

the laboratories of the University of Illinois in the years 1898-1900, and is one of a series of similar publications sent out from the Office of Experiment Stations. Many of these publications have to do with the broad question of the practical nutrition of man and in this interesting bulletin the results of about twenty-five complete experiments on the losses resulting in cooking meats in different ways are detailed. The methods of analysis employed are also given when necessary, which adds to the value of the pamphlet for those engaged in similar researches.

J. H. LONG.

THE PRACTICAL METHODS OF ORGANIC CHEMISTRY. BY LUDWIG GATTERMANN, PH.D. Translated by WILLIAM B. SCHÖBER, PH.D. Authorized translation. The second American from the fourth German edition. New York: The Macmillan Co. 1901. xv + 359 pp.

This book is so well known in the original that the second English edition translated from the fourth German edition needs no special introduction. The work has served its purpose so admirably that it is already well known to all workers in the field of organic chemistry. The translation is excellent, and as was stated in the preface to the first English edition it "is intended for those students of chemistry who have not yet become sufficiently familiar with scientific German to be able to read it accurately without constant reference to a dictionary." In the present edition a number of new illustrations have been added, and in many cases the laboratory directions have been improved. In that part of the book dealing with preparations, methods for the preparation of the following substances have been added: glycol, dimethylcyclohexanone, *s*-xylenol, phenylhydroxylamine, nitrosobenzene, *p*-tolyl aldehyde (Gattermann-Koch synthesis), salicylaldehyde (Reimer and Tiemann's oxyaldehyde synthesis), cuprous chloride, the decomposition of inactive mandelic acid into its active constituents, and a zinc dust determination.

H. FAY.

LOGARITHMS OF NUMBERS AND CHEMICAL FACTORS. BY CHARLES R. SANGER. Publication Office of Harvard University, 1901.

This publication in the form of a large card, is essentially a fifth edition of the well-known table of Wolcott Gibbs. It is based on the table of atomic weights which was compiled by Richards in April, 1901, and covers thirty-seven elements. The logarithms are those which are required for the reduction of

ordinary analytical data, such as the calculation of K or  $K_2O$  from  $K_2PtCl_6$ , etc., and they are presented in very compact and convenient form. To chemists who are accustomed to compute from factors rather than from direct atomic weights this work is undoubtedly useful.

F. W. CLARKE.

AN INTRODUCTION TO CHEMICAL ANALYSIS, FOR STUDENTS OF MEDICINE, PHARMACY AND DENTISTRY. BY ELBERT W. ROCKWOOD, M.A., M.D., professor of chemistry and toxicology in the college of medicine; professor of chemistry and metallurgy in the college of dentistry; lecturer on toxicology in the college of pharmacy, of the University of Iowa. Illustrated. Philadelphia: P. Blakiston's Son & Co. 1901. Price, cloth, \$1.50 net.

This book first treats of the general plan of analysis and of apparatus and reagents, technical terms employed and explains general operations.

The author assumes that there has been some previous study of general chemistry or that this study is pursued at the same time. He does not refer to other works.

The book is divided in four sections: the first and second embrace qualitative and quantitative analysis respectively; the third, applied analysis, includes the sanitary examination of water, detection of poisons and blowpipe analysis; the fourth includes preparation and testing of reagents (in tabular form), tables of elements and atomic weights, and the metric system.

Under quantitative analysis there is a chapter on organic compounds comprising under each a short chemical characterization and methods of testing for purity.

Appended to each qualitative group are a number of questions calculated to aid the student in fixing results in his memory, and to develop in him a habit of reflecting and reasoning on his work. The quantitative work comprises volumetric processes only, and covers the most important of these. There are cuts of apparatus and an index.

The author disclaims in his preface any intention to make of the student an analytical chemist, his aim being to inculcate reflection and self-reliance, and to give a practical chemical knowledge through which the student can thoroughly master his profession. The book should be a useful one to those for whom it is intended.

ROBERT E. DIVINE.