

# CHP material series

Polymeric reversed-phase chromatography materials

MCI GEL® CHP material series are chromatography materials of porous type polymers.

Because polymeric materials are chemically stable, wide pH range, from acidic to alkaline eluents are able to be applied to MCI GEL® CHP material series.

MCI GEL® CHP50 series and CHP20 series are both ST/DVB polymers, but they differences in porosity. Pore size of CHP20 series is fairly larger than that of CHP50 series. Appropriate packing material can be selected in accordance with molecular size of injection samples.

## ● CHP material series

Product name	Old name	Base polymer	Particle size [μm]	Pore diameter [nm]	Main application	Equivalent HPLC column
CHP20/P20	CHP20A	ST/DVB	20	45	Organic compound	CHP20/C04 CHP20/C10
CHP20/P30	CHP20Y		30			
CHP20/P50	CHP20P		50			
CHP20/P70	NEW		70			
CHP20/P120	CHP20P		120			
CHP50/P20	CHP55A	ST/DVB	20	25		—
CHP50/P30	CHP55Y		30			
CSP50/P10	NEW	ST/DVB	10	25		CHP20/C10
CHP07/P120	CSP207P	ST/DVB	120	25		
CMG20/P10	CHP2MG	MA	10	25		CMG20/C04
CMG20/P30	CHP2MGY		30			
CMG20/P150	CHP2MGP		150			

ST/DVB; styrene-divinylbenzene MA; polymethacrylate

\*CHP5C is abolished and substitute is CSP50/P10.

## Application data of CHP series

Fig. 5-25 Phthalic acid esters

Conditions  
 Column : CHP50/P20, 10mm I.D. × 250mm L  
 Eluent : H<sub>2</sub>O/CH<sub>3</sub>CN=20/80  
 Flowrate : 0.75 ml/min  
 Column temp. : 25°C  
 Detection : 254nm  
 Sample : 1. Dimethyl phthalate 0.5%  
 2. Dipropyl phthalate 0.5%  
 3. Dibutyl phthalate 0.5%  
 100μl

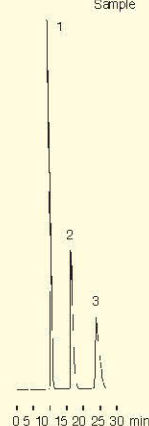


Fig. 5-26 Penicillin antibiotics

Conditions  
 Column : CHP50/P20, 10mm I.D. × 250mm L  
 Eluent : CH<sub>3</sub>OH/0.05M Phosphate buffer (pH8.0)=60/40  
 Flowrate : 2.18 ml/min  
 Column temp. : 25°C  
 Detection : 254nm  
 Sample : 1. 6-Aminopenicillanic acid 1000ppm  
 2. Penicillin G 1000ppm  
 3. Penicillin V 1000ppm  
 100μl

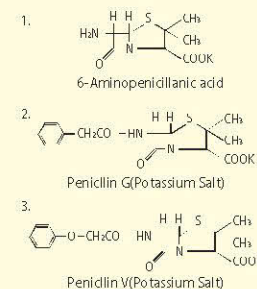
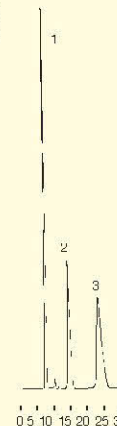
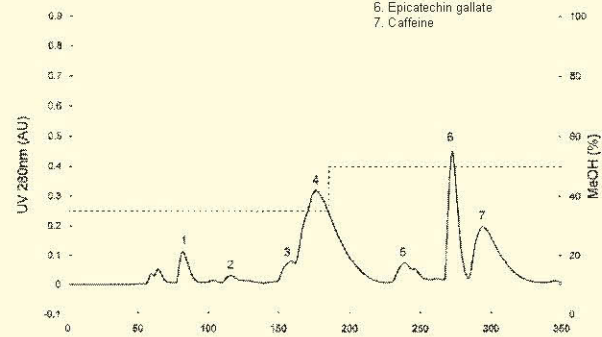


Fig. 5-27 Extract of green tea leaves

Conditions  
 Column : MCI GEL® CHP50/P20, 32mm I.D. × 465mm  
 Eluent : 0-185min, CH<sub>3</sub>OH:0.01M Acetic acid(35:65)  
 185-350min, CH<sub>3</sub>OH:0.01M Acetic acid(50:50)  
 Flowrate : 7.48 ml/min  
 Detection : 280nm  
 Sample : extract of green tea leaves, injection volume 18.7 μl

1. Epigallocatechin  
 2. Catechin  
 3. Epicatechin  
 4. Epigallocatechin gallate  
 5. Gallo catechin  
 6. Epicatechin gallate  
 7. Caffeine



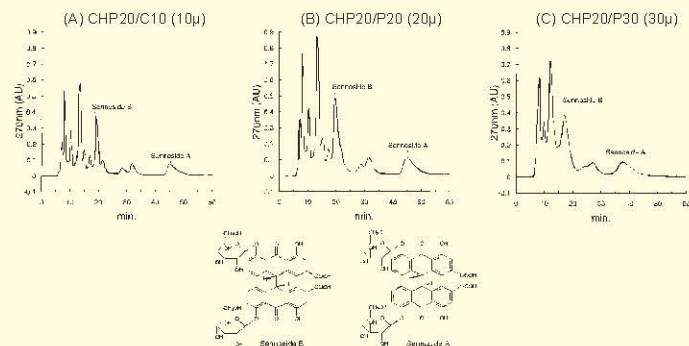
## Application data of CHP series

**Fig. 5-28 Senna pulv. extract**

Conditions

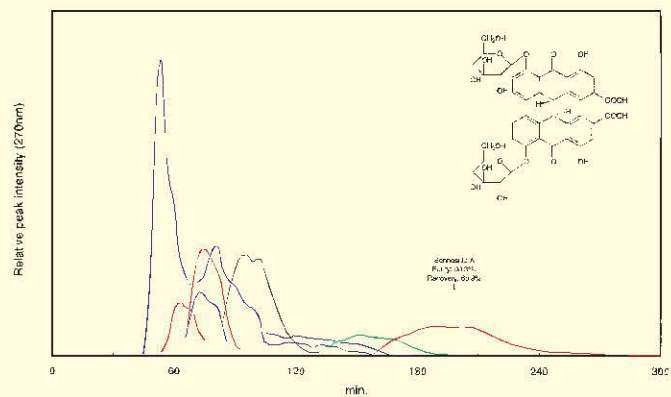
	Chromatogram A	Chromatogram B	Chromatogram C
Column	MCI GEL® CHP20/C10 4.6mm I.D.×250mm	MCI GEL® CHP20/P20 10.0mm I.D.×250mm	MCI GEL® CHP20/P30 10.0mm I.D.×250mm
Eluent	*1	*1	*1
Flow rate	0.5 mL/min	2.4 mL/min	2.4 mL/min
Detection	270 nm	270 nm	270 nm
Sample	*2 10µL	*2 80µL	*2 80 µL

\*1: CH<sub>3</sub>OH + 1% Acetic acid = 60 + 40 (vol.)  
\*2: Extract of senna pulv.



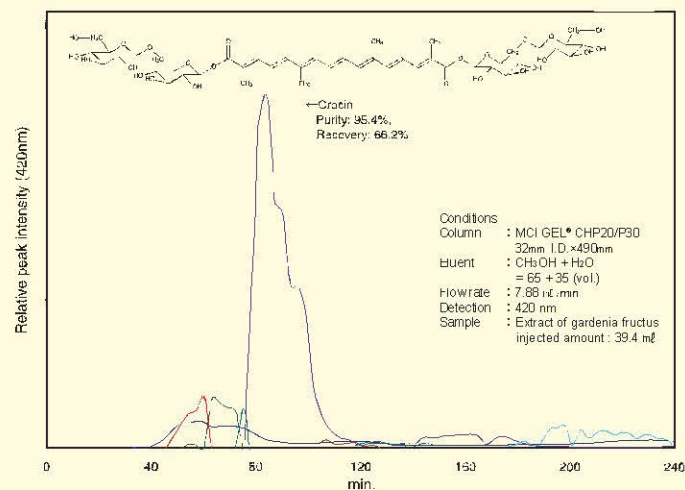
**Fig. 5-29 Elution profile of senna pulv. extract separated on MCI GEL® CHP20/P30**

Conditions  
Column : MCI GEL® CHP20/P30  
32mm I.D.×490mm  
Eluent : CH<sub>3</sub>OH + 1% Acetic acid  
= 60 + 40 (vol.)  
Flowrate : 7.88 mL/min  
Detection : 270 nm  
Sample : Extract of senna pulv., partially purified by Diaion HP20  
injected amount : 39.4 mL



## Application data of CHP series

**Fig. 5-30 Elution profile of gardenia fructus extract separated on MCI GEL® CHP20/P30**



**Fig. 5-31 Rice bran oil**

Conditions  
Column : MCI GEL® CMG20/P30  
20mm I.D.×500mm  
Eluent : Hexane + C<sub>2</sub>H<sub>5</sub>OH = 98+2 (vol.)  
Flowrate : 4.7 mL/min  
Detection : 295 nm  
Sample : Rice bran oil, 50 mg/mL  
injected amount : 1260µL

