6th International Conference on
Organic & Inorganic Chemistry
August 08-09, 2019 | Amsterdam, Netherlands

Yang Ou
Ruhr-Universität Bochum,
Germany

Pd-catalyzed synthesis of vinyl arenes from aryl halides and acrylic acid

Substituted styrenes are key building blocks in organic synthesis, and are widely used in the manufacturing of fine chemicals and polymers. Moreover, the vinyl group can be used as a hub for further functionalization, for example, by olefin metathesis, carboxylation, (asymmetric) hydrofunctionalization, or heterocycle synthesis. Acrylic acid is presented as an inexpensive, nonvolatile vinylating agent in a palladium-catalyzed decarboxylative vinylation of aryl halides. The reaction proceeds through a Heck reaction of acrylic acid, immediately followed by protodecarboxylation of the cinnamic acid intermediate. The use of the carboxylate group as a deciduous directing group ensures high selectivity for monoarylated products. The vinylation process is generally applicable to diversely substituted substrates. Its utility is shown by the synthesis of drug-like molecules and the gram-scale preparation of key intermediates in drug synthesis.

Biography

Yang Ou studied medicinal chemistry at the Peking University, acquiring his Master's degree in 2015. He is currently working towards his PhD at Ruhr-Universität Bochum under the supervision of Prof. Lukas J. Goossen. His research program is focused on the development of new strategies to access fluorinated molecules and heterocycles.

yang_ou2015@outlook.com