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DITERPENOID QUINONES OF *SALVIA LANATA*

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Key Word Index—*Salvia lanata*; Labiateae; horminone; desacylnemorone; 7α-acetoxy-royleanone.

Abstract—The petrol extract of the whole plant (aerial parts and roots) of *Salvia lanata* yielded three diterpenoid quinones of the royleanone type, identified as horminone, desacylnemorone and 7α-acetoxy-royleanone.

The petrol extract of the whole plant (aerial parts and roots) of *Salvia lanata* [1,2] was subjected to column chromatography over silica gel. Elution of the column with petrol (40–60°) yielded yellow plates of a compound, mp 178–180°, $C_{20}H_{28}O_4$ (M^+, *m/z* 332), which was converted to royleanone [3] upon hydrogenation followed by oxidation. UV and IR absorptions as well as ^1H NMR signals showed it to be identical with horminone [4–8].

Further elution of the column with petrol (60–80°) afforded orange-yellow needles, $C_{20}H_{26}O_5$ (M^+, *m/z* 346), mp 222°. This compound was characterized as desacylnemorone by comparison of its IR absorption and ^1H NMR signals [9,10].

The petrol (60–80°)–benzene (1:1) eluate furnished a yellow solid, mp 212°, $C_{22}H_{30}O_5$ (M^+, *m/z* 374) which was identified as 7α-acetoxy-royleanone by spectral data [3,5,7,8] and by conversion to royleanone upon catalytic hydrogenation and conversion to horminone upon saponification.

EXPERIMENTAL

Extraction of Salvia lanata. About 1 kg of the air-dried, finely powdered whole plant (aerial parts and roots) of *Salvia lanata* Roxb. was extracted with petrol (60–80°) in a Soxhlet for 48 hr. The conc extract was subjected to CC on 200 g Si gel (mesh 60–120). The following fractions were collected: 1–15 (petrol (40–60°)), 16–33 (petrol (60–80°)), 34–50 (petrol (60–80°)–C_6H_6(10:1)).

Isolation of horminone. Fractions 1–15 yielded horminone. It crystallized from aq. MeOH as yellow plates, yield 0.4 g, mp 178–80°, $[\alpha]_D^{25}$ −130° ($CHCl_3$). Its UV, IR and ^1H NMR data were similar to those reported in the lit. [4–8].

Isolation of desacylnemorone. Fractions 16–33 furnished a brownish solid which on crystallization from petrol (60–80°) afforded orange-yellow needles of desacylnemorone, yield 0.38 g, mp 222°. Its spectral data were identical to those reported in the lit. [9,10].

Isolation of 7α-acetoxy-royleanone. Fractions 34–50 yielded yellow crystals of 7α-acetoxy-royleanone, yield 0.42 g, mp 212°, $[\alpha]_D^{25}$ −20° ($CHCl_3$). Its spectral data (UV, IR and NMR) were as reported in the lit. [3,5,7,8].

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