

CHAPTER OVERVIEW

11: Reactions in Aqueous Solutions

Water is by far the most important liquid solvent, partly because it is plentiful and partly because of its unique properties. In your body, in other living systems, and in the outside environment a tremendous number of reactions take place in aqueous solutions. Consequently this section, as well as significant portions of many subsequent sections, will be devoted to developing an understanding of reactions which occur in water. Since ionic compounds and polar covalent compounds constitute the main classes which are appreciably soluble in water, reactions in aqueous solutions usually involve these types of substances. There are three important classes of reactions which occur in aqueous solution: precipitation reactions, acid-base reactions, and redox reactions.

Topic hierarchy

- 11.1: Prelude to Aqueous Phase Reactions
- 11.2: Ions in Solution (Electrolytes)
- 11.3: Precipitation Reactions
- 11.4: Hydration of Ions
- 11.5: Hydrogen and Hydroxide Ions
- 11.6: Acid-Base Reactions
- 11.7: Acids
- 11.8: Bases
- 11.9: Strong Acids and Bases
- 11.10: Weak Acids
- 11.11: Weak Bases
- 11.12: Amphiprotic Species
- 11.13: Conjugate Acid-Base Pairs
- 11.14: Lewis Acids and Bases
- 11.15: Redox Reactions
- 11.16: Oxidation Numbers and Redox Reactions
- 11.17: Balancing Redox Equations
- 11.18: Common Oxidizing Agents
- 11.19: Common Reducing Agents
- 11.20: Substances Which Are Both Oxidizing and Reducing Agents
- 11.21: Redox Couples

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