

2715 (Diterpene)

Name: Laurenditerpenol {3-Methyl-6-[1-methyl-3-(1,3,4-trimethyl-7-oxa-bicyclo[2.2.1]hept-2-yl)-propyl]-cyclohex-2-enol}

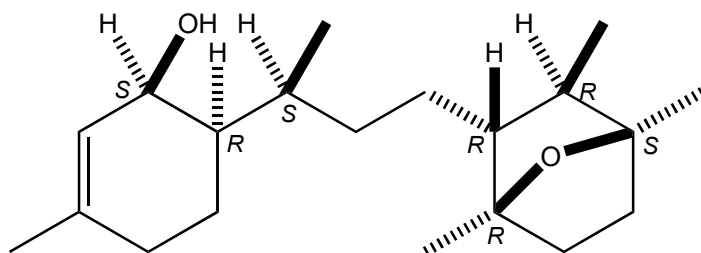
Origin: *Laurencia intricata* (Discovery Bay, Jamaica)⁽¹⁾;

Formula: C₂₀H₃₄O₂

Mol. Wt.: 306.48

Opt. Rot.: [α]_D²⁶ -155.82 (CHCl₃)

Mp.: Oil



References and Notes

(1) Mohammed, K. A., Hossain, C. F., Zhang, L., Bruick, R. K., Zhou, Y.-D., and Nagle, D. G. 2004. *J. Nat. Prod.*, **67**, 2002-2007. Laurenditerpenol, a new diterpene from the tropical marine alga *Laurencia intricata* that potently inhibits HIF-1 mediated hypoxic signaling in breast tumor cell.

(UV, IR, ¹H-NMR, ¹³C-NMR)

(2) **Absolute configuration by total synthesis**; Chittiboyina, A. G., Kumar, G. M., Carvalho, P. B., Liu, Y., Zhou, Y.-D., Nagle, D. G., and Avery, M. A. 2007. *J. Med. Chem.*, **50**, 6299-6302. Total synthesis and absolute configuration of laurenditerpenol: a hypoxia inducible factor-1 activation inhibitor.

(3) **Synthesis**; (a) Chittiboyina, A. G., Peddikotla, P., Avery, M. A., and Khan, I. A. 2013. *J. Org. Chem.*, **78**, 9223-9232. Directed hydrogenation of acyclic homoallylic alcohols: enantioselective syntheses of (+) and (-)-laurenditerpenol. (b) Pitsinos, E. N., Athinalos, N., and Vidali, V. P. 2012. *Org. Lett.*, **14**, 4666-4669. Enantioselective total synthesis of (-)-laurenditerpenol. (c) Mukherjee, S., Scopton, A. P., and Corey, E. J. 2010. *Org. Lett.*, **12**, 1836-1838. Enantioselective pathway for the synthesis of laurenditerpenol. (d) Jung, M. E. and Im, G.-Y. J. 2009. *J. Org. Chem.*, **74**, 8739-8753. Total synthesis of racemic laurenditerpenol, an HIF-1 inhibitor. (e) Jung, M. E. and Im, G.-Y. J. 2008. *Tetrahedron Lett.*, **49**, 4962-4964. Convergent total synthesis of the racemic HIF-1 inhibitor laurenditerpenol.