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BOOK REVIEWS

Chemistry and Biotechnology of Biologically Active Natural Products: edited by Cs. Szántay, A. Gottsegen and G. Kovács, Akadémiai Kiadó, Budapest 1988, 402 pp.

This volume, containing the text of 20 plenary lectures, represents the proceedings of the Fourth International Conference on the Chemistry and Biotechnology of Biologically Active Natural Products, held in August 1987 in Budapest. These biennial meetings, organized under the auspices of the European Chemical Societies, are alternately held in Bulgaria and Hungary.

Owing to the very general theme of those meetings there tends to be a broad diversity in the topics of the lectures. Reflecting the organizers' personal research interest, approximately half of the lectures were this time dealing with synthetic approaches to natural products and their analogues. They include prostaglandins (J. Wicha), peptides (M. Zaoral), alkaloids (J. Niomiya, J. P. Genet, S. F. Martin, W. Steglich), antibiotics (B. Fraser-Reid), lipid-lowering agents (W. Bartmann and coworkers), enantioselective and alicyclic synthesis (A. S. Kende, G. Quinkert). Several contributions are on structure elucidation of various classes of compounds, such as antibiotics (M. G. Brazhnikova), steroidal alkaloids (Atta-ur-Rahman) and flavonoids (G. A. Cordell). Contributions in the field of biotechnology deal with enzyme reactors (K. Schügerl), biosynthesis of protoberberines in cell culture (M. Rueffer) and autobioregulators of prokaryotes (A. S. Khokhlov). Somewhat outside the remit of the symposium theme are the papers on cyclodextrin inclusion complexes (J. Szejtli), photodynamic cancer therapy with porphyrins (M. Skopova) and studies on neurotransmitter receptors (W. A. Gibbons).

As is very often the case with symposium proceedings, one might question the usefulness of this book. It gives insight into some specific topics in natural products chemistry, but lacks any inner coherence. The natural product chemist may find one or two contributions of interest for his personal research, if oriented towards synthetic chemistry. The book is, however, of limited interest to phytochemists in general.

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Carbohydrates: edited by JACK PREISS, Volume 14 in the Series The Biochemistry of Plants: a Comprehensive Treatise, Academic Press, San Diego, U.S.A., 1988. 529 pp. $95.

It is still an exciting period for plant biochemists working on carbohydrate metabolism, since there are new discoveries to be made around almost every corner. Recent years have witnessed the identification of fructose 1,6-bisphosphate in plants and the recognition of its role in the regulation of glycolysis and gluconeogenesis. New methods have been developed, e. g. fluorescent dye injection techniques, for following sugar transport in plant tissues. A fresh look has been taken at fructan biosynthesis and turnover. New models have been proposed for the structure of amylopectin and the enzymologies of starch biosynthesis and starch degradation have been further elaborated. Perhaps the greatest progress has been made in our knowledge of the structure and function of the plant cell wall. Ironically, we still have little idea how cellulose is produced in higher plants, although the biosynthesis of plant glycoproteins is beginning to yield up its secrets.

This volume under review is a supplement to No. 3 in the Series and covers the literature since 1980. There are eleven chapters by leading experts discussing *inter alia* the advances mentioned above and many other topics. Each chapter contains enough background so that it is possible to read this book without reference to the earlier volume. Indeed it makes excellent reading and is produced to a high level of craftsmanship. It is a worthy addition to this major series of modern plant biochemistry.

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