

Special Issue

Synthetic Protein Mimics: Advances in Architectures and Applications

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

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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