

Knowledge check

Subject area: Organic chemistry

Level: 14–16 years (Foundation)

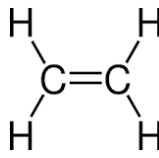
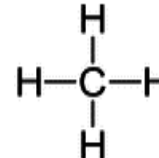
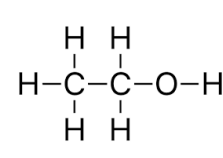
Topic: Alcohols

 Source: [rsc.li/3ntOcpM](https://www.rsc.li/3ntOcpM)

1. These three molecules include an alkane, an alkene and an alcohol.

a) State which molecules belong to which group.

Write your answer underneath each molecular structure.

b) Name each of the substances in part a).

Write your answer in the same boxes.

c) Indicate the alcohol functional group on one of the molecules shown.

Circle in the diagram above.

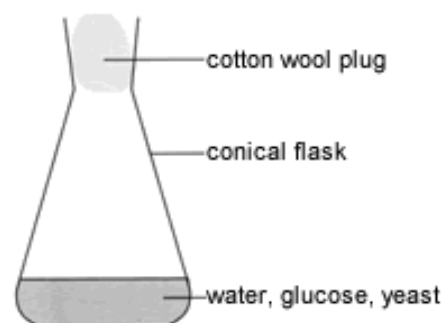
d) Use the molecular structure of ethanol to write down the chemical formula for ethanol.

2. Janice and Matt set up this equipment then waited for one week.

A chemical reaction takes place in which new substances are made.

a) Complete the word equation for this reaction:

Glucose → + carbon dioxide

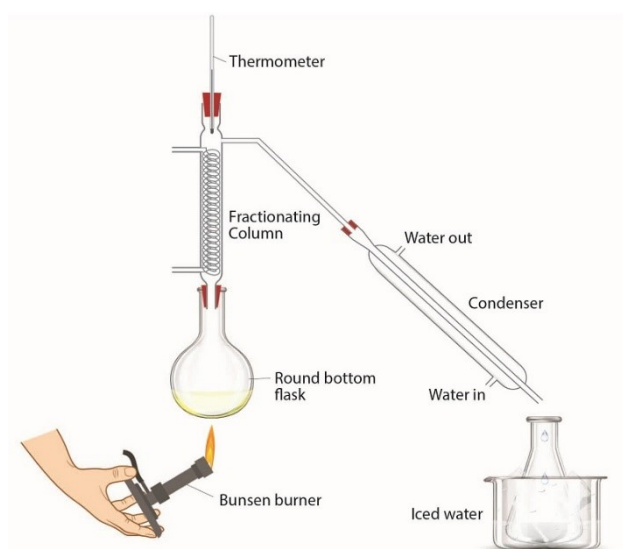


b) What is the name given to the type of reaction taking place?

c) Explain why yeast is used in the experiment.

Janice and Matt then add the mixture from the conical flask to the round-bottom flask in a different experiment.

d) What is the purpose of this new experiment?



Source: Royal Society of Chemistry

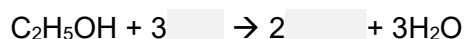
e) Explain how this experiment works.

f) What is the name of this technique or experiment?

- g) Janice and Matt add a small sample of the ethanol they have made and add it to a crucible.**

They add a lighted splint to the ethanol and notice that it catches fire.

Complete the equation to show what happens when ethanol burns:



- 3. Ravi carries out an experiment with a mixture of ethanol dissolved in water.**

He leaves the ethanol open to the air for two weeks.

He notices that a very slow chemical reaction takes place.

He removes a few drops of his new mixture and adds some universal indicator solution.

He notices that the indicator turns orange.

- a) What type of substance has formed?**

- b) What is the name of the new organic product formed?**

- c) State the name of the chemical substance that reacts with ethanol in this reaction.**

- d) What type of reaction has taken place?**

- e) Complete the diagram to show the structure of the new organic product made.**

