

Our use of CO- Surrogates in Carbonylation Reactions

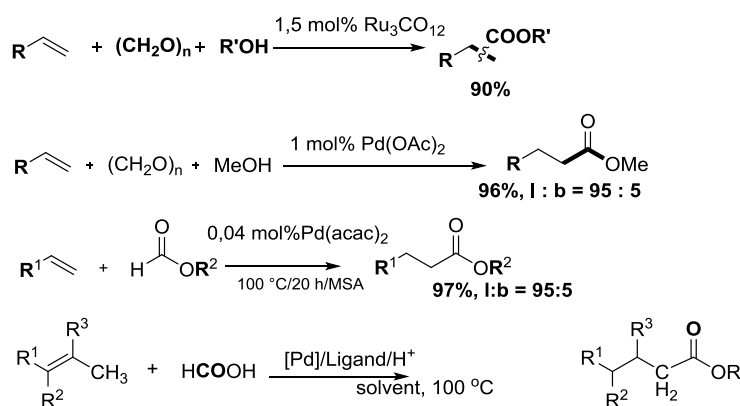
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Abstract:

Carbonylation reactions of alkenes constitute the most important industrial processes in homogeneous catalysis. Despite the tremendous progress in this transformation, the research of advanced catalyst systems to improve their activity and widen the range of feedstocks continues to be essential for new practical applications. Alternatives to CO like CO₂ or formic acid[1], alkylformates, formaldehyde and methanol (produced from CO₂) enlarge the possibilities in the research of academia and in fine chemical industry. Also the application of other (cheaper or non precious metal) catalyst with CO surrogates result in a sustainable production of highly desired products. Here we present recent work in carbonylations with CO₂[2,3], formaldehyde-methanol[4], alkylformates formaldehyde with different metals like Palladium, Ruthenium, and additionally the hydrogenation reactions of CO₂ to CO surrogates with iron and cobalt[5] catalysts.



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