Book Reviews

The Tachykinin Receptors. Edited by Stephen H. Buck. Humana Press, Totowa, NJ. 1994. xi + 630 pp. 16 × 23.5 cm. ISBN 1-89603-266-3. $125.00.

The Tachykinin Receptors is the most recent book published by Humana Press in *The Receptors* series, under the guidance of the series editor, David B. Bylund. Stephen Buck, the editor of *The Tachykinin Receptors*, has masterfully brought together leaders in neuropeptide research to discuss the history, the receptor characterization, and the physiologic actions of these biologic mediators.

Five sections divide the book. The first section is an interesting history of the discovery of tachykinins and their receptors. However, there is a subsection of structure–activity relationships that is a digression from the historical perspective and is also discussed in more detail in another chapter of the book. The second section, "Characterization of Tachykinin Receptors", is a thorough analysis of radioligand binding, autoradiography, molecular biology, photoaffinity probes, and molecular modeling of the receptor. The authors of this last subsection discuss the construction of a graphics-computer-generated, three-dimensional model of the substance P receptor (the NK_1 receptor). This is a fascinating tool used to develop a better understanding of how drugs interact with their target receptors. "Mechanisms of Tachykinin Receptor Action" is the title of the third section. Signal transduction via the inositol phosphate–calcium pathway and ion channels are categories addressed in detail here. "Tachykinin Receptor Function", the fourth section, is an assortment of topics including structure–activity relationships of agonists and antagonists and tachykinin involvement in disease. This section is too broad, however, and may have been easier to digest in two separate parts. A subsection of this fourth part, entitled "Evidence for Receptor Subtypes/Species Variants" is an eloquent chapter that analyzes a controversial area of tachykinin research. The final section is a scholarly summary by Dr. Lembeck and Dr. Buck.

In terms of the text, the introductions for many chapters are redundant. For example, the reader is told multiple times that the tachykinins are a family of peptides that share the common C-terminal sequence, -Phe-X-Gly-Leu-Met-NH_2. The references are current but the index was impossible to use. The text of this book, however, is easy to read. The figures, tables and photomicrographs are appropriately placed with clearly defined legends.

The Tachykinin Receptors is billed as a state-of-the-art review of all aspects of tachykinin receptors and it delivers on this promise. Scientists working in this field and new researchers embarking on this terrain would enjoy reading this book and using it as a source. Since tachykinin receptors are G-protein coupled receptors, other basic scientists also may use this book because of the overlap in several areas, including receptor characterization, signal transduction mechanisms, and drug development. This book would be a welcomed addition to an institutional or departmental library.

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JM940818T

From the Lab into the World. Carl Djerassi. American Chemical Society, Washington, D.C. 1994. x + 230 pp. 16 × 23.5 cm. ISBN 0-8412-2808-6. $24.95.

This volume contains 24 chapters, the text of which had been published between 1970 and 1993 in various scientific periodicals, and has been amended where new data were required. The general topic is control of family size and population by contraceptive and any other known method. It includes the control of human populations, of cats, dogs, and other pets, and the restriction and destruction of pests, mostly insects.

The author has been the most distinguished chemist studying chemical contraceptive agents, and he pictures here a history of his and of others' researches in this field. There are no structural formulas, and it is assumed that the professional as well as the lay reader knows what he is portraying. The growth of the field and of the participating pharmaceutical industry is interwoven with highly personal experiences of great scientists who made it all possible. There are even some recorded interviews with some steroid chemists whose recollections of their relations to ruthless enterpreneurs will make your hair curl. All conceivable aspects are illuminated with facts, figures, statistics, and anecdotes. Of course, these stories reflect the experiences and memories of *one* man, and some other participants may have seen them differently. Djerassi has taken this into account by looking at every conceivable facet of population restriction and contraception, by considering highly personal questions such as teenage pregnancies and the love of canine companions, of abortion and all other methods of preserving a measure of sanity in the threatening explosions of overpopulation.

The last chapters of the book digress from these themes. There is one on scientific ethics, one on the task of making the public understand science, one on "basic" versus "applied" research, and finally, unexpectedly, an account of the author's almost incredible patronage of modern artists on his huge ranch overlooking the Pacific Ocean. This has nothing to do with the rest of the book except that it shows what the author

has done with the fruits of his discoveries, inventions, and industrial experiences.

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JM940819L

Organic Reactions. Volume 46. Editor-in-Chief Leo A. Paquette. John Wiley & Sons, Inc., New York. 1994. xiii + 393 pp. 16 × 23 cm. ISBN 0-471-08619-3. $89.95.

The present volume of the classic *Organic Reactions* series consists of three major chapters. These are (1) Tin Enolates in the Aldol, Michael, and Related Reactions (104 pages by Teruaki Mukaiyama and Shu Kobayshi), (2) The [2,3]-Wittig Reaction (106 pages by Takeshi Nakai and Kochi Mikami), and (3) Reductions with Samarium(II) Iodide (158 pages by Gary A. Molander). Each chapter is presented in the traditional format of the series, i.e., it contains a section that introduces the reaction, as well as ones that describe the mechanism, scope and limitations, experimental procedures and conditions, exhaustive tabular surveys of the literature, and references. The volume concludes with author, chapter, and topic indexes for the entire series. A memorium to Dr. Harold Ray Snyder (May 21, 1910–March 8, 1994) is included in the preface to the book.

This volume is a required addition to the series for all chemistry libraries.

Staff

JM940820K

3-D QSAR in Drug Design. Edited by H. Kubinyi. ESCOM, Leiden, The Netherlands. 1993. xxviii + 759 pp. 17 × 24.5 cm. ISBN 90-72199-14-6. $232.00.

This is a volume of contributions to the general subject of three dimensionality in quantitative structure–activity relationships (QSAR). The book is divided into four parts: theory, modeling, 3-D QSAR models, and applications. Six to nine chapters in each part amplify the subtopics. The Theory, part I, includes chapters on drug–receptor interactions, binding site modeling, molecular similarity, and generation of 3-D structures. In part II, chapters on binding site models, shape analysis, and hyperstructure approaches highlight the contributions. Part III includes chapters on distance geometry, active-site lattice, molecular interaction fields, hydrophobic fields, and partial least squares analysis. Part IV includes contributions to the studies of several biological classes using comparative molecular field analysis.

The chapters are generally well-written by authors knowledgeable in their fields of study. Illustrations and references are useful. Many chapters provide useful treatments of topics beyond just 3-D considerations; thus, the book assumes a role as a resource of more general proportions. The book is a useful contribution to the scientist interested in pursuing research in the area of 3-D modeling. Hopefully, the price of the book will not limit its acquisition to the 68 contributing authors.

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JM940821C

Isopentenoids and Other Natural Products, ACS Symposium Series 562. Edited by W. David Nes. American Chemical Society, Washington. 1994. viii + 255 pp. 15.5 × 23.5 cm. ISBN 0-8412-2934-1. $69.95.

This valuable book was developed from a symposium sponsored by the Division of Agricultural and Food Chemistry at the 205th National Meeting of the American Chemical Society held in Denver, CO, in 1993. The first seven chapters cover the biochemical evolution of isopentenoids, while the remaining three deal with the evolution of fatty acids, prostaglandins, and lignans. Each chapter comes with an initial abstract and a final conclusion. Chapter topics (and authors) are as follows:

1. Isopentenoids and geochemistry (S. C. Brassell). 2. Hopanoids and other polyterpenoid biosynthesis in Eubacteria (M. Rohmer and P. Bisseret). 3. Evolution of sterol and triterpene cyclases (C. J. Buntel and J. H. Griffin). 4. Molecular asymmetry and sterol evolution (W. D. Nes and M. Venkatramesh). 5. Phylogenetic distribution of sterols (G. W. Patterson). 6. Evolution of the oxysterol pathway (E. J. Parish). 7. Evolutionary aspects of steroid utilization in insects (J. A. Svoboda, M. F. Feldlaufer, and G. F. Weirich). 8. Evolution of the endomembrane system (D. J. Morré). 9. Evolution of structure and function of fatty acids and their metabolites (J. L. Kerwin). 10. Evolution of lignan and neolignan biochemical pathways (N. G. Lewis and L. B. Davin).

The authors are responsible for some insightful trends in present day natural products biochemistry.

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JM950008X

Books of Interest

Membranes and Molecular Assemblies: The Synkinetic Approach (Monographs in Supramolecular Chemistry). By Jurgen-Hinrich Fuhrhop and Jurgen Koning. The Royal Society of Chemistry, Cambridge, U.K. 1994. xiii + 227 pp. 16 × 24 cm. ISBN 0-85186-732-4. £49.50.

Methods in Carbohydrate Chemistry. Volume X. Edited by James N. BeMiller. John Wiley & Sons, Inc., New York. 1995. xvii + 332 pp. 16 × 23.5 cm. ISBN 0-471-52940-0. $69.00

Calcium Regulation of Cellular Function. Volume 30. (Advances in Second Messenger and Phosphoprotein Research). Edited by Anthony R. Means. Raven Press, New York. 1994. x + 404 pp. 16 × 24 cm. ISBN 0-7818-0233-X. $99.00.

Protein Blotting. A Practical Approach. Edited by B. S. Dunbar. Oxford University Press, New York. 1994. xxiii + 242 pp. 15.5 × 23.5 cm. ISBN 0-19-963437-8. $39.00 (pbk).

Nucleophilic Aromatic Substitution of Hydrogen. By Oleg N. Chupakhin, Valery Charushin, and Henk C. van der Plas. Academic Press, Inc., San Diego, CA. 1994. x + 367 pp. 16 × 23.5 cm. ISBN 0-12-174640-2. $95.00.

JM9411876

Methods of Molecular Biology. Volume 35. Peptide Synthesis Protocols. Edited by Michael W. Pennington and Ben M. Dunn. The Humana Press, Totowa, NJ. 1994. xii + 321 pp. 17 × 23 cm. ISBN 0-89603-273-6. $64.50.

Methods in Molecular Biology. Volume 36. Peptide Analysis Protocols. Edited by Ben M. Dunn and Michael W. Pennington. The Humana Press, Totowa, NJ. 1994. xii + 335 pp. 17 × 23 cm. ISBN 0-89603-274-4. $59.50.

Molecular Biology of Diabetes II. Insulin Action, Effects on Gene Expression and Regulation, and Glucose Transport. Edited by Boris Draznin and Derek LeRoith. The Humana Press, Totowa, NJ. 1994. xvi + 555 pp. 16 × 23.5 cm. ISBN 0-89603-286-8. $89.50.

Physicians Desk Reference. PDR 49th Edition 1995. Published by Medical Economics Data Production Company, Des Moines, IA. 1994. 2787 pp. 23 × 28 cm. ISBN 1-56363-087-7. $64.95.

Organic Syntheses. Volume 72. 1995. Editor-in-Chief David L. Coffen. John Wiley & Sons, Inc., New York. 1994. xxxii + 333 pp. 16 × 23.5 cm. ISBN 0-471-30727-0. $39.95.

JM941186D