

**Glass Capillary Chromatography in Clinical Medicine and Pharmacology.** Edited by Halvor Jaeger. Marcel Dekker Inc., New York, 1985, 656 pp. Price: US\$119.50

This book is divided into two sections. Part I, entitled 'Clinical Medicine', includes a total of 16 chapters covering basic chromatographic theory as well as the analysis of a variety of components of biological systems by capillary gas chromatography. Chapters on the analysis of amino acids, monosaccharides, fatty acids, phospholipids after enzymic hydrolysis and bile acids are of particular interest to food scientists. Part II is entitled 'Pharmacology' and is less relevant to food analysis, although the chapter on nucleosides is interesting.

This book contains considerable information about the extraction of components from biological systems, as well as sample pretreatment and derivatisation processes and details of the analysis of complex mixtures by capillary gas chromatography.

The book appears to have been a long time in preparation with several recent references omitted and, indeed, in Chapter 14, a paper published in 1980 is included as an addendum after preparation of the manuscript. Inevitably in a multi-author book of this type, a number of errors have been included. The statement by Jennings in Chapter 3 that on-column injection requires wider bore (0.32 mm) columns is surprising since we have been using narrow bore (0.2 mm id) columns for several years.

However, despite these reservations the book is very valuable as a reference text for those involved in the analysis of biological samples by capillary gas chromatography. It is regrettable that the high price would appear to preclude many scientists purchasing a personal copy.

**M. H. Gordon**

**Modern Chromatographic Analysis of the Vitamins (Chromatographic Science Series, Vol. 30).** Edited by A. P. De Leenheer, W. E. Lambert and M. G. M. De Ruyter. Marcel Dekker, Inc., New York. 1985, 576 pp. Price: \$85.00 (US and Canada) or \$102.00 (other countries).

The press release for this publication states: 'This book fully examines vitamins and their analogs as well as the latest techniques for determining their matrices'. I am not sure whether the book does, in fact, achieve this or indeed what was meant by the statement. However, what this book

does achieve is to bring together an enormous body of data on the chromatographic determination of vitamins in a wide range of biological materials.

The book is made up of 12 chapters with each being dedicated to a vitamin, or, in most cases, a group of related vitamins. Thus, Chapters 1–4 cover the fat-soluble vitamins; vitamins A, D, E and K, while Chapters 5–12 are concerned with the water-soluble vitamins; vitamin C, folic acid, nicotinic acid, vitamin B<sub>1</sub>, flavins, vitamin B<sub>6</sub>, biotin and vitamin B<sub>12</sub>. Each of the contributions starts with introductory sections on the chemistry, biochemistry and physiological significance of the vitamin and non-chromatographic methods of analysis before tackling the major sections on chromatographic methods. In most chapters these are covered under the headings of thin layer chromatography, gas chromatography and liquid chromatography (often predominantly HPLC). The relevant literature appears to have been well searched and there are a generous number of references. In many cases data have been abstracted into tabular form which makes comparison of methods simpler. Extensive use is made of example chromatograms, as one might expect and, although in most Figures some valid point is illustrated, a few of the diagrams do seem superfluous. The proportion of each chapter dedicated to sample preparation and clean-up varies considerably and, if there is one major criticism of the book, it is that insufficient space has been given to these parts of the determination. For very many applications the chromatographic separations have been well worked out and the major sources of error are during the extraction and clean-up stages. A further area which deserves more attention is the criteria used for peak assignments and also peak purity. It may well have been worth considering one or two short introductory chapters where the strengths and weaknesses of chromatographic methods, as applied to vitamins in general, could have been discussed. This would also have helped the book become a single entity rather than a series of reviews.

The standard of printing and illustration is good although a few errors have been missed. The standard of binding and the cover is relatively poor, especially on a book of this price.

There can be no doubt that this volume is a valuable addition to the chromatographic literature, although the present reviewer would have liked to have seen discussion of *all* stages of the determinations. It is a very expensive book but will prove useful for institutions working in the field of vitamin analysis.

**R. Macrae**