Book Reviews

Methods in Biotechnology, Vol. 13: Supercritical Fluid: Methods and Protocols. By John R. Williams and Anthony A. Clifford (Sulan Qaboos University). Humana Press, Totowa, NJ. 2000. xiv + 256 pp. 15 × 22.5 cm. $99.50. ISBN 0-896-03571-0.

The goal of the book is to enable workers with some or no previous experience with supercritical fluids to conduct experiments successfully at the "first attempt". From my perspective after 20 years experience in the field of supercritical fluids, this goal, while desirable, is hardly realistic for any sample preparation task. The book is unique in the supercritical realm in that it is basically a "laboratory manual" and/or a compendium of a wide variety of applications that employ supercritical fluids. The bulk of the chapters deal with supercritical fluid extraction, although there are investigations concerning chromatography, reactions, micronization, and impregnation in the book. The magnitude of the experiments is analytical scale rather than macroscale.

The strongest point of the book is the wide diversity in the applications that are demonstrated. This allows the reader not only to see who the investigators are that deal in supercritical fluids but also to ascertain how the experimental strategies differ depending upon the application. After the obligatory introductory chapter on properties of supercritical fluids, the next 17 chapters deal with analytical extraction. The chapters appear to be of unequal quality and detail, some emphasizing the analysis of the extract more than others. The next five chapters deal with chromatography, principally with packed columns. In most cases vendor names are excluded from the experimental description (e.g., chromatograph and column). Three chapters are solely devoted to enzymatic reactions. Unfortunately, no other reactions are discussed. Rapid expansion of supercritical solution technology is the topic of three chapters. The latter chapters uniquely cover impregnation, critical point drying, and staining of fingerprints.

This will be an excellent book for anyone working with supercritical fluids and those looking for new applications. While probably not able to offer a first-time successful recipe, it certainly should be useful in affording the proper experimental direction.

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