



## Solvents

# Analysis of trace of polar solvents in water via splitless injection

## Application Note

Environmental

### Authors

Agilent Technologies, Inc.

### Introduction

The Agilent PoraBOND Q column allows direct water injections via direct or splitless sample introduction without extra peak broadening for quick-eluting compounds, and avoiding difficult techniques like purge and trap analysis. The splitless injection of water results in good chromatography, even for volatile polar compounds such as ethanol, acetonitrile and acetone. The water peak elutes very early and coelutes with the methanol. This peak is also somewhat broadened due to the water matrix effect. All other components elute with good symmetry at levels of 10 ppm. Even at 1 ppm all components can be quantified. The inertness of the PoraBOND Q porous polymer in combination with the stability of the bonded phase, form a base for a long column lifetime.



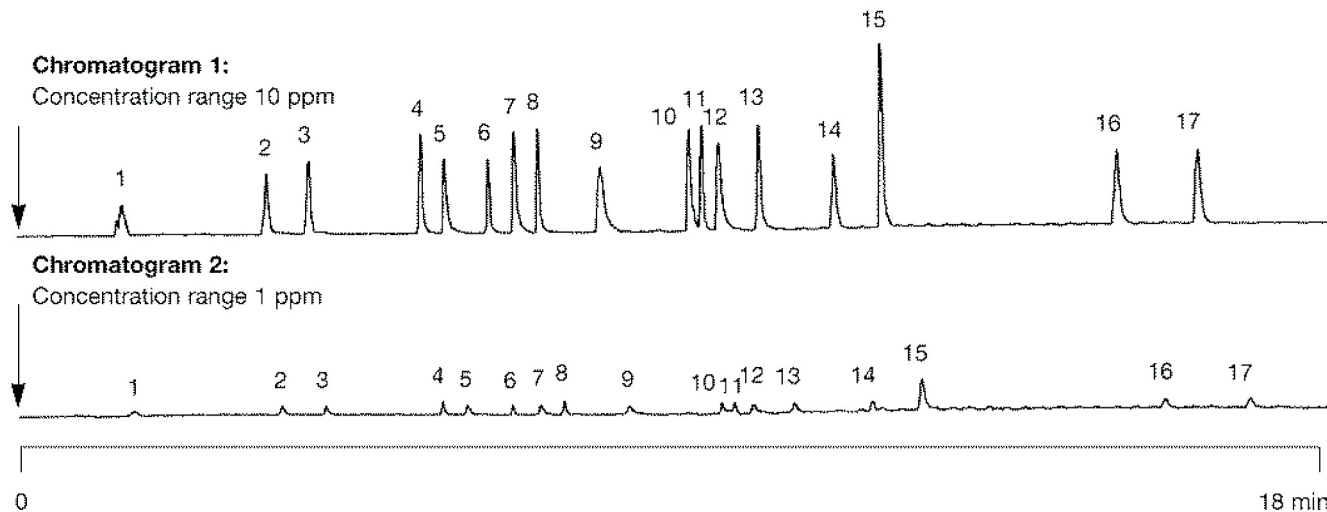
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## Conditions

Technique : GC-capillary  
Column : Agilent PoraBOND Q, 0.32 mm x 25 m, fused silica  
PLOT (df = 5 µm) (Part no. CP7351)  
Temperature : 90 °C (2 min) → 200 °C, 10 °C/min  
Carrier Gas : He, 160 kPa (1.6 bar, 22 psi)  
Injector : Splitless, T = 225 °C  
Detector : FID, T = 250 °C  
Sample Size : 1 µL  
Solvent Sample : water  
  
Courtesy : E. Houben,  
Pro Analyse, Environmental Laboratory,  
Barneveld, the Netherlands

## Peak identification

1. methanol
2. ethanol
3. acetonitrile
4. acetone
5. 2-propanol (isopropanol)
6. methyl acetate
7. 1-propanol
8. diethyl ether
9. 2-methyl-2-propanol (t-butanol)
10. 2-butanol
11. ethyl acetate
12. isobutanol
13. butanol
14. 1,4-dioxane
15. pyridine
16. isobutyl acetate
17. butyl acetate



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This information is subject to change without notice.

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