ever, glycine-containing substrates are split under these conditions since glycine contains no side chain in such a spatial arrangement that it could prevent an approach of the enzyme.

It is a pleasure to acknowledge many valuable suggestions which Dr. Max Bergmann has offered in a discussion of this problem.

DEPARTMENT OF BIOCHEMISTRY
SCHOOL OF MEDICINE
DUKE UNIVERSITY
DURHAM, NORTH CAROLINA RECEIVED JULY 23, 1943

NEW COMPOUND

4-Phenylphenyl Butyrate

This compound was prepared in 81% yield by the interaction of 4-phenylphenol and butyryl chloride[1] in pyridine solution with 1,4-dioxane as diluent.[2] The crude product was dissolved in benzene, and the resulting solution was washed with dilute hydrochloric acid and sodium hydroxide solution and decolorized with Norite. After removal of the benzene on the steam-bath, the product was crystallized four times from 30–60° ligroin; colorless platelets resulted; m. p. 59–60.3°.

Anal. Calcd. for $C_{16}H_{16}O_2$: C, 80.0; H, 6.67. Found: C, 79.83; H, 6.85.

(1) Gilman and Blatt, "Organic Syntheses," John Wiley and Sons, Inc., New York, N. Y., Coll. Vol. I, 2d ed., 1941, p. 147.
(2) Hazlet, Hensley and Jass, THIS JOURNAL, **64**, 2449 (1942).

DEPARTMENT OF CHEMISTRY
STATE COLLEGE OF WASHINGTON
PULLMAN, WASHINGTON
STEWART E. HAZLET
LEE C. HENSLEY

RECEIVED JULY 20, 1943

COMMUNICATION TO THE EDITOR

THERMAL PROPERTIES OF ISOPENTANE

Sir:

Anyone not completely familiar with the field, on reading the paper by Guthrie and Huffman on page 1143 of the June, 1943, issue of THIS JOURNAL might receive a wrong impression. We have carefully reviewed our work published on isopentane in THIS JOURNAL and find no reason to doubt the data there reported. The facts are that two independent groups of workers using different calorimeters have observed an anomaly in the thermal behavior of isopentane. A third group of workers using a different calorimeter have failed to observe this phenomenon. The second independent series of measurements was made in our laboratory but in a different calorimeter (Gold calorimeter C). The work was done by M. L. Sagenkahn and H. F. Zuhr. The third independent series of measurements is that of Guthrie and Huffman. After the present emergency we shall repeat again the work on isopentane using the Huffman type calorimeter.

SCHOOL OF CHEMISTRY AND PHYSICS
THE PENNSYLVANIA STATE COLLEGE
STATE COLLEGE, PA.
J. G. ASTON

RECEIVED AUGUST 6, 1943

NEW BOOKS

Organic Syntheses. Volume 23. LEE IRVIN SMITH, Editor-in-Chief, HOMER ADKINS, C. F. H. ALLEN, W. E. BACHMANN, NATHAN L. DRAKE, C. S. HAMILTON, R. L. SHRINER, H. R. SNYDER AND A. H. BLATT, Secretary to the Board. John Wiley and Sons, Inc., 440 Fourth Avenue, New York, N. Y., 1943. 124 pp. 15 × 23.5 cm. Price, $1.75.

In this last volume of this important series of Organic Syntheses are recorded specific directions for preparing thirty-nine different organic compounds These embrace representatives of the aliphatic, aromatic and heterocyclic series; and fifty-four contributors other than members of the publishing Board have taken part in the development and construction of the experimental technique described. The techniques proposed have been checked in each experiment by two independent workers. A short literature review accompanies each preparation and in many cases useful notes are inserted which serve to guide the experimenter in applying the experimental procedure recommended. All the procedures are clearly written, and the book should find a most useful service in every laboratory where organic synthesis is being applied and practiced.

TREAT B. JOHNSON

Physical Chemistry. By FRANK H. MACDOUGALL, M.A., Ph.D., Professor of Physical Chemistry, University of Minnesota. Revised Edition. The Macmillan Company, 60 Fifth Ave., New York, N. Y., 1943. ix + 722 pp. 97 figs. 15.5 × 22 cm. Price, $4.25.

Only minor changes have been made in revising this text for the second edition. These include the substitution of E for U in thermodynamic notation and new or expanded treatments of nuclear reactions, the glass electrode and liquid crystals. The order of presentation is the same as in the previous edition and the text retains the intensive and mathematically rigorous treatment which has made and still makes it so admirably adapted for the more thorough courses in Physical Chemistry.

J. CARRELL MORRIS

The Science of Nutrition. By HENRY C. SHERMAN, Mitchell Professor of Chemistry, Columbia University. Columbia University Press, Morningside Heights. New York, N. Y., 1943. xii + 253 pp. Illustrated. 14.5 × 22 cm. $2.75.

Any pronouncement by Professor Sherman regarding nutrition, whether as a generalization or as a discussion of fundamental principles, commands the attention of those who are familiar with his brilliant work. The new volume here reported is no exception to this statement. It is a book to be read slowly and thoughtfully rather than hastily skimmed, for a large amount of meaty material has been compressed into its 224 pages of text. This is not a textbook nor a record of personal research, but is essentially a series of essays all related and having logical sequence, and the aim of which is to present and interpret the most important facts about nutrition in a new way and with special regard to the timeliness of the present knowledge of nutritional science. Without being historical in a detailed way, it gives with clear-cut strokes a rapid sketch of the evolution and some aspects of the experimental background of the subject, and in the first four chapters presents the modern view of what nutrition really means. In these chapters the author discusses very briefly the energy aspects of food as fuel for the body, the advances in our knowledge of the materials of bodily structure—especially the proteins, amino acids and essential mineral constituents—and presents the main facts in relation to the prevision and discovery of the accessory substances known as vitamins. Three chapters are devoted to the concise presentation of the stories of Scurvy and Vitamin C (Chap. V); the chief vitamins of the B group, thiamin, niacin and riboflavin, and their relationships to specific deficiency diseases (Chap. VI); and the fat-soluble vitamins A and D and their protective and curative action (Chap. VII).

The second third of the book deals clearly and succinctly with what might be called the personal hygiene application of nutritional science. The chapter titles, which have been skilfully chosen throughout the book, forecast the nature of the subject matter treated. A brief chapter (VIII) on How the Body Manages Its Nutritional Resources describes the part played by catalysts and other substances developed in the body. Some very modern methods of investigating the chemistry of fats and proteins within the body are mentioned. The following chapter (IX) summarizes informingly the facts on the Nutritional Characteristics of the Chief Groups of Foods; Chapter X is headed by the question Are We Well Fed? and the answer which is developed is that although living in a country rich in food we are not yet a properly nourished people. In view of this opinion it is quite logical that chapters on The Nutritional Improvement of Life (XI); on Nutrition for Realization of the Potentialities of Youth and Maturity (XII); and on Nutritional Guidance for "The Backward Art of Spending Money" (XIII) should follow, with much information for those who wish to learn what optimal nutrition is and how attained. It is pertinent to note that emphasis is laid on proper feeding in mature life and senescence, and not merely on child feeding. A chapter on Nutrition Policy (XIV) gives the author's broad and constructive attitude toward present-day needs and desired future developments, not only for the individual but also from the viewpoint of national and even international well being.

The final chapter entitled Scientific Critique of the "Offer" of Higher Health and Longer Life is the longest and possibly the most illuminating in the book, since it presents not only the author's philosophy but also important results and conclusions derived from numerous other scientists.

An appendix gives the Recommended Dietary Allowances of the Food and Nutrition Board of the National Research Council. There is also a Selected Bibliography of approximately 225 titles.

The chemist who wishes to have a compendium of modern nutritional science will find it in this excellent book.

SAMUEL C. PRESCOTT

BOOKS RECEIVED

August 10, 1943-September 10, 1943

WALLACE R. BRODE. "Chemical Spectroscopy." Second Edition. John Wiley and Sons, Inc., 440 Fourth Avenue, New York, N. Y. 677 pp. $6.50.

JAMES T. DOBBINS. "Semi-Micro Qualitative Analysis." John Wiley and Sons, Inc., 440 Fourth Avenue, New York, N. Y. 422 pp. $3.00.

HUGO KRUEGER, NATHAN B. EDDY and MARGARET SUMWALT. "The Pharmacology of the Opium Alkaloids." Parts 1 and 2. Supplement No. 165 to the Public Health Reports. Federal Security Agency, Public Health Service, Washington, D. C. 2 separate volumes. 1448 pp.

ERNEST E. WAHLSTROM. "Optical Crystallography." John Wiley and Sons, Inc., 440 Fourth Avenue, New York, N. Y. 206 pp. $3.00.

C. E. WALTON. "Civilian Defense. Air Raid Precautions and the Warden's Job." Bruce Humphries, Inc., 30 Winchester Street, Boston, Mass. 156 pp. $1.50.

ARCHIE G. WORTHING and JOSEPH GEFFNER. "Treatment of Experimental Data." John Wiley and Sons, Inc., 440 Fourth Avenue, New York, N. Y. 342 pp. $4.50.