Review Form 3

Journal Name:	**Asian Journal of Chemical Sciences**
Manuscript Number:	**Ms_AJOCS_124146**
Title of the Manuscript:	**Phytochemical constituent and cumulative or antagonistic effects of crops plant organ combination on free radical scavenging capacity and antioxidant compound content**
Type of the Article	**Original Research 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)*
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.	**Review of "Phytochemical constituent and cumulative or antagonistic effects of crops plant organ combination on free radical scavenging capacity and antioxidant compound content"** **This study focuses on the phytochemical properties and antioxidant activity of plant organ combinations, particularly involving *Lippia multiflora*, *Lippia alba*, and *Ocimum basilicum*, which are commonly used in Burkina Faso's traditional medicine. The main objective is to understand how combining these plant species affects free radical scavenging capacity and antioxidant levels.** **Key Findings:** **1. Comprehensive and Well-Structured Study: The paper provides a thorough analysis of the phytochemical composition and antioxidant properties of *Lippia multiflora*, *Lippia alba*, and *Ocimum basilicum*. The methodology is clearly presented, and the results are well-organized, offering valuable insights into the impact of plant combinations on antioxidant efficacy.** **2. Novel Contribution: This study is significant in exploring the under-researched area of how plant organ combinations affect free radical scavenging properties. The findings on the antagonistic effects of combining species from different genera are particularly novel and offer practical implications for traditional medicine.** **3. Robust Methodology: The use of multiple analytical techniques, including TLC, LC-MS, DPPH, and ABTS assays, strengthens the validity of the results. The careful quantification of phenolic and flavonoid content adds scientific rigor to the conclusions.** **4. Clarity in Results Interpretation: The paper does an excellent job in interpreting the results, particularly in explaining why certain combinations reduced antioxidant activity. The discussion on the potential intermolecular interactions and their impact on antioxidant properties provides a solid theoretical foundation.** **5. Detailed Discussion of Antioxidant Mechanisms: The paper thoroughly discusses the different mechanisms by which phenolic compounds exert antioxidant effects, which adds depth to the understanding of the observed results. The inclusion of both electron transfer and hydrogen atom transfer (HAT) mechanisms is commendable.** **6. Consideration of Local Context: The study's focus on plants commonly used in Burkina Faso's traditional medicine is an excellent way to contribute to the local body of knowledge. This research holds the potential to guide better usage of plant-based remedies in the region.** **Suggestions for Improvement:** • **Elaboration on Prooxidant Activity: While the study touches on the prooxidant effects of high phenolic concentrations, more detailed exploration of this phenomenon could enrich the discussion, particularly with regard to the practical implications for plant-based formulations.** • **Broader Literature Review: Expanding the literature review to include more recent studies on antioxidant activity and phytochemical interactions from other regions could provide a more global context and strengthen the comparison of findings.** **This is an excellent piece of research with clear applications in the field of traditional medicine and herbal remedies. The methodology is sound, and the results are significant.** --- **Questions:**	

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	1. **How does the maceration extraction method influence the phytochemical composition of the plant extracts?** 2. **What could be the potential reasons for the antagonistic effects observed in plant combinations from different genera?** 3. **How does the study recommend traditional healers to formulate plant-based recipes for maximum efficacy?**	
Is the title of the article suitable? **(If not please suggest an alternative title)**		
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.		
Are subsections and structure of the manuscript appropriate?		
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.		
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.		
Minor REVISION comments **Is the language/English quality of the article suitable for scholarly communications?**		
Optional/General 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?	*(If yes, Kindly please write down the ethical issues here in details)*	

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