

### Review Form 3

Journal Name:	<a href="#">Asian Journal of Chemical Sciences</a>
Manuscript Number:	<b>Ms_AJOCS_121028</b>
Title of the Manuscript:	<b>Photocatalytic degradation of methylene blue and methyl orange dyes using transition metal-doped titanium dioxide nanoparticles</b>
Type of the Article	<b>Review Article</b>

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#### **PART 1: Review Comments**

<b>Compulsory</b> REVISION 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>
<b>Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.</b>	<p>The manuscript "Photocatalytic degradation of methylene blue and methyl orange dyes using transition metal-doped titanium dioxide nanoparticles" holds significant importance for the scientific community. This review article provides comprehensive insights into advanced oxidation processes (AOPs) and the synthesis and application of transition metal-doped titanium dioxide nanoparticles for environmental remediation. The study addresses critical challenges such as electron-hole recombination and low surface area, proposing doping as an effective solution. By discussing various synthesis techniques and their impact on photocatalytic efficiency, the manuscript contributes valuable knowledge to the field of nanotechnology and environmental science, offering potential solutions for mitigating water pollution caused by industrial dyes(Ms_AJOCS_121028).</p> <p>Personally, I appreciate this manuscript because it tackles a pressing environmental issue with innovative and scientifically sound approaches. The detailed analysis of both the synthesis and application of doped titanium dioxide nanoparticles provides a thorough understanding of their potential, making the research highly relevant and impactful.</p>	
<b>Is the title of the article suitable? (If not please suggest an alternative title)</b>	<p>The current title, "Photocatalytic degradation of methylene blue and methyl orange dyes using transition metal-doped titanium dioxide nanoparticles," is suitable as it clearly reflects the content and focus of the manuscript. However, to make it more engaging and emphasize the innovative aspects of the study, a slightly revised title could be considered:</p> <p>"Enhanced Photocatalytic Degradation of Methylene Blue and Methyl Orange Dyes via Transition Metal-Doped Titanium Dioxide Nanoparticles"</p> <p>This alternative title highlights the improvement in photocatalytic degradation achieved through the use of transition metal-doped titanium dioxide nanoparticles.</p>	

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<p><b>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.</b></p>	<p>The abstract of the article is quite comprehensive, covering the main aspects of the study such as the problem addressed, the solution proposed (transition metal-doped titanium dioxide nanoparticles), and the impact of this solution on photocatalytic degradation of dyes. However, a few additions and clarifications could make it even more robust:</p> <ol style="list-style-type: none"> <li>1. <b>Clarify the Focus:</b> Explicitly mention the dyes targeted (methylene blue and methyl orange) early in the abstract.</li> <li>2. <b>Highlight the Innovation:</b> Emphasize the novelty of using transition metal-doped TiO<sub>2</sub> nanoparticles.</li> <li>3. <b>Detail the Impact:</b> Briefly mention the significance of these findings for environmental remediation.</li> <li>4. <b>Consistent Terminology:</b> Ensure terms like ROS are spelled out when first mentioned and abbreviations are used consistently thereafter.</li> <li>5. <b>Synthesis Techniques:</b> Clearly list the synthesis techniques and their relevance to the study.</li> </ol> <p>By incorporating these suggestions, the abstract will provide a clearer and more detailed overview of the study, making it more informative for potential readers.</p>	
<p><b>Are subsections and structure of the manuscript appropriate?</b></p>	<p>Overall, the manuscript is well-structured, with clearly defined sections that contribute to the overall narrative and scientific value of the study. There is no immediate need for reorganization or addition/deletion of sections, as the current structure is comprehensive and appropriate for the content.</p>	
<p><b>Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.</b></p>	<p>The manuscript "Photocatalytic degradation of methylene blue and methyl orange dyes using transition metal-doped titanium dioxide nanoparticles" is scientifically robust and technically sound. The authors provide a thorough review of the literature, presenting well-supported arguments for the use of transition metal doping to enhance the photocatalytic properties of titanium dioxide nanoparticles. The detailed discussion on synthesis techniques and characterization methods demonstrates a deep understanding of the subject matter. Additionally, the manuscript effectively integrates theoretical concepts with practical applications, highlighting the potential environmental benefits of the research. This comprehensive approach ensures the scientific correctness and relevance of the study.</p>	
<p><b>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</b></p>	<p>The references in the manuscript are mostly sufficient and cover a broad range of relevant literature. However, while many references are recent, there are a few older references that might benefit from updates to include the latest findings in the field.</p>	

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<p>Minor REVISION comments</p> <p><b>Is the language/English quality of the article suitable for scholarly communications?</b></p>	<p>The language and English quality of the article are generally suitable for scholarly communications, but there are a few areas where minor revisions could enhance clarity and readability. Here are some suggestions for improvement:</p> <ol style="list-style-type: none"><li>1. <b>Grammar and Punctuation:</b><ul style="list-style-type: none"><li>○ Ensure proper use of articles (a, an, the) throughout the text.</li><li>○ Correct punctuation errors, particularly in complex sentences.</li></ul></li><li>2. <b>Sentence Structure:</b><ul style="list-style-type: none"><li>○ Simplify overly complex sentences to improve readability.</li><li>○ Ensure each sentence conveys a clear and concise idea.</li></ul></li><li>3. <b>Technical Terminology:</b><ul style="list-style-type: none"><li>○ Consistently use technical terms and abbreviations.</li><li>○ Define abbreviations and technical terms at their first occurrence.</li></ul></li></ol>	
<p>Optional/General comments</p>		

### **PART 2:**

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

### **Reviewer Details:**

Name:	<b>Adnan Ahmed</b>
Department, University & Country	<b>Chang'an University, China</b>