



### 器件制备及器件物理

#### 新型蒽衍生物蓝光材料的合成及光电性能研究

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**摘要：** 通过引入具有电子传输性能的噁二唑衍生物支链，采用Suzuki偶联反应，设计并合成了一种新型的蒽衍生物蓝光材料，同时研究了它的光学性能、热学性能、电化学性能以及成膜性。研究表明，该化合物在四氢呋喃溶液中发射蓝色荧光，最大发射波长为433 nm，其荧光量子效率为0.94，是9, 10-二(β-萘基)蒽(ADN)的1.17倍。该化合物薄膜经过100 °C高温烘烤3 h，依然保持连续、均一、平整的无定型结构，是制备长寿命、高效率OLED的很有潜力的材料。

**关键词：** OLED 蓝光材料 蒽衍生物

#### Synthesis and Optical Properties of A Novel Blue-emitting Anthracene-based Derivative

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**Abstract:** Using Suzuki coupling reaction, a novel blue-emitting anthracene-based derivatives was designed and synthesized by introducing the electron transport branch of oxadiazole derivatives. The optical properties, thermal properties, electrochemical properties, and surface morphology of the compound were characterized. The maximum emission wavelength of this compound is 433 nm in tetrahydrofuran, and the fluorescence quantum yields is 0.94 which is 1.17 times than that of 9,10-di(2-naphthyl)anthracene. The film of this compound is continuous, compact, and smooth after annealing at 100 °C for 3 h, which is suitable to prepare long life and high efficiency OLED devices.

**Keywords:** OLED blue-emitting materials anthracene-based derivatives

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