

JET-COOLED VIBRONIC SPECTROSCOPY OF VARIOUS ALKOXY RADICALS

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Recently we have obtained vibronically resolved spectra of some moderately large alkoxy radicals, including 1-propoxy, isopropoxy, 1-butoxy, 2-butoxy, and *t*-butoxy. The species were produced in the jet by XeF photolysis of the appropriate alkyl nitrite. This work represents the first jet-cooled spectra of the butoxy species; previous excitation spectra of the larger alkoxy species have been limited to only a couple of flow cell experiments.^{a,b} A parallel effort has generated good quality *ab initio* calculations for the alkoxy radicals to aid in the spectral analyses. The vibronic structure and analysis will be discussed including comparisons with the previous cell experiments. The present experiments are preliminary to ones that will obtain higher resolution, rotationally resolved spectra.

^aWang C.; Shemesh L. G.; Deng W.; Lilien M. D.; and Dibble T. S., *J. Phys. Chem. A*, **1999**, *103*, 8207.

^bMund C.; Fockenberg C.; and Zellner R.; *Ber. Bunsen-Ges.*, **1998**, *102*, 709.