

Atmos. Chem. Phys. Discuss., referee comment RC2  
<https://doi.org/10.5194/acp-2021-445-RC2>, 2021  
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## Comment on acp-2021-445

Anonymous Referee #2

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Referee comment on "Seasonal and diurnal variations in biogenic volatile organic compounds in highland and lowland ecosystems in southern Kenya" by Yang Liu et al., Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2021-445-RC2>, 2021

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The study by Liu et al. reports on ambient observations of BVOCs in southern Kenya and investigates the differences in their mixing ratios at contrasting environments (highlands vs lowlands). In addition to the comprehensive presentation of their observations, the authors attempt to characterize the significance of local BVOCs in atmospheric chemistry, through calculations of the OH, O<sub>3</sub> and NO<sub>3</sub> reactivities, and eventually, they use an inverse modelling approach to calculate and compare the emission factors with the MEGAN model. This is a well written study that presents observations from an environment that such data are scarce and therefore valuable. I recommend publication of the study after the authors address the comments from the excellent review of Anonymous reviewer1 and the following minor additional points.

2.2 How many samples were collected per season and per site?

L181. The provided link does not work.

L267. Figure 5 is quite confusing. Maybe it would be better if the results are plotted in different figures for the wet and the dry seasons. In any case, the color selection has space for improvement. The authors may want to use a tool for selecting appropriate colors (e.g. <https://colorbrewer2.org> ).

L350-351. Please discuss further on the claim of limonene's seasonality.

Figure 7 contains very interesting information that needs to be better investigated and discussed (especially for the species that their emissions do not match with the results

produced by the MEGAN equations).