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PROCESS AND PRODUCT TECHNOLOGY

一种新型含肉桂酸酯结构的螺吡喃光致变色染料的合成与性能研究

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摘要 A novel bifunctional dye containing spirobenzopyran and cinnamoyl moiety has been prepared and its photochromic behavior following irradiation at different wavelengths of monochrome UV light was investigated.The colourless bifunctional dye in film or solution exhibits unusual photochromism through structural and geometrical transformation from spirobenzopyran to merocyanine accompanying with photoresolidding reaction in cinnamoyl moiety. Two kinds of photochemical reaction were achieved by irradiation at the different wavelengths of monochrome UV light (275 nm, 365 nm) selectively. The photochromic process of the bifunctional dye was discussed and the dynamic behaviors of the decolourization process were investigated.

关键词 螺吡喃光致变色 肉桂酸酯 光致变色染料 光致变色性能 光致变色机理 光致变色动力学

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Synthesis and Characterization of a New Bifunctional Dye Containing Spirobenzopyran and Cinnamoyl Moiety

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Abstract
A novel bifunctional dye containing spirobenzopyran and cinnamoyl moiety has been prepared and its photochromic behavior following irradiation at different wavelengths of monochrome UV light was investigated.The colourless bifunctional dye in film or solution exhibits unusual photochromism through structural and geometrical transformation from spirobenzopyran to merocyanine accompanying with photoresolidding reaction in cinnamoyl moiety. Two kinds of photochemical reaction were achieved by irradiation at the different wavelengths of monochrome UV light (275 nm, 365 nm) selectively. The photochromic process of the bifunctional dye was discussed and the dynamic behaviors of the decolourization process were investigated.

Key words spirobenzopyran, cinnamoyl moiety, photochromism,

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