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	Soggetti	Spectrum analysis Biophysics Biomaterials Regenerative medicine Bioorganic chemistry Materials - Analysis Spectroscopy Regenerative Medicine and Tissue Engineering Bioorganic Chemistry Characterization and Analytical Technique
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	Nota di contenuto	Introduction to collagen -- Structure of collagen triple helix -- Bioinformatics-aided Design of collagen mimic peptides -- Synthesis of collagen peptides -- CD characterization of triple helix stability -- Structural insights from X-ray crystallography -- Conformational and dynamic characterization by NMR spectroscopy -- Fluorescence detection of collagen biomarkers -- Synthesis and characterization of heterotrimeric models of collagen -- Self-assembly of collagen mimic peptides -- Concluding remarks.
	Sommario/riassunto	This book embarks on an enlightening journey through the molecular landscape of collagen mimic peptides, shedding light on their significance and potential. In the intricate realm of biomolecules,

collagen's preeminence as the most abundant protein in the human body, forming the foundational scaffolding of tissues and organs, renders it a subject of profound scientific interest. It explores diverse facets related to collagen mimic peptides, spanning aspects such as bioinformatic analysis, synthetic strategies, pathological collagen targeting, and the construction of homotrimeric, heterotrimeric and self-assembled peptide models. Furthermore, it provides an exhaustive investigation into biophysical techniques, encompassing Circular Dichroism (CD), X-ray crystallography, Nuclear Magnetic Resonance (NMR), Fluorescence, and Raman spectroscopy, thereby empowering researchers to unravel the structural intricacies of these peptides. The book unravels the profound implications of collagen mimic peptides across a spectrum of scientific domains, including protein science, biomaterials, bioanalysis, and beyond. Its accessibility and insights cater not only to seasoned researchers but also to undergraduate and graduate students eager to delve into the complexities of this fundamental protein.