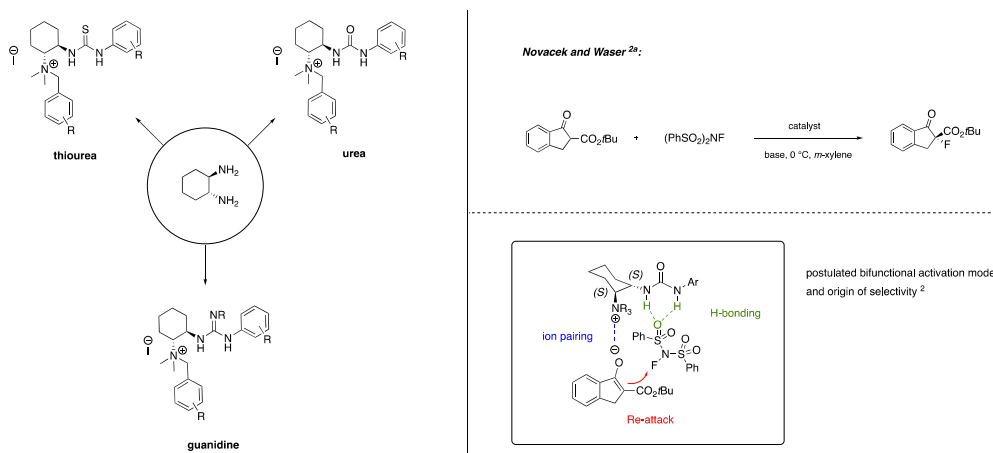


Synthesis And Applications Of Chiral Quaternary Ammonium Salt Hydrogen Bond Donor Catalysts

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Based on the chiral backbone of *trans*-1,2-cyclohexane diamine a variety of bifunctional ammonium salt catalysts with hydrogen-bonding donor moieties can be synthesized to facilitate asymmetric reactions like the enantioselective α -fluorination of β -ketoesters [1]. Chiral Quaternary urea- and thiourea-containing ammonium salt catalysts have already been introduced and proved their applicability in various different asymmetric transformation reactions [2,3]. In addition, we recently researched on the synthesis of chiral quaternary ammonium salt catalysts based on a guanidine hydrogen-bond donor group. In on-going investigations focusing on the optimization and on the applications of catalysts of this sort, we have introduced several promising synthesis routes starting from *trans*-1,2-cyclohexane diamine. This presentation gives an overview on the designed quaternary ammonium salt hydrogen bond catalysts, their synthesis, as well as on their applications.



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