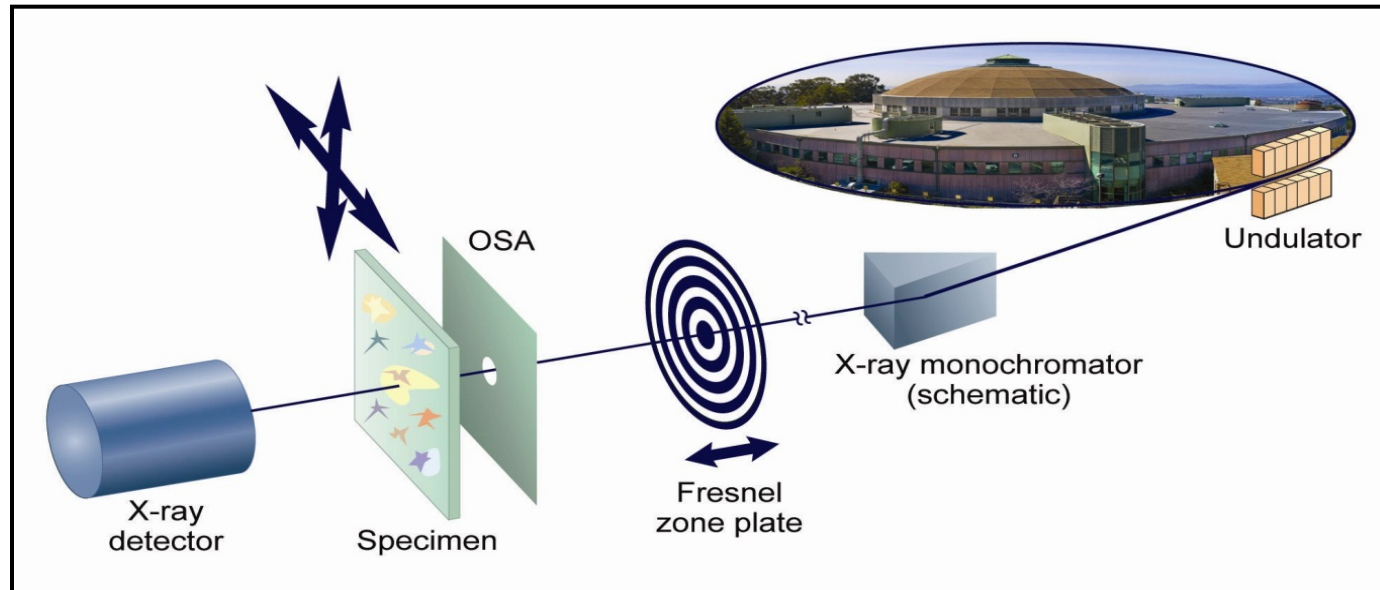


Mixing States and SOA Phase States

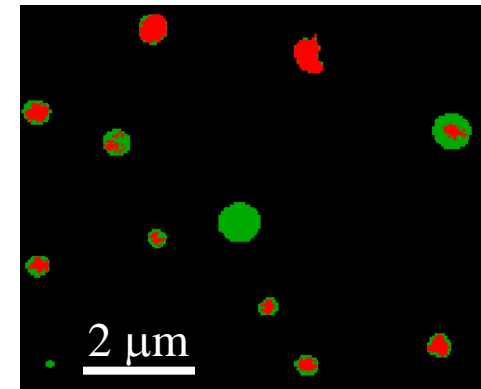
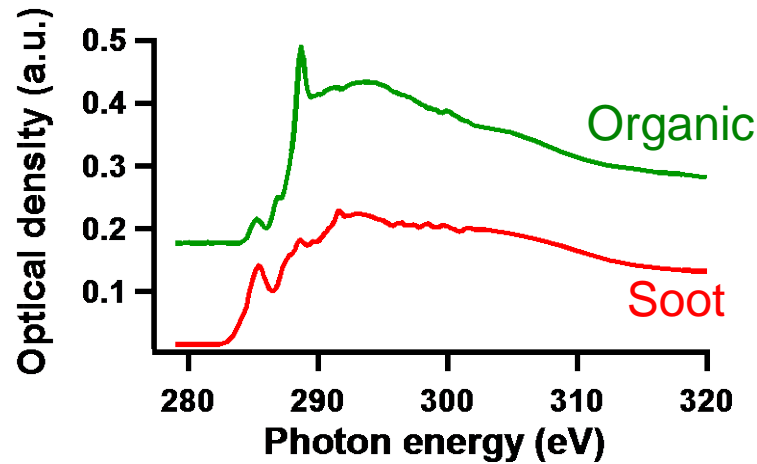
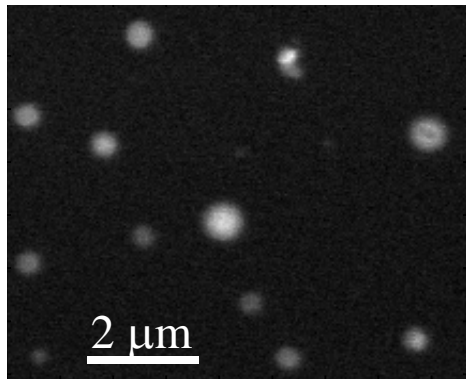
Scanning transmission X-ray microscopy (STXM)



- Element specific, sensitive to local bonding structure.
- carbon, oxygen, nitrogen, and sulfur absorption edges.
- Sample on Si_3N_4 / 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

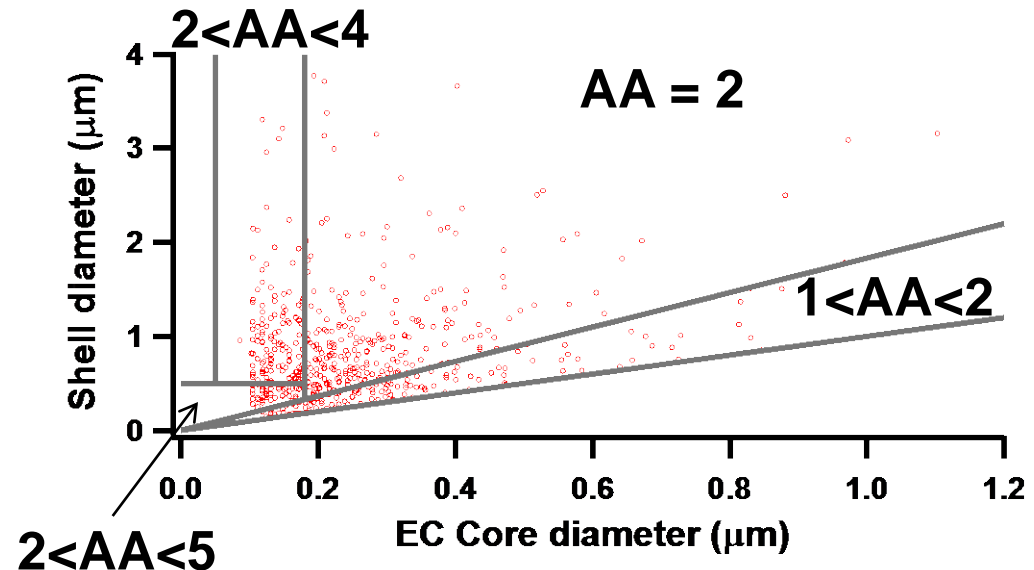
Soot Mixing State and Absorption



- Measure mixing state & the location of inclusions

- Model absorption amplification (AA^*)

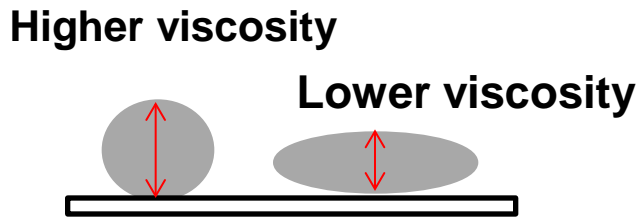
- compare to concurrent measurements



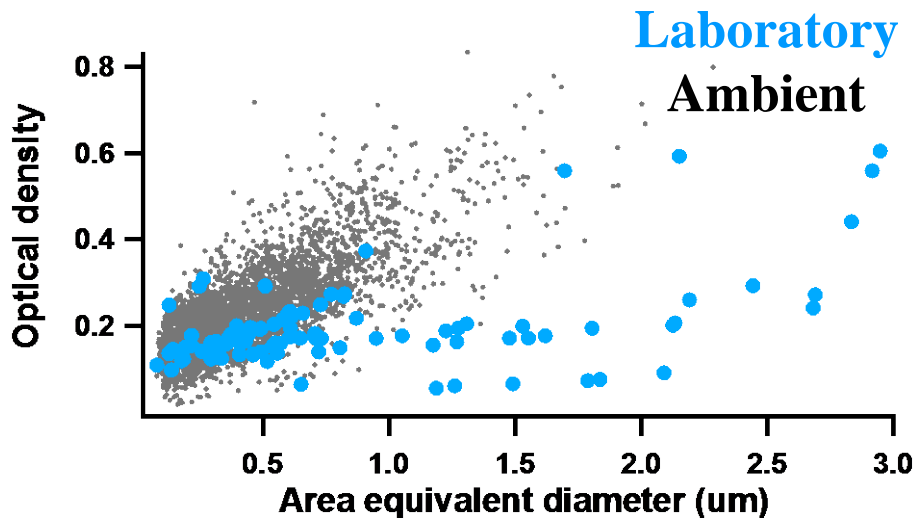
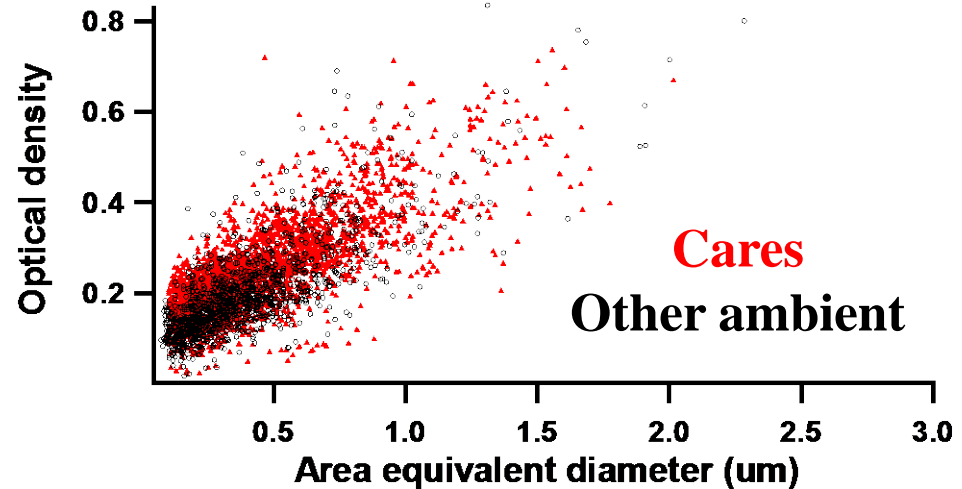
* Bond et al. JGR (2006)

Phase State of Aerosols

- Comparison of OD vs. Size → particle viscosity



- Compare across field campaigns



- Viscosity of laboratory generated particles vs. ambient