Figure S1. Typical number size distributions of SiO$_2$ and TiO$_2$ aerosol particles used in this study.
Figure S2. Water adsorption on SiO₂ and TiO₂ particles at different RH, reported by Goodman et al. (2001).
**Figure S3.** Uptake coefficients of ClONO$_2$ on sulfuric acid particles in the stratosphere for the reaction ClONO$_2$ + H$_2$O + surface $\rightarrow$ HNO$_3$ + HOCl.
Reference: