HW11 - Intermolecular Forces

1 1 point

Forces between particles (atoms, molecules, or ions) of a substance are called...

- None of these.
- armed forces.
- intramolecular forces.
- intermolecular forces.

2 1 point

What would be the most significant type of intermolecular forces in a liquid sample of fluoroform (CHF_3)?

- covalent
- dipole-dipole
- hydrogen bonding
- dispersion
- ionic

3 1 point

What is the predominant intermolecular force between IBr molecules in liquid IBr?

- ionic forces
- hydrogen bonds
- covalent bonds
- dipole forces
- dispersion forces

4 1 point

Which of the following structures represents a possible hydrogen bond?

- F-H ····· F
- Br-H ····· Br
- C-H ····· O
- Cl-H ····· Cl

5 1 point

Identify the kinds of intermolecular forces that might arise between molecules of N_2H_4.

- London forces, dipole-dipole, and hydrogen bonding
- London forces, dipole-dipole
- dipole-dipole
- London forces
- hydrogen bonding

6 1 point

The dominant forces between molecules are...

- gravitational.
- electrodynamic.
- electrostatic.
- magnetic.
- electromagnetic.

7 1 point

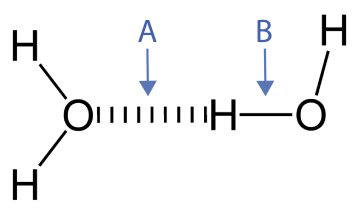
Which of the following molecules are likely to form hydrogen bonds?

1. CH_3CH_2OH
2. CH_3COOH
3. CH_3CHO
4. CH_3OCH_3

- 1 and 2 only
- 1, 2, and 3
- 1, 2, 3, and 4
- None of these form hydrogen bonds.
- 1 only

8 1 point

Consider the two water molecules below.



Which of the following statements is correct?

- The covalent bond A is weaker than the hydrogen bond B.
- The covalent bond B is weaker than the hydrogen bond A.
- The covalent bond A is stronger than the hydrogen bond B.
- The covalent bond B is stronger than the hydrogen bond A.

9 1 point

Which of the following is not correctly paired with its dominant type of intermolecular forces?

- CaO, ionic forces
- NH_3, hydrogen bonding
- HBr, hydrogen bonding
- SiH_4, instantaneous dipoles
- C_6H_6 (benzene), instantaneous dipoles

10 1 point

Which of the following interactions is generally the strongest?

- hydrogen bonding
- dipole-dipole interactions
- dispersion forces
- ionic interactions

11 1 point

Which of the following statements is NOT correct?
Dispersion forces...

- are also called London forces.
- are the only forces between nonpolar molecules.
- are temporary rather than permanent dipole-dipole interactions.
- decrease in strength with increasing molecular size.

12 1 point

Why is I_2 a solid while H_2 is a gas?

- H_2 can perform hydrogen bonding.
- I_2 is less polarizable than H_2.
- I_2 has a larger dipole than H_2.
- I_2 is more polarizable than H_2.

13 1 point

Very weak and very short range attractive forces between temporary (induced) dipoles are called...

- dispersion forces.
- cohesive forces.
- gravitational forces.
- adhesive forces.