



SDI Review Form 1.6

Journal Name:	<u>International Research Journal of Pure and Applied Chemistry</u>
Manuscript Number:	2014_IRJPAC_14823
Title of the Manuscript:	Kinetics, Isothermal and Thermodynamics Study of Batch Adsorption of Cr (VI) ions onto Modified Activated Carbon from endocarp of <i>Canarium schweinfurthii</i>.
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/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)



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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	Suggested Title: Adsorption Isotherm, Kinetics and Thermodynamics Study of Cr (VI) ions onto Modified Activated Carbon from endocarp of <i>Canarium schweinfurthii</i>. Reason: Equilibrium concentration studies come before time and temperature. The last two are adsorption dynamics and usually together <u>Abstract</u> : Void of experimental data. Please, insert data of major findings, introduce the meaning of codes (MAC,UAC) used for your adsorbent as it relates to your adsorbates or preparations. Common name of <i>Canarium schweinfurthii</i> may appear in the abstract. Your last statement under abstract “Hence the adsorbent will be effective in column or fixed-bed reactor for removal of the studied ion in industrial effluents” is not experimentally justifiable in this work. Please, use more appropriate statements or make it a recommendation. <u>Section 1: Introduction.</u>	Correction accepted by authors. Major experimental data have been captured in the abstract. With common name of canarium schweinfurthii reported Corrected



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	Last Paragraph : The stated aim is limited to adsorption capacity. This may not require Kinetics, isothermal and thermodynamics. Only qe can present a good prediction. Let the work be “aim at the performance assessment of <i>Canarium schweinfurthii</i> in removing ...” 2.1 Sample collection Endocarp collected or complete seed collected? If 2.2 stated deseeding and collection of endocarp then 2.1 may be collection of whole seed and not endocarp. 2.2 Sample pretreatment Air dried for 3 weeks to signify what an-d at what temperature? Room temperature? 2.3 Carbonization of adsorbent The sieved adsorbent. At this point, it is not yet an adsorbent but probably a sample or at most, biomass. 2.3 Carbonization of adsorbent Adsorbent preparation error in both 2.3 and 2.4: Your furnace temperature in carbonization and activation as well as their standing periods is of little or no basis. Reason; at the point of cooling outside the furnace at room temperature, burning may continue with the aid of available oxygen (aerobic). It means that you did not distillate destructively at the stated temperature. A corrective measure is to cool rapidly in an ice bath as you remove from the furnace. 2.5 Preparation of simulated wastewater For only Cr(VI), Why respectively, each of the salts, for each metal. : Meaning Author did not edit original sourced reference since these terms are for analysis involving several salts and metals	Aim have been reviewed and corrected by authors. Seed was collected. Corrected Room temperature Reviewed correction accepted by authors Sample was cooled in water bath and exposed to air. Authors decided to neglect lengthy report of experimental procedures This is an oversight from authors. Corrected.
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	3.1 Effect of contact time Locate and correct the statement “analyzed using metal ion analysis was carried out using AA-6300 ..” solution was stirred, filtered and analyzed. 3.4 Effect of adsorbent dose 3.5 Effect of initial metal ion concentration New terms; UAC, MAC, 303K. : Let these adsorbent codes and full meaning be stated in either the abstract or sample preparation. All temperature goes with a consistence unit. Do not mix up °k with °c. was be added to 40ml 3.6 Data analysis Please, label mathematical equations as eqns. 1,2,3..... except stated otherwise in author's guide 4.0 Result and Discussion Table 1: Author did not oven dry sample to a constant weight. How then estimation of ash and moisture was content presented. Author may also state the method in estimating hardness of adsorbent. Are these values the mean values of triplicate estimations? NOT STATED Kinetic best fit model is not only based on R^2 values. From available data, generate data on error analysis as well as precision test. Locate model whose q_e cal. And q_e exp. is close (high precision) as well as model with least sum of error. Accompany these with R^2 to predict the best model. Explain isotherm models in terms of surface coverage. Hence, review more literature on each term in the adopted isotherm	Corrected Corrected Corrected Experimental procedures for physical properties of activated carbon have been reported by authors. Values of theoretical and experimental adsorption capacities have been reported by auth
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	model and use same to explain findings in this work.	
	5.0 Conclusion Conclusion is too scanty. Let this section caption your major finding	corrected
<u>Minor</u> REVISION comments	<u>Keywords:</u> not adequately selected. Replace key statements with keywords.	corrected
<u>Optional/General</u> comments	Figures 1 to 6 : Please, present enough explanation of curves peaks and deeps along the experimental runs. Secondly, Figures of major studies (isotherm, kinetics and thermodynamics) is preferable and should replace some of those on physical properties. For indication of plagiarism, Please refer to 2.5: Preparation of simulated wastewater Why respectively, each of the salts, for each metal. : Meaning Author did not edit original sourced reference since these terms are for analysis involving several salts and metals	