OBSERVATION OF PURE ROTATIONAL SPECTRA OF $trans$-, and cis-HOCO/DOCO

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Rotational spectra of *trans*-, *cis*-HOCO and DOCO have been observed using an Fourier transform microwave(FTMW) spectrometer and the FTMW-mmw-DR technique. The *cis*-conformer was observed for the first time in the gas phase. The HOCO radical was produced in a supersonic jet by discharging a gas mixture of CO and H_2O diluted in Ar. The molecular constants including the hyperfine coupling constants have been precisely determined. The determined r_0 structure of the two conformers are consistent with those of *ab initio* calculations. The fermi constants of the two conformers indicate that the spin densities on the hydrogen nuclei are different between the two conformers.