
NEW BOOKS

Textbook of Organic Chemistry. By E. WERTHEIM, Professor of Organic Chemistry in the University of Arkansas. Second edition. The Blakiston Company, 1012 Walnut Street, Philadelphia, Pennsylvania, 1945. xiv + 867 pp. 113 Illustrations. 15 × 23 cm. Price, \$4.00.

This popular text, the first edition of which appeared in 1939, has now been revised with due consideration to recent developments and trends in the organic field. The general scheme underlying the preparation of this second edition and the purposes which the book aims to fulfill are essentially the same as in the original volume [Reid, *THIS JOURNAL*, **61**, 2568 (1939)]. Revision has provided the opportunity to change the order of some seven chapters and to shift several topics from one chapter to another. The text material has been brought up to date, and additional aids to instruction include new tables, charts, pictures in color of molecular models, additional review questions, greatly extended literature references, and a number of numerical problems. The book is again intended for students who will major or specialize in organic chemistry and for those enrolled in premedical or chemical engineering courses. The contents and treatment of topics are extensive and should provide ample material for a full year's course. The text is well balanced, well integrated and sufficiently flexible to serve special brief or extended courses by a judicious selection of material.

Actually there have been added but thirty-seven additional pages, but this fact does not in any sense indicate the extent of the revision, as the book has been improved and modernized in a very effective and pleasing manner. Teachers and students will like the progressive treatment of electronic structures and formulas, resonance energy and formulas, acrylics, butadiene, explosives, nylon, octane rating, plastics, synthetic rubber, sulfa drugs, vitamins, and sex hormones.

This is a scholarly, well-written book, which should find favor with both teachers and students and which should continue to hold a leading position among the best comprehensive organic texts. It is gratifying to observe that the author and publishers have made noticeable improvements in the content and appearance of this second edition in spite of many war-time restrictions.

RALPH E. DUNBAR

L'Azéotropie. La Tension de Vapeur des Mélanges de Liquides. Bibliographie. (Azeotropism. The Vapor Pressure of Liquid Mixtures. A Bibliography.) Volume II. By Prof. Dr. MAURICE LECAT. Maurice Lamertin, Editeur, Rue Coudenberg, 58-60, Brussels, Belgium, 1942. x + 127 pp. 16.5 × 25.5 cm.

The first volume of this Bibliography appeared in 1932 and was reviewed in *THIS JOURNAL*, **54**, 4757 (1932). The present volume follows similar lines. There is a main catalog of articles, books and patents concerned with azeotropy or azeotropic mixtures, arranged alphabetically by authors, which have appeared since 1932 and up to early 1941. There are also corresponding chronological lists of articles and patents keyed to the alphabetical lists of Volumes I and II; and finally, an alphabetical list of the journals in which the listed articles were published. It should be pointed out that this volume is an integral part of the Tables of Azeotropes by the same author which is announced to appear shortly.

Finally, the Preface should be mentioned, particularly because of the interesting if not always convincing extraneous remarks of the author which it contains. Thus, after indicating how important azeotropy has now become in applied chemistry and how deserving of study are its further applications, the author regrets the manner in

which industrial research is sometimes carried on in what he calls the "Land of the Dollar." There, he says, industry makes large subsidies to the universities to carry on the researches it requires. He considers that it is improper for a self-respecting professor or "savant" to perform a task thus "imposed," and he remarks that "To penetrate far or deeply into any problem one must be master of his own work."

These bibliographies should facilitate the use of the forthcoming Tables of Azeotropes and thus assist chemists to take advantage of this important phenomenon. They are monuments to the enthusiasm, energy and meticulous care of the author. With the Tables of Azeotropes, which will be made up in large part of his own discoveries (the author in the Preface says he has discovered 6000 azeotropic mixtures since 1908), they indicate the dominating position which Lecat occupies in this field.

ARTHUR B. LAMB

The Analysis of Foods. By ANDREW L. WINTON, Sometime State and Federal Chemist, and KATE BARBER WINTON, Sometime State and Federal Microscopist. John Wiley and Sons, Inc. (London, Chapman and Hall, Ltd.), 440 Fourth Avenue, New York, N. Y., 1945. xii + 999 pp. 208 Illustrations. 15.5 × 22 cm. Price \$12.00.

The "Analysis of Foods" is the inevitable consequence of these authors' other works on "The Structure and Composition of Foods." Dealing as it does with the analytical methods by which the structure and composition are determined, this volume consummates their long, untiring effort of compiling and making readily available to others knowledge developed in the course of their own work and researches and the work and researches of others. The food analyst and food technologist and also those in the related fields of biochemical and physiological research are indeed indebted to these authors.

This volume is a comprehensive compilation of methods built about the century-old methods used for analysis of foods by the system of determining their proximate composition. An entirely new presentation of the subject is used which, to this reviewer, seemed awkward at first, but which disappeared as familiarity with the volume increased. The contents are arranged in two main parts: Part I (416 pp.), General Methods and Part II (530 pp.), Special Methods. Under general methods the microscopic, physical and chemical methods are discussed but the two former are relegated to a relatively subordinate role in the general discussion. This part is chiefly devoted to describing the chemical methods for determining the (1) organic elements, (2) constituent groups (proximate composition), (3) water, (4) protein (including amino acids, acid amides, purines, etc.), (5) fat, (6) nifext (nitrogen-free extract), (7) fiber, (8) ash (including principal and minor elements), (9) alcohols, (10) vitamins, (11) natural and (12) artificial colors, and (13) chemical preservatives.

Under special methods the chemical procedures relating to a specific product are described for each of twelve classes of food products: (A) cereal foods, (B) fatty foods, (C) vegetable foods, (D) fruit foods, (E) saccharine foods, (F) alcoholic beverages, (G) dairy products, (H) animal foods, (I) alkaloidal products, (J) food flavors, (K) leaven and (L) salt. A heading across the top of each left-hand page relating the subject matter thereon to the arrangement noted above greatly assists cross-references within the various sections and the two main parts of the volume. Reference notations accompany each method or test and are also liberally used in the text. An especially notable effort appears taken to cite the source of the original material. References are appended to each section.

The methods and tests selected include not only those adopted by the A. O. A. C. as "official" or "tentative" or those which are standard in other countries, but also, many others as yet untested. The authors' admittedly most difficult task in selection consisted of separating many a method proper from its entanglement with experimental description and discussion and the piecing together of the parts to form a usable whole. The untested methods chosen were developed in reliable laboratories and published in accredited journals.

The various sections appear nearly up to date in methods for determining a given component. There are some of recent development, however, being currently used in this Laboratory for the determination of tartrate in wines and winery wastes, sulfur dioxide in dehydrated vegetables, and copper in wines, to cite a few examples, which are not presented. In the main the volume shows an astonishingly close coverage of current literature.

A 53-page index, amply cross-indexed, markedly increases the utility of the volume. This, and the system of cross-referencing used throughout, assists the user to locate quickly all the various methods pertaining to a particular component.

No attempt at criticism of the various methods was made by the authors. Only sufficient discussion to serve as introduction and to assist in a discriminative selection for use is presented. In essence, it is a well-planned compilation of the literature on methods of food analysis, and as such probably has little use as a textbook for students. On the other hand, its brevity and concise manner of presenting the methods serve to make it a useful volume to the food analyst already in the field, and particularly to the beginner.

GEO. L. MARSH

BOOKS RECEIVED

September 10, 1945—October 10, 1945

WERNER E. BACHMANN, *Editor-in-Chief*, HOMER ADKINS, C. F. H. ALLEN, ARTHUR C. COPE, N. L. DRAKE, C. S. HAMILTON, R. L. SHRINGER, LEE IRVIN SMITH, H. R.

SNYDER, and E. C. HORNING, Secretary to the Board, "Organic Syntheses." Vol. 25. John Wiley and Sons, Inc., 440 Fourth Avenue, New York, N. Y. 120 pp.

SAMUEL BRODY. "Bioenergetics and Growth. With Special Reference to the Efficiency Complex in Domestic Animals." Reinhold Publishing Corporation, 330 West 42nd Street, New York, N. Y. 1023 pp. \$8.50.

JOHN T. BRODERICK. "Willis Rodney Whitney, Pioneer of Industrial Research." Fort Orange Press, Inc., 883 Broadway, Albany, New York. 317 pp. \$3.00.

R. E. BURK and OLIVER GRUMMITT, Editors. "Frontiers in Chemistry. Vol. IV. Major Instruments of Science and their Applications to Chemistry." Interscience Publishers, Inc., 215 Fourth Avenue, New York 13, N. Y. 151 pp. \$3.50.

WILLIAM O. HOTCHKISS. "Minerals of Might." The Jaques Cattell Press, Lancaster, Pa. 206 pp. \$2.50.

HENRY WILLIAM LOHSE. "Catalytic Chemistry." The Chemical Publishing Company, Inc., 234 King Street, Brooklyn, N. Y. 471 pp. \$8.50.

MAURICE LAMERTIN, Editor. "L'Azéotropie. La Tension de Vapeur des Mélanges de Liquides. Bibliographie. Tome Second." (Azeotropism. The Vapor Pressure of Liquid Mixtures. A Bibliography. Volume II.) Rue Coudenberg, 58-60, Brussels, Belgium. 127 pp.

SUMNER B. TWISS, Editor. "Advancing Fronts in Chemistry. Vol. I. High Polymers." Reinhold Publishing Corporation, 330 West 42nd Street, New York, N. Y. 196 pp. \$4.00.

ARNOLD WEISSBERGER, Editor. "Physical Methods of Organic Chemistry." Vol. I. Interscience Publishers, Inc., 215 Fourth Avenue, New York 13, N. Y. 736 pp. \$8.50.

"A. S. T. M. Standards on Plastics." Sponsored by A. S. T. M. Committee D-20 on Plastics. Specifications, Methods of Testing, Nomenclature, Definitions. American Society for Testing Materials, 260 B. Broad Street, Philadelphia 2, Pa. 541 pp. \$2.75.