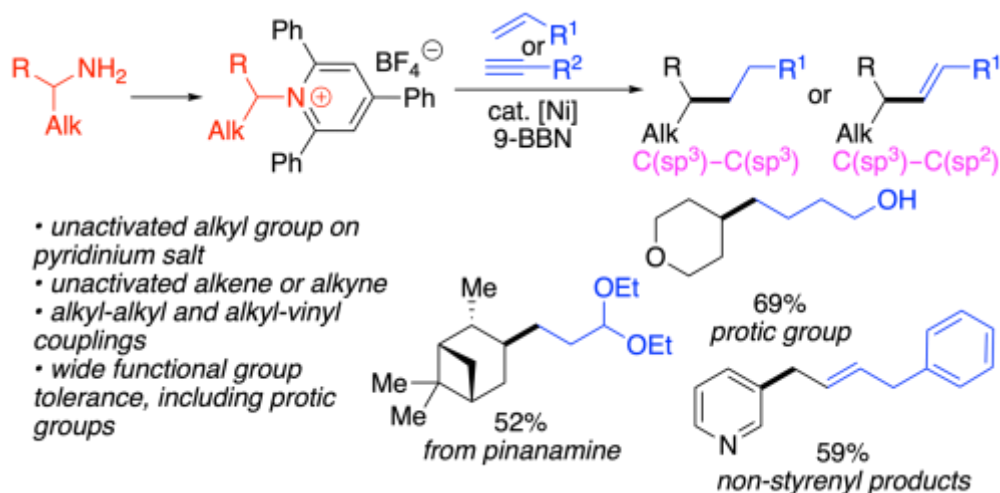


DEAMINATIVE ALKYL-ALKYL CROSS-COUPPLINGS OF ALKYL PYRIDINIUM SALTS AND ALKENES

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Alkyl amines are inexpensive and widely abundant chemicals in organic synthesis, making them attractive substrates for further functionalization. Functionalization via cleavage of the carbon–nitrogen (C–N) bond has recently been discovered as a powerful transformation of these abundant, easily protected alkyl amines. Due to the prevalence of C(sp³)–C(sp³) bonds in bioactive molecules, methods to create alkyl-alkyl bonds have become increasingly desirable. By using High-Throughput Experimentation interfaced with traditional reaction optimization, we have developed a nickel-catalyzed cross-coupling of alkyl pyridinium salts with an alkyl boron species formed in situ from an alkene.¹ The optimization, scope, and mechanistic understanding of these reactions will be presented.



¹ Baker, K. M.; Lucas Baca, D.; Plunkett, S.; Daneker, M. E.; Watson, M. P. *Org. Lett.* **2019**, 21(23), 9738–9741.