

Oxidation of II. A soln of II (100 mg) in Me₂CO (5 ml) at 0° was treated with Jones reagent till the orange colour persisted, left at room temp. for 15 min, poured into H₂O (400 ml) and extracted with EtOAc. Dry column chromatography (C₆H₆-EtOAc, 4:1) of the residue gave III, fine needles, m.p. 151–153°, [α]_D –221° (c 0.10) (Found: C, 59.61; H, 6.44; N, 7.17. C₁₈H₂₂O₅N₂ requires: C, 59.33; H, 6.64; N, 7.69%). $\lambda_{\text{max}}^{\text{EtOH}}$ 323 nm (ϵ 320). ν 1780 $_{\text{max}}^{\text{CHCl}_3}$ (γ -lactone), 1740 cm⁻¹ (CO). NMR: τ 7.86 (3H, s, OAc), 8.15 (3H, broad s, Me-C₁₀).

Artemisiifolin. Ia, eluted with C₆H₆-EtOAc (7:3). Prisms, m.p. 128–130°, [α]_D 53°. Yields the *diacetate* Ic, identical with the product obtained from Ib (TLC, IR, NMR spectra superimposable). Ia was also obtained from cnicin by the procedure described,² and by saponification of Ib; both reaction products proved to be identical with the natural sample (m.m.p., TLC, IR, NMR spectra superimposable).

Salonitolide IV, eluted with C₆H₆-EtOAc (1:1). Needles, m.p. 183–184°, [α]_D 116°. It was shown to be identical with authentic material (m.m.p., TLC, IR, NMR spectra superimposable). IV was also obtained by hydrogenating Ia and by NaBH₄ treatment of Ib in EtOH as usual.

Acknowledgements—The authors thank Professor T. J. Mabry (University of Texas, Austin) for the NMR spectrum of artemisiifolin, Dr. M. Holub (Czechoslovak Academy of Science, Prague) for the sample and spectra of salonitolide and Dr. C. Pascual (Universitat Basel) for the mass and 100 MHz NMR spectra. One of us (J.M.A.) thanks the Ministerio de Educación y Ciencia for a fellowship 'Formación de Personal Investigador'. This work was performed within the Programme of Chemistry 1971 conceded by the Foundation Juan March.

Phytochemistry, 1973, Vol. 12, p. 2999. Pergamon Press. Printed in England.

KAURANOID DITERPENES IN *ESPLETIA* SPECIES

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(Received 18 June 1973. Accepted 5 July 1973)

Key Word Index—*Espletia humbertii*; *E. littlei*; *E. timotensis*; Compositae; Kaurane derivatives.

Plants. *E. humbertii*; *E. littlei*; *E. timotensis*. **Previous work.** None.

Present work. Dried leaves and bark of *Espletia littlei* were ground and extracted with light petrol. The acidic fractions from these extracts were obtained by treatment with 5% Na₂CO₃, the components separated by chromatography on SiO₂ columns, and identified by comparison with authentic specimens. (–)-Kaur-9(11)-16-dien-19-oic acid,¹ C₂₀H₂₈O₂ (M⁺ 300), m.p. 155–158°, [α]₅₇₈ 33 (EtOH), IR, NMR and m.m.p. was isolated from all three species. In addition to this 15- α -hydroxy-kaur-16-en-19-oic acid,² C₂₀H₃₀O₃ (M⁺ 318), m.p. 220–223°, IR, NMR and m.m.p. was obtained from *E. timotensis*; (–)-16- α -hydroxy-kauranc, C₂₀H₃₄O (M⁺ 290), m.p. 211–215°, [α]₅₇₈ –38(CHCl₃), IR, NMR and 15- α -acetoxy-kaur-16-en-19-oic acid,¹ C₂₂H₃₂O₄ (M⁺ 360), m.p. 172–173°, [α]₅₇₈ –81° (CHCl₃), IR, NMR and m.m.p. were isolated from *E. humbertii*.

Acknowledgements—The authors are greatly indebted to Dr. Ruiz Terán for help in the collection and identification of the botanical material. A grant from the 'Consejo de Desarrollo Científico y Humanístico' of the University of Los Andes, is gratefully acknowledged.

¹ BRIESKORN, C. H. and PÖHLMAN, E. (1968) *Tetrahedron Letters* 5661–5664.

² PIOZZI, F., SPRIO, V., PASSANNANTI, S. and MONDELLI, R. (1968) *Gazz. Chim. Ital.* **98** (8–9), 907–910.