

ELECTRONIC PHOTODISSOCIATION SPECTROSCOPY OF COLD NITROPHENOLATE IONS. PART I. ORTHO- AND PARA-NITROPHENOLATE

WYATT ZAGOREC-MARKS, *JILA and the Department of Chemistry and Biochemistry, University of Colorado-Boulder, Boulder, CO, USA*; LEAH G DODSON, *JILA and NIST, University of Colorado, Boulder, CO, USA*; J. MATHIAS WEBER, *JILA and the Department of Chemistry and Biochemistry, University of Colorado-Boulder, Boulder, CO, USA*.

Isomers of nitrophenolate can serve as models for fluorophores commonly found in fluorescent proteins. Here we report electronic spectra for mass-selected 2- and 4-nitrophenolate ions prepared in a cryogenic ion trap, measured by photodissociation spectroscopy. The features in the spectra remain broad with no resolvable vibrational structure down to 25 K. We discuss the width of the experimental spectral features in the framework of excited state lifetime and spectral congestion, based on time-dependent density functional theory calculations.