

## Kromasil EternityShell

Columns with solid-core particles  
for harsh conditions



# More options with a wider range of pH conditions

Kromasil EternityShell columns are a further expansion of the Kromasil analytical portfolio.

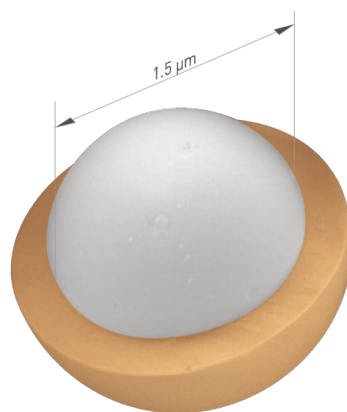


Kromasil EternityShell columns have been designed for users who expect to perform separations between pH 1 and 12 and look for fast separations using solid-core technology.

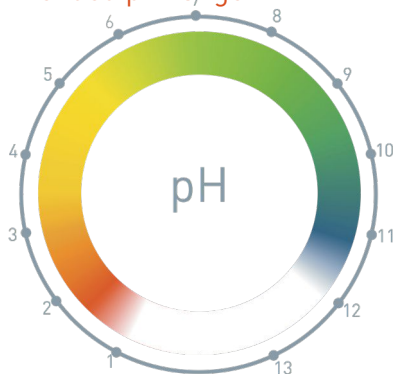
## Kromasil EternityShell columns

The Kromasil EternityShell columns are based on solid-core particles and used in the analysis of pharmaceutical, clinical, environmental, food and beverage and industrial samples.

These new columns are packed with 2.5  $\mu\text{m}$  solid-core particles. Kromasil EternityShell are aimed for fast separations similarly to the already existent Kromasil EternityXT columns with 1.8 and 2.5  $\mu\text{m}$  particles.



## Extended pH range

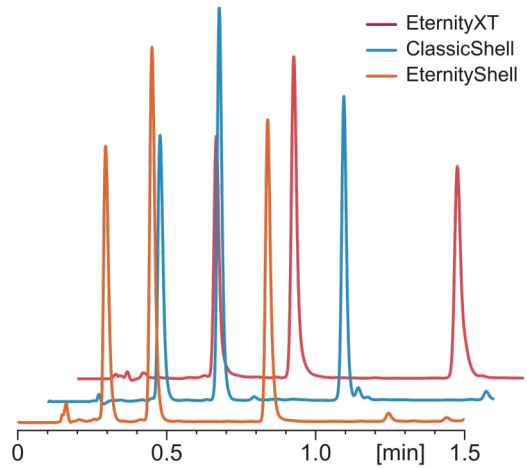


The Kromasil EternityShell C18 columns are robust and stable beyond traditional silica columns. Offering excellent pH flexibility between pH 1 and 12, These EternityShell columns are for users that need to work under an almost full pH range, including acidic conditions but also at tougher high pH for the analysis for bases. The new chromatographic material is endcapped, has a surface area of 110  $\text{m}^2/\text{g}$  and a carbon coverage of 8%, providing a first rate alternative selectivity for reversed phase chromatography.

*Work with confidence in a pH range  
between 1 and 12.*

## More choices for analysis

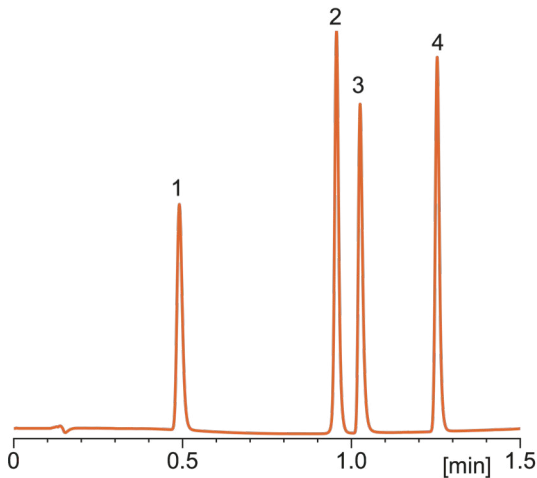
Users can now choose from both fully porous and solid-core Kromasil small particle columns to achieve their results. Here the user exploits differences in retention according to the stationary phase characteristics with maintained selectivity. Considering Kromasil EternityShell and EternityXT, with a lower ratio of porous material available for the first one, the interaction between the compounds and the stationary phase is lower, resulting in a quicker elution. When considering Kromasil ClassicShell and EternityShell chromatographic results, the characteristics of each stationary phase combined with the given substances allows the user to tune in the retention time.



*In this separation of steroids, the same analysis is carried out on three C18 columns from different Kromasil families.*

### Conditions

Columns:	Kromasil EternityShell-2.5-C18, Kromasil ClassicShell-2.5-C18, Kromasil EternityXT-2.5-C18, all 2.1 x 50 mm		
Eluent:	acetonitrile / water	Temperature:	ambient
Gradient:	0 min: 35%, 1.5 min: 60% acetonitrile	Flow rate:	0.6 ml/min
Substances:	1 = cortisone, 2 = corticosterone, 3 = deoxycorticosterone	Detection:	UV @ 254 nm

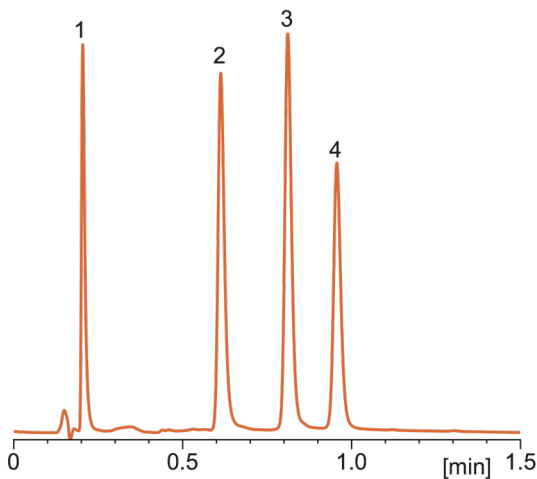


## Fast separations under harsh conditions

*Separation of local anesthetics*

### Conditions

Column:	Kromasil EternityShell-2.5-C18 2.1 x 50 mm		
Eluent:	acetonitrile / water, 10 mM ammonium carbonate, pH 10.5		
Gradient:	0 min: 30%, 1.5 min: 90% acetonitrile		
Flow rate:	0.7 ml/min		
Temperature:	ambient		
Detection:	UV @ 220 nm		
Substances:	1 = benzocaine, 2 = lidocaine, 3 = tetracaine, 4 = bupivacaine		



*Separation of tricyclic drugs*

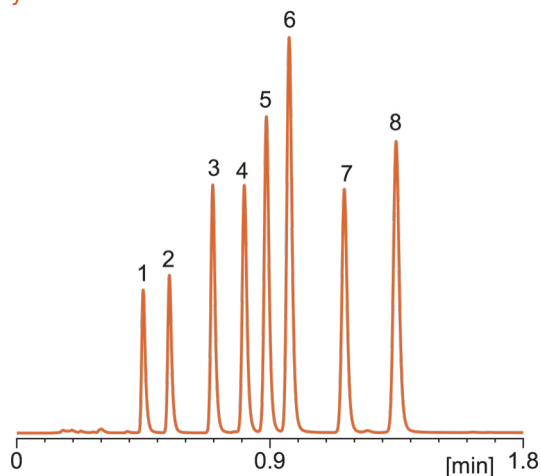
### Conditions

Column:	Kromasil EternityShell-2.5-C18 2.1 x 50 mm		
Eluent:	acetonitrile / water + 0.1% DEA		
Gradient:	0 min: 60%, 1.5 min: 80% acetonitrile		
Temperature:	ambient		
Flow rate:	0.6 ml/min		
Detection:	UV @ 254 nm		
Substances:	1 = carbamazepine, 2 = nortriptyline, 3 = imipramine, 4 = amitriptyline		

## Separation of aromatics on Kromasil EternityShell C18

### Conditions

**Column:** Kromasil EternityShell-2.5-C18 2.1 x 50 mm  
**Eluent:** acetonitrile / water  
**Gradient:** 0 min: 60%, 2 min: 85% acetonitrile  
**Temperature:** ambient  
**Flow rate:** 0.6 ml/min  
**Detection:** UV @ 254 nm  
**Substances:** 1 = toluene, 2 = naphthalene, 3 = biphenyl,  
 4 = acenaphthene, 5 = phenanthrene,  
 6 = anthracene, 7 = o-terphenyl,  
 8 = trihenylene



### Part numbers

Kromasil EternityShell is based on 2.5  $\mu\text{m}$  solid-core particles, and is available with a C18 derivatization, in 2.1 mm I.D. UHPLC grade columns.

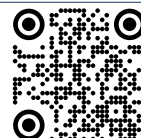
Material	Column size (I.D. x length)	
	2.1 x 50 mm	2.1 x 100 mm
EternityShell-2.5-C18	YH2CLD05	YH2CLD10

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 70 years, we have 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 Kromasil team. Kromasil is available in bulk and in high-pressure slurry-packed columns.

The production of Kromasil is ISO 9001 and ISO 14001 certified.

Kromasil is a brand of Nouryon, a global specialty chemicals leader. Markets and consumers worldwide rely on our essential solutions to manufacture everyday products. The dedication of more than 9700 employees with a shared commitment to our customers, safety, sustainability and innovation has resulted in a consistently strong performance. We operate in over 80 countries around the world with a portfolio of industry-leading brands.



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