



Polycyclic aromatic hydrocarbons

Application Note

Environmental

Authors

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Introduction

The Agilent FactorFour VF-Xms bonded phase has an optimized stabilization structure. Combined with fused silica surface treatment a temperature stability of at least 340 °C is obtained, which results in very low bleed. Accurate quantification of trace components as well as fast stabilization and reduced contamination of detection systems (such as ms) are obtained. Due to the higher arylene content the column will be a little more polar than the VF- 5ms phase. The fragmentation of the phase produces low intensity 281 m/e fragment allowing accurate quantitation of trace levels of higher PAH.



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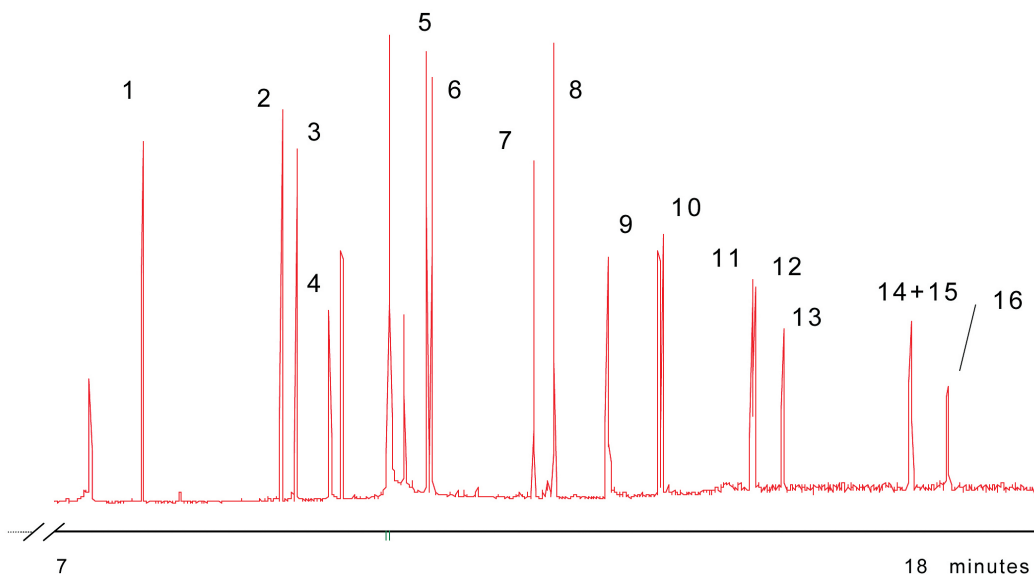
Conditions

Technique : GC-capillary
Column : Agilent VF-Xms, 0.25 mm x 30 m fused silica
(df = 0.10 µm) (Part no. CP8805)
Temperature : 100 °C → 320 °C, 20 °C/min, 8 min 320 °C
Carrier Gas : Helium, 60 kPa
Injector : Split, T = 275 °C
Detector : ion trap
Sample Size : 1 µL
Concentration Range : ca. 3 ng per component on the column
Solvent Sample : hexane

Courtesy : J. Peene, Agilent R&D laboratories, Middelburg,
The Netherlands

Peak identification

1. naphthalene
2. acenaphthylene
3. acenaphthene
4. fluorene
5. phenanthrene
6. anthracene
7. fluoranthene
8. pyrene
9. chrysene
10. benzo(a)anthracene
11. benzo(k)fluoranthene
12. benzo(b)fluoranthene
13. benzo(a)pyrene
14. indeno(1,2,3-cd)pyrene
15. dibenz(a,h)anthracene
16. benzo(g,h,i)perylene



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