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Nota di contenuto	Introduction -- The Unique Role of Carbon -- Distinguishing Primary Versus Secondary Metabolism -- Secondary Metabolites and Natural Products -- Natural Products in Organic Chemistry and Medicine -- The Organic Chemistry of Biosynthesis -- Goals and Structure of This Book -- Review of Functional Groups, Stereochemistry, and Conformational Analysis -- Prochiral Relationships: One Step from Chirality -- Prochiral it-Systems: "Two-Faced" Reaction Centers -- Diastereotopic Atoms and Groups: One Step from a Diasteroeomer -- Monosubstituted Cyclohexanes: Favoring Equatorial Positions -- Disubstituted Cyclohexanes: Equivalent and Nonequivalent Combinations -- Bicyclic Systems: Joining of Rings -- Heterocyclic Ring Systems: One Atom Makes All the Difference -- Bond Making and Breaking: Have Pair, Will Share; Need Two from You -- Bronsted Acid-Base Reactions: Proton Donors Gladly Accepted -- Acidity Trends: Why that Proton Is or Isn't Acidic -- Carbocations: Three Bonds to Carbon Can Be a Plus -- Radicals: Odd and Reactive -- Elimination Reactions: Introducing the Carbon-Carbon n-Bond -- Carbocations: Rearrangements and Fates -- Electrophilic Additions: n-Bonds as Nucleophilic Agents -- Nucleophilic

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Sommario/riassunto

New elective courses at the undergraduate level that address topics crossing the traditional boundaries of chemistry and biology are increasingly necessary, as are courses that can provide traditional chemistry students with additional insight into the fundamental role that chemistry plays in the function and evolution of biological systems. This text builds on the foundation of a one-year introductory course in organic chemistry, focusing on familiar organic chemical processes associated with the biosynthesis of primary and secondary metabolites, with special emphasis on the latter group.