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Interactive comment on "Elemental composition and oxidation of chamber organic aerosol" *by* P. S. Chhabra et al.

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Thank you for this very interesting article, which provides new insight into the formation and composition of different types of SOA.

Could the authors possibly provide some additional information on a few points concerning the smog chamber experiments, which would make analysis of these experiments easier?

Experiment 2 (α-pinene + O_3) in this publication corresponds to experiment 4 in Table 1 in Chhabra et al. (2010), in which publication Fig. 3 provides the organic mass concentration, which reaches a maximum of about 30 μg/m^3. In Table 1 in Chhabra et al. (2010) and Chhabra et al. (2011), a maximum mass concentration of 53.8 μg/m^3

is given, however. Can this difference be explained by the applied correction for wall losses? In Chan et al. (2010) it is indicated that wall losses were corrected following Keywood et al. (2004). In the last publication, the wall loss rate was found to be quite strongly dependent on particle size, decreasing from 0.01/min for particles with diameter 20 nm to 0.0002/min for particles with diameter 300 nm. Could the authors indicate which wall loss rate was assumed, in order to obtain the value for the aerosol mass concentration in Table 1?

For experiments 3 and 4 in Table 1 in this publication, photooxidation using OH radicals was performed on α-pinene. It was not immediately clear from Table 1 how OH-radicals were produced. For experiment 3 (low NO_x) possibly H_2O_2 was used, and for experiment 4 HONO and/or CH_3ONO. Were (initial) concentrations measured or estimated for these OH-precursors? Also, is the spectrum of the applied radiation available? Possibly the authors could refer to a previous source with more detailed information, or provide some indications of J-values during the experiments.

References:

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