Efficient Pd-Catalyzed Direct Coupling of Aryl Chlorides with Alkyllithium Reagents


Palladium-Catalyzed Cross-Couplings of Alkyllithiums with Aryl Chlorides

Significance: Gessner and co-workers report the palladium-catalyzed cross-coupling of aryl chlorides with alkyllithium reagents under mild conditions in good to excellent yields. Furthermore, gram-scale reactions were performed, demonstrating the scalability of this protocol.

Comment: The authors performed extensive screening and discovered a suitable catalyst based on ylide-substituted phosphines which gave good selectivities combined with high yields, preventing several undesired side-reactions such as homocoupling, isomerization or protodehalogenation. In addition, the catalyst proved to be successful for Kumada type cross-couplings.