



PHALANX Ultra High Density End Capping

Phases	C18
Particle Sizes	3, 4.5, 10µm
Pore Size	100Å
Pore Volume	1.1mL/gm
Surface Area	430m ² /gm
%Carbon (w/w)	C18 = 18%
Phase type	Monofunctional & fully endcapped
Silica Class	Type B

Guide to Phalanx Part Number

Px-xxxx-C185 Phalanx C18 5µm

See Page 23 for complete Part Number information

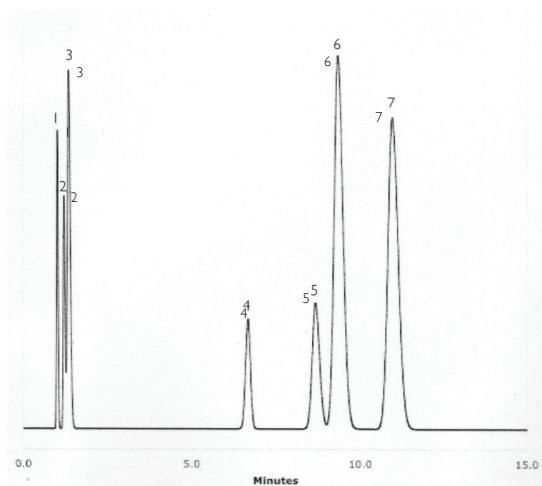
Phalanx HPLC columns and cartridges facilitate the development of robust assays for challenging analytes

Unique Features:

- Ideal for Basic and Acidic Analytes
- Wide pH Range Stability
- High Capacity
- No secondary Si-OH interaction
- No metal contamination
- Extreme hydrophobicity range

Standard Sizes:

- Special products for LC-MS
- 0.075 - 20mm I.D. range
- Wide range of HPLC Cartridge and Column types
- PEEK/titanium as well as stainless steel formats



High Selectivity

Wide range of solutes resolve quickly on a short HPLC column

Phalanx C18, 100x4.6mm, P/N: PS-1046-C185

(1) Uracil, (2) Caffeine, (3) Phenol, (4) n-Butylbenzene, (5) o-Terphenyl,

(6) n-Amylbenzene, (7) Triphenylene

80% MeOH/water, 1 mL/min



Applications

Phalanx is uniquely suitable for the efficient analysis of both acidic and basic analytes. In addition, its high capacity, good stability at high pH, and fast equilibration at extreme ranges of hydrophobicity make Phalanx a powerful option for challenging separation problems.

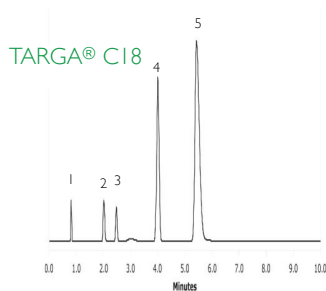
Phalanx is Higgins Analytical's latest addition to a family of unique high performance HPLC sorbents. The novel end capping technology of this new sorbent is a continuation of the pioneering approach taken in 1996 when we introduced Targa®, the first HPLC sorbent specifically designed for efficient LC-MS applications without TFA.



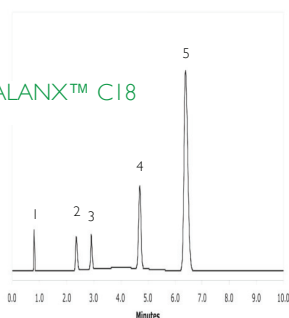
Based on an ultrapure, Type-B silica backbone, Phalanx has a relatively high surface area of 430 m²/gm, but its very tight pore size distribution eliminates the undesirable side effects of micropores that often plague other high surface materials.

Optimum for Basic and Acidic compounds: Many modern HPLC sorbents employ embedded polar functionality. While these secondary structures can provide unique selectivity and eliminate undesirable solute/sorbent interaction, they often compromise the useful range of solutes or buffers that can be used. The figure on the left and those on page 2 illustrate that Phalanx columns produce symmetrical peaks during the analysis of basic, neutral, and acidic compounds.

Wide pH operating range: The unique endcapping reduces acid/base hydrolysis of the bonded phase and greatly reduces silica solvation at high pH.



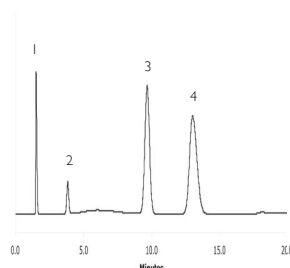
PHALANX™ C18



NIST Test Mix for Metal Activity and Residual Silanols

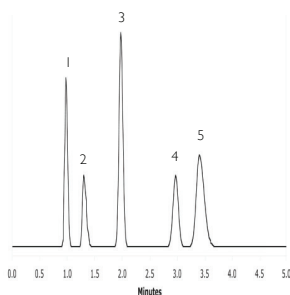
Quinizarin, a strong metal chelator; and amitriptyline, a very sensitive solute for residual silanols, both elute with good recovery and symmetrical peaks on both Targa and Phalanx C18 columns.
 Targa® C18, 150x4.6mm, P/N: TS-1546-C185
 Phalanx™ C18, 150x4.6mm, P/N: PS-1546-C185
 (1) Uracil, (2) Toluene, (3) Ethylbenzene, (4) Quinizarin, (5) Amitriptyline.
 80% MeOH/buffer, 1.5mL/min

See page 28 for an interesting comparison of PHALANX to KROMASIL C18 for an analysis of a pharmaceutical drug.



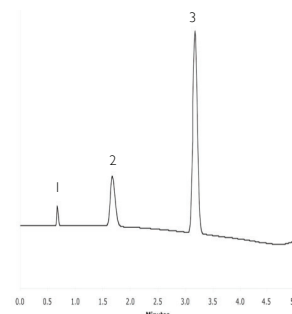
Good Peak Symmetry for Basic Compounds

The very low solute/sorbent interaction of Phalanx C18 is clearly illustrated by the analysis of basic compounds on a short 5cm cartridge column.
 Phalanx C18, 50x2.1mm, P/N: PK-0521-C185
 (1) Propanediol, (2) Diphenylramine, (3) Acenaphthene, (4) Amitriptyline.
 65% MeOH/water 20mM KH₂PO₄ (pH 7.0), 200µL/min



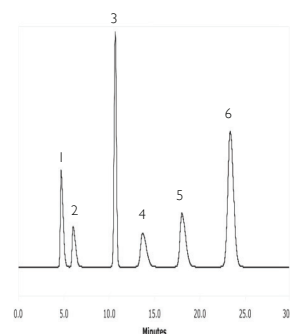
Nucleosides

Like its cousin Targa, Phalanx's unique end-capping chemistry works equally well at extreme hydrophilic and hydrophobic ranges.
 Phalanx C18, 50x2.1mm, P/N: PK-0521-C185
 (1) Cytosine, (2) Uracil, (3) Cytidine, (4) Uridine, (5) Thymine.
 100% Water, 1.0mL/min



Unbuffered Pyridine Test for Free Silanol Activity

A very sensitive test for residual silanols produces a symmetrical pyridine peak in a low organic mobile phase without buffers.
 Phalanx C18, 50x2.1mm, P/N: PK-0521-C185
 (1) Uracil, (2) Phenol, (3) Pyridine
 40% MeCN/water, 200µL/min



Tricyclic Antidepressants

The very low solute/sorbent interaction of Phalanx C18 is clearly illustrated by the analysis of basic compounds on a 100x4.6mm HPLC column.
 Phalanx C18, 100x4.6mm, P/N: PS-1046-C185
 (1) Desipramine, (2) Nortriptyline, (3) Acenaphthene, (4) Imipramine, (5) Amitriptyline, (6) Trimipramine.
 70% MeOH/water 20mM KH₂PO₄ (pH 7.0), 1.0mL/min

