

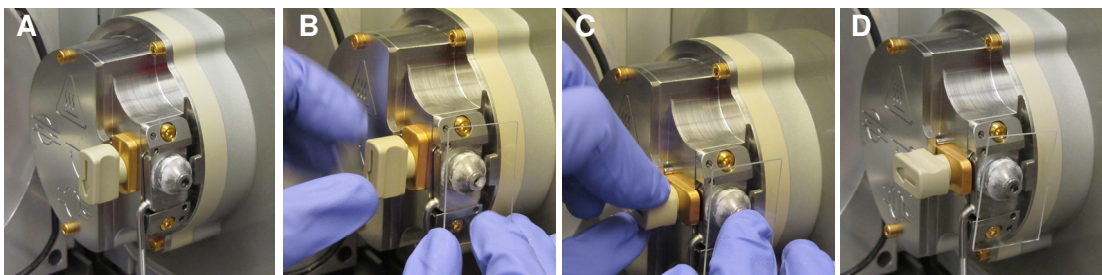
Supplemental Information:

**Matrix Assisted Ionization *Vacuum*, a New Ionization Method for
Biological Materials Analysis using Mass Spectrometry**

Ellen D. Inutan and Sarah Trimpin

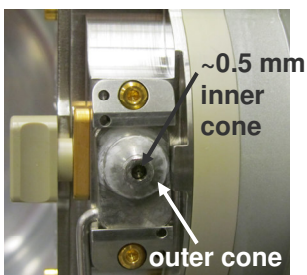
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I. Typical operation

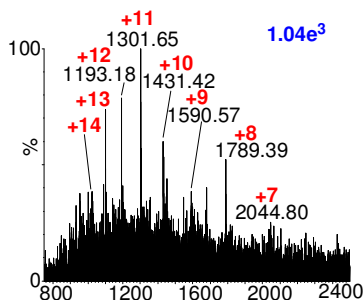


II. Source block

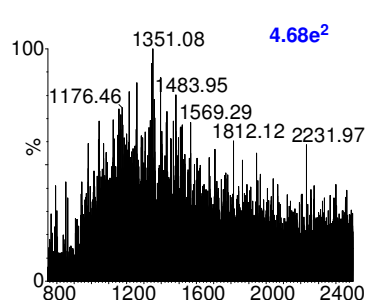
A. Small inner cone ID



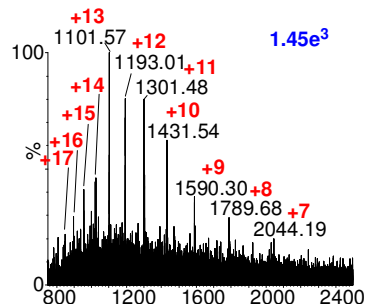
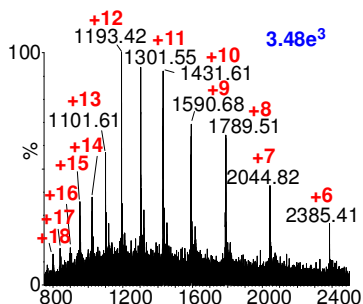
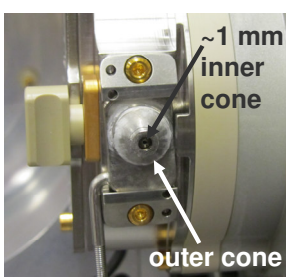
III. Source Temperature at 50 °C



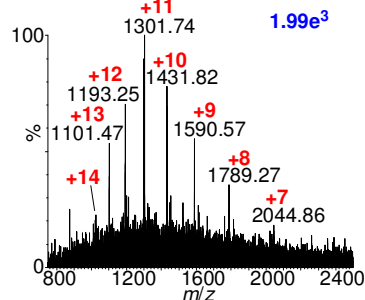
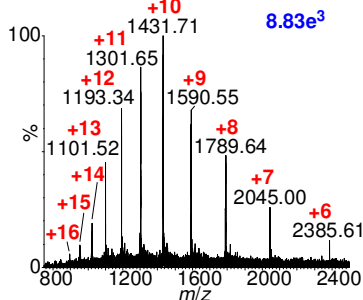
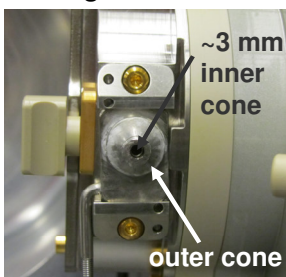
IV. Source Temperature at 80 °C



B. Medium inner cone ID



C. Large inner cone ID



Supplemental Figure S1. (I) Photographs of typical operation of MAIV on the ESI source: (A) vacuum valve closed, (B) glass on, (C) vacuum valve open, (D) matrix:analyte sample enters readily mass spectrometer by vacuum forces. This custom designed MAIV source operating from atmospheric pressure conditions is a means of rapid sample introduction to the vacuum of the mass spectrometer. (II) MAIV-MS of lysozyme (MW ~14.3 kDa) in 25 mM ammonium acetate buffer in 10% MeOH on the ESI source of SYNAPT G2 using (I) a modified skimmer cone with wider outer cone (~4.5 mm ID) and inner cone of (A) ~0.5 mm, (B) ~1 mm, (C) ~3 mm ID using 3-NBN in 50:50 ACN:water with 0.1% FA acquired with a source temperature of (II) 50 °C and (II) 80 °C. Red numbers indicate the charge state and blue numbers indicate the ion abundance.