

Assessment

Ions in Aqueous Solutions and Colligative Properties

Section Quiz: Compounds in Aqueous Solution

In the space provided, write the letter of the term or phrase that best completes each statement or best answers each question.

- _____ 1. What happens when acetic acid, a weak electrolyte, dissolves in water?
- Hydronium ions form.
 - The resulting solution will conduct electricity.
 - Most of the acid remains as nonionized molecules in equilibrium with ions.
 - All of the above
- _____ 2. A solubility table shows that almost all compounds of Group 1 metals are soluble. This general rule tells you that
- KI is soluble.
 - RbNO₃ is insoluble.
 - CaCl₂ is soluble.
 - CO₂ is soluble.
- _____ 3. Which solution contains the strongest electrolyte?
- 1.50 M NaCl
 - 2.0 M C₆H₁₂O₆
 - 5.7 M NH₃
 - 0.80 M CH₃COOH
- _____ 4. Which solution would *not* conduct an electric current?
- NaCl
 - HCl
 - C₆H₁₂O₆
 - CsI
- _____ 5. Which of the following is a spectator ion in the following equation?
- $$\text{Ag}^+(aq) + \text{NO}_3^-(aq) + \text{K}^+(aq) + \text{Cl}^-(aq) \rightarrow \text{AgCl}(s) + \text{K}^+(aq) + \text{NO}_3^-(aq)$$
- K⁺
 - Ag⁺
 - Cl⁻
 - None of the above

Section Quiz, continued

- _____ 6. Which ions do *not* appear in the net ionic equation for the precipitation that involves solutions of CaCl_2 and K_2CO_3 ?
- K^+ and CO_3^{2-}
 - Cl^- and CO_3^{2-}
 - Ca^{2+} and Cl^-
 - K^+ and Cl^-
- _____ 7. How many moles of ions are produced by the dissociation of 0.5 mol of MgCl_2 ?
- 0.5
 - 1.0
 - 1.5
 - 2.0
- _____ 8. The process of forming a solid by combining two ionic solutions is called
- precipitation.
 - hydration.
 - dissociation.
 - solvation.
- _____ 9. Which of the following reactions is described by the net ionic equation $\text{Ag}^+(aq) + \text{Cl}^-(aq) \rightarrow \text{AgCl}(s)$?
- only the reaction between AgNO_3 and KCl
 - any reaction in which a precipitate of AgCl is formed
 - only the reaction between AgNO_3 and NaCl
 - None of the above
- _____ 10. Which of the following is a hydronium ion?
- H_2O
 - H_3O^+
 - H^+
 - HCl