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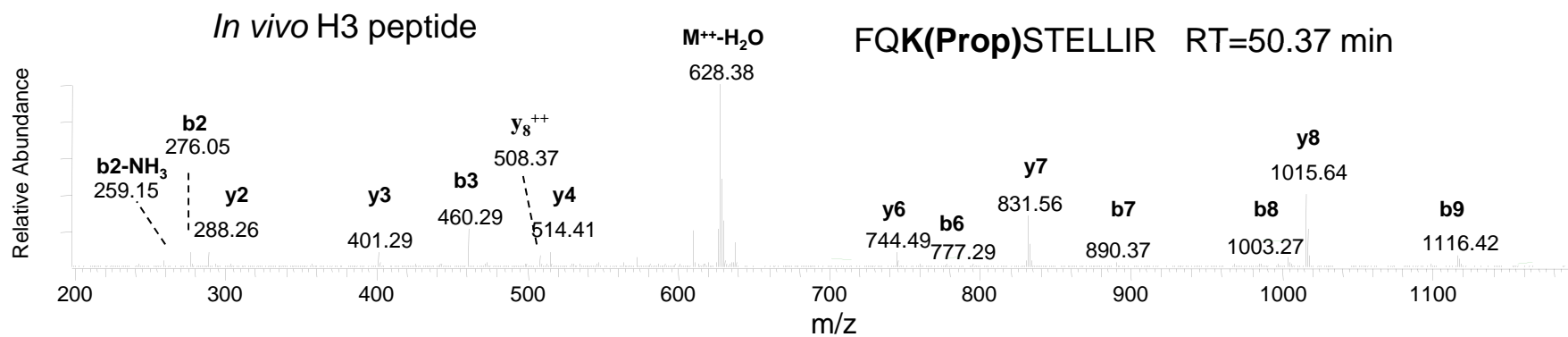
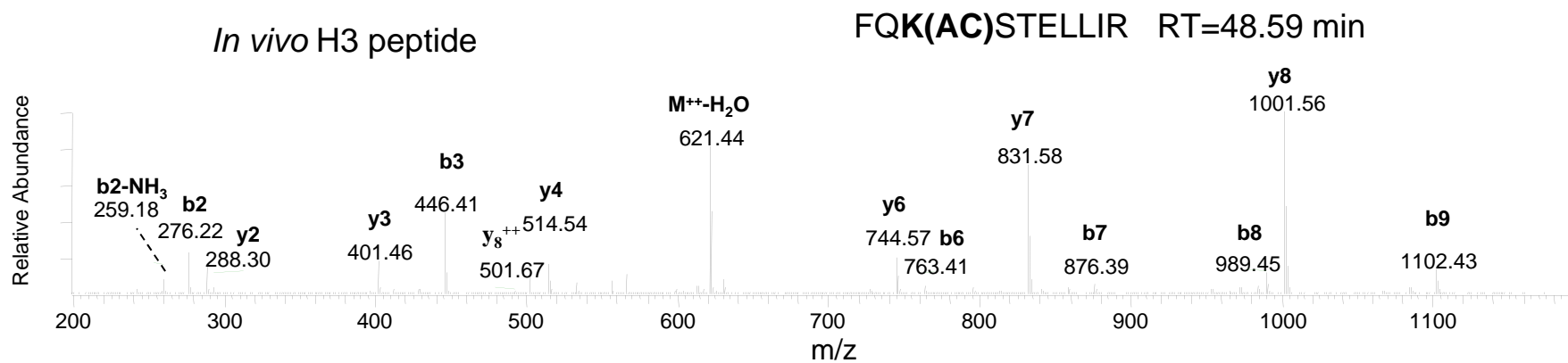
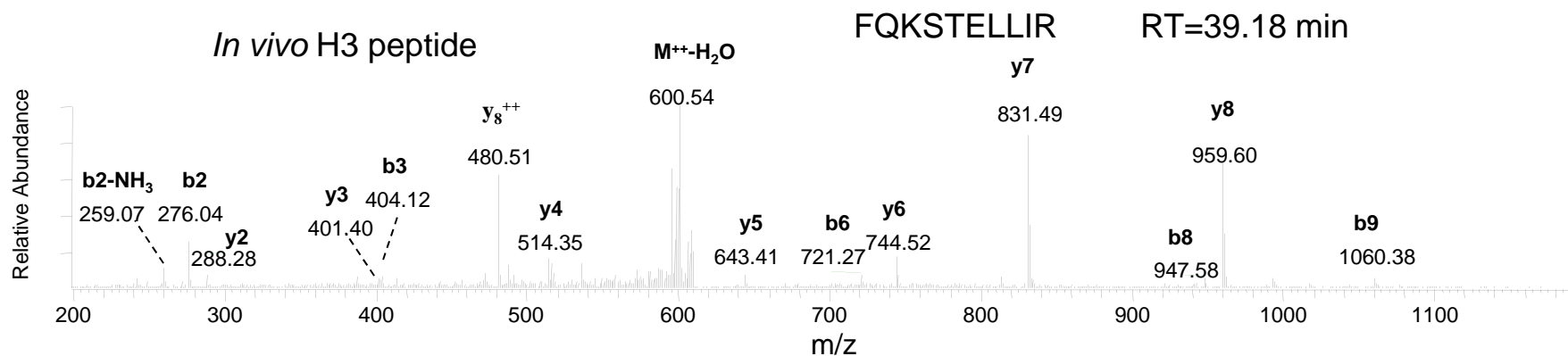
Supplemental Information S5. MS/MS Spectra of the modified peptides from yeast histone H2B.

Supplemental Information S1. Spectral counts and retention time of unmodified and modified peptides with novel mass shifts

Protein Names	Gi No.	Positions	AAs	Sequence and mass shifts	Spectral counts (modified/unmodified)	Retention times (min) (modified/unmodified)
H3	48428921	57	S	K.S(+83)TELLIR.K	1/128	46.55/56.80
H3	48428921	57	S	K.S(+96)TELLIR.K	2/128	65.69/41.23
H3	48428921	68	Q	R.KLPFQ(+1)R.L	2/35	34.30/57.43
H3	48428921	73, 79	E	R.E(+42)IAQDFK(+42)TDLR.F	1/52	63.39/44.65
H3	48428921	79	K	R.EIAQDFK(+98)TDLR.F	2/52	63.59/44.65
H3	48428921	19, 23	Q	R.KQ(+1)LASK(+42)AAR.K	1/21	10.92/9.77
H4	122107	25	D	R.D(+42)NIQGITKPAIR.R	1/22	82.91/32.65
H4	122107	27	Q	R.DNIQ(+1)GITKPAIR.R	3/22	41.25/38.65
H4	122107	31	K	R.DNIQGITK(-19)PAIR.R	7/22	48.49/38.65
H4	122107	35	R	R.DNIQGITKPAIR(+74).R	1/22	36.63/38.65
H4	122107	35	N	R.DN(-2)IQGITKPAIR.R	1/22	44.25/38.65
H4	122107	35	N	R.DN(+1)IQGITKPAIR.R	1/22	42.57/38.65
H4	122107	45	R	K.R(+53)ISGLIYEEVR.A	4/19	85.15/42.43
H4	122107	47	S	R.IS(+12)GLIYEEVR.A	1/29	57.50/48.04
H4	122107	47	S	R.IS(+26)GLIYEEVR.A	2/29	58.22/48.04
H4	122107	51	E	R.ISGLIYE(+74)EVR.A	1/29	46.02/48.04
H4	122107	58	K	R.AVLK(-19)SFLESVIR.D	3/19	77.84/50.94
H4	122107	59	S	K.S(+81)FLESVIR.D	2/19	56.45/50.94
H4	122107	59	S	K.S(+68)FLESVIR.D	1/19	54.51/50.94
H4	122107	63	E	R.DSVTYTE(+28)HAK.R	1/16	14.02/11.60
H4	122107	68	S	R.DS(-2)VTYTEHAK.R	1/16	19.42/13.72

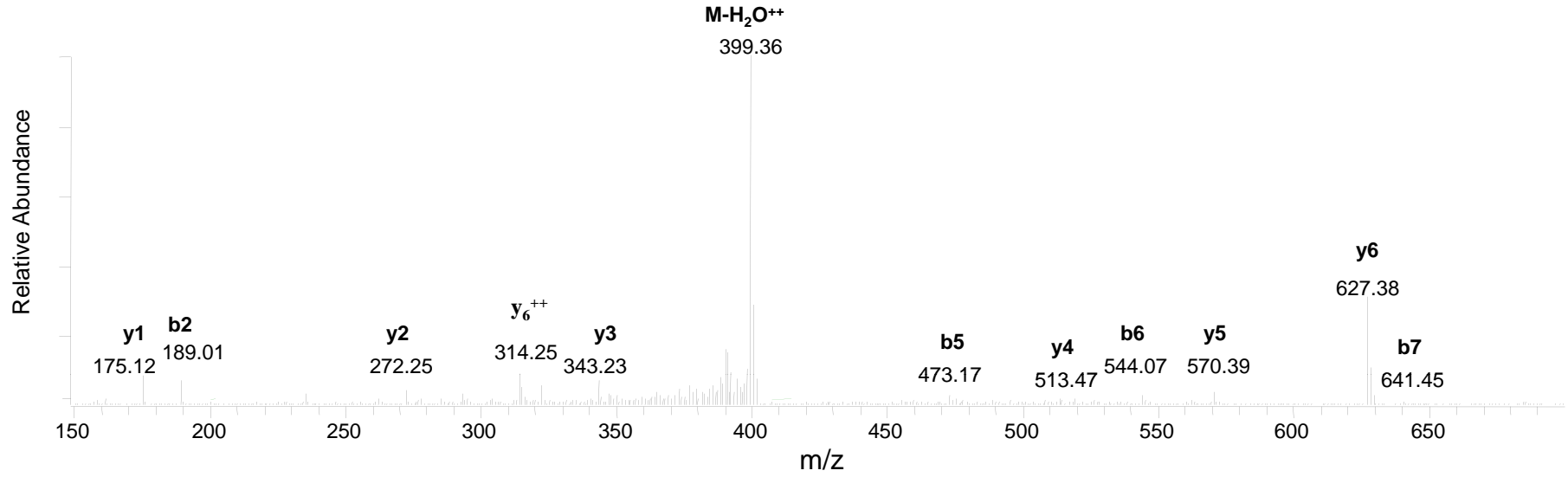
Protein Names	Gi No.	Positions	AAs	Sequence and mass shifts	Spectral counts (modified/unmodified)	Retention times (min) (modified/unmodified)
H4	122107	76	K	R.DSVTYTEHAKR K(-19) .T	1/19	15.13/13.65
H4	122107	90	K	R.KTVTSLDVVYAL K(-19) R.Q	2/9	54.91/43.63
H2B	403314	51	S	K. S(+198) MSILNSFVNDIFER.I	2/114	94.24/72.16
H2B	403314	51	S	K. S(+174) MSILNSFVNDIFER.I	1/114	89.41/72.16
H2B	403314	70	N	K.SMSILNSFV N(+1) DIFER.I	8/114	70.90/72.16
H2B	403314	45	K	K.ETYSSYIY K(-19) VLK.Q	2/70	66.62/33.47

Supplemental Information S2. MS/MS spectra of the peptides containing K^{Prop} and K^{Buty}



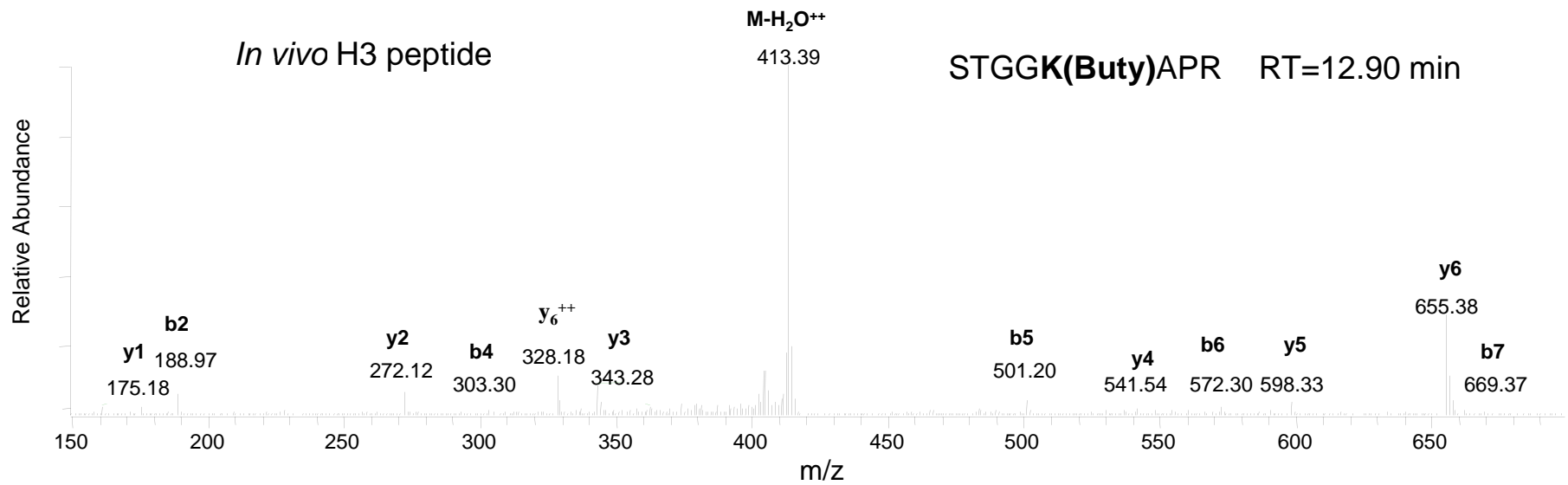
In vivo H3 peptide

STGGK(Ac)APR RT=7.44 min



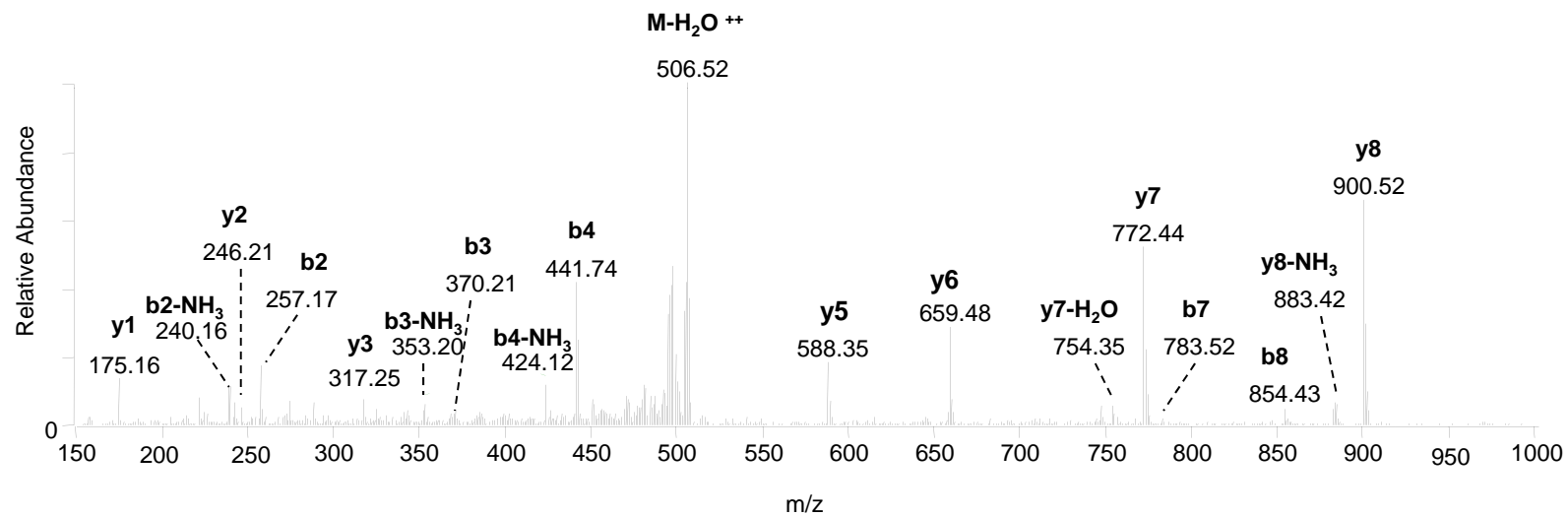
In vivo H3 peptide

STGGK(Buty)APR RT=12.90 min



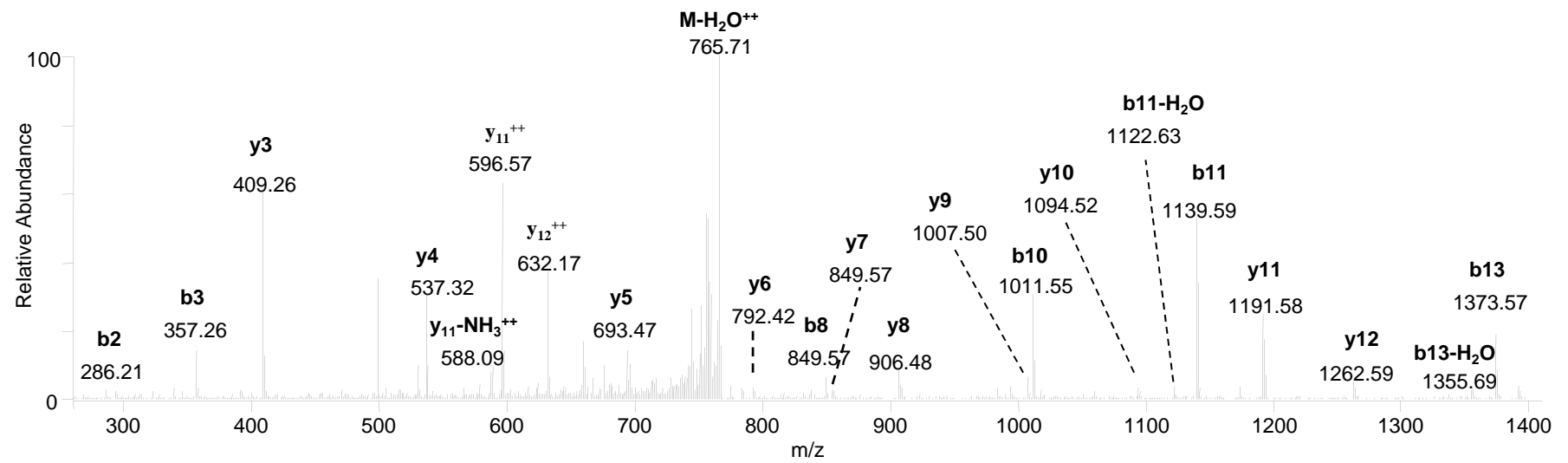
In vivo H3 peptide

KQLASK(Prop)AAR



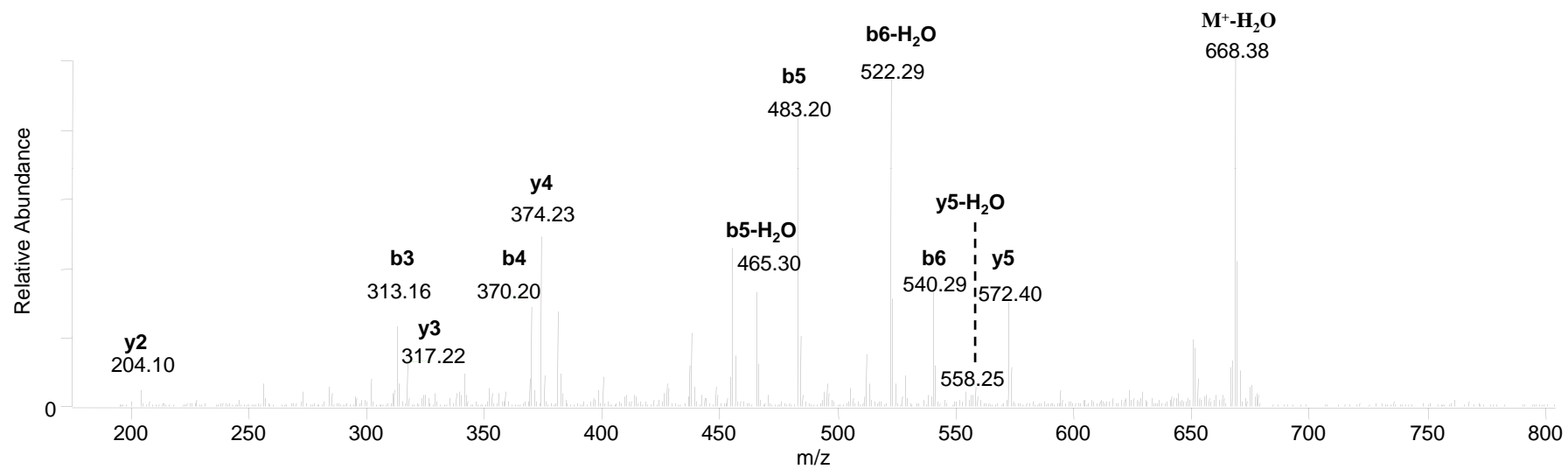
In vivo H3 peptide

K(Buty)SAPSTGGVK(di-Me)KPHR



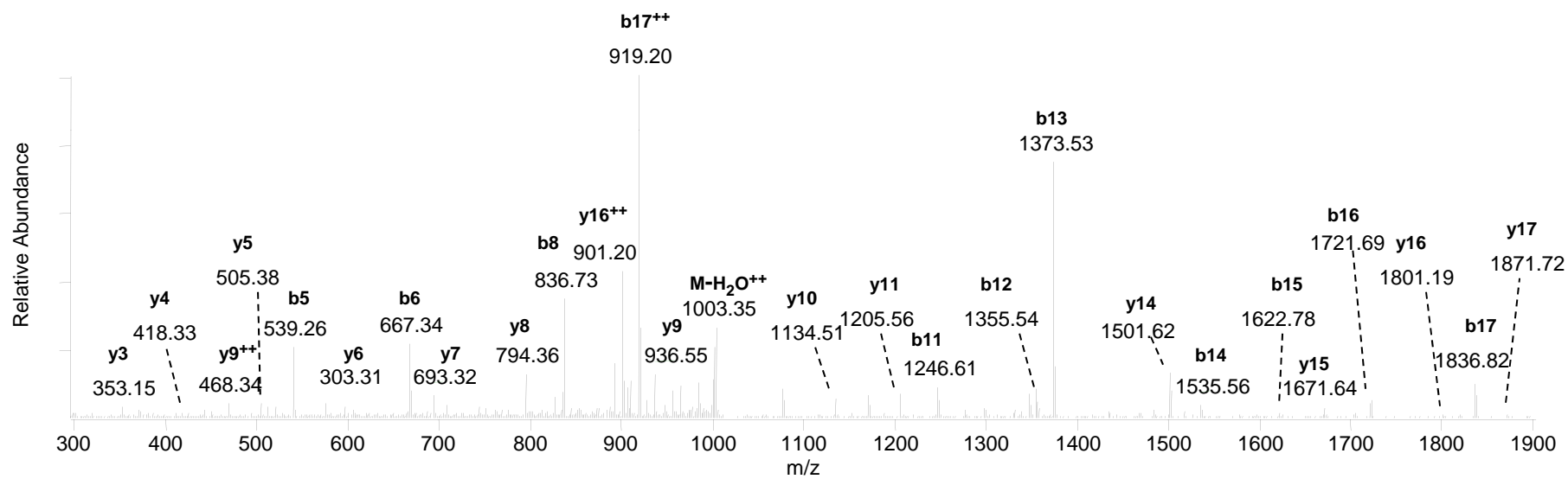
In vivo H4 peptide

GGK(**Buty**)GLGK

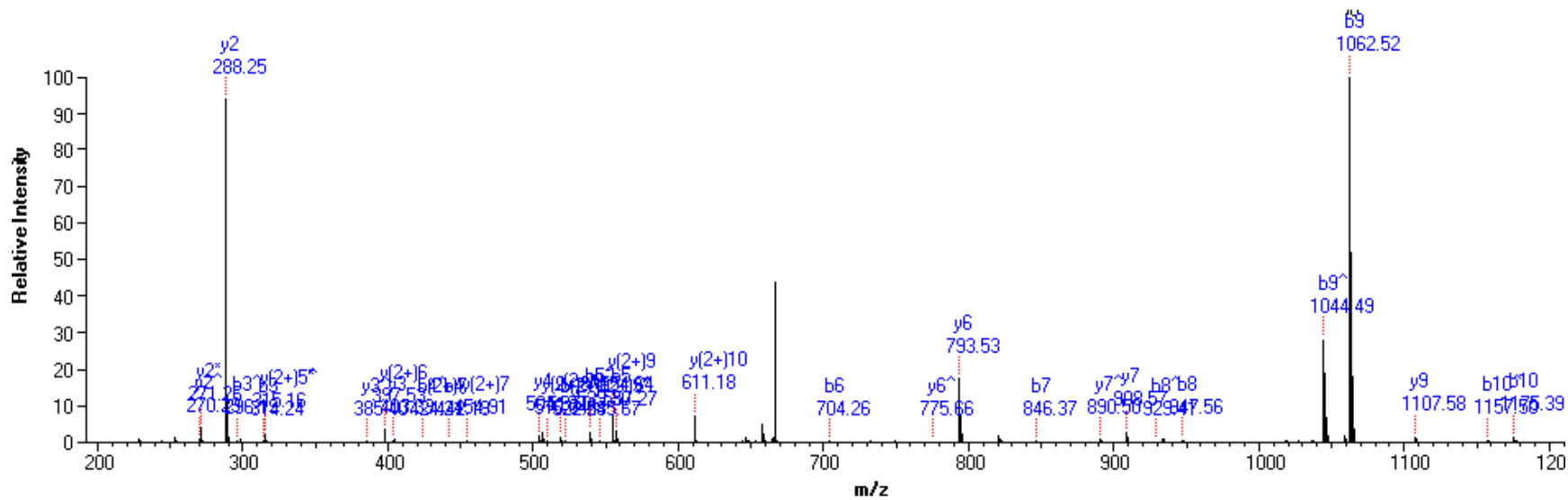


In vivo H2B peptide

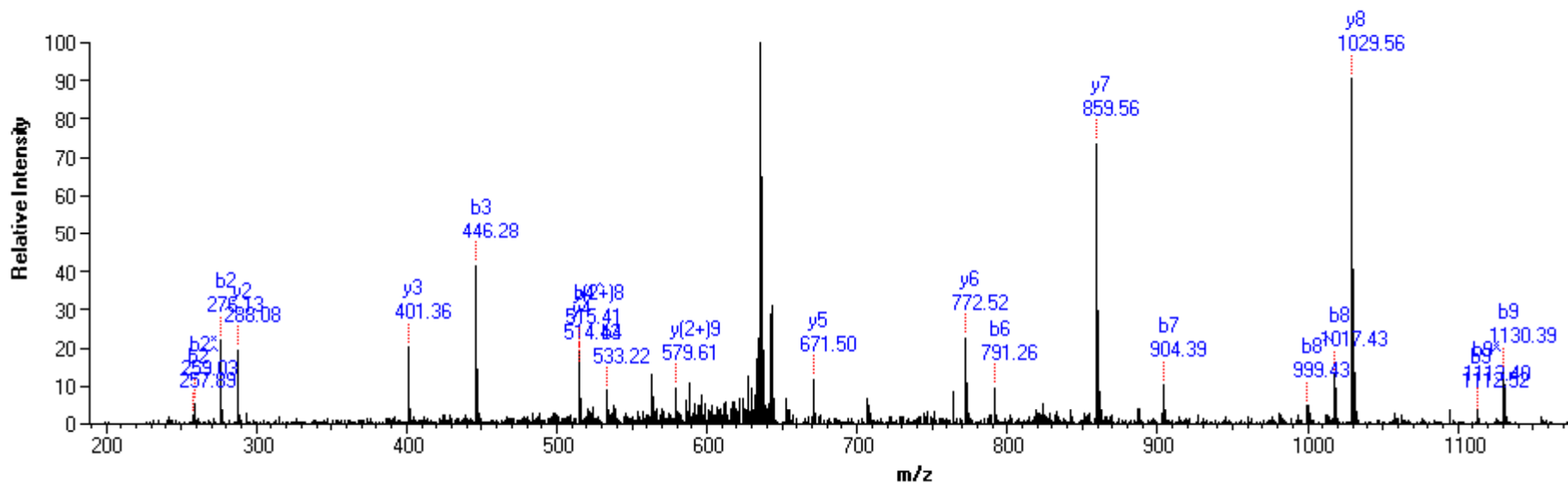
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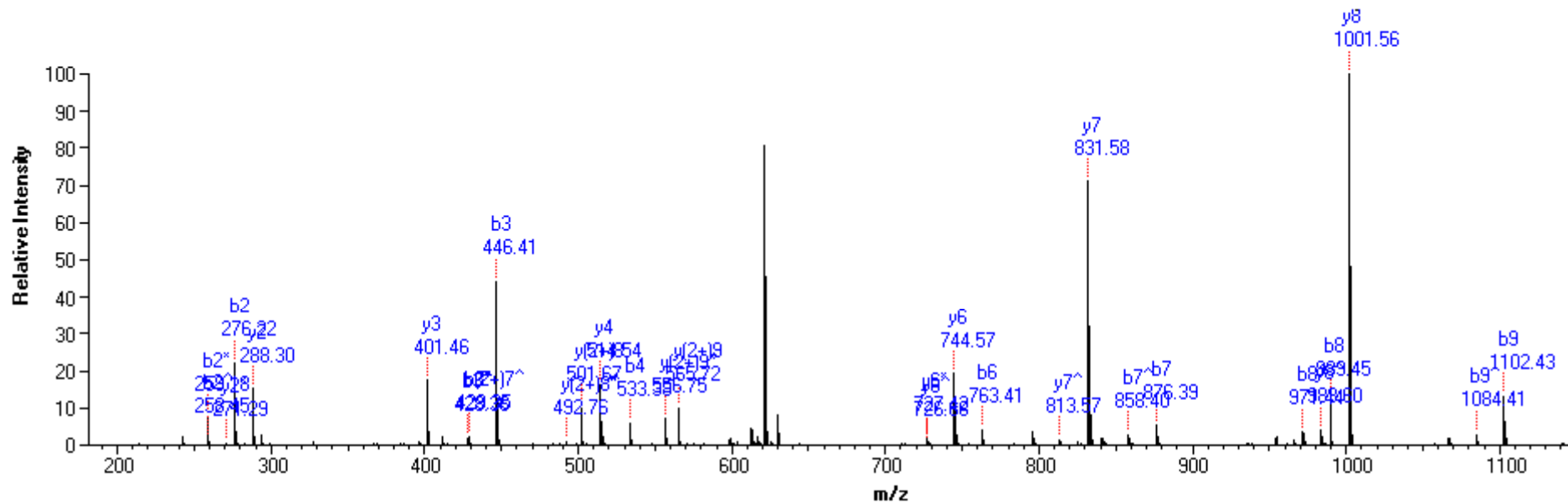
Supplemental Information S3. MS/MS spectra of the modified peptides from yeast histone H3.



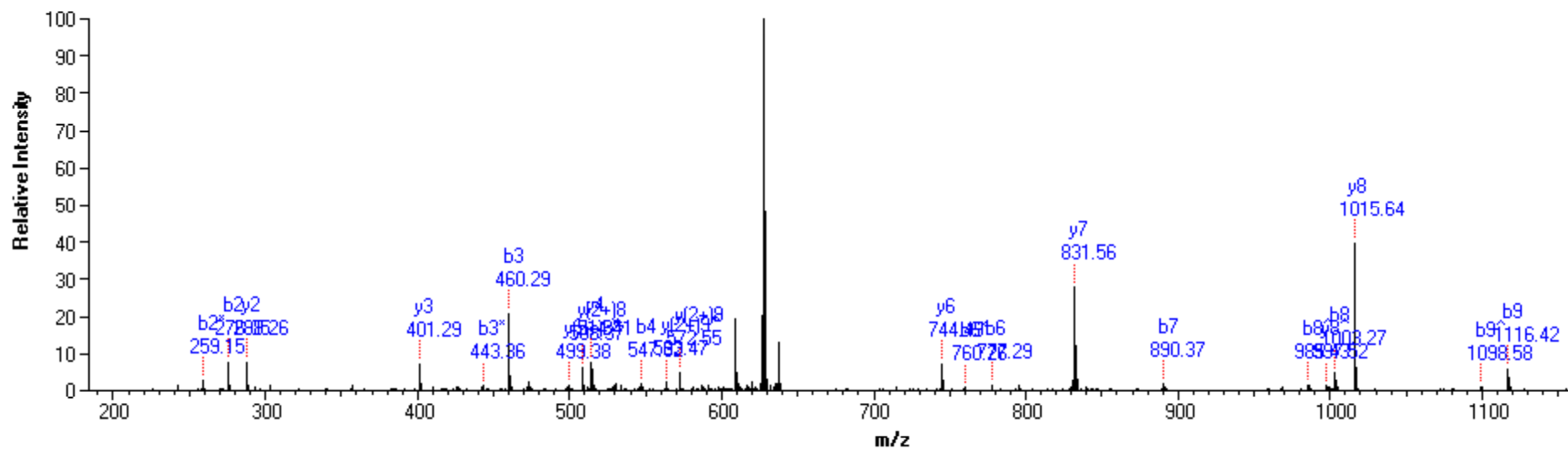
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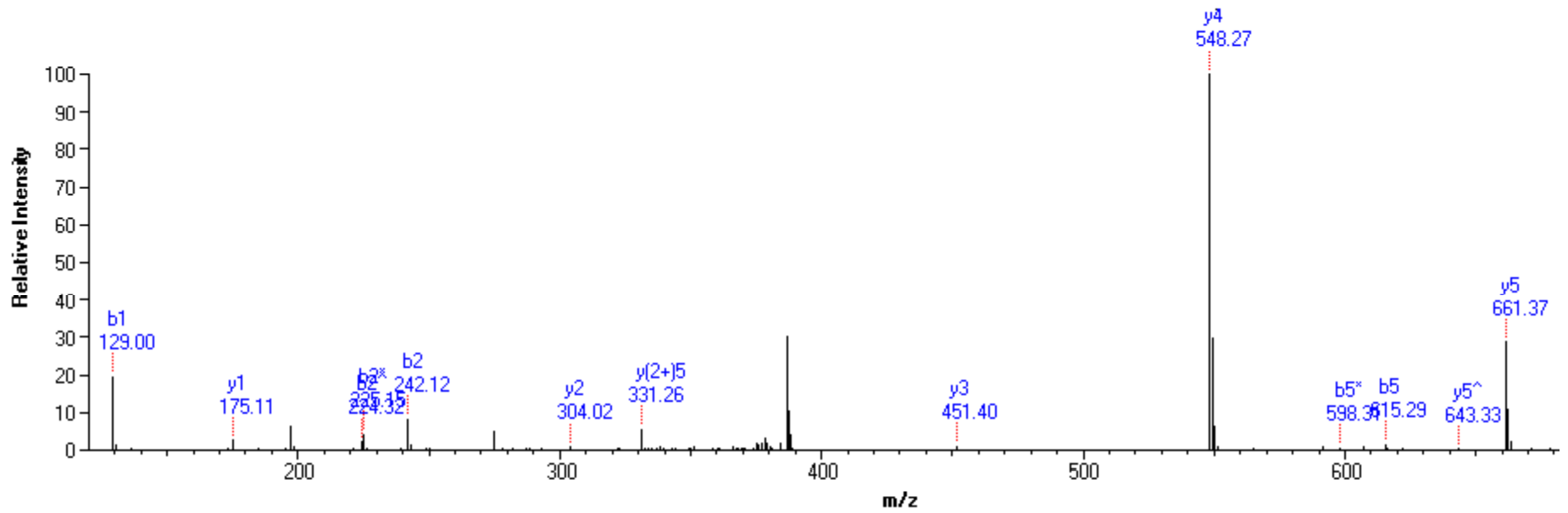
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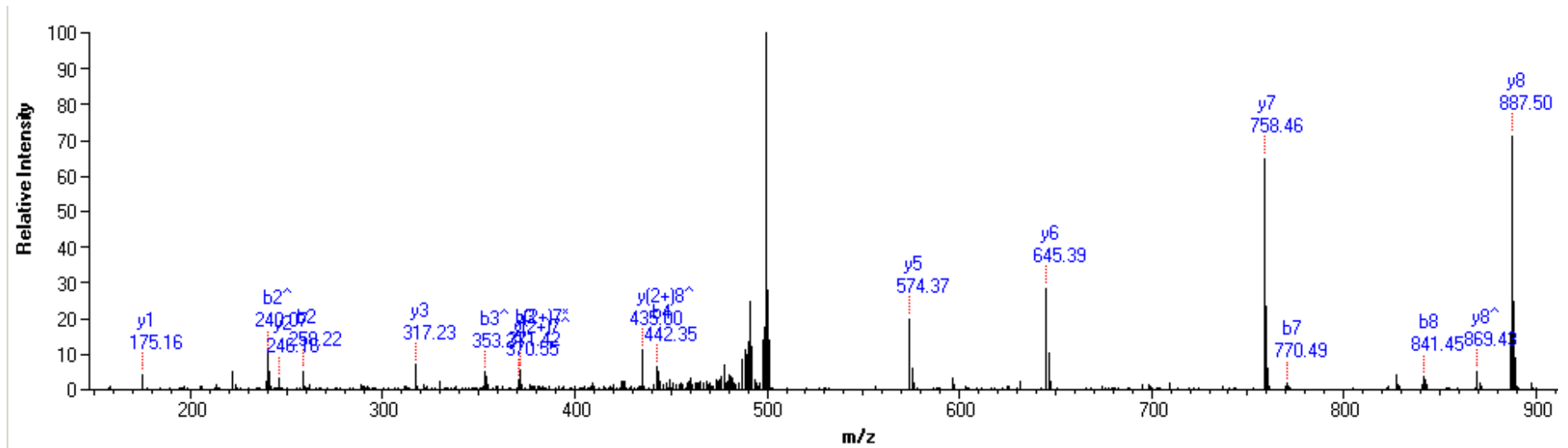
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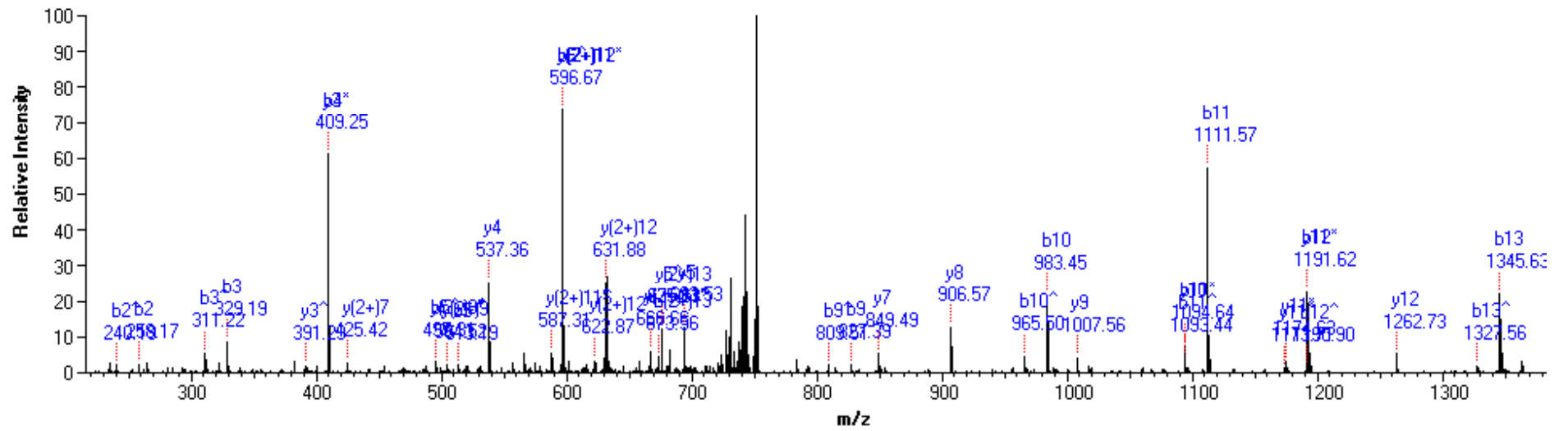
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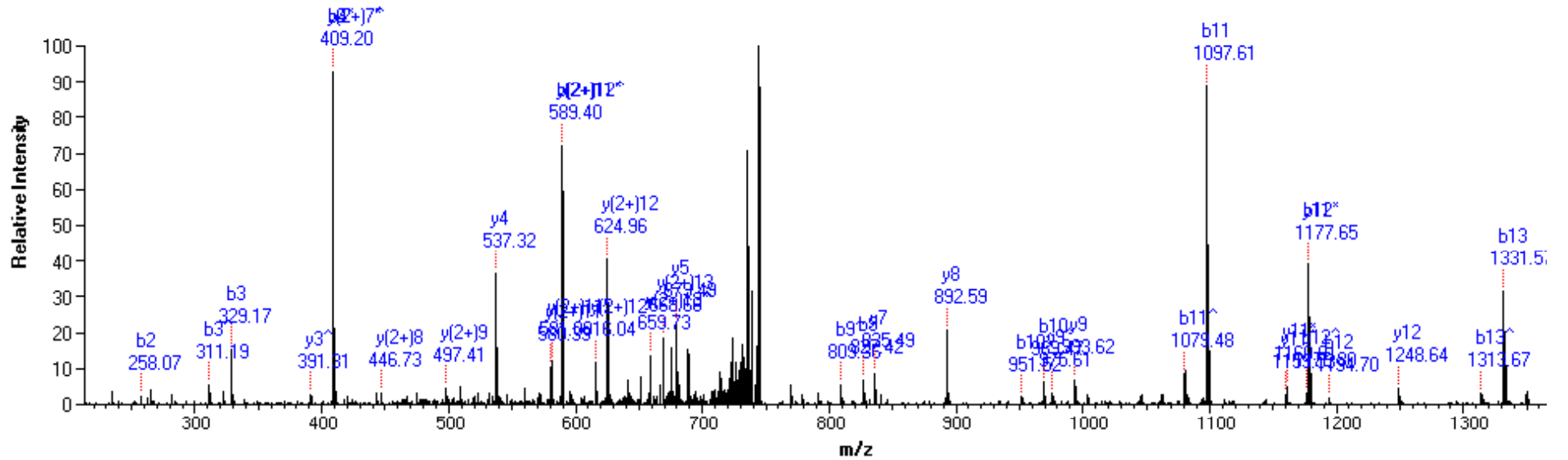
KLPFQ(+1)R



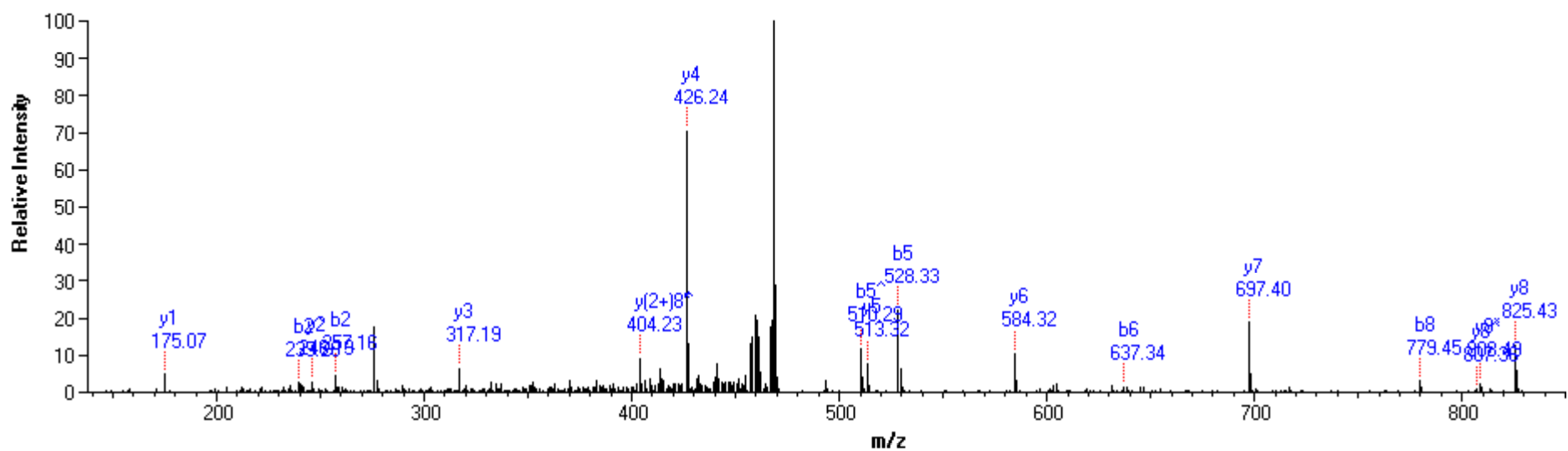
KQ(+1)LASK(+42)AAR



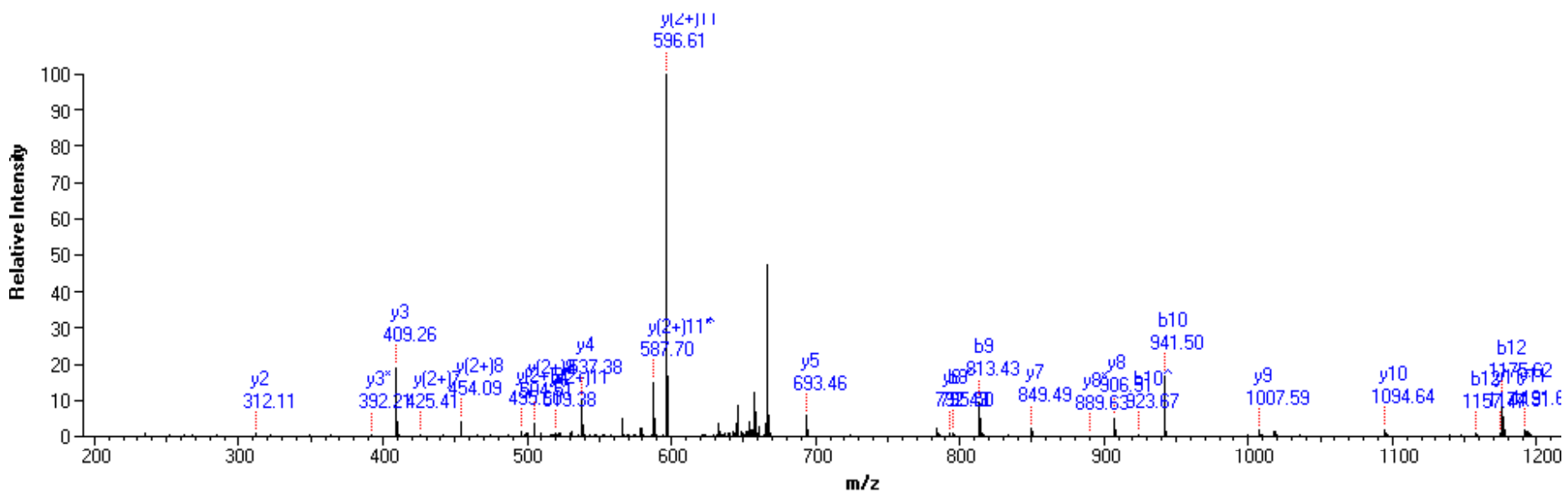
K(+42)SAPSTGGVK(+28)KPHR



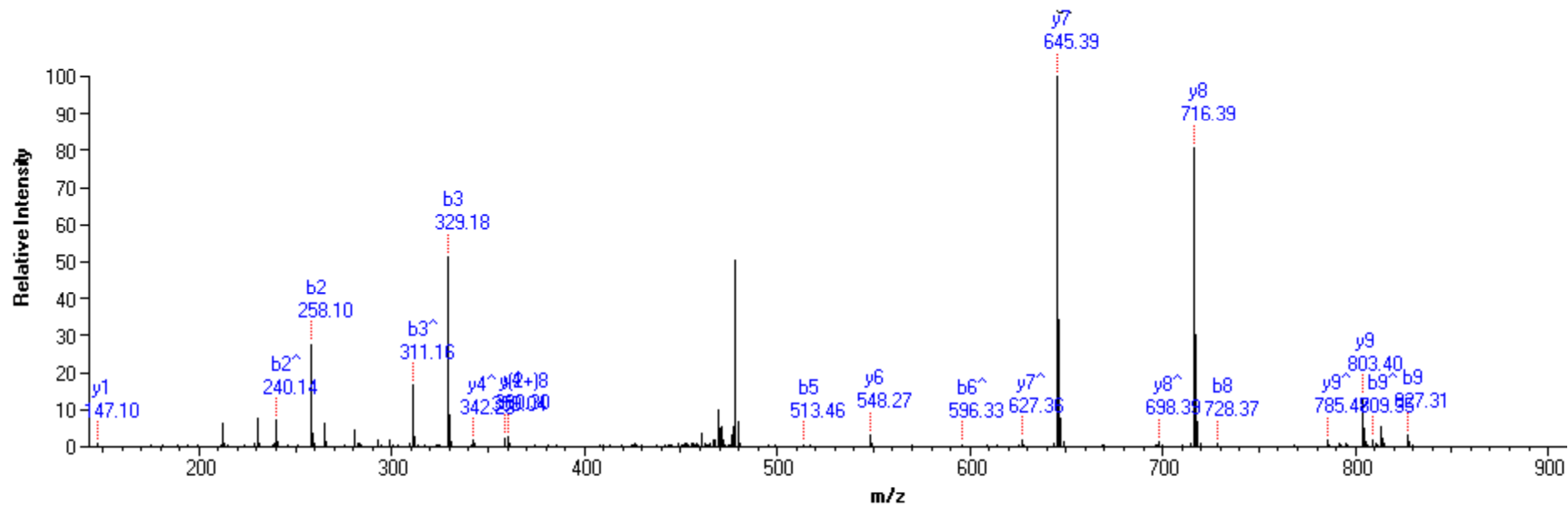
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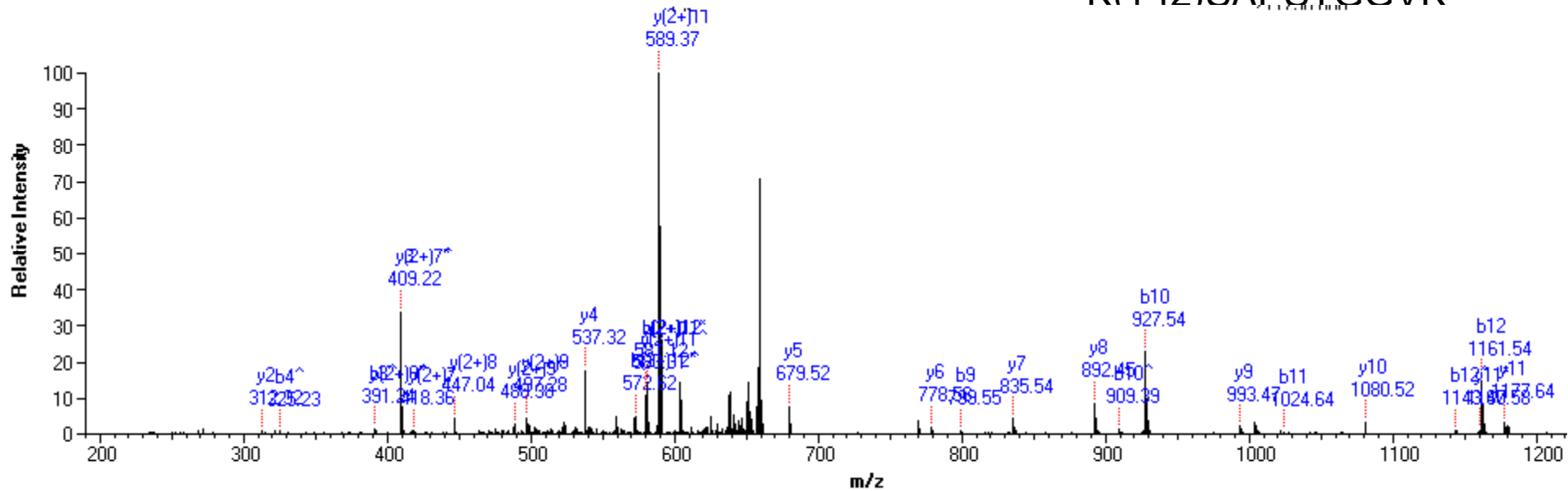
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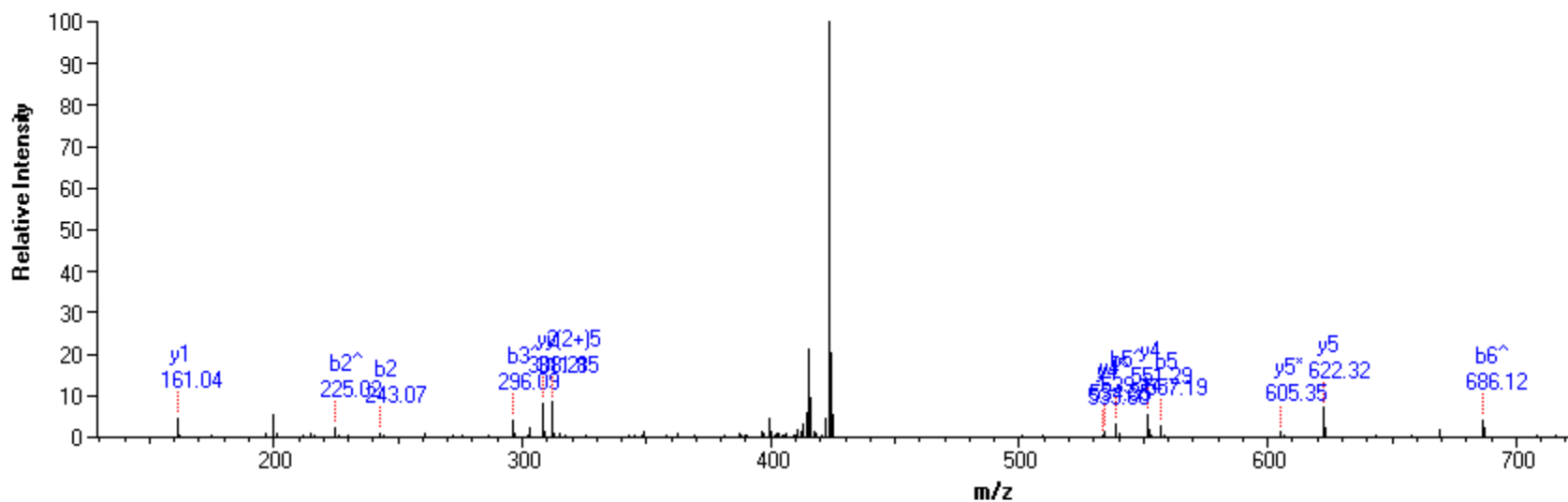
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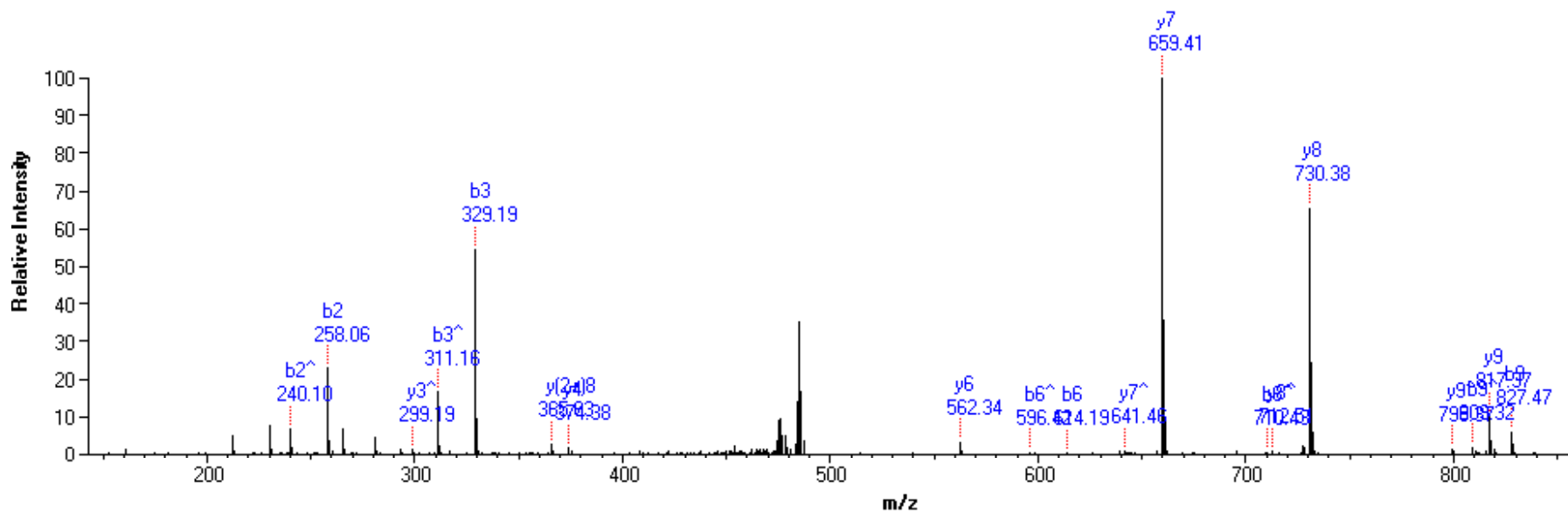
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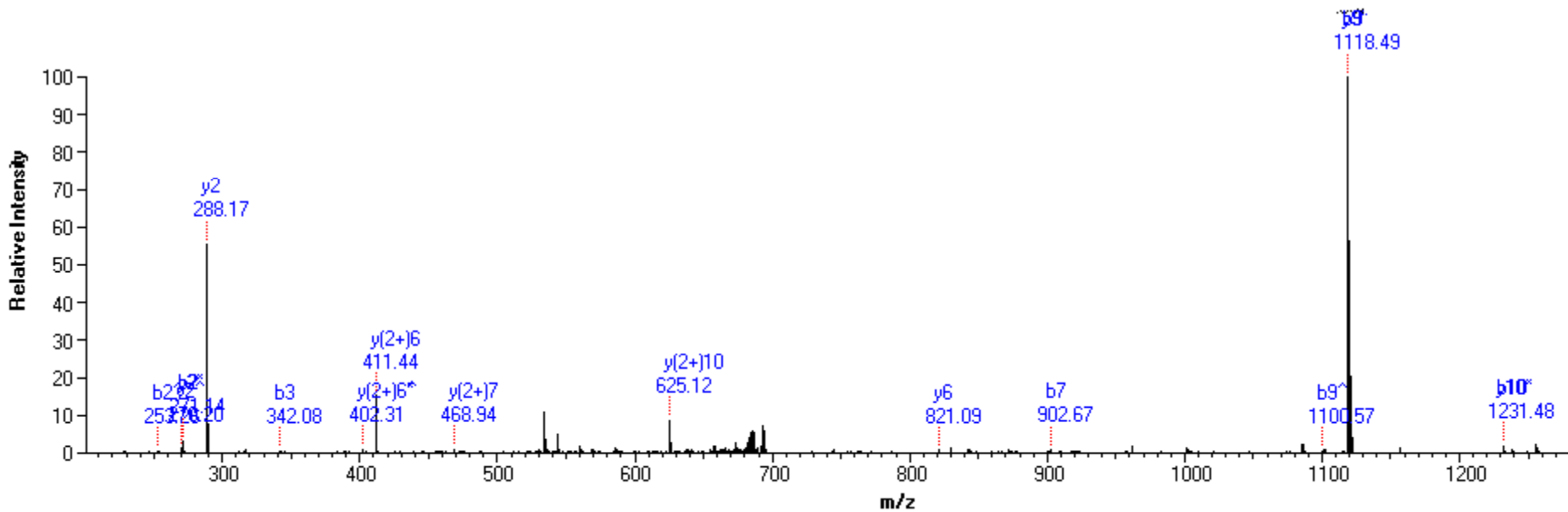
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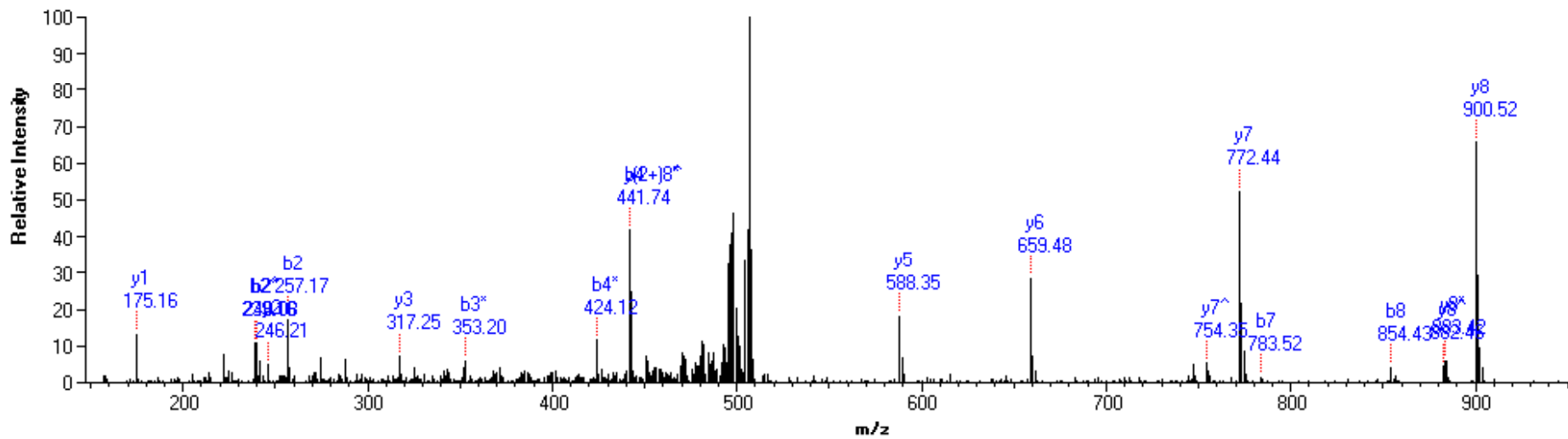
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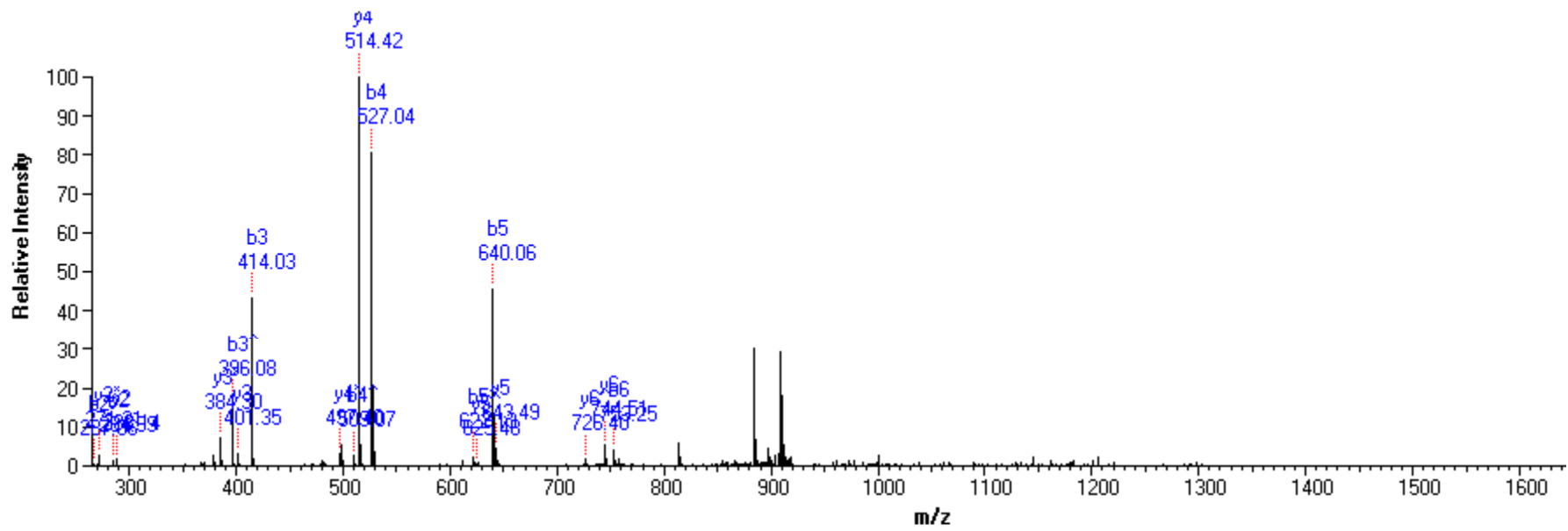
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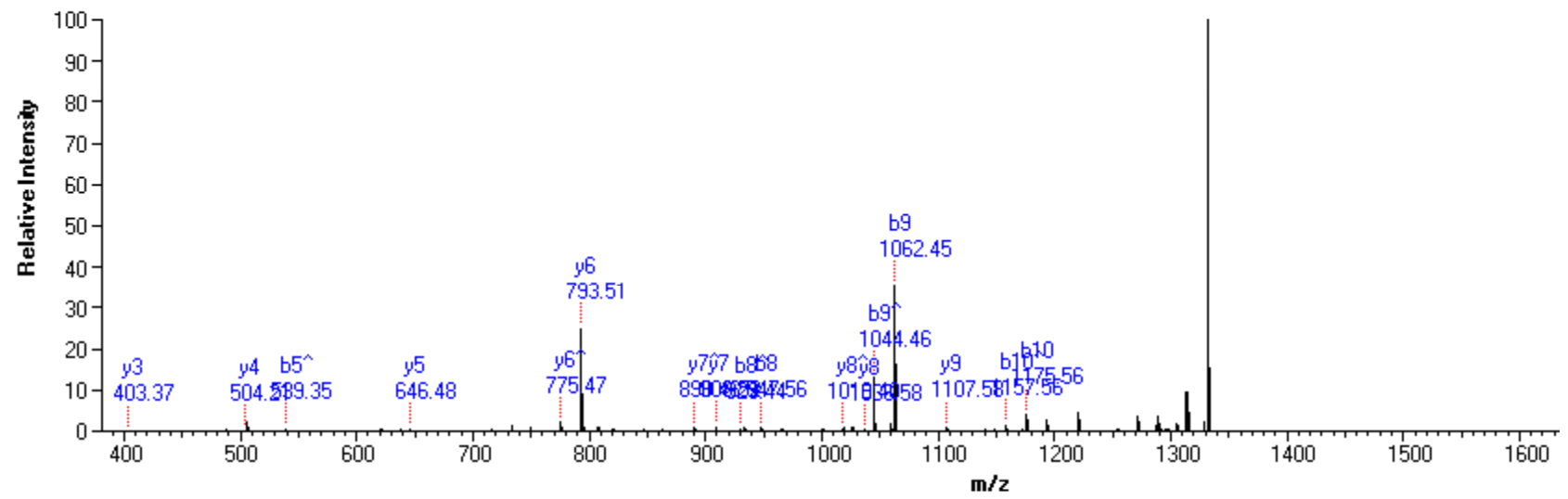
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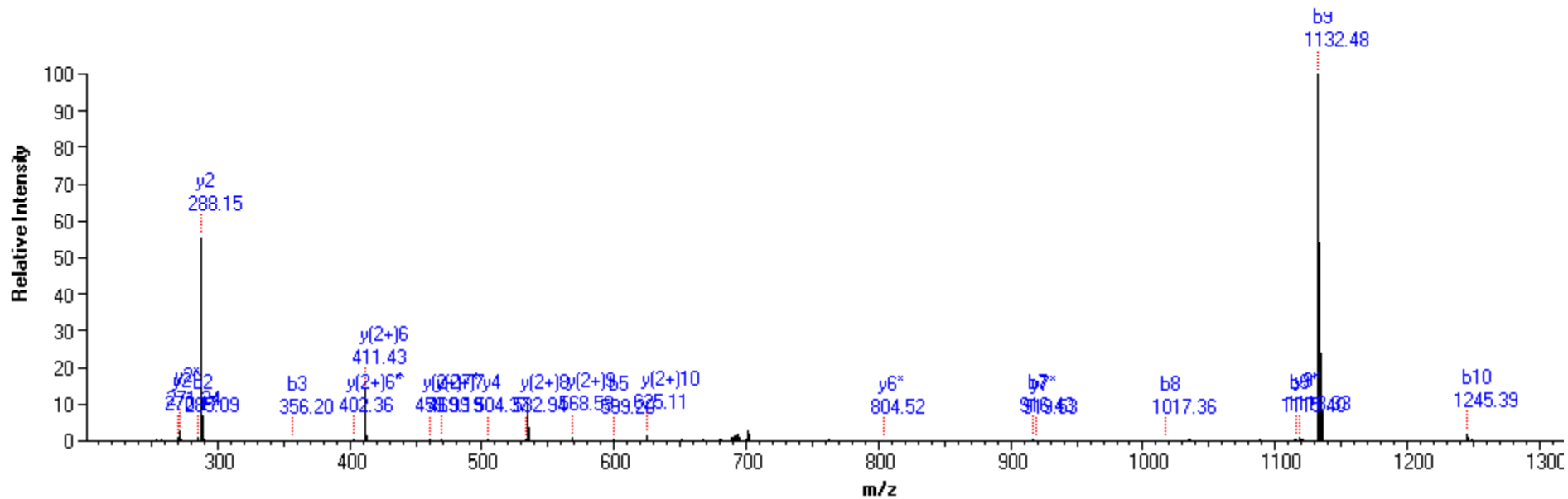
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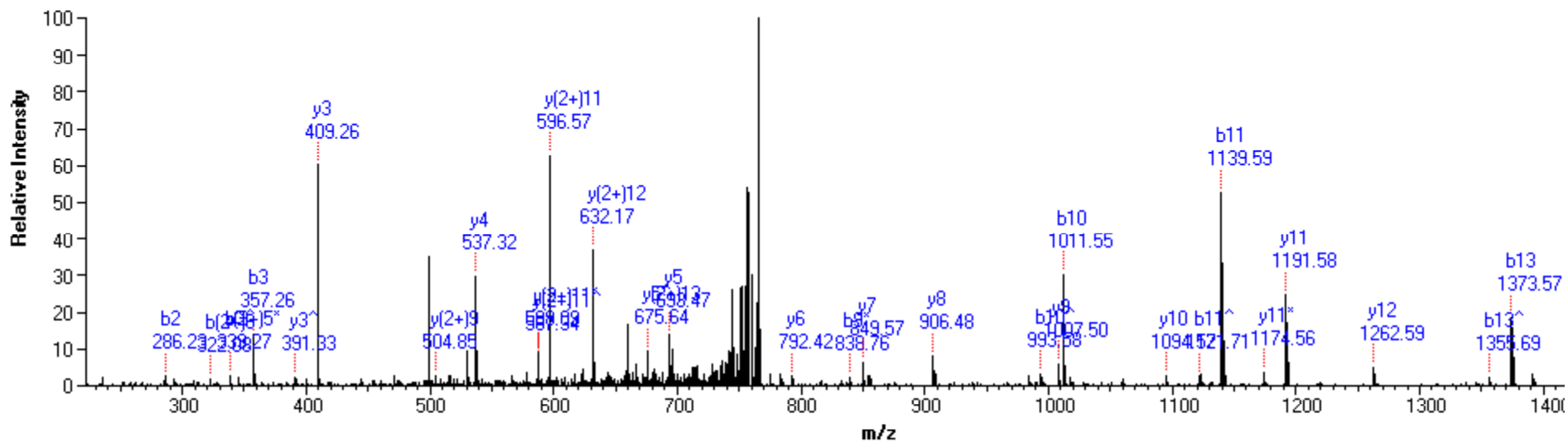
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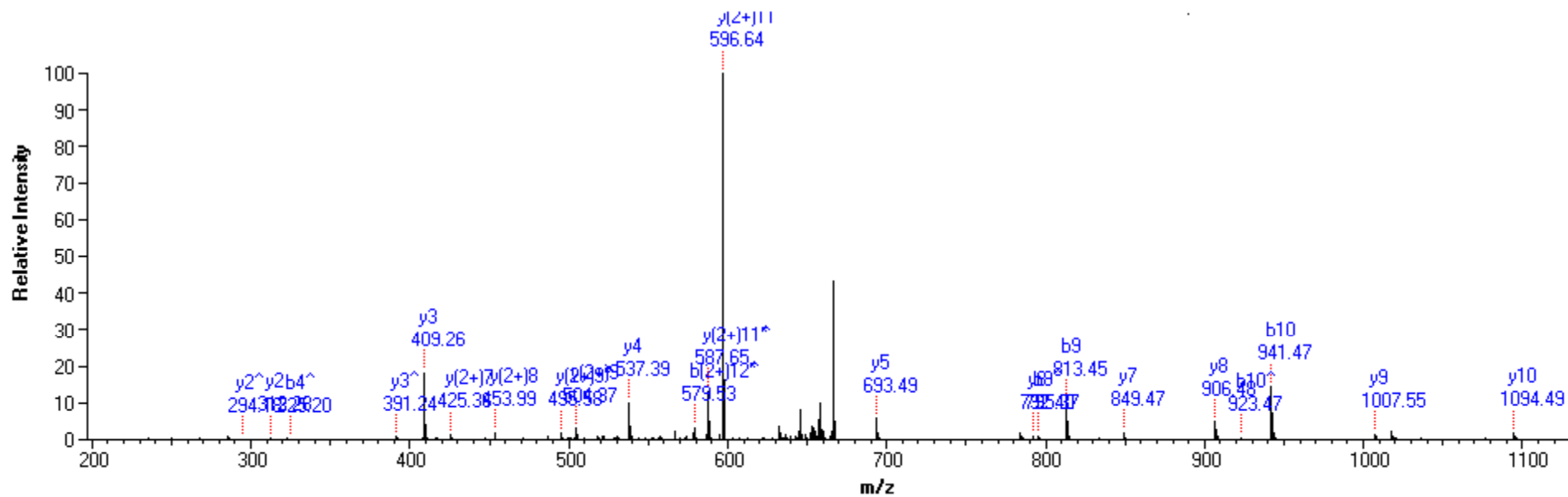
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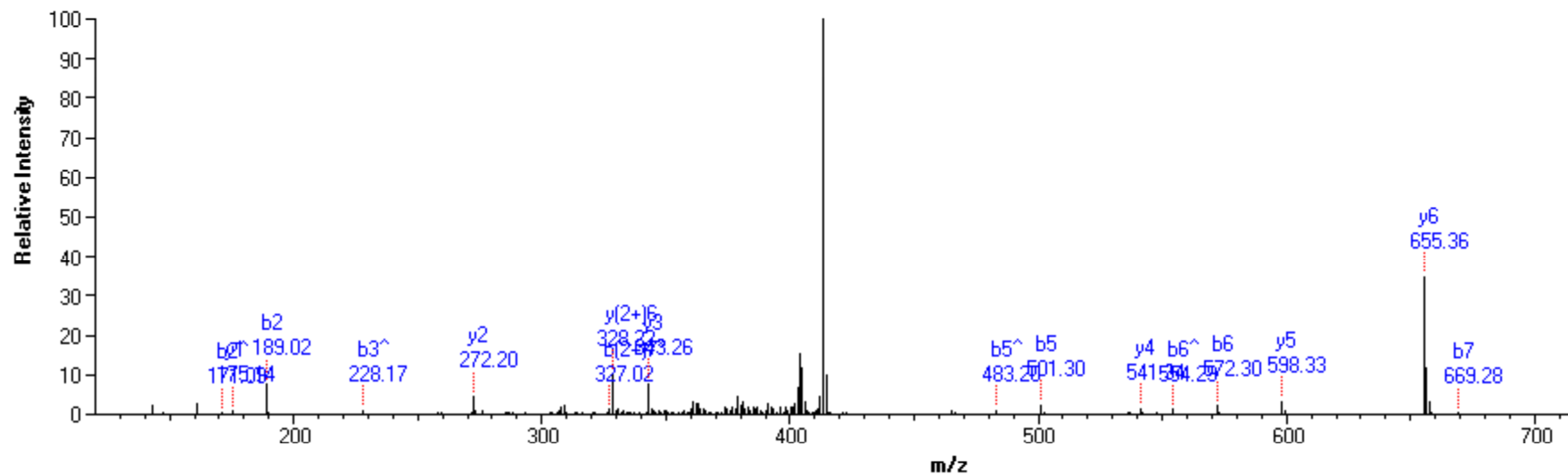
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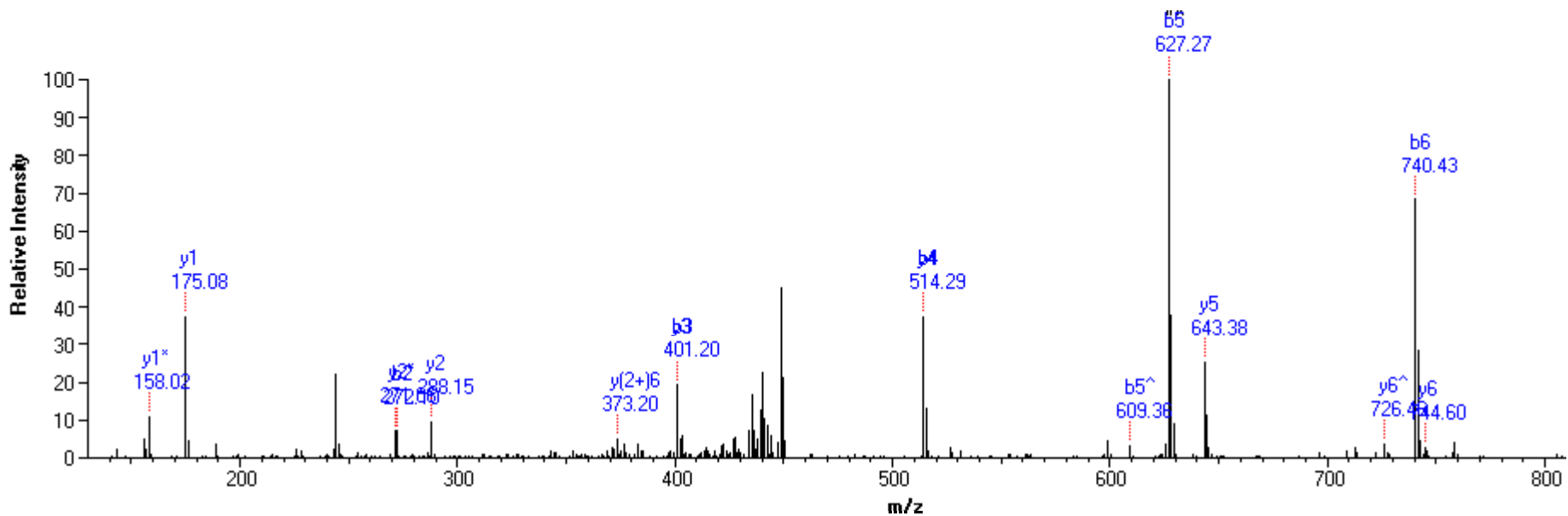
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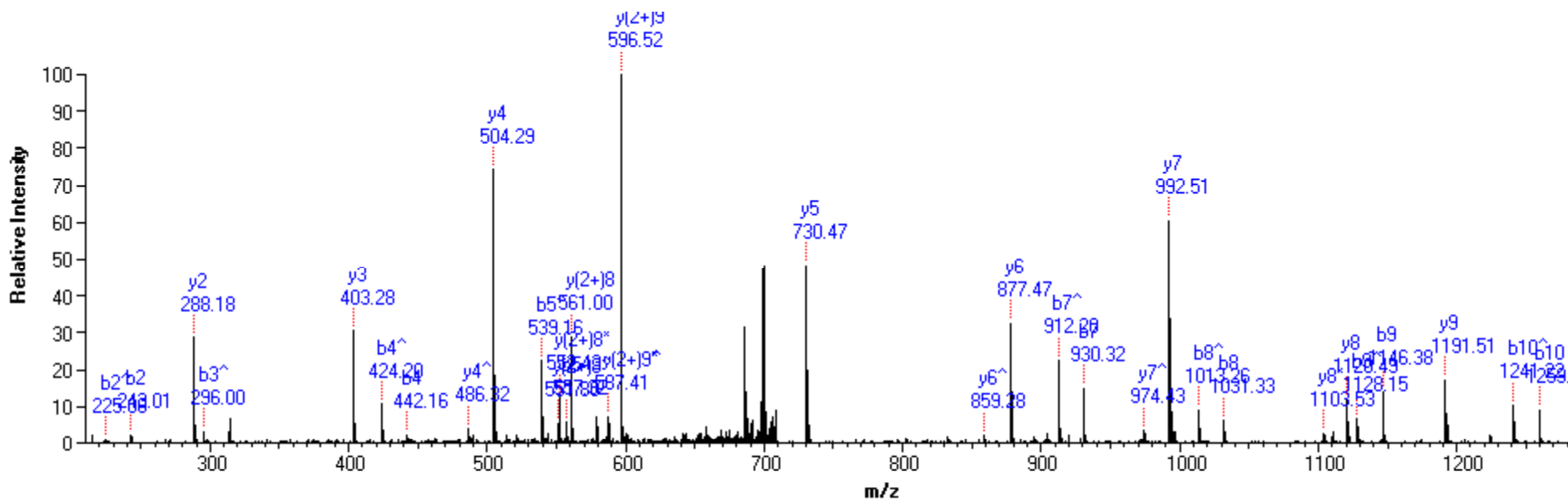
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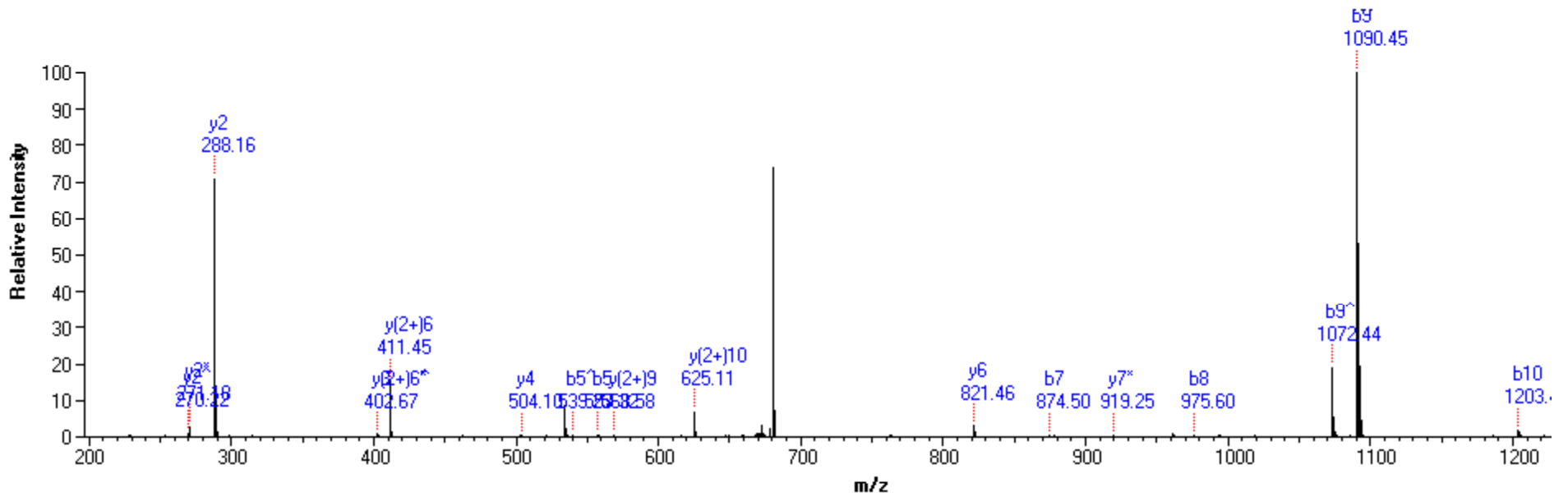
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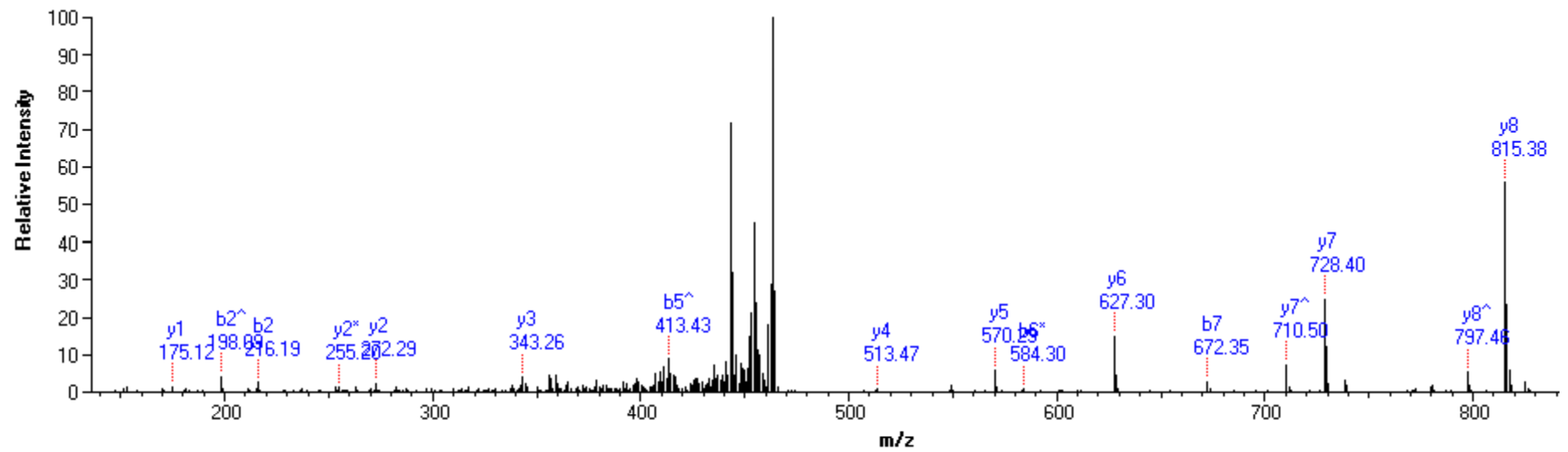
K.S(+83)TELLIR.K



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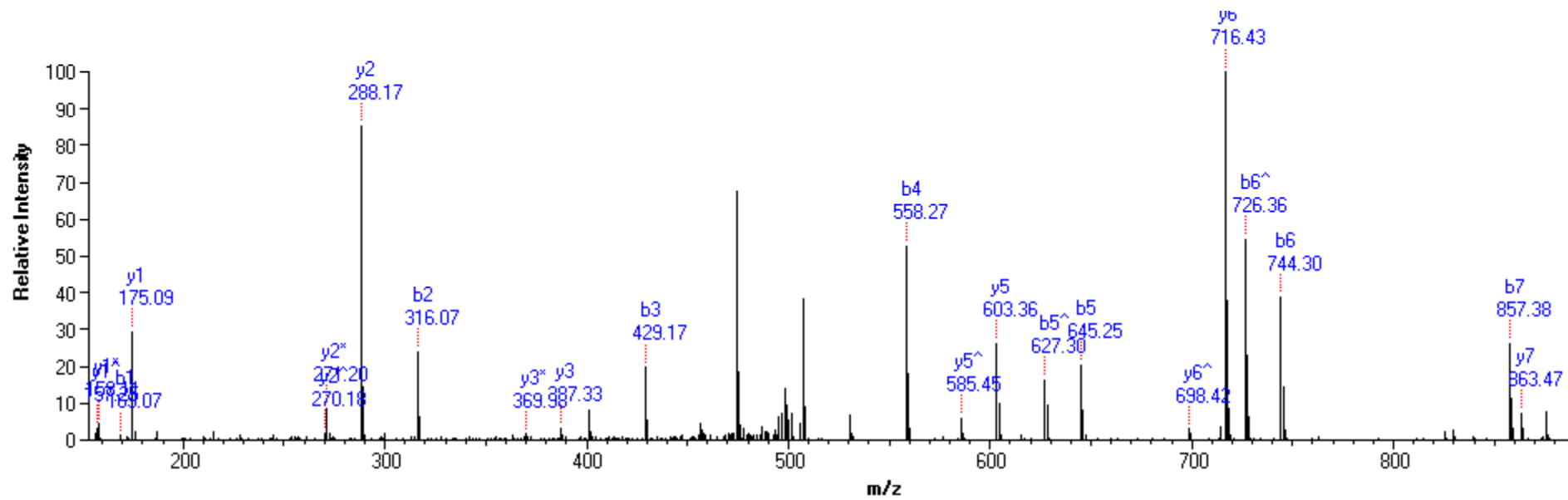


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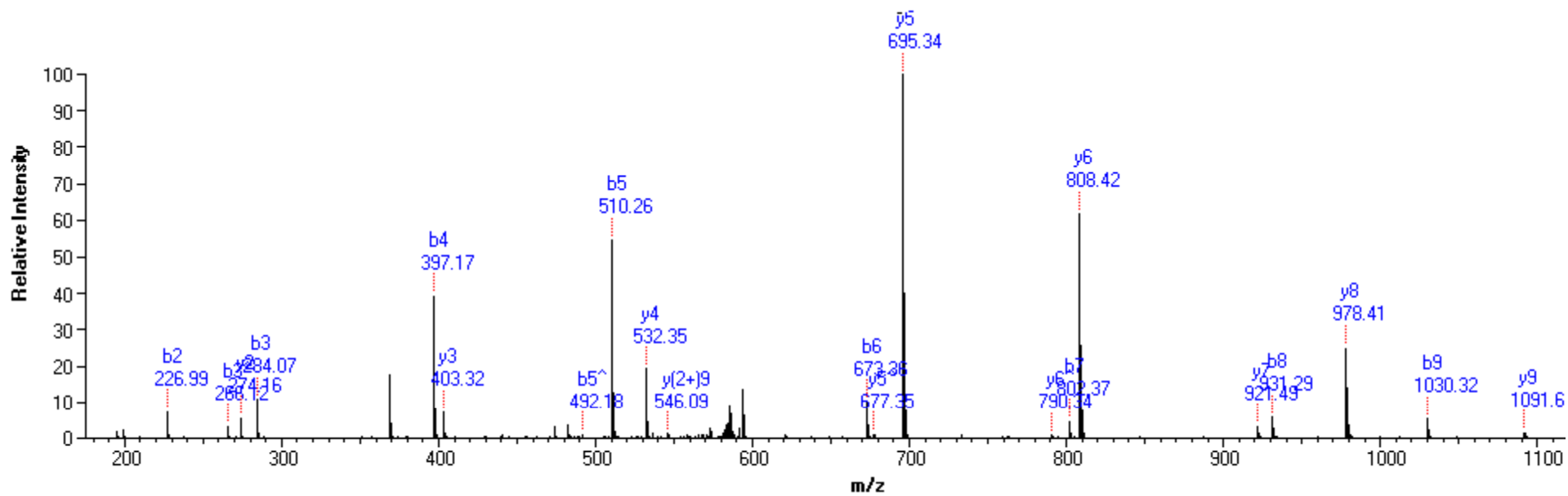


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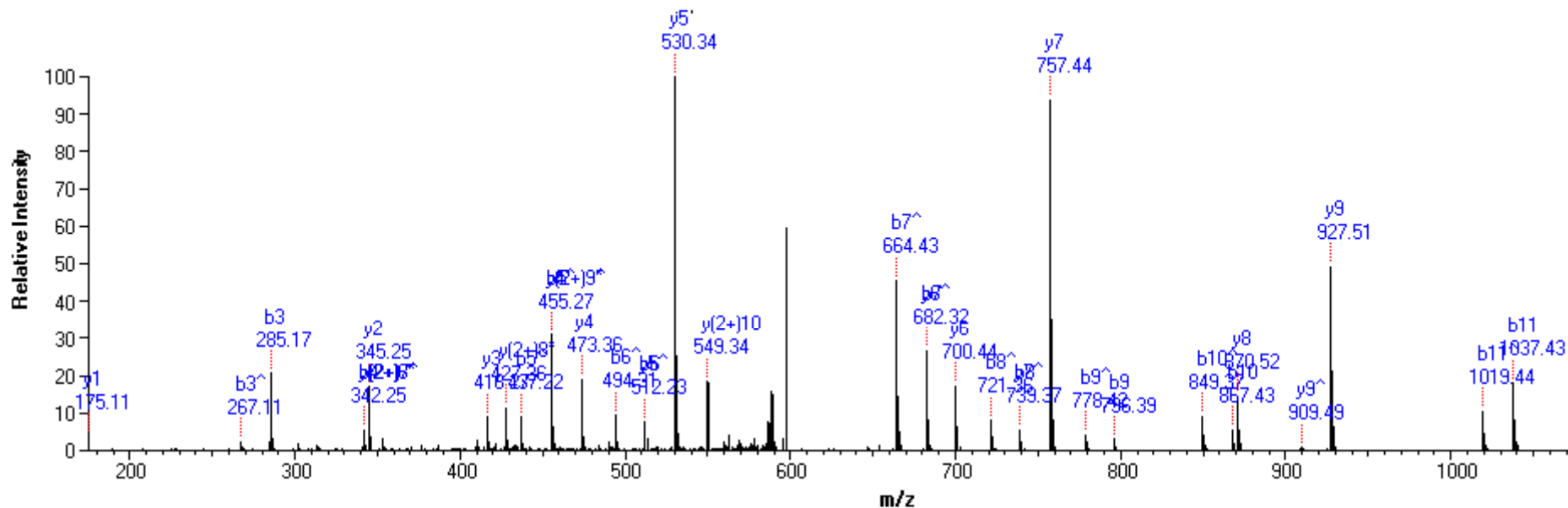
Supplemental Information S4. MS/MS spectra of the modified peptides from yeast histone H4.



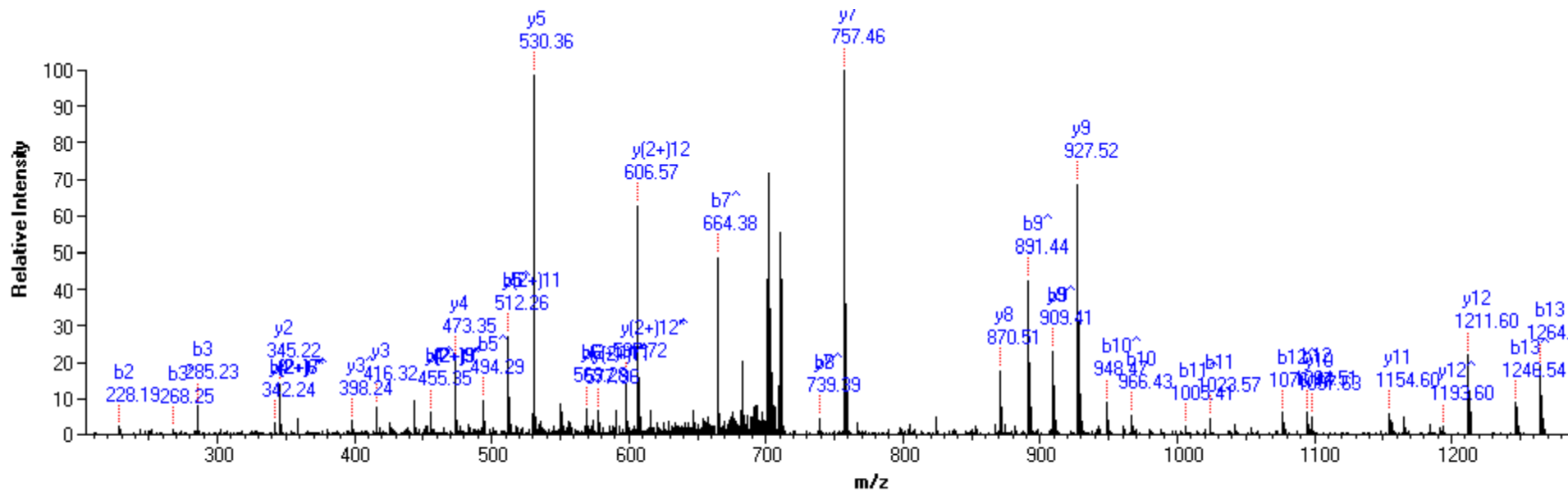
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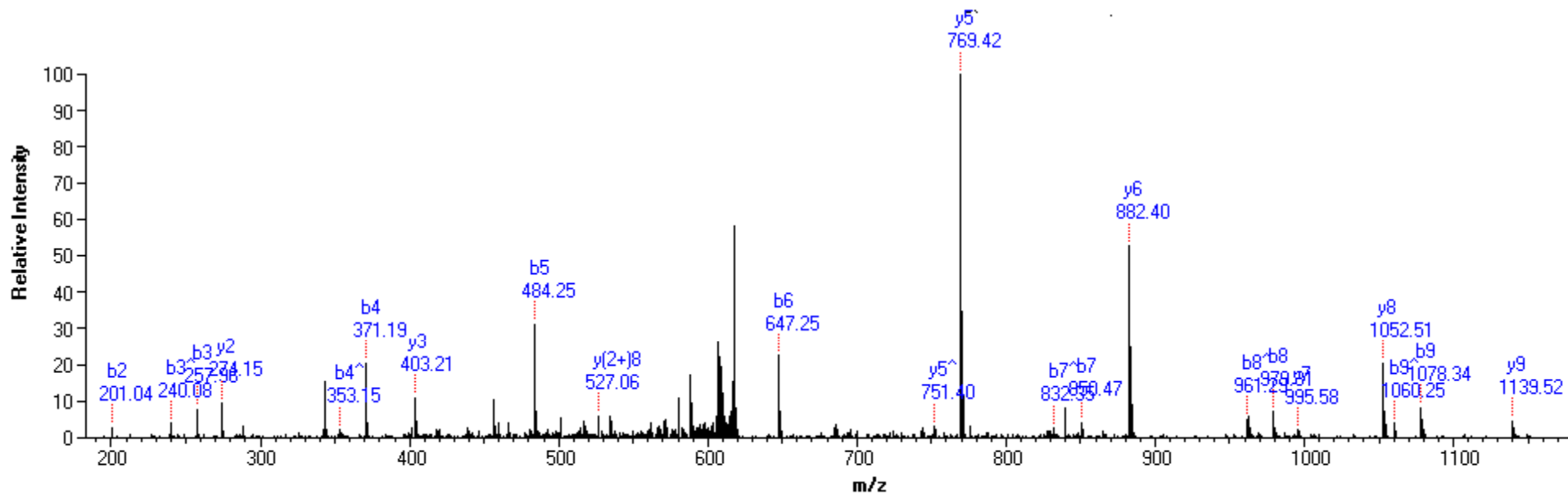
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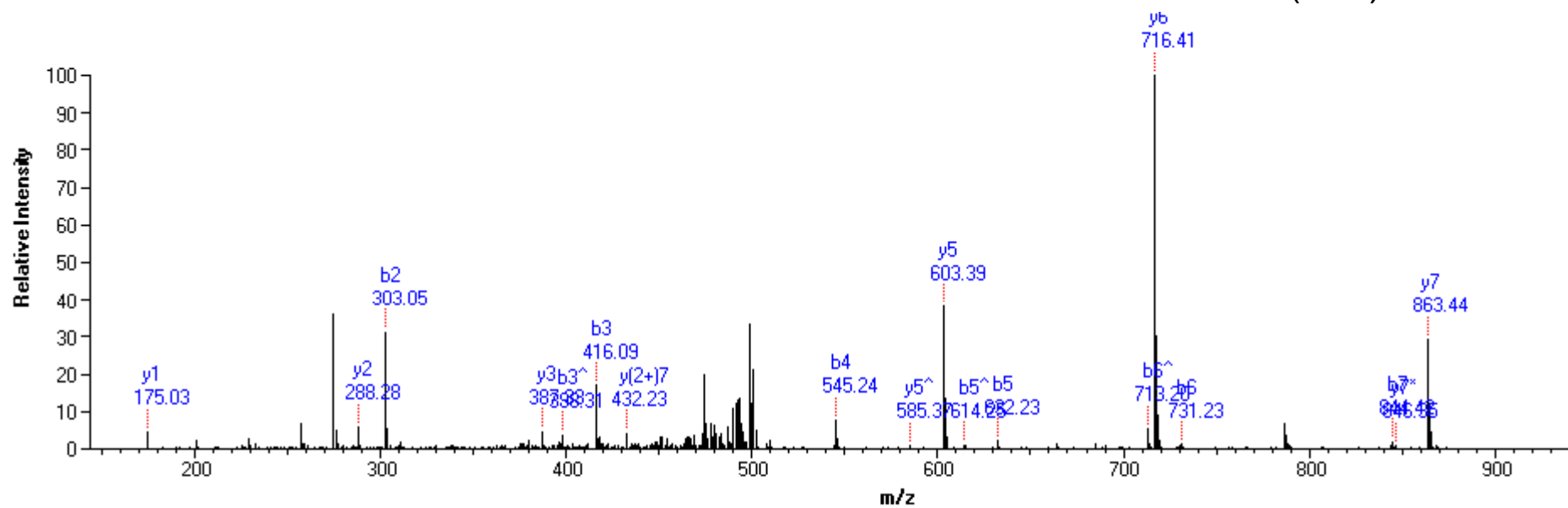
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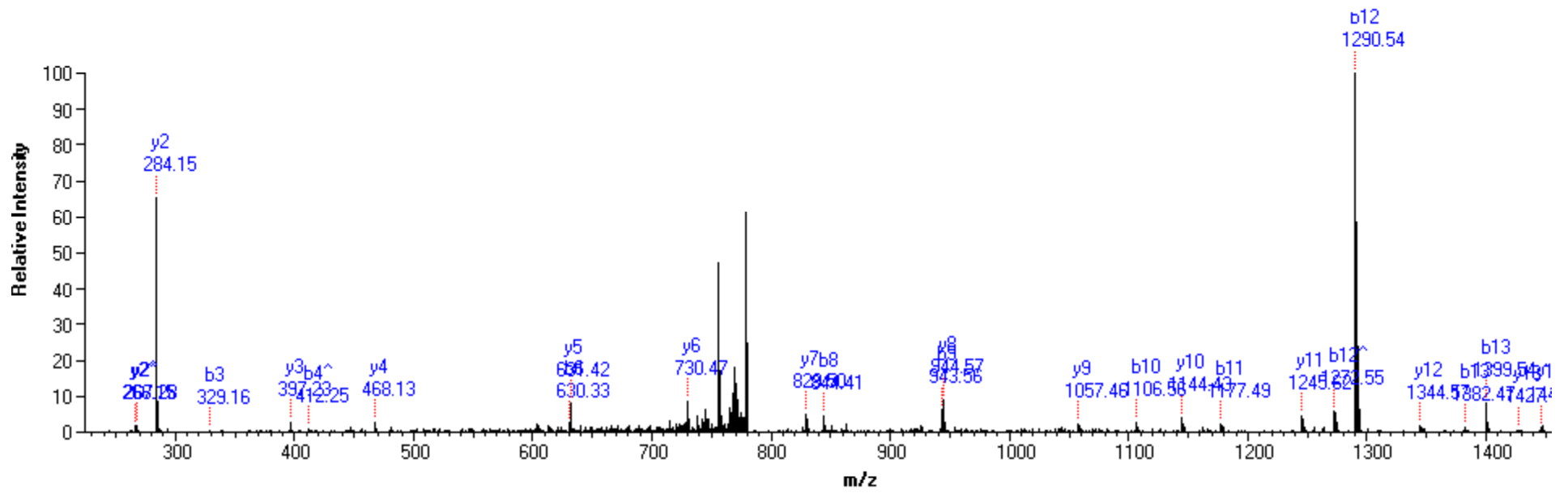
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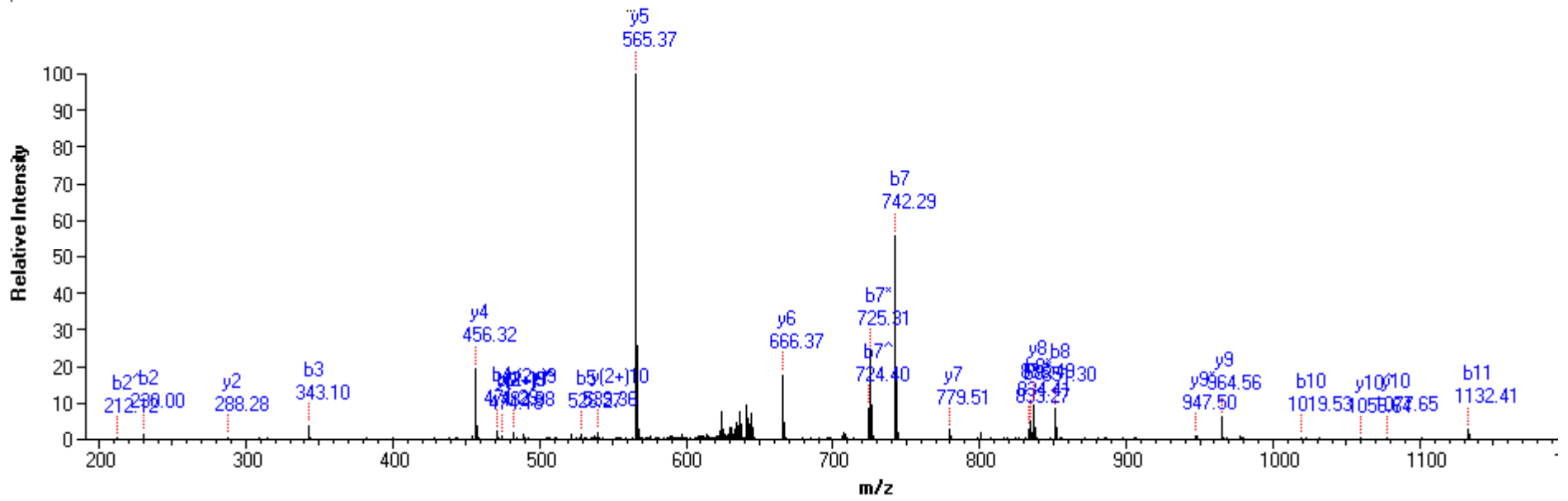
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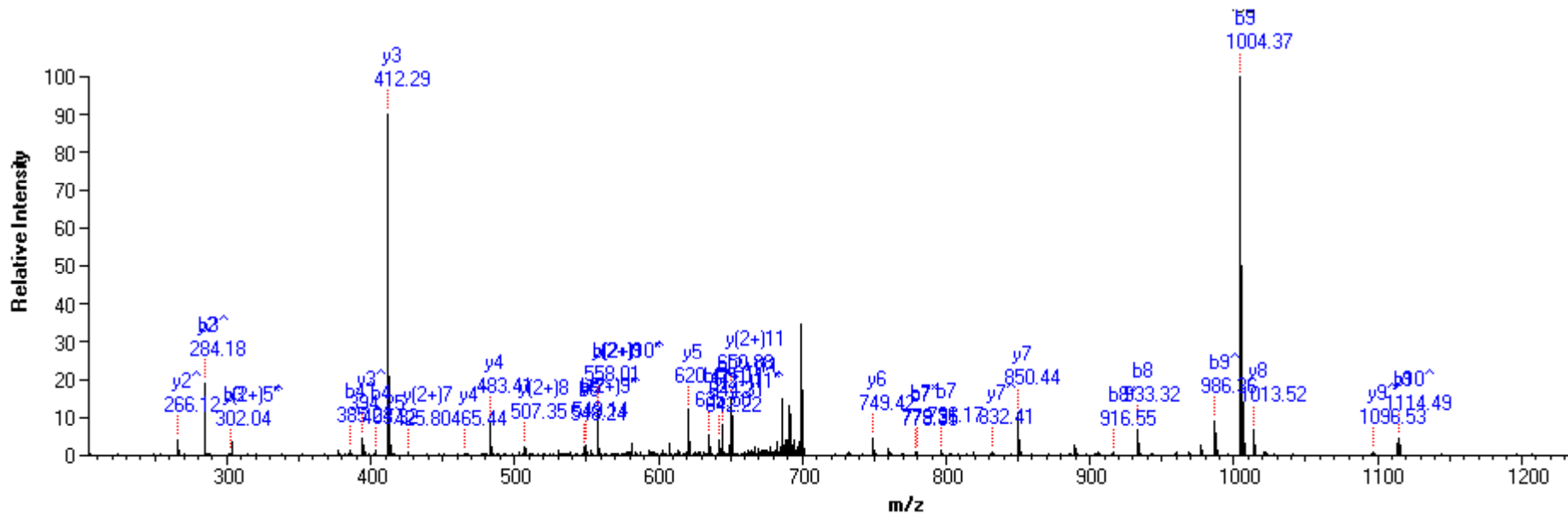
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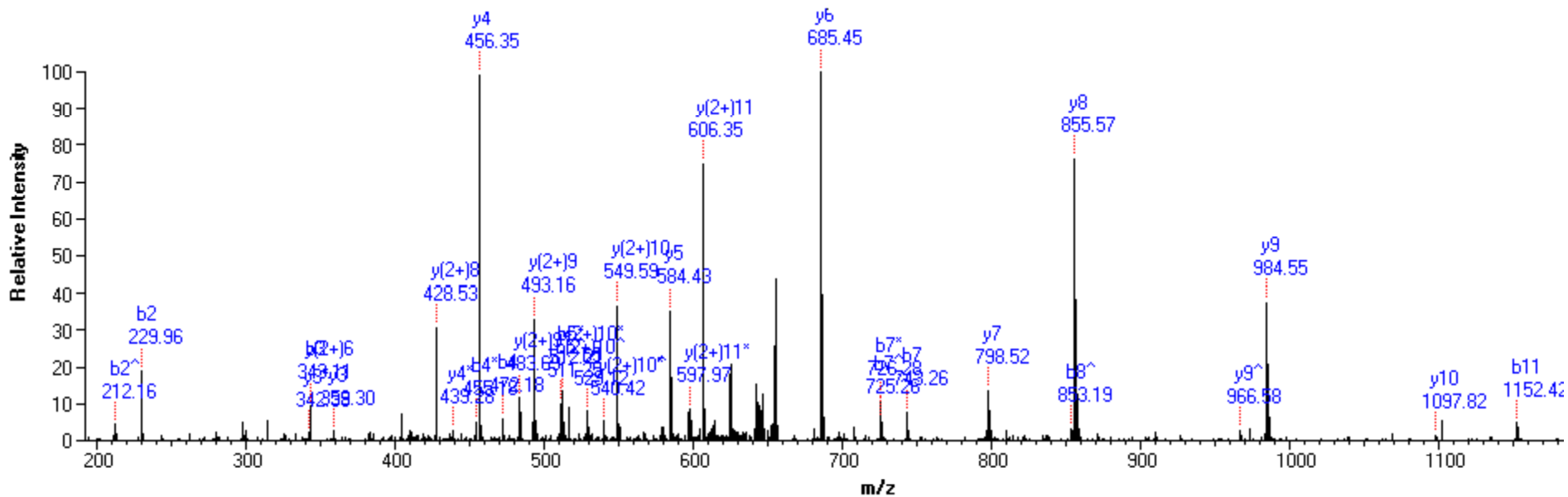
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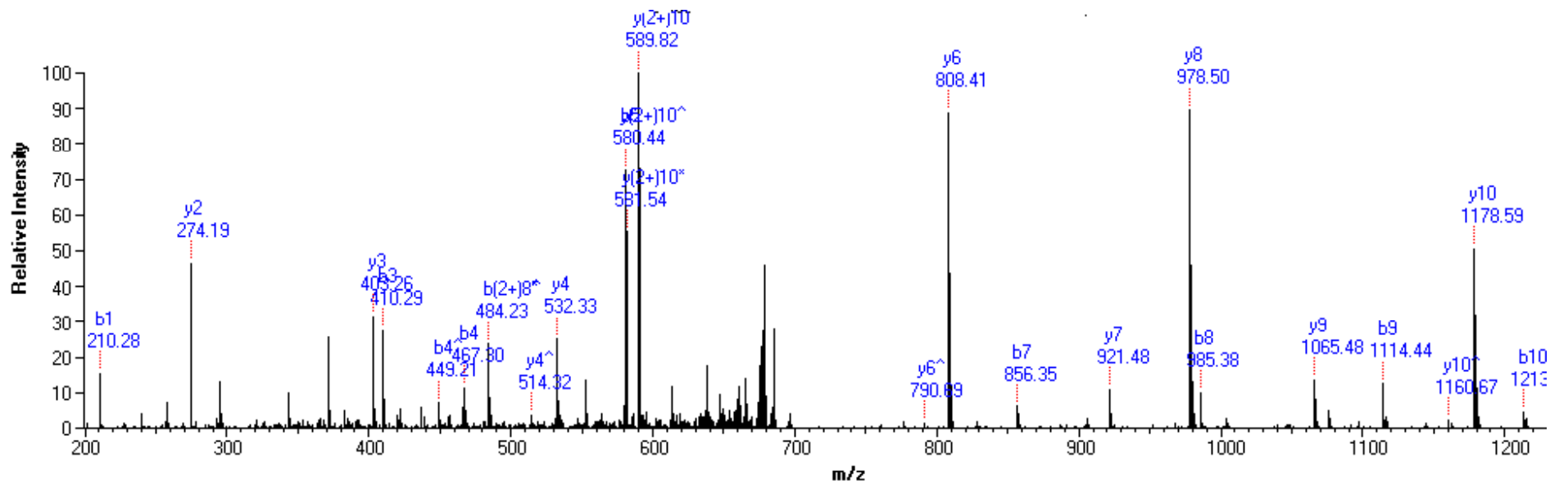
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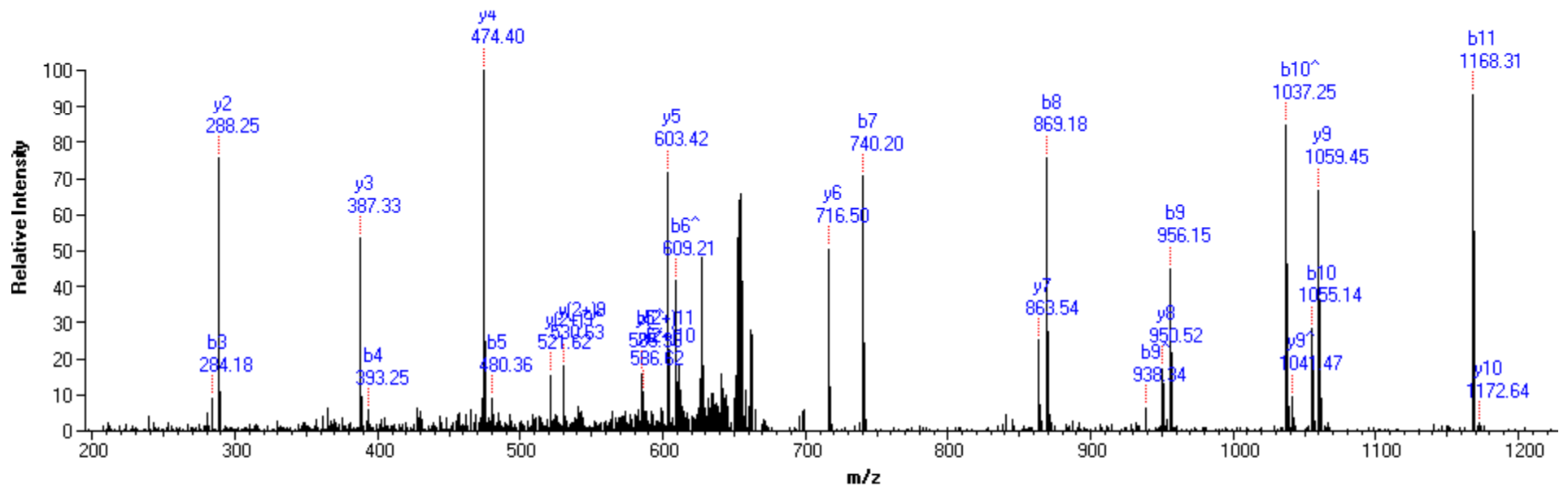
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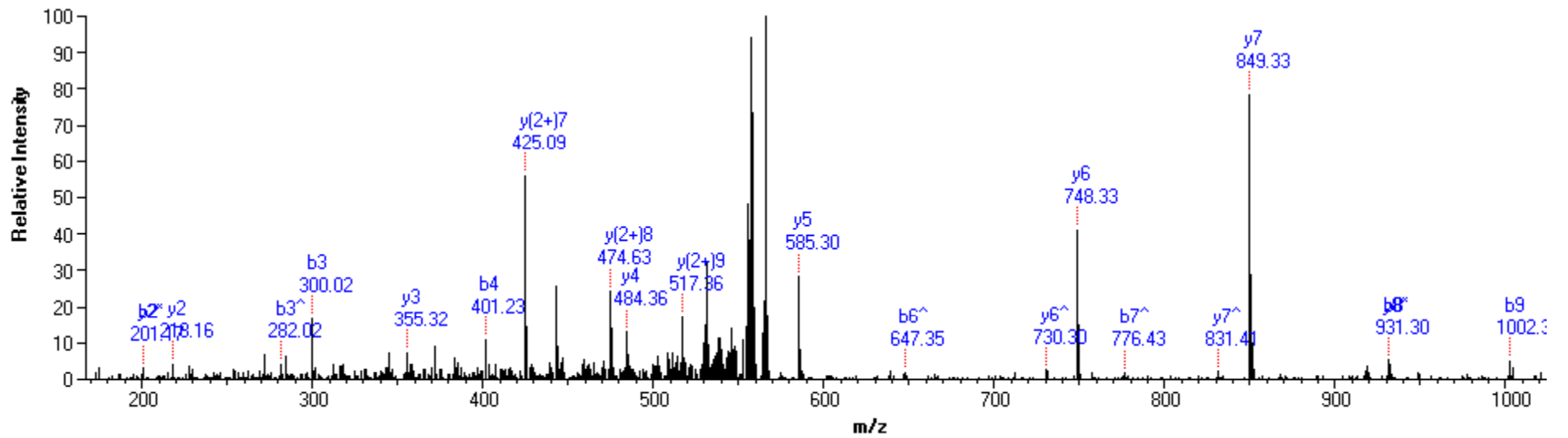
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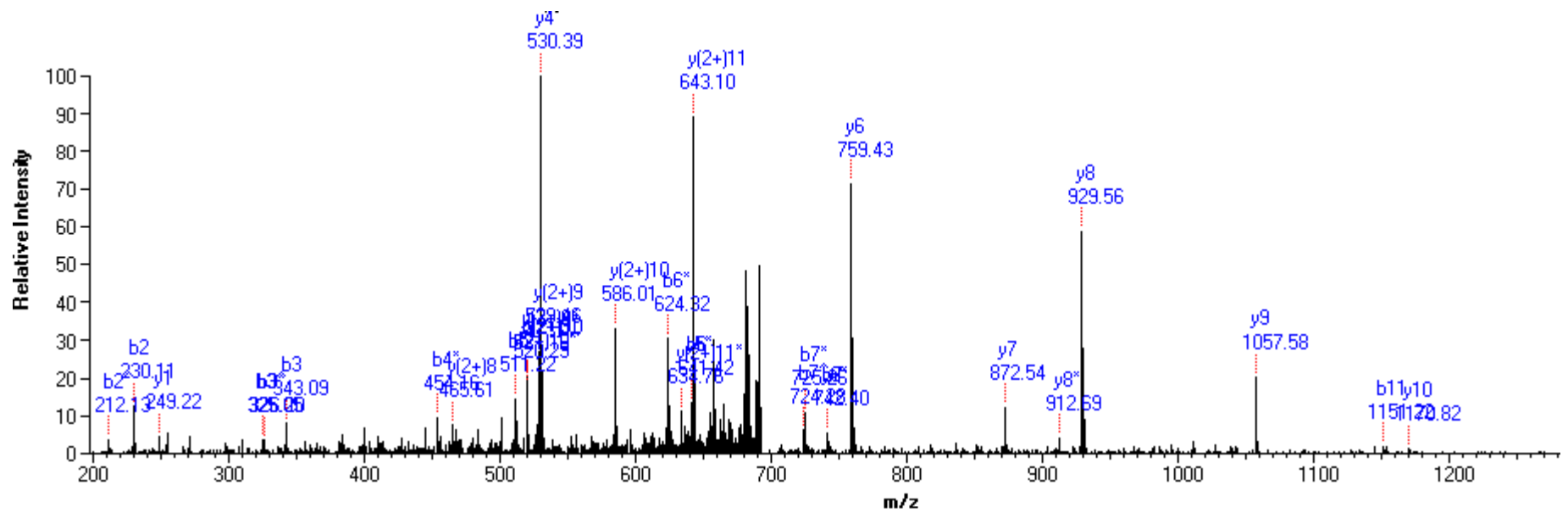
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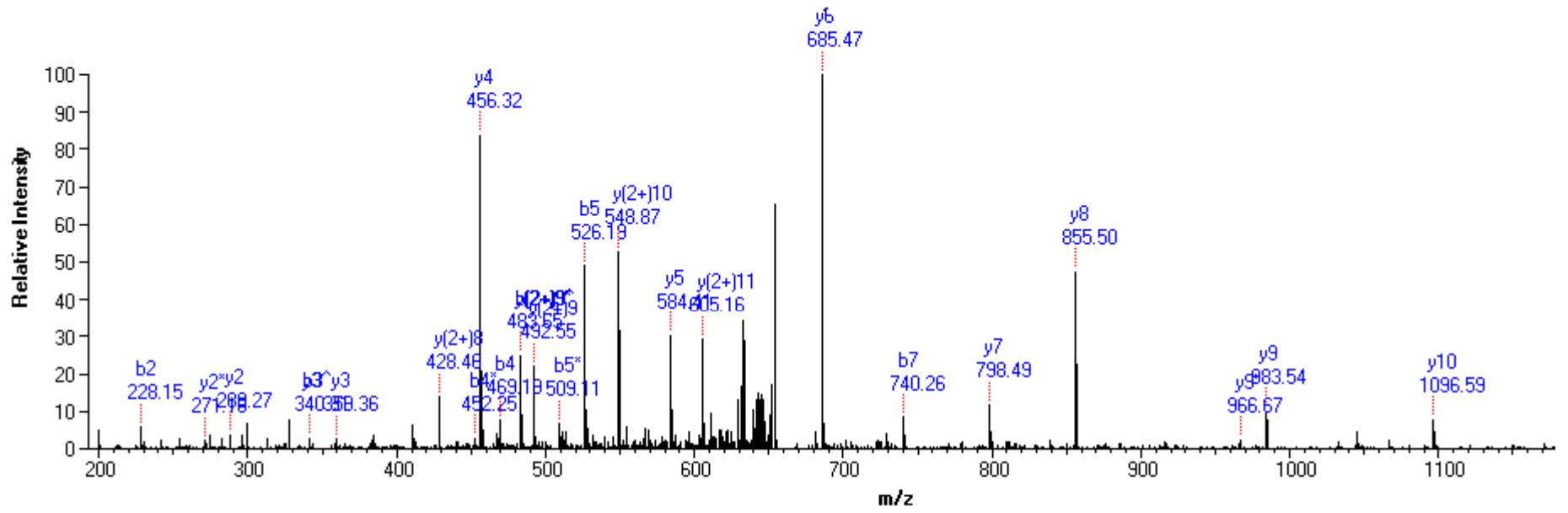
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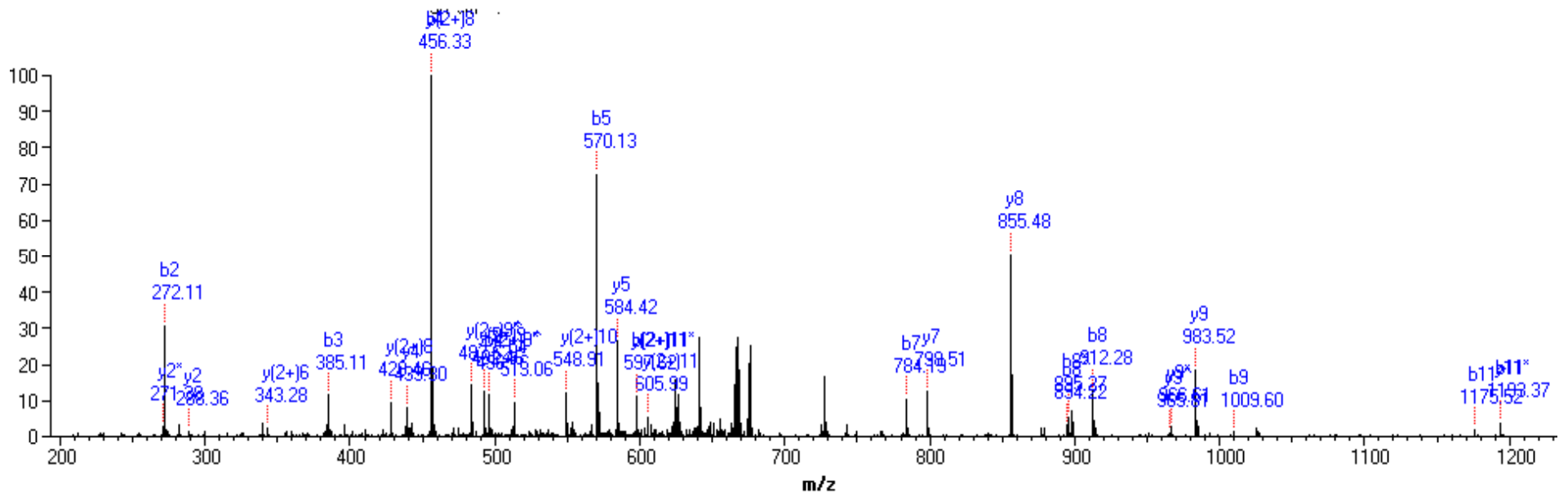
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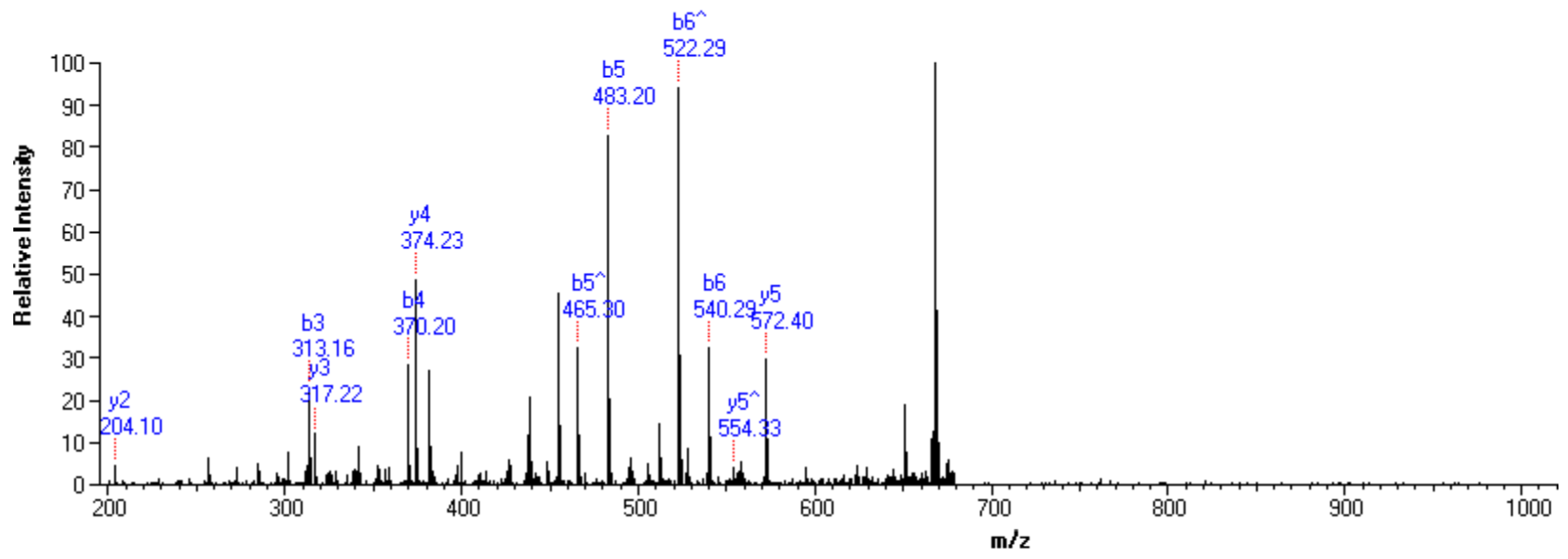
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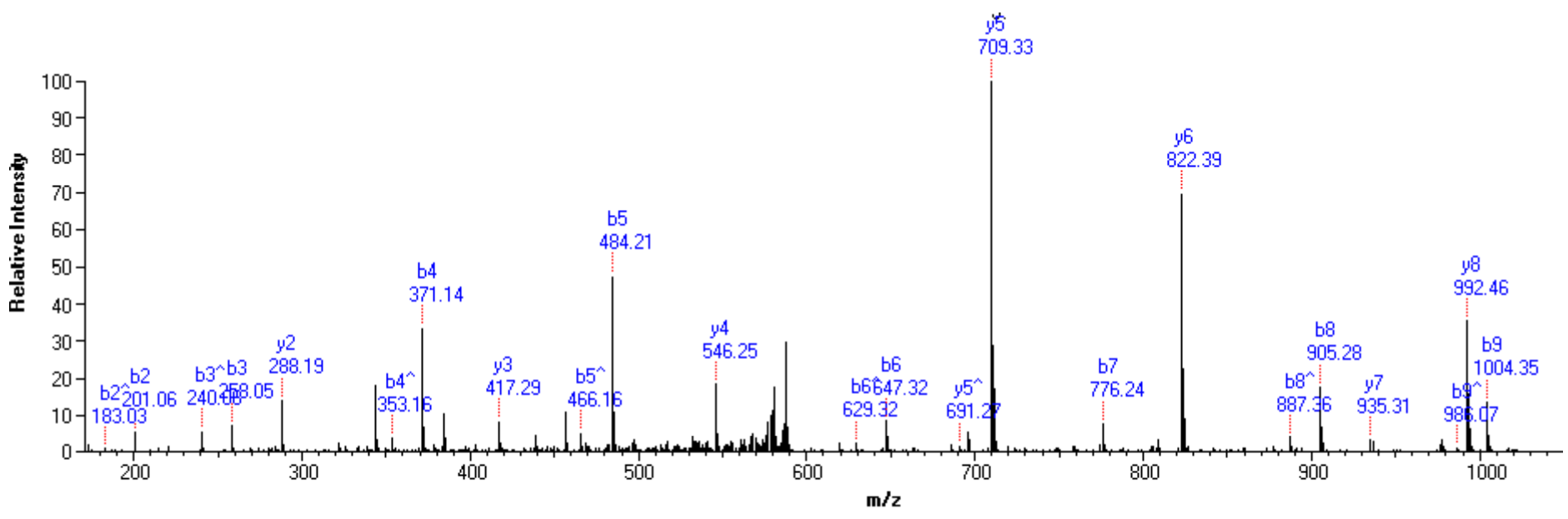
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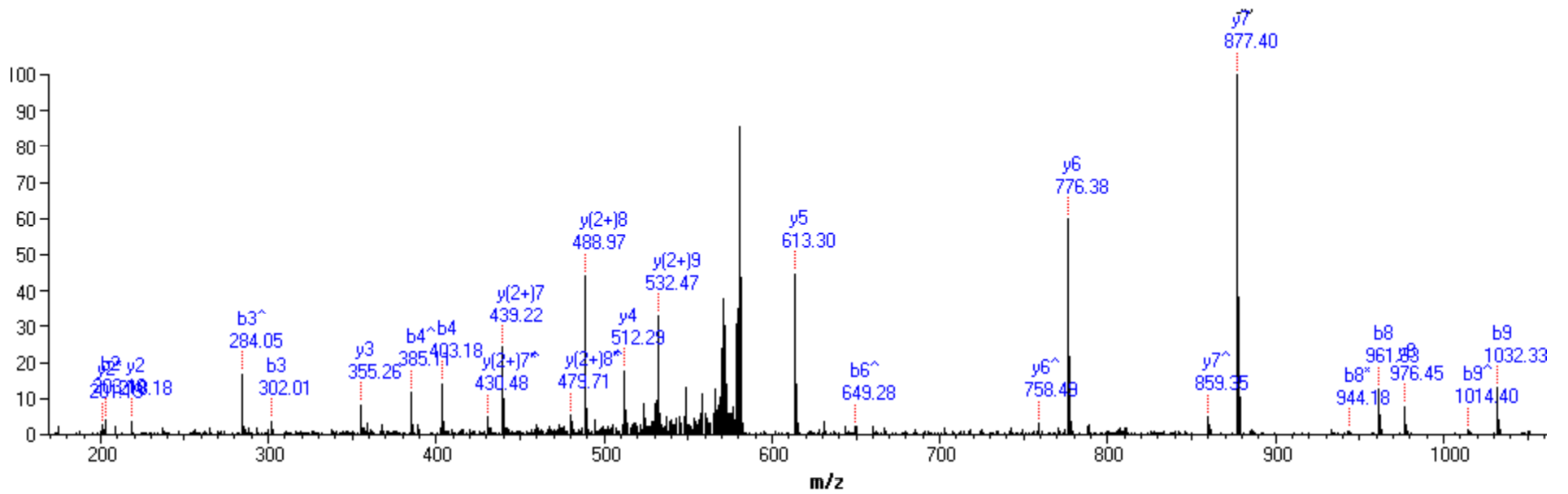
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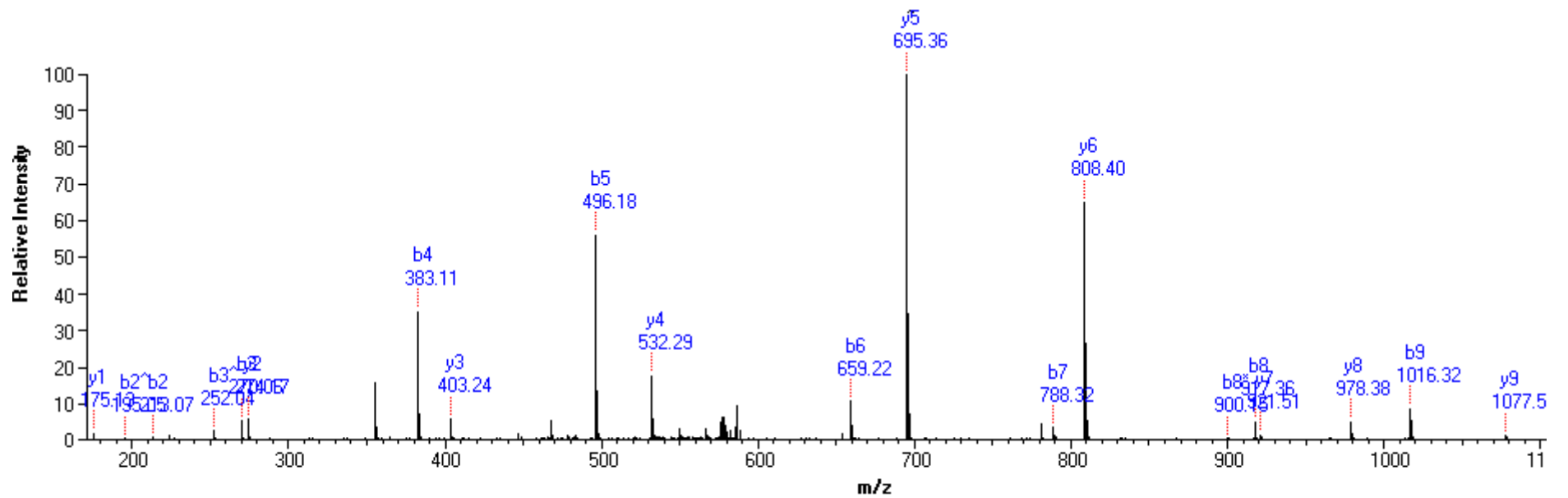
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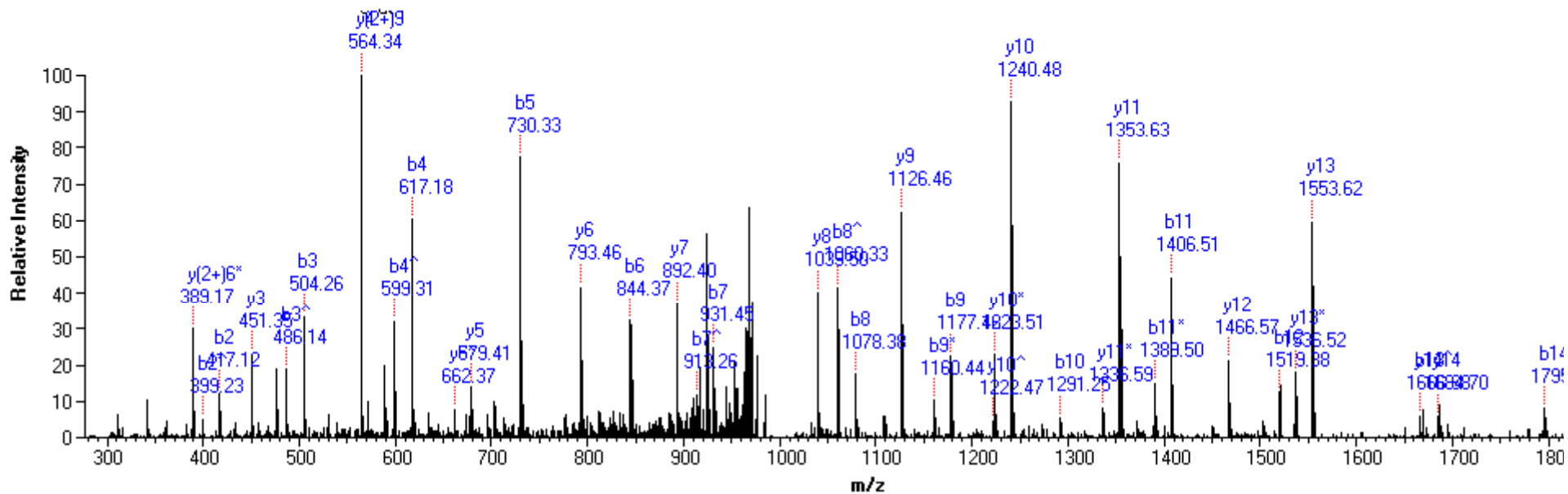


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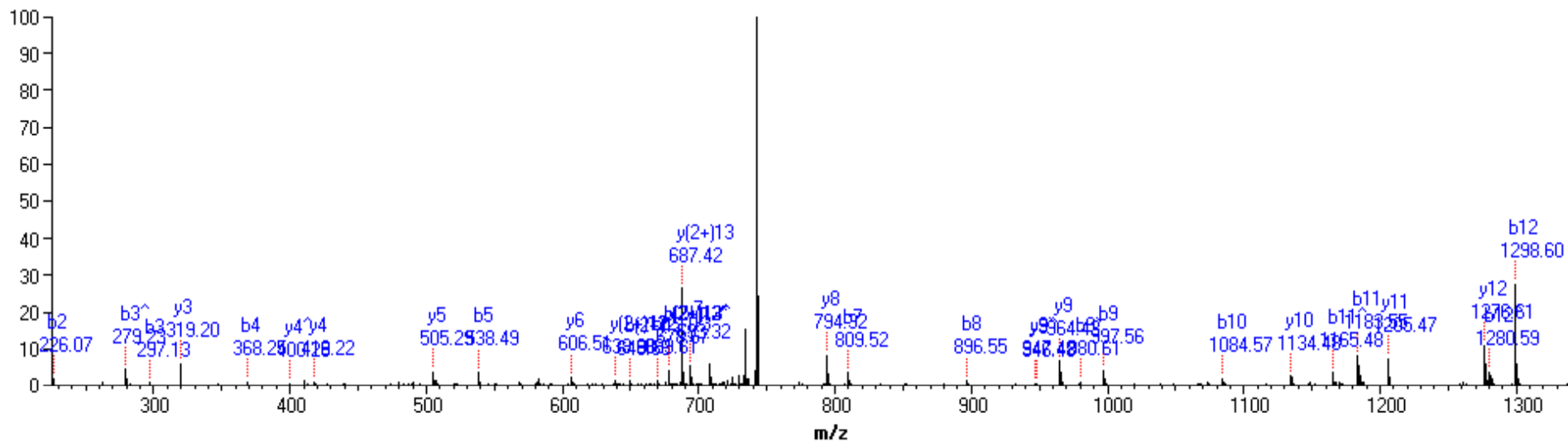


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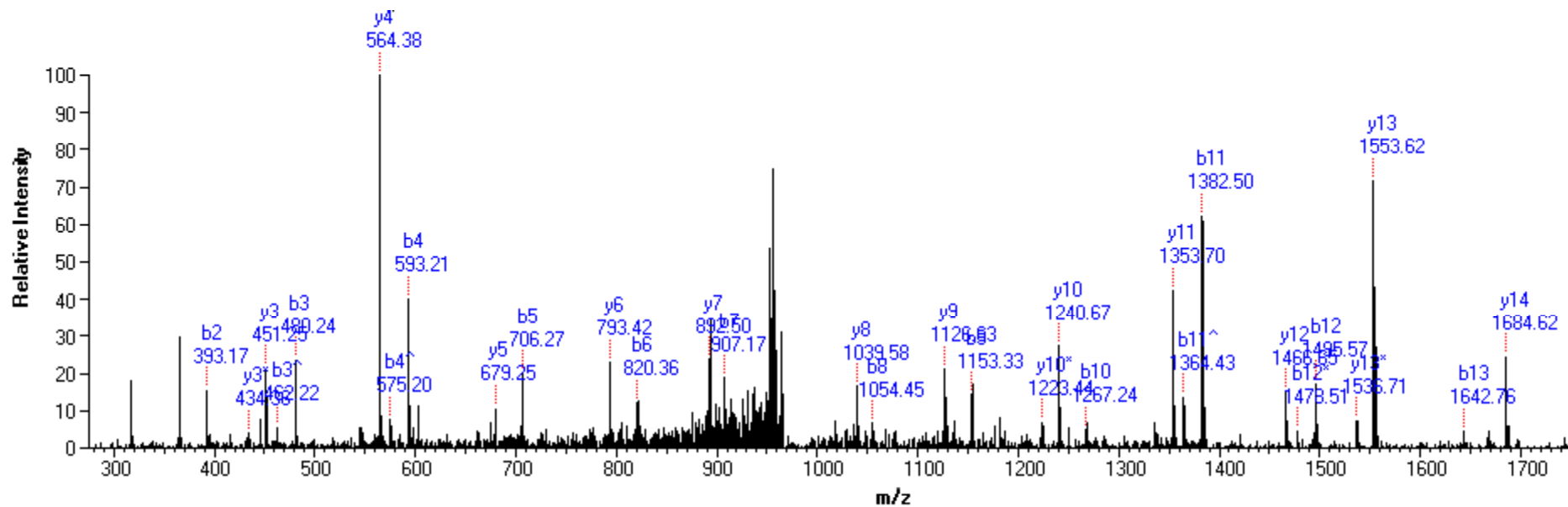
Supplemental Information S5. MS/MS of modified peptides from yeast histone H2B.



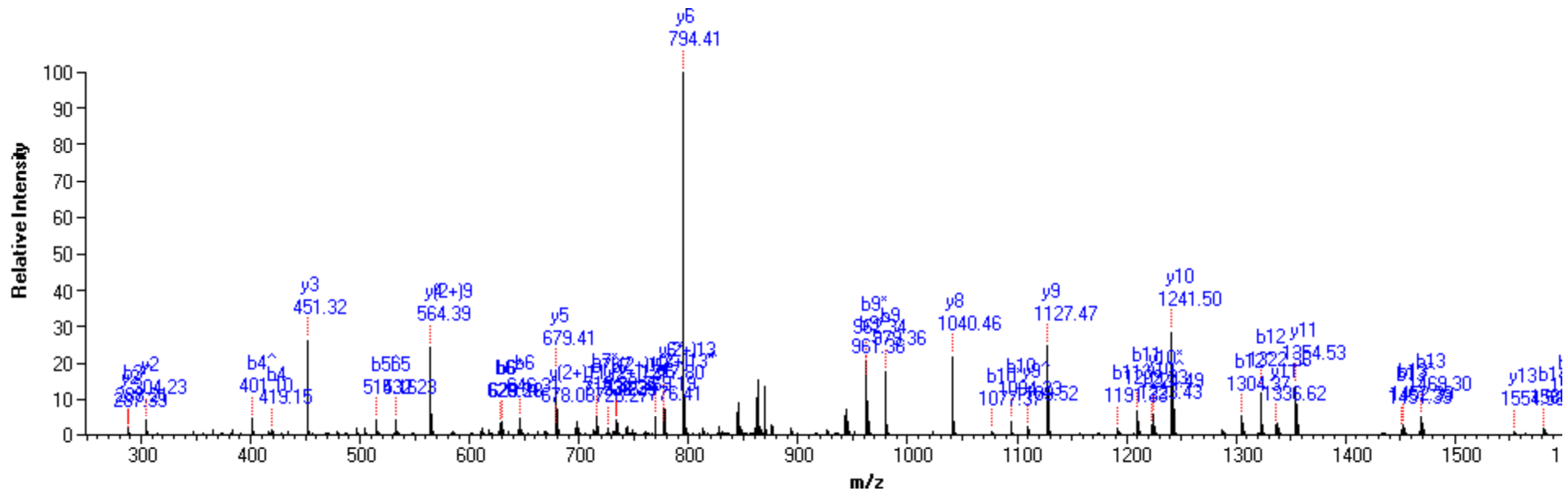
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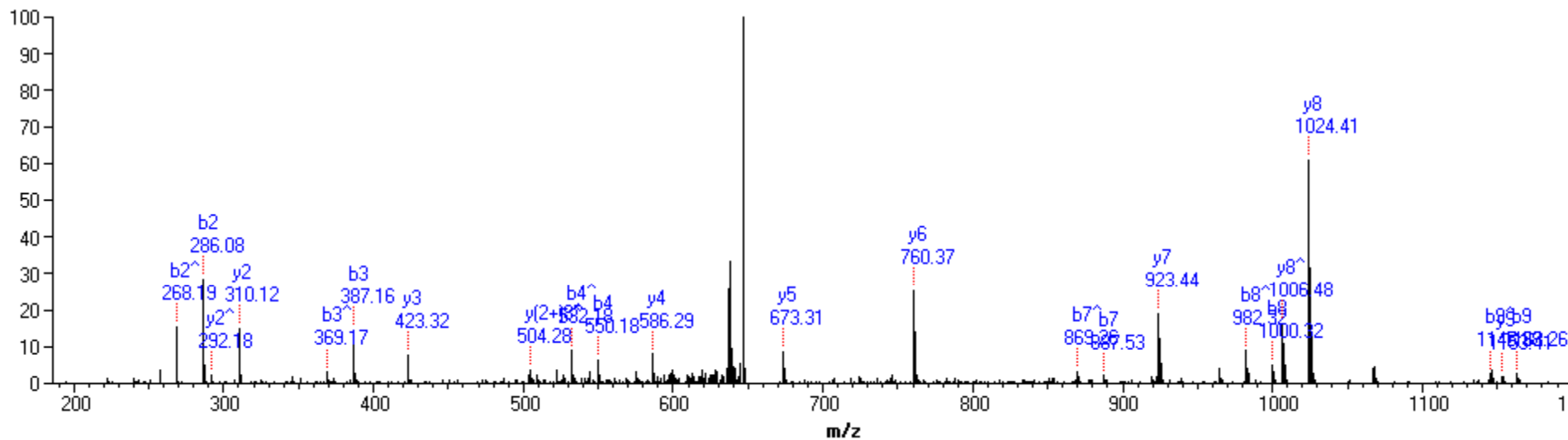
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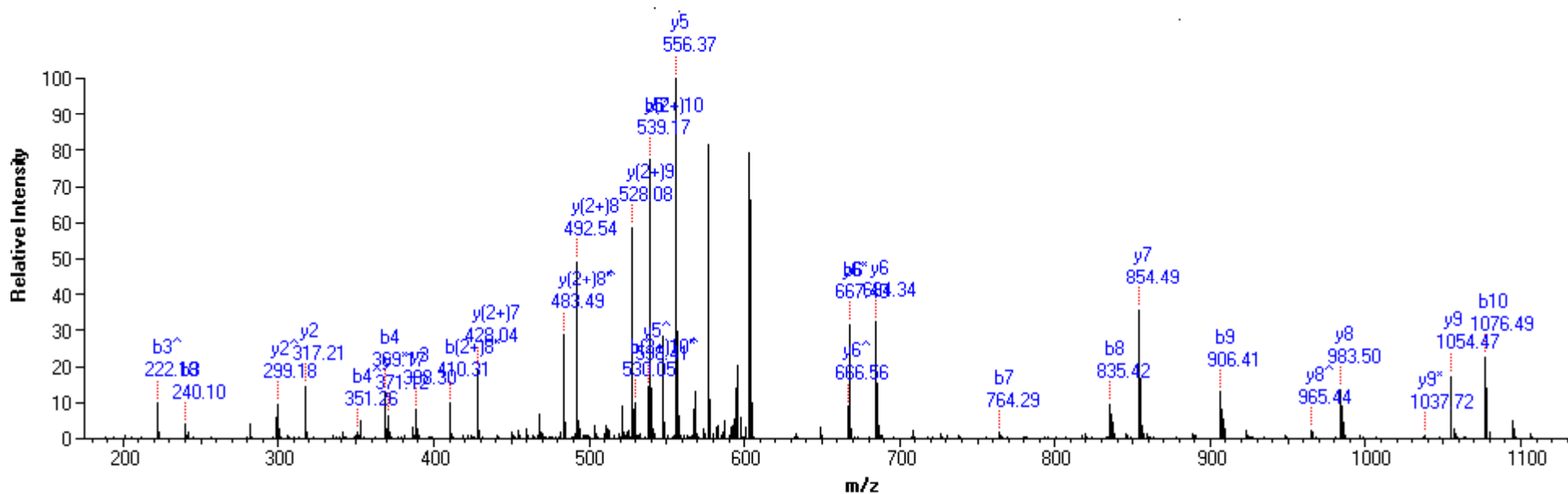
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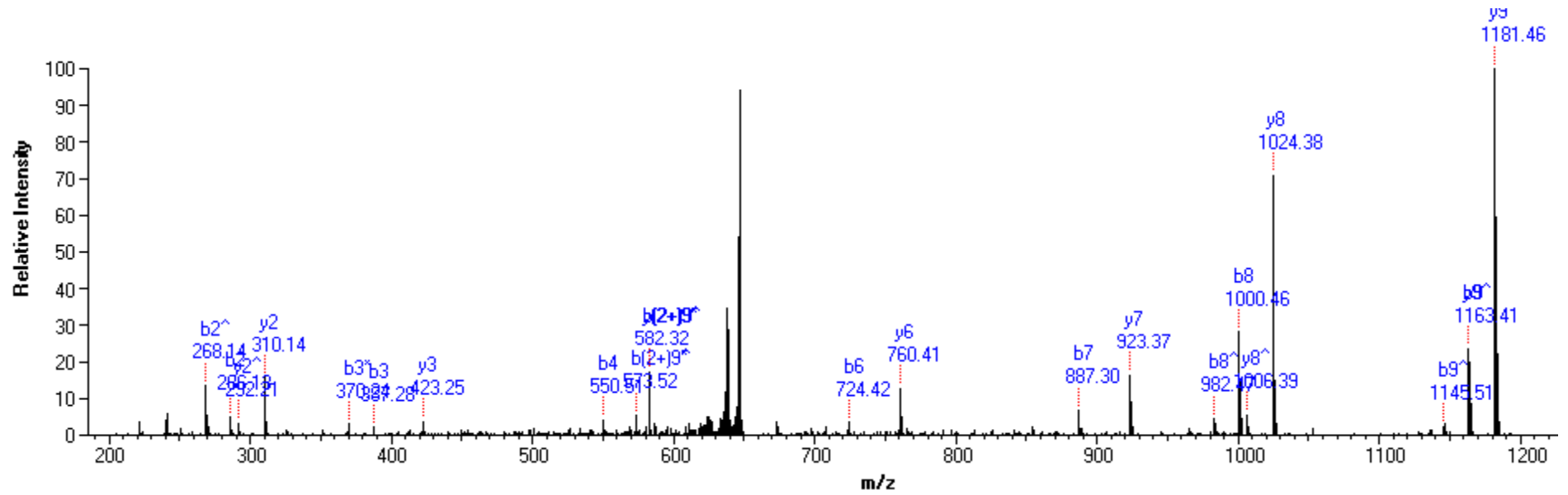
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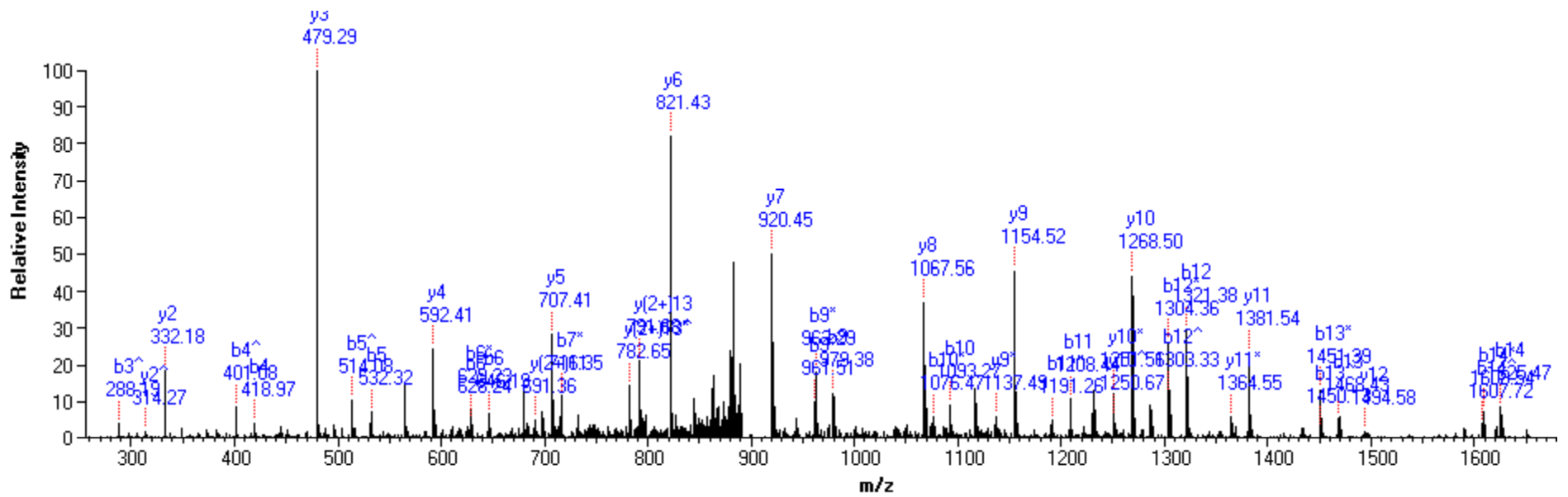
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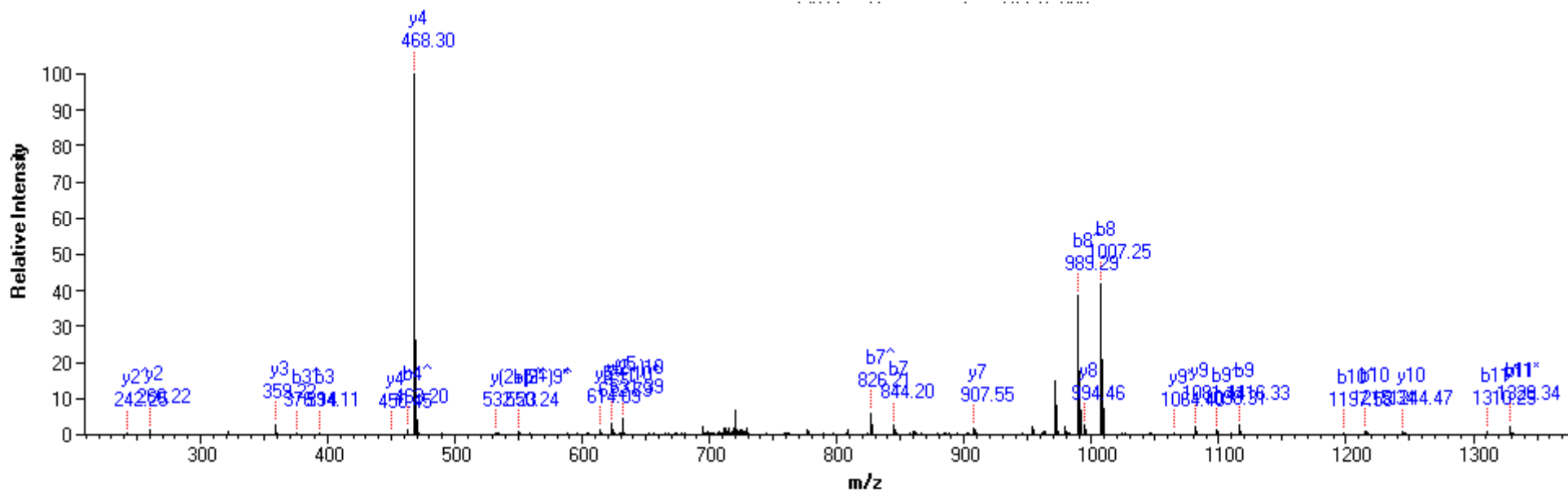
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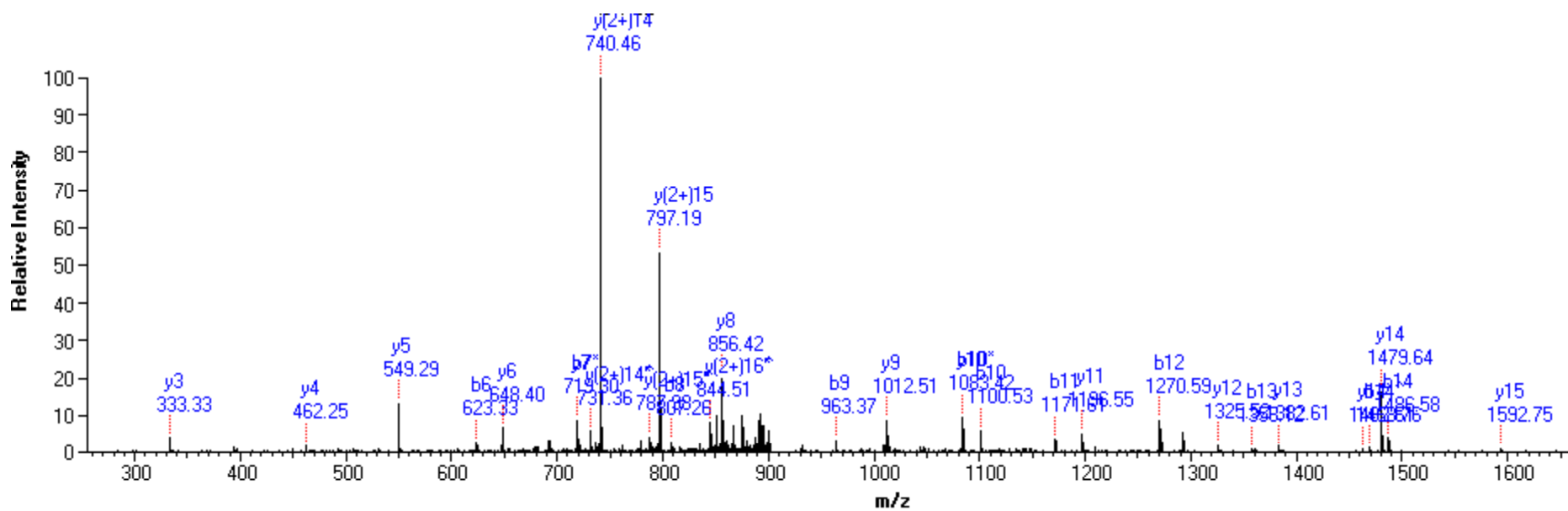
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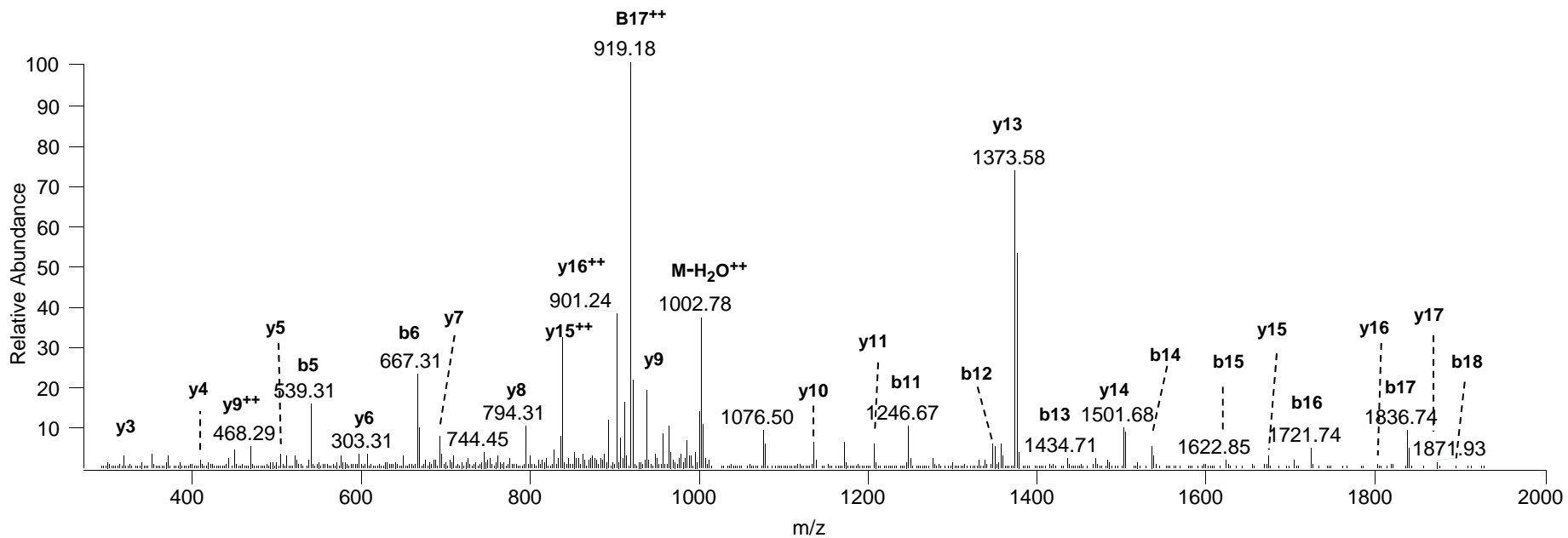
SMSILNSFVNDIFE(+28)R



ETYSSYIYK(-19)VLK



LILPGE LAK(+28)HAVSEGTR



APAEK(+42)KPAAK(+70)K(+14)TSTSVDGK