PHOTOELECTRON AND INFRARED SPECTRA OF $(H_2O)_n^-$ CLUSTERS: NEW ISOMERS AND THE SPECTRAL IDENTIFICATION OF ELECTRON BINDING MOTIFS

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We present infrared and photoelectron spectra of the argon-solvated water hexamer and heptamer anions. The photoelectron spectra of both species are dominated by two prevalent isomer classes, I and II. However, the heptamer develops a new, high-binding isomer class when more than seven argon atoms are attached. We also present recently obtained HOH bending spectra of large, warm water cluster anions, and find a prominent transition corresponding to a double-acceptor (AA) water molecule. This suggests the presence of the AA binding motif in isomer I into the large size regime.