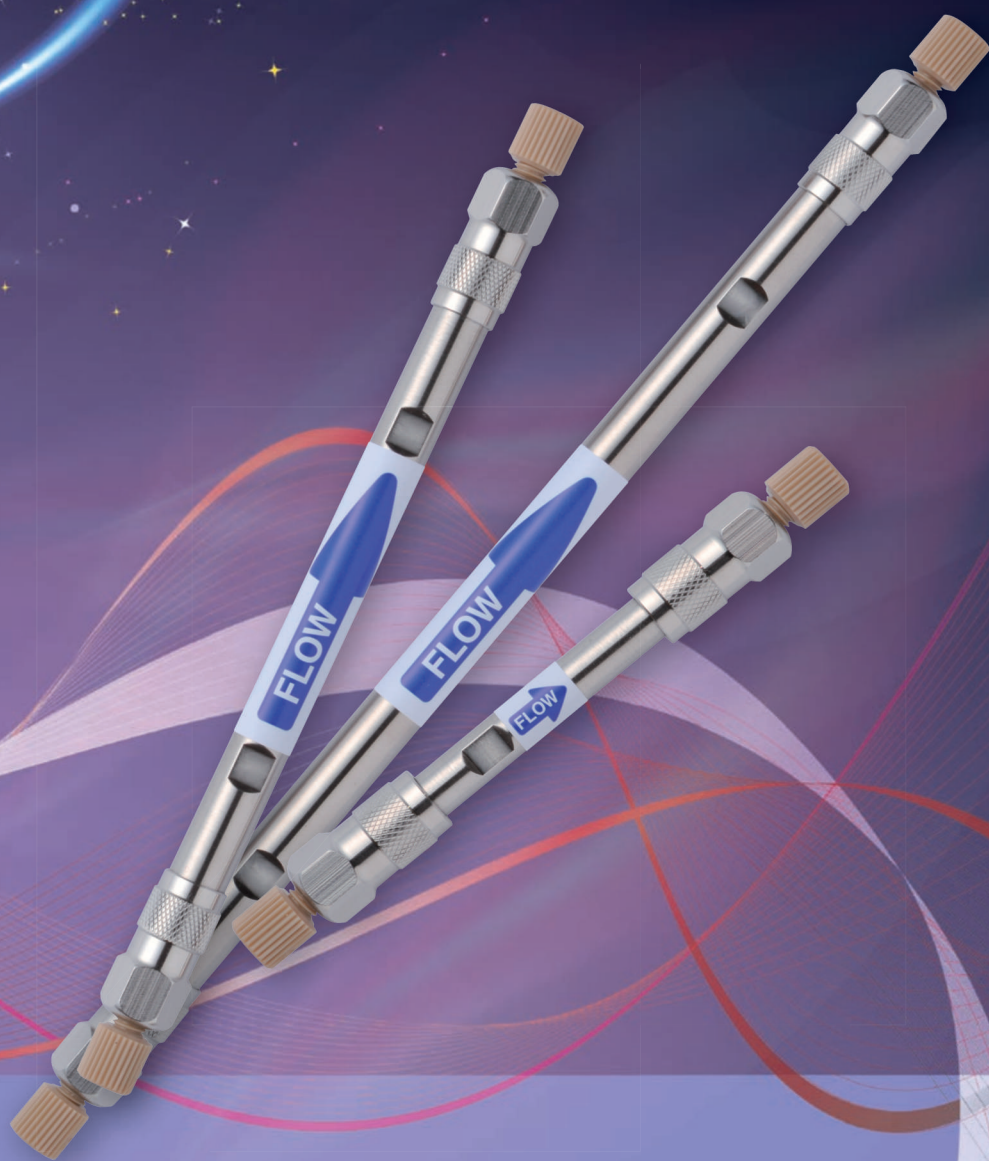


# Meteoric Core

## UHPLC & HPLC Columns

Core-Shell Columns with Outstanding Resolution

- Ultra Fast Analysis and Excellent Resolution
- Excellent Peak Shape on Basic and Coordination Compounds



## Core-Shell Columns with Outstanding Resolution for UHPLC & HPLC

# Meteoric Core

Meteoric Core is core-shell columns with outstanding resolution for UHPLC & HPLC.

Meteoric Core can be used across a wide pH range and provides excellent peak shape for basic and coordination compounds compared to conventional columns or competitors'. This feature enables smoother method development.

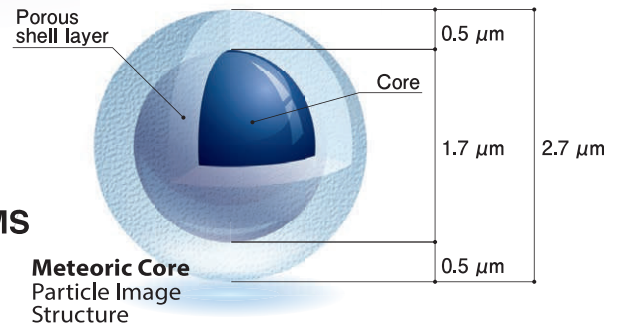
Meteoric Core is ideal for ultra fast and high resolution analysis.

Meteoric Core can reduce its backpressure by half compared to sub-2  $\mu\text{m}$  columns with the same resolution as this.

Meteoric Core can be used with conventional HPLC as well as UHPLC.

### Features

- Ultra Fast Analysis and Excellent Resolution
- Excellent Peak Shape on Basic and Coordination Compounds
- Wide Usable pH Range
- Low Column Bleeding and Ideal for LC/MS

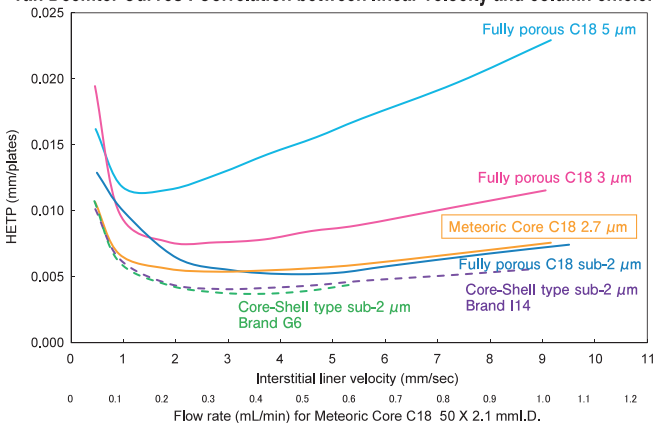


### Specifications

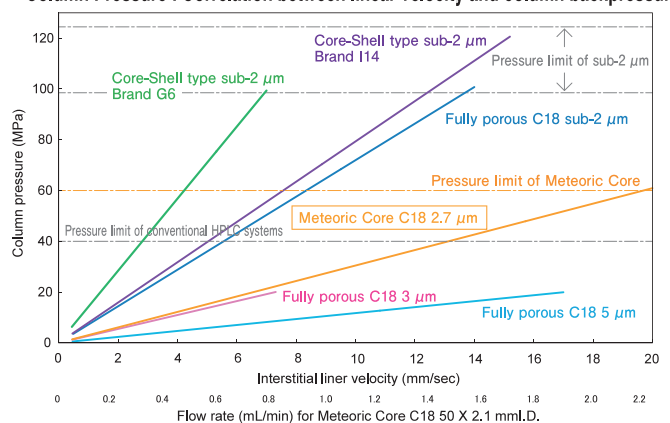
Name	Meteoric Core C18	Meteoric Core C18 BIO	Meteoric Core C8
Base particle	Core-Shell type silica gel		
Particle size ( $\mu\text{m}$ )	2.7		
Pore size (nm)	8	16	8
Specific surface area ( $\text{m}^2/\text{g}$ )	150	90	150
Bonding	Trifunctional		
Carbon content (%)	7	5	5
Endcapping	Yes		
pH range	1.5-10	1.5-10	1.5-9
USP classification	L1	L1	L7

### Advantages of Core-Shell Column Packing Material

Van Deemter Curves : Correlation between linear velocity and column efficiency



Column Pressure : Correlation between linear velocity and column backpressure



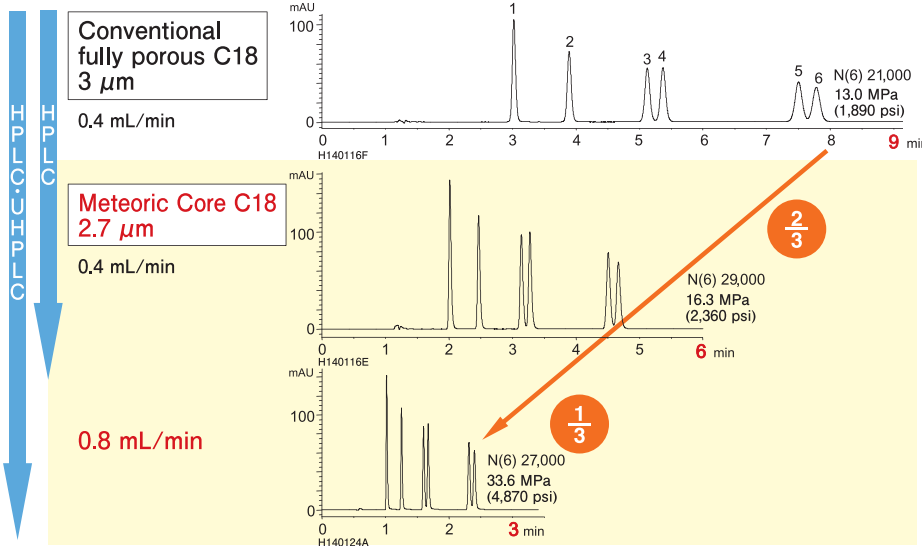
Meteoric Core C18 has high column efficiency which is almost equivalent to sub-2  $\mu\text{m}$  columns over a wide range of flow rate.

The operating pressure of Meteoric Core is one half to one fifths of sub-2  $\mu\text{m}$  Core-Shell type columns. High throughput analysis using Meteoric Core could be expected even with longer length columns since the usable maximum flow rate of it is higher than competitors' sub-2  $\mu\text{m}$  Core-Shell.

Column : 50 X 2.0 or 2.1 mm I.D.  
 Eluent : acetonitrile/water (60/40)  
 Temperature : 25 °C  
 Sample : butyl benzoate

## Ultrafast Analysis and Excellent Resolution

### Ultrafast separation of Parabens: Typically difficult-to-separate geometric isomers

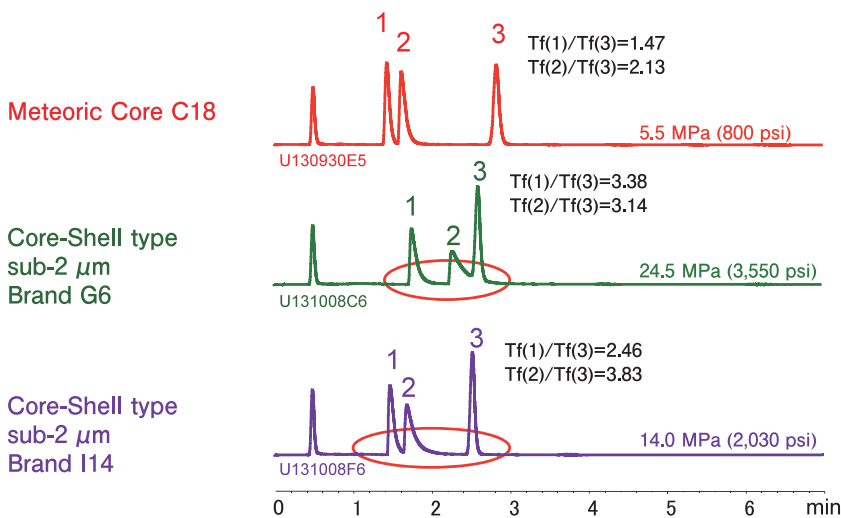


1. Methyl *p*-hydroxybenzoate
2. Ethyl *p*-hydroxybenzoate
3. Isopropyl *p*-hydroxybenzoate
4. Propyl *p*-hydroxybenzoate
5. Isobutyl *p*-hydroxybenzoate
6. Butyl *p*-hydroxybenzoate

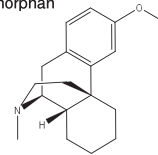
Column : 150 X 3.0 mm I.D.  
Eluent : acetonitrile/water (50/50)  
Temperature : 30 °C  
Detection : UV at 270 nm

Meteoric Core C18 can shorten the analysis time by two thirds compared to the conventional fully porous C18 column with the same column dimension and under the same analysis condition. Moreover, it maintains the theoretical plate number at a two times faster flow rate. It allows us to decrease analysis time by one thirds while maintaining resolution, and at an operating pressure less than 5,000 psi.

## Excellent Peak Shape on Basic Compounds



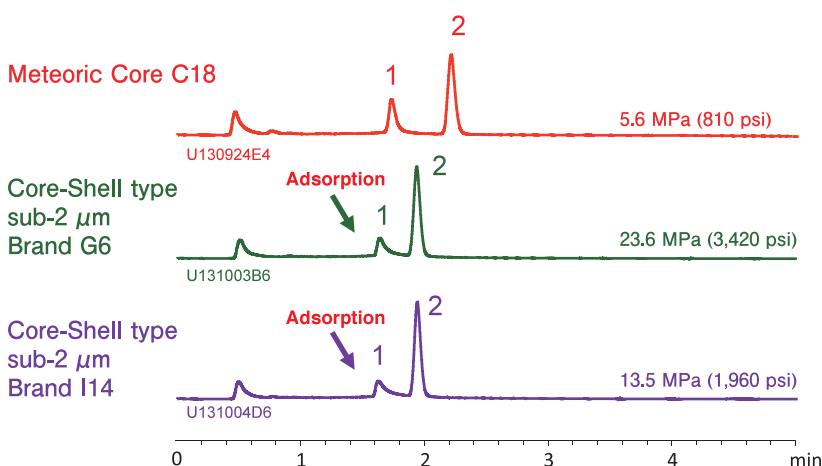
Dextromethorphan (Peak 2)



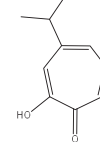
Column : 50 X 2.1 mm I.D.  
Eluent : 20 mM KH<sub>2</sub>PO<sub>4</sub>-K<sub>2</sub>HPO<sub>4</sub> (pH 6.9)/acetonitrile (65/35)  
Flow rate : 0.2 mL/min  
Temperature : 40°C  
Detection : UV at 235 nm  
Sample : 1. Chlorpheniramine  
2. Dextromethorphan  
3. Propyl *p*-hydroxybenzoate (I.S.)

Meteoric Core C18 column is a high resolution column which provides excellent peak shapes for basic compounds (Peak 1 and 2) compared to sub-2 μm Core-Shell columns. Chromatographers can expect ultrafast analysis of basic compounds with highly quantitative and sensitive analysis by using Meteoric Core C18.

## Excellent Peak Shape on Coordination Compounds

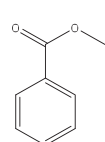


1.



Hinokitiol

2.



Methyl benzoate (I.S.)

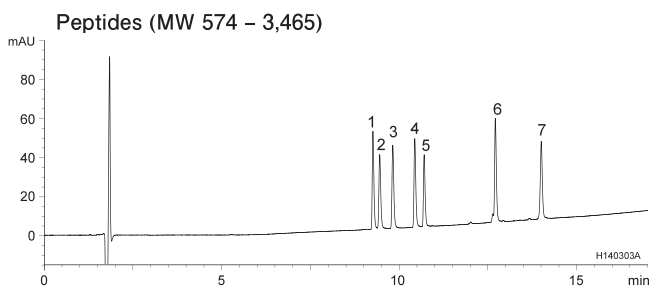
Column : 50 X 2.1 mm I.D.  
Eluent : acetonitrile/0.1% phosphoric acid (40/60)  
Flow rate : 0.2 mL/min  
Temperature : 40°C  
Detection : UV at 254 nm

Meteoric Core C18 is able to provide excellent peak shapes for coordination compounds which are often adsorbed to a column, resulting from a strong interaction with impurities such as trace amount of metal ion. Meteoric Core is suitable for a quantitative analysis of coordination compounds.



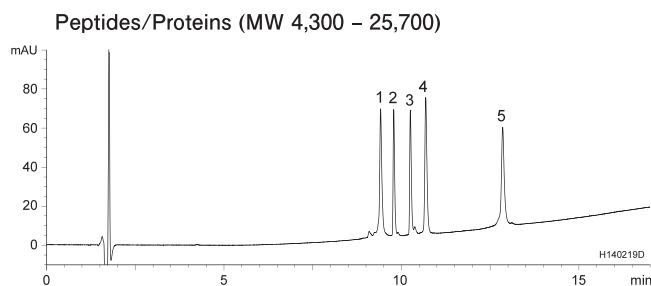
## Peptide/Protein Separation

Meteoric Core C18 BIO with wider pore size: Appropriate for separation of peptides/proteins whose molecular weight are up to 30,000



- |   |                                   |
|---|-----------------------------------|
| 1. BAM-12P (MW 1,425)   | 5. $\alpha$ -Endorphin (MW 1,746) |
| 2. [D-Ala <sup>2</sup> ,Met <sup>5</sup> ]-Enkephalinamide (MW 587) | 6. $\gamma$ -Endorphin (MW 1,859) |
| 3. Met-Enkephalin (MW 574)  | 7. $\beta$ -Endorphin (MW 3,465)  |
| 4. [D-Ala <sup>2</sup> ,Met <sup>5</sup> ]-Enkephalin (MW 588)      |                                   |

Column : Meteoric Core C18 BIO 2.7  $\mu$ m  
150 X 2.1 mm I.D.  
Eluent : A) water/TFA (100/0.1)  
B) acetonitrile/TFA (100/0.1)  
15-55%B (0-15 min), 55%B (15-17 min)  
Flow rate : 0.2 mL/min  
Temperature : 40 °C  
Detection : UV at 220 nm  
Pressure : 14.9-16.1 MPa (2,160-2,330 psi)



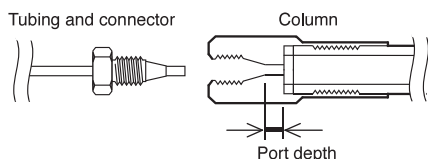
- |  |   |
|--|---|
| 1. Cytochrome c (MW 12,400)            | 4. Lysozyme (MW 14,000)                     |
| 2. Insulin (bovine) (MW 5,700)         | 5. $\alpha$ -Chymotrypsinogen A (MW 25,700) |
| 3. Amyloid $\beta$ -protein (MW 4,300) |   |

Column : Meteoric Core C18 BIO 2.7  $\mu$ m  
150 X 2.1 mm I.D.  
Eluent : A) water/TFA (100/0.1)  
B) acetonitrile/TFA (100/0.1)  
20-70%B (0-15 min), 70%B (15-17 min)  
Flow rate : 0.2 mL/min  
Temperature : 40 °C  
Detection : UV at 220 nm  
Pressure : 12.8-16.1 MPa (1,860-2,330 psi)

## Ordering Information

Particle size ( $\mu$ m)	Column size inner diameter X length (mm)	Product number		
		Meteoric Core C18	Meteoric Core C18 BIO	Meteoric Core C8
2.7	2.1 X 30	CAS08SQ7-03Q1PT	CAW16SQ7-03Q1PT	COS08SQ7-03Q1PT
	2.1 X 50	CAS08SQ7-05Q1PT	CAW16SQ7-05Q1PT	COS08SQ7-05Q1PT
	2.1 X 75	CAS08SQ7-L5Q1PT	CAW16SQ7-L5Q1PT	COS08SQ7-L5Q1PT
	2.1 X 100	CAS08SQ7-10Q1PT	CAW16SQ7-10Q1PT	COS08SQ7-10Q1PT
	2.1 X 150	CAS08SQ7-15Q1PT	CAW16SQ7-15Q1PT	COS08SQ7-15Q1PT
	3.0 X 30	CAS08SQ7-0303PT	CAW16SQ7-0303PT	COS08SQ7-0303PT
	3.0 X 50	CAS08SQ7-0503PT	CAW16SQ7-0503PT	COS08SQ7-0503PT
	3.0 X 75	CAS08SQ7-L503PT	CAW16SQ7-L503PT	COS08SQ7-L503PT
	3.0 X 100	CAS08SQ7-1003PT	CAW16SQ7-1003PT	COS08SQ7-1003PT
	3.0 X 150	CAS08SQ7-1503PT	CAW16SQ7-1503PT	COS08SQ7-1503PT
	4.6 X 30	CAS08SQ7-0346PT	CAW16SQ7-0346PT	COS08SQ7-0346PT
	4.6 X 50	CAS08SQ7-0546PT	CAW16SQ7-0546PT	COS08SQ7-0546PT
	4.6 X 75	CAS08SQ7-L546PT	CAW16SQ7-L546PT	COS08SQ7-L546PT
	4.6 X 100	CAS08SQ7-1046PT	CAW16SQ7-1046PT	COS08SQ7-1046PT
	4.6 X 150	CAS08SQ7-1546PT	CAW16SQ7-1546PT	COS08SQ7-1546PT

### Consideration of connector and column endfitting



The end of the product number	Port depth	Style of endfitting
PT	2 mm	UPLC compatible (Parker) style

UPLC is a registered trademark of Waters Corporation.

# YMC (India) Private Limited

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