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Altri autori (Persone)	ForbesMalcolm D. E. <1960->
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Nota di contenuto	CARBON-CENTERED FREE RADICALS AND RADICAL CATIONS; CONTENTS; About the Volume Editor; Preface to Series; Introduction; Contributors; 1. A Brief History of Carbon Radicals; 2. Intermolecular Radical Additions to Alkynes: Cascade-Type Radical Cyclizations; 2.1 Introduction; 2.2 Cascade Reactions Involving Radicals of Second Row Elements; 2.2.1 Cascade Reactions Initiated by Addition of C-Centered Radicals to Alkynes; 2.2.2 Cascade Reactions Initiated by Addition of O-Centered Radicals to Alkynes (Self-Terminating Radical Oxygenations) 2.2.3 Cascade Reactions Initiated by Addition of N-Centered Radicals to Alkynes 2.3 Cascade Reactions Initiated by Addition of Higher Main Group (VI)-Centered Radicals to Alkynes; 2.3.1 Cascade Reactions Initiated by Addition of Sn-Centered Radicals to Alkynes; 2.4 Cascade Reactions Initiated by Addition of Higher Main Group (VI)-Centered Radicals to Alkynes; 2.4.1 Cascade Reactions Initiated by Addition of S- Centered Radicals to Alkynes; 2.4.2 Cascade Reactions Initiated by Addition of Se-Centered Radicals to Alkynes

2.5 Cascade Reactions Initiated by Addition of Higher Main Group (V)-Centered Radicals to Alkynes 2.5.1 Cascade Reactions Initiated by Addition of P-Centered Radicals to Alkynes; 3. Radical Cation Fragmentation Reactions in Organic Synthesis; 3.1 Introduction; 3.1.1 Oxidative Carbon-Carbon Bond Cleavage; 3.1.2 Thermodynamic and Kinetic Considerations; 3.1.3 Reactive Intermediate Lifetime; 3.2 Electron Transfer-Initiated Cyclization Reactions; 3.2.1 Rate Enhancement and Mechanistic Studies; 3.2.2 Development of a Catalytic Aerobic Protocol; 3.2.3 Oxidative Cascade Reactions 3.3 Oxidative Acyliminium Ion Formation 3.4 Carbon-Carbon Bond Formation; 3.4.1 Chemoselectivity and Reactivity; 3.4.2 Reaction Scope; 3.5 Summary and Outlook; 4. Selectivity in Radical Cation Cycloadditions; 4.1 Introduction; 4.2 Mechanism and the Origin of the Rate Acceleration; 4.3 Selectivity in Radical Cation Cycloadditions; 4.4 Chemoselectivity; 4.4.1 Effect of Dienophile Substituents on Chemoselectivity; 4.4.2 Effect of Sensitizers and Solvents on Chemoselectivity; 4.4.3 Effect of Concentrations on Chemoselectivity; 4.4.4 Effect of Electron-Rich Dienophiles on Chemoselectivity 4.5 Regioselectivity 4.6 Periselectivity; 4.6.1 Effects of Solvent and Concentration on Periselectivity; 4.6.2 Effect of Diene/Dienophile Redox Potentials on Periselectivity; 4.6.3 Substituent and Steric Effects on Periselectivity; 4.6.4 Quantifying Periselectivity Through Ion Pair Association; 4.7 Endo/Exo Selectivity; 4.7.1 Effects of Secondary Orbital Interaction and Solvents on Endo/Exo Selectivity; 4.7.2 Effect of Sensitizer on Endo/Exo Selectivity; 4.7.3 Ion Pairs and Endo/Exo Selectivities; 4.8 Conclusions; 5. The Stability of Carbon-Centered Radicals; 5.1 Introduction 5.1.1 The Consequences of Different Stability Definitions: How Stable Are Ethyl and Fluoromethyl Radicals?

Sommario/riassunto

Covers the most advanced computational and experimental methods for studying carbon-centered radical intermediates. With its focus on the chemistry of carbon-centered radicals and radical cations, this book helps readers fully exploit the synthetic utility of these intermediates in order to prepare fine chemicals and pharmaceutical products. Moreover, it helps readers better understand their role in complex atmospheric reactions and biological systems. Thoroughly up to date, the book highlights the most advanced computational and experimental methods available for studying and using
