

Electronic Supplementary Information (ESI)

Synthesis and characterization of new 5,5'-dimethyl- and 5,5'-diphenylhydantoin-conjugated hemorphin derivatives designed as potential anticonvulsant agents

Petar Todorov^{1}, Petia Peneva¹, Stela Georgieva², Jana Tchekalarova³, Miroslav Rangelov⁴, Nadezhda Todorova⁵*

¹Department of Organic Chemistry, University of Chemical Technology and Metallurgy, 1756 Sofia, Bulgaria, e-mail: pepi_37@abv.bg

²Department of Analytical Chemistry, University of Chemical Technology and Metallurgy, 1756 Sofia, Bulgaria

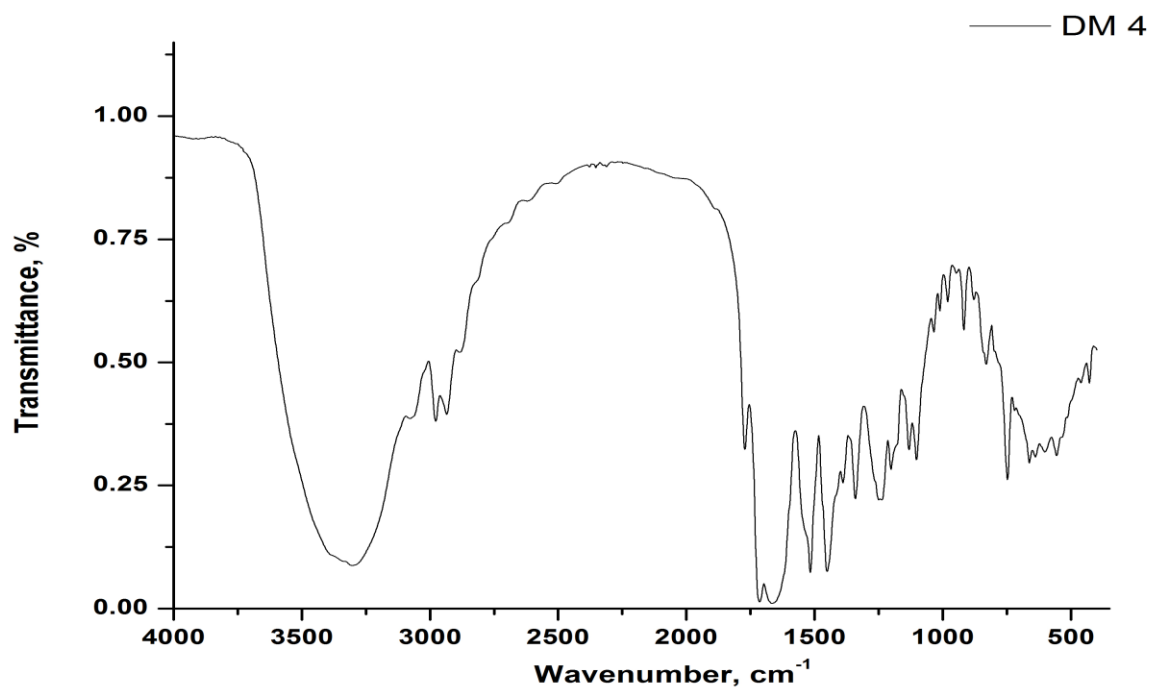
³Institute of Neurobiology, Bulgarian Academy of Sciences, 1113 Sofia, Bulgaria

⁴Institute of Organic Chemistry with centre of phytochemistry, Bulgarian Academy of Sciences, 1113 Sofia, Bulgaria

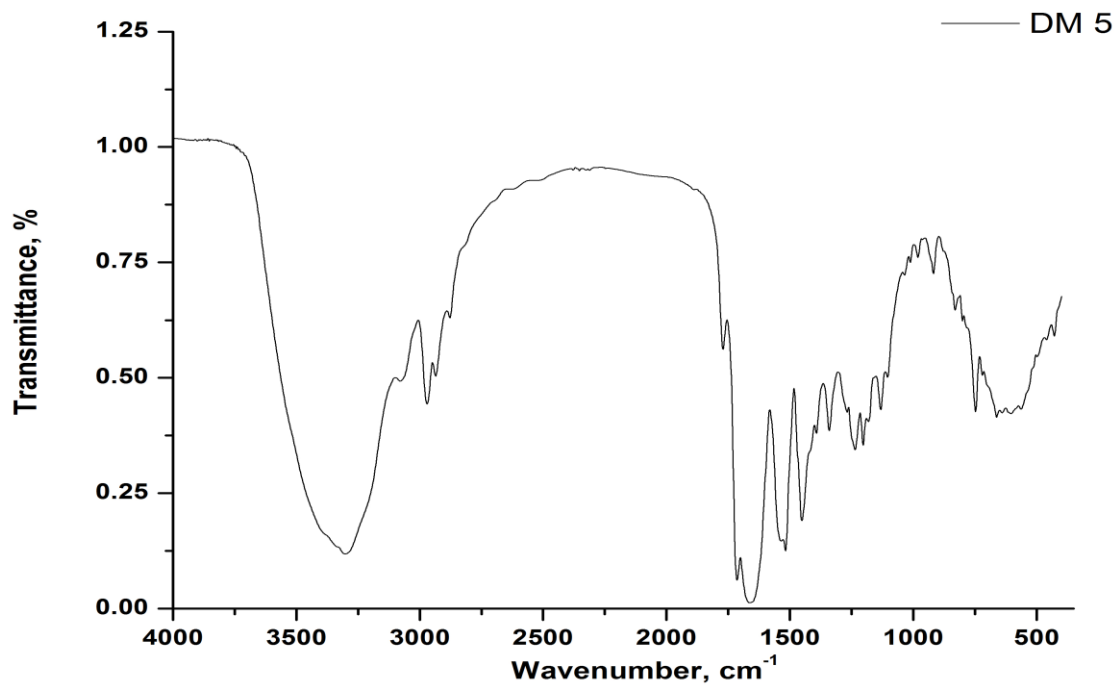
⁵Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences, 1113 Sofia, Bulgaria

Table of Contents:		Page
1.	FTIR spectra of synthesized compounds	S2
2.	Mass spectra of synthesized compounds	S5
3.	Analytical HPLC chromatograms of peptides	S8

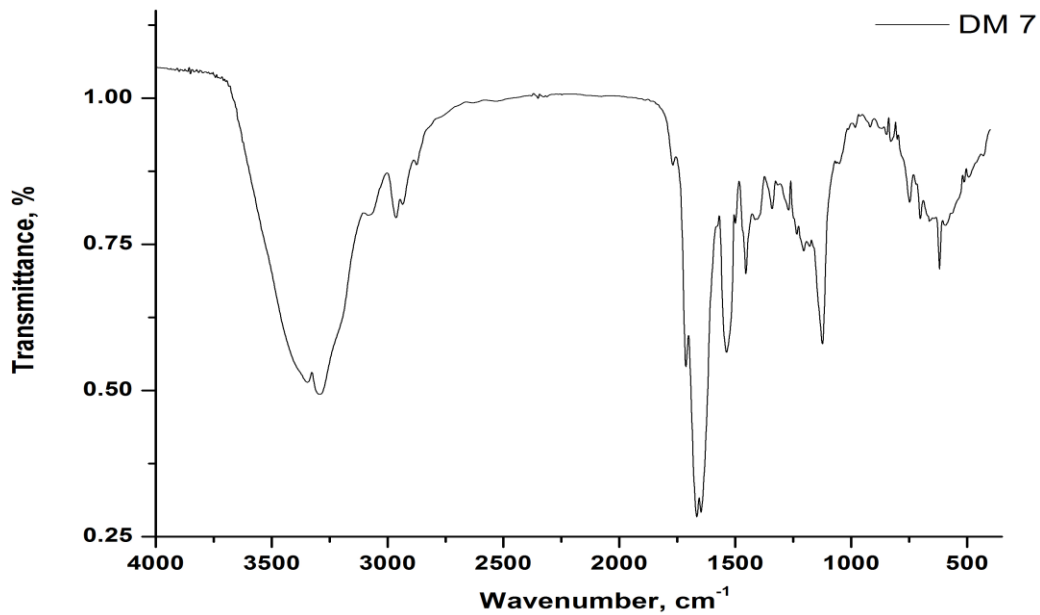
1. FTIR spectra of synthesized compounds.



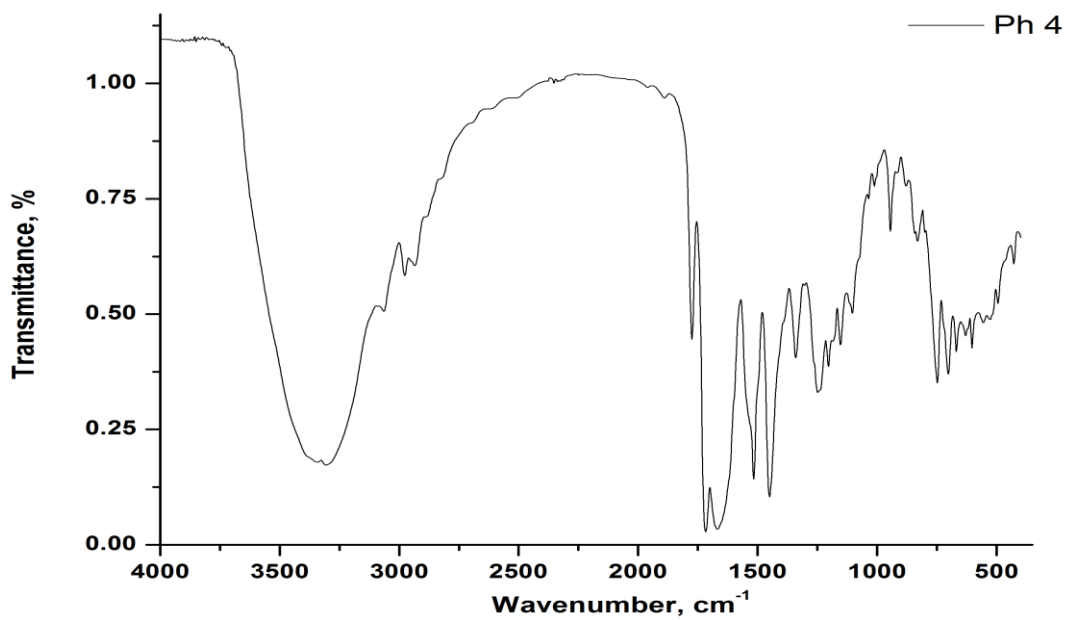
A) FTIR spectrum of *Dm-4*



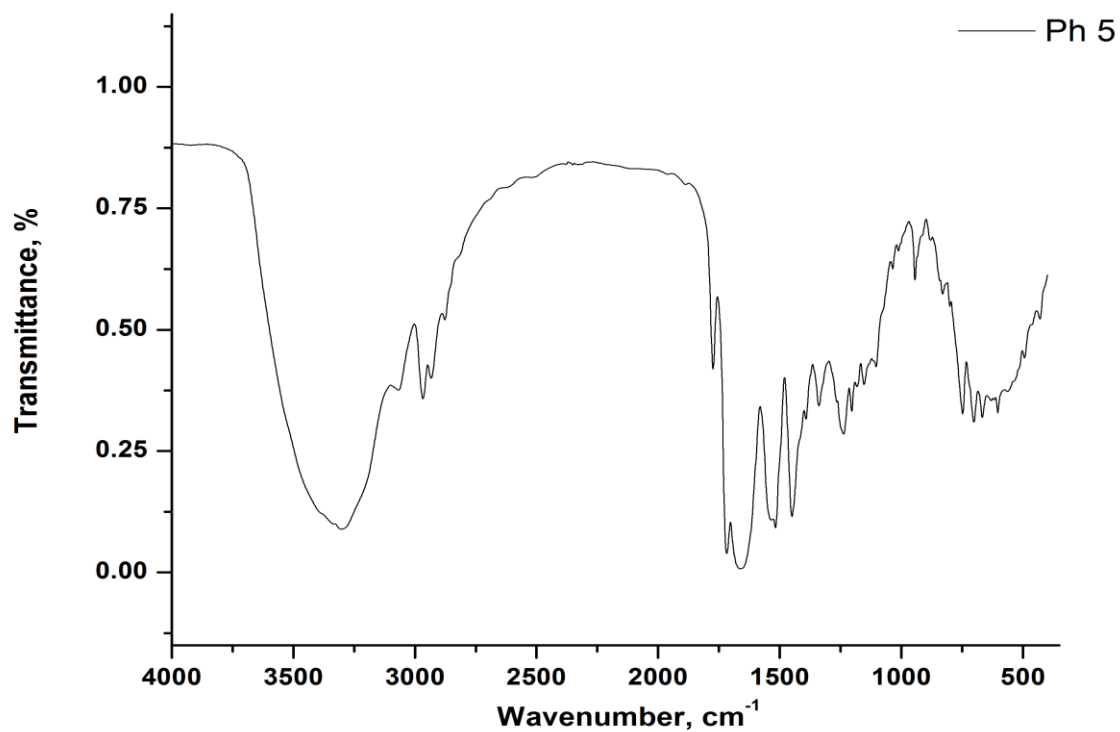
B) FTIR spectrum of *Dm-5*



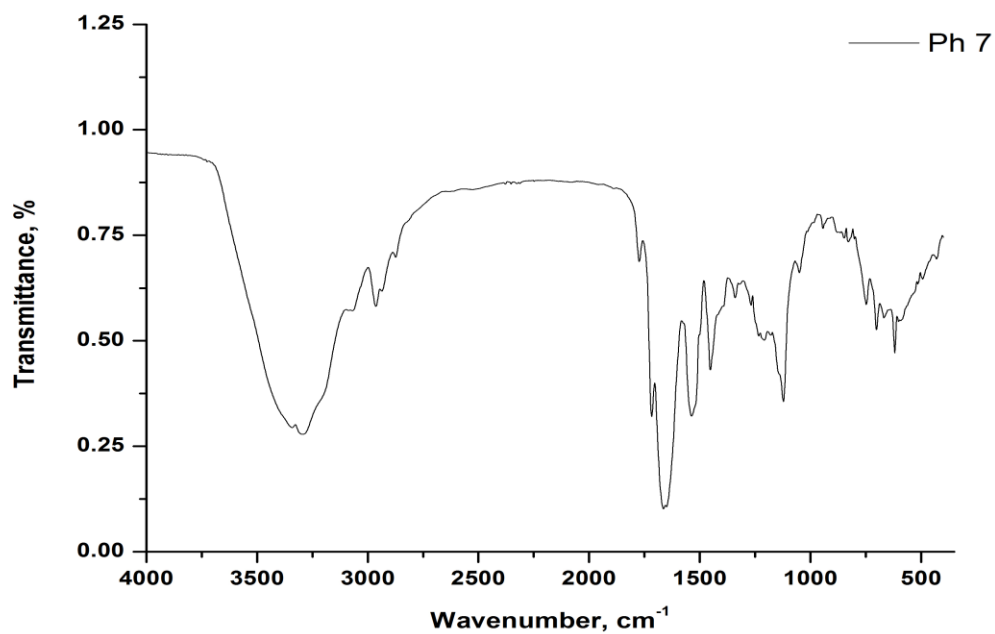
C) FTIR spectrum of **DM-7**



D) FTIR spectrum of **Ph-4**



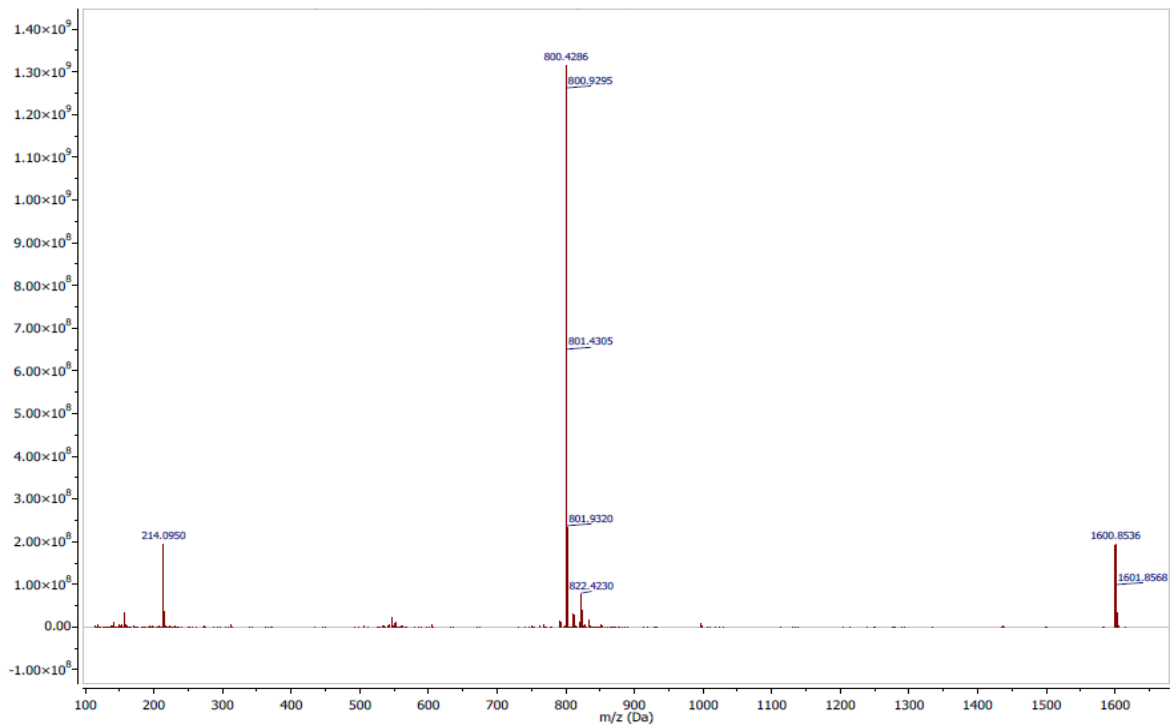
E) FTIR spectrum of **Ph-5**



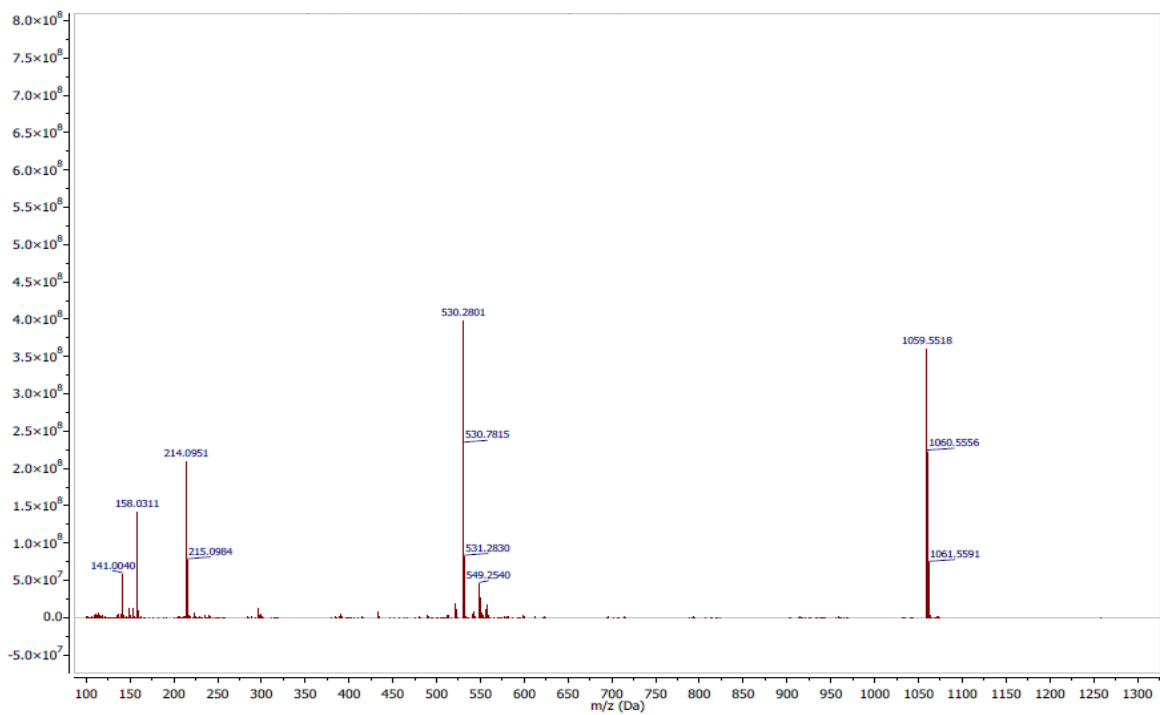
F) FTIR spectrum of **Ph-7**

Fig. S1. FTIR spectra of new peptide analogues (**Dm-4**, **Ph-4**, **Dm-5**, **Ph-5**, **Dm-7** and **Ph-7**) with wavenumber interval: 500-4000 cm⁻¹.

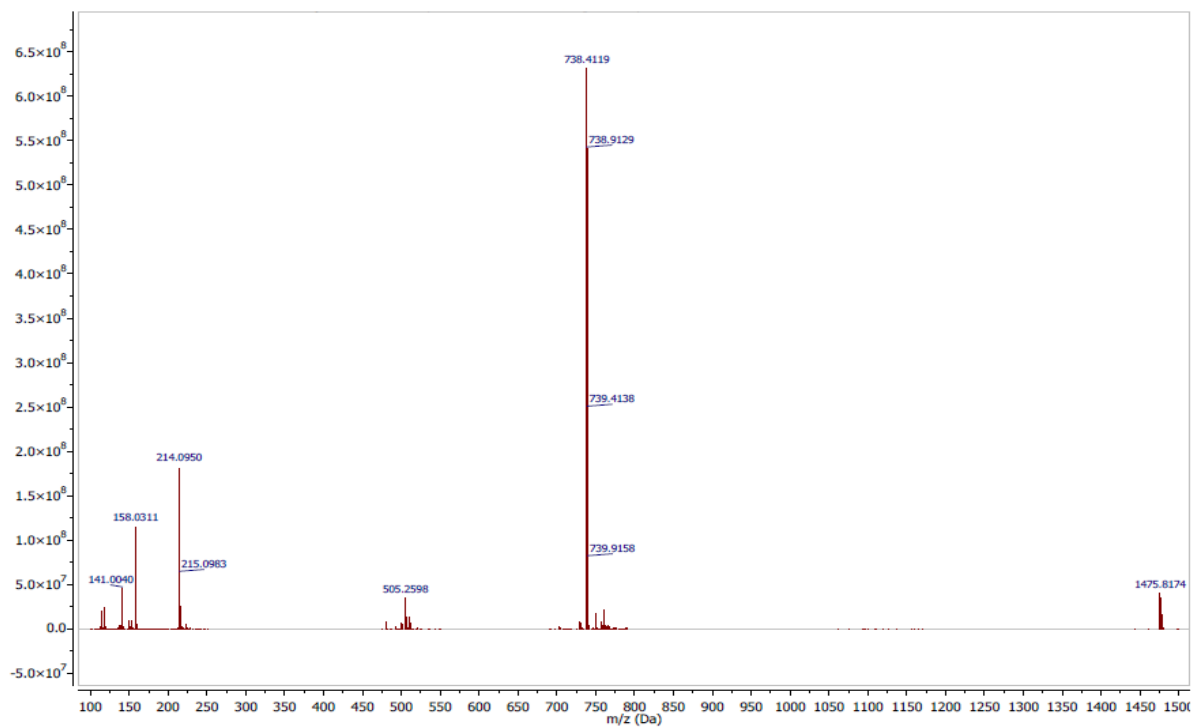
2. Mass spectra of synthesized compounds



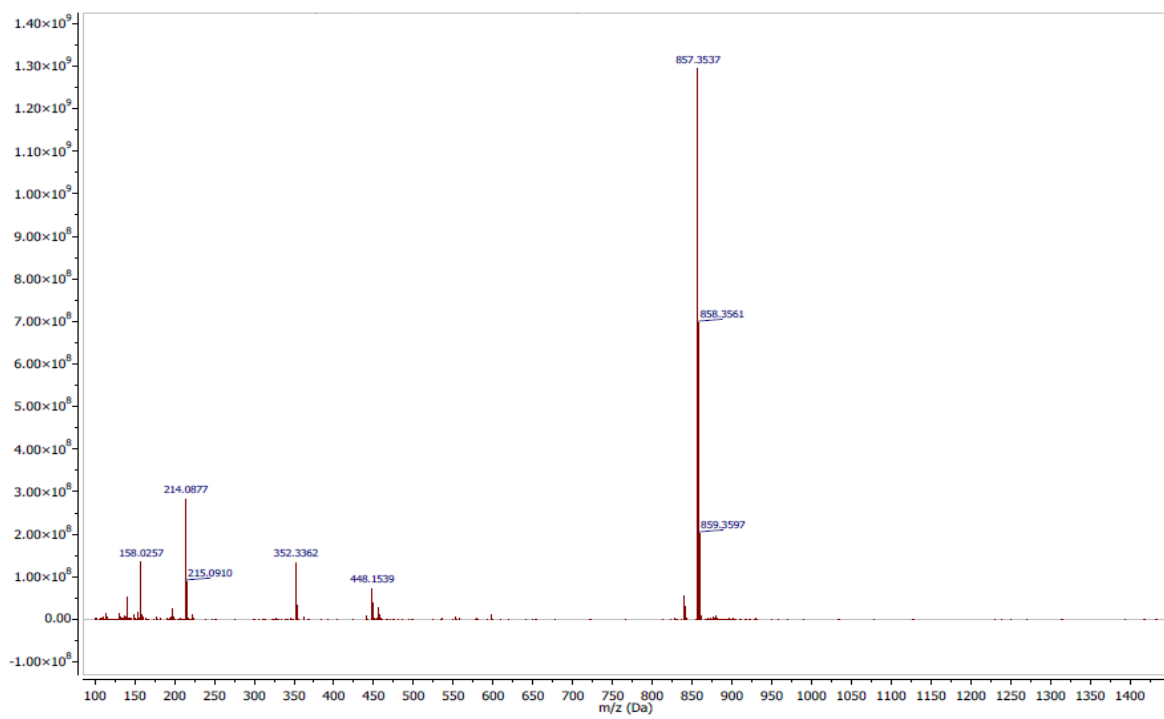
A) ESI-MS spectrum of **Dm-4**



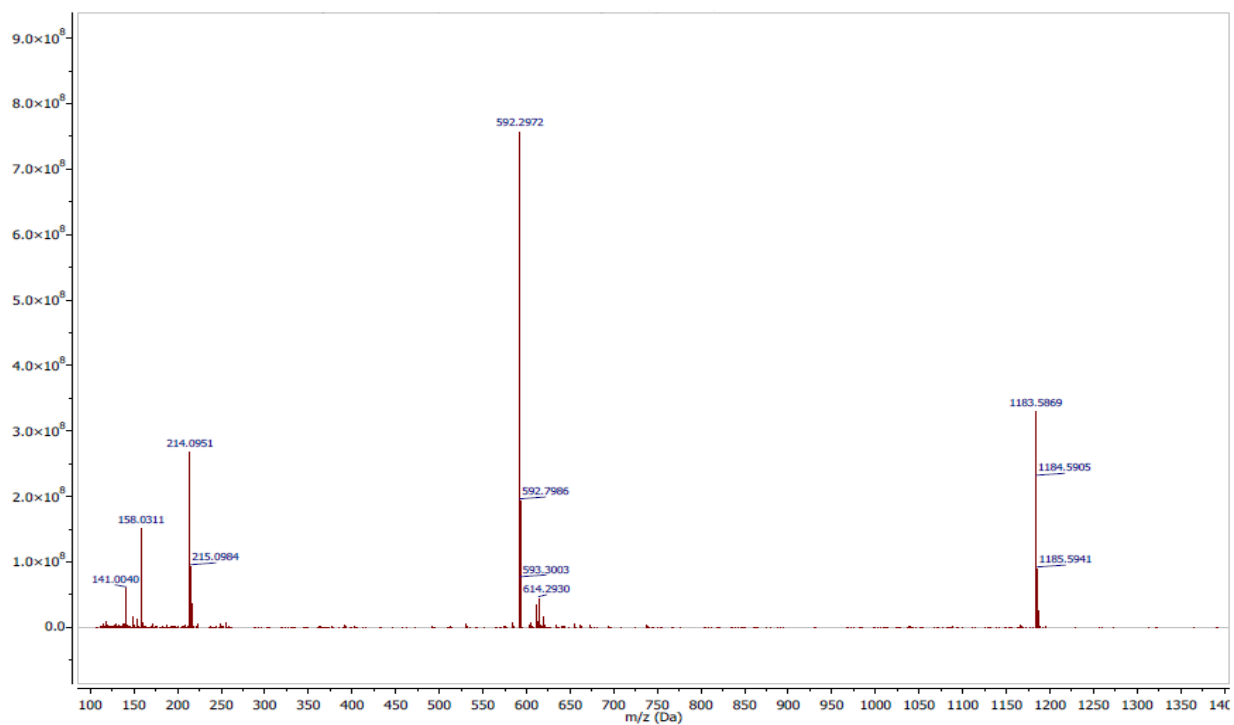
B) ESI-MS spectrum of **Dm-5**



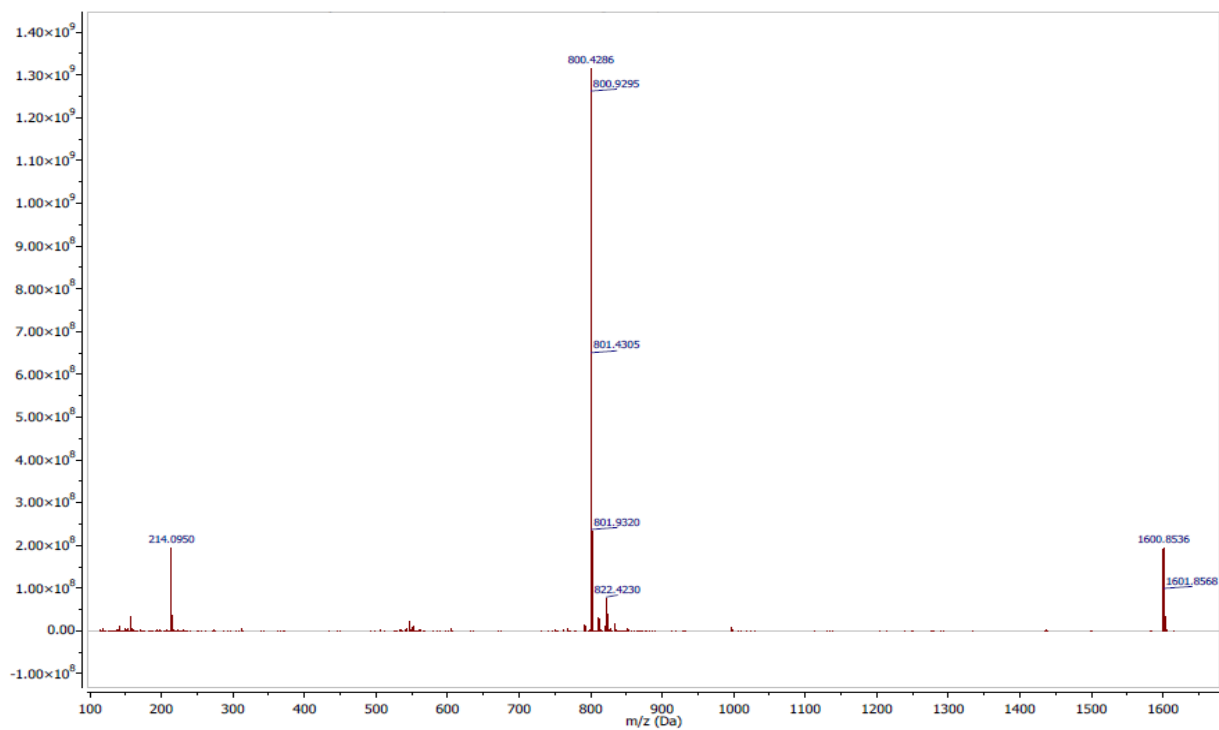
C) ESI-MS spectrum of **Dm-7**



D) ESI-MS spectrum of **Ph-4**



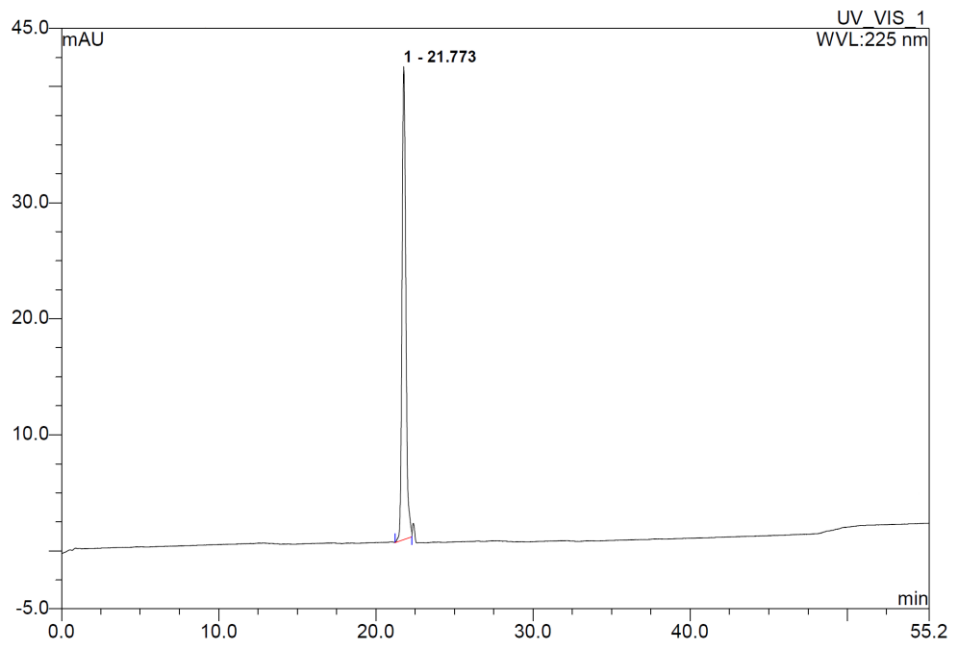
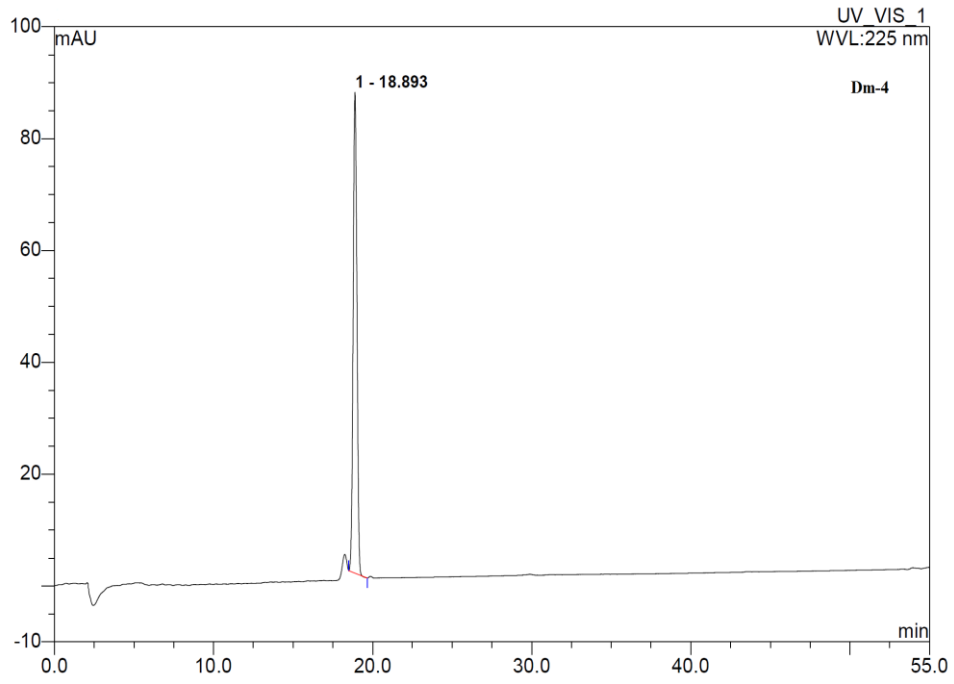
E) ESI-MS spectrum of **Ph-5**

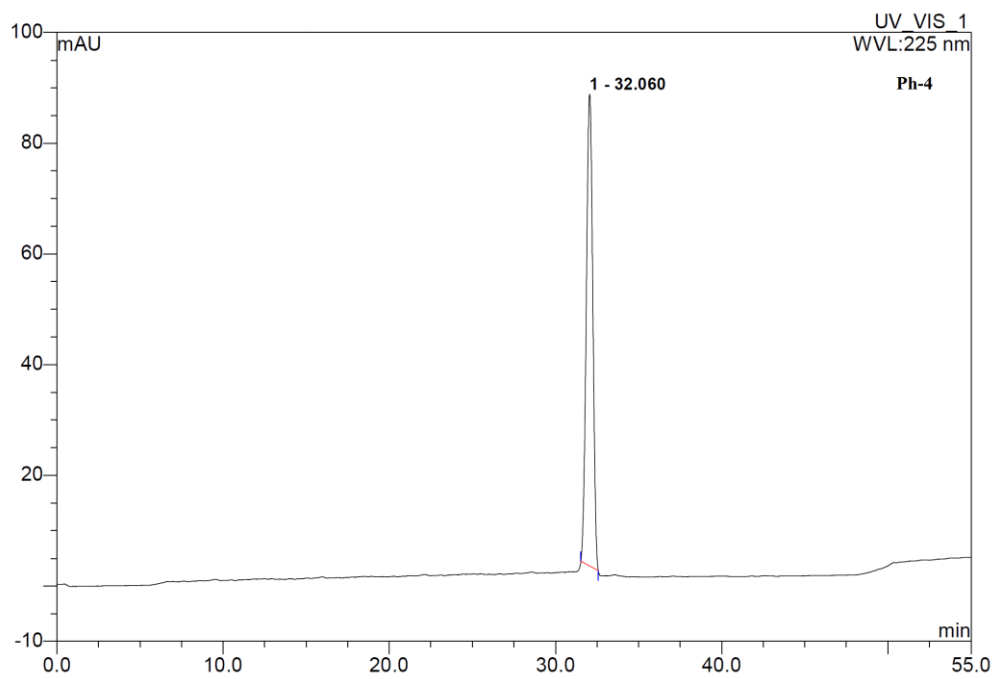
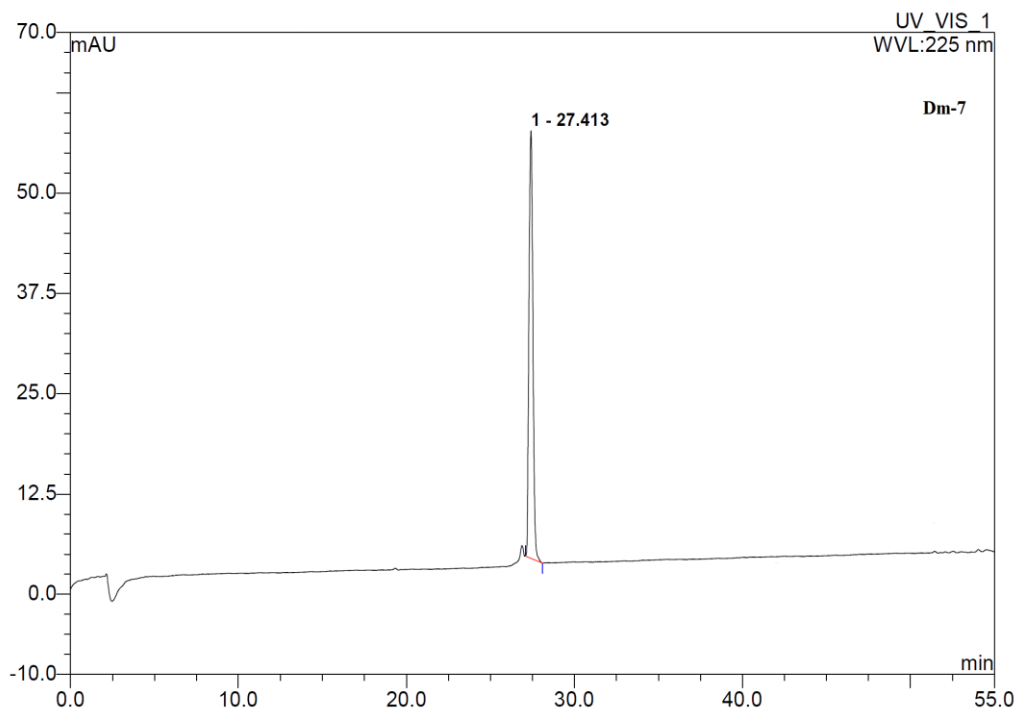


F) ESI-MS spectrum of **Ph-7**

Fig. S2. ESI-MS spectra of new peptide analogues (**Dm-4**, **Ph-4**, **Dm-5**, **Ph-5**, **Dm-7** and **Ph-7**)

3. Analytical HPLC chromatograms of peptides.





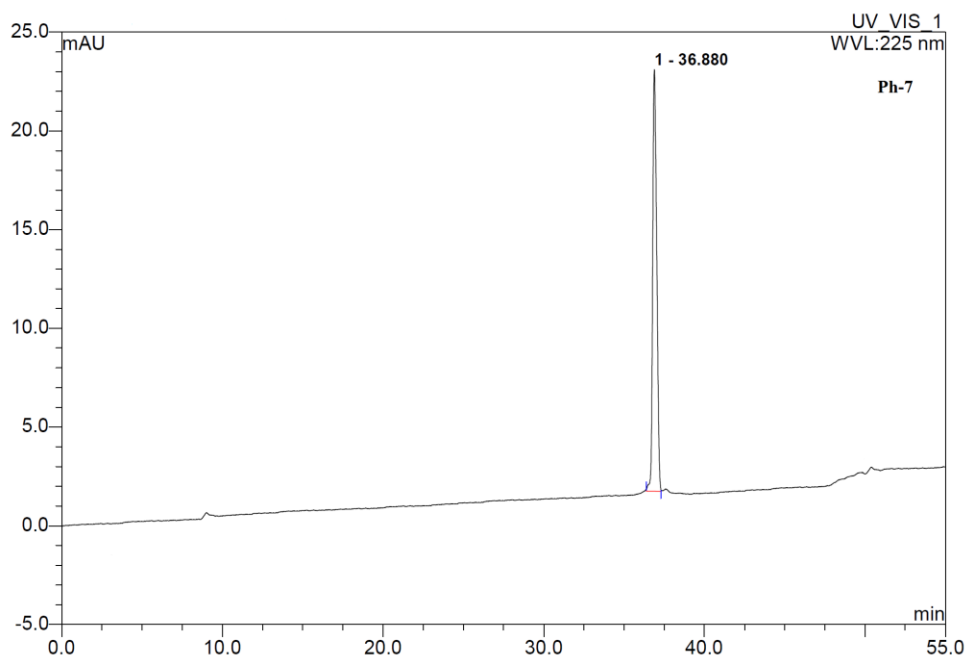
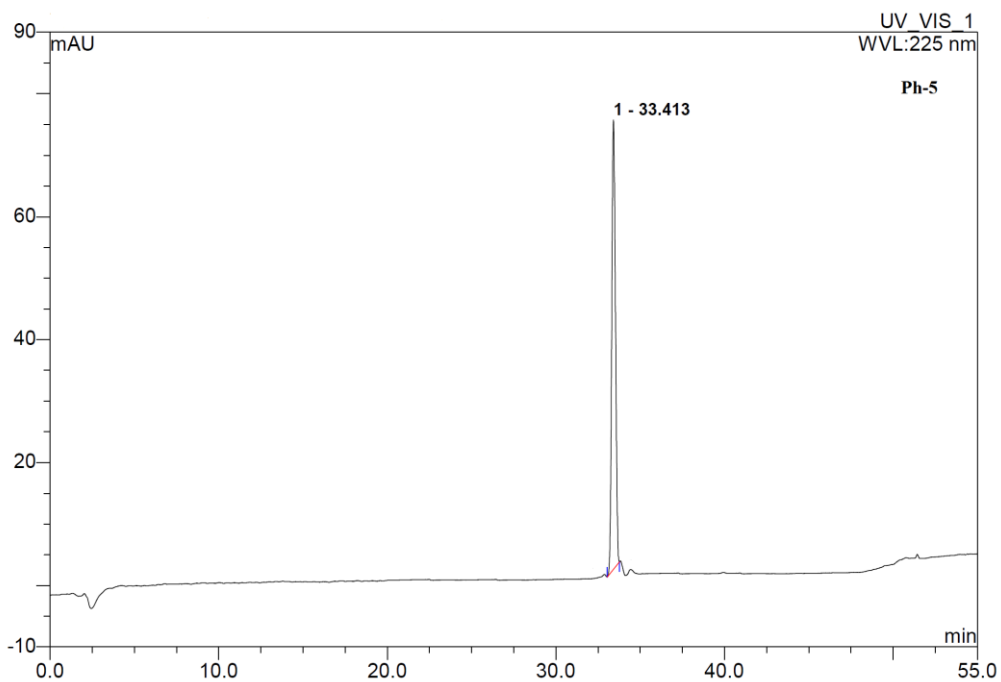


Fig. S3. Analytical HPLC chromatograms of peptides