

## 4719 (C15 acetogenin)

Name: Laurallene = Epilaurallene

{2-(3-Bromo-propa-1,2-dienyl)-5-(1-bromo-propyl)-  
3,3a,5,6,9,9a-hexahydro-2*H*-furo[3,2-*b*]oxocine}

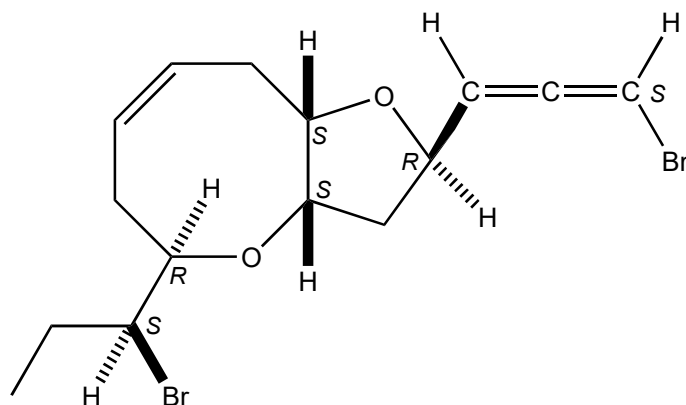
Origin: *Laurencia nipponica* (Oshoro Bay, Hokkaido, Japan)<sup>(1)</sup>;

Formula: C<sub>15</sub>H<sub>20</sub>Br<sub>2</sub>O<sub>2</sub>

Mol. Wt.: 392.13

Opt. Rot.: [α]<sub>D</sub><sup>25</sup> +173.6 (CHCl<sub>3</sub>)

Mp.: 53-54



### References and Notes

- (1) Fukuzawa, A. and Kurosawa, E. 1979. *Tetrahedron Lett.*, **20**, 2797-2800. Laurallene, new bromoallene from the marine red alga *Laurencia nipponica* Yamada. (IR, <sup>1</sup>H-NMR, <sup>13</sup>C-NMR)
- (2) **Epilaurallene**; Suzuki, M., Koizumi, K., Kikuchi, H., Suzuki, T., and Kurosawa, E. 1983. *Bull. Chem. Soc. Jpn.*, **56**, 715-718. Epilaurallene, a new nonterpenoid C<sub>15</sub>-bromoallene from the red alga *Laurencia nipponica* Yamada. (IR, <sup>1</sup>H-NMR, <sup>13</sup>C-NMR, MS)
- (3) **Epilaurallene may be a polymorph of laurallene**; Suzuki, M., Takahashi, Y., Matsuo, Y., and Masuda, M. 1996. *Phytochemistry*, **41**, 1101-1103. Pannosallene, a brominated C<sub>15</sub> nonterpenoid from *Laurencia pannosa*.
- (4) **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.
- (5) **Total synthesis**; (a) Crimmins, M. T. and Tabet, E. A. 2000. *J. Am. Chem. Soc.*, **122**, 5473-5476. Total synthesis of (+)-prelaureatin and (+)-laurallene.; (b) Saitoh, T., Suzuki, T., Sugimoto, M., Hagiwara, H., and Hoshi, T. 2003. *Tetrahedron Lett.*, **44**, 3175-3178. Total synthesis of (+)-laurallene.; (c) Yoshimura, F., Okada, T., and Tanino, K. 2019. *Org. Lett.*, **21**, 559-562. Asymmetric total synthesis of laurallene.; (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.