

4314 (C15 acetogenin)

Name: Isolaurepinnacin

{2-(1-Bromo-propyl)-7-(1-chloro-hex-3-en-5-ynyl)-
2,3,6,7-tetrahydro-oxepine}

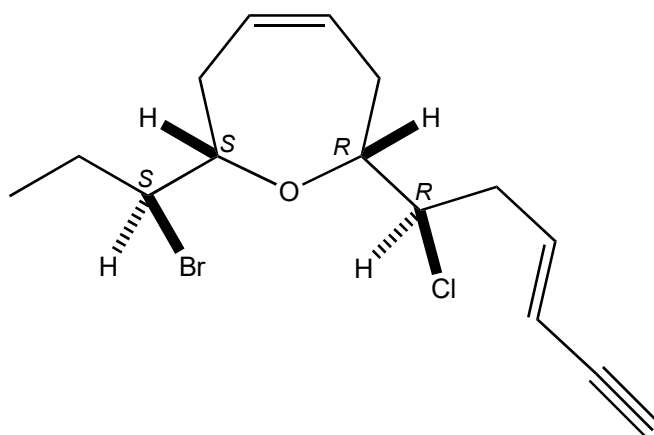
Origin: *Laurencia pinnata* (Motsuta point, Hokkaido, Japan)⁽¹⁾⁽²⁾;

Formula: C₁₅H₂₀BrClO

Mol. Wt.: 331.68

Opt. Rot.: [α]_D -6.2 (CHCl₃)⁽¹⁾; [α]_D²³ +0.6 (CHCl₃)^(2b); [α]_D²⁵ +0.67 (CHCl₃)^(2d)

Mp.: Oil



References and Notes

(1) Fukuzawa, A. and Masamune, T. 1981. *Tetrahedron Lett.*, **22**, 4081-4084. Laurepinnacin and isolaurepinnacin, new acetylenic cyclic ethers from the marine red alga *Laurencia pinnata* Yamada. (¹H-NMR, ¹³C-NMR) (together with laurepinnacin, [isolaurepinnacin](#))

(2) **Total synthesis of (+)-isolaurepinnacin (the rotation should be revised to be dextrorotatory);**

(a) Berger, D., Overman, L. E., and Renhowe, P. A. 1993. *J. Am. Chem. Soc.*, **115**, 9305-9306.

Enantioselective total synthesis of (+)-isolaurepinnacin.; (b) Berger, D., Overman, L. E., and Renhowe, P. A. 1997. *J. Am. Chem. Soc.*, **119**, 2446-2452. Total synthesis of (+)-isolaurepinnacin. Use of acetal-alkene cyclizations to prepare highly functionalized seven-membered cyclic ether.;

(c) Suzuki, T., Matsumura, R., Oku, K., Taguchi, K., Hagiwara, H., Hoshi, T., and Ando, M. 2001. *Tetrahedron Lett.*, **42**, 65-67. Formal synthesis of (+)-isolaurepinnacin.;

(d) Sinka, V., Cruz, D. A., Martin, V. S., and Padron, J. I. 2022. *Org. Lett.*, **24**, 5271-5275. Shortest enantioselective total syntheses of (+)-isolaurepinnacin and (+)-neoisoprelaurefucin.