AL10 **Green enantioselective synthesis for polyfunctionalized heterocycles**

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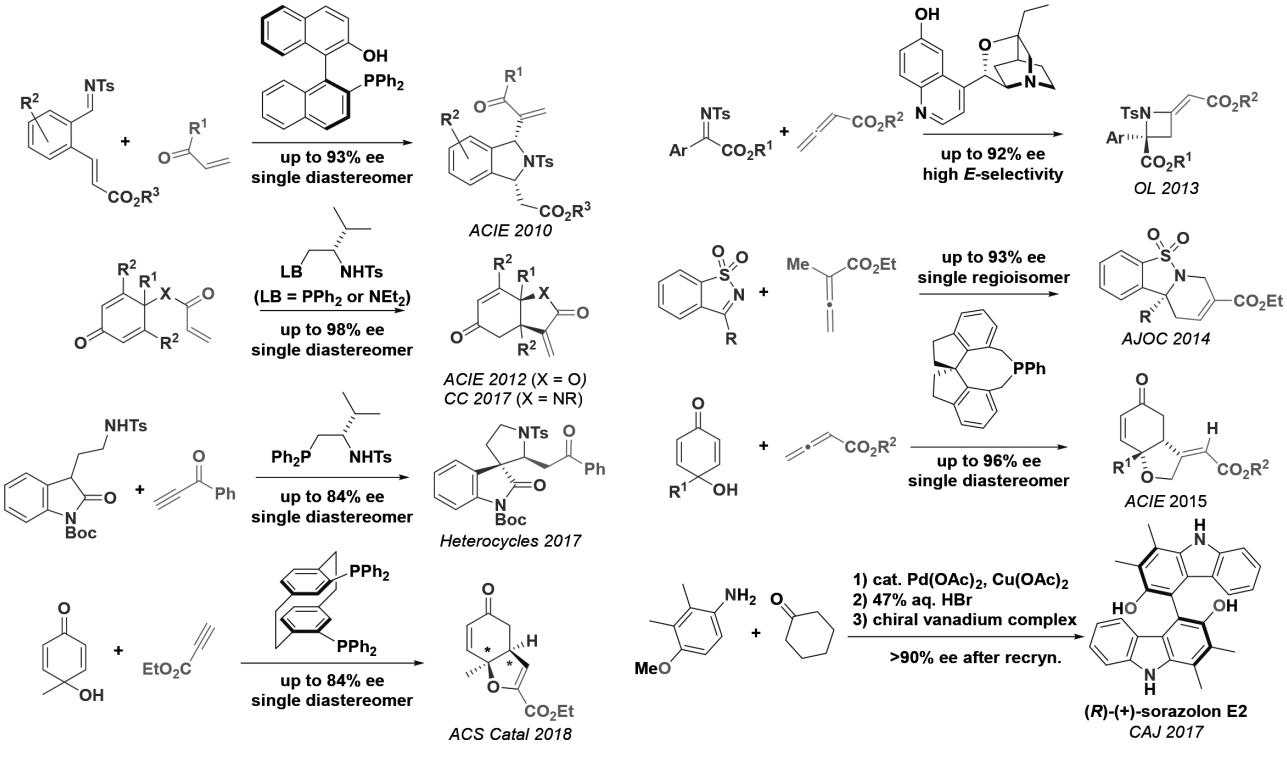
Chiral heterocycles have proven to be valuable building blocks for biologically active compounds and natural products. Development of facile preparations for optically active heterocyclic compounds is an important ongoing topic in pharmaceutical sciences. Among them, enantioselective domino process is a very attractive methodology due to its ability to construct complex chiral molecules from readily available substrates under mild reaction conditions in two or more steps in a single operation. These sequences can also save time and chemicals for isolation or purification of the synthetic intermediates. In this paper, our designed atom-economical domino reactions with chiral multifunctional catalysts are described. In the domino reactions, multi-active sites for a substrate on the chiral catalyst synergistically work to promote the complicated sequential processes, providing polyfunctionalized heterocycles with excellent enantioselectivities, some of which have tetrasubstituted and/or quaternary all carbon stereogenic centers.



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