

Reversed Phase High Performance Liquid Chromatography

COSMOSIL π NAP Packed Column

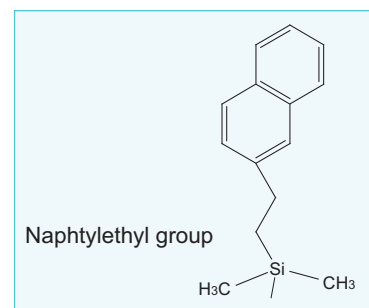
COSMOSIL π NAP is a Reversed Phase HPLC Column with Naphthalene bounded silica packing material. Naphthalene group has two aromatic rings and has strong π - π interaction. This column offers improved separation of compounds such as positional isomers that are difficult to separate with Alkyl group bonded materials.

Features of COSMOSIL π NAP

- Naphthalene bonded silica packing material
- Stronger π - π interactions than Phenyl column

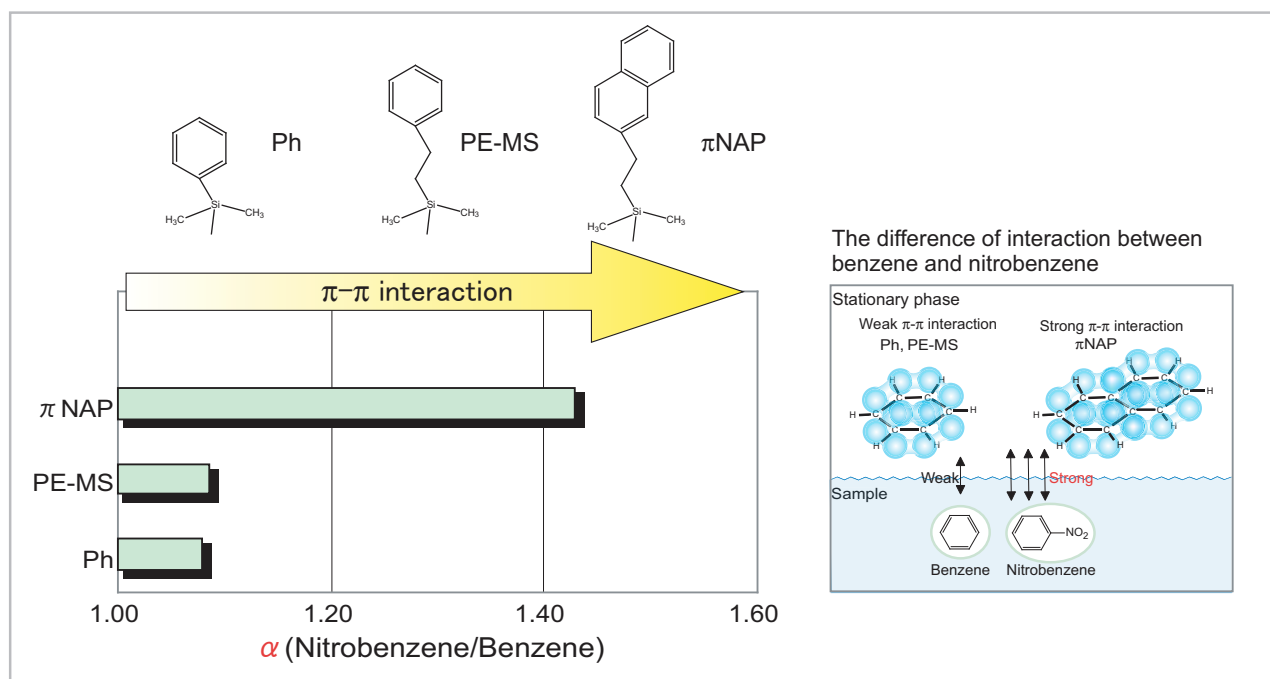
Material characteristics

Packing material	COSMOSIL π NAP
Silica gel	high purity spherical porous silica
Average particle size	5 μ m
Average pore size	approx. 120 Å
Specific surface area	approx. 300m ² /g
Stationary phase	naphtylethyl group
Bonded type	monomeric type
Main interaction	π - π interaction
End-capping treatment	treated
Carbon content	approx. 11%



Comparison with Phenyl columns

COSMOSIL π NAP with two aromatic rings has stronger π - π interactions than Phenyl column which has one aromatic ring.



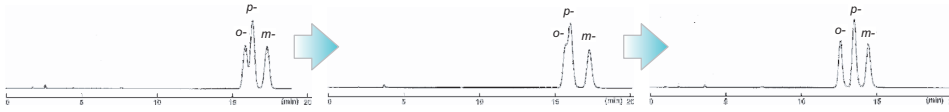
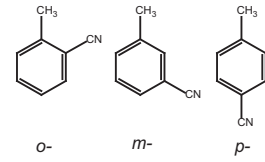
Application data

Position isomers of Tolunitrile

5C₁₈-MS- II
(40%Methanol)

5PE-MS
(40%Methanol)

π NAP
(50%Methanol)



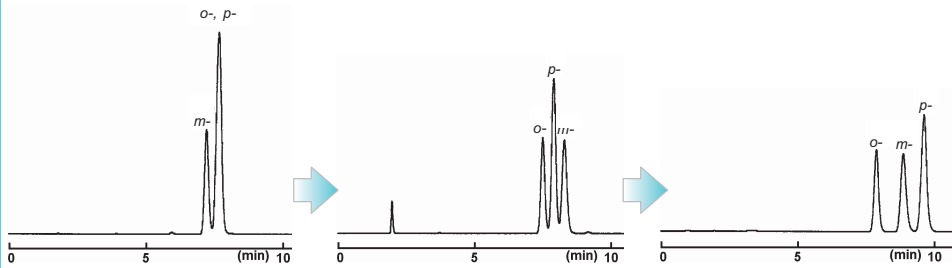
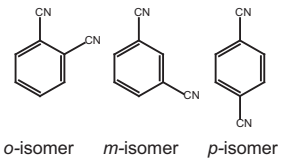
Column size 4.6mm I.D. x 150mm
Flow rate 1.0ml/min
Temperature 30°C
Detection UV 254nm
Sample o-Tolunitrile (2.0µg)
m-Tolunitrile (2.0µg)
p-Tolunitrile (2.0µg)

Position isomers of Phthalonitrile

5C₁₈-MS- II
(30%Methanol)

5PE-MS
(40%Methanol)

π NAP
(50%Methanol)



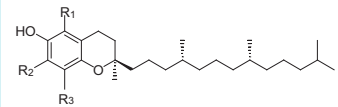
Column size 4.6mm I.D. x 150mm
Flow rate 1.0ml/min
Temperature 30°C
Detection UV 254nm
Sample Phthalonitrile (0.3µg)
Isophthalonitrile (3.0µg)
Terephthalonitrile (0.15µg)

Tocopherol

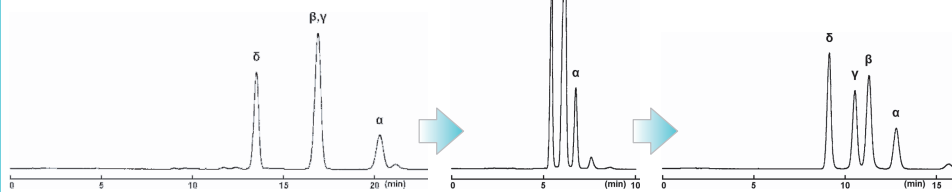
5C₁₈-MS- II
(95%Methanol)

5PE-MS
(90%Methanol)

π NAP
(90%Methanol)



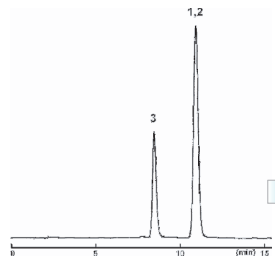
	α	β	γ	δ
R1	Me	Me	H	H
R2	Me	H	Me	H
R3	Me	Me	Me	Me



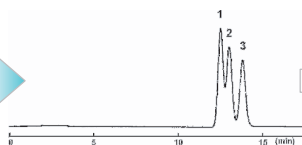
Column size 4.6mm I.D. x 150mm
Flow rate 1.0ml/min
Temperature 30°C
Detection UV 295nm
Sample Tocopherol (α , β , γ , δ)
(1.25µg each)

Adrenal cortex hormone

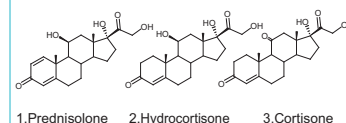
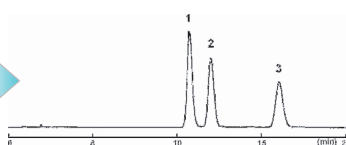
5C₁₈-MS- II
(50%Methanol)



5PE-MS
(50%Methanol)



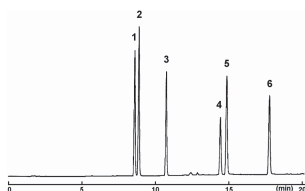
π NAP
(60%Methanol)



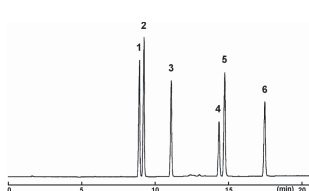
Column size 4.6mmI.D. x 150mm
Flow rate 1.0ml/min
Temperature 30°C
Detection UV 254nm
Sample
1. Prednisolone (0.33μg)
2. Hydrocortisone (0.33μg)
3. Cortisone (0.33μg)

Isoflavone

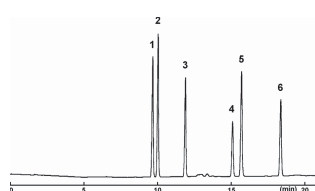
5C₁₈-MS-II



5PE-MS



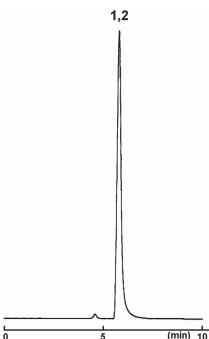
π NAP



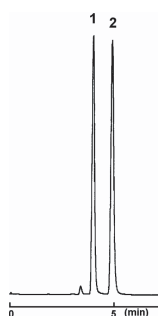
Column size 4.6mmI.D. x 150mm
Mobile phase
A:Acetonitrile/20mmol/l Phosphate Buffer(pH2.5)= 10/90
B:Acetonitrile/20mmol/l Phosphate Buffer(pH2.5)= 50/50
B 0→100%/20min linear gradient
Flow rate 1.0ml/min
Temperature 30°C
Detection UV 260nm
Sample
1. Daidzin (0.05μg)
2. Glycitin (0.05μg)
3. Genistin (0.05μg)
4. Daidzein (0.05μg)
5. Glycitein (0.075μg)
6. Genistein (0.025μg)

Berberine

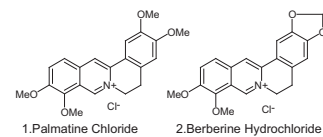
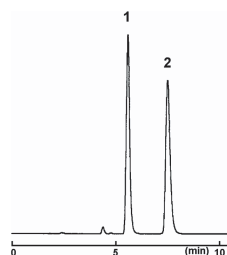
5C₁₈-MS- II



5PE-MS



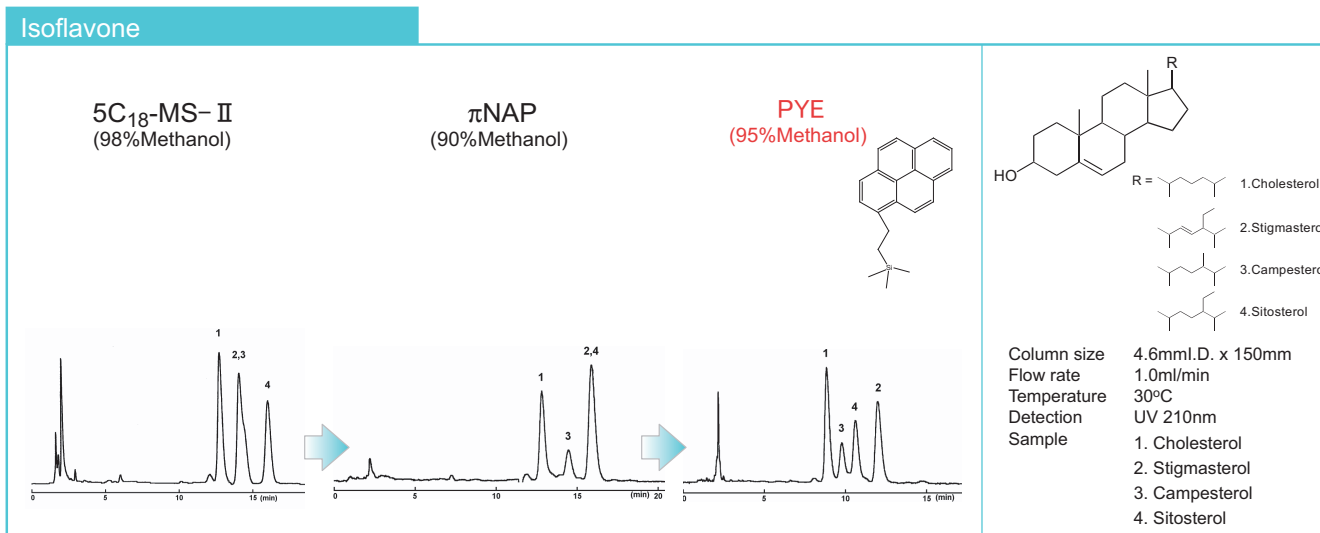
π NAP



Column size 4.6mmI.D. x 150mm
Mobile phase 5C₁₈-MS-II : Methanol/20mmol/l Phosphate Buffer(pH2.5)= 40/60
5PE-MS : Methanol/20mmol/l Phosphate Buffer(pH2.5)= 60/40
 π NAP : Methanol/20mmol/l Phosphate Buffer(pH2.5)= 80/20
Flow rate 1.0ml/min
Temperature 30°C
Detection UV 254nm
Sample
1. Palmatine Chloride (0.2μg)
2. Berberine Hydrochloride (0.2μg)

Further separation

COSMOSIL PYE is a packed column with pyrene bonded silica packing material. It has stronger π - π interaction than π NAP since pyrene has four aromatic rings.



Ordering information

Product name	Size	Code No.	Product name	Size	Code No.
COSMOSIL π NAP	1.0mm I.D. x 150mm	08076-61	COSMOSIL π NAP	4.6mm I.D. x 10mm	08082-71
Packed Column	1.0mm I.D. x 250mm	08077-51	Guard Column	10.0mm I.D. x 20mm	08087-21
	2.0mm I.D. x 150mm	08078-41		20.0mm I.D. x 20mm	08090-61
	2.0mm I.D. x 250mm	08079-31		20.0mm I.D. x 50mm	08091-51
	3.0mm I.D. x 150mm	08080-91		28.0mm I.D. x 50mm	08094-21
	3.0mm I.D. x 250mm	08081-81			
	4.6mm I.D. x 50mm	08083-61			
	4.6mm I.D. x 100mm	08084-51			
	4.6mm I.D. x 150mm	08085-41			
	4.6mm I.D. x 250mm	08086-31			
	10.0mm I.D. x 150mm	08088-11			
	10.0mm I.D. x 250mm	08089-01			
	20.0mm I.D. x 150mm	08092-41			
	20.0mm I.D. x 250mm	08093-31			
	28.0mm I.D. x 250mm	08095-11			

Other size may be available. Please enquire!!

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