

Kinetex Biphenyl

Selectivity that a C18 just can't give you!

- Remarkable Separation Power
- Rugged and Reliable
- 100% Aqueous Stable

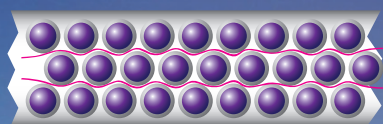


Kinetex Core-Shell Advantage

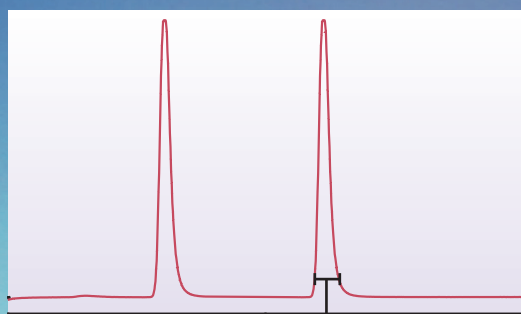
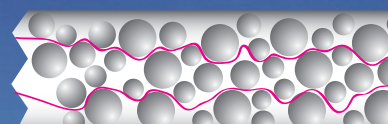
Kinetex™ Core-Shell Technology produces increased efficiencies over traditional, fully porous columns on the market, yielding remarkable chromatographic resolution, higher peak capacities, and greater sensitivity, so labs can get the most out of every HPLC/UHPLC analysis.



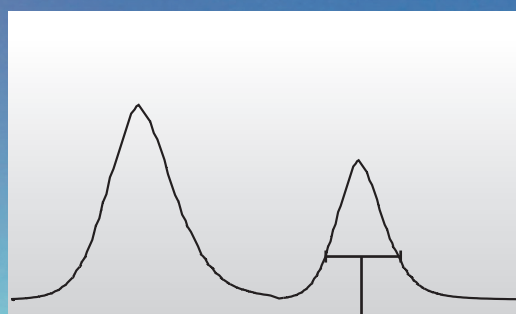
Kinetex Core-Shell



Fully Porous



Less
Band Broadening

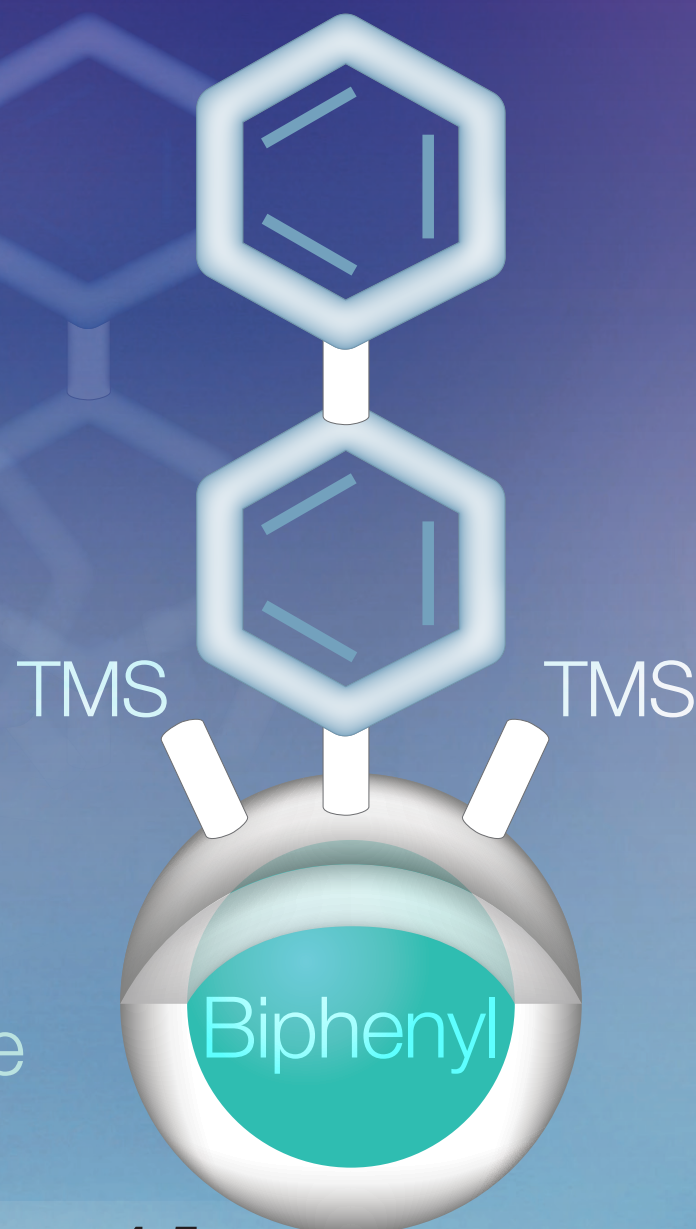


More
Band Broadening

BE-HAPPY™ GUARANTEE

Your happiness is our mission. Take 45 days to try our products. If you are not happy, we'll make it right.

www.phenomenex.com/behappy



Introducing the High Performance Kinetex Biphenyl!

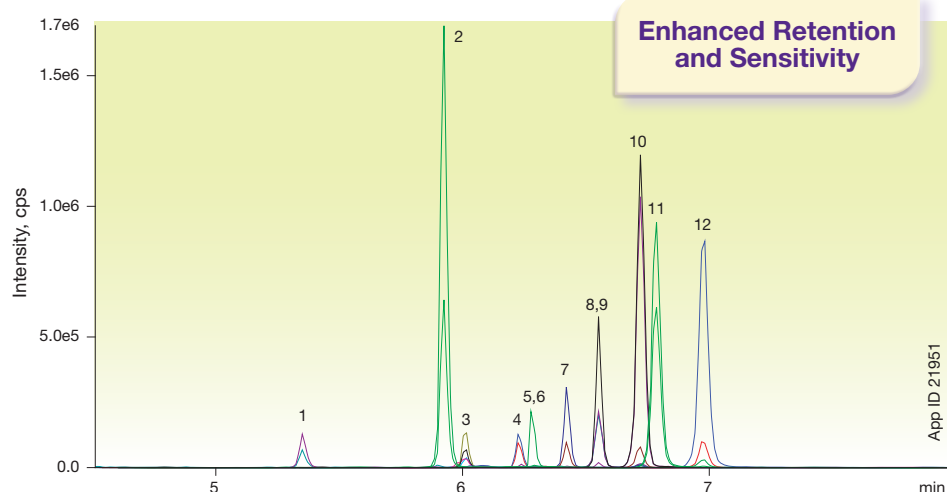
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Full scalability from HPLC to UHPLC	p. 9
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Transform Your Reversed Phase Analysis

Think high performance, enhanced retention, and the ability to go where a traditional C18 can't. The Kinetex™ Biphenyl offers the high performance benefits of a core-shell particle with a unique stationary phase capable of becoming the go-to selectivity for reversed phase method development. Use Kinetex Biphenyl columns to get enhanced retention, higher sensitivity, and overall better results; especially for aromatic compounds.

Mycotoxins

Kinetex 2.6µm Biphenyl



Conditions for all columns:

Column: Kinetex 2.6µm Biphenyl
Waters SunFire 3.5µm C18

Dimensions: 50 x 2.1 mm

Mobile Phase: A: 5 mM Ammonium acetate with 0.1% Acetic acid
B: Methanol with 5 mM Ammonium acetate with 0.1% Acetic acid

Gradient:	Time (min)	%B
	0	2
	2	2
	5	80
	5.2	98
	8	98
	8.01	2
	11	2

Flow Rate: 0.45 mL/min

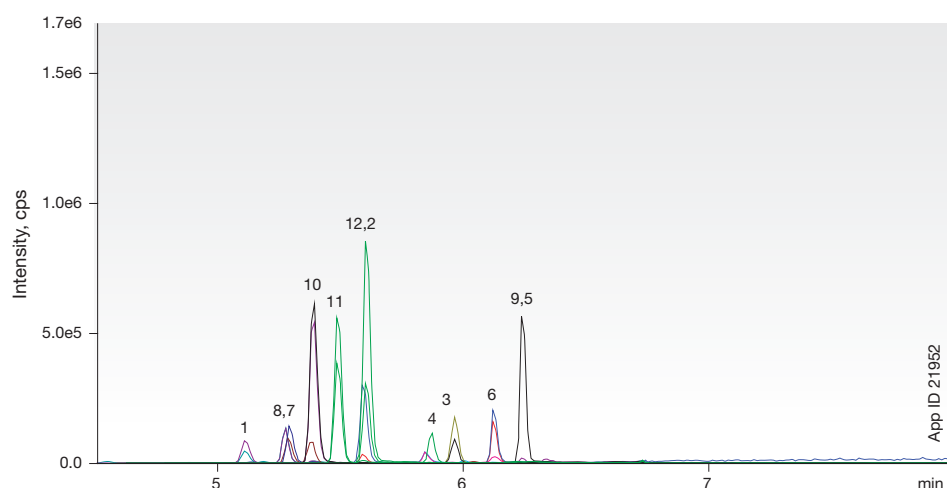
Temperature: 40 °C

Detection: MS/MS (AB SCIEX API 4000™)

Sample:

1. 15-Acetyldeoxynivalenol
2. DAS
3. FB1
4. HT2 Toxin
5. FB2
6. T2 Toxin
7. Aflatoxin M1
8. Aflatoxin G2
9. Ochratoxin A
10. Aflatoxin G1
11. Aflatoxin B2
12. Aflatoxin B1

Waters® SunFire® 3.5µm C18

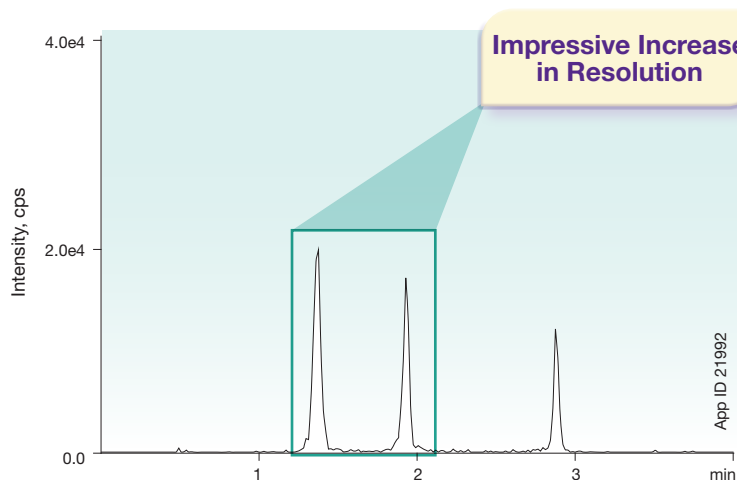


Enhanced Separation Power

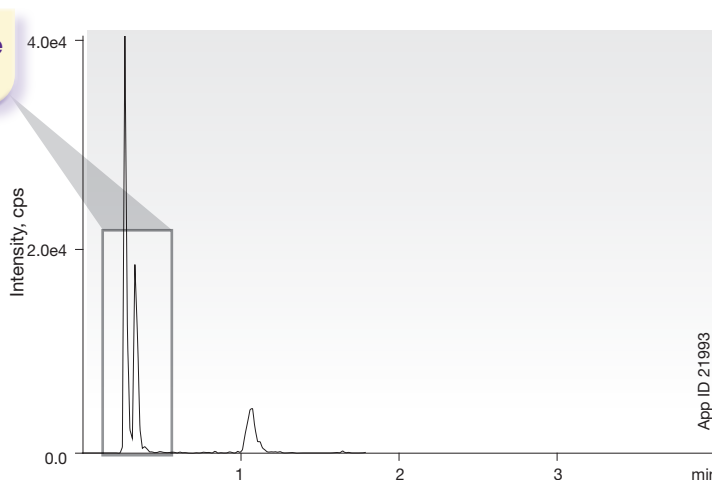
Kinetex Biphenyl is a high efficiency core-shell product capable of adding extra separation power to your analysis of non-polar and polar compounds. Imagine what you could do with this chromatography solution.

Opiate Isomers

Kinetex 2.6 μ m Biphenyl



Fused-Core® 2.7 μ m C18



Conditions for all columns:

Column: Kinetex 2.6 μ m Biphenyl
Fused-Core 2.7 μ m C18

Dimensions: 50 x 2.1 mm

Mobile Phase: A: Water with 0.1 % Formic acid
B: Methanol with 0.1 % Formic acid

Gradient:	Time (min)	%B
	0	10
	0.5	10
	2	25
	4.5	80
	4.51	85
	5.5	85
	5.51	10
	7	10

Flow Rate: 0.6 mL/min

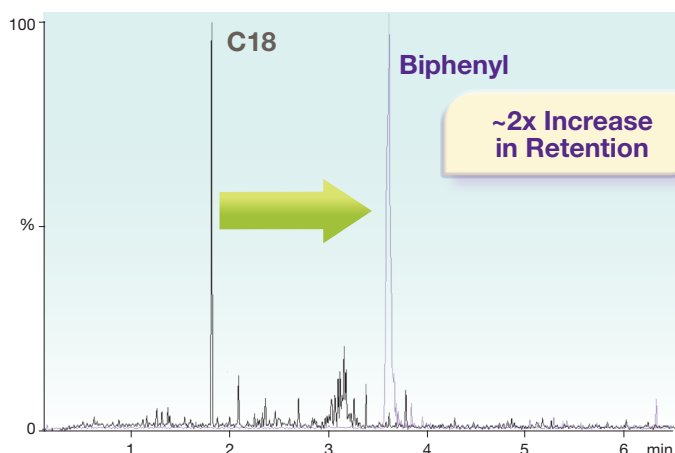
Temperature: 40 °C

Detection: MS/MS (AB SCIEX API 4000™)

Sample: 1. Morphine
2. Hydromorphone
3. Norhydrocodone

Customer Example - Polar Therapeutic Drug

Kinetex 5 μ m Biphenyl vs. Fully Porous 5 μ m C18



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Share your Kinetex success stories at:

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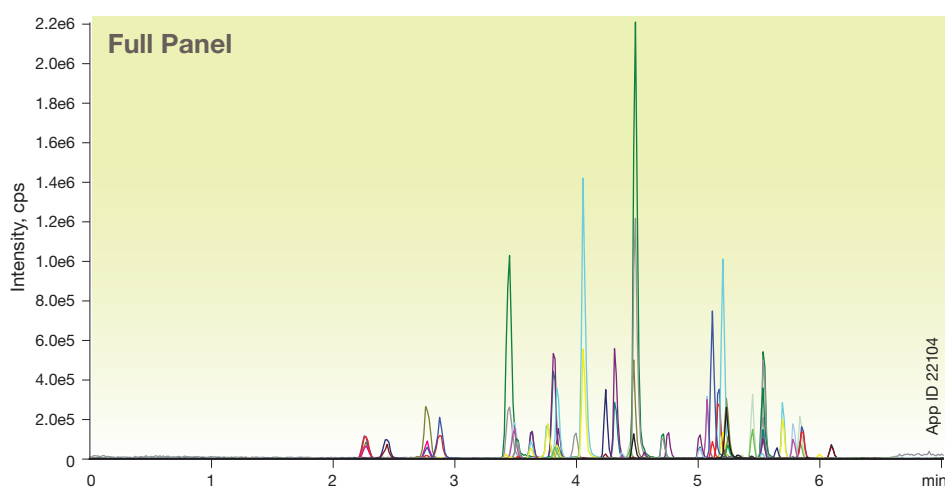
Comprehensive Pain Panel Testing

Important methods demand high performance and complete reliability. If a system or column interrupts the flow of samples, time and money can be lost. The Kinetex™ Biphenyl ensures that your comprehensive screens display the needed performance with a ruggedness and reliability that will keep you at ease.



Find more Clinical applications at:
www.phenomenex.com/ClinicalApps

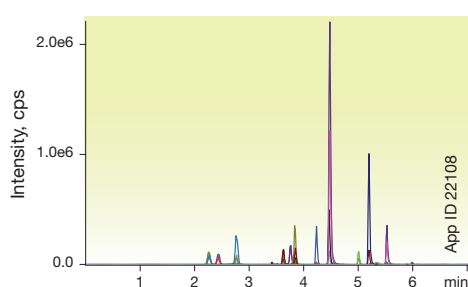
Pain Panel Screen Kinetex 2.6µm Biphenyl



Conditions for all separations:

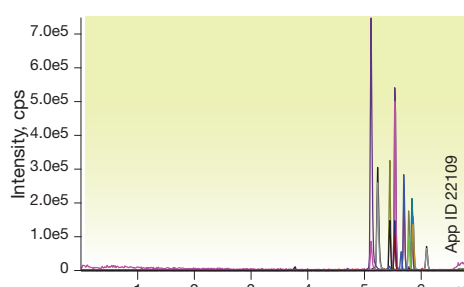
Column:	Kinetex 2.6 µm Biphenyl	
Dimensions:	50 x 3.0 mm	
Part No.:	00B-4622-Y0	
Mobile Phase:	A: Water with 0.1 % Formic Acid B: Methanol with 0.1 % Formic Acid	
Gradient:	Time (min)	%B
	0	10
	0.5	10
	2	25
	4.5	80
	4.51	85
	5.5	85
	5.51	10
	7	10
Flow Rate:	0.6 mL/min	
Temperature:	40 °C	
Detection:	MS/MS (AB SCIEX API 5000™)	

Opiates



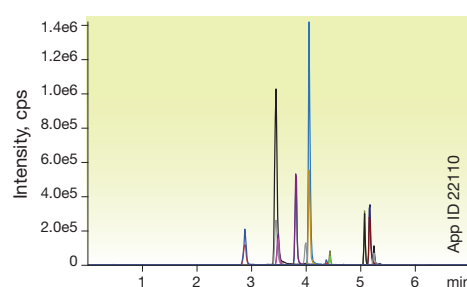
- Samples:**
1. Morphine
 2. Oxymorphone
 3. Hydromorphone
 4. Naloxone
 5. Codeine
 6. 6-MAM
 7. Oxycodone
 8. Naltrexone
 9. Hydrocodone
 10. Norfentanyl
 11. Tramadol
 12. Normeperidine
 13. Meperidine
 14. Norbuprenorphine
 15. Fentanyl
 16. Buprenorphine
 17. Propoxyphene
 18. Norpropoxyphene
 19. EDDP
 20. Methadone

Benzodiazepines



- Samples:**
1. Flurazepam
 2. Midazolam
 3. Lorazepam
 4. Clonazepam
 5. Oxazepam
 6. Hydroxylalprazolam
 7. Nordiazepam
 8. Flunitrazepam
 9. Temazepam
 10. Alprazolam
 11. Diazepam

Other Drugs of Abuse

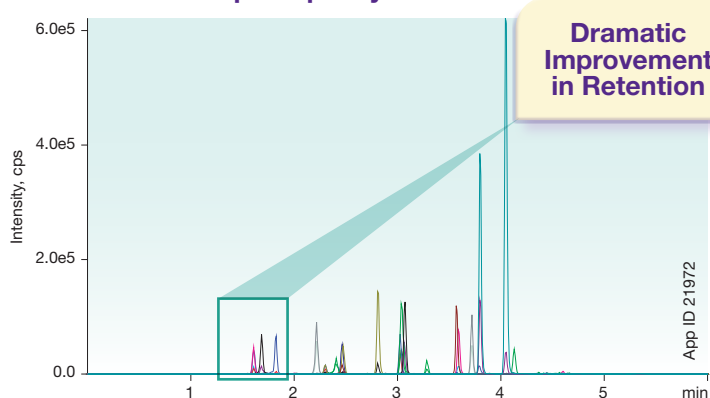


- Samples:**
1. Amphetamine
 2. Methamphetamine
 3. MDA
 4. MDMA
 5. MDEA
 6. Benzoylcegonine
 7. Meprobamate
 8. PCP
 9. Carisoprodol
 10. Sufentanil

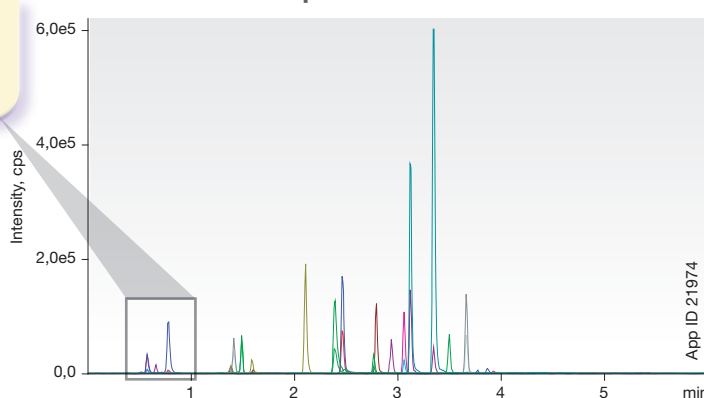
Improved Retention of Clinical Samples

Pain Panel - Opiates

Kinetex 2.6µm Biphenyl



Fused-Core® 2.7µm C18



Conditions for all columns:

Column: Kinetex 2.6µm Biphenyl
Fused-Core 2.7µm C18

Dimensions: 50 x 2.1 mm

Mobile Phase: A: Water with 0.1 % Formic acid
B: Methanol with 0.1 % Formic acid

Gradient: Time (min)	%B
0	5
4	95
4.5	95
4.51	5
6	5

Flow Rate: 0.5 mL/min

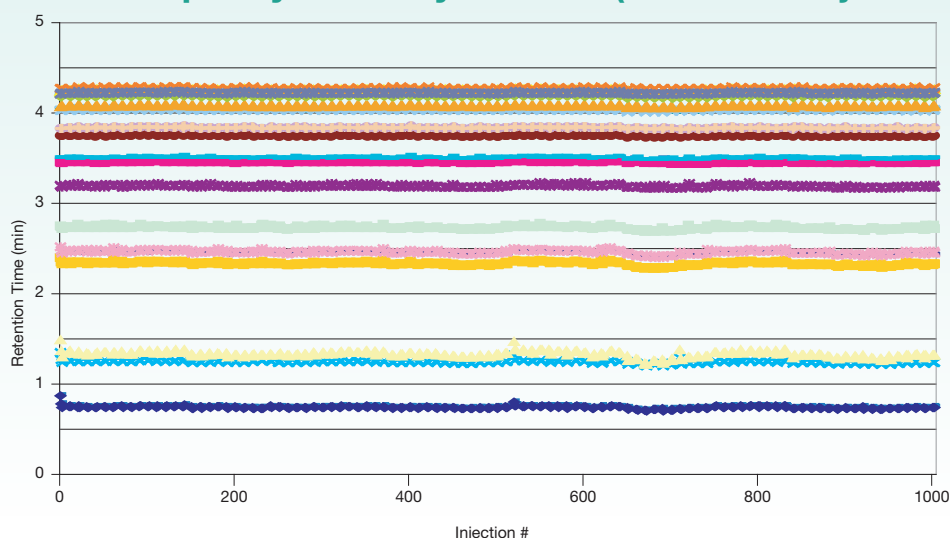
Temperature: 40 °C

Detection: MS/MS (AB SCIEX API 4000™)

Sample:	
1. Morphine	11. Normeperidine
2. Oxymorphone	12. Meperidine
3. Hydromorphone	13. Meprobamate
4. Naloxone	14. Norbuprenorphine
5. Codeine	15. Fentanyl
6. Oxycodone	16. Buprenorphine
7. Naltrexone	17. Carisoprodol
8. Hydrocodone	18. Sufentanil
9. Norfentanyl	19. Methadone
10. Tramadol	

Extended Lifetime with Biological Samples

Kinetex Biphenyl Stability in Urine (First 1000 injections)



- ◆ 7-Aminoclonazepam
- 7-Aminoflunitrazepam
- ▲ Alprazolam
- × Amphetamine
- ✱ Benzoylcegonine
- Buprenorphine
- + Clonazepam
- Codeine
- Estazolam
- ◆ Flunitrazepam
- Hydrocodone
- ▲ Hydromorphone
- × Lorazepam
- ✱ MDMA
- Methadone
- + Midazolam
- Morphine
- Norbuprenorphine
- ◆ Nordiazepam
- Norhydrocodone
- ▲ Oxazepam
- × Temazepam
- ✱ Triazolam

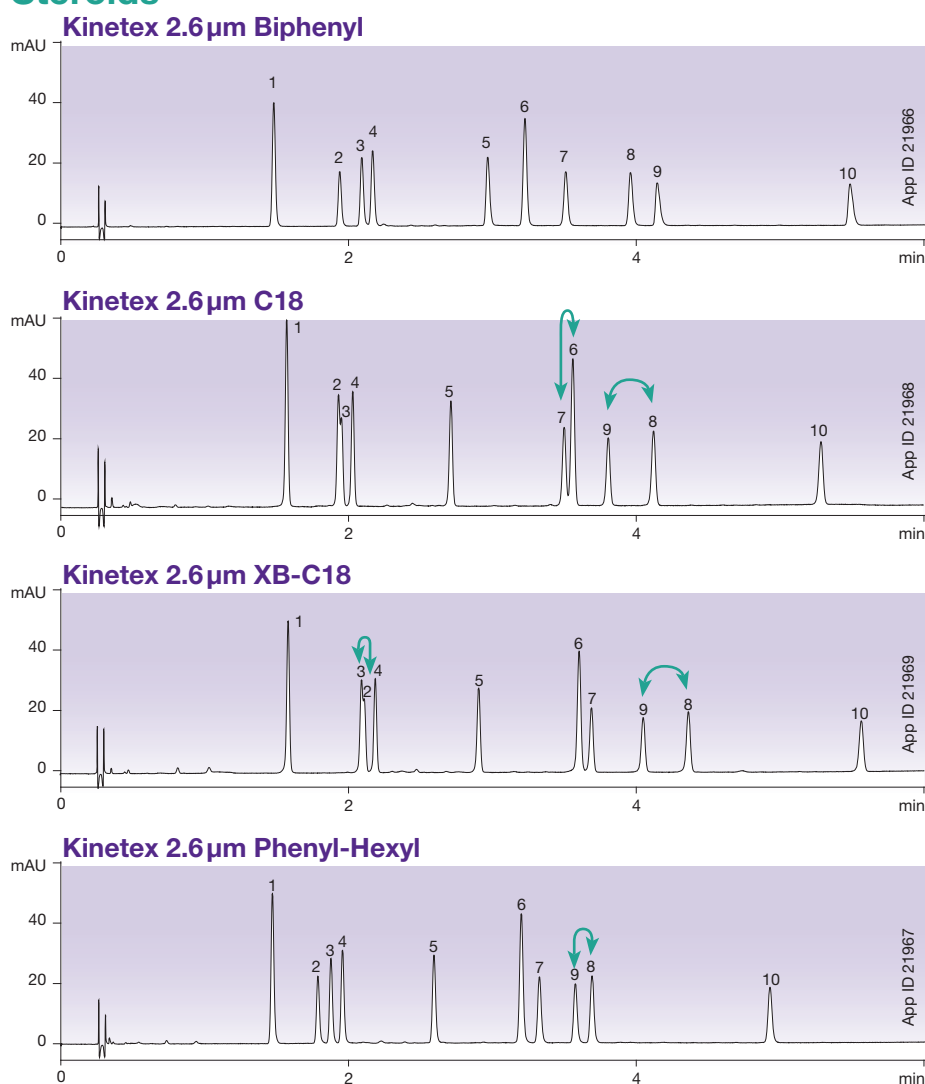
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Wide Range of Kinetex Selectivities

Choose from an extensive selection of phases for greater flexibility in UHPLC/HPLC method development. Kinetex™ columns come in a variety of stationary phases to cover a full spectrum of applications ranging from acids and bases, to isomers and extremely polar compounds.

Steroids



Conditions for all columns:

- Column:** Kinetex 2.6µm Biphenyl
Kinetex 2.6µm C18
Kinetex 2.6µm XB-C18
Kinetex 2.6µm Phenyl-Hexyl
- Dimensions:** 50 x 4.6mm
- Mobile Phase:** A: Water
B: Acetonitrile
- Gradient:** 20 to 60 % B in 6 minutes
- Flow Rate:** 1.85 mL/min
- Temperature:** 30 °C
- Detection:** UV @ 220 nm
- Samples:**
 1. Estriol
 2. Hydrocortisone
 3. Prednisone
 4. Cortisone
 5. Corticosterone
 6. β-Estradiol
 7. Cortisone Acetate
 8. 17-Hydroxyprogesterone
 9. 21-Hydroxyprogesterone
 10. Deoxycorticosterone

Take your pick from six stationary phases!

Phase	Selectivity
Kinetex Biphenyl	Excellent reversed phase and aromatic retention and selectivity
Kinetex C18	General hydrophobic selectivity and increased retention of polar basic compounds
Kinetex XB-C18	Excellent hydrophobic selectivity and increased retention of polar acidic compounds
Kinetex C8	Less hydrophobic than a C18 phase
Kinetex Phenyl-Hexyl	Greater retention and separation of aromatic hydrocarbons
Kinetex HILIC	Increased polar retention under HILIC conditions

Want more?
- Applications
- Development tips
- Method comparisons

Request your full Kinetex product guide at:
www.phenomenex.com/KinetexRequest

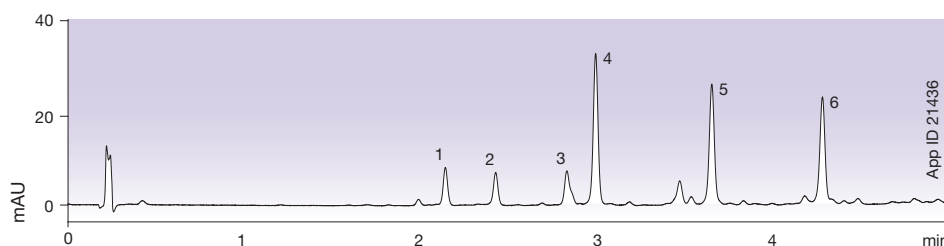
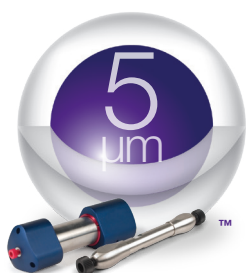
Full Scalability from HPLC to UHPLC

With four fully scalable particle sizes, Kinetex Core-Shell Technology allows you to easily develop and transfer methods to and from any LC platform you choose.

Kinetex 1.7 μ m and 1.3 μ m Biphenyl are coming soon!

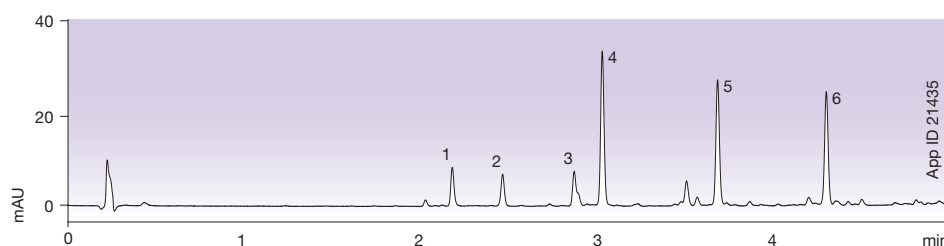
Kinetex 5 μ m C18

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



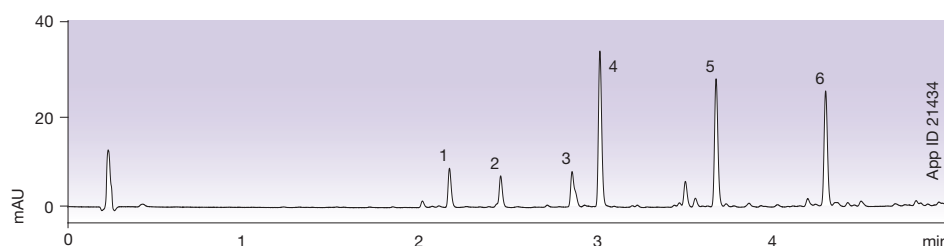
Kinetex 2.6 μ m C18

Achieve sub-2 μ m performance on HPLC and UHPLC systems



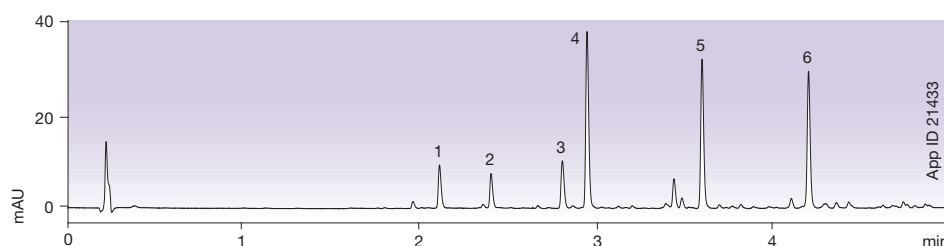
Kinetex 1.7 μ m C18

20 % higher efficiency than fully porous 1.7 μ m columns



Kinetex 1.3 μ m C18

Incredible UHPLC efficiency and performance gains



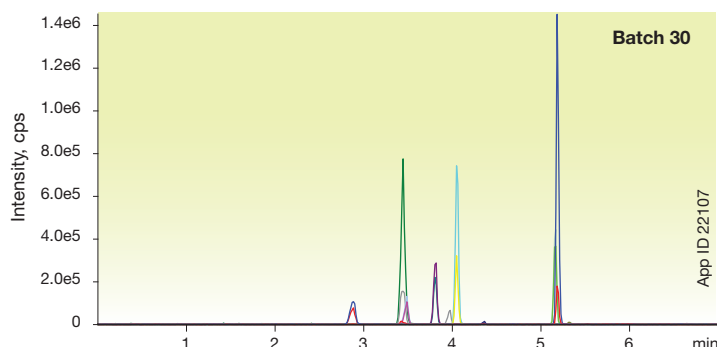
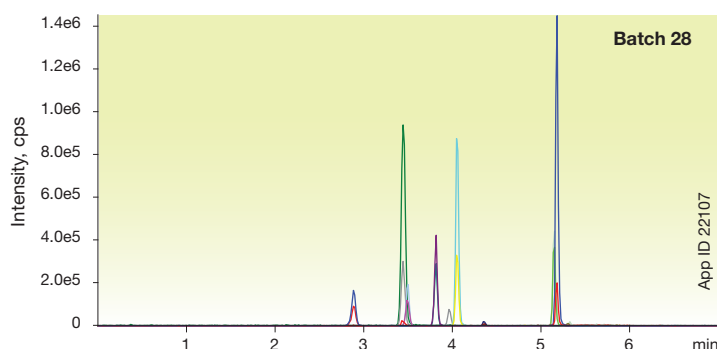
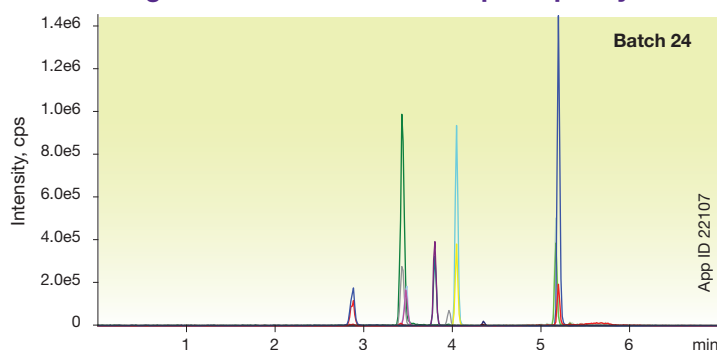
* Gingerols analyzed on 50 x 2.1 mm columns.

Reproducibility and Quality You Can Rely On

Your time and energy is incredibly important and should never be spent on issues with column irreproducibility. While other manufacturers skimp on quality, Phenomenex has and always will take extra steps to ensure that you get the highest quality products, each and every time. Trust us. We are overwhelmingly passionate when it comes to making sure our products live up to the standards that you demand.

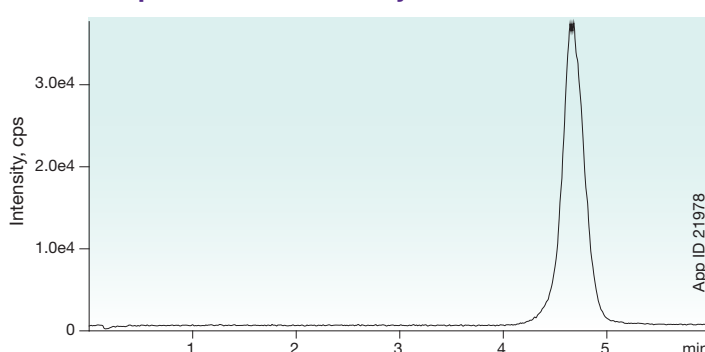
Batch-to-Batch Reproducibility

Drugs of Abuse - Kinetex™ 2.6µm Biphenyl

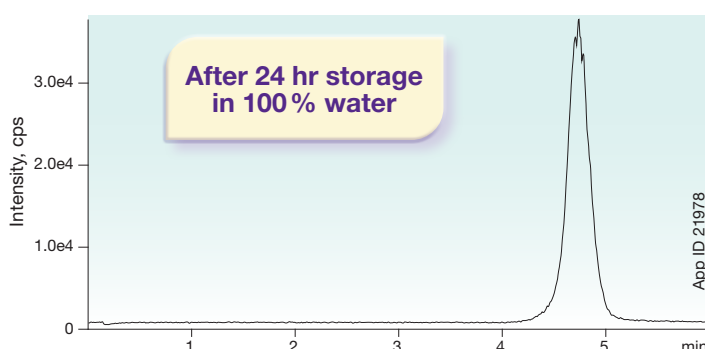


100 % Aqueous Stable

Amphetamine - Initial Injection



Amphetamine - Final Injection



Conditions for above separations:

Column: Kinetex 2.6µm Biphenyl
Dimensions: 50 x 2.1 mm
Part No.: 00B-4622-AN
Mobile Phase: 0.1 % Formic Acid in Water
Flow Rate: 0.5 mL/min
Injection Volume: 5 µL
Temperature: 40 °C
Detection: MS (AB SCIEX API 3000™)
Sample: Amphetamine (500 ng/mL)

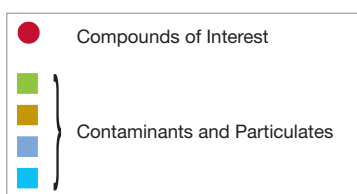
* Conditions for this test can be found on page 6.

Extend Your Column Lifetime

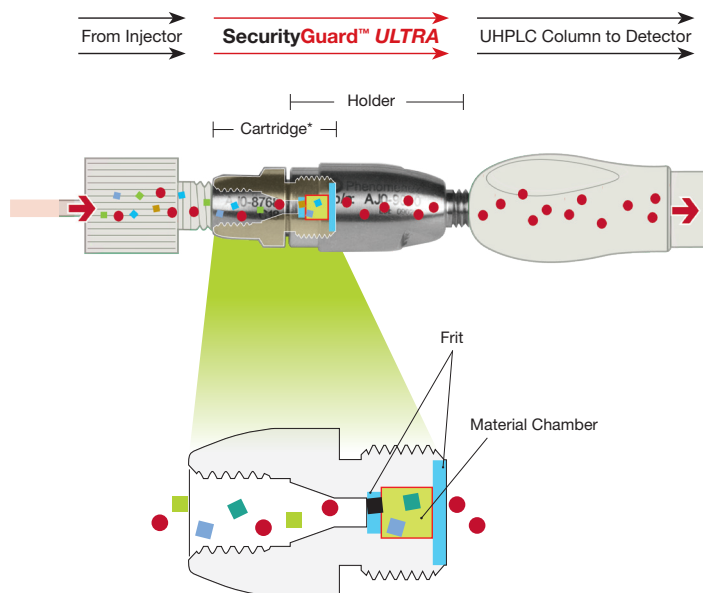


Protect your Kinetex™ core-shell columns and other UHPLC columns from damaging contaminants and microparticulates with the SecurityGuard ULTRA guard cartridge system.

- **Easy to use**
- **Extends column lifetime**
- **Pressure rated to 20,000 psi (1,378 bar)**



*Cartridge schematic not drawn to scale



See it in action at:

www.phenomenex.com/securityguard

Kinetex core-shell columns come in a variety of phases, dimensions, and particle sizes. Visit www.phenomenex.com/kinetex for more info.



Ordering Information

Kinetex 2.6 µm Columns (mm)		SecurityGuard™ ULTRA Cartridges†			SecurityGuard™ ULTRA Cartridges†			SecurityGuard™ ULTRA Cartridges†		
Phases	50 x 2.1	100 x 2.1	3/pk	50 x 3.0	3/pk	50 x 4.6	100 x 4.6	150 x 4.6	3/pk	
Biphenyl	00B-4622-AN	00D-4622-AN	AJ0-9209	00B-4622-Y0	AJ0-9208	00B-4622-E0	00D-4622-E0	00F-4622-E0	AJ0-9207	
			for 2.1 mm ID		for 3.0 mm ID				for 4.6 mm ID	

Kinetex 5 µm Columns (mm)		SecurityGuard™ ULTRA Cartridges†			SecurityGuard™ ULTRA Cartridges†			SecurityGuard™ ULTRA Cartridges†		
Phases	50 x 2.1	3/pk	50 x 3.0	3/pk	50 x 4.6	100 x 4.6	150 x 4.6	250 x 4.6	3/pk	
Biphenyl	00B-4627-AN	AJ0-9209	00B-4627-Y0	AJ0-9208	00B-4627-E0	00D-4627-E0	00F-4627-E0	00G-4627-E0	AJ0-9207	
		for 2.1 mm ID		for 3.0 mm ID					for 4.6 mm ID	

†SecurityGuard ULTRA cartridges require holder, Part No. AJ0-9000.

Terms and Conditions

Subject to Phenomenex Standard Terms & Conditions, which may be viewed at www.phenomenex.com/TermsAndConditions.

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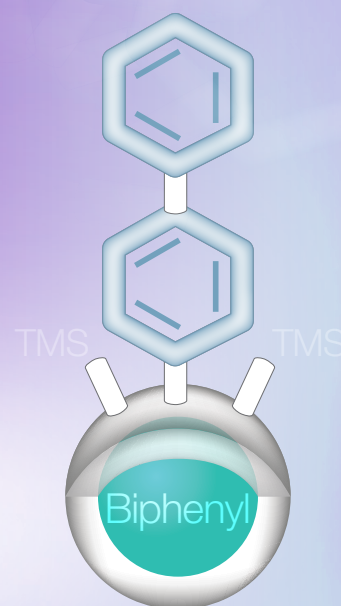
Disclaimer

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Kinetex™ Biphenyl

Selectivity that a C18 just can't give you!



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