

Book Review

Introduction to high-performance liquid chromatography, by R. J. Hamilton and P. A. Sewell, Chapman and Hall, London, 1977, XII + 184 pp., price £ 8.00, ISBN 0-412-13400-4.

Several books on liquid chromatography have been published over the past two years and it is debatable whether the book under review adds anything which has not been more adequately covered elsewhere.

In 182 pages, the authors attempt to cover all aspects of liquid chromatography and inevitably the treatment is superficial. The book contains eight chapters covering an Introduction to the technique, Chromatographic theory, Equipment, Stationary phases, Mobile phases, Developing a chromatogram, Preparative high-performance liquid chromatography (HPLC) and trace analysis and Applications.

The "Introduction to HPLC" does not adequately introduce what HPLC is concerned with, nor does it explain to the student the chromatographic process. Rather it is a resumé of the various modes of performing HPLC and necessitates a prior knowledge to appreciate the statements made. The section on gel permeation chromatography leaves a lot to be desired, (what is t_m at this stage in the discussion?) and is in many ways misleading.

Chapter 2 gives a simple but adequate account of the theory of chromatography. Chapter 3 gives information about the equipment required to perform HPLC and is generally useful. A commercial liquid chromatographic-mass spectrometric system is available. Chapter 4 discusses the various column packings used in HPLC and provides a useful list of the various proprietary packings available with their characteristics. Techniques of column packing are also described; however the necessary requirement of a short pre-column prior to the analytical column to ensure maximum particle density at the head of the latter is omitted.

The chapter on mobile phases is very superficially treated, and this is to be deplored because the mobile phase is in many ways more important than the stationary phase. Chapter 6 deals with the development of a separation and this is almost directly taken from manufacturers literature.

The authors, quite rightly, state that chromatograms are not necessary and all that is required are the retention data. This book has presumably been written with students in mind as the prime readers or possibly absolute beginners in the technique. Surely therefore the appearance of the chromatograms would have been instructive in the applications section.

In a fast moving technique of this nature, and it is still developing, it would be expected that the references (of which there are few) would at least have covered 1976 for a book published in late 1977; in fact there are only eight, five of which occur in the applications section.