



铜纳米颗粒的制备与表征

王国伟, 施树春

兰州城市学院, 物理系, 甘肃, 兰州, 730070

Synthesis and characterization of the copper nanoparticles

WANG Guo-wei, SHI Shu-chun

Department of Physics, Lanzhou City University, Lanzhou 730070, China

- [摘要](#)
- [参考文献](#)
- [相关文章](#)

全文: [PDF \(648 KB\)](#) [HTML \(KB\)](#) 输出: [BibTeX](#) | [EndNote \(RIS\)](#) [背景资料](#)

摘要 在乙醇-水体系中,碱性条件和CTAB的存在下,以硼氢化钠为还原剂,硝酸铜为铜源,制备了铜纳米颗粒的水溶胶;然后以S-十二烷-N-二硫代氨基甲酸酯-聚丙烯酰胺(PAMDTCD)为修饰剂和相转移剂,将铜纳米颗粒从水相转移到油相中.利用FTIR,TEM,XPS和XRD对所得的铜纳米颗粒进行了表征.结果表明,PAMDTCD能在铜纳米颗粒表面形成紧密的吸附层,有助于提高铜纳米颗粒的稳定性和分散性.

关键词: [纳米颗粒](#) [铜](#) [聚丙烯酰胺](#)

Abstract: Copper hydrosol were prepared from the solution of copper nitrate with NaBH₄ by reductive reaction in water and ethanol-water system in the presence of NaOH and CTAB,and the copper hydrosol were transferred into organic phase by the addition of PAMDTCD.FTIR,TEM,XPS and XRD were utilized to investigate the structure and stability of copper nanoparticles modified with PAMDTCD.The results showed that the modified copper nanoparticles are stable in ambient conditions,which is attributed to the protection of the PAMDTCD molecular densely packed on the copper surface.

Key words: [nanoparticles](#) [copper](#) [polyacrylamide](#)

收稿日期: 2008-03-02;

基金资助: 甘肃省自然科学基金资助项目(0710RJZA074); 甘肃省教育厅科研资助项目(0711B-04)

引用本文:

王国伟,施树春. 铜纳米颗粒的制备与表征[J]. 云南大学学报(自然科学版), 2008, 30(4): 388-391.

WANG Guo-wei,SHI Shu-chun. Synthesis and characterization of the copper nanoparticles[J]. , 2008, 30(4): 388-391.

没有本文参考文献

没有找到本文相关文章

服务

- ▶ [把本文推荐给朋友](#)
- ▶ [加入我的书架](#)
- ▶ [加入引用管理器](#)
- ▶ [E-mail Alert](#)
- ▶ [RSS](#)

作者相关文章

- ▶ [王国伟](#)
- ▶ [施树春](#)

版权所有 © 《云南大学学报(自然科学版)》编辑部

编辑出版：云南大学学报编辑部（昆明市翠湖北路2号, 650091）

电话：0871-5033829(传真) 5031498 5031662 E-mail: yndxxb@ynu.edu.cn yndxxb@163.com