Synthesis and Photovoltaic Properties of Organic Photovoltaic Sensitizer Containing Triphenylamine for the Dye Sensitized Solar Cell

천종훈, 이정관, 김재홍*
영남대학교 디스플레이화학공학부
(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 10%.
Contrary to conventional ruthenium dyes, 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 research, we designed and synthesized new series of organic dye containing triphenylamine moiety with anchoring group in the chemical structure to evaluate the performance of organic dyes as a photosensitizer in the DSSC.
Acknowledgement : This research was financially supported by the Ministry of Education, Science Technology (MEST) and Korea Industrial Technology Foundation (KOTEF) through the Human Resource Training Project for Regional Innovation