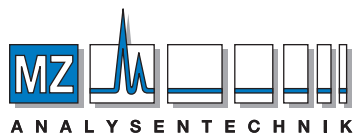


HPLC TECHNICAL INFORMATION

Saccharides



AUTHORIZED DISTRIBUTOR

MZ-Analysentechnik GmbH, Barcelona-Allee 17 • D-55129 Mainz

Tel +49 6131 880 96-0, Fax +49 6131 880 96-20

e-mail: info@mz-at.de, www.mz-at.de

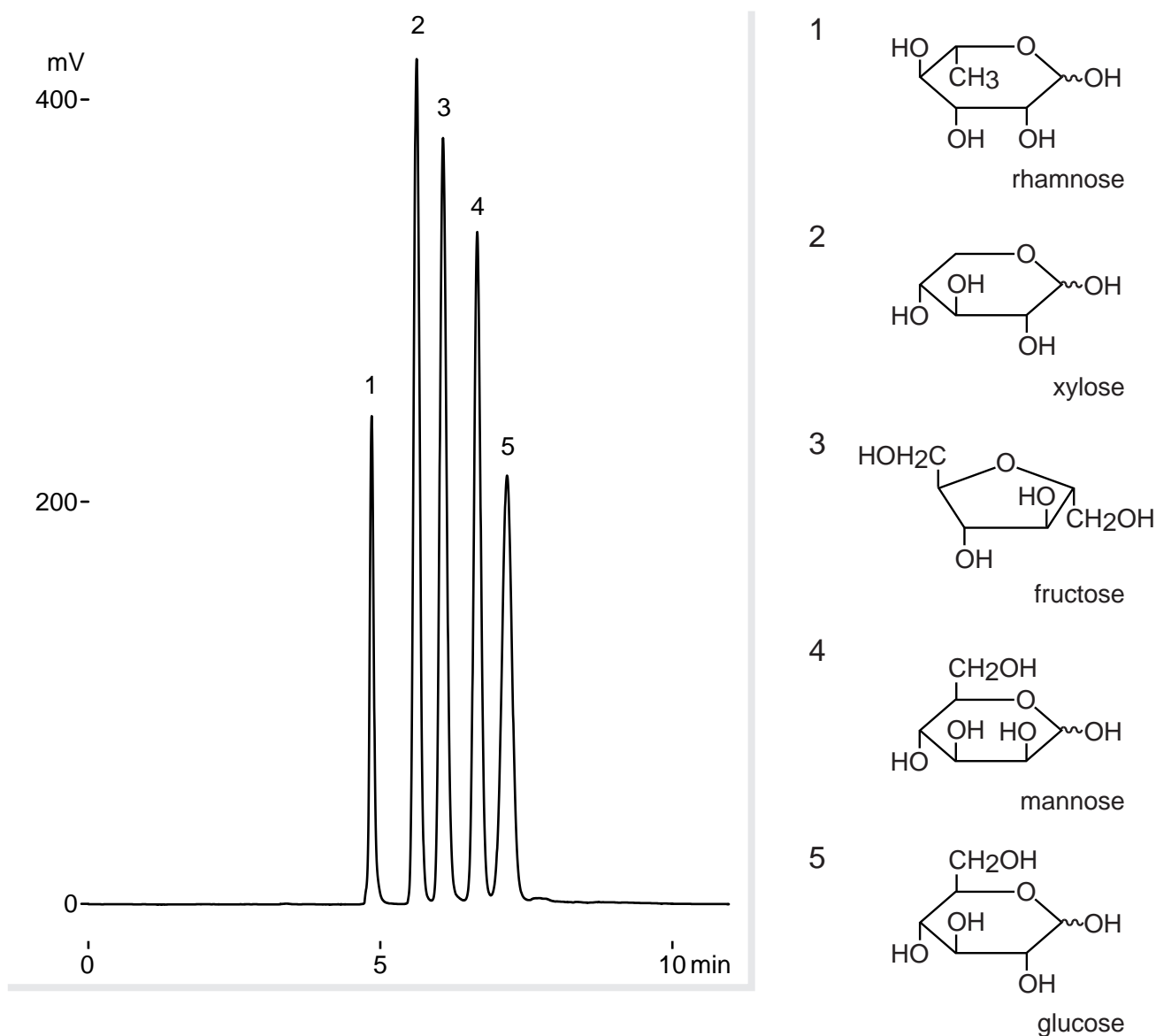
Unison UK-Amino

250 x 2 mm

Application

Monosaccharides

単糖類



Unison UK-Amino, 250x2mm
 acetonitrile /water = 80 /20
 0.2 mL/min (7 MPa), 37 deg.C
 ELSD, 1.2 uL (1.8-3.6 ug)

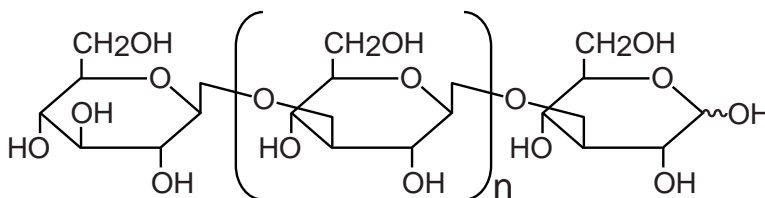
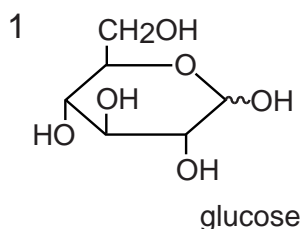
Unison UK-Amino

250 x 2 mm

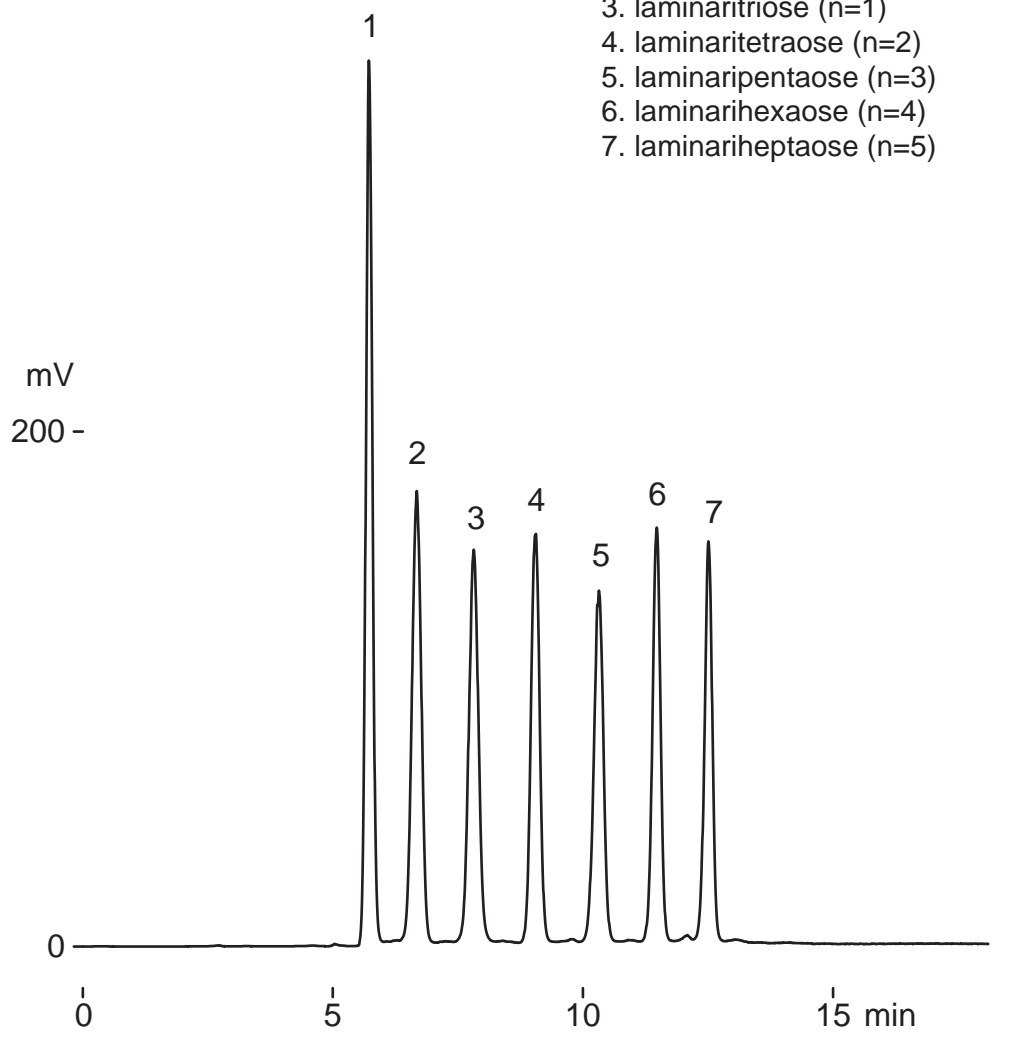
Application

Laminariogigosaccharides

ラミナリオリゴ糖



- 2. laminaribiose (n=0)
- 3. laminaritriose (n=1)
- 4. laminaritetraose (n=2)
- 5. laminaripentaose (n=3)
- 6. laminarihexaose (n=4)
- 7. laminariheptaose (n=5)



Unison UK-Amino, 250x2mm
 A: acetonitrile, B: water, 25-40 %B (0-15min)
 0.2 mL/min (8 MPa), 37 deg.C, ELSD, 1 uL (2ug)

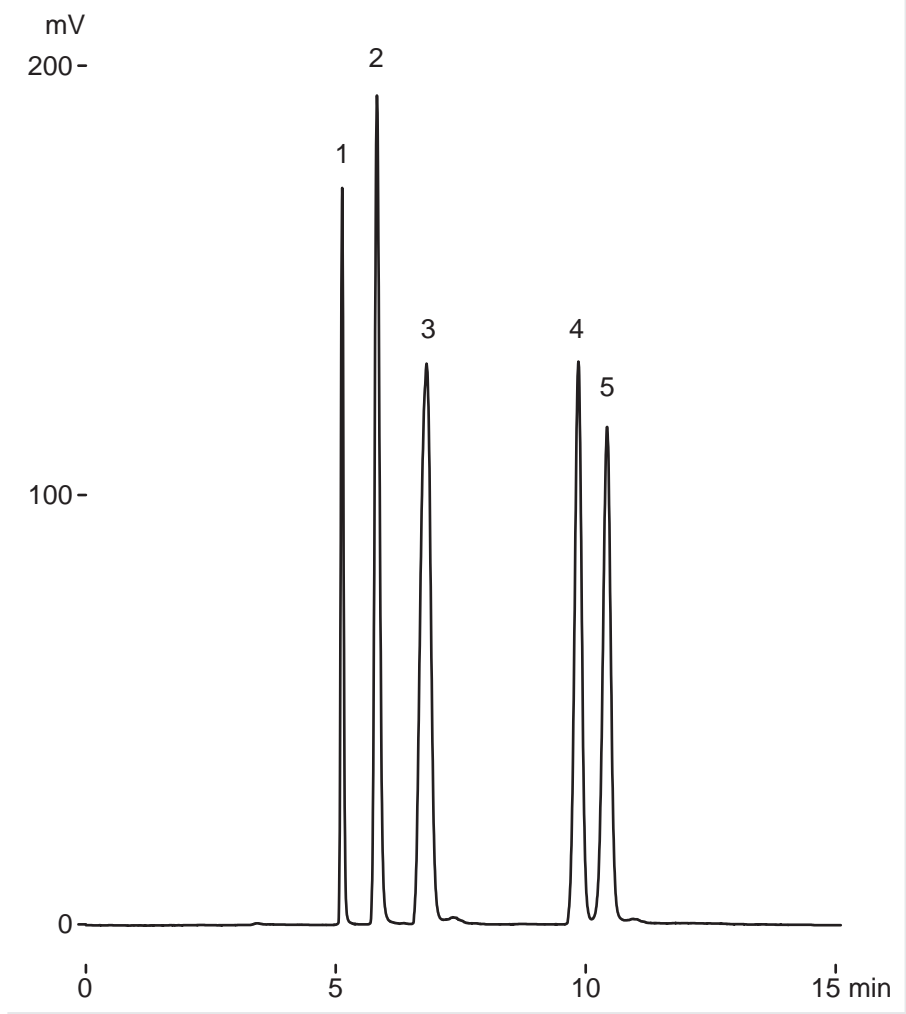
Unison UK-Amino

250 x 2 mm

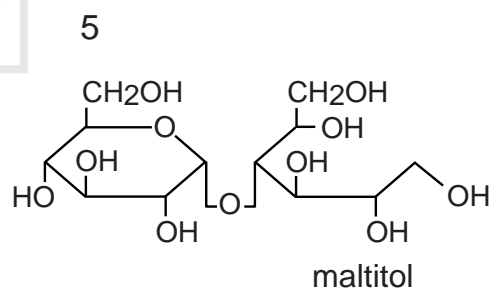
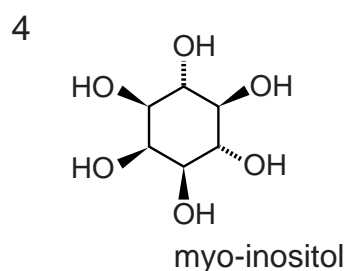
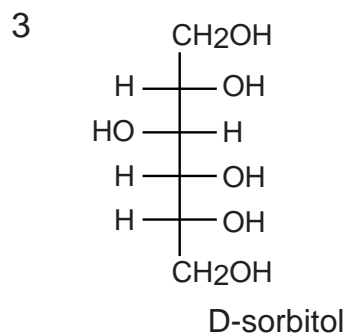
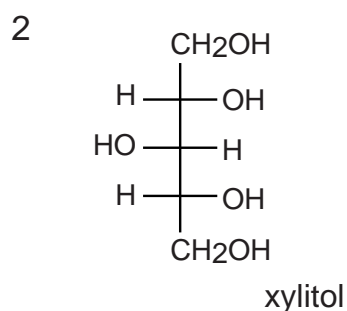
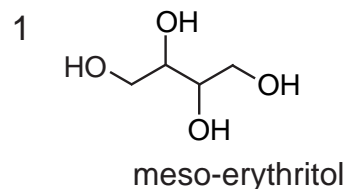
Application

Sugar Alcohols

糖アルコール類



Unison UK-Amino, 250 x 2 mm
acetonitrile /water = 80 /20
0.2 mL/min (7 MPa), 37 deg.C
ELSD, 1.2 uL (1.3-5.9 ug)



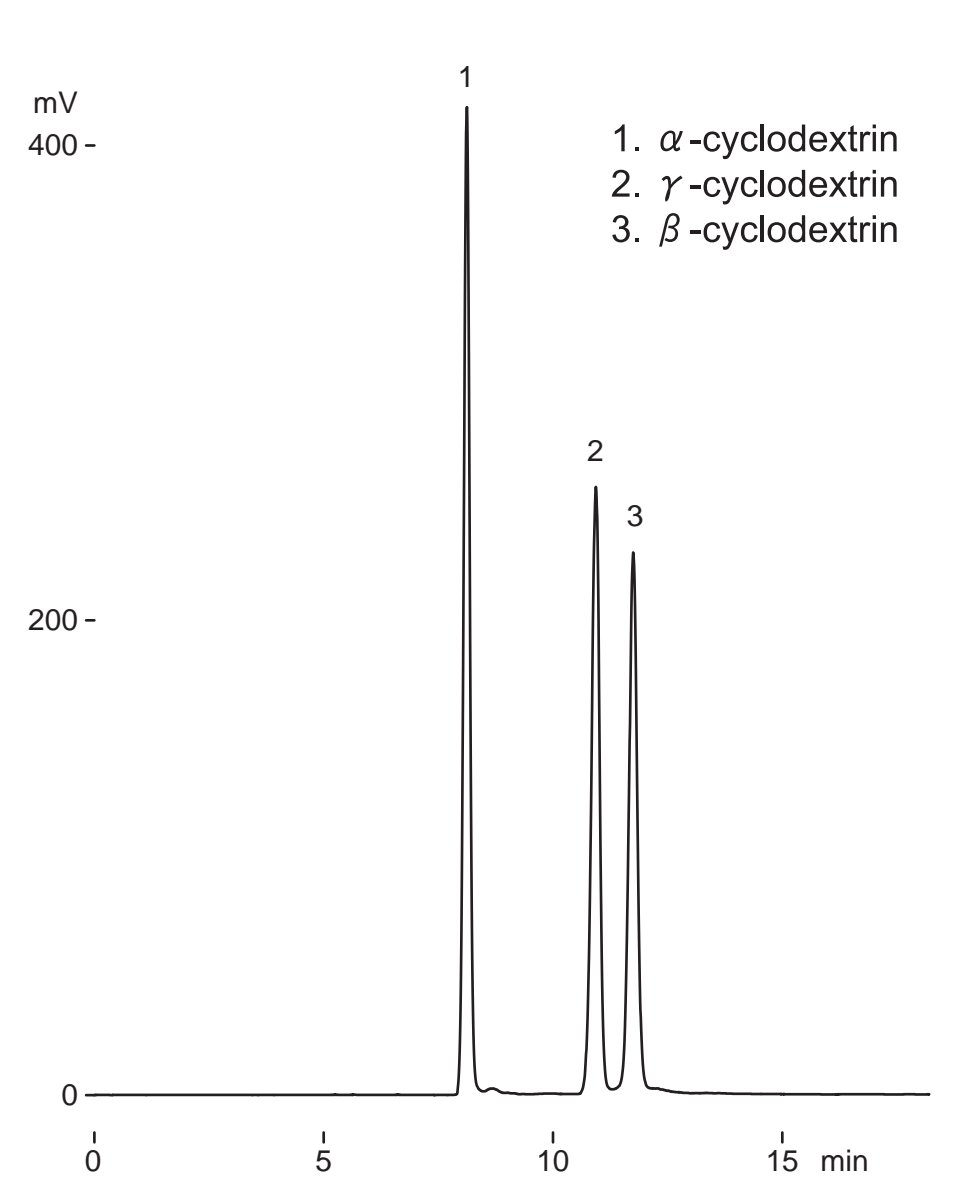
Unison UK-Amino

250 x 2 mm

Application

Cyclodextrins

シクロデキストリン



Unison UK-Amino, 250 x 2 mm
acetonitrile / water = 70 / 30
0.2 mL/min (9MPa), 37 deg.C, ELSD
0.5 μ L (3.3 μ g)

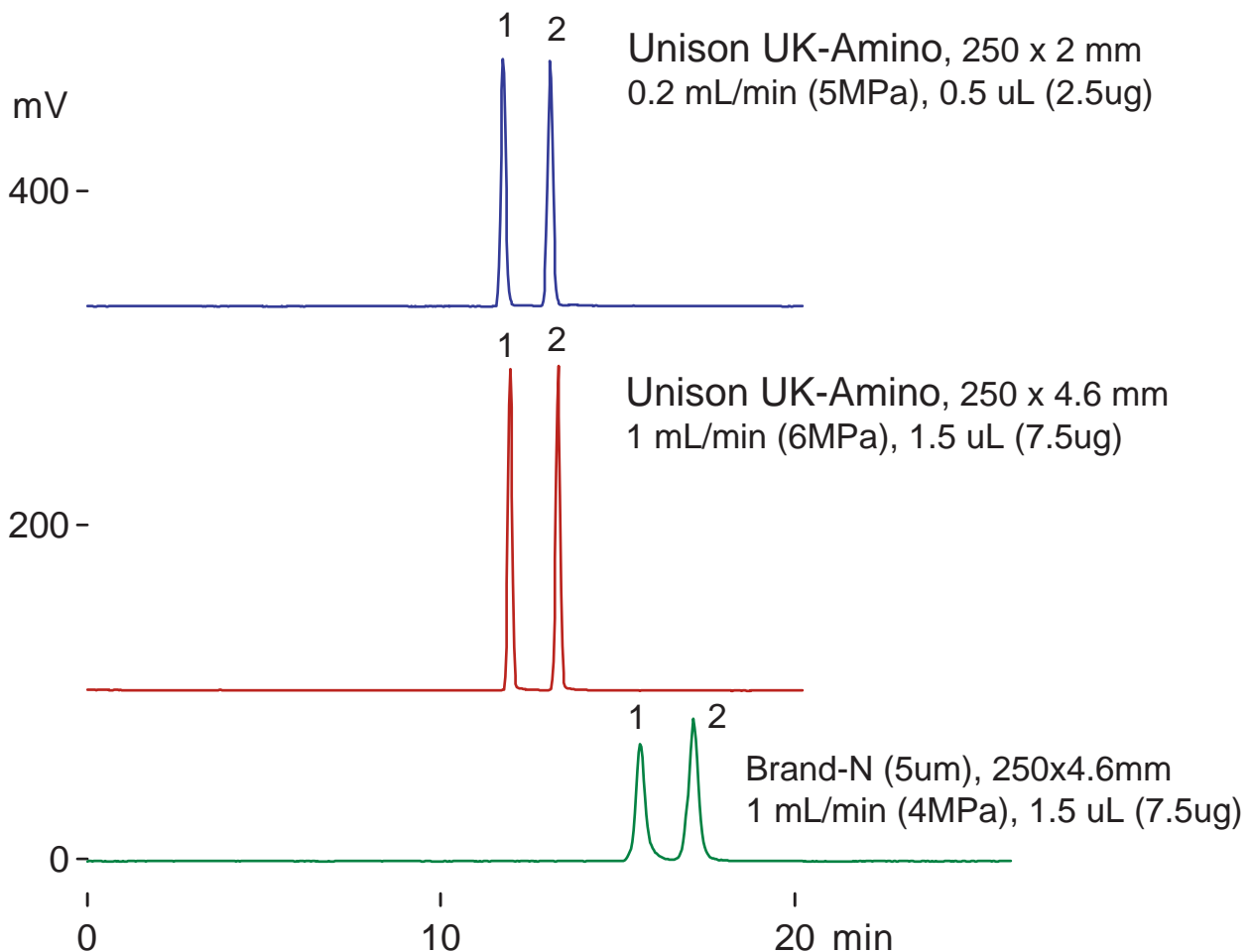
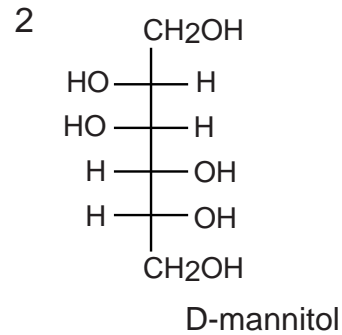
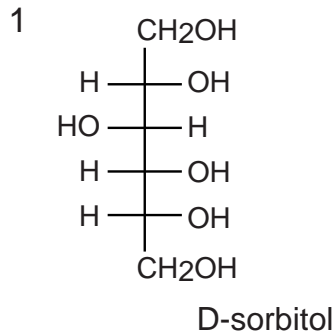
Unison UK-Amino

250 x 2 mm
250 x 4.6 mm

Application

Sugar Alcohols (sorbitol, mannitol)

糖アルコール類 (ソルビトール, マンニトール)



acetonitrile / water = 90 / 10
50 deg.C, ELSD

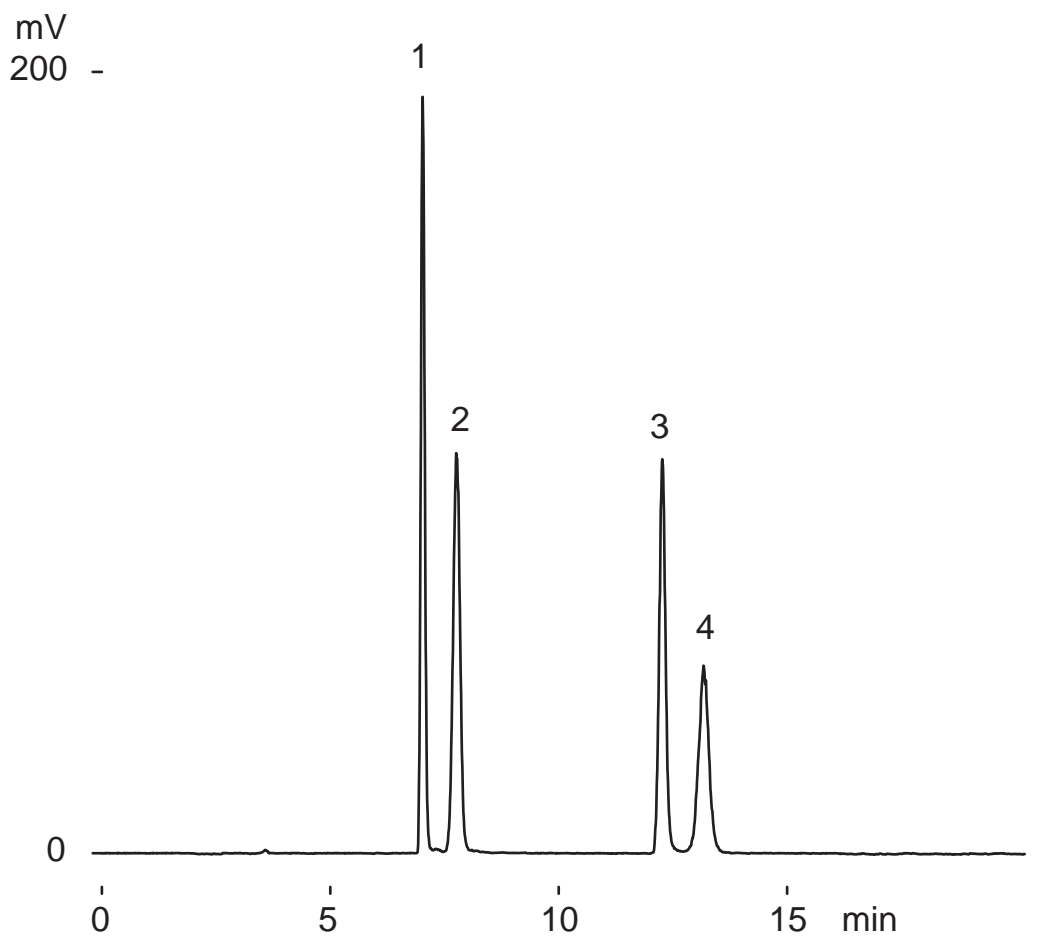
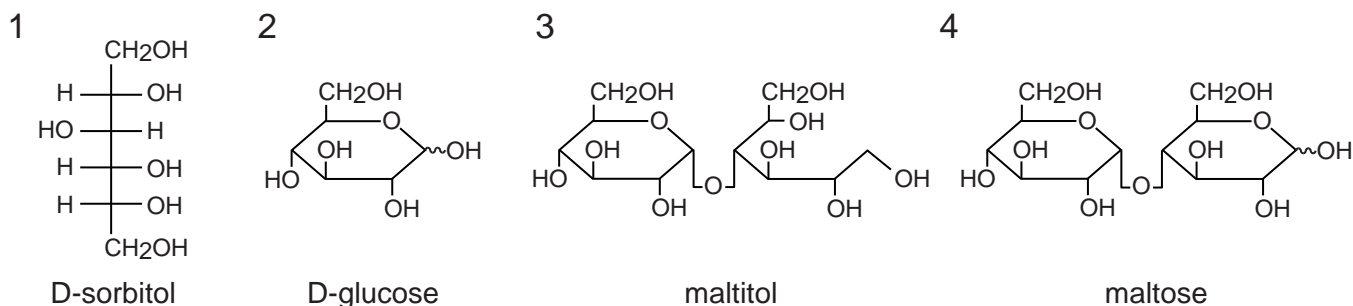
Unison UK-Amino

250 x 4.6 mm

Application

Sorbitol, Glucose, Maltitol, Maltose

ソルビトール, グルコース, マルチトール, マルトース



Unison UK-Amino, 250 x 4.6 mm
 acetonitrile / water = 83 / 17
 1.0 mL/min (8MPa), 50 deg.C, ELSD
 1.5 uL (3.8ug)

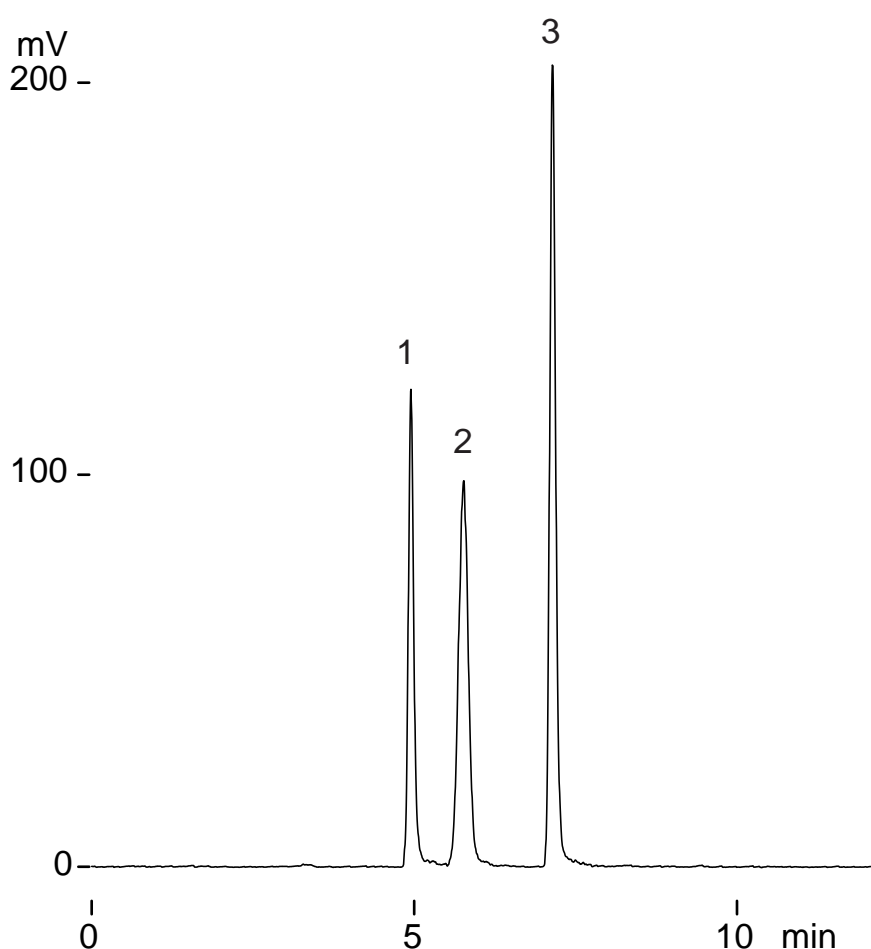
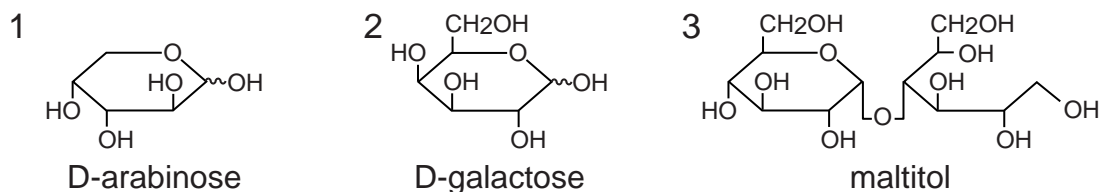
Unison UK-Amino

250 x 4.6 mm

Application

Arabinose, Galactose, Maltitol

アラビノース, ガラクトース, マルチトール



Unison UK-Amino, 250 x 4.6 mm
acetonitrile / water = 75 / 25
1 mL/min (11 MPa), 37 deg.C
ELSD, 1 uL (3.3 ug)

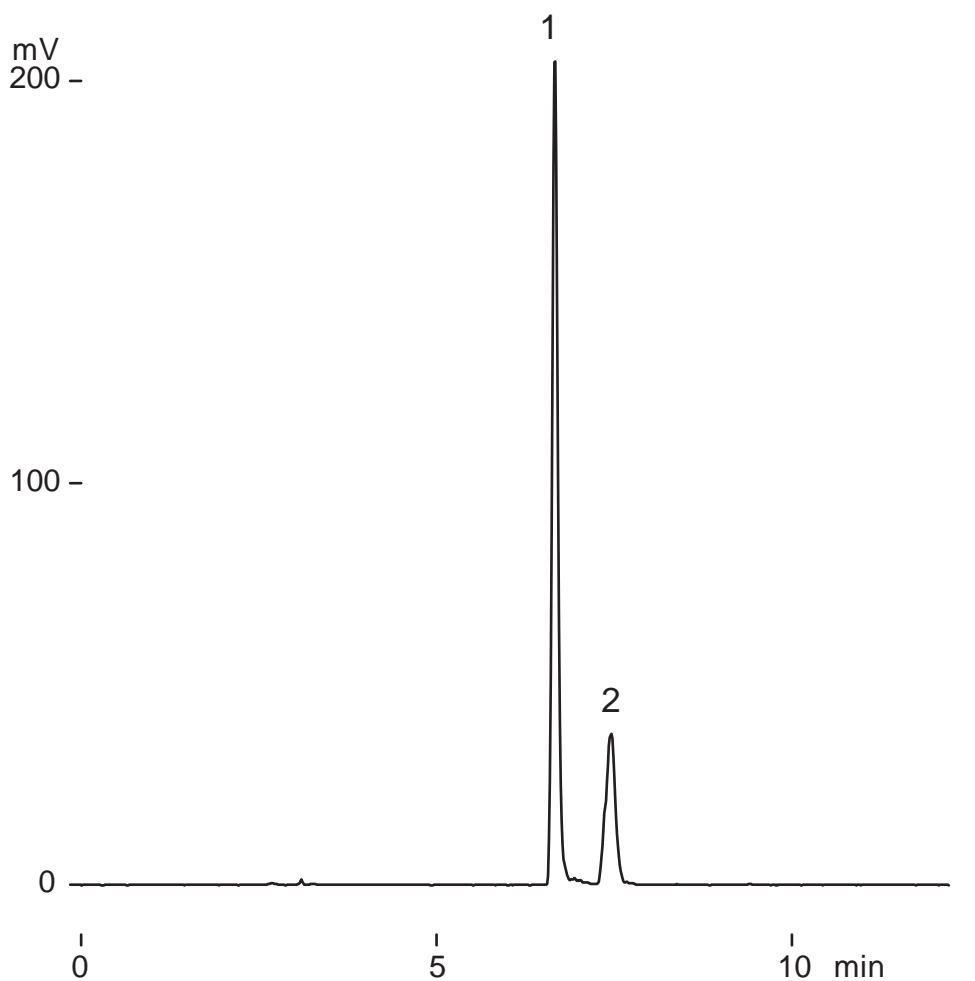
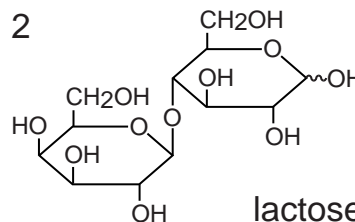
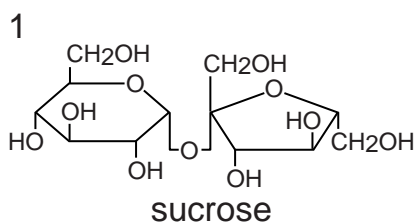
Unison UK-Amino

250 x 4.6 mm

Application

Sucrose and Lactose in Cafe au Lait

カフェオレ中のショ糖と乳糖



Unison UK-Amino, 250 x 4.6 mm
 acetonitrile / water = 75 / 25
 1 mL/min (11 MPa), 37 deg.C
 ELSD, 0.5 uL

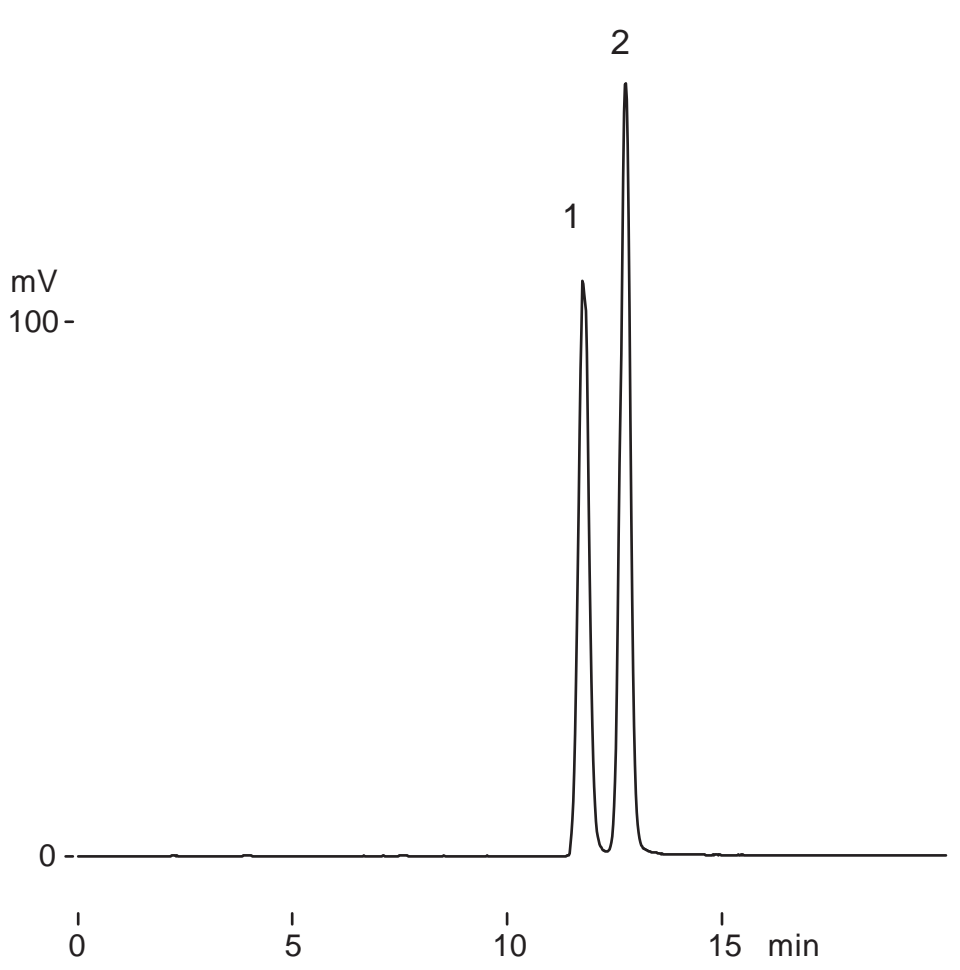
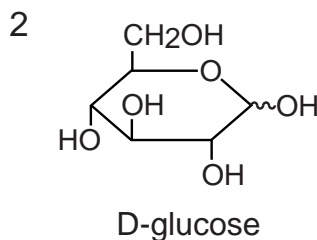
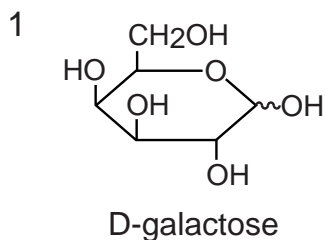
Unison UK-Amino

250 x 4.6 mm

Application

Galactose, Glucose

ガラクトース, グルコース



Unison UK-Amino, 250 x 4.6 mm
acetonitrile / water = 90 / 10
1 mL/min (5 MPa), 60 deg.C
ELSD, 1.5 uL(7.5 ug)

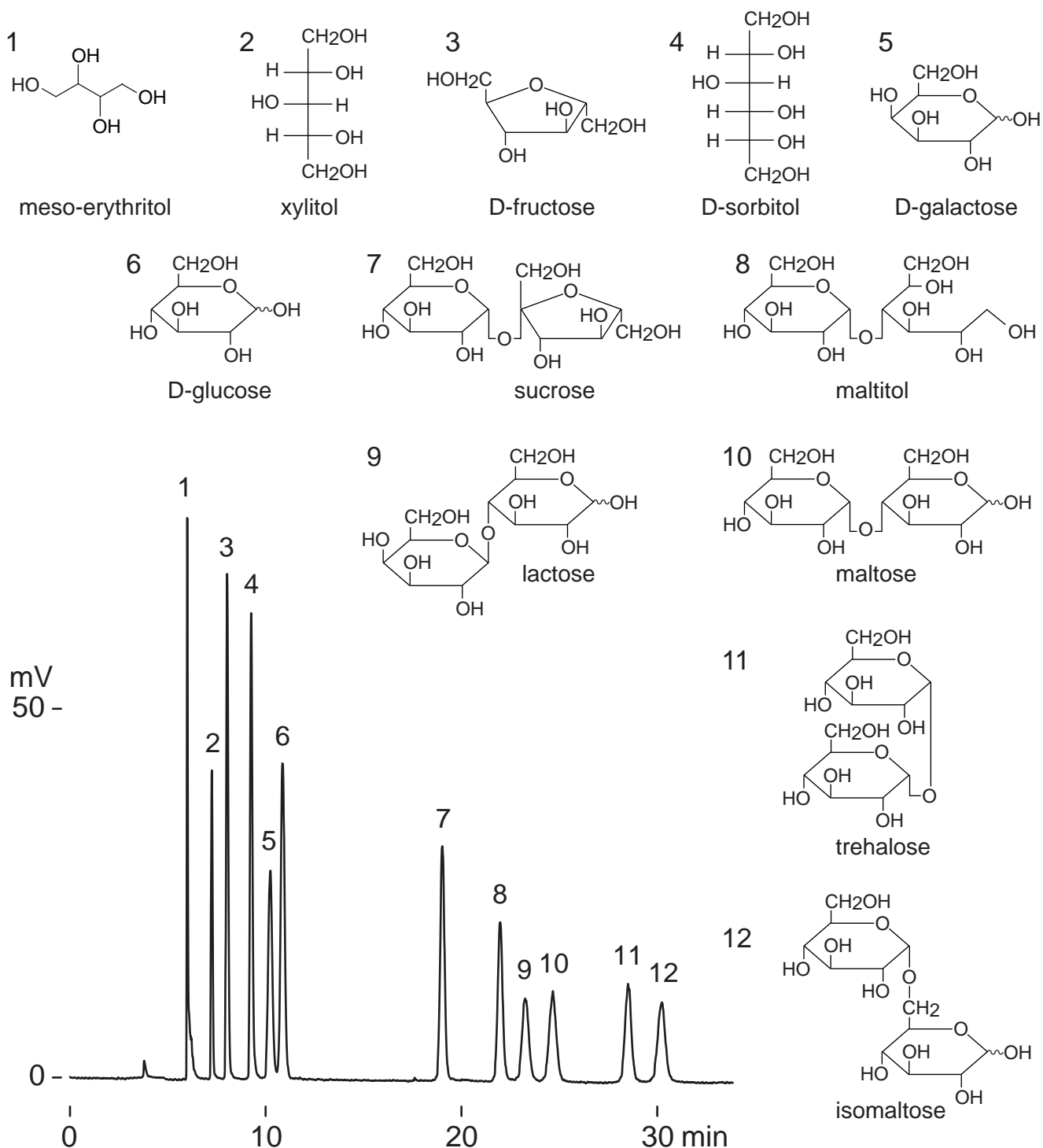
Unison UK-Amino

250 x 3 mm

Application

Mono-, Disaccharides and Sugar alcohols

単糖, 二糖と糖アルコール



Unison UK-Amino, 250 x 3 mm

acetonitrile /water = 88 /12, 0.4 mL/min (5.3MPa), 60 deg.C, ELSD, 1.5 uL (0.8-4.6ug)

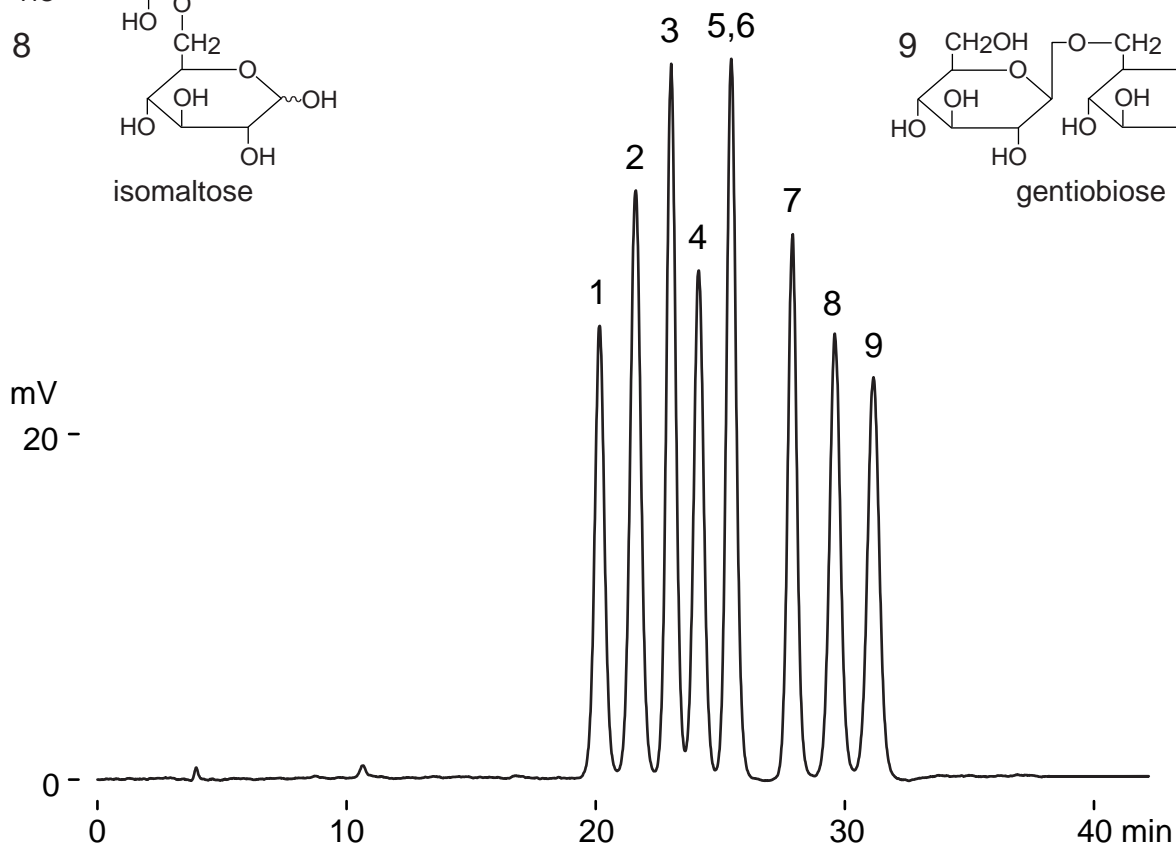
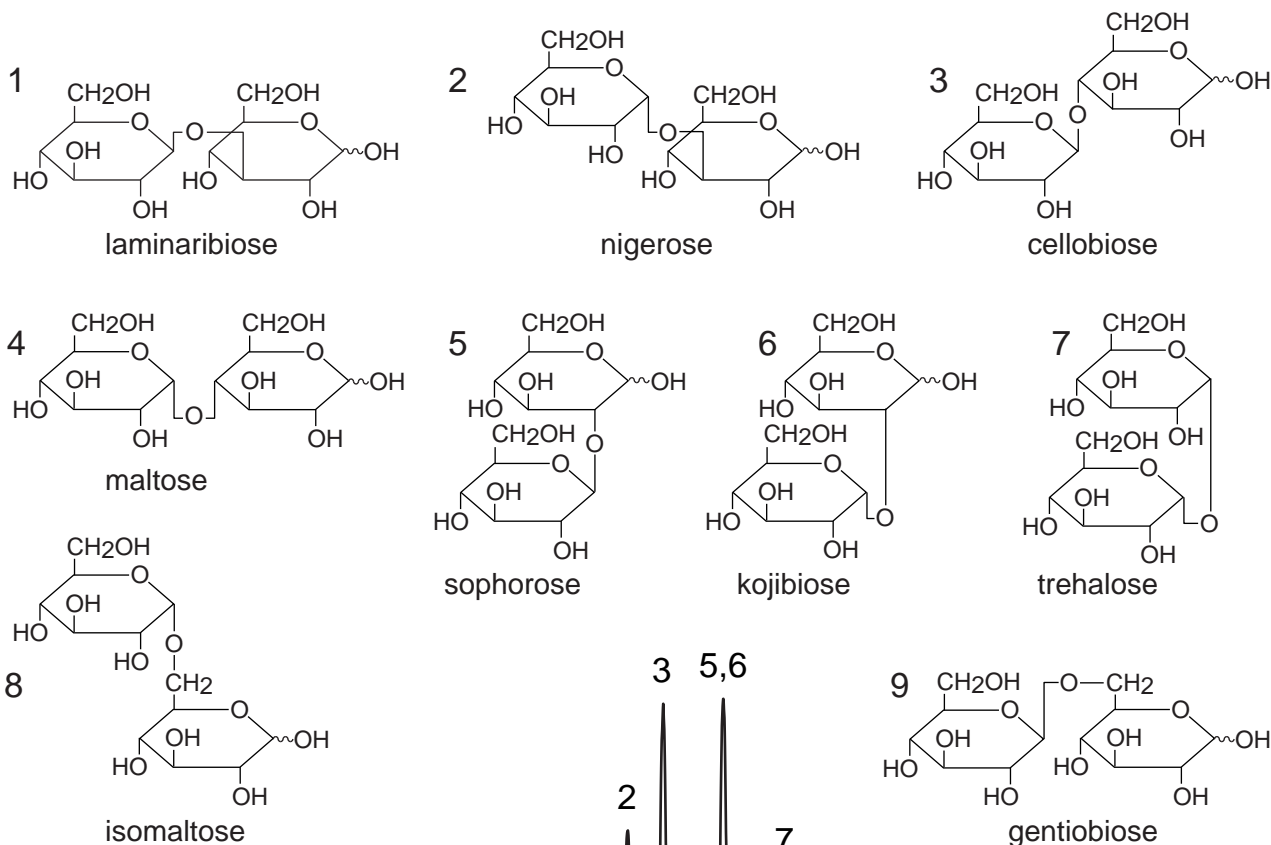
Unison UK-Amino

250 x 3 mm

Application

Glucose Disaccharide Isomers

グルコース二糖異性体



unison UK-Amino, 250 x 3 mm,

acetonitrile / water = 88 / 12, 0.4 mL/min (5MPa), 60 deg.C, ELSD, 1.5uL (0.9-1.8ug)

Courtesy of Prof. Kimura, Hokkaido Univ.

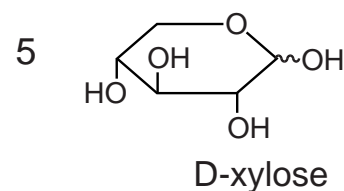
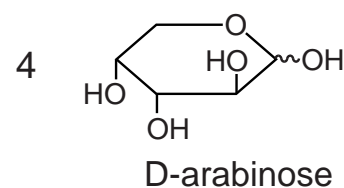
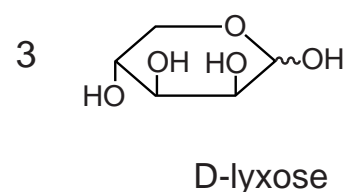
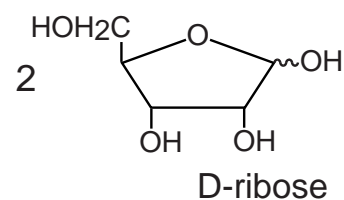
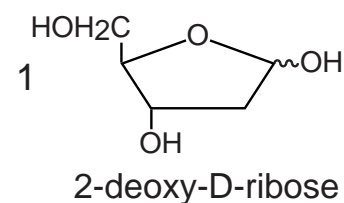
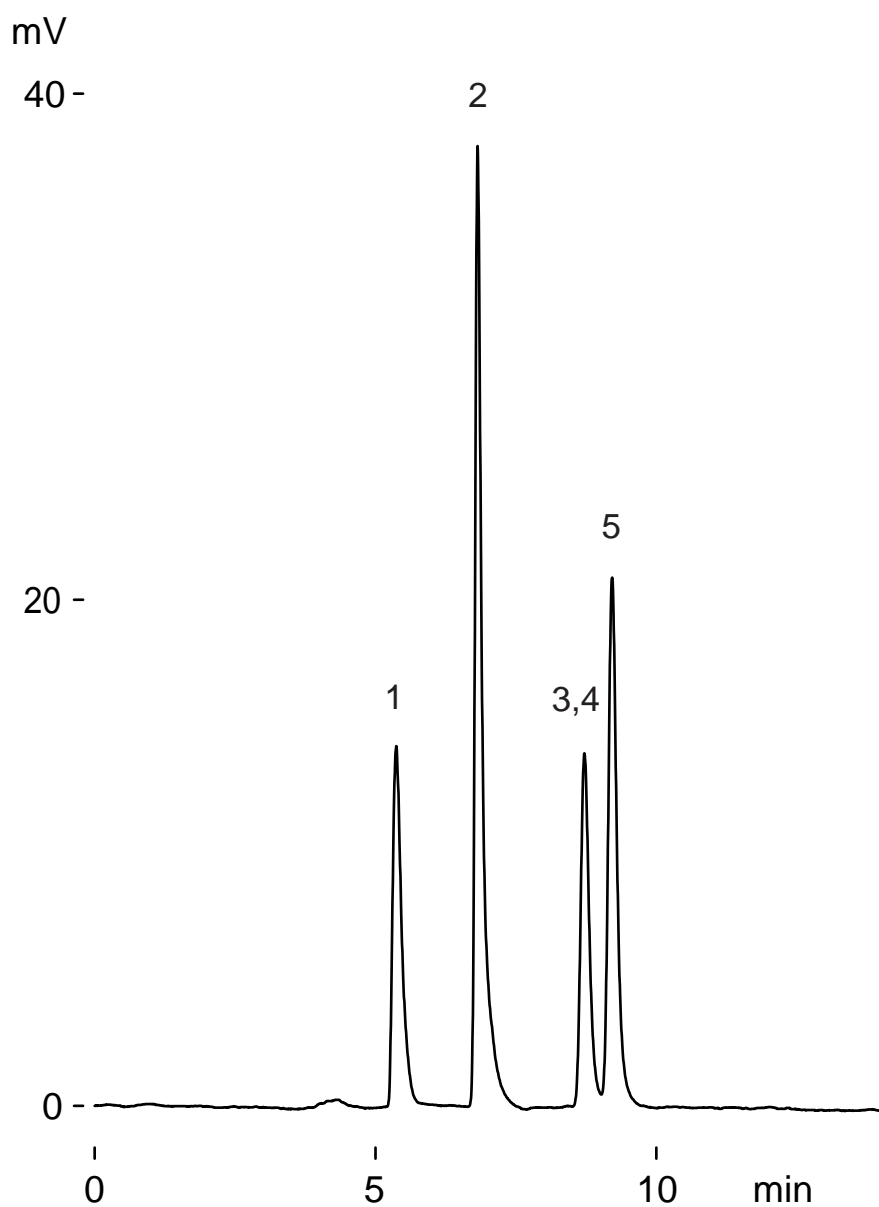
Unison UK-Amino

250 x 3 mm

Application

Pentoses

五炭糖類



Unison UK-Amino, 250 x 3 mm
acetonitrile / water = 92 / 8
0.4 mL/min (5MPa), 60 deg.C, ELSD, 2uL(1-11ug)

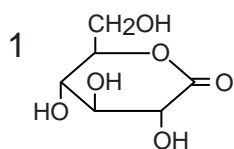
Unison UK-Amino

250 x 3 mm

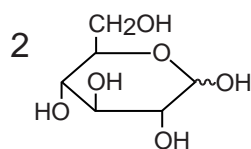
Application

Glucose and its Oxidants

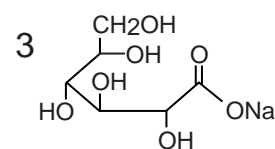
グルコースとその酸化体



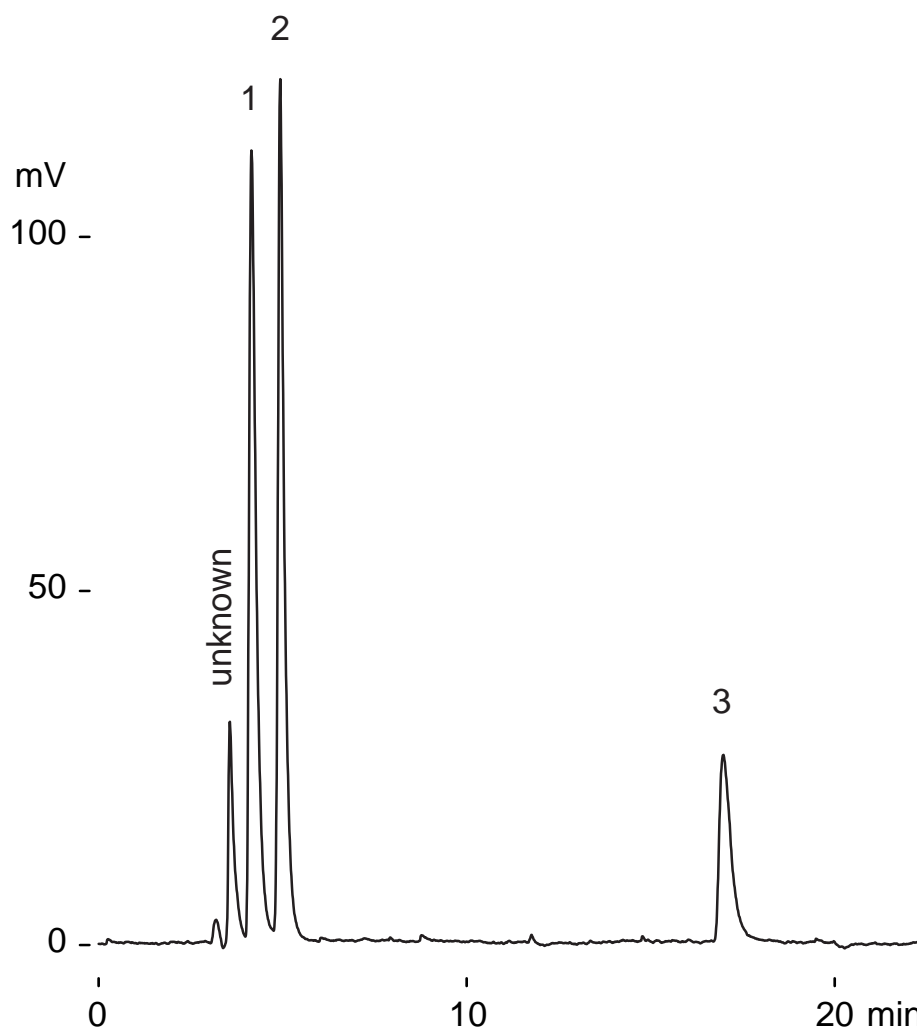
D-glucono-1,5-lactone
(D-gluconic acid delta lactone)



D-glucose



sodium gluconate



Unison UK-Amino, 250 x 3 mm
acetonitrile / 50mM ammonium acetate = 65 / 35
0.4 mL/min (8MPa), 50 deg.C, ELSD, 0.7uL (2-3ug)

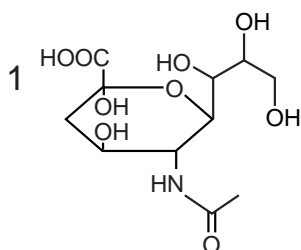
Unison UK-Amino

250 x 3 mm

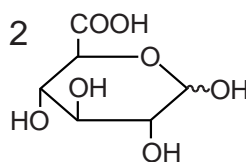
Application

Sialic acid and Uronic acids

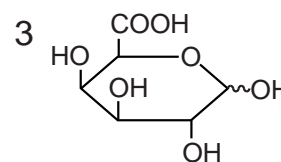
シアル酸とウロン酸



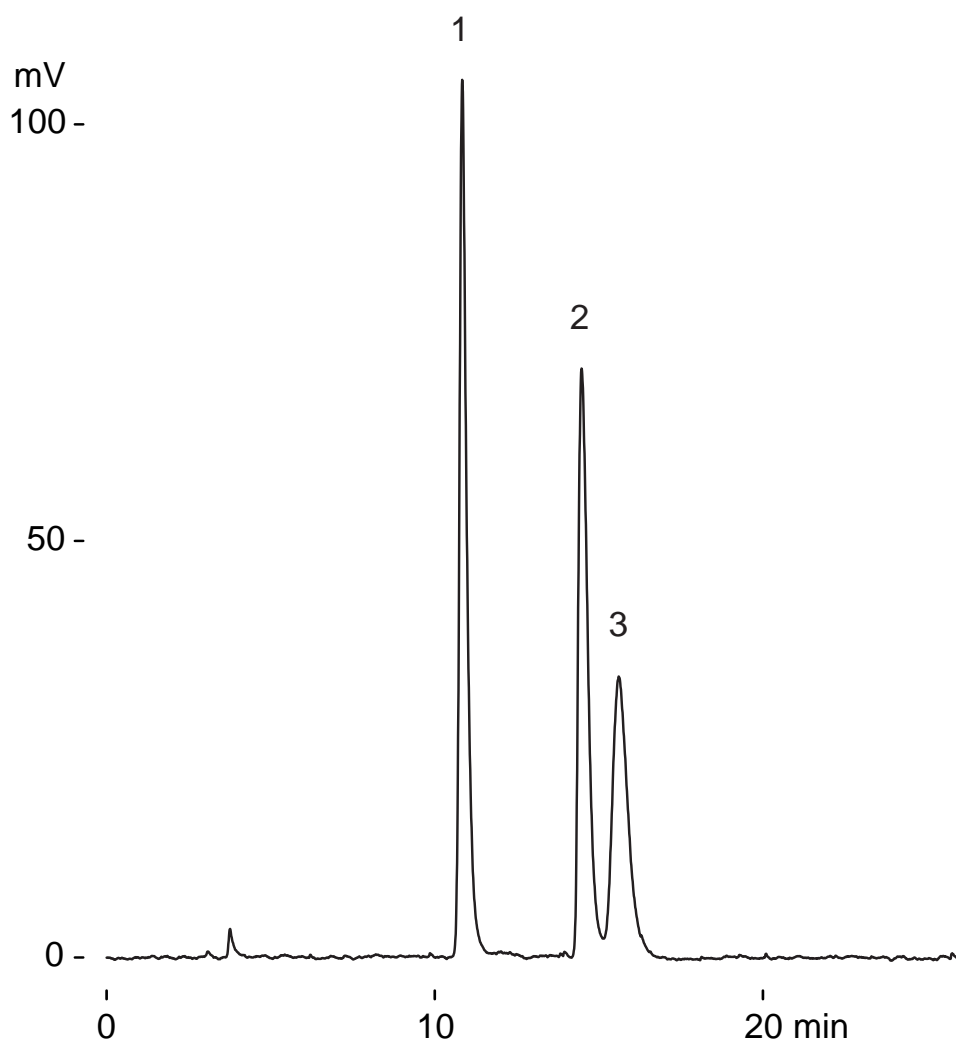
N-acetylneuraminic acid
(sialic acid)



D-glucuronic acid



D-galacturonic acid



Unison UK-Amino, 250 x 3 mm
acetonitrile / 50mM ammonium acetate = 58 / 42
0.4 mL/min (8MPa), 60 deg.C, ELSD, 0.8uL (3ug)

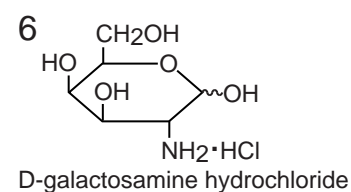
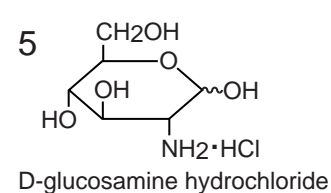
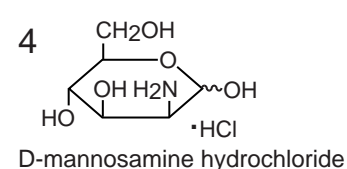
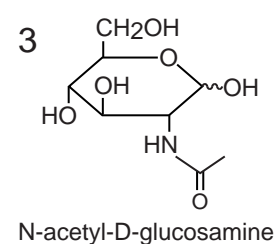
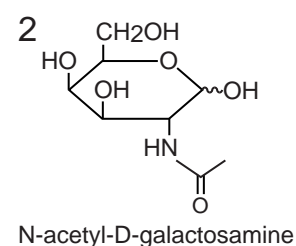
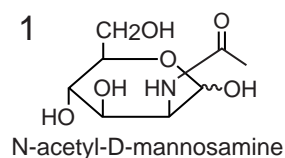
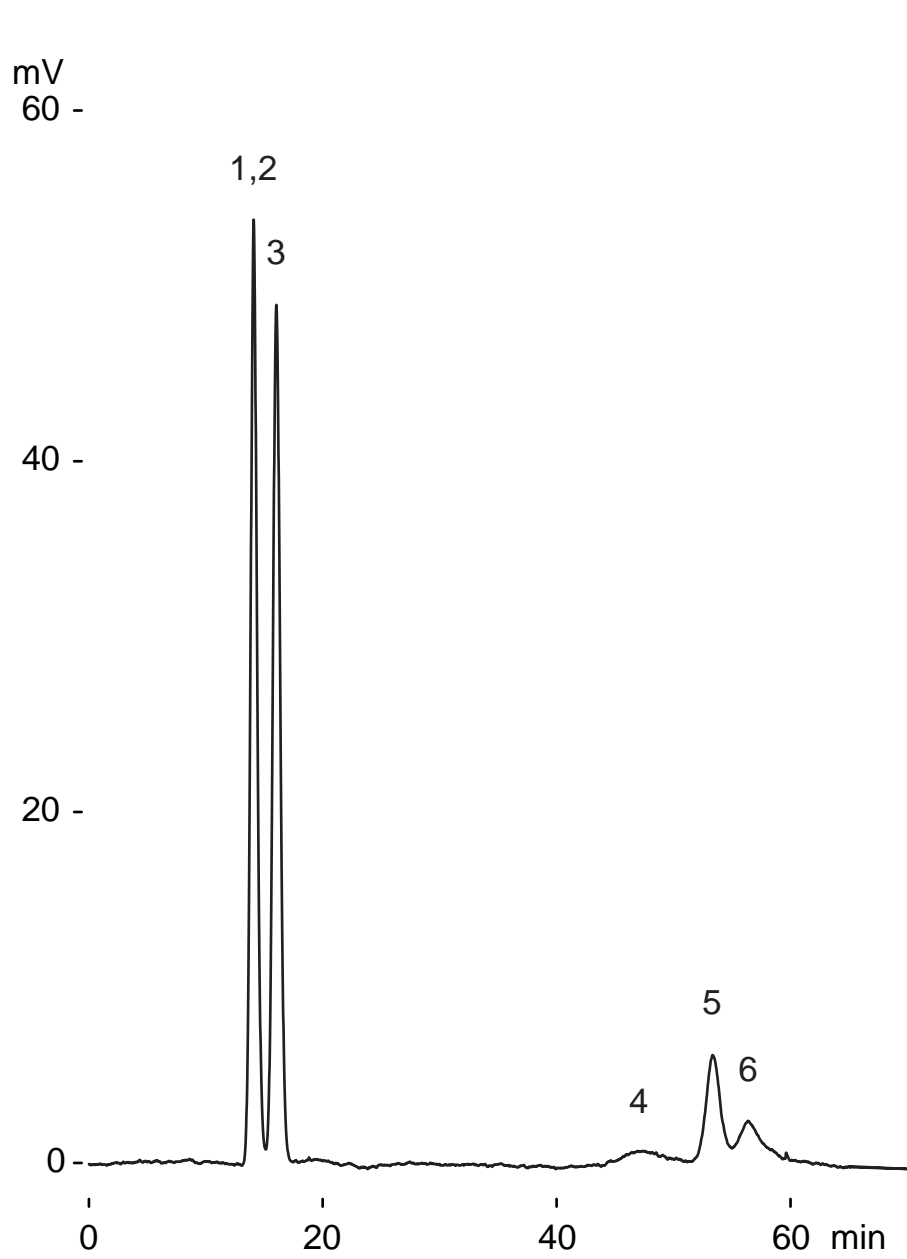
Unison UK-Amino

250 x 3 mm

Application

Amino sugars

アミノ糖



Unison UK-Amino, 250 x 3 mm
 acetonitrile / 100mM ammonium formate = 92 / 8
 0.4 mL/min (5MPa), 65 deg.C, ELSD, 1.8uL (2ug)

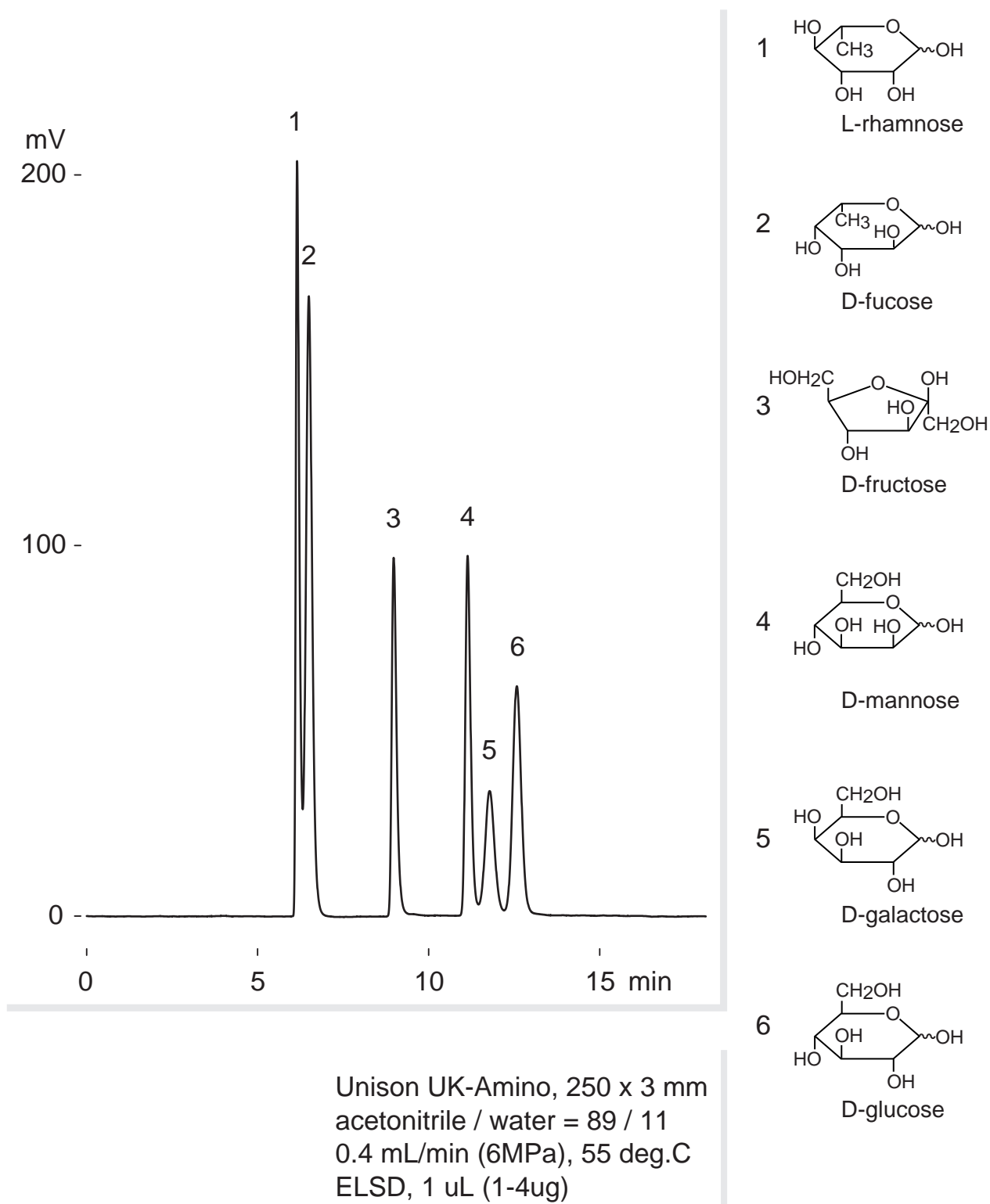
Unison UK-Amino

250 x 3 mm

Application

Hexoses

六炭糖



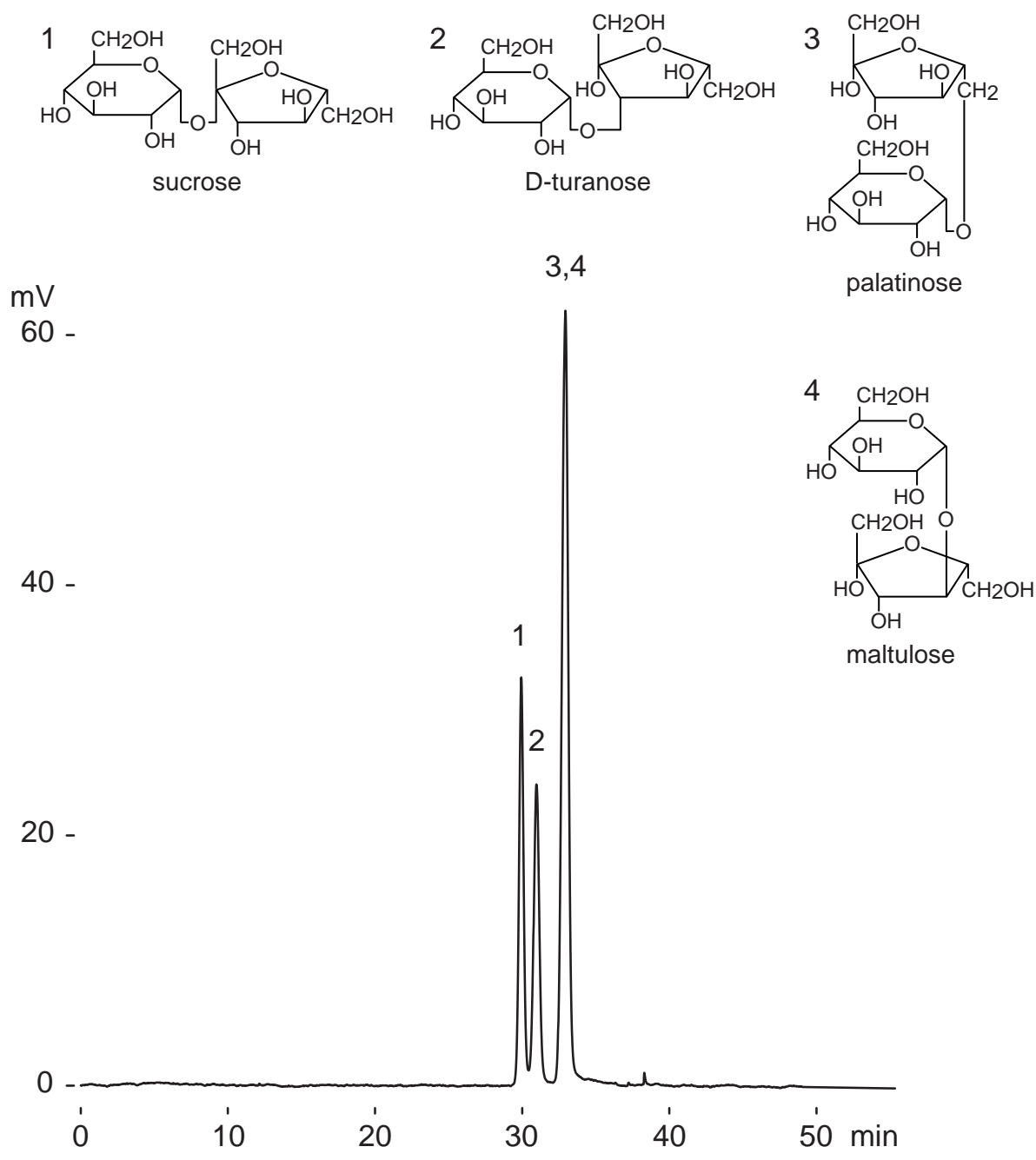
Unison UK-Amino

250 x 3 mm

Application

Sucrose Isomers

スクロース異性体



Unison UK-Amino, 250 x 3 mm
 acetonitrile / water = 87 / 13
 0.4 mL/min (8MPa), room temp., ELSD, 0.5uL (1.3ug)

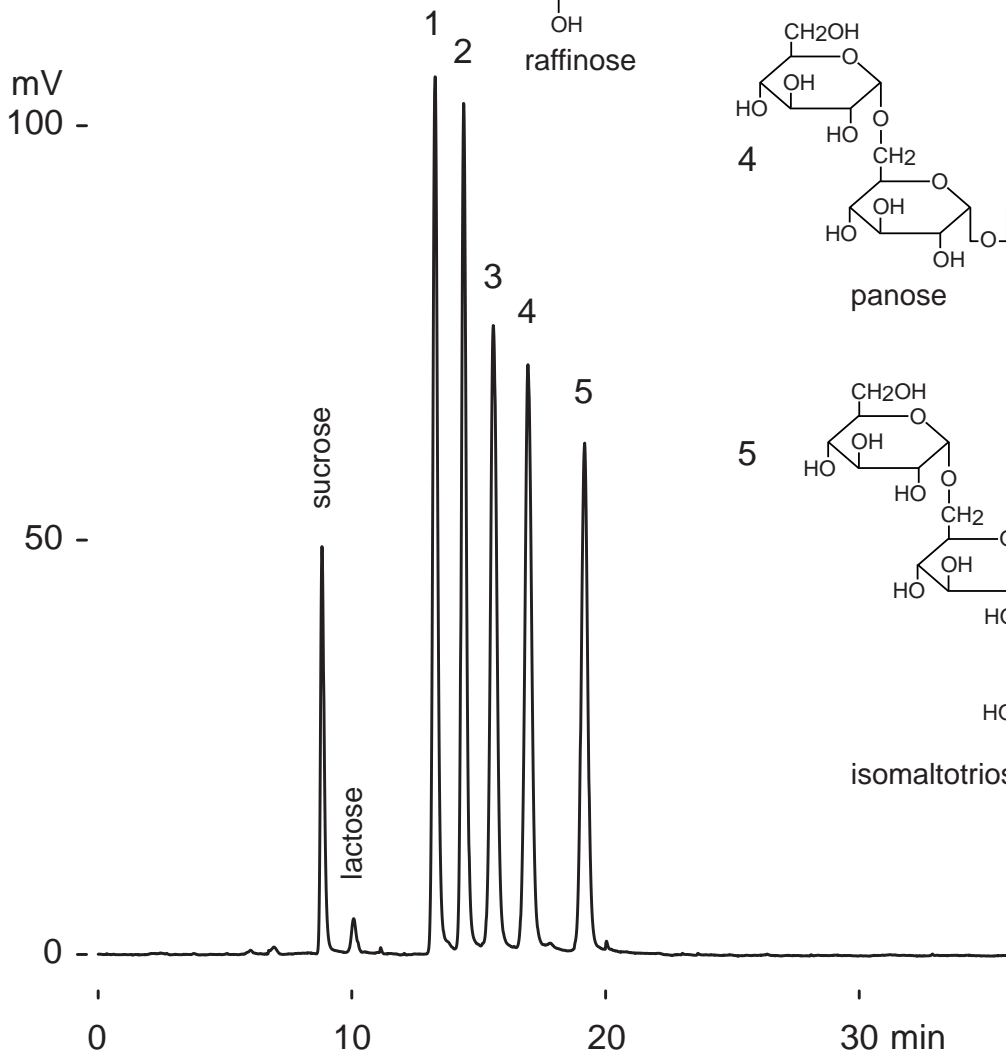
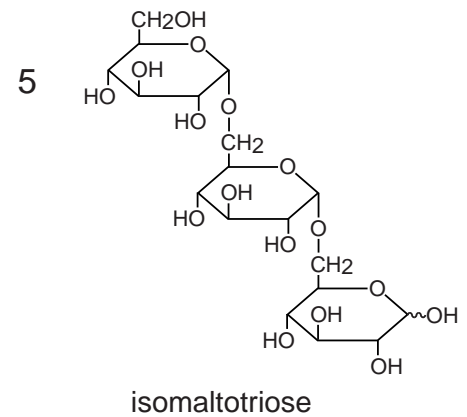
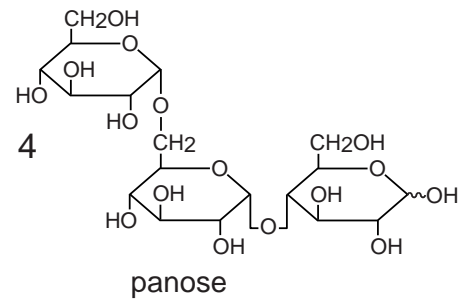
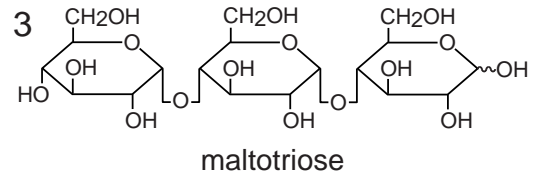
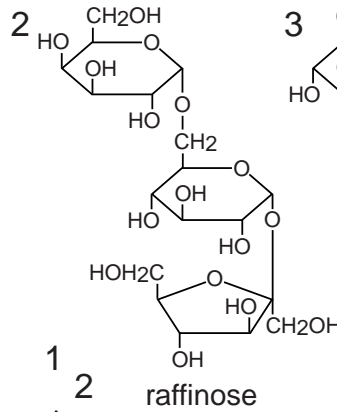
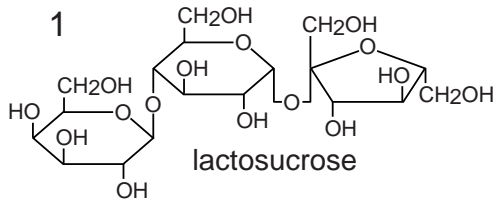
Unison UK-Amino

250 x 3 mm

Application

Trisaccharides

三糖類



Unison UK-Amino, 250 x 3 mm, acetonitrile / water = 79 / 21
0.4 mL/min (9MPa), 50 deg.C, ELSD, 1uL (2-7ug)

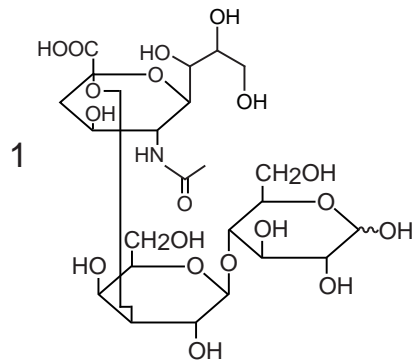
Unison UK-Amino

250 x 3 mm

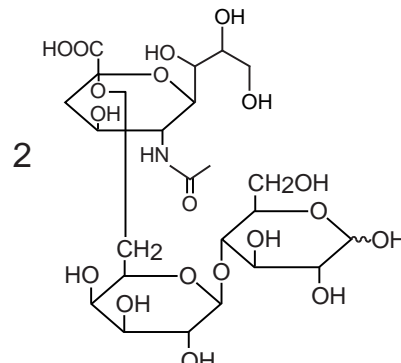
Application

Sialyllactoses

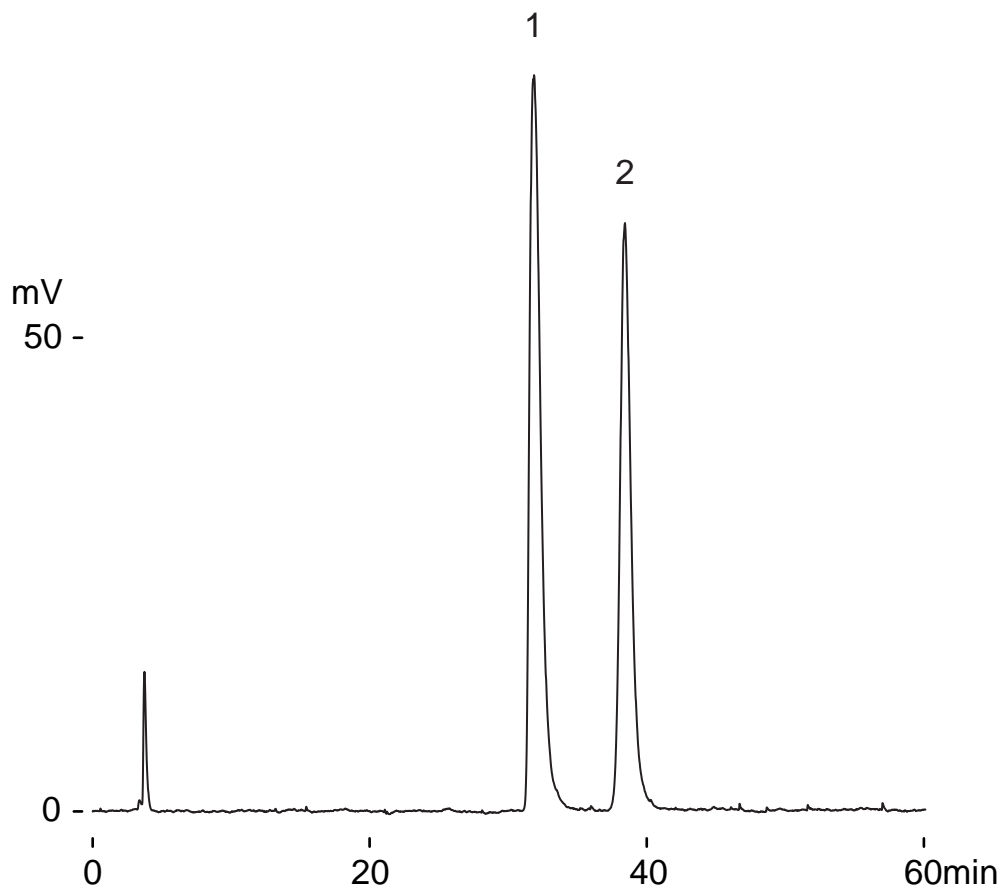
シアリルラクトース



3'-sialyllactose
(3'-N-acetylneuraminyl-D-lactose)



6'-sialyllactose
(6'-N-acetylneuraminyl-D-lactose)



Unison UK-Amino, 250 x 3 mm
acetonitrile / 50mM ammonium formate = 70 / 30
0.4 mL/min (6 MPa), 60 deg.C, ELSD, 3 uL (8ug)

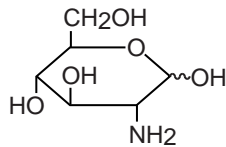
Unison UK-Amino
Unison UK-C18

250 x 3 mm
150 x 3 mm

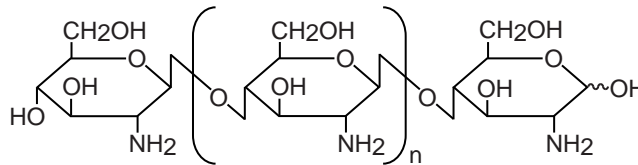
Application

Chitosan oligosaccharides

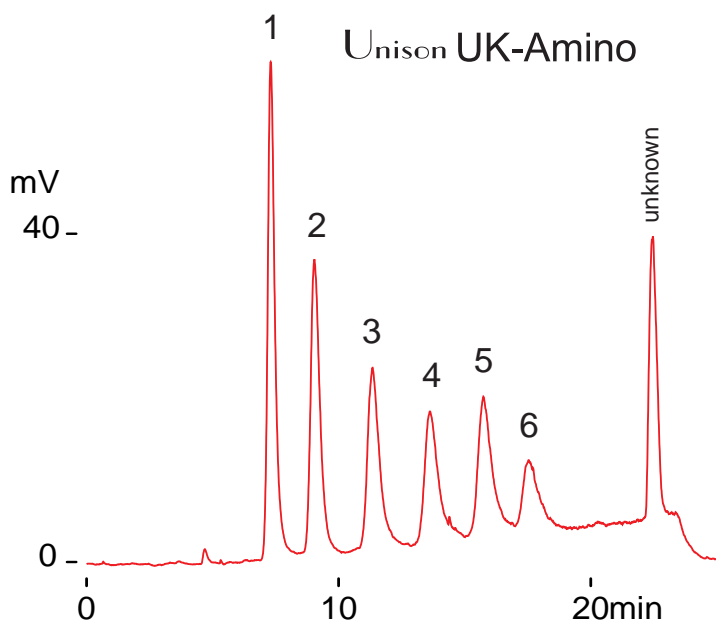
キトサンオリゴ糖



1. D-glucosamine

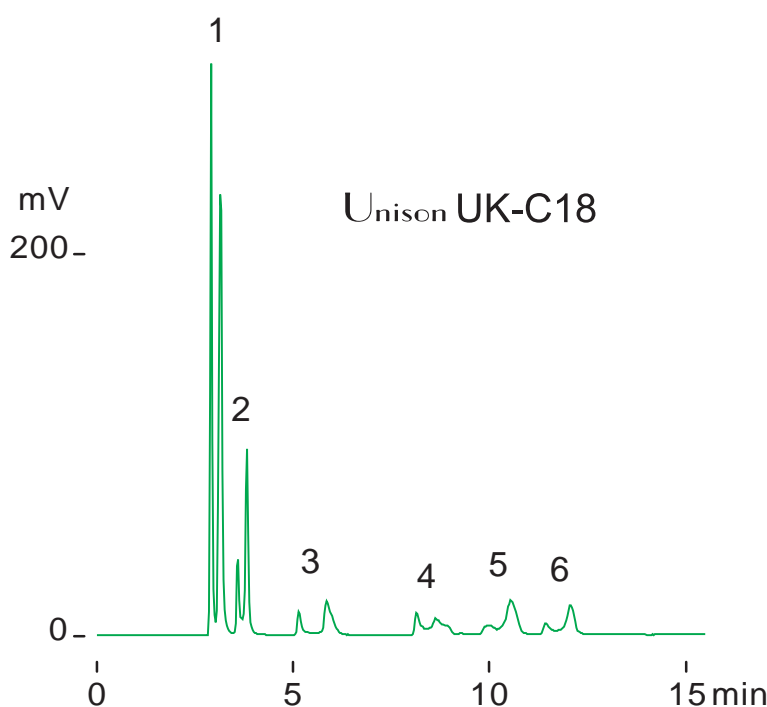


- 2. chitosan dimer (n=0)
- 3. chitosan trimer (n=1)
- 4. chitosan tetramer (n=2)
- 5. chitosan pentamer (n=3)
- 6. chitosan hexamer (n=4)



normal phase

Unison UK-Amino, 250 x 3 mm
A: acetonitrile
B: 50mM ammonium formate
22-35%B (0-20min)
0.4 mL/min (8 MPa), 60 deg.C
ELSD, 1.5 uL (15ug)



reversed phase

Unison UK-C18, 150 x 3 mm
A: 50mM ammonium acetate
B: acetonitrile
0-7%B(0-15min)
0.4mL/min (14 MPa), 37deg.C
ELSD, 3uL (18ug)

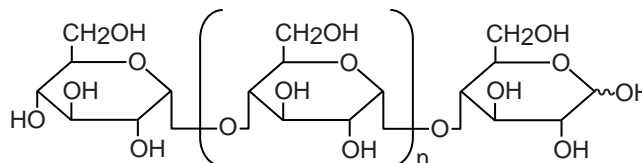
Unison UK-Amino
Unison UK-C18

250 x 3 mm

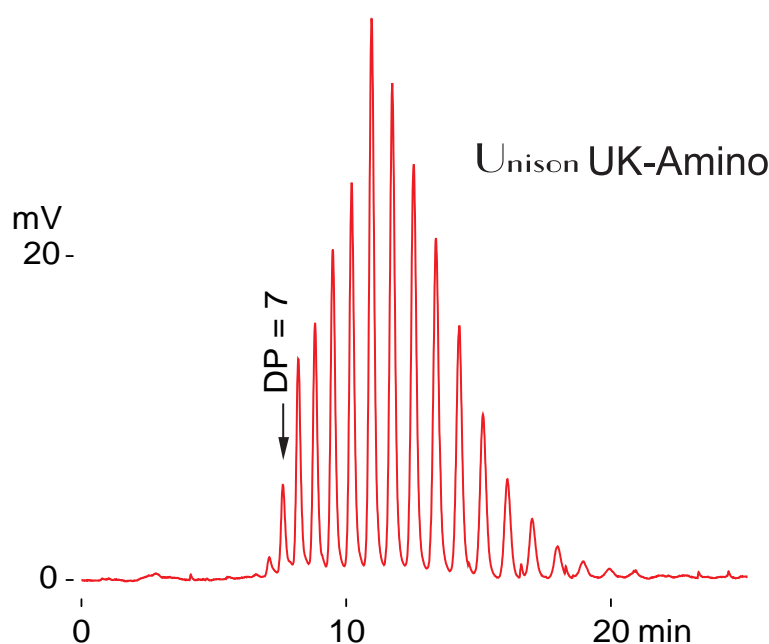
Application

Maltooligosaccharides

マルトオリゴ糖

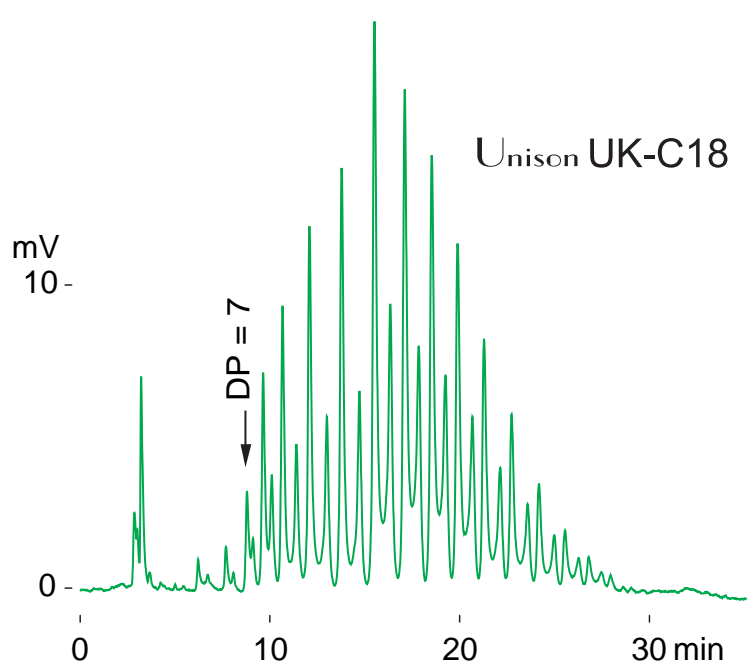


maltooligosaccharide



normal phase

Unison UK-Amino, 250 x 3 mm
A: acetonitrile
B: water
35-40%B (0-25min)
0.4 mL/min (10 MPa), 37 deg.C
ELSD, 1.5 uL (15ug)



reversed phase

Unison UK-C18, 250 x 3 mm
A: water
B: water / acetonitrile = 90 / 10
1-21%B(0-30min)
0.4 mL/min (15 MPa), 37deg.C
ELSD, 4uL (40ug)

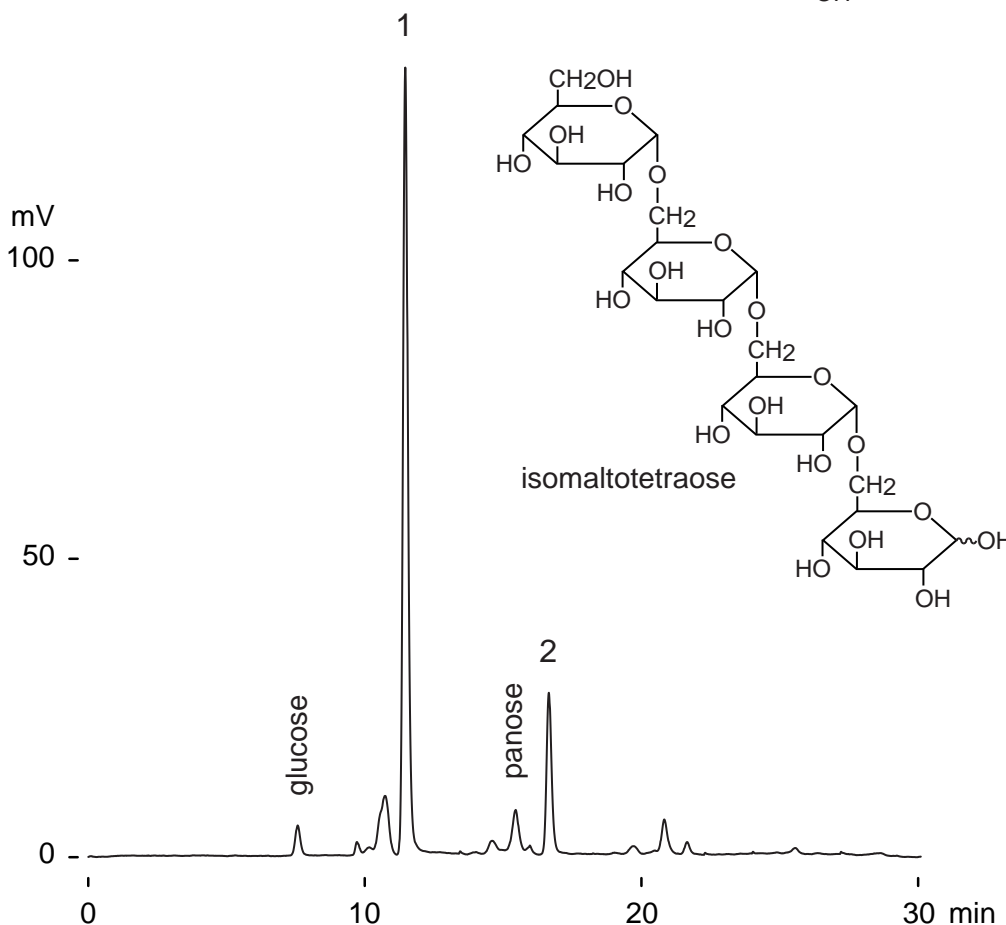
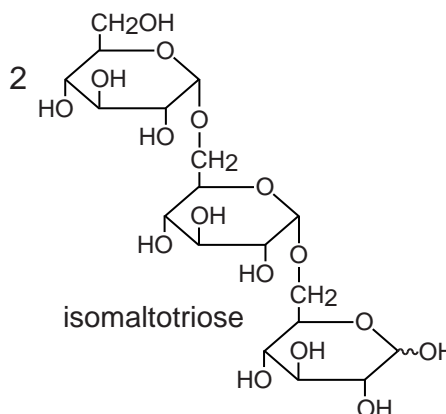
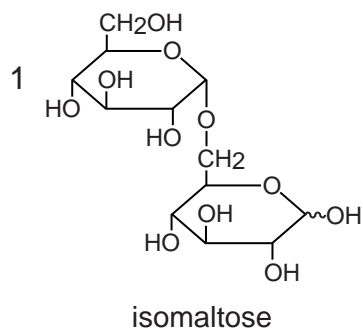
Unison UK-Amino

250 x 3 mm

Application

Isomaltooligosaccharides

イソマルトオリゴ糖



Unison UK-Amino, 250 x 3 mm

A: acetonitrile, B: water

20-30%B(0-20min)

0.4 mL/min (8 MPa), 37 deg.C, ELSD, 0.8uL (8ug)

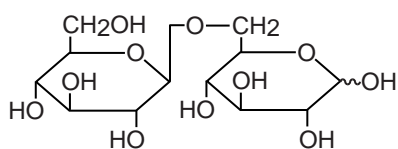
Unison UK-Amino

250 x 3 mm

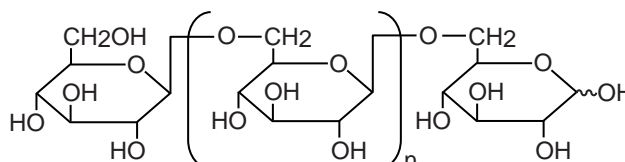
Application

Gentiooligosaccharides

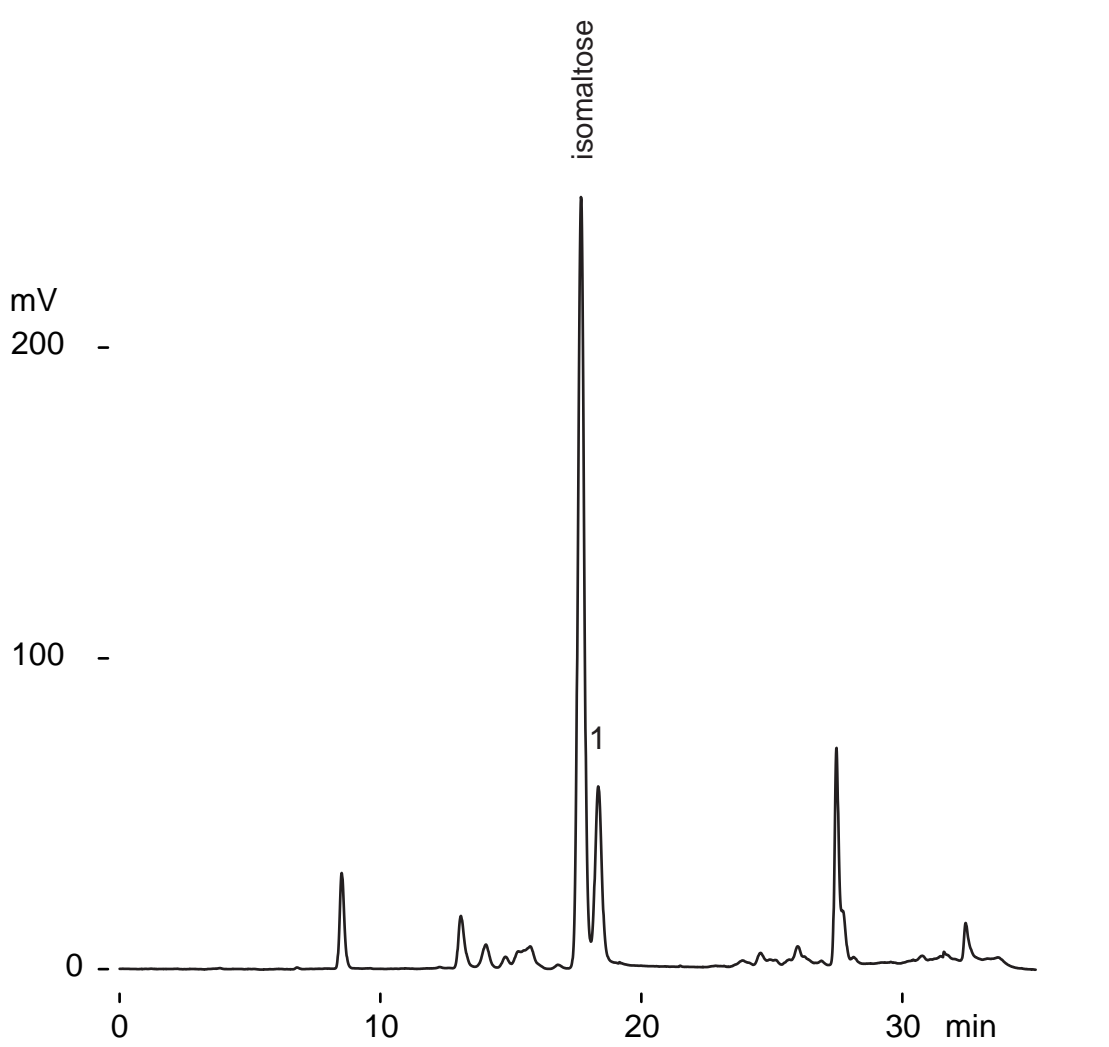
ゲンチオオリゴ糖



1 gentiobiose



gentiotriose (n=1)
gentiotetraose (n=2)



Unison UK-Amino, 250 x 3 mm

A: acetonitrile, B: water

15%B(0-12min), 15-29%B(12-30min)

0.4 mL/min (7 MPa), 60 deg.C, ELSD, 1.2uL (12ug)

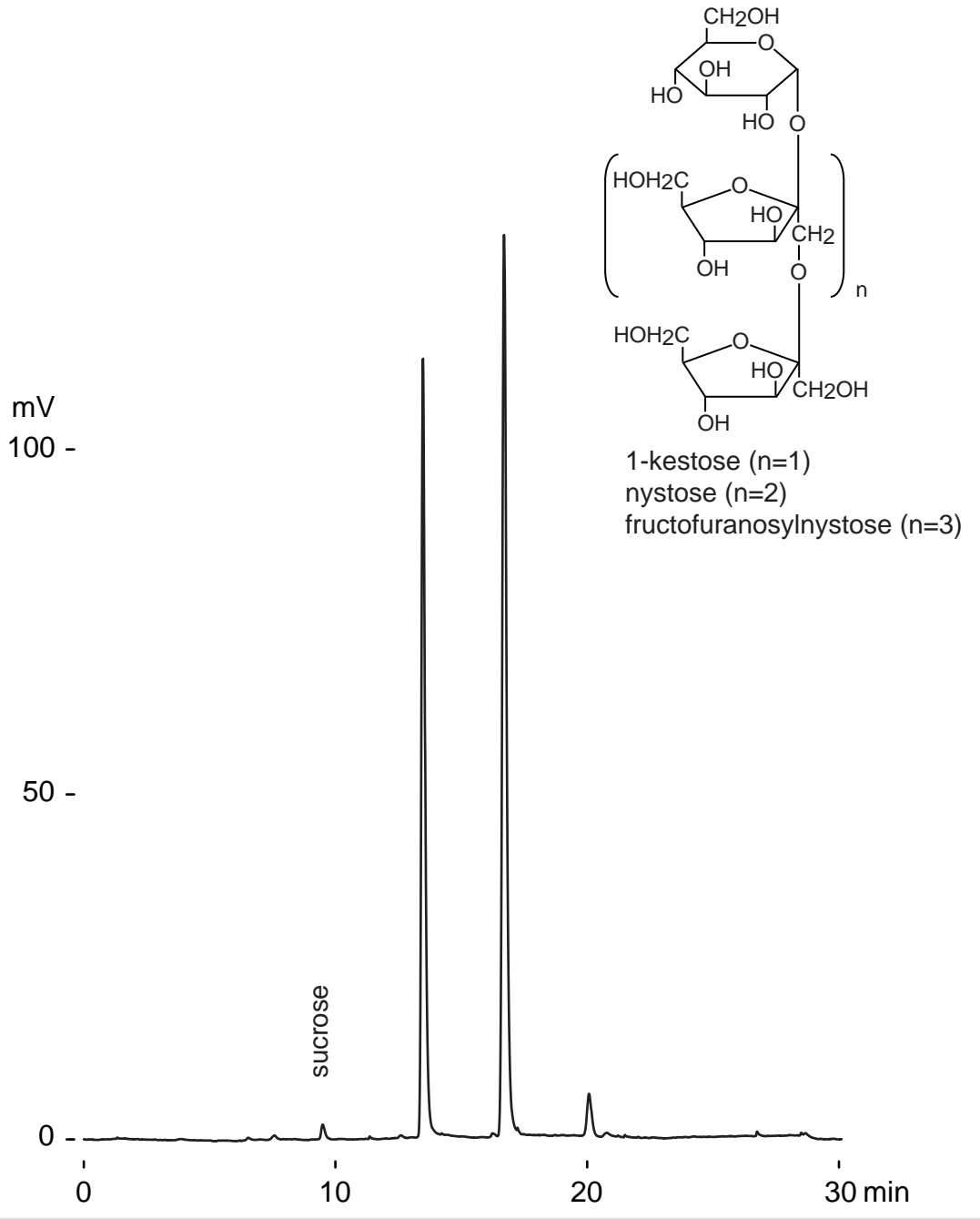
Unison UK-Amino

250 x 3 mm

Application

Fructooligosaccharides

フラクトオリゴ糖



Unison UK-Amino, 250 x 3 mm

A: acetonitrile, B: water

20-30%B(0-25min)

0.4 mL/min (9 MPa), 37 deg.C, ELSD, 0.5uL (5ug)

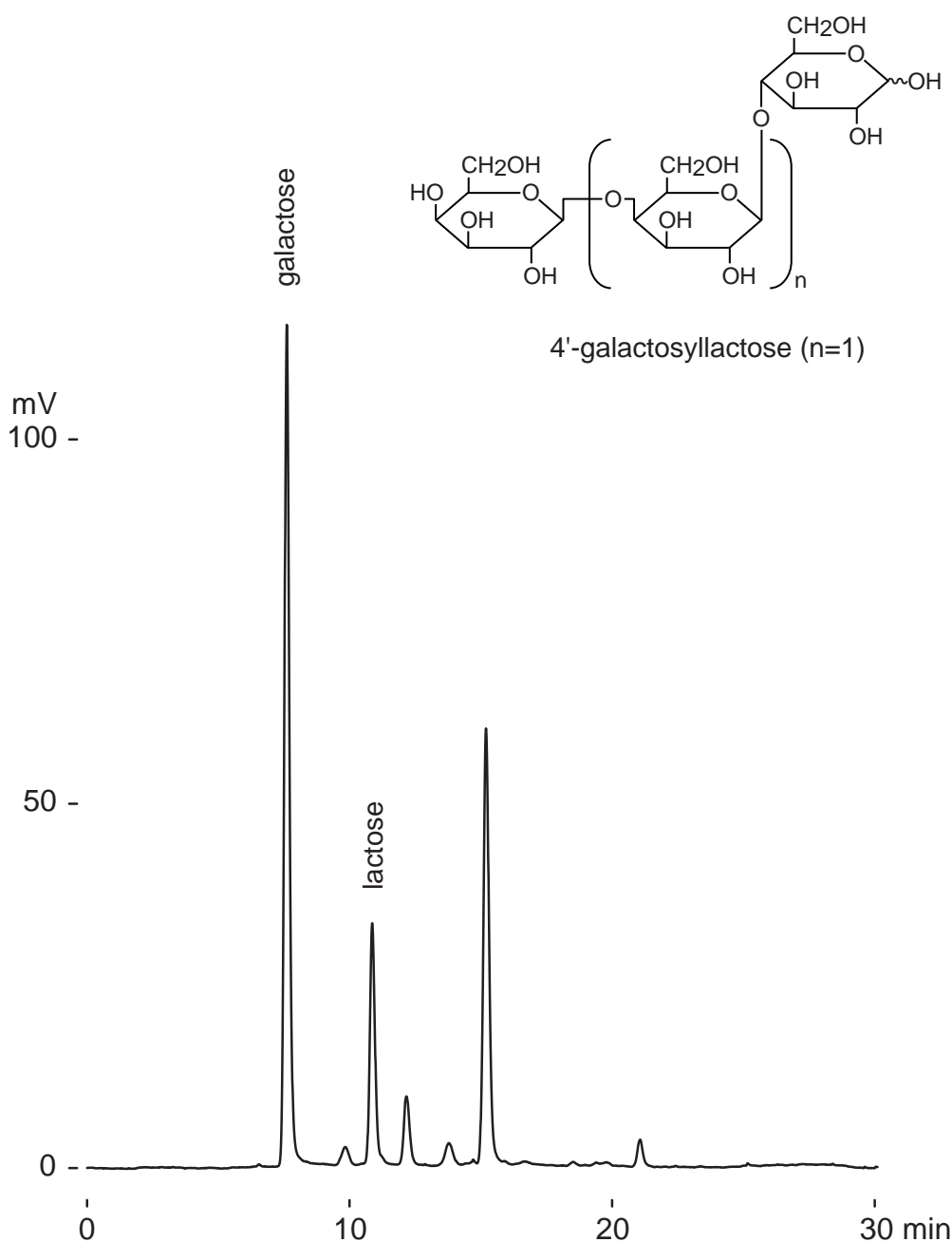
Unison UK-Amino

250 x 3 mm

Application

Galactooligosaccharides

ガラクトオリゴ糖



Unison UK-Amino, 250 x 3 mm

A: acetonitrile, B: water

20-30 %B (0-25min)

0.4 mL/min (10MPa), 37 deg.C, ELDS, 0.5uL (24ug)

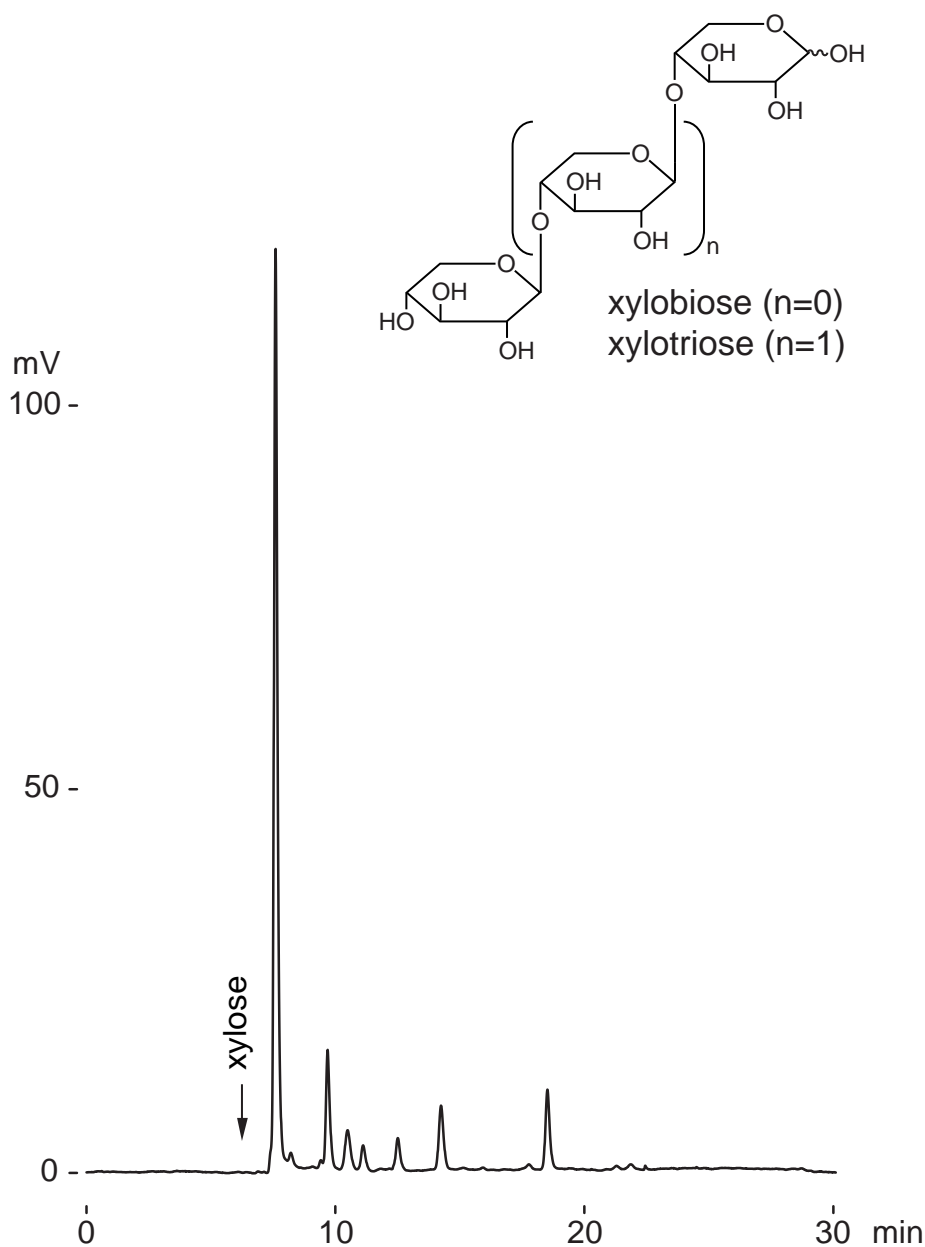
Unison UK-Amino

250 x 3 mm

Application

Xylooligosaccharides

キシロオリゴ糖



Unison UK-Amino, 250 x 3 mm

A: water, B: acetonitrile

20-30%b(0-25min)

0.4 mL/min (10MPa), 37 deg.C, ELDS, 0.5uL (24ug)

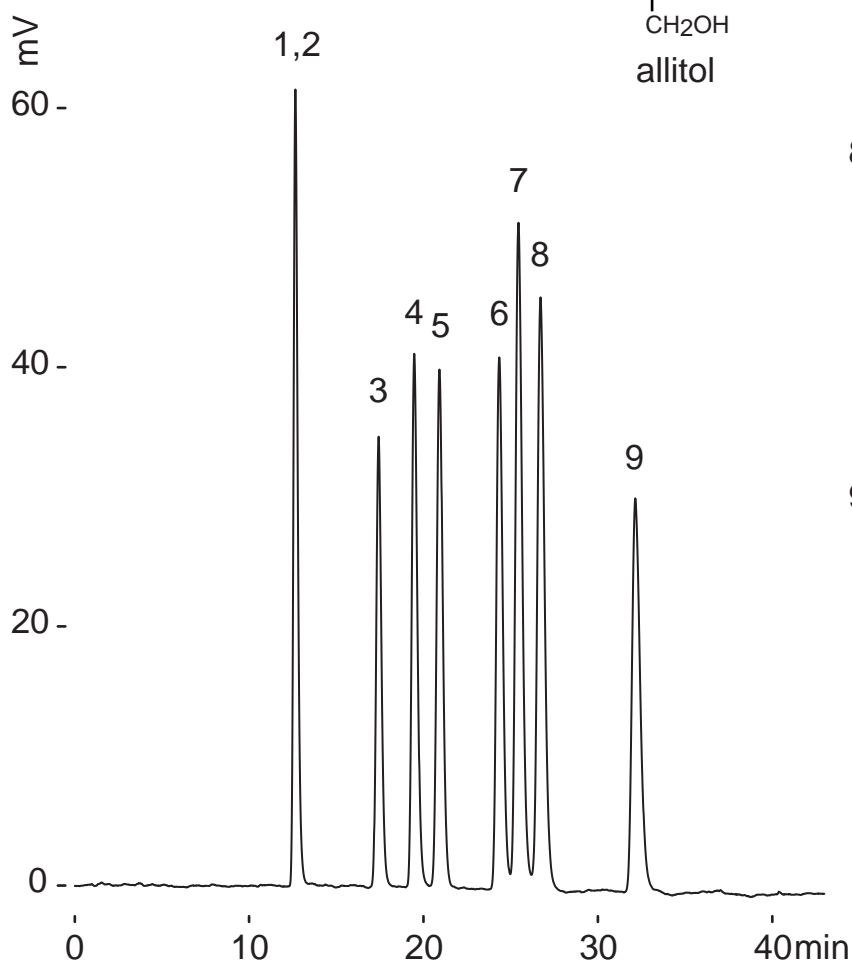
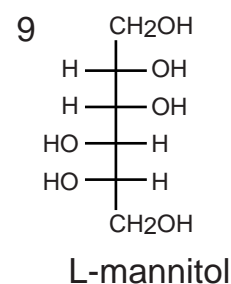
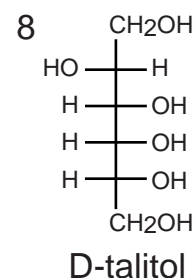
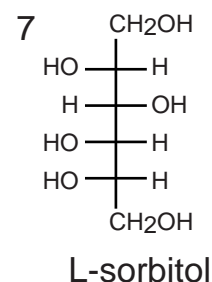
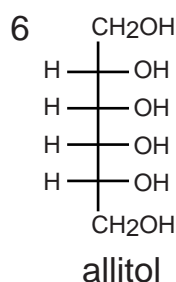
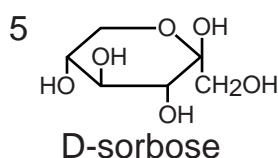
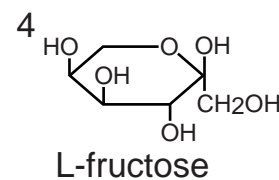
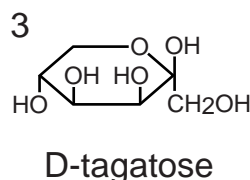
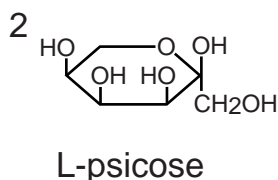
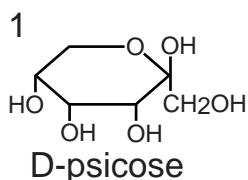
Unison UK-Amino

250 x 3 mm

Application

Rare Sugars

希少糖



Unison UK-Amino, 250 x 3 mm
 acetonitrile / water = 96 / 4
 0.4 mL/min (6 MPa), 50 deg.C, ELSD, 2uL (1-3ug)

Courtesy of FUSHIMI Pharmaceutical Co., LTD.

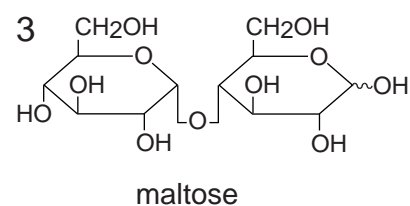
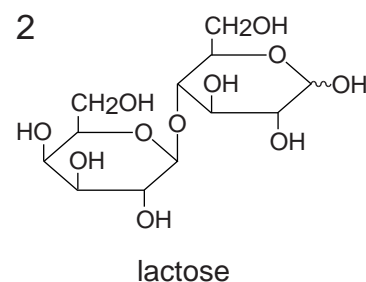
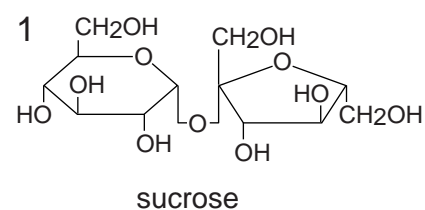
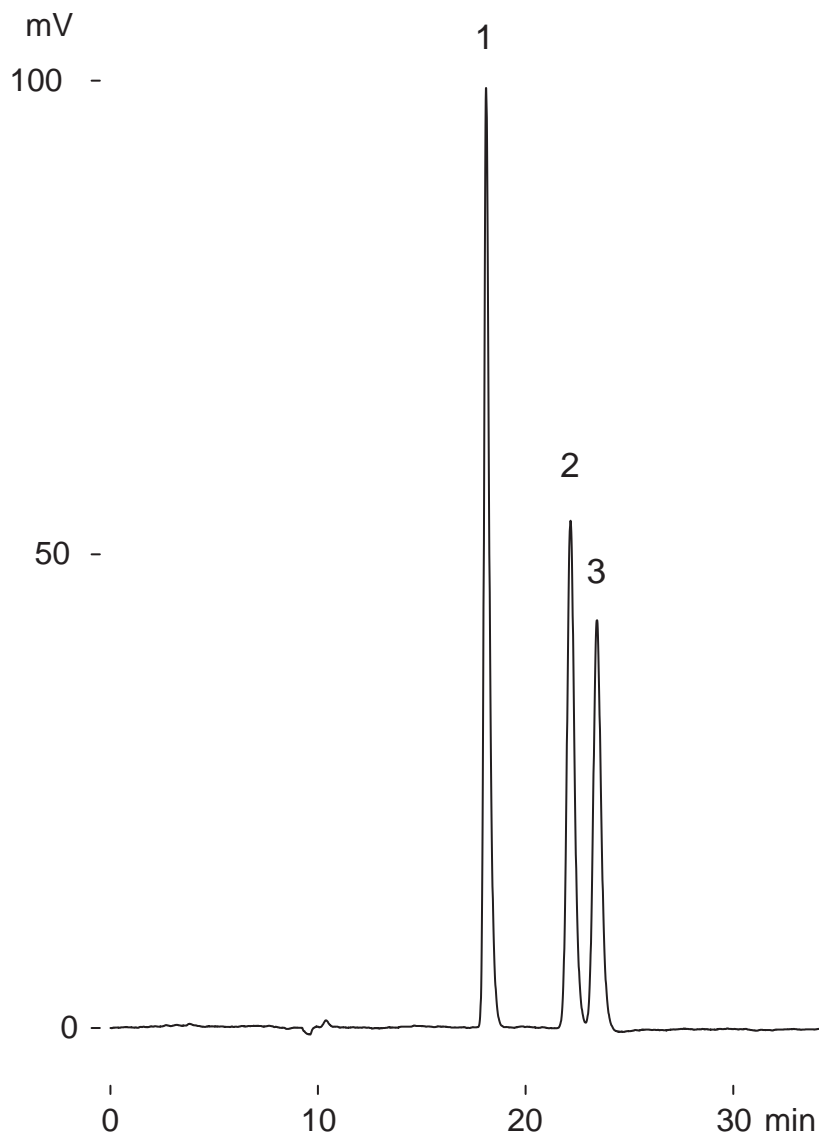
Unison UK-Amino

250 x 4.6 mm

Application

Sucrose, Lactose, Maltose

スクロース, ラクトース, マルトース



Unison UK-Amino, 250 x 4.6 mm
 acetonitrile / water = 87 / 13,
 1 mL/min (6MPa), 60 deg.C, ELSD
 2 uL (7ug)

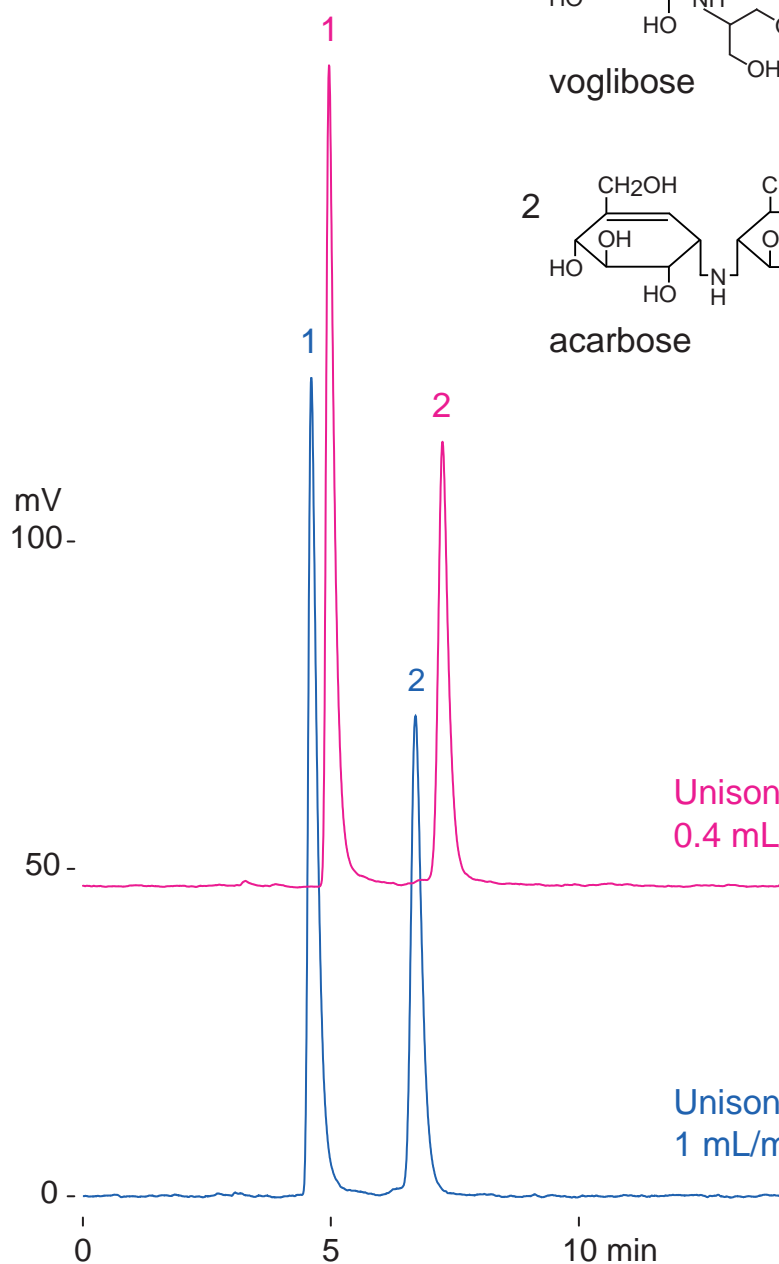
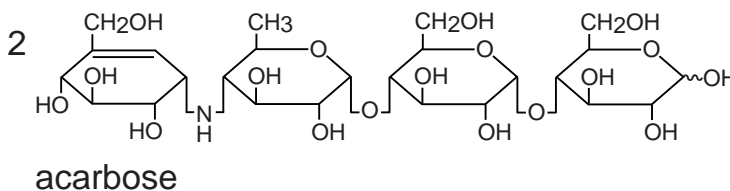
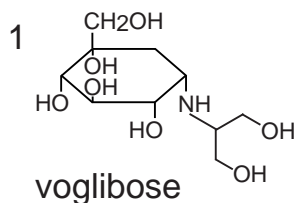
Unison UK-Amino

250 x 3 mm
250 x 4.6 mm

Application

Voglibose, Acarbose

ボグリボース, アカルボース



Unison UK-Amino, 250 x 3 mm
0.4 mL/min (7 MPa), 1 uL (2 ug)

Unison UK-Amino, 250 x 4.6 mm
1 mL/min (9 MPa), 2 uL (4 ug)

acetonitrile /50mM ammonium acetate = 70 /30
60 deg.C, ELSD

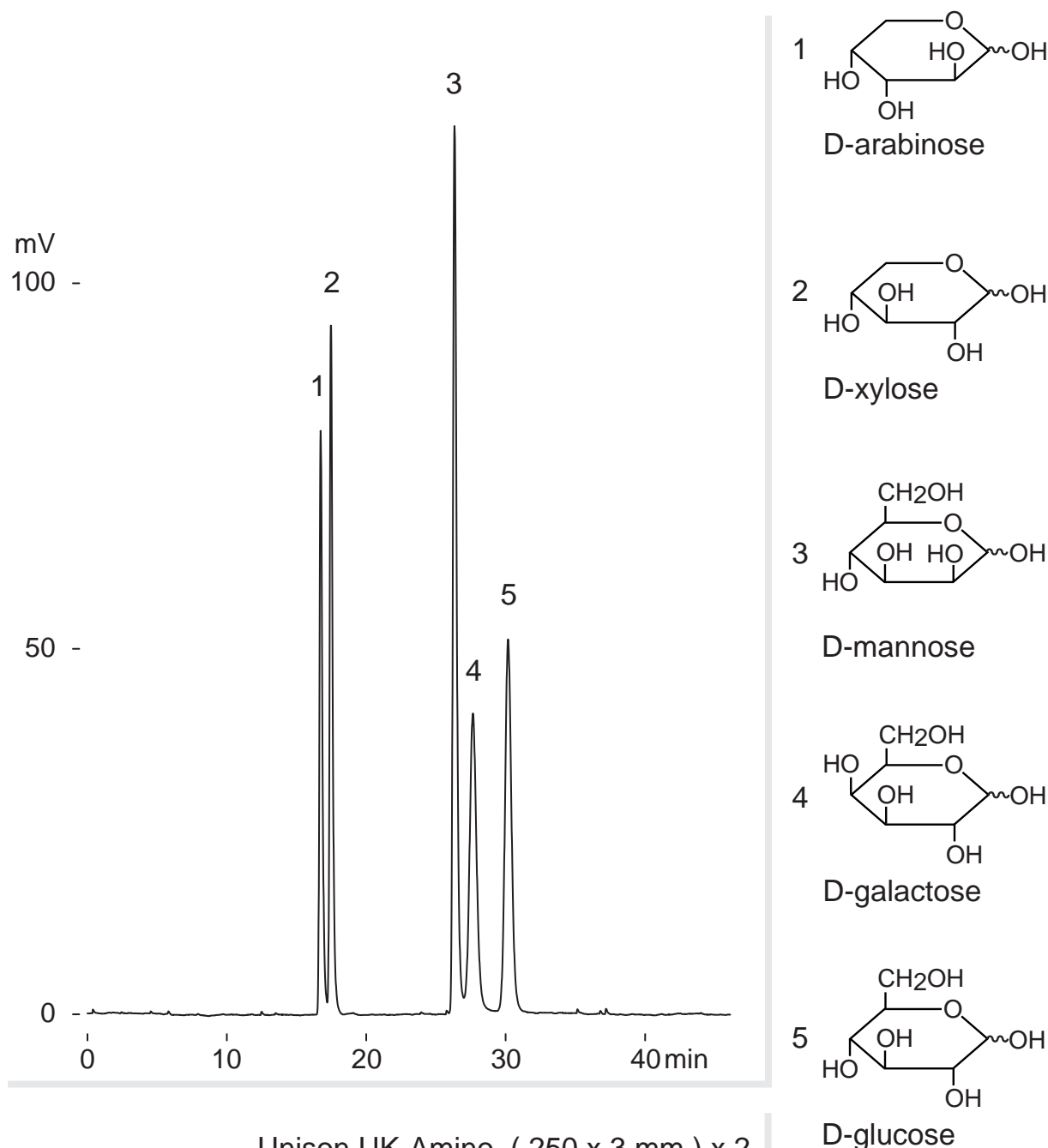
Unison UK-Amino

(250 x 3 mm) x 2

Application

Arabinose, Xylose, Mannose, Galactose, Glucose

アラビノース, キシロース, マンノース, ガラクトース, グルコース



Unison UK-Amino, (250 x 3 mm) x 2
 acetonitrile /water = 91 /9
 0.4 mL/min(10MPa), 55 deg.C, ELSD
 1.6 uL (3ug)

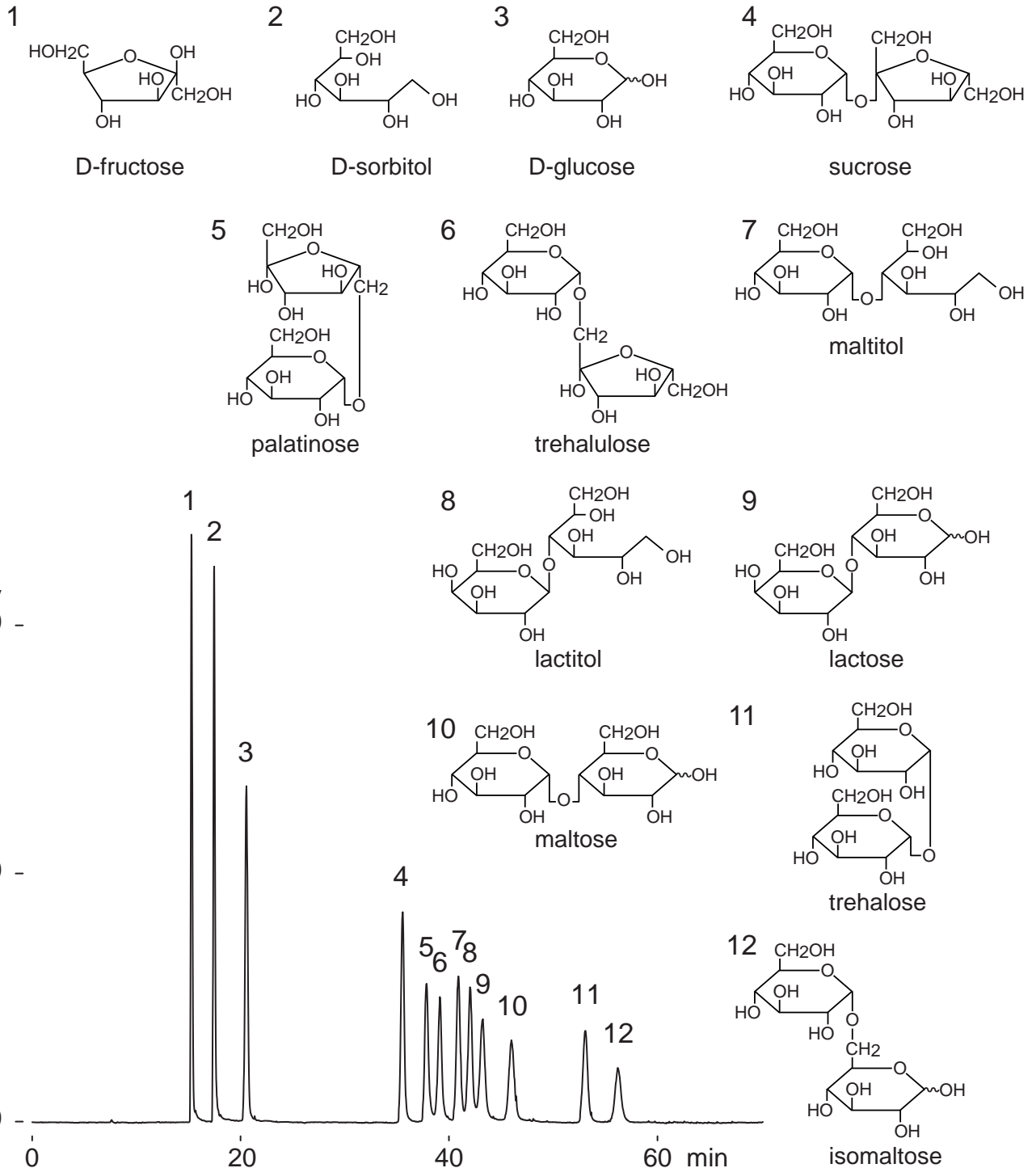
Unison UK-Amino

(250 x 3 mm) x 2

Application

Mono-, Disaccharides and Sugar alcohols(2)

単糖, 二糖と糖アルコール(2)



Unison UK-Amino, (250 x 3 mm) x 2

acetonitrile /water = 88 /12, 0.4 mL/min (10MPa), 62 deg.C, ELSD, 2 uL (1.7ug)

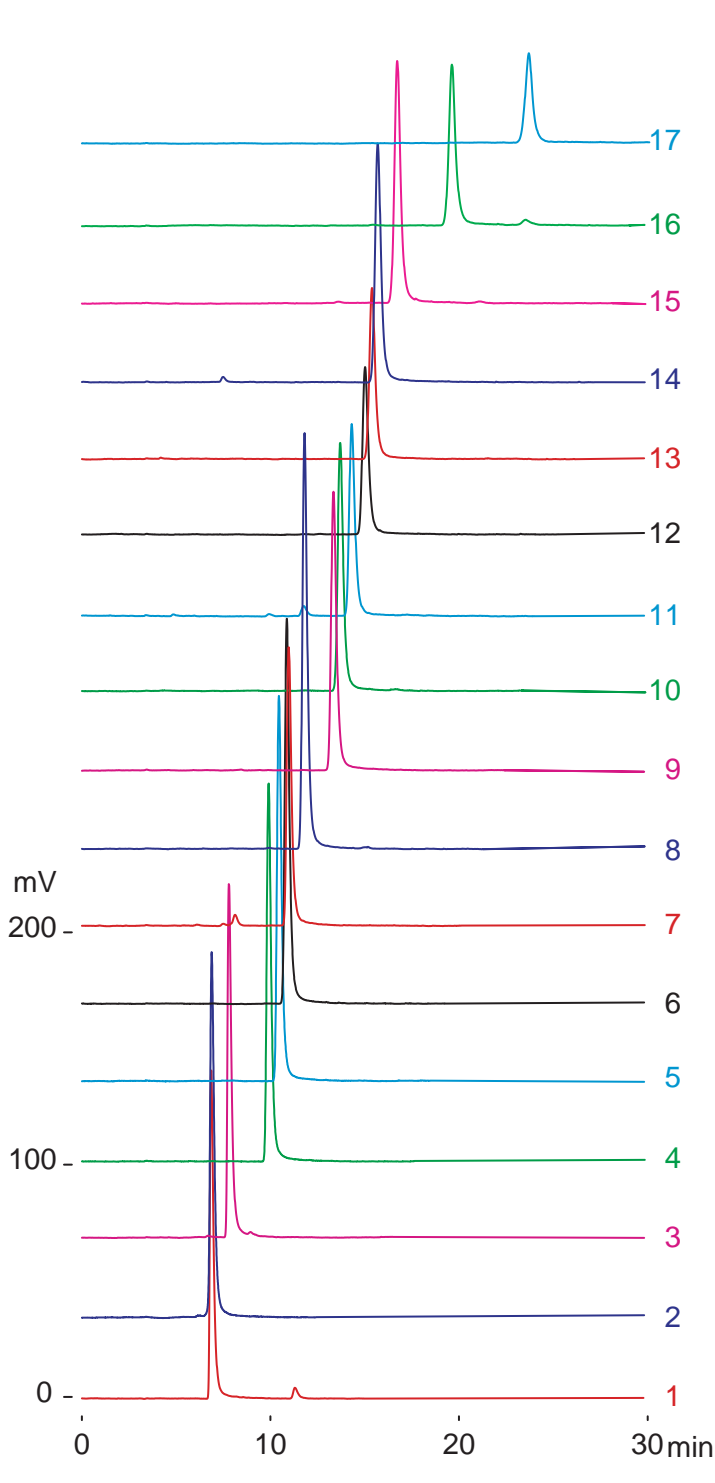
Unison UK-Amino

250 x 3 mm

Application

Fructooligosaccharides

フラクトオリゴ糖



- 1 $\text{Glc } \alpha 1\text{-2Xyl } \alpha 1\text{-2Fru}$
2- α -D-glucopyranosyl fructosylxyloside
- 2 $\text{Fru } \beta 2\text{-6Glc}$
6- β -D-fructopyranosyl glucose
- 3 $\text{Glc } \alpha 1\text{-2Glc } \alpha 1\text{-6Fru}$
2^G- α -D-glucopyranosyl platinose
- 4 $\text{Glc } \alpha 1\text{-2Glc } \alpha 1\text{-2Fru } \beta 1\text{-2Fru}$
2- α -D-glucopyranosyl isokestose
- 5 $\text{Gal } \beta 1\text{-4Glc } \alpha 1\text{-2Fru } \beta 1\text{-2Fru}$
1^F- β -D-fructofuranosyl lactosucrose
- 6 $\begin{matrix} \text{Glc } \alpha 1\text{-2} \\ \text{Gal } \alpha 1\text{-6} \end{matrix} \text{Glc } \alpha 1\text{-2Fru}$
2^G- α -D-glucopyranosyl raffinose
- 7 $\text{Gal } \beta 1\text{-6Glc } \alpha 1\text{-2Fru } \beta 1\text{-2Fru}$
1^F- β -D-fructofuranosyl raffinose
- 8 $\text{Glc } \alpha 1\text{-2Glc } \alpha 1\text{-2Glc } \alpha 1\text{-2Fru } \beta 1\text{-2Fru}$
2(2- α -D-glucopyranosyl)₂ isokestose
- 9 $\text{Gal } \beta 1\text{-4Glc } \alpha 1\text{-2Fru } \beta 1\text{-2Fru } \beta 1\text{-2Fru}$
1^F(1- β -D-fructofuranosyl)₂ lactosucrose
- 10 $\begin{matrix} \text{Glc } \alpha 1\text{-2Glc } \alpha 1\text{-2} \\ \text{Gal } \alpha 1\text{-6} \end{matrix} \text{Glc } \alpha 1\text{-2Fru}$
2^G(2- α -D-glucopyranosyl)₂ raffinose
- 11 $\text{Glc } \alpha 1\text{-2Glc } \alpha 1\text{-2Glc } \alpha 1\text{-2Fru } \beta 1\text{-2Fru } \beta 1\text{-2Fru}$
2(2- α -D-glucopyranosyl)₂ nystose
- 12 $\text{Glc } \alpha 1\text{-2Glc } \alpha 1\text{-2Glc } \alpha 1\text{-2Glc } \alpha 1\text{-2Fru } \beta 1\text{-2Fru}$
2(2- α -D-glucopyranosyl)₃ isokestose
- 13 $\begin{matrix} \text{Glc } \alpha 1\text{-2} \\ \text{Gal } \alpha 1\text{-6Gal } \alpha 1\text{-6} \end{matrix} \text{Glc } \alpha 1\text{-2Fru}$
2^G- α -D-glucopyranosyl stachyose
- 14 $\text{Gal } \alpha 1\text{-6Gal } \alpha 1\text{-6Glc } \alpha 1\text{-2Fru } \beta 1\text{-2Fru}$
1^F- β -D-fructofuranosyl stachyose
- 15 $\begin{matrix} \text{Glc } \alpha 1\text{-2Glc } \alpha 1\text{-2Glc } \alpha 1\text{-2} \\ \text{Gal } \alpha 1\text{-6} \end{matrix} \text{Glc } \alpha 1\text{-2Fru}$
2^G(2- α -D-glucopyranosyl)₃ raffinose
- 16 $\begin{matrix} \text{Glc } \alpha 1\text{-2Glc } \alpha 1\text{-2} \\ \text{Gal } \alpha 1\text{-6Gal } \alpha 1\text{-6} \end{matrix} \text{Glc } \alpha 1\text{-2Fru}$
2^G(2- α -D-glucopyranosyl)₂ stachyose
- 17 $\begin{matrix} \text{Glc } \alpha 1\text{-2Glc } \alpha 1\text{-2Glc } \alpha 1\text{-2} \\ \text{Gal } \alpha 1\text{-6Gal } \alpha 1\text{-6} \end{matrix} \text{Glc } \alpha 1\text{-2Fru}$
2^G(2- α -D-glucopyranosyl)₃ stachyose

Unison UK-Amino, 250 x 3 mm
acetonitrile /water = 75 /25
0.4 mL/min (7MPa), 60 deg.C, ELSD, 1uL (0.5ug)

Courtesy of Prof. Norio Shiomi, Rakuno Gakuen University

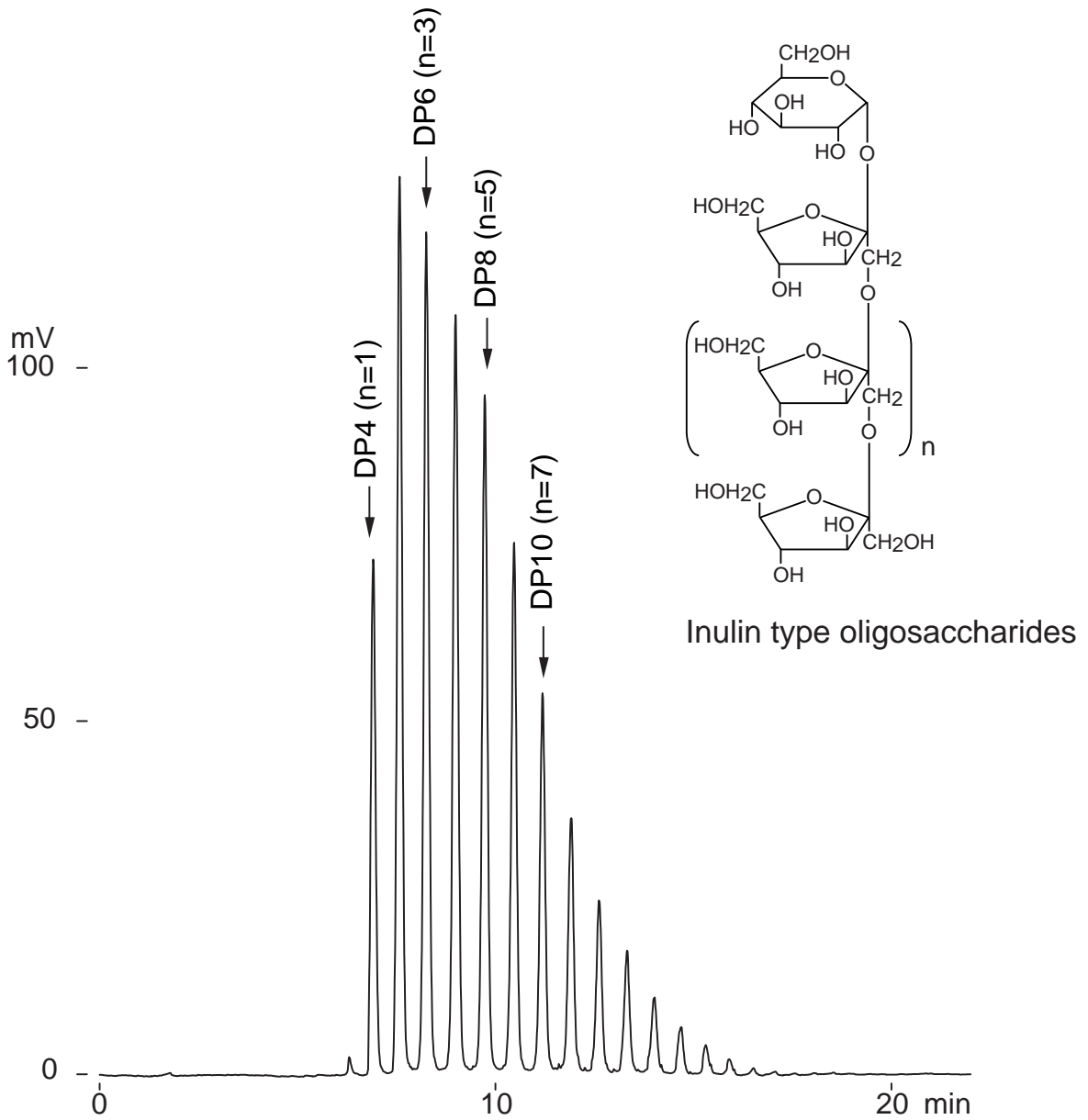
Unison UK-Amino

250 x 3 mm

Application

Inulin type oligosaccharides

イヌリンオリゴ糖



Unison UK-Amino, 250 x 3 mm
 A: acetonitrile, B: water
 35-50%B (0-20min)
 0.4 mL/min (13MPa), 37 deg.C, ELSD
 2.5 uL (25ug)

Courtesy of Prof. Norio Shiomi, Rakuno Gakuen University

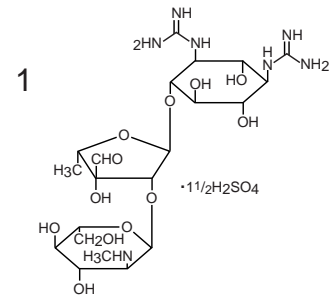
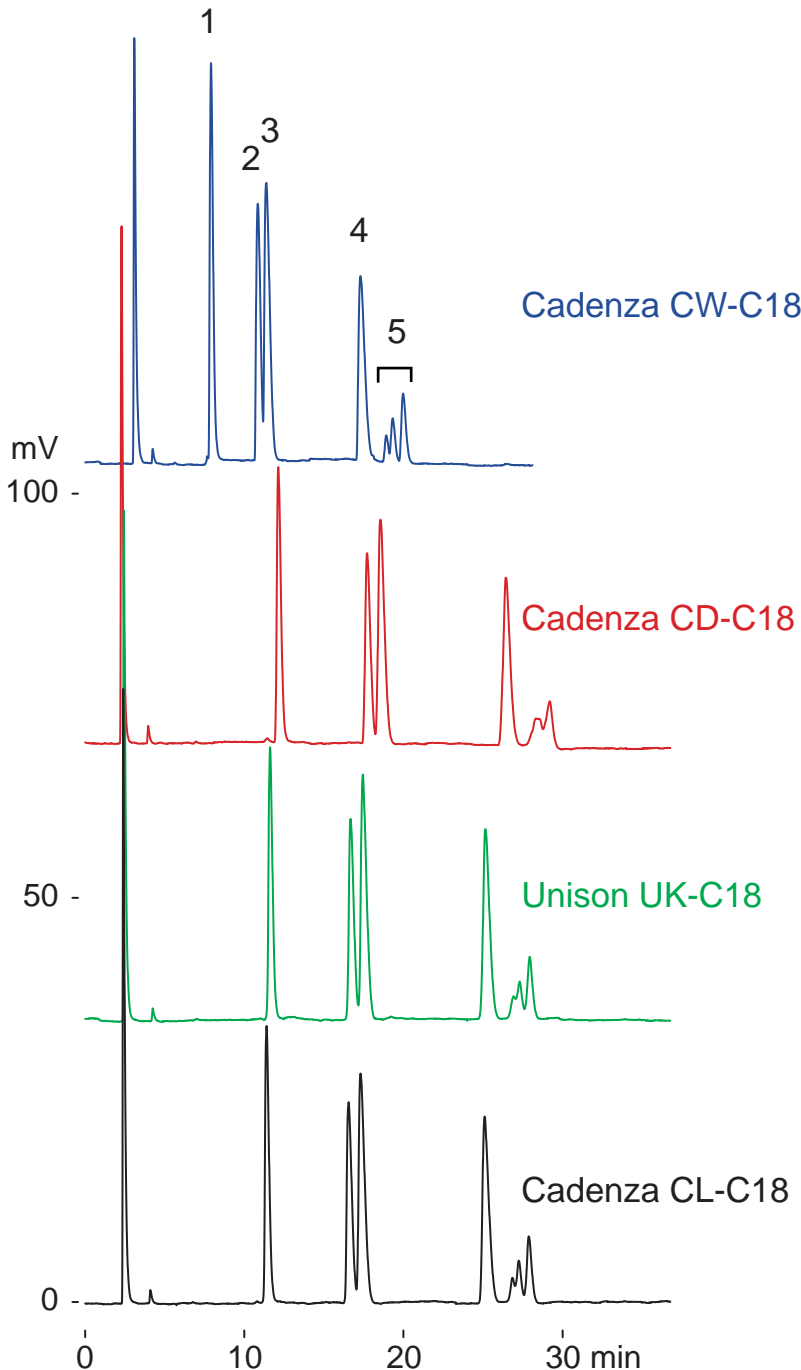
Cadenza CW-C18
 Cadenza CD-C18
 Unison UK-C18
 Cadenza CL-C18

250 x 3 mm

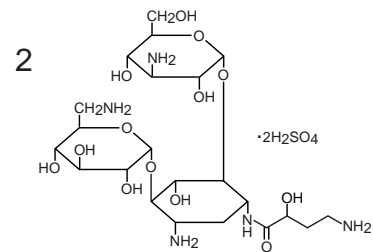
Application

Aminoglycoside Antibiotics

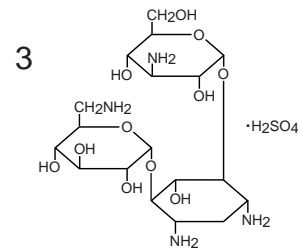
アミノグリコシド系抗生物質



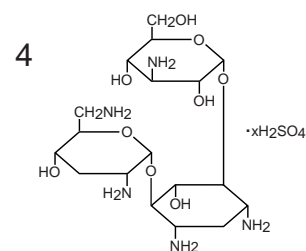
streptomycin sulfate



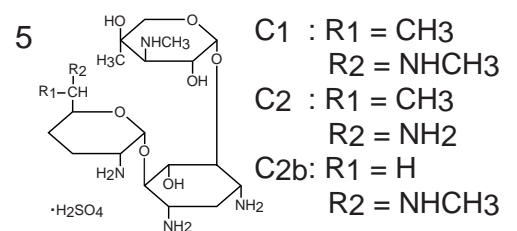
amikacin disulfate



kanamycin sulfate



tobramycin sulfate



gentamicin sulfate

250 x 3 mm

A: water /heptafluorobutyric acid = 100 /0.1

B: acetonitrile /heptafluorobutyric acid = 100 /0.1

20-34%B(0-35min)

0.4 mL/min(13-16MPa) , 37 deg.C, ELSD, 2 uL(4ug)

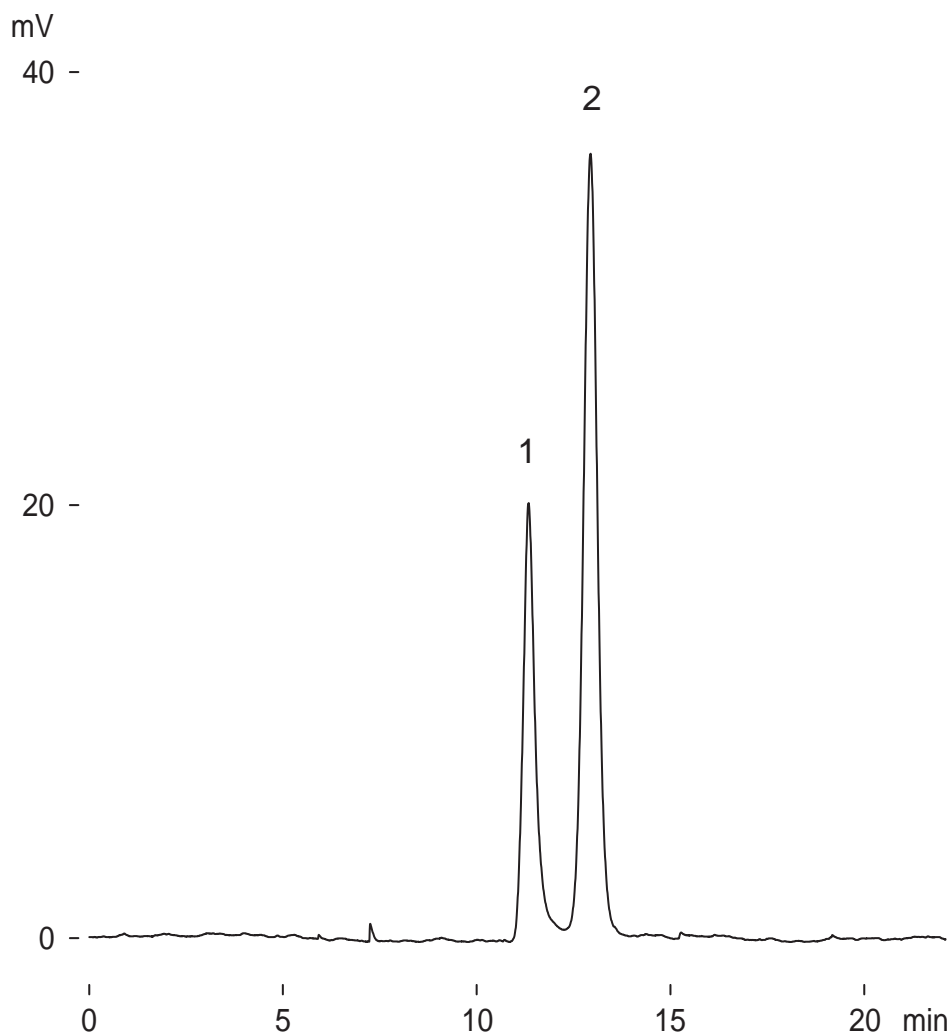
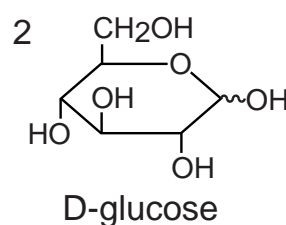
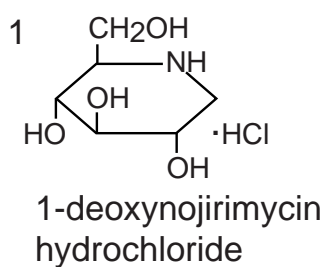
Unison UK-Amino

250 x 3 mm

Application

Deoxynojirimycin, Glucose

デオキシノジリマイシン, グルコース



Unison UK-Amino, 250 x 3 mm
 acetonitrile /10mM ammonium hydrogen carbonate = 90 /10
 0.4 mL/min (6 MPa), 60 deg.C, ELSD, 3 uL (1.5 ug)

Courtesy of Prof. Takayuki Nakano, Kagoshima Immaculate Heart University, Japan

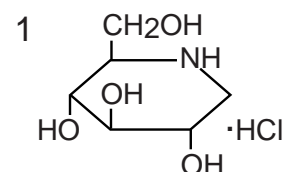
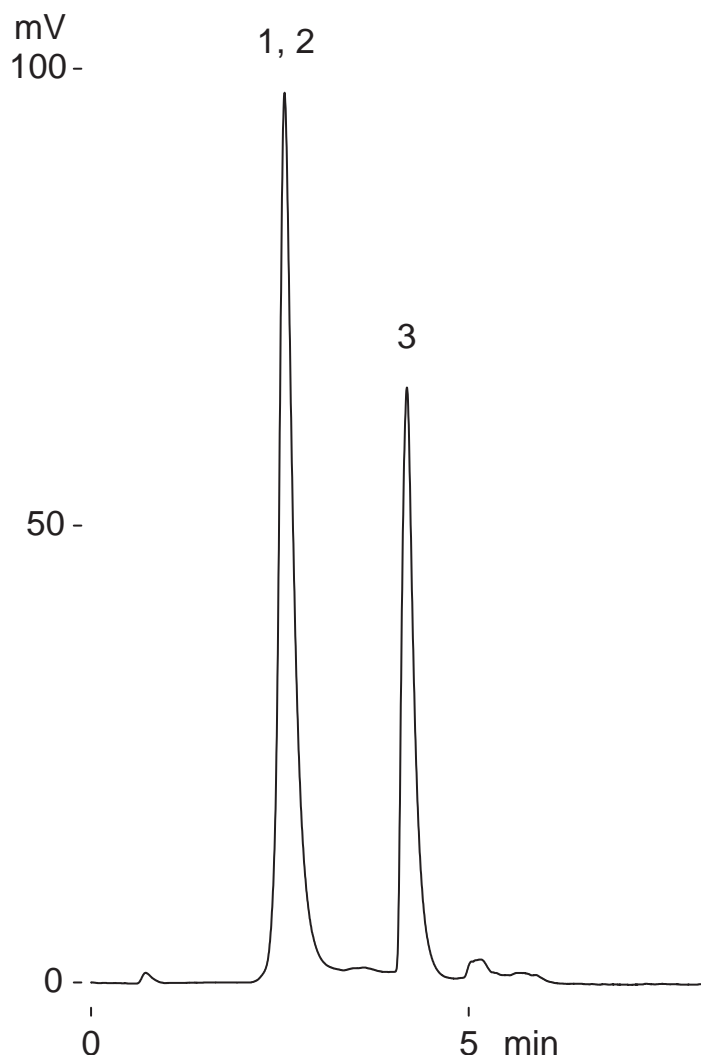
Unison UK-Amino

30 x 3 mm

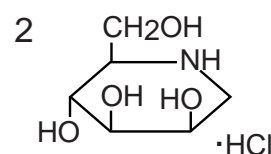
Application

Nojirimycin Relative Compounds

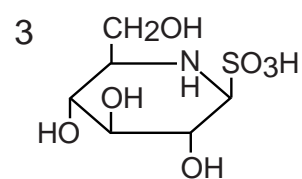
ノジリマイシン関連化合物



1-deoxynojirimycin hydrochloride



1-deoxymannojirimycin hydrochloride



nojirimycin bisulfite

Unison UK-Amino, 30 x 3 mm

A: acetonitrile

B: 10mM TFA-ammonium / triethylamine = 100 / 0.05

5-100%B(0-5min)

0.4 mL/min (1.4 MPa), 37 deg.C, ELSD, 3 uL (0.7-4 ug)

Courtesy of Prof. Takayuki Nakano, Kagoshima Immaculate Heart University, Japan

Unison UK-Amino

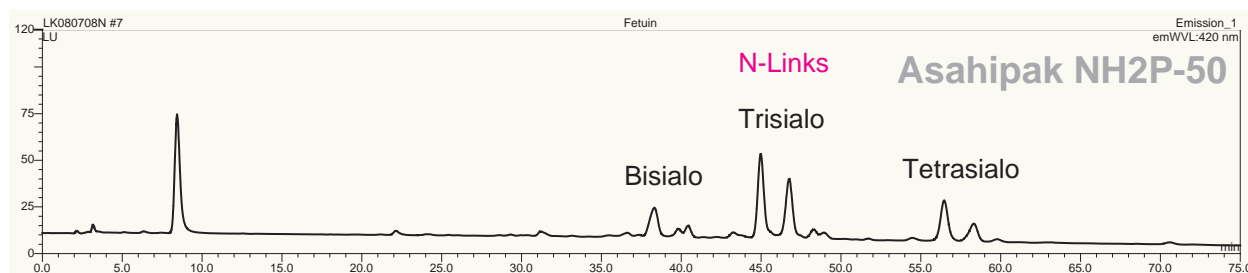
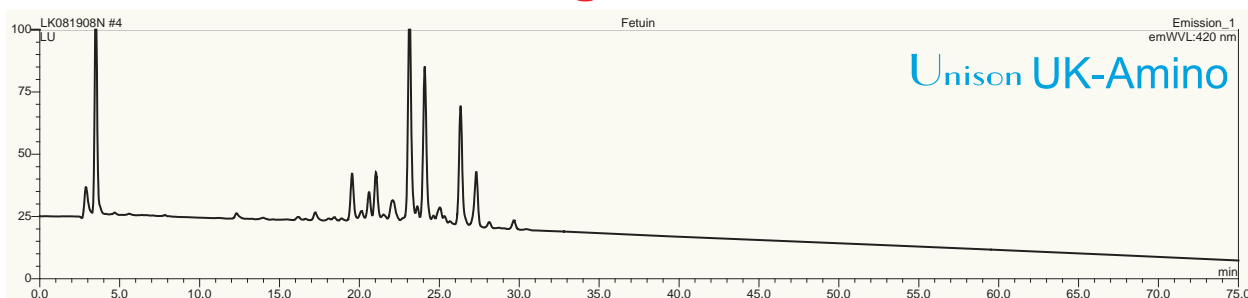
250 x 4.6 mm

Application

2-Amino Benzoic Acid (2-AA) Labeled Oligosaccharides

2-アミノ安息香酸(2-AA)ラベル化オリゴ糖

Fetuin Oligosaccharides



Ref.) Anumula *et.al.*, Glycobiology, vol. 8 no.7 pp.685-694, 1998

Unison UK-Amino, 250 x 4.6 mm
 A: ACN / AcOH / THF = 97 / 2 / 1
 B: water / AcOH / TEA / THF = 91 / 5 / 3 / 1
 30%B (0-2min), 30-95%B (2-80min), 95%B (80-95min)
 1 mL/min, 50 deg.C. FLD (Ex.360nm, Em.420nm)

Courtesy of Elizabeth Higgins, Glycosolutions Corporation, MA - USA

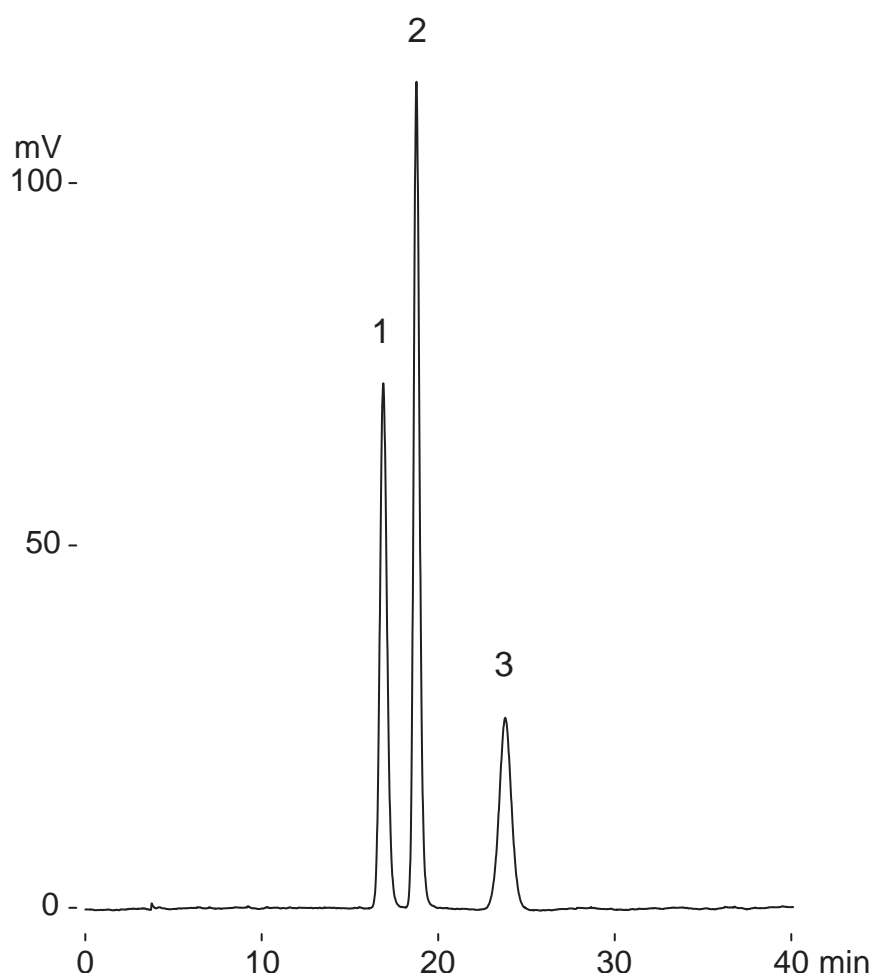
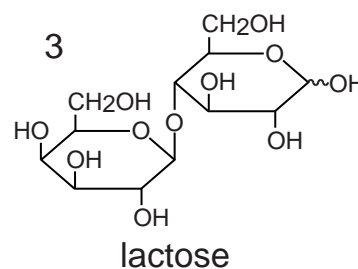
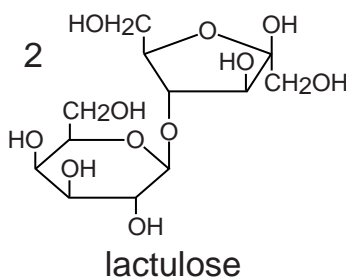
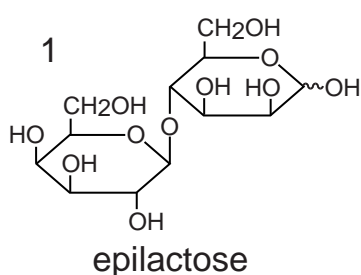
Unison UK-Amino

250 x 3 mm

Application

Epilactose, Lactulose and Lactose

エピラクトース, ラクツロース, ラクトース



Unison UK-Amino, 250 x 3 mm
 acetone / water = 88 / 12
 0.4 mL/min (7MPa), 37 deg.C, ELSD, 1 uL(3ug)

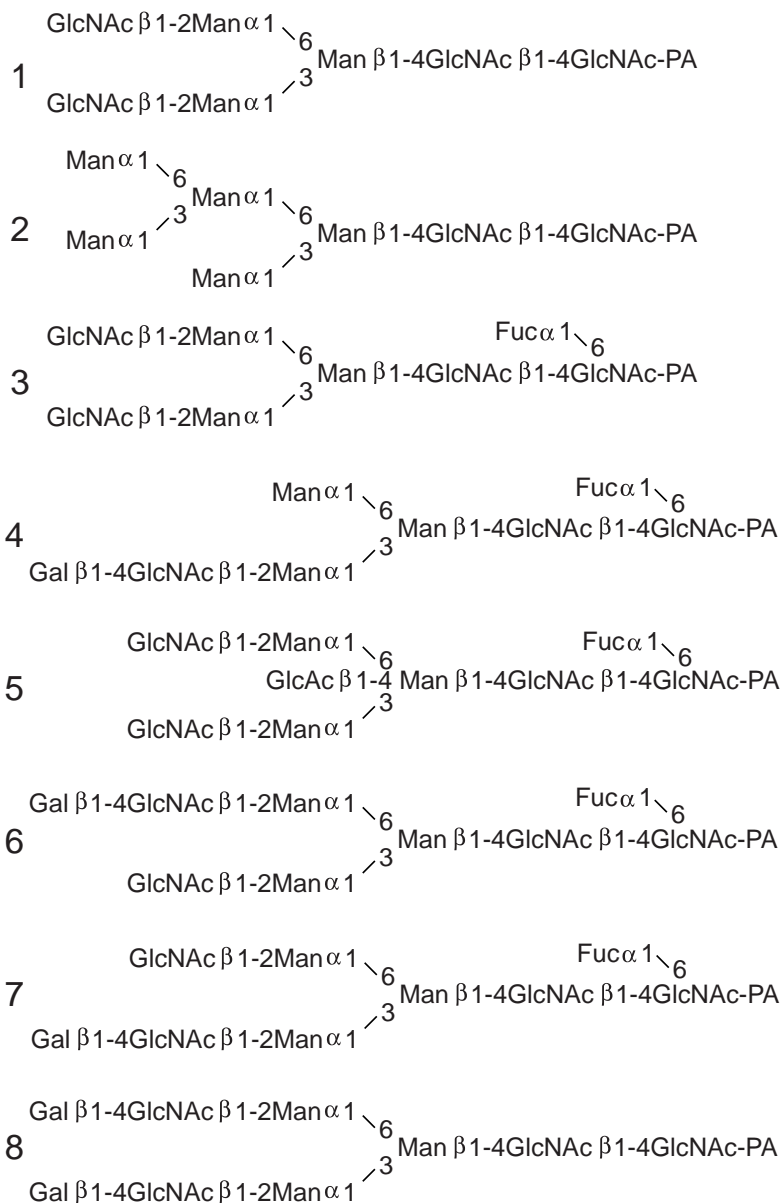
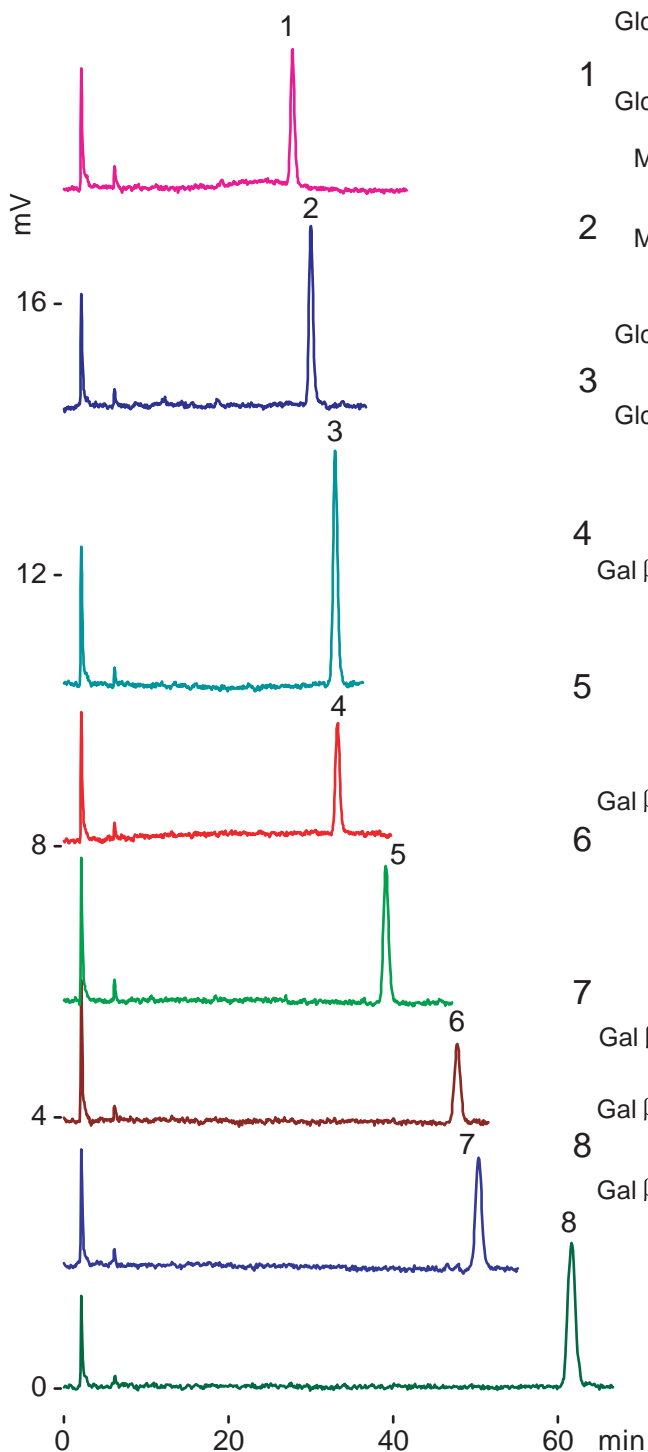
Unison UK-Amino

250 x 3 mm

Application

Standard PA-Sugar Chains

ピリジルアミノ化糖標準品



Unison UK-Amino, 250 x 3 mm, acetonitrile /10mM ammonium formate = 75 /25
0.5 mL/min (11MPa), 37 deg.C, FLD (Ex: 320nm, Em: 400nm), 1 uL (1-2pmol)

Courtesy of Masuda Chemical Industries Co., LTD, Japan

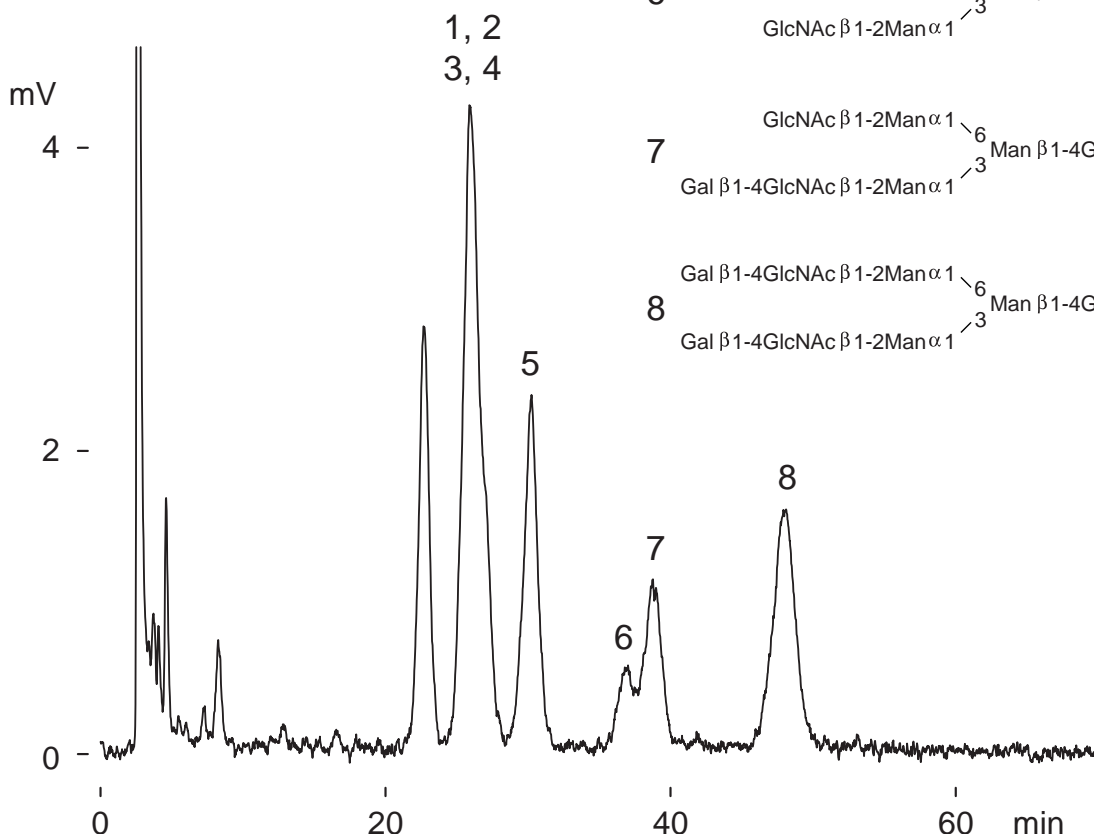
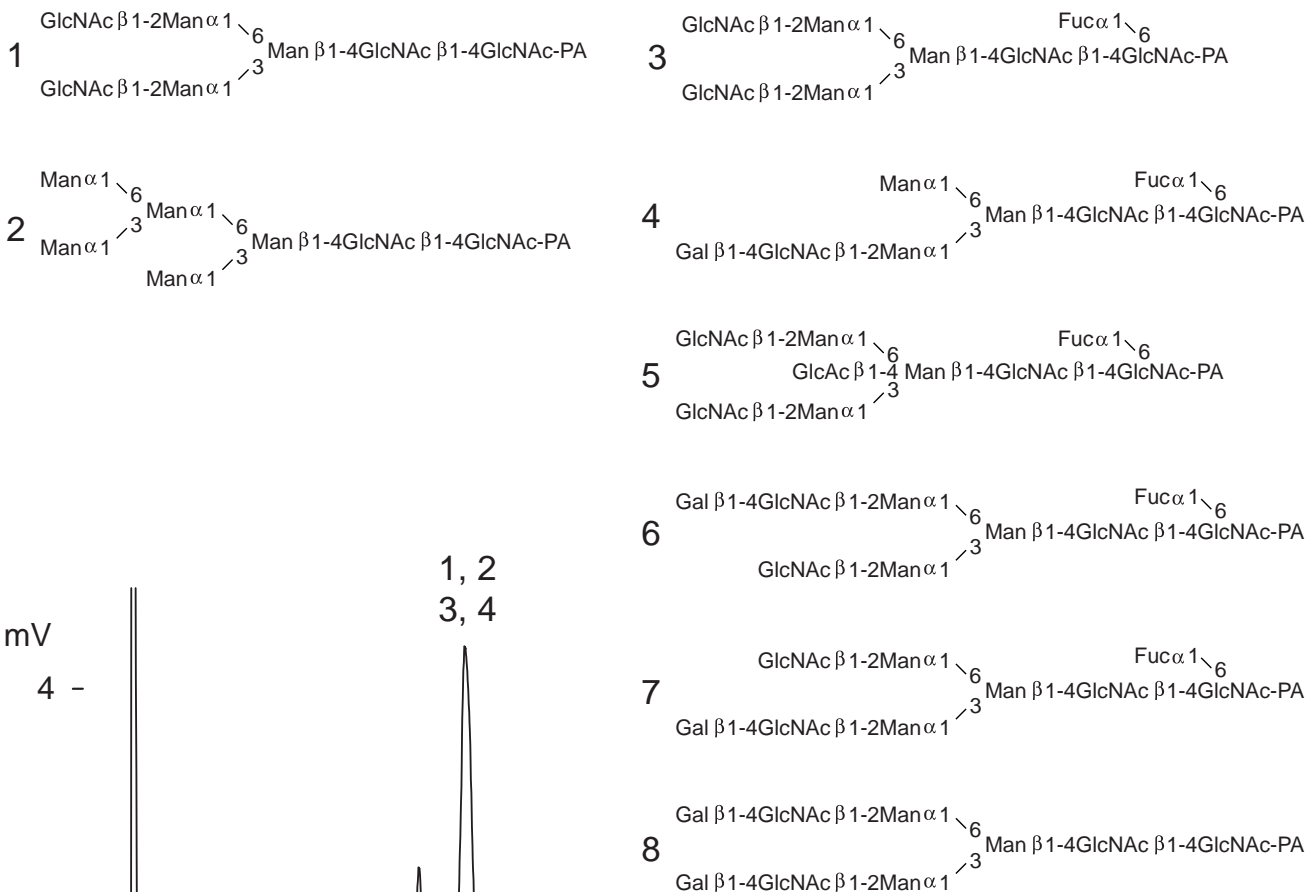
Unison UK-Amino

250 x 3 mm

Application

Standard PA-Sugar Chains

ピリジリアミノ化糖標準品



Unison UK-Amino, 250 x 3 mm

acetonitrile /10mM ammonium hydrogencarbonate = 77 /23

0.5 mL/min (12MPa), 37 deg.C, FLD (Ex: 300nm, Em: 400nm), 4 uL (1pmol)

Courtesy of Masuda Chemical Industries Co., LTD, Japan

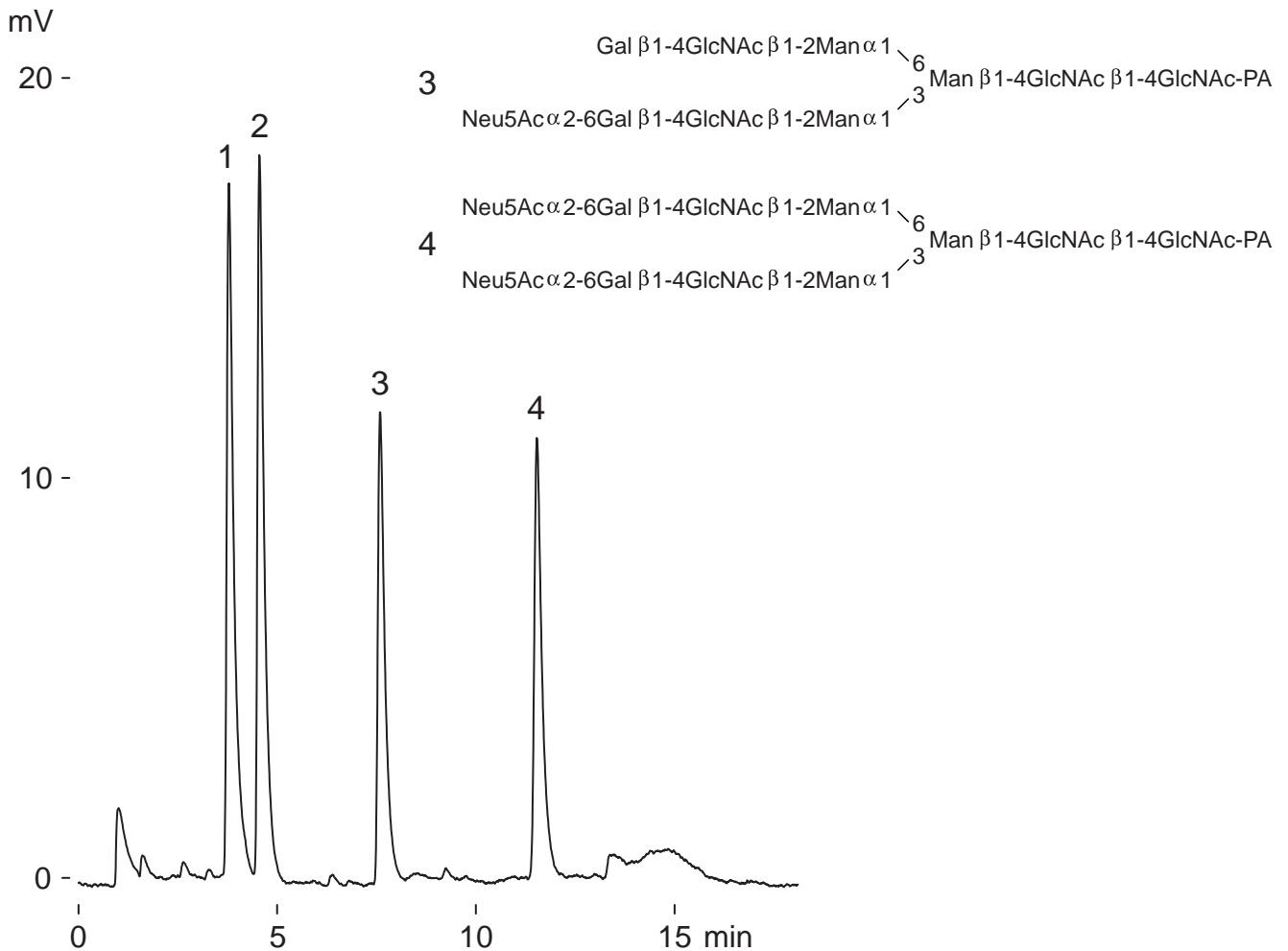
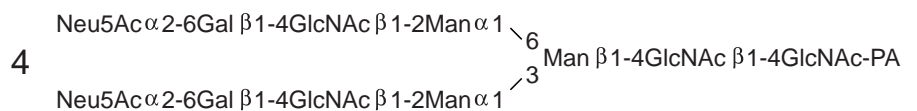
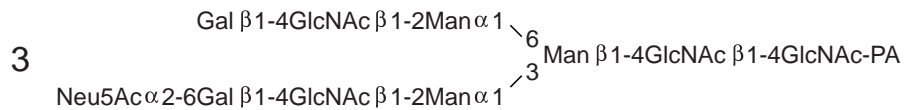
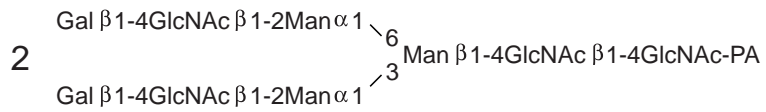
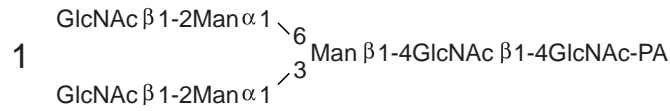
Unison UK-Amino

100 x 3 mm

Application

Standard PA-Sugar Chains

ピリジルアミノ化糖標準品



Unison UK-Amino, 100 x 3 mm

A: acetonitrile, B: 50mM ammonium formate

30-65%B (0-12min), 0.5 mL/min (9MPa), 37 deg.C

FLD (Ex: 300nm, Em: 400nm), 2 uL (1.6pmol)

Courtesy of Masuda Chemical Industries Co., LTD, Japan

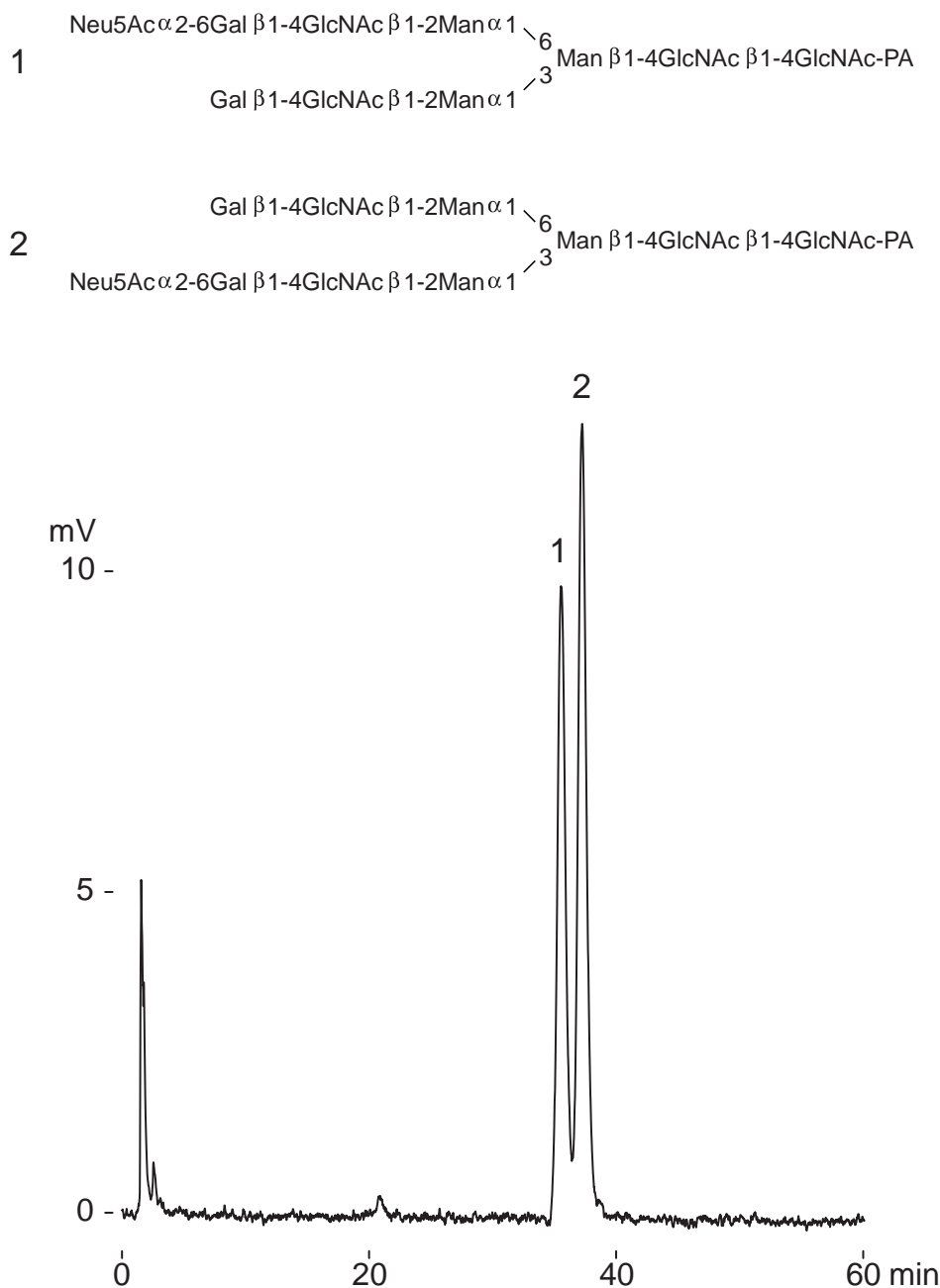
Unison UK-Amino

250 x 3 mm

Application

Standard PA-Sugar Chains

ピリジルアミノ化糖標準品



Unison UK-Amino, 250 x 3 mm
 acetonitrile / water / acetic acid = 70 / 30 / 5
 0.5 mL/min (12MPa), 60 deg.C, FLD (Ex: 300nm, Em: 400nm)
 2 uL (4pmol)

Courtesy of Masuda Chemical Industries Co., LTD, Japan

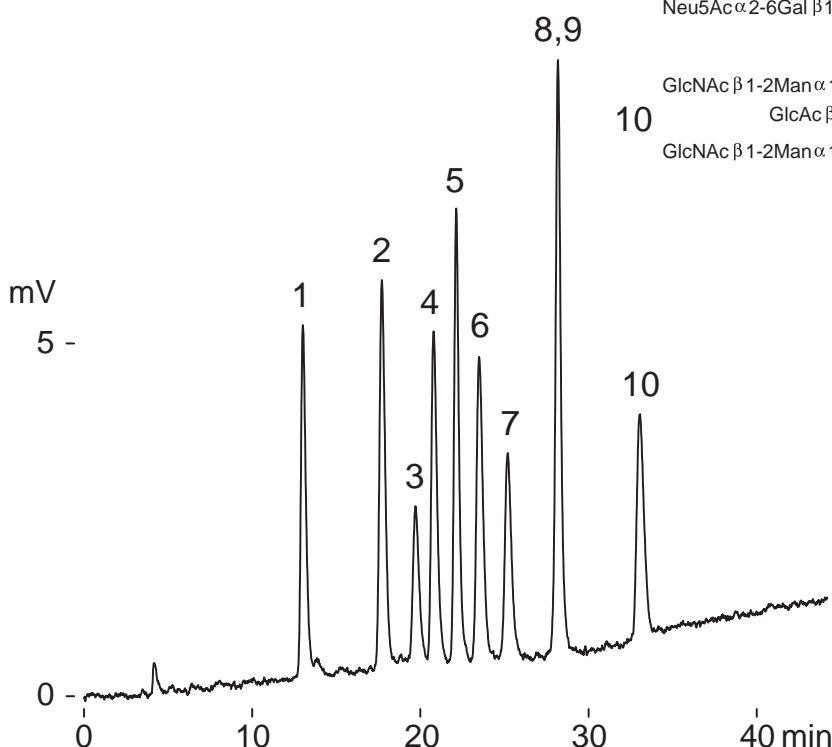
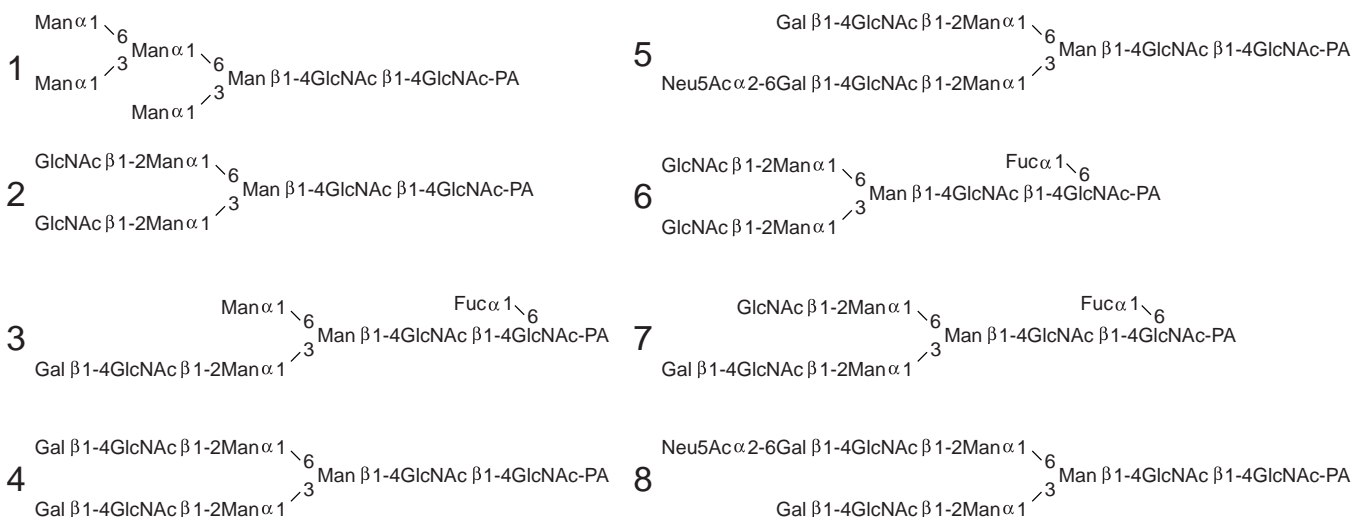
Cadenza CW-C18

250 x 3 mm

Application

Standard PA-Sugar Chains

ピリジルアミノ化糖標準品



Cadenza CW-C18, 250 x 3 mm

A: water / acetic acid = 100 / 0.1, B: acetonitrile /acetic acid = 100 / 0.1

5-60%B (0-40min), 0.4 mL/min (17MPa), 37 deg.C, FLD (Ex: 300nm, Em: 400nm)

1 uL (0.3pmol)

Courtesy of Masuda Chemical Industries Co., LTD, Japan

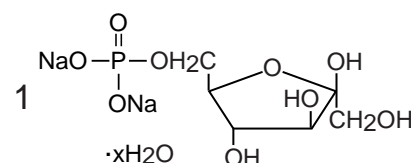
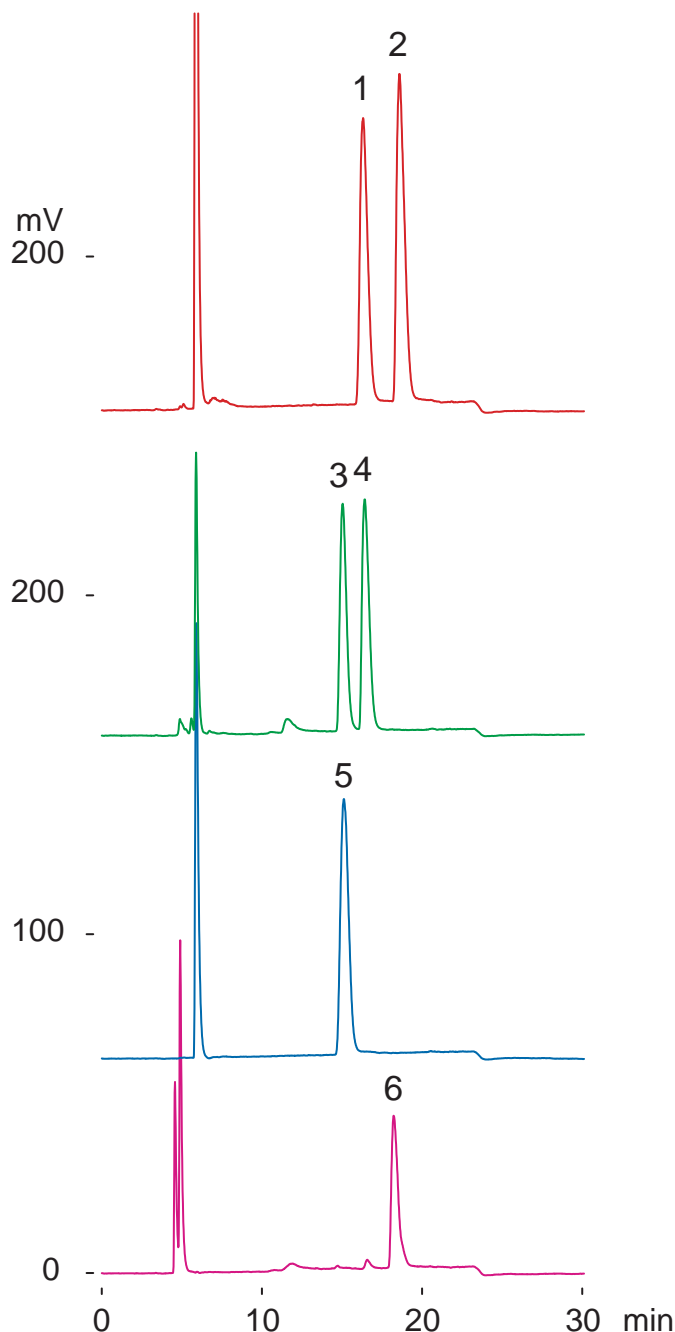
Unison UK-Amino

250 x 3 mm

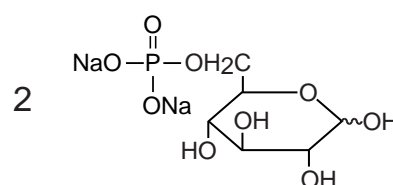
Application

Sugar phosphates

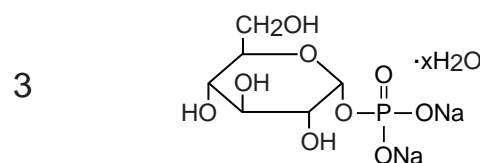
糖リン酸



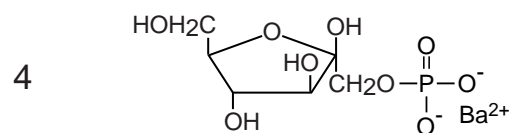
D-fructose 6-phosphate disodium hydrate (F6P)



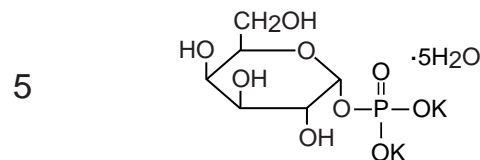
D-glucose 6-phosphate disodium (G6P)



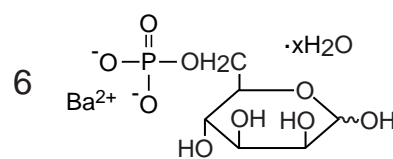
alpha-D-glucose 1-phosphate disodium hydrate (G1P)



D-fructose 1-phosphate barium (F1P)



alpha-D-galactose 1-phosphate dipotassium pentahydrate (Gal1P)



D-mannose 6-phosphate barium hydrate (M6P)

Unison UK-Amino, 250 x 3 mm

A: acetonitrile

B: water /triethylamine /acetic acid = 100 /4.1 /1.6

35-50%B(0-20min), 0.4 mL/min (12MPa), 37 deg.C

ELSD, 0.8-1.4 uL (5-10ug)

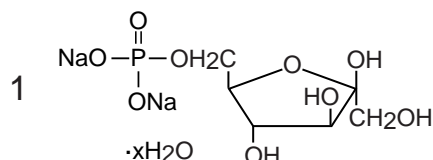
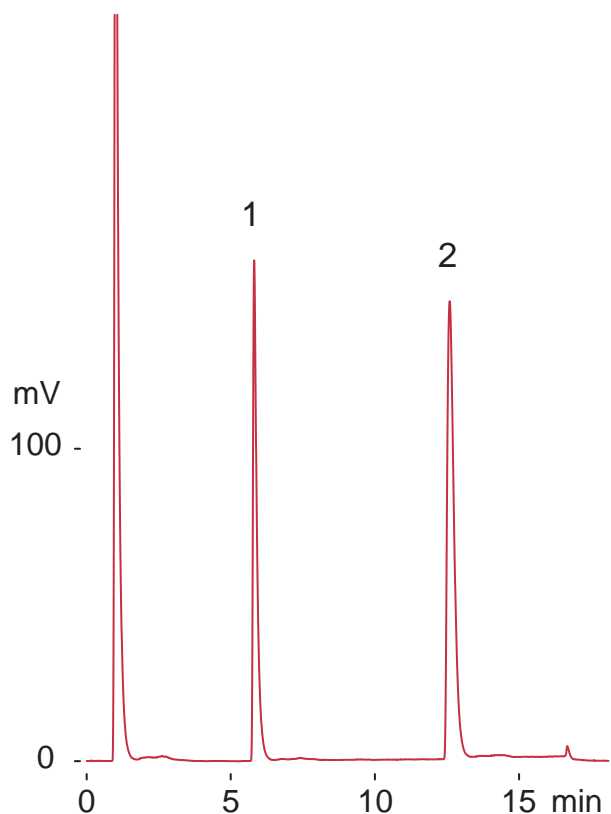
Unison UK-Amino

100 x 3 mm

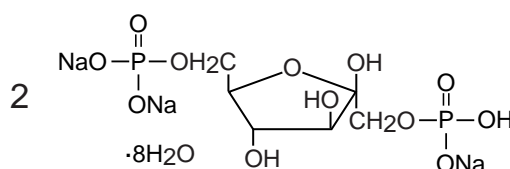
Application

Sugar phosphates

糖リン酸



D-fructose 6-phosphate disodium hydrate (F6P)



D-fructose 1,6-disphosphate trisodium octahydrate (F1,6P)

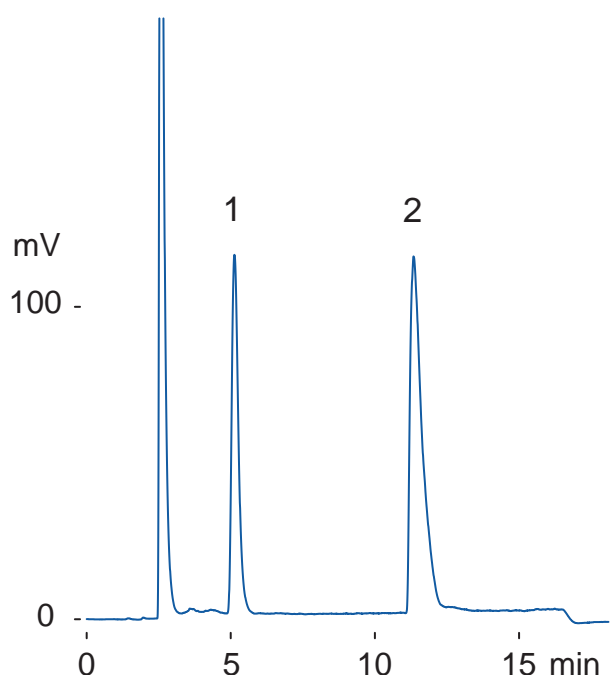
Unison UK-Amino, 100 x 3 mm

A: water /acetic acid = 95 /5

B: water /triethylamine = 94 /6

0-40%B(0-15min), 0.4 mL/min (7MPa)

37 deg.C, ELSD, 1.2 uL (4-8ug)



Unison UK-Amino, 100 x 3 mm

A: acetonitrile

B: water /triethylamine /acetic acid = 100 /4.1 /1.6

35-80%B(0-15min), 0.4 mL/min (5MPa)

37 deg.C, ELSD, 1.2 uL (4-8ug)

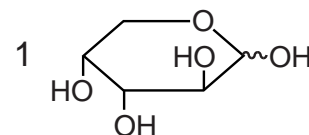
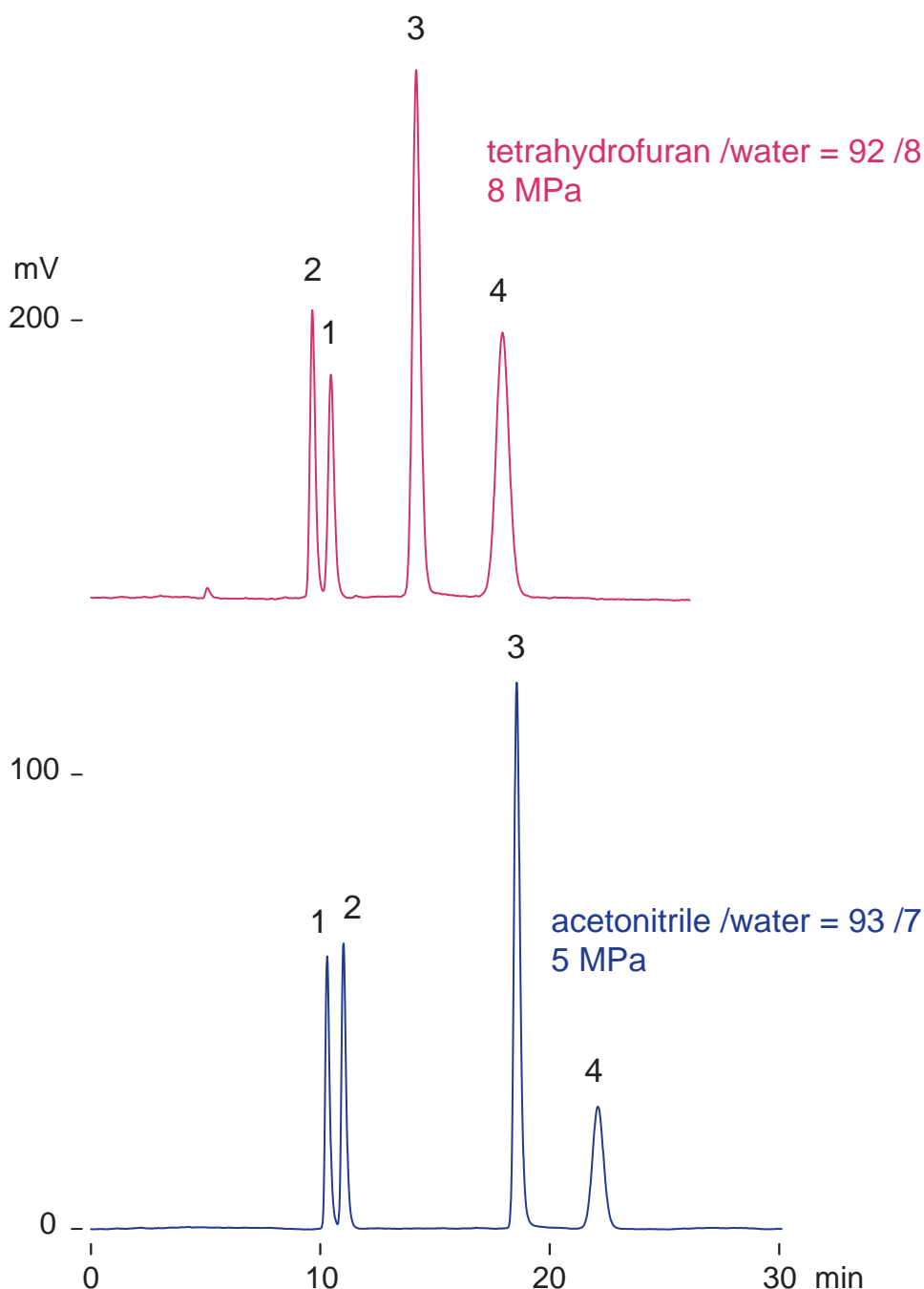
Unison UK-Amino

250 x 3 mm

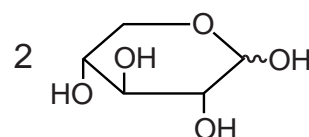
Application

Arabinose, Xylose, Mannose, Glucose

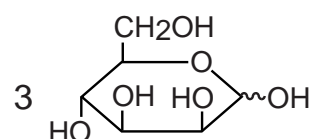
アラビノース, キシロース, マンノース, グルコース



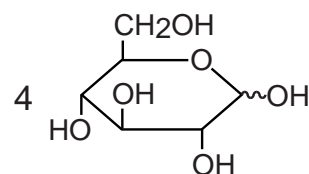
D-arabinose



D-xylose



D-mannose



D-glucose

Unison UK-Amino, 250 x 3 mm
0.4 mL/min, 60 deg.C, ELSD, 1 uL (3ug)

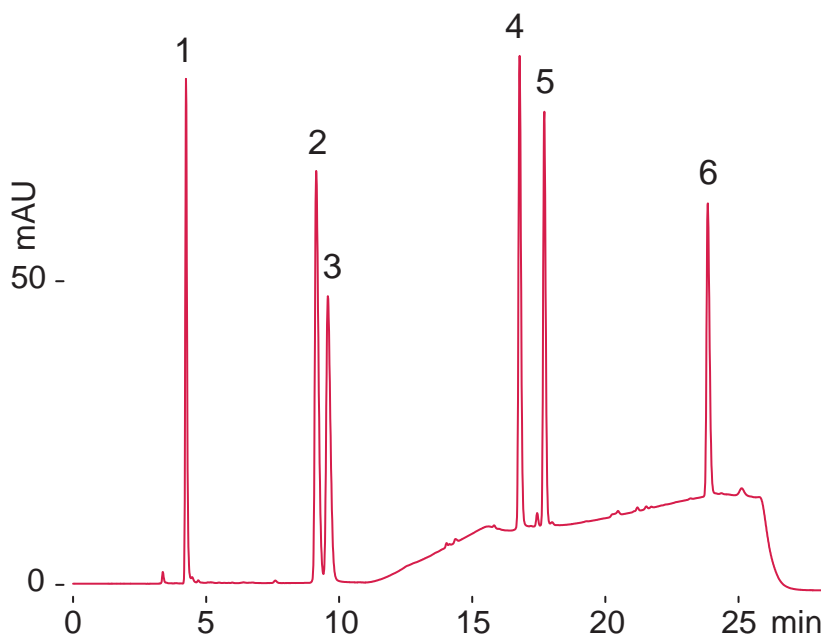
Unison UK-Amino

250 x 3 mm

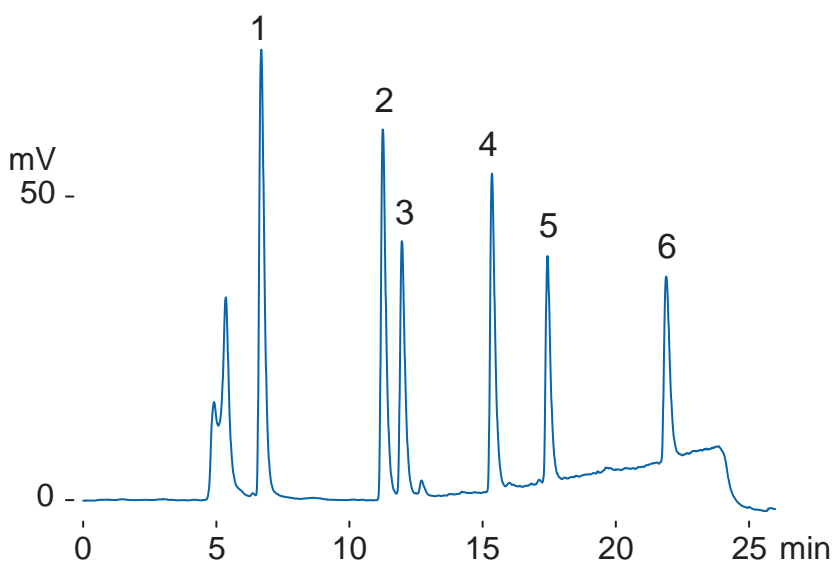
Application

Unsaturated Chondro-Disaccharides

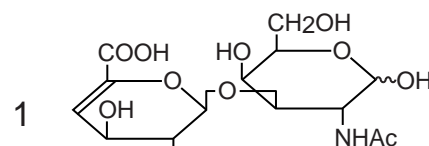
不飽和コンドロ二糖



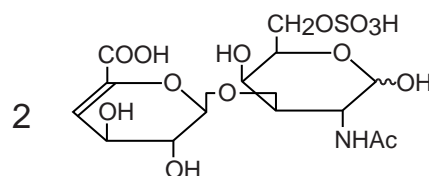
Unison UK-Amino, 250 x 3 mm
 A: 10mM NH₄HCO₃, B: 400mM NH₄HCO₃
 10%B(0-7min), 10-100%B(7-20min), 100%B(20-22min)
 0.4 mL/min(13MPa), 50 deg.C, 232 nm, 5 uL(0.4-1.5 ug)



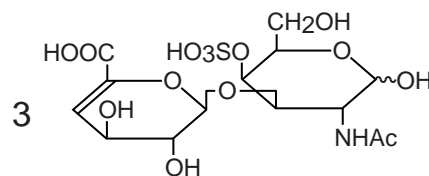
Unison UK-Amino, 250 x 3 mm
 A: methanol, B: water /TEA /AcOH = 1000 /41 /16
 3-90%B (0-20min)
 0.4 mL/min (8MPa), 50 deg.C, ELSD, 10 uL (1-3ug)



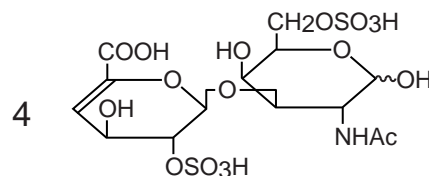
Δ Di-0S



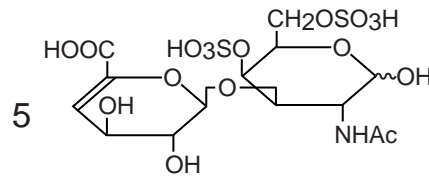
Δ Di-6S



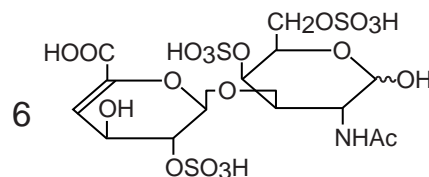
Δ Di-4S



Δ Di-diS_D



Δ Di-diS_E



Δ Di-triS

Courtesy of Seikagaku Corporation, Japan

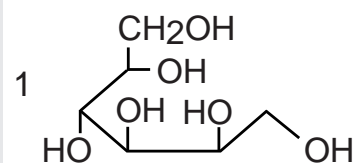
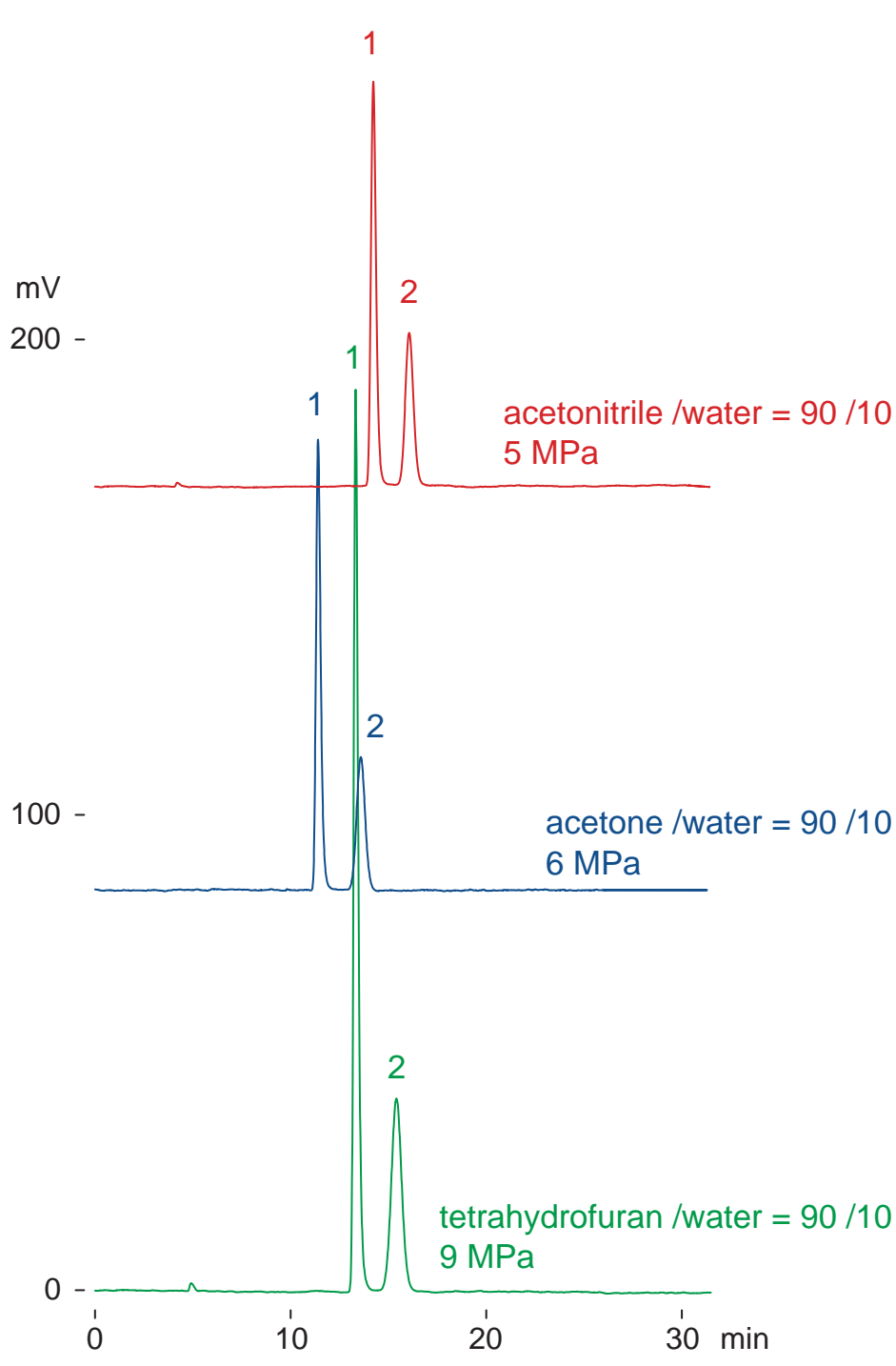
Unison UK-Amino

250 x 3 mm

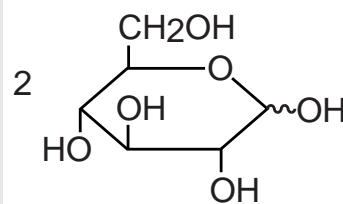
Application

Mannitol, Glucose

マンニトール, グルコース



D-mannitol



D-glucose

Unison UK-Amino, 250 x 3 mm
0.4 mL/min, 60 deg.C, ELSD, 2 uL (2.5ug)

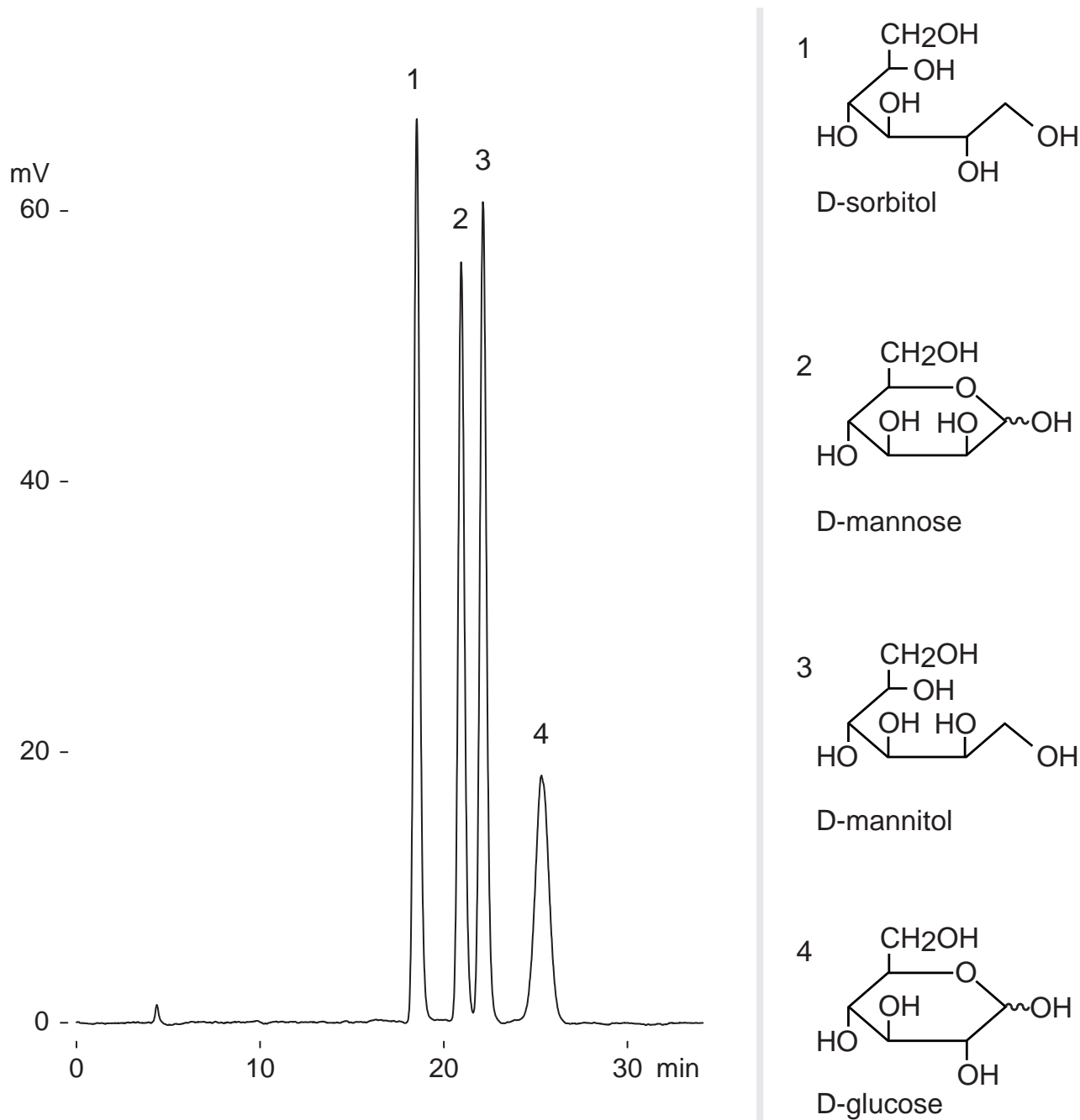
Unison UK-Amino

250 x 3 mm

Application

Sorbitol, Mannose, Mannitol, Glucose

ソルビトール, マンノース, マンニトール, グルコース



Unison UK-Amino, 250 x 3 mm
 acetonitrile / water = 93 / 7
 0.4 mL/min (5MPa), 55 deg.C, ELSD, 2 uL (5ug)

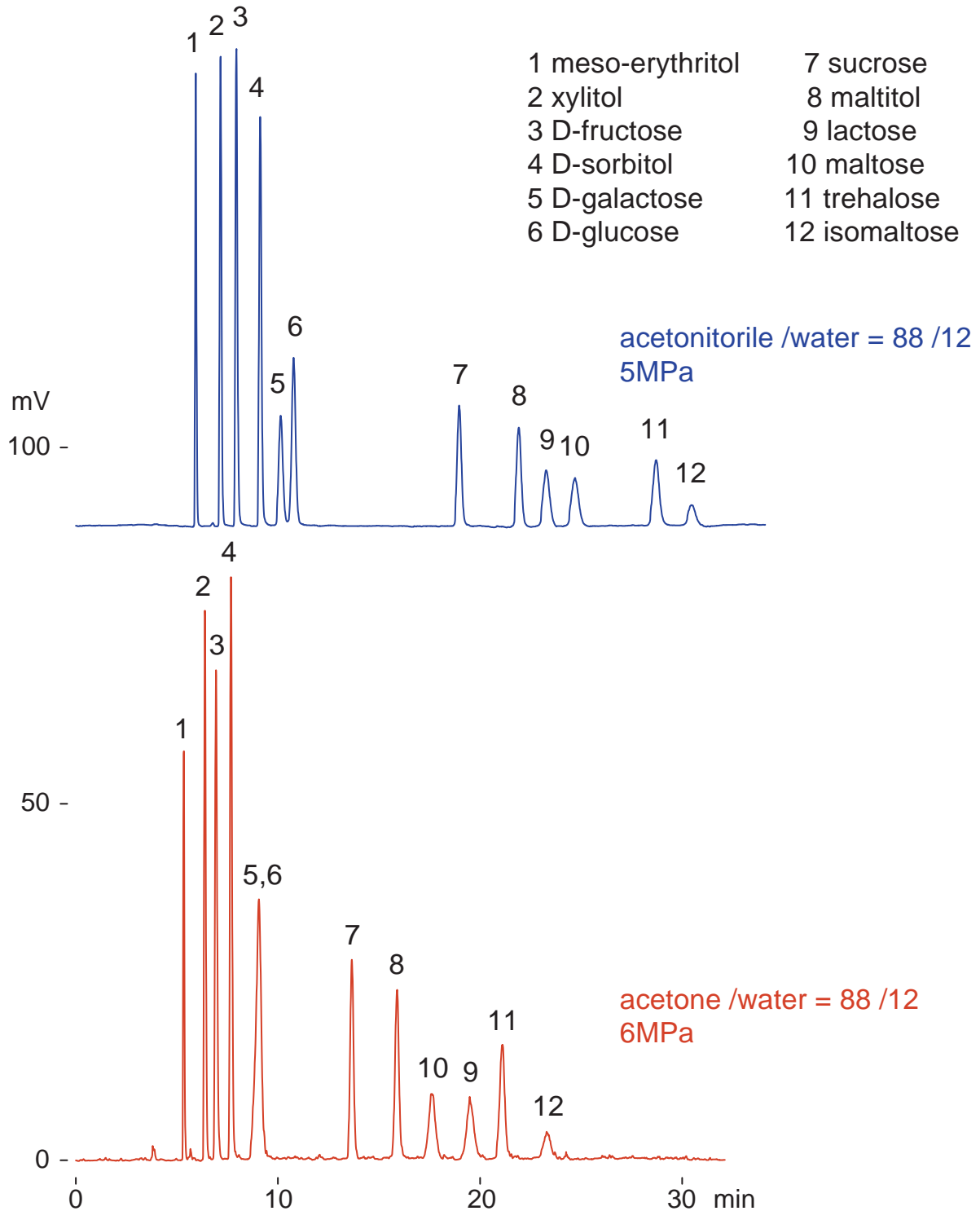
Unison UK-Amino

250 x 3 mm

Application

Comparison with the eluents of acetonitrile and acetone for saccharides separation

糖分離におけるアセトニトリルとアセトン移動相の比較



Unison UK-Amino, 250 x 3 mm

0.4 mL/min, 60 deg.C, ELSD, 1.4 uL (0.8-1.6 ug)

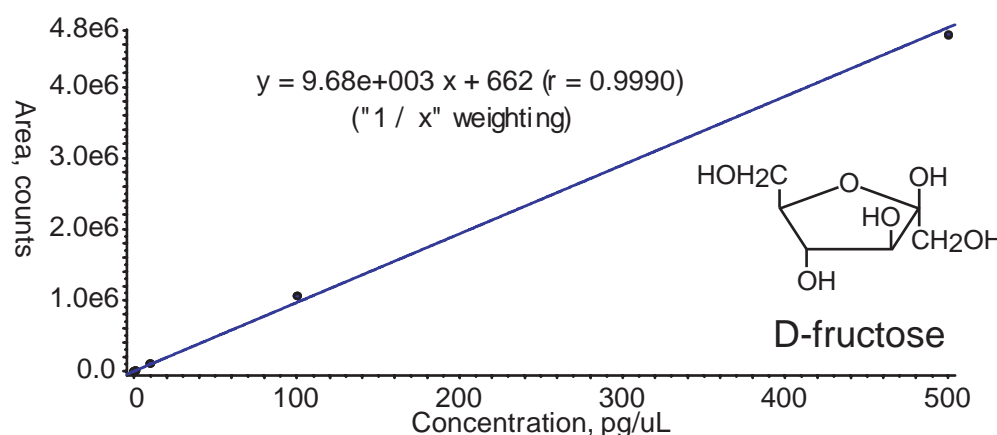
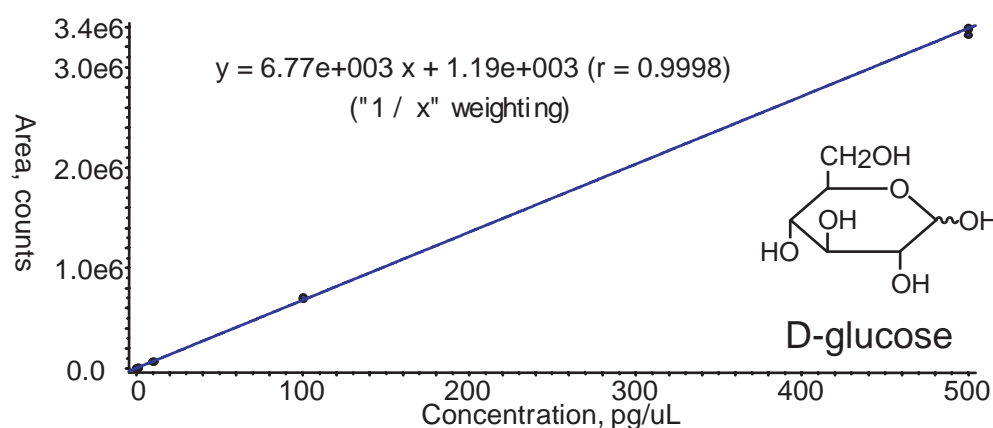
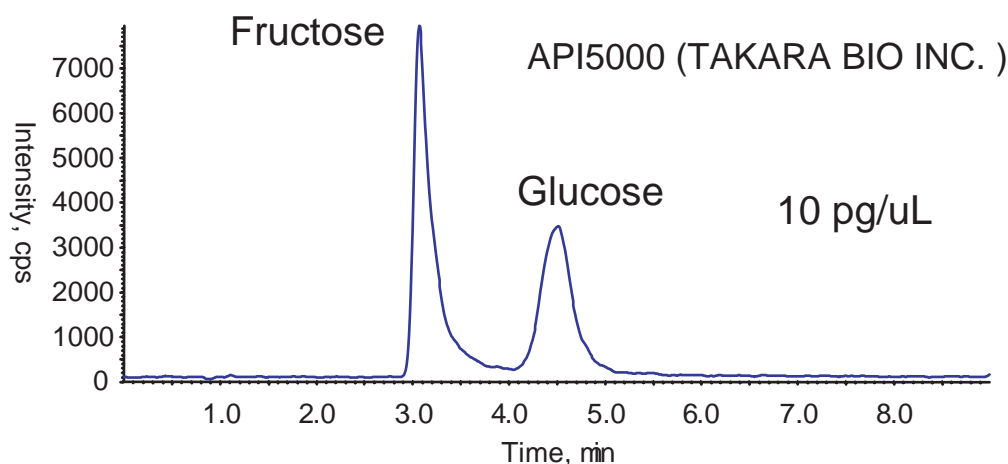
Unison UK-Amino

150 x 2 mm

Application

LC-MS/MS application for saccharides

LC-MS/MSアプリケーション(糖類)



Unison UK-Amino, 150 x 2 mm
acetonitrile / water = 90 / 10, 0.4 mL/min, 10 uL
API5000: ESI, MRM Negative, Q1/Q3=179.0 / 89.0

Courtesy of TAKARA BIO INC., Japan

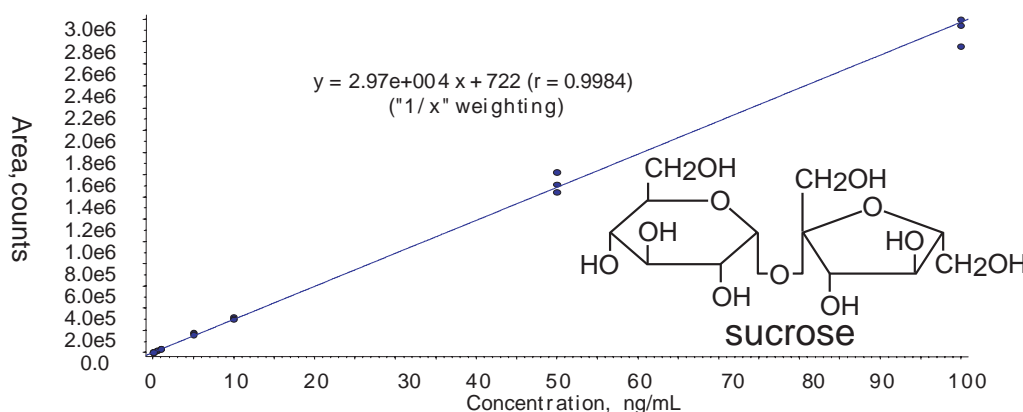
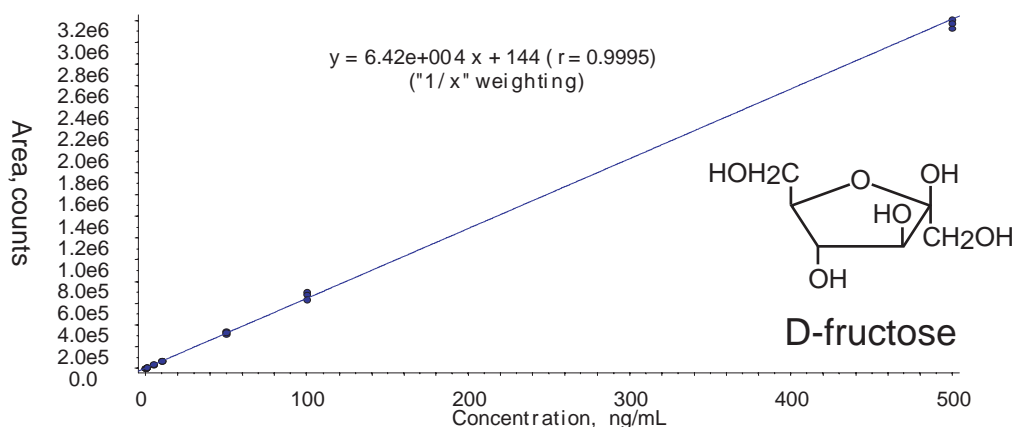
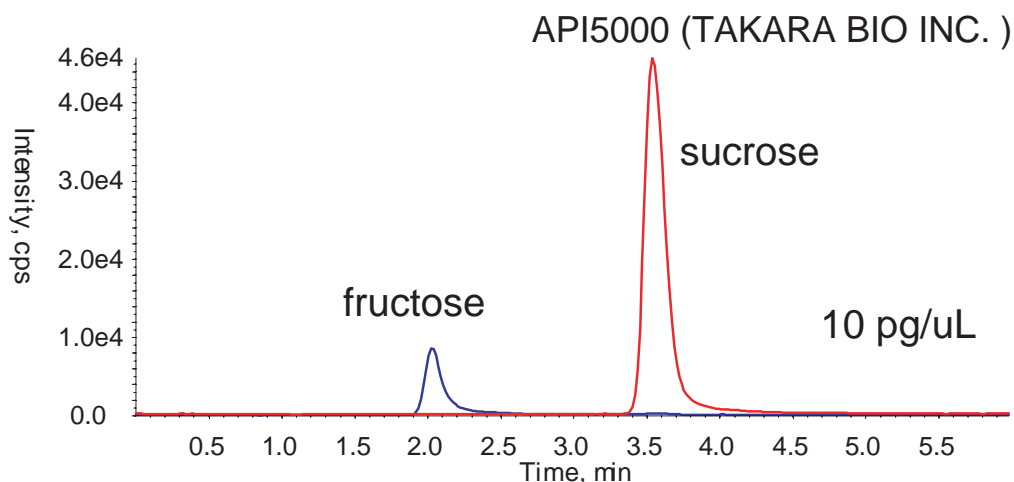
Unison UK-Amino

150 x 2 mm

Application

LC-MS/MS application for saccharides

LC-MS/MSアプリケーション(糖類)



Unison UK-Amino, 150 x 2 mm
 acetonitrile / water = 83 / 17, 0.4 mL/min, 10 uL
 API5000: ESI, MRM Negative
 Q1/Q3:
 fructose 179.0 / 89.0, sucrose 341.2 / 89.0

Courtesy of TAKARA BIO INC., Japan

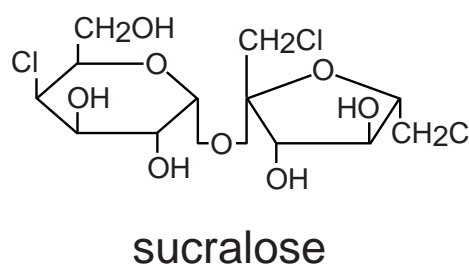
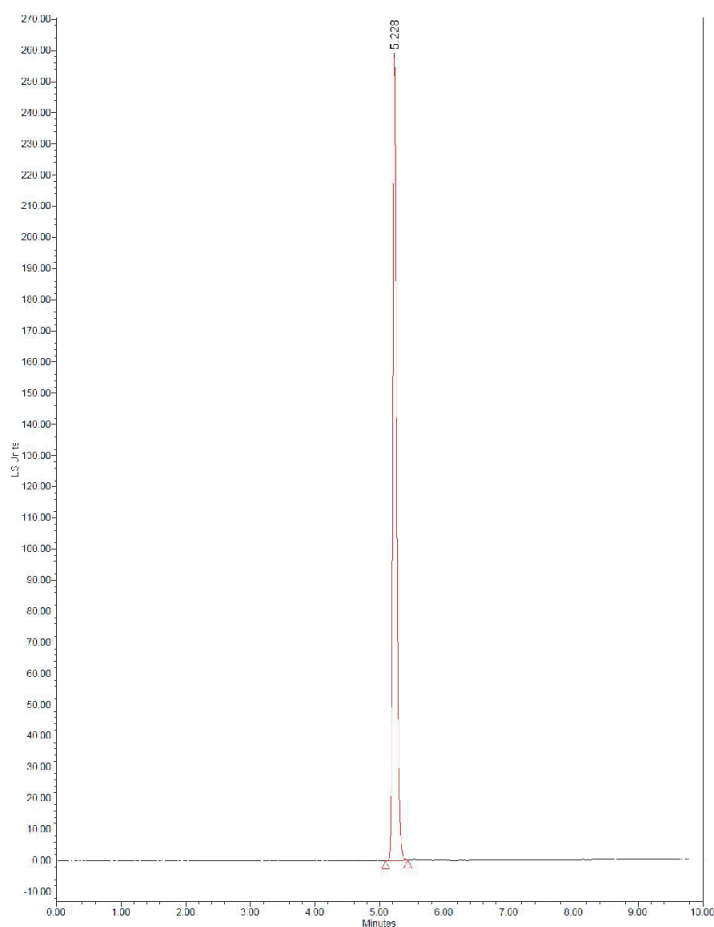
Unison UK-C18

250 x 4.6 mm

Application

Sucralose by reversed-phase analysis

合成甘味料スクラロースの逆相分離



Unison UK-C18, 250 x 4.6 mm

A: water

B: acetonitrile

20%B (0-0.5min), 20-90%B (0.5-10min)

1.0 mL/min, 60 deg.C, ELSD

Courtesy of Tony Montanari, Ph.D., Perrigo Company of South Carolina - USA

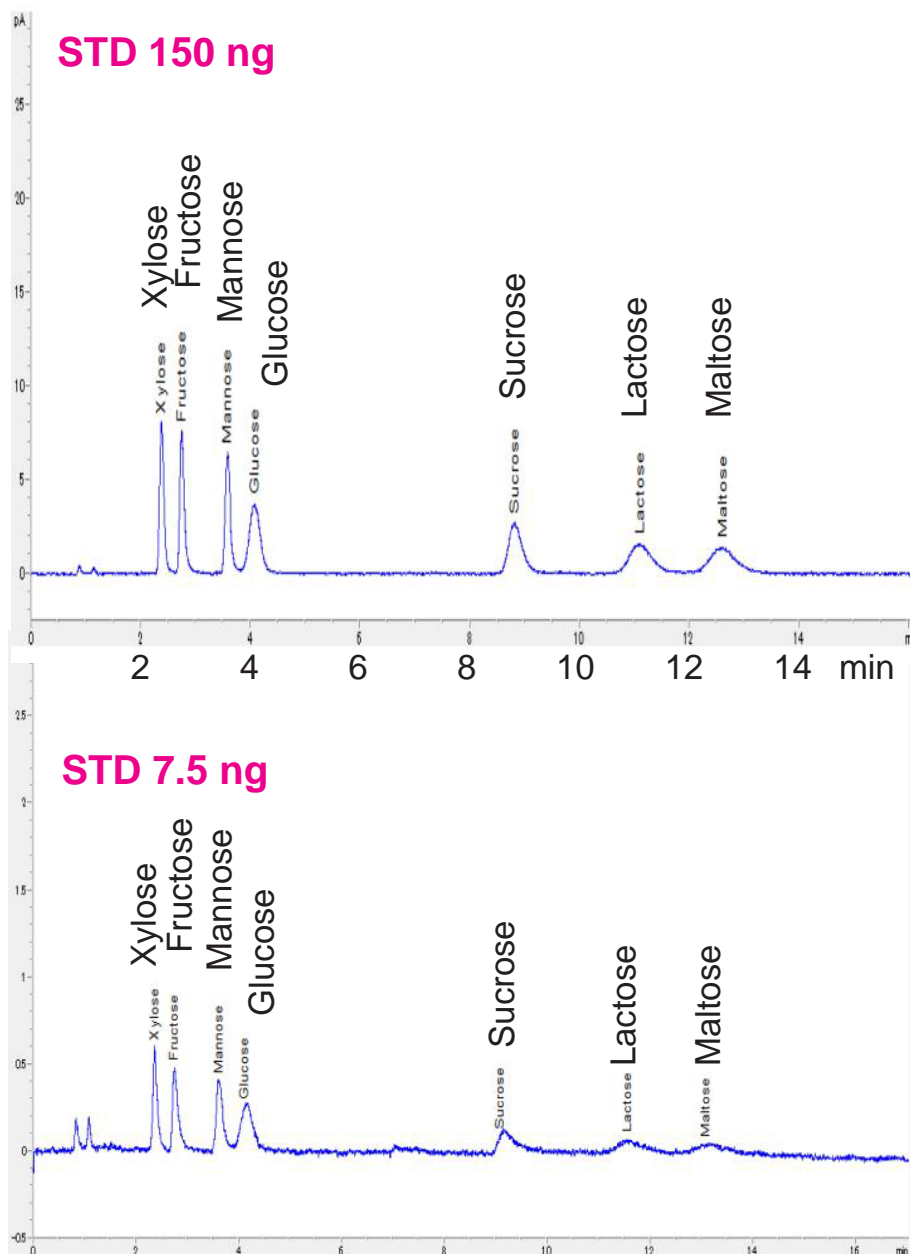
Unison UK-Amino

250 x 3 mm

Application

High sensitivity analysis for saccharides using Corona CAD

Corona CAD による糖類の高感度分析



Unison UK-Amino, 250 x 3 mm
 acetonitrile / water = 92 / 8
 1.5 mL/min
 Pre-column temp.: 65 °C, Post-column temp.: 30 °C
 Corona ultra (Filter: High, Nebulizer Temp.: OFF)
 1.5 µL (150ng or 7.5ng)

Courtesy of Kyoko Fukushima, LMS CO., LTD. / JAPAN

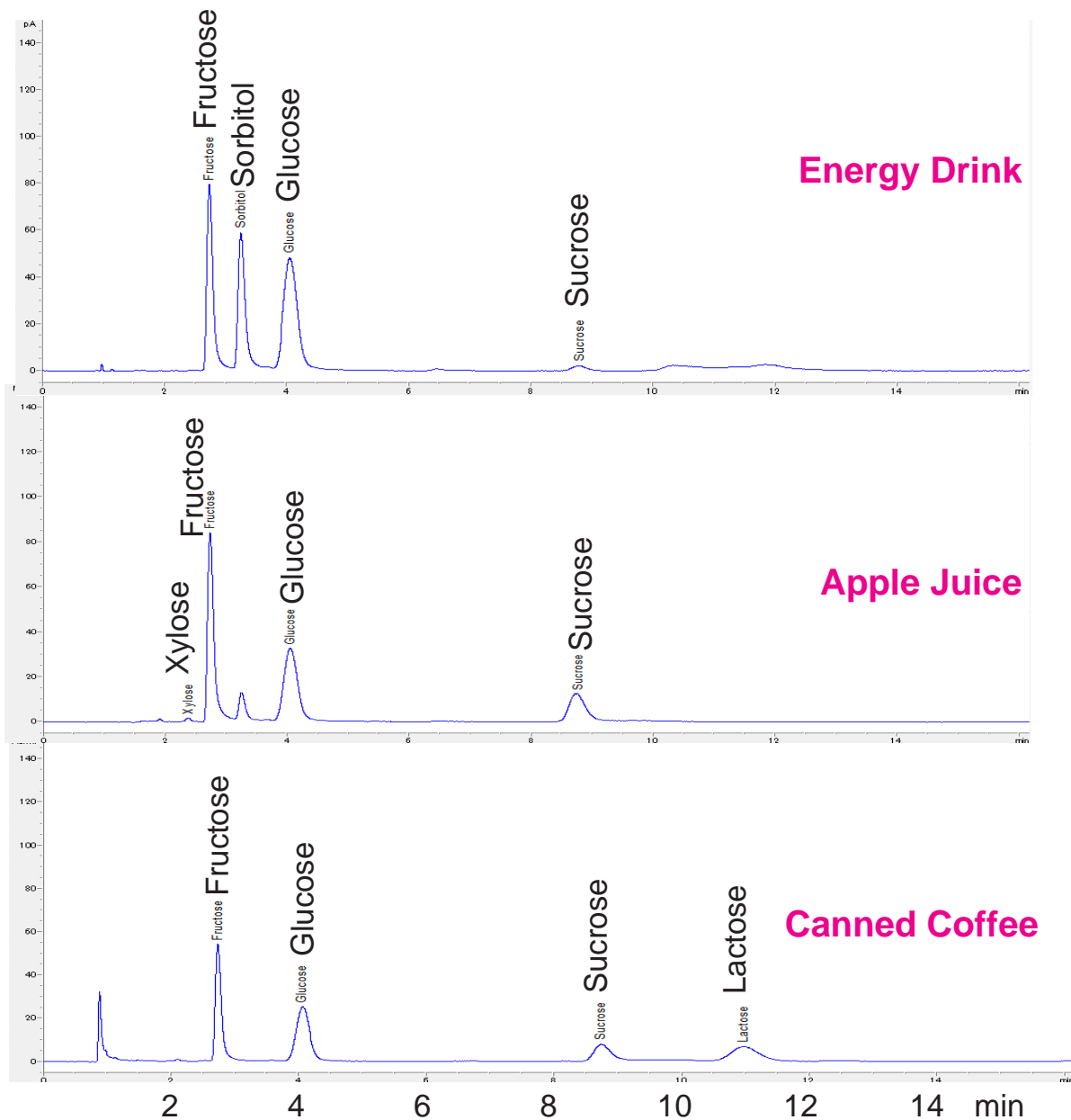
Unison UK-Amino

250 x 3 mm

Application

Saccharide analysis for beverages using Corona CAD

Corona CAD による飲料中の糖類分析



Unison UK-Amino, 250 x 3 mm
 acetonitrile / water = 92 / 8
 1.5 mL/min
 Pre-column temp.: 65 °C, Post-column temp.: 30 °C
 Corona ultra (Filter: High, Nebulizer Temp.: OFF)
 1.5 µL

Courtesy of Kyoko Fukushima, LMS CO., LTD. / JAPAN

Unison UK-Amino

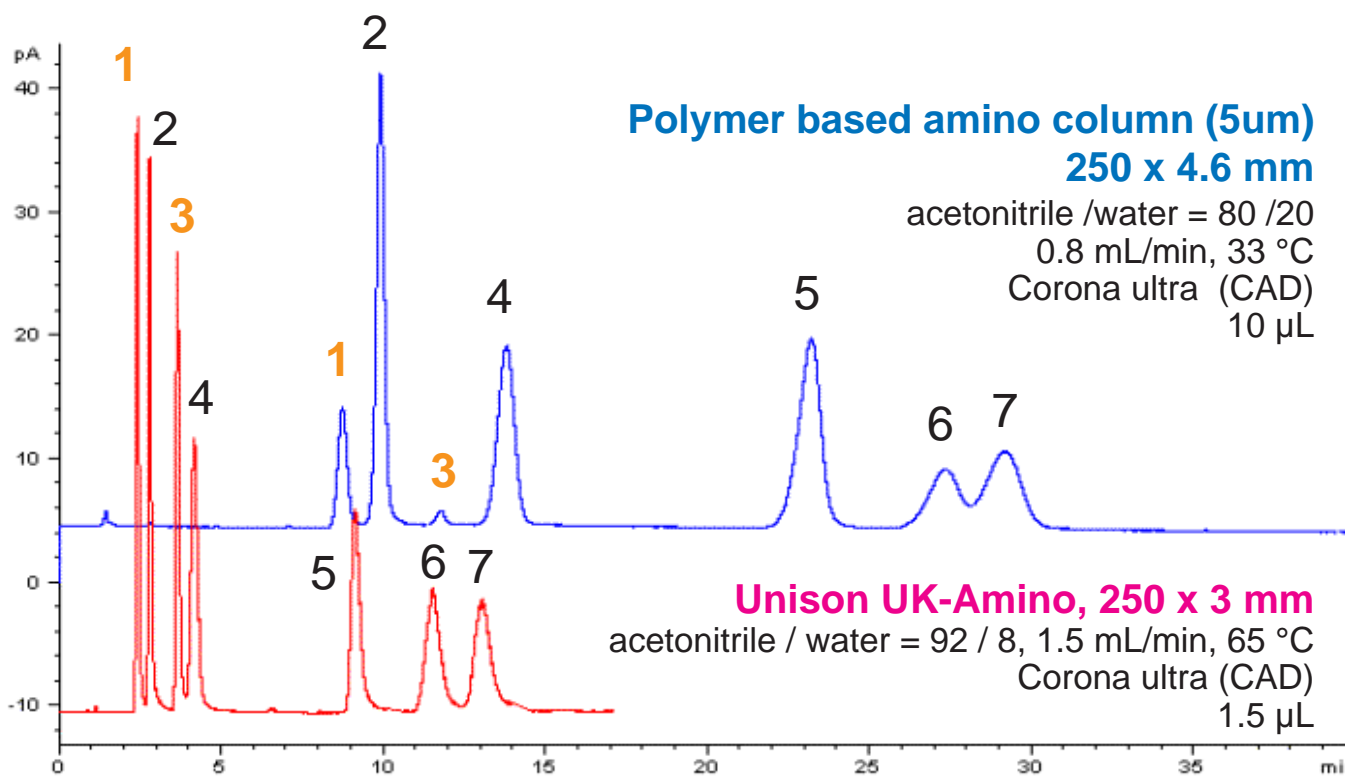
250 x 3 mm

Application

Improving of analysis time and peak recovery for saccharide separation

糖類の分析における時間短縮と吸着の改善

- 1. Xylose
- 2. Fructose
- 3. Mannose
- 4. Glucose
- 5. Sucrose
- 6. Lactose
- 7. Maltose



Courtesy of Kyoko Fukushima, LMS CO., LTD. / JAPAN

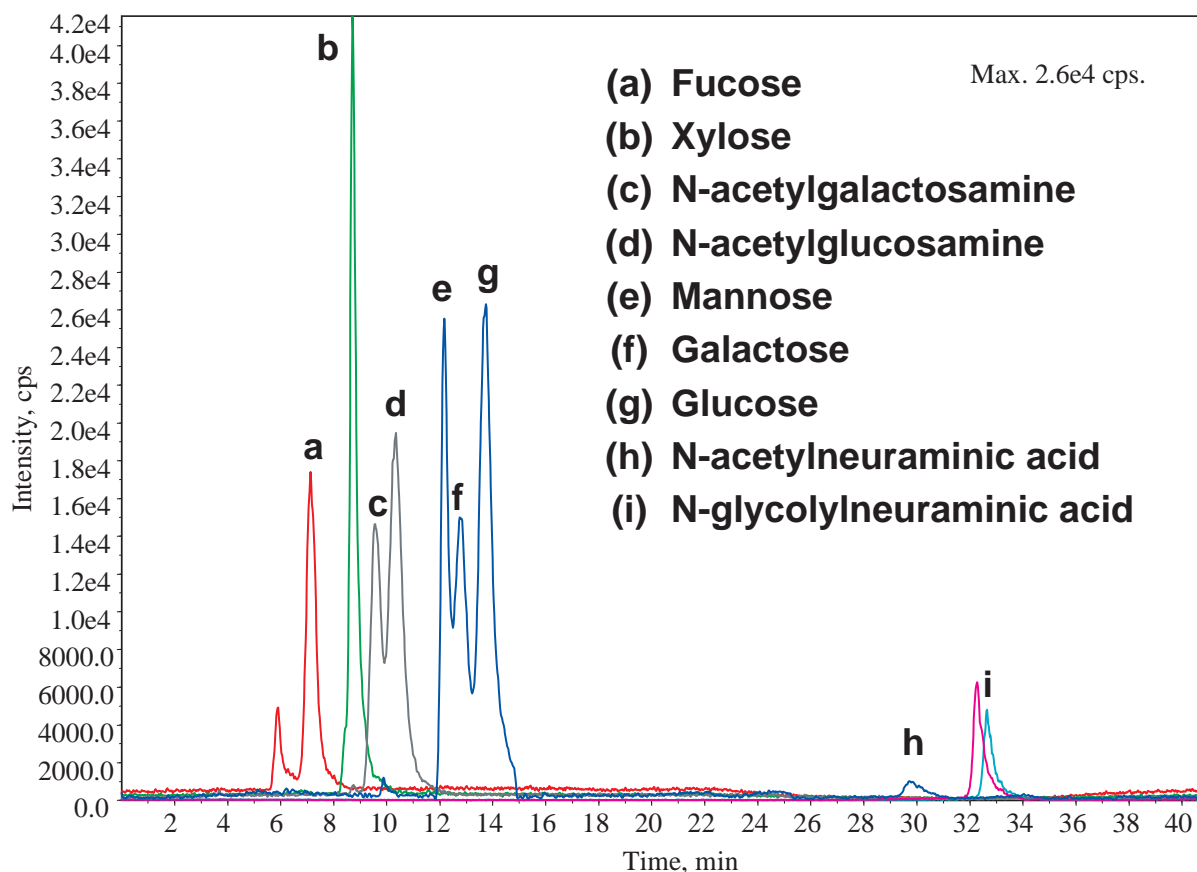
Unison UK-Amino

250 x 2 mm

Application

LC-MS(MRM) Application For Monosaccharides

LC-MSアプリケーション (単糖)



Unison UK-Amino, 250 x 2 mm

A: [0.01% w/w ammonium acetate in water]

B: [100 % acetonitrile]

91-89 %B (0 - 3.01 min), 89 %B (3.01 - 17 min), 89-30 % B (17 - 26 min),

30 %B (26 - 30 min), 91 %B (30 - 40 min)

 178 μ L/min

 55 deg.C, 1 μ L (100 pg / μ L in 91 %B)

Applied Biosystems QTrap 4000; ESI Negative;

 [M+CH₃CO₂]⁻ precursor to [M-H]⁻ product for (a-g);

 and [M-H]⁻ parent to m/z 87 and 116 for h and i, respectively

Ref) Rapid Communications in Mass Spectrometry Vol 24 Issue 11 (June 2010) 1565 - 1574

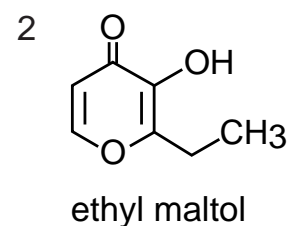
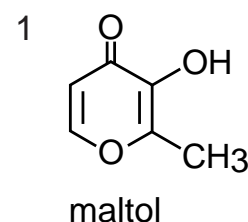
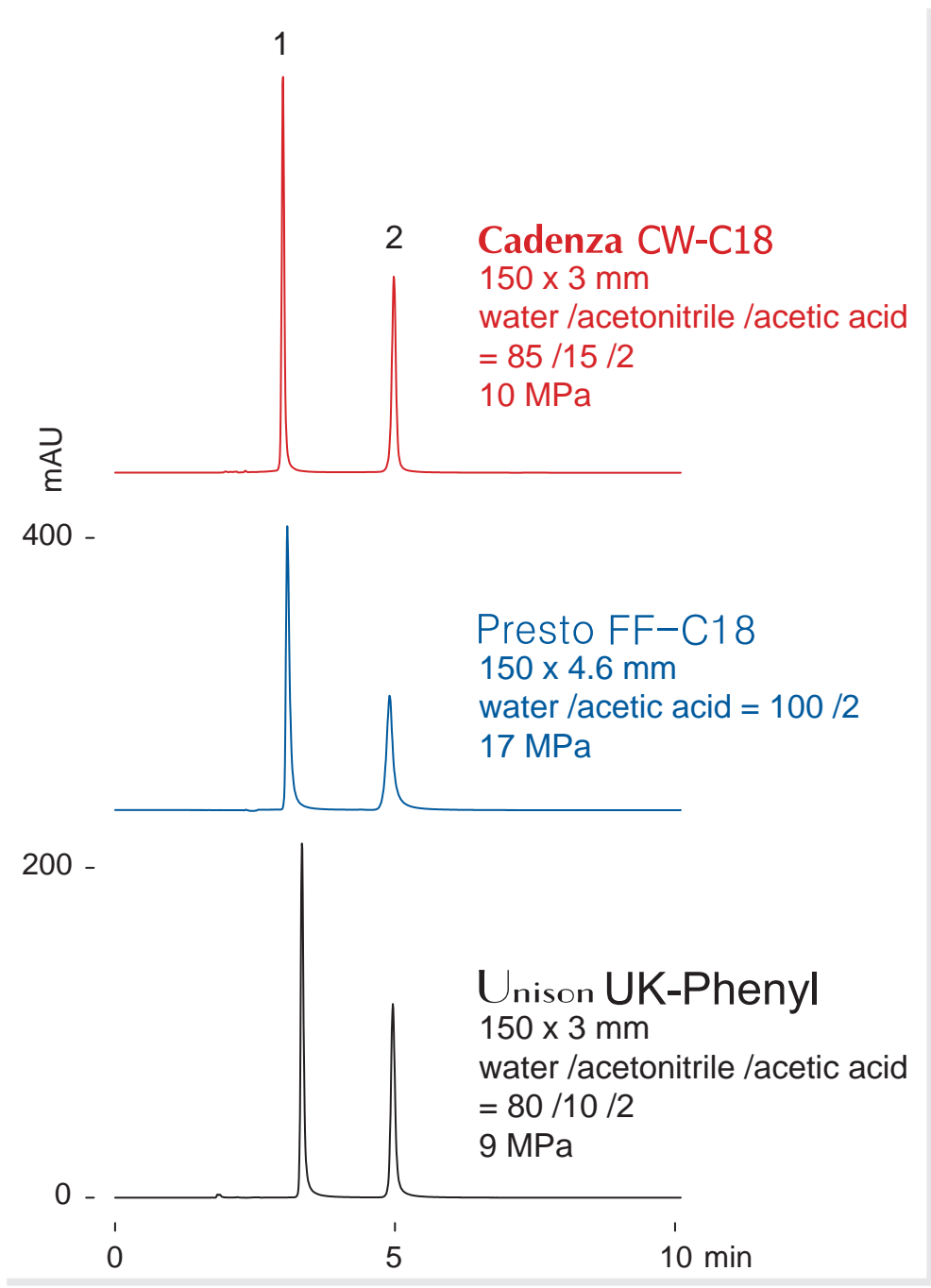
Courtesy of Loubna Hammad, Dakota Derryberry, Yazen Jmeian, and Yehia Mechref
 METACyt Biochemical Analysis Center, Department of Chemistry,
 Indiana University 800 E. Kirkwood Ave, Bloomington, Indiana 47405 USA

Cadenza CW-C18
 Presto FF-C18
 Unison UK-Phenyl

150 x 3 mm
 150 x 4.6 mm

Application

Maltol, ethyl maltol
 マルトール, エチルマルトール



0.4 mL/min, 37 deg.C, 260 nm, 1 uL (0.2 ug)

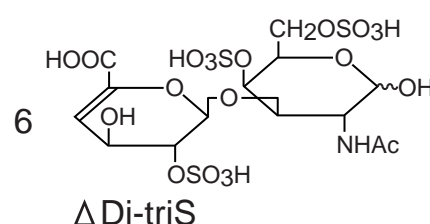
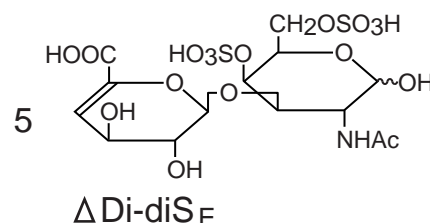
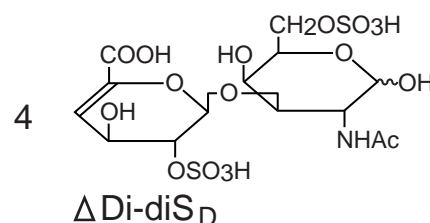
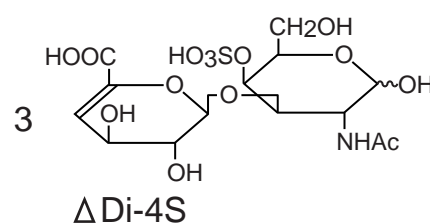
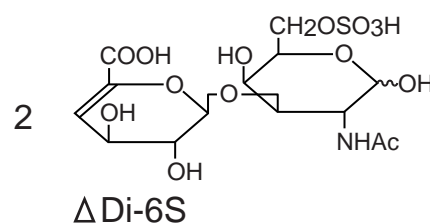
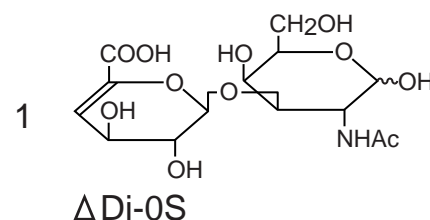
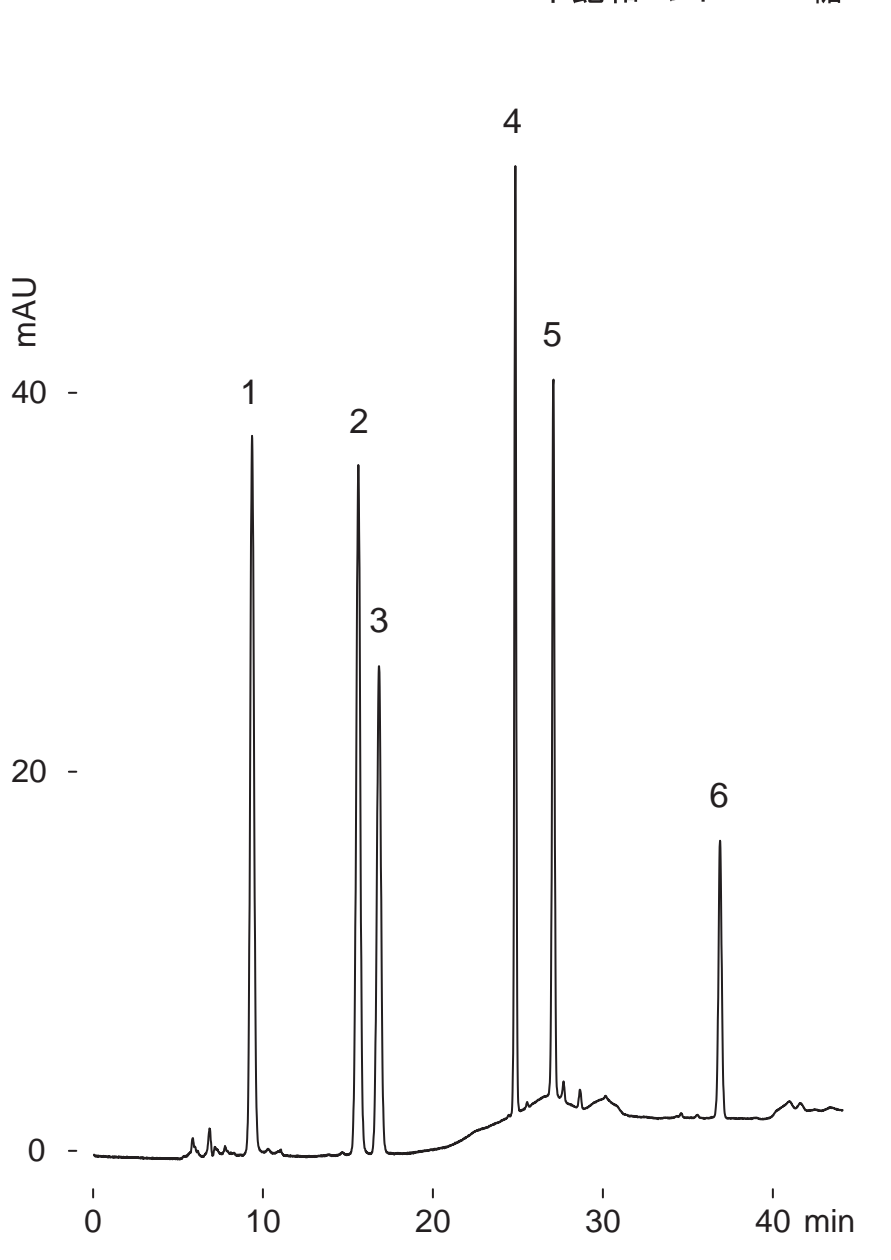
Unison UK-Amino

250 x 3 mm

Application

Unsaturated Chondro-Disaccharides

不飽和コンドロニ糖



Unison UK-Amino, 250 x 3 mm
 A: 5 mM (NH₄)₂HPO₄ / acetonitrile = 40 / 60
 B: 100 mM (NH₄)₂HPO₄
 2-3 %B (0-10 min), 3-40 %B (10-40 min)
 0.4 mL/min (5 MPa), 50 deg.C, 232 nm
 4 uL (0.26-0.75 ug, 100 mM (NH₄)₂HPO₄)

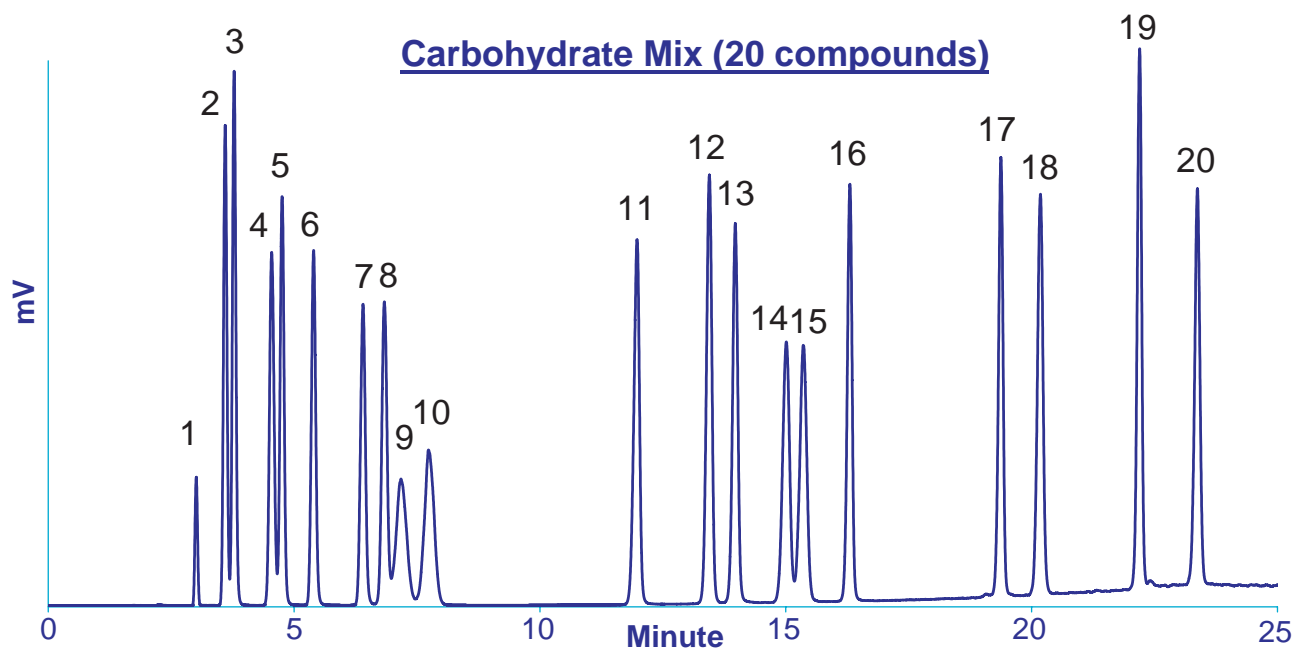
Unison UK-Amino

250 x 3 mm

Application

Simultaneous HPLC/LT-ELSD Analysis of Polyols, Mono-, Di- and Oligosaccharides

LT-ELSDによるポリオールおよびモノ、ジ、オリゴ糖の分析



	RT	%RSD (n=6)		LOD (S/N=3)
	Minutes	RT	Response	ng (o.c.)
1- Glycerol	3.05	0.07	4.1	145*
2- Rhamnose	3.65	0.04	2.0	22.9
3- Erythritol	3.85	0.05	1.2	11.7
4- Arabinose	4.63	0.06	2.7	20.0
5- Xylose	4.79	0.06	1.7	20.0
6- Fructose	5.51	0.06	3.1	15.4
7- Sorbitol	6.57	0.03	1.0	23.1
8- Mannose	6.99	0.04	0.4	20.0
9- Galactose	7.37	0.18	2.5	35.3
10- Glucose	7.93	0.12	2.1	28.6
11- Inositol	12.25	0.05	1.0	8.6
12- Sucrose	13.66	0.06	1.7	5.1
13- Maltulose	14.19	0.04	1.7	7.1
14- Lactose	15.23	0.06	1.5	6.2
15- Maltose	15.54	0.04	1.4	6.5
16- Trehalose	16.49	0.05	1.8	34.5
17- Raffinose	19.54	0.04	3.4	33.7
18- Maltotriose	20.30	0.04	0.6	38.7
19- Nystose	22.28	0.03	1.4	30.9
20- Maltotetraose	23.45	0.03	0.7	34.9

* Semi-volatile compound

Unison UK-Amino, 250 x 3 mm
 A: acetonitrile
 B: water
 10%B (0-6 min)
 10-25%B (6-20 min)
 25%B (20-25 min)
 0.7 mL/min, 60 °C, 2uL

ELSD (SEDERE, France)
 SEDEX 90LT, 28 °C, 3.5Bar

Data provided by
 Dr. Eric VERETTE
 SEDERE S.A.S., France

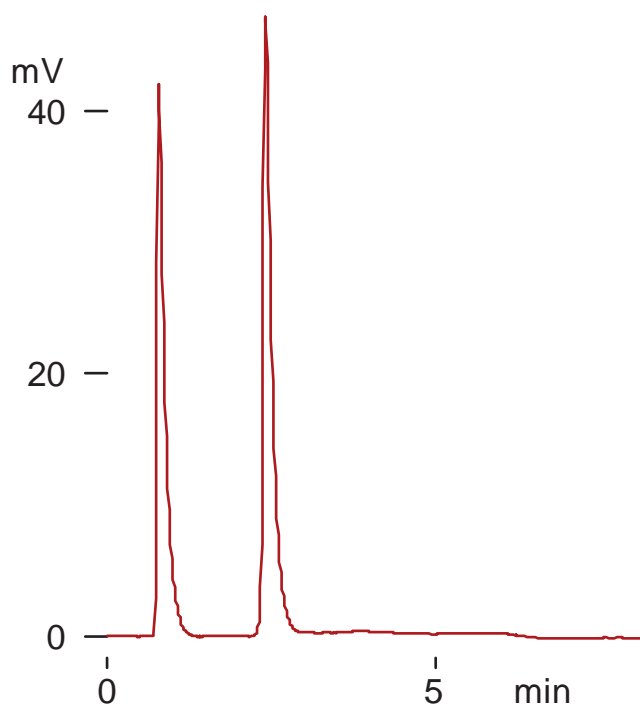
Presto FF-C18

50 x 4.6 mm
150 x 4.6 mm

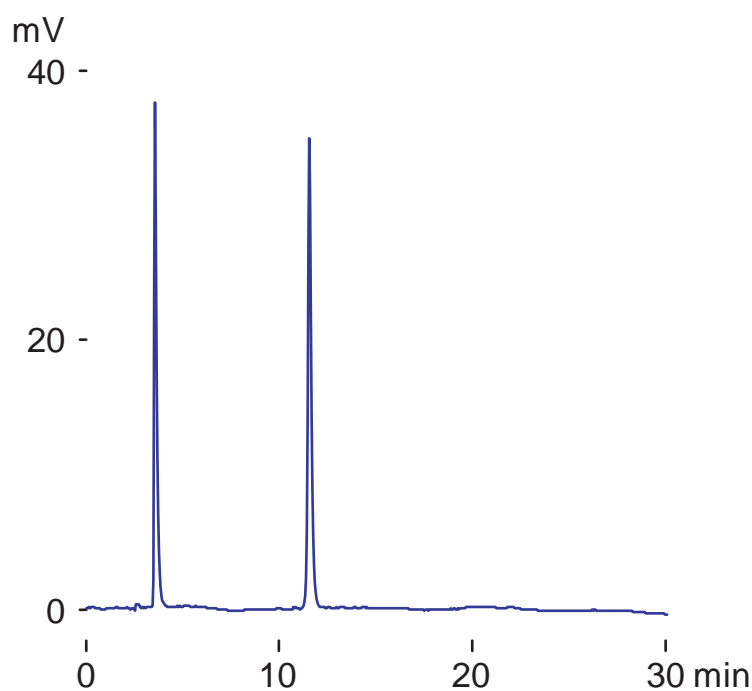
Application

Pectin

ペクチン



Presto FF-C18, 50 x 4.6 mm
A: water / formic acid = 100 / 0.1
B: acetonitrile / formic acid = 100 / 0.1
0-70 %B (0-5 min)
0.5 mL/min (7 MPa), 37 deg.C
ELSD (spray chamber 30 deg.C,
drift tube 80 deg.C)
2 uL (4 ug)



Presto FF-C18, 150 x 4.6 mm
A: water / formic acid = 100 / 0.1
B: acetonitrile / formic acid = 100 / 0.1
0-50 %B (0-25 min)
0.3 mL/min (11 MPa), 37 deg.C
ELSD (spray chamber 30 deg.C,
drift tube 80 deg.C)
2 uL (4 ug)

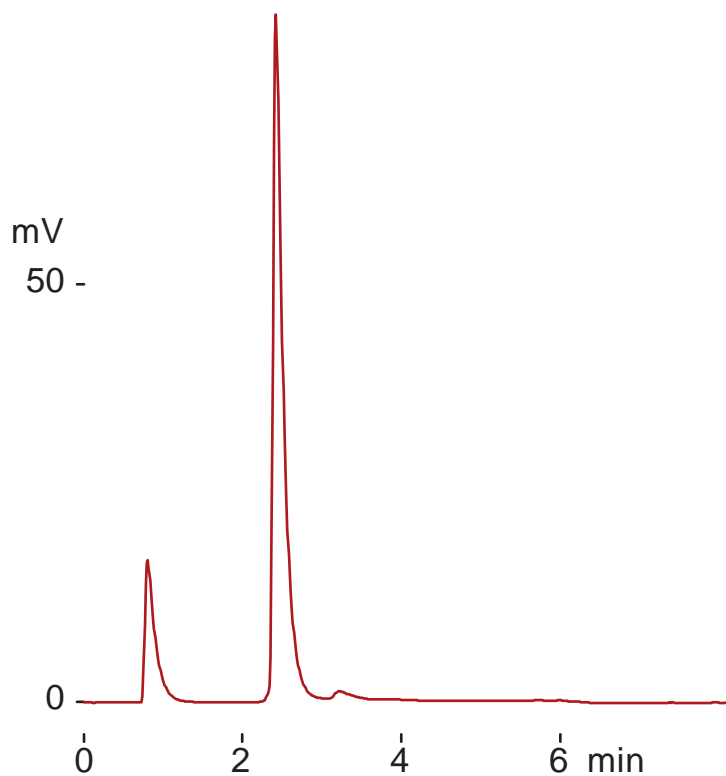
Presto FF-C18

50 x 4.6 mm
150 x 4.6 mm

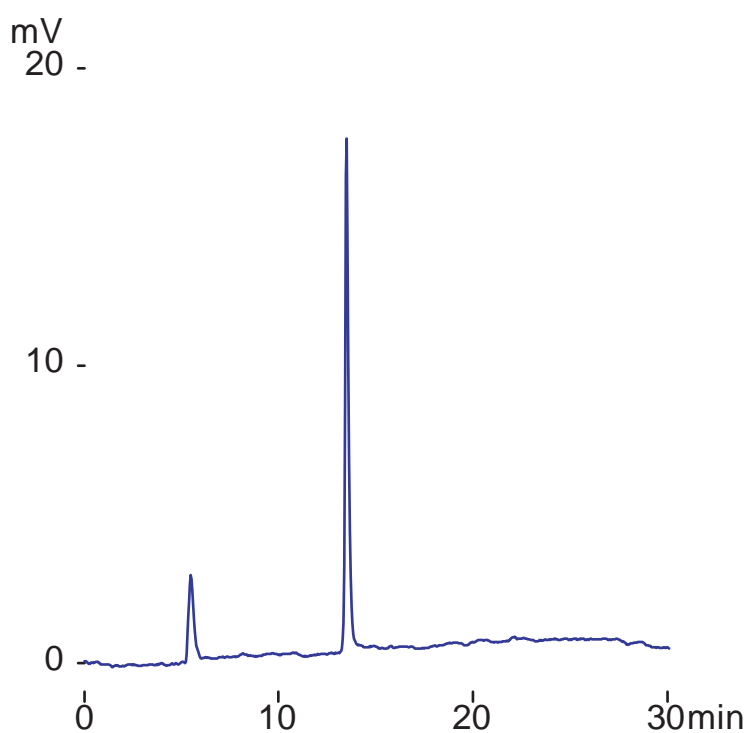
Application

Lipopolysaccharide (from *E.coli* O127)

リポ多糖(大腸菌O127由来)



Presto FF-C18, 50 x 4.6 mm
A: water / formic acid = 100 / 0.1
B: acetonitrile / formic acid = 100 / 0.1
0-70 %B (0-5 min)
0.5 mL/min (7 MPa), 37 deg.C
ELSD (spray chamber 30 deg.C,
drift tube 80 deg.C)
5 uL (10 ug)



Presto FF-C18, 150 x 4.6 mm
A: water / formic acid = 100 / 0.1
B: acetonitrile / formic acid = 100 / 0.1
0-70 %B (0-25 min)
0.2 mL/min (7 MPa), 37 deg.C
ELSD (spray chamber 30 deg.C,
drift tube 80 deg.C)
5 uL (10 ug)

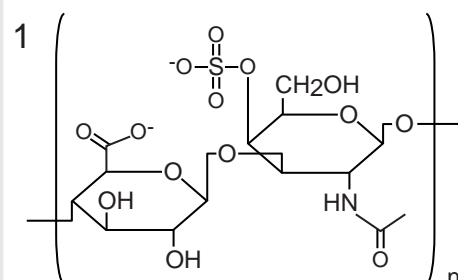
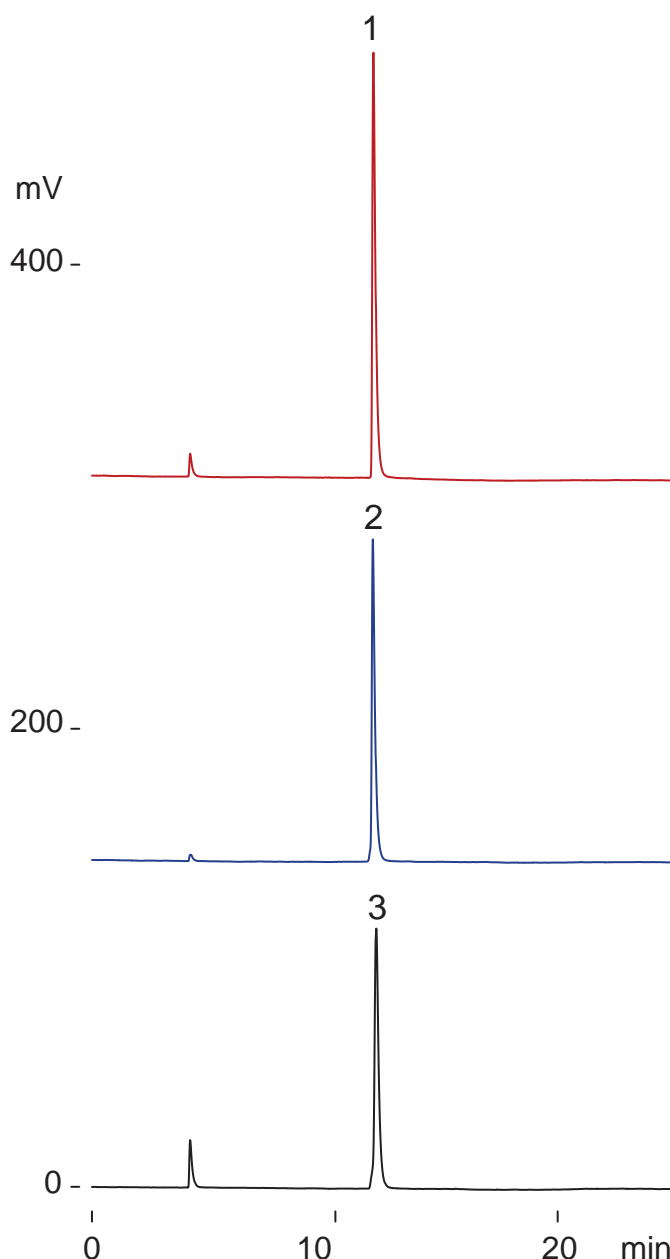
Presto FF-C18

250 x 4.6 mm

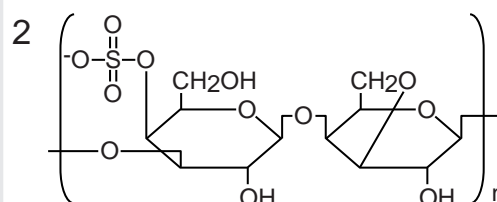
Application

Chondroitin sulfuric acid, carrageenan

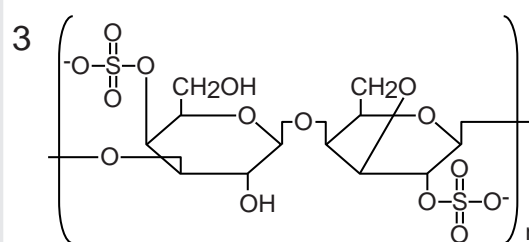
コンドロイチン硫酸, カラギーナン



chondroitin sulfuric acid
(~ 700kDa)



kappa-carrageenan
(~ 1 million Da)



iota-carrageenan
(~ 1 million Da)

Presto FF-C18, 250 x 4.6 mm

A: water / triethylamine / acetic acid = 100 / 1.1 / 0.5

B: acetonitrile

0-40 %B (0-15min), 0.35 mL/min (24 MPa), 37 deg.C

ELSD (spray chamber 50 deg.C, drift tube 100 deg.C), 2 uL (10 ug)

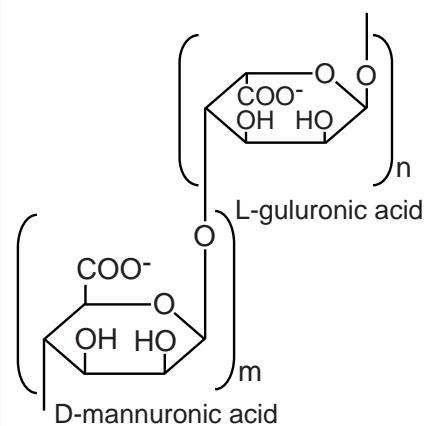
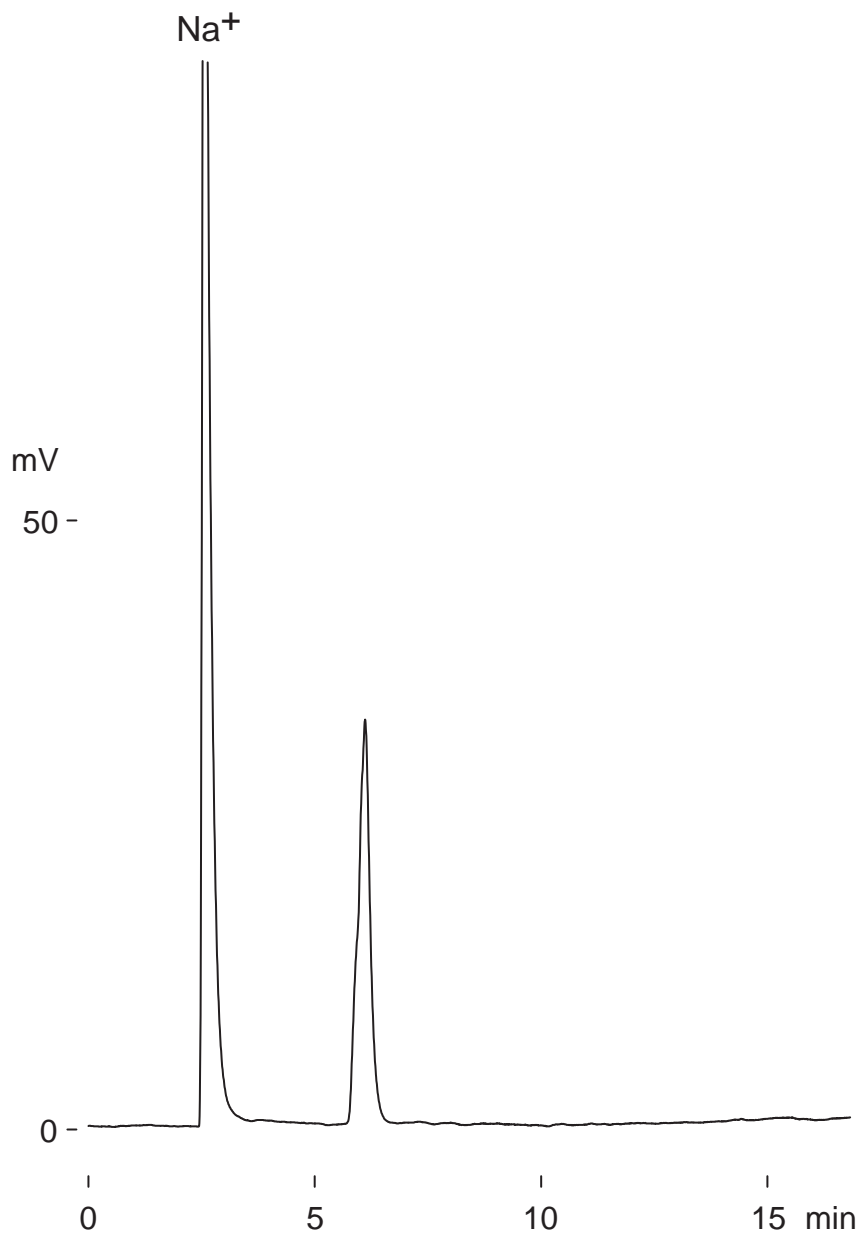
Courtesy of Anthony Montanari, Ph.D., Perrigo Company of South Carolina - USA

Presto FF-C18

150 x 4.6 mm

Application

Alginic acid
アルギン酸



alginic acid sodium salt
(ca.200 kDa)

Presto FF-C18, 150 x 4.6mm

A: water / trifluoroacetic acid = 100 / 0.1

B: acetonitrile / trifluoroacetic acid = 100 / 0.1

0-90 %B (0-15min), 0.4 mL/min (23MPa), 37 deg.C

ELSD (spray chamber 50deg.C, drift tube 100deg.C)

5 uL (25ug)

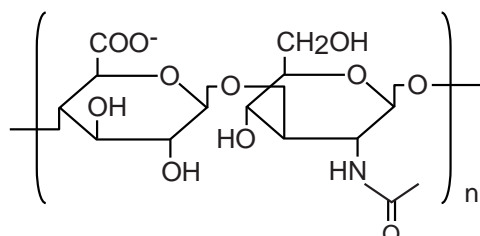
Presto FF-C18

150 x 4.6 mm

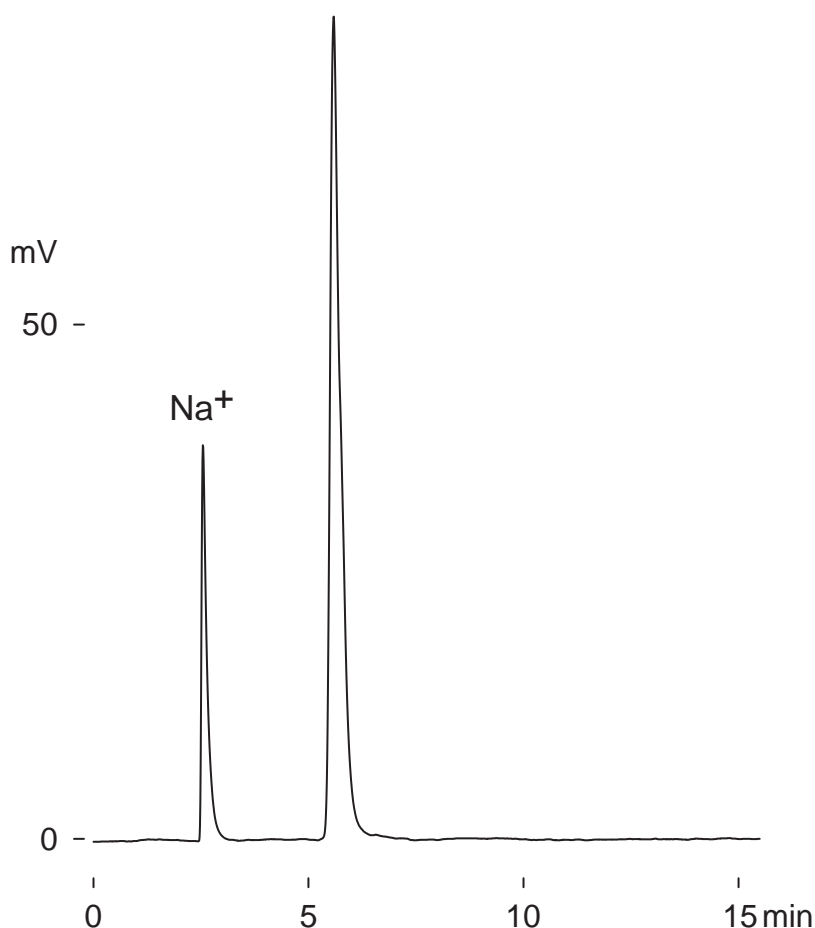
Application

Hyaluronic acid

ヒアルロン酸(鶏冠由来)



hyaluronic acid sodium salt
(from rooster comb, ca.1 MDa)



Presto FF-C18, 150 x 4.6mm

A: water / formic acid = 100 / 0.1

B: acetonitrile / formic acid = 100 / 0.1

0-90 %B (0-15min), 0.5 mL/min (23MPa), 37 deg.C

ELSD (spray chamber 50deg.C, drift tube 100deg.C)

3 uL (7.5ug)

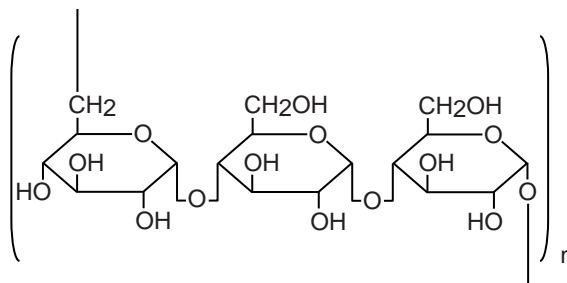
Presto FF-C18

150 x 4.6 mm

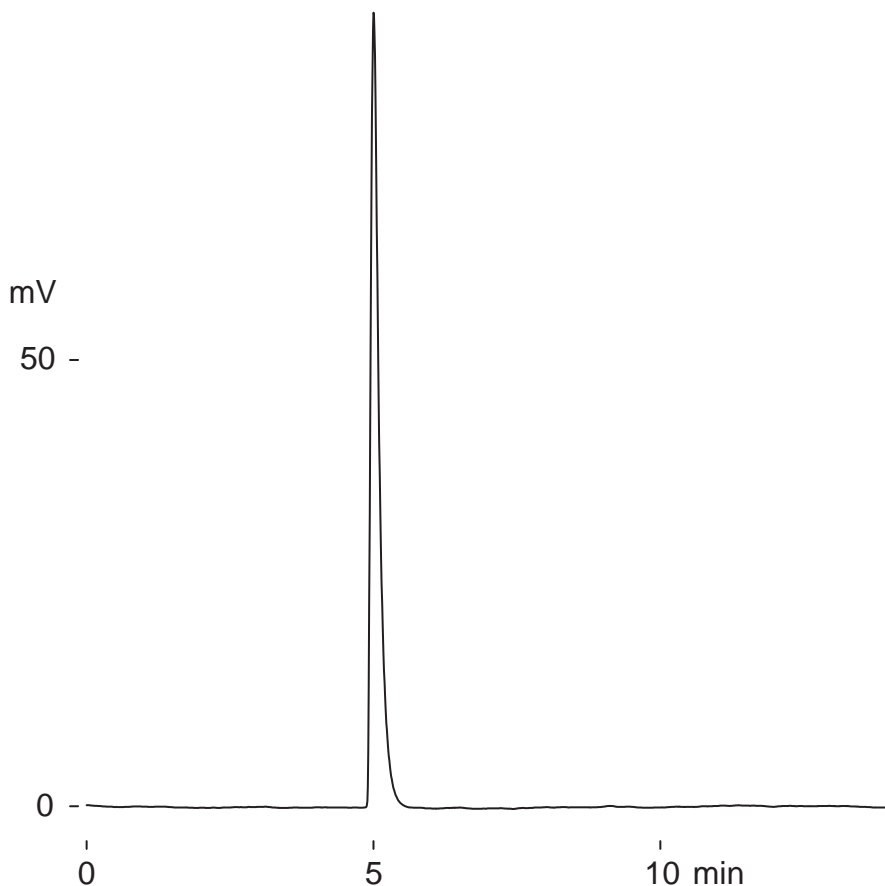
Application

Pullulan

プルラン



pullulan
(50 ~ 100 kDa)



Presto FF-C18, 150 x 4.6mm

A: water

B: acetonitrile

5-90 %B (0-15min), 0.4 mL/min (22MPa), 37 deg.C

ELSD (spray chamber 50deg.C, drift tube 100deg.C)

0.6 uL (3ug)

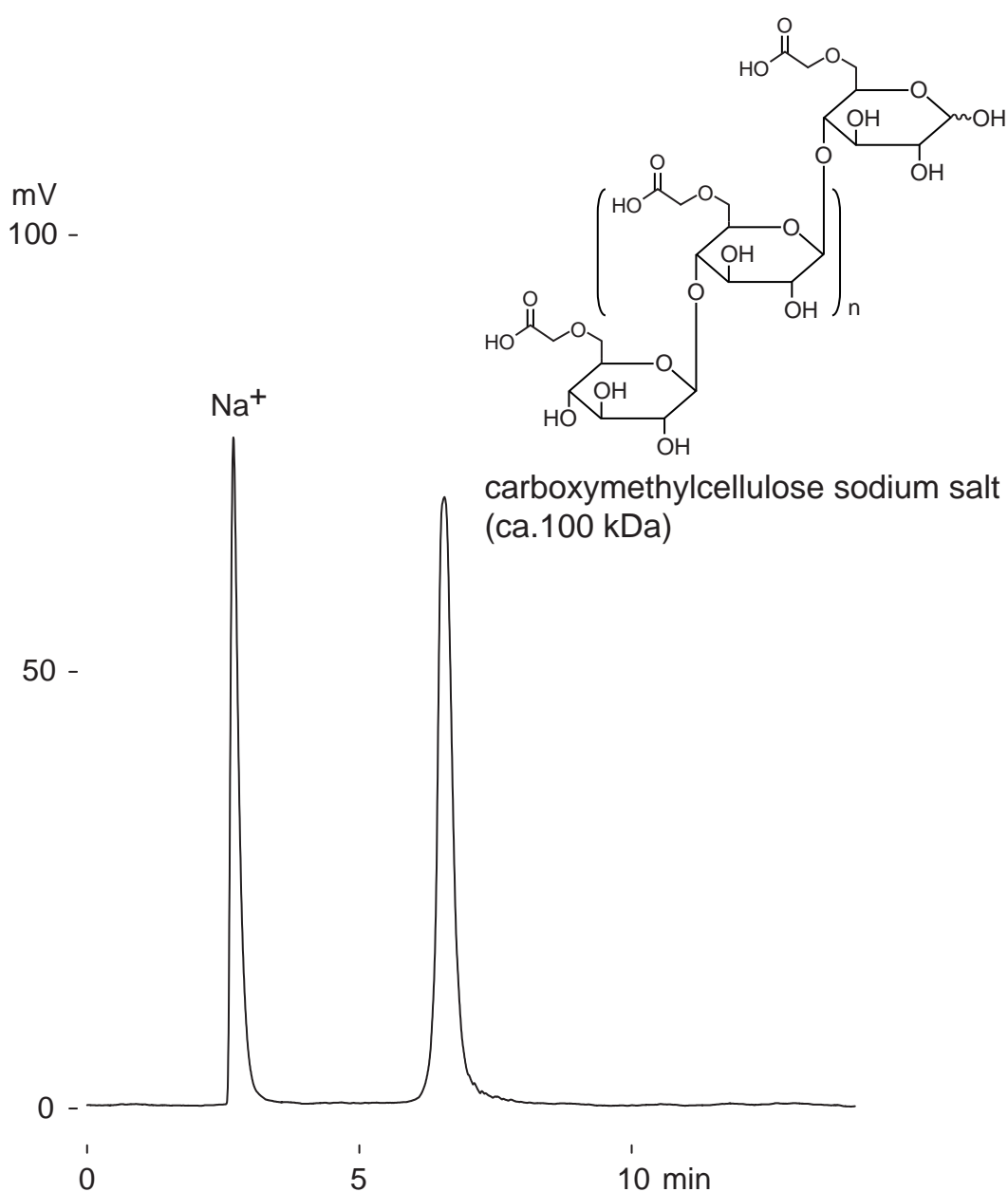
Presto FF-C18

150 x 4.6 mm

Application

Carboxymethylcellulose

カルボキシメチルセルロース



Presto FF-C18, 150 x 4.6mm

A: water / trifluoroacetic acid = 100 / 0.1

B: acetonitrile / trifluoroacetic acid = 100 / 0.1

5-60 %B (0-10min), 0.4 mL/min (23MPa), 37 deg.C

ELSD (spray chamber 50deg.C, drift tube 100deg.C)

8 uL (16ug)

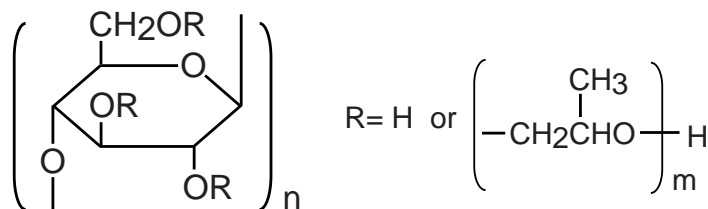
Presto FF-C18

150 x 4.6 mm

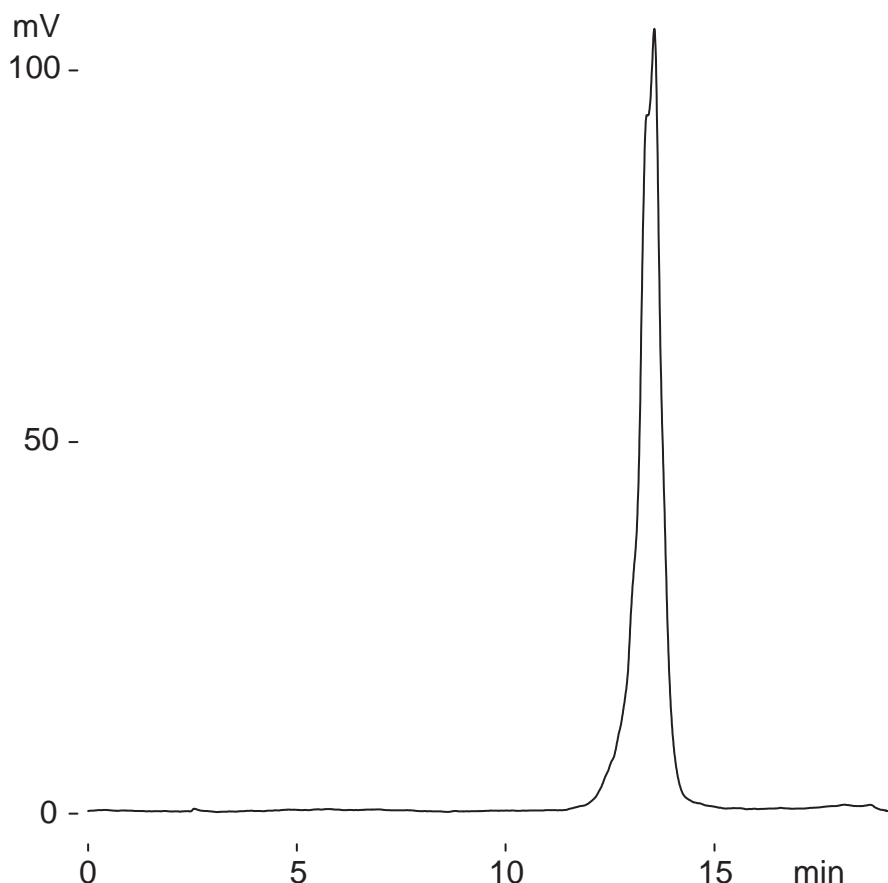
Application

Hydroxypropylcellulose

ヒドロキシプロピルセルロース



hydroxypropylcellulose
(55 ~ 70 kDa)



Presto FF-C18, 150 x 4.6mm

A: water

B: acetonitrile

5-90 %B (0-15min), 0.4 mL/min (21MPa), 37 deg.C

ELSD (spray chamber 50deg.C, drift tube 100deg.C), 2 uL (10ug)

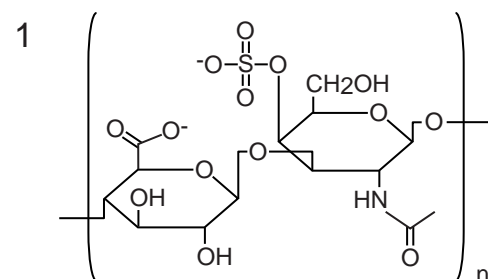
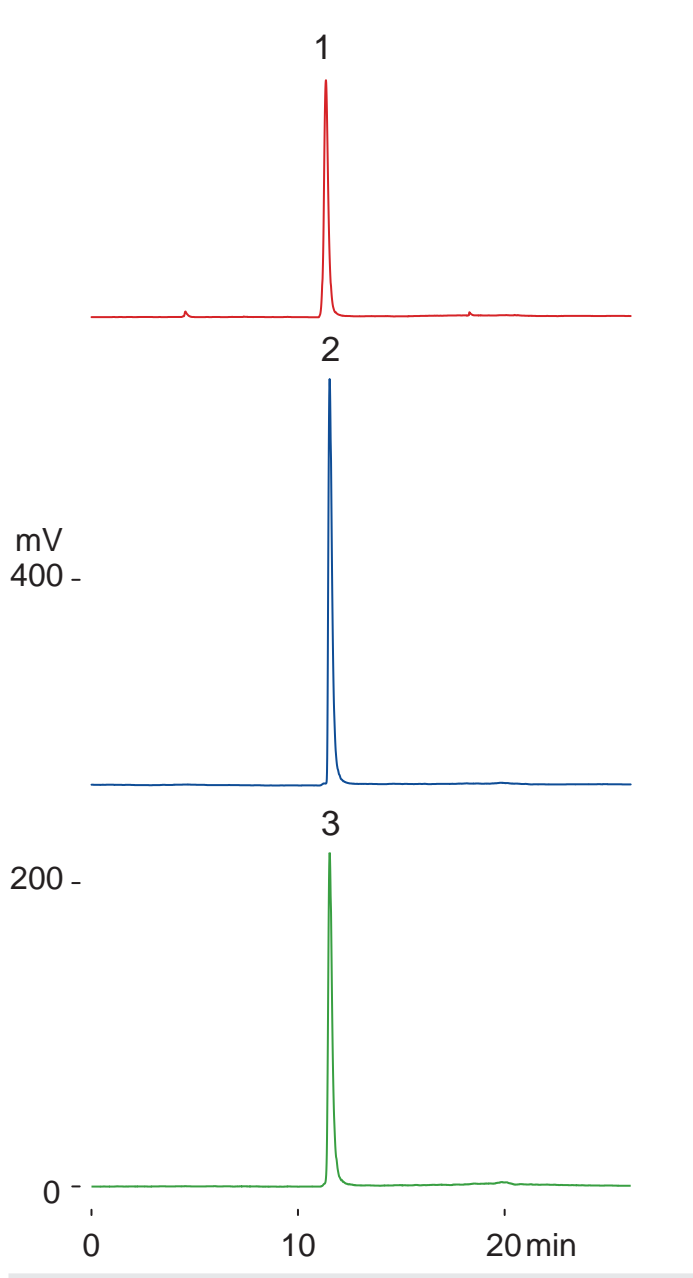
Presto FF-C18

250 x 4.6 mm

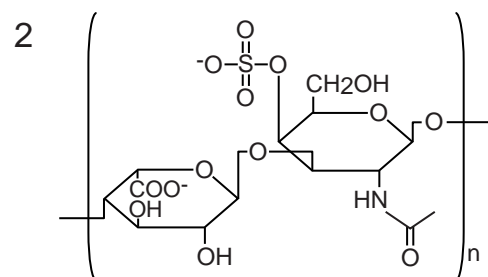
Application

Mucopolysaccharides

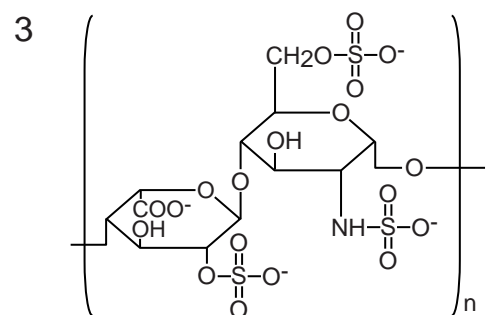
ムコ多糖



chondroitin sulfuric acid
(~ 700 kDa)



dermatan sulfuric acid
(ca. 20 kDa)



heparin (5 ~ 20 kDa)

Presto FF-C18, 250 x 4.6 mm

A: water /triethylamine /acetic acid = 100 /1.1 /0.5

B: acetonitrile

0-40 %B (0-15min)

0.35 mL/min (24 MPa), 37 deg.C

ELSD (spray chamber 50 deg.C, drift tube 100 deg.C)

2 uL (10 ug)

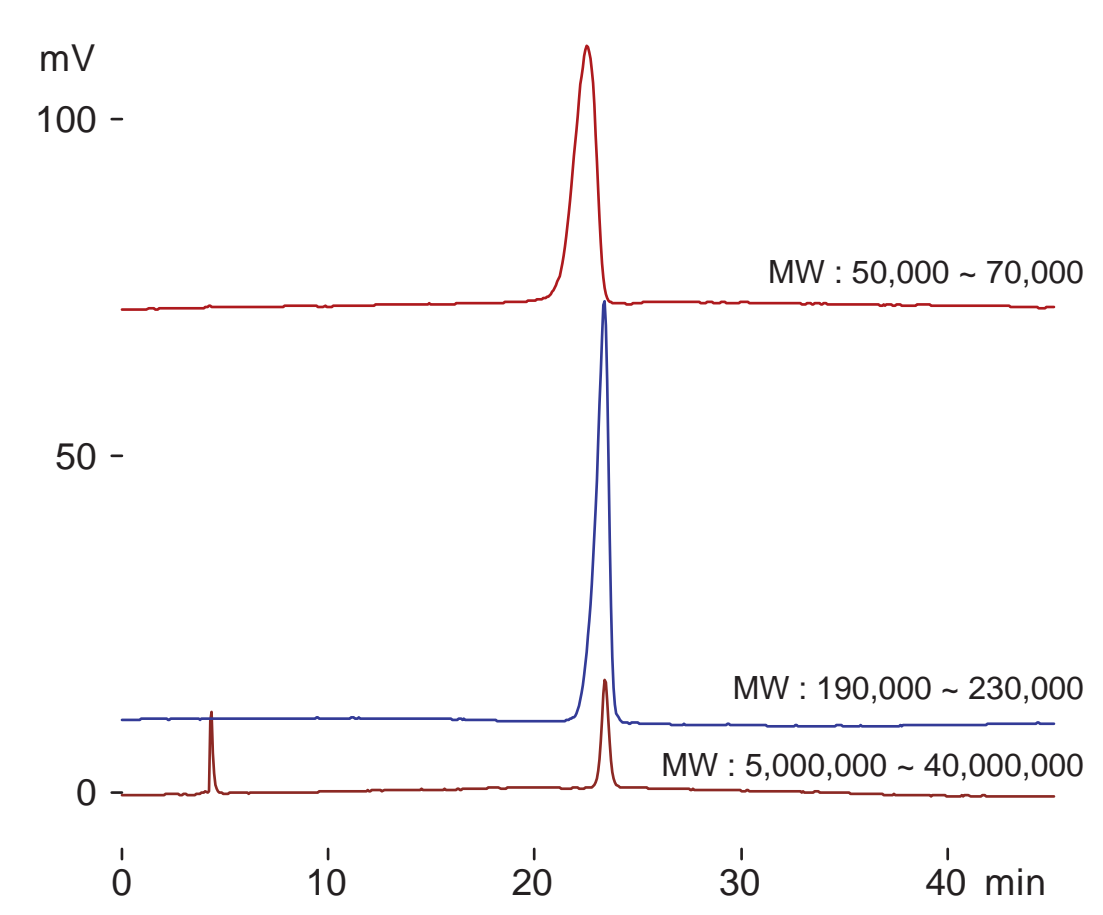
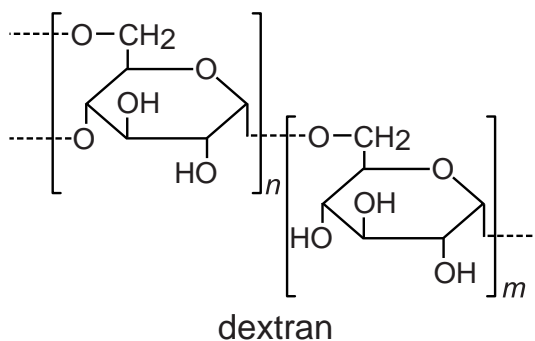
Presto FF-C18

250 x 4.6 mm

Application

Dextrans

デキストラン



Presto FF-C18, 250 x 4.6 mm
 A: water, B: water / acetonitrile = 90 / 10
 0-80 %B (0-40min)
 0.4 mL/min (26MPa), 37 deg.C
 ELSD (spray chamber 30 deg.C, drift tube 80 deg.C)
 2-4 uL (20 ug, water)

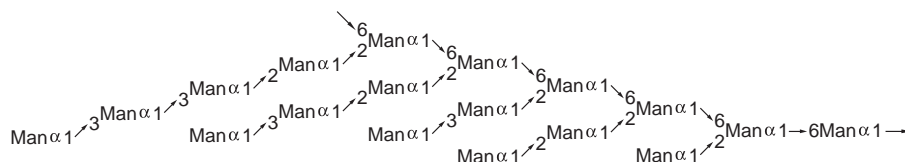
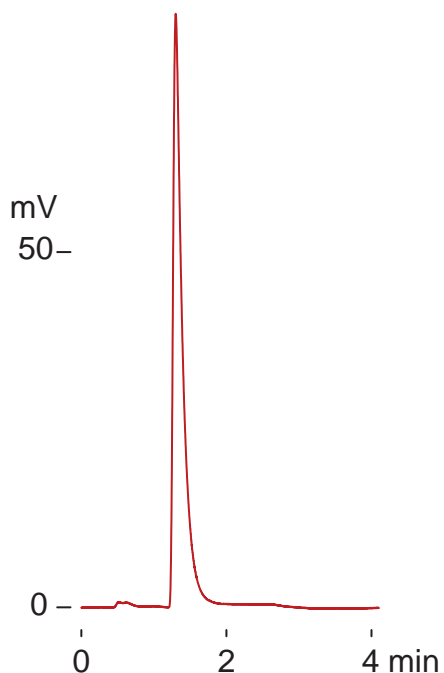
Presto FF-C18

30 x 4.6 mm
150 x 4.6 mm

Application

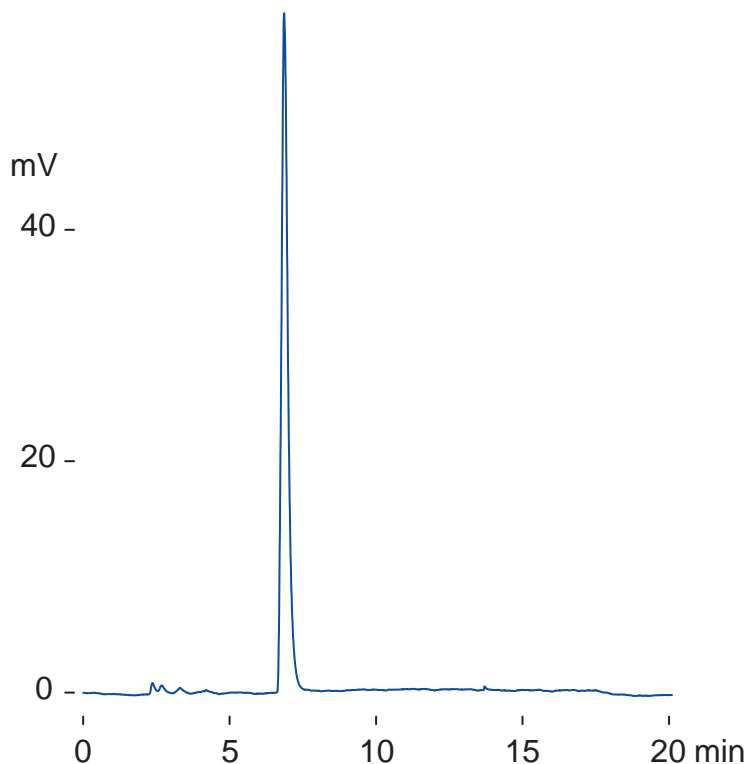
Mannan

マンナン(出芽酵母由来)



mannan
(from *Saccharomyces cerevisiae*, ca.130 kDa)

Presto FF-C18, 30 x 4.6 mm
A: water
B: acetonitrile
0-70 %B (0-2min)
0.5 mL/min (5 MPa), 37 deg.C,
ELSD (spray chamber 50 deg.C, drift tube 100 deg.C)
1 uL (5 ug)



Presto FF-C18, 150 x 4.6 mm
A: water
B: acetonitrile
0-50 %B (0-15min)
0.4 mL/min (17 MPa), 37 deg.C
ELSD (spray chamber 50 deg.C
drift tube 100 deg.C)
2 uL (10 ug)

Presto FF-C18

30 x 4.6 mm
150 x 4.6 mm

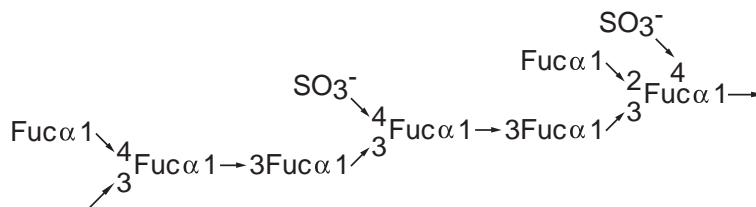
Application

Fucoidan

フコイダン(ヒバマタ由来)

mV
100-

0- 2 4 min



fucoidan
(from *Fucus vesiculosus*, 100 ~ 180 kDa)

Presto FF-C18, 30 x 4.6 mm

A: water /triethylamine /acetic acid = 100 /1.1 /0.5

B: acetonitrile

0-70 %B (0-2min)

0.5 mL/min (5 MPa), 37 deg.C,

ELSD (spray chamber 50 deg.C, drift tube 100 deg.C)

1 uL (5 ug)

mV
100 -

0 - 5 10 15 min

Presto FF-C18, 150 x 4.6 mm

A: water /triethylamine /acetic acid
= 100 /1.1 /0.5

B: acetonitrile

0-70 %B (0-15min)

0.3 mL/min (14 MPa), 37 deg.C

ELSD (spray chamber 50 deg.C
drift tube 100 deg.C)

2 uL (10 ug)

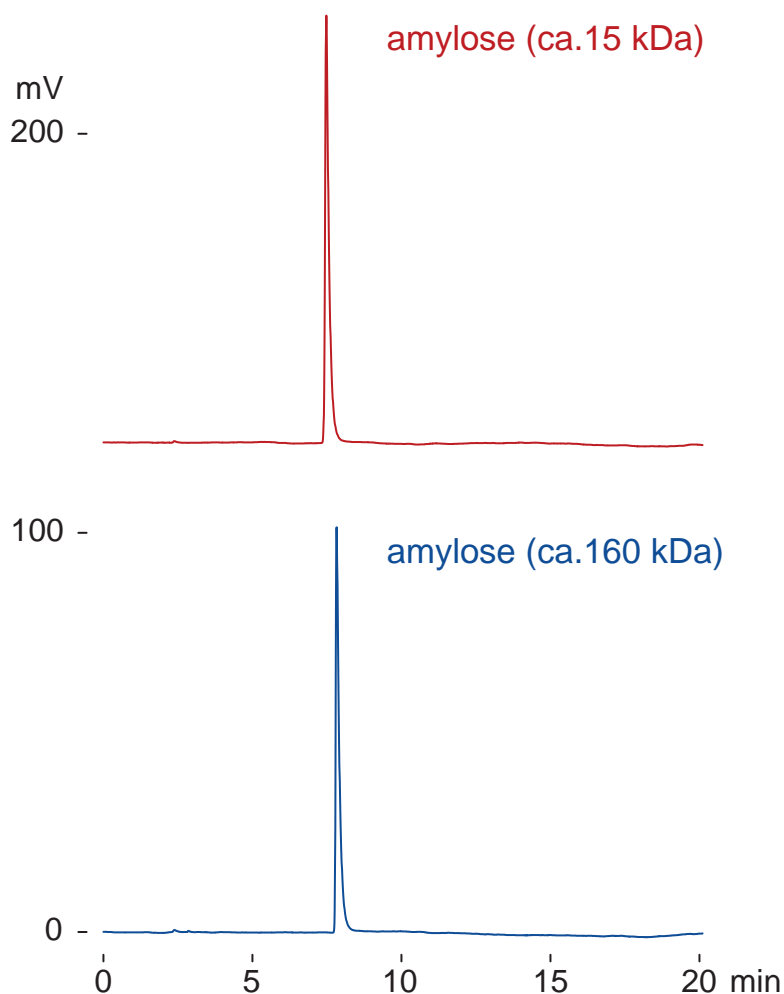
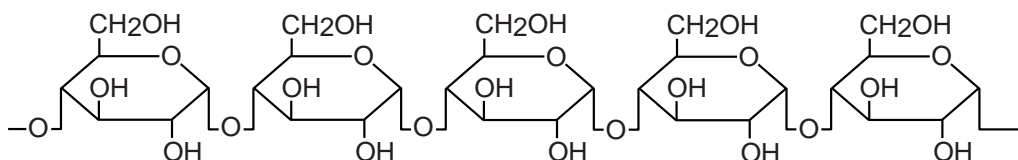
Presto FF-C18

150 x 4.6 mm

Application

Amylose

アミロース



Presto FF-C18, 150 x 4.6 mm

A: water

B: acetonitrile

0-50 %B (0-15min), 0.4 mL/min (17 MPa), 37 deg.C

ELSD (spray chamber 50 deg.C, drift tube 100 deg.C)

1 uL (5 ug, 0.5N-NaOH)

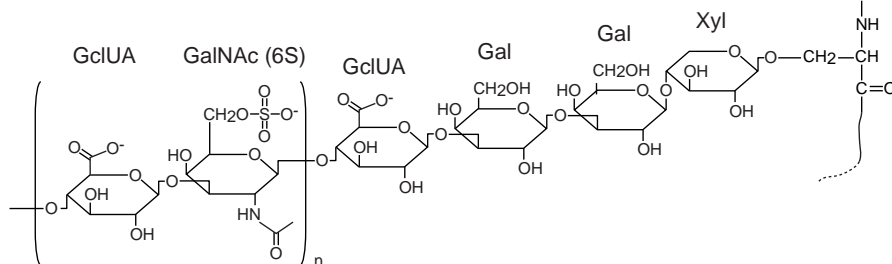
Presto FF-C18

30 x 4.6 mm
150 x 4.6 mm

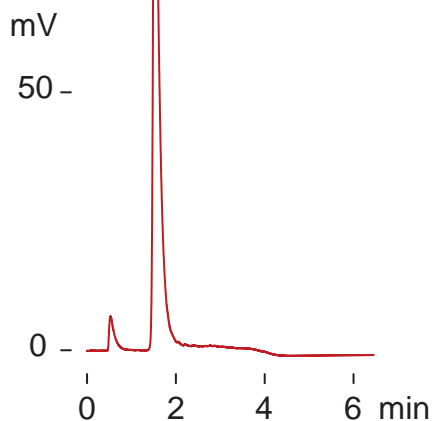
Application

Proteoglycan

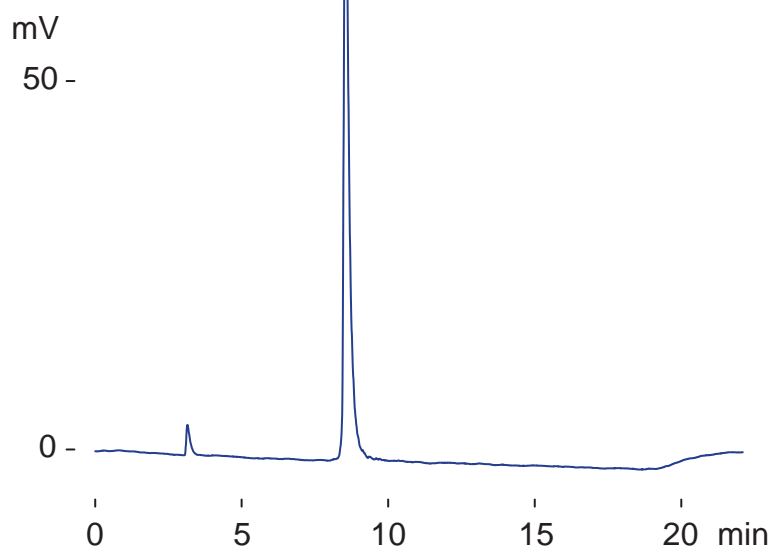
プロテオグリカン(サケ鼻軟骨由来)



proteoglycan
(from nasal cartilage of salmon head, ca.450 kDa)



Presto FF-C18, 30 x 4.6 mm
A: water / triethylamine / acetic acid = 100 / 1.1 / 0.5
B: acetonitrile
0-60 %B (0-3min)
0.5 mL/min (5MPa), 37 deg.C,
ELSD (spray chamber 50 deg.C, drift tube 100 deg.C)
1 uL (5 ug)



Presto FF-C18, 150 x 4.6 mm
A: water /triethylamine /acetic acid
= 100 /1.1 /0.5
B: acetonitrile
0-60 %B (0-15min)
0.3 mL/min (14 MPa), 37 deg.C
ELSD (spray chamber 50 deg.C
drift tube 100 deg.C)
1 uL (5 ug)

Courtesy of Mr. M. Tsuboi, ICHIMARU PHARCOS Co., Ltd. & KAKUHIRO Co., Ltd., Japan

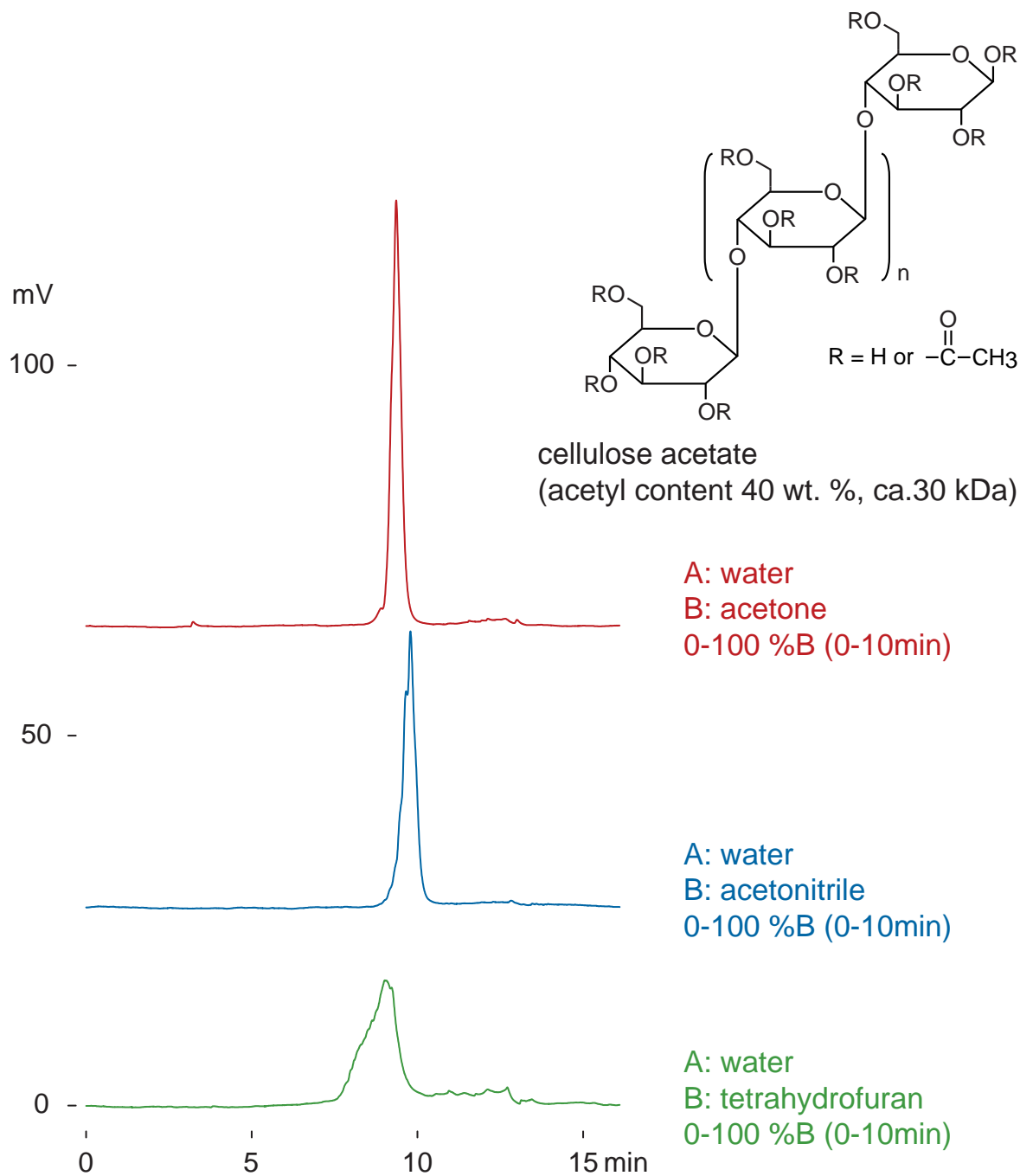
Presto FF-C18

150 x 4.6 mm

Application

Cellulose acetate

セルロースアセテート



Presto FF-C18, 150 x 4.6 mm
0.4 mL/min (11 MPa), 60 deg.C
ELSD (spray chamber 50 deg.C, drift tube 100 deg.C)
1 uL (5 ug, acetonitrile)

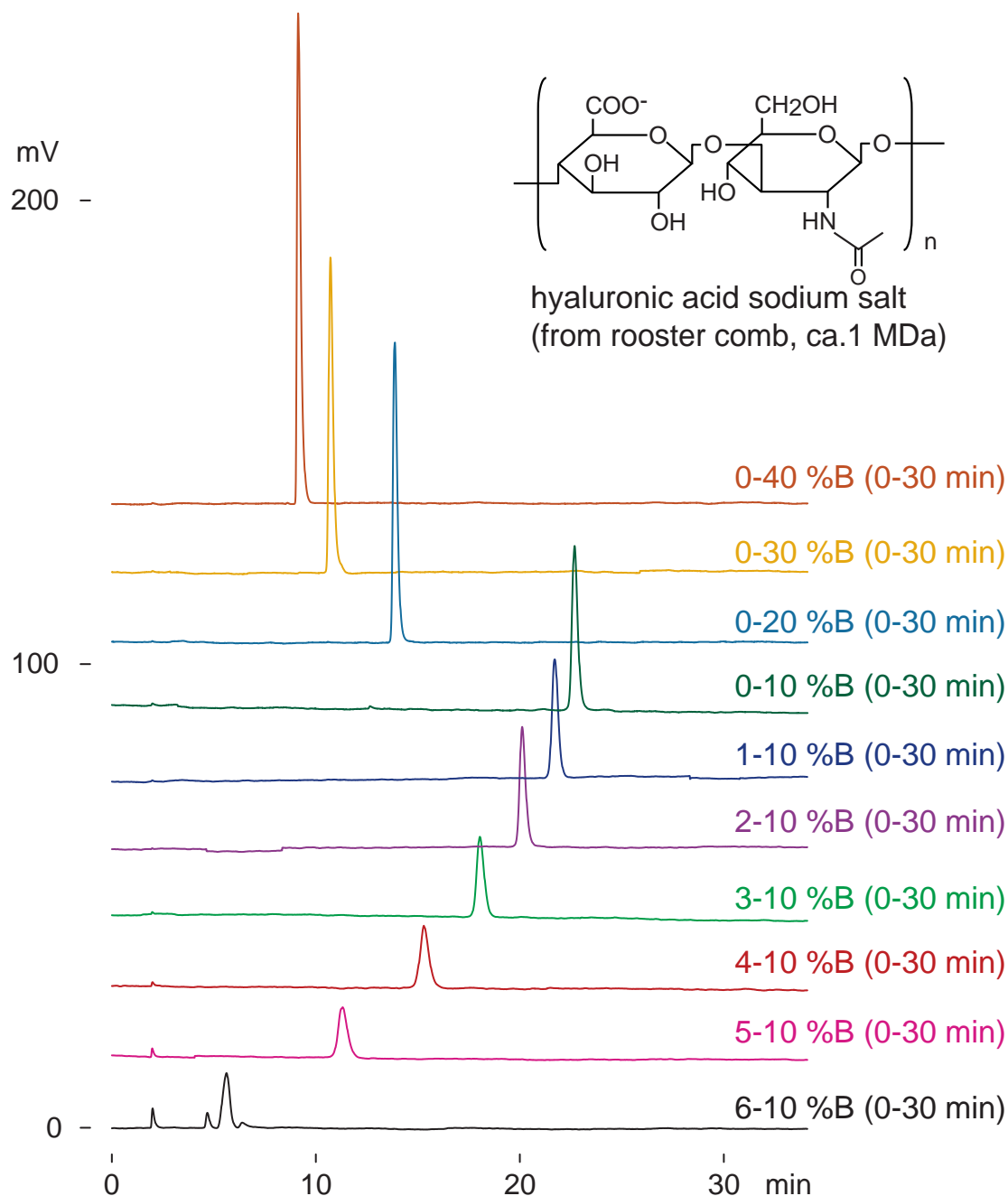
Presto FF-C18

150 x 4.6 mm

Application

Hyaluronic acid

ヒアルロン酸(鶏冠由来)



Presto FF-C18, 150 x 4.6 mm

A: 10 mM formic acid

B: acetonitrile

0.5 mL/min (19-20 MPa), 37 deg.C,

ELSD (spray chamber 50 deg.C, drift tube 100 deg.C), 3 uL (7.5 ug)

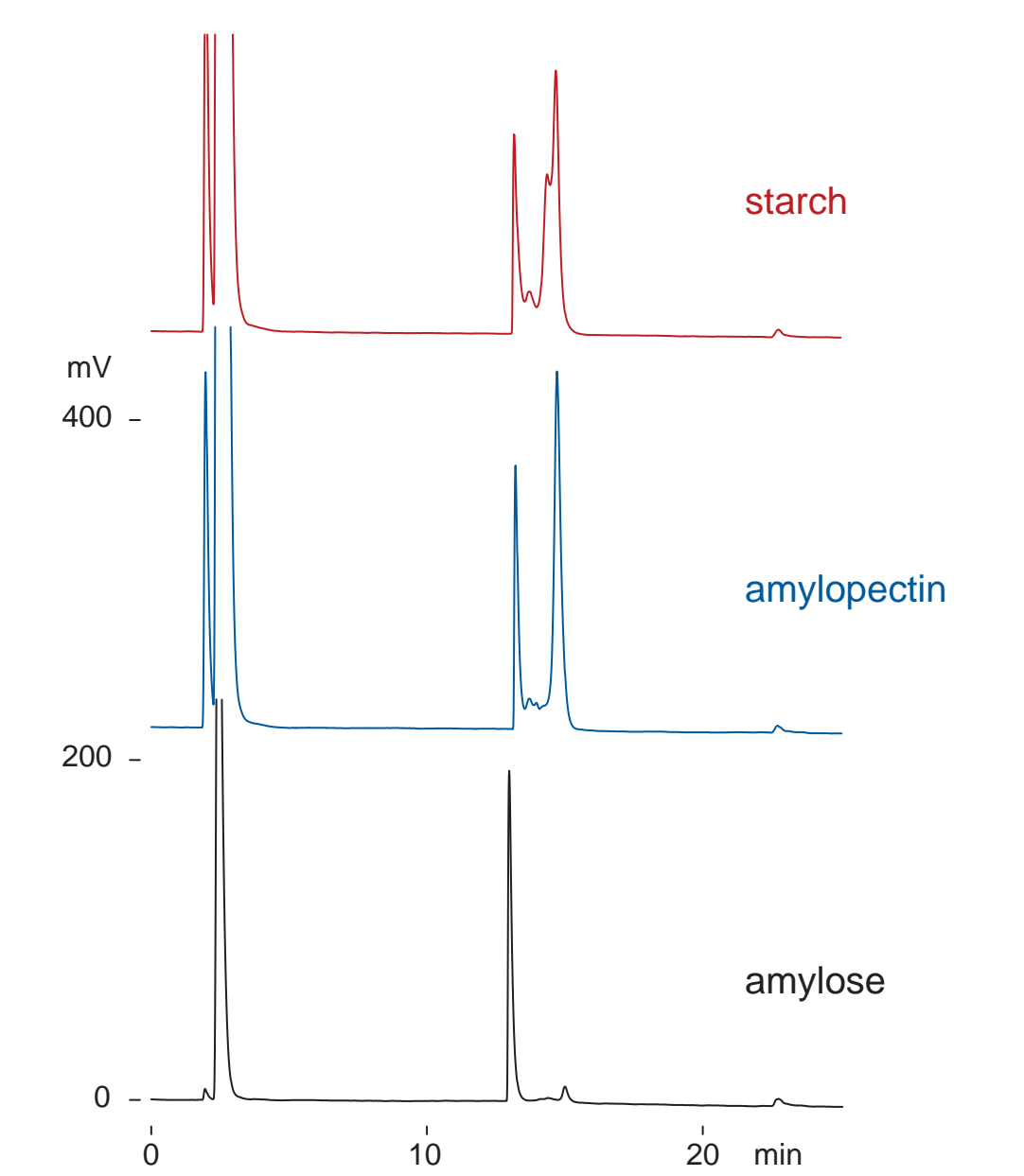
Presto FF-C18

150 x 4.6 mm

Application

Starch, amylopectin, amylose (from potato)

デンプン, アミロペクチン, アミロース (馬鈴薯由来)



Presto FF-C18, 150 x 4.6 mm

A: water / formic acid = 100 / 0.1

B: acetonitrile / formic acid = 100 / 0.1

0-7 %B (0-20min), 90 %B (20-30min)

0.5 mL/min (15MPa), 60 deg.C

ELSD (spray chamber 50 deg.C, drift tube 100 deg.C)

1-5 uL (5-25 ug, 0.2 N-NaOH)

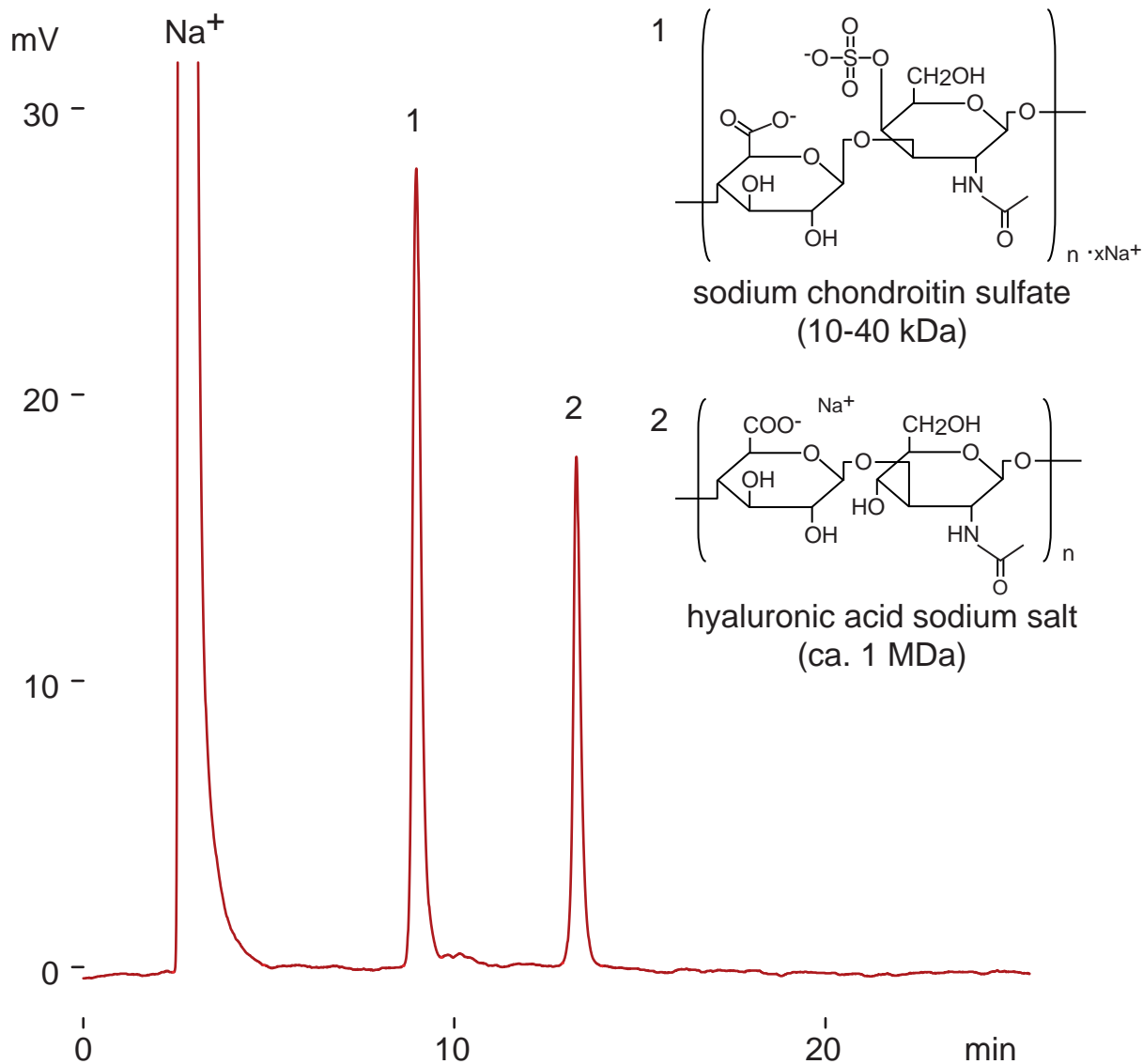
Presto FF-C18

150 x 4.6 mm

Application

Hyaluronic acid, chondroitin sulfuric acid

ヒアルロン酸とコンドロイチン硫酸の同時分析



Presto FF-C18, 150 x 4.6 mm

A: water / trifluoroacetic acid = 100 / 0.05

B: acetonitrile / trifluoroacetic acid = 100 / 0.05

3-25 %B (0-15min), 3 %B (15-30min)

0.4 mL/min (20MPa), 25 deg.C

ELSD (spray chamber 10 deg.C, drift tube 50 deg.C)

20 uL (0.25% TFA-water)

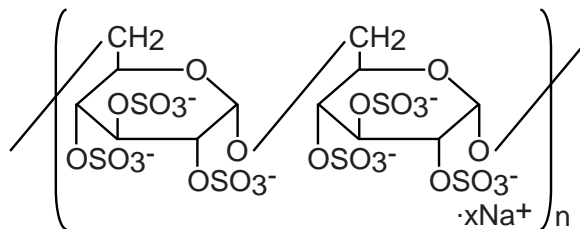
Presto FF-C18

150 x 4.6 mm

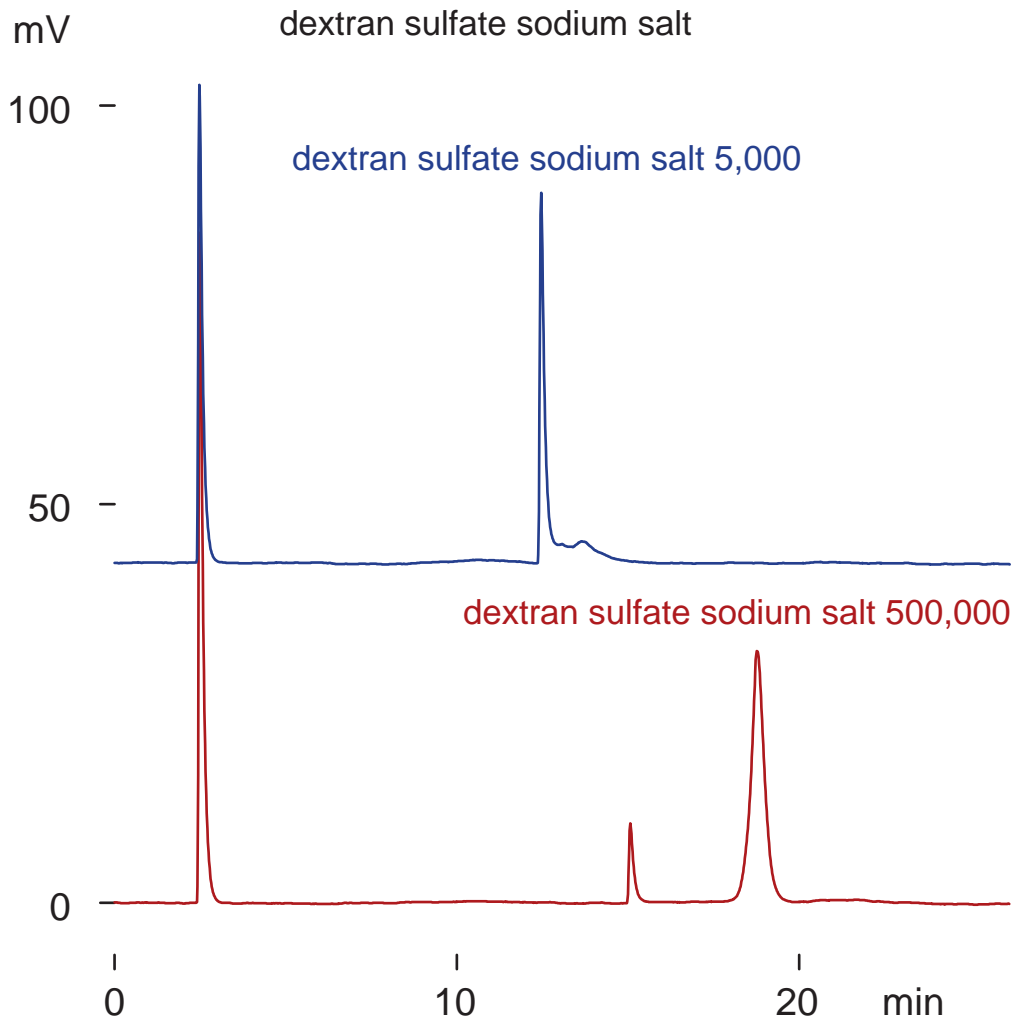
Application

Dextran sulfate

デキストラン硫酸



dextran sulfate sodium salt



Presto FF-C18, 150 x 4.6 mm

A: water / triethylamine / acetic acid = 100 / 1.1 / 0.5

B: acetonitrile

0-50 %B (0-20min)

0.4 mL/min (17MPa), 37 deg.C

ELSD (spray chamber 35 deg.C, drift tube 100 deg.C)

1 uL (2.5ug, water)

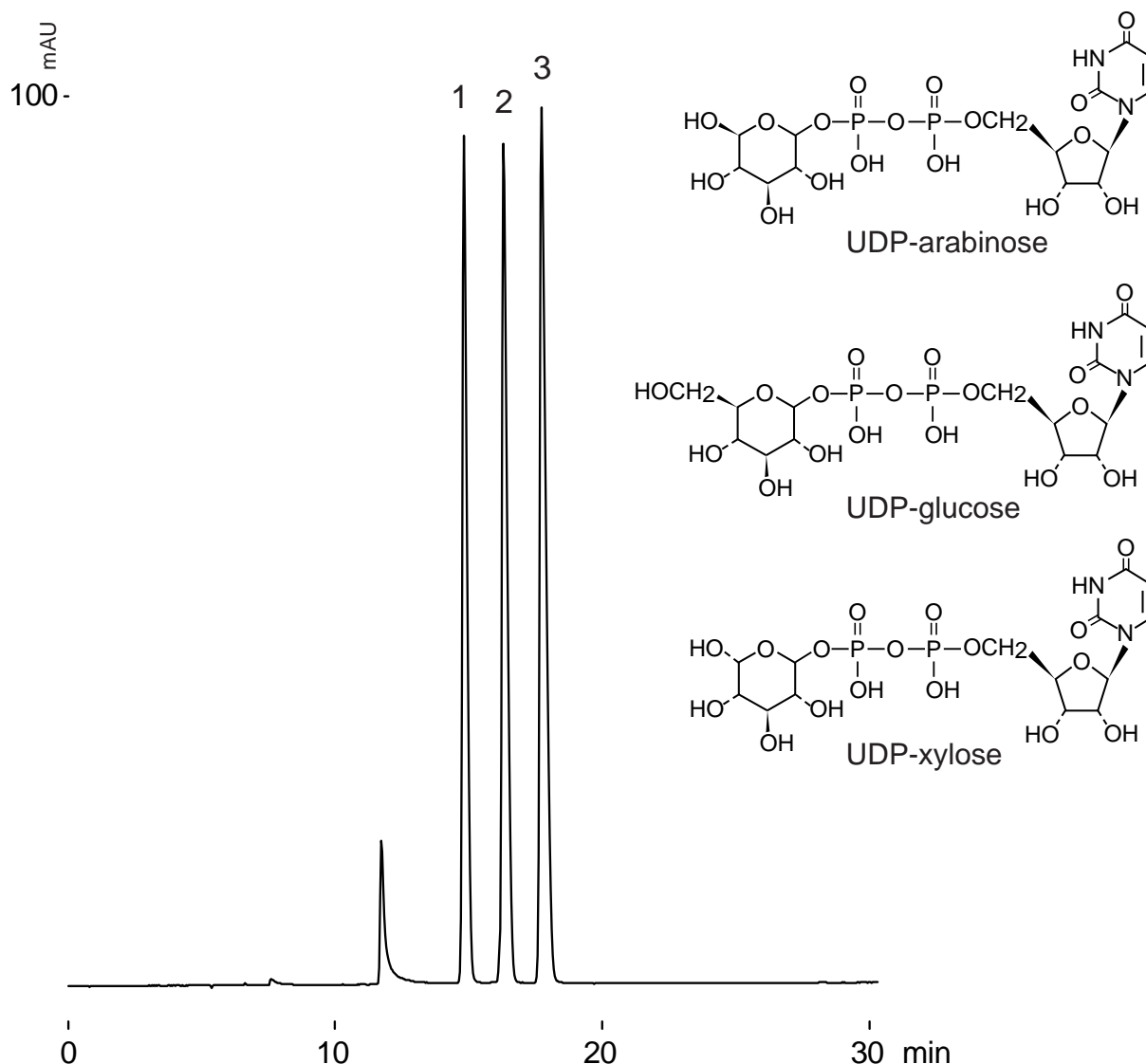
Unison UK-C18

250 x 4.6 mm

Application

UDP-Sugars

UDP糖



Unison UK-C18, 250 x 4.6 mm
 water / triethylamine / acetic acid (100 / 0.2 / 0.1)
 0.8 mL/min (13MPa), 37 deg.C, 260 nm, 5 uL (2.5 ug)

Courtesy of Prof. Shinichi Kitamura, Osaka Pref. Univ.

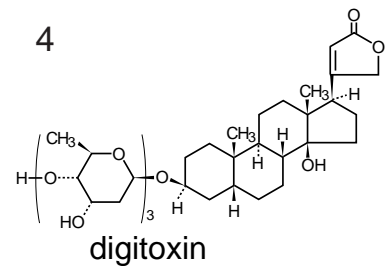
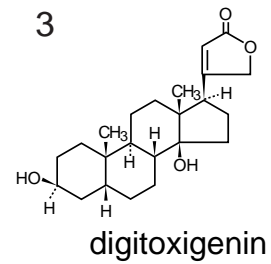
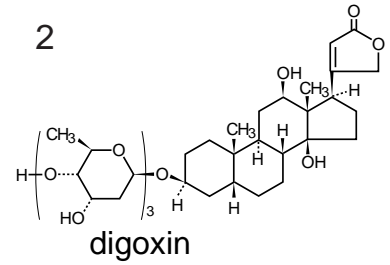
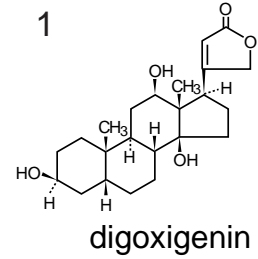
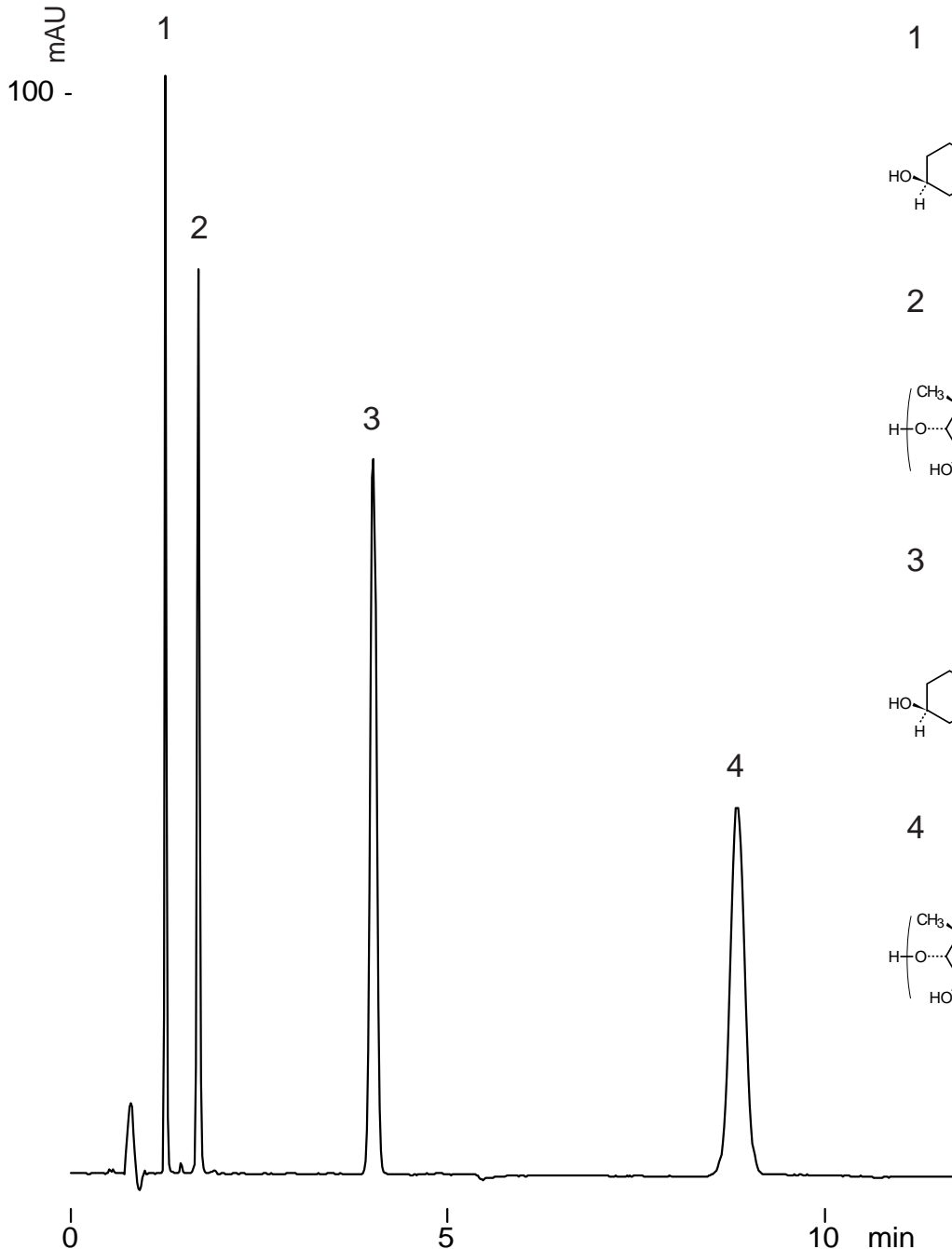
Unison UK-C18

75 x 4.6 mm

Application

Digitalis Glycosides

ジギタリス配糖体



Unison UK-C18, 75 x 4.6 mm
 water / acetonitrile = 60 / 40
 1.0 mL/min (7MPa), 37 deg.C, 220 nm, 2 uL (0.2-0.8 ug)

Cadenza CD-C18

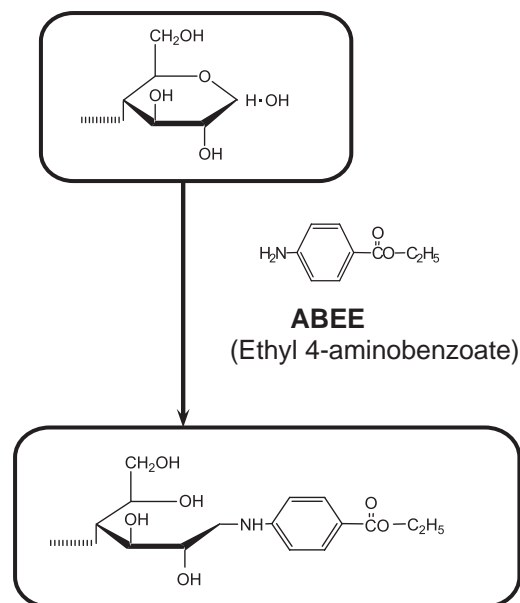
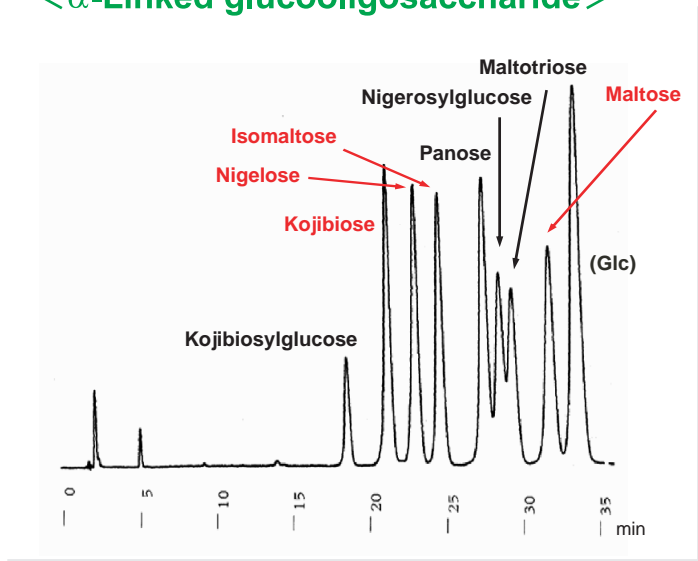
75 x 4.6 mm

Application

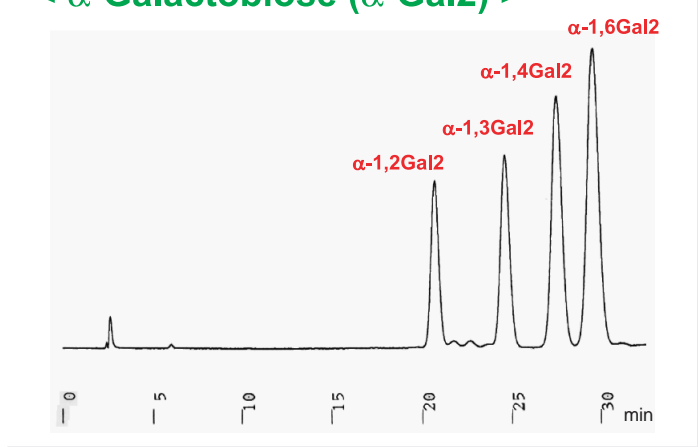
ABEE-Converted Oligosaccharide

ABEE標識化オリゴ糖

< α -Linked glucooligosaccharide >



< α -Galactobiose (α -Gal2) >



Cadenza CD-C18, 75 x 4.6 mm

0.1M ammonium acetate buffer (pH 4.0) / acetonitrile = 89 / 11 (v/v)

0.5 mL/min, 20 deg.C, 305 nm

Courtesy of Dr. Akiko Yamashita and Dr. Hiroyuki Hashimoto, Shinshu Univ., Japan

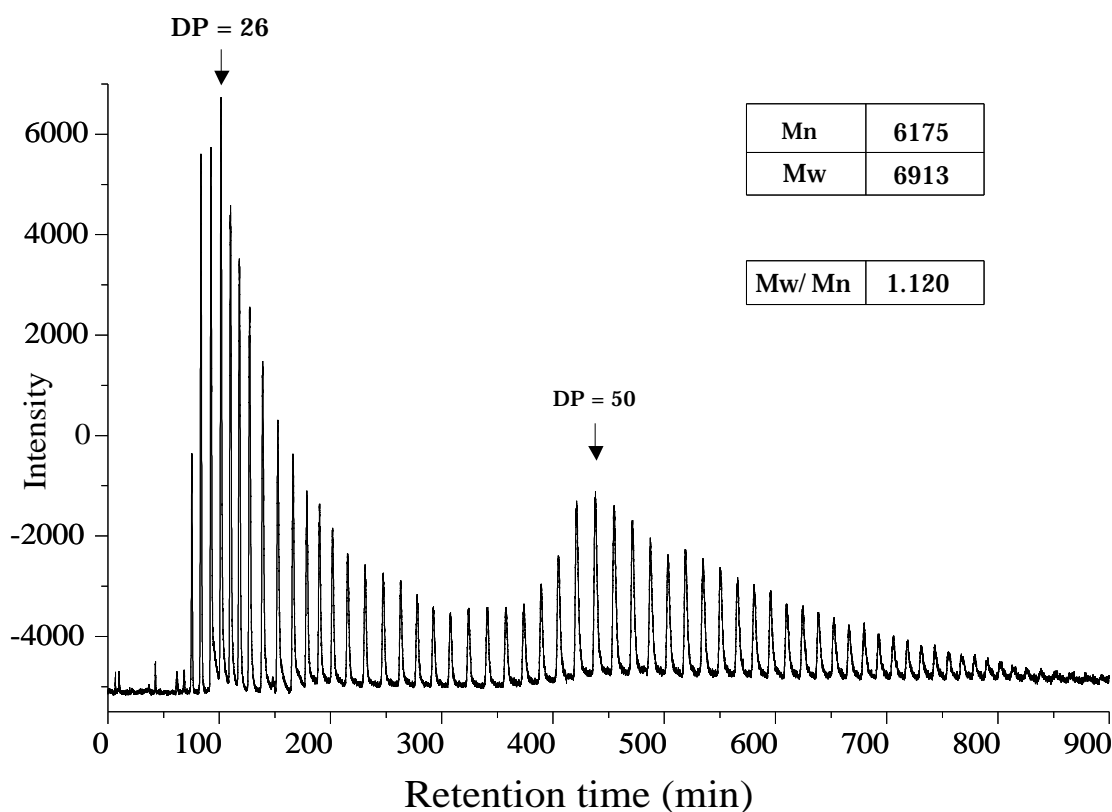
Cadenza CD-C18

500 x 4.6 mm

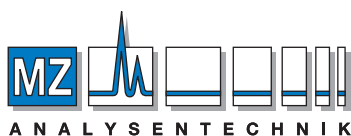
Application

cycloamylose (cyclic alpha-1,4-glucan)

シクロアミロース



Cadenza CD-C18, 500 x 4.6 mm
 A: water, B: methanol, 3.5-6%B (0-780min)
 0.5 mL/min, 35 deg.C, Corona CAD



AUTHORIZED DISTRIBUTOR

MZ-Analysentechnik GmbH, Barcelona-Allee 17• D-55129 Mainz
 Tel +49 6131 880 96-0, Fax +49 6131 880 96-20
 e-mail: info@mz-at.de, www.mz-at.de

Courtesy of Professor, Ph.D. KITAMURA Shinichi, OSAKA PREF. UNIV.