

# Structure and Reactivity: An Introduction to Organic Chemistry

## Book A: Structure and Bonding

- CH 01 Introduction to Structure and Reactivity of Organic Compounds
- CH 02 Organic Molecular Structure and Properties
- CH 03 Reactions of Organic Compounds as Acids and Bases
- CH 04 Physical Organic Chemistry: Energetics and Mechanism
- CH 05: Stereoisomerism of Organic Molecules
- CH 06: Conformational Analysis of Organic Molecules

## Book B: Introduction to Reactivity

- CH 07 Substitution and Elimination Reactions of Polar Sigma Bonds
- CH 08 Electrophilic Addition I: Brønsted Acids
- CH 09 Electrophilic Addition II: Halogenation, Oxidation and Reduction Reactions
- CH 10 Aromaticity and Electrophilic Aromatic Substitution Reactions
  
- AP 01 Useful Expectations from General Chemistry
- AP 02 Nomenclature of Organic Compounds I: Alkanes, Halides, & Alcohols
- AP 03 Nomenclature of Organic Compounds II: Stereoisomers
- AP 04 Nomenclature of Organic Compounds III: Alkoxy Groups, Alkenes & Alkynes

## Book C: Carbonyl Reactions, Transformations, and Synthesis

- CH 11 The Chemistry of Alcohols and Epoxides
- CH 12 Nucleophilic Addition Reactions of Aldehydes and Ketones
- CH 13 Nucleophilic Substitution Reactions of Acids and Acid Derivatives
- CH 14 Nucleophilic Reactions of  $\alpha$ -Carbon Acids
  
- AP 05 Nomenclature of Organic Compounds IV: Aldehydes, Ketones, Thiols, and Sulfides
- AP 06 Nomenclature of Organic Compounds V: Acids and Acid Derivatives
- AP 07 Spectroscopic Determination of Organic Structures: UV and IR
- AP 08 Spectroscopic Determination of Organic Structures: MS
- AP 09 Spectroscopic Determination of Organic Structures: NMR

## Book D: Special Topics

- CH 15 The Diels-Alder Cycloaddition Reaction
- CH 16 The Chemistry of Carbohydrates
- CH 17 The Chemistry of Amino Acids and Proteins
- CH 18 Bio-Organic Catalysis and Synthesis: Introduction to Enzymes
- CH 19 Advanced Topics in Organic Reactions
- CH 20 Frontier Molecular Orbitals and Pericyclic Reactions