

Dihydro- β -cyclocostunolide (III) although also present in the above mentioned fraction was obtained more conveniently from a crystalline deposit (1.0 g) in the original crude hexane extract (200 g). Recrystallization from hexane-benzene (4:1) and then from methanol gave dihydro- β -cyclocostunolide (600 mg), m.p. 135–137°; $[\alpha]_D^{25} + 165^\circ$ (c, 0.98 in CHCl_3). IR spectrum $\nu_{\text{Max}}^{\text{KBr}}$ 1773, 1625 cm^{-1} , UV transparent above 204 nm, NMR (60 MHz in CDCl_3) absorptions at 0.89 δ (3H, singlet C-10 CH_3), 1.25 δ (3H, doublet, $J = 7$ Hz, C-11 CH_3), 4.00 δ (1H, triplet with fine structure, $J = 10$ Hz, C-6H), 4.80 and 4.95 δ (two 1H singlets, C-4 CH_2). The mass spectrum showed principal peaks at m/e 234 (100%, M^+), 219 (76%), 207 (10%), 192 (29%), 176 (43%), 166 (92%), 138 (48%), 122 (46%), 110 (40%), 108 (40%), 106 (29%).

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Key Word Index—*Moquinea velutina*; Compositae; sesquiterpenoid lactones; α -cyclocostunolide; dihydro- β -cyclocostunolide.

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β -AMYRIN ACETATE AND CAMPESTEROL FROM *PLUCHEA ODORATA*

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Plant. *Pluchea odorata*, Hiebp de Santa María. **Source.** La Leona, Nuevo León. **Uses.** Medicinal.¹ **Previous work.** None.²

Present work. Aerial part. The plant material coarsely powdered was extracted with light petroleum. A portion was extracted with CHCl_3 , the solvent was evaporated, the residue was taken into EtOH, and the solution treated with 5% lead acetate. After filtration the EtOH was evaporated and the residue dissolved in CHCl_3 . The solution was chromatographed on silica gel. β -Amyrin acetate $\text{C}_{32}\text{H}_{52}\text{O}_2$; (M^+ 468) m.p. 225°, TNM positive, $[\alpha]_{589} 69\text{--}90^\circ$, $[\alpha]_{578} 73\text{--}70^\circ$, $[\alpha]_{546} 82\text{--}50^\circ$ (CHCl_3) IR, NMR, co-TLC and m.m.p. with an authentic specimen. Campesterol, $\text{C}_{28}\text{H}_{48}\text{O}$, m.p. 151°, TNM positive $[\alpha]_{589} - 33\text{--}3^\circ$ (CHCl_3), IR, UV, NMR, co-TLC and m.m.p. with authentic material. Acetate, $\text{C}_{30}\text{H}_{50}\text{O}_2$ m.p. 128–130°; $[\alpha]_{589} - 35\text{--}2^\circ$ (CHCl_3), IR 1720 (CO) and 1250 cm^{-1} (C–O).

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¹ M. MARTÍNEZ, *Las Plantas Medicinales de Mexico* (1st Edition), p. 348, A. Botas, Mexico (1959).

² R. HEGNAUER, *Chemotaxonomie der Pflanzen*, Vol. 3, p. 447, Birkhauser, Basilea (1964).

Key Word Index—*Pluchea odorata*; Compositae; β -amyrin acetate; campesterol.