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## Supplement of

## Ion mobility spectrometry-mass spectrometry (IMS-MS) for on- and offline analysis of atmospheric gas and aerosol species

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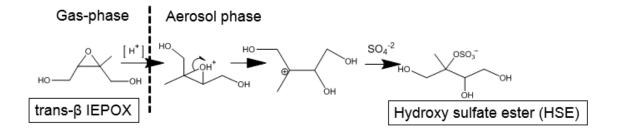
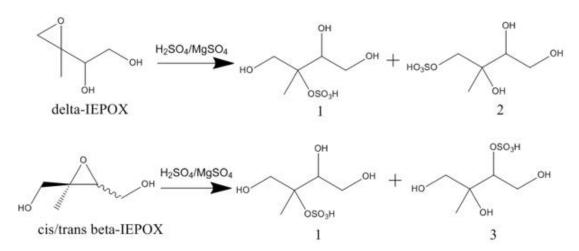


Figure S1. A formation reaction series for the hydroxy sulfate ester (HSE) under acidic aerosol uptake of IEPOX, as originally outlined in (Surratt et al., 2010). Gas-phase IEPOX is taken up into acidic aerosol. Then, in the presence of sulfate, it can undergo esterification to form the hydroxy sulfate ester, an isomer of which is shown on the far right.



**Figure S2:** A scheme depicting the different HSE structural isomers from IEPOX reactive uptake under acidic particle-phase conditions.