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|  | **Review-1 comments** | **Response to comments** |
| 1 | Ln13-14: Not sure the TGA results are interesting enough to warrant inclusion in the abstract without some sort of explanation of their significance.  Recommend just removing this sentence. | Thermal stability is necessary for biomass adsorbent. TGA analysis give idea about the optimum temperature where the biomass gain stablility.  **As you recommended I remove this sentence.** |
| 2 | Ln15: how was the surface altered? If the alteration was significant, tell us what it was. | The correction is incorporated |
| 3 | Ln 18: Please state the range of temperatures investigated at the start of this sentence - without that context, it is impossible to ascertain this significance of this result. e.g. "In an investigation into the effect of temperature carried out between 283 and 343 K, the maximum adsorption was observed at 283 K | The correction is incorporated |
| 4 | Ln10: still days disinfection here - change to removal. | The correction is incorporated |
| 5 | Ln13: "in a batch processes mode." change to "in batch processes." | The correction is incorporated |
| 6 | Ln16: This sentence is poorly expressed. Please change to something like: "At equilibrium, the Langmuir model gave a better fit to the adsorption isotherm results than the Freundlich model." | The correction is incorporated |
| 7 | Ln17: This sentence is poorly expressed. Please change to something like: "Kinetics data indicates that equilibrium is established within the first 60 minutes." | The correction is incorporated |
| 8 | Ln19: got some missing spaces "fromReptoniabuxifolia seedshave". | Some typography error and correction is incorporated |
| 9 | Ln 20: "...biosorbent in the removal of heavy metal from water." -> "biosorbent for the removal of heavy metals from water." | The correction is incorporated |
| 10 | Ln38: I don't think it makes much sense to say the heavy metals have a long half-life. Makes them sound comparable to POPs. Perhaps just say "and are  persistent in the environment." | The correction is incorporated |
| 11 | Ln42: be more consistent with names/symbols of elements - use one or the other. Also, lead should not be capitalised unless its at the start of a sentence, but is capitalised throughout the manuscript, and has often lost a space between it and the next word - see lines 46,227,240,274,278,page 17 2nd paragraph. | Use only symbol of element ie Pb(II) though out the article |
| 12 | Ln70: "and their use as bioadsorbent" should be "and investigate their use as bioadsorbent". | The correction is incorporated |
| 13 | Ln77: particle size (45-90µm and 212µm). Please clarify the particle size of the ground seeds used: 45-90 µm or 45-212 µm, or were two different particle size distributions used? | We obtained two types of particles (45-90µm and 212µm). However, for activity only used 90-212µm |
| 14 | Ln86: "Lead(II) acetate trihydrated" --> "Lead(II) acetate trihydrate". | The correction is incorporated |
| 15 | Ln89: either define C and V somewhere in the text, or just delete this formula, as its not really necessary to explain the standard dilution steps. | The correction is incorporated ie explain the terminology |
| 16 | Ln95: please include the make and model of the AAS used for the lead analysis, and details of any quality control procedures followed, method detection limits, etc. | The correction is incorporated |
| 71 | Fig 1: please include a legend so its immediately obvious which line is weight loss and which line is heat flow. | The correction is incorporated |
| 18 | Ln119: please briefly detail the various chemical activation methods applied in references 26 and 27. | The correction is incorporated |
| 19 | Ln132: again, please actually give the data necessary for this comparison - the reader should not have to calculate the C/O ratio from your results then hunt down the reference and calculate the other C/O ratio - just provide the data in appropriately placed brackets. | The correction is incorporated |
| 20 | Ln145-147: this sentence is not clear enough. please revise. | Revised the sentence |
| 21 | Table 2: this table suggests the current work relates to Apricot stone activated carbon, not Reptoniabuxifolia seed AC? | The correction is incorporated |
| 22 | Ln173: please sort subscripts in Eq 2. | The correction is incorporated |
| 23 | Isotherm discussion: the authors should comment on the significance of the differences observed in the goodness of fit between the Langmuir and Freundlich isotherms. | The correction is incorporated, |
| 24 | Assessment of Contact Time section: This section, including Fig 6, does not add very much: Fig 6 could in my opinion be removed and the discussion of the equilibrium time moved to the kinetics section where it belongs. | Fig-6 is removed and the section of contact time is merged with equilibrium section |
| 25 | Ln265: The Weber-Morris model is more commonly fit as a multilinear model, with different slope sections representing different steps in the adsorption process. For example, as shown in the paper below. Please revisit this part of your discussion. | The correction is incorporated |
| 26 | Ln278: pH effect: would it be possible for the authors to determine the point of zero charge pHpzc for their activated carbon? Given the broad range of pH values possible in wastewaters, this could add useful information to this part of the discussion. | Performed experiment on ACs for PZC and incorporated |
| 27 | Ln284: the Temperature Effect section should shortened and moved to the Thermodynamics of Lead Adsorption section which starts on Ln297. | The correction is incorporated |
| 28 | Ln 6: "the removal of heavy metals" is too broad given only Pb was  investigated in this paper. Please rephrase. |  |
| 29 | Ln12-21. This paragraph of the conclusion needs to be rewritten – currently it restates some of the results reported in the results and discussion section, but does not address the meaning/significance/consequence of those results. e.g. what does it mean that the model better fit the Langmuir than  Freundlich model? The conclusion should also end with a sentence or two explaining the wider significance of the work carried out. | Rephrase the paragraph as you suggested |

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|  | **Review-2 comments** | **Response to comments** |
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