

研究简报

氢键结合超分子水凝胶的形成与结构调控

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摘要

关键词 [超分子聚合物](#) [氢键](#) [组装](#) [水凝胶](#)

分类号

FORMATION AND STRUCTURAL REGULATION OF HYDROGEN-BONDED SUPRAMOLECULAR HYDROGELS

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Abstract A kind of supramolecular building unit, 2,6-di[*N*-(carboxyethyl carbonyl)amino]pyridine (defined as DAP) was synthesized from 2,6-diaminopyridine and succinic anhydride by a simple procedure. The structure of DAP was confirmed by $^1\text{H-NMR}$, IR and elemental analysis. Supramolecular hydrogels were formed during the cooling of DAP aqueous solutions at a concentration range of 3 wt%~10 wt%. As observed by scanning electron microscopy, supramolecular fibers were noticed in the gels and their dimensions can be regulated by the concentration of DAP. At higher concentrations of DAP, larger fibers and lower hydrogel strengths were resulted. Based on the formation of hydrogen bonds of the molecules an assembling process for supramolecular hydrogels was proposed.

Key words [Supramolecular polymer](#) [Hydrogen bond](#) [Assembly](#) [Hydrogel](#)

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