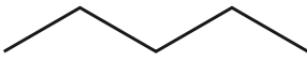
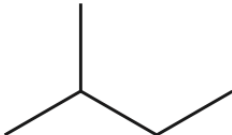



**AS Level Chemistry A**  
**H032/01 Breadth in chemistry**

**Question Set 16**

1. (a) This question is about saturated hydrocarbons.

Compounds **A**, **B** and **C** are saturated hydrocarbons.  
The structures and boiling points of **A**, **B** and **C** are shown below.

	Isomer	Boiling point / °C
<b>A</b>		36
<b>B</b>		28
<b>C</b>		9

- Use the structures to explain what is meant by the term structural isomer.
- Explain the trend in boiling points shown by **A**, **B** and **C** in the table.

[5]

(b) Compounds **A**, **B** and **C** all react with chlorine in the presence of ultraviolet radiation to form organic compounds with the formula  $C_5H_{11}Cl$ .

(i) Name the mechanism for this reaction.

[1]

(ii) Complete the table to show the number of structural isomers of  $C_5H_{11}Cl$  that could be formed from the reaction of chlorine with **A** and **B**.

	<b>A</b>	<b>B</b>
<b>Number of structural isomers</b>	.....	.....

[2]

(iii) The reaction of compound **A** with excess chlorine forms a compound **D**, which has a molar mass of  $175.5 \text{ g mol}^{-1}$ .

Draw a possible structure for compound **D** and write the equation for its formation from compound **A**. Use molecular formulae in the equation.

[2]

**Total Marks for Question Set 16: 10**

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