

## NOTES.

*Errors Arising from the Use of Cork Stoppers in Quantitative Extractions with Acetone.*—The use of cork stoppers for quantitative extractions is generally considered to be unobjectionable, but that such is not the case was recently called to my attention during a series of rubber analyses. The ordinary method of determining the acetone extract with the use of a Soxhlet extractor and cork stoppers was being used, but it was found almost impossible to remove all the soluble extract although the extraction was continued for 90 hours. An examination of the cork stoppers furnished a ready explanation. A white resinous matter had separated out in the cracks of the cork, and a ring of the same material had formed on the stopper and also on the glass where the two came in contact. It was evident that soluble matter was being extracted.

The amount of this soluble matter was determined by cutting up a cork weighing 4.18 grams, placing it in an extraction thimble and extracting with acetone for five hours. 0.2080 grams of a white resinous material was obtained. It is not considered that the extraction was complete but it had proceeded far enough for the purpose of the experiment.

The importance of this matter, especially in rubber analyses where the total weight of extract (in Para rubber) seldom exceeds 0.0600 grams can readily be seen. It is true that cutting the cork into small pieces as in the above experiment made the conditions for the extraction of soluble matter more favorable than in an analysis, but the porosity of the cork is so great that even under actual conditions a very considerable amount would be dissolved. Furthermore an extraction usually continues for a longer time than above and extraction proceeds from two stoppers instead of one.

Disregard of this matter is probably one of the factors which are responsible for the great discrepancies noted between the results of different chemists in the analysis of rubber. The remedy obviously lies in the use of ground glass connections between flask and extractor and extractor and condenser.

EDW. A. BARRIER.

LABORATORIES OF THE ASSOCIATED  
FACTORY MUTUAL FIRE INS. COS.,  
Boston, Mass.

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*Otto Dimroth's Paper: "Behavior of Diazonium Compounds Towards Ketonic and Enolic Desmotrophy"*.—In a recent paper,<sup>1</sup> bearing the above title, Prof. Otto Dimroth describes the behavior of a number of ketonic and enolic compounds towards *p*-nitrobenzenediazonium hydroxide. The enolic compounds yield azo derivatives  $\text{HO}\overset{|}{\text{C}}:\overset{|}{\text{CN}}:\overset{|}{\text{NR}}$ , whereas the ketonic compounds fail to react. Dimroth discusses the various possible methods of formulating the reaction as follows: (1)  $\text{OCCHR}' + \text{HON}:$

<sup>1</sup> Ber. 40, 2404.

$\text{NR} \rightarrow \text{COCR}'\text{N}_2\text{R}$ ; (2)  $\text{HOC} : \text{CH} - \text{HON}_2\text{R} \rightarrow \text{HOC} : \text{CN}_2\text{R}$ ; (3)  $\text{HOC} : \text{CH} + \text{HON}_2\text{R} \rightarrow \text{HC} : \text{CON}_2\text{R} \rightarrow \text{HOC} : \text{CN}_2\text{R}$ ; (4)  $\text{HOC} : \text{CH} + \text{HON}_2\text{R} \rightarrow (\text{HO})_2\text{CCHN}_2\text{R} \rightarrow \text{HOC} : \text{CN}_2\text{R}$ . This last expression is given incorrectly in Dimroth's paper. The first equation is rejected because of the failure of the ketonic compounds to react. The enolic forms of acetyldibenzoylmethane and of ethyl diacetylsuccinate react readily with the diazonium compound, consequently it cannot be the methane hydrogen which is replaced, and therefore the second of the above equations does not apply. Of the remaining two he favors the latter, but states that it is impossible to decide between them until intermediate compounds, additive or otherwise, have been prepared and investigated.

The object of this note is to call attention to the fact that the present writer alone, and also in conjunction with Alfred Tingle, W. E. Hoffman, Jr., and C. J. Robinson, has prepared a number of such *addition compounds* and has fully discussed their bearing on the problem considered by Dimroth. Most of the results have been published during the past ten years, in a series of papers in the *AMERICAN CHEMICAL JOURNAL*. The latest paper, in which the question of addition was dealt with at length, was by Bishop Tingle and Robinson.<sup>1</sup> Two other papers bearing on the same subject are now waiting publication and the work will be continued. It may be mentioned that the most interesting additive compounds prepared by Bishop Tingle and his colleagues are those of camphoroxalic acid with hydroxylamine and *p*-bromophenylhydrazine, respectively, and also a number of derivatives which the acid forms with various secondary aliphatic bases. It follows, therefore, that if Dimroth's reasoning is correct, the problem under consideration may be regarded as having been solved a number of years ago by Bishop Tingle and his co-workers, in favor of the fourth equation given above.

J. BISHOP TINGLE.

McMASTER UNIVERSITY, Toronto, Canada.

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### NEW BOOKS.

**MODERN CHEMISTRY, THEORETICAL AND SYSTEMATIC.** By SIR WILLIAM RAMSEY. pp. 127+203. 16-mo. New YORK. The Macmillan Company. 1907. Price 70 Cents.

Only a wizard could have packed so much and packed it so comfortably into a little vest-pocket volume of 330 pages. The theoretical part treats of such subjects as, quantitative laws, the properties of gases and of solutions, allotropy, isomerism, stereochemistry, tautomerism, and energetics. In all cases the subjects are handled concisely, yet with perfect clearness. Modern views are emphasized, yet historical perspective is not forgotten. Space is found for opposite illustrations and the whole is

<sup>1</sup> Am. Ch. J. 36, 223 (1906).