Supporting Information for:

Automated Chemical Analysis of Internally Mixed Aerosol Particles Using X-ray Spectromicroscopy at the Carbon K-Edge

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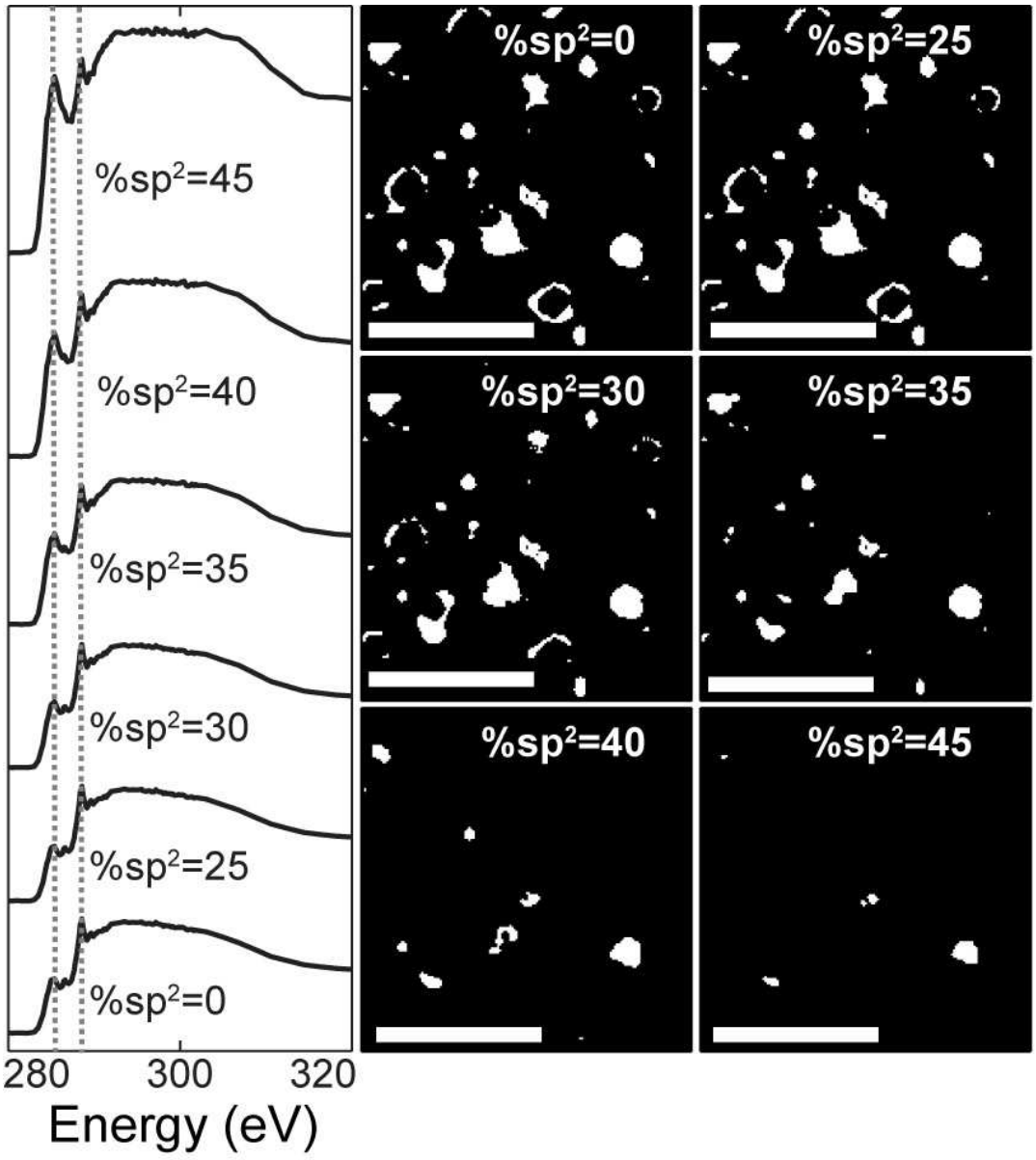

Figure S-1. Spectra (Left) taken from regions of the sample by setting a threshold for the $\%sp^2$ hybridization indicated (Right). White scale bar on images is 3.2 µm. Vertical gray dotted lines on spectra are at 285.4 and 288.6 eV indicating the C=C and COOH peaks, respectively.

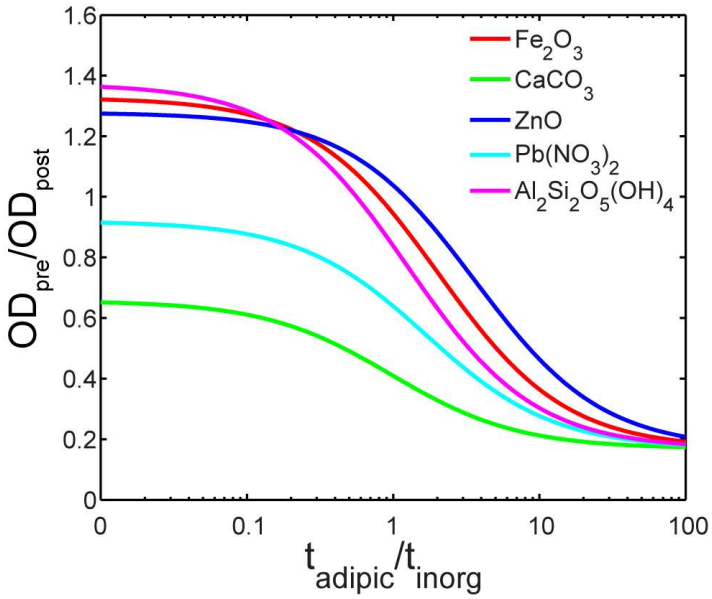

Figure S-2. Calculated pre-edge to post-edge ratios (OD_{pre}/OD_{post}) as a function of the thickness ratio between adipic acid and a variety of metals and minerals commonly found in atmospheric aerosol. Adipic acid has an oxygen and carbon content similar to that often observed in atmospheric aerosols.

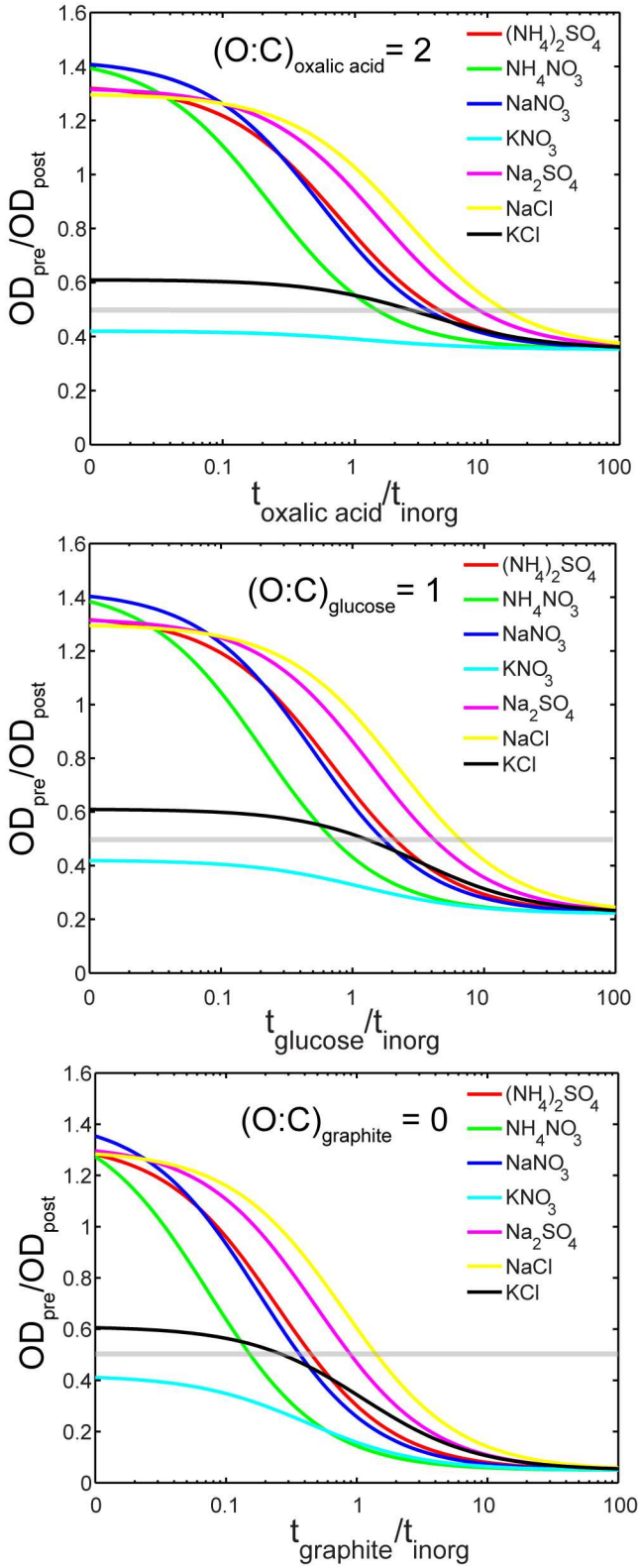

Figure S-3. Calculated pre-edge to post-edge ratios (OD_{pre}/OD_{post}) as a function of the thickness ratio between adipic acid and inorganic salts common in atmospheric aerosols. Each panel was calculated using a carbonaceous species having a different O:C atomic ratio. This figure shows that threshold value of 0.5 is valid over a wide range of organic compositions from graphite (assuming no oxygen) to oxalic acid with 2 oxygens for every carbon atom.