Dear editors, many thanks for your comments and corrections on our manuscript. Please see below the answers to your comments and the associated changes made to our manuscript.

Kind regards
FG

- At line 353, the reference is missing.

After checking, this seems to be the line 309. Reference added: "Schimmelmann, A., Qi, H., Coplen, T. B., Brand, W. A., Fong, J., Meier-Augenstein, W., Kemp, H. F., Toman, B., Ackermann, A., Assonov, S., Aerts-Bijma, A. T., Brejcha, R., Chikaraishi, Y., Darwish, T., Elsner, M., Gehre, M., Geilmann, H., Gröning, M., Hélie, J.-F., Herrero-Martín, S., Meijer, H. A. J., Sauer, P. E., Sessions, A. L., and Werner, R. A.: Organic Reference Materials for Hydrogen, Carbon, and Nitrogen Stable Isotope-Ratio Measurements: Caffeines, n-Alkanes, Fatty Acid Methyl Esters, Glycines, L-Valines, Polyethylenes, and Oils, Anal. Chem., 88, 4294–4302, https://doi.org/10.1021/acs.analchem.5b04392, 2016."

- In the reference list please complete the reference Desboeufs, 2022.

Reference updated: "Desboeufs, K.: Nutrients atmospheric deposition and variability, in Atmospheric Chemistry in the Mediterranean – Vol. 2, From Pollutant Sources to Impacts, edited by Dulac, F., Sauvage, S., and Hamonou, E., Springer, Cham, Switzerland, in press, 2021."

- Two reviewers have the same issue with your expression for GPP=NCP-CR, in particular because you previously define "The metabolic balance (or net community production, NCP) is defined as the difference between gross primary production (GPP) of autotrophic organisms and community respiration (CR) of both autotrophic and heterotrophic organisms, revealing the capacity of surface waters to absorb atmospheric CO2." The description in the method approach leads to confusion. I recommend that after "NCP and CR were estimated by regressing O2 values against time." you add the following sentence "Since CR is estimated from the oxygen evolution (consumption) in bottles (negative sign), GPP corresponds to, and was calculated as GPP= NCP-CR "

Added to the text.

- For the sediment trap data processing please explain how "the samples where rinsed to remove sea salt" (centrifugation/resuspension in freshwater/MilliQ?) or give a reference.

Added to the text: "the samples were rinsed by centrifugation in MilliQ water (3 times) to remove sea salt"

- Line 309: A reference is missing

Reference added: "Schimmelmann, A., Qi, H., Coplen, T. B., Brand, W. A., Fong, J., Meier-Augenstein, W., Kemp, H. F., Toman, B., Ackermann, A., Assonov, S., Aerts-Bijma, A. T., Brejcha, R., Chikaraishi, Y., Darwish, T., Elsner, M., Gehre, M., Geilmann, H., Gröning, M., Hélie, J.-F., Herrero-Martín, S., Meijer, H. A. J., Sauer, P. E., Sessions, A. L., and Werner, R.

A.: Organic Reference Materials for Hydrogen, Carbon, and Nitrogen Stable Isotope-Ratio Measurements: Caffeines, n-Alkanes, Fatty Acid Methyl Esters, Glycines, L-Valines, Polyethylenes, and Oils, Anal. Chem., 88, 4294–4302, https://doi.org/10.1021/acs.analchem.5b04392, 2016."

-Please provide the information given in your answer to reviewer #3 in the text: "L345 to 356: please quantify the blanks, agreement between replicates and the standard deviation The blanks were 1.1 % of the average concentration of the sample (thus negligible), replicates agreement was on average 0.3 - 2.3 % (and no standard deviation as we analyse only 2 aliquots over the 3 when the 2 first measurements agree (<5% difference) and that was the case for all the samples analysed in this study. "

Added at the end of the section.

-Please (as requested by reviewer #4) add the date of the cruise in the figure 1 or in the figure legend.

Added to the figure legend.