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论文

稀土(镧)硫醇盐的合成与表征

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摘要:

以三氧化二镧为原料, 经过醇化, 制备了三(月桂硫醇)镧及三(巯基乙酸异辛酯)镧, 并对合成方法进行了优化. 采用热失重分析、FTIR光谱、感应耦合等离子色谱、元素分析和^{1}H NMR对目标产物进行了表征. 确定合成稀土异丙醇盐最佳反应条件为: 反应温度80 ℃, 反应时间2 h; 合成三(月桂硫醇)镧的反应条件为反应温度110 ℃, 反应时间2 h, 月桂硫醇的摩尔分数过量24%; 合成三(巯基乙酸异辛酯)镧的反应条件为反应温度60 ℃, 反应时间2 h, 月桂硫醇过量32%.

关键词: 硫醇盐 镧 巯基乙酸异辛酯 月桂硫醇

Synthesis and Characterization of Rare Earth(Lanthanum) Thiolate

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Abstract:

Rare earth thiolates, lanthanum tri(isooctyl thioglycolate) and lanthanum tri(dodecyl thiolate), were prepared from lanthanum oxide by utilizing exchange reaction of rare earth alkoxide. The products were characterized *via* TGA, FTIR, ^{1}H NMR, ICP and element analysis. The optimization of synthesis condition was made. The optimal synthesis condition of lanthanum isopropoxide is at the temperature of 80 ℃ for 2 h; the optimal synthesis condition of lanthanum tri(dodecyl thiolate) is at the temperature of 110 ℃ for 2 h and the dodecyl thiol overdoses by 24%; and The optimal synthesis condition of lanthanum tri (isooctyl thioglycolate) is at the temperature of 60 ℃ for 2 h and the isooctyl thioglycolate overdoses by 32%.

Keywords: Thiolate Lanthanum Isooctyl thioglycolate Dodecyl thiol

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