We are thankful to the reviewers for their thoughtful and constructive comments on our study. The manuscript has been revised accordingly. Listed below is our point-to-point response to each comment.

General comments:

This paper reports the chemical composition of submicron non-refractory aerosol at Mt. Yulong, a mountainous site at the southeast edge of the Tibetan Plateau in China, by using a high-resolution time-of-flight aerosol mass spectrometer, with other instruments such as aethalometer, SMPS, GC-MS/FID. The aerosol at Mt. Yulong was dominant by organic aerosol, following by sulfate, BC. The manuscript paid more attention to deconvolve the organic aerosol into three factors, i.e. biomass-burning organic aerosol (BBOA), BBOA, biomass-burning-influenced oxygenated organic aerosol (OOA-BB) and oxygenated organic aerosol (OOA). OOA-BB and OOA accounted for about 87% of organic aerosol, which suggests that the OA is highly oxygenated in this remote site. This study also points out that the southeastern edge of the Tibetan Plateau is affected by transport of anthropogenic aerosols from Southeast Asia. This work will add some understanding of the influence of biomass burning on remote site of Tibetan Plateau. The manuscript could be accepted for publication after revision.

Specific comments:

Q1: The authors mentioned in abstract": : :is affected by transport of anthropogenic aerosols from Southeast Asia." In fact, according to the back-trajectory, the aerosols were from South Asia, not Southeast Asia. Please check.

Reply: We thank the reviewer for the comment. We have revised "Southeast Asia" to "South Asia" in the title and in the manuscript.

Q2: In section "Measurements and data processing", the authors should add more information about AMS size calibration, what the CE value were used, what the AMS data time resolution for data collection and later analysis were.

Reply: We thank the reviewer for the comment. We have revised section 2.2 "Measurements and data processing" with the information added in Line 82 and Line 91 as follow.

"The time resolution was 5 min for AMS measurement, with 2.5 min in V mode to obtain mass concentration, and 2.5 min in W mode for HR mass spectrum of organics."

"In this study, the collection efficiencies varied from 0.5 to 0.9."

Q3：In Fig.S1, the mass concentration of PM_1 measured by SMPS and that of AMS plus Aethalometer has compared. The authors mentioned the estimated composition-dependent density was used. Please add what the value of aerosol density used?

Reply: We thank the reviewer for the question. We have added this information regarding aerosol

densities in the supplementary materials part by adding the following sentence in SI Line 19:

"The aerosol density used was 1.4 g cm^{-3} for organics (Gysel et al., 2007), 1.75 g cm^{-3} for sulfate, nitrate and ammonium, and 1.80 g cm^{-3} for black carbon as suggested by Middlebrook et al. (2012)."

Q4：Biomass burning event 2 is different with the others, the contribution of BBOA is comparable to the background period. It would be better to have more evidence to support the explanation.

Reply: We thank the reviewer for the comment. We have added the following sentences in Line 242 – Line 243:

"Although the ratio of BBOA to the total OA during this event has a similar level with the background level, the mass concentrations of both OA and BBOA are much elevated than the background level."

Q5: Pearson Correlation Coefficient has mentioned many times in this manuscript, as we know, this value is related with the data points, please make them clear.

Reply: We thank the reviewer for the comment. We have added the number of data points at places where we mentioned the Pearson R values.

Q6: Line 80 Mt. Yulong (27.2oN, 100.2oE)

Reply: Revised.

Q7: the authors mentioned "particle number size distribution for particle mobility diameters ranging from 3 to 780 nm, In Table S1 just list 3081DMA and CPC 3775? Do you use two SMPS in parallel or not?

Reply: We thank the reviewer for the comment. We have modified in Line 96: "… 3 – 780 nm…" to "… 15 – 760 nm…", and have revised Table S1 as the follow.

"SMPS (3081-DMA and 3022-CPC)"

Q8: The carbonaceous species were very abundant in: : :", Carbonaceous species should include BC. Please rewrite this sentence.

Reply: We thank the reviewer for the comment. It is revised in Line 259 as follow: The carbonaceous species (OA+BC) were very abundant in PM_1, with an average contribution of 77%, followed by sulfate (14%) and ammonium (5%).

Q9: Line 567, the authors mentioned the axis for different species in the text, but not in the figure caption, please make the figure self-readable.

Reply: We thank the reviewer for the suggestion. It is revised in Line 491: OA are represented by the left axis while other species are represented by the right axis.

Reference

Gysel, M., Crosier, J., Topping, D. O., Whitehead, J. D., Bower, K. N., Cubison, M. J., I.Williams, P., Flynn, M. J., McFiggans, G. B., and Coe, H.: Closure study between chemical composition and hygroscopic growth of aerosol particles during TORCH2, Atmos. Chem. Phys., 7, 6131-6144, 10.5194/acp-7-6131-2007, 2007.

Middlebrook, A. M., Bahreini, R., Jimenez, J. L., and Canagaratna, M. R.: Evaluation of Composition-Dependent Collection Efficiencies for the Aerodyne Aerosol Mass Spectrometer using Field Data, Aerosol Sci. Technol., 46, 258-271, 10.1080/02786826.2011.620041, 2012.