

Topic 3 Exercise 4 – molecular shapes, polarity and intermolecular forces

1. Explain the meaning of the term electronegativity.
2. Draw the correct dipoles on the following covalent bonds:
 - a) Cl – Cl
 - b) H – O
 - c) B – F
 - d) N – F
 - e) N – O
 - f) H – Cl
 - g) H – N
 - h) B – H
3. Draw the following molecules, add dipoles to all the bonds and predict whether or not they have an overall dipole:
 - a) CO₂
 - b) SO₂
 - c) BF₃
 - d) NF₃
 - e) Cl₂
 - f) HCl
 - g) H₂O
 - h) H₂S
 - i) SiCl₄
 - j) PCl₃
 - k) NH₃
 - l) SO₃
4. Hence deduce the types of intermolecular force that can exist between the molecules