

Einladung zum Vortrag von

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**Prof. Bernd Schmidt**

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**“Olefin metathesis based stereoselective total syntheses of polyacetylenes and other natural products”**

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Polyacetylenes are a large and structurally diverse group of natural products containing C-C-triple and double bonds. Most polyacetylenes are secondary plant metabolites and originate biosynthetically from fatty acids. Their occurrence in edible plants has led to some controversy: while some derivatives are highly toxic, others were found to be health promoting, e.g. as antiinflammatory agents. The chemical synthesis of natural products can not only contribute to an understanding of their bioactivity and chemical ecology by closing the supply gap, but also to structure elucidation. For instance, total syntheses starting from ex-chiral pool compounds with reliably assigned absolute configurations can assist in the determination, confirmation or revision of absolute and relative configurations of natural products. In this contribution we propose a revision of the absolute configurations assigned to novel polyacetylenes recently isolated from the flowering medicinal plant *Atractylodes macrocephala* through a bioactivity guided approach. These natural products, named atractylodemaynes, share an *E,Z,E*-configured diene-diyne-ene moiety. We synthesized several atractylodemaynes using, as key steps (i) a novel ester-tethered RCM, (ii) a carbonyl-to-alkyne homologation and (iii) a Pd/Cu-catalyzed Cadiot-Chodkiewicz coupling. In addition, total syntheses of naturally occurring ten-membered lactones, so-called decanolides, will be discussed. These syntheses also led to structural revisions.

Donnerstag, 1. März 2018, 14:30 Uhr  
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