

TABLE I.

Ion whose data are employed	Heat of formation of H <sup>+</sup> <sub>(aa)</sub>
SeO <sub>4</sub> <sup>2-</sup>	35 K. cal.
SeO <sub>3</sub> <sup>2-</sup>	39 "
SO <sub>4</sub> <sup>2-</sup>	72 "
SO <sub>3</sub> <sup>2-</sup>	42 "

K. S. GURURAJA DOSS.

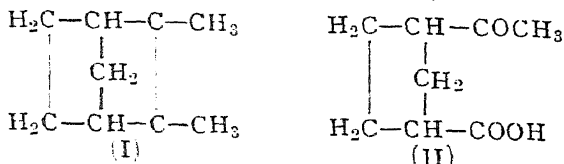
M. P. VENKATARAMA IYER.

Department of Chemistry,  
Central College, Bangalore,  
University of Mysore.

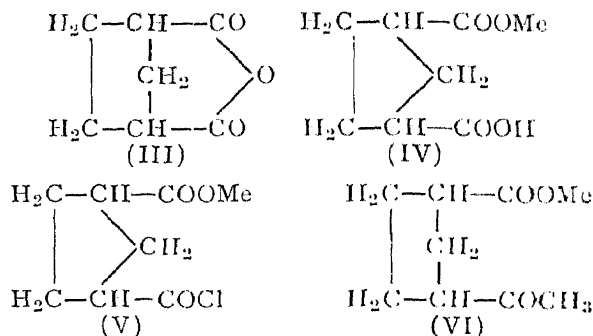
June 24, 1935.

<sup>1</sup> *Proc. Ind. Acad. Sci.*, 1934, 1, 156.*Bicyclo (1:2:3)-octane-2:4-dione.*

ALTHOUGH the constitution assigned to santene (I) by Semmler has been confirmed by direct synthesis,<sup>1</sup> the synthesis of the ketonic acids (II) isolated by Semmler and Bartelt<sup>2</sup> as an oxidation product of santene has not been achieved so far. The acid (II) has now been synthesised starting from *cis-cyclopentane-1:3-dicarboxylic acid* and the investigation continued with a view to synthesising compounds of the type of homonorcarnphor (VIII).

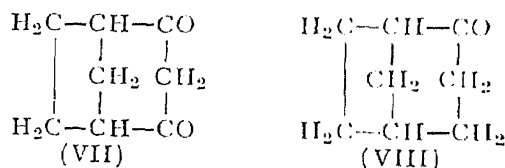


*Cis-cyclopentane-1:3-dicarboxylic anhydride* (III)<sup>3</sup> furnishes the mono methyl ester (IV) in the usual way (b.p. 156°/4 mm.). The mono ester mono-acid chloride (V) prepared from (IV) by treatment with thionylchloride is a colourless mobile liquid (b.p. 109°/3 mm.) which gives by Blaise reaction with zinc methyl iodide the ketonic ester (VI) (b.p. 100°/2 mm. purified through semicarbazone, m.p. 139°). The ketonic acid (II) prepared from (VI) by hydrolysis boils when pure sharply at 155°/5 mm., and not within a range of 30° *vis.*, 175-205°/10 mm. as given by Semmler and Bartelt.<sup>2</sup> They did not analyse this compound and it seems quite probable that their compound was not pure. The semicarbazone melts at 169° (Semmler and Bartelt 168°).



The ketonic ester (VI) on treatment with sodium methoxide in alcoholic solution furnishes a product from which the ketonic acid (II) and a solid m.p. 123°·5 could be isolated by distillation, and subsequent treatment with petrol (obtained in poor yield). The solid gives a semicarbazone m.p. 224°, a brownish colouration with ferric chloride and evolves hydrobromic acid with bromine in chloroform solution and seems in all probability to be the bicyclic diketone (VII).

Experiments are in progress for obtaining the solid m.p. 123°·5 in workable quantities, with a view to confirming its structure as



also to partially reduce it to the monoketone (VIII)—the next higher homologue of *nor*-camphor.

Full details will be published shortly elsewhere.

P. C. GUHA.

S. K. RANGANATHAN.

Department of Organic Chemistry,  
Indian Institute of Science,  
Bangalore,  
July 3, 1935.

<sup>1</sup> Diels and Alder, *Annalen*, 1931, 486, 205.<sup>2</sup> Semmler and Bartelt, *Ber.*, 1907, 40, 4596; *Ibid.*, 1908, 41, 128, 389, 867.<sup>3</sup> Pospischill, *Ber.*, 1898, 31, 1953; Perkin and Scarborough, *J.C.S.*, 1921, 119, 1400.

#### A Preliminary Note on the Nitration of Methyl-Ether of Salicylaldehyde.

DURING the course of synthetical experiments in the group of alkaloids, we required Iso-Orthovanillin as a starting substance and it was thought that the latter might be obtained from 3-Nitromethyl-salicylaldehyde