Review of: "Synthesis, Characterization and Ameliorative Effect of Iron Oxide Nanoparticles on Saline-Stressed Zea Mays"

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Potential competing interests: No potential competing interests to declare.

(Qeios ID: 75AS4Y)Synthesis, Characterization and Ameliorative Effect of Iron Oxide Nanoparticles on Saline-Stressed Zea Mays. This research paper can be published in the Journal of Qeios, but after **major revision**.

1. The article language needs to be more simplified, and grammar modifications are needed.
2. In 2.3, Instrumental analysis of the nanoparticles, the authors measured FTIR from 800cm^{-1} - how is FTIR, this only IR, and the authors need to measure FTIR from 400cm^{-1} for the iron oxide band. Also, the authors need to measure FTIR of the solid extract and compare them ·
3. 2.7. Assessment of Antioxidant Enzyme Activity - abbreviations CAT and SOD not found.
4. The chemical formulas of most chemical compounds are wrong in fonts of numbers; for example, (KH2PO4/K2HPO4) is (KH_2PO_4/ K_2HPO_4) …etc.
5. 3.1. FTIR spectroscopic analysis, line 10, type mistake C0 into CO and 2062.780 cm^{-1} , represented COO stretching in a carboxylic acid; this isn't true - this band is for the imin group =NH.
6. In 3.2. Uv-vis part, absorbance is very high (3.5); not true - the max absorbance must be <1.6, and why didn't the authors measure the Uv-vis at different factors such as concentration effects, pH, time of immersion …etc., to obtain the optimum preparation conditions of iron oxide nanoparticles?
7. Figure 3 is not clear; it needs more softness, and the particle size should be written inside TEM and SEM.
8. In figure 4, EDX - the author must calculate the empirical formula and ratio of iron oxide, which is prepared from the EDX table percentages, to detect the exact formula, if it is Fe_3O_4 or Fe_2O_3 …etc.
9. In 3.5. XRD part, the author exposes the data without interpretations of it; must clarify how to apply the Scherrer equation and the comparison between the size calculated from the Scherrer equation and the TEM sizes. Also, do XRD cards agree with any iron oxide formula?
10. In the Macroscopic measurement part, the author must write the statistical calculations used, such as SPSS or what ?
11. Supplementary attachment 3 isn't clear, IR must be put as a curve, not an image, to clear the bands number.