Handbook of Chemical Property Estimation Methods, Edited by W. J. LYMAN, W. REEHL, and D. ROSENBLATT, McGraw-Hill, 1221 Avenue of the Americas, New York, NY 10020. 1982. 960 pp., 71 illustrations. 19 × 24 cm. Price $42.50.

This handbook of chemical property estimation methods is an outgrowth of a combined U.S. Army–Arthur D. Little project to assess properties of organic chemicals that are of environmental concern. Much basic physical and chemical data needed to perform a proper assessment of the risk of these chemicals to humans and the environment is evidently lacking in existing literature. Therefore, an estimation of the most important properties for selected chemicals would aid in this assessment and, thus, is the basis for this scientific contribution.

A review of existing literature reveals that approximately 50 physicochemical properties of organic compounds are of interest, but estimation methods are only available for about half of these properties. A total of 26 properties and their estimation methods are included in the handbook. Two or more estimation methods were selected for each property. These estimation methods were chosen for their range of applicability, ease of use, minimum input data requirements, and accuracy. Among the physicochemical properties covered that would be of pharmaceutical interest are octanol–water partition coefficient, solubility in water, solubility in various solvents, acid dissociation constant, rate of hydrolysis, rate of biodegradation, vapor pressure, densities of vapors, liquids and solids, surface tension, dipole moment, and index of refraction. The handbook is divided into chapters with each property covered in a given chapter. The Editors have maintained some degree of uniformity in style and content in each chapter. For each property, there is introductory material describing the property, background data on available estimation methods, a description of the recommended estimation method(s) with specific instructions for calculation, examples of each method, a listing of symbols and definitions associated with the method, and pertinent literature references.

Aside from deficiencies and errors in the handbook, the basic limitation is that only single-component organic chemicals are covered. There are plans to cover organic mixtures in future editions. A definite plus for the handbook is that the chapters were rigorously reviewed by individual scientists connected with the U.S. Army, the Environmental Protection Agency, Arthur D. Little, various universities, and other organizations.

The Handbook should be beneficial to those who need to estimate selected physicochemical properties where such data are either unavailable or nonexistent. The user should be able to obtain the estimation quickly using only a hand calculator and the handbook instructions. The price is not too prohibitive to prelude addition to an individual's library. It is not meant to be used as a course textbook, but could be easily utilized as a reference text, especially for courses in pharmaceutics and medicinal chemistry. I do not especially recommend the handbook for acquisition by a School of Pharmacy Library or Reading Room facility, but feel that it should be available for use on campus in a Science Library.

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Pharmaceutical Dosage Forms: Tablets Vol. 3. Edited by HERBERT A. LIEBERMAN and LEON LACHMAN. Dekker, 270 Madison Avenue, New York, NY 10016. 1982. 472 pp. 18 × 25.5 cm. Price $59.75 (20% higher outside U.S. and Canada).

This volume, the concluding volume of this treatise, empathizes the final stages in the evolution of a finished tablet product. As with the earlier volumes, each chapter is a logical self-contained entity, not critically dependent on familiarity with preceding chapters. In spite of this, the editors have continued to skillfully prevent any repetition by the various authors of the redevelopment of information for processes completed prior to those covered in their chapter describing the next stage of tablet production.

The first four chapters of this volume are specific to the unit processes involved. They are Principles of Improved Tablet Production System Design, Pan Coating of Tablets and Granules, Particles Coating Methods, and Sustained Drug Release from Tablets and Particles through Coating. Each is clearly, logically, and completely developed.

The next two chapters, entitled Stability/Kinetics and Quality Assurance, review the testing of the final product and the documentation of the adherence to GMP throughout every processing step.

As with the previous volumes, the indexing is good. With computer type-setting it is unfortunate that an additional cumulative index for the three volumes was not compiled.

Each chapter in this set is written by qualified experts and clearly represents the state-of-the-art for the immediate future. It is hoped that to create a complete treatise the editors will soon move on to additional volumes to cover other pharmaceutical dosage forms.

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CRC Handbook of Chromatography Drugs. Vols. I and II. Edited by RAM N. GUPTA with series Editors-in-chief, GUNTER ZWEIG and JOSEPH SHERMA, CRC Press Inc., Boca Raton, FL 33431. 1981. Vol. I: 340 pp., Vol. II: 404 pp. 17.5 × 25.5 cm. Price Vol. I: $59.95, Vol. II: $59.95.

Earlier editions of this handbook attempted to cover a wider range of compounds in two volumes, but the growth of the literature demanded a new approach resulting in a series of separate books more selective in scope. These two volumes are intended as a reference source of the different chromatographic techniques available for the analysis of drugs, except steroids which are to be treated separately. Coverage embraces specimens from pharmaceutical dosages to biological matrixes. There is a brief, useful introductory section on collection, storage and processing of samples. The comments on interferences from commercial blood sampling containers are marred, however, by incorrect figure legends and a missing reference (No. 78).

The major part of the volumes presents useful tables listing separately the main features of gas, high-pressure liquid, and thin-layer chromatographic methods available for each drug listed. Key chromatographic conditions are cited, together with type of method, *e.g.*, *D* = dosage form, sample size, and sensitivity on a scale of 1–3. (The latter would be more useful if a concentration were estimated.)

This book would be a useful desk reference for those who do not have ready access to a library. However, its utility is compromised by the incomplete (or selective) compilation of methods with no explanation of the criteria for choice of the particular methods tabulated. Thus, methods for such drugs as allopurinol, digoxin, oxyphenbutazone, quinine, and promethazine—among others in this reviewer's files—are not cited.

It would also be useful in such handbooks if the date of literature coverage (apparently to the end of 1979) were quoted, as some methods cited have already become outdated by later advances, *e.g.*, GLC of isosorbide, HPLC of chlorpromazine, naproxen, and propanolol, an inevitable consequence of the advances with useful technique. One is left with the impression that this handbook would be more useful for those analysts involved with biological samples rather than raw materials or formulations.

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