

研究快报

用于质子交换膜的磺化聚酰亚胺的合成与性能研究

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摘要 从分子设计角度出发, 合成了一种新型的磺化二胺单体, 通过聚合反应制备了磺酸基在侧链上的质子交换膜. 由于特殊结构的设计, 这种质子交换膜的水解稳定性和氧化稳定性均得到提高.

关键词 [磺化聚酰亚胺](#) [质子交换膜](#) [水解稳定性](#)

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Synthesis and Properties of Sulfonated Polyimide for Proton Exchange Membrane

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Abstract A novel sulfonated polyimide containing triphenyl methane as the polymer electrolytes for fuel cell application was successfully synthesized. The sulfonic acid function was only attached at the *para* positions on the pendant phenyl rings due to the novel sulfonated diamine structures designed. The sulfonated polymers are very soluble in common organic solvents, such as dimethyl sulfoxide, *N,N'*-dimethylacetamide, and can be readily cast into tough and smooth films from solutions. The membranes show excellent hydrolytic and oxidative stabilities and can be potentially used as the proton-exchange membranes for fuel-cells.

Key words [Sulfonated polyimide](#) [Proton exchange membrane](#) [Hydrolytic stability](#)

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