VIBRATIONAL AUTODETACHMENT FROM WEAKLY BOUND ANIONS

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Vibrational excitation in anions with low electron binding energies can lead to the loss of the excess electron via intramolecular vibrational relaxation and coupling to the electron emission continuum. In our investigation, we chose systems that have binding energies below typical transition energies for CH stretching fundamentals in hydrocarbon molecules. We present data on various negative ions showing that this technique is a valid approach to the vibrational spectroscopy of such systems even up to relatively large molecules, and how it can be used to investigate new aspects of intramolecular vibrational relaxation.