Detailed Analysis of Wine

Application Note

Food and Agriculture

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Introduction

Wine can be injected without sample preparation on a very polar polyethylene glycol-type of stationary phase, Agilent J&W CP-Wax 57 CB. An almost complete separation of a wide range of alcohols, aldehydes, and esters is possible with this column. A reasonable separation of isomers 2-methyl-1-butanol and 3-methyl-1-butanol is also achievable, which is not possible on standard polyethylene glycol columns.

Conditions

Technique:	GC-capillary
Columns:	Agilent J&W CP-Wax 57 CB, 0.25 mm × 50 m, df = 1.2 µm, fused silica WCOT (Part no. CP97723)
Temperature:	35 °C (5 min) → 220 °C, 4 °C/min, 220 °C (10 min)
Carrier gas:	H_2, 140 kPa (1.4 bar, 20 psi)
Injector:	Split, T = 220 °C
Detector:	FID, T = 220 °C
Sample size:	1.0 µL
Concentration range:	10 to 1,000 ppm
Solvent sample:	ethanol/water

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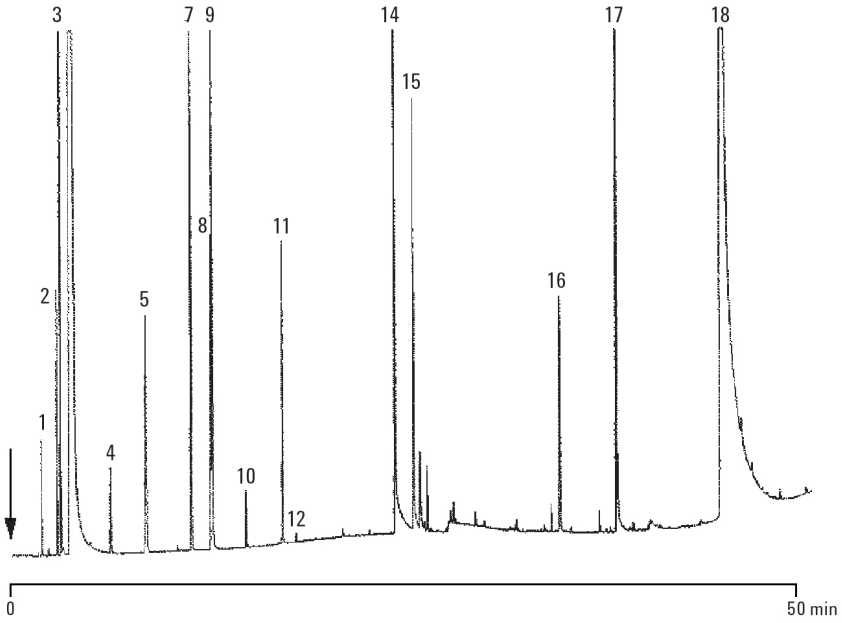
Peak identification

1. acetaldehyde (ethanal)
2. ethyl acetate
3. methanol
4. 1-propanol
5. isobutanol
6. 1-butanol
7. 4-methyl-2-pentanol
8. 2-methyl-1-butanol
9. 3-methyl-1-butanol
10. acetoin
11. ethyl lactate
12. 1-hexanol
13. cos-3-hexen-1-ol (not detected)
14. S 2,3-butanediol
15. meso-2,3-butanediol
16. 2-phenylethanol
17. 1,5-pentanediol
18. glycerol



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