Category

Synthesis of Natural Products and Potential Drugs

Key words

chlorosulfolipids

olefin metathesis

allylation

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A Synthesis of the Chlorosulfolipid Mytilipin A via a Longest Linear Sequence of Seven Steps
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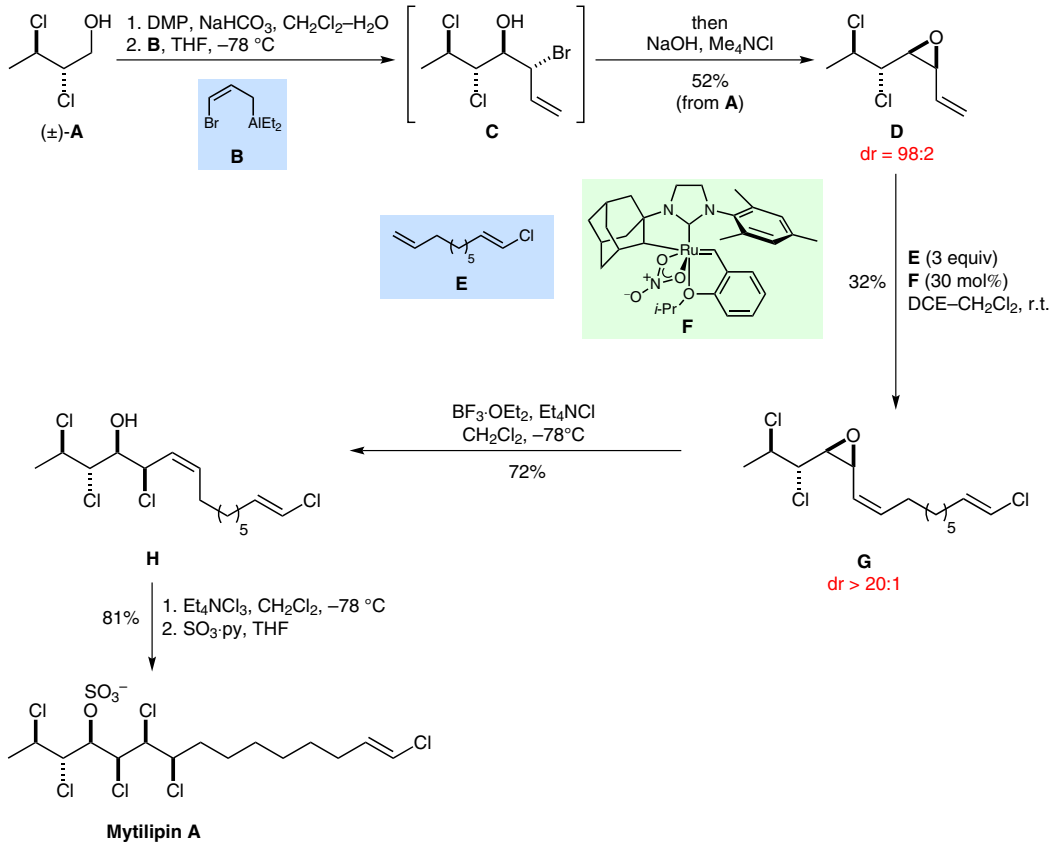
Short Total Synthesis of (±)-Mytilipin A



Significance: Mytilipin A is a member of the chlorosulfolipid family of natural products. It was isolated from the mussel *Mytilus galloprovincialis* and is associated with seafood poisoning. In addition to their previous syntheses of other polychlorinated natural products (*J. Am. Chem. Soc.* **2009**, *131*, 7570; *J. Am. Chem. Soc.* **2010**, *132*, 2542), the authors describe a short access to mytilipin A.

Comment: Dichloroalkohol **A** was oxidized with DMP and the sensitive aldehyde was directly subjected to a highly diastereoselective allylation with **B** to give **D** after basic work-up. *cis*-Selective metathesis with **E** yielded **G** in 30% yield but allowed the synthesis to be finished in only another three steps. In total, (±)-mytilipin A was prepared in seven linear steps and in more than 8% yield. The authors also describe a kinetic resolution of epoxide **D**, so that an enantioselective synthesis is possible with the same route.

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