

Transition Metal Catalyzed Borylation of C-H and C-X Bonds: Synthesis of Aryl and Alkyl Boronates

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ABSTRACT

Aryl- and alkylboronate esters are of great importance in synthesis, as substrates for Suzuki-Miyaura coupling, conjugate additions, and conversion to many functional groups. Newer routes to arylboronates include Pd or Ni-catalyzed cross-coupling reactions of alkoxydiboron or alkoxyborane reagents with aryl halides, and more recently, the selective iridium catalyzed C-H-borylation. The lecture will present some of our work on the Ir-catalyzed borylation of aromatic C-H bonds, applications (e.g., to pyrene chemistry), and our recent development of inexpensive, earth abundant Cu and Zn-catalysts for the borylation of aryl- as well as alkyl halides, and Ni-catalysts for the borylation of aryl fluorides.

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