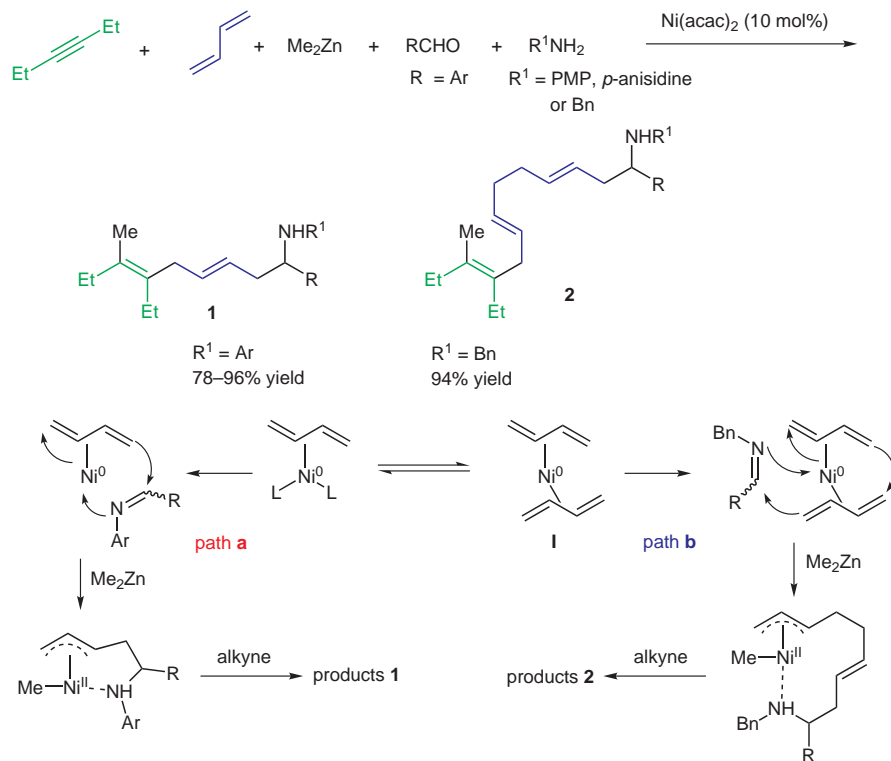


Nickel-Catalyzed Multicomponent Connection



Significance: The authors have devised a multicomponent reaction attaching alkynes, 1,3-butadiene, aldehydes, amines and dimethylzinc through nickel catalysis. Interestingly, the use of aromatic amines and aliphatic amines gives contrasting products with the former giving products incorporating one equivalent of 1,3-butadiene and the latter giving products with incorporation of two equivalents of 1,3-butadiene. Aromatic aldehydes with *o*- or *p*-substituents (electron-donating or -withdrawing) are tolerated and products are obtained with high yield and complete *E/Z* selectivity of the olefins.

Comment: This is a very interesting paper on many levels. The efficient incorporation of five components is fascinating and the complete olefin geometry selectivity is attractive. The difference in reactivity with aliphatic and aromatic amines is also quite interesting and has been reasoned by different mechanistic pathways. The reactive aromatic imines proceed through path **a** to give products **1**. The less reactive aliphatic imines proceed through path **b** involving reactive, but less populated intermediate **I**. We hope that the transformation described in this paper will be extended in future to be a general multicomponent process for acyclic unsaturated systems.