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Hydrolysis Velocity of Ketimines - Steric Hindrance Effect

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acted with sodium cyanide. The chemicals required and the operations involved lend themselves to the preparation of appreciable quantities.

IOWA STATE COLLEGE,
AMES, IOWA

THE ALKALINE DECOMPOSITION OF WOOL KERATIN

MILDRED BARR AND RACHEL EDGAR

The alkaline hydrolysis of wool keratin effected in ten hours at 25°, 40°, and 55°C. has been followed by determination of the weight, nitrogen, sulfur, and wet breaking strength of the residual wool fabric.

The decrease in weight, nitrogen, sulfur, and wet breaking strength and the ratio of the sulfur of the hydrolysate to that of the residual wool have been shown to be greater, the greater the concentration of alkali or the greater the temperature. The weight of the residual wool has been shown to be a linear function of the alkali concentration, the nitrogen and sulfur to be functions of the form, $y = ax^b$. The ratio of sulfur to nitrogen decreased with increasing concentration of alkali or increasing temperature.

DEPARTMENT OF CHEMISTRY,
IOWA STATE COLLEGE,
AMES, IOWA.

HYDROLYSIS VELOCITY OF KETIMINES — STERIC HINDRANCE EFFECT

J. B. CULBERTSON, WILLIAM REYNOLDS AND CLARENCE MAIN

Additional work has been carried on to gain further information concerning the significance of ortho-substituted groups upon the rate of which diphenyl ketimine hydrochlorides hydrolyze to ketones. In this particular study the following isomeric ketimines have been prepared and their hydrolysis velocities determined: 2, 6-dimethyl-, 2, 5-dimethyl-, 2, 4-dimethyl-, and 3, 5-dimethyl-diphenyl ketimines hydrochlorides. The first of these with the two ortho-substituted methyl groups is hydrolyzed appreciably only after prolonged boiling with water. The last with no ortho-substi-

tuent is hydrolyzed very rapidly at room temperature, so that its reaction velocity must be measured at 0°C. The second and third ketimine salts, each having one ortho-substituted methyl, are hydrolyzed at a moderate rate at 25°.

DEPARTMENT OF CHEMISTRY,
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BEHAVIOR OF BROMINE DERIVATIVES OF GUAIAICOL TOWARD NITRATING AGENTS

L. CHAS. RAIFORD AND R. E. SILKER

Attempts to nitrate 4, 5, 6-tribromoguaiacol by means of nitrous acid as directed by Zincke¹ failed to give any product that could be identified. The use of nitric acid of various concentrations also failed to give more than traces of nitro product. Treatment of the acetyl and benzoyl derivatives with fuming nitric acid at room temperature gave 2-methoxy-3-nitro- 4, 5, 6-tribromophenyl acetate and 2-methoxy-3-nitro-4, 5, 6-tribromophenyl m-nitrobenzoate, respectively. It is significant that bromine was not lost in these nitrations and that in the last case both nuclei were nitrated.

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THE ACID AND ALKALINE HYDROLYSES OF SILK FIBROIN

EUNICE WALDE AND RACHEL EDGAR

It is known in a general way that acid and alkali are destructive to silk fibroin, but there are only few and scattered data recorded in the literature.

In this laboratory, the acid and the alkaline hydrolyses of silk fibroin have been followed by determination of the nitrogen, weight, wet breaking strength and elongation at the breaking load of a degummed silk fabric after treatment for ten hours with sodium hydroxide ranging from 0.0 to 0.5 *N* at 25° and 40°C., hydrochloric acid of concentrations 0.0 to 2.0 *N* at 40°C., and with acid and alkali for one hour at 100°C.

At 40°C., 0.5 *N* sodium hydroxide and 2.0 *N* hydrochloric acid

¹ *J. prakt. chem.* (2) 61,561 (1900).