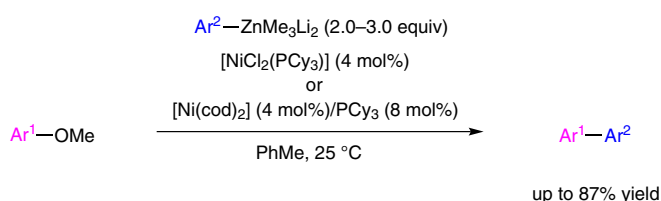


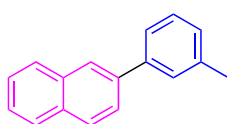
C. WANG,* T. OZAKI, R. TAKITA, M. UCHIYAMA* (RIKEN, ADVANCED SCIENCE INSTITUTE, SAITAMA AND THE UNIVERSITY OF TOKYO, JAPAN)
Aryl Ether as a Negishi Coupling Partner: An Approach for Constructing C–C Bonds under Mild Conditions
Chem. Eur. J. **2012**, *18*, 3482–3485.

Negishi Cross-Coupling Using Aryl Ethers as Coupling Partners

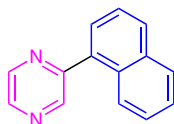


Ar^1 = (substituted) Naph, pyrazyl, pyridyl, 4-CON(*i*-Pr)₂C₆H₄
 Ar^2 = (substituted) Ph, *p*-/*m*-anisyl, *p*-/*o*-/*m*-Tol, biphenyl, Naph

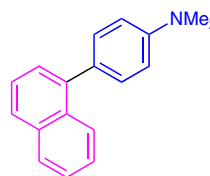
Selected examples:



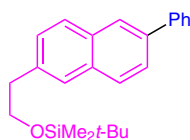
76% yield



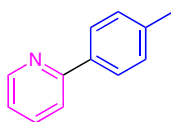
32% yield



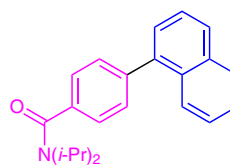
71% yield



67% yield



40% yield



45% yield

Significance: The first nickel-catalyzed cross-coupling of aryl ethers with aromatic zincates via C–O bond cleavage is described. The corresponding biaryls are obtained in moderate to good yields. Electron-rich coupling partners furnish higher product yields than reagents containing electron-withdrawing groups.

Comment: It is noteworthy that, besides the methoxy moiety, this methodology may be extended to ethyl and isopropyl ethers as well. Furthermore, this protocol allows a facile conversion of chiral substrates into the corresponding biaryls without racemization.

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Category

Metal-Mediated
Synthesis

Key words

zinc

nickel

aryl ethers

C–O activation

cross-coupling

SYNFACTS
of the month

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