

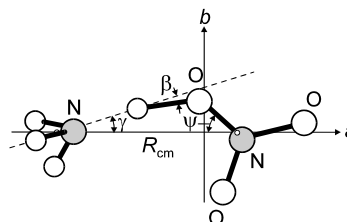
273
MW

 $\text{H}_4\text{N}_2\text{O}_3$
Nitric acid – ammonia (1/1)
(weakly bound complex)

 C_s
(effective symmetry class)
(large-amplitude motion)
 $\text{HNO}_3 \cdot \text{NH}_3$

| r_0 | \AA | θ_0 | deg |
|---------------------|------------------------|------------------------|-------|
| R_{cm} | 3.323(5) ^{a)} | β ^{c)} | -1(9) |
| N...H ^{b)} | 1.736(63) | ψ ^{c)} | 54(4) |
| N...N | 3.344(12) | γ ^{c)} | 21(3) |

The observed spectra are consistent with a hydrogen-bonded structure having a planar arrangement of the heavy atom frame and a linear or near-linear hydrogen bond involving the HNO_3 proton and the lone pair on the ammonia.



^{a)} Uncertainty was not estimated in the original paper.

^{b)} Hydrogen-bond distance between N atom of the ammonia and H atom of the HNO_3 .

^{c)} See figure for the definition.

Ott, M.E., Leopold, K.R.: J. Phys. Chem. A **103** (1999) 1322.