

We sincerely thank the anonymous referees for their time and thoughtful feedback on our manuscript. We have revised the manuscript according to their comments. Responses to each comment are provided below. We believe that we have addressed all of the comments. In the table below, additions to the text are highlighted in red, and deletions are in highlighted blue with strikethrough. Line numbers indicate those in the revised manuscript.

Comment from Anonymous referee #2	Answer and revision
1. Salinity has no unit in typical ocean science papers. I also understand you meant ‰, not %. Regardless, please remote the symbol in both abstract and Line 108-109.	The descriptions of salinity Line 108 and Table S1 are now expressed in ‰ and units have been removed.
2. L112, pMC should be defined in Line 110.	I missed the pMC on line 84. Since the first description in the manuscript is here, the article for the definition in pMC has been cited on line 84-85. Line 111 has not been revised, and the citation on line 112 has been deleted. Since the pMC was described without the definition in the abstract (Line 16), "percent Modern Carbon" has been added.
3. Line 188-189, the sentence is incomplete.	The description has been revised. Line 187-188: These calculated values do not align with the measured ¹⁴ C concentrations, suggesting it can be confirmed that atmospheric CO ₂ contamination is unlikely .
4. Line 230, just “corrections”, but please specify what type of correction.	I could not find the description of the "correction" in line 230. I realized you meant the correction on line 159. I cited an article that described the isotope correction. Line 159-160: Corrections for isotopic fractionation (Stuiver and Polach, 1977) were performed using the ¹³ C/ ¹² C ratio measured by AMS.
5. Change all concentration units to mM, (mmol L ⁻¹ is not standard usage).	The Mathematical notation and terminology in the Submission Guidelines of OS defines that the unit is expressed using the SI unit. The mole is expressed as "mol" in the SI unit. On the other hand, the liter (L) is not SI unit, but it is a non-SI unit accepted for use with the SI. Therefore, we have chosen to use mol·L ⁻¹ , which is not an SI unit, because it is more familiar and commonly used in our field. For this reason, we do not agree with this comment and have not made any changes to the description.
6. After examining Fig 2, I would recommend using time as x-axis and plot each treatment separately, even though some of the data points may overlap.	Figure 2 has been revised to display preservation days on the x-axis. To avoid overlapping plots, the zero point on the x-axis has been offset for each treatment.

Comment from Anonymous referee #3	Answer and revision
Overall comment: The newly added supplemental flowcharts effectively clarify the study's methodology. To further enhance usability, it would be beneficial to include a final summary flowchart—ideally in the form of a decision tree—to guide researchers in selecting the most appropriate preservation method for either groundwater or seawater samples.	Summary flowchart has been added as Figure 3 in Conclusions.
Line 14: The freshwater sample treated with that had undergone a BAC addition treatment showed the no alteration of DIC.	The description has been revised. Line 14: The freshwater sample treated with that had undergone a BAC addition treatment showed the no alteration of DIC.
Line 24: For global understanding of ocean water behaviors, it is necessary to analyze needs analysing samples from various regions over long timeframes, . . .	The description has been revised. Line 25: For global understanding of ocean water behaviors, it needs analysing is necessary to analyze samples from various regions over long timeframes

Line 67: possibly due to interaction with something components in the seawater,	The description has been revised. Line 66-67: possibly due to interaction with something components in the seawater,
Line 109: While SW can be considered as a brackish water sample, but it is treated as a coastal seawater sample in this study.	The description has been revised. Line 109-110: While SW can be considered as a brackish water sample, but it is treated as a coastal seawater sample in this study.
Line 188: These calculated values do not align with the measured ^{14}C concentrations, suggesting it can be confirmed that atmospheric CO_2 contamination is unlikely .	The description has been revised. Line 187-188: These calculated values do not align with the measured ^{14}C concentrations, suggesting it can be confirmed that atmospheric CO_2 contamination is unlikely .
Line 230: It is anticipated that the boost effect will be more pronounced in instances where . . .	The description has been revised. Line 229: It is anticipated that the boost effect will be more pronounced in instances where
Line 231 - 232: The SW in this study was sampled at a tidal flat location in location at the tidal flat . .	The description has been revised. Line 230-231: The SW in this study was sampled in location at the a tidal flat location along the Pacific coast, near the estuaries of major rivers.
Line 251: the results were consistent with matched those of previous studies	The description has been revised. Line 248: the results were consistent with matched those of previous studies
Line 287: this $\delta^{13}\text{C}$ change seems to be negligible, given its small magnitude and the associated uncertainty which that it only became detectable through sugar-induced microbial activity magnification. . .	The description has been revised. Line 283-285: this $\delta^{13}\text{C}$ change seems to be negligible given its small magnitude and the uncertainty and the change to be extremely small that it which only became detectable through sugar-induced microbial activity magnification.