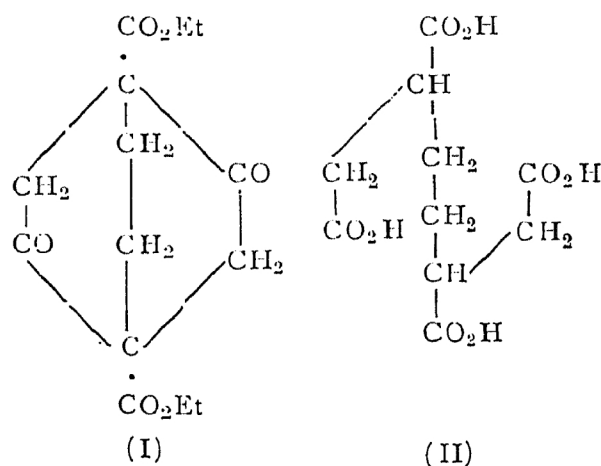


*p*-Bridging of Succinosuccinic Ester.

CONSIDERING the products obtainable from succinosuccinic ester by bridging the *p*-carbon atoms with methylene iodide or ethylene bromide "to be of extremely great interest," Baeyer<sup>1</sup> tried the experiments evidently without success. The non-formation of a strainless tricyclic system from bicyclic nonanedionetetracarboxylic ester, alike Baeyer's failure, were attributed by Meerwein<sup>2</sup> to the splitting up of the bridged compounds by alkali.

After a large number of attempts made under varying experimental conditions, the desired bridge formation has now been effected by boiling dry sodio-derivative of succinosuccinic ester under reflux during 72 hours with ethylene and trimethylene bromides, the resulting compounds melting at 112° and 132° respectively. That the reactions have not taken place in the enolic phase, is proved by the fact that the bridged compounds give sharp melting disemicarbazones. The bridged esters are easily hydrolysed to the corresponding diacids, m.p. 274° and 238° respectively by boiling with dilute HCl (1:1) and these acids, in turn, give sharp melting disemicarbazones. It is interesting to note that the bridged esters cannot be decarboxylated under conditions in which succinosuccinic ester readily gives 1:4-diketohexamethylene. The compound, m.p. 112° (I) on treatment with 10 per cent. alcoholic potash suffers ring fission to yield, what appears from combustion analysis and equivalent determination to be  $\beta\beta'$ -dicarboxysuberic acid, m.p. 170° (II) as yet unknown and on treatment with 1.5 per cent.



neutral permanganate it gives an acid, m.p. 150° which, however, seems to be

different from adipic acid. Further work is being continued.

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<sup>1</sup> Baeyer, *Ber.*, 1892, 25, 2123.

<sup>2</sup> Meerwein, *J. Pr. Chem.*, 1922, (ii), 104, 180.