Asymmetric Redox-Relay Oxidative Heck Arylations

Selected examples:

Rationalization of stereochemical course:

Significance: The generation of stereogenic centers which are remote to functional groups via carbon–carbon bond formation is currently an interesting topic in organic chemistry. Herein, the authors report a highly efficient palladium-catalyzed oxidative Heck reaction of alkenyl alcohols furnishing optical active aldehydes via a redox-relay process.

SYNFACTS Contributors: Mark Lautens, Marcel Sickert
 Synfacts 2013, 9(7), 0735 Published online: 17.06.2013
 DOI: 10.1055/s-0033-1339213; Reg-No.: L06713SF

Comment: The authors demonstrated that the strategy of the redox-relay process is applicable even on an η-position, for the site-selective and highly enantioselective arylation of alkenyl alcohols. Additionally, preliminary mechanistic investigations are conducted for rationalizing the stereochemical course of the palladium- and copper-catalyzed reaction.