

ENSCM Chemistry Seminar
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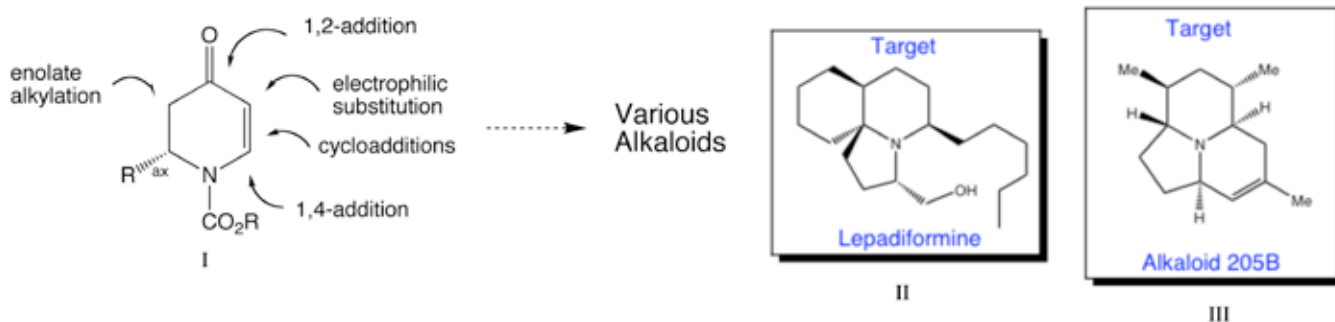
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Concise Asymmetric Synthesis of Alkaloids

Abstract

Over the years, heterocycles have been found to be versatile building blocks for the synthesis of functionalized organic compounds and structures of diverse architecture. In this area of organic synthesis, my research group has contributed by exploring the synthesis and synthetic utility of *N*-acyldihydropyridones of the type **I**.



These heterocycles can be prepared enantiopure and have the potential to be used as precursors to indolizidines, quinolizidines, perhydroquinolines, various substituted piperidines, indole alkaloids, pipercolic acids, benzomorphanes, peptide mimics, novel amino acids, scaffolds for combinatorial chemistry, and ligands for asymmetric synthesis. The importance of nitrogen heterocycles in natural products, biologically active compounds, and synthetic pharmaceuticals continues to drive research in the development of new strategies and methods for their synthesis and stereoselective substitution reactions. Our latest progress toward the total synthesis of alkaloids **II** and **III** using heterocycles **I** as synthetic intermediates will be presented.