



BOOK REVIEWS

Drug Stereochemistry—Analytical Methods and Pharmacology, Second Edition: I. W. WAINER (editor), Dekker, New York, 1993. Pages xvi + 425. US\$165.00. ISBN 0-8247-8819-2.

The new edition of this book (Number 18 in the Clinical Pharmacology series) supercedes the original (Number 11) edition. Its appearance is timely due to the increasing interest in single-isomer drugs as shown by the appearance of two new journals: *Chirality* and *Tetrahedron Asymmetry*. Indeed, texts dealing with this topic are assured an eager readership due to the now widespread recognition of pharmacological differences between drug enantiomers.

The book consists of four parts: Introduction (2 chapters), The Separation and Preparation of Stereochemically Pure Drugs (6 chapters), Pharmacokinetic and Pharmacodynamic Differences Between Drug Stereoisomers (6 chapters) and Perspectives on the use of Stereochemically Pure Drugs (4 chapters). Contributions to the 16 chapters are made by 19 authors from North America and Europe. Each chapter is followed by numerous up-to-date references and throughout the quality of the presentations is high.

The new chapters in this edition include: Enzymatic Synthesis and Resolution of Enantiomerically Pure Compounds (Chapter 8), Toxicological Consequences and Implications of Stereoselective Biotransformations (Chapter 9), Stereoselective Transport Across Epithelia (Chapter 10) and Assessment of Bioavailability and Bioequivalence of Stereoisomeric Drugs (Chapter 11). The chapter on Stereoselective Protein Binding has been completely rewritten and new contributions on regulatory, industrial, and clinical aspects of stereoisomeric drugs are included.

Perhaps the three revised and expanded chapters on stereoselective chromatographic separations will be most of interest to the analyst. Here both indirect and direct methods for the chromatographic resolution of drug enantiomers are covered and the editor contributes a chapter on HPLC chiral stationary phases which is state-of-the-art.

Throughout the text numerous chiral drugs are examined including propranolol, ibuprofen, atropine, nicotine, warfarin, etc. and a whole chapter is devoted to verapamil. Many aspects of chiral drugs are covered: synthetic, analytical, biochemical, clinical, and industrial. The text is an excellent review of the relevance of drug stereochemistry and is essential reading for all those who work in this area. The book is highly priced but it is good value for money. Highly recommended.

P. J. Cox

XRF Analysis of Ceramics, Minerals and Allied Materials: H. BENNETT and G. OLIVER, Wiley, Chichester, 1992. Pages: xv + 298. £45.00 ISBN 0-471-93457-7.

This book is a practical laboratory guide to the X-ray fluorescence analysis of ceramics, minerals and related substances. No theoretical treatment of the physics of XRF is given; the authors have concentrated on the analytical procedures required for reliable analysis, which they have developed over 25 years at Ceram Research (formerly the British Ceramic Research Association). Their wealth of experience is described with remarkable thoroughness.

The book falls naturally into two parts. The first 11 chapters are essentially discursive, while the remaining eight chapters give summarized procedures. There are also five appendices.

Chapter 1 is a brief introduction to the book. Chapter 2 deals with apparatus and equipment from very basic items such as mills, sample splitters, burners and furnaces to the choice of spectrometers and analysing crystals. The importance of proper drying and weighing of samples is discussed. There is also a section on the care of platinum ware. The chapter ends with a discussion of the importance of blank determinations. Procedures for the analysis of non-XRF elements are given in Chapter 3. These fall into several categories; light elements such as Li and B which are not readily detected, volatiles such as S, As or Sb and those which alloy with platinum. Chapter 4 is a lengthy discussion of the principles and practice of the determination of the loss on ignition. Complications arising from the presence of carbonate, sulphate and halides are comprehensively aired. Fusion procedures, guidance on the choice of fluxes and methods for dealing with difficult elements follow in Chapter 5. The attention given to these topics reflects their crucial role in the execution of reliable analyses.

The selection of instrumental parameters and the choice of element line are detailed in Chapters 6 and 7. For each of the elements considered there is a brief description of its use and occurrence in ceramics followed by the preferred analytical line and instrument settings (collimator, crystal, counter type and kV). Possible interferences are also discussed.

A standard procedure for the preparation of sample beads for uncomplicated materials is given in Chapter 8. It is based on BS 1902 and builds on the information given in the previous chapters of the book. The importance of rigorously following the given methods is stressed. Calibration is very thoroughly treated in Chapter 9. Chapter 10 gives instructions on how to present the sample bead to the spectrometer and how to calculate the results. This part of the book concludes with Chapter 11 which, complementing Chapter 8, describes routine techniques to be used in conjunction with the lists given in the second part.

The remaining eight chapters which make up this second part give summarized procedures for the analysis of various classes of materials. The classifications are silica/alumina, calcium-, magnesium- and zircon-rich materials, various oxides,