



**COSMOSIL**

# Reversed Phase Chromatography Octadecyl Types **COSMOSIL MS-II, AR-II, PAQ**

|                                 | 5C18-MS-II                          | 5C18-AR-II         | 5C18-PAQ    |
|---------------------------------|-------------------------------------|--------------------|-------------|
| Silica Gel                      | High Purity Porous Spherical Silica |                    |             |
| Average Particle Size           | 3, 5, 15 µm                         |                    |             |
| Average Pore Size               | approx. 120 Å                       |                    |             |
| Stationary Phase / Bonding Type | Monomeric Type<br>                  | Polymeric Type<br> |             |
| Main Interaction                | Hydrophobic Interaction             |                    |             |
| pH Range                        | 2-10                                | 1.5-7.5            | 2-7.5       |
| Carbon Content                  | approx. 16%                         | approx. 17%        | approx. 11% |

## COSMOSIL 5C18-MS-II

COSMOSIL 5C18-MS-II is a monomeric type of C18 phase. A new end capping treatment with polar groups for "shield effect" has extended the pH range and significantly improved peak shape for basic compounds. This phase is recommended for most of applications but particularly effective for low molecular weight organic compounds.

## COSMOSIL 5C18-AR-II

COSMOSIL 5C18-AR-II is a polymeric type of C18 phase. It shows exceptional stability and long lifetime at low pH. This phase is recommended for the separations requiring acidic mobile phase conditions. It also shows superior molecular shape selectivity to monomeric type C18 columns.

## COSMOSIL 5C18-PAQ

COSMOSIL 5C18-PAQ is designed to offer superior retention of polar compounds and excellent reproducibility in highly aqueous mobile phases, even in 100% aqueous.

## Column Selection Guide for ODS

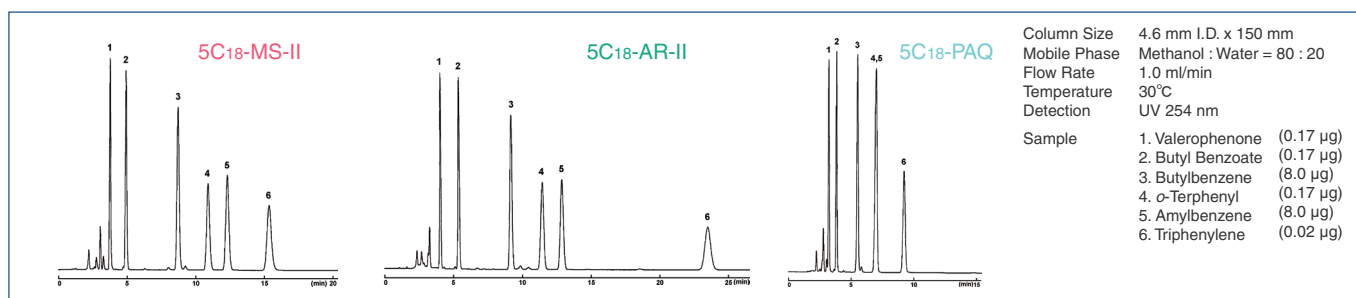
|                               | COSMOSIL 5C18-MS-II | COSMOSIL 5C18-AR-II | COSMOSIL 5C18-PAQ | Highly Recommended  |
|-------------------------------|---------------------|---------------------|-------------------|---------------------|
| Basic Compounds               | +++                 | +                   | ++                | COSMOSIL 5C18-MS-II |
| Metal Coordination Compounds  | ++                  | ++                  | ++                | COSMOSIL 5C18-MS-II |
| Acidic Buffer as Mobile Phase | ++                  | +++                 | ++                | COSMOSIL 5C18-AR-II |
| Hydrophilic Compounds         | +                   | +                   | +++               | COSMOSIL 5C18-PAQ   |

+++ : Highly Recommended ++ : Recommended + : Usable

(Other Compounds: COSMOSIL 5C18-MS-II)

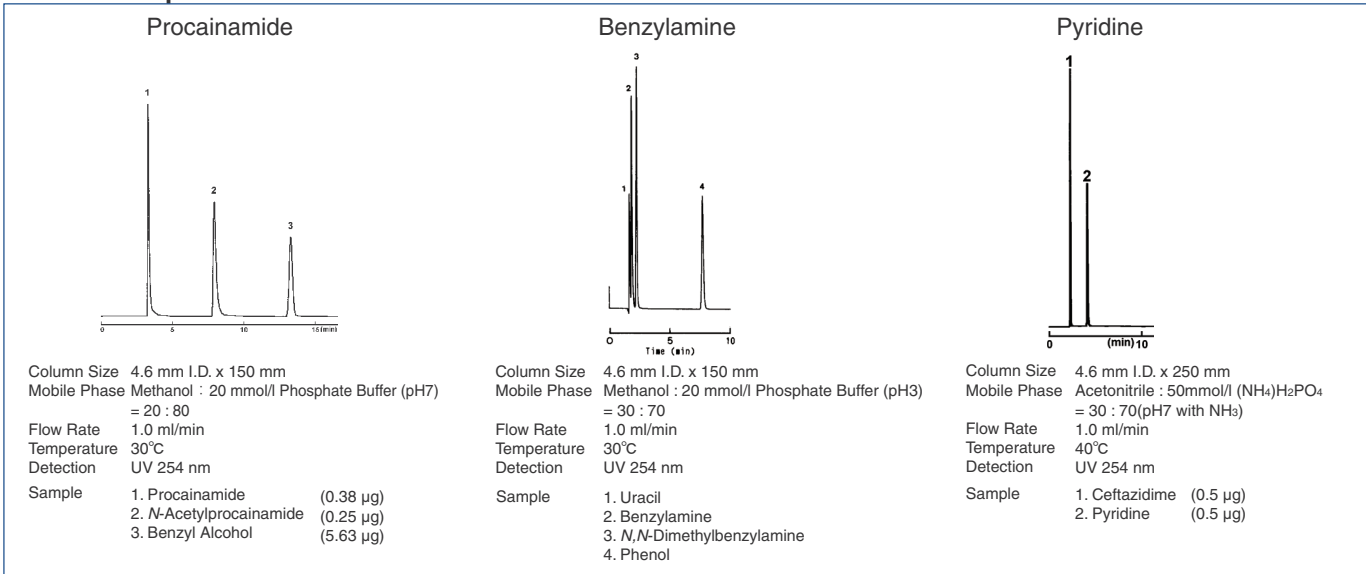
- **Basic Compounds** : MS-II shows strongest durability. In some cases, AR-II is not recommended because the tailing may be occurred.
- **Metal Coordination Compounds** : There is not so much difference between three ODS. So the most multi-purpose MS-II is recommendable.
- **Acidic Buffer as Mobile Phase** : AR-II is the strongest acid resistible column in our ODS. Also, MS-II and PAQ can be used in acidic condition.
- **Hydrophilic Compounds** : PAQ is able to be stabilized the retention time. MS-II and AR-II can be used, but the stability is not good. (especially used 100% water as mobile phase)

## Difference of Separation Property



COSMOSIL 5C18-MS-II

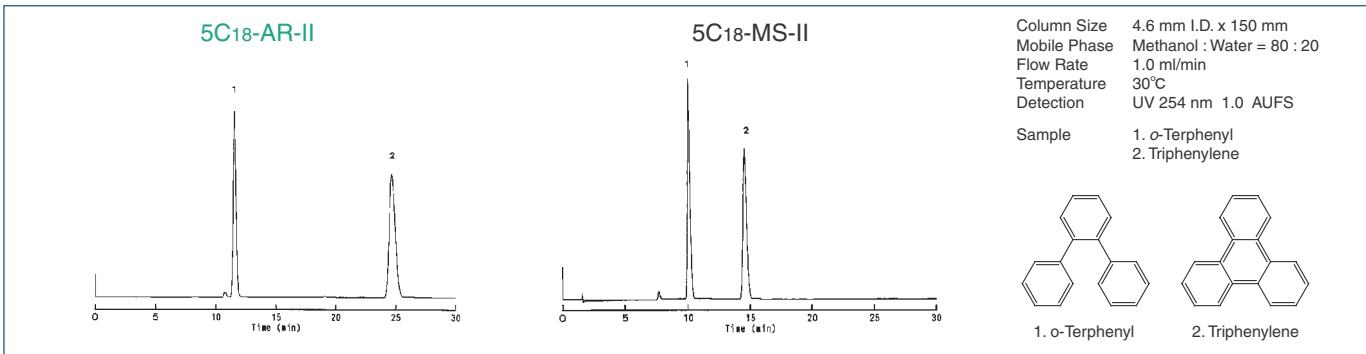
• Basic Compounds



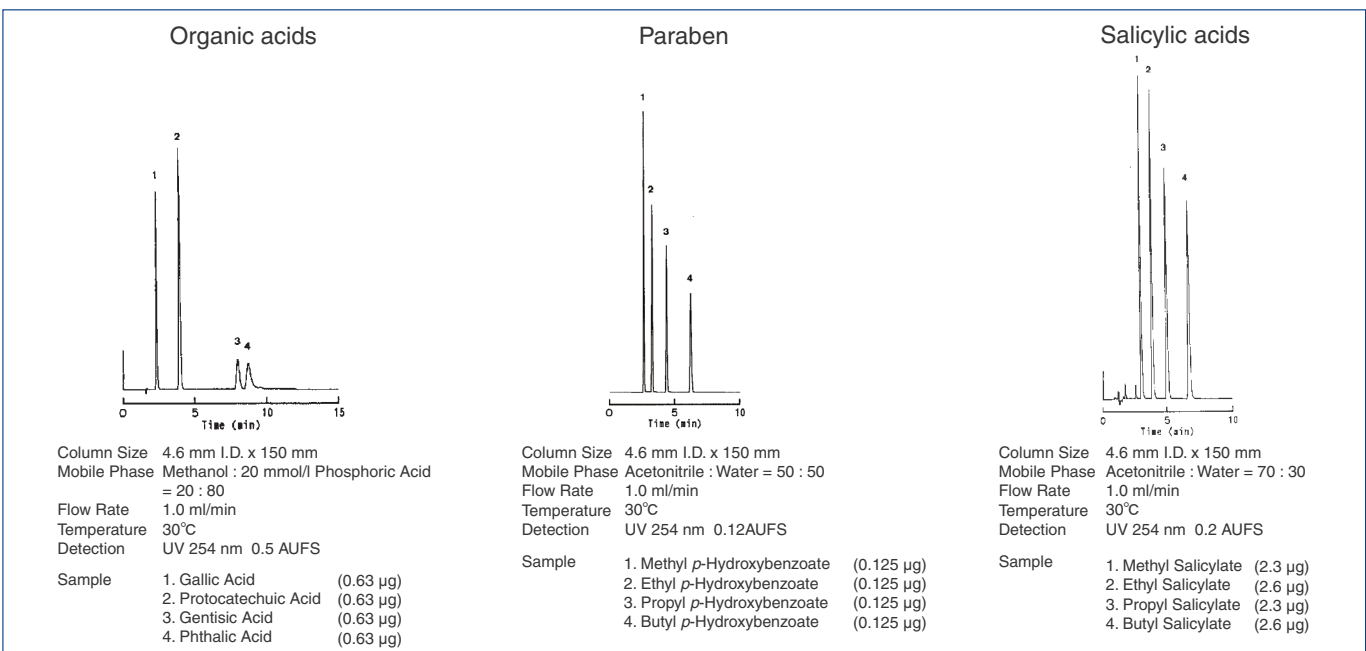
COSMOSIL 5C18-AR-II

• Stereoselectivity

The polymeric type of COSMOSIL 5C18-AR-II shows superior stereoselectivity.

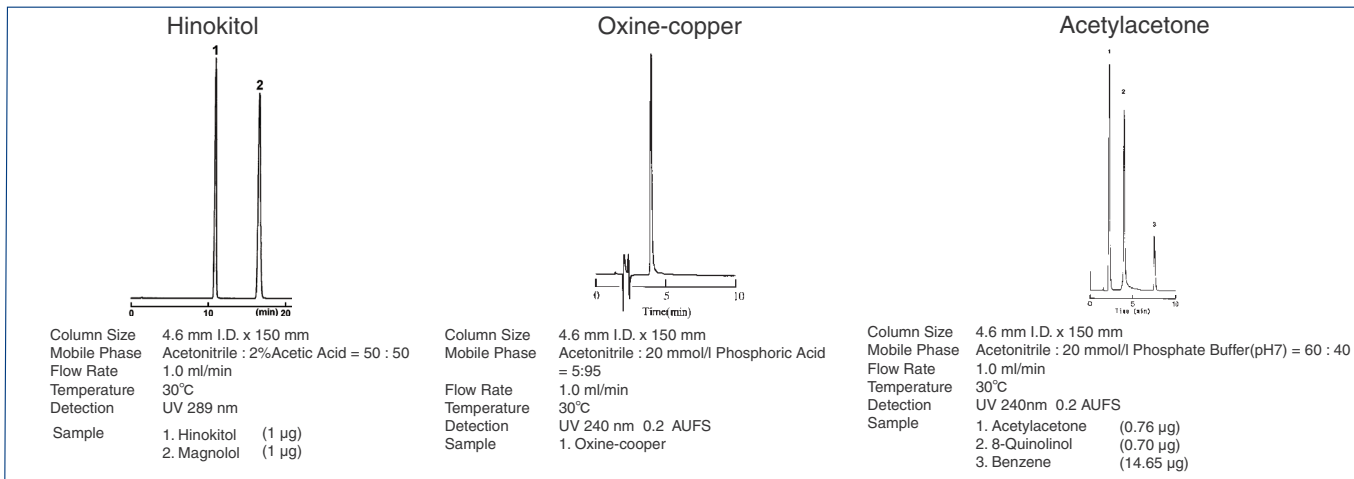


• Acidic Compounds



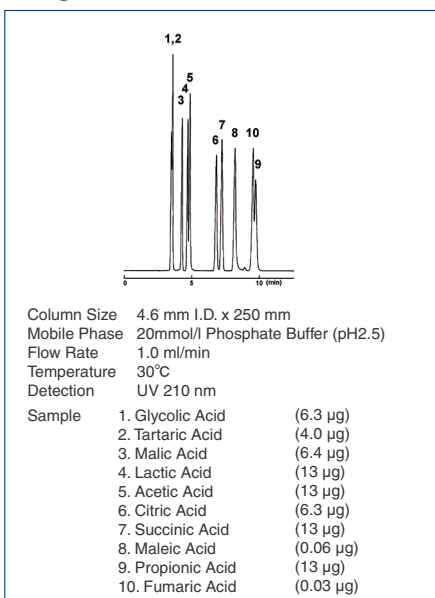
## COSMOSIL 5C18-AR-II (continued)

### • Metal Coordination Compounds

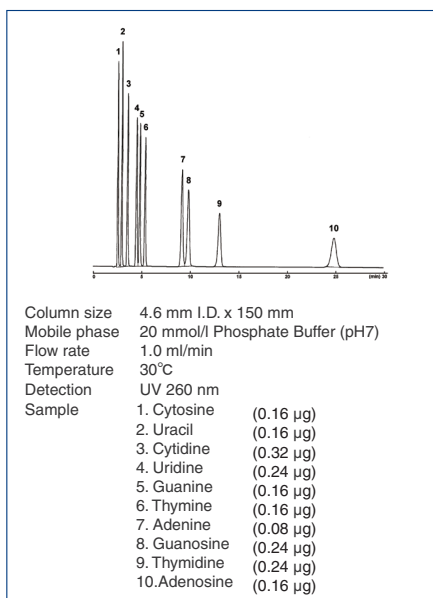


## COSMOSIL 5C18-PAQ

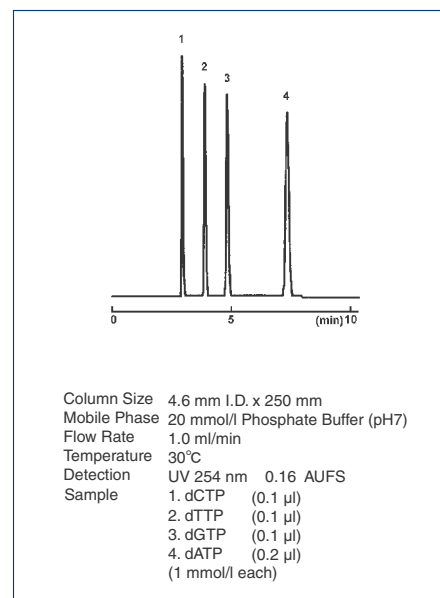
### • Organic Acid



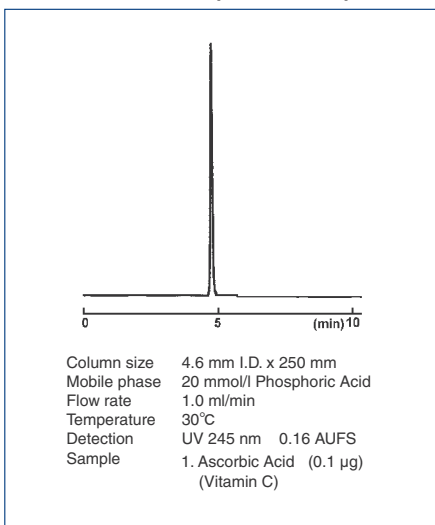
### • Nucleic-acid Base



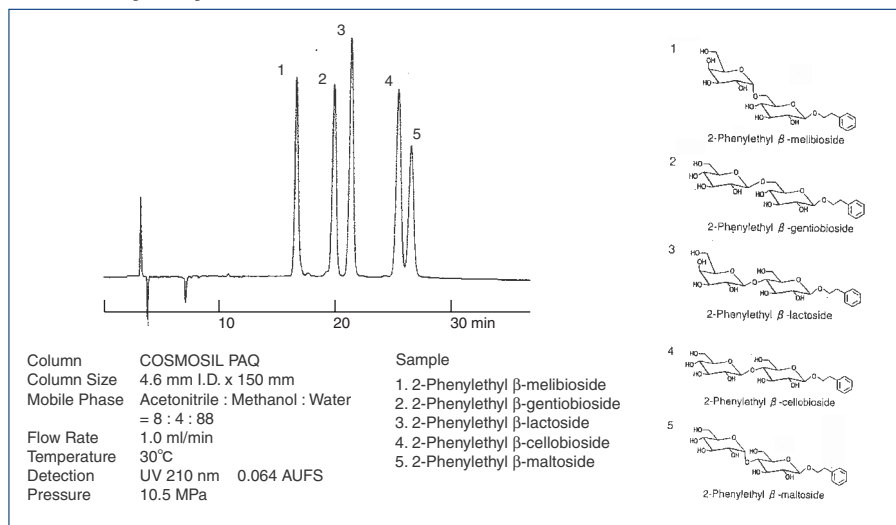
### • dNTP



### • Ascorbic Acid (Vitamin C)



### • 2-Phenylethyl Glucosides



## Ordering Information

### • Particle Size: 5 µm (Analytical Columns)

|                      | Column Size                       | COSMOSIL 5C <sub>18</sub> -MS-II<br>Product Number | COSMOSIL 5C <sub>18</sub> -AR-II<br>Product Number | COSMOSIL 5C <sub>18</sub> -PAQ<br>Product Number |
|----------------------|-----------------------------------|----------------------------------------------------|----------------------------------------------------|--------------------------------------------------|
| Packed Column        | 1.0 mm I.D x 50 mm                | 02824-31                                           | 02955-21                                           | 05792-61                                         |
|                      | 1.0 mm I.D x 150 mm               | 02896-01                                           | 02951-61                                           | 05793-51                                         |
|                      | 2.0 mm I.D x 30 mm                | 05876-71                                           | 05098-71                                           | 05878-51                                         |
|                      | 2.0 mm I.D x 50 mm                | 04355-21                                           | 34400-81                                           | 05794-41                                         |
|                      | 2.0 mm I.D x 100 mm               | 05597-31                                           | 34469-11                                           | 05470-71                                         |
|                      | 2.0 mm I.D x 150 mm               | 38025-91                                           | 37992-51                                           | 34449-71                                         |
|                      | 2.0 mm I.D x 250 mm               | 05761-61                                           | 05272-71                                           | 05795-31                                         |
|                      | 3.0 mm I.D x 100 mm               | 05458-51                                           | 05791-71                                           | 05796-21                                         |
|                      | 3.0 mm I.D x 150 mm               | 34245-31                                           | 38028-61                                           | 05797-11                                         |
|                      | 3.0 mm I.D x 250 mm               | 34254-11                                           | 38029-51                                           | 05798-01                                         |
|                      | 4.6 mm I.D x 30 mm                | 34341-61                                           | 05877-61                                           | 05879-41                                         |
|                      | 4.6 mm I.D x 50 mm                | 38017-01                                           | 38142-51                                           | 34451-21                                         |
|                      | 4.6 mm I.D x 100 mm               | 38018-91                                           | 38143-41                                           | 05799-91                                         |
|                      | 4.6 mm I.D x 150 mm               | 38019-81                                           | 38144-31                                           | 02486-71                                         |
|                      | 4.6 mm I.D x 150 mm<br>3 lots set | 09397-73                                           | 09396-83                                           | -                                                |
|                      | 4.6 mm I.D x 250 mm               | 38020-41                                           | 38145-21                                           | 02485-81                                         |
|                      | 6.0 mm I.D x 150 mm               | 38021-31                                           | 38146-11                                           | 34419-61                                         |
|                      | 6.0 mm I.D x 250 mm               | 38022-21                                           | 38147-01                                           | 05800-41                                         |
|                      | 10.0 mm I.D x 50 mm               | 05789-21                                           | 05369-21                                           | 05801-31                                         |
|                      | 10.0 mm I.D x 150 mm              | 34355-91                                           | 34350-41                                           | 34466-41                                         |
|                      | 10.0 mm I.D x 250 mm              | 38023-11                                           | 38149-81                                           | 34376-21                                         |
|                      | 20.0 mm I.D x 150 mm              | 05091-41                                           | 34316-01                                           | 34476-11                                         |
|                      | 20.0 mm I.D x 250 mm              | 38024-01                                           | 38150-41                                           | 34373-51                                         |
| 28.0 mm I.D x 250 mm | 05760-71                          | 34362-91                                           | 34456-71                                           |                                                  |
| Guard Column         | 4.6 mm I.D x 10 mm                | 38014-31                                           | 38141-61                                           | 02484-91                                         |
|                      | 4.6 mm I.D x 10 mm<br>Cartridge*  | 38015-89                                           | 38008-89                                           | -                                                |
|                      | 10.0 mm I.D x 20 mm               | 38016-11                                           | 38148-91                                           | 34457-61                                         |
|                      | 20.0 mm I.D x 20 mm               | 05790-81                                           | 34458-51                                           | 05803-11                                         |
|                      | 20.0 mm I.D x 50 mm               | 34371-71                                           | 34479-81                                           | 05804-01                                         |
|                      | 28.0 mm I.D x 50 mm               | 34347-01                                           | 34363-81                                           | 34455-81                                         |

\*3 Cartridges included, needs a holder

### • Particle Size: 15 µm (Preparative Columns)

|               | Column Size<br>mm I.D. x mm | COSMOSIL 15C <sub>18</sub> -MS-II<br>Product Number | COSMOSIL 15C <sub>18</sub> -AR-II<br>Product Number | COSMOSIL 15C <sub>18</sub> -PAQ<br>Product Number |
|---------------|-----------------------------|-----------------------------------------------------|-----------------------------------------------------|---------------------------------------------------|
| Packed Column | 28.0 mm I.D x 250 mm        | 34525-61                                            | 37978-51                                            | 05888-21                                          |
|               | 50.0 mm I.D x 250 mm        | 05886-41                                            | 38058-71                                            | 05890-71                                          |
|               | 50.0 mm I.D x 500 mm        | 34531-71                                            | 05884-61                                            | 05891-61                                          |
| Guard Column  | 28.0 mm I.D x 50 mm         | 05885-51                                            | 38030-11                                            | 05887-31                                          |
|               | 50.0 mm I.D x 50 mm         | 34527-41                                            | 38057-81                                            | 05889-11                                          |

### • Particle Size: 3 µm (Fast LC Columns)

|               | Column Size<br>mm I.D. x mm | COSMOSIL 3C <sub>18</sub> -MS-II<br>Product Number | COSMOSIL 3C <sub>18</sub> -AR-II<br>Product Number |
|---------------|-----------------------------|----------------------------------------------------|----------------------------------------------------|
| Packed Column | 2.0 mm I.D x 50 mm          | 05514-01                                           | 05478-91                                           |
|               | 4.6 mm I.D x 10 mm          | 38065-71                                           | 38068-41                                           |
|               | 4.6 mm I.D x 50 mm          | 38066-61                                           | 38069-31                                           |
|               | 4.6 mm I.D x 100 mm         | 38067-51                                           | 38070-91                                           |

Other size may be available. Please enquire.

For research use only, not intended for diagnostic or drug use.

