甘油和乙醇在 Pt-CeO_2/C 电极上的氧化

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摘要：用交替微波加热法快速制备 CeO_2/C 复合材料，进而制备 Pt-CeO_2/C。用电化学方法研究了甘油、乙醇在 KOH 溶液中，在 Pt/C 和 Pt-CeO_2/C 电极上的电化学氧化性能。结果显示：负载在碳粉上的 Pt 和 Pt-CeO_2 催化剂对甘油和乙醇的电化学氧化具有较高的活性，而 Pt-CeO_2/C 催化剂与 Pt/C 催化剂相比，表现了更好的活性和更强的抗毒化能力。

关键词：燃料电池；碱性溶液；CeO_2；交替微波加热法

中图分类号：TM911.4　文献标识码：A　文章编号：1001-1579(2004)03-0212-03

Oxidation of glycerol and ethanol on Pt-CeO_2/C electrodes

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Abstract: CeO_2/C composite was prepared by intermittent microwave heating (IMH) method and used as support to make Pt-CeO_2/C catalyst. The electrochemical oxidation properties of glycerol and ethanol on Pt/C or Pt-CeO_2/C electrodes were measured by electrochemical techniques. The results showed that both Pt/C and Pt-CeO_2/C electrodes were active for the oxidation of glycerol and ethanol Pt-CeO_2/C catalyst had better activity and poisoning resistance than that of Pt/C.

Key words: fuel cells; alkaline solution; CeO_2; intermittent microwave heating