

Columns for Polymer-based Hydrophilic Interaction Chromatography (HILIC)

Features

- NH2P-50**
- Suitable for saccharides analysis by hydrophilic interaction chromatography (HILIC)
 - Polymer-based packing material provides excellent chemical stability and minimum deterioration over extended time period
 - Washable with alkaline solution
 - Also suitable for evaporative light scattering detector, corona charged aerosol detector, and LC/MS

Note book No.2 News No.6, 14, 17, 32

Preparative Columns p.79

- NH2P-40 3E**
- Provides higher theoretical plate number compared to NH2P-50 series
 - Achieves 2-3 times improved detection sensitivity even with a conventional HPLC system
 - Uses less than 50% solvent compared to NH2P-50 4E

News No.44

Semi-micro Micro Columns p.72

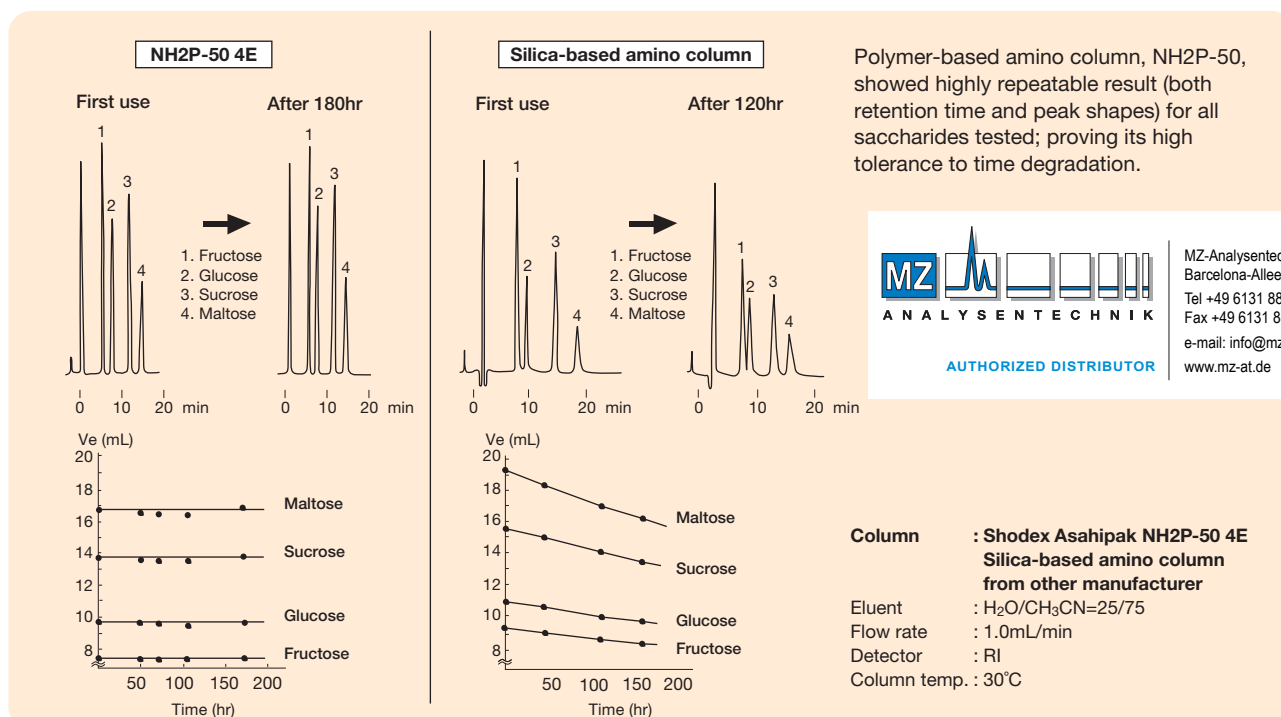
See also page 8, "Features and applications of different packing materials used for columns for reversed phase, hydrophilic interaction and normal phase chromatography".

Standard columns

Product Code	Product Name	Plate Number (TP/column)	Functional Group	Particle Size (µm)	Pore Size (Å)	Column Size (mm) I.D. x Length	Shipping Solvent
F7630005	Asahipak NH2P-50 4B	≥ 1,500	Amino	5	100	4.6 × 50	H ₂ O/CH ₃ CN=25/75
F7630002	Asahipak NH2P-50 4D	≥ 5,500	Amino	5	100	4.6 × 150	H ₂ O/CH ₃ CN=25/75
F7630001	Asahipak NH2P-50 4E	≥ 7,500	Amino	5	100	4.6 × 250	H ₂ O/CH ₃ CN=25/75
F6710016	Asahipak NH2P-50G 4A	(guard column)	Amino	5	–	4.6 × 10	H ₂ O/CH ₃ CN=25/75
F7630006	Asahipak NH2P-50 2D	≥ 3,500	Amino	5	100	2.0 × 150	H ₂ O/CH ₃ CN=25/75
F6713000	Asahipak NH2P-50G 2A	(guard column)	Amino	5	–	2.0 × 10	H ₂ O/CH ₃ CN=25/75
F7630007	Asahipak NH2P-40 3E	≥ 8,500	Amino	4	100	3.0 × 250	H ₂ O/CH ₃ CN=25/75
F6710030	Asahipak NH2P-50G 3A	(guard column)	Amino	5	–	3.0 × 10	H ₂ O/CH ₃ CN=25/75
F6710100	Asahipak NH2P-LF	(line filter)	Amino	–	–	8.0 × 75	H ₂ O/CH ₃ CN=25/75

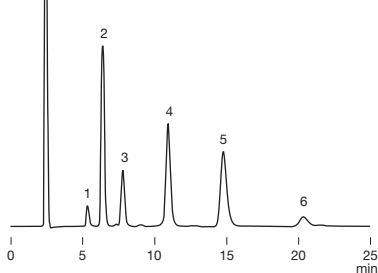
Base Material : Polyvinyl alcohol

Comparison of polymer-based (NH2P-50) and silica-based amino columns



Fructooligosaccharide syrup

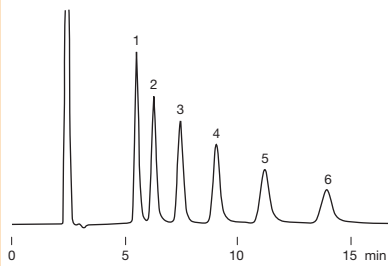
Sample :
Fructooligosaccharide syrup, 2.5%, 20 μ L
1. Fructose
2. Glucose
3. Sucrose
4. 1-Kestose
5. Nystose
6. 1-Fructofuranosyl-D-nystose



Column : Shodex Asahipak NH2P-50 4E
Eluent : H₂O/CH₃CN=30/70
Flow rate : 1.0mL/min
Detector : RI
Column temp. : 25°C

Chitooligosaccharides

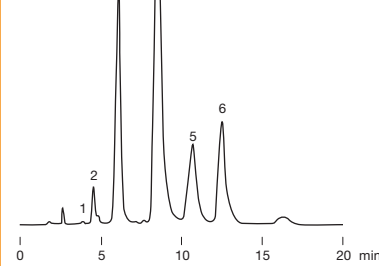
Sample : Chitooligosaccharides 2%, 20 μ L
1. D-Glucosamine
2. Chitobiose hydrochloride
3. Chitotriose hydrochloride
4. Chitotetraose hydrochloride
5. Chitopentaose hydrochloride
6. Chitohexaose hydrochloride



Column : Shodex Asahipak NH2P-50 4E
Eluent : H₂O/CH₃CN=30/70
Flow rate : 1.0mL/min
Detector : RI
Column temp. : 25°C

Oligogalacturonic acids

Sample : Oligogalacturonic acids
1. Galacturonic acid
2. Oligogalacturonic acid dimer
3. Oligogalacturonic acid trimer
4. Oligogalacturonic acid tetramer
5. Oligogalacturonic acid pentamer
6. Oligogalacturonic acid hexamer

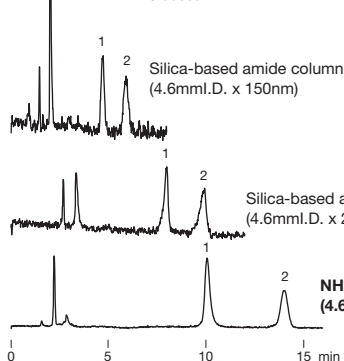


Column : Shodex Asahipak NH2P-50 4E
Eluent : 0.3M Sodium phosphate buffer(pH4.4)
Flow rate : 1.0mL/min
Detector : UV(210nm)
Column temp. : 40°C

Sample offered by Prof. Yoshino in Kyoto Women's Univ.

Saccharide analysis using corona charged aerosol detector

Sample : 40 μ g/mL each, 5 μ L
1. Fructose
2. Glucose

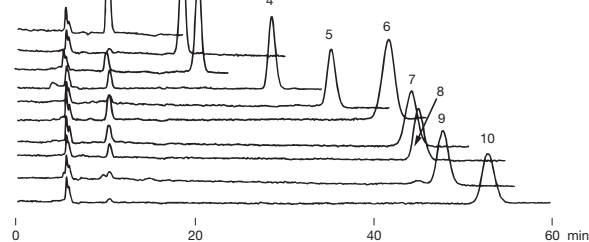


A corona charged aerosol detector measures analytes as particles. Accordingly, the baseline will be significantly influenced by components eluted from the column. The polymer-based amino column, NH2P series eliminates column originated components, and thus enables a stable baseline with lower noise level.

Column : Shodex Asahipak NH2P-50 4E
Silica-based amino column from other manufacturer
Silica-based amide column from other manufacturer
Eluent : H₂O/CH₃CN=20/80
Flow rate : 1.0mL/min
Detector : Corona charged aerosol
Column temp : 30°C(NH2P-50 4E, Silica-based amino column)
80°C(Silica-based amide column)

Pyridylaminated monosaccharides

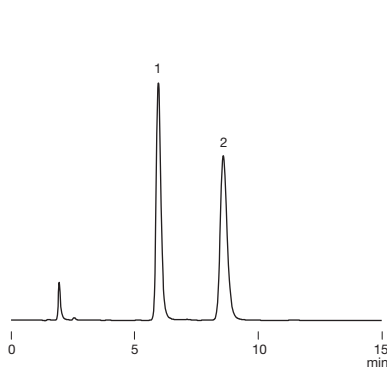
Sample : 5 μ L
1. 2-Aminopyridine 0.1pmol/ μ L
2. PA-Rhamnose 1pmol/ μ L
3. PA-Fucose 1pmol/ μ L
4. PA-Ribose 1pmol/ μ L
5. PA-Xylose 1pmol/ μ L
6. PA-N-Acetylglucosamine 1pmol/ μ L
7. PA-N-Acetylgalactosamine 1pmol/ μ L
8. PA-Mannose 1pmol/ μ L
9. PA-Glucose 1pmol/ μ L
10. PA-Galactose 1pmol/ μ L



Column : Shodex Asahipak NH2P-50 4E
Eluent : H₃PO₄/H₂O/CH₃CN=1/14/85
Flow rate : 0.5mL/min
Detector : Fluorescence(Ex. : 310nm, Em. : 380nm)
Column temp. : 40°C

Stevioside and rebaudioside A

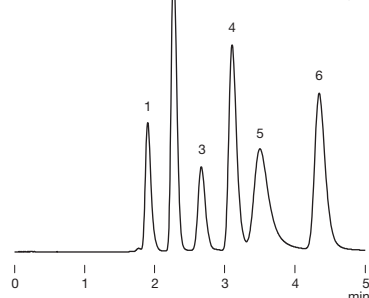
Sample : 0.05% each, 20 μ L
1. Stevioside
2. Rebaudioside A



Column : Shodex Asahipak NH2P-50 4E
Eluent : H₂O/CH₃CN=25/75
Flow rate : 1.0mL/min
Detector : UV(210nm)
Column temp. : 30°C

Simultaneous analysis of water-soluble vitamins

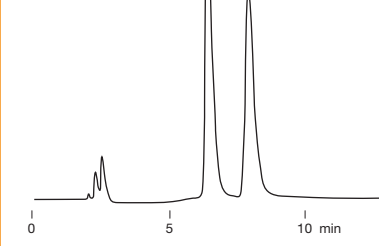
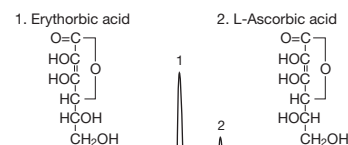
Sample : 20 μ L
1. Vitamin B₆ 50 μ g/mL
2. Nicotinamide 10 μ g/mL
3. Vitamin B₁₂ 10 μ g/mL
4. Nicotinic acid 10 μ g/mL
5. Folic acid 10 μ g/mL
6. Vitamin C 10 μ g/mL



Column : Shodex Asahipak NH2P-50 4E
Eluent : 40mM H₃PO₄ aq./CH₃CN=45/55
Flow rate : 1.0mL/min
Detector : UV(254nm)
Column temp. : 40°C

Ascorbic acid and erythorbic acid

Sample : 5 μ g/mL each, 10 μ L



Column : Shodex Asahipak NH2P-50 4E
Eluent : 20mM NaH₂PO₄ + 30mM H₃PO₄ aq./CH₃CN=20/80
Flow rate : 1.0mL/min
Detector : UV(254nm)
Column temp. : 30°C