

Contents

1		
Introduction		1
2		
The Chemical Bond and Molecular Structure		5
3		
Nomenclature and Simple Reactions of the Hydrocarbons		19
4		
Nomenclature and Simple Reactions of Organic Derivatives of the Halogen Acids, Water, and Ammonia		48
5		
Nomenclature and Simple Reactions of Carbonyl Compounds		71
6		
Elements of Organic Synthesis		94
7		
Electron Delocalization and Resonance		102
8		
Stereoisomerism		114
9		
viii Effect of Structure on Reactivity: Inductive, Resonance, and Steric Effects		139

10	General Principles of Organic Reaction Mechanisms	153
11	Substitution and Elimination Reactions of Alkyl Halides, Alcohols, and Related Compounds	166
12	Addition Reactions of Alkenes and Alkynes	196
13	Reactions of Aldehydes and Ketones	220
14	Substitution Reactions of Carboxylic Acids and Their Derivatives	248
15	Molecular Rearrangements	270
16	Aromatic Substitution Reactions	280
17	Carbohydrates	323
18	Amino Acids and Peptides	342
19	Heterocyclics	352
20	Isoprenoids and Steroids	370
21	Macromolecules or Polymers	387
22	Spectral Properties of Organic Molecules	411
	Index	435 ix