

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL033121\  
 Data File : VL036600.D  
 Acq On : 31 Mar 2021 13:44  
 Operator : SY/AP  
 Sample : M1840-02  
 Misc : 400mL/MSVOA L  
 ALS Vial : 1 Sample Multiplier: 1

Instrument :  
 MSVOA\_L  
 ClientSampleId :

Quant Time: Apr 01 04:26:09 2021  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL032521AIR.M  
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Thu Mar 25 09:42:40 2021  
 QLast Update : Thu Mar 25 09:42:40 2021  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 5.66  | 49   | 1369120  | 10.00 | ppbv  | 0.00     |
| 33) 1,4-Difluorobenzene | 7.18  | 114  | 3162918  | 10.00 | ppbv  | 0.00     |
| 55) Chlorobenzene-d5    | 12.09 | 117  | 2812203  | 10.00 | ppbv  | 0.00     |

System Monitoring Compounds

|                             |        |       |          |          |      |         |
|-----------------------------|--------|-------|----------|----------|------|---------|
| 68) 1-Bromo-4-Fluorobenzene | 14.42  | 95    | 2259792  | 10.08    | ppbv | 0.00    |
| Spiked Amount               | 10.000 | Range | 65 - 135 | Recovery | =    | 100.80% |

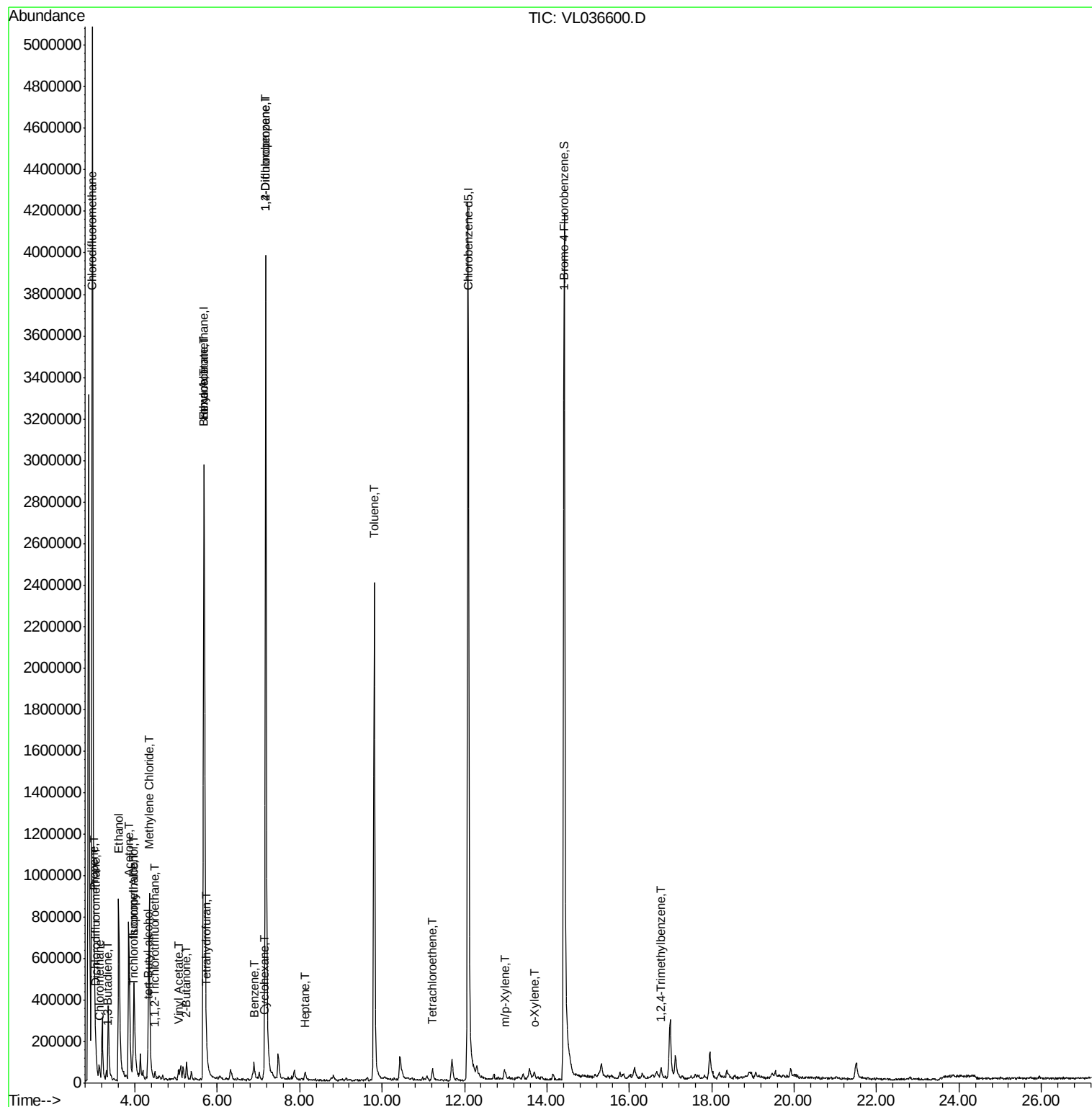
| Target Compounds               | R.T.  | QIon | Response | Conc    | Units  | Ovalue |
|--------------------------------|-------|------|----------|---------|--------|--------|
| 2) Dichlorodifluoromethane     | 3.05  | 85   | 21251    | 0.095   | ppbv   | 98     |
| 3) Chlorodifluoromethane       | 2.96  | 51   | 5325174  | 20.818  | ppbv # | 59     |
| 4) Chloromethane               | 3.14  | 50   | 47094    | 0.521   | ppbv   | 89     |
| 9) Propene                     | 3.01  | 41   | 27089    | 0.332   | ppbv # | 29     |
| 10) Heptane                    | 8.12  | 43   | 5060     | 0.024   | ppbv # | 1      |
| 11) Trichlorofluoromethane     | 3.95  | 101  | 34676    | 0.152   | ppbv   | 98     |
| 12) 1,1,2-Trichlorotrifluoroet | 4.48  | 101  | 9836     | 0.068   | ppbv   | 88     |
| 13) Ethanol                    | 3.61  | 45   | 1182790  | 121.798 | ppbv   | 96     |
| 15) Acetone                    | 3.85  | 43   | 1003144  | 7.444   | ppbv   | 100    |
| 16) 1,3-Butadiene              | 3.33  | 39   | 2175     | 0.023   | ppbv # | 14     |
| 17) tert-Butyl alcohol         | 4.31  | 59   | 21703    | 0.185   | ppbv # | 93     |
| 19) Isopropyl Alcohol          | 3.98  | 45   | 615621   | 8.305   | ppbv   | 98     |
| 20) Methylene Chloride         | 4.35  | 84   | 339084   | 5.374   | ppbv   | 96     |
| 23) Vinyl Acetate              | 5.07  | 43   | 40793    | 0.177   | ppbv # | 65     |
| 25) Ethyl Acetate              | 5.69  | 43   | 581078   | 1.814   | ppbv # | 83     |
| 26) Hexane                     | 5.69  | 57   | 759606   | 5.109   | ppbv # | 48     |
| 30) Cyclohexane                | 7.13  | 84   | 6550     | 0.054   | ppbv # | 1      |
| 34) 2-Butanone                 | 5.25  | 43   | 99657    | 0.645   | ppbv   | 95     |
| 36) Benzene                    | 6.89  | 78   | 25799    | 0.088   | ppbv # | 81     |
| 39) 1,2-Dichloropropane        | 7.18  | 63   | 861211   | 7.278   | ppbv # | 24     |
| 41) Tetrahydrofuran            | 5.74  | 42   | 3432     | 0.048   | ppbv # | 44     |
| 52) Tetrachloroethene          | 11.22 | 164  | 2941     | 0.027   | ppbv # | 22     |
| 53) Toluene                    | 9.81  | 91   | 1946910  | 6.267   | ppbv   | 100    |
| 59) m/p-Xylene                 | 12.99 | 91   | 9085     | 0.025   | ppbv # | 32     |
| 60) o-Xylene                   | 13.70 | 91   | 6965     | 0.020   | ppbv # | 31     |
| 74) 1,2,4-Trimethylbenzene     | 16.77 | 105  | 10799    | 0.029   | ppbv # | 51     |

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

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Misc : 400mL/MSVOA L  
ALS Vial : 1 Sample Multiplier: 1

Instrument :  
MSVOA\_L  
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Quant Time: Apr 01 04:26:09 2021  
Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL032521AIR.M  
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Thu Mar 25 09:42:40 2021  
QLast Update : Thu Mar 25 09:42:40 2021  
Response via : Initial Calibration





#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.66 min Scan# 895

Delta R.T. -0.01 min

Lab File: VL036600.D

Acq: 31 Mar 2021 13:44

Instrument :  
MSVOA\_L  
ClientSampleId :

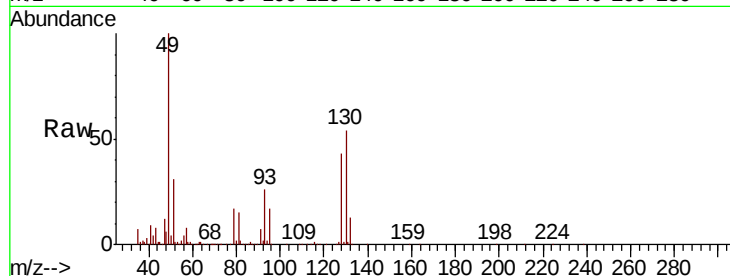
Tot Ion: 49 Resp: 1369120

| Ion | Ratio | Lower | Upper |
|-----|-------|-------|-------|
| 49  | 100   |       |       |
| 128 | 43.9  | 23.5  | 70.6  |
| 130 | 55.3  | 29.1  | 87.4  |

49 100

128 43.9 23.5 70.6

130 55.3 29.1 87.4



Abundance Ion 49.10 (48.80 to 49.80): VL0

Ion 128.00 (127.70 to 128.70): V

Ion 130.00 (129.70 to 130.70): V

5.66

600000

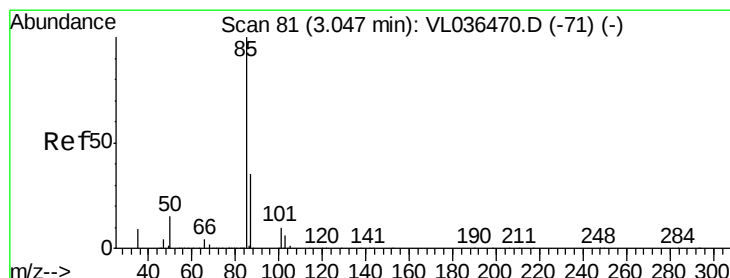
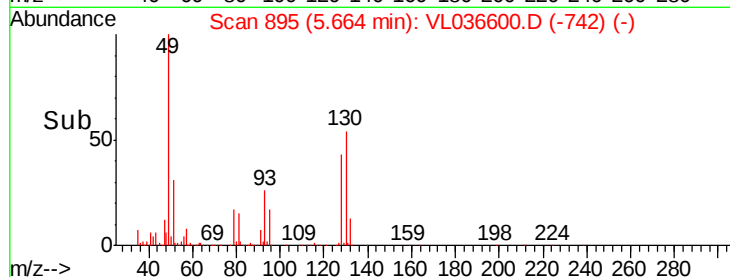
400000

200000

0

Time-->

5.60 5.70 5.80



#2

Dichlorodifluoromethane

Concen: 0.095 ppbv

RT: 3.05 min Scan# 82

Delta R.T. 0.00 min

Lab File: VL036600.D

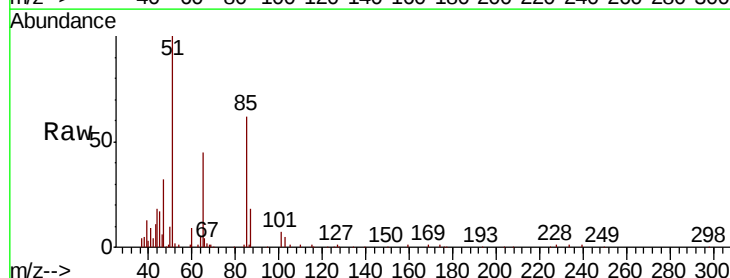
Acq: 31 Mar 2021 13:44

Tgt Ion: 85 Resp: 21251

| Ion | Ratio | Lower | Upper |
|-----|-------|-------|-------|
| 85  | 100   |       |       |
| 87  | 33.8  | 27.8  | 41.8  |

85 100

87 33.8 27.8 41.8



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 87.00 (86.70 to 87.70): VL0

3.05

30000

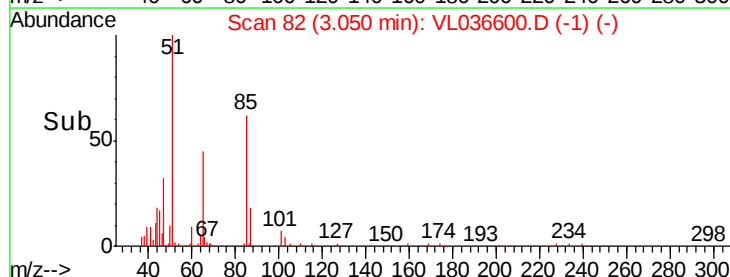
20000

10000

0

Time-->

3.04 3.05 3.06 3.07





#3

Chlorodifluoromethane

Concen: 20.818 ppbv

RT: 2.96 min Scan# 55

Delta R.T. -0.02 min

Lab File: VL036600.D

Acq: 31 Mar 2021 13:44

Instrument :

MSVOA\_L

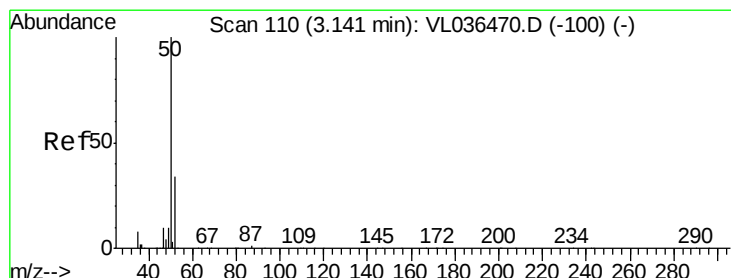
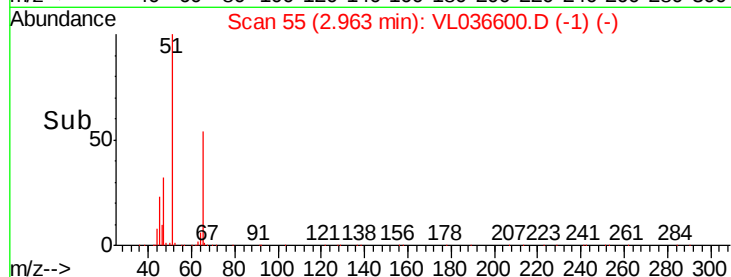
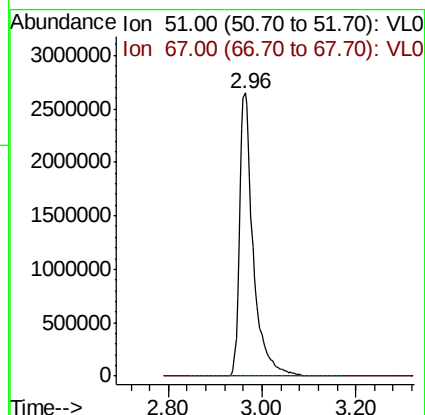
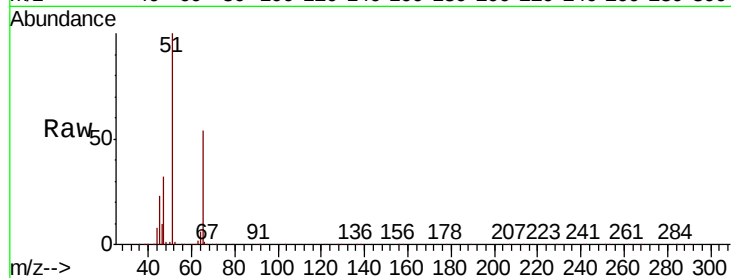
ClientSampleId :

Tot Ion: 51 Resp: 5325174

Ion Ratio Lower Upper

51 100

67 0.2 14.7 22.1#



#4

Chloromethane

Concen: 0.521 ppbv

RT: 3.14 min Scan# 111

Delta R.T. 0.00 min

Lab File: VL036600.D

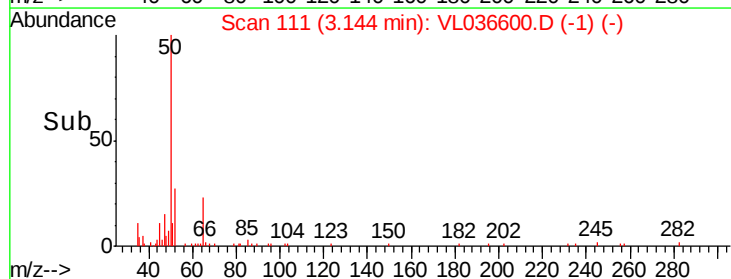
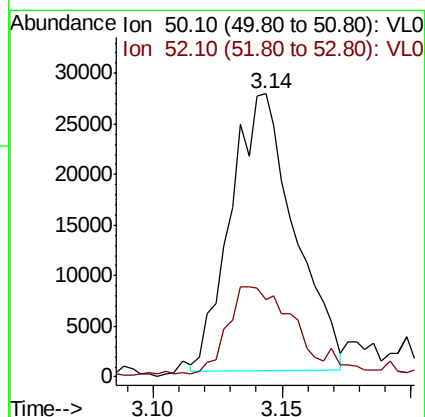
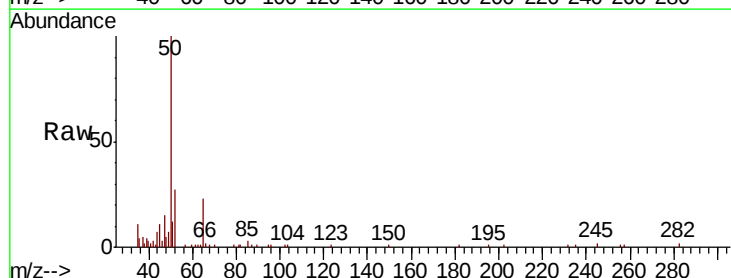
Acq: 31 Mar 2021 13:44

Tgt Ion: 50 Resp: 47094

Ion Ratio Lower Upper

50 100

52 27.3 27.0 40.6





#9

Propene

Concen: 0.332 ppbv

RT: 3.01 min Scan# 71

Delta R.T. 0.01 min

Lab File: VL036600.D

Acq: 31 Mar 2021 13:44

Instrument :

MSVOA\_L

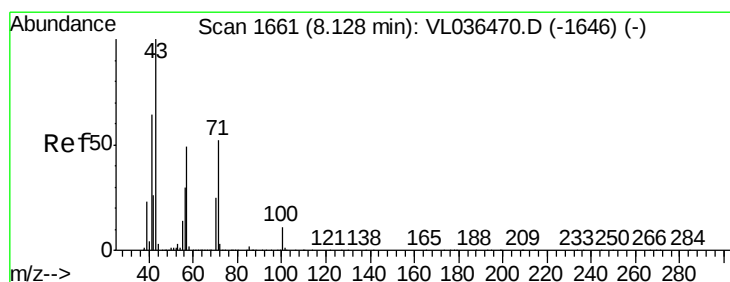
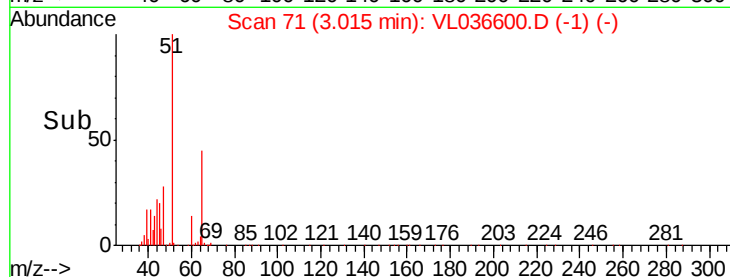
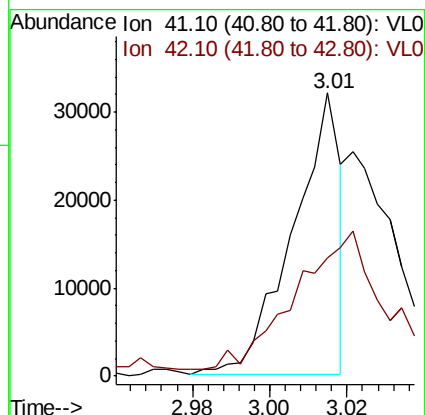
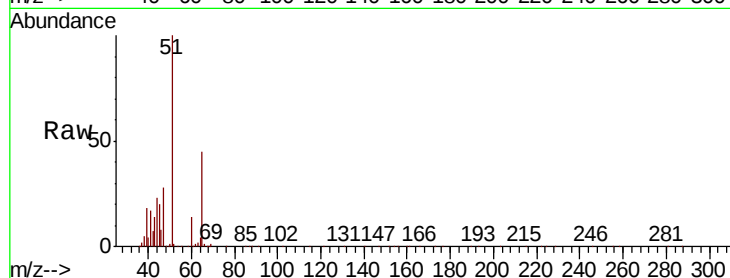
ClientSampleId :

Tot Ion: 41 Resp: 27089

Ion Ratio Lower Upper

41 100

42 12.4 57.0 85.4#



#10

Heptane

Concen: 0.024 ppbv

RT: 8.12 min Scan# 1660

Delta R.T. -0.00 min

Lab File: VL036600.D

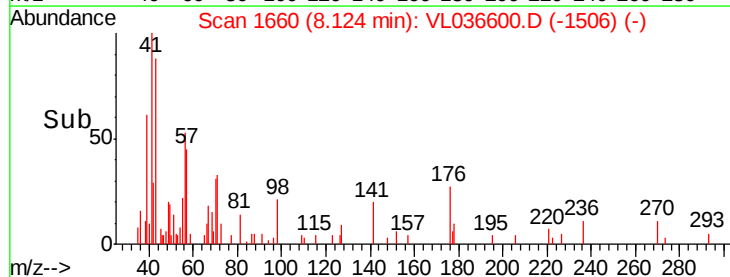
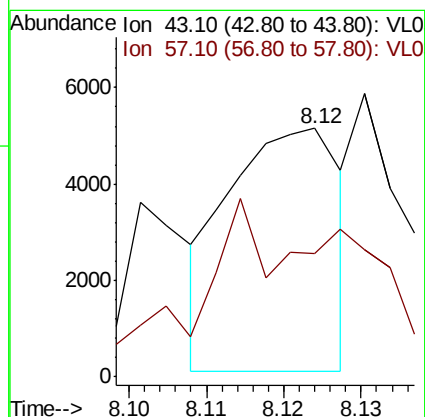
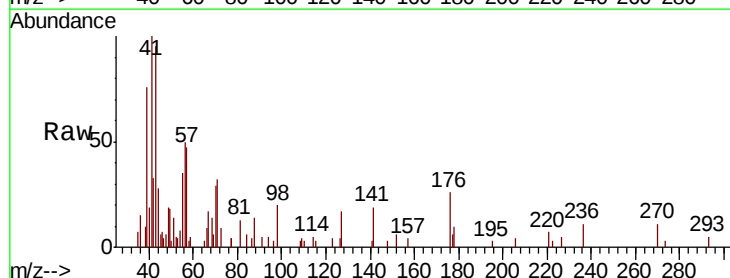
Acq: 31 Mar 2021 13:44

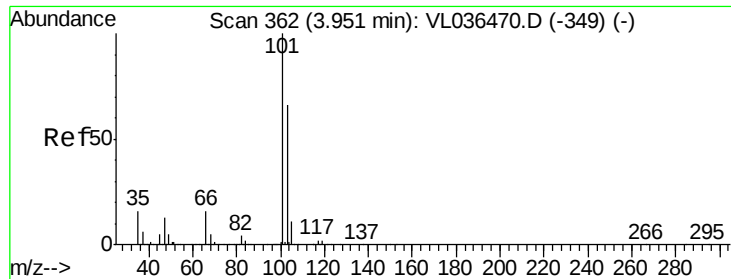
Tgt Ion: 43 Resp: 5060

Ion Ratio Lower Upper

43 100

57 141.5 39.0 58.6#

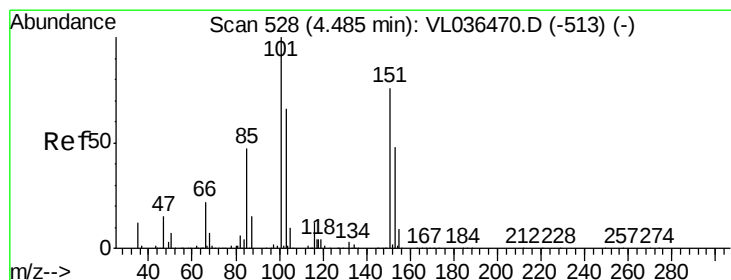
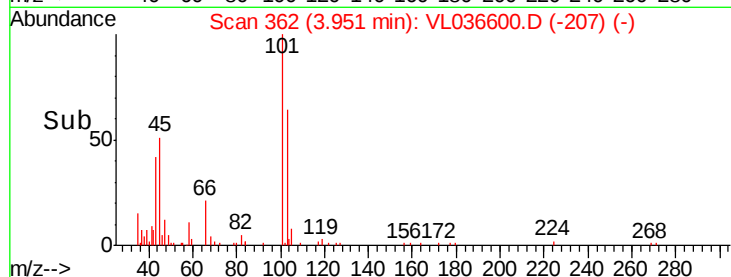
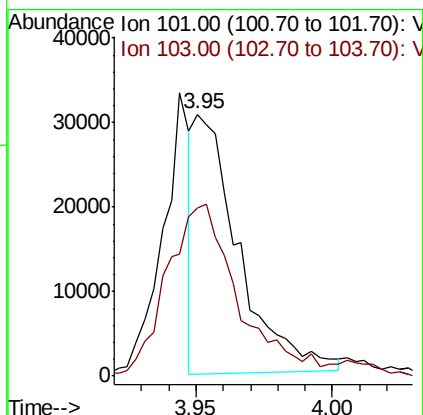
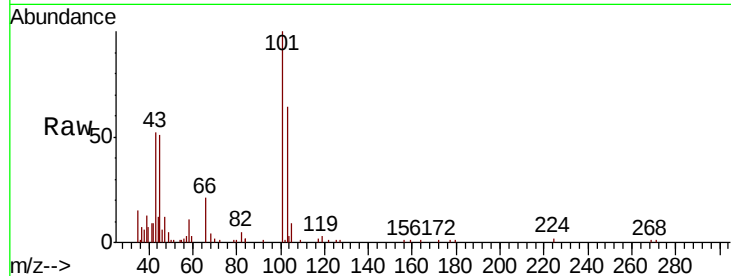




#11  
 Trichlorofluoromethane  
 Concen: 0.152 ppbv  
 RT: 3.95 min Scan# 362  
 Delta R.T. -0.00 min  
 Lab File: VL036600.D  
 Acq: 31 Mar 2021 13:44

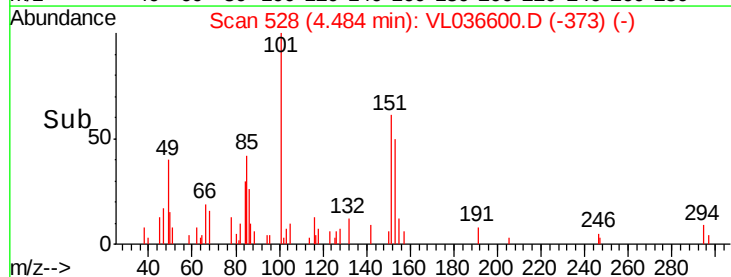
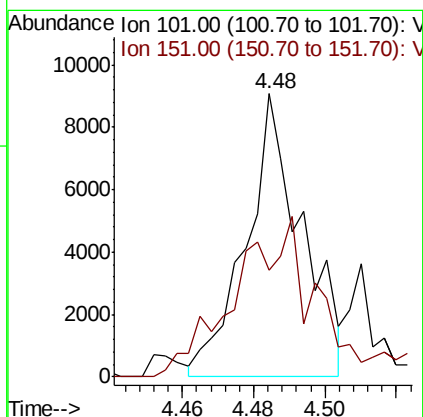
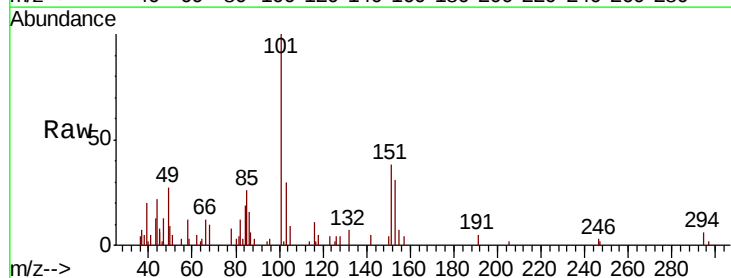
Instrument :  
 MSVOA\_L  
 ClientSampleId :

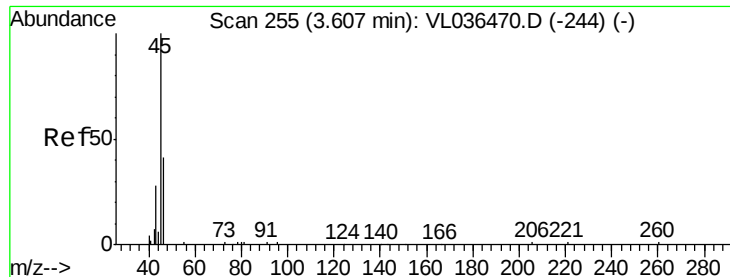
Tot Ion:101 Resp: 34676  
 Ion Ratio Lower Upper  
 101 100  
 103 63.9 52.5 78.7



#12  
 1,1,2-Trichlorotrifluoroethane  
 Concen: 0.068 ppbv  
 RT: 4.48 min Scan# 528  
 Delta R.T. -0.00 min  
 Lab File: VL036600.D  
 Acq: 31 Mar 2021 13:44

Tgt Ion:101 Resp: 9836  
 Ion Ratio Lower Upper  
 101 100  
 151 86.1 60.9 91.3

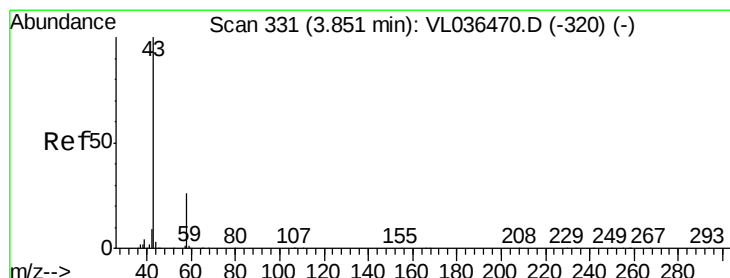
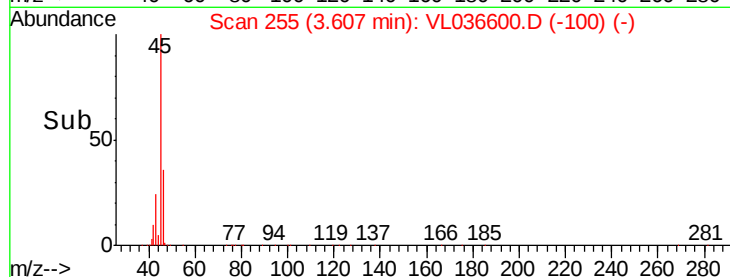
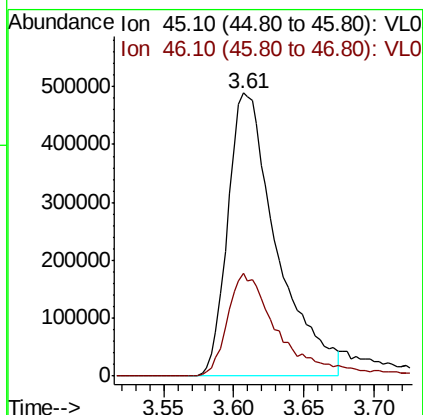
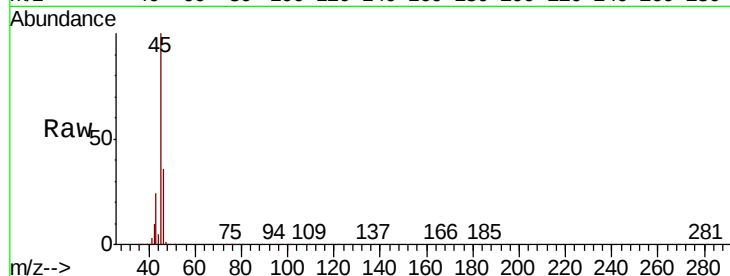




#13  
Ethanol  
Concen: 121.798 ppbv  
RT: 3.61 min Scan# 255  
Delta R.T. -0.00 min  
Lab File: VL036600.D  
Acq: 31 Mar 2021 13:44

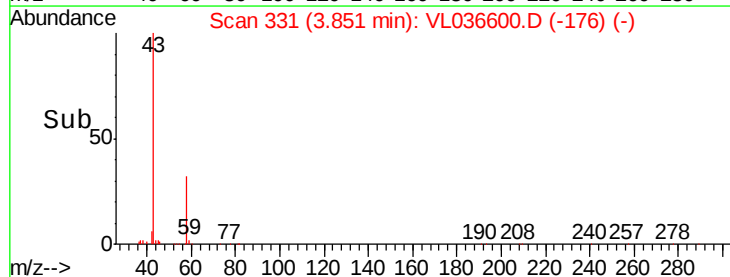
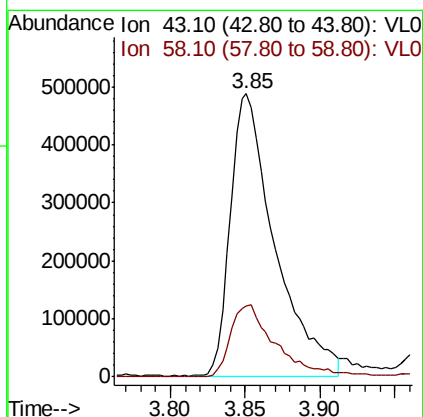
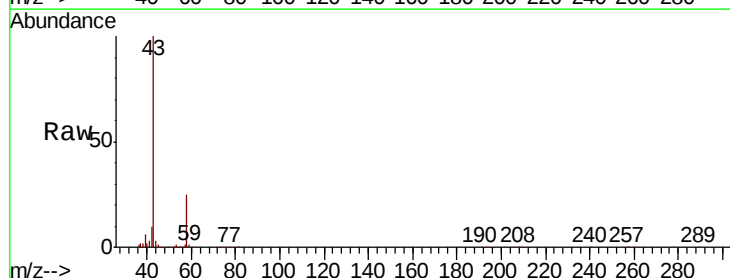
Instrument :  
MSVOA\_L  
ClientSampleId :

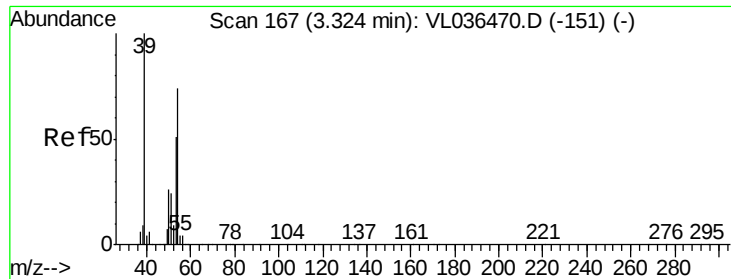
Tot Ion: 45 Resp: 1182790  
Ion Ratio Lower Upper  
45 100  
46 39.0 16.6 66.2



#15  
Acetone  
Concen: 7.444 ppbv  
RT: 3.85 min Scan# 331  
Delta R.T. -0.00 min  
Lab File: VL036600.D  
Acq: 31 Mar 2021 13:44

Tgt Ion: 43 Resp: 1003144  
Ion Ratio Lower Upper  
43 100  
58 26.5 21.2 31.8

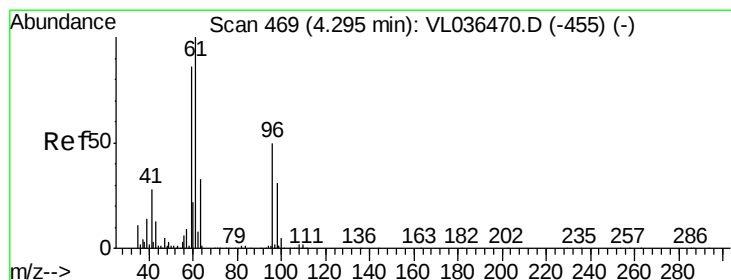
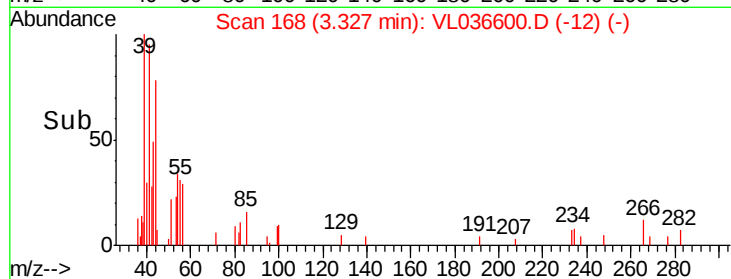
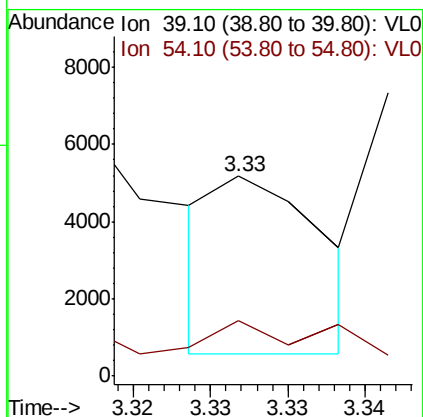
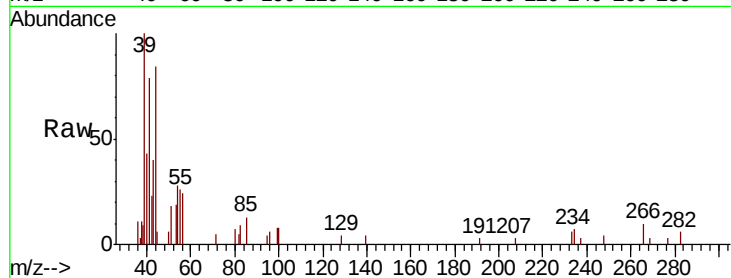




#16  
1,3-Butadiene  
Concen: 0.023 ppbv  
RT: 3.33 min Scan# 168  
Delta R.T. 0.00 min  
Lab File: VL036600.D  
Acq: 31 Mar 2021 13:44

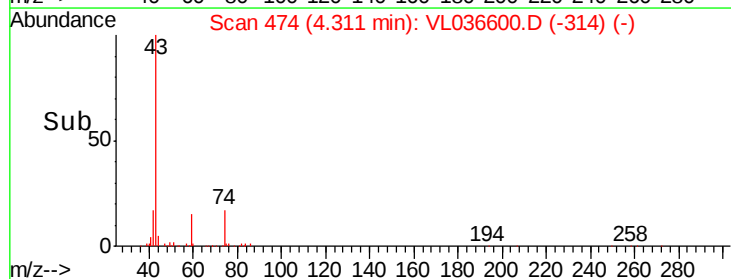
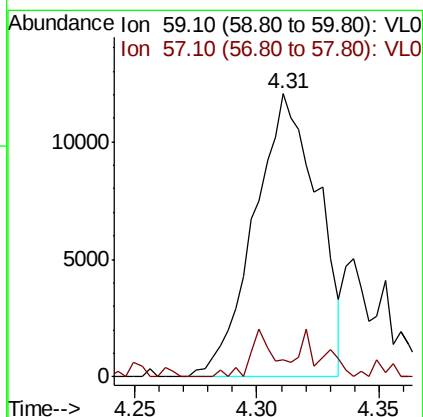
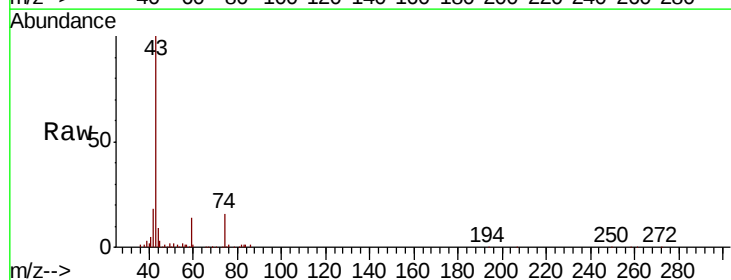
Instrument :  
MSVOA\_L  
ClientSampled :

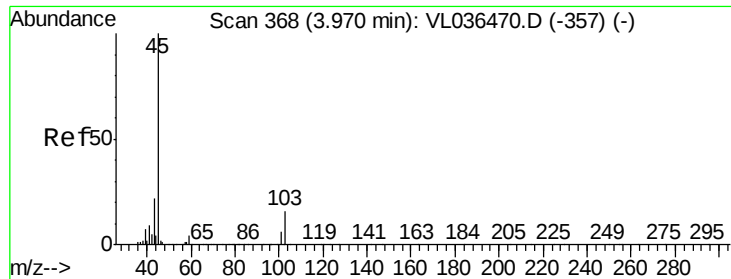
Tot Ion: 39 Resp: 2175  
Ion Ratio Lower Upper  
39 100  
54 145.8 58.8 88.2#



#17  
tert-Butyl alcohol  
Concen: 0.185 ppbv  
RT: 4.31 min Scan# 474  
Delta R.T. 0.02 min  
Lab File: VL036600.D  
Acq: 31 Mar 2021 13:44

Tgt Ion: 59 Resp: 21703  
Ion Ratio Lower Upper  
59 100  
57 13.5 8.6 12.8#





#19

Isopropyl Alcohol

Concen: 8.305 ppbv

RT: 3.98 min Scan# 370

Delta R.T. 0.01 min

Lab File: VL036600.D

Acq: 31 Mar 2021 13:44

Instrument :

MSVOA\_L

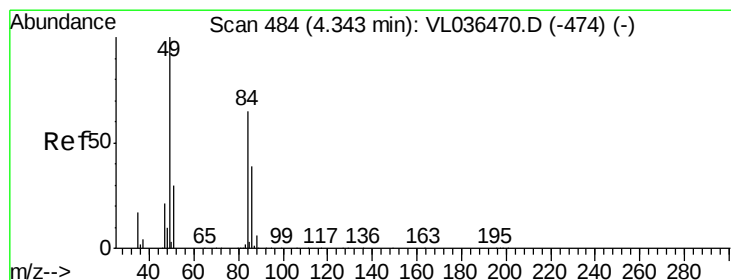
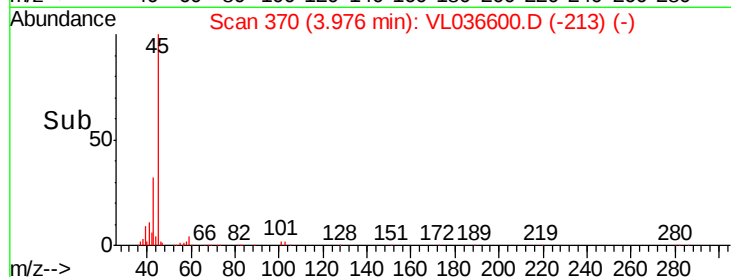
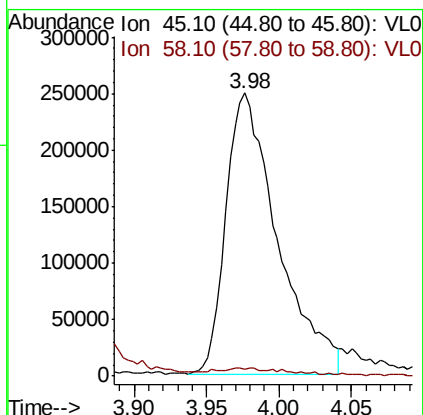
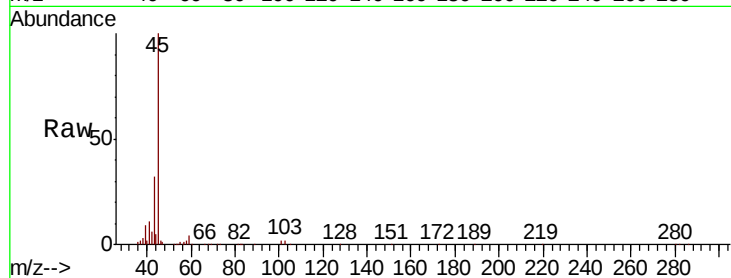
ClientSampled :

Tot Ion: 45 Resp: 615621

Ion Ratio Lower Upper

45 100

58 4.1 2.9 4.3



#20

Methylene Chloride

Concen: 5.374 ppbv

RT: 4.35 min Scan# 485

Delta R.T. 0.00 min

Lab File: VL036600.D

Acq: 31 Mar 2021 13:44

Tgt Ion: 84 Resp: 339084

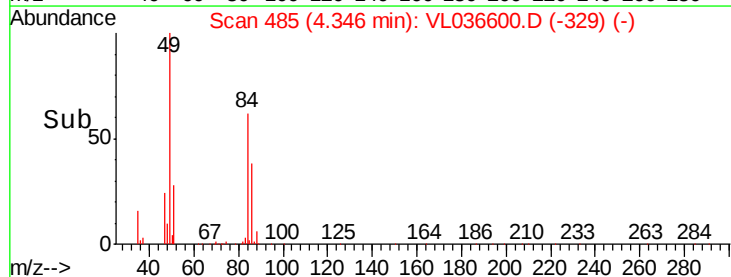
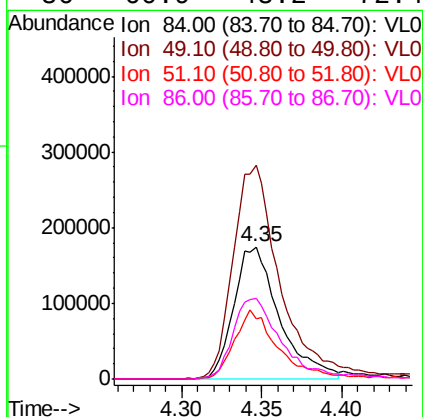
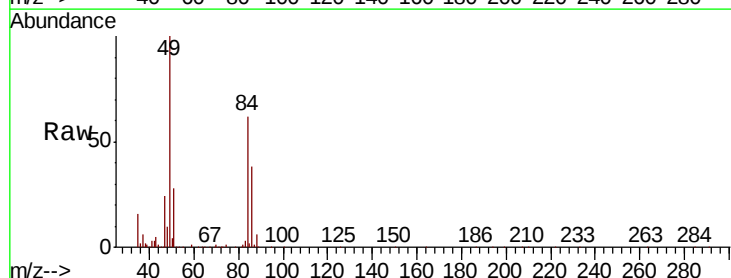
Ion Ratio Lower Upper

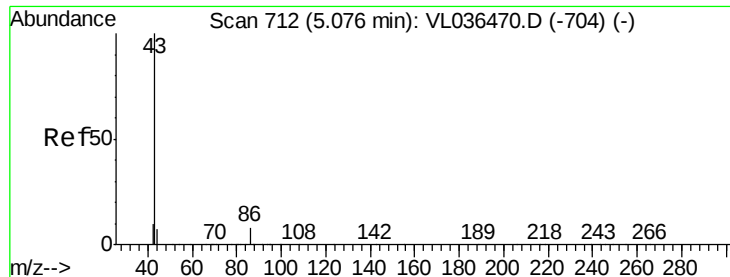
84 100

49 161.2 122.9 184.3

51 45.1 36.9 55.3

86 60.9 48.2 72.4





#23

Vinyl Acetate

Concen: 0.177 ppbv

RT: 5.07 min Scan# 709

Delta R.T. -0.01 min

Lab File: VL036600.D

Acq: 31 Mar 2021 13:44

Instrument :

MSVOA\_L

ClientSampleId :

Tot Ion: 43 Resp: 40793

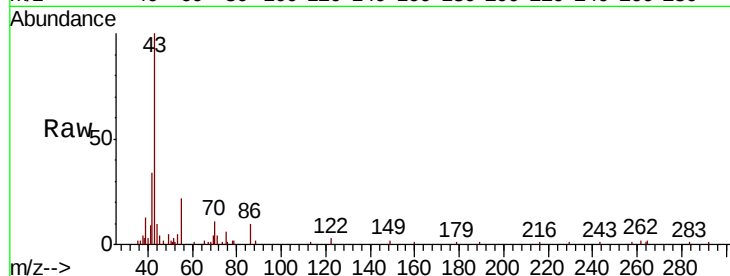
Ion Ratio Lower Upper

43 100

86 10.1 5.4 8.0#

42 33.1 8.5 12.7#

44 0.0 4.6 7.0#

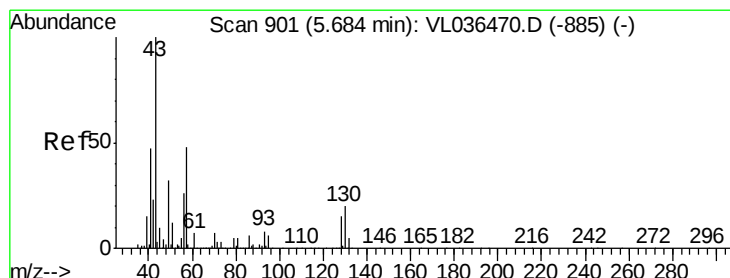
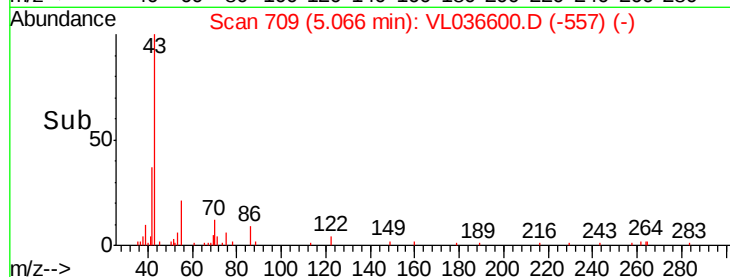
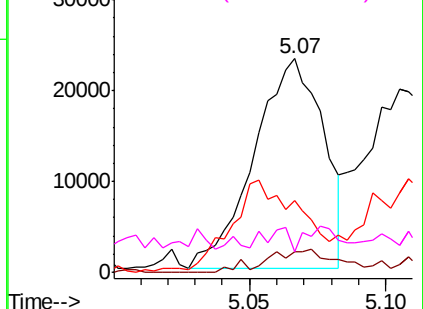


Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 86.10 (85.80 to 86.80): VL0

Ion 42.10 (41.80 to 42.80): VL0

Ion 44.10 (43.80 to 44.80): VL0



#25

Ethyl Acetate

Concen: 1.814 ppbv

RT: 5.69 min Scan# 902

Delta R.T. 0.00 min

Lab File: VL036600.D

Acq: 31 Mar 2021 13:44

Tgt Ion: 43 Resp: 581078

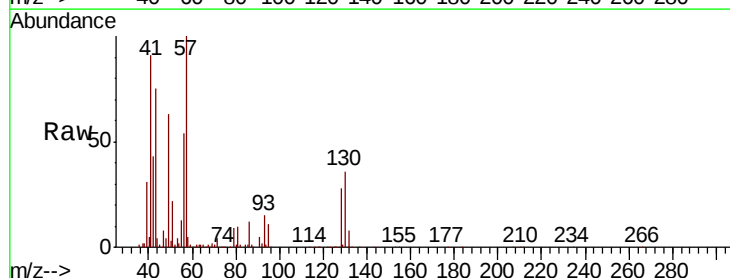
Ion Ratio Lower Upper

43 100

45 4.1 7.9 11.9#

61 1.2 7.4 11.2#

70 1.9 5.1 7.7#

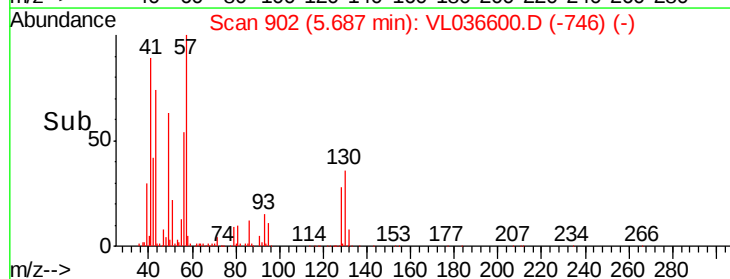
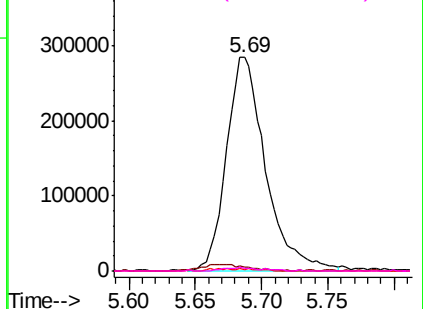


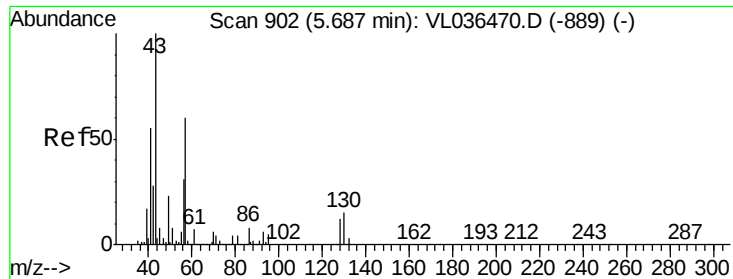
Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 45.10 (44.80 to 45.80): VL0

Ion 61.10 (60.80 to 61.80): VL0

Ion 70.10 (69.80 to 70.80): VL0

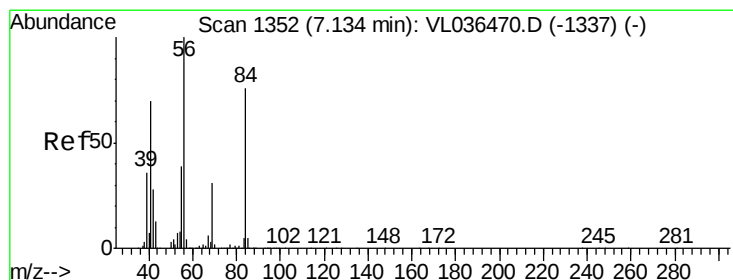
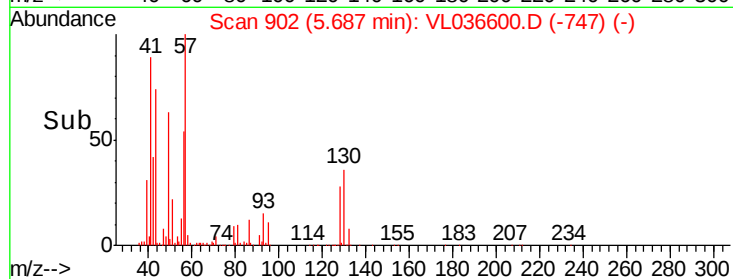
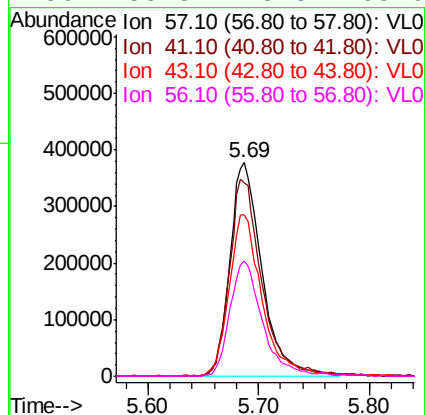
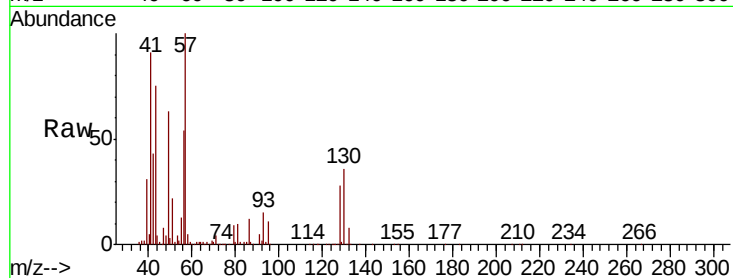




#26  
Hexane  
Concen: 5.109 ppbv  
RT: 5.69 min Scan# 902  
Delta R.T. -0.00 min  
Lab File: VL036600.D  
Acq: 31 Mar 2021 13:44

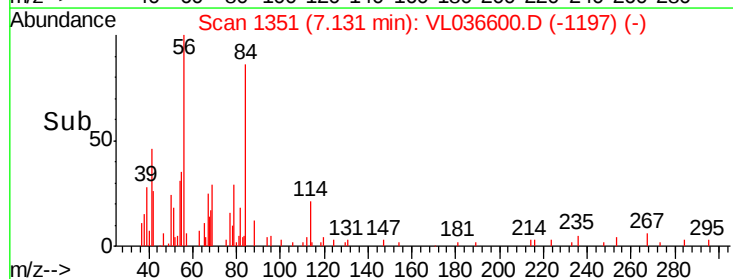
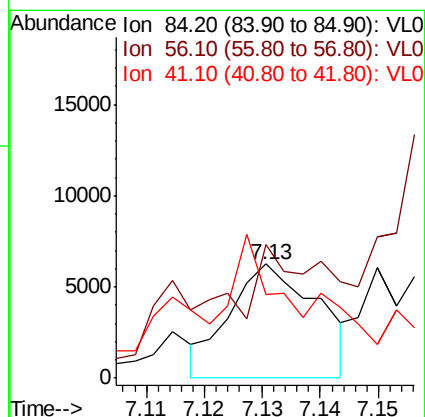
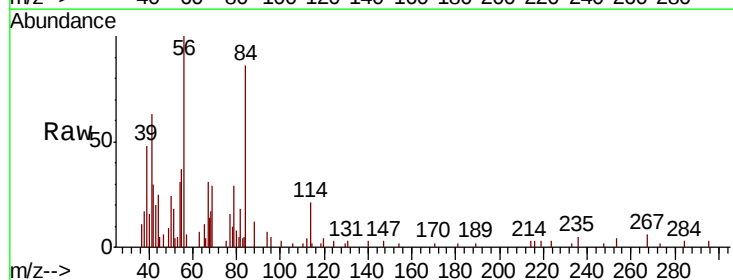
Instrument :  
MSVOA\_L  
ClientSampleId :

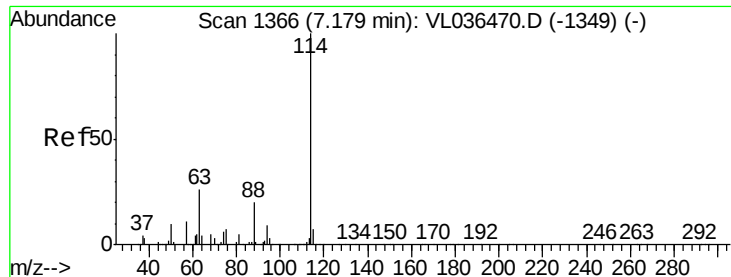
| Tot Ion | Ratio | Lower | Upper  |
|---------|-------|-------|--------|
| 57      | 100   |       |        |
| 41      | 94.8  | 77.2  | 115.8  |
| 43      | 78.8  | 173.8 | 260.6# |
| 56      | 55.8  | 43.8  | 65.6   |



#30  
Cyclohexane  
Concen: 0.054 ppbv  
RT: 7.13 min Scan# 1351  
Delta R.T. -0.00 min  
Lab File: VL036600.D  
Acq: 31 Mar 2021 13:44

| Tgt Ion | Ratio | Lower | Upper  |
|---------|-------|-------|--------|
| 84      | 100   |       |        |
| 56      | 0.0   | 114.6 | 171.8# |
| 41      | 243.3 | 75.3  | 112.9# |

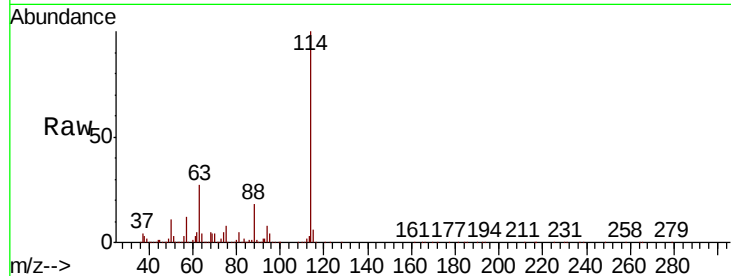




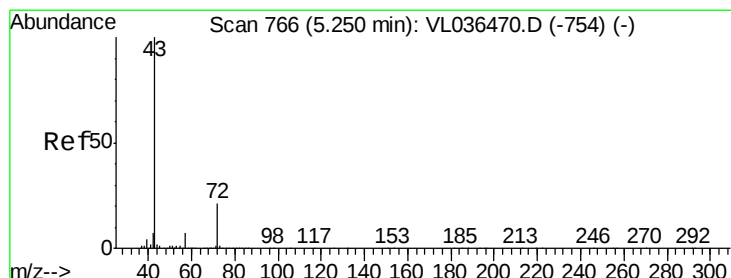
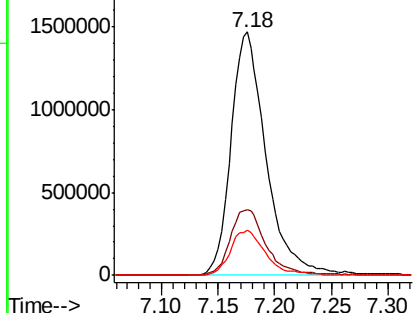
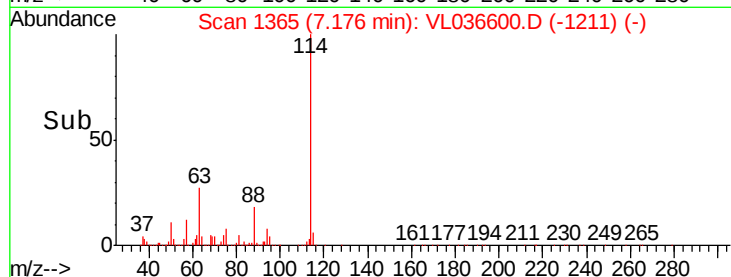
#33  
 1,4-Difluorobenzene  
 Concen: 10.000 ppbv  
 RT: 7.18 min Scan# 1365  
 Delta R.T. -0.00 min  
 Lab File: VL036600.D  
 Acq: 31 Mar 2021 13:44

Instrument :  
 MSVOA\_L  
 ClientSampleId :

Tot Ion:114 Resp: 3162918  
 Ion Ratio Lower Upper  
 114 100  
 63 28.0 22.4 33.6  
 88 19.0 15.4 23.0

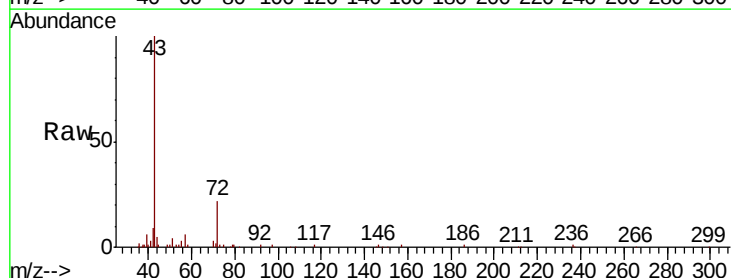


Abundance Ion 114.10 (113.80 to 114.80): V  
 2000000 Ion 63.10 (62.80 to 63.80): VL0  
 Ion 88.10 (87.80 to 88.80): VL0

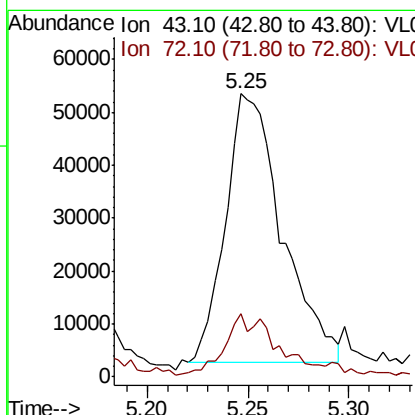
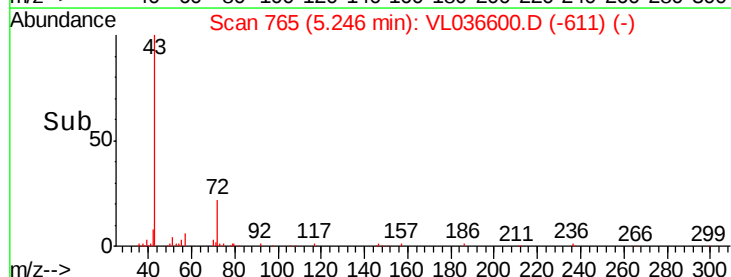


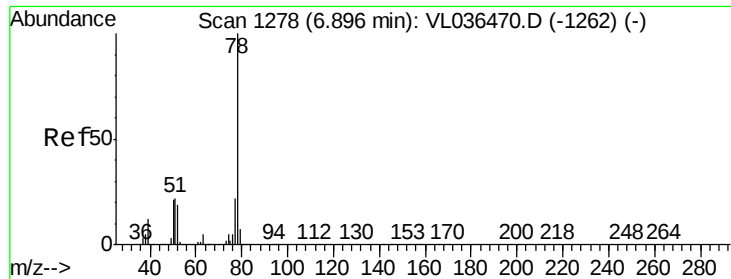
#34  
 2-Butanone  
 Concen: 0.645 ppbv  
 RT: 5.25 min Scan# 765  
 Delta R.T. -0.00 min  
 Lab File: VL036600.D  
 Acq: 31 Mar 2021 13:44

Tgt Ion: 43 Resp: 99657  
 Ion Ratio Lower Upper  
 43 100  
 72 23.6 17.0 25.6



Abundance Ion 43.10 (42.80 to 43.80): VL0  
 60000 Ion 72.10 (71.80 to 72.80): VL0

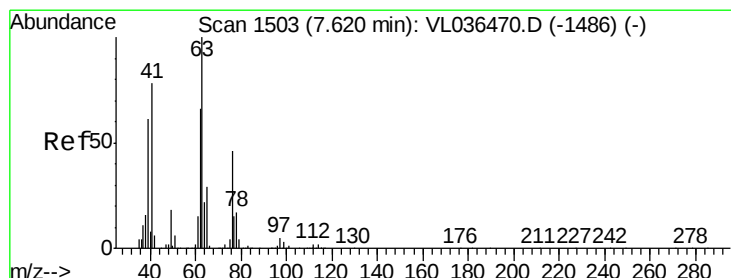
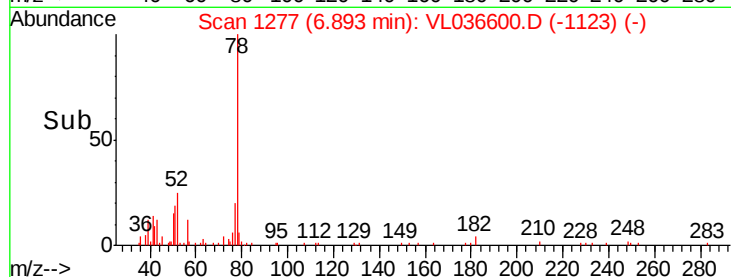
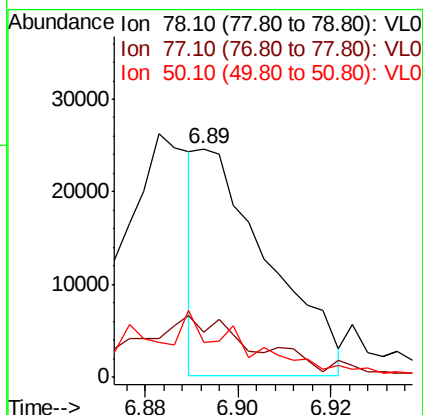
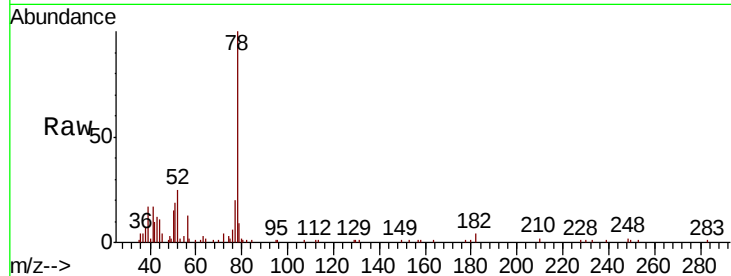




#36  
Benzene  
Concen: 0.088 ppbv  
RT: 6.89 min Scan# 1277  
Delta R.T. -0.00 min  
Lab File: VL036600.D  
Acq: 31 Mar 2021 13:44

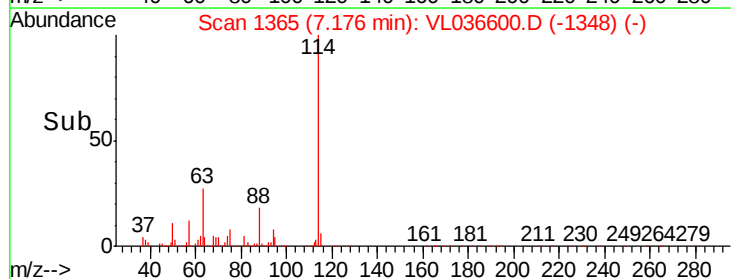
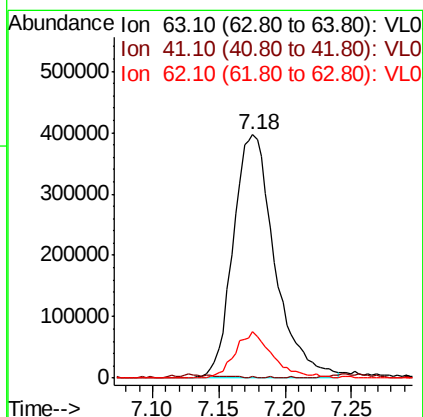
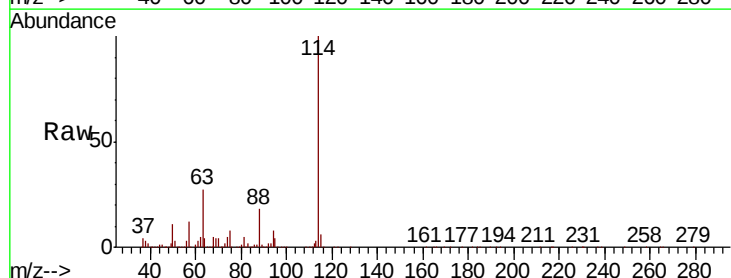
Instrument :  
MSVOA\_L  
ClientSampleId :

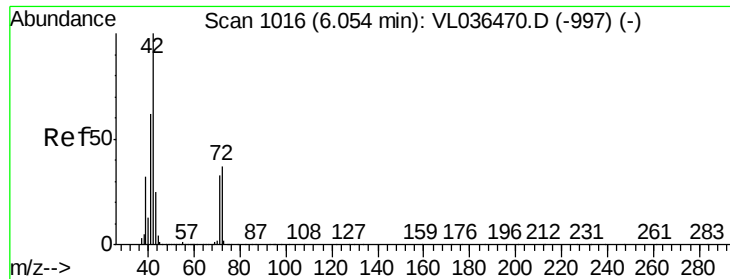
Tot Ion: 78 Resp: 25799  
Ion Ratio Lower Upper  
78 100  
77 14.0 18.0 27.0#  
50 11.5 16.5 24.7#



#39  
1,2-Dichloropropane  
Concen: 7.278 ppbv  
RT: 7.18 min Scan# 1365  
Delta R.T. -0.44 min  
Lab File: VL036600.D  
Acq: 31 Mar 2021 13:44

Tgt Ion: 63 Resp: 861211  
Ion Ratio Lower Upper  
63 100  
41 0.0 62.4 93.6#  
62 18.9 52.8 79.2#

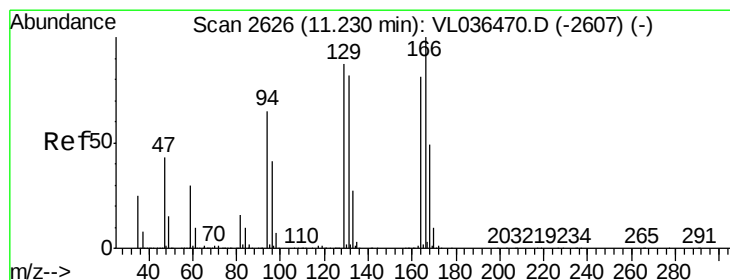
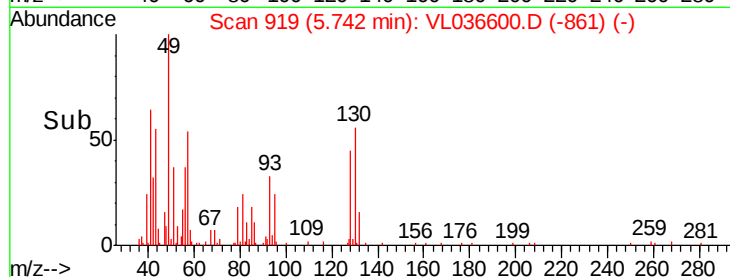
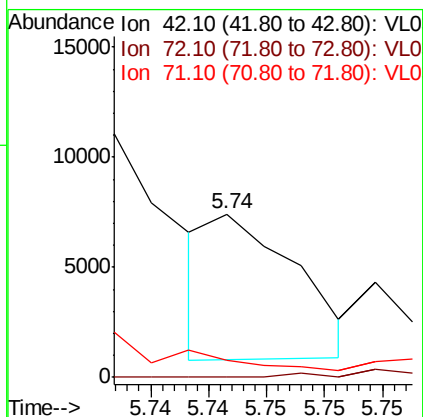
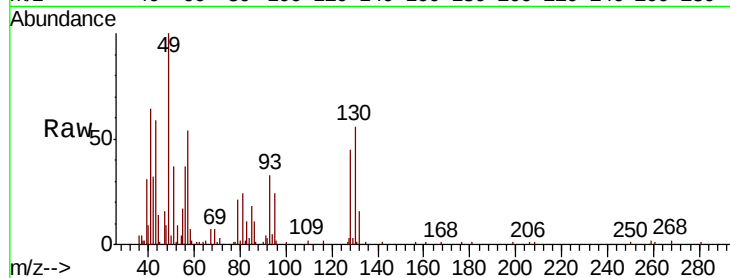




#41  
Tetrahydrofuran  
Concen: 0.048 ppbv  
RT: 5.74 min Scan# 919  
Delta R.T. -0.31 min  
Lab File: VL036600.D  
Acq: 31 Mar 2021 13:44

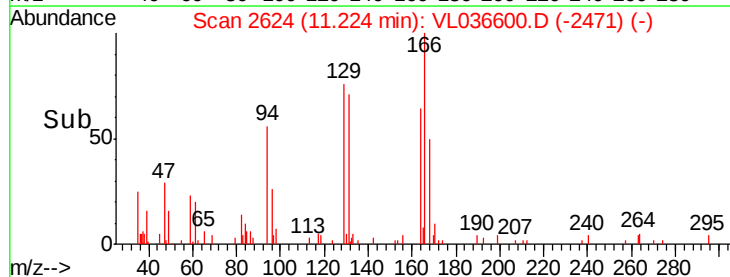
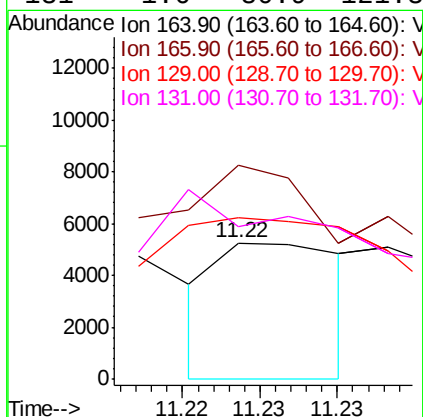
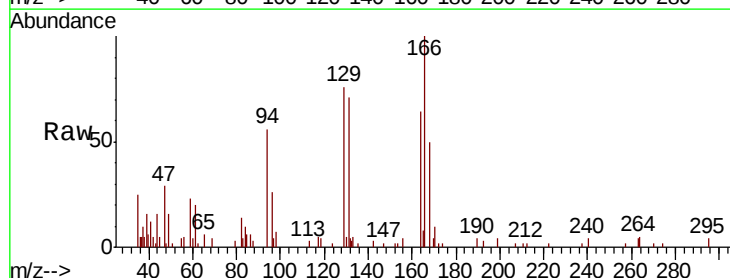
Instrument :  
MSVOA\_L  
ClientSampled :

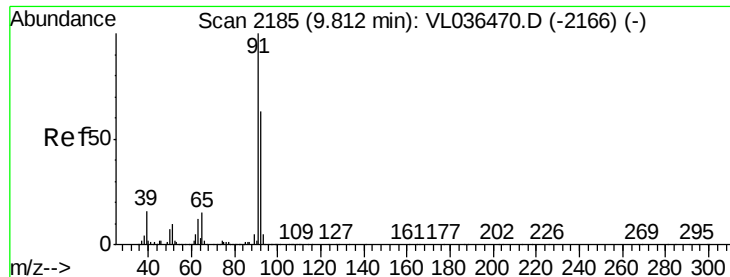
Tot Ion: 42 Resp: 3432  
Ion Ratio Lower Upper  
42 100  
72 4.3 27.6 41.4#  
71 0.0 27.0 40.4#



#52  
Tetrachloroethene  
Concen: 0.027 ppbv  
RT: 11.22 min Scan# 2624  
Delta R.T. -0.01 min  
Lab File: VL036600.D  
Acq: 31 Mar 2021 13:44

Tgt Ion: 164 Resp: 2941  
Ion Ratio Lower Upper  
164 100  
166 186.2 98.3 147.5#  
129 21.4 85.8 128.8#  
131 1.6 80.9 121.3#





#53

Toluene

Concen: 6.267 ppbv

RT: 9.81 min Scan# 2183

Delta R.T. -0.01 min

Lab File: VL036600.D

Acq: 31 Mar 2021 13:44

Instrument :

MSVOA\_L

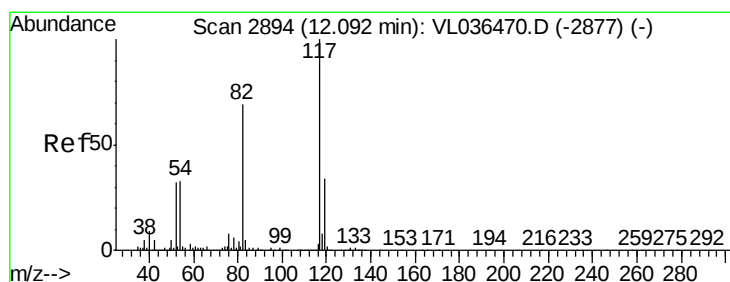
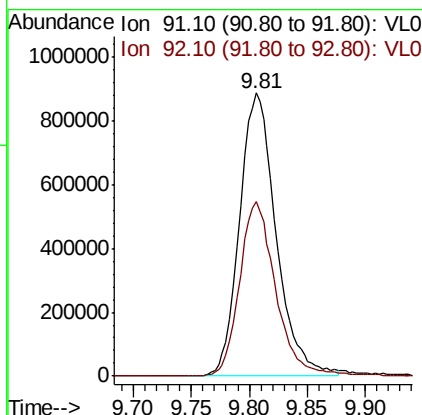
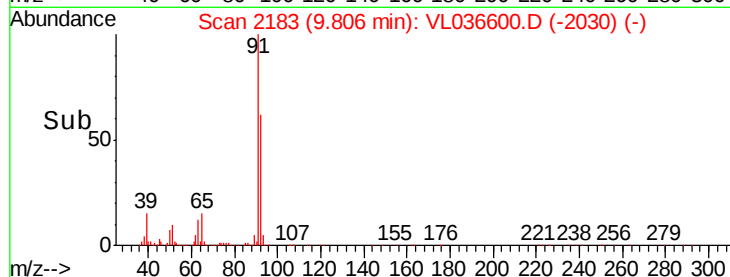
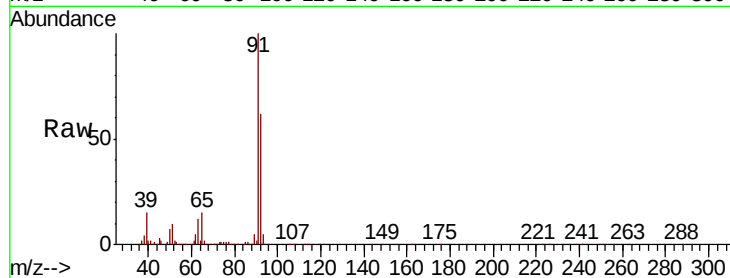
ClientSampleId :

Tot Ion: 91 Resp: 1946910

Ion Ratio Lower Upper

91 100

92 61.3 48.8 73.2



#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 12.09 min Scan# 2892

Delta R.T. -0.01 min

Lab File: VL036600.D

Acq: 31 Mar 2021 13:44

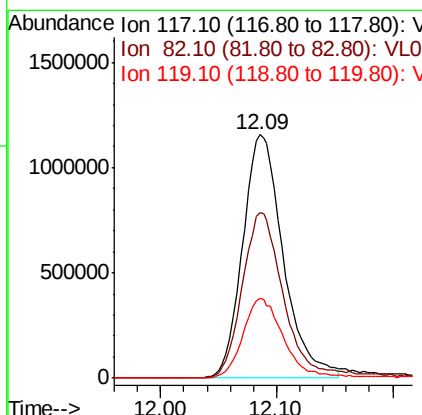
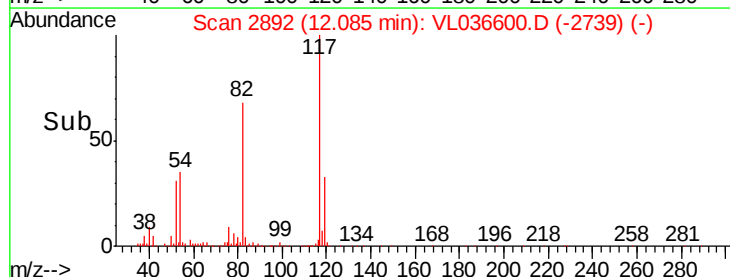
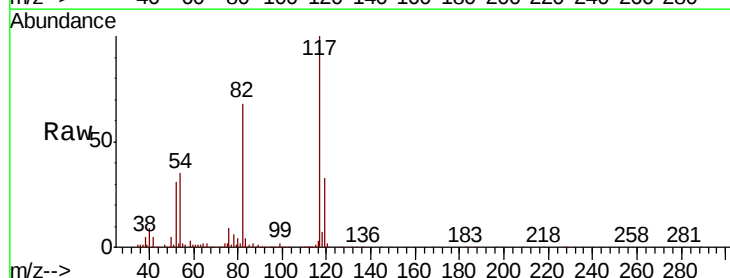
Tgt Ion: 117 Resp: 2812203

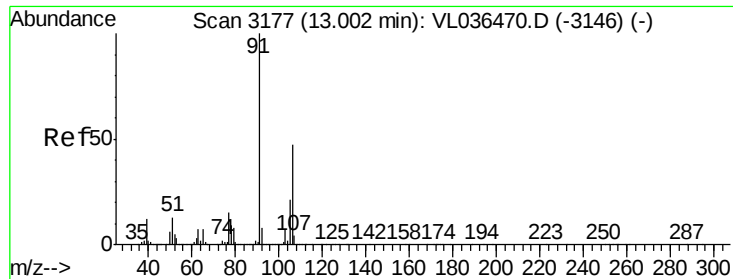
Ion Ratio Lower Upper

117 100

82 70.5 57.4 86.0

119 33.4 47.4 71.0#

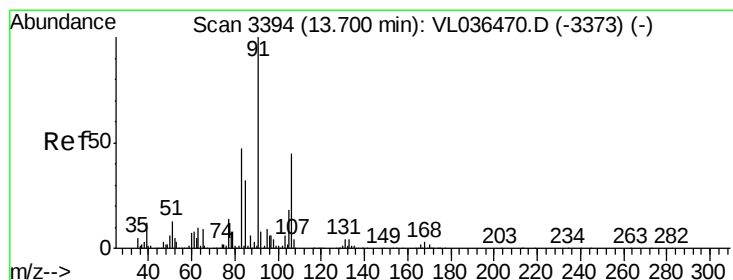
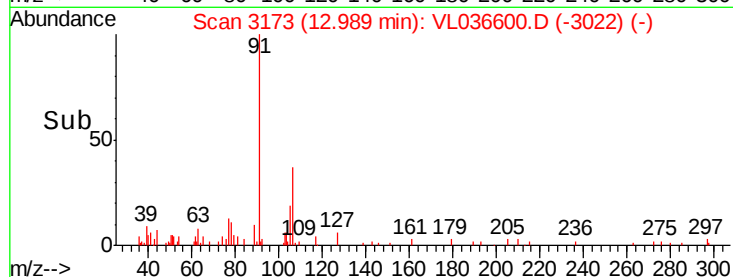
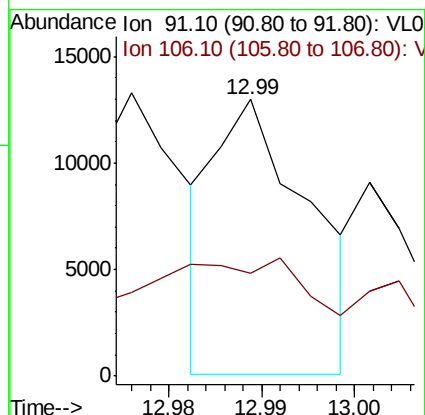
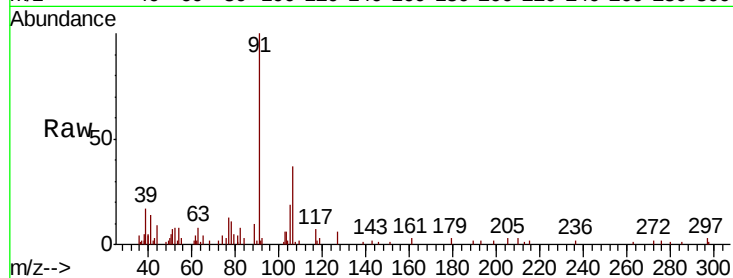




#59  
m/p-Xylene  
Concen: 0.025 ppbv  
RT: 12.99 min Scan# 3173  
Delta R.T. -0.01 min  
Lab File: VL036600.D  
Acq: 31 Mar 2021 13:44

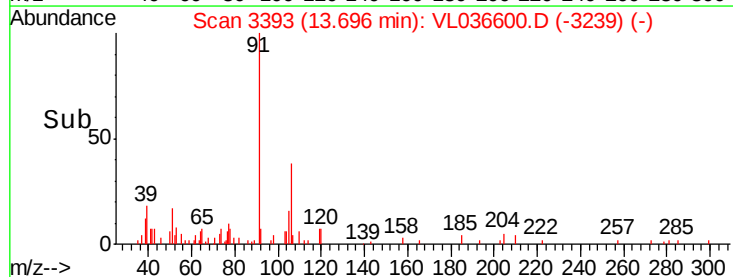
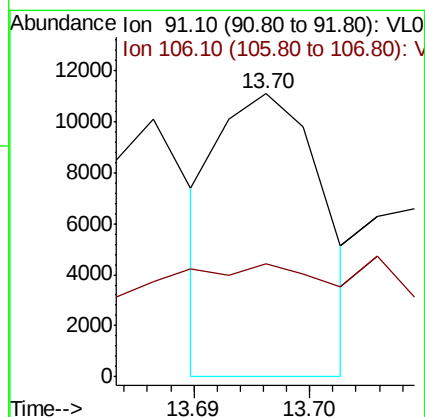
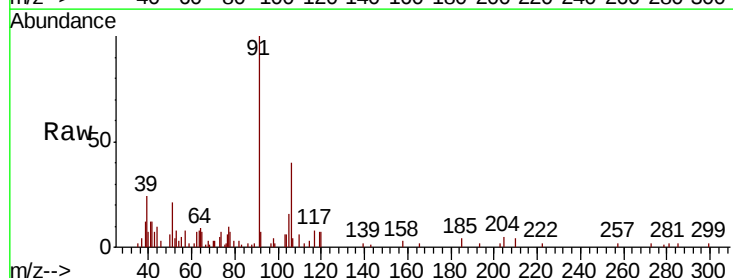
Instrument :  
MSVOA\_L  
ClientSampleId :

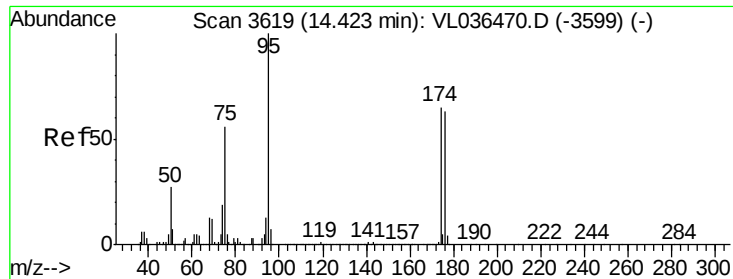
Tot Ion: 91 Resp: 9085  
Ion Ratio Lower Upper  
91 100  
106 0.0 35.3 52.9#



#60  
o-Xylene  
Concen: 0.020 ppbv  
RT: 13.70 min Scan# 3393  
Delta R.T. -0.00 min  
Lab File: VL036600.D  
Acq: 31 Mar 2021 13:44

Tgt Ion: 91 Resp: 6965  
Ion Ratio Lower Upper  
91 100  
106 0.0 22.3 66.9#





#68

1-Bromo-4-Fluorobenzene

Concen: 10.082 ppbv

RT: 14.42 min Scan# 3617

Delta R.T. -0.01 min

Lab File: VL036600.D

Acq: 31 Mar 2021 13:44

Instrument :

MSVOA\_L

ClientSampled :

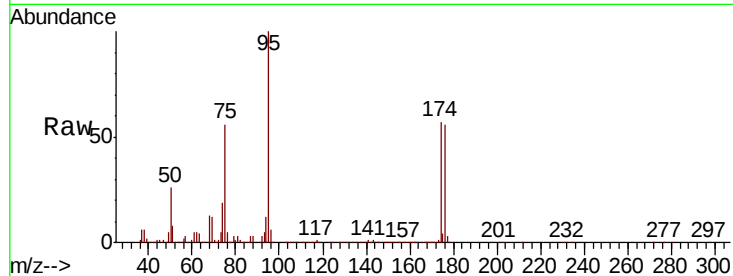
Tot Ion: 95 Resp: 2259792

Ion Ratio Lower Upper

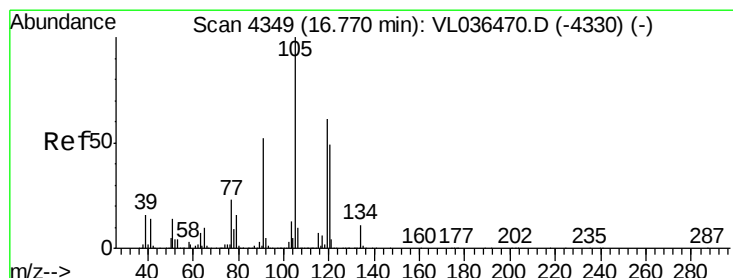
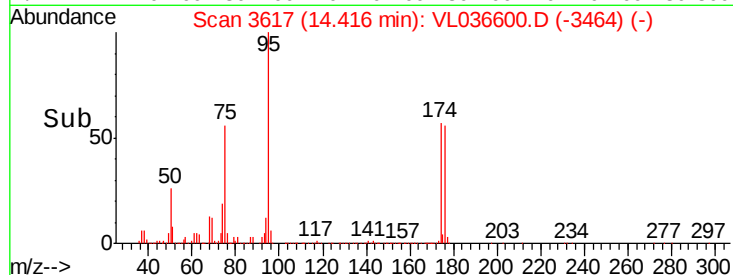
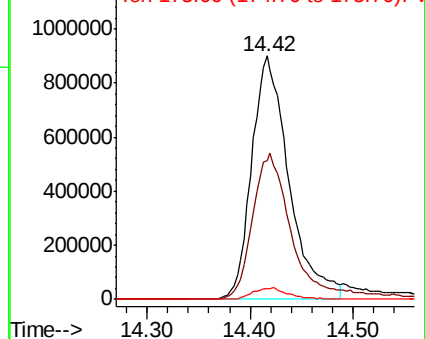
95 100

174 65.8 51.0 76.6

175 5.0 3.9 5.9



Abundance Ion 95.10 (94.80 to 95.80): VL0  
Ion 174.00 (173.70 to 174.70): V  
Ion 175.00 (174.70 to 175.70): V



#74

1,2,4-Trimethylbenzene

Concen: 0.029 ppbv

RT: 16.77 min Scan# 4348

Delta R.T. -0.00 min

Lab File: VL036600.D

Acq: 31 Mar 2021 13:44

Tgt Ion:105 Resp: 10799

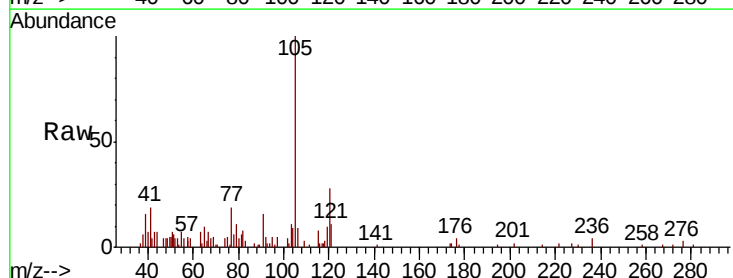
Ion Ratio Lower Upper

105 100

120 18.7 39.2 58.8#

91 2.7 42.6 64.0#

77 19.7 18.6 28.0



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

