

***Interactive comment on “Insight into naturally-charged Highly Oxidized Molecules (HOMs) in the boreal forest” by Federico Bianchi et al.***

**Anonymous Referee #2**

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13. Fig. 4 needs a relative intensity indicator. Perhaps replacing the 50 % black line with white line and then use a black line as a 'bar' indicator for each ion, all normalized to the most intense ion signal. Now the horizontal axis is identified by the ligand molecule. But again, they are not to be considered charged, either naturally or un-naturally, so as to be detected as HOM- or HOM+ from an ion that is stripped of ligands. This comment harkens all the way back to pts 1, 4, 8, etc. Do you want to identify the descriptor 'naturally-charged' to mean those ligands detected by API-TOF and the 'neutrals' to mean those detected by the un-natural NO<sub>3</sub><sup>-</sup> ions produced in the CI machine? Perhaps it would be better to switch terminology: use ambient ions for naturally-charged ions.

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14. Lines 221-227. Information on the ability to cluster to HSO<sub>4</sub><sup>-</sup> vs. NO<sub>3</sub><sup>-</sup> should be discussed here by presenting also the fraction: NO<sub>3</sub><sup>-</sup> to the sum of NO<sub>3</sub><sup>-</sup> and HSO<sub>4</sub><sup>-</sup> core ion signals.

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