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Journal Name:	American Chemical Science Journal
Manuscript Number:	2014_ACSj_14425
Title of the Manuscript:	Adsorption Isotherm Studies of Cd(II) and Pb(II) ions from Aqueous Solutions by Bamboo-Based Activated Charcoal and Bamboo Dust.
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:

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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)
<u>Compulsory</u> REVISION comments	Comments to the Authors This paper presents an interesting results concerning the investigation on the adsorption capacities of Bamboo Based Activated Charcoal and Bamboo Dust for the adsorption of Cd(II) and Pb(II) ions from aqueous solutions through isotherm studies. The results of this study may be useful for designing adsorption plants using biological wastes to remove metal ions contaminants from water. The paper is based on a good-looking experimental approach, but it is essential that the authors carefully take into consideration the following aspects: → Abstracts are concise and should follow a kind of introduction, method, result, discussion and conclusion format. For this reason I suggest the abstract for this manuscript be re-written or restructured by considering the suggested format. → Since the article is determining the adsorption capacities of BBAC and BD adsorbents, the authors should compare their result to six or more similar studies on the adsorption of Cd(II) and Pb(II) ions from aqueous solutions onto other	The abstract had been restructured.



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	adsorbents adsorption capacities in literatures. → In addition, the conclusions seem to be a summary of data already discussed in the text. The authors could use a distinct expressions in this section telling the facts deduced from the discussed results. SUGGESTED CORRECTIONS: Lines 8 -9: The carbonized bamboo based adsorbent was found to have an increased adsorption capacity for the metal ions. <i>.....The authors should reposition this sentence it is a result coming too early within the introductory part of the abstract.</i> Lines 11 -13:.....then followed by Langmuir and Temkin isotherms while Dubinin-Radushkevich model gave a fairly good description for the adsorption data. <i>this phrase is inappropriate in the abstract I suggest it be deleted and possibly be included at the</i>	On the suggested corrections, the statement in line 8 & 9 had been repositioned and is now placed in lines 20 & 21. The statement made in lines 11-13 had been corrected and the original statement is contained 411-413 of the conclusion section.
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	<i>conclusion section of the manuscript</i> Line 17: .. $q_{\max}$ (mg g⁻¹) ..<i>I suggest authors delete this it has been taken care of by the words before and after it</i> Lines 22 -24:..... Results from this study show that both adsorbents could be employed for the adsorption of these heavy metal ions from aqueous solutions and may possibly be useful for treating industrial wastewaters... <i>this shouldn't be part of an abstract but could be a useful information at the conclusion section of the manuscript</i> Line 37: The Picture below shows the <i>What the author have shown was an illustrative</i> <i>diagram, so it should be described as a figure and not a picture.</i> Line 47: industrial effluents (Ref.?). These <i>I suggest the authors support this fact with at least four references.</i>	The correction demanded in line 17, $q_{\max}$ (mg g⁻¹) had been effected. The statement in lines 22-24 had been transferred to 422-424 of the conclusion section. The illustrative diagram in line 37 now line 34 had been relabeled Figure instead of a picture. In line 47 now line 34, the statement had been supported with additional references.
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	Line 74: and ions ? Cd(II) and Pb(II) from aqueous solutions. <i>The authors should insert the appropriate punctuation mark before the metal ion symbols</i> Line 75: ..and the overall picture of... <i>I suggest, the authors use another word instead of picture</i> Line 80:..... of Agriculture in Abia State (Country?)..... <i>Being a publication in an international journal, the author should indicate what country this University is located.</i> Lines 87, 88, 90, 97 etc: For instance - size of 0.3?mm. Thereafter, 40?g of the <i>Authors should leave space between figures and their units. Effect this as it appeared at some points in the manuscript</i> Lines 87 – 88 Thereafter, 40g of the sample size was soaked in excess of 0.5M HNO₃ solution for 24 h at a temperature of 30⁰C..... <i>To be able to maintain this particular temperature for 24 h, the authors should let us know where (or in what environment) the solution was kept?</i> Lines 110 - 111:.....conical flasks while maintaining the pH of the solutions at 6.0.....	In the statement in line 74 now in line 72, the appropriate punctuation had been inserted. In line 75 now line 73, the overall picture replaced with overall representation. In lines 85- 97 and the rest of the work where units are not separated from their numerical values, the appropriate corrections had been effected. The statement in line 85 had been corrected in the main work. Why we carried out our study at a pH 6.0 is because a preliminary result on the effect of pH on the removal of these metal ions by the adsorbents showed that the optimum pH occurred at a pH 6 and the work had
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	<i>What informs your decision to maintain the pH at 6 (what criterion)? The authors should either give references of similar work that was carried out at that pH or show the experimental research work that could support carrying out the adsorption process at that pH</i> Line 120: Figures 1 and 2 shows that the adsorption of Lines 198 – 202: Where C_e is the equilibrium or residual concentration after adsorption (mgg^{-1}), q_e is the equilibrium adsorption capacity (mgg^{-1}), q_{max} is the maximum adsorption capacity (mg g^{-1}) corresponding to monolayer coverage, K_L is the Langmuir adsorption constant. The linear plots of C_e/q_e vs C_e showed that adsorption process follows the Langmuir adsorption isotherm (Fig. 5 and 6). Lines 226 – 230: Where C_0 is the initial metal ion concentration and K_L, the Langmuir constant. According to Mckay <i>et al.</i>, (1982) and Horsfall <i>et al.</i>, (2004), the separation factor (R_L value) indicates the	earlier been sent out for publication together with the kinetic study. Figures is in plural form, i.e., having s and should go with the singular form of the verb, show. So the statement is in order. The areas that needed to be enclosed with bracket had been done. The corrections had been properly effected The corrections had been properly effected
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	shapes of the isotherm. i.e. $R_L > 1$ unfavourable isotherm, $R_L = 1$ linear isotherm, $R_L = 0$ irreversible isotherm, $0 < R_L < 1$ favourable Isotherm. Line 254:..... capacity of the adsorption process. Anusiem <i>et al.</i>, (2010) Line 281: According to Akkaya and Ozer, (2005) and Pearce <i>et al.</i>, (2003), ... Line 324: Singha and Das, (2013) and Ho <i>et al.</i>, (2002) had reported that.....<i>The authors should check some others to bracket the dates</i> Line 319:..... the values of linear regression coefficient (R^2) are in Fig. 3:.....<i>Authors should label the axes</i> Fig. 4:..... <i>Authors should label the axes</i> Fig. 5<i>X-axis should be re-labeled to delete Equilibrium conc. and leave C_e (mgL⁻¹) only</i> Fig. 6, ...<i>X-axis should be re-labeled to delete Equilibrium conc. and leave C_e (mgL⁻¹) only</i>	The corrections had been properly effected The corrections had been properly effected The corrections had been properly effected The corrections had been properly effected The axes had been properly labelled. The equilibrium conc. had been deleted
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<u>Minor</u> REVISION comments	Please refer to suggested corrections	
<u>Optional/General</u> comments	Please refer to suggested corrections	