THE ν_2 BENDING VIBRATIONAL STRUCTURE OF THE $\tilde{X}\ ^2\Sigma^+$ STATE OF MgNC

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We have generated MgNC in supersonic free jet expansions, and observed the laser induced fluorescence (LIF) of the $\tilde{A}\ ^2\Pi$ – $\tilde{X}\ ^2\Sigma^+$ transition. We measured the LIF dispersed fluorescence spectra from the single vibronic levels (SVL) on the Mg-N-C bending (ν_2) mode in the upper $\tilde{A}\ ^2\Pi$ state. On the basis of the vibronic structures in the SVL dispersed spectra, we discuss the vibrational structure of the ground $\tilde{X}\ ^2\Sigma^+$ state of MgNC and the potential surface of the isomerization reaction, MgNC $\leftrightarrow$ MgCN.