

COSMOSIL PYE

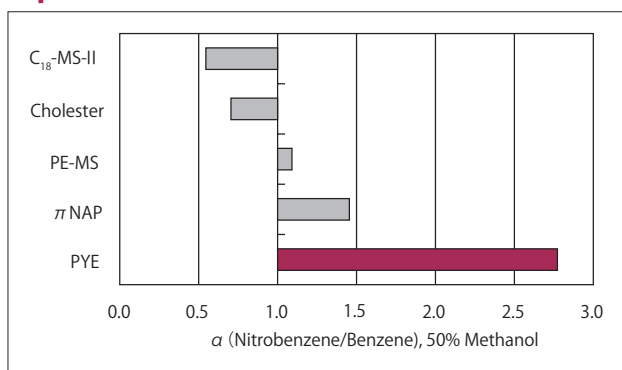


- Pyrenylethyl-bonded stationary phase
- Stronger π - π interactions

Suitable Samples

- Aromatic compounds, positional isomers, dioxins and PCBs

Comparison of π - π Interactions



COSMOSIL PYE provides much stronger π - π interactions than π NAP on page 18.

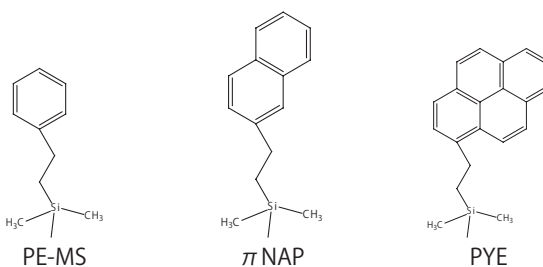


Figure. Comparison π - π Interactions

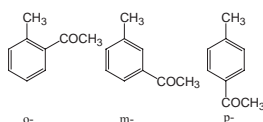
Comparison with C₁₈ and Phenyl Columns

- Methylacetophenone

COSMOSIL Application Data

Column: COSMOSIL **
 Column size: 4.6mm I.D.-150mm
 Mobile phase: Methanol / H₂O = **/
 Flow rate: 1.0 ml/min
 Temperature: 30°C
 Detection: UV254nm

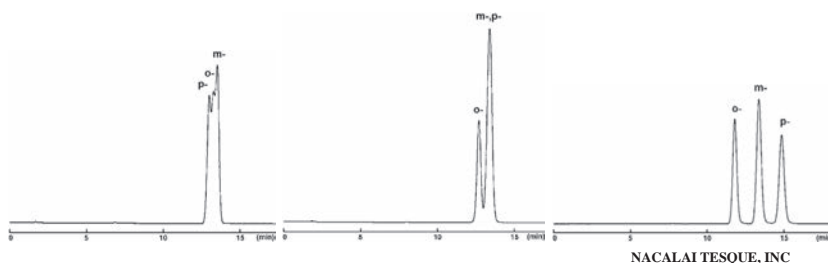
Sample: *o*-Methylacetophenone (0.15mg/ml)
m-Methylacetophenone (0.125mg/ml)
p-Methylacetophenone (0.075mg/ml)
 Inj. Vol: 1.0 μ l



COSMOSIL 5C₁₈-MS-II
 (Methanol / H₂O = 45/55)

COSMOSIL π NAP
 (Methanol / H₂O = 50/50)

COSMOSIL 5PYE
 (Methanol / H₂O = 55/45)

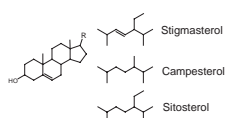


- Sterols

COSMOSIL Application Data

Column: COSMOSIL **
 Column size: 4.6mm I.D.-150mm
 Mobile phase: Methanol/ H₂O = **/**
 Flow rate: 1.0 ml/min
 Temperature: 30°C
 Detection: UV210nm

Sample: 1; Cholesterol (3.0 μ g)
 2; Stigmasterol (3.0 μ g)
 3; Campesterol
 4; Sitosterol

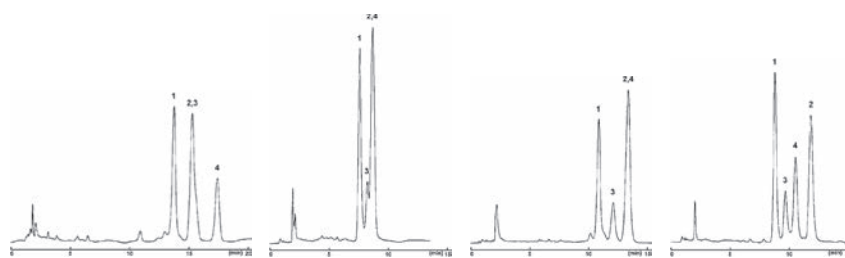


COSMOSIL 5C₁₈-MS-II
 (Methanol / H₂O = 98/2)

Competitor Biphenyl
 (Methanol / H₂O = 95/5)

COSMOSIL π NAP
 (Methanol / H₂O = 90/10)

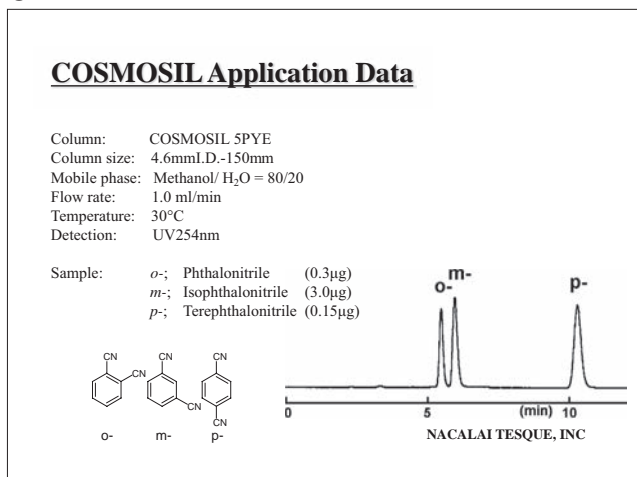
COSMOSIL 5PYE
 (Methanol / H₂O = 95/5)



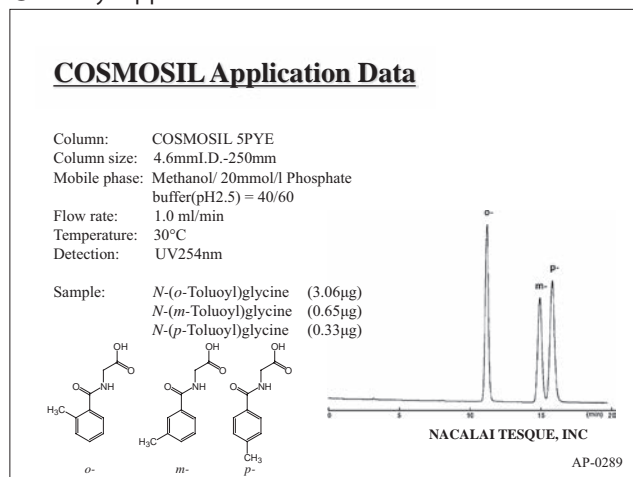
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Applications

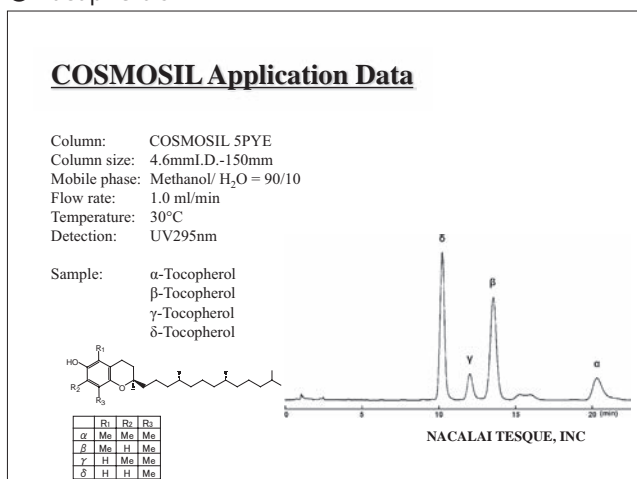
● Phthalonitrile Isomers



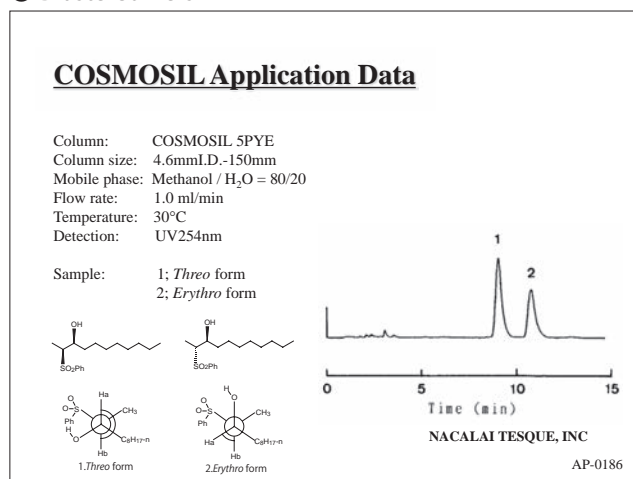
● Methylhippuric Acids



● Tocopherols



● Diastereomers



Caution

1. Methanol is the recommended mobile phase for COSMOSIL PYE. Acetonitrile is not recommended because it has many $\pi-\pi$ electrons and interferes with $\pi-\pi$ interactions between the sample and the stationary phase.
2. The stationary phase of COSMOSIL PYE, pyrenylethyl group, has a large UV absorption. When the stationary phase detaches from silica gel and elutes, even a slight quantity can be detected and causes baseline noise. In such cases, wash the column with tetrahydrofuran. Detachment of a small amount of the stationary phase does not deteriorate a column's separation ability.
3. COSMOSIL PYE is not suitable for gradient analysis.

Ordering Information

● COSMOSIL 5PYE Analytical / Preparative Columns (Particle Size: 5 μm)

Packed Column

I.D. x Length (mm)	Product Number
1.0 × 150	02851-71
2.0 × 150	38042-61
2.0 × 250	34450-31

I.D. x Length (mm)	Product Number
4.6 × 150	37837-91
4.6 × 250	37989-11
10 × 250	37996-11
20 × 250	38044-41

Guard Column

I.D. x Length (mm)	Product Number
4.6 × 10	37903-11
10 × 20	38041-71
20 × 20	05867-91
20 × 50	34475-21

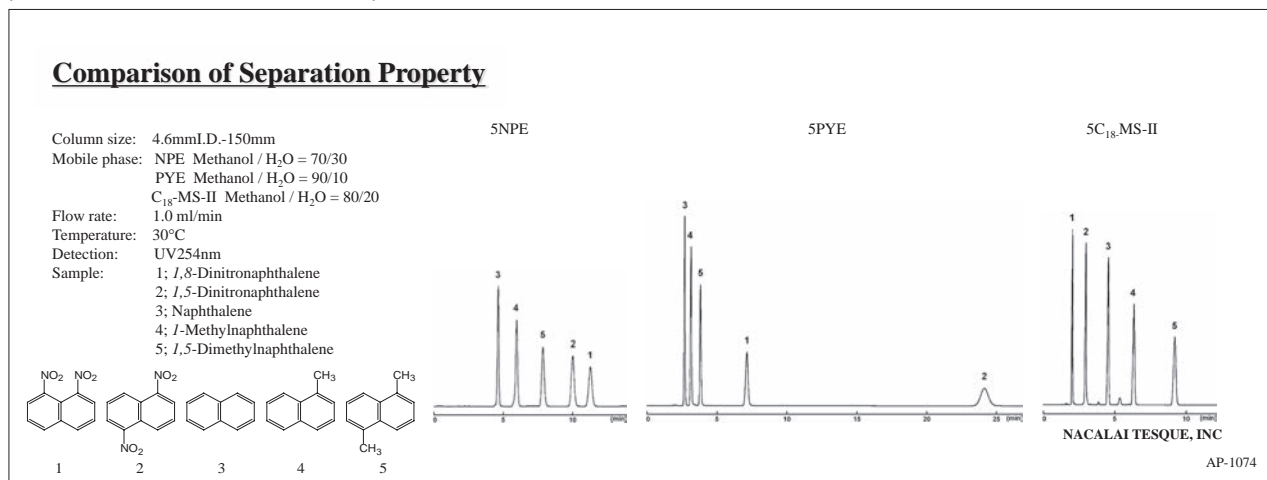


- Nitrophenylethyl-bonded stationary phase
- Separation with dipole-dipole and $\pi-\pi$ interactions

Suitable Samples
 • Isomers and nitro compounds

Selectivity for dipole-dipole interactions

COSMOSIL NPE strongly retains 1,8-dinitronaphthalene because of the strong dipole formed by the two nitro groups positioned on the same side of naphthalene.



Attention

1. Methanol is the recommended mobile phase for COSMOSIL NPE. Acetonitrile is not recommended because it has many $\pi-\pi$ electrons and interferes with $\pi-\pi$ interactions between the sample and the stationary phase.
2. The stationary phase of COSMOSIL NPE, nitrophenyl group, has a large UV absorption. When the stationary phase detaches from silica gel and elutes, even a slight quantity can be detected and causes baseline noise. In such cases, wash the column with tetrahydrofuran. Detachment of a small amount of the stationary phase does not deteriorate a column's separation ability.
3. COSMOSIL NPE is not suitable for gradient analysis.

Ordering Information

- COSMOSIL 5NPE Analytical / Preparative Columns (Particle Size: 5 μ m)

Packed Column

I.D. x Length (mm)	Product Number
1.0 x 150	05897-01
2.0 x 150	34328-51
2.0 x 250	34379-91

I.D. x Length (mm)	Product Number
4.6 x 150	37902-21
4.6 x 250	37990-71
10 x 250	05469-11
20 x 250	38046-21

Guard Column

I.D. x Length (mm)	Product Number
4.6 x 10	37904-01
10 x 20	38045-31
20 x 20	05868-81
20 x 50	05869-71