40 ppb Volatiles in Drinking Water on Rtx®-VMS by EPA Method 524.4

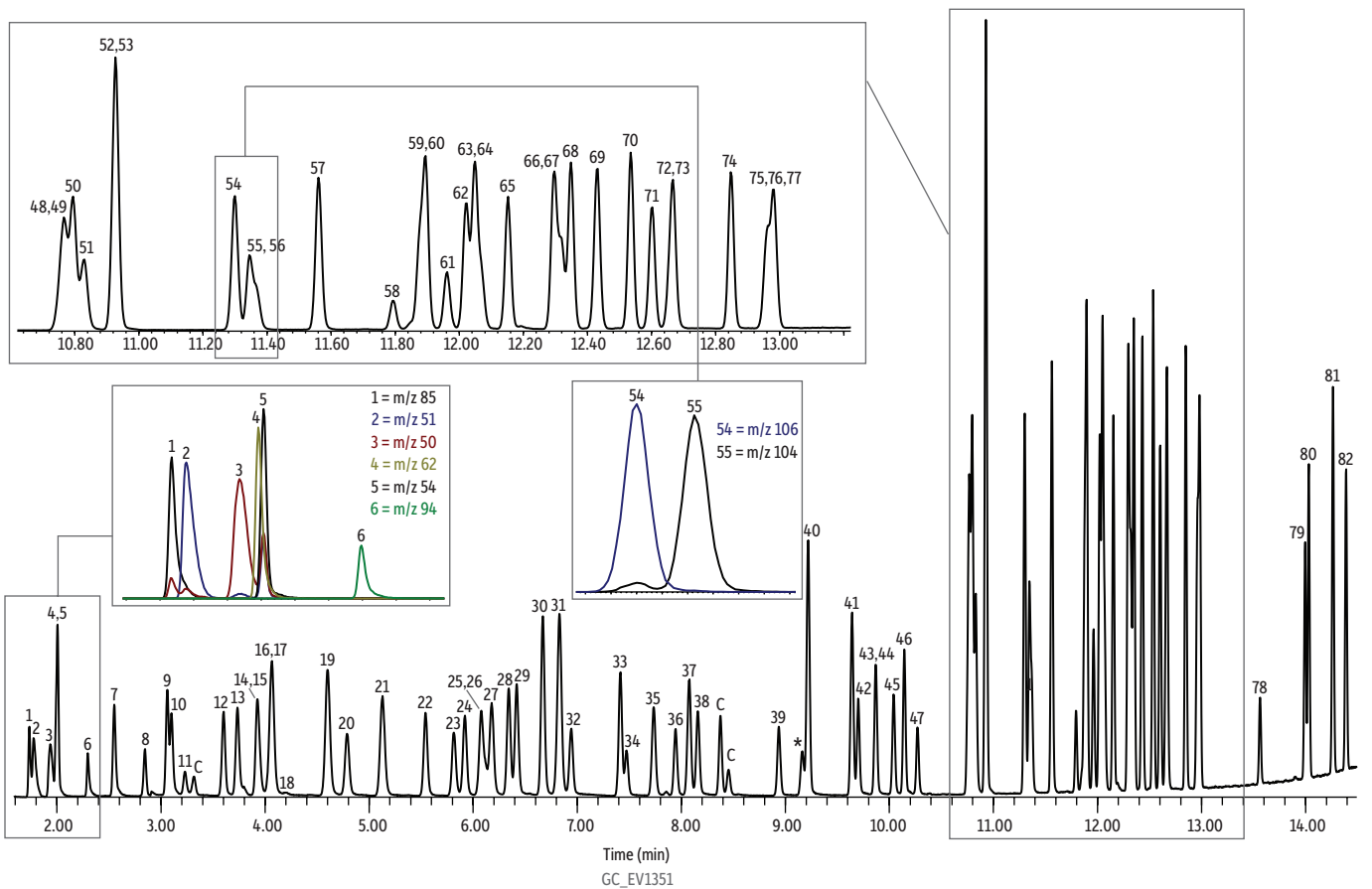
Peaks
1. Dichlorodifluoromethane
2. Chlorodifluoromethane
3. Chloromethane
4. Vinyl chloride
5. 1,3-Butadiene
6. Bromomethane
7. Trichlorofluoromethane
8. Diethyl ether
9. 1,1-Dichloroethene
10. Carbon disulfide
11. Methyl iodide
12. Allyl chloride
13. Methylene chloride
14. *trans*-1,2-Dichloroethene
15. Methyl acetate
16. MTBE-d3 (SS)
17. MTBE
18. *tert*-Butyl alcohol (TBA)
19. Diisopropyl ether (DIPE)
20. 1,1-Dichloroethane

Peaks
21. *tert*-Butyl ethyl ether (ETBE)
22. *cis*-1,2-Dichloroethene
23. Bromochloromethane
24. Chloroform
25. Carbon tetrachloride
26. Tetrahydrofuran
27. 1,1,1-Trichloroethane
28. 1,1-Dichloropropene
29. 1-Chlorobutane
30. Benzene
31. *tert*-Amyl methyl ether (TAME)
32. 1,2-Dichloroethane
33. Trichloroethene
34. 1,4-Difluorobenzene
35. *tert*-Amyl ethyl ether (TAEE)
36. Dibromomethane
37. 1,2-Dichloropropane
38. Bromodichloromethane
39. *cis*-1,3-Dichloropropene
40. Toluene

Peaks
41. Tetrachloroethene
42. *trans*-1,3-Dichloropropene
43. 1,1,2-Trichloroethane
44. Ethyl methacrylate
45. Dibromochloromethane
46. 1,3-Dichloropropane
47. 1,2-Dibromoethane
48. Chlorobenzene-d5
49. Chlorobenzene
50. Ethylbenzene
51. 1,1,1,2-Tetrachloroethane
52. *m*-Xylene
53. *p*-Xylene
54. *o*-Xylene
55. Styrene
56. Bromoform
57. Isopropylbenzene
58. 4-Bromofluorobenzene (SS)
59. Bromobenzene
60. *n*-Propylbenzene

Peaks
61. 1,1,2,2-Tetrachloroethane
62. 2-Chlorotoluene
63. 1,3,5-Trimethylbenzene
64. 1,2,3-Trichloropropane
65. 4-Chlorotoluene
66. *tert*-Butylbenzene
67. Pentachloroethane
68. 1,2,4-Trimethylbenzene
69. *sec*-Butylbenzene
70. 4-Isopropyltoluene
71. 1,3-Dichlorobenzene
72. 1,4-Dichlorobenzene-d4
73. 1,4-Dichlorobenzene
74. *n*-Butylbenzene
75. Hexachloroethane
76. 1,2-Dichlorobenzene-d4 (SS)
77. 1,2-Dichlorobenzene
78. 1,2-Dibromo-3-chloropropane
79. Hexachlorobutadiene
80. 1,2,4-Trichlorobenzene
81. Naphthalene
82. 1,2,3-Trichlorobenzene

C. Contamination from nitrogen gas line; * Toluene-d8



GC_EV1351

Column Rtx®-VMS, 30 m, 0.25 mm ID, 1.40 µm (cat.# 19915)
Sample 524.3 Internal standard/surrogate mix (cat.# 30017)
524.3 Gas calibration mix (cat.# 30014)
524.3 VOA MegaMix® standard (cat.# 30013)
Diluent: RO water
Conc.: 40 ng/mL (5 mL sample)
Injection purge and trap split (split ratio 30:1)
Liner: Premium 1.0 mm ID straight inlet liner (cat.# 23333.1)
Inj. Temp.: 200 °C
Purge and Trap
Instrument: EST Encon Evolution
Trap Type: Vocarb 3000
Purge: 11 min, flow 40 mL/min
Dry Purge: 1 min, flow 50 mL/min
Desorb: 1 min @ 260 °C, flow 30.9 mL/min
Bake: 8 min @ 265 °C
Interface Connection: injection port
Transfer Line Temp.: 150 °C
Flow Rate: 0.9 mL/min

Oven
Oven Temp.: 45 °C (hold 4.5 min) to 100 °C at 12 °C/min to 240 °C at 25 °C/min (hold 1.32 min)
Carrier Gas He, constant flow
Flow Rate: 0.9 mL/min
Detector MS
Mode: Scan
Scan Program:

Group	Start Time (min)	Scan Range (amu)	Scan Rate (scans/sec)
1	1.5	47–300	5.4
2	2.9	35–300	5.19

Transfer Line Temp.: 240 °C
Analyzer Type: Quadrupole
Source Temp.: 230 °C
Quad Temp.: 150 °C
Electron Energy: 70 eV
Solvent Delay Time: 1.5 min
Tune Type: BFB
Ionization Mode: EI
Instrument Agilent 7890A GC & 5975C MSD
Notes Nitrogen was used as the purge gas for the EST Encon Evolution

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