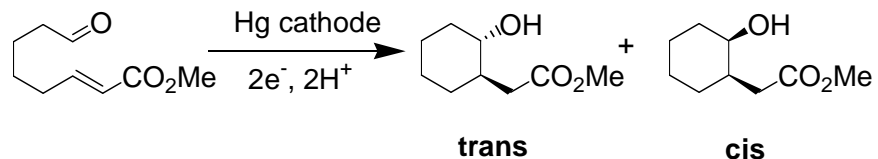
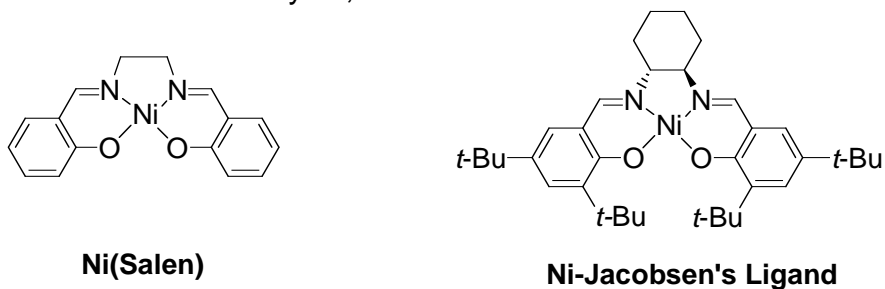


Andy Fisher

Electroreductive Cyclization

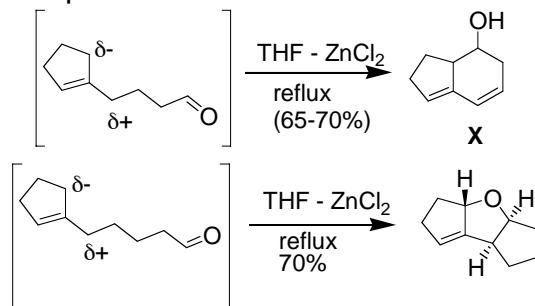


It has been shown that when using Ni(Salen) as a catalyst in this reaction the trans to cis ratio of the products is roughly 2:1. My project aims to improve diastereoselectivity, and perhaps to even set ABSOLUTE stereochemistry through the use of chiral catalysts, such as the one shown below.

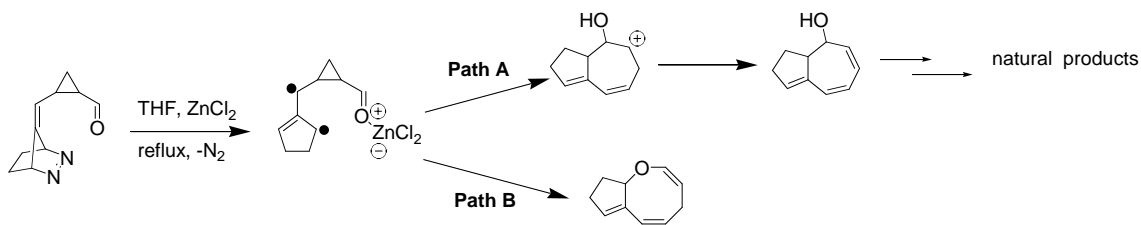


Diyl Chemistry

One project centers on the effect of Lewis acids on the diradical reactions shown below. Previous research has shown that depending on the length of the tether, two types of products are possible.



Another research focus is on the reaction below, wherein a cyclopropane has been positioned along the tether. Several products are possible, two of which are illustrated.



If the diyl behaves as a bipolar diyl, as it appears to do in the formation of "X", then Path A seems likely. If not, then Path B may prevail.