

### Quasi solid -state polymer gel electrolytes based on PVDF -HFP and PMMA for fabricating effective dye sensitized solar cells

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This covers, inter alia, electrolyte issues in DSSCs. It is well known that the presence of traditional liquid electrolytes in dye-sensitized solar cells is related to problems such as precipitation of salts in the electrolyte at low temperature, evaporation of liquids of the electrolyte at high temperature, corrosion and lack of long-term stability of the cells. In order to overcome various problems associated with liquid electrolytes, quasi solid-state polymer electrolytes which is well known PVDF-HFP can be used in dye-sensitized solar cells.

In this study, DSSCs based on quasi-solid type of electrolytes composed of Poly (vinylidene fluoride-co-hexafluoro propylene) and polymer were executed and the photovoltaic characteristics were summarized. The photovoltaic performances of the DSSCs composed of different polymeric materials of quasi-solid electrolyte compared using I-V curves, incident photon-to-current (IPCE) efficiencies, and impedance analysis to investigate the conducting properties of electrolyte.