Book Reviews

Phytochemical Diversity: A Source of New Industrial Products. Edited by Stephen Wrigley, Martin Hayes, Robert Thomas, and Ewan Chrystal. The Royal Society of Chemistry, Cambridge, U.K. 1997. xi + 254 pp. 16 × 24 cm. ISBN 0-85404-717-4. $135.00.

The book is a collection of short essays, averaging about 10 pages in length, resulting from a symposium of the same title organized by the Biotechnology Group (Industrial Division) of the The Royal Society of Chemistry held at the University of Sussex, Brighton, UK, on April 15−17, 1996. The book has appeared comparatively soon after the symposium but has not suffered from any obvious haste in that it is comparatively free from mistakes in fact or presentation. The references cited include articles to 1995 with some 1996 listings and a significant number of "in press" cites as well.

This slender volume contains a wide diversity of topics ranging from screening methodologies to means of searching the literature, intellectural property rights, prospecting in underdeveloped areas, traditional healing methods, partial and total synthesis, biotransformation methods, biosynthesis, properties of individual classes of compounds or producing biota, multiple drug resistance, ethnobotany, coevolutionary interactions, and potential industrial applications of crude and pure compounds. This diversity of topics is representative of the breadth of contemporary natural products research but makes for disjointed reading and comparatively thin coverage of any particular topic. Thus the book can be recommended primarily to those who are already basically familiar with natural products research who would enjoy learning through relaxing reading a bit about the general approaches others are taking and to those new to the field who would like an idea of what in general is going on. It is, however, neither comprehensive nor in depth in treatment.

The reader's reaction to individual chapters is partly a matter of taste. This reviewer particularly liked chapters by Gordon Cragg et al. of NCI on their screening experiences, Ines Chicarelli-Robinson et al. of Xenova on MDR screening, X. Q. Zhu et al. of the Nanjing Botanical Garden on preservation of the species *Gingko biloba*, Raymond Cooper, then of Shaman, on ethnobotanical medicinal approaches taken by his firm, and by C.-j. Chang et al. of Purdue on oncogene-modulated signal transduction inhibitors from plant. Most of the chapters are written primarily through the prism of experiences in the author's own laboratories and do no pretend to survey comprehensively current events.

In sum, this book provides a pleasant way to spend a few hours broadening one's horizons but will unlikely become a reference volume to which one would return from time to time for instruction. For this, one will need to resort to the original literature or more comprehensive treatments.

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Serotonin Receptors and Their Ligands. Edited by B. Olivier, I. Van Wijngaarden, and W. Soudin. Elsevier, Amsterdam. 1997. × + 367 pp. 17 × 24.5 cm. ISBN 0-444-82041-8. $297.00.

Is the book comprehensive, and is it what would be expected from its title? Yes. Is the book scientifically sound? Yes. Would I purchase the book with personal funds? No. I will acknowledge at the very outset that my comments are biased by the excessive cost of the book. Although I am unfamiliar with all the strategies associated with establishing the price of a new book, more might have been expected from a book that is so expensive: a more comprehensive index (the index is only slightly longer than the Table of Contents); better organization; some color figures; full references.

The book is divided into 10 logical chapters: Chapter 1. Serotonin Receptor Subtypes; Chapter 2. 5-HT_{1A} Receptors; Chapter 3. 5-HT_{1B} Receptors; Chapter 4. 5-HT_{1D} Receptors; Chapter 5. 5-HT_{1E} and 5-HT_{1F} Receptors; Chapter 6. 5-HT_{2A}, 5-HT_{2B}, and 5-HT_{2C} Receptors; Chapter 7. 5-HT_3 Receptors; Chapter 8. 5-HT_4 Receptors; Chapter 9. 5-HT_5, 5-HT_6, and 5-HT_7 Receptors; and Chapter 10. The 5-HT Transporter. Chapters 2, 3, and 6 are divided into subsections. The individual subsections (and entire chapters where there are no subsections) are authored by investigators known to the field of serotonin research. Each chapter contains a section (or subsection) devoted to the medicinal chemistry and structure−activity (SAR) or structure−affinity relationships (SAFIR) of various ligands that bind at the respective receptors. Most of the material in the book has been previously discussed in other books and recent review articles; although there is little to no new information presented here, the book offers the advantage of being the most recent and up-to-date compilation of what is known about serotonergic agents. Evidently the book was in preparation for some time, but some of the authors made an attempt to update their contributions by the inclusion of an Addendum. For those readers conversant with the serotonin literature, and in particular with the numerous review articles that have appeared over the past few years, little is to be gained from this book. For the novice, however, it is a good beginning place for reading.

Among several other features that I found somewhat annoying is the unusual and uneven organization of the chapters/subsections. The first 25% of the book is devoted to 5-HT_{1A} receptors. Because the 5-HT_{1A} recep-

tors are one of the oldest populations described, this may be appropriate. This chapter is divided into five subsections, each penned by different authors: 5-HT_{1A} Receptor Ligands, Structural Characteristics of 5-HT_{1A} Receptors and Their Ligands, 5-HT_{1A} Receptor Coupling to G-Proteins, Ligand Binding Assays, 5-HT_{1A} Behavioral Models, and Therapeutic Applications 5-HT_{1A} Receptor Ligands (sic). Some of these subsections are only 2 or 3 pages in length (and some later subsections are even shorter). Why could not the material in these subsections have been incorporated into one of the longer and more comprehensive subsections? Why were not some other chapters (e.g., Chapters 4, 7, and 8 that cover 5-HT receptor populations for which a similar amount of information is known) subdivided? The latter un-subdivided chapters tend to be more easily read. The second subsection of Chapter 1 provides a useful overview of the structure of 5-HT_{1A} receptors and describes how ligands might interact with the receptors and which amino acid residues might be involved in binding. Why was a similar subsection not included for some of the other chapters where this type of research has been reported? Why does Chapter 1 contain a separate 2-page subsection on second-messenger coupling, whereas none of the other chapters contain a similar subsection? Why does Chapter 1 contain a separate (2.5-page) subsection on the therapeutic implications of 5-HT_{1A} ligands, whereas most of the other chapters do not?

Due to the close structural similarity between 5-HT_{1B} and 5-HT_{1D} receptors, these might have been better covered in the same chapter. There is a resulting redundancy between the two chapters. The 5-HT_{1B} chapter is divided into two individual sections (9 and 2 pages), whereas the longer 5-HT_{1D} chapter consists of a single (38-page) section. These chapters also employ the older 5-HT_{1D} nomenclature rather than the newer nomenclature currently accepted to describe the two human 5-HT_{1D} receptor subpopulations.

Other minor defects include typographical and grammatical errors (more in some chapters than in others); citation of internal references, such as "(Page *)" where a page number was probably intended to be inserted before publication but never was; inconsistent use of structures (different sizes and bond widths, for example, C−C−C− in some structures, but $CH_2CH_2CH_2$ in others); inconsistent use of journal abbreviations (sometimes even within the same chapter); incomplete literature author citations (after the first three or four authors, the remaining authors are listed as "*et al.*"); omission of article titles.

The book could have merited its high price with some additional effort. It could have represented a major contribution had more of the authors discussed some of the thinking and rationale behind the design of certain agents (information not typically found in review articles). More graphics (perhaps some in color) describing structural differences among the different receptor subtypes and expanded coverage of contemporary efforts to elucidate drug−receptor binding interactions would have been welcome additions. This book will likely find its way into libraries, but not onto many personal bookshelves. Is it worth examining? Yes, for those interested in serotonin receptors.

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