

## ***Interactive comment on “Molecular characterization of organic aerosol in Himalayas: insight from ultra-high resolution mass spectrometry” by Yanqing An et al.***

### **Anonymous Referee #2**

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The authors of this paper reported sampled water-soluble organic matter (WSOM) at a high elevation site of Himalayas. They identified CHO and CHON compounds to be primary molecular compositions of WSOM. The paper provided important information on organic aerosols which could contribute to climate change and atmospheric oxidation over the Tibetan Plateau. The article should be published in ACPD. At this stage, I have only several minor comments as outlined below.

The authors attributed the sources of WSOM to biogenic volatile organic compounds and biomass mass burning. Given the lower temperature ( $\sim 5.7$  °C), BVOCs might not be readily formed and unlikely transported from distance sources as well. Or there is a

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high level of solar radiation/photosynthetically active radiation (PAR) in the Himalayas which favors the BVOC formation? Authors perhaps need to make a comment on this point.

I don't think that the measurement site of this study was located in the free troposphere (Table 2 and perhaps the sampling sites in other studies listed in Table 2). The free troposphere means the troposphere above the boundary-layer. Although the elevation of the sampling site is 4275 m, it is on the ground surface and hence within the boundary layer.

Please check the language carefully. There are quite a lot of grammar and spelling errors. For example, line 51, 'is' should be 'are'; line 53, 'could from'; line 57, 'in the southern of'; line 158 and 164, 'were' should be 'was', line 171, 'person correlation efficiency'; line 181, 'transport' should be 'transported'; line 698 (Fig. 2 captions), 'ground level of 1000m', you mean 1000 m above the ground level? These are part of language errors.

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