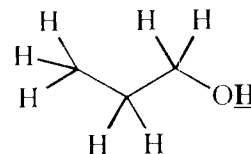
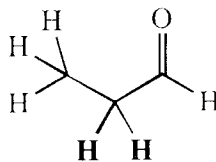
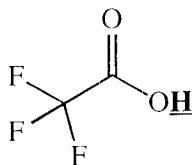
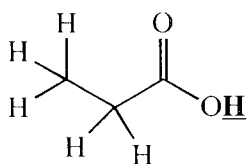


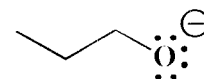
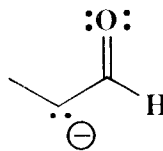
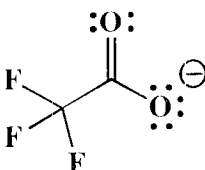
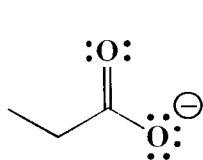
Signature \_\_\_\_\_

Pg 3 \_\_\_\_\_ (15)

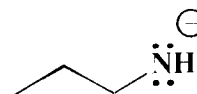
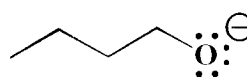
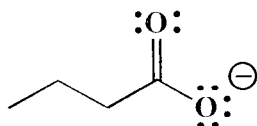
6. (4 pts) Rank all of the following with respect to relative acidity. The acidic H atom in question is indicated in bold and with an underline for each molecule. **Place a 1 under the most acidic molecule, and a 4 under the least acidic molecule.**



7. (4 pts.) Rank the following in terms of anion stability, with a **1 under the anion that is the most stable** and a **4 under the anion that is least stable.**

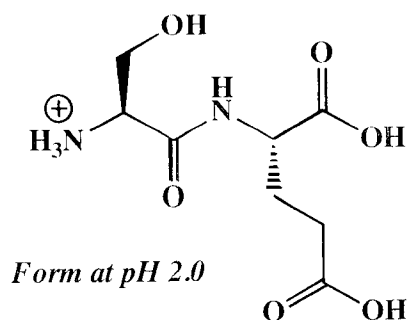


8. (4 pts.) Rank the following in terms of anion stability, with a **1 under the anion that is the most stable** and a **4 under the anion that is least stable.**



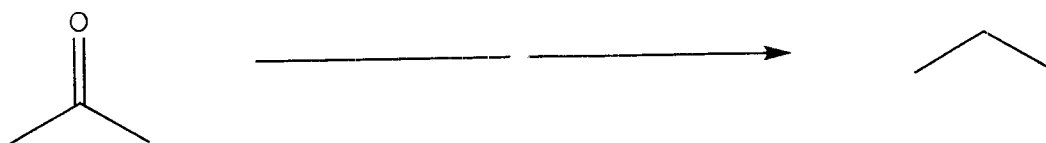
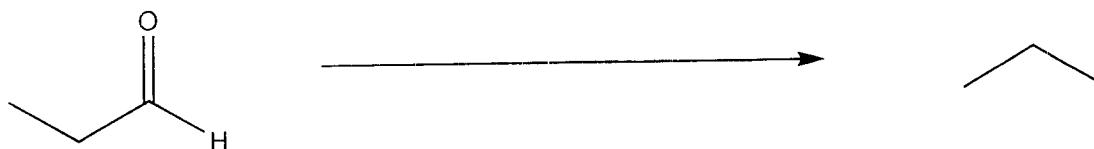
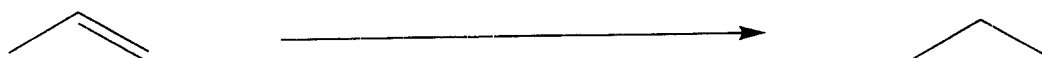
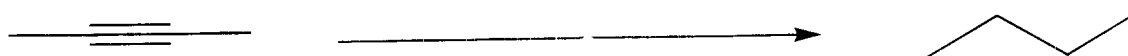
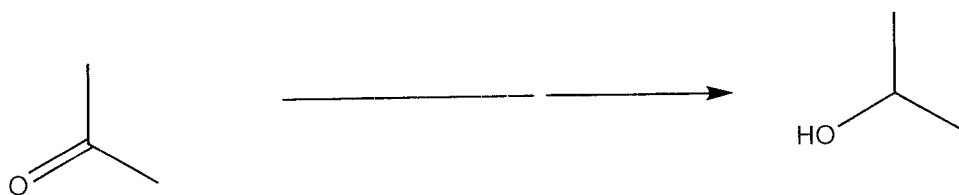
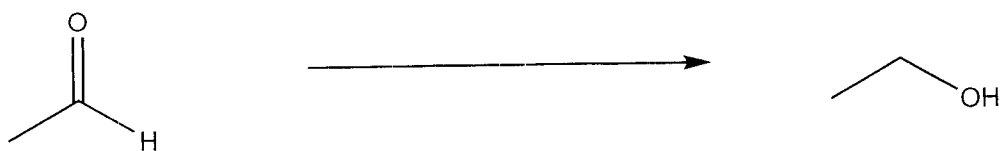
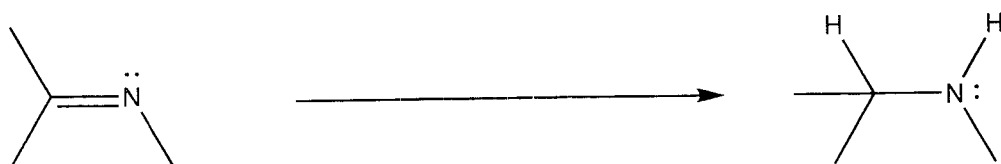
*Please reread the directions to make sure you did not rank backwards!*

9. (3 pts.) Following is a peptide (small chain of amino acids), written in the form it would be found at pH 2.0. **In the box provided, state the total charge expected for this peptide at pH 7.8, a common pH found in biological fluids.**



The total charge on the peptide at pH 7.8

Identify the reducing reagent(s) that will perform the transformations below.

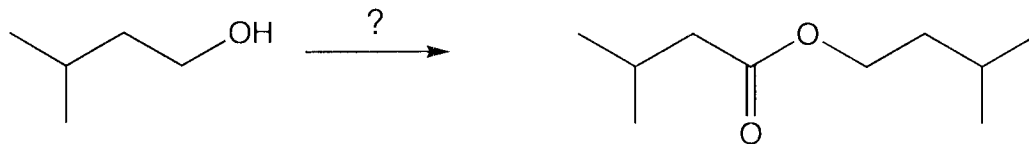


Signature \_\_\_\_\_

Pg 12 \_\_\_\_\_ (7)

17. (7 pts) Using any reagents turn the starting material into the indicated product. All carbon atoms must come from the starting material. Draw all molecules synthesized along the way. When in doubt, draw the molecule! Hint: this should look familiar as a homework problem.

All of the carbons of the product must come from the given starting material.

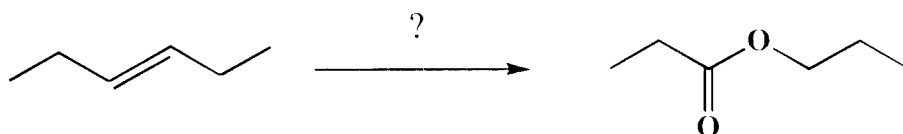


17. Using any reagents turn the starting material into the indicated product. All carbon atoms of the product must come from the starting material. Draw all molecules synthesized along the way. When in doubt, draw the molecule! Label all chiral centers with an asterisk (\*) and make sure to right "Racemic" where appropriate. Hint: this should look familiar as a homework problem.

Remember, all of the carbons of the product must come from the given starting material.

(13 pts)

B)

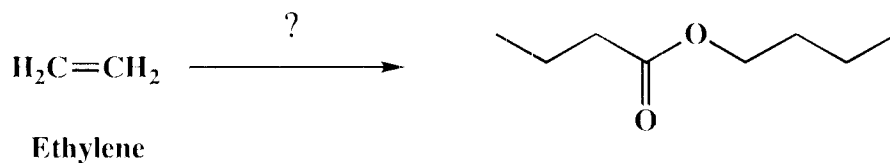


17. Using any reagents turn the starting material into the indicated product. All carbon atoms in the product must come from the starting material. Draw all molecules synthesized along the way. When in doubt, draw the molecule! Label all chiral centers with an asterisk (\*) and make sure to right "Racemic" where appropriate. Hint: this should look familiar as a homework problem.

Remember, all of the carbons of the product must come from the given starting material.

(22 pts)

C)



Using any reagents turn the starting material into the indicated product. All carbon atoms in the product must come from the starting material. Draw all molecules synthesized along the way. When in doubt, draw the molecule! Label all chiral centers with an asterisk (\*) and make sure to right "Racemic" where appropriate.

Remember, all of the carbons of the product must come from the given starting material.

