

# APPLICATION

## Analysis of EPA 8310 Polynuclear Aromatic Hydrocarbons Using a Kinetex<sup>®</sup> 3.5 µm PAH Column

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### Overview

Polynuclear aromatic hydrocarbons (PAHs) are a hazardous class of compounds which are readily found from drilling and burning of fossil fuels. To test for the presence of PAHs in ground and waste water, the US Environmental Protection Agency (EPA) has developed a variety of methods which can be done on LC/UV, such as EPA 8310. To build upon these existing methodologies and analyses, Phenomenex designed and developed a special polymerically bonded C18 stationary phase fused to a Kinetex core-shell silica particle. This particle and phase combination greatly improves selectivity for hard to resolve PAHs, while providing dramatically increased sensitivity (limit of detection) and better overall LC performance.

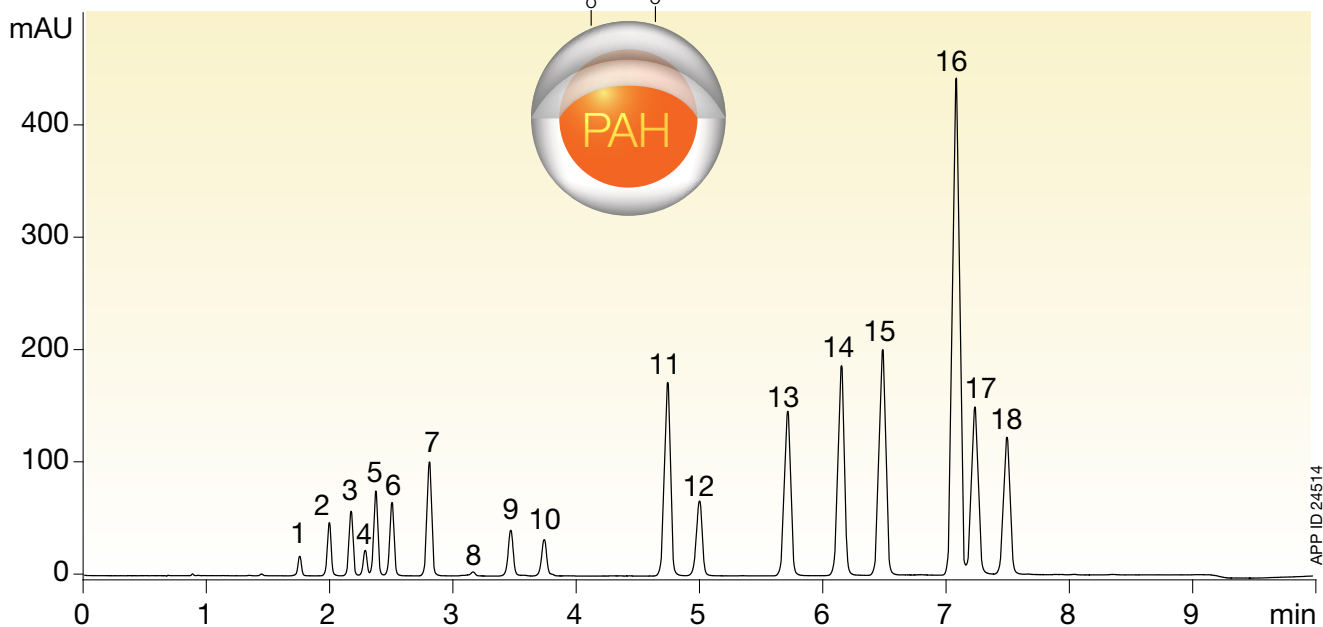
**Column:** Kinetex 3.5 µm PAH  
**Dimensions:** 100 x 4.6 mm  
**Part No.:** 00D-4764-E0  
**Mobile Phase:** A: Water  
 B: Acetonitrile  
**Gradient:**

| Time (min) | % B |
|------------|-----|
| 0          | 50  |
| 7          | 100 |
| 8          | 100 |
| 9          | 50  |
| 12         | 50  |

**Flow Rate:** 1.2 mL/min  
**Backpressure:** 136 Bar  
**Temperature:** 35 °C  
**Detection:** UV @ 292 nm  
**Sample:**

|                        |                            |
|------------------------|----------------------------|
| 1. Naphthalene         | 10. Pyrene                 |
| 2. Acenaphthylene      | 11. Benz[a]anthracene      |
| 3. 1-Methylnaphthalene | 12. Chrysene               |
| 4. 2-Methylnaphthalene | 13. Benzo[b]fluoranthene   |
| 5. Acenaphthene        | 14. Benzo[k]fluoranthene   |
| 6. Fluorene            | 15. Benzo[a]pyrene         |
| 7. Phenanthrene        | 16. Dibenzo[a,h]anthracene |
| 8. Anthracene          | 17. Benzo[ghi]perylene     |
| 9. Fluoranthene        | 18. Indeno[1,2,3-cd]pyrene |

### EPA 8310 – PAH Analysis



APP ID 24514



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## Kinetex<sup>®</sup> Ordering Information

| 3.5 µm Minibore Columns (mm) |             |             | SecurityGuard <sup>™</sup> ULTRA Cartridges (mm) |                           |
|------------------------------|-------------|-------------|--|---------------------------|
| Phase                        | 50 x 2.1    | 100 x 2.1   | 150 x 2.1  | 3/pk                      |
| PAH                          | 00B-4764-AN | 00D-4764-AN | 00F-4764-AN                                      | AJO-9535<br>for 2.1 mm ID |

| 3.5 µm MidBore <sup>™</sup> (mm) |             | SecurityGuard ULTRA Cartridges (mm) |
|----------------------------------|-------------|-------------------------------------|
| Phase                            | 100 x 3.0   | 3/pk                                |
| PAH                              | 00D-4764-YO | AJO-9534<br>for 3.0 mm ID           |

| 3.5 µm Analytical Columns (mm) |             |             |             | SecurityGuard ULTRA Cartridges (mm) |
|--------------------------------|-------------|-------------|-------------|-------------------------------------|
| Phase                          | 100 x 4.6   | 150 x 4.6   | 250 x 4.6   | 3/pk                                |
| PAH                            | 00D-4764-E0 | 00F-4764-E0 | 00G-4764-E0 | AJO-9533<br>for 4.6 mm ID           |

\*SecurityGuard ULTRA Cartridges require holder, Part No.: AJO-9000

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