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Abstract

Organic polymeric microspheres grafted with ionic brushes are fillers incorporated into imidazolium functionalized polysulfone (ImPSF) forming a composite membrane. The ionic brushes create continuous and bulky hydrophilic phases in the ImPSF forming a composite membrane with the aggregation of hydrophilic groups at the brush/polymer interfaces. The hydrophilic phases promote ionic transport with decreased activation energies from 14.45 to 11.42 kJ mol^{-1} and increased effective ionic mobility from 0.84×10^{-4} to 2.19×10^{-4} cm^2 s^{-1} V^{-1} compared to ImPSF with no

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