



## Ozonolysis of monoterpenes: Temperature dependence of SOA yields

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Biogenic volatile organic compounds (BVOCs) such as monoterpenes are emitted in significant amounts by vegetation, especially in forests. They are oxidized primarily by ozone, OH- and NO<sub>3</sub>-radicals, and some of their oxidation products play an important role in the growth of secondary organic aerosol (SOA). Prediction of SOA concentrations requires knowledge of the gas-phase chemistry leading to the production of condensable gases and the processes affecting the partitioning of the products. Temperature affects reaction rates and condensation in opposing directions.

We have investigated the aerosol formation from ozonolysis of the two terpenes  $\alpha$ -pinene and  $\beta$ -pinene in a temperature-controlled flow reactor. Particle size distributions were measured with a temperature controlled scanning mobility particle sizer (SMPS) system. The SOA yields from ozonolysis of  $\alpha$ -pinene and  $\beta$ -pinene are found to be anticorrelated with temperature. The yields were modelled with a two-product model incorporating an estimated temperature dependence of the partitioning coefficient ( $K_{om}$ ).

Temperature dependence of  $K_{om}$  for ozonolysis products measured by an aerosol mass spectrometer will be presented.