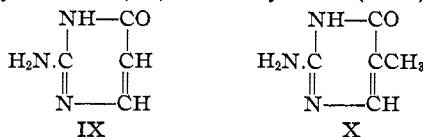


compounds undergo deamination under the hydrolytic influence of acids giving, respectively, uracil (VI) and thymine (VIII).



In our work on tuberculinic acid we have already obtained some evidence indicating that another basic compound, besides cytosine (V) and 5-methyl-cytosine (VII), is present in the basic pyrimidine fraction. The study of these various pyrimidines will be continued this coming year in the Sterling Laboratory.

Summary

1. 5-Methyl-cytosine has been identified as a product of hydrolysis when tuberculinic acid, the nucleic acid present in the tubercle bacillus, is digested with sulfuric acid.
2. This pyrimidine base has been isolated in the form of its characteristic picrate, and the latter shown to be identical with the picrate of 5-methyl-cytosine previously synthesized by Wheeler and Johnson in 1904.
3. The discovery of this compound increases the number of pyrimidines functioning in the life changes of a cell to four, namely, cytosine, 5-methyl-cytosine, uracil and thymine.

NEW HAVEN, CONNECTICUT

NEW BOOKS

The Spectroscopy of X-Rays. By MANNE SIEGBAHN, Professor in the University of Upsala. Translated with the author's additions, by GEORGE A. LINDSAY, Assistant Professor of Physics in the University of Michigan. Oxford University Press, American Branch, New York, 1925. xii + 287 pp. 118 figs. 24 × 16 cm. Price \$6.00 net.

In extolling the German edition of Professor Siegbahn's classic work [THIS JOURNAL, 46, 2130 (1924)] this reviewer expressed the following proof of appreciation: "Publication in English speedily is greatly to be desired." Happily Dr. Lindsay has felt the urge to make this great monograph a part of the scientific literature in the English language, so that it might be readable and understandable by all those very numerous scientific folks who must struggle with German to such an extent that the substance is lost in the form, and an eminently satisfactory translation is the result of this service.

Further comment upon Professor Siegbahn's treatment of the subject matter would be merely repetition, even though this has seemed to us to gain in the English form. This new edition has been sponsored by the author and additions have been made to bring it completely up to the time

of publication. These additions are very interesting in that they represent certain phases of the remarkable progress in less than a year of the science of X-rays. Chief among these are, first, the very thorough discussion of the invalidity of the Bragg equation, $n\lambda = 2d \sin \theta$ based upon the beautiful experiments of Professor Bergen Davis at Columbia; and second, a consideration of the accuracy of wave-length measurements attainable with modern X-ray spectrographs. Professor Siegbahn believes that an accuracy of 0.03 to 0.05 X. U. (10^{-11} cm.) is attainable and has begun already the redeterminations which will result in numerical values as nearly physical constants as it is humanly possible to ascertain them. Nor is this gigantic task in any sense useless or impractical. When we consider the incalculably valuable information presented by atomic weights which are real constants—the existence and identity of isotopes and of fundamental relationships between elements—we are equally impressed by the value of accurate spectroscopic data not only for the sake of the science itself, but also for the reliable and illuminating knowledge of the atoms themselves, their construction, their energy levels, their changes and the laws which govern their existence. The completion of this task which Professor Siegbahn sets for himself will mark another of the great milestones in the progress of organized knowledge.

Corrections and additions have been made to the tables and bibliography. One of these new tables contains all known wave lengths, arranged in order of magnitude, by means of which all lines on spectral plates may be identified. It is to be regretted, perhaps, that a brief, clear statement of the Compton effect (wave length displacement on scattering) has not been included although, as Professor Siegbahn points out, this discovery is not within the limits prescribed for the book. The effect has been so definitely proved (of course, by crystal spectrometry) that it would be a service to have at least a concise appendix in this new edition in recognition of a great American contribution. Other omissions, such as of the work of Duane, the reviewer, and others, on abnormal reflection, etc., are entirely justified until further work is done, particularly inasmuch as very slight irregularities in the crystals, not otherwise apparent, produce effects which may be confused with general phenomena.

The Oxford University Press has assisted the good cause with a splendid heavy binding, an excellent quality of heavy paper and freedom from typographical errors for the book. It is as wise and sure a scientific and pecuniary investment as could possibly be made. It is easy to see that liberal use will be made of this textbook to satisfy a very pressing need, and that the world will benefit by the training and the spirit of true research which permeate Professor Siegbahn's work and which have not lost a whit in the hands of Professor Lindsay.

Jahrbuch der organischen Chemie. (Yearbook of Organic Chemistry.) By PROFESSOR DR. JULIUS SCHMIDT, Stuttgart. XI year. Developments in research and progress in the year 1924. Wissenschaftliche Verlagsgesellschaft m.b.H., Stuttgart, 1925. xvi + 287 pp. 25.5 × 17 cm. Price, bound, M. 25.

The yearly volume by Julius Schmidt is the only publication giving a comprehensive review of the more important articles in organic chemistry for each year and it is therefore especially welcome to organic chemists who on account of the ever-broadening scope of organic chemistry must rely on a book of this sort for reviewing the fields in which they are not specifically working.

Sufficient space is devoted to the review so that few articles of special value are overlooked. This can hardly be said of the organic section of the Annual Reports published by the English Chemical Society for which so few pages are allowed that many articles of importance must necessarily be omitted, and as a consequence the selection of articles frequently gives the impression of being that of chief interest to the writer of the review rather than to organic chemists in general.

In this volume, the typographical errors seem to be more numerous than usual in a book of this character.

ROGER ADAMS

Die Praxis des organischen Chemikers. (The Practical Methods of Organic Chemistry.) By DR. L. GATTERMANN, Professor at the University of Freiburg. Nineteenth revised edition, by DR. HEINRICH WIELAND, Professor at the University of Freiburg. Walter de Gruyter and Company, Berlin W 10 and Leipzig, 1925. xii + 379 pp. 52 figs. 23 × 15 cm. Price, bound, M. 15.

In the 19th edition of this well-known laboratory manual of organic chemistry many marked changes from the former edition are noticeable. The general part and the chapter on analytical methods have been considerably condensed and the extra space is devoted to the discussion associated with each of the preparations and to an extension of the number of preparations. The new experiments are for the most part of a more complex type and are chosen from the more prominent fields. An important change has also been made in arrangement of the preparations; these are no longer placed in the order of increasing difficulty but are grouped much more logically according to related reactions.

The 19th edition of this excellent manual is an improvement over the other editions.

ROGER ADAMS