

研究论文

Pt/巯基乙酸/玻碳电极的表面形貌与电催化性能

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摘要 以巯基乙酸为偶联层在玻碳(GC)电极上组装 Pt纳米颗粒, 得到Pt /巯基乙酸/GC电极, 利用扫描电镜(SEM)和循环伏安法(CV)研究了不同条件下复合电极的表面形貌和电化学性能. 研究表明, 巯基乙酸在GC电极表面具有特性吸附, 形成了具有一定致密性的吸附层. 在0.5 mol/L H₂SO₄ + 1.0 mol/L CH₃OH溶液中, 组装 19 h的复合电极对甲醇氧化表现出较好的电催化性能.

关键词 [自组装](#) [巯基乙酸](#) [Pt纳米粒子](#) [玻碳电极](#)

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Surface Morphology and Electrocatalytic Property of Pt /Thioglycolic Acid/GC Electrodes

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Abstract The Pt/thioglycolic acid/GC composite electrode was prepared by self-assembling Pt nanoparticles on GC modified with thioglycolic acid. The composite electrode was characterized by SEM and cyclic voltogramme method. The results show that the compact absorbing layer was formed because of thioglycolic characteristic absorb on the surface of GC electrode. The composite electrode, which had been self-assembled for 19 h, in the 2.5 mmol/L H₂PtCl₆ and 1.0 mmol/L PVP mixture solution, gave a good electrocatalytic oxidation of methanol in acidic system.

Key words [Self-assemble](#); [Thioglycolic acid](#); [Pt nanoparticles](#); [GC electrode](#)

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