

Liquid-liquid phase separation in particles consisting of products from the ozonolysis of α -pinene and β -caryophyllene

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Recent research suggests that liquid-liquid phase separation (LLPS) occurs in secondary organic aerosols (SOA) free of inorganic salts. LLPS was observed in α -pinene-derived SOA, β -caryophyllene-derived SOA and limonene-derived SOA particles at high relative humidity of $\sim 95\%$ while LLPS was not observed in toluene-derived SOA and isoprene-derived SOA particles (Renbaum-Wolff et al., 2016; Rastak et al., 2016; Song et al., 2017). In order to gain further insight into LLPS in organic aerosols, more studies are needed. Herein, we investigate LLPS in particles containing the following single organic species: pinonic acid, pinic acid, β -caryophyllonic acid, β -nocyophyllene aldehyde and β -nocyophyllonic acid which are products from the ozonolysis of α -pinene and β -caryophyllene. In addition, we investigate LLPS in particles containing these ozonolysis products mixed with highly oxidized organic compounds (polyethylene glycol 400, diethyl L-tartrate and glycerol). The results of LLPS in the organic particles will be presented.