

Identification, characterization and in vivo antihypertensive effect of novel angiotensin converting enzyme (ACE) inhibitory peptides from *Spirulina* protein hydrolysate

Qishan Suo^{a,b,c}, Yang Yue^{a,b,*}, Jing Wang^{a,b}, Ning Wu^{a,b}, Lihua Geng^{a,b}, Quanbin Zhang^{a,b,c,*}

^a *CAS and Shandong Province Key Laboratory of Experimental Marine Biology, Center for Ocean Mega-Science, Institute of Oceanology, Chinese Academy of Sciences, Qingdao, China*

^b *Laboratory for Marine Biology and Biotechnology, Qingdao National Laboratory for Marine Science and Technology, Qingdao, China*

^c *University of Chinese Academy of Sciences, Beijing, China*

Corresponding author Tel: +86 0532-82898708

E-mail address: qbzhang@qdio.ac.cn;

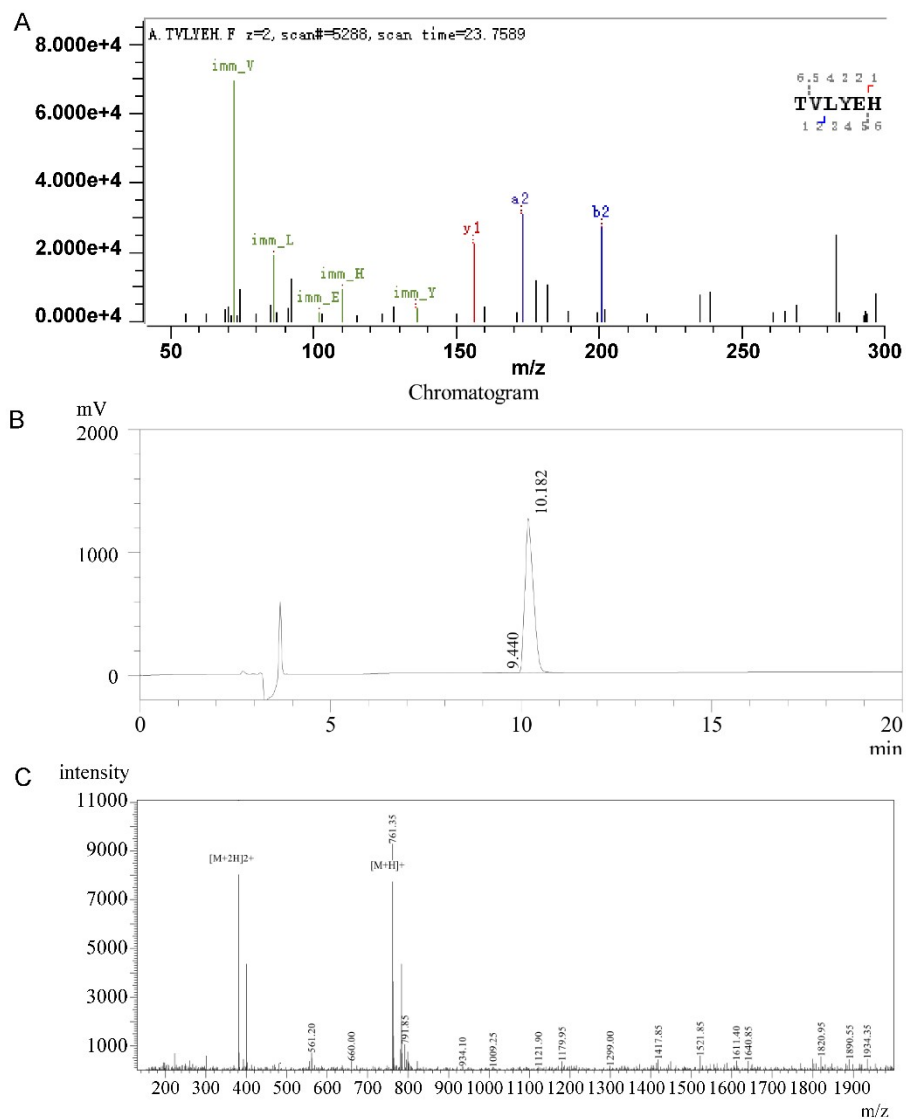


Fig. S1 Identification and synthesis of TVLYEH. (A) The LC-MS/MS mass spectrum of TVLYEH; (B) The HPLC chromatogram of synthesized TVLTEH; (C) The mass spectrum of the synthesized TVLYEH.

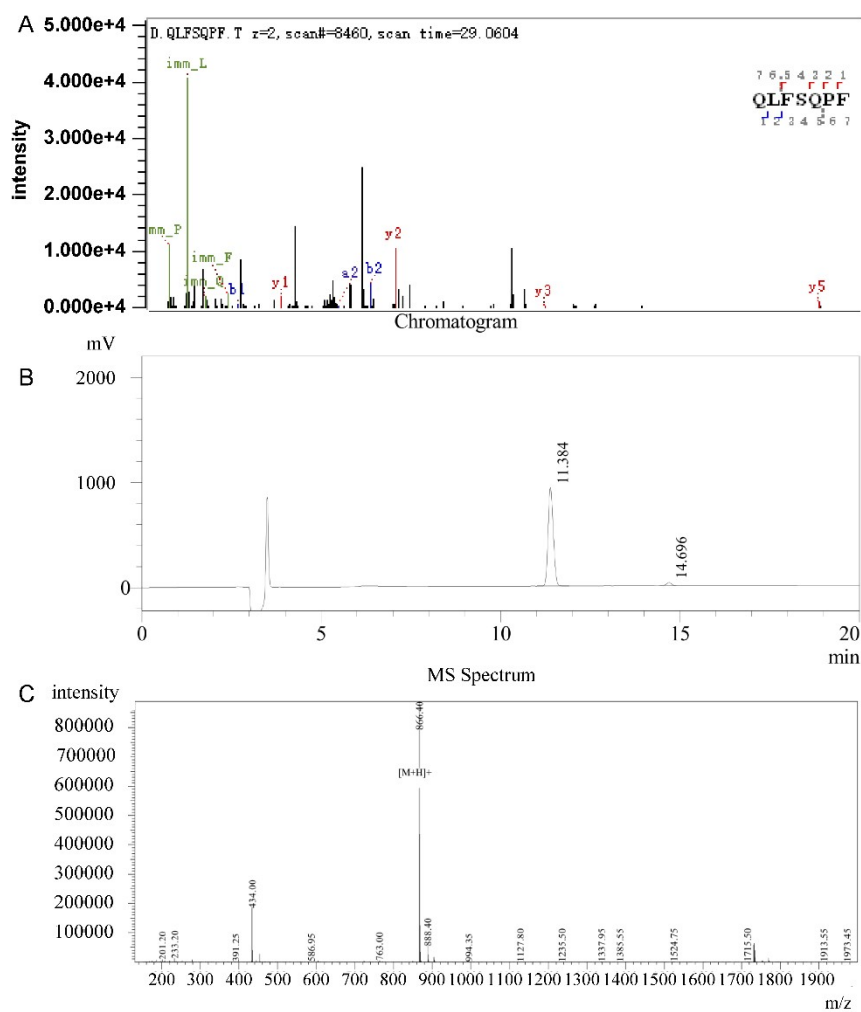


Fig. S2 Identification and synthesis of QLFSQPF. (A) The LC-MS/MS mass spectrum of QLFSQPF; (B) The HPLC chromatogram of synthesized QLFSQPF; (C) The mass spectrum of the synthesized QLFSQPF.

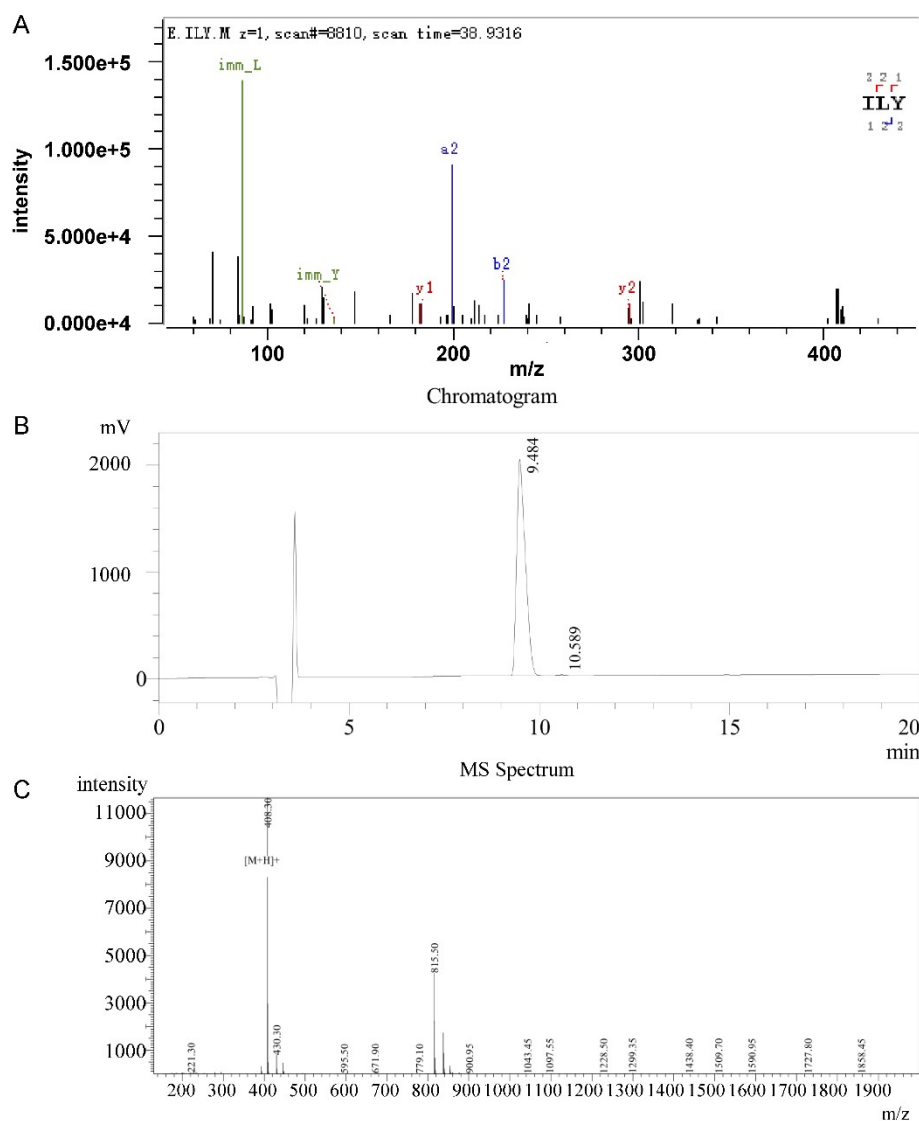


Fig. S3 Identification and synthesis of ILY. (A) The LC-MS/MS mass spectrum of ILY; (B) The HPLC chromatogram of synthesized ILY; (C) The mass spectrum of the synthesized ILY.

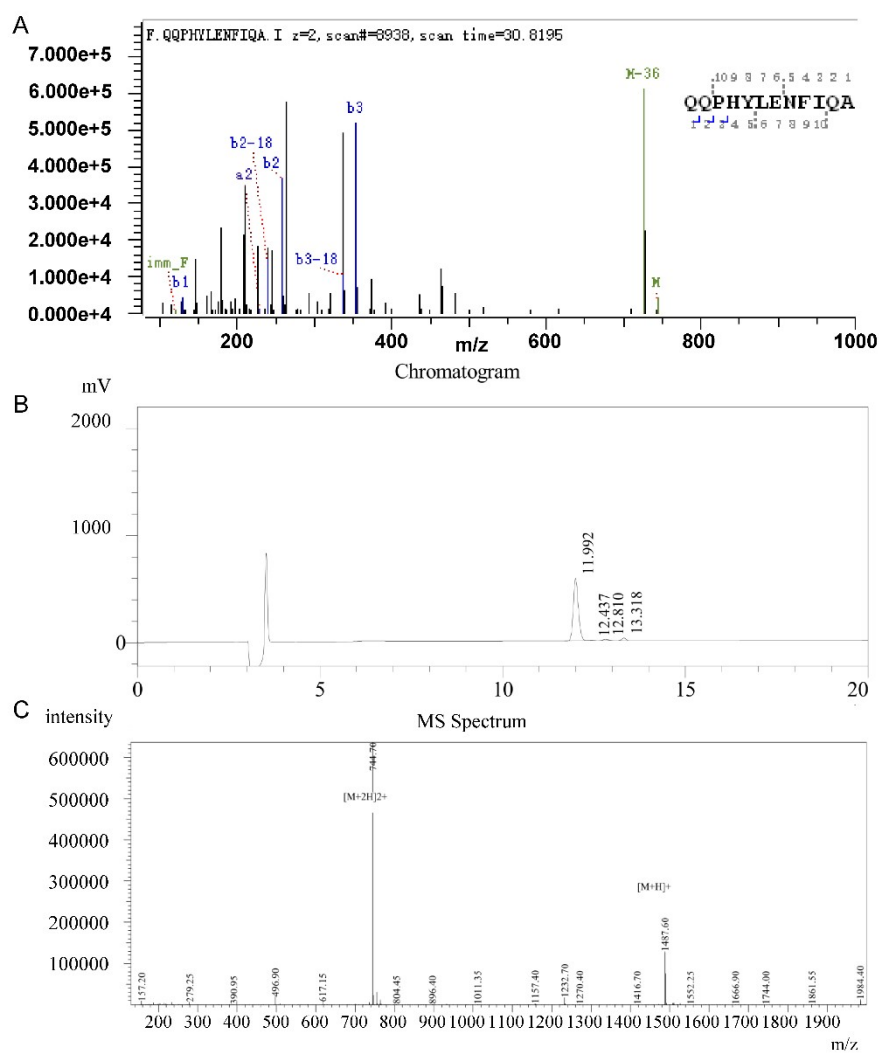


Fig. S4 Identification and synthesis of QQPHYLENFIQA. (A) The LC-MS/MS mass spectrum of QQPHYLENFIQA; (B) The HPLC chromatogram of synthesized QQPHYLENFIQA; (C) The mass spectrum of the synthesized QQPHYLENFIQA.

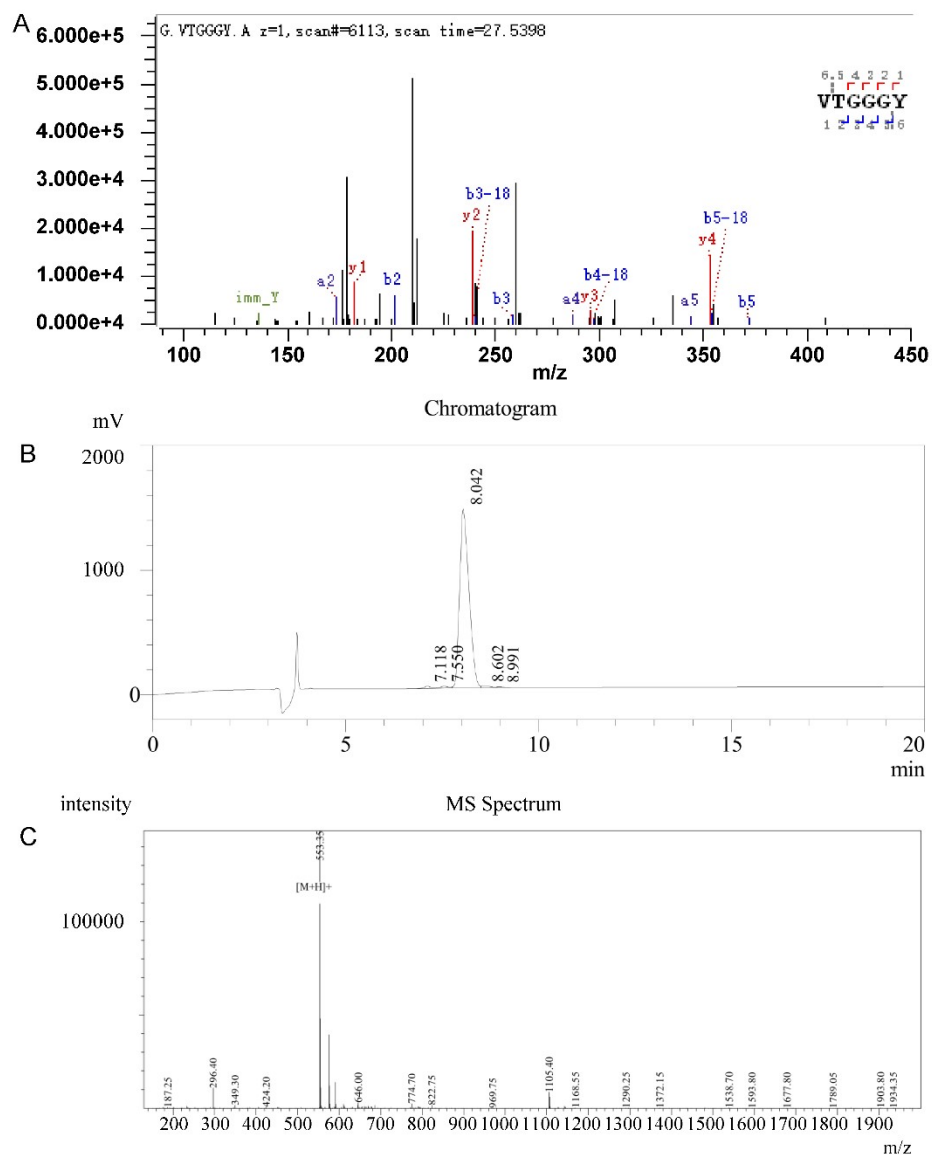


Fig. S5 Identification and synthesis of VTGGGY. (A) The LC-MS/MS mass spectrum of VTGGGY; (B) The HPLC chromatogram of synthesized VTGGGY; (C) The mass spectrum of the synthesized VTGGGY.

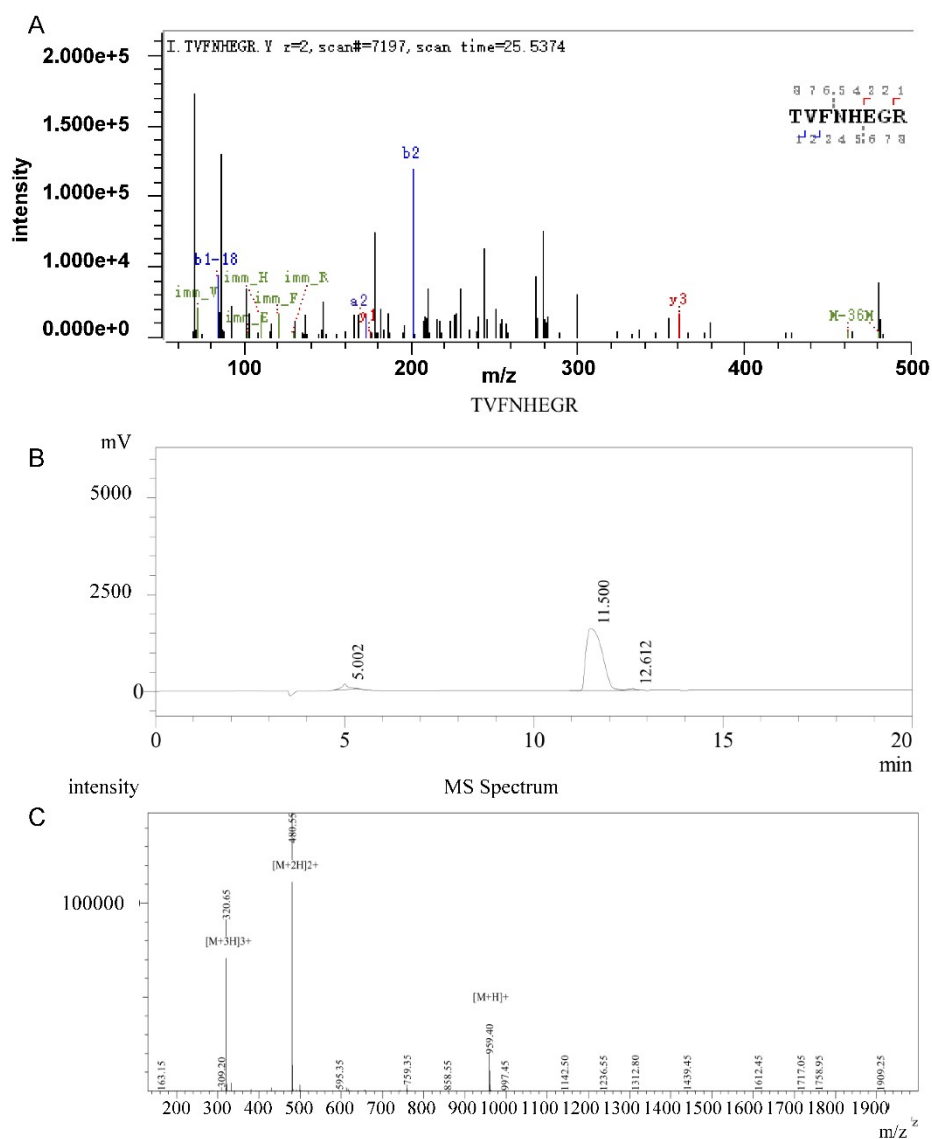


Fig. S6 Identification and synthesis of TVFNHEGR. (A) The LC-MS/MS mass spectrum of TVFNHEGR; (B) The HPLC chromatogram of synthesized TVFNHEGR; (C) The mass spectrum of the synthesized TVFNHEGR.

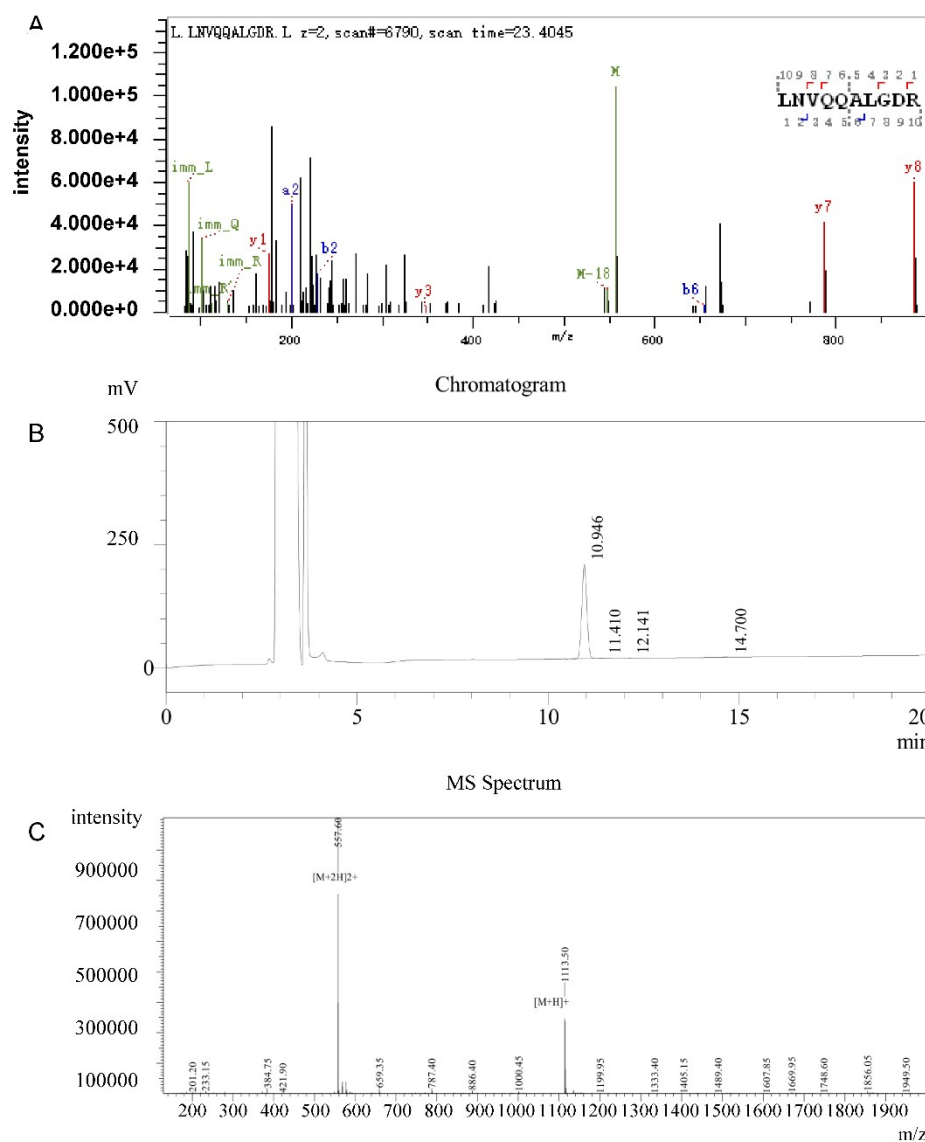


Fig. S7 Identification and synthesis of LNVQQALGDR. (A) The LC-MS/MS mass spectrum of LNVQQALGDR; (B) The HPLC chromatogram of synthesized LNVQQALGDR; (C) The mass spectrum of the synthesized LNVQQALGDR.

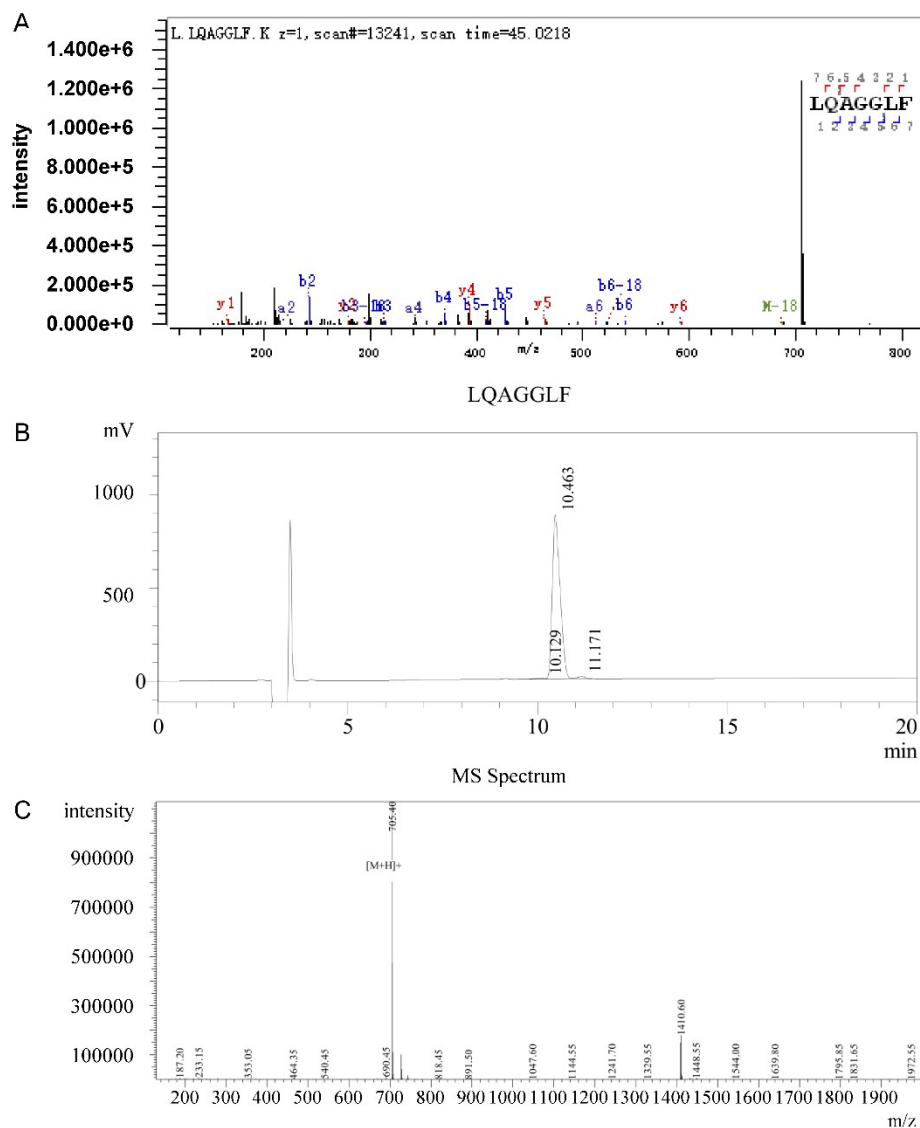


Fig. S8 Identification and synthesis of LQAGGLF. (A) The LC-MS/MS mass spectrum of LQAGGLF; (B) The HPLC chromatogram of synthesized LQAGGLF; (C) The mass spectrum of the synthesized LQAGGLF.

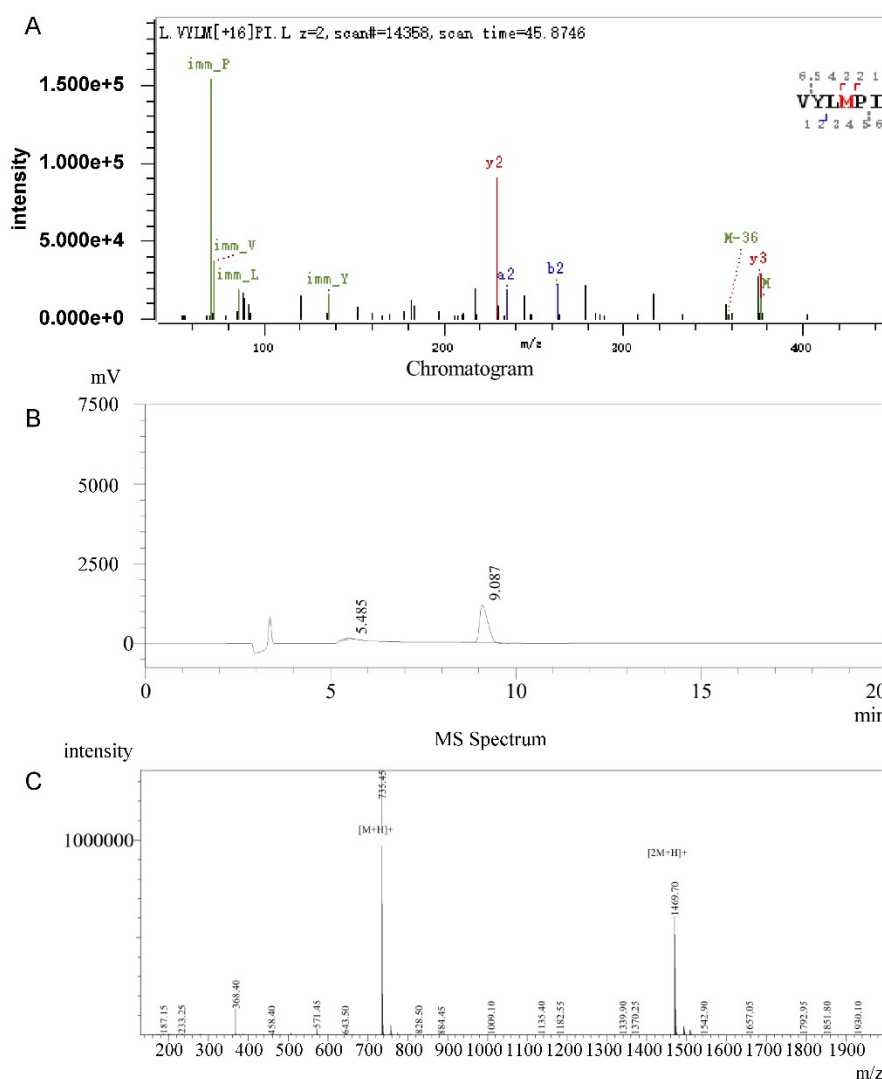


Fig. S9 Identification and synthesis of VYLMPI. (A) The LC-MS/MS mass spectrum of VYLMPI; (B) The HPLC chromatogram of synthesized VYLMPI; (C) The mass spectrum of the synthesized VYLMPI.

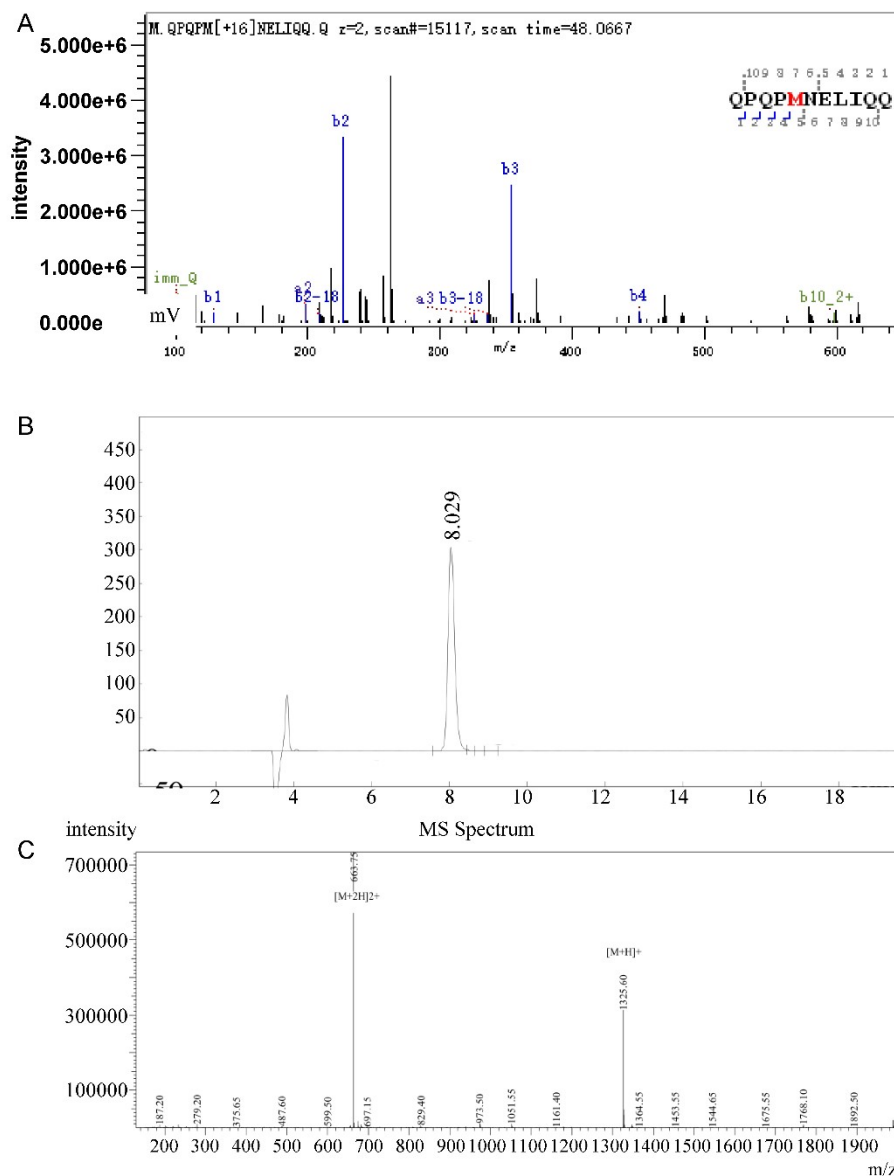


Fig. S10 Identification and synthesis of QPQPMNELIQQ. (A) The LC-MS/MS mass spectrum of QPQPMNELIQQ; (B) The HPLC chromatogram of synthesized QPQPMNELIQQ; (C) The mass spectrum of the synthesized QPQPMNELIQQ.

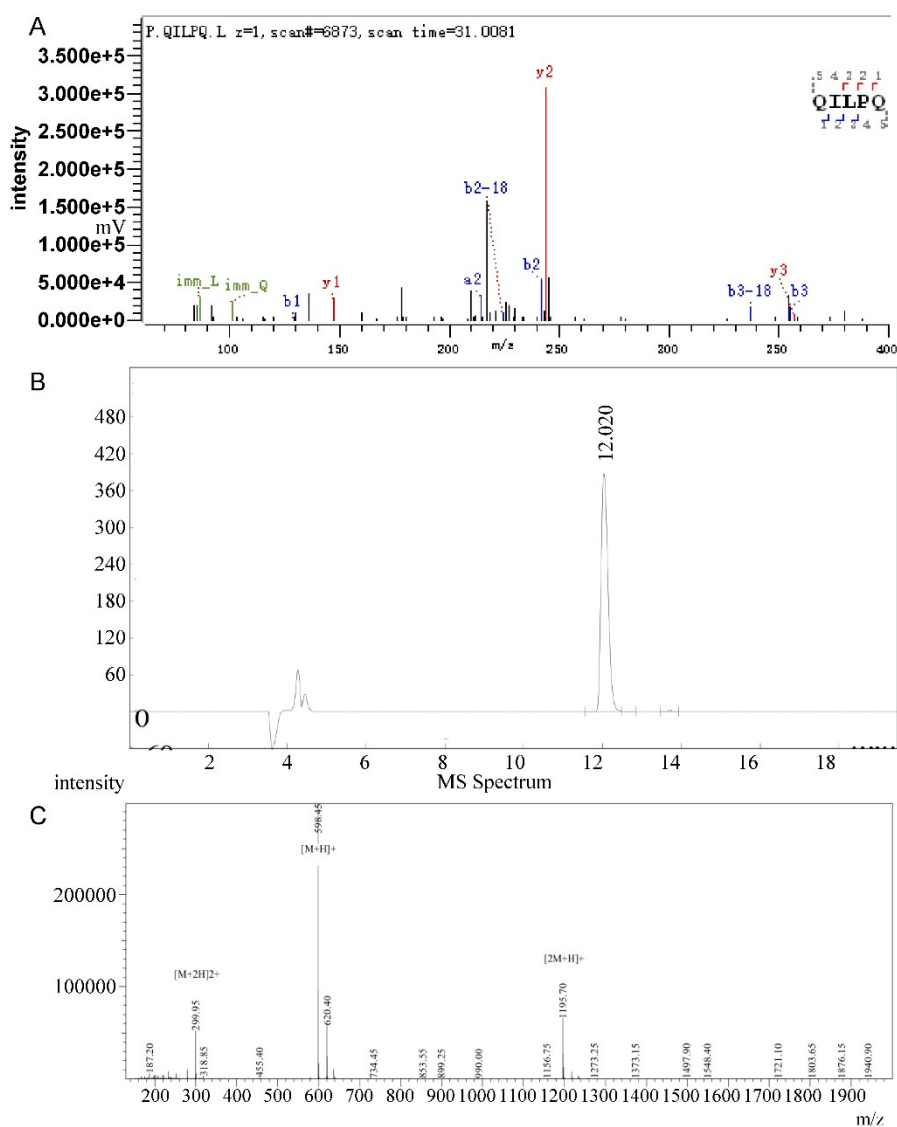


Fig. S11 Identification and synthesis of QILPQ. (A) The LC-MS/MS mass spectrum of QILPQ; (B) The HPLC chromatogram of synthesized QILPQ; (C) The mass spectrum of the synthesized QILPQ.

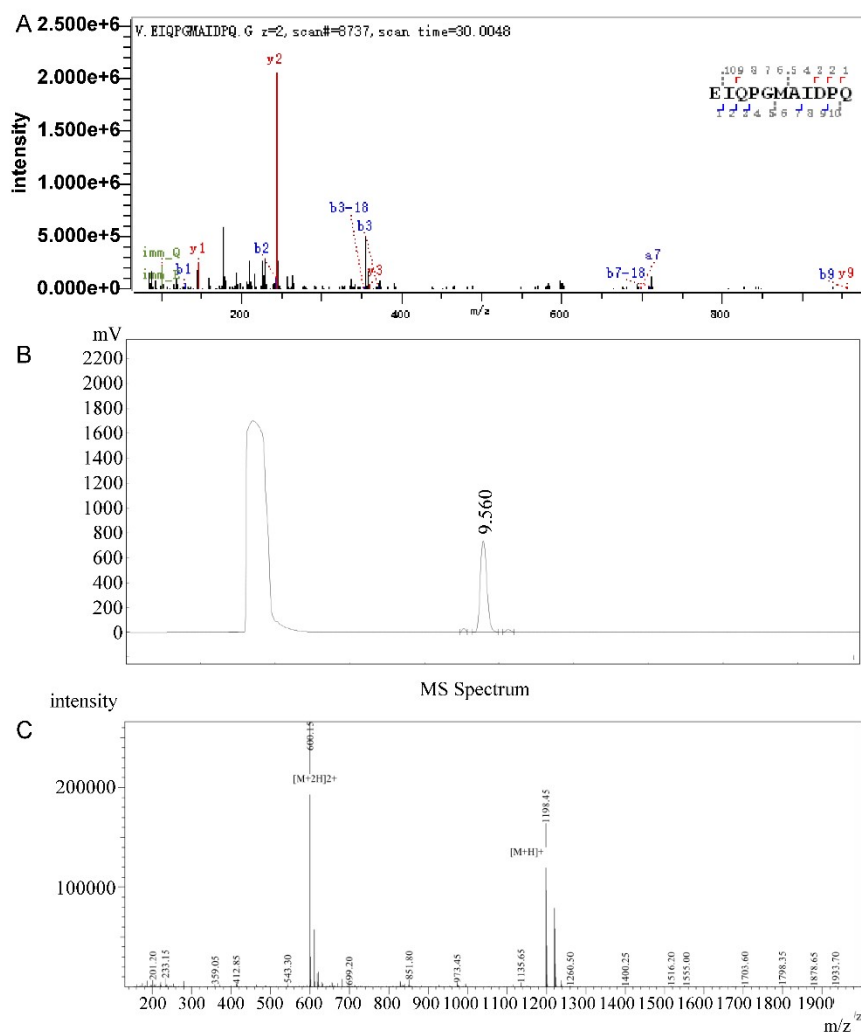


Fig. S12 Identification and synthesis of EIQPGMAIDPQ. (A) The LC-MS/MS mass spectrum of EIQPGMAIDPQ; (B) The HPLC chromatogram of synthesized EIQPGMAIDPQ; (C) The mass spectrum of the synthesized EIQPGMAIDPQ.

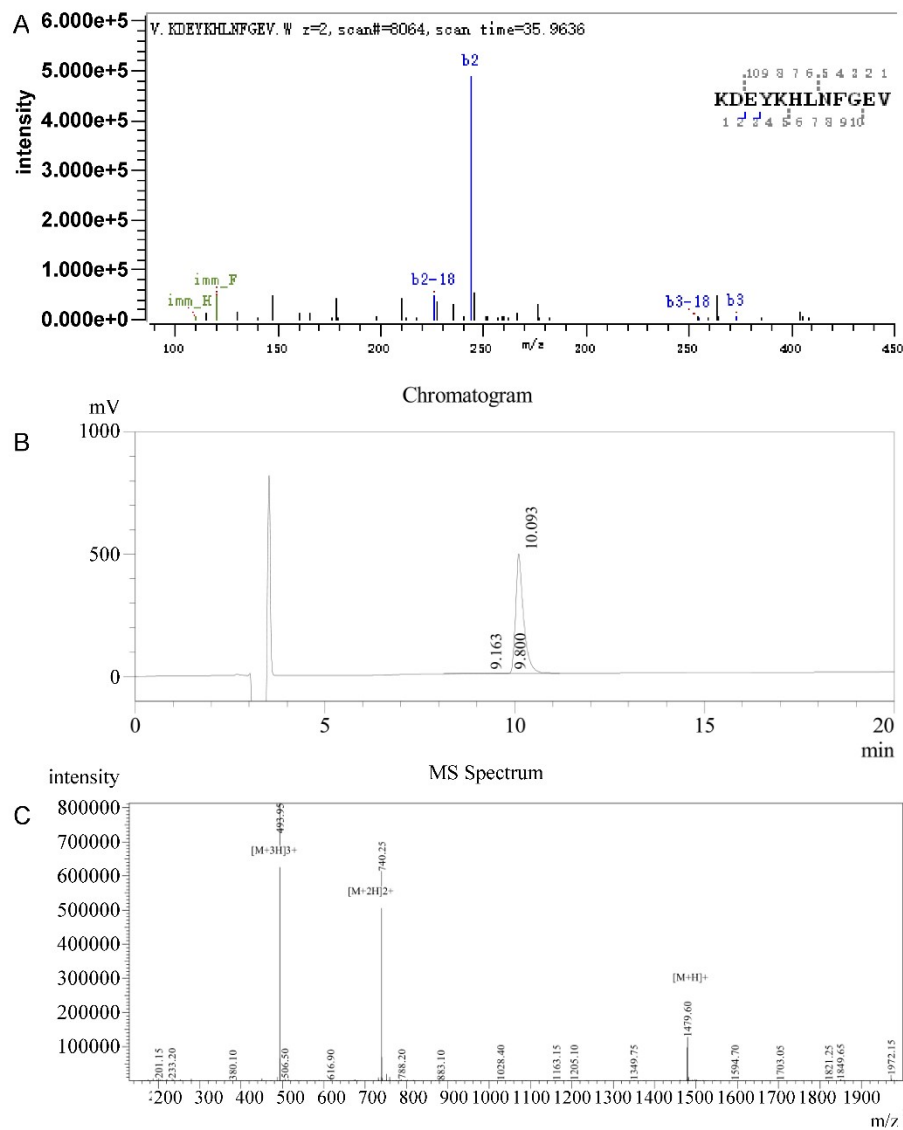


Fig. S13 Identification and synthesis of KDEYKHLNFGEV. (A) The LC-MS/MS mass spectrum of KDEYKHLNFGEV; (B) The HPLC chromatogram of synthesized KDEYKHLNFGEV; (C) The mass spectrum of the synthesized KDEYKHLNFGEV.

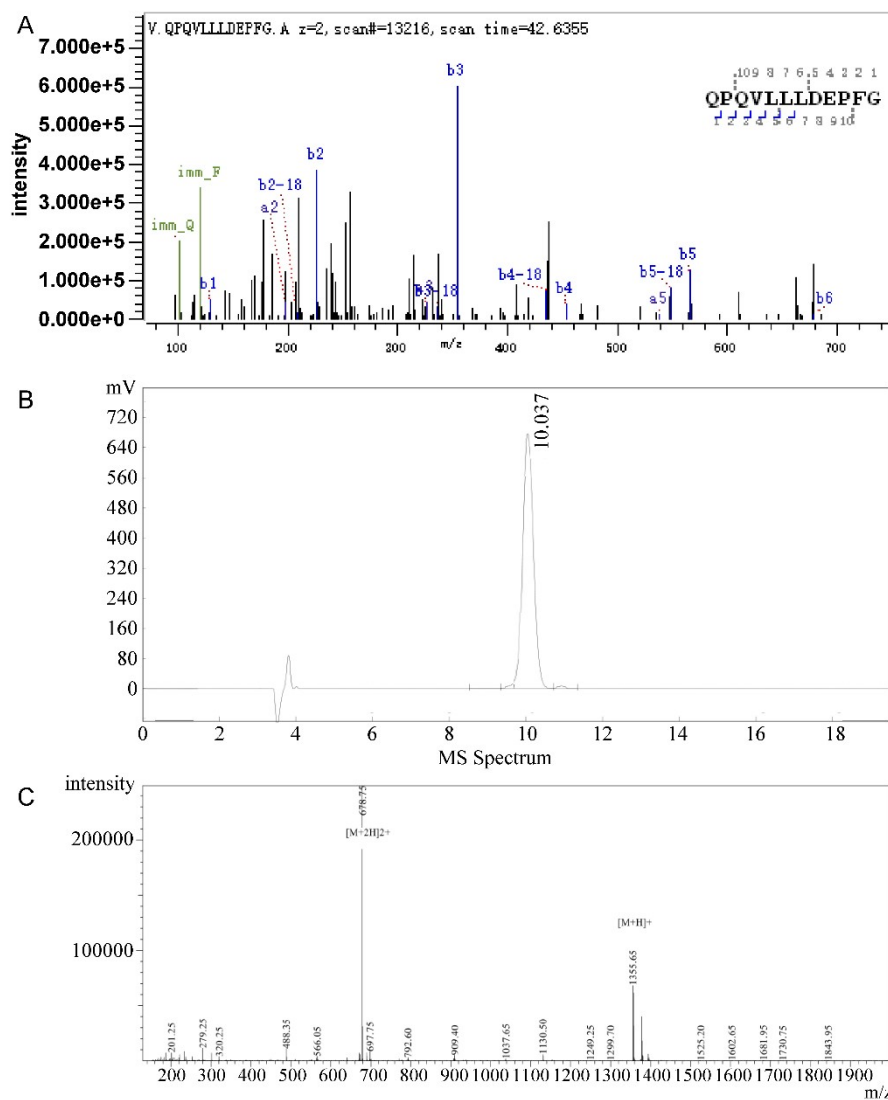


Fig. S14 Identification and synthesis of QPQVLLLDPEFG. (A) The LC-MS/MS mass spectrum of QPQVLLLDPEFG; (B) The HPLC chromatogram of synthesized QPQVLLLDPEFG; (C) The mass spectrum of the synthesized QPQVLLLDPEFG.

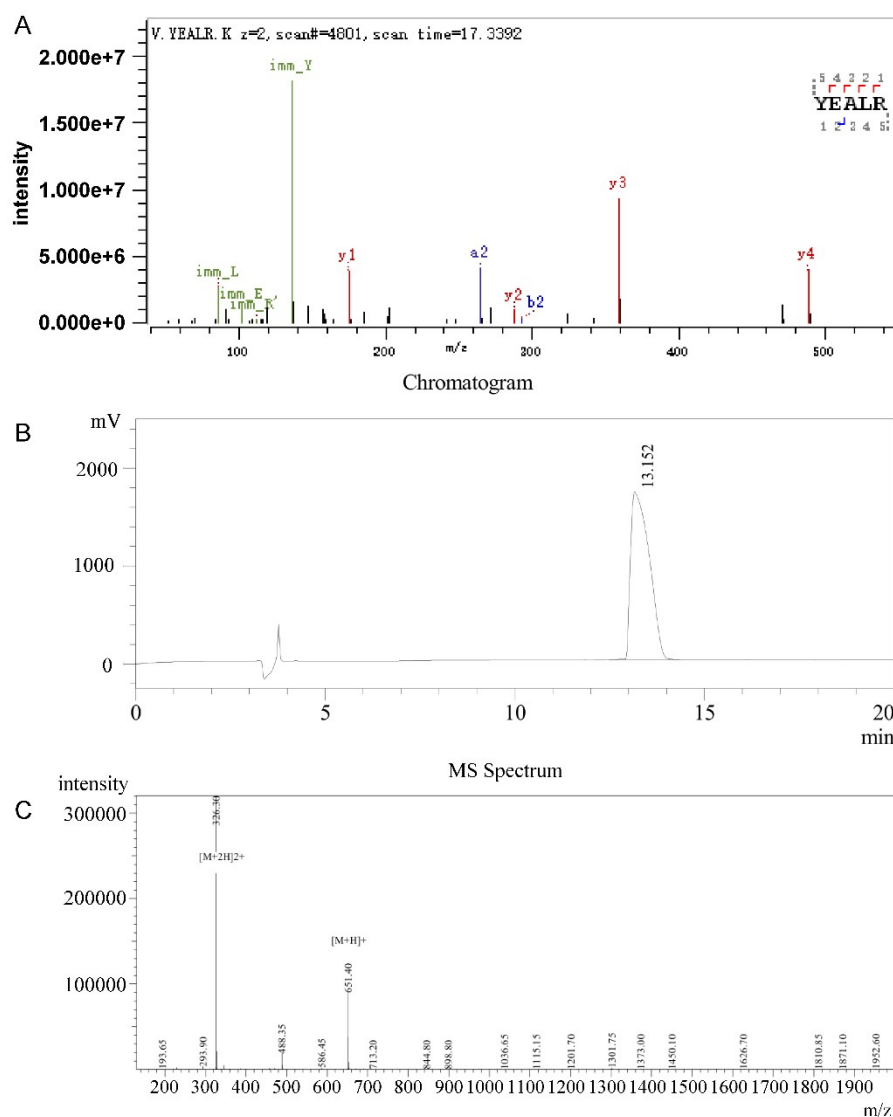


Fig. S15 Identification and synthesis of. YEALR. (A) The LC-MS/MS mass spectrum of YEALR; (B) The HPLC chromatogram of synthesized YEALR; (C) The mass spectrum of the synthesized YEALR.