

Constitution of Resin Phenols and their Biogenetic Relations

XXII*. On the Absolute Configuration of Lignans

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The sterical relationships between the known members of the lignan series are largely established (for references see Erdtman¹ and Hearon and MacGregor²). If therefore the absolute configuration of one of the lignans could be determined this would simultaneously establish the configuration of all the interrelated lignans.

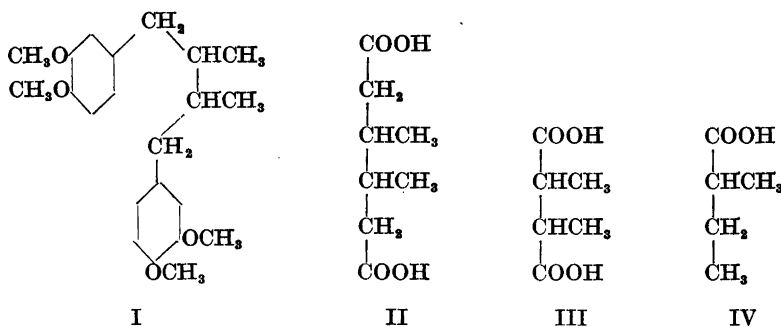
The work of Bijvoet *et al.*³ has shown that the absolute configuration of glyceral-

formation of the *cyclopentanone* demonstrates that the ozonolysis in fact has given the expected acid (II).

Work is in progress to correlate this acid with dimethylsuccinic acid (III) both by synthetic and degradative methods. By removing the carboxyl group of the half-ester of the dimethylsuccinic acid it is hoped to obtain α -methylbutyric acid (IV) which has already been correlated with glyceraldehyde (*cf.* Crombie and Harper⁴). The details of these correlation experiments and a discussion of the results will be published shortly.

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1. Erdtman, H. in Pæch, K. and Tracey, M. V. *Moderne Methoden der Pflanzenanalyse*, Springer, Heidelberg, Vol. III.
2. Hearon, W. M. and MacGregor, W. S. *Chem. Rev.* **55** (1955) 957.



dehyde is the same as that arbitrarily adopted by Fischer. In order to correlate the lignans with glyceraldehyde the conversion of dextrorotatory bis(hydroxymethyl)succinic acid dilactone, obtained from pinosresinol, into compounds of known configuration has been investigated. These experiments have hitherto been unsuccessful, however, a promising route for the solution of the problem has now been found.

(-)-Dihydroguaiaretic acid dimethyl-ether(I) afforded a weakly dextrorotatory dimethyladipic acid (II) on ozonolysis followed by oxidation with hydrogen peroxide. This acid was very readily converted into a dimethylcyclopentanone which shows a very high negative rotation. The

3. Bijvoet, J. M., Peerdeman, A. F. and van Bommel, A. J. *Nature* **186** (1951) 271.
4. Crombie, L. and Harper, S. H. *J. Chem. Soc.* **1950** 2685.

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Optical Resolution of α -Phenylglutaric Acid

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In connection with current work on steric relationships, the authors have resolved α -phenylglutaric acid into its

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