papers by Hardy,[1] Langmuir,[2] Harkins, Brown and Davies,[3] Harkins, Davies and Clark,[4] and by Fraenkel.[5]

CHICAGO, ILL.

NOTE.

Acknowledgment.—In an article[6] entitled "A Study of Conditions Affecting the Precise Determination of Zinc as the Sulfide," by Harold A. Fales and Gertrude M. Ware, omission was made of an acknowledgment due to Prof. H. T. Beans, of Columbia University. The investigation described in this article was proposed by Dr. Beans and carried out under the direction of Dr. Fales during the absence of Dr. Beans in Government service. It is regretted that the omission of this acknowledgment occurred in the original publication. HAROLD A. FALES.

NEW YORK, N. Y.

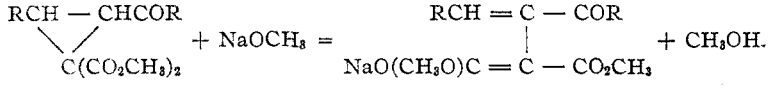
[CONTRIBUTION FROM THE CHEMICAL LABORATORY OF HARVARD UNIVERSITY.]

STUDIES IN THE CYCLOPROPANE SERIES. IV.

BY E. P. KOHLER AND T. L. DAVIS.

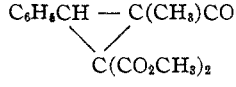
Received February 25, 1919.

One of the most characteristic properties of the cyclopropane derivatives under investigation in this laboratory is the ease with which the ring is opened by alcoholates. The product is a metallic derivative of an isomeric ethylenic ester.



The principal object of the present investigation was to secure additional information on this obscure process.

In earlier papers we assumed that the metallic derivative is formed as a result of two reactions—addition of alcoholate followed by loss of alcohol. We therefore selected for the present work dimethyl 2-phenyl-3,3-methylbenzoyl-cyclopropane dicarboxylate.



Owing to the presence of the methyl group in the 3 position in this sub-

[1] Hardy, *Proc. Roy. Soc.*, **86B**, 634 (1911–12).

[2] Langmuir, THIS JOURNAL, **39**, 1848–1906 (1917); *Proc. Am. Acad.*, **3**, 251–7 (1917); abstract in *Met. Chem. Eng.*, **15**, 468 (1916).

[3] Harkins, Brown and Davies, THIS JOURNAL, **39**, 354–64 (1917).

[4] Harkins, Davies and Clark, *Loc. cit.*, 1917, pp. 541–96.

[5] Fraenkel, *Phil. Mag.*, **33**, 297–322 (1917).

[6] THIS JOURNAL, **41**, 487 (1919).