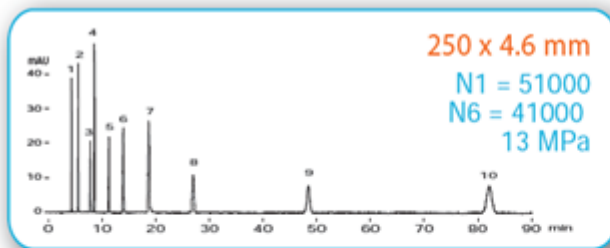


UNISON-UK 3 μ m C8,C18 and Phenyl

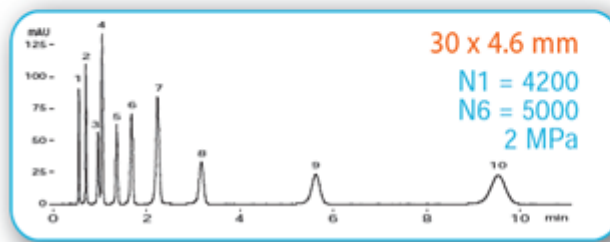
For Aqueous Elution and Exceptional Separation Balance

Up to 200,000 Plates/m the same or more than UPLC[™] Columns



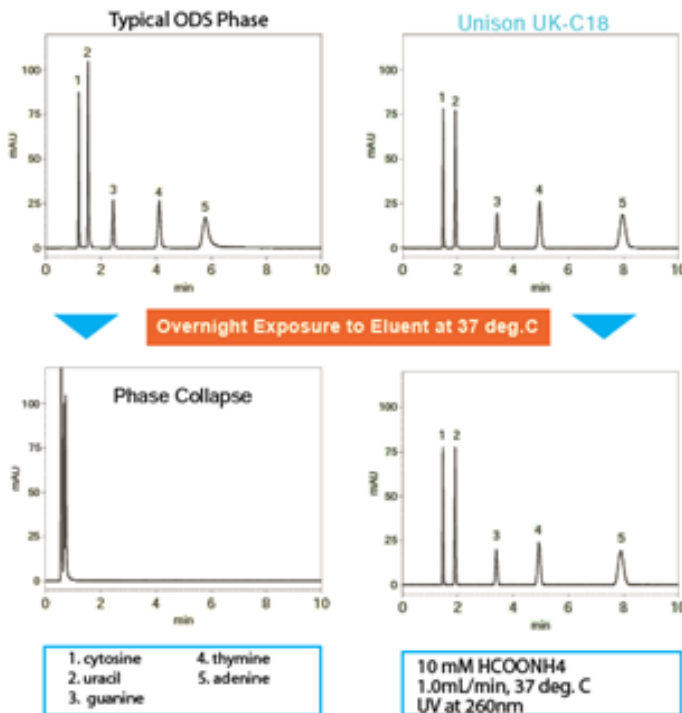
HPLC Industry's
HIGHEST RESOLUTION COLUMN

at 50,000 plates per column



SUPERIOR HIGH-THROUGHPUT ANALYSIS

Unison-UK C18 pH Tolerance

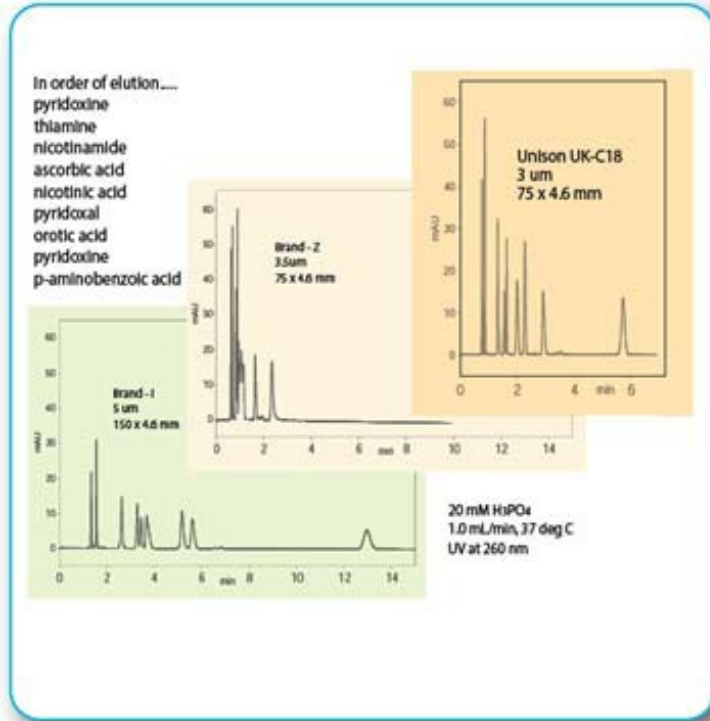


ODS silica phases which are designed for the separation of polar compounds have lower coverage than silica stationary phases for conventional ODS separations. This is necessary to avoid phase collapse.

We have found that a low coverage ODS phase employing a trifunctional component and a proprietary end-capping technique results in a phase that is stable under pH 1.5. Unison UK-C18 columns are the products of this research.

A typical ODS column shows C18 phase collapse, which results in loss of retention, leads to poor separation and reproducibility. Unison UK-C18 prevents phase collapse seen in typical ODS columns, and provides stable retention even for nucleic bases under hydrophilic conditions.

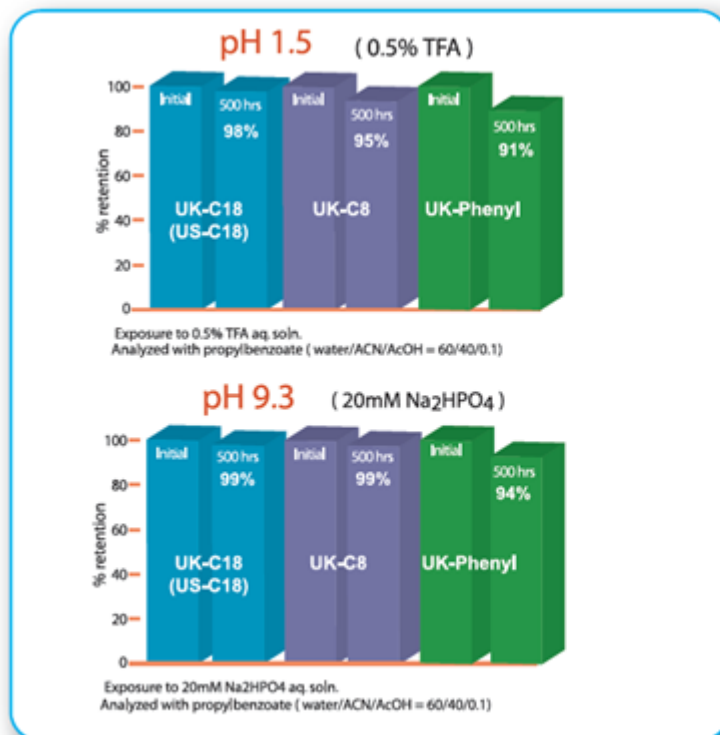
Comparison for Hydrophilic Vitamins Separations



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

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

Unison pH Range and Durability



Unison stationary phase possesses high durability, with not only acidic, but alkali elutions.

Our unique end-capping provides C8 and phenyl as well as ODS stationary phases with improved durability for a wide pH range.

Strong Acid Stability

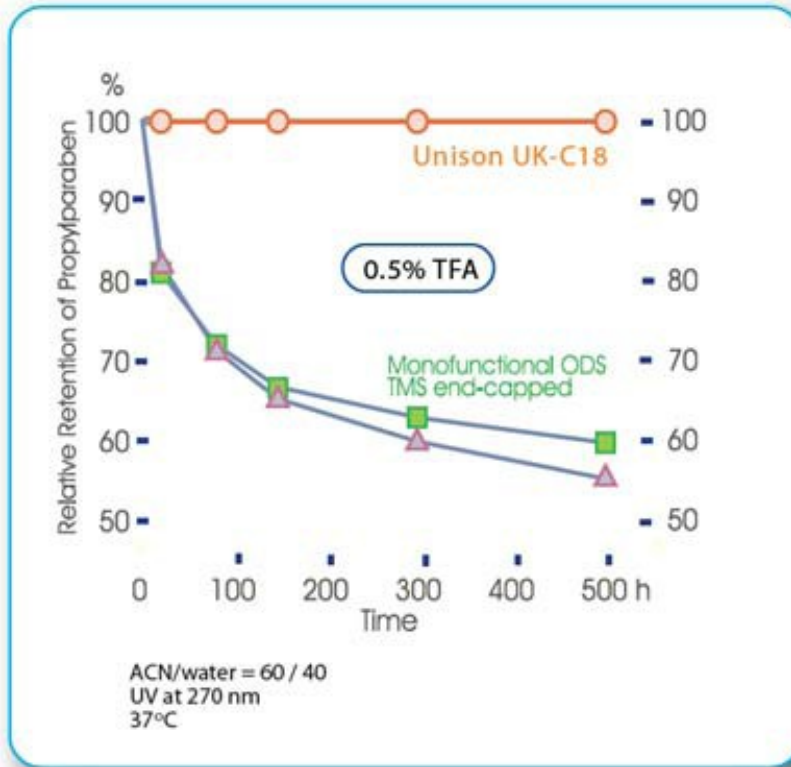
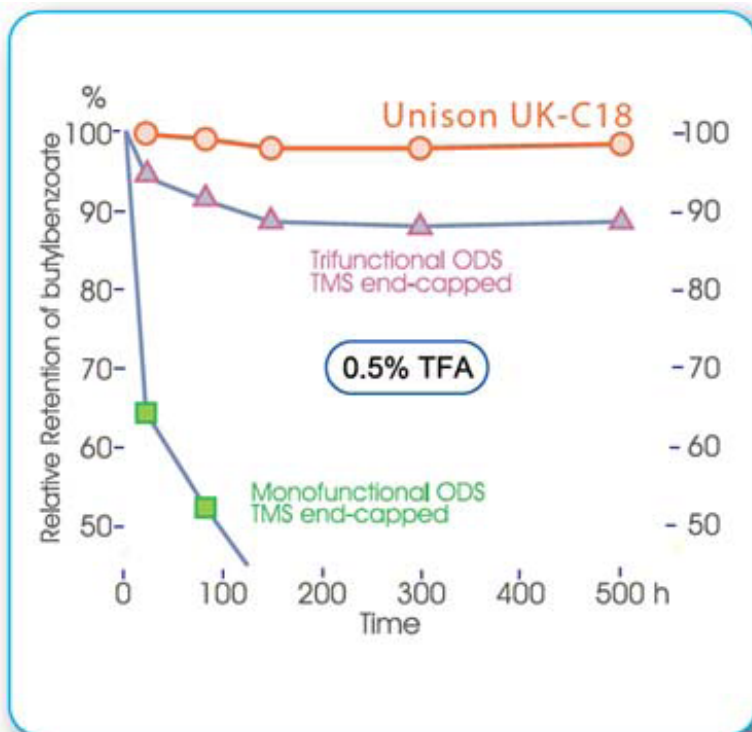


Figure 2 demonstrates the superior retention of Unison UK-C18 under acidic conditions.

Under strongly acidic conditions, pH 1.5, Unison UK-C18 provides excellent stability compared to typical ODS columns and monofunctional and TMS end-capped columns.

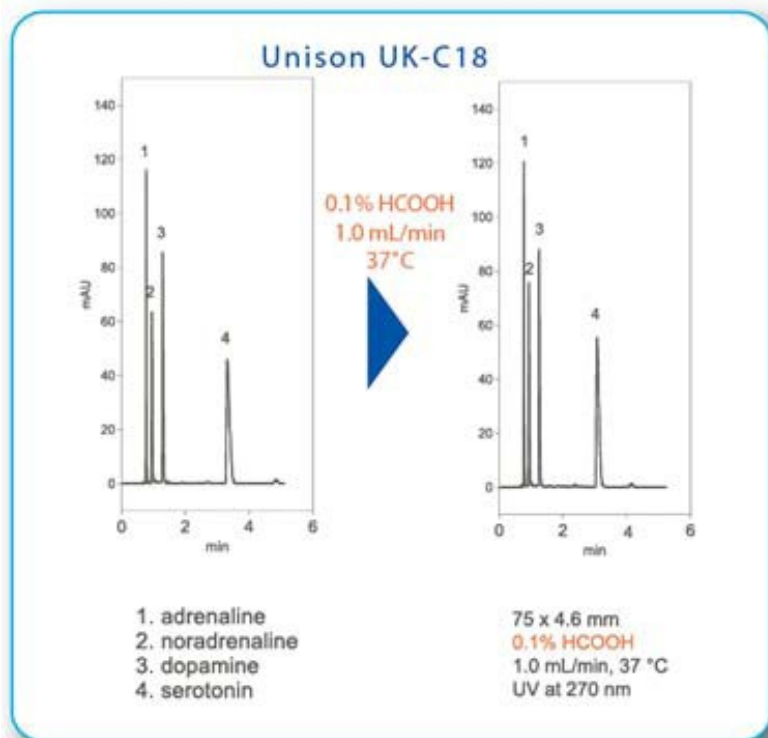
Unison UK-C18's superior retention is attributed to trifunctional ODS and proprietary endcapping.



Our studies show that trifunctional, TMS end-capped stationary phases provide greater stability under acidic conditions, pH 1.5.

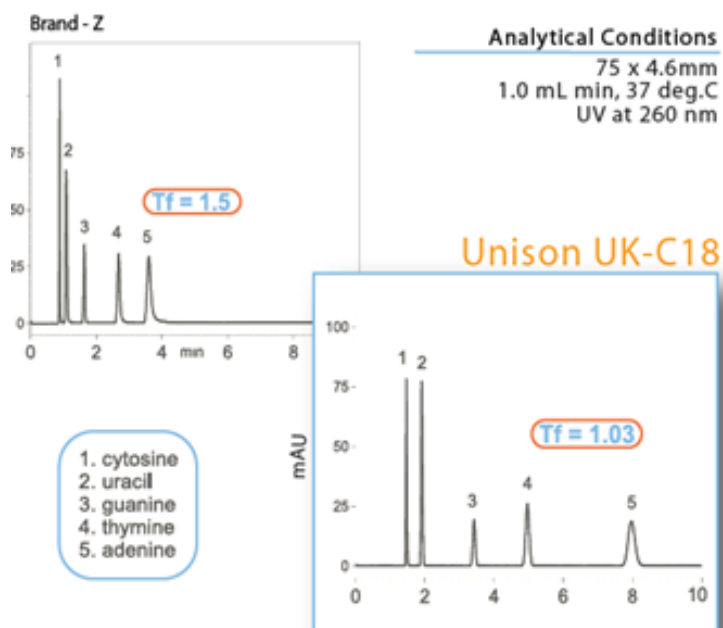
However, Unison UK-C18 provides optimal stability. Our proprietary end-capping is the key to hydrophilic compound separations under acidic conditions.

Excellent Retention Stability in Acidic Eluent



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

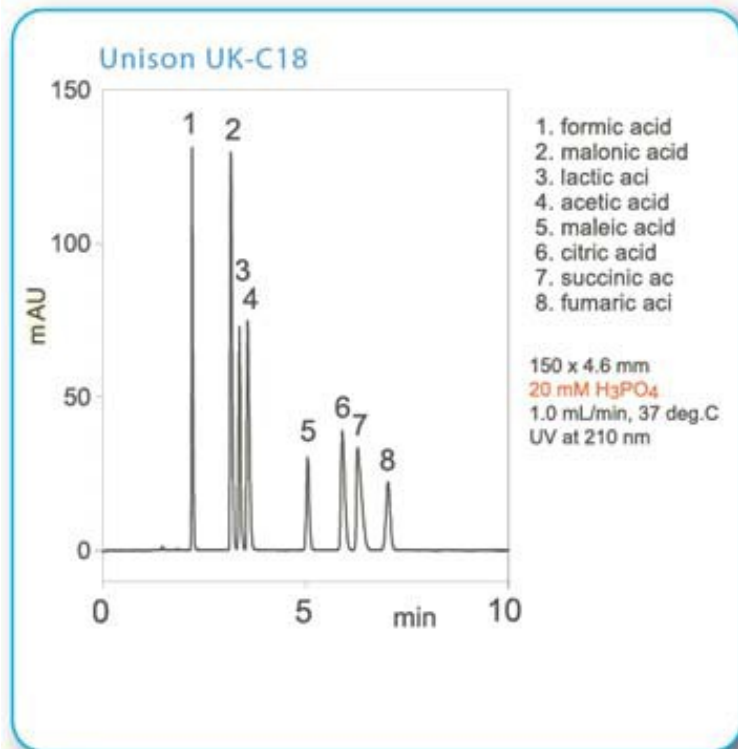
Best Peak Shape for Polar Compounds



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

Unison UK-C18 provides excellent peak symmetry and separation for these compounds.

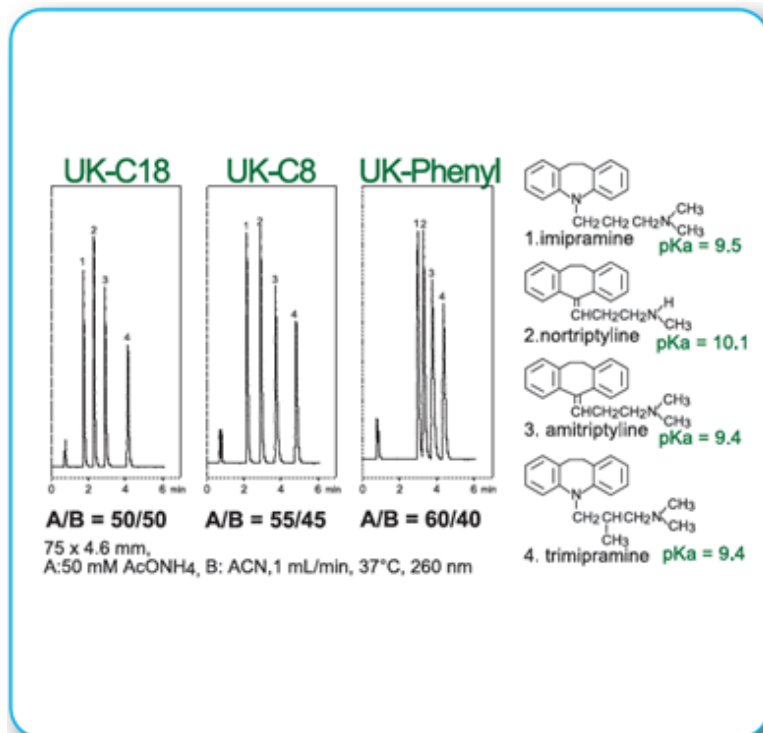
Organic Acids Separation under Low pH Aqueous Conditions



Reverse phase separation of organic acids is difficult. The new acid stable phase, 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.

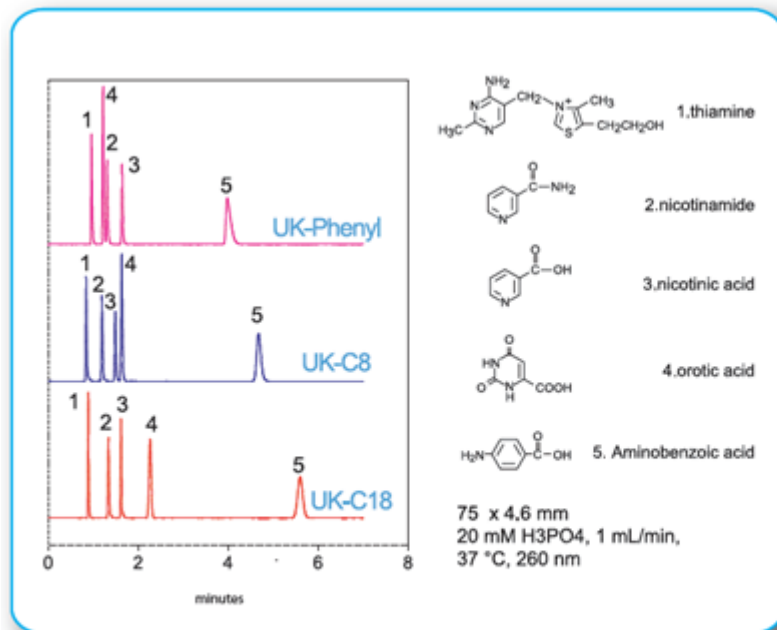
Unique Endcapping



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

For basic anti-depressant drugs which exhibit a high pKa value, all stationary phases show excellent peak shape, even with the use of ammonium acetate, which is a volatile pH modifier for LC-MS. This means that even without using the phosphoric acid eluent usually applied to LC operation with UV detection, separation is possible and you can avoid the trouble of using inorganic salts.

Comparison for Hydrophilic Vitamins Separations

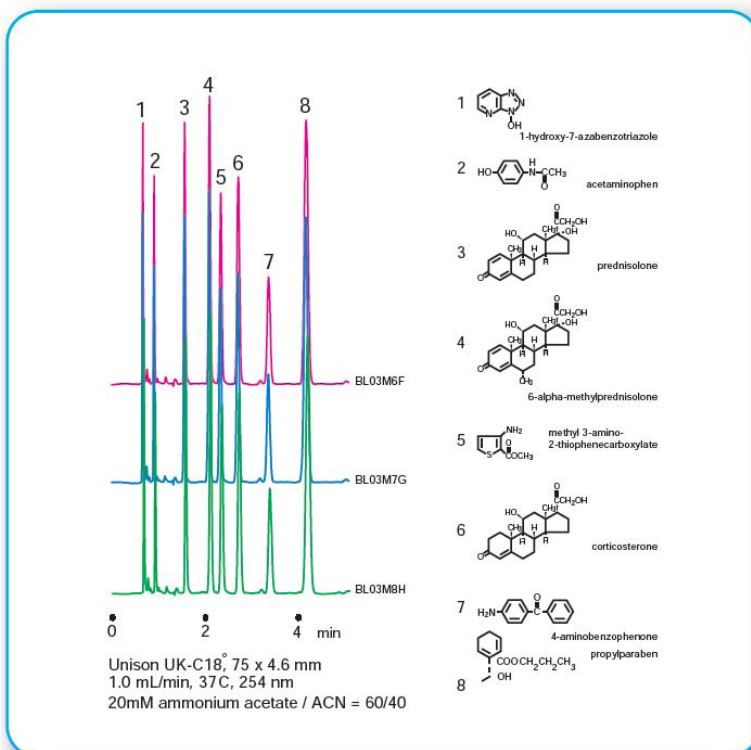


Acidic eluents are typically used to analyze water soluble vitamins, the prototypical high polarity compound, without an ion pairing reagent. By using the Unison series, high speed separation is possible with all Unison separation phases.

Unison C18, C8, and Phenyl phases each possess their own separation strengths, which provide users a wealth of choices to suit their complex separation needs.

C8 and Phenyl columns usually exhibit lower hydrophobicity and shorter retention, in the case of aqueous elutions. An optimal retention is achieved by the interaction of the stationary phase with dipole or pi-electron interactions.

Separation of Polar Compounds



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

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

We put great consideration and time into our manufacturing process in order to provide users with the highest levels of product quality.

4.6mm ID, 3µm C18

UK009	Unison UK-C18 (20x4.6mm)	3µm, ODS, end-capped
UK001	Unison UK-C18 (30x4.6mm)	3µm, ODS, end-capped
UK002	Unison UK-C18 (50x4.6mm)	3µm, ODS, end-capped
UK003	Unison UK-C18 (75x4.6mm)	3µm, ODS, end-capped
UK004	Unison UK-C18 (100x4.6mm)	3µm, ODS, end-capped
UK005	Unison UK-C18 (150x4.6mm)	3µm, ODS, end-capped
UK006	Unison UK-C18 (250x4.6mm)	3µm, ODS, end-capped
UK007	Unison UK-C18 (500x4.6mm)	3µm, ODS, end-capped

2mm ID, 3µm C18

UK029	Unison UK-C18 (20x2mm)	3µm, ODS, end-capped
UK021	Unison UK-C18 (30x2mm)	3µm, ODS, end-capped
UK022	Unison UK-C18 (50x2mm)	3µm, ODS, end-capped
UK023	Unison UK-C18 (75x2mm)	3µm, ODS, end-capped
UK024	Unison UK-C18 (100x2mm)	3µm, ODS, end-capped
UK025	Unison UK-C18 (150x2mm)	3µm, ODS, end-capped
UK026	Unison UK-C18 (250x2mm)	3µm, ODS, end-capped

1mm ID, 3µm C18

UK011	Unison UK-C18 (30x1mm)	3µm, ODS, end-capped
UK012	Unison UK-C18 (50x1mm)	3µm, ODS, end-capped
UK013	Unison UK-C18 (75x1mm)	3µm, ODS, end-capped
UK014	Unison UK-C18 (100x1mm)	3µm, ODS, end-capped
UK015	Unison UK-C18 (150x1mm)	3µm, ODS, end-capped
UK016	Unison UK-C18 (250x1mm)	3µm, ODS, end-capped

OTHER FORMATS AVAILABLE FROM NANO TO PREP

For more information or to place an order contact:



+44 (0) 1420 549922

enquiries@arcsciences.com



+44 (0) 1420 84254

PO Box 275, ALTON, Hampshire, GU34 9FJ, United Kingdom

www.arcsciences.com