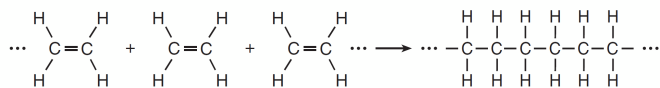


1. Given the equation:



Which type of reaction is represented by this equation?

- A) combustion B) esterification
C) polymerization D) substitution

2. Two types of organic reactions are

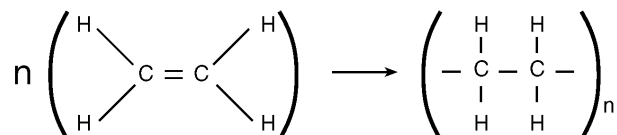
- A) deposition and saponification
B) deposition and transmutation
C) polymerization and saponification
D) polymerization and transmutation

3. The reaction that joins thousands of small, identical molecules to form one very long molecule is called

- A) esterification B) fermentation
C) polymerization D) substitution

4. Which type of reaction is represented by the equation below?

Note: n and n are very large numbers equal to about 2000.



- A) esterification B) fermentation
C) saponification D) polymerization

5. The reaction $n\text{C}_2\text{H}_4 \rightarrow (-\text{C}_2\text{H}_4-)_n$ is an example of

- A) saponification B) esterification
C) polymerization D) fermentation

6. The reaction during which monomers are combined and water is released is called

- A) saponification
B) neutralization
C) addition polymerization
D) condensation polymerization

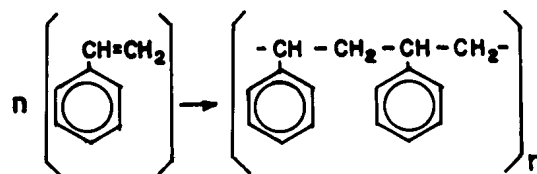
7. A condensation polymerization reaction is best described as the

- A) joining of monomers by the removal of oxygen
B) joining of monomers by the removal of water
C) oxidation of a hydrocarbon by oxygen
D) oxidation of a hydrocarbon by water

8. When C_2H_4 molecules polymerize, the name of the polymer formed is

- A) polymethylene B) polyethylene
C) polypropylene D) polybutylene

9. Which process is represented by the following diagram?

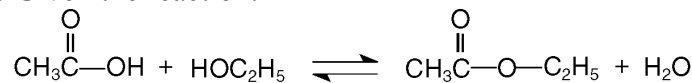


- A) polymerization B) saponification
C) combustion D) hydrolysis

10. The process of opening double bonds and joining monomer molecules to form polyvinyl chloride is called

- A) addition polymerization
B) condensation polymerization
C) dehydration polymerization
D) neutralization polymerization

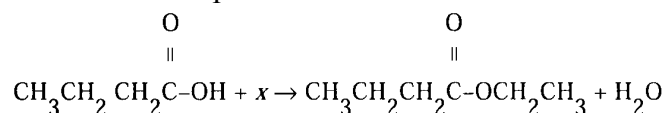
11. Given the reaction:



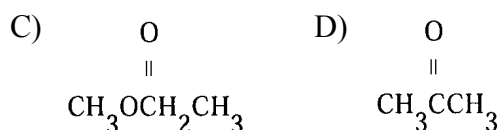
This reaction is an example of

- A) fermentation B) saponification
C) hydrogenation D) esterification

12. Given the incomplete reaction:



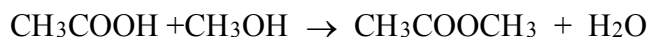
Which compound is represented by x ?



13. Which organic compounds are often used to create fragrances for the perfume industry?

- A) ethers B) esters
C) alkanes D) alkynes

14. In the reaction:



the organic product can best be identified as

- A) an alcohol B) a ketone
C) an ester D) an acid

15. 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) esterification B) polymerization
C) fermentation D) saponification

16. A reaction between an alcohol and an organic acid is referred to as

- A) cracking B) fermentation
C) saponification D) esterification

17. Esterification is the reaction of an acid with

- A) water B) an alcohol
C) a base D) a salt

18. Which equation represents an esterification reaction?

- A) $\text{C}_6\text{H}_{12}\text{O}_6 \rightarrow 2 \text{C}_2\text{H}_5\text{OH} + 2 \text{CO}_2$
B) $\text{C}_5\text{H}_{10} + \text{H}_2 \rightarrow \text{C}_5\text{H}_{12}$
C) $\text{C}_3\text{H}_8 + \text{Cl}_2 \rightarrow \text{C}_3\text{H}_7\text{Cl} + \text{HCl}$
D) $\text{HCOOH} + \text{CH}_3\text{OH} \rightarrow \text{HCOOCH}_3 + \text{HOH}$

19. What are the two main products of a fermentation reaction?

- A) ethanol and carbon dioxide
B) ethanol and water
C) sugar and carbon dioxide
D) sugar and water

20. Which reaction produces ethanol?

- A) combustion B) esterification
C) fermentation D) polymerization

21. What are the products of a fermentation reaction?

- A) an alcohol and carbon monoxide
B) an alcohol and carbon dioxide
C) a salt and water
D) a salt and an acid

22. Which equation represents fermentation?

- A) $\text{C}_2\text{H}_6 + \text{Cl}_2 \rightarrow \text{C}_2\text{H}_6\text{Cl} + \text{HCl}$
B) $\text{C}_6\text{H}_{12}\text{O}_6 \rightarrow 2 \text{C}_2\text{H}_5\text{OH} + 2 \text{CO}_2$
C) $\text{CH}_3\text{COOH} + \text{CH}_3\text{OH} \rightarrow \text{CH}_3\text{COOCH}_3 + \text{H}_2\text{O}$
D) $n\text{C}_2\text{H}_4 \rightarrow (\text{C}_2\text{H}_4)_n$

23. The fermentation of $\text{C}_6\text{H}_{12}\text{O}_6$ will produce carbon dioxide and

- A) water B) a polymer
C) an ester D) an alcohol

24. The reaction $\text{C}_6\text{H}_{12}\text{O}_6 \rightarrow 2\text{C}_2\text{H}_5\text{OH} + 2 \text{CO}_2$ is an example of

- A) esterification B) distillation
C) fermentation D) saponification

25. When hydrocarbons burn completely in an excess of oxygen, the products are

- A) carbon monoxide and water
B) carbon dioxide and water
C) carbon monoxide and carbon dioxide
D) carbon dioxide and carbon

26. When butane burns in an excess of oxygen, the principal products are

- A) CO_2 and H_2O B) CO_2 and H_2
C) CO and H_2O D) CO and H_2

-
27. Which reaction best represents the complete combustion of ethene?
- A) $C_2H_4 + HCl \rightarrow C_2H_5Cl$
B) $C_2H_4 + Cl_2 \rightarrow C_2H_4Cl_2$
C) $C_2H_4 + 3 O_2 \rightarrow 2 CO_2 + 2 H_2O$
D) $C_2H_4 + H_2O \rightarrow C_2H_5OH$
28. Most hydrocarbons undergo oxidation in the presence of excess oxygen to form
- A) carbon monoxide and carbon
B) carbon monoxide and water
C) carbon dioxide and carbon
D) carbon dioxide and water
29. Which reaction results in the production of soap?
- A) esterification B) fermentation
C) polymerization D) saponification
30. In which kind of reaction is soap one of the products?
- A) oxidation B) saponification
C) neutralization D) fermentation
31. The principal products of saponification, a reaction between a fat and a base, are soap and
- A) water B) glycerol
C) carbon dioxide D) ethyl alcohol
32. The hydrolysis of a fat by a base is called
- A) saponification B) esterification
C) polymerization D) neutralization
33. Which is a product of the hydrolysis of an animal fat by a strong base?
- A) water B) gasoline
C) soap D) toluene
34. What is a product of both fermentation reactions and saponification reactions?
- A) an ester B) an acid
C) an alcohol D) a soap
35. The equation
- $$CH_3OH + CH_3OH \rightarrow CH_3OCH_3 + H_2O$$
- illustrates the
- A) oxidation of alcohols to form a ketone
B) oxidation of alcohols to form an acid
C) dehydration of alcohols to form a polymer
D) dehydration of alcohols to form an ether
-