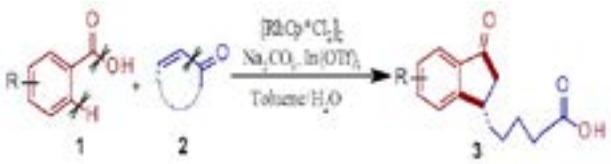
9th European Chemistry Congress

June 17-18, 2019 | Berlin, Germany

Rhodium-catalyzed annelation of benzoic acids with α, β-Unsaturated Ketones with Cleavage of C-H, CO-OH and C-C Bonds

Zhiyong Hu and **Lukas J Gooben**
Ruhr-Universitat Bochum, Germany

In the presence of a $[Cp^*RhCl_2]_2$ catalyst, the Lewis acid $In(OTf)_3$ and the mild base Na_2CO_3, aromatic carboxylates and α, β-unsaturated ketones undergo a unique hydroarylation/Claisen/*retro*-Claisen process to give the corresponding indanones. In this carboxylate-directed *ortho*-C-H annelation, the C-COR bond of the ketone and the CO-OH group of the aromatic carboxylate are cleaved, and the hydroxy group is transferred from the aromatic to the aliphatic acyl residue. This reactivity is synthetically useful, particularly when starting from cyclic ketones, which are converted into indanones bearing aliphatic carboxylate side chains, thus greatly increasing the molecular complexity of aromatic carboxylates in a single step.



Biography

Zhiyong Hu has completed his master degree at the age of 26 years from East China University of Science and Technology in China. During his master studying, he worked at Shanghai Institute Of Organic Chemistry for two years. Now he is a PhD student in Ruhr-Universität Bochum followed by Lukas J. Gooßen as the supervisor.

Zhiyong.Hu@rub.de

Notes: