

Hydrophilic-hydrophobic multi-block copolymers based on poly(ether ether ketone) for Direct Methanol Fuel Cell

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Two series of multiblock copolymers based on poly(ether ether ketone)s were synthesized by a between hydrophilic oligomer and hydrophobic oligomer. Hydrophobic oligomer end-capped by decafluorobiphenyl was used to prepare hydrophobic oligomer and hydrophobic blocks. The degree of sulfonation(DS) was controlled by changing the molar ratio of hydrophilic oligomer. Proton conductivity, water uptake, and thermal stability are investigated to evaluate the properties of the obtained multiblock copolymer membranes for fuel cell application.