

By distillation at boiling-water-bath temperature the ester was freed from ether, carbon bisulphide, ethyl bromide, and methyl alcohol. Further distillation with a direct flame yielded 85 grams of a light yellow oil, distilling at 184° C., the boiling-point of ethyl methyl xanthic ester. The yield was 62.50 per cent. of the theoretical.

Further distillation to 200° C. resulted in the decomposition of the residue in the distilling flask, a very small quantity of distillate passing over.

This synthesis affords an example of the analogy between magnesium and sodium or potassium methylates which later are commonly used in the preparation of various xanthic esters in accordance with analogous reactions.

H. S. FRY.

UNIVERSITY OF CINCINNATI.

NEW BOOKS.

URIC ACID. THE CHEMISTRY, PHYSIOLOGY AND PATHOLOGY OF URIC ACID AND THE PHYSIOLOGICALLY IMPORTANT PURIN BODIES WITH A DISCUSSION OF METABOLISM IN GOUT. By FRANCIS H. MCCRUDDEN. New York: Paul B. Hoeber. 1905. 318 pages. Paper: \$2.50; Canvas, \$3.00 net.

In the main this work is a compilation of the important scientific literature on the subject of uric acid in the several relations indicated by the title; these relations are discussed in separate sections and the various sub-topics are so chosen as to practically cover the whole field.

In the preface the author explains the motives which led him to make this extensive compilation. He refers especially to the views held by Haig on the great importance of uric acid in bringing about certain pathological conditions, which views were everywhere treated with a degree of consideration entirely out of proportion to the value of the experiments and observations on which they were based. Few subjects have received more attention from medical writers than has uric acid as a factor in the causation of disease, and the advertising columns of the medical journals and the daily press shown that advantage has been taken of this by enterprising manufacturers in turning out a host of remedies, mostly frauds, for the treatment of the so-called "uric acid diathesis." In no field of medicine is there greater humbug.

McCrudden has undertaken to determine by a thorough study of the literature just what is accurately known of the conditions of formation and excretion of uric acid in the animal body. As a man quite familiar with the subject from his previous studies and experimental investigation he has done his work well. The literature references given appear to be very complete, and the book must have a distinct value for the physiological chemist or pathologist interested in this line of research. All the recent chemical work bearing on the relations of the purines is fully considered, which adds much to the practical usefulness of the book for reference. A consideration of all the data presented is sufficient to thoroughly dispose of the Haig and similar doctrines.

J. H. LONG.

THE PENNSYLVANIA RAILROAD SYSTEM AT THE LOUISIANA PURCHASE EXPOSITION. LOCOMOTIVE TESTS AND EXHIBITS. St. Louis, Missouri, 1904. First edition. Philadelphia: The Pennsylvania Railroad Company.

The introduction to this most important document opens with the following statement: "The exhibit of the Pennsylvania Railroad System at the Louisiana Purchase Exposition was designed primarily to show the application of Civil and Mechanical Engineering to the needs of a large railroad." Certainly the report shows that the purpose of the exhibit was fully and completely carried out as would naturally be expected of the system.

As an example of mechanical engineering the locomotive testing plant was presented. The idea of the system of testing as here carried out is credited to Alexander Bowdin of Russia, but the credit of its practical application is given to Professor Goss of Purdue University who seems to have been the first to support a "running locomotive on wheels" and in a laboratory where conditions could be kept constant and without the interruption and variations common in road tests.

In preparing the exhibit and making the tests other railroads were invited to send locomotives and representatives of their engineering forces to aid in testing all the locomotives.

It is stated that "the Pennsylvania Railroad System brought into existence an entirely new testing plant for mounting either freight or passenger locomotives and capable of absorbing for an indefinite period the maximum power of a modern locomotive