Preparation and characterization of sulfonated poly (ether ether ketone) composite membranes with sulfonated mesoporous material

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Sulfonated poly (ether ether ketone) (sPEEK)/ Sulfonated mesoporous benzene-silica electrolyte composite membranes were prepared by a solvent casting method. Components was mixed well in N,N-dimethyl acetamide up to 20wt% of sulfonated mesoporous benzene-silica powder. Proton conductivity, water uptake, methanol permeability and thermal stability are investigated to evaluate the properties of the obtained cross-linked membranes for fuel cell application.