

$NR \rightarrow COCR'N_2R$; (2) $HOC : CH \mp HON_2R \rightarrow HOC : CN_2R$; (3) $HOC : CH + HON_2R \rightarrow HC : CON_2R \rightarrow HOC : CN_2R$; (4) $HOC : CH + HON_2R \rightarrow (HO)_2CCHN_2R \rightarrow HOC : CN_2R$. 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.¹ 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.

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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

¹ Am. Ch. J. 36, 223 (1906).

woven together so as to present a miniature picture of chemical theory as it is. One feels on first noting the small size of the volume and the extent of the ground it attempts to cover, that the treatment will of necessity be hackneyed, congested, and charmlessly bare. One is therefore all the more delighted to find that on the contrary, such is the art with which the matter is put together, the mode of handling is fresh, lucid, and attractive, and that the book is, in fact, genuinely readable.

In the systematic part of the volume the limits of space have been met by ingenious classification of the subject. Instead of treating one element at a time in the stereotyped way, the subdivisions are more general. Thus all the methods of isolating elements are discussed together, and a summary of the properties of all the elements follows. Then the common classes of compounds, such as hydrides, halides, oxides, and so forth, are taken up in succession and the various modes of forming the members of each class are described and illustrated. Indicators, the solubility product, alloys, and even the salts of complex inorganic amines receive attention. As in the theoretical portion, the author has managed to include the interesting as well as the fundamental things.

The specialist in other sciences will find in the volume a vivid picture of the outlines of modern chemistry, and the chemist will not fail to derive equal refreshment and profit from its perusal.

ALEXANDER SMITH.

PHYSIKALISCH-CHEMISCHE ÜBUNGEN. DR. W. A. ROTH. a. o. Prof. in Greifswald. Leopold Voss, Hamburg and Leipzig 1907. XII+174 pp. Cloth, price 5 Marks.

This book, as its title indicates, and the author is careful to further emphasize in his preface, makes no claim to compete as a reference book with the larger manuals on the subject such as the Ostwald-Luther "Hand- und Hilfsbuch," but endeavors to present in concise and easily intelligible form, fairly specific directions for a set of laboratory exercises together with such discussion of the general principles involved as to bring out the full pedagogic value of the practical work itself. In pursuance of this idea the author has omitted practically all references to the original literature and has compiled the accompanying tables to meet simply the immediate needs of the text. The book we are told represents, essentially the work of the elementary course ("Kleinen Praktikum's") in physical chemistry conducted by Prof. Nernst in Göttingen and later in Berlin.

The chief headings in their order are: Introduction, the fundamentals of physical measurements and calculations, 12 pages. Determination of density of gases, liquids and solids, 23 pages. Molecular weight of dissolved substances, 15 pages. Thermochemistry, 18 pages. Determination of optical constants, 13 pages. Chemical statics and kinetics, 9 pages. The remaining third of the book is devoted to Electrochemistry,