

# Book Reviews

**Mass Spectrometry of Organic Compounds.** By HERBERT BUDZIKIEWICZ, Dozent für Organische Chemie, Technische Hochschule, Braunschweig, CARL DJERASSI, Professor of Chemistry, Stanford University, and DUDLEY H. WILLIAMS, Assistant Director of Research, University Chemical Laboratory, Cambridge University. Holden-Day, Inc., 500 Sansome St., San Francisco, Calif. 1967. xv + 690 pp. 19.5 × 26 cm. \$17.95.

Within the last few years mass spectrometry has become recognized as one of the most valuable tools available for the structural elucidation of organic molecules. There has been an amazing growth of the literature in the field; the mass spectrometric fragmentation behavior of virtually all common types of organic compounds have been examined, and the study of the mechanisms of such reactions has become a respectable and active field of research. A substantial impetus for this growth has been supplied by the prodigious research output of Professor Djerassi's laboratory, and by the book "Interpretation of Mass Spectra of Organic Compounds," published by these authors in 1964. This earlier work has been almost completely rewritten in the present book; reflecting the growth of the literature, over two-thirds of the book represents completely new material. The 27 chapters discuss the behavior of specific functional groups or types of organic molecules. The treatment is comprehensive and well indexed, and the organization according to functional groups has proved to be logical and convenient for our use.

Fragmentation pathways are rationalized in terms of charge localization, with electron redistribution depicted as specific one- and two-electron transfers ("electron bookkeeping"). Although this somewhat oversimplified approach to mechanisms is deplored by a few workers in the field, I feel that the over-all impact of this book provides the strongest case to date for the merit of this approach. The presentation of such a large collection of facts in logical mechanistic terms instead of on an empirical basis makes the data much easier to comprehend and assimilate for the modern organic chemist.

The literature has been covered through early 1967, an achievement made possible by a remarkably fast publication schedule. The formulas and diagrams are clear, and errors are minimal. We have found this compilation invaluable in our laboratory and can recommend it highly to anyone using this technique.

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## BOOKS RECEIVED, May 1968

JAMES B. BOBBIT, ARTHUR E. SCHWARTING, and ROY J. GRITTER. "Introduction to Chromatography." Reinhold Publishing Corp., 430 Park Ave., New York, N. Y. 1968. 160 pp. \$3.95.

JOSEPH B. DENCE, HARRY B. GRAY, and GEORGE S. HAMMOND. "Chemical Dynamics." W. A. Benjamin, Inc., 1 Park Ave., New York, N. Y. 1968. 186 pp. \$8.00.

ARNO LIBERLES. "Introduction to Theoretical Organic Chemistry." The Macmillan Co., 866 Third Ave., New York, N. Y. 1968. 722 pp. \$14.50.

KAZUO NAKAMOTO and PAUL J. MCCARTHY. "Spectroscopy and Structure of Metal Chelate Compounds." John Wiley and Sons, Inc., 605 Third Ave., New York, N. Y. 1968. 382 pp. \$16.95.

R. O. C. NORMAN. "Principles of Organic Synthesis." Barnes and Noble, Inc., 105 Fifth Ave., New York, N. Y. 1968. 722 pp. \$16.75.

W. ALBERT NOYES, JR., GEORGE S. HAMMOND, and J. N. PITTS, JR., Editors. "Advances in Photochemistry." Volume 5. Interscience Publishers, John Wiley and Sons, Inc., 605 Third Ave., New York, N. Y. 1968. 400 pp. \$17.00.

GEOFFREY PASS and HAYDN SUTCLIFFE. "Practical Inorganic Chemistry. Preparations, Reactions and Instrumental Methods." Barnes and Noble, Inc., 105 Fifth Ave., New York, N. Y. 1968. 225 pp. \$6.50.

DAVID PRESSMAN and ALLAN L. GROSSBERG. "The Structural Basis of Antibody Specificity." W. A. Benjamin, Inc., 1 Park Ave., New York, N. Y. 1968. 279 pp. \$16.75.

I. PRIGOGINE. "Introduction to Thermodynamics of Irreversible Processes." Third Edition. Interscience Publishers, John Wiley and Sons, Inc., 605 Third Ave., New York, N. Y. 1968. 147 pp. \$5.95.

JOHN V. SCHMITZ and WILLIAM E. BROWN, Editors. "Testing of Polymers." Volume 3. Interscience Publishers, John Wiley and Sons, Inc., 605 Third Ave., New York, N. Y. 1967. 379 pp. \$19.50.

WALTER A. SCHROEDER. "The Primary Structure of Proteins. Principles and Practices for the Determination of Amino Acid Sequence." Harper and Row, 49 East 33D St., New York, N. Y. 1968. 210 pp. \$5.95.

THOMAS P. SINGER, Editor. "Biological Oxidations." Interscience Publishers, John Wiley and Sons, Inc., 605 Third Ave., New York, N. Y. 1968. 722 pp. \$19.75.

GEORGE H. STOUT and LYLE J. JENSEN. "X-ray Structure Determination, a Practical Guide." The Macmillan Co., 866 Third Ave., New York, N. Y. 1968. 467 pp. \$16.95.

ARTHUR V. TOBOLSKY, Editor. "The Chemistry of Sulfides." Interscience Publishers, John Wiley and Sons, Inc., 605 Third Ave., New York, N. Y. 1968. 279 pp. \$12.95.

M. VENUGOPALAN and R. A. JONES. "Chemistry of Dissociated Water Vapor and Related Systems." Interscience Publishers, John Wiley and Sons, Inc., 605 Third Ave., New York, N. Y. 1968. 463 pp. \$19.50.

SELMAN A. WAKSMAN, Editor. "Actinomycin: Nature, Formation, and Activities." Interscience Publishers, John Wiley and Sons, Inc., 605 Third Ave., New York, N. Y. 1968. 231 pp. \$8.95.