

Supporting Information

Identification of BP16 as a non-toxic cell-penetrating peptide with highly efficient drug delivery properties

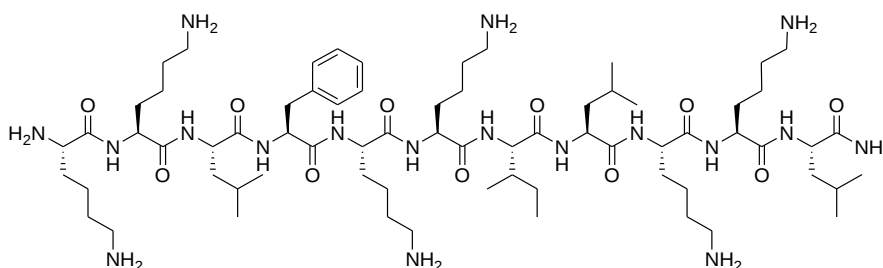
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Francesc Tebar, Anna Massaguer,* Lidia Feliu,* Marta Planas*

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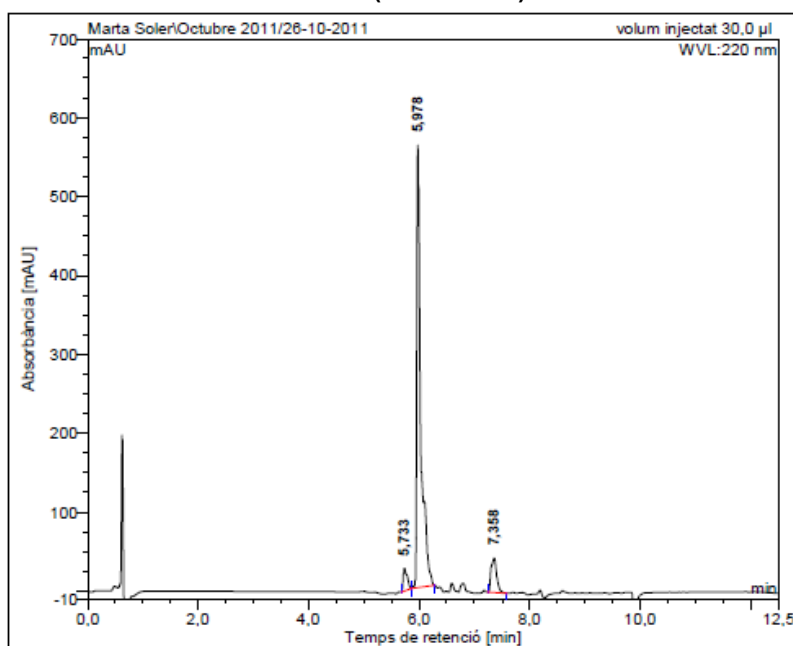
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1. HPLC, ESI-MS and HRMS of peptides

BP16 (KKLFKKILKKL-NH₂)

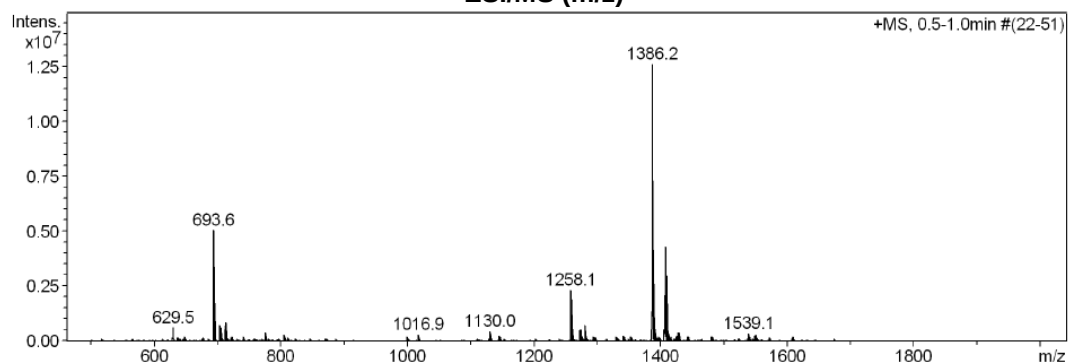


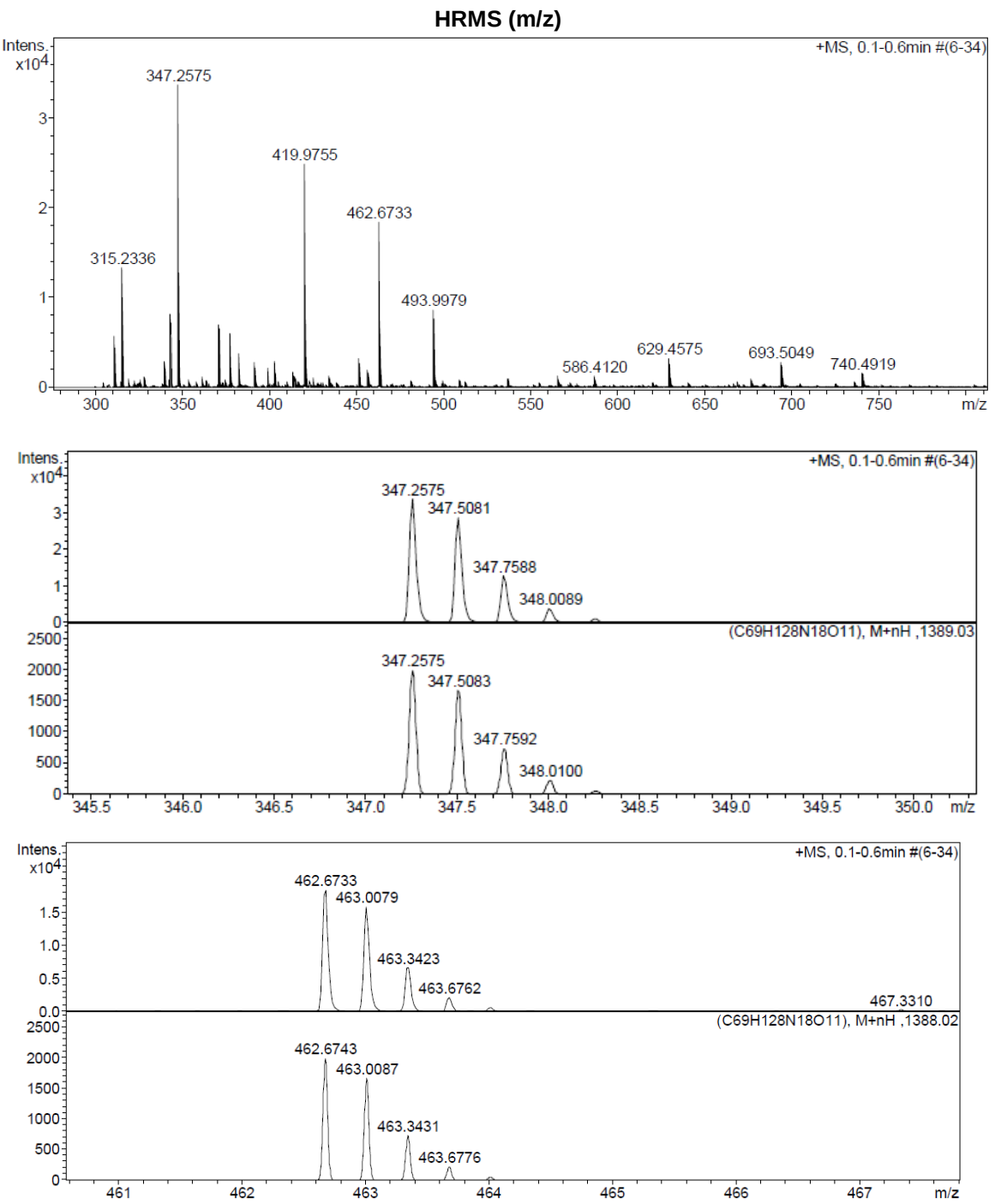
HPLC ($\lambda = 220$ nm)



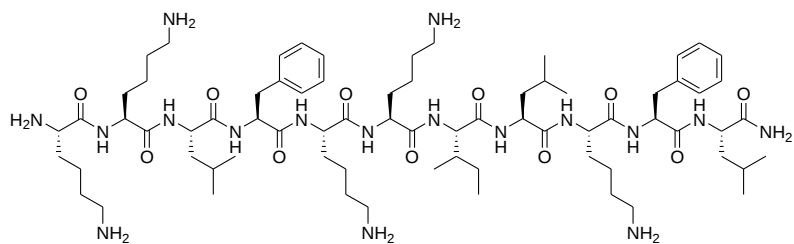
No.	mps retenc min	alçada mAU	Area mAU*min	Area relativa %
1	5,73	29,200	2,392	4,34
2	5,98	560,424	47,628	86,44
3	7,36	43,883	5,076	9,21
Total:		633,507	55,097	100,00

ESI/MS (m/z)

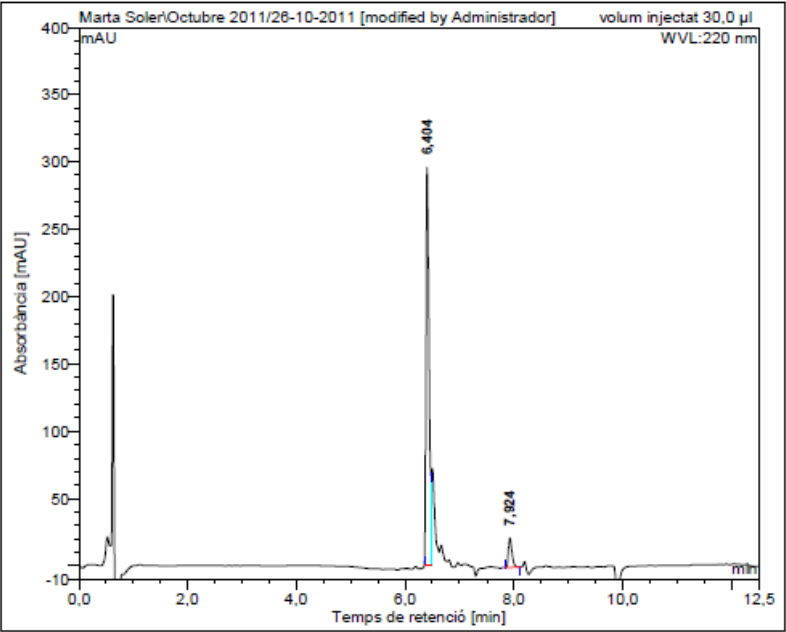




BP76 (KKLFKKILKFL-NH₂)

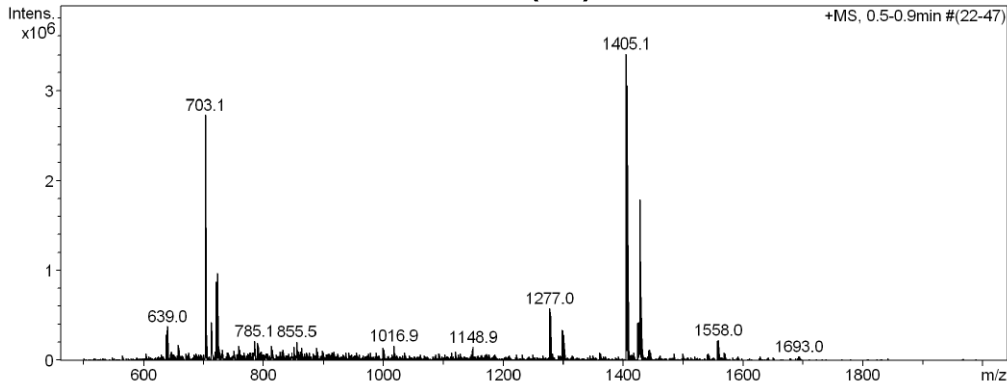


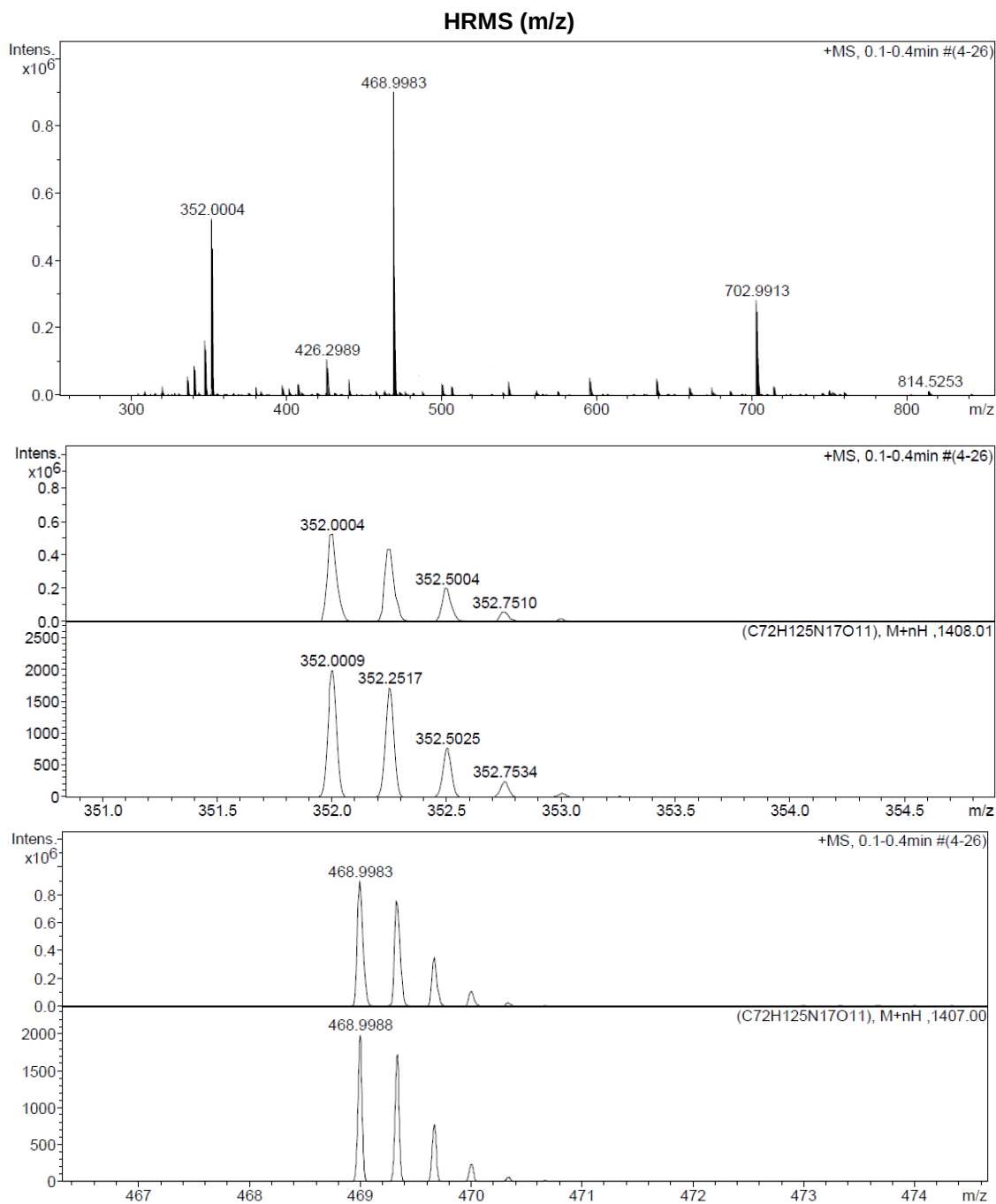
HPLC (λ= 220 nm)



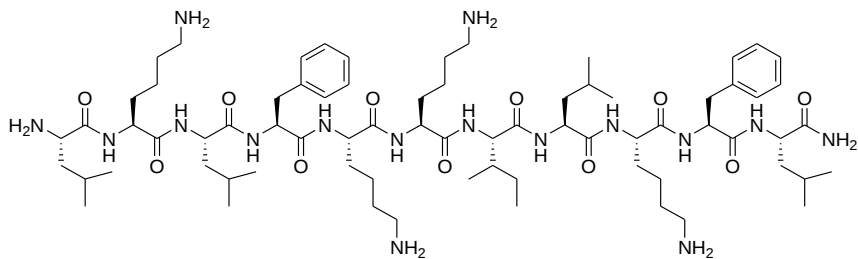
No.	mps retenc min	alçada mAU	Area mAU*min	Area relativa %
1	6,40	295,207	19,989	92,39
2	7,92	21,793	1,647	7,61
Total:		317,000	21,636	100,00

ESI/MS (m/z)

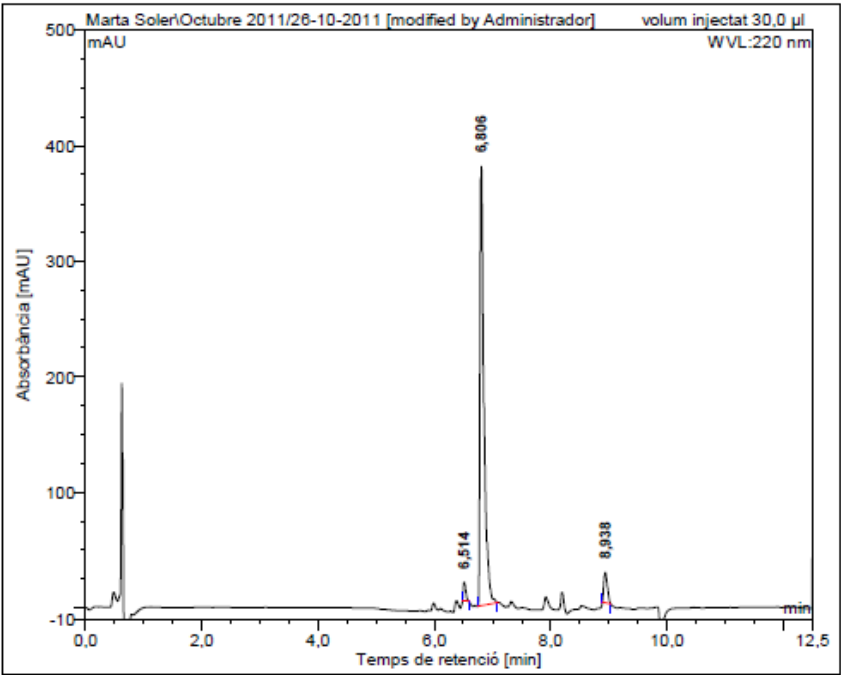




BP81 (LKLFKKILKFL-NH₂)

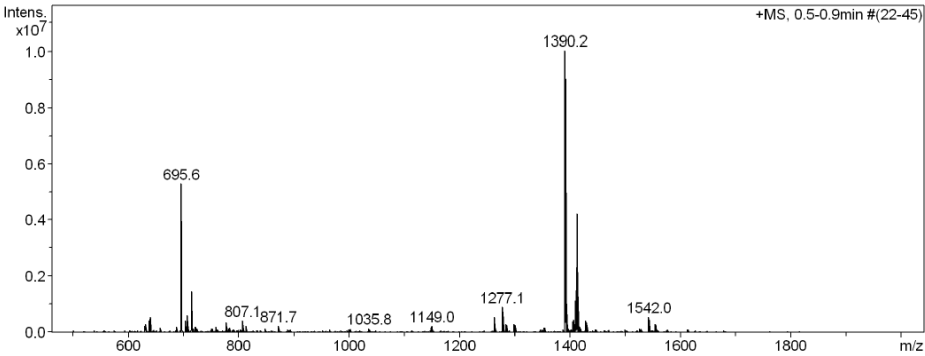


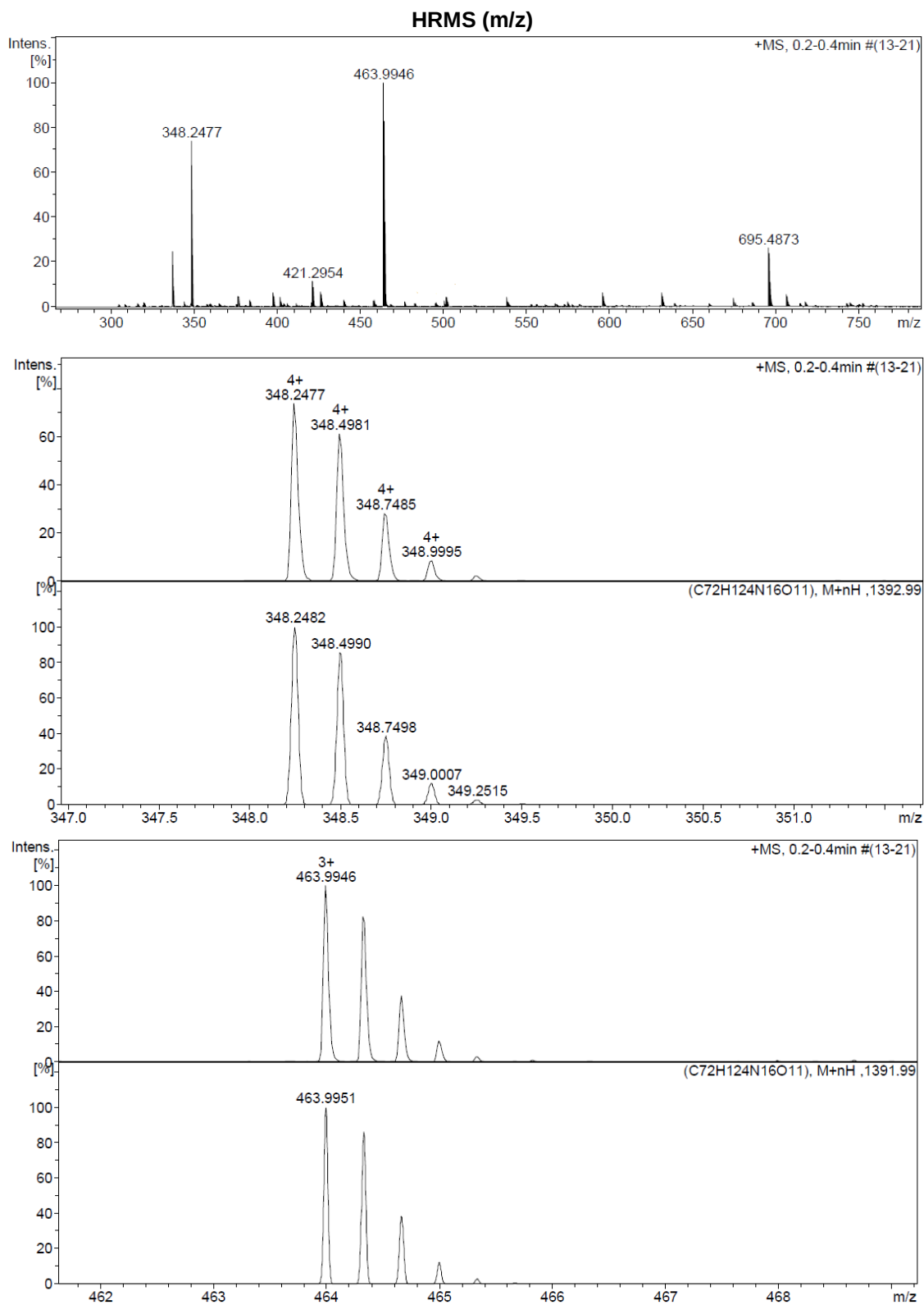
HPLC (λ = 220 nm)



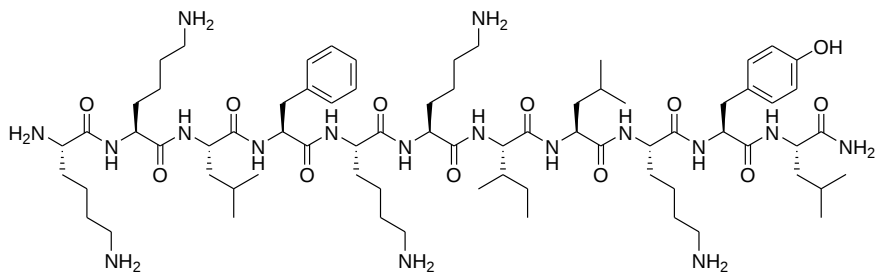
No.	mps retenc min	alçada mAU	Area mAU*min	Area relativa %
1	6,51	16,053	0,810	2,50
2	6,81	380,292	29,747	91,85
3	8,94	26,120	1,831	5,65
Total:		422,465	32,388	100,00

ESI/MS (m/z)

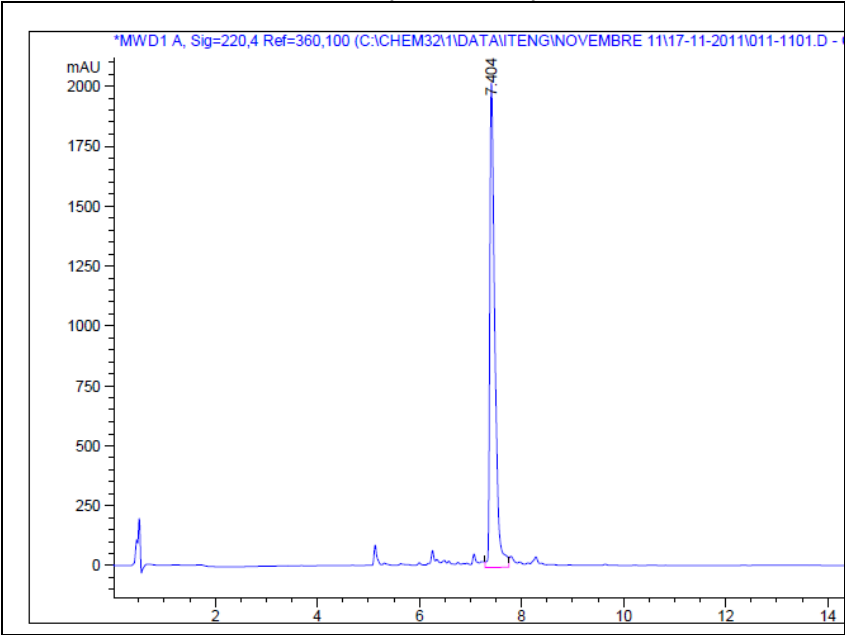




BP100 (KKLFKKILKYL-NH₂)

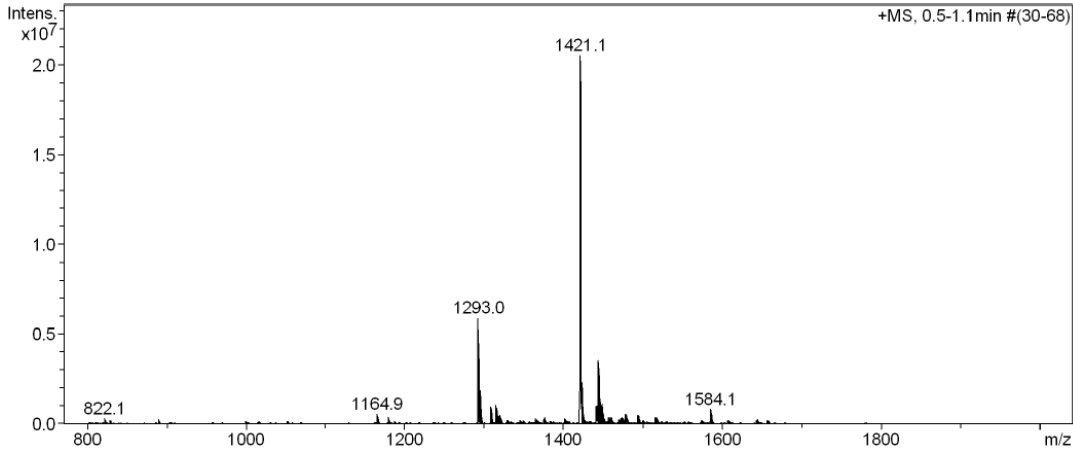


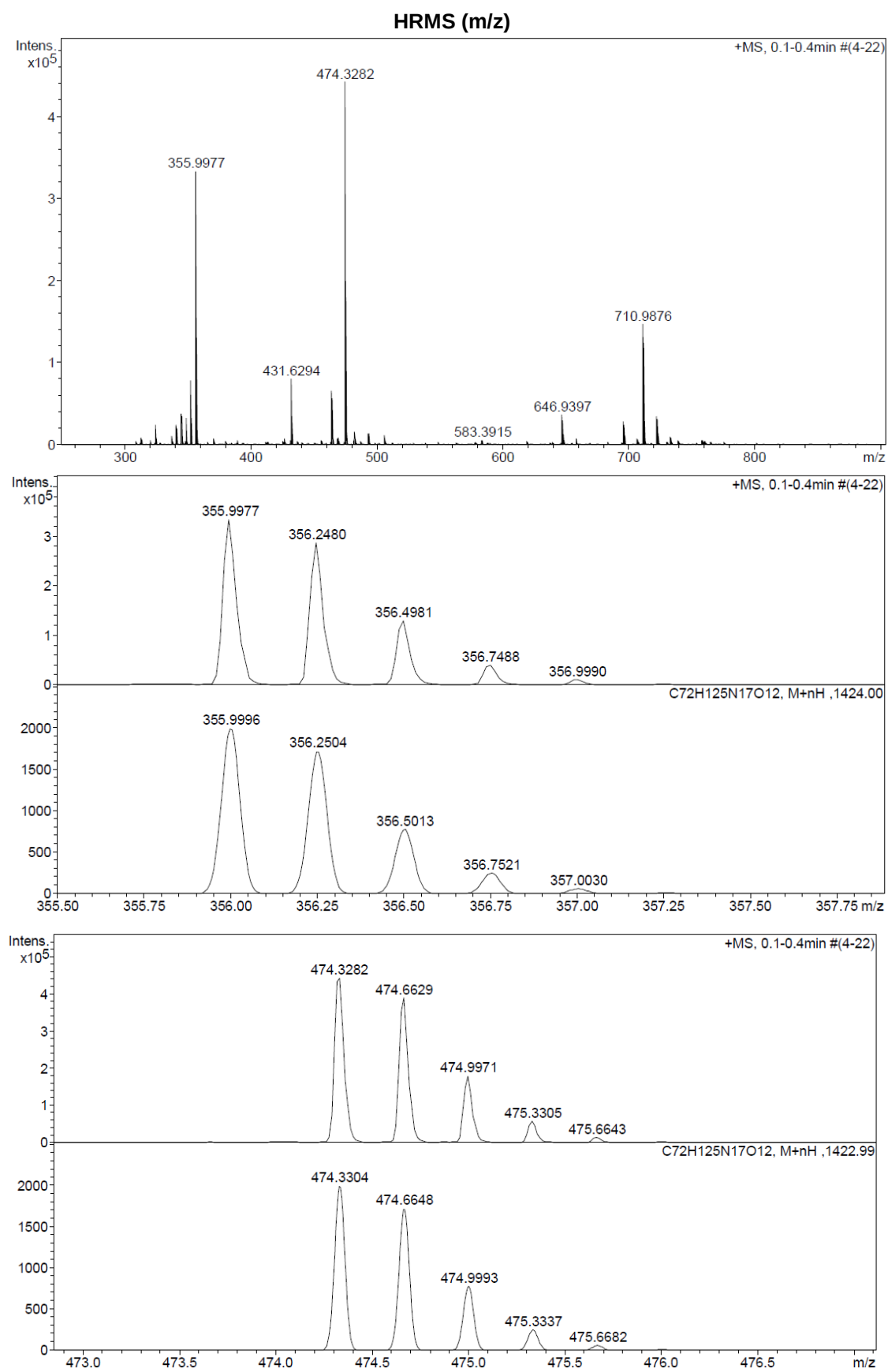
HPLC (λ = 220 nm)



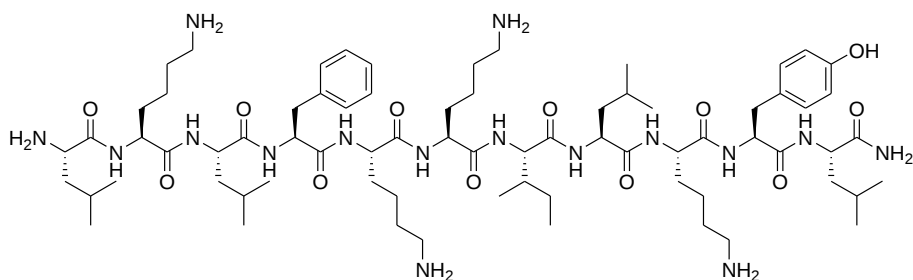
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	7.404	VV	0.1018	1.38823e4	2028.39783	100.0000

ESI/MS (m/z)

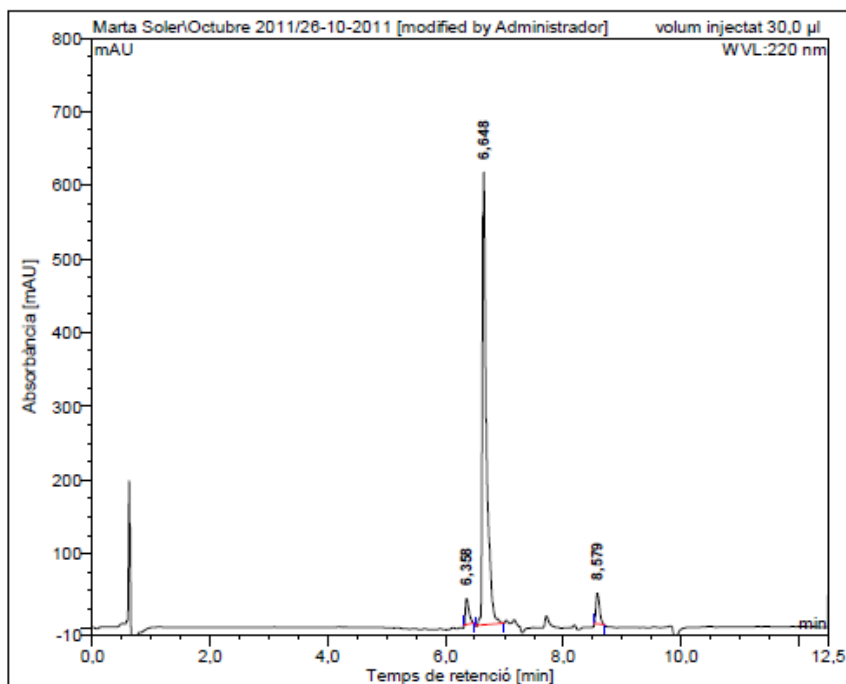




BP105 (LKLFKKILKYL-NH₂)

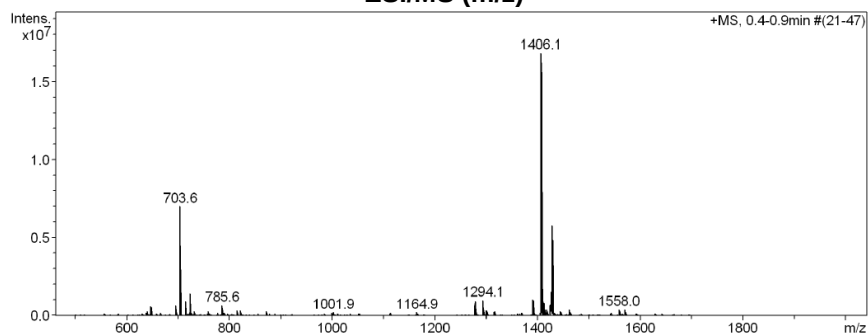


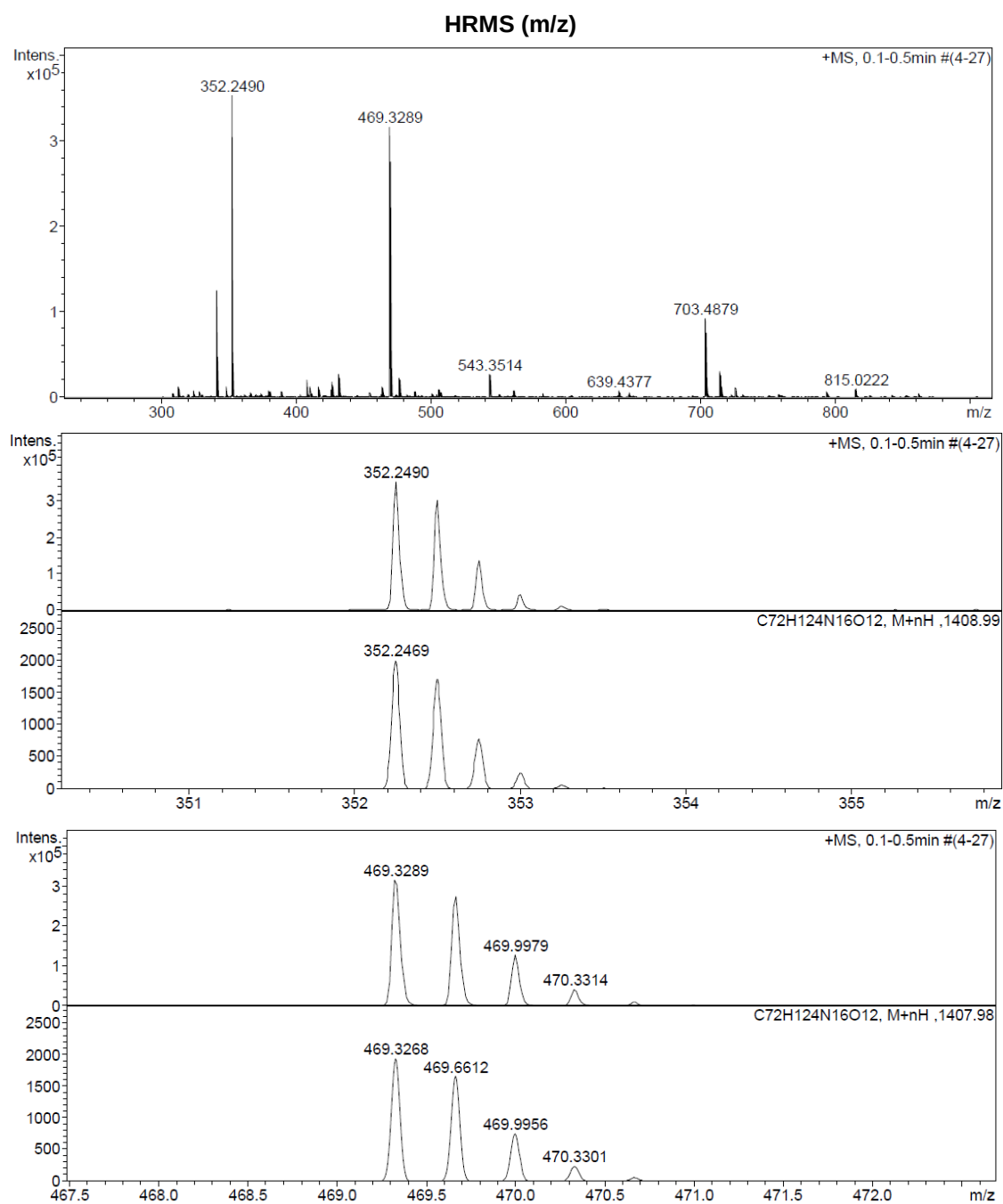
HPLC ($\lambda = 220$ nm)



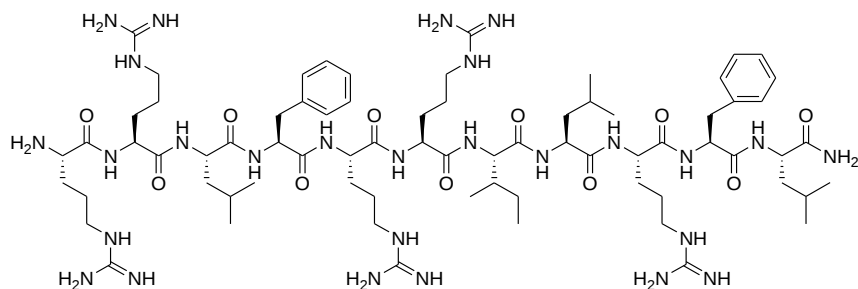
No.	mps retenc min	alçada mAU	Area mAU*min	Area relativa %
1	6,36	34,663	2,418	4,45
2	6,65	613,828	48,957	90,14
3	8,58	41,362	2,936	5,41
Total:		689,853	54,311	100,00

ESI/MS (m/z)

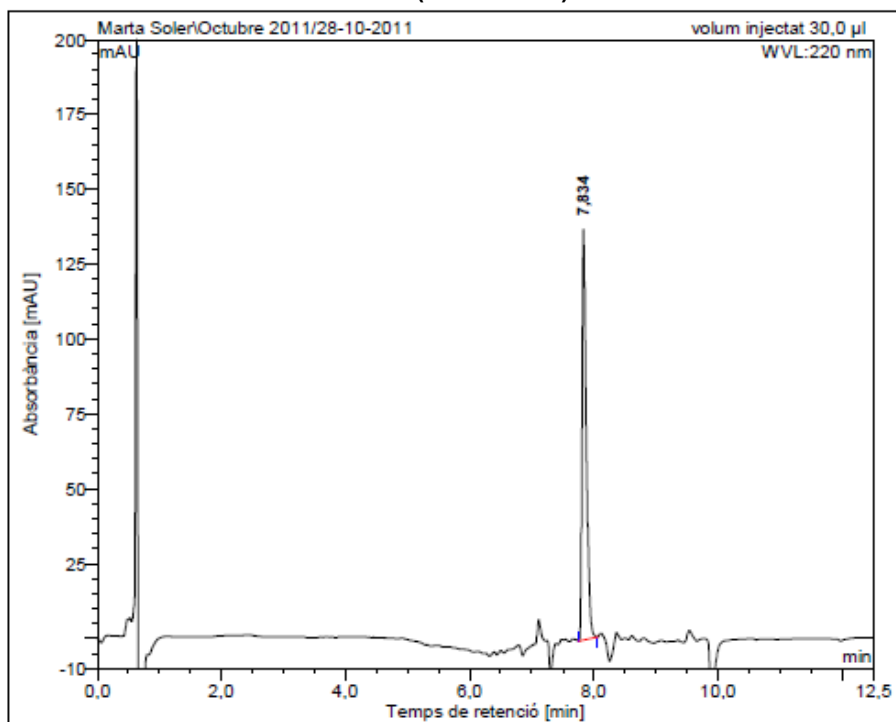




BP307 (RRLFRRILRYL-NH₂)

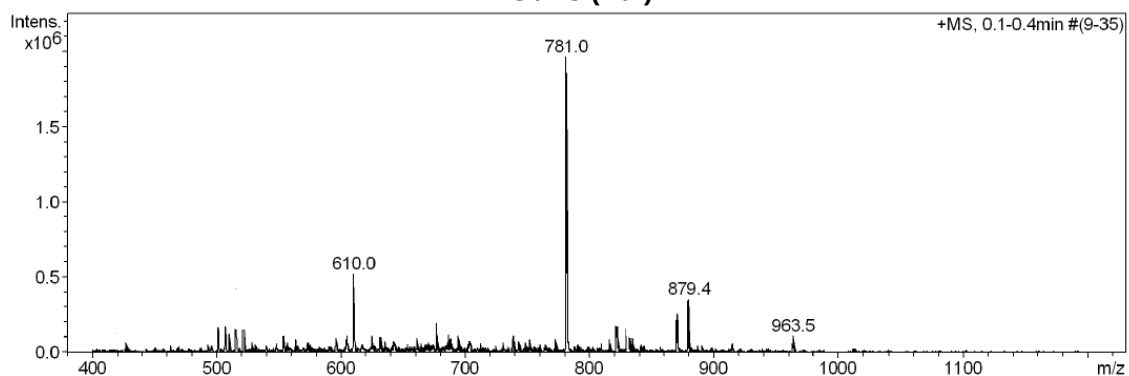


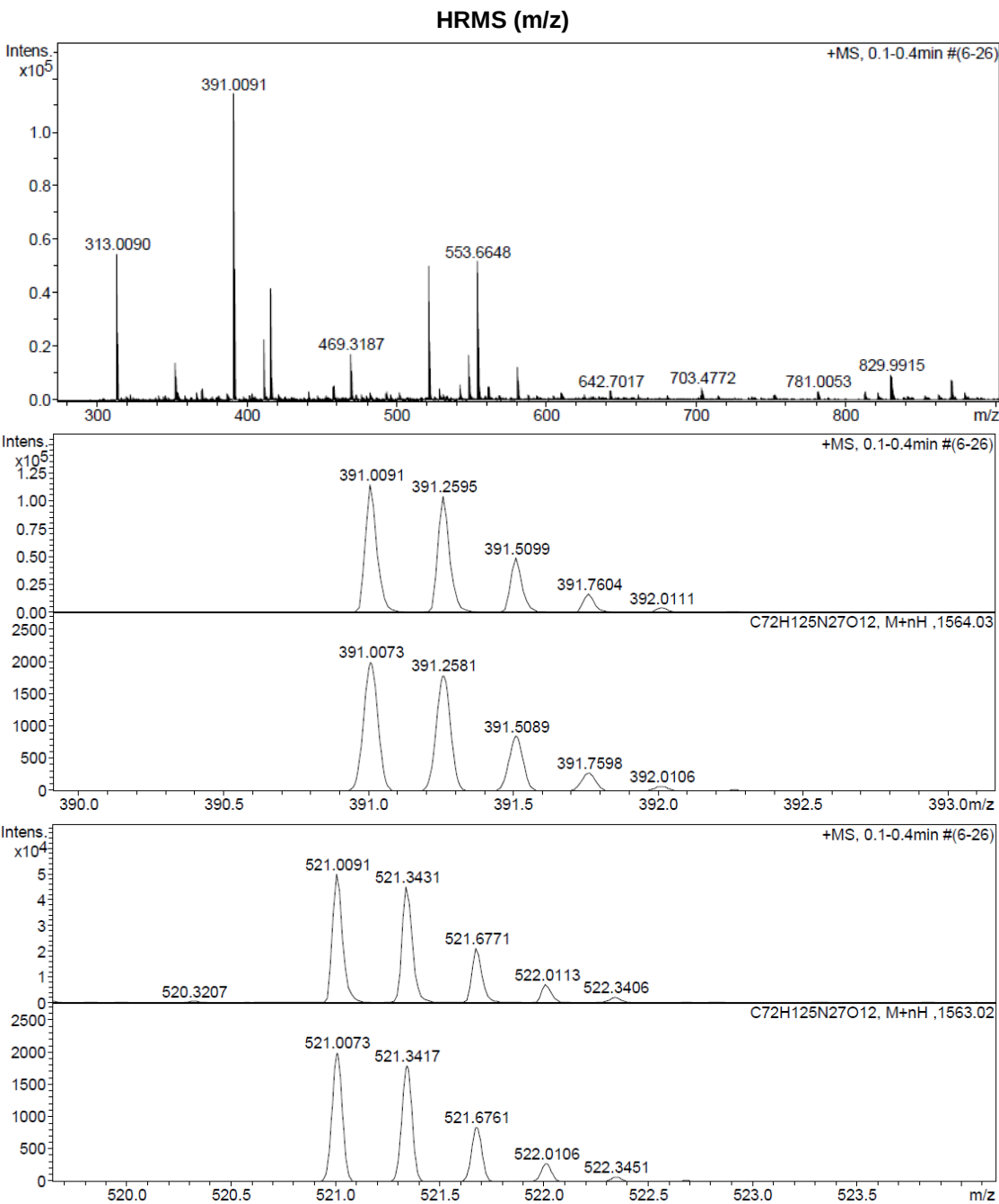
HPLC ($\lambda = 220$ nm)



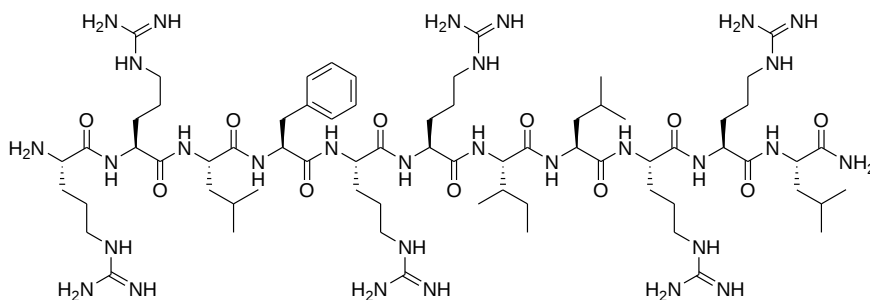
No.	mps retenc min	alçada mAU	Area mAU*min	Area relativa %
1	7,83	137,092	10,854	100,00
Total:		137,092	10,854	100,00

ESI/MS (m/z)

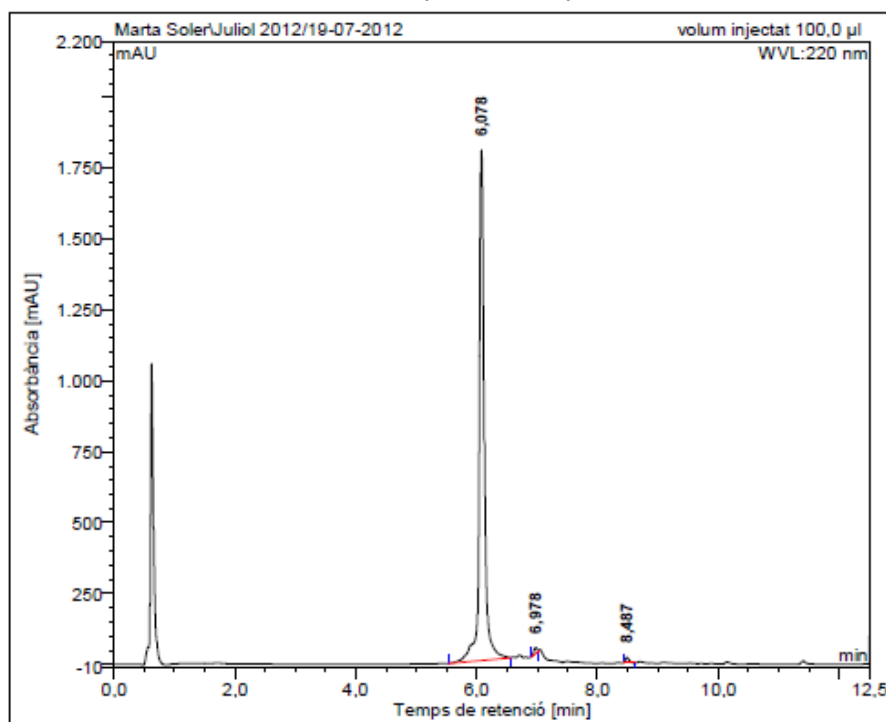




BP308 (RRLFRRILRRL-NH₂)

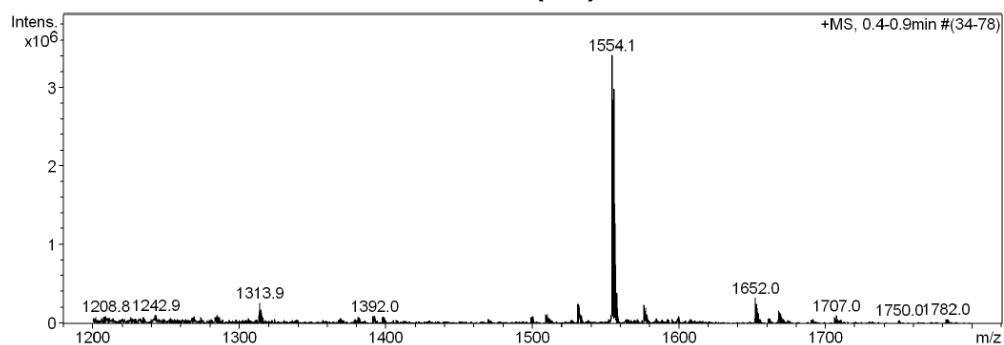


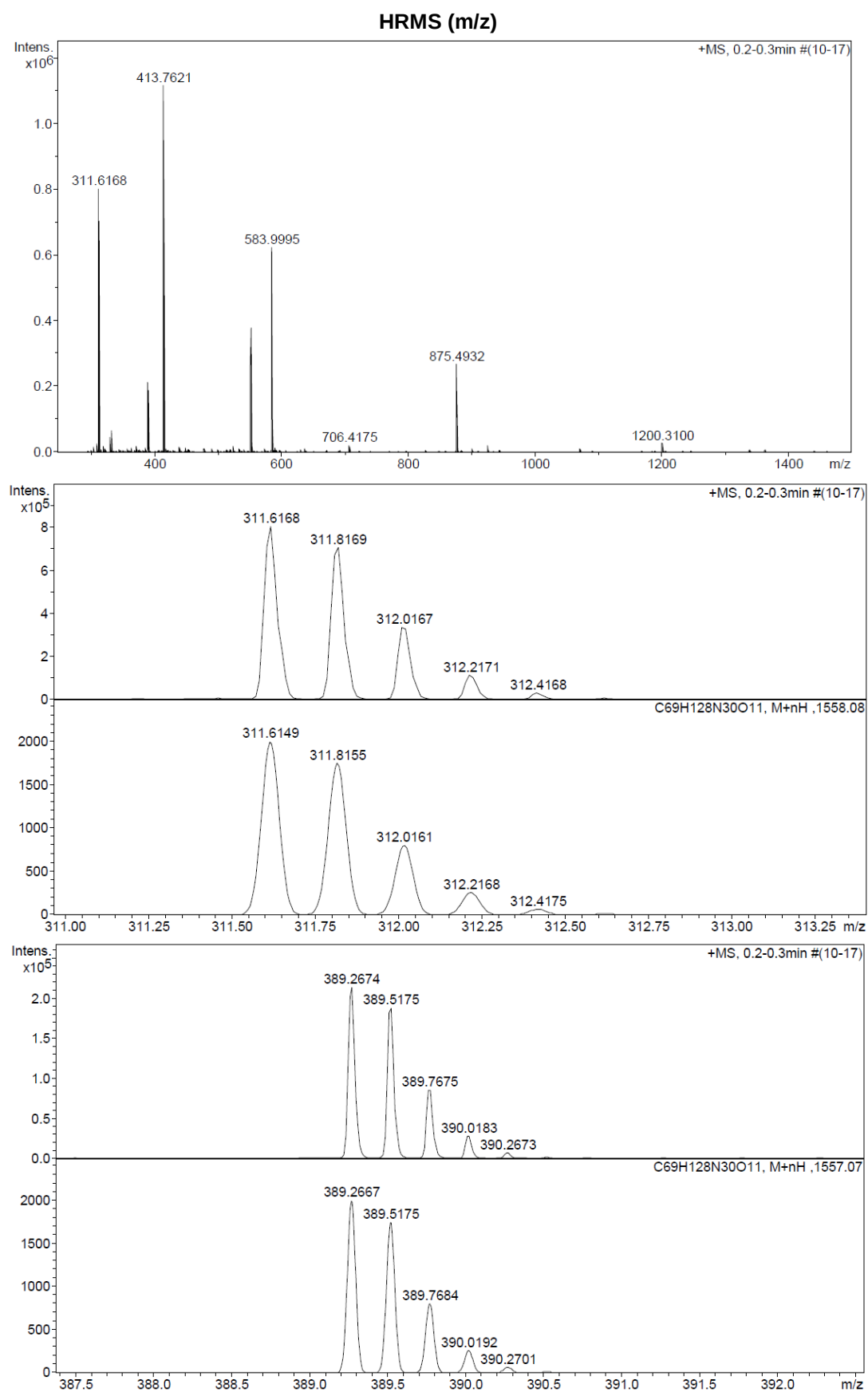
HPLC ($\lambda = 220$ nm)



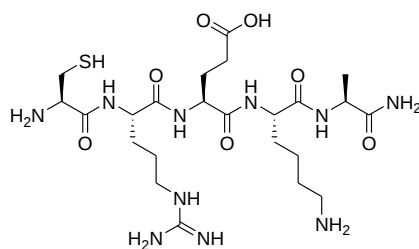
No.	mps retenc min	alçada mAU	Area mAU*min	Area relativa %
1	6,08	1801,317	177,418	98,51
2	6,98	19,947	1,208	0,67
3	8,49	20,643	1,470	0,82
Total:		1841,907	180,096	100,00

ESI/MS (m/z)

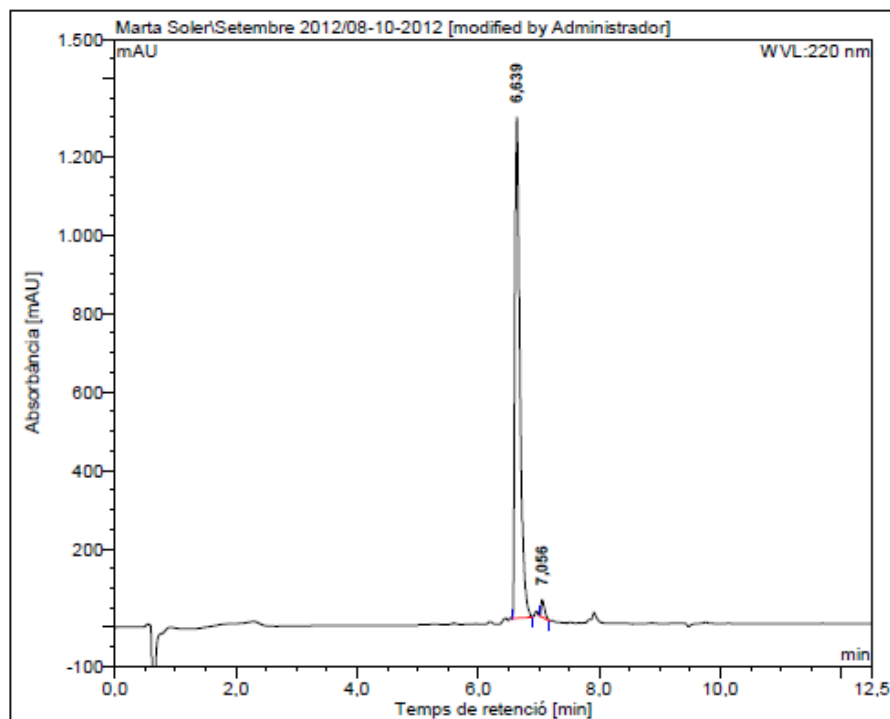




CREKA (CREKA-NH₂)

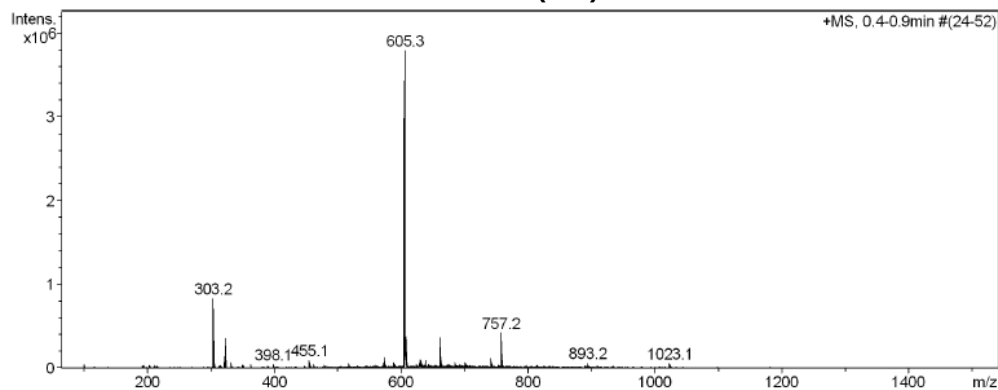


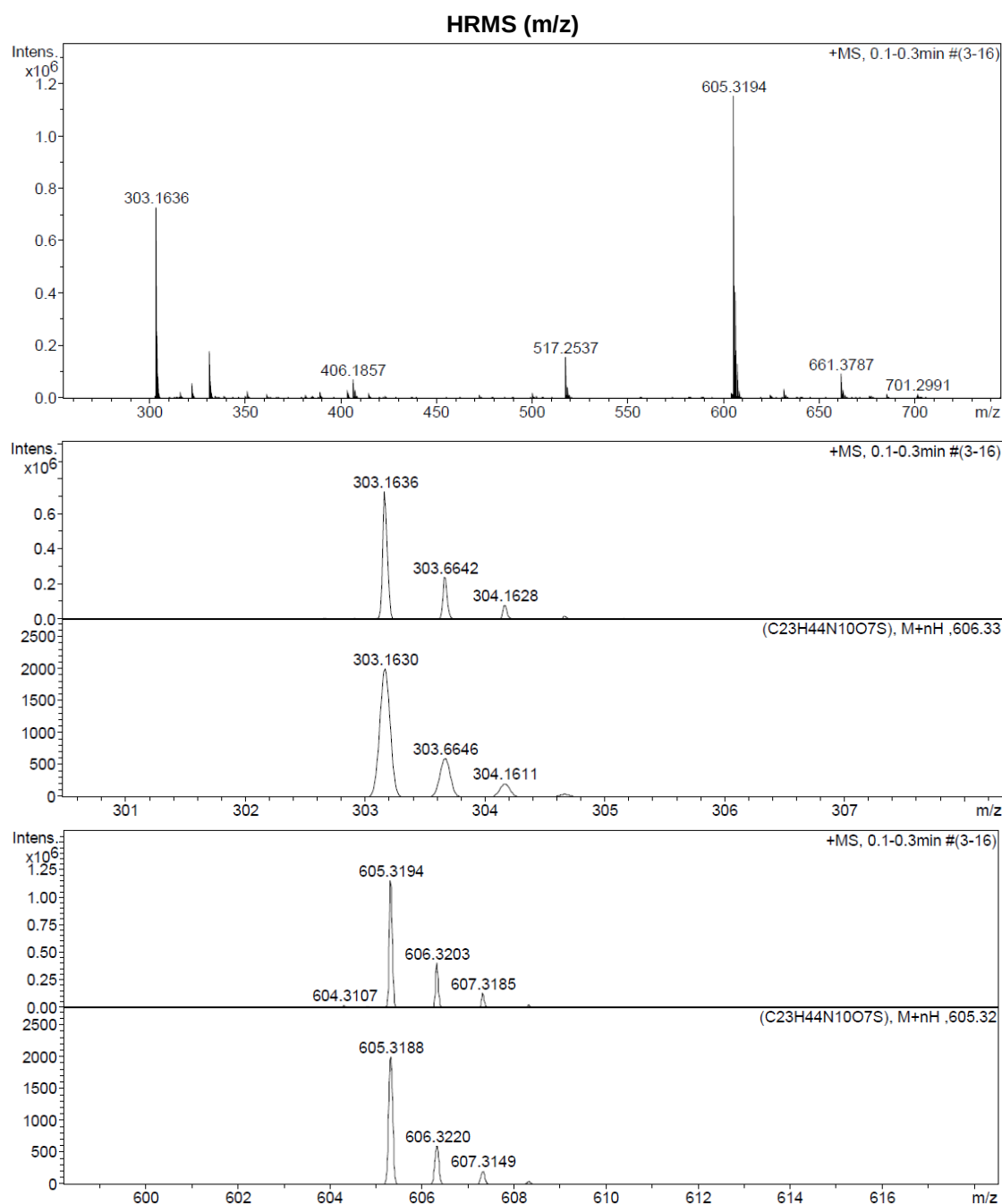
HPLC ($\lambda = 220$ nm)



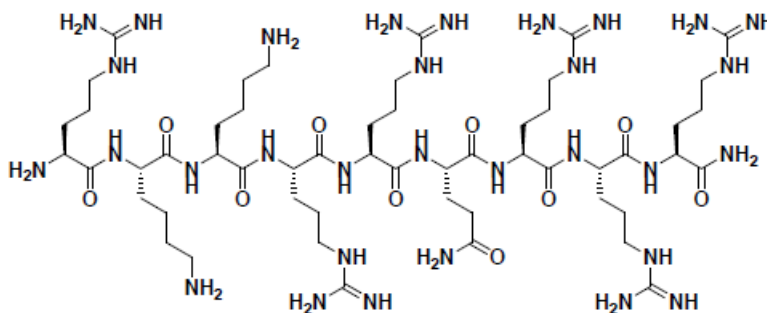
No.	mps retenc min	alçada mAU	Area mAU*min	Area relativa %
1	6,64	1276,937	124,743	97,73
2	7,06	43,895	2,896	2,27
Total:		1320,832	127,639	100,00

ESI/MS (m/z)

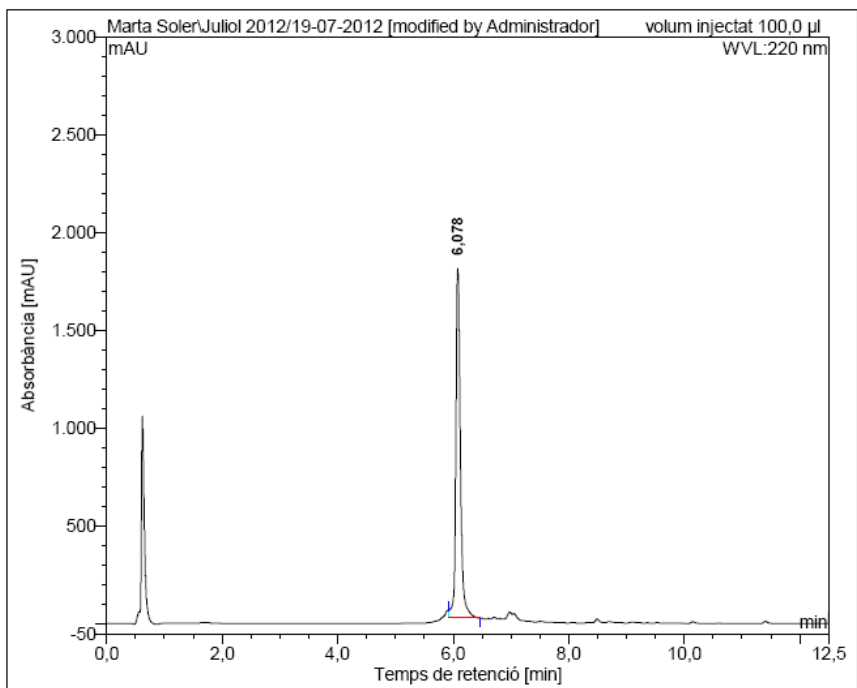




Tat₄₉ (RKKRRQRRR-NH₂)

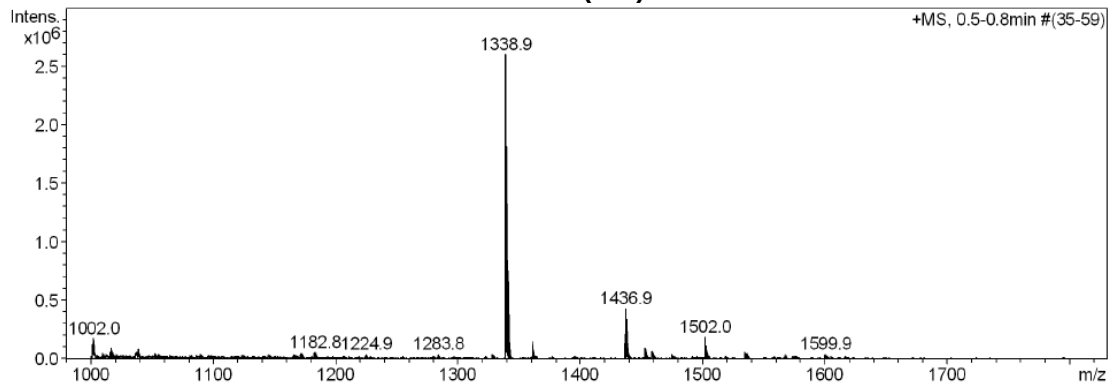


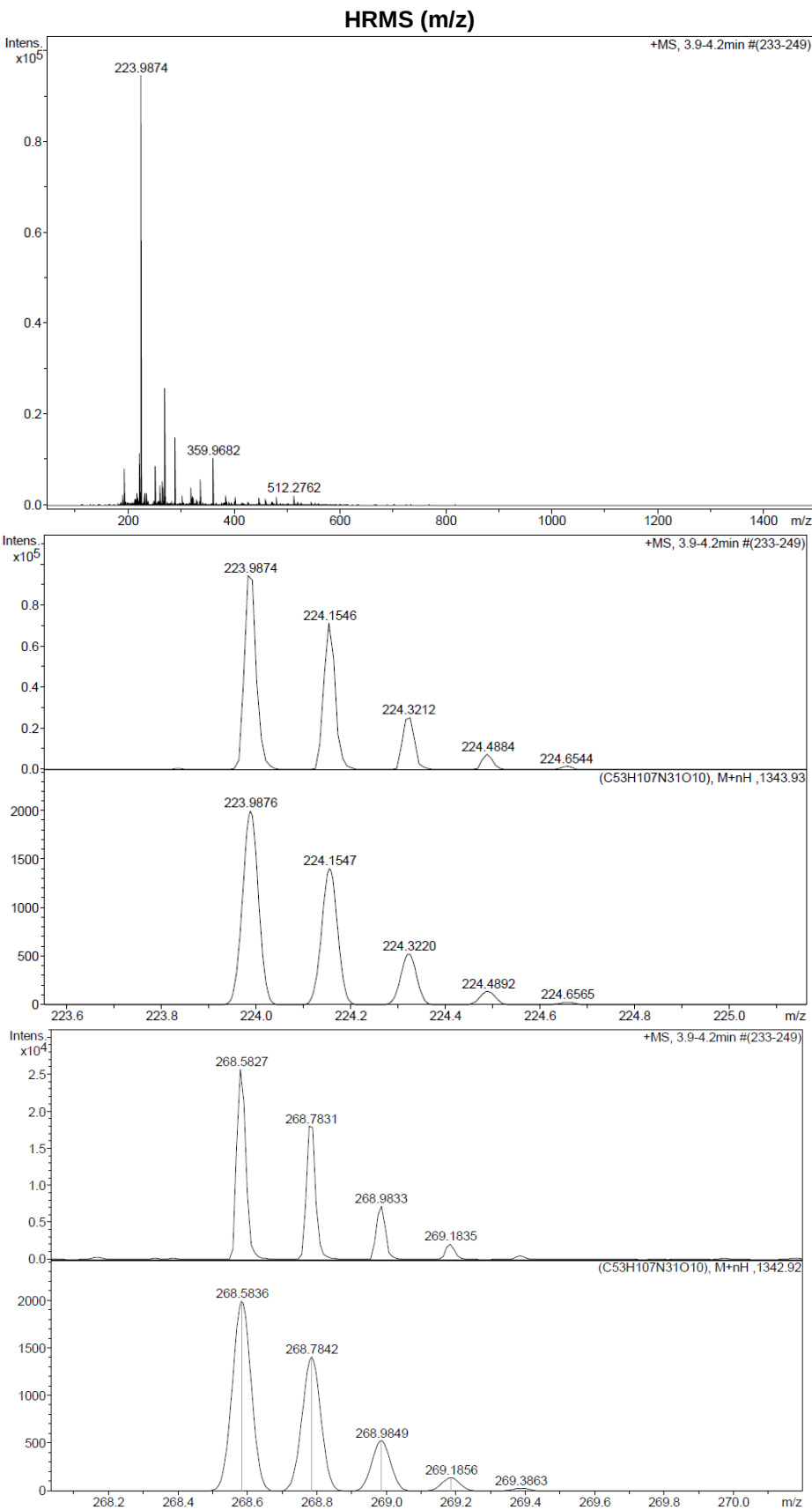
HPLC ($\lambda = 220$ nm)



No.	mps retenc min	alçada mAU	Area mAU·min	Area relativa %
1	6,08	1786,528	164,197	100,00
Total:		1786,528	164,197	100,00

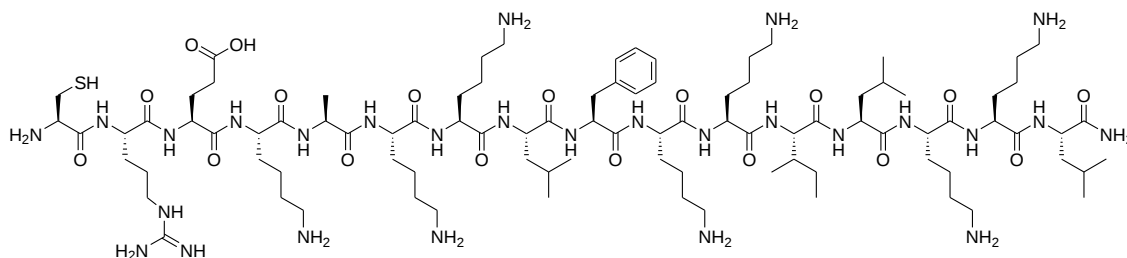
ESI/MS (m/z)



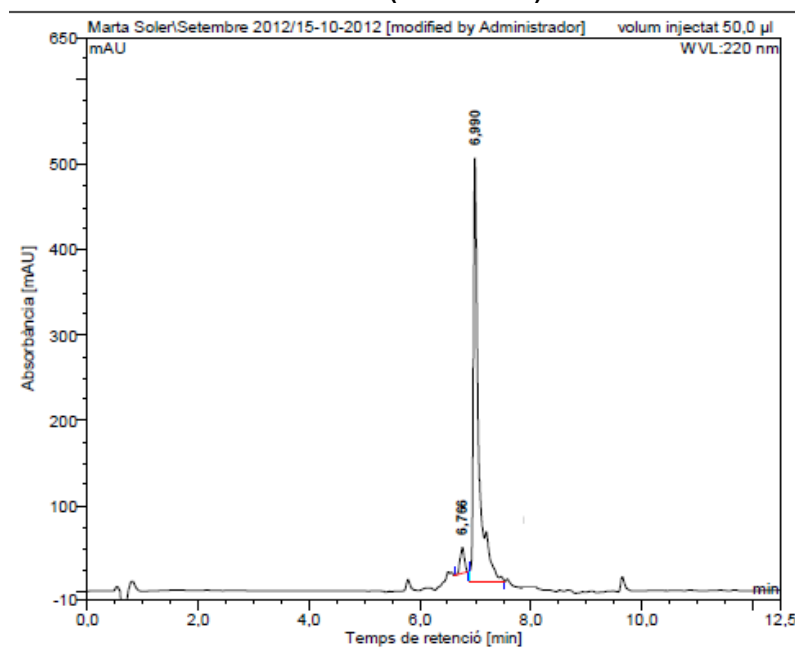


2. HPLC, ESI-MS and HRMS of CLB-peptide conjugates

BP327 (CREKA-KKLFKKILKKL-NH₂)

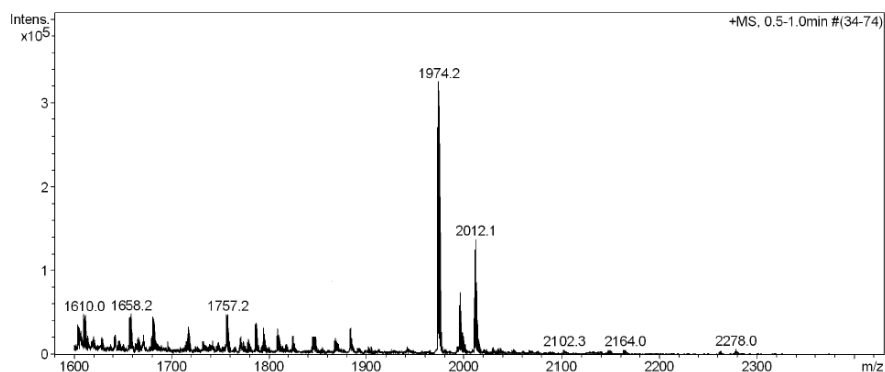


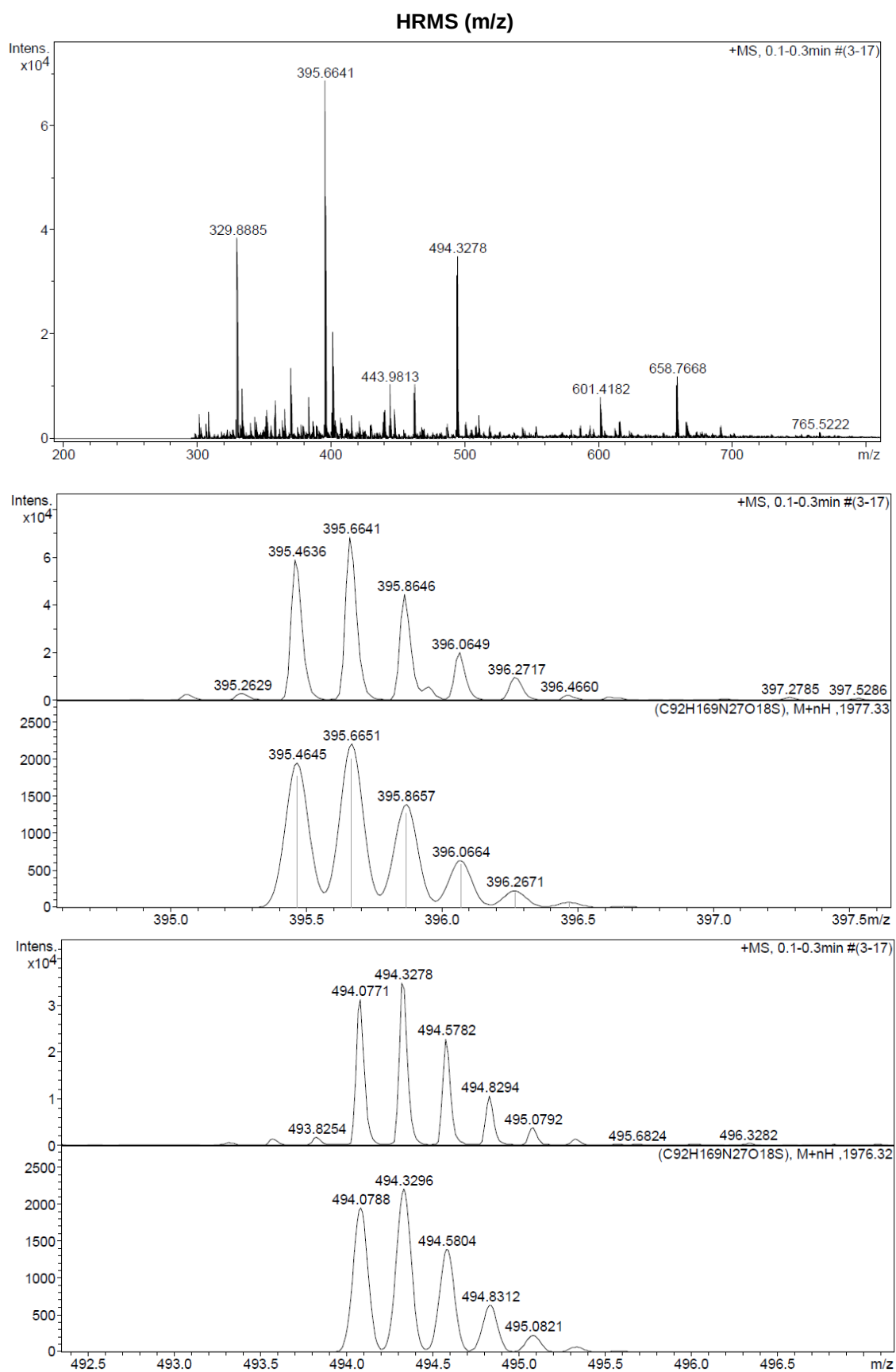
HPLC ($\lambda = 220$ nm)



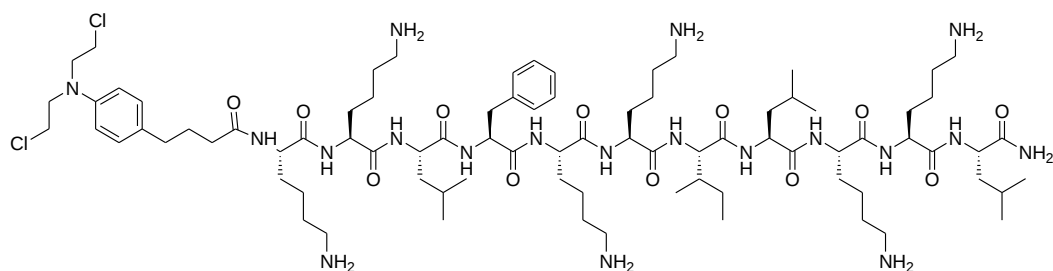
No.	mps retenc min	alçada mAU	Area mAU*min	Area relativa %
1	6,77	30,250	2,690	4,81
2	6,99	496,563	53,191	95,19
Total:		526,814	55,881	100,00

ESI/MS (m/z)

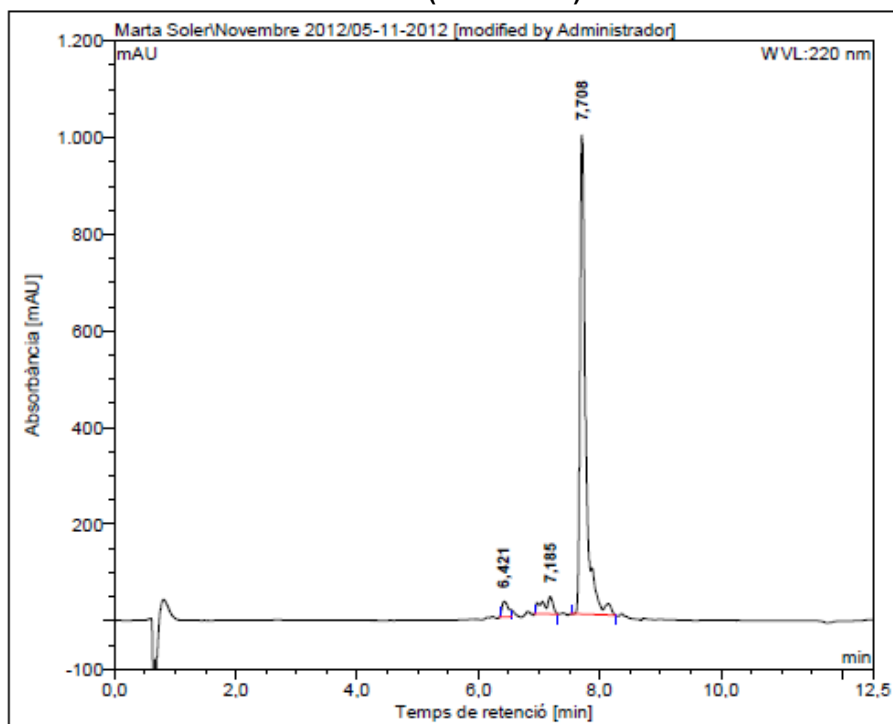




BP325 (CLB-KKLFFKKILKKL-NH₂)

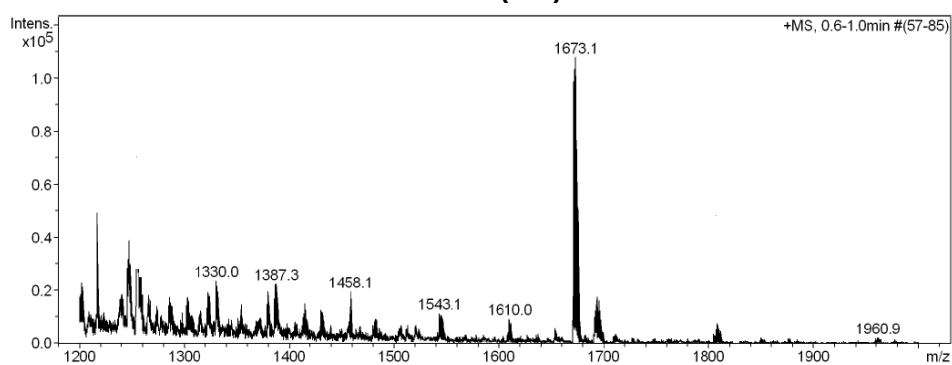


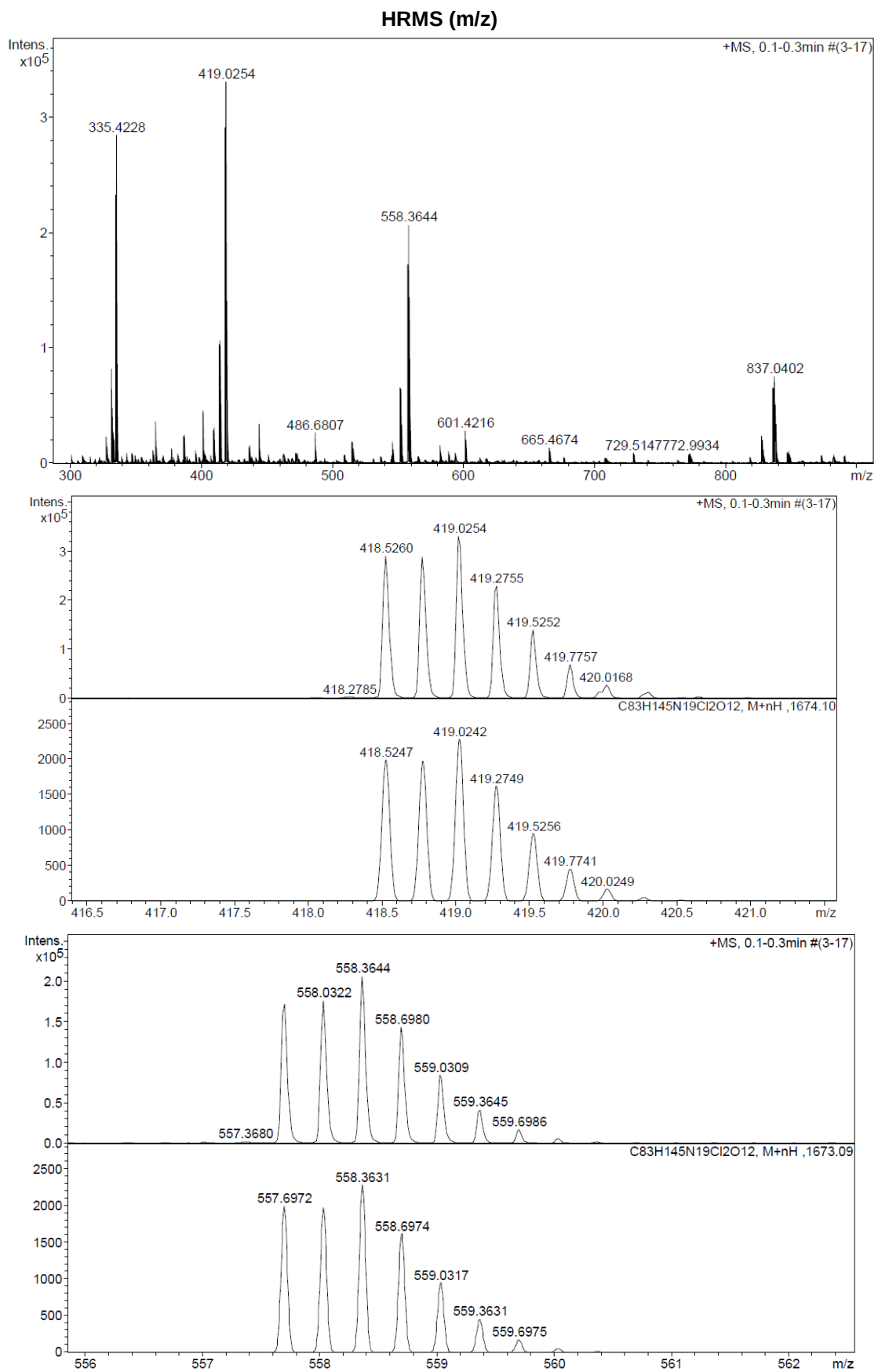
HPLC ($\lambda = 220$ nm)



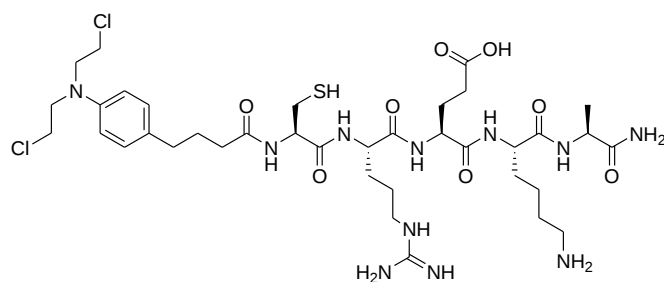
No.	mps retenc min	alçada mAU	Area mAU*min	Area relativa %
1	6,42	31,278	3,951	3,28
2	7,19	35,817	7,126	5,91
3	7,71	991,334	109,512	90,81
Total:		1058,429	120,589	100,00

ESI/MS (m/z)

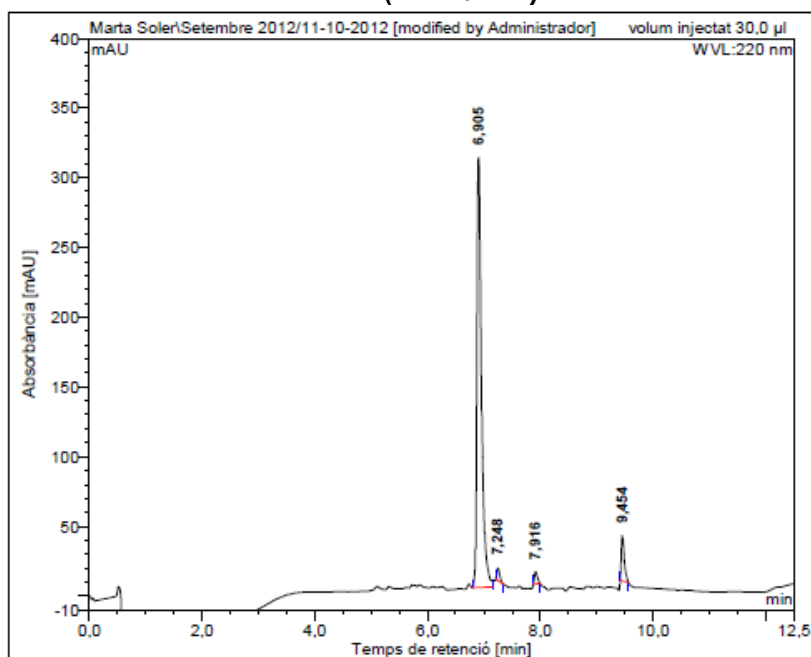




CLB-CREKA (CLB-CREKA-NH₂)

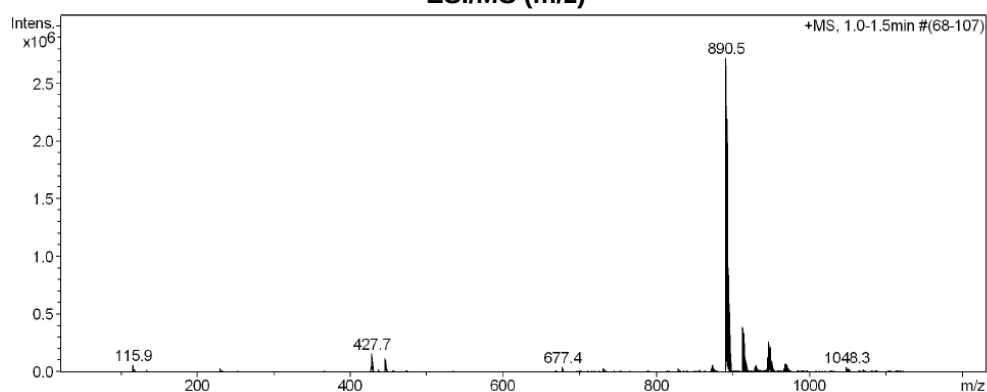


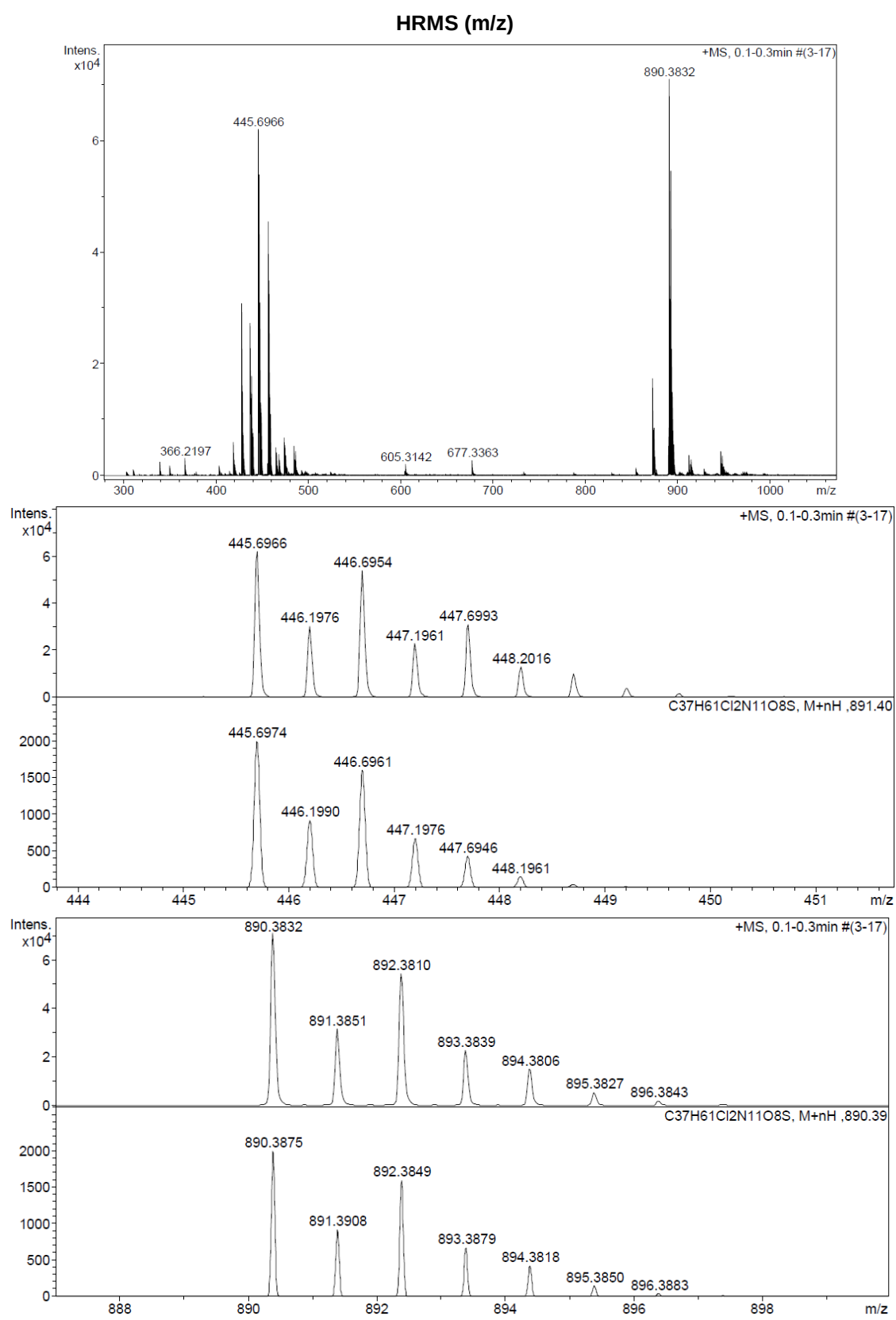
HPLC ($\lambda = 220$ nm)



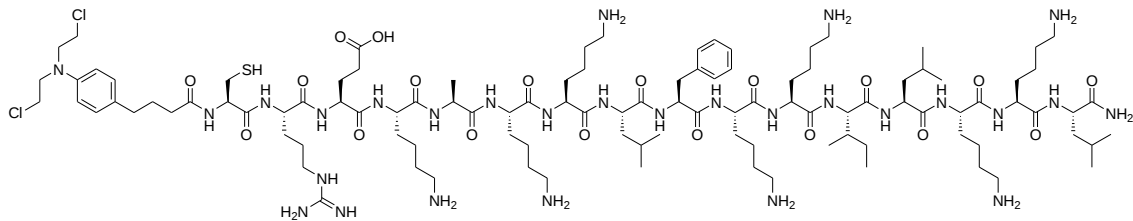
No.	mps retenc min	alçada mAU	Area mAU*min	Area relativa %
1	6,90	308,101	29,232	90,40
2	7,25	8,884	0,513	1,59
3	7,92	8,897	0,566	1,75
4	9,45	32,366	2,026	6,26
Total:		358,248	32,336	100,00

ESI/MS (m/z)

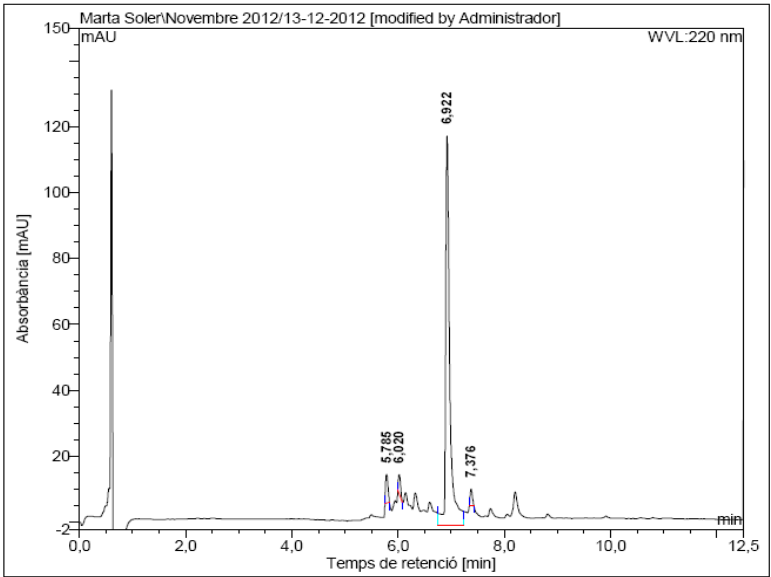




BP329 (CLB-CREKA-KKLFKKILKKL-NH₂)

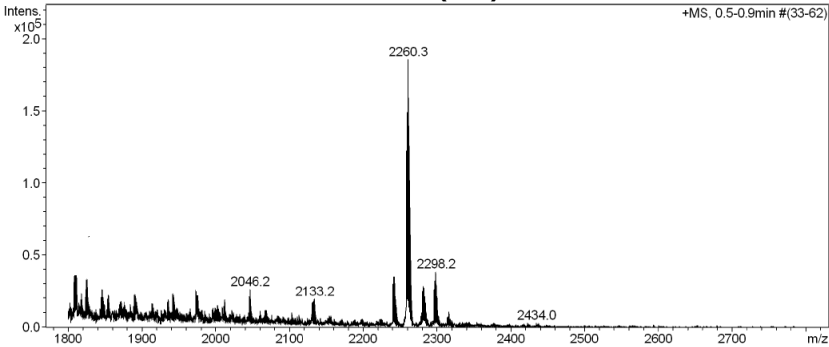


HPLC ($\lambda = 220$ nm)

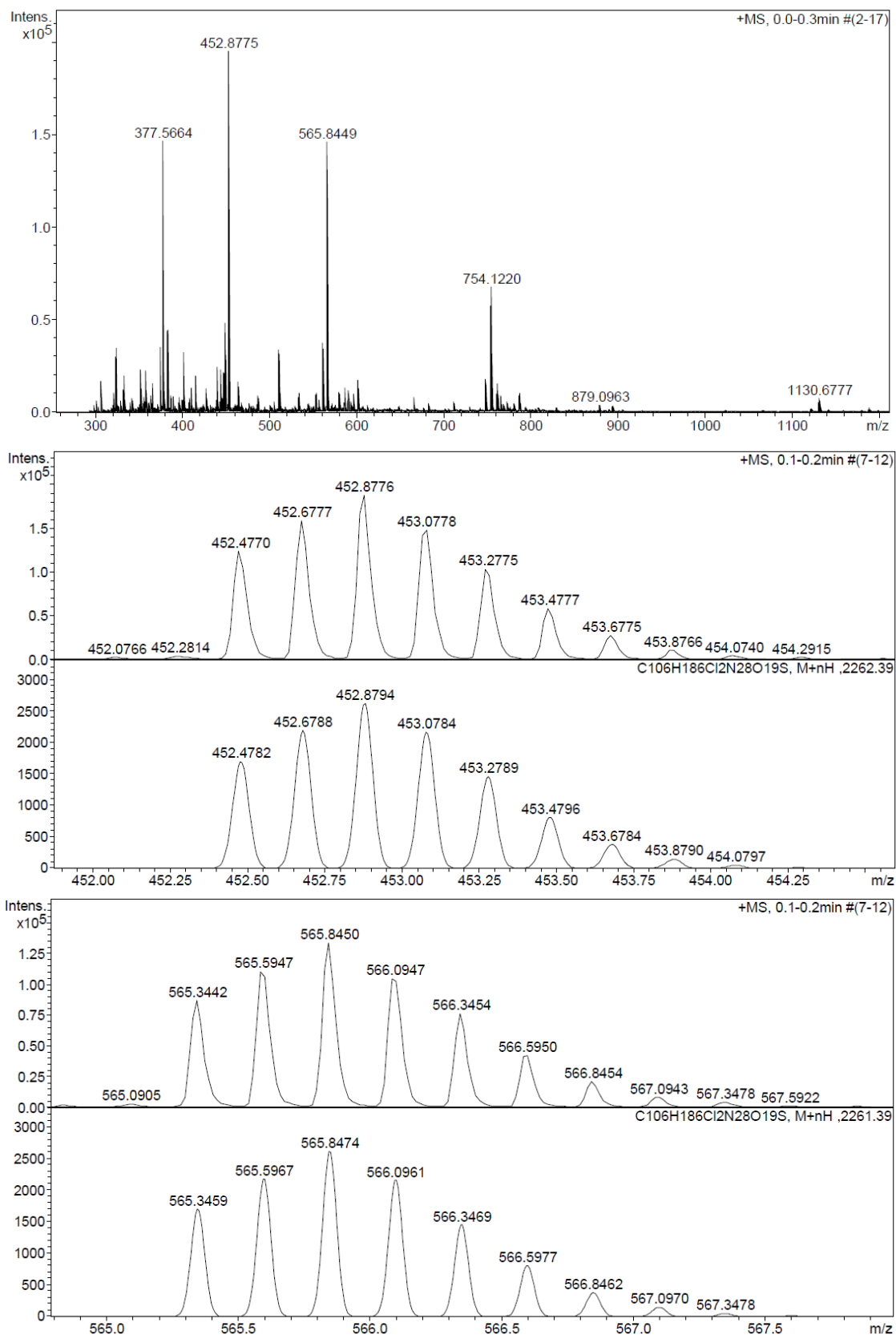


No.	mps retenc min	alçada mAU	Area mAU·min	Area relativa %
1	5,78	8,646	0,445	3,85
2	6,02	5,670	0,271	2,34
3	6,92	118,158	10,618	91,76
4	7,38	4,902	0,237	2,05
Total:		137,376	11,572	100,00

ESI/MS (m/z)

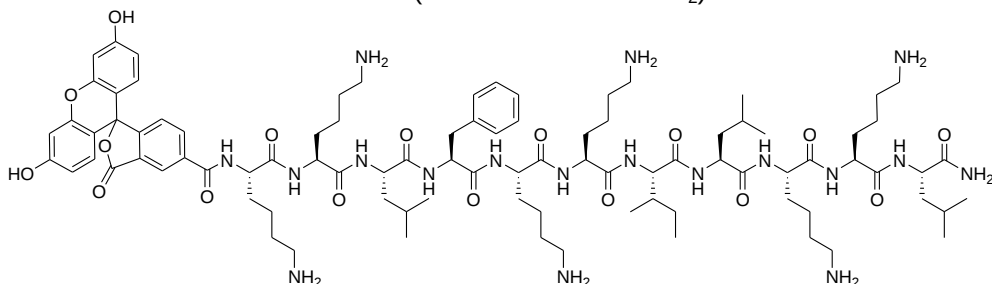


HRMS (m/z)

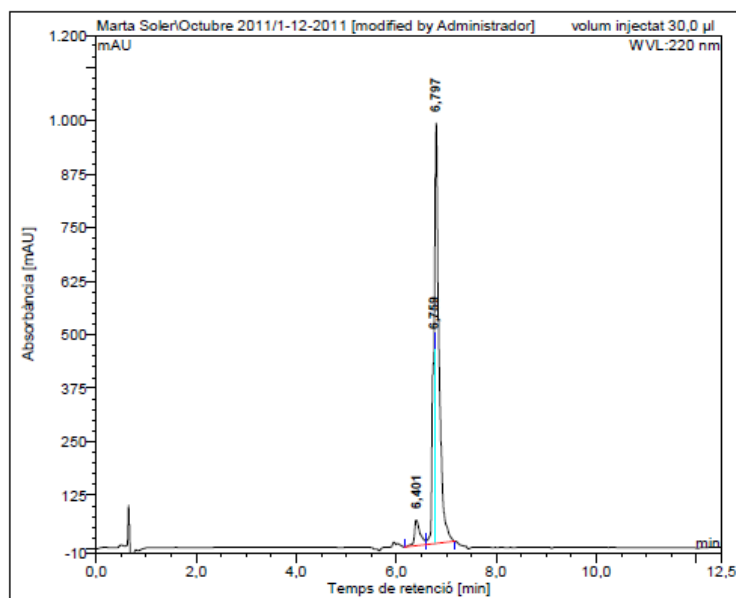


3. HPLC, ESI-MS and HRMS of 5(6)-carboxyfluorescein labeled peptides

CF-BP16 (CF-KKLFFKKILKFL-NH₂)

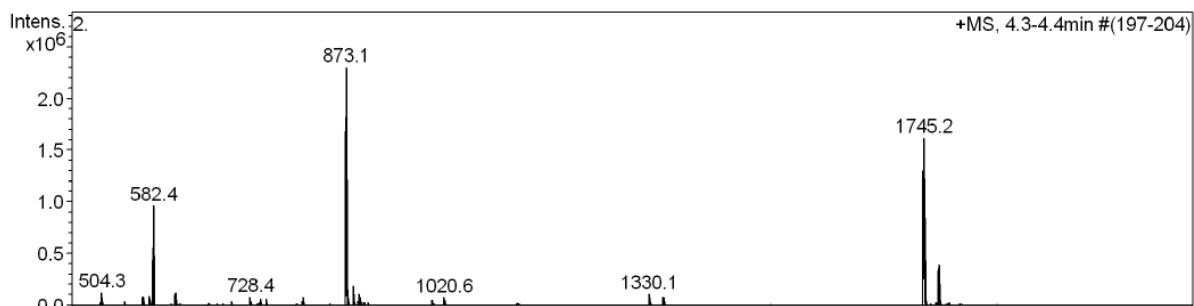


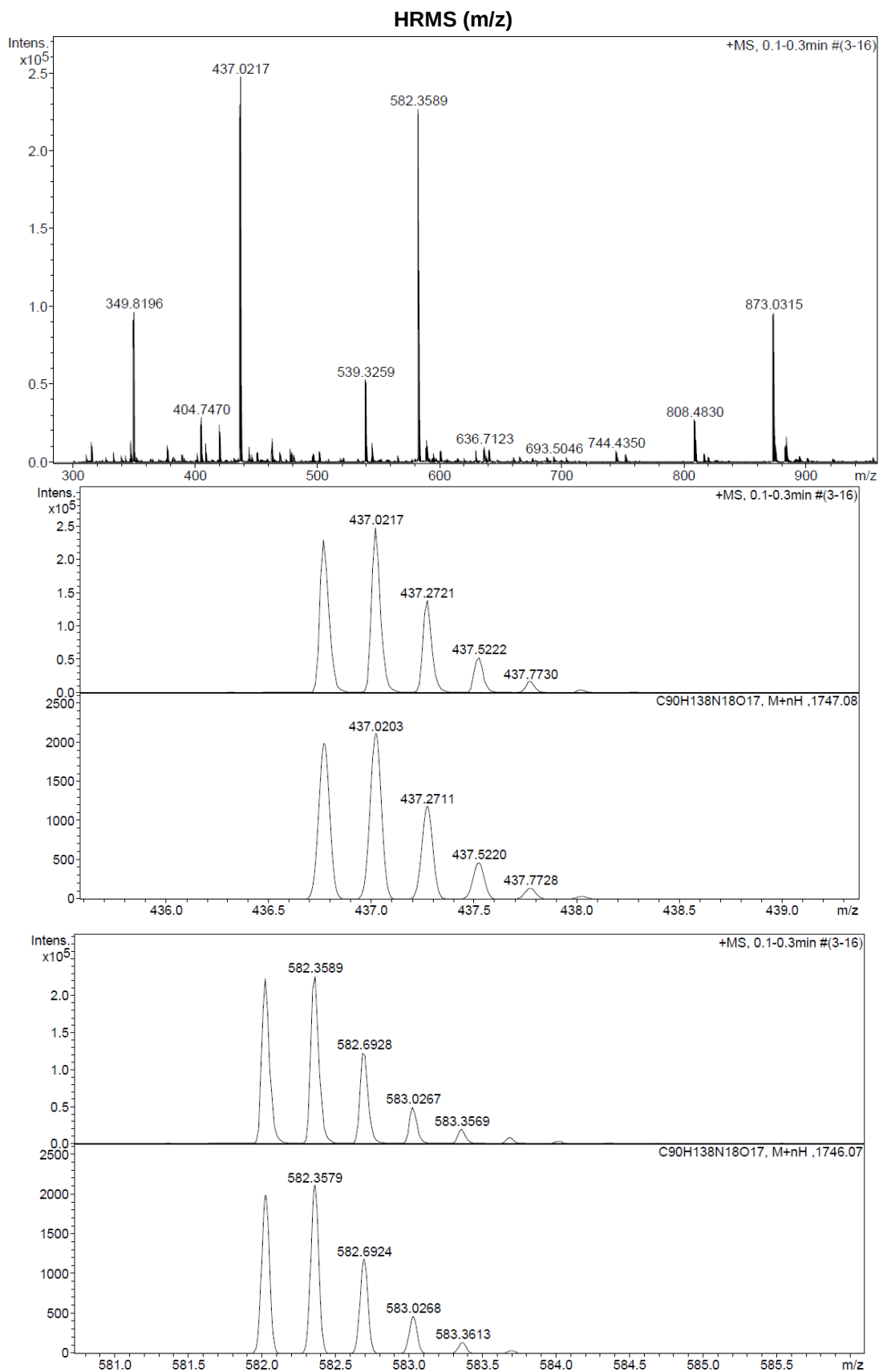
HPLC ($\lambda = 220$ nm)



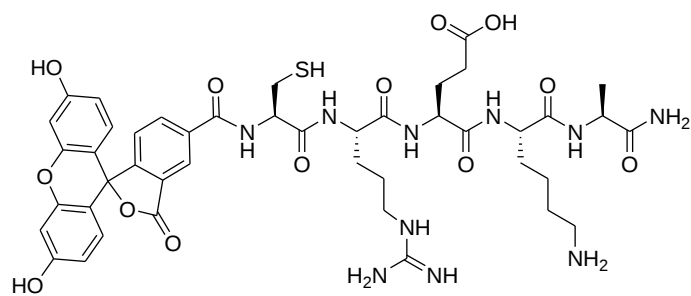
No.	mps retenc min	alçada mAU	Area mAU*min	Area relativa %
1	6,40	60,473	8,138	6,40
2	6,76	473,768	22,057	17,34
3	6,80	981,748	97,024	76,26
Total:		1515,990	127,220	100,00

ESI/MS (m/z)

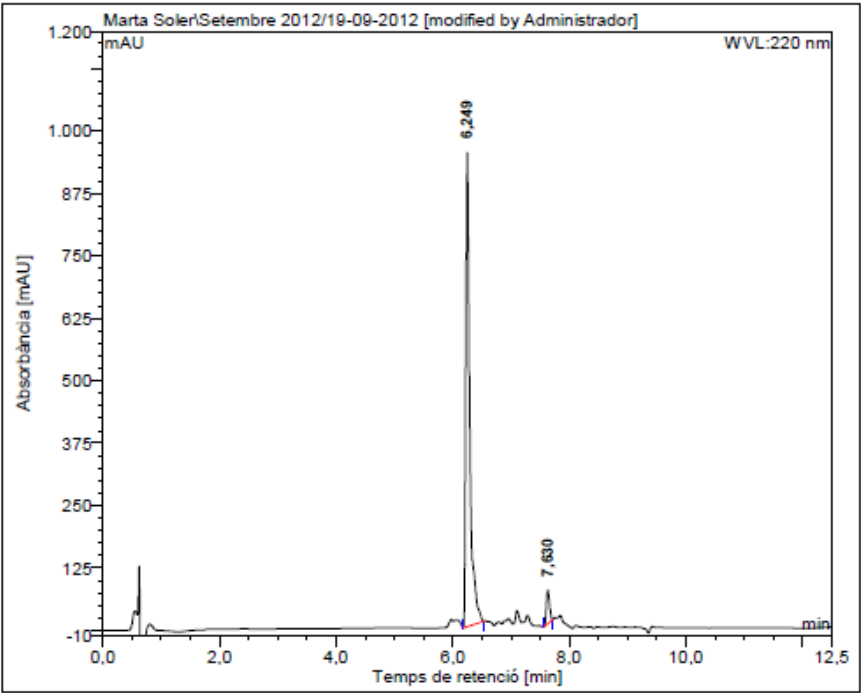




CF-CREKA (CF-CREKA-NH₂)

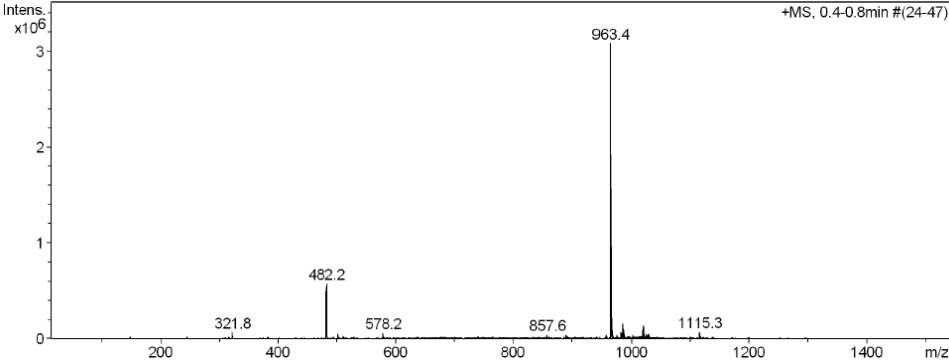


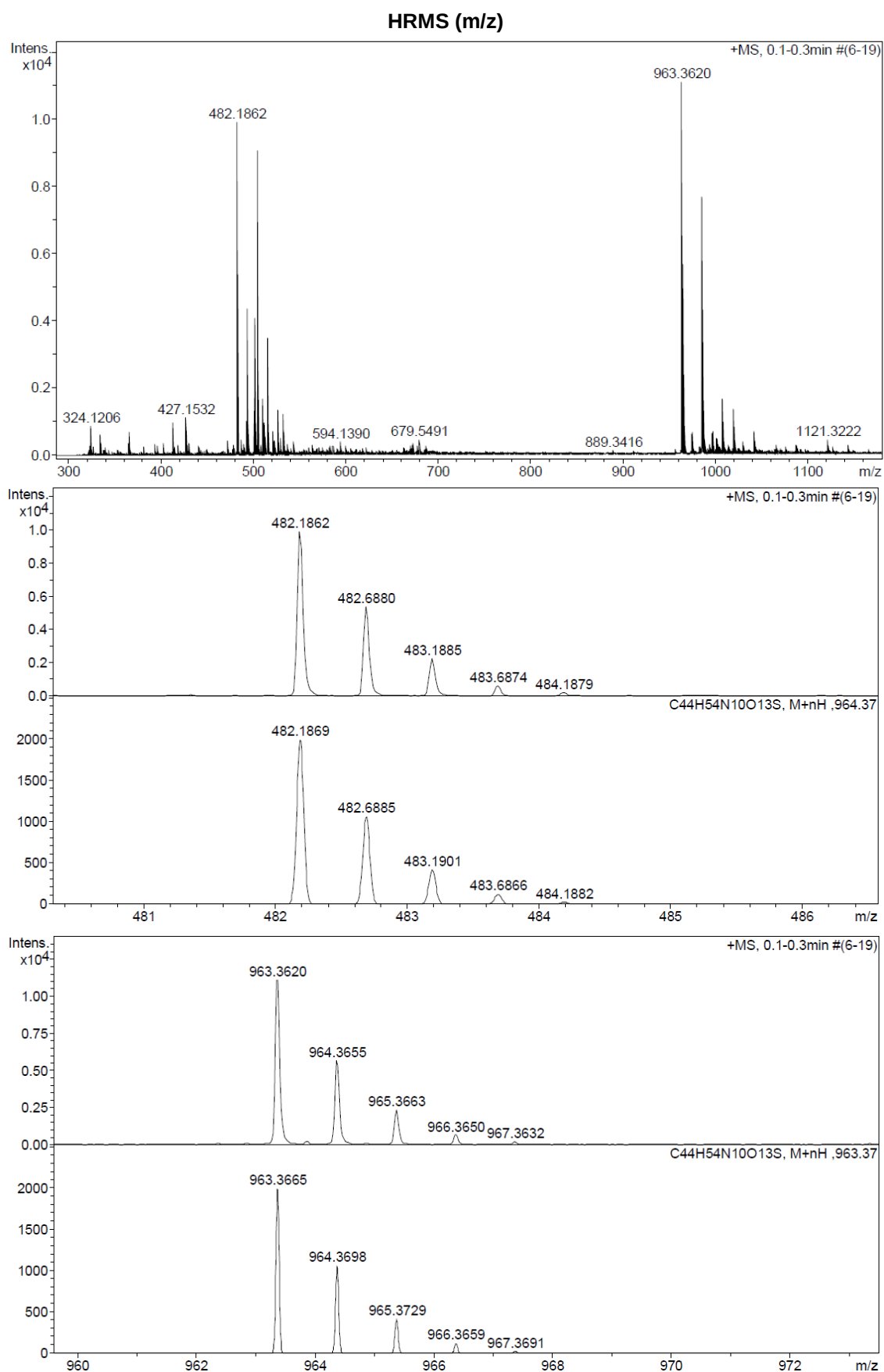
HPLC ($\lambda = 220\text{ nm}$)



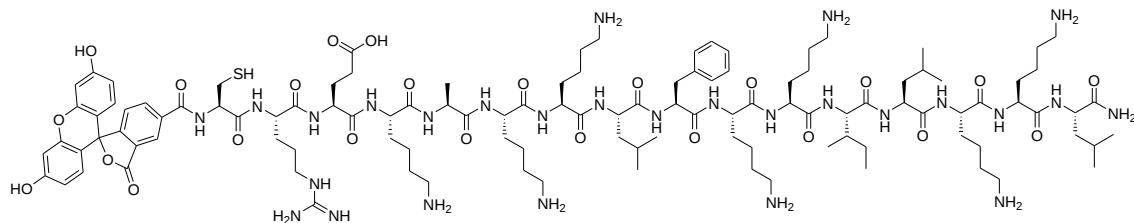
No.	mps retenc min	alçada mAU	Area mAU*min	Area relativa %
1	6,25	948,097	76,186	94,71
2	7,63	67,005	4,253	5,29
Total:		1015,101	80,439	100,00

ESI/MS (m/z)

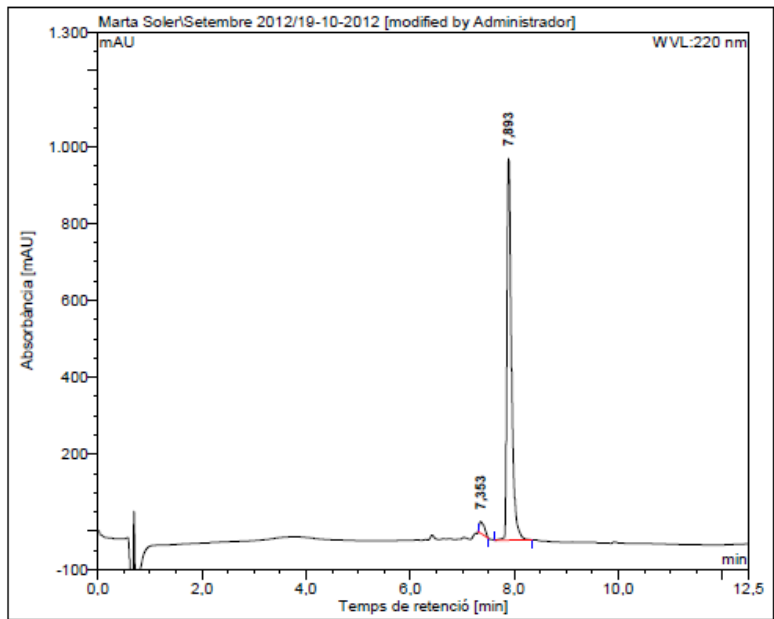




BP328 (CF-CREKA-KKLFKKILKKL-NH₂)

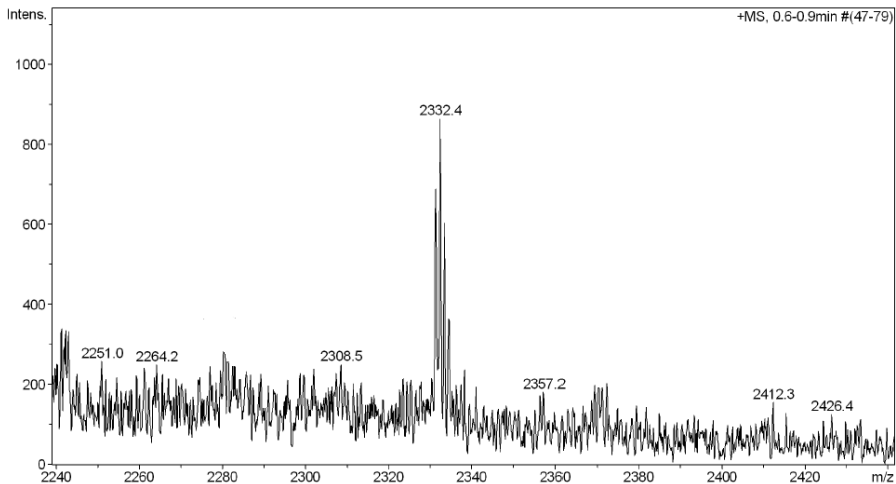


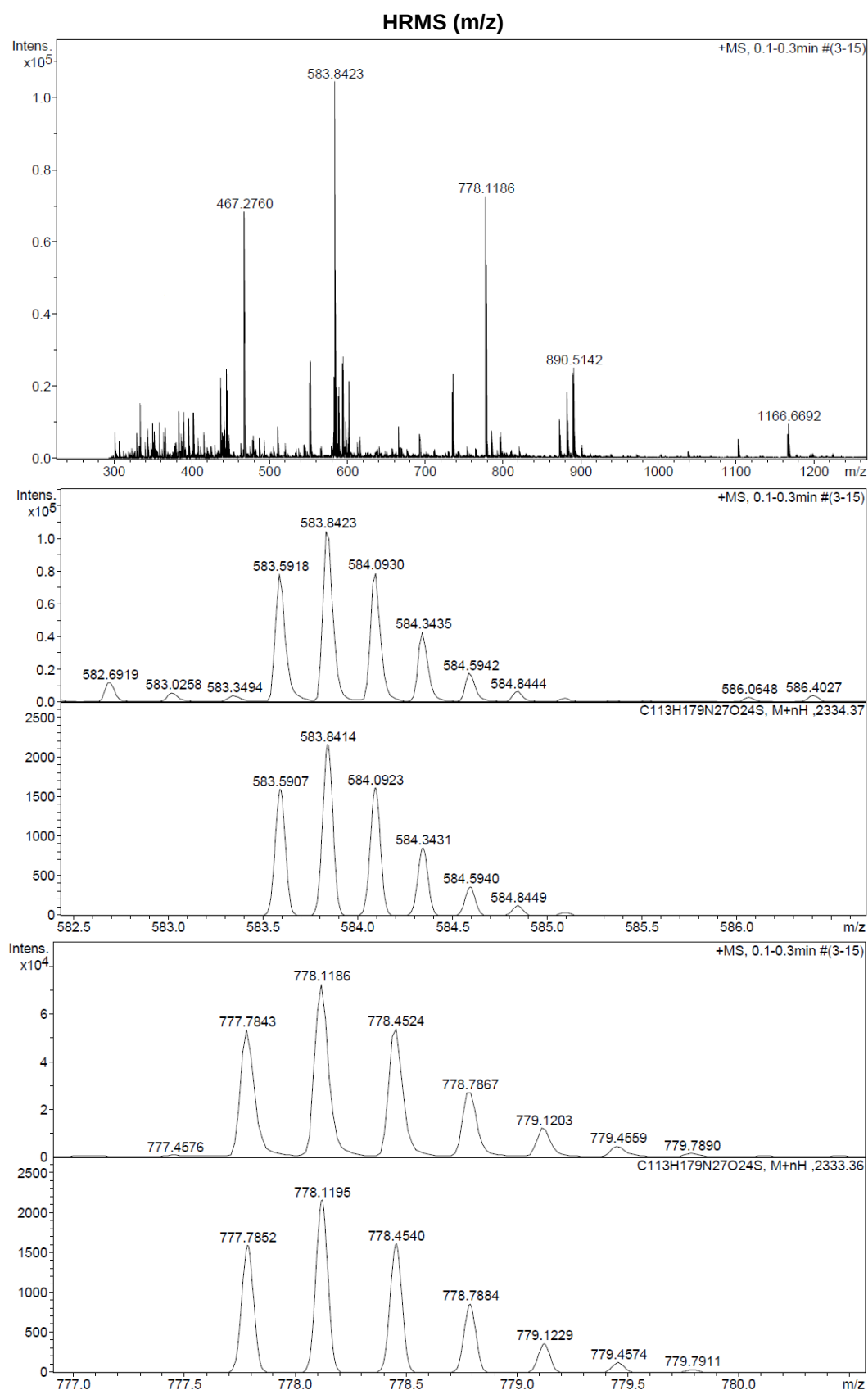
HPLC ($\lambda = 220$ nm)



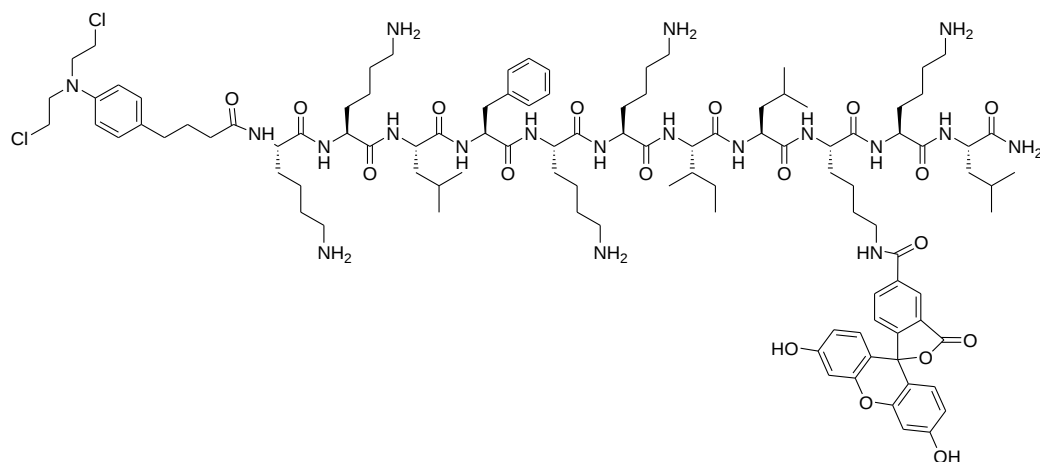
No.	mps retenc min	alçada mAU	Area mAU*min	Area relativa %
1	7,35	30,131	3,543	3,40
2	7,89	993,729	100,753	96,60
Total:		1023,860	104,296	100,00

ESI/MS (m/z)

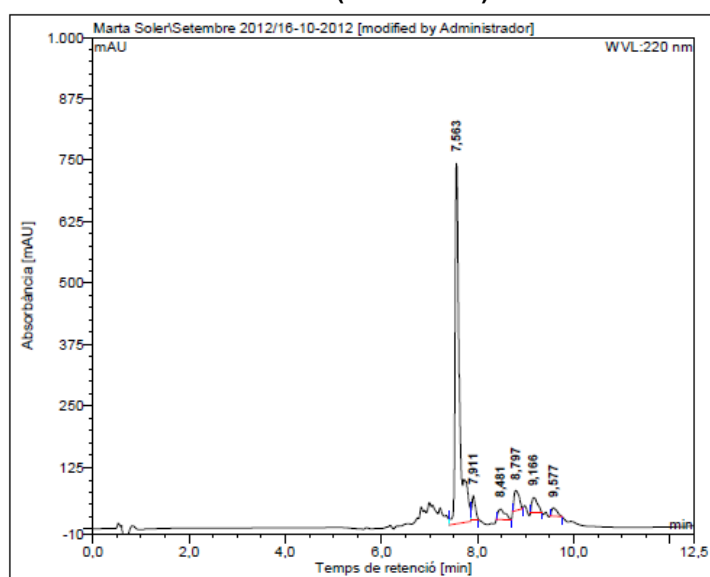




BP326 (CLB-KKLFKKILK(CF)KL-NH₂)

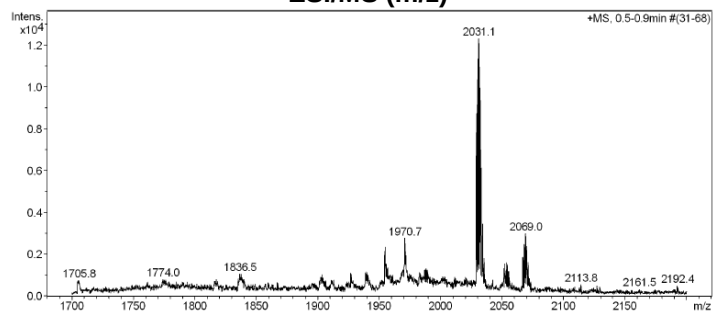


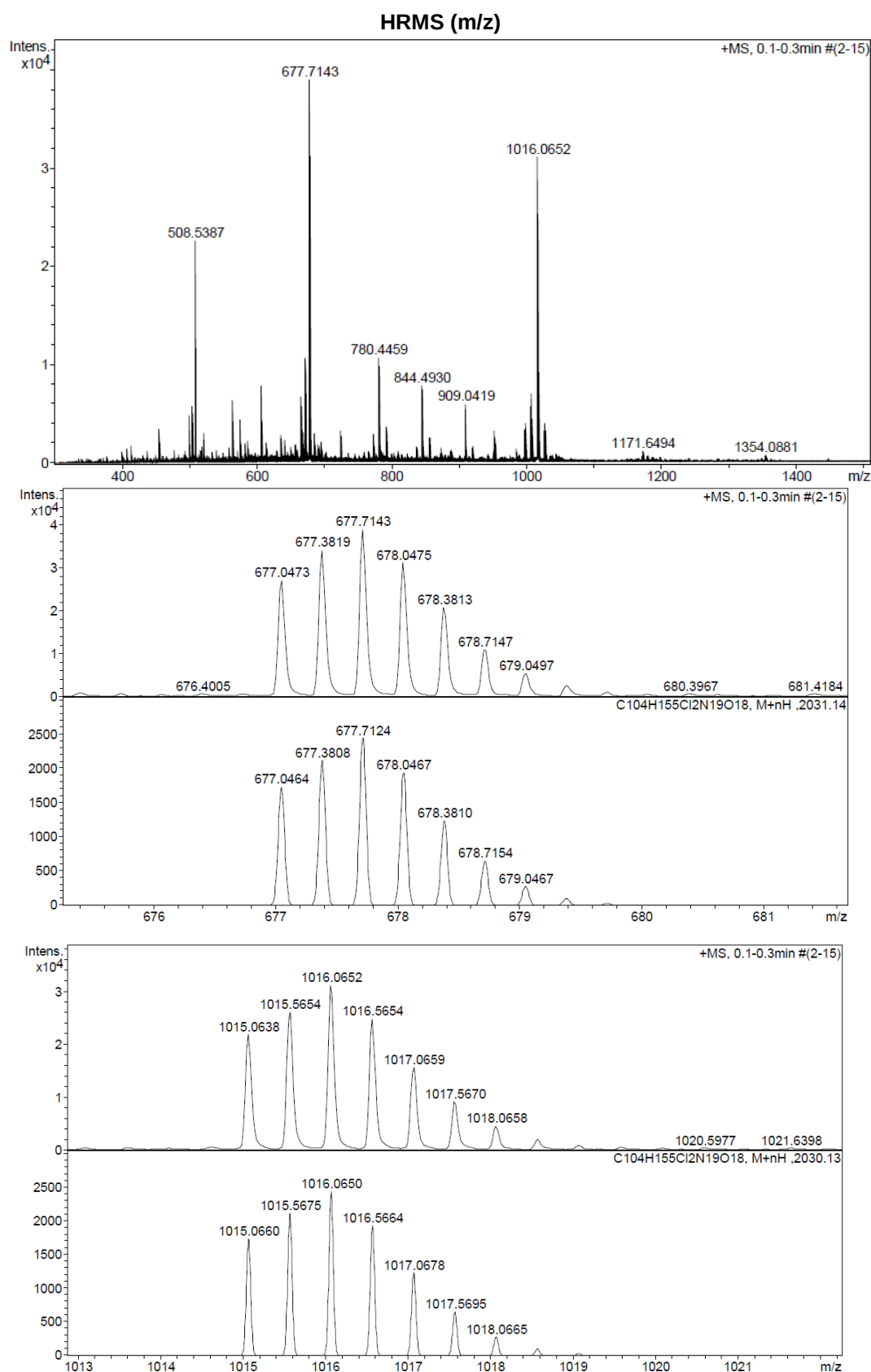
HPLC ($\lambda = 220$ nm)



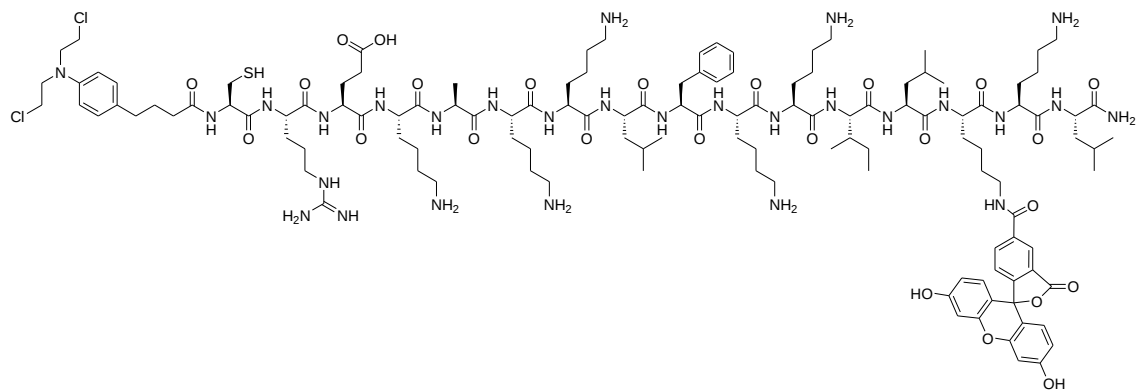
No.	mps retenc min	alçada mAU	Area mAU*min	Area relativa %
1	7,56	732,423	77,055	80,59
2	7,91	48,005	3,811	3,99
3	8,48	20,782	3,596	3,76
4	8,80	40,837	4,961	5,19
5	9,17	29,235	3,969	4,15
6	9,58	17,041	2,219	2,32
Total:		888,322	95,611	100,00

ESI/MS (m/z)

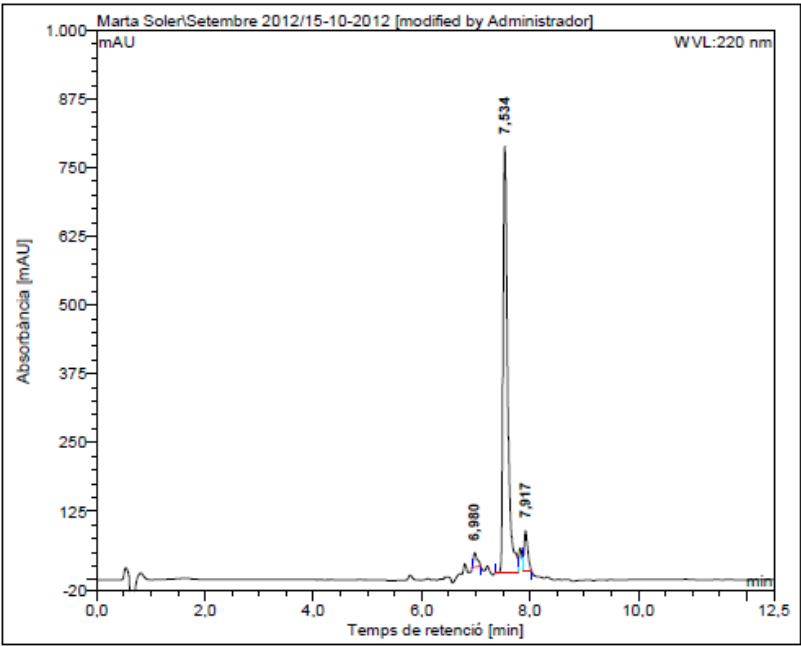




BP330 (CLB-CREKA-KKLFKKILK(CF)KL-NH₂)

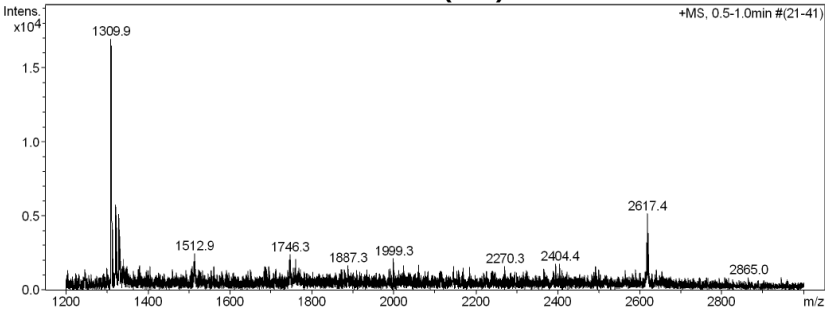


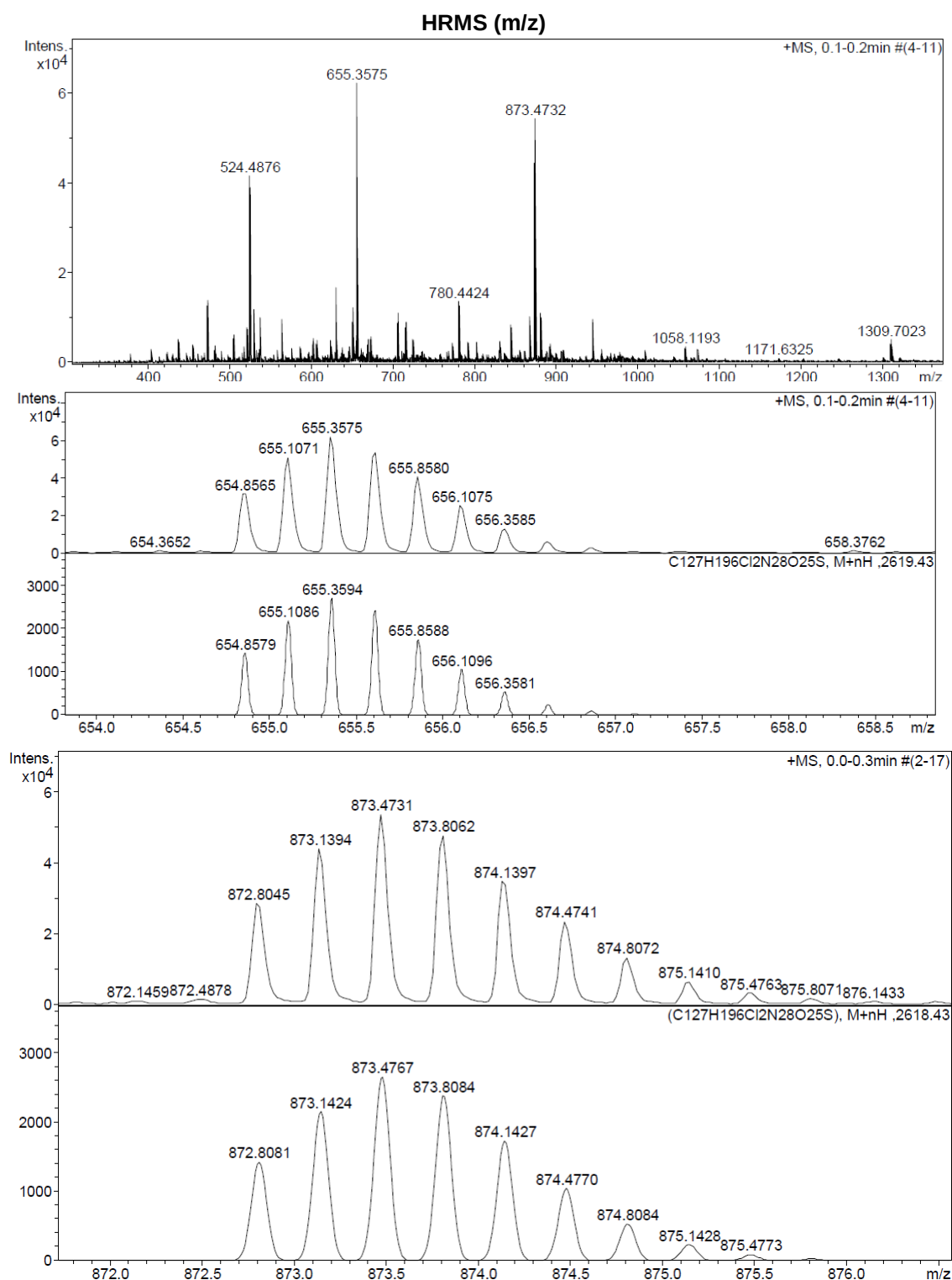
HPLC ($\lambda = 220\text{ nm}$)



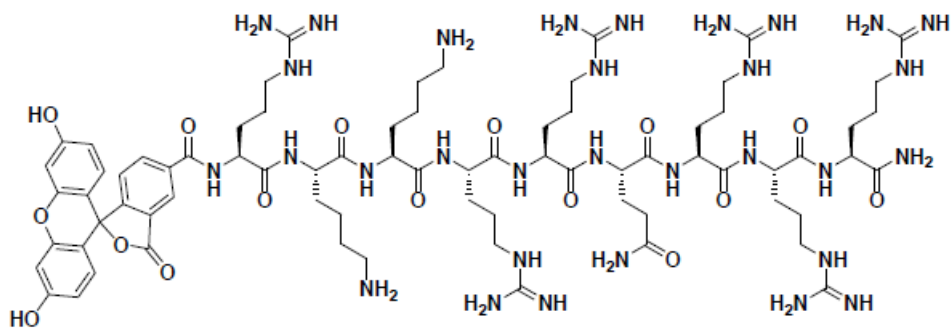
No.	mps retenc min	alçada mAU	Area mAU*min	Area relativa %
1	6,98	26,172	2,204	2,64
2	7,53	775,511	75,679	90,75
3	7,92	72,800	5,508	6,60
Total:		874,483	83,390	100,00

ESI/MS (m/z)

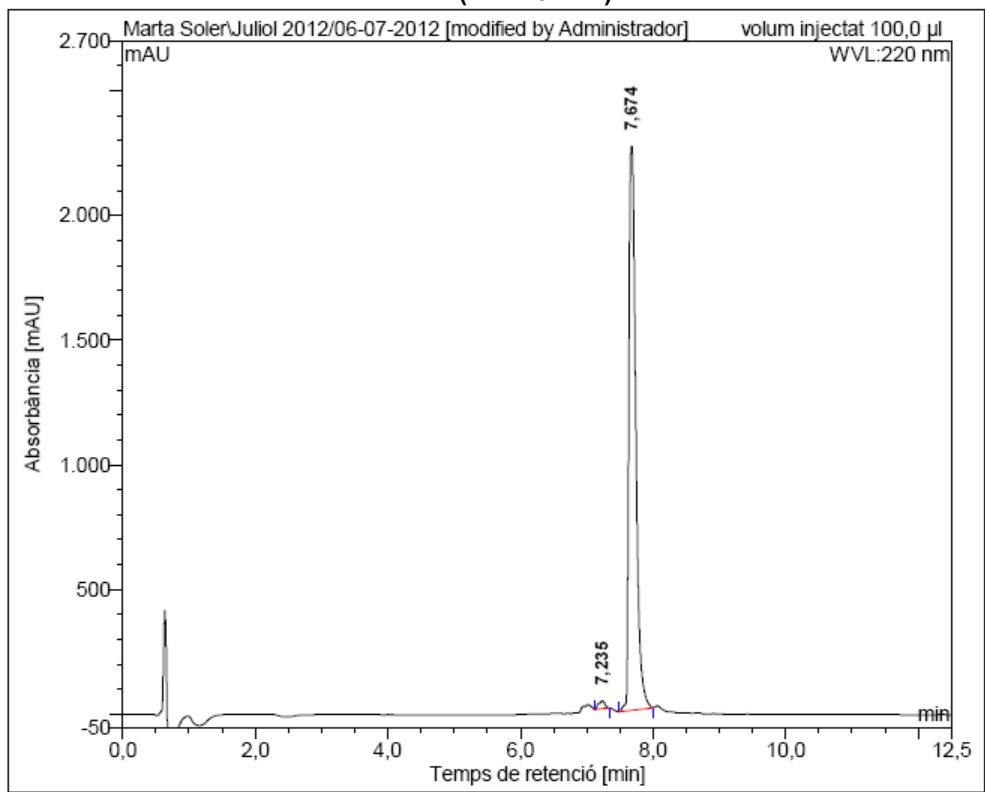




CF-Tat₄₉ (CF-RKKRRQRRR-NH₂)



HPLC ($\lambda = 220\text{ nm}$)



No.	mps retenc min	alçada mAU	Area mAU*min	Area relativa %
1	7,24	32,190	3,591	1,29
2	7,67	2260,922	274,786	98,71
Total:		2293,113	278,377	100,00