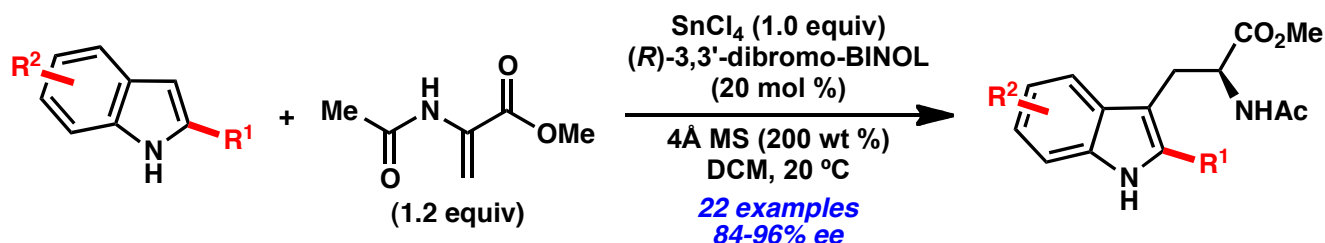


The Development of Enantioselective Friedel-Crafts Reactions to Prepare Unnatural Amino Acid Derivatives

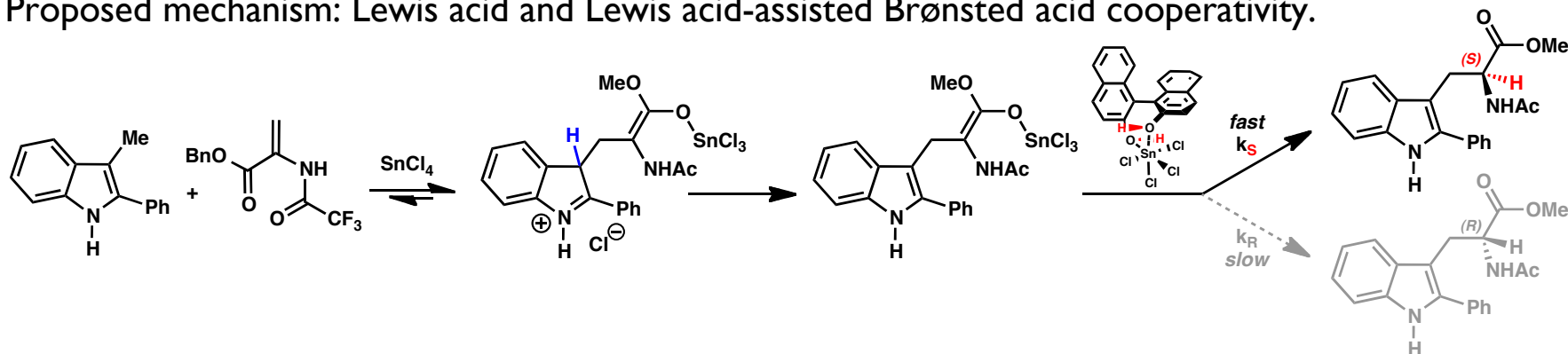
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Unnatural amino acids are important building blocks for the total synthesis of natural products, as well as the development of new drugs, biological probes, and chiral small molecule catalysts. The objective of this research is to develop new catalytic, asymmetric reactions to prepare unnatural amino acids.

- Development of a highly convergent enantioselective synthesis of unnatural tryptophan derivatives:



- Proposed mechanism: Lewis acid and Lewis acid-assisted Brønsted acid cooperativity.



- Ongoing studies: can we utilize this type reactivity to prepare a broad range of unnatural amino acids?