
 BOOK REVIEWS

Annual Review of Physical Chemistry. Volume 4. By G. K. ROLLEFSON (Editor), University of California and R. E. POWELL (Associate Editor), University of California. Annual Reviews, Inc., Stanford, California. 1953. vi + 493 pp. 16 × 23 cm. Price \$6.00.

The previous volumes of this series were received with enthusiasm. Since it is becoming increasingly difficult to keep abreast of the important developments and rapid progress in the broad field of physical chemistry, these annual reviews are appreciated by those who must keep informed of the progress in those domains of physical chemistry related to their own areas of interest. The editors have selected each year a different group of reviewers, and have gained thereby a broader outlook. This has been a valuable feature of this series.

There are chapters in which the authors have appropriately outlined the background in order for the reader to appreciate the emphasis placed on more recent developments. Many of the writers had to select for review a division of their assigned field, hence this volume, like the others, does not give each year a complete coverage of all the different areas encountered in physical chemistry. Several new topics are represented, such as the physical chemistry of high polymers, ion exchange, microwaves, nuclear resonance, magnetism and surface chemistry which had not been reviewed last year. In addition there are 4 chapters on thermodynamics and related topics such as solutions of electrolytes and non-electrolytes, and heterogeneous equilibria, also 5 chapters on molecular structure in its various aspects including phase transitions. Radioactivity, radiation chemistry and isotopes are reviewed in 3 chapters, and reaction kinetics along with photosynthesis and photochemistry also have 3 chapters.

The writers deserve an expression of appreciation for the efforts that went into this publication. Almost 3,000 references are quoted in the 20 chapters.

Anyone who wishes to know what progress has been made in physical chemistry can derive much from a perusal of these reviews.

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THOS. DE VRIES

Applied Electron Microscopy. By ROBERT B. FISCHER, Ph.D., Associate Professor of Chemistry, Indiana University. Indiana University Press, Bloomington, Indiana. 1953. xiii + 231 pp. 15 × 22 cm. Price, \$4.85.

"This book is the basis of a course presented by the author. . . The purpose has been to provide those enrolled with a general understanding of the principles of the electron microscope and an acquaintance with the types of things the instrument can do. . . It is expected that relatively few of the students in this course and other readers of this book will become practicing electron microscopists."

The major emphasis is on experimental methods and the principles underlying them. The explanations and discussions are clear and well illustrated. Although, as the author states, his experience has been solely with commercial instruments of a particular make (RCA), most of what is written is equally applicable to work with other types of electron microscope.

Applications to a variety of problems are dealt with, but rather sketchily. In the biological field, for example, the treatment is not to be compared with that in Wyckoff's "Electron Microscopy" (reviewed in THIS JOURNAL, 72, 2821 (1950)). In view of the publication date, it is surprising that no reference is made either to this book, or to the other books in the field published in 1950. These omissions will doubtless be corrected in future editions.

RESEARCH LABORATORIES
EASTMAN KODAK COMPANY
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MAURICE L. HUGGINS

A Spectrophotometric Atlas of the ${}^2\Sigma^+ - {}^2\Pi$ Transition of OH. National Bureau of Standards Circular 541. By ARNOLD B. BASS AND HERBERT P. BROIDA. Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. 1953. ii + 22 pp. 20 × 26 cm. Price \$0.35.

The authors have mapped, by use of direct intensity recording, the spectrum of an oxyhydrogen flame in the region from 2600 to 3500 Å. The recording that they have obtained is reproduced in this atlas on a sufficient scale that practically all resolved lines can be distinguished easily.

The flame spectrum in the range covered by this atlas consists mainly of the well-known ultraviolet OH spectrum. The assignment of the individual lines to the various bands and branches is given and in this way the atlas is made very useful for anyone who intends to identify the OH lines in a new spectrum.

The OH bands have often been used for the determination of temperatures in the source and without question the present atlas will simplify such determinations greatly. A feature of considerable interest is the reproduction in two separate charts of discharge spectra and flame absorption spectra for comparison with the emission spectrum of the flame to which the main part of the atlas is devoted.

Anyone interested in the OH spectrum under high resolution will want to refer to this atlas and will be grateful to the authors for their labour.

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 BOOKS RECEIVED

January 10, 1954–February 10, 1954

M. L. ANSON, KENNETH BAILEY AND JOHN T. EDSALL (edited by). "Advances in Protein Chemistry." Volume VIII. Academic Press, Inc., 125 East 23rd Street, New York 10, N. Y. 1953. 529 pp. \$10.50.

BORGE BAK. "Elementary Introduction to Molecular Spectra." Interscience Publishers, Inc., 250 Fifth Avenue, New York 1, N. Y. 1954. 125 pp. \$2.90.

DEAN BURK (edited by). "Cell Chemistry," in Honor of Otto Warburg. Elsevier Press, 402 Lovett Boulevard, Houston, Texas. 1953. 362 pp. \$7.50.

J. J. HERMANS (edited by). "Flow Properties of Disperse Systems." Volume V of Deformation and Flow Series. Interscience Publishers, Inc., 250 Fifth Avenue, New York 1, N. Y. 1953. 445 pp. \$9.90.

CLAUDE S. HUDSON AND MELVILLE L. WOLFROM (edited by). "Advances in Carbohydrate Chemistry." Volume 8. Academic Press, Inc., Publishers, 125 East 23rd Street, New York 10, N. Y. 1954. 408 pp. \$10.00.

J. R. PARTINGTON. "An Advanced Treatise on Physical Chemistry." Volume Four. Physico-Chemical Optics. Longmans, Green and Company, Inc., 55 Fifth Avenue, New York 3, N. Y. 1953. 688 pp. \$15.50.

P. H. PLESCH (edited by). "Cationic Polymerisation and Related Complexes." Academic Press, Inc., Publishers, 125 East 23rd Street, New York 10, N. Y. 1953. 166 pp. \$4.00.

GLENN T. SEABORG AND JOSEPH J. KATZ (edited by). "The Actinide Elements." McGraw-Hill Book Company, Inc., 330 West 42nd Street, New York 36, N. Y. 1954. 869 pp. \$11.75.

M. W. P. STRANDBERG. "Microwave Spectroscopy." John Wiley and Sons, Inc., 440 Fourth Avenue, New York, 16, N. Y. 1954. 140 pp. \$2.50.