Dye-Sensitized Solar Cell Based on Composited NiSO$_4$ and PEDOT:PSS Counter Electrode with Organic T$_2$/T$^-$ Electrolyte

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NiSO$_4$ were prepared by facile chemical synthesis from Ni nanoparticles. NiSO$_4$ particle solution was dropped onto conductive glass and used as a counter electrode electrodes in dye-sensitized solar cell. The efficiency of NiSO$_4$ DSSC when using T$_2$/T$^-$ electrolyte was $\sim$1.74%. The cell efficiency was significantly increased to $\sim$3.05% after mixing NiSO$_4$ with PEDOT:PSS. This improvement is attributed to an increase in the film electrocatalytic activity as evidenced by CV and EIS measurements.