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.

Review report

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

Comments

1. Is *Amaranthus viridis* an edible plant? What was the authentication of this plant material used for the study, as it was procured from the local market?

2. Distilled water contains minerals, so it is not suitable for nanoparticle preparation? An ionic aqueous solution was used for the plant extraction and nanoparticle synthesis. This is a fundamental mistake, as deionized water should be used.

3. The authors claim to have synthesized Ni nanoparticles using the plant extracts. But none of the characterization techniques employed (UV-vis, FESEM, XRD, FTIR, etc.) have shown the analysis of the plant extract without the Ni nanoparticles (i.e., the analysis of the pure plant extract). Based on this, the study is not complete to confirm the nanoparticle formation.

4. The antibacterial studies do not report the concentration of the nanoparticles used. No reference standard antibiotic has been studied for comparison and confirmation of the antibacterial effects of the Ni NPs.

5. The study lacks many fundamental analyses. If all the inputs are provided, the present study may then be reviewed later.