

研究论文

## 合成介质对稀土铽-邻苯二甲酸有机配合物荧光强度的影响

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**摘要** 在不同介质(依次为甲醇、乙醇、正丙醇、正丁醇)中合成了邻苯二甲酸Tb<sup>3+</sup>稀土二元配合物. 利用元素分析和红外光谱分析等对配合物的组成和结构进行了表征. 荧光光谱结果表明, 直链醇作为合成介质时配合物的荧光强度大小顺序依次为: 甲醇>乙醇>正丙醇>正丁醇. 同时该配合物在2~300 K范围内测定的变温磁化率说明该配合物具有反铁磁性.

**关键词** [稀土](#) [介质](#) [荧光](#) [磁性](#)

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## Effect of Synthesis Media on Fluorescence Intensity of Organic Complex of Rare Earth Terbium and *o*-Phthalic Acid

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**Abstract** A series of rare earth complexes were synthesized by changing reaction medium(methanol, ethanol, *n*-propanol and *n*-butanol sequentially) for the first time, with Tb<sup>3+</sup> as the central ion, *o*-phthalic acid as the ligand. Coordination condition, probable coordination structure and composition of the rare earth complexes were determined by elemental analysis, IR spectra and UV absorption. Fluorescence spectra were determined also. The results showed that fluorescence intensity of the complexes was reduced with the sequence of methanol, ethanol, *n*-propanol and *n*-butanol. This may be due to the space effect of the solvent. Magnetic property was measured at 2—300 K and the complex belongs to the antiferromagnetic.

**Key words** [Rare earth](#) [Medium](#) [Fluorescence](#) [Magnetic property](#)

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