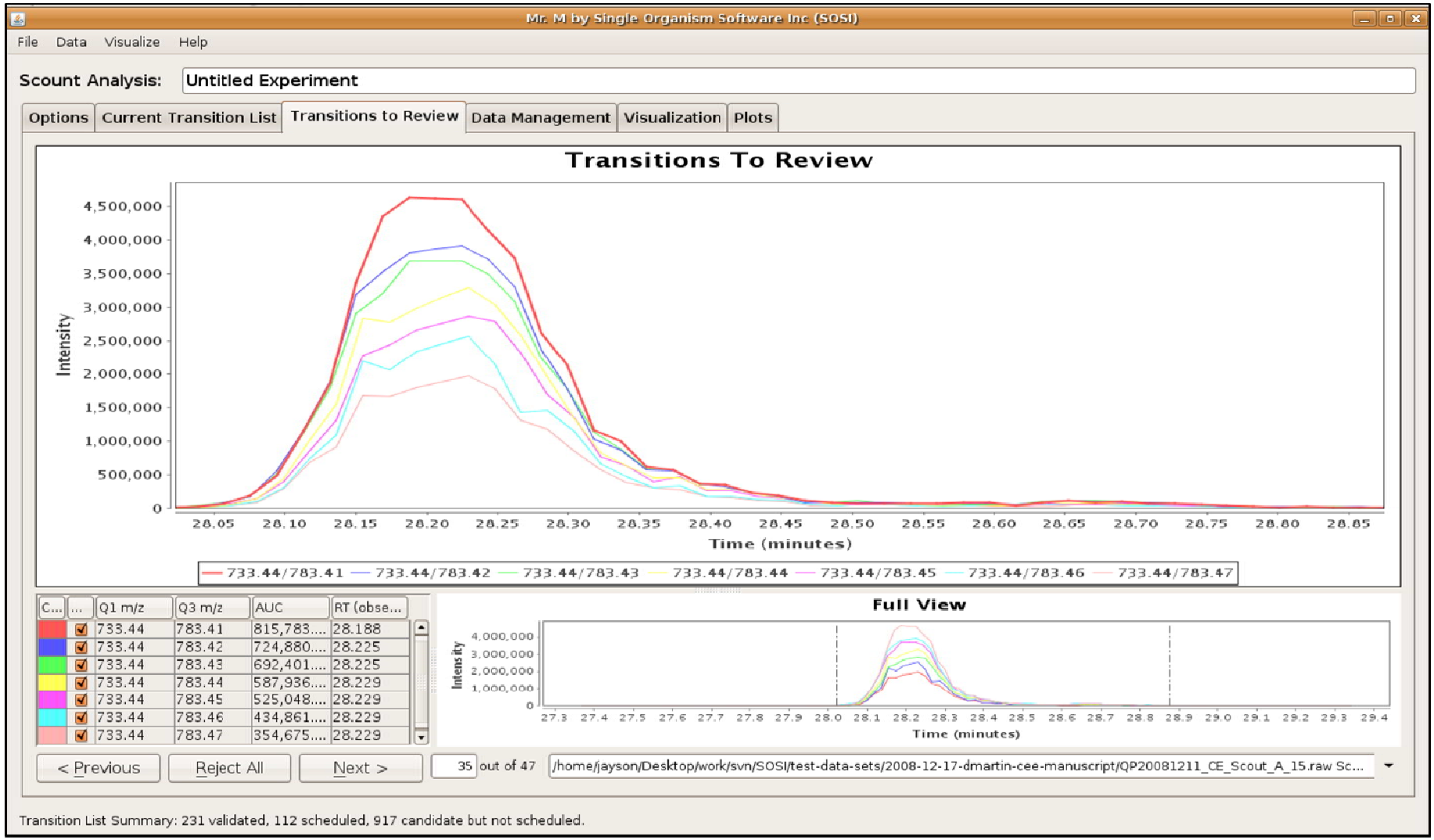
Rapid Optimization of MRM-MS Instrument Parameters by Subtle Alteration of Precursor and Product m/z Targets

SUPPORTING INFORMATION

Supplemental Figure 1. Screen shot of the transition review portion of the MRM software package Mr. M, produced by Single Organism Software Inc. (Portland, OR). In this mode, data acquired from MRM-MS experiments is automatically quantified using AUC calculations, and transitions can be manually reviewed.



Supplemental Table 1. Contents of the ISB standard protein mix.

Protein	Organism	Swiss-Prot AC	MW (kD)	Sigma #
Actin, aortic smooth muscle	Bovine	P62739	42	A3653
Alkaline phosphatase	*E. coli*	P00634	49.4	79377
Alpha-amylase	*B. licheniformis*	P06278	58.5	A4551
Alpha-lactalbumin	Bovine	P00711	16.2	L6010
Beta-casein	Bovine	P02666	25.1	C6905
Beta-galactosidase	*E. coli*	P00722	116.5	G5635
Beta-lactoglobulin	Bovine	P02754	19.9	L0130
Carbonic anhydrase 2	Bovine	P00921	29.1	C2522
Catalase	Bovine	P00432	59.9	C40
Cytochrome c	Bovine	P62894	11.7	C2037
Glyceraldehyde-3-phosphate dehydrogenase	Rabbit	P46406	35.8	G2267
Glycogen phosphorylase, muscle form	Rabbit	P00489	97.3	P6635
Mannose-6-phosphate isomerase	*E. coli*	P00946	42.9	P2621
Myoglobin	Horse	P68082	17.1	M0630
Myosin light chain 1, skeletal muscle isoform	Rabbit	P02602	20.9	M9891
Ovalbumin	Chicken	P01012	42.9	A2512
Serotransferrin	Bovine	Q29443	77.8	T0178
Serum albumin	Bovine	P02769	69.3	A3059

Supplemental Table 2. The initial MRM list containing the 90 transitions used in the collision energy and cone voltage optimizations. All transitions correspond to singly charged y-type product ions generated from triply charged precursor peptides originating from proteins in the ISB standard protein mixture.

Protein	Peptide	Q1 m/z	Q3 m/z	SSRCalc RT	Ion Type	N-term AA	C-term AA	Q1 z	Q3 z	pI	Default CE
sp|P00722|BGAL_ECOLI	TPHPALTEAK	355.53	448.24	14.29	y4	L	T	3	1	6.42	13.40
sp|P00722|BGAL_ECOLI	TPHPALTEAK	355.53	561.32	14.29	y5	A	L	3	1	6.42	13.40
sp|P00722|BGAL_ECOLI	TPHPALTEAK	355.53	729.41	14.29	y7	H	P	3	1	6.42	13.40
sp|P00432|CATA_BOVIN	LFAYPDTHR	373.86	528.25	21.12	y4	P	D	3	1	6.75	14.03
sp|P00432|CATA_BOVIN	LFAYPDTHR	373.86	625.31	21.12	y5	Y	P	3	1	6.75	14.03
sp|P00432|CATA_BOVIN	LFAYPDTHR	373.86	788.37	21.12	y6	A	Y	3	1	6.75	14.03
sp|Q29443|TRFE_BOVIN	WC[160]AIGHQER	386.18	569.28	17.4	y4	G	H	3	1	6.75	14.44
sp|Q29443|TRFE_BOVIN	WC[160]AIGHQER	386.18	626.30	17.4	y5	I	G	3	1	6.75	14.44
sp|Q29443|TRFE_BOVIN	WC[160]AIGHQER	386.18	739.39	17.4	y6	A	I	3	1	6.75	14.44
sp|P62894|CYC_BOVIN	TGPNLHGLFGR	390.21	492.29	25.01	y4	G	L	3	1	9.44	14.58
sp|P62894|CYC_BOVIN	TGPNLHGLFGR	390.21	549.32	25.01	y5	H	G	3	1	9.44	14.58
sp|P62894|CYC_BOVIN	TGPNLHGLFGR	390.21	686.37	25.01	y6	L	H	3	1	9.44	14.58
sp|P62894|CYC_BOVIN	TGPNLHGLFGR	390.21	799.46	25.01	y7	N	L	3	1	9.44	14.58
sp|P00722|BGAL_ECOLI	LAAHPPFASWR	418.22	519.27	27.87	y4	F	A	3	1	9.75	15.53
sp|P00722|BGAL_ECOLI	LAAHPPFASWR	418.22	666.33	27.87	y5	P	F	3	1	9.75	15.53
sp|P00722|BGAL_ECOLI	LAAHPPFASWR	418.22	763.39	27.87	y6	P	P	3	1	9.75	15.53
sp|P00722|BGAL_ECOLI	LAAHPPFASWR	418.22	860.44	27.87	y7	H	P	3	1	9.75	15.53
sp|Q29443|TRFE_BOVIN	WC[160]TISTHEANK	449.54	461.24	18.25	y4	H	E	3	1	6.75	16.60
sp|Q29443|TRFE_BOVIN	WC[160]TISTHEANK	449.54	598.30	18.25	y5	T	H	3	1	6.75	16.60
sp|Q29443|TRFE_BOVIN	WC[160]TISTHEANK	449.54	786.37	18.25	y7	I	S	3	1	6.75	16.60
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	447.26	20.24	y5	S	T	3	1	8.76	16.86
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	534.29	20.24	y6	A	S	3	1	8.76	16.86

sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	605.32	20.24	y7	P	A	3	1	8.76	16.86
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	702.38	20.24	y8	I	P	3	1	8.76	16.86
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	815.46	20.24	y9	I	I	3	1	8.76	16.86
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	526.30	22.83	y4	D	I	3	1	5.28	17.39
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	641.33	22.83	y5	V	D	3	1	5.28	17.39
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	740.40	22.83	y6	G	V	3	1	5.28	17.39
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	797.42	22.83	y7	L	G	3	1	5.28	17.39
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	910.50	22.83	y8	A	L	3	1	5.28	17.39
sp|P02769|ALBU_BOVIN	SLHTLFGDELC[160]K	473.90	549.28	30.18	y4	D	E	3	1	5.3	17.43
sp|P02769|ALBU_BOVIN	SLHTLFGDELC[160]K	473.90	664.30	30.18	y5	G	D	3	1	5.3	17.43
sp|P02769|ALBU_BOVIN	SLHTLFGDELC[160]K	473.90	721.32	30.18	y6	F	G	3	1	5.3	17.43
sp|P00634|PPB_ECOLI	TFAETATAGEWQGK	499.57	518.27	24.95	y4	E	W	3	1	4.53	18.30
sp|P00634|PPB_ECOLI	TFAETATAGEWQGK	499.57	647.32	24.95	y5	G	E	3	1	4.53	18.30
sp|P00634|PPB_ECOLI	TFAETATAGEWQGK	499.57	704.33	24.95	y6	A	G	3	1	4.53	18.30
sp|P00634|PPB_ECOLI	TFAETATAGEWQGK	499.57	775.37	24.95	y7	T	A	3	1	4.53	18.30
sp|Q29443|TRFE_BOVIN	HSTVFDNLPNPEDR	547.59	516.24	27.05	y4	N	P	3	1	4.53	19.93
sp|Q29443|TRFE_BOVIN	HSTVFDNLPNPEDR	547.59	630.28	27.05	y5	P	N	3	1	4.53	19.93
sp|Q29443|TRFE_BOVIN	HSTVFDNLPNPEDR	547.59	727.34	27.05	y6	L	P	3	1	4.53	19.93
sp|P00489|PHS2_RABIT	ARPEFTLPVHFYGR	563.97	542.27	33.85	y4	H	F	3	1	8.8	20.49
sp|P00489|PHS2_RABIT	ARPEFTLPVHFYGR	563.97	679.33	33.85	y5	V	H	3	1	8.8	20.49
sp|P00489|PHS2_RABIT	ARPEFTLPVHFYGR	563.97	778.40	33.85	y6	P	V	3	1	8.8	20.49
sp|P00489|PHS2_RABIT	ARPEFTLPVHFYGR	563.97	875.46	33.85	y7	L	P	3	1	8.8	20.49
sp|P62739|ACTA_BOVIN	SYELPDGQVITIGNER	597.64	475.22	31.18	y4	I	G	3	1	4.14	21.63
sp|P62739|ACTA_BOVIN	SYELPDGQVITIGNER	597.64	588.32	31.18	y5	T	I	3	1	4.14	21.63
sp|P62739|ACTA_BOVIN	SYELPDGQVITIGNER	597.64	689.36	31.18	y6	I	T	3	1	4.14	21.63
sp|P62739|ACTA_BOVIN	SYELPDGQVITIGNER	597.64	802.44	31.18	y7	V	I	3	1	4.14	21.63
sp|P00432|CATA_BOVIN	LGPNYLQIPVNC[160]PYR	601.98	709.30	32.71	y5	V	N	3	1	8.59	21.78
sp|P00432|CATA_BOVIN	LGPNYLQIPVNC[160]PYR	601.98	808.37	32.71	y6	P	V	3	1	8.59	21.78
sp|P00432|CATA_BOVIN	LGPNYLQIPVNC[160]PYR	601.98	905.43	32.71	y7	I	P	3	1	8.59	21.78
sp|P46406|G3P_RABIT	IVSNASC[160]TTNC[160]LAPLAK	607.31	428.29	26.74	y4	A	P	3	1	8.76	21.96
sp|P46406|G3P_RABIT	IVSNASC[160]TTNC[160]LAPLAK	607.31	499.33	26.74	y5	L	A	3	1	8.76	21.96

sp|P46406|G3P_RABIT	IVSNASC[160]TTNC[160]LAPLAK	607.31	772.44	26.74	y7	N	C	3	1	8.76	21.96
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	515.28	18.42	y5	N	P	3	1	6.01	22.02
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	686.35	18.42	y7	G	G	3	1	6.01	22.02
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	743.37	18.42	y8	G	G	3	1	6.01	22.02
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	800.39	18.42	y9	T	G	3	1	6.01	22.02
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	901.43	18.42	y10	T	T	3	1	6.01	22.02
sp|P02666|CASB_BOVIN	FQSEEQQQTEDELQDK	661.29	503.28	16.93	y4	E	L	3	1	3.77	23.80
sp|P02666|CASB_BOVIN	FQSEEQQQTEDELQDK	661.29	747.35	16.93	y6	E	D	3	1	3.77	23.80
sp|P02666|CASB_BOVIN	FQSEEQQQTEDELQDK	661.29	876.40	16.93	y7	T	E	3	1	3.77	23.80
sp|P02666|CASB_BOVIN	FQSEEQQQTEDELQDK	661.29	977.44	16.93	y8	Q	T	3	1	3.77	23.80
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	434.24	38.44	y4	E	A	3	1	6.12	26.25
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	563.28	38.44	y5	G	E	3	1	6.12	26.25
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	620.30	38.44	y6	Y	G	3	1	6.12	26.25
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	783.36	38.44	y7	V	Y	3	1	6.12	26.25
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	882.44	38.44	y8	L	V	3	1	6.12	26.25
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWSTGVK	738.36	404.25	27.92	y4	S	T	3	1	5.63	26.42
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWSTGVK	738.36	491.29	27.92	y5	W	S	3	1	5.63	26.42
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWSTGVK	738.36	677.37	27.92	y6	A	W	3	1	5.63	26.42
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWSTGVK	738.36	849.45	27.92	y8	A	T	3	1	5.63	26.42
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWSTGVK	738.36	920.49	27.92	y9	S	A	3	1	5.63	26.42
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWSTGVK	738.36	1007.52	27.92	y10	A	S	3	1	5.63	26.42
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWSTGVK	738.36	1078.55	27.92	y11	A	A	3	1	5.63	26.42
sp|P00634|PPB_ECOLI	ATYHGNIDKPAVTC[160]TPNPQR	747.37	872.40	19.63	y7	T	C	3	1	8.63	26.72
sp|P00634|PPB_ECOLI	ATYHGNIDKPAVTC[160]TPNPQR	747.37	973.46	19.63	y8	V	T	3	1	8.63	26.72
sp|P00634|PPB_ECOLI	ATYHGNIDKPAVTC[160]TPNPQR	747.37	1072.52	19.63	y9	A	V	3	1	8.63	26.72
sp|P00634|PPB_ECOLI	ATYHGNIDKPAVTC[160]TPNPQR	747.37	1240.61	19.63	y11	K	P	3	1	8.63	26.72
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	491.26	32.72	y4	E	C	3	1	3.99	30.19
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	749.35	32.72	y6	T	E	3	1	3.99	30.19
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	964.44	32.72	y8	E	N	3	1	3.99	30.19
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	1093.48	32.72	y9	A	E	3	1	3.99	30.19
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	1164.52	32.72	y10	T	A	3	1	3.99	30.19

sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	543.35	33.95	y5	S	P	3	1	6.15	30.80
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	630.38	33.95	y6	E	S	3	1	6.15	30.80
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	759.43	33.95	y7	N	E	3	1	6.15	30.80
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	944.50	33.95	y9	A	A	3	1	6.15	30.80
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	1015.54	33.95	y10	I	A	3	1	6.15	30.80
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	1128.63	33.95	y11	F	I	3	1	6.15	30.80

Supplemental Table 3. The full transition list, including the m/z modifications performed by our in-house Perl script, used to program the CE and CV optimization experiments. *Note that two different versions of this list were used to perform the experiments, one that included the adjusted CE values and one that included the adjusted CV values; both values are listed in the same table here for the sake of space. These parameters were not adjusted simultaneously.

Protein	Peptide	Original Q1 m/z	Original Q3 m/z	SSRCalc RT	Frag-ment Type	N-term AA	C-term AA	Q1 z	Q3 z	pI	Default CV	Default CE	Adjusted Q1 m/z	Adjusted Q3 m/z	Adjusted CE*	Adjusted CV*
sp|P00722|BGAL_ECOLI	TPHPALTEAK	355.53	448.24	14.29	y4	L	T	3	1	6.42	36	13.4	355.51	448.21	7.4	30
sp|P00722|BGAL_ECOLI	TPHPALTEAK	355.53	448.24	14.29	y4	L	T	3	1	6.42	36	13.4	355.51	448.22	9.4	32
sp|P00722|BGAL_ECOLI	TPHPALTEAK	355.53	448.24	14.29	y4	L	T	3	1	6.42	36	13.4	355.51	448.23	11.4	34
sp|P00722|BGAL_ECOLI	TPHPALTEAK	355.53	448.24	14.29	y4	L	T	3	1	6.42	36	13.4	355.51	448.24	13.4	36
sp|P00722|BGAL_ECOLI	TPHPALTEAK	355.53	448.24	14.29	y4	L	T	3	1	6.42	36	13.4	355.51	448.25	15.4	38
sp|P00722|BGAL_ECOLI	TPHPALTEAK	355.53	448.24	14.29	y4	L	T	3	1	6.42	36	13.4	355.51	448.26	17.4	40
sp|P00722|BGAL_ECOLI	TPHPALTEAK	355.53	448.24	14.29	y4	L	T	3	1	6.42	36	13.4	355.51	448.27	19.4	42
sp|P00722|BGAL_ECOLI	TPHPALTEAK	355.53	561.32	14.29	y5	A	L	3	1	6.42	36	13.4	355.52	561.31	7.4	30
sp|P00722|BGAL_ECOLI	TPHPALTEAK	355.53	561.32	14.29	y5	A	L	3	1	6.42	36	13.4	355.52	561.32	9.4	32
sp|P00722|BGAL_ECOLI	TPHPALTEAK	355.53	561.32	14.29	y5	A	L	3	1	6.42	36	13.4	355.52	561.33	11.4	34
sp|P00722|BGAL_ECOLI	TPHPALTEAK	355.53	561.32	14.29	y5	A	L	3	1	6.42	36	13.4	355.52	561.34	13.4	36
sp|P00722|BGAL_ECOLI	TPHPALTEAK	355.53	561.32	14.29	y5	A	L	3	1	6.42	36	13.4	355.52	561.35	15.4	38
sp|P00722|BGAL_ECOLI	TPHPALTEAK	355.53	561.32	14.29	y5	A	L	3	1	6.42	36	13.4	355.52	561.36	17.4	40
sp|P00722|BGAL_ECOLI	TPHPALTEAK	355.53	561.32	14.29	y5	A	L	3	1	6.42	36	13.4	355.52	561.37	19.4	42
sp|P00722|BGAL_ECOLI	TPHPALTEAK	355.53	729.41	14.29	y7	H	P	3	1	6.42	36	13.4	355.53	729.41	7.4	30
sp|P00722|BGAL_ECOLI	TPHPALTEAK	355.53	729.41	14.29	y7	H	P	3	1	6.42	36	13.4	355.53	729.42	9.4	32
sp|P00722|BGAL_ECOLI	TPHPALTEAK	355.53	729.41	14.29	y7	H	P	3	1	6.42	36	13.4	355.53	729.43	11.4	34
sp|P00722|BGAL_ECOLI	TPHPALTEAK	355.53	729.41	14.29	y7	H	P	3	1	6.42	36	13.4	355.53	729.44	13.4	36
sp|P00722|BGAL_ECOLI	TPHPALTEAK	355.53	729.41	14.29	y7	H	P	3	1	6.42	36	13.4	355.53	729.45	15.4	38
sp|P00722|BGAL_ECOLI	TPHPALTEAK	355.53	729.41	14.29	y7	H	P	3	1	6.42	36	13.4	355.53	729.46	17.4	40
sp|P00722|BGAL_ECOLI	TPHPALTEAK	355.53	729.41	14.29	y7	H	P	3	1	6.42	36	13.4	355.53	729.47	19.4	42
sp|P00432|CATA_BOVIN	LFAYPDTHR	373.86	528.25	21.12	y4	P	D	3	1	6.75	36	14.03	373.91	528.31	8.03	30
sp|P00432|CATA_BOVIN	LFAYPDTHR	373.86	528.25	21.12	y4	P	D	3	1	6.75	36	14.03	373.91	528.32	10.03	32
sp|P00432|CATA_BOVIN	LFAYPDTHR	373.86	528.25	21.12	y4	P	D	3	1	6.75	36	14.03	373.91	528.33	12.03	34
sp|P00432|CATA_BOVIN	LFAYPDTHR	373.86	528.25	21.12	y4	P	D	3	1	6.75	36	14.03	373.91	528.34	14.03	36
sp|P00432|CATA_BOVIN	LFAYPDTHR	373.86	528.25	21.12	y4	P	D	3	1	6.75	36	14.03	373.91	528.35	16.03	38
sp|P00432|CATA_BOVIN	LFAYPDTHR	373.86	528.25	21.12	y4	P	D	3	1	6.75	36	14.03	373.91	528.36	18.03	40
sp|P00432|CATA_BOVIN	LFAYPDTHR	373.86	528.25	21.12	y4	P	D	3	1	6.75	36	14.03	373.91	528.37	20.03	42
sp|P00432|CATA_BOVIN	LFAYPDTHR	373.86	625.31	21.12	y5	Y	P	3	1	6.75	36	14.03	373.92	625.31	8.03	30
sp|P00432|CATA_BOVIN	LFAYPDTHR	373.86	625.31	21.12	y5	Y	P	3	1	6.75	36	14.03	373.92	625.32	10.03	32
sp|P00432|CATA_BOVIN	LFAYPDTHR	373.86	625.31	21.12	y5	Y	P	3	1	6.75	36	14.03	373.92	625.33	12.03	34
sp|P00432|CATA_BOVIN	LFAYPDTHR	373.86	625.31	21.12	y5	Y	P	3	1	6.75	36	14.03	373.92	625.34	14.03	36
sp|P00432|CATA_BOVIN	LFAYPDTHR	373.86	625.31	21.12	y5	Y	P	3	1	6.75	36	14.03	373.92	625.35	16.03	38
sp|P00432|CATA_BOVIN	LFAYPDTHR	373.86	625.31	21.12	y5	Y	P	3	1	6.75	36	14.03	373.92	625.36	18.03	40

sp|P00432|CATA_BOVIN	LFAYPDTHR	373.86	625.31	21.12	y5	Y	P	3	1	6.75	36	14.03	373.92	625.37	20.03	42
sp|P00432|CATA_BOVIN	LFAYPDTHR	373.86	788.37	21.12	y6	A	Y	3	1	6.75	36	14.03	373.93	788.41	8.03	30
sp|P00432|CATA_BOVIN	LFAYPDTHR	373.86	788.37	21.12	y6	A	Y	3	1	6.75	36	14.03	373.93	788.42	10.03	32
sp|P00432|CATA_BOVIN	LFAYPDTHR	373.86	788.37	21.12	y6	A	Y	3	1	6.75	36	14.03	373.93	788.43	12.03	34
sp|P00432|CATA_BOVIN	LFAYPDTHR	373.86	788.37	21.12	y6	A	Y	3	1	6.75	36	14.03	373.93	788.44	14.03	36
sp|P00432|CATA_BOVIN	LFAYPDTHR	373.86	788.37	21.12	y6	A	Y	3	1	6.75	36	14.03	373.93	788.45	16.03	38
sp|P00432|CATA_BOVIN	LFAYPDTHR	373.86	788.37	21.12	y6	A	Y	3	1	6.75	36	14.03	373.93	788.46	18.03	40
sp|P00432|CATA_BOVIN	LFAYPDTHR	373.86	788.37	21.12	y6	A	Y	3	1	6.75	36	14.03	373.93	788.47	20.03	42
sp|Q29443|TRFE_BOVIN	WC[160]AIGHQER	386.18	569.28	17.4	y4	G	H	3	1	6.75	36	14.44	386.21	569.31	8.44	30
sp|Q29443|TRFE_BOVIN	WC[160]AIGHQER	386.18	569.28	17.4	y4	G	H	3	1	6.75	36	14.44	386.21	569.32	10.44	32
sp|Q29443|TRFE_BOVIN	WC[160]AIGHQER	386.18	569.28	17.4	y4	G	H	3	1	6.75	36	14.44	386.21	569.33	12.44	34
sp|Q29443|TRFE_BOVIN	WC[160]AIGHQER	386.18	569.28	17.4	y4	G	H	3	1	6.75	36	14.44	386.21	569.34	14.44	36
sp|Q29443|TRFE_BOVIN	WC[160]AIGHQER	386.18	569.28	17.4	y4	G	H	3	1	6.75	36	14.44	386.21	569.35	16.44	38
sp|Q29443|TRFE_BOVIN	WC[160]AIGHQER	386.18	569.28	17.4	y4	G	H	3	1	6.75	36	14.44	386.21	569.36	18.44	40
sp|Q29443|TRFE_BOVIN	WC[160]AIGHQER	386.18	569.28	17.4	y4	G	H	3	1	6.75	36	14.44	386.21	569.37	20.44	42
sp|Q29443|TRFE_BOVIN	WC[160]AIGHQER	386.18	626.30	17.4	y5	I	G	3	1	6.75	36	14.44	386.22	626.31	8.44	30
sp|Q29443|TRFE_BOVIN	WC[160]AIGHQER	386.18	626.30	17.4	y5	I	G	3	1	6.75	36	14.44	386.22	626.32	10.44	32
sp|Q29443|TRFE_BOVIN	WC[160]AIGHQER	386.18	626.30	17.4	y5	I	G	3	1	6.75	36	14.44	386.22	626.33	12.44	34
sp|Q29443|TRFE_BOVIN	WC[160]AIGHQER	386.18	626.30	17.4	y5	I	G	3	1	6.75	36	14.44	386.22	626.34	14.44	36
sp|Q29443|TRFE_BOVIN	WC[160]AIGHQER	386.18	626.30	17.4	y5	I	G	3	1	6.75	36	14.44	386.22	626.35	16.44	38
sp|Q29443|TRFE_BOVIN	WC[160]AIGHQER	386.18	626.30	17.4	y5	I	G	3	1	6.75	36	14.44	386.22	626.36	18.44	40
sp|Q29443|TRFE_BOVIN	WC[160]AIGHQER	386.18	626.30	17.4	y5	I	G	3	1	6.75	36	14.44	386.22	626.37	20.44	42
sp|Q29443|TRFE_BOVIN	WC[160]AIGHQER	386.18	739.39	17.4	y6	A	I	3	1	6.75	36	14.44	386.23	739.41	8.44	30
sp|Q29443|TRFE_BOVIN	WC[160]AIGHQER	386.18	739.39	17.4	y6	A	I	3	1	6.75	36	14.44	386.23	739.42	10.44	32
sp|Q29443|TRFE_BOVIN	WC[160]AIGHQER	386.18	739.39	17.4	y6	A	I	3	1	6.75	36	14.44	386.23	739.43	12.44	34
sp|Q29443|TRFE_BOVIN	WC[160]AIGHQER	386.18	739.39	17.4	y6	A	I	3	1	6.75	36	14.44	386.23	739.44	14.44	36
sp|Q29443|TRFE_BOVIN	WC[160]AIGHQER	386.18	739.39	17.4	y6	A	I	3	1	6.75	36	14.44	386.23	739.45	16.44	38
sp|Q29443|TRFE_BOVIN	WC[160]AIGHQER	386.18	739.39	17.4	y6	A	I	3	1	6.75	36	14.44	386.23	739.46	18.44	40
sp|Q29443|TRFE_BOVIN	WC[160]AIGHQER	386.18	739.39	17.4	y6	A	I	3	1	6.75	36	14.44	386.23	739.47	20.44	42
sp|P62894|CYC_BOVIN	TGPNLHGLFGR	390.21	492.29	25.01	y4	G	L	3	1	9.44	36	14.58	390.21	492.31	8.58	30
sp|P62894|CYC_BOVIN	TGPNLHGLFGR	390.21	492.29	25.01	y4	G	L	3	1	9.44	36	14.58	390.21	492.32	10.58	32
sp|P62894|CYC_BOVIN	TGPNLHGLFGR	390.21	492.29	25.01	y4	G	L	3	1	9.44	36	14.58	390.21	492.33	12.58	34
sp|P62894|CYC_BOVIN	TGPNLHGLFGR	390.21	492.29	25.01	y4	G	L	3	1	9.44	36	14.58	390.21	492.34	14.58	36
sp|P62894|CYC_BOVIN	TGPNLHGLFGR	390.21	492.29	25.01	y4	G	L	3	1	9.44	36	14.58	390.21	492.35	16.58	38
sp|P62894|CYC_BOVIN	TGPNLHGLFGR	390.21	492.29	25.01	y4	G	L	3	1	9.44	36	14.58	390.21	492.36	18.58	40
sp|P62894|CYC_BOVIN	TGPNLHGLFGR	390.21	492.29	25.01	y4	G	L	3	1	9.44	36	14.58	390.21	492.37	20.58	42
sp|P62894|CYC_BOVIN	TGPNLHGLFGR	390.21	549.32	25.01	y5	H	G	3	1	9.44	36	14.58	390.22	549.31	8.58	30
sp|P62894|CYC_BOVIN	TGPNLHGLFGR	390.21	549.32	25.01	y5	H	G	3	1	9.44	36	14.58	390.22	549.32	10.58	32
sp|P62894|CYC_BOVIN	TGPNLHGLFGR	390.21	549.32	25.01	y5	H	G	3	1	9.44	36	14.58	390.22	549.33	12.58	34
sp|P62894|CYC_BOVIN	TGPNLHGLFGR	390.21	549.32	25.01	y5	H	G	3	1	9.44	36	14.58	390.22	549.34	14.58	36
sp|P62894|CYC_BOVIN	TGPNLHGLFGR	390.21	549.32	25.01	y5	H	G	3	1	9.44	36	14.58	390.22	549.35	16.58	38
sp|P62894|CYC_BOVIN	TGPNLHGLFGR	390.21	549.32	25.01	y5	H	G	3	1	9.44	36	14.58	390.22	549.36	18.58	40
sp|P62894|CYC_BOVIN	TGPNLHGLFGR	390.21	549.32	25.01	y5	H	G	3	1	9.44	36	14.58	390.22	549.37	20.58	42
sp|P62894|CYC_BOVIN	TGPNLHGLFGR	390.21	686.37	25.01	y6	L	H	3	1	9.44	36	14.58	390.23	686.41	8.58	30
sp|P62894|CYC_BOVIN	TGPNLHGLFGR	390.21	686.37	25.01	y6	L	H	3	1	9.44	36	14.58	390.23	686.42	10.58	32
sp|P62894|CYC_BOVIN	TGPNLHGLFGR	390.21	686.37	25.01	y6	L	H	3	1	9.44	36	14.58	390.23	686.43	12.58	34
sp|P62894|CYC_BOVIN	TGPNLHGLFGR	390.21	686.37	25.01	y6	L	H	3	1	9.44	36	14.58	390.23	686.44	14.58	36
sp|P62894|CYC_BOVIN	TGPNLHGLFGR	390.21	686.37	25.01	y6	L	H	3	1	9.44	36	14.58	390.23	686.45	16.58	38

sp|P62894|CYC_BOVIN	TGPNLHGLFGR	390.21	686.37	25.01	y6	L	H	3	1	9.44	36	14.58	390.23	686.46	18.58	40
sp|P62894|CYC_BOVIN	TGPNLHGLFGR	390.21	686.37	25.01	y6	L	H	3	1	9.44	36	14.58	390.23	686.47	20.58	42
sp|P62894|CYC_BOVIN	TGPNLHGLFGR	390.21	799.46	25.01	y7	N	L	3	1	9.44	36	14.58	390.24	799.51	8.58	30
sp|P62894|CYC_BOVIN	TGPNLHGLFGR	390.21	799.46	25.01	y7	N	L	3	1	9.44	36	14.58	390.24	799.52	10.58	32
sp|P62894|CYC_BOVIN	TGPNLHGLFGR	390.21	799.46	25.01	y7	N	L	3	1	9.44	36	14.58	390.24	799.53	12.58	34
sp|P62894|CYC_BOVIN	TGPNLHGLFGR	390.21	799.46	25.01	y7	N	L	3	1	9.44	36	14.58	390.24	799.54	14.58	36
sp|P62894|CYC_BOVIN	TGPNLHGLFGR	390.21	799.46	25.01	y7	N	L	3	1	9.44	36	14.58	390.24	799.55	16.58	38
sp|P62894|CYC_BOVIN	TGPNLHGLFGR	390.21	799.46	25.01	y7	N	L	3	1	9.44	36	14.58	390.24	799.56	18.58	40
sp|P62894|CYC_BOVIN	TGPNLHGLFGR	390.21	799.46	25.01	y7	N	L	3	1	9.44	36	14.58	390.24	799.57	20.58	42
sp|P00722|BGAL_ECOLI	LAAHPPFASWR	418.22	519.27	27.87	y4	F	A	3	1	9.75	36	15.53	418.21	519.31	9.53	30
sp|P00722|BGAL_ECOLI	LAAHPPFASWR	418.22	519.27	27.87	y4	F	A	3	1	9.75	36	15.53	418.21	519.32	11.53	32
sp|P00722|BGAL_ECOLI	LAAHPPFASWR	418.22	519.27	27.87	y4	F	A	3	1	9.75	36	15.53	418.21	519.33	13.53	34
sp|P00722|BGAL_ECOLI	LAAHPPFASWR	418.22	519.27	27.87	y4	F	A	3	1	9.75	36	15.53	418.21	519.34	15.53	36
sp|P00722|BGAL_ECOLI	LAAHPPFASWR	418.22	519.27	27.87	y4	F	A	3	1	9.75	36	15.53	418.21	519.35	17.53	38
sp|P00722|BGAL_ECOLI	LAAHPPFASWR	418.22	519.27	27.87	y4	F	A	3	1	9.75	36	15.53	418.21	519.36	19.53	40
sp|P00722|BGAL_ECOLI	LAAHPPFASWR	418.22	519.27	27.87	y4	F	A	3	1	9.75	36	15.53	418.21	519.37	21.53	42
sp|P00722|BGAL_ECOLI	LAAHPPFASWR	418.22	666.33	27.87	y5	P	F	3	1	9.75	36	15.53	418.22	666.31	9.53	30
sp|P00722|BGAL_ECOLI	LAAHPPFASWR	418.22	666.33	27.87	y5	P	F	3	1	9.75	36	15.53	418.22	666.32	11.53	32
sp|P00722|BGAL_ECOLI	LAAHPPFASWR	418.22	666.33	27.87	y5	P	F	3	1	9.75	36	15.53	418.22	666.33	13.53	34
sp|P00722|BGAL_ECOLI	LAAHPPFASWR	418.22	666.33	27.87	y5	P	F	3	1	9.75	36	15.53	418.22	666.34	15.53	36
sp|P00722|BGAL_ECOLI	LAAHPPFASWR	418.22	666.33	27.87	y5	P	F	3	1	9.75	36	15.53	418.22	666.35	17.53	38
sp|P00722|BGAL_ECOLI	LAAHPPFASWR	418.22	666.33	27.87	y5	P	F	3	1	9.75	36	15.53	418.22	666.36	19.53	40
sp|P00722|BGAL_ECOLI	LAAHPPFASWR	418.22	666.33	27.87	y5	P	F	3	1	9.75	36	15.53	418.22	666.37	21.53	42
sp|P00722|BGAL_ECOLI	LAAHPPFASWR	418.22	763.39	27.87	y6	P	P	3	1	9.75	36	15.53	418.23	763.41	9.53	30
sp|P00722|BGAL_ECOLI	LAAHPPFASWR	418.22	763.39	27.87	y6	P	P	3	1	9.75	36	15.53	418.23	763.42	11.53	32
sp|P00722|BGAL_ECOLI	LAAHPPFASWR	418.22	763.39	27.87	y6	P	P	3	1	9.75	36	15.53	418.23	763.43	13.53	34
sp|P00722|BGAL_ECOLI	LAAHPPFASWR	418.22	763.39	27.87	y6	P	P	3	1	9.75	36	15.53	418.23	763.44	15.53	36
sp|P00722|BGAL_ECOLI	LAAHPPFASWR	418.22	763.39	27.87	y6	P	P	3	1	9.75	36	15.53	418.23	763.45	17.53	38
sp|P00722|BGAL_ECOLI	LAAHPPFASWR	418.22	763.39	27.87	y6	P	P	3	1	9.75	36	15.53	418.23	763.46	19.53	40
sp|P00722|BGAL_ECOLI	LAAHPPFASWR	418.22	763.39	27.87	y6	P	P	3	1	9.75	36	15.53	418.23	763.47	21.53	42
sp|P00722|BGAL_ECOLI	LAAHPPFASWR	418.22	860.44	27.87	y7	H	P	3	1	9.75	36	15.53	418.24	860.41	9.53	30
sp|P00722|BGAL_ECOLI	LAAHPPFASWR	418.22	860.44	27.87	y7	H	P	3	1	9.75	36	15.53	418.24	860.42	11.53	32
sp|P00722|BGAL_ECOLI	LAAHPPFASWR	418.22	860.44	27.87	y7	H	P	3	1	9.75	36	15.53	418.24	860.43	13.53	34
sp|P00722|BGAL_ECOLI	LAAHPPFASWR	418.22	860.44	27.87	y7	H	P	3	1	9.75	36	15.53	418.24	860.44	15.53	36
sp|P00722|BGAL_ECOLI	LAAHPPFASWR	418.22	860.44	27.87	y7	H	P	3	1	9.75	36	15.53	418.24	860.45	17.53	38
sp|P00722|BGAL_ECOLI	LAAHPPFASWR	418.22	860.44	27.87	y7	H	P	3	1	9.75	36	15.53	418.24	860.46	19.53	40
sp|P00722|BGAL_ECOLI	LAAHPPFASWR	418.22	860.44	27.87	y7	H	P	3	1	9.75	36	15.53	418.24	860.47	21.53	42
sp|Q29443|TRFE_BOVIN	WC[160]TISTHEANK	449.54	461.24	18.25	y4	H	E	3	1	6.75	36	16.6	449.51	461.21	10.6	30
sp|Q29443|TRFE_BOVIN	WC[160]TISTHEANK	449.54	461.24	18.25	y4	H	E	3	1	6.75	36	16.6	449.51	461.22	12.6	32
sp|Q29443|TRFE_BOVIN	WC[160]TISTHEANK	449.54	461.24	18.25	y4	H	E	3	1	6.75	36	16.6	449.51	461.23	14.6	34
sp|Q29443|TRFE_BOVIN	WC[160]TISTHEANK	449.54	461.24	18.25	y4	H	E	3	1	6.75	36	16.6	449.51	461.24	16.6	36
sp|Q29443|TRFE_BOVIN	WC[160]TISTHEANK	449.54	461.24	18.25	y4	H	E	3	1	6.75	36	16.6	449.51	461.25	18.6	38
sp|Q29443|TRFE_BOVIN	WC[160]TISTHEANK	449.54	461.24	18.25	y4	H	E	3	1	6.75	36	16.6	449.51	461.26	20.6	40
sp|Q29443|TRFE_BOVIN	WC[160]TISTHEANK	449.54	461.24	18.25	y4	H	E	3	1	6.75	36	16.6	449.51	461.27	22.6	42
sp|Q29443|TRFE_BOVIN	WC[160]TISTHEANK	449.54	598.30	18.25	y5	T	H	3	1	6.75	36	16.6	449.52	598.31	10.6	30
sp|Q29443|TRFE_BOVIN	WC[160]TISTHEANK	449.54	598.30	18.25	y5	T	H	3	1	6.75	36	16.6	449.52	598.32	12.6	32
sp|Q29443|TRFE_BOVIN	WC[160]TISTHEANK	449.54	598.30	18.25	y5	T	H	3	1	6.75	36	16.6	449.52	598.33	14.6	34
sp|Q29443|TRFE_BOVIN	WC[160]TISTHEANK	449.54	598.30	18.25	y5	T	H	3	1	6.75	36	16.6	449.52	598.34	16.6	36

sp|Q29443|TRFE_BOVIN	WC[160]TISTHEANK	449.54	598.30	18.25	y5	T	H	3	1	6.75	36	16.6	449.52	598.35	18.6	38
sp|Q29443|TRFE_BOVIN	WC[160]TISTHEANK	449.54	598.30	18.25	y5	T	H	3	1	6.75	36	16.6	449.52	598.36	20.6	40
sp|Q29443|TRFE_BOVIN	WC[160]TISTHEANK	449.54	598.30	18.25	y5	T	H	3	1	6.75	36	16.6	449.52	598.37	22.6	42
sp|Q29443|TRFE_BOVIN	WC[160]TISTHEANK	449.54	786.37	18.25	y7	I	S	3	1	6.75	36	16.6	449.53	786.41	10.6	30
sp|Q29443|TRFE_BOVIN	WC[160]TISTHEANK	449.54	786.37	18.25	y7	I	S	3	1	6.75	36	16.6	449.53	786.42	12.6	32
sp|Q29443|TRFE_BOVIN	WC[160]TISTHEANK	449.54	786.37	18.25	y7	I	S	3	1	6.75	36	16.6	449.53	786.43	14.6	34
sp|Q29443|TRFE_BOVIN	WC[160]TISTHEANK	449.54	786.37	18.25	y7	I	S	3	1	6.75	36	16.6	449.53	786.44	16.6	36
sp|Q29443|TRFE_BOVIN	WC[160]TISTHEANK	449.54	786.37	18.25	y7	I	S	3	1	6.75	36	16.6	449.53	786.45	18.6	38
sp|Q29443|TRFE_BOVIN	WC[160]TISTHEANK	449.54	786.37	18.25	y7	I	S	3	1	6.75	36	16.6	449.53	786.46	20.6	40
sp|Q29443|TRFE_BOVIN	WC[160]TISTHEANK	449.54	786.37	18.25	y7	I	S	3	1	6.75	36	16.6	449.53	786.47	22.6	42
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	447.26	20.24	y5	S	T	3	1	8.76	36	16.86	457.31	447.31	10.86	30
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	447.26	20.24	y5	S	T	3	1	8.76	36	16.86	457.31	447.32	12.86	32
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	447.26	20.24	y5	S	T	3	1	8.76	36	16.86	457.31	447.33	14.86	34
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	447.26	20.24	y5	S	T	3	1	8.76	36	16.86	457.31	447.34	16.86	36
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	447.26	20.24	y5	S	T	3	1	8.76	36	16.86	457.31	447.35	18.86	38
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	447.26	20.24	y5	S	T	3	1	8.76	36	16.86	457.31	447.36	20.86	40
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	447.26	20.24	y5	S	T	3	1	8.76	36	16.86	457.31	447.37	22.86	42
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	534.29	20.24	y6	A	S	3	1	8.76	36	16.86	457.32	534.31	10.86	30
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	534.29	20.24	y6	A	S	3	1	8.76	36	16.86	457.32	534.32	12.86	32
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	534.29	20.24	y6	A	S	3	1	8.76	36	16.86	457.32	534.33	14.86	34
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	534.29	20.24	y6	A	S	3	1	8.76	36	16.86	457.32	534.34	16.86	36
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	534.29	20.24	y6	A	S	3	1	8.76	36	16.86	457.32	534.35	18.86	38
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	534.29	20.24	y6	A	S	3	1	8.76	36	16.86	457.32	534.36	20.86	40
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	534.29	20.24	y6	A	S	3	1	8.76	36	16.86	457.32	534.37	22.86	42
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	605.32	20.24	y7	P	A	3	1	8.76	36	16.86	457.33	605.31	10.86	30
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	605.32	20.24	y7	P	A	3	1	8.76	36	16.86	457.33	605.32	12.86	32
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	605.32	20.24	y7	P	A	3	1	8.76	36	16.86	457.33	605.33	14.86	34
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	605.32	20.24	y7	P	A	3	1	8.76	36	16.86	457.33	605.34	16.86	36
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	605.32	20.24	y7	P	A	3	1	8.76	36	16.86	457.33	605.35	18.86	38
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	605.32	20.24	y7	P	A	3	1	8.76	36	16.86	457.33	605.36	20.86	40
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	605.32	20.24	y7	P	A	3	1	8.76	36	16.86	457.33	605.37	22.86	42
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	702.38	20.24	y8	I	P	3	1	8.76	36	16.86	457.34	702.41	10.86	30
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	702.38	20.24	y8	I	P	3	1	8.76	36	16.86	457.34	702.42	12.86	32
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	702.38	20.24	y8	I	P	3	1	8.76	36	16.86	457.34	702.43	14.86	34
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	702.38	20.24	y8	I	P	3	1	8.76	36	16.86	457.34	702.44	16.86	36
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	702.38	20.24	y8	I	P	3	1	8.76	36	16.86	457.34	702.45	18.86	38
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	702.38	20.24	y8	I	P	3	1	8.76	36	16.86	457.34	702.46	20.86	40
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	702.38	20.24	y8	I	P	3	1	8.76	36	16.86	457.34	702.47	22.86	42
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	815.46	20.24	y9	I	I	3	1	8.76	36	16.86	457.35	815.51	10.86	30
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	815.46	20.24	y9	I	I	3	1	8.76	36	16.86	457.35	815.52	12.86	32
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	815.46	20.24	y9	I	I	3	1	8.76	36	16.86	457.35	815.53	14.86	34
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	815.46	20.24	y9	I	I	3	1	8.76	36	16.86	457.35	815.54	16.86	36
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	815.46	20.24	y9	I	I	3	1	8.76	36	16.86	457.35	815.55	18.86	38
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	815.46	20.24	y9	I	I	3	1	8.76	36	16.86	457.35	815.56	20.86	40
sp|P46406|G3P_RABIT	GAAQNIIPASTGAAK	457.25	815.46	20.24	y9	I	I	3	1	8.76	36	16.86	457.35	815.57	22.86	42
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	526.30	22.83	y4	D	I	3	1	5.28	36	17.39	472.91	526.31	11.39	30
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	526.30	22.83	y4	D	I	3	1	5.28	36	17.39	472.91	526.32	13.39	32
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	526.30	22.83	y4	D	I	3	1	5.28	36	17.39	472.91	526.33	15.39	34

sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	526.30	22.83	y4	D	I	3	1	5.28	36	17.39	472.91	526.34	17.39	36
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	526.30	22.83	y4	D	I	3	1	5.28	36	17.39	472.91	526.35	19.39	38
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	526.30	22.83	y4	D	I	3	1	5.28	36	17.39	472.91	526.36	21.39	40
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	526.30	22.83	y4	D	I	3	1	5.28	36	17.39	472.91	526.37	23.39	42
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	641.33	22.83	y5	V	D	3	1	5.28	36	17.39	472.92	641.31	11.39	30
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	641.33	22.83	y5	V	D	3	1	5.28	36	17.39	472.92	641.32	13.39	32
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	641.33	22.83	y5	V	D	3	1	5.28	36	17.39	472.92	641.33	15.39	34
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	641.33	22.83	y5	V	D	3	1	5.28	36	17.39	472.92	641.34	17.39	36
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	641.33	22.83	y5	V	D	3	1	5.28	36	17.39	472.92	641.35	19.39	38
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	641.33	22.83	y5	V	D	3	1	5.28	36	17.39	472.92	641.36	21.39	40
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	641.33	22.83	y5	V	D	3	1	5.28	36	17.39	472.92	641.37	23.39	42
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	740.40	22.83	y6	G	V	3	1	5.28	36	17.39	472.93	740.41	11.39	30
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	740.40	22.83	y6	G	V	3	1	5.28	36	17.39	472.93	740.42	13.39	32
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	740.40	22.83	y6	G	V	3	1	5.28	36	17.39	472.93	740.43	15.39	34
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	740.40	22.83	y6	G	V	3	1	5.28	36	17.39	472.93	740.44	17.39	36
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	740.40	22.83	y6	G	V	3	1	5.28	36	17.39	472.93	740.45	19.39	38
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	740.40	22.83	y6	G	V	3	1	5.28	36	17.39	472.93	740.46	21.39	40
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	740.40	22.83	y6	G	V	3	1	5.28	36	17.39	472.93	740.47	23.39	42
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	797.42	22.83	y7	L	G	3	1	5.28	36	17.39	472.94	797.41	11.39	30
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	797.42	22.83	y7	L	G	3	1	5.28	36	17.39	472.94	797.42	13.39	32
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	797.42	22.83	y7	L	G	3	1	5.28	36	17.39	472.94	797.43	15.39	34
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	797.42	22.83	y7	L	G	3	1	5.28	36	17.39	472.94	797.44	17.39	36
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	797.42	22.83	y7	L	G	3	1	5.28	36	17.39	472.94	797.45	19.39	38
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	797.42	22.83	y7	L	G	3	1	5.28	36	17.39	472.94	797.46	21.39	40
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	797.42	22.83	y7	L	G	3	1	5.28	36	17.39	472.94	797.47	23.39	42
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	910.50	22.83	y8	A	L	3	1	5.28	36	17.39	472.95	910.51	11.39	30
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	910.50	22.83	y8	A	L	3	1	5.28	36	17.39	472.95	910.52	13.39	32
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	910.50	22.83	y8	A	L	3	1	5.28	36	17.39	472.95	910.53	15.39	34
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	910.50	22.83	y8	A	L	3	1	5.28	36	17.39	472.95	910.54	17.39	36
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	910.50	22.83	y8	A	L	3	1	5.28	36	17.39	472.95	910.55	19.39	38
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	910.50	22.83	y8	A	L	3	1	5.28	36	17.39	472.95	910.56	21.39	40
sp|P00634|PPB_ECOLI	TYNGALGVDIHEK	472.91	910.50	22.83	y8	A	L	3	1	5.28	36	17.39	472.95	910.57	23.39	42
sp|P02769|ALBU_BOVIN	SLHTLFGDELC[160]K	473.90	549.28	30.18	y4	D	E	3	1	5.3	36	17.43	473.91	549.31	11.43	30
sp|P02769|ALBU_BOVIN	SLHTLFGDELC[160]K	473.90	549.28	30.18	y4	D	E	3	1	5.3	36	17.43	473.91	549.32	13.43	32
sp|P02769|ALBU_BOVIN	SLHTLFGDELC[160]K	473.90	549.28	30.18	y4	D	E	3	1	5.3	36	17.43	473.91	549.33	15.43	34
sp|P02769|ALBU_BOVIN	SLHTLFGDELC[160]K	473.90	549.28	30.18	y4	D	E	3	1	5.3	36	17.43	473.91	549.34	17.43	36
sp|P02769|ALBU_BOVIN	SLHTLFGDELC[160]K	473.90	549.28	30.18	y4	D	E	3	1	5.3	36	17.43	473.91	549.35	19.43	38
sp|P02769|ALBU_BOVIN	SLHTLFGDELC[160]K	473.90	549.28	30.18	y4	D	E	3	1	5.3	36	17.43	473.91	549.36	21.43	40
sp|P02769|ALBU_BOVIN	SLHTLFGDELC[160]K	473.90	549.28	30.18	y4	D	E	3	1	5.3	36	17.43	473.91	549.37	23.43	42
sp|P02769|ALBU_BOVIN	SLHTLFGDELC[160]K	473.90	664.30	30.18	y5	G	D	3	1	5.3	36	17.43	473.92	664.31	11.43	30
sp|P02769|ALBU_BOVIN	SLHTLFGDELC[160]K	473.90	664.30	30.18	y5	G	D	3	1	5.3	36	17.43	473.92	664.32	13.43	32
sp|P02769|ALBU_BOVIN	SLHTLFGDELC[160]K	473.90	664.30	30.18	y5	G	D	3	1	5.3	36	17.43	473.92	664.33	15.43	34
sp|P02769|ALBU_BOVIN	SLHTLFGDELC[160]K	473.90	664.30	30.18	y5	G	D	3	1	5.3	36	17.43	473.92	664.34	17.43	36
sp|P02769|ALBU_BOVIN	SLHTLFGDELC[160]K	473.90	664.30	30.18	y5	G	D	3	1	5.3	36	17.43	473.92	664.35	19.43	38
sp|P02769|ALBU_BOVIN	SLHTLFGDELC[160]K	473.90	664.30	30.18	y5	G	D	3	1	5.3	36	17.43	473.92	664.36	21.43	40
sp|P02769|ALBU_BOVIN	SLHTLFGDELC[160]K	473.90	664.30	30.18	y5	G	D	3	1	5.3	36	17.43	473.92	664.37	23.43	42
sp|P02769|ALBU_BOVIN	SLHTLFGDELC[160]K	473.90	721.32	30.18	y6	F	G	3	1	5.3	36	17.43	473.93	721.31	11.43	30
sp|P02769|ALBU_BOVIN	SLHTLFGDELC[160]K	473.90	721.32	30.18	y6	F	G	3	1	5.3	36	17.43	473.93	721.32	13.43	32

sp|P02769|ALBU_BOVIN	SLHTLFGDELC[160]K	473.90	721.32	30.18	y6	F	G	3	1	5.3	36	17.43	473.93	721.33	15.43	34
sp|P02769|ALBU_BOVIN	SLHTLFGDELC[160]K	473.90	721.32	30.18	y6	F	G	3	1	5.3	36	17.43	473.93	721.34	17.43	36
sp|P02769|ALBU_BOVIN	SLHTLFGDELC[160]K	473.90	721.32	30.18	y6	F	G	3	1	5.3	36	17.43	473.93	721.35	19.43	38
sp|P02769|ALBU_BOVIN	SLHTLFGDELC[160]K	473.90	721.32	30.18	y6	F	G	3	1	5.3	36	17.43	473.93	721.36	21.43	40
sp|P02769|ALBU_BOVIN	SLHTLFGDELC[160]K	473.90	721.32	30.18	y6	F	G	3	1	5.3	36	17.43	473.93	721.37	23.43	42
sp|P00634|PPB_ECOLI	TFAETATAGEWQGK	499.57	518.27	24.95	y4	E	W	3	1	4.53	36	18.3	499.61	518.31	12.3	30
sp|P00634|PPB_ECOLI	TFAETATAGEWQGK	499.57	518.27	24.95	y4	E	W	3	1	4.53	36	18.3	499.61	518.32	14.3	32
sp|P00634|PPB_ECOLI	TFAETATAGEWQGK	499.57	518.27	24.95	y4	E	W	3	1	4.53	36	18.3	499.61	518.33	16.3	34
sp|P00634|PPB_ECOLI	TFAETATAGEWQGK	499.57	518.27	24.95	y4	E	W	3	1	4.53	36	18.3	499.61	518.34	18.3	36
sp|P00634|PPB_ECOLI	TFAETATAGEWQGK	499.57	518.27	24.95	y4	E	W	3	1	4.53	36	18.3	499.61	518.35	20.3	38
sp|P00634|PPB_ECOLI	TFAETATAGEWQGK	499.57	518.27	24.95	y4	E	W	3	1	4.53	36	18.3	499.61	518.36	22.3	40
sp|P00634|PPB_ECOLI	TFAETATAGEWQGK	499.57	518.27	24.95	y4	E	W	3	1	4.53	36	18.3	499.61	518.37	24.3	42
sp|P00634|PPB_ECOLI	TFAETATAGEWQGK	499.57	647.32	24.95	y5	G	E	3	1	4.53	36	18.3	499.62	647.31	12.3	30
sp|P00634|PPB_ECOLI	TFAETATAGEWQGK	499.57	647.32	24.95	y5	G	E	3	1	4.53	36	18.3	499.62	647.32	14.3	32
sp|P00634|PPB_ECOLI	TFAETATAGEWQGK	499.57	647.32	24.95	y5	G	E	3	1	4.53	36	18.3	499.62	647.33	16.3	34
sp|P00634|PPB_ECOLI	TFAETATAGEWQGK	499.57	647.32	24.95	y5	G	E	3	1	4.53	36	18.3	499.62	647.34	18.3	36
sp|P00634|PPB_ECOLI	TFAETATAGEWQGK	499.57	647.32	24.95	y5	G	E	3	1	4.53	36	18.3	499.62	647.35	20.3	38
sp|P00634|PPB_ECOLI	TFAETATAGEWQGK	499.57	647.32	24.95	y5	G	E	3	1	4.53	36	18.3	499.62	647.36	22.3	40
sp|P00634|PPB_ECOLI	TFAETATAGEWQGK	499.57	647.32	24.95	y5	G	E	3	1	4.53	36	18.3	499.62	647.37	24.3	42
sp|P00634|PPB_ECOLI	TFAETATAGEWQGK	499.57	704.33	24.95	y6	A	G	3	1	4.53	36	18.3	499.63	704.31	12.3	30
sp|P00634|PPB_ECOLI	TFAETATAGEWQGK	499.57	704.33	24.95	y6	A	G	3	1	4.53	36	18.3	499.63	704.32	14.3	32
sp|P00634|PPB_ECOLI	TFAETATAGEWQGK	499.57	704.33	24.95	y6	A	G	3	1	4.53	36	18.3	499.63	704.33	16.3	34
sp|P00634|PPB_ECOLI	TFAETATAGEWQGK	499.57	704.33	24.95	y6	A	G	3	1	4.53	36	18.3	499.63	704.34	18.3	36
sp|P00634|PPB_ECOLI	TFAETATAGEWQGK	499.57	704.33	24.95	y6	A	G	3	1	4.53	36	18.3	499.63	704.35	20.3	38
sp|P00634|PPB_ECOLI	TFAETATAGEWQGK	499.57	704.33	24.95	y6	A	G	3	1	4.53	36	18.3	499.63	704.36	22.3	40
sp|P00634|PPB_ECOLI	TFAETATAGEWQGK	499.57	704.33	24.95	y6	A	G	3	1	4.53	36	18.3	499.63	704.37	24.3	42
sp|P00634|PPB_ECOLI	TFAETATAGEWQGK	499.57	775.37	24.95	y7	T	A	3	1	4.53	36	18.3	499.64	775.41	12.3	30
sp|P00634|PPB_ECOLI	TFAETATAGEWQGK	499.57	775.37	24.95	y7	T	A	3	1	4.53	36	18.3	499.64	775.42	14.3	32
sp|P00634|PPB_ECOLI	TFAETATAGEWQGK	499.57	775.37	24.95	y7	T	A	3	1	4.53	36	18.3	499.64	775.43	16.3	34
sp|P00634|PPB_ECOLI	TFAETATAGEWQGK	499.57	775.37	24.95	y7	T	A	3	1	4.53	36	18.3	499.64	775.44	18.3	36
sp|P00634|PPB_ECOLI	TFAETATAGEWQGK	499.57	775.37	24.95	y7	T	A	3	1	4.53	36	18.3	499.64	775.45	20.3	38
sp|P00634|PPB_ECOLI	TFAETATAGEWQGK	499.57	775.37	24.95	y7	T	A	3	1	4.53	36	18.3	499.64	775.46	22.3	40
sp|P00634|PPB_ECOLI	TFAETATAGEWQGK	499.57	775.37	24.95	y7	T	A	3	1	4.53	36	18.3	499.64	775.47	24.3	42
sp|Q29443|TRFE_BOVIN	HSTVFDNLPNPEDR	547.59	516.24	27.05	y4	N	P	3	1	4.53	36	19.93	547.61	516.21	13.93	30
sp|Q29443|TRFE_BOVIN	HSTVFDNLPNPEDR	547.59	516.24	27.05	y4	N	P	3	1	4.53	36	19.93	547.61	516.22	15.93	32
sp|Q29443|TRFE_BOVIN	HSTVFDNLPNPEDR	547.59	516.24	27.05	y4	N	P	3	1	4.53	36	19.93	547.61	516.23	17.93	34
sp|Q29443|TRFE_BOVIN	HSTVFDNLPNPEDR	547.59	516.24	27.05	y4	N	P	3	1	4.53	36	19.93	547.61	516.24	19.93	36
sp|Q29443|TRFE_BOVIN	HSTVFDNLPNPEDR	547.59	516.24	27.05	y4	N	P	3	1	4.53	36	19.93	547.61	516.25	21.93	38
sp|Q29443|TRFE_BOVIN	HSTVFDNLPNPEDR	547.59	516.24	27.05	y4	N	P	3	1	4.53	36	19.93	547.61	516.26	23.93	40
sp|Q29443|TRFE_BOVIN	HSTVFDNLPNPEDR	547.59	516.24	27.05	y4	N	P	3	1	4.53	36	19.93	547.61	516.27	25.93	42
sp|Q29443|TRFE_BOVIN	HSTVFDNLPNPEDR	547.59	630.28	27.05	y5	P	N	3	1	4.53	36	19.93	547.62	630.31	13.93	30
sp|Q29443|TRFE_BOVIN	HSTVFDNLPNPEDR	547.59	630.28	27.05	y5	P	N	3	1	4.53	36	19.93	547.62	630.32	15.93	32
sp|Q29443|TRFE_BOVIN	HSTVFDNLPNPEDR	547.59	630.28	27.05	y5	P	N	3	1	4.53	36	19.93	547.62	630.33	17.93	34
sp|Q29443|TRFE_BOVIN	HSTVFDNLPNPEDR	547.59	630.28	27.05	y5	P	N	3	1	4.53	36	19.93	547.62	630.34	19.93	36
sp|Q29443|TRFE_BOVIN	HSTVFDNLPNPEDR	547.59	630.28	27.05	y5	P	N	3	1	4.53	36	19.93	547.62	630.35	21.93	38
sp|Q29443|TRFE_BOVIN	HSTVFDNLPNPEDR	547.59	630.28	27.05	y5	P	N	3	1	4.53	36	19.93	547.62	630.36	23.93	40
sp|Q29443|TRFE_BOVIN	HSTVFDNLPNPEDR	547.59	630.28	27.05	y5	P	N	3	1	4.53	36	19.93	547.62	630.37	25.93	42
sp|Q29443|TRFE_BOVIN	HSTVFDNLPNPEDR	547.59	727.34	27.05	y6	L	P	3	1	4.53	36	19.93	547.63	727.31	13.93	30

sp|Q29443|TRFE_BOVIN	HSTVFDNLPNPEDR	547.59	727.34	27.05	y6	L	P	3	1	4.53	36	19.93	547.63	727.32	15.93	32
sp|Q29443|TRFE_BOVIN	HSTVFDNLPNPEDR	547.59	727.34	27.05	y6	L	P	3	1	4.53	36	19.93	547.63	727.33	17.93	34
sp|Q29443|TRFE_BOVIN	HSTVFDNLPNPEDR	547.59	727.34	27.05	y6	L	P	3	1	4.53	36	19.93	547.63	727.34	19.93	36
sp|Q29443|TRFE_BOVIN	HSTVFDNLPNPEDR	547.59	727.34	27.05	y6	L	P	3	1	4.53	36	19.93	547.63	727.35	21.93	38
sp|Q29443|TRFE_BOVIN	HSTVFDNLPNPEDR	547.59	727.34	27.05	y6	L	P	3	1	4.53	36	19.93	547.63	727.36	23.93	40
sp|Q29443|TRFE_BOVIN	HSTVFDNLPNPEDR	547.59	727.34	27.05	y6	L	P	3	1	4.53	36	19.93	547.63	727.37	25.93	42
sp|P00489|PHS2_RABIT	ARPEFTLPVHFYGR	563.97	542.27	33.85	y4	H	F	3	1	8.8	36	20.49	564.01	542.31	14.49	30
sp|P00489|PHS2_RABIT	ARPEFTLPVHFYGR	563.97	542.27	33.85	y4	H	F	3	1	8.8	36	20.49	564.01	542.32	16.49	32
sp|P00489|PHS2_RABIT	ARPEFTLPVHFYGR	563.97	542.27	33.85	y4	H	F	3	1	8.8	36	20.49	564.01	542.33	18.49	34
sp|P00489|PHS2_RABIT	ARPEFTLPVHFYGR	563.97	542.27	33.85	y4	H	F	3	1	8.8	36	20.49	564.01	542.34	20.49	36
sp|P00489|PHS2_RABIT	ARPEFTLPVHFYGR	563.97	542.27	33.85	y4	H	F	3	1	8.8	36	20.49	564.01	542.35	22.49	38
sp|P00489|PHS2_RABIT	ARPEFTLPVHFYGR	563.97	542.27	33.85	y4	H	F	3	1	8.8	36	20.49	564.01	542.36	24.49	40
sp|P00489|PHS2_RABIT	ARPEFTLPVHFYGR	563.97	542.27	33.85	y4	H	F	3	1	8.8	36	20.49	564.01	542.37	26.49	42
sp|P00489|PHS2_RABIT	ARPEFTLPVHFYGR	563.97	679.33	33.85	y5	V	H	3	1	8.8	36	20.49	564.02	679.31	14.49	30
sp|P00489|PHS2_RABIT	ARPEFTLPVHFYGR	563.97	679.33	33.85	y5	V	H	3	1	8.8	36	20.49	564.02	679.32	16.49	32
sp|P00489|PHS2_RABIT	ARPEFTLPVHFYGR	563.97	679.33	33.85	y5	V	H	3	1	8.8	36	20.49	564.02	679.33	18.49	34
sp|P00489|PHS2_RABIT	ARPEFTLPVHFYGR	563.97	679.33	33.85	y5	V	H	3	1	8.8	36	20.49	564.02	679.34	20.49	36
sp|P00489|PHS2_RABIT	ARPEFTLPVHFYGR	563.97	679.33	33.85	y5	V	H	3	1	8.8	36	20.49	564.02	679.35	22.49	38
sp|P00489|PHS2_RABIT	ARPEFTLPVHFYGR	563.97	679.33	33.85	y5	V	H	3	1	8.8	36	20.49	564.02	679.36	24.49	40
sp|P00489|PHS2_RABIT	ARPEFTLPVHFYGR	563.97	679.33	33.85	y5	V	H	3	1	8.8	36	20.49	564.02	679.37	26.49	42
sp|P00489|PHS2_RABIT	ARPEFTLPVHFYGR	563.97	778.40	33.85	y6	P	V	3	1	8.8	36	20.49	564.03	778.41	14.49	30
sp|P00489|PHS2_RABIT	ARPEFTLPVHFYGR	563.97	778.40	33.85	y6	P	V	3	1	8.8	36	20.49	564.03	778.42	16.49	32
sp|P00489|PHS2_RABIT	ARPEFTLPVHFYGR	563.97	778.40	33.85	y6	P	V	3	1	8.8	36	20.49	564.03	778.43	18.49	34
sp|P00489|PHS2_RABIT	ARPEFTLPVHFYGR	563.97	778.40	33.85	y6	P	V	3	1	8.8	36	20.49	564.03	778.44	20.49	36
sp|P00489|PHS2_RABIT	ARPEFTLPVHFYGR	563.97	778.40	33.85	y6	P	V	3	1	8.8	36	20.49	564.03	778.45	22.49	38
sp|P00489|PHS2_RABIT	ARPEFTLPVHFYGR	563.97	778.40	33.85	y6	P	V	3	1	8.8	36	20.49	564.03	778.46	24.49	40
sp|P00489|PHS2_RABIT	ARPEFTLPVHFYGR	563.97	778.40	33.85	y6	P	V	3	1	8.8	36	20.49	564.03	778.47	26.49	42
sp|P00489|PHS2_RABIT	ARPEFTLPVHFYGR	563.97	875.46	33.85	y7	L	P	3	1	8.8	36	20.49	564.04	875.51	14.49	30
sp|P00489|PHS2_RABIT	ARPEFTLPVHFYGR	563.97	875.46	33.85	y7	L	P	3	1	8.8	36	20.49	564.04	875.52	16.49	32
sp|P00489|PHS2_RABIT	ARPEFTLPVHFYGR	563.97	875.46	33.85	y7	L	P	3	1	8.8	36	20.49	564.04	875.53	18.49	34
sp|P00489|PHS2_RABIT	ARPEFTLPVHFYGR	563.97	875.46	33.85	y7	L	P	3	1	8.8	36	20.49	564.04	875.54	20.49	36
sp|P00489|PHS2_RABIT	ARPEFTLPVHFYGR	563.97	875.46	33.85	y7	L	P	3	1	8.8	36	20.49	564.04	875.55	22.49	38
sp|P00489|PHS2_RABIT	ARPEFTLPVHFYGR	563.97	875.46	33.85	y7	L	P	3	1	8.8	36	20.49	564.04	875.56	24.49	40
sp|P00489|PHS2_RABIT	ARPEFTLPVHFYGR	563.97	875.46	33.85	y7	L	P	3	1	8.8	36	20.49	564.04	875.57	26.49	42
sp|P62739|ACTA_BOVIN	SYELPDGQVITIGNER	597.64	475.22	31.18	y4	I	G	3	1	4.14	36	21.63	597.61	475.21	15.63	30
sp|P62739|ACTA_BOVIN	SYELPDGQVITIGNER	597.64	475.22	31.18	y4	I	G	3	1	4.14	36	21.63	597.61	475.22	17.63	32
sp|P62739|ACTA_BOVIN	SYELPDGQVITIGNER	597.64	475.22	31.18	y4	I	G	3	1	4.14	36	21.63	597.61	475.23	19.63	34
sp|P62739|ACTA_BOVIN	SYELPDGQVITIGNER	597.64	475.22	31.18	y4	I	G	3	1	4.14	36	21.63	597.61	475.24	21.63	36
sp|P62739|ACTA_BOVIN	SYELPDGQVITIGNER	597.64	475.22	31.18	y4	I	G	3	1	4.14	36	21.63	597.61	475.25	23.63	38
sp|P62739|ACTA_BOVIN	SYELPDGQVITIGNER	597.64	475.22	31.18	y4	I	G	3	1	4.14	36	21.63	597.61	475.26	25.63	40
sp|P62739|ACTA_BOVIN	SYELPDGQVITIGNER	597.64	475.22	31.18	y4	I	G	3	1	4.14	36	21.63	597.61	475.27	27.63	42
sp|P62739|ACTA_BOVIN	SYELPDGQVITIGNER	597.64	588.32	31.18	y5	T	I	3	1	4.14	36	21.63	597.62	588.31	15.63	30
sp|P62739|ACTA_BOVIN	SYELPDGQVITIGNER	597.64	588.32	31.18	y5	T	I	3	1	4.14	36	21.63	597.62	588.32	17.63	32
sp|P62739|ACTA_BOVIN	SYELPDGQVITIGNER	597.64	588.32	31.18	y5	T	I	3	1	4.14	36	21.63	597.62	588.33	19.63	34
sp|P62739|ACTA_BOVIN	SYELPDGQVITIGNER	597.64	588.32	31.18	y5	T	I	3	1	4.14	36	21.63	597.62	588.34	21.63	36
sp|P62739|ACTA_BOVIN	SYELPDGQVITIGNER	597.64	588.32	31.18	y5	T	I	3	1	4.14	36	21.63	597.62	588.35	23.63	38
sp|P62739|ACTA_BOVIN	SYELPDGQVITIGNER	597.64	588.32	31.18	y5	T	I	3	1	4.14	36	21.63	597.62	588.36	25.63	40
sp|P62739|ACTA_BOVIN	SYELPDGQVITIGNER	597.64	588.32	31.18	y5	T	I	3	1	4.14	36	21.63	597.62	588.37	27.63	42

sp|P62739|ACTA_BOVIN	SYELPDGQVITIGNER	597.64	689.36	31.18	y6	I	T	3	1	4.14	36	21.63	597.63	689.41	15.63	30
sp|P62739|ACTA_BOVIN	SYELPDGQVITIGNER	597.64	689.36	31.18	y6	I	T	3	1	4.14	36	21.63	597.63	689.42	17.63	32
sp|P62739|ACTA_BOVIN	SYELPDGQVITIGNER	597.64	689.36	31.18	y6	I	T	3	1	4.14	36	21.63	597.63	689.43	19.63	34
sp|P62739|ACTA_BOVIN	SYELPDGQVITIGNER	597.64	689.36	31.18	y6	I	T	3	1	4.14	36	21.63	597.63	689.44	21.63	36
sp|P62739|ACTA_BOVIN	SYELPDGQVITIGNER	597.64	689.36	31.18	y6	I	T	3	1	4.14	36	21.63	597.63	689.45	23.63	38
sp|P62739|ACTA_BOVIN	SYELPDGQVITIGNER	597.64	689.36	31.18	y6	I	T	3	1	4.14	36	21.63	597.63	689.46	25.63	40
sp|P62739|ACTA_BOVIN	SYELPDGQVITIGNER	597.64	689.36	31.18	y6	I	T	3	1	4.14	36	21.63	597.63	689.47	27.63	42
sp|P62739|ACTA_BOVIN	SYELPDGQVITIGNER	597.64	802.44	31.18	y7	V	I	3	1	4.14	36	21.63	597.64	802.41	15.63	30
sp|P62739|ACTA_BOVIN	SYELPDGQVITIGNER	597.64	802.44	31.18	y7	V	I	3	1	4.14	36	21.63	597.64	802.42	17.63	32
sp|P62739|ACTA_BOVIN	SYELPDGQVITIGNER	597.64	802.44	31.18	y7	V	I	3	1	4.14	36	21.63	597.64	802.43	19.63	34
sp|P62739|ACTA_BOVIN	SYELPDGQVITIGNER	597.64	802.44	31.18	y7	V	I	3	1	4.14	36	21.63	597.64	802.44	21.63	36
sp|P62739|ACTA_BOVIN	SYELPDGQVITIGNER	597.64	802.44	31.18	y7	V	I	3	1	4.14	36	21.63	597.64	802.45	23.63	38
sp|P62739|ACTA_BOVIN	SYELPDGQVITIGNER	597.64	802.44	31.18	y7	V	I	3	1	4.14	36	21.63	597.64	802.46	25.63	40
sp|P62739|ACTA_BOVIN	SYELPDGQVITIGNER	597.64	802.44	31.18	y7	V	I	3	1	4.14	36	21.63	597.64	802.47	27.63	42
sp|P00432|CATA_BOVIN	LGPNYLQIPVNC[160]PYR	601.98	709.30	32.71	y5	V	N	3	1	8.59	36	21.78	602.01	709.31	15.78	30
sp|P00432|CATA_BOVIN	LGPNYLQIPVNC[160]PYR	601.98	709.30	32.71	y5	V	N	3	1	8.59	36	21.78	602.01	709.32	17.78	32
sp|P00432|CATA_BOVIN	LGPNYLQIPVNC[160]PYR	601.98	709.30	32.71	y5	V	N	3	1	8.59	36	21.78	602.01	709.33	19.78	34
sp|P00432|CATA_BOVIN	LGPNYLQIPVNC[160]PYR	601.98	709.30	32.71	y5	V	N	3	1	8.59	36	21.78	602.01	709.34	21.78	36
sp|P00432|CATA_BOVIN	LGPNYLQIPVNC[160]PYR	601.98	709.30	32.71	y5	V	N	3	1	8.59	36	21.78	602.01	709.35	23.78	38
sp|P00432|CATA_BOVIN	LGPNYLQIPVNC[160]PYR	601.98	709.30	32.71	y5	V	N	3	1	8.59	36	21.78	602.01	709.36	25.78	40
sp|P00432|CATA_BOVIN	LGPNYLQIPVNC[160]PYR	601.98	709.30	32.71	y5	V	N	3	1	8.59	36	21.78	602.01	709.37	27.78	42
sp|P00432|CATA_BOVIN	LGPNYLQIPVNC[160]PYR	601.98	808.37	32.71	y6	P	V	3	1	8.59	36	21.78	602.02	808.41	15.78	30
sp|P00432|CATA_BOVIN	LGPNYLQIPVNC[160]PYR	601.98	808.37	32.71	y6	P	V	3	1	8.59	36	21.78	602.02	808.42	17.78	32
sp|P00432|CATA_BOVIN	LGPNYLQIPVNC[160]PYR	601.98	808.37	32.71	y6	P	V	3	1	8.59	36	21.78	602.02	808.43	19.78	34
sp|P00432|CATA_BOVIN	LGPNYLQIPVNC[160]PYR	601.98	808.37	32.71	y6	P	V	3	1	8.59	36	21.78	602.02	808.44	21.78	36
sp|P00432|CATA_BOVIN	LGPNYLQIPVNC[160]PYR	601.98	808.37	32.71	y6	P	V	3	1	8.59	36	21.78	602.02	808.45	23.78	38
sp|P00432|CATA_BOVIN	LGPNYLQIPVNC[160]PYR	601.98	808.37	32.71	y6	P	V	3	1	8.59	36	21.78	602.02	808.46	25.78	40
sp|P00432|CATA_BOVIN	LGPNYLQIPVNC[160]PYR	601.98	808.37	32.71	y6	P	V	3	1	8.59	36	21.78	602.02	808.47	27.78	42
sp|P00432|CATA_BOVIN	LGPNYLQIPVNC[160]PYR	601.98	905.43	32.71	y7	I	P	3	1	8.59	36	21.78	602.03	905.41	15.78	30
sp|P00432|CATA_BOVIN	LGPNYLQIPVNC[160]PYR	601.98	905.43	32.71	y7	I	P	3	1	8.59	36	21.78	602.03	905.42	17.78	32
sp|P00432|CATA_BOVIN	LGPNYLQIPVNC[160]PYR	601.98	905.43	32.71	y7	I	P	3	1	8.59	36	21.78	602.03	905.43	19.78	34

sp|P00432|CATA_BOVIN	LGPNYLQIPVNC[160]PYR	601.98	905.43	32.71	y7	I	P	3	1	8.59	36	21.78	602.03	905.44	21.78	36
sp|P00432|CATA_BOVIN	LGPNYLQIPVNC[160]PYR	601.98	905.43	32.71	y7	I	P	3	1	8.59	36	21.78	602.03	905.45	23.78	38
sp|P00432|CATA_BOVIN	LGPNYLQIPVNC[160]PYR	601.98	905.43	32.71	y7	I	P	3	1	8.59	36	21.78	602.03	905.46	25.78	40
sp|P00432|CATA_BOVIN	LGPNYLQIPVNC[160]PYR	601.98	905.43	32.71	y7	I	P	3	1	8.59	36	21.78	602.03	905.47	27.78	42
sp|P46406|G3P_RABIT	IVSNASC[160]TTNC[160]LAPLAK	607.31	428.29	26.74	y4	A	P	3	1	8.76	36	21.96	607.31	428.31	15.96	30
sp|P46406|G3P_RABIT	IVSNASC[160]TTNC[160]LAPLAK	607.31	428.29	26.74	y4	A	P	3	1	8.76	36	21.96	607.31	428.32	17.96	32
sp|P46406|G3P_RABIT	IVSNASC[160]TTNC[160]LAPLAK	607.31	428.29	26.74	y4	A	P	3	1	8.76	36	21.96	607.31	428.33	19.96	34
sp|P46406|G3P_RABIT	IVSNASC[160]TTNC[160]LAPLAK	607.31	428.29	26.74	y4	A	P	3	1	8.76	36	21.96	607.31	428.34	21.96	36
sp|P46406|G3P_RABIT	IVSNASC[160]TTNC[160]LAPLAK	607.31	428.29	26.74	y4	A	P	3	1	8.76	36	21.96	607.31	428.35	23.96	38
sp|P46406|G3P_RABIT	IVSNASC[160]TTNC[160]LAPLAK	607.31	428.29	26.74	y4	A	P	3	1	8.76	36	21.96	607.31	428.36	25.96	40
sp|P46406|G3P_RABIT	IVSNASC[160]TTNC[160]LAPLAK	607.31	428.29	26.74	y4	A	P	3	1	8.76	36	21.96	607.31	428.37	27.96	42
sp|P46406|G3P_RABIT	IVSNASC[160]TTNC[160]LAPLAK	607.31	499.33	26.74	y5	L	A	3	1	8.76	36	21.96	607.32	499.31	15.96	30
sp|P46406|G3P_RABIT	IVSNASC[160]TTNC[160]LAPLAK	607.31	499.33	26.74	y5	L	A	3	1	8.76	36	21.96	607.32	499.32	17.96	32
sp|P46406|G3P_RABIT	IVSNASC[160]TTNC[160]LAPLAK	607.31	499.33	26.74	y5	L	A	3	1	8.76	36	21.96	607.32	499.33	19.96	34
sp|P46406|G3P_RABIT	IVSNASC[160]TTNC[160]LAPLAK	607.31	499.33	26.74	y5	L	A	3	1	8.76	36	21.96	607.32	499.34	21.96	36
sp|P46406|G3P_RABIT	IVSNASC[160]TTNC[160]LAPLAK	607.31	499.33	26.74	y5	L	A	3	1	8.76	36	21.96	607.32	499.35	23.96	38
sp|P46406|G3P_RABIT	IVSNASC[160]TTNC[160]LAPLAK	607.31	499.33	26.74	y5	L	A	3	1	8.76	36	21.96	607.32	499.36	25.96	40
sp|P46406|G3P_RABIT	IVSNASC[160]TTNC[160]LAPLAK	607.31	499.33	26.74	y5	L	A	3	1	8.76	36	21.96	607.32	499.37	27.96	42
sp|P46406|G3P_RABIT	IVSNASC[160]TTNC[160]LAPLAK	607.31	772.44	26.74	y7	N	C	3	1	8.76	36	21.96	607.33	772.41	15.96	30
sp|P46406|G3P_RABIT	IVSNASC[160]TTNC[160]LAPLAK	607.31	772.44	26.74	y7	N	C	3	1	8.76	36	21.96	607.33	772.42	17.96	32
sp|P46406|G3P_RABIT	IVSNASC[160]TTNC[160]LAPLAK	607.31	772.44	26.74	y7	N	C	3	1	8.76	36	21.96	607.33	772.43	19.96	34
sp|P46406|G3P_RABIT	IVSNASC[160]TTNC[160]LAPLAK	607.31	772.44	26.74	y7	N	C	3	1	8.76	36	21.96	607.33	772.44	21.96	36
sp|P46406|G3P_RABIT	IVSNASC[160]TTNC[160]LAPLAK	607.31	772.44	26.74	y7	N	C	3	1	8.76	36	21.96	607.33	772.45	23.96	38
sp|P46406|G3P_RABIT	IVSNASC[160]TTNC[160]LAPLAK	607.31	772.44	26.74	y7	N	C	3	1	8.76	36	21.96	607.33	772.46	25.96	40

sp|P46406|G3P_RABIT	IVSNASC[160]TTNC[160]LAPLAK	607.31	772.44	26.74	y7	N	C	3	1	8.76	36	21.96	607.33	772.47	27.96	42
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	515.28	18.42	y5	N	P	3	1	6.01	36	22.02	609.01	515.31	16.02	30
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	515.28	18.42	y5	N	P	3	1	6.01	36	22.02	609.01	515.32	18.02	32
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	515.28	18.42	y5	N	P	3	1	6.01	36	22.02	609.01	515.33	20.02	34
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	515.28	18.42	y5	N	P	3	1	6.01	36	22.02	609.01	515.34	22.02	36
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	515.28	18.42	y5	N	P	3	1	6.01	36	22.02	609.01	515.35	24.02	38
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	515.28	18.42	y5	N	P	3	1	6.01	36	22.02	609.01	515.36	26.02	40
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	515.28	18.42	y5	N	P	3	1	6.01	36	22.02	609.01	515.37	28.02	42
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	686.35	18.42	y7	G	G	3	1	6.01	36	22.02	609.02	686.31	16.02	30
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	686.35	18.42	y7	G	G	3	1	6.01	36	22.02	609.02	686.32	18.02	32
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	686.35	18.42	y7	G	G	3	1	6.01	36	22.02	609.02	686.33	20.02	34
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	686.35	18.42	y7	G	G	3	1	6.01	36	22.02	609.02	686.34	22.02	36
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	686.35	18.42	y7	G	G	3	1	6.01	36	22.02	609.02	686.35	24.02	38
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	686.35	18.42	y7	G	G	3	1	6.01	36	22.02	609.02	686.36	26.02	40
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	686.35	18.42	y7	G	G	3	1	6.01	36	22.02	609.02	686.37	28.02	42
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	743.37	18.42	y8	G	G	3	1	6.01	36	22.02	609.03	743.41	16.02	30
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	743.37	18.42	y8	G	G	3	1	6.01	36	22.02	609.03	743.42	18.02	32
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	743.37	18.42	y8	G	G	3	1	6.01	36	22.02	609.03	743.43	20.02	34
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	743.37	18.42	y8	G	G	3	1	6.01	36	22.02	609.03	743.44	22.02	36
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	743.37	18.42	y8	G	G	3	1	6.01	36	22.02	609.03	743.45	24.02	38
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	743.37	18.42	y8	G	G	3	1	6.01	36	22.02	609.03	743.46	26.02	40
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	743.37	18.42	y8	G	G	3	1	6.01	36	22.02	609.03	743.47	28.02	42
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	800.39	18.42	y9	T	G	3	1	6.01	36	22.02	609.04	800.41	16.02	30
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	800.39	18.42	y9	T	G	3	1	6.01	36	22.02	609.04	800.42	18.02	32

sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	800.39	18.42	y9	T	G	3	1	6.01	36	22.02	609.04	800.43	20.02	34
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	800.39	18.42	y9	T	G	3	1	6.01	36	22.02	609.04	800.44	22.02	36
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	800.39	18.42	y9	T	G	3	1	6.01	36	22.02	609.04	800.45	24.02	38
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	800.39	18.42	y9	T	G	3	1	6.01	36	22.02	609.04	800.46	26.02	40
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	800.39	18.42	y9	T	G	3	1	6.01	36	22.02	609.04	800.47	28.02	42
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	901.43	18.42	y10	T	T	3	1	6.01	36	22.02	609.05	901.41	16.02	30
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	901.43	18.42	y10	T	T	3	1	6.01	36	22.02	609.05	901.42	18.02	32
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	901.43	18.42	y10	T	T	3	1	6.01	36	22.02	609.05	901.43	20.02	34
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	901.43	18.42	y10	T	T	3	1	6.01	36	22.02	609.05	901.44	22.02	36
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	901.43	18.42	y10	T	T	3	1	6.01	36	22.02	609.05	901.45	24.02	38
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	901.43	18.42	y10	T	T	3	1	6.01	36	22.02	609.05	901.46	26.02	40
sp|P00432|CATA_BOVIN	AAQKPDVLTTGGGNPVGDK	608.99	901.43	18.42	y10	T	T	3	1	6.01	36	22.02	609.05	901.47	28.02	42
sp|P02666|CASB_BOVIN	FQSEEQQQTEDELQDK	661.29	503.28	16.93	y4	E	L	3	1	3.77	36	23.8	661.31	503.31	17.8	30
sp|P02666|CASB_BOVIN	FQSEEQQQTEDELQDK	661.29	503.28	16.93	y4	E	L	3	1	3.77	36	23.8	661.31	503.32	19.8	32
sp|P02666|CASB_BOVIN	FQSEEQQQTEDELQDK	661.29	503.28	16.93	y4	E	L	3	1	3.77	36	23.8	661.31	503.33	21.8	34
sp|P02666|CASB_BOVIN	FQSEEQQQTEDELQDK	661.29	503.28	16.93	y4	E	L	3	1	3.77	36	23.8	661.31	503.34	23.8	36
sp|P02666|CASB_BOVIN	FQSEEQQQTEDELQDK	661.29	503.28	16.93	y4	E	L	3	1	3.77	36	23.8	661.31	503.35	25.8	38
sp|P02666|CASB_BOVIN	FQSEEQQQTEDELQDK	661.29	503.28	16.93	y4	E	L	3	1	3.77	36	23.8	661.31	503.36	27.8	40
sp|P02666|CASB_BOVIN	FQSEEQQQTEDELQDK	661.29	503.28	16.93	y4	E	L	3	1	3.77	36	23.8	661.31	503.37	29.8	42
sp|P02666|CASB_BOVIN	FQSEEQQQTEDELQDK	661.29	747.35	16.93	y6	E	D	3	1	3.77	36	23.8	661.32	747.31	17.8	30
sp|P02666|CASB_BOVIN	FQSEEQQQTEDELQDK	661.29	747.35	16.93	y6	E	D	3	1	3.77	36	23.8	661.32	747.32	19.8	32
sp|P02666|CASB_BOVIN	FQSEEQQQTEDELQDK	661.29	747.35	16.93	y6	E	D	3	1	3.77	36	23.8	661.32	747.33	21.8	34
sp|P02666|CASB_BOVIN	FQSEEQQQTEDELQDK	661.29	747.35	16.93	y6	E	D	3	1	3.77	36	23.8	661.32	747.34	23.8	36
sp|P02666|CASB_BOVIN	FQSEEQQQTEDELQDK	661.29	747.35	16.93	y6	E	D	3	1	3.77	36	23.8	661.32	747.35	25.8	38
sp|P02666|CASB_BOVIN	FQSEEQQQTEDELQDK	661.29	747.35	16.93	y6	E	D	3	1	3.77	36	23.8	661.32	747.36	27.8	40
sp|P02666|CASB_BOVIN	FQSEEQQQTEDELQDK	661.29	747.35	16.93	y6	E	D	3	1	3.77	36	23.8	661.32	747.37	29.8	42
sp|P02666|CASB_BOVIN	FQSEEQQQTEDELQDK	661.29	876.40	16.93	y7	T	E	3	1	3.77	36	23.8	661.33	876.41	17.8	30
sp|P02666|CASB_BOVIN	FQSEEQQQTEDELQDK	661.29	876.40	16.93	y7	T	E	3	1	3.77	36	23.8	661.33	876.42	19.8	32
sp|P02666|CASB_BOVIN	FQSEEQQQTEDELQDK	661.29	876.40	16.93	y7	T	E	3	1	3.77	36	23.8	661.33	876.43	21.8	34
sp|P02666|CASB_BOVIN	FQSEEQQQTEDELQDK	661.29	876.40	16.93	y7	T	E	3	1	3.77	36	23.8	661.33	876.44	23.8	36
sp|P02666|CASB_BOVIN	FQSEEQQQTEDELQDK	661.29	876.40	16.93	y7	T	E	3	1	3.77	36	23.8	661.33	876.45	25.8	38
sp|P02666|CASB_BOVIN	FQSEEQQQTEDELQDK	661.29	876.40	16.93	y7	T	E	3	1	3.77	36	23.8	661.33	876.46	27.8	40
sp|P02666|CASB_BOVIN	FQSEEQQQTEDELQDK	661.29	876.40	16.93	y7	T	E	3	1	3.77	36	23.8	661.33	876.47	29.8	42
sp|P02666|CASB_BOVIN	FQSEEQQQTEDELQDK	661.29	977.44	16.93	y8	Q	T	3	1	3.77	36	23.8	661.34	977.41	17.8	30
sp|P02666|CASB_BOVIN	FQSEEQQQTEDELQDK	661.29	977.44	16.93	y8	Q	T	3	1	3.77	36	23.8	661.34	977.42	19.8	32
sp|P02666|CASB_BOVIN	FQSEEQQQTEDELQDK	661.29	977.44	16.93	y8	Q	T	3	1	3.77	36	23.8	661.34	977.43	21.8	34

sp|P02666|CASB_BOVIN	FQSEEQQQTEDELQDK	661.29	977.44	16.93	y8	Q	T	3	1	3.77	36	23.8	661.34	977.44	23.8	36
sp|P02666|CASB_BOVIN	FQSEEQQQTEDELQDK	661.29	977.44	16.93	y8	Q	T	3	1	3.77	36	23.8	661.34	977.45	25.8	38
sp|P02666|CASB_BOVIN	FQSEEQQQTEDELQDK	661.29	977.44	16.93	y8	Q	T	3	1	3.77	36	23.8	661.34	977.46	27.8	40
sp|P02666|CASB_BOVIN	FQSEEQQQTEDELQDK	661.29	977.44	16.93	y8	Q	T	3	1	3.77	36	23.8	661.34	977.47	29.8	42
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	434.24	38.44	y4	E	A	3	1	6.12	36	26.25	733.41	434.21	20.25	30
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	434.24	38.44	y4	E	A	3	1	6.12	36	26.25	733.41	434.22	22.25	32
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	434.24	38.44	y4	E	A	3	1	6.12	36	26.25	733.41	434.23	24.25	34
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	434.24	38.44	y4	E	A	3	1	6.12	36	26.25	733.41	434.24	26.25	36
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	434.24	38.44	y4	E	A	3	1	6.12	36	26.25	733.41	434.25	28.25	38
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	434.24	38.44	y4	E	A	3	1	6.12	36	26.25	733.41	434.26	30.25	40
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	434.24	38.44	y4	E	A	3	1	6.12	36	26.25	733.41	434.27	32.25	42
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	563.28	38.44	y5	G	E	3	1	6.12	36	26.25	733.42	563.31	20.25	30
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	563.28	38.44	y5	G	E	3	1	6.12	36	26.25	733.42	563.32	22.25	32
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	563.28	38.44	y5	G	E	3	1	6.12	36	26.25	733.42	563.33	24.25	34
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	563.28	38.44	y5	G	E	3	1	6.12	36	26.25	733.42	563.34	26.25	36
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	563.28	38.44	y5	G	E	3	1	6.12	36	26.25	733.42	563.35	28.25	38
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	563.28	38.44	y5	G	E	3	1	6.12	36	26.25	733.42	563.36	30.25	40
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	563.28	38.44	y5	G	E	3	1	6.12	36	26.25	733.42	563.37	32.25	42
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	620.30	38.44	y6	Y	G	3	1	6.12	36	26.25	733.43	620.31	20.25	30
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	620.30	38.44	y6	Y	G	3	1	6.12	36	26.25	733.43	620.32	22.25	32
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	620.30	38.44	y6	Y	G	3	1	6.12	36	26.25	733.43	620.33	24.25	34
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	620.30	38.44	y6	Y	G	3	1	6.12	36	26.25	733.43	620.34	26.25	36
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	620.30	38.44	y6	Y	G	3	1	6.12	36	26.25	733.43	620.35	28.25	38
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	620.30	38.44	y6	Y	G	3	1	6.12	36	26.25	733.43	620.36	30.25	40
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	620.30	38.44	y6	Y	G	3	1	6.12	36	26.25	733.43	620.37	32.25	42
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	783.36	38.44	y7	V	Y	3	1	6.12	36	26.25	733.44	783.41	20.25	30

sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	783.36	38.44	y7	V	Y	3	1	6.12	36	26.25	733.44	783.42	22.25	32
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	783.36	38.44	y7	V	Y	3	1	6.12	36	26.25	733.44	783.43	24.25	34
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	783.36	38.44	y7	V	Y	3	1	6.12	36	26.25	733.44	783.44	26.25	36
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	783.36	38.44	y7	V	Y	3	1	6.12	36	26.25	733.44	783.45	28.25	38
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	783.36	38.44	y7	V	Y	3	1	6.12	36	26.25	733.44	783.46	30.25	40
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	783.36	38.44	y7	V	Y	3	1	6.12	36	26.25	733.44	783.47	32.25	42
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	882.44	38.44	y8	L	V	3	1	6.12	36	26.25	733.45	882.41	20.25	30
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	882.44	38.44	y8	L	V	3	1	6.12	36	26.25	733.45	882.42	22.25	32
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	882.44	38.44	y8	L	V	3	1	6.12	36	26.25	733.45	882.43	24.25	34
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	882.44	38.44	y8	L	V	3	1	6.12	36	26.25	733.45	882.44	26.25	36
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	882.44	38.44	y8	L	V	3	1	6.12	36	26.25	733.45	882.45	28.25	38
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	882.44	38.44	y8	L	V	3	1	6.12	36	26.25	733.45	882.46	30.25	40
sp|P00921|CAH2_BOVIN	AVVQDPALKPLALVYGEATSR	733.41	882.44	38.44	y8	L	V	3	1	6.12	36	26.25	733.45	882.47	32.25	42
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWSTGVK	738.36	404.25	27.92	y4	S	T	3	1	5.63	36	26.42	738.41	404.31	20.42	30
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWSTGVK	738.36	404.25	27.92	y4	S	T	3	1	5.63	36	26.42	738.41	404.32	22.42	32
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWSTGVK	738.36	404.25	27.92	y4	S	T	3	1	5.63	36	26.42	738.41	404.33	24.42	34
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWSTGVK	738.36	404.25	27.92	y4	S	T	3	1	5.63	36	26.42	738.41	404.34	26.42	36
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWSTGVK	738.36	404.25	27.92	y4	S	T	3	1	5.63	36	26.42	738.41	404.35	28.42	38
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWSTGVK	738.36	404.25	27.92	y4	S	T	3	1	5.63	36	26.42	738.41	404.36	30.42	40
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWSTGVK	738.36	404.25	27.92	y4	S	T	3	1	5.63	36	26.42	738.41	404.37	32.42	42
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWSTGVK	738.36	491.29	27.92	y5	W	S	3	1	5.63	36	26.42	738.42	491.31	20.42	30
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWSTGVK	738.36	491.29	27.92	y5	W	S	3	1	5.63	36	26.42	738.42	491.32	22.42	32
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWSTGVK	738.36	491.29	27.92	y5	W	S	3	1	5.63	36	26.42	738.42	491.33	24.42	34
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWSTGVK	738.36	491.29	27.92	y5	W	S	3	1	5.63	36	26.42	738.42	491.34	26.42	36

sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	491.29	27.92	y5	W	S	3	1	5.63	36	26.42	738.42	491.35	28.42	38
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	491.29	27.92	y5	W	S	3	1	5.63	36	26.42	738.42	491.36	30.42	40
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	491.29	27.92	y5	W	S	3	1	5.63	36	26.42	738.42	491.37	32.42	42
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	677.37	27.92	y6	A	W	3	1	5.63	36	26.42	738.43	677.41	20.42	30
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	677.37	27.92	y6	A	W	3	1	5.63	36	26.42	738.43	677.42	22.42	32
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	677.37	27.92	y6	A	W	3	1	5.63	36	26.42	738.43	677.43	24.42	34
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	677.37	27.92	y6	A	W	3	1	5.63	36	26.42	738.43	677.44	26.42	36
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	677.37	27.92	y6	A	W	3	1	5.63	36	26.42	738.43	677.45	28.42	38
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	677.37	27.92	y6	A	W	3	1	5.63	36	26.42	738.43	677.46	30.42	40
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	677.37	27.92	y6	A	W	3	1	5.63	36	26.42	738.43	677.47	32.42	42
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	849.45	27.92	y8	A	T	3	1	5.63	36	26.42	738.44	849.51	20.42	30
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	849.45	27.92	y8	A	T	3	1	5.63	36	26.42	738.44	849.52	22.42	32
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	849.45	27.92	y8	A	T	3	1	5.63	36	26.42	738.44	849.53	24.42	34
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	849.45	27.92	y8	A	T	3	1	5.63	36	26.42	738.44	849.54	26.42	36
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	849.45	27.92	y8	A	T	3	1	5.63	36	26.42	738.44	849.55	28.42	38
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	849.45	27.92	y8	A	T	3	1	5.63	36	26.42	738.44	849.56	30.42	40
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	849.45	27.92	y8	A	T	3	1	5.63	36	26.42	738.44	849.57	32.42	42
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	920.49	27.92	y9	S	A	3	1	5.63	36	26.42	738.45	920.51	20.42	30
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	920.49	27.92	y9	S	A	3	1	5.63	36	26.42	738.45	920.52	22.42	32
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	920.49	27.92	y9	S	A	3	1	5.63	36	26.42	738.45	920.53	24.42	34
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	920.49	27.92	y9	S	A	3	1	5.63	36	26.42	738.45	920.54	26.42	36
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	920.49	27.92	y9	S	A	3	1	5.63	36	26.42	738.45	920.55	28.42	38
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	920.49	27.92	y9	S	A	3	1	5.63	36	26.42	738.45	920.56	30.42	40
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	920.49	27.92	y9	S	A	3	1	5.63	36	26.42	738.45	920.57	32.42	42

sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	1007.52	27.92	y10	A	S	3	1	5.63	36	26.42	738.46	1007.51	20.42	30
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	1007.52	27.92	y10	A	S	3	1	5.63	36	26.42	738.46	1007.52	22.42	32
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	1007.52	27.92	y10	A	S	3	1	5.63	36	26.42	738.46	1007.53	24.42	34
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	1007.52	27.92	y10	A	S	3	1	5.63	36	26.42	738.46	1007.54	26.42	36
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	1007.52	27.92	y10	A	S	3	1	5.63	36	26.42	738.46	1007.55	28.42	38
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	1007.52	27.92	y10	A	S	3	1	5.63	36	26.42	738.46	1007.56	30.42	40
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	1007.52	27.92	y10	A	S	3	1	5.63	36	26.42	738.46	1007.57	32.42	42
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	1078.55	27.92	y11	A	A	3	1	5.63	36	26.42	738.47	1078.61	20.42	30
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	1078.55	27.92	y11	A	A	3	1	5.63	36	26.42	738.47	1078.62	22.42	32
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	1078.55	27.92	y11	A	A	3	1	5.63	36	26.42	738.47	1078.63	24.42	34
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	1078.55	27.92	y11	A	A	3	1	5.63	36	26.42	738.47	1078.64	26.42	36
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	1078.55	27.92	y11	A	A	3	1	5.63	36	26.42	738.47	1078.65	28.42	38
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	1078.55	27.92	y11	A	A	3	1	5.63	36	26.42	738.47	1078.66	30.42	40
sp|P00634|PPB_ECOLI	TGKPDYVTDSAASATAWS TGVK	738.36	1078.55	27.92	y11	A	A	3	1	5.63	36	26.42	738.47	1078.67	32.42	42
sp|P00634|PPB_ECOLI	ATYHGNIDKPAVTC[160]T PNPQR	747.37	872.40	19.63	y7	T	C	3	1	8.63	36	26.72	747.41	872.41	20.72	30
sp|P00634|PPB_ECOLI	ATYHGNIDKPAVTC[160]T PNPQR	747.37	872.40	19.63	y7	T	C	3	1	8.63	36	26.72	747.41	872.42	22.72	32
sp|P00634|PPB_ECOLI	ATYHGNIDKPAVTC[160]T PNPQR	747.37	872.40	19.63	y7	T	C	3	1	8.63	36	26.72	747.41	872.43	24.72	34
sp|P00634|PPB_ECOLI	ATYHGNIDKPAVTC[160]T PNPQR	747.37	872.40	19.63	y7	T	C	3	1	8.63	36	26.72	747.41	872.44	26.72	36
sp|P00634|PPB_ECOLI	ATYHGNIDKPAVTC[160]T PNPQR	747.37	872.40	19.63	y7	T	C	3	1	8.63	36	26.72	747.41	872.45	28.72	38
sp|P00634|PPB_ECOLI	ATYHGNIDKPAVTC[160]T PNPQR	747.37	872.40	19.63	y7	T	C	3	1	8.63	36	26.72	747.41	872.46	30.72	40
sp|P00634|PPB_ECOLI	ATYHGNIDKPAVTC[160]T PNPQR	747.37	872.40	19.63	y7	T	C	3	1	8.63	36	26.72	747.41	872.47	32.72	42
sp|P00634|PPB_ECOLI	ATYHGNIDKPAVTC[160]T PNPQR	747.37	973.46	19.63	y8	V	T	3	1	8.63	36	26.72	747.42	973.51	20.72	30
sp|P00634|PPB_ECOLI	ATYHGNIDKPAVTC[160]T PNPQR	747.37	973.46	19.63	y8	V	T	3	1	8.63	36	26.72	747.42	973.52	22.72	32
sp|P00634|PPB_ECOLI	ATYHGNIDKPAVTC[160]T PNPQR	747.37	973.46	19.63	y8	V	T	3	1	8.63	36	26.72	747.42	973.53	24.72	34

sp|P00634|PPB_ECOLI	ATYHGNIDKPAVTC[160]TPNPQR	747.37	973.46	19.63	y8	V	T	3	1	8.63	36	26.72	747.42	973.54	26.72	36
sp|P00634|PPB_ECOLI	ATYHGNIDKPAVTC[160]TPNPQR	747.37	973.46	19.63	y8	V	T	3	1	8.63	36	26.72	747.42	973.55	28.72	38
sp|P00634|PPB_ECOLI	ATYHGNIDKPAVTC[160]TPNPQR	747.37	973.46	19.63	y8	V	T	3	1	8.63	36	26.72	747.42	973.56	30.72	40
sp|P00634|PPB_ECOLI	ATYHGNIDKPAVTC[160]TPNPQR	747.37	973.46	19.63	y8	V	T	3	1	8.63	36	26.72	747.42	973.57	32.72	42
sp|P00634|PPB_ECOLI	ATYHGNIDKPAVTC[160]TPNPQR	747.37	1072.52	19.63	y9	A	V	3	1	8.63	36	26.72	747.43	1072.51	20.72	30
sp|P00634|PPB_ECOLI	ATYHGNIDKPAVTC[160]TPNPQR	747.37	1072.52	19.63	y9	A	V	3	1	8.63	36	26.72	747.43	1072.52	22.72	32
sp|P00634|PPB_ECOLI	ATYHGNIDKPAVTC[160]TPNPQR	747.37	1072.52	19.63	y9	A	V	3	1	8.63	36	26.72	747.43	1072.53	24.72	34
sp|P00634|PPB_ECOLI	ATYHGNIDKPAVTC[160]TPNPQR	747.37	1072.52	19.63	y9	A	V	3	1	8.63	36	26.72	747.43	1072.54	26.72	36
sp|P00634|PPB_ECOLI	ATYHGNIDKPAVTC[160]TPNPQR	747.37	1072.52	19.63	y9	A	V	3	1	8.63	36	26.72	747.43	1072.55	28.72	38
sp|P00634|PPB_ECOLI	ATYHGNIDKPAVTC[160]TPNPQR	747.37	1072.52	19.63	y9	A	V	3	1	8.63	36	26.72	747.43	1072.56	30.72	40
sp|P00634|PPB_ECOLI	ATYHGNIDKPAVTC[160]TPNPQR	747.37	1072.52	19.63	y9	A	V	3	1	8.63	36	26.72	747.43	1072.57	32.72	42
sp|P00634|PPB_ECOLI	ATYHGNIDKPAVTC[160]TPNPQR	747.37	1240.61	19.63	y11	K	P	3	1	8.63	36	26.72	747.44	1240.61	20.72	30
sp|P00634|PPB_ECOLI	ATYHGNIDKPAVTC[160]TPNPQR	747.37	1240.61	19.63	y11	K	P	3	1	8.63	36	26.72	747.44	1240.62	22.72	32
sp|P00634|PPB_ECOLI	ATYHGNIDKPAVTC[160]TPNPQR	747.37	1240.61	19.63	y11	K	P	3	1	8.63	36	26.72	747.44	1240.63	24.72	34
sp|P00634|PPB_ECOLI	ATYHGNIDKPAVTC[160]TPNPQR	747.37	1240.61	19.63	y11	K	P	3	1	8.63	36	26.72	747.44	1240.64	26.72	36
sp|P00634|PPB_ECOLI	ATYHGNIDKPAVTC[160]TPNPQR	747.37	1240.61	19.63	y11	K	P	3	1	8.63	36	26.72	747.44	1240.65	28.72	38
sp|P00634|PPB_ECOLI	ATYHGNIDKPAVTC[160]TPNPQR	747.37	1240.61	19.63	y11	K	P	3	1	8.63	36	26.72	747.44	1240.66	30.72	40
sp|P00634|PPB_ECOLI	ATYHGNIDKPAVTC[160]TPNPQR	747.37	1240.61	19.63	y11	K	P	3	1	8.63	36	26.72	747.44	1240.67	32.72	42
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	491.26	32.72	y4	E	C	3	1	3.99	36	30.19	849.41	491.31	24.19	30
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	491.26	32.72	y4	E	C	3	1	3.99	36	30.19	849.41	491.32	26.19	32
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	491.26	32.72	y4	E	C	3	1	3.99	36	30.19	849.41	491.33	28.19	34
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	491.26	32.72	y4	E	C	3	1	3.99	36	30.19	849.41	491.34	30.19	36
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	491.26	32.72	y4	E	C	3	1	3.99	36	30.19	849.41	491.35	32.19	38
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	491.26	32.72	y4	E	C	3	1	3.99	36	30.19	849.41	491.36	34.19	40

sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	491.26	32.72	y4	E	C	3	1	3.99	36	30.19	849.41	491.37	36.19	42
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	749.35	32.72	y6	T	E	3	1	3.99	36	30.19	849.42	749.31	24.19	30
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	749.35	32.72	y6	T	E	3	1	3.99	36	30.19	849.42	749.32	26.19	32
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	749.35	32.72	y6	T	E	3	1	3.99	36	30.19	849.42	749.33	28.19	34
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	749.35	32.72	y6	T	E	3	1	3.99	36	30.19	849.42	749.34	30.19	36
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	749.35	32.72	y6	T	E	3	1	3.99	36	30.19	849.42	749.35	32.19	38
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	749.35	32.72	y6	T	E	3	1	3.99	36	30.19	849.42	749.36	34.19	40
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	749.35	32.72	y6	T	E	3	1	3.99	36	30.19	849.42	749.37	36.19	42
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	964.44	32.72	y8	E	N	3	1	3.99	36	30.19	849.43	964.41	24.19	30
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	964.44	32.72	y8	E	N	3	1	3.99	36	30.19	849.43	964.42	26.19	32
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	964.44	32.72	y8	E	N	3	1	3.99	36	30.19	849.43	964.43	28.19	34
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	964.44	32.72	y8	E	N	3	1	3.99	36	30.19	849.43	964.44	30.19	36
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	964.44	32.72	y8	E	N	3	1	3.99	36	30.19	849.43	964.45	32.19	38
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	964.44	32.72	y8	E	N	3	1	3.99	36	30.19	849.43	964.46	34.19	40
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	964.44	32.72	y8	E	N	3	1	3.99	36	30.19	849.43	964.47	36.19	42
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	1093.48	32.72	y9	A	E	3	1	3.99	36	30.19	849.44	1093.51	24.19	30
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	1093.48	32.72	y9	A	E	3	1	3.99	36	30.19	849.44	1093.52	26.19	32
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	1093.48	32.72	y9	A	E	3	1	3.99	36	30.19	849.44	1093.53	28.19	34
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	1093.48	32.72	y9	A	E	3	1	3.99	36	30.19	849.44	1093.54	30.19	36
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	1093.48	32.72	y9	A	E	3	1	3.99	36	30.19	849.44	1093.55	32.19	38
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	1093.48	32.72	y9	A	E	3	1	3.99	36	30.19	849.44	1093.56	34.19	40
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	1093.48	32.72	y9	A	E	3	1	3.99	36	30.19	849.44	1093.57	36.19	42
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	1164.52	32.72	y10	T	A	3	1	3.99	36	30.19	849.45	1164.51	24.19	30
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	1164.52	32.72	y10	T	A	3	1	3.99	36	30.19	849.45	1164.52	26.19	32

sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	1164.52	32.72	y10	T	A	3	1	3.99	36	30.19	849.45	1164.53	28.19	34
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	1164.52	32.72	y10	T	A	3	1	3.99	36	30.19	849.45	1164.54	30.19	36
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	1164.52	32.72	y10	T	A	3	1	3.99	36	30.19	849.45	1164.55	32.19	38
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	1164.52	32.72	y10	T	A	3	1	3.99	36	30.19	849.45	1164.56	34.19	40
sp|Q29443|TRFE_BOVIN	WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	1164.52	32.72	y10	T	A	3	1	3.99	36	30.19	849.45	1164.57	36.19	42
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	543.35	33.95	y5	S	P	3	1	6.15	36	30.8	867.11	543.41	24.8	30
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	543.35	33.95	y5	S	P	3	1	6.15	36	30.8	867.11	543.42	26.8	32
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	543.35	33.95	y5	S	P	3	1	6.15	36	30.8	867.11	543.43	28.8	34
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	543.35	33.95	y5	S	P	3	1	6.15	36	30.8	867.11	543.44	30.8	36
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	543.35	33.95	y5	S	P	3	1	6.15	36	30.8	867.11	543.45	32.8	38
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	543.35	33.95	y5	S	P	3	1	6.15	36	30.8	867.11	543.46	34.8	40
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	543.35	33.95	y5	S	P	3	1	6.15	36	30.8	867.11	543.47	36.8	42
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	630.38	33.95	y6	E	S	3	1	6.15	36	30.8	867.12	630.41	24.8	30
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	630.38	33.95	y6	E	S	3	1	6.15	36	30.8	867.12	630.42	26.8	32
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	630.38	33.95	y6	E	S	3	1	6.15	36	30.8	867.12	630.43	28.8	34
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	630.38	33.95	y6	E	S	3	1	6.15	36	30.8	867.12	630.44	30.8	36
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	630.38	33.95	y6	E	S	3	1	6.15	36	30.8	867.12	630.45	32.8	38
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	630.38	33.95	y6	E	S	3	1	6.15	36	30.8	867.12	630.46	34.8	40
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	630.38	33.95	y6	E	S	3	1	6.15	36	30.8	867.12	630.47	36.8	42
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	759.43	33.95	y7	N	E	3	1	6.15	36	30.8	867.13	759.41	24.8	30
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	759.43	33.95	y7	N	E	3	1	6.15	36	30.8	867.13	759.42	26.8	32
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	759.43	33.95	y7	N	E	3	1	6.15	36	30.8	867.13	759.43	28.8	34
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	759.43	33.95	y7	N	E	3	1	6.15	36	30.8	867.13	759.44	30.8	36
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	759.43	33.95	y7	N	E	3	1	6.15	36	30.8	867.13	759.45	32.8	38

sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	759.43	33.95	y7	N	E	3	1	6.15	36	30.8	867.13	759.46	34.8	40
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	759.43	33.95	y7	N	E	3	1	6.15	36	30.8	867.13	759.47	36.8	42
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	944.50	33.95	y9	A	A	3	1	6.15	36	30.8	867.14	944.51	24.8	30
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	944.50	33.95	y9	A	A	3	1	6.15	36	30.8	867.14	944.52	26.8	32
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	944.50	33.95	y9	A	A	3	1	6.15	36	30.8	867.14	944.53	28.8	34
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	944.50	33.95	y9	A	A	3	1	6.15	36	30.8	867.14	944.54	30.8	36
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	944.50	33.95	y9	A	A	3	1	6.15	36	30.8	867.14	944.55	32.8	38
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	944.50	33.95	y9	A	A	3	1	6.15	36	30.8	867.14	944.56	34.8	40
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	944.50	33.95	y9	A	A	3	1	6.15	36	30.8	867.14	944.57	36.8	42
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	1015.54	33.95	y10	I	A	3	1	6.15	36	30.8	867.15	1015.51	24.8	30
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	1015.54	33.95	y10	I	A	3	1	6.15	36	30.8	867.15	1015.52	26.8	32
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	1015.54	33.95	y10	I	A	3	1	6.15	36	30.8	867.15	1015.53	28.8	34
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	1015.54	33.95	y10	I	A	3	1	6.15	36	30.8	867.15	1015.54	30.8	36
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	1015.54	33.95	y10	I	A	3	1	6.15	36	30.8	867.15	1015.55	32.8	38
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	1015.54	33.95	y10	I	A	3	1	6.15	36	30.8	867.15	1015.56	34.8	40
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	1015.54	33.95	y10	I	A	3	1	6.15	36	30.8	867.15	1015.57	36.8	42
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	1128.63	33.95	y11	F	I	3	1	6.15	36	30.8	867.16	1128.61	24.8	30
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	1128.63	33.95	y11	F	I	3	1	6.15	36	30.8	867.16	1128.62	26.8	32
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	1128.63	33.95	y11	F	I	3	1	6.15	36	30.8	867.16	1128.63	28.8	34
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	1128.63	33.95	y11	F	I	3	1	6.15	36	30.8	867.16	1128.64	30.8	36
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	1128.63	33.95	y11	F	I	3	1	6.15	36	30.8	867.16	1128.65	32.8	38
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	1128.63	33.95	y11	F	I	3	1	6.15	36	30.8	867.16	1128.66	34.8	40
sp|P00946|MANA_ECOLI	GSQQLQLKPGESAFIAANESPVTVK	867.13	1128.63	33.95	y11	F	I	3	1	6.15	36	30.8	867.16	1128.67	36.8	42

Supplemental Table 4. The tabulated results from the CE optimization experiment. The AUC calculations were performed by the MRM software package Mr. M, and the CE that produced the largest AUC was taken to be the best-performing CE for the given transition. The percent gain in AUC represents the increase in AUC for the best-performing CE relative to the default CE. Since the analysis was split into two MS runs, the "Run" column denotes the portion of the analysis (A or B) in which each transition was targeted.

Peptide	Q1 m/z	Q3 m/z	Ion Type	Default CE	Run	AUC Def-6V	AUC Def-4V	AUC Def-2V	AUC Default	AUC Def+2V	AUC Def+4V	AUC Def+6V	Max AUC	Best CE	% AUC Gain at Best CE
TPHPALTEAK	355.53	448.24	y4	13.4	A	175.8	1874.6	6049.2	7466.0	7334.2	5263.4	3703.2	7466.0	Default	0.0
TPHPALTEAK	355.53	561.32	y5	13.4	A	360.8	1911.8	3415.8	3613.9	2720.1	1611.0	966.8	3613.9	Default	0.0
TPHPALTEAK	355.53	729.41	y7	13.4	A	365.2	1946.8	5394.0	10367.1	10694.3	6385.5	2310.9	10694.3	Default + 2V	3.2
LFAYPDTHR	373.86	528.25	y4	14.03	A	391.3	2377.3	6251.2	10128.5	17064.4	18414.3	19089.7	19089.7	Default + 6V	88.5
LFAYPDTHR	373.86	625.31	y5	14.03	A	9207.6	25939.7	60486.0	78293.4	70965.0	46917.1	28259.5	78293.4	Default	0.0
LFAYPDTHR	373.86	788.37	y6	14.03	A	175.4	750.7	3518.8	5303.7	6085.2	4240.9	1580.3	6085.2	Default + 2V	14.7
WC[160]AIGHQER	386.18	626.30	y5	14.44	B	66.3	267.6	1006.1	2288.3	3716.7	3410.9	3137.3	3716.7	Default + 2V	62.4
WC[160]AIGHQER	386.18	739.39	y6	14.44	B	4.2	26.0	300.1	538.6	1107.9	1377.1	758.4	1377.1	Default + 4V	155.7
TGPNLHGLFGR	390.21	492.29	y4	14.58	B	33.5	242.7	406.9	1185.9	2983.9	2653.7	2501.3	2983.9	Default + 2V	151.6
TGPNLHGLFGR	390.21	549.32	y5	14.58	B	423.7	1708.5	4738.4	8790.5	15257.6	19484.3	16265.2	19484.3	Default + 4V	121.7
TGPNLHGLFGR	390.21	686.37	y6	14.58	B	248.3	624.7	2518.8	5162.6	7516.4	6963.6	5657.4	7516.4	Default + 2V	45.6
TGPNLHGLFGR	390.21	799.46	y7	14.58	B	75.2	144.3	441.6	1012.5	1514.7	1524.4	885.7	1524.4	Default + 4V	50.6
LAAHPPFASWR	418.22	519.27	y4	15.53	A	1034.2	6671.2	12317.5	14455.1	16269.8	12662.5	12866.9	16269.8	Default + 2V	12.6
LAAHPPFASWR	418.22	666.33	y5	15.53	A	237.8	990.8	2046.9	3517.3	6649.6	6381.2	7519.6	7519.6	Default + 6V	113.8
LAAHPPFASWR	418.22	763.39	y6	15.53	A	869.2	1924.2	4869.5	9333.1	13629.0	16394.7	15624.7	16394.7	Default + 4V	75.7
LAAHPPFASWR	418.22	860.44	y7	15.53	A	3992.8	10792.1	28593.6	40519.5	50368.4	39128.1	26844.2	50368.4	Default + 2V	24.3
WC[160]TISTHEANK	449.54	461.24	y4	16.6	B	125.6	247.2	1021.6	2100.8	1775.3	2094.8	1335.8	2100.8	Default	0.0
WC[160]TISTHEANK	449.54	598.30	y5	16.6	B	10.0	134.7	403.8	1592.6	1968.4	2065.0	1368.2	2065.0	Default + 4V	29.7
WC[160]TISTHEANK	449.54	786.37	y7	16.6	B	96.8	437.7	1814.0	2836.7	3591.7	2934.5	1094.3	3591.7	Default + 2V	26.6
GAAQNIIPASTGAAK	457.25	447.26	y5	16.86	B	11.0	609.5	1890.2	2347.4	1236.2	1051.7	890.1	2347.4	Default	0.0
GAAQNIIPASTGAAK	457.25	534.29	y6	16.86	B	27.7	101.3	523.2	838.9	1069.6	1190.6	685.4	1190.6	Default + 4V	41.9
GAAQNIIPASTGAAK	457.25	605.32	y7	16.86	B	45.7	29.6	139.1	403.8	325.4	443.9	694.1	694.1	Default + 6V	71.9
GAAQNIIPASTGAAK	457.25	702.38	y8	16.86	B	5189.1	6050.4	5687.9	4384.1	2939.6	2217.0	1496.7	6050.4	Default - 4V	38.0
TYNGALGVDIHEK	472.91	526.30	y4	17.39	A	37.4	269.9	1009.1	925.4	1031.9	1414.5	717.1	1414.5	Default + 4V	52.9
TYNGALGVDIHEK	472.91	641.33	y5	17.39	A	163.1	855.8	1791.8	3177.4	2894.8	2301.6	1425.0	3177.4	Default	0.0
TYNGALGVDIHEK	472.91	740.40	y6	17.39	A	86.8	236.1	421.3	602.8	558.7	456.5	227.5	602.8	Default	0.0
TYNGALGVDIHEK	472.91	797.42	y7	17.39	A	53.4	537.0	2552.9	4774.5	3500.6	2742.7	1728.1	4774.5	Default	0.0

TYNGALGVDIHEK	472.91	910.50	y8	17.39	A	14.5	76.2	575.3	866.6	719.4	633.8	273.2	866.6	Default	0.0
SLHTLFGDELC[160]K	473.90	549.28	y4	17.43	B	1389.2	3671.1	3156.9	4481.8	6260.2	4463.5	3163.0	6260.2	Default + 2V	39.7
SLHTLFGDELC[160]K	473.90	664.30	y5	17.43	B	2064.2	3493.4	4188.5	2970.2	3167.1	856.1	1181.1	4188.5	Default - 2V	41.0
SLHTLFGDELC[160]K	473.90	721.32	y6	17.43	B	4204.9	11862.2	14542.1	9188.0	8025.5	6744.8	2420.1	14542.1	Default - 2V	58.3
TFAETATAGEWQGK	499.57	518.27	y4	18.3	A	413.2	351.3	693.1	414.1	573.4	347.8	233.9	693.1	Default - 2V	67.4
TFAETATAGEWQGK	499.57	647.32	y5	18.3	A	277.7	515.9	442.0	154.2	80.0	60.4	73.8	515.9	Default - 4V	234.6
TFAETATAGEWQGK	499.57	704.33	y6	18.3	A	829.6	1343.9	1306.0	894.9	593.0	508.7	293.0	1343.9	Default - 4V	50.2
TFAETATAGEWQGK	499.57	775.37	y7	18.3	A	87.7	221.3	193.3	384.0	119.0	79.0	30.6	384.0	Default	0.0
HSTVFDNLPNPEDR	547.59	516.24	y4	19.93	B	1717.0	3622.4	4039.6	4739.4	5412.0	4702.3	4368.5	5412.0	Default + 2V	14.2
HSTVFDNLPNPEDR	547.59	630.28	y5	19.93	B	686.8	1105.9	1548.7	1116.8	994.5	1081.5	939.7	1548.7	Default - 2V	38.7
HSTVFDNLPNPEDR	547.59	727.34	y6	19.93	B	13135.2	15080.4	14232.0	12506.9	10169.4	8110.4	4815.7	15080.4	Default - 4V	20.6
ARPEFTLPVHFYGR	563.97	679.33	y5	20.49	A	9.0	42.5	164.0	367.9	539.3	535.0	507.5	539.3	Default + 2V	46.6
ARPEFTLPVHFYGR	563.97	778.40	y6	20.49	A	2.6	29.8	14.8	45.9	57.9	48.9	72.1	72.1	Default + 6V	57.1
ARPEFTLPVHFYGR	563.97	875.46	y7	20.49	A	12.7	125.2	79.9	103.1	323.7	178.8	111.3	323.7	Default + 2V	214.0
SYELPDGQVITIGNER	597.64	475.22	y4	21.63	B	3492.5	3283.6	3205.9	3326.3	4013.2	1903.9	2254.0	4013.2	Default + 2V	20.7
SYELPDGQVITIGNER	597.64	588.32	y5	21.63	B	1612.1	1883.8	1445.8	2217.5	1834.9	1347.6	952.9	2217.5	Default	0.0
SYELPDGQVITIGNER	597.64	689.36	y6	21.63	B	2479.1	3769.2	3620.2	2461.5	2923.6	1949.7	2185.2	3769.2	Default - 4V	53.1
SYELPDGQVITIGNER	597.64	802.44	y7	21.63	B	641.4	1257.7	1031.7	930.1	1289.4	935.3	1039.7	1289.4	Default + 2V	38.6
LGPNYLQIPVNC[160]PYR	601.98	709.30	y5	21.78	A	1626.3	1424.6	2034.9	1981.2	2257.6	1779.7	1744.7	2257.6	Default + 2V	14.0
LGPNYLQIPVNC[160]PYR	601.98	808.37	y6	21.78	A	223.5	244.3	438.1	379.3	552.5	311.4	585.3	585.3	Default + 6V	54.3
LGPNYLQIPVNC[160]PYR	601.98	905.43	y7	21.78	A	3451.2	2977.4	4069.7	3490.0	3848.1	3190.7	2150.5	4069.7	Default - 2V	16.6
IVSNASC[160]TTNC[160]LAPLAK	607.31	428.29	y4	21.96	B	3896.0	3342.9	3308.1	3904.6	4277.8	3999.3	4401.8	4401.8	Default + 6V	12.7
IVSNASC[160]TTNC[160]LAPLAK	607.31	499.33	y5	21.96	B	1939.1	2496.0	2093.5	1818.8	1526.5	1555.0	1233.3	2496.0	Default - 4V	37.2
IVSNASC[160]TTNC[160]LAPLAK	607.31	772.44	y7	21.96	B	655.1	582.8	740.0	646.6	383.1	418.9	306.2	740.0	Default - 2V	14.4
AAQKPDVLTTGGGNPVGDK	608.99	515.28	y5	22.02	A	280.4	622.3	785.0	1086.7	1241.4	958.1	1891.9	1891.9	Default + 6V	74.1
AAQKPDVLTTGGGNPVGDK	608.99	686.35	y7	22.02	A	565.4	390.5	440.4	248.3	186.4	192.1	331.7	565.4	Default - 6V	127.7
AAQKPDVLTTGGGNPVGDK	608.99	743.37	y8	22.02	A	1561.0	1488.7	1462.0	759.8	729.0	505.1	343.5	1561.0	Default - 6V	105.4
AAQKPDVLTTGGGNPVGDK	608.99	800.39	y9	22.02	A	1722.5	1473.7	2397.4	2277.2	2150.2	1304.9	1069.7	2397.4	Default - 2V	5.3
AAQKPDVLTTGGGNPVGDK	608.99	901.43	y10	22.02	A	663.5	630.6	1176.9	864.6	819.6	760.6	215.9	1176.9	Default - 2V	36.1
FQSEEQQQTEDELQDK	661.29	503.28	y4	23.8	B	1848.5	909.9	387.1	699.4	647.3	403.8	395.2	1848.5	Default - 6V	164.3
FQSEEQQQTEDELQDK	661.29	747.35	y6	23.8	B	662.0	1042.4	860.8	610.5	690.6	514.2	321.8	1042.4	Default - 4V	70.7
FQSEEQQQTEDELQDK	661.29	876.40	y7	23.8	B	183.2	649.3	793.6	749.2	413.7	163.9	155.3	793.6	Default - 2V	5.9
FQSEEQQQTEDELQDK	661.29	977.44	y8	23.8	B	775.5	676.4	1534.4	1401.0	946.6	453.3	436.3	1534.4	Default - 2V	9.5
AVVQDPALKPLALVYGEATSR	733.41	434.24	y4	26.25	A	148325.7	140175.1	147672.8	149722.0	160255.1	180514.7	188246.9	188246.9	Default + 6V	25.7
AVVQDPALKPLALVYGEATSR	733.41	563.28	y5	26.25	A	157344.7	143305.0	130574.7	118566.2	102495.3	96345.9	84241.0	157344.7	Default - 6V	32.7
AVVQDPALKPLALVYGEATSR	733.41	620.30	y6	26.25	A	792037.0	714166.7	667376.4	596919.4	538276.2	467596.2	393553.0	792037.0	Default - 6V	32.7
AVVQDPALKPLALVYGEATSR	733.41	783.36	y7	26.25	A	794143.7	701925.4	670617.9	571015.4	508404.3	421550.2	342849.4	794143.7	Default - 6V	39.1
AVVQDPALKPLALVYGEATSR	733.41	882.44	y8	26.25	A	161400.8	164003.5	161493.5	154642.9	153000.7	134212.1	124132.4	164003.5	Default - 4V	6.1
TGKPDYVTDSAASATAWSTGVK	738.36	404.25	y4	26.42	A	41169.9	29992.3	26591.0	26320.4	31198.3	33946.3	39481.3	41169.9	Default - 6V	56.4
TGKPDYVTDSAASATAWSTGVK	738.36	491.29	y5	26.42	A	42934.5	39016.6	35150.5	35150.3	35816.0	43781.8	39032.1	43781.8	Default + 4V	24.6
TGKPDYVTDSAASATAWSTGVK	738.36	677.37	y6	26.42	A	59744.5	51089.3	52559.8	43760.9	42310.4	37191.1	32834.5	59744.5	Default - 6V	36.5

TGKPDYVTDSAASATAWSTGVK	738.36	849.45	y8	26.42	A	52624.4	57281.6	54456.2	45492.5	38241.0	31755.4	24701.5	57281.6	Default - 4V	25.9
TGKPDYVTDSAASATAWSTGVK	738.36	920.49	y9	26.42	A	26176.6	34493.0	25996.8	23874.6	18964.4	15330.3	10688.2	34493.0	Default - 4V	44.5
TGKPDYVTDSAASATAWSTGVK	738.36	1007.52	y10	26.42	A	25279.8	30658.4	32200.6	28784.6	32588.9	18878.1	16289.3	32588.9	Default + 2V	13.2
TGKPDYVTDSAASATAWSTGVK	738.36	1078.55	y11	26.42	A	14697.8	17491.9	16222.7	14709.3	15742.8	20805.3	9379.7	20805.3	Default + 4V	41.4
ATYHGNIDKPAVTC[160]TPNPQR	747.37	872.40	y7	26.72	A	1265.9	1156.3	1983.2	2281.3	3174.9	3141.6	3303.2	3303.2	Default + 6V	44.8
ATYHGNIDKPAVTC[160]TPNPQR	747.37	973.46	y8	26.72	A	189.2	345.7	1025.1	1751.6	2486.6	2578.5	2742.3	2742.3	Default + 6V	56.6
ATYHGNIDKPAVTC[160]TPNPQR	747.37	1072.52	y9	26.72	A	76.4	173.7	433.3	310.1	804.4	755.5	881.4	881.4	Default + 6V	184.2
ATYHGNIDKPAVTC[160]TPNPQR	747.37	1240.61	y11	26.72	A	48.8	47.8	426.6	459.3	958.0	1120.7	702.3	1120.7	Default + 4V	144.0
WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	491.26	y4	30.19	B	1663.1	1826.7	1045.5	2337.7	2834.9	1671.6	3289.0	3289.0	Default + 6V	40.7
WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	749.35	y6	30.19	B	1756.0	3109.1	2454.5	2268.8	2212.8	1966.3	1277.8	3109.1	Default - 4V	37.0
WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	964.44	y8	30.19	B	2483.4	3960.4	3502.1	1778.7	1723.2	924.3	1043.0	3960.4	Default - 4V	122.7
WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	1093.48	y9	30.19	B	2983.6	1717.7	1839.6	919.1	1423.1	1010.0	673.7	2983.6	Default - 6V	224.6
WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	1164.52	y10	30.19	B	611.5	1572.6	2418.4	1234.1	892.5	424.9	431.8	2418.4	Default - 2V	96.0
GSQQLQLKPGESAFIAANESPVTVK	867.13	543.35	y5	30.8	B	214534.1	126583.9	91519.5	51828.5	95659.1	108524.2	65160.9	214534.1	Default - 6V	313.9
GSQQLQLKPGESAFIAANESPVTVK	867.13	630.38	y6	30.8	B	67034.6	122181.9	110735.7	104775.8	97027.8	85427.1	77140.3	122181.9	Default - 4V	16.6
GSQQLQLKPGESAFIAANESPVTVK	867.13	759.43	y7	30.8	B	56348.4	55870.0	47615.6	43787.4	44186.1	20532.2	15537.2	56348.4	Default - 6V	28.7
GSQQLQLKPGESAFIAANESPVTVK	867.13	944.50	y9	30.8	B	60738.5	72774.8	66753.7	61344.5	54403.1	46464.3	33573.5	72774.8	Default - 4V	18.6
GSQQLQLKPGESAFIAANESPVTVK	867.13	1015.54	y10	30.8	B	63512.8	73281.1	74722.1	70021.7	64162.2	52686.8	36498.2	74722.1	Default - 2V	6.7
GSQQLQLKPGESAFIAANESPVTVK	867.13	1128.63	y11	30.8	B	21371.0	22749.5	30222.5	15621.9	15999.8	11162.0	17900.3	30222.5	Default - 2V	93.5

Supplemental Table 5. Again, the tabulated results from the CE optimization experiment, this time reported in terms of the percent gain (or loss) in sensitivity (i.e. AUC value) for each collision energy.

Peptide	Q1 m/z	Q3 m/z	Ion Type	Default CE	Run	% AUC Gain Def-6V	% AUC GainDef-4V	% AUC Gain Def-2V	% AUC Gain Default	% AUC Gain Def+2V	% AUC Gain Def+4V	% AUC Gain Def+6V	Best CE
TPHPALTEAK	355.53	448.24	y4	13.4	A	-97.6	-74.9	-19.0	0.0	-1.8	-29.5	-50.4	Default
TPHPALTEAK	355.53	561.32	y5	13.4	A	-90.0	-47.1	-5.5	0.0	-24.7	-55.4	-73.2	Default
TPHPALTEAK	355.53	729.41	y7	13.4	A	-96.5	-81.2	-48.0	0.0	3.2	-38.4	-77.7	Default + 2V
LFAYPDTHR	373.86	528.25	y4	14.03	A	-96.1	-76.5	-38.3	0.0	68.5	81.8	88.5	Default + 6V
LFAYPDTHR	373.86	625.31	y5	14.03	A	-88.2	-66.9	-22.7	0.0	-9.4	-40.1	-63.9	Default
LFAYPDTHR	373.86	788.37	y6	14.03	A	-96.7	-85.8	-33.7	0.0	14.7	-20.0	-70.2	Default + 2V
WC[160]AIGHQER	386.18	626.30	y5	14.44	B	-97.1	-88.3	-56.0	0.0	62.4	49.1	37.1	Default + 2V
WC[160]AIGHQER	386.18	739.39	y6	14.44	B	-99.2	-95.2	-44.3	0.0	105.7	155.7	40.8	Default + 4V
TGPNLHGLFGR	390.21	492.29	y4	14.58	B	-97.2	-79.5	-65.7	0.0	151.6	123.8	110.9	Default + 2V
TGPNLHGLFGR	390.21	549.32	y5	14.58	B	-95.2	-80.6	-46.1	0.0	73.6	121.7	85.0	Default + 4V
TGPNLHGLFGR	390.21	686.37	y6	14.58	B	-95.2	-87.9	-51.2	0.0	45.6	34.9	9.6	Default + 2V
TGPNLHGLFGR	390.21	799.46	y7	14.58	B	-92.6	-85.7	-56.4	0.0	49.6	50.6	-12.5	Default + 4V
LAAHPPFASWR	418.22	519.27	y4	15.53	A	-92.8	-53.8	-14.8	0.0	12.6	-12.4	-11.0	Default + 2V
LAAHPPFASWR	418.22	666.33	y5	15.53	A	-93.2	-71.8	-41.8	0.0	89.1	81.4	113.8	Default + 6V
LAAHPPFASWR	418.22	763.39	y6	15.53	A	-90.7	-79.4	-47.8	0.0	46.0	75.7	67.4	Default + 4V
LAAHPPFASWR	418.22	860.44	y7	15.53	A	-90.1	-73.4	-29.4	0.0	24.3	-3.4	-33.7	Default + 2V
WC[160]TISTHEANK	449.54	461.24	y4	16.6	B	-94.0	-88.2	-51.4	0.0	-15.5	-0.3	-36.4	Default
WC[160]TISTHEANK	449.54	598.30	y5	16.6	B	-99.4	-91.5	-74.6	0.0	23.6	29.7	-14.1	Default + 4V
WC[160]TISTHEANK	449.54	786.37	y7	16.6	B	-96.6	-84.6	-36.1	0.0	26.6	3.4	-61.4	Default + 2V
GAAQNIIPASTGAAK	457.25	447.26	y5	16.86	B	-99.5	-74.0	-19.5	0.0	-47.3	-55.2	-62.1	Default
GAAQNIIPASTGAAK	457.25	534.29	y6	16.86	B	-96.7	-87.9	-37.6	0.0	27.5	41.9	-18.3	Default + 4V
GAAQNIIPASTGAAK	457.25	605.32	y7	16.86	B	-88.7	-92.7	-65.6	0.0	-19.4	9.9	71.9	Default + 6V
GAAQNIIPASTGAAK	457.25	702.38	y8	16.86	B	18.4	38.0	29.7	0.0	-32.9	-49.4	-65.9	Default - 4V
TYNGALGVDIHEK	472.91	526.30	y4	17.39	A	-96.0	-70.8	9.0	0.0	11.5	52.9	-22.5	Default + 4V
TYNGALGVDIHEK	472.91	641.33	y5	17.39	A	-94.9	-73.1	-43.6	0.0	-8.9	-27.6	-55.2	Default
TYNGALGVDIHEK	472.91	740.40	y6	17.39	A	-85.6	-60.8	-30.1	0.0	-7.3	-24.3	-62.3	Default
TYNGALGVDIHEK	472.91	797.42	y7	17.39	A	-98.9	-88.8	-46.5	0.0	-26.7	-42.6	-63.8	Default
TYNGALGVDIHEK	472.91	910.50	y8	17.39	A	-98.3	-91.2	-33.6	0.0	-17.0	-26.9	-68.5	Default
SLHTLFGDELC[160]K	473.90	549.28	y4	17.43	B	-69.0	-18.1	-29.6	0.0	39.7	-0.4	-29.4	Default + 2V
SLHTLFGDELC[160]K	473.90	664.30	y5	17.43	B	-30.5	17.6	41.0	0.0	6.6	-71.2	-60.2	Default - 2V
SLHTLFGDELC[160]K	473.90	721.32	y6	17.43	B	-54.2	29.1	58.3	0.0	-12.7	-26.6	-73.7	Default - 2V
TFAETATAGEWQGK	499.57	518.27	y4	18.3	A	-0.2	-15.2	67.4	0.0	38.5	-16.0	-43.5	Default - 2V

TFAETATAGEWQGK	499.57	647.32	y5	18.3	A	80.1	234.6	186.6	0.0	-48.1	-60.8	-52.1	Default - 4V
TFAETATAGEWQGK	499.57	704.33	y6	18.3	A	-7.3	50.2	45.9	0.0	-33.7	-43.2	-67.3	Default - 4V
TFAETATAGEWQGK	499.57	775.37	y7	18.3	A	-77.2	-42.4	-49.7	0.0	-69.0	-79.4	-92.0	Default
HSTVFDNLPNPEDR	547.59	516.24	y4	19.93	B	-63.8	-23.6	-14.8	0.0	14.2	-0.8	-7.8	Default + 2V
HSTVFDNLPNPEDR	547.59	630.28	y5	19.93	B	-38.5	-1.0	38.7	0.0	-11.0	-3.2	-15.9	Default - 2V
HSTVFDNLPNPEDR	547.59	727.34	y6	19.93	B	5.0	20.6	13.8	0.0	-18.7	-35.2	-61.5	Default - 4V
ARPEFTLPVHFYGR	563.97	679.33	y5	20.49	A	-97.6	-88.4	-55.4	0.0	46.6	45.4	37.9	Default + 2V
ARPEFTLPVHFYGR	563.97	778.40	y6	20.49	A	-94.3	-35.1	-67.8	0.0	26.1	6.5	57.1	Default + 6V
ARPEFTLPVHFYGR	563.97	875.46	y7	20.49	A	-87.7	21.4	-22.5	0.0	214.0	73.4	8.0	Default + 2V
SYELPDGQVITIGNER	597.64	475.22	y4	21.63	B	5.0	-1.3	-3.6	0.0	20.7	-42.8	-32.2	Default + 2V
SYELPDGQVITIGNER	597.64	588.32	y5	21.63	B	-27.3	-15.0	-34.8	0.0	-17.3	-39.2	-57.0	Default
SYELPDGQVITIGNER	597.64	689.36	y6	21.63	B	0.7	53.1	47.1	0.0	18.8	-20.8	-11.2	Default - 4V
SYELPDGQVITIGNER	597.64	802.44	y7	21.63	B	-31.0	35.2	10.9	0.0	38.6	0.6	11.8	Default + 2V
LGPNYLQIPVNC[160]PYR	601.98	709.30	y5	21.78	A	-17.9	-28.1	2.7	0.0	14.0	-10.2	-11.9	Default + 2V
LGPNYLQIPVNC[160]PYR	601.98	808.37	y6	21.78	A	-41.1	-35.6	15.5	0.0	45.7	-17.9	54.3	Default + 6V
LGPNYLQIPVNC[160]PYR	601.98	905.43	y7	21.78	A	-1.1	-14.7	16.6	0.0	10.3	-8.6	-38.4	Default - 2V
IVSNASC[160]TTNC[160]LAPLAK	607.31	428.29	y4	21.96	B	-0.2	-14.4	-15.3	0.0	9.6	2.4	12.7	Default + 6V
IVSNASC[160]TTNC[160]LAPLAK	607.31	499.33	y5	21.96	B	6.6	37.2	15.1	0.0	-16.1	-14.5	-32.2	Default - 4V
IVSNASC[160]TTNC[160]LAPLAK	607.31	772.44	y7	21.96	B	1.3	-9.9	14.4	0.0	-40.8	-35.2	-52.6	Default - 2V
AAQKPDVLTTGGGNPVGDK	608.99	515.28	y5	22.02	A	-74.2	-42.7	-27.8	0.0	14.2	-11.8	74.1	Default + 6V
AAQKPDVLTTGGGNPVGDK	608.99	686.35	y7	22.02	A	127.7	57.3	77.4	0.0	-24.9	-22.6	33.6	Default - 6V
AAQKPDVLTTGGGNPVGDK	608.99	743.37	y8	22.02	A	105.4	95.9	92.4	0.0	-4.1	-33.5	-54.8	Default - 6V
AAQKPDVLTTGGGNPVGDK	608.99	800.39	y9	22.02	A	-24.4	-35.3	5.3	0.0	-5.6	-42.7	-53.0	Default - 2V
AAQKPDVLTTGGGNPVGDK	608.99	901.43	y10	22.02	A	-23.3	-27.1	36.1	0.0	-5.2	-12.0	-75.0	Default - 2V
FQSEEQQQTEDELQDK	661.29	503.28	y4	23.8	B	164.3	30.1	-44.7	0.0	-7.4	-42.3	-43.5	Default - 6V
FQSEEQQQTEDELQDK	661.29	747.35	y6	23.8	B	8.4	70.7	41.0	0.0	13.1	-15.8	-47.3	Default - 4V
FQSEEQQQTEDELQDK	661.29	876.40	y7	23.8	B	-75.5	-13.3	5.9	0.0	-44.8	-78.1	-79.3	Default - 2V
FQSEEQQQTEDELQDK	661.29	977.44	y8	23.8	B	-44.6	-51.7	9.5	0.0	-32.4	-67.6	-68.9	Default - 2V
AVVQDPALKPLALVYGEATSR	733.41	434.24	y4	26.25	A	-0.9	-6.4	-1.4	0.0	7.0	20.6	25.7	Default + 6V
AVVQDPALKPLALVYGEATSR	733.41	563.28	y5	26.25	A	32.7	20.9	10.1	0.0	-13.6	-18.7	-29.0	Default - 6V
AVVQDPALKPLALVYGEATSR	733.41	620.30	y6	26.25	A	32.7	19.6	11.8	0.0	-9.8	-21.7	-34.1	Default - 6V
AVVQDPALKPLALVYGEATSR	733.41	783.36	y7	26.25	A	39.1	22.9	17.4	0.0	-11.0	-26.2	-40.0	Default - 6V
AVVQDPALKPLALVYGEATSR	733.41	882.44	y8	26.25	A	4.4	6.1	4.4	0.0	-1.1	-13.2	-19.7	Default - 4V
TGKPDYVTDSAASATAWSTGVK	738.36	404.25	y4	26.42	A	56.4	14.0	1.0	0.0	18.5	29.0	50.0	Default - 6V
TGKPDYVTDSAASATAWSTGVK	738.36	491.29	y5	26.42	A	22.1	11.0	0.0	0.0	1.9	24.6	11.0	Default + 4V
TGKPDYVTDSAASATAWSTGVK	738.36	677.37	y6	26.42	A	36.5	16.7	20.1	0.0	-3.3	-15.0	-25.0	Default - 6V
TGKPDYVTDSAASATAWSTGVK	738.36	849.45	y8	26.42	A	15.7	25.9	19.7	0.0	-15.9	-30.2	-45.7	Default - 4V
TGKPDYVTDSAASATAWSTGVK	738.36	920.49	y9	26.42	A	9.6	44.5	8.9	0.0	-20.6	-35.8	-55.2	Default - 4V
TGKPDYVTDSAASATAWSTGVK	738.36	1007.52	y10	26.42	A	-12.2	6.5	11.9	0.0	13.2	-34.4	-43.4	Default + 2V
TGKPDYVTDSAASATAWSTGVK	738.36	1078.55	y11	26.42	A	-0.1	18.9	10.3	0.0	7.0	41.4	-36.2	Default + 4V
ATYHGNIDKPAVTC[160]TPNPQR	747.37	872.40	y7	26.72	A	-44.5	-49.3	-13.1	0.0	39.2	37.7	44.8	Default + 6V

ATYHGNIDKPAVTC[160]TPNPQR	747.37	973.46	y8	26.72	A	-89.2	-80.3	-41.5	0.0	42.0	47.2	56.6	Default + 6V
ATYHGNIDKPAVTC[160]TPNPQR	747.37	1072.52	y9	26.72	A	-75.4	-44.0	39.7	0.0	159.4	143.6	184.2	Default + 6V
ATYHGNIDKPAVTC[160]TPNPQR	747.37	1240.61	y11	26.72	A	-89.4	-89.6	-7.1	0.0	108.6	144.0	52.9	Default + 4V
WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	491.26	y4	30.19	B	-28.9	-21.9	-55.3	0.0	21.3	-28.5	40.7	Default + 6V
WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	749.35	y6	30.19	B	-22.6	37.0	8.2	0.0	-2.5	-13.3	-43.7	Default - 4V
WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	964.44	y8	30.19	B	39.6	122.7	96.9	0.0	-3.1	-48.0	-41.4	Default - 4V
WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	1093.48	y9	30.19	B	224.6	86.9	100.2	0.0	54.8	9.9	-26.7	Default - 6V
WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	1164.52	y10	30.19	B	-50.4	27.4	96.0	0.0	-27.7	-65.6	-65.0	Default - 2V
GSQQLQLKPGESAFIAANESPVTVK	867.13	543.35	y5	30.8	B	313.9	144.2	76.6	0.0	84.6	109.4	25.7	Default - 6V
GSQQLQLKPGESAFIAANESPVTVK	867.13	630.38	y6	30.8	B	-36.0	16.6	5.7	0.0	-7.4	-18.5	-26.4	Default - 4V
GSQQLQLKPGESAFIAANESPVTVK	867.13	759.43	y7	30.8	B	28.7	27.6	8.7	0.0	0.9	-53.1	-64.5	Default - 6V
GSQQLQLKPGESAFIAANESPVTVK	867.13	944.50	y9	30.8	B	-1.0	18.6	8.8	0.0	-11.3	-24.3	-45.3	Default - 4V
GSQQLQLKPGESAFIAANESPVTVK	867.13	1015.54	y10	30.8	B	-9.3	4.7	6.7	0.0	-8.4	-24.8	-47.9	Default - 2V
GSQQLQLKPGESAFIAANESPVTVK	867.13	1128.63	y11	30.8	B	36.8	45.6	93.5	0.0	2.4	-28.5	14.6	Default - 2V

Supplemental Table 6. The tabulated results from the CV optimization experiment. The AUC calculations were performed by the MRM software package Mr. M, and the CV that produced the largest AUC was taken to be the best-performing CV for the given transition. The percent gain in AUC represents the increase in AUC for the best-performing CV relative to the default CV. Since the analysis was split into two MS runs, the "Run" column denotes the portion of the analysis (A or B) in which each transition was targeted.

Peptide	Q1 m/z	Q3 m/z	Ion Type	Default CV	Run	AUC Def-6V	AUC Def-4V	AUC Def-2V	AUC Default	AUC Def+2V	AUC Def+4V	AUC Def+6V	Max AUC	Best CV	% AUC Gain at Best CV
TPHPALTEAK	355.53	448.24	y4	36	A	1575.0	2621.0	3605.1	3764.7	3552.3	3775.7	3480.7	3775.7	Default + 4V	0.3
TPHPALTEAK	355.53	561.32	y5	36	A	1359.2	1609.6	1922.3	1702.8	1630.8	1892.5	1481.6	1922.3	Default - 2V	12.9
TPHPALTEAK	355.53	729.41	y7	36	A	4328.5	5235.2	5102.2	5014.6	4653.8	4927.4	3742.2	5235.2	Default - 4V	4.4
LFAYPDTHR	373.86	528.25	y4	36	A	1711.7	1997.3	1972.6	1601.3	2161.0	1238.1	1180.2	2161.0	Default + 2V	35.0
LFAYPDTHR	373.86	625.31	y5	36	A	13741.3	18731.5	15239.5	16740.3	17754.6	15057.2	12149.0	18731.5	Default - 4V	11.9
LFAYPDTHR	373.86	788.37	y6	36	A	922.8	931.9	937.9	982.1	1353.1	881.4	1163.9	1353.1	Default + 2V	37.8
WC[160]AIGHQER	386.18	569.28	y4	36	B	87.2	192.0	219.8	224.0	221.0	162.4	119.4	224.0	Default	0.0
WC[160]AIGHQER	386.18	626.30	y5	36	B	669.6	1250.2	1373.8	1621.7	1323.6	847.7	594.5	1621.7	Default	0.0
WC[160]AIGHQER	386.18	739.39	y6	36	B	163.8	291.4	544.7	165.2	351.9	236.6	110.6	544.7	Default - 2V	229.8
TGPNLHGLFGR	390.21	492.29	y4	36	B	349.6	342.0	516.3	732.1	617.7	683.9	551.9	732.1	Default	0.0
TGPNLHGLFGR	390.21	549.32	y5	36	B	4436.8	5230.4	5617.2	6382.9	5012.3	4956.6	4258.4	6382.9	Default	0.0
TGPNLHGLFGR	390.21	686.37	y6	36	B	2587.3	1384.2	3266.6	2667.2	2322.5	1924.0	1946.1	3266.6	Default - 2V	22.5
TGPNLHGLFGR	390.21	799.46	y7	36	B	454.6	747.2	514.4	479.6	495.4	274.7	215.5	747.2	Default - 4V	55.8
LAAHPPFASWR	418.22	519.27	y4	36	A	5691.6	10776.1	8192.5	9776.7	11731.2	8164.9	8679.6	11731.2	Default + 2V	20.0
LAAHPPFASWR	418.22	666.33	y5	36	A	524.8	1497.7	785.5	1820.8	2201.0	1876.4	1309.5	2201.0	Default + 2V	20.9
LAAHPPFASWR	418.22	763.39	y6	36	A	4708.1	3333.4	6480.4	4913.9	5390.6	4690.9	3267.6	6480.4	Default - 2V	31.9
LAAHPPFASWR	418.22	860.44	y7	36	A	21707.2	20805.8	28363.5	25963.8	28156.3	18645.5	21194.0	28363.5	Default - 2V	9.2
WC[160]TISTHEANK	449.54	461.24	y4	36	B	1109.8	1010.4	1145.1	1115.9	991.5	822.2	635.9	1145.1	Default - 2V	2.6
WC[160]TISTHEANK	449.54	598.30	y5	36	B	791.0	507.6	545.3	814.5	828.1	405.2	471.4	828.1	Default + 2V	1.7
WC[160]TISTHEANK	449.54	786.37	y7	36	B	1037.7	1472.7	1726.9	2283.3	1313.4	1529.4	806.8	2283.3	Default	0.0
GAAQNIIPASTGAAK	457.25	534.29	y6	36	B	138.7	64.5	194.7	101.0	85.3	118.3	102.3	194.7	Default - 2V	92.8
GAAQNIIPASTGAAK	457.25	605.32	y7	36	B	24.3	174.5	130.3	90.5	154.8	98.2	28.5	174.5	Default - 4V	92.8
GAAQNIIPASTGAAK	457.25	702.38	y8	36	B	1405.4	1576.0	3119.1	2129.5	1555.1	1474.7	1838.8	3119.1	Default - 2V	46.5
TYNGALGVDIHEK	472.91	526.30	y4	36	A	683.6	594.1	729.4	1077.4	622.4	196.0	328.8	1077.4	Default	0.0
TYNGALGVDIHEK	472.91	641.33	y5	36	A	1177.5	1126.9	823.4	1200.8	1174.8	1041.1	968.8	1200.8	Default	0.0
TYNGALGVDIHEK	472.91	740.40	y6	36	A	225.2	530.5	543.9	194.9	489.2	145.6	218.4	543.9	Default - 2V	179.1
TYNGALGVDIHEK	472.91	797.42	y7	36	A	1662.8	2146.4	2885.3	1809.8	2051.3	1494.0	1500.4	2885.3	Default - 2V	59.4

TYNGALGVDIHEK	472.91	910.50	y8	36	A	265.1	256.0	361.4	502.8	309.9	322.8	155.0	502.8	Default	0.0
SLHTLFGDELC[160]K	473.90	549.28	y4	36	B	989.2	1772.1	2354.1	4312.7	3566.6	1400.6	422.8	4312.7	Default	0.0
SLHTLFGDELC[160]K	473.90	664.30	y5	36	B	373.1	393.1	517.4	1655.7	1378.4	878.3	1803.3	1803.3	Default + 6V	8.9
SLHTLFGDELC[160]K	473.90	721.32	y6	36	B	2194.7	4903.6	2910.2	2852.3	3570.8	2543.0	4875.8	4903.6	Default - 4V	71.9
TFAETATAGEWQGK	499.57	518.27	y4	36	A	151.1	226.8	206.5	128.9	183.4	164.6	162.2	226.8	Default - 4V	76.0
TFAETATAGEWQGK	499.57	647.32	y5	36	A	62.6	31.9	58.7	17.2	61.9	61.0	31.8	62.6	Default - 6V	264.2
TFAETATAGEWQGK	499.57	704.33	y6	36	A	224.6	506.1	480.1	262.5	386.1	239.3	366.2	506.1	Default - 4V	92.8
TFAETATAGEWQGK	499.57	775.37	y7	36	A	186.3	136.5	230.8	36.7	59.3	53.9	67.9	230.8	Default - 2V	529.7
HSTVFDNLPNPEDR	547.59	516.24	y4	36	B	1490.1	1900.2	1904.0	1487.5	1325.0	1337.0	1132.2	1904.0	Default - 2V	28.0
HSTVFDNLPNPEDR	547.59	630.28	y5	36	B	263.9	486.3	327.8	442.9	352.6	239.9	319.7	486.3	Default - 4V	9.8
HSTVFDNLPNPEDR	547.59	727.34	y6	36	B	3572.8	4104.7	3620.5	3406.8	3676.8	2924.9	2993.9	4104.7	Default - 4V	20.5
ARPEFTLPVHFYGR	563.97	542.27	y4	36	A	3918.1	3744.8	3512.4	3437.0	3728.2	3942.4	4332.0	4332.0	Default + 6V	26.0
ARPEFTLPVHFYGR	563.97	679.33	y5	36	A	3129.0	3068.1	3111.1	3008.5	2941.3	3383.6	2798.7	3383.6	Default + 4V	12.5
ARPEFTLPVHFYGR	563.97	778.40	y6	36	A	680.5	687.5	839.8	589.2	568.2	406.1	357.9	839.8	Default - 2V	42.5
ARPEFTLPVHFYGR	563.97	875.46	y7	36	A	1261.5	1512.1	1777.0	1378.2	1348.6	1356.7	1443.7	1777.0	Default - 2V	28.9
SYELPDGQVITIGNER	597.64	475.22	y4	36	B	2167.9	2435.8	2261.5	2794.0	2269.6	1073.2	1640.2	2794.0	Default	0.0
SYELPDGQVITIGNER	597.64	588.32	y5	36	B	804.6	878.3	970.3	1019.8	950.1	703.8	625.4	1019.8	Default	0.0
SYELPDGQVITIGNER	597.64	689.36	y6	36	B	1786.9	2050.9	2445.4	2523.1	2293.9	1948.3	1961.4	2523.1	Default	0.0
SYELPDGQVITIGNER	597.64	802.44	y7	36	B	974.1	783.0	920.7	951.7	981.8	827.4	978.5	981.8	Default + 2V	3.2
LGPNYLQIPVNC[160]PYR	601.98	709.30	y5	36	A	978.7	1370.4	1423.8	1351.9	1203.6	1039.7	879.8	1423.8	Default - 2V	5.3
LGPNYLQIPVNC[160]PYR	601.98	808.37	y6	36	A	363.4	77.9	317.7	453.1	155.0	134.5	95.3	453.1	Default	0.0
LGPNYLQIPVNC[160]PYR	601.98	905.43	y7	36	A	2409.5	1510.5	2512.8	1861.3	2067.9	1798.3	1517.8	2512.8	Default - 2V	35.0
IVSNASC[160]TTNC[160]LAPLAK	607.31	428.29	y4	36	B	2438.8	3495.2	4265.4	3760.7	2550.0	3037.9	1997.4	4265.4	Default - 2V	13.4
IVSNASC[160]TTNC[160]LAPLAK	607.31	499.33	y5	36	B	1090.4	1612.4	2087.8	2083.8	1391.0	1654.2	1105.5	2087.8	Default - 2V	0.2
IVSNASC[160]TTNC[160]LAPLAK	607.31	772.44	y7	36	B	464.7	342.2	692.7	701.2	780.9	414.7	247.8	780.9	Default + 2V	11.4
AAQKPDVLTTGGGNPVGDK	608.99	515.28	y5	36	A	298.3	259.7	447.0	520.5	258.1	121.1	78.2	520.5	Default	0.0
AAQKPDVLTTGGGNPVGDK	608.99	686.35	y7	36	A	86.8	82.1	174.4	89.2	49.9	121.7	33.2	174.4	Default - 2V	95.5
AAQKPDVLTTGGGNPVGDK	608.99	743.37	y8	36	A	242.5	310.0	327.7	507.9	326.2	201.5	289.4	507.9	Default	0.0
AAQKPDVLTTGGGNPVGDK	608.99	800.39	y9	36	A	766.3	451.4	1062.9	844.3	717.0	732.6	387.7	1062.9	Default - 2V	25.9
AAQKPDVLTTGGGNPVGDK	608.99	901.43	y10	36	A	182.4	135.5	428.3	421.7	420.6	117.6	305.0	428.3	Default - 2V	1.6
FQSEEQQQTEDELQDK	661.29	503.28	y4	36	B	386.0	650.7	869.4	432.0	359.9	202.1	415.4	869.4	Default - 2V	101.2
FQSEEQQQTEDELQDK	661.29	747.35	y6	36	B	195.2	700.9	462.4	414.4	490.7	380.9	502.3	700.9	Default - 4V	69.2
FQSEEQQQTEDELQDK	661.29	876.40	y7	36	B	156.8	329.7	347.9	173.8	268.3	311.9	346.4	347.9	Default - 2V	100.2
FQSEEQQQTEDELQDK	661.29	977.44	y8	36	B	499.0	643.5	662.1	691.1	639.7	287.2	394.3	691.1	Default	0.0
AVVQDPALKPLALVYGEATSR	733.41	434.24	y4	36	A	7249.9	7305.5	8052.4	8030.0	8136.8	5980.1	7246.1	8136.8	Default + 2V	1.3
AVVQDPALKPLALVYGEATSR	733.41	563.28	y5	36	A	5310.8	5920.4	5729.5	5378.3	6143.5	5195.3	4956.1	6143.5	Default + 2V	14.2
AVVQDPALKPLALVYGEATSR	733.41	620.30	y6	36	A	23479.0	26911.3	24702.9	27168.1	26404.7	22470.2	24323.1	27168.1	Default	0.0
AVVQDPALKPLALVYGEATSR	733.41	783.36	y7	36	A	27002.5	27145.7	24043.7	26749.6	25157.1	23732.7	23591.2	27145.7	Default - 4V	1.5
AVVQDPALKPLALVYGEATSR	733.41	882.44	y8	36	A	6775.5	7654.5	7950.4	7954.0	7068.5	6519.1	5395.6	7954.0	Default	0.0
TGKPDYVTDSAASATAWSTGVK	738.36	404.25	y4	36	A	11495.1	10059.0	11642.3	9455.8	6721.4	7432.8	4867.2	11642.3	Default - 2V	23.1
TGKPDYVTDSAASATAWSTGVK	738.36	491.29	y5	36	A	9028.8	12321.3	13720.4	13361.6	11638.7	14636.1	10879.1	14636.1	Default + 4V	9.5

TGKPDYVTDSAASATAWSTGVK	738.36	677.37	y6	36	A	21738.7	13465.5	26237.5	20161.3	19509.0	11948.0	11906.3	26237.5	Default - 2V	30.1
TGKPDYVTDSAASATAWSTGVK	738.36	849.45	y8	36	A	14797.1	16531.6	17415.6	21091.6	17814.4	12093.7	11820.1	21091.6	Default	0.0
TGKPDYVTDSAASATAWSTGVK	738.36	920.49	y9	36	A	7430.5	8353.2	8975.3	10757.4	7784.3	6656.7	4378.7	10757.4	Default	0.0
TGKPDYVTDSAASATAWSTGVK	738.36	1007.52	y10	36	A	10068.1	13392.2	14401.9	11326.9	11236.4	9447.1	7165.0	14401.9	Default - 2V	27.1
TGKPDYVTDSAASATAWSTGVK	738.36	1078.55	y11	36	A	5001.2	7304.8	5758.7	6317.2	6266.1	12675.4	4464.4	12675.4	Default + 4V	100.6
ATYHGNIDKPAVTC[160]TPNPQR	747.37	872.40	y7	36	A	5485.8	3003.7	2582.8	2327.1	1523.0	1453.8	1443.5	5485.8	Default - 6V	135.7
ATYHGNIDKPAVTC[160]TPNPQR	747.37	973.46	y8	36	A	1142.1	1358.5	1193.0	884.5	1200.2	757.9	1090.3	1358.5	Default - 4V	53.6
ATYHGNIDKPAVTC[160]TPNPQR	747.37	1072.52	y9	36	A	225.5	252.0	331.3	270.7	176.0	230.6	141.3	331.3	Default - 2V	22.4
ATYHGNIDKPAVTC[160]TPNPQR	747.37	1240.61	y11	36	A	229.5	478.3	297.9	187.2	183.5	216.0	390.1	478.3	Default - 4V	155.5
WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	491.26	y4	36	B	176.3	43.5	161.5	34.8	87.8	46.1	85.2	176.3	Default - 6V	406.8
GSQQLQLKPGESAFIAANESPVTVK	867.13	543.35	y5	36	B	39506.3	21689.6	14396.0	11043.6	12204.2	12994.2	13619.9	39506.3	Default - 6V	257.7
GSQQLQLKPGESAFIAANESPVTVK	867.13	630.38	y6	36	B	13939.3	9490.6	9969.4	9760.6	12158.4	12928.2	11988.8	13939.3	Default - 6V	42.8
GSQQLQLKPGESAFIAANESPVTVK	867.13	759.43	y7	36	B	5411.4	5370.8	5268.4	6379.6	5278.6	2962.5	4282.9	6379.6	Default	0.0
GSQQLQLKPGESAFIAANESPVTVK	867.13	944.50	y9	36	B	13952.2	13284.5	11892.5	11771.6	12131.6	11294.5	10589.6	13952.2	Default - 6V	18.5
GSQQLQLKPGESAFIAANESPVTVK	867.13	1015.54	y10	36	B	14612.8	15370.4	17471.2	15010.5	17601.7	16316.2	16694.9	17601.7	Default + 2V	17.3
GSQQLQLKPGESAFIAANESPVTVK	867.13	1128.63	y11	36	B	3286.7	3926.1	3630.8	6980.1	3634.6	1957.4	3035.5	6980.1	Default	0.0

Supplemental Table 7. Again, the tabulated results from the CV optimization experiment, this time reported in terms of the percent gain (or loss) in sensitivity (i.e. AUC value) for each cone voltage.

Peptide	Q1 m/z	Q3 m/z	Ion Type	Default CV	Run	% AUC Gain Def-6V	% AUC Gain Def-4V	% AUC Gain Def-2V	% AUC Gain Default	% AUC Gain Def+2V	% AUC Gain Def+4V	% AUC Gain Def+6V	Best CV
TPHPALTEAK	355.53	448.24	y4	36	A	-58.2	-30.4	-4.2	0.0	-5.6	0.3	-7.5	Default + 4V
TPHPALTEAK	355.53	561.32	y5	36	A	-20.2	-5.5	12.9	0.0	-4.2	11.1	-13.0	Default - 2V
TPHPALTEAK	355.53	729.41	y7	36	A	-13.7	4.4	1.7	0.0	-7.2	-1.7	-25.4	Default - 4V
LFAYPDTHR	373.86	528.25	y4	36	A	6.9	24.7	23.2	0.0	35.0	-22.7	-26.3	Default + 2V
LFAYPDTHR	373.86	625.31	y5	36	A	-17.9	11.9	-9.0	0.0	6.1	-10.1	-27.4	Default - 4V
LFAYPDTHR	373.86	788.37	y6	36	A	-6.0	-5.1	-4.5	0.0	37.8	-10.2	18.5	Default + 2V
WC[160]AIGHQER	386.18	569.28	y4	36	B	-61.1	-14.2	-1.8	0.0	-1.3	-27.5	-46.7	Default
WC[160]AIGHQER	386.18	626.30	y5	36	B	-58.7	-22.9	-15.3	0.0	-18.4	-47.7	-63.3	Default
WC[160]AIGHQER	386.18	739.39	y6	36	B	-0.8	76.4	229.8	0.0	113.1	43.2	-33.1	Default - 2V
TGPNLHGLFGR	390.21	492.29	y4	36	B	-52.2	-53.3	-29.5	0.0	-15.6	-6.6	-24.6	Default
TGPNLHGLFGR	390.21	549.32	y5	36	B	-30.5	-18.1	-12.0	0.0	-21.5	-22.3	-33.3	Default
TGPNLHGLFGR	390.21	686.37	y6	36	B	-3.0	-48.1	22.5	0.0	-12.9	-27.9	-27.0	Default - 2V
TGPNLHGLFGR	390.21	799.46	y7	36	B	-5.2	55.8	7.3	0.0	3.3	-42.7	-55.1	Default - 4V
LAAHPPFASWR	418.22	519.27	y4	36	A	-41.8	10.2	-16.2	0.0	20.0	-16.5	-11.2	Default + 2V
LAAHPPFASWR	418.22	666.33	y5	36	A	-71.2	-17.7	-56.9	0.0	20.9	3.1	-28.1	Default + 2V
LAAHPPFASWR	418.22	763.39	y6	36	A	-4.2	-32.2	31.9	0.0	9.7	-4.5	-33.5	Default - 2V
LAAHPPFASWR	418.22	860.44	y7	36	A	-16.4	-19.9	9.2	0.0	8.4	-28.2	-18.4	Default - 2V
WC[160]TISTHEANK	449.54	461.24	y4	36	B	-0.6	-9.5	2.6	0.0	-11.2	-26.3	-43.0	Default - 2V
WC[160]TISTHEANK	449.54	598.30	y5	36	B	-2.9	-37.7	-33.0	0.0	1.7	-50.3	-42.1	Default + 2V
WC[160]TISTHEANK	449.54	786.37	y7	36	B	-54.6	-35.5	-24.4	0.0	-42.5	-33.0	-64.7	Default
GAAQNIIPASTGAAK	457.25	534.29	y6	36	B	37.3	-36.1	92.8	0.0	-15.6	17.1	1.3	Default - 2V
GAAQNIIPASTGAAK	457.25	605.32	y7	36	B	-73.1	92.8	44.0	0.0	71.1	8.5	-68.6	Default - 4V
GAAQNIIPASTGAAK	457.25	702.38	y8	36	B	-34.0	-26.0	46.5	0.0	-27.0	-30.7	-13.7	Default - 2V
TYNGALGVDIHEK	472.91	526.30	y4	36	A	-36.5	-44.9	-32.3	0.0	-42.2	-81.8	-69.5	Default
TYNGALGVDIHEK	472.91	641.33	y5	36	A	-1.9	-6.2	-31.4	0.0	-2.2	-13.3	-19.3	Default
TYNGALGVDIHEK	472.91	740.40	y6	36	A	15.6	172.2	179.1	0.0	151.0	-25.3	12.1	Default - 2V
TYNGALGVDIHEK	472.91	797.42	y7	36	A	-8.1	18.6	59.4	0.0	13.3	-17.4	-17.1	Default - 2V
TYNGALGVDIHEK	472.91	910.50	y8	36	A	-47.3	-49.1	-28.1	0.0	-38.4	-35.8	-69.2	Default
SLHTLFGDELC[160]K	473.90	549.28	y4	36	B	-77.1	-58.9	-45.4	0.0	-17.3	-67.5	-90.2	Default
SLHTLFGDELC[160]K	473.90	664.30	y5	36	B	-77.5	-76.3	-68.8	0.0	-16.8	-47.0	8.9	Default + 6V
SLHTLFGDELC[160]K	473.90	721.32	y6	36	B	-23.1	71.9	2.0	0.0	25.2	-10.8	70.9	Default - 4V
TFAETATAGEWQGK	499.57	518.27	y4	36	A	17.3	76.0	60.2	0.0	42.3	27.7	25.8	Default - 4V
TFAETATAGEWQGK	499.57	647.32	y5	36	A	264.2	85.6	241.2	0.0	260.2	255.1	85.0	Default - 6V
TFAETATAGEWQGK	499.57	704.33	y6	36	A	-14.4	92.8	82.9	0.0	47.1	-8.8	39.5	Default - 4V
TFAETATAGEWQGK	499.57	775.37	y7	36	A	408.2	272.4	529.7	0.0	61.6	47.1	85.1	Default - 2V

HSTVFDNLPNPEDR	547.59	516.24	y4	36	B	0.2	27.7	28.0	0.0	-10.9	-10.1	-23.9	Default - 2V
HSTVFDNLPNPEDR	547.59	630.28	y5	36	B	-40.4	9.8	-26.0	0.0	-20.4	-45.8	-27.8	Default - 4V
HSTVFDNLPNPEDR	547.59	727.34	y6	36	B	4.9	20.5	6.3	0.0	7.9	-14.1	-12.1	Default - 4V
ARPEFTLPVHFYGR	563.97	542.27	y4	36	A	14.0	9.0	2.2	0.0	8.5	14.7	26.0	Default + 6V
ARPEFTLPVHFYGR	563.97	679.33	y5	36	A	4.0	2.0	3.4	0.0	-2.2	12.5	-7.0	Default + 4V
ARPEFTLPVHFYGR	563.97	778.40	y6	36	A	15.5	16.7	42.5	0.0	-3.6	-31.1	-39.3	Default - 2V
ARPEFTLPVHFYGR	563.97	875.46	y7	36	A	-8.5	9.7	28.9	0.0	-2.2	-1.6	4.8	Default - 2V
SYELPDGQVITIGNER	597.64	475.22	y4	36	B	-22.4	-12.8	-19.1	0.0	-18.8	-61.6	-41.3	Default
SYELPDGQVITIGNER	597.64	588.32	y5	36	B	-21.1	-13.9	-4.9	0.0	-6.8	-31.0	-38.7	Default
SYELPDGQVITIGNER	597.64	689.36	y6	36	B	-29.2	-18.7	-3.1	0.0	-9.1	-22.8	-22.3	Default
SYELPDGQVITIGNER	597.64	802.44	y7	36	B	2.4	-17.7	-3.3	0.0	3.2	-13.1	2.8	Default + 2V
LGPNYLQIPVNC[160]PYR	601.98	709.30	y5	36	A	-27.6	1.4	5.3	0.0	-11.0	-23.1	-34.9	Default - 2V
LGPNYLQIPVNC[160]PYR	601.98	808.37	y6	36	A	-19.8	-82.8	-29.9	0.0	-65.8	-70.3	-79.0	Default
LGPNYLQIPVNC[160]PYR	601.98	905.43	y7	36	A	29.5	-18.8	35.0	0.0	11.1	-3.4	-18.5	Default - 2V
IVSNASC[160]TTNC[160]LAPLAK	607.31	428.29	y4	36	B	-35.1	-7.1	13.4	0.0	-32.2	-19.2	-46.9	Default - 2V
IVSNASC[160]TTNC[160]LAPLAK	607.31	499.33	y5	36	B	-47.7	-22.6	0.2	0.0	-33.2	-20.6	-46.9	Default - 2V
IVSNASC[160]TTNC[160]LAPLAK	607.31	772.44	y7	36	B	-33.7	-51.2	-1.2	0.0	11.4	-40.9	-64.7	Default + 2V
AAQKPDVLTTGGGNPVGDK	608.99	515.28	y5	36	A	-42.7	-50.1	-14.1	0.0	-50.4	-76.7	-85.0	Default
AAQKPDVLTTGGGNPVGDK	608.99	686.35	y7	36	A	-2.7	-8.0	95.5	0.0	-44.0	36.5	-62.8	Default - 2V
AAQKPDVLTTGGGNPVGDK	608.99	743.37	y8	36	A	-52.3	-39.0	-35.5	0.0	-35.8	-60.3	-43.0	Default
AAQKPDVLTTGGGNPVGDK	608.99	800.39	y9	36	A	-9.2	-46.5	25.9	0.0	-15.1	-13.2	-54.1	Default - 2V
AAQKPDVLTTGGGNPVGDK	608.99	901.43	y10	36	A	-56.8	-67.9	1.6	0.0	-0.3	-72.1	-27.7	Default - 2V
FQSEEQQQTEDELQDK	661.29	503.28	y4	36	B	-10.6	50.6	101.2	0.0	-16.7	-53.2	-3.8	Default - 2V
FQSEEQQQTEDELQDK	661.29	747.35	y6	36	B	-52.9	69.2	11.6	0.0	18.4	-8.1	21.2	Default - 4V
FQSEEQQQTEDELQDK	661.29	876.40	y7	36	B	-9.8	89.7	100.2	0.0	54.3	79.4	99.3	Default - 2V
FQSEEQQQTEDELQDK	661.29	977.44	y8	36	B	-27.8	-6.9	-4.2	0.0	-7.4	-58.5	-42.9	Default
AVVQDPALKPLALVYGEATSR	733.41	434.24	y4	36	A	-9.7	-9.0	0.3	0.0	1.3	-25.5	-9.8	Default + 2V
AVVQDPALKPLALVYGEATSR	733.41	563.28	y5	36	A	-1.3	10.1	6.5	0.0	14.2	-3.4	-7.9	Default + 2V
AVVQDPALKPLALVYGEATSR	733.41	620.30	y6	36	A	-13.6	-0.9	-9.1	0.0	-2.8	-17.3	-10.5	Default
AVVQDPALKPLALVYGEATSR	733.41	783.36	y7	36	A	0.9	1.5	-10.1	0.0	-6.0	-11.3	-11.8	Default - 4V
AVVQDPALKPLALVYGEATSR	733.41	882.44	y8	36	A	-14.8	-3.8	0.0	0.0	-11.1	-18.0	-32.2	Default
TGKPDYVTDSAASATAWSTGVK	738.36	404.25	y4	36	A	21.6	6.4	23.1	0.0	-28.9	-21.4	-48.5	Default - 2V
TGKPDYVTDSAASATAWSTGVK	738.36	491.29	y5	36	A	-32.4	-7.8	2.7	0.0	-12.9	9.5	-18.6	Default + 4V
TGKPDYVTDSAASATAWSTGVK	738.36	677.37	y6	36	A	7.8	-33.2	30.1	0.0	-3.2	-40.7	-40.9	Default - 2V
TGKPDYVTDSAASATAWSTGVK	738.36	849.45	y8	36	A	-29.8	-21.6	-17.4	0.0	-15.5	-42.7	-44.0	Default
TGKPDYVTDSAASATAWSTGVK	738.36	920.49	y9	36	A	-30.9	-22.3	-16.6	0.0	-27.6	-38.1	-59.3	Default
TGKPDYVTDSAASATAWSTGVK	738.36	1007.52	y10	36	A	-11.1	18.2	27.1	0.0	-0.8	-16.6	-36.7	Default - 2V
TGKPDYVTDSAASATAWSTGVK	738.36	1078.55	y11	36	A	-20.8	15.6	-8.8	0.0	-0.8	100.6	-29.3	Default + 4V
ATYHGNIDKPAVTC[160]TPNPQR	747.37	872.40	y7	36	A	135.7	29.1	11.0	0.0	-34.6	-37.5	-38.0	Default - 6V
ATYHGNIDKPAVTC[160]TPNPQR	747.37	973.46	y8	36	A	29.1	53.6	34.9	0.0	35.7	-14.3	23.3	Default - 4V
ATYHGNIDKPAVTC[160]TPNPQR	747.37	1072.52	y9	36	A	-16.7	-6.9	22.4	0.0	-35.0	-14.8	-47.8	Default - 2V

ATYHGNIDKPAVTC[160]TPNPQR	747.37	1240.61	y11	36	A	22.6	155.5	59.1	0.0	-2.0	15.4	108.4	Default - 4V
WSGFSGGAIEC[160]ETAENTEEC[160]IAK	849.37	491.26	y4	36	B	406.8	25.0	364.2	0.0	152.3	32.5	145.0	Default - 6V
GSQQLQLKPGESAFIAANESPVTVK	867.13	543.35	y5	36	B	257.7	96.4	30.4	0.0	10.5	17.7	23.3	Default - 6V
GSQQLQLKPGESAFIAANESPVTVK	867.13	630.38	y6	36	B	42.8	-2.8	2.1	0.0	24.6	32.5	22.8	Default - 6V
GSQQLQLKPGESAFIAANESPVTVK	867.13	759.43	y7	36	B	-15.2	-15.8	-17.4	0.0	-17.3	-53.6	-32.9	Default
GSQQLQLKPGESAFIAANESPVTVK	867.13	944.50	y9	36	B	18.5	12.9	1.0	0.0	3.1	-4.1	-10.0	Default - 6V
GSQQLQLKPGESAFIAANESPVTVK	867.13	1015.54	y10	36	B	-2.6	2.4	16.4	0.0	17.3	8.7	11.2	Default + 2V
GSQQLQLKPGESAFIAANESPVTVK	867.13	1128.63	y11	36	B	-52.9	-43.8	-48.0	0.0	-47.9	-72.0	-56.5	Default

Supplemental Optimization: CE Optimization of Yeast Peptides in a Yeast Lysate

Sample Preparation

Yeast samples were prepared as previously described. Briefly, S. cerevisiae strain (strain BY4741) was grown to an OD600 of 1.0 in YPD. Cells were frozen in liquid nitrogen and disrupted with a Retsch PM100 mixer mill. Powder was suspended in 25 mM ammonium bicarbonate and cleared by centrifugation. Proteins were alkylated using iodoacetamide, digested overnight with trypsin (Promega, Madison, WI), and dried in a low pressure centrifuge. The sample was suspended in 1 mL of 0.1% formic acid in water. The sample was loaded to a C_{18} clean-up column (Waters, Milford, MA), washed with the loading buffer, and eluted in 45% I, 0.1 % formic acid. After drying, 500 μg of the sample was suspended in water and separated using the OFF-GEL Fractionator (Agilent, Santa Clara, CA) per the manufacturer's instructions, using an IPG strip with pH range 3-10. The 12 resulting fractions were then cleaned using C_{18} Ultramicrospin columns (The Nest Group, Southborough, MA). Each fraction was analyzed on an LTQ (Thermo Scientific, Waltham, MA) for peptide content. The fraction with the highest peptide content—with pI range 4.05 to 4.83—was selected for this optimization analysis.

Selection of MRM-MS Targets

MRM-MS targets were selected from a publicly available yeast spectral library provided by the National Institute of Standards and Technology (NIST) [NIST_yeast_IT_v2.0_2008-07-11.splib from http://www.peptideatlas.org/speclib/]. This library was restricted to peptides that had been observed previously in the LTQ shotgun analysis of the fraction of interest. From this restricted spectral library, SpectraST was used to generate a list of potential MRM targets, which was then filtered using the same criteria as described for the 18 mix analysis. Specifically, the list was filtered to contain only singly charged y-ion fragments greater than 3 amino acids in length generated from triply charged precursor peptides with no methionine residues, no N-terminal glutamine residues, and no modified residues

except for carbamiodomethyl cysteine. From this list, the 10 peptides with the most spectral replicates in the consensus library were selected for the final analysis, with 4 transitions per peptides. This list of the 40 MRM transitions chosen for optimization is provided in the table below.

Protein	Peptide	Q1 m/z	Q3 m/z	Ion	pI	Default CE
YLR249W	LVEDPQVIAPFLGK	509.29	561.34	y5	4.37	18.63
YLR249W	LVEDPQVIAPFLGK	509.29	632.38	y6	4.37	18.63
YLR249W	LVEDPQVIAPFLGK	509.29	745.46	y7	4.37	18.63
YLR249W	LVEDPQVIAPFLGK	509.29	844.53	y8	4.37	18.63
YOR298C-A	INEKPTVVNDYEAAR	573.63	446.24	y4	4.68	20.82
YOR298C-A	INEKPTVVNDYEAAR	573.63	609.30	y5	4.68	20.82
YOR298C-A	INEKPTVVNDYEAAR	573.63	724.33	y6	4.68	20.82
YOR298C-A	INEKPTVVNDYEAAR	573.63	838.37	y7	4.68	20.82
YHR174W	TAGIQIVADDLTVTNPAR	619.00	457.25	y4	4.2	22.36
YHR174W	TAGIQIVADDLTVTNPAR	619.00	558.30	y5	4.2	22.36
YHR174W	TAGIQIVADDLTVTNPAR	619.00	657.37	y6	4.2	22.36
YHR174W	TAGIQIVADDLTVTNPAR	619.00	758.42	y7	4.2	22.36
YKL081W	IVDLEQSSEFASLFPLK	641.68	504.32	y4	4.14	23.13
YKL081W	IVDLEQSSEFASLFPLK	641.68	617.40	y5	4.14	23.13
YKL081W	IVDLEQSSEFASLFPLK	641.68	704.43	y6	4.14	23.13
YKL081W	IVDLEQSSEFASLFPLK	641.68	775.47	y7	4.14	23.13
YGL147C	YIQTEQQIEVPEGVTVSIK	721.05	547.35	y5	4.26	25.83
YGL147C	YIQTEQQIEVPEGVTVSIK	721.05	703.44	y7	4.26	25.83
YGL147C	YIQTEQQIEVPEGVTVSIK	721.05	929.53	y9	4.26	25.83
YGL147C	YIQTEQQIEVPEGVTVSIK	721.05	1028.60	y10	4.26	25.83
YLR249W	EIQSVASETLISIVNAVNPVAIK	799.12	641.40	y6	4.53	28.48
YLR249W	EIQSVASETLISIVNAVNPVAIK	799.12	740.47	y7	4.53	28.48
YLR249W	EIQSVASETLISIVNAVNPVAIK	799.12	925.55	y9	4.53	28.48
YLR249W	EIQSVASETLISIVNAVNPVAIK	799.12	1024.62	y10	4.53	28.48
YBR196C	ELDNSSTISTHDASTNGLINQFK	831.40	536.28	y4	4.53	29.58
YBR196C	ELDNSSTISTHDASTNGLINQFK	831.40	649.37	y5	4.53	29.58
YBR196C	ELDNSSTISTHDASTNGLINQFK	831.40	762.45	y6	4.53	29.58
YBR196C	ELDNSSTISTHDASTNGLINQFK	831.40	933.52	y8	4.53	29.58
YAL012W	VANAHGVETSFTNDLLNDLPQLIK	870.46	598.39	y5	4.53	30.91
YAL012W	VANAHGVETSFTNDLLNDLPQLIK	870.46	826.50	y7	4.53	30.91
YAL012W	VANAHGVETSFTNDLLNDLPQLIK	870.46	940.55	y8	4.53	30.91
YAL012W	VANAHGVETSFTNDLLNDLPQLIK	870.46	1053.63	y9	4.53	30.91
YGL206C	ILLPFLEQSLSQGIQDQAVYNALAK	920.50	679.38	y6	4.37	32.61
YGL206C	ILLPFLEQSLSQGIQDQAVYNALAK	920.50	778.45	y7	4.37	32.61
YGL206C	ILLPFLEQSLSQGIQDQAVYNALAK	920.50	849.49	y8	4.37	32.61
YGL206C	ILLPFLEQSLSQGIQDQAVYNALAK	920.50	1220.63	y11	4.37	32.61
YGL253W	AFIDEQFPQGISEPIPLGFTFSFPASQNK	1071.54	644.34	y6	4.14	37.75
YGL253W	AFIDEQFPQGISEPIPLGFTFSFPASQNK	1071.54	791.41	y7	4.14	37.75
YGL253W	AFIDEQFPQGISEPIPLGFTFSFPASQNK	1071.54	1126.55	y10	4.14	37.75
YGL253W	AFIDEQFPQGISEPIPLGFTFSFPASQNK	1071.54	1330.64	y12	4.14	37.75

Collision Energy Optimization

The list of 40 transitions was modified to incorporate seven versions of each transition with altered m/z values using the same method described in the primary analysis. This list of 280 MRM targets was used to program a collision energy ramp from 9 V less than to 9 V greater than the equation-derived collision energy in steps of 3 V. Mass spectrometry and data analysis were performed as described in the manuscript.

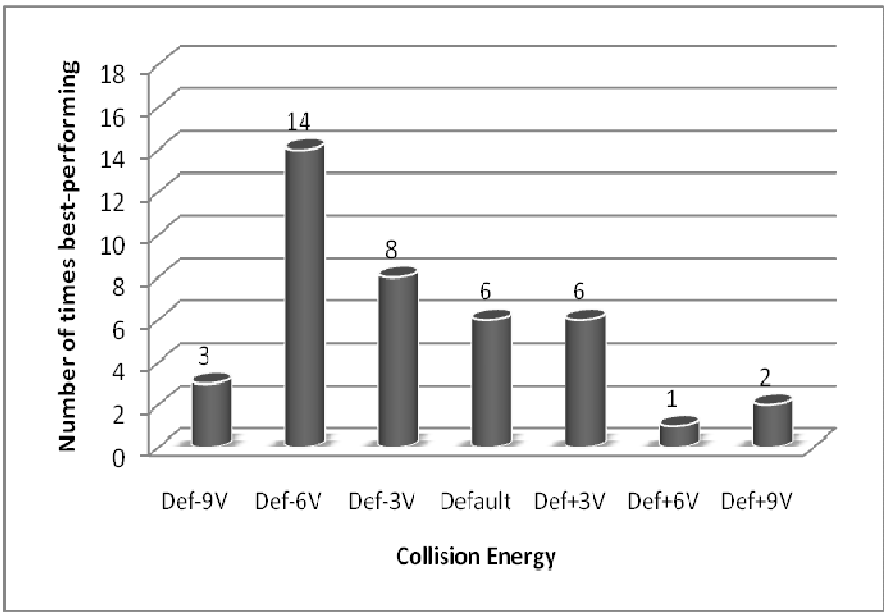
Results

The tabular data including the AUC value for each transition at each collision energy is provided in the table below.

Q1 m/z	Q3 m/z	AUC Def-9V	AUC Def-6V	AUC Def-3V	AUC Default	AUC Def+3V	AUC Def+6V	AUC Def+9V	Best CE	% AUC Gain at Best CE
509.29	561.34	345758	741926	746326	689545	523507	449360	238311	Def - 3V	8.2
509.29	632.38	367909	651366	646669	487809	332438	195368	50503	Def - 6V	33.5
509.29	745.46	350094	620379	639280	381666	231520	59144	18787	Def - 3V	67.5
509.29	844.53	32490	85792	127697	115817	58886	9646	5865	Def - 3V	10.3
573.63	446.24	453725	1680570	2862605	2950302	2566601	2010692	1467058	Default	0.0
573.63	609.30	416267	1335400	2180563	2562625	2626447	2520663	1991085	Def + 3V	2.5
573.63	724.33	329001	944811	1580568	1592332	1377644	958093	574900	Default	0.0
573.63	838.37	533028	1509619	2754124	2658315	2175908	1404135	680969	Def - 3V	3.6
619.00	457.25	10367250	11708610	10333639	9587387	7450081	6240653	4398858	Def - 6V	22.1
619.00	558.30	23112276	27669638	28037283	25715521	21697717	16919073	11978776	Def - 3V	9.0
619.00	657.37	7689629	10256060	11349308	11610532	9487723	7568857	5031513	Default	0.0
619.00	758.42	6246647	9977689	10881265	10802841	9541110	7442367	4478228	Def - 3V	0.7
641.68	504.32	1075694	813916	684235	503033	530144	331849	242416	Def - 9V	113.8
641.68	617.40	170638	176702	230381	157250	95578	92749	27786	Def - 3V	46.5
641.68	704.43	612350	837706	776914	536915	399603	221148	105290	Def - 6V	56.0
641.68	775.47	282989	681372	480263	482023	283468	205987	98349	Def - 6V	41.4
721.05	547.35	293049	374919	395896	585285	747089	649776	696527	Def + 3V	27.6
721.05	703.44	520433	754321	897427	1093602	1283794	1008869	795528	Def + 3V	17.4
721.05	929.53	6495187	7291031	6797717	5673512	3989311	2455752	1314472	Def - 6V	28.5
721.05	1028.60	462350	610897	586583	506088	333412	206184	120756	Def - 6V	20.7
799.12	641.40	862752	947121	664643	666711	518646	454173	430006	Def - 6V	42.1
799.12	740.47	1842675	1230248	1879245	652183	583389	381775	244831	Def - 3V	188.1
799.12	925.55	849018	1016518	854637	910216	706943	450563	235689	Def - 6V	11.7
799.12	1024.62	562481	742072	715060	654479	336584	292512	336539	Def - 6V	13.4
831.40	536.28	116001	252899	814928	1348063	2087268	2649053	3081480	Def + 9V	128.6
831.40	649.37	57586	213243	355333	397016	519273	527807	717436	Def + 9V	80.7
831.40	762.45	2423457	4874043	4418987	2015576	585178	435151	386570	Def - 6V	141.8

831.40	933.52	45956	54637	122698	210805	268007	258137	257716	Def + 3V	27.1
870.46	598.39	4531761	4867720	3712712	3742149	3231248	2998341	2279066	Def - 6V	30.1
870.46	826.50	1642120	1761855	1145229	910381	765719	395897	368930	Def - 6V	93.5
870.46	940.55	1596885	2757530	2415639	2289123	1835422	969955	555495	Def - 6V	20.5
870.46	1053.63	680313	1084781	1042154	1226282	818299	474340	397226	Default	0.0
920.50	679.38	353259	235869	233071	222732	268313	169161	127657	Def - 9V	58.6
920.50	778.45	217236	210587	216342	204533	142639	89669	65762	Def - 9V	6.2
920.50	849.49	194776	140140	157131	254236	184222	119271	80688	Default	0.0
920.50	1220.63	84382	131600	106137	94798	114701	37876	35859	Def - 6V	38.8
1071.54	644.34	1981874	1860230	2132427	2128812	2548383	2616704	2303834	Def + 6V	22.9
1071.54	791.41	739756	556796	661718	751118	544645	487978	351346	Default	0.0
1071.54	1126.55	223666	409451	303560	390167	460454	267048	311329	Def + 3V	18.0
1071.54	1330.64	245882	273278	422961	394169	424241	217748	221863	Def + 3V	7.6

This data shows that an optimal collision energy was determined for each of the 40 transitions, and that this optimized value performed at least 30% better than the default value for 37.5% of the transitions. Another 47.5% of the transitions exhibited only a moderate (< 30%) increase in sensitivity at the optimized CE relative to that of the default CE, while 15% of the transitions were optimized at the default value itself. Additionally, the figure below shows that a collision energy of 6 V less than the default was most frequently the best-performing CE for this dataset. Most importantly, this analysis confirms that the optimization method described in the manuscript can be applied to peptides within moderately complex and biologically relevant samples.



Supplemental Analysis: CE Optimization on an ABI 4000 QTRAP

Mass Spectrometry

A mixture of peptides was separated on a LC PACKINGS PepMap 100 reversed-phase C_{18} column (0.075 × 150 mm) using a Tempo 2D nano-LC system from Eksigent (Eksigent Technologies, LLC. Dublin, CA, USA) at 300 nL/min, and flow from the column was directed to an ABI 4000 QTRAP triple quadrupole mass spectrometer (Applied Biosystems, Framingham, MA) equipped with a nano-ESI source. MRM spectra were acquired in positive ion mode at 3000 volts of ionization voltage and 30 units of nebulizer gas. The three most intense transitions were selected from the MS/MS spectra for each peptide to generate the list of MRM transitions.

Collision Energy Optimization

Three collision energies were tested for each transition: the default collision energy, the default collision energy plus 2 volts and the default collision energy minus 2 volts. To avoid confusing the software with multiple entries for identical precursor-product pairs, the described strategy (see main manuscript) was used to alter the Q1 and Q3 m/z values by ±0.01 to code for each transition and collision energy. The transition list used to program the analysis and the resulting AUC values are provided the following table.

Peptide	Q1	Q3	CE	AUC
Peptide1	264.104	396.119	11.97	2.05E+05
Peptide1	264.104	395.194	11.97	1.38E+06
Peptide1	264.114	396.129	13.97	4.04E+05
Peptide1	264.114	395.204	13.97	2.06E+06
Peptide1	264.124	396.139	15.97	4.94E+05

Peptide1	264.124	395.214	15.97	2.30E+06
Peptide2	318.458	345.135	14.742	3.45E+04
Peptide2	318.458	501.236	14.742	8.37E+03
Peptide2	318.458	558.258	14.742	1.56E+05
Peptide2	318.468	345.145	16.742	5.43E+04
Peptide2	318.468	501.246	16.742	1.24E+04
Peptide2	318.468	558.268	16.742	2.05E+05
Peptide2	318.478	345.155	18.742	5.95E+04
Peptide2	318.478	501.256	18.742	1.61E+04
Peptide2	318.478	558.278	18.742	2.24E+05
Peptide2	477.188	345.135	24.497	3.81E+04
Peptide2	477.198	345.145	26.497	4.41E+05
Peptide2	477.208	345.155	28.497	5.97E+04
Peptide3	351.481	396.119	16.426	3.95E+05
Peptide3	351.481	772.305	16.426	5.00E+04
Peptide3	351.481	281.14	16.426	2.48E+05
Peptide3	351.491	396.129	18.426	1.01E+05
Peptide3	351.491	772.315	18.426	2.77E+04
Peptide3	351.491	281.15	18.426	8.58E+04
Peptide3	351.501	396.139	20.426	1.28E+05
Peptide3	351.501	772.325	20.426	3.85E+04
Peptide3	351.501	281.16	20.426	9.23E+04
Peptide3	526.722	477.14	26.676	1.33E+05
Peptide3	526.722	657.326	26.676	5.16E+04
Peptide3	526.732	477.15	28.676	7.88E+04
Peptide5	361.14	499.132	16.919	4.32E+04
Peptide5	361.14	260.187	16.919	7.46E+04
Peptide5	361.15	499.142	18.919	5.29E+04
Peptide5	361.15	260.197	18.919	7.75E+04
Peptide5	361.16	499.152	20.919	5.24E+04
Peptide5	361.16	260.207	20.919	5.14E+04
Peptide5	541.211	318.102	27.314	4.67E+04
Peptide5	541.211	583.291	27.314	5.85E+04
Peptide5	541.211	764.321	27.314	5.82E+04
Peptide5	541.211	945.35	27.314	7.68E+05
Peptide5	541.221	318.112	29.314	1.89E+06
Peptide5	541.221	583.301	29.314	4.85E+05
Peptide5	541.221	764.331	29.314	4.88E+05
Peptide5	541.221	945.36	29.314	6.86E+05

Peptide5	541.231	318.122	31.314	1.34E+06
Peptide5	541.231	583.311	31.314	3.36E+05
Peptide5	541.231	764.341	31.314	4.87E+05
Peptide5	541.231	945.37	31.314	4.87E+05
Peptide6	345.103	259.15	18.685	7.38E+05
Peptide6	345.103	509.162	18.685	1.92E+05
Peptide6	345.113	259.16	20.685	4.33E+05
Peptide6	345.113	509.172	20.685	3.94E+05
Peptide6	345.123	259.17	22.685	1.34E+04
Peptide6	345.123	509.182	22.685	7.54E+05
Peptide7	487.177	541.244	24.936	1.82E+04
Peptide7	487.177	722.274	24.936	1.07E+06
Peptide7	487.177	903.303	24.936	2.29E+04
Peptide7	487.177	360.215	24.936	9.17E+04
Peptide7	487.187	541.254	26.936	5.07E+04
Peptide7	487.187	722.284	26.936	5.36E+05
Peptide7	487.187	903.313	26.936	1.56E+05
Peptide7	487.187	360.225	26.936	4.87E+04
Peptide7	487.197	541.264	28.936	1.24E+05
Peptide7	487.197	722.294	28.936	6.37E+04
Peptide7	487.197	903.323	28.936	4.55E+05
Peptide7	487.197	360.235	28.936	1.42E+05
Peptide8	529.224	477.14	26.786	5.32E+04
Peptide8	529.224	651.236	26.786	1.79E+05
Peptide8	529.224	832.266	26.786	4.15E+04
Peptide8	529.224	945.35	26.786	2.71E+05
Peptide8	529.224	470.207	26.786	8.66E+04
Peptide8	529.234	477.15	28.786	7.10E+04
Peptide9	475.906	657.43	24.771	1.52E+04
Peptide9	475.916	544.356	26.771	3.85E+04
Peptide9	475.916	657.44	26.771	3.67E+04
Peptide9	713.345	838.449	34.888	3.49E+04
Peptide9	713.345	1200.508	34.888	3.78E+05
Peptide9	713.345	657.42	34.888	2.00E+05
Peptide9	713.355	838.459	36.888	3.59E+04
Peptide9	713.355	1200.518	36.888	2.71E+05
Peptide9	713.355	657.43	36.888	1.92E+05
Peptide9	713.365	838.469	38.888	1.89E+04
Peptide9	713.365	1200.528	38.888	1.73E+05

Peptide9	713.365	657.44	38.888	2.15E+05