

研究论文

钯负载介孔氧化锆基复合催化材料的合成与表征

陈航榕\*, 刘志成, 闫继娜, 步文博, 施剑林\*, 严东生

(中国科学院上海硅酸盐研究所高性能陶瓷与超微结构国家重点实验室 上海 200050)

收稿日期 2005-8-29 修回日期 2005-12-28 网络版发布日期 接受日期

摘要

利用表面活性剂辅助模板及适当后处理工艺实现了少量贵金属氧化钯及稀土氧化铈在有序介孔氧化锆孔道中或孔道表面的均匀分散/负载. 借助XRD, TEM, EDS等分析手段进行样品结构表征; 同时针对不同催化体系探讨了丙烯催化氧化以及Heck反应的催化性能.

研究表明, 贵金属钯/稀土氧化铈负载的有序介孔氧化锆体系对丙烯氧化具有良好催化活性,

钯直接负载介孔氧化锆的体系具有优异的Heck反应催化选择性及较少的催化剂使用量.

关键词 [介孔氧化锆](#) [钯](#) [氧化铈](#) [催化](#)

分类号

Synthesis and Characterization of Palladium Loaded Mesoporous Zirconia Composite Catalysts

CHEN Hang-Rong\*, LIU Zhi-Cheng, YAN Ji-Na, BU Wen-Bo, SHI Jian-Lin\*, YAN Dong-Sheng

(State Key Laboratory of High Performance Ceramics and Superfine Microstructure, Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai 200050)

**Abstract** Palladium oxide and/or ceria can be successfully incorporated into mesoporous zirconia via a surfactant assisted method with a suitable post-treatment process. The X-ray powder diffraction, HRTEM, EDX, etc., were adopted for the characterization of the synthesized materials. The catalysis of propylene oxidation and the Heck reaction was also studied. The results show that palladium can be homogeneously dispersed into/onto the surface of mesoporous zirconia. The prepared palladium/ceria-loaded sample shows good catalysis on propylene oxidation, and the palladium/mesoporous zirconia shows distinctively high selectivity and low catalyst consumption in the Heck catalytic process.

**Key words** [mesoporous zirconia](#) [palladium](#) [ceria](#) [catalyst](#)

DOI:

通讯作者 陈航榕 [hrchen@mail.sic.ac.cn](mailto:hrchen@mail.sic.ac.cn); [jlshi@sunm.shcnc.ac.cn](mailto:jlshi@sunm.shcnc.ac.cn)

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