

***Interactive comment on “Characterization of aerosol and cloud water at a mountain site during WACS 2010: secondary organic aerosol formation through oxidative cloud processing” by A. K. Y. Lee et al.***

**Anonymous Referee #1**

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This paper reports a series of measurements of the composition of cloud water and interstitial aerosols collected from Whistler mountains in Canada. In addition to comparing the aerosol vs. aerosolized/dried cloud water composition using aerosol mass spectrometry (AMS), the authors performed aqueous OH oxidation of the samples and characterized the degree of chemical change induced by the aqueous photochemical processing. The experiments described in this paper are novel, and the information is highly relevant to the atmospheric chemistry community. The main message of the paper is that aqueous oxidation of relatively volatile organics by OH produces oxidized

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organics with sufficiently low volatility to remain in residual particles after the cloud dissipation. The paper is well-written and the figures are appropriate. The comments and suggestions, which are provided in the PDF supplement, are aimed at further improving the readability and the logical flow of the paper. Please click on the link to the supplement to see the full review.

Please also note the supplement to this comment:

<http://www.atmos-chem-phys-discuss.net/12/C816/2012/acpd-12-C816-2012-supplement.pdf>

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