

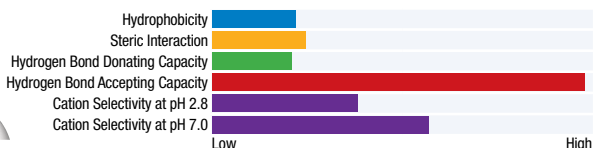
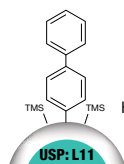
# APPLICATIONS

## Reference Analysis of Loratadine from an Oral Solution using a Kinetex® Biphenyl HPLC/UHPLC Column

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### Overview

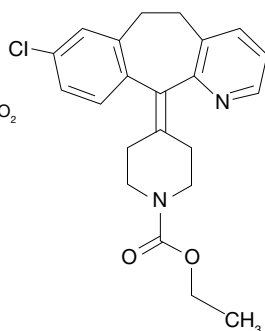
Loratadine is an antihistamine that can be administered through an oral solution. Because of the aromatic nature of the compound, we investigated a reversed phase method that leveraged the Kinetex 5 μm Biphenyl column. This column was selected because of its relative increased polar retention and aromatic selectivity. This unique column combines both the hydrophobic selectivity of an alkyl-based phase with potential pi-pi bond and electrostatic interactions, which is attributed to phenyl-based stationary phases. In addition, the Kinetex solid support is a superficially porous (core-shell) particle morphology that provides ultra-high column efficiency on any HPLC/UHPLC system.<sup>1</sup>



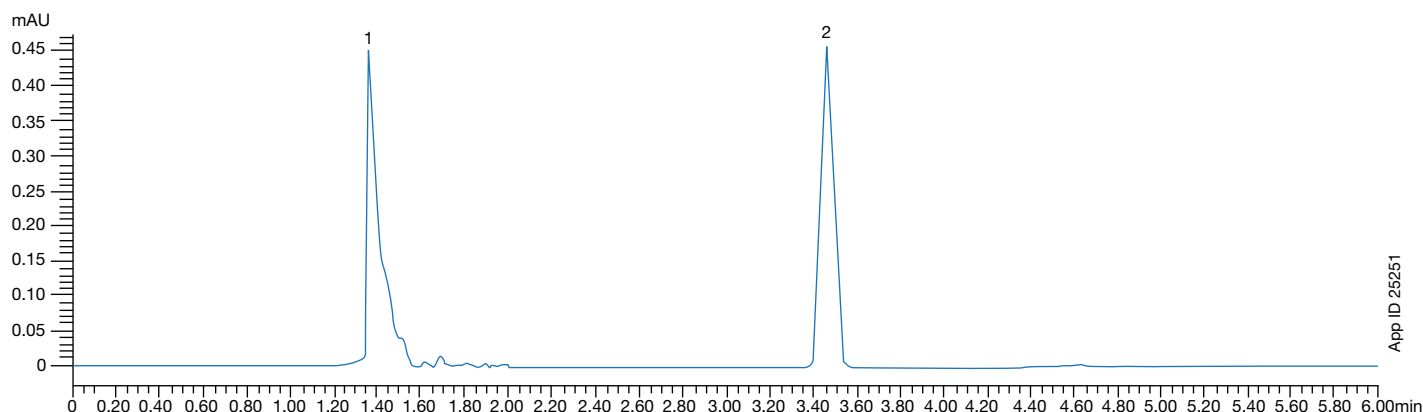
**Column:** Kinetex 5 μm Biphenyl  
**Dimensions:** 150 x 4.6 mm  
**Part No.:** 00F-4627-E0  
**Mobile Phase:** Water with 30 mM Potassium Phosphate (pH 3.0)/Acetonitrile (42:58)  
**Flow Rate:** 1.0 mL/min  
**Injection Volume:** 10 μL  
**Temperature:** 40 °C  
**Detection:** UV @ 254 nm  
**Sample:** 1. Proprietary Excipient(s) (1.4 min)  
 2. Loratadine (3.5 min)

### Loratadine

Molecular Formula: C<sub>22</sub>H<sub>23</sub>ClN<sub>2</sub>O<sub>2</sub>  
 Acidic pKa: 4.33  
 LogD: 3.4 (@ pH 3.0)



**Figure 1.**  
Representative Separation of Loratadine



App ID 25251

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## Kinetex Core-Shell LC Column Ordering Information

Kinetex 5 µm Columns (mm)	SecurityGuard™ ULTRA Cartridges <sup>†</sup>		SecurityGuard™ ULTRA Cartridges <sup>†</sup>				SecurityGuard™ ULTRA Cartridges <sup>†</sup>		
	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	AJO-9209 for 2.1 mm ID	00B-4627-YO	AJO-9208 for 3.0 mm ID	00B-4627-E0	00D-4627-E0	00F-4627-E0	00G-4627-E0	AJO-9207 for 4.6 mm ID

Kinetex 2.6 µm Columns (mm)	SecurityGuard™ ULTRA Cartridges <sup>†</sup>		SecurityGuard™ ULTRA Cartridges <sup>†</sup>			SecurityGuard™ ULTRA Cartridges <sup>†</sup>		SecurityGuard™ ULTRA Cartridges <sup>†</sup>	
	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	AJO-9209 for 2.1 mm ID	00B-4622-YO	AJO-9208 for 3.0 mm ID	00B-4622-E0	00D-4622-E0	00F-4622-E0	AJO-9207 for 4.6 mm ID

Kinetex 1.7 µm Minibore Columns (mm)	SecurityGuard™ ULTRA Cartridges <sup>†</sup>			
	50 x 2.1	100 x 2.1	150 x 2.1	3/pk
Biphenyl	00B-4628-AN	00D-4628-AN	00F-4628-AN	AJO-9209 for 2.1 mm ID

<sup>†</sup> SecurityGuard ULTRA cartridges require holder, Part No. AJO-9000.

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## References

1. Fabrice Gritti, Georges Guiochon. Facts and Legends About Columns Packed with sub-3-µm Core-Shell Particles. LC-GC North America. 2012, 30(7), pg. 586-595.



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