

Practical HPLC Method Development. Edited by L. R. Snyder, J. L. Glajch and J. J. Kirkland, John Wiley & Sons, Chichester, 1990. xvi + 260 pp. ISBN 0-471-62782-8. Price: £48.30.

High performance liquid chromatography has been a very rapidly growing technique since its debut in 1965. The discovery of the HPLC technique provided a great advancement in this area due to its high power of separation, high speed, sensitivity and detectability, therefore, it is considered one of the most important methods in use today. This successful use of liquid chromatography has stimulated some researchers to improve even further this methodology for the separation of molecules.

The use of smaller stationery phase particles (5 and 10 micron) has resulted in an increase in efficiency compared with classical liquid chromatography. The capability of HPLC to separate typical compounds, such as: macromolecules and ionic species of medical and biomedical interest, labile natural products and thermolabile compounds or explosives is being proved time and time again in increasingly wider contexts.

'Practical HPLC Method Development' offers a practical scheme for developing effective HPLC separations. Other chapters cover the basics of separation processes, the role of the column, the best conditions to get a good separation, and some tools based on the use of the computer in HPLC method development. Finally, it gives in 'recipe' form some specific steps for developing reversed-phase, normal-phase and ion-pair HPLC columns.

This book covers the subject well and it is suitable for all chemists, biochemists, chemical engineers, pharmacologists, biotechnologists, researchers and students in the chromatography field.

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Biosensors: Applications in Medicine, Environmental Protection and Process Control. Edited by R. D. Schmid and F. Scheller, VCH Weinheim, 1989. xviii + 428 pp. ISBN 3-527-28032-4. Price: DM128.00, £45.95.

The concept of biosensors — using the specificity of biological reactions to facilitate measurement of specific compounds, reduces the problems

of measurement to simplicity — the measurement of an electrical change. The reality of biosensors is that they are still largely only at the experimental stage, or non existent because we do not have the relevant enzyme out of which to create a biosensor. However, studies on the improvement and optimization of both the biological component (particularly, via genetic engineering and biotechnological techniques e.g. enzyme immobilization) and the detection component, as well as the further application of biosensors, is still continuing, if not increasing.

West Germany is supporting Biosensor Research and Development with a funding of 15 million DM over the period 1988 to 1991. A census on the status of biosensor techniques was conducted by holding an international workshop. This book is the result of the subsequent publication of contributions of scientists from FRG, GDR, Austria and Switzerland.

As the title suggests, the book is mainly on the subject of biosensor applications and descriptions of some novel designs of various biosensors differing in the enzyme/cells used, immobilization/entrapment techniques used, immobilization matrices used, electrode material used, detector equipment used etc. A mathematical modelling of amperometric enzyme electrodes, determination of translational diffusion by ESR-Zeugmatography and the application of Secondary Ion Mass Spectroscopy in the development of modified silicon surfaces for biosensors are also described. Six chapters cover these topics, namely, enzyme electrodes, field effect transistors, optrodes, flow injection systems, membranes/monofilms and one chapter dealing with other topics (e.g. use of piezoelectric crystals and surface acoustic wave devices) not categorized within the above chapters.

The book presumes knowledge of the basic principles of biosensors, and is highly recommended for readers involved in the development of biosensors. The novel ideas described in the book will be of great interest to researchers and hopefully will stimulate further the commercialization to availability of biosensors as analytical tools.

John F. Kennedy

Lignans: Chemical, Biological and Clinical Properties. Edited by D. C. Ayres and J. D. Loike, Cambridge University Press, Cambridge, 1990. xix + 402 pp. ISBN 0-521-30421-0. Price: £40.00.

Lignans are plant phenol compounds (not polysaccharides) in which structure is determined by the union of two cinnamic acid residues or