DETERMINATION OF THE DISSOCIATION ENERGY OF HYPOCHLOROUS ACID

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Through the use of double resonance overtone photofragment spectroscopy we obtain rotationally-resolved spectra of vibrational levels lying above the dissociation energy. We present results for the fifth and sixth overtone ($6\nu_1$ and $7\nu_1$) of the OH stretch vibration on the ground electronic state of HOCl. These spectra allow a precise measurement of the dissociation threshold as well as the determination of rotational constants for these previously unobserved vibrational levels. Spectroscopically determined OH product state distributions from single rovibrational states of the parent molecule provide information on the rovibrational dynamics of the dissociation.