

SpeedCore

Diphenyl

 New Fused Core technology

- Unique Selectivity
- Separate Positional Isomers
- Applicable with all HPLC, UHPLC and MS systems
- No "MS bleed", Stable hydrophobic ligand

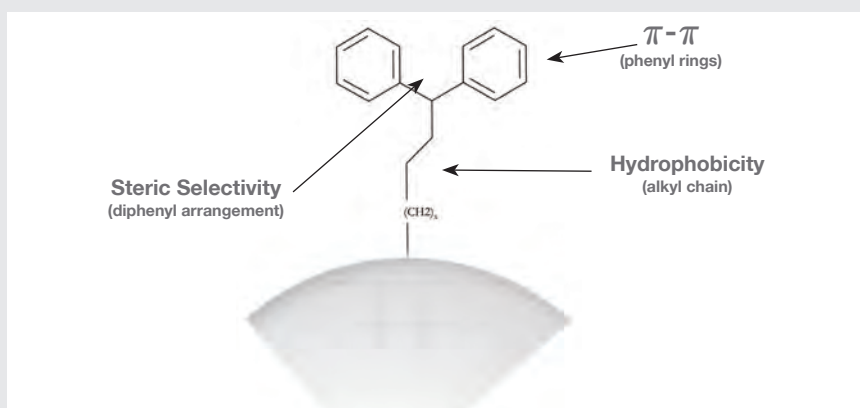
SpeedCore® Diphenyl extends selectivity and can discriminate between closely related species, such as metabolites or excipients. The interactions specific to this stationary phase allow for separation of positional isomers as well as small atom or functional group changes to be resolved.

UNIQUE FUNCTIONALITY

SpeedCore Diphenyl is based upon a unique diphenyl functionality. Three controlled mechanisms of interaction can occur.

This allows for unique retention of closely related species and metabolites. No complex mobile phase additives are necessary simplifying method development.

- π - π (High selectivity)
- Steric selectivity (spacial arrangement)
- Hydrophobicity (Highly stable)



ALTERNATE SELECTIVITY

Selectivity of compounds is enhanced on the SpeedCore Diphenyl over RP C18 stationary phases due to the added steric selectivity and π - π interactions available.

This means you have the high efficiency of core-shell technology combined with increased selectivity to provide the ultimate in resolution capability.

Columns:

2.6 μ m Fortis SpeedCore C18 100x2.1mm

2.6 μ m Fortis SpeedCore Diphenyl 100x2.1mm

Mobile Phase:

A: 0.1% Formic acid in Water

B: 0.1% Formic acid in ACN

5 - 30 %B in 10mins

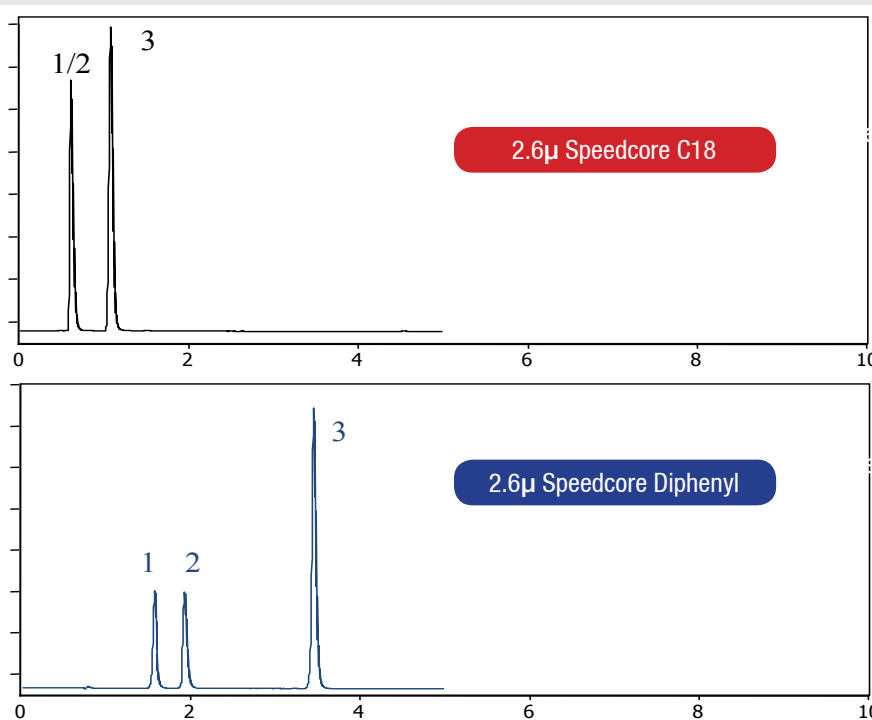
0.4ml/min

280nm

1. 1,3-Dimethyluric acid

2. Theobromine

3. Caffeine



ALTERNATE SELECTIVITY

Selectivity of isomers is critical in LC-MS due to the fact that the isomers will have the same molecular weight, and therefore not be detected as separate compounds if they are not resolved.

The use of a SpeedCore Diphenyl column allows the separation of isomeric species. This leads to better qualitative and quantitative results.

SpeedCore Diphenyl will separate a wide range of metabolite species that are not possible on alkyl chain phases due to its orthogonal nature.

Columns:

2.6 μ m Fortis SpeedCore Diphenyl 150x4.6mm

Mobile Phase:

40:60 Water : MeOH

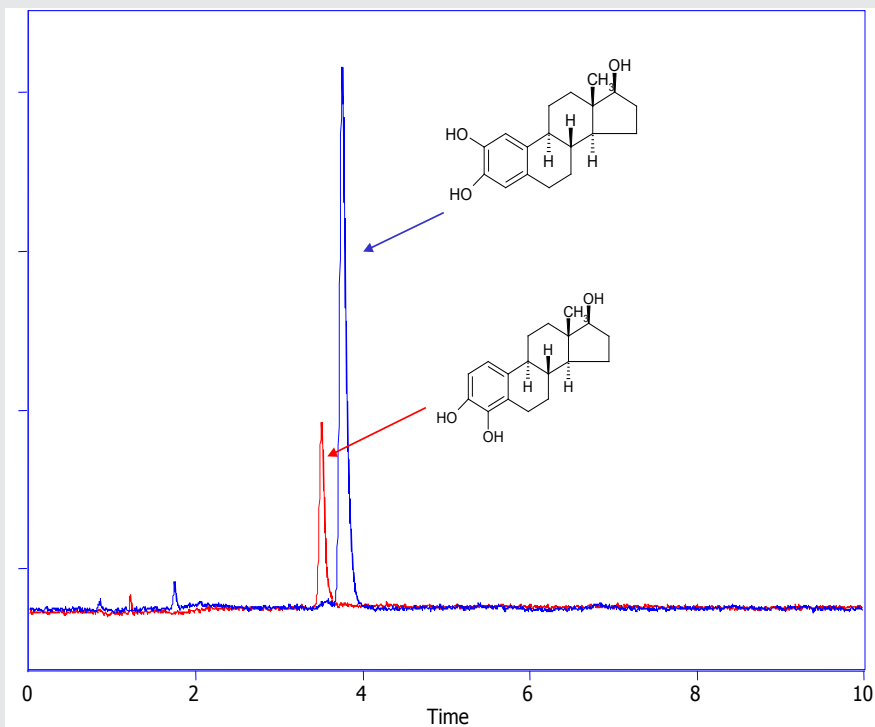
1.2ml/min

210nm

Temp: 40°C

1. 4-Hydroxyestradiol (mw=288.38)

2. 2-Hydroxyestradiol (mw=288.38)



EFFECT OF MOBILE PHASE CHOICE

Choice of mobile phase can be very important in a running a phenyl column. Whilst many people have standardised upon ACN as the organic modifier of choice, MeOH is a better choice in order to let the π - π interactions occur on the phenyl rings.

Using ACN can not only suppress retention but also selectivity.

It can be seen how maximum retention and resolution is obtained on SpeedCore Diphenyl in MeOH mobile phase, even greater than C18. Once the organic modifier is substituted for ACN not only is resolution reduced but also a large amount of retention is lost in relation to that lost on a C18.

