

0	1
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The molecular formulae for four organic compounds, A, B, C and D are shown below.

A	B	C	D
CH ₄	C ₂ H ₆	C ₂ H ₄	C ₃ H ₈

Compounds in the same homologous series have the same general formula.

0	1	.	1
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Name the homologous series to which compound C belongs.

[1 mark]

alkenes

0	1	.	2
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What is the general formula of this homologous series?

[1 mark]

C_nH_{2n}

0	1	.	3
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State which of the compounds A, C or D, are members of the same homologous series as B.

[1 mark]

A and D (both needed for the mark)

0	2		
0	2	.	1

Ethene reacts with steam to form ethanol.

Write the balanced symbol equation for this reaction.

[2 marks]

C₂H₄ + H₂O → C₂H₅OH (or C₂H₆O)

1 mark for correct LHS

1 mark for correct RHS

0	2	.	2
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What type of reaction is this?

[1 mark]

addition

0	3
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A test can be done with bromine water to determine the presence of polyunsaturated fats in oil.

0	3	.	1
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Describe the test and how it shows the presence of polyunsaturated fat.

[2 marks]

Bromine water goes from orange [1]

to colourless if polyunsaturated fat is present. [1]

0	3	.	2
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What is the difference, in terms of the molecules, between saturated and unsaturated fats?

[2 marks]

Unsaturated fats contain double bonds

OR

Saturated fats do not contain double bonds [1]

between carbon atoms. [1]

It is possible to make olive oil into a solid at room temperature by reducing the percentage of unsaturated fat in it.

0	3	.	3
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Describe how the percentage of unsaturated fat in olive oil is reduced.

[3 marks]

..... [React the unsaturated fat with hydrogen](#) [1]

..... [with a nickel catalyst](#) [1]

..... [at 60°C.](#) [1]

.....

.....

(Total 13 marks)

End