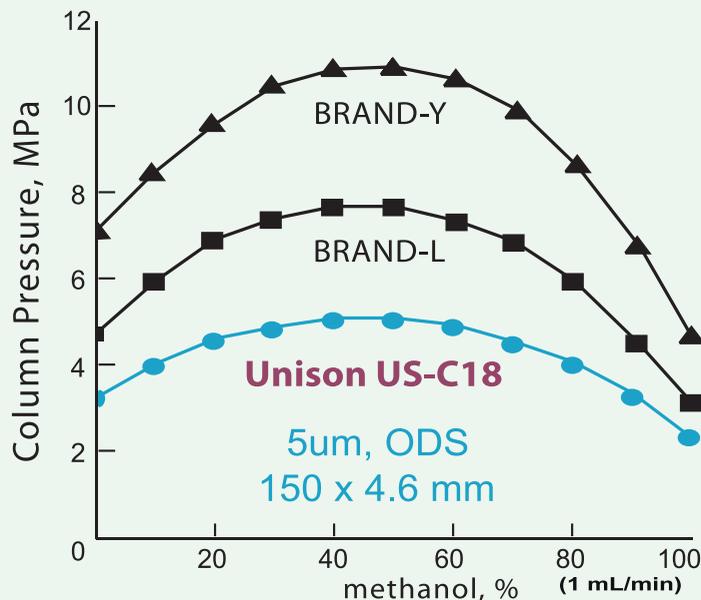


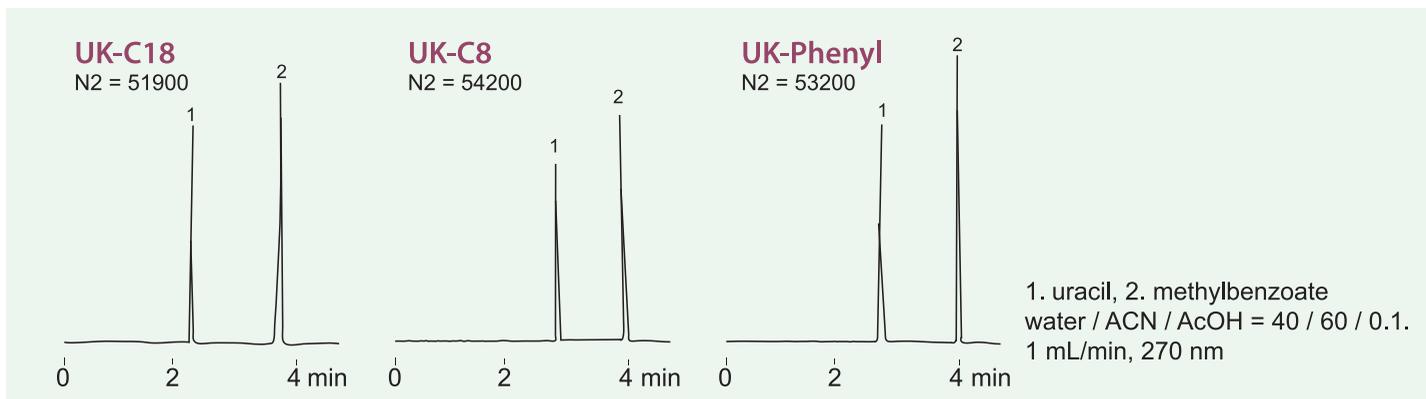
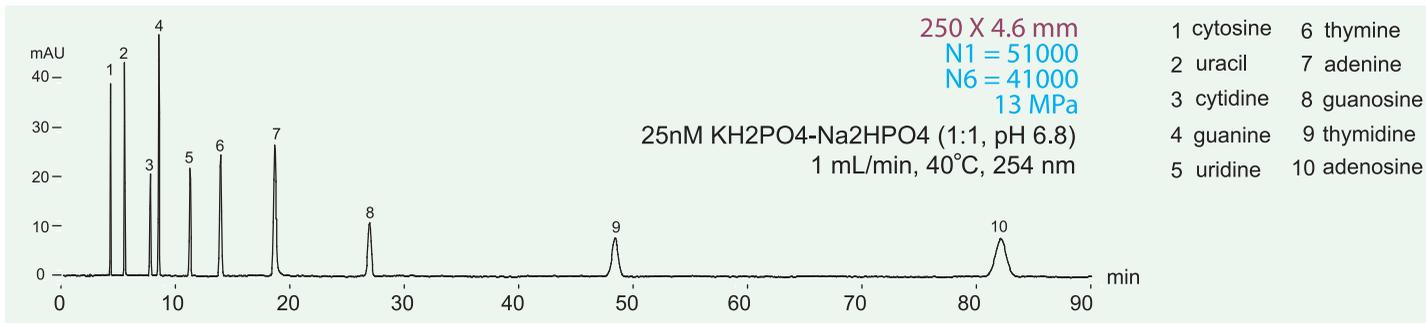
● Lower Back Pressure

- Higher Column Efficiency
- Lower Back Pressure
- World Class Reproducibility
- LC-MS compatible
- No Phase Collapse in 100% Aqueous Elution

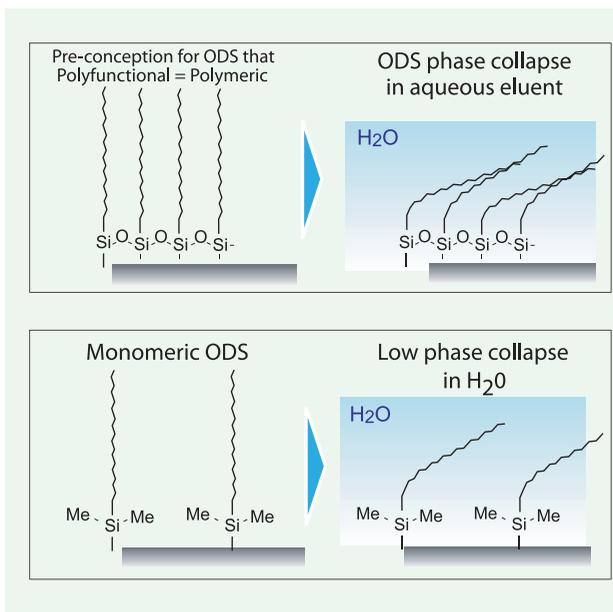
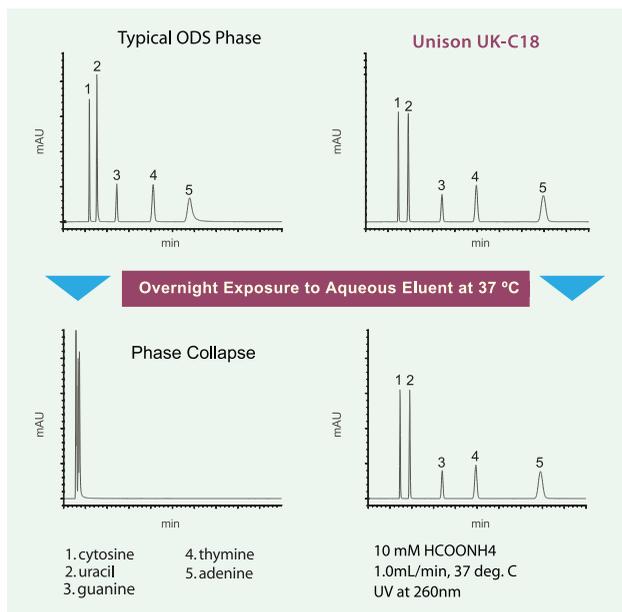


Note: 1MPa = 145 psi

● Unison Family Offers High Resolution Analysis



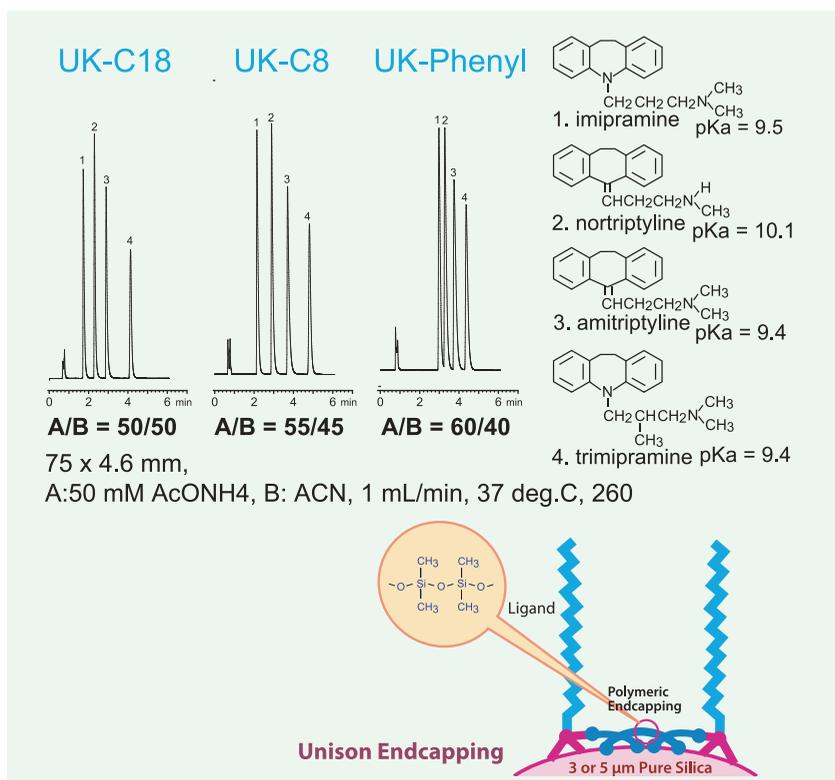
Avoid Phase Collapse



Conventional ODS silica phases, which are designed for the separation of polar compounds, usually have lower coverage than silica stationary phases. This is necessary to avoid phase collapse. However, Unison provides a medium coverage ODS phase, employing a trifunctional component and proprietary endcapping technique, which results in a phase that is stable under pH 1.5. Imtakt, Unison's manufacturer, was the first to develop this novel approach in 1999.

Typical C18 columns experience phase collapse in 100% aqueous eluent, which results in loss of retention, leading to poor separation and reproducibility. However, Unison UK-C18 prevents phase collapse and provides stable retention, even for nucleic bases under hydrophobic conditions.

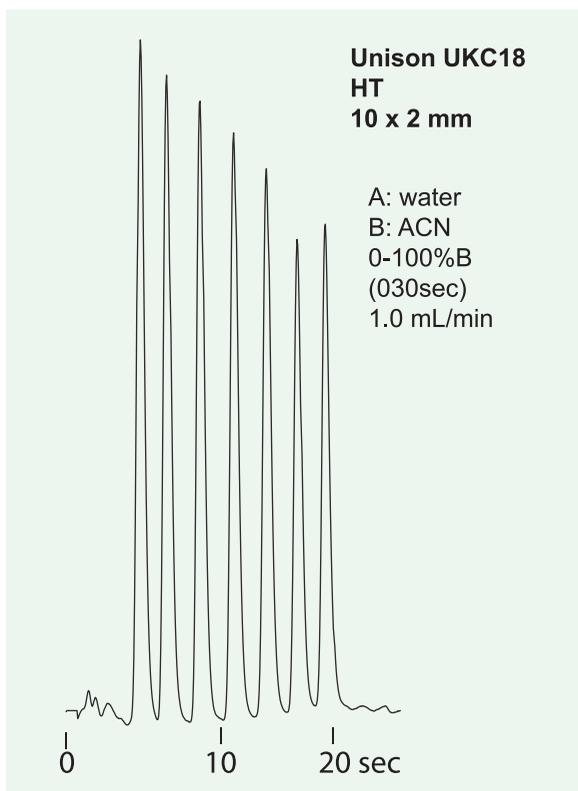
Unique Endcapping



Unison employs a unique endcapping technology. As a result, the column provides excellent elution characteristics for difficult separations, such as that of basic compounds. This applies not only to ODS, but also to C8 and phenyl columns.

For basic anti-depressant drugs, which exhibit a high pK_a value, all of our stationary phases show excellent peak shape. Separation is possible with the use of ammonium acetate, a volatile buffer for LC-MS, avoiding the need for inorganic salts typically used in LC-UV analysis, such as phosphate buffers.

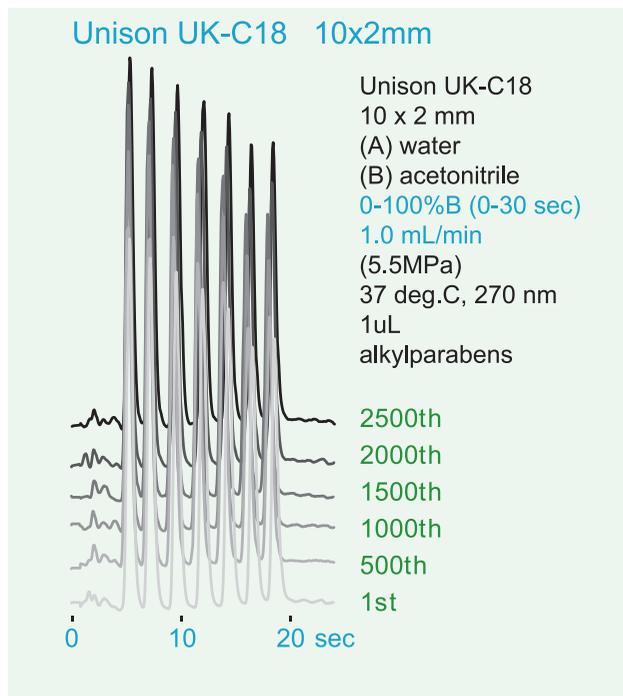
● High Throughput Unison C18 Columns



<1 minute run times

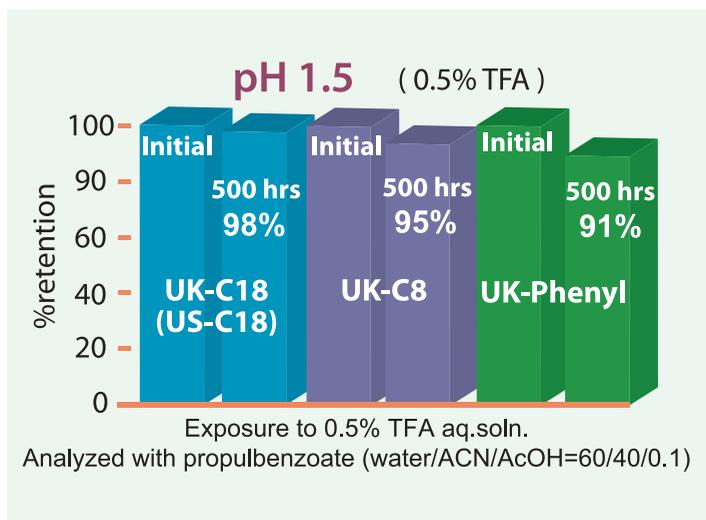
- Ultra high flow rates with 3 μ m particles that can handle higher pressure
- Three different versions of UK-C18: 250 bar, 500 bar, and 1,000 bar
- Various internal diameters: (1, 1.5, 2, 3, 4, 4.6mm)

● Experience Faster Throughput



For superior throughput, take advantage of Unison's high efficiency by using a shorter column. Many customers have cut their run times drastically by using our 10mm, 20mm, and 30mm column lengths, while still achieving satisfactory separation. All of these column lengths come with 3 μ m silica packing material. We advise our customers to test increasingly shorter columns until they find the optimal trade-off between speed and separation.

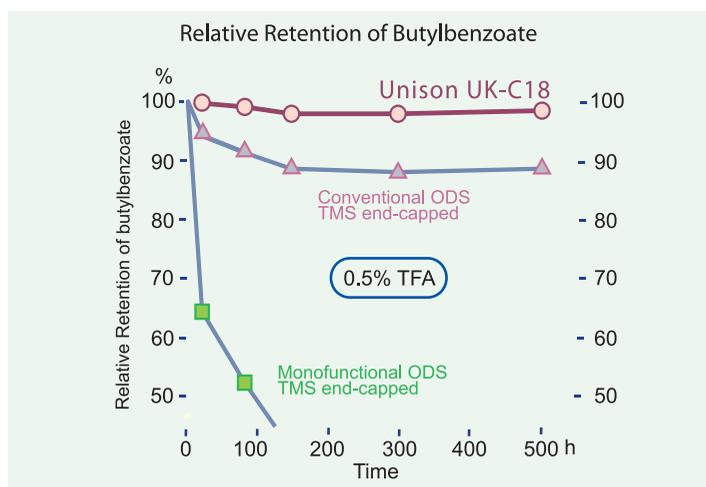
● Unison pH Range and Durability



Unison stationary phase possesses high durability, with both acidic and alkali elutions.

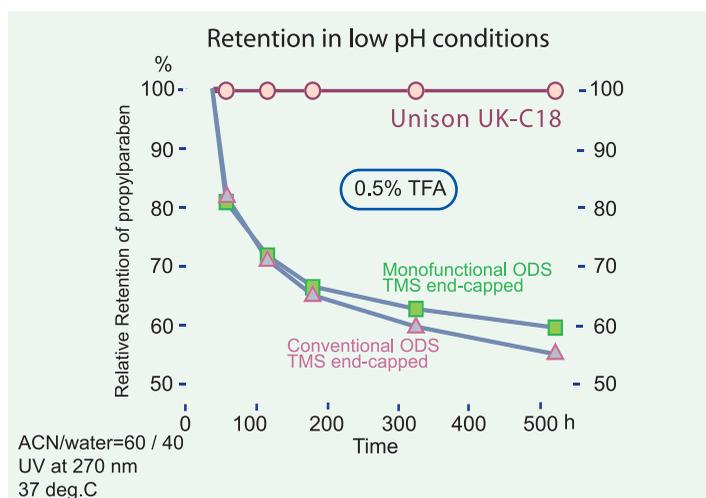
Our unique endcapping provides C8, phenyl, and C18 phases with improved durability for a wide pH range.

● Strong Acid Stability

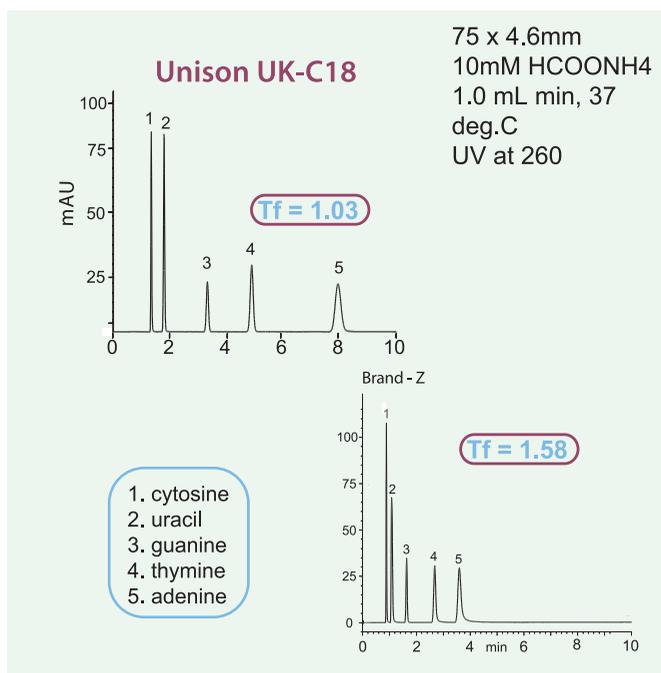


Our studies show that trifunctional, TMS endcapped stationary phases provide greater stability under extreme acidic conditions (pH 1.5) when compared to traditional monofunctional ODS TMS endcapped columns.

Unison UK-C18 provides the best stability. Our proprietary endcapping is the key to hydrophilic compound separations under acidic conditions.

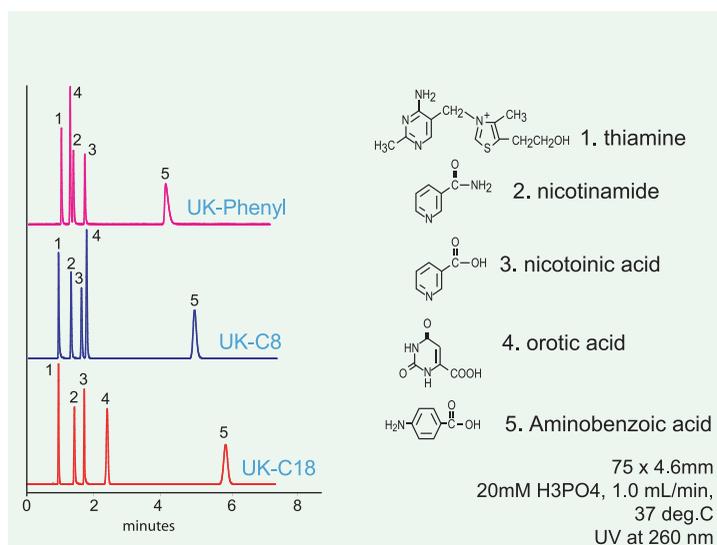


● Separation of Polar Compounds

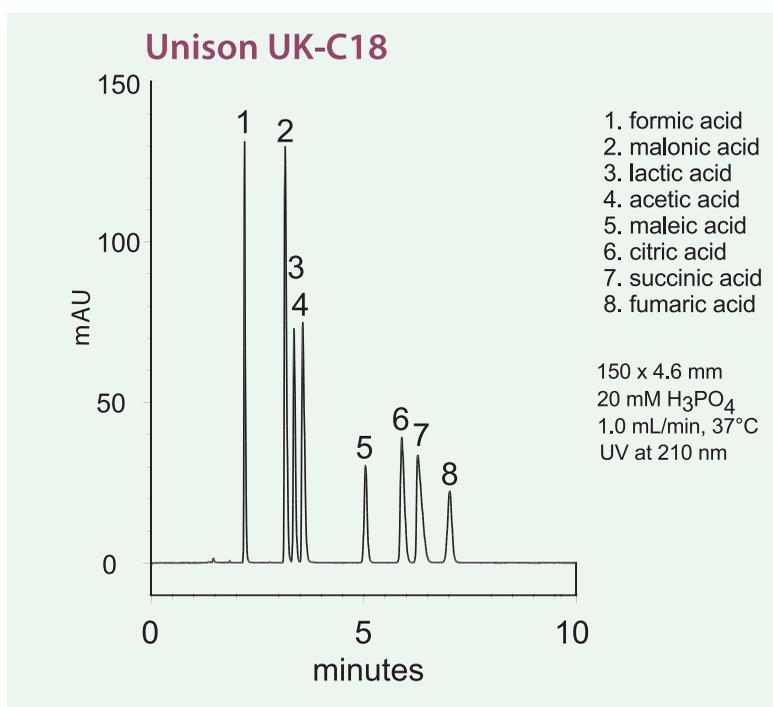


Nucleic bases, especially adenine, frequently give poor peak symmetry on commercial ODS columns under hydrophilic conditions.

Unison UK-C18 provides excellent peak symmetry and separation for these compounds and for other polar compounds. All of the Unison phases excel at the separation of polar compounds.



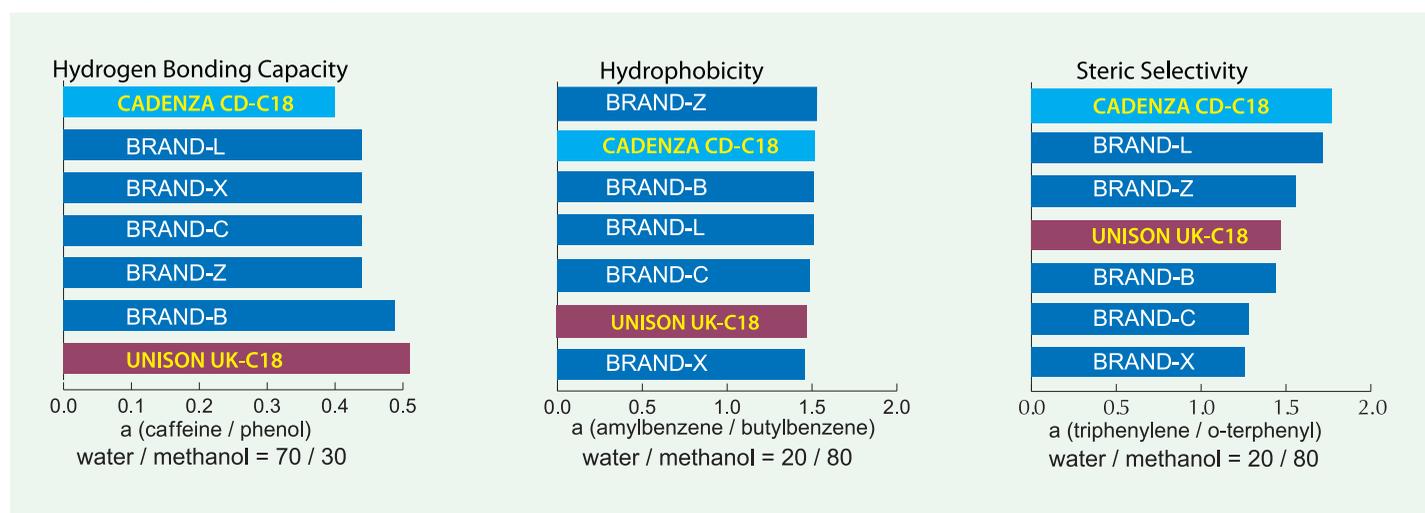
● Organic Acids in Low pH



Reverse phase separation of organic acids is difficult. Unison UK-18 provides exceptional separation and peak shapes.

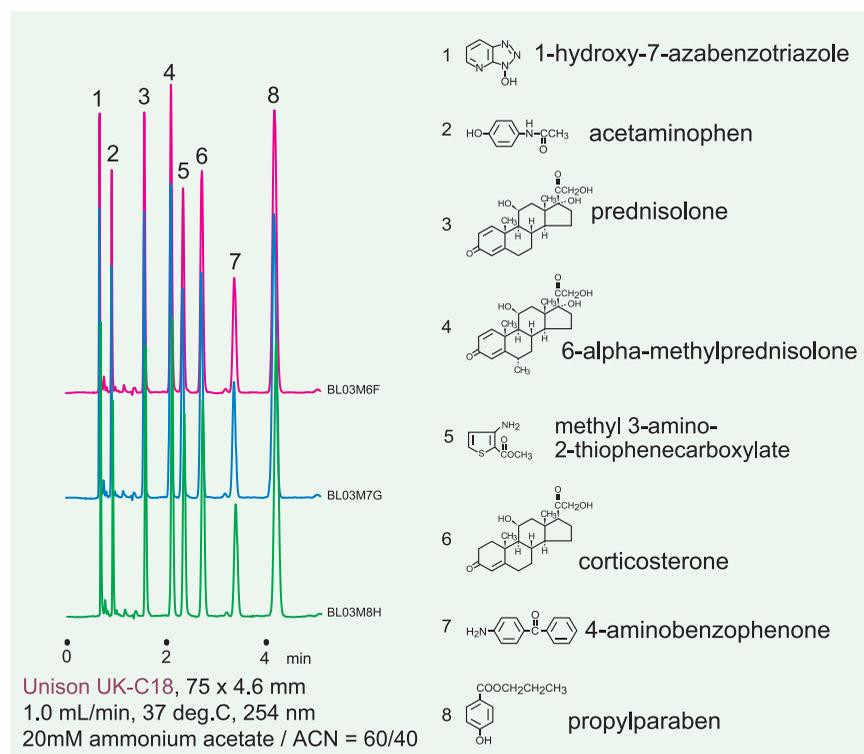
Conventional separations of organic acids use a 250mm column, but Unison delivers comparable separations with a shorter 150mm column.

Hydrogen Bonding Capacity / Hydrophobicity / Steric Selectivity



- The big difference in hydrogen bonding capacity is that Unison offers longer retention of high polarity compounds. Unison's unique technology offers hydrogen bonding capacity even after a high degree of endcapping.
- Unison technology provides outstanding steric selectivity, an important advantage when compounds have similar molecular structures.
- Hydrophobicity is the key interaction to determine material retention. Other high-polarity column technologies usually have lower hydrophobicity, which lessens retention. Unison technology does not require reductions of hydrophobicity, which is one of the underlying reasons for Unison's superior resolution.

Excellent Batch-to-Batch Reproducibility

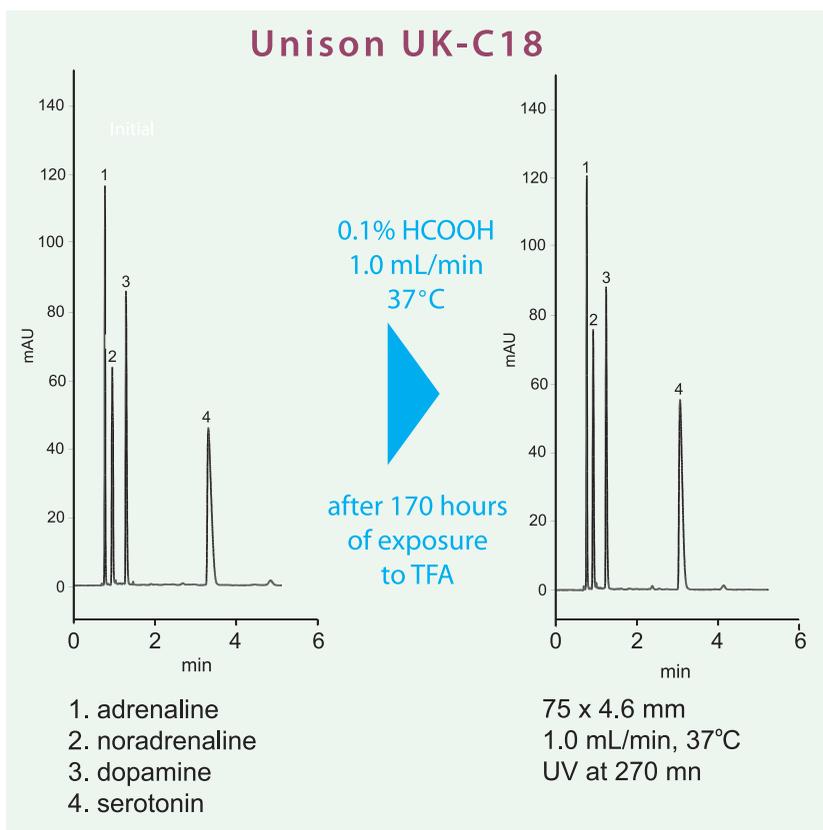


This data shows the exceptional batch-to-batch reproducibility for Unison UK-C18, a column packed with high efficiency 3um C18 silica particles.

The Unison series packing material is manufactured in a proprietary manner different from conventional methods, achieving not only high-efficiency packing material but also high levels of batch-to-batch reproducibility.

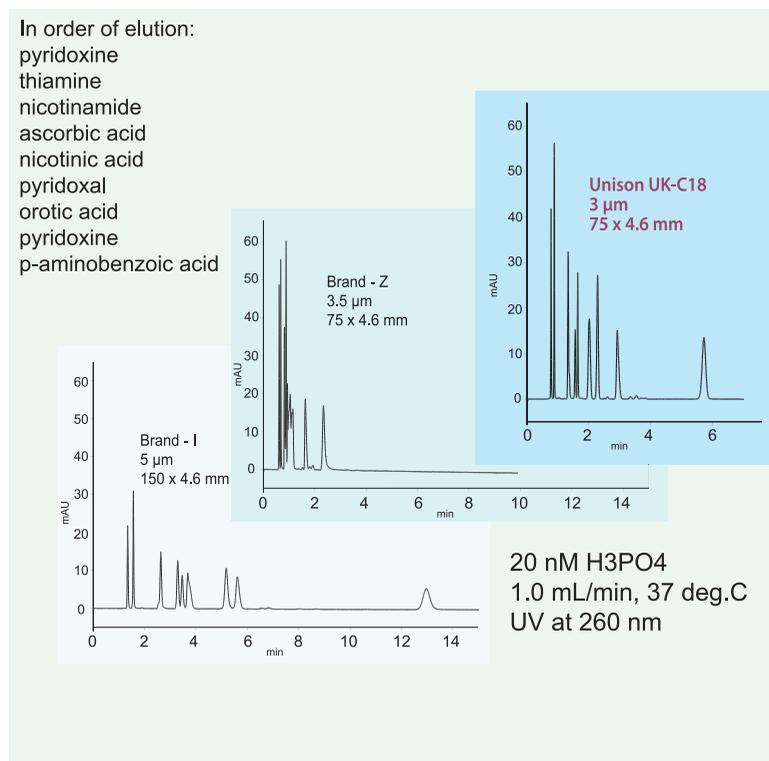
Our supplier puts incredible consideration into their manufacturing process in order to provide users with the highest product quality.

● Excellent Retention in Acidic Aqueous Eluent



Formic acid is important for LC-MS. The new ODS phase, Unison UK-C18, shows excellent stability for catecholides after 170 hours of exposure to 0.1% TFA.

● Excellent Vitamin Separation



Hydrophilic vitamins are important analytes and require aqueous eluent under acidic conditions for optimized separation.

Using phosphoric acid eluent, Unison UK-C18 gives excellent peak shapes and rapid separation compared to conventional 5µm, 150mm columns, and 3.5µm, 150mm columns.

● Ordering Information for Unison UK-C18

3µm Column, Pressure limits of up to: 50MPa, 00 bar, 7,500 psi						3µm, 100MPa,1000 bar, 15,000 psi	
Column Length	Internal Diameter					Column Length	ID
	1.0 mm	1.5 mm	2.0 mm	3.0 mm	4.6 mm		
10			UK020T	UK030T	UK000T	10	2.0 mm
20			UK029T	UK039T	UK009T	20	
30	UK011T	UK071T	UK021T	UK031T	UK001T	30	UK021U
50	UK012T	UK072T	UK022T	UK032T	UK002T	50	UK022U
75	UK013T	UK073T	UK023T	UK033T	UK003T	75	UK023U
100	UK014T	UK074T	UK024T	UK034T	UK004T	100	UK024U
150	UK015T	UK075T	UK025T	UK035T	UK005T	150	UK025U
250	UK016T	UK076T	UK026T	UK036T	UK006T	250	UK026U

3µm Column, Pressure limits of up to: 20MPa, 250 bar, 3,000 psi							
Column Length	Internal Diameter						
	1.0 mm	1.5 mm	2.0 mm	3.0 mm	4.6 mm	6.0 mm	10.0 mm
10			UK020	UK030	UK000		
20			UK029	UK039	UK009		
30	UK011	UK071	UK021	UK031	UK001	UK061	UK0P1
50	UK012	UK072	UK022	UK032	UK002	UK062	UK0P2
75	UK013	UK073	UK023	UK033	UK003	UK063	UK0P3
100	UK014	UK074	UK024	UK034	UK004	UK064	UK0P4
150	UK015	UK075	UK025	UK035	UK005	UK065	UK0P5
250	UK016	UK076	UK026	UK036	UK006	UK066	UK0P6
500					UK007		

Guard Column System for Unison UK-C18							
	Internal Diameter						
	1.0 mm	1.5 mm	2.0 mm	3.0 mm	4.6 mm	6.0 mm	10.0 mm
Guard Holder	GCH01S	GCH01S	GCH01S	GCH01S	GCH01S	GCH01S	GCH02M
Guard Cartridge (Set of 3)	GCUK0C	GCUK0C	GCUK0S	GCUK0S	GCUK0S	GCUK0S	GCUK0M

Pricing Grid For Unison US-C18 Columns, 5µm										
Column Length	Internal Diameter									
	1.0 mm	1.5 mm	2.0 mm	3.0 mm	4.0 mm	4.6 mm	6.0 mm	10.0 mm	20.0 mm	28.0 mm
10						US000				
30	US011	US071	US021	US031		US001	US061	US0P1		
50	US012	US072	US022	US032		US002	US062	US0P2	US0Q2	
75	US013	US073	US023	US033		US003	US063	US0P3		
100	US014	US074	US024	US034		US004	US064	US0P4	US0Q4	
150	US015	US075	US025	US035	US045	US005	US065	US0P5	US0Q5	
250	US016	US076	US026	US036	US046	US006	US066	US0P6	US0Q6	US0R6

Guard Column System for US-C18										
	Internal Diameter									
	1.0 mm	1.5 mm	2.0 mm	3.0 mm	4.0 mm	4.6 mm	6.0 mm	10.0 mm	20.0 mm	28.0 mm
Guard Holder	GCH01S	GCH01S	GCH01S	GCH01S	GCH01S	GCH01S	GCH01S	GCH02M	GCH02M	GCH02M
Guard Cartridge (Set of 3)	GCUS0C	GCUS0C	GCUS0S	GCUS0S	GCUS0S	GCUS0S	GCUS0S	GCUS0M	GCUS0M	GCUS0M

All of our stationary phases can also be made in the following internal diameters:
Nano: 0.05mm, 0.075mm **Capillary:** 0.1mm, 0.3mm, 0.5mm **Semi-Prep:** 20mm, 28mm

- Four Easy Ways To Order:
1. Call us at (215) 665-8902 with any major credit card
 2. Order by fax (501) 646-3497
 3. Through VWR (vendor code 8070779) or Fisher (vendor code VN101253)
 4. Via www.imtaktusa.com with any major credit card