H. XU, C. WOLF* (GEORGETOWN UNIVERSITY, WASHINGTON, USA) Efficient Copper-Catalyzed Coupling of Aryl Chlorides, Bromides and Iodides with Aqueous Ammonia *Chem. Commun.* **2009**, 3035-3037.

Copper(I)-Catalyzed Amination of Aryl Halides with Aqueous Ammonia



Significance: This new amination method has many advantages: It is operationally simple, utilizes aqueous ammonia which is easy to handle and inexpensive Cu₂O as a catalyst. It can be applied to aryl iodides, bromides and chlorides and tolerates a broad range of functionalities. It is highly selective and primary anilines are obtained chemoselectively, thus, without the formation of di- and triarylamines. **Comment:** Noticeably, aryl chlorides react only under microwave irradiation conditions, otherwise no product forms even at 160 °C. Under basic anhydrous conditions (LiNH₂, dioxane), copper(I) oxide leads exclusively to the formation of triaryl-amines. Recently, a copper(II)-NHC catalyst was developed for a similar amination protocol (N. Xia, M. Taillefer *Angew. Chem. Int. Ed.* **2009**, *48*, 337).

Category

Metal-Mediated Synthesis

Key words

amination

aryl halides

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