

HIGH RESOLUTION ANALYSIS OF THE ν_6 , ν_7 , ν_8 AND ν_9 BANDS OF H^{15}NO_3

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The analysis of the ν_6 , ν_7 , ν_8 and ν_9 bands of H^{15}NO_3 located at 646.9641, 578.4719, 743.6166 and 458.2917 cm^{-1} respectively has been carried out in the 400-800 cm^{-1} region using high resolution Fourier transform spectra recorded at Ottawa. Using the ground state energy levels calculated from the $v=0$ rotational constants of H^{15}NO_3 ^a, it was possible to assign the A-type ν_6 and ν_7 bands and the C-type ν_8 and ν_9 bands of H^{15}NO_3 up to high J and K_a rotational quantum numbers. The $v_6=1$, $v_7=1$, $v_8=1$ and $v_9=1$ experimental energy levels were then introduced in a least squares fit calculation and precise upper state Hamiltonian constants (band centers and rotational constants) were determined allowing one to reproduce the infrared data to within the experimental uncertainty.

^aA.P.Cox, M.C.Ellis, C.J.Attfield and A.C.Ferris, *J. of Mol. Struct.* **320**, 91 (1994)