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

S. P. Vinay[1]

1 Manchester University NHS Foundation Trust, Manchester, United Kingdom

Potential competing interests: No potential competing interests to declare.

Reviewer comments:

The manuscript titled by " Synthesis of Nickel Nanoparticles Using Ionic Liquid-Based Extract from*Amaranthus viridis* and Their Antibacterial Activity" presented Ni NPs synthesized using IL-based extract from *Amaranthus viridis* by microwave method. The synthesized nanoparticles also exhibited antibacterial activity against bacterial pathogens. The manuscript is suitable for the publication on the Journal of Qeios, but it has some large problems as following:

1. Prepare and add Graphical abstract in LANDSCAPE or HORIZONTAL FORMAT.

2. Cite plant name (*Amaranthus viridis*) and bacterial strains are mentioned in italic font throughout the manuscript.

3. Can you elaborate more information about ionic liquids in the introduction part? In direct method: by using green sources to synthesis nanoparticles without IL's, how is it different compared to your method route? and maybe the comparison is necessary by using a table and should cite the following appropriate recent references within 5 years (2024 – 2019) to enhance the better clarity of the manuscript.

- Vinay S P. (2020) Synthesis of Fullerene (C_{60})-Silver nanoparticles using neem gum extract under microwave irradiation. *BioNanoScience*. DOI: 10.1007/s12668-020-00799-x
- Kiran M S, Virupaxappa S. Betageri, Rajith Kumar C R, Vinay S P, Latha M S. (2020) In-Vitro Antibacterial, Antioxidant and Cytotoxic Potential of Silver Nanoparticles Synthesized Using Novel Eucalyptus tereticornis Leaves Extract. *Journal of Inorganic and Organometallic Polymers and Materials* DOI: 10.1007/s10904-020-01443-7
- Vinay S P, Chandrashekar N. (2020) Structural and biological investigation of green synthesized silver and zinc oxide nanoparticles. *Journal of Inorganic and Organometallic Polymers and Materials* DOI: 10.1007/s10904-020-01727-y
- Vinay S P, Udayabhanu, Sumedha H N, Nagaraju G, Harishkumar S, Chandrashekar N. (2020) Photocatalytic, Photoluminescence and antibacterial studies of silver oxide nanoparticles using the Cantaloupe seeds via green route.*Applied Organometallic Chemistry*. DOI: 10.1002/aoc.5830
- Vinay S P, Udayabhanu, Nagaraju G, Chandrappa C P, Chandrashekar N. (2020) A Novel, Green, Rapid, Nonchemical

route Hydrothermal assisted Biosynthesis of Ag_2O nanomaterial by Blushwood berry extract and evaluation of its diverse applications. *Applied Nanosciences*. DOI: 10.1007/s13204-020-01289-y

4. In Result & Discussion part: 3.1 UV-vis results section I didn't find UV-vis results discussion! Remove the antibacterial activity information mentioned in the UV-vis result section and correct information needs to be added.

5. In the result and discussion section, label the absorption peak (in UV-vis), stretching bands (in FT-IR), planes (in XRD) in the chromatogram of UV-vis, FT-IR, and XRD spectra.

6. Result & Discussion section needed refinement with citations of some more recent references, to catch the reader attention.

- Vinay S P, Udayabhanu, Nagaraju G, Sumedha HN, Shashank M, Chandrashekar N. (2020) In-vitro antibacterial, antioxidant and cytotoxic potential of gold nanoparticles synthesized using novel *Elaeocarpus ganitrus* seeds extract. *Journal of Science: Advanced Materials and Devices* DOI: 10.1016/j.jsamd.2020.09.008
- Vinay S P, Chandrashekar N. (2019) Green synthesis and characterization of silver nanoparticles using*Cassia auriculata*leaves extract and its efficacy as a potential antibacterial and cytotoxic effect.*Advanced Materials Letters* 2019;10(11):844-849.
- Vinay S P, Udayabhanu, Nagaraju G, Hemasekhar B, Chandrappa C P, Chandrashekar N. (2019) Biomedical Applications of *Durio zibethinus* Extract Mediated Gold Nanoparticles as Antimicrobial, Antioxidant and Anticoagulant Activity. *International Journal of Biosensors and Bioelectronics*2019;5(4):150-155.
- Vinay S P, Udayabhanu, Nagaraju G, Chandrappa C P, Chandrashekar N. (2019) Novel Gomutra (Cow urine) mediated synthesis of silver oxide nanoparticles and their enhanced Photocatalytic, Photoluminescence and Antibacterial studies. *Journal of Science: Advanced Materials and Devices.*DOI: 10.1016/j.jsamd.2019.08.004
- Vinay S P, Udayabhanu, Nagaraju G, Chandrappa CP, Chandrashekar N. Enhanced photocatalysis, photoluminescence, and anti-bacterial activities of nanosize Ag: green synthesized via *Rauvolfia tetraphylla* (devil pepper). *SN Applied sciences*. 2019;1(5):477. DOI: 10.1007/s42452-019-0437-0
- Vinay S P, Udayabhanu, Nagaraju G, Chandrappa CP, Chandrashekar N. *Rauvolfia tetraphylla* (Devil Pepper)-Mediated Green Synthesis of Ag Nanoparticles: Applications to Anticancer, Antioxidant and Antimitotic. *Journal of Cluster Science*. 2019;30:1-20. DOI: 10.1007/s10876-019-01598-5