

1.3 – STRUCTURE & BONDING – PPQ1



Name Form

- 1) The table below shows the electronegativity values of some elements.

	Fluorine	Chlorine	Bromine	Iodine	Carbon	Hydrogen
Electronegativity	4.0	3.0	2.8	2.5	2.5	2.1

- a) Define the term *electronegativity*.

(2)

- b) The table below shows the boiling points of fluorine, fluoromethane (CH_3F) and hydrogen fluoride.

	F-F	<pre> F C / \ H H H </pre>	H-F
Boiling point/K	85	194	293

- i) Name the strongest type of intermolecular force present in:

Liquid F_2

Liquid CH_3F

Liquid HF

- ii) Explain how the strongest type of intermolecular force in liquid HF arises.

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(6)

- c) The table below shows the boiling points of some other hydrogen halides.

	HCl	HBr	HI
Boiling point / K	188	206	238

- i) Explain the trend in the boiling points of the hydrogen halides from HCl to HI.

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- ii) Give **one** reason why the boiling point of HF is higher than that of all the other hydrogen halides.

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(3)