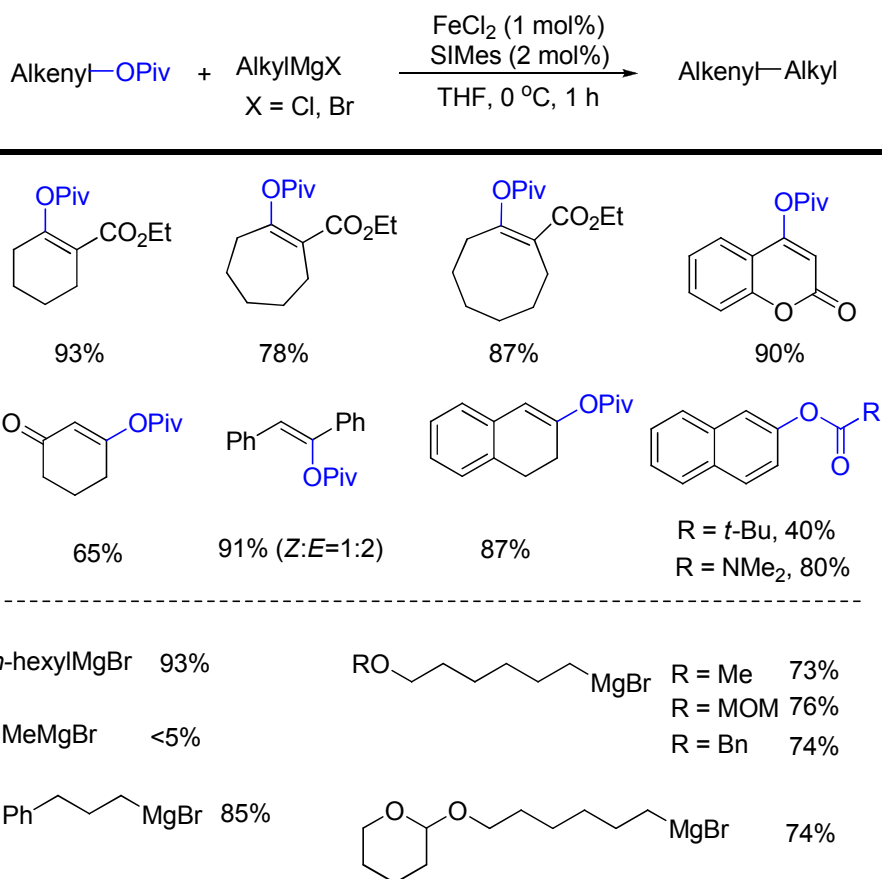


# Cross-coupling of alkenyl/aryl carboxylates with Grignard reagent via Fe-catalyzed C-O bond activation

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Transition-metal-catalyzed cross-coupling reactions are indispensable tools for forging C-C bonds. The search for novel electrophiles and efficient catalysts continues to capture significant interest. Recently, Several groups including our group have developed transition-metal-catalyzed Suzuki and Negishi coupling of aryl/alkenyl carboxylates.<sup>1,2</sup> Compared with traditional cross-coupling reactions of aryl (pseudo)halides, such cross-couplings showed several advantages: (1) aryl/alkenyl carboxylates are easily available and are less expensive than the corresponding halides and sulfonates; (2) they avoid the use of halides which are pollutive to the environment; (3) aryl/alkenyl carboxylates may exhibit orthogonal reactivity to organohalides. However, several problems still remain to be solved such as high catalyst loading and elevated temperature. We reported herein an iron-catalyzed cross-coupling of alkenyl/aryl carboxylates with Grignard reagent which proceeded at mild conditions and low catalyst loading.<sup>3</sup>



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