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Interactive comment on "The characterisation of pollution aerosol in a changing photochemical environment" *by* M. J. Cubison et al.

M. J. Cubison et al.

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The statement that the organic content is "oxygenated" originates from the appearance of the mass spectrum of this aerosol component. The mass spectrum is extracted using a customised principal component analysis of the overall organic spectrum (Zhang et al., 2005a, cited in the paper). The major peaks of the "oxygenated" component spectrum are CO^+ and CO_2^+, which indicate a high oxygen content. Other organic components retrieved with this analysis, such as hydrocarbon-like organics (HOA, Zhang et al. 2005a) have very different spectra.

We would like to thank the referee for their suggestion to analyse the O:C ratio of the aerosol using our data. We have now used the methodology of Zhang et al. (2005c) to calculate the O:C ratio for the oxygenated organic aerosol fraction during the European

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Anticyclonic event during the TORCH campaign, A description of the evaluation of the O:C ratio at the TORCH site will thus be included in the revised edition of the paper.

Q. Zhang, D.R. Worsnop, M.R. Canagaratna, and J.L. Jimenez. Hydrocarbon-like and Oxygenated Organic Aerosols in Pittsburgh: Insights into Sources and Processes of Organic Aerosols. *Atmospheric Chemistry and Physics*, 5, 3289-3311, 2005c.

Interactive comment on Atmos. Chem. Phys. Discuss., 5, 10055, 2005.