20 cc. of 3% hydrogen peroxide, both free of halides. Heat is applied slowly to flask A, care being taken not to increase the temperature rapidly, otherwise the reaction may become too vigorous and lead to the production of smoke, the presence of which should be avoided since low results invariably accompany it. After the end of the reaction, which usually requires about forty-five minutes, a slow stream of air is passed through the apparatus in order to sweep the vapors of bromine and hydrogen bromide over into the absorption apparatus and at the same time the mixture is heated more strongly so as to decompose most of the excess chromic acid. After about fifteen minutes longer the apparatus is disconnected, the solution is washed out of the absorption tube into the flask and 1 cc. of 1 *N* ferric nitrate is added to the solution. It is boiled for ten minutes in order to decompose the hydrogen peroxide and after cooling is acidified with 20 cc. of 6 *N* nitric acid. In order to have a good end-point, 9 cc. more of ferric nitrate is added. The titration is made by adding 10 cc. of 0.1 *N* silver nitrate, filtering, washing the precipitate and back titrating the filtrate and washings with 0.1 *N* potassium thiocyanate.

The reliability of the method is indicated by the results obtained with a pure specimen of 2-bromo-*p*-cresol,[3] for which the bromine content was found to be 42.95 and 43.02%, compared to the calculated value of 42.50%.

Summary

The bromide-bromate titration method of Francis and Hill as applied to brominated cresols is best carried out in water-acetic acid solution.

A procedure has been suggested for obtaining a better end-point when determining bromine in brominated cresols by the method of Robertson.

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NOTE

Improved Lighting Source for Melting-Point Apparatus.—A melting point determination, when taken on a dull day or at night under artificial light, is both difficult to accomplish and a strain on the eyes. If a light is placed directly above or behind the melting-point apparatus, considerable reflection from the glass surface results, and the intensity of light directed at the melting point tube is very small. In order to avoid these obstacles, a simple device has been developed.

A short length of tube or rod of any clear glass, fused quartz being desirable but not essential, will transmit practically the entire intensity of light with very little loss of light transversely, and this property is utilized in an apparatus constructed as follows. A small box built of aluminum, or of wood lined with tin foil, holds an electric light bulb (about 100 watts). In the wall opposite the bulb is a hole through which a piece of quartz tube, 8 mm. in diameter and 4 cm. long, is pro-

jected. This box is placed so that the beam of intense light coming through the end of the quartz tube projects on the material in the melting point tube, allowing the observer to follow the fusion of the substance easily, with the added advantage that none of the light is directed at the observer's eyes. To prevent overheating it is preferable to provide breathing holes in the bottom and top of the box.

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NEW BOOKS

Kolloidchemie: Ein Lehrbuch. (Colloid Chemistry: A Textbook.) BY DR. RICHARD ZSIGMONDY, Professor at the University of Göttingen. II. Fifth, enlarged and completely revised edition. Otto Spamer, Leipzig, Germany. 1927. x + 256 pp. 16 figs. 25 × 17.5 cm. Price, unbound, Rm. 14; bound, Rm. 16.

The author speaks of this book as a textbook. It is really more of a handbook; particularly this second volume, in which the author takes up *seriatim* all the various colloids which have been prepared and studied. The inorganic colloids occupy about two-thirds, the organic colloids about one-third of the volume.

Under each colloid are given the methods used for its preparation, its properties and behavior, its occurrence and uses. The volume affords a valuable and, so far as I know, unique handbook of what might be called descriptive colloid chemistry.

The treatment is clear and succinct. However, references to the earlier editions are perplexingly numerous so that one really needs to have them at hand.

Professor Handovsky and Dr. Thiessen, both of the University of Göttingen, wrote the chapters entitled, respectively, "Colloidal Albumins" and "Soaps."

ARTHUR B. LAMB

An Introduction to Organic Chemistry. By ROGER J. WILLIAMS, Ph.D., Associate Professor of Chemistry, University of Oregon. D. Van Nostrand Company, Inc., 8 Warren Street, New York City, 1927. ix + 565 pp. 8 figs. 22 × 14 cm. Price, $3.75.

The author has been refreshingly successful in his attempt to bring organic chemistry into consonance with the modern treatment of descriptive inorganic chemistry which precedes it in the student's course of study. The selection of descriptive material and the order of its presentation obviates reference to pages further on in the story whose subject matter as a whole has not been studied and excerpts from which are