LASER INDUCED FLUORESCENCE AND LIFETIME MEASUREMENTS OF ORGANIC RADICALS

S.A. WILLIAMS, E. ZINGHER, and J.C. WEISSHAAR, *Department of Chemistry, University of Wisconsin - Madison, Madison, WI 53706*.

Different isomers of vinoxy radical were produced in a pulsed supersonic expansion by excimer laser photolysis at 193 nm. The $\tilde{B}$ to $\tilde{X}$ electronic transitions were probed by laser induced fluorescence. The spectra are complicated. We find as many as 30 bands over a 2700 cm^{-1} interval. We have measured fluorescence lifetimes of many of these bands. The lifetimes decrease slowly toward higher energies to as short as 25 ns and then the bands abruptly end. Comparisons with *ab initio* work will be discussed.