NEW APPROACHES TO OXIRANE CONTAINING NATURAL PRODUCTS: STEREOSELECTIVE TOTAL SYNTHESIS OF THE ANTITUMOR AGENTS GUMMIFEROL AND DEPUDECIN

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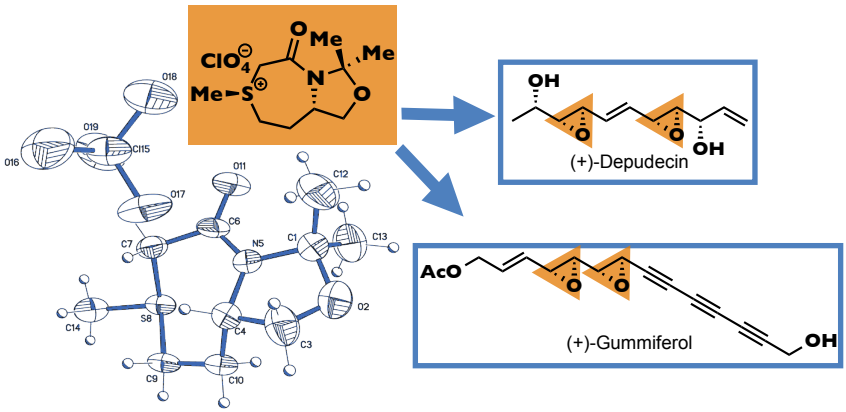
The present work deals with the total synthesis of the natural compounds gummiferol, [1] isolated from the leaves of *Adenia gummifera* and depudecin, [2] isolated from the fungus *Alternaria brassiciola*.

The target molecules, selected in virtue of their prominent antitumor and antiangiogenic activities are featured by the presence of two oxirane rings and have been synthesized by application of a novel methodology of asymmetric epoxidation, based on the use of a new class of chiral sulfur ylides.[3] This strategy has been successfully applied to the synthesis of natural products of biological interest, such as the case of bengamides [4], the cyclodepsidpeptides globomycin and SF-1902 A5 [5], or the sphingoid-type bases clavaminol H, phytosphingosine, sphinganine or sphingosine [6].

The proposed synthetic routes employ cheap and readily available starting materials and additionally provide access to different analogues that may lead to the establishment of SAR studies and the design of potential drug candidates.



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