

RESEARCH PAPERS

N-异丙基丙烯酰胺凝胶在乙醇水溶液中的溶胀平衡

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收稿日期 修回日期 网络版发布日期 接受日期

**摘要** N-isopropylacrylamide (NIPAAm) was used to synthesize NIPAAm homopolymer (nonionized) and NIPAAm-sodium methacrylate copolymer (ionized). The swelling equilibria for both gels were obtained in aqueous solution of ethanol with concentration ranging from 0 to 100% (by mass) at 25°C. The swollen gel in water shrank first with the addition of a small amount of ethanol and then reswelled with further addition of ethanol showing not only a discontinuous volume phase transition but also a typical reentrant phenomenon. A thermodynamic model based on the UNIQUAC with the "free-volume" contribution was applied to correlate and predict the swelling behavior of the poly(NIPAAm)-gels in ethanol-water mixture.

**关键词** [hydrogel](#) [swelling](#) [poly\(N-isopropylacrylamide\)](#) [model](#)

分类号

**DOI:**

**The Swelling Equilibria of N-isopropylacrylamide Based Hydrogel in Aqueous Solution of Ethanol**

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Received Revised Online Accepted

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**Key words** [hydrogel](#); [swelling](#); [poly\(N-isopropylacrylamide\)](#); [model](#)

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