Category

Synthesis of Materials and Unnatural Products

Key words

C–H amination

N-heterocycles

anilines

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Coupling N–H Deprotonation, C–H Activation, and Oxidation: Metal-Free C(sp^3)–H Aminations with Unprotected Anilines

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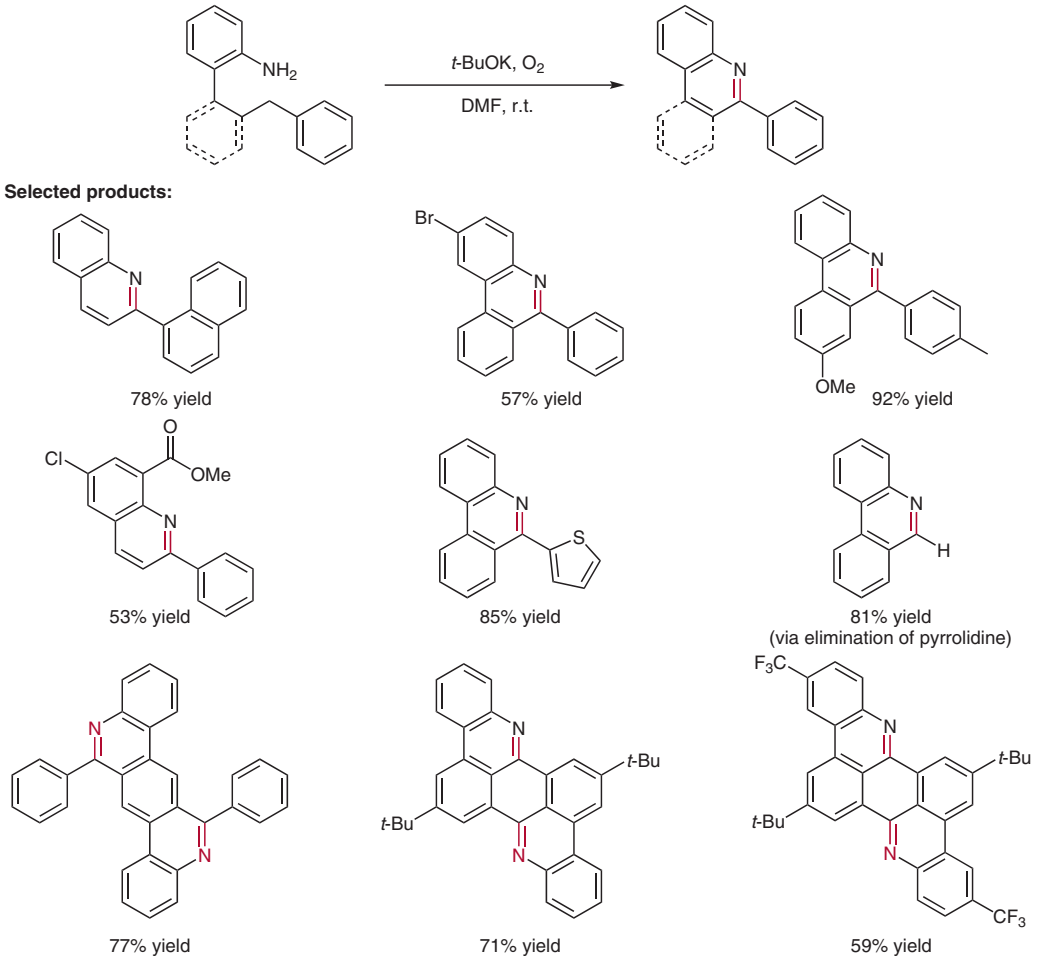
Expanded N-Heterocycles through C(sp^3)–H Amination



Significance: Expanded N-heterocycles are common frameworks in organic materials with conductive and/or emissive properties. The authors disclose an efficient metal-free C(sp^3)–H amination with unprotected anilines.

Comment: This method is applicable to a range of molecular building blocks; both electron-rich and electron-poor substrates are well tolerated. The combination of *t*-BuOK, molecular oxygen and *N*,*N*-dimethylformamide enables an efficient sequence of deprotonation followed by proton and electron transfer. Alabugin and co-workers describe extensive investigations into both the mechanism, and the properties of the largest N-heterocycles.

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