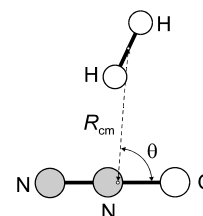


250
IR**H₂N₂O****Dinitrogen monoxide – dihydrogen (1/1)**
(weakly bound complex)**C_s**
(effective symmetry class)
(large-amplitude motion)N₂O · H₂

Isotopic species	State	$r_0(R_{\text{cm}})$ [Å] ^{a)}	θ_0 [deg] ^{a) b)}
N ₂ O · <i>para</i> H ₂	$\nu=0, j_{\text{H}}=0$	3.427(5)	80.0(5)
N ₂ O · <i>ortho</i> H ₂	$\nu=0, j_{\text{H}}=1$	3.403(5)	77.9(5)
N ₂ O · <i>ortho</i> D ₂	$\nu=0, j_{\text{H}}=0$	3.277(5)	85.4(5)
N ₂ O · <i>para</i> D ₂	$\nu=0, j_{\text{H}}=1$	3.255(5)	85.4(5)
N ₂ O · HD	$\nu=0, j_{\text{H}}=0$	3.347(5)	83.2(5)



The complex has a T-shaped configuration. The structure was determined from the rotationally resolved infrared spectrum in the region of the ν_1 fundamental band of N₂O under the assumption that the bond lengths of the monomers are unchanged upon complexation.

^{a)} Uncertainties were not given in the original paper.

^{b)} Angle between the NNO axis and R_{cm} , see figure for the definition.

Tang, J., McKellar, A.R.W.: J. Chem. Phys. **117** (2002) 8308.