

Types Of Organic Reactions

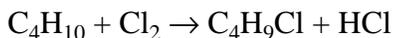
1 Which terms represent two types of organic reactions?

- (1) sublimation and deposition
- (2) sublimation and fermentation
- (3) saponification and deposition
- (4) saponification and fermentation

2 Which equation represents fermentation?

- (1) $C_2H_4 + H_2O \rightarrow CH_3CH_2OH$
- (2) $C_2H_4 + HCl \rightarrow CH_3CH_2Cl$
- (3) $C_6H_{12}O_6 \rightarrow 2CH_3CH_2OH + 2CO_2$
- (4) $2CH_3CHO \rightarrow C_3H_5CHO + H_2O$

3 Given the equation for a reaction:



Which type of reaction is represented by the equation?

- (1) addition
- (2) substitution
- (3) fermentation
- (4) polymerization

4 Which type of reaction produces soap?

- (1) polymerization
- (2) combustion
- (3) fermentation
- (4) saponification

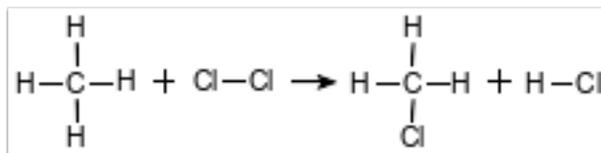
5 Which equation represents an addition reaction?

- (1) $C_3H_8 + Cl_2 \rightarrow C_3H_7Cl + HCl$
- (2) $C_3H_6 + Cl_2 \rightarrow C_3H_6Cl_2$
- (3) $CaCl_2 + Na_2CO_3 \rightarrow CaCO_3 + 2NaCl$
- (4) $CaCO_3 \rightarrow CaO + CO_2$

6 A reaction between an alcohol and an organic acid is classified as

- (1) esterification
- (2) fermentation
- (3) saponification
- (4) substitution

7 Given the equation representing a reaction:



Which type of reaction is represented by this equation?

- (1) addition
- (2) esterification
- (3) polymerization
- (4) substitution

8 Ethanoic acid and 1-butanol can react to produce water and a compound classified as an

- (1) aldehyde
- (2) amide
- (3) ester
- (4) ether

9 Which type of reaction includes esterification and polymerization?

- (1) decomposition
- (2) neutralization
- (3) organic
- (4) nuclear

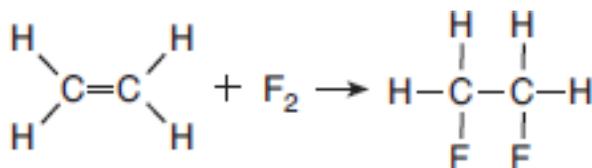
10 Which type of organic reaction produces both water and carbon dioxide?

- (1) addition
- (2) combustion
- (3) esterification
- (4) fermentation

11 Two types of organic reactions are

- (1) deposition and saponification
- (2) deposition and transmutation
- (3) polymerization and saponification
- (4) polymerization and transmutation

12 Given the balanced equation representing a reaction:

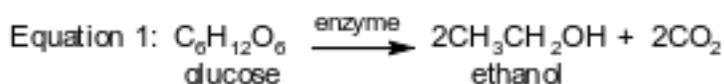


Which type of reaction is represented by this equation?

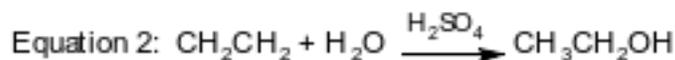
- (1) addition (3) polymerization
 (2) fermentation (4) substitution

Base your answers to questions 13 on the information below and on your knowledge of chemistry.

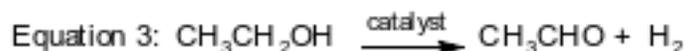
In industry, ethanol is primarily produced by two different reactions. One process involves the reaction of glucose in the presence of an enzyme that acts as a catalyst. The equation below represents this reaction.



In another reaction, ethanol is produced from ethene and water. The equation below represents this reaction in which H_2SO_4 is a catalyst.



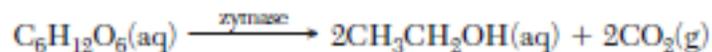
Industrial ethanol can be oxidized using a catalyst to produce ethanal. The equation representing this oxidation is shown below.



13 Identify the type of organic reaction represented by equation 1.

Base your answers to questions 14 on the information below.

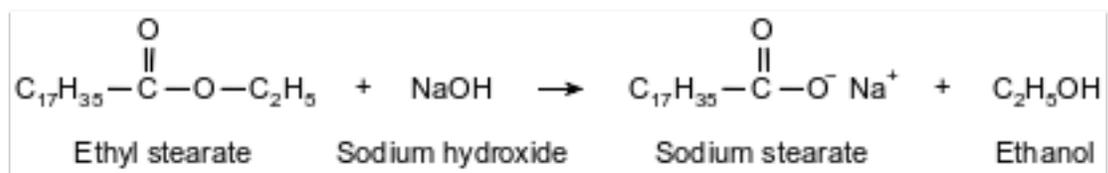
In one method of making bread, starch is broken down into glucose. Zymase, an enzyme present in yeast, acts as a catalyst for the reaction in which the glucose reacts to produce ethanol and carbon dioxide. The carbon dioxide gas causes the bread dough to rise. The balanced equation below represents the catalyzed reaction.



14 Identify the type of organic reaction represented by this equation.

Base your answers to questions 15 on the information below.

One type of soap is produced when ethyl stearate and sodium hydroxide react. The soap produced by this reaction is called sodium stearate. The other product of the reaction is ethanol. This reaction is represented by the balanced equation below.



15 Identify the type of organic reaction used to make soap.

Answer Keys

1 4

2 3

3 2

4 4

5 2

6 1

7 4

8 3

9 3

10 2

11 3

12 1

13 Allow 1 credit. Acceptable responses include, but are not limited to:

- fermentation
- fermenting

14 Allow 1 credit. Acceptable responses include, but are not limited to:

- fermentation

15 Allow 1 credit for saponification.