

Review Form 3

Journal Name:	Asian Journal of Applied Chemistry Research
Manuscript Number:	Ms_AJACR_123972
Title of the Manuscript:	Modification of Lead-based perovskite solar cells using Tin compounds and how it Influences the overall efficiency
Type of the Article	Review Article

General guidelines for the Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guidelines for the Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

Compulsory 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>
<p>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.</p>	<p>This manuscript provides a comprehensive review of tin-based perovskite solar cells, highlighting their potential as a less toxic alternative to lead-based perovskites. This is a significant contribution to the field, as the development of efficient and environmentally friendly renewable energy technologies is crucial for addressing global energy challenges. The manuscript's detailed analysis of fabrication methods, charge transport materials, and encapsulation techniques offers valuable insights for researchers working towards improving the performance and stability of tin-based perovskite solar cells.</p>	
<p>Is the title of the article suitable? (If not please suggest an alternative title)</p>	<p>The title "Modification of Lead-based Perovskite Solar Cells Using Tin Compounds and How it Influences the Overall Efficiency" is a bit long and could be more concise and impactful.</p> <p>Here are a few alternative titles that could be considered:</p> <ul style="list-style-type: none"> • Tin-Based Modifications for Enhanced Efficiency in Lead Perovskite Solar Cells • Boosting Perovskite Solar Cell Efficiency: The Impact of Tin Incorporation • The Influence of Tin Compounds on Lead Perovskite Solar Cell Performance 	
<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>The abstract provides a good overview of the review's content and highlights the key aspects of tin-based perovskite solar cells. However, here are a few suggestions for improvement:</p> <p>Additions:</p> <ul style="list-style-type: none"> • Specific examples: Briefly mention one or two specific examples of tin compounds used in these PSCs (e.g., FASnI₃, CsSnI₃). • Quantitative comparison: Instead of just stating that Sn-based PSCs have lower efficiency than Pb-based, provide a concise quantitative comparison (e.g., "Sn-based PSCs have reached efficiencies of up to 13%, compared to 25.7% for their Pb-based counterparts."). • Future outlook: Consider adding a concluding sentence about the future prospects of tin-based PSCs and the ongoing research efforts to overcome the remaining challenges. <p>Deletions:</p> <ul style="list-style-type: none"> • Repetitive phrase: The phrase "Sn-based perovskite solar cells" is used multiple times. Consider replacing some instances with "these devices" or "this technology" for better flow. 	
<p>Are subsections and structure of the manuscript appropriate?</p>	<p>No. After subsection 6 there is no subsection 7. main findings, figures, and analysis methods will give a more clear picture.</p>	
<p>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.</p>	<p>This section of the manuscript appears to be scientifically sound, presenting a balanced and cautious perspective on the environmental impact of tin-based perovskites.</p> <p>The text correctly highlights the ongoing debate regarding the toxicity of tin compared to lead, supporting the arguments with relevant studies. It acknowledges the potential risks associated with SnI₂ while also considering the mitigating factor of its rapid oxidation in air.</p>	

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	Furthermore, the discussion on the bioavailability of tin and lead in soil using plant uptake studies adds another layer of scientific rigor to the analysis. By referencing specific research and acknowledging the limitations of current knowledge, this section demonstrates a scientifically robust approach to evaluating the environmental impact of tin-based perovskites.	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.	The references are sufficient but The references are too old. I suggest using more recent references (last 10 years).	
<u>Minor</u> REVISION comments Is the language/English quality of the article suitable for scholarly communications?	The English of the manuscript should be improved. There are many typos and a proofread is required.	
<u>Optional/General</u> comments		

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>	

Reviewer Details:

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