

## *Book Review*

**Sorbent Extraction Technology.** K. C. Van Horne (Ed.). Analytichem International, Harbor City, CA, 1985, pp 124, ISBN 0-9616096-0-5.

Analytical chemists have long used liquid-liquid extraction techniques for the isolation and concentration of drugs, pesticides and other components from complex matrices, such as blood and plant extracts. In recent years solid phase extraction techniques have also become important. These are based on the solid non-polar stationary phases developed for HPLC such as alkyl-bonded (i.e. ODS) silicas, which will trap non-polar analytes from aqueous media. These developments have lead to the commercial production of a number of cartridge systems compatible with both manual and automatic (including robotic) methods.

In this brief booklet Analytichem have depicted the mechanisms of the interactions of these systems in terms of the polarities of the sample matrix, the desired analyte and of the sorbent column. The sorbent columns now include the alkyl-bonded ODS, phenyl, C-8 and C-2 columns as well as the intermediate polarity cyano- and amino-bonded columns. The book emphasizes the relationship between extraction efficiency and selectivity and explains the use of sorbents and eluents of different polarities to isolate specific compounds of interest. It is noted that it is as important to be able to recover the analyte in a small volume for subsequent assay as it is to be able to trap it out from the matrix in the first place. A similar approach is also taken to the use of ion-exchange sorbents for ionized analytes.

The approach is primarily visual with colours being used to convey different polarities and ionization states. The book includes a number of practical examples such as the extraction of atrazine from corn oil, and the separation of the components of wine. The appendices include a listing of available phases, methods for common matrices, and a useful compilation of pKa values for typical functional groups.

This book will be useful as an introduction to the use of solid phase trapping techniques and as a guide to method development. Although sponsored by a commercial company it is free from trade names or examples and will be valuable whichever materials are used.

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