

Supplementary Information

Electrothermal Supercharging of Proteins in Native MS: Effects of Protein Isoelectric Point,
Buffer, and nanoESI-Emitter Tip Size

Daniel N. Mortensen and Evan R. Williams*

Department of Chemistry, University of California, Berkeley, California 94720-1460

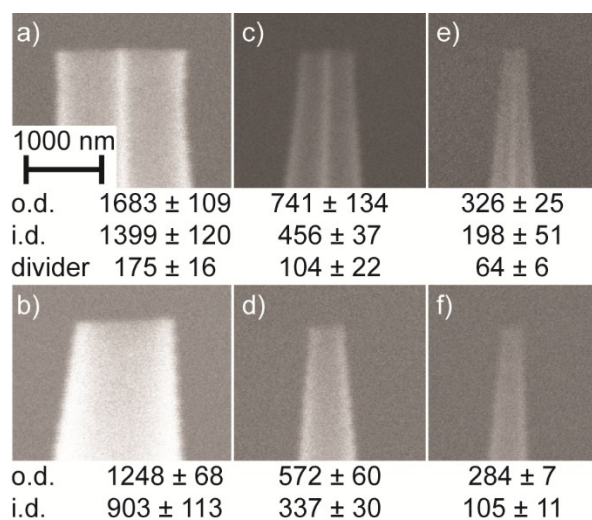


Figure S-1. Electron micrographs of the tips of the theta-glass emitters with average outer diameters of (a,b) 1465 ± 134 , (c,d) 656 ± 131 , and (e,f) 305 ± 32 nm with the inner divider perpendicular to and parallel to the sample stand in the upper and lower panels, respectively.

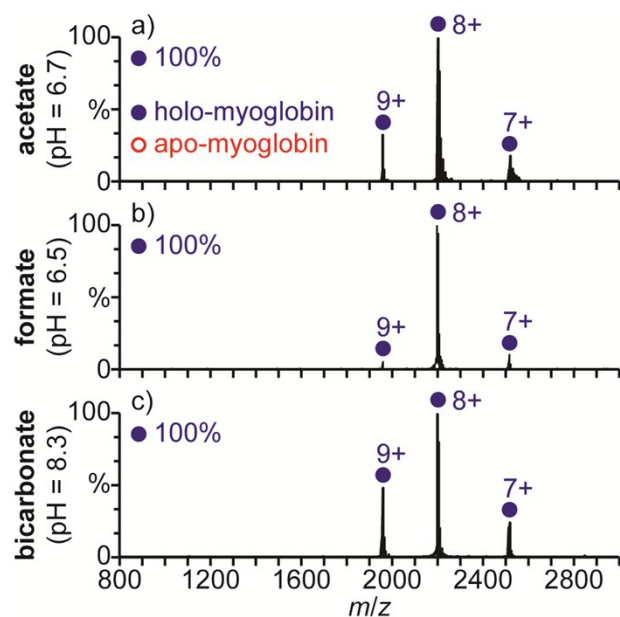


Figure S-2. Mass spectra of hMb ($pI = 7.4$) under native MS conditions (700 V spray potential) in aqueous solutions containing 100 mM (a) ammonium acetate ($pH = 6.7$), (b) ammonium formate ($pH = 6.5$), and (c) ammonium bicarbonate ($pH = 8.3$) acquired with ~ 1465 nm o.d. tips.

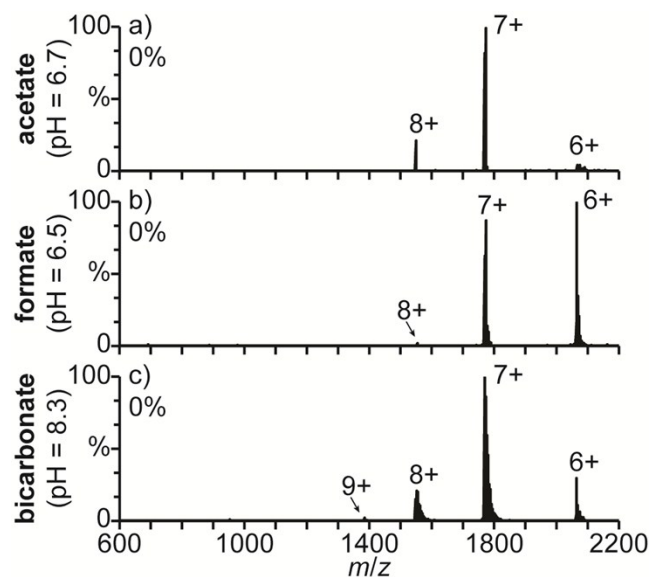


Figure S-3. Mass spectra of cyt *c* ($pI = 10.3$) under native MS conditions (700 V spray potential) in aqueous solutions containing 100 mM (a) ammonium acetate (pH = 6.7), (b) ammonium formate (pH = 6.5), and (c) ammonium bicarbonate (pH = 8.3) acquired with ~ 1465 nm o.d. tips. Percentages are the relative abundances of the unfolded fractions ($\geq 10+$ charge states) of cyt *c*.

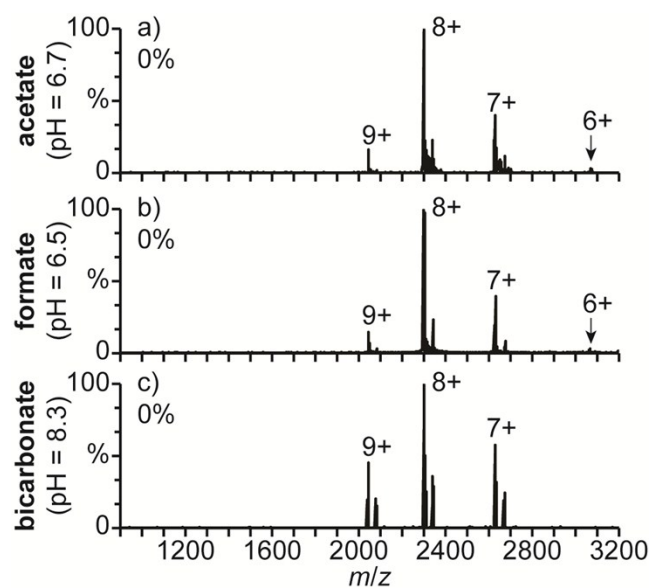


Figure S-4. Mass spectra of β -lac A ($pI = 5.1$) under native MS conditions (700 V spray potential) in aqueous solutions containing 100 mM (a) ammonium acetate ($pH = 6.7$), (b) ammonium formate ($pH = 6.5$), and (c) ammonium bicarbonate ($pH = 8.3$) acquired with ~ 1465 nm o.d. tips. Percentages are the relative abundances of the unfolded fractions ($\geq 10+$ charge states) of β -lac A.