

**Publication****Acid-induced rearrangement of epoxygermacranolides: synthesis of furanoheliangolides and cadinanes from nobilin****JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)****ID** 4101751**Author(s)** De Mieri, M.; Smiesko, M.; Ismajili, I.; Kaiser, M.; Hamburger, M.**Author(s) at UniBasel** [Hamburger, Matthias](#) ; [de Mieri, Maria](#) ; [Smiesko, Martin](#) ; [Kaiser, Marcel](#) ;**Year** 2017**Title** Acid-induced rearrangement of epoxygermacranolides: synthesis of furanoheliangolides and cadinanes from nobilin**Journal** Molecules**Volume** 22**Number** 12**Pages / Article-Number** E2252

The acid-induced rearrangement of three epoxyderivatives of nobilin 1, the most abundant sesquiterpene lactone in *Anthemis nobilis* flowers, was investigated. From the 1,10-epoxyderivative 2, furanoheliangolide 5 was obtained, while the 4,5-epoxy group of 3 did not react. Conversely, when the 3-hydroxy function of nobilin was acetylated (12), the 4,5-epoxy derivative did cyclize into cadinanes (15 and 16) under Lewis acid catalysis. The reactivity of the 4,5- and 1,10-epoxy derivatives of nobilin (2 and 3) was compared with that of parthenolide, and rationalized on the basis of quantum chemical calculations. All isolated reaction products were fully characterized by spectroscopic and computational methods, and their in vitro anti-protozoal activity was evaluated. The paper could provide new insights into the biosynthesis of this class of natural products.

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