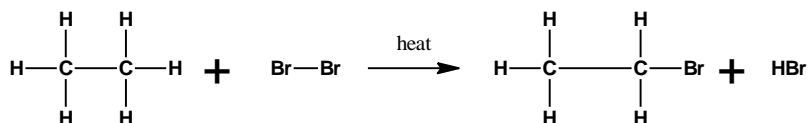


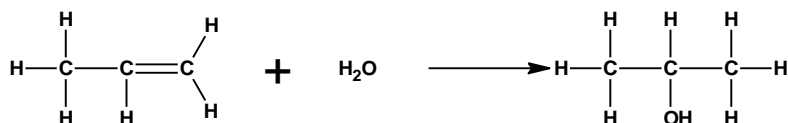
Types of Organic Reactions – Worksheet #8

1. Identify the type of organic reaction represented by each of the following equations:

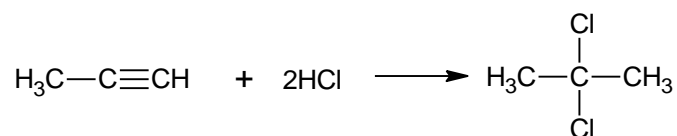
a.



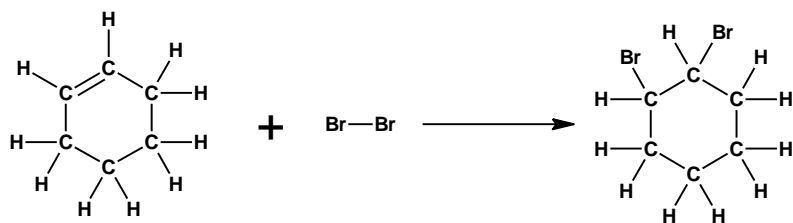
b.



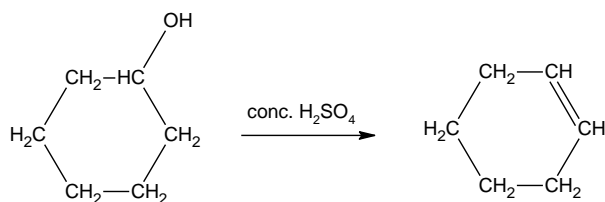
c.



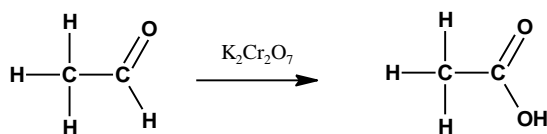
d.



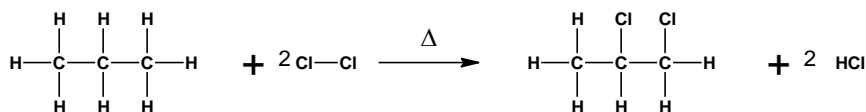
e.



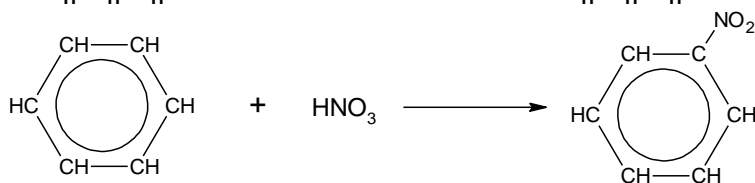
f.



g.



h.



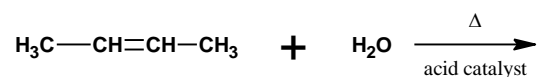
2. Write the equation for the addition reaction involving propene and bromine.

3. Complete the following equations by writing the structures of the products that form. If no reaction occurs, write "no reaction".

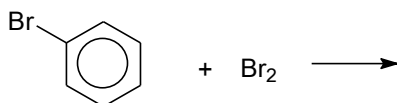
a.



b.

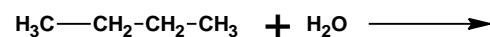


c.

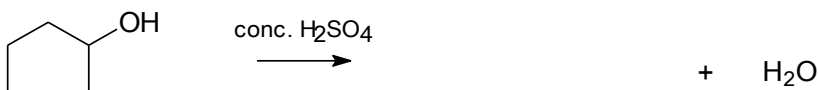


(3 possible products but ortho isomer is favoured)

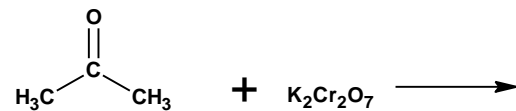
d.



e.



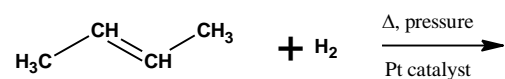
f.



g.



h.

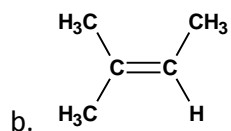
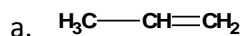


4. a) Write the equation for the complete oxidation (combustion) of 2-butanol.

b) Write the equation for the mild oxidation of 2-butanol with KMnO_4 .

5. Write the equation for the addition of hydrochloric acid to ethene. What is the name of the product formed?

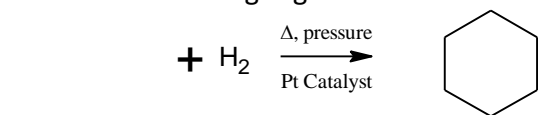
6. Predict the product formed when HCl is reacted with each of the following compounds. Use Markovnikov's Rule to predict the product.



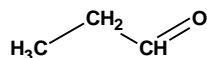
7. Describe the chemical test that could be carried out to distinguish between hexane and hexene.

8. Write the equation for the substitution reaction involving one molecule of each of ethane and bromine.

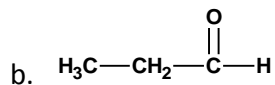
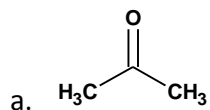
9. What is the structure of the missing organic reactant in each of the following:



10. Write the structure of the carboxylic acid that forms when the following aldehyde is oxidized:



11. Which of these two compounds is easily oxidized by KMnO_4 ? Write the structure of the organic product of the oxidation.



12. What are the products of the mild oxidation of

a. 1-propanol

b. 2-propanol

13. a) Draw the following expanded structures for these compounds.



b) Using oxidation numbers for carbon, show that this sequence of compounds represents an oxidation process: