Chemical Composition of Ambient Nanoparticles on a Particle-by-Particle Basis

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Note: These particle classes were obtained from analysis of the winter dataset. Particle classes for other datasets are similar in character.

Contents:

Figure S1: Elemental composition and diurnal variation of the combustion class generated from the ART-2a algorithm.

Figure S2: Elemental composition and diurnal variation of the photochemical I (PI) class generated from the ART-2a algorithm.

Figure S3: Elemental composition and diurnal variation of the photochemical II (PII) class generated from the ART-2a algorithm.
Figure S1: (Left) Pie chart representing the elemental composition of the combustion class generated from ART-2a analysis of the December dataset. (Right) Diurnal variation of the combustion class showing an abrupt rise during the morning rush hour and tailing off as motor vehicle activity decreases during the day.
**Figure S2:** (Left) Pie chart representing the elemental composition of the photochemical I (PI) class generated from ART-2a analysis of the December dataset. (Right) Diurnal variation of the PI class showing an abrupt rise during the afternoon hours when photochemical activity is high.

![Elemental Composition of Photochemical I Class](image1)

![Diurnal Variation](image2)

**Figure S3:** (Left) Pie chart representing the elemental composition of the photochemical II (PII) class generated from ART-2a analysis of the December dataset. (Right) Diurnal variation of the PII class showing an abrupt rise during the afternoon hours when photochemical activity is high.

![Elemental Composition of Photochemical II Class](image3)

![Diurnal Variation](image4)