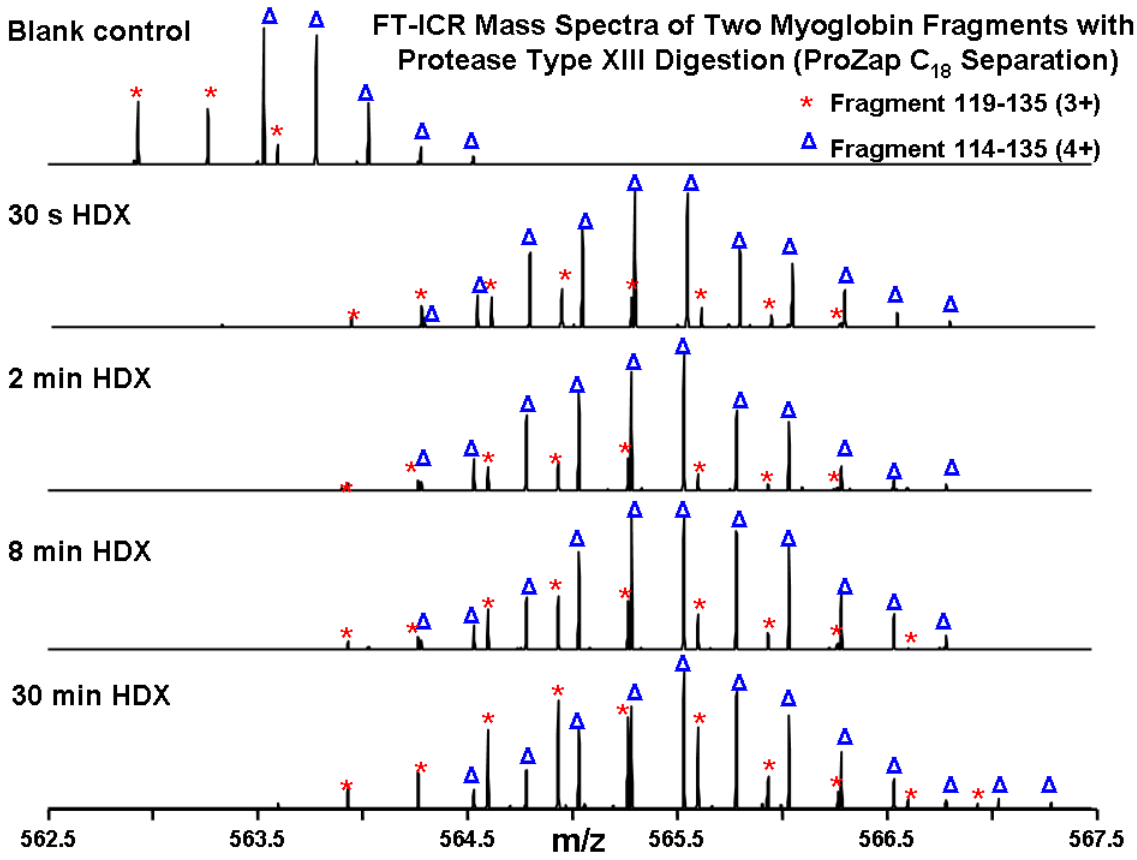

Supplemental Figure 1. Micro-ESI FT-ICR mass spectra of myoglobin fragments 119-135 (*, 3+ charge state, monoisotopic m/z 562.935) and 114-135 (Δ, 4+ charge state, monoisotopic m/z 563.538). Those fragments were generated by protease type XIII digestion and LC separation with a ProZap C_{18} column. Their isotopic distributions overlap after certain periods of deuterium incubation. High-resolution FT-ICR MS detection, combined with our data analysis algorithm, enables accurate assignment of the fragments and accurate calculation of deuterium incorporation for each fragment.