OBSERVATION OF THE PURE ROTATIONAL SPECTRA OF THE H_2O-$trans$-HOCO COMPLEX

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Rotational spectra of the H_2O-*trans*-HOCO complex have been observed using a Fourier transform microwave (FTMW) spectrometer. The complex was produced in a supersonic jet by discharging a gas mixture of CO and H_2O diluted in Ar. The observed lines show that the ground state of the complex is split into two by the exchange symmetry of the two equivalent protons of H_2O. The molecular constants including the hyperfine coupling constants have been precisely determined for the two states. The Fermi contact constants of the two states are smaller than that of the *trans*-HOCO monomer. This result indicates that there is an induced effect for the spin density on the hydrogen nucleus of HOCO by the complex formation.