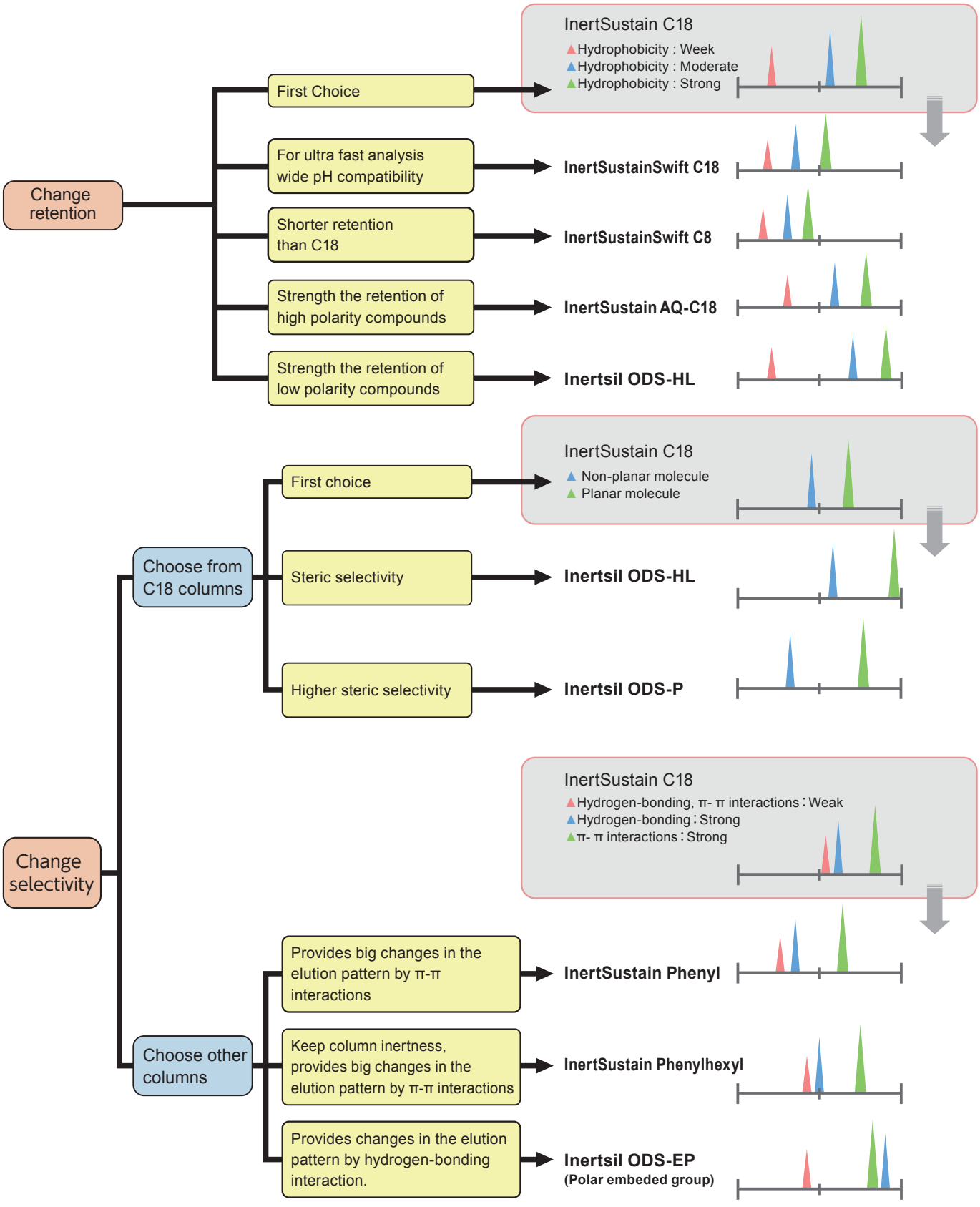
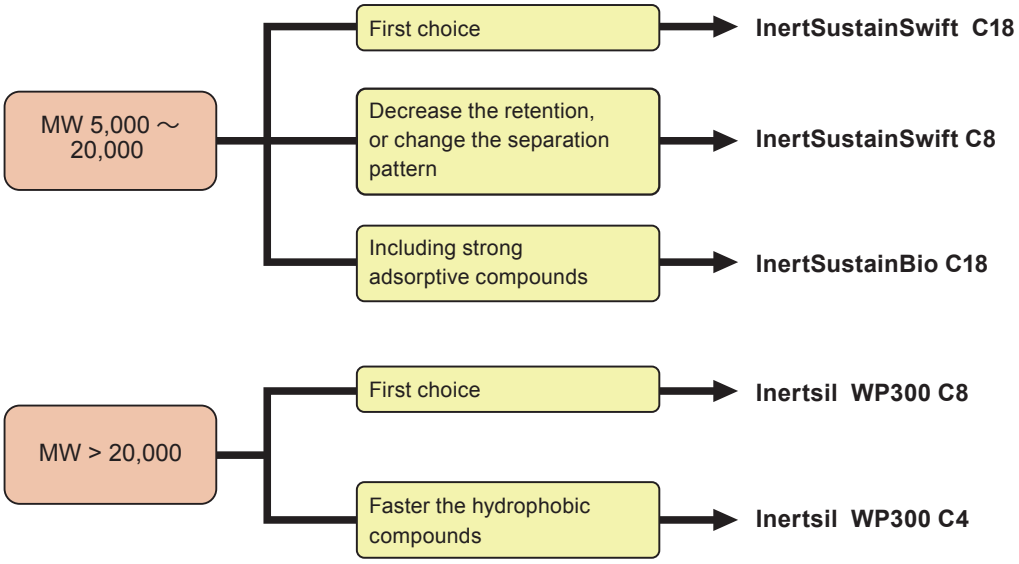
Reversed Phase Column Selection Guide

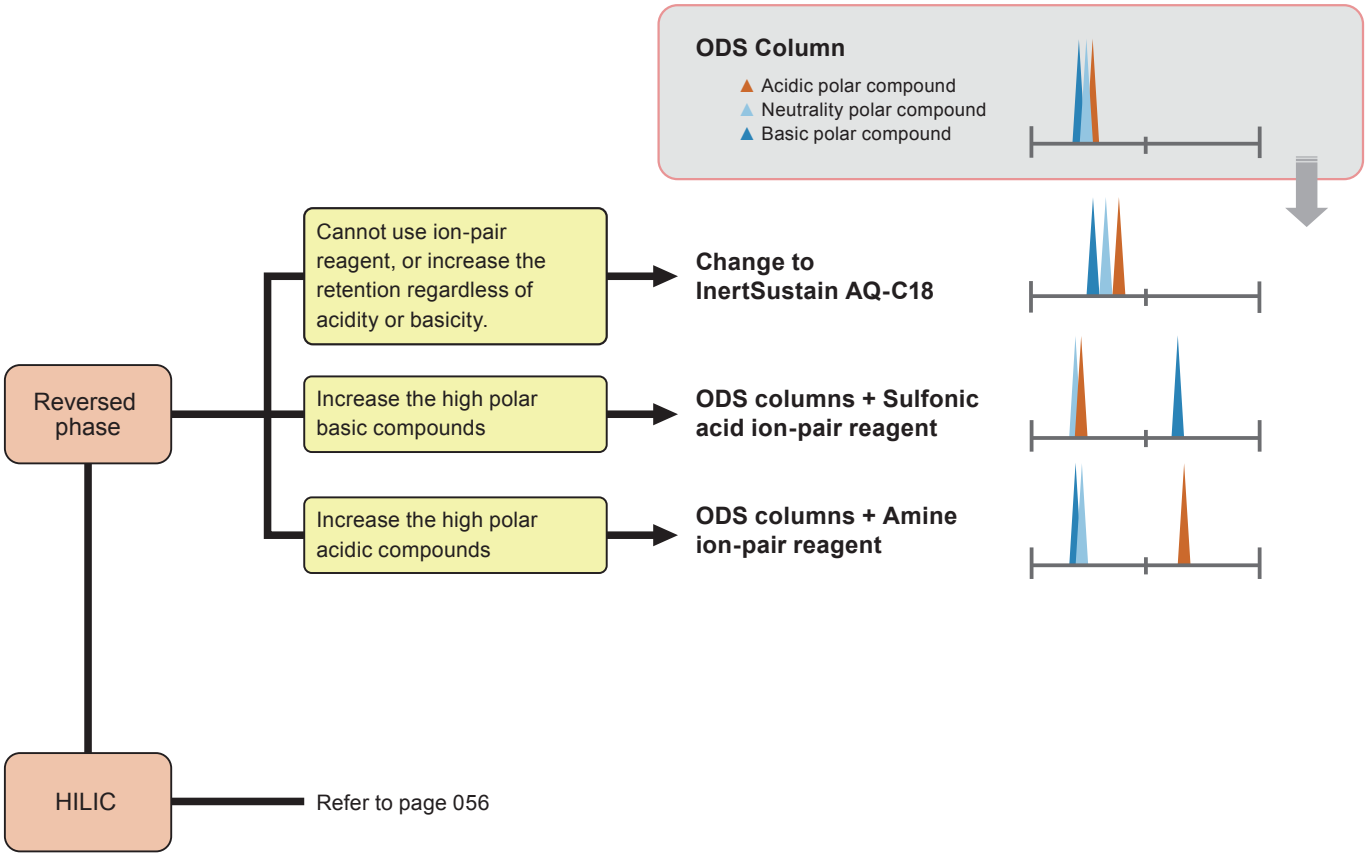
Molecular Weight <5,000



Molecular Weight >5,000



Analyze High Polar Compounds

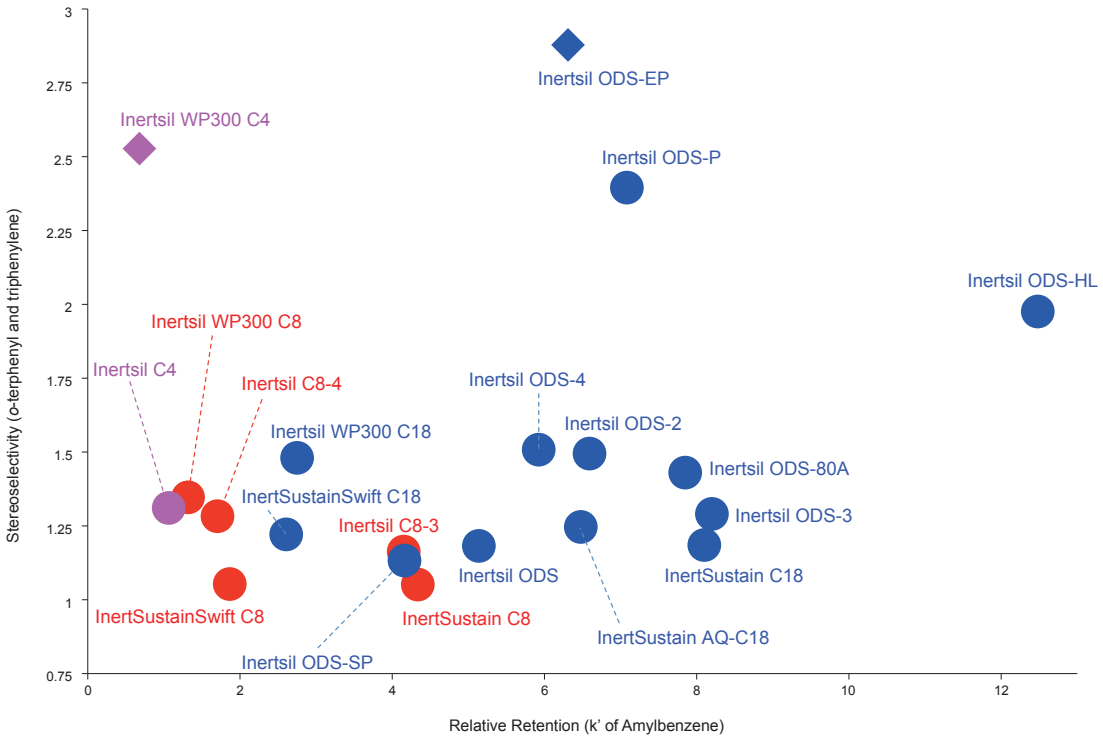


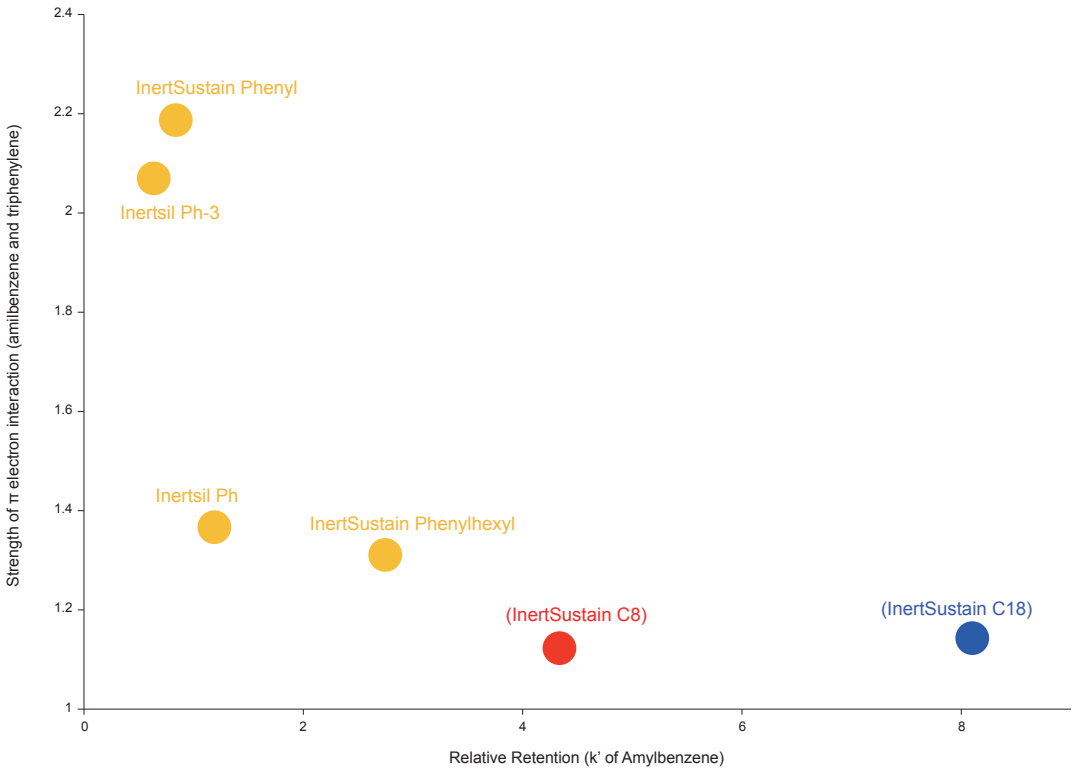
Reversed Phase Columns

The strengths of stereo selectivity and π-π interaction against retention strengths of reversed phase columns are shown below. The following contents are pointed in the chart.

- ● Retentive factor of amil benzene as retentivity.
- ● Relative retention of *o*-terphenyl and triphenylene as stereo selectivity.
- ● Relative retention value of amilbenzene and triphenylene as strength of π-π interaction.
- ♦ Type was plotted to discriminate from the other columns since polar group endohedral (embedded type) columns

InertSustain, Inertsil Distribution Model





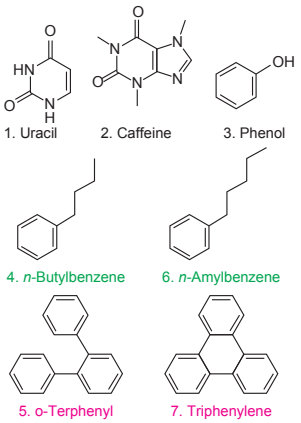
Selectivity Comparison of Reversed Phase Columns

Selectivity of reversed phase columns are compared under the same conditions, packing material size and column size. Chemical structural formulas used for the comparison are shown at right. Separation differences between basic compounds, acidic compounds, alkyl benzenes and polyaromatic compounds shows the differences of column selectivity. The more silanol groups on the packing material lead the later elution time of caffeine compared with that of phenol. The higher hydrophobicity of the column shows the later elution time of *n*-Amylbenzene compared with that of *n*-Butylbenzene. The higher steric selectivity of the column shows the later elution time of Triphenylene compared with that of *o*-Terphenyl.

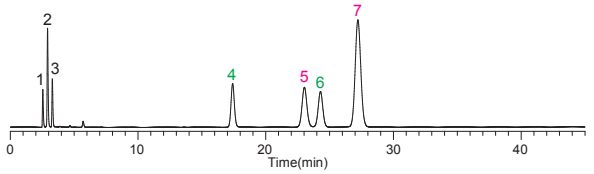
Conditions

Column	: Reversed Phase Column (5 µm, 250 × 4.6 mm I.D.)*
Eluent	: A) CH_3OH B) H_2O
	: A/B = 80/20, v/v , (Inertsil Diol, CN-3) A/B = 70/30, v/v ,
Flow Rate	: 1.0 mL/min*
Col. Temp.	: 40 °C
Detection	: UV 254 nm
Injection Vol.	: 5 µL*

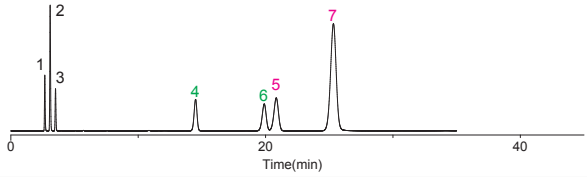
* : For Mono Clad C18-HS (3.0 mm I.D.), 0.4 mL/min of flow rate and 2 µL of injection volume are adopted according to the column internal diameter.



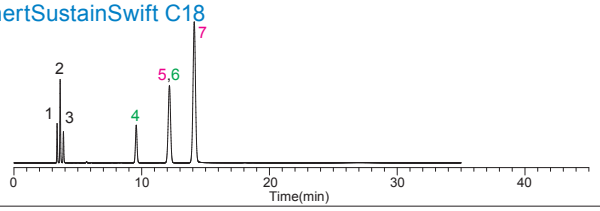
InertSustain C18



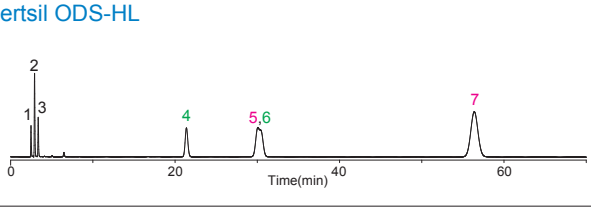
InertSustain AQ-C18



InertSustainSwift C18



Inertsil ODS-HL



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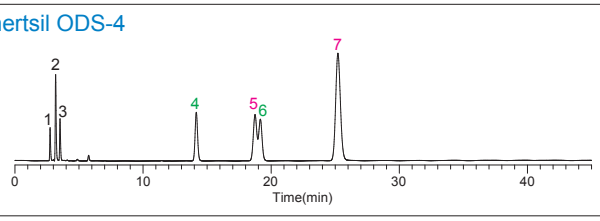

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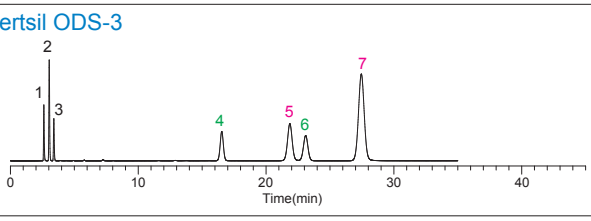

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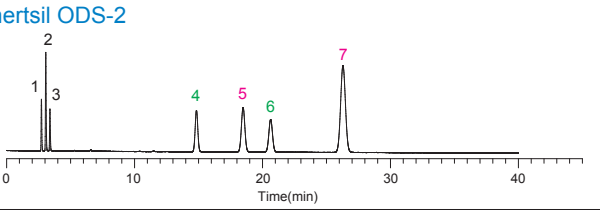
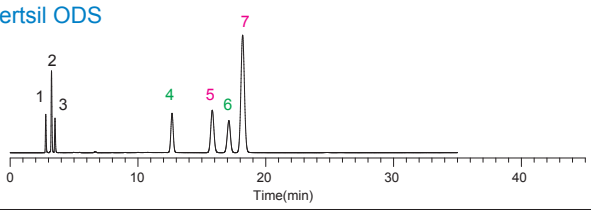
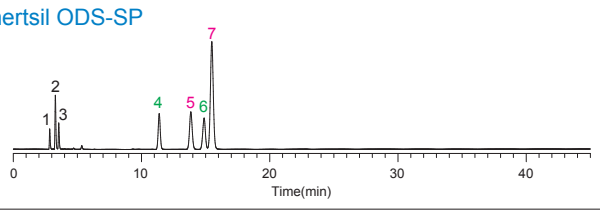


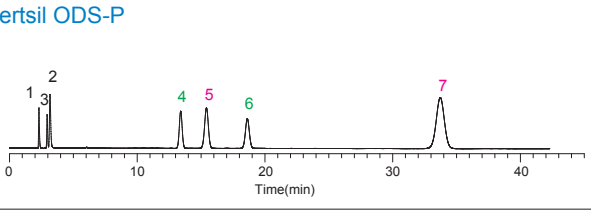
Inertsil ODS



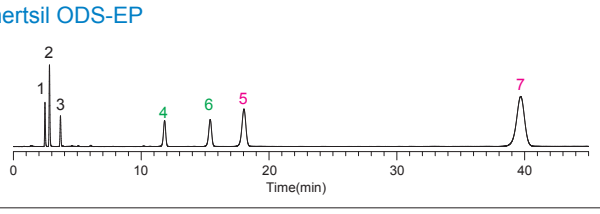
Inertsil ODS-SP



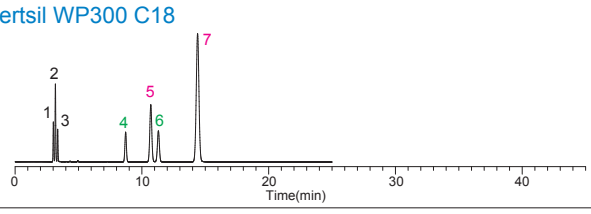
Inertsil ODS-P



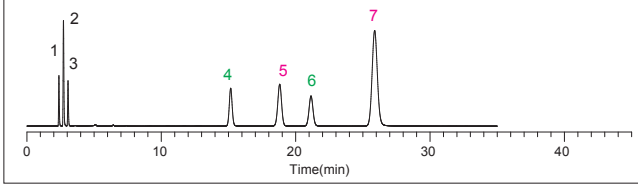
Inertsil ODS-EP



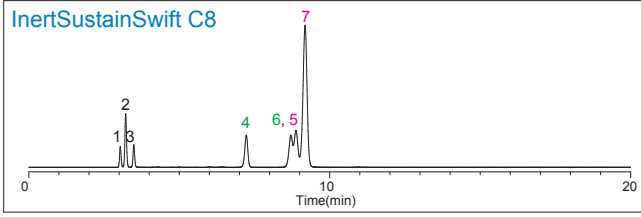
Inertsil WP300 C18



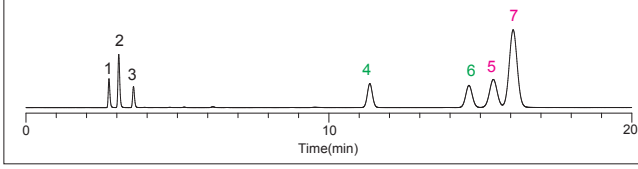
Inertsil ODS-80A



InertSustainSwift C8



InertSustain C8



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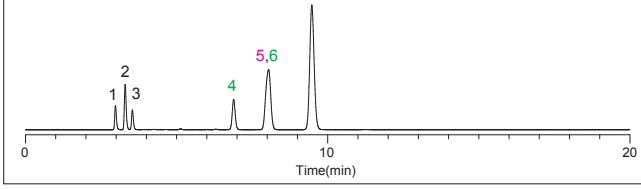

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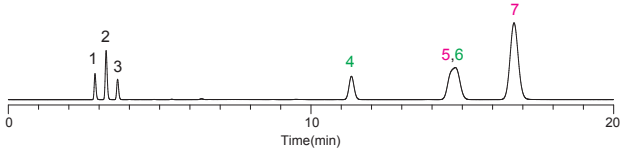

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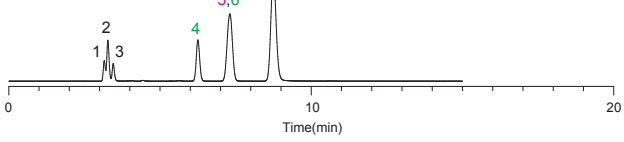

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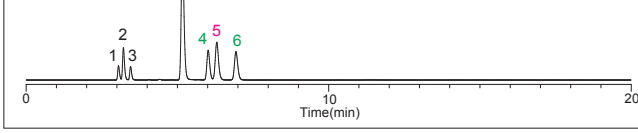

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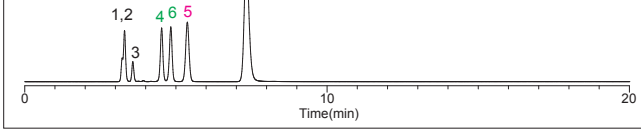
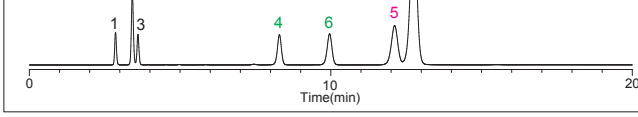


InertSustain Phenylhexyl



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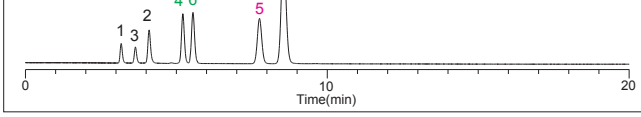

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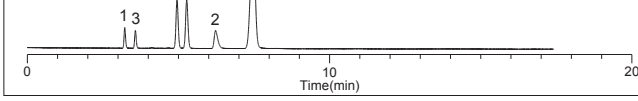
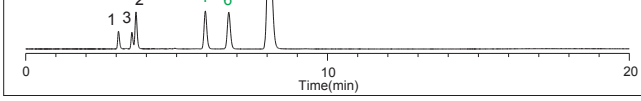


Inertsil Ph



InertSustain Cyano