4727 (C15 acetogenin)

Name: Microcladallene A {3-Bromo-6-(3-bromo-propa-1,2-dienyl)-2-ethyl-2,3,4,4a,6,7,10,10a-octahydro-1,5-dioxa-benzocyclooctene}

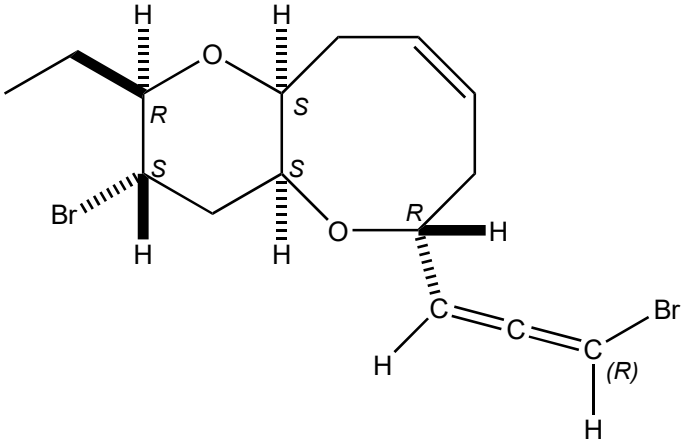
Origin: *Laurencia microcladia* (Cap Ferrat, Mediterranean Sea, France)[(1)];
Laurencia sp. (Bisezaki, Motobu, Okinawa, Japan)[(2)];
Laurencia obtusa (Erbalunga, Corsica, France)[(3)];

Formula: $C_{15}H_{20}Br_2O_2$

Mol. Wt.: 392.13

Opt. Rot.: $[\alpha]_D^{20}$ +114.0 (Me_2CO)[(1)]; $[\alpha]_D^{24}$ +109 ($CHCl_3$)[(2)]

Mp.: 90.5[(1)]; 91[(2)]



References and Notes

(1) Kennedy, D. J., Selby, I. A., Cowe, H. J., Cox, P. J., and Thomson, R. H. 1984. J. Chem. Soc., Chem. Commun., **1984**, 153-155. Bromoallenes from the alga *Laurencia microcladia*.
(**IR, ^{1}H-NMR, ^{13}C-NMR**) (together with microcladallenes A, B, and C)

(2) Suzuki, M., Nakano, S., Takahashi, Y., Abe, T., Masuda, M., Takahashi, H., and Kobayashi, K. 2002. J. Nat. Prod., **65**, 801-804. Brominated labdane-type diterpenoids from an Okinawan *Laurencia* sp.
(**^{1}H-NMR, ^{13}C-NMR**) (together with two labdane diterpenes, 2,10-dibromo-3-chloro-α-chamigrene, microcladallene A)

(3) Esselin, H., Tomi, F., Bighelli, A., and Sutour, S. 2018. Molecules, **23**, 720. New metabolites isolated from a *Laurencia obtusa* population collected in Corsica. (**^{1}H-NMR, ^{13}C-NMR**) (together with 2 new sargonenyne derivatives, sargonenyne, a new rearranged concinndiol, concinndiol, laurene, α-bromocuparene, β-snyderol, microcladallene A)

(4) **Total synthesis**; (a) Sohn, T., Kim, D., and Paton, R. S. 2015. Chem. Eur. J., **21**, 15988-15997. Substrate-controlled asymmetric total syntheses of microcladallenes A, B, and C based on the proposed structures.; (b) 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.