Interactive comment on "Organic and inorganic decomposition products from the thermal desorption of atmospheric particles" *by* B. J. Williams et al.

Anonymous Referee #3

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General comments:

This is a very comprehensive characterization study about thermal decomposition products seen in the analysis of ambient aerosols using a thermal desorption aerosol gas chromatograph (TAG) system. These products are interesting because they likely contain information about inorganic salts or polar organic compounds that are previously not included in data obtained with a TAG system. The authors compared ambient aerosol data obtained from a TAG system with AMS data, and observed good correlations for selected compounds such as oxygenated organic aerosol between the data obtained from these two systems. The paper shows the potential of the

TAG system nicely through the comprehensive characterization, and I hope that the system becomes as popular as the AMS so that we see more highly time resolved yet chemically speciated data from different geographical locations. The manuscript is well written and it meets the scope of the journal. I have only minor technical comments, mostly about figures that I want the authors to address in the final version of the manuscript.

Technical comments:

Figure 2: The resolution of the text in the figure is too low and fonts are jagged. Please provide a higher resolution figure.

Figure S2: Can the authors provide the figure in color?

Figures 3, 4, 5, 6, 7, and 8: The authors use lower case letters in the text or caption to designate panels in the figure but upper case letters are used in the figure. Please use consistent letter case.

Figure 5(B): It is hard to discuss about the quality of calibration curves that are constructed from only three (or four) standard points but it seems to me that a quadratic equation fits better for the calibration curve for ammonium nitrate. Can the authors add two more points (say 2500 ng and 5000 ng) so that the calibration curve is indeed quadratic? I am raising this issue because a three point calibration curve is not appropriate at all to discuss about quantitative quality of the method.

Figure S5: Please remove a line connecting the periods with missing data points.

P13396L5: Did the HR-ToF-AMS measure up to PM1 or PM0.9?

Interactive comment on Atmos. Meas. Tech. Discuss., 8, 13377, 2015.