

عنوان مقاله:

Fabrication of porous PVDF hollow fiber and flat membranes by immersion precipitation using Taguchi experimental design

محل انتشار:

هفتمین کنگره ملی مهندسی شیمی (سال: 1390)

تعداد صفحات اصل مقاله: 8

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خلاصه مقاله:

Microporous polyvinylidene fluoride (PVDF) membranes were fabricated using the non-solvent induced phase separation (NIPS) method. N-methyl-2-pyrrolidone (NMP) as well as N,N-dimethylformamide (DMF) were used as solvents. Lithium Chloride (LiCl), ethanol and water were used as the inorganic salt additive, non-solvent additive and coagulation medium, respectively. Effect of each parameters on the morphology of pVDF membranes were determined experimentally by using the Taguchi experimental design. The resulted membranes were characterized in using porosity and mechanical strength measurement. The molecular structures of the prepared membranes were examined using a scanning electron microscope (SEM). Obtained results showed that the polymer and salt additive concentrations play a main role on the structural consideration and operational performance of fabricated membranes.

کلمات کلیدی:

pVDF, non-solvent induced phase separation NIPS, flat plate membrane, hollow fiber membrane, taguchi experimental design method

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