ULTIMATE HPLC/UHPLC COMBO

Kinetex + Luna Omega

Gain Incredible Performance, PEAK Reproducibility, Versatile Selectivities and Upgrade Throughput

NEW

explore LUNA OMEGA

Luna Omega C18 (1.6 µm, 3 µm, 5 µm)

PEAK

Kinetex and Luna Omega products with the Next Level of Reproducibility

phenomenex®

...breaking with tradition℠

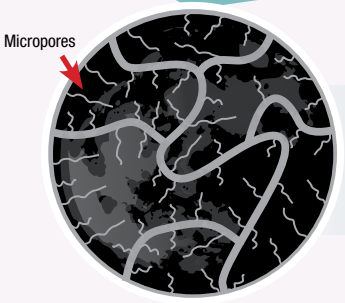
Luna Omega

Cutting Edge Fully Porous Silica Particle

Luna® is one of the most recognized HPLC brands on the market, delivering high efficiency, ruggedness, reproducibility, and dependability for a wide range of analyses. The new Luna Omega builds upon this legacy with an innovative yet rugged silica particle architecture, designed and manufactured by Phenomenex based on more than 20 years of applied knowledge, invention, and customer experience.

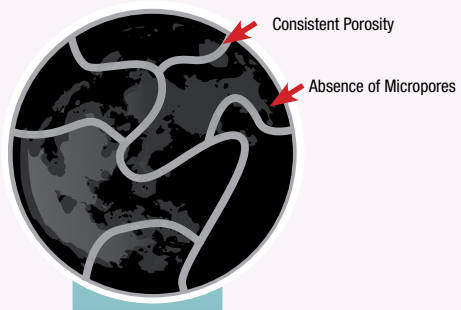
Novel Design and Manufacturing Process

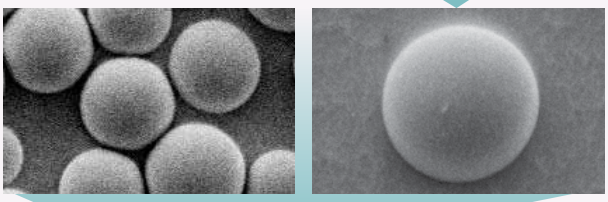
Within the novel manufacturing process of Luna Omega silica, we implement a proprietary processing technique to gain greater particle inertness, a stronger particle morphology, and more consistent porosity.



Thermal Modified Pore Structure

Most importantly, through our proprietary process, we eliminate micropores, further improving column efficiency, inertness, and reproducibility.





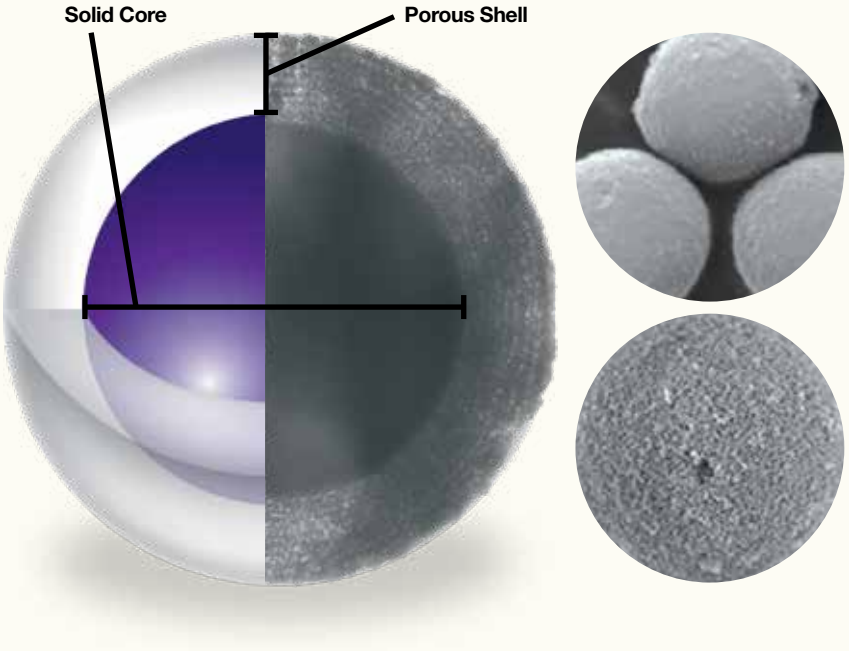
Kinetex

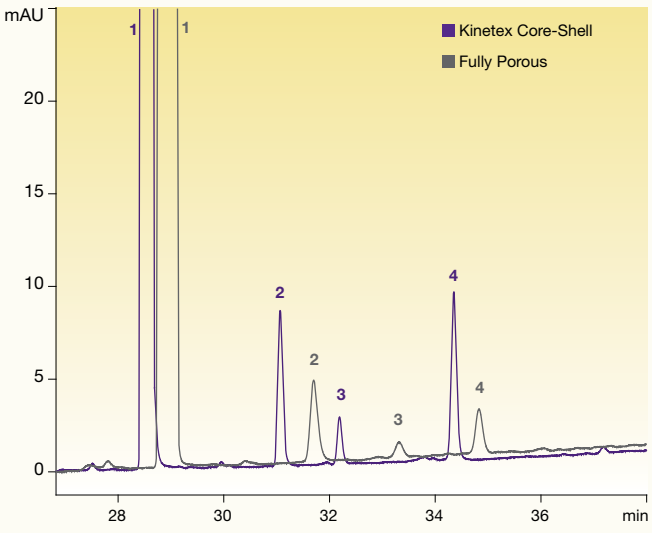
The Chosen Core-Shell Brand

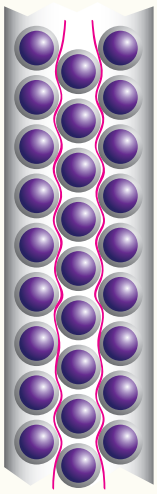
Kinetex® Core-Shell Technology delivers dramatic improvements in efficiency over conventional fully porous media which can be leveraged to increase resolution, greatly improve productivity, reduce solvent consumption, and decrease costs. Whether you are running HPLC or UHPLC methods, the Kinetex core-shell family can deliver shockingly improved performance over the current column you are using.

Finely Tuned, Unique Core-Shell Manufacturing Process

Phenomenex designs, manufactures, and sells its very own silica and organo-silica core-shell particles. Using silica sol-gel processing techniques that incorporate nano-structuring technology, a durable, homogeneous porous shell is grown on a solid silica core to create a core-shell particle. The combination of a consistent, solid high density core along with proprietary column packing technologies ensures optimum bed structure and high column performance.







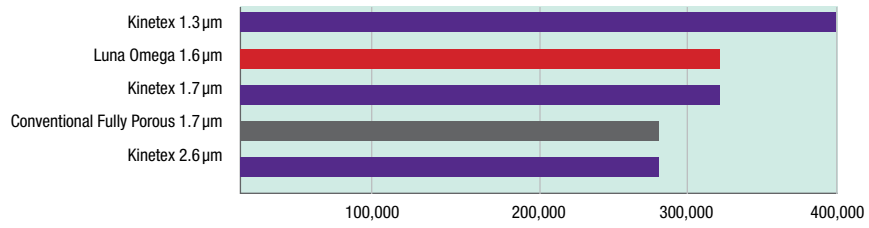
You can unleash the power of Kinetex Core-Shell Technology columns to achieve faster and better results just not possible on conventional fully porous materials. No matter what type of system you have or type of analysis you are performing, there is a Kinetex solution for you.

Gain Incredible Performance With Kinetex and Luna Omega

The undeniably high efficiency levels found in each Luna® Omega and Kinetex® column provide you with the potential of huge gains in method performance. While traditional silica and hybrid fully porous particles may claim high performance, when compared to Luna Omega or Kinetex, they fall short and prevent HPLC/UHPLC scientists from reaching their goals.

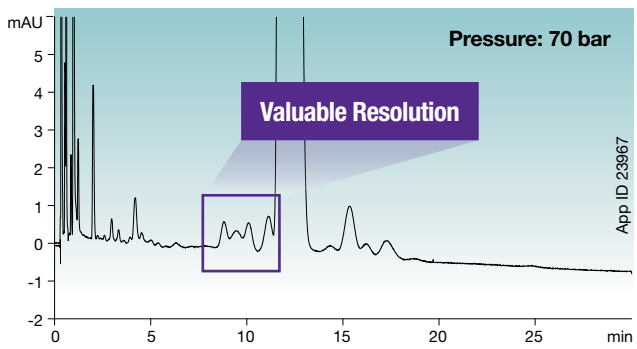
UHPLC

Efficiency Levels (plates/m)

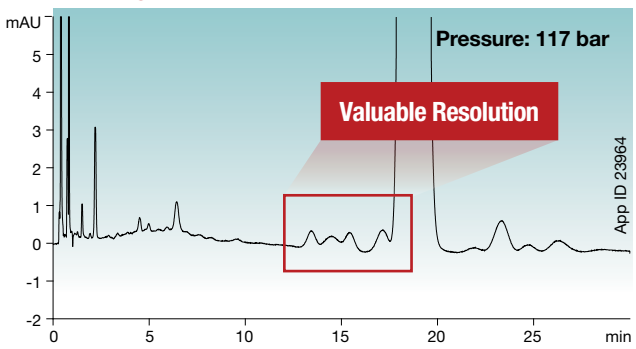


UHPLC Performance – Cyclosporine Impurity Profile

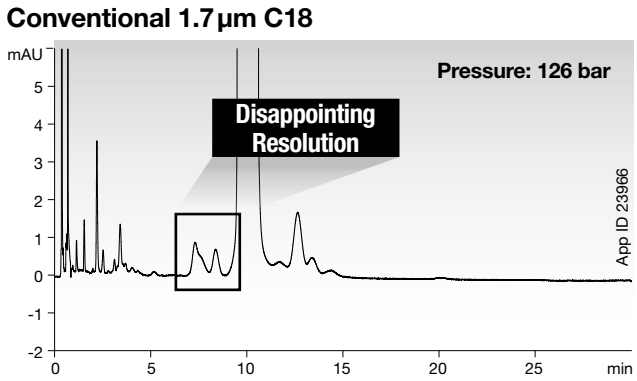
Kinetex 2.6 µm Polar C18



Luna Omega 1.6 µm Polar C18



Conventional 1.7 µm C18



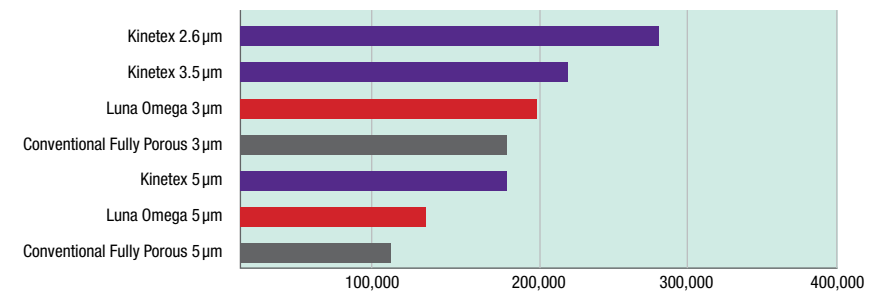
Conditions for all columns same except where noted:

Columns: Kinetex 2.6 µm Polar C18
Luna Omega 1.6 µm Polar C18
Conventional Fully Porous 1.7 µm C18
Dimensions: 50 x 2.1 mm
Mobile Phase: Acetonitrile/Tert-butyl methyl ether/Water/Phosphoric acid (430:50:520:1)
Flow Rate: 0.30 mL/min
Temperature: 80 °C
Detection: UV @ 210 nm
Sample: Cyclosporine

Comparative separations may not be representative of all applications.

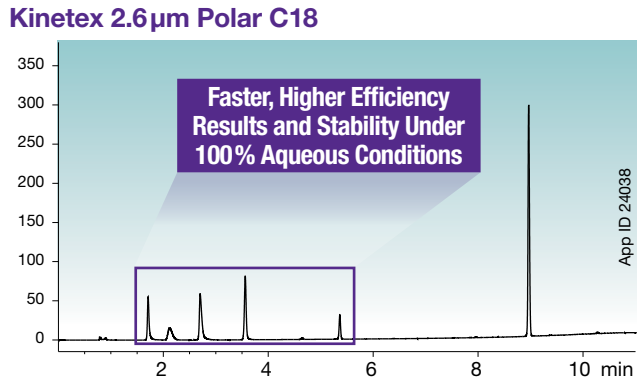
HPLC

Efficiency Levels (plates/m)

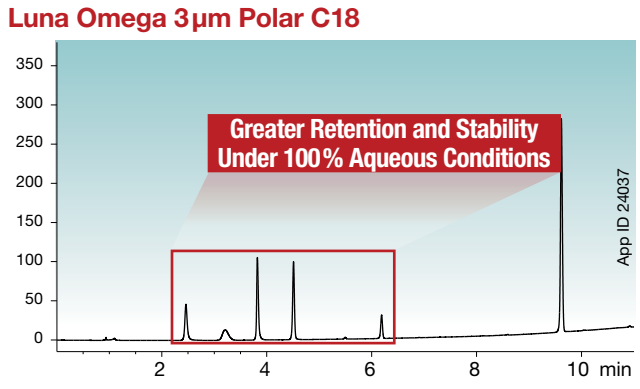


HPLC Performance – Water Soluble Vitamins

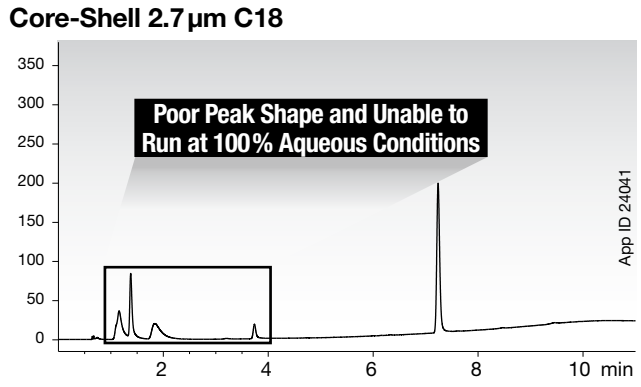
Kinetex 2.6 µm Polar C18



Luna Omega 3 µm Polar C18



Core-Shell 2.7 µm C18



Conditions for all columns same except where noted:

Columns: Kinetex 2.6 µm Polar C18
Luna Omega 3 µm Polar C18
Core-Shell 2.7 µm C18
Dimensions: 100 x 4.6 mm
Mobile Phase: A: 20 mM Potassium Phosphate
B: Methanol
Gradient:

Time (min)	% B
0	0
1	0
10	60

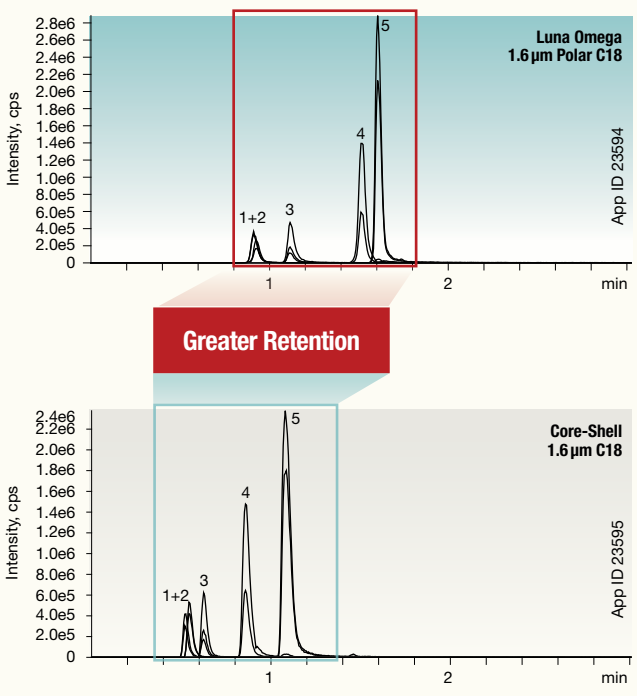
Gradient for conventional core-shell C18 column starts at 2% B

Flow Rate: 1.2 mL/min
Temperature: Ambient
Detection: UV @ 210 nm
Sample: 1. Thiamine
2. Nicotinamide
3. Pyridoxal
4. Pyridoxine
5. Pantothenic Acid
6. Riboflavin

Gain Retention and Resolution With Enhanced Polar Phases

The polar modified functionalities of the Polar C18 and PS C18 stationary phases provide greater polar compound retention and resulting improvement in resolution values. Additionally, the advanced proprietary bonding technology used for both the Polar C18 and PS C18 ensures 100% aqueous stability as well as balanced retention for non-polar compounds.

Nicotine and Metabolites



Conditions for all columns:

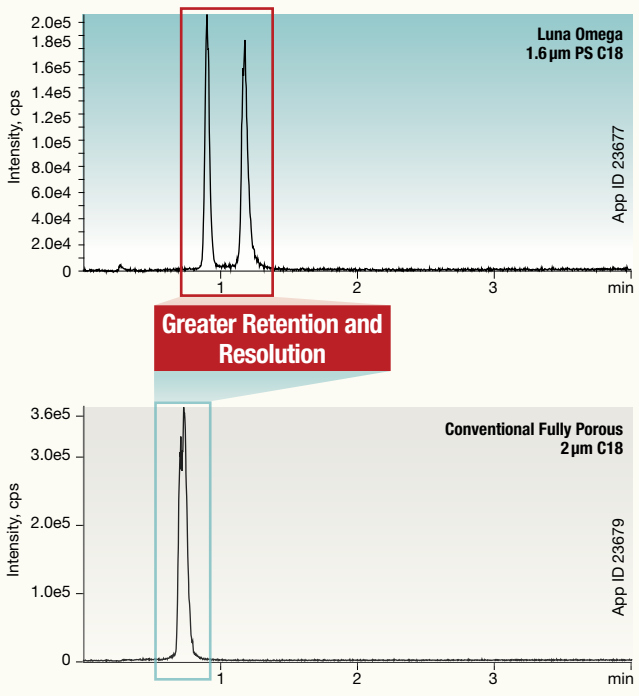
Columns: Luna Omega 1.6 µm Polar C18
Core-Shell 1.6 µm C18
Dimension: 50 x 2.1 mm
Mobile Phase: A: 10 mM Ammonium Formate with 0.1 % Formic Acid
B: Acetonitrile with 0.1 % Formic Acid

Gradient:

Time (min)	% B
0	2
3	90
3.1	2

Flow Rate: 0.4 mL/min
Temperature: 25 °C
Detection: MS/MS (SCIEX® API 4000™)
Sample: 1. Nornicotine
2. 3-Hydroxycotinine
3. Nicotine
4. Cotinine
5. Anabasine

MMA and Succinic Acid



Conditions for all columns:

Columns: Luna Omega 1.6 µm PS C18
Conventional Fully Porous 2 µm C18
Dimension: 50 x 2.1 mm
Mobile Phase: A: Water with 0.1 % Formic Acid
B: Acetonitrile with 0.1 % Formic Acid

Gradient:

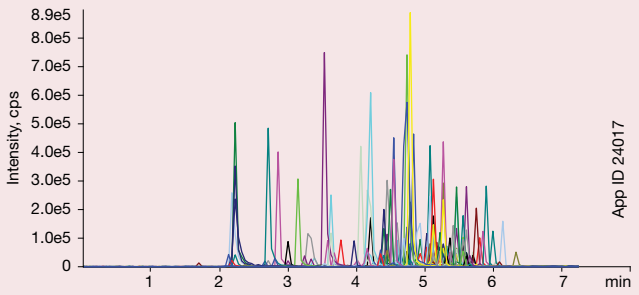
Time (min)	% B
0	0
5	50
5.1	0
7	0

Flow Rate: 0.5 mL/min
Temperature: 22 °C
Detection: MS/MS (SCIEX API 4000™)
Sample: 1. Succinic acid
2. MMA

Optimal Selectivity for Complex Polar/Non-Polar Mixtures

Use the combined core-shell performance and dual polar/non-polar selectivity gains of the Kinetex 2.6 µm Polar C18 to easily expand the elution window and resolution values for your multi-compound methodologies that contain polar and non-polar compounds.

Columns: Kinetex 2.6 µm Polar C18
Dimension: 50 x 4.6 mm
Mobile Phase: A: Water
B: 0.1 % Formic Acid in Methanol
Gradient: 5-100 % B in 5 min, hold 1 min
Flow Rate: 0.7 mL/min
Temperature: Ambient
Detection: MS/MS (SCIEX API 4000™)
Sample: 206 Pesticides.
Find the full compound list online at
www.phenomenex.com/Application/Detail/24017



Increase Retention with Alkaline Mobile Phase

The chemical stability and wide pH range (1-12) of Kinetex EVO C18 organo-silica particles allow you to use high pH mobile phases that are above a basic compound's pK_a, thus enhancing retention and potentially improving resolution and sensitivity values.

Conditions for all columns same except where noted:

Column: Kinetex 1.7 µm EVO C18
Dimensions: 50 x 2.1 mm
Part No.: 00B-4726-AN
Mobile Phase: A: 20 mM Potassium phosphate (pH 2.5)
B: Methanol
Mobile Phase: A: 20 mM Potassium phosphate (pH 10)
B: Methanol

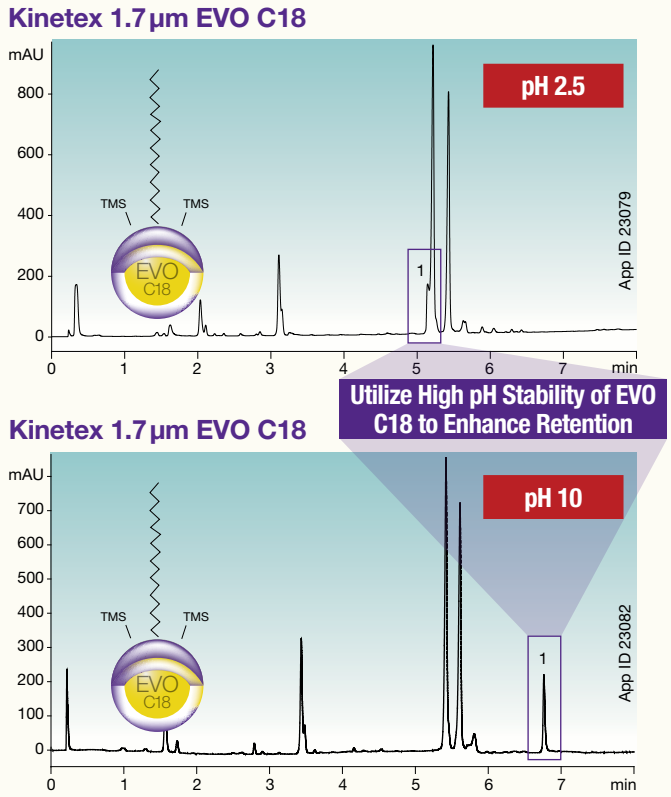
Gradient:

Time (min)	% B
0	5
8	90

Flow Rate: 0.5 mL/min
Temperature: 30 °C
Detection: UV @ 210 nm
Sample: 1. Fluvoxamine

Comparative separations may not be representative of all applications.

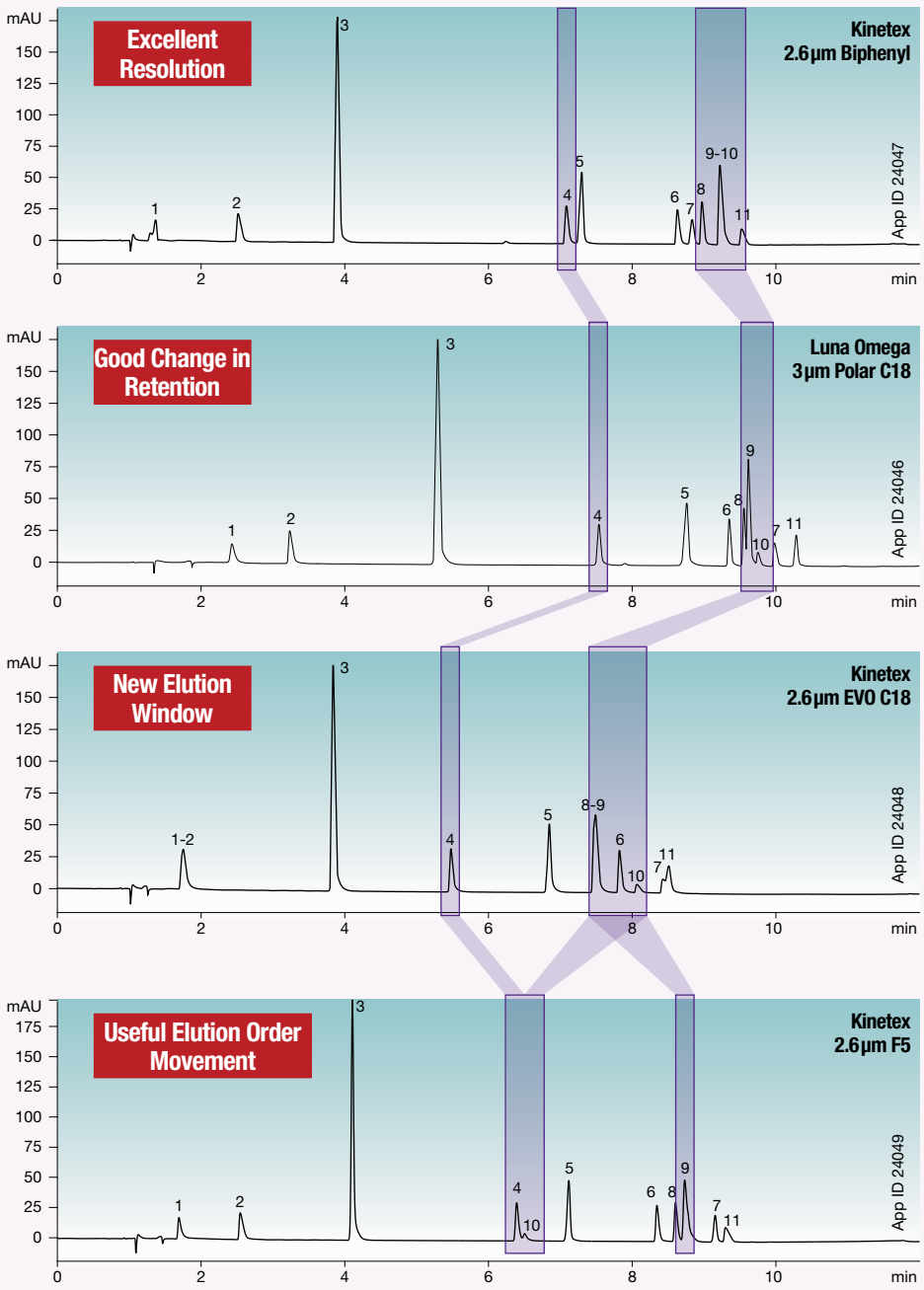
Kinetex 1.7 µm EVO C18

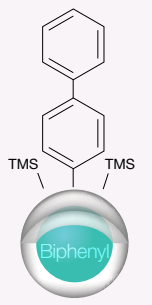


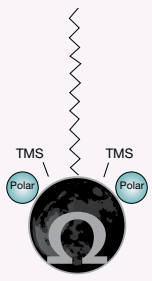
Combined Method Development Flexibility

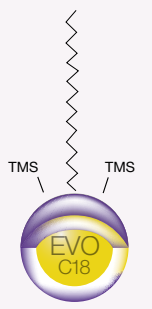
Expand your method development options by screening a combination of core-shell and fully porous particles with different selectivities which can increase retention, improve resolution, or even flip peak elution orders. The combination of available Luna® Omega stationary phases represent an outstanding tool set to start with for the separation of acids, bases, neutrals, or mixtures. At the same time, the Kinetex® core-shell EVO C18, Biphenyl, and F5 are outstanding orthogonal phases that can easily provide you with highly useful changes in elution windows and retention times.

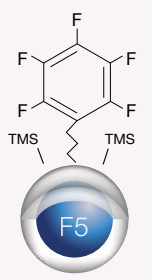
Cold Medicine Ingredients











Conditions for all columns:

Columns: Kinetex 2.6 µm Biphenyl
Luna Omega 3 µm Polar C18
Kinetex 2.6 µm EVO C18
Kinetex 2.6 µm F5

Dimension: 100 x 4.6 mm

Mobile Phase: A: 20 mM Potassium Phosphate pH 3.5
B: Acetonitrile

Gradient:

Time (min)	% B
0	2
7	30
12	80

Flow Rate: 1 mL/min
Temperature: Ambient
Detection: UV @ 254 nm
Sample:
1. Maleic Acid
2. Phenylephrine
3. Acetaminophen
4. Doxylamine
5. Pyrilamine
6. Chlorpheniramine
7. Dextromethorphan
8. Bromopheniramine
9. 4-Nitrophenol
10. Acetylsalicylic Acid
11. Diphenhydramine

Improve Peak Shape for Bases

The unique surface of the Luna Omega PS C18 contains a positive charged ligand which aids in the retention of acidic compounds through ionic interactions, while also greatly improving the peak shape of basic compounds through ionic repulsion.

Conditions for all columns:

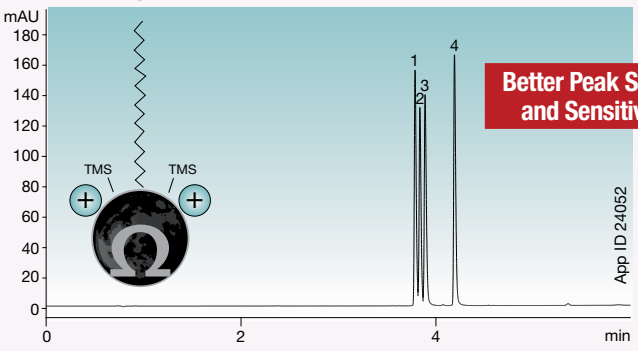
Column: Luna Omega 3 µm PS C18
Conventional Fully Porous 3 µm C18

Dimensions: 100 x 4.6 mm

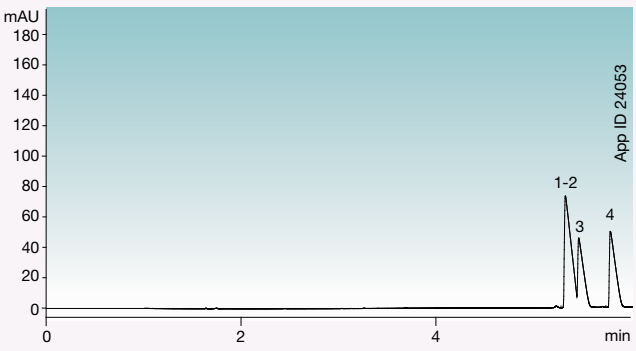
Mobile Phase: A: Water with 0.1 % Formic Acid
B: Acetonitrile with 0.1 % Formic Acid

Gradient: 10 - 95 % B in 10 min
Flow Rate: 1.5 mL/min
Temperature: Ambient
Detection: UV @ 254 nm
Sample:
1. Amitriptyline
2. Nortriptyline
3. Imipramine
4. Clomipramine

Luna Omega 3 µm PS C18



Conventional Fully Porous 3 µm C18

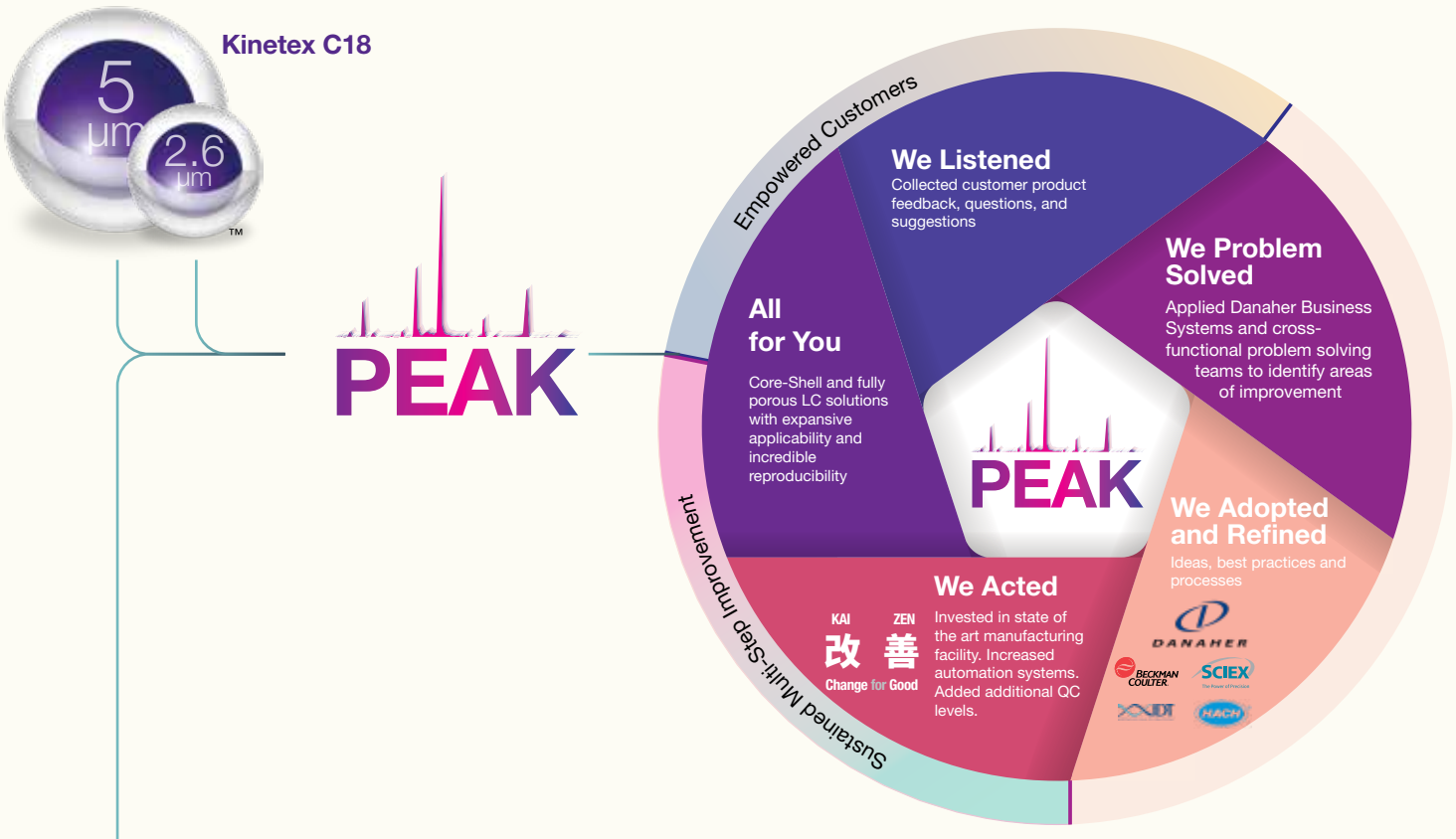


Comparative separations may not be representative of all applications.

Generating the Next Level

Of Reliability Through Advanced Process Optimization

Over the past three years, our scientists and engineers with the help of customers and Danaher colleagues, have optimized our processes to provide products that deliver very high levels of performance and newly achievable levels of reliability and reproducibility. This new advanced series of products and process optimization is called PEAK.



Luna® Omega C18

Reproducible and Scalable

By setting a new standard for reliability, the Luna Omega C18 spans UHPLC and HPLC with a scalable range of high-performance particle sizes that will ensure that your developed methods are easily transferred. From single compound identification to complex impurity profiles, the Luna Omega C18 will serve as a pillar for your lab to count on day in and day out.

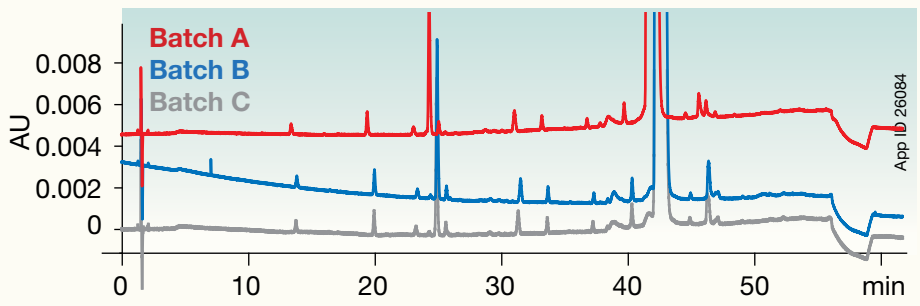
Batch-to-Batch Reproducibility Study

In this example, we compared three batches of Luna Omega C18 using all three different particle sizes on a complex QC Pharmaceutical representative sample.

Conditions for all columns:

Mobile Phase: A: Water with 0.1 % Formic Acid
B: Acetonitrile with 0.1 % Formic Acid
Temperature: 30 °C
Detection: UV @ 254 nm
Injection Volume: 5 µL
Sample: 5 mg/mL of Chlorhexidine and Related Substances

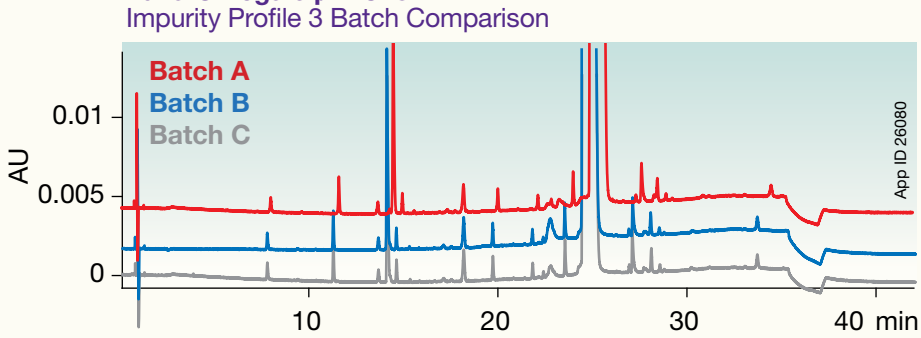
Luna Omega 5 µm C18
Impurity Profile 3 Batch Comparison



Column: Luna Omega 5 µm C18
Dimension: 250 x 4.6 mm
Part No.: 00G-4785-E0

Gradient: Time (min)	% B
0	2
2.5	2
52.5	35
55	35
57.5	2
62.5	2

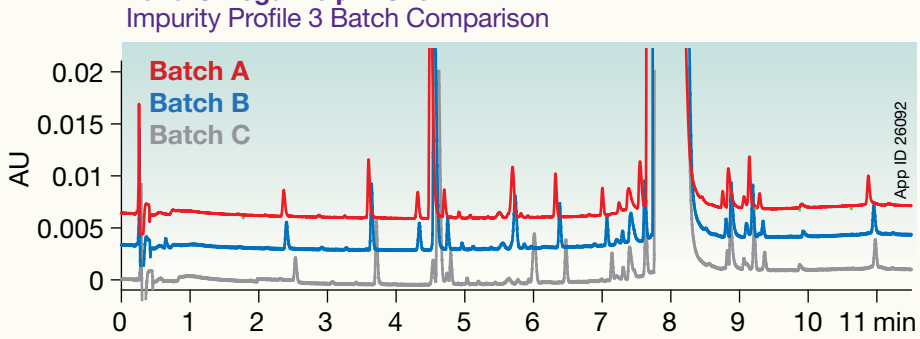
Luna Omega 3 µm C18
Impurity Profile 3 Batch Comparison



Column: Luna Omega 3 µm C18
Dimension: 150 x 4.6 mm
Part No.: 00F-4784-E0

Gradient: Time (min)	% B
0	2
1.5	2
31.5	35
34.5	35
36	2
42	2

Luna Omega 1.6 µm C18
Impurity Profile 3 Batch Comparison



Column: Luna Omega 1.6 µm C18
Dimension: 50 x 2.1 mm
Part No.: 00B-4742-AN

Gradient: Time (min)	% B
0	2
0.5	2
10.5	35
11.5	35
12	2
14	2

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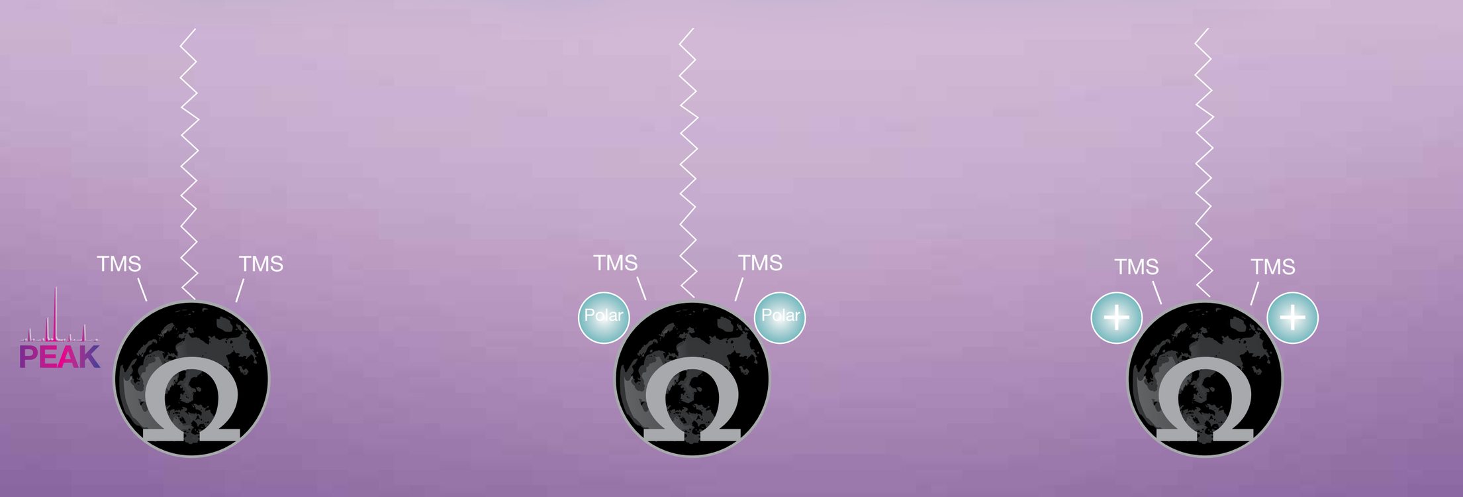
Luna Omega Phase Selection



C18
Rugged and highly efficient C18 with strong focus on hydrophobic retention of non-polar and polar compounds

Polar C18
100 % aqueous stability and enhanced selectivity/ retention for polar analytes without diminishing useful non-polar retention. The C18 ligand provides general hydrophobic interactions while a polar modified particle surface provides enhanced polar compound retention.

PS C18
Unique, 100 % aqueous stable mixed-mode phase that provides both polar and non-polar retention. The surface contains a positive charged ligand which aids in the retention of acidic compounds through ionic interactions, while the C18 ligand promotes general reversed phase retention. The positively charged surface also improves basic compound peaks shape through ionic repulsion.

www.phenomenex.com/LunaOmega

Luna Omega Particle Selection

Complete scalable solution from UHPLC to HPLC to PREP LC

Excellent UHPLC efficiencies and inertness that drive greater performance gains

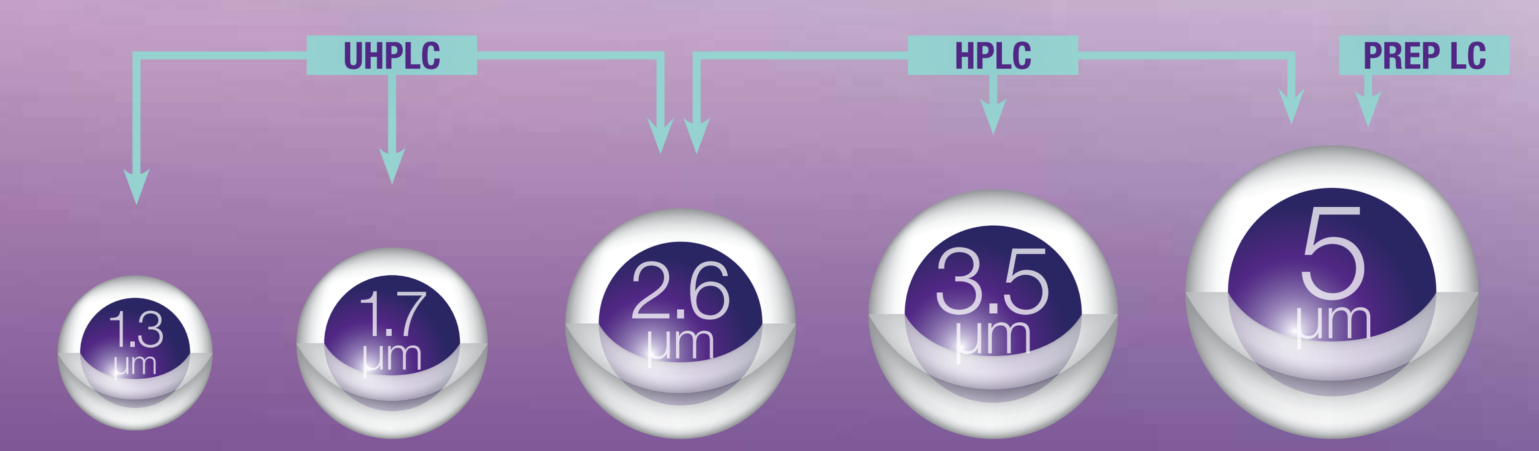
Easily upgrade existing 3 µm and 5 µm conventional fully porous methods to gain greater resolution and sensitivity

All purpose HPLC and Preparative LC particle capable of improving performance for existing 5-10 µm methods

www.phenomenex.com/LunaOmega

Kinetex Core-Shell Particle Selection

Complete scalable solution from UHPLC to HPLC to PREP LC



Incredible UHPLC efficiency and performance gains

20 % higher efficiency than fully porous 1.7 µm columns

Achieve sub-2 µm performance on HPLC and UHPLC systems

Instantly improve your pharmacopoeia (Ph. Eur. & USP) monographs that require 3.5 µm particle size

3 µm or better efficiencies at 5 µm pressures for HPLC and PREP LC methods

www.phenomenex.com/Kinetex

Kinetex Phase Selection

Polar C18 – Combined C18 and polar modified surface that provide polar and non-polar retention alongside 100 % aqueous stability

EVO C18 – Robust reversed phase methods even in alkaline conditions with improved peak shape for polar basic compounds

C18 – All purpose phase that offers the hydrophobic retention and methylene selectivity chromatographers expect from a C18 column

XB-C18 – C18 phase with protective butyl side chains for improved peak shape for basic compounds under neutral and acidic conditions

C8 – USP L7 phase that provides less hydrophobic and methylene selectivity than a C18

F5 – Highly reproducible pentafluorophenyl propyl phase that offers a unique combination of polar, hydrophobic, aromatic, and shape selectivity

Biphenyl – 100 % aqueous stable and allows for excellent reversed phase retention and enhanced polar and aromatic selectivity

Phenyl-Hexyl – Reversed phase chemistry that allows for greater retention and separation of aromatic hydrocarbons

HILIC – Unbonded silica phase for HILIC conditions to provide selectivity for polar compounds

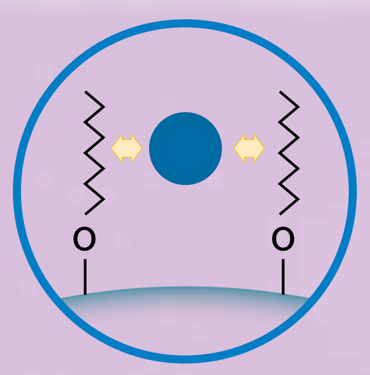
PAH – Polymerically bonded C18 specifically developed for the analysis of PAHs

PS C18 – A multi-modal C18 column with a unique positive surface modification that displays improved peak shape for basic compounds.

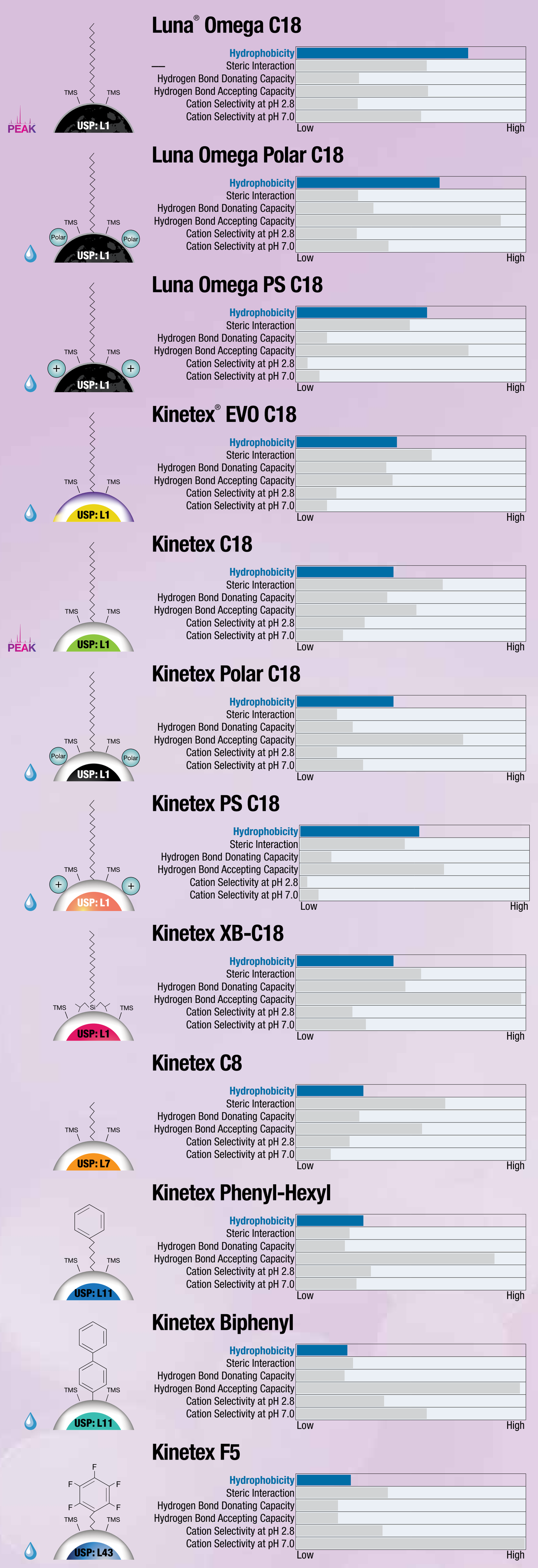
www.phenomenex.com/Kinetex

Expand Your LC Selectivity Toolbox

Hydrocarbon Compounds

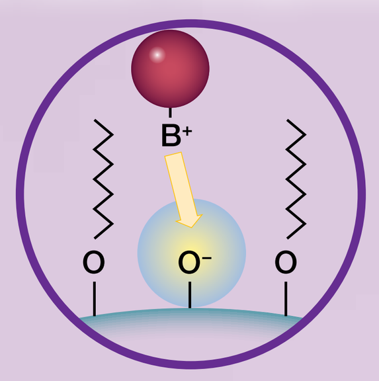


Hydrophobicity
The ability of a phase to hydrophobically interact with carbon groups



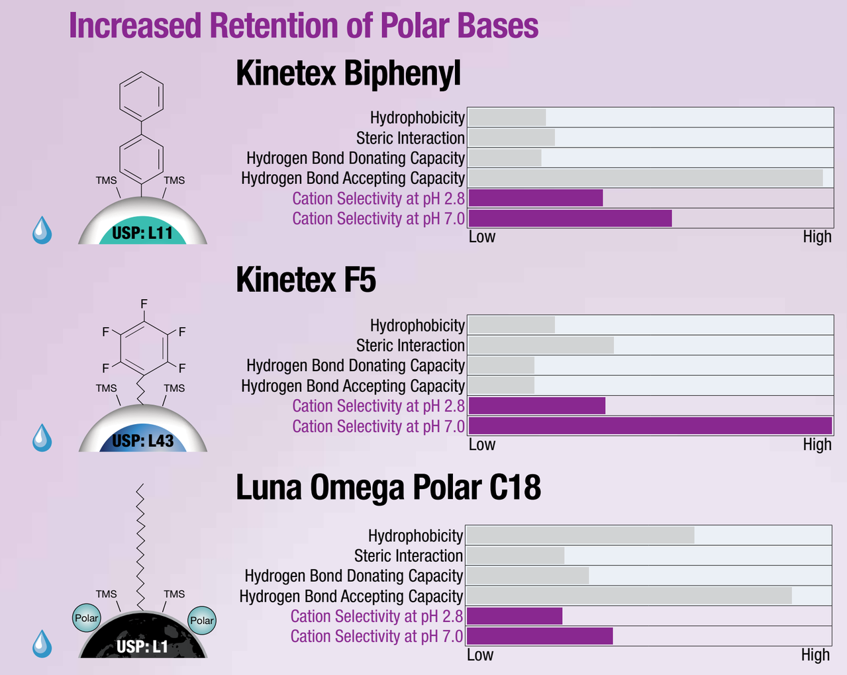
Water droplet denotes stationary phases that are 100 % aqueous stable

Polar Basic Compounds

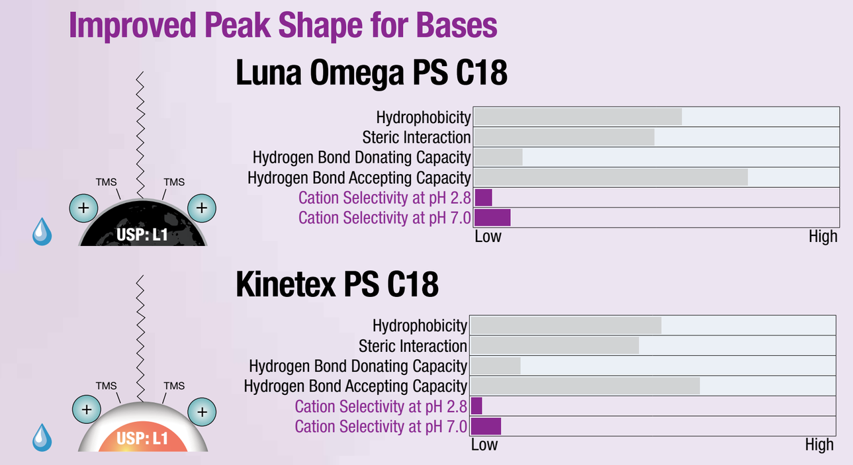


Cation Selectivity
The ability of a phase to interact with cation groups at acidic or basic pH

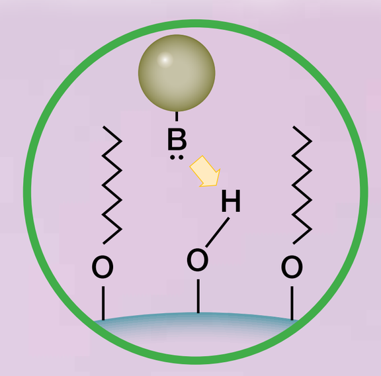
Increased Retention of Polar Bases



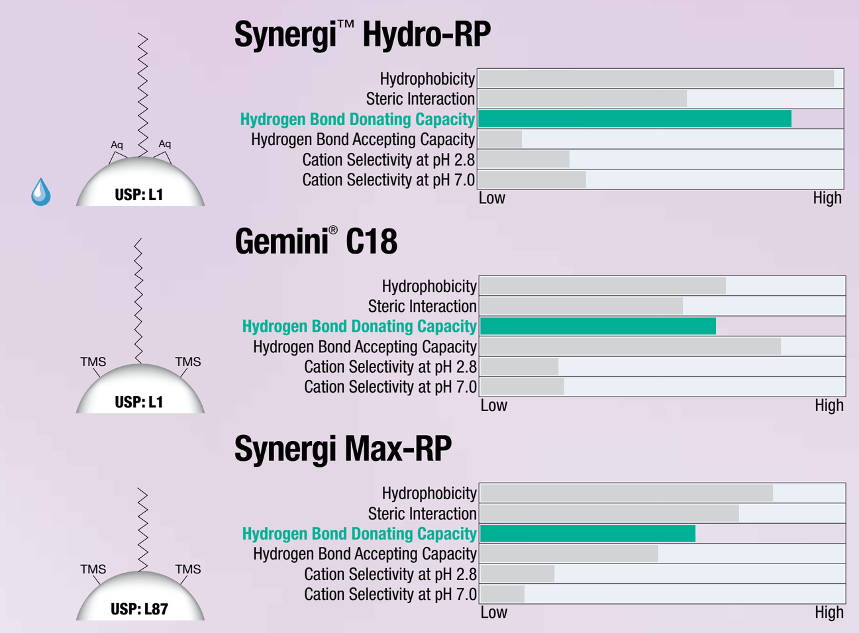
Improved Peak Shape for Bases



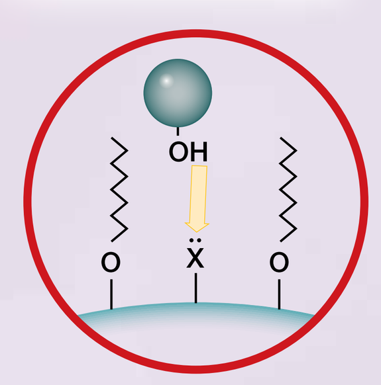
Non-ionized Bases and Oxygen- or Halogen-containing Compounds



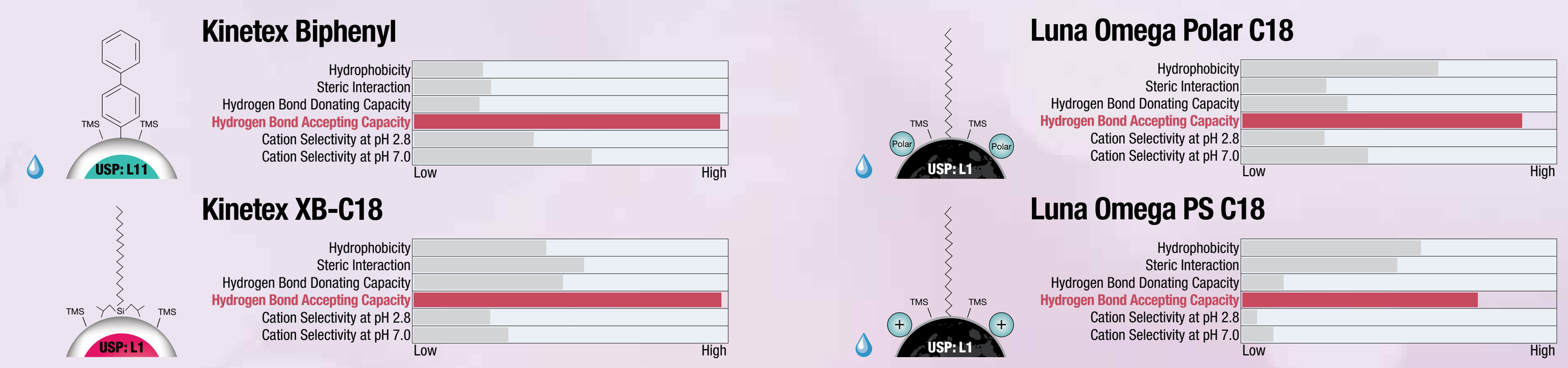
Hydrogen Bond Donating Capacity
The ability of a phase to hydrogen bond with proton accepting groups



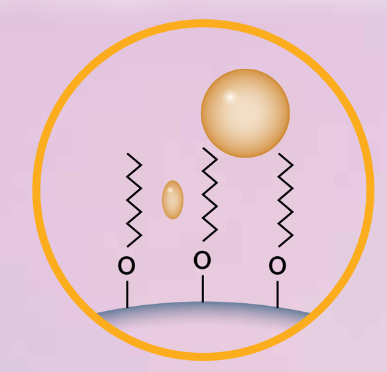
Hydroxyl- or Amine-containing Functionalities



Hydrogen Bond Accepting Capacity
The ability of a phase to hydrogen bond with proton donating groups

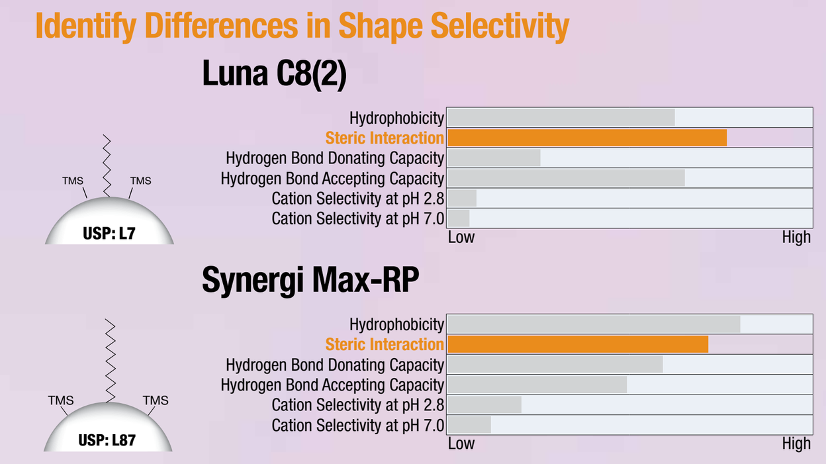


Isomers, Isobaric Compounds, and Shape Selectivity

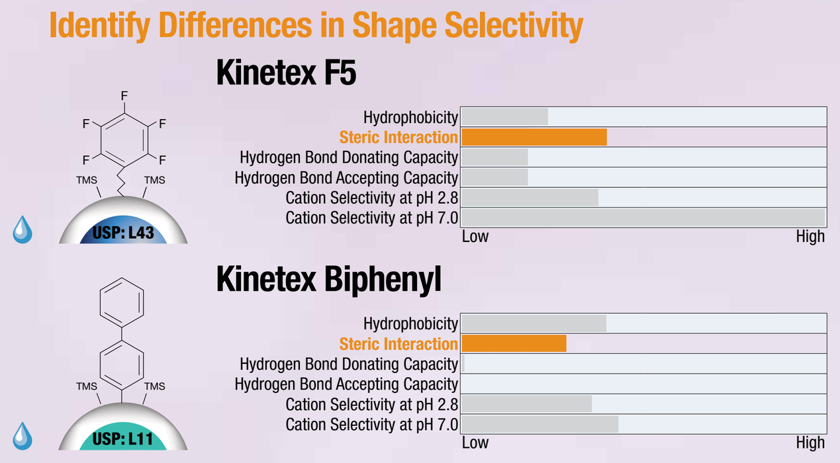


Steric Interactions
The ability of a phase to separate compounds based on structural differences

Identify Differences in Shape Selectivity



Identify Differences in Shape Selectivity



Material Characteristics

Packing Material	Particle Sizes (µm)	Pore Size (Å)	Effective Surface Area (m²/g)	Effective Carbon Load (%)	pH Range	Pressure Stability (bar)	Shipping Solvent
Kinetex Phases							
Kinetex Polar C18	2.6	100	200	9	1.5 – 8.5*	1,000/600**	Acetonitrile/Water (50:50)
Kinetex PS C18	2.6	100	200	9	1.5 – 8.5*	1,000/600**	Acetonitrile/Water (50:50)
Kinetex C18	1.3, 1.7, 2.6, 5	100	200	12	1.5 – 8.5*	1,000/600**	Acetonitrile/Water (50:50)
Kinetex EVO C18	1.7, 2.6, 5	100	200	11	1.5 – 12	1,000/600**	Acetonitrile/Water (45:55)
Kinetex XB-C18	1.7, 2.6, 3.5, 5	100	200	10	1.5 – 8.5*	1,000/600**	Acetonitrile/Water (50:50)
Kinetex C8	1.7, 2.6, 5	100	200	8	1.5 – 8.5*	1,000/600**	Acetonitrile/Water (45:55)
Kinetex Biphenyl	1.7, 2.6, 5	100	200	11	1.5 – 8.5*	1,000/600**	Acetonitrile/Water w/ 0.1 % Formic Acid (50:50)
Kinetex Phenyl-Hexyl	1.7, 2.6, 5	100	200	11	1.5 – 8.5*	1,000/600**	Acetonitrile/Water (45:55)
Kinetex F5	1.7, 2.6, 5	100	200	9	1.5 – 8.5*	1,000/600**	Acetonitrile/Water (40:60)
Luna Phases							
Luna Omega Polar C18	1.6, 3, 5	100	260	9	1.5 – 8.5*	1,034/600***	Acetonitrile/Water (65:35)
Luna Omega PS C18	1.6, 3, 5	100	260	9	1.5 – 8.5*	1,034/600***	Acetonitrile/Water (65:35)
Luna Omega C18	1.6, 3, 5	100	260	11	1.5 – 8.5*	1,034/600***	Acetonitrile/Water (65:35)
Luna C8(2)	3, 5, 10	100	400	13.5	1.5 – 9.0*	345	Acetonitrile/Water (65:35)
Luna PFP(2)	3, 5	100	400	11.5	1.5 – 8.0	345	Acetonitrile/Water (65:35)
Synergi Phases							
Synergi Hydro-RP	4, 10	80	475	19	1.5 – 7.5	345	Acetonitrile/Water (50:50)
Synergi Max-RP	4, 10	80	475	17	1.5 – 9.0*	345	Acetonitrile/Water (50:50)
Synergi Fusion-RP	4, 10	80	475	12	1.5 – 9.0*	345	Acetonitrile/Water (65:35)
Gemini Phases							
Gemini C18	3, 5, 10	110	375	14	1.0 – 12.0	345	Acetonitrile/Water (65:35)

* pH stability under gradient conditions. pH stability is 1.5 - 10 under isocratic conditions.
** 2.1 mm ID Kinetex columns are pressure stable up to 1,000 bar.
*** 1.6 µm Luna Omega columns are pressure stable up to 1,034 bar and 3 or 5 µm are stable up to 600 bar.
When using Kinetex 1.3 µm or 1.7 µm, increased performance can be achieved, however high pressure-capable instrumentation is required.

KINETEX Core-Shell Technology

3.5 µm Columns (mm)

Phases	50 x 2.1	150 x 2.1	100 x 4.6	150 x 4.6	250 x 4.6
XB-C18	—	—	00D-4744-E0	00F-4744-E0	—
PAH	00B-4764-AN	00F-4764-AN	00D-4764-E0	00F-4764-E0	00G-4764-E0

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	—	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
PEAK	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	—	—	AJ0-8788
	HILIC	—	00B-4606-AN	—	—	AJ0-8786

for 2.1 mm ID

5 µm Columns (mm) — SecurityGuard ULTRA Cartridges‡

	Phases	30 x 3.0	50 x 3.0	100 x 3.0	150 x 3.0	3/pk
	EVO C18	00A-463-Y0	00B-4633-Y0	00D-4633-Y0	00F-4633-Y0	AJ0-9297
	F5	—	—	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
PEAK	C18	00A-4601-Y0	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 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
PEAK	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
	HILIC	—	—	00F-4606-E0	00G-4606-E0	AJ0-8772

for 4.6 mm ID

5 µm Semi-Preparative Columns (mm) — SecurityGuard SemiPrep Cartridges***

	Phases	100 x 10	150 x 10	250 x 10	10 x 10
	EVO C18	—	00F-4633-N0	00G-4633-N0	AJ0-9306
	F5	—	—	00G-4724-N0	AJ0-9323
PEAK	C18	00D-4601-N0	00F-4601-N0	00G-4601-N0	AJ0-9278
	Biphenyl	—	00F-4627-N0	00G-4627-N0	AJ0-9280
	XB-C18	—	00F-4605-N0	00G-4605-N0	AJ0-9278

for 9-16 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
	EVO C18	00B-4633-P0-AX	00D-4633-P0-AX	00F-4633-P0-AX	00G-4633-P0-AX	AJ0-9304
	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
PEAK	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 18-29 mm ID

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
	EVO C18	00B-4633-U0-AX	00D-4633-U0-AX	00F-4633-U0-AX	00G-4633-U0-AX	AJ0-9305
	F5	00B-4724-U0-AX	00D-4724-U0-AX	00F-4724-U0-AX	—	AJ0-9325
	Biphenyl	—	—	00F-4627-U0-AX	00G-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
PEAK	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	—	—	00F-4603-U0-AX	00G-4603-U0-AX	AJ0-9216
	HILIC	—	—	00D-4606-U0-AX	—	—

for 30-49 mm ID

2.6 µm Micro LC Columns (mm)

	Phases	30 x 0.3	50 x 0.3	100 x 0.3	150 x 0.3	50 x 0.5	150 x 0.5
	Biphenyl	—	00B-4622-AC	—	00F-4622-AC	00B-4622-AF	—
PEAK	C18	00A-4462-AC	00B-4462-AC	—	00F-4462-AC	00B-4462-AF	—
	EVO C18	—	00B-4725-AC	—	00F-4725-AC	00B-4725-AF	—
	F5	—	00B-4723-AC	00D-4723-AC	00F-4723-AC	00B-4723-AF	—
	XB-C18	00A-4496-AC	00B-4496-AC	00D-4496-AC	00F-4496-AC	00B-4496-AF	00F-4496-AF

2.6 µm 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
	PS C18	00A-4780-AN	00B-4780-AN	—	00D-4780-AN	00F-4780-AN	AJ0-8951
	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
PEAK	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 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	00A-4725-Y0	00B-4725-Y0	—	00D-4725-Y0	00F-4725-Y0	AJ0-9297
	PS C18	00B-4780-Y0	00D-4780-Y0	—	00D-4780-Y0	00F-4780-Y0	AJ0-8950
	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
PEAK	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	—	—	00D-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

2.6 µm 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	250 x 4.6	3/pk
	EVO C18	00A-4725-E0	00B-4725-E0	—	00D-4725-E0	00F-4725-E0	00G-4725-E0	AJ0-9296
	PS C18	—	00B-4780-E0	—	00D-4780-E0	00F-4780-E0	00G-4780-E0	AJ0-8949
	Polar C18	00A-4759-E0	00B-4759-E0	—	00D-4759-E0	00F-4759-E0	—	AJ0-9532
	F5	00A-4723-E0	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
PEAK	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 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	00A-4628-AN	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 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
Phenyl	—	—	00D-4500-Y0	AJ0-8781
HILIC	—	00B-4474-Y0	—	AJ0-8779

for 3.0 mm ID

2.6 µm Columns (mm)

Phases	50 x 1.0	100 x 1.0	150 x 1.0
C18	00B-4462-A0	—	—
XB-C18	00B-4496-A0	00D-4496-A0	00F-4496-A0

1.7 µm Columns (mm)

Phases	50 x 1.0	100 x 1.0	150 x 1.0
EVO C18	00B-4726-A0	00D-4726-A0	00F-4726-A0
Biphenyl	00B-4628-A0	00D-4628-A0	—

1.3 µm 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
* 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

explore LUNA OMEGA

1.6 µm Microbore Columns (mm)

	Phases	50 x 1.0	100 x 1.0	150 x 1.0
	Polar C18	00B-4748-A0	00D-4748-A0	00F-4748-A0
	PS C18	—	00D-4752-A0	—
PEAK	C18	00B-4742-A0	00D-4742-A0	00F-4742-A0

1.6 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
	Polar C18	00A-4748-AN	00B-4748-AN	00D-4748-AN	00F-4748-AN	AJ0-9505
	PS C18	00A-4752-AN	00B-4752-AN	00D-4752-AN	00F-4752-AN	AJ0-9508
PEAK	C18	00A-4742-AN	00B-4742-AN	00D-4742-AN	00F-4742-AN	AJ0-9502

for 2.1 mm ID

3 µm Micro LC Columns (mm) — Trap Column

Phases	50 x 0.30	100 x 0.30	150 x 0.30	50 x 0.50	100 x 0.50	150 x 0.50	20 x 0.30
Polar C18	00B-4760-AC	00D-4760-AC	00F-4760-AC	00B-4760-AF	00D-4760-AF	00F-4760-AF	—
PS C18	00B-4758-AC	00D-4758-AC	00F-4758-AC	00B-4758-AF	00D-4758-AF	00F-4758-AF	05M-4758-AC

3 µm Minibore Columns (mm) — SecurityGuard Cartridges (mm)

	Phases	30 x 2.1	50 x 2.1	100 x 2.1	150 x 2.1	4 x 2.0* /10 pk
	Polar C18	00A-4760-AN	00B-4760-AN	00D-4760-AN	00F-4760-AN	AJ0-7600
	PS C18	00A-4758-AN	00B-4758-AN	00D-4758-AN	00F-4758-AN	AJ0-7605
PEAK	C18	—	00B-4784-AN	00D-4784-AN	00F-4784-AN	AJ0-7611
	SUGAR	—	00B-4775-AN	00D-4775-AN	00F-4775-AN	AJ0-4496

for ID: 2.0-3.0 mm

3 µm MidBore™ Columns (mm) (cont'd) — SecurityGuard Cartridges (mm)

	Phases	50 x 3.0	100 x 3.0	150 x 3.0	4 x 2.0* /10 pk
	Polar C18	00B-4760-Y0	00D-4760-Y0	00F-4760-Y0	AJ0-7600
	PS C18	00B-4758-Y0	00D-4758-Y0	00F-4758-Y0	AJ0-7605
PEAK	C18	00B-4784-Y0	00D-4784-Y0	00F-4784-Y0	AJ0-7611
	SUGAR	—	—	00F-4775-Y0	AJ0-4496

for ID: 2.0-3.0 mm

3 µm Analytical Columns (mm) — SecurityGuard Cartridges (mm)

	Phases	50 x 4.6	100 x 4.6	150 x 4.6	250 x 4.6	4 x 3.0* /10 pk
	Polar C18	00B-4760-E0	00D-4760-E0	00F-4760-E0	00G-4760-E0	AJ0-7601
	PS C18	00B-4758-E0	00D-4758-E0	00F-4758-E0	00G-4758-E0	AJ0-7606
PEAK	C18	00B-4784-E0	00D-4784-E0	00F-4784-E0	00G-4784-E0	AJ0-7612
	SUGAR	—	00D-4775-E0	00F-4775-E0	00G-4775-E0	AJ0-4495

for ID: 3.2-8.0 mm

5 µm Minibore and MidBore™ Columns (mm) — SecurityGuard Cartridges (mm)

Phases	50 x 2.1	100 x 2.1	150 x 2.1	50 x 3.0	100 x 3.0	150 x 3.0	4 x 2.0* /10 pk
Polar C18	00B-4754-AN	00D-4754-AN	00F-4754-AN	00B-4754-Y0	00D-4754-Y0	00F-4754-Y0	AJ0-7600
PS C18	00B-4753-AN	00D-4753-AN	00F-4753-AN	00B-4753-Y0	00D-4753-Y0	00F-4753-Y0	AJ0-7605

for ID: 2.0 - 3.0 mm

5 µm Analytical Columns (mm) — SecurityGuard Cartridges (mm)

	Phases	50 x 4.6	100 x 4.6	150 x 4.6	250 x 4.6	4 x 3.0* /10 pk
	Polar C18	00B-4754-E0	00D-4754-E0	00F-4754-E0	00G-4754-E0	AJ0-7601
	PS C18	00B-4753-E0	00D-4753-E0	00F-4753-E0	00G-4753-E0	AJ0-7606
PEAK	C18	00B-4785-E0	00D-4785-E0	00F-4785-E0	00G-4785-E0	AJ0-7612

for ID: 3.2-8.0 mm

5 µm Semi-Preparative Columns (mm) — SecurityGuard Cartridges (mm)

Phases	250 x 10	10 x 10** /3 pk
Polar C18	00G-4754-N0	AJ0-9519
PS C18	00G-4753-N0	AJ0-9520

for ID: 9-16 mm

5 µm Axia™ Packed Preparative Columns (mm) — SecurityGuard Cartridges (mm)

	Phases	50 x 21.2	100 x 21.2	150 x 21.2	250 x 21.2	15 x 21.2** /ea
	Polar C18	00B-4754-P0-AX	00D-4754-P0-AX	00F-4754-P0-AX	00G-4754-P0-AX	AJ0-7603
	PS C18	00B-4753-P0-AX	00D-4753-P0-AX	00F-4753-P0-AX	00G-4753-P0-AX	AJ0-7608
PEAK	C18	—	—	—	00G-4785-P0-AX	—

for ID: 18-29 mm

5 µm Axia™ Packed Preparative Columns (mm) (cont'd) — SecurityGuard Cartridges (mm)

Phases	100 x 30	150 x 30	250 x 30	250 x 50	15 x 30.0* /ea
Polar C18	00D-4754-U0-AX	00F-4754-U0-AX	00G-4754-U0-AX	00G-4754-V0-AX	AJ0-7604
PS C18	00D-4753-U0-AX	00F-4753-U0-AX	00G-4753-U0-AX	00G-4753-V0-AX	AJ0-7609

for ID: 30-49 mm

‡ SecurityGuard ULTRA Cartridges require holder, Part No.: AJ0-9000
* SecurityGuard Analytical Cartridges require holder, Part No.: KJ0-4282
***SemiPREP SecurityGuard Cartridges require holder, Part No.: AJ0-9281
**PREP SecurityGuard Cartridges require holder, Part No.: AJ0-8223
◆PREP SecurityGuard Cartridges require holder, Part No.: AJ0-8277

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- Gemini NX-C18
- Gemini C18
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Synthetic Oligonucleotides
- Clarity® Oligo-XT
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- bioZen WidePore C4

Peptides (≤10 kDa)
- bioZen Peptide PS-C18
- bioZen Peptide XB-C18
- Luna Omega C18

Chiral Compounds
- Lux i-Amylose-3
- Lux i-Amylose-1
- Lux i-Cellulose-5
- Lux Cellulose-1