

4442 (C15 acetogenin)

Name: (3*Z*)-Laurenyne {3-Chloro-2-pent-2-en-4-ynyl-8-propenyl-3,4,7,8-tetrahydro-2*H*-oxocine}

Origin: *Laurencia yonaguniensis* (Yonaguni Island, Okinawa Prefecture, Japan)^(1,2);

Laurenciella sp. (along the Sanguinaires Road, Ajaccio, Corsica, France)⁽³⁾;

Laurencia nangii (Plau Tiga, Kuala Penyu, Sabah, Malaysia)⁽⁴⁾;

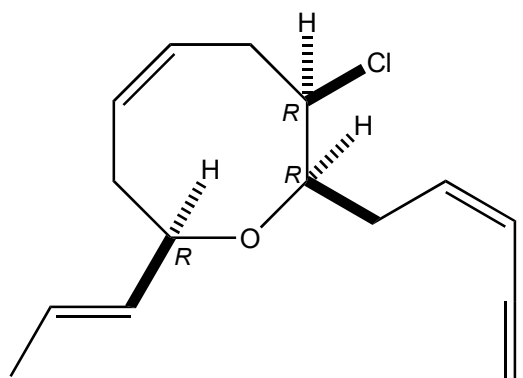
Laurencia nangii (Sulug Island and Manukan Island, Sabah, Malaysia)⁽⁵⁾;

Formula: C₁₅H₁₉ClO

Mol. Wt.: 250.76

Opt. Rot.: [α]_D²⁸ +30.4 (CHCl₃)⁽¹⁾; [α]_D²⁸ +30.4 (CHCl₃)⁽⁴⁾

Mp.: 46-48



References and Notes

(1) Takahashi, Y., Daitoh, M., Suzuki, M., Abe, T., and Masuda, M. 2002. *J. Nat. Prod.*, **65**, 395-398. Halogenated metabolites from the new Okinawan red alga *Laurencia yonaguniensis*.

(IR, ¹H-NMR, ¹³C-NMR, MS)

(2) **Revision of absolute configuration**; Overman, L. E. and Thompson, A. S. 1988. *J. Am. Chem. Soc.*, **110**, 2248-2256. Total synthesis of (-)-laurenyne. Use of acetal-initiated cyclizations to prepare functionalized eight-membered cyclic ether.

(3) Sutour, S., Therrien, B., von Reuss, S. H., and Tomi, F. 2018. *J. Nat. Prod.*, **81**, 279-285. Halogenated C₁₅ acetogenin analogues of obtusallene III from a *Laurenciella* sp. collected in Corsica. (together with 4 obtusallene III derivatives, 1 marilzabicycloallene C derivative, 17 known compounds; (3*E*)-laurenyne (main component), (3*Z*)-laurenyne, obtusallene I, 10-bromoobtusallene I, (*E*)-pinnadifidenyne, obtusin, 4-acetoxymarizallene, marizallene B, α-bromocuparene, α-isobromocuparene, α-snyderol, 1-deacetoxy-8-deoxyalgaone, cycloelatenene A, 9,15-dibromo-1,3(15)-chamigradien-11-ol, etcetera)

(4) Masuda, M., Abe, T., Kogame, K., Kawaguchi, S., Phang, S. M., Daitoh, M., Sakai, T., Takahashi, Y., and Suzuki, M. 2002. *Botanica Marina*, **45**, 571-579. Taxonomic notes on marine algae from Malaysia. VIII. Three species of *Laurencia* (Rhodomelaceae). (together with *cis*-pinnatifidenyne, obtusenyne, (3*Z*)-laurenyne, aplysiadiol)

(5) Vairappan, C. S., Zani, I. I., and Kamada, T. 2014. *J. Appl. Phycol.*, **26**, 1189-1198. Structural diversity and geographical distribution of halogenated secondary metabolites in red algae, *Laurencia nangii* Masuda (Rhodomelaceae, Ceramiales), in the coastal waters of North Bolneo Island. (¹H-NMR, ¹³C-NMR) (together with α-snyderol, (6*S**,10*S**,11*R**)-rearranged snyderol, *Z*-pinnatifidenyne, (3*Z*)-laurenyne, (3*Z*,6*R*,7*R*)-obtusenyne, neoirieone, (-)-angasiol, 11-deacetylpinaterpene)