HIGH RESOLUTION LIF SPECTROSCOPY OF THE MgNC RADICAL.

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High resolution, rotationally resolved, laser induced fluorescence spectra for the origin band as well as several transitions involving vibrationally excited levels of MgNC have been recorded. MgNC free radicals were generated in a supersonic free jet expansion by simultaneous laser ablation of magnesium and photolysis of acetonitrile. The radicals were probed by a pulse-amplified Ti:Sapphire ring dye laser. Rotational analysis yields both the ground and excited state molecular constants for the studied vibronic transitions. The ground state rotational constants are in good agreement with previous microwave studies of MgNC, which gives additional support for the identification of the carrier of the spectra. Vibronic assignments of these bands, which are consistent with the rotational analysis, will be discussed.

Time required: 15 min
Session in which paper is recomended for presentation: 2
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