

3302-1 (Triterpene)

Name: Intricatetraol {1,4-Bis-[5-(4-bromo-5-chloro-1-hydroxy-1,5-dimethyl-hexyl)-2-methyl-tetrahydro-furan-2-yl]-butane-1,4-diol}

Origin: *Laurencia intricata* (Bikuni, Hokkaido, Japan)⁽¹⁾;

Laurencia sp. (Omaezaki, Shizuoka, Japan)⁽²⁾;

Laurencia intricata (Katsuura, Chiba, Japan)⁽³⁾;

Laurencia nangi (Lohok Butun, Sabah, Malaysia)⁽⁴⁾;

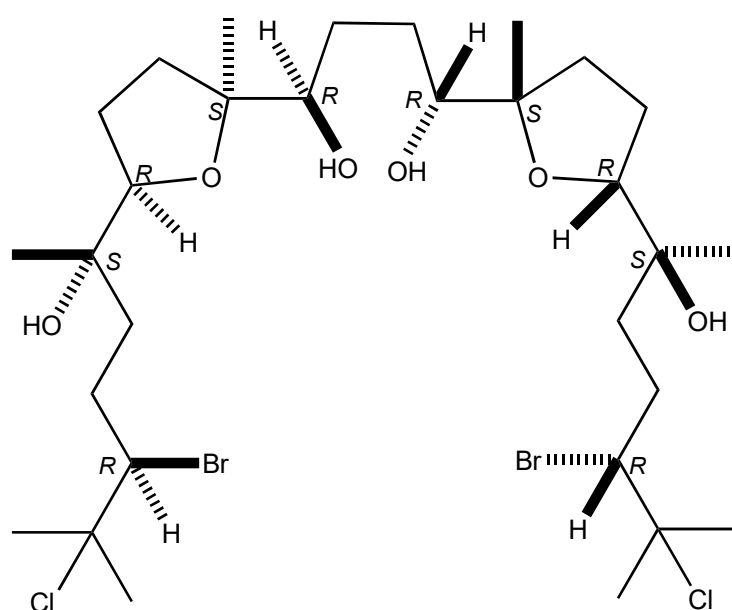
Chondria armata (Hazard Bay, Orpheus Island, Queensland, Australia)⁽⁵⁾;

Formula: C₃₀H₅₄Br₂Cl₂O₆

Mol. Wt.: 741.46

Opt. Rot.: [α]_D²⁰ +53.0 (CHCl₃)⁽¹⁾; [α]_D²⁸ +53.0 (CHCl₃)⁽⁴⁾; [α]_D²² +52.5 (CHCl₃)⁽⁵⁾

Mp.: 109-111⁽¹⁾; Oil⁽³⁾; Oil⁽⁴⁾



References and Notes

(1) Suzuki, M., Matsuo, Y., Takeda, S., and Suzuki, T. 1993. *Phytochemistry*, **33**, 651-656. Intricatetraol, a halogenated triterpene alcohol from the red alga *Laurencia intricata*. (IR, ¹H-NMR, ¹³C-NMR, MS)

(2) Umezawa, T., Oguri, Y., Matsuura, H., Yamazaki, S., Suzuki, M., Yoshimura, E., Furuta, T., Nogata, Y., Serisawa, Y., Matsuyama-Serisawa, K., Abe, T., Matsuda, F., Suzuki, M., and Okino, T. 2014. *Angew. Chem. Int. Ed.*, **53**, 3909-3912. Omaezallene from red alga *Laurencia* sp.: Structure elucidation, total synthesis, and antifouling activity. (IR, ¹H-NMR, ¹³C-NMR, MS) (together with (12Z)-omaezallene, 12,13-dihydroomaezallene, 2,6-dioxabicyclo[3.3.0]octane bromoallene, [intricatetraol](#))

(3) Ishii, T., Shinjo, Y., Miyagi, M., Matsuura, H., Abe, T., Kikuchi, N., and Suzuki, M. 2019. *Rec. Nat. Prod.*, **13**, 81-84. Investigation of insect repellent activity of cyclocolorenone obtained from the red alga *Laurencia intricata*. (¹³C-NMR) (together with zagashimallene, [intricatetraol](#), cyclocolorenone)

(Continue to 3302-2)

3302-2 Intricatetraol (Triterpene)

References and Notes

(Continue from 3302-1)

- (4) (a) 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 Borneo Island. (¹H-NMR, ¹³C-NMR); (b) Kamada, T. and Vairappan, C. S. 2015. *Nat. Prod. Commun.*, **10**, 843-844. New laurene-type sesquiterpene from Bornean *Laurencia nangii*. (together with neolaurene, neolaurallene, 2,10-dibromo-3-chloro-a-chamigrene, deoxyprepacifenol, cycloelatanene, neolaurallene, [intricatetraol](#))
- (5) Ola, A. R. B., Babey, A.-M., Motti, C., and Bowden, B. F. 2010. *Aust. J. Chem.*, **63**, 907-914. Aplysiols C-E, brominated triterpene polyethers from the marine alga *Chondria armata* and a revision of the structure of aplysiol B. (¹H-NMR, ¹³C-NMR) (together with several polyether triterpenes)
- (6) **Synthesis**; (a) Morimoto, Y., Takaishi, M., Adachi, N., Okita, T., and Yata, H. 2006. *Org. Biomol. Chem.*, **4**, 3220-3222. Two-directional synthesis and stereochemical assignment toward a C₂ symmetric oxasqualenoid (+)-intricatetraol.; (b) Morimoto, Y., Okita, T., Takaishi, M., and Tanaka, T. 2007. *Angew. Chem. Int. Ed.*, **46**, 1132-1135. Total synthesis and determination of the absolute configuration of (+)-intricatetraol.; (c) Morimoto, Y. 2008. *Org. Biomol. Chem.*, **6**, 1709-1719. The role of chemical synthesis in structure elucidation of oxasqualenoids.