

## ***Interactive comment on “Driving parameters of biogenic volatile organic compounds and consequences on new particle formation observed at an Eastern Mediterranean background site” by Cécile Debevec et al.***

**Anonymous Referee #2**

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The presented manuscript describes the online and off-line measurement of various organic compounds at a remote Mediterranean measurement site. The measurements include 20 days of data. The authors present characteristics of 4 different NPF classes, which they categorized based on air mass origin. The manuscript presents very interesting new results. I suggest minor revisions, described in the following.

1) My first comment is about the writing style of the manuscript. There are quite a lot of grammatical mistakes in the manuscript and it is very difficult to read. I suggest to ask a native English speaker to correct the language before re-submitting.

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2) Why are you not showing any data from the NAIS measurements? It would be very interesting to see mean diel cycles for different size classes below 20 nm from the NAIS measurements for different NPF event day classes and non-event days. A comparison to PSM size classes and DMPS would be helpful in the same Figures.

3) A table, summarizing the findings regarding NPF event days and non-event days is needed. That table could contain the information that is shown in Figure 10 and 11, for the different NPF classes found in your analysis.

4) The presented Figures are extensive and contain a lot of information. Please do not use yellow in your Figures, it is very hard to read the content of the Figures if there are yellow lines.

5) It is sometimes difficult to extract all the information in the Figures. I will make some detailed suggestions in the following.

6) In Figure 4, it is not clear to me, what exactly is presented here? Do those Figures include all measurement days, NPF event days only or non-event days only? Please do not use yellow.

7) Figure 5 is very difficult to read, there is yellow on yellow and an extensive amount of information. I suggest to make mean diel cycle Figures, summarizing the different NPF event day classes you observed, showing the same parameters as in each panel of the current Figure.

8) Figure 7 again, please avoid yellow. I do not really understand the difference between the first and the second panel, other than the second panel shows the same information as Panel 1, with added Methanol diel cycle. Maybe those two can be summarized in one panel? If there is a good reason to keep the first two panels separated, please explain it somewhere. I am not sure, which days are summarized here? Does that Figure include all measurement days? NPF event days, non-event days?

9) For Figure 9 I have a very similar comment as for Figure 5. It is easier to understand

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the information if the different NPF event day classes are summarized as mean diel cycle Figures. Again, yellow on yellow.

10) I guess you chose the NPF2 in Figure 12, because of the high isoprene concentrations during that event class. I suggest again instead of showing time series of each day separately, to show mean diel cycle plots for the presented parameters comparing NPF2 event days and non-event days before or after NPF2 event days. Again, please avoid yellow on yellow.

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