

## Investigation on temperature- and acidity-dependence of the formation of secondary organic aerosol

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Abstract:

In the atmosphere, volatile organic compounds (VOCs) undergo oxidation in the gas phase to yield products, generally oxygenated, that have vapor pressures sufficiently low that they are partitioned into aerosol phases, to form secondary organic aerosols (SOAs). They affect the global climate as well as human health. Quantification of the impacts of SOAs requires understanding their chemical composition and processes of formation as well as mass yields. Recently, we developed a new atmospheric simulation chamber, in which realistic environmental reactions can be performed under controlling temperature, humidity, light on/off, with/without seed particles, and their acidity. In the seminar, the results obtained from the ozonolysis of  $\alpha$ -pinene in the presence of seed particles will be presented. Temperature- and acidity-dependence of the SOA yield and the volatility distribution of organic compounds in SOAs will be discussed.

