

● Peak retention time for Sugars and Sugar alcohols on various columns [min]

CK08EC Ca ²⁺	CK08E Na ⁺	CK08ES Ag ⁺
Stachyose	Stachyose	* Melezitose
Melezitose	Melezitose	* Stachyose
Raffinose	Raffinose	* Raffinose
Gentiobiose	Gentiobiose	
Cellobiose	Cellobiose	* Sucrose
Trehalose	Trehalose	Trehalose
Isomaltose	Sucrose	Cellobiose
Sucrose	Isomaltose	Gentiobiose
Maltose	Melibiose	Maltose
Melibiose	Maltose	Isomaltose
Lactose	Maltulose	Maltulose
Maltulose	Lactose	
		Lactose
Lactulose	Lactulose	Melibiose
Glucose		
		Lactulose
Xylose	Glucose	Adonitol
Galactose	Mannitol	Digitoxose
Mannose	Rhamnose	Rhamnose
Rhamnose	Adonitol	Glucose
	Sorbitol	Xylose
Fructose	Digitoxose	Xylitol
Fucose	Mannose	Erythritol
Inositol	Xylose	Mannitol
Arabinose	Galactose	Fructose
Digitoxose	Fructose	
Adonitol	Inositol	Dulcitol
	Xylitol	Galactose
Erythritol	Fucose	Sorbitol
	Dulcitol	Mannose
Mannitol	Arabinose	Arabinose
	Erythritol	
Salicin		Fucose
	Ribose	Ribose
Dulcitol	Salicin	Ribose
		Inositol
Xylitol		Salicin
Sorbitol		
Ribose		

Column temp : CK08EC...75°C, CK08E...45°C, CK08ES...75°C
 Column size : 8mm I.D.×300mm
 Eluent : H₂O
 Flow rate : 0.6 ml/min
 Sample : 1% aq. solution
 Injection vol. : 20μl

* ; These sugars, containing Fructose component, may partially be decomposed by CK08ES and CK08EH.

2 MCI GEL™

CK04S, CK04SS
CK02A, CK02AS

Cation exchange columns
applications; oligosaccharides

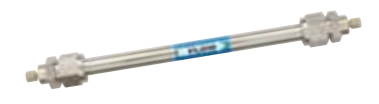
The separation mechanism is based on gel filtration chromatography and elution is achieved via simple distilled water. A larger molecule elutes ahead.



CK02A 20×250



CK04S 10×200

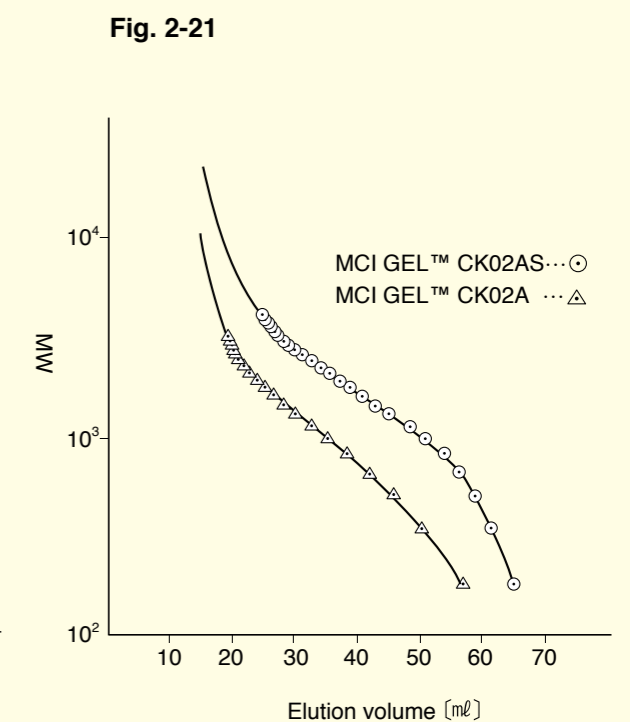
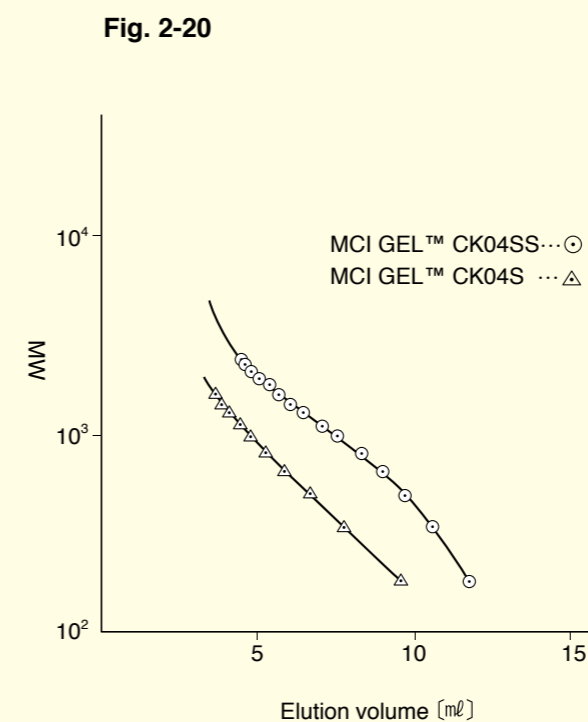


CK04SS 10×200

● Separation ability of each column

MCI GEL™ column	Counter ion	Separation ability (degree of polymerization)
MCI GEL™ CK04S	Na ⁺	8~9
MCI GEL™ CK04SS	Ag ⁺	12~13
MCI GEL™ CK02A	Na ⁺	15~16
MCI GEL™ CK02AS	Ag ⁺	19~20

Calibration curves of malto-oligosaccharides



Comparison data of malto-oligosaccharides

Fig. 2-22 MCI GEL™ CK04S
10mm I.D.×200mm

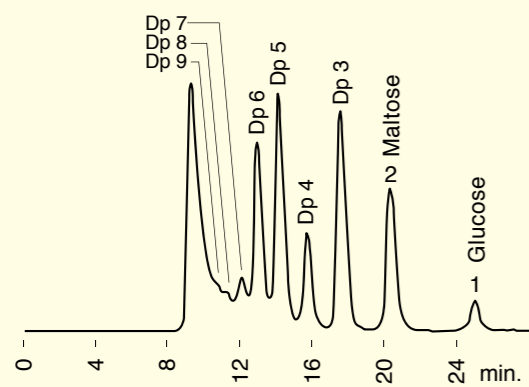


Fig. 2-23 MCI GEL™ CK04SS
10mm I.D.×200mm

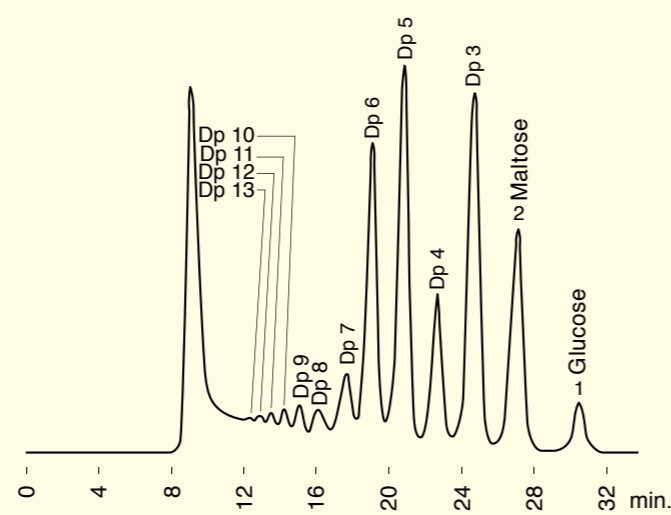


Fig. 2-24 MCI GEL™ CK02A
20mm I.D.×250mm

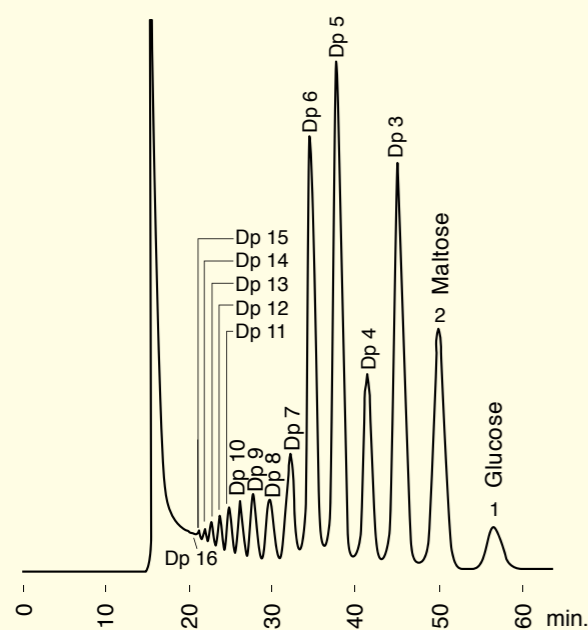
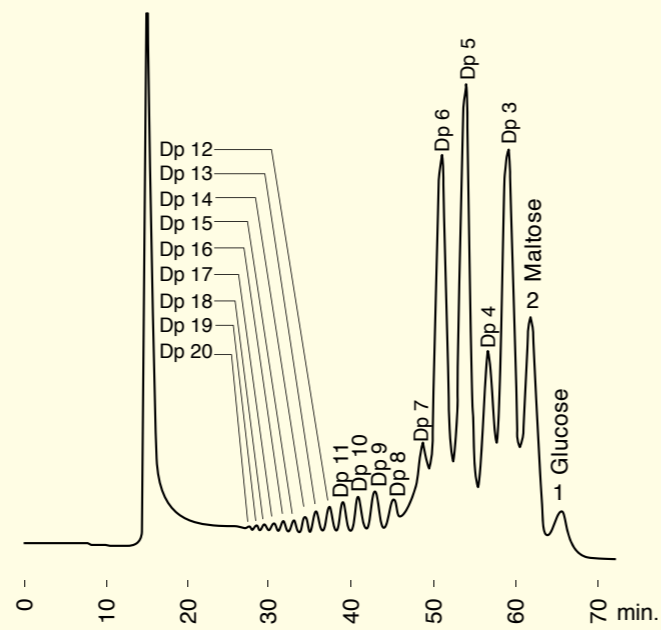


Fig. 2-25 MCI GEL™ CK02AS
20mm I.D.×250mm



Conditions
 Eluent : H₂O
 Flow rate : 0.4 ml/min (Fig. 2-22, 2-23, 2-26, 2-27)
 1.0 ml/min (Fig. 2-24, 2-25, 2-28)
 Column temp. : 85°C
 Detection : RI

Comparison data of authentic malto-oligosaccharides samples

Fig. 2-26 MCI GEL™ CK04S
10mm I.D.×200mm

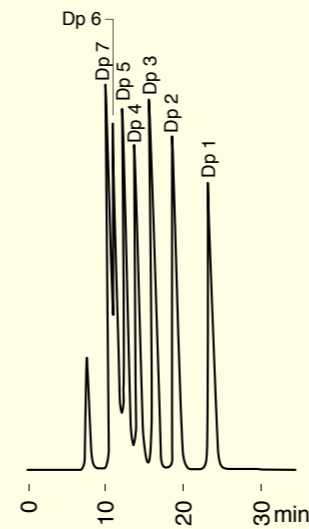


Fig. 2-27 MCI GEL™ CK04SS
10mm I.D.×200mm

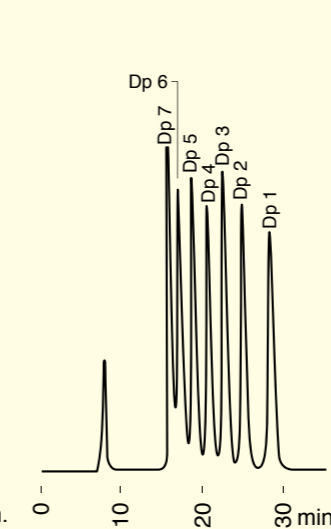
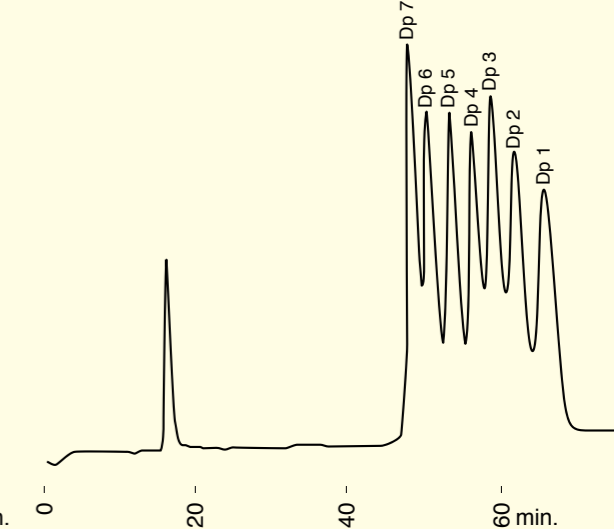


Fig. 2-28 MCI GEL™ CK02AS
20mm I.D.×250mm



Application data of CK04S

Fig. 2-29 Honey

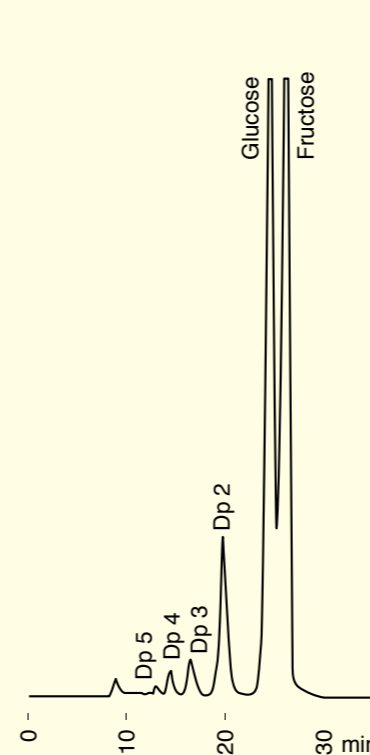


Fig. 2-30 Jam

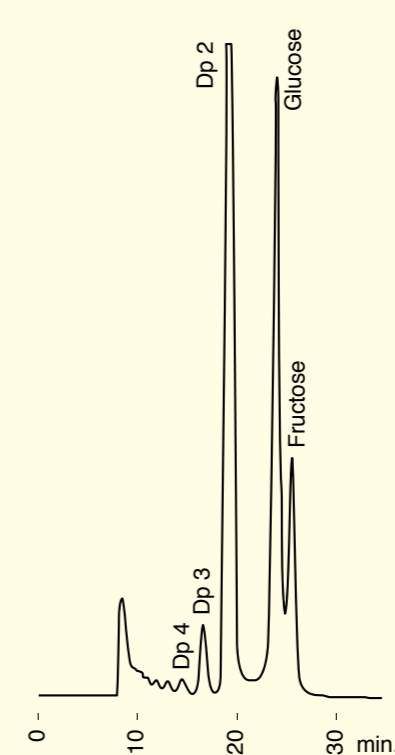
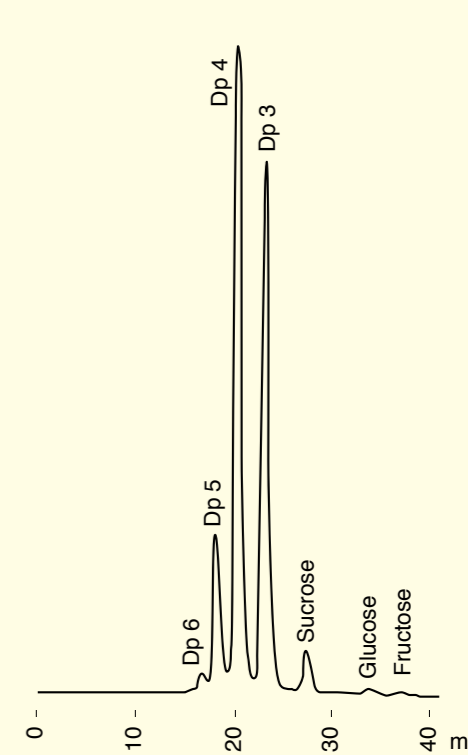


Fig. 2-31 Fructo-oligosaccharides



Conditions
 Column : MCI GEL™ CK04S
 10mm I.D.×200mm
 Eluent : H₂O
 Flow rate : 0.4 ml/min (Fig. 2-29, 2-30) 0.3 ml/min (Fig. 2-31)
 Column temp. : 85°C (Fig. 2-29, 2-30) 45°C (Fig. 2-31)
 Detection : RI