

论文

双(1,2-二苯基环戊二烯基)氯化锆化合物发光光谱行为及取代基效应

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摘要:

以干燥的正己烷为溶剂, 在N₂气保护下, 研究了金属有机化合物双(1,2-二苯基环戊二烯基)氯化锆(2)、双(4-甲基-1,2-二苯基环戊二烯基)氯化锆(3)和双(1,2,4-三苯基环戊二烯基)氯化锆(4)的发光光谱行为. 研究结果表明, 该系列化合物具有良好的发光性能, 且荧光光谱的发射波长可通过改变环戊二烯基4位上的取代基R进行调节. 发射光波长大小顺序为Ph>CH₃>H.

关键词: 紫外\ 可见光谱; 发射光谱; 取代基效应; 二茂锆化合物

Luminescence Properties and Substituent Effect of Bis(4-R-1,2-diphenyl|cyclopentadienyl) Zirconium Dichloride Compounds

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Abstract:

The electronic absorption and luminescence behavior of a number of bis(4-R-1,2-diphenylcyclopentadienyl)zirconium dichloride complexes (4-R-1,2-Ph₂Cp)₂ZrCl₂ [R=H(2), Me(3), Ph(4)] in anhydrous n-hexane were studied under an atmosphere of nitrogen. The research results showed that the electronic absorption and luminescence behavior of these compounds can be tuned by the variation of the substituents on the cyclopentadienyl groups. The absorption and emission wavelength of these complexes decreases in an order of R = Ph>CH₃>H. As a result, complex 2 is a blue color emitter, while complex 4 is a green color emitter.

Keywords: UV-Vis spectroscopy; Emission spectroscopy; Substituent effect; Zirconocene

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