

## Response to the comments of anonymous referee #1

We thank the referee for the valuable comments which have greatly helped us improve the manuscript. Please find below our responses (in black) after the referee comments (in blue). The changes in the revised manuscript are written in *italic*.

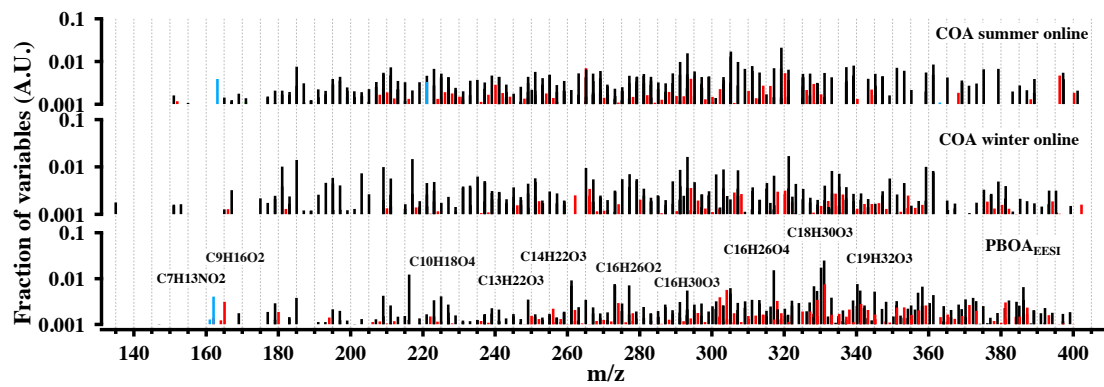
1. In the offline AMS section, line 20, Authors mentioned about WSOM fraction. What is the fraction of water non-soluble organics? If the fraction is large, then it is important to account water non-soluble fraction otherwise they will lead to error in the source contributions.

Response: On average, WSOM comprised 58% of the total OM. The relevance of the WSOM source apportionment to the total OM was addressed in detail in previous manuscripts discussing the offline AMS source apportionment for this dataset (Daellenbach et al., 2016; 2017) and is not repeated here; we focus instead on the comparison of AMS/EESI-TOF WSOM results. Individual AMS factors were found to have factor recoveries ranging from 0.54 to 0.89, with the exception of traffic-related hydrocarbon-like organic aerosol (HOA), which is not efficiently detected by the ionization technique used by the EESI-TOF in the present study. However, because the EESI-TOF and AMS here measure the same extracts, the AMS-determined recoveries can be assumed to apply to both instruments.

The WSOM fraction is now reported in the manuscript (page/line) as follows: *“Here we summarize the results of the AMS-PMF analysis on the WSOM fraction comprised 58 % of the total OM, which as noted in Section 2.2 are very similar to those of Daellenbach et al. (2017), conducted on different extracts from the same ambient filter samples.”*

2. In the description of primary biological organic aerosol (PBOA<sub>EESI</sub>), author suggested that PBOA is not related to the cooking emissions. It was also mentioned that on comparison with previously obtained EESI-TOF COA factor, the dominant PBOA<sub>EESI</sub> ions are different from the major components of cooking-related EESI-TOF factors obtained from source apportionment of online summer and winter mass data. Also mentioned, the time series of the PBOA<sub>EESI</sub> and COA<sub>AMS</sub> factors are not well correlated. It would be nice to add the relevant profile of these factors in the supplementary.

Response: As suggested, the comparison between online EESI-TOF COA (summer and winter) and offline PBOA mass spectra is added in the supplement. It's quite clear that these two factors have different features.;



3.Fig5, font size of the legends should be increased, not readable.

Response: Revised. The legends could be read now.