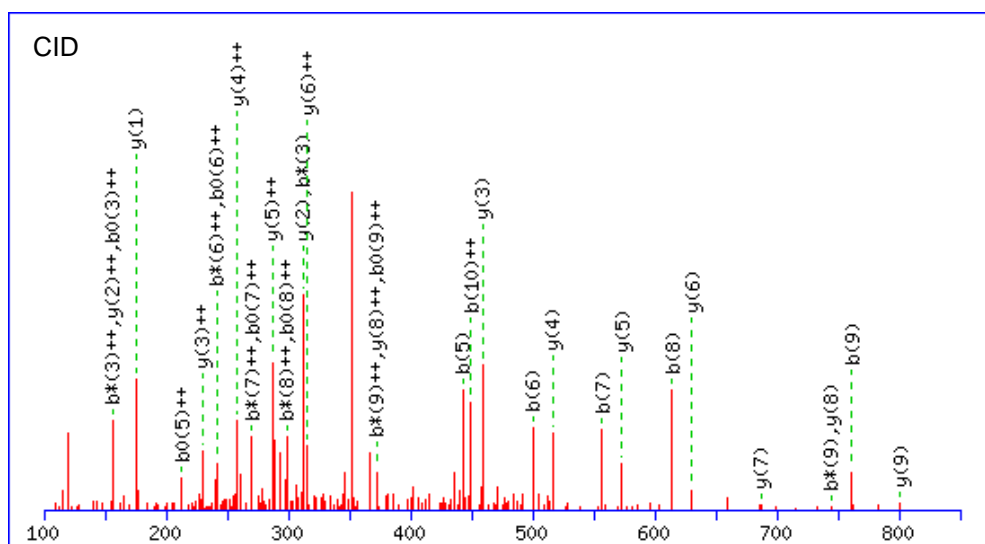


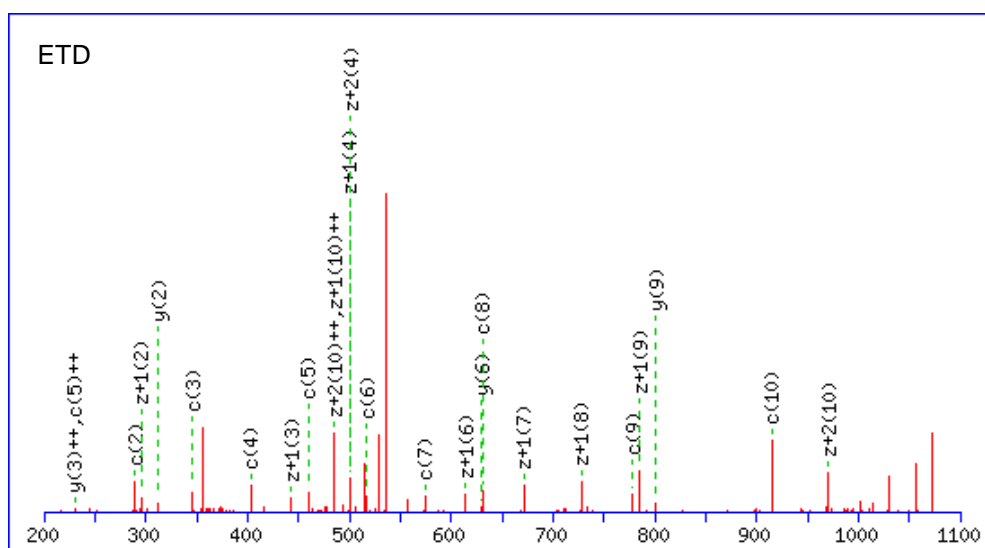
# Supplementary Material

## MS spectra of all SFPQ modifications

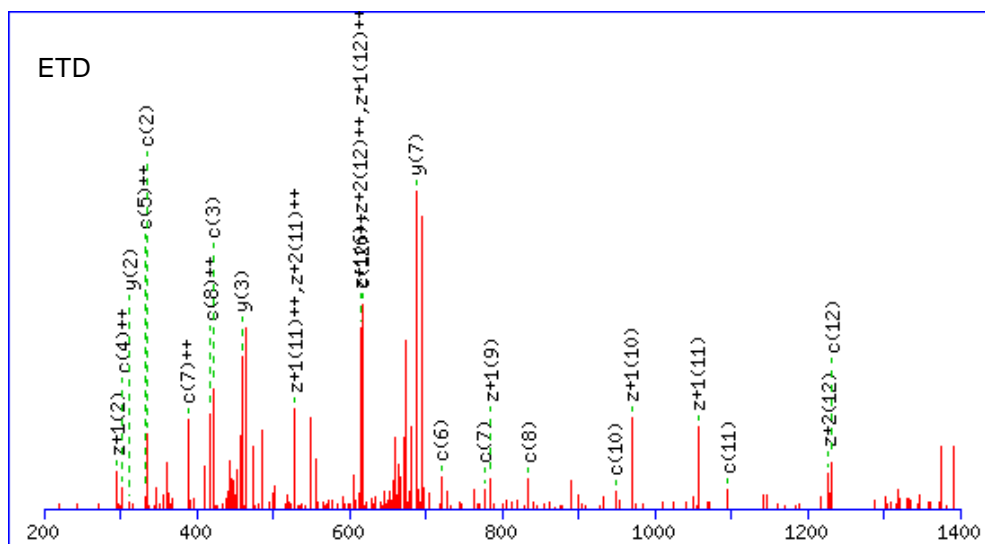
### S(dimeR)GGGGGGFHR



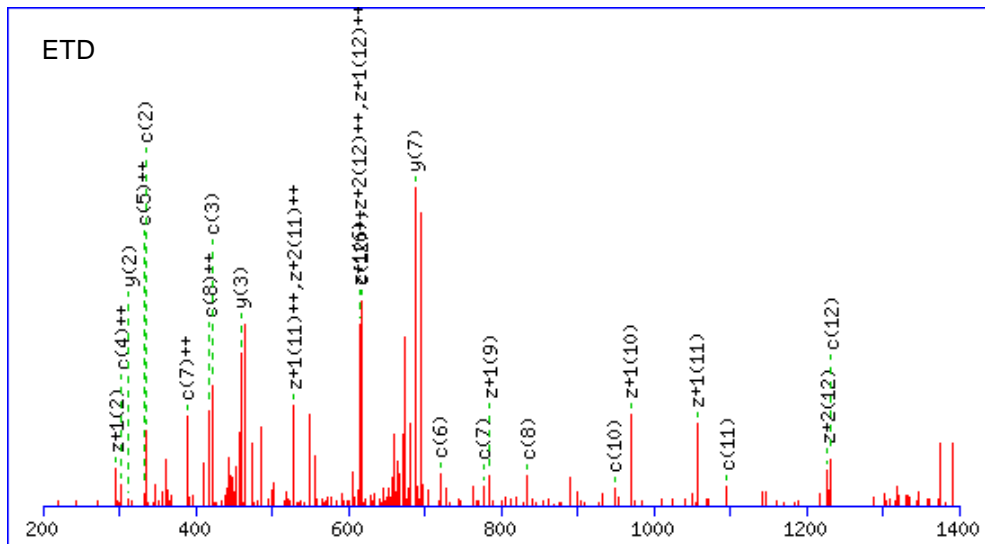
### S(dimeR)GGGGGGFHR



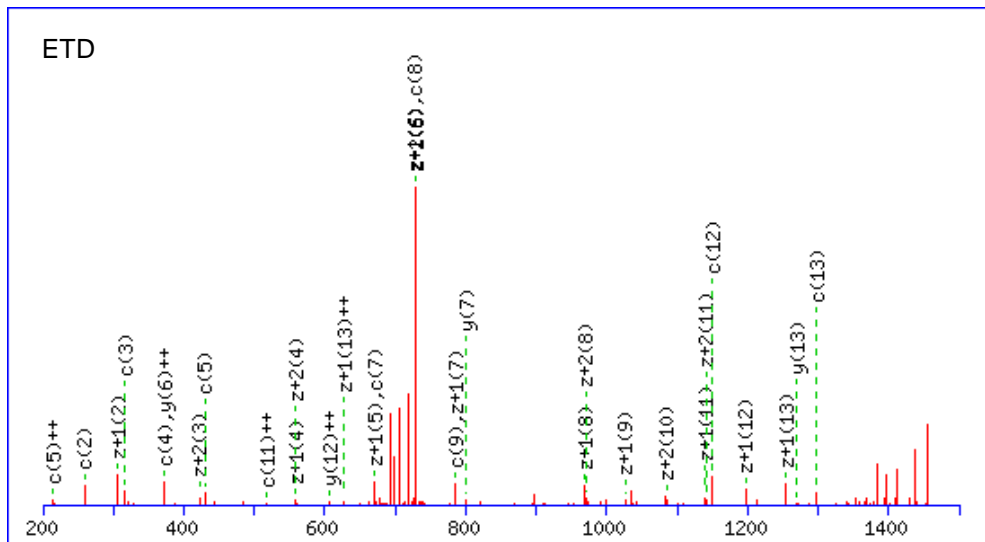
### F(dimeR)S(dimeR)GGGGGGFHR



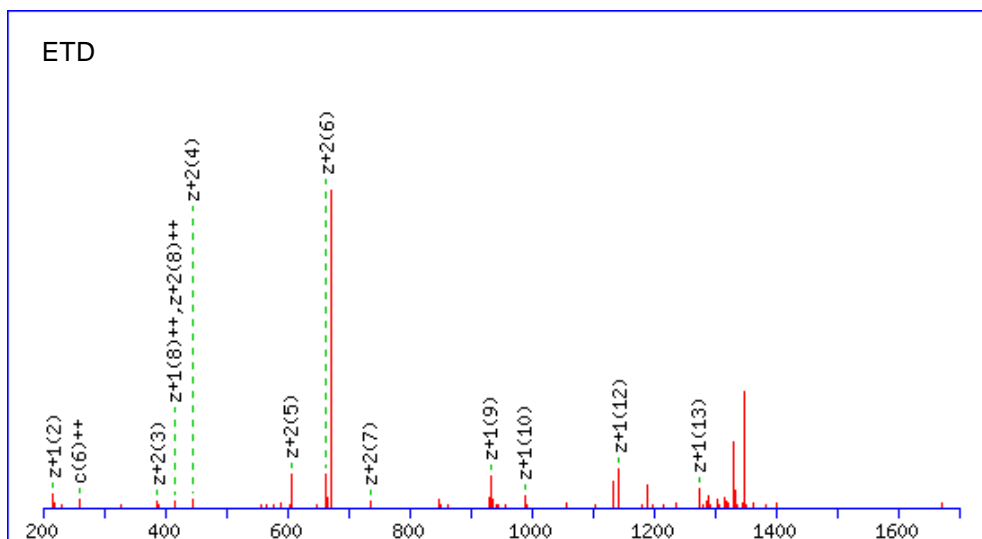
F(dimerR)S(dimerR)GGGGGFH(meR)



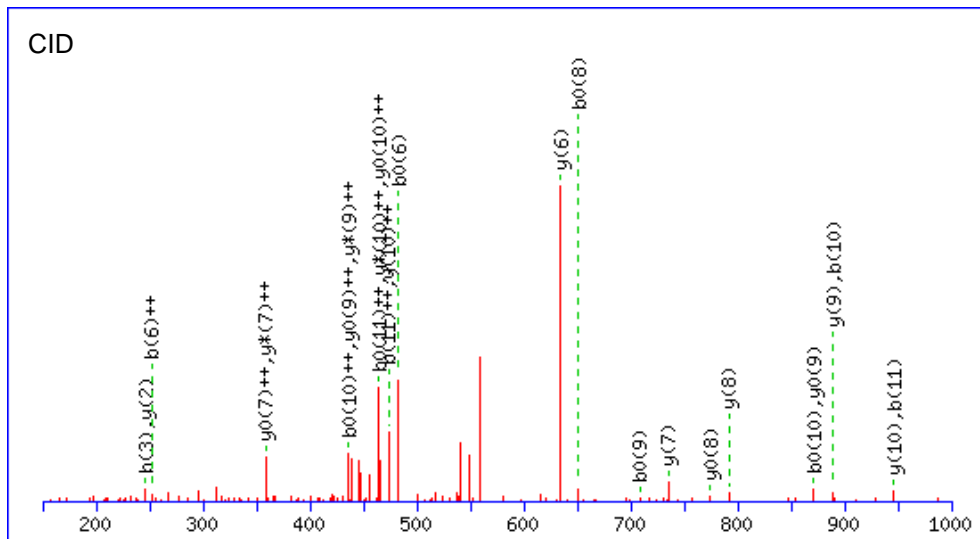
(Rdime)GGGGG(dimerR)GGLHDFR



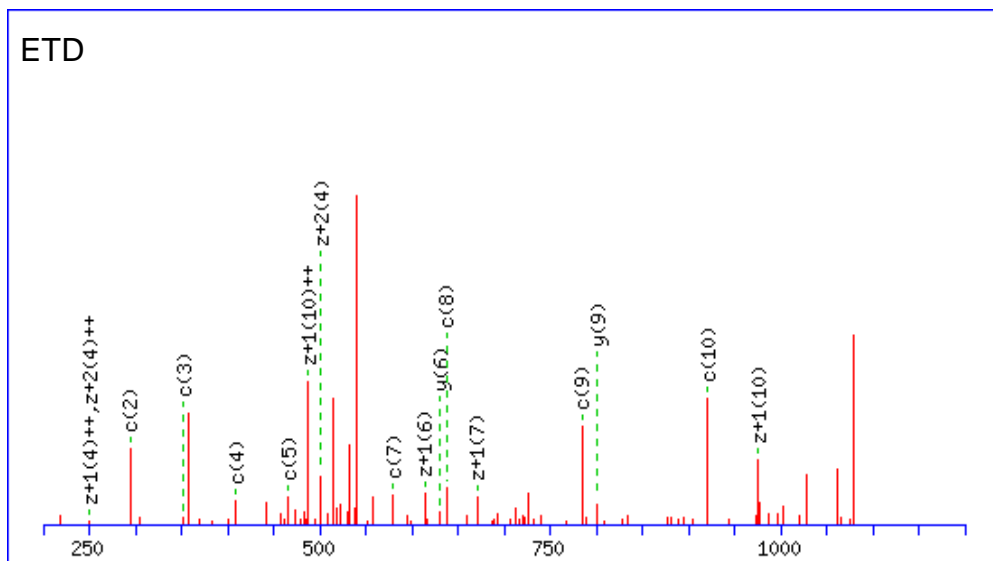
GMGPGTPAGYG(meR)GR



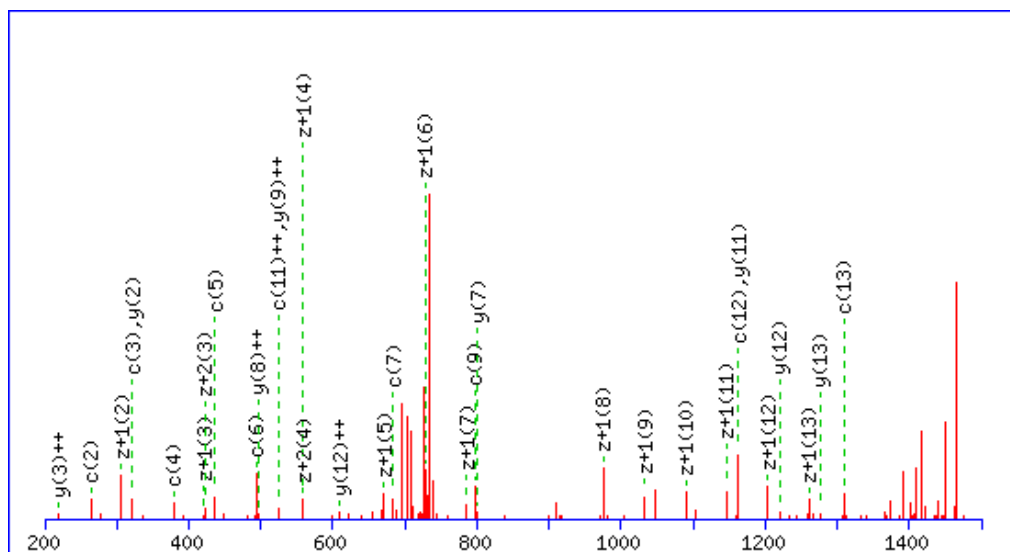
### GMGPGTPAGYG(meR)



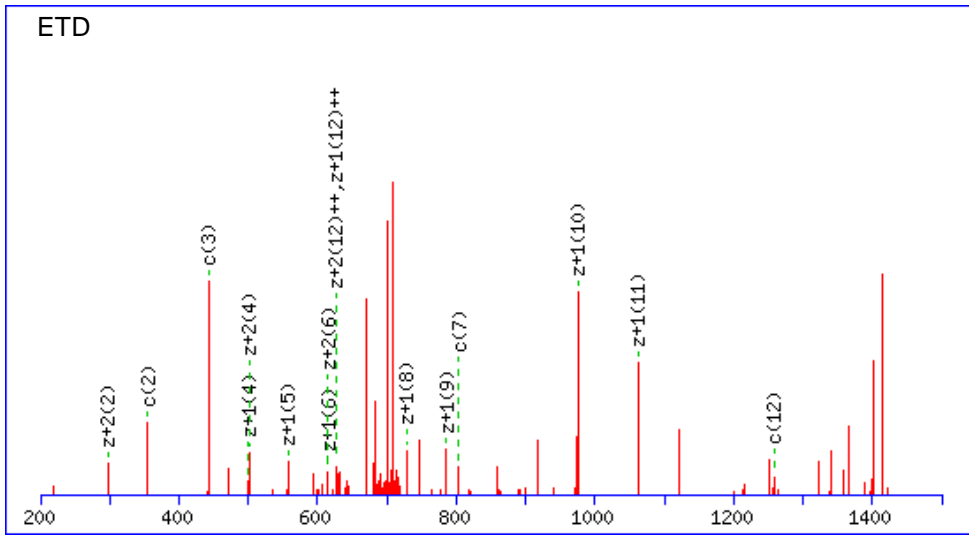
### S(heavy dimerR)GGGGGGFHR



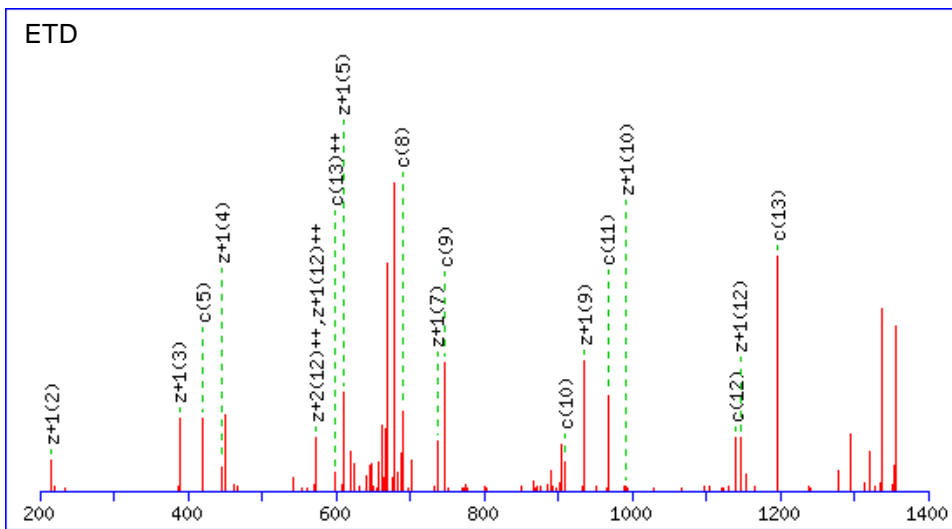
### (heavy dimerR)GGGGG(heavy dimerR)GGLHDFR



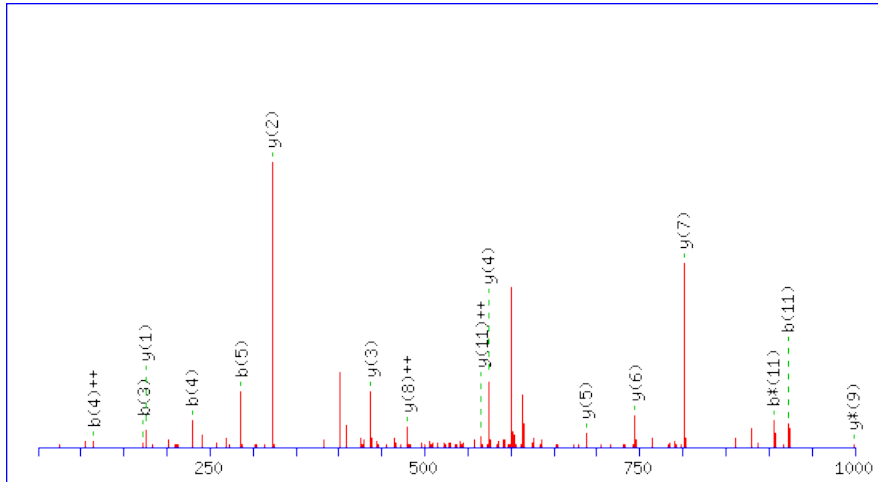
F(heavy dimeR)S(heavy dimeR)GGGGGGFHR



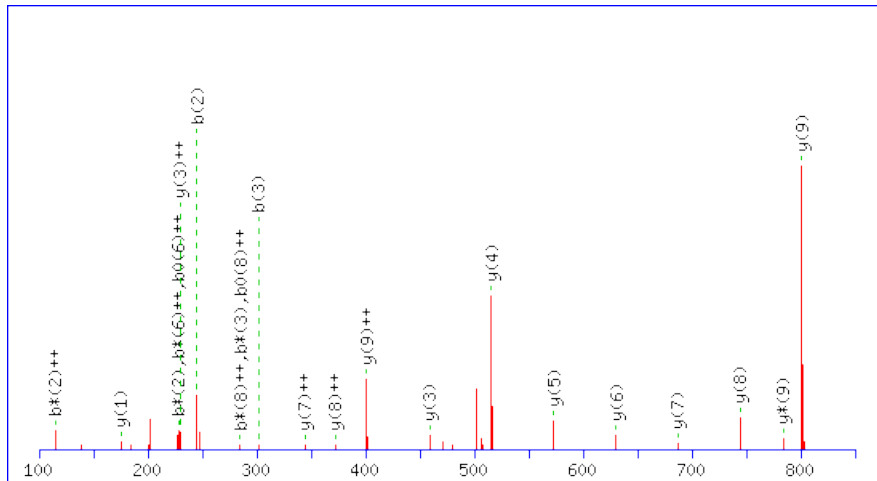
GMGPGTPAGYG(heavy meR)GR

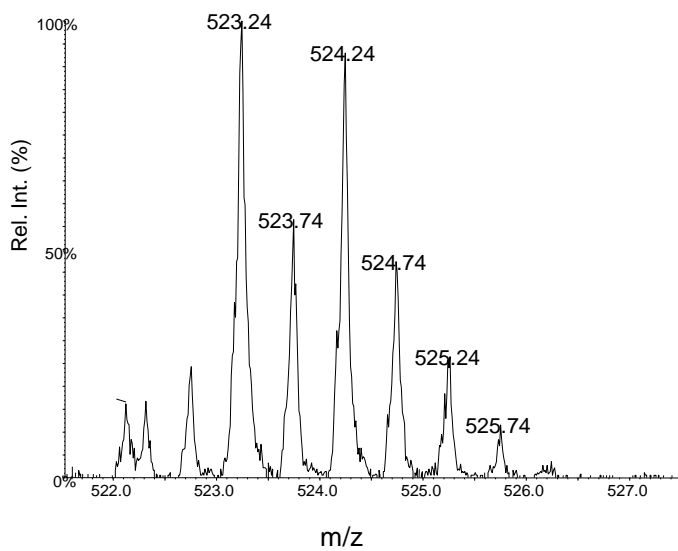
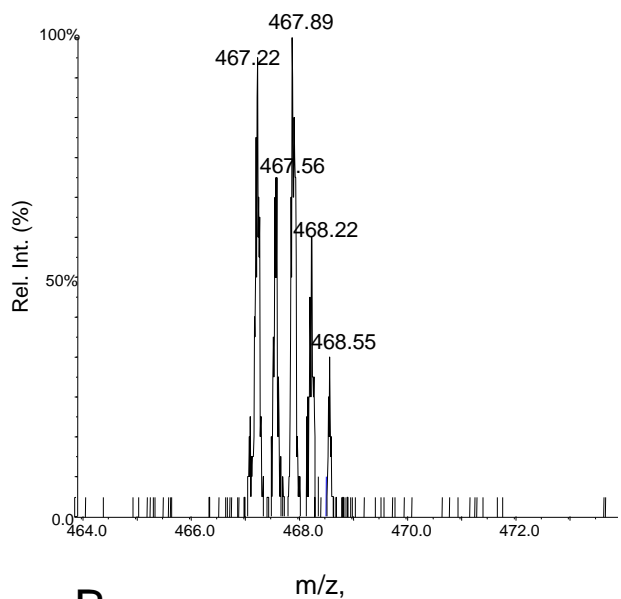
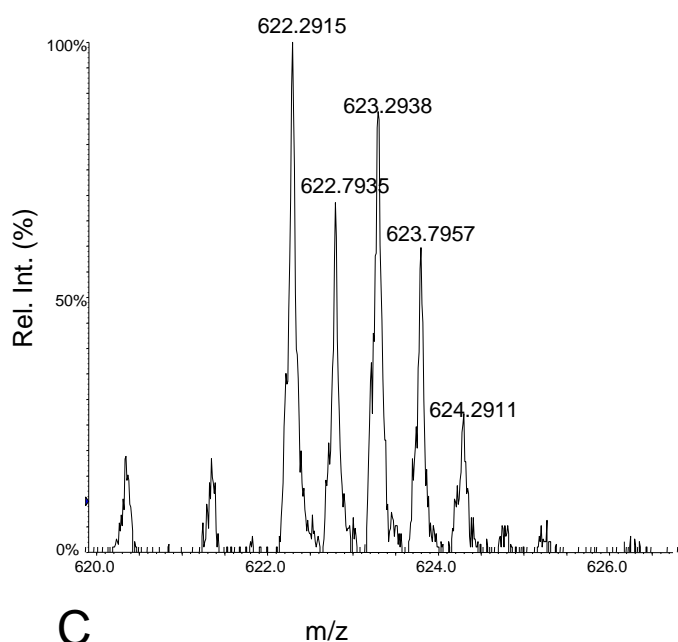
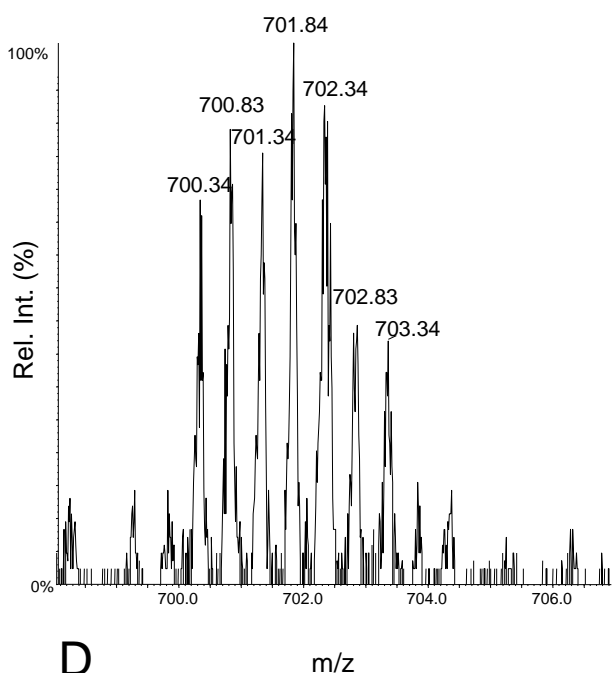


GGGGGCiGGGLHDFR



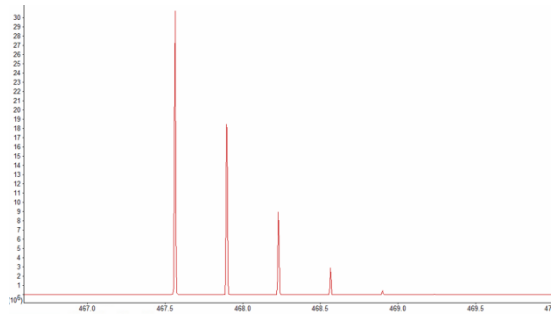
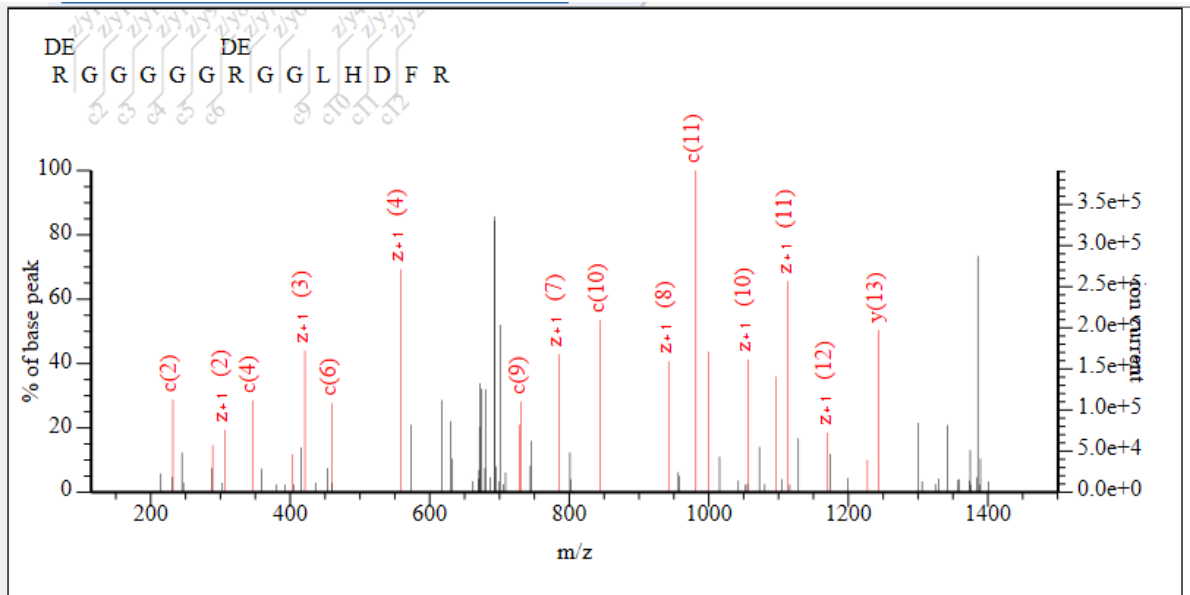
SCiGGGGGGFHR



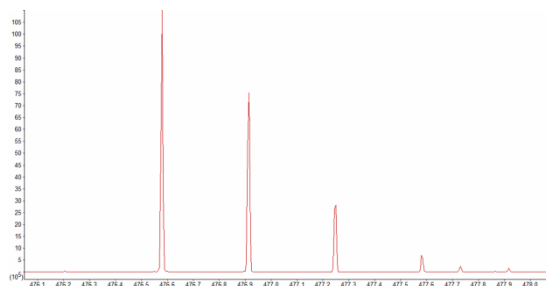
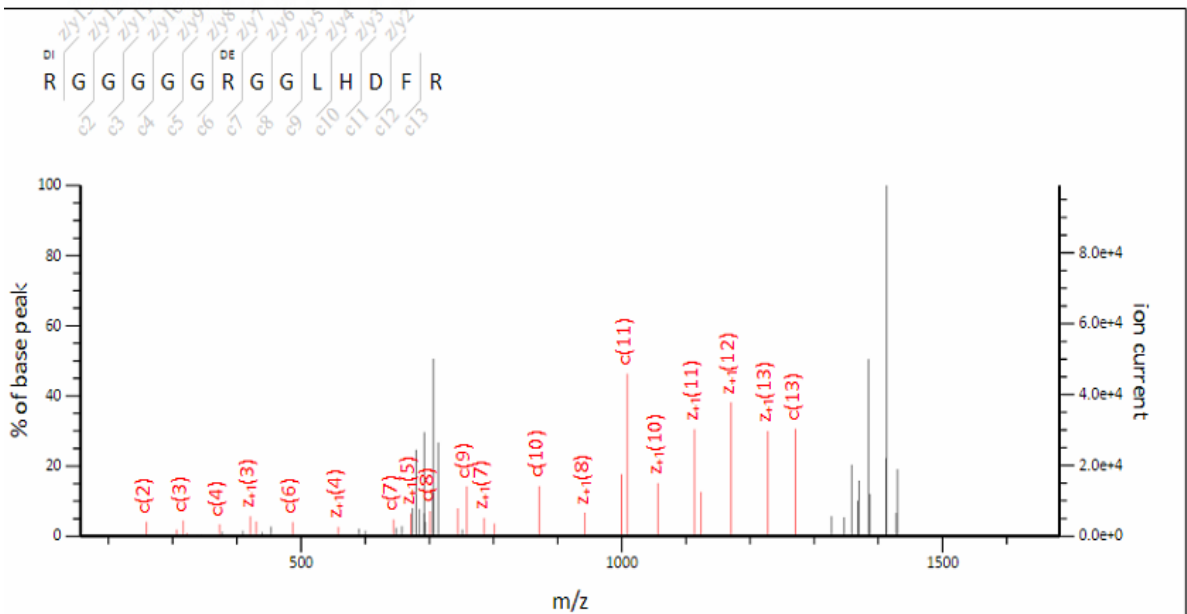
**SCitGGGGGGFHR****A****RGGGGGCitGGLHDFR****B****GGGGGCitGGLHDFR****C****CitGGGGGCitGGLHDFR****D**

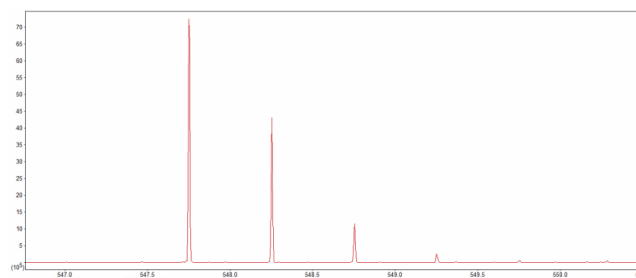
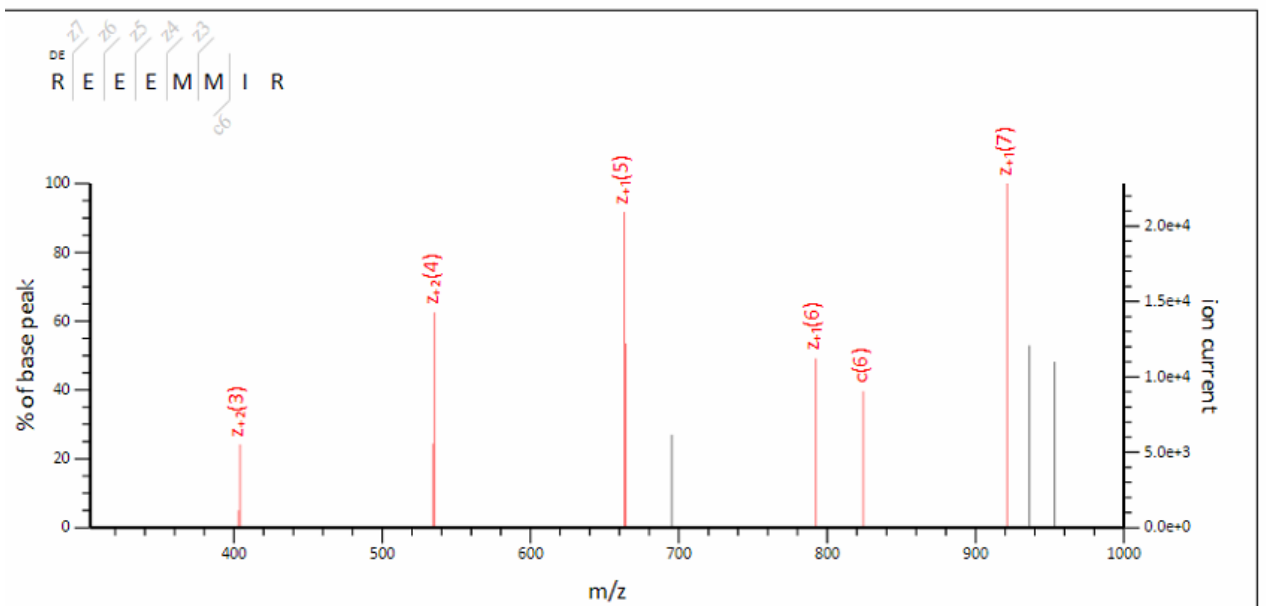
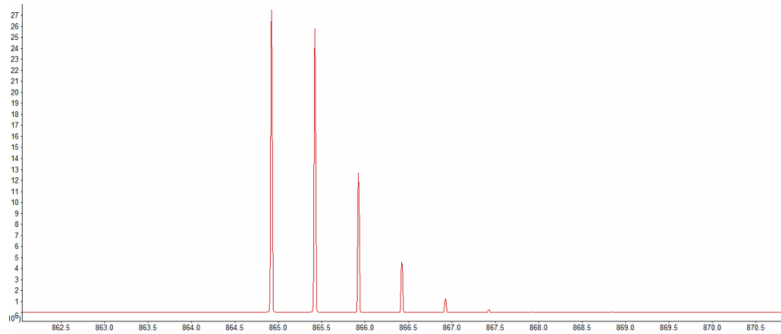
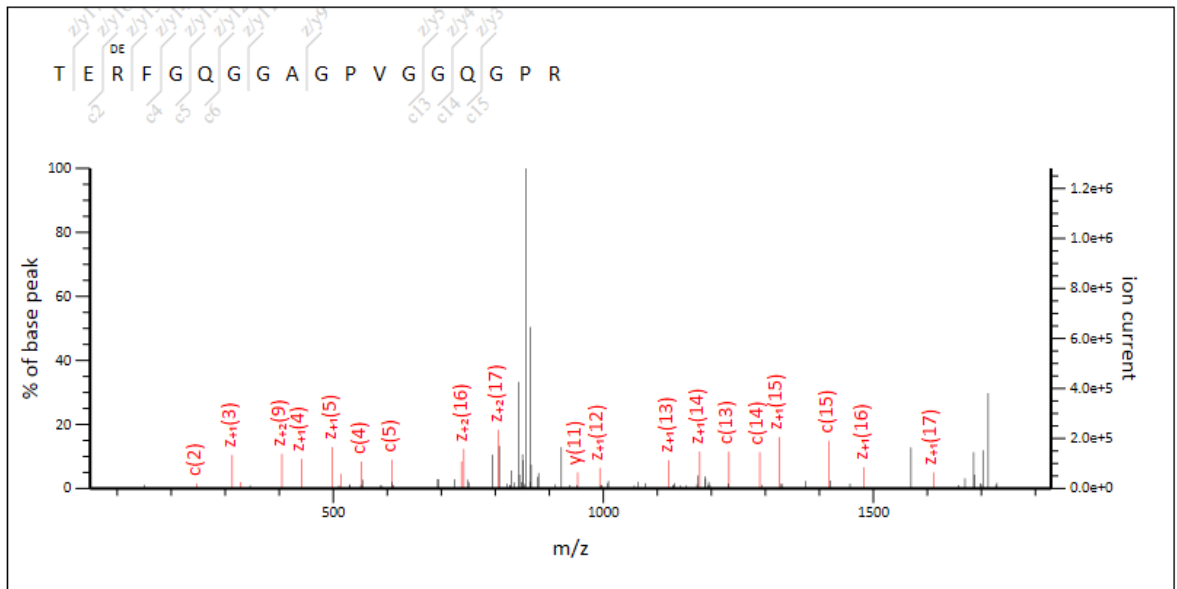
Mass spectrometry analysis of citrullinated PSF. ESI TOF MS spectra of in vitro citrullinated PSF using PADI4 in the presence of 50% in the presence of 50% H<sub>2</sub><sup>18</sup>O. The ESI MS spectra of the citrullinated peptides A) **SCitGGGGGGFHR** [M+2H]<sup>2+</sup> B) **RGGGGGCitGGLHDFR**, C) **GGGGGCitGGLHDFR** and D) **CitGGGGGCitGGLHDFR** modified peptides [M+2H]<sup>2+</sup>. The characteristic isotopic distribution was used to verify citrullinated peptides from PSF.

### Deamidated R1, R7 100.00%



### Deamidated R7, Dimethyl R1; 100.00%

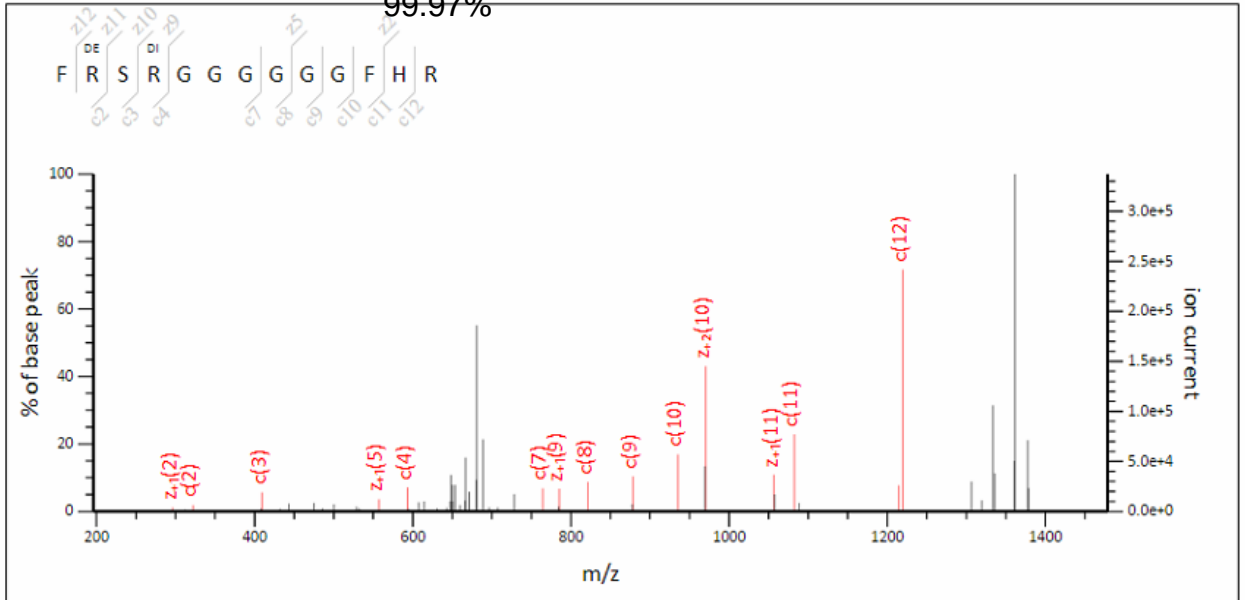




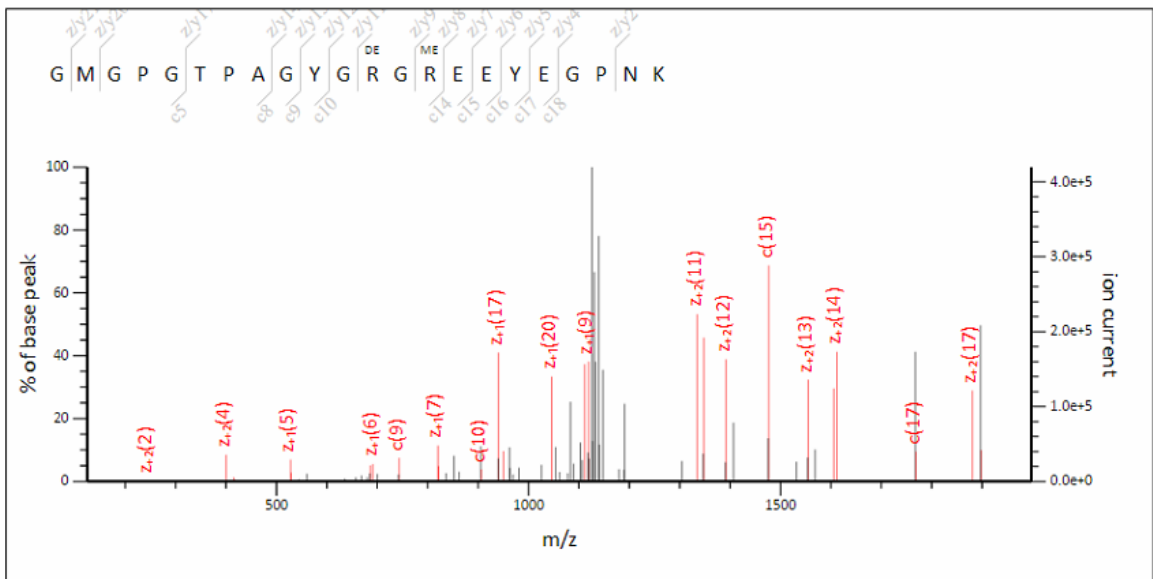


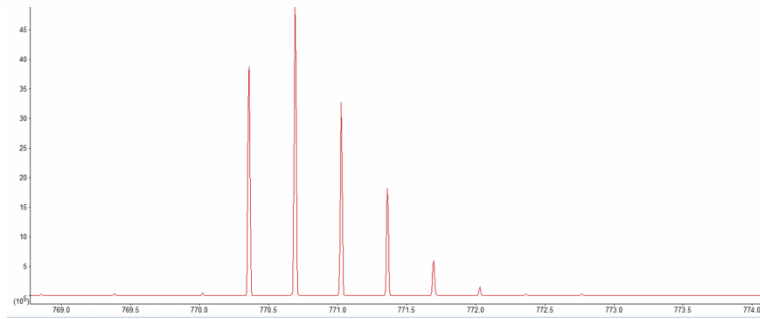
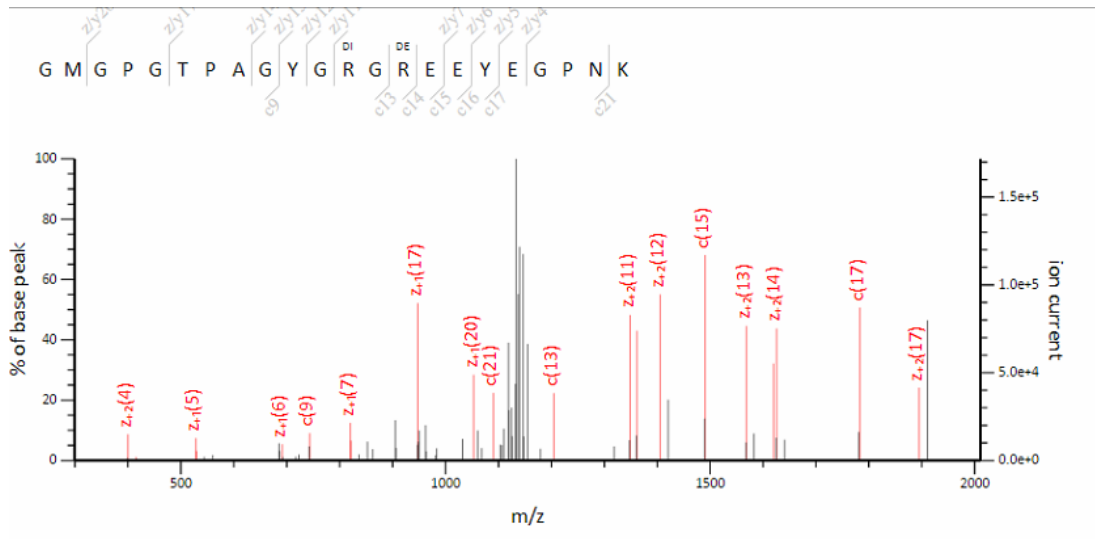
Deamidated R2, Dimethyl R4;

99.97%

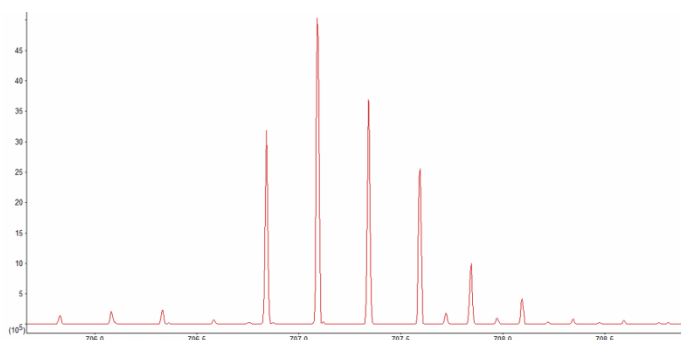
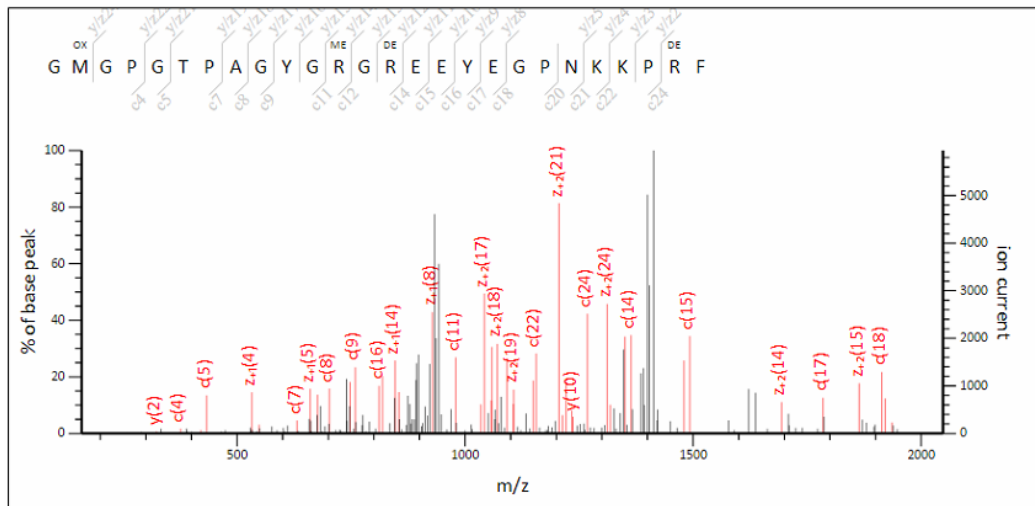


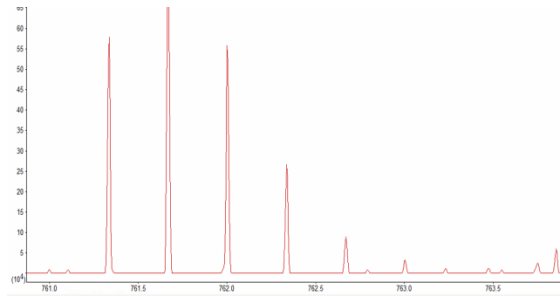
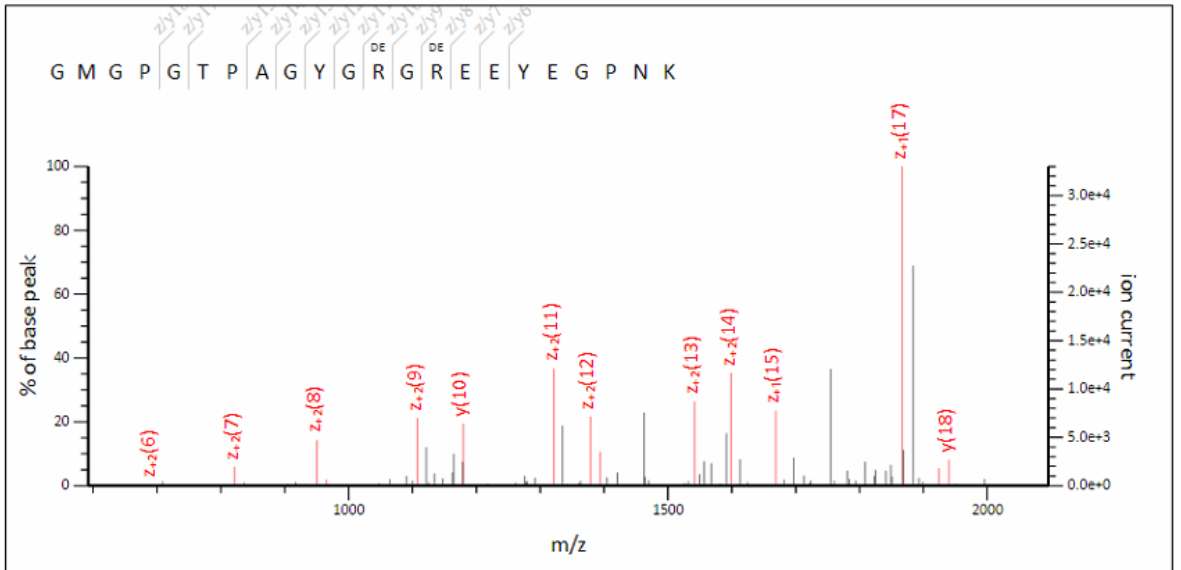
Deamidated R12, Methyl R14; 69.66%





Deamidated R14, R25, Methyl R12; 97.74%





Deamidated R14, R25, Dimethyl R12; 96.61%

