Chem 634 Exam 1 Fall 2005 Prof. Fox Open book, open notes Models are permitted No electronic devices

Name\_\_\_\_\_

1. Provide reagents for the following transformations. More than one step may be required. Mechanistic details are not needed.

(5 points each)



2. Provide a structure for the  $\mathbf{R}$  -group that would give the diastereoselectivity shown



3. Draw 3-dimensional representations of the structures below

(5 points each)









5. Propose a multistep synthesis of **C** from **B**.

(15 points)



Name\_\_\_

6. Circle the correct product. Provide a mechanistic rationale. (12 points)



7. Consider the reaction below



a. Provide an arrow pushing mechanism. (6 points)

Hint: OAc  $AICI_3$   $Me \longrightarrow 0^{-Me}$ 

b. Provide a transition state model that explains the stereospecificity of the reaction (10 points)

8. Provide an arrow pushing mechanism. (17 points)



