



SDI FINAL EVALUATION FORM 1.1

PART 1:

Journal Name:	Journal of Materials Science Research and Reviews
Manuscript Number:	Ms_JMSRR_42862
Title of the Manuscript:	Production of Synthetic Zeolite from Ugwaka Clay (Black Clay) by thermal treatment
New title of the Manuscript:	Synthesis of Zeolite by thermal treatment using locally sourced Ugwaka Clay (Black clay)
Type of Article:	Original Research Article

PART 2:

FINAL EVALUATOR'S comments on revised paper (if any)	Authors' response to final evaluator's comments
I will also like to draw your attention to the fact that this is the third time I will be reviewing THIS MANUSCRIPT and the authors has not properly addressed all queries. I have said it before that the author is free to send a rebuttal to any of my comments that he has a contrary opinion to. In the absence of a rebuttal, I will expect him to make all corrections and clearly show where this corrections were made in his work. I am not sure but I think the journal office are suppose to have a plan in place to ensure all raised concerns are properly addressed. This manuscript has a lot of grammatical errors and the authors should enlist the service of someone that has a good command of the English Language. 'With due respect sir/ma, we responded to most of your questions which was highlighted in the revised manuscript except for few questions we did not attend to. We appreciate your questions because the answers improved our article.' Dear authors, This is a review process that will improve the quality of your work. Suggestions are not selectively treated. If authors disagree with suggestions from a reviewer, they are free to submit a rebuttal not ignore or failed to attend to suggestions. I extracted the following from my first comments for your perusal: The introduction was loaded with information about zeolite but failed to address the modelling techniques used for modelling. Information about the modelling techniques will make the introduction a complete one. Information in table 4a and 4b can be compared on a table for easy comparison. Also there should be a standard that should be used as a reference on same table. Question: What is the reason why some phyto-chemical properties are lower in treated clay (zeolite) and initially are higher in raw clay? Is there a literature reference for such behaviour? Question: Line 248: In table 6, why is it that two interaction components of the developed model are not significant model term? Can you generate 3D plots for these interactions? This should give an insight. Line 283 to 288: Box the three plots 8a, 8b and 8c in a plot. Then clearly explain the kind of relationship each of them exhibited with yield.	We apologize for wasting your precious time. Thanks for your understanding. The introduction was loaded with information about zeolite but failed to address the modelling techniques used for modelling. Information about the modelling techniques will make the introduction a complete one. Response: We have included information about the modelling techniques in the introduction section. Information in table 4a and 4b can be compared on a table for easy comparison. Also there should be a standard that should be used as a reference on same table Response: Table 4a contained the properties of raw ugwaka clay and 4b contained the properties of modified clay. Even though lots of experiments have been conducted using clay samples, we have not seen any done on ugwaka clay, so the properties of the clay we used has its own unique characteristics and we have not seen any standard for the clay to make such comparison. Question: What is the reason why some phyto-chemical properties are lower in treated clay (zeolite) and initially are higher in raw clay? Is there a literature reference for such behaviour? Response: It is an obvious fact that whenever clay undergoes thermal or chemical treatment, some properties of it increases due to improvement in the surface area and some decreases due to removal of impurities and increase in porosity which is the major characteristic of synthetic zeolite. Several articles have reported similar situation. Mohamadu et al, 2006, Ajemba and Onukwuli, 2012 etc. Question: Line 248: In table 6, why is it that two interaction components of the developed model are not significant model term? Can you generate 3D plots for these interactions? This should give an insight. Response: The data have been re-analyzed using a higher version of design expert and some anomalies have been corrected. 3D surface plot and 2D contour plot was generated as shown in fig 8 See below for the rest of the comments



SDI FINAL EVALUATION FORM 1.1

References: Inconsistencies in the presentation styles.

In addition to the above suggestions/comments/ questions, I have the following:
You might need to check the following:

1. Last sentence in paragraph 3 of introduction;
2. 'Source of raw materials' and 'Physical Characterization' are of different font sizes.
3. All units should be space if using with a value '25 °C' not 25°C. Check all part of the manuscripts and effect the changes.
4. There are tenses errors in 'physical characterisation' section. The only error free sentence is the first sentence.
5. Align X1, X2 and X3 on page 3.
6. No reference to table 1 and 2 before presentation of the tables
7. On page 4 'The results agrees with.....' Wrong
8. On page 7, 'The chemical treatment also resulted in removal of some fraction of the alumina content as observed from table 4b with alumina content (17.89 wt %) against (33.67 wt %) present in raw clay as shown in table 4a.' If there is a chemical reaction, the authors should properly tell the story because the sentence is a 'blanket statement' as it stands.
9. On page 9, 'It was seen that there were strongly.....' wrong
There are lots of errors about misuse of words in the whole manuscript.
On Figure 4 to 7, The authors did not explain each of the plots. A good description of Figure 6 and 7 should be able to capture the story the authors are trying to express. If they must use the four plots, it is imperative to explain the plots. (What is the behind the change in colour of data points, why are mixed color are within the bounds set by residuals.....?)

On Figure 8, the three plots should be edited in DOE environment and the red sentence removed from the one factor plot. The three plots are not neatly plotted, the dimension are not same. The author can box these plots using either 'paint' or 'table'. As it stands, it is not befitting a plot that should be published by the reputable journal.
On page 14, 'Temperature has effective interactions with other factors as shown in fig 8c,...' This description is wrong because there is no way you can get this information from one factor plot!
Without 3D surface plot, you cannot explain interactive behavior between variables!!!!!!
On page 14, 'These result showed an improvement...' wrong

On page 15, 'The important factors that significantly affected the yield of zeolite from natural clay were temperature, time and concentration of sodium hydroxide.' If these variables are not important to zeolite production, they won't be considered in the first instance.
Also, what is the difference between quoted sentence above and this one
'Also, increase in calcination temperature and concentration of sodium hydroxide



SDI FINAL EVALUATION FORM 1.1

<i>had a significant effect on the yield of synthetic zeolite.'</i> The references also have not be properly edited. Please note that there are more error/misuse of terms in this manuscript as it stands, it will improve the quality of this manuscript If the authors can engage the service of someone that can read and, make corrections to their tenses and also look for someone that knows how to DOE software. Response: Noted, thanks	
---	--

Line 283 to 288: Box the three plots 8a, 8b and 8c in a plot. Then clearly explain the kind of relationship each of them exhibited with yield.

Response: It has been replace with a better plot

1. Last sentence in paragraph 3 of introduction;

Response: Corrected. Thanks

'Source of raw materials' and 'Physical Characterization' are of different font sizes.

Response: Noted and corrected. Thanks

All units should be space if using with a value '25 °C' not 25°C. Check all part of the manuscripts and effect the changes.

Response: Noted and corrected. Thanks

There are tenses errors in 'physical characterisation' section. The only error free sentence is the first sentence

. Align X1, X2 and X3 on page 3.

Response: Noted and corrected. Thanks

No reference to table 1 and 2 before presentation of the tables

Response: Thank you so much for the observation reference made as regards to table 1 and 2

page 4 'The results agrees with.....' Wrong

. On page 7, 'The chemical treatment also resulted in removal of some fraction of the alumina content as observed from table 4b with alumina content (17.89 wt %) against (33.67 wt %) present in raw clay as shown in table 4a.' If there is a chemical reaction, the authors should properly tell the story because the sentence is a 'blanket statement' as it stands

Response: That is an oversight.

. On page 9, 'It was seen that there were strongly.....' wrong

There are lots of errors about misuse of words in the whole manuscript.

On Figure 4 to 7, The authors did not explain each of the plots. A good description of Figure 6 and 7 should be able to capture the story the authors are trying to express. If they must use the four plots, it is imperative to explain the plots. (What is the behind the change in colour of data points, why are mixed color are within the bounds set by residuals.....?)

Response: Authors have chosen to remove most of the plots from must not be in the manuscript.

On page 14, 'Temperature has effective interactions with other factors as shown in fig 8c,' This description is wrong because there is no way you can get this information from one factor plot!

Response: It has been removed

On page 14, 'These result showed an improvement...' wrong

Response: Corrected

On page 15, 'The important factors that significantly affected the yield of zeolite from natural clay were temperature, time and concentration of sodium hydroxide.' If these variables are not important to zeolite production, they won't be considered in the first instance.

Also, what is the difference between quoted sentence above and this one

'Also, increase in calcination temperature and concentration of sodium hydroxide had a significant effect on the yield of synthetic zeolite.'

Response: The conclusion section has been amended.