

**Slide 2. Spectrum from the Kuster dataset validating the *OR6J1* olfactory receptor.**  
Spectrum for peptide MRAVLRSR

**Slide 3. Spectrum from the Kuster dataset validating the *OR6J1* olfactory receptor.**  
Spectrum for peptide MRAVLRSSR

**Slide 4. Spectrum from the Kuster dataset validating the *OR6J1* olfactory receptor.**  
Spectrum for peptide EYLEINK

**Slide 5. Spectrum from the Kuster dataset validating the *OR6J1* olfactory receptor.**  
Spectrum for peptide YATICPLR

**Slide 6. Spectrum from the Kuster dataset validating the *OR6J1* olfactory receptor.**  
Spectrum for peptide VLANLGSR

**Slide 7. Spectrum from the Kuster dataset validating the *OR6J1* olfactory receptor.**  
Spectrum for peptide RMRAVLR

**Slide 8. Spectrum from the Kuster dataset validating the *OR6J1* olfactory receptor.**  
Spectrum for peptide EYLEINK

**Slide 9. Spectrum from the Kuster dataset validating the *OR6J1* olfactory receptor.**  
Spectrum for peptide NDTVQGVLRDVWVR

Sequence	-log q-...	-log PEP	Search Engi...	Score	Delta Score	z	Theo...	Meas...	Mass...	Fixed...	Varia...	Project	Exper...
MS <sup>2</sup> R.MRAVLRS	2.2393	0.1	Mascot	24.63	9.46	2	760.4...	760.4...	7.67		Oxidat...	Par1_...	batch_1

> Reference spectrum

> Fragments

Select All   Deselect All

a:  1+  2+  3+

b:  1+  2+  3+

c:  1+  2+  3+

x:  1+  2+  3+

y:  1+  2+  3+

z:  1+  2+  3+

yb:

IM:

M[H]:

Neutral loss:

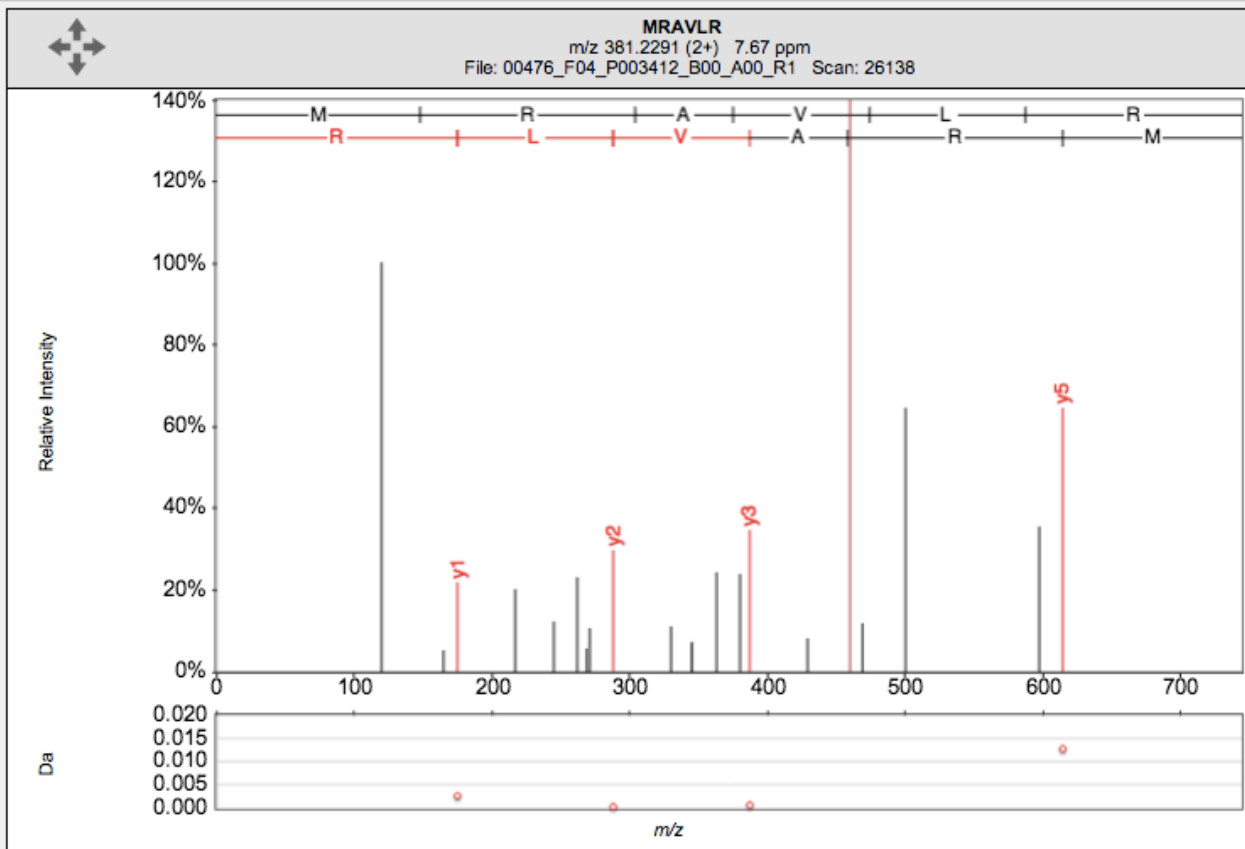
NH3    CH2N2    C3H6

Max neutral loss count: 3

Mass tolerance: 0.4 Da

Expert Mode:  on    off

> Configuration



#	Seq #	y1+
1	M 6	
2	R 5	614.4097
3	A 4	458.3085
4	V 3	387.2714
5	L 2	288.203
6	R 1	175.119

Sequence	-log q-...	-log PEP	Search Engi...	Score	Delta Score	z	Theo...	Meas...	Mass...	Fixed...	Varia...	Project	Exper...
MS <sup>2</sup> R.MRAVLRSR.L	2.2997	0.21	Andromeda	90.66	34.65	2	1003....	1003....	0.01		Oxidat...	Cutler...	Roch...

> Reference spectrum

> Fragments

Select All   Deselect All

a:  1+  2+  3+

b:  1+  2+  3+

c:  1+  2+  3+

x:  1+  2+  3+

y:  1+  2+  3+

z:  1+  2+  3+

yb:

IM:

M[H]:

Neutral loss:

C3H9N3  H2O  NH3

CO  CH4O  CH2N2

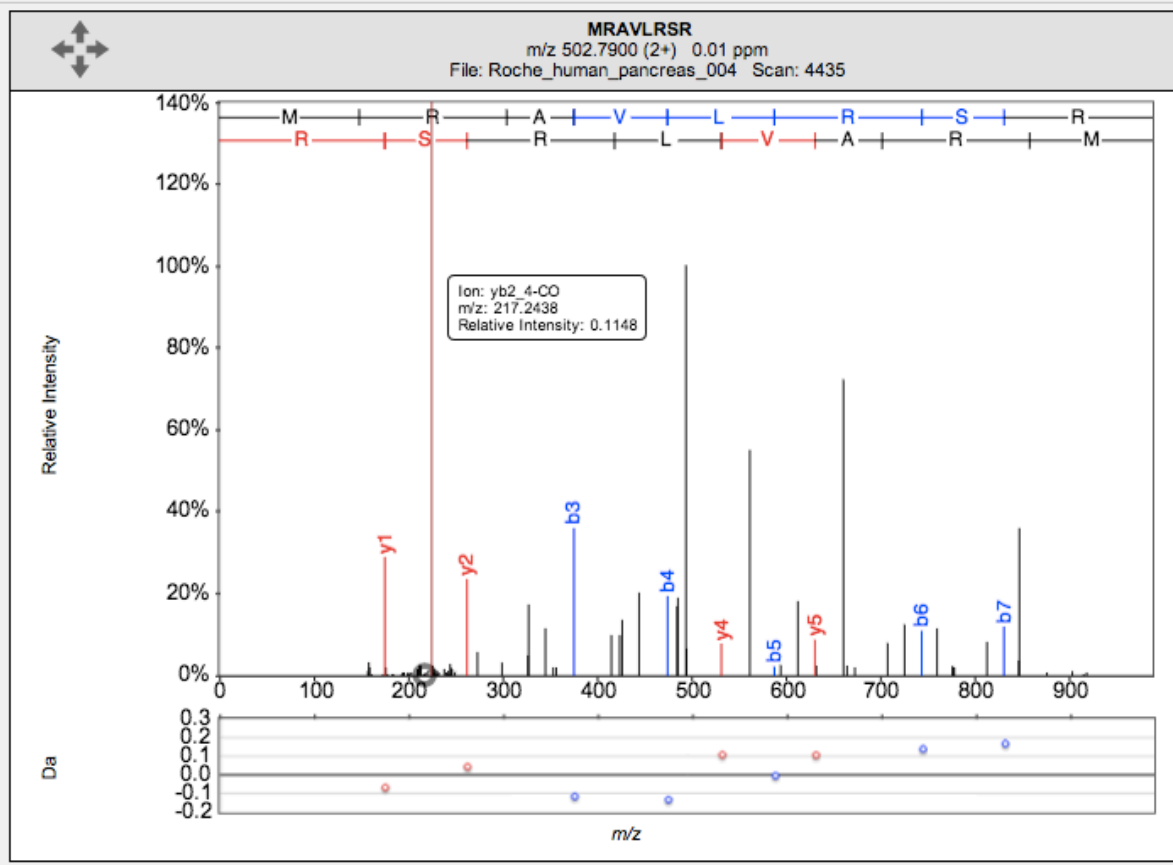
C4H6N2

Max neutral loss count: 3

Mass tolerance: 0.4 Da

Expert Mode:  on  off

> Configuration



b1+	#	Seq	#	y1+
148.0427	1	M	8	
304.1438	2	R	7	857.5428
375.1809	3	A	6	701.4417
474.2493	4	V	5	630.4046
587.3334	5	L	4	531.3362
743.4345	6	R	3	418.2521
830.4665	7	S	2	262.151
	8	R	1	175.119

Sequence	-log q-...	-log PEP	Search Engl...	Score	Delta Score	z	Theo...	Meas...	Mass...	Fixed...	Varia...	Project	Exper...
<b>MS<sup>2</sup></b> K.EYLEINK.I	2.9425	1.49	Andromeda	114.19	28.92	2	907.4...	907.4...	0.01			Geige...	MFM
<b>MS<sup>2</sup></b> K.EYLEINK.I	2.9425	1.49	Andromeda	114.19	28.92	2	907.4...	907.4...	0.01			Geige...	MFM
<b>MS<sup>2</sup></b> K.EYLEINK.I	2.3255	0.93	Andromeda	81.3	12.88	2	907.4...	907.4...	0.01			Geige...	HCC1...
<b>MS<sup>2</sup></b> K.EYLEINK.I	2.3255	0.93	Andromeda	81.3	12.88	2	907.4...	907.4...	0.01			Geige...	HCC1...
<b>MS<sup>2</sup></b> K.EYLEINK.I	2.2642	0.82	Andromeda	47.92	15.96	2	907.4...	907.4...	0.01			Nagar...	Deep ...

< 1 2 >

> Reference spectrum

> Fragments

Select All   Deselect All

a:  1+  2+  3+

b:  1+  2+  3+

c:  1+  2+  3+

x:  1+  2+  3+

y:  1+  2+  3+

z:  1+  2+  3+

yb:

IM:

M[H]:

Neutral loss:

NH3    H2O    C4H11N

CH3NO    C2H4    C4H8

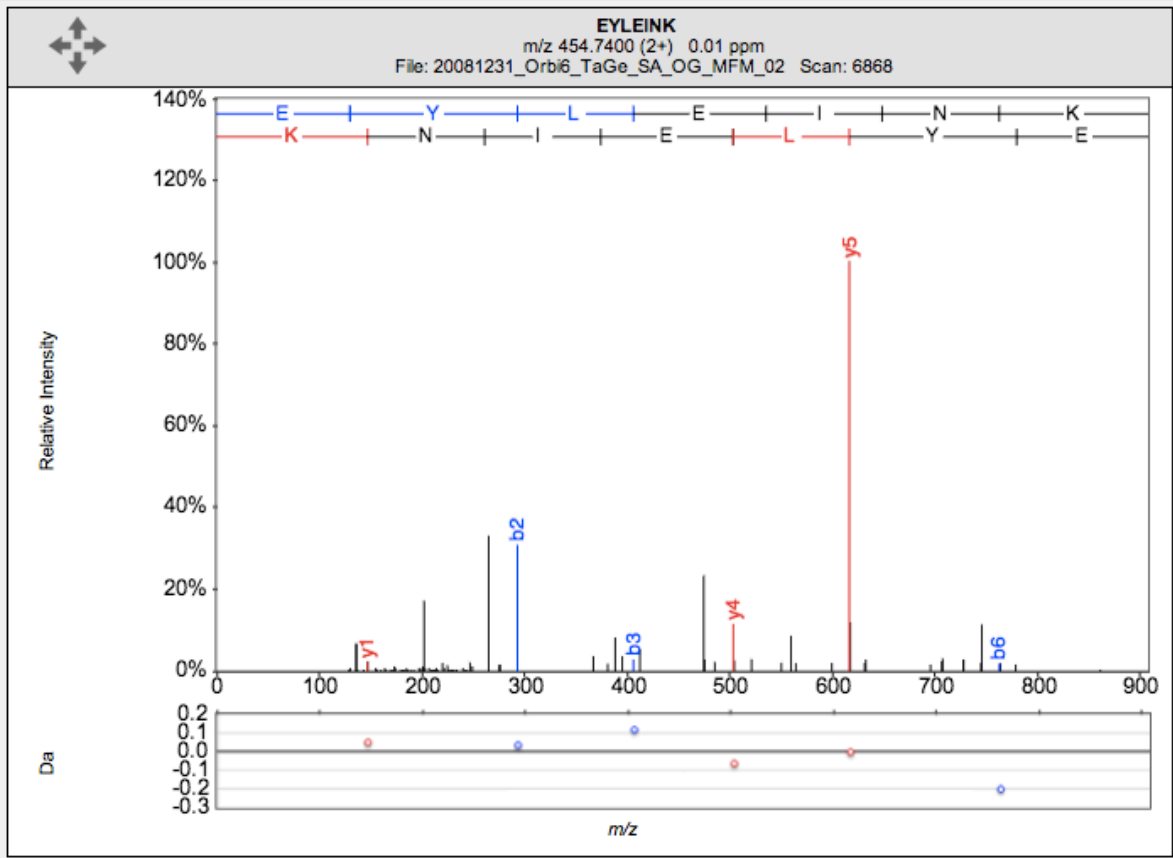
C2H4O2

Max neutral loss count: 3

Mass tolerance: 0.4 Da

Expert Mode:  on  off

> Configuration



b1+	#	Seq	#	y1+
130.0499	1	E	7	
293.1132	2	Y	6	779.4298
406.1973	3	L	5	616.3665
535.2399	4	E	4	503.2824
648.3239	5	I	3	374.2398
762.3668	6	N	2	261.1557
	7	K	1	147.1128

Sequence	-log q...	-log PEP	Search Engl...	Score	Delta Score	z	Theo...	Meas...	Mass...	Fixed...	Varia...	Project	Exper...
<b>MS<sup>2</sup></b> R.YATICPLR.Y	2.2871	1.69	Andromeda	48.28	12.77	2	1152...	1152...	0	Carba...		Pirmor...	Full pr...
<b>MS<sup>2</sup></b> R.YATICPLR.Y	2.0744	0.91	Andromeda	43.08	11.59	2	1152...	1152...	0	Carba...		Pirmor...	Full pr...

> Reference spectrum

> Fragments

Select All   Deselect All

a:  1+  2+  3+

b:  1+  2+  3+

c:  1+  2+  3+

x:  1+  2+  3+

y:  1+  2+  3+

z:  1+  2+  3+

yb:

IM:

M[H]:

Neutral loss:

H<sub>2</sub>O    NH<sub>3</sub>    C<sub>4</sub>H<sub>6</sub>N<sub>2</sub>

C<sub>3</sub>H<sub>9</sub>N<sub>3</sub>    C<sub>4</sub>H<sub>8</sub>    CH<sub>2</sub>N<sub>2</sub>

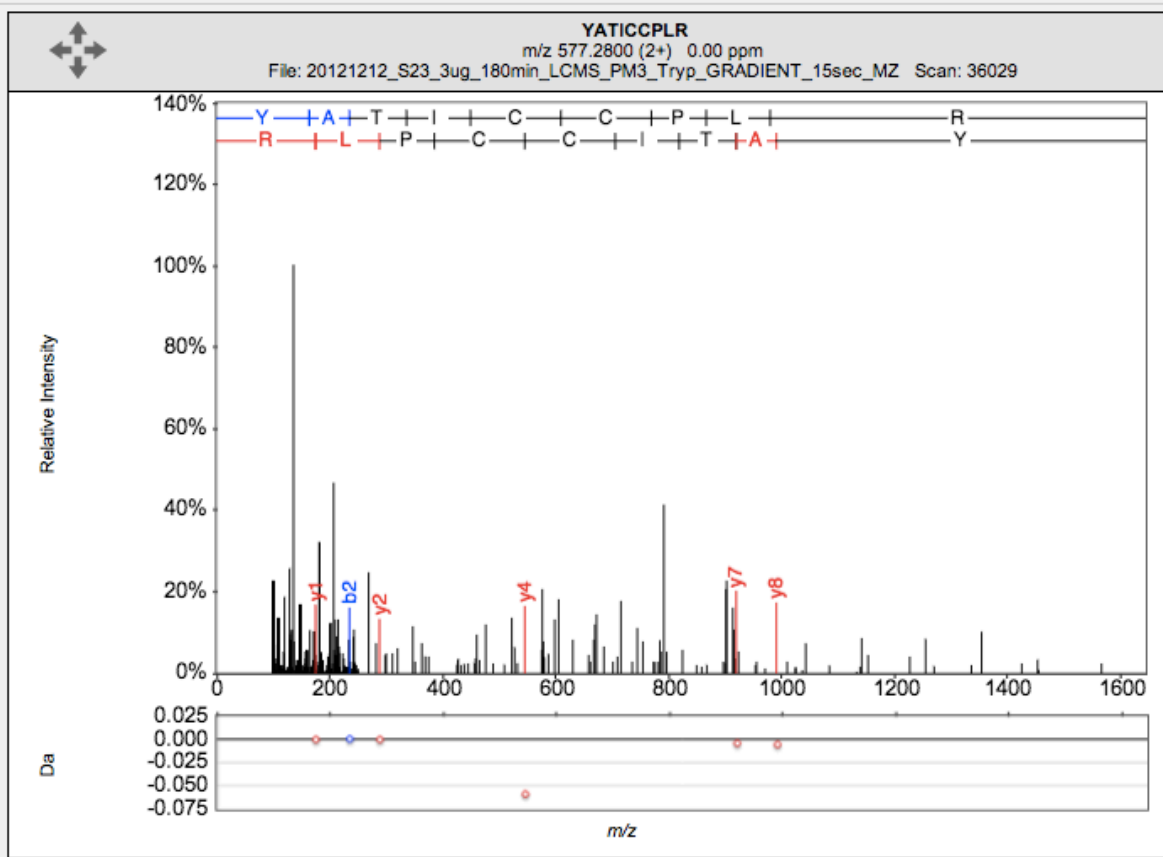
C<sub>3</sub>H<sub>6</sub>    CO    C<sub>2</sub>H<sub>4</sub>O

Max neutral loss count: 3

Mass tolerance: 0.4 Da

Expert Mode:  on    off

> Configuration



b1+	#	Seq	#	y1+
164.0706	1	Y	9	
235.1077	2	A	8	990.4859
336.1554	3	T	7	919.4488
449.2395	4	I	6	818.4011
609.2701	5	C	5	705.3171
769.3008	6	C	4	545.2864
866.3535	7	P	3	385.2558
979.4376	8	L	2	288.203
	9	R	1	175.119

Sequence	-log q-...	-log PEP	Search Engl...	Score	Delta Score	z	Theo...	Meas...	Mass...	Fixed...	Varia...	Project	Exper...
<b>MS<sup>2</sup></b> K.VLANLGSR.D	2.2639	0.04	Mascot	8.17	1.76	2	828.4...	828.4...	1.52			Geige...	Prote...

> Reference spectrum

> Fragments

Select All   Deselect All

a:  1+  2+  3+

b:  1+  2+  3+

c:  1+  2+  3+

x:  1+  2+  3+

y:  1+  2+  3+

z:  1+  2+  3+

yb:

IM:

M[H]:

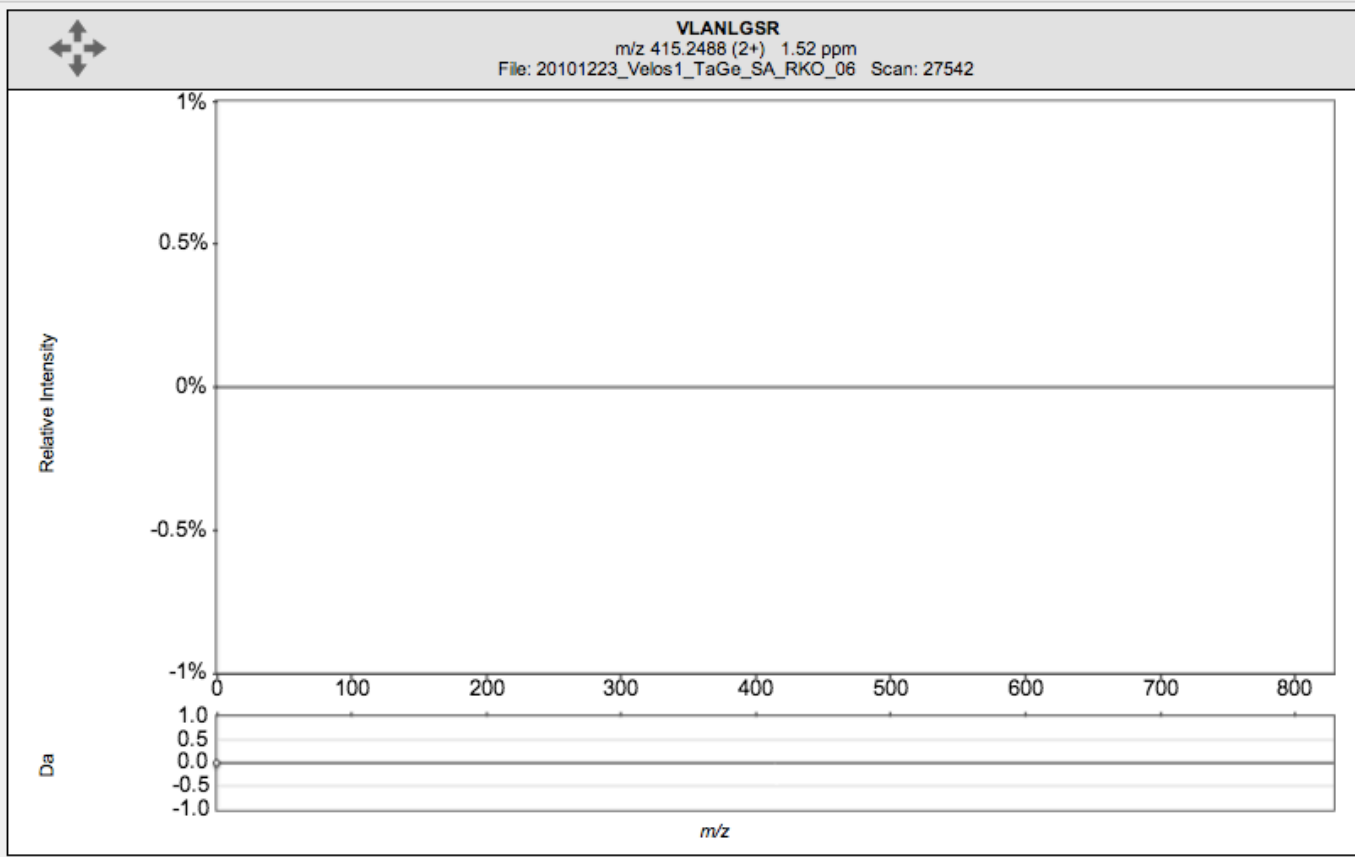
Neutral loss:

Max neutral loss count: 3

Mass tolerance: 0.4 Da

Expert Mode:  on  off

> Configuration



#	Seq	#
1	V	8
2	L	7
3	A	6
4	N	5
5	L	4
6	G	3
7	S	2
8	R	1

Sequence	-log q-...	-log PEP	Search Engi...	Score	Delta Score	z	Theo...	Meas...	Mass...	Fixed...	Varia...	Project	Exper...
<b>MS<sup>2</sup></b> K.RMRAVLR.S	2.4405	1.03	Mascot	22.78	1.77	2	900.5...	900.5...	6.99			Geige...	MCF10a
<b>MS<sup>2</sup></b> K.RMRAVLR.S	2.4405	1.03	Mascot	22.78	1.77	2	900.5...	900.5...	6.99			Geige...	MCF10a
<b>MS<sup>2</sup></b> K.RMRAVLR.S	2.0027	0.02	Mascot	23.97	n/a	2	900.5...	900.5...	4.92			CPTA...	Clinic...

> Reference spectrum

> Fragments

Select All   Deselect All

a:  1+  2+  3+

b:  1+  2+  3+

c:  1+  2+  3+

x:  1+  2+  3+

y:  1+  2+  3+

z:  1+  2+  3+

yb:

IM:

M[H]:

Neutral loss:

C4H6N2  C3H6S  C3H9N3

H2O  C3H6  CH2N2

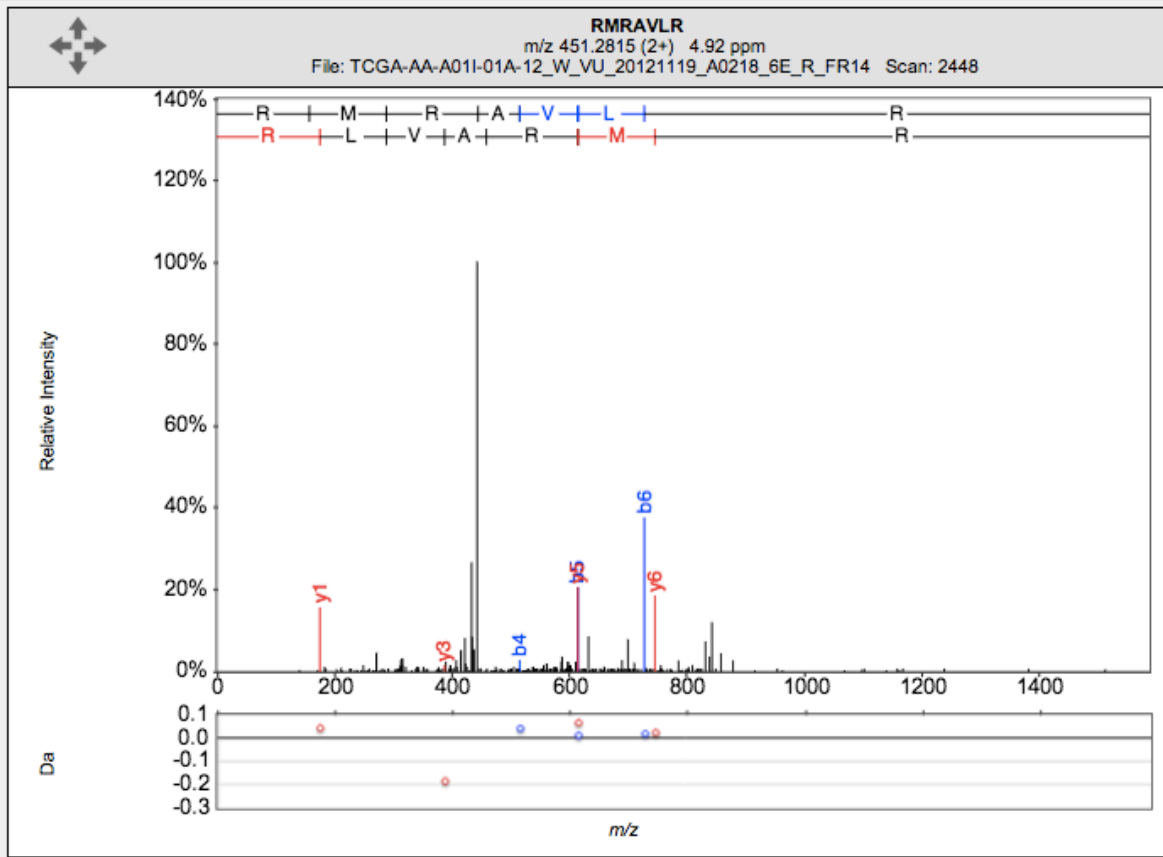
C4H8  NH3  C2H4S

Max neutral loss count:

Mass tolerance:  Da

Expert Mode:  on  off

> Configuration



b1+	#	Seq	#	y1+
157.1084	1	R	7	
288.1489	2	M	6	745.4501
444.25	3	R	5	614.4097
515.2871	4	A	4	458.3085
614.3555	5	V	3	387.2714
727.4396	6	L	2	288.203
	7	R	1	175.119

Sequence	-log q...	-log PEP	Search Engl...	Score	Delta Score	z	Theo...	Meas...	Mass...	Fixed...	Varia...	Project	Exper...
<b>MS<sup>2</sup></b> K.EYLEINK.I	2.9425	1.49	Andromeda	114.19	28.92	2	907.4...	907.4...	0.01			Geige...	MFM
<b>MS<sup>2</sup></b> K.EYLEINK.I	2.9425	1.49	Andromeda	114.19	28.92	2	907.4...	907.4...	0.01			Geige...	MFM
<b>MS<sup>2</sup></b> K.EYLEINK.I	2.3255	0.93	Andromeda	81.3	12.88	2	907.4...	907.4...	0.01			Geige...	HCC1...
<b>MS<sup>2</sup></b> K.EYLEINK.I	2.3255	0.93	Andromeda	81.3	12.88	2	907.4...	907.4...	0.01			Geige...	HCC1...
<b>MS<sup>2</sup></b> K.EYLEINK.I	2.2642	0.82	Andromeda	47.92	15.96	2	907.4...	907.4...	0.01			Nagar...	Deep ...

< 1 2 >

> Reference spectrum

> Fragments

Select All Deselect All

a:  1+  2+  3+

b:  1+  2+  3+

c:  1+  2+  3+

x:  1+  2+  3+

y:  1+  2+  3+

z:  1+  2+  3+

yb:

IM:

M[H]:

Neutral loss:

NH3  H2O  C4H11N

CH3NO  C2H4  C4H8

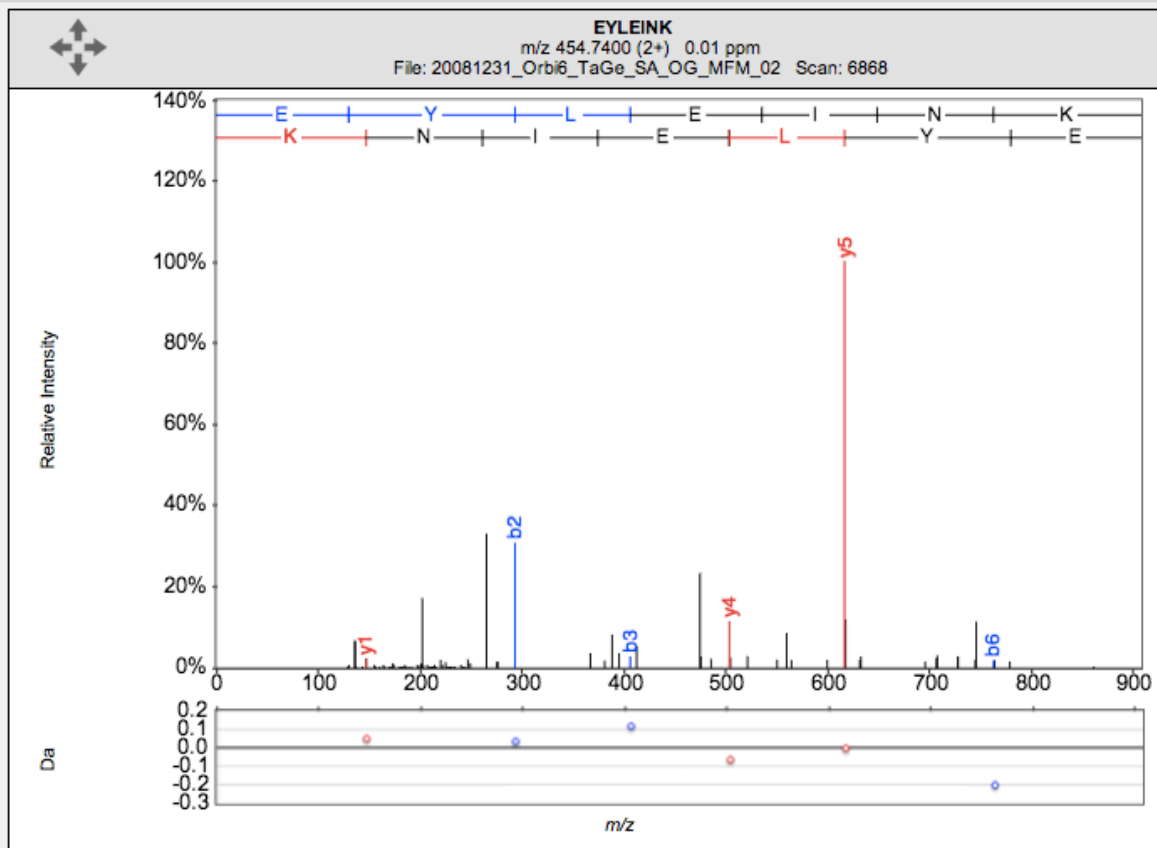
C2H4O2

Max neutral loss count: 3

Mass tolerance: 0.4 Da

Expert Mode:  on  off

> Configuration



b1+	#	Seq #	y1+
130.0499	1	E 7	
293.1132	2	Y 6	779.4298
406.1973	3	L 5	616.3665
535.2399	4	E 4	503.2824
648.3239	5	I 3	374.2398
762.3668	6	N 2	261.1557
	7	K 1	147.1128



Sequence	$-\log q\text{-}...$	$-\log \text{PEP}$	Search Engl...	Score	Delta Score	z	Theo...	Meas...	Mass...	Fixed...	Varia...	Project	Exper...
<b>MS<sup>2</sup></b> R.NDTVQGVL RDVWVR.V	2.3816	2.45	Andromeda	98.9	38.35	2	1655....	1655....	0			CPTA...	Clinic...

> Reference spectrum

> Fragments

Select All   Deselect All

a:  1+  2+  3+

b:  1+  2+  3+

c:  1+  2+  3+

x:  1+  2+  3+

y:  1+  2+  3+

z:  1+  2+  3+

yb:

IM:

M[H]:

Neutral loss:

C2H5NO  CO2  C2H4O

C4H8  C2O  C2H4O2

C4H6N2  NH3  C3H5NO

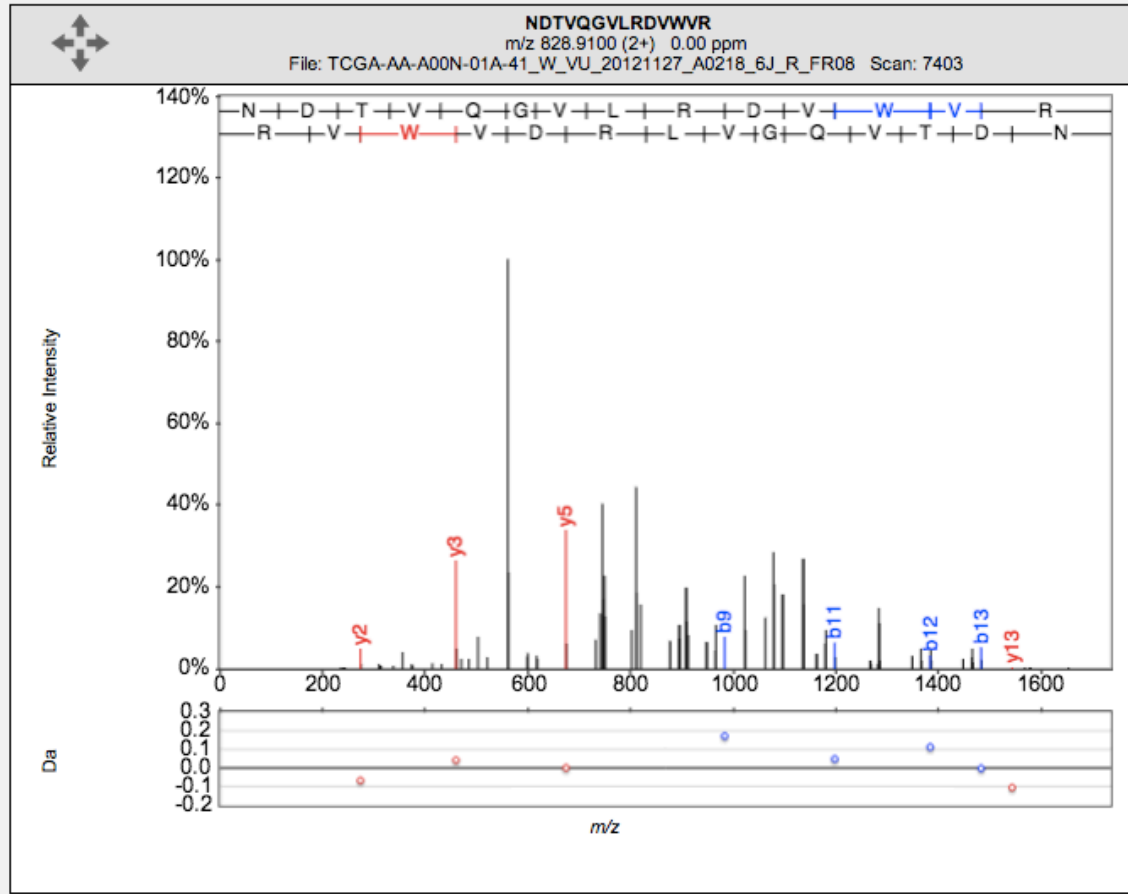
H2O

Max neutral loss count: 3

Mass tolerance: 0.4 Da

Expert Mode:  on  off

> Configuration



b1+	#	Seq	#	y1+
115.0502	1	N	14	
230.0771	2	D	13	1542.8387
331.1248	3	T	12	1427.8118
430.1932	4	V	11	1326.7641
558.2518	5	Q	10	1227.6957
615.2733	6	G	9	1099.6371
714.3417	7	V	8	1042.6156
827.4258	8	L	7	943.5472
983.5269	9	R	6	830.4631
1098.5538	10	D	5	674.362
1197.6222	11	V	4	559.3351
1383.7015	12	W	3	460.2667
1482.77	13	V	2	274.1874
	14	R	1	175.119