Total synthesis and structure elucidation of Avicennone C

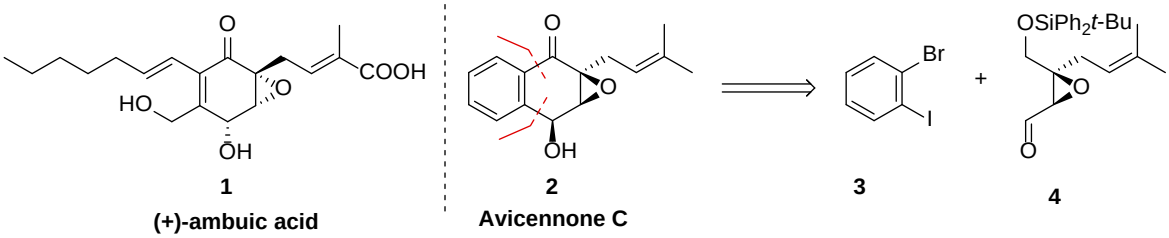
Yolanda Kleiner[1], *Peter Hammann*[2,3], *Jonathan Becker*[4], *Christoph Pöverlein**[,2], *Sören Schuler**[,3]

[1]*Fraunhofer IME, Gießen/Germany;* [2]*Sanofi-Aventis Deutschland GmbH, Frankfurt/Germany;* [3]*Evotec, Göttingen/Germany;*

[4]*Justus-Liebig University, Gießen/Germany*

7-Oxabicyclo[4.1.0]heptanones are complex fragments, which are present in natural products such as (+)-ambuic acid (**1**).[1] During our search for a concise and stereoselective synthetic access to those fragments, the natural product Avicennone C (**2**) attracted our attention.[2] Whilst its isolation from the mangrove tree *Avicennia marina* and its structure elucidation are described, neither any biological activities nor a total synthesis have been published.

In this poster, we will present the total synthesis and structure elucidation of Avicennone C. The synthesis bases on the expoxy aldehyde **4** which can be obtained in both enantiomers by an efficient synthesis from propargylic alcohol in 6 steps.[3] Selective iodine-magnesium exchange of benzene **3**, trapping of the magnesium species with aldehyde **4**, and separation of the isomers gave access to advanced precursors. After simple protecting group manipulations, the final ring closure was achieved palladium-catalysed to obtain Avicennone C after final deprotection.



Scheme 1: Ambuic acid, Avicenone C, Retrosynthesis.

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