

CHEMISTRY 241
EXAMINATION III
Wednesday, April 5, 2006
Professor William P. Dailey

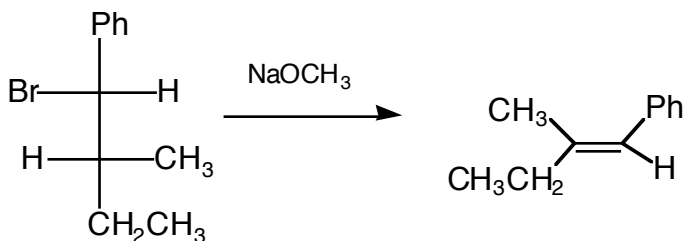
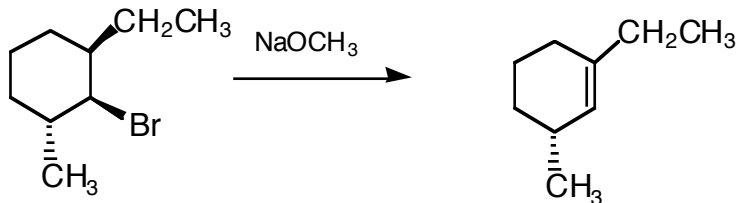
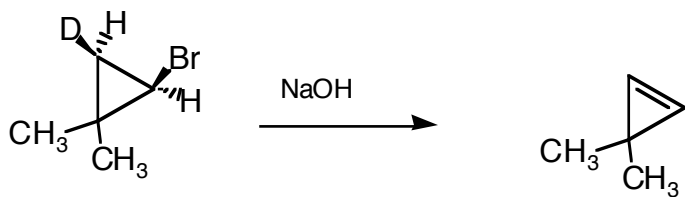
NAME: _____ **KEY** _____

Student ID number : _____

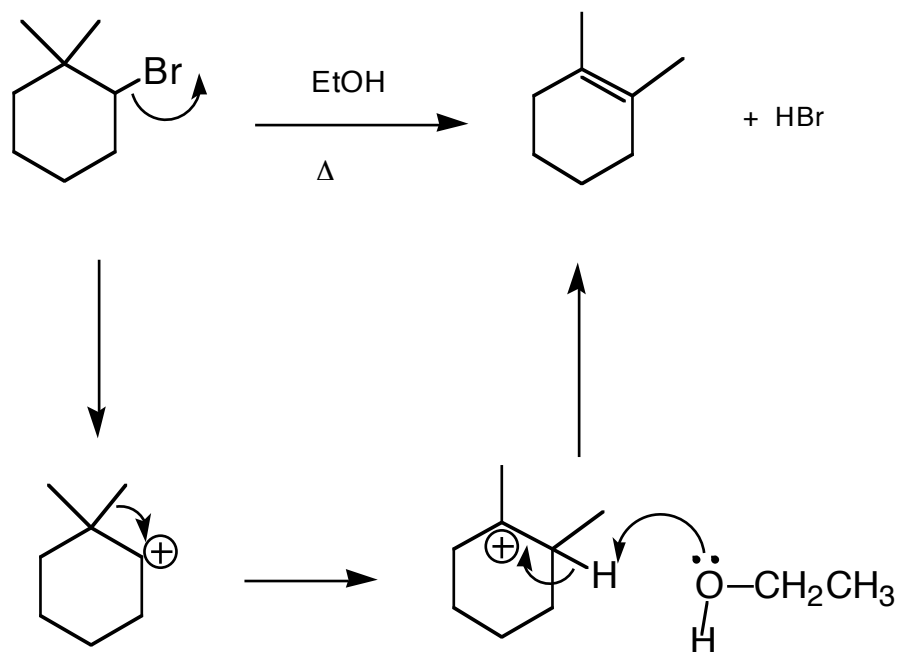
QUESTIONS	POINTS	SCORE
1.	9	_____
2.	15	_____
3.	24	_____
4.	24	_____
5.	16	_____
6.	12	_____
	TOTAL	_____

READ ALL QUESTIONS CAREFULLY BEFORE ANSWERING THEM.
Make sure to indicate stereochemistry if appropriate.

1. (9 points) Draw the major product of the following E2 elimination reactions.

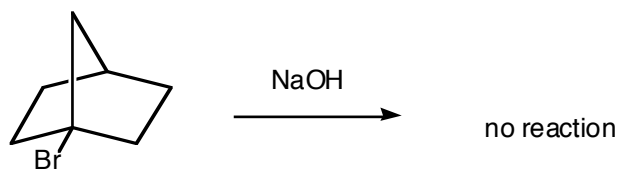
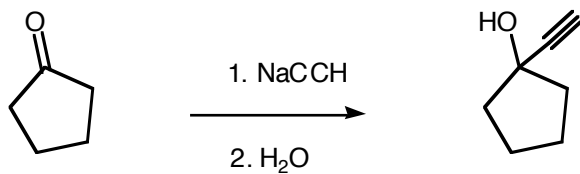
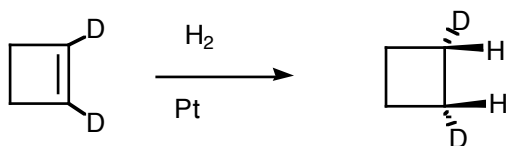
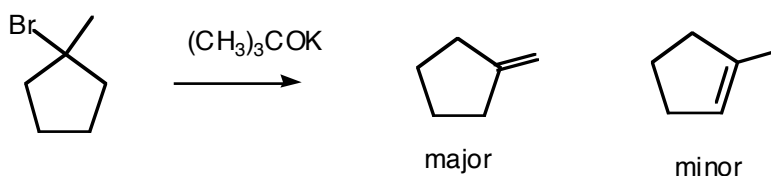
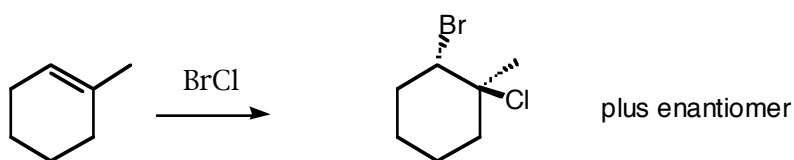
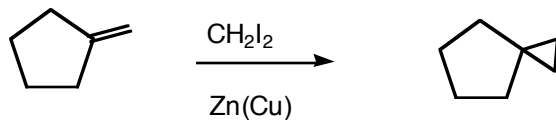
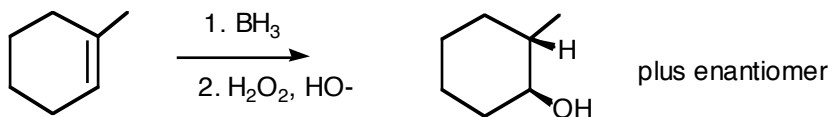
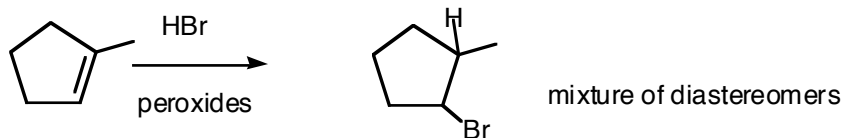


2. (15 Points) Write a step by step mechanism for the following reaction. Provide a reaction coordinate energy diagram consistent with your proposed mechanism.

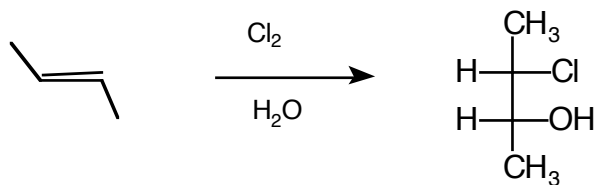
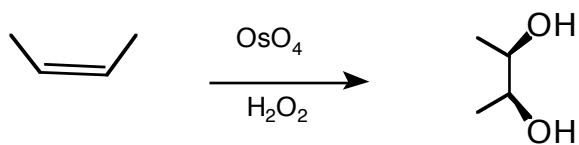
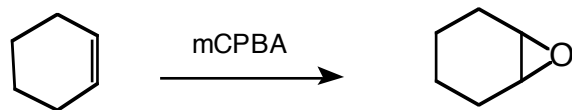
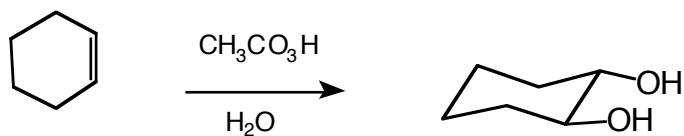
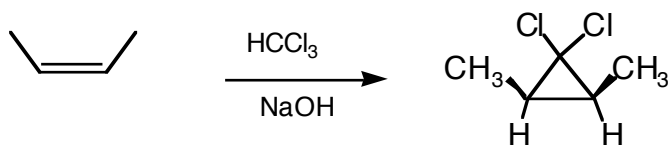
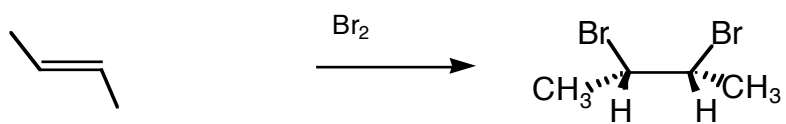


Include an energy diagram with this.

3. (24 Points) Complete the following reactions. If no reaction will occur, then say so.

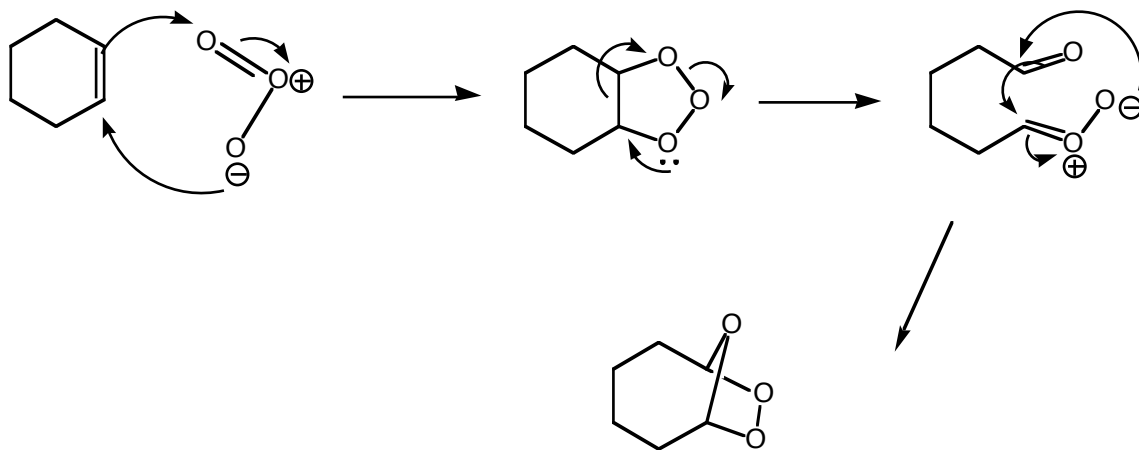
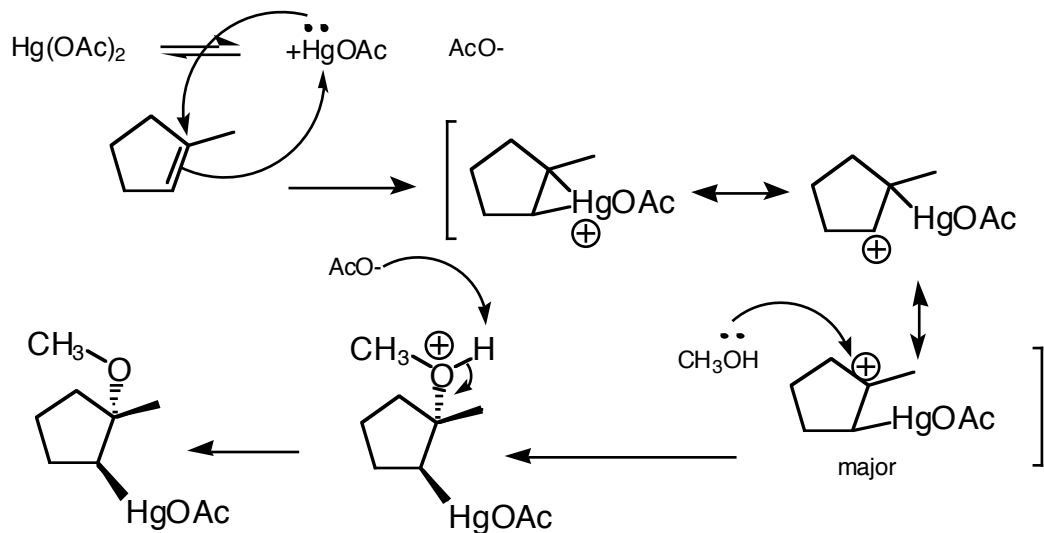
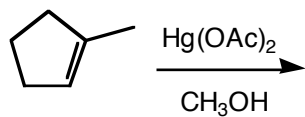


4. (24 points) Draw **the appropriate starting alkene containing only carbon and hydrogen** and any necessary reagents to show how the following compounds can be prepared.



5. (16 Points) Give the product(s) and propose complete arrow pushing mechanisms for each of the following reactions. Use only the reagents which are given.

a.



b.

6. (12 Points) Show how ONE of the following compounds can be prepared from **any alkane or cycloalkane containing 6 or fewer carbon atoms**. You may use any organic or inorganic reagents needed. (You only need to synthesize ONE of these!!)

