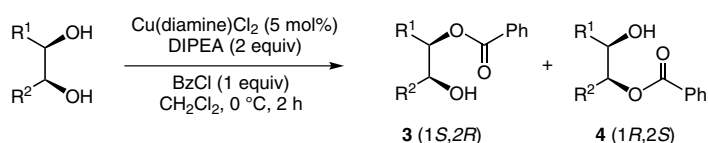
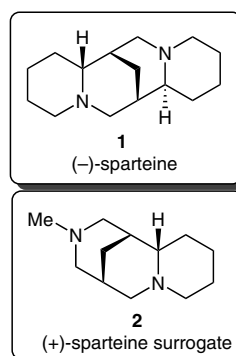
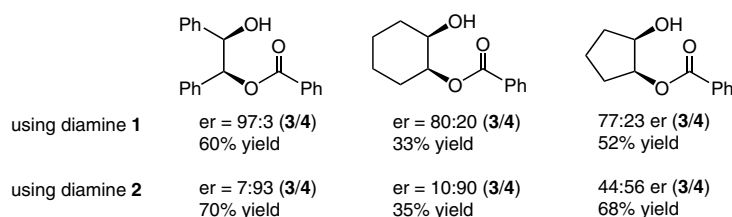


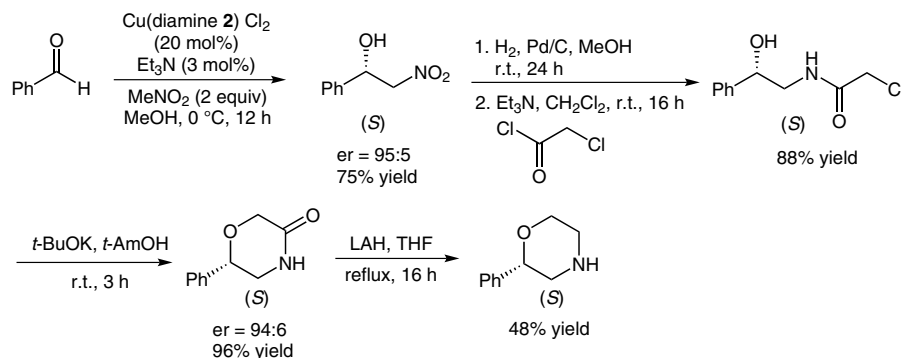
(–)-Sparteine versus (+)-Sparteine Surrogates in Copper(II)–Diamine-Catalyzed Reactions



Selected examples:



Application in the asymmetric Henry reaction, preparation of a chiral morpholine:



Significance: O'Brien and co-workers present an evaluation of copper(II)–diamine complexes comprising (–)-sparteine, (+)-sparteine surrogates, and Alexakis diamine in the desymmetrization of *meso*-diols and asymmetric Henry reaction. One of the nitro alcohol products was utilized in a concise synthesis of a chiral morpholine.

Comment: In order to compare the reactivity in asymmetric induction, the copper(II)–diamine catalysts, containing diamine **1** and **2**, were investigated in the enantioselective monobenzylation of *meso*-1,2-diols and in the asymmetric Henry reaction. In both reactions the products were obtained in good to high enantioselectivities with the opposite sense of induction depending on the used diamine. As expected, (+)-sparteine surrogate **2** generated the antipodal products of those obtained using (–)-sparteine.