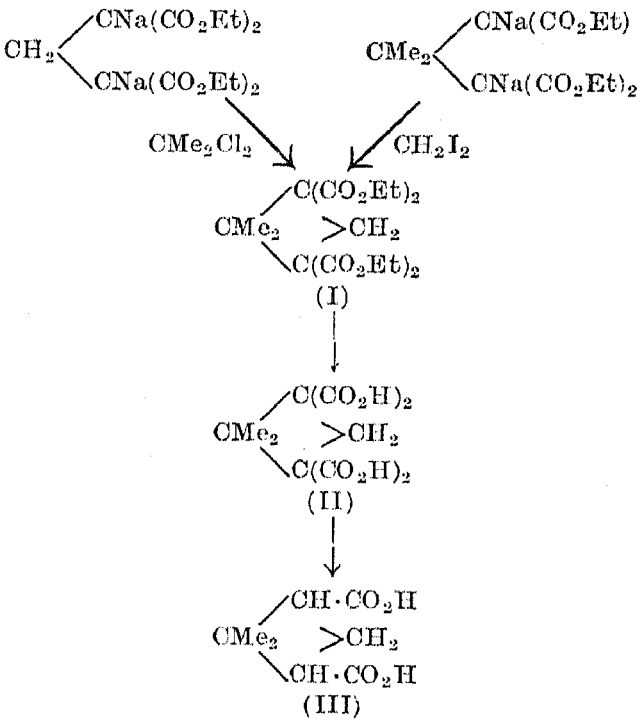

The tetracarboxylic ester (I) suffered hydrolysis and decarboxylation simultaneously on being boiled with 50 per cent. sulphuric acid yielding *trans*norpinic acid (III) m.p. 145-146° softening at 136°. The tetracarboxylic acid m.p. 200° (II) obtained from (I) by hydrolysis with alcoholic potash was decarboxylated by heating at 220-240° or by boiling with 50 per cent. sulphuric acid. The yields of II and III are poor.

As a result of a large number of experiments conducted under varying conditions, it has been possible to effect considerable improvement upon the methods of preparation of isopropylidene malonic (yield 1315 g. from 1170 g. of malonic ester) and dimalonic (yield 42 g. from 80 of isopropylidene malonic ester) esters described by Clemo and Welch (*J. C. S.*, 1928, 2621).

P. C. GUHA.
K. N. GAIND.

Department of Organic Chemistry,
Indian Institute of Science,
Bangalore,
May 31, 1934.

Two New Methods of Synthesis of Norpinic Acid.

THE synthesis of norpinic acid has been achieved by the following two new methods, namely, (1) by the condensation of sodium methylene dimalonic ester and $\beta\beta$-dichloropropane, and (2) sodium derivative of isopropylidene dimalonic ester with methylene iodide.

[2] *Journ. Linn. Soc.*, X, p. 327, 1868.
[3] *Hedwigia*, **56**, p. 299, 1915.