

## *Second Hour Exam*

Name: \_\_\_\_\_ (1 point)

Recitation instructor's name: \_\_\_\_\_

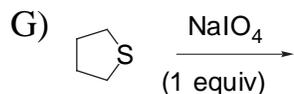
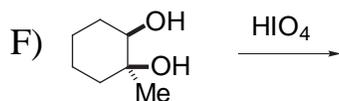
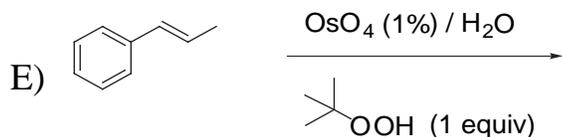
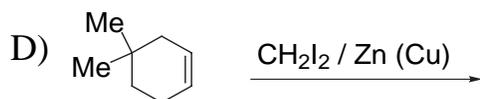
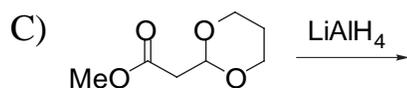
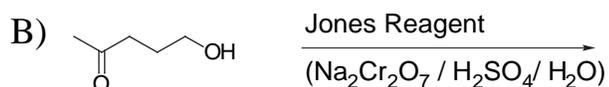
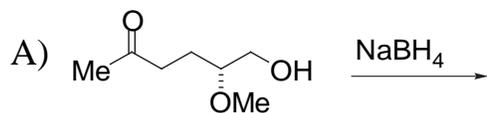
Recitation day and time: \_\_\_\_\_

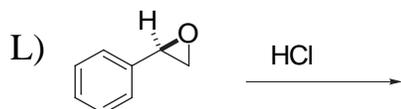
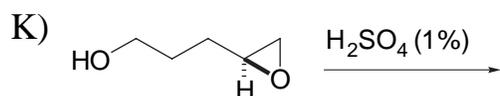
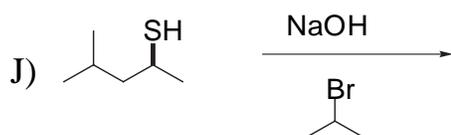
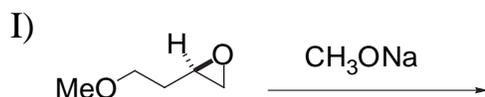
Page	Possible points	Score
1	<u>1</u>	<u>1</u>
2	<u>21</u>	_____
3	<u>15</u>	_____
4	<u>33</u>	_____
5	<u>30</u>	_____
TOTAL	<u>100</u>	_____

You have 2 hours to complete the exam.

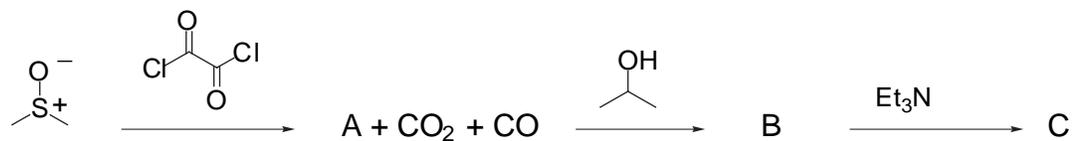
Please don't cheat!

1) Provide the products of the following reactions. If no reaction would occur, then write NR. Draw all possible stereoisomers (i.e., draw dashed and bold lines as needed) and indicate if they would be produced in equal or unequal amounts. There is an appropriate aqueous work up for each reaction (3 points each).

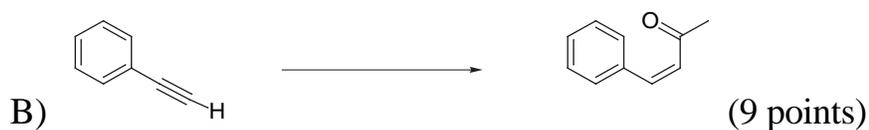
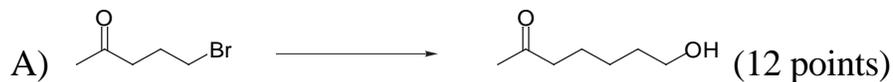




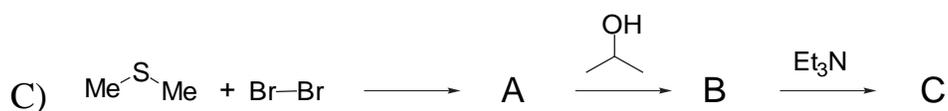
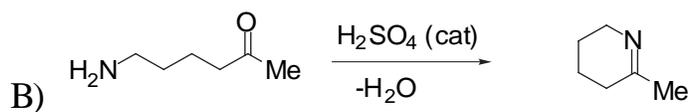
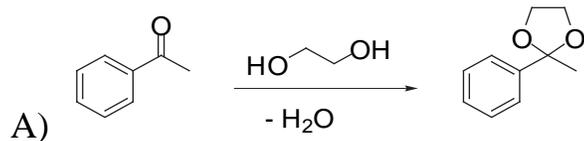
Extra credit: 10 points for up to 100 points total on the exam: Provide the structure of A, B and C and the mechanism for each step of the reaction shown below. This is all or nothing, so don't even think of asking for partial credit! HINT: The name of this reaction is the Swern Oxidation



2) Complete the syntheses shown below using organic reagents of 5 carbons or less and any inorganic reagents you wish. If your synthesis requires more than one step, you must write the product of each step. Note that all chiral compounds are racemic mixtures. You do not have to include aqueous work up conditions in your syntheses.



3) Provide a mechanism for the following reactions. Be sure to show all intermediates, arrows, and charges (10 points each).



Provide the structures of "A," "B," and "C" as well as the mechanism