

TRITERPENOIDS FROM THE LEAVES OF *CALLISTEMON LANCEOLATUS**

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Callistemon lanceolatus is an ornamental plant, and the flowers of an Indian specimen were shown to contain several flavonoids [1]. No other constituents have been reported.

The light petrol. extract of the leaves gave ursolic and oleanolic acids, separated by fractional crystallisation of their methyl ester benzoates [2,3] (identified by m.p., $[\alpha]_D$, MS); and uvaol (m.p. and m.m.p., MS, $[\alpha]_D$; diacetate, m.p. and m.m.p., $[\alpha]_D$).

The Et₂O extract gave 2 α -hydroxyursolic acid (identified as methyl ester, m.p., MS), and a new triol as colourless needles (Et₂O), identified as 2 α -hydroxyuvaol, m.p. 235–40°, $[\alpha]_D$ +60°, M^+ is 458, corresponding to molecular formula C₃₀H₅₀O₃. The spectrum showed a peak at m/e 203 (base peak), characteristic of Δ^{12-13} double bond in ursane series [4]. (2 α -Acetoxyuvaol diacetate (C₃₆H₅₆O₆), m.p. 163–5°, $[\alpha]_D$ +18.5°, τ at 4.88 (triplets; one vinyl H), τ at 7.97 (two acetate groups), τ at 8.04 (one acetate group)). Oxidation of the triol (CrO₃/pyridine) at room temperature overnight, afforded a yellowish gum and having the properties of a diosphenol; $\lambda_{\max}^{1-\text{OH}}$ 270 nm (ξ , 7500), $\lambda_{\max}^{1-\text{OH KOH}(1\%)}$ 314 nm (ξ , 6000), ν_{\max} 3448 cm⁻¹ (OH), 1696 cm⁻¹ (C=O), a +ve FeCl₃

and Zimmermann test for 3-oxo-triterpenoids [5]. The structure of the triol was confirmed by reducing methyl 2 α -hydroxyursolate with LiAlH₄ to the triol, identical in all respects with the natural compound (IR, m.p., m.m.p. and specific rotation). Thus, the triol is 2 α -hydroxyuvaol, which has thus been isolated for the first time from any natural source.

The MeOH extract gave glucose and sucrose (PC), together with a mixture of saponins, which after acid hydrolysis [6] and chromatography on alumina, it gave methyl 2 α -hydroxyursolate and 2 α -hydroxyuvaol. Both compounds were identical in all respects (IR, m.p., and specific rotations) with the corresponding authentic samples.

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* Part XIV in the series. For Part XIII see reference 7.