

“Polyfunctional Organometallics in Organic Synthesis”

Prof. Paul Knochel

Ludwig Maximilians-University of Munich, Germany

The most important methods for preparing polyfunctional organometallics of ecological metals like Li, Na, Mg and Zn will be described. A general relation between metal electronegativity, reactivity of the corresponding organometallic species and functional group compatibility will be demonstrated using a Br/La- and Br/Sm-exchange reaction. The unique compatibility of zinc and magnesium organometallic species with strong Lewis acids will be used for the regioselective functionalization of various heterocycles. New Co-catalyzed diastereoselective cross-couplings and aminations will be reported and the utility of conducting organometallic reactions in a continuous flow mode will also be shown.