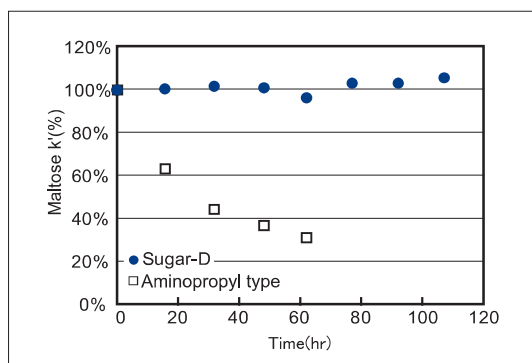


COSMOSIL Sugar-D

- Novel stationary phase for saccharides
- Superior durability to conventional amino columns
- Minimized undesirable adsorption

Comparison of Durability

The decrease of retention time was compared between COSMOSIL Sugar-D and conventional aminopropyl bonded stationary phase under severe condition of 100% water as eluent between tests. The capacity factor did not decrease in case of COSMOSIL Sugar-D.

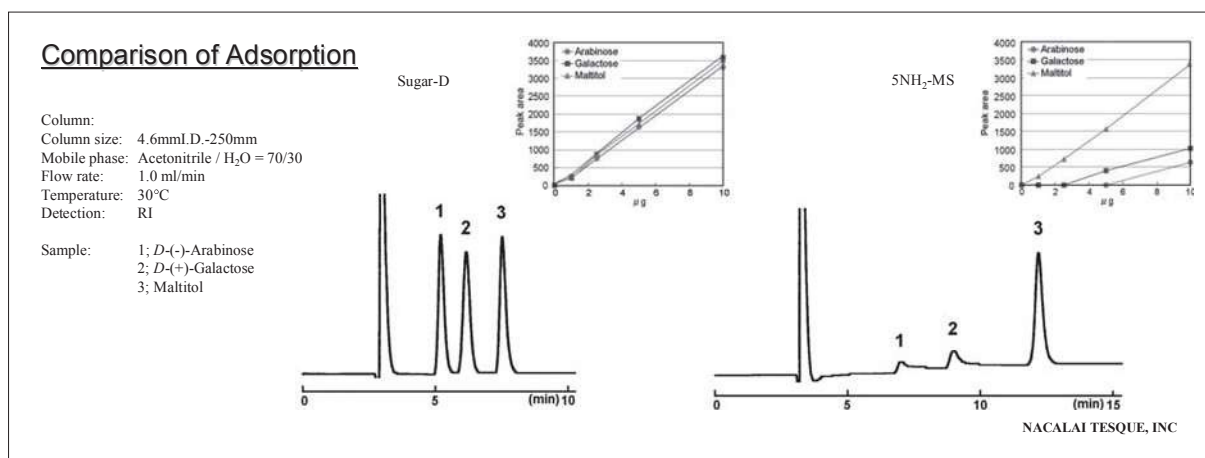


Decomposition Condition
 Solution: Water
 Flow Rate: 1.0 ml/min
 Temperature: Room Temperature

Column: 4.6 mm I.D. x 250 mm
Mobile Phase: Acetonitrile : Water = 70 : 30
Flow Rate: 1.0 ml/min
Temperature: 30°C
Detection: RI
Sample: Maltose

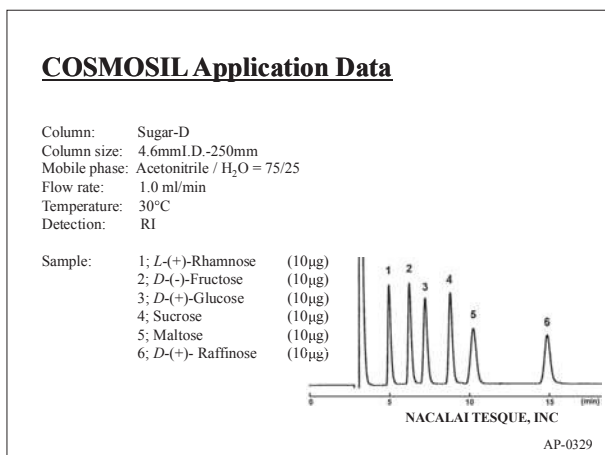
Comparison of Adsorption

Certain types of saccharides such as arabinose or galactose are partially or temporarily adsorbed on conventional aminopropyl stationary phases causing tailing or no elution at all. COSMOSIL Sugar-D provides superior separation and high recovery for these saccharides.

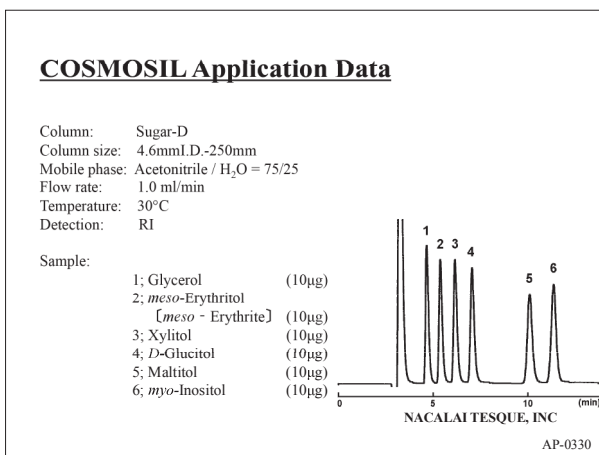


Applications

• Mono- and Oligosaccharides



• Polyols



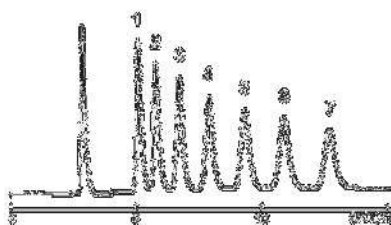
Applications

•Oligomaltoses

COSMOSIL Application Data

Column: Sugar-D
Column size: 4.6mm I.D.-250mm
Mobile phase: Acetonitrile / H₂O = 65/35
Flow rate: 1.0 ml/min
Temperature: 30°C
Detection: RI

Sample:
1; D-(+)-Glucose (10µg)
2; Maltose (10µg)
3; Maltotriose (10µg)
4; Maltotetraose (10µg)
5; Maltopentaose (10µg)
6; Maltohexaose (10µg)
7; Maltoheptaose (10µg)



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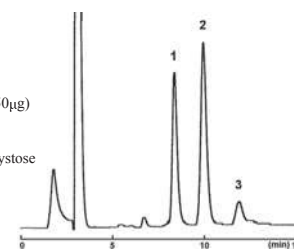
AP-0331

•Oligofructoses

COSMOSIL Application Data

Column: Sugar-D
Column size: 4.6mm I.D.-250mm
Mobile phase: Acetonitrile / H₂O = 70/30
Flow rate: 1.0 ml/min
Temperature: 30°C
Detection: RI

Sample: Fructooligosaccharides (50µg)
1; I-Kestose
2; Nystose
3; I-Fructofuranosyl-D-nystose



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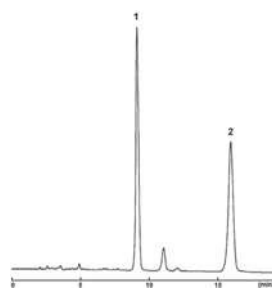
AP-0320

•Sweeteners

COSMOSIL Application Data

Column: Sugar-D
Column size: 4.6mm I.D.-250mm
Mobile phase: Acetonitrile/ H₂O = 85/15
Flow rate: 1.0 ml/min
Temperature: 30°C
Detection: UV210nm

Sample: 1; Stevioside
2; Rebaudioside A



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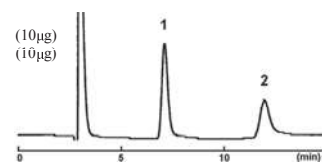
AP-1194

•Amino sugars

COSMOSIL Application Data

Column: Sugar-D
Column size: 4.6mm I.D.-250mm
Mobile phase: Acetonitrile/ 20mmol/l Phosphate buffer(pH7) = 70/30
Flow rate: 1.0 ml/min
Temperature: 30°C
Detection: RI

Sample: 1; D-(+)-Mannose (10µg)
2; D-Mannosamine (10µg)



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AP-0333

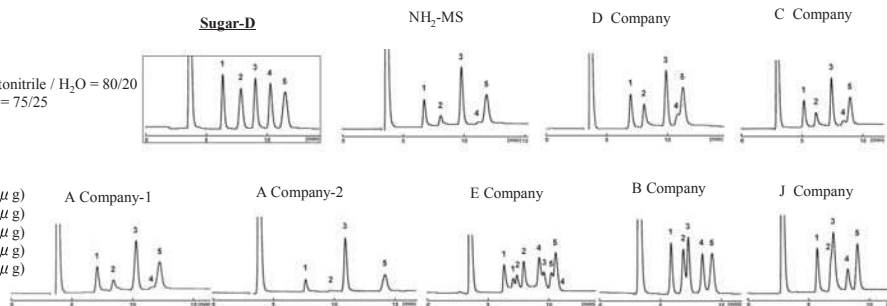
Comparison with Other Company Columns

The separation and the adsorption of monosaccharides were compared using COSMOSIL Sugar-D and other companies columns. Separation of aldoses, containing aldehyde group per molecule, is usually problematic with undesirable adsorption. COSMOSIL Sugar-D provides excellent separations for these saccharides.

Comparison

Column: Sugar-D
Column size: 4.6mm I.D.-250mm
Mobile phase: (Sugar-D, E Company) Acetonitrile / H₂O = 80/20
(Others) Acetonitrile / H₂O = 75/25
Flow rate: 1.0 ml/min
Temperature: 30°C
Detection: RI

Sample: 1; L-(+)-Rhamnose (10 µg)
2; D-(+)-Xylose (10 µg)
3; D-(-)-Fructose (10 µg)
4; D-(+)-Mannose (10 µg)
5; D-(+)-Glucose (10 µg)



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