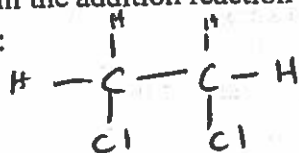


1) Draw a structural formula to represent the products formed from the addition reaction of Cl_2 and C_2H_4 below:



2) Which is a product of a condensation reaction?

A. O_2

B. CO_2

C. H_2

D. H_2O

3) An alcohol and an organic acid are combined to form water and a compound with a pleasant odor.

This reaction is an example of

A. saponification

B. esterification

C. polymerization

D. fermentation

4) Which type of reaction is formed by removing water?

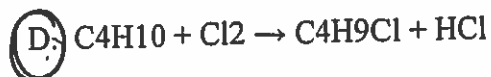
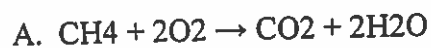
A. condensation polymerization

B. addition polymerization

C. esterification

D. saponification

5) Which equation represents a substitution reaction?



*← 2 products
- saturated reactant*

6) The products of condensation polymerization are a polymer and

A. carbon dioxide

B. water

C. ethanol

D. glycerol

7) Given: $\text{C}_6\text{H}_{12}\text{O}_6 \rightarrow 2\text{C}_2\text{H}_5\text{OH} + 2\text{CO}_2$

The chemical process illustrated by this equation is

A. fermentation

B. saponification

C. esterification

D. polymerization

8) One of the products of a fermentation reaction is

A. an alcohol

B. an alkane

C. a salt

D. an ester

9) Which is the product of hydrolysis of an animal fat by a strong base?

A. water

B. gasoline

C. soap

D. toluene

10) Nylon, starch, and cellulose are products formed as a result of

A. oxidation

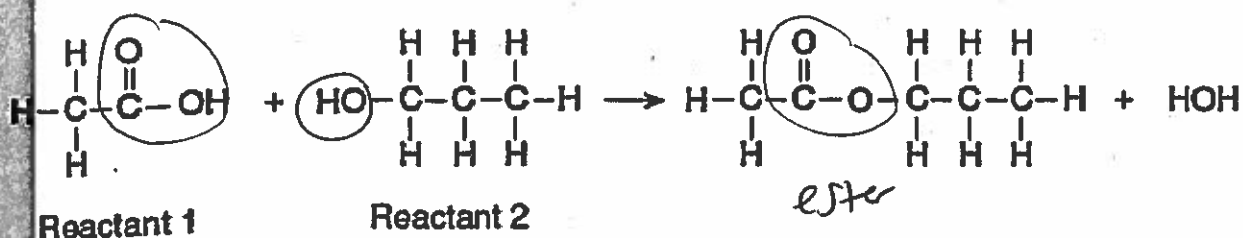
B. fermentation

C. substitution

D. polymerization

Short Answer Practice

- 1) Base your answer to the question on the information below.
 Many artificial flavorings are prepared using the type of organic reaction shown below.



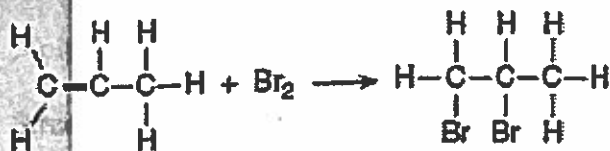
- A. What is the name of this organic reaction?

Esterification

- B. To what class of organic compounds does reactant 2 belong?

Alcohol

- 2) Base your answer to the question on the equation below, which represents an organic compound reacting with bromine.



- A. What is the IUPAC name for the organic compound that reacts with Br₂?

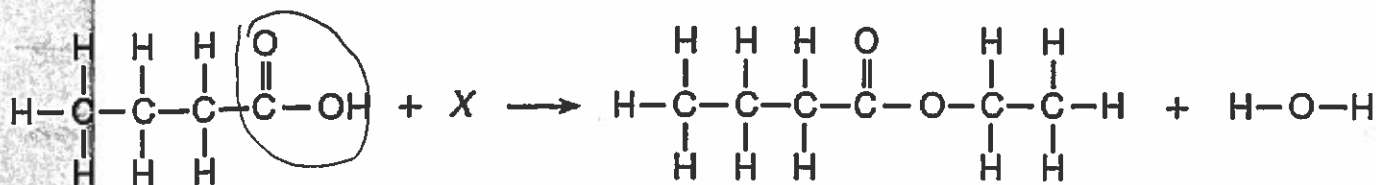
1-propene

- B. What type of organic reaction is represented by this equation?

Addition

- 3) Base your answer to this question on the information below.

The equation below represents the reaction between butanoic acid and an unidentified reactant, X.



- A. Identify the type of organic reaction represented by the equation.

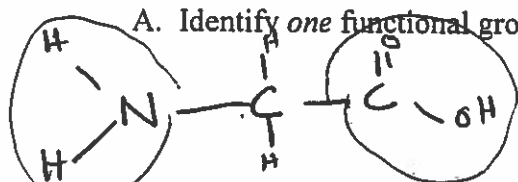
Esterification

- B. Name the reactant used.

Acid : butanoic Acid

4) Base your answer to this question on the information below.

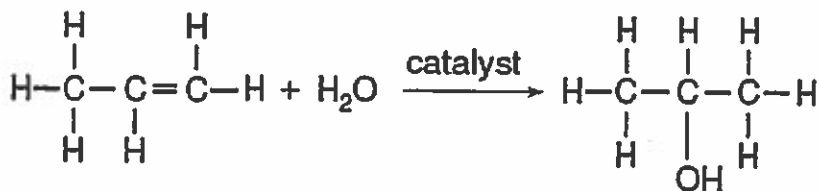
Glycine, $\text{NH}_2\text{CH}_2\text{COOH}$, is an organic compound found in proteins. Acetamide, CH_3CONH_2 , is an organic compound that is an excellent solvent. Both glycine and acetamide consist of the same four elements, but the compounds have different functional groups.



- Amine (NH_2)
or
- organic Acid (COOH)

5) Base your answer to this question on the information below.

In one industrial organic reaction, C_3H_6 reacts with water in the presence of a catalyst. This reaction is represented by the balanced equation below.



A. Explain, in terms of bonding, why C_3H_6 is classified as an unsaturated hydrocarbon.
Unsaturated b/c it has a double bond.

B. Write the IUPAC name for the organic reactant.

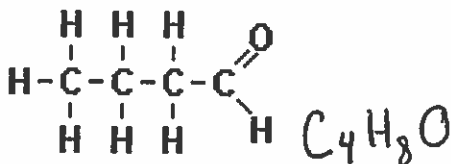
1-propene

C. Identify the class of compound to which the product of the reaction belongs.

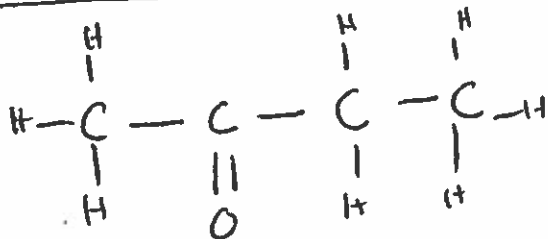
Alcohol

6) Given the compound below, draw two isomers. (same # atoms / different structure)

butanal

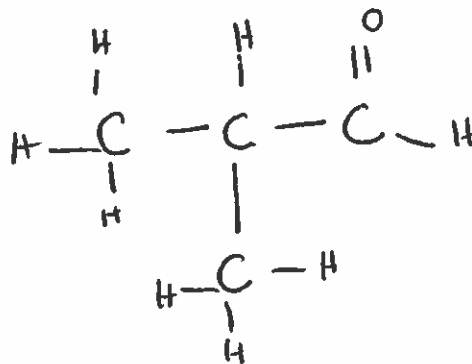


↑
different properties



$\text{C}_4\text{H}_8\text{O}$

2-butanone



$\text{C}_4\text{H}_8\text{O}$

2-methyl propanal