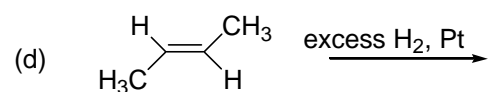
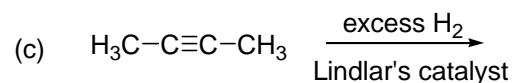
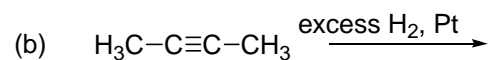
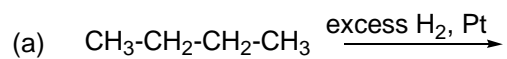


Name _____

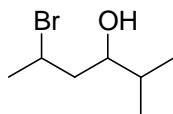
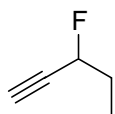
If you do not want your graded exam placed in the box outside my office, then please tick here _____

Answer all the questions.

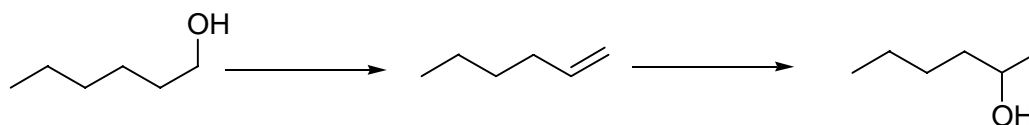
1) Give the products (if any) formed in the following reactions: (12pts)



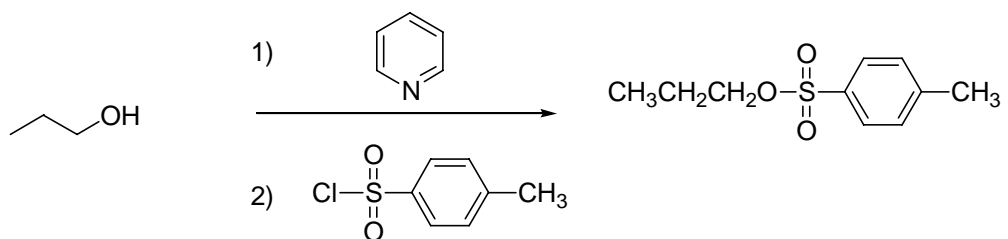
2) Name (in IUPAC form) the following two compounds. (12pts)



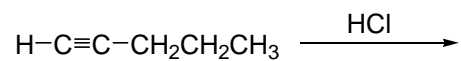
- 3) Below shows a way to indirectly isomerize alcohols, in two steps.
- Provide the reagents to accomplish each step
 - What is the name of the regiochemistry of the addition step (8pts)



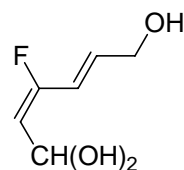
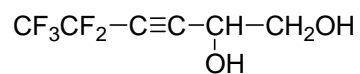
- 4) Draw curly arrows to show the mechanism of the following reaction. (12pts)



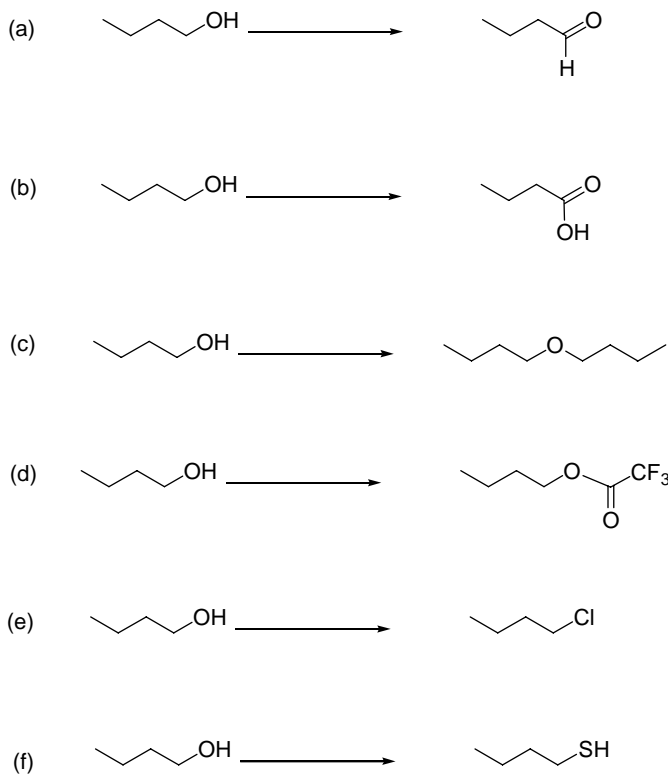
5) The addition of **one equivalent** of HCl to the following alkyne gives only one product (regio-isomer). Write the mechanism of this **addition** reaction, and explain why only one product is observed. (12pts)



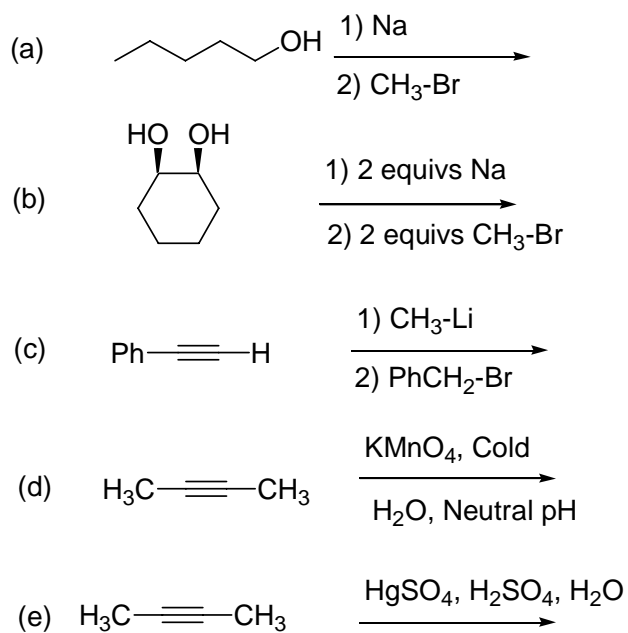
6) For the following compounds, identify the hybridization of **each individual** carbon atom. (11pts)



7) Give reagents for the following transformations. (18pts)



8) Draw the products of the following transformations. (15pts)



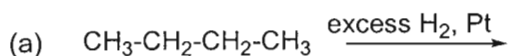
Name

BJORN TOBY-WILDE

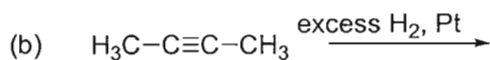
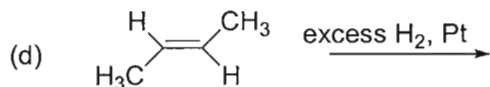
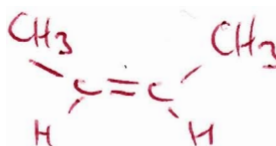
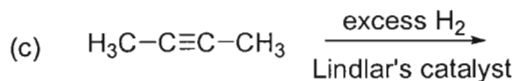
If you do not want your graded exam placed in the box outside my office, then please tick here _____

Answer all the questions.

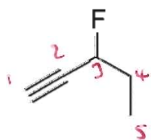
1) Give the products (if any) formed in the following reactions: (12pts)



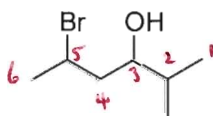
No Reaction

 $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_3$  $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_3$

2) Name (in IUPAC form) the following two compounds. (12pts)



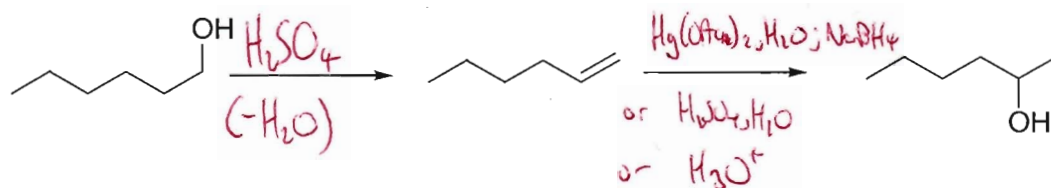
3-FLUORO-1-PENTYNE



5-BROMO-2-METHYL-3-HEXANOL

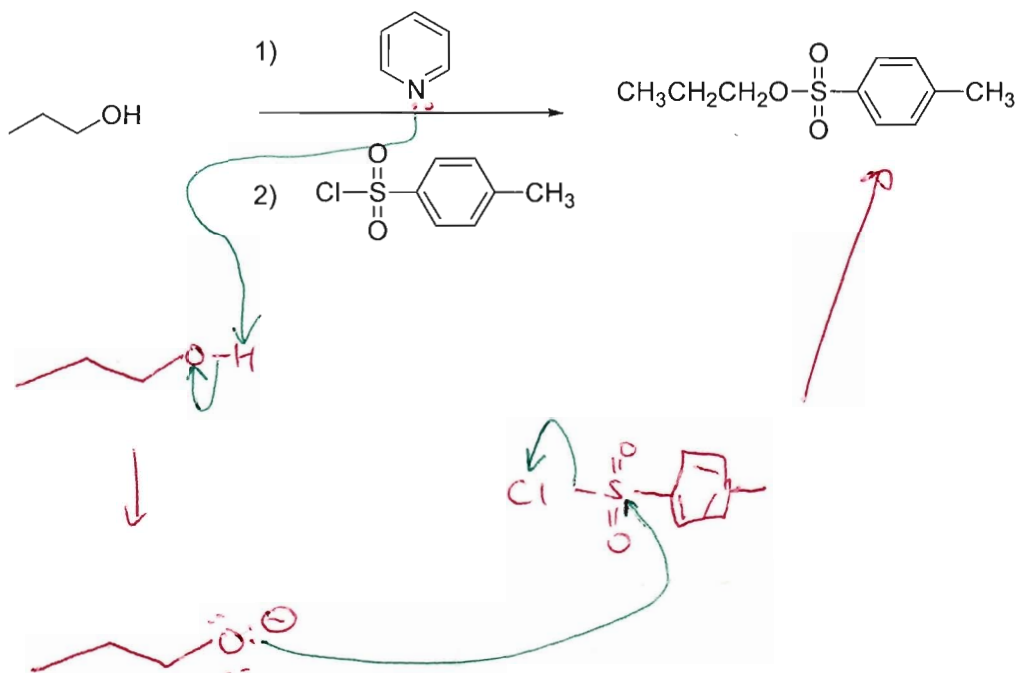
3) Below shows a way to indirectly isomerize alcohols, in two steps.

- Provide the reagents to accomplish each step
- What is the name of the regiochemistry of the addition step (8pts)

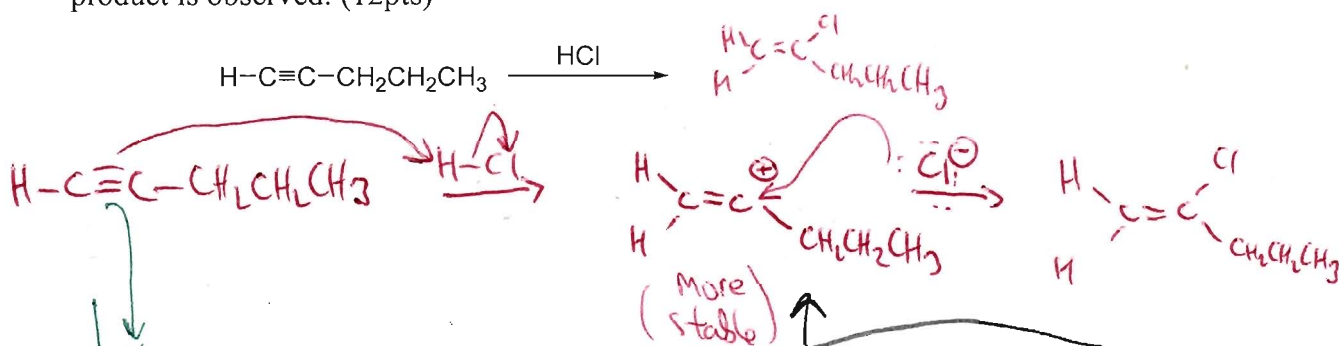


MARKOVNIKOV ADDITION
OF H-OH.

4) Draw curly arrows to show the mechanism of the following reaction. (12pts)

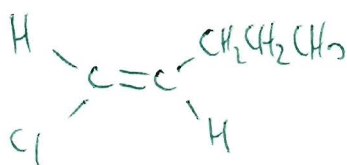
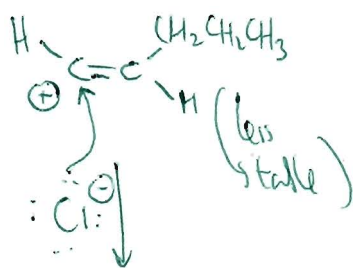


5) The addition of **one equivalent** of HCl to the following alkyne gives only one product (regio-isomer). Write the mechanism of this **addition** reaction, and explain why only one product is observed. (12pts)



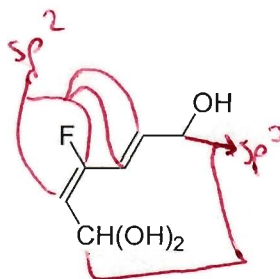
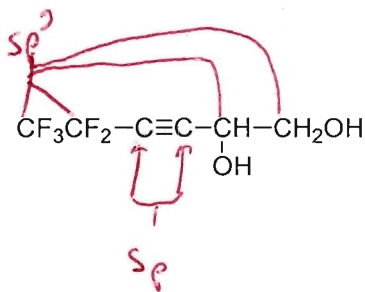
These are two possible cation intermediates, however, the red cation is preferred since it is lower energy because the positively charged carbon is the more highly alkyl substituted.

This preferred regiochemistry is **MARCOVNIKOV** Addition

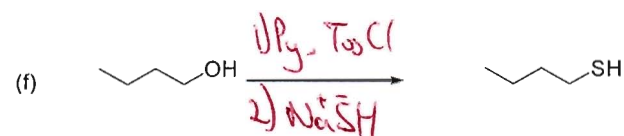
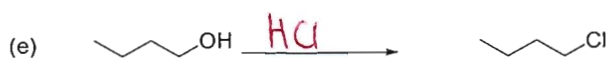
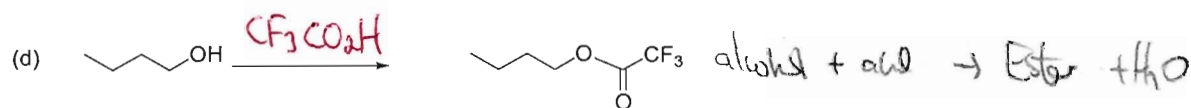
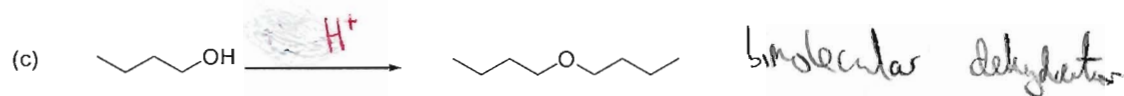
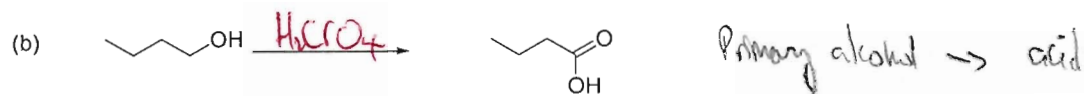
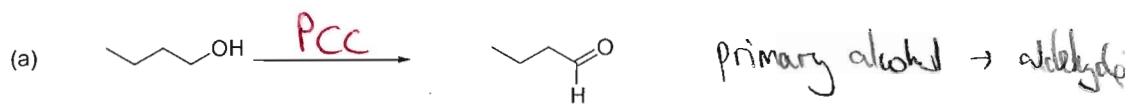


(E&Z)

6) For the following compounds, identify the hybridization of **each individual** carbon atom. (11pts)



7) Give reagents for the following transformations. (18pts)



8) Draw the products of the following transformations. (15pts)

