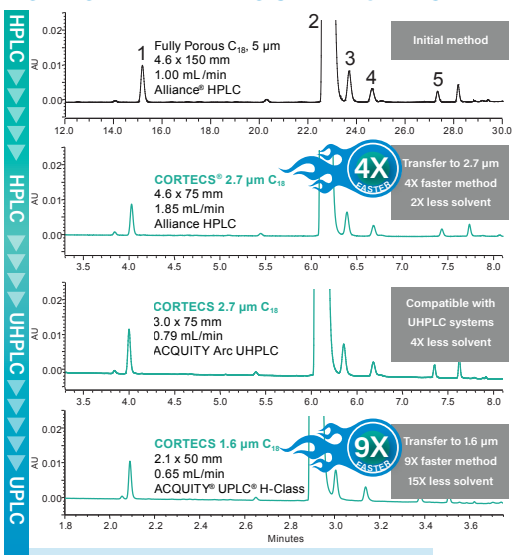
The Truth About Solid-Core

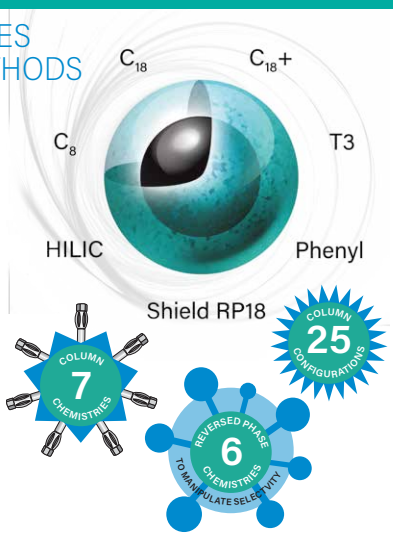
Unleash the power of your laboratory's instrumentation

Built on Waters proven solid-core technology, CORTECS 1.6 µm and 2.7 µm Columns deliver new levels of chromatographic performance.

TWO FULLY SCALABLE PARTICLE SIZES TO MODERNIZE YOUR EXISTING METHODS

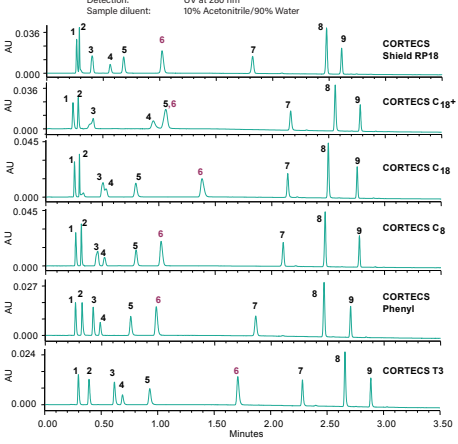


Separation obtained across the two CORTECS particle sizes and three instrument classes. CORTECS 2.7 µm Columns provide maximum flexibility, designed for improved performance on HPLC and UHPLC instrumentation. CORTECS UPLC 1.6 µm Columns provide ultimate performance on ACQUITY UPLC Instrumentation.



System: ACQUITY UPLC H-Class System with ACQUITY PDA
Column: CORTECS, 2.1 x 50 mm
Mobile Phase A: 10 mM Ammonium Formate pH 3
Mobile Phase B: Acetonitrile
Gradient: 90%A to 65%A in 3.00 min; Hold 65%A for 0.25 min; 65%A to 90%A in 0.25 min
Total run time: 5 min
Flow rate: 0.46 mL/min
Injection volume: 1 µL
Column temp.: 30 °C
Detection: UV at 280 nm
Sample diluent: 10% Acetonitrile/90% Water

Compounds:
1. Norepinephrine
2. Epinephrine
3. Dopamine
4. VMA
5. MHPG
6. Seratonin
7. DOPAC
8. 5-HIAA
9. HVA



SCALABILITY

It is essential that robust methods be created quickly and easily while being compatible with a wide range of chromatographic systems. With particle sizes ideal for HPLC, UHPLC, and UPLC platforms, you can be assured a simple, and seamless transfer with consistent results across different particle sizes and column configurations.

Solid-Core Particle
The tightly controlled thickness of a highly porous silica layer surrounding the inner solid-core yields reproducible retention and method robustness for a wide range of sample conditions.

Bonding Technology
Packed with solid-core particles, CORTECS Columns complement our family of particle technologies, offering unique ligand attributes that aid in method development.

Particle Diameter
Monodisperse particle sizing provides highly permeable columns and, consequently, low backpressures.

Packing Efficiency
The increased efficiency of a solid-core particle produces more chromatographic resolution, which helps reduce the effort to separate co-eluting peaks.

**Compared to fully-porous particles.*

CORTECS PARTICLE SIZE	Equivalent Porous Particles	
	Efficiency	Backpressure
1.6 µm	1.3 µm	1.8 µm
2.7 µm	2.2 µm	3.1 µm

CONSISTENT, REPRODUCIBLE PERFORMANCE, AND LONG COLUMN LIFETIMES

C_{18}+	C_{18}	T3	C_8	Phenyl	Shield RP18	HILIC
A general purpose, high-efficiency, reversed-phase column which features a positively charged surface modification.	A traditional C_{18}-bonded phase which exhibits balanced retention of acids, bases, and neutrals at low- and mid-range pH.	Designed to give balanced retention for both polar and non-polar molecules when operating under reversed phase LC conditions.	An excellent choice for separating strong hydrophobic analytes that are very well retained on a C_{18} column.	An excellent method development column, as it gives unique selectivity primarily for compounds that have high aromaticity, when compared to typical C_{18} columns.	An excellent method development column as the embedded polar functional group provides alternative selectivity due to hydrogen bonding.	Hydrophilic-interaction chromatography (HILIC) is a separation mode that can be used to improve the retention of extremely polar analytes.
BENEFITS ▪ Unique column selectivity with industry-leading reproducibility ▪ Exceptional peak shape and loading capacity without the need for ion-pair reagents ▪ Improved signal-to-noise performance in LC and LC-MS applications.	BENEFITS ▪ Superb resolution and retention for complex mixtures. ▪ Stability and ability to retain a variety of analytes (most popular choice in method development)	BENEFITS ▪ The larger 120Å pore diameter, and lower C18 ligand density, are both designed to increase polar analyte retention while maintaining excellent non-polar retention. ▪ The increased pore diameter allow the use of 100% aqueous mobile phases, which is desirable in retaining polar analytes.	BENEFITS ▪ Less hydrophobic than traditional C_8 columns. ▪ Highly reproducible ligand bonding.	BENEFITS ▪ The phenyl ring provides Pi-Pi bond interactions that can be enhanced by using methanol instead of acetonitrile as the organic modifier.	BENEFITS ▪ Gives unique selectivity primarily for phenolic compounds when compared to typical C_{18} columns. ▪ Provides an aqueous shield over undesired acidic silanol groups on the particles surface. ▪ Inhibits secondary interactions between basic analytes and these acidic silanols, with results in better peak shape.	BENEFITS ▪ HILIC uses mobile phases with a high concentration of organic solvent which enables effective desolvation of analytes in the MS source, resulting in improved MS response and sensitivity.

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CORTECS ORDERING INFORMATION

Frequently ordered CORTECS UPLC 1.6 µm Columns for UPLC Instruments

	C_{18}	C_{18}+	T3	Shield RP18	C_8	Phenyl	HILIC
2.1 x 50 mm	186007093	186007114	186008497	186008692	186008399	186008379	186007104
2.1 x 100 mm	186007095	186007116	186008499	186008694	186008401	186008381	186007106
2.1 x 150 mm	186007096	186007117	186008500	186008695	186008402	186008382	186007107

Frequently ordered CORTECS 2.7 µm Columns for UHPLC Instruments

	C_{18}	C_{18}+	T3	Shield RP18	C_8	Phenyl	HILIC
3.0 x 50 mm	186007370	186007400	186008487	186008672	186008349	186008329	186007385
3.0 x 100 mm	186007372	186007402	186008489	186008674	186008351	186008331	186007387
3.0 x 150 mm	186007373	186007403	186008490	186008675	186008352	186008332	186007388

Frequently ordered CORTECS 2.7 µm Columns for HPLC Instruments

	C_{18}	C_{18}+	T3	Shield RP18	C_8	Phenyl	HILIC
4.6 x 50 mm	186007375	186007405	186008492	186008682	186008369	186008339	186007390
4.6 x 100 mm	186007377	186007407	186008494	186008684	186008371	186008341	186007392
4.6 x 150 mm	186007378	186007408	186008495	186008685	186008372	186008342	186007393

For a complete list of all CORTECS Column configurations visit:
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