USING DIFFERENTIAL ION MOBILITY AS A CONFORMATIONAL FILTER TO SIMPLIFY SPECTRA OF BIOMOLECULAR IONS

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As one pushes spectroscopic studies to biological molecules of increasing size, the presence of multiple stable conformers with slightly different spectra can become a major source of spectral congestion. In such cases, the use of non-spectroscopic methods to separate different conformers could greatly simplify the electronic and vibrational spectra of large, flexible species.
This talk will give an update on our work using Field Asymmetric Ion Mobility Spectrometry (FAIMS) as a conformational filter for biomolecular ions produced in the gas phase by electrospray. After conformational preselection by FAIMS, the ions are injected into a cold, 22-pole ion trap where their electronic spectrum reveals the remaining degree of conformational heterogeneity. We will present our most recent results using the nonapeptide bradykinin.