Hot spot analogues formed with *N*-methylated amino acid residues inhibit insulin aggregation

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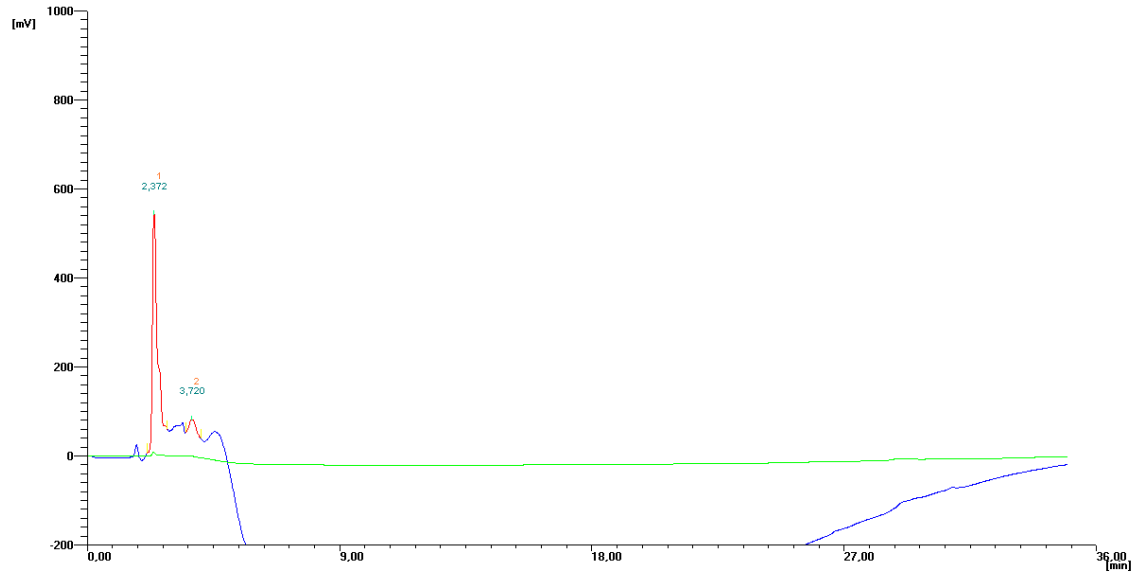

Fig. S1. Chromatograph HPLC of H_2N-Leu(*N*-Me)TyrGlnLeuGluAsnTyr-COOH (**1**).

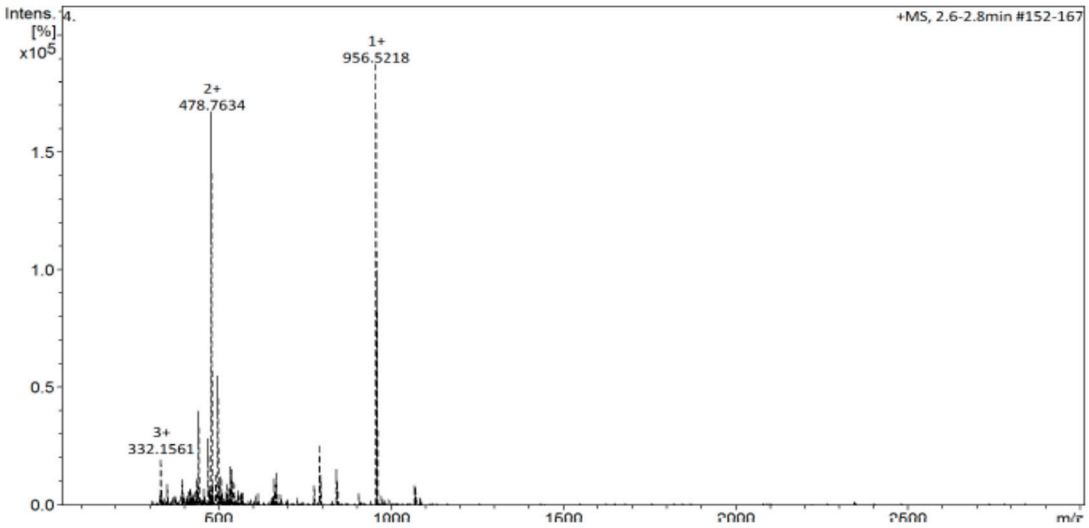

Fig. S2. MS spectra of H_2N-Leu(*N*-Me)TyrGlnLeuGluAsnTyr-COOH (**1**).

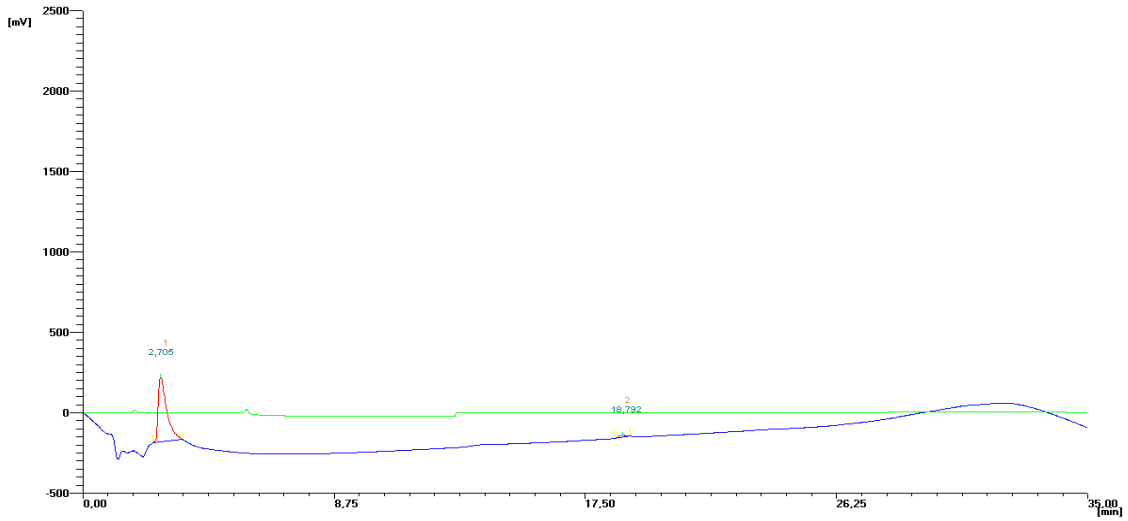

Fig. S3. Chromatograph HPLC of H_2N-LeuTyrGln(*N*-Me)LeuGluAsnTyr-COOH (**2**).

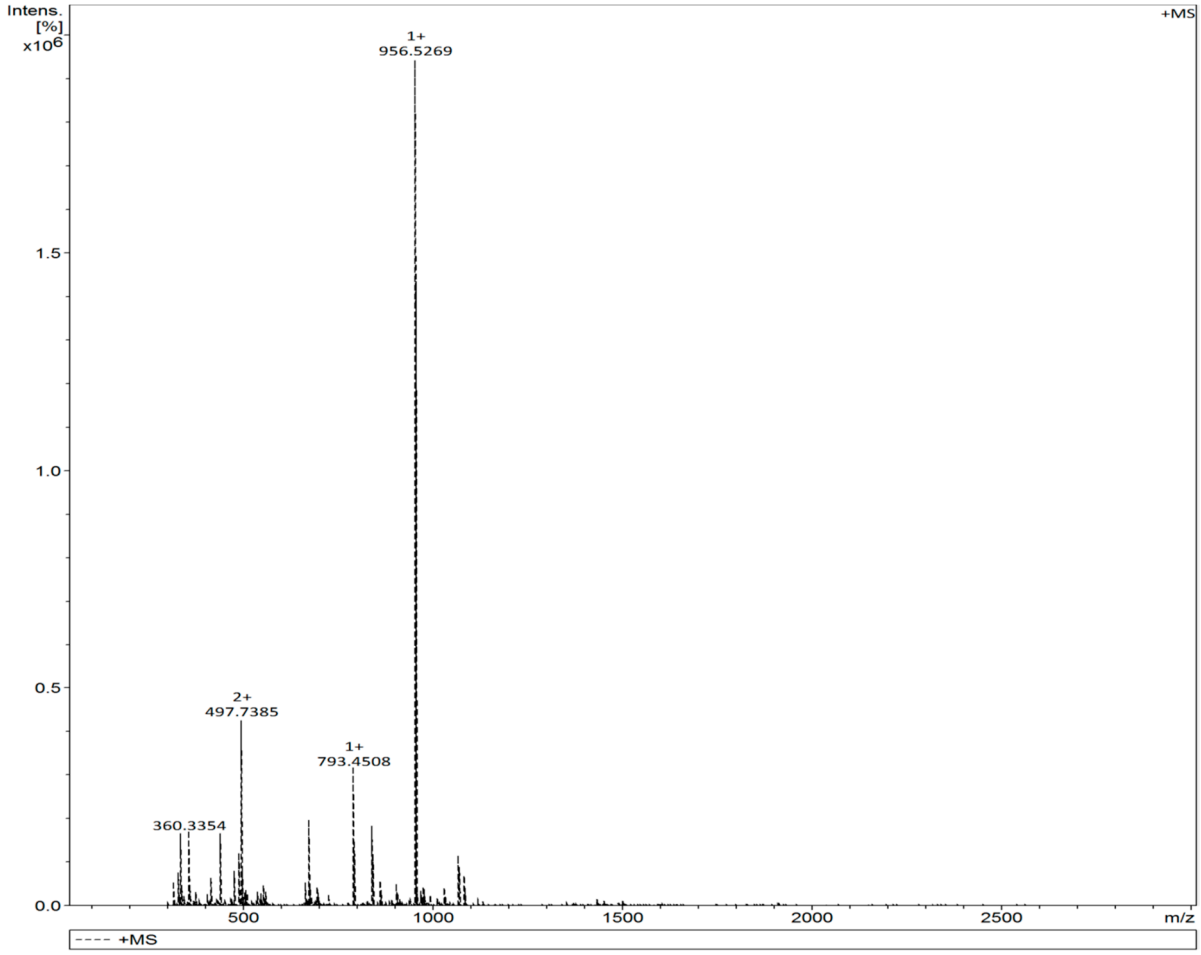

Fig. S4. MS spectra of H_2N-LeuTyrGln(*N*-Me)LeuGluAsnTyr-COOH (**2**).

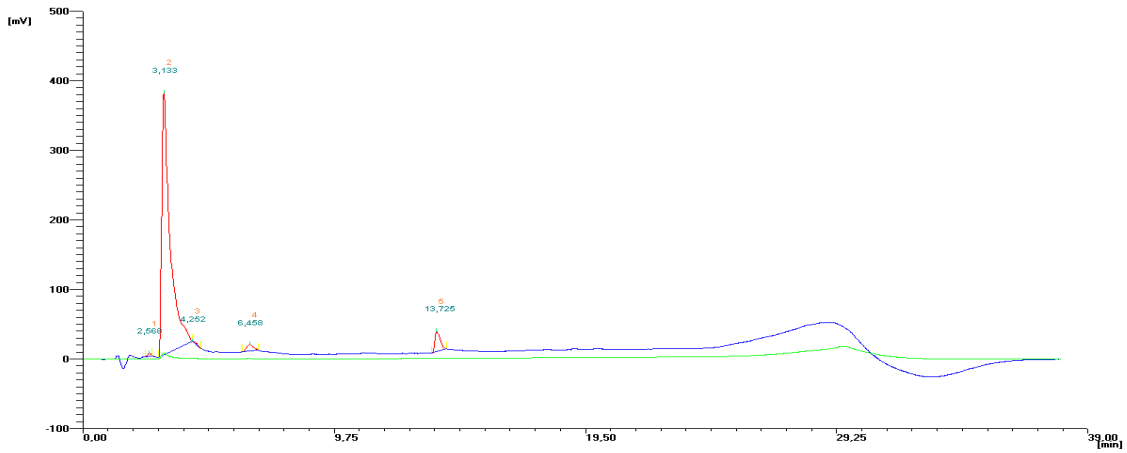

Fig. S5. Chromatograph HPLC of H_2N-Leu(*N*-Me)TyrGln(*N*-Me)LeuGluAsnTyr-COOH (**3**).

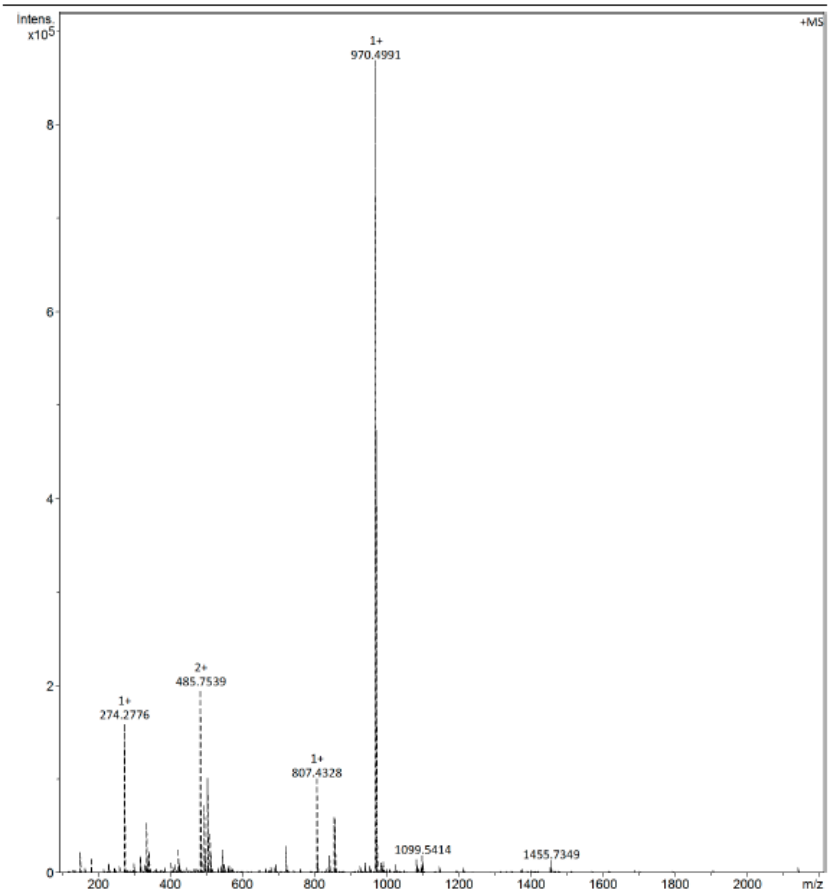

Fig. S6. MS spectra of H_2N-Leu(*N*-Me)TyrGln(*N*-Me)LeuGluAsnTyr-COOH (**3**).

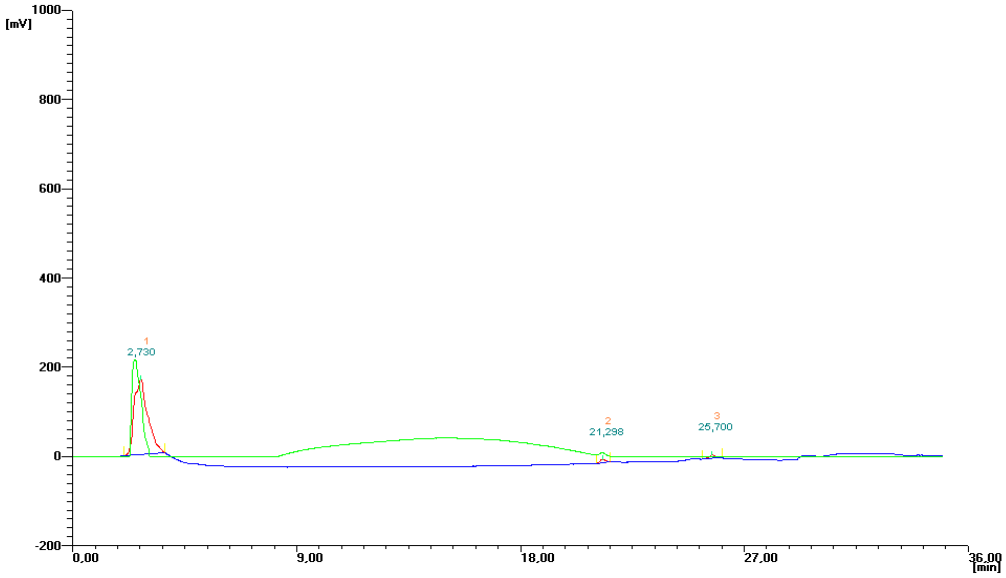

Fig. S7. Chromatograph HPLC of H_2N-ValGluAla(*N*-Me)LeuTyrLeu-COOH (**4**).

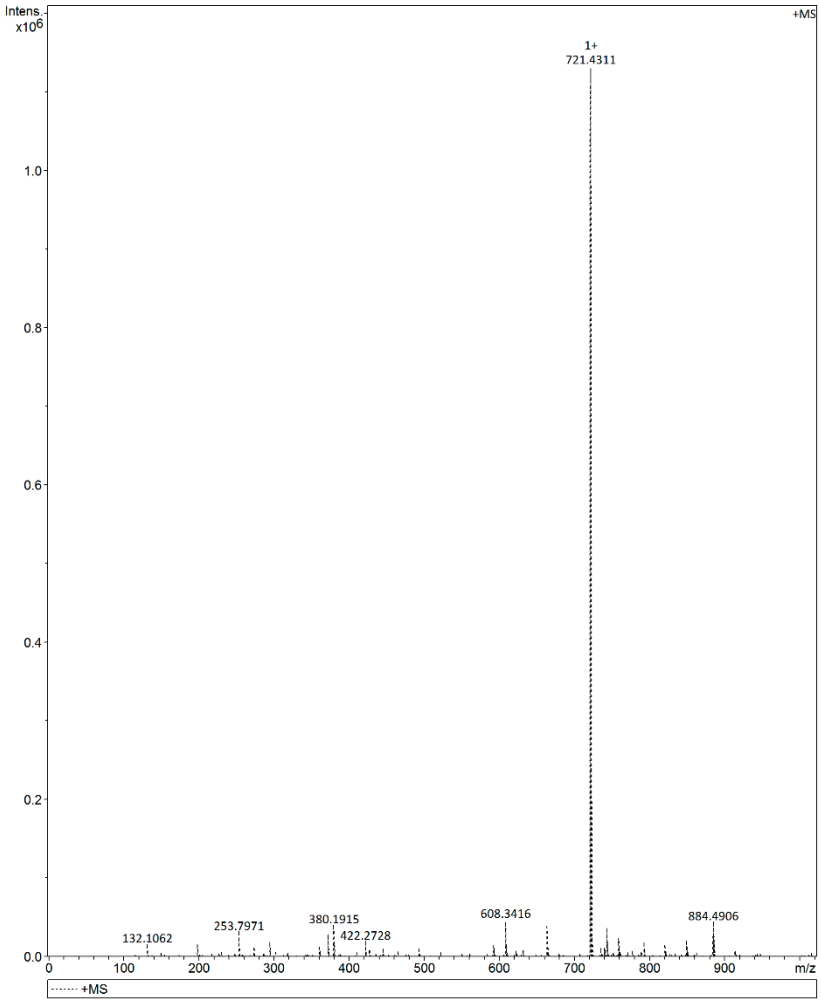

Fig. S8. MS spectra of H_2N-ValGluAla(*N*-Me)LeuTyrLeu-COOH (**4**).

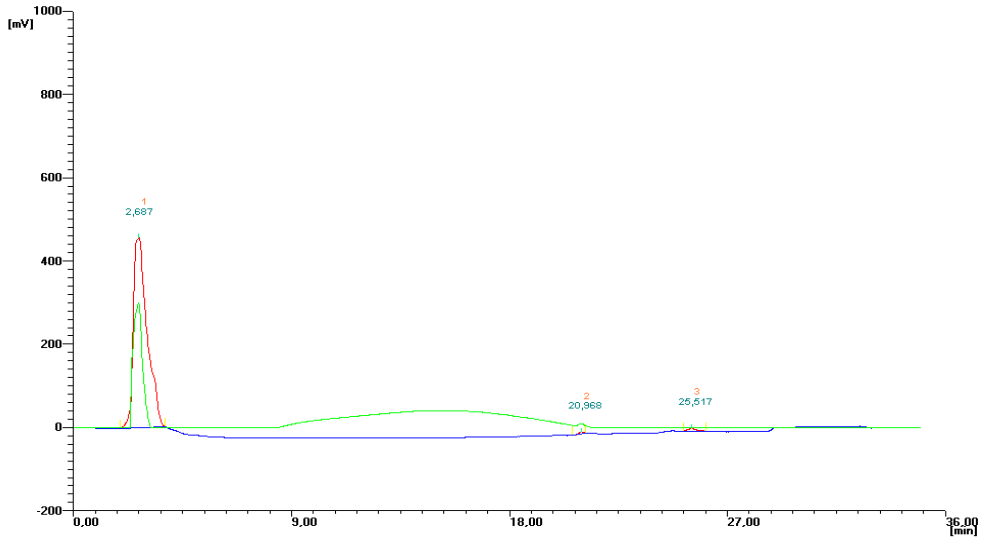

Fig. S9. Chromatograph HPLC of H_2N-ValGlu(*N*-Me)AlaLeuTyrLeu-COOH (**5**).

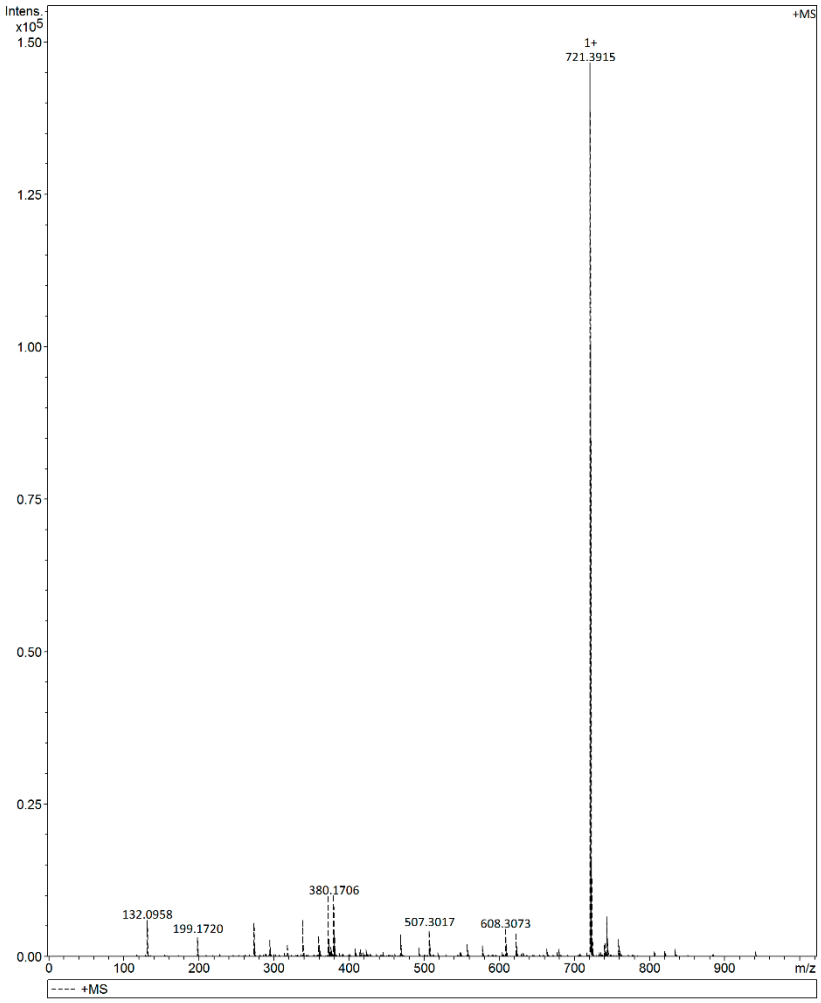

Fig. S10. MS spectra of H_2N-ValGlu(*N*-Me)AlaLeuTyrLeu-COOH (**5**).

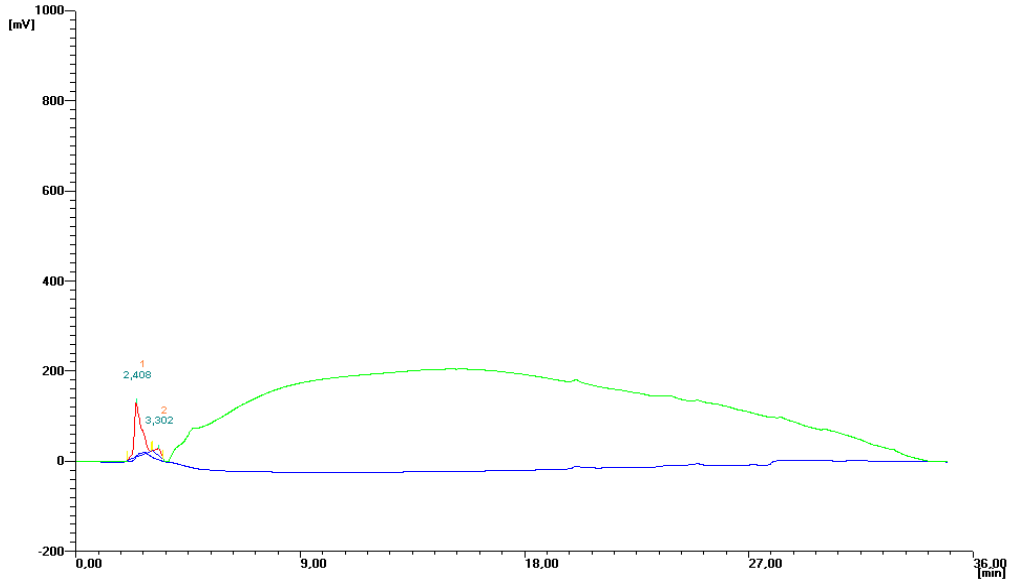

Fig. S11. Chromatograph HPLC of H_2N-ValGluAlaLeu(*N*-Me)TyrLeu-COOH (**6**).

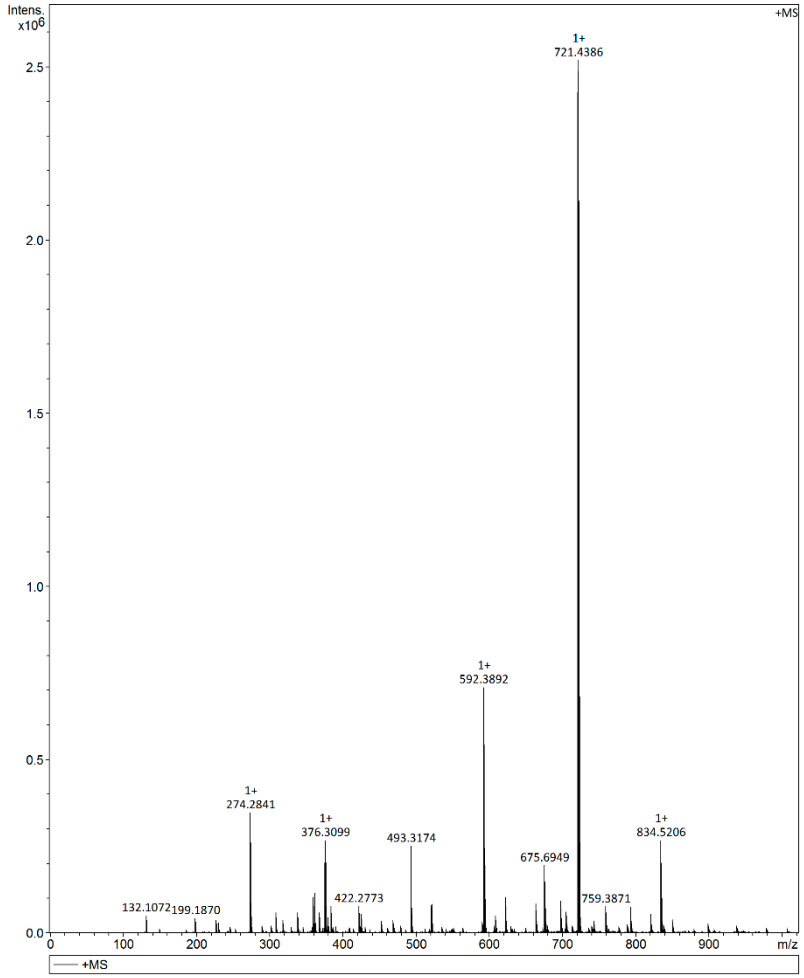

Fig. S12. MS spectra of H_2N-ValGluAlaLeu(*N*-Me)TyrLeu-COOH (**6**).

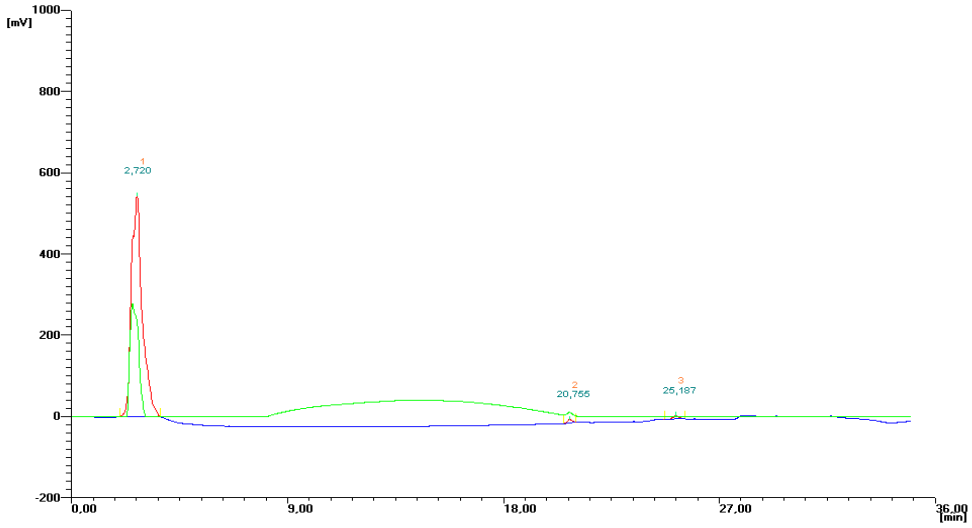

Fig. S13. Chromatograph HPLC of H_2N-ValGlu(*N*-Me)AlaLeu(*N*-Me)TyrLeu-COOH (**7**).

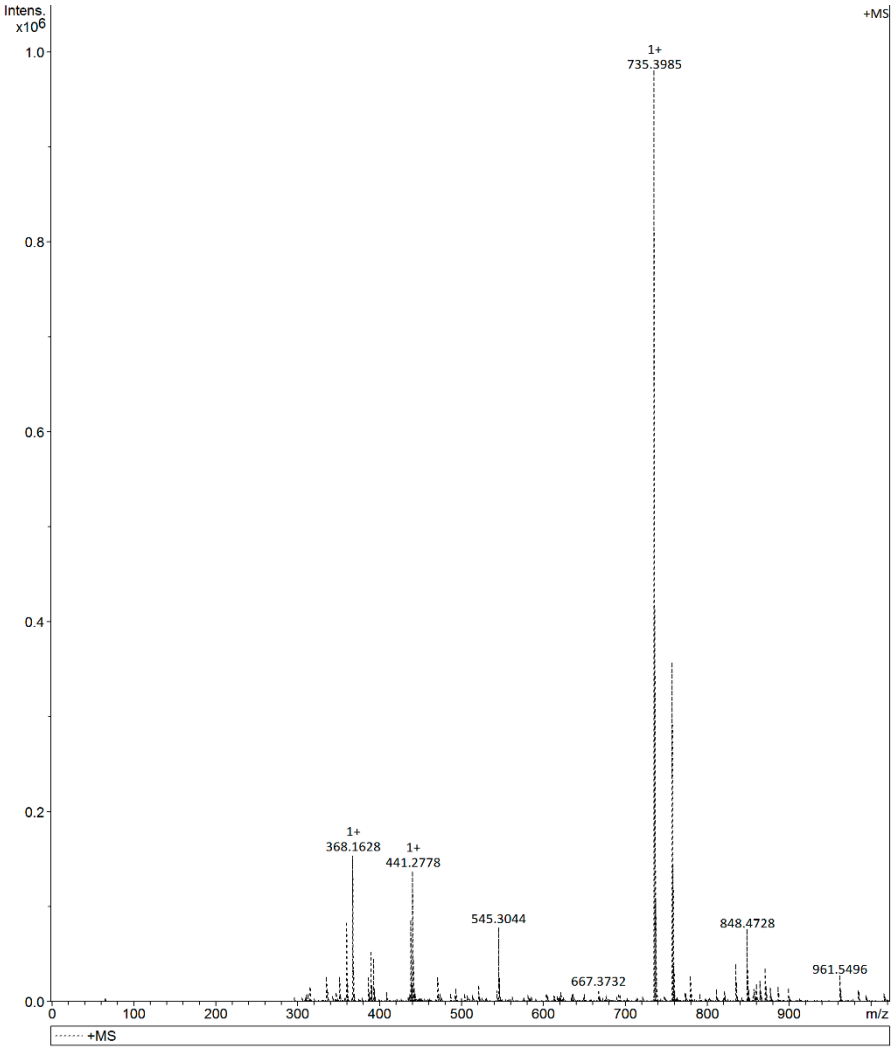

Fig. S14. MS spectra of H_2N-ValGlu(*N*-Me)AlaLeu(*N*-Me)TyrLeu-COOH (**7**).

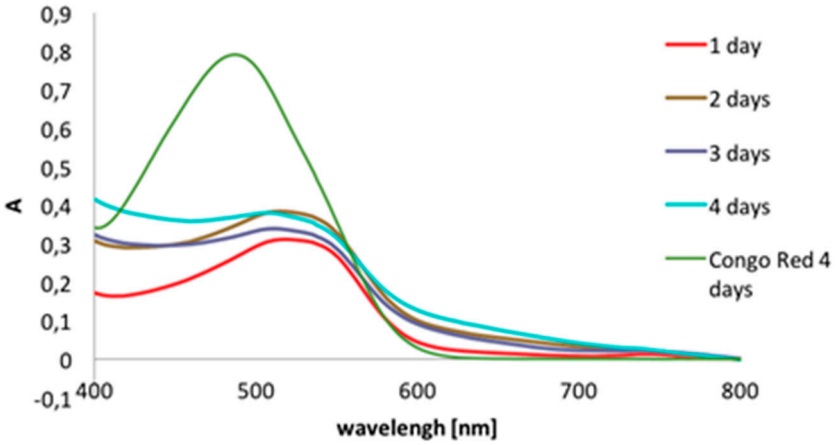

Fig. S15. UV spectra of H_2N-Leu(*N*-Me)TyrGlnLeuGluAsnTyr-COOH (**1**).

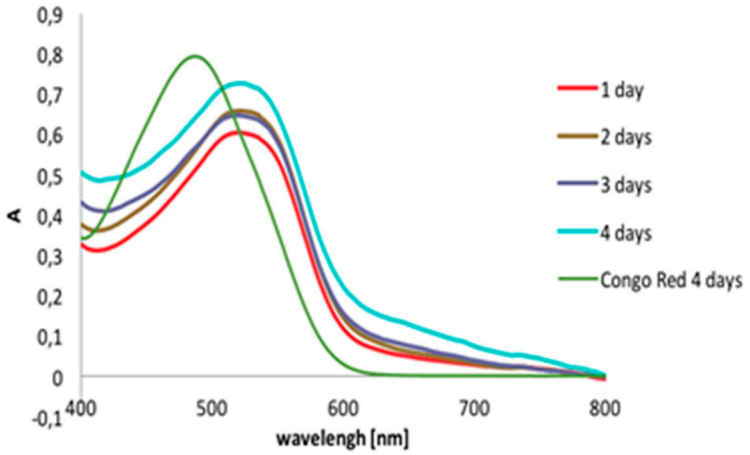

Fig. S16. UV spectra of H_2N-LeuTyrGln(*N*-Me)LeuGluAsnTyr-COOH (**2**).

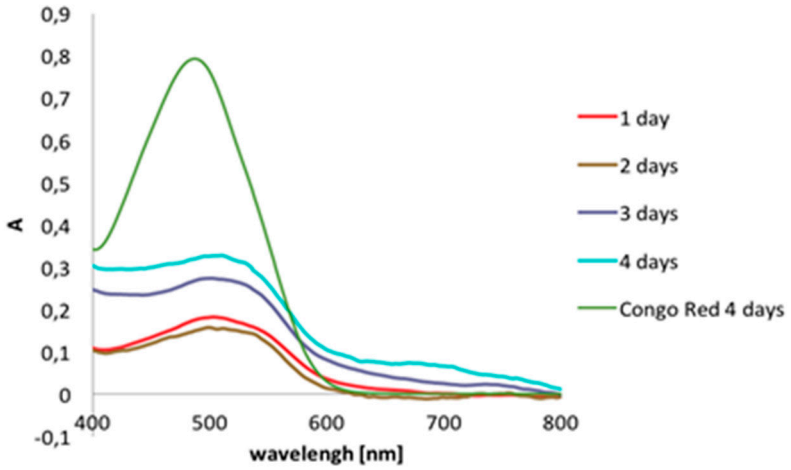

Fig. S17. UV spectra of H_2N-Leu(*N*-Me)TyrGln(*N*-Me)LeuGluAsnTyr-COOH (**3**).

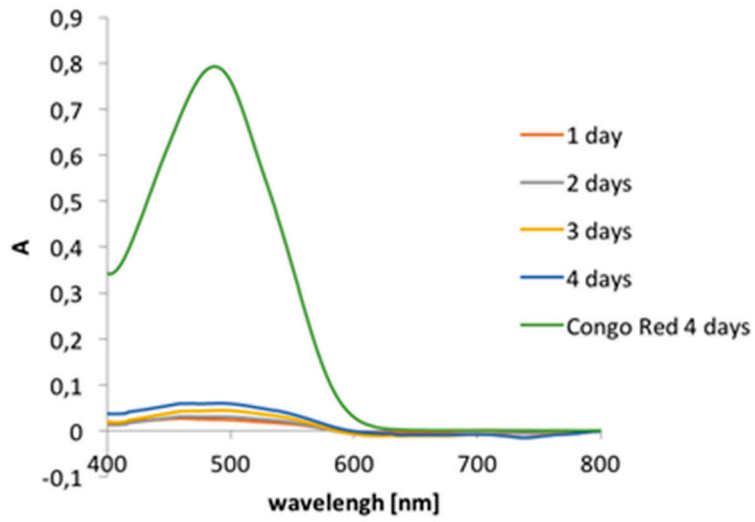

Fig. S18. UV spectra of H_2N-ValGluAla(*N*-Me)LeuTyrLeu-COOH (**4**).

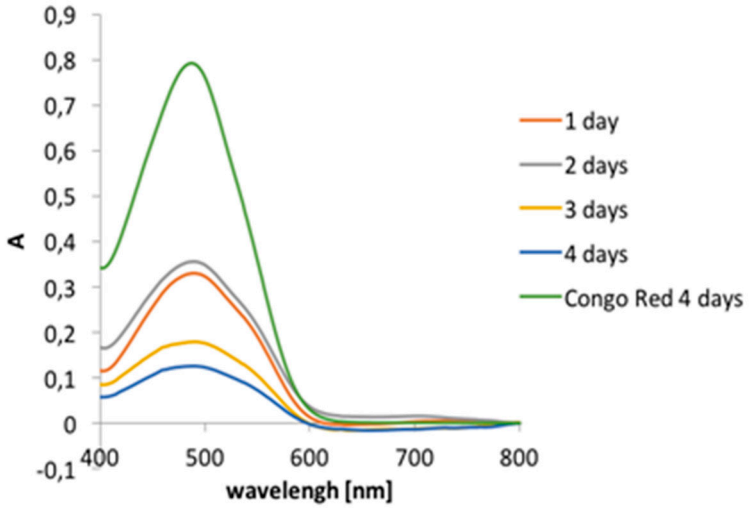

Fig. S19. UV spectra of H_2N-ValGlu(*N*-Me)AlaLeuTyrLeu-COOH (**5**).

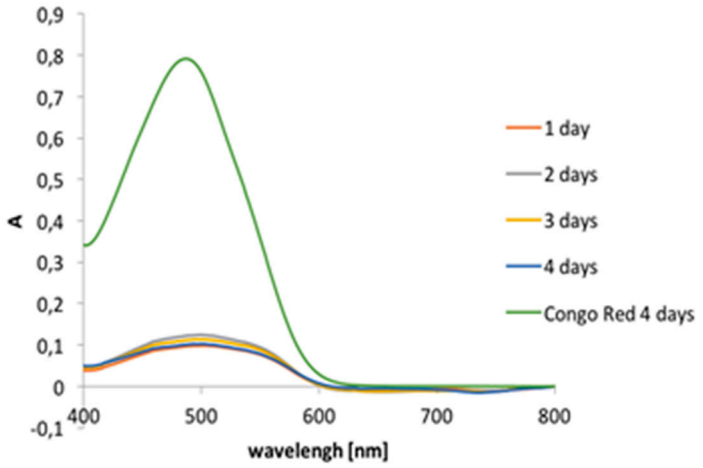

Fig. S20. UV spectra of H_2N-ValGluAlaLeu(*N*-Me)TyrLeu-COOH (**6**).

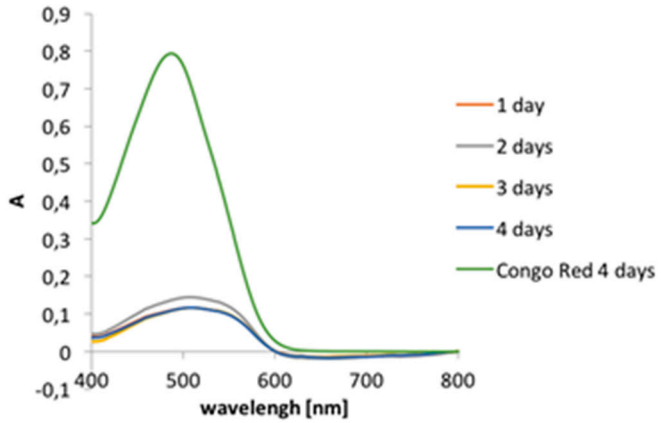

Fig. S21. UV spectra of H_2N-ValGlu(*N*-Me)AlaLeu(*N*-Me)TyrLeu-COOH (**7**).

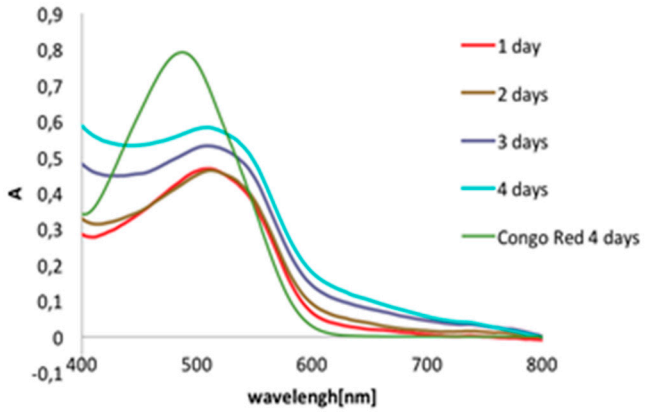

Fig. S22. UV spectra of mixture of H_2N-Leu(*N*-Me)TyrGlnLeuGluAsnTyr-COOH (**1**) with hot spot A (1:1).

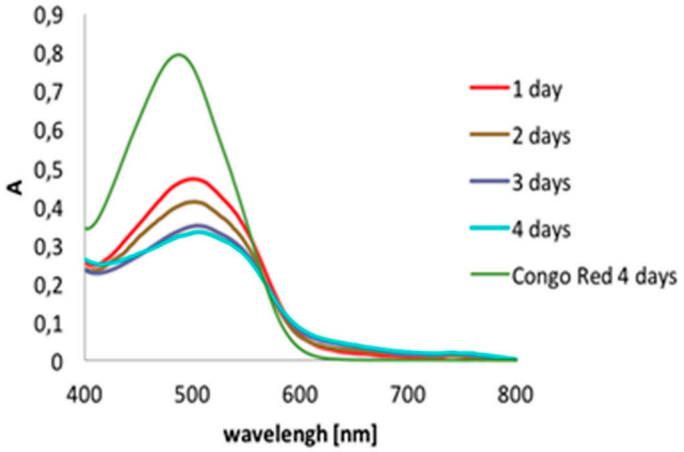

Fig. S23. UV spectra of mixture of H_2N-LeuTyrGln(*N*-Me)LeuGluAsnTyr-COOH (**2**) with hot spot A (1:1).

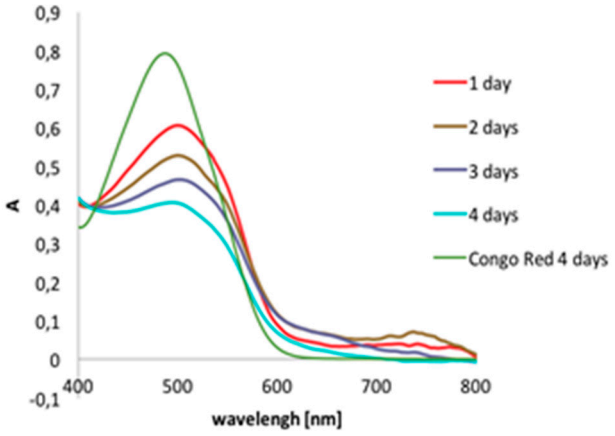

Fig. S24. UV spectra of mixture of H_2N-Leu(*N*-Me)TyrGln(*N*-Me)LeuGluAsnTyr-COOH (**3**) with hot spot A (1:1).

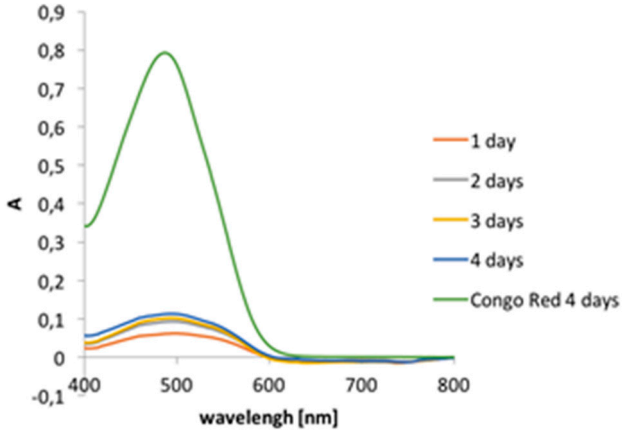

Fig. S25. UV spectra of mixture of H_2N-ValGluAla(*N*-Me)LeuTyrLeu-COOH (**4**) with hot spot B (1:1).

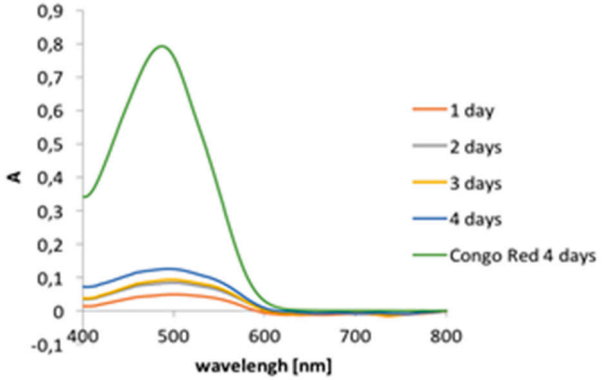

Fig. S26. UV spectra of mixture of H_2N-ValGlu(*N*-Me)AlaLeuTyrLeu-COOH (**5**) with hot spot B (1:1).

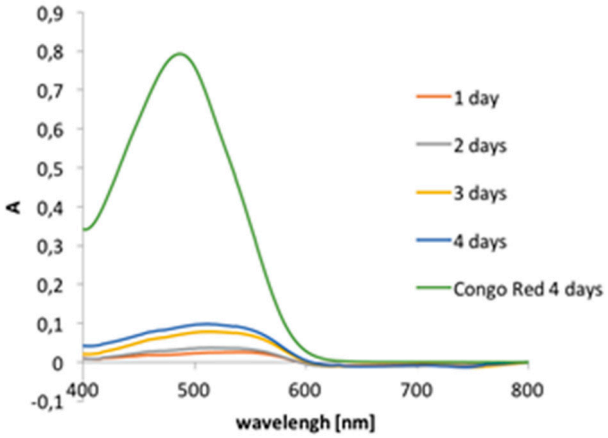

Fig. S27. UV spectra of mixture of H_2N-ValGluAlaLeu(*N*-Me)TyrLeu-COOH (**6**) with hot spot B (1:1).

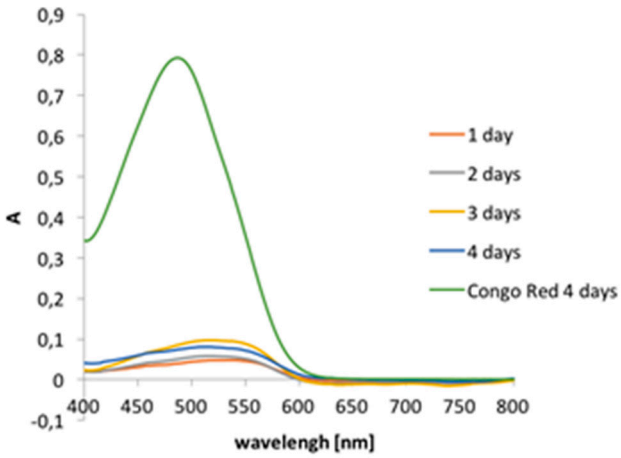

Fig. S28. UV spectra of mixture of H_2N-ValGlu(*N*-Me)AlaLeu(*N*-Me)TyrLeu-COOH (**7**) with hot spot B (1:1).

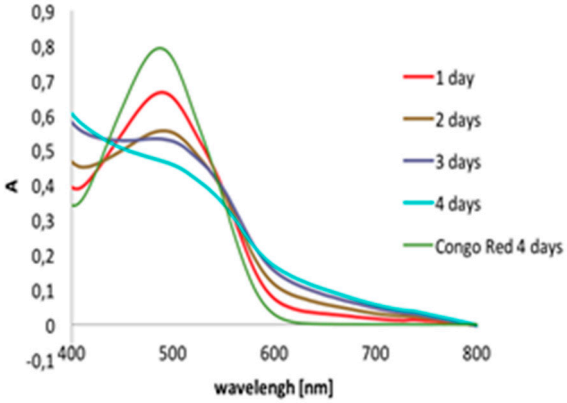

Fig. S29. UV spectra of mixture of H_2N-Leu(*N*-Me)TyrGlnLeuGluAsnTyr-COOH (**1**) with hot spot A (2:1).

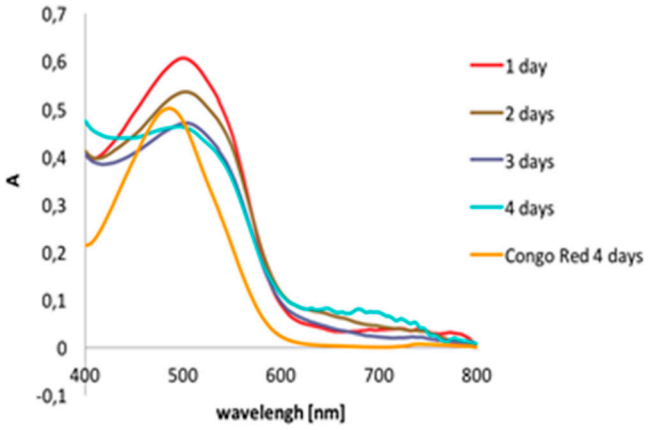

Fig. S30. UV spectra of mixture of H_2N-LeuTyrGln(*N*-Me)LeuGluAsnTyr-COOH (**2**) with hot spot A (2:1).

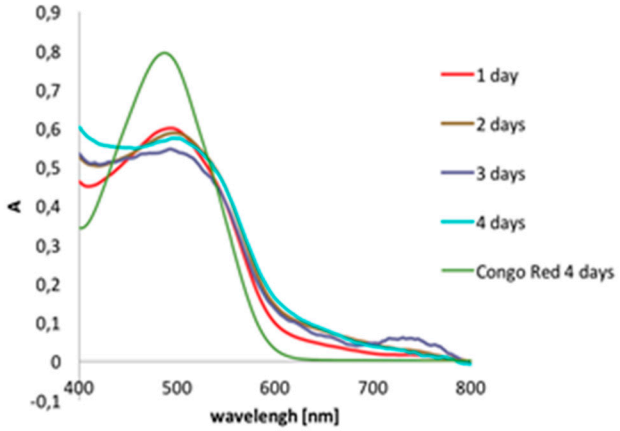

Fig. S31. UV spectra of mixture of H_2N-Leu(*N*-Me)TyrGln(*N*-Me)LeuGluAsnTyr-COOH (**3**) with hot spot A (2:1).

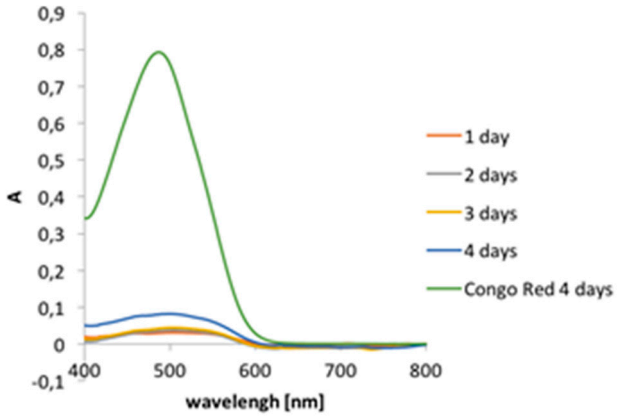

Fig. S32. UV spectra of mixture of H_2N-ValGluAla(*N*-Me)LeuTyrLeu-COOH (**4**) with hot spot B (2:1).

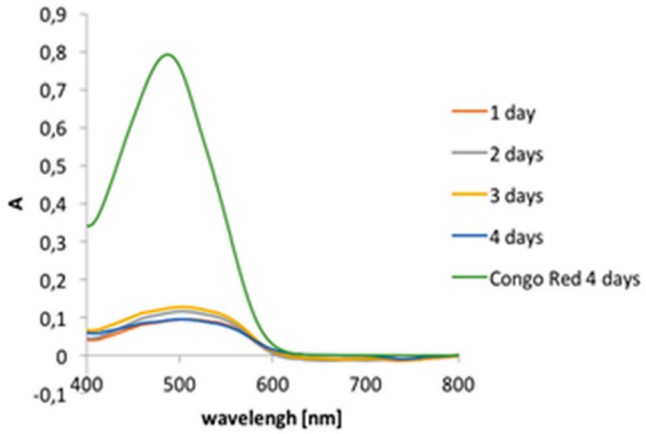

Fig. S33. UV spectra of mixture of H_2N-ValGlu(*N*-Me)AlaLeuTyrLeu-COOH (**5**) with hot spot A (2:1).

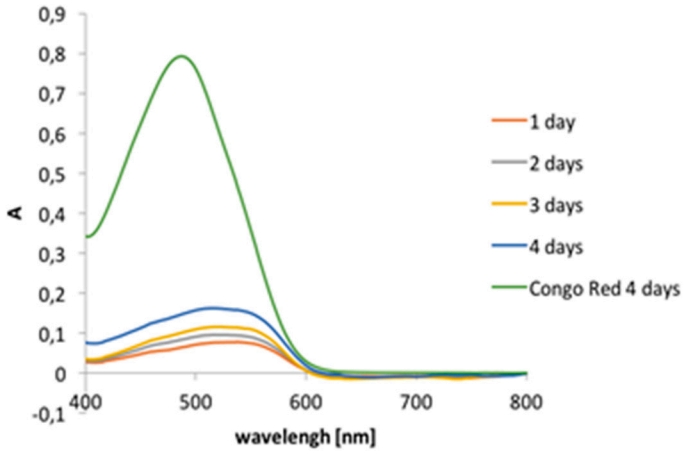

Fig. S34. UV spectra of mixture of H_2N-ValGluAlaLeu(*N*-Me)TyrLeu-COOH (**6**) with hot spot A (2:1).

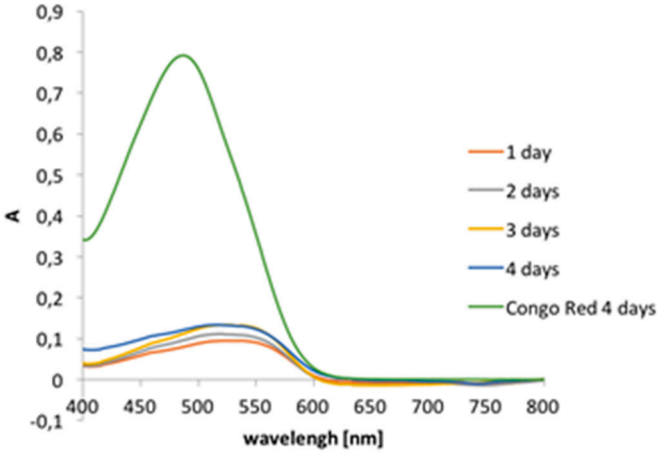

Fig. S35. UV spectra of mixture of H_2N-ValGlu(*N*-Me)AlaLeu(*N*-Me)TyrLeu-COOH (**7**) with hot spot A (2:1).

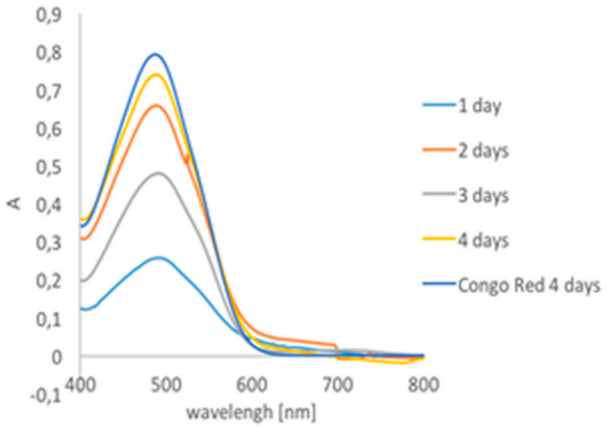

Fig. S36. UV spectra of mixture of H_2N-Leu(*N*-Me)TyrGlnLeuGluAsnTyr-COOH (**1**) with insulin (1:1).

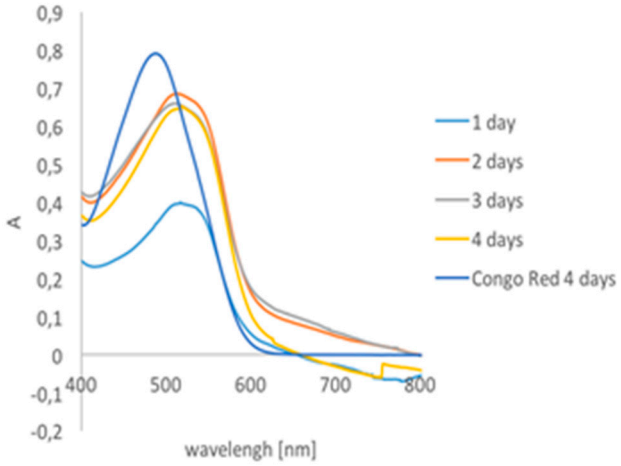

Fig. S37. UV spectra of mixture of H_2N-LeuTyrGln(*N*-Me)LeuGluAsnTyr-COOH (**2**) with insulin (1:1).

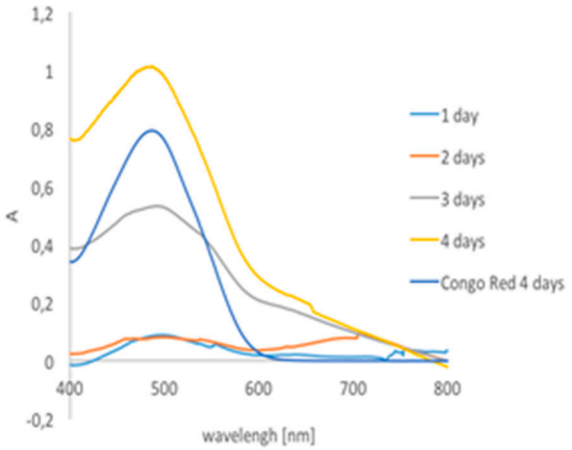

Fig. S38. UV spectra of mixture of H_2N-Leu(*N*-Me)TyrGln(*N*-Me)LeuGluAsnTyr-COOH (**3**) with insulin (1:1).

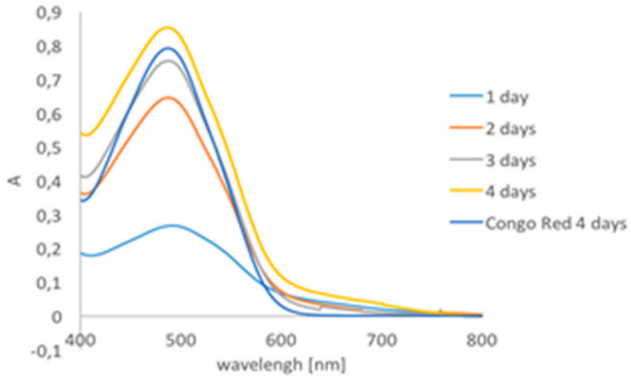

Fig. S39. UV spectra of mixture of H_2N-ValGluAla(*N*-Me)LeuTyrLeu-COOH (**4**) with insulin (1:1).

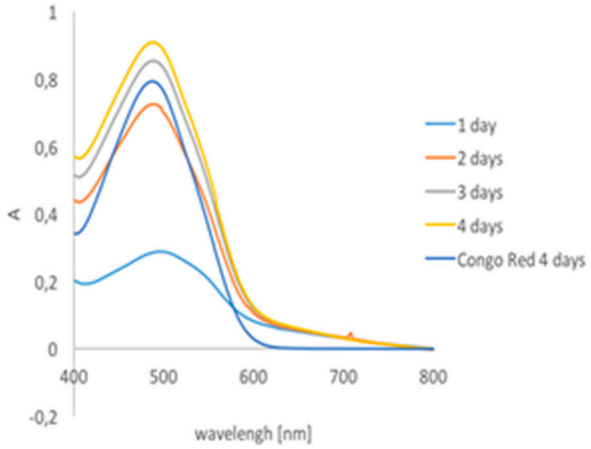

Fig. S40. UV spectra of mixture of H_2N-ValGlu(*N*-Me)AlaLeuTyrLeu-COOH (**5**) with insulin (1:1).

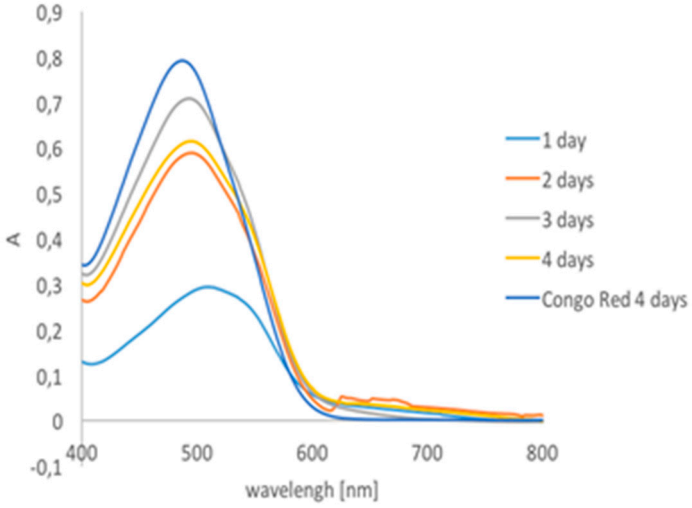

Fig. S41. UV spectra of mixture of H_2N-ValGluAlaLeu(*N*-Me)TyrLeu-COOH (**6**) with insulin (1:1).

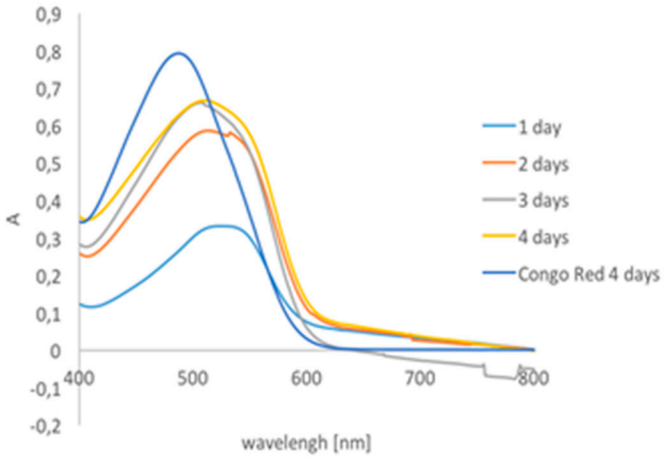

Fig. S42. UV spectra of mixture of H_2N-ValGlu(*N*-Me)AlaLeu(*N*-Me)TyrLeu-COOH (**7**) with insulin (1:1).

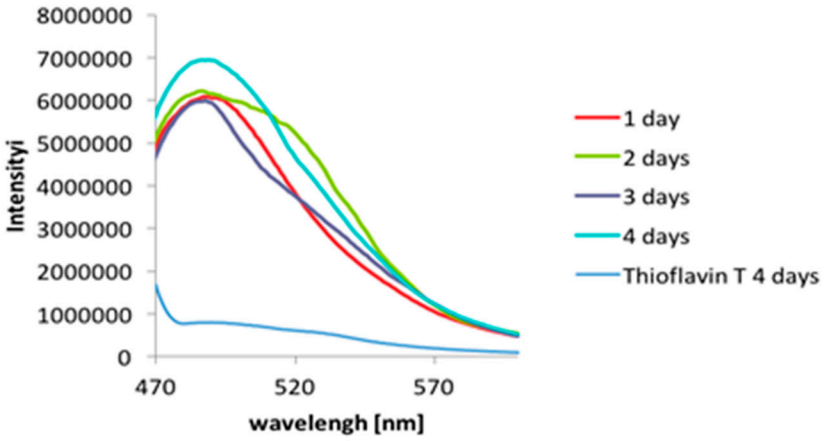

Fig. S43. Fluorescence intensity spectra of H_2N-Leu(*N*-Me)TyrGlnLeuGluAsnTyr-COOH (**1**).

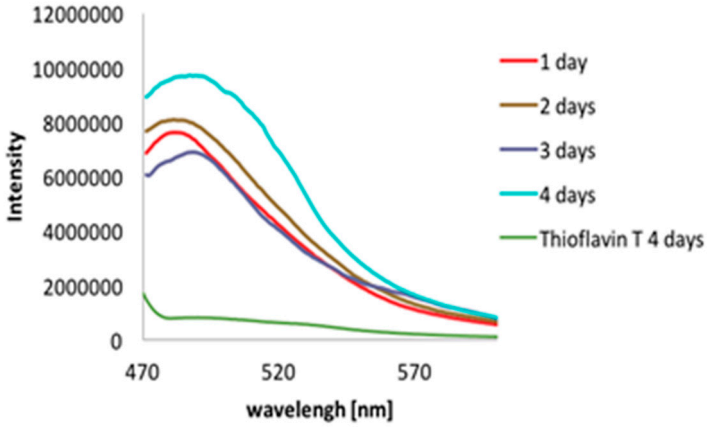

Fig. S44. Fluorescence intensity spectra of H_2N-LeuTyrGln(*N*-Me)LeuGluAsn-Tyr-COOH (**2**).

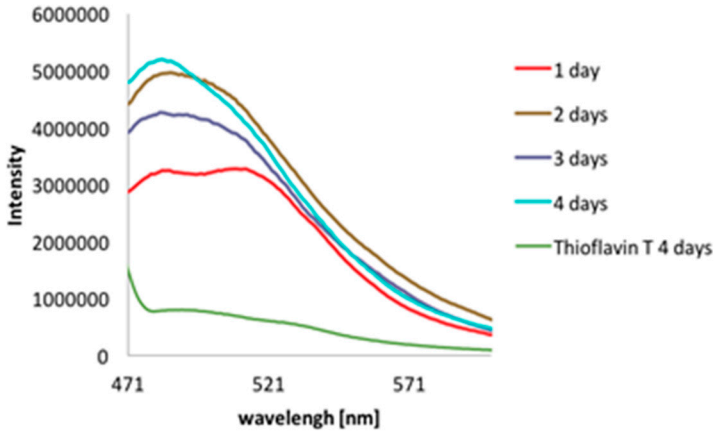

Fig. S45. Fluorescence intensity spectra of H_2N-Leu(*N*-Me)TyrGln(*N*-Me)LeuGluAsnTyr-COOH (**3**).

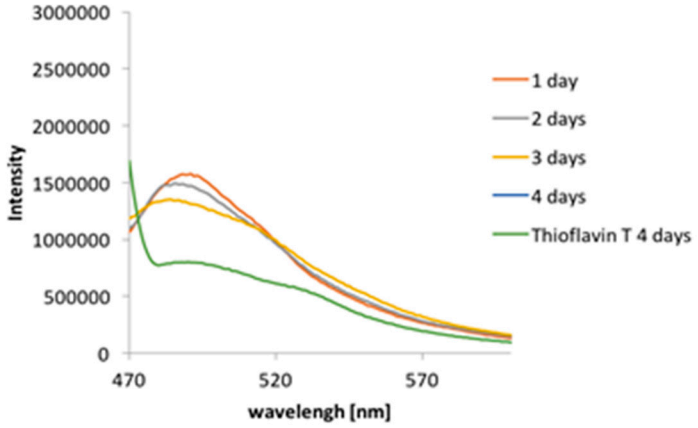

Fig. S46. Fluorescence intensity spectra of H_2N-ValGluAla(*N*-Me)LeuTyrLeu-COOH (**4**).

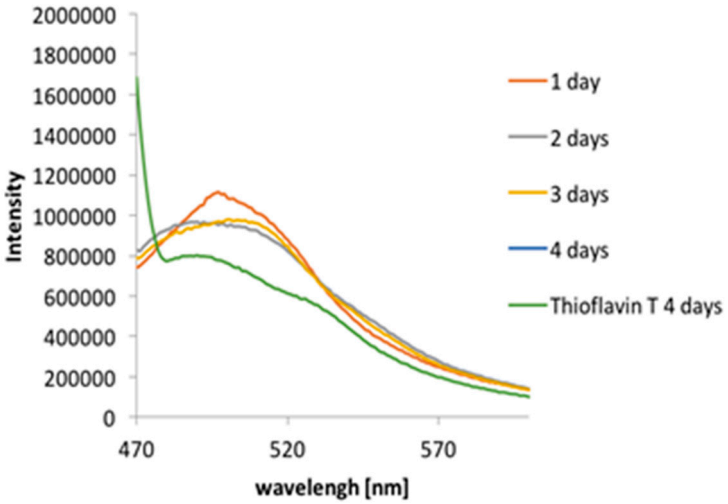

Fig. S47. Fluorescence intensity spectra of H_2N-ValGlu(*N*-Me)AlaLeuTyrLeu-COOH (**5**).

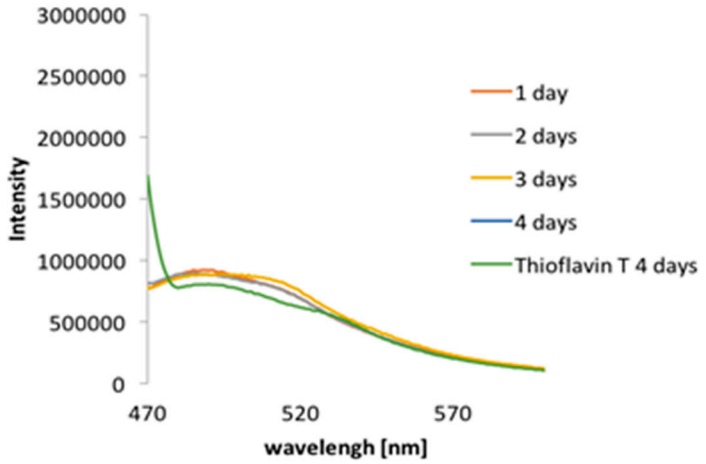

Fig. S48. Fluorescence intensity spectra of H_2N-ValGluAlaLeu(*N*-Me)TyrLeu-COOH (**6**).

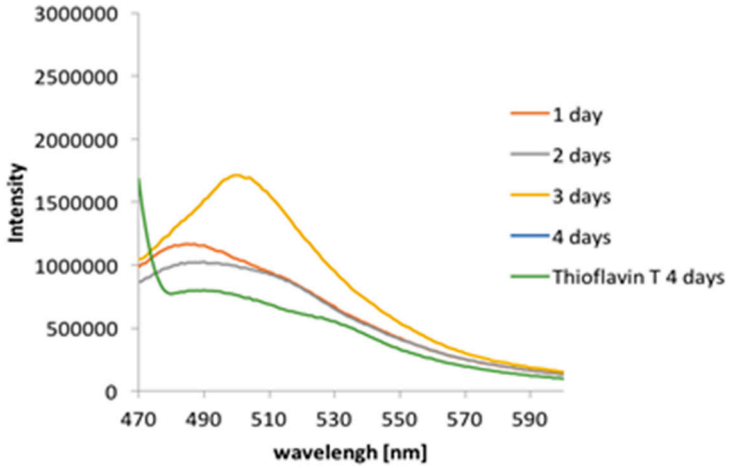

Fig. S49. Fluorescence intensity spectra of H_2N-ValGlu(*N*-Me)AlaLeu(*N*-Me)TyrLeu-COOH (**7**).

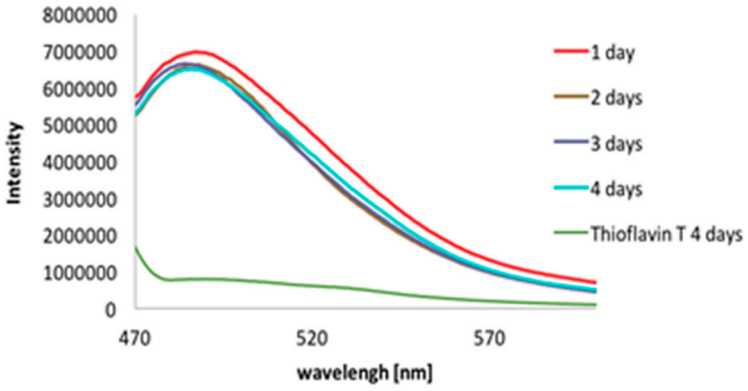

Fig. S50. Fluorescence intensity spectra of mixture of H_2N-Leu(*N*-Me)TyrGlnLeuGluAsnTyr-COOH (**1**) with hot spot A (1:1).

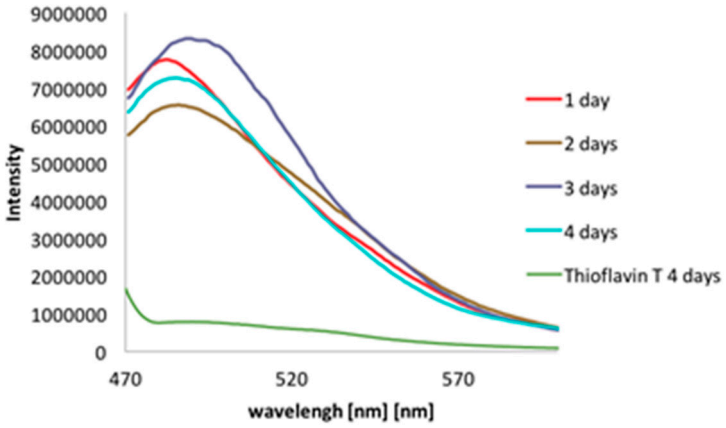

Fig. S51. Fluorescence intensity spectra of mixture of H_2N-LeuTyrGln(*N*-Me)LeuGluAsnTyr-COOH (**2**) with hot spot A (1:1).

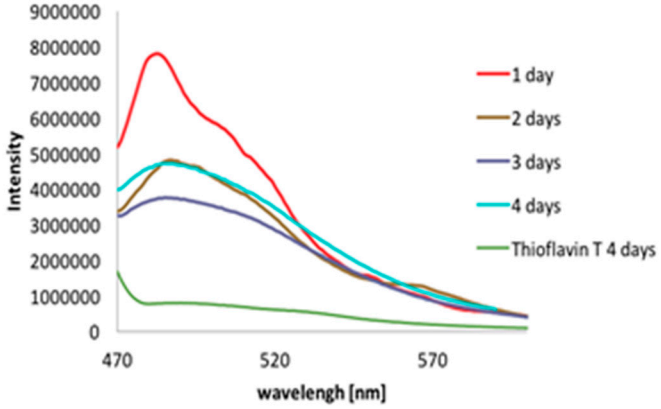

Fig. S52. Fluorescence intensity spectra of mixture of H_2N-Leu(*N*-Me)TyrGln(*N*-Me)LeuGlu-AsnTyr-COOH (**3**) with hot spot A (1:1).

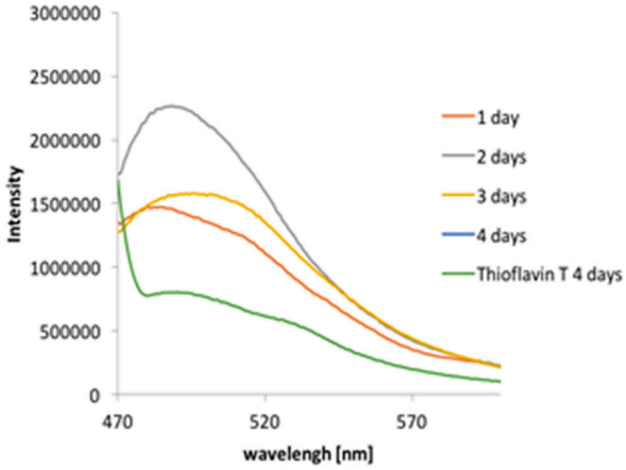

Fig. S53. Fluorescence intensity spectra of mixture of H_2N-ValGluAla(*N*-Me)LeuTyrLeu-COOH (**4**) with hot spot B (1:1).

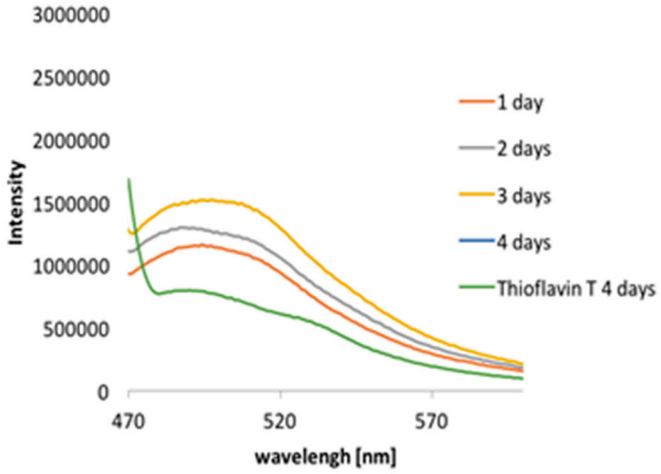

Fig. S54. Fluorescence intensity spectra of mixture of H_2N-ValGlu(*N*-Me)AlaLeuTyrLeu-COOH (**5**) with hot spot B (1:1).

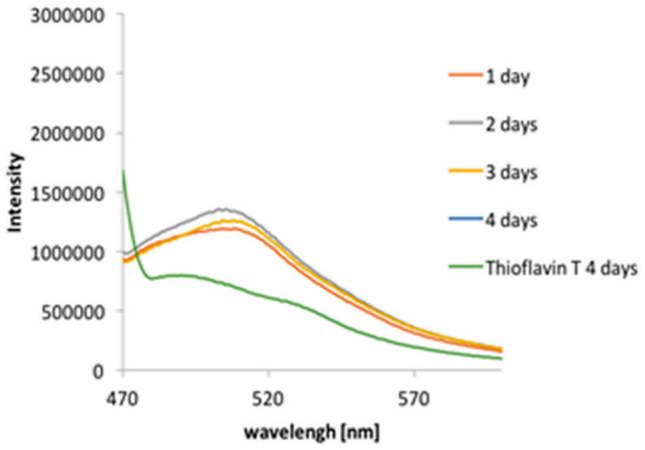

Fig. S55. Fluorescence intensity spectra of mixture of H_2N-ValGluAlaLeu(*N*-Me)TyrLeuCOOH (**6**) with hot spot B (1:1).

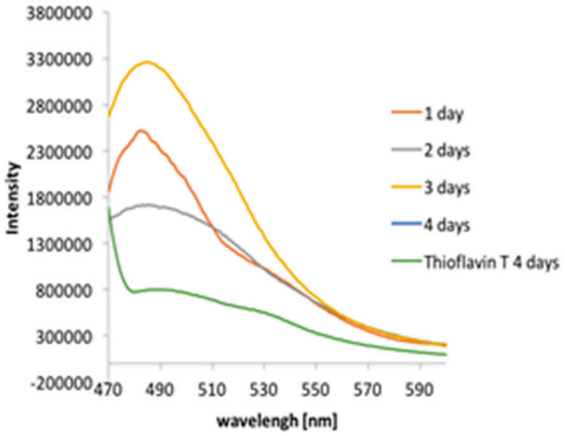

Fig. S56. Fluorescence intensity spectra of mixture of H_2N-ValGluAla(*N*-Me)Leu(*N*-Me)TyrLeu-COOH (**7**) with hot spot B (1:1).

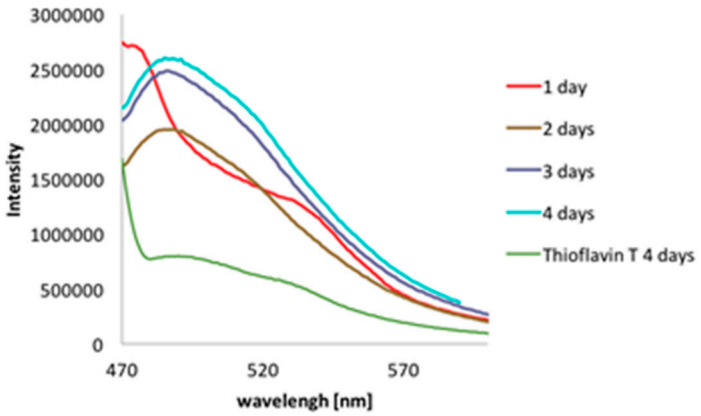

Fig. S57. Fluorescence intensity spectra of mixture of H_2N-Leu(*N*-Me)TyrGlnLeuGluAsnTyr-COOH (**1**) with hot spot A (2:1).

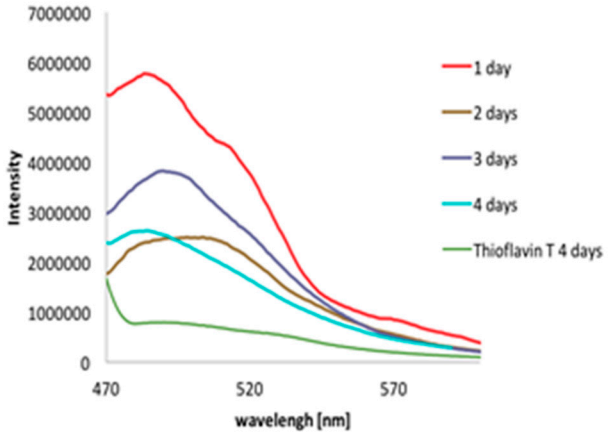

Fig. S58. Fluorescence intensity spectra of mixture of H_2N-LeuTyrGln(*N*-Me)LeuGluAsnTyr-COOH (**2**) with hot spot A (2:1).

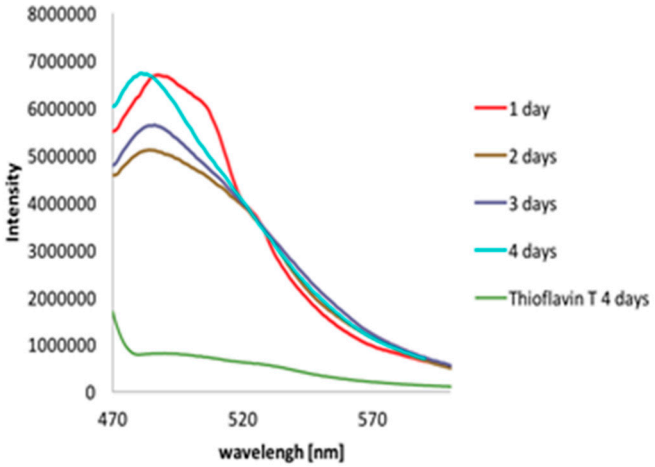

Fig. S59. Fluorescence intensity spectra of mixture of H_2N-Leu(*N*-Me)TyrGln(*N*-Me)LeuGluAsnTyr-COOH (**3**) with hot spot A (2:1).

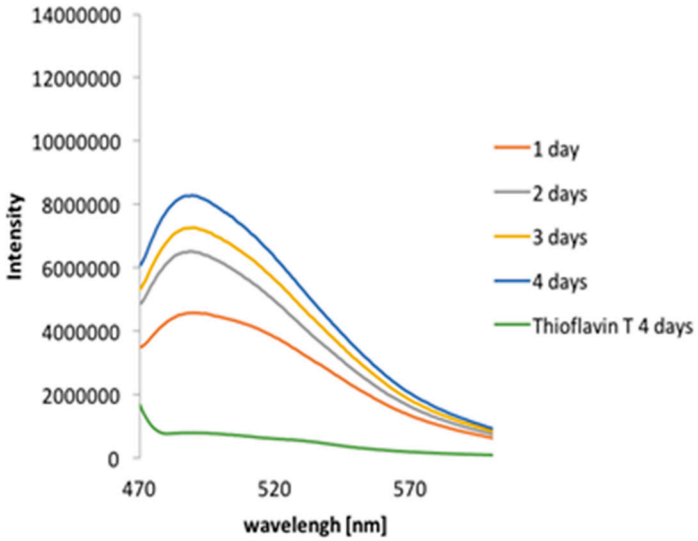

Fig. S60. Fluorescence intensity spectra of mixture of H_2N-ValGluAla(*N*-Me)LeuTyrLeuCOOH (**4**) with hot spot B (2:1).

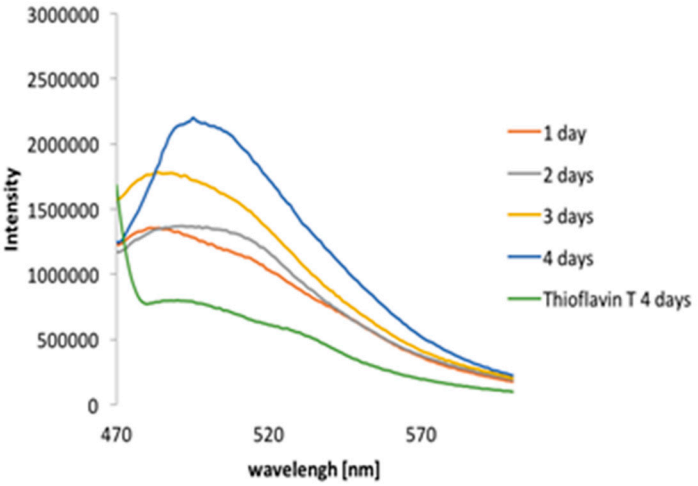

Fig. S61. Fluorescence intensity spectra of mixture of H_2N-ValGlu(*N*-Me)AlaLeuTyrLeuCOOH (**5**) with hot spot B (2:1).

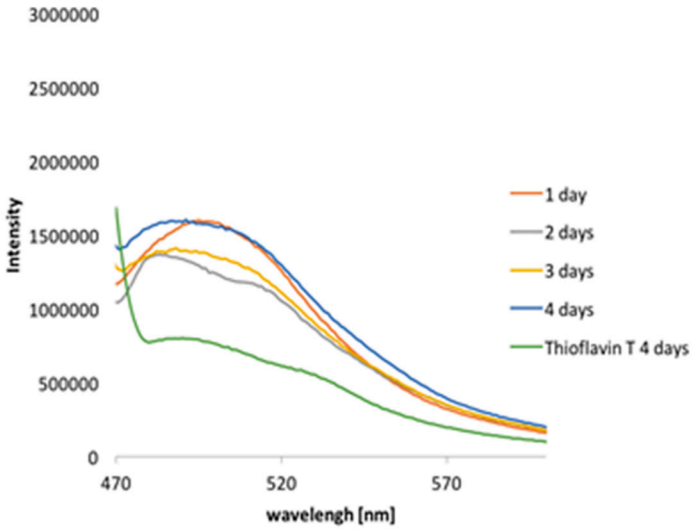

Fig. S62. Fluorescence intensity spectra of mixture of H_2N-ValGluAlaLeu(*N*-Me)TyrLeuCOOH (**6**) with hot spot B (2:1).

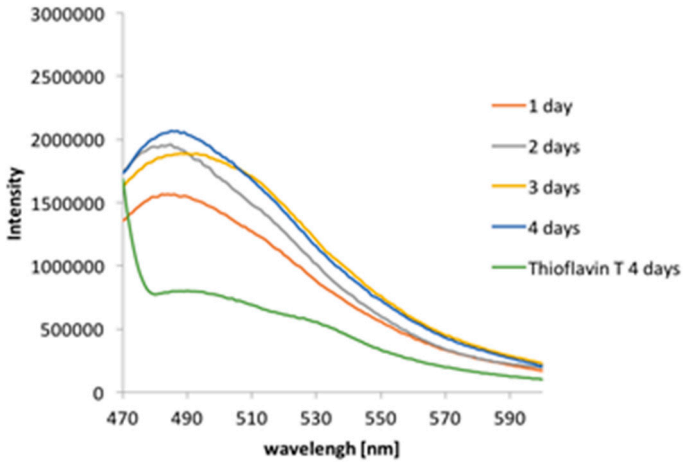

Fig. S63. Fluorescence intensity spectra of mixture of H_2N-ValGlu(*N*-Me)AlaLeu(*N*-Me)TyrLeu-COOH (**7**) with hot spot B (2:1).

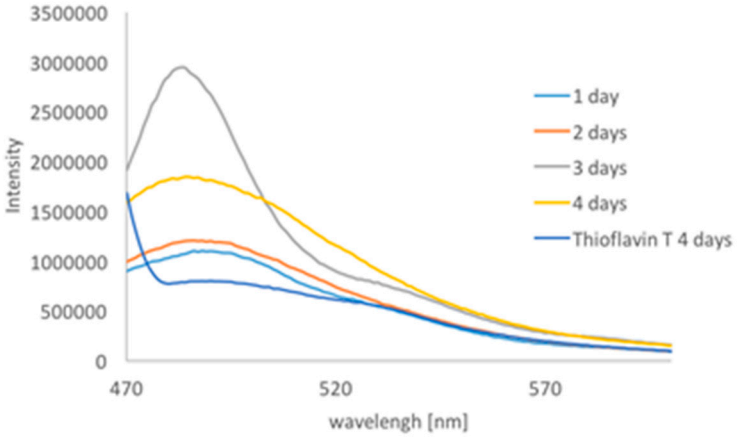

Fig. S64. Fluorescence intensity spectra of mixture of H_2N-Leu(*N*-Me)TyrGlnLeuGluAsnTyrCOOH (**1**) with insulin (1:1).

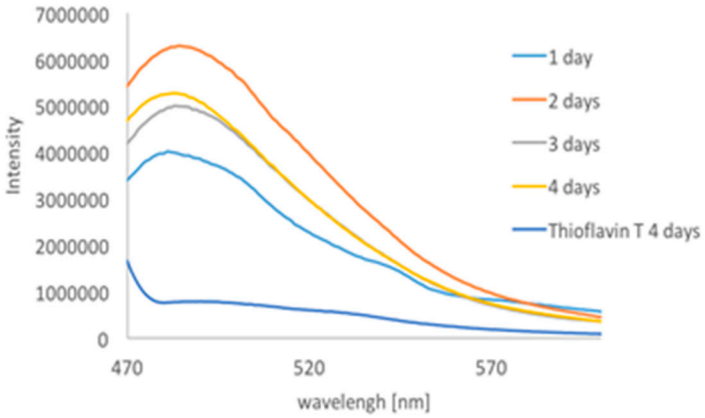

Fig. S65. Fluorescence intensity spectra of mixture of H_2N-LeuTyrGln(*N*-Me)LeuGluAsnTyr-COOH (**2**) with insulin (1:1).

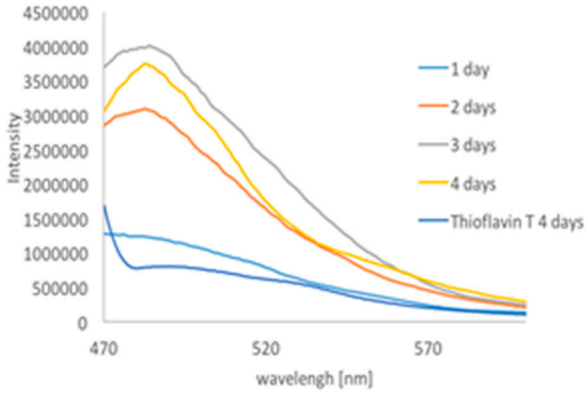

Fig. S66. Fluorescence intensity spectra of mixture of H_2N-Leu(*N*-Me)TyrGln(*N*-Me)LeuGluAsnTyr-COOH (**3**) with insulin (1:1).

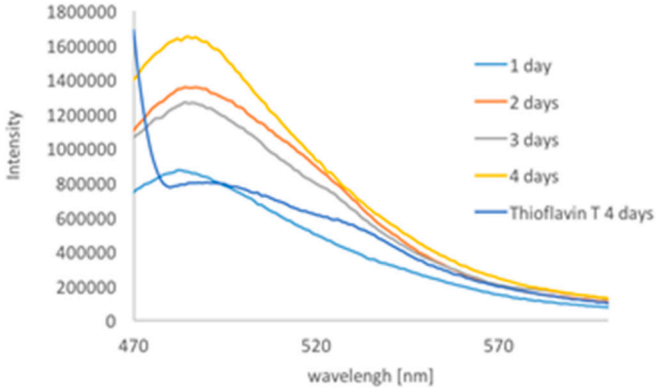

Fig. S67. Fluorescence intensity spectra of mixture of H_2N-ValGluAla(*N*-Me)LeuTyrLeu-COOH (**4**) with insulin (1:1).

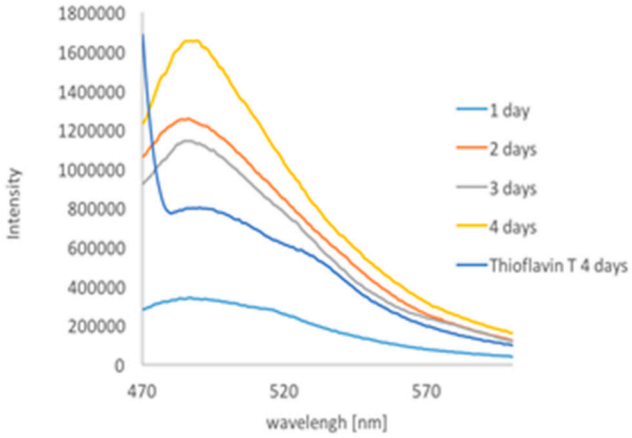

Fig. S68. Fluorescence intensity spectra of mixture of H_2N-ValGlu(*N*-Me)AlaLeuTyrLeu-COOH (**5**) with insulin (1:1).

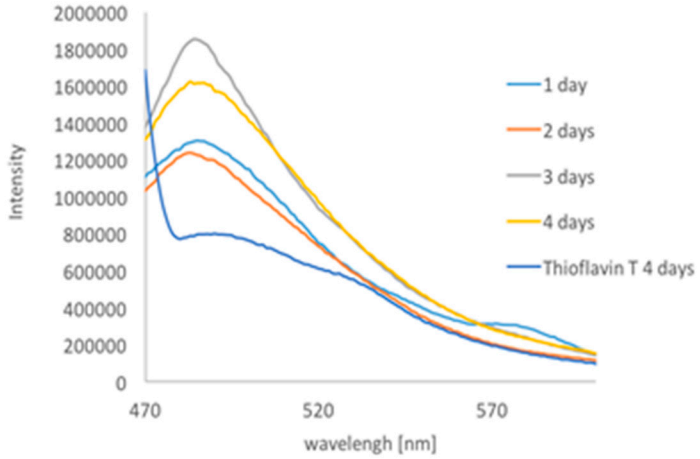

Fig. S69. Fluorescence intensity spectra of mixture of H_2N-ValGluAlaLeu(*N*-Me)TyrLeu-COOH (**6**) with insulin (1:1).

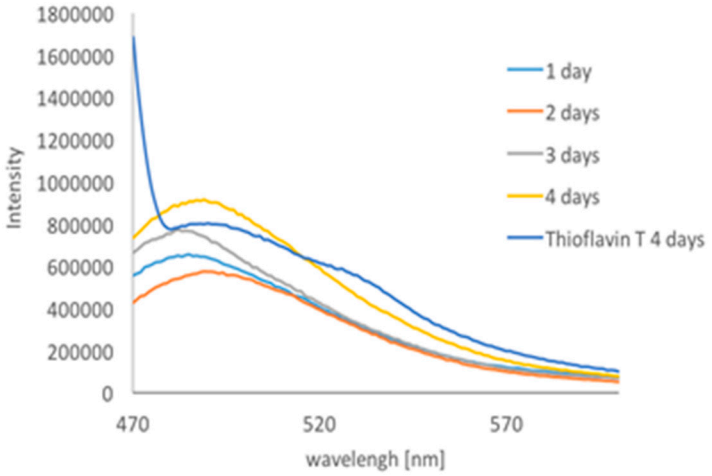

Fig. S70. Fluorescence intensity spectra of mixture of H_2N-ValGlu(*N*-Me)AlaLeu(*N*-Me)TyrLeu-COOH (**7**) with insulin (1:1).

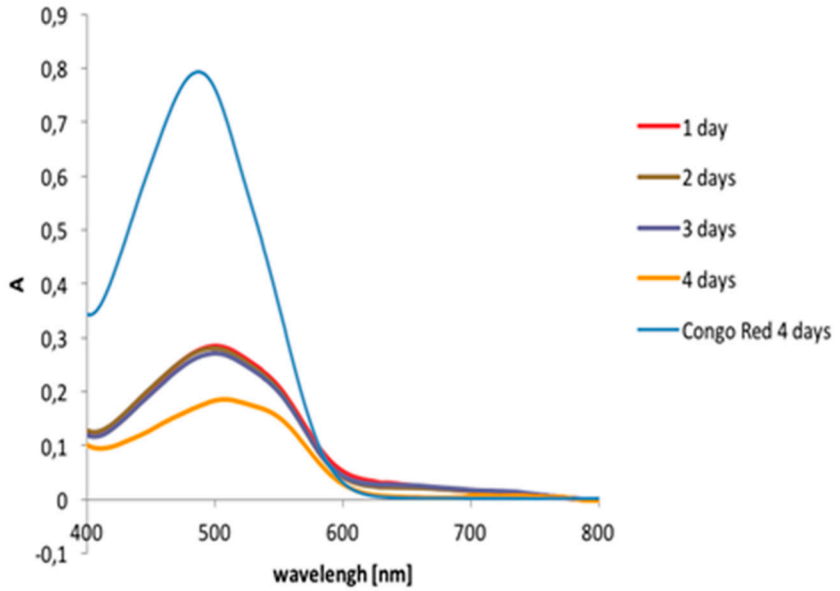

Fig. S71. UV spectra of hot spot A.

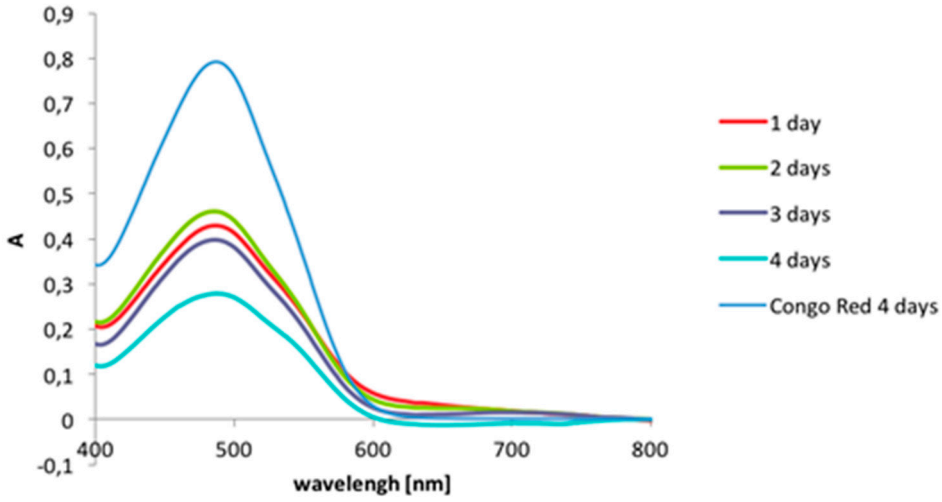

Fig. S72. UV spectra of hot spot B.

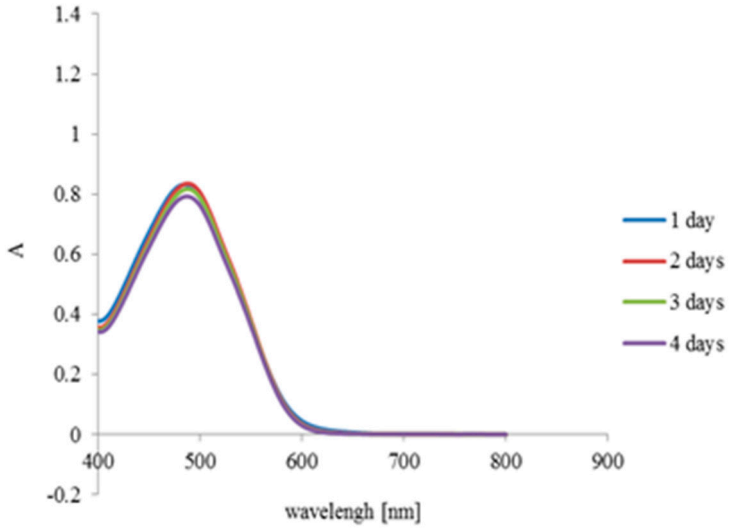

Fig. S73. UV spectra of Congo Red dye.

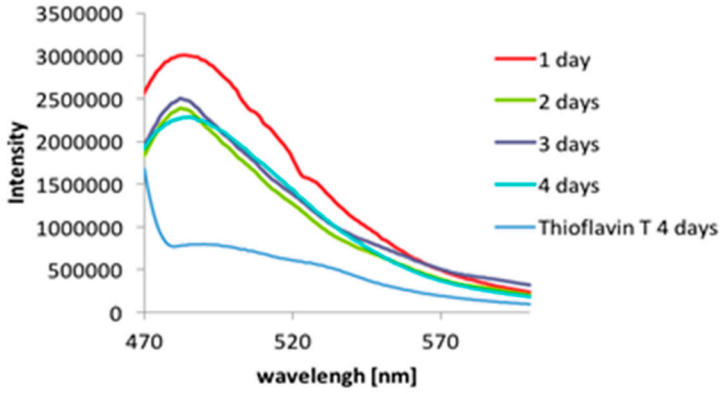

Fig. S74. Fluorescence intensity spectra of hot spot A.

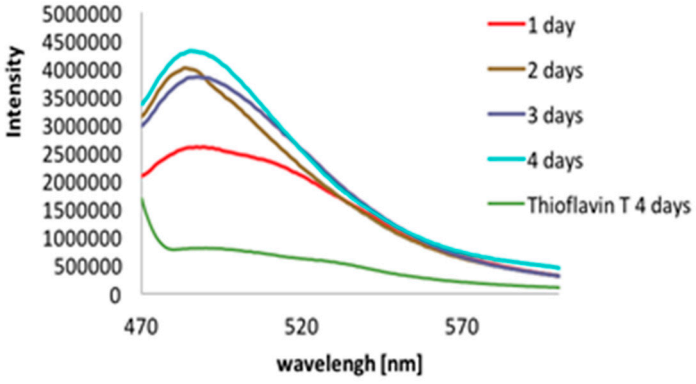

Fig. S75. Fluorescence spectra of hot spot B.