AQA GCSE Chemistry

Organic chemistry mark scheme · goes with “Organic chemistry · Foundation tier” · whiteboardchemistry.com/revision/gcse-chemistry/exam-questions

Mark schemes

Organic chemistry · Foundation tier · 5 questions

Q1 · June 2023 · Paper 2 Foundation · Q2 · [12 marks]

02.1

(the poly(propene) beaker will begin to) melt

allow poly(propene) has a low melting point

(the poly(propene) beaker will) burn / ignite

allow poly(propene) is flammable

[2 marks]

02.2

(poly(propene) beakers are) less easily broken

allow (poly(propene) beakers are) less likely to shatter

allow (poly(propene) beakers are) tougher

allow (poly(propene) beakers have a) higher resistance to impact

[1 mark]

02.3

boron trioxide

[1 mark]

02.4

Symbol for Name of element element

Number of atoms of element in one molecule of propene

C carbon

3

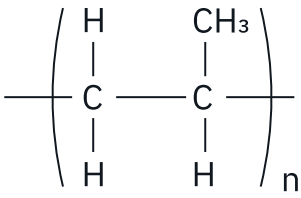
H hydrogen

6

*if no other mark awarded allow **1** mark for a correct column*

[2 marks]

02.5



[1 mark]

02.6

(Stage 1 is) fractional distillation

(Stage 2 is) cracking

(Stage 3 is) polymerisation

[3 marks]

02.7

alkene

monomer

[2 marks]

Q2 · June 2024 · Paper 2 Foundation · Q1 · [12 marks]

01.1

carbon

ignore C

hydrogen

ignore H

[2 marks]

01.2

20

[1 mark]

01.3

C_nH_{2n+2}

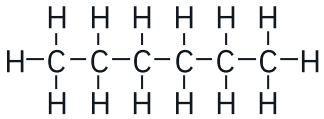
[1 mark]

01.4

alkanes

[1 mark]

01.5



[1 mark]

01.6

fuel

allow fossil fuel

[1 mark]

01.7

soot

carbon monoxide

[2 marks]

01.8

C_6H_{12}

[1 mark]

01.9

bar drawn to 84%

allow a tolerance of ± ½ a small square

bars labelled C / carbon

and

H / hydrogen

[2 marks]

Q3 · June 2024 · Paper 2 Foundation · Q6 · [9 marks]

06.1

colourless

ignore clear

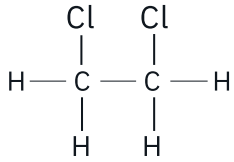
[1 mark]

06.2

damp litmus paper

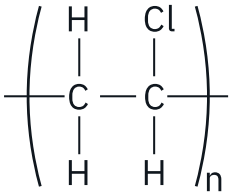
[1 mark]

06.3



[1 mark]

06.4



[1 mark]

06.5

1.5 × 10 0.9 × 10

(ratio =) 15 : 9

= 5 : 3

allow correct determination of the simplest whole number ratio from an attempt at a density ratio

alternative approach

(ratio =)

$\frac{1.5}{0.9}$ $\frac{0.9}{0.9}$ (1)

1.666 : 1 (1)

= 5 : 3 (1)

allow correct determination of the simplest whole number ratio from an attempt at a density ratio

[3 marks]

06.6

the pipes will melt

or

the polymers will melt

allow the melting point of both polymers is below 300°C

[1 mark]

06.7

oil is non-renewable

or

paper is obtained from a renewable source

allow oil is finite

[1 mark]

Q4 · June 2025 · Paper 2 Foundation · Q2 · [12 marks]

02.1

propene

[1 mark]

02.2

9

[1 mark]

02.3

making a polymer

[1 mark]

02.4

(y-axis 0, 20), 40, 60, 80, (100)

ignore intermediate values

carbon bar drawn to 86%

allow a tolerance of ± ½ a small square

carbon bar labelled

[3 marks]

02.5

(test)

add bromine (water)

(result)

(bromine water) turns (from orange to) colourless

allow (bromine water) decolorises

ignore clear

MP2 is dependent upon MP1 being awarded

[2 marks]

02.6

$C_{10}H_{22} \rightarrow C_3H_6 + C_7H_{16}$

[1 mark]

02.7

fuels

[1 mark]

02.8

the molecules collide more frequently at 750 °C

[1 mark]

02.9

(at 750 °C the rate of reaction is) higher

allow (at 450 °C the rate of reaction is) lower

[1 mark]

Q5 · June 2025 · Paper 2 Foundation · Q9 · Paper 2 Higher · Q2 · [9 marks]

09.1

fractional distillation

[1 mark]

09.2

(heater)

evaporation

allow liquid to gas

allow boiling

(column)

condensation

allow gas to liquid

[2 marks]

09.3

petrol

[1 mark]

09.4

heavy fuel oil → diesel oil → kerosene

[1 mark]

09.5

C_4H_{10}

[1 mark]

09.6

but<u>a</u>ne

[1 mark]

09.7

$C_3H_8 + 5O_2 \rightarrow \mathbf{3}CO_2 + \mathbf{4}H_2O$

*allow **1** mark for **3** CO_2*

*allow **1** mark for **4** H_2O*

[2 marks]

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