

甲醇阻隔膜的改性和表征

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摘要: 为了表征质子交换膜阻隔甲醇渗透的性质, 建立了以电化学循环伏安法直接测量质子交换膜甲醇渗透率的快速检测方法, 表征了不同 Nafion 膜的甲醇渗透性能。实验结果表明: 该方法能较好地评价膜的耐甲醇渗透性能。以纳米硅溶胶修饰 Nafion 膜, 结果显示: 经修饰后的膜具有明显的阻隔甲醇渗透的性能。

关键词: 直接甲醇燃料电池; Nafion 膜; 循环伏安法; 甲醇; 渗透

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Modification and characterization of methanol resistance membranes

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Abstract: The cyclic voltammetry was used to determinate methanol permeability in proton exchange membranes. Various Nafion membranes were measured and the results showed that this method could be used to analyze rapidly, simply and conveniently the methanol permeability crossover the membrane. Nafion membranes were modified by nanometer silica sol for the first time. The results revealed that the methanol resistance could be distinctly improved for the modified membranes.

Key words: direct methanol fuel cell; Nafion membrane; cyclic voltammetry; methanol; permeability