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SYNFACTS Highlights in Chemical Synthesis

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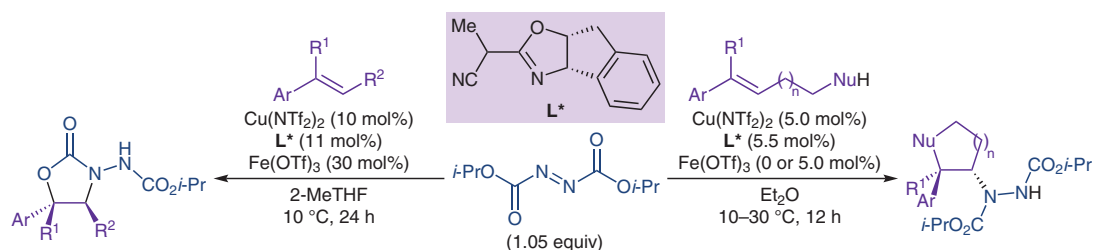
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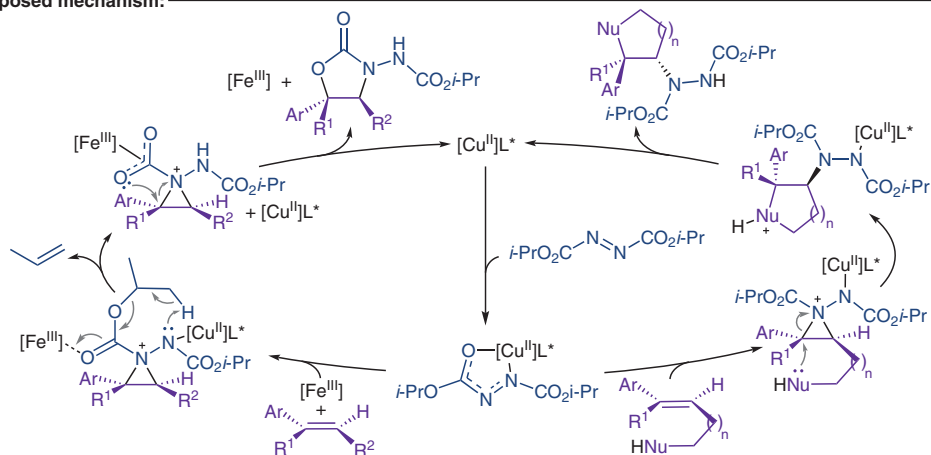
Catalytic Enantioselective Aminative Difunctionalization of Alkenes

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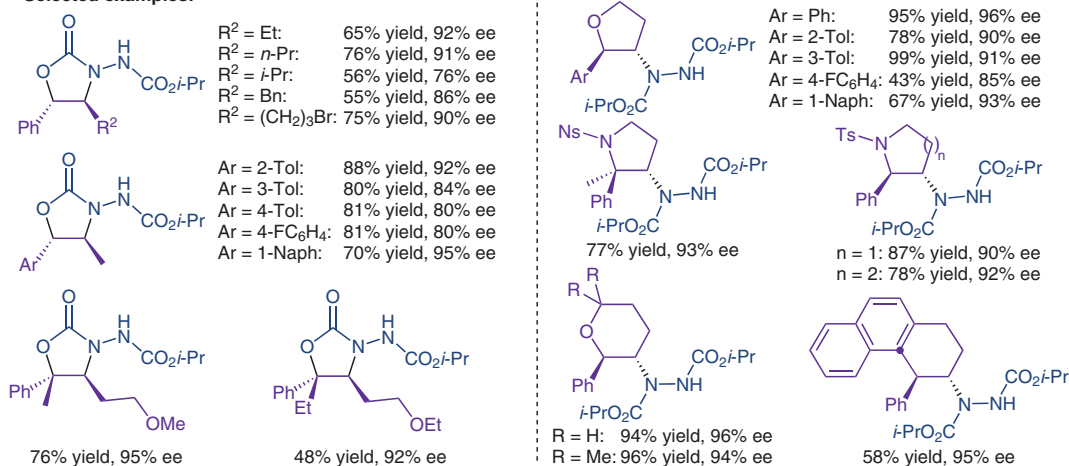
Copper-Catalyzed Asymmetric Aminative Difunctionalization of Alkenes with Azodicarboxylates



Proposed mechanism:



Selected examples:



Significance: Two copper-catalyzed protocols for the asymmetric aminative difunctionalization of alkenes using dialkyl azodicarboxylates are reported. After formation of a chiral aziridinium ion intermediate, either [3+2]-cycloaddition or intramolecular cyclization with an internal nucleophile is possible.

Comment: A new chiral cyano oxazoline ligand was developed for this transformation. Its ability to isomerize via a tautomeric form was shown to be crucial for enantioinduction. Thus, a diastereomeric mixture of the ligand can be used for the reaction.

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