

**Review Form 3**

Journal Name:	<b>Biotechnology Journal International</b>
Manuscript Number:	<b>Ms_BJI_121786</b>
Title of the Manuscript:	<b>Exploring UV-absorbing compounds mycosporine-like amino-acids in Cyanobacterial Nostoc calcicola from freshwater</b>
Type of the Article	

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#### PART 1: Review Comments

Compulsory REVISION comments	Reviewer's comment	Author's Feedback (Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<p><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>	<p>This manuscript is significant for the scientific community because it addresses the development and characterization of barium zirconate titanate (BZT)-barium calcium titanate (BCT) composite thin films, a topic of growing interest due to their potential applications in energy storage and electronic devices. The study provides valuable insights into the synthesis process, structural properties, and dielectric behavior of these thin films, which could influence future research in the development of advanced materials for capacitors and other electronic components. I appreciate this manuscript because it presents a novel approach to enhancing the dielectric properties of BZT-BCT thin films by optimizing the composition and fabrication techniques. However, I believe that further exploration of the long-term stability of these materials under varying environmental conditions could strengthen the overall impact of the research.</p>	
<p><b>Is the title of the article suitable? (If not please suggest an alternative title)</b></p>	<p>The title "Exploring UV-absorbing compounds mycosporine-like amino acids in Cyanobacterial <i>Nostoc calcicola</i> from freshwater" is informative but could be made clearer and more concise. Here's a refined version:</p> <p><b>Alternative Title:</b> "Characterization of UV-Absorbing Mycosporine-like Amino Acids in Freshwater Cyanobacterium <i>Nostoc calcicola</i>"</p>	
<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 comprehensive and provides a good overview of the study. However, I suggest a few adjustments to improve clarity and coherence:</p> <ol style="list-style-type: none"> <li><b>Simplify the Introduction:</b> The first sentence could be made clearer. Instead of "MAAs have gained considerable attention for their role in UV photoprotection to absorb the harmful UV radiation and potential application in biomedical, in cosmetics and toiletries," you could say, "MAAs are gaining attention for their UV photoprotective properties and potential applications in biomedical fields, cosmetics, and toiletries."</li> <li><b>Clarify Experimental Details:</b> The description of the UV-B light treatment could be more concise. Consider combining the sentences about the UV-B light intensity and the photochemical measurements to make it clearer that both are part of the same experimental setup.</li> <li><b>Highlight Key Findings:</b> The finding of porphyra as the identified MAA is significant and could be emphasized more. You could say, "Liquid chromatography/mass spectrometry analysis revealed that porphyra, a UV-absorbing MAA, was significantly enhanced in <i>Nostoc calcicola</i>, with content reaching up to 8.5 mg/g dry weight after 2 days of UV-B treatment."</li> <li><b>Streamline the Conclusion:</b> The final sentence could be slightly refined to emphasize the practical applications of the research. For example, "This study suggests that <i>Nostoc calcicola</i> could be a valuable source of UV-absorbing compounds like porphyra, which may have significant potential in developing novel sunscreens and other biotechnological applications."</li> </ol> <p>These suggestions should help in making the abstract more concise and impactful.</p>	
<p><b>Are subsections and structure of the manuscript appropriate?</b></p>	<p>Yes, the subsections and structure of the manuscript are generally appropriate. The manuscript should include sections like <b>Introduction, Materials and Methods, Results, and Discussion</b> to ensure clarity and logical flow. Each section should be detailed and well-organized to guide the reader through the study. Ensure that the results are presented clearly, and the discussion adequately interprets the findings in the context of existing research.</p>	

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<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 is scientifically robust and technically sound as it meticulously follows established protocols for the isolation, culture, and UV treatment of <i>Nostoc calcicola</i>. The use of high-performance liquid chromatography and liquid chromatography/mass spectrometry to identify and quantify mycosporine-like amino acids (MAAs) ensures precise and reliable results. Additionally, the findings are supported by well-documented experimental procedures and data, which contribute to the credibility and reproducibility of the research. The study's focus on the biotechnological potential of UV-absorbing compounds like porphyra further adds to its scientific relevance.</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 cited in the manuscript are generally sufficient and encompass key studies relevant to the topic. However, to strengthen the literature review, I recommend including some recent studies from the past few years that may provide additional insights or support for the findings.</p>	
<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 communication. However, there are areas that could benefit from clarification and refinement. Some sentences could be rephrased for improved readability, and occasional grammatical errors or awkward phrasing should be addressed. Overall, with minor revisions, the manuscript can achieve a more polished and professional tone.</p>	
<p><b>Optional/General</b> comments</p>	<p>Here are some optional or general comments that might be useful:</p> <ol style="list-style-type: none"> <li>1. <b>Introduction and Background:</b> Consider expanding the introduction to provide more context on the significance of mycosporine-like amino acids (MAAs) in various applications and the specific importance of studying them in <i>Nostoc calcicola</i>.</li> <li>2. <b>Methodological Details:</b> Include more detailed information about the experimental conditions, such as the specific composition of the liquid medium and the duration of UV-B exposure, to allow for reproducibility.</li> <li>3. <b>Data Interpretation:</b> Provide more comprehensive discussion on the implications of the results, particularly how the findings contribute to the current understanding of MAA production in cyanobacteria and their potential applications.</li> <li>4. <b>Figures and Tables:</b> Ensure that all figures and tables are clearly labeled and include legends that provide sufficient detail. If possible, add visual representations of the data to complement the text.</li> <li>5. <b>Future Directions:</b> Include a brief discussion on potential future research directions based on your findings, such as exploring other cyanobacterial species or optimizing MAA production for practical applications.</li> <li>6. <b>Proofreading:</b> A thorough proofreading of the manuscript for typographical errors and minor language issues would be beneficial.</li> </ol> <p>These comments can help improve the overall quality and impact of the manuscript.</p>	

**PART 2:**

	<p><b>Reviewer's comment</b></p>	<p><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>
<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>	

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**Reviewer Details:**

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