

Knowledge check

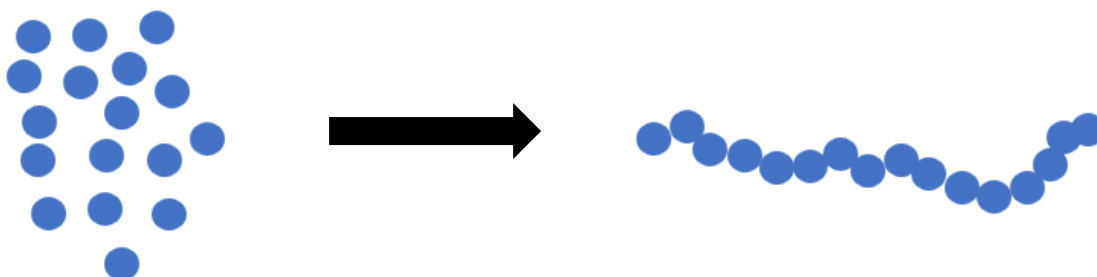
Subject area: Organic chemistry

Level: 14–16 years (Foundation)

Topic: Addition polymerisation

 Source: rsc.li/2GRWsj

1. The diagram shows the process called polymerisation.



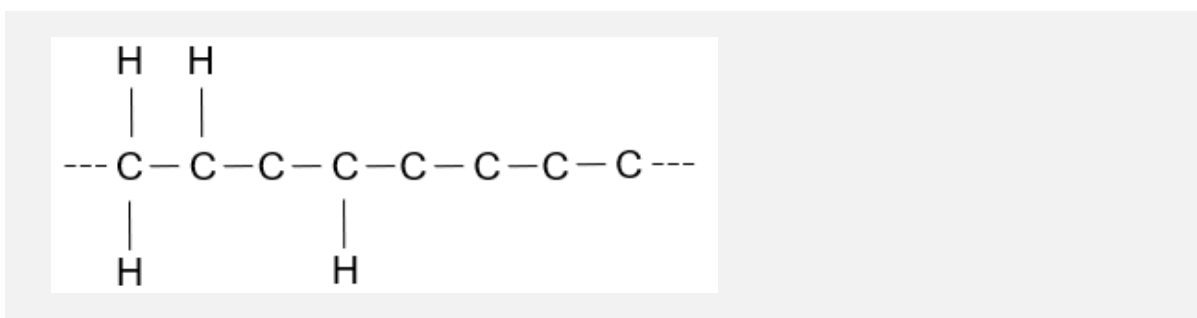
Which of the following statements are true or false about this process?
Write a 'T' if true, and an 'F' for false in the box.

- | | |
|--|--------------------------|
| a) The particles on the left are called monomers. | <input type="checkbox"/> |
| b) In this process, many molecules bond together to form a very long chain molecule. | <input type="checkbox"/> |
| c) The number of molecules on each side is the same. | <input type="checkbox"/> |
| d) Different monomers can be used to make new substances having different properties and uses. | <input type="checkbox"/> |
| e) Ethane is an example of a monomer. | <input type="checkbox"/> |
| f) Many polymers break down in the environment and are biodegradable. | <input type="checkbox"/> |
| g) Propene forms a polymer called poly(propene). | <input type="checkbox"/> |
| h) Unsaturated molecules can form addition polymers. | <input type="checkbox"/> |

2. This question is about making poly(ethene) from ethene.

a) Draw the structure of an ethene molecule showing all of the chemical bonds.

b) Draw the missing bonds on this section of a poly(ethene).

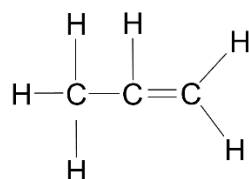


c) How many ethene molecules are needed to make the part of the chain shown in part b)?

d) Complete the table below that describes the differences between ethene and poly(ethene):

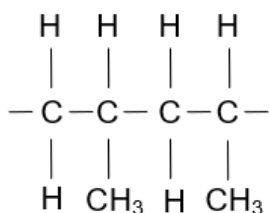
	Ethene	Poly(ethene)
Carbon double bonds present?		
Unsaturated or saturated		
Observation on adding bromine water		

3. This question is about the molecule below.



a) Name this molecule.

The structure below shows part of a polymer made from the molecule in part a).



b) What is the name of this polymer?

c) Describe what happens to the carbon double bond in the molecule in part a) when it makes a polymer.