How do kinetics relate to the recovery in an SPE procedure – FAQ

With SPE, the **analyte** in the sample matrix is first loaded onto the SPE sorbent with one solvent and later eluted off of it with another. Because the SPE technique must be quantitative to be of use, these loading and **elution** steps must be complete. If not all of the adsorbed **analyte** is washed off of the sorbent, for example, then the method **recovery** will be lower.

One factor that can contribute to incomplete loading or **elution** is the speed at which the solvent is introduced. If the solvent flows through the sorbent too quickly, the **analyte** may not have sufficient time to completely load or elute from the sorbent due to the kinetics of the interaction.

Hence, when using an SPE procedure, be sure to select a flow rate of the loading/ wash/ **elution** solvents such that the physicochemical processed occurring in the cartridge have a chance to occur completely. Don't forget that SPE sorbents typically have larger particle sizes than are used in analytical HPLC columns, so the mass transfer is slower!

Printed from the Chrom Resource Center
MicroSolv Technology Corporation
9158 Industrial Blvd. NE, Leland, NC 28451
tel. (732) 380-8900, fax (910) 769-9435
Email: customers@mtc-usa.com
Website: www.mtc-usa.com
Date: 05-08-2024