

The change of the crystal structure of Poly(vinylidene fluoride) (PVDF) membrane by Temperature difference.

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Poly(vinylidene fluoride) (PVDF) has received great attention as a membrane material with regard to its outstanding properties. PVDF membranes have been extensively applied in ultrafiltration and microfiltration for general separation purposes. However, the hydrophobic PVDF membrane is susceptible to fouling while treating aqueous solution. Therefore it is very significant to improve the hydrophilicity of PVDF membranes. In this study, the change of the crystal structure of Poly(vinylidene fluoride) (PVDF) membrane by Temperature difference when impregnated were examined. Poly(vinylidene fluoride) (PVDF) membranes were prepared by the immersion precipitation method. Polymer dissolving temperature was varied from 25 to 70°C. N,N-dimethylacetamide(DMAc), water and Polyvinylpyrrolidone(PVP) were used as solvent, non-solvent and pore forming agent, respectively. The performance of PVDF membranes was observed by several methods such as Porometer, Porosity, Flux, FTIR, SEM, Contact angle to indicate morphology, hydrophilicity, permeability, and transport properties.