

New Broad Scope Catalytic Strategies for Amine and Complex Natural Product Synthesis

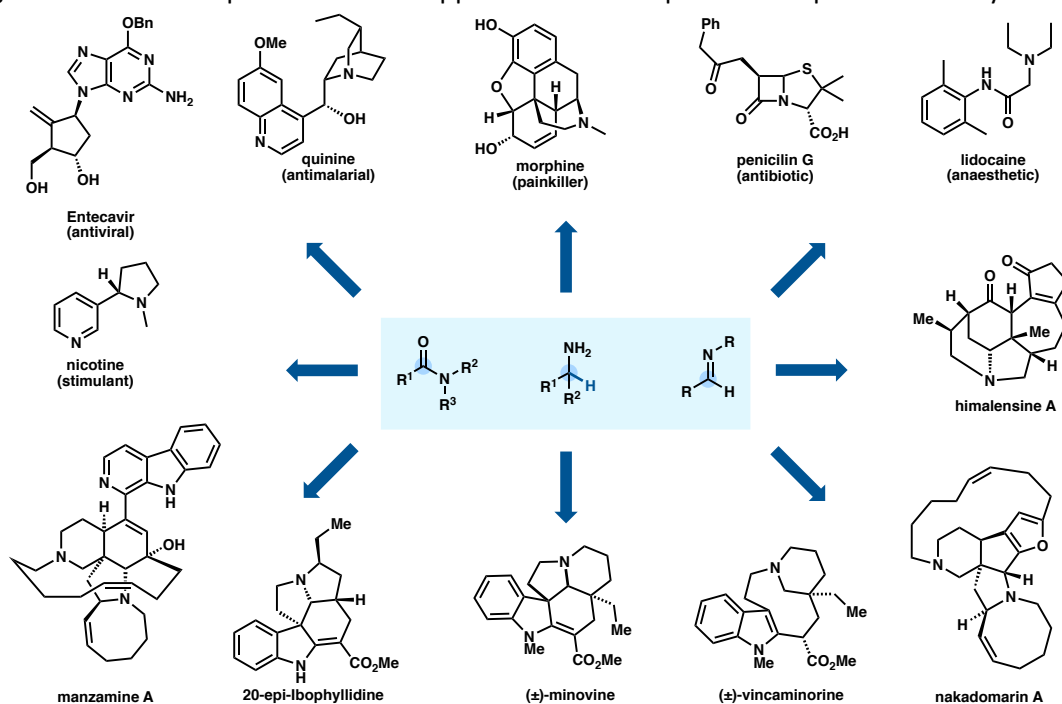
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Amines are fundamental chemical motifs commonly found in molecules of importance to chemistry, biology and medicine. Their Lewis basic properties arising from the lone pair of electrons makes them ideal as ligands for transition metal catalysts and organometallic complexes. In nature they are often found contained within alkaloid secondary metabolites produced by organisms such as bacteria, fungi, and plants. Many of these possess important pharmacological activities some of which are exploited currently in the clinic. With such widespread utility and application, new strategic approaches for their synthesis allowing effective, reliable and broad-scope access would have far-reaching impact across synthetic chemistry and into the biomedical sciences.

In this presentation, new, user-friendly broad scope reductive and oxidative strategies using abundant nitrogen containing monomer sets – including amides, primary amines and imines – as substrates for carbon-carbon bond formation will be described. The presentation will include details of the new synthetic methodologies as well as their provenance and applications on complex natural product total synthesis. ^[1-5]



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