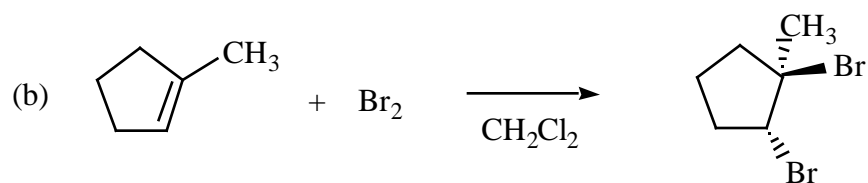
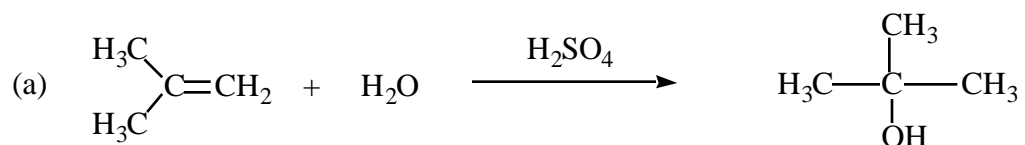


Chemistry 2521, Fall Semester 2001
Sample Midterm 2 Exam
Chapters 4, 5, 6 of Brown & Foote text

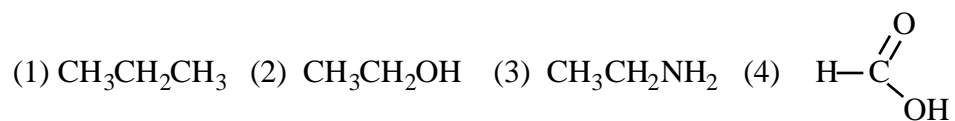
This exam has 5 problems on 4 pages. Make sure your copy is complete and correct.

Answer key is available in PDF format at: www.d.umn.edu/~vzhdanki/2521/

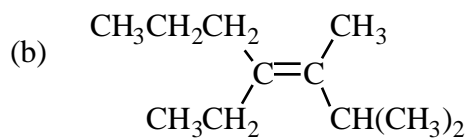
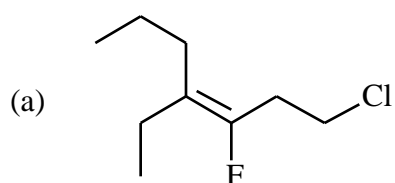
1. (22) Using **curved arrows** and showing the structure of the **intermediate**, write **mechanisms** that account for the products in the following reactions (11 pts each):



2. (9) Arrange the following compounds in order of decreasing acidity:



3. (18) Give either the **IUPAC name** (including *E*, *Z* designation) or the **correct structure** for each of the following compounds (3 pts each).



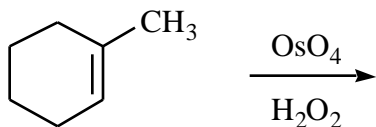
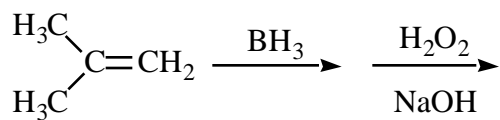
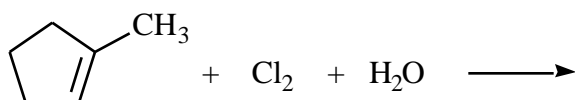
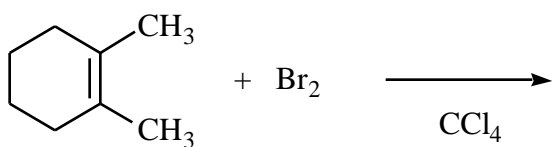
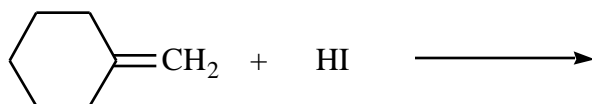
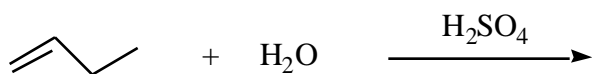
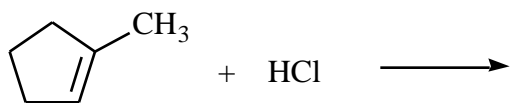
(c) *trans*-3,4-dimethyl-2-pentene

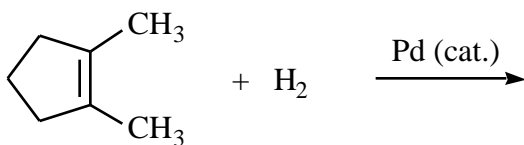
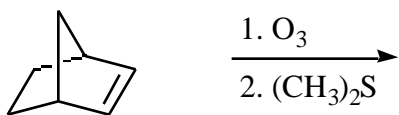
(d) (*Z*)-1,5-dibromo-2-chloro-3-ethyl-2-pentene

(e) (*6E*)-2,6-dimethyl-2,6-octadiene

(f) 3-ethyl-1-methylcyclopentene

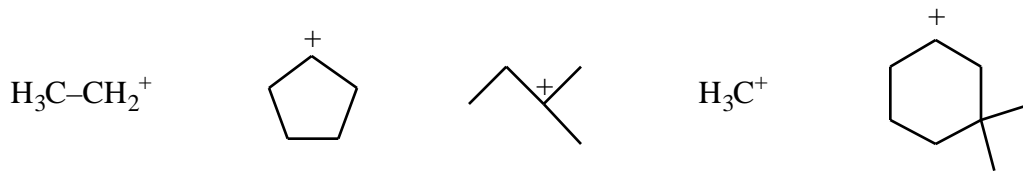
4. (36; 4 pts each) Complete the following equations, showing the **stereochemistry** of the product when appropriate.





5. (15, 5 pts each) For each of the following questions (a)-(c) **circle** the item that is the correct answer.

(a) Which one of the following carbocations is the **most stable**?



(b) Which one of the following compounds is the **strongest base**?



(c) Which one of the following alkenes is the **most stable**?

