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With Cogent TYPE-C™ silica columns, charged polar compounds elute in a similar order as on HILIC columns. Since there are virtually no silanols on these columns, the polar compounds are retained more by the adsorptive character of the silica-hydrate surface, rather than by a partition mechanism. In addition, the non-polar ligand of the TYPE-C silica phases will also retain non-polar compounds.

As a result of the weak association of water with the TYPE-C silica-hydrate, there is a lack of a hydration shell at high organic content. This allows the column to equilibrate and change more rapidly than HILIC columns. This is a significant advantage for rapid gradients.

Another significant advantage of ANP over HILIC is reproducibility. Historically HILIC as a technique has suffered from a reputation for poor gradient method reproducibility. One of the main causes of this can be attributed to the variability in the thickness of the hydration shell surrounding the silica surface of Type B silicas. Conversely TYPE-C silica-hydrate phases used in ANP do not suffer from this because the enriched hydroxide ion water layer is much more stable, resulting in improved method reproducibility.

The Cogent TYPE-C silica columns are also more versatile, as they can be used in RP, ANP and ONP modes, without hysteresis or damage to the columns. HILIC columns can only retain polar compounds and are not suitable for RP analyses.

Key Advantages of ANP over HILIC:

- Polar and non-polar compounds can be separated in the same isocratic run
- Precision run to run, day to day, batch to batch
- Equilibration time is much faster
- TYPE-C silica-hydrate columns can perform ANP, RP and ONP, whereas HILIC columns generally can only perform HILIC separations
- TYPE-C silica-hydrate columns offer low bleed for LC-MS



COGENT
HPLC Columns™

Cogent LCMS Columns

Works great with Polar & Non-polar compounds.	Preferred in Metabolomics & Bioanalytical labs worldwide.	Achieve robust methods with very fast equilibration.
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