

## PROBING SOLVATION EFFECTS OF $\text{IBr}^-(\text{CO}_2)_n$ BY PHOTOELECTRON SPECTROSCOPY

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We report photoelectron spectra of  $\text{IBr}^-(\text{CO}_2)_n$  to understand the changes in  $\text{IBr}^-$  structure due to clustering. These experiments utilize anion photoelectron spectroscopy combined with velocity map imaging (VMI) to obtain photoelectron energy and angular distributions. Photodetachment of  $\text{IBr}^-(X^2\Sigma^+)$  with 300 nm radiation accesses three neutral states of IBr: the ground state ( $X^1\Sigma^+$ ) and the next two excited states ( $^3\Pi_2$  and  $^3\Pi_1$ ). Known excitation energies between the neutral states allow a direct calculation of the EA of IBr, 2.53 eV. Observed vibrational progressions resulting from transitions to the excited  $3\Pi$  states of IBr lead to equilibrium distances. Current experiments on  $\text{IBr}^-(\text{CO}_2)_n$  will be compared to that of the bare anion to understand changes in the structure of the cluster with additional  $\text{CO}_2$  molecules.