



USP 467 residual solvents

Application Note

BioPharma

Authors

Agilent Technologies, Inc.

Introduction

Replacing a 0.32 mm x 30 m column for a 0.15 mm x 15 m one delivers more than a factor 2 reduction in analysis time. Separation is also improved as the efficiency of the 0.84 μm film is higher than that of the 1.8 μm film.



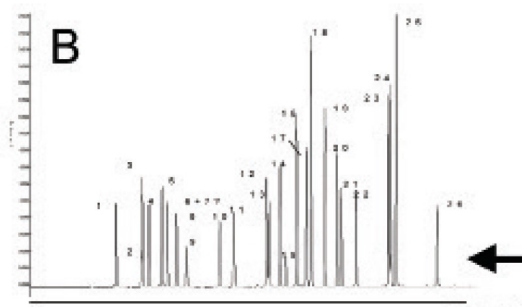
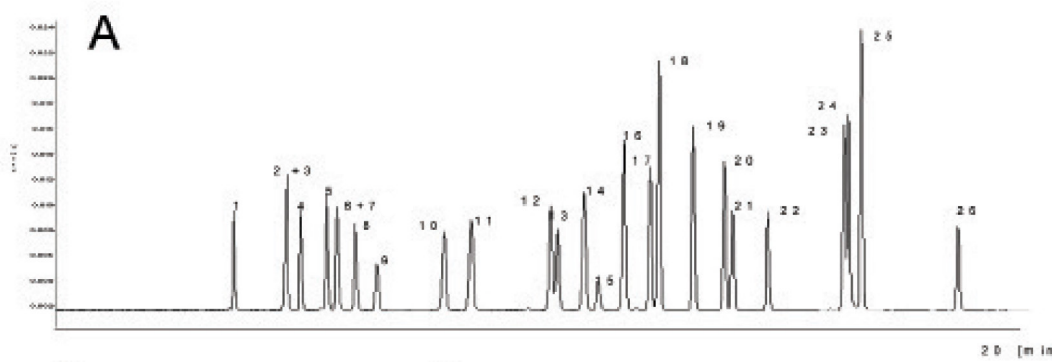
Conditions

Technique : GC-capillary

Chromatogram : **A**
 Column : Agilent FactorFour VF-624ms, 0.32 mm x 30 m fused silica (df = 1.8 μ m) (Part no. CP9104)
 Temperature : 45 °C (10 min), 10 °C/min \rightarrow 250 °C
 Carrier Gas : Helium, 45 kPa
 Injector : Split 1:100, 0.1 μ L, Temp. 250 °C
 Detector : FID
 Sample Size : 0.1%

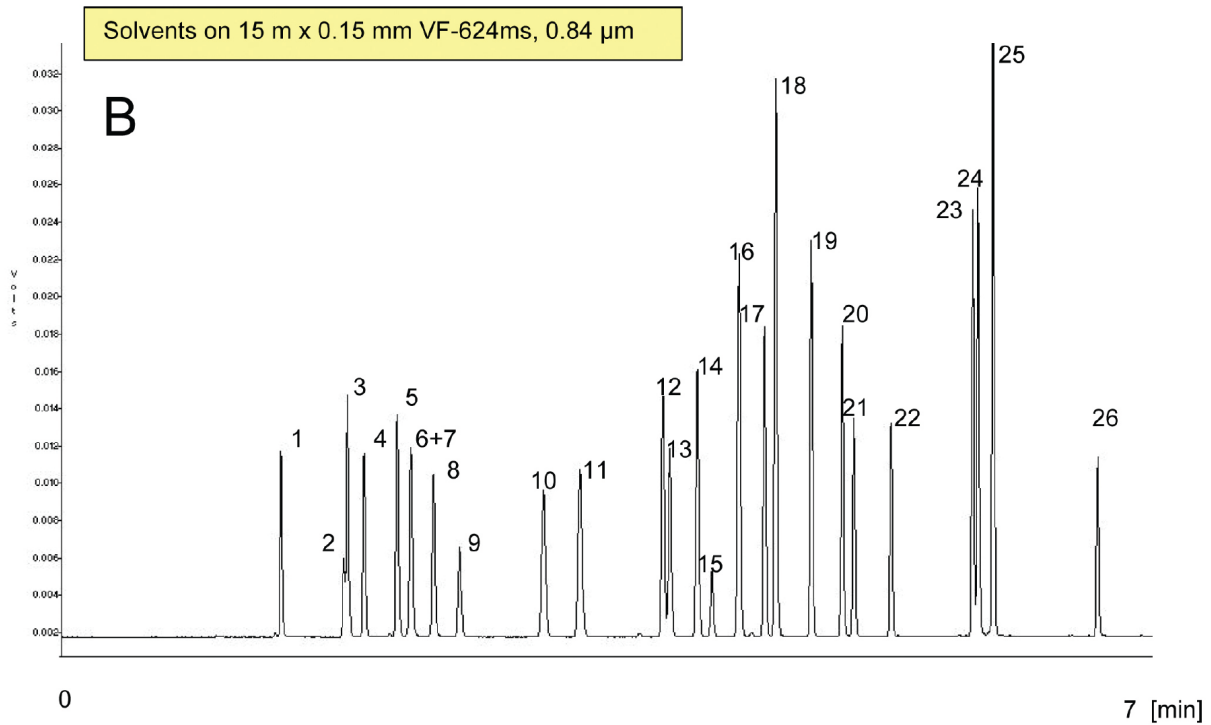
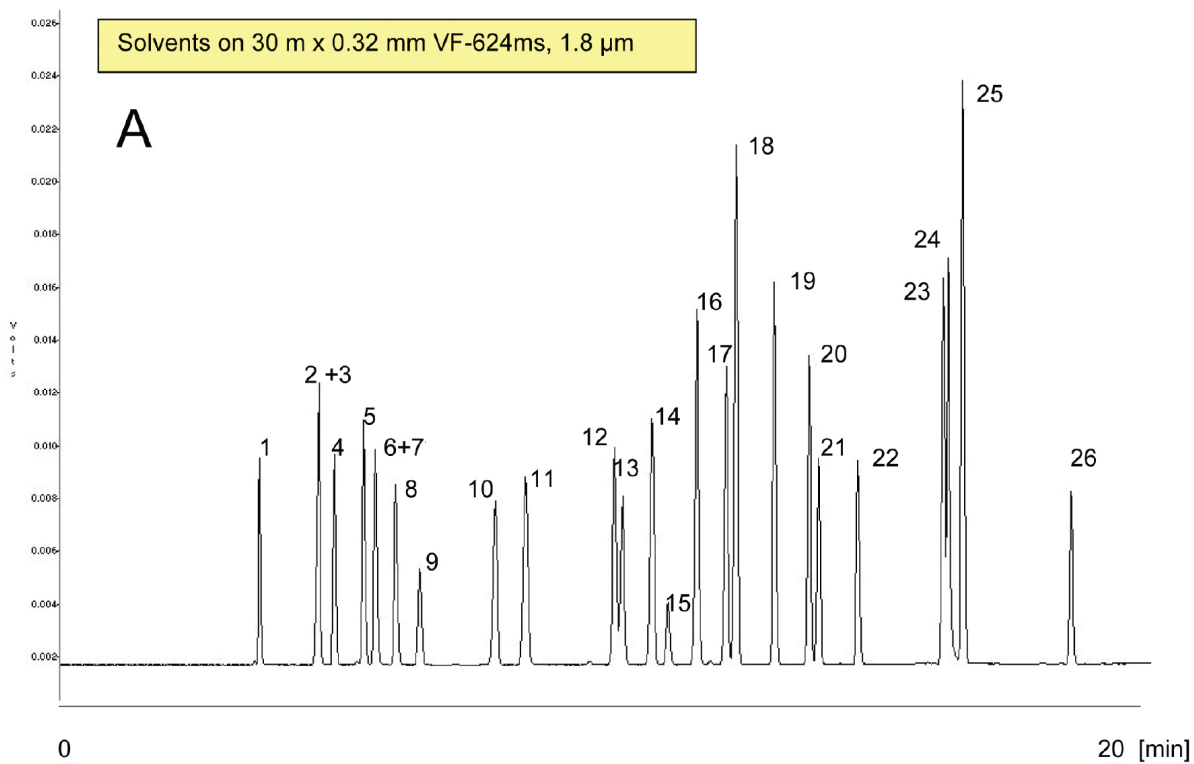
Chromatogram : **B**
 Column : Agilent FactorFour VF-624ms, 0.15 mm x 15 m fused silica (df = 0.84 μ m) (Part no. CP9101)
 Temperature : 45 °C (3.5 min), 28.3 °C/min \rightarrow 250 °C
 Carrier Gas : Helium, 190 kPa
 Injector : Split 1:200, 0.1 μ L, Temp. 250 °C
 Detector : FID
 Sample Size : 0.1%

Courtesy : Jan Peene, Agilent application laboratory, Middelburg, The Netherlands



Peak identification

1. methanol
2. pentane
3. ethanol
4. diethylether
5. acetone
6. dimethylsulfide
7. 2-propanol
8. acetonitrile
9. dichloromethane
10. n-hexane
11. 1-propanol
12. methylethylketone (MEK)
13. ethylacetate
14. tetrahydrofuran (THF)
15. trichloromethane
16. cyclohexane
17. benzene
18. 2-methylpropanol
19. heptane
20. trichloroethylene
21. n-butanol
22. 1,4-dioxane
23. methylisobutylketone (MIBK)
24. pyridine
25. toluene
26. n,n-dimethylformamide



Same elution order, near 3 times Faster!!

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This information is subject to change without notice.

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