Short Communication

Study on Synthesis and Characterization of Anion Exchange Membrane Based on Poly (Vinyl Alcohol) modified by free-radical polymerization

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In this study, poly(vinyl alcohol) (PVA) has been modified by free-radical polymerization (PVA-PVA). The formation of products were confirmed by nuclear magnetic resonance spectra (^{13}C NMR). The anion exchange membranes based on modified PVA were fabricated in this work. The ionic conductivity, ion-exchange capacity, water uptake of membranes as a function of alkaline concentration and the thermal stability of electrolyte were studied. The obtained membranes have good conductivity (>1 mS/cm), high anion exchange capacity (>2 mmol/g), and stable at over 100°C , meeting the criteria for the anion-exchange membrane for alkaline fuel cell.

Keywords: Poly(vinyl alcohol), membrane, conductivity, fuel cell, polymerization.

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