

conclusions were drawn apparently from a study of four standard solutions each containing 0.001 mg. of iodine. Their figures show an error of over 100% as read in the colorimeter against their blue glass.

Three years of careful study with the starch-iodide test indicate that the standard solutions prepared as described by Turner are reliable, stable and sufficiently uniform for clinical estimation of small amounts of iodine.

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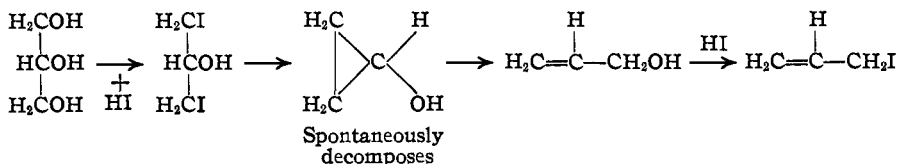
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THE ACTION OF HYDRIDIC ACID ON GLYCEROL

Sir:

The following seems reasonably good evidence for the mechanism involved in the formation of allyl iodide in the well-known reaction between glycerol and hydriodic acid.

When $\text{CH}_2\text{Br}-\text{CH}_2-\text{CH}_2\text{Br}$ is treated with zinc or sodium, cyclopropane is formed. However, when $\text{CH}_2\text{Br}-\text{CHOH}-\text{CH}_2\text{Br}$ [Aschan, *Ber.*, **23**, 1833 (1890)] or $\text{CH}_2\text{Cl}-\text{CHOH}-\text{CH}_2\text{Cl}$ is similarly treated [Hübner and Müller, *Ann.*, **159**, 168 (1871); Tornøe, *Ber.*, **24**, 2674 (1891)] allyl alcohol is formed and not cyclopropanol. Strange as it may seem, $\text{CH}_2\text{Br}-\text{CHOOR}-\text{CH}_2\text{Br}$ in absolute ether yields with sodium not cyclopropyl benzoate or acetate but allyl benzoate and allyl acetate, depending, of course, on the nature of the group R. Furthermore, in the action of nitrous acid on cyclopropyl amine, allyl alcohol is formed [Kishner, *Chem. Zentr.*, I, 1704 (1905)] and not cyclopropanol, while in the electrolysis of the potassium salt of cyclopropane monocarboxylic acid, the allyl ester of cyclopropane monocarboxylic acid was obtained [Fichter and Reeb, *Helv. Chim. Acta*, **6**, 454 (1923); Hofer and Moest, *Ann.*, **323**, 284 (1902)] and not the cyclopropyl ester of the cyclopropane monocarboxylic acid. Furthermore, allyl alcohol was obtained from diiodohydrin [Claus, *Ann.* **168**, 28 (1873); Swarts, *Z. Chem.*, 255 (1868)] when that compound was merely allowed to stand. The unstable nature of cyclopropanol offers a clue to the action of hydriodic acid on glycerol. In the light of the foregoing reactions, the following may be postulated



Experiments are under way in this Laboratory to test further the instability of hydroxycyclopropane derivatives.

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PYRIMIDINE AZO DERIVATIVES

Sir:

There has just come to our attention the article by Johnson, Baudisch and Hoffman, entitled "Ueber die Bildung von Diazo-uracilanhydrid aus Amino-uracil" ("Concerning the Formation of Diazo-uracilanhydrid from Amino-uracil") in the November, 1931, number of the *Berichte* [*Ber.*, **64**, 2629-2631 (1931)]. Since this article is entitled a "Vorläufige Mitteilung (Preliminary Communication)" and concludes with the sentence "Die Versuche sollen fortgesetzt werden (The experiments are to be continued)," it seems desirable, for the sake of avoiding, so far as may be possible, overlapping of work and duplication of effort, for us to report that prior to the appearance of this article in the *Berichte* we had already completed an investigation of five different types of pyrimidine azo derivatives, and that an article covering this research will appear shortly.

Our studies have included the following groups of reactions: (1) the coupling of aromatic diazonium salts with hydroxypyrimidines; (2) the coupling of diazopyrimidines with aromatic phenols and amines; (3) the coupling of diazopyrimidines with hydroxypyrimidines; (4) the condensation of hydroxypyrimidines with hydrazines, and (5) the condensation of hydrazinopyrimidines with hydroxypyrimidines.

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DILUTE HYDROCHLORIC ACID SOLUTIONS AND THE DEBYE-HÜCKEL THEORY

Sir:

Whether the Debye-Hückel theory is in entire quantitative agreement with the facts even for dilute 1:1 aqueous strong electrolytes at ordinary temperatures is a question which is not yet regarded as closed by all investigators. This is clearly shown in the recent review by Lange and Streeck [*Z. Elektrochem.*, **37**, 698 (1931)]. Davies, in "The Conductivity of Solutions," New York, 1930 and elsewhere has repeatedly expressed the view, supported by some evidence, that in the case of monobasic acids