BROADBAND SUM FREQUENCY GENERATION INVESTIGATION OF THE OZONOLYSIS OF CIS-3-HEXEN-1-OL AND THREE OTHER HEXENOL ISOMERS AT THE AIR-AMMONIUM SULFATE SOLUTION INTERFACE

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cis-3-Hexen-1-ol, leaf alcohol, is emitted into the atmosphere during plant wounding. Its gas-phase oxidation by ozone is known and suggested as a source of oxygenated compounds found in atmospheric aerosols. It is also known that the presence of ammonium sulfate aerosols affects the rate of gas-phase oxidation of organic compounds, but the surface chemistry of the reaction has not been investigated. Here the orientation of cis-3-hexen-1-ol and three other hexenol isomers at the air-ammonium sulfate solution interface are compared using broadband sum frequency generation (BBSFG). The reaction of cis-3-hexen-1-ol with ozone at the air-liquid interface was followed by observing changes in the BBSFG spectrum.