

Dear Dr. Tanja Schuck,

We sincerely thank you for your careful handling of our manuscript and for your constructive and helpful comments on the revised version. We are very grateful that both referees assessed the revised manuscript positively and approved publication after the remaining minor issues are addressed. We also greatly appreciate your detailed editorial comments, which helped us further improve the clarity, readability, and accuracy of the manuscript and Supplementary Material.

In response to your comments, we have carefully revised the manuscript and Supplementary Material. In particular, we clarified the sampling schedule and sampling frequency, reformatted Table S1 to improve readability, added explanation regarding recovery rates exceeding 100%, provided the requested reference for the canopy-scale value, restructured the beginning of the Results section and corrected the formatting of the tree species name. We have also checked the manuscript carefully for typographical errors, terminology, figure and table numbering, and consistency between the manuscript and Supplementary Material.

Below, we provide point-by-point responses to each comment. The changes are shown in the marked-up version of the revised manuscript.

Point-by-point responses to Editor comments

Comment 1:

Lines 115–117 and Table S1: It is difficult to understand both the sampling distribution and Table S1 in their current format. The table is challenging to read because it is difficult to associate the values across rows and columns. In addition, for the 30-minute sampling periods, it is unclear how many samples were collected within the 10:00–12:00 and 14:00–16:00 time windows. I recommend reformatting Table S1 to improve readability and providing a clearer description of the sampling intervals and sampling frequency for each day.

Response:

We sincerely thank the editor for this helpful comment. We agree that the original format of Table S1 was difficult to read and did not clearly show the sampling frequency for each observation day. We have reformatted Table S1 to improve readability and to make the sampling schedule clearer. We also revised the Methods section to clarify that, under the standard 30 min sampling scheme, four consecutive 30 min samples were typically collected during 10:00–12:00 JST and four consecutive 30 min samples during 14:00–16:00 JST at each sampling height. For supplemental drone-based observations, the tower sampling duration was shortened to 15 or 17 min to match the drone sampling intervals. The exact sampling durations, and number of samples collected on each observation day are now summarized more clearly in Table S1.

Comment 2:

Lines 118–119: Does this mean that one 30-minute sample was collected between 10:00–12:00 and another between 14:00–16:00 at each sampling height? Please clarify.

Response:

We apologize for the unclear wording. We have revised the text to clarify that this does not mean one sample in the morning and one sample in the afternoon. As also noted in our response to Comment 1, the sampling design was originally not clearly presented, which may have caused confusion about the number and timing of samples. To address

this consistently, we clarified both the Methods description and the structure of Table S1.

Comment 3:

Lines 185–189: Please clarify the meaning of recovery rates exceeding 100%. For example, does the reported 129% recovery for p-cymene indicate contamination or another analytical artifact, or is there another explanation?

Response:

We thank the editor for this important comment. We revised the Methods section to clarify the interpretation of recovery rates exceeding 100%. The 129% recovery observed for p-cymene was not interpreted as clear evidence of contamination, but rather as experimental uncertainty associated with the recovery test. Possible causes include analytical variability, uncertainty in standard preparation, adsorption/desorption variability, and quantification uncertainty at low concentration levels. We also clarified that large systematic losses were not observed for most target compounds, although compound-dependent uncertainty associated with the sampling pretreatment should be considered.

Comment 4:

Line 288: Please provide a reference supporting the canopy-scale value used.

Response:

We thank the editor for pointing this out. We have added the relevant reference (Guenther et al., 2012) supporting the canopy-scale value used in the MEGAN calculation.

Comment 5:

Lines 364–377: This entire section refers readers to figures and a table in the Supplementary Material. For readers following the Results section, it is not ideal to direct them to supplementary figures before presenting the main findings. I suggest either moving the relevant figure(s) into the main text or restructuring the Results to

present the key findings first, with figures in the main manuscript. I understand that the purpose of this section is to justify the subsequent focus on isoprene; however, since this marks the beginning of the Results section, I recommend summarizing the main points of Section 3.1 in a few sentences and integrating them with Section 3.2.

Response:

We sincerely thank the editor for this very helpful suggestion. We agree that the beginning of the Result section should present the main findings more directly in the main text rather than relying primarily on Supplementary figures and tables. In response, we moved the figure showing the temporal variation in BVOC volume mixing ratios from the Supplementary Material to the main manuscript as Figure 3. We also clarified that the values shown in Figure 3 were calculated from available daytime samples collected on the observation days and should be interpreted as summaries of sampled conditions rather than complete monthly means.

Comment 6:

Line 696: Please write the tree species name in italics.

Response:

We thank the editor for pointing this out. We corrected the formatting of the tree species name and checked the manuscript to ensure that *Quercus serrata* and *Q. serrata* are written in italics throughout the manuscript.