



Multifunctional Products of Isoprene oxidation in polluted atmosphere and their contribution to SOA

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Isoprene is generally considered the largest source of nonmethane hydrocarbons and is the important precursor of SOA formation, with approximately 500 Tg of isoprene emitted into atmosphere each year. Observations at Feng Xian campus of East China University of Science and Technology (ECUST), a site located about 50km south to Shanghai downtown, near Hangzhou Bay, across which located the most dense broad leaf forestry area in China, were applied during June 22th-27th, 2018. During the last two days of measurement (June 25th and 26th), we observed simultaneous increase of isoprene, organic aerosol and highly functionalized organic compounds. Gas-phase Isoprene derived C4 and C5 CHO and CHON were quantified using online CI-API-TOF with NO₃-ion source. The observed CHON showed a much higher concentration compared with CHO. The particle phase organic matter from Isoprene could account for 8%-33% of total organic aerosol mass during this case, highlighting that under interaction of anthropogenic and biogenic emissions, isoprene oxidation products, especially organic nitrates contribute significantly to SOA mass load.