

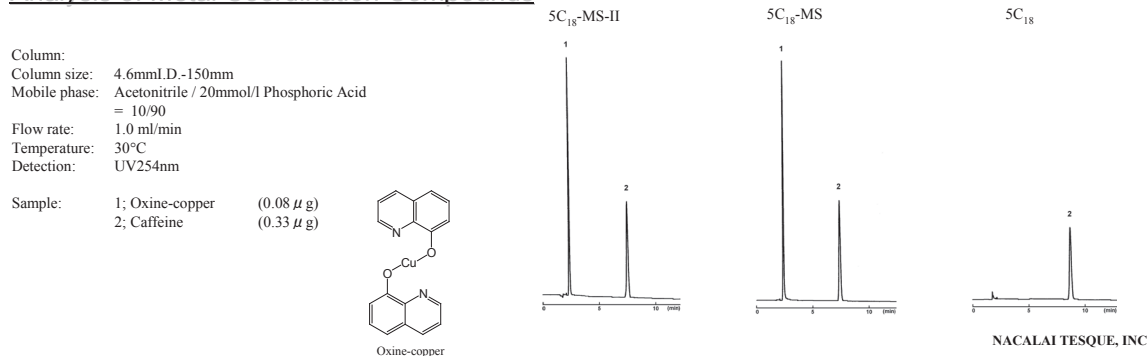
9. Comparison with Old Type COSMOSIL

1) New Type COSMOSIL (5C₁₈-MS-II) vs. Old Type COSMOSIL (5C₁₈ and 5C₁₈-MS)

Analysis of Metal Coordination Compounds

The metal coordination compounds, e.g., Oxine-copper, were not eluted from COSMOSIL 5C₁₈ because its silica gel contains a high level metal impurities. COSMOSIL 5C₁₈-MS or 5C₁₈-MS-II can separate the same metal coordination compounds because they are packed with high purity (99.99%) silica gel.

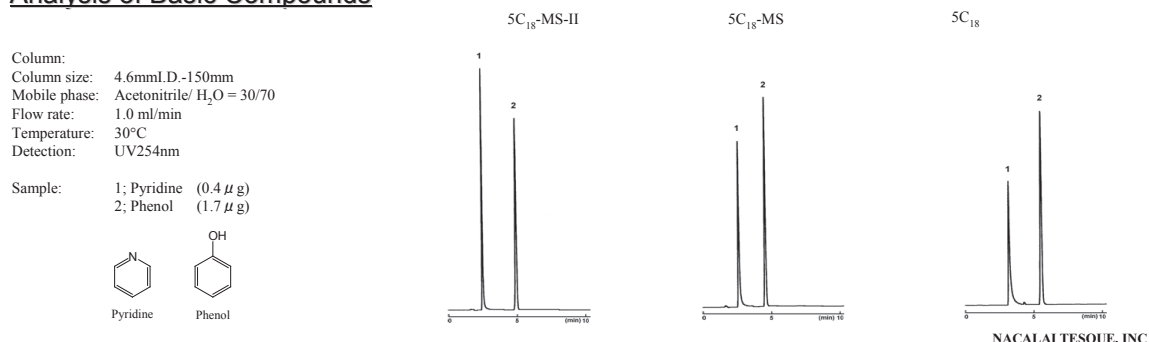
Analysis of Metal Coordination Compounds



Analysis of Basic Compounds

COSMOSIL 5C₁₈-MS-II shows better separation for the basic compounds than COSMOSIL 5C₁₈-MS because COSMOSIL 5C₁₈-MS-II is treated with improved end-capping.

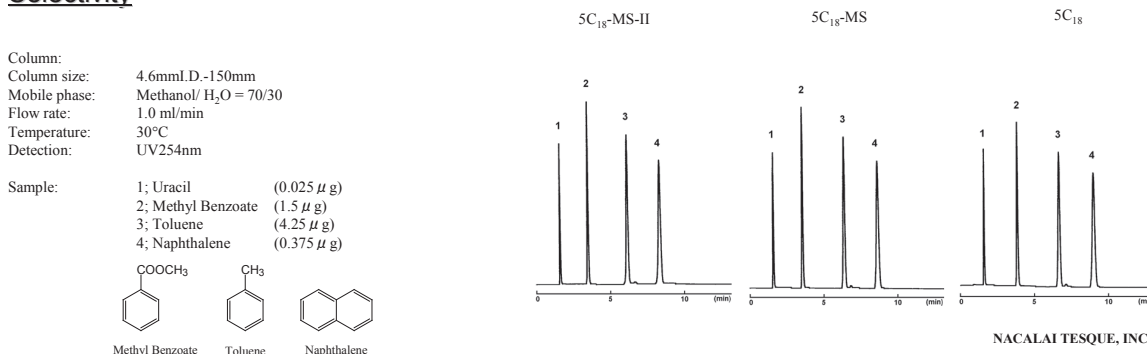
Analysis of Basic Compounds



Selectivity

Little difference exists among COSMOSIL 5C₁₈, 5C₁₈-MS and 5C₁₈-MS-II in selectivity. The same analytical condition used for the old type column can be transferred to COSMOSIL 5C₁₈-MS-II without any modification.

Selectivity



2) New Type COSMOSIL (5C₁₈-AR-II) vs. Old Type COSMOSIL (5C₁₈-AR)

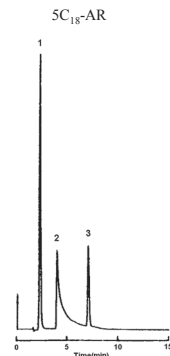
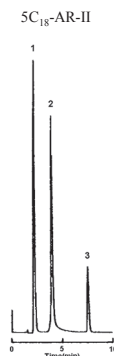
Analysis of Metal Coordination Compounds

COSMOSIL-5C₁₈ AR-II shows better separation for the metal coordination compounds e.g., 8-Quinolinol than COSMOSIL 5C₁₈-AR because of the high purity silica gel.

Analysis of Metal Coordination Compounds

Column:
Column size: 4.6mm I.D.-150mm
Mobile phase: Methanol/ 20mmol/l Phosphate
buffer(pH7) = 60/40
Flow rate: 1.0 ml/min
Temperature: 30°C
Detection: UV254nm

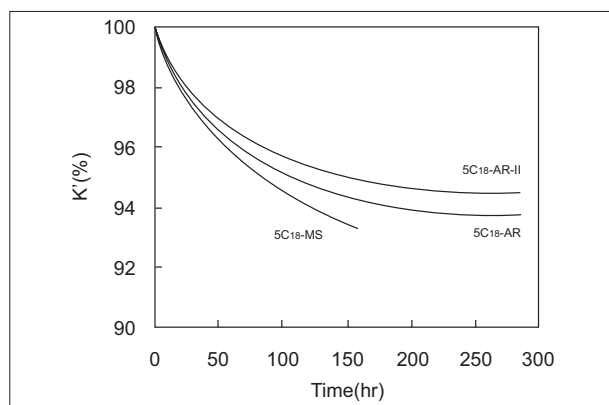
Sample: 1; Acetylacetone
2; 8-Hydroxyquinoline [8-Quinolinol]
3; Benzene



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Acid Resistance

COSMOSIL 5C₁₈-AR-II show superior acid resistance to 5C₁₈-AR.



Degradation test with 0.1% Trifluoroacetic Acid at 60°C

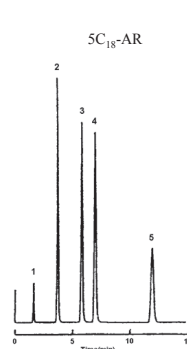
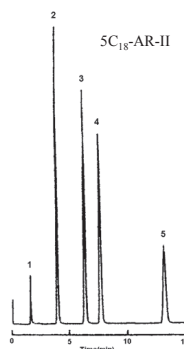
Selectivity

The selectivity for non-dissociative organic compounds on COSMOSIL 5C₁₈ AR-II and COSMOSIL 5C₁₈ AR is identical because the carbon content of both columns is the same.

Selectivity

Column:
Column size: 4.6mm I.D.-150mm
Mobile phase: Methanol/ H₂O = 60/40
Flow rate: 1.0 ml/min
Temperature: 30°C
Detection: UV254nm

Sample: 1; Uracil
2; Acetophenone
3; Methyl Benzoate
4; Benzene
5; Toluene



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COSMOSIL 5C₁₈-MS-II and COSMOSIL 5C₁₈-AR-II support the validation.

New Types of COSMOSIL columns are recommended for your new applications.