

# "Characterization of the nitric acid-water complex in the infrared and near-infrared region at ambient temperatures in carbon tetrachloride"

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In this work we present the vibrational spectrum of a hydrogen-bonded complex, nitric acid–water, in the region 6000–11000  $\text{cm}^{-1}$  using Fourier-transform infrared spectroscopy. This study builds on previous observation of the nitric acid–water complex in the mid-infrared via a carbon tetrachloride matrix to investigate the vibrational overtone region of the complex at ambient conditions. Our experimental observations of  $\nu_{\text{OH}} = 1, 2$  and 3 of the nitric acid–water complex provides a testing ground for the simple harmonically coupled anharmonic oscillator local-mode model treatment of OH-vibrational overtone spectra of hydrogen-bonded complexes.