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研究简报

基于氢键作用由低分子量凝胶因子形成的超分子水凝胶

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摘要 利用对羟基吡啶及均苯四甲酸合成的超分子单体, 基于分子间氢键作用, 在水中成功地制备出了具有温度响应性的超分子凝胶, 研究了制备条件对凝胶结构的影响.

关键词 超分子水凝胶 凝胶因子 形貌

分类号 0631

Supramolecular Hydrogel Formed from Gelator with Low Molecular Weight Based on Hydrogen Bonds

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Abstract A building unit(defined as SBU) synthesized from 1,2,4,5-benzene tetracarboxylic acid and 4-hydroxy pyridine was used as the gelator with low molecular weight to form supramolecular hydrogels at various concentrations. The dried hydrogels(xerogels) were observed by scanning electron microscope(SEM). The results indicate that the xerogels possess network structures composing of intertwined fibers and the dimension of the fibers can be regulated by the concentration of SBU. Powder X-ray diffraction(XRD) analysis indicates that the fibers are connected by SBU building units. The reversible sol-gel transition of the supramolecular system with the change of temperature was also noticed.

Key words Supramolecular hydrogel Gelator Morphology

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