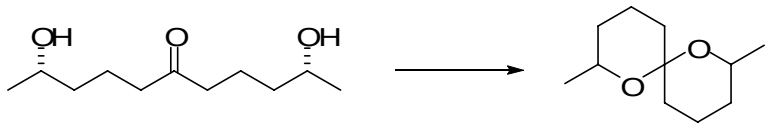
Group Meeting Problems

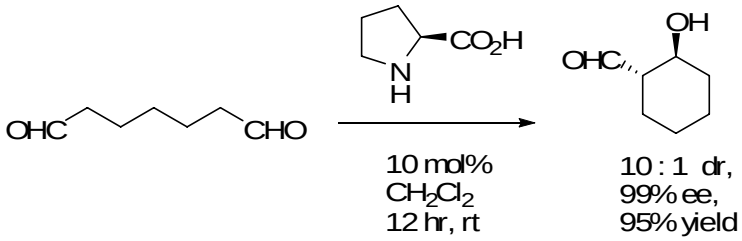
October 11, 2006

Part A.



1. How many products can form from this cyclization? Please show the stereochemistry of the spiroketal.
2. Please draw all chair-chair conformers of the products, and point out the most stable one.

Part B. Provide a mechanism for the following proline-catalyzed intramolecular aldol reaction (List et al. Angew. Chem. Int. Ed**, 2003**, 42, 2785. Include a three-dimensional representation of the transition state that rationalizes the diastereo and enantioselection of the process base on the enamine intermediate mechanism.



Note: There are four possible products.