

## ROVIBRATIONAL SPECTROSCOPY OF THE OH-O<sub>3</sub> AND C<sub>2</sub>H<sub>4</sub>-O<sub>3</sub> COMPLEXES IN <sup>4</sup>He NANODROPLETS

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The weakly bound complexes X-O<sub>3</sub> (X=OH, C<sub>2</sub>H<sub>4</sub>) have been isolated in helium nanodroplets and probed with infrared laser spectroscopy. Measurements are carried out in the high frequency OH/CH stretch region (2900-3600 cm<sup>-1</sup>) and in the OOO symmetric and antisymmetric stretch region near 1050 cm<sup>-1</sup>. Many of the observed bands exhibit rotational fine structure, allowing for structural assignments via Stark spectroscopy. Rotationally resolved vibrational bands of the OH-O<sub>3</sub> complex indicate a rather weak interaction, as the orbital angular momentum of the unpaired electron is unquenched and remains strongly coupled to the OH bond axis.