



Einladung zum Vortrag von

Prof. Lukas J. Gooßen

Ruhr-Universität Bochum, Deutschland

***Inventing Reactions - Catalytic activation of C-C, C-O,
C-N, and C-H bonds***

Since our initial report in 2006, decarboxylative coupling reactions, i.e. reactions in which C–C bonds to carboxylate groups are cleaved with formation of new carbon–carbon bonds, have evolved into a powerful synthetic strategy. Their key benefit is that they draw on easily available carboxylic acids rather than expensive organometallic reagents as sources of carbon nucleophiles. Decarboxylative couplings have been utilized e.g. in syntheses of biaryls, vinyl arenes, and aryl ketones. The decarboxylative Chan-Evans-Lam alkoxylation and amination of benzoic acids demonstrates that this reaction concept is applicable also to C–heteroatom bond-forming reactions.

In recent variations of this reaction type, the carboxylate groups are first utilized as directing groups for ortho-C–H functionalizations and then either cleaved tracelessly or used as leaving groups in subsequent ipso-substitution reactions. Carboxyl groups can also function as deciduous directing groups that stay in place just long enough to guide a C–H functionalization step into a specific position and are shed tracelessly as soon as this is accomplished. In all these transformations, the arene substitution pattern of the benzoate substrates is altered in a defined way, further expanding the utility of carboxylates as anchor group for arene functionalizations.

The rational, yet creative process of catalytic method development will be exemplified also by other sustainable C–C and C–heteroatom bond-forming concepts e.g. fluoroalkylations or isomerizing olefin metatheses.

Mittwoch, 8. Mai 2019, 16:15 Uhr
Hörsaal 3 der Fakultät für Chemie
Boltzmanngasse 1, 1090 Wien

Kai Hultsch
Institut für Chemische Katalyse

Veronika Somoza
Vizedekanin

Bernhard Keppler
Dekan

Lothar Brecker
Vizedekan