Book Reviews

QSAR: Hansch Analysis and Related Approaches. By Hugo Kubinyi. VCH. Weinheim and New York. 1993. XII + 240 pp. 17 × 24 cm. ISBN 3-527-30035-X (Weinheim), 1-56081-768-2 (New York). $100.00.

This is Volume 1 of "Methods and Principles in Medicinal Chemistry" edited by R. Mannhold, P. Krogsgaar-Larsen, and H. Timmerman. The aim of this book is to give an introduction to QSAR methodology for beginners and practitioners and to present selected examples of typical applications with comments, including warnings and limitations of the methods, based on the 20 years of practical experience of the author with these methods. Hansch analysis, the Free-Wilson model, and comparative molecular field analysis, CoMFA are covered. The orientation of the referencing and discussion is to include everything, if only briefly. There are 1111 references but no author index. The subject index is thorough with approximately 2400 entries. The book is amply illustrated with figures, most reproduced from the literature, and examples, many previously unpublished.

The tone of the book is almost conversational—it is as if one is listening to one with a long experience in the practical application of the methods. Chapter 1 provides a history of QSAR and a brief description of the principal types of interactions involved in drug–receptor interactions; Chapter 2, biological activity and a discussion of the additivity of group contributions to potency or affinity; Chapter 3, parameters for Hansch and Free-Wilson analysis with a table of substituent constants; Chapter 4, the various approaches to 2D QSAR; Chapter 5, the statistical methods of regression analysis and partial least squares (PLS); Chapter 6, the design of series for QSAR analysis; Chapter 7, examples of the applications of Hansch analysis; Chapter 8, examples of the applications of Free-Wilson method; Chapter 9, 3D QSAR approaches with CoMFA occupying 14 pages and molecular similarity six. The book might be intimidating for a beginner in that Kubinyi assumes that the reader knows a fair amount about the subject; however, if one read and thought about the whole book, a lot could be learned.

In summary, Kubinyi has presented a thorough literature survey combined with an expert's experience as to the pitfalls and strengths of the various approaches. It is a valuable resource for both QSAR practitioners and readers of QSAR literature.

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Bioprocess Engineering. Systems, Equipment and Facilities. Edited by Bjorn K. Lydersen, Nancy A. D'Elia, and Kim. L. Nelson. John Wiley & Sons, Inc., New York. 1994. xii + 805 pp. 16 × 23.5 cm. ISBN 0-471-03544-0. $89.95.

The recent development of new and potential drug products derived from DNA and monoclonal antibody technologies has presented a need for methods and facilities suitable for commercial-scale manufacture. This book provides first-hand accounts of practical solutions to a wide range of production problems. Written by authorities who have successfully addressed these problems, the book is subdivided into four sections, i.e., process systems, system components, support systems, and facility design. The process and support systems sections are directed toward the two types of equipment required in the plant, namely equipment in which the product is synthesized or processed (e.g., fermentor, centrifuge, and chromatographic columns) and support facilities (e.g., water, steam, waste removal, and air conditioning). The section on system components covers components, such as pumps, filters, and valves, which are common to various types of equipment. The final section, facility design, describes the plan and design of an entire facility and the requirements for the containment and validation of the biotechnology processes.

This handbook will serve as a practical bioprocessing operation guide; it should benefit bioprocess engineers in a field that promises to become increasingly important.

Staff

Books of Interest

Concise Encyclopedia Chemistry. Translated and revised by Mary Eagleson. Walter deGruyter, Inc., New York. 1993. 1201 pp. 17.5 × 24.5 cm. ISBN 3-11-011451-8. $69.95.

Annual Review of Pharmacology and Toxicology. Volume 34. 1994. Edited by Arthur K. Cho. Annual Reviews Inc., Palo Alto, CA. 1994. vi + 385 pp. 16 × 23 cm. ISBN 0-8243-0434-9. $47.00.

Reviews in Computational Chemistry. Volume 5. Edited by Kenny B. Lipkowitz and Donald B. Boyd. VCH Publishers, New York. 1993. xxi + 458 pp. 16.5 × 24 cm. ISBN 1-56081-658-9. $110.00.

Biological Mass Spectrometry: Present and Future. Edited by T. Matsuo, R. Caprioli, M. Gross, and Y. Seyama. John Wiley & Sons, New York. 1994. xxi + 666 pp. 16 × 23.5 cm. ISBN 0-471-93896-3. $180.00.

Supplements to the 2nd Edition of Rodd's Chemistry of Carbon Compounds. Volume IV. Heterocyclic Compounds. Part C: Five Membered Compounds with two Hetero-Atoms in the Ring from Groups V and/or VI of the Periodic Table. Part D: Five-Membered Heterocyclic Compounds with More than Two Hetero-Atoms in the Ring. Edited by M. F. Ansell. Elsevier Science B.V., The Netherlands. 1994. xviii + 457 pp. 15.5 × 23 cm. ISBN 0-444-89932-4. U.S. $271.50.

Food Phytochemicals for Cancer Prevention II. Teas, Spices and Herbs. ACS Symposium Series 547. Edited by Chi-Tang Ho, Toshihiko Osawa, Mou-Tuan Huang, and Robert T. Rosen. American Chemical Society, Washington, D.C. 1994. xii + 370 pp. 15.5 × 23.5 cm. ISBN 0-8412-2769-1. $89.95.