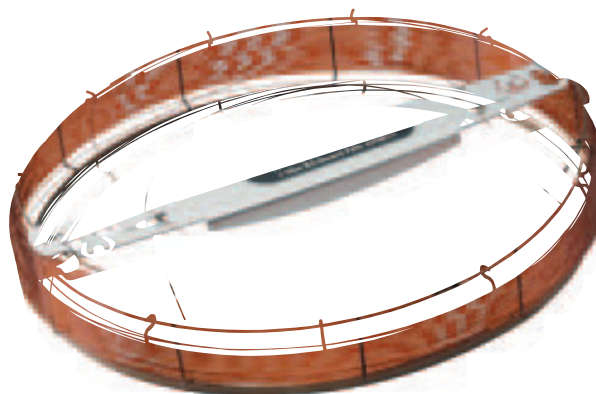


Agilent 2257 J&W Select PAH Column

Polycyclic Aromatic Hydrocarbon Analysis Data Sheet

Introduction

Agilent introduces a novel, high selectivity, stationary phase for accurate analysis of polycyclic aromatic hydrocarbons (PAH). The Select PAH is the first capillary column that provides a single solution for PAH analysis by separating all the isomers, thereby avoiding false positives and inaccurate results. Select PAH is the only product that provides easy, fast and accurate quantification of PAHs in environmental and food samples.



Key Benefits

- **One-shot solution.** Single column saves money on capital investment and cost-per-analysis.
- **Simple and easy-to-use.** Uncomplicated method provides straightforward data interpretation.
- **High resolution.** Accurate quantification of all EU and EPA regulated PAHs supplies reliable results with enhanced sensitivity.
- **High speed.** Fast analysis of 54 PAHs in less than 30 minutes delivers high productivity (Figure 1).
- **High temperature stability.** Excellent longevity reduces replacement costs, even when analyzing high boiling PAHs such as dibenzo-pyrenes.
- **Low column bleed.** Lowered baseline improves sensitivity and lowers detection limits.
- **Less need for MS maintenance.** Less downtime enhances operating economics.



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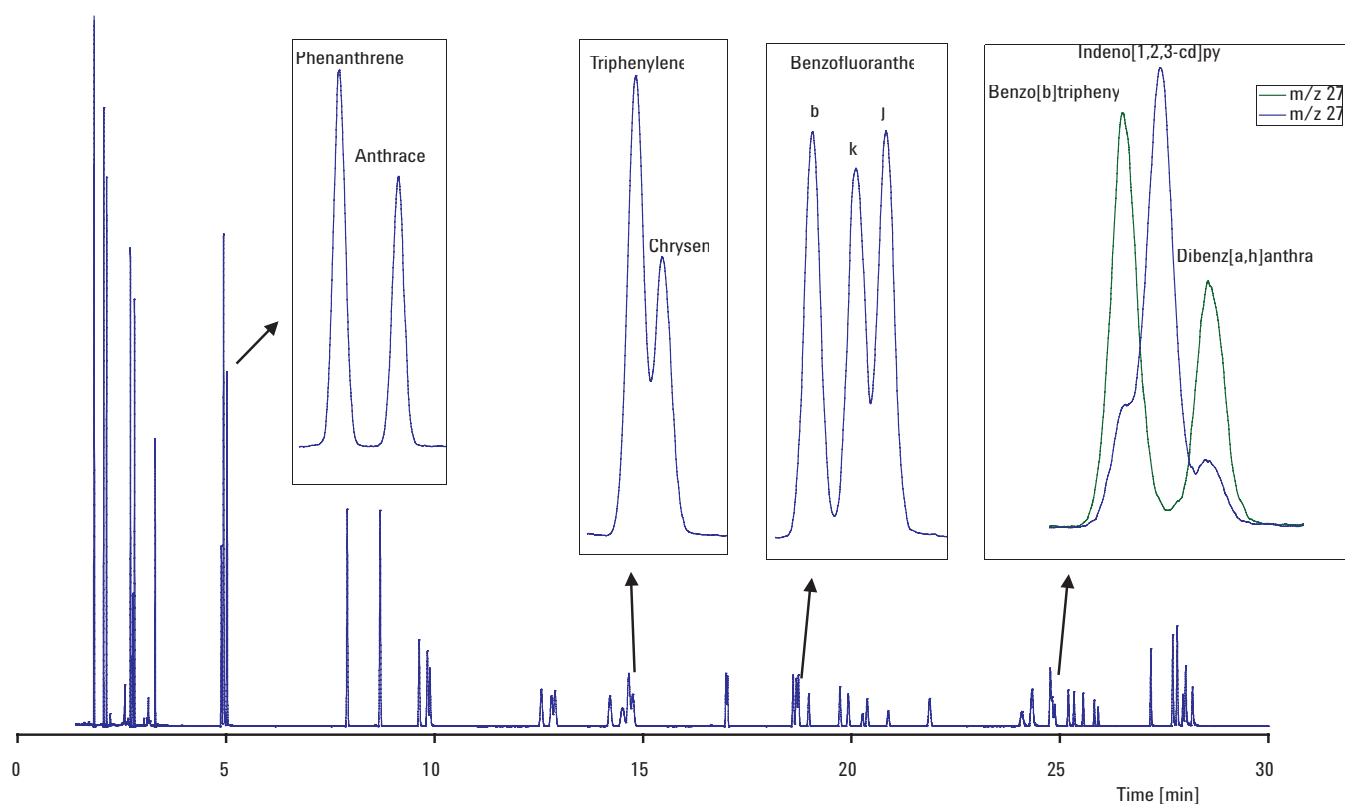


Figure 1. Fast, high resolution, analysis of 54 PAHs with close up of 4 key separations, using the 15 m x 0.15 mm ID, df=0.10 Select PAH

Resolving PAH Isomers

There are a number of PAHs that have similar chemical structure and mass. These compounds cannot be separated using MS if the components co-elute. Using Select PAH, the analysis of these compounds is now accurate and easy. All regulated PAH isomers are separated by the GC column, avoiding the co-elution experienced when using other liquid phases.

Some examples of the high resolution provided by Select PAH are highlighted below in Figure 1.

Unique Selectivity

The key functionality of the Select PAH comes from the innovative stationary phase. Organic chemists at Agilent succeeded in using dedicated PAH selector building blocks when synthesizing the siloxane stationary phase for the Select PAH.

- Based on well-known siloxane stationary phases, for confidence in quality
- Crosslinked, making the column rinseable for extended column lifetime
- Low bleed, for MS compatibility

High Speed

Another benefit of Select PAH is its speed. The column delivers full separation of PAHs in a single injection.

- 16 EPA PAHs within 7 minutes (Figure 2)
- All EPA and EU PAHs and their interferences (54 components) within 30 minutes (Figure 1)

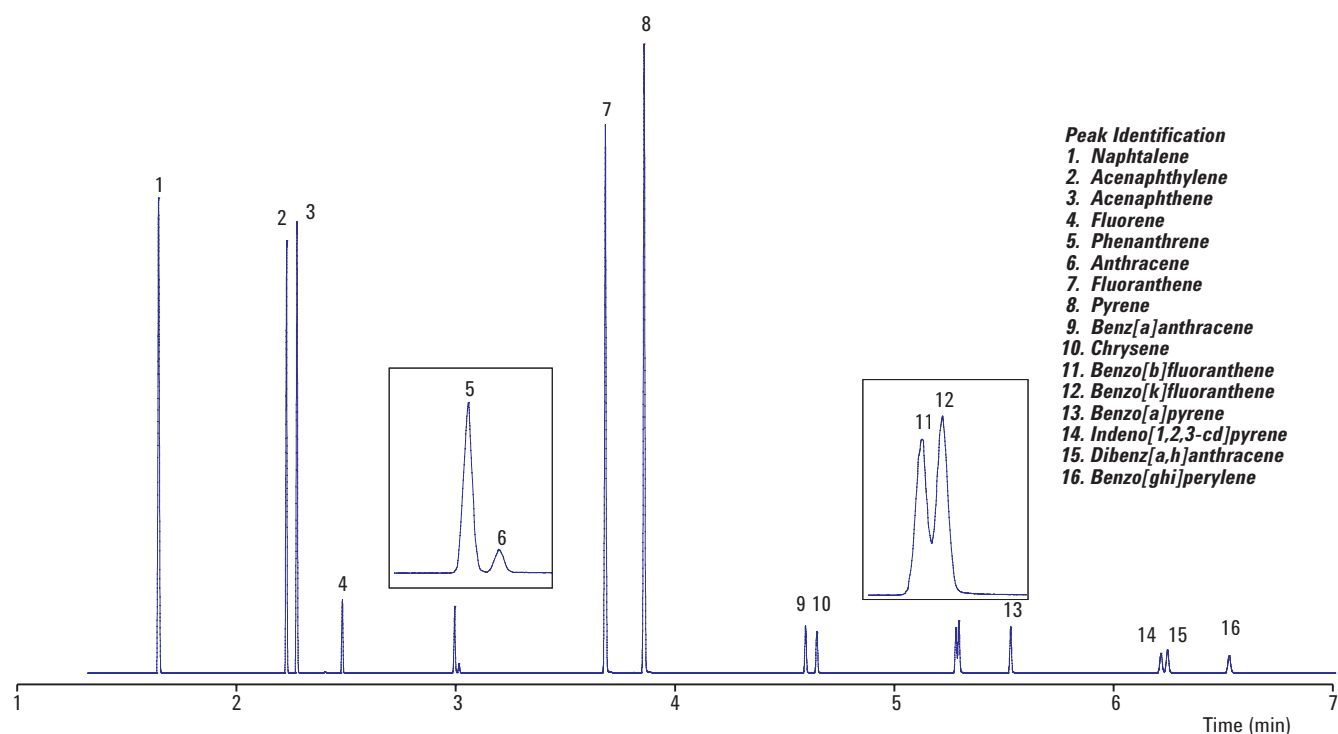


Figure 2. Fast separation of 16 EPA PAHs within 7 minutes using the 15 m x 0.15 mm ID df=0.10 Select PAH

High Temperature Stability

PAHs with higher molecular mass, such as the dibenzopyrenes, need higher temperatures to elute. The Select PAH has a maximum programmable temperature of 350 °C, which is high enough to elute the high boiling PAHs.

Figure 3 shows the resolution of chrysene, triphenylene and benzofluoranthenes over more than 2000 injections, equal to 166 hours at 350 °C, demonstrating the column's excellent longevity. In addition, the column bleed is lower than 2 pA (at 325 °C), providing low baseline, high sensitivity and low maintenance intervals.

Stringent Quality Testing for Guaranteed Performance

Before shipping, every Select PAH column is tested on its performance. This QC test warrants the resolution of chrysene (CHR) and triphenylene (TP), and the response for cyclopenta[c,d]pyrene. You can be sure you'll receive the best column available.

Specifications

TMax-Iso 325 °C, TMax-Prog 350 °C, TMin 40 °C						
Part Number	Length (m)	ID (mm)	Df (µm)	N/m	Resolution CHR/TP	Bleed (pA)
CP7461	15	0.15	0.10	5333	0.75	0.6
CP7462	30	0.25	0.15	3333	0.80	2.0

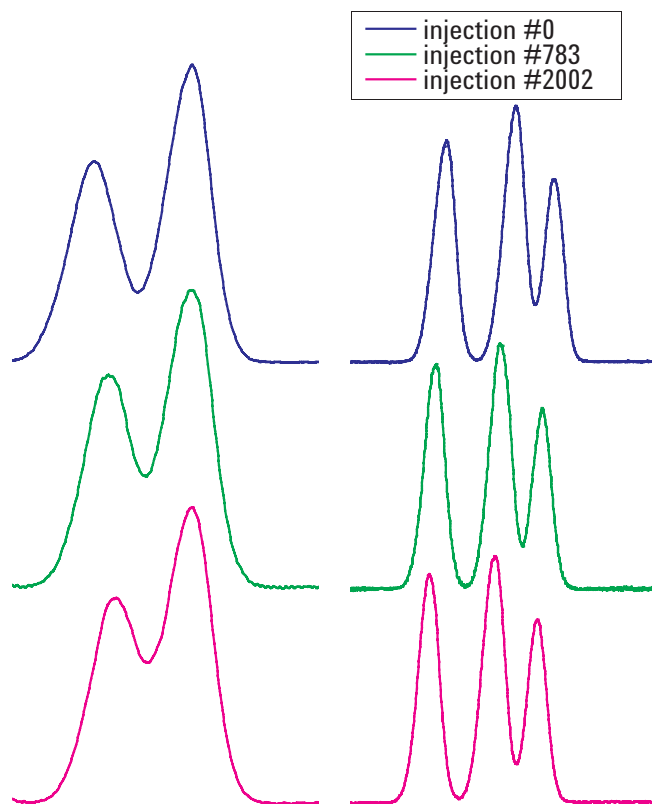


Figure 3. Resolution of triphenylene and chrysene (left), and benzofluoranthenes (right) over more than 2000 injections



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