

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL120820\  
 Data File : VL036103.D  
 Acq On : 8 Dec 2020 20:28  
 Operator : SY/AP  
 Sample : L4949-03DL 10X  
 Misc : 400ml/MSVOA L  
 ALS Vial : 1 Sample Multiplier: 1

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 IA-1DL

Manual Integrations  
 APPROVED

MMDadoda  
 12/11/2020 12:23:15 PM

Quant Time: Dec 09 22:30:50 2020  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL120720AIR.M  
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Mon Dec 0  
 QLast Update : Mon Dec 07 16:56:49 2020  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 5.67  | 49   | 1197314  | 10.00 | ppbv  | 0.00     |
| 33) 1,4-Difluorobenzene | 7.19  | 114  | 2667622  | 10.00 | ppbv  | -0.01    |
| 55) Chlorobenzene-d5    | 12.10 | 117  | 2378827  | 10.00 | ppbv  | 0.00     |

System Monitoring Compounds

|                             |        |       |          |          |      |         |
|-----------------------------|--------|-------|----------|----------|------|---------|
| 68) 1-Bromo-4-Fluorobenzene | 14.43  | 95    | 2022137  | 10.71    | ppbv | -0.01   |
| Spiked Amount               | 10.000 | Range | 65 - 135 | Recovery | =    | 107.10% |

| Target Compounds           | R.T.  | QIon | Response | Conc   | Units  | Ovalue |
|----------------------------|-------|------|----------|--------|--------|--------|
| 9) Propene                 | 3.02  | 41   | 91505m   | 1.337  | ppbv   |        |
| 10) Heptane                | 8.13  | 43   | 252851   | 1.447  | ppbv   | 98     |
| 13) Ethanol                | 3.61  | 45   | 446404   | 47.320 | ppbv   | 86     |
| 15) Acetone                | 3.85  | 43   | 4703237  | 32.684 | ppbv   | 97     |
| 19) Isopropyl Alcohol      | 3.98  | 45   | 162866m  | 1.852  | ppbv   |        |
| 25) Ethyl Acetate          | 5.68  | 43   | 624107   | 2.171  | ppbv   | 97     |
| 26) Hexane                 | 5.69  | 57   | 227126m  | 1.756  | ppbv   |        |
| 30) Cyclohexane            | 7.13  | 84   | 86143m   | 0.906  | ppbv   |        |
| 34) 2-Butanone             | 5.25  | 43   | 681536   | 3.852  | ppbv   | 98     |
| 36) Benzene                | 6.90  | 78   | 132524   | 0.586  | ppbv # | 85     |
| 41) Tetrahydrofuran        | 6.06  | 42   | 191825m  | 1.825  | ppbv   |        |
| 44) 2,2,4-Trimethylpentane | 7.88  | 57   | 739643   | 1.807  | ppbv # | 83     |
| 53) Toluene                | 9.82  | 91   | 4009499  | 15.794 | ppbv   | 99     |
| 58) Ethyl Benzene          | 12.72 | 91   | 728832   | 2.236  | ppbv   | 95     |
| 59) m/p-Xylene             | 12.98 | 91   | 2202377  | 8.021  | ppbv   | 98     |
| 60) o-Xylene               | 13.71 | 91   | 859478   | 3.322  | ppbv   | 97     |
| 64) n-propylbenzene        | 15.58 | 120  | 64872m   | 0.703  | ppbv   |        |
| 65) tert-Butylbenzene      | 16.78 | 119  | 119282m  | 0.380  | ppbv   |        |
| 72) 4-Ethyltoluene         | 15.85 | 105  | 415576   | 1.483  | ppbv   | 96     |
| 73) 1,3,5-Trimethylbenzene | 16.01 | 105  | 364249   | 1.361  | ppbv   | 99     |
| 74) 1,2,4-Trimethylbenzene | 16.78 | 105  | 1141712  | 4.250  | ppbv # | 65     |

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

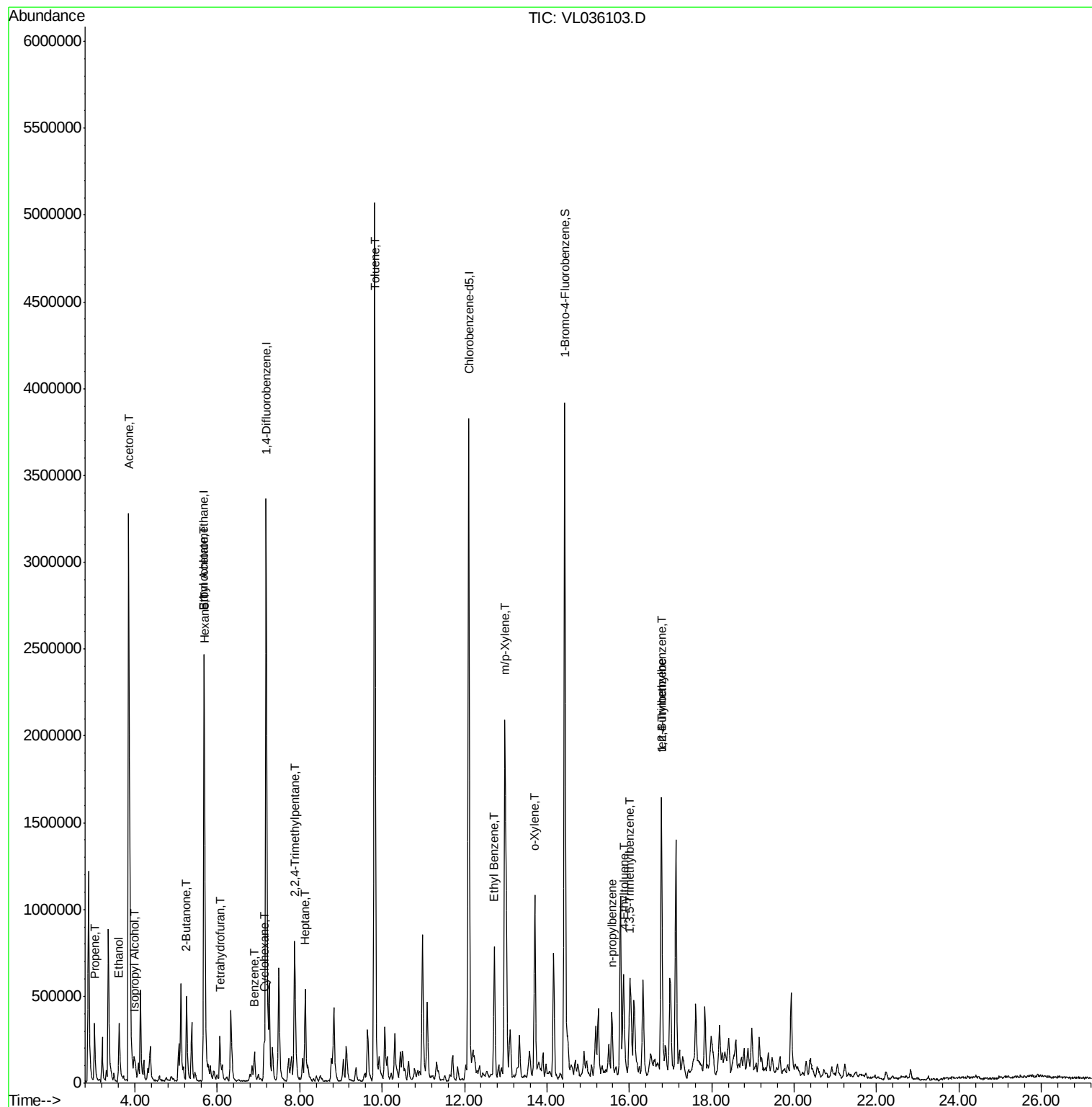
Data Path : Z:\V0ASRV\HPCHEM1\MSVOA L\DATA\VL120820\  
Data File : VL036103.D  
Acq On : 8 Dec 2020 20:28  
Operator : SY/AP  
Sample : L4949-03DL 10X  
Misc : 400ml/MSVOA L  
ALS Vial : 1 Sample Multiplier: 1

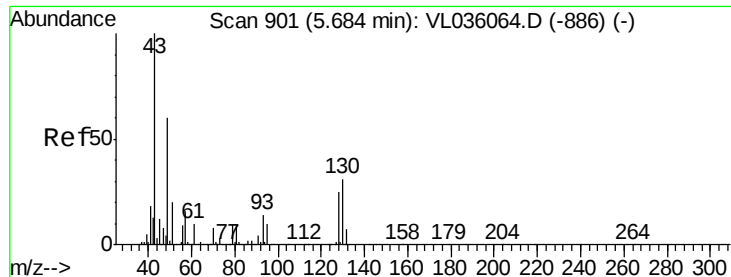
Instrument :  
MSVOA\_L  
ClientSampleId :  
IA-1DL

Manual Integrations  
APPROVED

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12/11/2020 12:23:15 PM

Quant Time: Dec 09 22:30:50 2020  
Quant Method : Z:\V0ASRV\HPCHEM1\MSVOA L\METHODS\VL120720AIR.M  
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Mon Dec  
QLast Update : Mon Dec 07 16:56:49 2020  
Response via : Initial Calibration





#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.67 min Scan# 898

Delta R.T. -0.01 min

Lab File: VL036103.D

Acq: 8 Dec 2020 20:28

Instrument :

MSVOA\_L

ClientSampled :

IA-1DL

Tot Ion: 49 Resp: 1197314

Ion Ratio Lower Upper

49 100

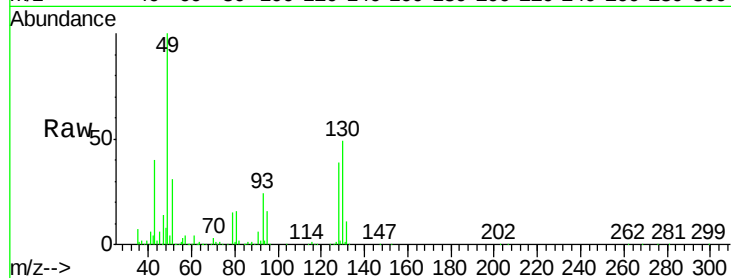
128 39.0 21.1 63.1

130 50.6 27.1 81.3

Manual Integrations  
APPROVED

MMDadoda

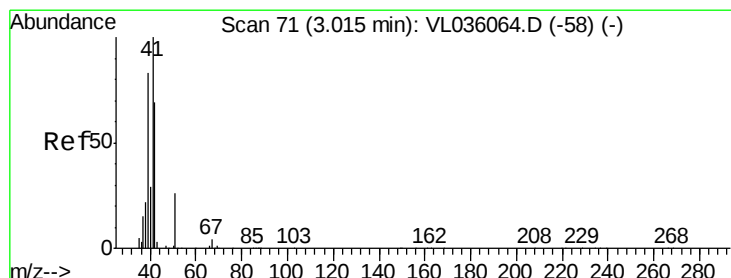
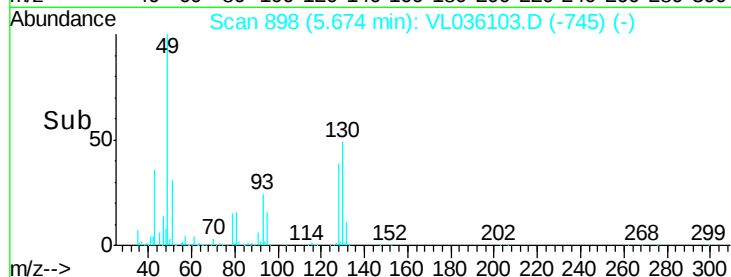
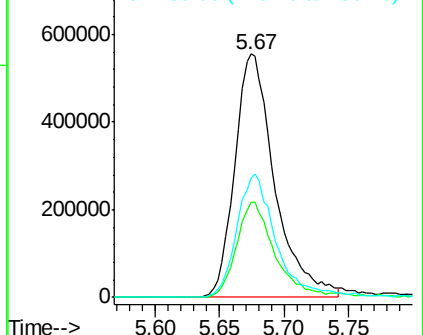
12/11/2020 12:23:15 PM



Abundance Ion 49.10 (48.80 to 49.80): VL0

Ion 128.00 (127.70 to 128.70): VL0

Ion 130.00 (129.70 to 130.70): VL0



#9

Propene

Concen: 1.337 ppbv m

RT: 3.02 min Scan# 72

Delta R.T. 0.00 min

Lab File: VL036103.D

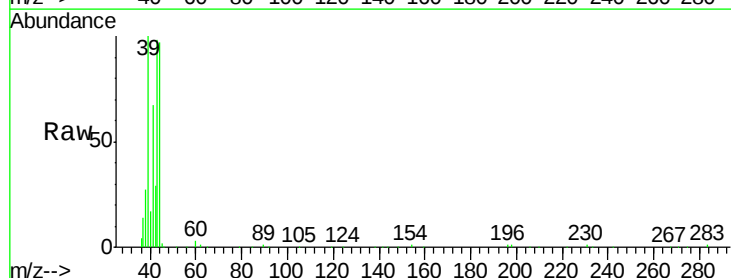
Acq: 8 Dec 2020 20:28

Tgt Ion: 41 Resp: 91505

Ion Ratio Lower Upper

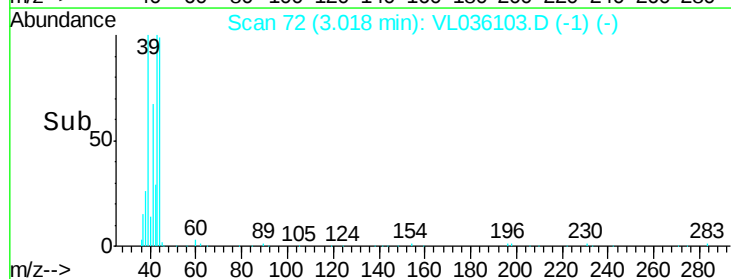
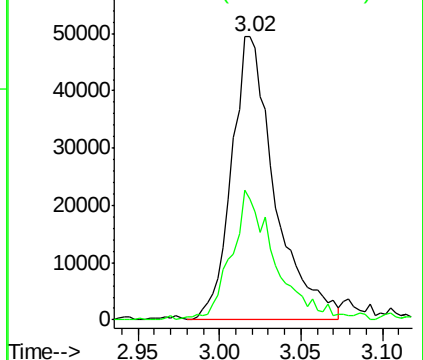
41 100

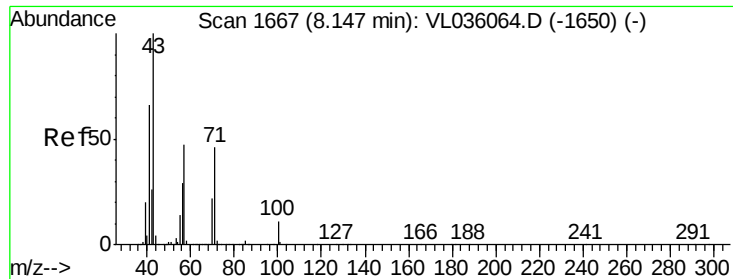
42 65.0 57.0 85.6



Abundance Ion 41.10 (40.80 to 41.80): VL0

Ion 42.10 (41.80 to 42.80): VL0





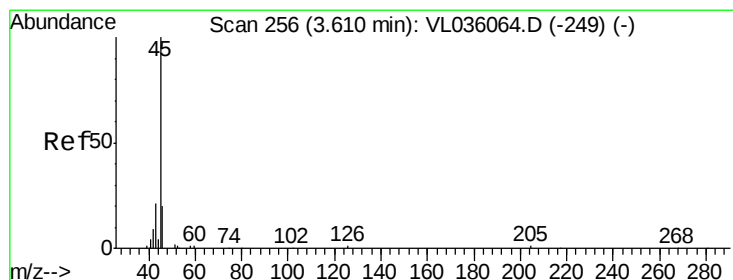
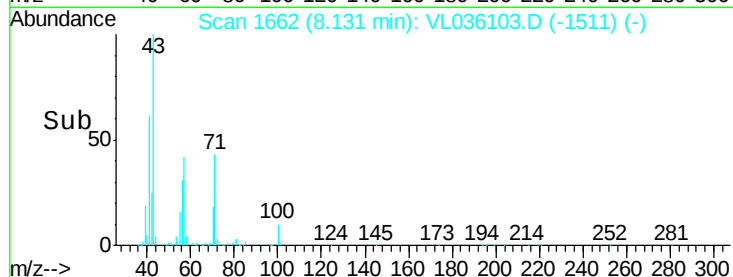
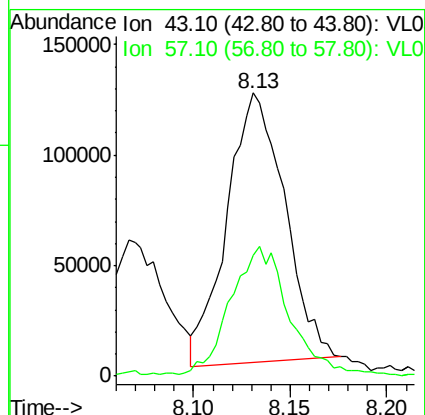
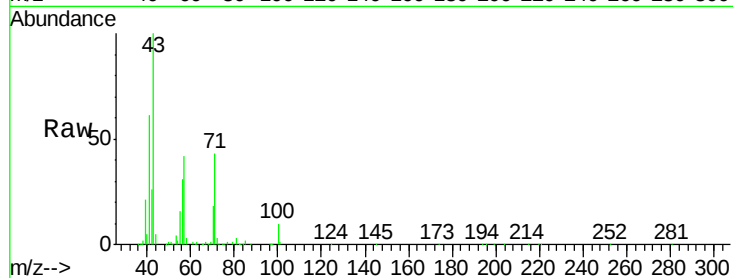
#10  
Heptane  
Concen: 1.447 ppbv  
RT: 8.13 min Scan# 1662  
Delta R.T. -0.02 min  
Lab File: VL036103.D  
Acq: 8 Dec 2020 20:28

Instrument :  
MSVOA\_L  
ClientSampled :  
IA-1DL

Tot Ion: 43 Resp: 252851  
Ion Ratio Lower Upper  
43 100  
57 49.0 37.9 56.9

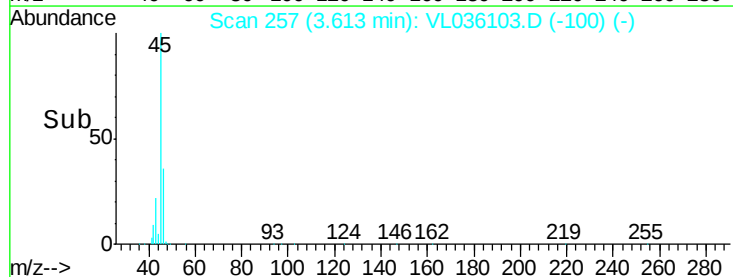
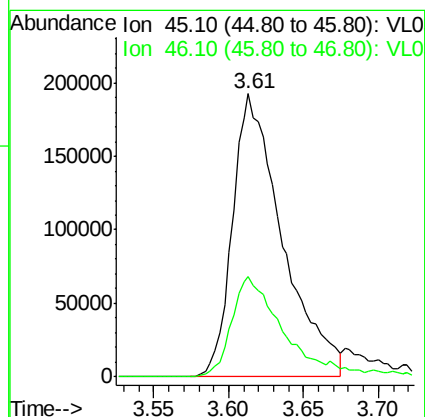
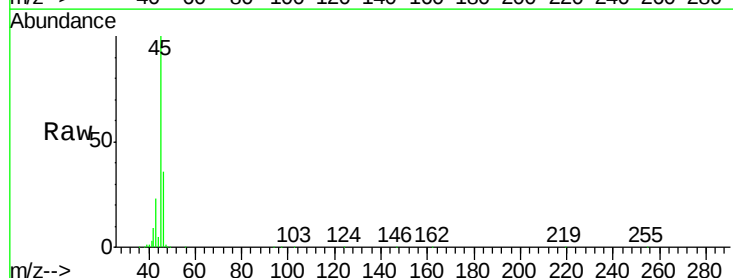
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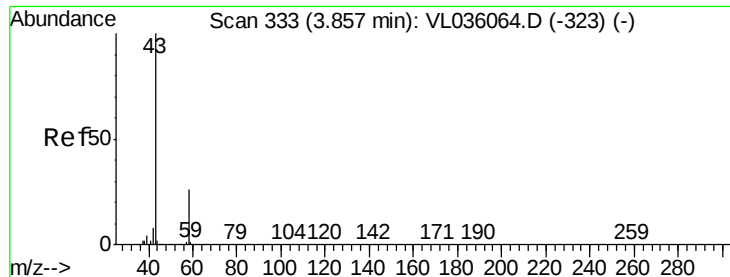
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#13  
Ethanol  
Concen: 47.320 ppbv  
RT: 3.61 min Scan# 257  
Delta R.T. 0.00 min  
Lab File: VL036103.D  
Acq: 8 Dec 2020 20:28

Tgt Ion: 45 Resp: 446404  
Ion Ratio Lower Upper  
45 100  
46 38.0 19.0 75.8





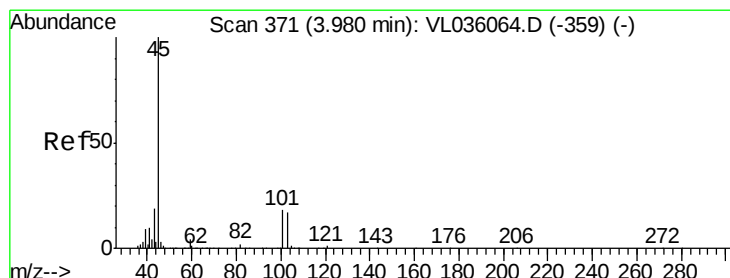
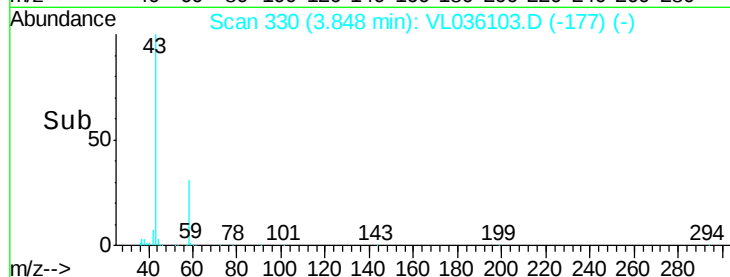
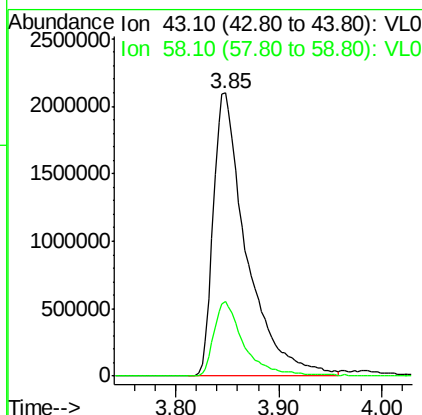
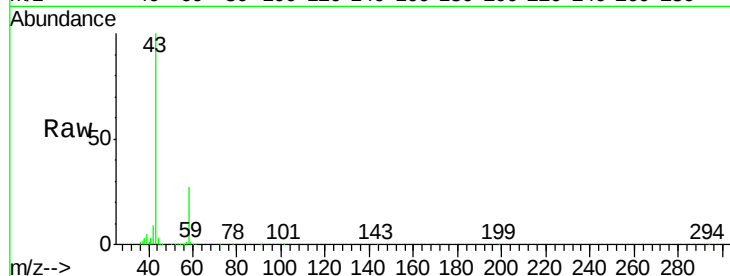
#15  
Acetone  
Concen: 32.684 ppbv  
RT: 3.85 min Scan# 330  
Delta R.T. -0.01 min  
Lab File: VL036103.D  
Acq: 8 Dec 2020 20:28

Instrument :  
MSVOA\_L  
ClientSampleId :  
IA-1DL

Tot Ion: 43 Resp: 4703237  
Ion Ratio Lower Upper  
43 100  
58 24.3 20.9 31.3

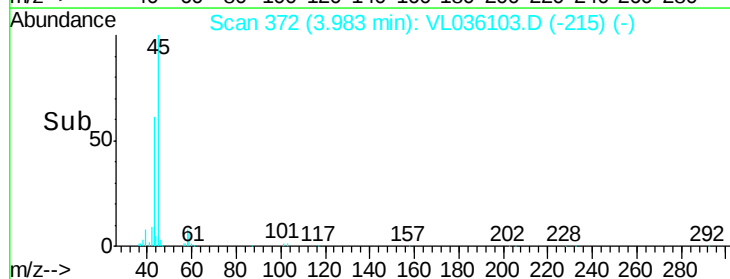
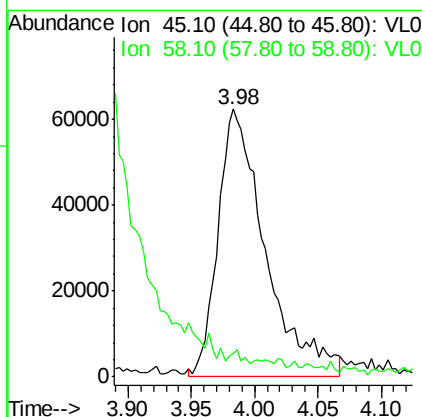
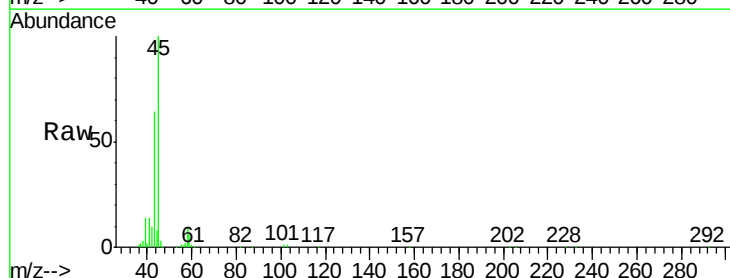
Manual Integrations  
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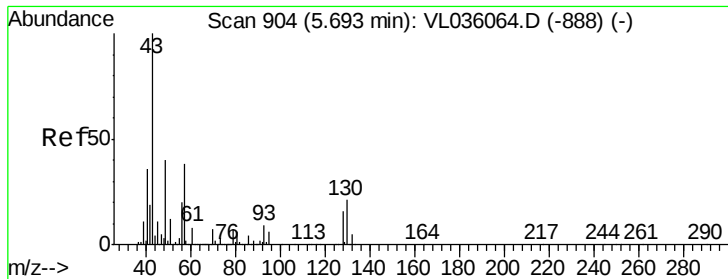
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#19  
Isopropyl Alcohol  
Concen: 1.852 ppbv m  
RT: 3.98 min Scan# 372  
Delta R.T. 0.00 min  
Lab File: VL036103.D  
Acq: 8 Dec 2020 20:28

Tgt Ion: 45 Resp: 162866  
Ion Ratio Lower Upper  
45 100  
58 0.0 0.0 0.0





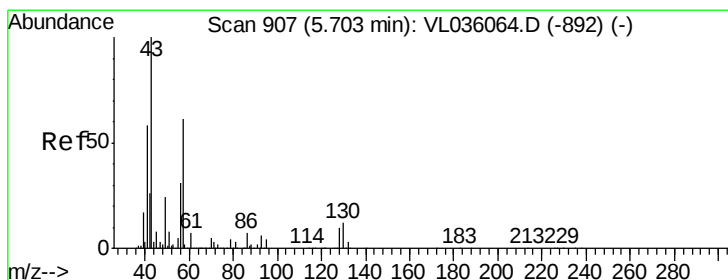
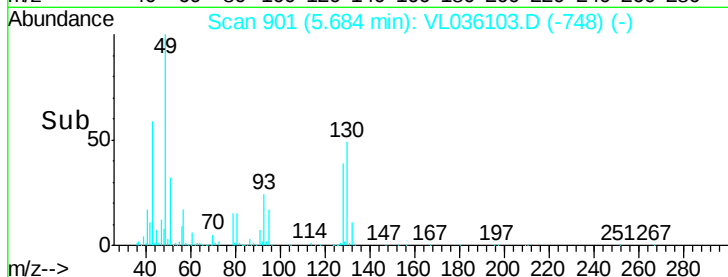
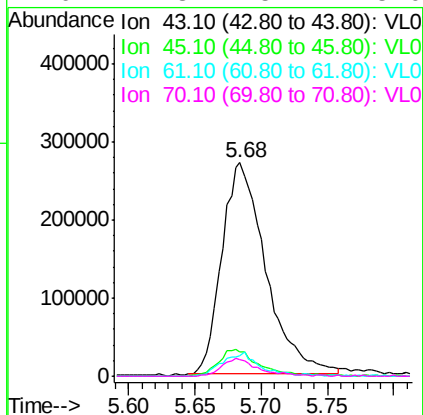
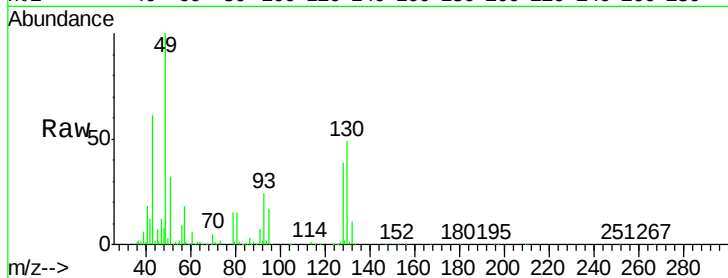
#25  
Ethyl Acetate  
Concen: 2.171 ppbv  
RT: 5.68 min Scan# 901  
Delta R.T. -0.01 min  
Lab File: VL036103.D  
Acq: 8 Dec 2020 20:28

Instrument :  
MSVOA\_L  
ClientSampled :  
IA-1DL

| Tot Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 43      | 100   |       |       |
| 45      | 12.0  | 8.2   | 12.4  |
| 61      | 10.0  | 7.4   | 11.2  |
| 70      | 7.3   | 5.4   | 8.0   |

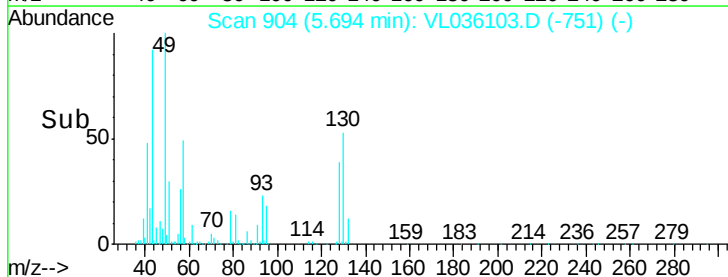
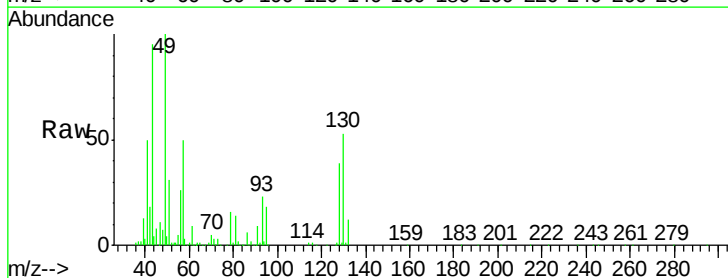
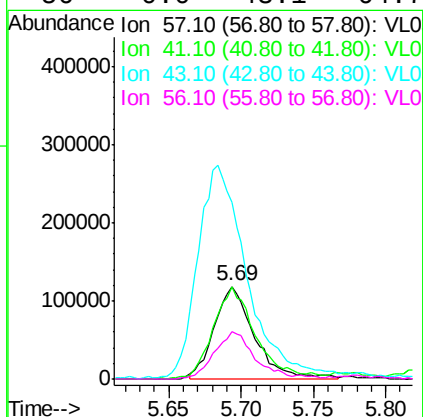
Manual Integrations  
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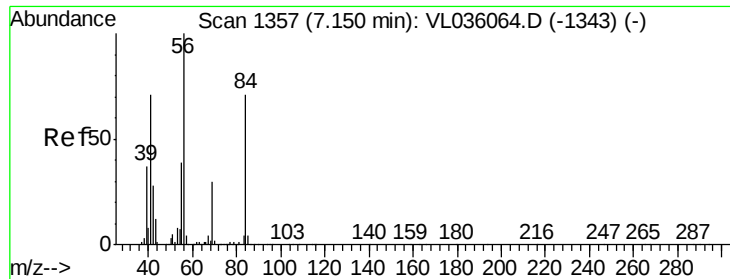
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#26  
Hexane  
Concen: 1.756 ppbv m  
RT: 5.69 min Scan# 904  
Delta R.T. -0.01 min  
Lab File: VL036103.D  
Acq: 8 Dec 2020 20:28

| Tgt Ion | Ratio | Lower | Upper  |
|---------|-------|-------|--------|
| 57      | 100   |       |        |
| 41      | 0.0   | 82.9  | 124.3# |
| 43      | 0.0   | 199.9 | 299.9# |
| 56      | 0.0   | 43.1  | 64.7#  |





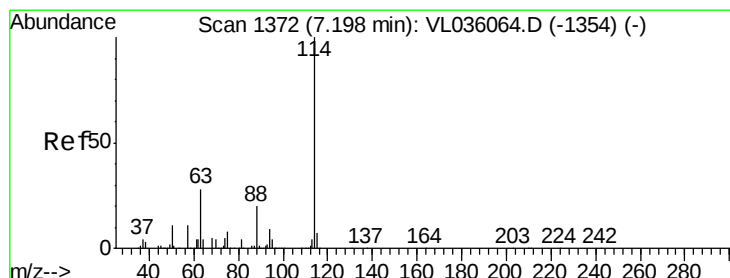
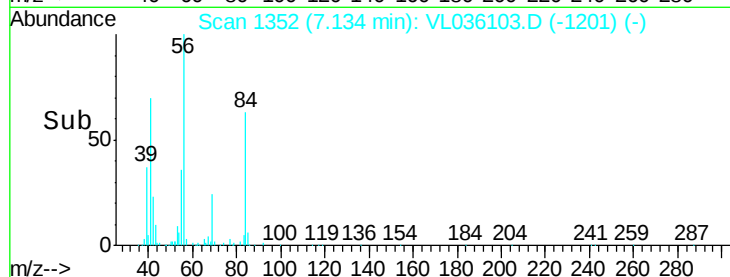
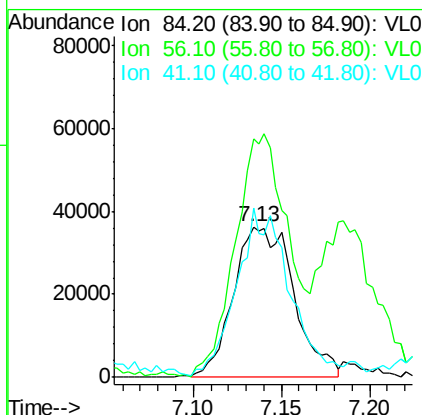
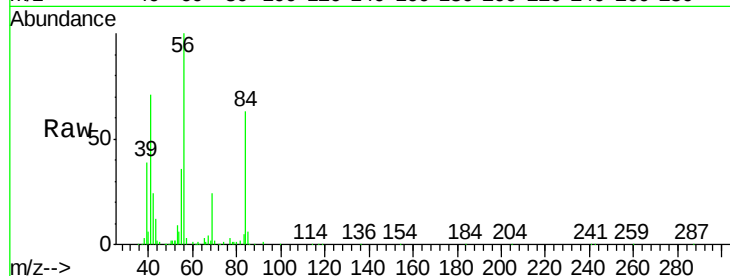
#30  
Cyclohexane  
Concen: 0.906 ppbv m  
RT: 7.13 min Scan# 1352  
Delta R.T. -0.02 min  
Lab File: VL036103.D  
Acq: 8 Dec 2020 20:28

Instrument :  
MSVOA\_L  
ClientSampled :  
IA-1DL

| Tot Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 84      | 100   |       |       |
| 56      | 148.8 | 128.0 | 192.0 |
| 41      | 95.2  | 81.3  | 121.9 |

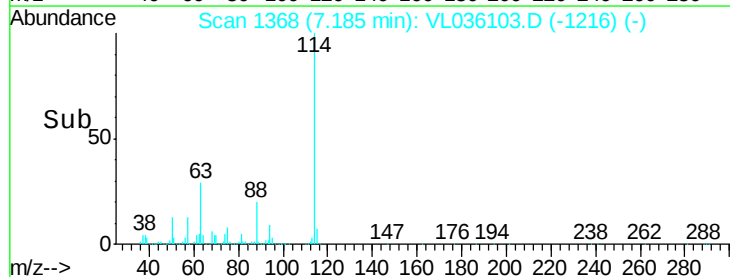
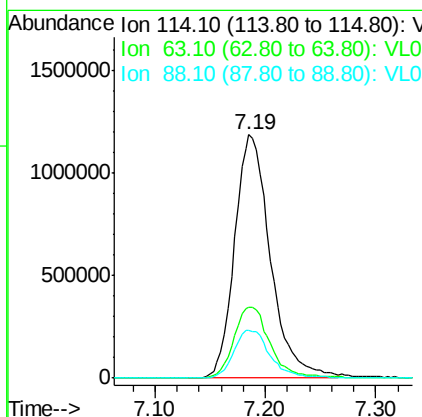
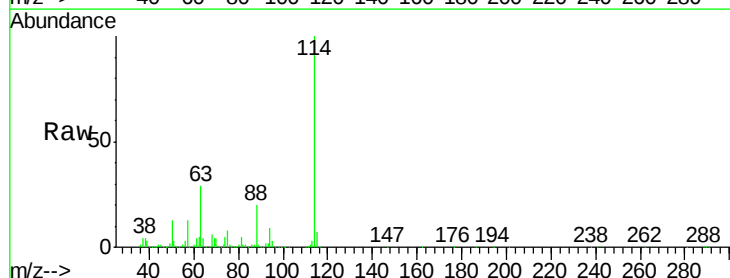
Manual Integrations  
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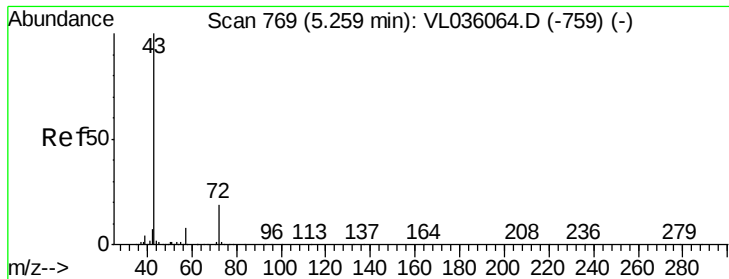
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#33  
1,4-Difluorobenzene  
Concen: 10.000 ppbv  
RT: 7.19 min Scan# 1368  
Delta R.T. -0.01 min  
Lab File: VL036103.D  
Acq: 8 Dec 2020 20:28

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 114     | 100   |       |       |
| 63      | 29.6  | 23.6  | 35.4  |
| 88      | 20.3  | 15.8  | 23.6  |





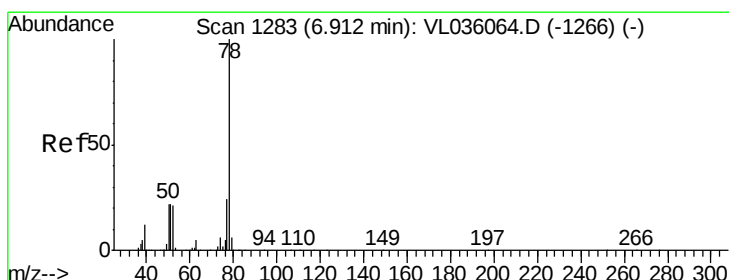
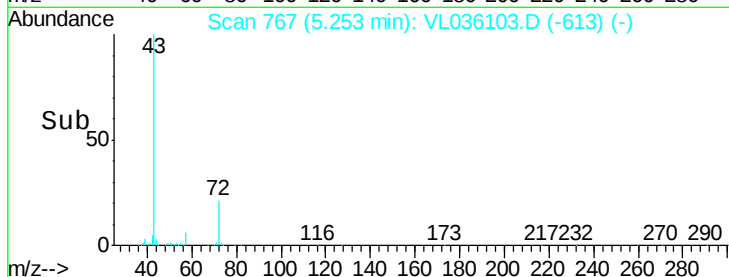
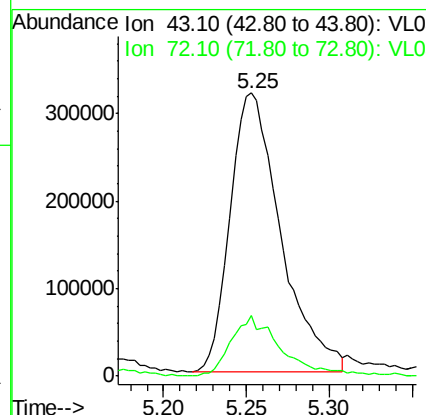
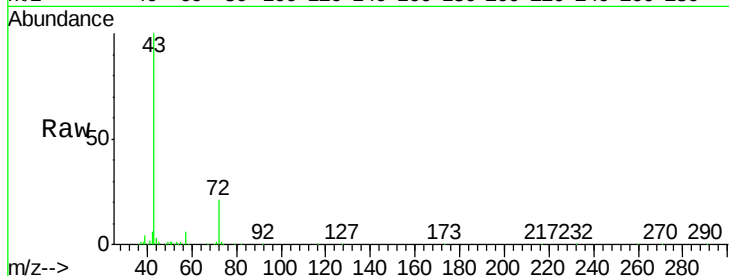
#34  
2-Butanone  
Concen: 3.852 ppbv  
RT: 5.25 min Scan# 767  
Delta R.T. -0.01 min  
Lab File: VL036103.D  
Acq: 8 Dec 2020 20:28

Instrument :  
MSVOA\_L  
ClientSampleId :  
IA-1DL

| Tot Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 43      | 100   |       |       |
| 72      | 21.6  | 16.5  | 24.7  |

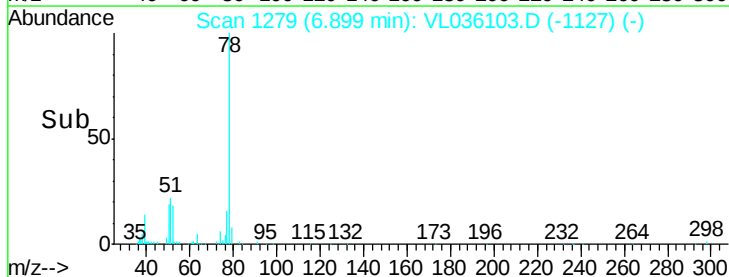
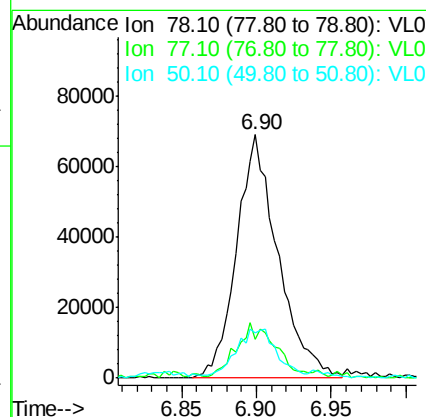
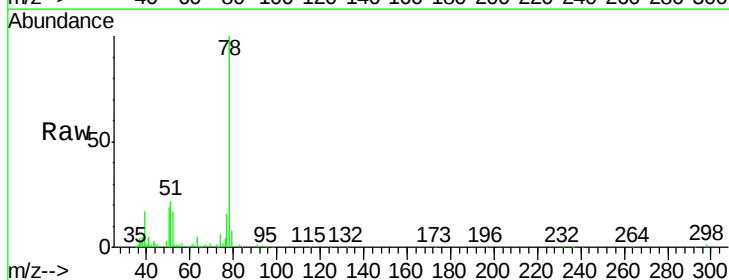
Manual Integrations  
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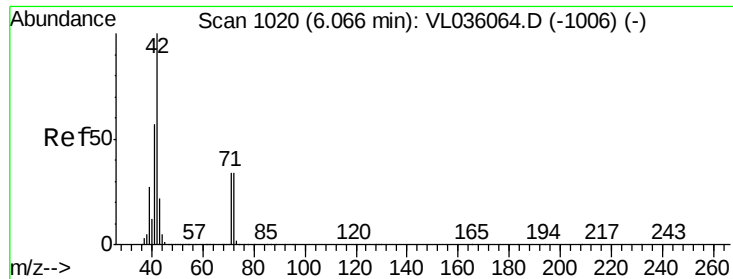
MMDadoda  
12/11/2020 12:23:15 PM



#36  
Benzene  
Concen: 0.586 ppbv  
RT: 6.90 min Scan# 1279  
Delta R.T. -0.01 min  
Lab File: VL036103.D  
Acq: 8 Dec 2020 20:28

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 78      | 100   |       |       |
| 77      | 14.6  | 19.4  | 29.2# |
| 50      | 17.8  | 17.8  | 26.8# |





#41

Tetrahydrofuran

Concen: 1.825 ppbv m

RT: 6.06 min Scan# 1018

Delta R.T. -0.01 min

Lab File: VL036103.D

Acq: 8 Dec 2020 20:28

Instrument :

MSVOA\_L

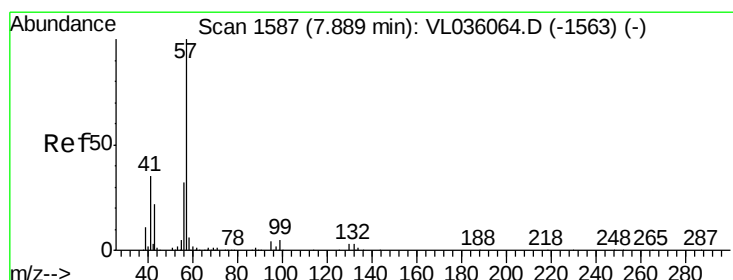
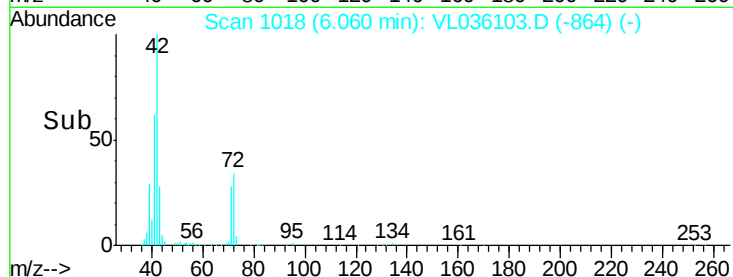
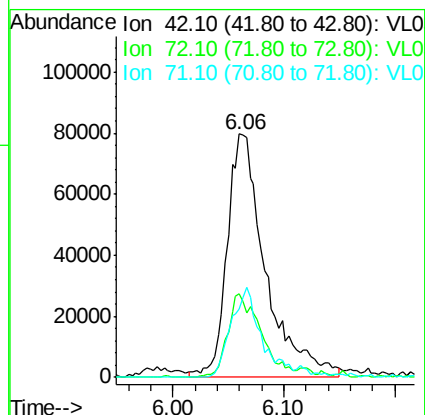
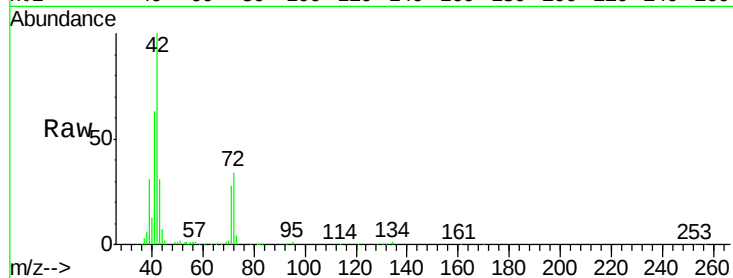
ClientSampled :

IA-1DL

|           |      |       |        |
|-----------|------|-------|--------|
| Tot Ion:  | 42   | Resp: | 191825 |
| Ion Ratio |      | Lower | Upper  |
| 42        | 100  |       |        |
| 72        | 32.7 | 28.3  | 42.5   |
| 71        | 31.8 | 27.3  | 40.9   |

Manual Integrations  
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#44

2,2,4-Trimethylpentane

Concen: 1.807 ppbv

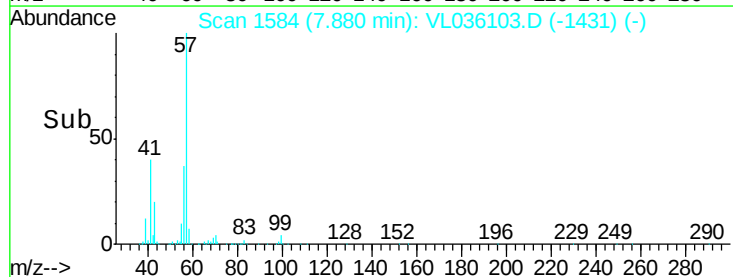
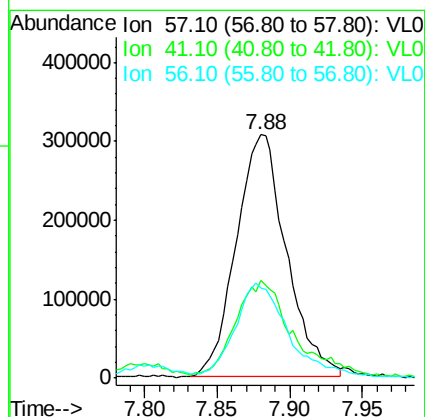
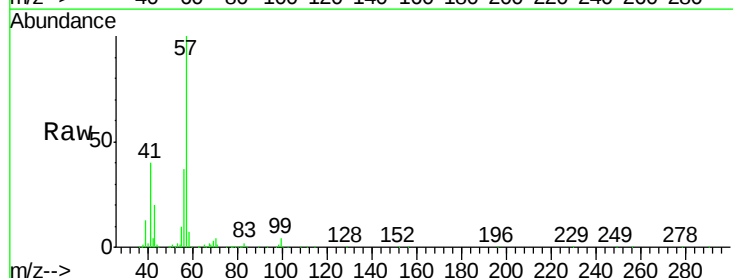
RT: 7.88 min Scan# 1584

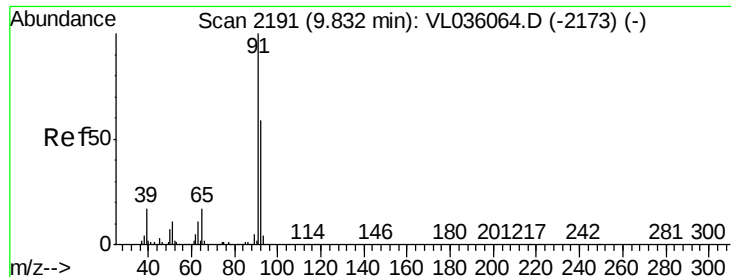
Delta R.T. -0.01 min

Lab File: VL036103.D

Acq: 8 Dec 2020 20:28

|           |      |       |        |
|-----------|------|-------|--------|
| Tgt Ion:  | 57   | Resp: | 739643 |
| Ion Ratio |      | Lower | Upper  |
| 57        | 100  |       |        |
| 41        | 45.4 | 28.9  | 43.3#  |
| 56        | 41.6 | 25.3  | 37.9#  |





#53

Toluene

Concen: 15.794 ppbv

RT: 9.82 min Scan# 2187

Delta R.T. -0.01 min

Lab File: VL036103.D

Acq: 8 Dec 2020 20:28

Instrument :

MSVOA\_L

ClientSampleId :

IA-1DL

Tot Ion: 91 Resp: 4009499

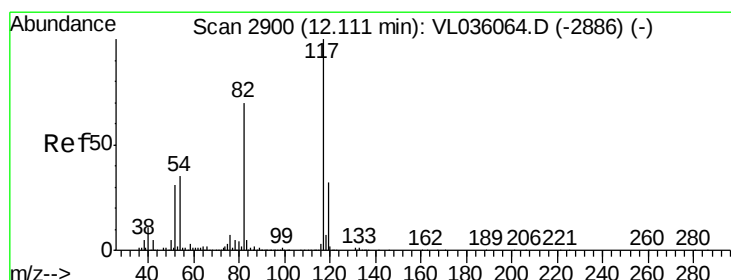
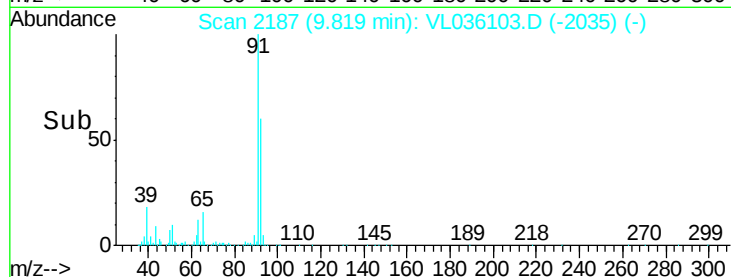
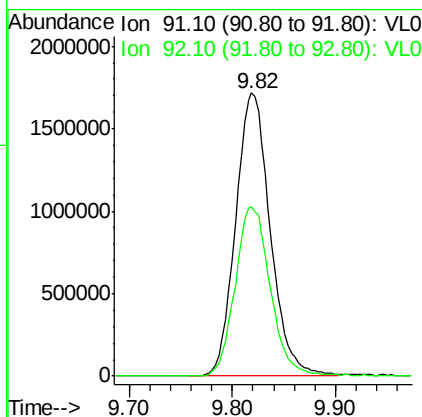
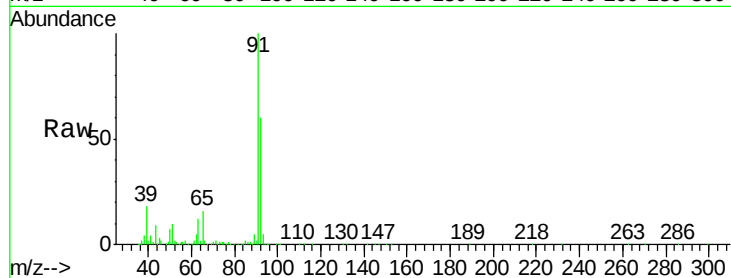
Ion Ratio Lower Upper

91 100

92 61.0 48.2 72.2

Manual Integrations  
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#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 12.10 min Scan# 2897

Delta R.T. -0.01 min

Lab File: VL036103.D

Acq: 8 Dec 2020 20:28

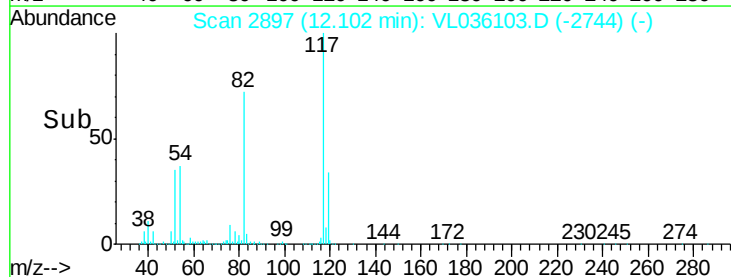
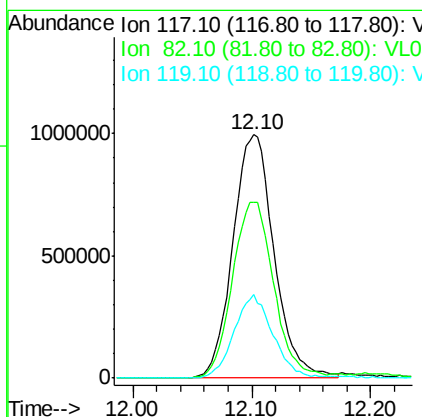
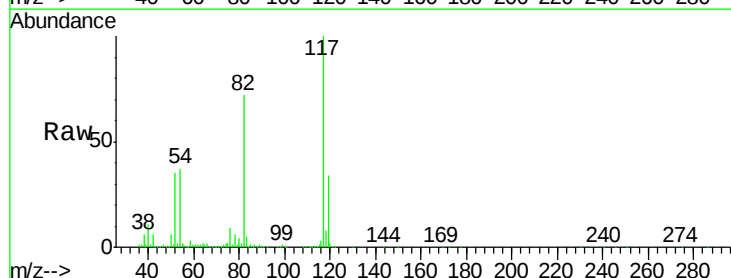
Tgt Ion: 117 Resp: 2378827

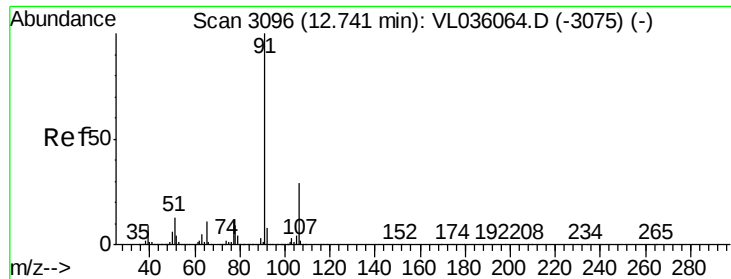
Ion Ratio Lower Upper

117 100

82 73.6 0.0 0.0#

119 33.3 0.0 0.0#





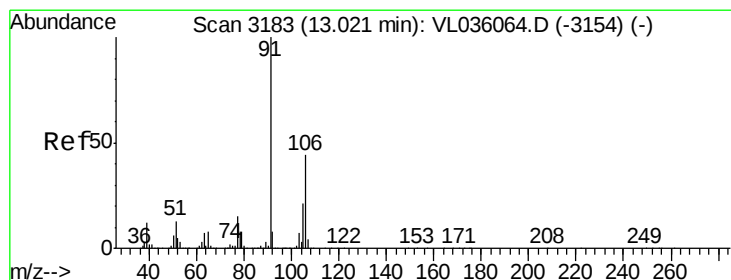
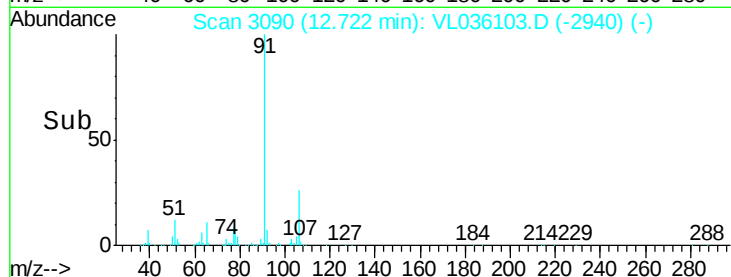
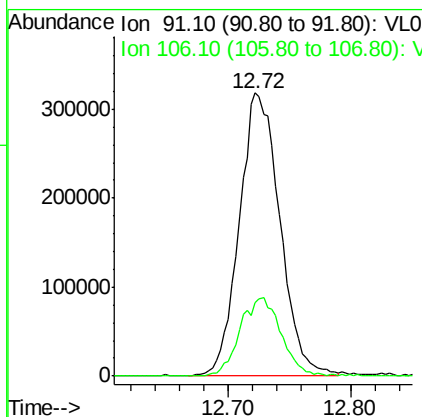
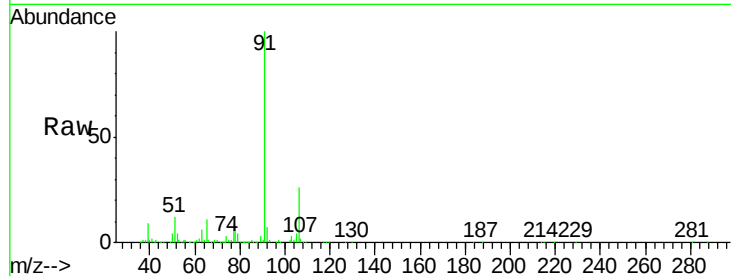
#58  
Ethyl Benzene  
Concen: 2.236 ppbv  
RT: 12.72 min Scan# 3090  
Delta R.T. -0.02 min  
Lab File: VL036103.D  
Acq: 8 Dec 2020 20:28

Instrument :  
MSVOA\_L  
ClientSampled :  
IA-1DL

Tot Ion: 91 Resp: 728832  
Ion Ratio Lower Upper  
91 100  
106 26.0 23.0 34.4

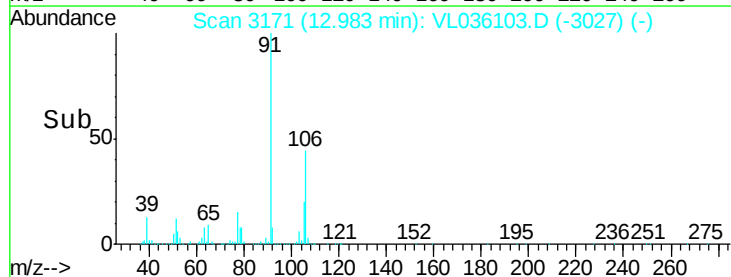
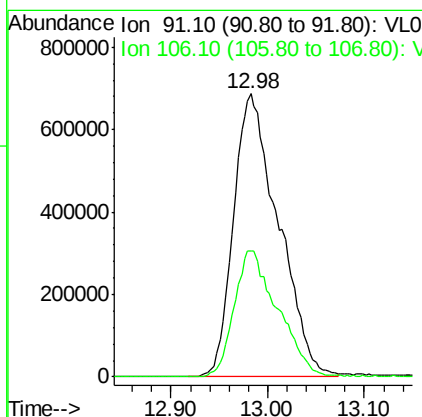
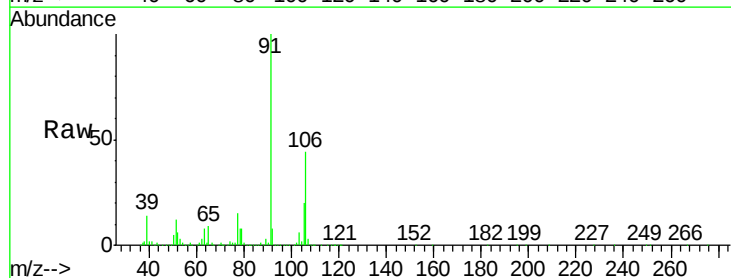
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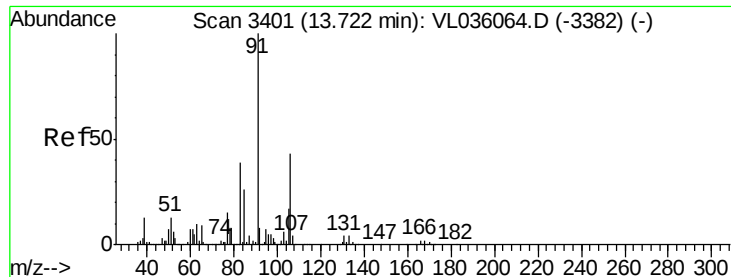
MMDadoda  
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#59  
m/p-Xylene  
Concen: 8.021 ppbv  
RT: 12.98 min Scan# 3171  
Delta R.T. -0.04 min  
Lab File: VL036103.D  
Acq: 8 Dec 2020 20:28

Tgt Ion: 91 Resp: 2202377  
Ion Ratio Lower Upper  
91 100  
106 43.5 33.6 50.4





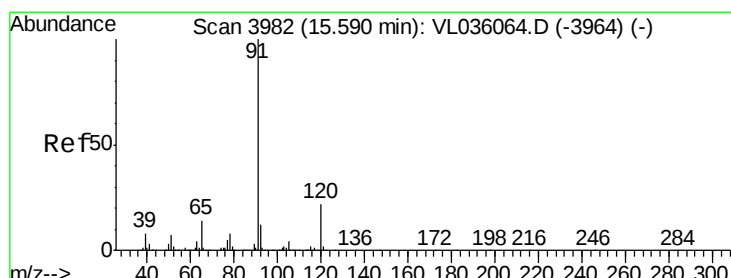
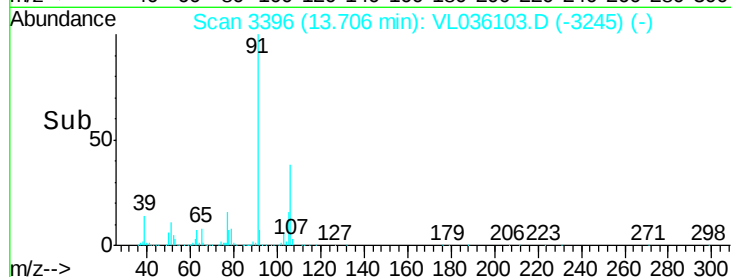
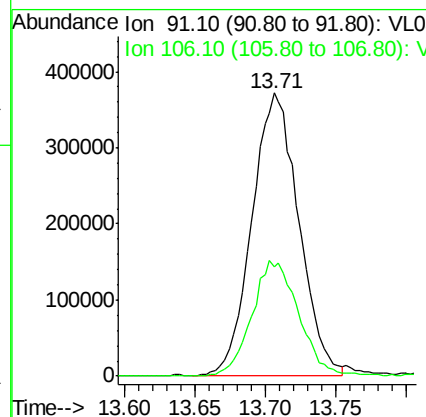
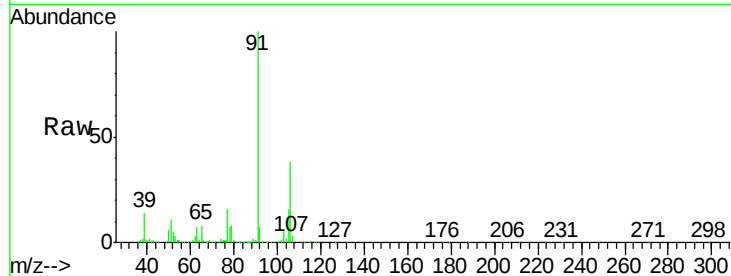
#60  
o-Xylene  
Concen: 3.322 ppbv  
RT: 13.71 min Scan# 3396  
Delta R.T. -0.02 min  
Lab File: VL036103.D  
Acq: 8 Dec 2020 20:28

Instrument :  
MSVOA\_L  
ClientSampled :  
IA-1DL

Tot Ion: 91 Resp: 859478  
Ion Ratio Lower Upper  
91 100  
106 40.9 21.6 64.6

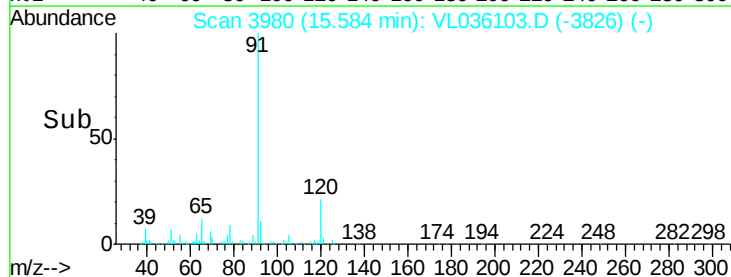
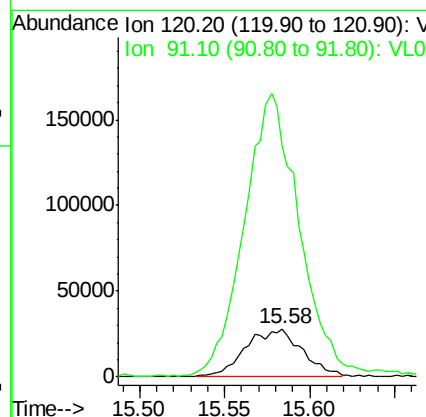
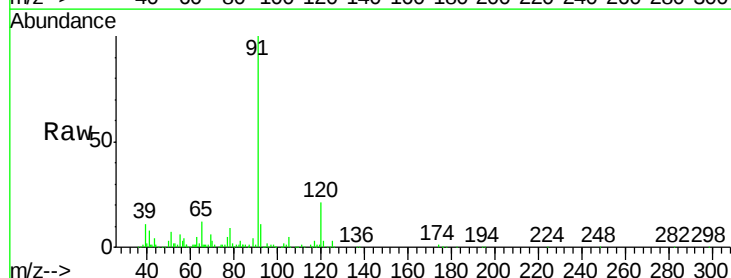
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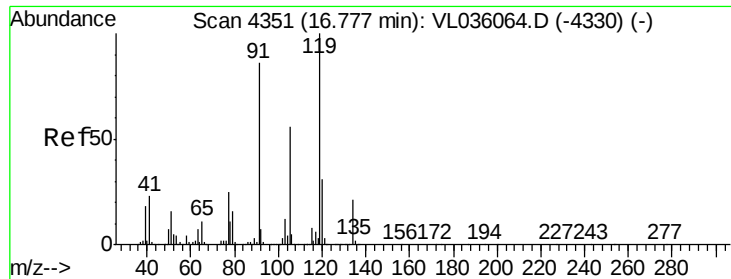
MMDadoda  
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#64  
n-propylbenzene  
Concen: 0.703 ppbv m  
RT: 15.58 min Scan# 3980  
Delta R.T. -0.01 min  
Lab File: VL036103.D  
Acq: 8 Dec 2020 20:28

Tgt Ion:120 Resp: 64872  
Ion Ratio Lower Upper  
120 100  
91 576.0 388.9 583.3





#65

tert-Butylbenzene

Concen: 0.380 ppbv m

RT: 16.78 min Scan# 4351

Delta R.T. 0.00 min

Lab File: VL036103.D

Acq: 8 Dec 2020 20:28

Instrument :

MSVOA\_L

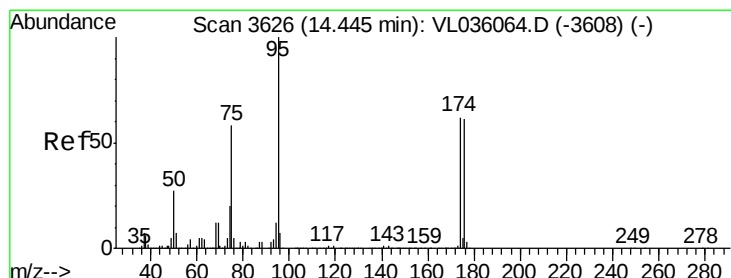
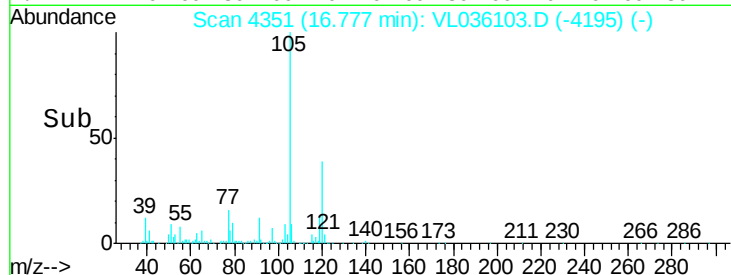
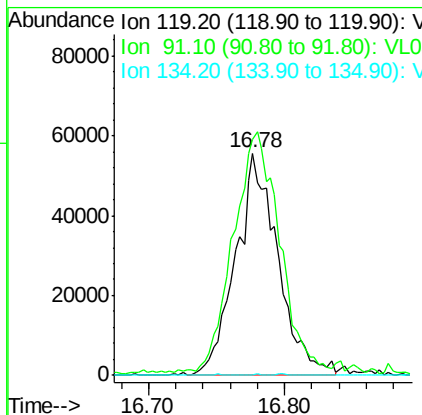
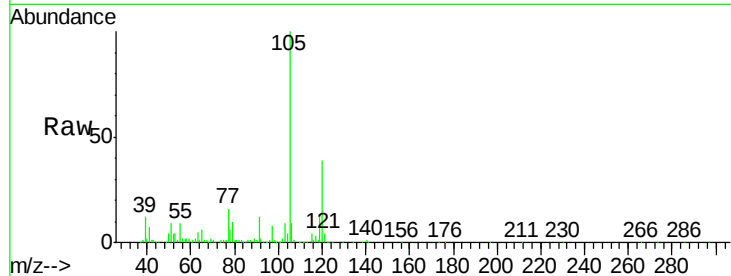
ClientSampled :

IA-1DL

| Tot Ion | Ratio | Lower | Upper  |
|---------|-------|-------|--------|
| 119     | 100   |       |        |
| 91      | 0.0   | 70.2  | 105.2# |
| 134     | 0.0   | 15.8  | 23.6#  |

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#68

1-Bromo-4-Fluorobenzene

Concen: 10.705 ppbv

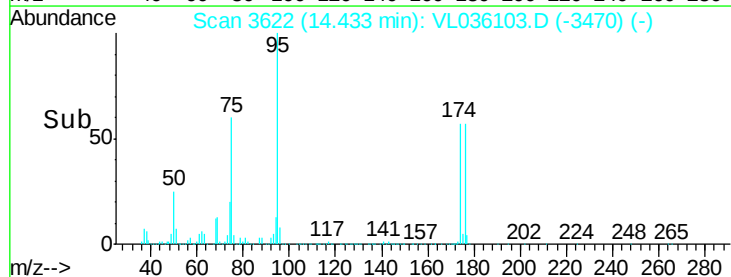
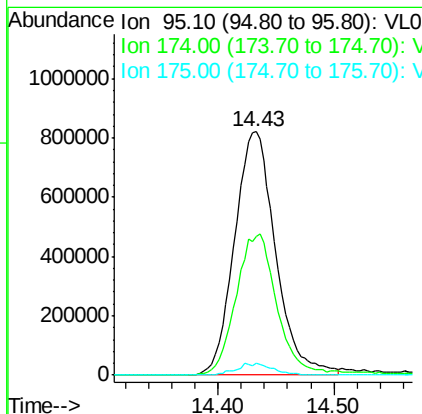
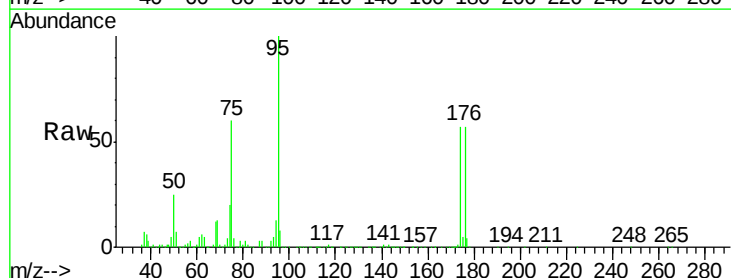
RT: 14.43 min Scan# 3622

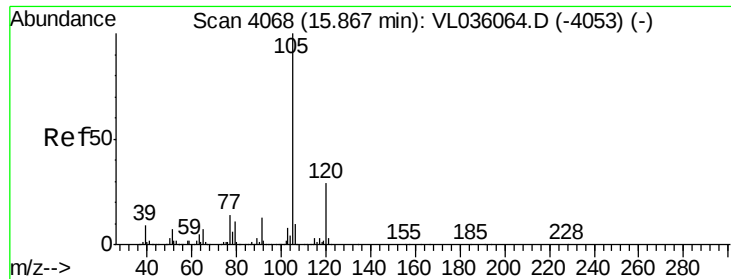
Delta R.T. -0.01 min

Lab File: VL036103.D

Acq: 8 Dec 2020 20:28

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 95      | 100   |       |       |
| 174     | 58.7  | 50.7  | 76.1  |
| 175     | 4.3   | 4.0   | 6.0   |





#72

4-Ethyltoluene

Concen: 1.483 ppbv

RT: 15.85 min Scan# 4064

Delta R.T. -0.01 min

Lab File: VL036103.D

Acq: 8 Dec 2020 20:28

Instrument :

MSVOA\_L

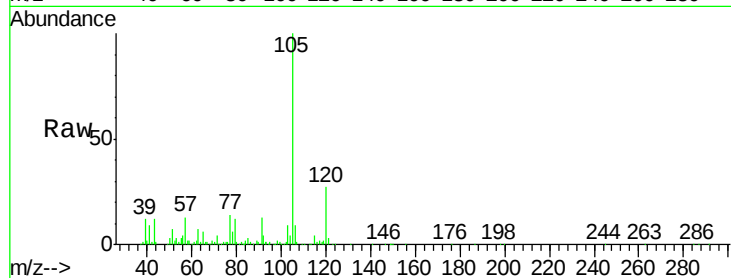
ClientSampleId :

IA-1DL

|           |       |       |        |
|-----------|-------|-------|--------|
| Tot Ion:  | 105   | Resp: | 415576 |
| Ion Ratio | Lower | Upper |        |
| 105       | 100   |       |        |
| 120       | 25.7  | 23.6  | 35.4   |
| 91        | 14.2  | 11.4  | 17.0   |
| 77        | 14.8  | 12.1  | 18.1   |

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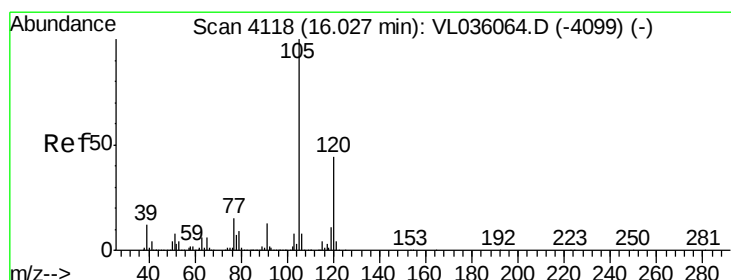
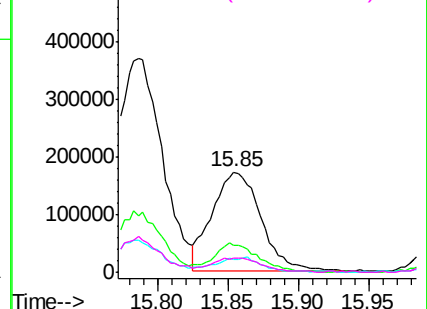
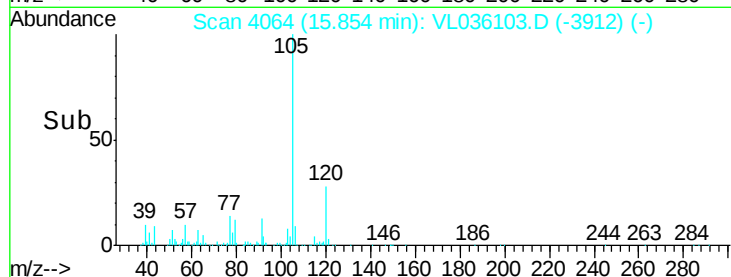


Abundance Ion 105.10 (104.80 to 105.80): V

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: 1.361 ppbv

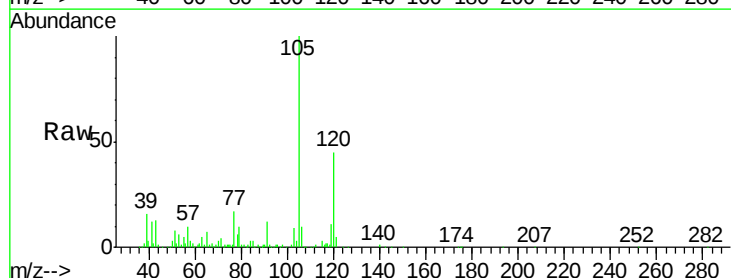
RT: 16.01 min Scan# 4114

Delta R.T. -0.01 min

Lab File: VL036103.D

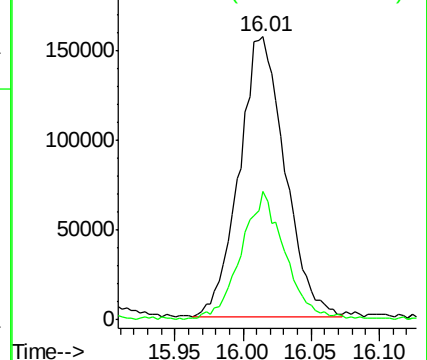
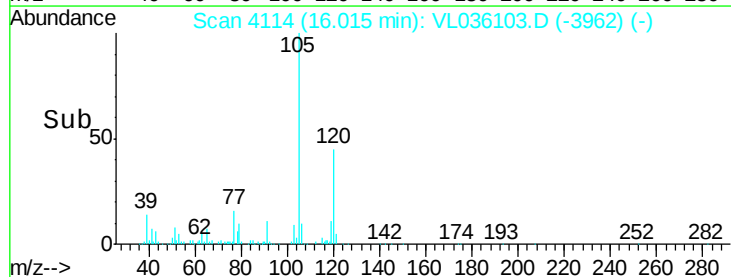
Acq: 8 Dec 2020 20:28

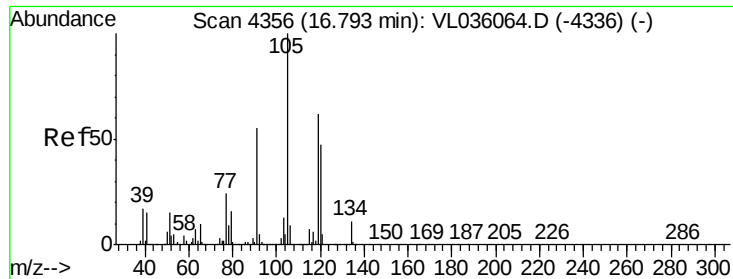
|           |       |       |        |
|-----------|-------|-------|--------|
| Tgt Ion:  | 105   | Resp: | 364249 |
| Ion Ratio | Lower | Upper |        |
| 105       | 100   |       |        |
| 120       | 44.8  | 35.4  | 53.2   |



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: 4.250 ppbv  
 RT: 16.78 min Scan# 4351  
 Delta R.T. -0.02 min  
 Lab File: VL036103.D  
 Acq: 8 Dec 2020 20:28

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 IA-1DL

|           |       |       |         |
|-----------|-------|-------|---------|
| Tot Ion:  | 105   | Resp: | 1141712 |
| Ion Ratio | Lower | Upper |         |
| 105       | 100   |       |         |
| 120       | 39.1  | 37.4  | 56.0    |
| 91        | 12.3  | 45.6  | 68.4#   |
| 77        | 15.6  | 19.4  | 29.2#   |

Manual Integrations  
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