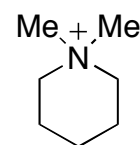
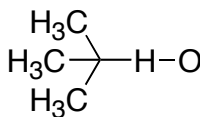
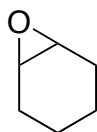
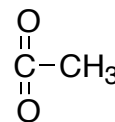
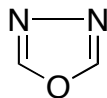
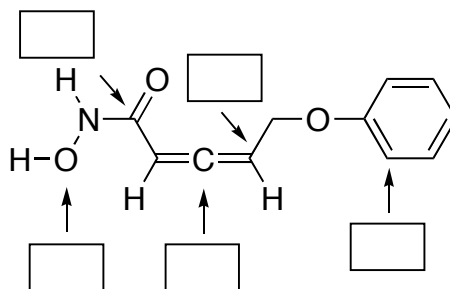


**Quiz 1** (33 points)

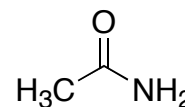
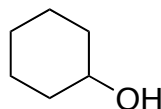
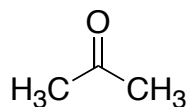
1. Which of the following structures represent permissible organic molecules under the rules of bonding and connectivity covered in this course? (9 points)



2. Identify the hybridization (i.e.  $sp^3$ ,  $sp^2$ , etc.) of each of the indicated atoms in the following molecule. (10 points)

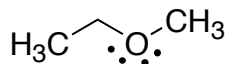
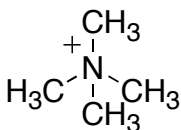
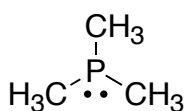


3. Name the functional group found in each of the following molecules. (6 points)



\_\_\_\_\_

4. Which of the following molecules are Lewis Bases? (8 points)



**Quiz 2** (33 points)

5. Draw a 3-D representation of the following compounds, using line or wedge bonds. (9 points)



(a) CH<sub>4</sub>

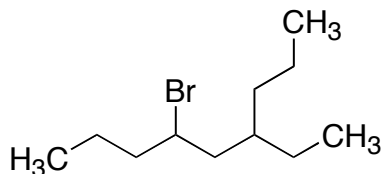


(b) H<sub>2</sub>C=CH<sub>2</sub>



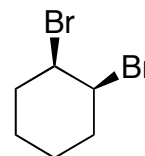
(c) HC≡N

6. Name the following compounds: (6 points)



(a)

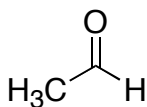
\_\_\_\_\_



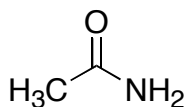
(b)

\_\_\_\_\_

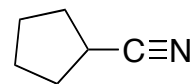
7. Name the functional group found in each of the following molecules. (6 points)



\_\_\_\_\_

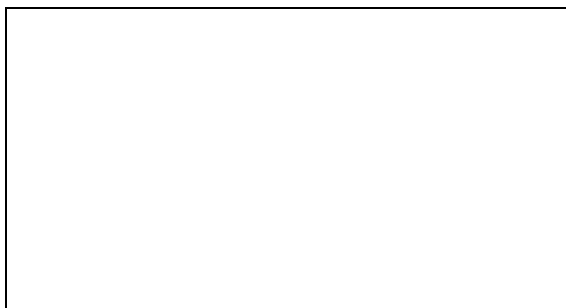


\_\_\_\_\_

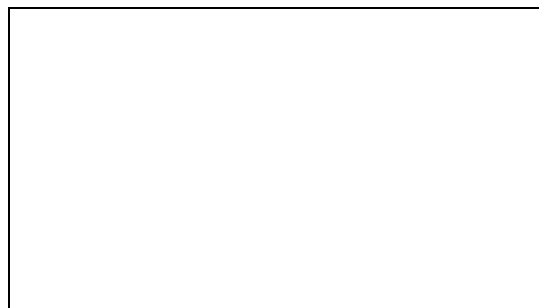


\_\_\_\_\_

8. Draw Newmann projections for the following conformers of 1-bromo-2-chloroethane. (12 points)



(a) anti



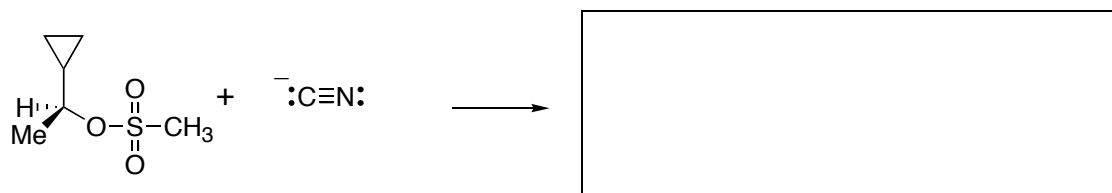
(b) gauche

**Quiz 3** (33 points)

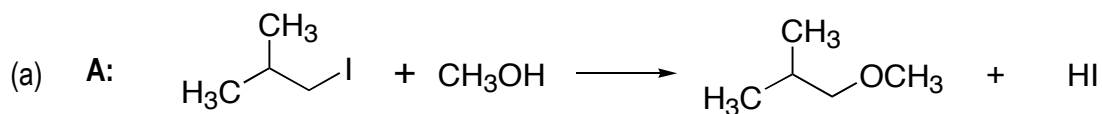
9. Draw two resonance structures for the following compound. (10 points)



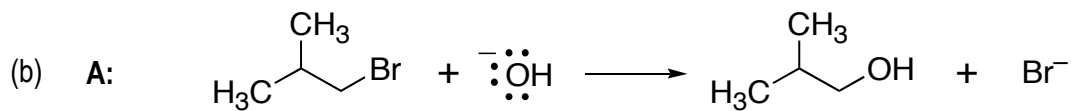
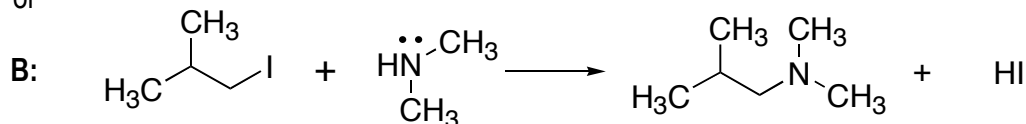
10. Draw the products of the following S<sub>N</sub>2 reaction. (8 points)



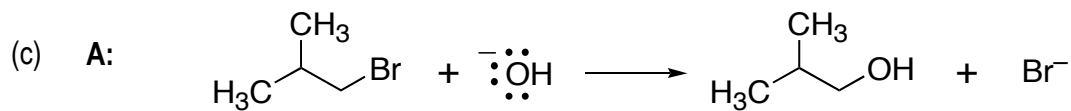
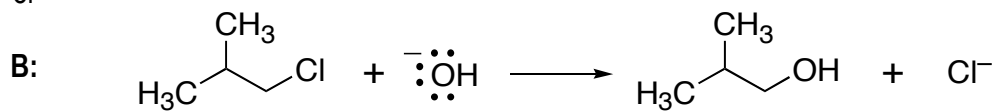
11. For each entry, which of the following S<sub>N</sub>2 reactions will be FASTER? (15 points)



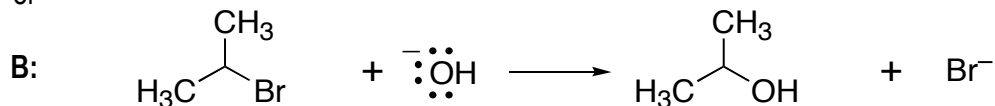
or



or

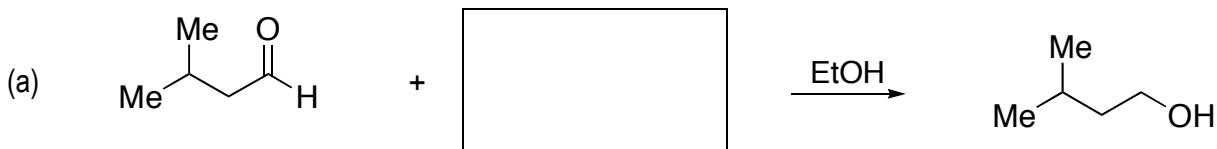


or

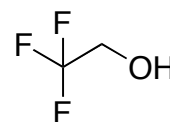
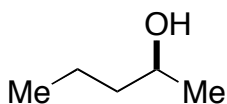


**Quiz 4** (33 points)

12. Give reagents for the following reactions. (12 points)



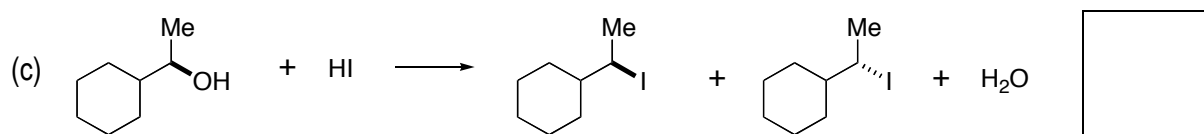
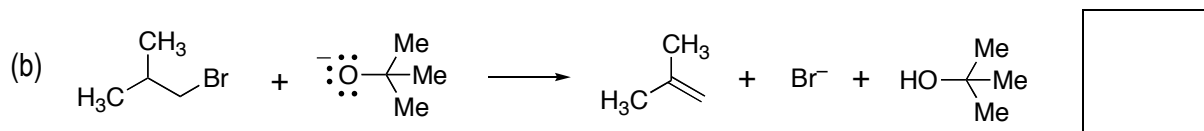
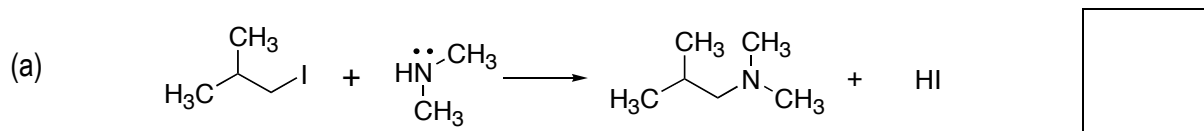
13. Give names for the following compounds, including stereochemistry: (6 points)



(a)

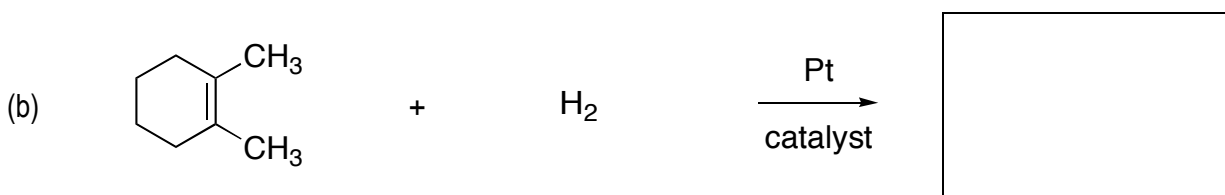
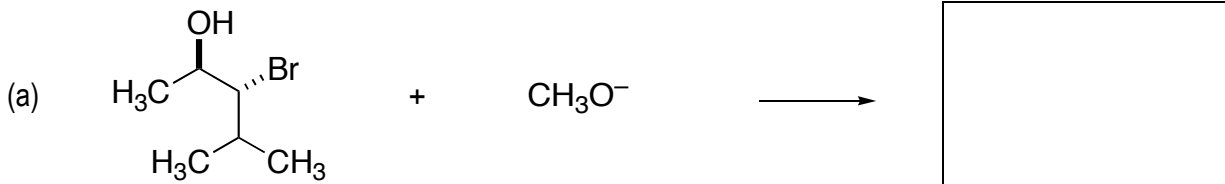
(b)

14. By which mechanism do each of the following reactions proceed ( $S_N2$ ,  $S_N1$ , E2, or E1)? (15 points)

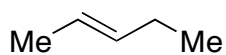


**Quiz 5** (33 points)

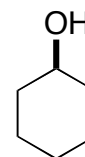
15. Give products for the following reactions. (15 points)



16. Give names for the following compounds, including stereochemistry: (8 points)



(a) \_\_\_\_\_

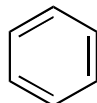


(b) \_\_\_\_\_

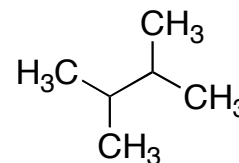
17. How many degrees of unsaturation does each of the following molecules have? (9 points)



(a) \_\_\_\_\_



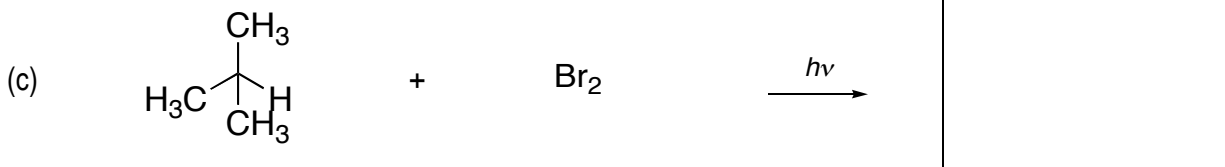
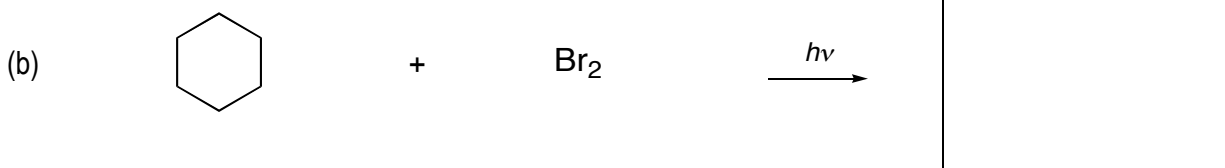
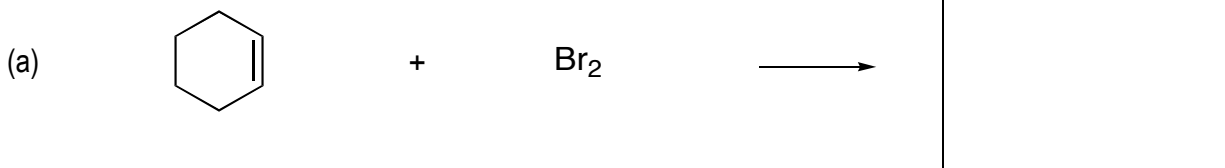
(b) \_\_\_\_\_



(c) \_\_\_\_\_

**Quiz 6** (33 points)

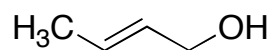
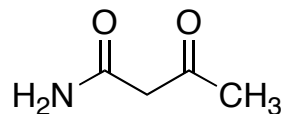
18. Give the major product from the following reactions. (12 points)



19. Draw two resonance structures for the following molecule. (8 points)



20. Name the functional groups found in each of the following molecules. (12 points)



(a) \_\_\_\_\_

(c) \_\_\_\_\_

(b) \_\_\_\_\_

(d) \_\_\_\_\_

