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Nota di contenuto	Click Chemistry for Biotechnologyand Materials Science; Contents; Preface; List of Contributors; Acknowledgments; 1 Click Chemistry: A Universal Ligation Strategy for Biotechnology and Materials Science; 1.1 Introduction; 1.2 Selected Examples of Click Reactions in Materials Science and Biotechnology; 1.3 Potential Limitations of Click Chemistry; 1.4 Conclusions; References; 2 Common Synthons for Click Chemistry in Biotechnology; 2.1 Introduction - Click Chemistry; 2.2 Peptides and Derivatives; 2.3 Peptoids; 2.4 Peptidic Dendrimers; 2.5 Oligonucleotides; 2.6 Carbohydrates; 2.7 Conclusion References3 Copper-free Click Chemistry; 3.1 Introduction; 3.2 Bio-orthogonal Ligations; 3.2.1 Condensations of Ketones and Aldehydes with Heteroatom-bound Amines; 3.2.2 Staudinger Ligation of Phosphines and Azides; 3.2.3 Copper-free Azide-Alkyne Cycloadditions; 3.2.4 Bioorthogonal Ligations of Alkenes; 3.3 Applications of Copper-free Click Chemistries; 3.3.1 Activity-based Profiling of Enzymes; 3.3.2 Site-specific Labeling of Proteins; 3.3.3

Metabolic Labeling of Glycans; 3.3.4 Metabolic Targeting of Other Biomolecules with Chemical Reporters; 3.4 Summary and Outlook; References
4 Protein and Peptide Conjugation to Polymers and Surfaces Using Oxime Chemistry4.1 Introduction; 4.2 Protein/Peptide-Polymer Conjugates; 4.3 Immobilization of Proteins and Peptides on Surfaces; 4.4 Conclusions; References; 5 The Role of Click Chemistry in Polymer Synthesis; 5.1 Introduction; 5.2 Polymerization via CuAAC; 5.3 Post-polymerization Modification via Click Chemistry; 5.4 Polymer-Biomacromolecule Conjugation; 5.5 Functional Nanomaterials; 5.6 Summary and Outlook; References; 6 Blocks, Stars and Combs: Complex Macromolecular Architecture Polymers via Click Chemistry
6.1 Introduction6.2 Block Copolymers; 6.2.1 Preparing Polymers for Click Conjugations; 6.2.2 The Click Reaction: Methodologies and Isolation; 6.2.3 Polymer Characterization; 6.3 Star Polymers; 6.3.1 Star polymers An; 6.3.2 Dentritic Star Polymers; 6.4 Graft Copolymers; 6.4.1 'Grafting-to' Azide Main Chains; 6.4.2 'Grafting-to' Alkyne Main Chains; 6.4.3 Non-CuAAC Routes; 6.5 Concluding Remarks; References; 7 Click Chemistry on Supramolecular Materials; 7.1 Introduction; 7.2 Click Reactions on Rotaxanes, Cyclodextrines and Macrocycles; 7.2.1 Click with Rotaxanes; 7.2.2 Click on Cyclodextrines
7.2.3 Click on Macrocycles7.3 Click Reactions on DNA; 7.4 Click Reactions on Supramolecular Polymers; 7.5 Click Reactions on Membranes; 7.6 Click Reactions on Dendrimers; 7.7 Click Reactions on Gels and Networks; 7.8 Click Reactions on Self-assembled Monolayers; References; 8 Dendrimer Synthesis and Functionalization by Click Chemistry for Biomedical Applications; 8.1 Introduction; 8.2 Dendrimer Synthesis; 8.2.1 Divergent Synthesis; 8.2.2 Convergent Synthesis; 8.3 Dendrimer Functionalization; 8.4 Conclusions and Future Directions; References
9 Reversible Diels-Alder Cycloaddition for the Design of Multifunctional Network Polymers

Sommario/riassunto

Mimicking natural biochemical processes, click chemistry is a modular approach to organic synthesis, joining together small chemical units quickly, efficiently and predictably. In contrast to complex traditional synthesis, click reactions offer high selectivity and yields, near-perfect reliability and exceptional tolerance towards a wide range of functional groups and reaction conditions. These 'spring loaded' reactions are achieved by using a high thermodynamic driving force, and are attracting tremendous attention throughout the chemical community. Originally introduced with the focus on dru

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Nota di contenuto	HIERONYMUS BOSCH and the LISBON ""TEMPTATION"":A VIEW from the 3rd MILLENNIUM; Biography; LIST OF ILLUSTRATIONS
Sommario/riassunto	Long before computer games were invented, Hieronymus Bosch was painting terrifying, yet strangely likable, monsters, often with a touch of humour. His works are assertive statements about the mental dangers that befalls those who abandon the teachings of Christ. With a life that spanned 1450 to 1516, Bosch was born at the height of the Renaissance and witnessed its religious wars. Medieval traditions and values were crumbling, paving the way for a new universe where faith had lost its power and much of its magic.Bosch set out to warn doubters of the perils awaiting all and any who lost their f