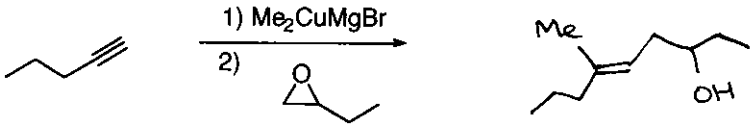
Chem 634 Exam 2
May 4, 2004

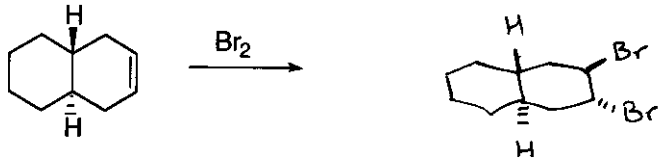
Your Name KEY

1. Show the products of the following transformations. Mechanistic details are not required, but be sure to indicate relative stereochemistry where necessary (four parts; 5 points each)

a



b



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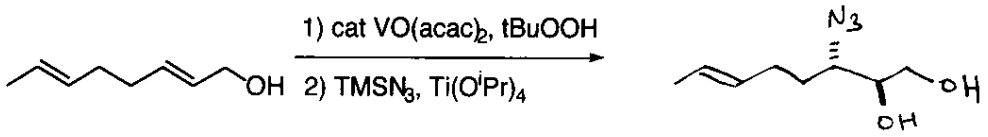
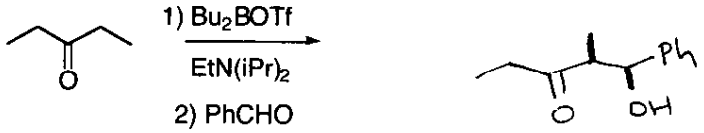
1. (continued)

c



d



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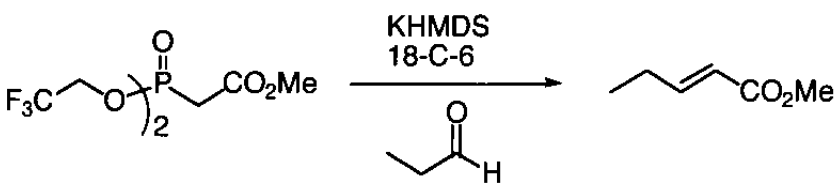
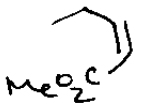
2. Predict if each of the following reactions would proceed as written. If you feel that the reactionwould proceed, simply write "will proceed as written". If you feel that the reaction would not proceed as written, provide a brief but detailed explanation, and indicate the structure of the product(s) that would be formed instead of (or in addition to) the product that is drawn (5 points each).

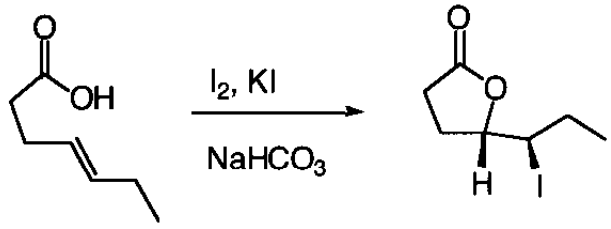
a



No. Expect cis



b



Would proceed as written

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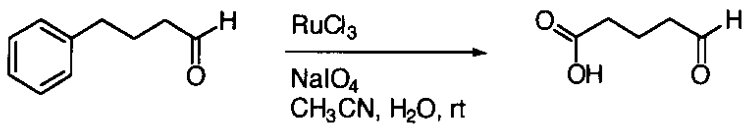
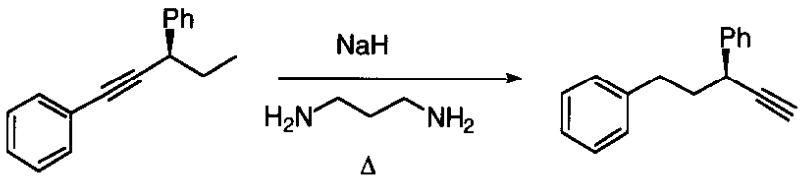
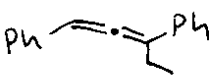
2. (continued).

c 

Aldehyde also oxidizes

d 

No. tertiary center is a dead end.



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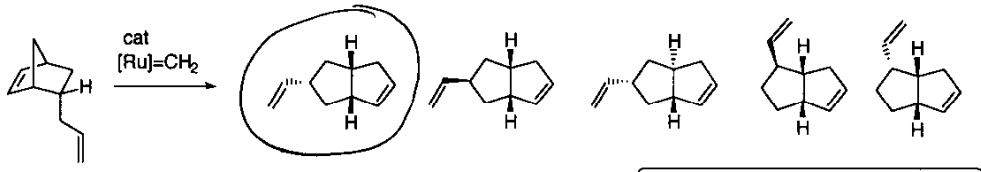
3. The reaction below gives only one of the five products below.

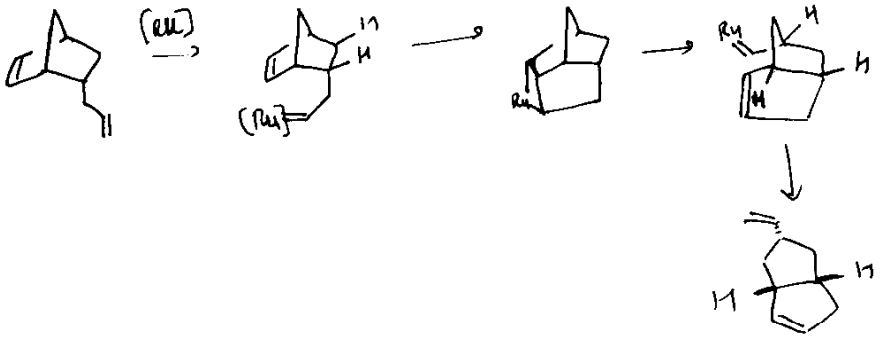


a. Circle the correct structure
b. Provide a detailed arrow pushing mechanism for its formation.

[Ru]=CH_2 ≡ $Cl_2Ru(PCy_3)_2=CH_2$

using the abbreviation [Ru] is sufficient for this problem

(20 pts)



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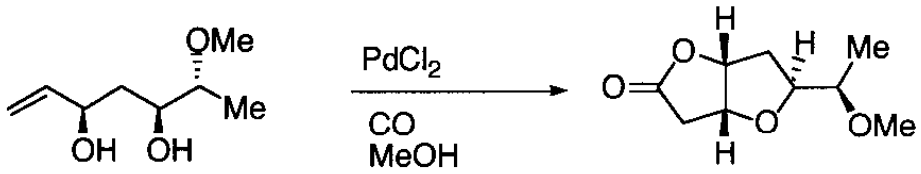
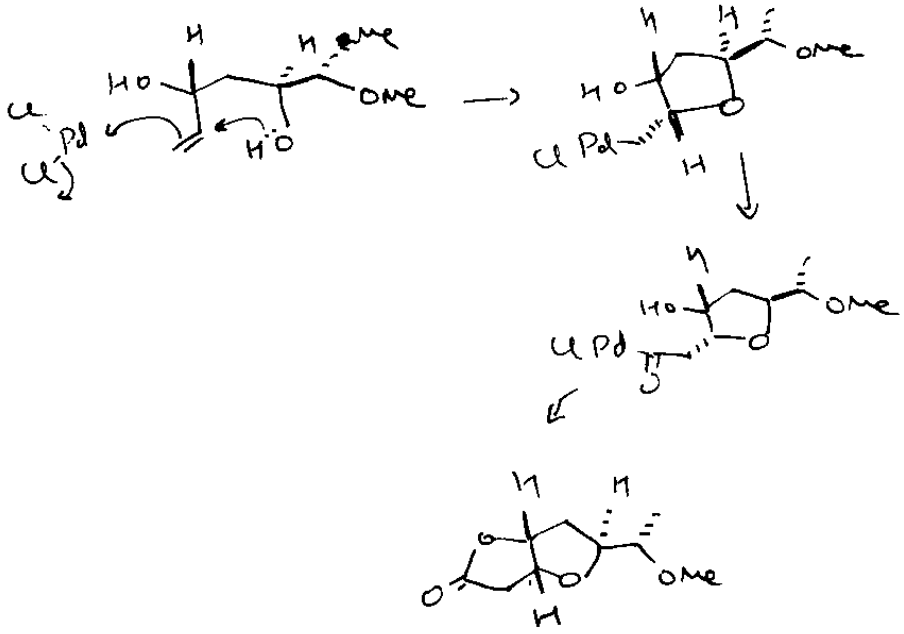
4. Provide a detailed arrow pushing mechanism (20 points)





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5. Outline a multistep synthesis using any materials with 6 carbons or less(20 points)