

# Kromasil Eternity

Designed for long life



*Presenting*

## Eternity PhenylHexyl

For your HPLC and UHPLC



# " – The long-lasting phase when alternative selectivity is required"

Eternity PhenylHexyl is our latest product for separation and purification of compounds for reversed phase HPLC and UHPLC. The product is based on a patent pending grafting technology, the Eternity platform, which was recently introduced as the Eternity C18 phase. Starting from the Eternity platform it is functionalized with a monofunctional PhenylHexyl group followed by a proprietary end-capping process.

The Eternity PhenylHexyl phase provides you with an alternative selectivity compared to a traditional alkyl chain phase or a polar embedded phase, especially when the analytes of interest contain an aromatic ring. Including excellent peak shapes for compounds under both low and high pH conditions (stable between pH 2 to pH 12) the Eternity PhenylHexyl offers minimum bleed for LC/MS applications.

This fully wettable phase offers greater flexibility in developing orthogonal methods for challenging separations. It is an excellent choice to try when a C18 phase fails to provide an adequate separation.

This folder gives an overview of how you benefit. To learn more, visit [www.kromasil.com](http://www.kromasil.com) or contact us directly!

## Product assortment

	2.5 $\mu\text{m}$	5 $\mu\text{m}$
2.1 $\times$ 50 mm	Eternity-2.5-PhenylHexyl 2.1 $\times$ 50 mm	Eternity-5-PhenylHexyl 2.1 $\times$ 50 mm
2.1 $\times$ 100 mm	Eternity-2.5-PhenylHexyl 2.1 $\times$ 100 mm	–
2.1 $\times$ 150 mm	–	Eternity-5-PhenylHexyl 2.1 $\times$ 150 mm
4.6 $\times$ 50 mm	Eternity-2.5-PhenylHexyl 4.6 $\times$ 50 mm	Eternity-5-PhenylHexyl 4.6 $\times$ 50 mm
4.6 $\times$ 100 mm	Eternity-2.5-PhenylHexyl 4.6 $\times$ 100 mm	Eternity-5-PhenylHexyl 4.6 $\times$ 100 mm
4.6 $\times$ 150 mm	–	Eternity-5-PhenylHexyl 4.6 $\times$ 150 mm
4.6 $\times$ 250 mm	–	Eternity-5-PhenylHexyl 4.6 $\times$ 250 mm
10 $\times$ 100 mm	–	Eternity-5-PhenylHexyl 10 $\times$ 100 mm
10 $\times$ 150 mm	–	Eternity-5-PhenylHexyl 10 $\times$ 150 mm
10 $\times$ 250 mm	–	Eternity-5-PhenylHexyl 10 $\times$ 250 mm
21.2 $\times$ 100 mm	–	Eternity-5-PhenylHexyl 21.2 $\times$ 100 mm
21.2 $\times$ 150 mm	–	Eternity-5-PhenylHexyl 21.2 $\times$ 150 mm
21.2 $\times$ 250 mm	–	Eternity-5-PhenylHexyl 21.2 $\times$ 250 mm
30 $\times$ 100 mm	–	Eternity-5-PhenylHexyl 30 $\times$ 100 mm
30 $\times$ 150 mm	–	Eternity-5-PhenylHexyl 30 $\times$ 150 mm
30 $\times$ 250 mm	–	Eternity-5-PhenylHexyl 30 $\times$ 250 mm

*Other column dimensions available upon request.  
Also available in columns for UHPLC use.  
Guard columns are available for each column dimension*

## Analytical scale

- 2.5  $\mu\text{m}$  particle size
- UHPLC and HPLC
- Easy to scale up to 5  $\mu\text{m}$

## Semi preparative scale

- 5  $\mu\text{m}$  particle size
- HPLC
- Easy to scale down to 2.5  $\mu\text{m}$

## Product characteristics

Ligand:	6-phenylhexyl
Pore size <sup>1</sup> :	100 Å
Surface area <sup>1</sup> :	330 m <sup>2</sup> /g
Carbon load:	12%
End-capping:	Proprietary
pH range:	2 -12
USP:	L11

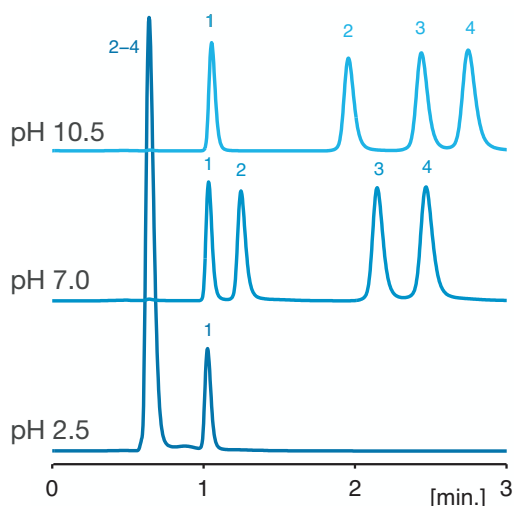
<sup>1</sup>: bare silica data



# pH variation – the perfect tool for method development

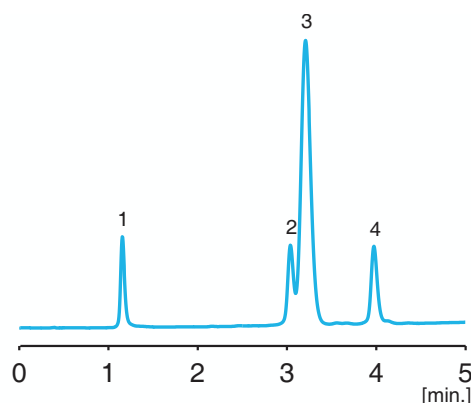
## Chromatographic conditions

Column: Kromasil Eternity-2.5-PhenylHexyl 2.1 × 50 mm  
 Sample: Antidepressants: 1 = toluene, 2 = nortriptyline, 3 = imipramine, 4 = amitriptyline  
 Mobile Phase: methanol/potassium phosphate buffer, 20 mM, pH 2.5, 7.0 and 10.5 respectively (80/20)  
 Flow rate: 0.35 ml/min  
 Temperature: 25°C  
 Detection: UV @ 215 nm

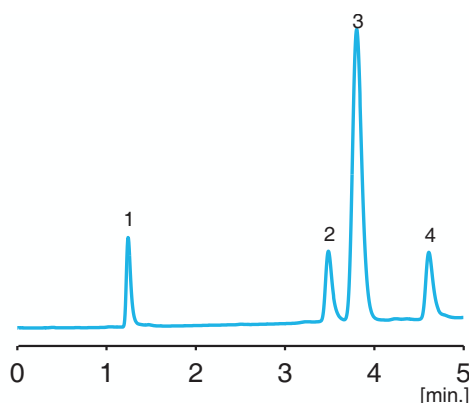


## Alternative selectivity

Kromasil Eternity-2.5-C18



Kromasil Eternity-2.5-PhenylHexyl

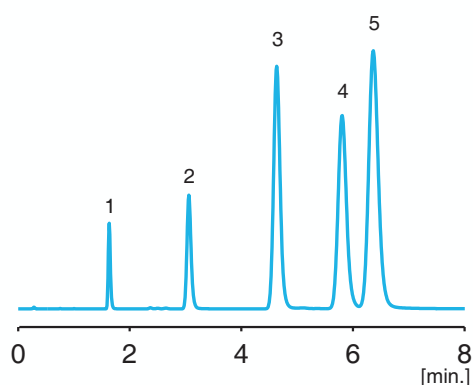


## Common chromatographic conditions

Column size: 2.1 × 50 mm  
 Sample: Vitamins: 1 = p-aminobenzoic acid, 2 = biotin, 3 = vitamin B<sub>12</sub>, 4 = vitamin B<sub>2</sub>  
 Mobile Phase: methanol/potassium phosphate buffer, 20 mM, pH 2.5  
 gradient: methanol: 0 min 20%, 5 min 37%.

Flow rate: 0.35 ml/min  
 Temperature: 25°C  
 Detection: UV @ 210 nm

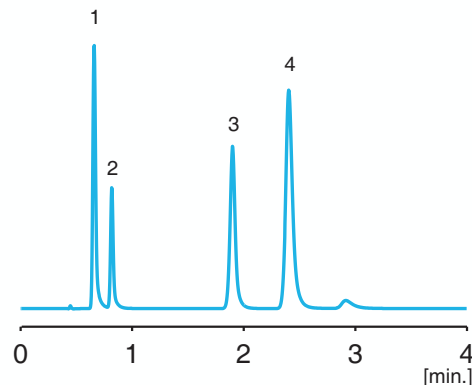
## Separation of aromatics



## Chromatographic conditions

Column: Kromasil Eternity-2.5-PhenylHexyl 4.6 × 50 mm  
 Sample: 1 = benzene, 2 = naphthalene, 3 = biphenyl, 4 = phenanthrene, 5 = anthracene  
 Mobile Phase: acetonitrile/water (50/50)  
 Flow rate: 1.2 ml/min  
 Temperature: 30°C  
 Detection: UV @ 254 nm

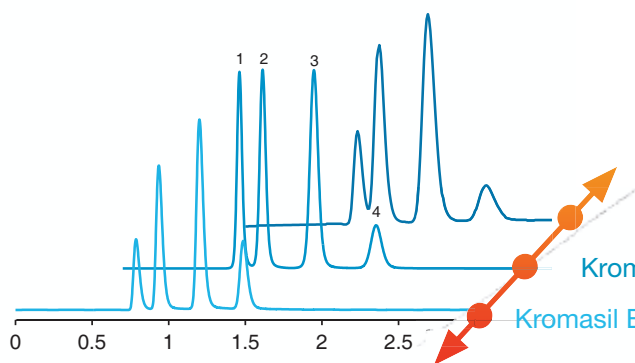
## Separation of nucleobases



## Chromatographic conditions

Column: Kromasil Eternity-2.5-PhenylHexyl 4.6 × 50 mm  
 Sample: 1 = cytosine, 2 = uracil, 3 = thymine, 4 = adenine  
 Mobile Phase: potassium phosphate buffer, 25 mM, pH 7.85  
 Flow rate: 1.2 ml/min  
 Temperature: 30°C  
 Detection: UV @ 254 nm

# Scale up or scale down



## Common chromatographic conditions

Sample: 1 = 4-nitroaniline, 2 = 3-nitroaniline,  
3 = 2-nitroaniline, 4 = 2,4-dinitroaniline  
Mobile Phase: methanol/water (50/50)  
Flow rate: 0.35 ml/min, 1.7 ml/min and 36 ml/min, respectively  
Temperature: 20°C  
Detection: UV @ 280 nm

Kromasil Eternity PhenylHexyl, 5 µm, 21.2 x 50 mm

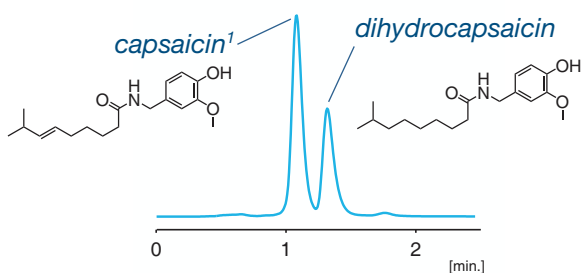
Kromasil Eternity PhenylHexyl, 5 µm, 4.6 x 50 mm

Kromasil Eternity PhenylHexyl, 2.5 µm, 2.1 x 50 mm

# Preparative HPLC

## Separation of capsaicin from dihydrocapsaicin

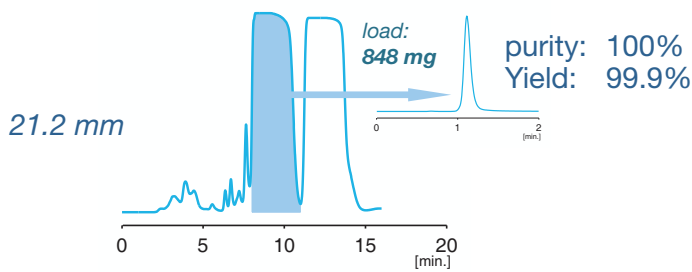
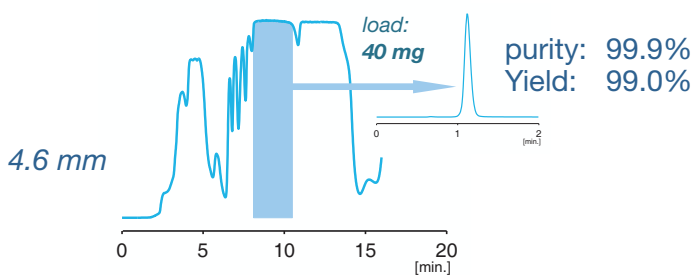
### Analytical injection



### Common chromatographic conditions

Columns: Analytical and fraction analysis:  
Kromasil Eternity-2.5-PhenylHexyl 2.1 x 50 mm  
Prep injections:  
Kromasil Eternity-5-PhenylHexyl 4.6 x 250 mm  
Kromasil Eternity-5-PhenylHexyl 21.2 x 250 mm  
Mobile Phase: methanol/water (70/30)  
Flow rates: 0.4 ml/min, 1 ml/min and 21.2 ml/min, respectively  
Temperature: 20°C  
Detection: UV @ 230 nm

### Column id Prep injection Fraction analysis



1: Capsaicin is the active component in chili peppers and has analgesic properties.

The moment you adopt our Kromasil High Performance Concept, you join thousands of chromatographers who share a common goal: to achieve better separations when analyzing or isolating pharmaceuticals or other substances.

Not only will you benefit from our patented silica technology, but you gain a strong partner with a reliable track record in the field of silica products. For the past 60 years, Eka Chemicals has pioneered new types of silica. Our long experience in the field of silica chemistry is the secret behind the development of Kromasil, and the success of our Separation Products Group.

Kromasil is available in bulk, or in high-pressure slurry-packed columns. The development, production and marketing of Kromasil are ISO 9001 certified.

Eka Chemicals is a global company with 2 900 people in 18 countries. It is a business unit within AkzoNobel, one of the world's largest chemical groups, with more than 60 000 employees in 80 countries.

# Kromasil®

[www.kromasil.com](http://www.kromasil.com)