

Review Form 1.7

Journal Name:	Current Journal of Applied Science and Technology
Manuscript Number:	Ms_CJAST_119203
Title of the Manuscript:	Microwave-assisted synthesis of cobalt oxide nanoparticles with Carica papaya leaf extract and their catalytic activities
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> <p>1. Is the manuscript important for scientific community? (Please write few sentences on this manuscript)</p> <p>2. Is the title of the article suitable? (If not please suggest an alternative title)</p> <p>3. Is the abstract of the article comprehensive?</p> <p>4. Are subsections and structure of the manuscript appropriate?</p> <p>5. Do you think the manuscript is scientifically correct?</p> <p>6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.</p> <p><u>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</u></p>	<p>1. In this manuscript, the author reported "Microwave-assisted synthesis of cobalt oxide nanoparticles with Carica papaya leaf extract and their catalytic activities." The prepared nanoparticles were applied for the catalytic degradation of organic dyes. The manuscript has an attractive subject, the topic is practically important, and the material is useful.</p> <p>2. Yes</p> <p>3. Yes</p> <p>4. The structure of the manuscript is appropriate, but the subsections should be written in numerical form.</p> <p>5. Yes</p> <p>6. To attract much wider readership, more recent work is advised to be cited https://doi.org/10.1021/acsomega.4c01595, https://doi.org/10.1016/j.rechem.2024.101606, and https://doi.org/10.1016/j.rechem.2024.101478</p> <p style="text-align: center;"><u>Additional Suggestions/Comments</u></p> <p>Comment 1: Introduction: The authors should clearly explain the innovation and importance of their work in the introduction of the manuscript. They should justify the value of the work and compare it with previously published papers. They should develop the advantages and applications of green synthesis procedure. The introduction section needs to be elaborated.</p> <p>Comment 2: Introduction: Why do you choose Carica papaya leaf extract as the raw material for the synthesis of catalyst nanomaterials? What's the advantage? Please explain briefly in the introduction section.</p> <p>Comment 3: The authors should write the complete terms of all abbreviations before the first use in the manuscript.</p> <p>Comment 4: Materials and Methods: The molecular formula and purity of MB, CR, and 4-NP should have been included under the chemicals and reagents section.</p> <p>Comment 5: The authors have used NaBH₄ in catalytic degradation procedures. The question is: what is the role of using NaBH₄ to test the catalytic degradation activity of CoO NPs?</p> <p>Comment 6: The authors should include the brand and model of all instruments they used in this manuscript.</p> <p>Comment 7: The authors are suggested to add the synthesis diagram of the prepared samples.</p> <p>Comment 8: Results and Discussion: The quality of the figures (particularly Figures 5, 6, and 7) should be improved.</p> <p>Comment 9: The author conducted the FT-IR analysis of Carica papaya leaf-mediated CoO nanoparticles, but not for Carica papaya leaf extract; the author should have included the FT-IR of</p>	

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	<p>pure <i>Carica papaya</i> leaf extract for better comparison.</p> <p>Comment 10: Results and Discussion: Use the real image of the degradation, i.e., the change in colors of the sample solutions with time, for all cases.</p> <p>Comment 11: Results and Discussion: Please propose possible catalytic degradation mechanisms for MB, CR, and 4-NP and discuss the possible reactions of the catalyst materials in more detail.</p> <p>Comment 12: The authors should calculate the percentage degradation of each dye and include their results in the abstract.</p> <p>Comment 13: The catalyst reusability test is missed.</p> <p>Comment 14: Results and Discussion: Add a comparison table to compare the activity performance in this work with literature reports.</p> <p>Comment 15: The manuscript contains some grammatical errors and inconsistencies. Please revise the entire manuscript carefully.</p>	
Minor REVISION comments		
1. Is language/English quality of the article suitable for scholarly communications?	good	
Optional/General comments	In my opinion, the manuscript may be further considered for publication, but major revisions are needed, as outlined above, to enhance the quality of the manuscript.	

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?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

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