

**Review Form 3**

Journal Name:	<b>International Journal of Environment and Climate Change</b>
Manuscript Number:	<b>Ms_IJECC_123527</b>
Title of the Manuscript:	<b>Characterization and Optimization of Crustacean Shell-Derived Activated Carbon for Wastewater Treatment Applications</b>
Type of the Article	

### Review Form 3

#### PART 1: Review Comments

<b>Compulsory</b> REVISION comments	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
<p><b>Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.</b></p>	<p>This manuscript is significant for the scientific community as it addresses the utilization of crustacean shell waste for the production of activated carbon, an area with both environmental and economic implications. By comparing acid and base activation methods, the study provides valuable insights into optimizing the physicochemical properties of activated carbon for wastewater treatment. The thorough characterization of the activated carbon samples, including ash content, surface area, bulk density, specific gravity, and porosity, adds depth to our understanding of how these factors influence adsorption efficiency. This research not only advances the field of material science but also offers practical solutions for managing waste and improving water treatment processes. I appreciate the manuscript for its comprehensive approach and relevance, although it could benefit from a more detailed discussion on the environmental impact and economic feasibility of scaling up the production processes.</p>	
<p><b>Is the title of the article suitable? (If not please suggest an alternative title)</b></p>	<p>This title reflects the main focus of the study—comparing activation methods, the material used (crustacean shells), and the key aspects of characterization and adsorption efficiency.</p>	
<p><b>Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.</b></p>	<p>The abstract of the manuscript is mostly comprehensive but could benefit from some refinements. It should explicitly state the research objectives, such as comparing acid and base activation methods for crustacean shell-derived activated carbons. Additionally, it should briefly outline the methods used, including the types of activation and characterization techniques employed. Key results, like variations in surface area and adsorption capacity between activation methods, need to be summarized. Finally, the conclusion should emphasize the implications of the findings, such as the effectiveness of base activation for certain shells. Enhancing these elements would provide a clearer and more detailed summary of the study.</p>	
<p><b>Are subsections and structure of the manuscript appropriate?</b></p>	<p>The subsections and structure of the manuscript are generally appropriate for the content presented. The organization into sections such as ash content, specific surface area, bulk density, specific gravity, and porosity effectively covers the key aspects of activated carbon characterization. However, the manuscript could benefit from clearer headings and subheadings to improve readability and ensure each section's focus is easily identifiable. For instance, the inclusion of an "Introduction" section that briefly outlines the study's background and objectives could provide better context. Additionally, a distinct "Results and Discussion" section might help to separately highlight the findings and their implications, enhancing the manuscript's overall coherence and impact.</p>	
<p><b>Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.</b></p>	<p>The manuscript demonstrates scientific robustness and technical soundness through its detailed analysis of activated carbon properties derived from crustacean shells. The data presented on ash content, specific surface area, bulk density, specific gravity, and porosity are well-supported by references and follow established methodologies for characterizing adsorbents. The manuscript also appropriately compares different activation methods and materials, providing a thorough evaluation of their effects on the adsorbent's performance. The integration of relevant literature and empirical data underscores the manuscript's credibility and contributes valuable insights into the field of activated carbon research.</p>	
<p><b>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</b></p>	<p>The references in the manuscript appear to be sufficient in terms of breadth and cover various aspects of activated carbon research, including methods, characterization, and applications. However, while the list includes foundational and recent studies, some additional references could enhance the manuscript's relevance and comprehensiveness. For instance, including recent reviews or studies from the past 1-2 years would ensure that the manuscript reflects the latest advancements and trends in the field. References to recent advancements in activation techniques applications of activated carbon</p>	

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	<p>could also be beneficial. Here are a few suggestions:</p> <ol style="list-style-type: none"> <li><b>Recent Reviews or Advances:</b> Include reviews or research articles from the past 1-2 years that discuss the latest developments in activated carbon preparation and applications. For example, recent publications activation methods or advanced applications in environmental remediation.</li> <li><b>Emerging Trends:</b> References discussing emerging trends in the use of low-cost or bio-based activated carbons and their efficiency compared to traditional materials could provide additional context and relevance.</li> </ol> <p>By incorporating these references, the manuscript could offer a more updated perspective and ensure it captures the most recent advancements in the field.</p>	
<p><u>Minor</u> REVISION comments</p> <p><b>Is the language/English quality of the article suitable for scholarly communications?</b></p>	<p>The article's language is generally clear for scholarly communication, but improvements in sentence structure, word choice, consistency, and minor grammatical revisions are needed to enhance clarity and precision.</p>	
<p><u>Optional/General</u> comments</p>		

**PART 2:**

	<b>Reviewer's comment</b>	<b>Author's comment</b> <i>(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)</i>
<p><b>Are there ethical issues in this manuscript?</b></p>	<p><i>(If yes, Kindly please write down the ethical issues here in details)</i></p>	

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