



SFC Analytical and Preparative Columns

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Supercritical Fluid Chromatography (SFC) Analytical and Preparative Columns

Torus, Trefoil, and Viridis Columns for Achiral and Chiral SFC Separations

The Torus, Trefoil,™ and Viridis™ Column Chemistries, combined with Waters SFC Instrumentation, will enable separation scientists to better access the alternate selectivity of normal-phase chromatography with the ease and reliability of reversed-phase chromatography. These high quality achiral and chiral SFC column chemistries provide the ability to handle achiral and chiral separations deliver novel selectivity and robustness with unequaled speed and unparalleled confidence.



Column Characteristics

| Column | Particle Shape | Particle Size | Pore Volume | Pore Size | Surface Area | Carbon Load | Chemistry |
|---|----------------|----------------|-------------|-----------|-----------------------|-------------|---|
| Torus Analytical and Preparative Achiral SFC Columns | | | | | | | |
| Torus 2-PIC | Spherical | 1.7, 5 μm | 0.7 cc/g | 130 Å | 185 m ² /g | — | 2-Picolylamine |
| Torus DEA | Spherical | 1.7, 5 μm | 0.7 cc/g | 130 Å | 185 m ² /g | — | Diethylamine |
| Torus DIOL | Spherical | 1.7, 5 μm | 0.7 cc/g | 130 Å | 185 m ² /g | — | High density diol |
| Torus 1-AA | Spherical | 1.7, 5 μm | 0.7 cc/g | 130 Å | 185 m ² /g | — | 1-Aminoanthracene |
| Trefoil Analytical Chiral SFC Column | | | | | | | |
| Trefoil AMY1 | Spherical | 2.5 μm | — | — | — | — | Amylose tris-(3, 5-dimethylphenylcarbamate) |
| Trefoil CEL1 | Spherical | 2.5 μm | — | — | — | — | Cellulose tris-(3, 5-dimethylphenylcarbamate) |
| Trefoil CEL2 | Spherical | 2.5 μm | — | — | — | — | Cellulose tris-(3-chloro-4-methylphenylcarbamate) |
| Viridis Analytical and Preparative Achiral SFC Columns | | | | | | | |
| Viridis BEH | Spherical | 1.7, 3.5, 5 μm | 0.7 cc/g | 130 Å | 185 m ² /g | N/A | Unbonded |
| Viridis BEH 2-EP | Spherical | 1.7, 3.5, 5 μm | 0.7 cc/g | 130 Å | 185 m ² /g | 9% | 2-Ethylpyridine |
| Viridis CSH Fluoro-Phenyl | Spherical | 1.7, 3.5, 5 μm | 0.7 cc/g | 130 Å | 185 m ² /g | 10% | CSH fluoro-phenyl |
| Viridis HSS C ₁₈ SB | Spherical | 1.8, 3.5 μm | 0.7 cc/g | 100 Å | 230 m ² /g | 8.5% | C ₁₈ |
| Viridis Silica | Spherical | 5 μm | 0.9 cc/g | 100 Å | 340 m ² /g | N/A | Unbonded |
| Viridis Silica 2-EP | Spherical | 5 μm | 0.9 cc/g | 100 Å | 340 m ² /g | 8% | 2-Ethylpyridine |

The use of compressed liquid CO₂ as the primary mobile phase in convergence chromatography unleashes the powerful orthogonal capability of normal-phase separations. Gradient separations performed across the widest polarity range bring the full detection capabilities of mass spectrometry into everyday use as a mainstream technique. You can now separate most compounds and mixtures soluble in organic solvents and, in addition, separate structural analogs, isomers, and enantiomeric and diastereomeric mixtures—all of which are notoriously difficult to separate by other means.

Torus Columns for Achiral SFC Separations



Torus Columns offer:

- Excellent peak shapes
- A wide range of unique selectivities with unique ligands
- Highest efficiency and QC-ready robustness
- Waters OBD Technology

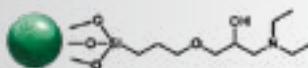
Torus Columns are designed for achiral SFC separations, offer a wide range of selectivity, excellent peak shape, and are ideally suited for method transfer and method scale-up. Torus Columns are offered in 1.7 and 5 μm chemistries in both analytical and preparative column formats.

The Torus Phases are based on patented two-stage functionalization of ethylene bridged hybrid (BEH) particles. The initial bonding provides a hydrophilic surface that controls the retention characteristics of the sorbent, and is responsible for minimizing unwanted surface interactions, which lead to retention and selectivity changes over time. The second step of the functionalization is responsible for the individual selectivity and peak shape characteristics of each of the Torus Chemistries. The results of these steps are a series of stationary phases with broad ranging selectivities, which maintain robust chromatographic performance over the lifetime of the column.

Torus 2-PIC, 1.7 and 5 μm Columns
2-Picolylamine



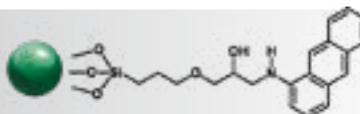
Torus DEA, 1.7 and 5 μm Columns
Diethylamine



Torus DIOL, 1.7 and 5 μm Columns
High Density Diol

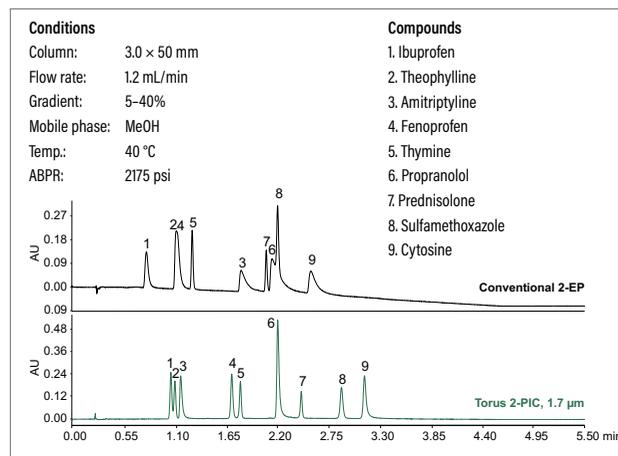


Torus 1-AA, 1.7 and 5 μm Columns
1-Aminoanthracene



TORUS 2-PIC (2-PICOLYLAMINE)

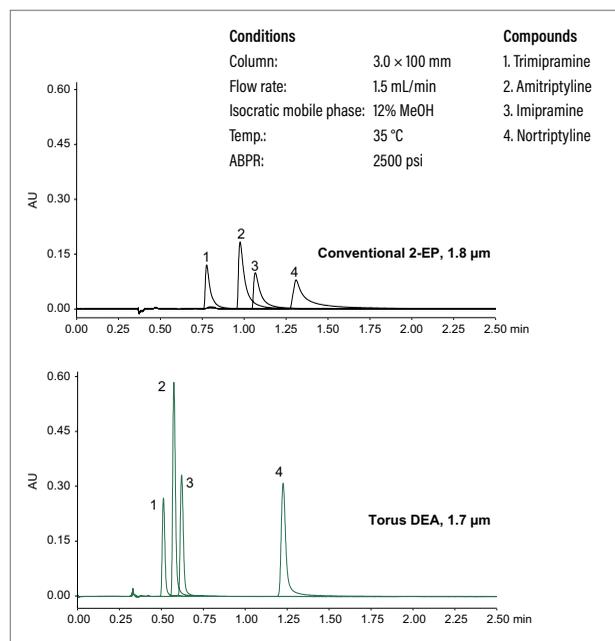
Torus 2-PIC Columns were designed for general use and are the first choice for a wide range of applications with acidic and basic compounds. The Torus 2-PIC phase demonstrates enhanced performance compared to conventional 2-ethylpyridine (2-EP), displaying improved peak shape, added retention, and novel selectivity.



Torus 2-PIC has excellent peak shape characteristics for wide ranges of acidic and basic compounds.

TORUS DEA (DIETHYLAMINE)

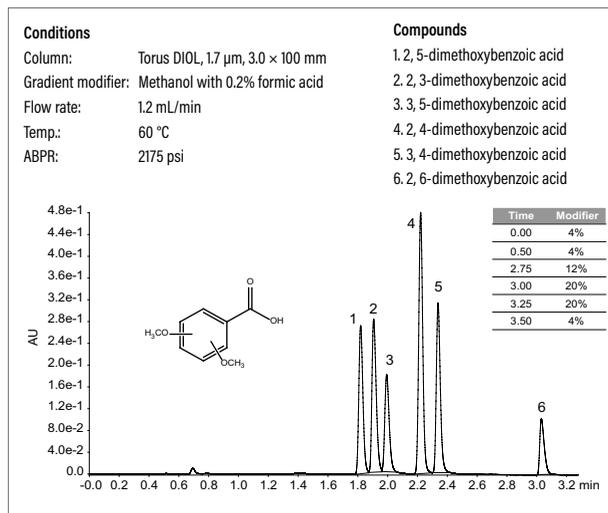
Torus DEA Columns are designed to be orthogonal to the Torus 2-PIC phase. Designed to provide superior peak shape for very strong bases, these columns provide a complementary selectivity to the 2-PIC stationary phase.



Torus DEA exhibits excellent peak shape for strong basic compounds when compared to a silica 2-EP column.

TORUS DIOL (HIGH-DENSITY DIOL)

Torus DIOL Columns were developed to provide additional selectivity choices. High-density diol surface bonding offers chromatography performance similar to that of traditional, unbonded silica phases, and adds overall method robustness when utilized with additives.



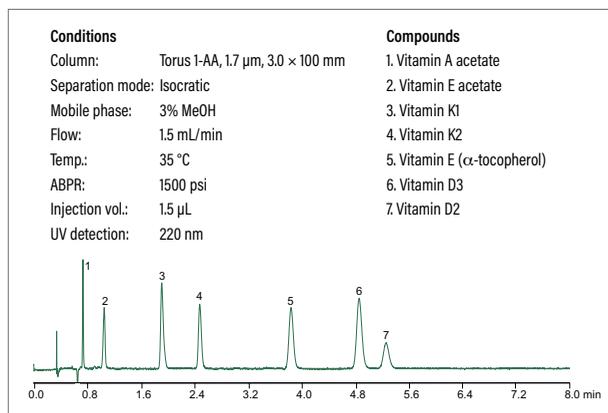
Torus DIOL Columns show good peak shapes for acidic compounds, as demonstrated by the separation of six isomeric forms of dimethoxybenzoic acid.

TORUS 1-AA (1-AMINOANTHRACENE)

Torus 1-AA Columns are designed to be the superior choice for separating neutral compounds such as polar and non-polar steroids, and hydrophobic compounds such as lipids and fat-soluble vitamins. This chemistry also provides an orthogonal selectivity to the 2-PIC phase, making it very useful in method development.

Torus 1-AA Columns are best used for:

- Hydrophobic (lipophilic) compounds
- Free fatty acids
- Fat-soluble vitamins
- Lipids
- Natural products
- Steroids



Torus 1-AA Column shows good peak shape and resolution of fat-soluble vitamins.

Torus Columns for Achiral Method Development

For method development, it is crucial to have a series of columns that have significantly differing selectivities and good retentivity. The Torus Chemistries were specifically chosen to provide a breadth of selectivities for acids, bases, and neutral analytes. For more information on achiral SFC method development, visit waters.com/torus and view the webcast titled "Torus Columns for Achiral Method Development".

 Visit waters.com/torus

Ordering Information

Torus Analytical Columns

| Dimension | Particle Size: 1.7 µm | | | |
|---------------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| | P/N | P/N | P/N | P/N |
| | 2-PIC | DEA | DIOL | 1-AA |
| VanGuard Pre-column, 2.1 × 5 mm, 3/pk | 186007604 | 186007622 | 186007613 | 186007631 |
| 2.1 × 50 mm | 186007596 | 186007614 | 186007605 | 186007623 |
| 2.1 × 75 mm | 186007597 | 186007615 | 186007606 | 186007624 |
| 2.1 × 100 mm | 186007598 | 186007616 | 186007607 | 186007625 |
| 2.1 × 150 mm | 186007599 | 186007617 | 186007608 | 186007626 |
| 3.0 × 50 mm | 186007600 | 186007618 | 186007609 | 186007627 |
| 3.0 × 75 mm | 186007601 | 186007619 | 186007610 | 186007628 |
| 3.0 × 100 mm | 186007602 | 186007620 | 186007611 | 186007629 |
| 3.0 × 150 mm | 186007603 | 186007621 | 186007612 | 186007630 |

| Dimension | Particle Size: 5 µm | | | |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|
| | P/N | P/N | P/N | P/N |
| 2.1 × 150 mm | 186008543 | 186008563 | 186008554 | 186008572 |
| 3.0 × 50 mm | 186008544 | 186008564 | 186008555 | 186008573 |
| 3.0 × 100 mm | 186008545 | 186008565 | 186008556 | 186008574 |
| 3.0 × 150 mm | 186008546 | 186008566 | 186008557 | 186008575 |
| 3.0 × 250 mm | 186008549 | 186008567 | 186008558 | 186008576 |
| 4.6 × 50 mm | 186008550 | 186008568 | 186008559 | 186008577 |
| 4.6 × 100 mm | 186008551 | 186008569 | 186008560 | 186008578 |
| 4.6 × 150 mm | 186008552 | 186008570 | 186008561 | 186008579 |
| 4.6 × 250 mm | 186008553 | 186008571 | 186008562 | 186008580 |

Torus Column Method Development Kits

| Dimension | Particle Size: 1.7 µm |
|--|---------------------------|
| | P/N |
| Torus Column Screening Kit, 2.1 × 50 mm (2-PIC, DEA, DIOL, 1-AA), 4/pk | 176003579 |
| Torus Column Method Development Kit, 3.0 × 100 mm (2-PIC, DEA, DIOL, 1-AA), 4/pk | 176003580 |

Torus Preparative Achiral SFC Columns

Combining state-of-the-art media manufacturing with industry-leading column technology, Torus Achiral Columns impart a new level of robustness to laboratory-scale purification.

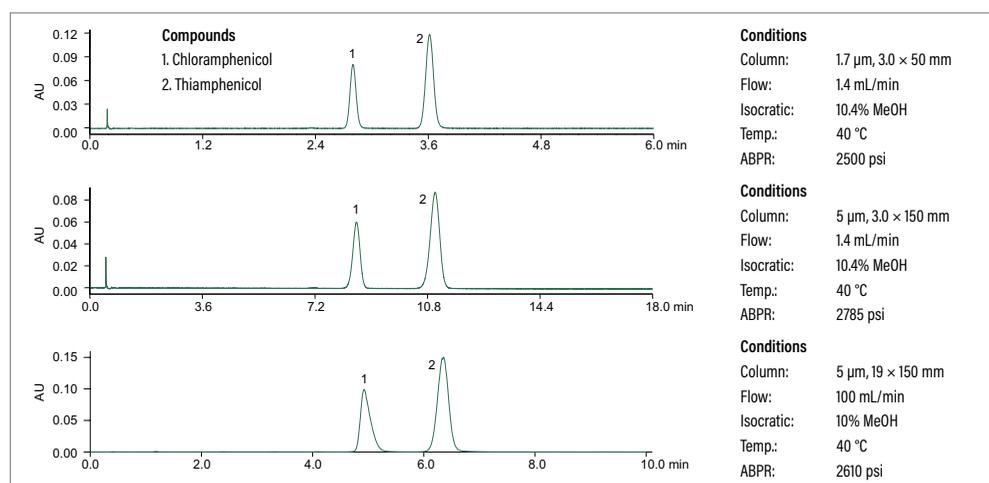
You can base a scale up of screening methods on any of the four Torus analytical column chemistries to perform 5 μm Torus Preparative SFC Separations.

Torus 2-PIC 1.7 μm Columns → Torus 2-PIC 5 μm Preparative Columns

Torus DEA 1.7 μm Columns → Torus DEA 5 μm Preparative Columns

Torus DIOL 1.7 μm Columns → Torus DIOL 5 μm Preparative Columns

Torus 1-AA 1.7 μm Columns → Torus 1-AA 5 μm Preparative Columns



Scale up of an analytical method from a Torus 2-PIC, 1.7 μm Column of two closely related antibiotics, chloramphenicol and thiamphenicol, to a Torus 2-PIC, 5 μm , Preparative Column.

Ordering Information

Torus OBD Preparative Columns

| Dimension | Particle Size: 5 μm | | | |
|-------------------------------------|--------------------------------|---------------------------|---------------------------|---------------------------|
| | P/N 2-PIC | P/N DIOL | P/N DEA | P/N AA |
| OBD 10 \times 50 mm | 186008581 | 186008598 | 186008615 | 186008632 |
| OBD 10 \times 100 mm | 186008582 | 186008599 | 186008616 | 186008633 |
| OBD 10 \times 150 mm | 186008583 | 186008600 | 186008617 | 186008634 |
| OBD 10 \times 250 mm | 186008584 | 186008601 | 186008618 | 186008635 |
| 19 \times 10 mm Guard Cartridge* | 186008741 | 186008742 | 186008743 | 186008744 |
| OBD 19 \times 50 mm | 186008585 | 186008602 | 186008619 | 186008636 |
| OBD 19 \times 100 mm | 186008586 | 186008603 | 186008620 | 186008637 |
| OBD 19 \times 150 mm | 186008587 | 186008604 | 186008621 | 186008638 |
| OBD 19 \times 250 mm | 186008588 | 186008605 | 186008622 | 186008639 |
| 30 \times 10 mm Guard Cartridge** | 186008650 | 186008651 | 186008652 | 186008653 |
| OBD 30 \times 50 mm | 186008589 | 186008606 | 186008623 | 186008640 |
| OBD 30 \times 75 mm | 186008590 | 186008607 | 186008624 | 186008641 |
| OBD 30 \times 100 mm | 186008591 | 186008608 | 186008625 | 186008642 |
| OBD 30 \times 150 mm | 186008592 | 186008609 | 186008626 | 186008643 |
| OBD 30 \times 250 mm | 186008593 | 186008610 | 186008627 | 186008644 |
| OBD 50 \times 50 mm | 186008594 | 186008611 | 186008628 | 186008645 |
| OBD 50 \times 100 mm | 186008595 | 186008612 | 186008629 | 186008646 |
| OBD 50 \times 150 mm | 186008596 | 186008613 | 186008630 | 186008648 |
| OBD 50 \times 250 mm | 186008597 | 186008614 | 186008631 | 186008649 |

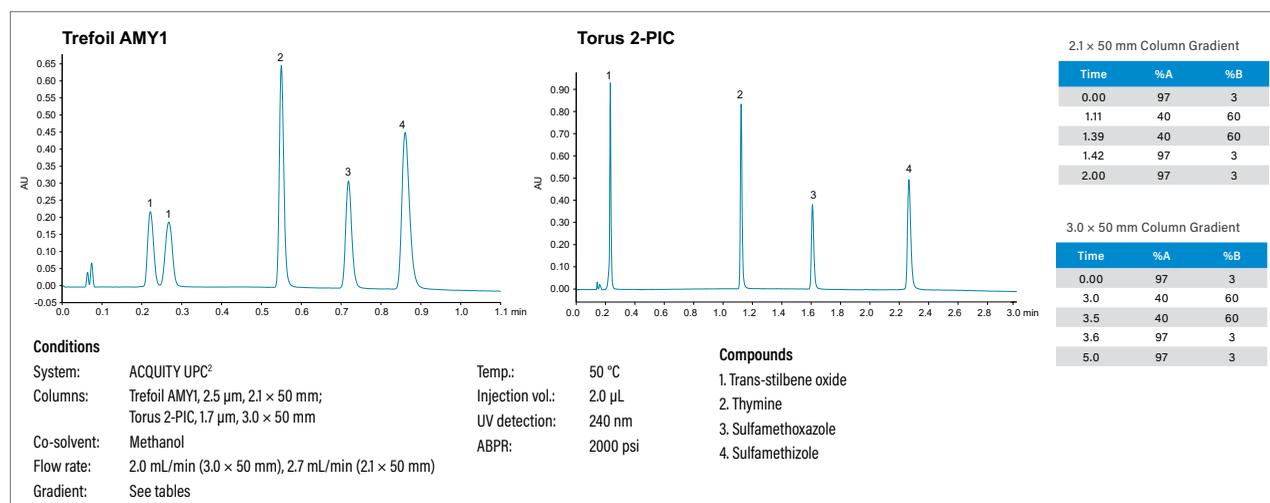
* Requires 19 mm I.D. Prep Guard Holder, p/n: [186008745](#).

** Requires 30 mm I.D. Prep Guard Holder, p/n: [186006912](#).

ACQUITY UPC² System: Quality Control Reference Materials

The Quality Control Reference Materials (QC Reference Materials) for the ACQUITY UPC²™ System provide a simple, reliable way to monitor a system's performance. Prepared for use with Trefoil and Torus Columns, this four-component mixture is optimized to ensure these key aspects of performance:

- The efficacy of chiral separation (by means of a chiral compound included in the mixture)
- The performance of mass spectrometry (by means of an ionizing compound included in the mixture)
- The well-separated nature of compounds in a wide elution range
- The detectability of all compounds by UV



Single QC Reference Material for Trefoil and Torus Columns on an ACQUITY UPC² System.

HOW DO YOU KNOW YOUR CHROMATOGRAPHIC SYSTEM IS OPERATING PROPERLY?

QC Reference Materials contain mixtures of standards chosen to provide an easy and reliable way to monitor the performance of any chromatographic system. They assure you that your column and system are ready to analyze samples. Regular use of QC Reference Materials also provides an opportunity to benchmark chromatographic systems and note their performance over time, making it easier to proactively identify problems and correct them sooner.

Ordering Information

Quality Control Reference Materials

| Product Name | Intended Use | Chromatographic Mode | System | Contents | P/N |
|--|--|---|--------------------------|--|---------------------------|
| UPC ² QC Reference Material | Provides chromatographic performance information inclusive of mobile-phase pH for both chiral and achiral modes. | Convergence Chromatography, SFC <ul style="list-style-type: none"> ■ chiral ■ achiral | ACQUITY UPC ² | 1. 0.50 mg/mL (+/-) trans-stilbene oxide 2. 0.50 mg/mL thymine 3. 0.50 mg/mL sulfamethoxazole 4. 0.50 mg/mL sulfamethizole In a 1 mL solution of 75:25 ACN:MeOH Store refrigerated 2-5 °C | 186007950 |

Standards for SFC and ACQUITY UPC² Systems

| Description | P/N |
|---|---------------------------|
| Waters Prep 15/30 SFC System Test Mix and Internal Standard | 700005675 |
| Waters Prep 100 SFC System Test Mix and Internal Standard | 700005674 |

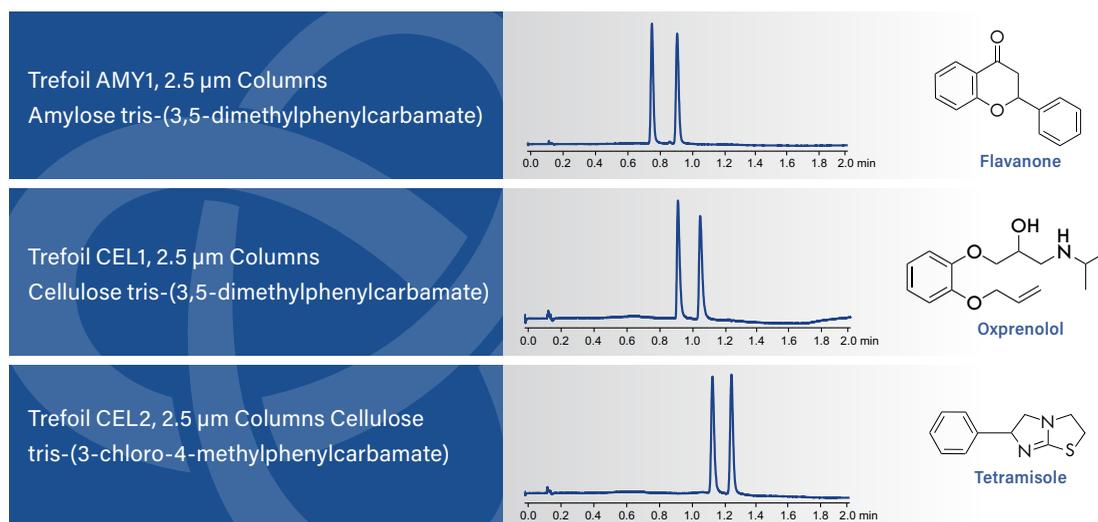
Standards for ACQUITY UPC² Systems

| Description | Contents | P/N |
|--|---|---------------------------|
| UPC ² Standard Mix | 2 mg/mL each: 3-benzoylpyridine, cortisone, 4-nitroaniline, 4,4'-biphenol in methanol, 1 mL | 186006372 |
| UPC ² Gradient Standard | 1 mg/mL coumarin, 1 mg/mL flavone, 2 mg/mL caffeine, 1 mg/mL thymine, 2 mg/mL prednisone in 2-propanol, 1 mL | 186006551 |
| UPC ² Caffeine Standard | 1.0 mg/mL caffeine in 2-propanol, 2 mL | 186006614 |
| UPC ² Standards Kit | 1.0 mg/mL caffeine in 2-propanol, 2 mL 1 mg/mL coumarin, 1 mg/mL flavone, 2 mg/mL caffeine, 1 mg/mL thymine, 2 mg/mL prednisone in 2-propanol, 1 mL | 176002811 |
| UPC ² Flavone Standard | 1 mg/mL in 2-propanol, 2 mL | 186006523 |
| UPC ² Flurbiprofen Standard | 1 mg/mL in 2-propanol, 2 mL | 186006524 |
| UPC ² Ibuprofen Standard | 1 mg/mL in 2-propanol, 2 mL | 186006521 |
| UPC ² Ketoprofen Standard | 1 mg/mL in 2-propanol, 2 mL | 186006522 |

Trefoil Columns offer:

- Optimized particle size, column dimensions, and flow rates for the ACQUITY UPC² System
- The full advantage of mass-spectrometry detection
- Faster results when following method-development protocols
- High quality, consistent, and reproducible columns

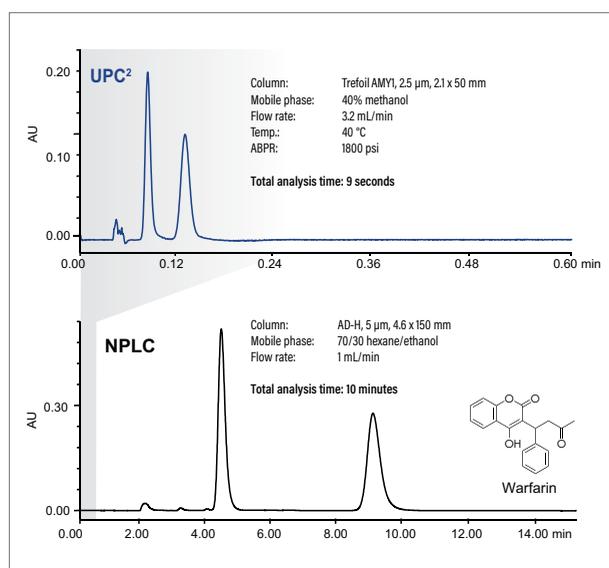
Trefoil modified polysaccharide-based stationary phases provide broad spectrum chiral selectivity. Trefoil AMY1, Trefoil CEL1, and Trefoil CEL2 Column Chemistries are complementary to each other and independently offer different retention characteristics for separating chiral compounds. Selectivity can be further enhanced by blends of modifiers and additives that most favorably modulate chiral recognition. These columns are designed to separate enantiomers and their stereoisomers, metabolites, degradants, and impurities with greater resolution and speed.



Chiral separations were all run using the two-minute screening method.

TRANSFER NORMAL-PHASE METHODS TO CONVERGENCE CHIRAL METHODS

Legacy normal-phase chiral methods can be easily transferred to the ACQUITY UPC² System using Trefoil Columns. Many of these old methods have undesirable characteristics such as long run times and often use chlorinated solvents in combination with THF or hexane which are costly to purchase and dispose. With simple redevelopment, new, cost-effective methods can be obtained using inexpensive and non-toxic compressed liquid CO₂ as the primary mobile phase and can be coupled to mass spectrometers for greater information.

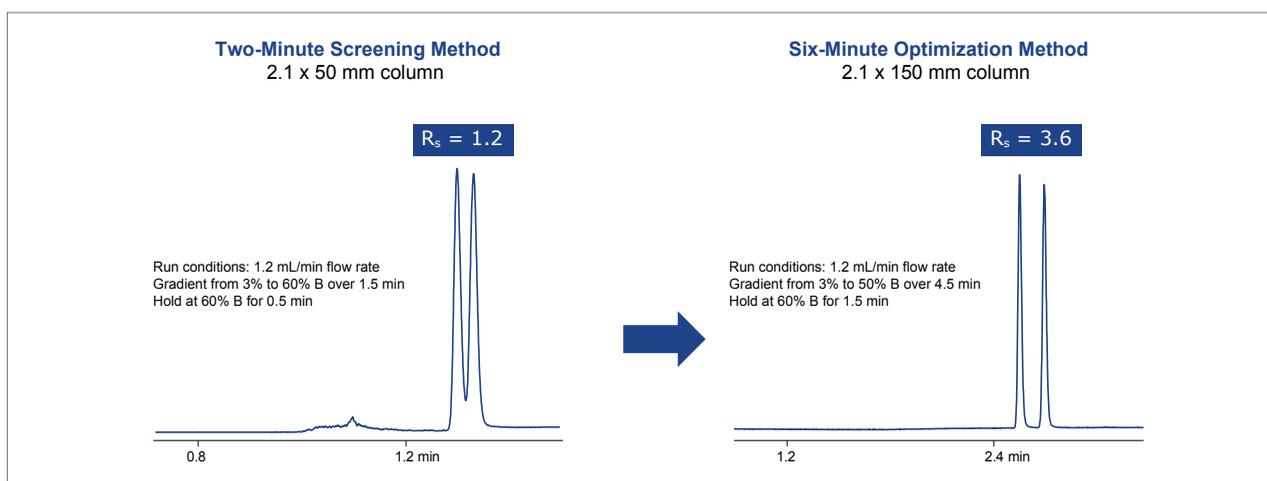


ACQUITY UPC² System with Trefoil Columns can be more than 30 times faster, use 75 times less solvent per run, and cost 100 times less per analysis.

DID YOU KNOW...

CHIRAL METHODS USING TREFOIL COLUMNS

Faster method development is possible when taking advantage of the dependable, high performance, low dispersion analytical ACQUITY UPC² System when used together with the Trefoil chiral stationary phases. Using short, narrow-bore columns with a small number of well selected co-solvents and mass spectrometry compatible additives enables this holistic combination to achieve routine gradient screening runs in two minutes. To view a webcast on the Trefoil Columns Method Development Strategy, please visit waters.com/trefoil



An example of the increased resolution expected when you transition from the two-minute screening method to the six-minute optimization method.

Ordering Information

Trefoil Columns

| Dimension | Particle Size: 2.5 μ m | | |
|--------------|----------------------------|---------------------------|---------------------------|
| | P/N | P/N | P/N |
| | Trefoil AMY1 | Trefoil CEL1 | Trefoil CEL2 |
| 2.1 x 50 mm | 186007457 | 186007461 | 186007654 |
| 2.1 x 150 mm | 186007458 | 186007462 | 186007655 |
| 3.0 x 50 mm | 186007459 | 186007463 | 186007656 |
| 3.0 x 150 mm | 186007460 | 186007464 | 186007657 |

Trefoil Column Method Development Kits

| Description | Particle Size: 2.5 μ m |
|--|----------------------------|
| | P/N |
| Trefoil Column Screening Kit, 2.1 x 50 mm (AMY1, CEL1, CEL2), 3/pk | 176003577 |
| Trefoil Column Optimization Kit, 3.0 x 150 mm (AMY1, CEL1, CEL2), 3/pk | 176003578 |

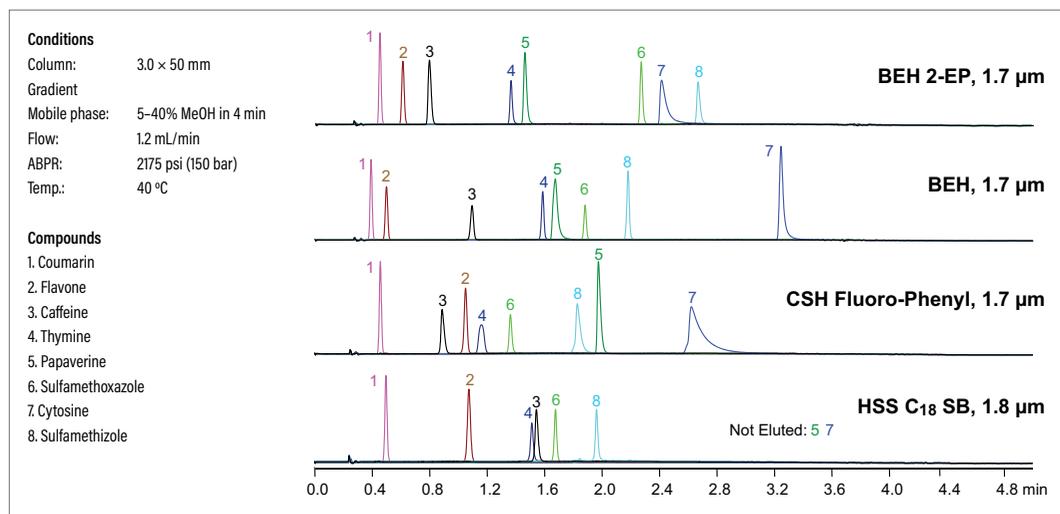
VIRIDIS HYBRID AND HSS SFC COLUMNS

Viridis Columns offer an added range of achiral SFC selectivities.

These columns are based on the patented Ethylene Bridged Hybrid (BEH) particle technology, Charged Surface Hybrid (CSH) particle technology, and High-Strength Silica (HSS) particle technology. The reduction and control of surface silanol activity on Viridis particles delivers, under SFC conditions, excellent peak shapes—even for well-retained basic achiral compounds.



| | |
|---|--|
| Viridis BEH 2-EP, 1.7, 3.5, and 5 μm Columns | |
| Viridis BEH, 1.7, 3.5, and 5 μm Columns | |
| Viridis CSH Fluoro-Phenyl, 1.7, 3.5, and 5 μm Columns | |
| Viridis HSS C ₁₈ SB, 1.7 and 3.5 μm Columns | |



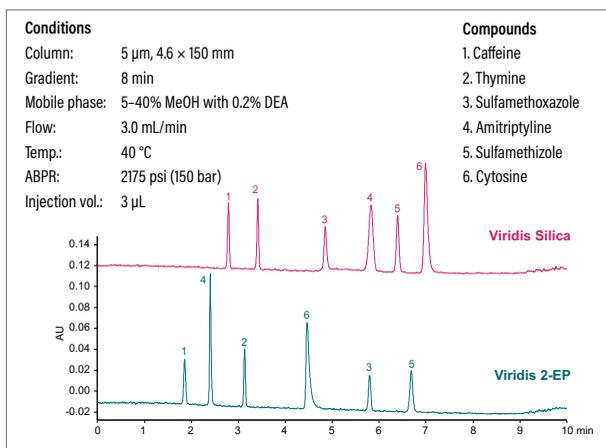
Viridis Analytical Columns provide multiple selectivities.

VIRIDIS SILICA-BASED SFC COLUMNS

Based on Waters long history producing superior grades of chromatographic silica production, the Viridis Silica Columns are designed to be highly reproducible and predictable based on tight product specifications and very low metal content. They are available for both analytical screening and in preparative column dimensions for purification. Separation methods can be optimized and scaled up to Viridis Preparative OBD Columns.

| | |
|--|--|
| Viridis Silica 2-EP, 5 μm Columns | |
| Viridis Silica, 5 μm Columns | |

Widely used in achiral SFC purifications, Viridis Preparative Columns exhibit good retention, peak shape, and selectivity properties both with and without the use of additives. These prep columns are rugged and deliver reliable separation performance for complex mixtures time and time again."



Viridis SFC Preparative Columns.

Ordering Information

Viridis BEH, CSH, and HSS 1.7 and 1.8 μ m Columns

| Dimension | Particle Size: 1.7 μ m | | | Particle Size: 1.8 μ m |
|--|----------------------------|---------------------------|---------------------------|----------------------------|
| | P/N | P/N | P/N | P/N |
| | BEH 2-EP | BEH | CSH Fluoro-Phenyl | HSS C ₁₈ SB |
| 2.1 \times 50 mm | 186006576 | 186006558 | 186006567 | 186006617 |
| 2.1 \times 75 mm | 186006577 | 186006559 | 186006568 | 186006618 |
| 2.1 \times 100 mm | 186006578 | 186006560 | 186006569 | 186006619 |
| 2.1 \times 150 mm | 186006579 | 186006561 | 186006570 | 186006620 |
| 3.0 \times 50 mm | 186006580 | 186006562 | 186006571 | 186006621 |
| 3.0 \times 75 mm | 186006581 | 186006563 | 186006572 | 186006622 |
| 3.0 \times 100 mm | 186006582 | 186006564 | 186006573 | 186006623 |
| 3.0 \times 150 mm | 186006688 | 186006686 | 186006687 | 186006685 |
| VanGuard Pre-column, 2.1 \times 5 mm, 3/pk | 186006575 | 186006557 | 186006566 | 186006616 |

Viridis BEH, CSH, and HSS 3.5 μ m Columns

| Dimension | Particle Size: 3.5 μ m | | | |
|--|----------------------------|---------------------------|---------------------------|---------------------------|
| | P/N | P/N | P/N | P/N |
| | BEH 2-EP | BEH | CSH Fluoro-Phenyl | HSS C ₁₈ SB |
| 2.1 \times 50 mm | 186006652 | 186006634 | 186006643 | 186006625 |
| 2.1 \times 75 mm | 186006653 | 186006635 | 186006644 | 186006626 |
| 2.1 \times 100 mm | 186006654 | 186006636 | 186006645 | 186006627 |
| 2.1 \times 150 mm | 186006655 | 186006637 | 186006646 | 186006628 |
| 3.0 \times 50 mm | 186006656 | 186006638 | 186006647 | 186006629 |
| 3.0 \times 75 mm | 186006657 | 186006639 | 186006648 | 186006630 |
| 3.0 \times 100 mm | 186006658 | 186006640 | 186006649 | 186006631 |
| 3.0 \times 150 mm | 186006659 | 186006641 | 186006650 | 186006632 |
| VanGuard Pre-column, 2.1 \times 5 mm, 3/pk | 186006651 | 186006633 | 186006642 | 186006624 |

Viridis 5 μ m Analytical SFC Columns

| Dimension | Particle Size: 5 μ m | | | | |
|---------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| | P/N | P/N | P/N | P/N | P/N |
| | BEH 2-EP | BEH | CSH Fluoro-Phenyl | Silica 2-EP | Silica |
| 2.1 \times 150 mm | 186006545 | 186006544 | 186006543 | 186006542 | 186006541 |
| 3.0 \times 50 mm | 186005750 | 186005719 | 186005688 | 186005800 | 186005804 |
| 3.0 \times 100 mm | 186005751 | 186005720 | 186005689 | 186005801 | 186005805 |
| 3.0 \times 150 mm | 186005752 | 186005721 | 186005690 | 186005802 | 186005806 |
| 3.0 \times 250 mm | 186005753 | 186005722 | 186005691 | 186005803 | 186005807 |
| 4.6 \times 50 mm | 186005754 | 186005723 | 186005692 | 186004935 | 186004908 |
| 4.6 \times 100 mm | 186005755 | 186005724 | 186005693 | 186004936 | 186004909 |
| 4.6 \times 150 mm | 186005756 | 186005725 | 186005694 | 186004937 | 186004910 |
| 4.6 \times 250 mm | 186005757 | 186005726 | 186005695 | 186004938 | 186004911 |

Viridis 5 µm Preparative SFC Columns

| Dimension | Particle Size: 5 µm | | | | |
|-----------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| | P/N | P/N | P/N | P/N | P/N |
| | BEH 2-EP | BEH | CSH Fluoro-Phenyl | Silica 2-EP | Silica |
| OBD 10 × 50 mm | 186008256 | 186008252 | 186008248 | 186008232 | 186008228 |
| OBD 10 × 100 mm | 186008257 | 186008253 | 186008249 | 186008233 | 186008229 |
| OBD 10 × 150 mm | 186008258 | 186008254 | 186008250 | 186008234 | 186008230 |
| OBD 10 × 250 mm | 186008259 | 186008255 | 186008251 | 186008235 | 186008231 |
| OBD 19 × 50 mm | 186005762 | 186005731 | 186005700 | 186004943 | 186004916 |
| OBD 19 × 100 mm | 186005763 | 186005732 | 186005701 | 186004944 | 186004917 |
| OBD 19 × 150 mm | 186005764 | 186005733 | 186005702 | 186004945 | 186004918 |
| OBD 19 × 250 mm | 186005765 | 186005734 | 186005703 | 186004946 | 186004919 |
| 30 × 10 mm Guard Cartridge* | 186006909 | 186006910 | 186006911 | 186006908 | 186006907 |
| OBD 30 × 50 mm | 186005766 | 186005735 | 186005704 | 186004947 | 186004920 |
| OBD 30 × 75 mm | 186005767 | 186005736 | 186005705 | 186004948 | 186004921 |
| OBD 30 × 100 mm | 186005768 | 186005737 | 186005706 | 186004949 | 186004922 |
| OBD 30 × 150 mm | 186005769 | 186005738 | 186005707 | 186004950 | 186004923 |
| OBD 30 × 250 mm | 186005770 | 186005739 | 186005708 | 186004951 | 186004924 |
| OBD 50 × 50 mm | 186005771 | 186005740 | 186005709 | 186004952 | 186004925 |
| OBD 50 × 100 mm | 186005772 | 186005741 | 186005710 | 186004953 | 186004926 |
| OBD 50 × 150 mm | 186005773 | 186005742 | 186005711 | 186004954 | 186004927 |
| OBD 50 × 250 mm | 186005774 | 186005743 | 186005712 | 186004955 | 186004928 |

*Requires 30 mm I.D. Prep Guard Holder, p/n: [186006912](#).

Viridis Method Development Kits

| Description | P/N |
|---|---------------------------|
| Viridis Method Development Kit, 3.0 × 100 mm (BEH 2-EP, BEH, CSH Fluoro-Phenyl, HSS C ₁₈ SB), 4/pk | 176003050 |
| Viridis Column Screening Kit, 2.1 × 50 mm (BEH 2-EP, BEH, CSH Fluoro-Phenyl, HSS C ₁₈ SB), 4/pk | 176003091 |

Quality Control Reference Materials

| Product Name | Intended Use | Chromatographic Mode | System | Contents | P/N |
|--|---|---|--------------------------|--|---------------------------|
| UPC ² QC Reference Material | Provides chromatographic performance information inclusive of mobile-phase pH for both chiral and achiral modes | Convergence Chromatography, SFC <ul style="list-style-type: none"> ■ chiral ■ achiral | ACQUITY UPC ² | 1. 0.50 mg/mL (+/-) trans-stilbene oxide 2. 0.50 mg/mL thymine 3. 0.50 mg/mL sulfamethoxazole 4. 0.50 mg/mL sulfamethizole In a 1 mL solution of 75:25 ACN:MeOH Store refrigerated 2–5 °C | 186007950 |

Standards

| Description | Contents | P/N |
|---|--|---------------------------|
| Waters Prep 15/30 SFC System Test Mix and Internal Standard | | 700005675 |
| Waters Prep 100 SFC System Test Mix and Internal Standard | | 700005674 |
| UPC ² Standard Mix | 2 mg/mL each: 3-benzoylpyridine, cortisone, 4-nitroaniline, 4, 4'-biphenol in methanol, 1 mL | 186006372 |
| UPC ² Gradient Standard | 1 mg/mL coumarin, 1 mg/mL flavone, 2 mg/mL caffeine, 1 mg/mL thymine, 2 mg/mL prednisone in 2-propanol, 1 mL | 186006551 |
| UPC ² Caffeine Standard | 1 mg/mL caffeine in 2-propanol, 2 mL | 186006614 |
| UPC ² Standards Kit | 1 mg/mL caffeine in 2-propanol, 2 mL 1 mg/mL coumarin, 1 mg/mL flavone, 2 mg/mL caffeine, 1 mg/mL thymine, 2 mg/mL prednisone in 2-propanol, 1 mL | 176002811 |
| UPC ² Flavone Standard | 1 mg/mL in 2-propanol, 2 mL | 186006523 |
| UPC ² Flurbiprofen Standard | 1 mg/mL in 2-propanol, 2 mL | 186006524 |
| UPC ² Ibuprofen Standard | 1 mg/mL in 2-propanol, 2 mL | 186006521 |
| UPC ² Ketoprofen Standard | 1 mg/mL in 2-propanol, 2 mL | 186006522 |