

Synthesis and Application of Double-Anchoring Photosensitizers for the Dye Sensitized Solar Cell

최영철, 조효정, Zhexian Song, 김준연, 박진호, 김재홍*
영남대학교
(jaehkim@ynu.ac.kr*)

Dye sensitized solar cells (DSSC) have been investigated extensively since Grätzel and Co-workers reported a highly efficient solar energy-to-electricity conversion efficiency, μ , of more than 10%. Ruthenium dyes are used in DSSCs containing titania nano crystals, cis-bis(isothiocyanato)-bis(2,2'-bipyridil-4,4'-dicarboxylate) ruthenium(II), N3 dye was reported in 1993[1-3]. Currently a metal free organic dye can be designed for DSSC as a sensitizer to absorb incident photons in selective spectral regions of the solar cell spectrum while maintaining high transparency in the remaining wave length range.

In this paper, we have developed new organic photosensitizers including Double-Anchoring phenothiazine and carbazole moieties in the chemical structure.