

Worksheet: Bonding Type Based on Electronegativity Differences



Q1: Which of the following is an ionic solid at room temperature and pressure?

- A B(OH)_3
- B H_2O_2
- C Li_2CO_3
- D SiO_2
- E CCl_4

Q2: Which of the following is a covalent solid at room temperature and pressure?

- A CHCl_3
- B N_2H_4
- C SO_2
- D P_2O_5
- E CaF_2

Q3: Which of the following chlorides is least ionic?

- A CsCl
- B CuCl₂
- C SiCl₄
- D MgCl₂
- E CrCl₃

Q4: Which of the following chlorides is **not** covalent?

- A KCl
- B ICl
- C NCl₃
- D PCl₅
- E CCl₄

Q5: Based on the electronegativities of the elements involved, what type of bonding is likely in NCl_3 ?

- A Polar covalent
- B Pure covalent
- C Homolytic
- D Heterolytic
- E Ionic

Q6: Based on the electronegativities of the elements involved, what type of bonding is likely in HI?

- A Homolytic
- B Heterolytic
- C Pure covalent
- D Ionic
- E Polar covalent

Q7: Based on the electronegativities of the elements involved, what type of bonding is likely in MgO?

- A Heterolytic
- B Pure covalent
- C Homolytic
- D Ionic
- E Polar covalent

Q8: A pair of elements have a difference in electronegativity of 0.2. If atoms of these elements form a bond, what type of bonding is likely to occur?

- A Pure covalent
- B Metallic
- C Van der Waals
- D Ionic
- E Polar covalent

Q9: A pair of elements have a difference in electronegativity of 1.6. If atoms of these elements form a bond, what type of bonding is likely to occur?

- A Pure covalent
- B Van der Waals
- C Polar covalent
- D Metallic
- E Ionic

Q10: Which of the following compounds is the most covalent?

- A P_4O_{10}
- B MgO
- C SiO_2
- D Al_2O_3
- E Na_2O