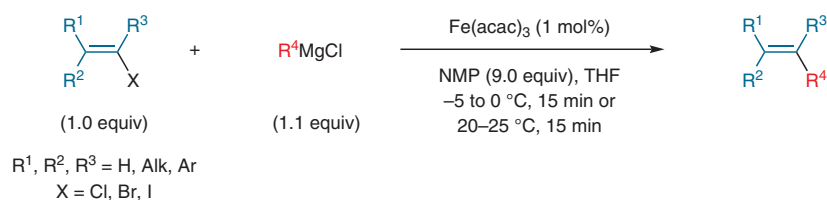
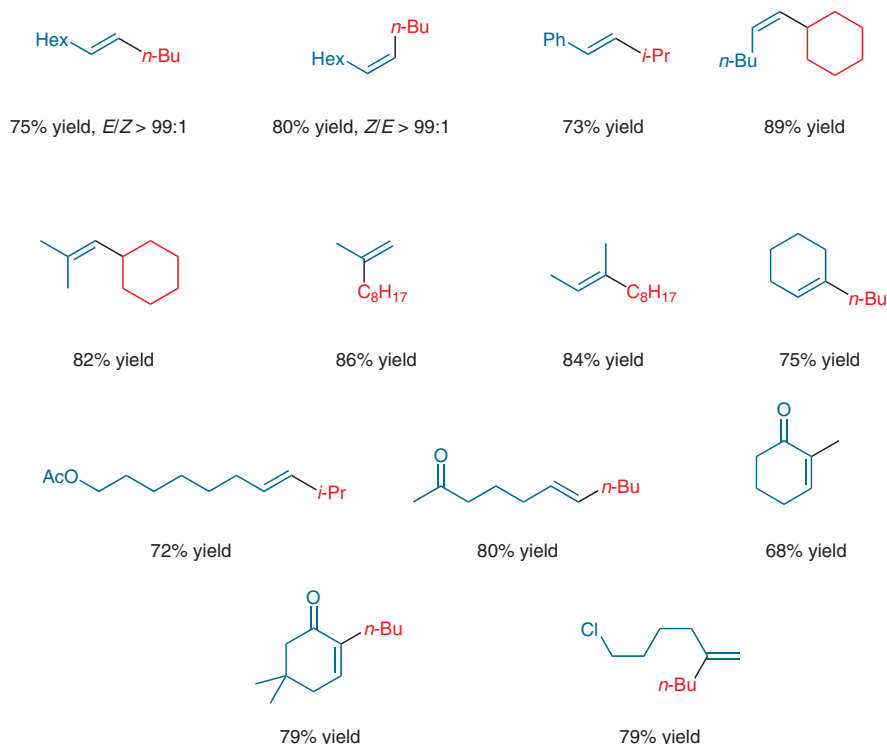


Iron-Catalyzed Alkenylation of Organomagnesium Reagents



Selected examples:



Significance: In 1998, Cahiez and Avedissian reported a general method for the iron-catalyzed cross-coupling between alkenyl halides (halide = Cl, Br, or I) and Grignard reagents in high yields and excellent diastereoselectivities (>99:1).

Comment: The approach significantly improved the cross-coupling between alkenyl halides and Grignard reagents using Fe(acac)_3 as catalyst. Additionally, it was found that the use of a polar co-solvent such as NMP was crucial for the cross-coupling to proceed in excellent yields. Furthermore, functional groups such as ketones were tolerated for the first time in these cross-coupling reactions (see Review below).

Review: C. Bolm, J. Legros, J. Le Paih, L. Zani *Chem. Rev.* **2004**, *104*, 6217–6254.