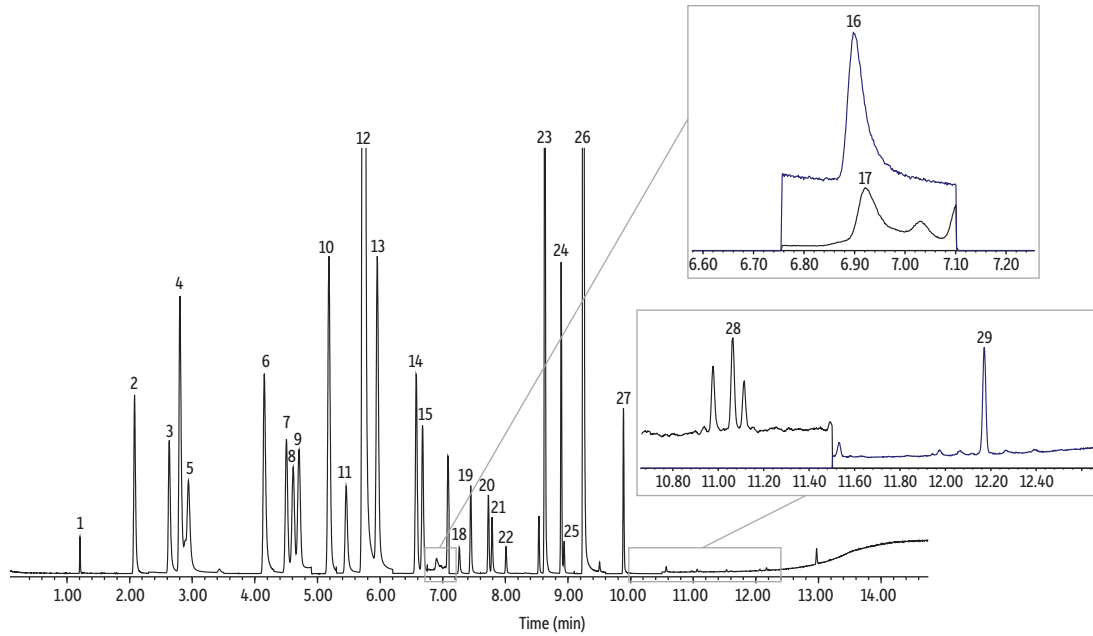


# Analysis of VOCs and Odors in Drinking Water via HS-SPME Arrow-GC-MS



GC\_EV1517

Peaks	ts (min)	Conc. (ng/mL)
1. Chloroethene	1.2	5
2. 1,1-Dichloroethene	2.07	5
3. Dichloromethane	2.63	5
4. <i>trans</i> -1,2-Dichloroethene	2.8	5
5. MTBE	2.94	5
6. <i>cis</i> -1,2-Dichloroethene	4.15	5
7. Chloroform	4.5	5
8. Carbon tetrachloride	4.61	5
9. 1,1,1-Trichloroethane	4.7	5
10. Benzene	5.18	5
11. 1,2-Dichloroethane	5.46	5
12. Fluorobenzene	5.74	10
13. Trichloroethene	5.96	5
14. 1,2-Dichloropropane	6.58	5
15. Bromodichloromethane	6.68	5
16. 1,4-Dioxane-d8	6.9	10
17. 1,4-Dioxane	6.76	5
18. <i>cis</i> -1,3-Dichloropropene	7.27	5
19. Toluene	7.45	5
20. Tetrachloroethene	7.73	5
21. <i>trans</i> -1,3-Dichloropropene	7.79	5
22. Dibromochloromethane	8.01	5
23. <i>m,p</i> -Xylene	8.63	5
24. <i>o</i> -Xylene	8.89	5
25. Bromoform	8.94	5
26. <i>p</i> -Bromofluorobenzene	9.25	10
27. 1,2-Dichlorobenzene	9.89	5
28. 2-Methylisoborneol	11.07	0.016

ISTDs = Fluorobenzene, 1,4-Dioxane-d8, *p*-Bromofluorobenzene

**Column** Rtx-VMS, 30 m, 0.25 mm ID, 1.4 µm (cat.# 19915)  
**Standard/Sample** Restek custom VOC mix  
 Geomin & 2-MIB (cat.# 30608)  
 1,4-Dioxane-d8 (cat.# 30614)  
 Fluorobenzene (cat.# 30030)  
 4-Bromofluorobenzene (cat.# 30026)  
**Diluent:** Methanol  
**Injection** split (split ratio 15:1)  
**Liner:** Topaz, straight/SPME inlet liner (cat.# 23280)  
**Inj. Temp.:** 280 °C  
**Split Vent Flow Rate:** 30 mL/min  
**Oven**  
**Oven Temp.:** 35 °C (hold 3 min) to 60 °C at 8 °C/min (hold 0 min) to 260 °C at 30 °C/min (hold 3 min)  
**Carrier Gas** He, constant flow  
**Flow Rate:** 2 mL/min  
**Detector** 5977B HES MS  
**SIM Program:**

Group	Start Time (min)	Ion(s) (m/z)	Dwell (ms)
1	0	62, 64	30,15
2	1.8	61, 96	15,30
3	2.3	49, 57, 61, 73, 84, 96	30
4	3.5	61, 96	30
5	4.3	47, 61, 82, 83, 97, 117	30
6	4.9	52, 78	30
7	5.3	49, 62, 70, 95, 96, 130	30
8	6.2	63, 76, 83, 129	30
9	6.75	57, 64, 88, 96	15
10	7.1	65, 75, 91, 110	30
11	7.6	75, 79, 110, 129, 166	30
12	8.4	91, 93, 106, 173	30
13	9.1	95, 174	30
14	9.6	111, 146	30
15	10.5	95, 107, 135	30
16	11.5	97, 112, 125	30

**Transfer Line Temp.:** 260 °C  
**Analyzer Type:** Quadrupole  
**Source Type:** HES  
**Source Temp.:** 325 °C  
**Quad Temp.:** 200 °C  
**Tune Type:** PFTBA  
**Ionization Mode:** EI  
**Instrument** Agilent T890B GC & 5977B MSD  
**Sample Preparation CTC PAL Parameters**  
**Sampling mode:** Headspace  
**SPME device:** 1.1 mm SPME Arrow (cat.# 28903)  
**SPME phase:** 120 µm CWR/PDMS  
**Vial penetration depth:** 45 mm  
**Injector penetration depth:** 50 mm  
**Incubation temperature/Time:** 30 °C/120 s  
**Extraction temperature/Time:** 30 °C/120 s  
**Desorption temperature/Time:** 280 °C/1 min  
**Conditioning temperature:** 280 °C  
**Preconditioning:** 1 min  
**Post conditioning:** 0 min

