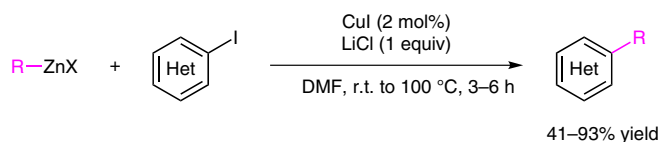


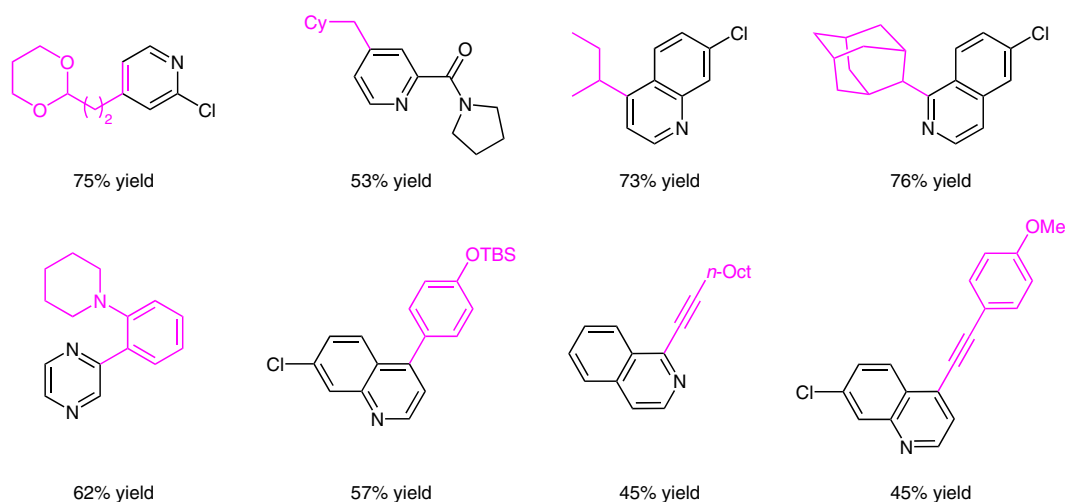
S. THAPA, A. KAFLE, S. K. GURUNG, A. MONTOYA, P. RIEDEL, R. GIRI* (THE UNIVERSITY OF NEW MEXICO, ALBUQUERQUE, USA)
Ligand-Free Copper-Catalyzed Negishi Coupling of Alkyl-, Aryl-, and Alkynylzinc Reagents with Heteroaryl Iodides
Angew. Chem. Int. Ed. **2015**, *54*, 8236–8240.

Ligand-Free Copper-Catalyzed Negishi Cross-Coupling



R = Alk, Ar, alkynyl
X = Br, Cl

Selected examples:



Significance: A ligand-free, copper-catalyzed Negishi cross-coupling of various zinc reagents with heteroaryl iodides affording the desired coupling products in very high yields is reported. The reaction proceeds within three hours at room temperature for alkylzinc reagents; however, higher temperatures are required for coupling with aryl- and alkynylzinc reagents.

Comment: Interestingly, no β -hydride elimination or rearrangement was observed for the coupling with primary, secondary, or tertiary alkylzinc reagents. Moreover, a variety of functional groups are tolerated in this protocol.

SYNFACTS Contributors: Paul Knochel, Diana Haas
Synfacts 2015, 11(8), 0853 Published online: 20.07.2015
DOI: 10.1055/s-0034-1381127; Reg-No.: P08415SF

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Category

Metal-Mediated
Synthesis

Key words

Negishi cross-
coupling

copper

heteroaryls

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of the month

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