

 **Chemistry Department**

Quiz #8 Form A  **Chemistry 141** 25.04.2018

Student Name:\_\_\_\_\_\_\_\_\_\_\_\_ Student No:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Section\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Please read the questions carefully and choose the best fit answer:**

**1. Select the compound with the lowest lattice energy.**

A) CsBr(*s*) B) KBr(*s*)

C) SrO(*s*) D) CaO(*s*)

**2. Which one of the following properties is least characteristic of typical ionic compounds?**

A) High melting point B) Low boiling point

C) Brittleness D) High electrical conductor when dissolved in water

**3. Arrange the following bonds in order of increasing bond strength.**

A) C-I < C-Br < C-Cl < C-F B) C-I < C-Br < C-F< C-Cl

C) C-F < C-Cl < C-Br < C-I D) C-Br < C-I < C-Cl < C-F

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | N2(*g*) | + | 3H2(*g*) |  | 2NH3(*g*) |
| Bond: Bond energy (kJ/mol): | NN945 | H-H432 | N-H391 |

**4. Nitrogen and hydrogen combine to form ammonia. Calculate (in kJ) the standard enthalpy change ∆H° for the reaction written below, using the bond energies given.**

A) -969 kJ B) -204 kJ

C) -105 kJ D) 204 kJ

**5. Electronegativity is a measure of**

A) The energy needed to remove an electron from an atom.

B) The energy released when an electron is added to an atom.

C) The magnitude of the negative charge on an electron.

D) The attraction by an atom for electrons in a chemical bond.

**6. Arrange aluminum, nitrogen, phosphorus and indium in order of increasing electronegativity.**

A) Al < In < N < P B) N < P < Al < In

C) Al < In < P < N D) In < Al < P < N

**7. Select the most polar bond amongst the following.**

A) C-O B) Si-F

C) Cl-F D) C-F

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 **Chemistry Department**

Quiz #8 Form B  **Chemistry 141** 26.04.2018

Student Name:\_\_\_\_\_\_\_\_\_\_\_\_ Student No:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Section\_\_\_\_\_\_\_\_\_\_\_\_

**Please read the questions carefully and choose the best fit answer:**

**1. Select the compound with the highest lattice energy.**

A) SrO(*s*) B) CaO(*s*)

C) CsBr(*s*) D) KBr(*s*)

**2. Which one of the following properties is least characteristic of typical ionic compounds?**

A) Low melting point B) High boiling point

C) Brittleness D) High electrical conductor when dissolved in water

**3. Arrange the following bonds in order of increasing bond length.**

A) C-I < C-Br < C-Cl < C-F B) C-I < C-Br < C-F< C-Cl

C) C-F < C-Cl < C-Br < C-I D) C-Br < C-I < C-Cl < C-F

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | 2N2(*g*) | + | 6H2(*g*) |  | 4NH3(*g*) |
| Bond: Bond energy (kJ/mol): | NN945 | H-H432 | N-H391 |

**4. Nitrogen and hydrogen combine to form ammonia. Calculate (in kJ) the standard enthalpy change ∆H° for the reaction written below, using the bond energies given.**

A) -969 kJ B) -210 kJ

C) -105 kJ D) 210 kJ

**5. Electronegativity is a measure of**

A) The magnitude of the negative charge on an electron.

B) The attraction by an atom for electrons in a chemical bond.

C) The energy needed to remove an electron from an atom.

D) The energy released when an electron is added to an atom.

**6. Arrange aluminum, nitrogen, phosphorus and indium in order of decreasing electronegativity.**

A) Al ˃ In ˃ N ˃ P B) N ˃ P ˃ Al ˃ In

C) Al ˃ In ˃ P ˃ N D) In ˃ Al ˃ P ˃ N

**7. Select the least polar bond amongst the following.**

A) C-O B) Si-F

C) C-I D) C-F

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 **Chemistry Department**

Quiz #8 Form C  **Chemistry 141** 26.04.2018

Student Name:\_\_\_\_\_\_\_\_\_\_\_\_ Student No:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Section\_\_\_\_\_\_\_\_\_\_\_\_

**Please read the questions carefully and choose the best fit answer:**

**1. Select the compound with the highest lattice energy.**

A) BeO(*s*) B) CaO(*s*)

C) CsBr(*s*) D) KBr(*s*)

**2. Which one of the following properties is least characteristic of typical ionic compounds?**

A) High melting point B) High boiling point

C) Brittleness D) Low electrical conductor when dissolved in water

**3. Arrange the following bonds in order of decreasing bond length.**

A) C-I ˃ C-Br ˃ C-Cl ˃ C-F B) C-I ˃ C-Br ˃ C-F ˃ C-Cl

C) C-F ˃ C-Cl ˃ C-Br ˃ C-I D) C-Br ˃ C-I ˃ C-Cl ˃ C-F

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | 2 N2(*g*) | + | 6H2(*g*) |  | 4NH3(*g*) |
| Bond: Bond energy (kJ/mol): | NN945 | H-H432 | N-H391 |

**4. Nitrogen and hydrogen combine to form ammonia. Calculate (in kJ) the standard enthalpy change ∆H° for the reaction written below, using the bond energies given.**

A) -969 kJ B) -210 kJ

C) -105 kJ D) 210 kJ

**5. Electronegativity is a measure of**

A) The magnitude of the negative charge on an electron.

B) The attraction by an atom for electrons in a chemical bond.

C) The energy needed to remove an electron from an atom.

D) The energy released when an electron is added to an atom.

**6. Arrange aluminum, nitrogen, phosphorus and indium in order of increasing electronegativity.**

A) Al < In < N < P B) N < P < Al < In

C) Al < In < P < N D) In < Al < P < N

**7. Select the least polar bond amongst the following.**

A) C-O B) Si-F

C) C-F D) C-H

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