

Contents

Introduction 1

- ✓ 1 Gases and Liquids 4
- ✓ 2 The Solid State 61
- 3 Atomic Structure 94
- ✓ 4 Nature of Chemical Bonding 146
- 5 Investigation of Molecular Structure 182
- 6 Nuclear Chemistry 224
- 7 The First Law of Thermodynamics 240
- 8 The Second and Third Laws of Thermodynamics 296
- 9 Free Energy and Equilibrium 322
- 10 Chemical Equilibrium 358
- 11 Statistical Mechanics 389
- 12 Solutions of Nonelectrolytes 413
- 13 Solutions of Electrolytes 477
- ✓ 14 Electrochemical Cells 554
- 15 The Phase Rule 624
- 16 Kinetics of Homogeneous Reactions 673
- 17 Photochemistry 720
- 18 Surface Phenomena and Catalysis 744
- 19 Colloids 775
- ✓ 20 Macromolecules 800

Index 831