Ion exchange chromatography can be a useful tool available to the analytical chemist. In this separation mode, an ionized moiety on the stationary phase interacts electrostatically with an oppositely charged analyte. There are several types of ion exchange that can be used, such as strong anion exchange, weak anion exchange, strong cation exchange, and weak cation exchange.

The Cogent UDA™ & Cogent UDA 2.o™ Columns use weak cation exchange as a retention mechanism. The stationary phase consists of a C11 chain with a Carboxylic Acid Group at one end of the chain. This group can either by neural or ionized depending on the Mobile Phase pH. Under acidic conditions, the Carboxylic Acid is protonated and neutral. At near-neutral pH and above, the moiety becomes anionic and Ion Exchange is possible.

All TYPE-C Silica™ based HPLC Columns can be used in the Aqueous Normal Phase (ANP) mode, in which analytes are retained on the basis of polarity. However, the Cogent UDA™ & Cogent UDA 2.o™ Columns have the additional advantage of Retention by Ion Exchange as a multi mode phase. This can impart additional Selectivity to a Separation in which ANP Chromatography may be insufficient to achieve full Resolution.

We investigated the Ion Exchange characteristics of this Column using three test solutes that illustrate its benefits in terms of chromatographic separation. Each analyte contains amine functional groups which would be suitable for ion exchange interactions with the UDA carboxylate moiety. For full details, click on Downloadable attached pdf below.

Cogent UDA™ Product Page

Attachment

MTC Cogent UDA HPLC Column Use – Extended AppNote pdf 0.5 Mb Download File

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