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Book review

***Handbook of HPLC*, edited by E. Katz, R. Eksteen, P. Schoenmakers and N. Miller, Chromatographic Science Series No. 78, Marcel Dekker, New York, 1989, xi + 989 pp., price $US 225.00, ISBN 0-8247-9444-3.**

This is an ambitious attempt to bring together all the principal aspects of HPLC into one work. The result, at nearly 1000 pages, is one of the largest monographs on HPLC, however, such are the range of methods and the breadth of applications in this technique that in places the book barely seems to scratch the surface.

The editors have divided the material into four topics, fundamentals, techniques, instrumentation, and applications and have included 29 contributions from 35 authors. These vary in length and complexity. However, many cover the literature only up to 1994 and this delay to publication seems sadly almost inevitable in a work of this size, although in many cases the age of the review is not critical.

The most interesting section is on the fundamentals of HPLC, which could well have constituted a separate work. The first two chapters on retention and selectivity and on zone spreading are valuable reviews but would deter the casual reader by their complexity. This section includes a chapter on capillary electrophoresis but this doesn't include capillary electrochromatography although electrodrive is described elsewhere.

The second section on HPLC techniques covers SEC and ion-exchange methods comprehensively but provides only a limited coverage of reversed-phase chromatography (28 pages out of 230). There are also chapters on normal phase, affinity, and hydrophobic interaction chromatography. The weakest section in the book is the series of reviews on HPLC instrumentation, pumps, detectors, injection devices etc. It adds little to the coverage in most standard HPLC texts and is seriously dated, with the detector chapter only containing one reference after 1986 (and that to derivatisation methods).

The applications section of 370 pages covers a wide range of topics from drugs in biological fluids, biotechnology, and food to more specialised subjects, including surfactants, art conservation and pollutants and the use of HPLC for physiochemical measurements. In many cases a more generic approach would have been useful. Some chapters effectively just list methods within a particular field, without giving a feeling of how to approach an analysis. As a result of the age of some of the reviews many of the methods will already be out of date. This section in particular needed a more comprehensive index to enable the user to locate appropriate methods and references.

In places the book lives up to its attempt to be comprehensive but the present breadth of HPLC means that in some areas it would have been a nearly impossible task. The editors suggest that the handbook could serve as a textbook for undergraduates who need more detailed information than in the standard analytical texts. However, its size and cost mean that this book is destined for the college library rather than the individual. Its main role is likely to be a reference source for more advanced students or users.

Roger M. Smith
Department of Chemistry
Loughborough University
Loughborough, Leics. LE11 3TU
U.K.

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