Investigation of Natural Dye Influence on Solar Cell

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With growing dependence of technology in the world, the importance of finding an effective source of renewable energy to replace harmful fossil fuels has been a mission for solar researchers and engineers alike. Dye-Sensitized Solar Cells have received growing attention as they are an inexpensive means of generating clean energy. Despite their low production cost, Dye-Sensitized Solar Cells have not reached promising solar conversion efficiencies which has been a challenge in solar research. This work aims to discover the best organic dye-sensitizer to increase the solar conversion efficiency performance of Dye-Sensitized Solar Cells. After experimentation of 11 organic dye-sensitizers, challenges were faced in the experimental process. A novel approach to circumvent the challenges allowed for an improved methodology which transitioned to a 128.01% increase in output voltage and 320.56% increase in output current in comparison to traditional anthocyanin Dye-Sensitized Solar Cells.

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