

## PHALANX

Ultra high density endcapping

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

### Unique Features:

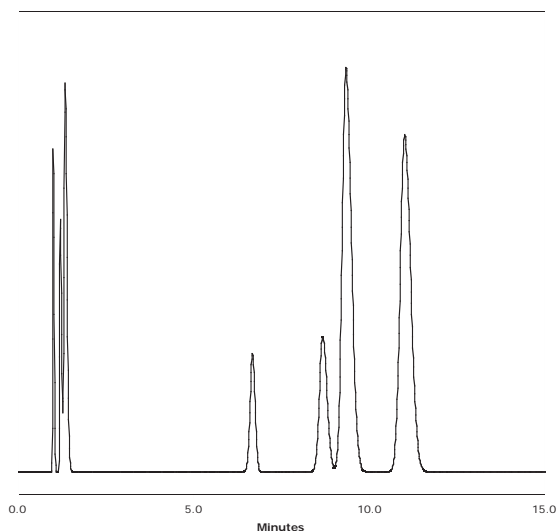
- Ideal for Basic and Acidic Analytes
- Wide pH Range Stability
- High Capacity
- No secondary Si-OH interaction
- No metal contamination
- Extreme hydrophobicity range

### Physical Properties:

- Particle sizes: 4.5µm and 10µm
- Pore Size: 100Å
- Surface Area: 430m<sup>2</sup>/gm
- Functionality: Monomeric C18
- %C (w/w): 18%
- End Capping: Proprietary and extremely exhaustive.

### 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



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 m<sup>2</sup>/gm, but its very tight pore size distribution eliminates the undesirable side effects of micropores that often plague other high surface materials.

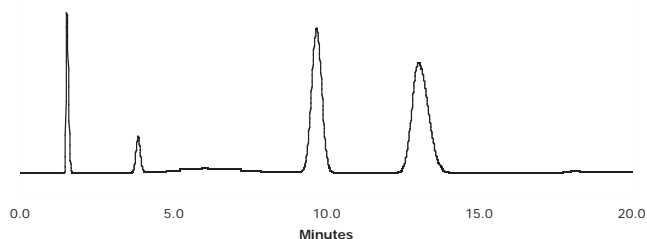
Optimum for Basic and Acidic compounds: Many modern HPLC sorbents employ embedded polar functionality. While these secondary structures can provide unique selectivity and eliminate undesirable solute/sorbent interaction, they often compromise the useful range of solutes or buffers that can be used. The 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.

### High Selectivity:

Wide range of solutes resolve quickly on a short HPLC column as illustrated in the chromatogram on the left.

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; 1mL/min



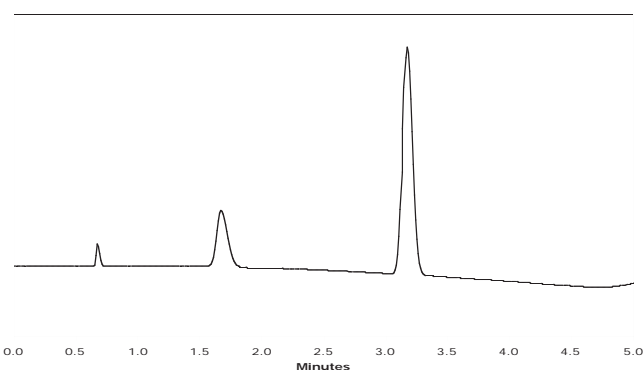
### Good Peak Symmetry for Basic Compounds:

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) Amitiptyline.

65% MeOH/water 20mM KH<sub>2</sub>PO<sub>4</sub> (pH 7.0), 200µL/min



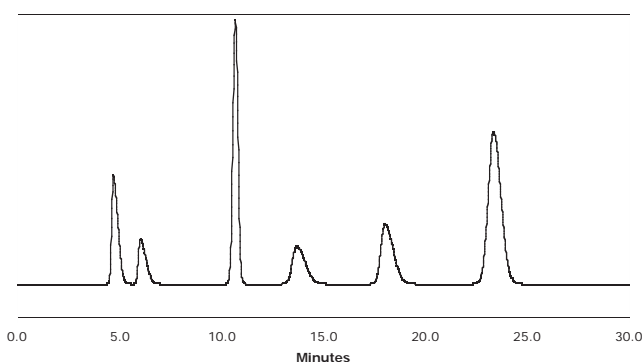
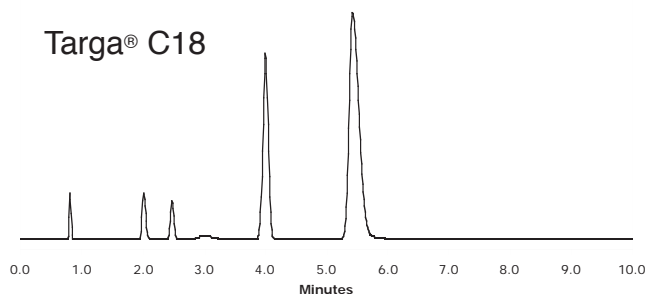
### Unbuffered Pyridine Test for Free Silanol Activity:

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



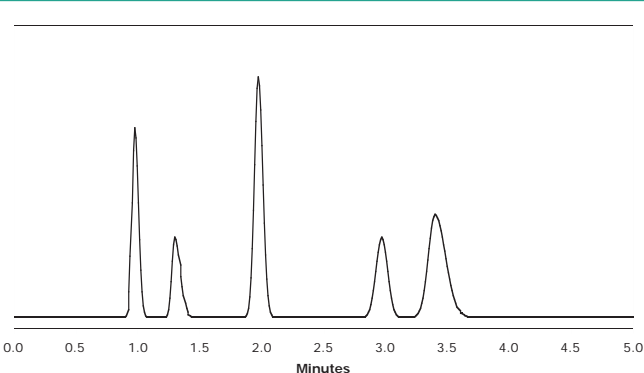
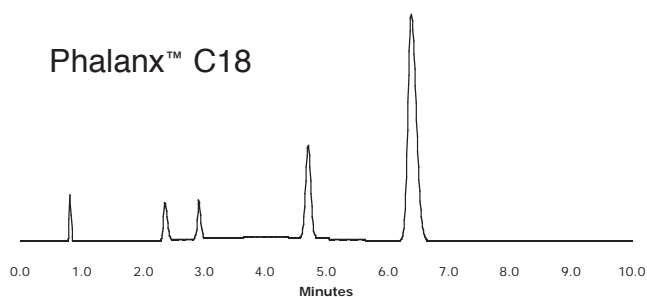
### Tricyclic Antidepressants:

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) Amitiptyline, (6) Trimipramine.

70% MeOH/water 20mM KH<sub>2</sub>PO<sub>4</sub> (pH 7.0), 1.0mL/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

### NIST Test Mix for Metal Activity and Residual Silanols:

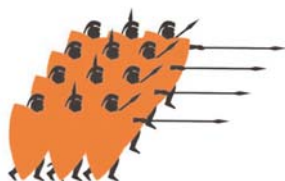
Quinizarin, a strong metal chelator, and amitriptyline, a very sensitive solute for residual silanols, both elute with good recovery and symmetrical peaks on both Targa and Phalanx C18 columns.

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) Amitiptyline.

80% MeOH/buffer, 1.5mL/min



## Analytical Columns - Stainless Steel

Phalanx C18 5µm	4.6, 3.0, and 2.1mm I.D. s.s. columns			
30x4.6mm	50x4.6mm	100x4.6mm	150x4.6mm	250x4.6mm
PS-0346-C185	PS-0546-C185	PS-1046-C185	PS-1546-C185	PS-2546-C185
30x3.0mm	50x3.0mm	100x3.0mm	150x3.0mm	250x3.0mm
PS-0330-C185	PS-0530-C185	PS-1030-C185	PS-1530-C185	PS-2530-C185
30x2.1mm	50x2.1mm	100x2.1mm	150x2.1mm	250x2.1mm
PS-0321-C185	PS-0521-C185	PS-1021-C185	PS-1521-C185	PS-2521-C185

## Semi-Prep and Prep Columns

Phalanx C18 5µm	10 and 20mm I.D. s.s. columns			
	50x10mm	100x10mm	150x10mm	250x10mm
	PS-0510-C185	PS-1010-C185	PS-1510-C185	PS-2510-C185
	50x20mm	100x20mm	150x20mm	250x20mm
	PS-0520-C185	PS-1020-C185	PS-1520-C185	PS-2520-C185

## Microbore Columns

Phalanx C18 5µm	1.0mm - 0.5mm - 0.3mm I.D.			
30x1.0mm	50x1.0mm	100x1.0mm	150x1.0mm	250x1.0mm
PS-0301-C185	PS-0501-C185	PS-1001-C185	PS-1501-C185	PS-2501-C185
30x0.5mm	50x0.5mm	100x0.5mm	150x0.5mm	250x0.5mm
PS-03M5-C185	PS-05M5-C185	PS-10M5-C185	PS-15M5-C185	PS-25M5-C185
30x0.3mm	50x0.3mm	100x0.3mm	150x0.3mm	250x0.3mm
PS-03M3-C185	PS-05M3-C185	PS-10M3-C185	PS-15M3-C185	PS-25M3-C185

## Capellini Columns

Phalanx C18 5µm	150 and 0.75µm I.D.			
30x0.150mm	50x0.150mm	100x0.150mm	150x0.150mm	250x0.150mm
PC-0315-C185	PC-0515-C185	PC-1015-C185	PC-1515-C185	PC-2515-C185
30x0.075mm	50x0.075mm	100x0.075mm	150x0.075mm	250x0.075mm
PC-0307-C185	PC-0507-C185	PC-1007-C185	PC-1507-C185	PC-2507-C185

## HAIKART - Stainless Steel Guard Cartridges and Analytical Cartridge Columns

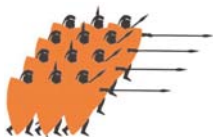
Phalanx C18 5µm	4.6 and 3.2mm I.D. s.s. Guard and Analytical Cartridges							
	40x4.6mm	2/pkg	50x4.6mm	2/pkg	100x4.6mm	1/pkg		
	PF-0446-C185		PF-0546-C185		PF-1046-C185			
	20x3.2mm	5/pkg	40x3.2mm	2/pkg	50x3.2mm	2/pkg	100x3.2mm	1/pkg
	PF-0232-C185		PF-0432-C185		PF-0532-C185		PF-1032-C185	

## HAIPEEK - PEEK and Titanium Guard Cartridges and Analytical Cartridge Columns

Phalanx C18 5µm	2.1mm I.D. PEEK Analytical Cartridges					
	20x2.1mm	5/pkg	40x2.1mm	2/pkg	50x2.1mm	2/pkg
	PK-0221-C185		PK-0421-C185		PK-0521-C185	

## HAIspeed10 - 10mm I.D. Stainless Steel Cartridge Columns

Phalanx C18 5µm	10mm I.D. s.s. Analytical / Semi-Prep Cartridges					
	30x10mm	1/pkg	50x10mm	1/pkg	100x10mm	1/pkg
	PF-0310-C185		PF-0510-C185		PF-1010-C185	



**SPRITE - Direct Connect HPLC Columns:**

- 10 to 40 x 2.1mm sizes
- Fast HPLC Analysis
- LC-MS Applications
- PEEK/titanium design
- Individually tested
- Certificate of Analysis included



**Sprite - Direct-Connect PEEK/Titanium HPLC Columns**

Phalanx C18 5µm	Sprite HPLC Columns		
	10x2.1mm	20x2.1mm	40x2.1mm
	PR-0121-C185	PR-0221-C185	PR-0421-C185

**PICCOLO - Short Microbore Columns:**

- 10x1.0 mm to 2.5x0.5mm sizes
- Trap column applications
- Fast LC-MS
- PEEK/titanium design
- 6-32 threads for capillary fittings
- Individually tested
- Certificate of Analysis included



**Piccolo - Short Microbore/Trap Columns**

Phalanx C18 5µm	Piccolo HPLC Columns		
	2.5x0.5mm	5x1.0mm	10x1.0mm
	PP-M2M5-C185	PP-M501-C185	PP-0101-C185

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