

Developing the optimization process of the sulfonated poly(2,6-dimethyl-1,4-phenylene oxide (sPPO) membrane for URFCs(Unitized Regenerative Fuel Cells)

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The sulfonated poly(2,6-dimethyl-1,4-phenylene oxide(sPPO) was fabricated for the unitized regenerative fuel cells (URFCs). According to the experiment conditions, sulfonation degree of the sulfonated poly(2,6-dimethyl-1,4-phenylene oxide(sPPO) is different. It caused degradation of the compositing membrane and the performance of the URFCs(Unitized Regenerative Fuel Cells). Appropriate acid functional groups (SO₃H) in the compositing membrane increase the ionic conductivity of compositing membrane. Developing synthesizing the sulfonated poly(2,6-dimethyl-1,4-phenylene oxide(sPPO) of the ideal conditions for finding optimal sulfonation degree needs for cells capability and operating URFCs.

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