

1. Atoms bond to each other using all of the following bonds except _____.

- (A) ionic
- (B) non-polar ionic**
- (C) non-polar covalent
- (D) polar covalent
- (E) metallic

2. Which of the following intramolecular bonds results in the strongest intermolecular bond?

- (A) ionic**
- (B) non-polar ionic
- (C) non-polar covalent
- (D) polar covalent
- (E) metallic

3. Which statement about molecules with ionic bonds is not true?

- (A) One atom gave an electron to the other atom.
- (B) They separate into ions when dissolved in oil.**
- (C) They form crystals.
- (D) They conduct electricity well.

4. The intermolecular bond between polar covalent molecules is called a _____.

- (A) van der Waals bond
- (B) London dispersion bond
- (C) hydrogen bond**
- (D) formula unit

5. The intermolecular bond between non-polar covalent molecules is called a(n) _____.

- (A) London dispersion force**
- (B) formula unit bond
- (C) hydrogen bond
- (D) dipole-dipole bond

6. When carbon and hydrogen bond together, they form _____ bonds.

- (A) ionic
- (B) non-polar ionic
- (C) non-polar covalent**
- (D) polar covalent
- (E) metallic

7. Geckos are able to walk upside down on ceilings by relying on _____.

- (A) London dispersion forces**
- (B) formula unit bonds
- (C) hydrogen bonds
- (D) dipole-dipole bonds

8. Long chain hydrocarbons stick together to form liquids and solids because of which intermolecular bond?

- (A) London dispersion forces**
- (B) formula unit bonds
- (C) hydrogen bonds
- (D) dipole-dipole bonds

9. Oxygen has a very strong pull on electrons and when added to long-chain hydrocarbons, will make the hydrocarbons _____.

- (A) more electronegative
- (B) more electropositive
- (C) more polar**
- (D) less polar

10. Which statement is not true? The electrons in metals _____.

- (A) are loosely attached to their nuclei
- (B) conduct heat very well because they strongly repel each other**
- (C) conduct heat by speeding between rows of metal atoms
- (D) conduct heat better in pure metals than in alloys

11. Which statement about pH is untrue?

- (A) Each pH unit changes the hydrogen ion concentration by 100 fold.**
- (B) A pH of 7.5 indicates a basic solution.
- (C) pH is an exponent
- (D) pH is a measure of hydrogen ions in a solution.

12. Which of the following molecules is least likely to be used primarily as a source of energy?

- (A) proteins**
- (B) polysaccharides
- (C) long-chain hydrocarbons
- (D) adenosine triphosphate