

Intermolecular Forces Part 2

1. Name two properties of a molecule that result in stronger London dispersion forces.

Greater polarizability

More surface area for molecules to get closer together

2. Which one in the following pairs would have the lowest boiling point?

a) $\text{CH}_3\text{CH}_2\text{OH}$ or CH_3OCH_3

b) C_4H_{10} or C_6H_{14}

c) CH_2Br_2 or CH_2Cl_2

3. Indicate the types of intermolecular forces in each substance below:

a) H_3PO_4

London dispersion

Dipole-dipole

Hydrogen bonding

b) Br

London dispersion

c) CH_3CH_3

London dispersion

d) $\text{CH}_3\overset{\text{O}}{\parallel}\text{CCH}_3$

London dispersion

Dipole-dipole

4. Indicate for each pair which has the greater polarizability.

a) CH_3CH_3 or $\text{CH}_3\text{CH}_2\text{CH}_3$

b) Br^- or I^-

c) H_2O or H_2Se

5. Indicate which member of each pair will experience hydrogen bonding.

a) $(\text{CH}_3)_2\text{NH}$ or $(\text{CH}_3)_3\text{N}$

b) HCl or HF

c) $\text{HOCH}_2\text{CH}_2\text{OH}$ or $\text{FCH}_2\text{CH}_2\text{F}$