

Phase and Phase States of Secondary Organic Aerosol



Professor Mijung Song

*Department of Earth and Environmental Sciences
Chonbuk National University*

Information of the phases and the phase states of secondary organic aerosols (SOA) is required when predicting their cloud condensation nuclei properties, optical properties, and size distributions. To determine their phases and phase states of SOA particles, we have studied the liquid-liquid phase separation and the viscosities of different types of SOA particles as a function of relative humidity (RH). First, using a flow cell coupled to an optical microscope, we have investigated liquid-liquid phase separation in different types of SOA particles free of inorganic salts. Liquid-liquid phase separation was observed at high RH of ~95% in α -pinene-derived SOA, β -caryophyllene-derived SOA, limonene-derived SOA particles while liquid-liquid phase separation was not observed in isoprene-derived SOA and toluene-derived SOA particles. Second, using a bead-mobility technique and a poke-flow technique combined with fluid simulations, the RH-dependent viscosities of SOA were quantified. Results and implications of these studies will be presented.

9 January 2018



11:30 a.m.



**Conference Room, 3/F,
Mong Man Wai Building**



Enquires: 3943 9624 essc@cuhk.edu.hk