Chromatography

MACHEREY-NAGEL

OPTIMA® 1701 MS

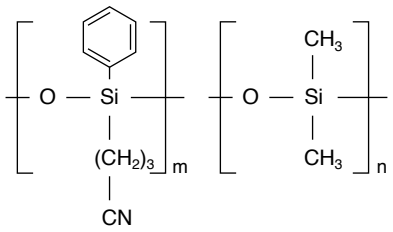
Lowest bleed and inert mid-polarity column

- Optimiert für die Umweltanalytik (PAHs, PCBs, Pestizide, ...)
- 100 % Ion Trap- und Quadrupol-MS Kompatibilität
- Referenzsäule für Strukturaufklärung, z. B. in Kombination mit OPTIMA® 5 MS

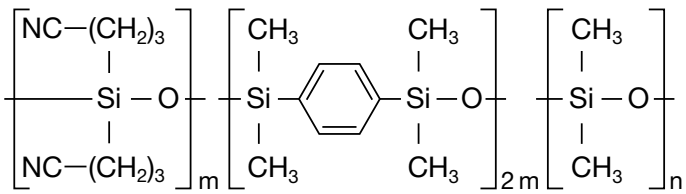
OPTIMA® 1701 MS

Outstanding features and excellent performance

OPTIMA® 1701



OPTIMA® 1701 MS



The combination of a novel silarylene synthesis strategy with symmetrically substituted cyanopropylsilanes led to improved stability and substantially reduced column bleed.

Silarylene phase with selectivity analog to 14 % cyanopropyl-phenyl – 86 % dimethylpolysiloxane · USP G46

- Reference column for structure identification, e.g., in combination with OPTIMA® 5 MS

Excellent deactivation

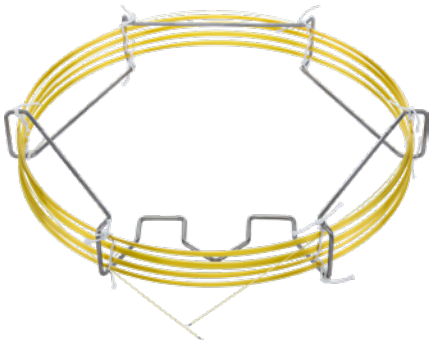
- Reliable quantification even for critical samples at ultra trace levels

Mid-polar ultra low bleed silarylene phase

- 100 % Ion-Trap and Quadrupol-MS-compatibility
- It is possible to inject aqueous samples, water stable phase

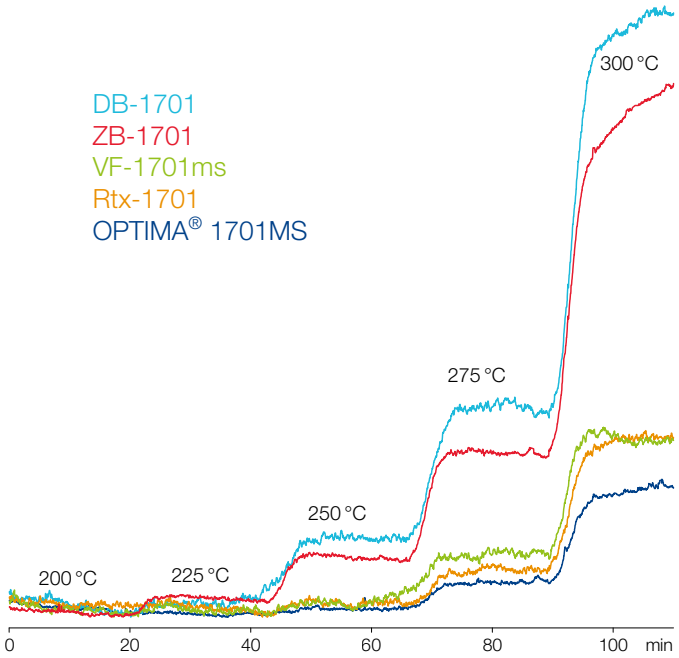
Special selectivity due to high cyanopropyl content

- Ideal for mid-polar analytes



Inert column · bleed comparison test

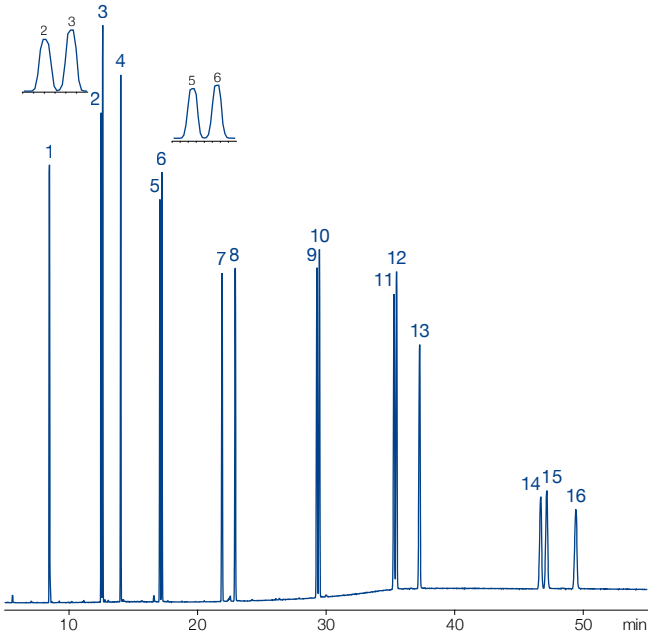
MN Appl.-Nr. 215050



Column	OPTIMA® 1701 MS, 0.25 µm film, 30 m x 0.25 mm ID
Injection temperature	280 C
Carrier gas	Helium, 0.8 bar
Temperature	200 °C (20 min) – 225 °C (20 min), 8 °C/min – 250 °C (20 min), 8 °C/min – 275 °C (20 min), 8 °C/min – 300 °C (20 min), 8 °C/min
Detector	FID, 280 °C

Separation of 16 EPA PAH

MN Appl.-Nr. 215070



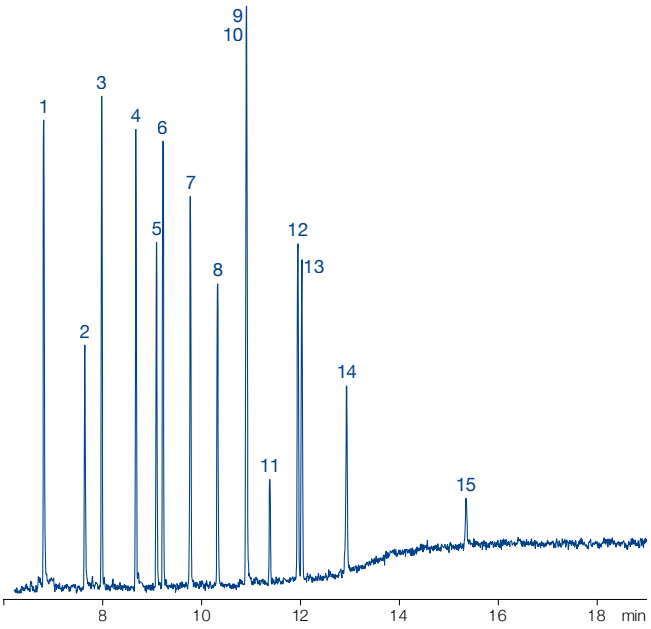
Column	OPTIMA® 1701 MS, 0.25 µm film, 30 m x 0.25 mm ID
Sample	PAH test mixture acc. to EPA (REF 722314) (20 µg/mL each in toluene)
Injection volume	1 µL, splitless (for 1 min)
Injection temperature	300 C
Carrier gas	Helium, lin. velocity 34 cm/sec
Temperature	90 °C for 1 min – 220 °C, 10 °C/min – 300 °C, 4 °C/min
Detector	MSD

Peaks:

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. indeno[1,2,3-cd]pyrene, 15. dibenz[a,h]anthracene, 16. benzo[ghi] perylene

Herbicide mix

MN Appl.-Nr. 215100



Column	OPTIMA® 1701 MS, 0.25 µm film, 30 m x 0.25 mm ID
Sample	Herbicide mix (400 ng/mL in hexane)
Injection volume	1 µL, splitless (for 1 min)
Injection temperature	300 °C
Carrier gas	Helium, lin. velocity 42 cm/sec
Temperature	80 °C – 200 °C, 20 °C/min – 245 °C, 8 °C/min – 260 °C, 20 °C/min
Detector	MSD

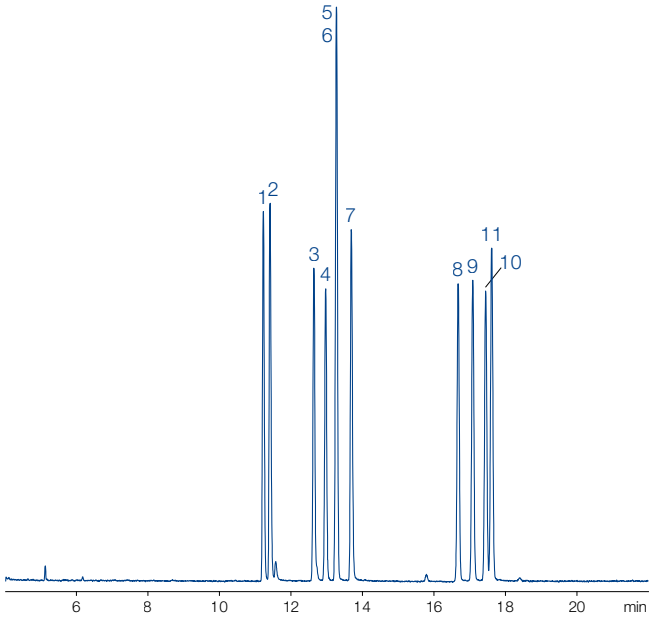
Peaks:

1. 3,5-Dichlorobenzoic acid methyl ester (SS), 2. 4-Nitroanisole, 3. Dicamba methyl ester, 4. Dichlorprop, methyl ester, 5. 2,4-D methyl ester, 6. Pentachloroanisole, 7. 2,4,5-TP, methyl ester, 8. 2,4,5-T, methyl ester, 9. Chloramben, methyl ester, 10. 2,4-DB methyl ester, 11. Dinoseb methyl ester, 12. Bentazon methyl ester, 13. DCPA methyl ester, 14. Picloram methyl ester, 15. Acifluorfen methyl ester

OPTIMA® 1701 MS

Triazine pesticide mix

MN Appl.-Nr. 215080



Column	OPTIMA® 1701 MS, 0.25 µm film, 30 m x 0.25 mm ID
Sample	Triazine pesticide mix
Injection volume	1 µL, split 1:100
Injection temperature	250 °C
Carrier gas	Helium, lin. velocity 42 cm/sec
Temperature	160 °C for 1 min – 180 °C, 15 °C/min – 220 °C, 2 °C/min
Detector	MSD

Peaks:

1. prometon, 2. atraton, 3. propazine, 4. atrazine, 5+6. simazine + tertbuthylazine, 7. secbumetone, 8. prometryn, 9. ametryn, 10. simetryn, 11. terbutryn

Optima® 1701 MS

Max. temperature for isothermal operation 280 °C, max. temperature for short isotherms in a temperature program 300 °C; 0.53 mm ID columns: max. temperatures 260 and 280 °C, resp.

Similar phases:

VF-1701ms, TG-1701MS, OV-1701, DB-1701, HP-1701, Rtx-1701, SPB-1701, CP Sil 19 CB, 007-1701, BP10, ZB-1701

Ordering information

ID	Length	Film thickness	Agilent J&W VF-1701ms	Restek Rtx-1701	Phenomenex ZB-1701	MACHEREY-NAGEL OPTIMA® 1701 MS
0.25 mm	30 m	0.25 µm	CP9151	12023	7HG-G006-11	726630.30
0.25 mm	60 m	0.25 µm	CP9154	12026	7KG-G006-11	726630.60
0.25 mm	30 m	0.50 µm	–	12038	–	726631.30
0.25 mm	60 m	0.50 µm	–	12041	–	726631.60
0.25 mm	30 m	1.00 µm	CP9152	12053	7HG-G006-22	7266631.30
0.25 mm	60 m	1.00 µm	CP9156	12056	–	726632.60
0.32 mm	30 m	0.25 µm	CP9162	12024	7HM-G006-11	726633.30
0.32 mm	60 m	0.25 µm	CP9165	120240	7KM-G006-11	726633.60
0.32 mm	30 m	0.50 µm	–	12039	–	726634.40
0.32 mm	60 m	0.50 µm	–	12042	–	726634.60
0.32 mm	30 m	1.00 µm	CP9163	12054	7HM-G006-22	726635.30
0.32 mm	60 m	1.00 µm	CP9166	12057	–	726635.60

www.mn-net.com

MACHEREY-NAGEL

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