



Direct Silicon to Carbon Bonds on Cogent TYPE-C HPLC HPLC Columns Produce Longer Column Lifetimes - Tech Information

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Why Bonded Phase Stability Matters

Conventional HPLC bonded phases—such as C8, C18, NH₂—are typically attached to silica using siloxane (Si–O–Si–C) linkages. These bonds are susceptible to hydrolysis under certain mobile phase conditions. The oxygen atom in the siloxane bridge is the weak point, where the bonded phase can detach from the particle surface.

The Cogent TYPE-C™ Advantage

Cogent TYPE-C™ columns utilize direct silicon–carbon (Si–C) bonds, which are significantly more resistant to hydrolysis. This enhanced stability eliminates phase bleed into your instrument and extends column lifetime well beyond that of conventional columns. The rugged design ensures consistent reproducibility over time, even under demanding conditions.

With this stability, you can confidently explore novel mobile phase additives, higher temperatures, and challenging separation strategies that may be impractical with standard HPLC columns.

Expanded Chemistry Possibilities

Traditional Type-B silica columns rely on organosilane chemistry to create siloxane-bonded ligands, which limits the range of phases that can be attached. Our patented silica-hydride surface overcomes these limitations, enabling bonding of compounds previously considered incompatible with silica.

This innovation allows for unique phases such as UDC-Cholesterol™.

