

**P Krogsgaard-Larsen, T. Liljefors and U. Madsen,
Textbook of Drug Design and Discovery, 3rd Edition.**

London and New York: Taylor and Francis, 2002.

572 pages paperback.

Paperback £32.

ISBN 0-415-28288-8

Reviewed by Dr David G. Durham, a senior lecturer at the School of Pharmacy, Faculty of Health and Social Care, The Robert Gordon University, Aberdeen, UK

The production of a textbook to capture the breadth of knowledge, which has been harnessed to reach the present state of drug design and to provide pointers for future progress, is a formidable task. A fine balance must be struck in presenting the complexities of drug targets and the diverse methodologies employed in drug development, bearing in mind the likely intended audience of multidisciplinary readers, with their varying backgrounds in chemistry, molecular biology, pharmacology, pharmacy, biochemistry and medicine. This text provides an overview and introduction primarily aimed at students with a solid scientific knowledge wishing to develop their interest in drug design to the Masters degree and beyond. It also serves as a suitable primer for the more experienced scientist wishing to broaden his knowledge base.

The book is divided into seventeen chapters, which follow drug design in a logical progression from initial lead identification through optimisation and structure-activity relationships to specific groups of therapeutic agents. With contribution from leading experts in medicinal chemistry and pharmaceutical research, the editors have achieved a substantial introductory text which not only comprehensively addresses drug development, but is also highly readable. Individual chapters, which for example develop themes on enzyme inhibitors, cellular molecular targets such as receptors or ion channels, can readily be read in isolation. Each chapter, while seeking to present an overview of individual topics is appended by a well-selected list of supplementary reading. This further reading consists usually of recent reviews and expert reference sources with some specific key papers detailing illustrative

examples cited in the main text. No referencing system is used to directly link the latter to the text. Unfortunately the edition lacks the inclusion of any web site URLs to further information, which would be a useful addition in pursuing a topic.

Radiotracers; synthesis and use in imaging (chapter 8) is a somewhat specialist topic, which is adequately outlined in the text. In spite of an extensive supporting reading list the lack of cited recently-published material suggests that development of applications in this area is not as rapid as one would anticipate. The inclusion of a chapter on Metals in medicine (chapter 13) is of interest as this tends to be somewhat of a Cinderella topic in drug design. The relevance and therapeutic potential of inorganic chemistry continues to increase with our expanding understanding of molecular biology. A fuller selection of further reading for this chapter would be useful.

The text is extensively illustrated throughout with a range of tables and figures: the latter ranging from graphs and line diagrams through conventional chemical structures and reaction pathways to computer aided molecular modelled projections. The careful selection and application of these adds an attractive dimension to the work as well as enhancing clarity without overwhelming the reader, for whom some of these styles may be unfamiliar.

The text, as one might expect of a sequential edition, has very few typographical errors. The linking of the D/L convention to describing observed optical rotation (chapter 3) is somewhat confusing. In seeking to highlight development of drugs through to the clinic, the final chapter (17) on Anticancer agents is somewhat disappointing. The difficulty in concisely presenting such an extensive topic is apparent. The content of the chapter appears tired, and this is further reflected in the list of further reading, which although fairly extensive appears dated.

Overall the textbook is highly recommendable as an introductory source to the subject of drug design for the student seeking to acquire an overview of the topic. The editors are to be commended in the success of their presentation, integrating the scientific disciplines that contribute to the advance of medicinal chemistry in the development of novel therapeutic agents. This concise single volume represents a useful reference primer for the library or the personal bookshelf, competing well in the era of electronic information.