

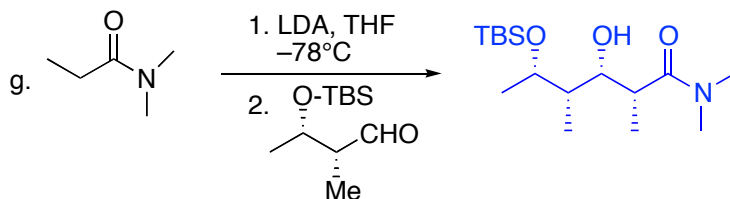
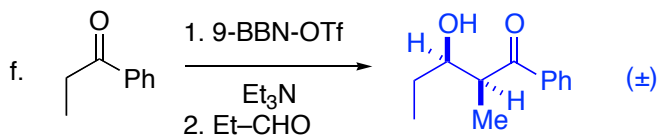
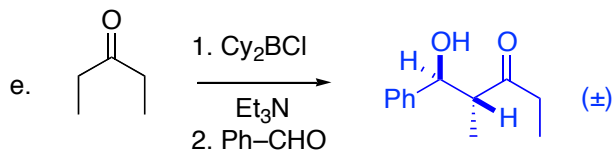
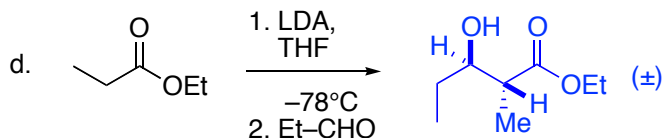
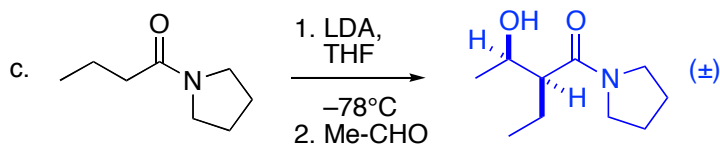
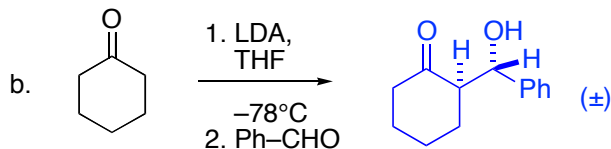
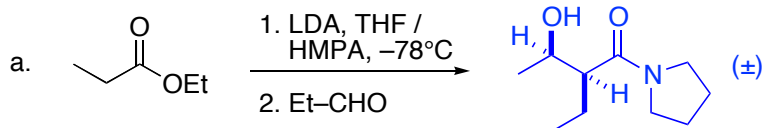
# CHEM 330

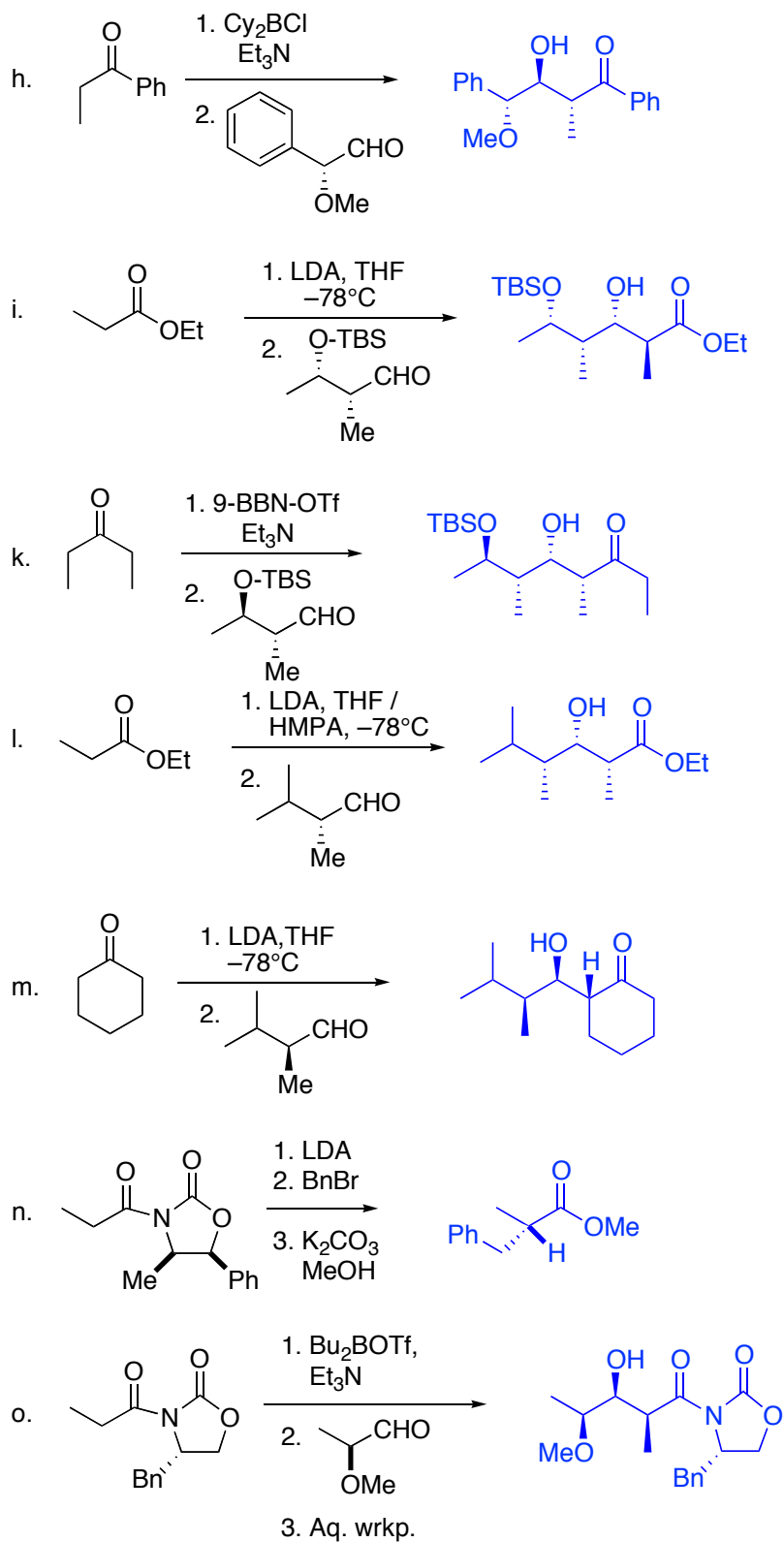
## Problem set 5

### ANSWERS

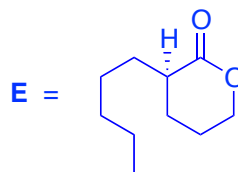
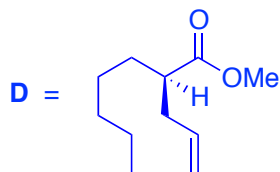
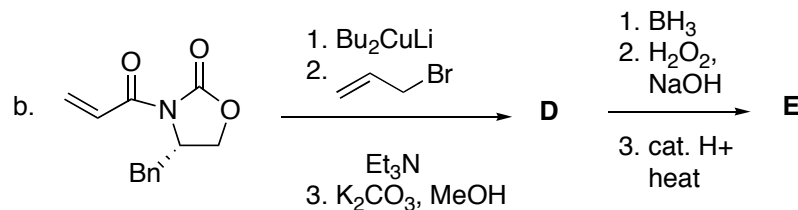
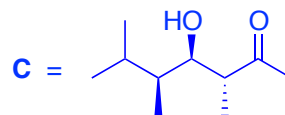
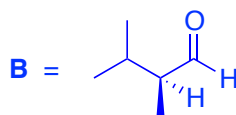
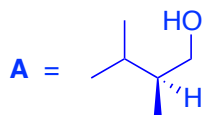
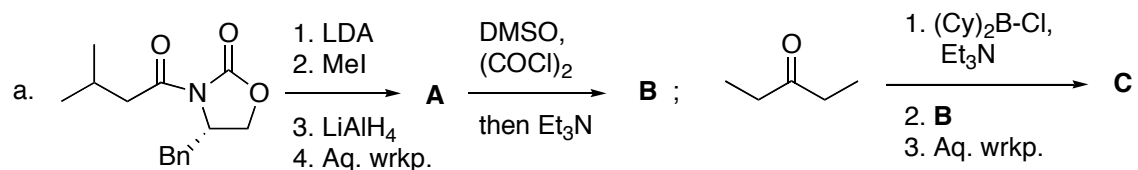
- Predict the structure of the major product arising from the following reaction sequences. Assume that aldehydes possessing an  $\alpha$ -stereogenic carbon will react with achiral enolates in accord with the Cram-Felkin or the Felkin-Anh model, as appropriate (as briefly mentioned in class, this is not always the case).

**Note:** it is understood that each sequence ends with an aqueous workup.

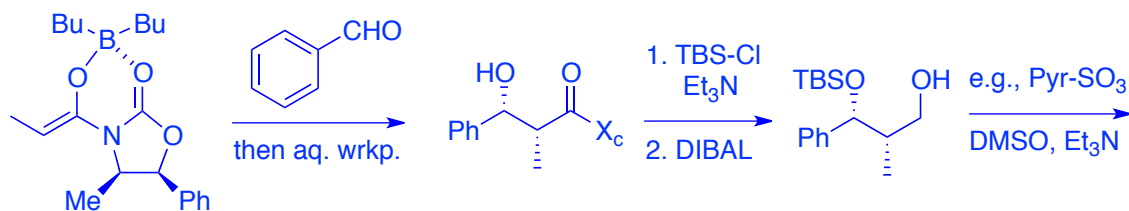
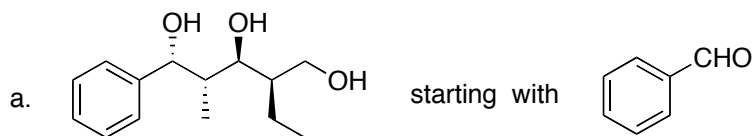


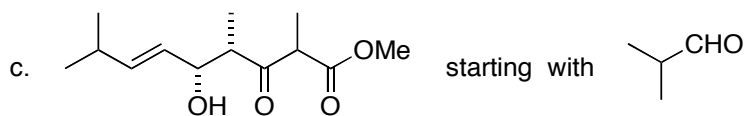
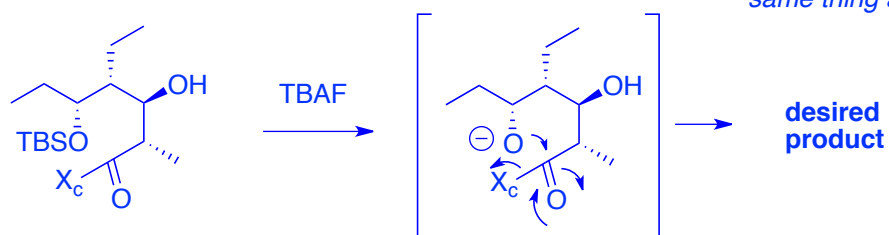
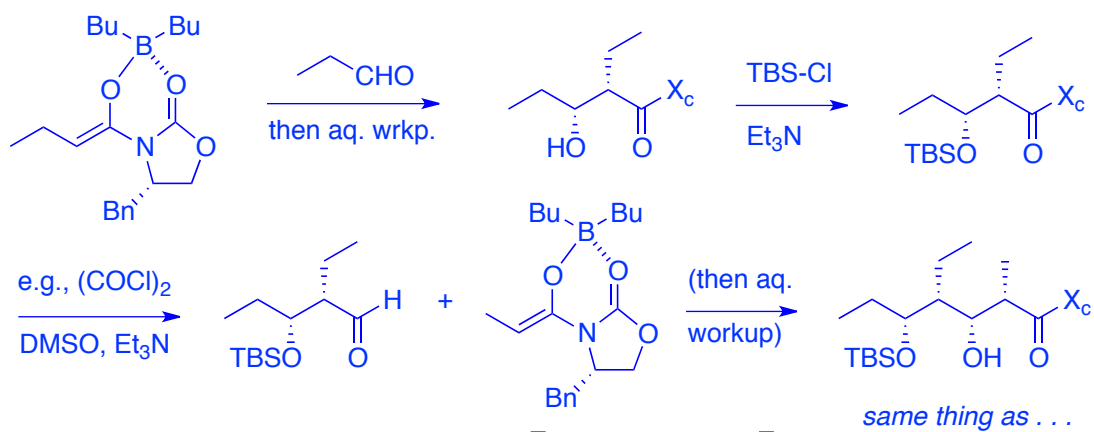
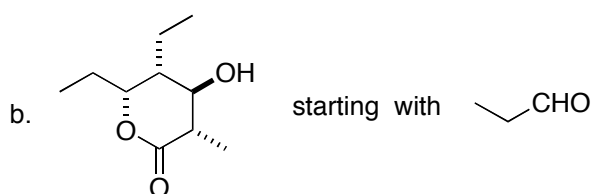
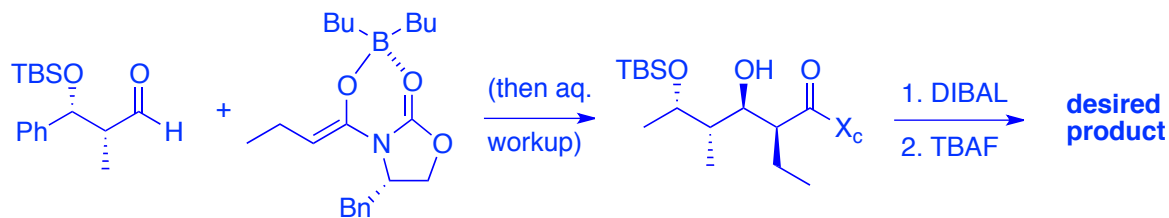


2. Identify compounds **A** – **E** obtained as major products of the following reaction sequences:



3. The molecules shown below are fragments of known bioactive substances. Propose a method to achieve their enantioselective chemical synthesis from the indicated aldehydes. Be careful about protecting groups and relative/absolute configurations of stereocenters. Assume the availability of all required reagents, chiral auxiliaries, etc.





(hint – remember the Wittig reaction?)

