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Journal Name:	British Journal of Applied Science & Technology
Manuscript Number:	2015_BJAST_16811
Title of the Manuscript:	Synthesis, characterization and in vitro cyto toxicity assessment of eggshell-derived β -CaSiO ₃ nano biomaterial
Type of the 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:

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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		
Minor REVISION comments	The article titled <i>Synthesis, characterization and in vitro cyto toxicity assessment of eggshell-derived β-CaSiO₃ nano biomaterial</i> concerns exploration and the conversion of biowaste into a valued bioceramic material for potential tissue regeneration application. Calcium silicate (β-CaSiO₃) nanomaterial was synthesized from waste egg shells (CaCO₃) and silica (SiO₂) precursors using noninvasive and sonochemical techniques. The development of the β-CaSiO₃ NPs was monitored with FTIR, thermogravimetric analysis, TEM microscopi, field emission scanning electron microscopy/energy dispersive spectroscopy (FESEM-EDS) and X-ray diffraction. The results revealed the formation of polycrystalline nano-β-CaSiO₃ with 100% peak at $2\theta^\circ=30.0$ in the (320) crystal plane and sizes less than 50 nm. <i>In vitro</i> cytotoxicity studies on human osteoblast cell line suggests biocompatibility and non-interference with cell growth at concentrations ranging from 0.0781-1.250 mg/m. The conversion of the eggshell to β-CaSiO₃ through a sustainable approach was successful.	All reviewer comments about spacing in between words have been corrected. The word Silica in the caption of figure 3 has been corrected to lower case (silica). Minor edits were also made to the entire article and have no effects to its substance.



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	The characterization showed that the use of only mechanical attrition on CaCO_3 and SiO_2 precursors could only produce calcium silicate hydrates (CSH). However, addition steps of sintering re-ball milling and ultrasonication in ethanol resulted into a $\beta\text{-CaSiO}_3$ phase with particle sizes less than 50 nm. This is essentially a conversion of biowaste into a useful biomaterial. The manuscript <i>Synthesis, characterization and in vitro cyto toxicity assessment of eggshell-derived $\beta\text{-CaSiO}_3$ nano biomaterial</i> is significant in technologies of biowaste recycling. This interesting scientific problem is discussed in good way. Moreover, despite the fact the manuscript is connected with interested and modern scientific topic. It is worth to mention, that value of the manuscript improves the good quality illustrations. In despite the fact, the paper is written legible English, the version needs minor revision. Authors should in all text very carefully check the spaces. Reviewer is wondered also why authors sometimes used the capital letter (Silica)? Finally, the manuscript could be ready for publication in <i>British Journal of Applied Science & Technology</i> journal after very minor revision.	
<u>Optional/General</u> comments		