Supporting Information

Synthesis, Conformational Analysis and Antitumor Activity of the Naturally Occurring Antimicrobial Medium-Length Peptaibol Pentadecaibin and Spin-Labeled Analogs Thereof

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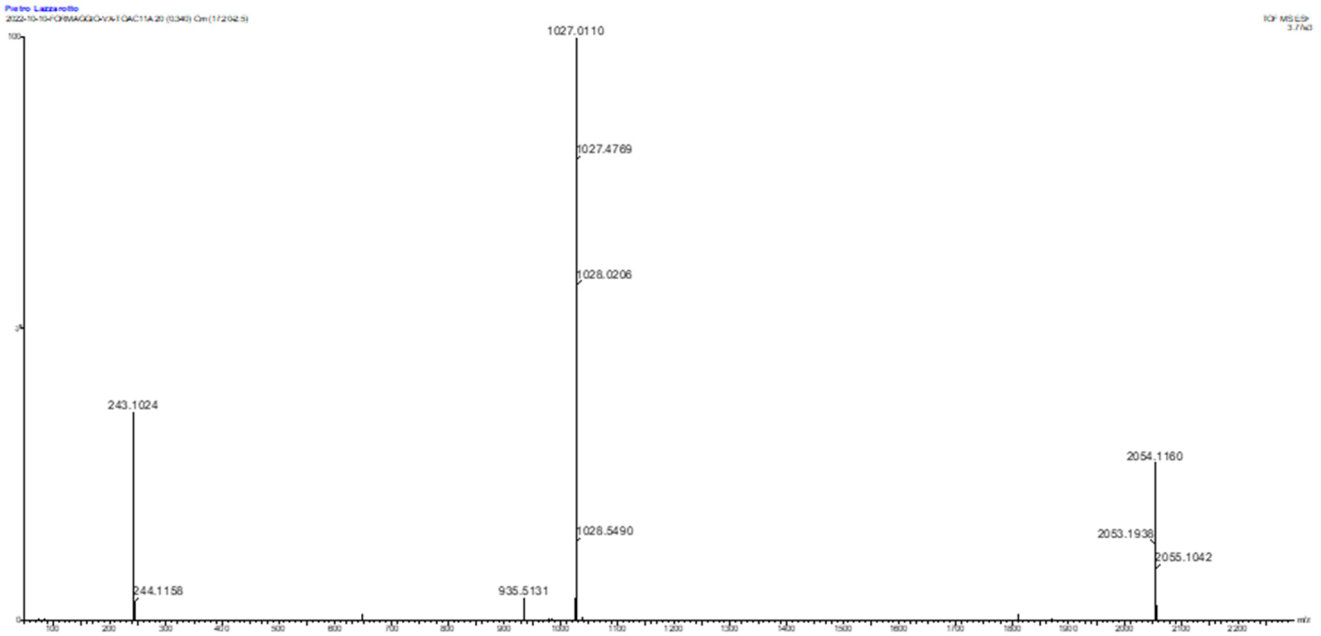


Figure S1. High Resolution Mass Spectrum (HRMS) acquired for [Gln(Trt)]To11-VX after cleavage from the resin with HFIP 30% in CH_2Cl_2 (DCM) for 1 hour. [MW_{calcd}:2052,14] [$(M+H)^+_{found}$=2053,1936 m/z [$(M+ 2H)^{2+}_{found}$= 1027,0110 m/z. MW TrtH = 243.1.

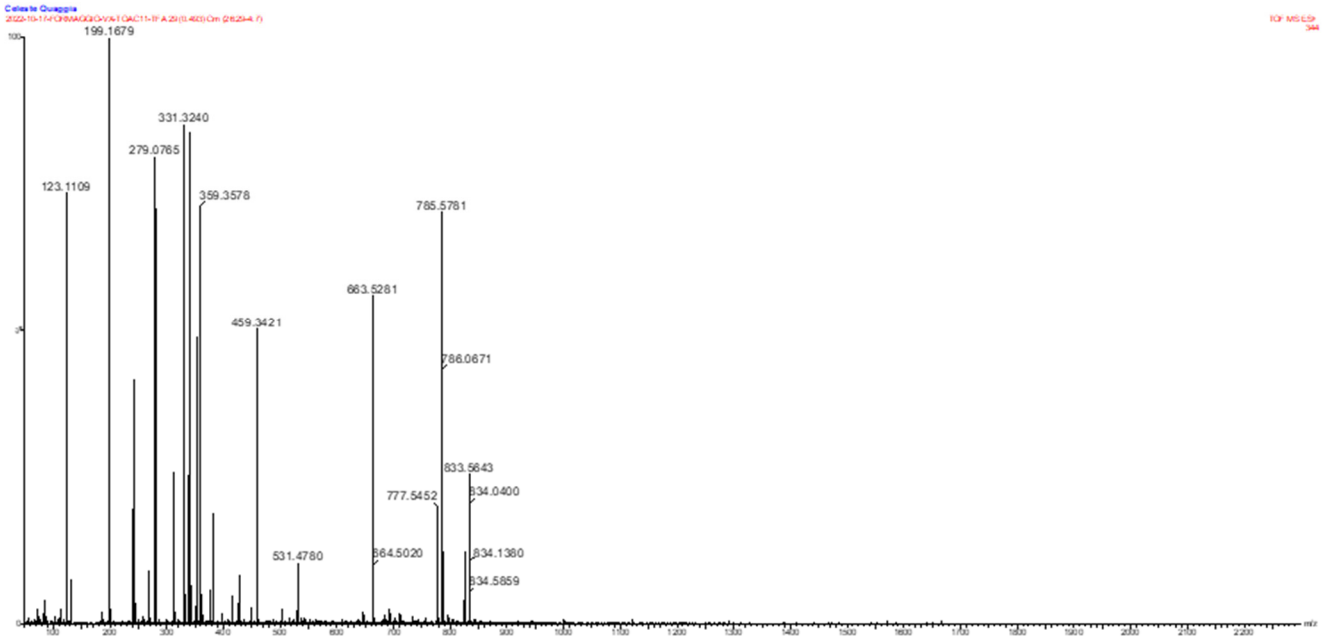


Figure S2: HRMS spectrum of the crude mixture of figure S1 after treatment with 20% TFA in DCM for 2 h 30 min. [MW_{calc}=1568.92]; $[M+2H]^{2+}_{found}$= 785,5781 m/z

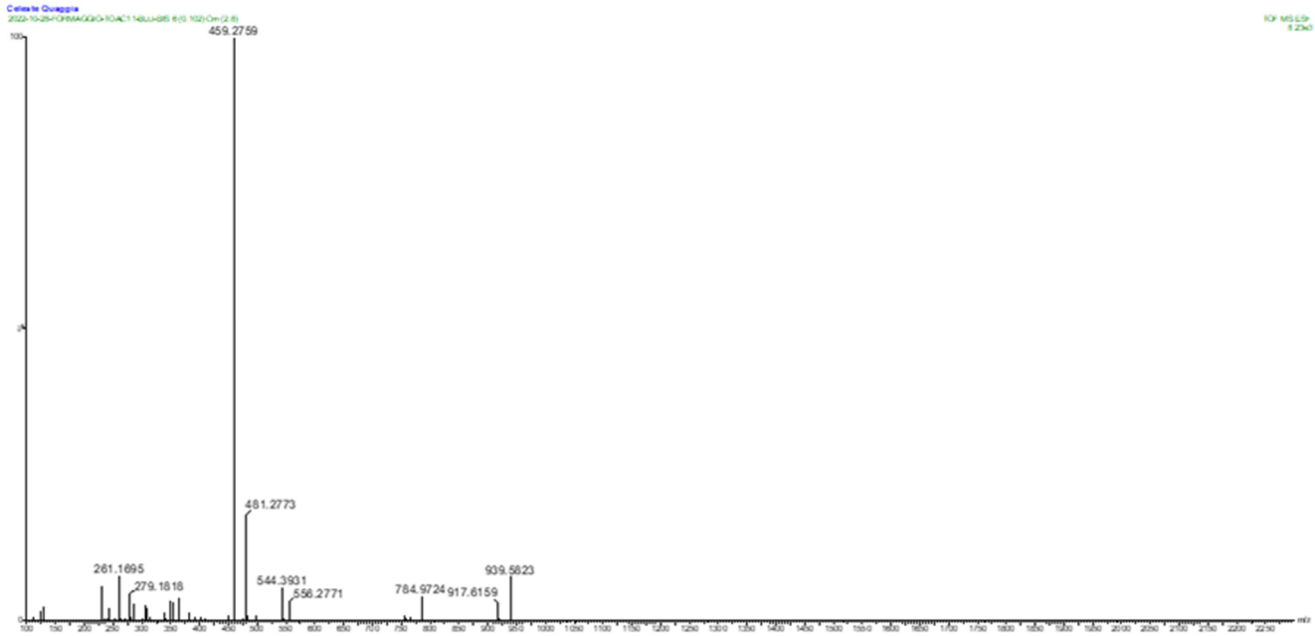


Figure S3: HRMS spectrum of the crude mixture of figure S1 after treatment with 10% TFA, 2,5%TIS and 2,5% H_2O for 16 hours.

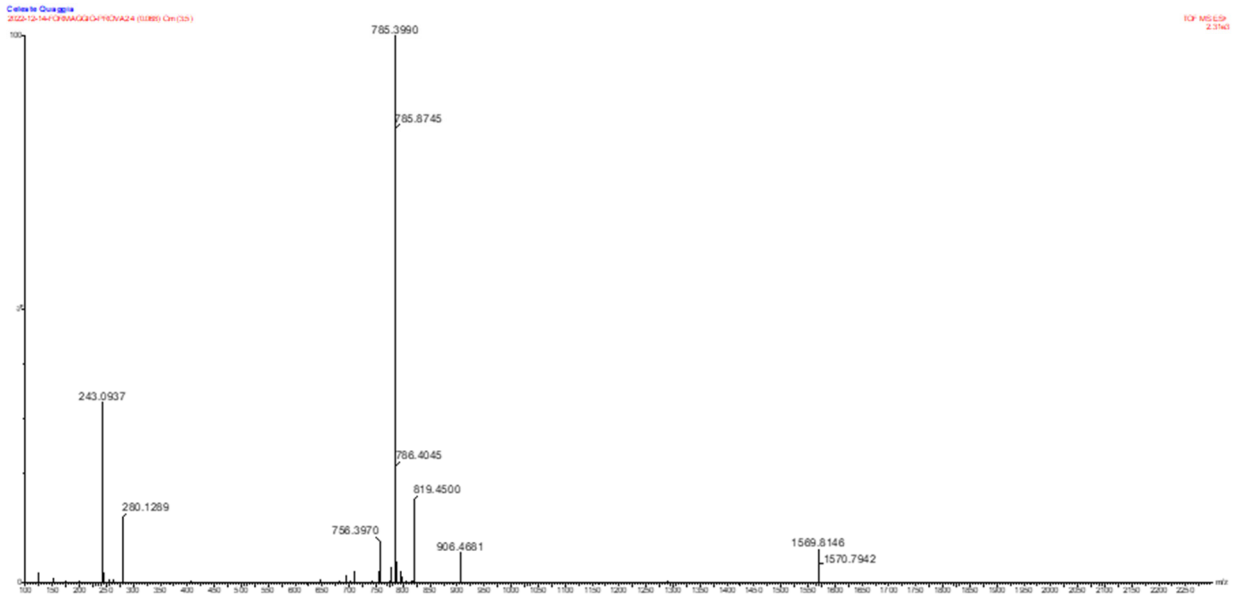


Figure S4: HRMS spectrum of the crude mixture of figure S1 after treatment with 5% TFA, 2,5%TIS, for 7 hours. [MW_{calcd}:1568,92]. $[M+H]^{+}_{found}$=1569,8146 m/z; $[M+2H]^{2+}_{found}$= 785,3990 m/z; $[M-58]^{2+}_{found}$= 756,3970 m/z.

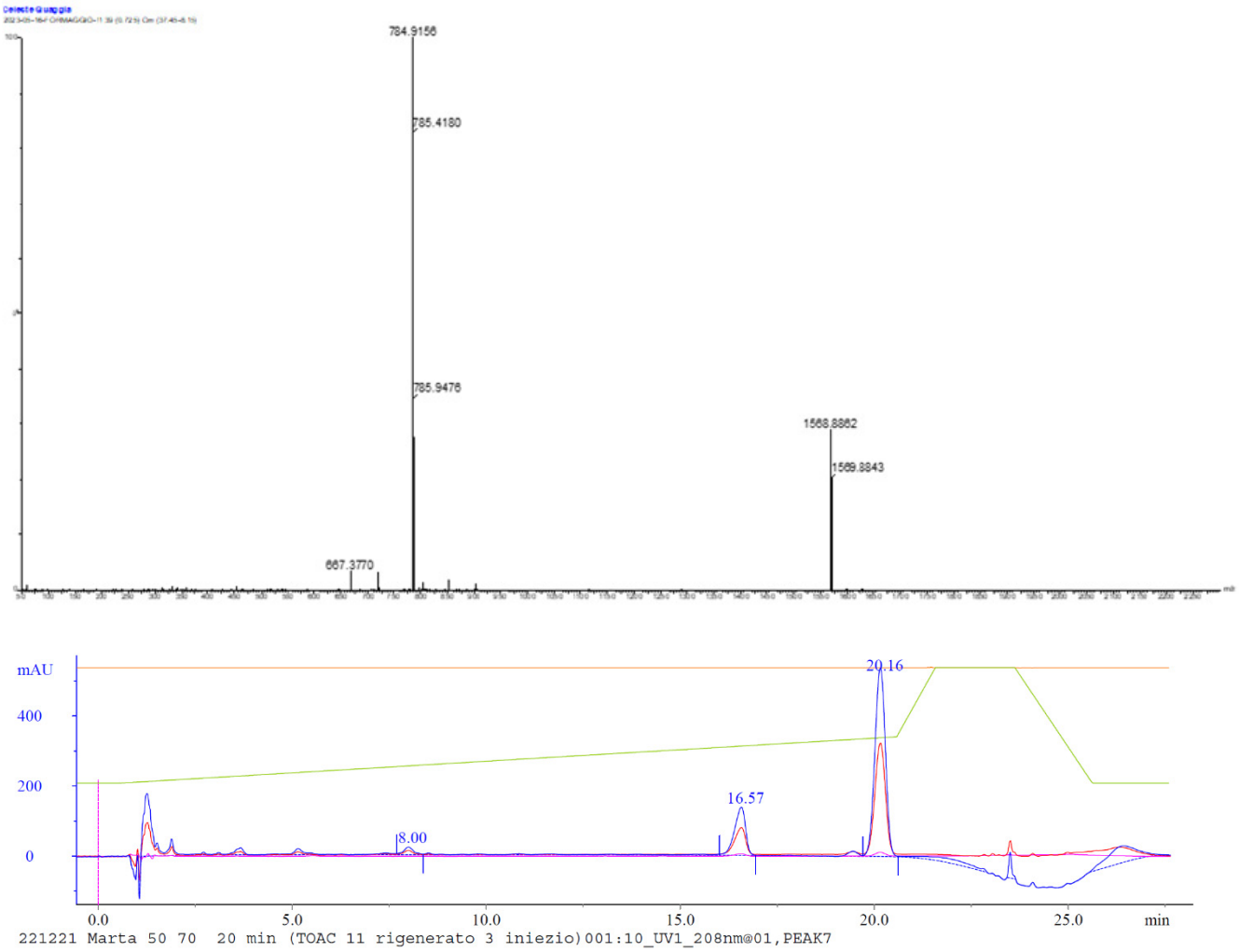


Figure S5. Representative HR-ESIMS spectrum and HPLC chromatogram (gradient: 50-70%B in 22min; R_t 20.16 min) of the crude product To11-VX. MW_{calcd} = [1567,92]; $[M+H]^{+}_{found}$=1568,8882 m/z $[M+ 2H]^{2+}_{found}$= 784,9156 m/z. The high crude purity was achieved by using Gln with unprotected side chains.

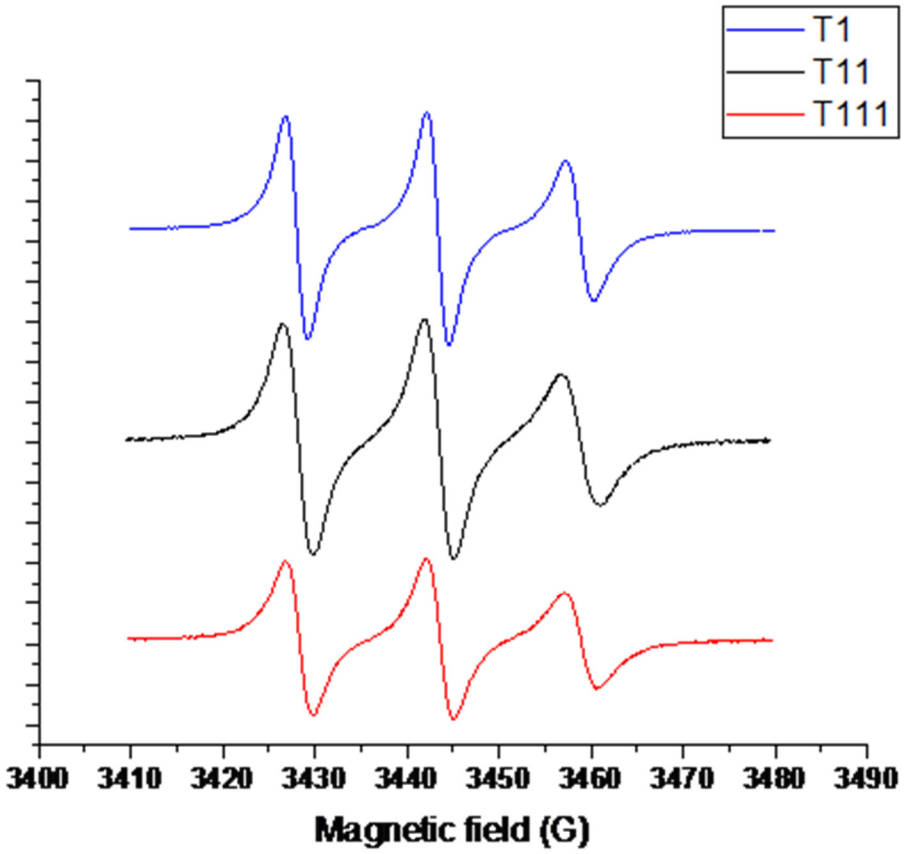


Figure S6. cw-EPR spectra of peptides: To1-VX (blue), To11-VX (black) and To1,11-VX (red), in CH_3OH. Peptide concentration: 1 x 10^{-4} M.

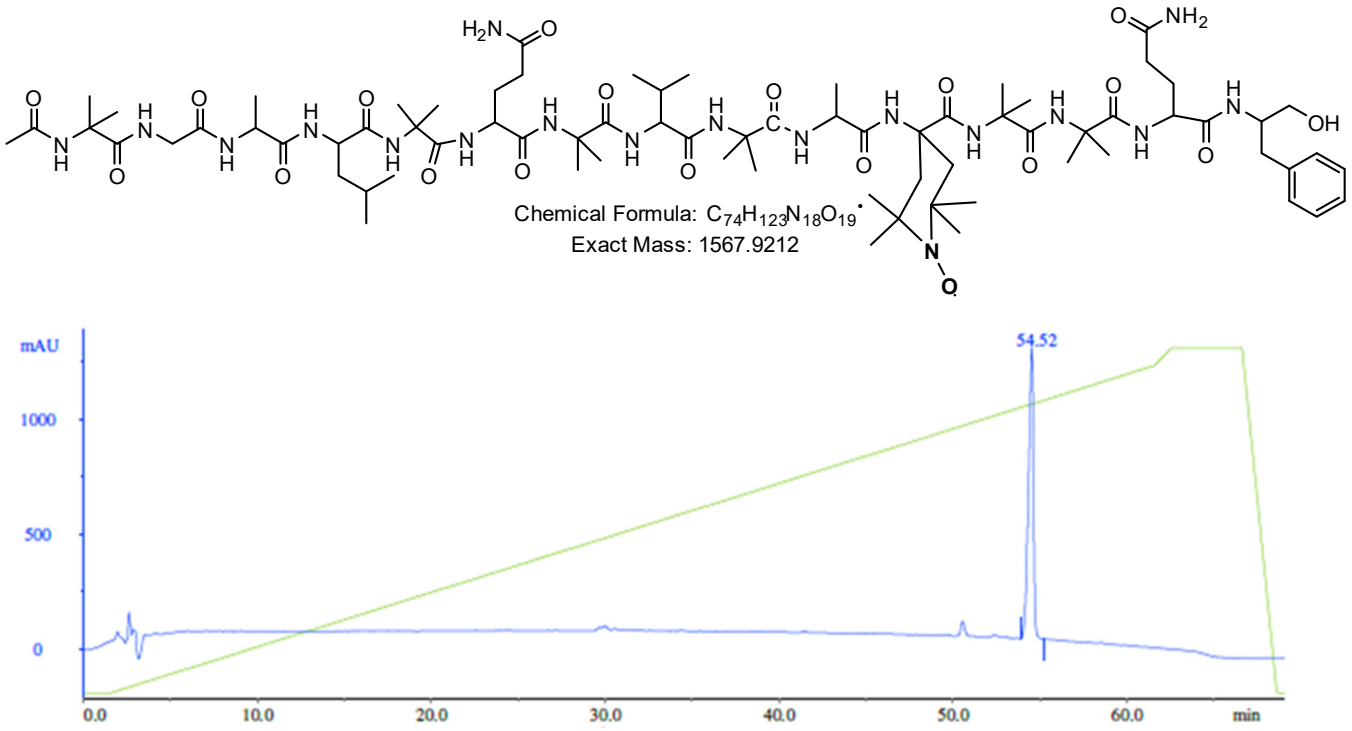


Figure S7. HPLC profile of purified To11-VX. Experimental conditions: Phenomenex C_{18} column (250x4.6mm 5µm). Gradient: 5-95 %B in 60 min. Purity: 94%

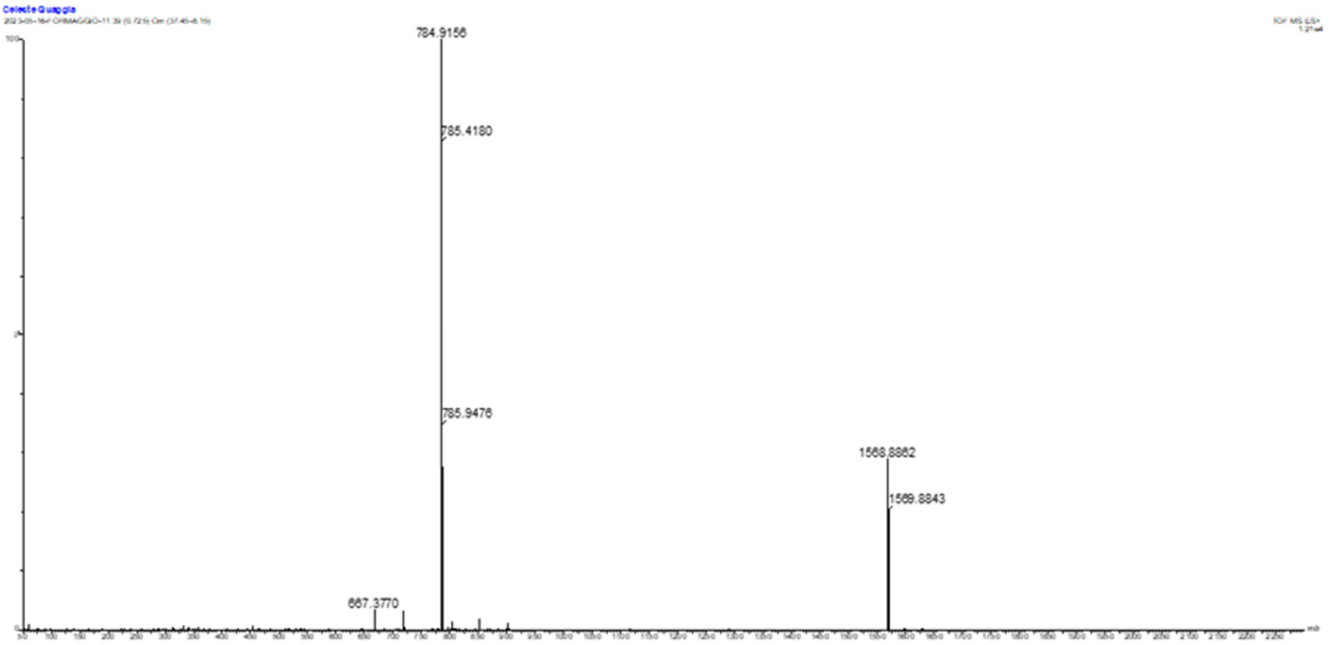
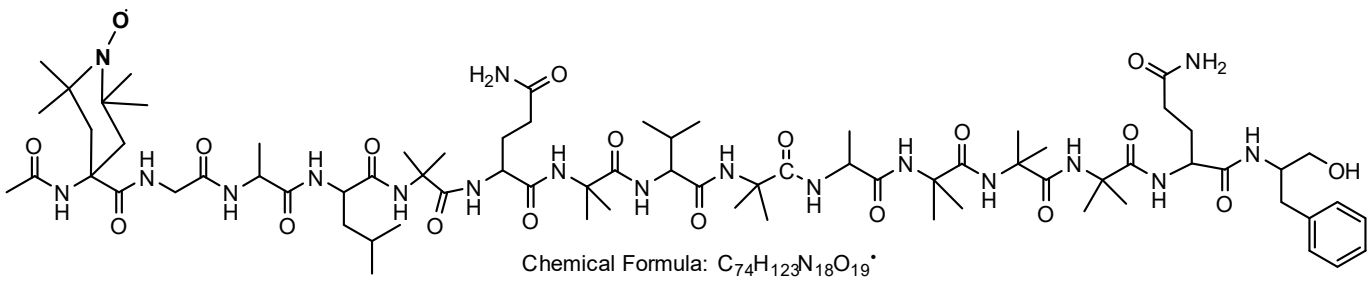


Figure S8. ESI HRMS spectrum of To11-VX. MW_{calc} 1567,9212; $[M+H]^{+}_{found}$=1568,8862; $[M+2H]^{2+}_{found}$= 784,9156.



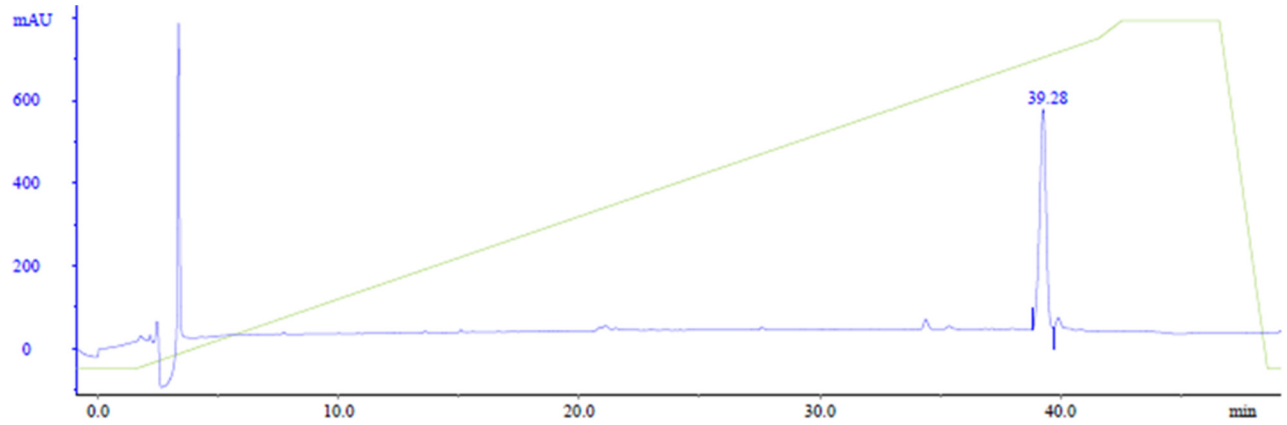


Figure S9. HPLC profile of purified To1-VX. Experimental conditions: Phenomenex C_{18} column (250x4.6mm 5µm); gradient: 5-95 %B in 40 min. Purity: 93%

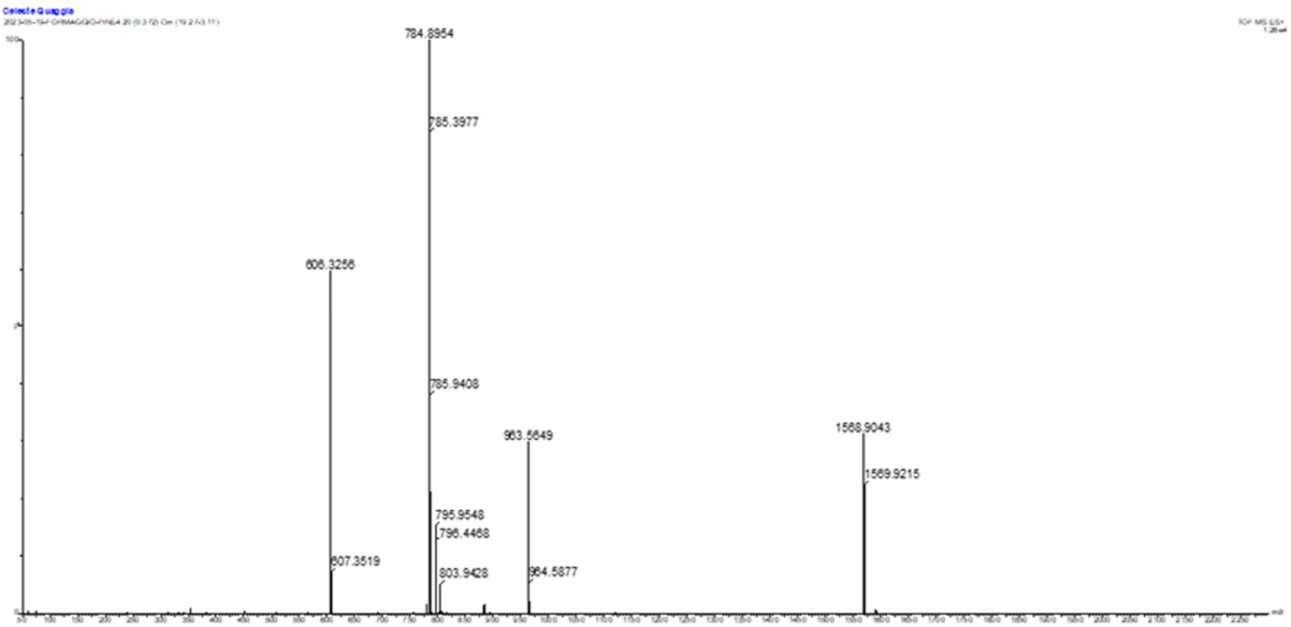


Figure S10. ESI HRMS spectrum of To1-VX. MW_{calc} 1567,9212; $[M+H]^{+}_{found}$=1568,9043; $[M+2H]^{2+}_{found}$= 784,8954; experimental mass fragments :605,32+962,56=1567,88.

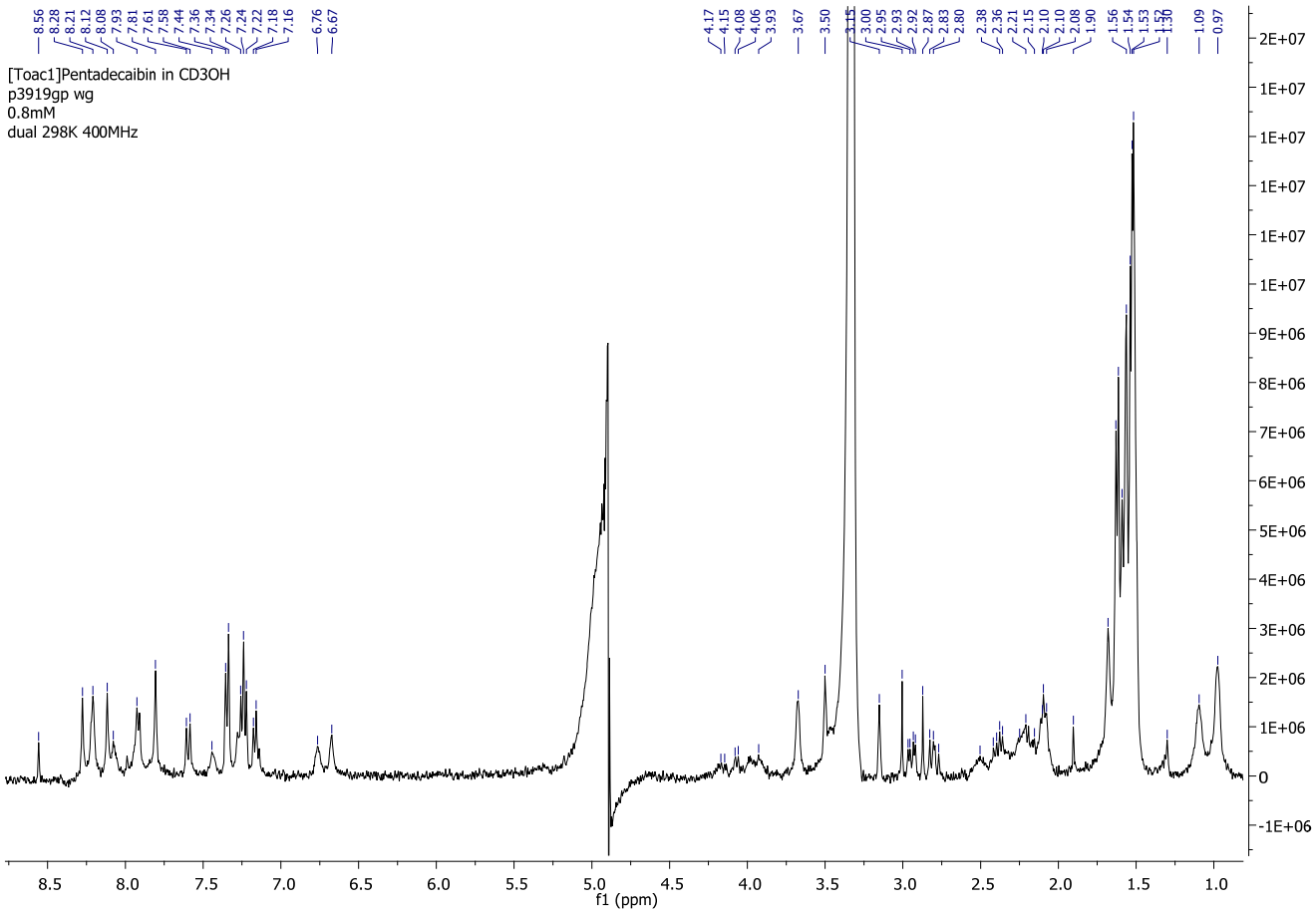


Figure S11. ^{1}H NMR spectrum of To1-VX in CD_3OH. Experimental conditions: 400MHz, 298K, peptide concentration: 0.8 mM.

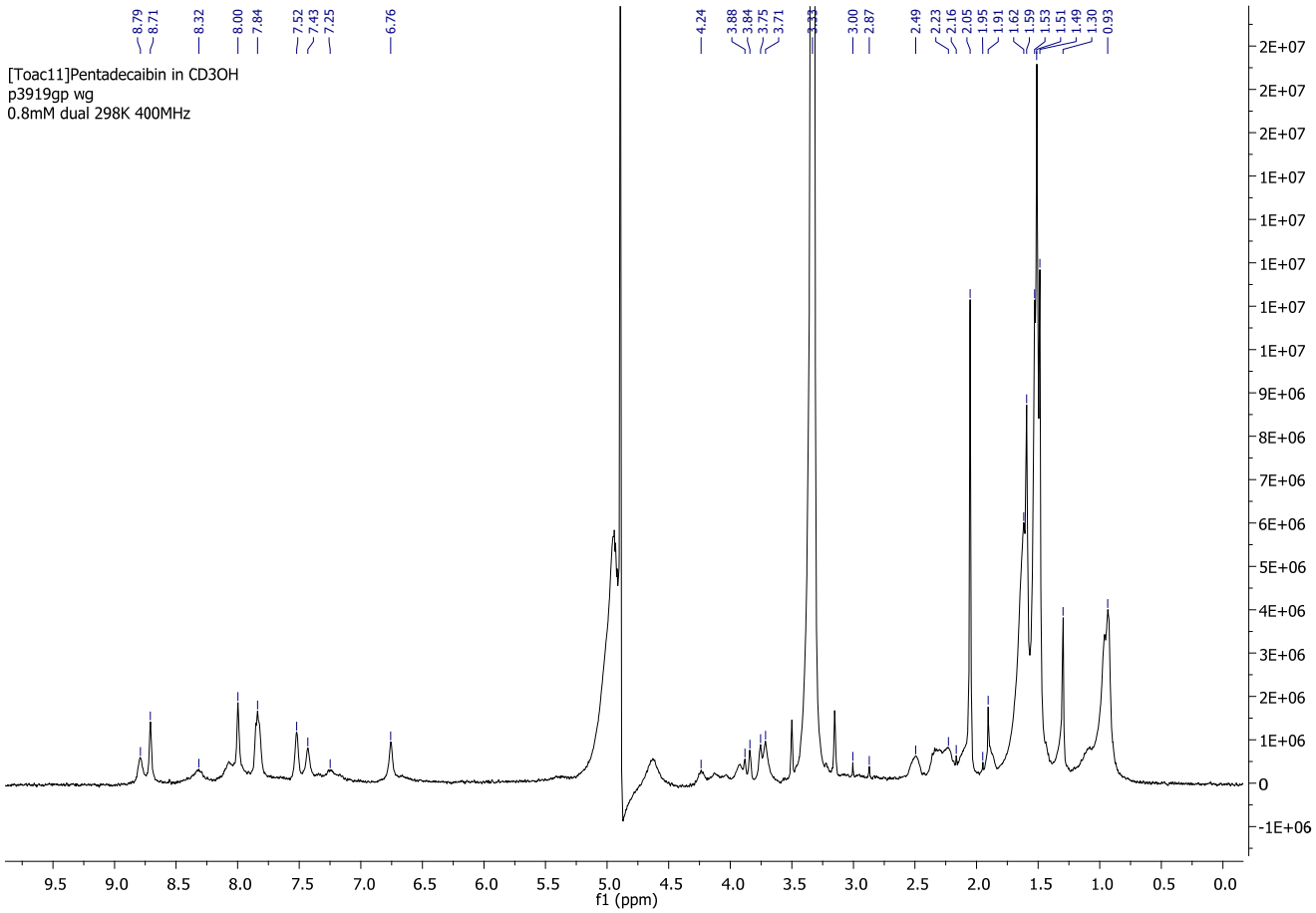


Figure S12. ^{1}H NMR spectrum of To11-VX in CD_3OH. Experimental conditions: 400MHz, 298K, peptide concentration: 0.8 mM.

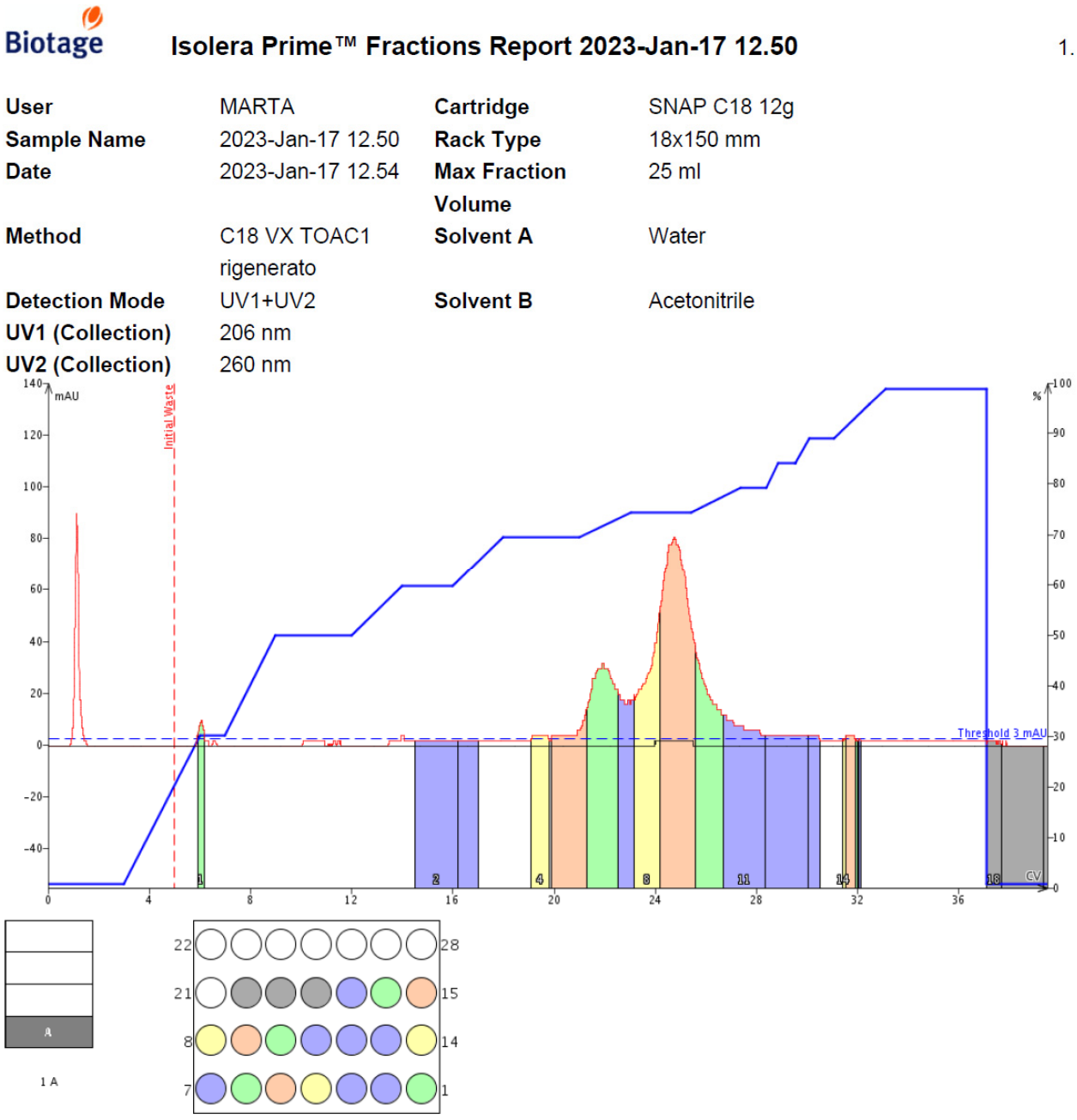


Figure S13. Report from the medium-pressure chromatographic purification performed on the crude sample of To1-VX. Biotage Isolera Prime instrument; flow rate, 12mL/min; C_{18} Duo Sfär column (12g).