

Kromasil[®]
Eternity[™]

Kromasil Eternity

Designed for long life

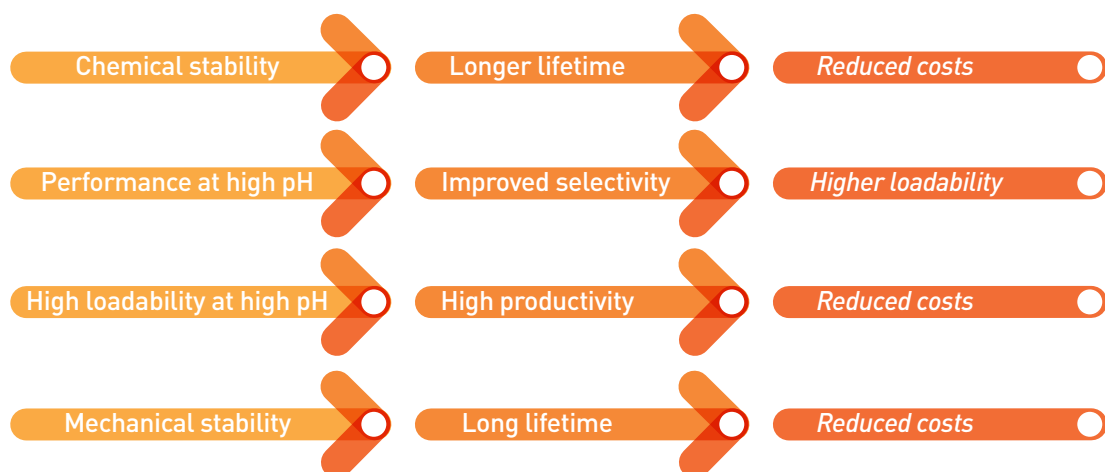


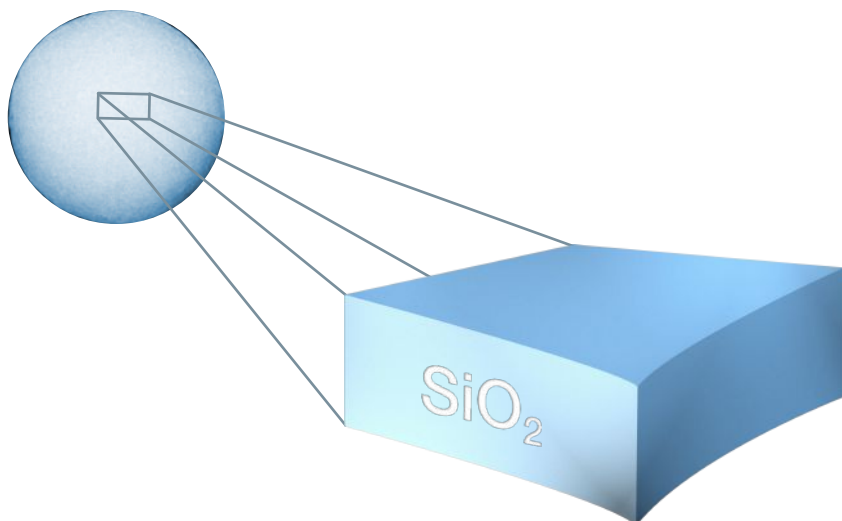
Nouryon

Easy handling of tough demands

For regular silica-based stationary phases, exposure to extreme pH (especially basic) will have a negative impact on the chemical stability and therefore column lifetime. However, the silica/organosilane surface of the Kromasil Eternity platform offers a chemical stability that will secure a long-lasting stationary phase, even under tough pH conditions and higher temperatures.

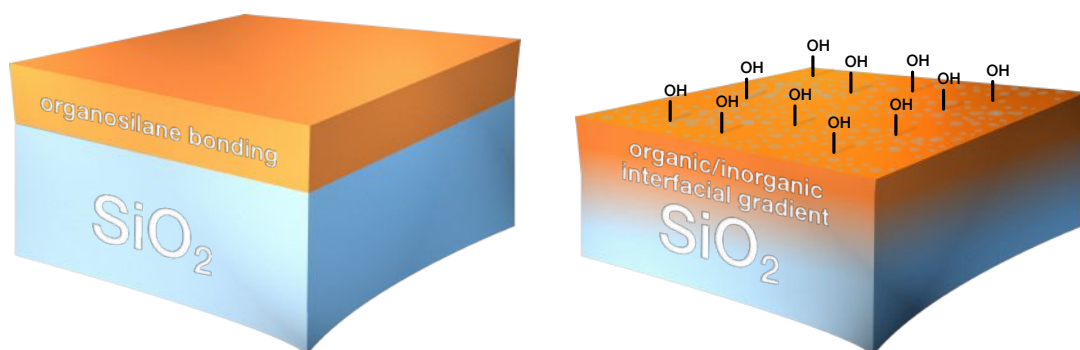
Summary of benefits for the Eternity platform





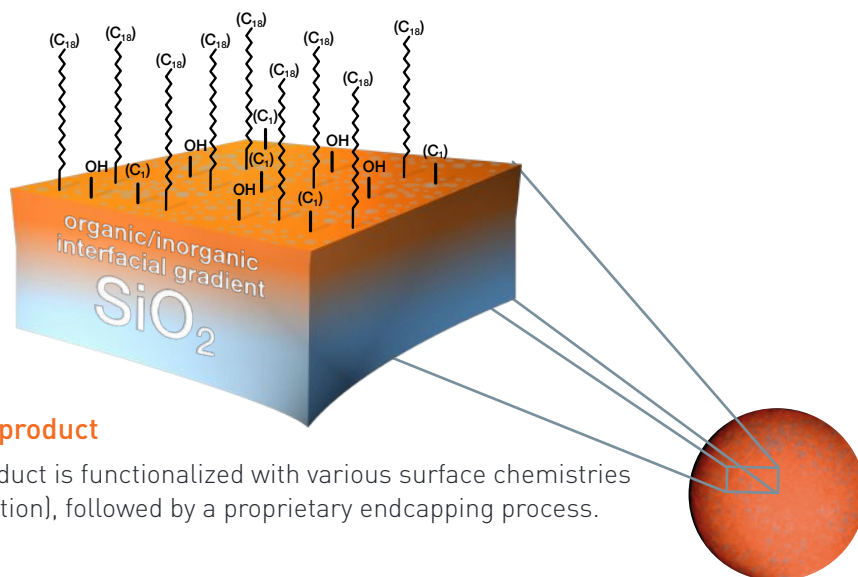
The silica matrix

The Eternity platform is based on the Kromasil 100 Å silica matrix, well known for high mechanical stability, and a well-defined pore structure.



The organosilane interfacial gradient

The silica matrix is bonded using a patented technology. An organosilane is immobilized on the silica, and, under certain proprietary conditions merged into an organic/inorganic interfacial gradient. The pores are virtually returned to their original size, resulting in a surface exhibiting both organic and inorganic moieties. This process step has been fine-tuned to give Kromasil EternityXT its extreme chemical stability, extending the pH range and packing lifetime.



The finished product

Finally the product is functionalized with various surface chemistries (C18 in illustration), followed by a proprietary endcapping process.

Excellent performance even at high pH values

With the wide pH window, the Eternity platform gives users more flexibility to optimize selectivity and loading capacity compared to regular silica materials.

Optimizing resolution

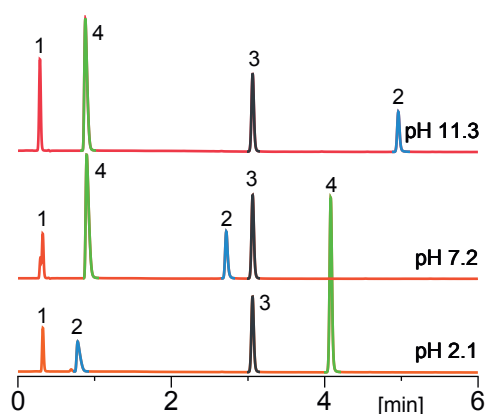
Substances with ionizable groups will exhibit significantly different retention times depending on their degree of ionization. Hence, by changing the pH, selectivity between substances can be altered so that resolution is optimized for a given separation.

In many cases, pharmaceuticals are basic. They are ionized at low or neutral pH, resulting in low retention, poor loadability and broad peaks. Being able to run at high pH means compounds become more retained with narrower peaks, revealing higher chances for better resolution and loadability.

Running at high pH

Basic pharmaceuticals become neutral at high pH and exhibit significantly sharper analytical peaks and higher loadability. Higher loadability means higher productivity, leading to a much more economical purification process. With EternityXT, large-scale separations can be run for an extended time, even at levels as high as pH 12.

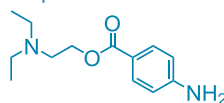
Choose your selectivity with pH



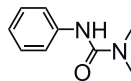
1 = uracil



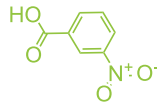
2 = procaine



3 = fenuron



4 = 3-nitrobenzoic acid



Conditions

Column: Kromasil EternityXT-2.5-C18 4.6 x 50 mm

Part number: XH2CLA05

Substances: 1= uracil, 2= procaine, 3= fenuron,
4= 3-nitrobenzoic acid

Mobile phase: acetonitrile / 20 mM sodium phosphate
pH 2.1, 7.2 and 11.3

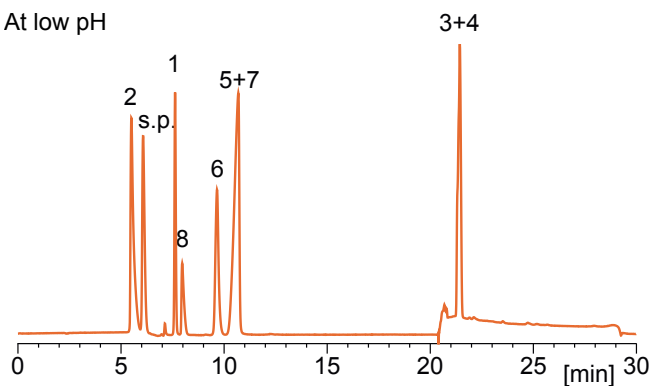
Gradient: 0-0.5 min: 10%, 5.5 min: 50% acetonitrile

Flow rate: 1.5 ml/min

Temperature: 25 °C

Detection: UV @ 254 nm

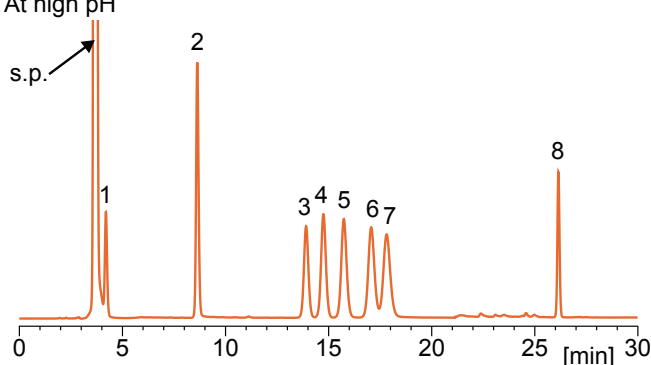
At low pH



Improved resolution at high pH

The adjoining chromatograms showing separation of anilines illustrate the significant advantage of being able to use almost the entire pH range for developing a separation method. The low pH chromatogram shows a non-favorable situation, with co-elution of two pairs of peaks. However, at high pH, well separated peaks can easily be obtained.

At high pH



Conditions

Column: Kromasil EternityXT 10-C18, 4.6 x 250 mm

Part number: X10CLA25

Mobile phase: acetonitrile / 10 mM potassium phosphate,
pH 2.5 and 10.5

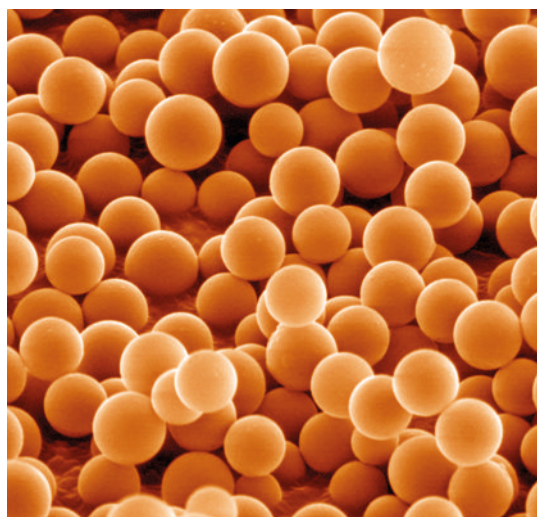
Gradient: 0 min: 20%, 2 min: 29.5%, 16 min: 29.5%,
26 min: 90% acetonitrile

Substances: 1= cafeine, 2= aniline, 3= 2-nitroaniline,
4= 2,4-dinitroaniline, 5= 2-ethoxyaniline,
6= 3,5-dimethylaniline, 7= 3-ethylaniline
s.p.= sample solvent peak (acetone)

Flow rate: 1 ml/min

Temperature: ambient

Detection: UV @ 254 nm



Stronger than ever

Kromasil EternityXT is based on the Kromasil 100 Å silica matrix, with exceptional mechanical stability as a result of the almost perfect spherical shape, combined with a proprietary process to further strengthen the matrix. In EternityXT, the new organic/inorganic platform reinforces the structure to an even higher level.

Columns for the lab

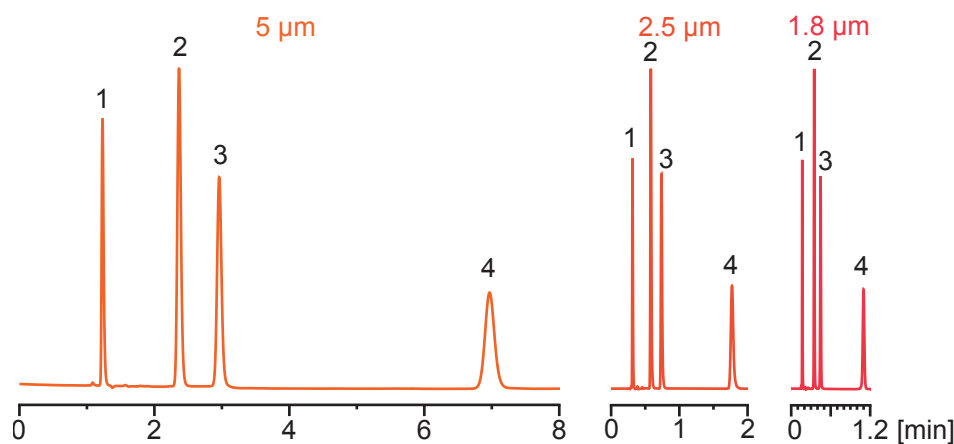
Kromasil EternityXT HPLC columns, the latest generation of the Eternity platform, come with particles down to 1.8 μm to fit any UHPLC instrument for better efficiency and flexibility in the laboratory. They can be used for reversed-phase separations and purifications that could demand harsh conditions, fast turnaround, easy method transfer and seamless scale-up from R&D to production.

Work fast across the board

With columns built on the Eternity platform, users can easily develop and validate UHPLC methods for synthetic and natural products, even under tough pH conditions. Method transfer to HPLC for characterization and quality control can be made seamlessly and, if required, scaled up directly for isolation and purification. Our extensive assortment of slurry-packed columns, combined with the wide range of particle sizes from 1.8 μm to 10 μm for the Eternity platform, help businesses improve productivity by using one stationary phase type across the entire company.

High efficiency with small particles

When scientists need to get results fast and within an extended pH range, EternityXT columns can help achieve the desired laboratory efficiency.



With EternityXT columns you can maintain separation power across all dimensions and particle sizes. Here is an illustration of faster result turnaround with maintained resolution when using shorter columns with smaller particles.

Conditions

Stationary phase: Kromasil EternityXT, C18, particle sizes as in figures

Column size: 4.6 x 150 mm, 4.6 x 75 mm, 4.6 x 50 mm, respectively

Part numbers: X05CLA15, XH2CLAH7 and XF1CLA05, respectively

Mobile phase: acetonitrile / water/formic acid [25/75/0.1]

Flow rate: 1 ml/min, 2 ml/min, 2.8 ml/min, respectively

Temperature: 25 $^{\circ}\text{C}$

Detection: UV @ 254 nm

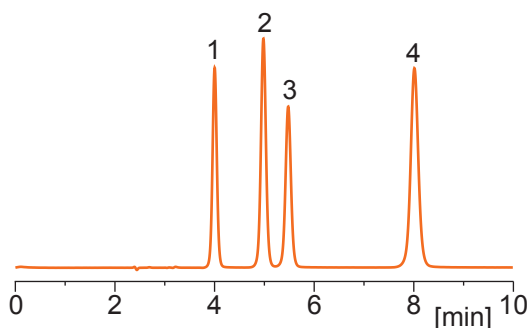
Substances: 1= uracil, 2= sulfathiazole,

3= sulfamerazin, 4= sulfamethoxazole

Alternative separations

While C18 columns are the most commonly used for reversed-phase chromatography, PhenylHexyl is an alternative phase chemistry that provides additional interaction opportunities, especially when the analytes of interest contain an aromatic ring.

Separation of xanthines on Kromasil EternityXT PhenylHexyl.



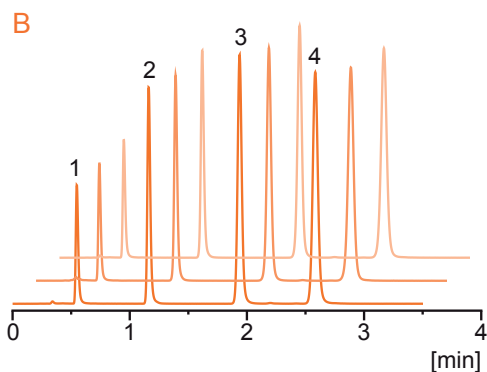
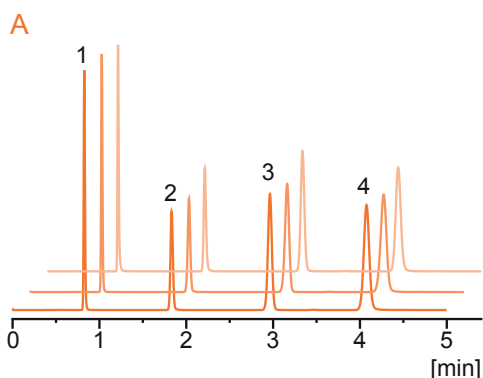
Conditions

Column: Kromasil EternityXT 5-PhenylHexyl, 4.6 x 250 mm
 Part number: X05PXA25
 Mobile phase: acetonitrile / water / formic acid [40/60/0.1]
 Flow rate: 1 ml/min

Temperature: 30 °C

Detection: UV @ 254 nm

Substances: 1= theobromine, 2= 1.7-dimethylxanthine,
 3= theophylline, 4= caffeine



Consistent results between columns and batches

Since we control the entire manufacturing process of the Eternity platform, from the initial production steps of the stationary phase to the finished packed columns, batch-to-batch as well as column-to-column reproducibility is assured.

Comparisons of three columns showing column-to-column (A) and batch-to-batch (B) reproducibility.

Conditions

Columns: Kromasil EternityXT 2.5-C18
 A: 4.6 x 100 mm, B: 2.1 x 100 mm
 Part numbers: XH2CLA10 and XH2CLD10
 Mobile phase: acetonitrile / water, A: [70/30], B: [65/35]
 Flow rate: A: 1.7 ml/min, B: 0.65 ml/min

Temperature: A: 25 °C, B: 35 °C

Detection: UV @ 254 nm

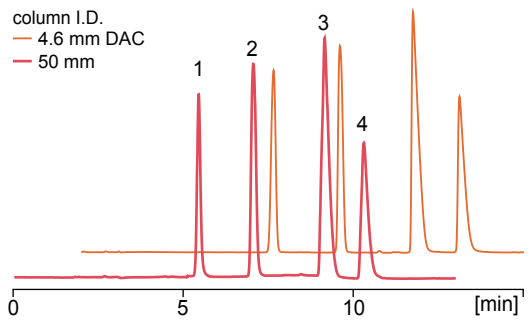
Substances: 1= dimethyl phthalate, 2= toluene,
 3= biphenyl, 4= phenanthrene

Columns for the lab (cont.)

Scale-up with ease

As it is fairly straightforward to scale HPLC up or down, having the reproducible Eternity platform phases available on a broad range of particle and column sizes gives the user the key tools to carry out method scaling efficiently.

Use 4.6 mm ID or 10 mm ID columns for the method development, and use the data obtained for predicting the performance in larger scale. With dynamic axial columns (DAC) it is possible to reproduce the performance obtained in analytical columns even in very large scale..



The separation of β -blockers illustrates the possibility to scale up your separation developed in analytical scale to larger scale chromatography, essentially without any loss of performance.

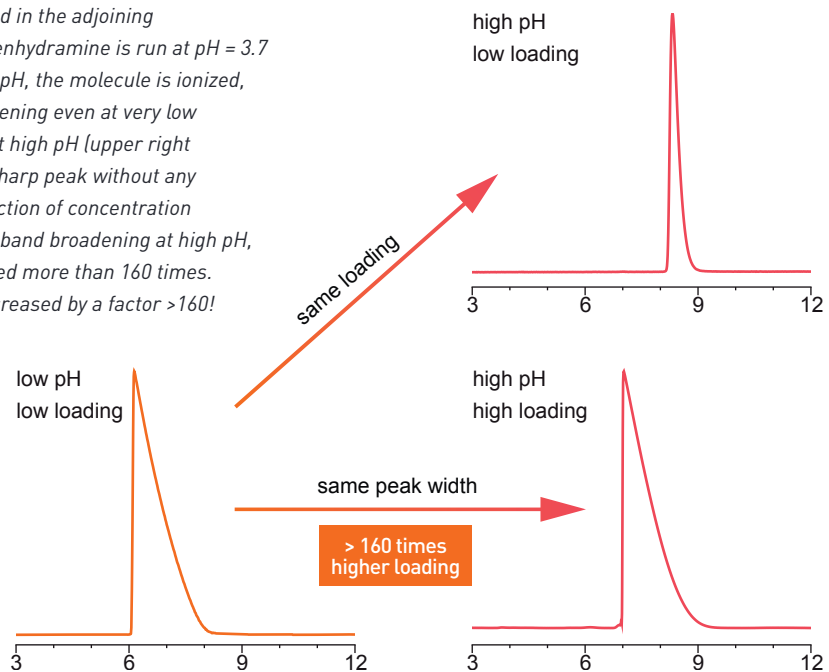
Conditions

Column: Kromasil EternityXT-10-C18 4.6 x 250 mm
 Part number: X10CLA25
 Mobile phase: acetonitrile / 10 mM ammonium hydrogen carbonate, pH 10.5
 Gradient: 0 min: 10%, 10 min: 90% acetonitrile

Flow rate: 1 ml/min
 Temperature: ambient
 Detection: UV @ 230 nm
 Substances: 1: sotalol, 2: nadolol, 3: pindolol, 4: metoprolol

Loadability increases at high pH

The loadability increase that can be obtained at high pH for basic compounds is illustrated in the adjoining chromatograms, where diphenhydramine is run at pH = 3.7 and 10.5, respectively. At low pH, the molecule is ionized, leading to a large band broadening even at very low loadings. The same loading at high pH (upper right chromatogram) produces a sharp peak without any tendency to broaden as a function of concentration overload. To obtain the same band broadening at high pH, the loading has to be increased more than 160 times. Hence, loading capacity is increased by a factor >160!



Conditions

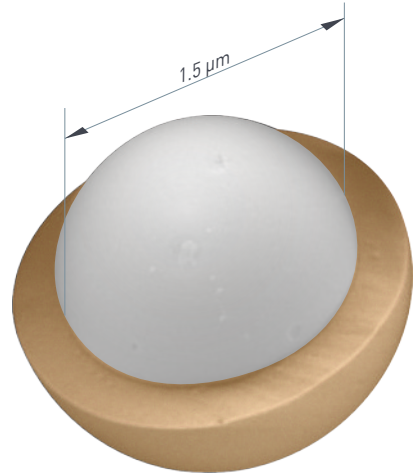
Column: Kromasil EternityXT-10-C18, 4.6 x 250mm
 Part number: X10CLA25
 Mobile phase: low pH: acetonitrile / 25 mM ammonium format, pH 3.7 (35/65)
 high pH: acetonitrile / 25 mM ammonium carbonate, pH 10.5 (70/30)
 Loading: low loading: 30 μ g
 high loading: 5 mg

Substance: diphenhydramine
 Flow rate: 1 ml/min
 Detection: UV @ 254 nm

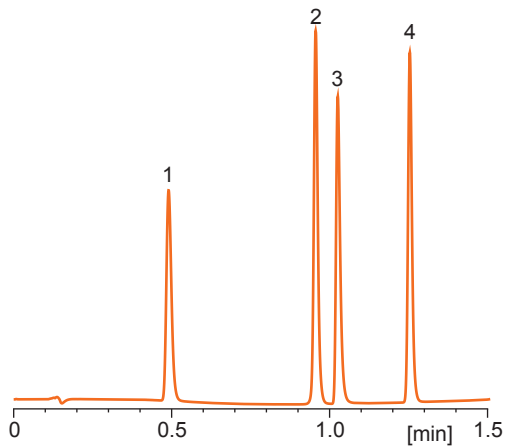
Get access to efficiency at any pH on any instrument

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, enabling small particle efficiency on instruments with lower back-pressure specifications.

The EternityShell particle combines solid-core and Eternity organo-silane reinforcement technologies



Fast separations under harsh conditions



Separation of local anesthetics

Conditions

Column: Kromasil EternityShell-2.5-C18 2.1 x 50 mm

Part number: YH2CLD05

Mobile phase: acetonitrile / 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



State-of-the-art stability

Traditional silica-based reversed phase materials very often have an upper limit for use at neutral to slightly basic pH. At higher pH levels, the silica matrix starts to dissolve. With Kromasil Classic RP phases this limit has been moved up to pH 9.5, and in some cases, even higher. With the Eternity platform, the boundaries are moved beyond what could be expected from the strongest silica matrix.

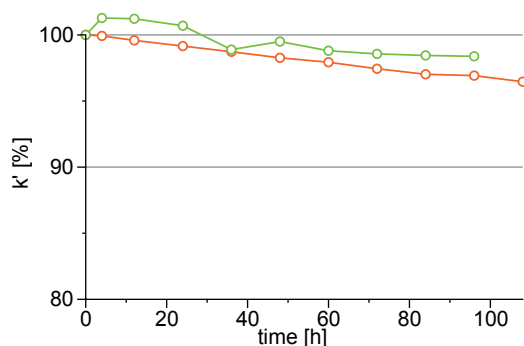
Up to pH 12

The Eternity platform set a new standard for column lifetime expectations for hybrid materials. With EternityXT C18 medias, users get the flexibility to develop methods

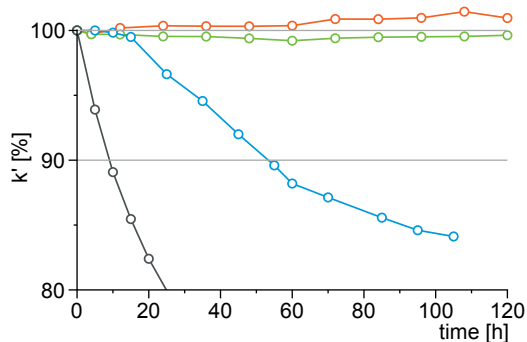
for quick UHPLC analysis as well as isolation and large-scale purification between pH 1-12, for long-term use.

Long-term chemical stability

Low pH



High pH



Long-term chemical stability at low and high pH: Low pH conditions simulate a very long-term use by applying an elevated temperature and a highly aqueous mobile phase. The hybrid materials still show excellent stability, with very low shift in k' over time. High pH conditions also include highly aqueous buffer and elevated temperature. It has been shown that carbonate buffer is especially aggressive when used with silica-based packing materials, but it has little effect on the retention factor for EternityXT, due to the very dense C18 derivatization and the organosilane gradient, protecting the silica matrix.

Conditions

Column size: 4.6 x 250 mm

Low pH: acidic hydrolysis

Mobile phase: methanol / water / trifluoroacetic acid, pH = 1.9 (5/95/0.1)

Flow rate: 0.2 ml/min

Temperature: 80 °C

High pH: basic hydrolysis

Mobile phase: acetonitrile / 10 mM ammonium carbonate, pH 10.5 (10/90)

Flow rate: 0.2 ml/min

Temperature: 60 °C

Chromatographic test conditions

Test compound: phenanthrene

Mobile phase: acetonitrile / water (70/30)

Flow rate: 1 ml/min

Detection: UV @ 254 nm

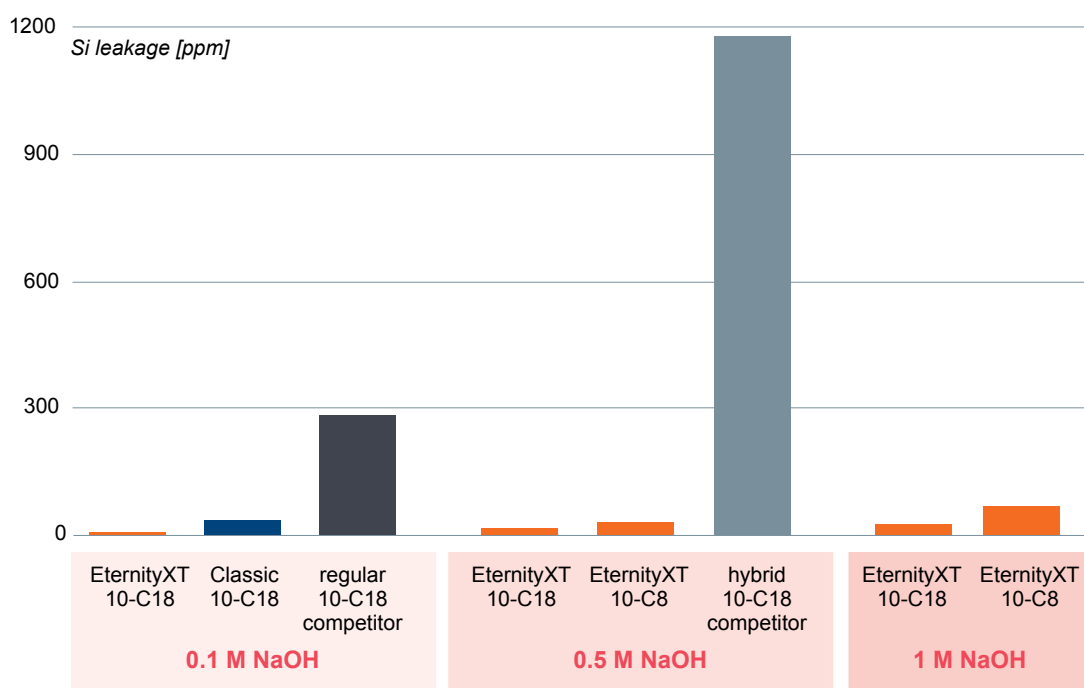
Flexibility at your fingertips

The main proportion of all synthetic pharmaceutical APIs are basic in nature, and will exhibit an increased loadability, and hence productivity, at a high pH. Basic peptides, oligos and PNAs will also benefit from high pH separation methods.

With Kromasil EternityXT, users have the flexibility to develop analytical and separation methods for virtually the entire pH range, and to sanitize or regenerate the column using conditions previously reserved only for polymeric resins. This gives scientists the best of both worlds: highest performance and excellent stability at high pH.

Chemical stability – CIP conditions

It is possible to sanitize or regenerate Kromasil EternityXT in-column (cleaning in place, or CIP) even using 1 M NaOH when necessary. 1 M NaOH is a standard in biochromatography for polymeric resins.



The figure shows the leakage of silicon during after a number of CIP cycles at different NaOH concentrations. At 0.1 M NaOH, even Kromasil Classic resists better than regular competitors. Already at 0.5 M NaOH, the main hybrid 10-C18 competitor shows serious leakage, actually much higher than EternityXT phases at 1 M NaOH.

Conditions

Column size: 4.6 x 250 mm

Mobile phase: 10 column volumes of NaOH solution / ethanol (50/50)

Flow rate: 1 ml/min, for 10 column volumes (contact time 41.5 min)

Temperature: ambient

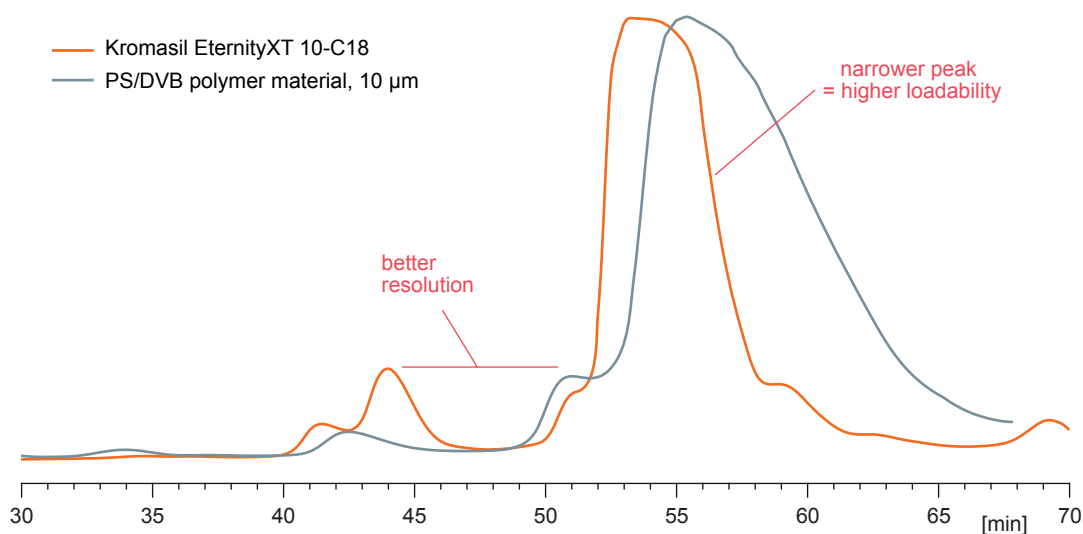
Test compound: nortriptyline at pH 7.0

State-of-the-art stability (cont.)

Chromatographic performance - Kromasil EternityXT vs polymeric packing

It is well known that polystyrene/divinylbenzene (PS/DVB)-based packing materials exhibit very high chemical stability at high pH, allowing cleaning steps involving for example 1 M NaOH. However, the material can not compete with silica-based packing materials in terms of chromatographic performance.

With Kromasil EternityXT it is possible to obtain the high separation power associated with silica-based materials, and at the same time experience very high chemical stability at high pH.



The graph shows a typical comparison between a silica- and a polymer-based packing material: EternityXT and the market leader for PS/DVB-based packings, where identical conditions have been used. The chromatogram shows a preparative separation of insulin, where it can be seen that the silica-based material, EternityXT, has markedly sharper peaks, with roughly only 50% of the band broadening seen on the PS/DVB-based material. Both analytical efficiency and loading capacity is significantly better for EternityXT.

Conditions

Column size: 4.6 × 250 mm

Mobile phase: ethanol / ammonium acetate 0.2 M


Gradient: for EternityXT, 0 min: 30%, 60 min: 38% ethanol,
for PS/DVB, 0 min: 34%, 60 min: 42% ethanol

Particle size: 10 µm

Flow rate: 0.7 ml/min

Temperature: 25 °C

Detection: UV @ 280 nm



A close-up photograph of a metal plate, likely part of a chromatography system. The plate is light-colored with a brushed metal finish. It features a triangle symbol above the text "COLUMN ELUTION". Below the text is a black, textured handle attached to a brass-colored hexagonal nut. The handle has some faint, illegible markings. The plate is secured with several screws. In the background, another metal plate is visible with the text "ARGE" and "CTION" partially visible. At the bottom, the word "FLANGE" is visible on another part of the equipment.

△
COLUMN
ELUTION

ARGE
CTION

FLANGE

Withstands pressure time and time again

Kromasil Classic changed the world of large-scale and industrial-scale chromatography by combining a high available surface area with great mechanical stability. Kromasil EternityXT builds upon this legacy and further enhances the performance of preparative chromatography.

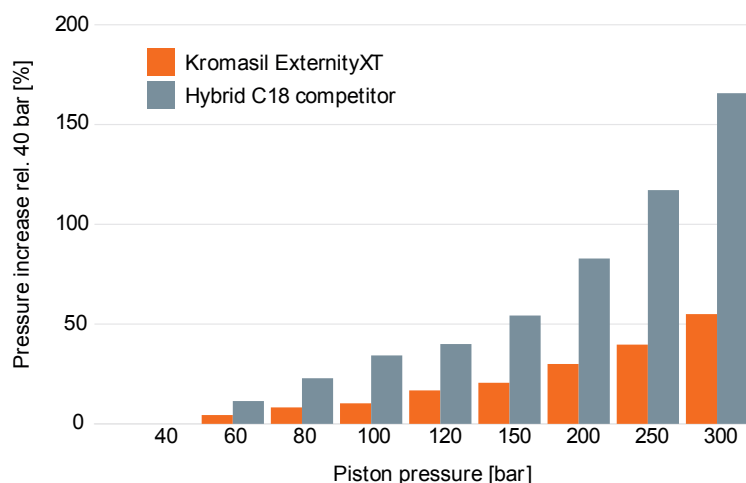
High loading capacity

Kromasil Classic is a packing material with very high loading capacity, and hence high productivity, as it can withstand the high mechanical stress the packing is exposed to in a dynamic axial compression (DAC) column. Kromasil EternityXT is a preparative packing material with exceptional physical and chemical properties. It takes mechanical stability to the next level by exhibiting even higher mechanical stability, with the same

high available surface area, and hence loading capacity.

Based on the Kromasil 100 Å silica matrix, Kromasil EternityXT has exceptional mechanical stability as a result of the spherical shape and a proprietary process that further strengthens the matrix. In EternityXT, the new organic/inorganic platform reinforces the structure to an even higher level.

Pressure over packed bed during mechanical stability test



To simulate a repeated packing procedure without emptying the column, a test method with a successive increase of piston pressure was applied. The back pressure increase is a measure of the degree of densification and degradation of the material after repeated packings.

Below are microscope pictures of the materials, before and after the test.

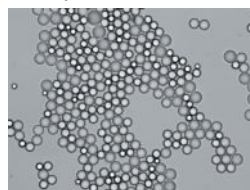
EternityXT before



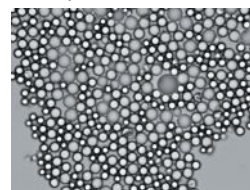
EternityXT after



Competitor before



Competitor after



Test conditions

The test material is packed in a 50 mm ID DAC column, and the pressure is increased stepwise, from 40 bar up to 300 bar. The back-pressure is monitored during the process using ethanol as the mobile phase. The back-pressure monitored during the pressure increase cycle is shown in the diagram.

Product characteristics

Key characteristics

In addition to the physical and chemical properties of Eternity product families, it is important to take some other facts into consideration. Our manufacturing of these phases starts with the silica raw material and runs all the way through to the finished packing material. Controlling the total manufacturing process means the highest quality of the final product is guaranteed. All Kromasil products are manufactured in an ISO 9001 certified facility.

Kromasil EternityXT

Particle size distribution (Coulter Multisizer):

dv_{90}/dv_{10} : 10 μm < 1.70
5 μm < 1.50
2.5 μm < 1.40
1.8 μm < 1.50

Chemical purity (AAS or ICP):

Na < 10 ppm, Al < 5 ppm, Fe < 5 ppm

Specific surface area (multi-point BET): 310 m^2/g

Pore volume (N_2 -adsorption): 0.9 ml/g

Pore size (N_2 -adsorption): 100 \AA

Pore size distribution (N_2 -adsorption): 80% \pm 25 \AA

(97% of the surface is accessible for toluene, which indicates low amounts of inaccessible micropores.)

Endcapping: yes, proprietary

C8

Octyl

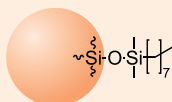
USP: L7

Coverage: 4.1 $\mu\text{mol}/\text{m}^2$

Element content: 13% C

Packed density: 0.66 g/ml

pH range: 1 - 12



PhenylHexyl

6-hexylphenyl

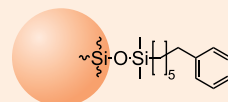
USP: L11

Particle sizes: 1.8, 2.5, 5 μm

Coverage: 3.7 $\mu\text{mol}/\text{m}^2$

Element content: 12-15% C

pH range: 2 - 12



C18

Octadecyl

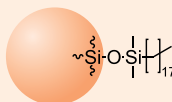
USP: L1

Coverage: 3.3 $\mu\text{mol}/\text{m}^2$

Element content: 18% C

Packed density: 0.75 g/ml

pH range: 1 - 12



Kromasil EternityShell

Particle size: 2.5 μm

Specific surface area: 150 m^2/g

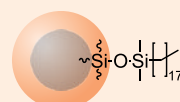
Pore size: 90 \AA

C18

Octadecyl

USP: L1

Element content: 8% C



Kromasil Eternity

First generation legacy product

Particle size distribution (Coulter Multisizer):

dv_{90}/dv_{10} : 5 μm < 1.50
2.5 μm < 1.40

Chemical purity (AAS or ICP):

Na < 10 ppm, Al < 5 ppm, Fe < 5 ppm

Specific surface area (multi-point BET): 330 m^2/g

Pore volume (N_2 -adsorption): 0.9 ml/g

Pore size (N_2 -adsorption): 100 \AA

Pore size distribution (N_2 -adsorption): 80% \pm 25 \AA

Endcapping: yes, proprietary

C18

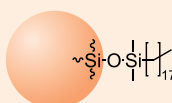
Octadecyl

USP: L1

Coverage: 1.5 $\mu\text{mol}/\text{m}^2$

Element content: 14% C

pH range: 2 - 12



PhenylHexyl

6-hexylphenyl

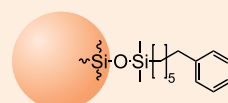
USP: L11

Particle sizes: 1.8, 2.5, 5 μm

Coverage: 1.2 $\mu\text{mol}/\text{m}^2$

Element content: 12% C

pH range: 2 - 12



Availability

Please check the tables with part numbers in the availability part of this guide.

Ordering Kromasil Eternity products

Contact info

Head office

Nouryon Pulp and Performance Chemicals AB
Separation Products
Färjevägen 1
SE-445 80 Bohus
Sweden
T +46 31 58 70 00
F +46 31 58 77 27

India

Nouryon India Ltd
Separation Products
North Block 801
Empire Tower, Reliable Cloud City Campus
Off Thane-Belapur Road, Airoli
Navi Mumbai - 400 708
Maharashtra
India
T +91 90 4900 8511

China

Nouryon
22F, Eco City, No. 1788 West Nanjing Road,
Jingan District Shanghai 200040,
P. R. China
T +86 21 2220 5000 ext.5727, 5729
T +86 21 2220 5729 (direct)
F +86 21 2220 5558

NAFTA countries

Nouryon
281 Fields Lane
Brewster, NY 10509
U S A.
T +1 845 276 8223
F +1 845 277 1406

e-mail: kromasil@nouryon.com
web: www.kromasil.com

Find a distributor:

www.kromasil.com/distributor_network



Kromasil Eternity bulk media

Family	Phase	Particle size, [µm]			
		1.8	2.5	5	10
EternityXT	C8	●	●	●	X10CMblk
EternityXT	C18	●	●	●	X10CLblk
EternityXT	PhenylHexyl	●	●	●	
Eternity	C18		●	●	
Eternity	PhenylHexyl		●	●	

- : standard product, available in bulk quantities
- : analytical product, only available in slurry-packed columns
- : bare silica product in analytical particle sizes available in bulk for contracted OEM producers



Kromasil Eternity columns

Kromasil Eternity, 2.1 mm i.d. columns

Family	Phase	particle size [μm]	column size, i.d. \times length [mm]		
			2.1 \times 50	2.1 \times 100	2.1 \times 150
Eternity	C18	2.5	EH2CLD05	EH2CLD10	
Eternity	C18	5	E05CLD05		E05CLD15
Eternity	PhenylHexyl	2.5	EH2PXD05	EH2PXD10	
Eternity	PhenylHexyl	5	E05PXD05		E05PXD15
EternityXT	C8	1.8	XF1CMD05	XF1CMD10	
EternityXT	C8	2.5	XH2CMD05	XH2CMD10	
EternityXT	C8	5	X05CMD05		X05CMD15
EternityXT	C18	1.8	XF1CLD05	XF1CLD10	
EternityXT	C18	2.5	XH2CLD05	XH2CLD10	
EternityXT	C18	5	X05CLD05		X05CLD15
EternityXT	PhenylHexyl	1.8	XF1PXD05	XF1PXD10	
EternityXT	PhenylHexyl	2.5	XH2PXD05	XH2PXD10	
EternityXT	PhenylHexyl	5	X05PXD05		X05PXD15
EternityShell	C18	2.5	YH2CLD05	YH2CLD10	

Kromasil Eternity, 4.6 mm i.d. columns

Family	Phase	particle size [μm]	column size, i.d. \times length [mm]			
			4.6 \times 50	4.6 \times 100	4.6 \times 150	4.6 \times 250
Eternity	C18	2.5	EH2CLA05	EH2CLA10		
Eternity	C18	5	E05CLA05	E05CLA10	E05CLA15	E05CLA25
Eternity	PhenylHexyl	2.5	EH2PXA05	EH2PXA10		
Eternity	PhenylHexyl	5	E05PXA05	E05PXA10	E05PXA15	E05PXA25
EternityXT	C8	2.5	XH2CMA05	XH2CMA10		
EternityXT	C8	5	X05CMA05	X05CMA10	X05CMA15	X05CMA25
EternityXT	C8	10				X10CMA25
EternityXT	C18	2.5	XH2CLA05	XH2CLA10		
EternityXT	C18	5	X05CLA05	X05CLA10	X05CLA15	X05CLA25
EternityXT	C18	10				X10CLA25
EternityXT	PhenylHexyl	2.5	XH2PXA05	XH2PXA10		
EternityXT	PhenylHexyl	5	X05PXA05	X05PXA10	X05PXA15	X05PXA25

Kromasil Eternity, 10 mm i.d. columns

Family	Phase	particle size [μm]	column size, i.d. × length [mm]		
			10 × 100	10 × 150	10 × 250
Eternity	C18	5	E05CLP10	E05CLP15	E05CLP25
Eternity	PhenylHexyl	5	E05PXP10	E05PXP15	E05PXP25
EternityXT	C8	5	X05CMP10	X05CMP15	X05CMP25
EternityXT	C8	10	X10CMP10	X10CMP15	X10CMP25
EternityXT	C18	5	X05CLP10	X05CLP15	X05CLP25
EternityXT	C18	10	X10CLP10	X10CLP15	X10CLP25
EternityXT	PhenylHexyl	5	X05PXP10	X05PXP15	X05PXP25

Kromasil Eternity, 21.2 mm i.d. columns

Family	Phase	particle size [μm]	column size, i.d. × length [mm]		
			21.2 × 100	21.2 × 150	21.2 × 250
Eternity	C18	5	E05CLQ10	E05CLQ15	E05CLQ25
Eternity	PhenylHexyl	5	E05PXQ10	E05PXQ15	E05PXQ25
EternityXT	C8	5	X05CMQ10	X05CMQ15	X05CMQ25
EternityXT	C8	10	X10CMQ10	X10CMQ15	X10CMQ25
EternityXT	C18	5	X05CLQ10	X05CLQ15	X05CLQ25
EternityXT	C18	10	X10CLQ10	X10CLQ15	X10CLQ25
EternityXT	PhenylHexyl	5	X05PXQ10	X05PXQ15	X05PXQ25

Kromasil Eternity, 21.2 mm i.d. columns

Family	Phase	particle size [μm]	column size, i.d. × length [mm]		
			21.2 × 100	21.2 × 150	21.2 × 250
Eternity	C18	5	E05CLQ10	E05CLQ15	E05CLQ25
Eternity	PhenylHexyl	5	E05PXQ10	E05PXQ15	E05PXQ25
EternityXT	C8	5	X05CMQ10	X05CMQ15	X05CMQ25
EternityXT	C8	10	X10CMQ10	X10CMQ15	X10CMQ25
EternityXT	C18	5	X05CLQ10	X05CLQ15	X05CLQ25
EternityXT	C18	10	X10CLQ10	X10CLQ15	X10CLQ25
EternityXT	PhenylHexyl	5	X05PXQ10	X05PXQ15	X05PXQ25

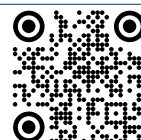
The moment you adopt our Kromasil High Performance Concept, you join thousands of chromatographers who share a common goal: to achieve better separations when analyzing or isolating pharmaceuticals or other substances.

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