

Book Reviews

Drug Toxicokinetics. Drug and Chemical Toxicology. Volume 9. Edited by Peter G. Welling and Felix A. DeLa Iglesia. Marcel Dekker, Inc., New York. 1993. xviii + 408 pp. 16 × 23.5 cm. ISBN 0-8247-9019-7. \$150.00.

Toxicokinetics, a combination of pharmacokinetics and toxicology, is a new discipline in drug discovery and development. It differs from pharmacokinetics as it is a study of drug absorption, distribution, metabolism, and excretion at doses that are much larger than those normally employed either pharmacologically or therapeutically. In this book, topics of importance in this new discipline ranging from basic considerations of pharmacokinetics to practical considerations of specific therapeutic areas and concluding with a projection of the future of toxicokinetics in drug development are covered in 16 chapters contributed by experts from various fields.

Drug Toxicokinetics is a state-of-the-art presentation. It has been designed as a "manual" or "textbook" in order to familiarize toxicologists and drug metabolism scientists with toxicokinetic principles and to facilitate the application of these principles in drug development. Scientists from these disciplines will derive a great deal from this volume. Medicinal chemists, in general, will also find this book, especially the chapter Biotransformation of Xenobiotics to Chemically Reactive Metabolites informative, worthwhile reading. Those who are more specialized will want to read the chapters that cover specific therapeutic areas.

Staff

Studies in Natural Products Chemistry. Volume 12. Stereoselective Synthesis (Part H). Edited by Attar-Rahman. Elsevier, Amsterdam. 1993. x + 526 pp. 17 × 24 cm. ISBN 0-444-89366-0. \$281.25.

This book presents a collection of 11 chapters dealing with various modern aspects of synthetic natural products chemistry. All chapters are eminently knowledgeable and well-written and present the latest developments. Specific topics (and authors) include synthetic routes to the oxahydrindene subunit of the avermectin-milbemycin family of antiparasitic agents (S. A. Peak and A. B. Smith, III), a new tandem process for the synthesis of macrolide antibiotics (M. Nakata and K. Tatsuta), stereoselective synthetic chemistry of bicyclomycin (R. M. Williams), the role of isocyanides in the synthesis of β -lactam antibiotics (H. Eckert and I. Ugi), synthesis of 1β -methylcarbapenem intermediates (Y. Ito and S. Terashima), chemical studies of the taxane diterpenes (C. S. Swindell), recent advances in the synthesis of tumor-promoting diterpenes (J. H. Rigby), hydroxylated indolizidines and their synthesis (J. Cossy and P. Vogel), a survey of indolo carbazole alkaloids (G. W. Gibble and S. J. Berthel), synthetic methodology for 2-amino alcohols of biological interest (T. Kunieda and T. Ishizuka), and finally stereoselective synthesis of natural products via cationic and radical intermediates (S. Shibuya, T. Yokomatsa, and Y. Yuasa).

This volume should be considered a required acquisition for research libraries.

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Studies in Natural Products Chemistry. Volume 13. Bioactive Natural Products (Part A). Edited by Attar-Rahman and Fatima Z. Basha. Elsevier, Amsterdam. 1993. xiv + 694 pp. 1993. 17 × 24 cm. ISBN 0-444-89937-5. \$356.50.

Following immediately on the heels of volume 12, we have volume 13 in the series *Studies in Natural Products Chemistry*. This book places particular emphasis on the latest developments in the realm of synthetic approaches to bioactive natural products. All presentations are lucid and thorough. Chapter topics (and authors) include synthesis of quinane terpenes (L. A. Paquette), asymmetric synthesis of bioactive natural products from chiral propane-1,3-diols (M. Ihara and K. Fukumoto), total synthesis of cytochalasans (E. J. Thomas), synthetic modifications of the erythromycin A macrolactone (P. A. Lartey and T. J. Perun), synthesis of active compounds composed of carba-sugars (S. Ogawa), automated synthesis of modified oligonucleotides (A. Frauendorf and J. W. Engels), new strategies in the biogenesis of flavors (S. Fuganti, S. Servi, M. Barbeni, and P. Cabella), anticancer acridone alkaloids (Tsann-Lone Su and K. A. Watanabe), synthesis of macroline related indole alkaloids (Yingzhi Bi, L. K. Hamaker and J. M. Cook), total synthesis of mitomycins (T. Fukuyama and L. Yang), organosilicon compounds as nucleophiles in the synthesis of natural products (H. de Koning, M. J. Moolenaar, H. Hiemstra, and W. N. Speckamp), non-trichothecene secondary metabolites of *Fusarium* (M. E. Savard and J. W. ApSimon), and synthetic studies on naturally occurring mevinic acids (T. Rosen). The concluding chapter is by G. A. Cordell who writes interestingly and authoritatively on the modern meaning of the word pharmacognosy.

Just like its predecessor, volume 12, volume 13 is a worthy and necessary addition to any research library.

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New Advances on Cytokines. Serono Symposia Publications from Raven Press. Volume 92. Edited by S. Romagnani, T. R. Mosmann, and A. K. Abbas. Raven Press, New York. 1992. xvi + 386 pp. 16 × 23.5 cm. ISBN 0-88167-902-X. \$115.00.

The contents of this book arise from the Second Serono Symposium on Cytokines, held in 1991. Its 46 chapters are divided into five sections. The first, Cytokines in Hemopoiesis/Lymphopoiesis, is composed of eight con-

tributions, which consider the effects of steel factor, IL-2, IL-3, IL-4, IL-5, IL-11, G-CSF, and TGF β on leukocyte maturation and differentiation. Each contribution is concise, but those on steel factor, IL-2, IL-5, and IL-11 provide fairly complete reviews on the trophic and differentiation effects of those cytokines. The second section of 10 contributions considers Cytokines in the Regulation of Cellular Immunity. This is a heterogeneous collection. One, on IL-9, is written as a review of that cytokine and could have been included in the first section; however, as is discussed, this cytokine was originally described as a factor supporting survival of certain T lymphocyte clones. Several chapters describe specific cell types, such as natural killer cells, and T_{H1} and T_{H2} lymphocytes. Two chapters describe aspects of cellular immunology in transgenic mice. One of these discusses the activity of T lymphocytes from IL-2-deficient mice, whereas the other discusses aspects of reactivity of naive Th cells from T cell receptor transgenic mice. The third section consists of 10 papers that discuss Cytokines in Humoral Immunity and Allergy. Contributions in this section consider the roles of CD4⁺ T lymphocytes in regulation of the humoral immune response *in vitro* and in transgenic mice. Several papers address the relative roles of T_{H1} lymphocytes and T_{H2} lymphocytes in regulation of humoral immunity and IgE production. One chapter describes the clinical immunology of a patient with the Omenn's Syndrome, a combined immunodeficiency with hypereosinophilia, which was successfully treated with interferon γ , to both increase cellular immune function and restore the eosinophil number toward normal. The section on Cytokines in Infectious Diseases is composed of seven chapters. Of these, three consider the reactivity of T lymphocyte subsets in murine leishmaniasis, two consider the role of TNF in murine malaria, and one each consider cytokines in bacterial and viral infections. A final section, composed of 11 contributions, considers Cytokines in Inflammation. Among these are general reviews on IL-1, IL-1 receptors, and IL-12. Several chapters discuss the *in vivo* effects of anticytokine antibodies, and others describe the *in vivo* effects of a recombinant IL-1 receptor antagonist and a TNF receptor-fusion protein.

This book is of general interest to the investigator who wishes to remain current with diverse areas of investigation into immune regulation. Several contributions stand alone as concise reviews of the biology of recently-described cytokines and several describe the exciting insights into the roles of cytokines that transgenic animals are just beginning to provide. Cytokines, since they bind to specific cell-surface receptors, are at present popular but frustrating targets for medicinal chemical intervention. Many of the contributions in this book provide impetus for the continued search for antagonists of certain cytokine receptors as agents with potential dramatic therapeutic effects.

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Reagents for Organic Synthesis, Volume 16. Mary Fieser. John Wiley & Sons, New York. 1992. 435 pp. 15.5 \times 23 cm. ISBN 0-471-52721-1. \$54.95.

This popular series continues in the tradition of providing chemists with a comprehensive and up-to-date overview of the reagent literature. The Fieser volumes provide concise descriptions, structural formulas, and selected examples of application, drawing the reader to references to new reagents in this and previous volumes. Volume 16 surveys the literature from 1989 through 1991. As in previous volumes, this volume also contains an index of reagents according to types, an author index, and a subject index.

Dr. Fieser is to be congratulated for her continuing efforts in bringing this valuable series to the chemical community for so many years.

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