



SDI Review Form 1.6

Journal Name:	Journal of Materials Science Research and Reviews
Manuscript Number:	Ms_JMSRR_57717
Title of the Manuscript:	Optimization of Nanoclay Loading on the Thermo-Mechanical Behavior of Chemically Treated Jute Polyethylene Nanocomposites
Type of the Article	Original Research Article

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:

(<http://www.sciencedomain.org/journal/10/editorial-policy>)



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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	<ol style="list-style-type: none"> 1) In this paper, I do not see the end properties want to be targeted, what the importance your research is and what the research purpose is so the author interested in jute-clay based PE nanocomposite fabrication. 2) What do you think in about the nanocomposite application . On-going technology and application about this nanocomposite should be described in Introduction. Many thermoplastic used for this composite. It should be alternative consideration for discussion. 3) Author must declare the experimental method clearly. In the experimental work, author state "Jute fibers, PE granules, and different types of MMT nanoclay were mixed well according to the Table 1 for the manufacturing of nanocomposites". Please declare mixing parameter and equipment used. How about the origin and size of nanoclay used. 4) In abstract, author carefully mention fabrication technique of the nanocomposite. Hot press?? 5) Many researchers developed jute-based thermoplastic nanocomposite with nanoclay as nanofiler. What the highlight and differences this research with others. Author should compare your results and the other results in discussion part 6) In discussion part of mechanical testing, the author discussed "Thus, the 15 wt% jute content was found as the optimum composition. This is explained by the homogeneity of fiber and wettability of polymer matrix In lower fiber content, the composite shows poor tensile properties due to poor fiber population and low load transfer capacity to one another, whereas after 15 wt% fibers get agglomeration". How do you know that over 15%, agglomeration happen and why less than 15%, homogeneity happen. And then at 15%, the orientation of fiber happen. Author should prove the statement by fracture SEM observation 7) How elongation break of the nanocomposite. Please add the data in the mechanical properties. This is commonly discussed in the mechanical properties of nanocomposites and compared with itself polyethylene 8) It is more interest if author discuss more detail why high number of carbon affect the properties (thermal behaviour, morphological surface, mechanical properties). . 9) In DCS study, author claim decomposition temperature of hemicellulose and lignin are about 309-325oC and that's of cellulose is about 372-376oC. How do you know ? whereas As I know lignin decompose over broad range of temperature (150-900oC), 220-315oC for hemicellulose and 300-400oC for cellulose. Better to compare with jute fiber. 10) In meanwhile, shifting decomposition peaks is due to high number carbon of clay modifier. Why high number carbon-MMT cause the shifthing. 11) Please indicate the peak temperature as your discussion to make readable and understable discussion. 12) Author is better to explore more about activation energy on the nanocomposite 13) In many discussion, author conclude high number of carbon-treated MMT strongly determine the composite properties such morphological surface, mechanical properties and thermal decomposition. Author have to reveal the importance of high number carbon treated-MMT clay on the properties. 14) Provide conclusion as the important result of research. 	
Minor REVISION comments		



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Optional/General comments	Author have to provide interesting analysis on the discussion. Compare with the another current research. I do not catch the statement "the importancy of this research"	
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PART 2:

	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)
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

Reviewer Details:

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