ASR Project Title

Objective: Impact of physicochemical properties of sulfate seed particles on isoprene SOA formation

Climate Relevant SOA Property(s) Investigated: Mass concentration, chemical composition

Lead personnel: Scot Martin

Collaborators:

Summary of progress:

Reactive uptake of isoprene photooxidation products by sulfate seed was investigated.

No significant SOA formation for crystalline solid.

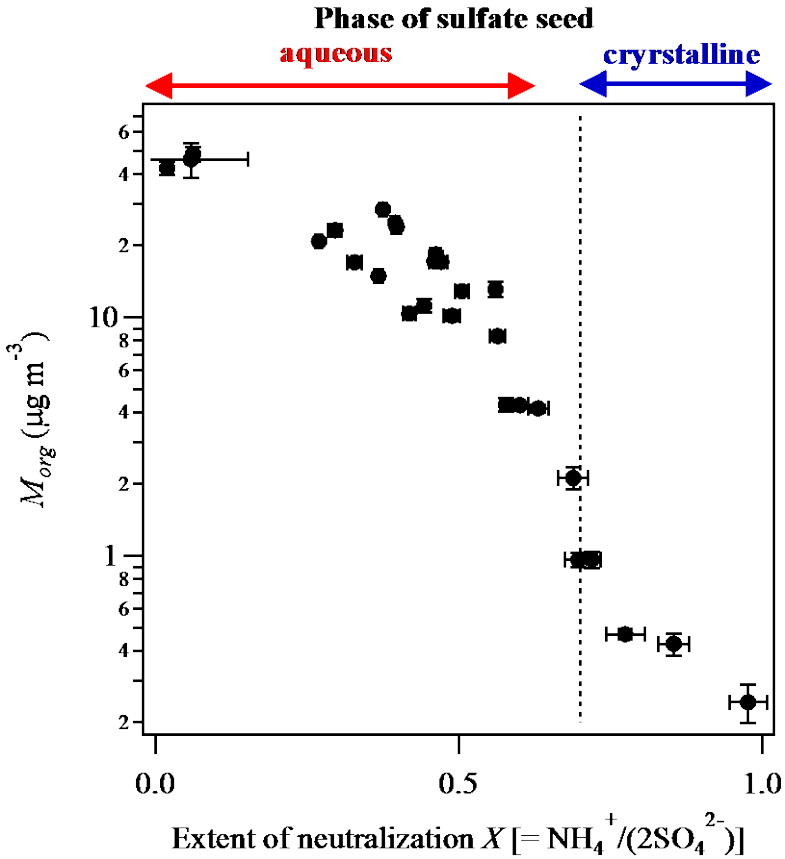
Phase transition of seed particles from solid to liquid induced SOA formation, meaning that the models will need to consider phase of inorganic particles to evaluate SOA mass concentration.

Challenges or needed resources/collaborators:

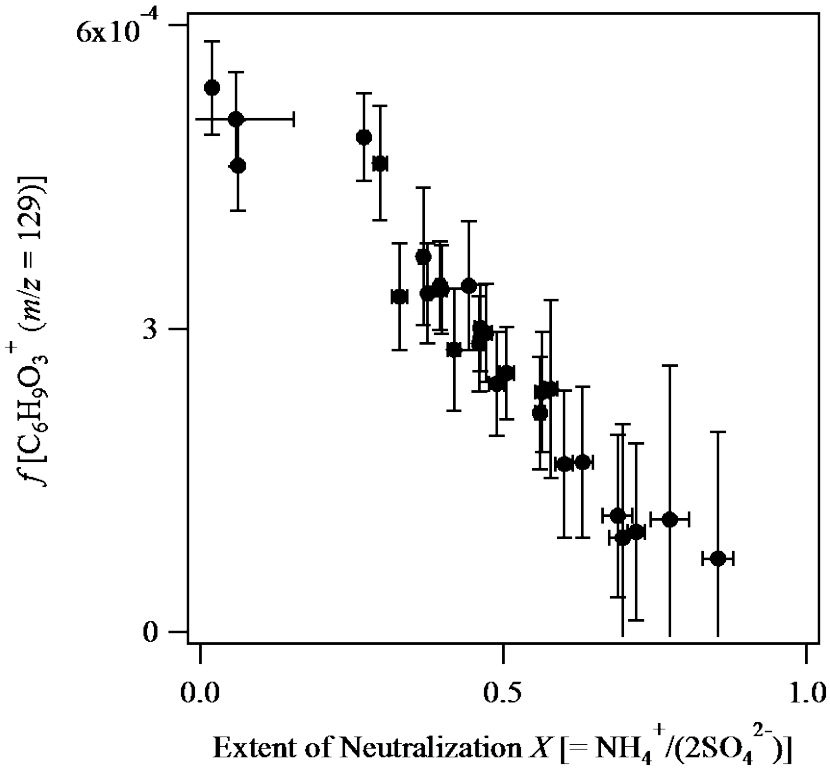
Laboratory experiments at higher RH and collaborations with modelers are needed to develop a parameterization for the reactive uptake process.

Results

SOA formation



SOA chemical composition (oligomer)



Both phase and acidity of inorganic particles need to be considered in modeling mass concentration and chemical composition of isoprene SOA.