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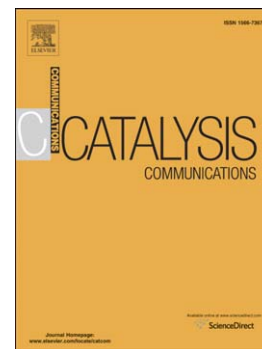
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Juanjuan Shi, Renfeng Nie, Ping Chen, Zhaoyin Hou

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Selective hydrogenation of cinnamaldehyde over reduced graphene oxide supported Pt catalyst

*Juanjuan Shi, Renfeng Nie, Ping Chen, Zhaoyin Hou**

Institute of Catalysis, Department of Chemistry, Zhejiang University, Hangzhou, 310028, China

* Corresponding authors

Tel /Fax: +86-571-88273283

Email: zyhou@zju.edu.cn

Abstract

Highly dispersed platinum nanoparticles (NPs) were fabricated on the surface of few-layered reduced graphene oxide (Pt/RGO) *via* direct ethylene glycol reduction of PtCl_6^{2-} in aqueous solution. This well-defined Pt/RGO catalyst was highly selective and active for the hydrogenation of cinnamaldehyde (CAL) to corresponding cinnamyl alcohol (COL) under mild conditions. It was found that the selectivity of COL remained 85.3 % at 97.8% CAL conversion in ethanol. These results could be ascribed to the well dispersed Pt NPs on RGO sheets, well dispersion of Pt/RGO in ethanol and ethanol can inhibit the generation of acetals.

Key words: Pt nanoparticles, graphene, hydrogenation, cinnamaldehyde.

1. Introduction

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