Response to Reviewer 1 Comments

**Point 1:** The innovation of this research needs to be better explored.

**Response 1:** The BAC biofilter can remove the PPCPs, and then the following UF can reject micro-organisms and particles flowing out from the biofilter to ensure the quality of drinking water. The above coupling process makes up for the defects concerning respective operations of the BAC biofilter and UF. Although many pilot-scale setups were used to treat secondary wastewater effluent for water reclamation, this type of raw water quality was different from the river water, causing the different potential of biofilm growing. As far as we investigated, the lack of enough attention to long-term pilot study exists. Therefore, in this study, a BAC-UF system was carried out for several months with pilot scale to access the long-term removal performances and the respective contributions of BAC and UF. The innovation of this research has been clarified in the abstract, the introduction, and the conclusion.

**Point 2:** Lines 33-38: You should mention that discharge of PPCPs degrades water quality and thus it cannot be directly used for potable water and industrial applications. Cite the following references:

Panagopoulos, A. (2021). Energetic, economic and environmental assessment of zero liquid discharge (ZLD) brackish water and seawater desalination systems. Energy Conversion and Management, 235.

Panagopoulos, A. (2021). Techno-economic assessment of Minimal Liquid Discharge (MLD) treatment systems for saline wastewater (brine) management and treatment. Process Safety and Environmental Protection, 146, pp. 656-669.

Panagopoulos, A. (2021). Study and evaluation of the characteristics of saline wastewater (brine) produced by desalination and industrial plants. Environmental Science and Pollution Research, 1-14.

**Response 2:** We agree with the suggestion of this reviewer. Thank you very much for your kind reminder. Three references have been cited. Please see lines 40-41 in the revised manuscript.

**Point 3:** How many replications you performed for your experiments?

**Response 3:** Thank you very much for your kind reminder. These three GAC-UF systems were operated in parallel. Samples of the feedwater and effluent from three systems were taken simultaneously and measured once.

**Point 4:** Conclusion: Discuss the applicability of your findings/results and future study in this field.

**Response 4:** Thanks very much for the reviewer. The conclusion has been revised according to the reviewer’s suggestion. The added paragraph in the revised manuscript is as follow:

To sum up, the results show that the proposed BAC-UF system can be effective in the treatment of river water polluted by PPCPs, conventional organic pollutants and ammonia nitrogen. The two-stage biofilms located in the activated carbon column and on the UF membrane synergistically, can be conducive to the removal performances. Besides, the results of this analysis can have significant implications for the conventional UF operation procedure and the ozone-activated carbon process, providing a simple decentralized approach to drinking water treatment for the areas where source water is contaminated with PPCPs. However, the mechanisms of the two-stage biofilm, such as bacterial and metazoan communities, membrane fouling and dissolved oxygen transfer, should be further investigated to enhance the removal efficiency and stability of this system.

**Point 5:** Conclusion: Make it as one or two paragraphs.

**Response 5:** Thanks for the reviewer’s suggestion. The conclusion has been revised and integrated into two paragraphs. The first paragraph mainly includes important findings, and the second paragraph mainly includes the outlook for the future in this field.

**Point 6:** Language editing is recommended.

**Response 6:** We are so sorry to make reviewer’s reading uncomfortable. We have used an English Language Editing service to correct the grammatical and spelling errors and to make the expressions conform to correct scientific English (the Language Editing Certification is attached below). Two native English-speaking colleagues help us verify the manuscript. Hope the revised manuscript would be more satisfactory.

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**Point 7:** Table 1: What is the salinity (in mg/L) of the samples ?

**Response 7:** Thank you very much for your kind reminder. The salinity concentrations in the samples have been added to Table 1 in the revised manuscript.