

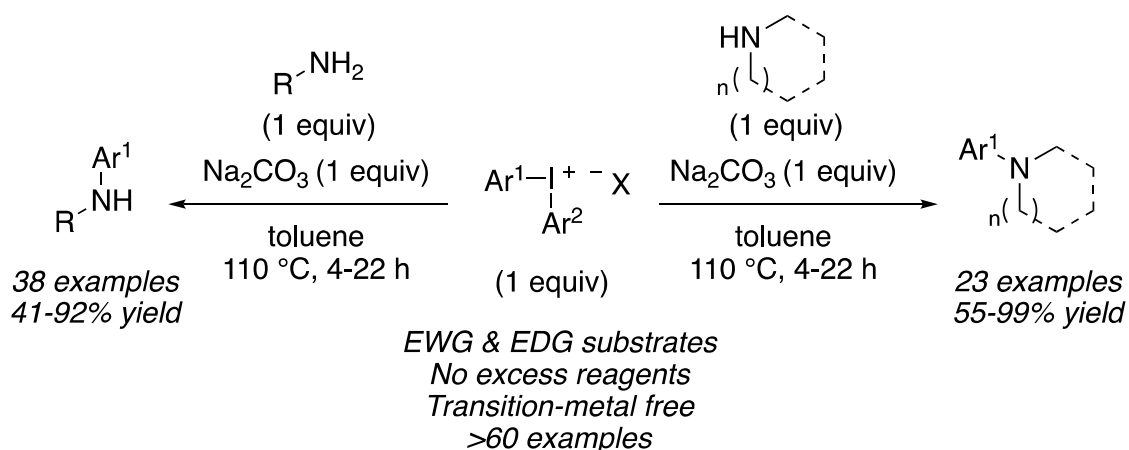
# REGIOSPECIFIC *N*-ARYLATION OF ALIPHATIC AMINES UNDER MILD AND METAL-FREE REACTION CONDITIONS

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Diaryliodonium salts are versatile electrophilic arylating agents that are non-toxic, bench stable, and easily available via one-pot reactions from iodoarenes or arenes.<sup>[1]</sup> They can be applied in a variety of transition metal-free *C*-, *N*-, *O*- and *S*-arylations.<sup>[2]</sup> While the *N*-arylation of amides, anilines and some heterocycles has been reported,<sup>[2-3]</sup> aliphatic amines have been problematic substrates. To date, only the arylation of cyclic, secondary amines with electron deficient diaryliodonium salts has been established.<sup>[4]</sup>

Herein we present an efficient transition-metal free arylation of a wide range of primary and secondary amines with diaryliodonium salts.<sup>[5]</sup> Both acyclic and cyclic amines successfully provided a large set of *N*-alkyl anilines. The reactions are high yielding without excess reagents and diaryliodonium salts with both electron-withdrawing and electron-donating substituents could be employed (Scheme 1).



Scheme 1: *N*-arylation of primary and secondary amines with the aid of diaryliodonium salt and no excess reagents.

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