

Table of contents

- **1 The Foundations of Chemistry**
- **2 Chemical Formulas and Composition Stoichiometry**
- **3 Chemical Equations and Reaction Stoichiometry**
- **4 Some Types of Chemical Reactions**
- **5 The Structure of Atoms**
- **6 Chemical Periodicity**
- **7 Chemical Bonding**
- **8 Molecular Structure and Covalent Bonding Theories**
- **9 Molecular Orbitals in Chemical Bonding**
- **10 Reactions in Aqueous Solutions I: Acids, Bases, and Salts**
- **11 Reactions in Aqueous Solutions II: Calculations**
- **12 Gases and the Kinetic-Molecular Theory**
- **13 Liquids and Solids**
- **14 Solutions**
- **15 Chemical Thermodynamics**
- **16 Chemical Kinetics**
- **17 Chemical Equilibrium**
- **18 Ionic Equilibria I: Acids and Bases**
- **19 Ionic Equilibria II: Buffers and Titration Curves**
- **20 Ionic Equilibria III: the Solubility Product Principle**
- **21 Electrochemistry**
- **22 Metals I: Metallurgy**
- **23 Metals II: Properties and Reactions**
- **24 Some Nonmetals and Metalloids**
- **25 Coordination Compounds**
- **26 Nuclear Chemistry**
- **27 Organic Chemistry I: Formulas, Names, and Properties**
- **28 Organic Chemistry II: Shapes, Selected Reactions, and Biopolymers**