



四苯基卟啉在改性磷酸锆层间的插入及荧光增强

Intercalation and Enhanced Fluorescence of Tetraphenylporphine in Modified Lamellar Zirconium Phosphate

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中文关键词: 四苯基卟啉; 改性磷酸锆; 插入; 荧光

英文关键词: tetraphenylporphine (TPP); modified zirconium phosphate; intercalation; fluorescence

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中文摘要:

英文摘要:

A modified zirconium phosphate (abbreviated as DAZrP) composite with a large interlayer spacing was prepared. Then DAZrP was mixed with an organic chromophore, tetraphenylporphine(TPP) solution. The interlayer spacings and the optical properties of the samples before and after the interaction of TPP and DAZrP were characterized by X-ray diffraction (XRD), fourier transform infrared (FTIR) spectroscopy, ultraviolet-visible (UV-Vis) spectroscopy and fluorescence spectroscopy. The results manifested that the interlayer spacing of DAZrP was 3.56 nm, and a new lamellar structure corresponding to the d -spacing of 3.11 nm was observed after TPP mixed with DAZrP, indicating the intercalation between TPP and DAZrP. After the TPP chromophore was bound to DAZrP, the characteristic fluorescence intensity of the suspension was evidently increased compared with that of TPP solution (at the same concentration), which results from the difference in micro-environment for TPP in DAZrP and in aqueous solution.

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