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研究报告

Cu在BMIMBF₄离子液体中的溶解性

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摘要: 在不同氧分压和温度下,研究Cu片在BMIMBF₄离子液体中的溶解速率,并测定Cu²⁺在BMIMBF₄离子液体中的饱和浓度。结果表明,Cu必须有氧存在才能溶解在BMIMBF₄离子液体中,且溶解速率随氧分压和温度的增加而加快。根据实验数据得到在25℃~70℃和2.10×10⁴ Pa的氧分压下,Cu溶解速率的表观活化能为21.76 kJ/mol,并建立Cu在BMIMBF₄离子液体中溶解的速率方程。

关键词: Cu 溶解 BMIMBF₄离子液体 氧分压

DISSOLUTION OF Cu IN BMIMBF₄ IONIC LIQUID

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Abstract: Dissolution characteristic of Cu in BMIMBF₄ ionic liquid under different oxygen partial pressures and temperatures was investigated, and the saturation concentrations of Cu²⁺ in BMIMBF₄ were also measured. The experimental results showed that Cu can only be dissolved in BMIMBF₄ in the presence of oxygen and the dissolution rate of Cu²⁺ in BMIMBF₄ improved with increase in the oxygen partial pressure and temperature. In addition, according to the experimental data, The value of apparent activation energy was found to be 21.76 kJ/mol in the temperature range from 25℃ to 70℃ under the oxygen partial pressure of 2.10×10⁴ Pa. The dissolution rate equation of Cu in BMIMBF₄ was obtained.

Keywords: Cu dissolution BMIMBF₄ ionic liquid oxygen partial pressure

收稿日期 2009-09-02 修回日期 2010-01-15 网络版发布日期 2011-01-28

DOI:

基金项目:



国家自然科学基金项目(50564006)和云南省自然科学基金重点项目(2005E0004Z)资助

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