

Review of: "Synthesis of Nickel Nanoparticles Using Ionic Liquid-Based Extract from *Amaranthus viridis* and Their Antibacterial Activity"

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Potential competing interests: No potential competing interests to declare.

I accept the manuscript to be published after major revision. The research work is concerned with the synthesis of Ni NPs using an Ionic Liquid-Based Extract from *Amaranthus viridis*. However, some points must be revised before publication:

1. The abstract lacks specificity regarding the experimental results, especially in terms of percentages or detailed outcomes of antimicrobial activity. Please include specific data points to make the results clearer.
2. Several sentences throughout the manuscript are difficult to follow due to improper grammar and punctuation. Consider revising the text for readability and clarity.
3. There is inconsistency in presenting units. Please review and correct all instances of unit presentation to align with standard scientific conventions.
4. Figures, such as Fig. 1, lack proper captions and clear descriptions of what is being shown. Ensure that all figures are clearly labeled, with a concise explanation of their relevance to the text.
5. Can you provide more detail on the specific mechanisms involved in antibacterial activity? This could improve clarity.
6. Some recent papers concentrated on the antibacterial mechanism can be added to the revised manuscript:
doi.org/10.1007/s10876-023-02498-5, doi.org/10.1016/j.saa.2024.124125, doi.org/10.1007/s11356-023-26418-2,
doi.org/10.1016/j.jwpe.2024.105443, doi.org/10.1016/j.envres.2023.116431, doi.org/10.1016/j.mtsust.2023.100562,
doi.org/10.1016/j.envres.2022.114705, doi.org/10.1002/slct.202100413, doi.org/10.1016/j.colsurfa.2023.131835
7. In the discussion of antimicrobial studies, you mention using "control" wells or samples but do not elaborate on the exact conditions of these controls. Were control experiments conducted without Ni NPs, and how were they compared to the treated samples? Please elaborate on the control setups used in the experiments.
8. The conclusion summarizes the findings but could be stronger by emphasizing the broader implications of using these nanoparticles in real-world applications. You may also highlight the specific advantages of the present antimicrobial approach for mitigating environmental pollution.