Quantification of aerosol chemical composition using continuous single particle measurements

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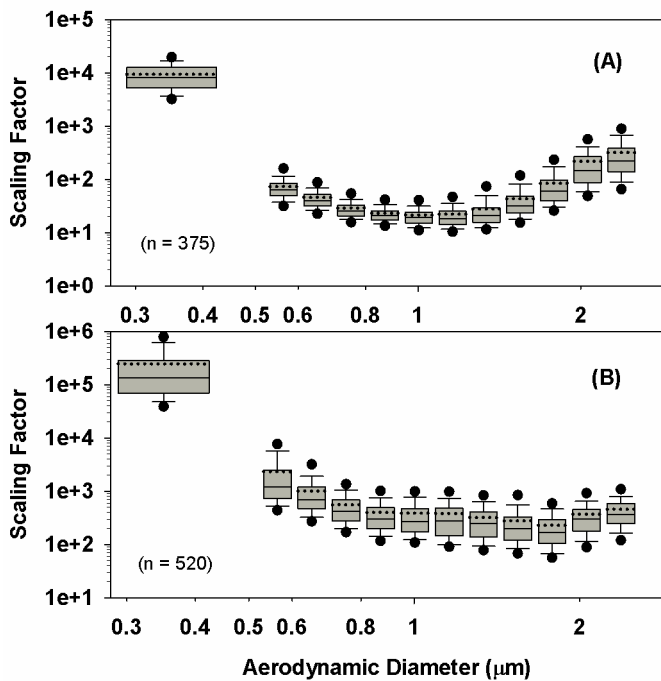*Now at Paul Scherrer Institute, 5232 Villigen PSI, Switzerland

Fig. S1. ATOFMS scaling factor using APS (for $d_a > 0.52$ μm) and FMPS (for $0.1 < d_a < 0.5$ μm) for January-February 2007 in Toronto (A) and for June-July 2007 in Harrow (B). n: number of hourly averages. Box-whisker plots demonstrate the median (solid line), mean (dotted line), quartile (box), 90% percentile (whiskers), and 95% percentile (dots).
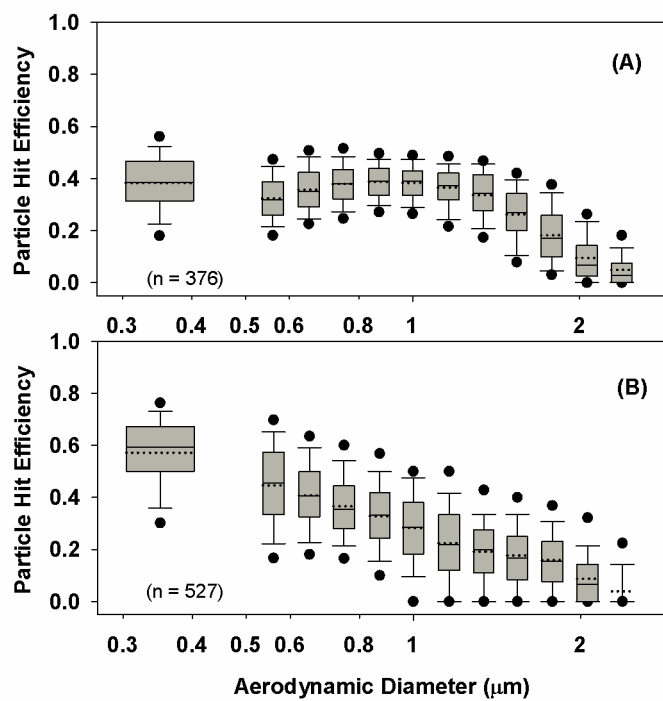
Fig. S2. ATOFMS hit efficiency of particles during the SPORT in Toronto (A) and the BAQS-Met in Harrow (B) campaigns in 2007. Box-whisker plots demonstrate the median (solid line), mean (dotted line), quartile (box), 90% percentile (whiskers), and 95% percentile (dots).
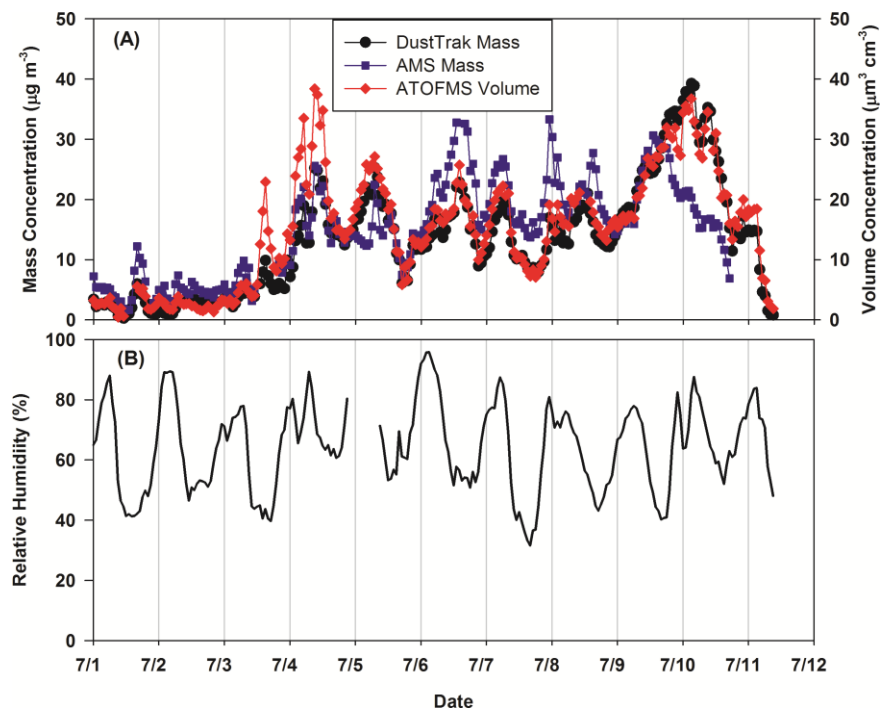
Fig. S3. Time-series of DustTrak mass concentrations, total mass concentrations of AMS sulphate, nitrate, ammonium, and organics, as well as scaled ATOFMS total particle volume concentrations under the assumption with RPA of 1.
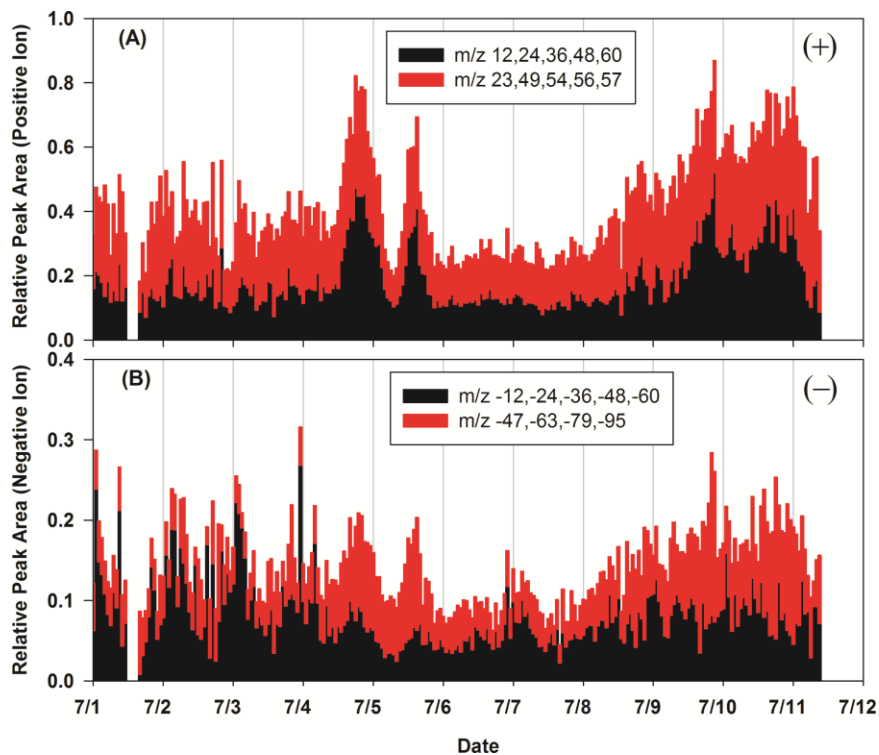
Fig. S4. Time-series of hourly averaged RPA values for EC ions (m/z ±12, ±24, ±36, ±48, ±60), dust-related ions (m/z 23, 49, 54, 56, 57), and phosphate ions (m/z -47, -63, -79, -95) in the positive (A) and negative (B) mass spectra.
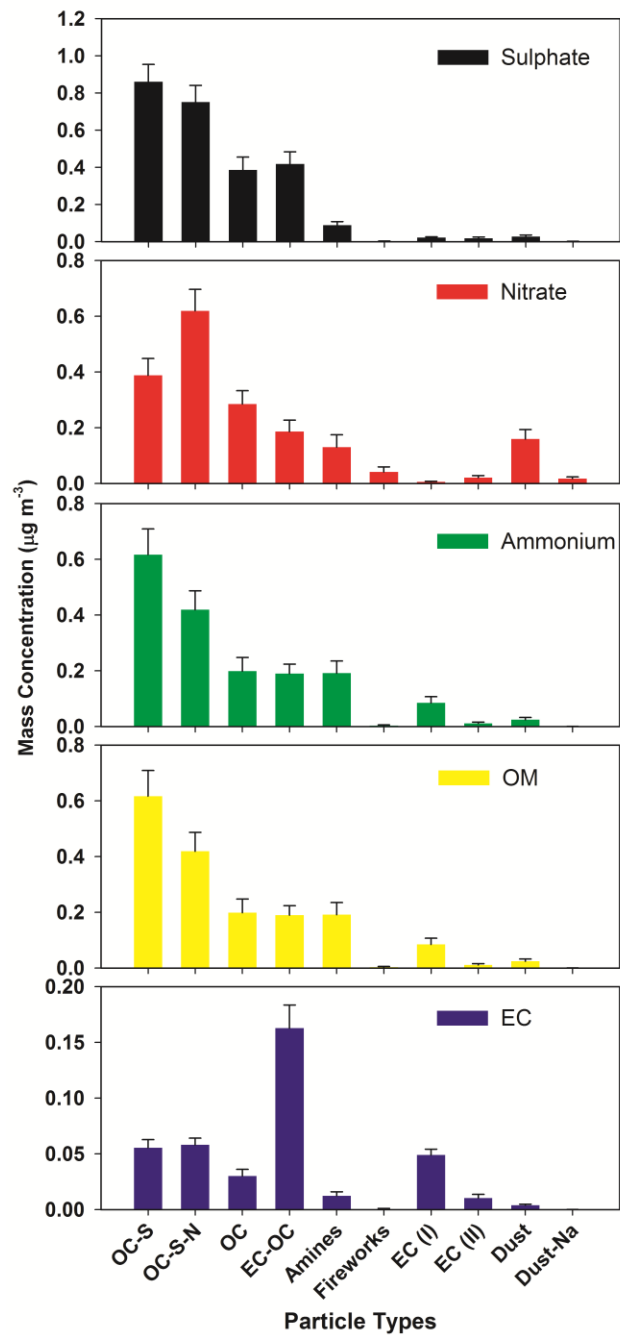
Fig. S5. Average concentrations of the five PM components as a function of the 10 particle types. Error bars represent the 95% confidence interval for the estimated average.