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

Gabriel Prodan[1]

1 University of Constanta, Romania

Potential competing interests: No potential competing interests to declare.

The paper presents a study on the obtaining of nickel nanoparticles using a method centered on Amaranthus viridis extract and the potential use of them in antibacterial activity. The study deals with an interesting topic.

The first observation is related to the figures presented in the results. The authors adjusted the original size to fill the space between paragraphs, this operation leads to the deformation of the elements of the graphics. For example, the font size in the graphic becomes much larger than the font size in the text. Also, the deformation on the horizontal axis leads to a change in the appearance of the font, which has a different appearance in horizontal texts than in vertical texts (height vs. width).

The degree sign must be in the exponent, which is omitted several times:

- in 2.3, 4th paragraph (heating rate of 10o)

- second row from 3.3 (33.3om 45.5o, and 55.5o)

It is recommended on the graph in figure 3, to have annotations for the peaks in the spectrum, so the connection with the explanations can be easier. Also, for the size of the crystallites, the vertices used and the size calculated using the Debye-Scherreer formula must be specified, instead of the range present in the text. In addition, these values could be correlated with the measurements in Figure 5, where the dimensions of the nanoparticle projections are estimated, and unfortunately the values presented are double compared to the values of the mentioned interval (in the image you can also see nanoparticles with adequate dimensions). A histogram of the estimated sizes of NP's from the FESEM images, with a minimum of 100 measured particle sizes, can be constructed to calculate a central value (normal or lognormal distribution).

The image in figure 5 is blurry, an explanation for the choice and presentation of this image of questionable quality should be added to the text (Can it be the effect of using golden water?)

Also in Figure 5, the presence of Cl, Ag in the spectrum is not explained. The question related to the presence of the two elements, Ag and Cl respectively, also arises due to the fact that they are in much larger quantities than the element Ni, of interest. Also, in the description part and in the methods, the involvement of a reagent containing the two elements (Cl

and Ag) is not discussed. This aspect must necessarily be clarified.

The bibliography is adequate for the study, with only one remark on the fact that many of the titles refer to NiO and not to Ni.

In view of the above, I believe that the paper must be radically modified before being considered for publication.