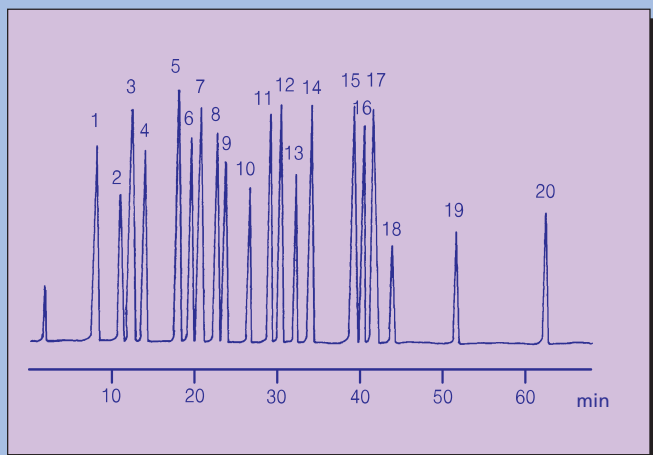




IV. Environmental analysis

Pesticides

10 070 Analysis of Pesticides by Reversed Phase HPLC - I



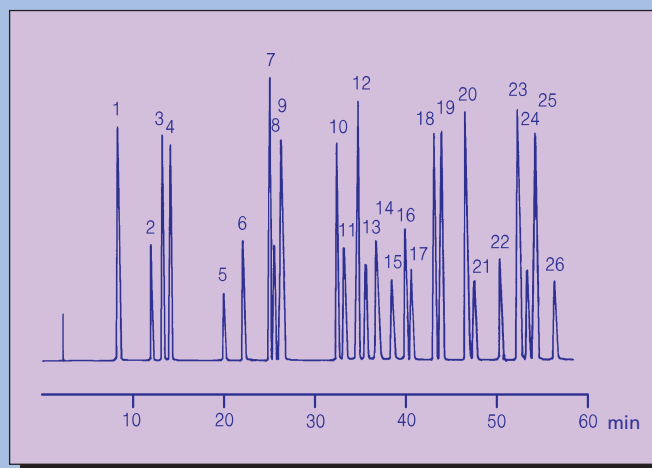
Column phase: GROM-SIL PE-1 (tailor-made)
Column size: 250 x 4 mm
Eluent A: 1 mM ammonium acetate
B: ACN
Gradient: 10-60% B (0-60 min)
Flow rate: 0.9 ml/min
Pressure: 12 MPa
Temperature: 40°C
Detection (UV): 230 nm
Injection: 10 µl (0.5 - 100 µg/ml)

- | | | |
|-----------------------|-------------------|-----------------------|
| 1) Crimidine | 8) Isoproturone | 15) Prometone |
| 2) Bromacil | 9) Metobromurone | 16) Clorpropham |
| 3) Simacine | 10) Buturone | 17) Terbutryne |
| 4) Hexazinone | 11) Ametryn | 18) Metholachlor |
| 5) Metabenzthiazurone | 12) Propazine | 19) Pentachlorophenol |
| 6) Chlortolurone | 13) Linurone | 20) Mecoprop |
| 7) Atrazine | 14) Terbutylazine | |

10 071 Analysis of Pesticides by Reversed Phase HPLC - II

Column phase: GROM-SIL PE-2 (tailor-made)
Eluent A: 1 mM ammonium acetate
B: ACN
Gradient: 15-55% B (0-55 min)
Flow rate: 0.9 ml/min
Pressure: 20 MPa
Temperature: 40°C
Detection (UV): 230 nm
Injection: 10 µl (0.5 - 100 µg/ml)

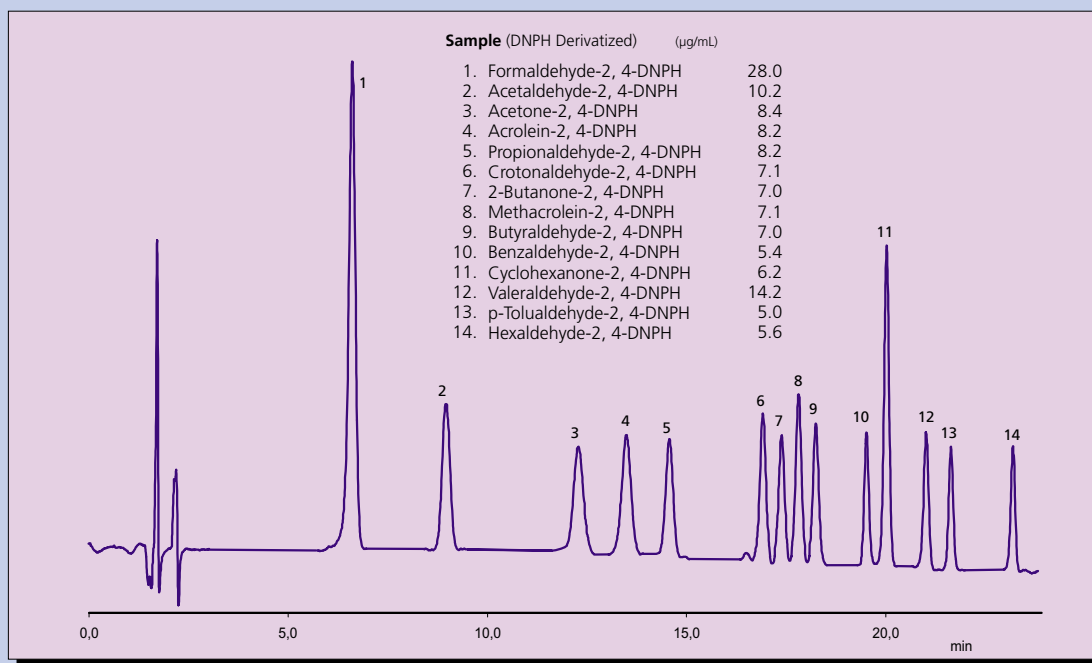
- | | | |
|-------------------------|-------------------------|-------------------|
| 1) Desisopropylatrazine | 10) Methabenzthiazurone | 19) Propazine |
| 2) Metamitrone | 11) Chlortolurone | 20) Terbutylazine |
| 3) Fenurone | 12) Atrazine | 21) Linurone |
| 4) Desethylatrazine | 13) Monolinurone | 22) Chloroxurone |
| 5) Crimidine | 14) Isoproturone | 23) Prometryne |
| 6) Metoxurone | 15) Metobromurone | 24) Clorpropham |
| 7) Simazine | 16) Propham | 25) Terbutryne |
| 8) Metribuzine | 17) Metazachlor | 26) Metolachlor |
| 9) Cyanazine | 18) Sebutylazine | |



Columns	Dimensions	Field of application	Order number
Pesticides I 5 µm, 10% Carbon content	250 x 2 mm cartridge	Environmental analysis	GS PE 1 0512 K 2502
	250 x 4 mm cartridge		GS PE 1 0512 K 2504
Pesticides II 3 µm, 11% Carbon content	250 x 2 mm cartridge	Environmental analysis	GS PE 2 0312 K 2502
	250 x 4 mm cartridge		GS PE 2 0312 K 2504

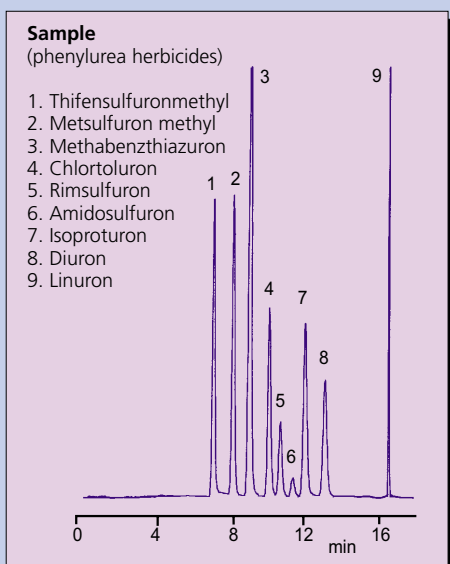
Note! All products are also available in standard column hardware. Other dimensions upon request. Reduced prices for refill-columns

10 135 Aldehydes and Ketones, Analysis of Auto Emission Mix



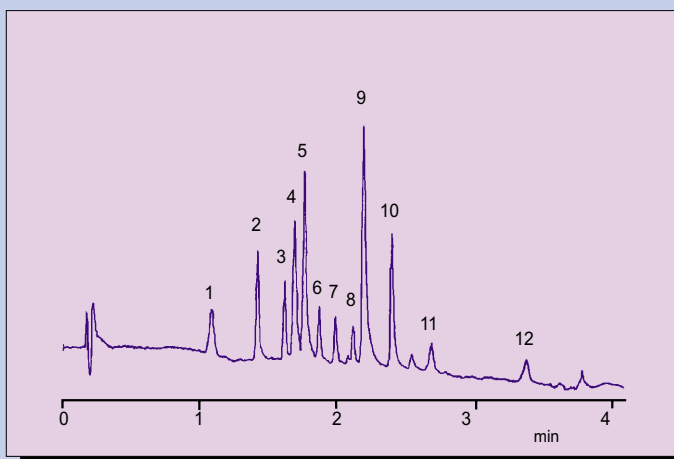
Column phase: GROM-SIL AK, 5 μm
Column size: 250 x 4 mm
Eluent A: H_2O
B: ACN / THF = 75 / 25
Gradient: 40% B (0-10 min), 40 - 85% B (10-30 min)
Flow rate: 1.0 ml/min
Pressure: 19.0 MPa
Temperature: RT
Detection (UV): 365 nm
Injection: 10 μl (5 to 30 $\mu\text{g/ml}$ of each)

10 134 Analysis of Phenylurea Herbicides



Column phase: GROM-SIL PEST-3, 4 μm
Column size: 250 x 4 mm
Eluent A: 80 μl H_3PO_4 (85%) + H_2O
B: ACN
Gradient: 35% B (0-15 min), 35-80% B (15-20 min),
Flow rate: 1.0 ml/min
Pressure: 17 MPa
Temperature: 18°C
Detection (UV): 220 nm
Injection: 10 μl (10 $\mu\text{g/ml}$ MeOH of each)

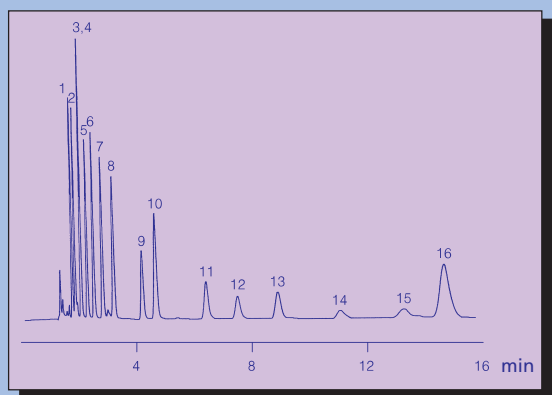
10 079 High Speed HPLC Analysis of Phenols (EPA)



Column phase: GROM-SIL 100 ODS-2 FE, 1,5 μm
Column size: 33 x 4.6 mm
Eluent A: 0,1% TFA in H_2O
B: ACN
Gradient: 20% B (0-0.17 min), 20-40% B (0.17-0.5 min)
 40-70% B (0.5-2.83 min), 70-100% B (2.83-3.0 min)
Flow rate: 1.3 ml/min
Pressure: 8 - 27 MPa
Temperature: RT
Detection (UV): 274 nm
Injection: 50 μl (0.04 ppm)

Polycyclic aromatic hydrocarbons (PAH's)

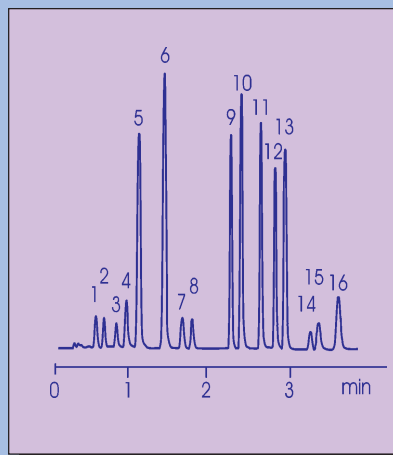
10 036 Isocratic Separation of Polycyclic Aromatic Hydrocarbons (PAH's)



Column phase: GROM-SIL PAH -1 (tailor-made)
 Column size: 250 x 4mm
 Eluent: water / ACN = 15 / 85
 Flow rate: 1.5 ml/min
 Pressure: 13 MPa
 Temperature: 25°C
 Detection (UV): 254 nm
 Injection: 5 µl (5 µg/ml each)

- | | |
|-------------------|----------------------------|
| 1) Naphthalene | 9) Benz(a)anthracene |
| 2) Acenaphthylene | 10) Chrysene |
| 3) Acenaphthene | 11) Benzo(b)fluoranthene |
| 4) Fluorene | 12) Benzo(k)fluoranthene |
| 5) Phenanthrene | 13) Benzo(a)pyrene |
| 6) Anthracene | 14) Dibenzo(a,h)anthracene |
| 7) Fluoranthene | 15) Benzo(g,h)perylene |
| 8) Pyrene | 16) Ideno(1,2,3,c,d)pyrene |

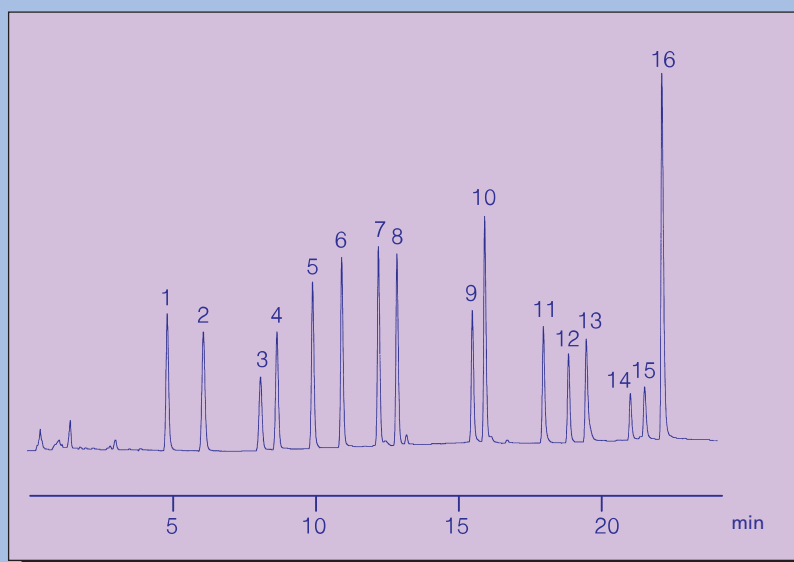
10 163 Analysis of Polycyclic Aromatic Hydrocarbons (EPA Standard)



Column phase: GROM-PAH, 3 µm
 Column size: 50 x 4 mm
 Eluent A: H₂O / MeOH = 20 / 80
 B: ACN
 Gradient: 10% B (0-0.5 min),
 100% B (0-1.0 min),
 100% B (1.0-4.0 min)
 Flow rate: 2.0 ml/min
 Pressure: 16.4 MPa
 Temperature: RT
 Detection (UV): 254 nm (1.3 µl flow cell)
 Injection: 2 µl (10 mg/ml of each)

- | |
|----------------------------|
| 1) Naphthalene |
| 2) Acenaphthylene |
| 3) Acenaphthene |
| 4) Fluorene |
| 5) Phenanthrene |
| 6) Anthracene |
| 7) Fluoranthene |
| 8) Pyrene |
| 9) Benz(a)anthracene |
| 10) Chrysene |
| 11) Benzo(b)fluoranthene |
| 12) Benzo(k)fluoranthene |
| 13) Benzo(a)pyrene |
| 14) Dibenzo(a,h)anthracene |
| 15) Benzo(g,h)perylene |
| 16) Ideno(1,2,3,c,d)pyrene |

10 037 Separation of PAH's by Gradient Elution



Column phase: GROM-SIL PAH -1 (taylor-made)
 Column size: 250 x 4mm
 Eluent A: water
 B: ACN
 Gradient: 50% B (0-5 min), 50-85% B (5-15 min),
 85-100% B (15-20 min),
 100% B (20-25 min)
 Flow rate: 1.5 ml/min
 Pressure: 24 MPa
 Temperature: 25°C
 Detection (UV): 254 nm
 Injection: 5 µl (5 µg/ml, each)

- | | |
|-------------------|----------------------------|
| 1) Naphthalene | 9) Benzo(a)anthracene |
| 2) Acenaphthylene | 10) Chrysene |
| 3) Acenaphthene | 11) Benzo(b)fluoranthene |
| 4) Fluorene | 12) Benzo(k)fluoranthene |
| 5) Phenanthrene | 13) Benzo(a)pyrene |
| 6) Anthracene | 14) Dibenzo(a,h)anthracene |
| 7) Fluoranthene | 15) Benzo(g,h)perylene |
| 8) Pyrene | 16) Ideno(1,2,3,c,d)pyrene |

Columns

Dimensions

Field of application

Order number

PAH-column for EPA-standard -
 (separation of the 16 PAH's)

250 x 2 mm cartridge
 250 x 4 mm cartridge
 50 x 4.6 mm cartridge

environmental analysis:
 soil, pollution (air / water),
 etc.

GS PA 1 0530 K 2502
 GS PA 1 0530 K 2504
 GS PA 1 0330 K 0505

Note! All products are also available as columns (complete with end-fittings). Please enquire for other dimensions. Reduced prices for Refill-columns.