

Fabrication of an Efficient Dye-sensitized Solar Cell with Stainless Steel Substrate

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Highly efficient dye-sensitized solar cells (~ 8.6%) using a flexible stainless-steel substrate for preparation of a mesoporous TiO₂ film electrode were fabricated by controlling the dark current density. Optimal photovoltaic properties were obtained with a cell where the TiO₂ film was coated on a Ti-isopropoxide treated stainless steel based substrate. The quality of the underlayer was characterized and found to be related with the photovoltaic properties.