Acids and Bases

Independent Practice

10-12. Determine the hydroxide and hydronium ion concentrations in a solution that is made from 0.0040g of sodium hydroxide, a strong base, dissolved in water to make a final solution volume of 0.50L.

10. Calculate the $[H_3O^{1+}]$ for the solution. 5×10^{-11}

11. Calculate the $[OH^{1-}]$ for the solution. 2×10^{-4}

12. Is the solution acidic (A) or basic (B)? (B)

13-15. Determine the hydrogen and hydronium ion concentrations in a solution that is 7.2×10^{-4}M HCl, a strong acid.

13. Calculate the $[H_3O^{1+}]$ for the solution. 7.2×10^{-4}

14. Calculate the $[OH^{1-}]$ for the solution. 1.39×10^{-11}

15. Is the solution acidic (A) or basic (B)? (A)

16-18. An aqueous solution of $Al(OH)_3$, a strong base, has a $[H_3O^{1+}]$concentration of 1.3×10^{-11}M.

16. Calculate the $[OH^{1-}]$ for the solution. 7.69×10^{-4}

17. What is the molarity of the solution? 2.56×10^{-4}

18. Is the solution acidic (A) or basic (B)? (B)

$$Al(OH)_3 \rightarrow Al^{3+} + 3OH^-$$