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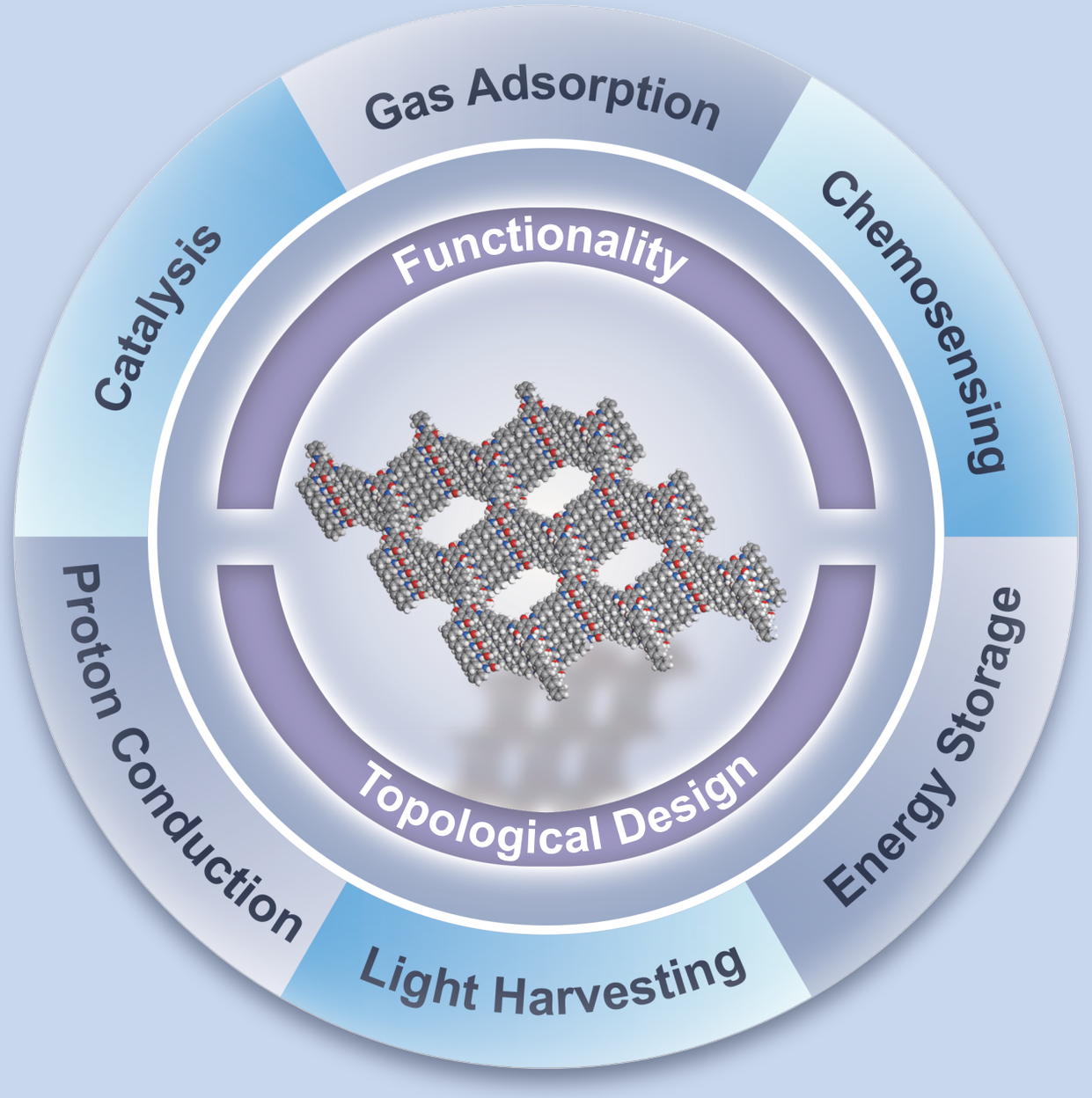

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特约综述

研究论文

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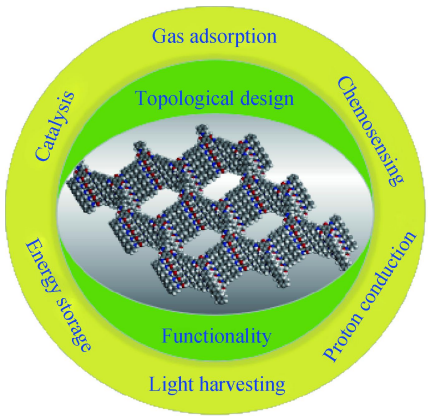
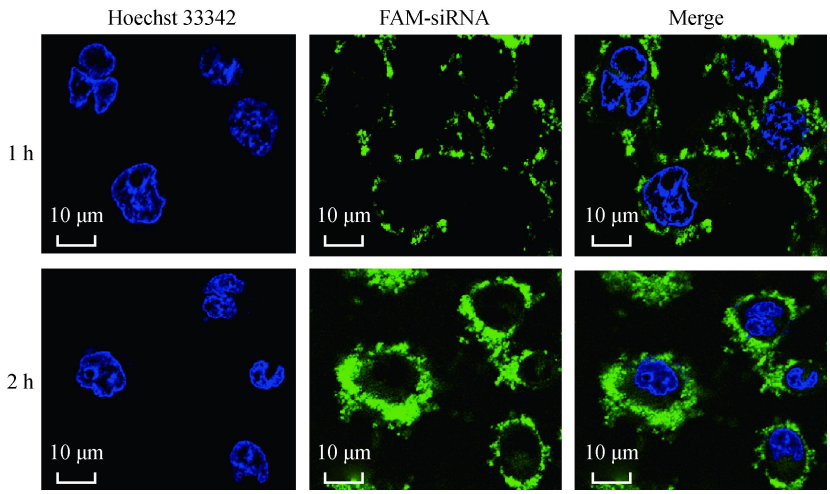
CONTENTS

Special Review

COFs show outstanding physical and chemical properties by virtue of the designability, tailorability and functionality of the extended ordering structure. The diversity of building blocks, specific topological structure, controllable pore environment and flexible functional design make COFs become a fantastic platform for broad applications such as gas storage, catalysis, chemosensing, light harvesting, proton conduction and energy storage.



Papers

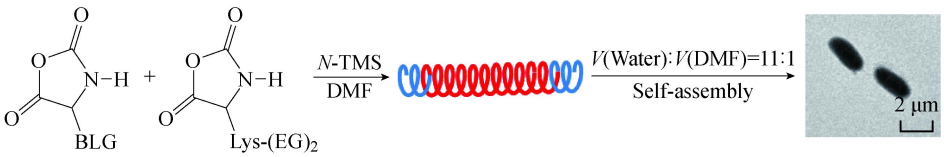


Amphiphilic cationic multi-block copolymers were synthesized and self-assembled into micelles for delivery of siRNA. Confocal laser scanning microscopy results demonstrate that the FAM-siRNA can be delivered into SGC7901 cells by micelles.

Synthesis and Self-assembly of Amphiphilic Rigid Triblock Copolypeptides

CHEN Zhi, YAO Yuan, TANG Song-chao

Journal of Functional Polymers, 2018, 31(3):225-231.

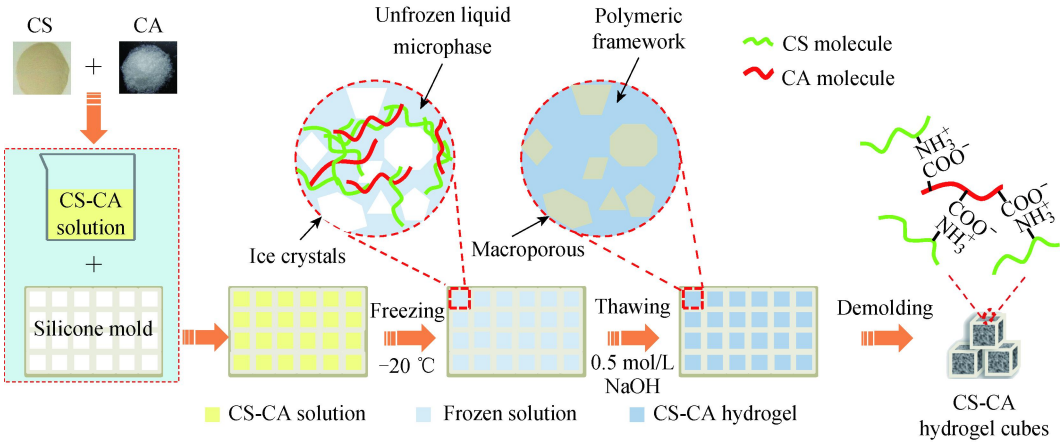


Amphiphilic rigid triblock polypeptides were synthesized via NCA ring opening polymerization using *N*-TMS as the initiator, and self-assembled into rod-like large compound micelles in mixed system of DFM-water. The unusual all-rigid skeletons and the confined conformation of the amphiphilic triblock copolypeptides might be the reason of these results.

Fabrication and Characterization of Citric Acid Modified Chitosan Hydrogel

YANG Shang-ying, YUAN Hui-hua, YI Bing-cheng, WANG Xian-liu, ZHOU Ying, ZHANG Yan-zhong

Journal of Functional Polymers, 2018, 31(3):232-240.

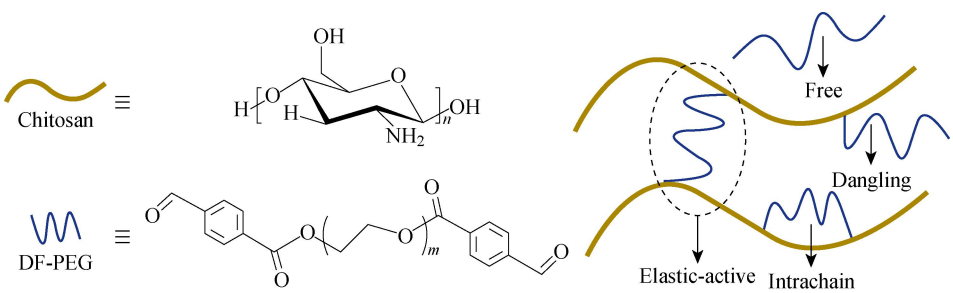


Chitosan-citric acid (CS-CA) hydrogel was formed after a freeze-gelation process with the formulated CS-CA solutions. The newly developed CS-based hydrogel with improved wet mechanical properties could be applied in wound dressings or as scaffolds for engineering different tissues.

Viscoelastic Properties of Dynamic Chemical Crosslinking Hydrogel Based on Telechelic Macromolecular Crosslinker

YE Zhi-peng, XIE Man-qing, XIE Jia-li, ZHAO Chuan-zhuang

Journal of Functional Polymers, 2018, 31(3):241-247.

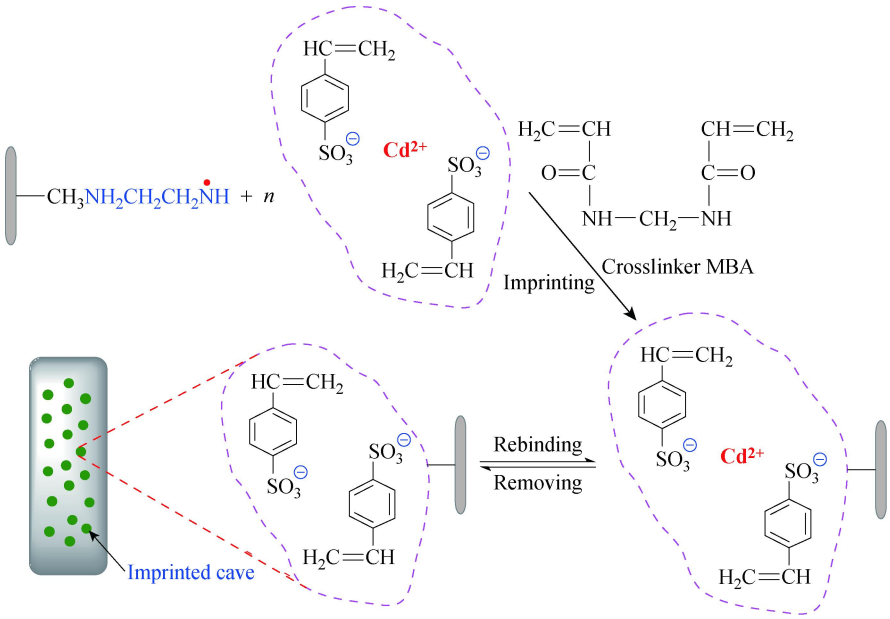


The density of elastic-active cross-linker, which determines the modulus, relaxation time and the shear thickening behavior of hydrogel, can be tuned by molecular weight and concentration of chitosan or DF-PEG.

Preparation of Graft Cd^{2+} Ion-Imprinted Membrane and Its Recognition Selectivity

LIU Chun-yan, ZHANG Zheng-guo, LEI Qing-juan, GAO Bao-jiao, AN Fu-qiang, YANG Lei

Journal of Functional Polymers, 2018, 31(3):248-254.

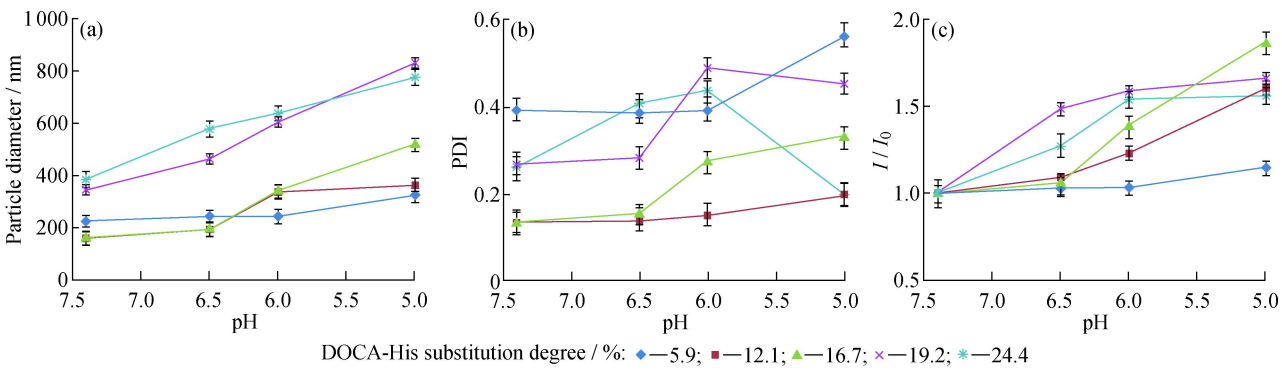


Free radicals generated on the AMPSF membrane surface lead to the occurrence of graft crosslinking-polymerization between SSS monomer surrounding Cd^{2+} and cross-linker MBA, thus embedding the Cd^{2+} into the cross-linked network and synchronizing graft/cross-linking polymerization with ion imprinting. The Cd^{2+} template was washed away and Cd^{2+} ion-imprinted membranes with grafting type (GIIM) were prepared, which have sound performances in binding affinity, recognition selectivity and osmotic separation of Cd^{2+}.

Preparation and Endosome pH Sensitivity of Hyaluronic Acid Polymeric Micelles

LIU Yan-hua, ZHOU Cheng-ming, YANG Tong

Journal of Functional Polymers, 2018, 31(3):255-260.

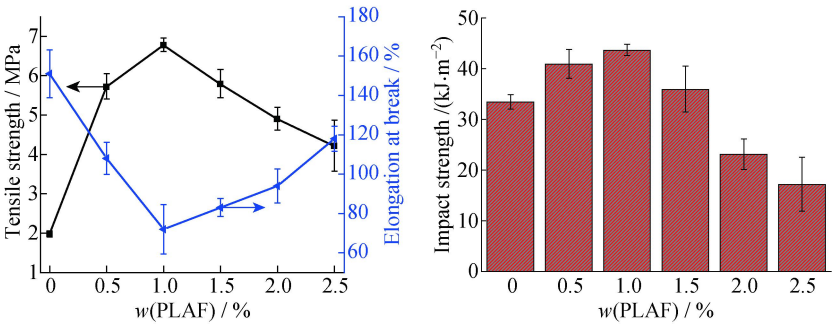


HA-DOCA-His micelles could be stable at physiological (pH=7.4) and tumor extracellular (pH>6.5), and be endocytosed as the micelle entity into tumor cells, then would disintegrate and trigger PTX quick release at endosomal microenvironment (pH 5.0~6.0).

Effect of Polylactic Acid Fiber on the Properties of Thermoplastic Starch Plastics

GUO Bin, ZHA Dong-dong, XUE Can, YIN Peng, LI Pan-xin

Journal of Functional Polymers, 2018, 31(3):261-266.

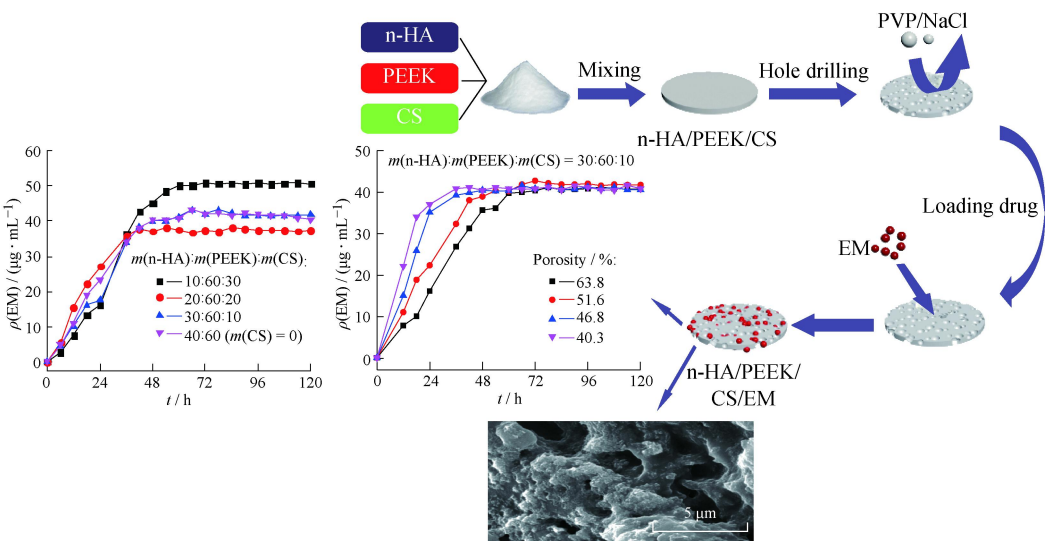


Compared with 1.98 MPa and 33.45 kJ/m^2 of the unreinforced TPS, the maximum values of tensile strength and impact strength of 1.0% PLAF/TPS can reach 6.79 MPa and 43.71 kJ/m^2 respectively, which due to the uniformly dispersed PLA fibers in the TPS matrix and the interaction between PLA fibers and starch macromolecules.

Preparation and Properties of Porous Drug-Delivery n-HA/PEEK/CS Composite Materials

ZHOU Hao-hao, CAO Hui-qun, ZHOU Li, LUO Zhong-kuan, HU Hui-yuan, HUANG Dan-rong

Journal of Functional Polymers, 2018, 31(3):267-272.

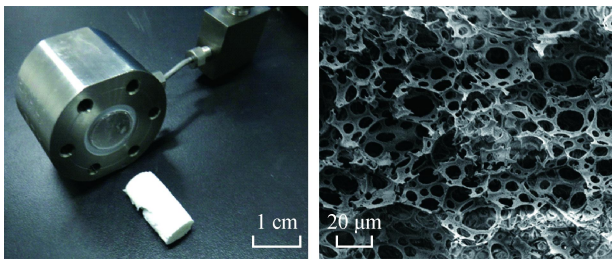


The novel drug-delivering bone-repair materials were synthesized via forming holes using polyvinylpyrrolidone (PVP) and sodium chloride (NaCl) as the porogen and loading the antibiotic erythromycin (EM) into the n-HA/PEEK/CS composite materials.

Preparation and Characterization of Starch-Based Macroporous Materials by High Internal Phase Emulsion Templating Method

ZHANG Shou-cun， SUN Wu， PI Mao

Journal of Functional Polymers，2018，31(3):273-278.

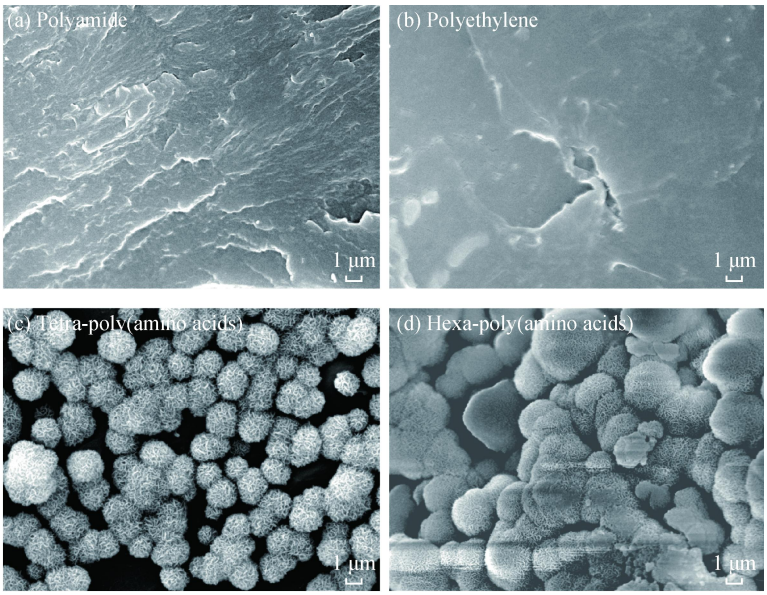


The C/W HIPEs emulsion can be used to produce the macroporous materials with special construction by the emulsion-templating polymerization method. Using this method, a novel starch-based macroporous material was produced.

In vitro Bioactivity of Poly(amino acids) Synthesized by Melting Polycondensation

FAN Xiao-xia， YAN Yong-gang

Journal of Functional Polymers，2018，31(3):279-284.



The hexa-poly(amino acids) and tetra-poly(amino acids) based on 6-aminohexanoic acid were synthesized by *in-situ* melting polycondensation. Hexa-poly(amino acids) and tetra-poly(amino acids) induced the form of apatite on their surface after soaking into simulated body fluid (SBF) for 5 d, showing good bioactivity. However, polyethylene and polyamide are not bioactive.
