

also for the discussions of the chemistry involved. The book is valuable to both research and analytical organic chemists.

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Spot Tests. By FRITZ FEIGL, Eng., D.Sc., Laboratorio da Producao Mineral, Ministerio da Agricultura, Rio de Janeiro; Professor at the University of Brazil; Member of the Brazilian Academy of Sciences. Translated by Ralph E. Oesper, Ph.D., Professor Emeritus, University of Cincinnati. The Elsevier Press, 402 Lovett Blvd., Houston, Texas. 1954. 15.5 x 23.5 cm. Volume I—Inorganic Applications. xii + 518 pp. Price, \$6.50. Volume II—Organic Applications. xv + 436 pp. Price, \$6.25.

Spot test analysis has increased in scope to such an extent that this edition of this well-known text is now split into two volumes. Volume I deals with the inorganic application of spot tests and Volume II with the organic applications. Each volume contains an introductory chapter which covers the development, present state and prospects of the spot test approach in the field of application being discussed. A chapter on general spot test techniques also is included in each volume. The body of the texts then includes the details of the various tests. At the end of each volume is a tabular summary of the limits of identification of the various tests.

The reviewer was much impressed, not only with the wealth of information contained in these books but also with the arrangement of the material. A very logical order of discussion is followed in both the inorganic and the organic volumes. Also, all the pertinent information concerning each test such as details of operation, interferences and limits of detection are covered whenever possible.

The spot test approach to qualitative inorganic analysis is already quite well established. The organic applications, however, are rather new, and the reviewer finds many of them quite interesting and intriguing. These tests should be quite valuable in dealing with many of our organic problems. It would be well for a discussion of the spot test approach to be included in the present courses in organic and inorganic qualitative analysis since these tests can quickly, and often quite specifically, establish the presence or absence of certain classes of elements, ions, groupings or compounds. This is a great aid in limiting the field of investigation.

The reviewer feels that these volumes are valuable texts which one can pick up and use without much searching for the pertinent information. These books should interest the teachers and students of analysis as well as the industrial analyst.

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SIDNEY SIGGIA

Chemical Pathways of Metabolism. Volume I. Edited by DAVID M. GREENBERG, Department of Physiological Chemistry, School of Medicine, University of California, Berkeley, California. Academic Press, Inc., Publishers, 125 East 23rd Street, New York 10, N. Y. 1954. x + 460 pp. 16 x 23.5 cm. Price, \$11.00.

The basic idea underlying this series whose first volume is now under review has been formulated by D. M. Greenberg as follows: "It is the purpose of this work to survey the existing knowledge of the chemical steps in the metabolism of the major constituents of living organisms." This means, of course, far more than the publication of monographs on the mode of action of certain enzyme systems, for example. Rather an attempt is made to offer to the chemically well-trained reader pictures of the cooperation of various biological systems, *i.e.*, broad outlines of assimilation and dissimilation processes in plant and animal organisms.

We submit that the papers contained in Vol. I approach this ambitious goal as closely as possible, considering our

still sketchy, although rapidly progressing, knowledge in this field.

All chapters of the book are authored by experimentally active, well-known specialists; and, furthermore, by glancing through the text one cannot but perceive the smoothing hand of a careful Editor.

The content of the volume follows: Free Energy and Metabolism, by A. B. Pardee (25 pp.); Enzymes in Metabolic Sequences, by D. E. Green (39 pp.); Glycolysis, by P. K. Stumpf (42 pp.); The Tricarboxylic Acid Cycle, by H. A. Krebs (63 pp.); Other Pathways of Carbohydrate Metabolism, by S. S. Cohen (61 pp.) (the wording of this title is not fortunate); Biosynthesis of Complex Saccharides, by W. Z. Hassid (41 pp.); Fat Metabolism and Acetoacetate Formation, by I. L. Chaikoff and G. W. Brown, Jr. (71 pp.); and Sterol and Steroid Metabolism, by D. K. Fukushima and R. S. Rosenfeld (63 pp.).

The book is well printed and illustrated. The detailed Indices occupy 10% of the available space. The more than 1600 literature references are located in footnotes which involves a somewhat complicated system of author indexing.

Evidently, the material offered will be of great value to the biochemist and biologist. It should be stressed, however, that in the present state of organic chemistry, serial publications such as Chemical Pathways of Metabolism; Vitamins and Hormones; Advances in Enzymology, etc., should also be made use of by "pure" chemists. This reviewer has repeatedly noticed that otherwise well-trained young organic chemists have but a poor notion of the metabolic processes operative in their own bodies. Thus, contributions like those under review have a clear mission to fulfill.

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BOOKS RECEIVED

November 10, 1954—December 10, 1954

ROBERT S. HARRIS, G. F. MARRIAN AND KENNETH V. THIMANN (Edited by). "Vitamins and Hormones. Advances in Research and Applications." Volume XII. Academic Press, Inc., Publishers, 125 East 23 Street, New York 10, N. Y. 1954. 305 pp. \$7.50.

M. S. KHARASCH AND OTTO REINMUTH. "Grignard Reactions of Nonmetallic Substances." Prentice-Hall, Inc., Publishers, 70 Fifth Avenue, New York 11, N. Y. 1954. 1384 pp. \$15.00.

ASCHER OPLER AND NEVIN K. HIESTER. "Tables for Predicting the Performance of Fixed Bed Ion Exchange and Similar Mass Transfer Processes." Stanford Research Institute, Stanford, California. 1954. 111 pp. A limited number of free copies are available and will be furnished as single copies to requestors.

EMIT OTT, HAROLD M. SPURLIN AND MILDRED W. GRAFFLIN (prepared under the editorship of). High Polymers. Volume V. "Cellulose and Cellulose Derivatives." Part II. Second Completely Revised and Augmented Edition. Interscience Publishers, Inc., 250 Fifth Avenue, New York 1, N. Y. 1954. pp. 511-1055. \$12.00.

I. PRIGOGINE AND R. DEFAY. "Chemical Thermodynamics." Volume I. Translated by D. H. Everett. Longmans, Green and Co., Inc., 55 Fifth Avenue, New York 3, N. Y. 1954. 543 pp. \$12.50.

W. H. SEBRELL, JR. AND ROBERT S. HARRIS (edited by). "The Vitamins. Chemistry, Physiology, Pathology." Volume III. Academic Press Inc., Publishers, 125 East 23 Street, New York 10, N. Y. 1954. 665 pp. \$15.00.

ARNOLD WEISSBERGER (Editor). Technique of Organic Chemistry. Volume I—Part III. "Physical Methods of Organic Chemistry." Second Completely Revised and Augmented Edition. Interscience Publishers, Inc., 250 Fifth Avenue, New York 1, N. Y. 1954. pp. 2097-2530. \$8.50.