

Radiolytic Preparation and Characterization of PEEK-g-PVBSA Membrane for Fuel Cell Applications

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Since PEEK(poly(ether ether ketone)), a hydrocarbon based polymer has many merits such as excellent chemical resistance, outstanding thermal stability, low cost with low methanol permeability and high durability, it has been widely used for the industrial application. In study, PEEK-g-PVBSA membranes were prepared through the radiation-induced graft copolymerization of vinylbenzyl chloride (VBC) monomer onto a PEEK film followed by sulfonation processes. The mechanical properties, IEC, proton conductivity, and methanol crossover of the prepared PEEK-g-PVBSA membranes were investigated.