

Synthesis and Electro-Optic Performance of Organic Photosensitizers for the Dye Sensitized Solar Cell

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Dye-sensitized solar cell (DSSC) has attracted much attention due to their high performance and easy manufacturing process. Many kinds of organic dyes (Metal-Free dyes) have been investigated as a photosensitizer in Dye-sensitized solar cell (DSSC) to increase the photovoltaic performance of the DSSC. Monomeric- and polymeric-thiophene moieties are of currently and considerable interest due to their optical and electronic properties for opto-electronic devices such as OLED, OTFT and so on.

In this research, we synthesized new series of organic dye containing hetero-atom containing cyclic chromophores such as thiophene moiety with anchoring group in the chemical structure to evaluate the performance of organic dyes as a photosensitizer in the DSSC.