

VIBRATIONAL SPECTROSCOPY OF THE OCCN RADICAL THROUGH TIME RESOLVED FOURIER TRANSFORM INFRARED EMISSION SPECTROSCOPY

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The CN stretch of the OCCN radical was observed for the first time at 2093 cm^{-1} . The method of detection was by nanosecond Fourier-transform infrared emission spectroscopy. The radical was produced through UV photodissociation ($\lambda=193\text{ nm}$) of carbonyl cyanide, $\text{CO}(\text{CN})_2$ and pivaloyl cyanide, $\text{CO}(\text{CN})(\text{CH}_3)_3$ which leaves the radical with sufficient internal excitation. Infrared and near-infrared emission from all vibrationally excited species was detected. Pressure dependence, rotational band contour analysis and *ab initio* calculations all aided in assignment.