

tions of catalytic hydrogenation for all researchers who may have occasion to use this important technique in organic synthesis.

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Sulfonation and Related Reactions. By E. E. GILBERT. Interscience Publishers, Inc., 605 3rd Ave., New York, N. Y., 1965. xi + 529 pp. 15.5 × 23.5 cm. Price \$16.50.

It has been twenty-five years since the classic treatise on tetravalent sulfur, by C. M. Suter, was completed. Since that time a great deal of research on the synthesis of organic derivatives of sulfur trioxide has taken place, but no summary volume has appeared until now. This book is an effort to bridge that gap. The author has, however, been selective, with emphasis on sulfonic acids, sulfonic esters, and sulfamates, and on chemistry described mainly since 1941. Even so, a total of 2656 references are included.

The book is designed principally as an aid to the practicing laboratory chemist, so that emphasis is on experimental conditions, rather than theoretical aspects of sulfonation and related reactions. Chapter one describes the nature of useful sulfonating reagents. Chapter two is especially good, covering much of the recent work on sulfonation with selective reagents, such as dioxane-sulfur trioxide and pyridine-sulfur trioxide, reagents which were only beginning to be used twenty-five years ago. Chapters three, four, and five describe sulfonation by indirect processes, such as addition of bisulfite to unsaturated systems, oxidation of sulfides, or by sulfomethylation. Chapter six is devoted to sulfation, the formation of organic sulfate esters, and chapter seven to sulfamation, or nitrogen sulfonation. The final chapter, eight, deals with the methods and conditions for the elimination of sulfonic acid groups from organic molecules, the desulfonation reaction.

Sulfonic acids, amides, and esters have long been used to alter the solubility and stability of known biologically active compounds. They are also frequent intermediates in the preparation of new compounds of potential pharmaceutical interest. In recent years sulfate esters have been shown to occur more commonly in biological systems than had been previously supposed, suggesting that sulfonation will have an increased interest to workers in the biological chemical field. Hence this book should prove useful to medicinal chemists.

The book is relatively free of errors, considering the enormous number of structural formulas. Only one missing double bond (p. 213) was detected by this reviewer! I was somewhat disappointed in the rather cursory coverage of sulfonation of heterocycles in twelve pages (pp. 92-104). The data are presented chiefly in tables, which provide references to work on specific systems and give fairly good coverage. The author has warned that he will be selective, however, and has chosen the areas of broadest interest for more extended coverage. The volume deserves its place on the library shelf.

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NOTICES

Beiträge zur Biochemie und Physiologie von Naturstoffen. Edited by D. GRÖGER, H.-B. SCHRÖTER, and H. R. SCHÜRTE. Gustav Fischer Verlag, Jena, Villengang 2/PostschiefBfach Nr. 176, Germany, 1965. 582 pp. 17 × 24 cm.

Cahiers de Synthèse Organique: Méthodes et Tableaux D'Application. Vol. XII. By J. MATHIEU, A. ALLAIS, and J. VALLS. Masson & Cie, Editeurs, Libraires de l'Académie de Médecine, 120 Boulevard Saint-Germain, Paris VI^e, France, 1966. 294 pp. 15.7 × 22.5 cm.

Actualités Pharmacologiques. Edited by RENÉ HAZARD and JEAN CHEYMOL. Masson & Cie, Editeurs, Libraires de l'Académie de Médecine, 120 Boulevard Saint-Germain, Paris VI^e, France, 1965. 360 pp. 16 × 24 cm.

Transcultural Psychiatry. Ciba Foundation Symposium. Edited by A. V. S. DE RUCK and R. PORTER. Little, Brown and Co., 34 Beacon St., Boston, Mass. 02106, 1965. xii + 396 pp. 14 × 21 cm. Price \$12.

Preimplantation Stages of Pregnancy. Ciba Foundation Symposium. Edited by G. E. W. WOLSTENHOLME and M. O'CONNOR. Little, Brown and Co., 34 Beacon St., Boston, Mass. 02106, 1965. xii + 430 pp. 14 × 21 cm. Price \$13.50.

American Drug Index. 1966. By C. O. WILSON and T. E. JONES. J. B. Lippincott Company, East Washington Square, Philadelphia, Pa., 1966. x + 845 pp. 14 × 21 cm. Price \$6.75.

Drug and Tracer Kinetics. By A. RESCIGNO and G. SEGRE. Translated from the Italian by P. ARIOTTI. Blaisdell Publishing Co., a div. of Ginn and Co., 275 Wyman St., Waltham, Mass. 02154, 1966. viii + 209 pp. 15.5 × 23 cm. Price \$7.50.

Biochemistry Laboratory Techniques. By STERLING CHAYKIN. John Wiley & Sons, Inc., 605 Third Ave., New York, N. Y. 10016, 1966. vii + 169 pp. 15.5 × 23.5 cm. Price \$00.00.

Alcoholic Beverages in Clinical Medicine. By C. D. LEAKE and MILTON SILVERMAN. Year Book Medical Publishers, Inc., 35 East Wacker Drive, Chicago, Ill., 1966. 160 pp. 15 × 23 cm. Price \$4.95.

Dental Visits, Time Interval Since Last Visit, United States: July 1963-June 1964. National Center for Health Statistics, Series 10, No. 29. For sale by the Superintendent of Documents, U.S. Government Printing Office, Wash., D.C. 20402. 54 pp. 20 × 25.5 cm. Price 40 cents. Paper-bound.

The Biochemistry of the Nucleic Acids. 5th ed. By J. N. DAVIDSON. John Wiley & Sons, Inc., 605 Third Ave., New York, N. Y. 10016, 1965. xv + 352 pp. 13.5 × 20 cm. Price \$5.50.