

### **Response to Reviewer 1:**

*In response nr 15, the authors state that they have included operating conditions in the figure legend (current Fig. 6), but the legend in the revised version is identical to the original. This should be amended, but otherwise I suggest to accept as is.*

The reviewer has probably confounded the figure legend with the figure caption. The revised legend does indeed show the operating temperatures and is not identical to the original. In the revised version, we have included an additional note in the figure caption: “Note that the figure legend shows the different operating temperatures of the instruments used (RT: room temperature).”

### **Response to Reviewer 2:**

*I still have one question about Figure 2 (Figure 4 in the revised manuscript). What do different circles/data points for the same compound represent? I don't think this is mentioned in the caption or the legend. In my opinion, it would be beneficial to discuss why the difference between some data points is fairly large, for example for 2,6-dimethoxyphenol and diglycolic acid it can be up to a factor of 2.*

We do explain this in the figure caption (“The size of the dots indicates the initial steady-state mixing ratio (0.1–100 ppbv) used in the respective experiment.”) and in the text (“We typically measured  $\tau_{1/e}$  at three different mixing ratios for each compound.”).

For further clarification, we provide a more detailed explanation in the text. “We typically measured  $\tau_{1/e}$  at three different mixing ratios for each compound.” → “We typically measured  $\tau_{1/e}$  at three different mixing ratios for each compound. Three data points are thus typically shown for each analyte.”

The reviewer has probably interpreted the three points per analyte as replicates. This is not the case and since the time response is concentration-dependent, we do expect significant variations when experiments are carried out at different analyte concentrations. The fact that we observed relatively large variations even at similar concentrations (*e.g.* for diglycolic acid as pointed out by the reviewer, but also for other low-volatility species) is most likely due to an additional passivation effect. We have added the following statement to the text: “Especially for low-volatility analytes, repeated sampling may passivate remaining active sites, which in turn improves the time response. This effect probably explains the relatively large variations in  $\tau_{1/e}$  observed for the slow-responding analytes, even if all three experiments were carried out at similar mixing ratios.”