REVIEWS

Narcotic Drugs—Biochemical Pharmacology. Edited by D. H. CLOUET. Plenum, 227 W. 17th St., New York, NY 10011, 1971. xxii + 506 pp. 16 × 23.5 cm. Price $28.00.

Recent public concern over the problems of narcotic and dangerous drugs has generated much research and many publications directed toward clarifying many of the unresolved questions. This book emphasizes the responses of the body and its tissues to narcotic analgesic drugs at the level of biochemical pharmacology. It is, as stated by the editor, an attempt to detail the molecular history of the drug in the body and the biochemical consequences of its presence in tissue.

The 29 contributors to this book include many well-known persons in the field of drug-dependence research. The book is written on a technical level and is not intended for the casually interested reader. However, individuals directly involved in this area should find the book to be a useful reference source and overview of the direction of current research.

Staff Review ■

Practical Catalytic Hydrogenation: Techniques and Applications. By MORRIS FREIFELDER, Wiley-Interscience, New York, N.Y., 1971. xxii + 663 pp. 16 × 23.5 cm. Price $24.95.

The author has applied his extensive experience in this field to prepare a very useful, practical survey of the methods, scope, and utility of catalytic hydrogenation.

This work is organized into some twenty-five chapters, beginning with several general chapters on metals used as catalysts, catalytic inhibitors and promotors, other effects and methods of procedure, including solvent choice, agitation, safety, *etc.* The remaining chapters are organized on the basis of functional group to be reduced, beginning with acetylenes and finishing with sulfur-containing compounds. In between are chapters on unsaturated carbon–carbon, carbon–oxygen, carbon–nitrogen, and nitrogen–oxygen compounds, as well as the topics of reductive amination, reductive alkylation, various types of hydrogenolysis, dehalogenation, and reduction of a large number of heterocyclic systems.

Each chapter is organized on the basis of methods for reduction, usually by catalyst, followed by a discussion of selective hydrogenation methods for one functional group in the presence of another reducible one. Stereochemistry is covered where important and the chapter is completed by a list of cited references. A wide variety of functional groups are covered and in each case the author attempts to cite several examples of practical methods which could be used to accomplish the goals of the investigator without being encyclopedic. Several methods are given for a single reduction, which should allow most investigators to choose a procedure consistent with their own instrumentation capabilities, even if quite limited. The author makes useful comments on why specific procedures may have failed, drawing from his long experience and in many cases suggests the use of space-filling models, which allow for one to readily rationalize why certain methods succeed or fail.

Because of the numerous examples in the book, the use of structural formulas are generally restricted to larger molecules; therefore, the reader must mentally and/or physically draw a structure from a chemical name in most cases. This compromise seems necessary to produce a book of reasonable length. This work lacks a useful index which is compensated for to some extent by the complete table of contents (thirteen pages) and the consistent organization of the chapters. Only a very few errors in typesetting were noted.

This book is a welcome and useful addition to any research laboratory utilizing catalytic hydrogenation as a method for synthesis of compounds. It should find widespread use as a reference by research groups doing chemical synthesis.

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Critical Micelle Concentrations of Aqueous Surfactant Systems. By P. MUKERJEE and K. J. MYSELS. Prepared under contract for the Office of Standard Reference Data, National Bureau of Standards of NSRDS-NBS 36, Washington, DC 20234, 1971. v + 227 pp. 20.5 × 27 cm. Price $3.75.

Eighty-seven publications were consulted in the compilation of this comprehensive listing of CMC values. The primary purpose of the book was to provide a list of reliable CMC values. The literature from 1926 through 1966 was scanned; more than 800 additional values were extracted from other sources.

The tables include nearly 5000 entries, based on more than 300 references, dealing with 720 compounds. Whenever available, the temperature, any additives present, method of determination, and literature source are given for each CMC value, with comments on the apparent quality of the preparation and method used.

Staff Review ■

Current Concepts in the Pharmaceutical Sciences: Biopharmaceutics. Edited by JAMES SWARBRICK. Lea & Febiger, Philadelphia, PA 19106, 1970. xi + 304 pp. 18 × 26 cm. Price $16.50.

This volume is probably the most extensive survey of the biopharmaceutically allied sciences to date. Most of the significant factors which can affect the amount–time profile of a drug at its pharmacologic receptor site are either elaborated or bibliographically sketched.

An excellent outline of pharmacokinetics is provided by G. A. Portmann in the first of the six chapters of the book. A series of descriptive and practical kinetic relationships are furnished for most of the commonly encountered mathematical models and drug transfer systems. Expressions which relate pharmacologic activity to time and drug levels are also included.

Evolved principles and recent developments concerning the GI absorption of drugs are summarized by T. R. Bates and M. Gibaldi. Particularly of merit is a review of physiological and dietary factors which affect the absorption of drugs and an up-to-date assessment of various techniques used to study GI drug absorption.

The third section, authored by L. B. Kier, is a consideration of drug–receptor interactions from a physicochemical viewpoint. Background material in quantum chemistry provides the basis for an examination of the molecular orbital approach to drug activity. These methods are shown to be useful in studying the pharmacophoric patterns of chemical carcinogens, hallucinogens, anti-inflammatory agents, sulfonamides, and muscarinic agents.

The role of drug disposition in modifying drug response is surveyed by W. F. Bousquet. An excellent array of tabular and graphical information greatly enhances the review of biotransformation processes and the effects caused by various physiologic, pharmacologic, pathologic, and environmental factors. The brief portion of