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Abstract

The construction of efficient proton transport channels in ion-conductive membranes is crucial to proton exchange membrane fuel cells (PEMFCs). Herein, zwitterion-functionalized covalent organic framework (Z-COF) with both ammonium groups and sulfonic acid groups was synthesized and blended with Nafion to prepare Nafion/Z-COF composite proton exchange membranes. The polymer-like feature of the Z-COF imparted favorable interactions between Z-COF and Nafion, and thus promoted the dispersion of Z-COF and the reorganization of ion clusters. The

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