

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL081518\  
 Data File : VL032368.D  
 Acq On : 16 Aug 2018 2:32  
 Operator : SY/AP  
 Sample : J4457-04  
 Misc : 400ml/MSVOA L  
 ALS Vial : 1 Sample Multiplier: 1

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 SS02-MIVI

## Integration Parameters: RTEINT.P

Integrator: RTE  
 Smoothing : ON  
 Sampling : 3  
 Start Thrs: 0.001  
 Stop Thrs : 0

Filtering: 5  
 Min Area: 3 % of largest Peak  
 Max Peaks: 100  
 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >  
 Peak separation: 0

Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL081518AIR.M

Title : AIR ANALYSIS BY METHOD T0-15 Instrument: MSVOA\_L Wed Aug 15 14:58:02 2018

Signal : TIC

| peak<br># | R.T.<br>min | first<br>scan | max<br>scan | last<br>scan | PK<br>TY | peak<br>height | corr.<br>area | corr.<br>% max. | % of<br>total |
|-----------|-------------|---------------|-------------|--------------|----------|----------------|---------------|-----------------|---------------|
| 1         | 2.929       | 558           | 573         | 593          | rBV      | 4562595        | 7600790       | 16.06%          | 2.207%        |
| 2         | 3.083       | 603           | 621         | 635          | rBV4     | 901109         | 1510306       | 3.19%           | 0.439%        |
| 3         | 3.273       | 669           | 680         | 694          | rBV2     | 1885074        | 2694344       | 5.69%           | 0.782%        |
| 4         | 3.379       | 704           | 713         | 721          | rBV      | 374808         | 541820        | 1.15%           | 0.157%        |
| 5         | 3.434       | 721           | 730         | 741          | rVB      | 2044526        | 2760772       | 5.83%           | 0.802%        |
| 6         | 3.698       | 800           | 812         | 829          | rBV      | 527621         | 1028341       | 2.17%           | 0.299%        |
| 7         | 3.939       | 875           | 887         | 912          | rBV      | 8789175        | 18592151      | 39.29%          | 5.398%        |
| 8         | 4.077       | 912           | 930         | 957          | rVB2     | 588363         | 1525405       | 3.22%           | 0.443%        |
| 9         | 4.235       | 968           | 979         | 990          | rVV2     | 1491246        | 2207878       | 4.67%           | 0.641%        |
| 10        | 4.415       | 1025          | 1035        | 1041         | rBV2     | 302516         | 527520        | 1.11%           | 0.153%        |
| 11        | 4.460       | 1041          | 1049        | 1063         | rVB2     | 554361         | 955941        | 2.02%           | 0.278%        |
| 12        | 5.093       | 1233          | 1246        | 1258         | rBV2     | 636757         | 1215653       | 2.57%           | 0.353%        |
| 13        | 5.189       | 1264          | 1276        | 1284         | rBV3     | 394044         | 724956        | 1.53%           | 0.210%        |
| 14        | 5.241       | 1284          | 1292        | 1304         | rVV2     | 722836         | 1227015       | 2.59%           | 0.356%        |
| 15        | 5.382       | 1324          | 1336        | 1355         | rVB      | 808197         | 1457590       | 3.08%           | 0.423%        |
| 16        | 5.511       | 1363          | 1376        | 1389         | rVB2     | 482380         | 850332        | 1.80%           | 0.247%        |
| 17        | 5.823       | 1457          | 1473        | 1487         | rBV4     | 3950860        | 8119171       | 17.16%          | 2.357%        |
| 18        | 5.907       | 1487          | 1499        | 1513         | rVB2     | 2843836        | 5252542       | 11.10%          | 1.525%        |
| 19        | 6.164       | 1566          | 1579        | 1605         | rBV      | 1122961        | 2640605       | 5.58%           | 0.767%        |
| 20        | 6.479       | 1662          | 1677        | 1692         | rBV2     | 502731         | 1092356       | 2.31%           | 0.317%        |
| 21        | 6.997       | 1825          | 1838        | 1849         | rBV5     | 247723         | 626711        | 1.32%           | 0.182%        |
| 22        | 7.067       | 1849          | 1860        | 1871         | rVB3     | 300728         | 589571        | 1.25%           | 0.171%        |
| 23        | 7.193       | 1883          | 1899        | 1913         | rBV4     | 545311         | 1079401       | 2.28%           | 0.313%        |
| 24        | 7.308       | 1921          | 1935        | 1938         | rBV3     | 534002         | 896574        | 1.89%           | 0.260%        |
| 25        | 7.353       | 1938          | 1949        | 1962         | rVV      | 4772030        | 9265372       | 19.58%          | 2.690%        |
| 26        | 7.424       | 1962          | 1971        | 1985         | rVB2     | 617916         | 1196055       | 2.53%           | 0.347%        |
| 27        | 7.656       | 2023          | 2043        | 2044         | rBV2     | 472955         | 603362        | 1.28%           | 0.175%        |
| 28        | 7.662       | 2044          | 2045        | 2069         | rVB4     | 477084         | 594884        | 1.26%           | 0.173%        |
| 29        | 8.132       | 2179          | 2191        | 2206         | rBV2     | 605552         | 1199879       | 2.54%           | 0.348%        |
| 30        | 8.308       | 2234          | 2246        | 2262         | rVB2     | 643704         | 1256655       | 2.66%           | 0.365%        |
| 31        | 9.016       | 2452          | 2466        | 2489         | rVB2     | 967185         | 2256566       | 4.77%           | 0.655%        |
| 32        | 10.016      | 2759          | 2777        | 2794         | rBV2     | 4985584        | 10821508      | 22.87%          | 3.142%        |
| 33        | 10.257      | 2838          | 2852        | 2864         | rBV3     | 233720         | 526520        | 1.11%           | 0.153%        |
| 34        | 10.630      | 2953          | 2968        | 2980         | rBV4     | 553309         | 1203511       | 2.54%           | 0.349%        |

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL081518\  
 Data File : VL032368.D  
 Acq On : 16 Aug 2018 2:32  
 Operator : SY/AP  
 Sample : J4457-04  
 Misc : 400ml/MSVOA L  
 ALS Vial : 1 Sample Multiplier: 1

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 SS02-MIVI

## Integration Parameters: RTEINT.P

Integrator: RTE  
 Smoothing : ON  
 Sampling : 3  
 Start Thrs: 0.001  
 Stop Thrs : 0

Filtering: 5  
 Min Area: 3 % of largest Peak  
 Max Peaks: 100  
 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >  
 Peak separation: 0

Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL081518AIR.M

Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Wed Aug 15 14:58:02 2018

|    |        |      |      |      |       |          |          |         |         |
|----|--------|------|------|------|-------|----------|----------|---------|---------|
| 35 | 11.292 | 3158 | 3174 | 3191 | rBV3  | 543327   | 1302370  | 2.75%   | 0.378%  |
| 36 | 11.446 | 3200 | 3222 | 3241 | rBV2  | 18237608 | 47317721 | 100.00% | 13.739% |
| 37 | 11.890 | 3333 | 3360 | 3381 | rBV   | 3120479  | 8631203  | 18.24%  | 2.506%  |
| 38 | 12.308 | 3472 | 3490 | 3507 | rBV   | 5051775  | 11417383 | 24.13%  | 3.315%  |
| 39 | 12.932 | 3668 | 3684 | 3700 | rBV2  | 476665   | 1050314  | 2.22%   | 0.305%  |
| 40 | 13.189 | 3747 | 3764 | 3787 | rBV2  | 1689835  | 5010132  | 10.59%  | 1.455%  |
| 41 | 13.443 | 3829 | 3843 | 3857 | rBV5  | 223898   | 563679   | 1.19%   | 0.164%  |
| 42 | 13.916 | 3974 | 3990 | 4005 | rBV   | 1039894  | 2309540  | 4.88%   | 0.671%  |
| 43 | 14.112 | 4037 | 4051 | 4064 | rVB3  | 557723   | 1273204  | 2.69%   | 0.370%  |
| 44 | 14.363 | 4115 | 4129 | 4144 | rVB4  | 474466   | 1027823  | 2.17%   | 0.298%  |
| 45 | 14.646 | 4198 | 4217 | 4232 | rBV2  | 4714905  | 11065458 | 23.39%  | 3.213%  |
| 46 | 14.720 | 4232 | 4240 | 4253 | rVB7  | 194064   | 503829   | 1.06%   | 0.146%  |
| 47 | 15.395 | 4432 | 4450 | 4457 | rBV3  | 279892   | 704097   | 1.49%   | 0.204%  |
| 48 | 15.446 | 4459 | 4466 | 4484 | rVV6  | 384140   | 1273680  | 2.69%   | 0.370%  |
| 49 | 15.543 | 4484 | 4496 | 4512 | rVB5  | 545161   | 1421615  | 3.00%   | 0.413%  |
| 50 | 15.704 | 4532 | 4546 | 4558 | rBV3  | 405350   | 972753   | 2.06%   | 0.282%  |
| 51 | 15.993 | 4621 | 4636 | 4649 | rBV3  | 411136   | 1005336  | 2.12%   | 0.292%  |
| 52 | 16.073 | 4649 | 4661 | 4680 | rVB7  | 357457   | 1054894  | 2.23%   | 0.306%  |
| 53 | 16.228 | 4688 | 4709 | 4725 | rBV4  | 936635   | 2591587  | 5.48%   | 0.752%  |
| 54 | 16.318 | 4725 | 4737 | 4756 | rVV4  | 601173   | 1749363  | 3.70%   | 0.508%  |
| 55 | 16.993 | 4931 | 4947 | 4961 | rBV3  | 1583661  | 3750847  | 7.93%   | 1.089%  |
| 56 | 17.186 | 4986 | 5007 | 5031 | rVB3  | 14573171 | 44432093 | 93.90%  | 12.901% |
| 57 | 17.334 | 5038 | 5053 | 5070 | rBV2  | 1171530  | 2972315  | 6.28%   | 0.863%  |
| 58 | 17.427 | 5074 | 5082 | 5092 | rVV2  | 201806   | 528510   | 1.12%   | 0.153%  |
| 59 | 17.504 | 5092 | 5106 | 5109 | rVV8  | 243683   | 609128   | 1.29%   | 0.177%  |
| 60 | 17.755 | 5166 | 5184 | 5198 | rBV3  | 2371905  | 6518414  | 13.78%  | 1.893%  |
| 61 | 17.826 | 5198 | 5206 | 5220 | rVB2  | 610685   | 1479010  | 3.13%   | 0.429%  |
| 62 | 18.038 | 5259 | 5272 | 5295 | rBV4  | 635499   | 1968075  | 4.16%   | 0.571%  |
| 63 | 18.176 | 5301 | 5315 | 5323 | rBV7  | 449073   | 1193517  | 2.52%   | 0.347%  |
| 64 | 18.218 | 5326 | 5328 | 5338 | rVV10 | 353599   | 620270   | 1.31%   | 0.180%  |
| 65 | 18.398 | 5364 | 5384 | 5386 | rBV6  | 460657   | 937398   | 1.98%   | 0.272%  |
| 66 | 18.591 | 5433 | 5444 | 5447 | rVV9  | 332395   | 539840   | 1.14%   | 0.157%  |
| 67 | 18.604 | 5447 | 5448 | 5469 | rVB6  | 445152   | 980856   | 2.07%   | 0.285%  |
| 68 | 18.793 | 5489 | 5507 | 5509 | rVV9  | 287195   | 536827   | 1.13%   | 0.156%  |
| 69 | 18.932 | 5537 | 5550 | 5560 | rBV10 | 329382   | 786155   | 1.66%   | 0.228%  |
| 70 | 18.986 | 5560 | 5567 | 5578 | rVB4  | 273677   | 568409   | 1.20%   | 0.165%  |
| 71 | 19.076 | 5581 | 5595 | 5612 | rBV8  | 345245   | 1115937  | 2.36%   | 0.324%  |

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL081518\  
 Data File : VL032368.D  
 Acq On : 16 Aug 2018 2:32  
 Operator : SY/AP  
 Sample : J4457-04  
 Misc : 400ml/MSVOA L  
 ALS Vial : 1 Sample Multiplier: 1

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 SS02-MIVI

## Integration Parameters: RTEINT.P

Integrator: RTE  
 Smoothing : ON  
 Sampling : 3  
 Start Thrs: 0.001  
 Stop Thrs : 0

Filtering: 5  
 Min Area: 3 % of largest Peak  
 Max Peaks: 100  
 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >  
 Peak separation: 0

Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL081518AIR.M

Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Wed Aug 15 14:58:02 2018

|     |        |      |      |      |       |         |          |        |        |
|-----|--------|------|------|------|-------|---------|----------|--------|--------|
| 72  | 19.176 | 5612 | 5626 | 5628 | rBV4  | 469675  | 788869   | 1.67%  | 0.229% |
| 73  | 19.199 | 5632 | 5633 | 5646 | rVB4  | 449824  | 527265   | 1.11%  | 0.153% |
| 74  | 19.363 | 5670 | 5684 | 5696 | rBV5  | 496757  | 1202453  | 2.54%  | 0.349% |
| 75  | 19.674 | 5763 | 5781 | 5789 | rBV5  | 210364  | 612308   | 1.29%  | 0.178% |
| 76  | 19.739 | 5792 | 5801 | 5814 | rVV7  | 545469  | 1219538  | 2.58%  | 0.354% |
| 77  | 19.867 | 5840 | 5841 | 5856 | rVB4  | 452124  | 554551   | 1.17%  | 0.161% |
| 78  | 19.993 | 5867 | 5880 | 5888 | rBV4  | 270682  | 624774   | 1.32%  | 0.181% |
| 79  | 20.128 | 5909 | 5922 | 5937 | rVV2  | 2203424 | 5040101  | 10.65% | 1.463% |
| 80  | 20.600 | 6056 | 6069 | 6072 | rBV8  | 355098  | 667814   | 1.41%  | 0.194% |
| 81  | 20.652 | 6084 | 6085 | 6108 | rVB5  | 451232  | 890682   | 1.88%  | 0.259% |
| 82  | 20.797 | 6113 | 6130 | 6155 | rVB5  | 588889  | 2053630  | 4.34%  | 0.596% |
| 83  | 20.944 | 6161 | 6176 | 6190 | rBV6  | 397201  | 1258566  | 2.66%  | 0.365% |
| 84  | 21.060 | 6198 | 6212 | 6222 | rVB6  | 348236  | 853825   | 1.80%  | 0.248% |
| 85  | 21.202 | 6243 | 6256 | 6268 | rBV6  | 311016  | 851094   | 1.80%  | 0.247% |
| 86  | 21.282 | 6268 | 6281 | 6305 | rVB8  | 773495  | 2334909  | 4.93%  | 0.678% |
| 87  | 21.562 | 6357 | 6368 | 6374 | rBV4  | 231472  | 499272   | 1.06%  | 0.145% |
| 88  | 21.716 | 6392 | 6416 | 6441 | rVB   | 5079047 | 18934032 | 40.01% | 5.498% |
| 89  | 21.845 | 6441 | 6456 | 6458 | rBV3  | 297356  | 493229   | 1.04%  | 0.143% |
| 90  | 21.977 | 6481 | 6497 | 6513 | rVB7  | 453235  | 1292418  | 2.73%  | 0.375% |
| 91  | 22.491 | 6640 | 6657 | 6676 | rVB   | 642771  | 1971482  | 4.17%  | 0.572% |
| 92  | 22.706 | 6709 | 6724 | 6738 | rBV10 | 408585  | 1439134  | 3.04%  | 0.418% |
| 93  | 22.809 | 6741 | 6756 | 6757 | rVV7  | 502265  | 1090371  | 2.30%  | 0.317% |
| 94  | 22.822 | 6757 | 6760 | 6777 | rVB8  | 487704  | 1127199  | 2.38%  | 0.327% |
| 95  | 23.034 | 6802 | 6826 | 6843 | rVB3  | 2316570 | 6156163  | 13.01% | 1.787% |
| 96  | 23.452 | 6941 | 6956 | 6979 | rVB2  | 1217249 | 3790687  | 8.01%  | 1.101% |
| 97  | 24.366 | 7230 | 7240 | 7248 | rBV5  | 381855  | 858662   | 1.81%  | 0.249% |
| 98  | 24.465 | 7263 | 7271 | 7281 | rVB5  | 365529  | 765964   | 1.62%  | 0.222% |
| 99  | 24.558 | 7281 | 7300 | 7325 | rBV7  | 808303  | 2872070  | 6.07%  | 0.834% |
| 100 | 24.703 | 7335 | 7345 | 7357 | rBV5  | 525106  | 1119728  | 2.37%  | 0.325% |
| 101 | 24.784 | 7357 | 7370 | 7383 | rBV2  | 1669019 | 3628865  | 7.67%  | 1.054% |
| 102 | 24.886 | 7390 | 7402 | 7410 | rBV2  | 274197  | 681845   | 1.44%  | 0.198% |
| 103 | 25.182 | 7479 | 7494 | 7495 | rBV9  | 707292  | 1072925  | 2.27%  | 0.312% |
| 104 | 25.192 | 7495 | 7497 | 7502 | rVV5  | 694956  | 712840   | 1.51%  | 0.207% |
| 105 | 25.243 | 7502 | 7513 | 7525 | rVB2  | 2552926 | 5101006  | 10.78% | 1.481% |
| 106 | 25.485 | 7579 | 7588 | 7598 | rBV9  | 375990  | 765123   | 1.62%  | 0.222% |
| 107 | 25.597 | 7612 | 7623 | 7635 | rVB3  | 559358  | 1385817  | 2.93%  | 0.402% |
| 108 | 25.693 | 7637 | 7653 | 7662 | rBV3  | 291940  | 762520   | 1.61%  | 0.221% |
| 109 | 25.857 | 7690 | 7704 | 7705 | rBV7  | 290936  | 520677   | 1.10%  | 0.151% |

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL081518\  
Data File : VL032368.D  
Acq On : 16 Aug 2018 2:32  
Operator : SY/AP  
Sample : J4457-04  
Misc : 400ml/MSVOA L  
ALS Vial : 1 Sample Multiplier: 1

Instrument :  
MSVOA\_L  
ClientSampleId :  
SS02-MIVI

Integration Parameters: RTEINT.P  
Integrator: RTE  
Smoothing : ON Filtering: 5  
Sampling : 3 Min Area: 3 % of largest Peak  
Start Thrs: 0.001 Max Peaks: 100  
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >  
Peak separation: 0

Method : Z:\VOASRV\HPCHEM1\MSVOA\_L\METHODS\VL081518AIR.M  
Title : AIR ANALYSIS BY METHOD T0-15 Instrument: MSVOA\_LWed Aug 15 14:58:02 2018

|     |        |      |      |      |      |        |        |       |        |
|-----|--------|------|------|------|------|--------|--------|-------|--------|
| 110 | 25.996 | 7740 | 7747 | 7761 | rVB7 | 242839 | 560737 | 1.19% | 0.163% |
| 111 | 26.118 | 7773 | 7785 | 7794 | rBV6 | 445896 | 898135 | 1.90% | 0.261% |

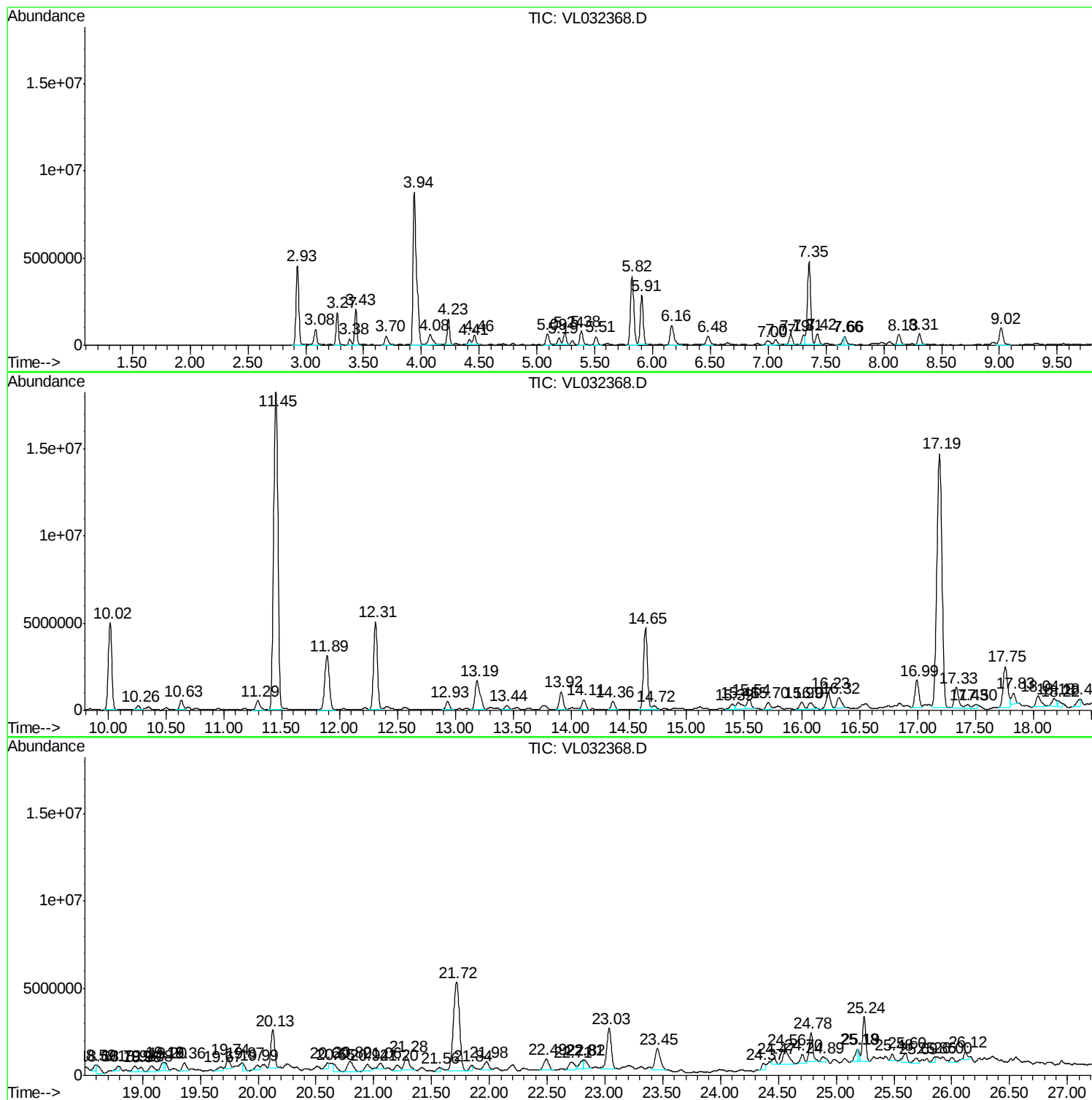
Sum of corrected areas: 344406919

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL081518\  
Data File : VL032368.D  
Acq On : 16 Aug 2018 2:32  
Operator : SY/AP  
Sample : J4457-04  
Misc : 400ml/MSVOA L  
ALS Vial : 1 Sample Multiplier: 1

Instrument :  
MSVOA\_L  
ClientSampleId :  
SS02-MIVI

Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL081518AIR.M  
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Wed Aug 15 14:58:02 2018

TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P



Data Path : Z:\V0ASRV\HPCHEM1\MSVOA L\DATA\VL081518\  
Data File : VL032368.D  
Acq On : 16 Aug 2018 2:32  
Operator : SY/AP  
Sample : J4457-04  
Misc : 400ml/MSVOA L  
ALS Vial : 1 Sample Multiplier: 1

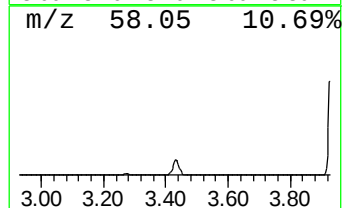
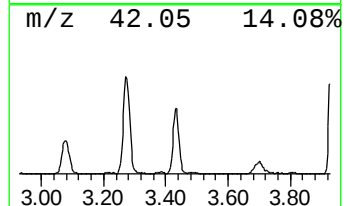
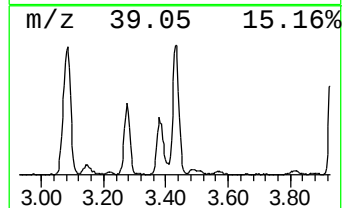
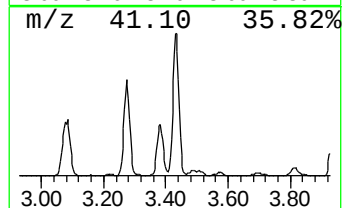
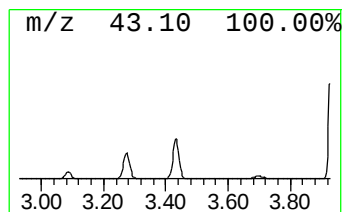
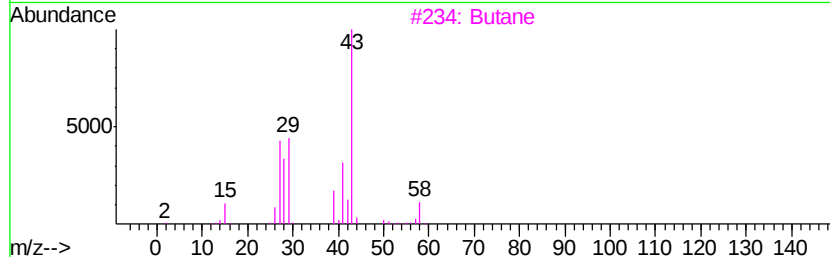
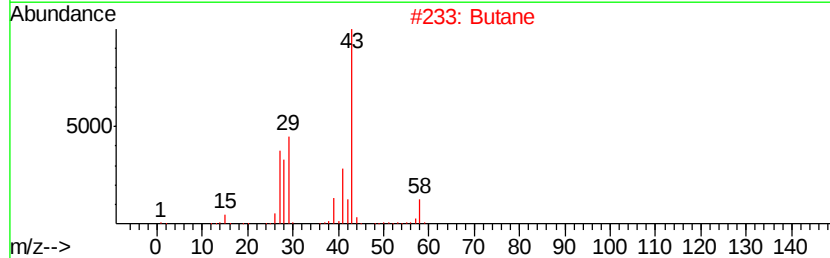
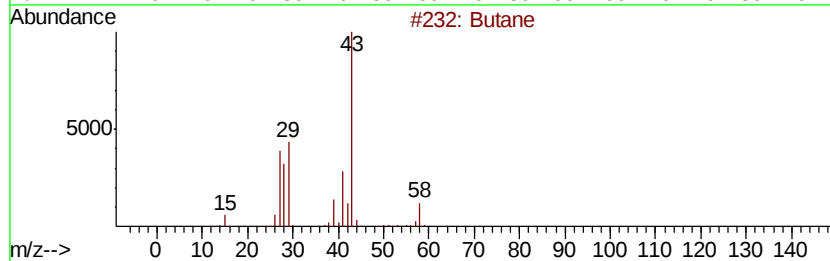
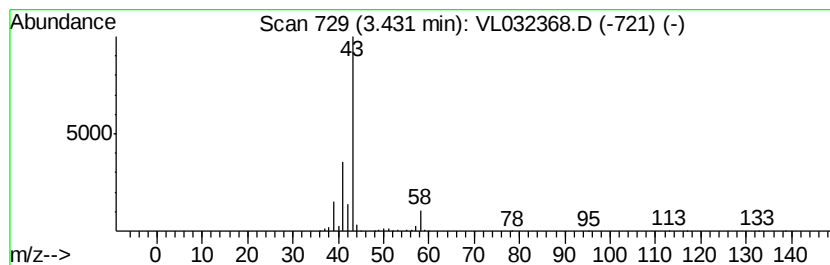
Instrument :  
MSVOA\_L  
ClientSampleId :  
SS02-MIVI

Quant Method : Z:\V0ASRV\HPCHEM1\MSVOA L\METHODS\VL081518AIR.M  
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Wed Aug 15 14:58:02 2018

TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 3 Butane Concentration Rank 9

| R.T.    | EstConc                    | Area         | Relative to ISTD   | R.T.           |
|---------|----------------------------|--------------|--------------------|----------------|
| 3.43    | 3.40 ppbv                  | 2760770      | Bromochloromethane | 5.82           |
| Hit# of | 5                          | Tentative ID | MW MolForm         | CAS# Qual      |
| 1       | Butane                     |              | 58 C4H10           | 000106-97-8 72 |
| 2       | Butane                     |              | 58 C4H10           | 000106-97-8 72 |
| 3       | Butane                     |              | 58 C4H10           | 000106-97-8 64 |
| 4       | Propane, 1-nitro-          |              | 89 C3H7NO2         | 000108-03-2 28 |
| 5       | Isopropylsulfonyl chloride |              | 142 C3H7ClO2S      | 010147-37-2 9  |



Data Path : Z:\V0ASRV\HPCHEM1\MSVOA L\DATA\VL081518\  
Data File : VL032368.D  
Acq On : 16 Aug 2018 2:32  
Operator : SY/AP  
Sample : J4457-04  
Misc : 400ml/MSVOA L  
ALS Vial : 1 Sample Multiplier: 1

Instrument :  
MSVOA\_L  
ClientSampleId :  
SS02-MIVI

Quant Method : Z:\V0ASRV\HPCHEM1\MSVOA L\METHODS\VL081518AIR.M  
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Wed Aug 15 14:58:02 2018

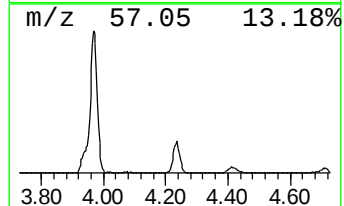
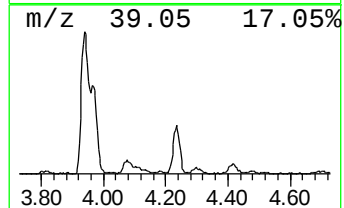
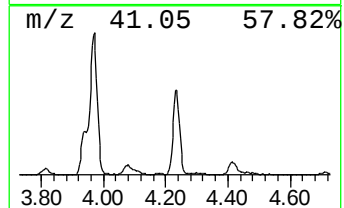
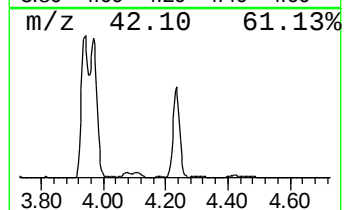
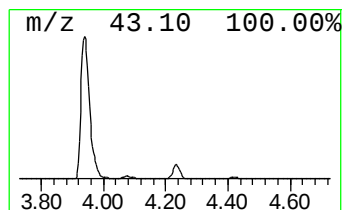
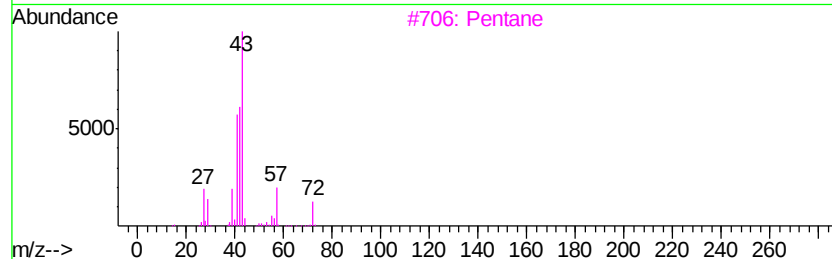
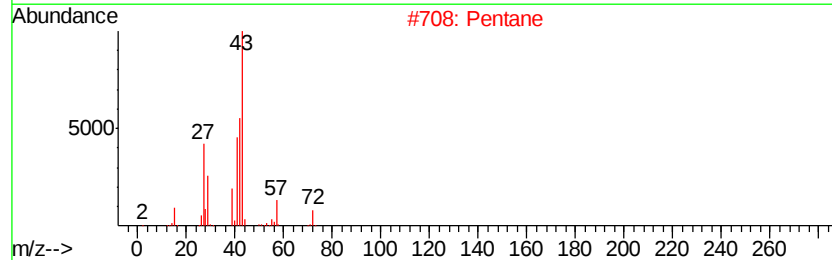
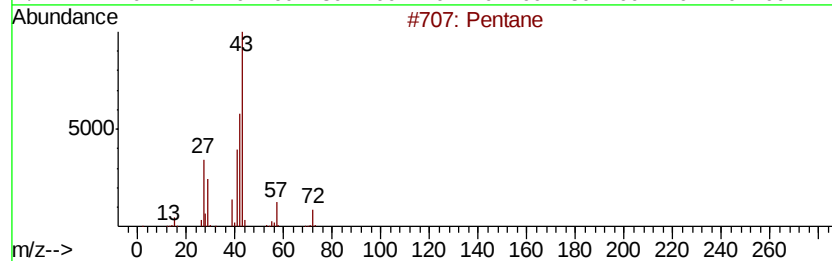
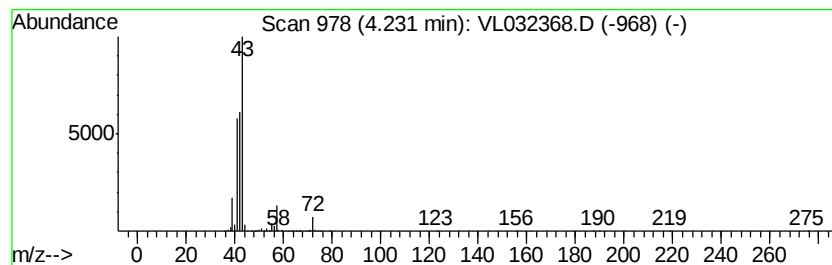
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 4 Pentane Concentration Rank 14

| R.T. | EstConc   | Area    | Relative to ISTD   | R.T. |
|------|-----------|---------|--------------------|------|
| 4.23 | 2.72 ppbv | 2207880 | Bromochloromethane | 5.82 |

| Hit# | of | Tentative ID      | MW | MolForm | CAS#        | Qual |
|------|----|-------------------|----|---------|-------------|------|
| 1    | 5  | Pentane           | 72 | C5H12   | 000109-66-0 | 86   |
| 2    |    | Pentane           | 72 | C5H12   | 000109-66-0 | 86   |
| 3    |    | Pentane           | 72 | C5H12   | 000109-66-0 | 83   |
| 4    |    | Butane, 2-methyl- | 72 | C5H12   | 000078-78-4 | 42   |
| 5    |    | Pentane           | 72 | C5H12   | 000109-66-0 | 38   |



Data Path : Z:\V0ASRV\HPCHEM1\MSVOA L\DATA\VL081518\  
Data File : VL032368.D  
Acq On : 16 Aug 2018 2:32  
Operator : SY/AP  
Sample : J4457-04  
Misc : 400ml/MSVOA L  
ALS Vial : 1 Sample Multiplier: 1

Instrument :  
MSVOA\_L  
ClientSampleId :  
SS02-MIVI

Quant Method : Z:\V0ASRV\HPCHEM1\MSVOA L\METHODS\VL081518AIR.M  
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Wed Aug 15 14:58:02 2018

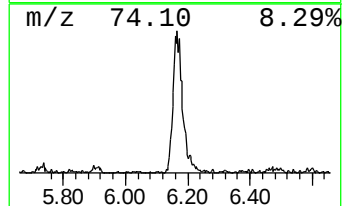
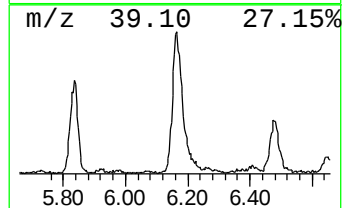
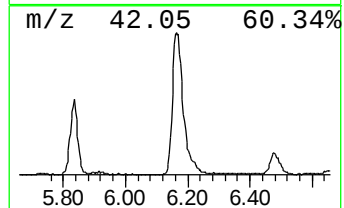
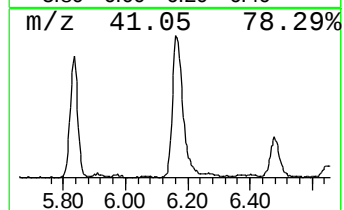
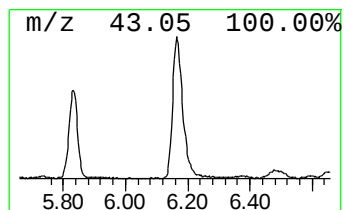
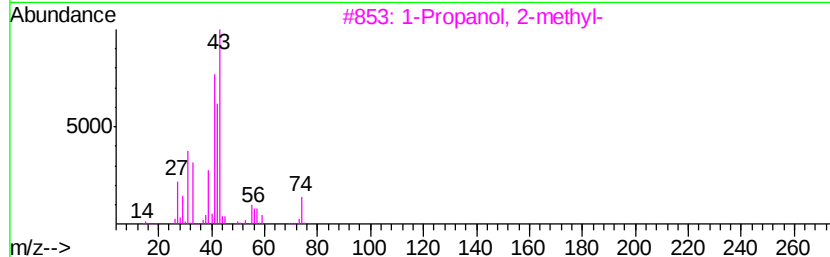
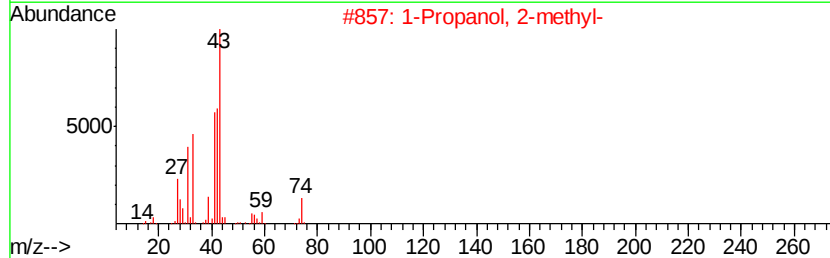
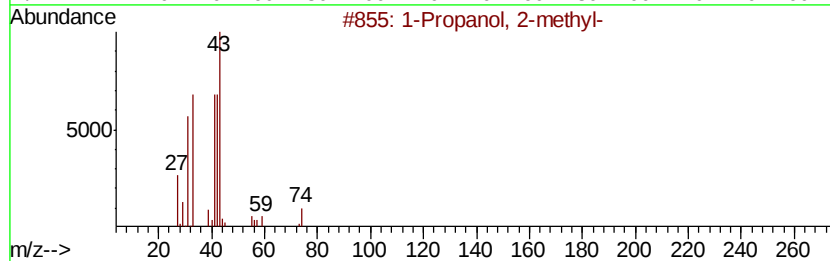
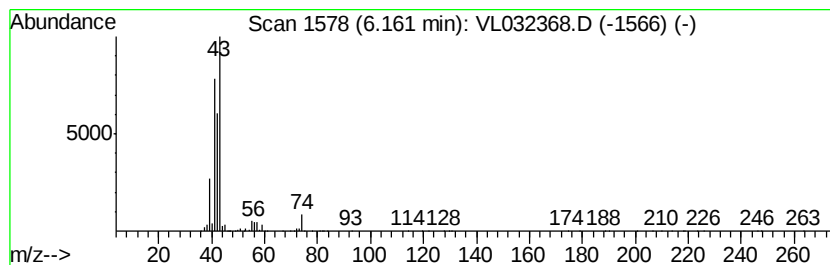
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 5 1-Propanol, 2-methyl- Concentration Rank 12

| R.T. | EstConc   | Area    | Relative to ISTD   | R.T. |
|------|-----------|---------|--------------------|------|
| 6.16 | 3.25 ppbv | 2640610 | Bromochloromethane | 5.82 |

| Hit# | of | Tentative ID          | MW | MolForm | CAS#        | Qual |
|------|----|-----------------------|----|---------|-------------|------|
| 1    | 5  | 1-Propanol, 2-methyl- | 74 | C4H10O  | 000078-83-1 | 90   |
| 2    |    | 1-Propanol, 2-methyl- | 74 | C4H10O  | 000078-83-1 | 56   |
| 3    |    | 1-Propanol, 2-methyl- | 74 | C4H10O  | 000078-83-1 | 47   |
| 4    |    | Isobutylene epoxide   | 72 | C4H8O   | 000558-30-5 | 38   |
| 5    |    | Isobutylene epoxide   | 72 | C4H8O   | 000558-30-5 | 33   |



Data Path : Z:\V0ASRV\HPCHEM1\MSVOA L\DATA\VL081518\  
Data File : VL032368.D  
Acq On : 16 Aug 2018 2:32  
Operator : SY/AP  
Sample : J4457-04  
Misc : 400ml/MSVOA L  
ALS Vial : 1 Sample Multiplier: 1

Instrument :  
MSVOA\_L  
ClientSampleId :  
SS02-MIVI

Quant Method : Z:\V0ASRV\HPCHEM1\MSVOA L\METHODS\VL081518AIR.M  
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Wed Aug 15 14:58:02 2018

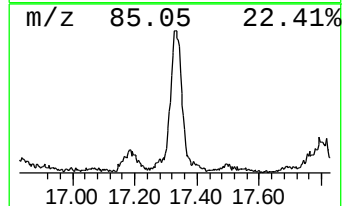
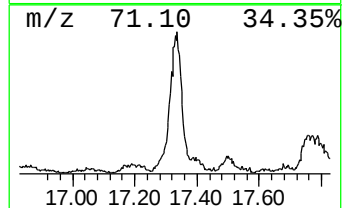
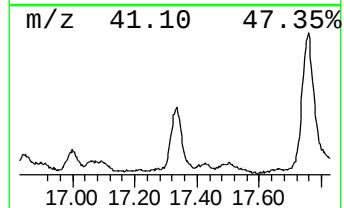
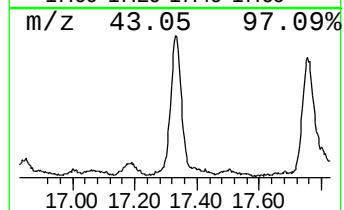
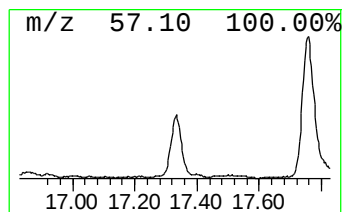
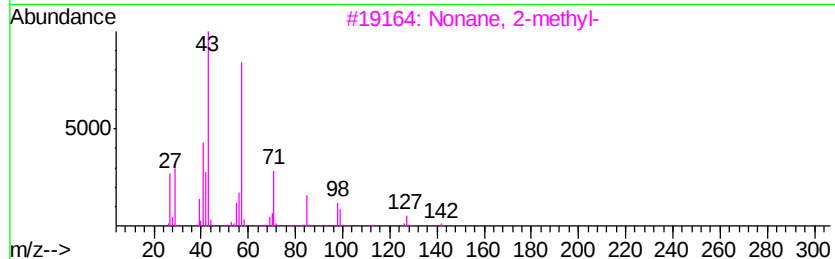
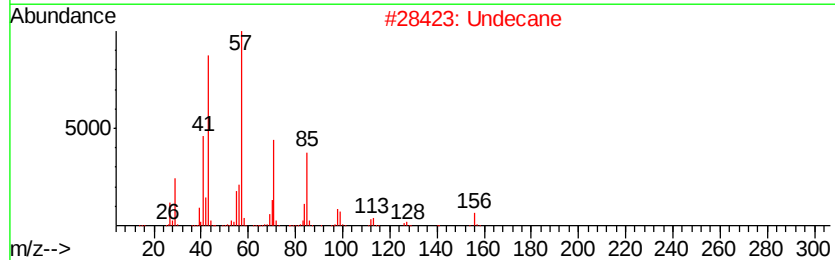
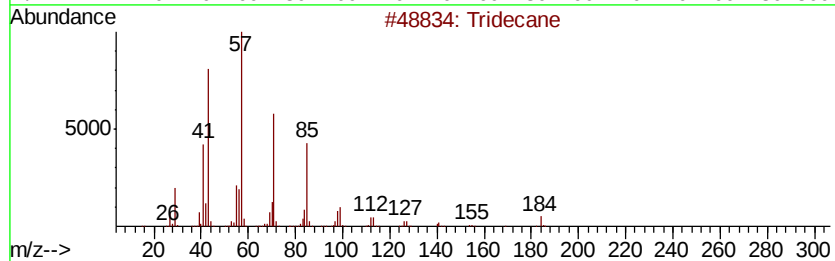
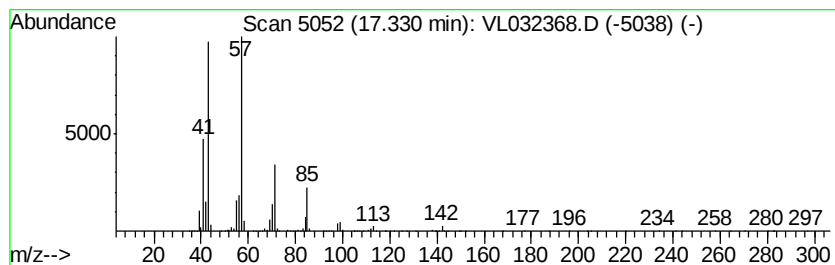
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 8 Tridecane Concentration Rank 15

| R.T.  | EstConc   | Area    | Relative to ISTD | R.T.  |
|-------|-----------|---------|------------------|-------|
| 17.33 | 2.60 ppbv | 2972320 | Chlorobenzene-d5 | 12.31 |

| Hit# of | 5                 | Tentative ID | MW  | MolForm | CAS#        | Qual |
|---------|-------------------|--------------|-----|---------|-------------|------|
| 1       | Tridecane         |              | 184 | C13H28  | 000629-50-5 | 83   |
| 2       | Undecane          |              | 156 | C11H24  | 001120-21-4 | 83   |
| 3       | Nonane, 2-methyl- |              | 142 | C10H22  | 000871-83-0 | 72   |
| 4       | Undecane          |              | 156 | C11H24  | 001120-21-4 | 72   |
| 5       | Nonane            |              | 128 | C9H20   | 000111-84-2 | 72   |



Data Path : Z:\V0ASRV\HPCHEM1\MSVOA L\DATA\VL081518\  
Data File : VL032368.D  
Acq On : 16 Aug 2018 2:32  
Operator : SY/AP  
Sample : J4457-04  
Misc : 400ml/MSVOA L  
ALS Vial : 1 Sample Multiplier: 1

Instrument :  
MSVOA\_L  
ClientSampleId :  
SS02-MIVI

Quant Method : Z:\V0ASRV\HPCHEM1\MSVOA L\METHODS\VL081518AIR.M  
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Wed Aug 15 14:58:02 2018

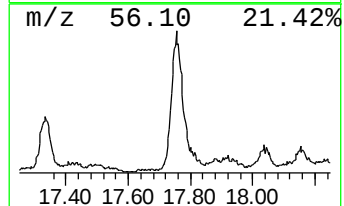
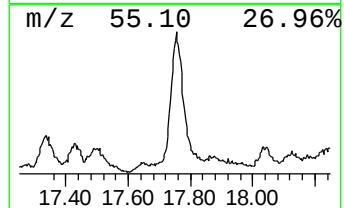
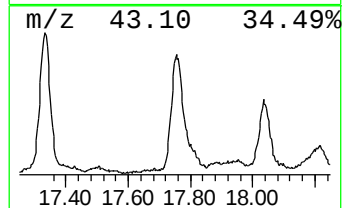
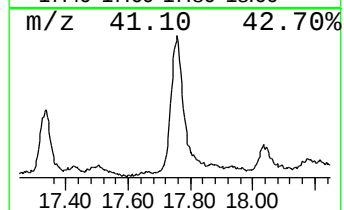
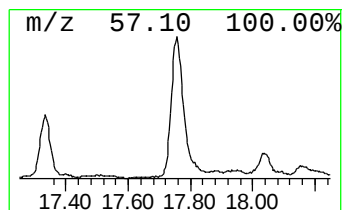
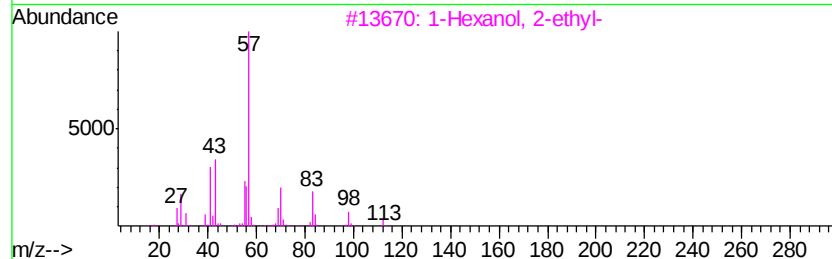
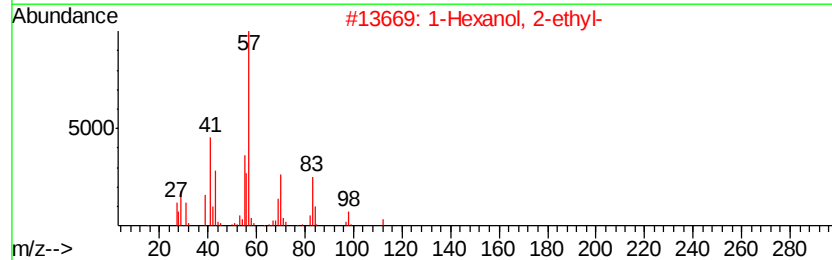
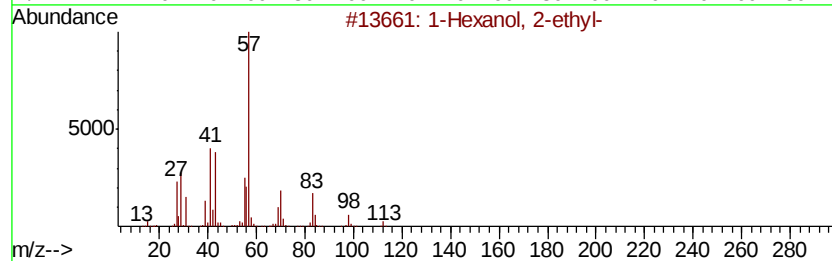
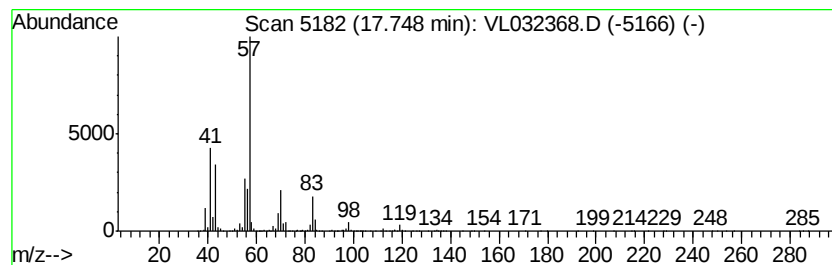
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 9 1-Hexanol, 2-ethyl- Concentration Rank 5

| R.T.  | EstConc   | Area    | Relative to ISTD | R.T.  |
|-------|-----------|---------|------------------|-------|
| 17.75 | 5.71 ppbv | 6518410 | Chlorobenzene-d5 | 12.31 |

| Hit# of | 5                             | Tentative ID | MW  | MolForm | CAS#        | Qual |
|---------|-------------------------------|--------------|-----|---------|-------------|------|
| 1       | 1-Hexanol, 2-ethyl-           |              | 130 | C8H18O  | 000104-76-7 | 72   |
| 2       | 1-Hexanol, 2-ethyl-           |              | 130 | C8H18O  | 000104-76-7 | 72   |
| 3       | 1-Hexanol, 2-ethyl-           |              | 130 | C8H18O  | 000104-76-7 | 64   |
| 4       | 1-Hexanol, 2-ethyl-           |              | 130 | C8H18O  | 000104-76-7 | 59   |
| 5       | 1-Pentanol, 2-ethyl-4-methyl- |              | 130 | C8H18O  | 000106-67-2 | 45   |



Data Path : Z:\V0ASRV\HPCHEM1\MSVOA L\DATA\VL081518\  
Data File : VL032368.D  
Acq On : 16 Aug 2018 2:32  
Operator : SY/AP  
Sample : J4457-04  
Misc : 400ml/MSVOA L  
ALS Vial : 1 Sample Multiplier: 1

Instrument :  
MSVOA\_L  
ClientSampleId :  
SS02-MIVI

Quant Method : Z:\V0ASRV\HPCHEM1\MSVOA L\METHODS\VL081518AIR.M  
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Wed Aug 15 14:58:02 2018

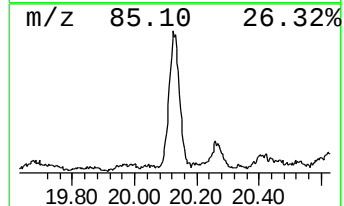
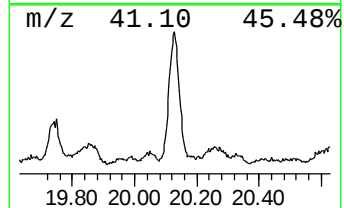
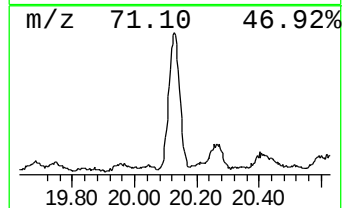
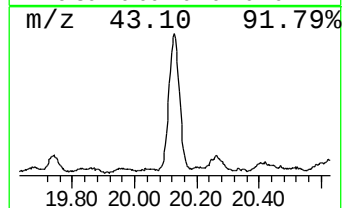
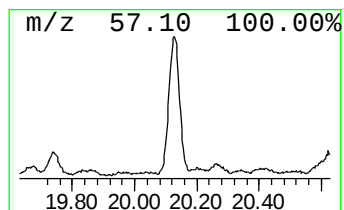
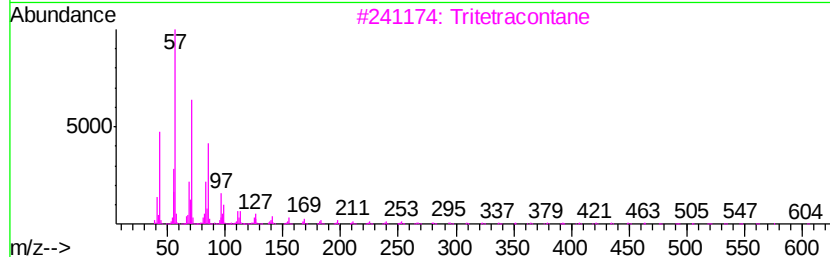
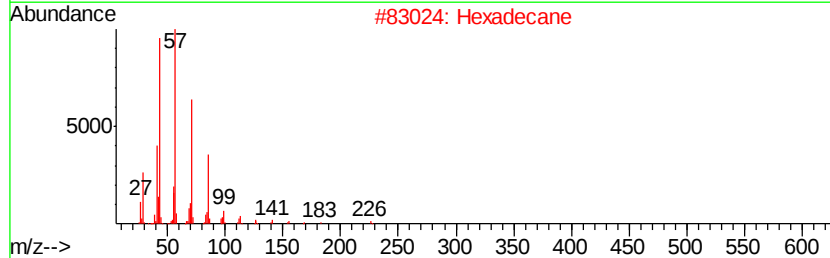
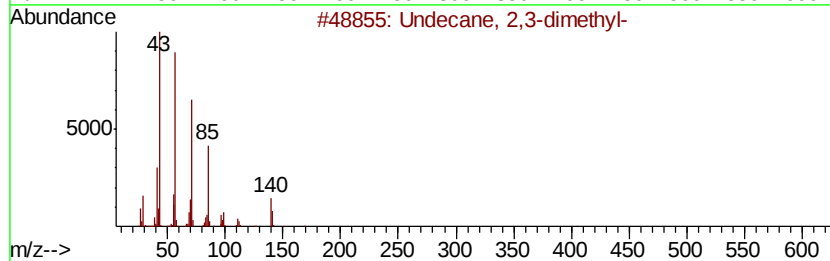
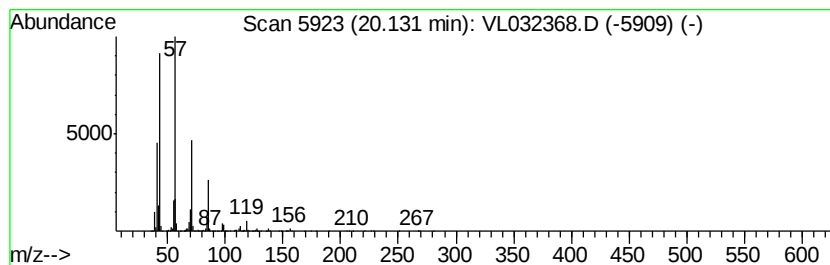
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 10 Undecane, 2,3-dimethyl- Concentration Rank 8

| R.T.  | EstConc   | Area    | Relative to ISTD | R.T.  |
|-------|-----------|---------|------------------|-------|
| 20.13 | 4.41 ppbv | 5040100 | Chlorobenzene-d5 | 12.31 |

| Hit# | of | Tentative ID            | MW  | MolForm | CAS#        | Qual |
|------|----|-------------------------|-----|---------|-------------|------|
| 1    | 5  | Undecane, 2,3-dimethyl- | 184 | C13H28  | 017312-77-5 | 78   |
| 2    |    | Hexadecane              | 226 | C16H34  | 000544-76-3 | 78   |
| 3    |    | Tritetracontane         | 605 | C43H88  | 007098-21-7 | 78   |
| 4    |    | Undecane                | 156 | C11H24  | 001120-21-4 | 72   |
| 5    |    | Tridecane               | 184 | C13H28  | 000629-50-5 | 72   |



Data Path : Z:\V0ASRV\HPCHEM1\MSVOA L\DATA\VL081518\  
Data File : VL032368.D  
Acq On : 16 Aug 2018 2:32  
Operator : SY/AP  
Sample : J4457-04  
Misc : 400ml/MSVOA L  
ALS Vial : 1 Sample Multiplier: 1

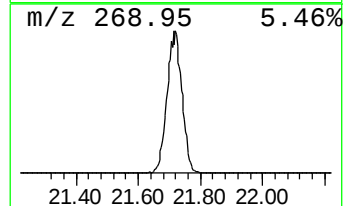
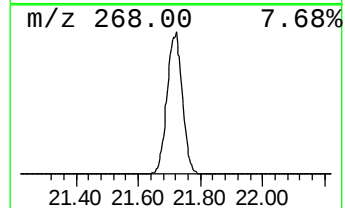
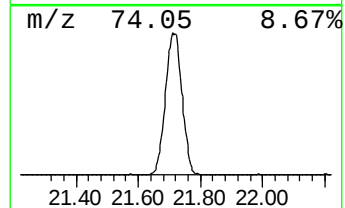
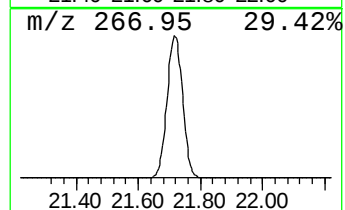
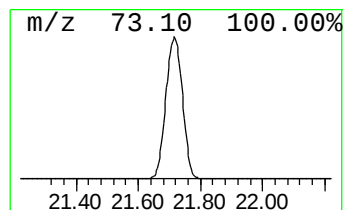
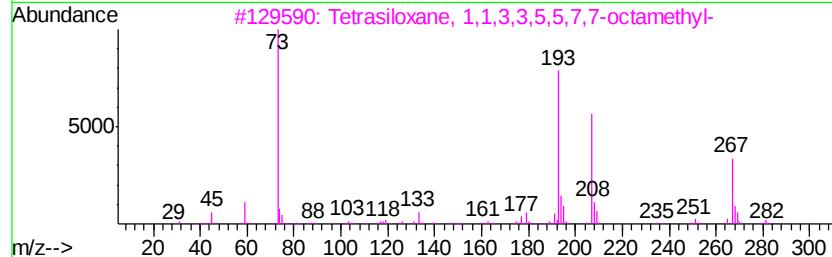
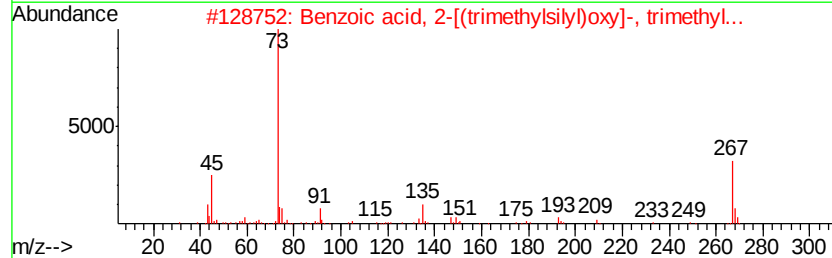
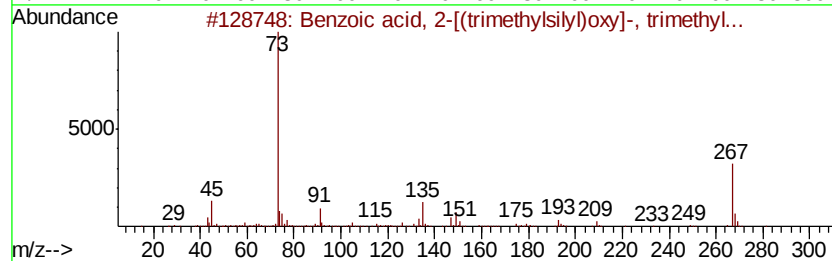
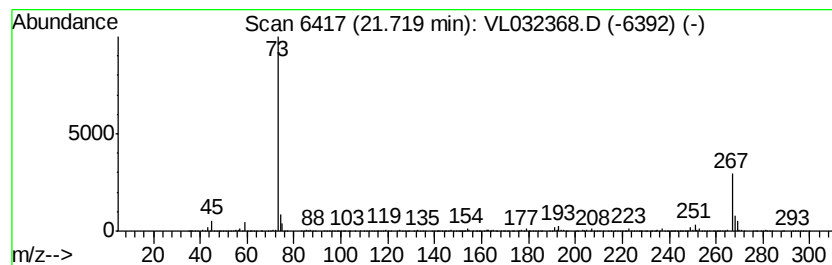
Instrument :  
MSVOA\_L  
ClientSampleId :  
SS02-MIVI

Quant Method : Z:\V0ASRV\HPCHEM1\MSVOA L\METHODS\VL081518AIR.M  
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Wed Aug 15 14:58:02 2018

TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 11 unknown21.72 Concentration Rank 2

| R.T.    | EstConc    | Area                                                 | Relative to ISTD | R.T.         |              |      |
|---------|------------|------------------------------------------------------|------------------|--------------|--------------|------|
| 21.72   | 16.58 ppbv | 18934000                                             | Chlorobenzene-d5 | 12.31        |              |      |
| Hit# of | 5          | Tentative ID                                         | MW               | MolForm      | CAS#         | Qual |
| 1       |            | Benzoic acid, 2-[(trimethylsilyl)oxy]-, trimethyl... | 282              | C13H22O3Si2  | 003789-85-3  | 36   |
| 2       |            | Benzoic acid, 2-[(trimethylsilyl)oxy]-, trimethyl... | 282              | C13H22O3Si2  | 003789-85-3  | 36   |
| 3       |            | Tetrasiloxane, 1,1,3,3,5,5,7,7-octamethyl-           | 282              | C8H26O3Si4   | 001000-05-1  | 32   |
| 4       |            | 4-Methylcatechol, bis(trimethylsilyl) ether          | 268              | C13H24O2Si2  | 1000332-79-9 | 16   |
| 5       |            | 1-(3-Chlorophenyl)piperazine, 4-(trimethylsilyloxy)- | 268              | C13H21ClN2Si | 1000373-99-3 | 16   |



Data Path : Z:\V0ASRV\HPCHEM1\MSVOA L\DATA\VL081518\  
Data File : VL032368.D  
Acq On : 16 Aug 2018 2:32  
Operator : SY/AP  
Sample : J4457-04  
Misc : 400ml/MSVOA L  
ALS Vial : 1 Sample Multiplier: 1

Instrument :  
MSVOA\_L  
ClientSampleId :  
SS02-MIVI

Quant Method : Z:\V0ASRV\HPCHEM1\MSVOA L\METHODS\VL081518AIR.M  
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Wed Aug 15 14:58:02 2018

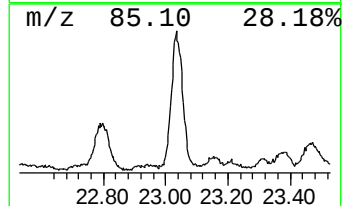
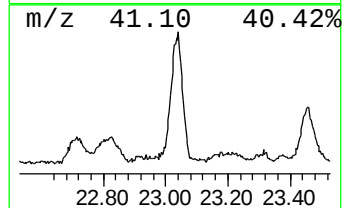
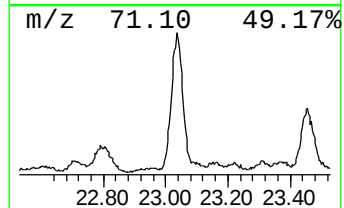
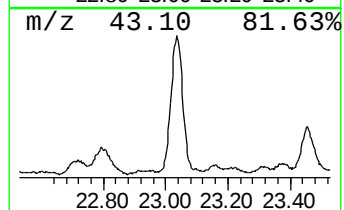
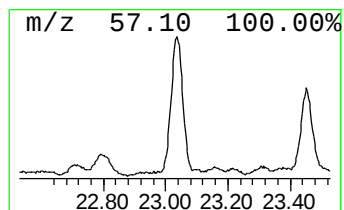
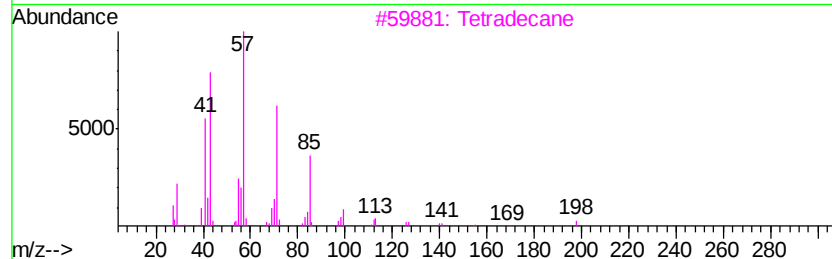
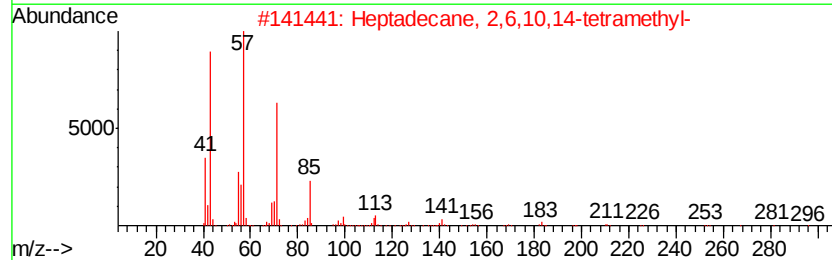
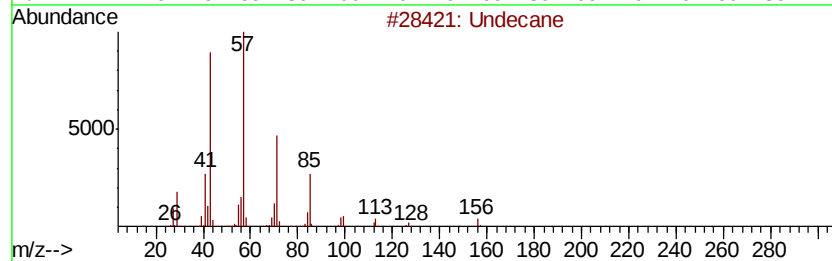
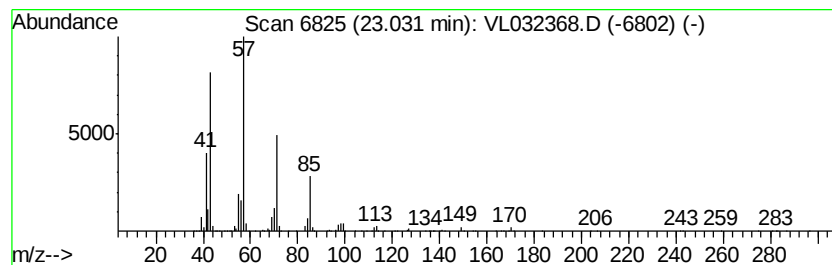
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 12 Undecane Concentration Rank 6

| R.T.  | EstConc   | Area    | Relative to ISTD | R.T.  |
|-------|-----------|---------|------------------|-------|
| 23.03 | 5.39 ppbv | 6156160 | Chlorobenzene-d5 | 12.31 |

| Hit# | of | Tentative ID                        | MW  | MolForm | CAS#        | Qual |
|------|----|-------------------------------------|-----|---------|-------------|------|
| 1    | 5  | Undecane                            | 156 | C11H24  | 001120-21-4 | 91   |
| 2    |    | Heptadecane, 2,6,10,14-tetramethyl- | 296 | C21H44  | 018344-37-1 | 91   |
| 3    |    | Tetradecane                         | 198 | C14H30  | 000629-59-4 | 90   |
| 4    |    | Decane, 2-methyl-                   | 156 | C11H24  | 006975-98-0 | 90   |
| 5    |    | Dodecane                            | 170 | C12H26  | 000112-40-3 | 90   |



Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL081518\  
Data File : VL032368.D  
Acq On : 16 Aug 2018 2:32  
Operator : SY/AP  
Sample : J4457-04  
Misc : 400ml/MSVOA L  
ALS Vial : 1 Sample Multiplier: 1

Instrument :  
MSVOA\_L  
ClientSampleId :  
SS02-MIVI

Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL081518AIR.M  
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Wed Aug 15 14:58:02 2018

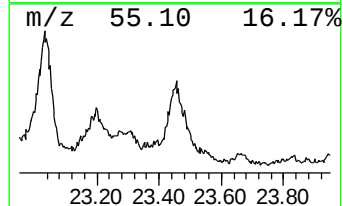
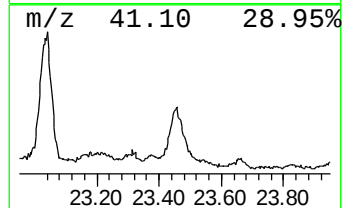
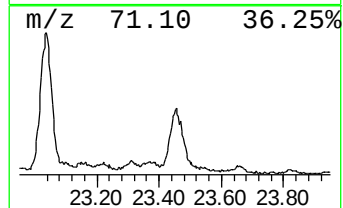
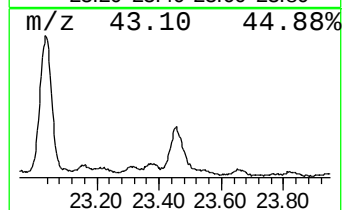
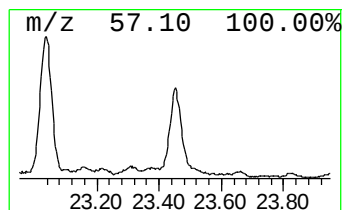
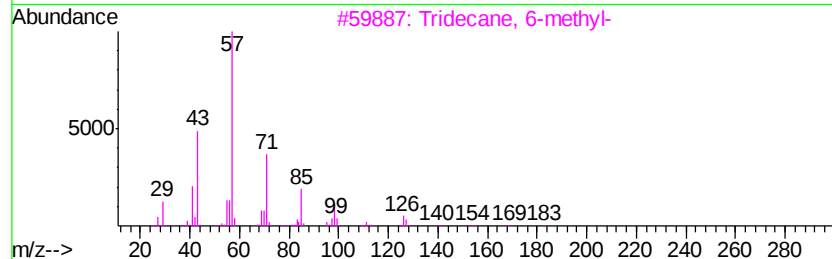
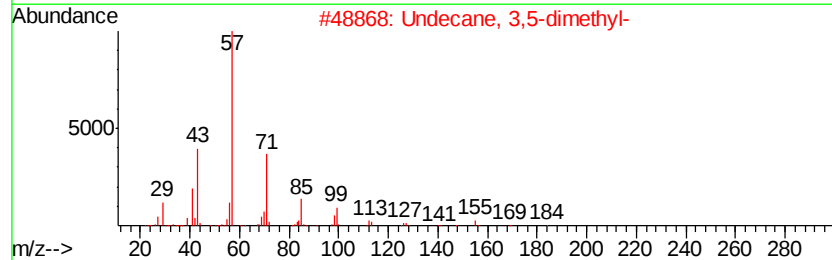
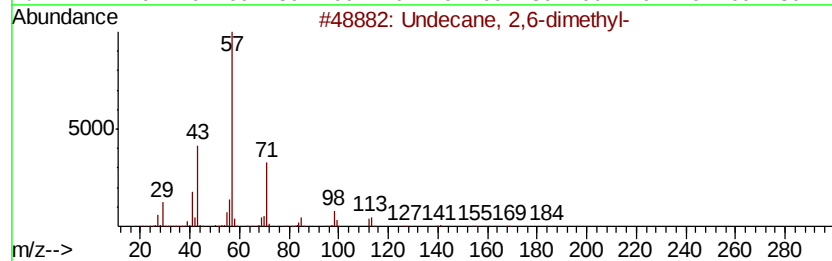
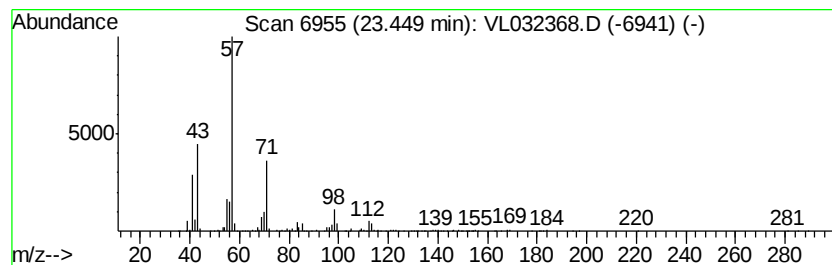
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 13 Undecane, 2,6-dimethyl- Concentration Rank 10

| R.T.  | EstConc   | Area    | Relative to ISTD | R.T.  |
|-------|-----------|---------|------------------|-------|
| 23.45 | 3.32 ppbv | 3790690 | Chlorobenzene-d5 | 12.31 |

| Hit# | of | Tentative ID             | MW  | MolForm | CAS#        | Qual |
|------|----|--------------------------|-----|---------|-------------|------|
| 1    | 5  | Undecane, 2,6-dimethyl-  | 184 | C13H28  | 017301-23-4 | 90   |
| 2    |    | Undecane, 3,5-dimethyl-  | 184 | C13H28  | 017312-81-1 | 83   |
| 3    |    | Tridecane, 6-methyl-     | 198 | C14H30  | 013287-21-3 | 80   |
| 4    |    | Decane, 2,6,8-trimethyl- | 184 | C13H28  | 062108-26-3 | 74   |
| 5    |    | Undecane, 3,6-dimethyl-  | 184 | C13H28  | 017301-28-9 | 72   |



Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL081518\  
Data File : VL032368.D  
Acq On : 16 Aug 2018 2:32  
Operator : SY/AP  
Sample : J4457-04  
Misc : 400ml/MSVOA L  
ALS Vial : 1 Sample Multiplier: 1

Instrument :  
MSVOA\_L  
ClientSampleId :  
SS02-MIVI

Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL081518AIR.M  
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Wed Aug 15 14:58:02 2018

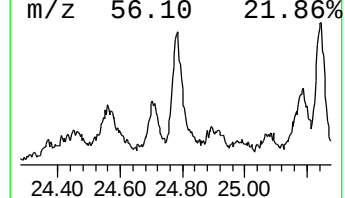
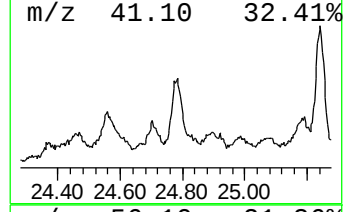
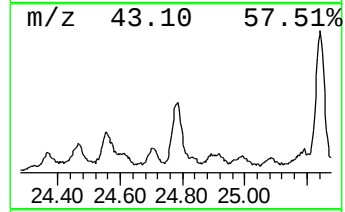
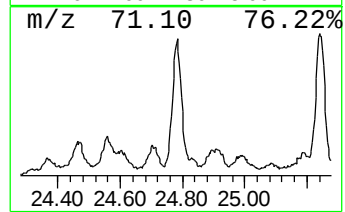
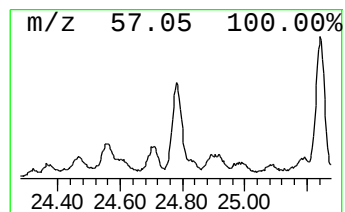
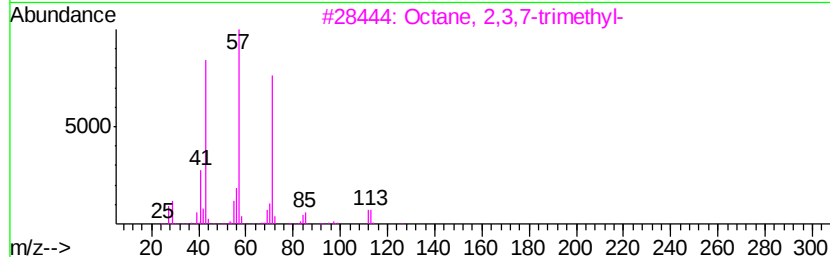
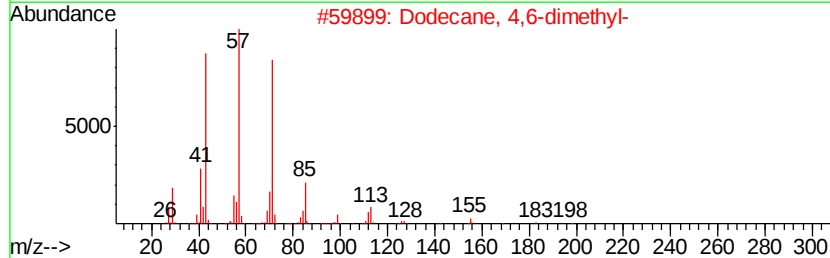
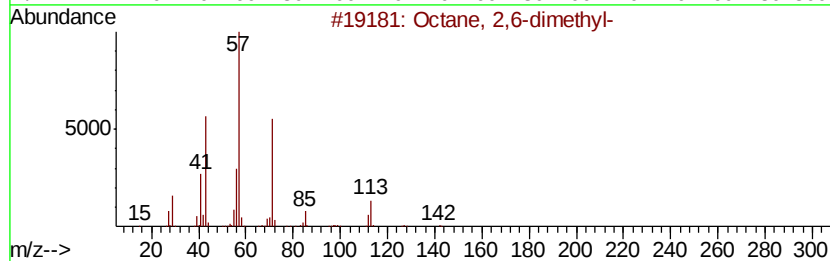
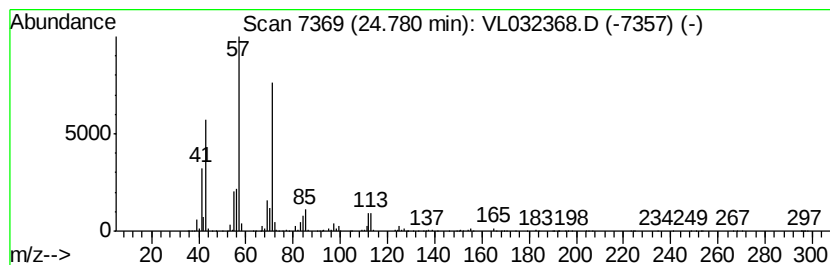
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 14 Octane, 2,6-dimethyl- Concentration Rank 13

| R.T.  | EstConc   | Area    | Relative to ISTD | R.T.  |
|-------|-----------|---------|------------------|-------|
| 24.78 | 3.18 ppbv | 3628870 | Chlorobenzene-d5 | 12.31 |

| Hit# | of | Tentative ID                        | MW  | MolForm | CAS#        | Qual |
|------|----|-------------------------------------|-----|---------|-------------|------|
| 1    | 5  | Octane, 2,6-dimethyl-               | 142 | C10H22  | 002051-30-1 | 86   |
| 2    |    | Dodecane, 4,6-dimethyl-             | 198 | C14H30  | 061141-72-8 | 80   |
| 3    |    | Octane, 2,3,7-trimethyl-            | 156 | C11H24  | 062016-34-6 | 72   |
| 4    |    | Heptadecane, 2,6,10,14-tetramethyl- | 296 | C21H44  | 018344-37-1 | 72   |
| 5    |    | Nonane, 2,6-dimethyl-               | 156 | C11H24  | 017302-28-2 | 72   |



Data Path : Z:\VOASRV\HPCHEM1\MSVOA\_L\DATA\VL081518\  
Data File : VL032368.D  
Acq On : 16 Aug 2018 2:32  
Operator : SY/AP  
Sample : J4457-04  
Misc : 400ml/MSVOA\_L  
ALS Vial : 1 Sample Multiplier: 1

Instrument :  
MSVOA\_L  
ClientSampleId :  
SS02-MIVI

Quant Method : Z:\VOASRV\HPCHEM1\MSVOA\_L\METHODS\VL081518AIR.M  
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Wed Aug 15 14:58:02 2018

TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

| TIC Top Hit name     | RT    | EstConc | Units | Response | --Internal Standard-- |       |          |      |
|----------------------|-------|---------|-------|----------|-----------------------|-------|----------|------|
|                      |       |         |       |          | #                     | RT    | Resp     | Conc |
| Butane               | 3.43  | 3.4     | ppbv  | 2760770  | 1                     | 5.82  | 8119170  | 10.0 |
| Pentane              | 4.23  | 2.7     | ppbv  | 2207880  | 1                     | 5.82  | 8119170  | 10.0 |
| 1-Propanol, 2-met... | 6.16  | 3.3     | ppbv  | 2640610  | 1                     | 5.82  | 8119170  | 10.0 |
| Tridecane            | 17.33 | 2.6     | ppbv  | 2972320  | 3                     | 12.31 | 11417400 | 10.0 |
| 1-Hexanol, 2-ethyl-  | 17.75 | 5.7     | ppbv  | 6518410  | 3                     | 12.31 | 11417400 | 10.0 |
| Undecane, 2,3-dim... | 20.13 | 4.4     | ppbv  | 5040100  | 3                     | 12.31 | 11417400 | 10.0 |
| unknown21.72         | 21.72 | 16.6    | ppbv  | 18934000 | 3                     | 12.31 | 11417400 | 10.0 |
| Undecane             | 23.03 | 5.4     | ppbv  | 6156160  | 3                     | 12.31 | 11417400 | 10.0 |
| Undecane, 2,6-dim... | 23.45 | 3.3     | ppbv  | 3790690  | 3                     | 12.31 | 11417400 | 10.0 |
| Octane, 2,6-dimet... | 24.78 | 3.2     | ppbv  | 3628870  | 3                     | 12.31 | 11417400 | 10.0 |