

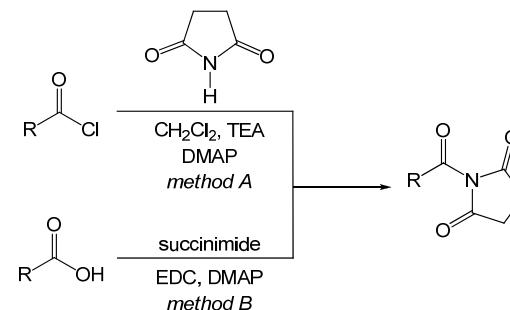


# $\beta$ -Hydroxysalicylhydrazones: Chiral, Non-Racemic Tridentate Catalysts for Asymmetric Synthesis

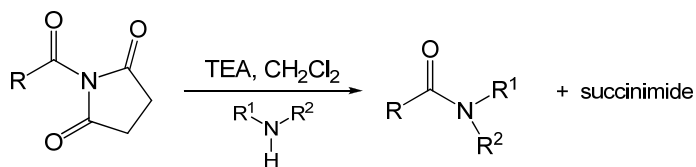
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The research that has been accomplished in our research group on the application of tri-dentate catalysts for the asymmetric addition of diethylzinc to aldehydes and imines culminated in the asymmetric synthesis of the calcimimetic agent NPS R-568, a secondary amine. This work served as the inspiration for developing a more effective route to amines through a one-pot method for the coupling of a carboxylic acid with an amine followed by a direct reduction. This process would not be viable with traditional coupling agents such as DCC. However, acyl succinimides, an under-utilized functional group have the capacity to be used for this purpose. We have prepared acyl succinimides, employed them in coupling reactions, and preliminary results illustrate the potential for the one-pot coupling/reduction process.

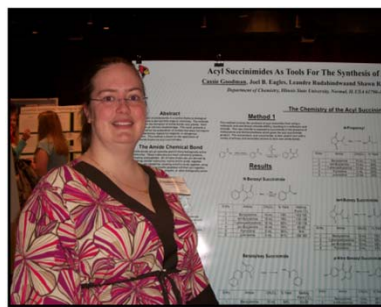
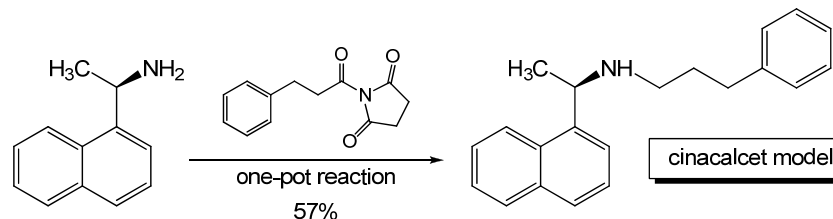
## Acyl succinimide synthesis



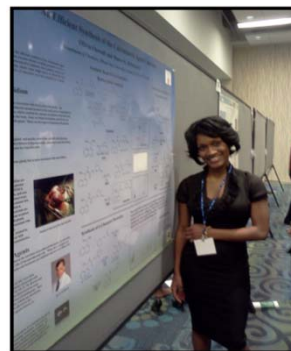
## Acyl succinimide coupling reaction



## Acyl succinimide one-pot coupling/reduction process



Cassie Goodman is an undergraduate researcher who synthesized N-acyl and N-carbamoylsuccinimides and employed these reagents in acylation reactions. Her early research then set the stage for the usage of these acylsuccinimides as tools for conducting one-pot coupling/reduction reactions.



Olivia Onwodi is an undergraduate researcher recruited through the Louis Stokes Alliance for Minority Participation program. She attended the Emerging Researchers National Conference in STEM (Science, Technology, Engineering and Mathematics) in Washington, D.C., February 24-26 and presented this research.