First, we would like to thank the reviewer 1 for his valuable comments on the manuscript. We did our best to address all the comments and summarized the changes made to the revised manuscript below.

Response to referee #1:

>Page 6, L23-25: the authors want to add the information about the mixing ratios and uncertainties of the calibration sources.

This information can be found in the supplementary material of the paper written by Michoud et al. (2017). The following sentences have been added in the revised manuscript:
"Information about individual mixing ratios of VOCs in the calibration gases can be found in Michoud et al. (2017; supplementary material S1). Mixing ratios were in the range 0.9-4.5 ppm for the abovementioned species and ranged from 3-15 ppb after dilution with zero air. Uncertainties associated to these mixing ratios range from 5 to 10% (1σ).

>Page 7, L13-14: "...using appropriate sensitivity and humidity dependence factors."
This is a bit generic. The authors want to elaborate on this and define what they consider "appropriate".

This statement has been modified in the revised manuscript as follows:
"…using sensitivity and humidity dependence factors determined during calibrations (Xr = 0.5 and 0.49 for MGLY and MEK, respectively)."

>Page 7, L22-23: This combined error accounts about 22%, which is appreciable. It would be interesting to know which of both errors is the major contributor. I assume the authors may be able to state the systematic error of the calibration factor individually and should do it. Apart from that how did the authors estimate the error of the peak fitting procedure?

The individual uncertainty for the calibration factor is actually quite large and accounts for 19%. This has been determined as the relative standard deviation of the response factor using all the calibration points shown in Fig S2 and also include the uncertainty of the concentration of the standard generated during calibrations. The error associated to the peak fitting procedure has been estimated to be 10% based on a visual inspection of the Gaussian peak fitting, which is not able to fully represent the two peaks observed at m/z 73 (see Fig S1). The total systematic error has been calculated as the square root of the sum of the squares of these two individual errors, which leads to 22% (rounded up to the superior unit).
This information has been given in the revised manuscript as follow:
"The systematic errors concerned the calibration factor (R_f) and the peak fitting procedure and are estimated to be 22% for methylglyoxal (19% and 10% respectively for the individual errors associated to the calibration factor (R_f) and the peak fitting procedure)."

>Page 11, L4: I would not consider a correlation of $R^2=0.48$ to be reasonable. Actually, I find it pretty low for two techniques presumably measuring the same target compound.

This statement has been modified in the revised manuscript as follow:
"Figure 4 displays a scatter plot of PTR-ToFMS vs. DNPH/HPLC-UV measurements, with a coefficient of determination of 0.48 (R^2). A significant intercept of …"

>The authors perform calculations of the methylglyoxal loss rates and estimate that 53% of methylglyoxal losses are due to photolysis and the remaining losses occur through OH

oxidation. As a basis for their calculations the authors use the PTR-ToFMS measurements instead of the DNPH/HPLC-UV measurements as those may be prone to artifacts. As I have learnt from the preceding experimental sections those artifacts predominantly occurred at nighttime. Why would this be relevant for MGLY loss rates, which only occur at daytime? In my opinion, foremost, the higher temporal resolution ofthe PTR-ToFMS measurements make them more suitable for these calculations than the DNPH/HPC-UV measurements.

The main discrepancies between both techniques appear at nighttime when MGLY concentrations are at their lowest level, but artifacts for DNPH/HPC-UV measurements due to inlet effects and an overestimation of the collection efficiency might also occur during daytime. This is why we decided to perform MGLY loss rates calculations with the PTR-ToFMS measurements. As mentioned by the reviewer, the higher temporal resolution of the PTR-ToFMS measurements is also an advantage to do these calculations. This last point has been added in the revised manuscript.

References:

Michoud, V., Sciare, J., Sauvage, S., Dusanter, S., Léonardis, T., Gros, V., Kalogridis, C., Zannoni, N., Féron, A., Petit, J.-E., Crenn, V., Baisnée, D., Sarda-Estève, R., Bonnaire, N., Marchand, N., DeWitt, H. L., Pey, J., Colomb, A., Gheusi, F., Szidat, S., Stavroulas, I., Borbon, A., and Locoge, N.: Organic carbon at a remote site of the western Mediterranean Basin: sources and chemistry during the ChArMEx SOP2 field experiment, Atmos. Chem. Phys., 17, 8837-8865, https://doi.org/10.5194/acp-17-8837-2017, 2017.