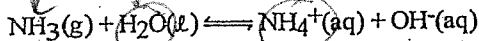


Key

1

Given the equation:



The two Bronsted-Lowry acids are

- A) NH_3 and NH_4^+
- B) NH_3 and H_2O
- C) H_2O and OH^-
- D) H_2O and NH_4^+

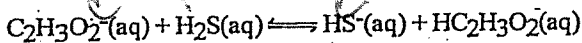
2

What is the conjugate base of OH^- ?

- A) H_2O
- B) O^{2-}
- C) H^+
- D) H_3O^+

3

Given the reaction at equilibrium:



Which pair represents the Bronsted-Lowry bases in this reaction?

- A) $\text{C}_2\text{H}_3\text{O}_2^-(\text{aq})$ and $\text{HS}^-(\text{aq})$
- B) $\text{H}_2\text{S}(\text{aq})$ and $\text{HC}_2\text{H}_3\text{O}_2(\text{aq})$
- C) $\text{HS}^-(\text{aq})$ and $\text{HC}_2\text{H}_3\text{O}_2(\text{aq})$
- D) $\text{C}_2\text{H}_3\text{O}_2^-(\text{aq})$ and $\text{H}_2\text{S}(\text{aq})$

4

In the reaction $\text{HCl} + \text{H}_2\text{O} \rightleftharpoons \text{H}_3\text{O}^+ + \text{Cl}^-$, a conjugate acid-base pair is

- A) HCl and Cl^-
- B) HCl and H_3O^+
- C) H_2O and Cl^-
- D) HCl and H_2O

5

In the reaction $\text{HBr} + \text{H}_2\text{O} \rightleftharpoons \text{H}_3\text{O}^+ + \text{Br}^-$, which is a conjugate acid-base pair?

- A) H_3O^+ and Br^-
- B) HBr and Br^-
- C) H_3O^+ and HBr
- D) HBr and H_2O

6

What is the conjugate acid of the HCO_3^- ion?

- A) H^+
- B) H_2CO_3
- C) H_3CO_3^+
- D) CO_3^{2-}

7

In the reaction $\text{H}_2\text{PO}_4^- + \text{H}_2\text{O} \rightleftharpoons \text{H}_3\text{PO}_4 + \text{OH}^-$, which pair represents an acid and its conjugate base?

- A) H_2O and H_3PO_4
- B) H_3PO_4 and OH^-
- C) H_3PO_4 and H_2PO_4^-
- D) H_2O and H_2PO_4^-