

Extended Abstract

BODIPY (*meso-phenyl-meso*) Dimer as Photovoltaic Material [†]

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Derivatives of boron-dipyrromethene (BODIPY) constitute an important class of chromophores. The BODIPY dyes can be applied in an extensive variety of applications, such as cellular imaging, photodynamic therapy, drug-delivery or organic photovoltaics [1–4]. BODIPYs are also excellent compounds to be applied as electron-donor materials in organic photovoltaic cells as they have a strong absorption in the visible spectra region, a photochemical and chemical stability, good solubility and a general suitable HOMO/LUMO frontier orbital energy levels (Figure 1).

Following our work on the use of BODIPYs as photovoltaic materials [5], in this communication we present the synthesis and characterization of a *meso-meso* BODIPY dimer. This BODIPY dimer has all the main properties to work efficiently as electron-donor material since it exhibits strong absorbance in the visible spectrum, good solubility and suitable HOMO and LUMO energy orbitals to work as donor material in the bulky heterojunction BODIPY/PCBM layer, based solar cells.

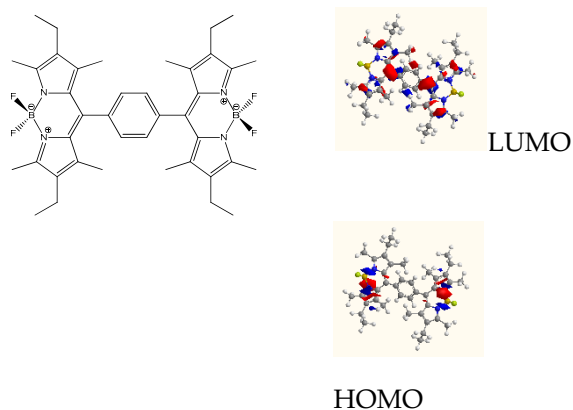


Figure 1. Boron-dipyrromethene (BODIPY) (*meso-phenyl-meso*) dimer and its frontier molecular orbitals.

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