Conference abstract PO-25

Synthesis of Deuterated Analogs of Honokiol

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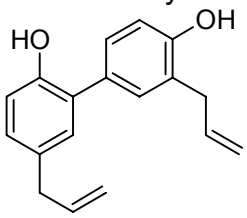
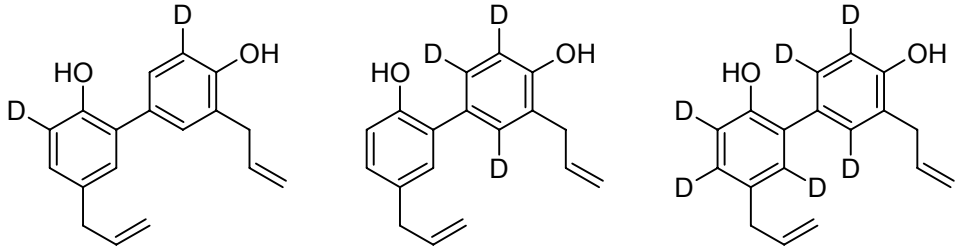
The genus Magnolia plays a role in American as well as in Asian medicinal systems such as TCM or Japanese Kampo medicine [1, 2]. Main lignan constituents in the seeds of the north american Magnolia grandiflora are honokiol (1) and 4'-*O*-methyl-honokiol. They are known to possess anti-inflammatory activities with COX-2 inhibitory activity (IC_{50}) of about 0.1 to 3 µM.



1

From previous animal experiments, it was known that honokiol is nearly totally transformed after one single liver passage [3]. Hence, we prepared in a total synthetic manner three deuterated honokiol derivatives, which differ in number and position of the deuterium atoms.



These substances will be used in further pharmacological studies to ease further improvement of bioactive agents based on the honokiol lead structure.

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[1] Schühly W, Khan I, Fischer NH. The ethnomedicinal uses of Magnoliaceae from the southeastern United States as leads in drug discovery. Pharm Biol 2001; 39; 63–69. doi:10.1076/phbi.39.7.63.5874
[2] Sarker SD, Maruyama Y (Eds). The genus Magnolia: Medicinal and Aromatic Plants – Industrial Profiles. London: Taylor & Francis, 2002.
[3] Unpublished data by Prof. W. Jäger, Department of Pharmacology, University of Vienna, Austria.