Solvent Recycling in Solid-Phase Peptide Synthesis (SPPS): Combination of a Swellable Macroporous Polystyrene (SMPS) Resin and Green Binary Solvents

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Before swelling

After swelling

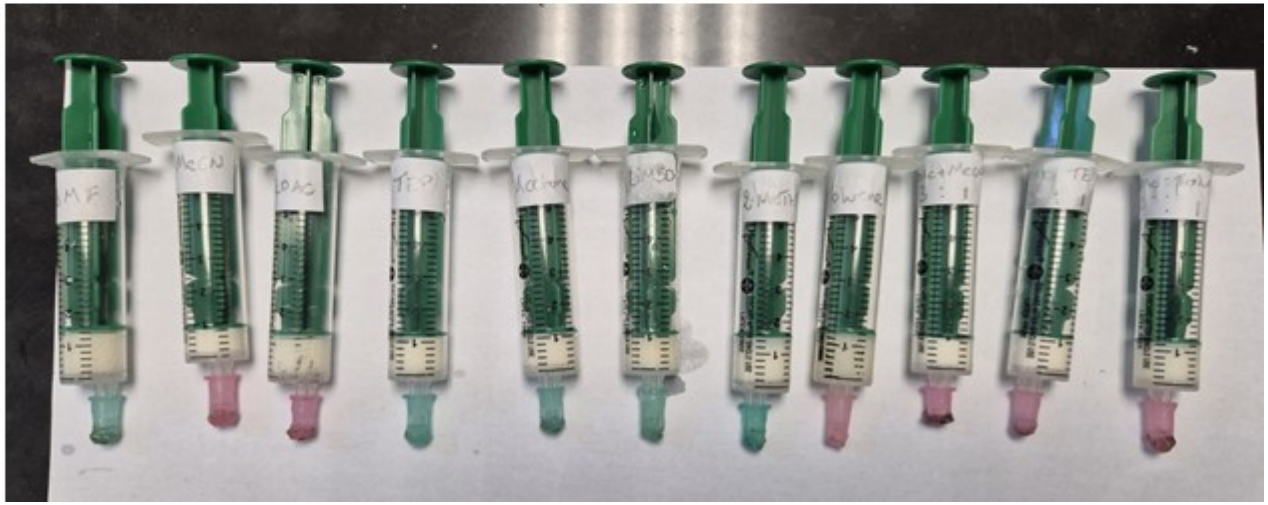
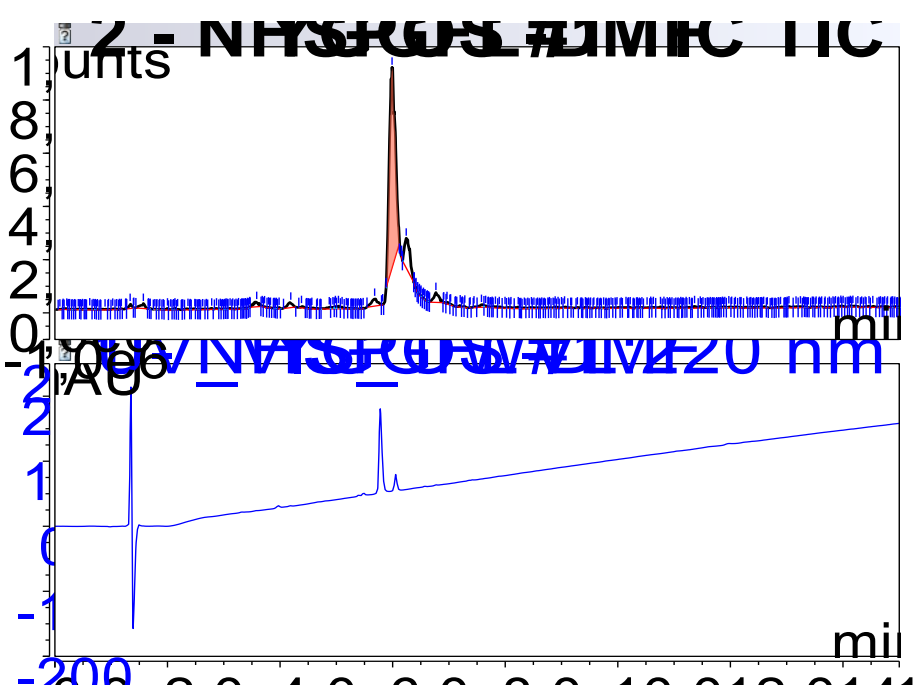
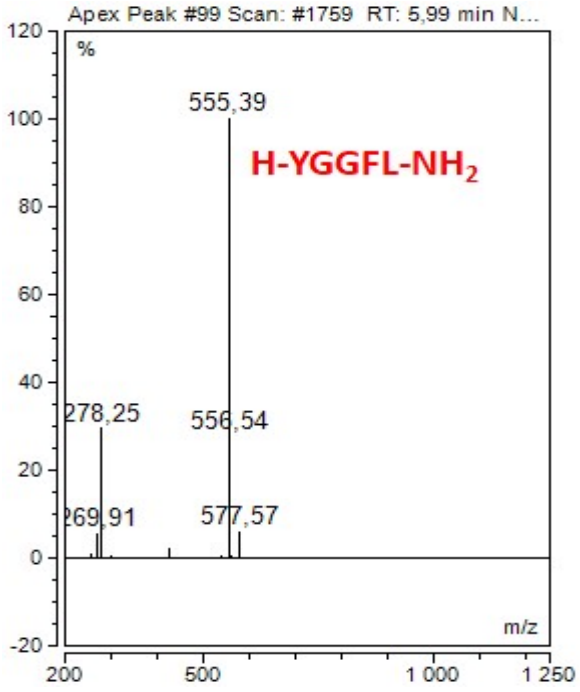


Figure SI1. Swelling study of AM-SMPS-Resin in different solvents before and after 30 mins


Counts
mAU
mi
mi


Apex Peak #99 Scan: #1759 RT: 5,99 min N...
%
555,39
H-YGGFL-NH2
278,25
556,54
269,91
577,57
m/z
200
500
1 000
1 250

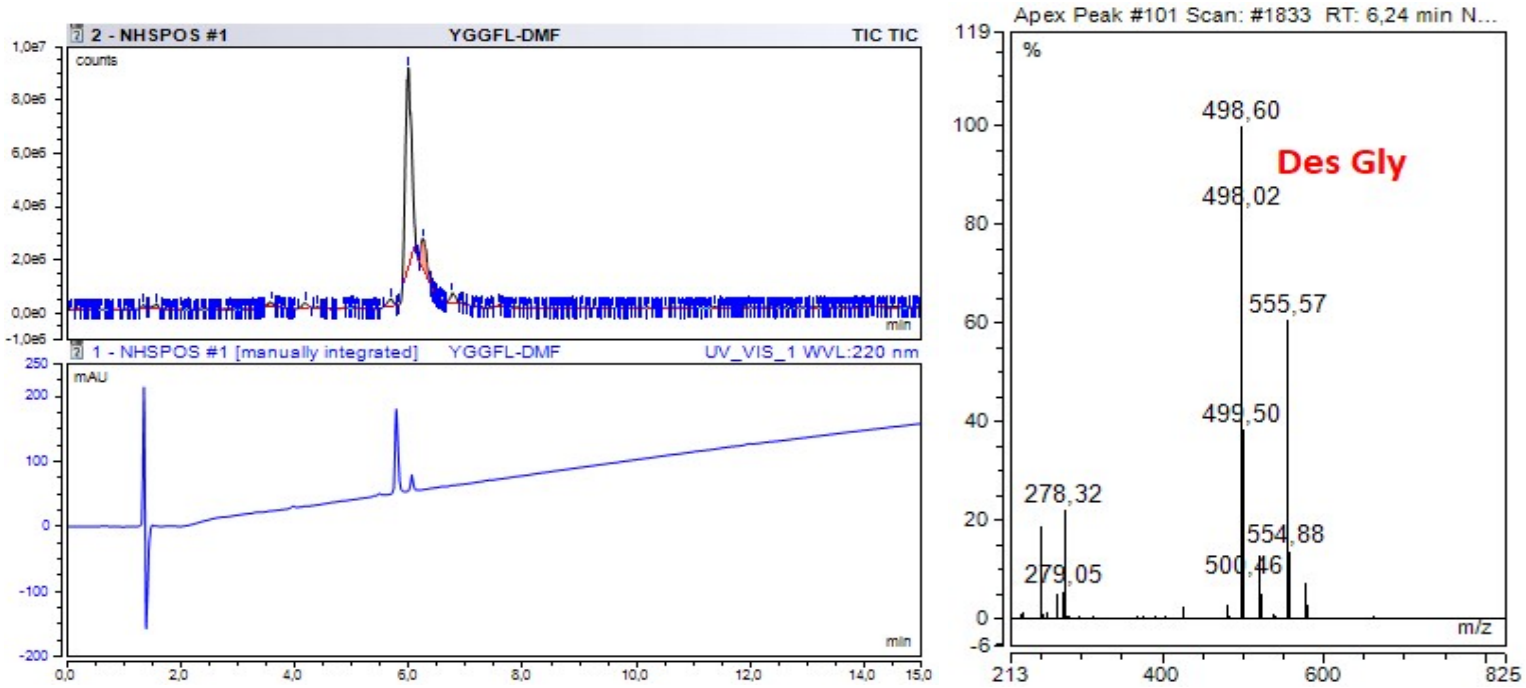
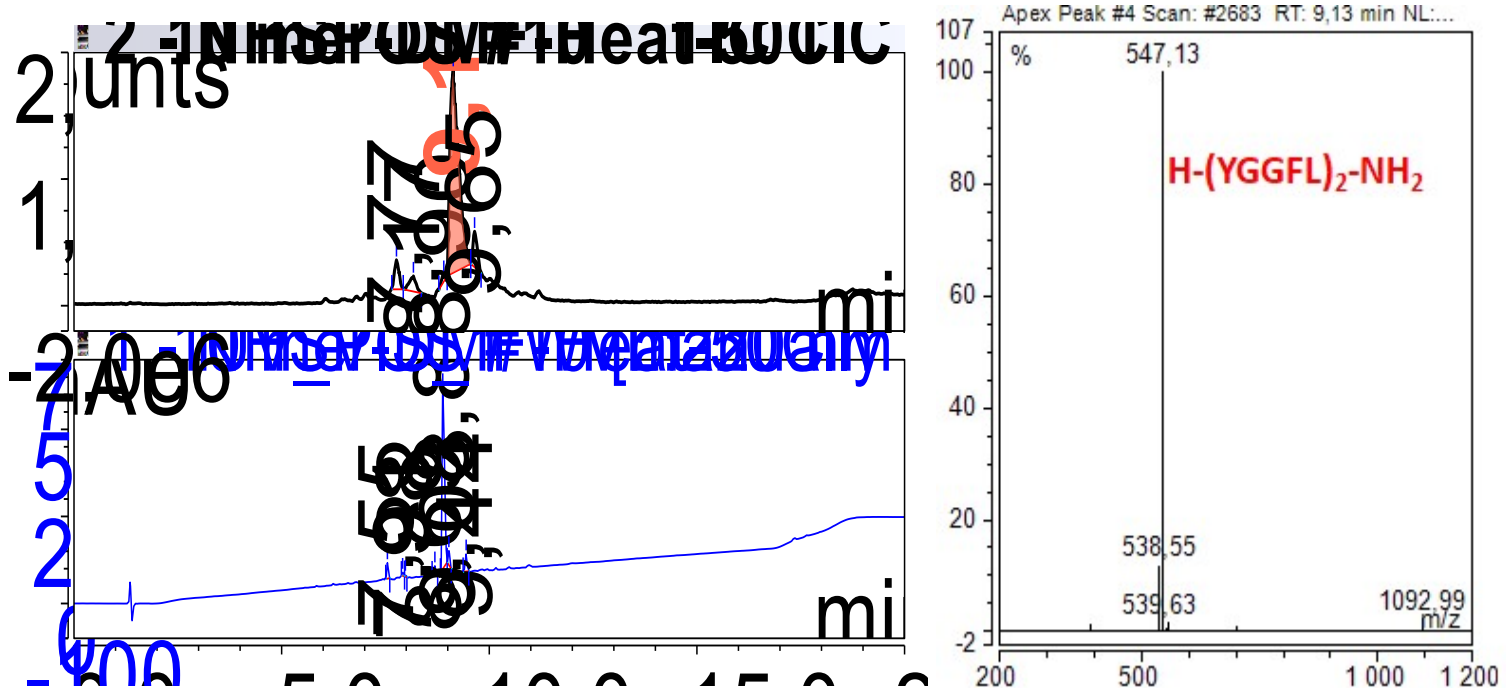


Figure SI2. LC-MS of H-YGGFL-NH_2 synthesised in DMF at room temperature. Gradient: 5–60 % B into A in 15 min; flow rate: 1 mL/min; detection at 220 nm.


Apex Peak #4 Scan: #2683 RT: 9,13 min NL:...
%
547,13
H-(YGGFL)2-NH2
538,55
539,63
1092,99
m/z
107
100
80
60
40
20
-2
200
500
1 000
1 200

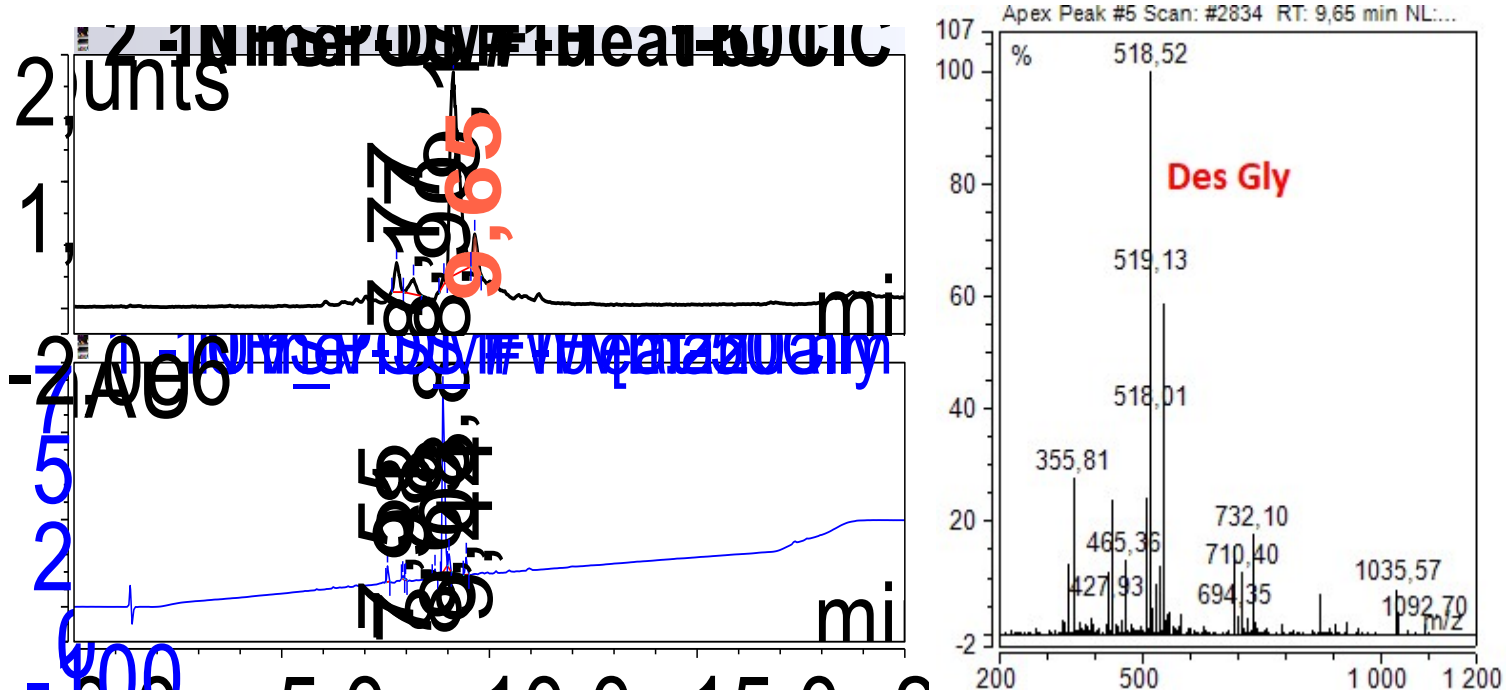
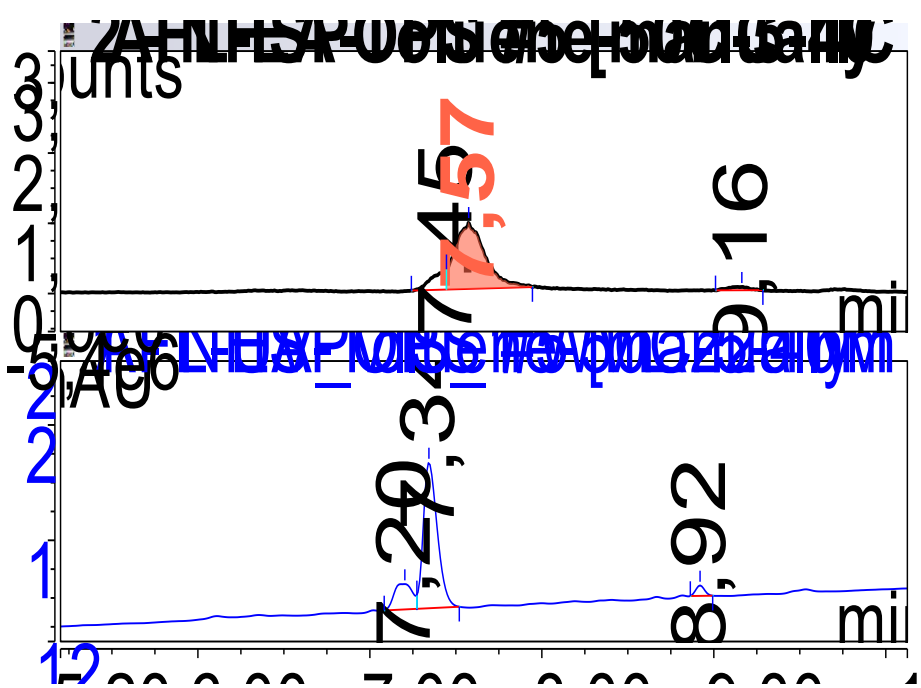
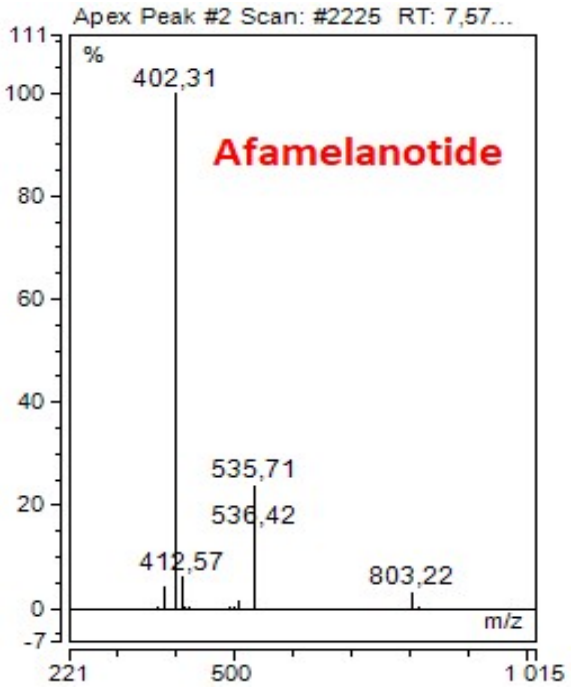


Figure SI3. LC-MS of H-(YGGFL)$_2$-NH$_2$ synthesised in DMF at 50ºC. Gradient: 5–60 % B into A in 15 min; flow rate: 1 mL/min; detection at 220 nm.


unts
7,45
9,16
7,29
7,34
8,92
mi


Apex Peak #2 Scan: #2225 RT: 7,57...
%
402,31
Afamelanotide
535,71
536,42
412,57
803,22
m/z
111
100
80
60
40
20
0
-7
221
500
1 015

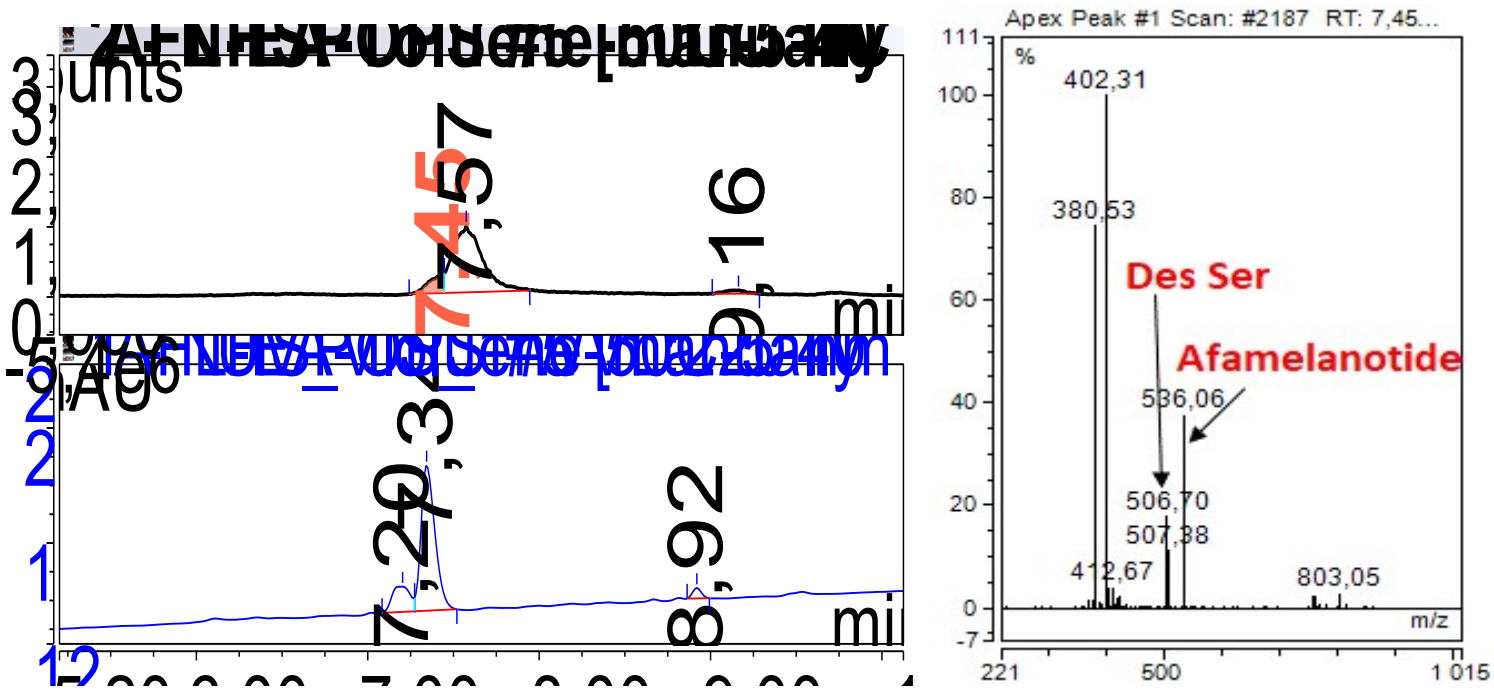


Figure SI4. LC-MS of Afamelanotide synthesised at 50°C in EtOAc:Toluene (3:1). Gradient: 5–40 % B into A in 15 min; flow rate: 1 mL/min; detection at 220 nm.

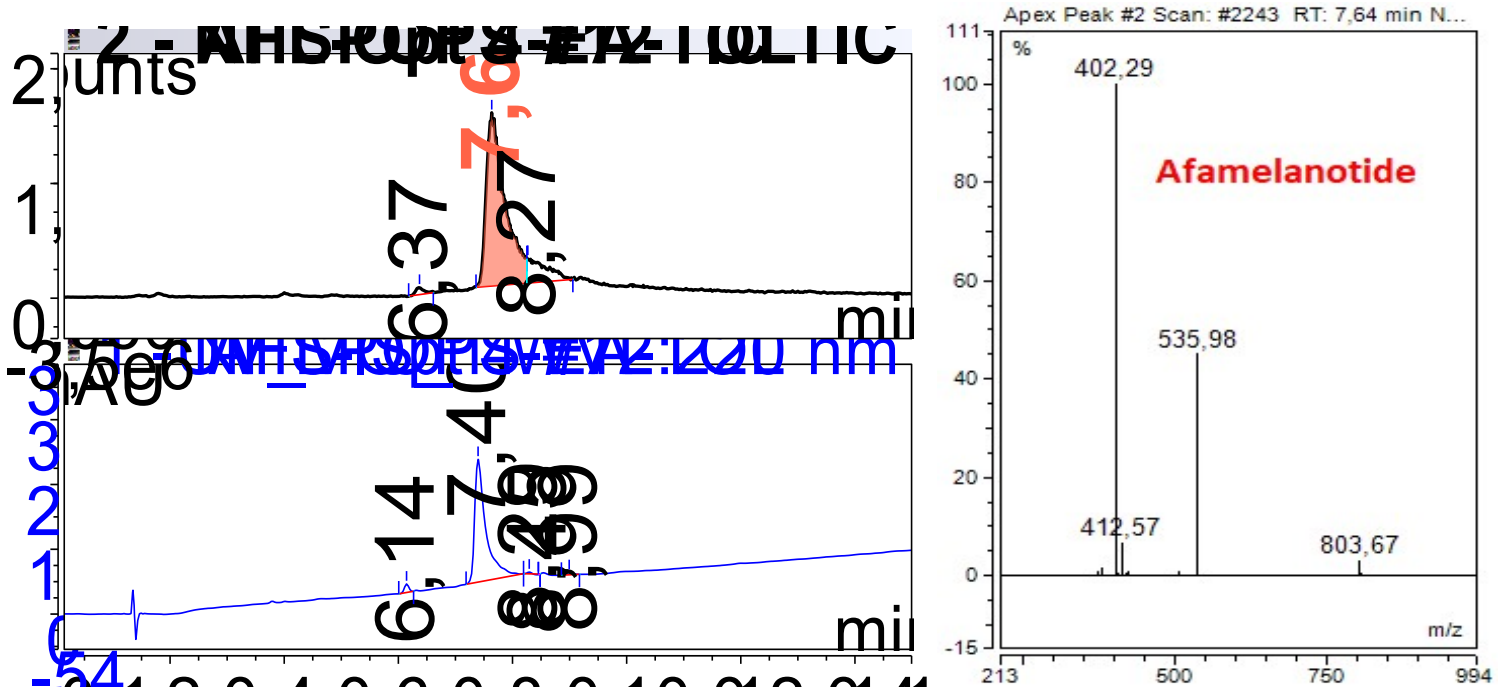


Figure SI5. LC-MS of Afamelanotide synthesised at 50°C in EtOAc:Toluene (3:1) after optimization. Gradient: 5–40 % B into A in 15 min; flow rate: 1 mL/min; detection at 220 nm.