



Oxygenated compounds, $C_1 - C_7$, and aromatic hydrocarbons, $C_6 - C_8$

Analysis of a test mixture of volatile compounds in water

Application Note

Environmental

Authors

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Introduction

Gas chromatography with an Agilent CP-Sil 5 CB column separates a test mix of 22 volatile organic compounds in water in 25 minutes.



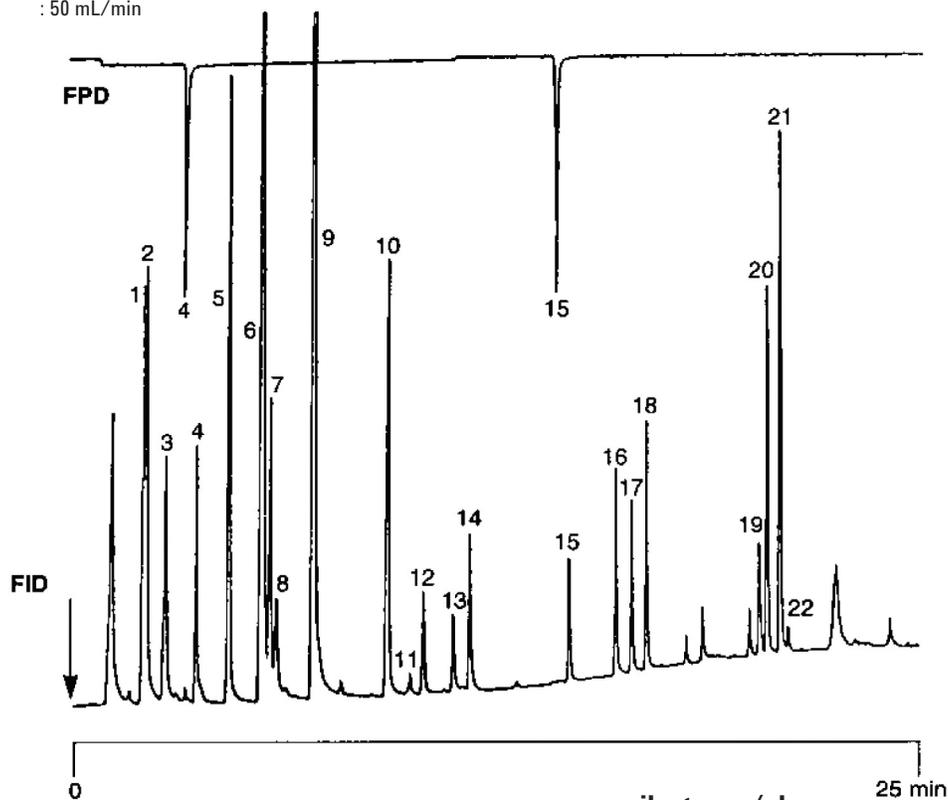
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Conditions

Technique : GC-PTI
Column : Agilent CP-Sil 5 CB, 0.32 mm x 50 m fused silica
WCOT CP-Sil 5 CB (df = 1.2 µm) (Part no. CP7770)
Temperature : 40 °C (1 min) → 50 °C, 10 °C/min; 50 °C (1 min) →
60 °C, 1 °C/min
60 °C → 190 °C, 10 °C/min
Carrier gas : He, 75 kPa (0.75 bar, 10.5 psi)
Injector : PTI
Cold trap : CP-Sil 8 CB
0.53 mm; df = 5 µm
Precool temp. : -110 °C
Precool time : 3 min
Purge time : 10 min
Purge flow : 12 mL/min
Injection temp. : 200 °C
Injection time : 1 min
Backflush flow : 50 mL/min
Detector : FID/FPD
T = 250 °C
Sample Size : 20 mL
Sample Temperature : ambient
Concentration Range : 1 ppb

Peak identification

1. acetaldehyde
2. ethanol
3. acetone
4. dimethylsulfide
5. 3-methylpropanol
6. 2,3-butanedione
7. 2-butanone
8. butyraldehyde
9. ethylacetate
10. 3-methylbutanal (isovaleraldehyde)
11. 2-methylbutanal
12. benzene
13. 2-pentanone
14. valeraldehyde
15. dimethyl disulfide
16. toluene
17. 2-hexanone
18. hexanal
19. m + p-xylene
20. 2-heptanone
21. heptanal
22. o-xylene



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