

Supplementary Information

**Stable and reproducible nano-electrospray ionization of aqueous
solutions and untreated biological samples using ion current limitation
combined with polarity reversing**

Md. Matiur Rahman*¹ and Konstantin Chingin¹

*¹Jiangxi Key Laboratory for Mass Spectrometry and Instrumentation, East China
University of Technology, Nanchang 330013 People's Republic of China*

*Corresponding Author:

Dr. Md. Matiur Rahman

Jiangxi Key Laboratory for Mass Spectrometry and Instrumentation,

East China University of Technology,

Nanchang 330013, People's Republic of China

Email: matiurrahmanbot@yahoo.com, matiurrahman@ecit.cn

Phone: +86-13177870051.

Keywords: pulled glass capillaries, corona discharge, tip clogging, salt removal, direct analysis, biological samples

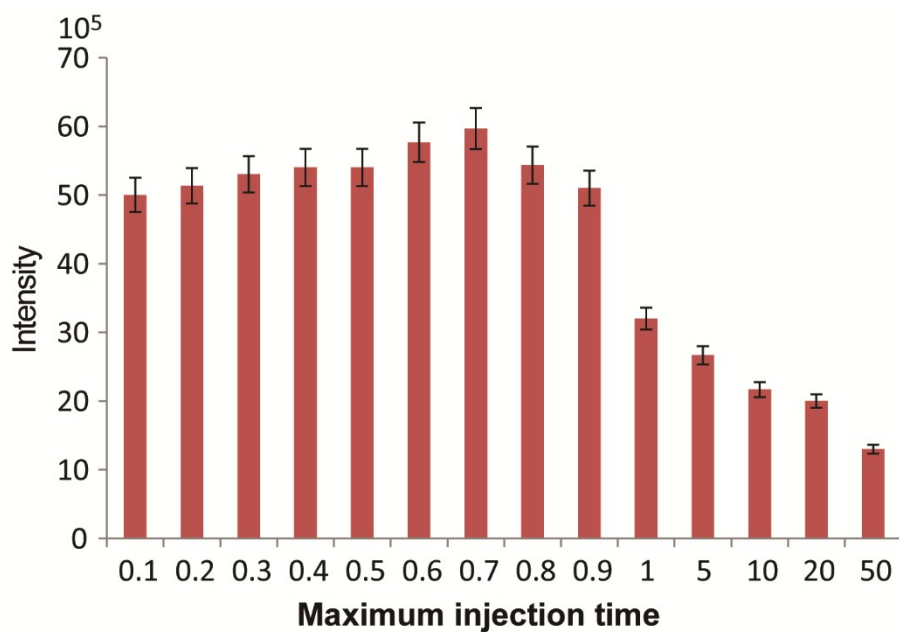


Figure S1. The effect of LTQ ion injection time on the total ion signal intensity for PR-R-nESI-MS of cytochrome c (120 $\mu\text{g}/\text{mL}$) in 0.1% formic acid in the m/z range 50-2000.

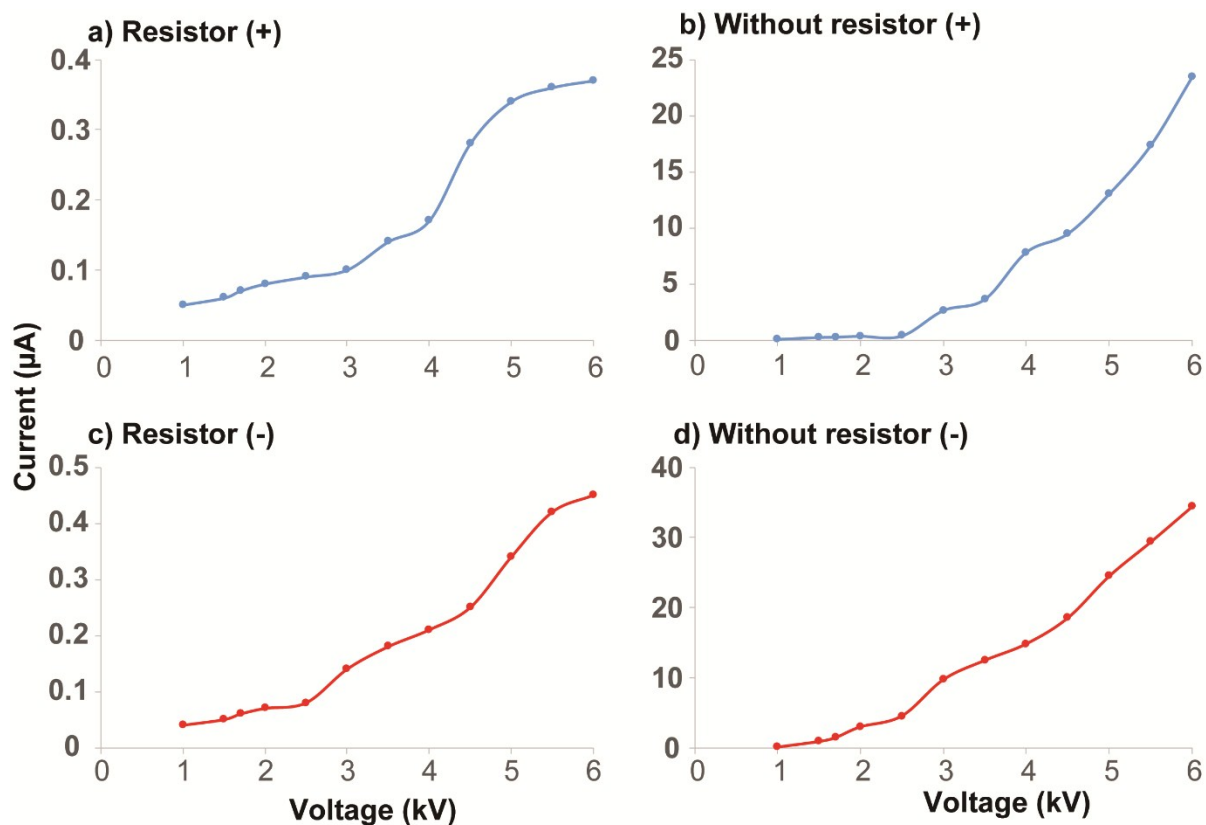


Figure S2. nESI current vs. applied voltage during the analysis of cytochrome c (120 μg/mL) in 0.1 % formic acid aqueous solution both in positive (a& b) and (c&d) negative ion mode without and with the use of 10 GΩ resistor in series with high voltage power supply.

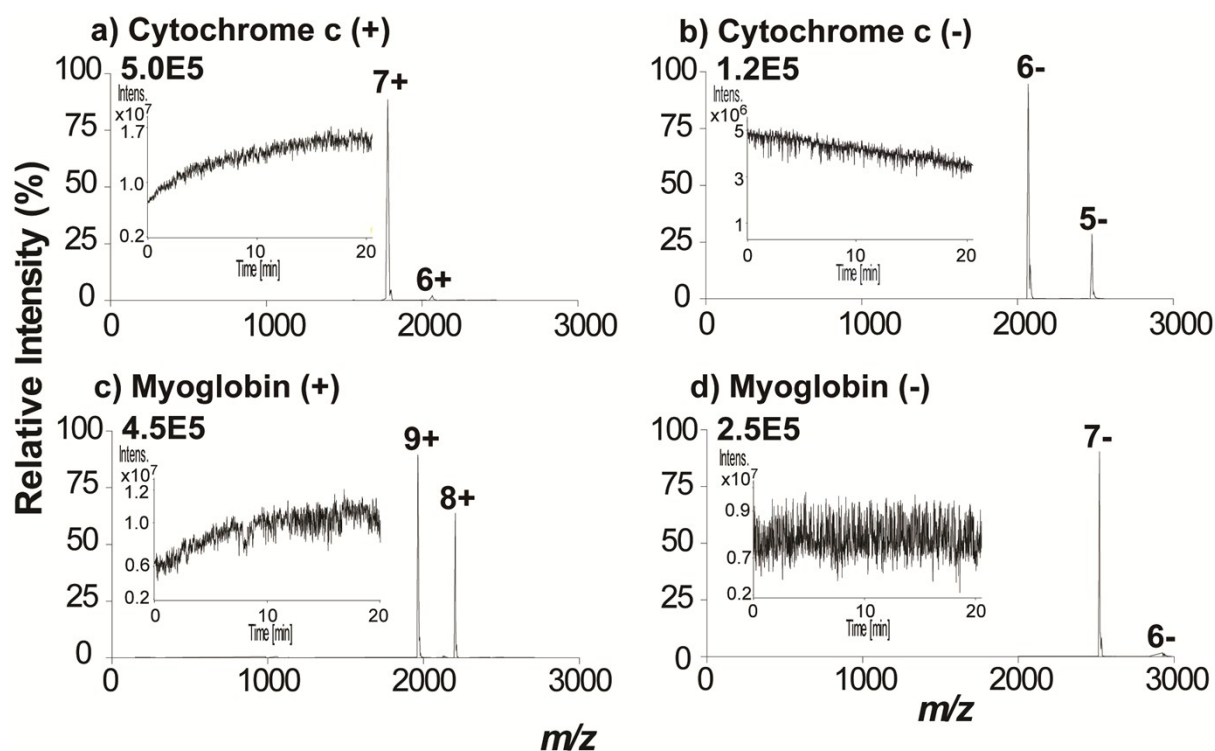


Figure S3. Positive and negative ion mode mass spectra of native proteins by PR-R-nESI-MS using a pulled glass capillary as nESI emitter: cytochrome c (120 $\mu\text{g/mL}$) (a, b), and myoglobin (167 $\mu\text{g/mL}$) (c, d), both in 100 mM NH_4Ac aqueous solution. A 1 μL sample solution has been used for the analysis of nanospray stability. The experimental parameters (high voltage and the distance of two electrodes) for nanospray has been maintained as discussed in the experimental section.