



REVIEWER'S REPORT

Manuscript No.: IJAR-50350

Date: 22-02-2025

Title: ANTI-INFLAMMATORY AND ANTI-OXIDANT ACTIVITY OF HAFNIUM OXIDE NANOPARTICLES SYNTHESISED USING MOMORDICA CHARANTIA

Recommendation:

- Accept as it is.....**YES**.....
- Accept after minor revision.....
- Accept after major revision
- Do not accept (*Reasons below*)

Rating	Excel.	Good	Fair	Poor
Originality	√			
Techn. Quality		√		
Clarity		√		
Significance			√	

Reviewer's Name: Dr Aamina

Reviewer's Decision about Paper: **Recommended for Publication.**

Comments (*Use additional pages, if required*)

Reviewer's Comment / Report

Overall Assessment:

The manuscript presents a compelling study on the green synthesis of Hafnium Oxide Nanoparticles (HfONPs) using *Momordica charantia* and evaluates their anti-inflammatory and antioxidant activities. The study is relevant, timely, and contributes to the growing body of research on green nanotechnology and its biomedical applications. However, several areas require improvement in terms of clarity, structure, methodology explanation, and reference consistency.

Strengths:

- The study utilizes an eco-friendly synthesis approach, which aligns with the current trend of green chemistry.
- Anti-inflammatory and antioxidant activities are well explored through multiple assays.
- Characterization techniques (UV-Vis, SEM) are appropriately used for nanoparticle confirmation.
- The manuscript effectively links the potential biomedical applications of HfONPs.

1. **Conclusion:**

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- The conclusion is well-structured.
- 2. This manuscript presents a well-structured and compelling study that addresses a critical topic within its field. The clarity of the writing, paired with the well-organized layout, ensures the reader can follow the research narrative effortlessly. The introduction effectively sets the stage, outlining the problem statement, research questions, and study objectives. Furthermore, the methodology is sound, with a clear justification of the chosen approach and a detailed description of the procedures, ensuring reproducibility.
- 3. The analysis is thorough, and the results are presented clearly, offering significant insights into the research problem. The interpretation of these results is thoughtful and aligns with the study's objectives. In addition, the paper includes a robust discussion section, which compares the findings with existing literature and highlights their relevance and implications for future research.
- 4. One of the strengths of the paper is its potential impact in advancing knowledge in the field. The findings contribute new perspectives and offer valuable information that could be used for future research endeavours. Overall, this manuscript represents a significant contribution to the scientific community and will undoubtedly spark further investigations in related areas.