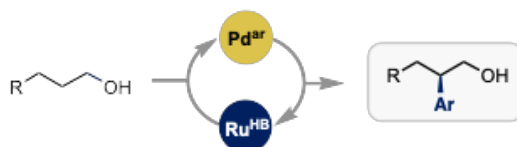


Enantioselective beta-arylation of alcohols via a multicatalytic relayB. Lainer¹, P. Dydio^{1*}¹University of Strasbourg

Alcohols are omnipresent functional groups in many functional fine chemicals, such as pharmaceuticals and agrochemicals. Hence, methods enabling their regio- and stereoselective synthesis and diversification are highly sought after. [1] Inspired by the capacity of multicatalytic systems, [2] our group has recently developed a direct method for the challenging beta-regioselective arylation of alcohols.[3] However, the enantiocontrol of the reaction remained elusive, thereby limiting its utility in the practical synthesis of fine chemicals.



Here, I will present our studies on the development of an efficient protocol allowing for the direct enantioselective beta-arylation of alcohols. Merging the so-called dynamic kinetic resolution (DKR) strategy with the multicatalytic relay system enabled the formation of enantioenriched beta-arylated alcohols. The mild conditions allow for a broad substrate scope, high functional group tolerance, and high enantioselectivity of the transformations, establishing a robust reliable synthetic protocol. In a broader context, this study demonstrates the potential of leveraging multicatalytic relays to execute the transformations that remain elusive with conventional catalytic strategies.

[1] Bruno Lainer, Kuhali Das and Pawel Dydio, *Chem. Commun.*, **2023**, DOI: 10.1039/D3CC00551H.

[2] Sebastian Martinez, Lukas Veth, Bruno Lainer and Pawel Dydio, *ACS Catal.*, **2021**, 22, 3891-3915.

[3] Dawid Lichosyt, Yang Zhang, Karolina Hurej and Pawel Dydio, *Nat. Catal.*, **2019**, 2, 114-122.