

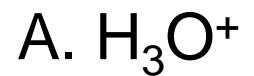
Assessment

Chemistry: Lesson 18



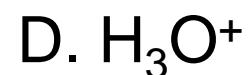
Question 1

What is the conjugate acid of HCO_3^- ?



Question 2

What is the conjugate base of H_2PO_4^- ?



Question 3

Which of the following is **not** a conjugate acid-base pair?

- A. $\text{NH}_4^+/\text{NH}_3$
- B. $\text{H}_3\text{O}^+/\text{OH}^-$
- C. $\text{H}_2\text{SO}_3/\text{HSO}_3^-$
- D. $\text{C}_2\text{H}_3\text{O}_2^-/\text{HC}_2\text{H}_3\text{O}_2$
- E. All of the above are conjugate acid-base pairs

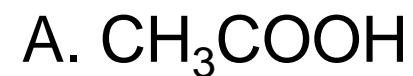
Question 4

Which pair is **not** a conjugate acid-base pair?



Question 5

Identify a triprotic acid.



Question 6

Calculate the pH of a solution that contains 3.9×10^{-4} M H_3O^+ at 25°C.

A. 4.59

B. 3.41

C. 10.59

D. 9.41

E. 0.59

Question 7

Calculate the pH of a solution that contains 2.4×10^{-5} M H_3O^+ at 25°C.

- A. 2.40
- B. 9.38
- C. 4.62
- D. 11.60
- E. 4.17

Question 8

Calculate the hydronium ion concentration in an aqueous solution with a pH of 9.85 at 25°C.

A. 7.1×10^{-5} M

B. 4.2×10^{-10} M

C. 8.7×10^{-10} M

D. 6.5×10^{-5} M

E. 1.4×10^{-10} M

Question 9

Calculate the pH of a solution that contains 7.8×10^{-6} M OH^- at 25°C.

- A. 1.28
- B. 5.11
- C. 12.72
- D. 8.89
- E. 9.64

Question 10

Calculate the pH for an aqueous solution of acetic acid that contains 2.15×10^{-3} M hydronium ion.

A. 4.65×10^{-12} M

B. 2.15×10^{-3} M

C. 2.67

D. 11.33

Question 11

Calculate the pH for an aqueous solution of pyridine that contains 2.15×10^{-4} M hydroxide ion.

A. 4.65×10^{-11}

B. 2.15×10^{-4}

C. 3.67

D. 10.33

Question 12

What is the hydronium ion concentration of an acid rain sample that has a pH of 3.45?

A. 2.82×10^{-11} M

B. 3.55×10^{-4} M

C. 3.45 M

D. 10.55 M

Question 13

What is the hydroxide ion concentration of a lye solution that has a pH of 9.20?

A. $6.31 \times 10^{-10} \text{ M}$

B. $1.58 \times 10^{-5} \text{ M}$

C. 4.80 M

D. 9.20 M

Question 14

A Lewis base is _____.

- A. an electron pair donor
- B. an electron pair acceptor
- C. a proton donor
- D. proton acceptor