

Review Form 3

Journal Name:	Journal of Materials Science Research and Reviews
Manuscript Number:	Ms_JMSRR_128100
Title of the Manuscript:	Synthesis of Nickel-Doped TiO ₂ Nanoparticles For Enhanced Supercapacotor electrode Performance
Type of the Article	

PART 1: Comments

	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.	This study significantly advances the understanding of nickel-doped TiO ₂ nanoparticles as high-performance electrode materials for supercapacitors, addressing key limitations like low conductivity and surface area. The proposed scalable, eco-friendly synthesis method enhances the electrochemical properties of TiO ₂ , aligning with sustainable development goals and practical energy storage needs. These findings foster innovation in electrode fabrication and energy storage technologies, paving the way for diverse applications in advanced energy materials.	
Is the title of the article suitable? (If not please suggest an alternative title)	May be	

Review Form 3

<p>Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.</p>	<p>Few refinements can enhance its comprehensiveness:</p> <ol style="list-style-type: none"> 1. Contextual Background: Add a brief mention of the broader significance of supercapacitors in the energy storage landscape to provide context for the research. 2. Specific Contributions: Highlight the specific enhancements achieved by nickel doping, such as quantitative improvements in conductivity, capacitance, or charge-discharge cycles, if available. 3. Sustainability Aspect: Elaborate slightly on how the eco-friendly synthesis method aligns with sustainable development goals, emphasizing its practical and environmental advantages. 4. Applications: Include specific examples or potential fields where these advancements in supercapacitor technology could be impactful, such as electric vehicles, grid storage, or wearable electronics. 5. Conciseness: Review the abstract for any redundancy and ensure all points are concise and focused on the key contributions and outcomes of the study. <p>Incorporating these points will make the abstract more engaging and provide a clearer, more impactful summary of the research.</p>	
<p>Is the manuscript scientifically, correct? Please write here.</p>	<p>Consider the following aspects:</p> <p>Experimental Evidence: Ensure that all claims, particularly those about enhanced properties due to nickel doping (e.g., improved conductivity, surface area, or electrochemical performance), are backed by robust experimental data. Include detailed characterization results, such as XRD, SEM/TEM, BET surface area analysis, and electrochemical testing (CV, GCD, EIS).</p> <p>Reproducibility: Verify that the synthesis process and experimental procedures are described clearly, allowing reproducibility by other researchers.</p> <p>Comparative Analysis: Check if the manuscript provides a comparative analysis with undoped TiO₂ or other similar materials to validate the improvements attributed to nickel doping.</p> <p>Quantitative Evidence: Ensure that all improvements are quantified and statistically supported, including specific capacitance, charge-discharge efficiency, or energy density metrics.</p> <p>Consistency: Confirm that the findings align with established theories in materials science and electrochemistry. Any deviations should be explained with logical reasoning or cited literature.</p> <p>If the manuscript lacks these elements or provides insufficient evidence, this may indicate a need for additional experiments or deeper analysis to substantiate its scientific correctness.</p>	
<p>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</p>	<p>Suggestions for Additional References: If the manuscript lacks recent or seminal works, consider suggesting the following:</p> <ol style="list-style-type: none"> 1. Visible light active Bismuth ferrite embedded TiO₂ nanocomposite structures for dye mineralization by photocatalysis -A strategy to harness solar energy for remediation of water contaminated with mixture of dyes. 2. Enhanced photodegradation of 2, 4-dinitrophenol by n-p type TiO₂/BiOI nanocomposite 3. Visible light-induced photocatalytic degradation of Reactive Blue-19 over highly efficient polyaniline-TiO₂ nanocomposite: a comparative study with solar and UV photocatalysis 	

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<p>Is the language/English quality of the article suitable for scholarly communications?</p>	<p>Identify any grammatical errors, awkward phrasings, or misuse of punctuation. Ensure the language maintains a formal and academic tone, avoiding colloquialisms. Abstract and Conclusions: These sections should succinctly summarize the research scope, findings, and implications without redundancy or vagueness.</p>	
<p>Optional/General comments</p>	<p>Highlight the manuscript's importance and relevance to the field, such as its potential to advance knowledge or practical applications in energy storage materials.</p> <p>Commend the logical flow and adherence to standard scientific formats (e.g., IMRAD structure) if they are well-executed. Suggest reorganization if any sections seem misplaced.</p> <p>If applicable, mention the clarity, relevance, and quality of figures, tables, and diagrams. Suggest improvements if they lack clarity or fail to effectively support the text.</p> <p>Appreciate well-presented data and suggest alternative methods for complex data visualization if necessary.</p> <p>Recommend that the authors include a brief discussion of future research opportunities based on their findings.</p> <p>Encourage the authors to focus on practical implications, limitations, or real-world applicability of their research to strengthen the impact of the manuscript.</p> <p>The manuscript demonstrates potential but requires significant revisions to meet the journal's standards for publication.</p>	

PART 2:

	<p>Reviewer's comment</p>	<p>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>
<p>Are there ethical issues in this manuscript?</p>	<p><i>(If yes, Kindly please write down the ethical issues here in details)</i></p>	

Reviewer Details:

<p>Name:</p>	<p>Shankamma K</p>
<p>Department, University & Country</p>	<p>JSS AHER, India</p>