How Can Cogent TYPE-C HPLC Columns Offer Faster Results Compared to Other Type of Silica Based Columns - FAQ

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Cogent TYPE-C™ HPLC columns are engineered with a unique bonded silica surface that offers significant performance advantages in both method development and routine analysis. Here's how they enable faster, more efficient workflows:

1. Rapid Equilibration

Thanks to the distinctive surface chemistry of TYPE-C™ silica, these columns equilibrate in just **3–5 column volumes** after gradient runs. In contrast, conventional silica-based columns often require **25–40 column volumes** to reach comparable stability and precision. This dramatically reduces downtime between runs.

2. Higher Flow Rates with Lower Viscosity

Aqueous Normal Phase (ANP) methods used with TYPE-C™ columns typically employ high concentrations of acetonitrile. This reduces mobile phase viscosity by **50–60%** compared to water-based systems, allowing flow rates to be increased by **2–3×** without compromising peak shape or generating excessive back pressure.

3. Smaller Particle Sizes for Higher Efficiency

Cogent TYPE-C™ columns are available in **4 µm and 2.2 µm** particle sizes, delivering near-UHPLC performance without the extreme back pressures associated with sub-2 µm particles. This enables high-resolution separations on standard HPLC systems.

Here is the **visual comparison chart** summarizing the performance advantages of Cogent TYPE-C™ HPLC columns versus conventional silica-based columns:

Bottom Line: Faster equilibration, higher flow rates, and high-efficiency particles mean **more runs, more data, and faster insights** —without sacrificing reproducibility or resolution.

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