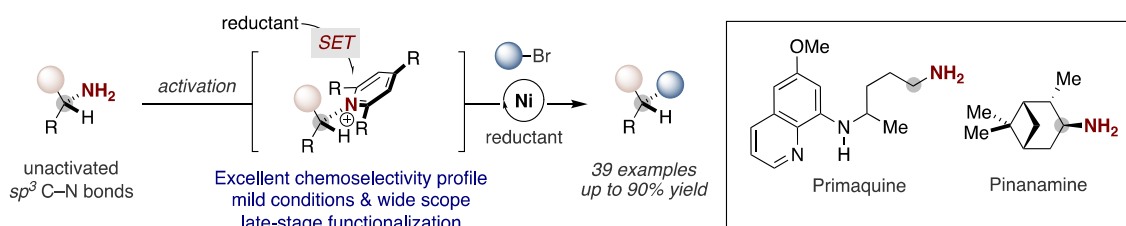


NICKEL CATALYZED REDUCTIVE DEAMINATIVE ARYLATION AT sp^3 CARBON CENTERS

R. Martin-Montero, R. Yatham, H. Yin, J. Davies, R. Martin*

Institute of Chemical Research of Catalonia (ICIQ), The Barcelona Institute of Science and Technology, Av. Països Catalans 16, 43007 Tarragona, Spain. ICREA, Passeig Lluís Companys, 23, 08010 Barcelona, Spain
e-mail: rmartin@iciq.es

Prompted by the ubiquity of aliphatic amines in a myriad of molecules that display biological relevance,¹ chemists have been challenged to design catalytic late-stage functionalization techniques by sp^3 C–N cleavage. As part of our ongoing interest in cross-electrophile coupling reactions and the recent successful implementation of pyrylium salts in cross-coupling reactions with well-defined organometallic reagents,^{2,3} we present herein a methodology for forging C–C bonds via sp^3 C–N cleavage of simple aliphatic amines with aryl halides. The protocol exhibits broad applicability with a diverse set of substitution patterns on both aryl and amine counterparts, even in the context of late-stage functionalization of advanced synthetic intermediates



[1] (a) Ruiz-Castillo, P.; Buchwald, S. L. *Chem. Rev.* **2016**, *116*, 12564. (b) McGrath, N. A.; Brichacek, M.; Njardarson, J. T. J. *Chem. Educ.* **2010**, *87*, 1348.

[2] Serrano, E.; Martin, R.; *Angew. Chem. Int. Ed.* **2016**, *55*, 11207-11211. Börjesson, M.; Moragas, T.; Martin, R. *J. Am. Chem. Soc.* **2016**, *138*, 7504-7507. Sun, S-Z.; Martin, R. *Angew. Chem. Int. Ed.* **2018**, *57*, 3622-3625.

[3] Basch, C. H.; Liao, J.; Xu, J.; Pian, J. J.; Watson, M. P. *J. Am. Chem. Soc.* **2017**, *139*, 5313-5316.