Review Form 3

Journal Name:	**Journal of Materials Science Research and Reviews**
Manuscript Number:	**Ms_JMSRR_126721**
Title of the Manuscript:	**Characterisation of Coconut Shell, Coconut Shell Biochar, Coconut Coir, and Coconut Shell Activated Carbon as Potential Adsorbent Materials: A Comparative Study**
Type of the Article	**Original Research Article**

General guidelines for the 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.
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PART 1: Review Comments

Compulsory REVISION comments	**Reviewer's comment**	**Author's Feedback** *(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
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.	This manuscript provides valuable comparative characterization of different coconut-based materials as potential adsorbents, which is particularly relevant given the growing interest in sustainable waste valorization. The comprehensive analysis of CSB compared to CS, CC, and AC offers important insights for researchers working on biomass-derived materials. The study's systematic approach to characterization using multiple analytical techniques (proximate analysis, FTIR, SEM) provides a useful reference for material selection in environmental applications I recommend accepting this manuscript after addressing the following minor revisions: 1. The characterization results show clear differences between the materials, particularly in fixed carbon content and surface morphology. However, the discussion of how these differences impact potential applications could be strengthened. The authors should elaborate on how the specific properties of each material (especially CSB) relate to their effectiveness as adsorbents. 2. The FTIR analysis identifies multiple functional groups, but their relative importance for adsorption applications is not fully discussed. Please provide a brief discussion of which functional groups are most relevant for specific adsorption applications. 3. The SEM analysis reveals interesting morphological differences, but quantitative analysis of surface features (e.g., pore sizes, distribution) would strengthen the comparison. Consider adding this information if available. 4. The conclusion could be more specific about the practical implications of the findings. Rather than just stating CSB has "high adsorption capacity," provide more concrete recommendations for specific applications based on the characterized properties. 5. Some technical corrections needed: • Add units consistently throughout Table 1 • Number the references in the text consistently	
Is the title of the article suitable? **(If not please suggest an alternative title)**	The title "Characterisation of Coconut Shell, Coconut Shell Biochar, Coconut Coir, and Coconut Shell Activated Carbon as Potential Adsorbent Materials: A Comparative Study" is really appropriate and accurately reflects the content. However, it may or may not be shortened to: "**Comparative Characterization of Coconut-Derived Materials as Potential Adsorbents**"	
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.	The abstract adequately summarizes the work but could be improved by: • Adding specific values for FTIR and SEM findings • Including a brief mention of practical implications • Stating the specific advantages of CSB over other materials studied	
Are subsections and structure of the manuscript appropriate?	The manuscript follows a logical structure with appropriate sections. However, the Results and Discussion section numbering is **inconsistent (switches from 3 to 4.1).** This should be corrected for better organization.	
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.	The manuscript demonstrates scientific robustness through: • Use of standardized analytical methods (ASTM standards) • Comprehensive characterization using multiple complementary techniques • Systematic comparison with literature data • Clear presentation of experimental procedures and results • Proper correlation between material properties and potential applications	

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Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. **-**	The references are recent and relevant. However, suggest adding: • More recent works on biochar applications in environmental remediation (2022-2023) • References comparing different biomass-derived adsorbents • Literature on adsorption mechanisms related to the characterized properties	
Minor REVISION comments **Is the language/English quality of the article suitable for scholarly communications?**	**Language Quality:** The manuscript's English is generally good	
Optional/General comments	• Standardize units throughout tables and text • Improve figure quality (especially SEM images) • Add error analysis for experimental measurements • Fix numbering inconsistencies in sections • Add scale bars to SEM images **No** significant ethical concerns are identified in this manuscript. The research: • Uses commercially available materials • Employs standard characterization techniques • Does not involve human subjects or animal testing • Properly acknowledges sources and collaborators • Follows standard laboratory safety protocols No apparent competing interests are identified as: • The authors declare no funding conflicts • The research uses commercially available materials rather than proprietary products • The characterization methods are standard analytical techniques • No commercial product development is involved • The study focuses on fundamental material characterization After reviewing the manuscript: • The content appears original and properly referenced • Methods and procedures are standard and appropriately cited • Results and discussion show original analysis • No direct text copying from cited sources is evident • The findings present new comparative data not previously reported	

PART 2:

	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)*
Are there ethical issues in this manuscript?	*(If yes, Kindly please write down the ethical issues here in details)*	

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