

ULMACEAE

DERIVATIVES OF LONG CHAIN HYDROCARBON FROM
TREMA ORIENTALIS

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Plant. *Trema orientalis* (identified by the Herbarium of the Federal Forestry Research Station, Ibadan, Nigeria. No. FHI 23731). **Source.** Common shrub or tree. Grows wild in Western State of Nigeria. Stem bark collected in July. **Uses.** Medicinal.¹ **Previous chemical work.** None. From the aqueous extract of a related Australian species *Trema aspera* a mixture of glycoflavone acetates was isolated.²

Present work. The ether-insoluble fraction of the crude solid petroleum extract gave a semi-crystalline white solid from MeOH-CHCl₃ (0.06% based on the air-dry powdered stem bark) which showed only one major spot on TLC in many different solvent systems but no meaningful mass spectrum. IR spectrum (1735, 1170 and a doublet at 732 and 721 cm⁻¹) and NMR (3H singlet at δ 2.07) suggested an acetate of a long chain alcohol. Alkaline hydrolysis or the LAH reduction of white solid gave (a quantitative w/w yield in the later reaction) the same alcohol m.p. 80–81°; M⁺ – H₂O (392), consistent with 1-octacosanol (lit. 82–83°). (Found: C, 81.94; H, 14.38. Calc. for C₂₈H₅₈O: C, 81.87; H, 14.23%). Oxidation of the alcohol with Jones reagent gave octacosanoic acid m.p. 83–84° (lit. 87°). (Found: C, 78.92; H, 13.40. Calc. for H₂₈H₅₆O₂: C, 79.18; H, 13.29%) while acetylation gave octacosanyl acetate m.p. 66° (lit. 66–67°). (Found: C, 79.77; H, 13.59. Calc. for C₃₀H₆₀O₂: C, 79.57; H, 13.36%). The white solid must therefore consist essentially of 1-octacosanyl acetate.

The acidic fraction of the ether-soluble portion of the petroleum extract on methylation with diazomethane followed by chromatographic fractionation gave methyl octacosanoate m.p. 66° (lit. 67°) whose identity was confirmed by comparison with the compounds obtained above; thus confirming the presence of octacosanoic acid in the plant. The IR and NMR spectra of all the compounds mentioned above were consistent with their structures.

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¹ B. OLIVER, *Medicinal Plants in Nigeria*, N.C.A.S.T., Ibadan (1960).

² P. DELRICH, J. T. B. MARSHALL and D. H. WILLIAMS, *J. Chem. Soc. C*, 941 (1968).