

Brief Contents

Preface xi

PART I GENERAL CHEMISTRY

1	Basic Concepts About Matter	1
2	Measurements in Chemistry	24
3	Atomic Structure and the Periodic Table	53
4	Chemical Bonding: The Ionic Bond Model	85
5	Chemical Bonding: The Covalent Bond Model	113
6	Chemical Calculations: Formula Masses, Moles, and Chemical Equations	145
7	Gases, Liquids and Solids	173
8	Solutions	205
9	Chemical Reactions	238
10	Acids, Bases, and Salts	271
11	Nuclear Chemistry	311

PART II ORGANIC CHEMISTRY

12	Saturated Hydrocarbons	341
13	Unsaturated Hydrocarbons	384
14	Alcohols, Phenols, and Ethers	423
15	Aldehydes and Ketones	469
16	Carboxylic Acids, Esters, and Other Acid Derivatives	503
17	Amines and Amides	547

PART III BIOLOGICAL CHEMISTRY

18	Carbohydrates	592
19	Lipids	654
20	Proteins	707
21	Enzymes and Vitamins	754
22	Nucleic Acids	798
23	Biochemical Energy Production	847
24	Carbohydrate Metabolism	886
25	Lipid Metabolism	920
26	Protein Metabolism	953

Answers to Selected Exercises A-1

Index/Glossary I-1