



Synthetic Protein Mimics: Advances in Architectures and Applications

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Message from the Guest Editors

As synthetic mimics of natural proteins, poly(α -amino acid)s, poly(N-substituted- α -amino acid)s, poly(β -amino acid)s, polyoxazolines, etc., are attractive biomaterials with excellent biocompatibility and degradability due to their similar structures to proteins. The synthetic methods mainly include biosynthesis, solid-phase synthesis, ring-opening polymerizations (ROPs) of various monomers.

Chiral centers and multiple hydrogen bond interactions along the backbones allow the peptide-containing polymers to form secondary structures, such as α -helix and β -sheet, for constructing precisely ordered biofunctional nanomaterials. Their properties, including hydrophilicity, hydrophobicity, (bio)degradability and bioactivity, can be easily tuned by changing the architectures of backbones and functional side groups, as well as the copolymerization with other polymers. They have been extensively applied in the fields of drug delivery, nucleic acid and protein delivery, biomedicine, etc.

This Special Issue will compile recent developments in the field of synthesis, characterization and applications of various synthetic mimics of proteins.





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Message from the Editor-in-Chief

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