

## ACE AQ

- Retains polar compounds in 100% aqueous mobile phase
- Unique C18 bonded phase with integral polar functionality
- Resistant to retention loss in 100% aqueous mobile phase
- Rapid gradient re-equilibration (0-100%)
- Excellent peak shape with acidic, basic and neutral molecules

- Ideal for LC/MS applications
- Unmatched reproducibility

ACE AQ is an ultra-inert phase designed for the reversed-phase separation of very polar compounds with up to 100% aqueous mobile phase. ACE AQ is ideal for use with fast gradients due to its rapid re-equilibration properties and resistance to retention loss.

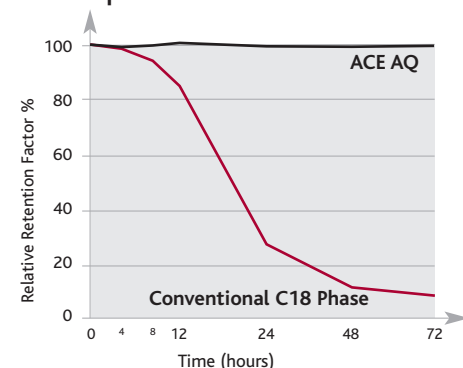
PHASE	FUNCTIONAL GROUP	ENDCAPPED	PARTICLE SIZE (µm)	PORE SIZE (Å)	SURFACE AREA (m <sup>2</sup> /g)	CARBON LOAD (%)
AQ	Proprietary	Yes	3, 5, 10	100	300	14.0

## Maximum Reproducibility in High Aqueous Mobile Phases

When separating very polar, water-soluble compounds, highly aqueous (>95%) mobile phases are often required to achieve sufficient retention. However, operating a conventional C18 column under such conditions can lead to poor chromatographic reproducibility. Over time peaks will elute with shorter and shorter retention times and resolution between peaks will deteriorate.

ACE AQ columns introduce an integral polar functionality, which prevents this retention loss when using highly aqueous mobile phases.

Figure 10a. Change in Retention with 100% Aqueous Mobile Phase

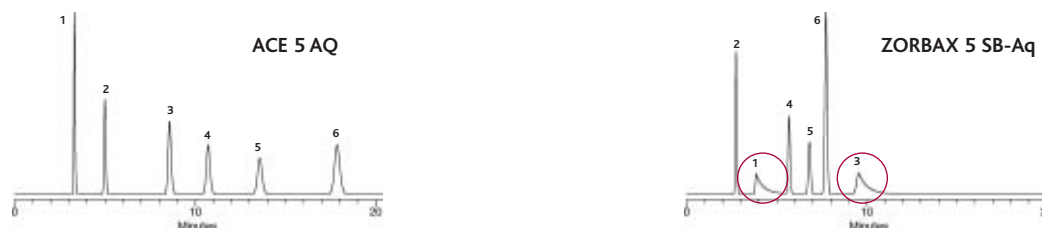


## Ultra-Inert Silica for Excellent Chromatography

Many columns designed for use under high aqueous conditions are compromised by the low purity silica employed and exhibit poor peak shape with polar basic molecules. This results in poor chromatography and

ultimately leads to poor column reproducibility. ACE AQ columns are manufactured from the same ultra-inert, high purity silica as all ACE phases – ensuring excellent chromatography and excellent reproducibility are obtained.

Figure 10b. Leading Competitor Comparison – Hydrophilic Bases



Sample: 1) Nicotine 2) Benzylamine 3) Procainamide 4) Terbutaline 5) Salbutamol 6) Phenol Mobile Phase: 3.3:96.7 MeOH/20mM KH<sub>2</sub>PO<sub>4</sub> (pH 2.7) Dimensions: 150 x 4.6mm i.d. Flow Rate: 1.0ml/min, Temperature: 60°C, Wavelength: 210nm

The competitor column (right chromatogram) shows a dramatic loss of performance for peaks 1 and 3, but the ultra-inert ACE AQ column (left chromatogram) maintains excellent peak shape with hydrophilic bases.