

Method Path : Z:\voasrv\HPCHEM1\MSVOA\_N\methods\  
 Method File : 624N020923W.M  
 Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
 Last Update : Fri Feb 10 05:40:47 2023  
 Response Via : Initial Calibration

## Calibration Files

5 =VN076592.D 20 =VN076594.D 50 =VN076595.D 100 =VN076596.D 10 =VN076593.D

| Compound |                     | 5              | 20    | 50    | 100   | 10    | Avg   | %RSD     |
|----------|---------------------|----------------|-------|-------|-------|-------|-------|----------|
| -----    |                     |                |       |       |       |       |       |          |
| 1) I     | Bromochloromethane  | -----ISTD----- |       |       |       |       |       |          |
| 2) M     | Dichlorodifluoro... | 4.860          | 4.377 | 4.237 | 4.207 | 3.081 | 4.152 | 15.74    |
| 3) M     | Chloromethane       | 7.165          | 4.491 | 4.270 | 4.364 | 4.673 | 4.993 | 24.51    |
| 4) M     | Vinyl Chloride      | 6.438          | 3.808 | 3.651 | 3.700 | 4.200 | 4.359 | 27.11    |
| 5) M     | Bromomethane        | 3.253          | 1.883 | 1.912 | 1.841 | 2.055 | 2.189 | 27.42    |
| 6) M     | Chloroethane        | 4.092          | 2.114 | 2.029 | 1.968 | 2.354 | 2.511 | 35.66    |
| 7) M     | Trichlorofluorom... | 8.239          | 7.313 | 6.974 | 6.935 | 7.551 | 7.402 | 7.19     |
| 8) T     | Diethyl Ether       | 2.072          | 2.387 | 2.370 | 2.425 | 2.485 | 2.348 | 6.83     |
| 9)       | 1,1,2-Trichlorot... | 3.139          | 3.556 | 3.583 | 3.503 | 4.036 | 3.563 | 8.96     |
| 10) M    | 1,1-Dichloroethene  | 3.047          | 3.465 | 3.306 | 3.347 | 3.578 | 3.349 | 5.95     |
| 11)      | Methyl Iodide       | 4.179          | 4.915 | 4.971 | 4.962 | 5.298 | 4.865 | 8.49     |
| 12)      | Methyl Acetate      | 7.437          | 6.879 | 6.806 | 6.824 | 7.188 | 7.027 | 3.93     |
| 13) M    | Acrolein            | 0.924          | 0.917 | 0.883 | 0.899 | 0.877 | 0.900 | 2.26     |
| 14) M    | Acrylonitrile       | 2.060          | 2.036 | 2.056 | 2.049 | 2.093 | 2.059 | 1.03     |
| 15) M    | Acetone             | 0.654          | 0.596 | 0.551 | 0.536 | 0.635 | 0.594 | 8.59     |
| 16) M    | Carbon Disulfide    | 7.994          | 9.303 | 9.346 | 9.626 | 9.745 | 9.203 | 7.62     |
| 17)      | Allyl chloride      | 6.290          | 6.442 | 6.414 | 6.497 | 6.634 | 6.455 | 1.94     |
| 18) M    | Methylene Chloride  | 3.864          | 4.071 | 3.809 | 3.773 | 4.294 | 3.962 | 5.52     |
| 19) M    | trans-1,2-Dichlo... | 2.986          | 3.623 | 3.445 | 3.481 | 3.665 | 3.440 | 7.86     |
| 20) T    | Diisopropyl ether   | 1.723          | 1.427 | 1.383 | 1.369 | 1.466 | 1.474 | E1 9.83  |
| 21) M    | 1,1-Dichloroethane  | 9.616          | 7.724 | 7.381 | 7.352 | 8.104 | 8.035 | 11.63    |
| 22) M    | cis-1,2-Dichloro... | 3.890          | 4.221 | 4.027 | 4.076 | 4.395 | 4.122 | 4.69     |
| 23) M    | tert-Butyl Alcohol  | 0.584          | 0.719 | 0.717 | 0.748 | 0.687 | 0.691 | 9.23     |
| 24) M    | Methyl tert-Buty... | 0.960          | 1.265 | 1.237 | 1.253 | 1.314 | 1.206 | E1 11.64 |
| 25) M    | Chloroform          | 8.854          | 7.828 | 7.440 | 7.447 | 8.186 | 7.951 | 7.45     |
| 26)      | Cyclohexane         | 8.413          | 6.765 | 6.687 | 6.717 | 7.070 | 7.130 | 10.28    |
| 27) s    | 1,2-Dichloroetha... | 3.948          | 3.516 | 3.355 | 3.219 | 3.641 | 3.536 | 7.93     |
|          |                     |                |       |       |       |       |       |          |
| 28) I    | 1,4-Difluorobenzene | -----ISTD----- |       |       |       |       |       |          |
| 29)      | 1,1-Dichloropropene | 0.701          | 0.781 | 0.792 | 0.814 | 0.795 | 0.777 | 5.66     |
| 30) M    | 2-Butanone          | 0.362          | 0.431 | 0.426 | 0.427 | 0.450 | 0.419 | 7.92     |
| 31)      | 2,2-Dichloropropane | 0.601          | 0.837 | 0.846 | 0.877 | 0.870 | 0.806 | 14.36    |
| 32) M    | 1,1,1-Trichloroe... | 0.865          | 0.971 | 0.973 | 0.995 | 1.013 | 0.963 | 5.98     |
| 33) M    | Carbon Tetrachlo... | 0.727          | 0.846 | 0.852 | 0.861 | 0.870 | 0.831 | 7.06     |
| 34) M    | Benzene             | 2.712          | 2.313 | 2.252 | 2.274 | 2.380 | 2.386 | 7.91     |
| 35)      | Methacrylonitrile   | 0.420          | 0.471 | 0.513 | 0.504 | 0.501 | 0.482 | 7.91     |
| 36) M    | 1,2-Dichloroethane  | 0.807          | 0.925 | 0.917 | 0.936 | 0.989 | 0.915 | 7.31     |
| 37) M    | Trichloroethene     | 0.348          | 0.509 | 0.511 | 0.535 | 0.540 | 0.489 | 16.30    |
| 38)      | Methylcyclohexane   | 0.574          | 0.928 | 0.940 | 0.963 | 0.893 | 0.859 | 18.83    |
| 39) M    | 1,2-Dichloropropane | 0.450          | 0.585 | 0.580 | 0.599 | 0.633 | 0.569 | 12.27    |
| 40)      | Dibromomethane      | 0.299          | 0.393 | 0.386 | 0.396 | 0.398 | 0.375 | 11.33    |
| 41) M    | Bromodichloromet... | 0.536          | 0.848 | 0.831 | 0.867 | 0.857 | 0.788 | 17.97    |
| 42) M    | Vinyl Acetate       | 1.359          | 1.325 | 1.383 | 1.433 | 1.317 | 1.363 | 3.47     |
| 43)      | Ethyl Acetate       | 0.778          | 0.892 | 0.855 | 0.887 | 0.861 | 0.855 | 5.36     |
| 44)      | Isopropyl Acetate   | 1.355          | 1.368 | 1.420 | 1.471 | 1.416 | 1.406 | 3.28     |
| 45) T    | 1,4-Dioxane         | 0.008          | 0.013 | 0.012 | 0.012 | 0.013 | 0.011 | 16.14    |
| 46)      | Methyl methacrylate | 0.504          | 0.685 | 0.716 | 0.744 | 0.740 | 0.678 | 14.75    |
| 47)      | n-amyl Acetate      | 0.895          | 1.209 | 1.271 | 1.364 | 1.236 | 1.195 | 14.86    |
| 48) M    | t-1,3-Dichloropr... | 0.523          | 0.836 | 0.861 | 0.938 | 0.807 | 0.793 | 20.03    |
| 49) T    | cis-1,3-Dichloro... | 0.622          | 0.919 | 0.931 | 0.988 | 0.922 | 0.876 | 16.54    |
| 50) M    | 1,1,2-Trichloroe... | 0.402          | 0.531 | 0.528 | 0.538 | 0.543 | 0.509 | 11.76    |
| 51)      | Ethyl methacrylate  | 0.508          | 0.847 | 0.900 | 0.940 | 0.844 | 0.808 | 21.35    |
| 52)      | 1,3-Dichloropropane | 0.739          | 0.991 | 0.967 | 0.999 | 1.045 | 0.948 | 12.72    |
| 53) M    | Dibromochloromet... | 0.333          | 0.562 | 0.575 | 0.607 | 0.566 | 0.529 | 20.98    |
| 54) M    | 1,2-Dibromoethane   | 0.352          | 0.549 | 0.543 | 0.557 | 0.574 | 0.515 | 17.83    |
| 55) M    | 2-Chloroethyl vi... | 0.292          | 0.375 | 0.401 | 0.407 | 0.370 | 0.369 | 12.38    |
| 56) M    | Bromoform           | 0.201          | 0.350 | 0.385 | 0.407 | 0.359 | 0.340 | 23.87    |

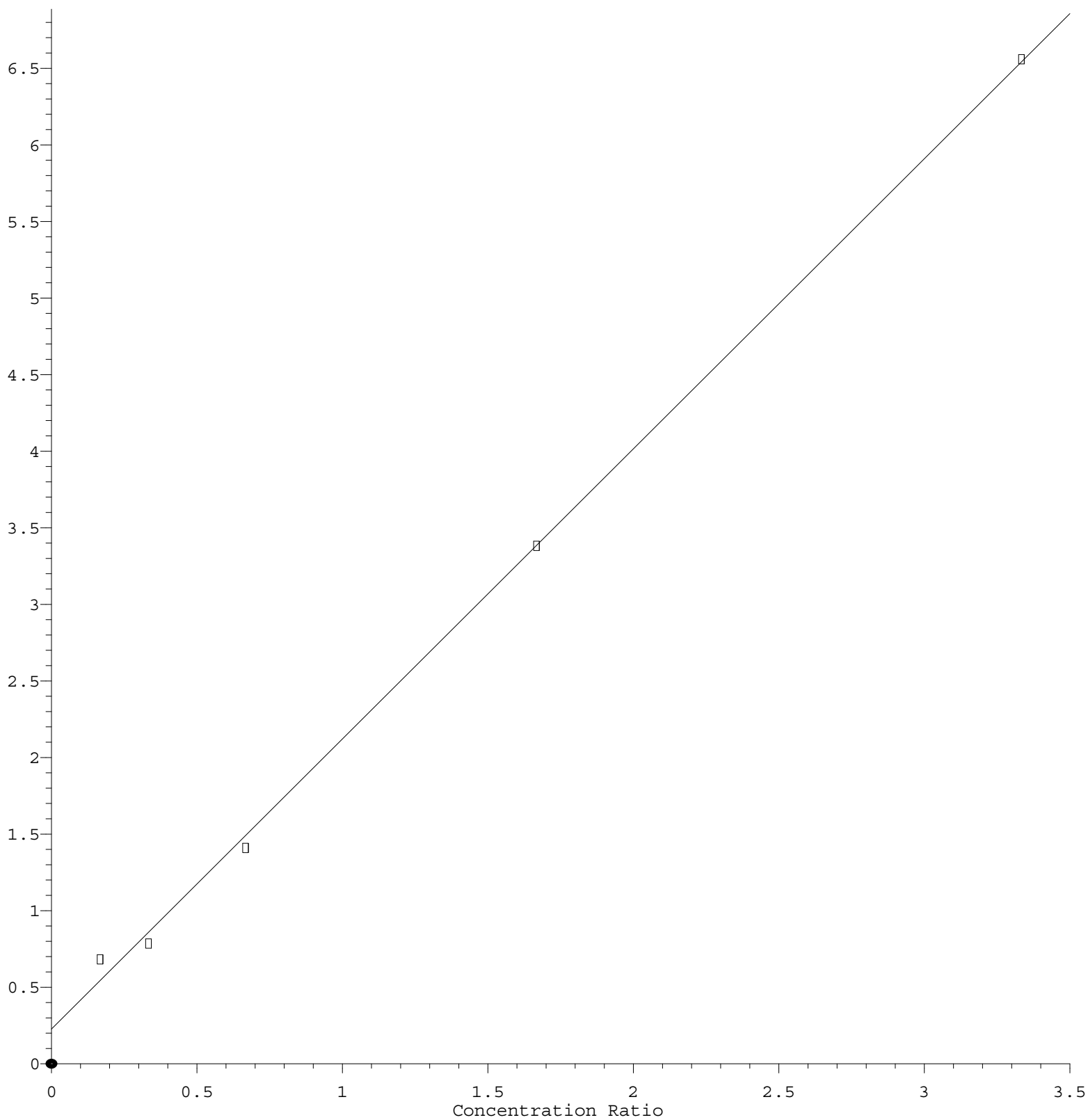
Method Path : Z:\voasrv\HPCHEM1\MSVOA\_N\methods\  
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|       |                     | -----ISTD----- |       |       |       |       |       |  |       |
|-------|---------------------|----------------|-------|-------|-------|-------|-------|--|-------|
| 57) I | Chlorobenzene-d5    |                |       |       |       |       |       |  |       |
| 58) M | 4-Methyl-2-Penta... | 0.915          | 0.837 | 0.781 | 0.814 | 0.847 | 0.839 |  | 5.90  |
| 59) M | 2-Hexanone          | 0.639          | 0.612 | 0.584 | 0.609 | 0.604 | 0.610 |  | 3.21  |
| 60) S | 4-Bromofluoroben... | 0.828          | 0.636 | 0.646 | 0.667 | 0.610 | 0.677 |  | 12.80 |
| 61) M | Tetrachloroethene   | 0.336          | 0.405 | 0.374 | 0.388 | 0.416 | 0.383 |  | 8.15  |
| 62) M | Toluene             | 2.336          | 2.234 | 2.118 | 2.196 | 2.237 | 2.224 |  | 3.54  |
| 63) S | Toluene-d8          | 1.132          | 1.119 | 1.074 | 1.080 | 1.103 | 1.102 |  | 2.25  |
| 64) M | Chlorobenzene       | 1.282          | 1.328 | 1.241 | 1.318 | 1.274 | 1.288 |  | 2.73  |
| 65)   | 1,1,1,2-Tetrachl... | 0.460          | 0.485 | 0.470 | 0.493 | 0.535 | 0.488 |  | 5.93  |
| 66) M | Ethyl Benzene       | 2.332          | 2.505 | 2.399 | 2.554 | 2.402 | 2.438 |  | 3.66  |
| 67) M | m/p-Xylenes         | 0.874          | 0.931 | 0.905 | 0.949 | 0.915 | 0.915 |  | 3.07  |
| 68) M | o-Xylene            | 0.858          | 0.934 | 0.883 | 0.944 | 0.888 | 0.901 |  | 4.04  |
| 69) M | Styrene             | 1.261          | 1.462 | 1.447 | 1.549 | 1.434 | 1.431 |  | 7.32  |
| 70)   | Isopropylbenzene    | 2.469          | 2.397 | 2.380 | 2.517 | 2.314 | 2.415 |  | 3.27  |
| 71) M | 1,1,2,2-Tetrachl... | 1.202          | 0.774 | 0.722 | 0.767 | 0.745 | 0.842 |  | 24.04 |
| 72)   | 1,2,3-Trichlorop... | 1.103          | 0.671 | 0.706 | 0.686 | 0.679 | 0.769 |  | 24.34 |
| 73)   | Bromobenzene        | 0.797          | 0.521 | 0.498 | 0.530 | 0.520 | 0.573 |  | 21.94 |
| 74)   | n-propylbenzene     | 3.980          | 2.864 | 2.829 | 3.093 | 2.724 | 3.098 |  | 16.50 |
| 75)   | 2-Chlorotoluene     | 2.574          | 1.801 | 1.755 | 1.850 | 1.763 | 1.949 |  | 18.04 |
| 76)   | 1,3,5-Trimethylb... | 2.900          | 2.105 | 2.062 | 2.206 | 2.006 | 2.256 |  | 16.30 |
| 77)   | t-1,4-Dichloro-2... | 0.255          | 0.212 | 0.224 | 0.262 | 0.206 | 0.232 |  | 10.85 |
| 78)   | 4-Chlorotoluene     | 2.732          | 1.751 | 1.742 | 1.876 | 1.694 | 1.959 |  | 22.32 |
| 79)   | tert-butylbenzene   | 2.446          | 1.816 | 1.774 | 1.892 | 1.645 | 1.914 |  | 16.19 |
| 80)   | 1,2,4-Trimethylb... | 2.826          | 2.071 | 2.047 | 2.197 | 1.982 | 2.224 |  | 15.52 |
| 81)   | sec-Butylbenzene    | 3.388          | 2.477 | 2.493 | 2.732 | 2.313 | 2.681 |  | 15.76 |
| 82)   | p-Isopropyltoluene  | 2.482          | 2.039 | 2.080 | 2.258 | 1.911 | 2.154 |  | 10.29 |
| 83) M | 1,3-Dichlorobenzene | 1.350          | 0.975 | 0.975 | 1.061 | 0.940 | 1.060 |  | 15.87 |
| 84) M | 1,4-Dichlorobenzene | 1.448          | 0.928 | 0.942 | 1.055 | 0.914 | 1.058 |  | 21.31 |
| 85)   | n-Butylbenzene      | 2.823          | 1.689 | 1.853 | 2.126 | 1.510 | 2.000 |  | 25.64 |
| 86) T | Hexachloroethane    | 0.562          | 0.365 | 0.380 | 0.418 | 0.366 | 0.418 |  | 19.94 |
| 87) M | 1,2-Dichlorobenzene | 1.883          | 0.969 | 0.974 | 1.059 | 0.934 | 1.164 |  | 34.80 |
| 88)   | 1,2-Dibromo-3-Ch... | 0.161          | 0.172 | 0.172 | 0.189 | 0.164 | 0.172 |  | 6.54  |
| 89)   | 1,2,4-Trichlorob... | 0.382          | 0.481 | 0.520 | 0.586 | 0.458 | 0.485 |  | 15.52 |
| 90)   | Hexachlorobutadiene | 0.168          | 0.238 | 0.248 | 0.265 | 0.253 | 0.234 |  | 16.34 |
| 91) M | Naphthalene         | 1.266          | 1.694 | 1.813 | 1.994 | 1.512 | 1.656 |  | 16.90 |
| 92)   | 1,2,3-Trichlorob... | 0.388          | 0.491 | 0.515 | 0.559 | 0.468 | 0.484 |  | 13.10 |

(#) = Out of Range

## Chloroethane

Response Ratio



$$\text{Response} = 1.894\text{e}+000 * \text{Amt} + 2.271\text{e}-001$$

Coef of Det ( $r^2$ ) = 0.998717 Curve Fit: Linear

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Calibration Table Last Updated: Fri Feb 10 05:40:47 2023