

Supporting Information

Synthesis of lactam-bridged and lipidated cyclo-peptides as promising anti-phytopathogenic agents

Aldrin V. Vasco,¹ Martina Brode,¹ Yanira Méndez,^{1,2} Oscar Valdés,³ Daniel G. Rivera,^{1,2,*} and Ludger A. Wessjohann^{1,*}

¹ Department of Bioorganic Chemistry, Leibniz Institute of Plant Biochemistry, Weinberg 3, 06120 Halle (Saale), Germany

² Center for Natural Products Research, Faculty of Chemistry, University of Havana, Zapata y G, Havana 10400, Cuba

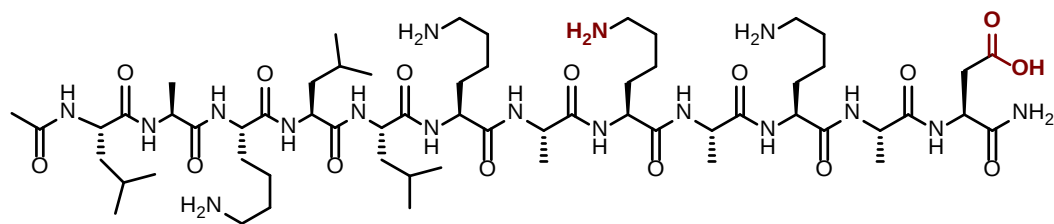
³ Vicerrectoría de Investigación y Postgrado, Universidad Católica del Maule, Talca 3460000, Chile

*Correspondence: dgr@fq.uh.cu; wessjohann@ipb-halle.de (ORCID 0000-0003-2060-8235)

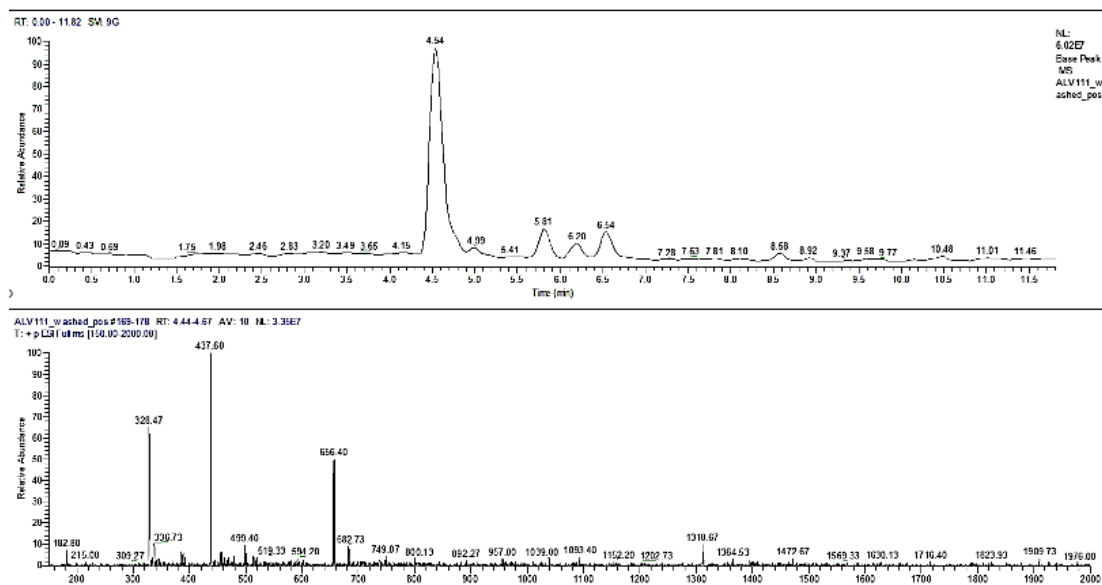
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A)



Chemical Formula: $C_{60}H_{111}N_{17}O_{15}$
Exact Mass: 1309.8446



B)

C)

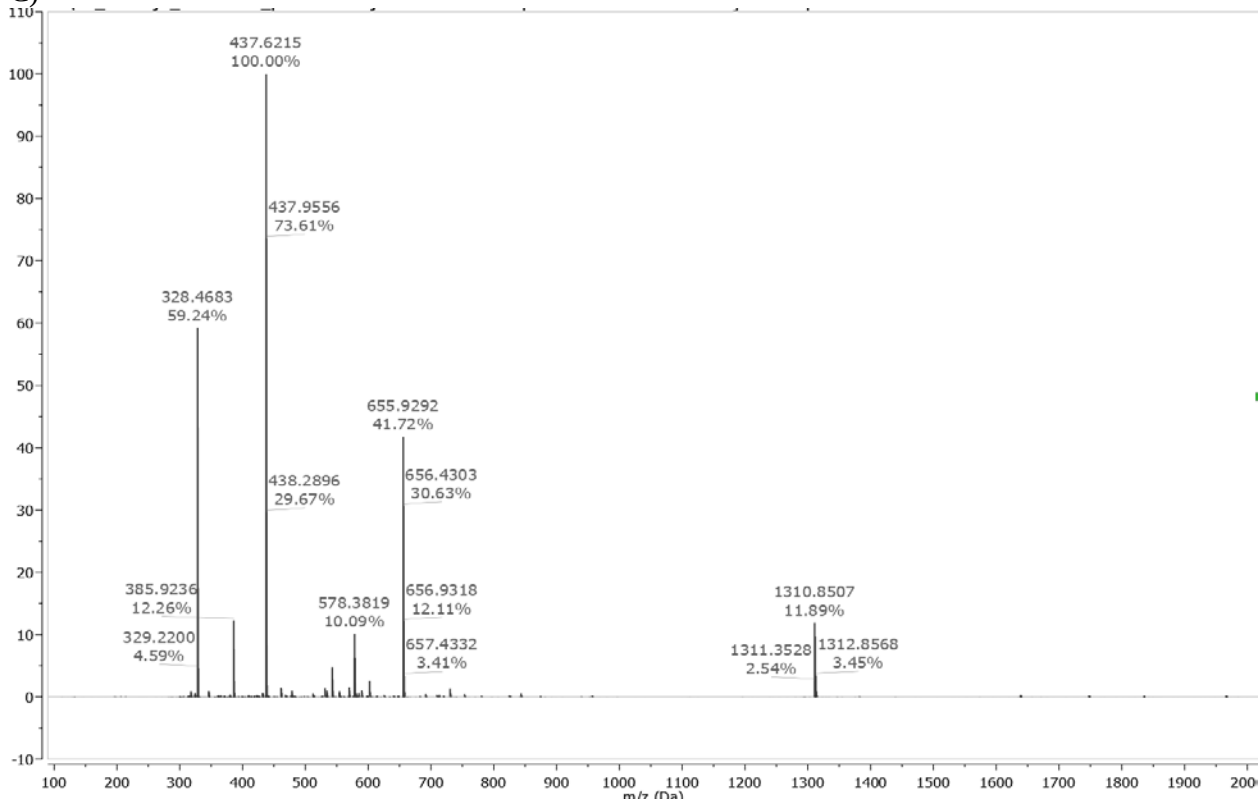
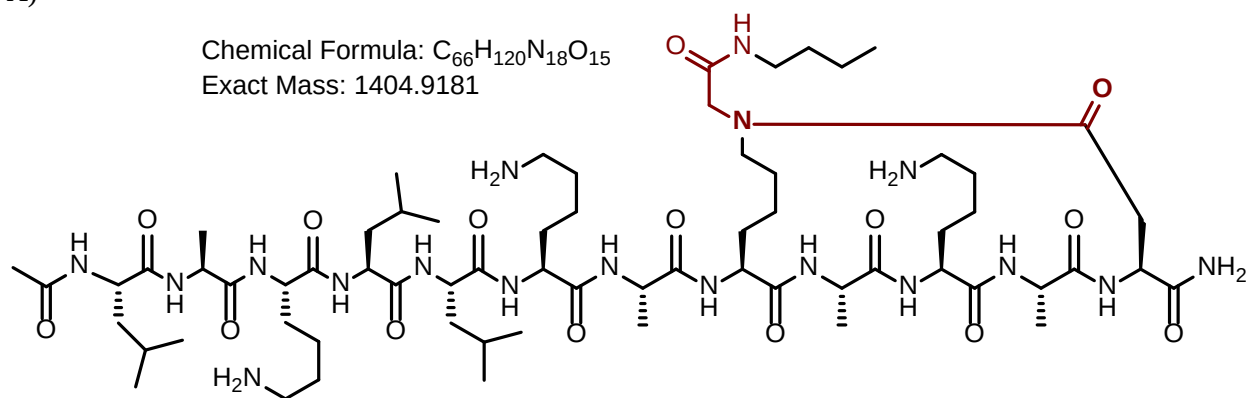


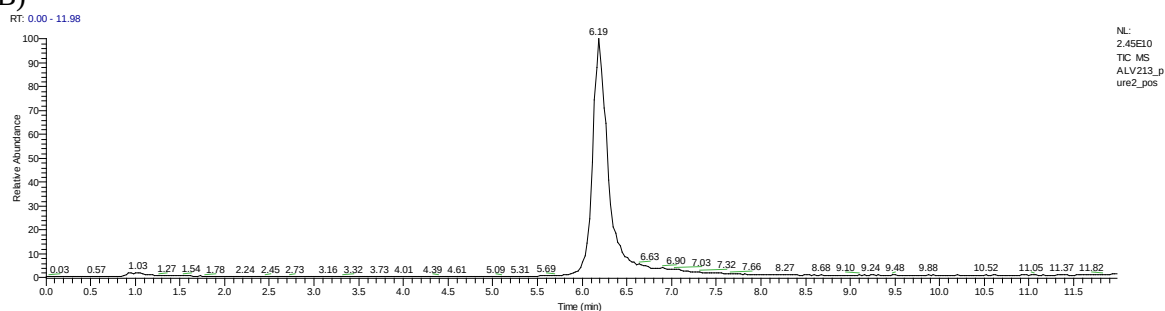
Figure S1. A) Structure, B) UHPLC-MS trace C) ESI-HRMS spectrum of crude peptide **1**

A)

Chemical Formula: $C_{66}H_{120}N_{18}O_{15}$
 Exact Mass: 1404.9181



B)



C)

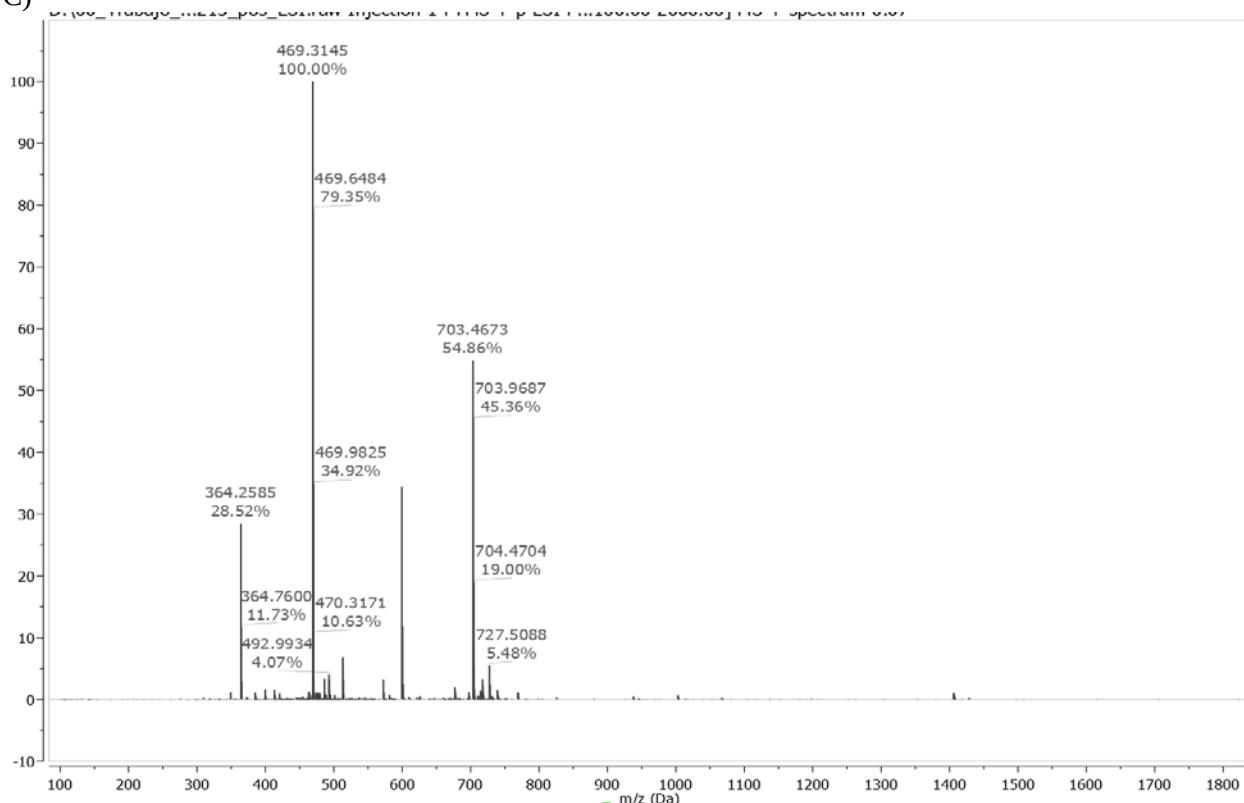
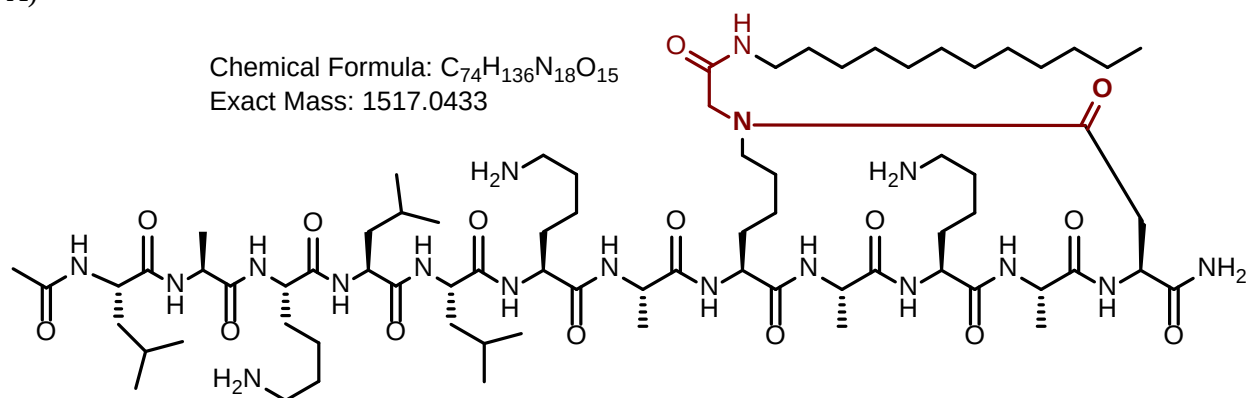
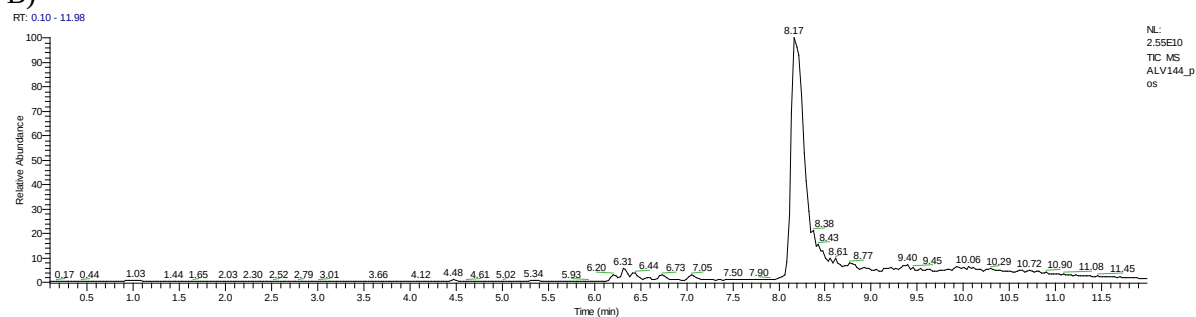


Figure S2. A) Structure, B) UHPLC-MS trace and C) ESI-HRMS spectrum of pure peptide 2

A)



B)



C)

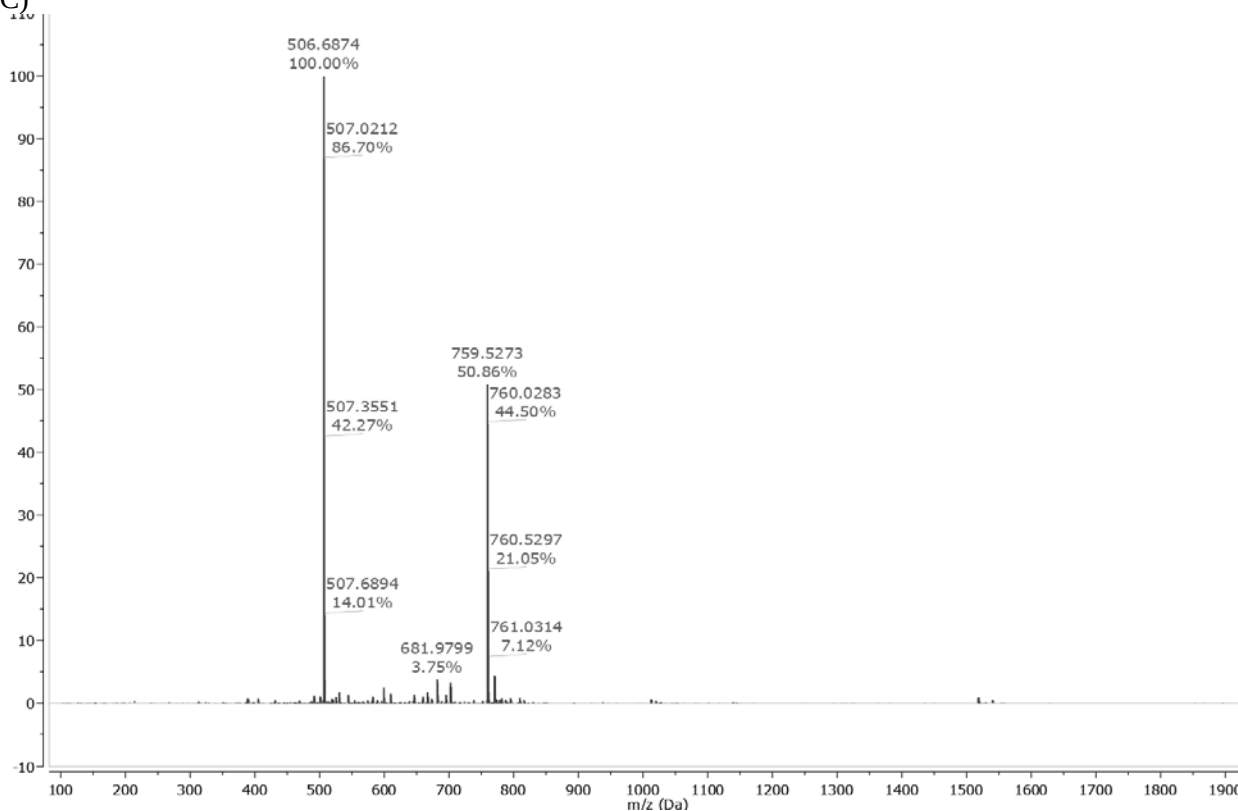
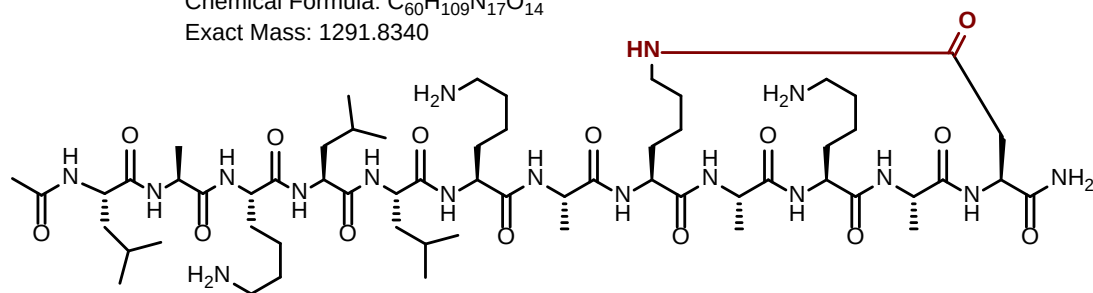


Figure S3.

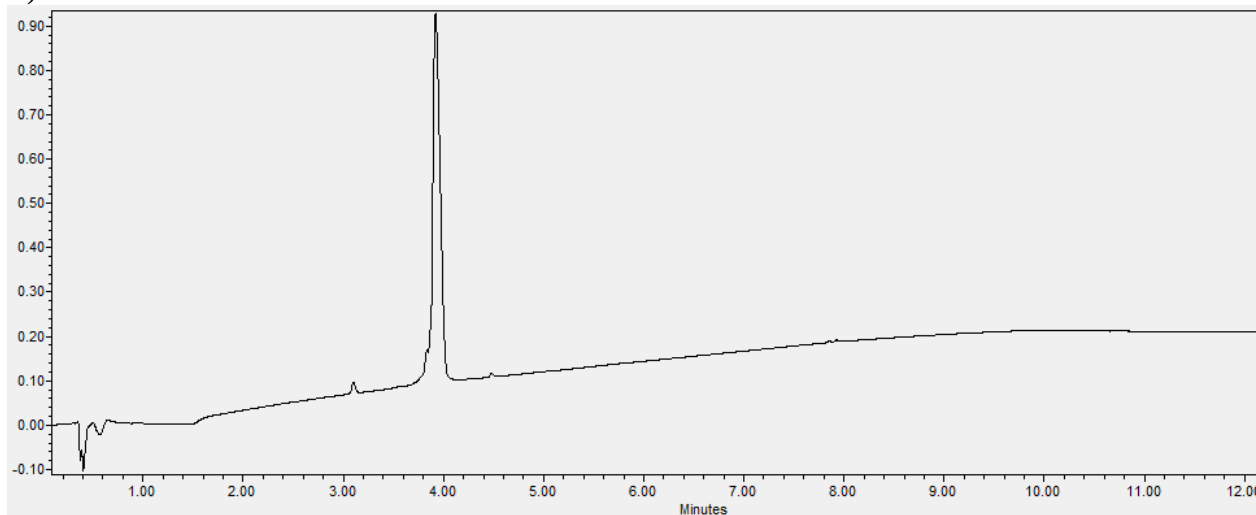
A) Structure, B) UHPLC-MS trace and C) ESI-HRMS spectrum of pure peptide 3

A)

Chemical Formula: $C_{60}H_{109}N_{17}O_{14}$
 Exact Mass: 1291.8340



B)



C)

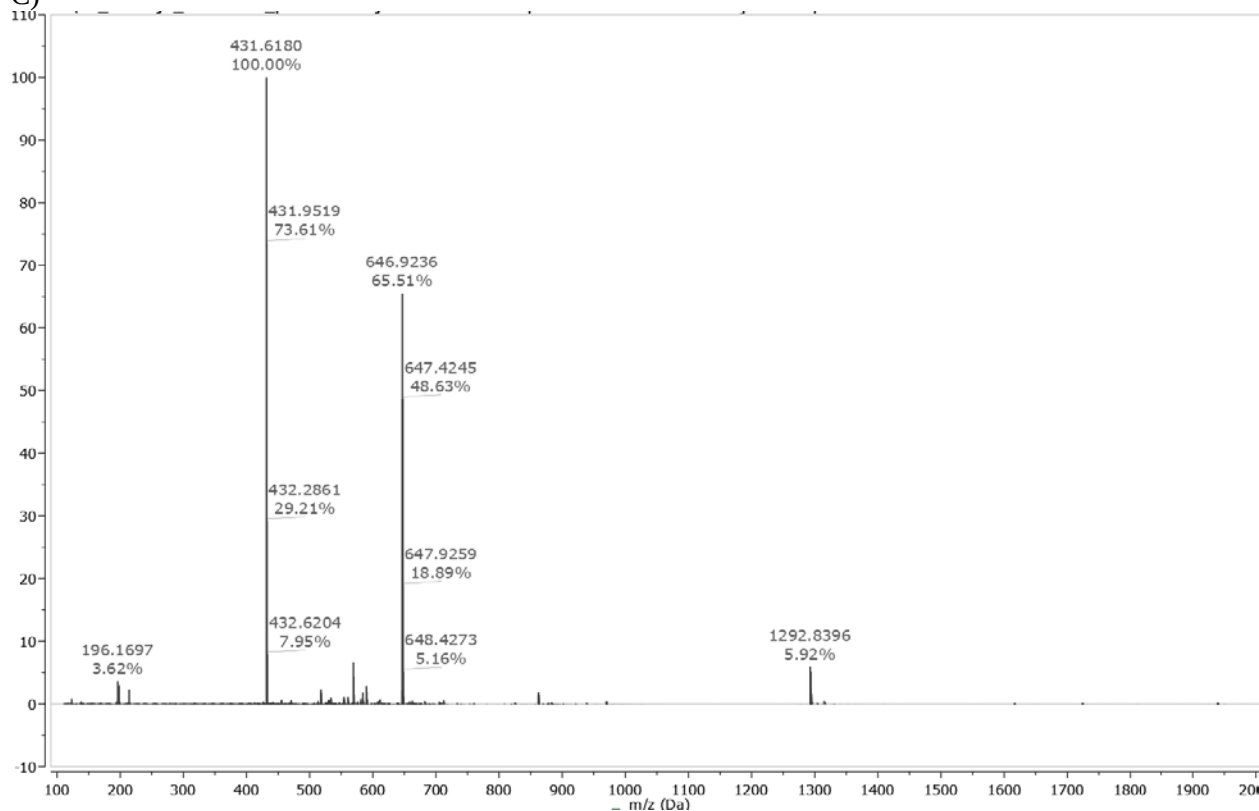


Figure S4.

A) Structure, B) UHPLC trace at 200 nm and C) ESI-HRMS spectrum of pure peptide 4

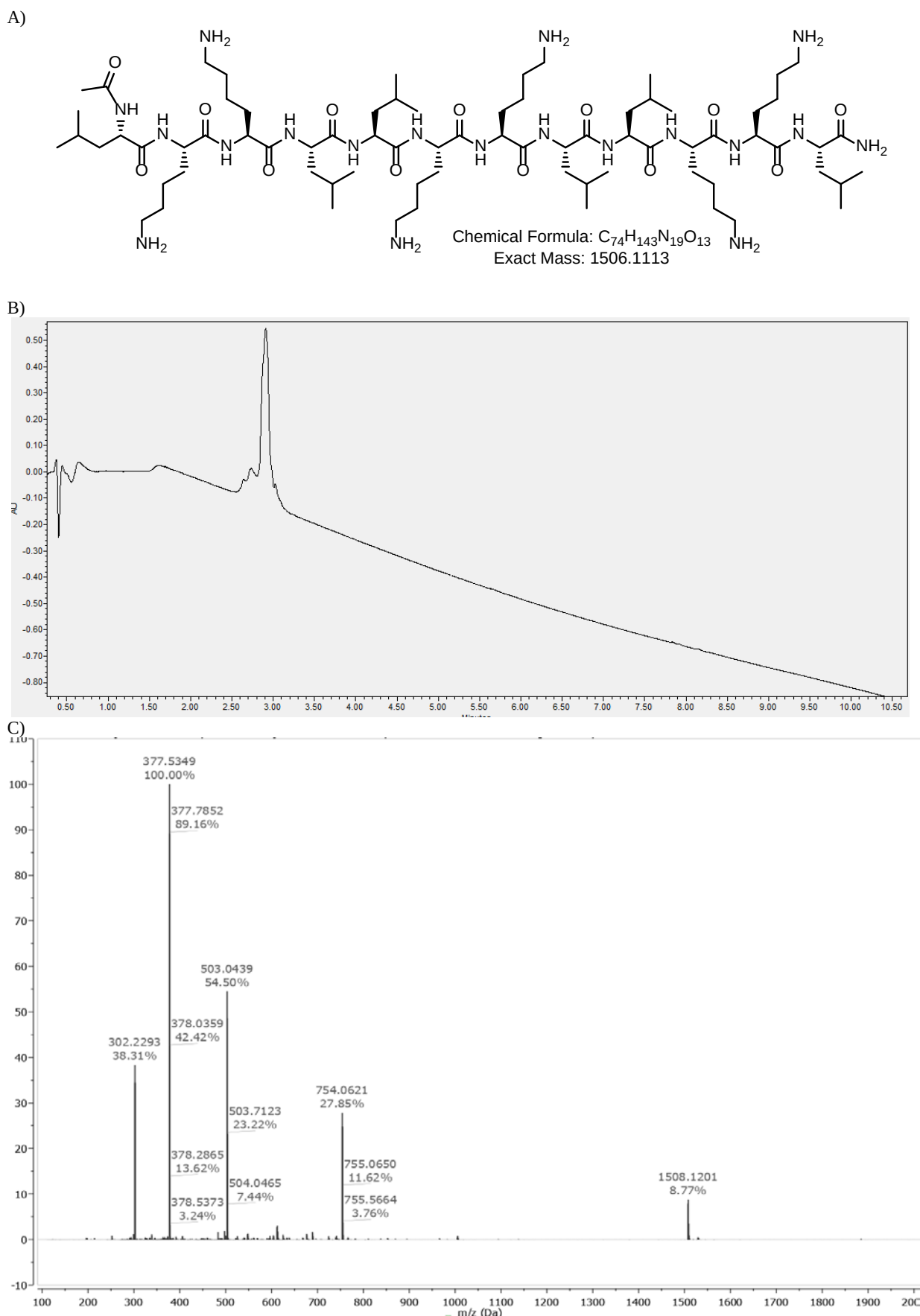


Figure S5. A) Structure, B) UHPLC trace at 200 nm and C) ESI-HRMS spectrum of crude peptide 5

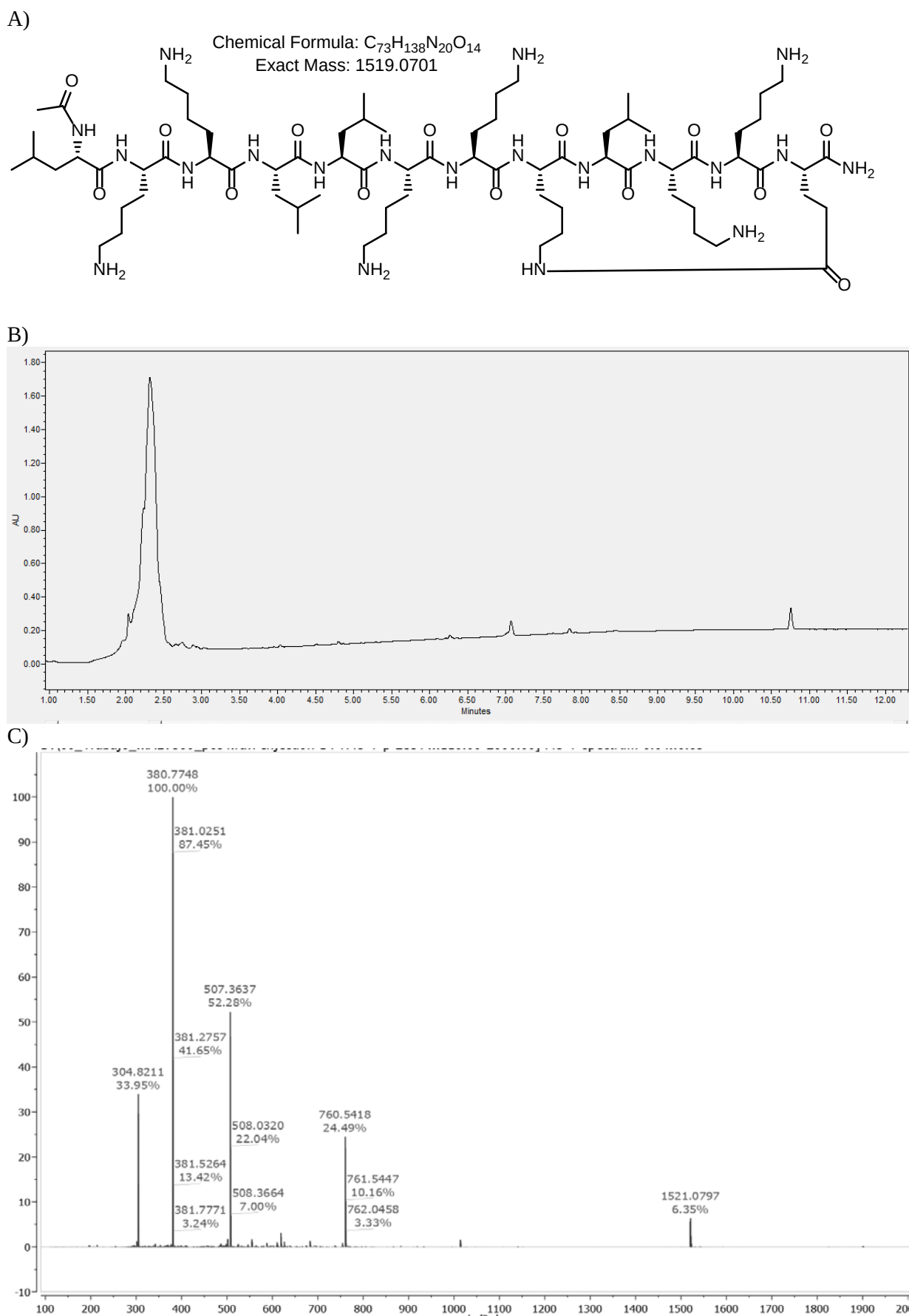


Figure S6. A) Structure, B) UHPLC trace at 200 nm and C) ESI-HRMS spectrum of pure peptide **6**

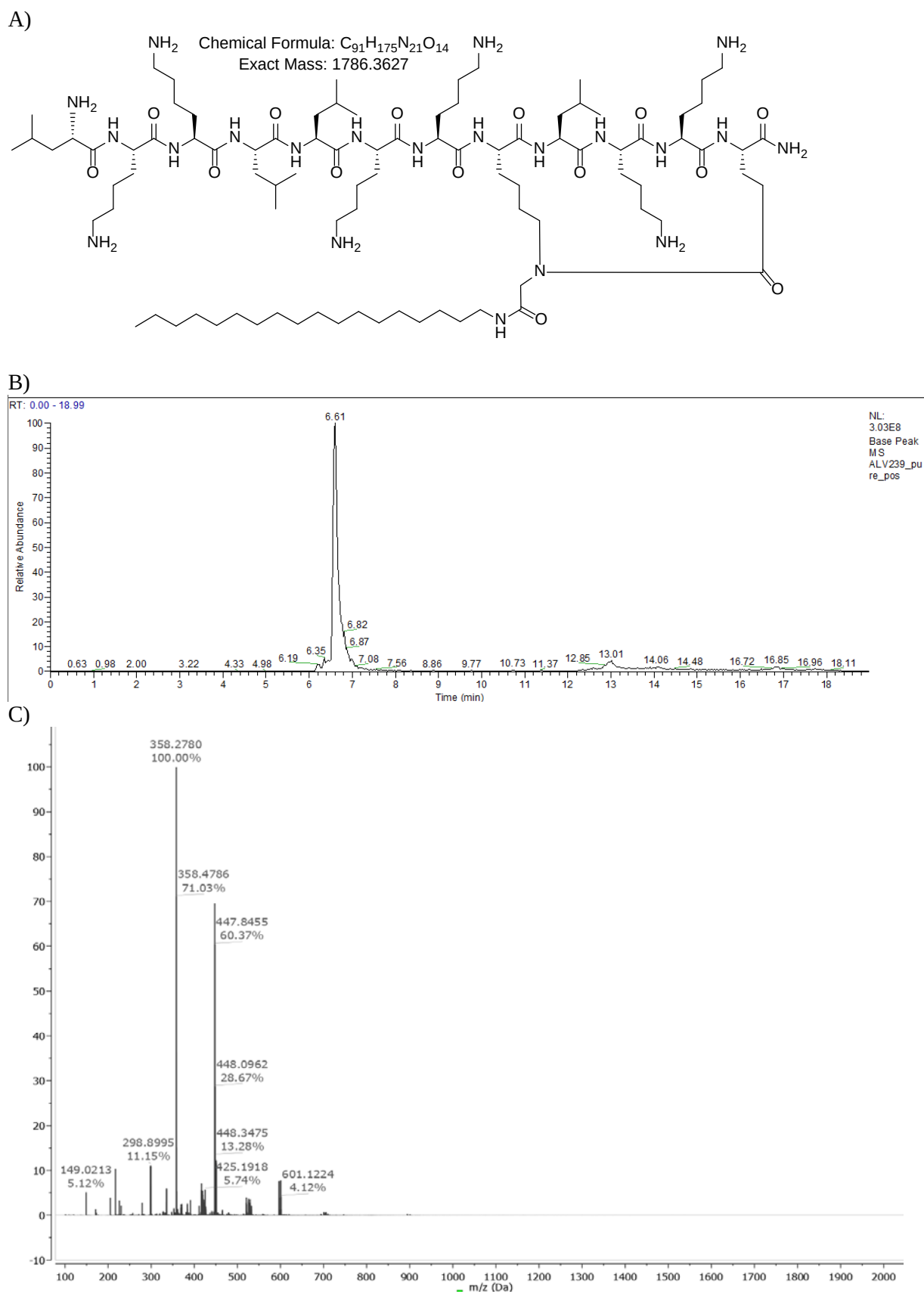
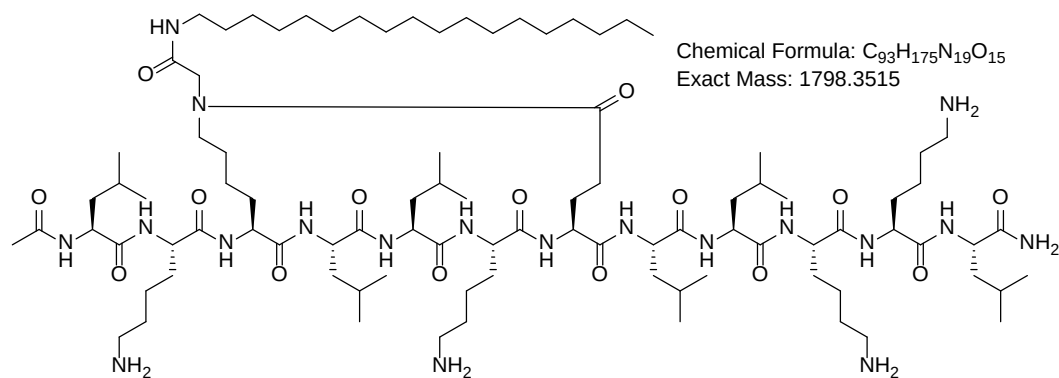
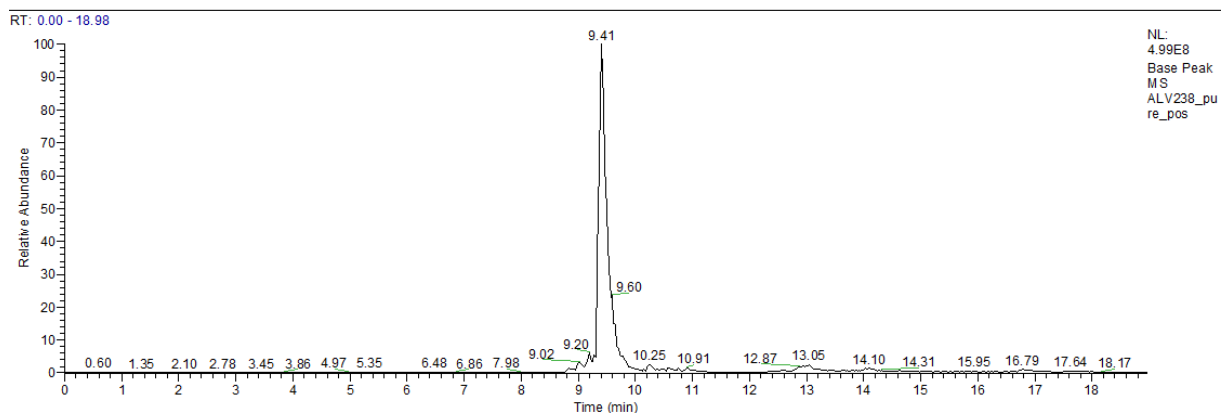


Figure S7. A) Structure, B) UHPLC-MS trace and C) ESI-HRMS spectrum of pure peptide 7

A)



B)



C)

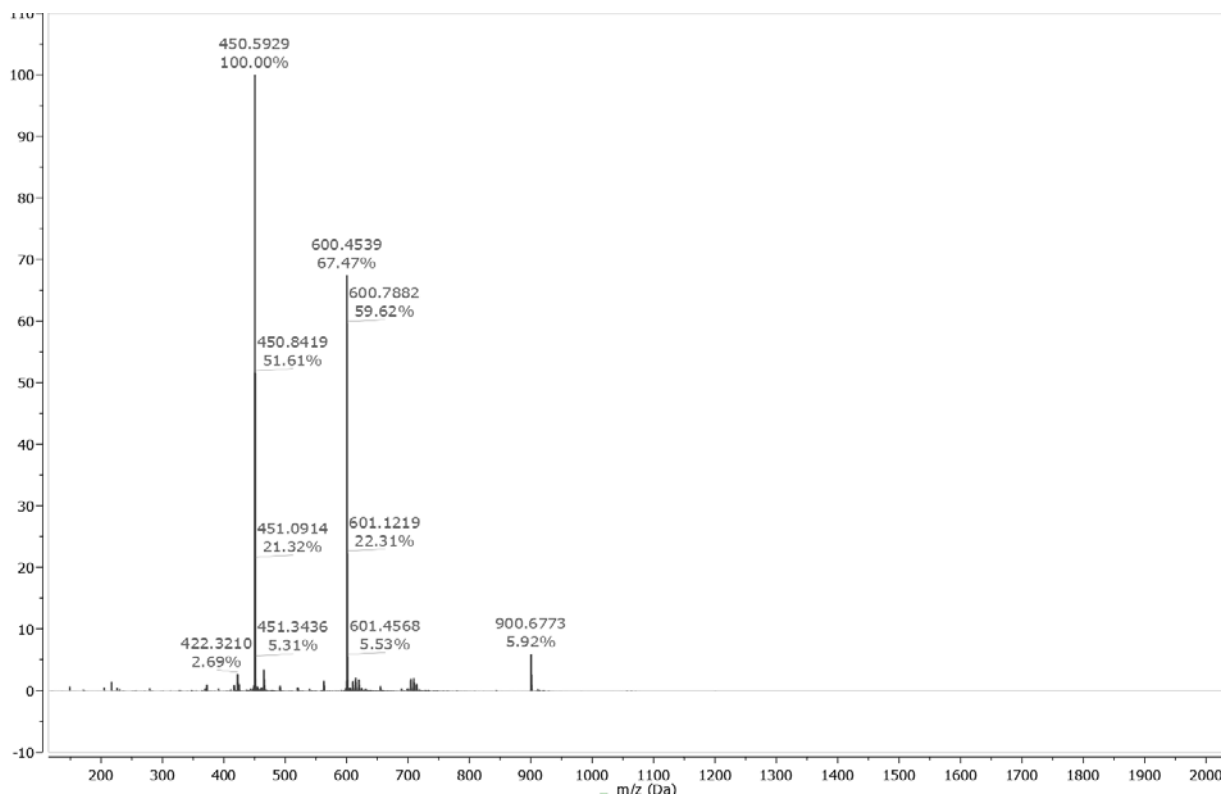
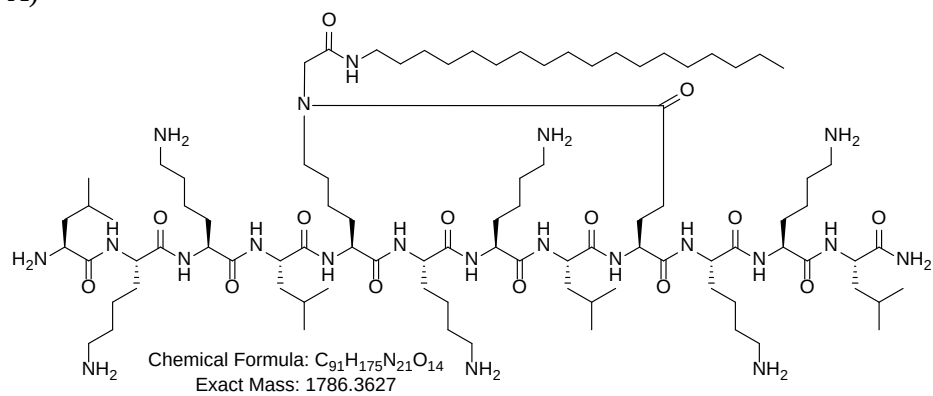
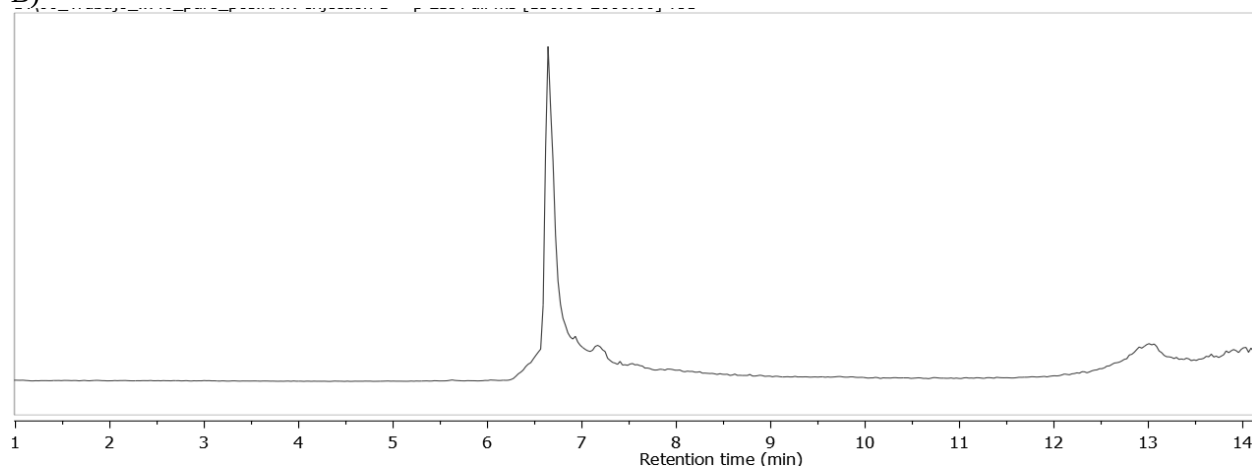


Figure S9. A) Structure, B) UHPLC-MS trace and C) ESI-HRMS spectrum of pure peptide **9**

A)



B)



C)

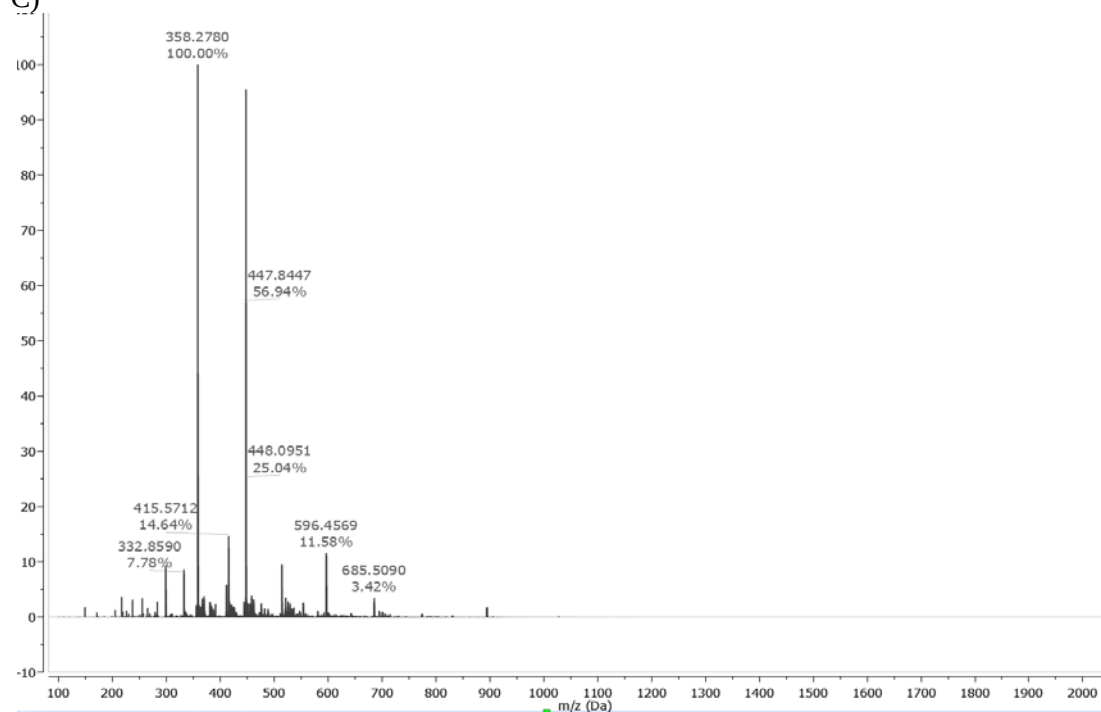


Figure S10. A) Structure, B) UHPLC-MS trace and C) ESI-HRMS spectrum of pure peptide **10**

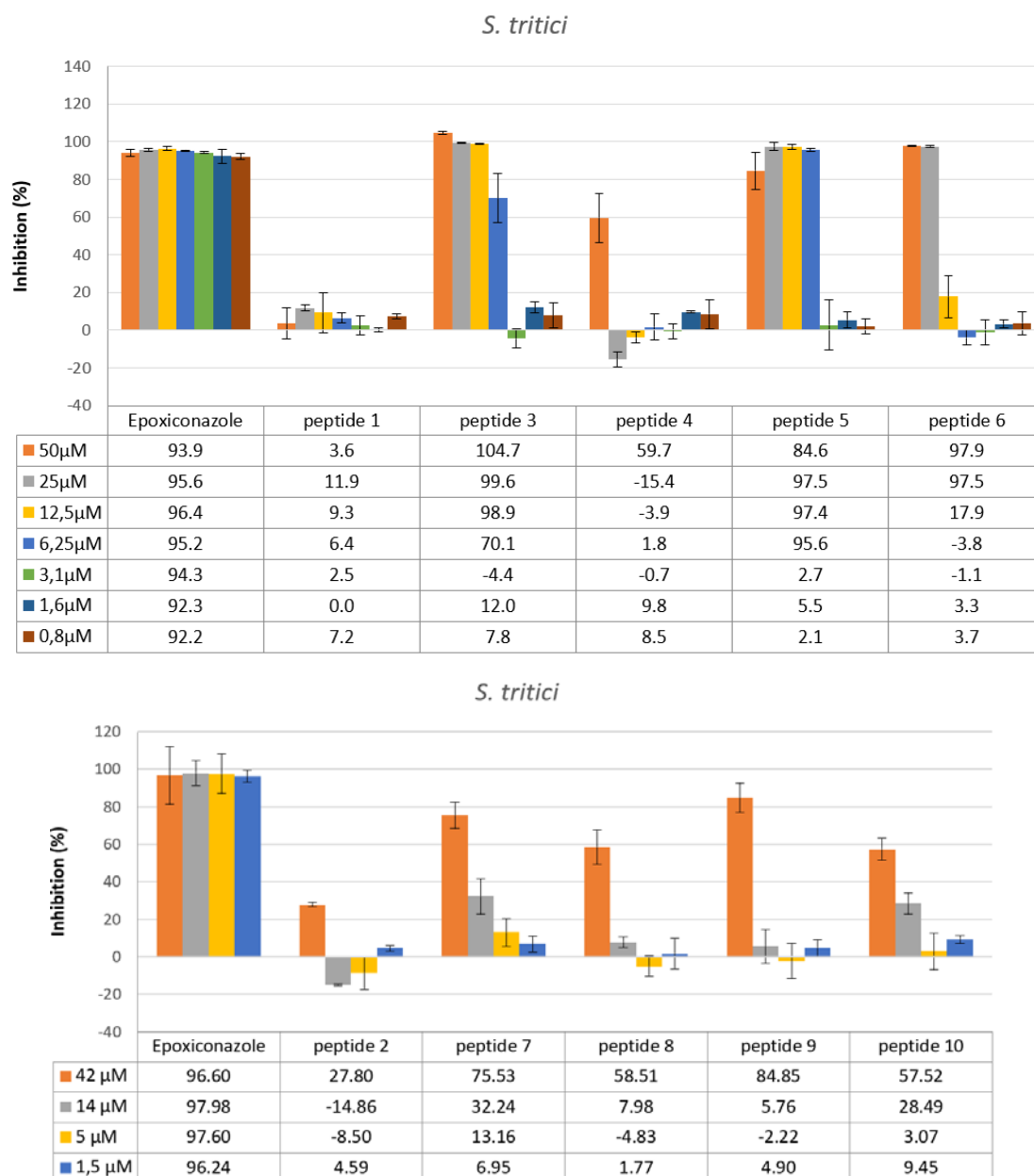


Figure S11. Inhibitory activity of the compounds against *Septoria tritici* pathogen.

Note: Inhibition values slightly above 100% as in peptide 3 could be the result of interference due to aggregation of the compound at relative high concentrations, resulting in low transmittance of the sample in the initial measurement (t_0).

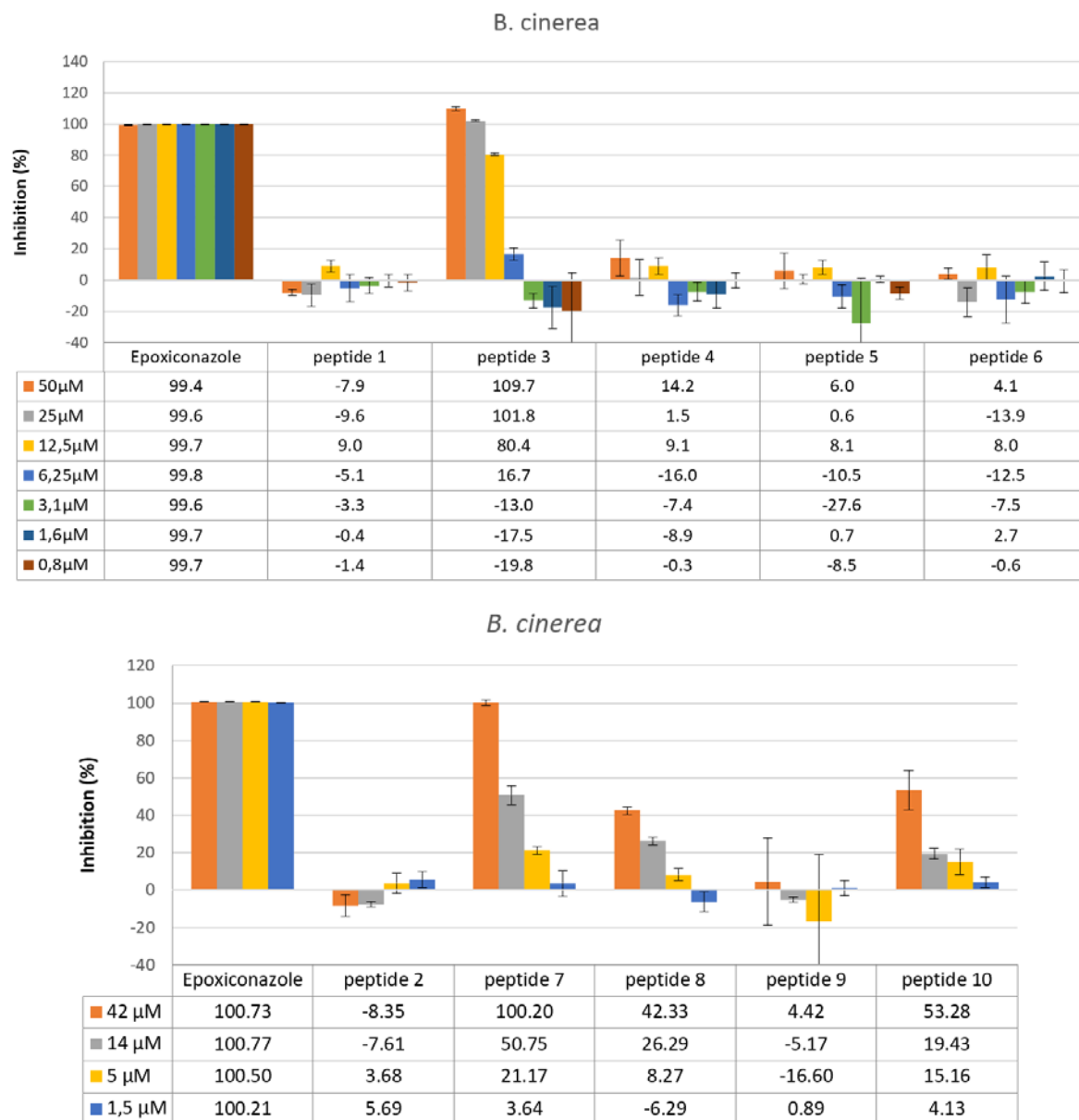


Figure S12. Inhibitory activity of the compounds against *Botrytis cinerea* pathogen

Note: Inhibition values slightly above 100% as in peptide 3 could be the result of interference due to aggregation of the compound at relative high concentrations, resulting in low transmittance of the sample in the initial measurement (t_0).

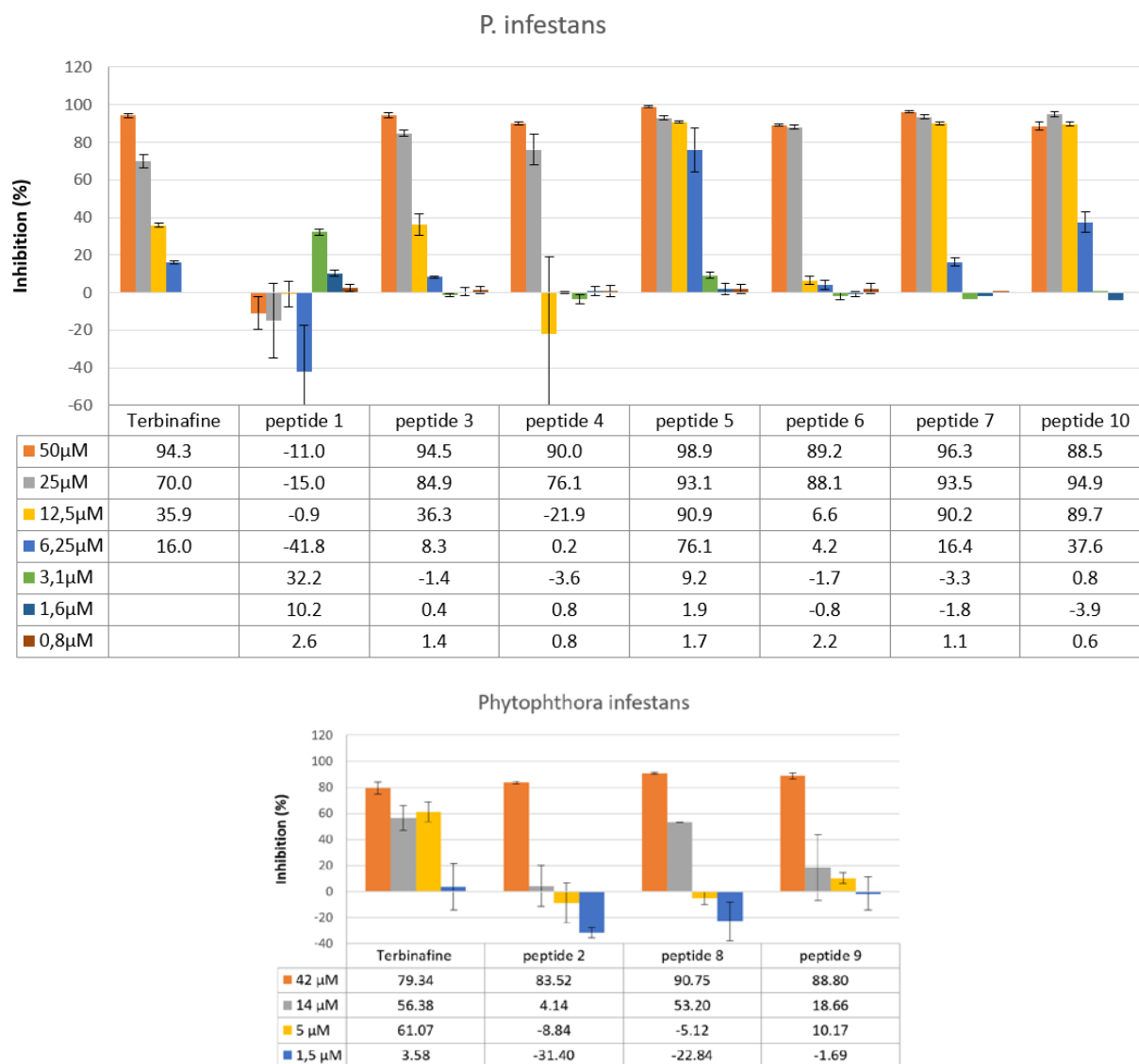


Figure S13. Inhibitory activity of the compounds against *Phytophthora infestans* pathogen

Synthesis of Isocyanides

The non-commercial *n*-dodecyl isocyanide and *n*-octadecyl isocyanide were synthesized according to the protocols described in previous reports.¹

¹ Pérez-Labrada, K.; Brouard, I.; Méndez, I.; Rivera, D.G. Multicomponent synthesis of Ugi-type ceramide analogues and neoglycolipids from lipidic isocyanides. *J. Org. Chem.* **2012**, *77*, 4660–4670.