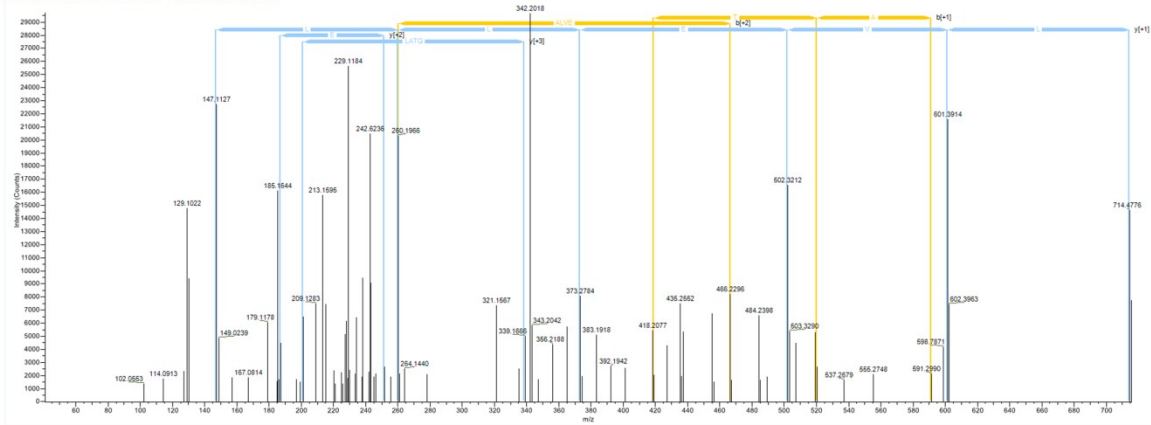


Supplementary Fig S1

Native BSA

Extracted from: C:\msdml\TOL_Data\Raw files\B5A.raw #620 RT: 18.61
FTMS, HCD, z=+3, Mono m/z=435.59366 Da, MH+=1304.76642 Da, Match Tol=0.5 Da



k [Q] T] A] L [V [E] L [L [K

Sequence: KQTALVELLK

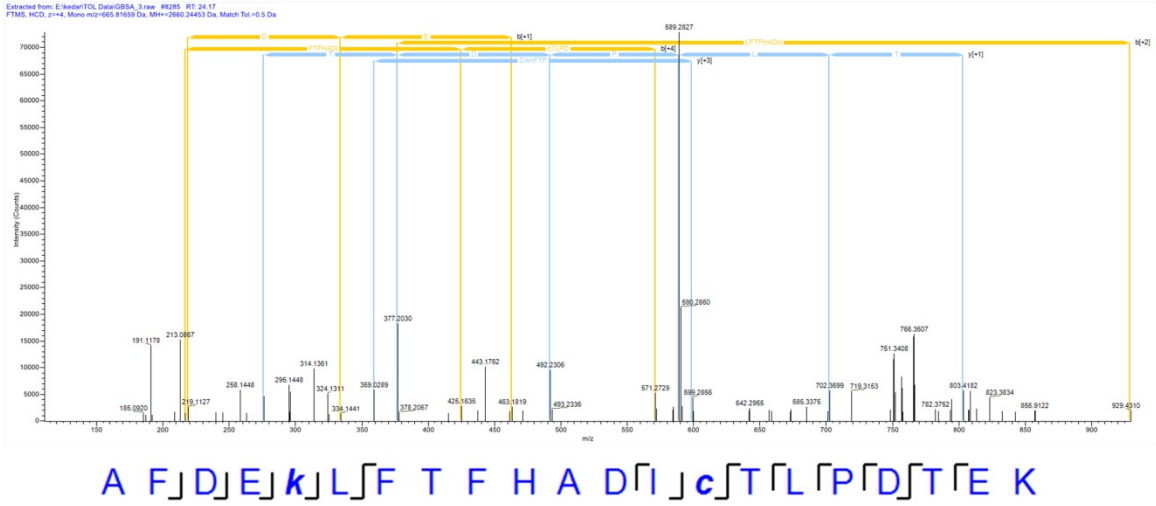
K1-Hex (162.05282 Da)

Charge: +3, Monoisotopic m/z: 435.59366 (-0.26 mmu/-0.61 ppm), MH+: 1304.76642 Da,
RT: 18.61 min,

Identified with: Sequest HT (v1.3); XCorr:2.22, Matched Ions: 0/0

Fragment Match Tolerance: 0.5 Da

Glycated BSA



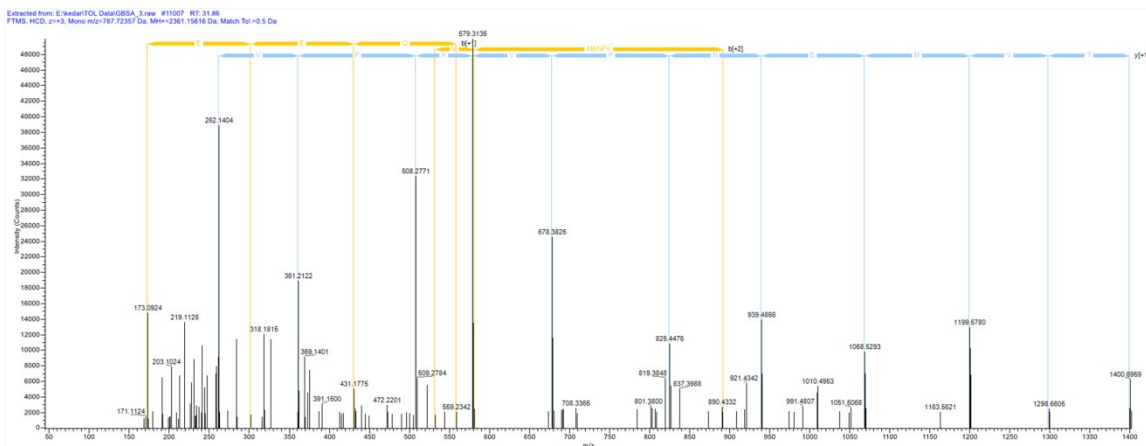
Sequence: AFDEKLFTFHADICTLPDTEK

K5-Hex (162.05282 Da), C14-Carbamidomethyl (57.02146 Da)

Charge: +4, Monoisotopic m/z: 665.81659 (+0.2 mmu/+0.3 ppm), MH+: 2660.24453 Da, RT: 24.17 min,

Identified with: Sequest HT (v1.3); XCorr:1.37, Matched Ions: 0/0

Fragment Match Tolerance: 0.5 Da



A T E E Q L K T V M E N F V A F V D K

Sequence: ATEEQLKTVMENFVAFVDK

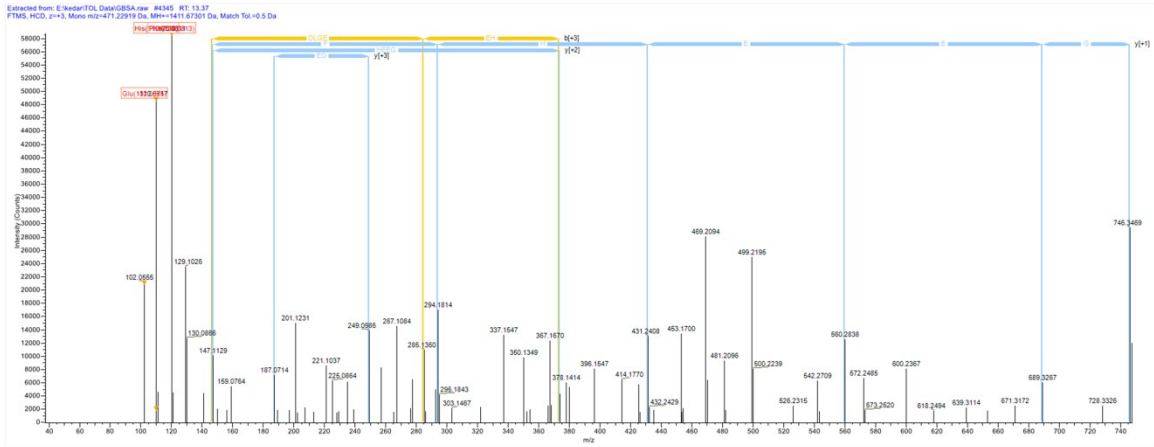
K7-Hex (162.05282 Da)

Charge: +3, Monoisotopic m/z: 787.72357 (+1.01 mmu/+1.28 ppm), MH+: 2361.15616 Da,

RT: 31.86 min,

Identified with: Sequest HT (v1.3); XCorr:3.77, Matched Ions: 0/0

Fragment Match Tolerance: 0.5 Da



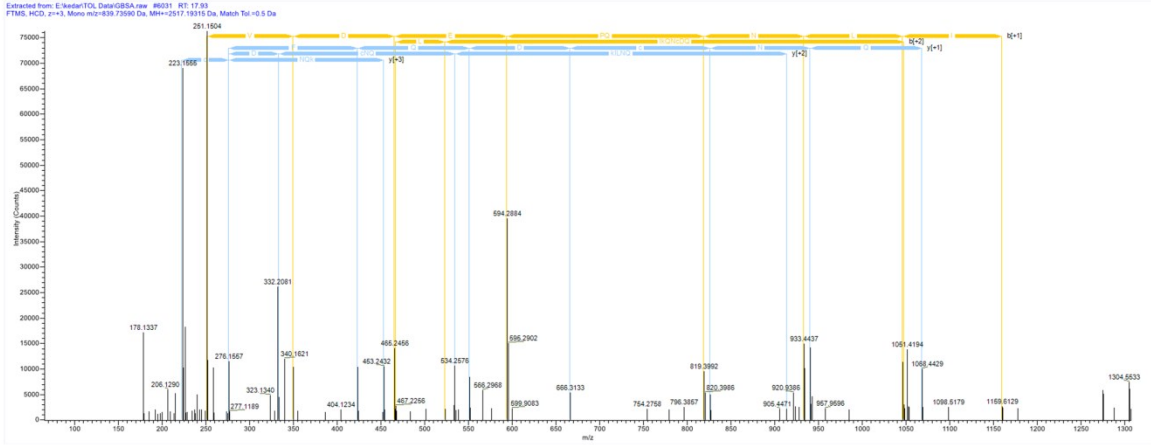
F K]D L[G]E]E[H]F[K

Sequence: FKDLGEEHFK

K2-Hex (162.05282 Da)

Charge: +3, Monoisotopic m/z: 471.22919 (-0.35 mmu/-0.73 ppm), MH+: 1411.67301 Da, RT: 13.37 min,

Identified with: Sequest HT (v1.3); XCorr:1.04, Matched Ions: 0/0
 Fragment Match Tolerance: 0.5 Da



H L V D E P Q N L I k Q N c D Q F E K

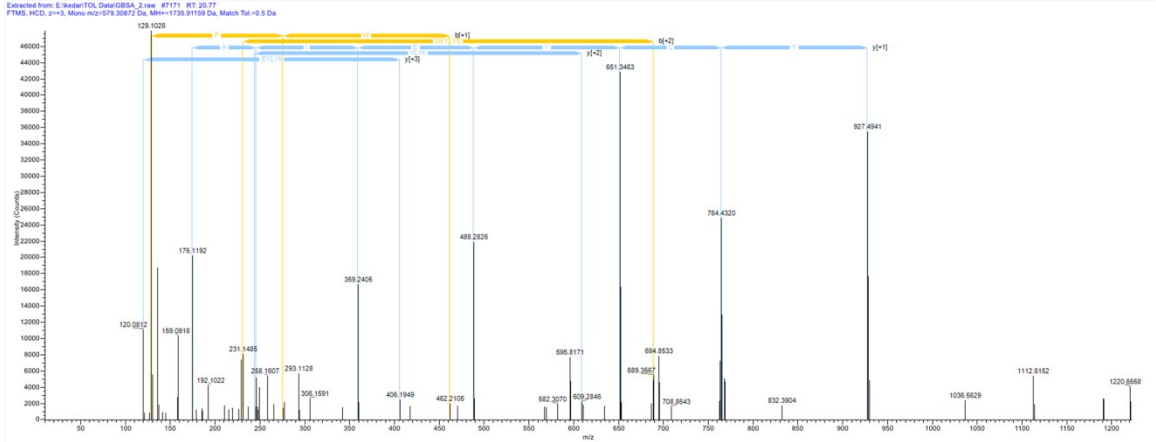
Sequence: HLVDLPQNLIKQNCDFEK

K11-Hex (162.05282 Da), C14-Carbamidomethyl (57.02146 Da)

Charge: +3, Monoisotopic m/z: 839.73590 (+0.15 mmu/+0.18 ppm), MH+: 2517.19315 Da, RT: 17.93 min,

Identified with: Sequest HT (v1.3); XCorr:3.97, Matched Ions: 0/0

Fragment Match Tolerance: 0.5 Da



K]F]W]G[k[Y]L[Y]E]I[A]R

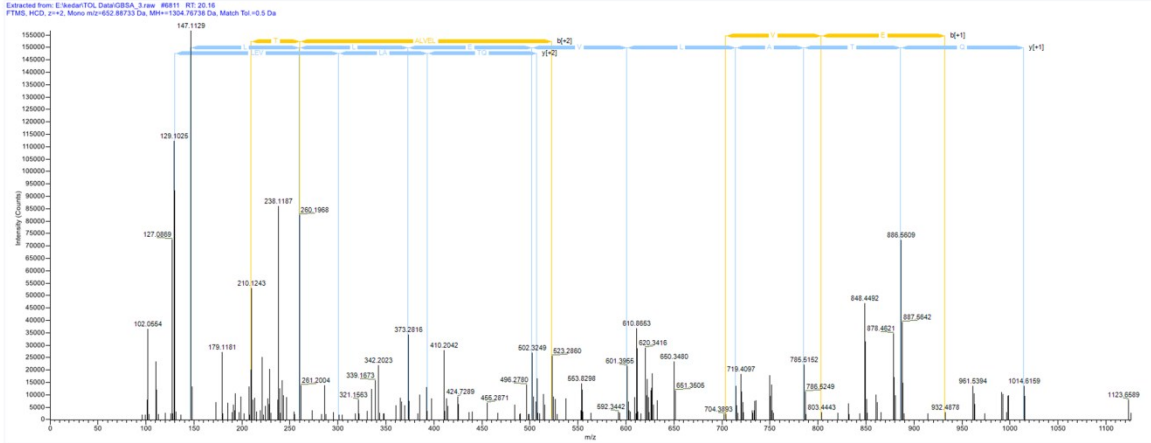
Sequence: KFWGKYLEIAR

K5-Hex (162.05282 Da)

Charge: +3, Monoisotopic m/z: 579.30872 (+2.06 mmu/+3.55 ppm), MH+: 1735.91159 Da, RT: 20.77 min,

Identified with: Sequest HT (v1.3); XCorr:2.67, Matched Ions: 0/0

Fragment Match Tolerance: 0.5 Da



K [Q] [T] [A] [L] [V] [E] [L] [L] [K]

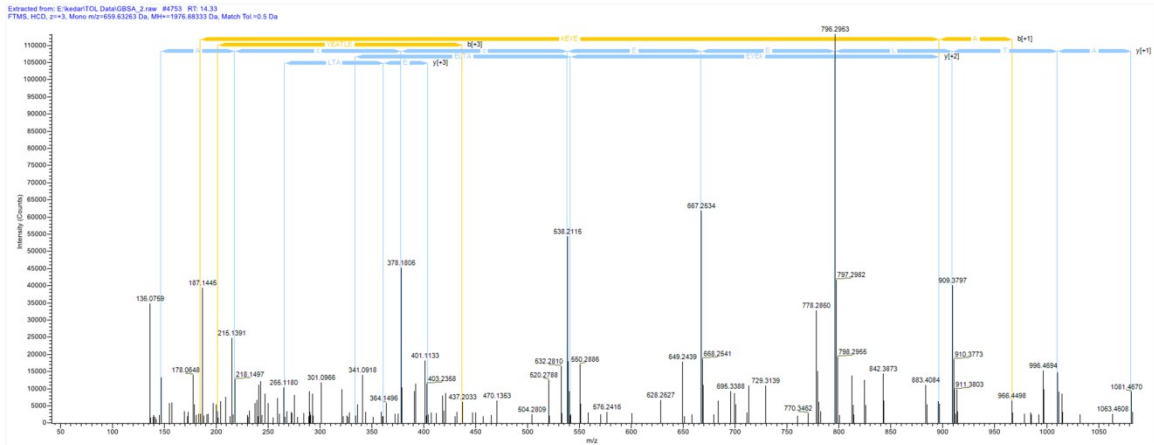
Sequence: KQTALVELLK

K1-Hex (162.05282 Da)

Charge: +2, Monoisotopic m/z: 652.88733 (+0.08 mmu/+0.13 ppm), MH+: 1304.76738 Da, RT: 20.16 min,

Identified with: Sequest HT (v1.3); XCorr:2.72, Matched Ions: 0/0

Fragment Match Tolerance: 0.5 Da



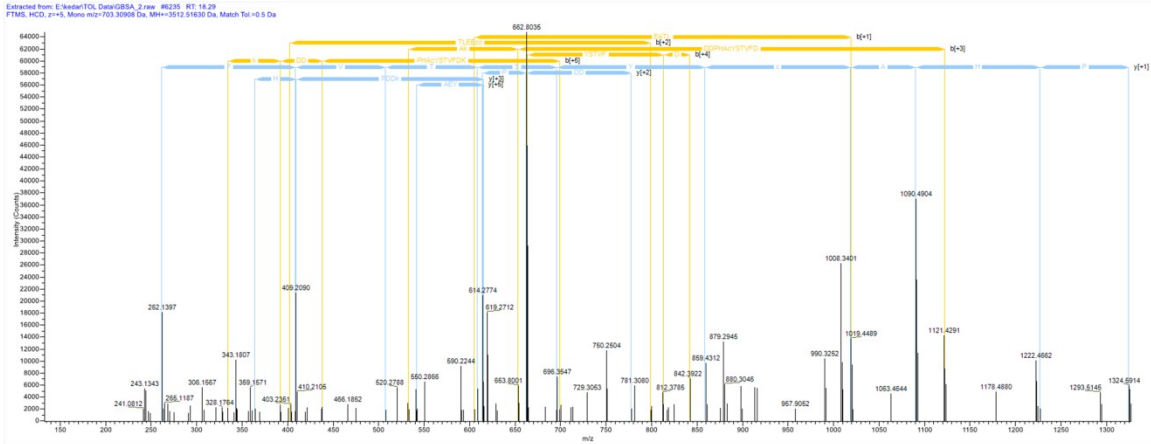
L A [k E] Y [E] A [T] L [E] E [c] c [A] K

Sequence: LAKEYEATLEECCA

K3-Hex (162.05282 Da), C12-Carbamidomethyl (57.02146 Da), C13-Carbamidomethyl (57.02146 Da)

Charge: +3, Monoisotopic m/z: 659.63263 (+0.17 mmu/+0.26 ppm), MH+: 1976.88333 Da, RT: 14.33 min,

Identified with: Sequest HT (v1.3); XCorr:2.46, Matched Ions: 0/0
 Fragment Match Tolerance: 0.5 Da



L A K E Y E A T L E E c c A k D D P H A c Y S T V F D K

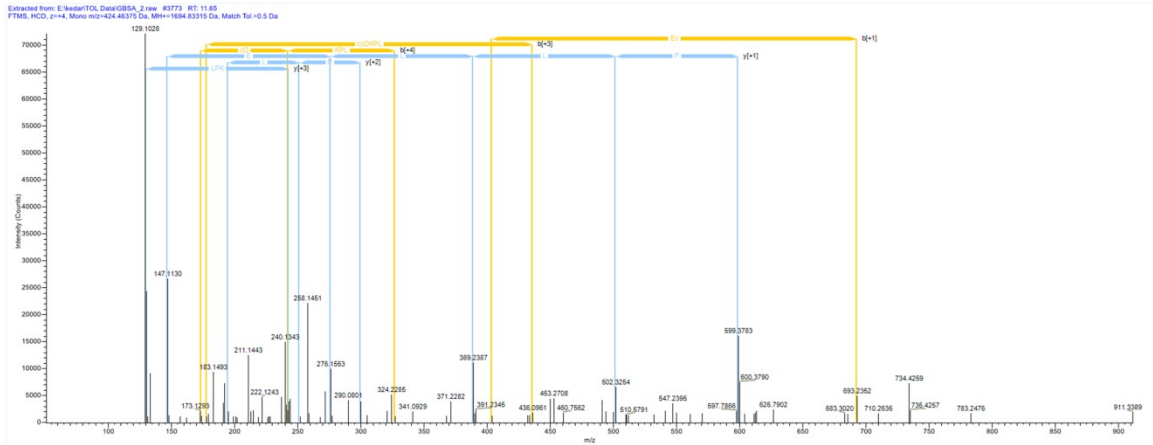
Sequence: LAKEYEATLECCAKDDPHACYSTVFDK

C12-Carbamidomethyl (57.02146 Da), C13-Carbamidomethyl (57.02146 Da), K15-Hex
 (162.05282 Da), C21-Carbamidomethyl (57.02146 Da)

Charge: +5, Monoisotopic m/z: 703.30908 (-0.33 mmu/-0.47 ppm), MH+: 3512.51630
 Da, RT: 18.29 min,

Identified with: Sequest HT (v1.3); XCorr:3.03, Matched Ions: 0/0

Fragment Match Tolerance: 0.5 Da



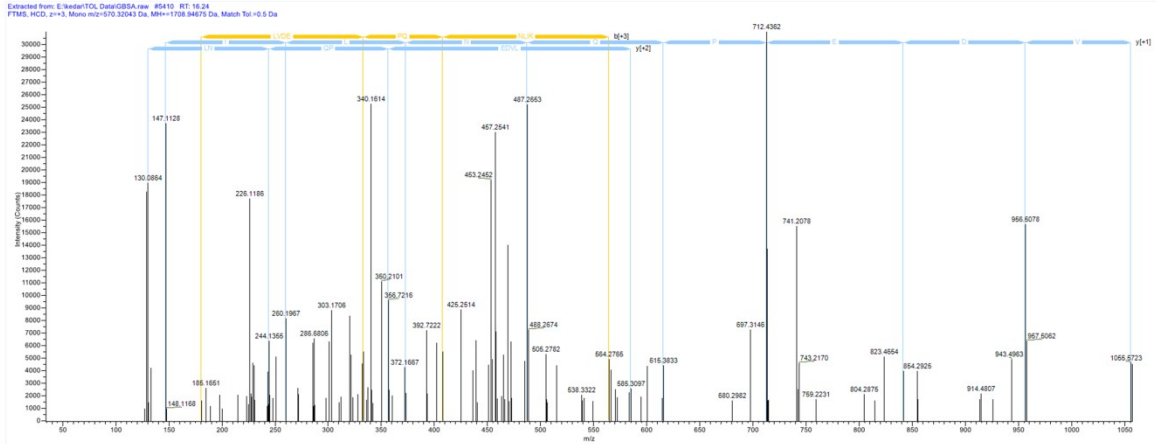
L K] E] c] c [D] K [P [L] L] E [K

Sequence: LKECCDKPLLEK

K2-Hex (162.05282 Da), C4-Carbamidomethyl (57.02146 Da), C5-Carbamidomethyl (57.02146 Da)

Charge: +4, Monoisotopic m/z: 424.46375 (-0.22 mmu/-0.51 ppm), MH+: 1694.83315 Da, RT: 11.65 min,

Identified with: Sequest HT (v1.3); XCorr:1.78, Matched Ions: 0/0
 Fragment Match Tolerance: 0.5 Da



L K [H] [L] [V] [D] [E] [P] [Q] [N] [L] [I] [K]

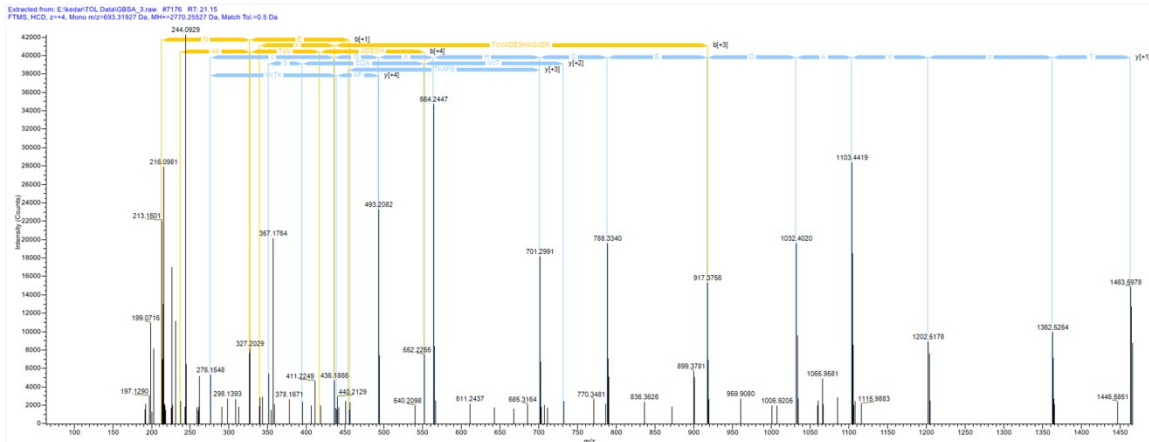
Sequence: LKHLVDEPQNLIK

K2-Hex (162.05282 Da)

Charge: +3, Monoisotopic m/z: 570.32043 (-0.43 mmu/-0.76 ppm), MH+: 1708.94675 Da, RT: 16.24 min,

Identified with: Sequest HT (v1.3); XCorr:2.05, Matched Ions: 0/0

Fragment Match Tolerance: 0.5 Da



L V N E L T E F A K T C V A D E S H A G C E K

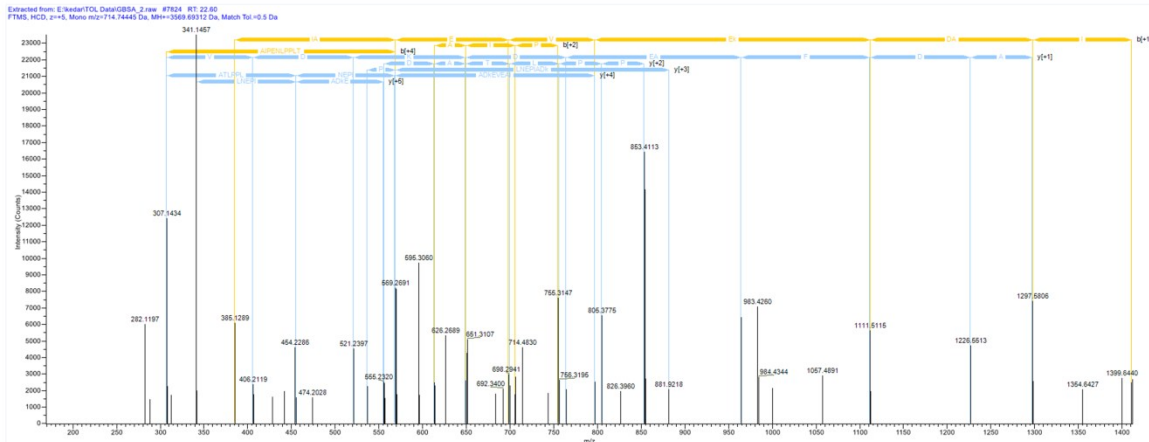
Sequence: LVNELTEFAKTCVADESHAGCEK

K10-Hex (162.05282 Da), C12-Carbamidomethyl (57.02146 Da), C21-Carbamidomethyl (57.02146 Da)

Charge: +4, Monoisotopic m/z: 693.31927 (+0.14 mmu/+0.2 ppm), MH+: 2770.25527 Da, RT: 21.15 min,

Identified with: Sequest HT (v1.3); XCorr:3.41, Matched Ions: 0/0

Fragment Match Tolerance: 0.5 Da



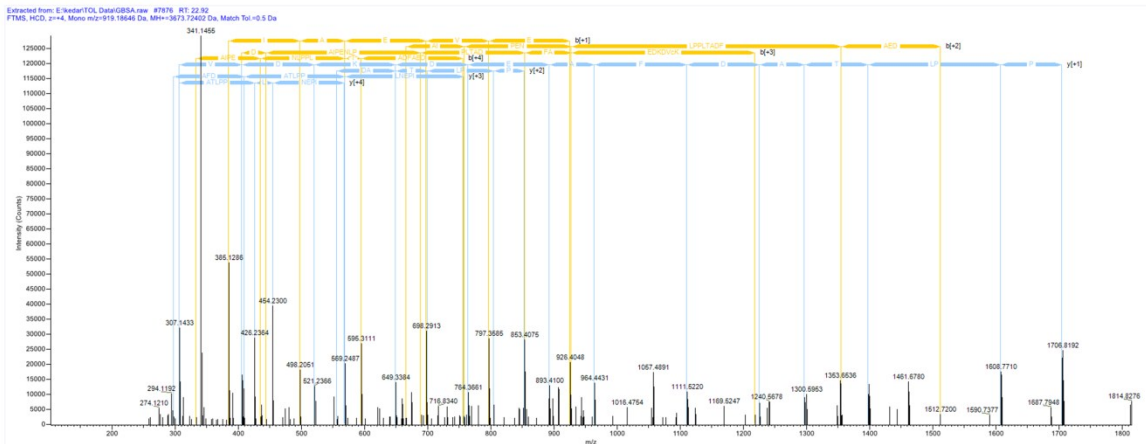
S H c I A E V E k D A I P E N L P P L T A D F A E D K D V c K

Sequence: SHCIAEVEKDAIPENLPPLTADFAEDKDVCK

C3-Carbamidomethyl (57.02146 Da), K9-Carboxymethyl (58.00548 Da), C30-Carbamidomethyl (57.02146 Da)

Charge: +5, Monoisotopic m/z: 714.74445 (+3.1 mmu/+4.34 ppm), MH+: 3569.69312 Da, RT: 22.60 min,

Identified with: Sequest HT (v1.3); XCorr:4.11, Matched Ions: 0/0
 Fragment Match Tolerance: 0.5 Da



S H c] I] A] E] V] E] k] D] A] I] P] E] N] L] P] P] L] T] A] D] F] A] E] D] K] D] V] c] K]

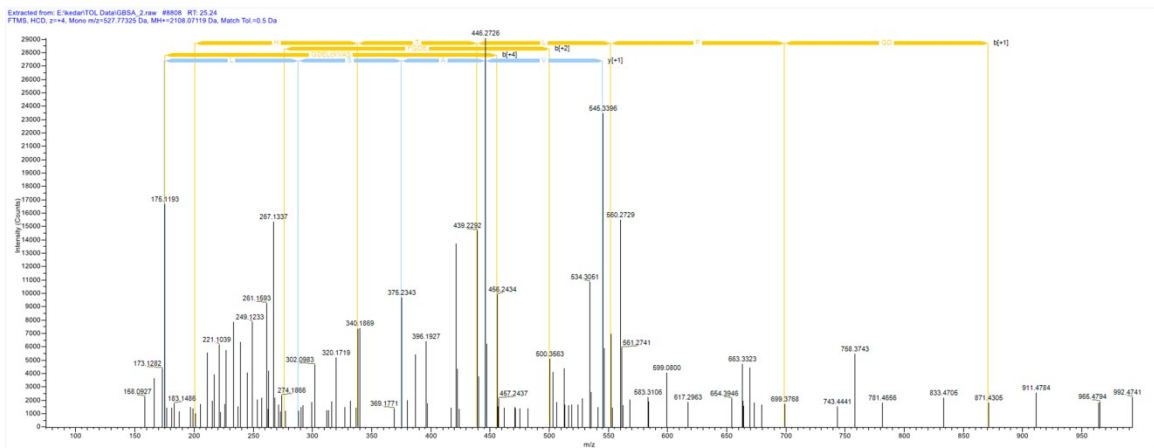
Sequence: SHCIAEVEKDAIPENLPPLTADFAEDKDVCK

C3-Carbamidomethyl (57.02146 Da), K9-Hex (162.05282 Da), C30-Carbamidomethyl (57.02146 Da)

Charge: +4, Monoisotopic m/z: 919.18646 (-0.24 mmu/-0.26 ppm), MH+: 3673.72402 Da, RT: 22.92 min,

Identified with: Sequest HT (v1.3); XCorr:4.91, Matched Ions: 0/0

Fragment Match Tolerance: 0.5 Da



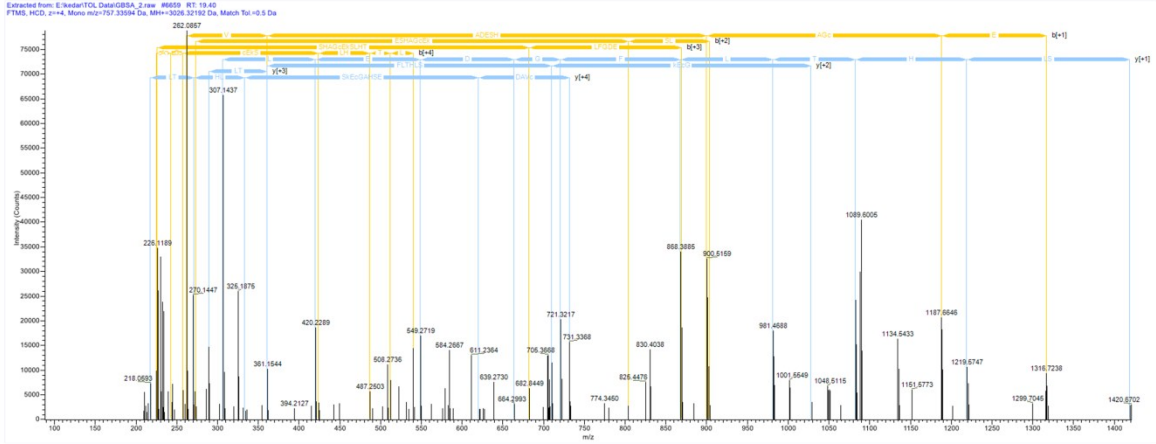
S[L]H[T]L[F]G D]E]L[c k[V[A[S]L[R

Sequence: SLHTLFGDELCKVASLR

C11-Carbamidomethyl (57.02146 Da), K12-Hex (162.05282 Da)

Charge: +4, Monoisotopic m/z: 527.77325 (+0.47 mmu/+0.89 ppm), MH+:
 2108.07119 Da, RT: 25.24 min,

Identified with: Sequest HT (v1.3); XCorr:1.86, Matched Ions: 0/0
 Fragment Match Tolerance: 0.5 Da



T [c] V A D E S H A G c E k S L H T L F G D E L c K

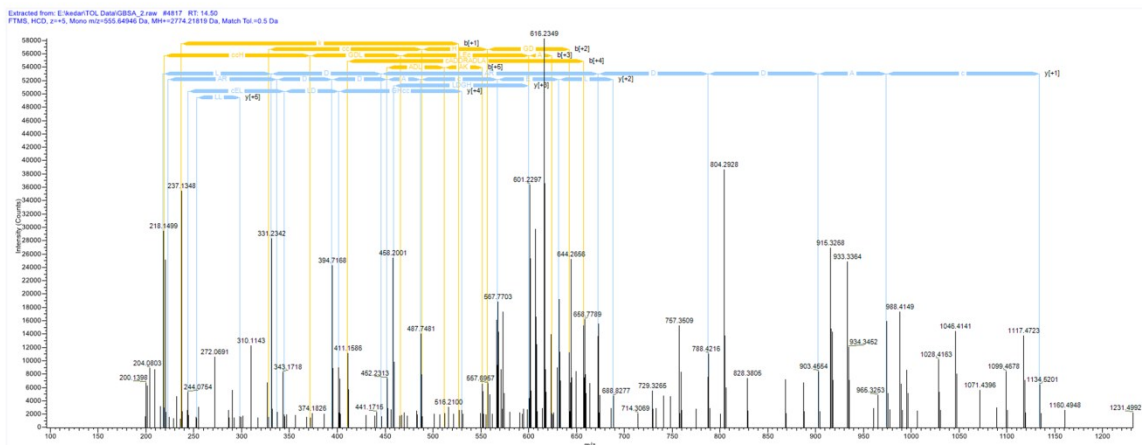
Sequence: TCVADESHAGCEKSLHTLFGDELCK

C2-Carbamidomethyl (57.02146 Da), C11-Carbamidomethyl (57.02146 Da), K13-Hex (162.05282 Da), C24-Carbamidomethyl (57.02146 Da)

Charge: +4, Monoisotopic m/z: 757.33594 (+1.05 mmu/+1.38 ppm), MH+: 3026.32192 Da, RT: 19.40 min,

Identified with: Sequest HT (v1.3); XCorr:3.73, Matched Ions: 0/0

Fragment Match Tolerance: 0.5 Da



V H]k]E]c c]H]G]D]L]L]E]c]A]D]D]R]A]D]L]A]K]

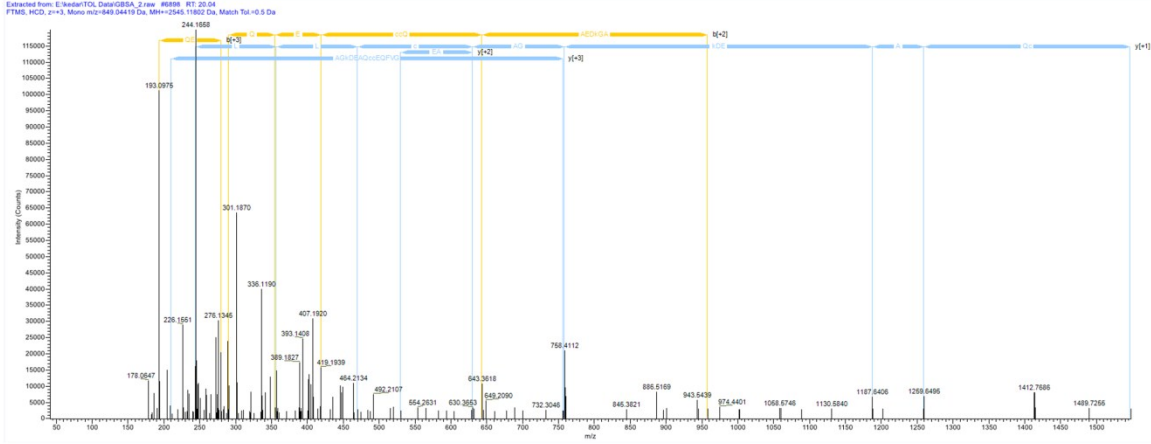
Sequence: VHKECCHGDLLECADDRADLAK

K3-Hex (162.05282 Da), C5-Carbamidomethyl (57.02146 Da), C6-Carbamidomethyl (57.02146 Da), C13-Carbamidomethyl (57.02146 Da)

Charge: +5, Monoisotopic m/z: 555.64946 (+0.04 mmu/+0.08 ppm), MH+: 2774.21819 Da, RT: 14.50 min,

Identified with: Sequest HT (v1.3); XCorr:2.29, Matched Ions: 0/0

Fragment Match Tolerance: 0.5 Da



Y N[G] V F] Q] E] c] c] Q] A] E] D] k] G] A] c] L] L] P] K

Sequence: YNGVFQ^{ECCQ}AEDK^{GACLLPK}

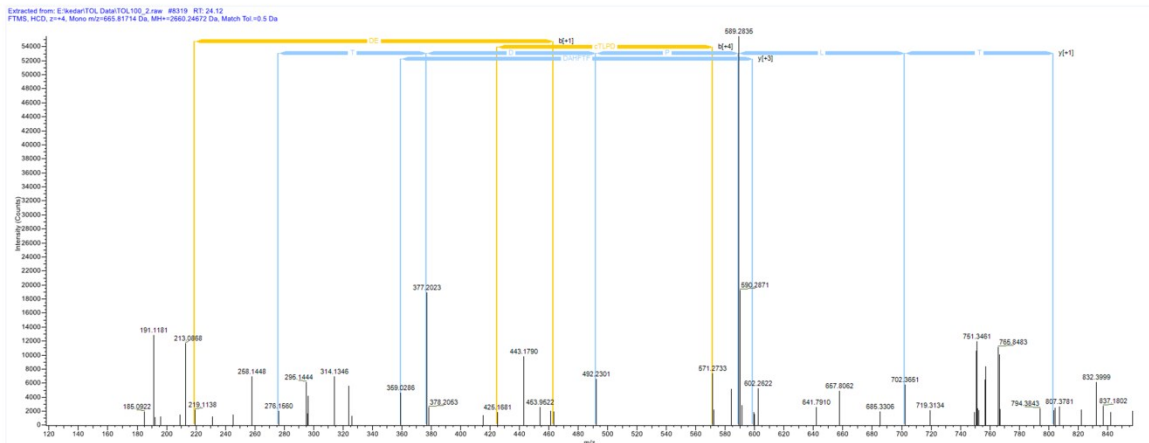
C8-Carbamidomethyl (57.02146 Da), C9-Carbamidomethyl (57.02146 Da), K14-Carboxymethyl (58.00548 Da), C17-Carbamidomethyl (57.02146 Da)

Charge: +3, Monoisotopic m/z: 849.04419 (+0.77 mmu/+0.9 ppm), MH+: 2545.11802 Da, RT: 20.04 min,

Identified with: Sequest HT (v1.3); XCorr:2.42, Matched Ions: 0/0

Fragment Match Tolerance: 0.5 Da

TOL 100 μ M



A F] D E] k] L [F B T F H A D [] c [T [L [P [D] T [E K

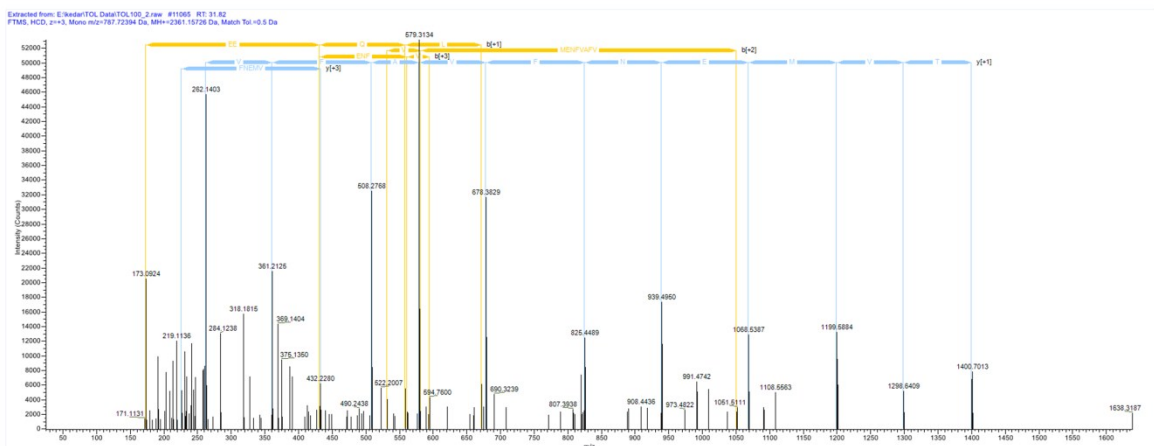
Sequence: AFDEKLFTFHADICTLPDTEK

K5-Hex (162.05282 Da), C14-Carbamidomethyl (57.02146 Da)

Charge: +4, Monoisotopic m/z: 665.81714 (+0.75 mmu/+1.12 ppm), MH+: 2660.24672 Da, RT: 24.12 min,

Identified with: Sequest HT (v1.3); XCorr:1.25, Matched Ions: 0/0

Fragment Match Tolerance: 0.5 Da



A T E E Q L K T V M E N F V A F V D K

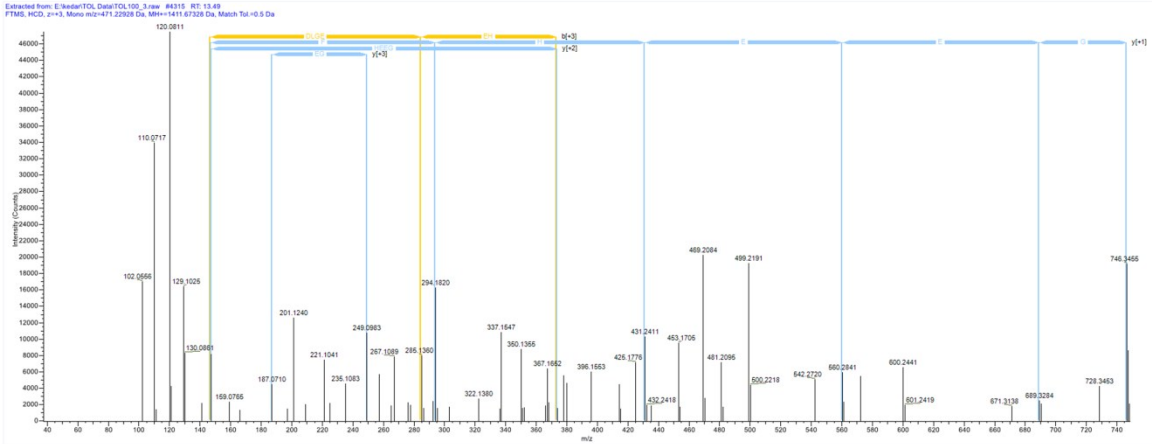
Sequence: ATEEQLKTVMENFVAFVDK

K7-Hex (162.05282 Da)

Charge: +3, Monoisotopic m/z: 787.72394 (+1.38 mmu/+1.75 ppm), MH+: 2361.15726 Da, RT: 31.82 min,

Identified with: Sequest HT (v1.3); XCorr:3.93, Matched Ions: 0/0

Fragment Match Tolerance: 0.5 Da



F K] D L [G[E]E[H]F[K

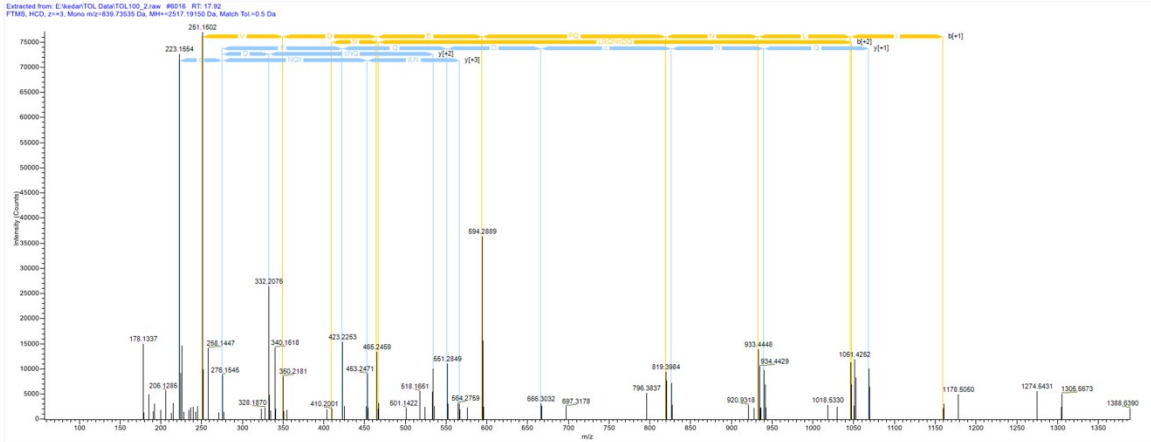
Sequence: FKDLGEEHFK

K2-Hex (162.05282 Da)

Charge: +3, Monoisotopic m/z: 471.22928 (-0.25 mmu/-0.54 ppm), MH+: 1411.67328 Da, RT: 13.49 min,

Identified with: Sequest HT (v1.3); XCorr:1.11, Matched Ions: 0/0

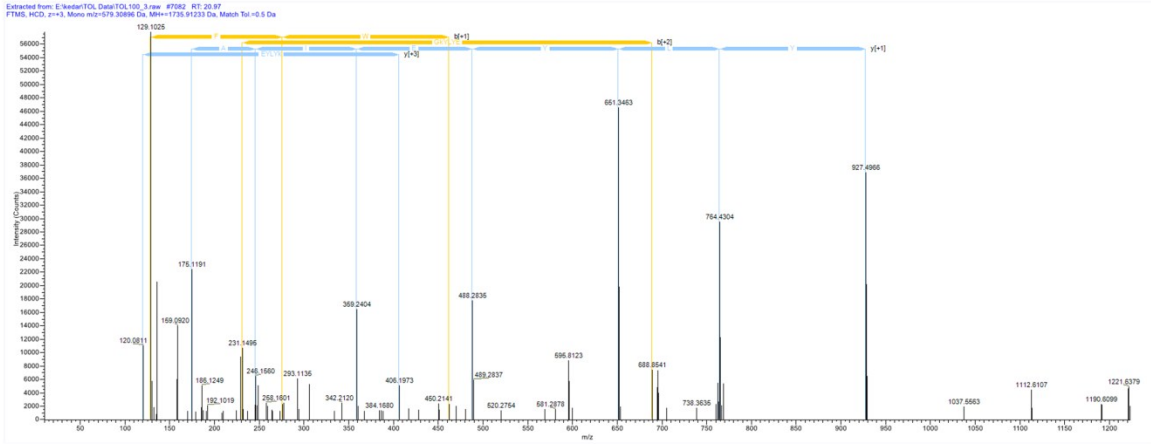
Fragment Match Tolerance: 0.5 Da



H L V D E P Q N L I k Q N c D Q F E K

Sequence: HLVDEPQNLIKQNC DQFEK
 K11-Hex (162.05282 Da), C14-Carbamidomethyl (57.02146 Da)
 Charge: +3, Monoisotopic m/z: 839.73535 (-0.4 mmu/-0.47 ppm), MH+: 2517.19150
 Da, RT: 17.92 min,

Identified with: Sequest HT (v1.3); XCorr:4.01, Matched Ions: 0/0
 Fragment Match Tolerance: 0.5 Da



K] F] W] G] **k**] Y] L] Y] E] I] A] R

Sequence: KFWGKLYEIAR

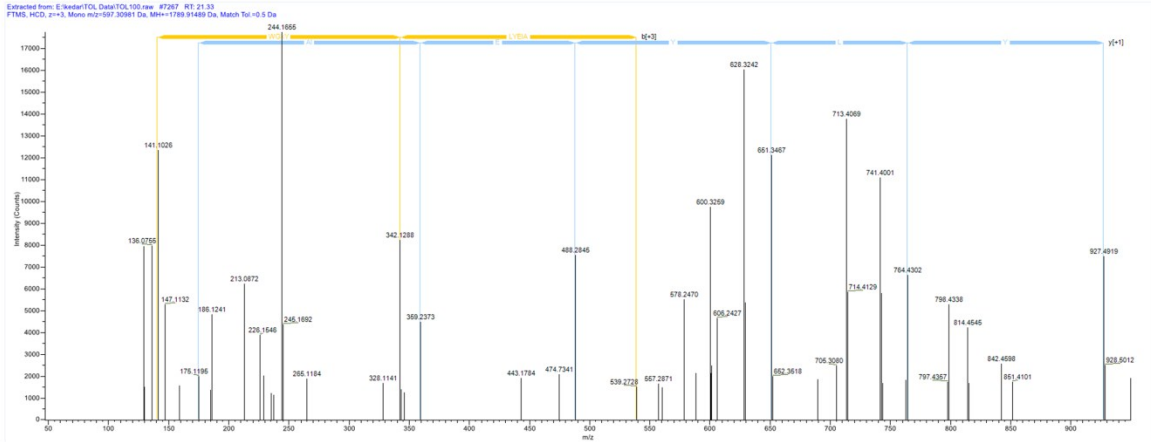
K5-Hex (162.05282 Da)

Charge: +3, Monoisotopic m/z: 579.30896 (+2.3 mmu/+3.97 ppm), MH+: 1735.91233 Da,

RT: 20.97 min,

Identified with: Sequest HT (v1.3); XCorr:2.52, Matched Ions: 0/0

Fragment Match Tolerance: 0.5 Da



k F]W]G k[Y]L[Y]E[] A]R

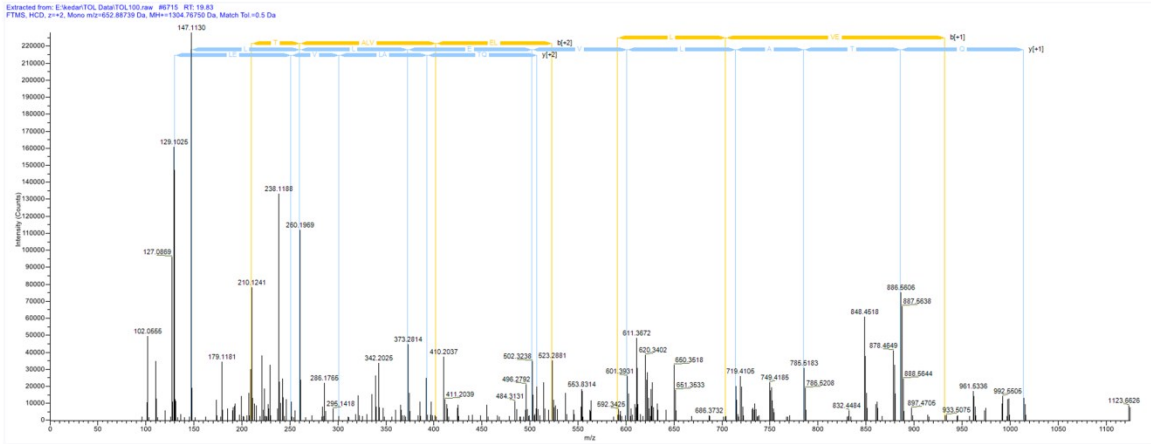
Sequence: KFWGKYL YEIAR

K1-FL-1H2O (144.04230 Da), K5-Carboxyethyl (72.02113 Da)

Charge: +3, Monoisotopic m/z: 597.30981 (-0.38 mmu/-0.64 ppm), MH+: 1789.91489 Da, RT: 21.33 min,

Identified with: Sequest HT (v1.3); XCorr:1.32, Matched Ions: 0/0

Fragment Match Tolerance: 0.5 Da



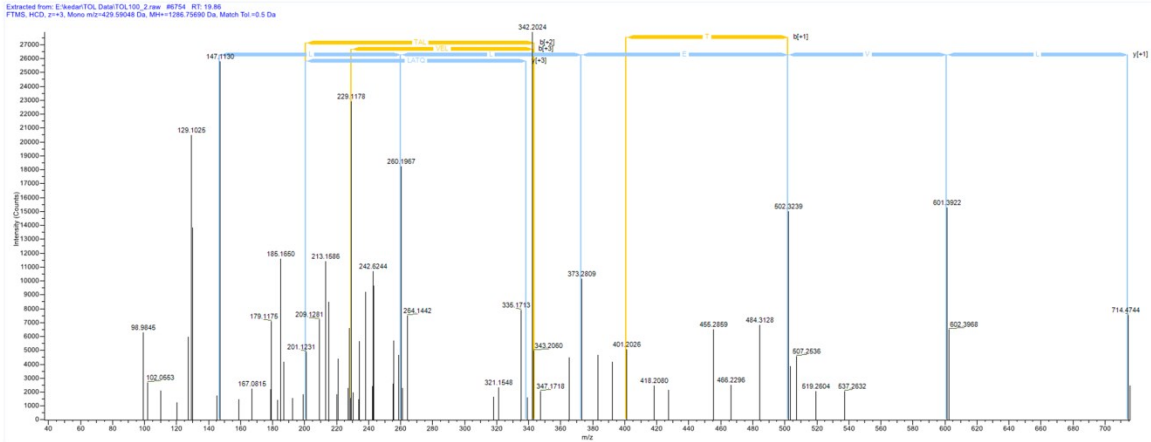
k [Q] [T] [A] [L] [V] [E] [L] [L] [K]

Sequence: KQ TALVELLK

K1-Hex (162.05282 Da)

Charge: +2, Monoisotopic m/z: 652.88739 (+0.14 mmu/+0.22 ppm), MH+: 1304.76750 Da, RT: 19.83 min,

Identified with: Sequest HT (v1.3); XCorr:2.80, Matched Ions: 0/0
 Fragment Match Tolerance: 0.5 Da



k [Q] T] A [L] V [E [L] L [K

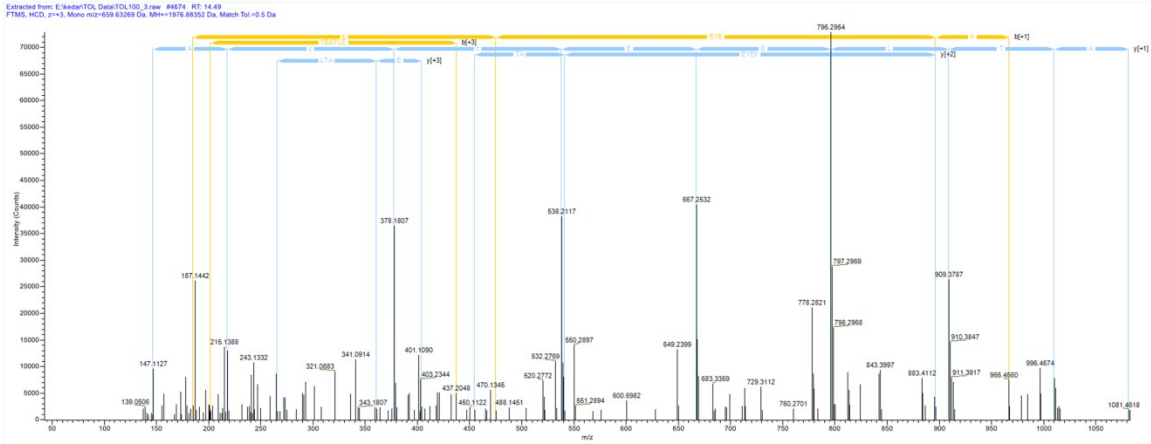
Sequence: KQTALVELLK

K1-FL-1H20 (144.04230 Da)

Charge: +3, Monoisotopic m/z: 429.59048 (+0.07 mmu/+0.16 ppm), MH+: 1286.75690 Da, RT: 19.86 min,

Identified with: Sequest HT (v1.3); XCorr:1.95, Matched Ions: 0/0

Fragment Match Tolerance: 0.5 Da



L A [k] E] Y [E] A] T [L [E] E [c] c [A] K

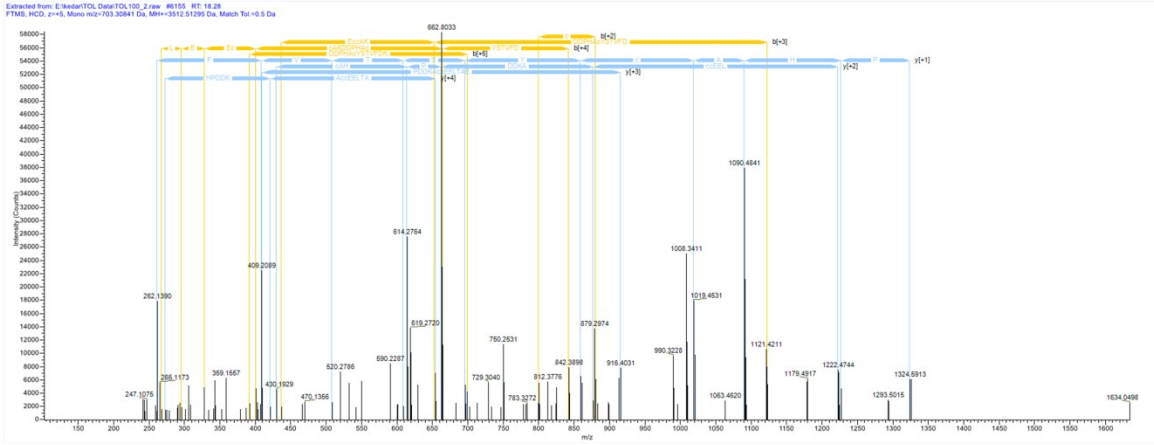
Sequence: LAKEYEATLEECCA

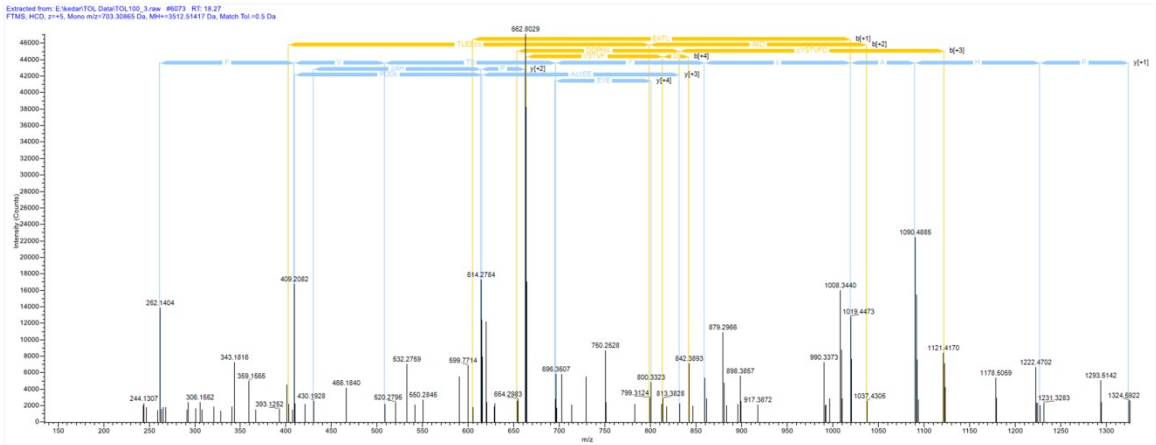
K3-Hex (162.05282 Da), C12-Carbamidomethyl (57.02146 Da), C13-Carbamidomethyl (57.02146 Da)

Charge: +3, Monoisotopic m/z: 659.63269 (+0.24 mmu/+0.36 ppm), MH+: 1976.88352 Da, RT: 14.49 min,

Identified with: Sequest HT (v1.3); XCorr:2.60, Matched Ions: 0/0

Fragment Match Tolerance: 0.5 Da





L A K[E]Y]E[A]T L]E E c c]A[k]D]D[P]H[A]c]Y[S T[V[F]D]K

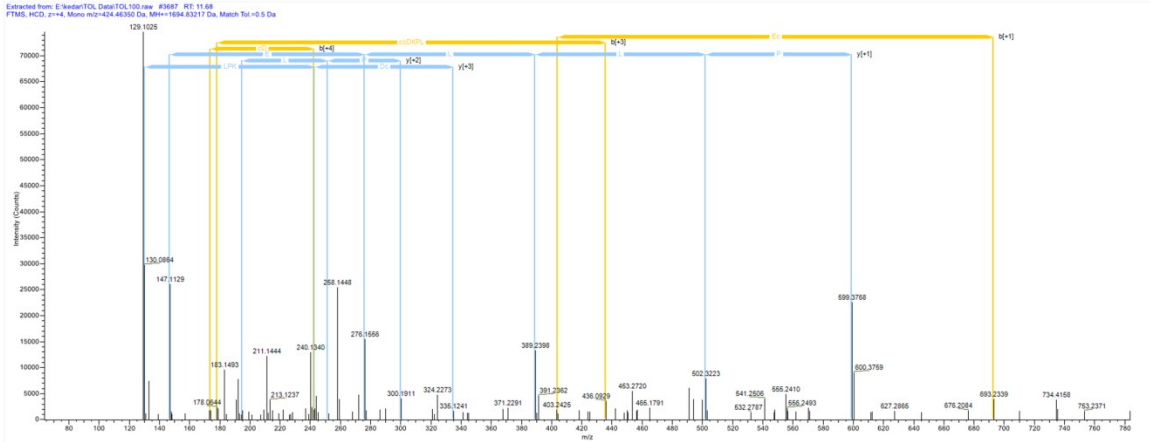
Sequence: LAKEYEATLEECCA KDDPHACYSTVFDK

C12-Carbamidomethyl (57.02146 Da), C13-Carbamidomethyl (57.02146 Da), K15-Hex (162.05282 Da), C21-Carbamidomethyl (57.02146 Da)

Charge: +5, Monoisotopic m/z: 703.30865 (-0.76 mmu/-1.08 ppm), MH+: 3512.51417 Da, RT: 18.27 min,

Identified with: Sequest HT (v1.3); XCorr:3.13, Matched Ions: 0/0

Fragment Match Tolerance: 0.5 Da



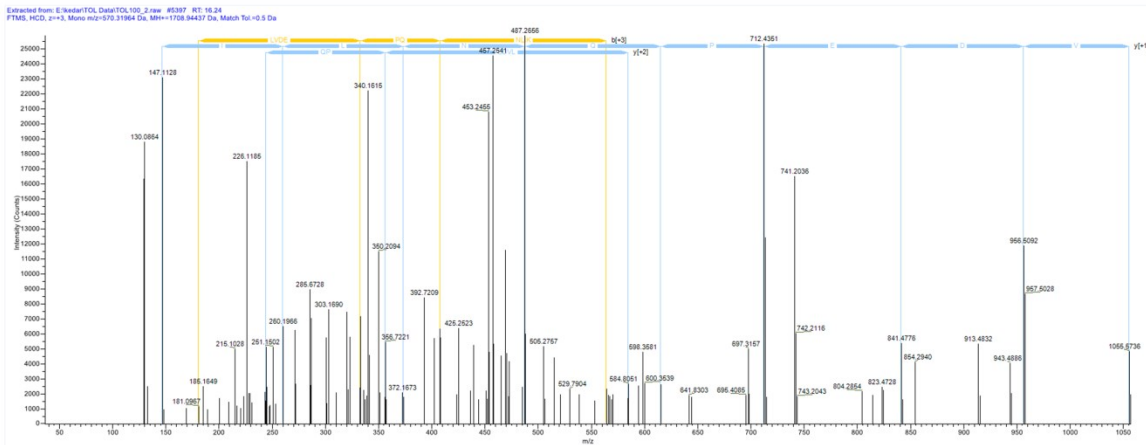
L k] E] c] c] D] K] P] L] L] E] K

Sequence: LKECCDKP LLEK

K2-Hex (162.05282 Da), C4-Carbamidomethyl (57.02146 Da), C5-Carbamidomethyl (57.02146 Da)

Charge: +4, Monoisotopic m/z: 424.46350 (-0.46 mmu/-1.09 ppm), MH+: 1694.83217 Da, RT: 11.68 min,

Identified with: Sequest HT (v1.3); XCorr:1.88, Matched Ions: 0/0
 Fragment Match Tolerance: 0.5 Da



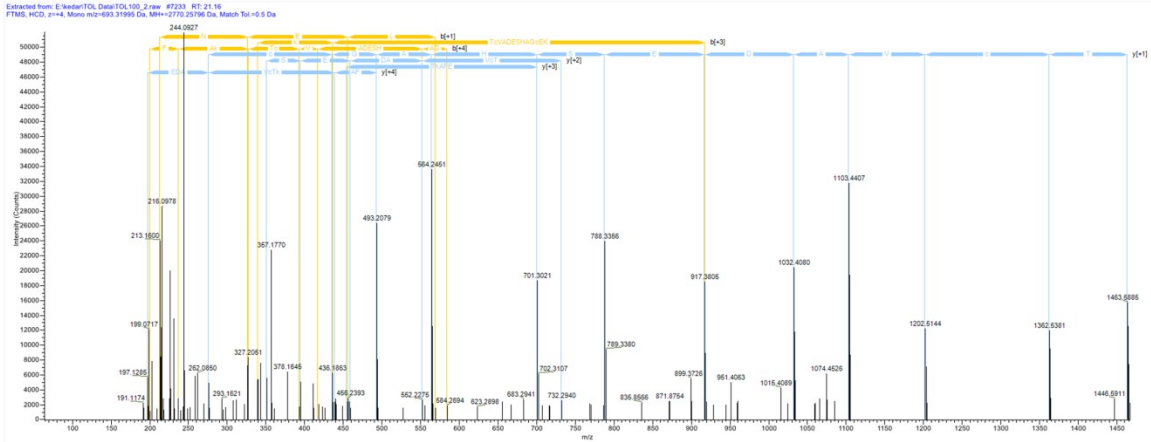
L k [H]L [V]D[E]P[Q]N[L]I [K]

Sequence: LKHLVDEPQNLIK

K2-Hex (162.05282 Da)

Charge: +3, Monoisotopic m/z: 570.31964 (-1.23 mmu/-2.15 ppm), MH+:
 1708.94437 Da, RT: 16.24 min,

Identified with: Sequest HT (v1.3); XCorr:1.84, Matched Ions: 0/0
 Fragment Match Tolerance: 0.5 Da



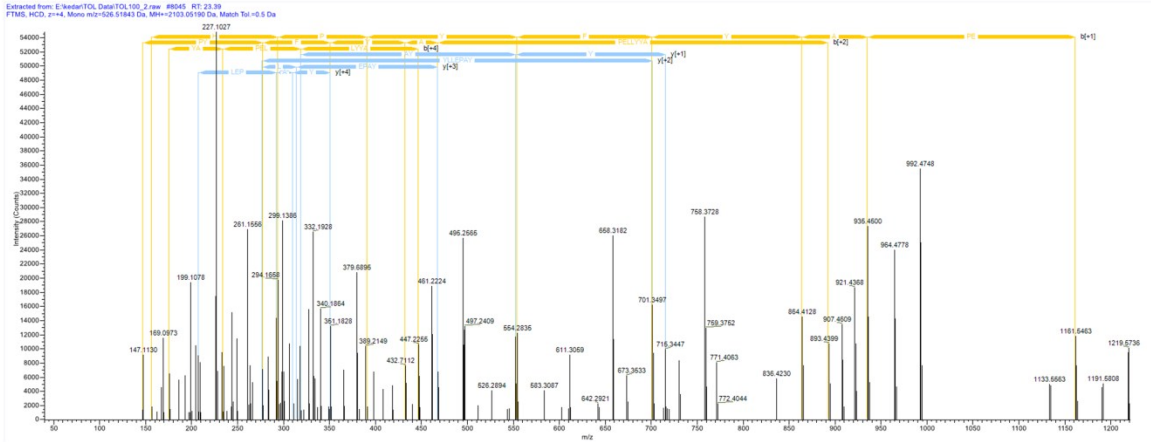
L V N E L T E F A k T c V A D E S H A G c E K

Sequence: LVNELTEFAKTCVADESHAGCEK

K10-Hex (162.05282 Da), C12-Carbamidomethyl (57.02146 Da), C21-Carbamidomethyl (57.02146 Da)

Charge: +4, Monoisotopic m/z: 693.31995 (+0.81 mmu/+1.17 ppm), MH+: 2770.25796 Da, RT: 21.16 min,

Identified with: Sequest HT (v1.3); XCorr:3.56, Matched Ions: 0/0
 Fragment Match Tolerance: 0.5 Da



R]H]P]Y]F]Y]A]P E]L]L]Y]Y A]N k

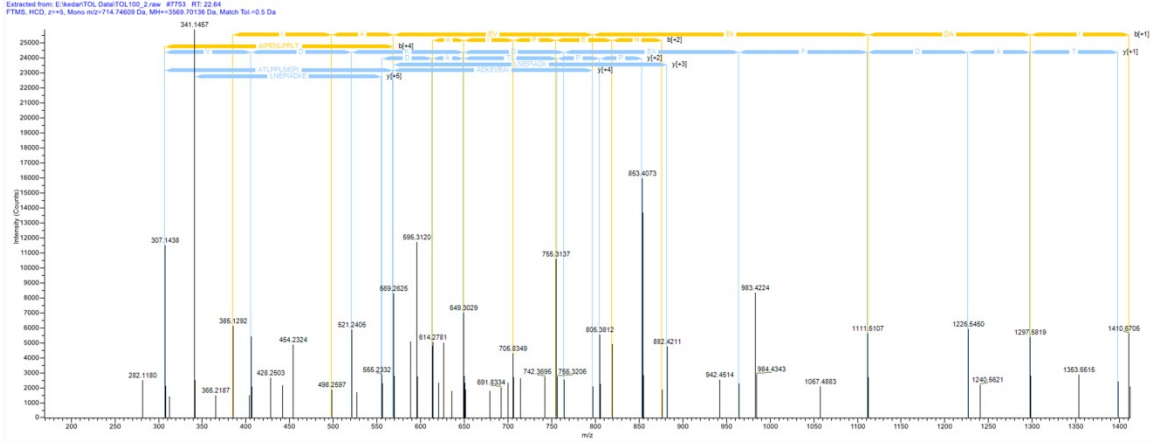
Sequence: RHPYFYAPPELLYYANK

K16-Carboxymethyl (58.00548 Da)

Charge: +4, Monoisotopic m/z: 526.51843 (+4.61 mmu/+8.76 ppm), MH+: 2103.05190 Da, RT: 23.39 min,

Identified with: Sequest HT (v1.3); XCorr:2.07, Matched Ions: 0/0

Fragment Match Tolerance: 0.5 Da



S H c I] A E V] E [k] D A]] P] E] N] L [P] P] L [T] A [D] F [A E] D [K] D] V [c K

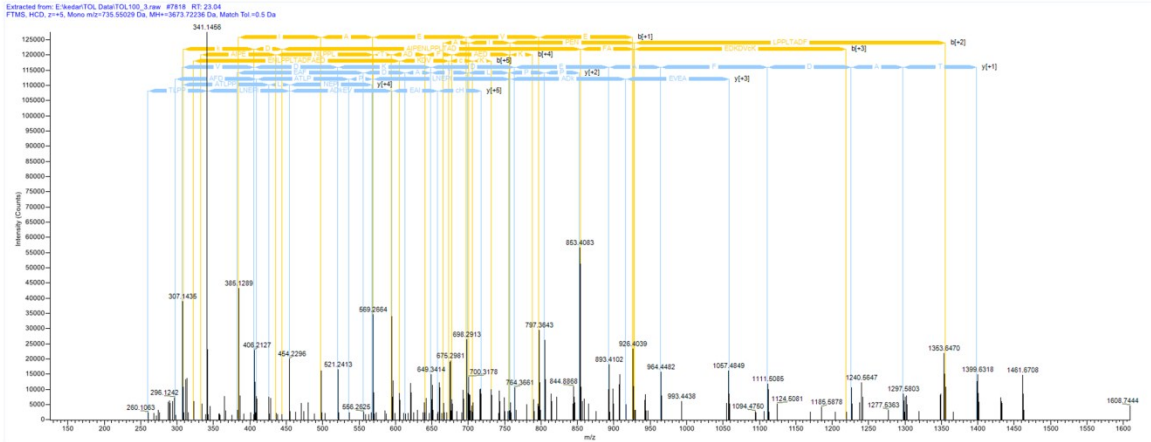
Sequence: SHCIAEVEKDAIPENLPPLTADFAEDKDVCK

C3-Carbamidomethyl (57.02146 Da), K9-Carboxymethyl (58.00548 Da), C30-Carbamidomethyl (57.02146 Da)

Charge: +5, Monoisotopic m/z: 714.74609 (+4.75 mmu/+6.65 ppm), MH+: 3569.70136 Da, RT: 22.64 min,

Identified with: Sequest HT (v1.3); XCorr:3.82, Matched Ions: 0/0

Fragment Match Tolerance: 0.5 Da



S[H c]I[A]E[V]E[k]D[A]I]P]E]N]L[P]P[L]T]A[D]F]A[E]D]K[D[V]c]K]

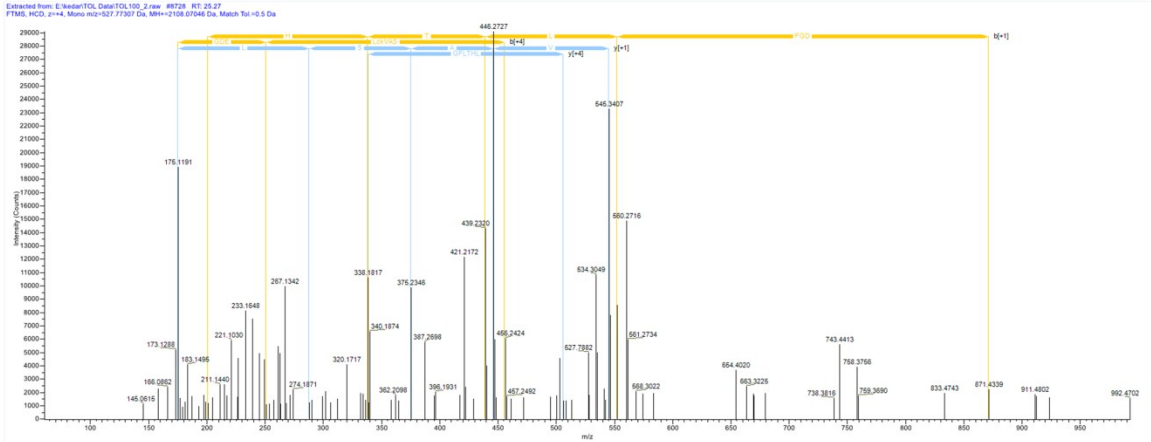
Sequence: SHCIAEVEKDAIPENLPLTADFAEDKDVCK

C3-Carbamidomethyl (57.02146 Da), K9-Hex (162.05282 Da), C30-Carbamidomethyl (57.02146 Da)

Charge: +5, Monoisotopic m/z: 735.55029 (-0.52 mmu/-0.71 ppm), MH+: 3673.72236 Da, RT: 23.04 min,

Identified with: Sequest HT (v1.3); XCorr:4.57, Matched Ions: 0/0

Fragment Match Tolerance: 0.5 Da



S L H T L F G D E L C K V A S L R

Sequence: SLHTLFGDELCKVASLR

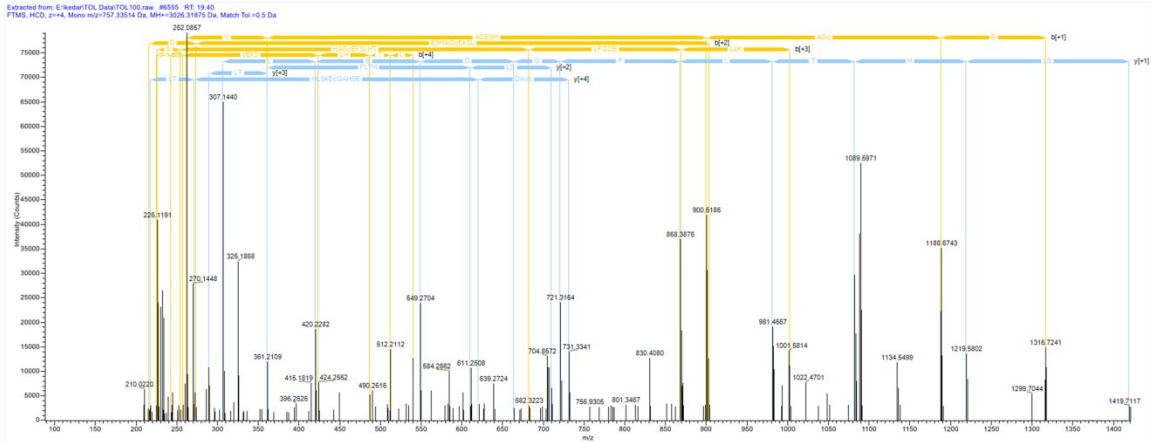
C11-Carbamidomethyl (57.02146 Da), K12-Hex (162.05282 Da)

Charge: +4, Monoisotopic m/z: 527.77307 (+0.28 mmu/+0.54 ppm), MH+: 2108.07046

Da, RT: 25.27 min,

Identified with: Sequest HT (v1.3); XCorr:1.80, Matched Ions: 0/0

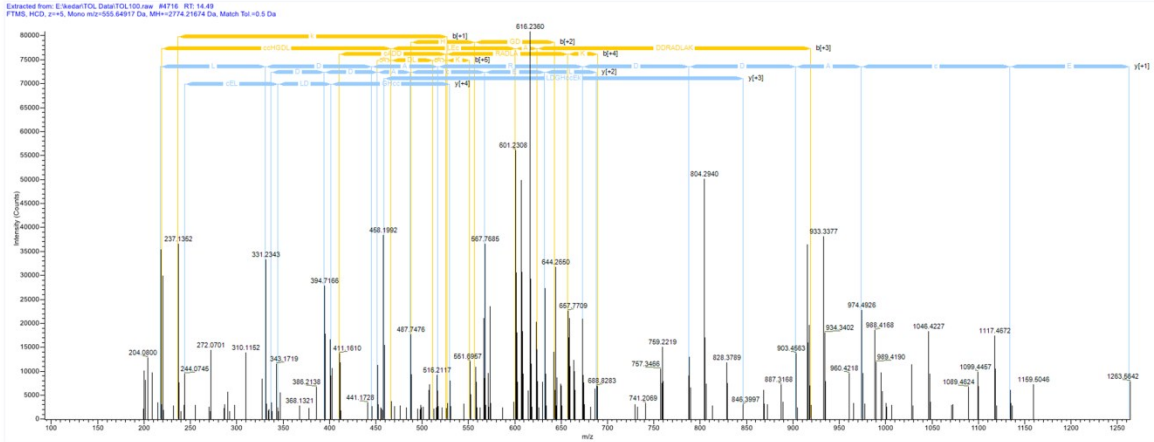
Fragment Match Tolerance: 0.5 Da



T [c] V [A] D [E] S [H] A [G] c [E] k [S] L [H] T [L] F [G] D [E] L [c] K []

Sequence: TCVADESHAGCEKSLHTLFGDELCK
 C2-Carbamidomethyl (57.02146 Da), C11-Carbamidomethyl (57.02146 Da), K13-Hex
 (162.05282 Da), C24-Carbamidomethyl (57.02146 Da)
 Charge: +4, Monoisotopic m/z: 757.33514 (+0.25 mmu/+0.33 ppm), MH+:
 3026.31875 Da, RT: 19.40 min,

Identified with: Sequest HT (v1.3); XCorr:3.59, Matched Ions: 0/0
 Fragment Match Tolerance: 0.5 Da



V H [k] E [c] H [c] G [D] L [L] [E] [c] A [D] [D] R [A] [D] [L] [A] [K]

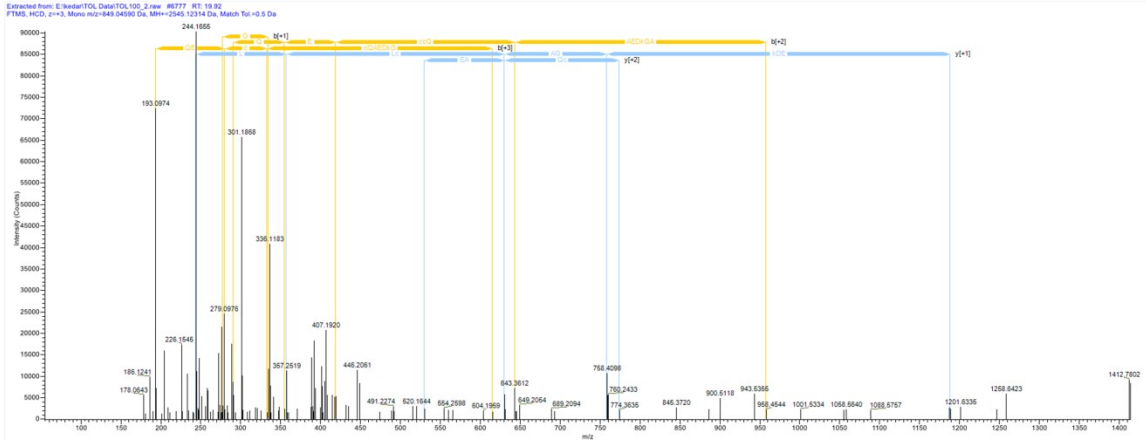
Sequence: VHKECCHGDLLECAADDRADLAK

K3-Hex (162.05282 Da), C5-Carbamidomethyl (57.02146 Da), C6-Carbamidomethyl (57.02146 Da), C13-Carbamidomethyl (57.02146 Da)

Charge: +5, Monoisotopic m/z: 555.64917 (-0.25 mmu/-0.44 ppm), MH+: 2774.21674 Da, RT: 14.49 min,

Identified with: Sequest HT (v1.3); XCorr:2.69, Matched Ions: 0/0

Fragment Match Tolerance: 0.5 Da



Y N]G]V F]Q]E]c]c]Q]A]E]D k]G]A]c]L]L]P]K

Sequence: YNGVFQECQAEDKGA^cLLPK

C8-Carbamidomethyl (57.02146 Da), C9-Carbamidomethyl (57.02146 Da), K14-Carboxymethyl (58.00548 Da), C17-Carbamidomethyl (57.02146 Da)

Charge: +3, Monoisotopic m/z: 849.04590 (+2.48 mmu/+2.92 ppm), MH+: 2545.12314 Da, RT: 19.92 min,

Identified with: Sequest HT (v1.3); XCorr:2.09, Matched Ions: 0/0
 Fragment Match Tolerance: 0.5 Da