INFRARED SPECTROSCOPY OF THE HYDRATED SULFATE DIANION

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Infrared spectra of size-selected sulfate dianaions hydrated with 3-24 water molecules will be presented and compared to results from electronic structure calculations. The spectra were obtained using the Free Electron Laser for Infrared eXperiments (FELIX). The spectra show evidence for novel hydrogen-bonding motifs not present in singly-charged anion water clusters. The theoretical results show multiple low-lying structures for many of these ions, and comparison with experiment shows which structures are dominant.