

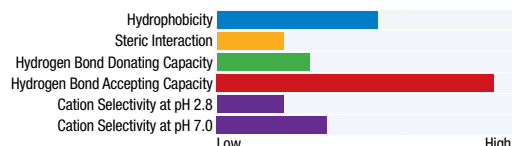
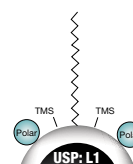
APPLICATIONS

Reference HPLC Analysis of NSAID Active Ingredient Nimesulide from a Topical Gel Formulation using a Kinetex[®] 2.6 μm Polar C18 Column

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Overview

The active ingredient nimesulide is a nonsteroidal anti-inflammatory drug (NSAID) which can be formulated into a gel or tablet form. Nimesulide presents a reversed phase analytical challenge because it's found in a charged state under typical LC pH conditions. Because of the relative polarity of Nimesulide, several proposed reversed phase methods suggest the use of an ion-pairing agent. In this application, we investigated a non-ion-pairing reversed phase method that leveraged the unique dual selectivity of the Kinetex Polar C18 which combines a polar modified surface and the hydrophobic selectivity of a C18 stationary phase. This results in a USP classified L1 column that provides both a unique selectivity profile and is 100% aqueous stable. 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.¹



Nimesulide

Molecular Formula: C₁₃H₁₂N₂O₅S
Acidic pKa: 6.7
LogD: 1.8 (@ pH 3.0)

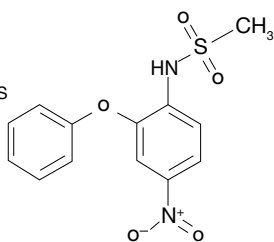
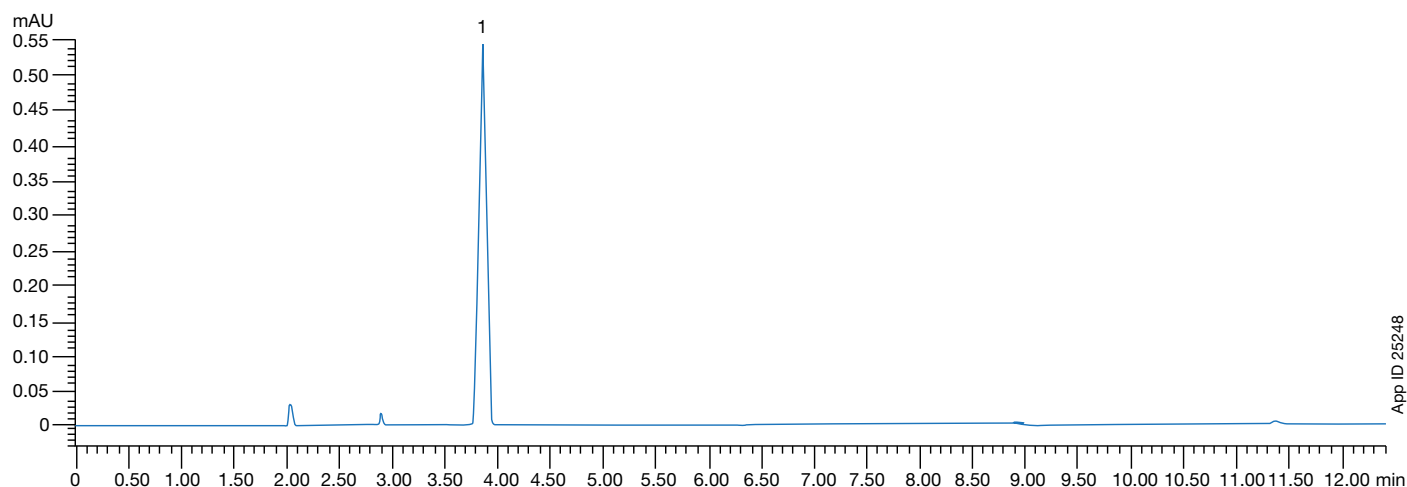


Figure 1.
Representative Separation of Nimesulide



App ID 25248

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Kinetex[®] Ordering Information

2.6 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-4759-AN	00B-4759-AN	00D-4759-AN	00F-4759-AN	AJ0-9532 for 2.1 mm ID

2.6 µm MidBore [™] Columns (mm)				SecurityGuard ULTRA Cartridges [†]
Phases	50 x 3.0	100 x 3.0	150 x 3.0	3/pk
Polar C18	00B-4759-Y0	00D-4759-Y0	00F-4759-Y0	AJ0-9531 for 3.0 mm ID

2.6 µm Analytical Columns (mm)				SecurityGuard ULTRA Cartridges [†]
Phases	50 x 4.6	100 x 4.6	150 x 4.6	3/pk
Polar C18	00B-4759-E0	00D-4759-E0	00F-4759-E0	AJ0-9530 for 4.6 mm ID

[†] SecurityGuard ULTRA Cartridges require holder, Part No.: AJ0-9000.

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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), 586-595.



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