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Biopolymer based bionanocomposites

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We have prepared several biopolymer based bionanocomposites for years. These biopolymers include chitosan (CS), poly(lactic acid), or poly(hydroxyethylmethacrylate), etc., while partner polymers or inorganic fillers for bionanocomposites include clay, graphene oxide, carbon nanotube, and silver, etc. to prepare those bionanocomposites. A series of works on the bionanocomposites will be discussed in this talk. Here, one example is the CS containing bionanocomposites. CS is a biocompatible, biodegradable, and non-toxic natural polymer and has applications in wound healing, tissue repair, antimicrobial resistance, cell adhesion, and food delivery. In this presentation, we report the facile synthesis of hierarchical mesoporous bio-polymer/silica composite materials with bimodal mesopores using a dual-template of the cationic N,N,N-trimethyl chitosan (TMCs) and the anionic sodium dodecyl sulfate (SDS) via one-step synthetic strategy. The mesoporous

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