

Intermolecular Forces Questions: KEY

1. Identify the intermolecular forces that you expect for each of the following substances: (a) O₂, (b) H₂O₂, (c) CHBr₃.

London forces – in all, dipole-dipole – in B) and c); hydrogen bonding in b)

2. Which substance in each of the following pairs has the higher vapor pressure? (a) BCl₃ or PCl₃, (b) H₂O₂ or H₂S.

a) BCl₃ (non –polar) b) H₂O₂ – Hydrogen bonding

3. Identify the type of solid that you would expect for each of the following substances: (a) NF₃, (b) CaBr₂, (c) Na, (d) Ge.

a) Molecular b) ionic c) metallic d) covalent network (like Si and C)

4. For each of the following, identify the type of solid. Then arrange the substances in order by increasing melting point: CaO, CH₃CH₂OH, NaCl, CH₃Cl

CaO – ionic > NaCl ionic > CH₃CH₂OH (molecular, H-bonded) > CH₃Cl (molecular, polar → dipole-dipole)