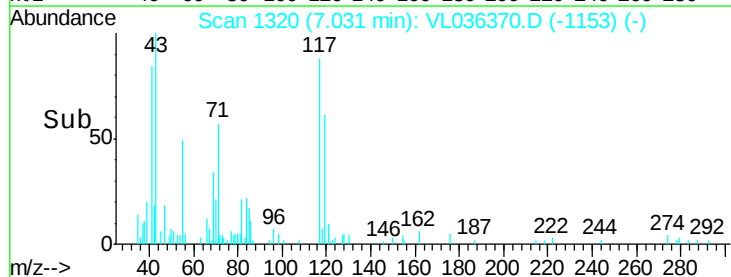
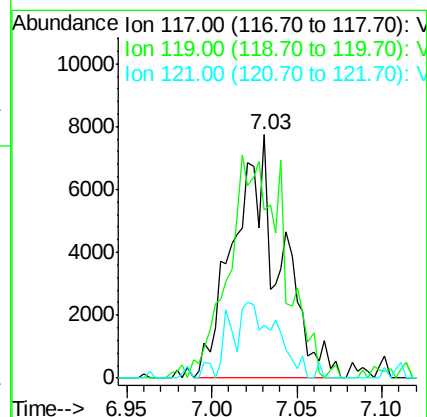
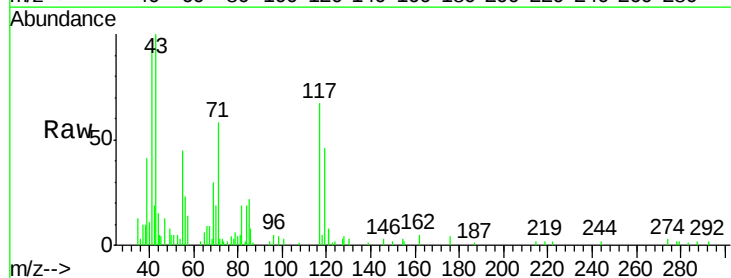
Tgt Ion: 117 Resp: 14936

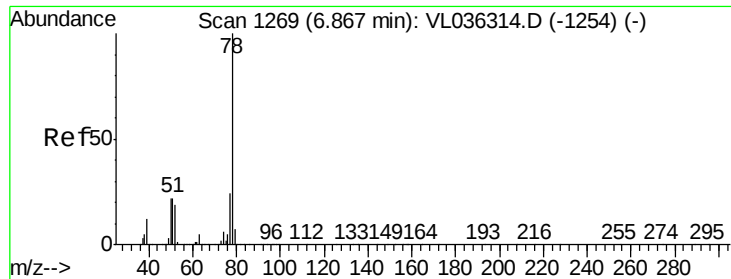
Ion Ratio Lower Upper

117 100

119 69.0 78.1 117.1#

121 11.6 25.8 38.8#





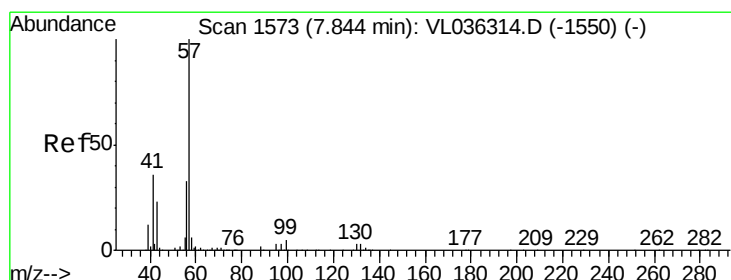
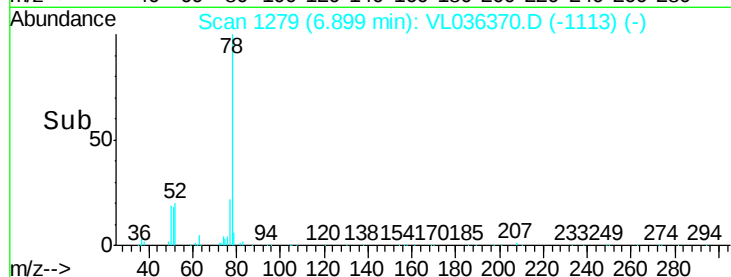
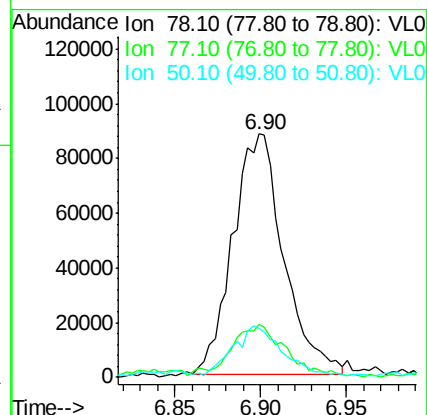
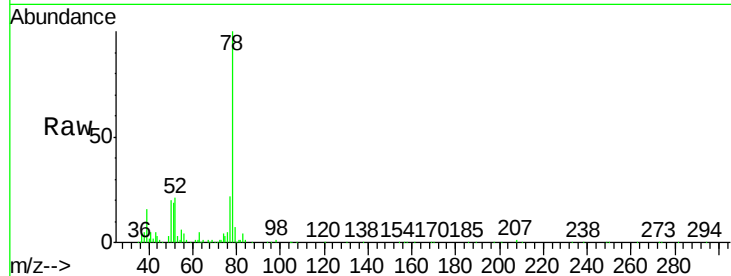
#36
Benzene
Concen: 0.596 ppbv
RT: 6.90 min Scan# 1279
Delta R.T. 0.03 min
Lab File: VL036370.D
Acq: 25 Feb 2021 4:08

Instrument :
MSVOA_L
ClientSampleId :
NS-5

Tot Ion	Ratio	Lower	Upper
78	100		
77	20.7	18.9	28.3
50	19.2	17.3	25.9

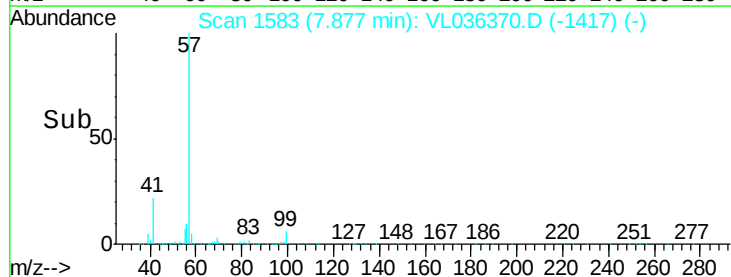
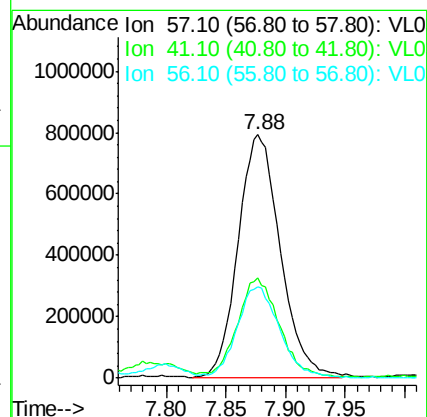
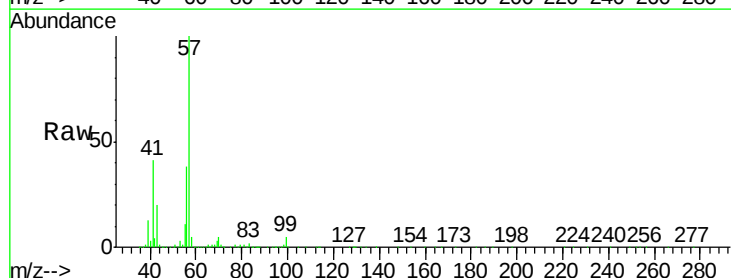
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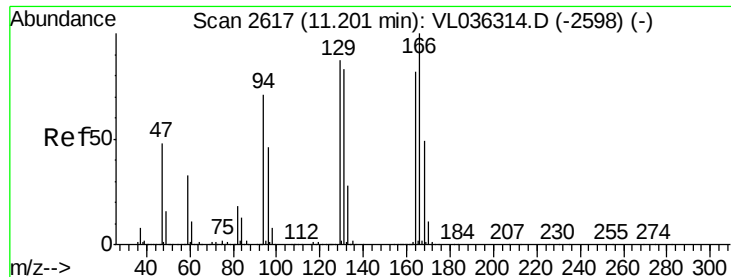
MMDadoda
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#44
2,2,4-Trimethylpentane
Concen: 3.497 ppbv
RT: 7.88 min Scan# 1583
Delta R.T. 0.03 min
Lab File: VL036370.D
Acq: 25 Feb 2021 4:08

Tgt Ion	Ratio	Lower	Upper
57	100		
41	41.0	28.8	43.2
56	38.3	25.8	38.6





#52

Tetrachloroethene

Concen: 0.090 ppbv m

RT: 11.23 min Scan# 2627

Delta R.T. 0.03 min

Lab File: VL036370.D

Acq: 25 Feb 2021 4:08

Instrument :

MSVOA_L

ClientSampled :

NS-5

Tot Ion:164 Resp: 9992

Ion Ratio Lower Upper

164 100

166 72.7 97.8 146.8#

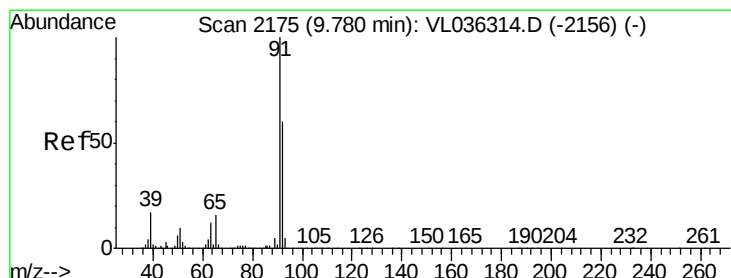
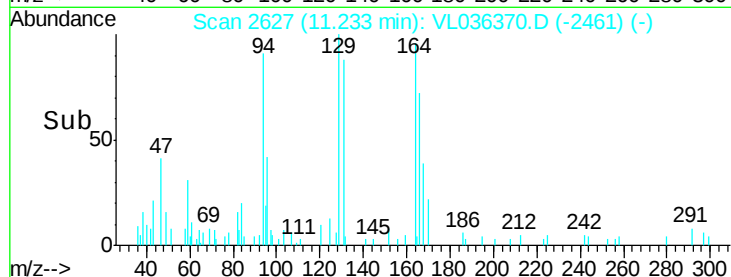
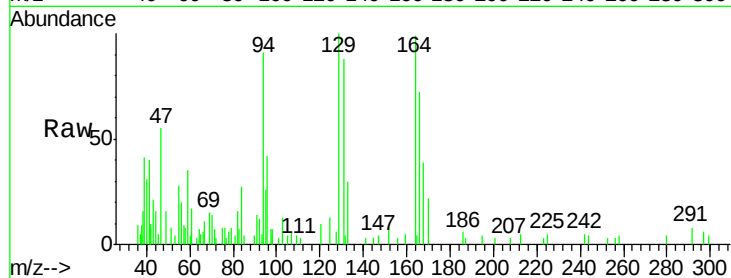
129 101.4 84.9 127.3

131 89.4 81.4 122.2

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#53

Toluene

Concen: 7.910 ppbv

RT: 9.82 min Scan# 2186

Delta R.T. 0.04 min

Lab File: VL036370.D

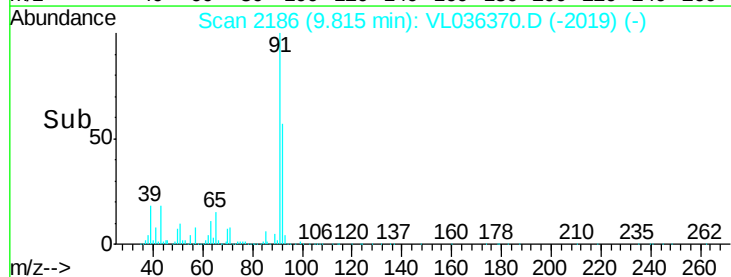
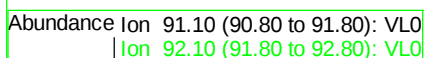
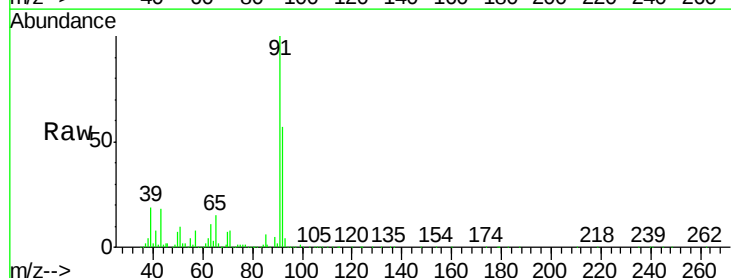
Acq: 25 Feb 2021 4:08

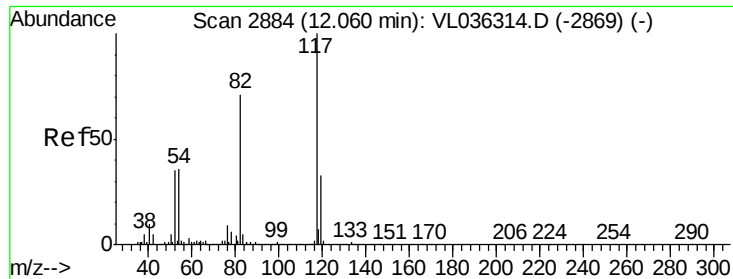
Tgt Ion: 91 Resp: 2609929

Ion Ratio Lower Upper

91 100

92 60.7 48.6 72.8





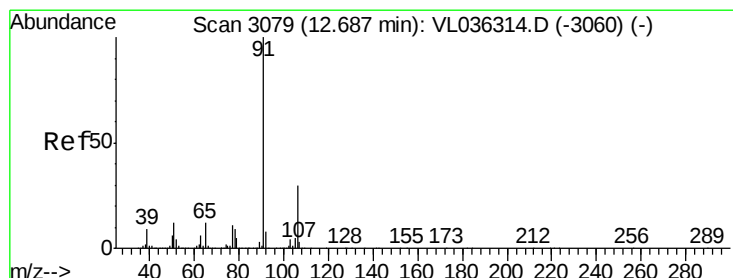
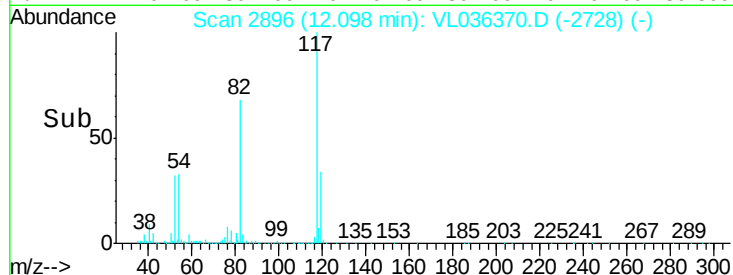
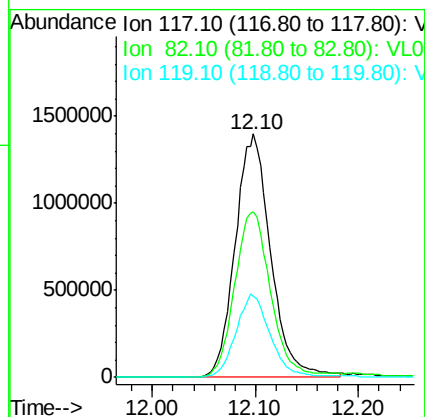
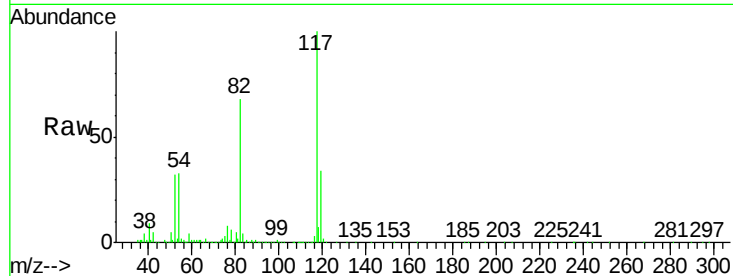
#55
Chlorobenzene-d5
Concen: 10.000 ppbv
RT: 12.10 min Scan# 2896
Delta R.T. 0.04 min
Lab File: VL036370.D
Acq: 25 Feb 2021 4:08

Instrument :
MSVOA_L
ClientSampled :
NS-5

Tot Ion:117 Resp: 3345003
Ion Ratio Lower Upper
117 100
82 71.4 59.1 88.7
119 33.9 46.3 69.5#

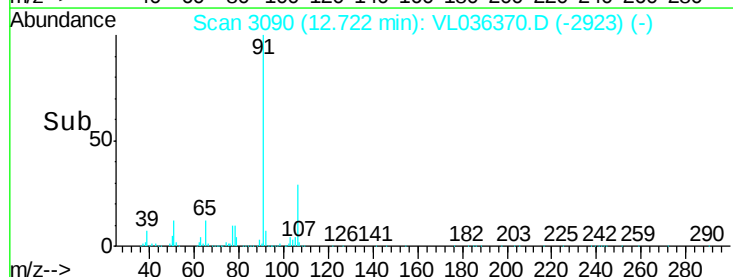
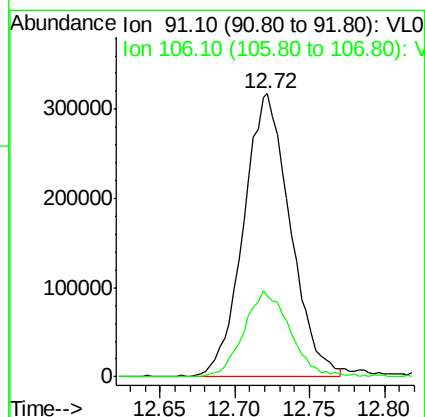
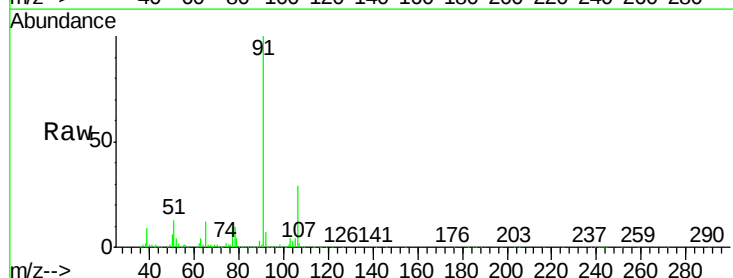
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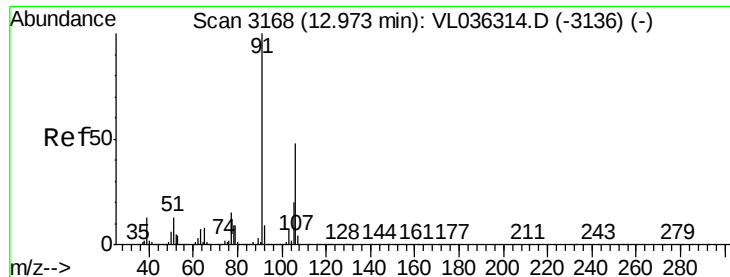
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#58
Ethyl Benzene
Concen: 1.501 ppbv
RT: 12.72 min Scan# 3090
Delta R.T. 0.04 min
Lab File: VL036370.D
Acq: 25 Feb 2021 4:08

Tgt Ion: 91 Resp: 687645
Ion Ratio Lower Upper
91 100
106 28.6 23.8 35.6





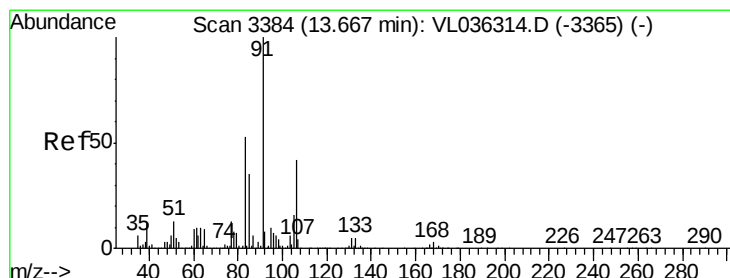
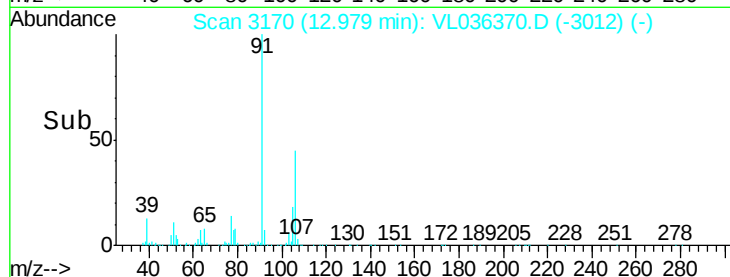
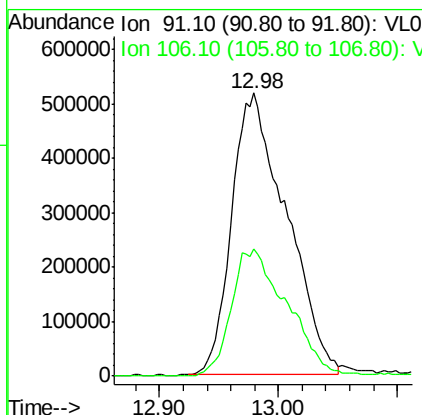
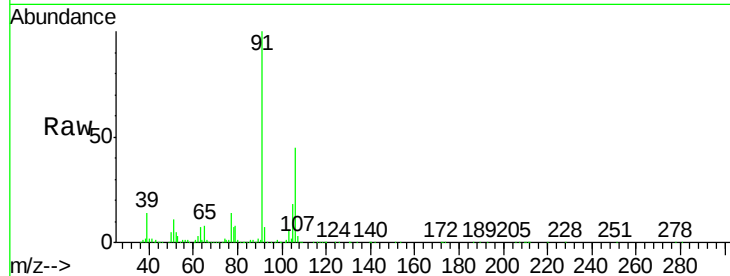
#59
m/p-Xylene
Concen: 4.085 ppbv
RT: 12.98 min Scan# 3170
Delta R.T. 0.01 min
Lab File: VL036370.D
Acq: 25 Feb 2021 4:08

Instrument :
MSVOA_L
ClientSampled :
NS-5

Tot Ion: 91 Resp: 1643353
Ion Ratio Lower Upper
91 100
106 45.8 34.2 51.2

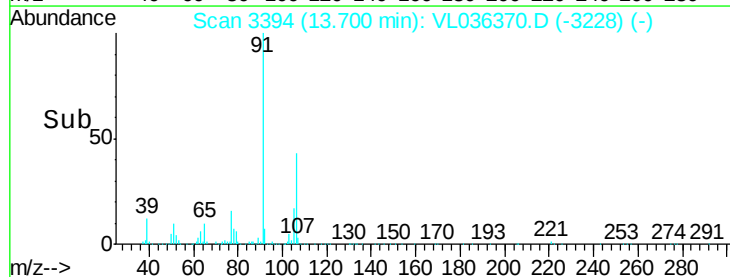
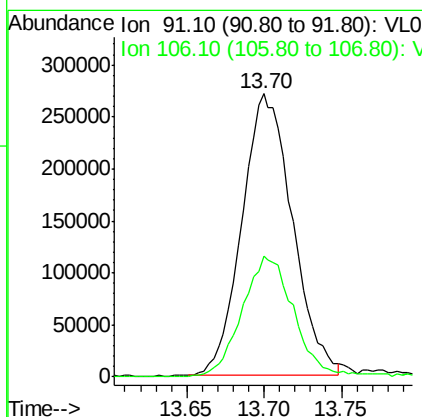
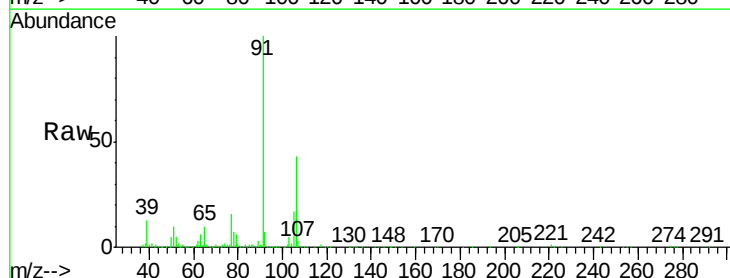
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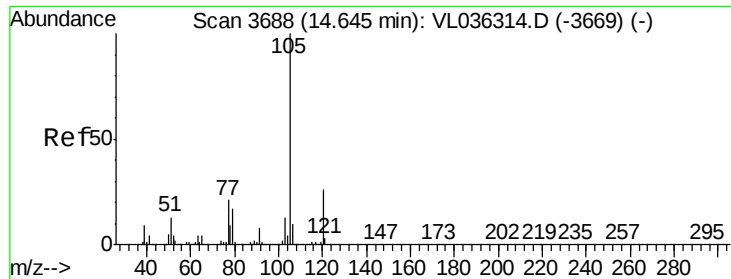
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#60
o-Xylene
Concen: 1.604 ppbv
RT: 13.70 min Scan# 3394
Delta R.T. 0.03 min
Lab File: VL036370.D
Acq: 25 Feb 2021 4:08

Tgt Ion: 91 Resp: 617010
Ion Ratio Lower Upper
91 100
106 44.3 22.0 66.0





#62

Isopropylbenzene

Concen: 0.186 ppbv

RT: 14.68 min Scan# 3698

Delta R.T. 0.03 min

Lab File: VL036370.D

Acq: 25 Feb 2021 4:08

Instrument :

MSVOA_L

ClientSampled :

NS-5

Tot Ion:105 Resp: 107320

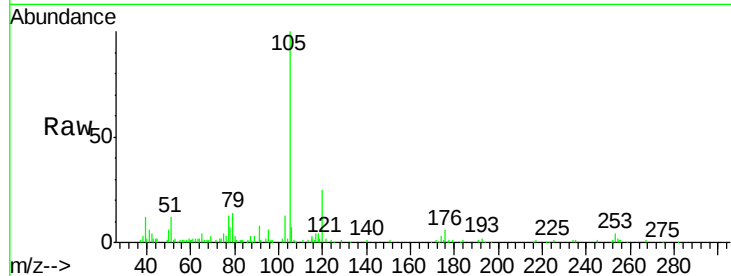
Ion Ratio Lower Upper

105 100

120 25.8 20.6 30.8

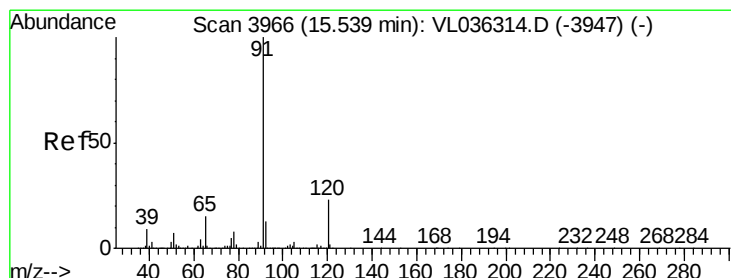
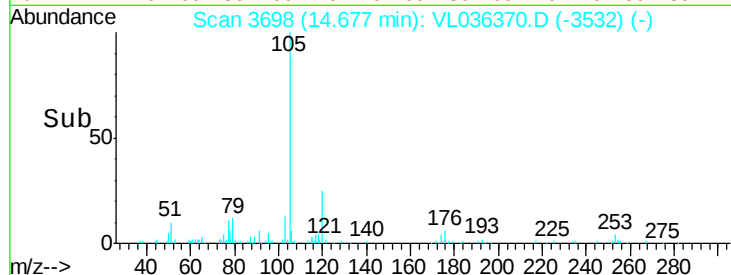
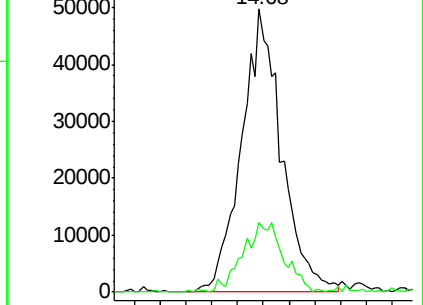
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Abundance Ion 105.10 (104.80 to 105.80): V

Ion 120.20 (119.90 to 120.90): V



#64

n-propylbenzene

Concen: 0.614 ppbv m

RT: 15.57 min Scan# 3977

Delta R.T. 0.04 min

Lab File: VL036370.D

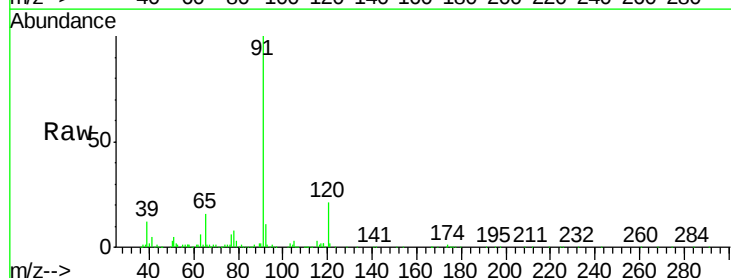
Acq: 25 Feb 2021 4:08

Tgt Ion:120 Resp: 87196

Ion Ratio Lower Upper

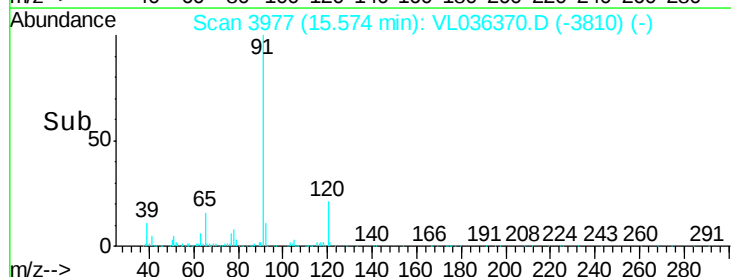
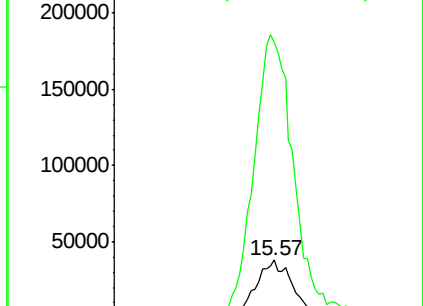
120 100

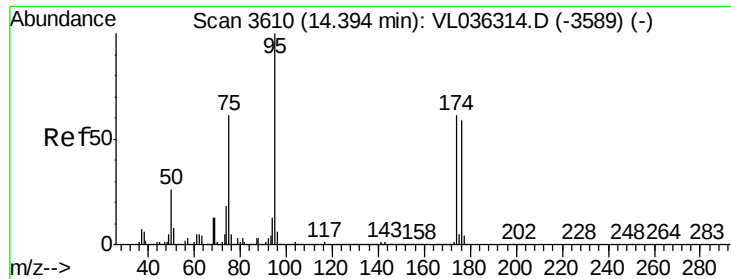
91 0.0 387.2 580.8#



Abundance Ion 120.20 (119.90 to 120.90): V

Ion 91.10 (90.80 to 91.80): VL0





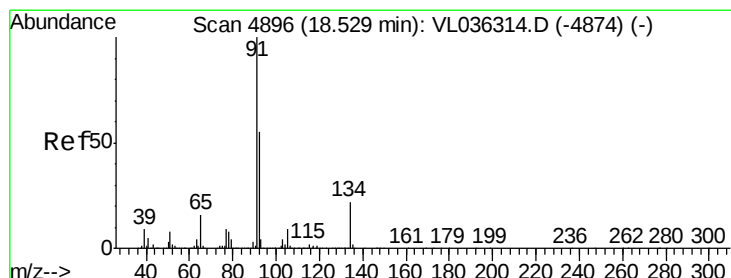
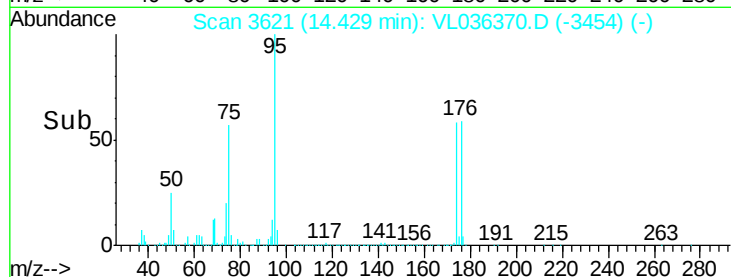
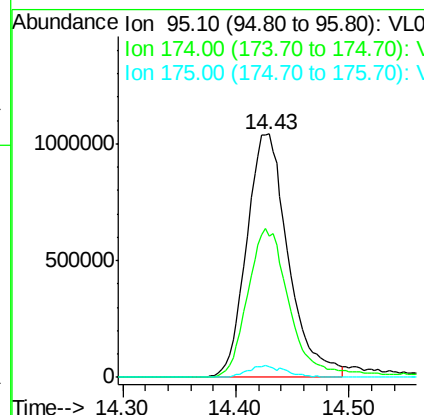
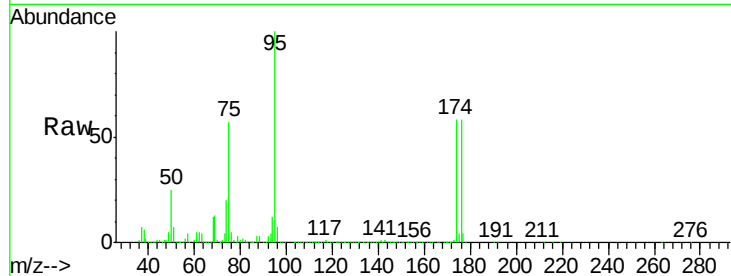
#68
 1-Bromo-4-Fluorobenzene
 Concen: 9.704 ppbv
 RT: 14.43 min Scan# 3621
 Delta R.T. 0.04 min
 Lab File: VL036370.D
 Acq: 25 Feb 2021 4:08

Instrument :
 MSVOA_L
 ClientSampled :
 NS-5

Tot Ion: 95 Resp: 2670691
 Ion Ratio Lower Upper
 95 100
 174 63.9 49.8 74.6
 175 4.8 3.7 5.5

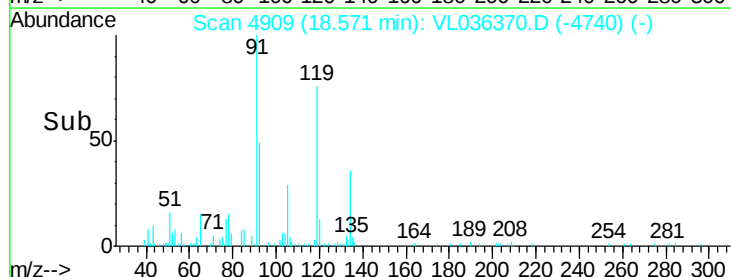
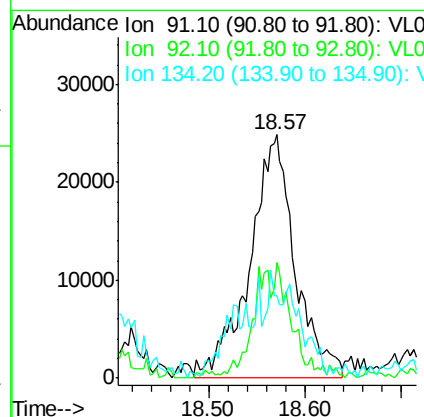
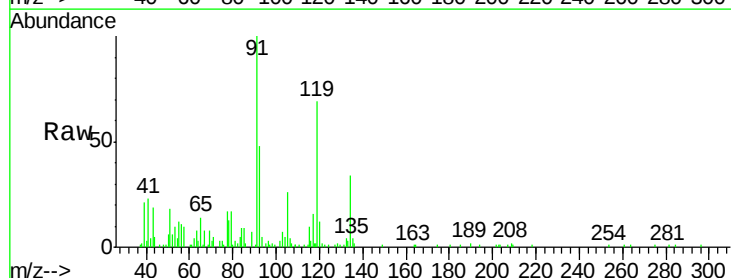
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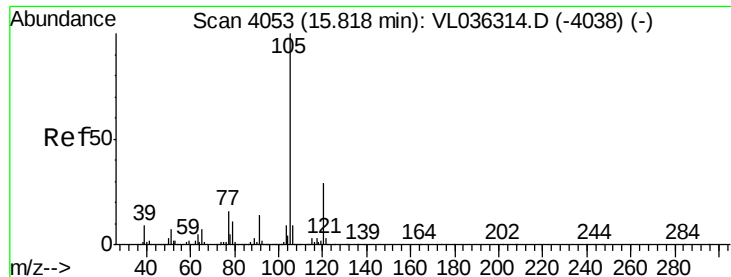
MMDadoda
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#70
 n-Butylbenzene
 Concen: 0.138 ppbv m
 RT: 18.57 min Scan# 4909
 Delta R.T. 0.04 min
 Lab File: VL036370.D
 Acq: 25 Feb 2021 4:08

Tgt Ion: 91 Resp: 81299
 Ion Ratio Lower Upper
 91 100
 92 0.0 43.7 65.5#
 134 0.0 17.4 26.0#





#72

4-Ethyltoluene

Concen: 0.509 ppbv

RT: 15.85 min Scan# 4062

Delta R.T. 0.03 min

Lab File: VL036370.D

Acq: 25 Feb 2021 4:08

Instrument :

MSVOA_L

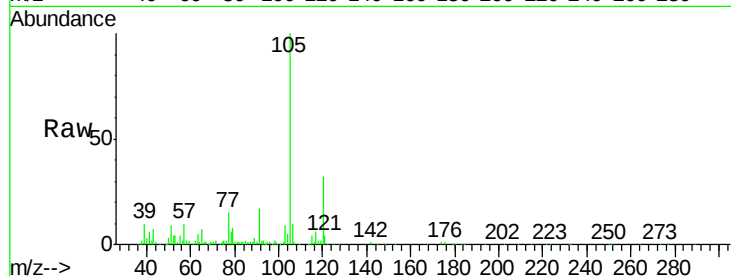
ClientSampled :

NS-5

Tot Ion:	105	Resp:	217836
Ion Ratio	Lower	Upper	
105	100		
120	30.4	23.2	34.8
91	16.5	11.0	16.4
77	16.1	12.2	18.4

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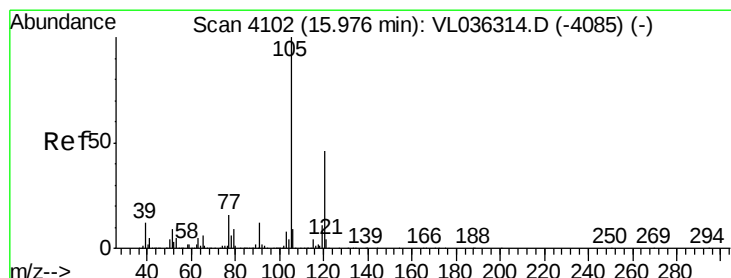
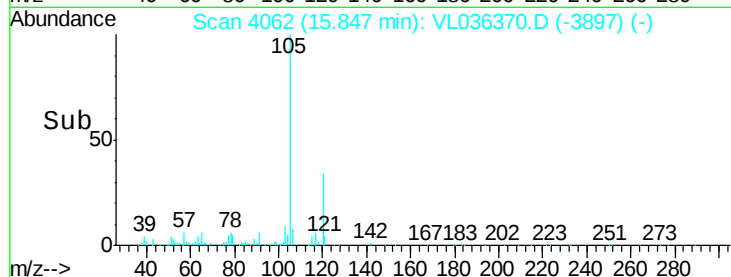
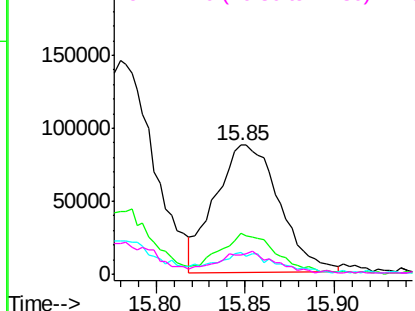


Abundance Ion 105.10 (104.80 to 105.80): V

Ion 120.20 (119.90 to 120.90): V

Ion 91.10 (90.80 to 91.80): VL0

Ion 77.10 (76.80 to 77.80): VL0



#73

1,3,5-Trimethylbenzene

Concen: 0.348 ppbv m

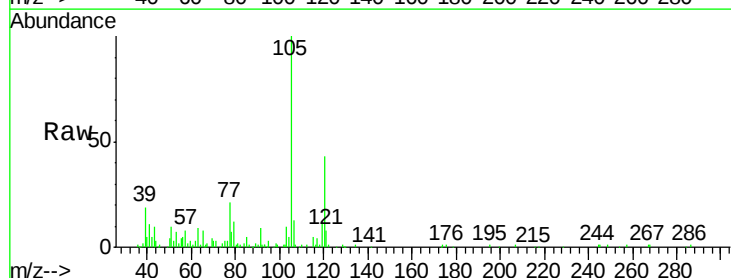
RT: 16.01 min Scan# 4112

Delta R.T. 0.03 min

Lab File: VL036370.D

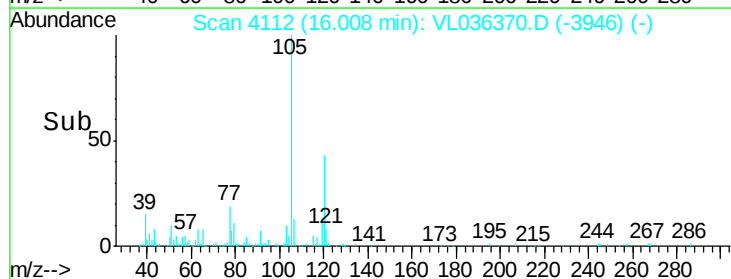
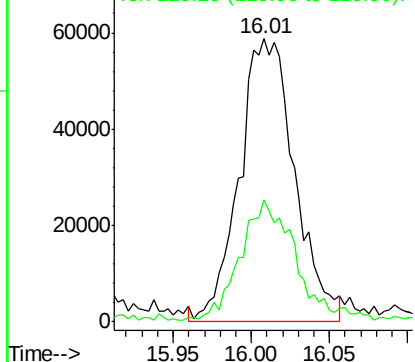
Acq: 25 Feb 2021 4:08

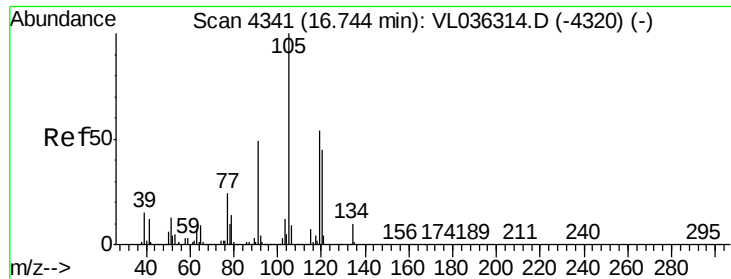
Tgt Ion:	105	Resp:	144267
Ion Ratio	Lower	Upper	
105	100		
120	43.0	36.9	55.3



Abundance Ion 105.10 (104.80 to 105.80): V

Ion 120.20 (119.90 to 120.90): V





#74
 1,2,4-Trimethylbenzene
 Concen: 1.732 ppbv
 RT: 16.77 min Scan# 4350
 Delta R.T. 0.03 min
 Lab File: VL036370.D
 Acq: 25 Feb 2021 4:08

Instrument :
 MSVOA_L
 ClientSampleId :
 NS-5

Tot Ion	Ratio	Resp Lower	Resp Upper
105	100		
120	37.7	35.8	53.6
91	11.7	39.8	59.6#
77	14.7	19.1	28.7#

Manual Integrations
 APPROVED

MMDadoda
 2/26/2021 4:18:06 PM

