

FT-IR Study of the Perpendicular Bands of 1,3,5-Triazine I:*

The ν_7 and ν_9 Bands of $^{12}\text{C}_3^{14}\text{N}_3\text{H}_3$, $^{13}\text{C}_3^{14}\text{N}_3\text{H}_3$, $^{12}\text{C}_3^{15}\text{N}_3\text{H}_3$ and the Difference Band $\nu_9-\nu_{14}$ of $^{12}\text{C}_3^{14}\text{N}_3\text{H}_3$

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Dedicated to Dr. Georges Graner on the occasion of his 65th birthday

The analysis of the high resolution FT-IR spectra of the perpendicular bands $\nu_7(E')$ at about 1550 cm^{-1} and $\nu_9(E')$ at about 1170 cm^{-1} of the isotopomers $^{12}\text{C}_3^{14}\text{N}_3\text{H}_3$, $^{13}\text{C}_3^{14}\text{N}_3\text{H}_3$, and $^{12}\text{C}_3^{15}\text{N}_3\text{H}_3$ is given. Both bands proved to be free from accidental resonances. The molecular constants of the state $\nu_7 = 1$ and $\nu_9 = 1$ of the isotopomers under consideration are listed. The weak difference band $\nu_9-\nu_{14}(E'' \rightarrow E')$ of $^{12}\text{C}_3^{14}\text{N}_3\text{H}_3$ was recorded and analyzed, using the molecular constants of $\nu_9 = 1$ [this work] and $\nu_{14} = 1$ [of 1995]. This analysis proves the quality of the molecular constants of the fundamental ν_{14} which is IR-inactive.

Key words: High Resolution FT-IR Spectroscopy; 1,3,5-Triazine, Perpendicular Band; Difference Band.

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