HIGH RESOLUTION ROTATIONALLY RESOLVED SPECTROSCOPY OF THE 1-PROPOXY AND 1-BUTOXY RADICALS

SANDHYA GOPALAKRISHNAN, VADIM STAKHURSKY, LILY ZU, TERRY A. MILLER, *The Ohio State University, Dept. of Chemistry, Laser Spectroscopy Facility, 120 W. 18th Avenue, Columbus, Ohio 43210*.

We have obtained and analysed rotationally resolved jet-cooled laser induced fluorescence spectra of the $\tilde{B} \leftarrow \tilde{X}$ transition of all the prominent bands that were observed previously in moderate resolution survey excitation spectra of 1-propoxy and 1-butoxy. The rotational analysis confirms the presence in the jet of two conformers for 1-propoxy and three of the possible five for 1-butoxy. We have performed $ab\ initio$ calculations to predict rotational constants for all of these conformers and have used these to guide us in assigning the spectra to the appropriate conformers. The rotational analysis and the light it sheds upon the structure of these conformers will be presented.