

Response to the Reviewer #1

The revised manuscript shows that the authors well considered the recommendations suggested by the reviewers. Yet, there are two more issues:

Response:

We thank the reviewer for the insightful comments, which have helped us to significantly improve the paper. We believe through addressing these comments, the quality of the manuscript and its potential impact has been improved. Detailed point by point responses are given below.

- Lines296-297: The conclusion of C4 contribution in Feb-Apr 2019 should be emphasized. Instead of ‘We speculate that the heavier $\delta^{13}\text{C}_{\text{WSOC}}$ from February to April 2019 at Yurihonjo might be affected by C4 plant burning and/or aging during long-term transport.’ use something like:

‘The combination of isotopic ratio and concentration measurements (Figures 1 and 2) with the prevailing biomass burning activities (Figure S2) and back trajectory analyses (Figure S3) hints that the heavier $\delta^{13}\text{C}_{\text{WSOC}}$ from February to April 2019 at Yurihonjo was rather caused by contribution of C4 plant combustion than by aging during long-range transport.’

Response:

As the reviewer suggested, we revised the sentences to clarify (page 10, lines 300-303).

- I still recommend a revision by a native English speaker to improve the readability of the manuscript.

Response:

Our paper was edited again by English-speaking professional editors of ELSS, Inc. (elss@elss.co.jp)