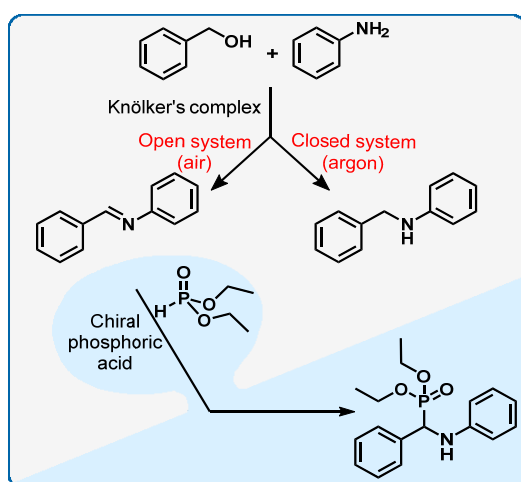


Manganese and Iron Catalysts Promote Switchable Hydrogen Borrowing Processes

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Carbon-heteroatom containing molecules are indispensable substructures of synthetically valuable compounds. Hence, their easy and atom-efficient synthesis starting from simple, commercially available precursors plays a significant role in modern synthetic chemistry [1]. The hydrogen borrowing strategy provides promising opportunities as it is a green method for a variety of transformations of alcohols, in particular the formation of new carbon-carbon or carbon-nitrogen bonds [2]. In order to broaden the applicability of this method we are investigating suitable cascade reactions. We focused our research on the one hand on extending the reaction scope of the highly active PN^3 manganese pincer complex [3] and on the other hand on the switchable N-alkylation of anilines with benzylic alcohols catalyzed by a nitrile-ligated variant of the Knölker's complex [4]. Thus, we report the one-pot three-component condensation



of enantio-enriched α -alkylamino phosphonates by a sequential iron-promoted dehydrogenative condensation followed by a hydro-phosphonylation-step promoted by chiral BINOL-based phosphoric acids [5].

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