



HPLC Application Note 2.40

EPA Priority Pollutants in Water

Most Basic Recommended Cecil Instrument:-

Cecil Adept HPLC System 4S

Introduction:-

It normally takes some 40 minutes to analyse a 16 component mixture of polyaromatic hydrocarbons (PAHs) or polynuclear aromatic hydrocarbons (PNAs). With the aid of the WaveQuest UV/Visible HPLC detector, this analysis is greatly speeded up to 4 minutes and can now be performed on a routine basis. The WaveQuest detector is very useful in checking for the spectral purity of the fast eluting peaks.

Minimum Analytical Instrument Requirement:-

- Binary HPLC system featuring an ultra-fast scanning UV/Visible HPLC detector
- Chromatography system manager with the ability to visualise spectral data

Typical Method:-

Temperature:-	Ambient
Mobile Phase:-	Binary gradient of water (HPLC grade) and acetonitrile (HPLC grade)
Gradient:-	<p>time 0.00 min:- 50% water, 50% acetonitrile , flow rate 3 ml/min</p> <p>time 1.00 min:- 50% water, 50% acetonitrile , flow rate 3 ml/min</p> <p>time 2.50 min:- 2% water, 98 % acetonitrile , flow rate 3 ml/min</p> <p>time 4.00 min:- 2% water, 98 % acetonitrile , flow rate 3 ml/min</p>
Wavelength	254 nm

CECIL INSTRUMENTS LIMITED MILTON TECHNICAL CENTRE CAMBRIDGE CB4 6AZ ENGLAND

Telephone 01223 420821 Fax 01223 420475 Email info@cecilinstruments.com Website www.cecilinstruments.com

Registered Office : Byron House, Cowley Road, Cambridge, CB4 0WZ

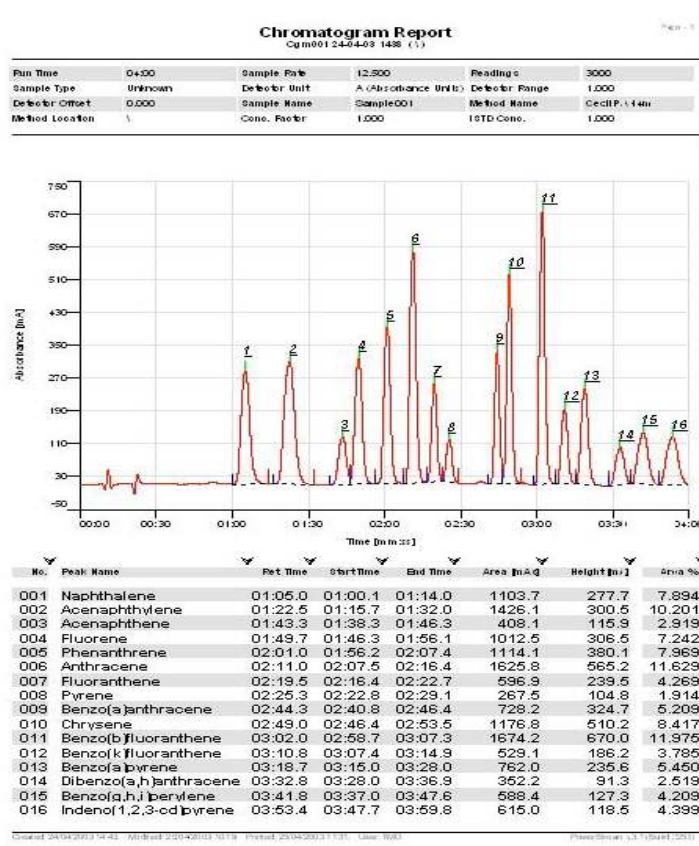
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Sample Volume 2 μ l
 Run time:- 4 minutes
 Column:- 5 cm Supelcosil LC-PAH column, 3 μ m
 Composition of sample:- made up to parts per billion levels, of each of the following analytical grade components, in acetonitrile (HPLC grade):-

naphthalene	Benzo(a)anthracene
acenaphthylene	chrysene
acenaphthene	Benzo(b)fluoranthene
fluorene	Benzo(k)fluoranthene
phenanthrene	Benzo(a)pyrene
anthracene	Dibenzo(a,h)anthracene
fluoranthene	Benzo(ghi)perylene
pyrene	Indo(1,2,3-cd)pyrene

Typical Chromatogram:-



This note acts purely as a guide to the method. Cecil Instruments Ltd take no responsibility for the outcome of any analysis.
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