

HPLC in Food Analysis, edited by R. Macrae. Academic Press, London, 1982. pp. xii + 340, ISBN 0-12-464780-4, £28.00.

Since the earliest days of chromatography, when Tswett and Lederer used column chromatography to examine natural pigments, chromatography has played an important role in the analysis of foodstuffs. Although for many years GLC was the method of choice, its application was largely limited to essential oils and pesticide residues, most other compounds of interest being too polar or thermally unstable for analysis. However, with the advent of instrumental liquid chromatography, these restrictions have been lifted and many more compounds can be studied.

The present work, edited by Dr R. Macrae, provides a useful introduction to HPLC and its application in food analysis. The book contains an overall view of the subject from instrumentation to specific applications but in doing so duplicates much basic material on HPLC to be found elsewhere. The introductory chapters cover basic theory (R. Macrae), instrumentation (R. Newton), separation modes (C.F. Simpson), and data handling and automation (C.R. Loscombe); although they occupy nearly 140 pages they contain few references to food analysis.

It is the later chapters that are most valuable, each surveying a specific area of food chemistry. The coverage is mainly up to 1980 with a few references from 1981. The topics covered include carbohydrates (D.J. Folkes and P.W. Taylor), lipids (E.W. Hammond), vitamins (P.J. Van Niekerk), food additives and colourants (K. Saag), mycotoxins (D.C. Hunt), and amino acids and peptides (A.P. Williams). The last area seems to stand rather on its own as many of the amino acid analyses are based primarily on resin-based ion-exchangers rather than bonded phases. The work surveyed in this chapter also predates many of the recent advances in the size exclusion separation of proteins. The topics are generally well handled and the chapters have little overlap. The final chapter by Macrae and Nursten offers a glimpse into the future with sections on microbore/capillary LC, size exclusion chromatography in aqueous systems (a hint of the scope for protein work) and HPLC-MS, all areas of active current development.

Some areas which might be important in food analysis are absent, such as chiral separations, contaminants and residues of pesticides or fungicides, and the active interest in *N*-nitroso compounds. Additional chapters on such topics could well have replaced the earlier general sections and increased the breadth of the book. Overall this is a useful introduction to the field of food analysis by HPLC and will provide the reader with a framework for further study.

Roger M. Smith

Computers in Analytical Chemistry, Philip G. Barker. Pergamon Press, Oxford, 1983, pp. xvi + 472, ISBN 0-08-024008-9, £37.50.

Recent months have seen the launch of at least two new journals dedicated to the applications of microcomputers in the analytical laboratory, reflecting the rapid rise of the use of computers as integral components of almost every modern instrument and as data stores, analysers, word processors, and memory banks. Developments in this area are now occurring at such a rate that new instruments have a lifetime of no more than two years before being replaced by yet newer models with more memory, more control, bigger processors, greater facilities, and sometimes even less cost. In such a rush of developments many analysts feel the need to step back and obtain an overall view of developments, to see how their area of work is being affected and to try to assess the ways the trends are moving. It would seem therefore that this book by Philip Barker, a chemist turned lecturer in computer science, might have been produced at an opportune moment.

The book is aimed at readers with some knowledge of chemistry from advanced undergraduate to the practising analyst. It starts with three chapters describing the author's view of the analytical method, analytical techniques and instrumentation, which according to the book's cover are intended "for the chemist". However, the treatment is erratic and suggests