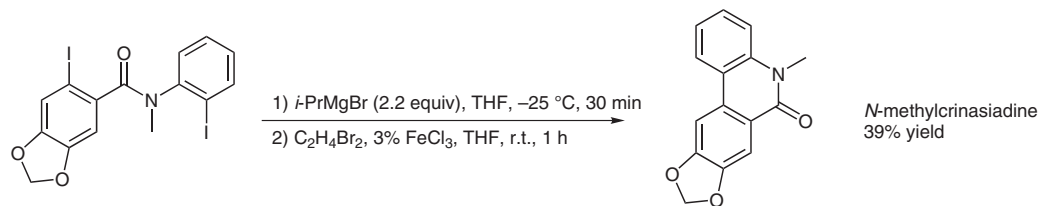
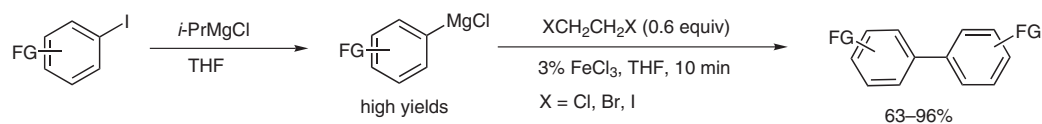


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Iron-Catalyzed Homo-Coupling of Simple and Functionalized Arylmagnesium Reagents

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Iron-Catalyzed Homo-Coupling of Arylmagnesium Reagents



Significance: A very simple and convenient method for preparation of symmetrical biaryls and bis-heteroaryls from corresponding aryl- and hetaryl halides. Various functionalized Grignard reagents can be used in the reaction. The intramolecular variant allows synthesizing interesting polycyclic systems.

Comment: The preparation of functionalized arylmagnesium compounds can be readily performed by using a halogen-magnesium exchange reaction (see, for example: A. Krasovskiy, P. Knochel *Angew. Chem. Int. Ed.* **2004**, *43*, 3333-3336) and references cited therein). There was still a need for a simple, cheap and reliable method for the homo-coupling of the highly functionalized aryl Grignard reagents. Use of FeCl₃ as a catalyst makes it also environmentally friendly and convenient for large scale synthesis.

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