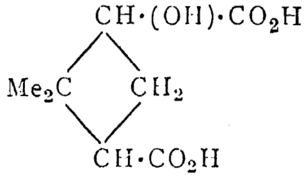
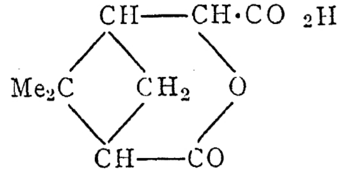
The Configuration of Pinic Acid.

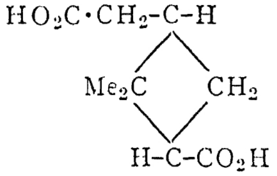
SINCE pinic acid, obtained from *cis*-pinonic acid by alkaline hypobromite, is degraded to *cis*-norpinic acid, Perkin and Simonsen[1] concluded that pinic and hydroxy-pinic acids possess *cis*-configuration. The fact that hydroxy-pinic acid (I) in spite of its being a δ-hydroxy acid does not form a lactone (II)[1,2] led us to suspect that this acid as also pinic acid from which it is derived might possess *trans*-configuration. The elucidation of the configuration of pinic acid was taken up first by (i) independent synthesis which is in progress and (ii) by a comparison of the properties of pinic acid (III) obtained by oxidising the glycol (IV) which has been proved by us[3] to be of the *trans*-configuration.



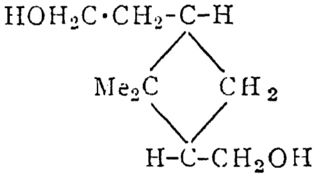
(I)



(II)



(III), (IIIa)



(IV)

Recently, the abstract of a paper by Grandperrin[4] came to our notice wherein he has suggested, though with some negative experimental evidences only, the pinic acid (III*a*) obtained by the alkaline oxidation of *cis*-pinonic acid to be of the *trans*-form. In view of this publication we hasten to present the experimental evidences so far obtained by us, which definitely confirm that pinic acid is of the *trans*-form.

Pinic acid (III*a*) (b.p. 206–207°/6 mm.) has now been prepared directly from *cis*-pinonic acid and its diethyl ester reduced by sodium and alcohol to the glycol (IV) which on oxidation with permanganate gave pinic acid (III) (b.p. 204–05°/5 mm). This acid, by analogy with our previous work[3] should possess the *trans*-configuration. The identity of the two acids (III*a*) and (III) (*cf.* B.P. identical) has been further established by the fact that both of them give the same dianilide (m.p.'s and mixed m.p. 204°) and diamide (m.p.'s and mixed m.p. 222–23°).

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January 22, 1937.

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[1] *J.C.S.*, 1909, **95**, 1176.

[2] Bayer, *Ber.*, 1896, **29**, 1908.

[3] Guha and Ganapathi, *Curr. Sci.*, 1936, **5**, 244.

[4] *Am. Chem. Abst.*, Nov. 20, 1936, **30**, 8191; *Annalen der Chemie*, 1936, **6**, 5–53.