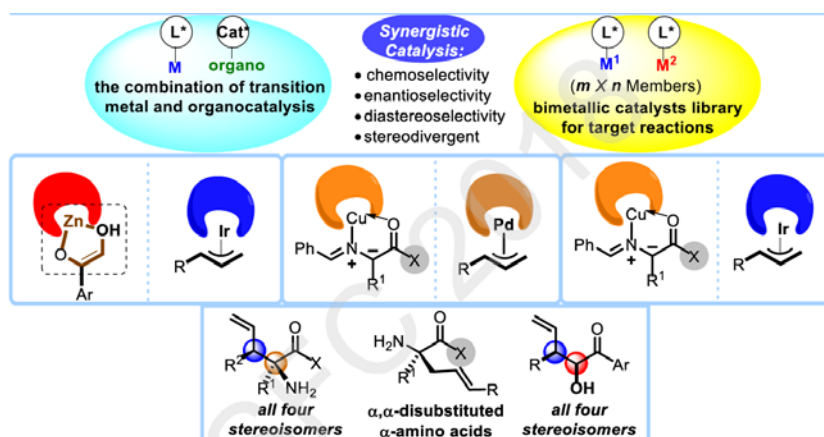


## Studies on Cooperative Chiral Bimetallic Catalysis

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Synergistic catalysis is gaining increasing attention due to its many advantages, such as improved catalytic activity, broad substrate scope, increased selectivity, and cost efficiency. Our research has focused on the development and application of synergistic catalysis for allylic substitutions. Recently, a concerted process using a Pd-catalyst, a pyrrolidine co-catalyst and a hydrogen-bonding solvent was developed and used for the allylic alkylation of simple ketones with allylic amines, allylic alkyl ethers and allylic alcohols.<sup>1</sup> Furthermore, we have successfully developed several bimetallic catalyst systems and demonstrated this strategy for the rapid and stereodivergent construction of important bioactive compounds.<sup>2</sup>



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