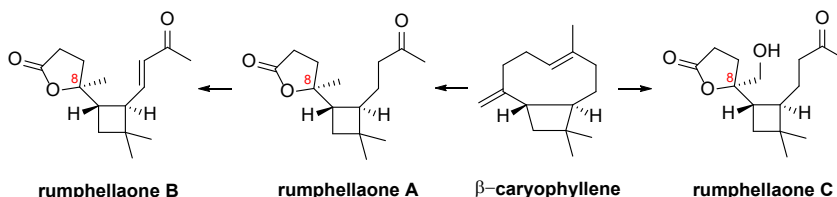


## $\beta$ -Caryophyllene in divergent semisynthesis of rumphellaones A-C

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$\beta$ -Caryophyllene is one of the most accessible sesquiterpenes found in nature and it is available at low price from several commercial sources. The bicyclic structure of  $\beta$ -caryophyllene with condensed *gem*-dimethylcyclobutane and *E*-cyclononene rings combined with two stereodefined chiral centers render this terpene as an attractive renewable source to access diverse high value compounds. The study of chemoselective transformations of  $\beta$ -caryophyllene opened an opportunity to develop a concise semisynthetic route towards biologically active sesquiterpene lactones (rumphellaones A-C and their C-8 epimers). Rumphellaones A-C are 4,5-*seco*-caryophyllane sesquiterpenoids which were isolated from the gorgonian coral *Rumphella antipathies* and display cytotoxicity toward human T-cell lymphoblastic leukemia as well as inhibit the generation of superoxide anions and the release of elastase by human neutrophils. Rumphellaone A was synthesized in the shortest reaction sequence reported whereas rumphellaones B and C were obtained for the first time by chemical synthesis. Absolute configuration of final products was unambiguously confirmed by single crystal X-ray analysis.



## Biography

Georgijs Stakanovs has received his B.Sc. and M.Sc. at Riga Technical University and currently is a PhD student and a research assistant in Latvian Institute of Organic Synthesis. He is a co-author of 3 papers covering topics of novel potential malaria plasmeprin inhibitors as well as development of semisynthesis of natural products.