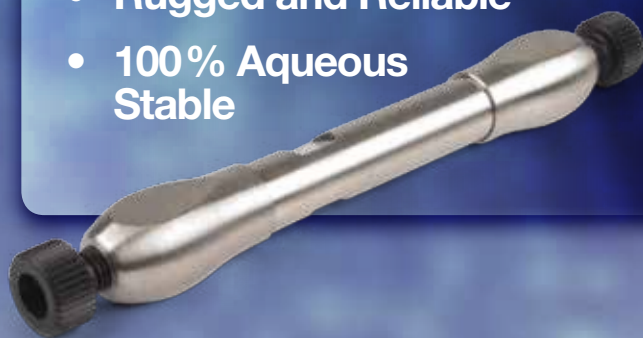


# **NEW** Kinetex Biphenyl

Selectivity that a C18 just can't give you!

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

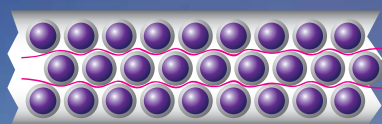


# Kinetex Core-Shell Advantage

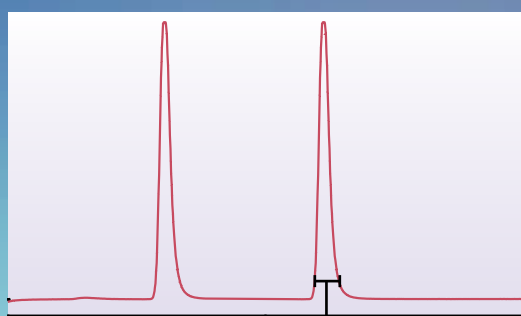
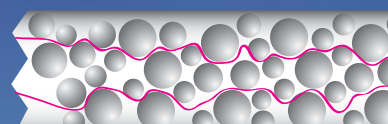
Kinetex® Core-Shell Technology produces increased efficiencies over traditional, fully porous columns on the market, yielding remarkable chromatographic resolution, higher peak capacities, and greater sensitivity, so labs can get the most out of every HPLC/UHPLC analysis.



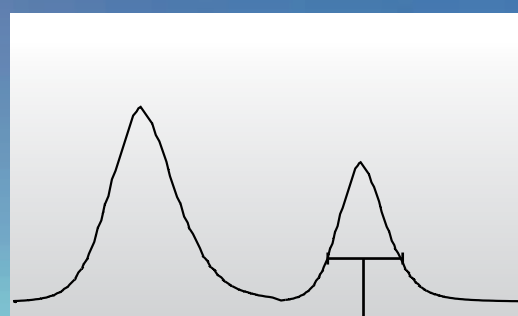
Kinetex Core-Shell



Fully Porous



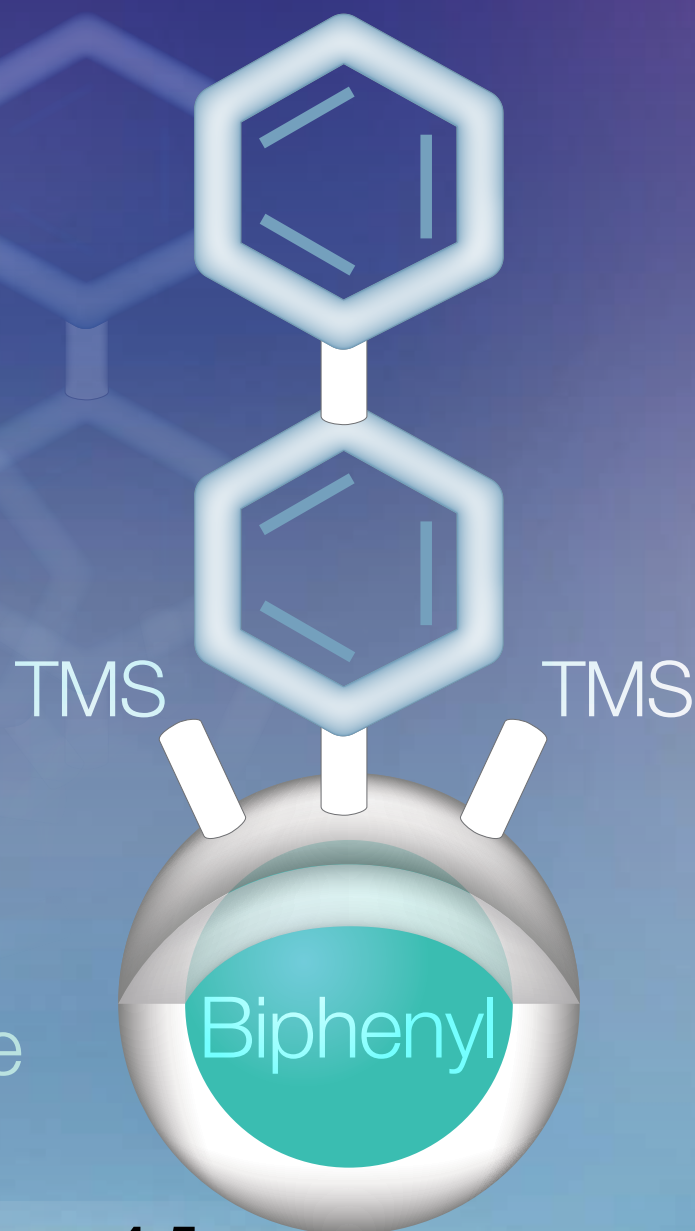
Less  
Band Broadening



More  
Band Broadening

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.



## Introducing the High Performance Kinetex Biphenyl!

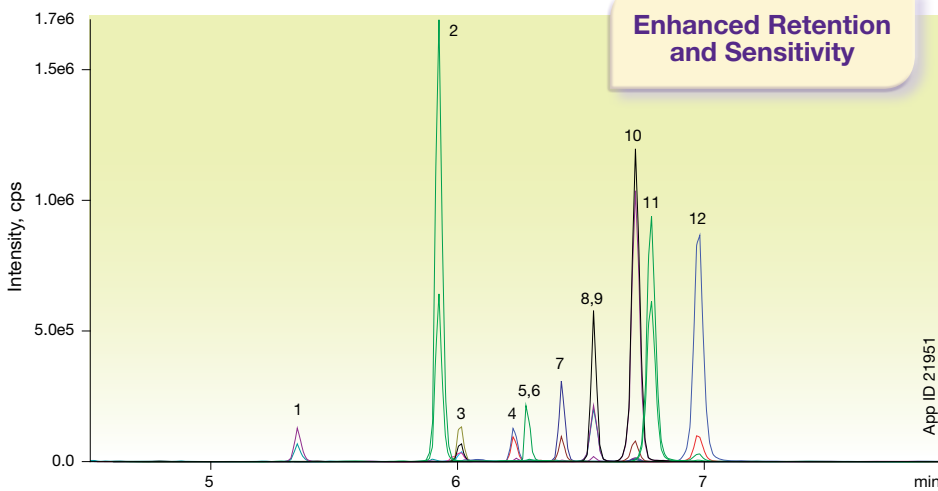
Transform your reversed phase analysis .....	<b>pp. 4-5</b>
Comprehensive pain panel testing .....	<b>p. 6</b>
Extended lifetime with biological samples .....	<b>p. 7</b>
Wide range of Kinetex selectivities .....	<b>p. 8</b>
Full scalability from HPLC to UHPLC .....	<b>p. 9</b>
Reproducibility and quality you can rely on .....	<b>p. 10</b>
Ordering information .....	<b>p. 11</b>

# 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

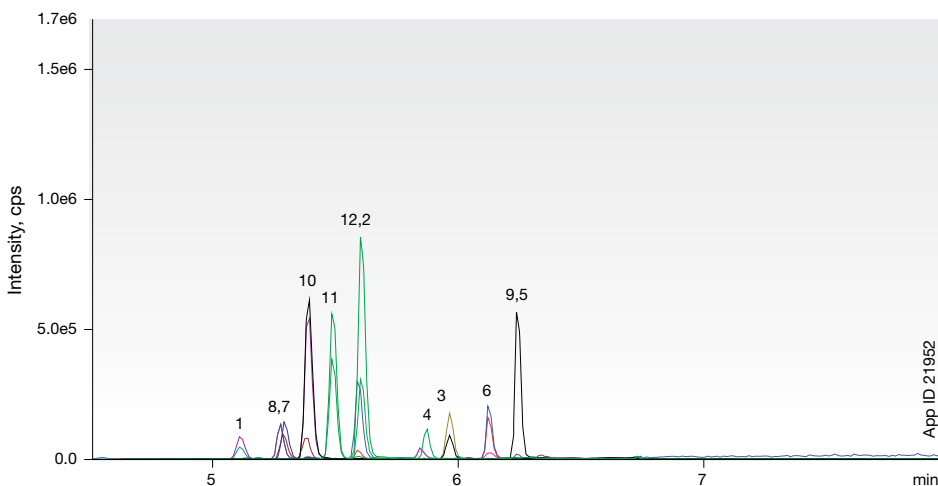
**Flow Rate:** 0.45 mL/min

**Temperature:** 40 °C

**Detection:** MS/MS (AB SCIEX API 4000™)

- Sample:**
- 15-Acetyldeoxynivalenol
  - DAS
  - FB1
  - HT2 Toxin
  - FB2
  - T2 Toxin
  - Aflatoxin M1
  - Aflatoxin G2
  - Ochratoxin A
  - Aflatoxin G1
  - Aflatoxin B2
  - Aflatoxin B1

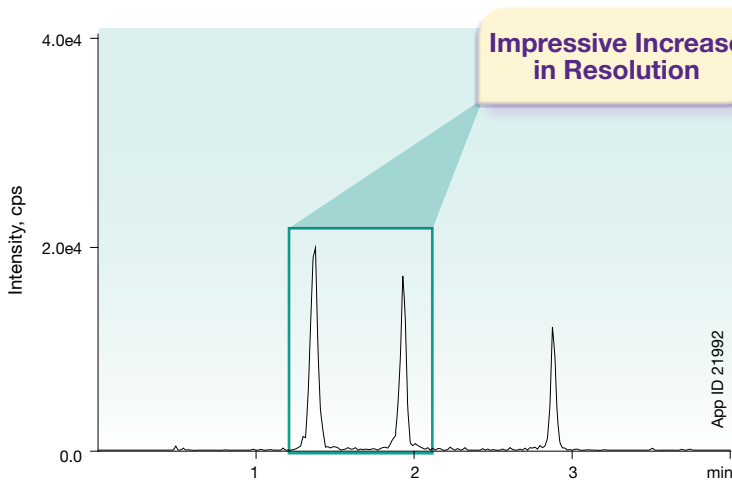
### Waters® SunFire® 3.5µm C18



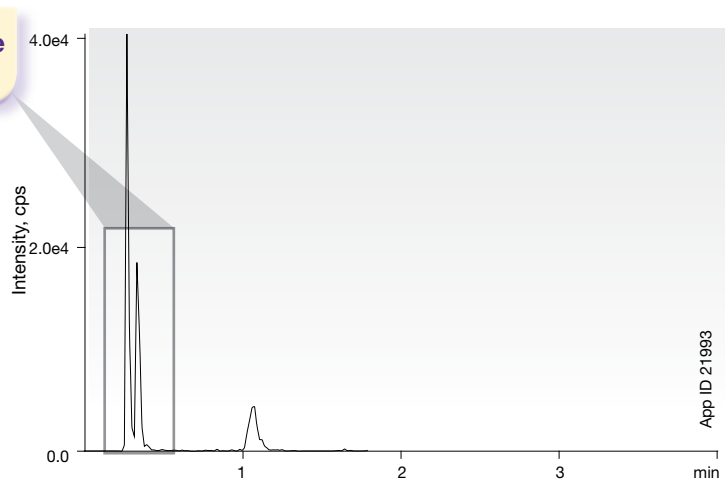
# Enhanced Separation Power

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 new chromatography solution.

## Opiate Isomers Kinetex 2.6µm Biphenyl



## Fused-Core® 2.7µm C18



Conditions for all columns:

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

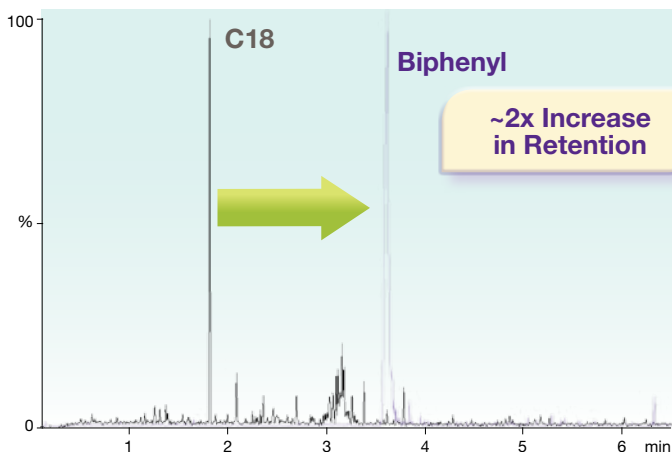
**Dimensions:** 50 x 2.1 mm

**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 5µm Biphenyl vs. Fully Porous 5µm C18



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Phenomenex is in no way affiliated with Advanced Materials Technology, Inc. Comparative separations may not be representative of all applications.



Share your Kinetex success stories at:  
[www.phenomenex.com/KinetexShare](http://www.phenomenex.com/KinetexShare)

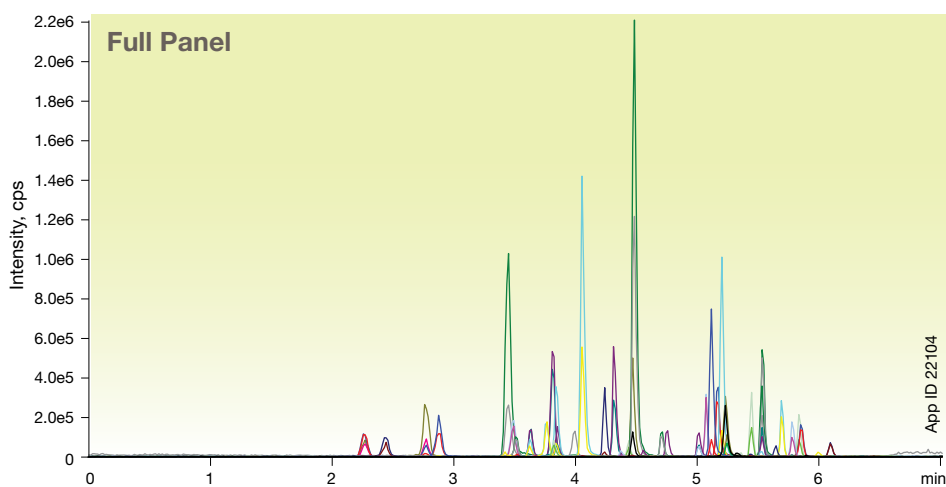


# Comprehensive Pain Panel Testing

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 new Kinetex® Biphenyl ensures that your comprehensive screens display the needed performance with a ruggedness and reliability that will keep you at ease.



## Pain Panel Screen Kinetex 2.6 µm Biphenyl

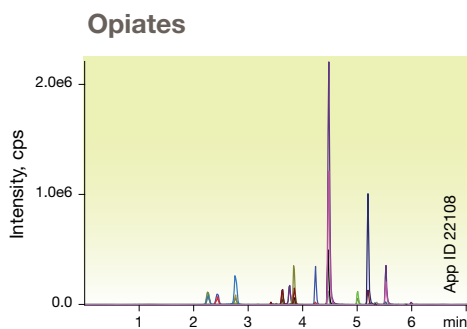


### Conditions for all separations:

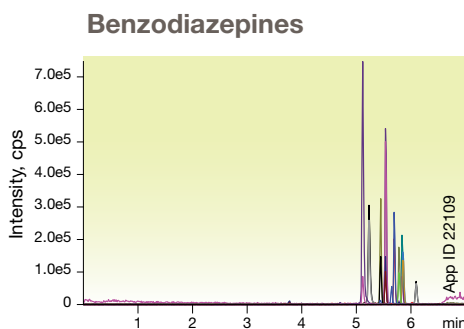
**Column:** Kinetex 2.6 µm Biphenyl  
**Dimensions:** 50 x 3.0 mm  
**Part No.:** 00B-4622-Y0  
**Mobile Phase:** A: Water with 0.1 % Formic Acid  
 B: Methanol with 0.1 % Formic Acid

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

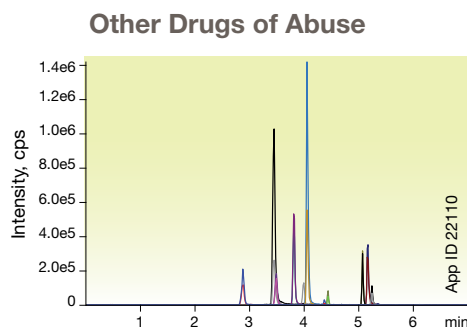
**Flow Rate:** 0.6 mL/min  
**Temperature:** 40 °C  
**Detection:** MS/MS (AB SCIEX API 5000™)



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



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

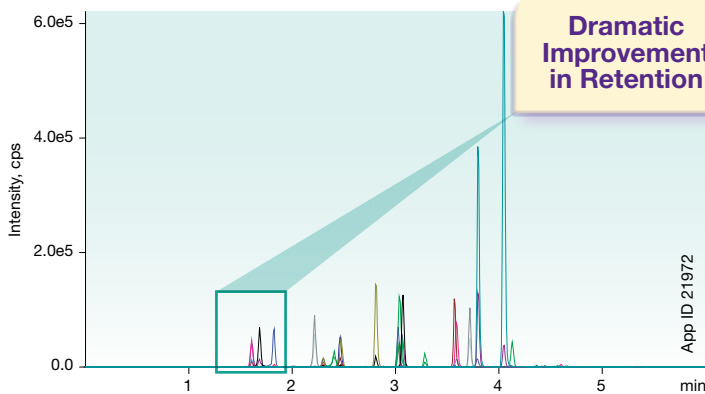


- Samples:**
1. Amphetamine
  2. Methamphetamine
  3. MDA
  4. MDMA
  5. MDEA
  6. Benzoyllecgonine
  7. Meprobamate
  8. PCP
  9. Carisoprodol
  10. Sufentanil

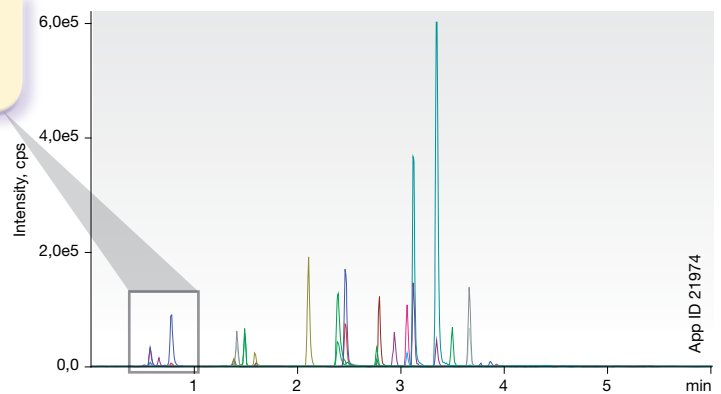
# Improved Retention of Clinical Samples

## Pain Panel - Opiates

### Kinetex 2.6 $\mu$ m Biphenyl



### Fused-Core® 2.7 $\mu$ m C18



#### Conditions for all columns:

**Column:** Kinetex 2.6  $\mu$ m Biphenyl  
Fused-Core 2.7  $\mu$ 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	5
	4	95
	4.5	95
	4.51	5
	6	5

**Flow Rate:** 0.5 mL/min

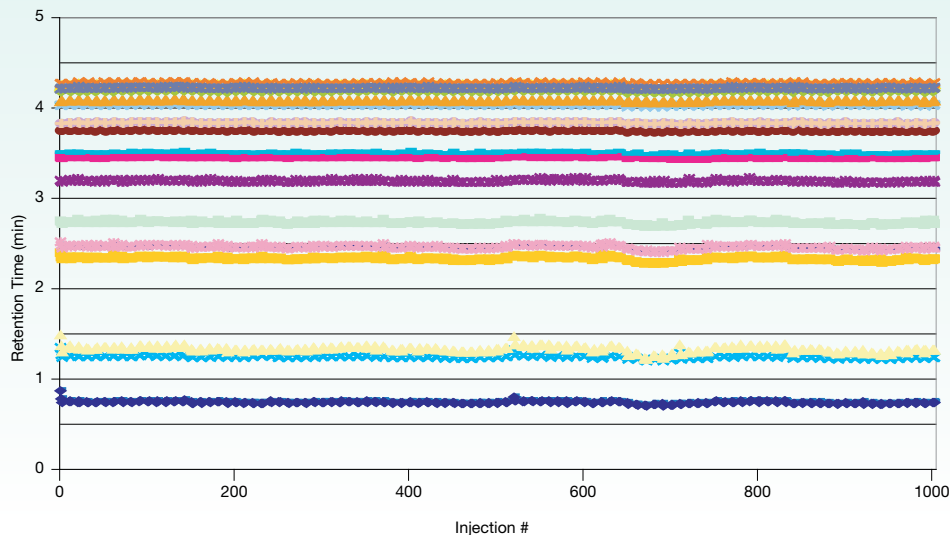
**Temperature:** 40 °C

**Detection:** MS/MS (AB SCIEX API 4000™)

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

# Extended Lifetime with Biological Samples

## Kinetex Biphenyl Stability in Urine (First 1000 injections)



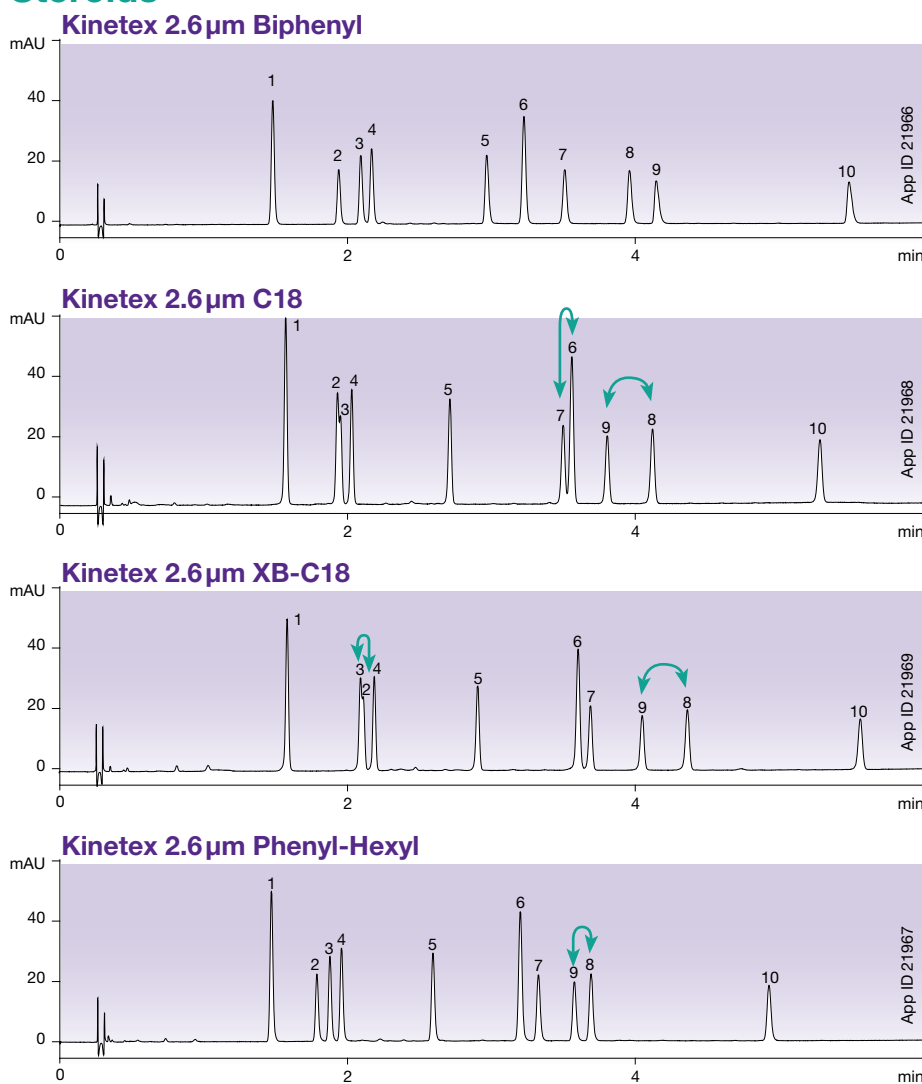
- ◆ 7-Aminoclonazepam
- 7-Aminoflunitrazepam
- ▲ Alprazolam
- × Amphetamine
- ✱ Benzoylcegonine
- Buprenorphine
- + Clonazepam
- Codeine
- Estazolam
- Flunitrazepam
- Hydrocodone
- ▲ Hydromorphone
- × Lorazepam
- ✱ MDMA
- Methadone
- + Midazolam
- Morphine
- Norbuprenorphine
- Nordiazepam
- Norhydrocodone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

Fused-Core is a registered trademark of Advanced Materials Technology, Inc.  
Phenomenex is in no way affiliated with Advanced Materials Technology, Inc. Comparative separations may not be representative of all applications.

# 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](http://www.phenomenex.com/KinetexRequest)



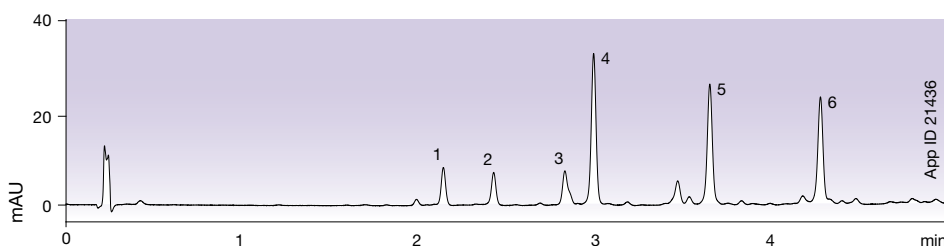
# Full Scalability from HPLC to UHPLC

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.



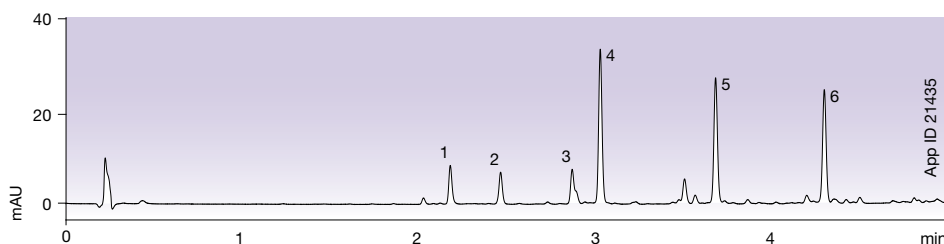
## Kinetex 5 μm C18

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



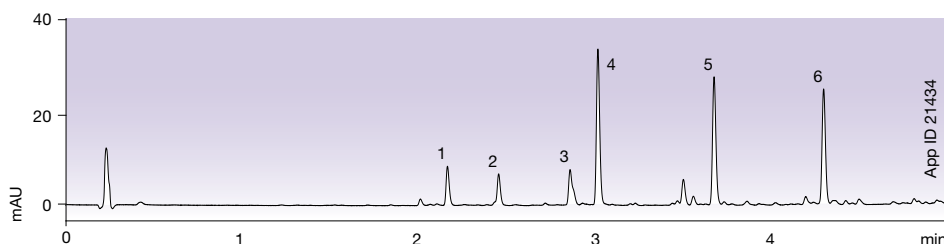
## Kinetex 2.6 μm C18

Achieve sub-2 μm performance on HPLC and UHPLC systems



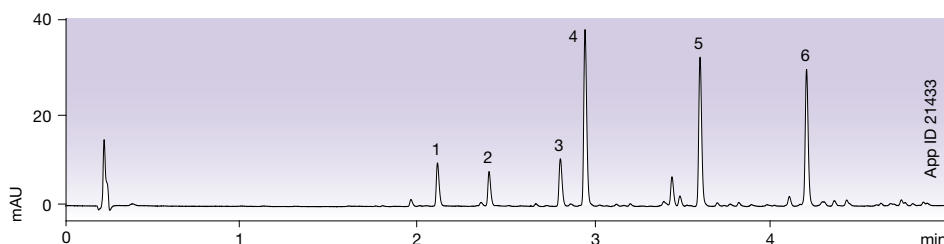
## Kinetex 1.7 μm C18

20% higher efficiency than fully porous 1.7 μm columns



## Kinetex 1.3 μm C18

Incredible UHPLC efficiency and performance gains

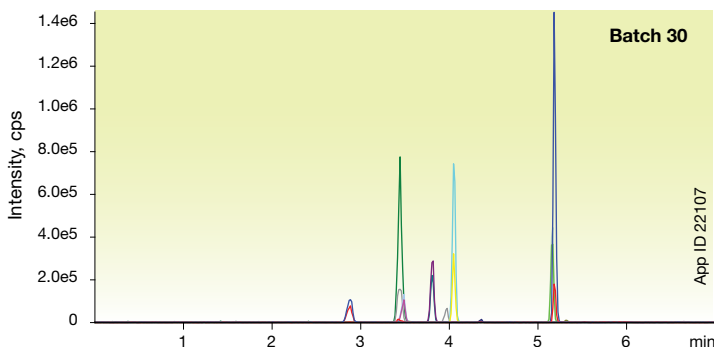
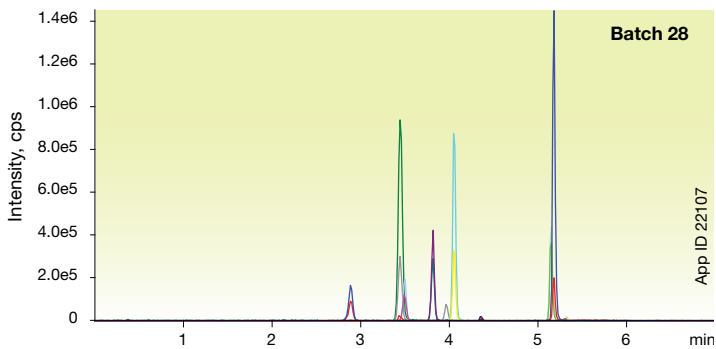
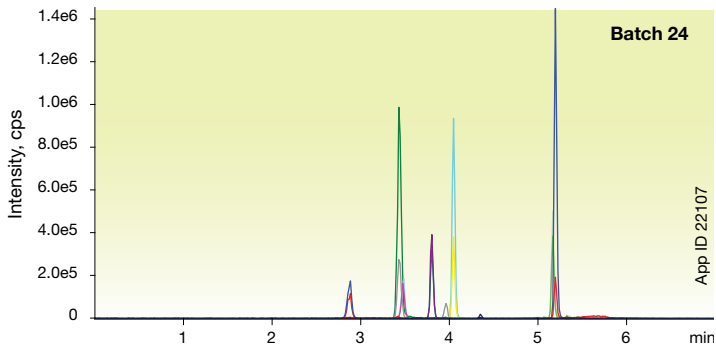


\* Gingerols analyzed on 50 x 2.1 mm columns.

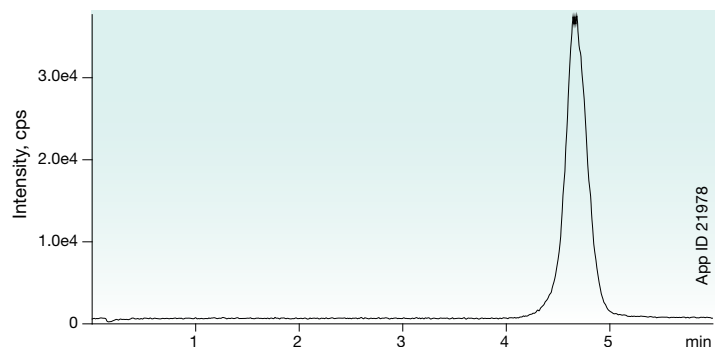
# Reproducibility and Quality You Can Rely On

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.

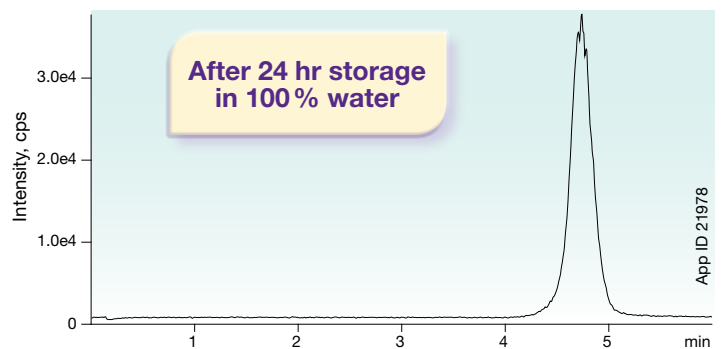
## Batch-to-Batch Reproducibility Drugs of Abuse - Kinetex® 2.6µm Biphenyl



## 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)

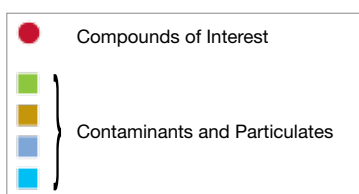
\* Conditions for this test can be found on page 6.

# Extend Your Column Lifetime

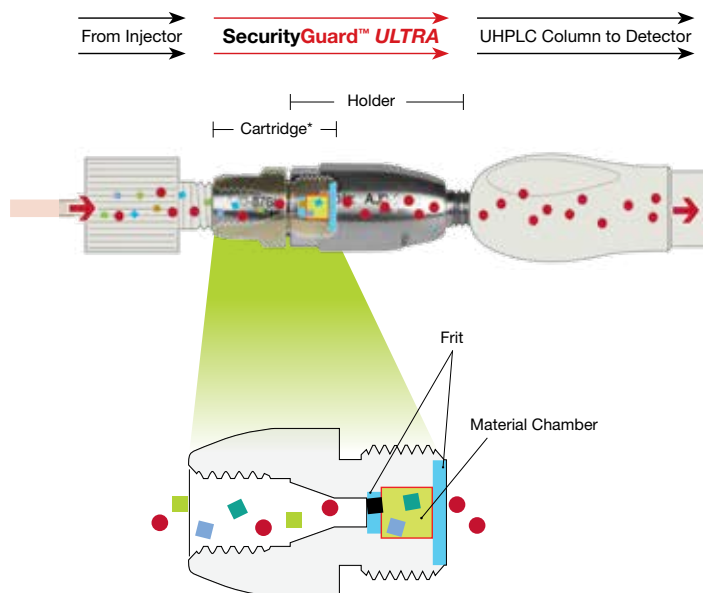


Protect your Kinetex® core-shell columns and other UHPLC columns from damaging contaminants and microparticulates with the SecurityGuard ULTRA guard cartridge system.

- 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](http://www.phenomenex.com/securityguard)

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



## Ordering Information

Kinetex 2.6 µm Columns (mm)	SecurityGuard™ ULTRA Cartridges‡			SecurityGuard™ ULTRA Cartridges‡			SecurityGuard™ ULTRA Cartridges‡		
	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
<b>Biphenyl</b>	00B-4622-AN	00D-4622-AN	AJO-9209	00B-4622-YO	AJO-9208	00B-4622-EO	00D-4622-EO	00F-4622-EO	AJO-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‡				
	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
<b>Biphenyl</b>	00B-4627-AN	AJO-9209	00B-4627-YO	AJO-9208	00B-4627-EO	00D-4627-EO	00F-4627-EO	00G-4627-EO	AJO-9207
		for 2.1 mm ID	for 3.0 mm ID						for 4.6 mm ID

‡SecurityGuard ULTRA cartridges require holder, Part No. AJO-9000.

### Terms and Conditions

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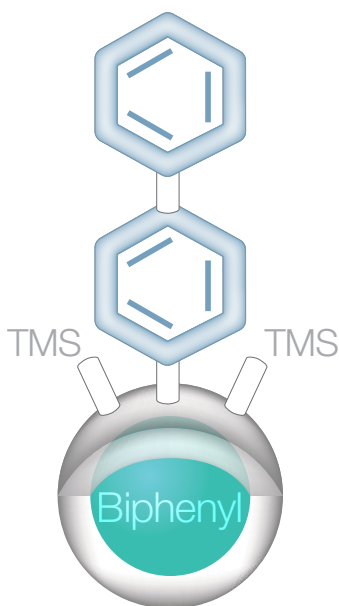
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# NEW



# Kinetex® Biphenyl

Selectivity that a C18 just can't give you!

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f: 02-9428-6445  
auinfo@phenomenex.com

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#### Belgium

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f: 01 30 09 21 11  
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f: (310) 328-7768  
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 **phenomenex**<sup>®</sup>  
...breaking with tradition<sup>SM</sup>

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