

## The First Choice of OSAKA SODA C<sub>18</sub> column for UHPLC is now released

New product of UHPLC type is now available on CAPCELL PAK C<sub>18</sub> MG / MG II series.  
-It can also be applied to ultra high speed analysis with the ability of pressure resistance up to 100 MPa.

### Specifications

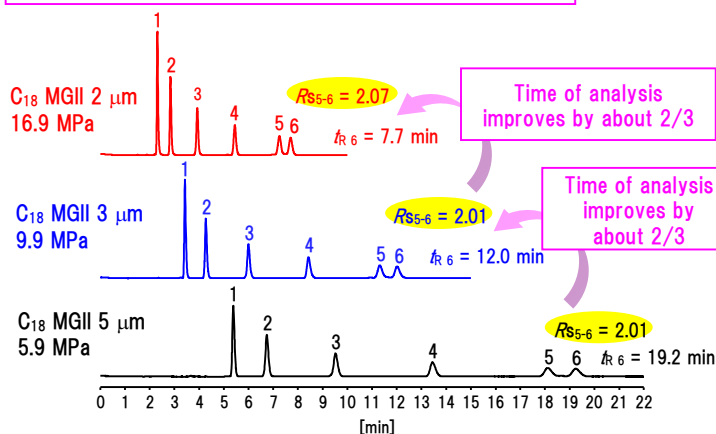


Type	Functional group	Pore size (Å)	Particle size (μm)	Specific surface area (m <sup>2</sup> /g)	C%	Density (μmol/m <sup>3</sup> )	Pressure resistance (MPa)	pH range	USP
MG	C <sub>18</sub> (octadecyl group)	100	2	300	15	2.4	100	2~10	L1
MG II	C <sub>18</sub> (octadecyl group)	100	2	300	15	2.4	100	2~10	L1

### Strong correlation with the traditional 5 μm & 3 μm

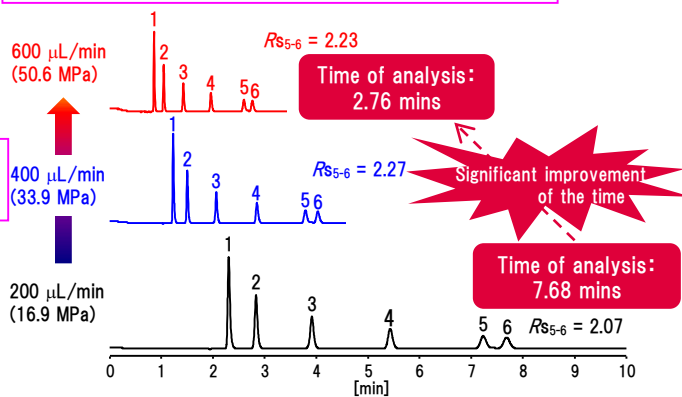
There is an equivalent selectivity with the tradition lineup of 5 μm and 3 μm products and method transfer is possible. Here is a case of method transfer and also of shortening time of analysis by increasing the flow rate by taking an example of analysis of DNPH-aldehyde using CAPCELL PAK C<sub>18</sub> MG II S2.

#### Method transfer in an analysis of DNPH-aldehyde



[HPLC Conditions]  
 Column size : S2: 2.0 mm i.d. x 100 mm  
 S3: 2.0 mm i.d. x 150 mm  
 S5: 2.0 mm i.d. x 250 mm  
 Mobile phase : H<sub>2</sub>O / CH<sub>3</sub>CN = 40 / 60  
 Flow rate : 200 μL/min  
 Temperature : 40 °C  
 Detection : UV 360 nm  
 Inj. vol. : 2 μL  
 Sample : 1. Formaldehyde-2,4-DNPH 2. Acetaldehyde-2,4-DNPH 3. Propionaldehyde-2,4-DNPH  
 4. Isobutyraldehyde-2,4-DNPH 5. Valeraldehyde-2,4-DNPH 6. Isovaleraldehyde-2,4-DNPH (1 μg/mL each)

#### Time shortening in an analysis of DNPH-aldehyde by increasing the flow rate

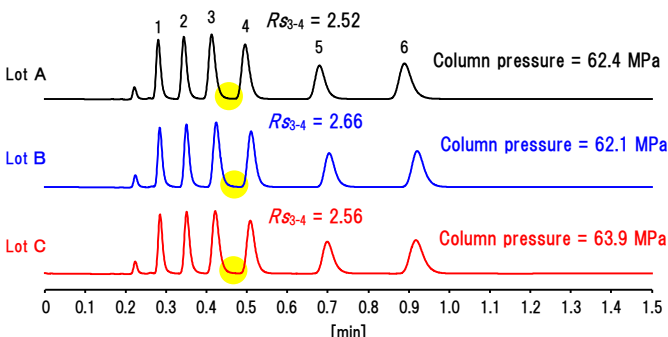


[HPLC Conditions]  
 Column size : S2: 2.0 mm i.d. x 100 mm  
 Mobile phase : H<sub>2</sub>O / CH<sub>3</sub>CN = 40 / 60  
 Flow rate : 200, 400, 600 μL/min  
 Temperature : 40 °C  
 Detection : UV 360 nm  
 Inj. vol. : 2 μL  
 Sample : 1. Formaldehyde-2,4-DNPH 2. Acetaldehyde-2,4-DNPH 3. Propionaldehyde-2,4-DNPH  
 4. Isobutyraldehyde-2,4-DNPH 5. Valeraldehyde-2,4-DNPH 6. Isovaleraldehyde-2,4-DNPH (1 μg/mL each)

### Outstanding lot reproducibility

#### <CAPCELL PAK C<sub>18</sub> MG> Nucleosides

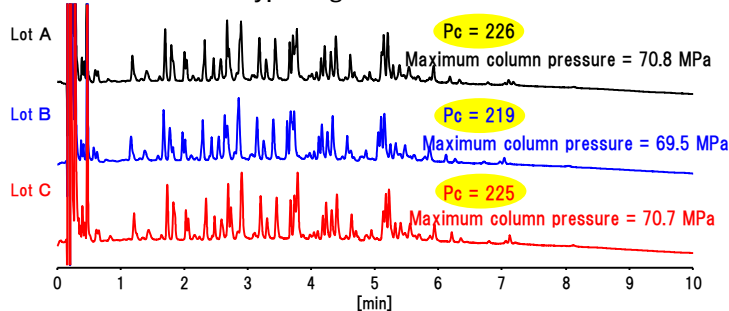
It maintains high separability and good lot reproducibility with the flow rate five times faster than the usual rate.



[HPLC Conditions]  
 Column : CAPCELL PAK C<sub>18</sub> MG S2: 2.0 mm i.d. x 50 mm  
 Mobile phase : 10 mmol/L HCOONH<sub>4</sub> / CH<sub>3</sub>OH = 95 / 5  
 Flow rate : 1 mL/min  
 Temperature : 40 °C  
 Detection : UV 254 nm  
 Inj. vol. : 1 μL  
 Sample : 1. Uridine 2. 2'-Deoxyuridine 3. Guanosine 4. 2'-Deoxyguanosine  
 5. 2'-Aminoadenosine 6. Adenosine (50 μg/mL each)

#### <CAPCELL PAK C<sub>18</sub> MG II > Tryptic digest of BSA

You can see the elution behavior equivalent to each lot and the lot reproducibility is competent even in an analysis of multiple substances such as tryptic digest.



[HPLC Conditions]  
 Column : CAPCELL PAK C<sub>18</sub> MGII S2: 2.0 mm i.d. x 50 mm  
 Mobile phase : A) 0.1 vol% TFA, H<sub>2</sub>O / CH<sub>3</sub>CN = 90 / 10  
 B) 0.1 vol% TFA, H<sub>2</sub>O / CH<sub>3</sub>CN = 50 / 50  
 B 0 % (0 min) -> 100 % (10 min) -> 0 % (10.1 min)  
 Flow rate : 1 mL/min  
 Temperature : 40 °C  
 Detection : UV 210 nm  
 Inj. vol. : 4 μL  
 Sample : BSA tryptic digest

## Great separation

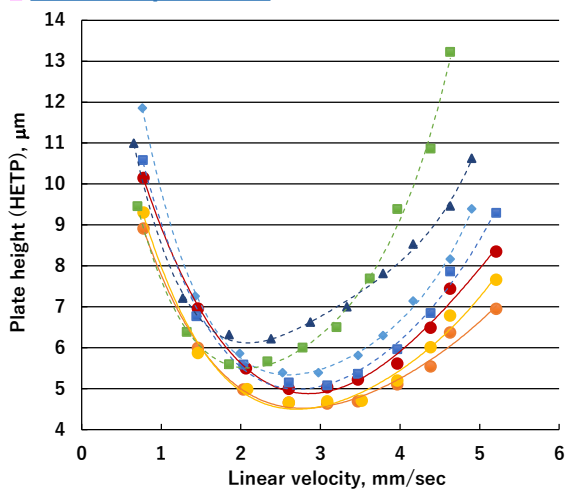


Figure 1. Van Deemter plot for each column

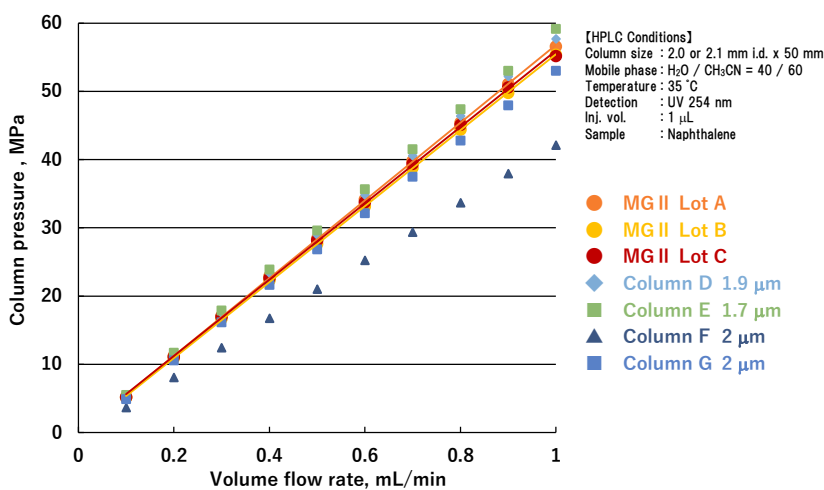


Figure 2. Relationship between flow volume and column pressure

Figure 1 describes the van Deemter plot gained from five different columns of Sub2 µm ODS(C<sub>18</sub>) including four other competitive columns. As shown, CAPCELL PAK C<sub>18</sub> MGII S2 exhibits high column efficiency and equivalent column pressure compared to Company D to G (Figure 2). Chart 1 describes the maximum theoretical plate for each column.

Also, it is possible to provide Sub2 µm C<sub>18</sub> which has a consistent analysis result by having high reproducibility between the three lots.

The development of CAPCELL PAK C<sub>18</sub> MGII S2 was achieved by combining and utilizing the technology of an optimized physical property of raw material with strict quality control (our technique for producing silica gel) and the packing technique acquired through years of experience.

Chart 1 Maximum theoretical plate for each column(FYR)

Column length	MG II Lot A	MG II Lot B	MG II Lot C	Column D	Column E	Column F	Column G
50 mm	10732	10742	10016	9275	8832	8038	9715

Note: This data is all gained from our product NANOSPACE NASCA2 which boasts the abilities of low adsorption, low dead volume, and low diffusion.

## Product Lineup

< CAPCELL PAK C<sub>18</sub> MG >

Product Number	Product Name	Particle size(µm)	Inner diameter(mm)	Length(mm)
94010	CAPCELL PAK C18 MG (S2) 2.0X35	2	2.0	35
94011	CAPCELL PAK C18 MG (S2) 2.0X50	2	2.0	50
94012	CAPCELL PAK C18 MG (S2) 2.0X75	2	2.0	75
94013	CAPCELL PAK C18 MG (S2) 2.0X100	2	2.0	100
94014	CAPCELL PAK C18 MG (S2) 2.0X150	2	2.0	150

< CAPCELL PAK C<sub>18</sub> MG II >

Product Number	Product Name	Particle size(µm)	Inner diameter(mm)	Length(mm)
94040	CAPCELL PAK C18 MG II (S2) 2.0X35	2	2.0	35
94041	CAPCELL PAK C18 MG II (S2) 2.0X50	2	2.0	50
94042	CAPCELL PAK C18 MG II (S2) 2.0X75	2	2.0	75
94043	CAPCELL PAK C18 MG II (S2) 2.0X100	2	2.0	100
94044	CAPCELL PAK C18 MG II (S2) 2.0X150	2	2.0	150



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