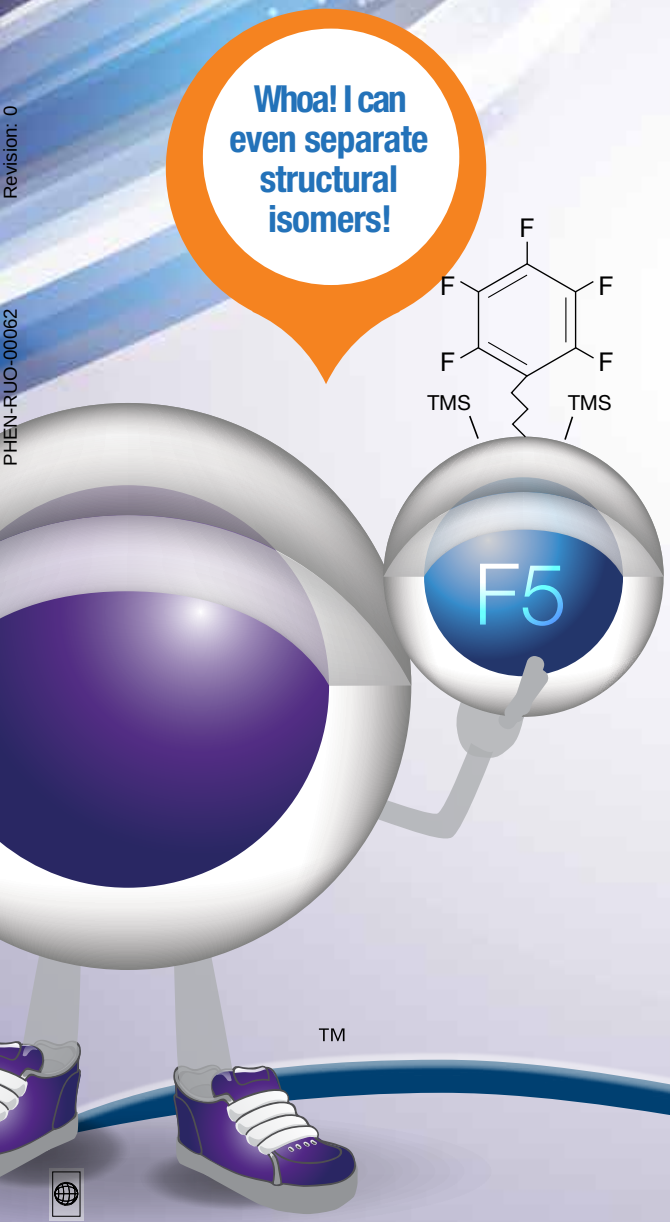
KINETEX®
Core-Shell Technology

NEW Kinetex F5

HPLC/UHPLC Core-Shell Columns

- Reduce Method Development Time by Days
- Greater Reproducibility than other PFPs
- 5 Glorious Interaction Mechanisms
- 5 Valuable LC Separation Modes



TM

phenomenex®
...breaking with tradition℠

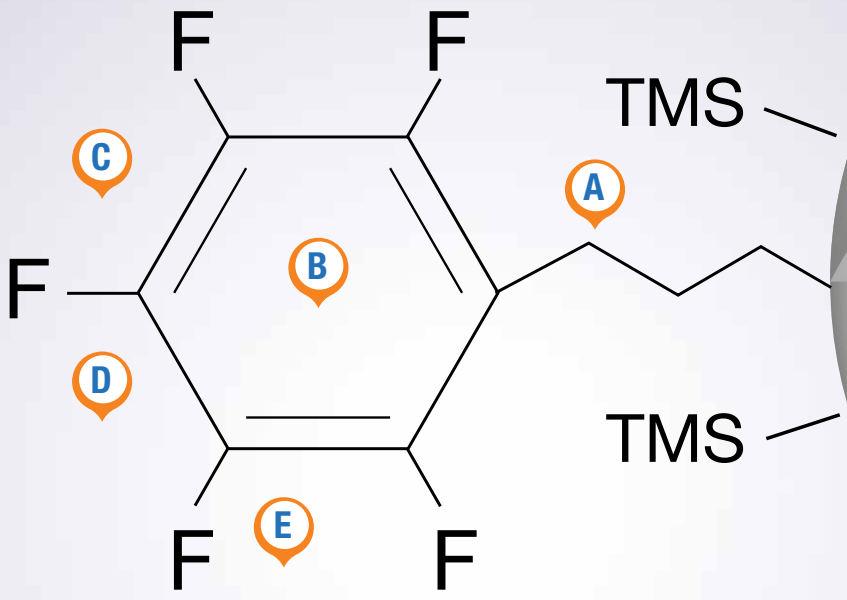
Revision: 0
PHEN-RUO-00062

How I Work

With the astonishing combination of core-shell performance and 5 interaction mechanisms, Kinetex® F5 columns will effortlessly drive your orthogonal HPLC/UHPLC development!

A **Hydrophobic**
Carbon skeleton of linker and ring encourage neutral/hydrophobic retention

B **Aromatic**
In non-acetonitrile mobile phases, π- π electrons of the carbon ring interact with analyte π- π electrons and result in positive retention increase



C **Electrostatic**
High electronegativity of the fluorine groups create dipole moments, aiding in polar compound retention. Induced dipole moments can also aid neutral compound retention.

D **Steric/Planar**
Shape selectivity allows for isomeric separations that are otherwise impossible on traditional alkyl phases.

E **Hydrogen Bonding**
Extremely effective retention mechanism caused as polar functional groups of analyte interact with the electron greedy fluorine.

KINETEX®
Core-Shell Technology

Why I'm Better

While older pentafluorophenyl phases (PFP, PFPP, F5, etc.) are based on existing bonding techniques and technologies that promote irreproducibility, the Kinetex F5 was meticulously designed by Phenomenex R&D and its customers, to provide consistently accurate and high performance results.

Learn how the new Kinetex F5 will get you the results you deserve time and time again!

guarantee

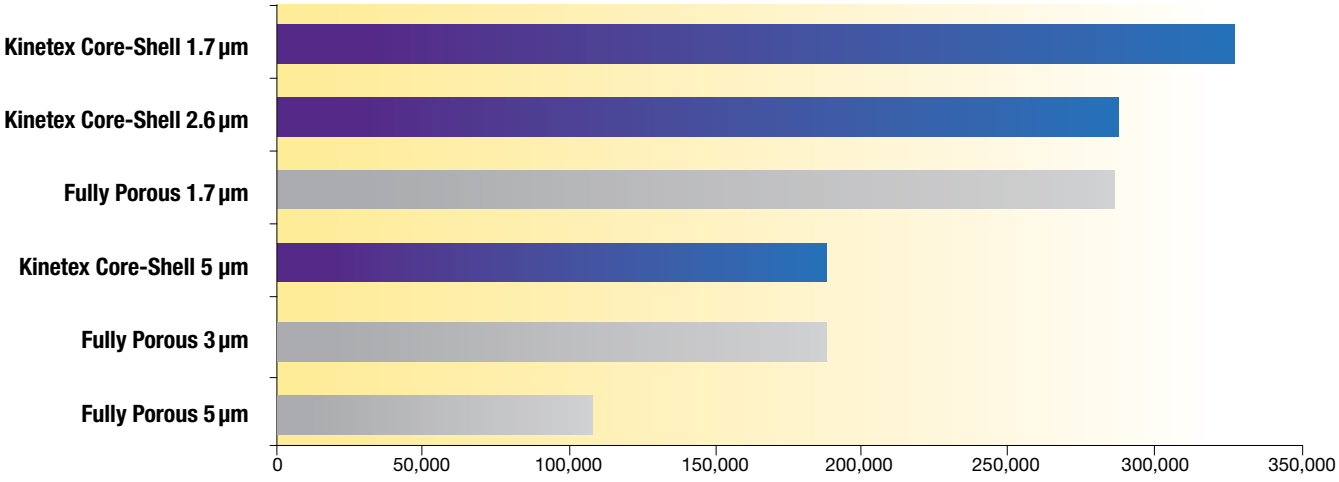
If you are not completely satisfied with Kinetex core-shell columns, send in your comparative data to a similar product with the Kinetex column within 45 days for a FULL REFUND.

Why Wait?

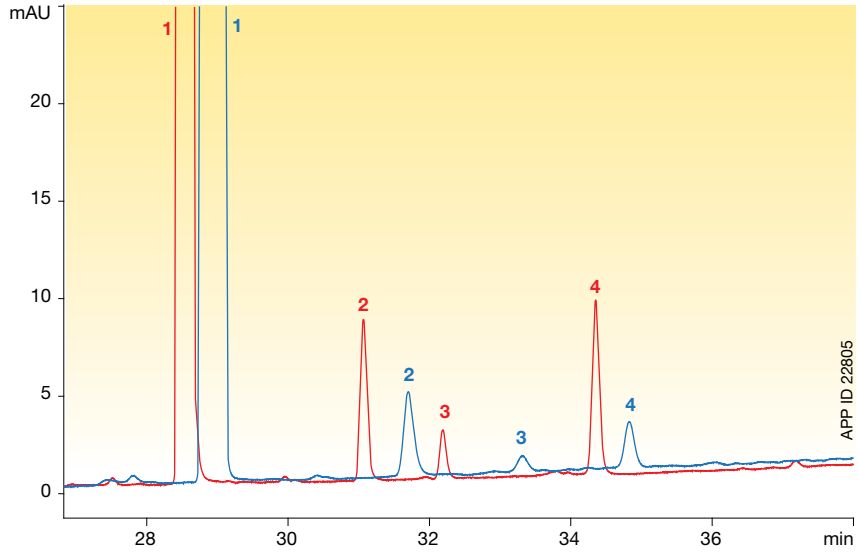
You Can Get Improvements Today!

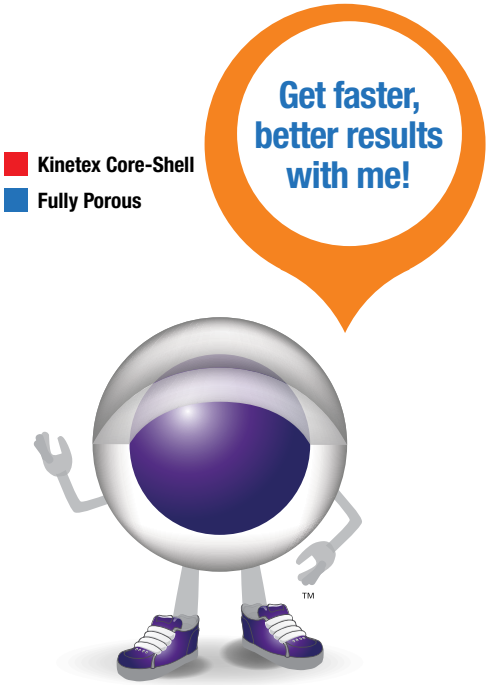
The band broadening (wide peaks) and lengthy retention times of traditional fully porous products can be limiting your results. Now you can use the incredible efficiency levels of Kinetex® Core-Shell Technology to achieve shorter run times, higher levels of sensitivity, and overall better HPLC/UHPLC results.

Core-Shell vs. Fully Porous Efficiency Levels (plates/m)



Core-Shell Performance Gains



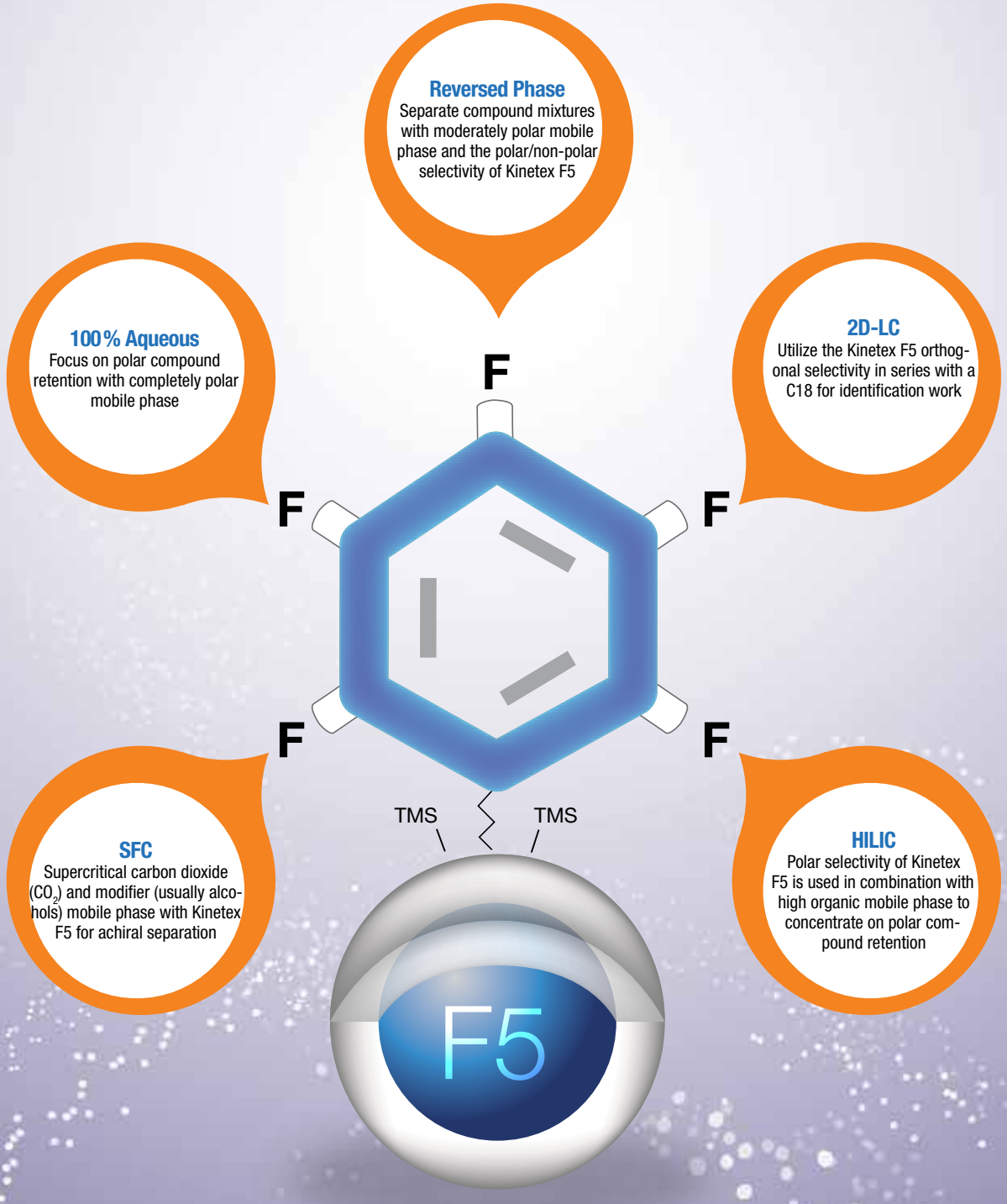


KINETEX
Core-Shell Technology

Method Development

Versatility

Combine core-shell performance, multiple retention mechanisms and the Kinetex F5 column's ability to be run in a variety of separation modes and you now have an impeccable method development tool at your disposal.

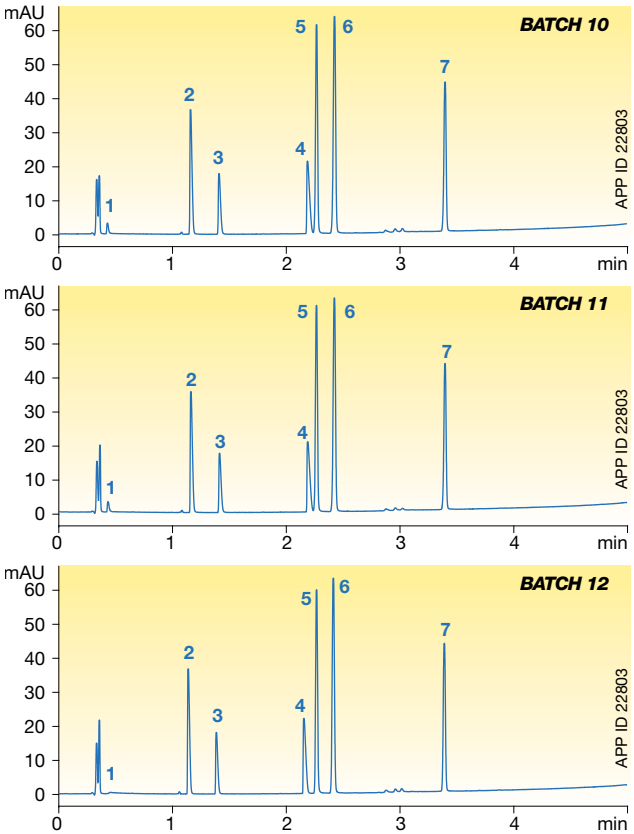


Dependability

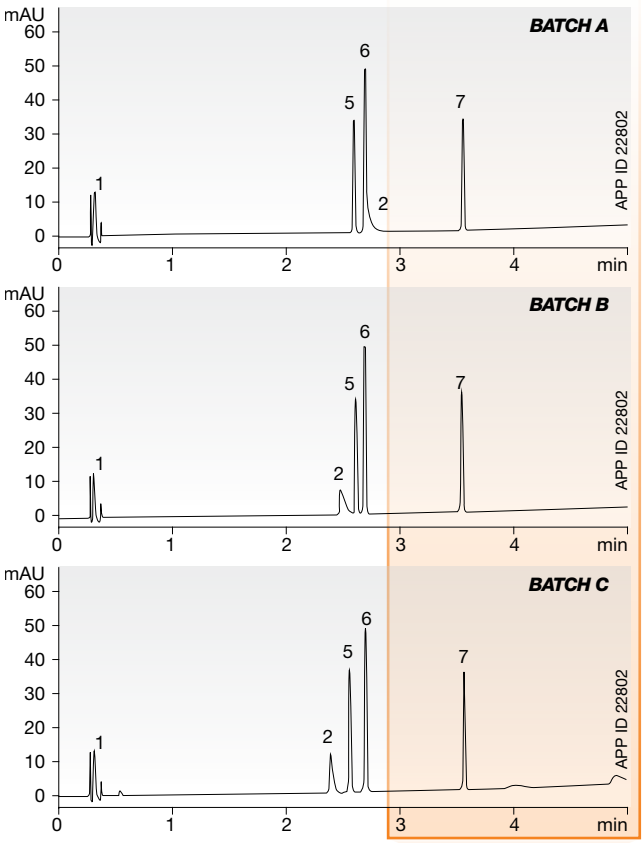
Batch-to-Batch, Column-to-Column

Conventional fully porous and core-shell PFP/F5 columns fail to reach the level of repeatability that you deserve. Inconsistencies in their base silica have led to data inaccuracies that waste your time and money. Kinetex® F5 columns were specifically designed to avoid these past problems and provide you with the highest degree of reproducibility.

Kinetex 2.6 µm F5



Supelco® Ascentis® Express 2.7 µm F5



Conditions for all columns:

Column: Kinetex 2.6 µm F5
Discovery 3 µm HS F5
Ascentis Express 2.7 µm F5
Hypersil GOLD 3 µm PFP
Accucore 2.6 µm PFP

Dimensions: 50 x 4.6 mm

Mobile Phase: A: 0.1 % Formic acid in Water
B: 0.1 % Formic acid in Acetonitrile

Gradient: 5-95 % B over 5 minutes

Flow Rate: 1.85 mL/min

Temperature: Ambient

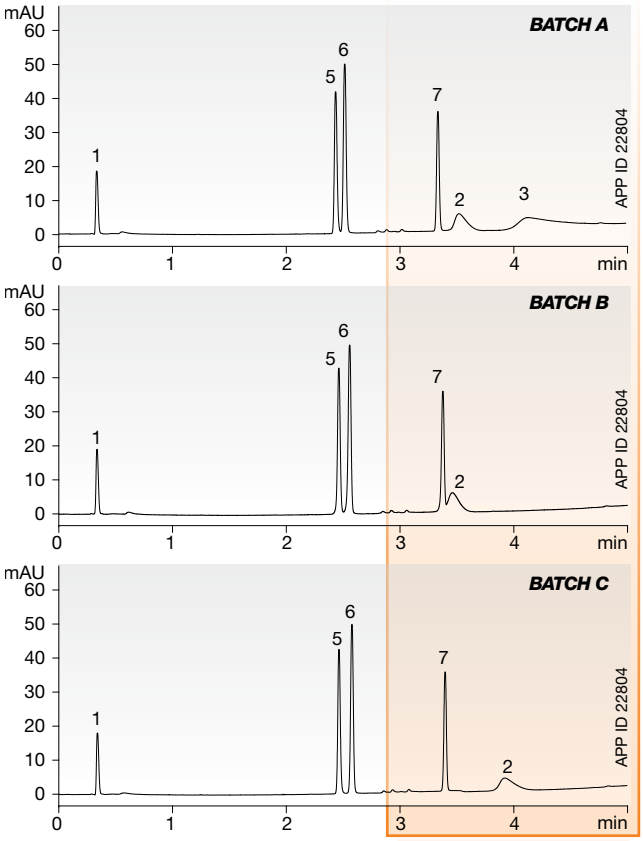
Detection: UV @ 254 nm

Sample: 1. Uracil
2. Pindolol
3. Chlorpheniramine
4. Nortriptyline
5. 3-Methyl-4-Nitrobenzoic acid
6. 5-Methyl Salicyl Aldehyde
7. Hexaphenone

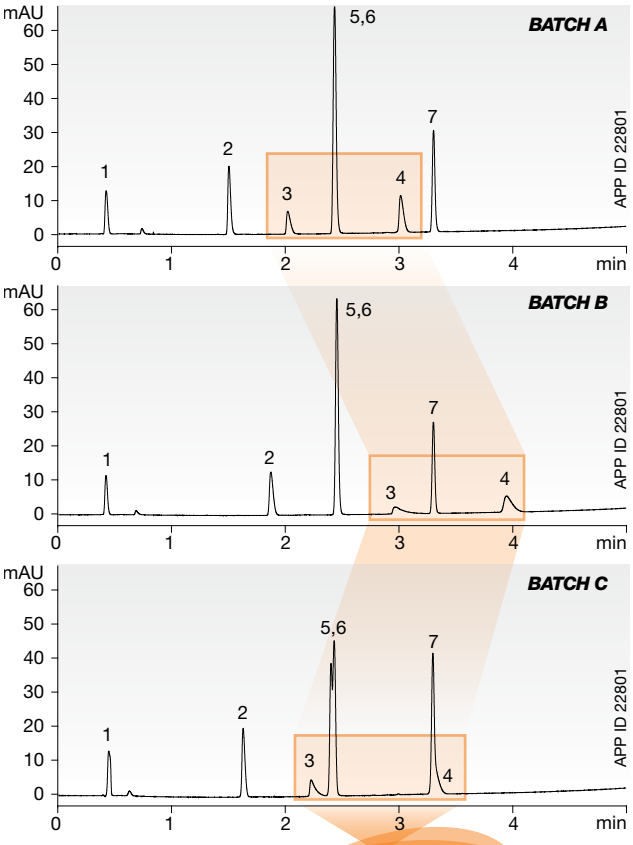
What happened to peaks 3 and 4?

Accucore is a trademark and Hypersil GOLD is registered trademark of Thermo Hypersil-Keystone. Ascentis, Discovery and Supelco are registered trademarks of Sigma-Aldrich Co. LLC. Phenomenex is not affiliated with any of the above companies. Comparative separations may not be representative of all applications.

Supelco® Discovery® 3 µm HS F5



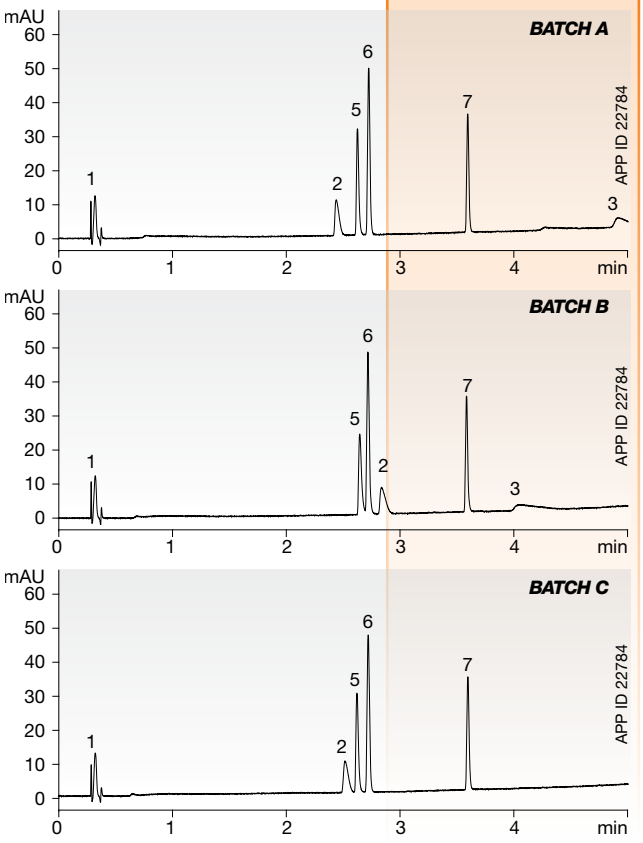
Thermo Hypersil GOLD® 3 µm PFP



Adsorption of Peaks 3 and 4!

Retention Time Shifting

Thermo Accucore™ 2.6 µm PFP



Conditions for all columns:

Column: Kinetex 2.6 µm F5
Discovery 3 µm HS F5
Ascentis Express 2.7 µm F5
Hypersil GOLD 3 µm PFP
Accucore 2.6 µm PFP

Dimensions: 50 x 4.6 mm

Mobile Phase: A: 0.1 % Formic acid in Water
B: 0.1 % Formic acid in Acetonitrile

Gradient: 5-95 % B over 5 minutes

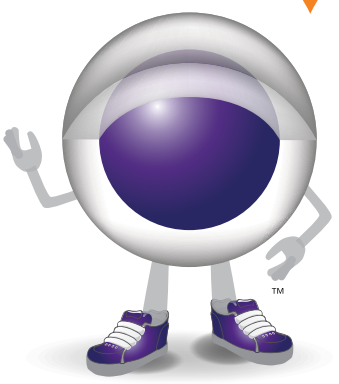
Flow Rate: 1.85 mL/min

Temperature: Ambient

Detection: UV @ 254 nm

Sample: 1. Uracil
2. Pindolol
3. Chlorpheniramine
4. Nortriptyline
5. 3-Methyl-4-Nitrobenzoic acid
6. 5-Methyl Salicyl Aldehyde
7. Hexaphenone

Are you okay with peak adsorptions and retention time shifts?

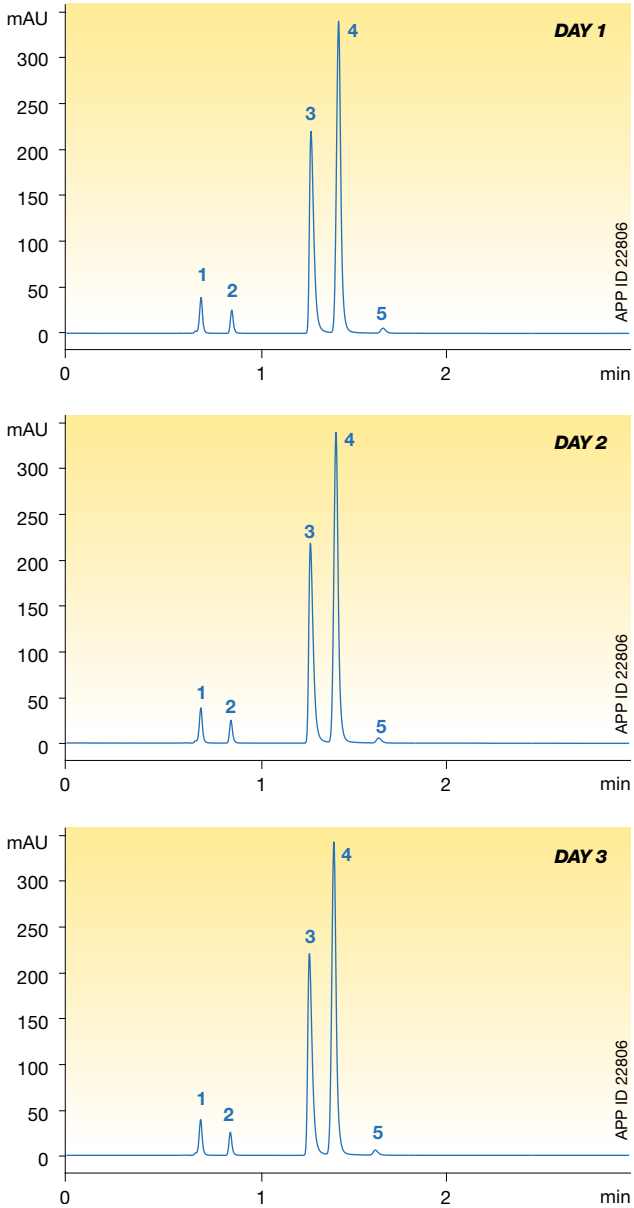


Extra Polar Retention

and 100 % Aqueous Stability

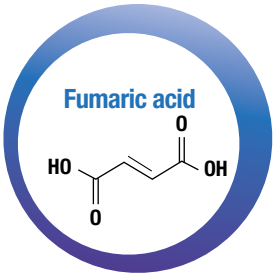
Unlike traditional alkyl stationary phases, the polar functional group of the Kinetex® F5 makes it stable in 100 % aqueous mobile phase conditions. This can be especially beneficial for methods that require the retention and resolution of problematic polar compounds that typically have poor retention under reversed phase conditions.

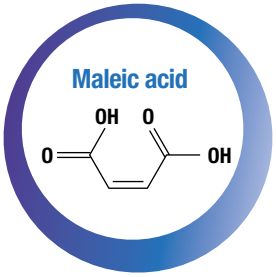
Organic Acids



Each successive day, column was equilibrated, run and stored in the 100 % aqueous conditions mentioned above.

Column: Kinetex 2.6 µm F5
Dimensions: 100 x 4.6 mm
Part No.: 00D-4723-E0
Mobile Phase: 20 mM Sodium phosphate pH 2.5
Flow Rate: 1.5 mL/min
Temperature: Ambient
Detection: UV @ 210 nm
Sample: 1. Tartaric Acid
2. Malic Acid
3. Maleic Acid
4. Fumaric Acid
5. Succinic Acid





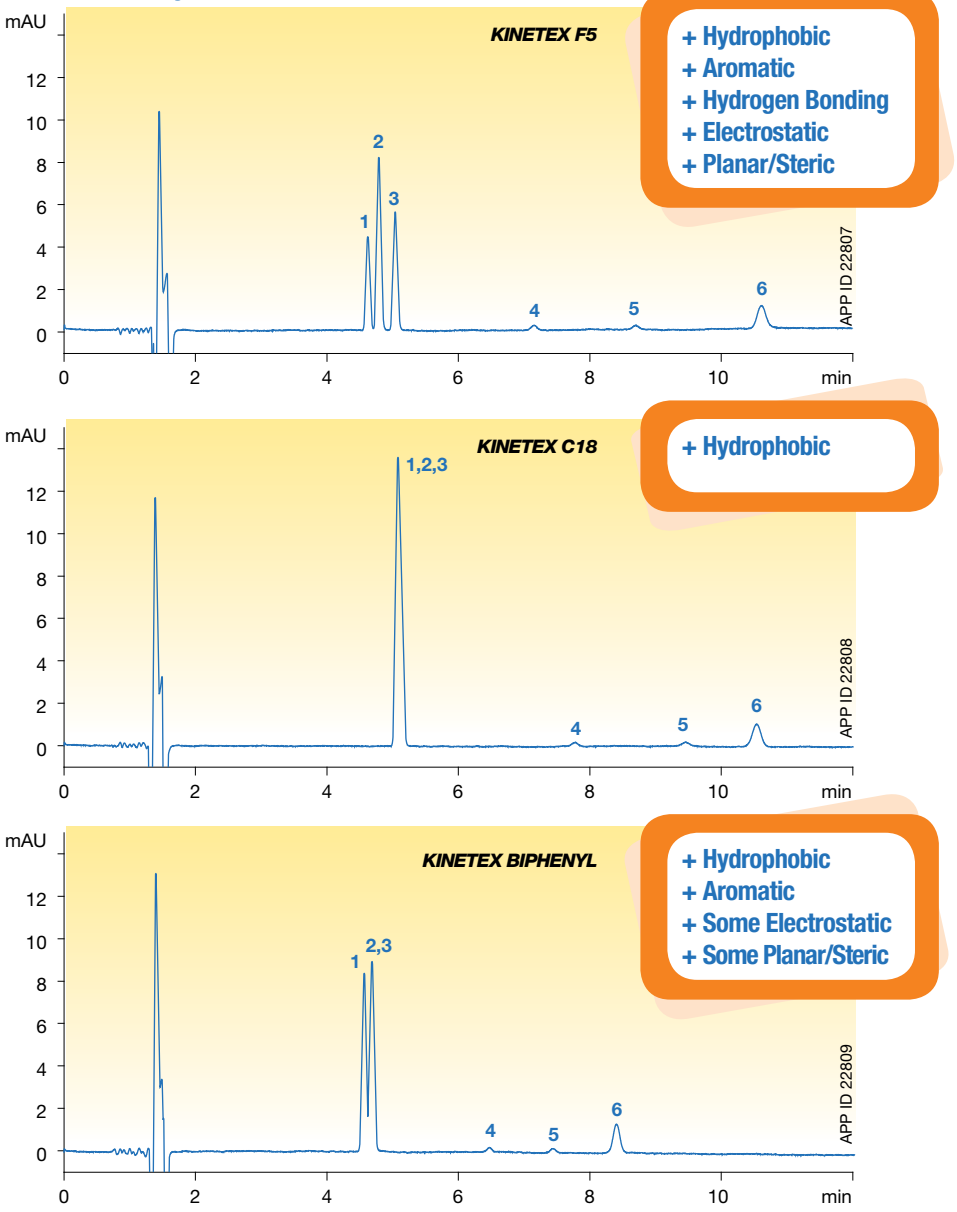
INCREDIBLE! Even the isomers Maleic acid and Fumaric acid are separated!

Novel Selectivity

For Isomeric Separations

While a C18 can differentiate between the small addition of a single methyl group between two similar compounds, it cannot separate compounds with only structural differences, like positional isomers. This is where the electrostatic and planar interactions of the Kinetex F5 give focused attention to the resolution you need.

Methoxybenzene Isomers



Conditions for all columns:

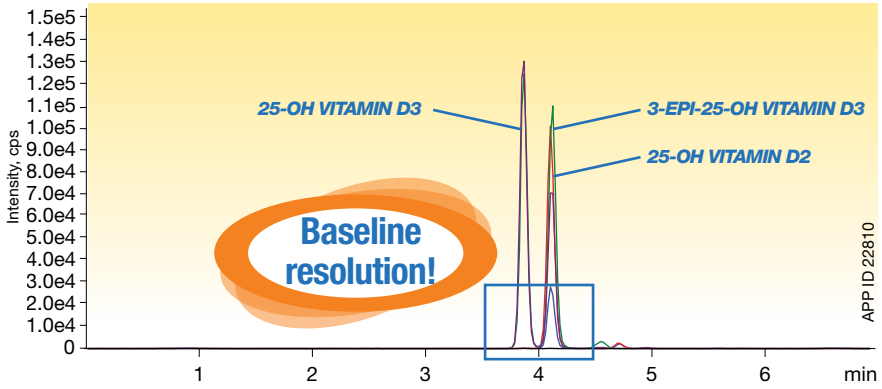
Column: Kinetex 2.6 µm F5
Kinetex 2.6 µm C18
Kinetex 2.6 µm Biphenyl
Dimensions: 150 x 4.6 mm
Mobile Phase: A: 0.1% TFA in Water
B: Acetonitrile
Isocratic: A/B (65:35)
Flow Rate: 1 mL/min
Temperature: Ambient
Detection: UV @ 254 nm
Sample: 1. 1,2,3-Trimethoxybenzene
2. 1,2-Dimethoxybenzene
3. 1,2,4-Trimethoxybenzene
4. 1,4-Dimethoxybenzene
5. Methoxybenzene
6. 1,3-Dimethoxybenzene

Clinical Research

Vitamin D3 Epimers

Even tandem mass spectrometry (LC/MS/MS) analysis has need to utilize the wonderful cross functionality of Kinetex® F5. With the same fragment ions coming from the Vitamin D3 epimers, reproducible chromatographic separation is a must. The unique combination of polar/non-polar selectivity of Kinetex F5 easily performs this necessary separation in a highly sensitive and short analysis window.

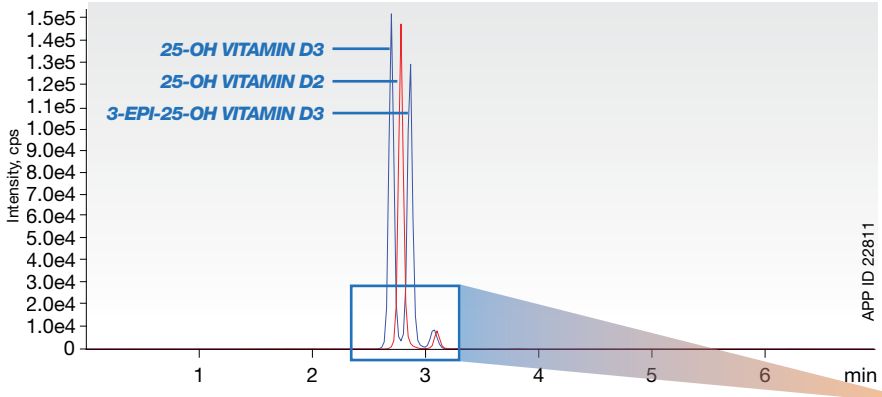
Kinetex 2.6 µm F5



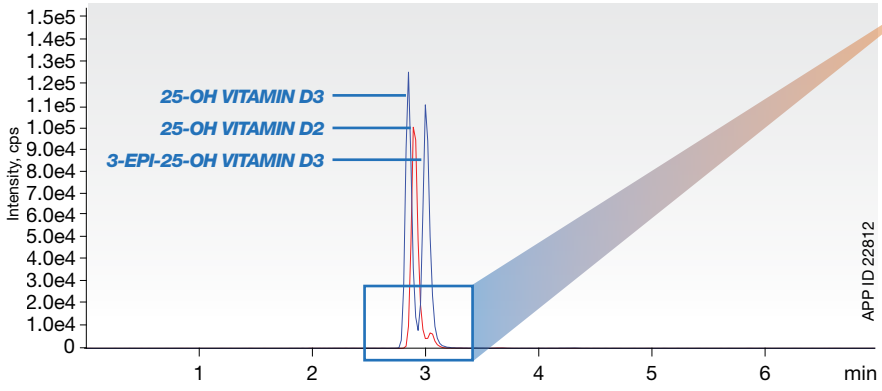
Conditions for all columns:

Column:	Kinetex 2.6 µm F5 HALO 2.7 µm PFP XSelect HSS 2.5 µm PFP
Dimensions:	100 x 4.6 mm
Mobile Phase:	A: 0.1% Formic acid in Water B: 0.1% Formic acid in Methanol
Isocratic:	A/B (15:85)
Flow Rate:	0.75 mL/min
Temperature:	Ambient
Detection:	MS/MS (SCIEX API 4000™)
Sample:	1. 25-OH Vitamin D3 2. 25-OH Vitamin D2 3. 3-epi-25-OH Vitamin D3

Advanced Materials Technology HALO® 2.7 µm PFP



Waters® XSelect® HSS 2.5 µm PFP



Vitamin D3 epimers are not fully separated

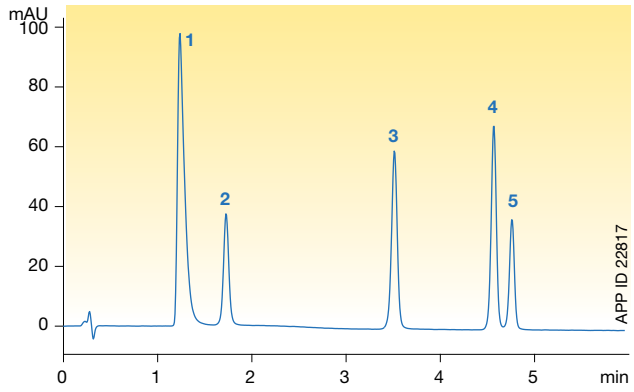
HALO is a registered trademark of Advanced Materials Technology, Inc. Waters and XSelect are registered trademarks of Waters Corporation. Phenomenex is not affiliated with any of the above companies. Comparative separations may not be representative of all applications.

Food Testing

Multi Component Analysis

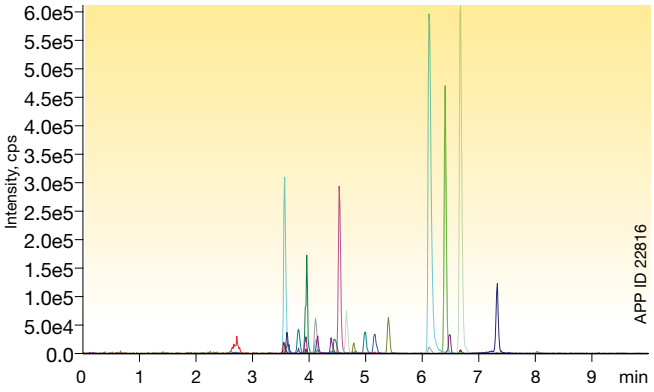
The versatility of Kinetex F5 core-shell columns matches marvelously with ingredient quantification and contaminant identification. Acidic food additives may tail and lack retention on a C18 column, but the Kinetex F5 offers superb polar retention and performance. Meanwhile, large multi component contaminant screens and their mixtures of acids, bases, neutrals and structurally similar compounds, can easily utilize the combination of polar, non-polar and geometric interaction mechanisms of the Kinetex F5 to get excellent separation and sensitivity.

Food Additives



Column: Kinetex 2.6µm F5
Dimensions: 150 x 2.1 mm
Part No.: 00F-4723-AN
Mobile Phase: A: 0.1% Phosphoric acid in Water
B: Acetonitrile
Gradient: 5-35 % A in 6 min. Hold for 4 min.
Flow Rate: 0.6 mL/min
Temperature: 30 ˚C
Detection: UV @ 240 nm
Sample: 1. Saccharin
2. p-Hydroxybenzoic acid
3. Sorbic acid
4. Dehydroacetic acid
5. Methyl paraben

Antibiotics Screen



Column: Kinetex 2.6µm F5
Dimensions: 50 x 2.1 mm
Part No.: 00B-4723-AN
Mobile Phase: A: 0.1% Formic acid in Water
B: 0.1% Formic acid in Methanol
Gradient:

Time (min)	% B
0	0
0.08	0
1.08	100
8.08	100
11.08	0
11.58	0

Flow Rate: 0.5 mL/min
Temperature: 30 ˚C
Detection: MS/MS (SCIEX API 4000™)
Sample:
1. Amoxicillin
2. Cefalexin
3. Cefazolin
4. Cefoperazone
5. Cefapirin
6. Cloxacillin
7. Dicloxacillin
8. Ciprofloxacin
9. Difloxacin
10. Marbofloxacin
11. Sulfadiazine
12. Sulfamerazine
13. Sulfamethazine
14. Sulfamethoxazole
15. Sulfapyridine
16. Suflaquinoxaline
17. Sulfathiazole
18. Neospiramycin
19. Doxycycline
20. Tiamulin
21. Valnemulin
22. Rifaximin
23. Lincomycin
24. Nafcillin

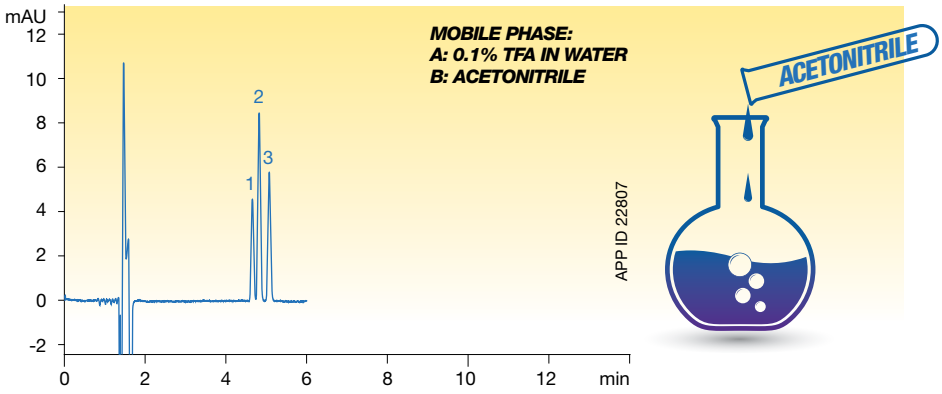
Find more Kinetex F5 applications at www.phenomenex.com/KinetexF5Apps

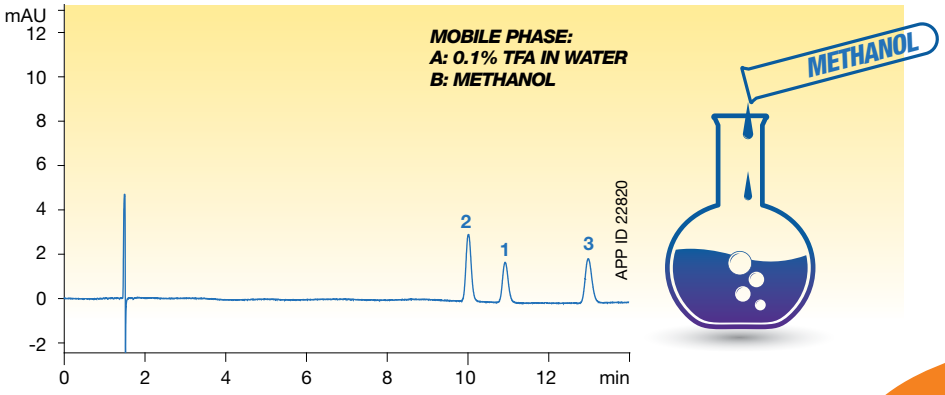
Methanol vs. Acetonitrile

A Phenyl Story

While mobile phase modifiers can help adjust retention, with the use of the Kinetex® F5, the major mobile phase constituent can also be used to manipulate elution order and retention properties. Acetonitrile can be used to disrupt pi-pi interactions between compounds and phenyl phases, while switching to the weaker solvent Methanol will encourage aromatic interactions.

Methoxybenzene Isomers





Conditions for all columns:

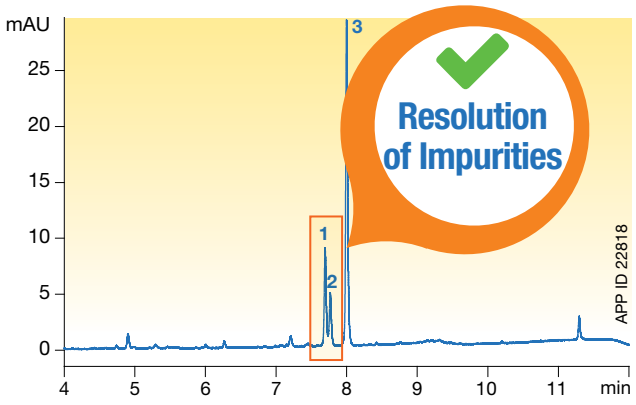
Column:	Kinetex 2.6 µm F5
Dimensions:	150 x 4.6 mm
Part No.:	00F-4723-E0
Mobile Phase:	as noted
Isocratic:	A/B (65:35)
Flow Rate:	1 mL/min
Temperature:	Ambient
Detection:	UV @ 254 nm
Sample:	1. 1,2,3-Trimethoxybenzene 2. 1,2-Dimethoxybenzene 3. 1,2,4-Trimethoxybenzene

Impact selectivity and retention with solvent adjustment!

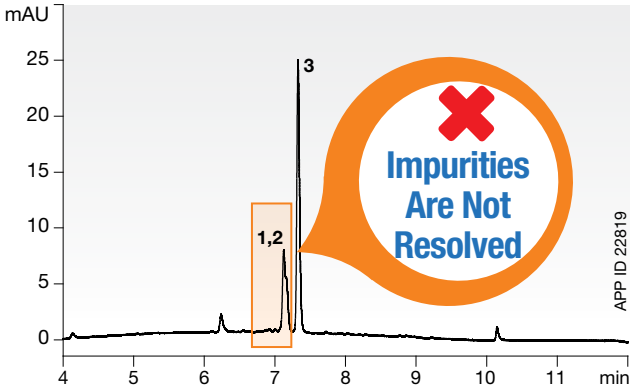
Trace Pharmaceutical Impurity Detection

Trace impurities of active pharmaceutical ingredients are incredibly important to identify and quantify. With the rapid performance value of core-shell technology combined with the versatility of a pentafluorophenyl, the Kinetex F5 is the precise alternative to other reversed phase columns that you need. Easily utilize the Kinetex F5 to get greater sensitivity, better resolution and all in shorter analysis times.

Kinetex 1.7 µm F5



Waters® ACQUITY® CSH™ 1.7 µm Fluoro-Phenyl



Conditions for all columns:

Column: Kinetex 1.7 µm F5
ACQUITY CSH 1.7 µm Fluoro-Phenyl

Dimensions: 50 x 2.1 mm

Mobile Phase: A: 20mM Potassium phosphate pH 2.3
B: Methanol

Gradient:

Time (min)	% B
0	5
10	95
10.01	5

Flow Rate: 0.3 mL/min

Temperature: Ambient

Detection: UV @ 254 nm

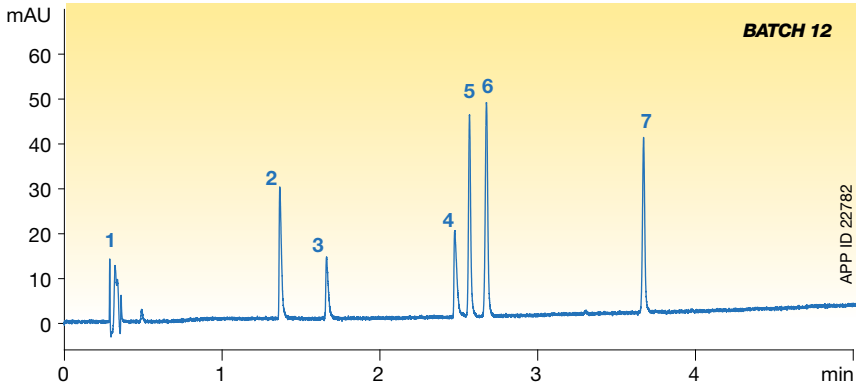
Sample: 1. Impurity 1
2. Impurity 2
3. Proprietary Active Pharmaceutical Ingredient

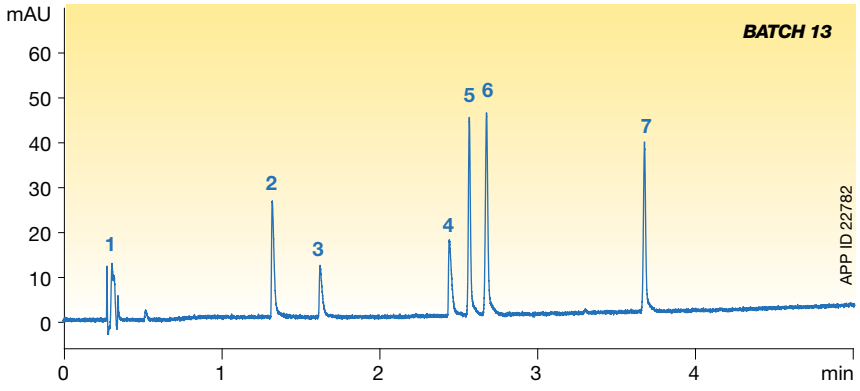
Incredible UHPLC

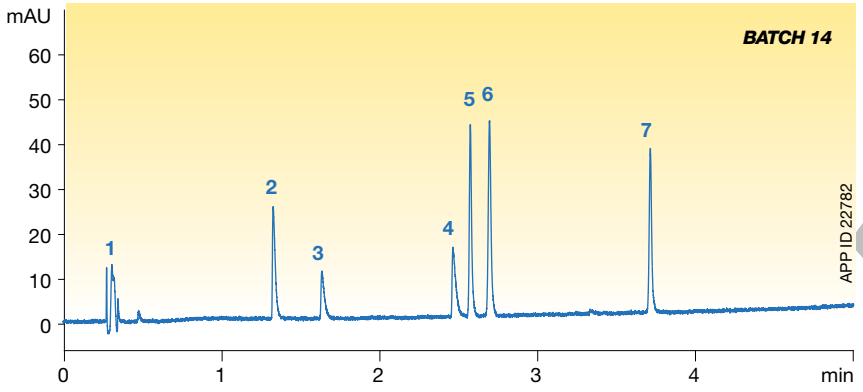
Reproducibility

Highly sensitive UHPLC separations are dependent upon consistent quantitation and consistent results. With the reliability of the Kinetex® F5, you no longer have to settle for the inconsistent results of PFP products that currently exist on the market. Our highest standards of quality will ensure that you are fully satisfied with each and every Kinetex F5 column!

Trusted Consistency







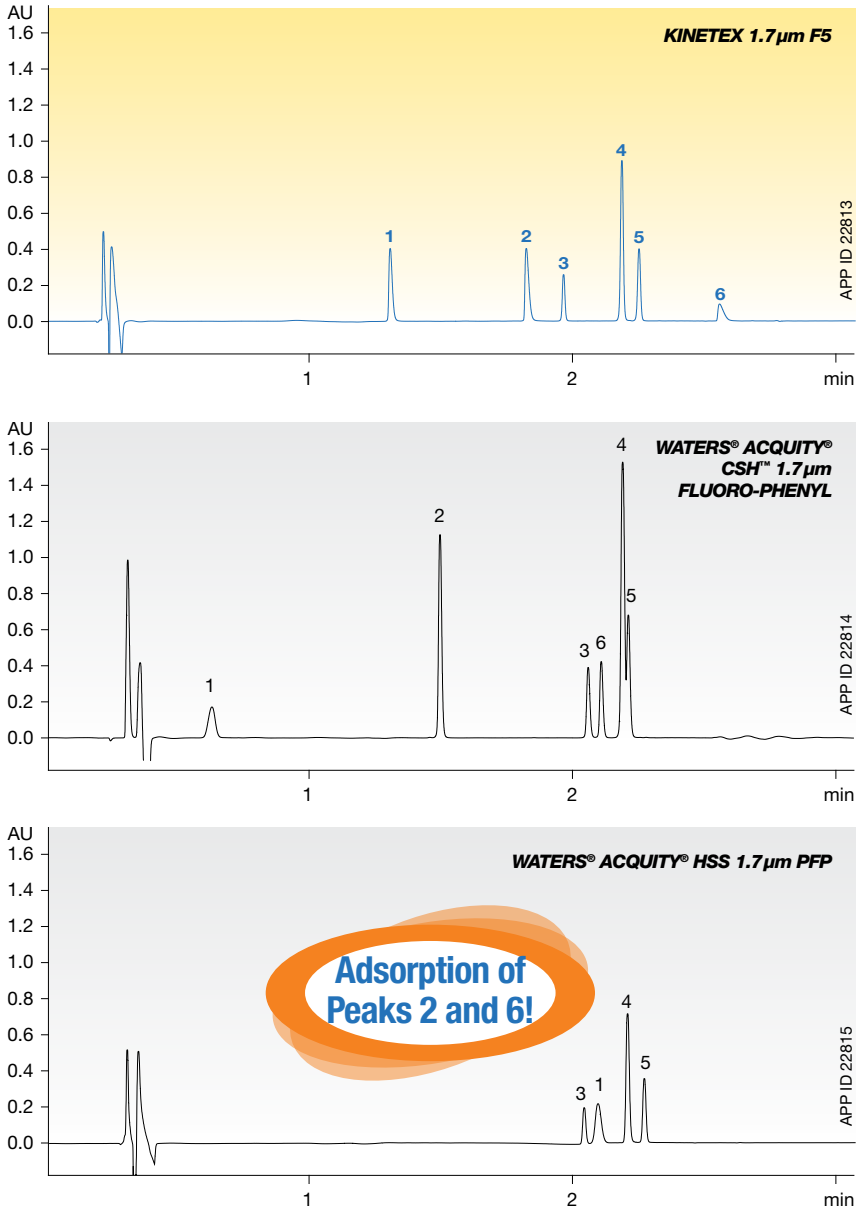
Column: Kinetex 1.7 µm F5
Dimensions: 50 x 4.6 mm
Mobile Phase: A: 0.1 % Formic in Water
B: 0.1 % Formic in Acetonitrile
Gradient: 5-95 % B over 5 min.
Flow Rate: 1.85 mL/min
Temperature: Ambient
Detection: UV @ 254 nm
Sample: 1. Uracil
2. Pindolol
3. Chlorpheniramine
4. Nortriptyline
5. 3-Methyl-4-Nitrobenzoic acid
6. 5-Methyl Salicyl Aldehyde
7. Hexaphenone

A Better PFP

Selectivity for UHPLC

Kinetex 1.7 µm core-shell technology produces increased efficiencies over traditional sub-2 µm columns on the market, yielding remarkable chromatographic resolution, higher peak capacities, and greater sensitivity. Add these performance gains alongside the novel selectivity and excellent reproducibility of the Kinetex F5 and you now have an incredible UHPLC solution at your fingertips.

Pharmaceutical Mix



Conditions for all columns:

Column: Kinetex 1.7 µm F5
ACQUITY CSH 1.7 µm Fluoro-Phenyl
ACQUITY HSS 1.8 µm PFP

Dimensions: 50 x 2.1 mm

Mobile Phase: A: 10 mM Ammonium acetate pH 3.2
B: Acetonitrile

Gradient:

Time (min)	% B
90	10
90	10
5	95
5	95
90	10
90	10

Flow Rate: 0.4 mL/min

Temperature: Ambient

Detection: UV @ 220 nm

Sample:
1. Pindolol
2. Propanolol
3. Indoprofen
4. Naproxen
5. Warfarin
6. Terfenidine

Terrellasaurus – first discovered in Torrance, CA.

Get Method Development Flexibility

For Your Small Molecule Analysis

Recommended Selectivities If You're Working With:

Acids
- Kinetex® C18
- Kinetex F5
- Kinetex Phenyl-Hexyl

Bases
- Kinetex EVO C18
- Kinetex XB-C18
- Kinetex Biphenyl
- Kinetex Polar C18

Neutrals
- Kinetex C18
- Kinetex C8
- Kinetex Biphenyl

Aromatics
- Kinetex Biphenyl
- Kinetex Phenyl-Hexyl
- Kinetex F5

Acids, Bases, and Neutrals
- Kinetex Polar C18
- Kinetex Biphenyl
- Kinetex EVO C18
- Kinetex F5

Highly Polar Compounds
- Kinetex Polar C18
- Kinetex F5
- Kinetex Biphenyl
- Kinetex HILIC

High pH
- Kinetex EVO C18

Isomers
- Kinetex F5

Upgrading Your Fully Porous Methods:

Fully Porous 3 µm or 5 µm
- **Kinetex 5 µm** – Drop-in for easy performance improvements with no backpressure increase
- **Kinetex 3.5 µm** – Drop-in for easy performance improvements of pharmacopoeia methods
- **Kinetex 2.6 µm** – Dramatically improve results with efficiency/peak capacity gains

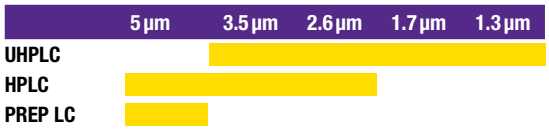
Fully Porous sub-2 µm
- **Kinetex 2.6 µm** – Get similar efficiencies at lower backpressure allowing for greater productivity gains
- **Kinetex 1.7 µm** – Up to 20 % greater efficiencies resulting in drop-in improvements
- **Kinetex 1.3 µm**– Incredible efficiency gains on high end UHPLC systems

Fully Porous Preparative LC
- **Kinetex 5 µm** – Drop-in for easy performance improvement with no backpressure increase

KINETEX®
Core-Shell Technology

Choosing The Best Core-Shell Platform For You is Easy!

For Small Molecules



Phase	Best Use	pH Stability	Available Particle Size(s)				
F5	Highly reproducible pentafluorophenyl propyl phase that offers a unique combination of polar, hydrophobic, aromatic, and shape selectivity	1.5 - 8.5*	5 µm		2.6 µm	1.7 µm	
Polar C18	C18 provides all purpose non-polar interactions, while novel polar modified surface increases polar compound retention and provides 100% aqueous stability	1.5 - 8.5*			2.6 µm		
EVO C18	Robust reversed phase methods even in alkaline conditions with improved peak shape for polar basic compounds	1 - 12	5 µm		2.6 µm	1.7 µm	
C18	All purpose phase that offers the hydrophobic retention and methylene selectivity chromatographers expect from a C18 column	1.5 - 8.5*	5 µm		2.6 µm	1.7 µm	1.3 µm
XB-C18	C18 phase with protective butyl side chains for improved peak shape for basic compounds under neutral and acidic conditions	1.5 - 8.5*	5 µm	3.5 µm	2.6 µm	1.7 µm	
C8	USP L7 phase that provides less hydrophobic and methylene selectivity than a C18	1.5 - 8.5*	5 µm		2.6 µm	1.7 µm	
Biphenyl	100% aqueous stable and allows for excellent reversed phase retention and enhanced polar and aromatic selectivity	1.5 - 8.5*	5 µm		2.6 µm	1.7 µm	
Phenyl-Hexyl	Reversed phase chemistry that allows for greater retention and separation of aromatic hydrocarbons	1.5 - 8.5*	5 µm		2.6 µm	1.7 µm	
HILIC	Unbonded silica phase for HILIC conditions to provide selectivity for polar compounds	2.0 - 7.5	5 µm		2.6 µm	1.7 µm	

*pH stability under gradient conditions. pH stability is 1.5-10 under isocratic conditions.

Phenomenex Application Specific Core-Shell Products

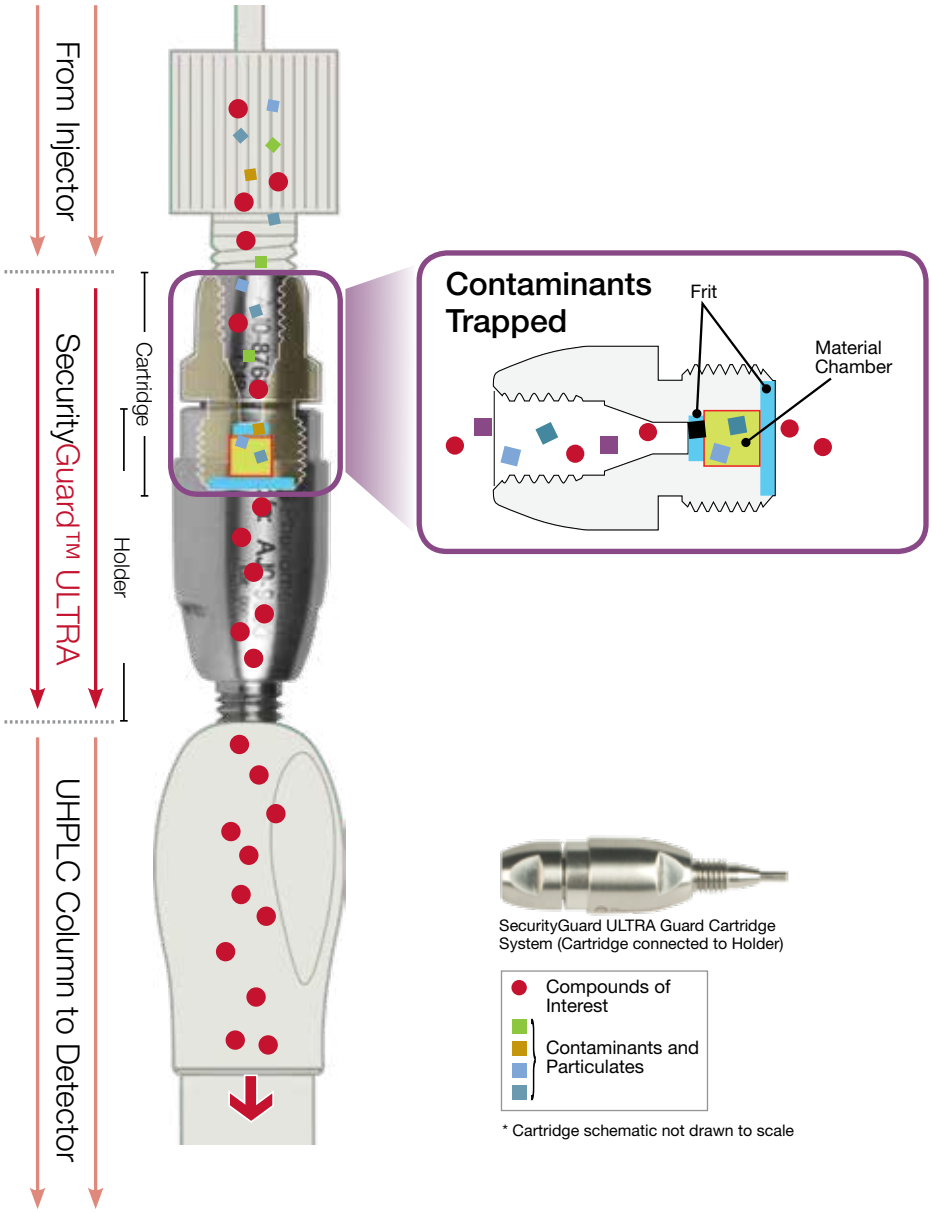
Material	Phase	Best Use	pH Stability	Available Particle Size(s)			
For Peptides (≤ 10,000 Da)							
Aeris™ PEPTIDE	XB-C18	Excellent hydrophobicity and methylene selectivity for peptide and peptide mapping separations	1.5 - 9.0	5 µm	3.6 µm	2.6 µm	1.7 µm
For Proteins (> 10,000 Da)							
Aeris WIDEPORE	XB-C18	Maximum hydrophobicity and high temp stability for hydrophilic and PEGylated proteins	1.5 - 9.0		3.6 µm		
	XB-C8	Medium hydrophobicity and high temp stability for moderately hydrophobic proteins and glycosylated proteins	1.5 - 9.0		3.6 µm		
	C4	Lowest hydrophobicity for very large or very hydrophobic proteins	1.5 - 9.0		3.6 µm		
For Synthetic Oligonucleotides (DNA/RNA)							
Clarity® Oligo-XT	C18	Rapid, high efficiency reversed phase LC/MS analysis for QC and characterization	1 - 12	5 µm		2.6 µm	1.7 µm

SecurityGuard™ ULTRA
UHPLC Column Protection

Protect Any UHPLC Column

Protect your UHPLC column, including Kinetex core-shell columns, from damaging contaminants and microparticulates with the SecurityGuard ULTRA guard cartridge system!

- Simple to use
- Extend column lifetime
- Pressure rated to 20,000 psi (1,378 bar)
- Fits virtually all manufacturers' columns 2.1 to 4.6 mm ID



See it in action:
www.phenomenex.com/SecurityGuardULTRA

Ordering Information

5 µm Minibore Columns (mm)					SecurityGuard™ ULTRA Cartridges‡
Phases	30 x 2.1	50 x 2.1	100 x 2.1	150 x 2.1	3/pk
EVO C18	00A-4633-AN	00B-4633-AN	00D-4633-AN	00F-4633-AN	AJ0-9298
F5	00A-4724-AN	00B-4724-AN	00D-4724-AN	00F-4724-AN	AJ0-9322
Biphenyl	00A-4627-AN	00B-4627-AN	00D-4627-AN	—	AJ0-9209
XB-C18	00A-4605-AN	00B-4605-AN	00D-4605-AN	—	AJ0-8782
C18	00A-4601-AN	00B-4601-AN	00D-4601-AN	00F-4601-AN	AJ0-8782
C8	—	00B-4608-AN	00D-4608-AN	—	AJ0-8784
Phenyl-Hexyl	—	00B-4603-AN	00D-4603-AN	—	AJ0-8788
					for 2.1 mm ID

5 µm MidBore™ Columns (mm)				SecurityGuard ULTRA Cartridges‡
Phases	50 x 3.0	100 x 3.0	150 x 3.0	3/pk
EVO C18	00B-4633-Y0	00D-4633-Y0	00F-4633-Y0	AJ0-9297
F5	00B-4724-Y0	00D-4724-Y0	00F-4724-Y0	AJ0-9321
Biphenyl	00B-4627-Y0	00D-4627-Y0	00F-4627-Y0	AJ0-9208
XB-C18	00B-4605-Y0	00D-4605-Y0	00F-4605-Y0	AJ0-8775
C18	00B-4601-Y0	00D-4601-Y0	00F-4601-Y0	AJ0-8775
C8	00B-4608-Y0	00D-4608-Y0	—	AJ0-8777
Phenyl-Hexyl	00B-4603-Y0	00D-4603-Y0	—	AJ0-8781
				for 3.0 mm ID

5 µm Analytical Columns (mm)					SecurityGuard ULTRA Cartridges‡
Phases	50 x 4.6	100 x 4.6	150 x 4.6	250 x 4.6	3/pk
EVO C18	00B-4633-E0	00D-4633-E0	00F-4633-E0	00G-4633-E0	AJ0-9296
F5	00B-4724-E0	00D-4724-E0	00F-4724-E0	00G-4724-E0	AJ0-9320
Biphenyl	00B-4627-E0	00D-4627-E0	00F-4627-E0	00G-4627-E0	AJ0-9207
XB-C18	00B-4605-E0	00D-4605-E0	00F-4605-E0	00G-4605-E0	AJ0-8768
C18	00B-4601-E0	00D-4601-E0	00F-4601-E0	00G-4601-E0	AJ0-8768
C8	00B-4608-E0	00D-4608-E0	00F-4608-E0	00G-4608-E0	AJ0-8770
Phenyl-Hexyl	00B-4603-E0	00D-4603-E0	00F-4603-E0	00G-4603-E0	AJ0-8774
					for 4.6 mm ID

5 µm Semi-Preparative Columns (mm)			SecurityGuard SemiPrep Cartridges***
Phases	150 x 10	250 x 10	10 x 10
			/3pk
EVO C18	00F-4633-N0	00G-4633-N0	AJ0-9306
			/3pk
F5	—	00G-4724-N0	AJ0-9323
C18	00F-4601-N0	00G-4601-N0	AJ0-9278
Biphenyl	00F-4627-N0	00G-4627-N0	AJ0-9280
			for 10 mm ID

5 µm Axia™ Packed Preparative Columns (mm)					SecurityGuard PREP Cartridges*
Phases	50 x 21.2	100 x 21.2	150 x 21.2	250 x 21.2	15 x 21.2
					/ea
EVO C18	00B-4633-P0-AX	00D-4633-P0-AX	00F-4633-P0-AX	00G-4633-P0-AX	AJ0-9304
					/ea
F5	—	—	00F-4724-P0-AX	00G-4724-P0-AX	AJ0-9324
Biphenyl	00B-4627-P0-AX	00D-4627-P0-AX	00F-4627-P0-AX	00G-4627-P0-AX	AJ0-9272
XB-C18	00B-4605-P0-AX	00D-4605-P0-AX	00F-4605-P0-AX	00G-4605-P0-AX	AJ0-9145
C18	00B-4601-P0-AX	00D-4601-P0-AX	00F-4601-P0-AX	00G-4601-P0-AX	AJ0-9145
C8	00B-4608-P0-AX	00D-4608-P0-AX	00F-4608-P0-AX	00G-4608-P0-AX	AJ0-9205
Phenyl-Hexyl	00B-4603-P0-AX	00D-4603-P0-AX	00F-4603-P0-AX	00G-4603-P0-AX	AJ0-9147
HILIC	—	00D-4606-P0-AX	00F-4606-P0-AX	00G-4606-P0-AX	AJ0-9277
					for 21.2 mm ID

‡ SecurityGuard ULTRA Cartridges require holder, Part No.: AJ0-9000
* PREP SecurityGuard Cartridges require holder, Part No.: AJ0-8223
** PREP SecurityGuard Cartridges require holder, Part No.: AJ0-8277
*** SemiPrep SecurityGuard Cartridges require holder, Part No.: AJ0-9281

Ordering Information

5 µm Axia Packed Preparative Columns (mm)					SecurityGuard PREP Cartridges**
Phases	50 x 30	100 x 30	150 x 30	250 x 30	15 x 30
					/ea
EVO C18	00B-4633-U0-AX	00D-4633-U0-AX	00F-4633-U0-AX	00G-4633-U0-AX	AJ0-9305
					/ea
F5	00B-4724-U0-AX	00D-4724-U0-AX	00F-4724-U0-AX	00G-4724-U0-AX	AJ0-9325
Biphenyl	—	—	00F-4627-U0-AX	—	AJ0-9273
XB-C18	00B-4605-U0-AX	00D-4605-U0-AX	00F-4605-U0-AX	00G-4605-U0-AX	AJ0-9204
C18	00B-4601-U0-AX	00D-4601-U0-AX	00F-4601-U0-AX	00G-4601-U0-AX	AJ0-9204
C8	00B-4608-U0-AX	00D-4608-U0-AX	00F-4608-U0-AX	00G-4608-U0-AX	AJ0-9217
Phenyl-Hexyl	00B-4603-U0-AX	00D-4603-U0-AX	00F-4603-U0-AX	00G-4603-U0-AX	AJ0-9216
					for 30 mm ID

3.5 µm Analytical Columns (mm)			SecurityGuard ULTRA Cartridges‡
Phases	100 x 4.6	150 x 4.6	3/pk
XB-C18	00D-4744-E0	00F-4744-E0	AJ0-8768
			for 4.6 mm ID

2.6 µm Microbore Columns (mm)			
Phases	50 x 1.0	100 x 1.0	150 x 1.0
XB-C18	00B-4496-A0	00D-4496-A0	00F-4496-A0

2.6 µm Minibore Columns (mm)						SecurityGuard™ ULTRA Cartridges‡
Phases	30 x 2.1	50 x 2.1	75 x 2.1	100 x 2.1	150 x 2.1	3/pk
EVO C18	00A-4725-AN	00B-4725-AN	—	00D-4725-AN	00F-4725-AN	AJ0-9298
Polar C18	00A-4759-AN	00B-4759-AN	—	00D-4759-AN	00F-4759-AN	AJ0-9532
F5	00A-4723-AN	00B-4723-AN	—	00D-4723-AN	00F-4723-AN	AJ0-9322
Biphenyl	00A-4622-AN	00B-4622-AN	—	00D-4622-AN	00F-4622-AN	AJ0-9209
XB-C18	00A-4496-AN	00B-4496-AN	00C-4496-AN	00D-4496-AN	00F-4496-AN	AJ0-8782
C18	00A-4462-AN	00B-4462-AN	00C-4462-AN	00D-4462-AN	00F-4462-AN	AJ0-8782
C8	00A-4497-AN	00B-4497-AN	00C-4497-AN	00D-4497-AN	00F-4497-AN	AJ0-8784
HILIC	00A-4461-AN	00B-4461-AN	00C-4461-AN	00D-4461-AN	00F-4461-AN	AJ0-8786
Phenyl-Hexyl	00A-4495-AN	00B-4495-AN	00C-4495-AN	00D-4495-AN	00F-4495-AN	AJ0-8788
						for 2.1 mm ID

2.6 µm MidBore™ Columns (mm)						SecurityGuard ULTRA Cartridges‡
Phases	30 x 3.0	50 x 3.0	75 x 3.0	100 x 3.0	150 x 3.0	3/pk
EVO C18	—	00B-4725-Y0	—	00D-4725-Y0	00F-4725-Y0	AJ0-9297
Polar C18	—	00B-4759-Y0	—	00D-4759-Y0	00F-4759-Y0	AJ0-9531
F5	—	00B-4723-Y0	—	00D-4723-Y0	00F-4723-Y0	AJ0-9321
Biphenyl	—	00B-4622-Y0	—	00D-4622-Y0	00F-4622-Y0	AJ0-9208
XB-C18	00A-4496-Y0	00B-4496-Y0	00C-4496-Y0	00D-4496-Y0	00F-4496-Y0	AJ0-8775
C18	00A-4462-Y0	00B-4462-Y0	00C-4462-Y0	00D-4462-Y0	00F-4462-Y0	AJ0-8775
C8	00A-4497-Y0	00B-4497-Y0	00C-4497-Y0	00D-4497-Y0	00F-4497-Y0	AJ0-8777
HILIC	00A-4461-Y0	—	—	—	00F-4461-Y0	AJ0-8779
Phenyl-Hexyl	—	00B-4495-Y0	—	00D-4495-Y0	00F-4495-Y0	AJ0-8781
						for 3.0 mm ID

‡ SecurityGuard ULTRA Cartridges require holder, Part No.: AJ0-9000
* PREP SecurityGuard Cartridges require holder, Part No.: AJ0-8223
** PREP SecurityGuard Cartridges require holder, Part No.: AJ0-8277
*** SemiPrep SecurityGuard Cartridges require holder, Part No.: AJ0-9281

KINETEX®
Core-Shell Technology

Ordering Information

2.6 µm Analytical Columns (mm)						SecurityGuard ULTRA Cartridges‡
Phases	30 x 4.6	50 x 4.6	75 x 4.6	100 x 4.6	150 x 4.6	3/pk
EVO C18	—	00B-4725-E0	—	00D-4725-E0	00F-4725-E0	AJ0-9296
Polar C18	—	00B-4759-E0	—	00D-4759-E0	00F-4759-E0	AJ0-9530
F5	—	00B-4723-E0	—	00D-4723-E0	00F-4723-E0	AJ0-9320
Biphenyl	—	00B-4622-E0	—	00D-4622-E0	00F-4622-E0	AJ0-9207
XB-C18	—	00B-4496-E0	00C-4496-E0	00D-4496-E0	00F-4496-E0	AJ0-8768
C18	00A-4462-E0	00B-4462-E0	00C-4462-E0	00D-4462-E0	00F-4462-E0	AJ0-8768
C8	—	00B-4497-E0	00C-4497-E0	00D-4497-E0	00F-4497-E0	AJ0-8770
HILIC	—	00B-4461-E0	00C-4461-E0	00D-4461-E0	00F-4461-E0	AJ0-8772
Phenyl-Hexyl	—	00B-4495-E0	00C-4495-E0	00D-4495-E0	00F-4495-E0	AJ0-8774

for 4.6 mm ID

1.7 µm Minibore Columns (mm)					SecurityGuard ULTRA Cartridges‡
Phases	30 x 2.1	50 x 2.1	100 x 2.1	150 x 2.1	3/pk
EVO C18	—	00B-4726-AN	00D-4726-AN	00F-4726-AN	AJ0-9298
F5	—	00B-4722-AN	00D-4722-AN	00F-4722-AN	AJ0-9322
Biphenyl	—	00B-4628-AN	00D-4628-AN	00F-4628-AN	AJ0-9209
XB-C18	00A-4498-AN	00B-4498-AN	00D-4498-AN	00F-4498-AN	AJ0-8782
C18	00A-4475-AN	00B-4475-AN	00D-4475-AN	00F-4475-AN	AJ0-8782
C8	00A-4499-AN	00B-4499-AN	00D-4499-AN	00F-4499-AN	AJ0-8784
HILIC	00A-4474-AN	00B-4474-AN	00D-4474-AN	—	AJ0-8786
Phenyl-Hexyl	—	00B-4500-AN	00D-4500-AN	00F-4500-AN	AJ0-8788

for 2.1 mm ID

1.7 µm MidBore™ Columns (mm)				SecurityGuard ULTRA Cartridges‡
Phases	30 x 3.0	50 x 3.0	100 x 3.0	3/pk
XB-C18	00A-4498-Y0	00B-4498-Y0	00D-4498-Y0	AJ0-8775
C18	—	00B-4475-Y0	00D-4475-Y0	AJ0-8775
C8	00A-4499-Y0	00B-4499-Y0	00D-4499-Y0	AJ0-8777
HILIC	—	00B-4474-Y0	—	AJ0-8779

for 3.0 mm ID

1.3 µm Minibore Columns (mm)		
Phases	30 x 2.1	50 x 2.1
C18	00A-4515-AN	00B-4515-AN

‡ SecurityGuard ULTRA Cartridges require holder, Part No.: AJ0-9000.

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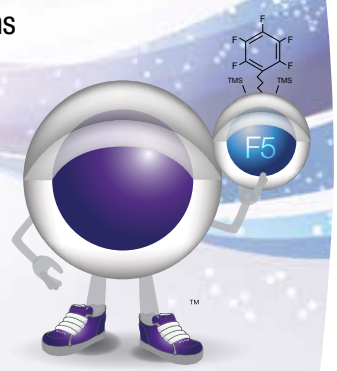
- 5 Glorious Interaction Mechanisms
- 5 Valuable LC Separation Modes



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