

AQA, OCR, Edexcel

GCSE Science

GCSE Chemistry

Synthetic and Naturally
Occurring Polymers
Answers

M M E

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Total Marks: /26

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Q1: Give an example of an alkene polymer.

A= Poly (ethene/propene/butene etc)

(1 mark)

Q2: How are polymers made?

A= monomers joined together (1 mark) by polymerisation (1 mark).

(2 marks)

Q3: Fill in the gaps in the following sentence.

In these types of reactions, many molecules join together to form large molecules

(4marks)

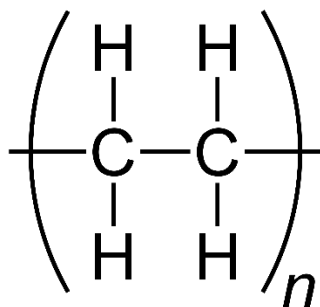
Q4: Are these statements true or false?

- a) In addition polymers the repeating unit has more atoms than the monomer. False
b) Only one molecule is formed in a polymerisation reaction True

(2 marks)

Q5: Draw a diagram to represent the polymer for the monomer, ethene.

2 marks for correct structure, 1 mark for bracket and n.



(3 marks)

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Condensation polymerisation

Q6: Define condensation polymerisation.

A= Condensation polymerisation involves monomers with two functional groups (1 mark). When these monomers react they join together (1 mark) usually losing small molecules, so are called condensation polymerisation reactions (1 mark).

(3 marks)

Q7: What must the two monomers have in common for the condensation polymerisation reaction to occur?

A= The same functional groups

(1 mark)

Q8: What do they polymerise to produce?

A= polyester

(1 mark)

Amino acids

Q9: How many functional groups do amino acids have?

Two.

(1 mark)

Q10: Complete the following sentences.

Amino acids react by **condensation polymerisation** (1 mark) to produce **polypeptides**. Different amino acids can be combined in the same chain to produce the **polypeptide** (1 mark).

(2 marks)

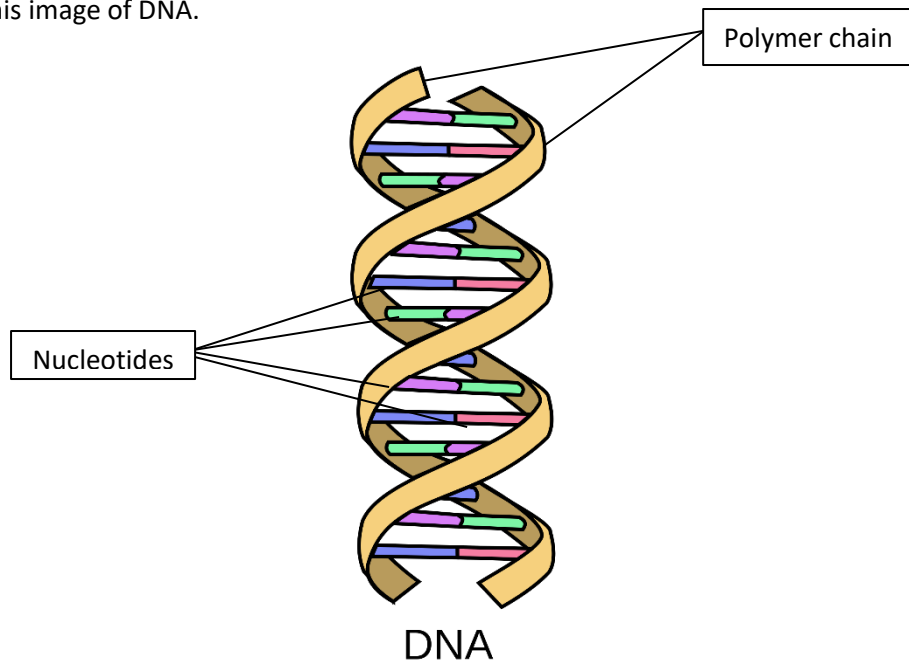
DNA and other naturally occurring polymers

Q11: What does DNA stand for?

A= deoxyribonucleic acid

(1 mark)

Q12: Label this image of DNA.



(2 marks)

Q13: What is the name for the structure of DNA?

A= double helix

(1 mark)

Q14: Give two examples of naturally occurring polymers that are important for life?

A= (any two of) Proteins/named protein, starch, cellulose, glycogen

(2 marks)