

Did You Know?

The Utility of Reversed-Phase Sorbents other than C18

Performance Tip

In SPE, selectivity is defined as the extraction procedure's ability to discriminate between the analytes of interest and endogenous interferences inherent within the sample. Although useful towards extracting a wide range of compounds from a given sample, C18 can often co-retain and elute sample interferences along with analytes of interest. As a result, subsequent analysis can lead to high background, misleading peak responses, and longer run times (to resolve background responses from analyte responses). One solution is to employ a less hydrophobic and more selective phase chemistry such as Discovery DSC-CN (cyanopropyl) or Discovery DSC-Ph (phenyl) SPE phases. These phase chemistries can often interact more selectively with the compounds of interest when in the presence of dirty sample matrices such as urine and other biological fluids, resulting in cleaner chromatograms and shorter analytical run times. Using these phase chemistries may also allow the user to elute with weaker solvents (e.g., 40-60% methanol) al-

lowing the user to directly analyze the eluate (no evaporation and reconstitution) when employing HPLC.

Some non-silica based sorbents have also been useful for a variety of applications. For example, Supelclean ENVI-Carb (graphitized non-porous carbon) has been shown to have a great affinity towards many polar compounds from aqueous samples when used under reversed-phase conditions. Many researchers have used Supelclean ENVI-Chrom P (styrene/divinyl benzene) to extract phenolic compounds from polar solutions. Discovery DPA-6S (polyamide resin) was developed to adsorb polar compounds in natural product applications (e.g., tannins, chlorophyll, humic acid, phloroglucinol, etc.).

Although C18 is a time-tested phase applicable for most reversed-phase applications, consider using an alternative phase chemistry. You may be surprised of the results!

