

8a,13-Epoxy-14,15-dinorlabd-12-ene (Sclareol Oxide)

[(+)-(4a*R*,6a*S*,10a*S*,10b*R*)-3,4a,7,7,10a-Pentamethyl-4a,5,6,6a,7,8,9,10,10a,10b-decahydro-1*H*-benzo[*f*]chromene]

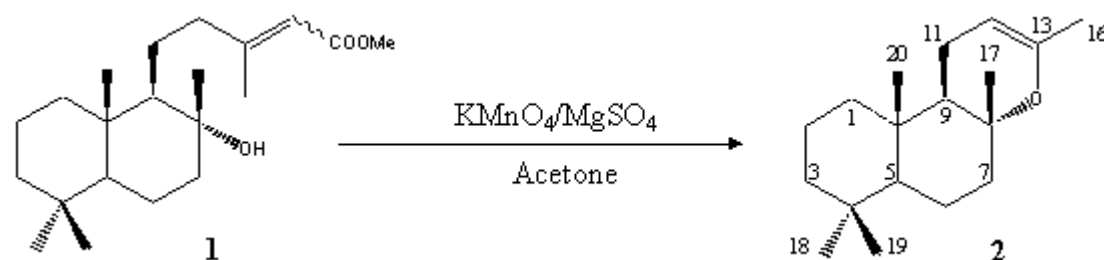
Juan M. Castro, Sofia Salido, Joaquin Altarejos*, Manuel Nogueras and Adolfo Sanchez

Departamento de Química Inorgánica y Orgánica, Facultad de Ciencias Experimentales, Universidad de Jaén, 23071 Jaén, Spain

Tel.: 34-953-002743, fax: 34-953-012141, E-mail: jaltare@ujaen.es

Received: 12 December 2001 / Accepted: 19 September 2002 / Published: 8 March 2003

Keywords: Diterpenes, labdanes, sclareol oxide, cleavage of alkenes, potassium permanganate, cyclic enol ether



To a stirred solution of a mixture of *E/Z* isomers **1** (174 mg, 0.52 mmol, 45:55 ratio) in acetone (8 mL) was added a mixture of KMnO_4 (260 mg, 1.64 mmol) and anhydrous MgSO_4 (230 mg) at 10 °C [1]. After stirring for 10 min the reaction was allowed to warm to room temperature. After 20 min more the crude was filtered over Celite and the clean solution evaporated under reduced pressure to yield a residue which was solved in Et_2O (25 mL). This solution was washed with brine (3×10 mL), dried over anhydrous Na_2SO_4 and the solvent evaporated under reduced pressure to yield a residue (128 mg) which was solved in toluene (10 mL) and distilled in a Dean-Stark trap device for 1 h. The resulting solution was evaporated under reduced pressure to yield the title compound **2** (120 mg, 0.46 mmol, 88%).

Mp: 34.0-36.0 °C (white crystals, from methanol).

$[\alpha]_{\text{D}} = +1.22^\circ$ (c 0.95 $\text{cg} \cdot \text{mL}^{-1}$, CHCl_3).

IR (neat, cm^{-1}): 3054, 1683 (C=C), 1127 (C-O-C).

^1H NMR (300 MHz, CDCl_3 , d, ppm): 0.82 (6H, s, $\text{Me}_{\text{b-4}}$, Me_{10}), 0.88 (3H, s, $\text{Me}_{\text{a-4}}$), 1.16 (3H, s, Me_{8}), 1.68 (3H, br s, Me_{13}), 0.89-1.85 (13H, m, H-1,2,3,5,6,7a,9,11), 1.94 (1H, dt, $J=12.3$ Hz, 3.2 Hz, $\text{H}_{\text{b-7}}$), 4.43 (1H, br s, H-12).

^{13}C NMR (75 MHz, CDCl_3 , d, ppm): 39.29 (C-1), 18.56 (C-2), 41.91 (C-3), 33.14 (C-4), 56.17 (C-5), 19.74 (C-6), 41.12 (C-7), 76.17 (C-8), 52.43 (C-9), 36.66 (C-10), 18.26 (C-11), 94.54 (C-12), 147.83 (C-13), 20.43 (C-16), 20.07 (C-17), 33.43 (C-18), 21.55 (C-19), 15.00 (C-20).

Acknowledgements: We wish to thank the Junta de Andalucía for financial support and the Ministerio de Educación, Cultura y Deporte for a Fellowship to J. M. Castro.

References and Notes

1. Leite, M. A. F.; Sarragiotto, M. H.; Imamura, P. M.; Marsaioli, A. J. Absolute Configuration of Drim-9(11)-en-8-ol from *Aspergillus oryzae*. *J. Org. Chem.* **1986**, *51*, 5409-5410.

Sample availability: Available from the authors and from MDPI

© 2003 [MDPI](http://www.mdpi.org). All rights reserved.