Supporting Information for:

Experimental Evaluation and Optimization of Structures for Lossless Ion Manipulations for Ion Mobility Spectrometry/Time-of-Flight Mass Spectrometry

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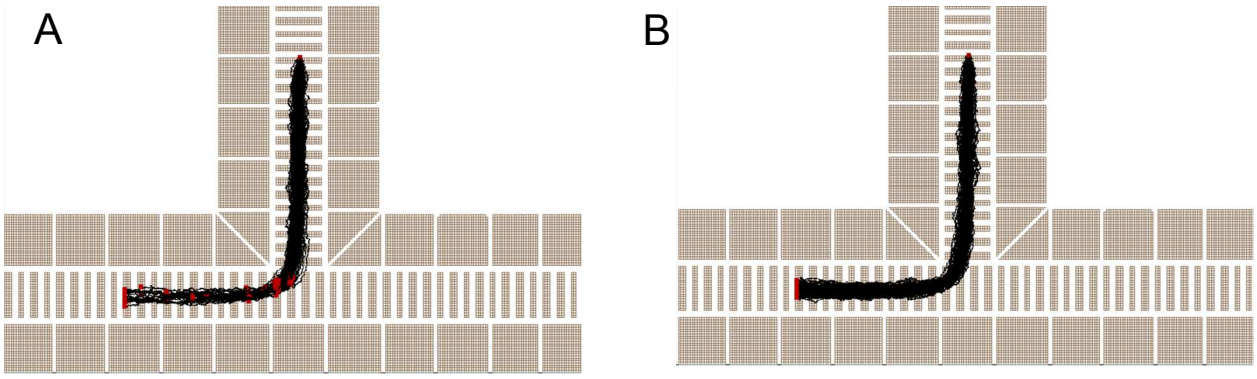
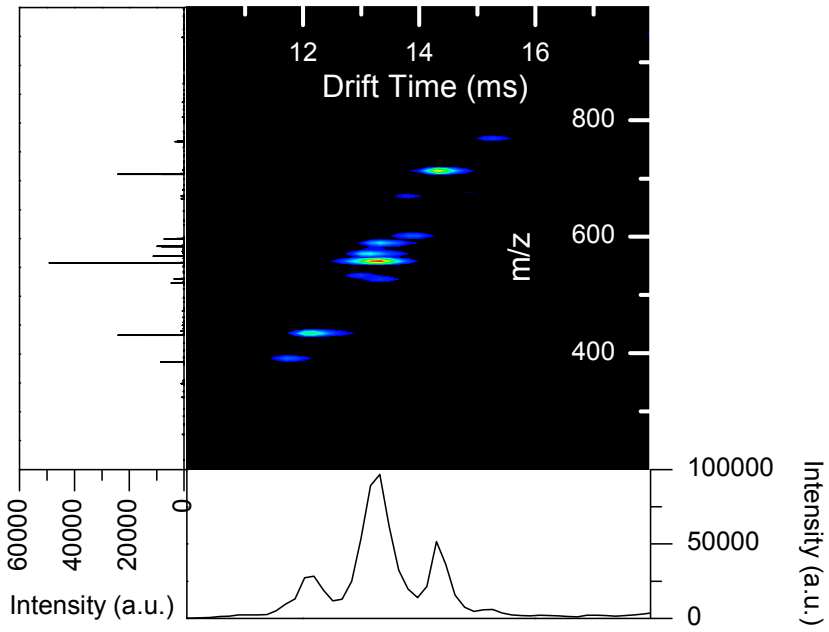
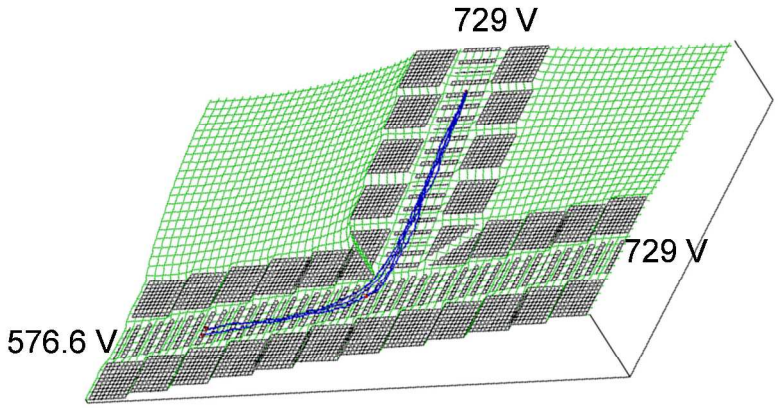
Abstract. The supporting information includes three figures to help illuminate certain points in the text. The first figure illustrates ion trajectories through the turn as a function of confining RF amplitude (S3). Supplemental Figure 2 gives an example IMS separation of an equimolar mixture of 9 peptides (S4). Supplemental Figure 3 is a graphic that depicts the DC potentials applied in the turning region (S5).



Supplemental Figure 1. SIMION ion trajectory simulation of *m/z* 922 ions through the turning region with RF amplitude of (a) 160 $V_{p\text{-}p}$ and (b) 320 $V_{p\text{-}p}$. The dots represent where ions collide with electrodes.



Supplemental Figure 2. Example nested IMS/MS spectrum of 9 peptide mix from the linear only SLIM module. Gate opening time was 486 μs with an electric field of 20 V/cm and confining RF of 750 kHz, 220 V_{p-p} and guard DC bias of 5 V.



Supplemental Figure 3. SIMION calculation of the DC potentials for the turn, where height from the surface of the page represents the magnitude of the DC voltages. Voltages used for a drift field of 20 V/cm are shown.