

11.3

REACTIONS IN AQUEOUS SOLUTION

Section Review

Objectives

- Describe the information found in a net ionic equation
- Predict the formation of a precipitate in a double-replacement reaction

Vocabulary

- complete ionic equation
- spectator ion
- net ionic equation

Part A Completion

Use this completion exercise to check your understanding of the concepts and terms that are introduced in this section. Each blank can be completed with a term, short phrase, or number.

Many important chemical reactions take place in 1, which makes up 66 percent of the human body. Reactions in water are said to take place in 2 solution.

A double-replacement reaction can be written as a 3, which shows dissolved ionic compounds as their free ions. Ions that appear on both sides of the equation and are not directly involved in the reaction are called 4. Canceling these ions from the equation leaves the 5, which indicates only those particles that take part in the reaction.

When balancing a net ionic equation, it is necessary to balance the electric 6 as well as the number of 7.

When mixing solutions of ions, it is possible to predict the formation of a 8. This prediction can be made using the general rules for 9 of ionic compounds.

Part B True-False

Classify each of these statements as always true, AT; sometimes true, ST; or never true, NT.

- _____ 10. A precipitate is formed when two ionic solutions are mixed.
- _____ 11. Spectator ions are not part of a net ionic equation.
- _____ 12. Balancing the atoms in a net ionic equation will cause the charges to balance.
- _____ 13. A net ionic equation shows all ions present.

Part C Matching

Match each description in Column B to the correct term in Column A.

Column A

- _____ 14. complete ionic equation
- _____ 15. spectator ions
- _____ 16. net ionic equation
- _____ 17. precipitate
- _____ 18. aqueous reaction
- _____ 19. ionic solubility rules

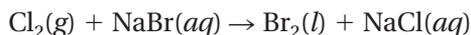
Column B

- a. equation that indicates only the particles that take part in a reaction
- b. solid product of reaction in solution
- c. reaction that occurs in water
- d. equation that shows dissolved ionic compounds as free ions
- e. used to predict whether a precipitate will form in an aqueous reaction
- f. ions that do not participate in a reaction

Part D Questions and Problems

Answer the following in the space provided.

20. Identify the spectator ion(s) and write a balanced net ionic equation for this reaction.



21. Predict which precipitate, if any, will form in the following reactions:

