



Supplemental Figure 1. (a) Adsorption of ~ 150 mTorr of HNO_3 on CaCO_3 . (b) Adsorption of ~ 150 mTorr DNO_3 on CaCO_3 pretreated with D_2O . (c) Adsorption of ~ 150 mTorr HNO_3 on CaO . Frequencies of adsorbed H_2CO_3 and D_2CO_3 are labeled in the figure. All other absorption bands are associated with adsorbed nitrate ions.