

ACIDS AND BASES

TEST

Acid and Base Concept

Date: _____

- Which one of the following doesn't conduct electricity?
A) C₆H₁₂O₆ B) HCl C) NaOH D) H₂SO₄ E) vinegar
- Which acid is not strong?
A) HCl B) HCN C) HNO₃ D) HClO₄ E) H₂SO₄
- Which one of the following is weak base?
A) KOH B) NaOH C) HCl D) NH₃ E) CH₃COOH
- According to following reaction which one is Bronsted Lowry acid-base pairs?
$$\text{HCl}_{(g)} + \text{H}_2\text{O}_{(l)} \Rightarrow \text{H}_3\text{O}^+_{(aq)} + \text{Cl}^-_{(aq)}$$

A) HCl and H₂O
B) HCl and H₃O⁺
C) H₂O and Cl⁻
D) H₂O and H₃O⁺
E) H₃O⁺ and Cl⁻
- According to following reaction which one is Bronsted Lowry acid-base pairs?
$$\text{NH}_3_{(g)} + \text{H}_2\text{O}_{(l)} \Rightarrow \text{NH}_4^+_{(aq)} + \text{OH}^-_{(aq)}$$

A) NH₃ and H₂O
B) NH₄⁺ and OH⁻
C) NH₄⁺ and NH₃
D) NH₃ and OH⁻
E) NH₄⁺ and H₂O
- $$\text{CN}^-_{(aq)} + \text{H}_2\text{O} \Rightarrow \text{HCN}_{(aq)} + \text{OH}^-_{(aq)}$$

Which one is wrong for this reaction?
A) HCN is acid
B) An acid-base reaction
C) H₂O behaves like a base
D) OH⁻ is proton acceptor
E) CN⁻ ions are proton acceptor
- Which one of reactions is not an acid-base reaction?
A) $(\text{NH}_4)_2\text{SO}_4_{(s)} \Leftrightarrow 2\text{NH}_4^+_{(aq)} + \text{SO}_4^{2-}_{(aq)}$
B) $\text{HCl}_{(g)} + \text{H}_2\text{O}_{(l)} \Leftrightarrow \text{H}_3\text{O}^+_{(aq)} + \text{Cl}^-_{(aq)}$
C) $\text{H}_2\text{SO}_4_{(l)} + \text{H}_2\text{O}_{(l)} \Leftrightarrow \text{HSO}_4^-_{(aq)} + \text{H}_3\text{O}^+_{(aq)}$
D) $\text{NaOH}_{(s)} + \text{HCl}_{(aq)} \Leftrightarrow \text{Na}^+_{(aq)} + \text{Cl}^-_{(aq)} + \text{H}_2\text{O}_{(l)}$
E) $\text{NH}_3_{(g)} + \text{H}_2\text{O}_{(l)} \Leftrightarrow \text{NH}_4^+_{(aq)} + \text{OH}^-_{(aq)}$
- What is the conjugate acid of CH₃CO₂H?
A) CH₃CO₂H⁻
B) CH₃CO₂⁻
C) CH₃CO₂H⁺
D) CH₃CO₂
E) CH₃CO₂⁺
- What is the conjugate acid of H₂SO₄?
A) H₂SO₄⁻
B) HSO₄⁺
C) SO₄²⁻
D) H₃SO₄⁺
E) HSO₄
- The sunscreen agent, para-aminobenzoic acid (C₇H₇NO₂) can act as a base. What is the conjugate acid of this compound?
A) C₇H₇NO₂⁺
B) C₇H₈NO₂⁺
C) C₇H₆NO₂⁻
D) C₇H₈NO₂
E) C₇H₇NO₂⁻
- I. H₂O – OH⁻
II. H₃O⁺ – H₂O
III. NaOH – HCl
Which one(s) in the following pairs is/are conjugate acid-base?
A) I B) II C) III D) I-II E) I-II-III
- In which reaction ammonium can behave as acid?
A) $\text{NH}_4^+ + \text{Cl}^- \Leftrightarrow \text{NH}_4\text{Cl}$
B) $\text{NH}_4^+ + \text{OH}^- \Leftrightarrow \text{NH}_4\text{OH}$
C) $\text{NH}_4^+ + \text{NO}_2^- \Leftrightarrow \text{N}_2 + \text{H}_2\text{O}$
D) $\text{NH}_4^+ + \text{OH}^- \Leftrightarrow \text{NH}_3 + \text{H}_2\text{O}$
E) $\text{NH}_4^+ + \text{NO}_3^- \Leftrightarrow \text{N}_2\text{O} + 2\text{H}_2\text{O}$
- Which one of the ions is conjugate base of H₂PO₄⁻?
A) OH⁻ B) H₃O⁺ C) PO₄³⁻ D) HPO₄²⁻ E) H₃PO₄