



SDI Review Form 1.6

Journal Name:	Physical Science International Journal
Manuscript Number:	Ms_PSIJ_23070
Title of the Manuscript:	Donor-c Based Polymers for Application in Solar Cells
Type of the Article	Original research Articles

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments	<p>The authors did great job in the synthesis of the polymers, however the level of photo-characterization was not a match for the level of preparation and synthesis. The author/s has to seriously address the following concerns that represents unclear and may be wrong assumptions.</p> <ol style="list-style-type: none"> 1- The spectra (Solution or thin film UV-VIS) does not justify the claimed optical band gap they mentioned in the results. 1.64 and 1.903 eV cannot be deduced from the spectra in figures 1 or 2 . 2- The author/s has to use Tauc plots to explore if a direct or indirect band gap structures do exist or not. 3- The low band gap they mentioned indicates that the listed IP (HOMO) give very large electron affinity for both (approx. more than 3.5 eV for one and 3.45 eV . If these Electron affinity be suitable for the n -type is not suitable for p-type. 4- They did not explain the CVs for these polymers , what is the meaning of the redox waves shown in the figures 3 and 4. 	<ol style="list-style-type: none"> 1- you can deduce from the spectra in figures 1 or 2 , when use this equation $eV = hc / \lambda$ $eV = 1240 / \text{wavelength (nm)}$ 2- what's mean 3- In both cases, we would expect conductivity in the polymer to take place. 4- Cyclic voltammetry (CV) studies were performed on drop-cast polymer films in acetonitrile with tetrabutylammonium perchlorate as the electrolyte. P1 shows a reversible oxidation wave which is associated with positive doping (p-doping) at a half-wave potential of 0.60 V (vs. Ag/Ag+) and two quasi-reversible reduction waves (n-doping) at -1.13&-1.30 V . The LUMO level of the polymer was determined from the onset of reduction of the polymer (calculated by using the value obtained from the intersection of the two tangents drawn at the rising current and the baseline charging current of the CV curves) and estimated at -3.67 eV The HOMO value of polymer P1 determined similarly from its onset of oxidation was found as -5.31 eV giving an electrochemical energy-gap of 1.64 eV.
Minor REVISION comments		
Optional/General comments		