Chlorophyll and Accessory Pigments in Dye-Sensitized Solar Cells

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The average solar panel is able to convert around 15-20% of solar energy into chemical energy. Therefore, there is a mass amount of energy that has the capability to be captured and harnessed to increase these energy levels. Dye-sensitized solar cells have been developed that use natural pigments in various photosynthetic organisms to increase the absorption levels in solar cells. In this experiment the use of dye-sensitized solar cells paired with the pigment chlorophyll a, and various accessory pigments extracted from various plants, are going to try and maximize the conversion of energy. Each pairing of chlorophyll a with an accessory pigment will be tested in individually assembled solar cells, and put under the same light source. Based on the results the most effective solar cell is the pairing of chlorophyll a and the accessory pigment anthocyanins. This is important towards the efforts of trying to harness as many renewable energy resources as possible which will allow for a greener impact on the Earth.

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