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Photoelectron spectroscopy of solvated electrons in liquid tetrahydrofuran and methanol microjets ALEXANDER SHREVE, University of California, Berkeley — Solvated electrons are an important species in radiation chemistry, biology, and other areas. As the simplest quantum solute, solvated electrons are a critical benchmark to test our understanding of solvation in general. Furthermore, when formed in cells, they are highly reactive and may lead to irreversible damage. It is, therefore, important to understand the energetics associated with electron solvation. To this end, we have undertaken a series of studies directly probe electron vertical binding energies (VBEs) in solvents introduced to vacuum through liquid microjets. Solvated electrons are generated following the excitation of the charge-transfer-to-solvent (CTTS) precursor state of iodide from a millimolar concentration salt included in the solution, detached to vacuum, and measured with our field-free time-of-flight spectrometer. Here we present preliminary results of the measurement of the VBE of electrons solvated in bulk tetrahydrofuran and methanol.

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