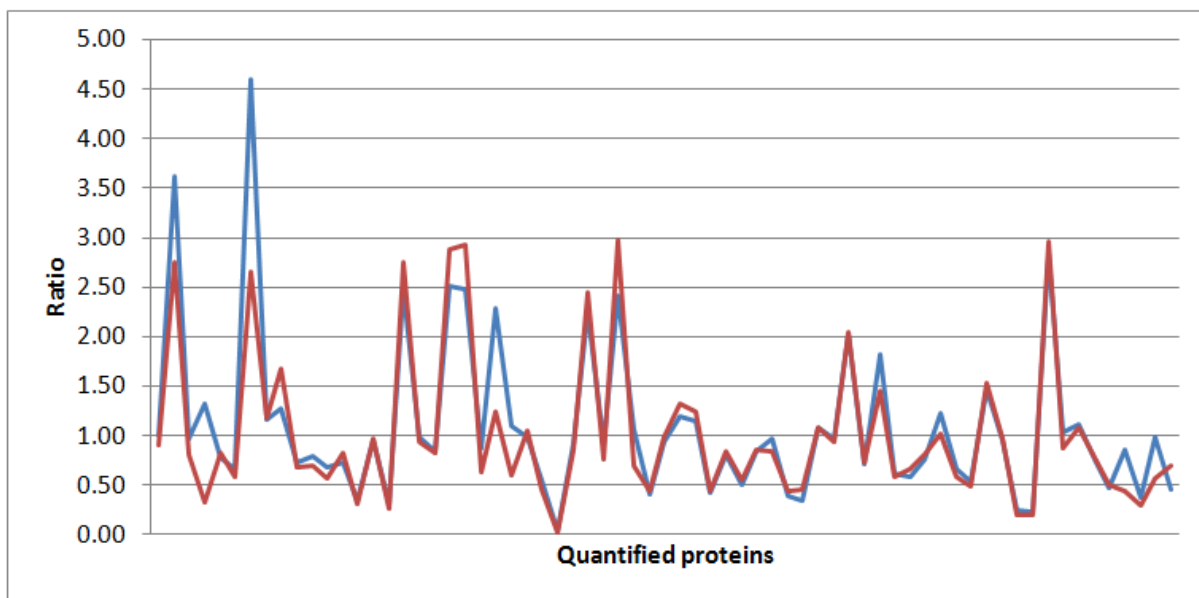


## **Supplementary figure 1**



### Supplementary figure 1: Replicate analysis

48 2DE spots were analysed in two biological replicates. 67 have been quantified and compared. The H/L ratios of the 2DE gel with 816 analyzed spots is shown in red and of the 2DE gel with 48 analyzed spots is shown in blue.

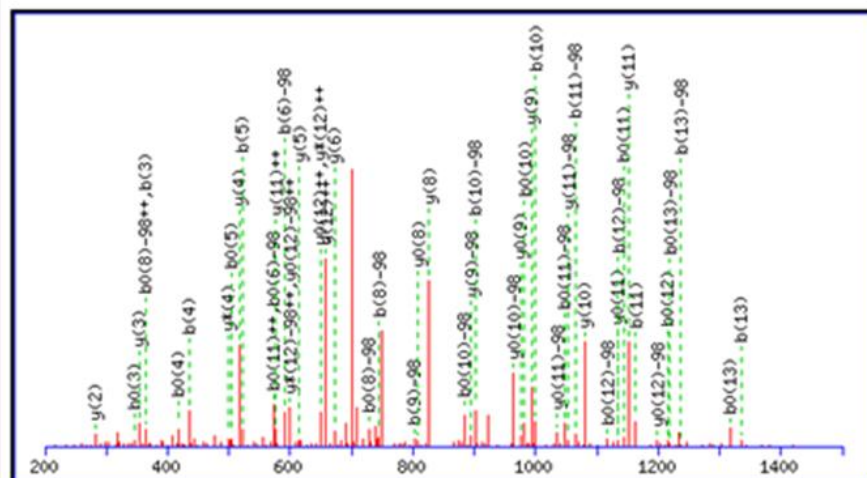
## **Supplementary figure 2**

# Spot 75, phosphoserine

Data file C:\Mgf\_Mascot Daemon\HRP\VIME\HRP\_090512\_HELA\_SILAC\_contr\_STLC\_2DGE\_Jungblut\_Gel4\_75.mgf

Click mouse within plot area to zoom in by factor of two about that point

Or, Plot from  to  Da



Monoisotopic mass of neutral peptide Mr(calc): 1513.69

Variable modifications:

S6 : \_Phospho (ST), with neutral losses 97.98 (shown in table), 0.00

R14 : \_Label:13C(6) (R)

Ions Score: 50 Expect: 0.00043

Matches (Bold Red): 52/190 fragment ions using 94 most intense peaks

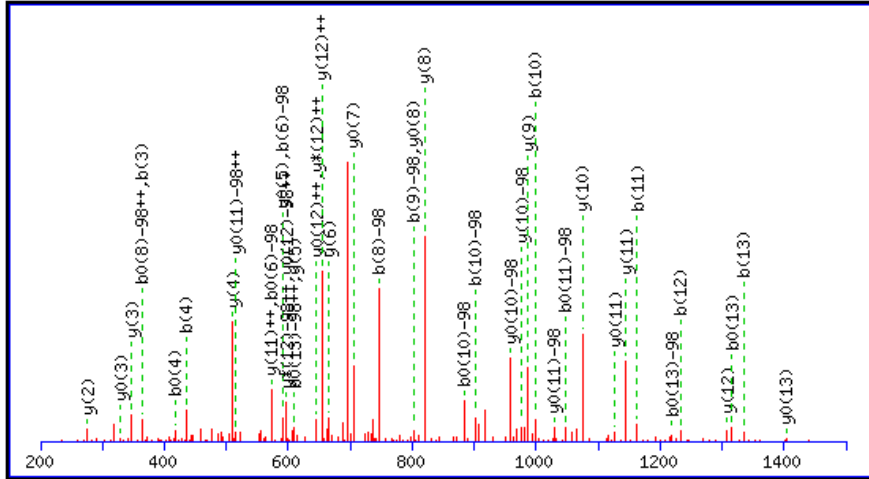
| #  | b              | b <sup>++</sup> | b <sup>0</sup> | b <sup>0++</sup> | Seq. | y              | y <sup>++</sup> | y <sup>*</sup> | y <sup>***</sup> | y <sup>0</sup> | y <sup>0++</sup> | #  |
|----|----------------|-----------------|----------------|------------------|------|----------------|-----------------|----------------|------------------|----------------|------------------|----|
| 1  | 88.04          | 44.52           | 70.03          | 35.52            | S    |                |                 |                |                  |                |                  | 14 |
| 2  | 201.12         | 101.07          | 183.11         | 92.06            | L    | 1329.69        | 665.35          | 1312.66        | 656.84           | 1311.68        | 656.34           | 13 |
| 3  | <b>364.19</b>  | 182.60          | <b>346.18</b>  | 173.59           | Y    | 1216.61        | 608.81          | 1199.58        | <b>600.29</b>    | <b>1198.59</b> | <b>599.80</b>    | 12 |
| 4  | <b>435.22</b>  | 218.12          | <b>417.21</b>  | 209.11           | A    | <b>1053.54</b> | 527.27          | 1036.52        | 518.76           | <b>1035.53</b> | 518.27           | 11 |
| 5  | <b>522.26</b>  | 261.63          | <b>504.25</b>  | 252.63           | S    | 982.50         | 491.76          | 965.48         | 483.24           | <b>964.49</b>  | 482.75           | 10 |
| 6  | <b>591.28</b>  | 296.14          | <b>573.27</b>  | 287.14           | S    | <b>895.47</b>  | 448.24          | 878.45         | 439.73           | 877.46         | 439.23           | 9  |
| 7  | 688.33         | 344.67          | 670.32         | 335.66           | P    | <b>826.45</b>  | 413.73          | 809.42         | 405.22           | <b>808.44</b>  | 404.72           | 8  |
| 8  | <b>745.35</b>  | 373.18          | <b>727.34</b>  | <b>364.17</b>    | G    | 729.40         | 365.20          | 712.37         | 356.69           | 711.39         | 356.20           | 7  |
| 9  | <b>802.37</b>  | 401.69          | 784.36         | 392.68           | G    | <b>672.38</b>  | 336.69          | 655.35         | 328.18           | 654.37         | 327.69           | 6  |
| 10 | <b>901.44</b>  | 451.22          | <b>883.43</b>  | 442.22           | V    | <b>615.36</b>  | 308.18          | 598.33         | 299.67           | 597.35         | 299.18           | 5  |
| 11 | <b>1064.50</b> | 532.76          | <b>1046.49</b> | 523.75           | Y    | <b>516.29</b>  | 258.65          | <b>499.26</b>  | 250.13           | 498.28         | 249.64           | 4  |
| 12 | <b>1135.54</b> | 568.27          | <b>1117.53</b> | 559.27           | A    | <b>353.22</b>  | 177.12          | 336.20         | 168.60           | 335.21         | 168.11           | 3  |
| 13 | <b>1236.59</b> | 618.80          | <b>1218.58</b> | 609.79           | T    | <b>282.19</b>  | 141.60          | 265.16         | 133.08           | 264.18         | 132.59           | 2  |
| 14 |                |                 |                |                  | R    | 181.14         | 91.07           | 164.11         | 82.56            |                |                  | 1  |

# Spot 77, phosphoserine

Data file C:\Mgf\_Mascot Daemon\HRP\VIME\HRP\_\_090512\_HELA\_SILAC\_contr\_STLC\_2DGE\_Jungblut\_Gel4\_77.mgf

Click mouse within plot area to zoom in by factor of two about that point

Or, Plot from  to  Da



Monoisotopic mass of neutral peptide Mr(calc): 1507.67

Variable modifications:

S6 : \_Phospho (ST), with neutral losses 0.00 (shown in table), 97.98

Ions Score: 65 Expect: 1.4e-005

Matches (Bold Red): 44/190 fragment ions using 52 most intense peaks

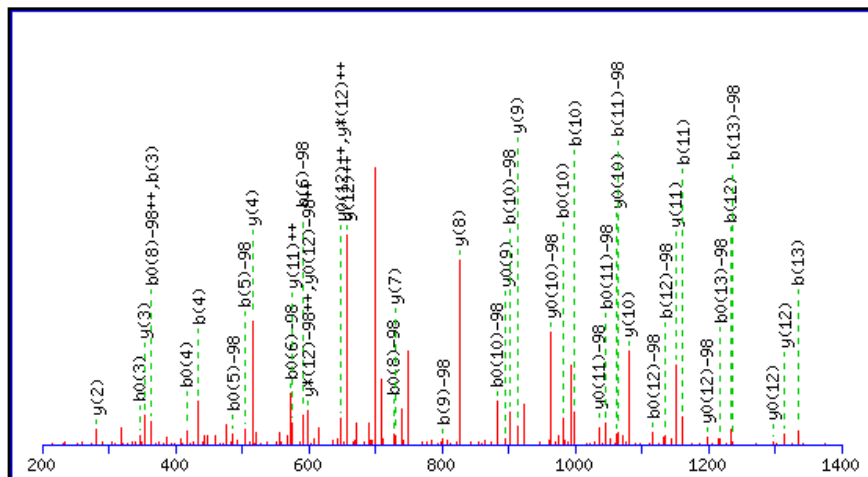
| #  | b              | b <sup>++</sup> | b <sup>0</sup> | b <sup>0++</sup> | Seq. | y              | y <sup>++</sup> | y <sup>*</sup> | y <sup>*++</sup> | y <sup>0</sup> | y <sup>0++</sup> | #  |
|----|----------------|-----------------|----------------|------------------|------|----------------|-----------------|----------------|------------------|----------------|------------------|----|
| 1  | 88.04          | 44.52           | 70.03          | 35.52            | S    |                |                 |                |                  |                |                  | 14 |
| 2  | 201.12         | 101.07          | 183.11         | 92.06            | L    | 1421.65        | 711.33          | 1404.62        | 702.81           | <b>1403.64</b> | 702.32           | 13 |
| 3  | <b>364.19</b>  | 182.60          | 346.18         | 173.59           | Y    | <b>1308.56</b> | <b>654.78</b>   | 1291.54        | <b>646.27</b>    | 1290.55        | <b>645.78</b>    | 12 |
| 4  | <b>435.22</b>  | 218.12          | <b>417.21</b>  | 209.11           | A    | <b>1145.50</b> | <b>573.25</b>   | 1128.47        | 564.74           | <b>1127.49</b> | 564.25           | 11 |
| 5  | 522.26         | 261.63          | 504.25         | 252.63           | S    | <b>1074.46</b> | 537.73          | 1057.44        | 529.22           | 1056.45        | 528.73           | 10 |
| 6  | 689.25         | 345.13          | 671.24         | 336.13           | S    | <b>987.43</b>  | 494.22          | 970.40         | 485.71           | 969.42         | 485.21           | 9  |
| 7  | 786.31         | 393.66          | 768.30         | 384.65           | P    | <b>820.43</b>  | 410.72          | 803.40         | 402.21           | <b>802.42</b>  | 401.71           | 8  |
| 8  | 843.33         | 422.17          | 825.32         | 413.16           | G    | 723.38         | 362.19          | 706.35         | 353.68           | <b>705.37</b>  | 353.19           | 7  |
| 9  | 900.35         | 450.68          | 882.34         | 441.67           | G    | <b>666.36</b>  | 333.68          | 649.33         | 325.17           | 648.35         | 324.68           | 6  |
| 10 | <b>999.42</b>  | 500.21          | 981.41         | 491.21           | V    | <b>609.34</b>  | 305.17          | 592.31         | 296.66           | <b>591.32</b>  | 296.17           | 5  |
| 11 | <b>1162.48</b> | 581.74          | 1144.47        | 572.74           | Y    | <b>510.27</b>  | 255.64          | 493.24         | 247.12           | 492.26         | 246.63           | 4  |
| 12 | <b>1233.52</b> | 617.26          | 1215.51        | 608.26           | A    | <b>347.20</b>  | 174.11          | 330.18         | 165.59           | <b>329.19</b>  | 165.10           | 3  |
| 13 | <b>1334.57</b> | 667.79          | <b>1316.56</b> | 658.78           | T    | <b>276.17</b>  | 138.59          | 259.14         | 130.07           | 258.16         | 129.58           | 2  |
| 14 |                |                 |                |                  | R    | 175.12         | 88.06           | 158.09         | 79.55            |                |                  | 1  |

# Spot 77, phosphoserine

Data file C:\Mgf\_Mascot Daemon\HRP\VIME\HRP\_090512\_HELA\_SILAC\_contr\_STLC\_2DGE\_Jungblut\_Gel4\_77.mgf

Click mouse within plot area to zoom in by factor of two about that point

Or, Plot from  to  Da



Monoisotopic mass of neutral peptide Mr(calc): 1513.69

Variable modifications:

S5 : \_Phospho (ST), with neutral losses 97.98 (shown in table), 0.00

R14 : \_Label:13C(6) (R)

Ions Score: 61 Expect: 4.7e-005

Matches (**Red**): 45/188 fragment ions using 59 most intense peaks

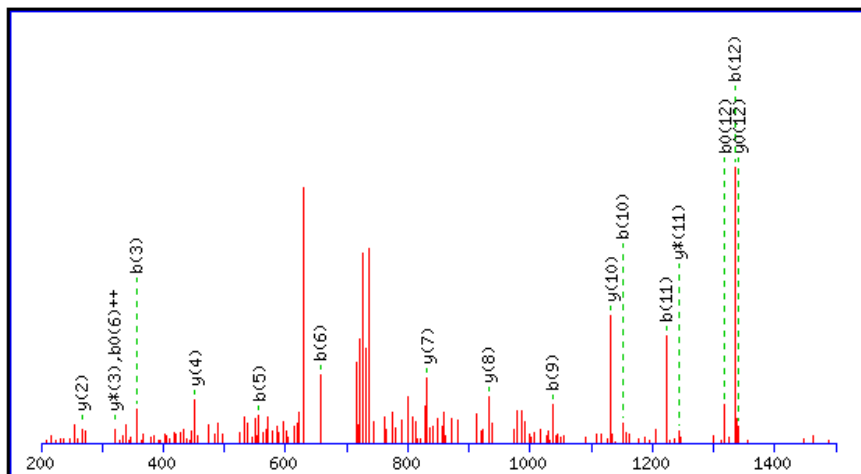
| #  | b              | b <sup>++</sup> | b <sup>0</sup> | b <sup>0++</sup> | Seq. | y             | y <sup>++</sup> | y <sup>*</sup> | y <sup>*++</sup> | y <sup>0</sup> | y <sup>0++</sup> | #  |
|----|----------------|-----------------|----------------|------------------|------|---------------|-----------------|----------------|------------------|----------------|------------------|----|
| 1  | 88.04          | 44.52           | 70.03          | 35.52            | S    |               |                 |                |                  |                |                  | 14 |
| 2  | 201.12         | 101.07          | 183.11         | 92.06            | L    | 1329.69       | 665.35          | 1312.66        | 656.84           | 1311.68        | 656.34           | 13 |
| 3  | <b>364.19</b>  | 182.60          | <b>346.18</b>  | 173.59           | Y    | 1216.61       | 608.81          | 1199.58        | <b>600.29</b>    | <b>1198.59</b> | <b>599.80</b>    | 12 |
| 4  | <b>435.22</b>  | 218.12          | <b>417.21</b>  | 209.11           | A    | 1053.54       | 527.27          | 1036.52        | 518.76           | <b>1035.53</b> | 518.27           | 11 |
| 5  | <b>504.25</b>  | 252.63          | <b>486.23</b>  | 243.62           | S    | 982.50        | 491.76          | 965.48         | 483.24           | <b>964.49</b>  | 482.75           | 10 |
| 6  | <b>591.28</b>  | 296.14          | <b>573.27</b>  | 287.14           | S    | <b>913.48</b> | 457.25          | 896.46         | 448.73           | <b>895.47</b>  | 448.24           | 9  |
| 7  | 688.33         | 344.67          | 670.32         | 335.66           | P    | <b>826.45</b> | 413.73          | 809.42         | 405.22           | 808.44         | 404.72           | 8  |
| 8  | 745.35         | 373.18          | <b>727.34</b>  | <b>364.17</b>    | G    | <b>729.40</b> | 365.20          | 712.37         | 356.69           | 711.39         | 356.20           | 7  |
| 9  | <b>802.37</b>  | 401.69          | 784.36         | 392.68           | G    | 672.38        | 336.69          | 655.35         | 328.18           | 654.37         | 327.69           | 6  |
| 10 | <b>901.44</b>  | 451.22          | <b>883.43</b>  | 442.22           | V    | 615.36        | 308.18          | 598.33         | 299.67           | 597.35         | 299.18           | 5  |
| 11 | <b>1064.50</b> | 532.76          | <b>1046.49</b> | 523.75           | Y    | <b>516.29</b> | 258.65          | 499.26         | 250.13           | 498.28         | 249.64           | 4  |
| 12 | <b>1135.54</b> | 568.27          | <b>1117.53</b> | 559.27           | A    | <b>353.22</b> | 177.12          | 336.20         | 168.60           | 335.21         | 168.11           | 3  |
| 13 | <b>1236.59</b> | 618.80          | <b>1218.58</b> | 609.79           | T    | <b>282.19</b> | 141.60          | 265.16         | 133.08           | 264.18         | 132.59           | 2  |
| 14 |                |                 |                |                  | R    | 181.14        | 91.07           | 164.11         | 82.56            |                |                  | 1  |

# Spot 77, cysteine trioxidation

Data file C:\Mgf\_Mascot Daemon\HRP\VIME\HRP\_\_090512\_HELA\_SILAC\_contr\_STLC\_2DGE\_Jungblut\_Gel4\_77.mgf

Click mouse within plot area to zoom in by factor of two about that point

Or, Plot from  to  Da



Monoisotopic mass of neutral peptide Mr(calc): 1486.73

Variable modifications:

C7 : Trioxidation (C)

K13 : \_Label:13C(6) (K)

Ions Score: 43 Expect: 0.0061

Matches (**Bold Red**): 17/132 fragment ions using 34 most intense peaks

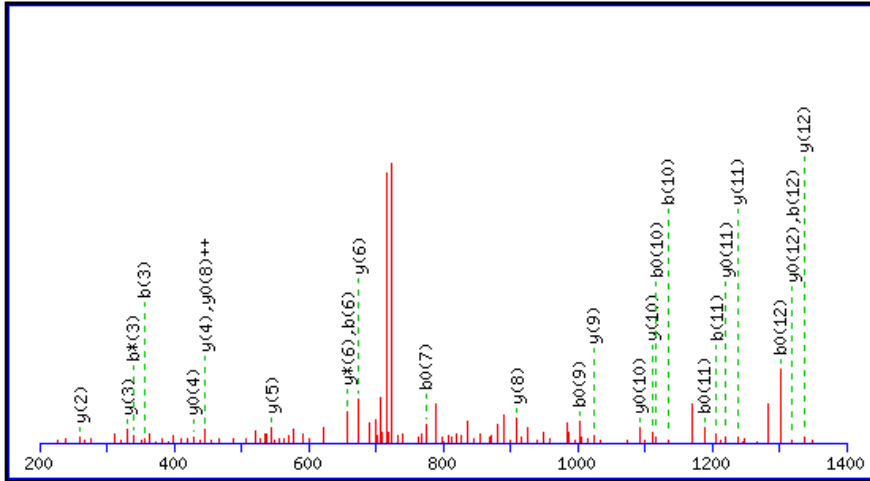
| #  | b              | b <sup>++</sup> | b <sup>*</sup> | b <sup>*++</sup> | b <sup>0</sup> | b <sup>0++</sup> | Seq. | y              | y <sup>++</sup> | y <sup>*</sup> | y <sup>*++</sup> | y <sup>0</sup> | y <sup>0++</sup> | #  |
|----|----------------|-----------------|----------------|------------------|----------------|------------------|------|----------------|-----------------|----------------|------------------|----------------|------------------|----|
| 1  | 129.07         | 65.04           | 112.04         | 56.52            |                |                  | Q    |                |                 |                |                  |                |                  | 13 |
| 2  | 228.13         | 114.57          | 211.11         | 106.06           |                |                  | V    | 1359.68        | 680.34          | 1342.65        | 671.83           | <b>1341.67</b> | 671.34           | 12 |
| 3  | <b>356.19</b>  | 178.60          | 339.17         | 170.09           |                |                  | Q    | 1260.61        | 630.81          | <b>1243.58</b> | 622.29           | 1242.60        | 621.80           | 11 |
| 4  | 443.22         | 222.12          | 426.20         | 213.60           | 425.21         | 213.11           | S    | <b>1132.55</b> | 566.78          | 1115.52        | 558.27           | 1114.54        | 557.77           | 10 |
| 5  | <b>556.31</b>  | 278.66          | 539.28         | 270.14           | 538.30         | 269.65           | L    | 1045.52        | 523.26          | 1028.49        | 514.75           | 1027.51        | 514.26           | 9  |
| 6  | <b>657.36</b>  | 329.18          | 640.33         | 320.67           | 639.35         | <b>320.18</b>    | T    | <b>932.43</b>  | 466.72          | 915.41         | 458.21           | 914.42         | 457.72           | 8  |
| 7  | 808.35         | 404.68          | 791.32         | 396.17           | 790.34         | 395.67           | C    | <b>831.39</b>  | 416.20          | 814.36         | 407.68           | 813.38         | 407.19           | 7  |
| 8  | 937.39         | 469.20          | 920.37         | 460.69           | 919.38         | 460.19           | E    | 680.39         | 340.70          | 663.37         | 332.19           | 662.38         | 331.69           | 6  |
| 9  | <b>1036.46</b> | 518.73          | 1019.44        | 510.22           | 1018.45        | 509.73           | V    | 551.35         | 276.18          | 534.32         | 267.67           | 533.34         | 267.17           | 5  |
| 10 | <b>1151.49</b> | 576.25          | 1134.46        | 567.73           | 1133.48        | 567.24           | D    | <b>452.28</b>  | 226.64          | 435.25         | 218.13           | 434.27         | 217.64           | 4  |
| 11 | <b>1222.53</b> | 611.77          | 1205.50        | 603.25           | 1204.52        | 602.76           | A    | 337.25         | 169.13          | <b>320.23</b>  | 160.62           |                |                  | 3  |
| 12 | <b>1335.61</b> | 668.31          | 1318.58        | 659.80           | <b>1317.60</b> | 659.30           | L    | <b>266.22</b>  | 133.61          | 249.19         | 125.10           |                |                  | 2  |
| 13 |                |                 |                |                  |                |                  | K    | 153.13         | 77.07           | 136.11         | 68.56            |                |                  | 1  |

# Spot 78, cysteine dioxidation

Data file C:\Mgf\_Mascot Daemon\HRP\VIME\HRP\_\_090512\_HELA\_SILAC\_contr\_STLC\_2DGE\_Jungblut\_Gel4\_78.mgf

Click mouse within plot area to zoom in by factor of two about that point

Or, Plot from  to  Da



Monoisotopic mass of neutral peptide Mr(calc): 1464.71

Variable modifications:

C7 : Dioxidation (C)

Ions Score: 54 Expect: 0.00039

Matches (Bold Red): 27/132 fragment ions using 57 most intense peaks

| #  | b              | b <sup>++</sup> | b <sup>*</sup> | b <sup>*++</sup> | b <sup>0</sup> | b <sup>0++</sup> | Seq. | y              | y <sup>++</sup> | y <sup>*</sup> | y <sup>*++</sup> | y <sup>0</sup> | y <sup>0++</sup> | #  |
|----|----------------|-----------------|----------------|------------------|----------------|------------------|------|----------------|-----------------|----------------|------------------|----------------|------------------|----|
| 1  | 129.07         | 65.04           | 112.04         | 56.52            |                |                  | Q    |                |                 |                |                  |                |                  | 13 |
| 2  | 228.13         | 114.57          | 211.11         | 106.06           |                |                  | V    | <b>1337.66</b> | 669.33          | 1320.64        | 660.82           | <b>1319.65</b> | 660.33           | 12 |
| 3  | <b>356.19</b>  | 178.60          | <b>339.17</b>  | 170.09           |                |                  | Q    | <b>1238.59</b> | 619.80          | 1221.57        | 611.29           | <b>1220.58</b> | 610.80           | 11 |
| 4  | 443.22         | 222.12          | 426.20         | 213.60           | 425.21         | 213.11           | S    | <b>1110.53</b> | 555.77          | 1093.51        | 547.26           | <b>1092.52</b> | 546.77           | 10 |
| 5  | 556.31         | 278.66          | 539.28         | 270.14           | 538.30         | 269.65           | L    | <b>1023.50</b> | 512.25          | 1006.48        | 503.74           | 1005.49        | 503.25           | 9  |
| 6  | <b>657.36</b>  | 329.18          | 640.33         | 320.67           | 639.35         | 320.18           | T    | <b>910.42</b>  | 455.71          | 893.39         | 447.20           | 892.41         | <b>446.71</b>    | 8  |
| 7  | 792.36         | 396.68          | 775.33         | 388.17           | <b>774.35</b>  | 387.68           | C    | 809.37         | 405.19          | 792.34         | 396.68           | 791.36         | 396.18           | 7  |
| 8  | 921.40         | 461.20          | 904.37         | 452.69           | 903.39         | 452.20           | E    | <b>674.37</b>  | 337.69          | <b>657.35</b>  | 329.18           | 656.36         | 328.68           | 6  |
| 9  | 1020.47        | 510.74          | 1003.44        | 502.22           | <b>1002.46</b> | 501.73           | V    | <b>545.33</b>  | 273.17          | 528.30         | 264.66           | 527.32         | 264.16           | 5  |
| 10 | <b>1135.49</b> | 568.25          | 1118.47        | 559.74           | <b>1117.48</b> | 559.25           | D    | <b>446.26</b>  | 223.63          | 429.23         | 215.12           | <b>428.25</b>  | 214.63           | 4  |
| 11 | <b>1206.53</b> | 603.77          | 1189.50        | 595.26           | <b>1188.52</b> | 594.76           | A    | <b>331.23</b>  | 166.12          | 314.21         | 157.61           |                |                  | 3  |
| 12 | <b>1319.61</b> | 660.31          | 1302.59        | 651.80           | <b>1301.60</b> | 651.31           | L    | <b>260.20</b>  | 130.60          | 243.17         | 122.09           |                |                  | 2  |
| 13 |                |                 |                |                  |                |                  | K    | 147.11         | 74.06           | 130.09         | 65.55            |                |                  | 1  |

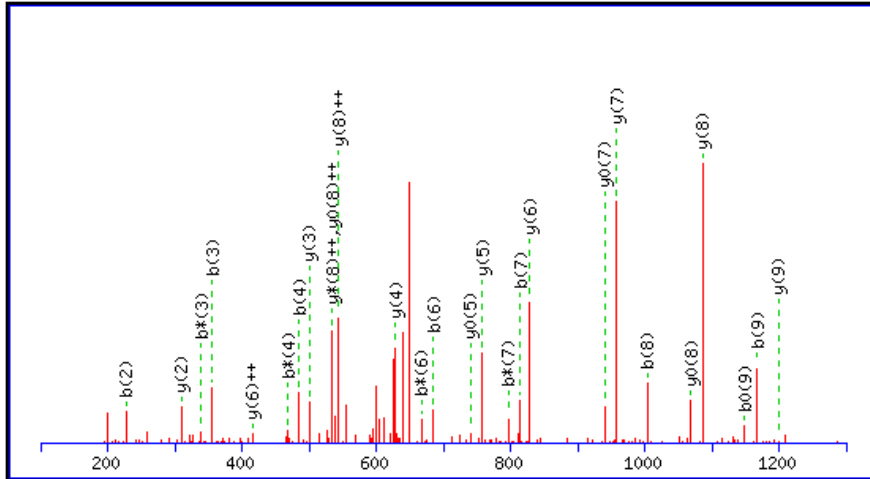


# Spot 78, tryptophan kynurenin

Data file C:\Mgf\_Mascot Daemon\HRP\VIME\HRP\_090512\_HELA\_SILAC\_contr\_STLC\_2DGE\_Jungblut\_Gel4\_78.mgf

Click mouse within plot area to zoom in by factor of two about that point

Or,   to  Da



Monoisotopic mass of neutral peptide Mr(calc): 1312.59

Variable modifications:

W8 : Trp->Kynurenin (W)

Ions Score: 67 Expect: 8.1e-006

Matches (**Bold Red**): 27/96 fragment ions using 36 most intense peaks

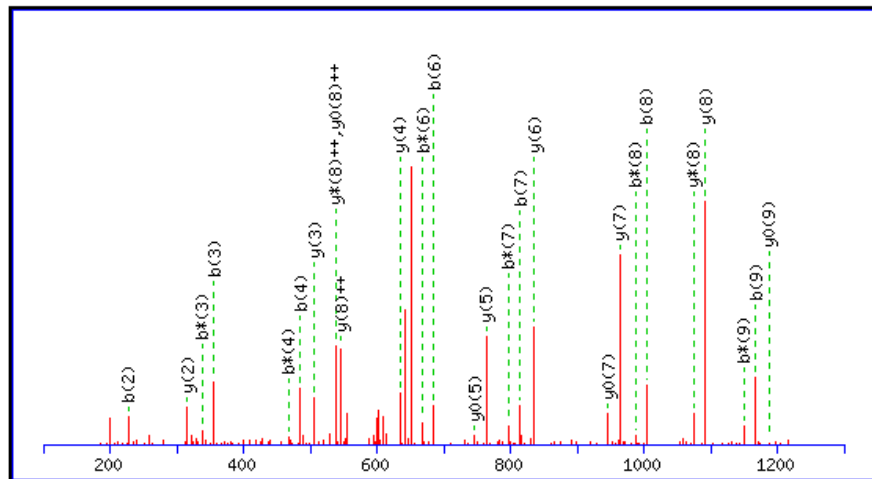
| #  | b              | b <sup>++</sup> | b <sup>+</sup> | b <sup>*++</sup> | b <sup>0</sup> | b <sup>0++</sup> | Seq. | y              | y <sup>++</sup> | y <sup>+</sup> | y <sup>*++</sup> | y <sup>0</sup> | y <sup>0++</sup> | #  |
|----|----------------|-----------------|----------------|------------------|----------------|------------------|------|----------------|-----------------|----------------|------------------|----------------|------------------|----|
| 1  | 115.05         | 58.03           | 98.02          | 49.52            |                |                  | N    |                |                 |                |                  |                |                  | 10 |
| 2  | <b>228.13</b>  | 114.57          | 211.11         | 106.06           |                |                  | L    | <b>1199.56</b> | 600.28          | 1182.53        | 591.77           | 1181.55        | 591.28           | 9  |
| 3  | <b>356.19</b>  | 178.60          | <b>339.17</b>  | 170.09           |                |                  | Q    | <b>1086.47</b> | <b>543.74</b>   | 1069.45        | <b>535.23</b>    | <b>1068.46</b> | <b>534.74</b>    | 8  |
| 4  | <b>485.24</b>  | 243.12          | <b>468.21</b>  | 234.61           | 467.22         | 234.12           | E    | <b>958.42</b>  | 479.71          | 941.39         | 471.20           | <b>940.40</b>  | 470.71           | 7  |
| 5  | 556.27         | 278.64          | 539.25         | 270.13           | 538.26         | 269.63           | A    | <b>829.37</b>  | <b>415.19</b>   | 812.35         | 406.68           | 811.36         | 406.18           | 6  |
| 6  | <b>685.32</b>  | 343.16          | <b>668.29</b>  | 334.65           | 667.30         | 334.16           | E    | <b>758.34</b>  | 379.67          | 741.31         | 371.16           | <b>740.32</b>  | 370.67           | 5  |
| 7  | <b>814.36</b>  | 407.68          | <b>797.33</b>  | 399.17           | 796.35         | 398.68           | E    | <b>629.29</b>  | 315.15          | 612.27         | 306.64           | 611.28         | 306.14           | 4  |
| 8  | <b>1004.43</b> | 502.72          | 987.41         | 494.21           | 986.42         | 493.71           | W    | <b>500.25</b>  | 250.63          | 483.22         | 242.12           |                |                  | 3  |
| 9  | <b>1167.50</b> | 584.25          | 1150.47        | 575.74           | <b>1149.48</b> | 575.25           | Y    | <b>310.18</b>  | 155.59          | 293.15         | 147.08           |                |                  | 2  |
| 10 |                |                 |                |                  |                |                  | K    | 147.11         | 74.06           | 130.09         | 65.55            |                |                  | 1  |

# Spot 78, tryptophan kynurenin

Data file C:\Mgf\_Mascot Daemon\HRP\VIME\HRP\_\_090512\_HELA\_SILAC\_contr\_STLC\_2DGE\_Jungblut\_Gel4\_78.mgf

Click mouse within plot area to zoom in by factor of two about that point

Or, Plot from  to  Da



Monoisotopic mass of neutral peptide Mr(calc): 1318.61

Variable modifications:

W8 : Trp->Kynurenin (W)

K10 : \_Label:13C(6) (K)

Ions Score: 55 Expect: 0.00018

Matches (Bold Red): 27/96 fragment ions using 36 most intense peaks

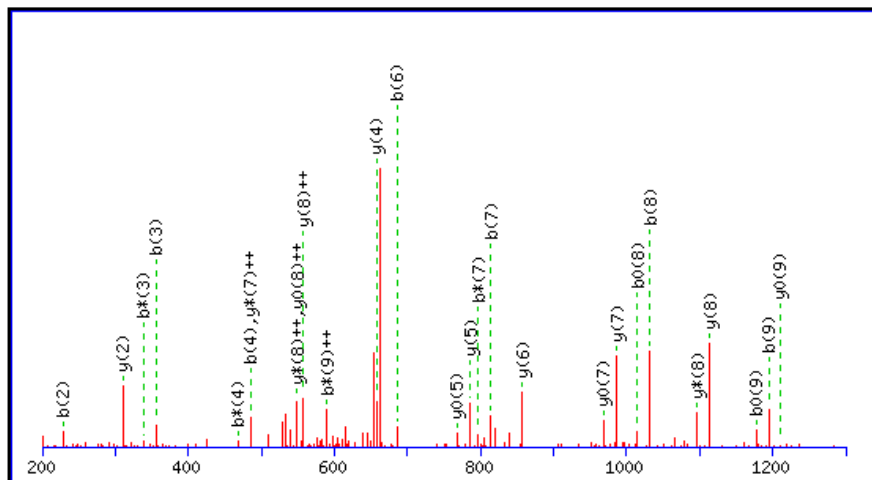
| #  | b              | b <sup>++</sup> | b <sup>*</sup> | b <sup>*++</sup> | b <sup>0</sup> | b <sup>0++</sup> | Seq. | y              | y <sup>++</sup> | y <sup>*</sup> | y <sup>*++</sup> | y <sup>0</sup> | y <sup>0++</sup> | #  |
|----|----------------|-----------------|----------------|------------------|----------------|------------------|------|----------------|-----------------|----------------|------------------|----------------|------------------|----|
| 1  | 115.05         | 58.03           | 98.02          | 49.52            |                |                  | N    |                |                 |                |                  |                |                  | 10 |
| 2  | <b>228.13</b>  | 114.57          | 211.11         | 106.06           |                |                  | L    | 1205.58        | 603.29          | 1188.55        | 594.78           | <b>1187.57</b> | 594.29           | 9  |
| 3  | <b>356.19</b>  | 178.60          | <b>339.17</b>  | 170.09           |                |                  | Q    | <b>1092.49</b> | <b>546.75</b>   | <b>1075.47</b> | <b>538.24</b>    | 1074.48        | <b>537.75</b>    | 8  |
| 4  | <b>485.24</b>  | 243.12          | <b>468.21</b>  | 234.61           | 467.22         | 234.12           | E    | <b>964.44</b>  | 482.72          | 947.41         | 474.21           | <b>946.42</b>  | 473.72           | 7  |
| 5  | 556.27         | 278.64          | 539.25         | 270.13           | 538.26         | 269.63           | A    | <b>835.39</b>  | 418.20          | 818.37         | 409.69           | 817.38         | 409.19           | 6  |
| 6  | <b>685.32</b>  | 343.16          | <b>668.29</b>  | 334.65           | 667.30         | 334.16           | E    | <b>764.36</b>  | 382.68          | 747.33         | 374.17           | <b>746.35</b>  | 373.68           | 5  |
| 7  | <b>814.36</b>  | 407.68          | <b>797.33</b>  | 399.17           | 796.35         | 398.68           | E    | <b>635.31</b>  | 318.16          | 618.29         | 309.65           | 617.30         | 309.15           | 4  |
| 8  | <b>1004.43</b> | 502.72          | <b>987.41</b>  | 494.21           | 986.42         | 493.71           | W    | <b>506.27</b>  | 253.64          | 489.24         | 245.13           |                |                  | 3  |
| 9  | <b>1167.50</b> | 584.25          | <b>1150.47</b> | 575.74           | 1149.48        | 575.25           | Y    | <b>316.20</b>  | 158.60          | 299.17         | 150.09           |                |                  | 2  |
| 10 |                |                 |                |                  |                |                  | K    | 153.13         | 77.07           | 136.11         | 68.56            |                |                  | 1  |

# Spot 78, tryptophan formylkynurenin

Data file C:\Mgf\_Mascot Daemon\HRP\VIME\HRP\_\_090512\_HELA\_SILAC\_contr\_STLC\_2DGE\_Jungbht\_Gel4\_78.mgf

Click mouse within plot area to zoom in by factor of two about that point

Or, Plot from  to  Da



Monoisotopic mass of neutral peptide Mr(calc): 1340.59

Variable modifications:

W8 : Trp->Formylkynurenin (W)

Ions Score: 50 Expect: 0.00041

Matches (**Red**): 27/96 fragment ions using 35 most intense peaks

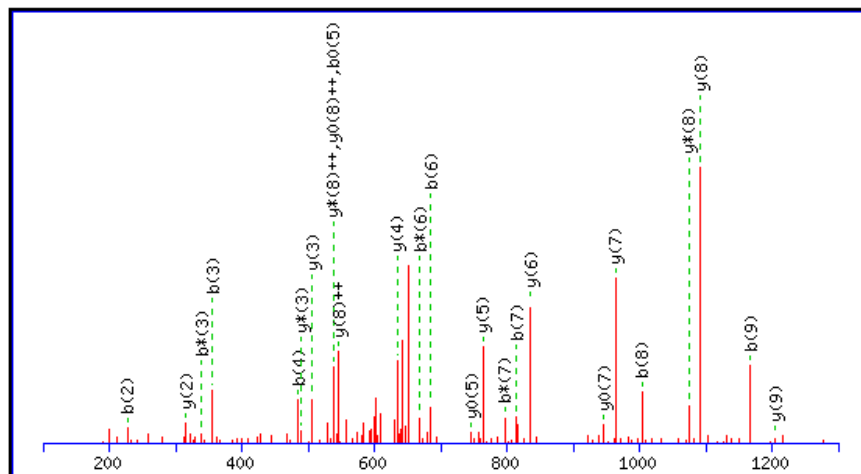
| #  | b              | b <sup>++</sup> | b*            | b <sup>+++</sup> | b <sup>0</sup> | b <sup>0++</sup> | Seq. | y              | y <sup>++</sup> | y*             | y <sup>+++</sup> | y <sup>0</sup> | y <sup>0++</sup> | #  |
|----|----------------|-----------------|---------------|------------------|----------------|------------------|------|----------------|-----------------|----------------|------------------|----------------|------------------|----|
| 1  | 115.05         | 58.03           | 98.02         | 49.52            |                |                  | N    |                |                 |                |                  |                |                  | 10 |
| 2  | <b>228.13</b>  | 114.57          | 211.11        | 106.06           |                |                  | L    | 1227.55        | 614.28          | 1210.53        | 605.77           | <b>1209.54</b> | 605.27           | 9  |
| 3  | <b>356.19</b>  | 178.60          | <b>339.17</b> | 170.09           |                |                  | Q    | <b>1114.47</b> | <b>557.74</b>   | <b>1097.44</b> | <b>549.22</b>    | 1096.46        | <b>548.73</b>    | 8  |
| 4  | <b>485.24</b>  | 243.12          | <b>468.21</b> | 234.61           | 467.22         | 234.12           | E    | <b>986.41</b>  | 493.71          | 969.38         | <b>485.20</b>    | <b>968.40</b>  | 484.70           | 7  |
| 5  | 556.27         | 278.64          | 539.25        | 270.13           | 538.26         | 269.63           | A    | <b>857.37</b>  | 429.19          | 840.34         | 420.67           | 839.36         | 420.18           | 6  |
| 6  | <b>685.32</b>  | 343.16          | 668.29        | 334.65           | 667.30         | 334.16           | E    | <b>786.33</b>  | 393.67          | 769.30         | 385.16           | <b>768.32</b>  | 384.66           | 5  |
| 7  | <b>814.36</b>  | 407.68          | <b>797.33</b> | 399.17           | 796.35         | 398.68           | E    | <b>657.29</b>  | 329.15          | 640.26         | 320.63           | 639.28         | 320.14           | 4  |
| 8  | <b>1032.43</b> | 516.72          | 1015.40       | 508.20           | <b>1014.42</b> | 507.71           | W    | 528.25         | 264.63          | 511.22         | 256.11           |                |                  | 3  |
| 9  | <b>1195.49</b> | 598.25          | 1178.46       | <b>589.74</b>    | <b>1177.48</b> | 589.24           | Y    | <b>310.18</b>  | 155.59          | 293.15         | 147.08           |                |                  | 2  |
| 10 |                |                 |               |                  |                |                  | K    | 147.11         | 74.06           | 130.09         | 65.55            |                |                  | 1  |

# Spot 116, tryptophan kynurenin

Data file C:\Mgf\_Mascot Daemon\HRP\VIME\HRP\_090715\_HELA\_SILAC\_contr\_STLC\_2DGE\_Jungblut\_Gel4\_116.mgf

Click mouse within plot area to zoom in by factor of two about that point

Or, Plot from  to  Da



Monoisotopic mass of neutral peptide Mr(calc): 1318.61

Variable modifications:

W8 : Trp->Kynurenin (W)

K10 : \_Label:13C(6) (K)

Ions Score: 61 Expect: 1.5e-005

Matches (**Red**): 26/96 fragment ions using 37 most intense peaks

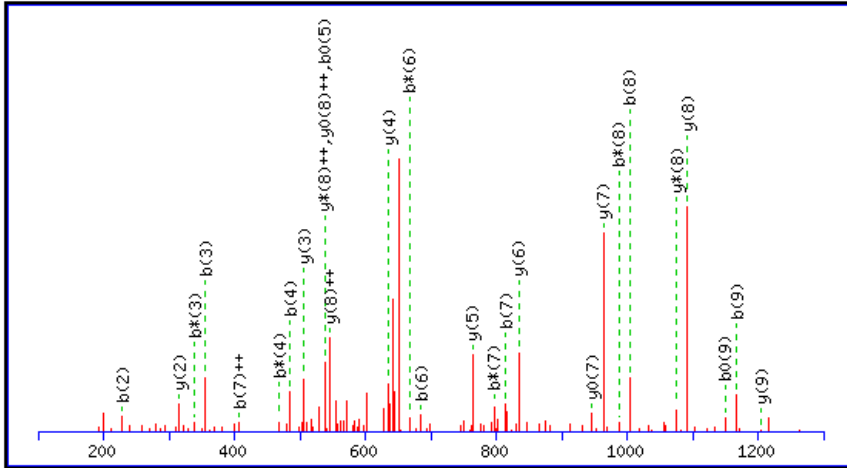
| #  | b              | b <sup>++</sup> | b <sup>*</sup> | b <sup>*++</sup> | b <sup>0</sup> | b <sup>0++</sup> | Seq. | y              | y <sup>++</sup> | y <sup>*</sup> | y <sup>*++</sup> | y <sup>0</sup> | y <sup>0++</sup> | #  |
|----|----------------|-----------------|----------------|------------------|----------------|------------------|------|----------------|-----------------|----------------|------------------|----------------|------------------|----|
| 1  | 115.05         | 58.03           | 98.02          | 49.52            |                |                  | N    |                |                 |                |                  |                |                  | 10 |
| 2  | <b>228.13</b>  | 114.57          | 211.11         | 106.06           |                |                  | L    | <b>1205.58</b> | 603.29          | 1188.55        | 594.78           | 1187.57        | 594.29           | 9  |
| 3  | <b>356.19</b>  | 178.60          | <b>339.17</b>  | 170.09           |                |                  | Q    | <b>1092.49</b> | <b>546.75</b>   | <b>1075.47</b> | <b>538.24</b>    | 1074.48        | <b>537.75</b>    | 8  |
| 4  | <b>485.24</b>  | 243.12          | 468.21         | 234.61           | 467.22         | 234.12           | E    | <b>964.44</b>  | 482.72          | 947.41         | 474.21           | <b>946.42</b>  | 473.72           | 7  |
| 5  | 556.27         | 278.64          | 539.25         | 270.13           | <b>538.26</b>  | 269.63           | A    | <b>835.39</b>  | 418.20          | 818.37         | 409.69           | 817.38         | 409.19           | 6  |
| 6  | <b>685.32</b>  | 343.16          | <b>668.29</b>  | 334.65           | 667.30         | 334.16           | E    | <b>764.36</b>  | 382.68          | 747.33         | 374.17           | <b>746.35</b>  | 373.68           | 5  |
| 7  | <b>814.36</b>  | 407.68          | <b>797.33</b>  | 399.17           | 796.35         | 398.68           | E    | <b>635.31</b>  | 318.16          | 618.29         | 309.65           | 617.30         | 309.15           | 4  |
| 8  | <b>1004.43</b> | 502.72          | 987.41         | 494.21           | 986.42         | 493.71           | W    | <b>506.27</b>  | 253.64          | <b>489.24</b>  | 245.13           |                |                  | 3  |
| 9  | <b>1167.50</b> | 584.25          | 1150.47        | 575.74           | 1149.48        | 575.25           | Y    | <b>316.20</b>  | 158.60          | 299.17         | 150.09           |                |                  | 2  |
| 10 |                |                 |                |                  |                |                  | K    | 153.13         | 77.07           | 136.11         | 68.56            |                |                  | 1  |

# Spot 339, tryptophan kynurenin

Data file C:\Mgf\_Mascot Daemon\HRP\VIME\HRP\_091020\_HELA\_SILAC\_contr\_STLC\_2DGE\_Jungblut\_Gel4\_339.mgf

Click mouse within plot area to zoom in by factor of two about that point

Or, Plot from  to  Da



Monoisotopic mass of neutral peptide Mr(calc): 1318.61

Variable modifications:

W8 : Trp->Kynurenin (W)

K10 : \_Label:13C(6) (K)

Ions Score: 63 Expect: 3.1e-005

Matches (Bold Red): 28/96 fragment ions using 36 most intense peaks

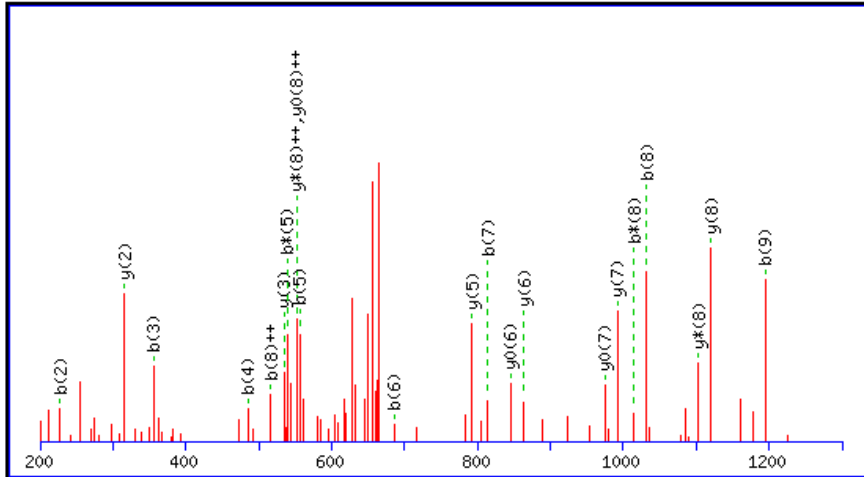
| #  | b              | b <sup>++</sup> | b <sup>*</sup> | b <sup>*++</sup> | b <sup>0</sup> | b <sup>0++</sup> | Seq. | y              | y <sup>++</sup> | y <sup>*</sup> | y <sup>*++</sup> | y <sup>0</sup> | y <sup>0++</sup> | #  |
|----|----------------|-----------------|----------------|------------------|----------------|------------------|------|----------------|-----------------|----------------|------------------|----------------|------------------|----|
| 1  | 115.05         | 58.03           | 98.02          | 49.52            |                |                  | N    |                |                 |                |                  |                |                  | 10 |
| 2  | <b>228.13</b>  | 114.57          | 211.11         | 106.06           |                |                  | L    | <b>1205.58</b> | 603.29          | 1188.55        | 594.78           | 1187.57        | 594.29           | 9  |
| 3  | <b>356.19</b>  | 178.60          | <b>339.17</b>  | 170.09           |                |                  | Q    | <b>1092.49</b> | <b>546.75</b>   | <b>1075.47</b> | <b>538.24</b>    | 1074.48        | <b>537.75</b>    | 8  |
| 4  | <b>485.24</b>  | 243.12          | <b>468.21</b>  | 234.61           | 467.22         | 234.12           | E    | <b>964.44</b>  | 482.72          | 947.41         | 474.21           | <b>946.42</b>  | 473.72           | 7  |
| 5  | 556.27         | 278.64          | 539.25         | 270.13           | <b>538.26</b>  | 269.63           | A    | <b>835.39</b>  | 418.20          | 818.37         | 409.69           | 817.38         | 409.19           | 6  |
| 6  | <b>685.32</b>  | 343.16          | <b>668.29</b>  | 334.65           | 667.30         | 334.16           | E    | <b>764.36</b>  | 382.68          | 747.33         | 374.17           | 746.35         | 373.68           | 5  |
| 7  | <b>814.36</b>  | <b>407.68</b>   | <b>797.33</b>  | 399.17           | 796.35         | 398.68           | E    | <b>635.31</b>  | 318.16          | 618.29         | 309.65           | 617.30         | 309.15           | 4  |
| 8  | <b>1004.43</b> | 502.72          | <b>987.41</b>  | 494.21           | 986.42         | 493.71           | W    | <b>506.27</b>  | 253.64          | 489.24         | 245.13           |                |                  | 3  |
| 9  | <b>1167.50</b> | 584.25          | 1150.47        | 575.74           | <b>1149.48</b> | 575.25           | Y    | <b>316.20</b>  | 158.60          | 299.17         | 150.09           |                |                  | 2  |
| 10 |                |                 |                |                  |                |                  | K    | 153.13         | 77.07           | 136.11         | 68.56            |                |                  | 1  |

# Spot 355, tryptophan kynurenin

Data file C:\Mgf\_Mascot Daemon\HRP\VIME\HRP\_091020\_HELA\_SILAC\_contr\_STLC\_2DGE\_Jungblut\_Gel4\_355.mgf

Click mouse within plot area to zoom in by factor of two about that point

Or, Plot from  to  Da



Monoisotopic mass of neutral peptide Mr(calc): 1346.61

Variable modifications:

W8 : Trp->Formylkynurenin (W)

K10 : \_Label:13C(6) (K)

Ions Score: 45 Expect: 0.00067

Matches (**Bold Red**): 22/96 fragment ions using 35 most intense peaks

| #  | b              | b <sup>++</sup> | b*             | b <sup>+++</sup> | b <sup>0</sup> | b <sup>0++</sup> | Seq. | y              | y <sup>++</sup> | y*             | y <sup>+++</sup> | y <sup>0</sup> | y <sup>0++</sup> | #  |
|----|----------------|-----------------|----------------|------------------|----------------|------------------|------|----------------|-----------------|----------------|------------------|----------------|------------------|----|
| 1  | 115.05         | 58.03           | 98.02          | 49.52            |                |                  | N    |                |                 |                |                  |                |                  | 10 |
| 2  | <b>228.13</b>  | 114.57          | 211.11         | 106.06           |                |                  | L    | 1233.57        | 617.29          | 1216.55        | 608.78           | 1215.56        | 608.28           | 9  |
| 3  | <b>356.19</b>  | 178.60          | 339.17         | 170.09           |                |                  | Q    | <b>1120.49</b> | 560.75          | <b>1103.46</b> | <b>552.23</b>    | 1102.48        | <b>551.74</b>    | 8  |
| 4  | <b>485.24</b>  | 243.12          | 468.21         | 234.61           | 467.22         | 234.12           | E    | <b>992.43</b>  | 496.72          | 975.40         | 488.21           | <b>974.42</b>  | 487.71           | 7  |
| 5  | <b>556.27</b>  | 278.64          | <b>539.25</b>  | 270.13           | 538.26         | 269.63           | A    | <b>863.39</b>  | 432.20          | 846.36         | 423.68           | <b>845.38</b>  | 423.19           | 6  |
| 6  | <b>685.32</b>  | 343.16          | 668.29         | 334.65           | 667.30         | 334.16           | E    | <b>792.35</b>  | 396.68          | 775.32         | 388.17           | 774.34         | 387.67           | 5  |
| 7  | <b>814.36</b>  | 407.68          | 797.33         | 399.17           | 796.35         | 398.68           | E    | 663.31         | 332.16          | 646.28         | 323.64           | 645.30         | 323.15           | 4  |
| 8  | <b>1032.43</b> | <b>516.72</b>   | <b>1015.40</b> | 508.20           | 1014.42        | 507.71           | W    | <b>534.27</b>  | 267.64          | 517.24         | 259.12           |                |                  | 3  |
| 9  | <b>1195.49</b> | 598.25          | 1178.46        | 589.74           | 1177.48        | 589.24           | Y    | <b>316.20</b>  | 158.60          | 299.17         | 150.09           |                |                  | 2  |
| 10 |                |                 |                |                  |                |                  | K    | 153.13         | 77.07           | 136.11         | 68.56            |                |                  | 1  |