

4439 (C15 acetogenin)

Name: Prelaureatin

{8-(1-Bromo-propyl)-2-pent-2-en-4-ynyl-3,4,7,8-tetrahydro-2*H*-oxocin-3-ol}

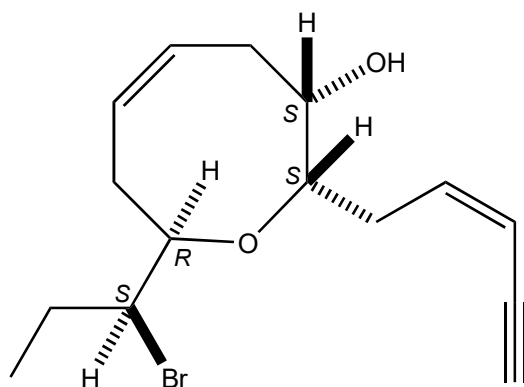
Origin: *Laurencia nipponica* (Hokkaido, Japan)⁽¹⁾;

Formula: C₁₅H₂₁BrO₂

Mol. Wt.: 313.23

Opt. Rot.: [α]_D²³ +75.8 (CHCl₃)

Mp.: Oil



References and Notes

- (1) Fukuzawa, A, Takasugi, Y., and Murai, A. 1991. *Tetrahedron Lett.*, **32**, 5597-5598. Prelaureatin, a new biogenetic key intermediate isolated from *Laurencia nipponica*. (UV, IR, ¹H-NMR)
- (2) **Conversion of prelaureatin into laurallene**; Ishihara, J., Shimada, Y., Kanoh, N., Takasugi, Y., Fukuzawa, A., and Murai, A. 1997. *Tetrahedron*, **53**, 8371-8382. Conversion of prelaureatin into laurallene, a bromo-allene compound, by enzymatic and chemical bromo-etherification reactions.
- (3) **Synthesis**; (a) Crimmins, M. T. and Tabet, E. A. 2000. *J. Am. Chem. Soc.*, **122**, 5473-5476. Total synthesis of (+)-prelaureatin and (+)-laurallene.; (b) Fujiwara, K., Souma, S., Mishima, H., and Murai, A. 2002. *Synlett*, **2002**, 1493-1495. Total synthesis of prelaureatin.; (c) Sasaki, M., Oyamada, K., and Takeda, K. 2010. *J. Org. Chem.*, **75**, 3941-3943. Formal total syntheses of (+)-prelaureatin and (+)-laurallene by diastereoselective Brook rearrangement-mediated [3+4] annulation.; (d) Zhang, Y.-A., Yaw, N., and Snyder, S. A. 2019. *J. Am. Chem. Soc.*, **141**, 7776-7788. General synthetic approach for the *Laurencia* family of natural products empowered by a potentially biomimetic ring expansion.