# The Structure of a $C_{30}H_{26}O_{12}$ Procyanidin from Cola Nuts

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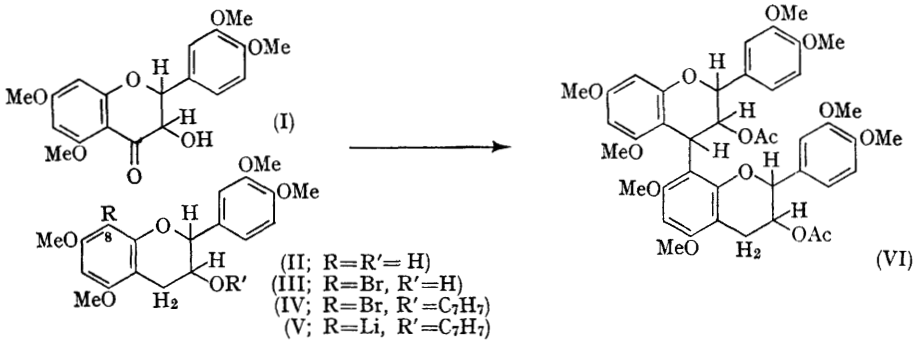
THE structure of a condensed procyanidin ($C_{30}H_{26}O_{12}$) isolated from Cola nuts has been suggested on the basis of the n.m.r. and mass spectra of a crystalline derivative.[1] The synthesis of the diacetyloctamethylprocyanidin (VI) confirmed this suggestion.

The starting materials for the synthesis of (VI) were tetramethyl-(+)-taxifolin (I), as the "upper" moiety, and tetramethyl-(+)-catechin (II), as the "lower" moiety. Bromination of (II) gave (III) which was benzylated to give 8-bromo-5,7,3′,4′-tetra-*O*-methyl-3-*O*-benzyl-(+)-catechin (IV). The n.m.r. and mass spectra, and also chemical methods, showed that bromination had taken place at the 8-position. Treatment of (IV) with n-butyllithium gave (V) which was condensed directly with (I). Hydrogenolysis of the resultant condensation product, with $H_2$–Pt, followed by acetylation with acetic anhydride, and purification by column chromatography gave pure (VI).




All the chemical and physical properties of the compound (VI) so obtained corresponded completely with those of the derivative of the natural product. The absolute configuration of (VI) can be derived from the known configurations of the starting materials (I) and (II) and will be described, together with the n.m.r. spectrum of (VI), in a later paper.

(*Received, February 27th*, 1967; *Com.* 190.

[1] K. Weinges and K. Freudenberg, *Chem. Comm.*, 1965, 220.