

A STUDY OF THE INTERMOLECULAR ν_5^1 VIBRATION IN OC-H³⁵Cl BASED ON NEAR INFRARED SPECTROSCOPY

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The near infrared $\nu_2+\nu_5^1$ combination bands of OC-H³⁵Cl and OC-H³⁷Cl have been recorded using a high frequency wavelength modulation diode laser supersonic jet spectrometer. In addition, the static gas phase spectra of the associated $\nu_2+\nu_5^1-\nu_5^1$ and $\nu_2+2\nu_5^1-2\nu_5^1$ hot bands in OC-H³⁵Cl have been recorded using Fourier transform infrared absorption spectroscopy. The combined results permit evaluation of rovibrational constants for the low frequency intermolecular bending vibration of the OC-H³⁵Cl isotopomer (in cm⁻¹): $\nu_5^1 = 48.9953(2)$; $B(\nu_5^1) = 0.0565731(6)$, $D_j\nu_5^1 = 1.906 \times 10^{-7}(6)$ and $q\nu_5^1 = 0.0001466(2)$.