..... outstanding, novel

Miniaturization of HPLC, such as

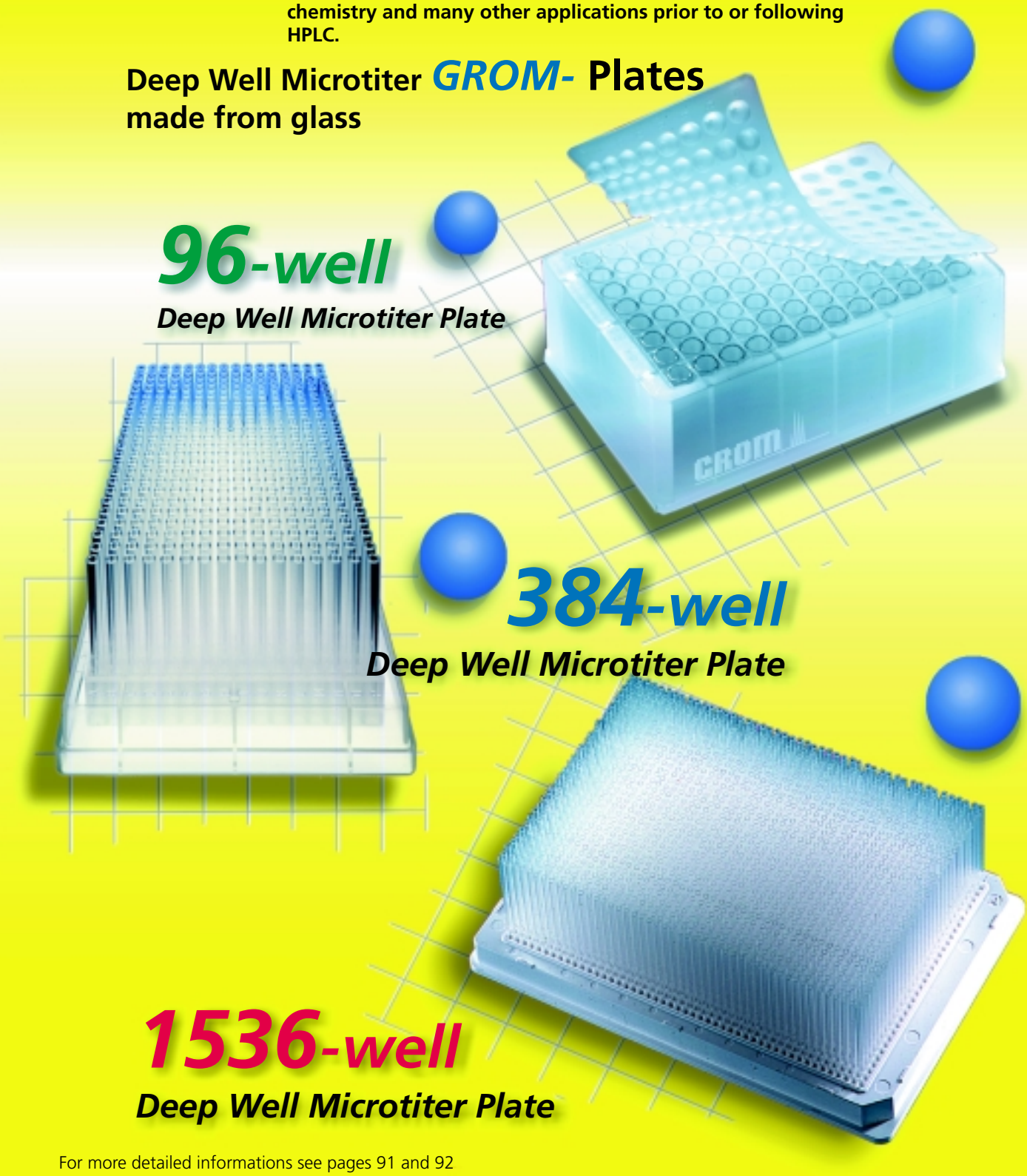
Capillary HPLC (on-line LC/MS) Microbore HPLC requires

thin columns in order to achieve maximum of sensitivity

..... therefore urgently needed:

Chemically resistant glass microtiterplates for sample storage, robotic sample application, fraction collection, combinatorial chemistry and many other applications prior to or following HPLC.

Deep Well Microtiter *GROM-* Plates made from glass



96-well

Deep Well Microtiter Plate

384-well

Deep Well Microtiter Plate

1536-well

Deep Well Microtiter Plate

For more detailed informations see pages 91 and 92

HPLC technologies:

Combinatorial Chemistry

requires

short columns to dramatically increase sample throughput (HTS)

for highly efficient and rapid chromatography:

NovoGROM low-dispersion, High Speed HPLC columns

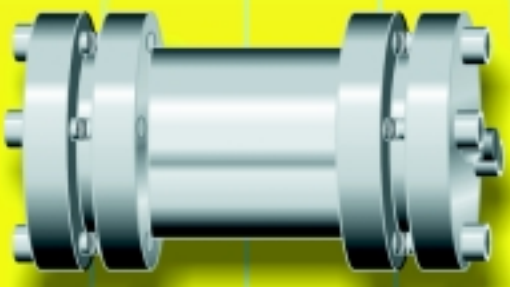
50 x 0,3 mm i.d. capillary High Speed column

50 x 1.0 mm i.d. microbore High Speed column

50 x 4.0 mm i.d. analytical High Speed column

50 x 8,0 mm i.d. semipreparative High Speed column

50 x 20 mm i.d. preparative High Speed column



50 x 50 mm i.d. preparative High Speed column

For more detailed informations see pages 87-90

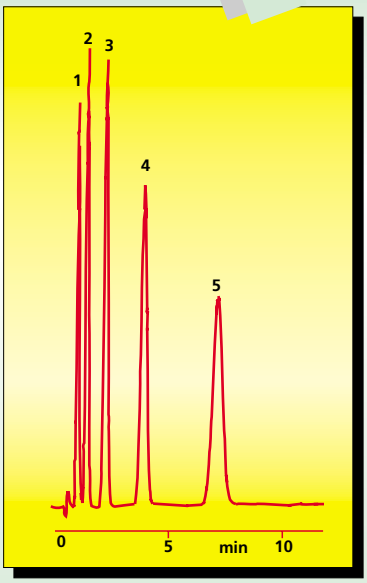
New .... in the Service of Science: NovoGROM

Ultra-stable Zirconia-based stationary phases outclassing polymeric and other HPLC columns

GROM Zirconia phase-packed HPLC columns represent superior alternative to polymeric columns. They possess all of the advantages of polymeric columns with none of the drawbacks and show extreme chemical and thermal stability.

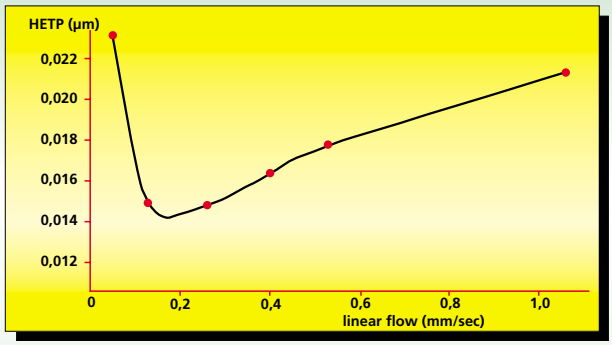
GROM Zirconia phase-packed columns show superior efficiency, allow highly reproducible separations particulary for gradient elution, and exhibit selectivity similiar to bonded phases for easier method development.

Analysis of Benzoates by Novel Zirconia Phases



1) Methyl benzoate
2) Ethyl benzoate
3) Propyl benzoate
4) Butyl benzoate
5) Pentyl benzoate

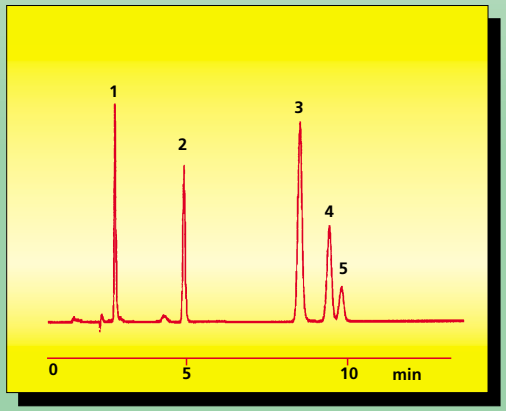
Influence of linear flow on HETP



Column phase:	GROM-Zirconia RP P, 3 µm
Column size:	50 x 2 mm
Eluent:	H_2O / ACN = 65 / 35
Flow rate:	1.0 ml/min
Pressure:	16 MPa
Temperature:	RT
Detection (UV):	254 nm (1.2 µl flow cell)
Injection:	2 µl (50-150 µg/ml of each)

.... outstanding features

- **Extraordinary pH (1-14) and unique temperature stability (≥ 200° C)** → **At least equivalent to all polymer brands**
- **Superior efficiency** → **Nearly twice as efficient as most polymer brands**
- **Exceptional solvent resistance and selectivity very similiar to bonded phases** → **Enables easy method developments**



Analysis of

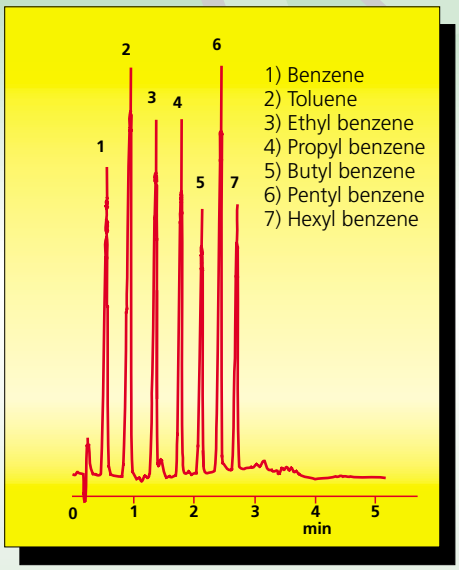
1) Resorcinol, 2) Benzonitrile, 3) Methyl benzoate, 4) Anisole, 5) Benzene

Column phase:	Zirconia RP P, 3 µm
Column size:	150 x 4.6 mm
Eluent:	ACN / H_2O = 15 / 85
Flow rate:	1.0 ml/min
Pressure:	18 MPa
Temperature:	50°C
Detection (UV):	254 nm
Injection:	5 µl

HPLC columns packed with

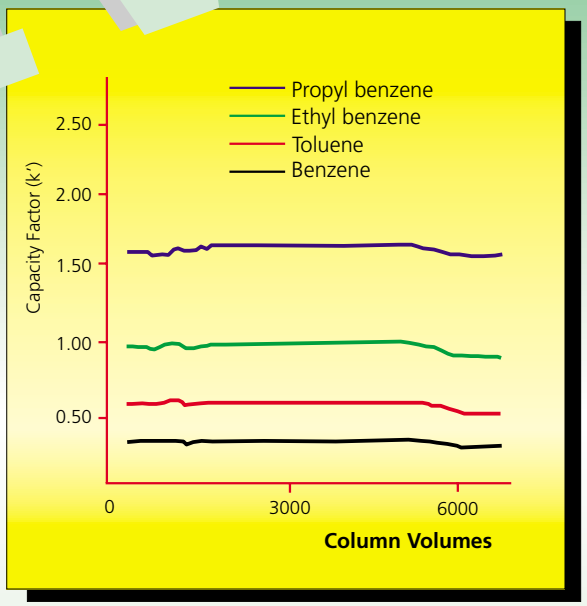
Zirconia phases guaranteeing unmatched chemical and thermal stability

Gradient Separation of n-Alkyl-benzenes by Novel Zirconia Phases



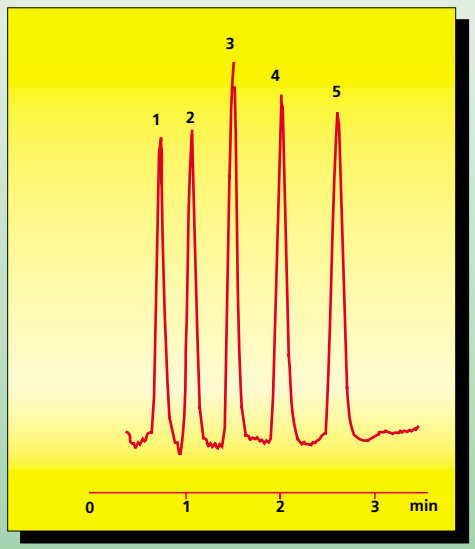
Column phase: GROM-SIL Zirconia RP P, 3 µm
Column size: 50 x 2 mm
Eluent A: H_2O
B: ACN
Gradient: 30 - 80% B (0 - 2.5 min)
Flow rate: 0.6 ml/min
Pressure: 10 MPa
Temperature: RT
Detection (UV): 254 nm (1.2 µl flow cell)
Injection: 2 µl (3 mg/ml of each)

Thermal Stability at 195°C



Gradient Separation of Benzoates by Novel Zirconia Phases

1) Methyl benzoate
2) Ethyl benzoate
3) Propyl benzoate
4) Butyl benzoate
5) Pentyl benzoate



Column phase: GROM-SIL Zirconia RP C , 3 µm
Column size: 50 x 2 mm
Eluent A: H_2O
B: ACN
Gradient: 30 - 80% B (0 - 4.0 min)
Flow rate: 1.0 ml/min
Pressure: 32 MPa
Temperature: RT
Detection (UV): 254 nm (1.2 µl flow cell)
Injection: 2 µl (50-150 µg/ml of each)

GZ RP P C0503	**Zircon RP P,**	**capillarry column,**	50 x 0.3 mm
GZ RP P C1003	**Zircon RP P,**	**capillarry column,**	100 x 0.3 mm
GZ RP P C1503	**Zircon RP P,**	**capillarry column,**	150 x 0.3 mm
GZ RP P S0501	**Zircon RP P,**	**microbore column,**	50 x 1 mm
GZ RP P S1001	**Zircon RP P,**	**microbore column,**	100 x 1 mm
GZ RP P S1501	**Zircon RP P,**	**microbore column,**	150 x 1 mm
GZ RP P S0502	**Zircon RP P,**	**narrowbore column,**	50 x 2 mm
GZ RP P S1002	**Zircon RP P,**	**narrowbore column,**	100 x 2 mm
GZ RP P S1502	**Zircon RP P,**	**narrowbore column,**	150 x 2 mm
GZ RP P S0504	**Zircon RP P,**	**analytical column,**	50 x 4.0 mm
GZ RP P S1004	**Zircon RP P,**	**analytical column,**	100 x 4.0 mm
GZ RP P S1504	**Zircon RP P,**	**analytical column,**	150 x 4.0 mm
GZ RP P S0505	**Zircon RP P,**	**analytical column,**	50 x 4.6 mm
GZ RP P S1005	**Zircon RP P,**	**analytical column,**	100 x 4.6 mm
GZ RP P S1505	**Zircon RP P,**	**analytical column,**	150 x 4.6 mm