

Special Issue

Design and Synthesis of Bioactive Peptides and Molecular Conjugates for Targeted Drug Delivery

Message from the Guest Editor

The self-assembly of peptides through non-covalent interactions leads to hierarchically ordered structures with functional properties. As Prof. Bert Meijer explains, a molecule's function emerges within its molecular environment, similar to a drug acting at its target site. Beyond synthesis, non-covalent system design is crucial for functionality. Peptide-based systems offer high biocompatibility, cellular permeability, and low immunogenicity, making them ideal biomaterials. Stimuli-responsive self-assembly, triggered by solvents, temperature, pH, enzymes, or redox gradients, enables controlled drug release, reducing off-target effects and enhancing therapeutic efficacy. These advances hold promise for cancer therapy, neurodegenerative diseases, regenerative medicine, and infectious diseases. We invite researchers to submit findings on peptides and molecular conjugates for biomarker discovery, targeted drug delivery, and treatment monitoring.

Guest Editor

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