

Review Form 1.7

Journal Name:	Biotechnology Journal International
Manuscript Number:	Ms_BJI_115442
Title of the Manuscript:	Medicinal properties of Cobalt and Copper nanoparticles synthesized using Limonia acidissima leaf extract
Type of the Article	

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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<p>Compulsory REVISION comments</p> <ol style="list-style-type: none"> Is the manuscript important for scientific community? (Please write few sentences on this manuscript) Is the title of the article suitable? (If not please suggest an alternative title) Is the abstract of the article comprehensive? Are subsections and structure of the manuscript appropriate? Do you think the manuscript is scientifically correct? Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form. <p><u>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</u></p>	<ol style="list-style-type: none"> The manuscript holds significant relevance within the scientific community. It highlights the utilization of environmentally friendly methodologies, such as employing plant extracts, in the production of nanoparticles. These approaches offer a sustainable alternative to conventional chemical synthesis techniques, thereby minimizing adverse environmental impacts. Moreover, elucidating the medicinal attributes of these nanoparticles holds promise for pioneering applications in realms like medicine and biotechnology. Such advancements stand to significantly contribute to the progression of healthcare and technology. Consequently, this manuscript assumes a pivotal role in augmenting our understanding and exploring the potential applications of nanomaterials across diverse scientific domains. The chosen title of the article is apt and fitting for its content. Indeed, the abstract of the article provides a comprehensive overview of the research conducted. The manuscript's subsections and overall structure are well-suited to effectively convey the intended information. Scientific inaccuracies were detected within the manuscript regarding the magnetic properties of cobalt (antiferromagnetic properties appear only in cobalt oxide nanoparticles with the formula Co_3O_4) It is strongly advised to update the references utilized in this work, as a significant portion of them appear dated. Replacing them with more recent sources would enhance the credibility and relevance of the research findings. 	
<p>Minor REVISION comments</p> <ol style="list-style-type: none"> Is language/English quality of the article suitable for scholarly communications? 	<p>The English language used in writing the manuscript is understandable but requires some improvement</p>	
<p>Optional/General comments</p>	<ol style="list-style-type: none"> Within the introduction, the author highlights the potential toxicity associated with nanoparticles produced through industrial methodologies. Clarification is needed to elucidate the specific mechanisms contributing to the toxic properties observed in industrially produced nanoparticles, while contrasting these findings with nanoparticles sourced from botanical origins. The introduction section erroneously characterizes cobalt as a multifunctional semiconductor, specifically as a p-type anti-ferromagnetic semiconductor. However, it should be noted that cobalt exists as a magnetic metal both in its bulk and nano forms, alongside cobalt oxide with the CoO formula. Conversely, cobalt oxide with the Co_3O_4 formula exhibits antiferromagnetic properties. Discrepancies arise within the abstract, where the synthesis of cobalt and copper nanoparticles from <i>Limonia acidissima</i> leaves is stated, while later in the introduction section, mention is made of nanoparticles extracted from woodapple plant leaves, as well as in section 2.4.2 regarding Copper Sulphate Nanoparticle synthesis. Standardization of the plant name is essential to alleviate conflicting information. In Section 2, Materials and Methods, under 2.1 Distilled water extraction, clarification is needed regarding whether the specified mass of 25 g of leaves refers to dried or wet mass. Furthermore, if the leaves are wet, their moisture percentage must be provided, as this data directly influences the determination of mass percentage of raw material pulp. In the section on Characterization of Nanoparticles by Color Change, the addition of scanning electron microscope images is imperative to ascertain the absence of agglomeration in the nanoparticles. Relying solely on color changes is inadequate for confirming nanoparticle presence due to the varied composition of materials within the sample mixture. Color alterations can stem from modifications in any component's composition, and are not necessarily indicative of nanoparticle formation. <p>Similarly, in the section on UV-visible spectrophotometer analysis, it is essential to include the</p>	

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	resultant absorption spectrum detailing the range from which wavelength in which wavelength it is determined. Additionally, specification of the device utilized is necessary. Simply determining the wavelengths at which optical absorption peaks occur is insufficient for comprehensive analysis. 7. Within the discussion section, while a literature review is presented alongside experimental results, a deeper analysis is warranted to elucidate the underlying mechanisms behind the observed antibacterial effects of cobalt nanoparticles and the impact of copper nanoparticles on the enzyme α -amylase. Merely mentioning results without delving into the rationale behind these effects limits the depth of understanding gleaned from the study.	
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PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	(If yes, Kindly please write down the ethical issues here in details)	

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