



COSMOSIL

# COSMOSIL UHPLC Columns

COSMOSIL UHPLC Columns with 2.5 µm particles still provide superior separation, but at significantly lower back pressure, than sub 2.0 µm stationary phases.

Packing Material	2.5C <sub>18</sub> -MS-II	2.5Cholester	2.5πNAP
Silica Gel	High Purity Porous Spherical Silica		
Average Particle Size	2.5 µm		
Average Pore Size	approx. 130 Å		
Specific Surface Area	approx. 330 m <sup>2</sup> /g		
Stationary Phase	 Octadecyl Group	 Cholesteryl Group	 Naphtylethyl Group
Bonding Type	Monomeric		
Main Interaction	Hydrophobic Interaction	Hydrophobic Interaction Molecular Shape Selectivity	Hydrophobic Interaction π-π Interaction
End Capping Treatment	Near-perfect Treatment		
Features	- Monomeric C <sub>18</sub> phase for multi-purpose separations - Suitable for basic compounds	- Usable under the same condition as C <sub>18</sub> columns - High molecular shape selectivity	- Stronger π-π interaction than Phenyl columns

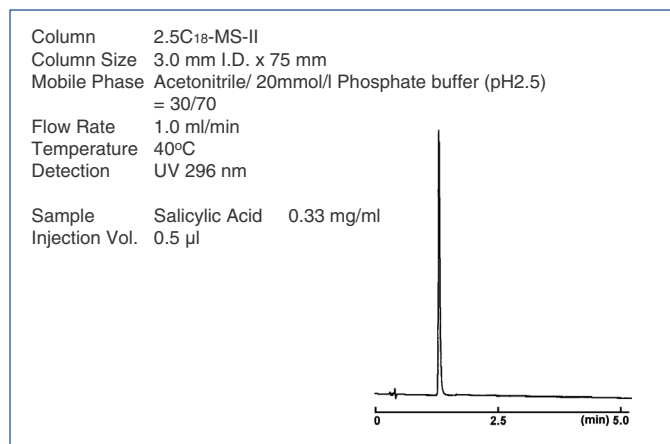
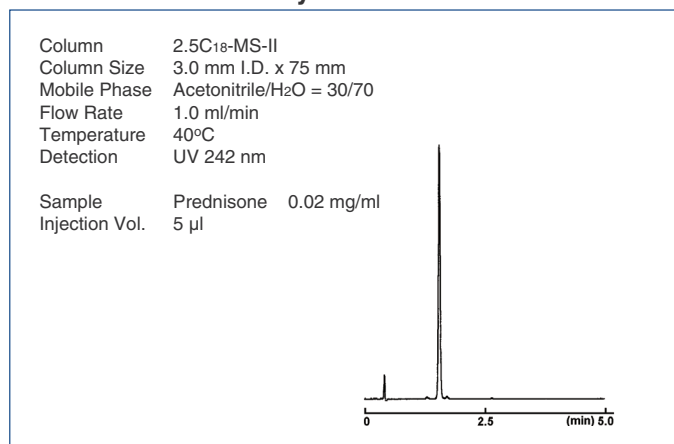
## COSMOSIL 2.5C<sub>18</sub>-MS-II

- **Low back pressure (2.5 µm silica gel)**
- **Monomeric C<sub>18</sub> phase for multi-purpose separations**

### Application Data

COSMOSIL 2.5C<sub>18</sub>-MS-II (3.0 mm I.D. x 75 mm) enables the separation only in 2 minutes.

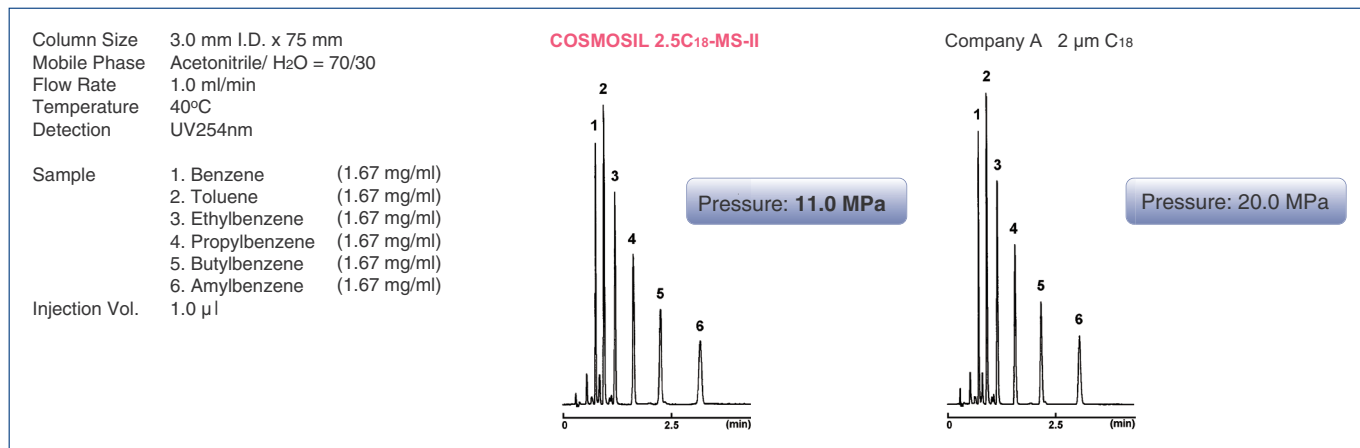
#### • Prednisone and Salicylic Acid



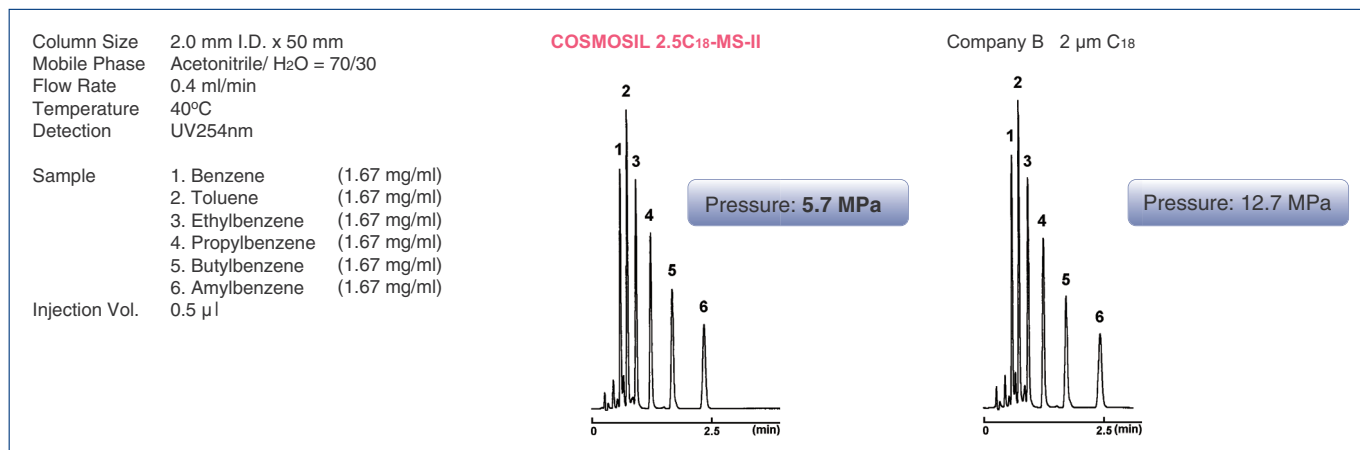
## Pressure comparison with competitors' 2 µm columns

COSMOSIL 2.5C18-MS-II can be used under 1/2 pressure of competitors' 2 µm columns.

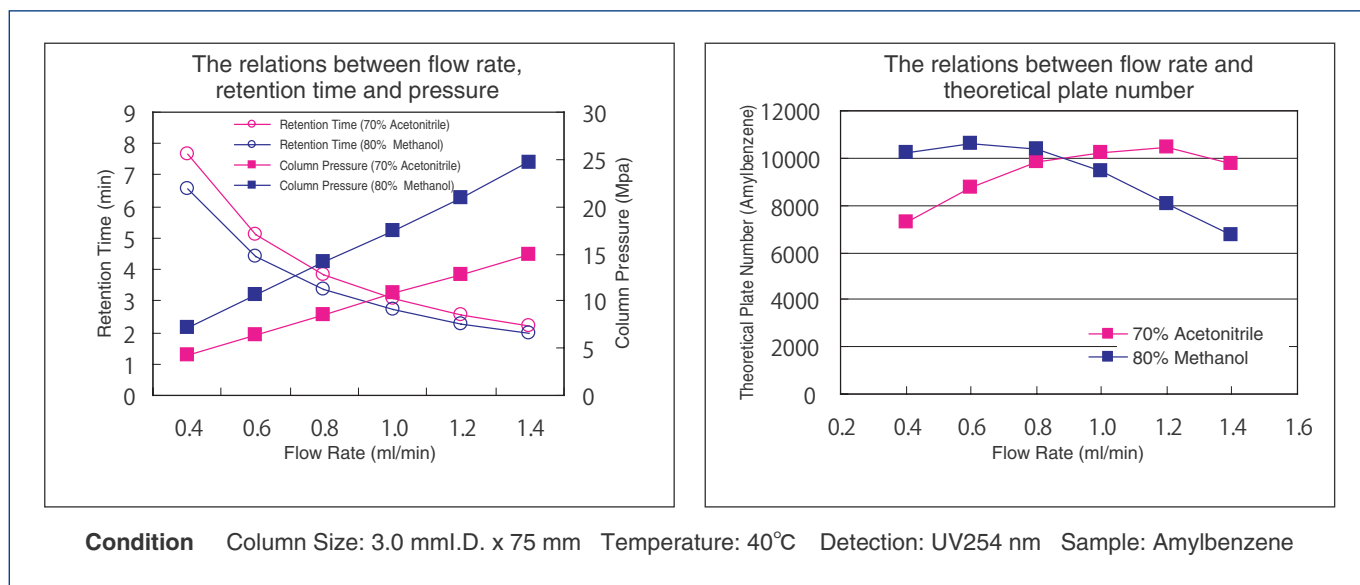
• 3.0 mm I.D. x 75 mm



• 2.0 mm I.D. x 50 mm



## The relations between flow rate, retention time, pressure and theoretical plate number



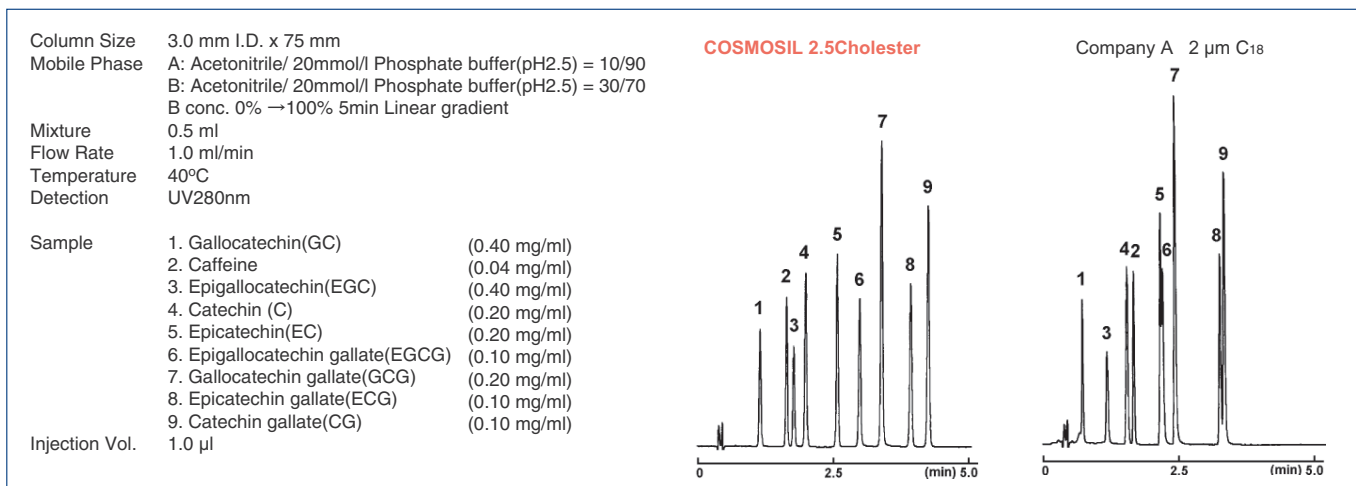
## COSMOSIL 2.5Cholester

- **Low back pressure (2.5  $\mu\text{m}$  silica gel)**
- **Cholesterol bonded stationary phase**
- **Excellent molecular shape selectivity**

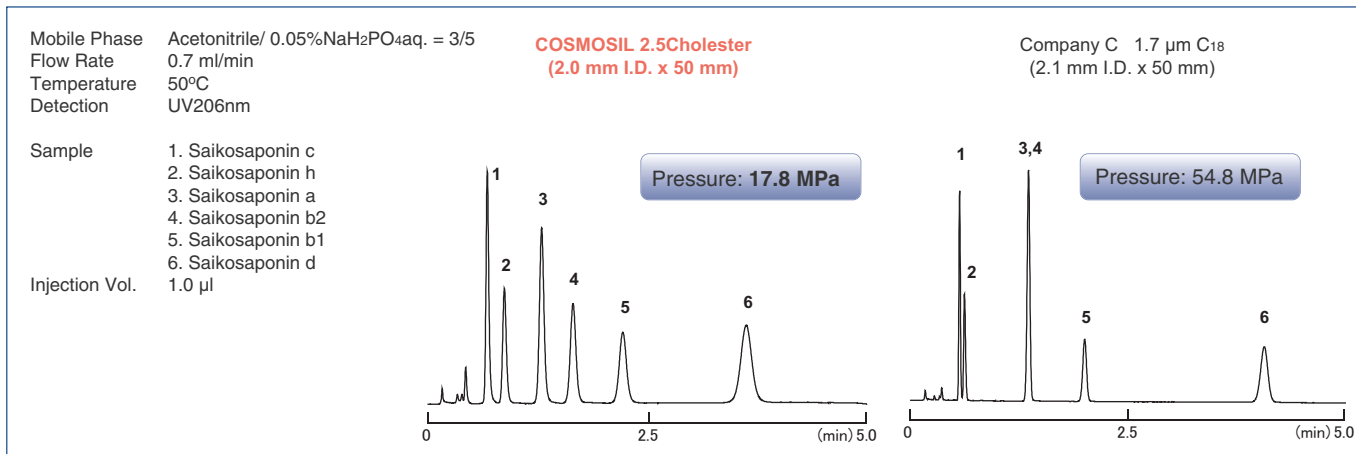
### Improved Separation

COSMOSIL 2.5Cholester offers improved resolution for compounds difficult to analyze with C<sub>18</sub> without changing analytical condition.

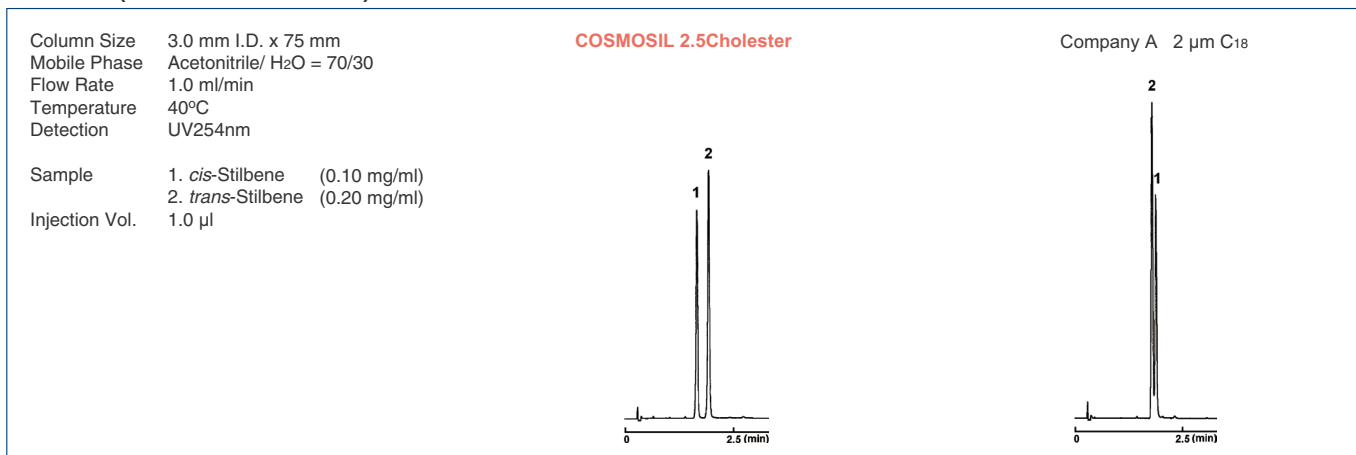
#### • Catechins



#### • Saikosaponins



#### • Stilbene (Geometrical Isomers)



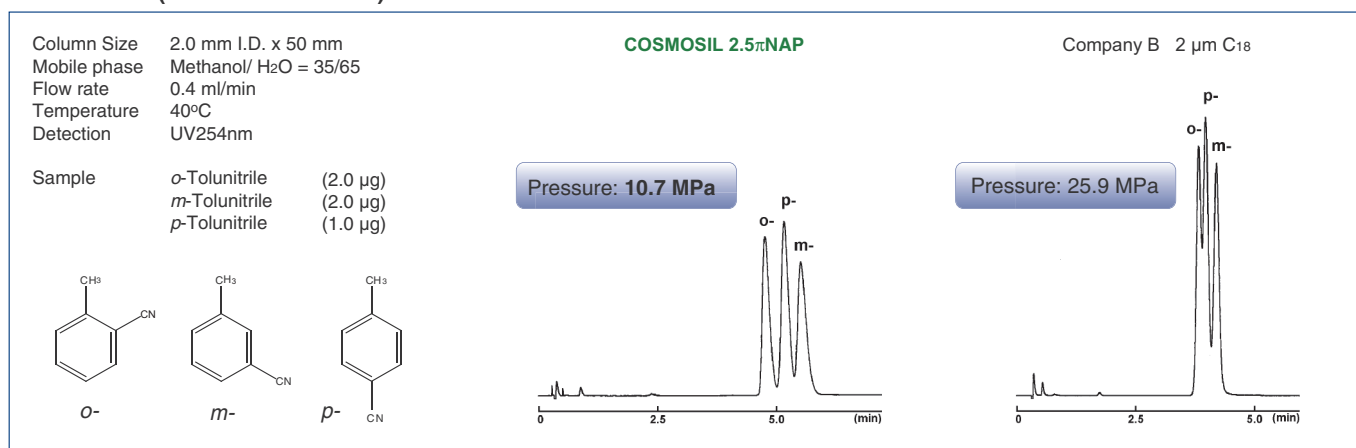
# COSMOSIL 2.5 $\pi$ NAP

- **Low back pressure (2.5  $\mu$ m silica gel)**
- **Naphthalene bonded stationary phase**
- **Stronger  $\pi$ - $\pi$  interactions than Phenyl columns**

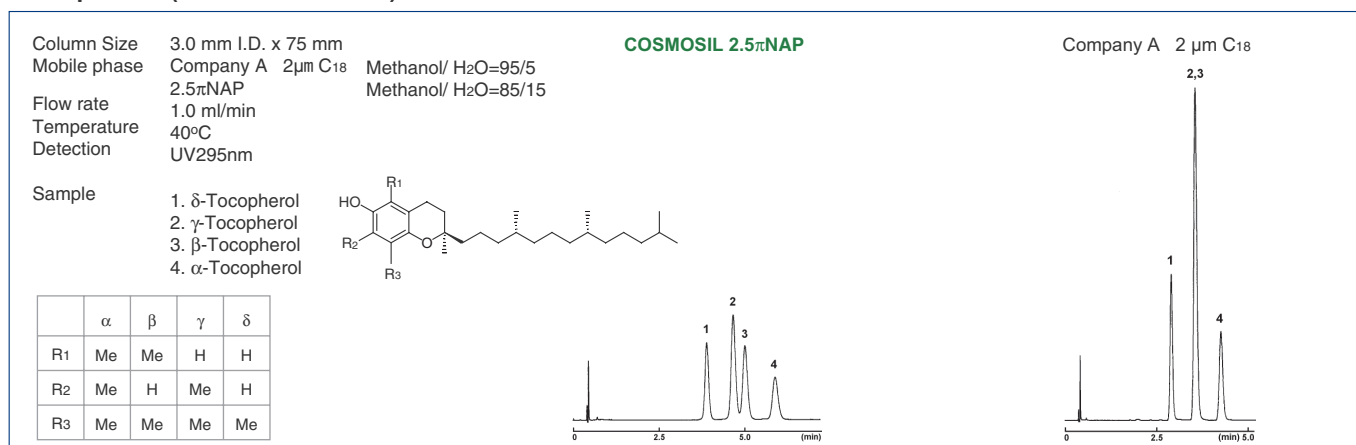
## Improved Separation

COSMOSIL 2.5 $\pi$ NAP provides greater performance in separating positional isomers and other closely related compounds which are difficult to analyze with C18.

### Tolunitriles (Positional Isomers)



### Tocopherols (Positional Isomers)



## Ordering Information

Column Size	COSMOSIL 2.5C18-MS-II Product Number	COSMOSIL 2.5Cholester Product Number	COSMOSIL 2.5 $\pi$ NAP Product Number
2.0 mm I.D. x 50 mm	08994-31	09000-01	06062-91
2.0 mm I.D. x 75 mm	08995-21	09047-11	06051-31
2.0 mm I.D. x 100 mm	08996-11	09048-01	06052-21
3.0 mm I.D. x 50 mm	08997-01	09049-91	06054-01
3.0 mm I.D. x 75 mm	08998-91	09050-51	06055-91
3.0 mm I.D. x 100 mm	08999-81	09051-41	06057-71

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