

Absolute stereostructure of the labdane-type diterpene alcohol from *Alpinia tonkinensis* Gagnep.

Giang P.M., Son P.T., Otsuka H.

Faculty of Chemistry, College of Natural Science, Vietnam National University, 19 Le Thanh Tong, Hanoi, Viet Nam; Grad. School of Biomedical Sciences, Hiroshima University, 1-2-3 Kasumi, Minami-ku, Hiroshima 734-8551, Japan

Abstract: The labdane-type diterpene 15,16-epoxy-8(17),13(16),14-labdatrien-12 ξ -ol (1) was isolated together with 2'-hydroxy-4',6'-dimethoxychalcone and 2,3-dihydro-4',7-di-O-methylkaempferol from the rhizomes of the endemic Vietnamese medicinal plant *Alpinia tonkinensis* Gagnep. (Zingiberaceae). Although both diastereomers of the furanolabdane alcohol 1 provided by the chiral center at the 12-position have already been reported as semisynthetic intermediates, the absolute configuration at the 12-position, which affects the chemical shifts of the 17-exomethylene protons, remains to be clarified. In this study, the natural furanolabdane 1, which possessed the same ^1H - and ^{13}C -NMR spectroscopic data as those of one of the semisynthetic diastereoisomeric pair, was determined to be in the (12S)-form from spectroscopic data and by applying the modified Mosher's method.

Author Keywords: Absolute configuration; *Alpinia tonkinensis*; Labdane-type diterpenoid; Modified Mosher's method; Zingiberaceae

Index Keywords: 15,16 epoxy 8(17),13(16),14 labdatrien 12xi ol; 2' hydroxy 4',6' dimethoxychalcone; 2,3 dihydro 4',7 di o methylkaempferol; *Alpinia tonkinensis* extract; diterpene; furanolabdane; plant extract; unclassified drug; *Alpinia tonkinensis*; article; carbon nuclear magnetic resonance; diastereoisomer; drug isolation; drug structure; medicinal plant; nonhuman; proton nuclear magnetic resonance; rhizome; structure analysis; Viet Nam; Zingiberaceae

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Correspondence Address: Otsuka, H.; Grad. School of Biomedical Sciences, Hiroshima University, 1-2-3 Kasumi, Minami-ku, Hiroshima 734-8551, Japan

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Authors with affiliations:

- Giang, P.M., Faculty of Chemistry, College of Natural Science, Vietnam National University, 19 Le Thanh Tong, Hanoi, Viet Nam, Grad. School of Biomedical Sciences, Hiroshima University, 1-2-3 Kasumi, Minami-ku, Hiroshima 734-8551, Japan
- Son, P.T., Faculty of Chemistry, College of Natural Science, Vietnam National University, 19 Le Thanh Tong, Hanoi, Viet Nam
- Otsuka, H., Grad. School of Biomedical Sciences, Hiroshima University, 1-2-3 Kasumi, Minami-ku, Hiroshima 734-8551, Japan

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