Supporting material:

Kinetics of the ozonolysis reaction with maleic and fumaric acid aqueous aerosols

The kinetics of the reaction between ozone and aqueous maleic/fumaric acid aerosols were followed by monitoring the production of gas-phase products: HCO_2H (formic acid) and CO_2. Whilst CO_2 was calculated from integration of the peak area between 2380 and 2320 cm^{-1} (background 2400-2300 cm^{-1}), HCO_2H (formic acid) concentration was calculated from integration of the peak area between 1800 and 1780 cm^{-1} with baseline 1805.0-1777.6 cm^{-1}. From the slope of linear-square fits to the decay plots of the formation of these gas-phase products, the k_I (pseudo-first-order rate coefficients) were calculated. The uncertainties on k_I were determined as the standard error of the slope at the 95% confidence interval. The calculated k_I values are shown plotted as function of the ozone concentrations for maleic acid (Fig. 1S) and fumaric acid (Fig. 2S) aqueous aerosol particles.

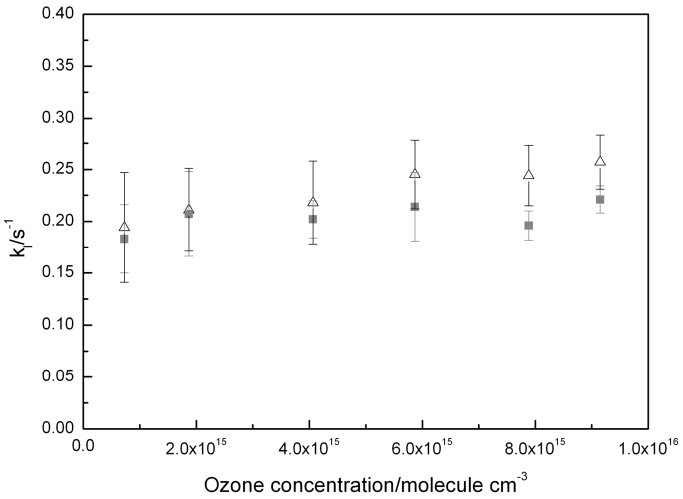

Fig. S1: Pseudo-first order reaction rate constants for aqueous maleic acid aerosol particles as function of the ozone concentration. Calculated k_I values from HCO_2H and CO_2 are shown as grey squares and open up triangles, respectively.

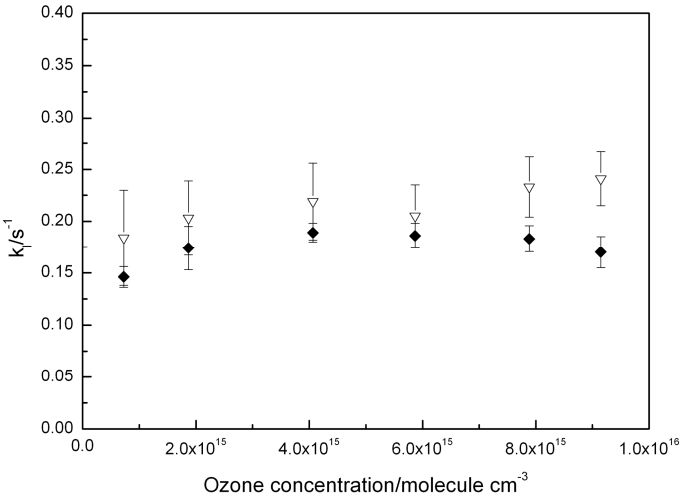

Fig. S2: Pseudo-first order reaction rate constants for aqueous fumaric acid aerosol particles as function of the ozone concentration. Calculated k_I values from HCO_2H and CO_2 are shown as black diamonds and open down triangles, respectively.