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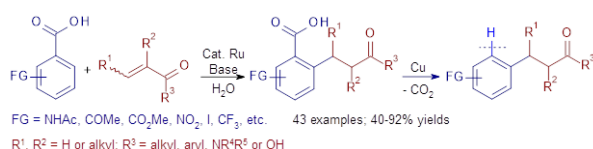
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Regioselective C–H alkylation via carboxylate-directed hydroarylation in water

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In the presence of catalytic $[\text{Ru}(\text{p-cym})\text{Cl}_2]_2$ and using Li_3PO_4 as the base, benzoic acids react with olefins in water to afford the corresponding 2-alkylbenzoic acids in moderate to excellent yields. This C–H alkylation process is generally applicable to diversely substituted electron-rich and electron-deficient benzoic acids, along with α,β -unsaturated olefins including unprotected acrylic acid. The widely available carboxylate directing group can be removed tracelessly or utilized for further derivatization. Mechanistic investigations revealed that the transformation proceeds via a ruthenacycle intermediate.



Biography

Guodong Zhang has completed his Master's degree from Zhengzhou University in China. Currently, he is pursuing his PhD at Ruhr-Universität Bochum, supervised by Lukas J Gooßen.

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