

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.

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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

their biogenetic equivalents. The interest in these lignan compounds is evident due to the growing number of references. Lignans are closely related to lignin, which, together with cellulose, forms the woody component of trees and other plants. As a result of pharmacological properties, lignans are attracting increasing attention.

This eight chapter volume begins with an introduction to the basic aspects of lignans followed by the chemical, biological and clinical properties of these compounds. Information on their isolation, purification, identification and chemical and biological synthesis are also provided. The book 'Lignans' also explores the potential utilization of these compounds as antitumor and antiviral agents, so providing a survey of their pharmacological and chemical properties.

The book 'Lignans' seems to be the only up to date compilation, despite there being only few references for the year 1989 and none for 1990 for a book published in 1990. It can be recommended to chemists, biochemists, biologists and all people who work in the pharmaceutical, natural products and biotechnological areas.

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