

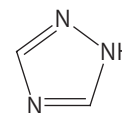


COSMOSIL

Ultra-High Performance Column for HILIC Analysis COSMOSIL 2.5HILIC

- Ultra-High Performance using 2.5 μm particles
- Triazole bonded stationary phase
- Alternative selectivity to other HILIC columns

Triazole



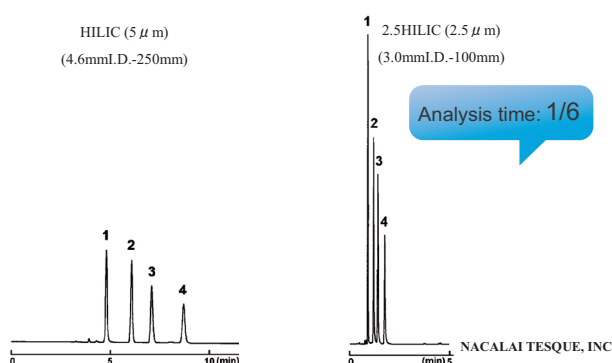
Ultra-High-Speed Analysis (Oxidation marker analysis)

COSMOSIL 2.5HILIC can be used with any conventional LC systems.

COSMOSIL Application Data

Column: HILIC (5 μm) (4.6mm I.D.-250mm)
 Column size:
 Mobile phase: Acetonitrile/ 10mmol/l Ammonium Acetate = 80/20
 Flow rate: 1.0 ml/min
 Temperature: 40°C
 Detection: UV249nm

Sample: 1; Creatinine (0.1mg/ml)
 2; 2'-Deoxyguanosine (0.1mg/ml)
 3; 8-Hydroxy-2'-Deoxyguanosine (0.1mg/ml)
 4; 8-Hydroxy Guanosine (0.1mg/ml)
 Inj. Vol: 1.0 μl



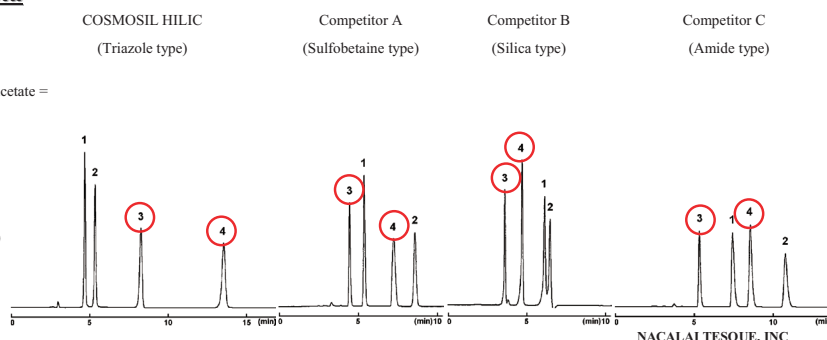
Alternative Selectivity

The positively charged triazole stationary phase shows anion-exchange mechanism, thus acidic compounds (Peak 3, 4) can be more strongly retained than competitors' columns.

COSMOSIL Application Data

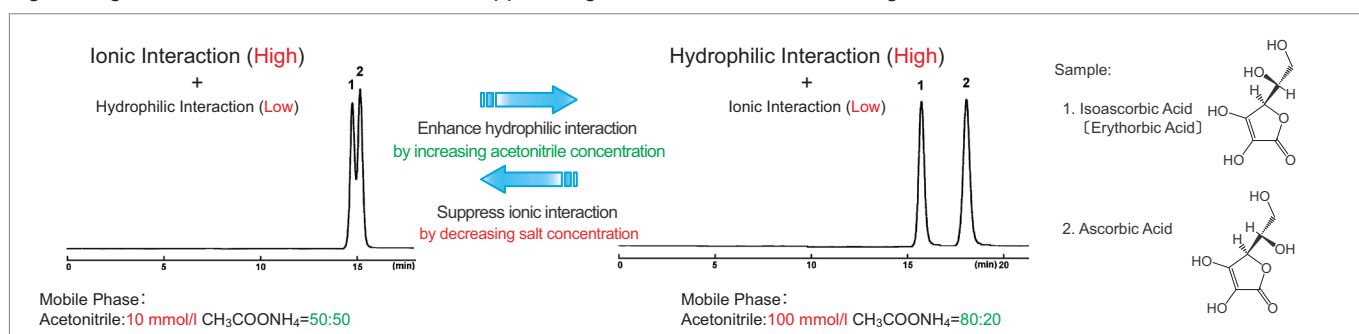
Column: COSMOSIL HILIC (Triazole type)
 Column size: 4.6mm I.D.-250mm
 Mobile phase: Acetonitrile/ 10mmol/l Ammonium Acetate = (COSMOSIL) = 70/30 (Others) = 80/20
 Flow rate: 1.0 ml/min
 Temperature: 30°C
 Detection: UV225nm

Sample: 1; Melamine (0.10mg/ml)
 2; Ammeline (0.075mg/ml)
 3; Cyanuric Acid (0.75mg/ml)
 4; Ammelide (0.05mg/ml)
 Inj. Vol: 1.0 μl



Two interactions (hydrophilic interaction and anion exchange capacity)

The retention mechanism of COSMOSIL HILIC is the combination of hydrophilic interaction and anion-exchange, and the retention can be controlled by changing the mobile phase. More specifically, the hydrophilic interaction can be enhanced by increasing the organic solvent concentration while suppressing the ionic interaction with high salt concentration.



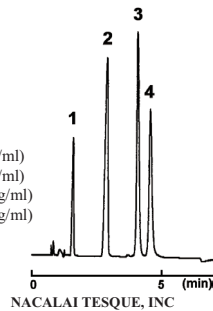
Applications

• Umami Components

COSMOSIL Application Data

Column: 2.5HILIC
 Column size: 2.0mm I.D.-150mm
 Mobile phase: Acetonitrile/ 10mmol/l Phosphate buffer(pH7.0) = 50/50
 Flow rate: 0.4 ml/min
 Temperature: 40°C
 Detection: UV210nm

Sample: 1; Glutamic Acid (2.5mg/ml)
 2; Succinic Acid (4.0mg/ml)
 3; Inosine-5'-monophosphate (0.25mg/ml)
 4; Guanosine-5'-monophosphate (0.25mg/ml)
 Inj.Vol.: 1.0µl

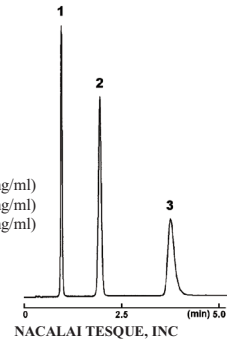


• Adenine Nucleotide

COSMOSIL Application Data

Column: 2.5HILIC
 Column size: 2.0mm I.D.-50mm
 Mobile phase: Acetonitrile/ 20mmol/l Phosphate buffer(pH7.0) = 50/50
 Flow rate: 0.4 ml/min
 Temperature: 40°C
 Detection: UV260nm

Sample: 1; Adenosine-5'-monophosphate (0.25mg/ml)
 2; Adenosine-5'-diphosphate (0.50mg/ml)
 3; Adenosine-5'-triphosphate (0.50mg/ml)
 Inj.Vol.: 0.5µl

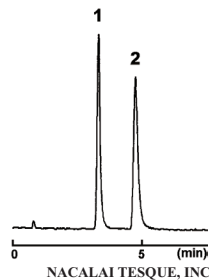


• Taurine/Hypotaurine

COSMOSIL Application Data

Column: 2.5HILIC
 Column size: 3.0mm I.D.-100mm
 Mobile phase: Acetonitrile/ 10mmol/l Ammonium Acetate = 85/15
 Flow rate: 1.0 ml/min
 Temperature: 30°C
 Detection: ELSD

Sample: 1; Taurine (1.0mg/ml)
 2; Hypotaurine (1.0mg/ml)
 Inj.Vol.: 2.0µl

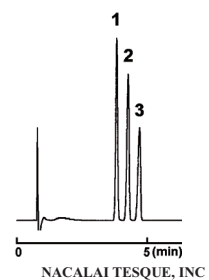


• Haloacetic Acid

COSMOSIL Application Data

Column: 2.5HILIC
 Column size: 2.0mm I.D.-150mm
 Mobile phase: Acetonitrile/ 10mmol/l Ammonium Acetate = 50/50
 Flow rate: 0.4 ml/min
 Temperature: 40°C
 Detection: UV210nm

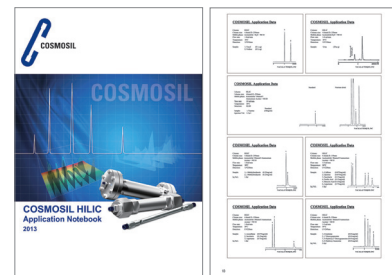
Sample: 1; Trichloroacetic Acid (1.0mg/ml)
 2; Dichloroacetic Acid (2.0mg/ml)
 3; Chloroacetic Acid (5.0mg/ml)
 Inj.Vol.: 0.5µl



COSMOSIL HILIC Application Notebook

COSMOSIL HILIC Application Notebook contains about 200 chromatograms for the separation of polar compounds using COSMOSIL HILIC column. It also describes how the mobile phase conditions, such as buffer pH and salt concentration influence the separation in HILIC mode.

The PDF ver. is available at our web site at <http://www.nacalai.co.jp/global/cosmosil/>.



Ordering Information

COSMOSIL 2.5HILIC Packed Columns

Column Size	Product Number	Column Size	Product Number
2.0 mm I.D. x 50 mm	11766-21	3.0 mm I.D. x 50 mm	11771-41
2.0 mm I.D. x 75 mm	11768-01	3.0 mm I.D. x 75 mm	11772-31
2.0 mm I.D. x 100 mm	11769-91	3.0 mm I.D. x 100 mm	11773-21
2.0 mm I.D. x 150 mm	11770-51	3.0 mm I.D. x 150 mm	11774-11

Columns are available in various sizes. Feel free to contact us.

For research use only, not intended for diagnostic or drug use.