

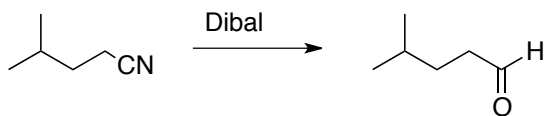
Chem 332
Spring 2012
Exam #1
Feb. 29, 2012

Name____Key_____

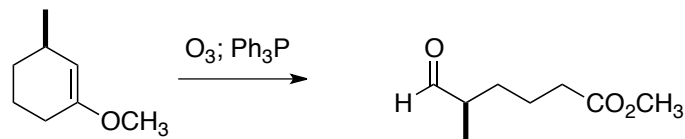
This is an open-book, open notes exam. No electronic devices are allowed.

1. (5 points each) These reactions would not proceed as indicated. Please draw the correct product of each reaction.

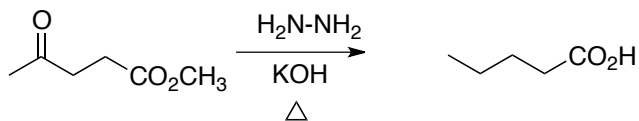
a.



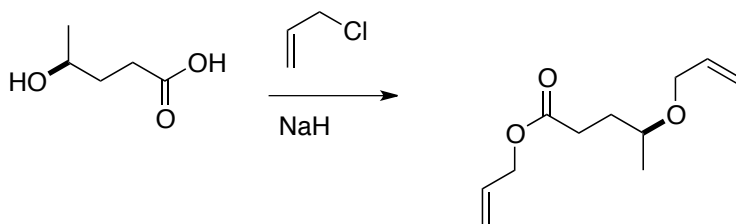
b.



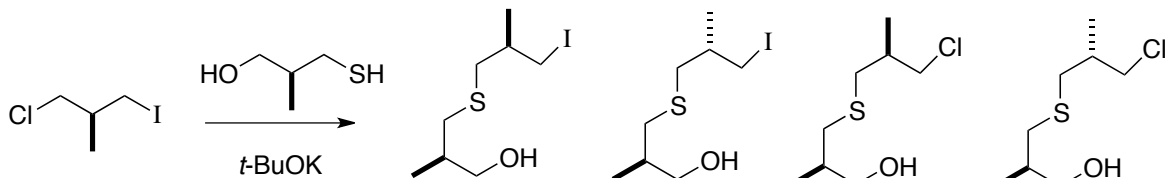
c.



d.



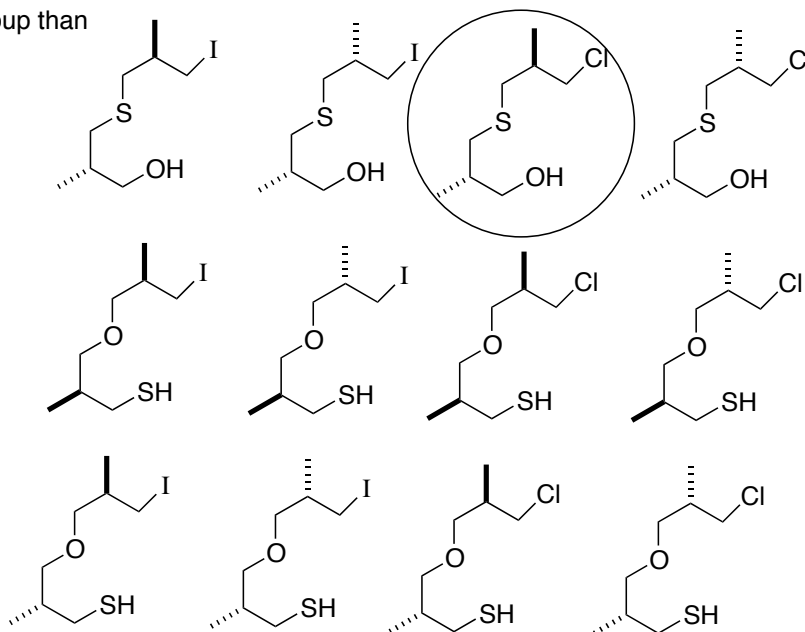
2. (20 points) Circle the correct product, and explain why.



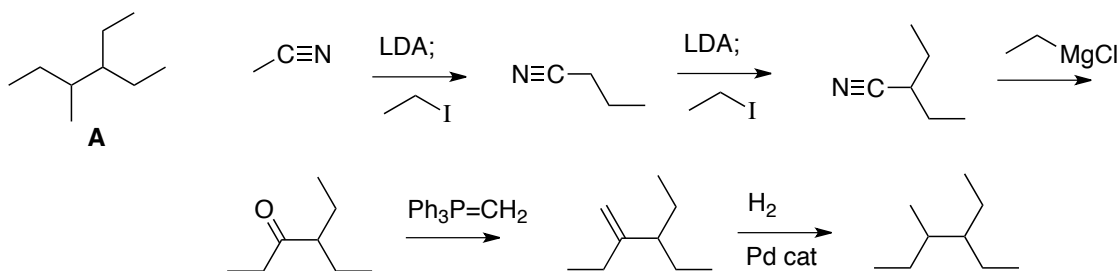
iodide is a better leaving group than chloride

thiolate is a more reactive nucleophile than alkoxide

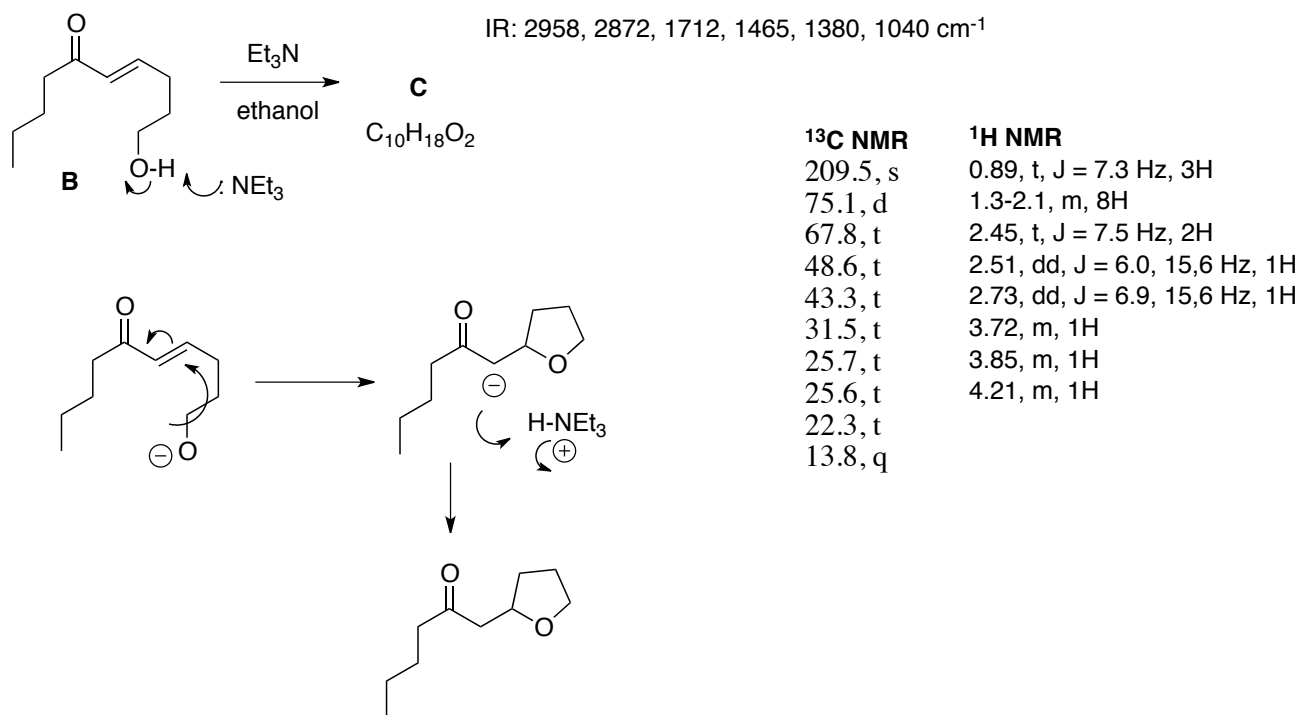
Neither stereogenic center changes during the reaction



3. (20 points) Outline a synthetic route to **A**. You may use any starting material that contributes three or fewer carbons to the final product.



4. (20 points) Deduce the structure of **C**, and outline an arrow-pushing mechanism for its formation.



5. (20 points) Draw an arrow-pushing mechanism for the conversion of **D** to **E**. Correct labelling is worth three points, and correct bb/bf an additional three points.

