
The dipole moment for the ground state was also reported by Penn and Curl, these values were assumed for all vibrational modes.

The \( v \) quantum numbers assign the following: 0 is the ground state, 1 is \( \nu_{27} \), 2 is \( \nu_{26} \), 3 is \( \nu_{25} \), 4 is the overtone \( 2\nu_{27} \), 5 is the combination \( \nu_{26} + \nu_{27} \), and 6 is the combination \( \nu_{25} + \nu_{27} \). The labels and energies follow the work of M. V. Korolevich et. al, 1987, Z. Prikl. Spektrosk. 46, 620. Partition sums are explicitly calculated for the listed energy levels only and represent a partial rotation-vibration partition function that was calculated with rotational states included to \( J = 200 \) for accuracy.