



SDI FINAL EVALUATION FORM 1.1

PART 1:

Journal Name:	Physical Science International Journal
Manuscript Number:	2013_PSIJ_4768
Title of the Manuscript:	Structural and Optical Properties of Polymer Blend Nanocomposites Based on Poly (vinyl acetate-co-vinyl alcohol)/TiO₂ Nanoparticles

PART 2:

FINAL EVALUATOR'S comments on revised paper (if any)	Authors' response to final evaluator's comments
<p>Why do not using Origin in FTIR spectra? The FTIR spectra are blurry indeed. The authors claimed that the sample with 4% TiO₂ content displayed higher percentage crystallinity compared to other samples, there are other peaks occurring at higher 2θ values for the sample containing 4% TiO₂, but in Fig.4, the intensity of XRD patterns are inconsistent, results could not conformed to this opinion. In Fig.6, with the increasing of TiO₂ containing 1% to 3%, the absorption edge red shift, why was observed the absorption edge blue-shift of the optical absorption edge from the TiO₂ containing 4%?</p>	<p>1) The FTIR method of analysis do not need weighting or finding the areas under the absorption/trans mission spectra, it only needs expertise and familiarization with different functional groups obtainable as standards when interpreting. As such, the plot of %Transmission Vs. Wave number is generated automatically by the spectrometer.</p> <p>2) Of course it has higher percentage crystallinity compared to others as can be seen from the XRD patterns and the inconsistency of the XRD patterns is nothing but the true behaviour of the amorphous materials (polymers). If the reviewer is familiar with XRD patterns for amorphous materials (polymers), then this should be obvious.</p> <p>3). In the manuscript we claimed that “However, there are slight shifts in the onsets of absorption, with the sample containing 3 wt % of TiO₂ having onset at a wavelength of 590nm corresponding to maximum absorbance of approximately 3.0% and that containing 4 wt % of TiO₂ having onset at 550nm corresponding to maximum absorbance of 2.9% as well”. These shifts are attributed to the increasing content of TiO₂ Nanoparticles in polymer blend nanocomposites. In addition, it is obvious that TiO₂ Nps are transparent to UV-vis, the more its content in the polymer blend nanocomposites, the transparent the nanocomposites.</p> <p>However, the reason given above for the shifts has been incorporated in the manuscript and highlighted in yellow.</p>