

fect of coulomb forces may be divided into one part which can be treated by the law of mass action and another part which cannot. The preliminary discussion says merely that the solvent has a dielectric constant ϵ and the ion has a charge j ; and zero radius (wrong). There are three "howlers" in the derivation. Although the treatments of the "higher terms" by Gronwall and LaMer, Müller, Kirkwood, Mayer, and Guggenheim are given immediately (in Chapter III), the ion-pair treatment of Bjerrum is not given until the final Chapter XIV. Bjerrum's constant may be factored out of the association constant or left in according to the rules one wishes to make, but it should not be ignored.

In spite of its shortcomings this is a useful book to have in the laboratory or the study. It is interesting to have the equilibrium constants classified by methods of measurement instead of by ions. The references to methods, to theory and to systems studied are probably complete enough through 1958, perhaps through 1960, that all the important work can be traced without much difficulty.

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Colorimetric Methods of Analysis, Including Photometric Methods. Volume IIIA. By FOSTER DEE SNELL, Ph.D., President, Foster D. Snell, Inc., and CORNELIA T. SNELL, Ph.D., Research Chemist. Assisted by CHESTER ARTHUR SNELL, Ph.D., Director of Analytical Department, Foster D. Snell, Inc. D. Van Nostrand Co., Inc., 120 Alexander Street, Princeton, N. J. 1961. x + 576 pp. 16 × 23.5 cm. Price, \$12.75.

Volume IIIA brings Volume III up to date on the many colorimetric and photometric methods of analysis of organic compounds that have appeared during the past eight years. Because of the large number of new organic substances, such as insecticides, fungicides and drugs that have appeared in recent years, the authors have made an effort to condense the wording of the procedures so as to save many pages of text. This has been accomplished skillfully without sacrifice either in accuracy or in convenience as explained in the short introductory chapter. Also, the classification of such a large number and variety of compounds presents a complex problem. In general they are classified according to chemical structure unless there is a good reason to do otherwise. There are many exceptions, however, and so the simplest way to find a compound is to use the 30-page index.

The scope of the book is indicated by the titles of its nineteen chapters: Chapter 1, Introductory (3 pp.); Chapter 2, Hydrocarbons (28 pp.); Chapter 3, Alcohols and Their Esters (45 pp.); Chapter 4, Phenols (66 pp.); Chapter 5, Quinones (7 pp.); Chapter 6, Oxygen Cycles, Oxides, and Peroxides (10 pp.); Chapter 7, Tetroses and Pentoses (21 pp.); Chapter 8, Hexoses and Heptoses (30 pp.); Chapter 9, Polysaccharides (18 pp.); Chapter 10, Glucosides (16 pp.); Chapter 11, Aldehydes (30 pp.); Chapter 12, Ketones (13 pp.); Chapter 13, Unsubstituted Monobasic Aliphatic Acids and Their Anhydrides, Esters, and Lactones (26 pp.);

Chapter 14, Substituted Monobasic Aliphatic Acids and Their Esters (43 pp.); Chapter 15, Polybasic Aliphatic Acids and Their Esters (21 pp.); Chapter 16, Cyclic Acids, Their Esters, and Their Anhydrides (32 pp.); Chapter 17, Complex Acids and Derivatives (33 pp.); Chapter 18, Sulfur Derivatives (37 pp.); Chapter 19, Halogen Compounds (48 pp.).

There are 22 useful tables, and 26 figures illustrating special apparatus, chromatographic columns, nomograms, etc. Literature references number more than 1300; these are conveniently placed at the bottom of the pages. Author and subject indexes conclude the book. The printing, paper and cloth binding are of good quality.

Volume IIIA is an exhaustive and authoritative compilation of colorimetric and photometric methods of organic analysis that have appeared in the literature since the publication of Volume III almost a decade ago. Analytical and organic chemists will find this book a valuable aid.

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Chemistry of Drug Metabolism. By WILLIAM H. FISHMAN, Ph.D., Tufts University School of Medicine and the New England Center Hospital, Boston, Massachusetts. Charles C. Thomas, Publisher, 301-327 East Lawrence Ave., Springfield, Illinois. 1961. xvii + 235 pp. 16 × 23.5 cm. Price, \$10.50.

In this small monograph Professor Fishman presents an orderly review of an important and thriving branch of pharmacology. In the first three chapters the various modes by which drugs are degraded in the body are outlined and examples of each are discussed. Because of the shortness of this section, a number of vital issues (*e.g.*, species variation) are not touched upon. This section is summarized by discussing what is known at an enzyme level about each of the pathways of metabolism. This would appear to be a more satisfactory way to organize a discussion of this field than say to organize it according to the class of organic compound or type of drug involved.

The remainder of the book deals with the metabolic conjugations (particularly glucuronic acid conjugations) which drugs undergo. Here the author is on home grounds and is considerably more expansive. This section, which closes with a stimulating discussion of some of the authors own working hypotheses in the field, is the heart of the book and is well worth a careful reading. It seems to this reviewer that a book of this type has as its main justification the stimulation of new researches. In this spirit the book will undoubtedly be a success.

The bibliography which runs to 39 pages lists all papers by title and is of considerable value in itself. The book, which is a part of the American Lecturers in Living Chemistry Series, is well printed and legible, although several of the figures contain misprints in the chemical formulas.

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