Gel polymer electrolyte based on LiBOB and PAN for the application in dye-sensitized solar cells

Titre	Gel polymer electrolyte based on LiBOB and PAN for the application in dye-sensitized solar cells
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Résumé en anglais	Dye-sensitized solar cells (DSSCs) have been fabricated using metal complex N3 dye coupled with LiBOB and PAN-based gel polymer electrolyte (GPE). Conductivity of the GPE at room temperature was 1.2 x 10(-2) S cm(-1). The deconvoluted vibration spectra at different temperatures between 1000 and 970 cm(-1) show the existence of ion pairs and free ions. Overall efficiency and fill factor of the DSSC with LiBOB-BMII-PAN-I-2 GPE system is 0.65% and 48% respectively. The cell with LiBOB-BMII-PAN-I-2 GPE system appears to be stable under varied light intensity attributed to the presence of redox couple mediator in the GPE. Impedance measurements show that the DSSC with LiBOB-BMII-PAN-I-2 GPE has longer electron lifetime which suggests a lower electron recombination rate.
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