

AQA – Bonding – AS Chemistry P11. **No.3**

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This question is about structure and bonding.

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Define electronegativity.

[1 mark]

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Explain why the C–Cl bond is polar.

[2 marks]

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Although the C–Cl bond is polar, CCl₄ is a non-polar molecule.

Explain why.

[2 marks]

0 3 . 4 There are van der Waals forces between non-polar molecules.

Explain what causes these forces.

[3 marks]

Barium reacts with oxygen to form barium oxide.

Barium oxide has a high melting point and an ionic lattice structure similar to that of sodium chloride.

0 3 . 5 Draw a 3D diagram to show how the particles are arranged in a barium oxide lattice. You should draw eight particles.

[2 marks]

SF_6 and SF_3^+ have different shapes and different bond angles.

Deduce the shape of SF_6 and the shape of SF_3^+

State the bond angle in SF_6 and the bond angle in SF_3^+

Justify the bond angles by referring to electron pairs.

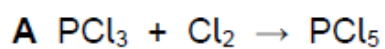
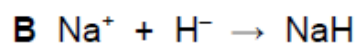
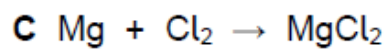
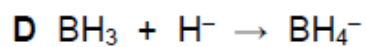
[6 marks]

[illegible]

3. No.11

Which involves the formation of a dative covalent bond?

[1 mark]

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