Mixing States and SOA Phase States

Scanning transmission X-ray microscopy (STXM)

- Element specific, sensitive to local bonding structure.
- carbon, oxygen, nitrogen, and sulfur absorption edges.
- Sample on Si₃N₄ / or TEM coated substrate
- laboratory or ambient samples brought to lab for analysis

Rachel O’Brien, Mary Gilles, Ryan Moffet, Alex Laskin, Alex Neu, Bingbing Wang
Soot Mixing State and Absorption

- Measure mixing state & the location of inclusions
- Model absorption amplification (AA*)
- Compare to concurrent measurements

* Bond et al. JGR (2006)
Phase State of Aerosols

- Comparison of OD vs. Size → particle viscosity

- Compare across field campaigns

- Viscosity of laboratory generated particles vs. ambient