

研究论文

新型的含芳香二腈基磺化聚芳醚腈酮的合成与表征

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摘要 通过Diels-Alder反应合成了一种新型的含芳香二腈基的双酚单体, 并利用此单体与活性二卤化物共聚合成了一系列高分子量的磺化聚芳醚腈酮聚合物. 聚合物的结构通过元素分析和核磁共振谱进行表征. 结果表明, 该聚合物具有优良的导质子率、尺寸和化学稳定性及良好的力学性能.

关键词 [燃料电池](#) [质子交换膜](#) [聚芳醚腈](#) [离聚物](#)

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Synthesis and Characterization of Novel Sulfonated Poly(arylene ether nitrile ketone)s Containing Dicyanoarylene Group

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Abstract A novel monomer of bisphenol containing dicyanoarylene group was synthesized and followed by copolymerization with activated dihalides to give a series of sulfonated poly(arylene ether nitrile ketone)s with a high molecular weight. The structures of the copolymers were characterized by ^1H NMR and elemental analysis. The acid-form membranes of the copolymers exhibited an excellent thermostability, good proton conductivity, dimensional and chemical stabilities as well as superior mechanical strength demonstrated by the corresponding technologies available. Which demonstrate the membranes prepared are promising candidate for PEM FC application.

Key words [Fuel cell](#) [Proton exchange membrane\(PEM\)](#) [Poly\(arylene ether nitrile\)s](#) [Ionomer](#)

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