Neolignans from *Callistemon lanceolatus*

S Rattanaburi, W Mahabusarakam, S Phongpaichit, AR Carroll. Phytochemistry Letters 5 (1), 18-21

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Asymmetric Deoxygenative Difunctionalization of 1,2-Dicarbonyl Compounds Enabled by Phosphinite and Chiral Salen-Molybdenum Catalyst Synergy

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Yi-Zhe Yu and Jiang-Tao Li contributed equally to this work.

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ABSTRACT

The 2-aryl benzofuran-3-ones serve as pivotal scaffolds in natural products and bioactive molecules, yet their synthesis and subsequent asymmetric functionalization are hindered by multi-step protocols and the lability of their derivatives lacking electron-rich substituents on the aromatic ring of benzofuran-3-one core. Herein, we report a phosphinite-mediated, Mo-catalyzed intermolecular asymmetric deoxygenative coupling reaction between 1,2-dicarbonyl compounds and 3-(methoxymethyl)indoles, thus providing a series of chiral 2-aryl benzofuran-3-ones with a chiral quaternary carbon center with generally good yields and enantioselectivities. Mechanistic studies reveal that phosphinite and the Mo-complex synergistically promote the in situ generation of key intermediates ... serves as the key species gove... the application of chiral sale... ...e to valuable chiral benzofuranone derivatives.

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Biomedical Chromatography / Volume 40, Issue 6 / e70464

RESEARCH ARTICLE

Enhance Uric Acid–Lowering Activity of *Astragalus membranaceus* via Gut Microbiota Biotransformation: Correlation of Chemical Composition With Efficacy

Zhizi Qu, Xiaoni Kong, Jiaxin Xv, Meichao Cai, Honglei Zhou

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Zhizi Qu and Xiaoni Kong contributed equally to this work.

PDF

ABSTRACT

Hyperuricemia is a common metabolic disorder associated with gout, renal dysfunction, and cardiovascular complications. Although *Astragalus membranaceus* has long been used in traditional medicine, the influence of gut microbiota biotransformation on its potential urate-lowering activity remains unclear. In this study, ethanol and water extracts of *Astragalus membranaceus* were subjected to in vitro fecal microbiota biotransformation, and their xanthine oxidase (XO) inhibitory activities before and after biotransformation were compared. The transformed ethanol extract was further fractionated by solvent partitioning, and the resulting fractions were characterized by UPLC-MS/MS. The results showed that tracts, with a more eviden g the solvent fractions, the ethyl acetate fraction exhibited the strongest inhibitory activity. Chemical profiling tentatively characterized 62 compounds and revealed marked compositional

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