

## Book Review

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*Countercurrent chromatography: apparatus, theory and applications*, by W. D. Conway, VCH, Weinheim, 1990, XIV + 475 pp., price DM 138.00, £ 51.00, ISBN 0-89573-331-5.

Pure liquid-liquid partition chromatography (absence of a solid support) has attracted increasing interest over the last 20 years. Numerous new instruments have been developed and applied to the preparative separation of a large variety of compounds, mainly in the field of natural products. They all derive from the Craig counter-current distribution apparatus. The term "counter-current" used in the modern versions of instrumentation using centrifugal force is misleading. In fact, one liquid phase is stationary and the other is the mobile phase. Most developments of efficient instruments for fast separations have been made by Dr. Yoichiro Ito of the National Institute of Health, Bethesda, MD, USA.

The present book has arrived at a timely moment and complements the volume "Countercurrent chromatography: Theory and practice" by N. B. Mandava and Y. Ito (Marcel Dekker, New York, 1988), although there are some unavoidable overlaps. The first part of the volume is devoted to a description of the different types of instruments available and to basic theoretical aspects. Chapter 7 is of particular interest as it deals with the problem facing each counter-current chromatography (CCC) practitioner, namely to find a solvent system providing partition coefficients in an optimum range. For the commonly employed chloroform-methanol-water mixtures, ternary phase diagrams are given. The last part of the book describes various applications of the different CCC techniques, including rotation locular CCC and centrifugal CCC. Curiously, there is almost no mention of applications of droplet CCC, which is certainly the most widely used technique. Examples of separations of various natural products of plant origin, peptides and antibiotics and of resolutions of enantiomeric mixtures by centrifugal CCC are presented and explained. The application of centrifugal CCC to the determination of partition coefficients is also described.

The volume ends with a very useful bibliographic outline with 422 references. Unfortunately, some significant recent applications of centrifugal CCC are missing. Despite this, the book should find a place in any laboratory involved in separation science. It will be especially useful to all researchers who are considering entering the highly promising field of centrifugal partition chromatography.