Cross-dehydrogenative C–H Bond Silylation of Aromatic Heterocycles by an Earth-abundant Metal Catalyst

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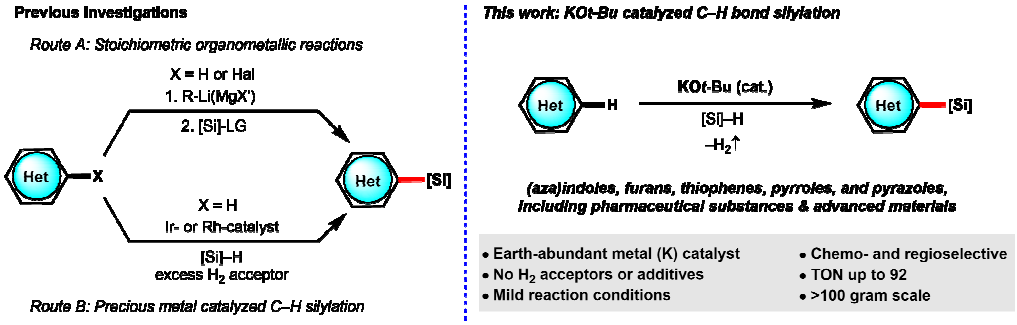
Arylsilanes are of great interest in the fields of organic electronics and photonics, medicinal chemistry, and complex molecule synthesis due to the unique physicochemical features of the aromatic carbon-silicon (C–Si) bond.

We have recently discovered a mild and regioselective C–H bond functionalization of aromatic heterocycles catalysed by a plentiful and inexpensive Earth-abundant metal salt [1]. The method enables the direct silylation of heteroaryl C(sp^2)–H bonds that both obviates the need for expensive precious metal catalysts and overcomes various limitations of previous methods. Applications to materials science and to the late-stage derivatization of pharmaceutical substances will be presented.



[1] Toutov et al. *Nature* **2015**, *518*, 80.