Long-Term Stable Ionic Liquid and Polymer Based Dye Sensitized Solar Cells for Powering up Small Appliances and IoTs under Ambient Light Conditions

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Dye sensitized solar cells (DSCs) have become the focus of significant research efforts in the last two decades because of their fundamental and technological significance as new generation of solar cells. DSCs have shown to be a good alternative to conventional p-n junction photovoltaic devices, especially for indoor applications. We propose to fabricate solar cell modules (6 or 8 x 1 cm) incorporating an optimized eco-friendly electrolyte system and test the efficiency of these DSCs under high and low light conditions. In addition, we will demonstrate and test the final and most efficient DSC modules, under low light conditions, for operating and powering up small appliances and IoTs. Such a research proposal will surely and positively adds to the global efforts of de-carbonization.