

Supplementary Information

Characterization of peptaibols produced by a marine strain of the fungus *Trichoderma endophyticum* guided by mass spectrometry, genome mining and phylogeny-based prediction

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Table S1. Dataset of the adenylation domains of *Trichoderma* species used in the prediction of NRPS modules.

>Trichoderma_endophyticum-mod1	LEQSLKANGEAPMIVNCLCHDLIERQAEENRPNATAIQAWDLELTYLQDLCATNRLAHHLVKSQGVKQDQLVH VCFEKSAWFFVSIIVNKAATWVPLDPSPHLQROQQVVSQTKATLALASASNVMDCSKLVANVVVEVSHALDE KLSKTEASSYGPISNVSPRNAAYILFTSGSGTGPGLVMQHGAVCTSQTAIAKRLGMTSNVRMLQFASFVFDLSIGE IVGPVWAGGCLVPSEETRMNTGSLVDFINAMKITWAYLTPSFTRTLNPDIPGLELLLFAGEAVGRDVFVEAFWG KVRLINGWGP AETCVFSTLHEWKGLEESPLTIGRPVGGYCWIVDPQDPQRLAPVGTLGEVVIQGPTILREYLA KTEASIRNLPEWVPNRTANHWDRFYKSGDLCRYNADGTIEFGSRKDNQVKIRGLRVELGEIEHHFRESLEGVQ VAVDVVNGDGGAIIVSYFCFTGETRTAGRNSETNVKDILAPMTSELQSQLNALVQQLSVTLPRYMIPTFI ELAQKSNQGVPEIINDCIHRIARQVERRNPAPIDAWDGQFTYGELDRASNRLAHLINDYGVNIGDVIHVCFE KSKWYLVAAILAINKAGAAWAPFDPANFLQRLQAVAGRTGAKLALASTANISLCEQVVEVVEVSSAFDGLLNS YGISEKGPDVNVTDDAAAYILFTSGSGTGMKGIVMQHRALCTNQATLSRWLGDITVTRLQFSSFFVFDVSVGEIIG LMNGACVCVPSDHMRNLSDITFVRDFNVTAAYLTPSFIRTLKPKNFPSLKMVLLAGEPTPDQVLTWFGPLPNTRI INAWGPAETCVYSTLYEWQNSNTDSLSTIGHAVGAYIWWNVNENPQQLAPTGLCEIVVQGSLLKEYLADPEKT NAAIMTELPGWAPQRQSPAWSRFYKTGDLGFYDYNGLHYAGRKDTQVKIRGLRVELGEVEYHIQNSLIGIRQVA VDVFKTERGANLVAYFCFSDDTKTPNQNTDAEGKDVFMSSIDAEQLANLVEMLAQLNSSLPSYMVPTLFI
>Trichoderma_endophyticum-mod10	
>Trichoderma_endophyticum-mod11	VQKAMEINSEIPEVIDACMHLEFKEQVNLSPQAPAIAAWWDGNFTYSELNRAANRLAHYLINVVSVKPHDFVHLC FDKSAWYQVSHIIVNKAAGAAWVPLDPSPHEQRLRSIVSQTKATLALVSPDNVALCSGLVDNVFEVTSALDDMSL ATEETLVSPSEVSISSRAVSYALFTSGSGTGPKGFMIEHGALCTNANAIKRRVRHGSNARVLQFAAYVFDYCVIEIIM TLLQGACICVPSIEHRMNSLIDFIRDMNINCLYLTPSFLRTHIPSKVPSVELVFVAGALPRDVFETWVGRVRLNG WGP AETVVFSSIEFTSVDESPLTIGRPVGGFCWIVDPNNPQRLAPIGTLGEVVIQGPTILREYLDGDPQKTQETING LLEWAPRPDSYNWNRFYKTGDLFCFYNTNGMIEFSSRKDTQVKIRGLRVELGEIEYHIQSLKSIRQIADVLDKTDN GNSLVAYLCFNDDIRQLHEADINGPFAFPDAEFQETLVGAVALSQSELNKFSGVSKRMP
>Trichoderma_endophyticum-mod12	DLEQAKRWNVNDEPEILDTCIHSLEVEKQARIRPEAPAICAWDQMSYNQLNDAANGLAHHLKAGKVTNDLVH VCFEKSVWFFVSIIVNKAAGAAWVPLDPSPHEQRLRQVVGQTLAKLALSSPANALLCSKLVDHVIEVSPGLIDEIFI IYHGLSNPAANVSPDAAAYVLTSGSGTGPKGFMVQHSVACTSQAAIAKRLGLTPDVRILQFAAYVFDLSIGEIVA PLINGACVCVPSSETRMNLKDFILDITNISWAFLTPSFVRTLKPEDVPGKLKLLLAGAVGRDILDAWFGKVRVL NGWGP AETCVFSTLHEWSSIDESPLTIGRPVGGRCWIVDAEDSNKLTPIGCLGEIVLQCGPTILREYLDAPQRSKESII TVLPSWVPKKDSNSQWSRFYKSGDLFCYNPDGTLFYSRKDTQVKIRGLRVELGEVRYHQQLAPAAEQVAAV YKGENSTNLVAYFCFSDETRATAISSDASESLFLPINEDLQSHLATVAGQLRISLPQYMIPTMF DLHRAATEFNSEFPEIMDTCTIHHILERAKEAPDSPAIWAWDGELTYGQLNEAANKLAHYHLINKYNQVEDLIHV CFEKSVMWVVAIFAINKAGAAWVPLDPSPHEQRLRQVTSQTRSKLALISNDTRSLISGIDRRVEVSPTLYKQINSL GANDPQIPVSSHNAAYVLTSGSGTGPVKGLVMTHCGLTTSQTAIRKRLGISLNRTLQFASHVFDLCIGESILQSG ACMFIPSEHTRMNLKEFIAEHEINTLWLTSPSFVRTLNPDQIPSVTLLVLAGEAVSRDILTTWFGVRVRLWSWGPA ETCVLSLHEFQSDVESPLTIGRPVGGFCWVVDTPNDPKLAPIGTIGEVVQIGPTILREYLADEIRKATIMYELPA WAPYRDQPSWRSRFFKSGDLASYNTDGTLEFSSRKDTQVKIRGLRVELGEIEYHVRNLEGARQVAVDVFTDSCG RLIVYFCFSDEMRTANISEDEDFILPVTTELQTLQSKLISQLNVTLPKRYMVPSLFPVC PWDAAQAAQLNKKPDIHTCLHDIFAHAHASNPHHEAVYSSEGSITYGELDHLDITVATHLSSLVNVPETVVPF CFEKSVMWVVAIFAILKAGAAWVPLDPSPHSRRETLVREVNASVLIASITCAITSCAGMADHIVELSSVSKLASSIT PKVLPKVPRNTAYVLTSGSGTGPVKGVVMQHGFSSTTIGYGKVVNLSPLSRIFQFSNYPFDHISLGEIFPLAFGPT ICIPSDDERLQCAPDMHKAANVNTAMLTSPSFVRTTTPDKVPYLLKTLVLGGEAAASKSILEMWVDRVTLFNGYCPAE ACNYATAHMFKSSAESPRIIGSSFNCGCWIVEPDNHNKLAIPICIGELVLQGHALARGYLDNKRKTEKFSVSEIGS LPSSLQHEPKRFYLTGDLVRYNADGELEYLGRKDSQVKLRGQRLLEGEIETITQSLSEVHHVAVDVLDHQQAGDA LIAFISFTGDATAEWWTDNRLNLLVSDDAMRSVLGSLRESLEATLPGYMVPSIILPLH WDLQKLEWNDIEYNSADTTLHDLFSKQAARRPDHEALYSSEGSMTYSELQDTLTQLAVYLSRLGVRPETIVPFC FEKSMWITVVMGLGILKAGGVFIPLDPSPHPTSRRLQALIDEVCAQLVVSPTTAPDCQDMVKNTVEFSPSLISSAIDT DEQLYVTPILNNAAYVLTSGSGTGPVKGVVIEHNAISAALLRQSDAFSIAHGRMLQFANYVFDACITEFTSLIVGA TVCPVTEDERMNNTAFAFIREARINNLFPTFLKTLSPSQIPVKITLTCGGEAPREIIEITWVDEVLHDNAYGPAEG CVASNTNYSSITSVATTLGRSFAHGLVWVDPDNHDLMPICGCGELLQCGSSLARGYNDEKKTROSFEIEVKW LPSNVNVGERRFYKTGDLVRYVSDGSIEYLGRKDAQVKIRGQVRVLEGEIEYHIKSSDVTIEHAVVDITRDKGRESLI AFICFNSQQAESAASKVEHLTETDGLREMFSDIATSISSALPSHMPKYPFVEHM GKREVPQHAADASRFRPATETSCTHWEIYKQIEANPDAPAFDSWDAKLYREVGVLASRLAALKQNLGVGPDVLV PISFPKSTPAMITMVAIQMAGGAIVPLDPAAPLARLQISVSDTQAKLIVTHPSLQAKIQELGVNLLVDLSILOQLPN PSKYVSSGTTPENLYAVLFTSGSGTGPKGIRIPHSSLCVADAHAAADTGVGPSRVFQSFAYTFDILGDLVLTLMR GGCVCVPSDHDRLNLAGAINATQANWVFLTPTVADMLNPADVPCLTTVNLGGEAVSKKTAERWEGYATNL GLYGPAEASICARNSDVNNGSSTNLGFPLSAFWAVEPNPSRLVPGICIGELLIQSPILAYGYLVNDAKVAANWL ENMTYDWLPADGPKRAYLTGDLVRRNPDGTTFEYMGKRDQVKIRGQVRVLESEIETITQTLNPDIKQVMVDVIN NNEAGLSLIAFLCFSDDTKSGSNEGLEDFLTTTPEMKQQFTTMLSHLHSLIPQYMIPTIFVPCKFM
>Trichoderma_endophyticum-mod14	
>Trichoderma_endophyticum-mod15	
>Trichoderma_endophyticum-mod2	
>Trichoderma_endophyticum-mod4	FKLSDVSVASSWDLDLAEASNGDGPVEIVDDCAHLMIERQTGLTPHAYAVHAWDGTLYTINSHGVKVGKDIHVCF EKSLLWYVSVLAINKAGAAWVPMDFPAHPQRLQQVASQTGAKIALASSIHRPLCSKLDLDTVIEVSSALDEQLHSD PDINDIKPAVTVASNDVAYLLFTSGSGTGPKGIMIEHGLSCTSQORDIAKRLDLKSSVRMLQFSSFFVFDVSVGEIMLSL MHGGCVCIPSDHDRLNLAGAINATQANWVFLTPTVADMLNPADVPCLTTVNLGGEAVSKKTAERWEGYATNL WGP AETCVLSAIHEWKSADDESPLTIGRSVGSFAWIVDVENPRRLAPVGCIEIVMQGPTILREYLADEAPKTRSSL DLPNWAPRSNDNRNWGREYKTGDLGIYNPDGTIHYSGRKDTQVKIRGLRVELGEVEHHRNSLDVIQQAADVLR TETGANLVSYICFSETKTTPGPTDPEGTDFILSMTESIQNELNIVINKLNIILPRYMIPTFY EQSLNANNEVPDIISCLHELIEQKAIQPCSLAIVGWRDRTFTYAELEAANRLAHLTLQSFQAIKFDNLHVCFEKS AWHFVAILAVNKAAGAAWVPLDPSPHEQRLRQIVSQTRAKIVLCSPSNADVCNGLGDSIIIEPQDFQLHSGKITGT TGPAVKVAPHNIAVYLFTSGSGTGPGLVMEHRSVCTSQNAISLRLGLTANVRMLQFAAFVFDLSIGEIVAPLISG ASLYPEENTRLNLSNFIQDNKINWAFLLTPAFARTIRPEDVPALELLLLAGEAVGRDVFERWFGKVRLINGWGP AETCVFSTLHEWQSIDESPLTIGRPVGGFCWVVDPENPQKLAPIGTIGEVVQIGPTILREYLADEAPKTRSSL TWAPRRSQNWNRFYKSGDLCCYNPDGTIEFLTRKDTQIKIRGLRVELGEIEHHLQALRDYCIQIADVLRGNG SSLVAYFCFNGMSKTADACVASEEKGPFMSIDEALQTRLIAASGELRVALPLVMVPTFI DLDRSIFNSEISEIVNACVHELIERQAERRPDAVAISAWDAEFTYNQLNCAANRLANHYITSYGIKPNDIIVCFEK SIWHEVAILAINKAGAAWAPLDPSPQPEQRLRRIVDQTRARLITSPNCDLCTSLVENVLSLTPNLDRELAETDTS EAPDVVTPDNAAYILFTSGSGTGPKGFMIEHRSVCTSQAMIKRLGLTSDVRMLQFASFVFDMSIGEAIPTLISGG CICIPSEETRMNNTQYMRDRQVNWAFFTPFLRTLAPKDIPITLEVLLLAGEAVPKEILNTWFGKVRLINGWGP A TCVCSTWHEWKSVDDESPLTIGRPVGGFCWIVDPEDPYKLAPVGTLGEVVQIGPTILREYLADEAPKTRSSL WAPQPSQHWGRFYKSGDLCSYNADGTLEFSSRKDTQIKIRGLRVELGEVEYHQAALQDVQRQIADVVDYNNRKG THLVAYICFADEIRVAGVNRDTSFFSIDQKLQSLNALVGLGVTLPRYMIPTLYPCS IEYAIRQNNNEVEPIESCFTLVEQQKMIRPDSPAVYSWDGNFTYSQLDQAAANRLANHLVTEYGIKNDELIVHCFE KSSWFFVVAAILAINKAGAAWVPLDPSPHPTQRHQVVGQTKARLALVSRSNISTCVDLVEHVVEVSSDTEILNKTE LSDRGDPREIPSNAAAYVLTSGSGTGPGLVMEHRSCTAQATITKRLRLSSARTLQFASYVFDAAVAEATLIT GGCLCIPSDHDMRNLSEFIRQNGINWAWLTPSLIRTLKPKDVSSLETIVLGEAVTRDIMDVWFGKIRLINGWGP AETCVSTLHEWQSIDESPLTIGSPVGGFCWIVDPENPKIAPVGAIVGEVQIGPTILREYLADEAPKTRSSL WALNRKAKYWNRFYKSGDLGLYNANGTIQFVSRKDTQIKIRGLRVELGEVEYHVKRSLNIEHVAADVVDHREAG ASLVAYFCFDEIRITGTRACSDSGPLVQMDDELQGLTTLTIGQNLISLPRYMVPTFI DLQQAISYNNKEPSMVACVHELITQOALRDPHHEAIYSNEGTMTYATLDRLSLQAQYLHGLGVRPESVVPFCF DKSSWAIVAMLAILKAGGVFIPLDPSPHPRNREALIREVGAEMVVSPPSSVPCNELTSMVELTQLLEELSSYDA FOEIRPKAPKSNAAAYVLTSGSGTGPVKGLVMEHSAFATSTLGHCRVYNLPSRVRVQFSNYPFDHISLGEIETTL TVCPVSDDERLQCAPFSMREARVNTAMLTSPSFVRTTPEQVPSLQLVLGGEFSSKDLLETWCDRLRLVNGYCPAE EACNYATTDFKTIPTPRIIRGRFNSACWIVDPTDYNKLTPIGCVGELVIQGNALARGYNADDTAASFINHLDC LHRSTIPGYPYFYLTDGLVRYNVNGEMEYLGRKDTQVKLRGQRLLEGEIEYHVKRSLNIEHVAADVVDHREAG ALIAFISFEKMASSGNILLNDDLRALATIMEHLMKSLPGYMVPTSLPVKRMPTFI ALTSKGDMLLGSISLSSRVDQALQLNSRTPDAVERCFHEMVDEVASVRKDSLAISGWDKSFYKEMTETTNRI AQYLVAEHGVKYGDIHVCFEKSAAWFLIATIAINKAGAAWSTLDPSPHPTERYQKISQTVIELTPELDKALALDSQ WSAERPAAVKITPSDAAAYLFTSGSGTGPVKGVVIEHASLCTSQSTLSSEALKFQEDFRVLQFSSYFDLAALEIGSG ACLVFVPSWDEQMNQLTEYIRKHQITCALLTPTLARTIRPEEVPISIDMLLLGGEAPTRDILDIWFGKVRLINGWGP CCVIACLHEWTSVDESFPKVIGRPIGGSCWIVDPDDATMAPSGTVEIVVQGRNLLREYLDSPVKTAATVTLGP
>Trichoderma_endophyticum-mod6	
>Trichoderma_endophyticum-mod8	

>Trichoderma _endophyticum-mod9

>Trichoderma longibrachiatum_mod1_Aib

>Trichoderma longibrachiatum_mod10_Aib

>Trichoderma longibrachiatum_mod11_Gly

>Trichoderma longibrachiatum_mod12_Lxx

>Trichoderma longibrachiatum_mod13_Aib

>Trichoderma longibrachiatum_mod14_Pro

>Trichoderma longibrachiatum_mod15_Vxx

>Trichoderma longibrachiatum_mod16_Aib

>Trichoderma longibrachiatum_mod17_Aib

>Trichoderma longibrachiatum_mod18_Gly

>Trichoderma longibrachiatum_mod19_Gly

>Trichoderma longibrachiatum_mod2_Ala

>Trichoderma longibrachiatum_mod20_Leol

>Trichoderma longibrachiatum_mod3_aib

>Trichoderma longibrachiatum_mod4_Ala

>Trichoderma longibrachiatum_mod5_Aib

QWAPKRDSLHWDRFYLTCDLGFINDSGNIEYCTRKDTQVKIRGQRLELGEIEHHIQAHLEGRVQVAVDIVKSEA
GSTLIAFISFSDAKEPTSLDEKTIGNGIFPLEGSLQATISSLMGTLGTLMPRYMVPASFI
LANSMRQNSDIPDIVDSCHQLIEHQATAQPDALAIVSWDRDFTYRQLNEASNRLAHFLVDKYNVKPEDLIPVCF
EKSAWYFVAITAINKAGAAWVPLDPSHPELRLQVVSQTRAKLALSSANSKLCGLGVEVVEANBELDNKLLAT
EASANAPIVAISPRNAAAYVLFTSGSTGTPKGLVMEHGSVCTSQVAIAKRLGLNSKVIRLQFAAFVFDLSIGEIIPLIS
GACICVPSEDTMRSGIVDFINTKAVTWAYLTPSFVRTIKPSEVSQLELLLLAGEAVPRDIFTWFGKRLINGWGP
ETCCFSSLHWEQSAEESPLTVGRPVGSFCWIVDPENPCQLAPTGILGEVVIQGGPTILREYLSDKERTDAAVVMSLPE
WAPFREQANWSREFYKSGDLCKYNPDGTIEFSSRKDTQVKIRGLRVELGEVHEAVQALDGVQQAIVDFIKGDNG
TNLVAYFSFSDETROIHEEDPSGFPQPMDENLQARLTSVVCELNIALPRYMIPTLFIIPCK
ESQAKTNPDAPAIHAWDMELSYQSLDRAANRLAHHLVKS CGVKDQDFVHVCFEKSAAWFFVSVIAVNKAGATW
VPLDPSHPLRQQQVVSQTKATLALASPSNVEMCLELVANVVEVSAAMDEKLSKTEESSYGPIRDVSPNNAAAYV
LFTSGSTGTPKGLVMQHRAVCTSQTAIAKRLGMVSSVRMLQFAAFVFDLSIGEIVGPWWVGCGCLVPSEETRMNN
LVDFINTMQVNWAYLTPSFTRTLNPDVPLGELLLFAGEAVGRDVFEAWFGKVRLINGWGAETCCVFSHTLHEW
KSLEESPLTVGKPVGGYCWIVDPHPDQLLAPVGTLGEVVIQGPVTLREYLADPTKTEASLVRNLPETWPNRTAAH
WDRFYKSGDLCRYNADGTIEFGSRKDSQVKI
EKQAATQPDAPAVISWDRDFTYKQLNEASNRLAHLLVNKYQVKFNDLVHVCDFKCAWHFVAITAINKVGAA
WVPLDPSHPPEMLRQIVSQTKATLALVSSSNATLCSLVEIVNEKLDNELLAAEGEGYGPSVDFSSSRSAAYVLFL
TSGSTGVPKGFVMEHSAVCTSQVAIARRLGLGNVRMLQFAAFVFDLSIGEIIPLVSGACICVPSEHTRMNGIIDEF
INEKKVTWAYLTPSFARTIRPSEVYPLELLLLAGEAVPREVFTTWFGSNVRNLVNGWGPAAETCVFSTLHEWKSAD
ESPLTVGRPVGGFCWISDPEDPSRLAATGTLGEILIQGPITLREYLDVERTKLA VVKSLPEWAFPRNKPQGNWRMYKS
GDLGFYNPDGTIEFSSRKDTQVKI
ERQVKKRPDAPAIADWDGRLTYSQLDHAANRLAHLLVDDYAVQVGDIVHVSFEKSMWYIVAILAINKAGAAW
PLDPSAHPFORLQAVAKQTGAKLALASTANAGLCGQLVGRVIEVSAIDAELSAVDSNVSENGPQVNVPTPLDASY
ILFTSGSTGTPKGLVMQHGALCTSQDTSIRWLGLDHTVRMLQFAAFVFDLSIGEIVAPLIHGACVCPSEEMRMNGLKEFVRD
SLDSFVRDFNVTWAYLTPSFTRTLKPDQFPGLLELLLIGEAVTQDVLDTWYGLPNTRFVNAWGPAAETCVFSTLYD
WQSNTEsplTIGRAVGA YVWVDAENPQRLAPTCCLGEIVVQGPPLTREYLADPTKATAATVTELPEWAPRRES
TKWNRFYRTGDLGFYSHDGLLHYASRKDTQVKI
EKQASLIQPAAPAIAAWDCNFTYDELNKAANKLAHHLVNKYVVKPNDFVHVCFEKS S WYVSIIAINKAGATW
PLDPSHPVERHQVVGQTRSKLALTSPTNAAKCAKLVNNVLEVTRELLDDLETKTPTTTVTPQDVA YILFTS
STGTPKGVIIHRSCLTSQKDIAKRLRYHEKVRLQFAAFVDFDSIEIIMSLHGCACVCPSEHRLNSIVDFIRDMEI
NWLYLTPSFRTIDPNDVPNVELVLMGGEAVPREVFETWYGRVRLFNAWGPTESCVMGTIHEFESADWTLTIGR
PVGGFCWIVDPENPQLLAPTGTGLGEVVIQGPVTLREYLDNPEKTA EATVYELPDWVVRPDENNWRNFYKTDGLC
FYNPNPDGTIEFSSRKDTQVKI
EEQARIRPDAPAIACWDGEMSYLQLNAAANKLAHHILNAGVKSDELVHVCFEKS L WFFVSIVAINKVGAAWVP
LDSSHPEQRLRQVVSQTRAKFALSSPTNAALCGLVENIIEVSQSLDSIIPYDGAANGPAPNVPVSGSAAAYVLFTSGST
GTPKGLVMQHQAVCTSQTAIAKRLRLTPDVRILQFAAYVFDLSIGEIVAPLIHGACVCPSEEMRMNGLKEFVRD
ASINWAF LTPSFVRTLRPEDVPLDLLLLAGEAVGRDILDTWFGKVRNLVNGWGPAAETCVFSTLHEWVSVEESPLT
VGTVPVGGHCWIVDAQDSSKLAPIGCCLGEVVLQGPVTLREYLADPQRSKEAHTSLSPWAPKQDSWTRSKFYKSGD
LCHYNPDGTIEFSSRKDTQVKI
QERIEKQPTDPAIASWDGDLTYEELGVLASRLAWKLOGLGVGPSLEPLICFPKSTWAVVAMVAIEMAGGAFAVPL
DPKAPVARLRGIIEDTSLTAVASPSQOETLQEVGIDVLVUDEALLLELSDPVEIKSIRKPNASVVLFTSGSTGKP
KGMVIQHDSLCCSSGNAYGEDLNIGPCTRTVQFSAYTFDVGVLDCLVSLMRGATVCI PSDHARLNDLAGAMATK
ANWVFLTPTVADLLSPTDPYLVKLCLGGEAISKKCADRWNVNTE LHGLYGPAAESICADWNPVVGSGRSTNLG
RPISSAFVWVEIPSNYKRLVPVGCIGELLIEGPM LARGYLVNSADVASNWMENVDWLP C S NKKRYRTGDLVRR
NPDGTFDFMGRKDTQVKL
EQRAQMNPDAAEA VAWDASFTYAELNRSANILANYLIQSMGVRVGDLVHVCFEKSAAWYVVSILAINKAGAAWI
PLDPSHPVERHQVVGQTRSKLALTSPTNAAKCAKLVNNVLEVTRELLDDLETKTPTTTVTPQDVA YILFTS
GSTGVPKGVVMEHGALC S QTSISKRLGYASGV RMLQFAAFVFDACIGIEIAPISGCVCI P SWETQMNSLTSYICE
ENVTWAMLTSTFARTIDPSEVPCLELLILIGEAVSRDVFELWFGKRLRLNGWGPTETCVGALHWEQSDIDESQMTI
QQPVGGYCWIVDPEDPQKLAPTGTGFEVVIQGPVTLREYLAD EAKTASSTVAVLPEWAPNRHSRYWRNRFYKGTG
DLAMYNPDGTIQIYYSRKDTQVKI
ERQAEIRPDAMAIRAWDAEFTYNEFNRAANRLANHLTASYNIKPDDLIHVCFEKSAAWFFVSILAINKSGAAWVP
PLDPSHPPEQRLRQVVSQTRARLALTSPTNRDLVAGLVESVVTVDSQLDAELSKIDEYSQKGPTVTTVSSDNAVYVLT
SGSTGTPKGLVMQHGVSATSQTAIVKRLGLTPDV RMLQFAAFVFDLSIGEIIAPLITGACLCIPDSHTRMNGLTTRYI
RDMGINWAF LTPSFIRTIKPAEVPLGLDVL LAGEAVPRDVLTTWFGKVR LINGWGPAAETCVFSTLHEWQSVNESP
LTVGKPVGGFCWVVDPEDPHRLAPTGTGLGEVVIQGPVTLREYLSDPQRTQASTVVALPKWAPRPDSKHWNKPFYK
SGDLCCYNNQDGTIEFSTRKDTQIKI
EAQARQTPDLPAVWAWDGHILTYQQLNEAANRLAHYLINEHNVKIEDLIHVCFEKS WWHVYVSVLAINKAGAV
WVPLDPSHPPEQRLRQVASQTRSTLALTS DTTSSLSGFIDNVFEVSPSLDQIDVRLGEKEPQVSVSSSNAAYVLFTS
GSTGTPKGLVMTHGAFATSQIAIKKRIGTDTNTRALQFAASYVFDMSVGEFGVQLISGACIFPSEHTRMNGLKEFIE
EHEINSLWLTSPFIRLTSPQVPTVDVVLAGEAIPRDVFTTWCTKVRLWNGWGPAAETCVVSSLSHVLTSDESLPTI
GRPIGGYCWIVDPTDHTRLAPIGTIGEVVIQSPITLREYLADVERTKASTVYELPAWAPYRQDPTW SRFKSGDLAS
YNPDGTLEFASRKDTQVKI
SQHASSSPHIEAIFSSEGSLTYGELDHLTDILATHLSSLGAGPETVVPFCFEKSMWAVVAIVSILKAGAAVPLDPS
HPTSRRQALVKEVRARVLVASSAITSCKGMAEHLVELSPVMAKLAASVTPRILPKVGPKNRTAYILFTSGSTGKPK
GVVMQHGSFSSTIGYKGVYNLSQLSRVQFQSNYIFDGLSGEIGFLAAGGTICIPSEDERLCSAPAFMNTAKVNTA
MLTSPSVRTFTPDQVPHLKT LVLGGEAAASKSTLEMWVDRVTLYNGYGA EACNYAATHVFKSSSEPRIKSGFN
GACWVVEPDNHSILTPIGCTGELVLQGHALARGYLNDAKTEQSFSDVSGVPLALLHEFPKRFYLTGDLVRYNS
NGELEYLGRKDSQVKI
DNAQRDPNHEAIFSSSEGSMTYAALDRLTDVLASHLCLQGVGPETIVPFCFEKSMWAVVAIVGT LKAGGVFVPLD
PSHPINRREALVREVGQAIIIESESA AASCAGMAPRIVELSSDFMARLSAPSQTIVPEKRPSPSNAAYVLFTSGSTGK
PKGVVMEHSALTSTIGYGRVYELSPASRVQFQSNYIFDGLSGEILATLTFGGTVCI PDEHRLQDAPG FVRKAQIN
TAMLTSPSVRTFTPDQVPLKTLVLGGEPAGRDILDAWCDRVK LINGYGPAEACNYATWHVPSSSKDSPRVIGKA
FNSSCWWVEPHNNHVLTPVGCVGELAIQGHVLARGYINDSERTRSSVTELASLSVIAGPQRFYLTGDLVRYCSD
GSLEYLGRKDTQVKI
KQIEAQPDAPAFDSWDAKLT YREVGH LATRLAAKLSQLSGIDPDMVVPISPFKSTPAMITMVAIQMAGGALVPLD
PAAAPLARLQSVSDTQA KRLIVTHPSLEEKQLGVDLLIVDLSMLDKLPDPSTKFISSDAPTESLYAVLFTSGSTGPK
KGIRIPHSSLSCSVDAHA AETCGVPGSRVQFSA YTFDIGILDV LVTLMRGCCVCPVSDHDLRNN--
LAGVISALQANWVFLTPTVADMLNPTDVPCLTTINL GGEAVNKSSERWQGYTTLNLGYPAAEASICARNADV
HNGASTNLGFLPSSAFWAVEPNDPSRLVPICIGELLIQSPILAYGYLNADAKNTANHLEDMTYNWLPANGPKR
AYRTGDLVRRNPDGTFEYMG RKDNQVKI

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>Trichoderma longibrachiatum_mod6_ala

>Trichoderma longibrachiatum_mod7_Gln

>Trichoderma longibrachiatum_mod8_aib

>Trichoderma longibrachiatum_mod9_Vxx

>Trichoderma amaonicum-mod6

>Trichoderma amazonicum-mod1

>Trichoderma amazonicum-mod10

>Trichoderma amazonicum-mod11

>Trichoderma amazonicum-mod12

>Trichoderma amazonicum-mod13

>Trichoderma amazonicum-mod14

>Trichoderma amazonicum-mod2

>Trichoderma amazonicum-mod3

>Trichoderma amazonicum-mod4

>Trichoderma amazonicum-mod5

>Trichoderma amazonicum-mod7

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>Trichoderma amazonicum-mod8

>Trichoderma amazonicum-mod9

>Trichoderma asperelloides_mod1***

>Trichoderma asperellum_mod_12_Aib

>Trichoderma asperellum_mod1_Aib

>Trichoderma asperellum_mod10_Gly/Ala/Ser

>Trichoderma asperellum_mod11_Leu/Ala/Aib

>Trichoderma asperellum_mod13_Pro

>Trichoderma asperellum_mod14_Leu

>Trichoderma asperellum_mod15_Aib

>Trichoderma asperellum_mod16_Aib/Ala/Vxx

>Trichoderma asperellum_mod17_Gln/Glu

>Trichoderma asperellum_mod18_Valol

>Trichoderma asperellum_mod2_Gly/Ala

>Trichoderma asperellum_mod3_Aib

>Trichoderma asperellum_mod4_Leu/Gln/ala

>Trichoderma asperellum_mod6_Aib

>Trichoderma asperellum_mod7_Gln

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>Trichoderma endophyticum-mod9

>Trichoderma parareesei_mod1_Aib

>Trichoderma parareesei_mod10_Aib

>Trichoderma parareesei_mod11_Gly

>Trichoderma parareesei_mod12_Aib

>Trichoderma parareesei_mod13_Aib

>Trichoderma parareesei_mod14_Pro

>Trichoderma parareesei_mod15_Vxx

>Trichoderma parareesei_mod16_Aib

>Trichoderma parareesei_mod17_Vxx

>Trichoderma parareesei_mod18_Gln

>Trichoderma parareesei_mod19_Gln

>Trichoderma parareesei_mod2_Ala

>Trichoderma parareesei_mod20_Pheol

>Trichoderma parareesei_mod3_Aib

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>Trichoderma parareesei_mod6_Aib

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>Trichoderma reesei_mod2_Ala

>Trichoderma reesei_mod20_Pheol

>Trichoderma reesei_mod3_Aib

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YNPDLTLAYHGRKDTQVKI
AQQAARDPHEAIYSSEGTVTYATLDRLLSLLAHHLHALGVRPESVVPFCFDSKAWAIAMAILKAGGVFLPD
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>Trichoderma reesei_mod4_Ala

>Trichoderma reesei_mod5_Aib

>Trichoderma reesei_mod6_Aib

>Trichoderma reesei_mod7_Gly

>Trichoderma reesei_mod8_Aib

>Trichoderma reesei_mod9_Lxx

>Trichoderma virens_Aib/Ala_mod5

>Trichoderma virens_Aib/Isovaline_mod7

>Trichoderma virens_Aib_mod1

>Trichoderma virens_Aib_mod15

>Trichoderma virens_Aib_mod16

>Trichoderma virens_Aib_mod9

>Trichoderma virens_Ala_mod3

>Trichoderma virens_Alanine_mod8

>Trichoderma virens_glutamine_mod17

>Trichoderma virens_Glutamine_mod6

>Trichoderma virens_Gly_mod2

>Trichoderma virens_Leucina_mod14

>Trichoderma virens_Leucine_mod11

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>Trichoderma virens_mod1_Aib/Vxx

>Trichoderma virens_mod10_Lxx/Vxx

>Trichoderma virens_mod11_Lxx/Vxx

>Trichoderma virens_mod12_Aib

>Trichoderma virens_mod13_Pro

>Trichoderma virens_mod14_Vxol

>Trichoderma virens_mod2_Gln

>Trichoderma virens_mod3_Vx/Lx

>Trichoderma virens_mod4_Aib

>Trichoderma virens_mod5_Pro

>Trichoderma virens_mod6_Ala

>Trichoderma virens_mod7_Vxx/Lxx

>Trichoderma virens_mod8_Aib

>Trichoderma virens_mod9_Pro

>Trichoderma virens_Prolina_mod13

>Trichoderma virens_serine_mod10

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>Trichoderma virens_Val/Leu_mod4

>Trichoderma virens_valinol_mod18

>Trichoderma endophyticum-mod6

>Trichoderma_lentiforme_(18me)-mod7

>Trichoderma_lentiforme_(18me)-mod1

>Trichoderma_lentiforme_(18me)-mod10

>Trichoderma_lentiforme_(18me)-mod11

>Trichoderma_lentiforme_(18me)-mod12

>Trichoderma_lentiforme_(18me)-mod13

>Trichoderma_lentiforme_(18me)-mod14

>Trichoderma_lentiforme_(18me)-mod15

>Trichoderma_lentiforme_(18me)-mod16

>Trichoderma_lentiforme_(18me)-mod17

>Trichoderma_lentiforme_(18me)-mod18

>Trichoderma_lentiforme_(18me)-mod3

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GEGISSDASDGLFLPIDEDLQSLASVAGQLRISLPRYMIPTMFIQCSYMPFITSTKLDRNKL
DLHRAATGSEFEIIMDTCHHILIELRAKEAPDSAPAIWADGELTYGQLENETAKNLHILINEYDVQVEDLIHVC
FEKSIWYVVAIFAINKAGAAWVPLDPSHPQRIQVTLQTSKLALVSNNTSRSLSGIIDDQVVEVSPALYKINS
GANDPOIPVSSHNAAYVLTSGSTGTPKGLVMTHGGFATSQTAIRKRMGISSNRTLQFASHVFDLCLGESILQLS
GACMFIPSEHTRINNLQFIKEMDINWTLTPSFVRLTSPDQIPSVTLLEAGEAVPRDILTLWFGKVRILINGW
GPAETCVFSTLHEWKSINESPLTIGRVPVGGFCWVVDADPHRLAPTGTICEVVIQGPPTLLREYLDSEPTKSTVYN
LPNWAAPRDAEHWNKFKYKSGDLCYNNQDGTIEFATRKDTQIKIRGLRVELGEVYHIQQAIPARQVAVDVYQ
GEGISSDASDGLFLPIDEDLQSLASVAGQLRISLPRYMIPTMFIQCSYMPFITSTKLDRNKL
DLHRAATGSEFEIIMDTCHHILIELRAKEAPDSAPAIWADGELTYGQLENETAKNLHILINEYDVQVEDLIHVC
FEKSIWYVVAIFAINKAGAAWVPLDPSHPQRIQVTLQTSKLALVSNNTSRSLSGIIDDQVVEVSPALYKINS
GANDPOIPVSSHNAAYVLTSGSTGTPKGLVMTHGGFATSQTAIRKRMGISSNRTLQFASHVFDLCLGESILQLS
GACMFIPSEHTRINNLQFIKEMDINWTLTPSFVRLTSPDQIPSVTLLEAGEAVPRDILTLWFGKVRILINGW
GPAETCVFSTLHEWKSINESPLTIGRVPVGGFCWVVDADPHRLAPTGTICEVVIQGPPTLLREYLDSEPTKSTVYN
LPNWAAPRDAEHWNKFKYKSGDLCYNNQDGTIEFATRKDTQIKIRGLRVELGEVYHIQQAIPARQVAVDVYQ
GEGISSDASDGLFLPIDEDLQSLASVAGQLRISLPRYMIPTMFIQCSYMPFITSTKLDRNKL
DLHRAATGSEFEIIMDTCHHILIELRAKEAPDSAPAIWADGELTYGQLENETAKNLHILINEYDVQVEDLIHVC
FEKSIWYVVAIFAINKAGAAWVPLDPSHPQRIQVTLQTSKLALVSNNTSRSLSGIIDDQVVEVSPALYKINS
GANDPOIPVSSHNAAYVLTSGSTGTPKGLVMTHGGFATSQTAIRKRMGISSNRTLQFASHVFDLCLGESILQLS
GACMFIPSEHTRINNLQFIKEMDINWTLTPSFVRLTSPDQIPSVTLLEAGEAVPRDILTLWFGKVRILINGW
GPAETCVFSTLHEWKSINESPLTIGRVPVGGFCWVVDADPHRLAPTGTICEVVIQGPPTLLREYLDSEPTKSTVYN
LPNWAAPRDAEHWNKFKYKSGDLCYNNQDGTIEFATRKDTQIKIRGLRVELGEVYHIQQAIPARQVAVDVYQ
GEGISSDASDGLFLPIDEDLQSLASVAGQLRISLPRYMIPTMFIQCSYMPFITSTKLDRNKL
DLHRAATGSEFEIIMDTCHHILIELRAKEAPDSAPAIWADGELTYGQLENETAKNLHILINEYDVQVEDLIHVC
FEKSIWYVVAIFAINKAGAAWVPLDPSHPQRIQVTLQTSKLALVSNNTSRSLSGIIDDQVVEVSPALYKINS
GANDPOIPVSSHNAAYVLTSGSTGTPKGLVMTHGGFATSQTAIRKRMGISSNRTLQFASHVFDLCLGESILQLS
GACMFIPSEHTRINNLQFIKEMDINWTLTPSFVRLTSPDQIPSVTLLEAGEAVPRDILTLWFGKVRILINGW
GPAETCVFSTLHEWKSINESPLTIGRVPVGGFCWVVDADPHRLAPTGTICEVVIQGPPTLLREYLDSEPTKSTVYN
LPNWAAPRDAEHWNKFKYKSGDLCYNNQDGTIEFATRKDTQIKIRGLRVELGEVYHIQQAIPARQVAVDVYQ
GEGISSDASDGLFLPIDEDLQSLASVAGQLRISLPRYMIPTMFIQCSYMPFITSTKLDRNKL
DLHRAATGSEFEIIMDTCHHILIELRAKEAPDSAPAIWADGELTYGQLENETAKNLHILINEYDVQVEDLIHVC
FEKSIWYVVAIF

>Trichoderma _lentiforme_(18me)-mod4

>Trichoderma _lentiforme_(18me)-mod5

>Trichoderma _lentiforme_(18me)-mod6

>Trichoderma _lentiforme_(18me)-mod8

>Trichoderma _lentiforme_(18me)-mod9

>Trichoderma _lentiforme-_mod14

>Trichoderma _lentiforme-mod_10

>Trichoderma _lentiforme-mod1

>Trichoderma _lentiforme-mod11

>Trichoderma _lentiforme-mod12

>Trichoderma _lentiforme-mod13

>Trichoderma _lentiforme-mod2

>Trichoderma _lentiforme-mod3

>Trichoderma _lentiforme-mod4

>Trichoderma _lentiforme-mod5

SLMHGGCVCPISDHDLNNLAKFIRDTEVSWAFLTPSFARTLRPTDVPSLELIVLAGEPVITQDVFDFLWFGKTRLVN
GWGPAETCVLSAIHEWKSDESPLTIGRSVGSFAWVDAENPQRLAPVGCIGEIVMQGPITLLREYLADPAKTLSSLT
LTSLPNWAPRSNDNRNWSRFYKTGDLGIYNPDGTHIYSGRDKDTQVKIRGLRVELGEIHEHNSLEVIQQIAVDVLR
TEAGANLVSYICFSNETKTPGPDTPDPEGTDIFLPMTESIQKELNIVLNKLNVLPRYMIPTFI
DLDRSIYFNSETPEIINACVHELIERQAECPDVAISAWDAAFTYNQLNCAANRLANYIYKSYGICQPDIIHVCFE
KSIWHFVAILAINKAGAAWAPLDPSPHPEQRLRQIVDQTRASLIMTSPNSDLSALVENVLVLTNDRKLAKTIT
DSEAPNVVANPNDAAYILFTSGSTGTPKGFVMDHKSVCTSQTAITKRLGHTSNVRMLQFASVYFDMISGEIISTIS
GGCIFVPSEDIRMNNTQYMRDNRINWAFLTSPFLRTLAPKDIPDLEILLAGEAVPREILNTWFGKVRLINGWGP
AETCVFSTLHEWKSVDDESPLTIGRPVGGFCWIVDPENPHKLAPVGTLEVVIIQGGPTLLREYLADPERTAASCICKAP
KWTQPQDSQHWGRFYSKGDLCSYNADGTLEFSSRKDTQIKIRGLRVELGEVEYHQAALQDVRQIAVDVYNDER
GTNLVAYICFTDEIRVAGINHDTNSPFFSIDQKLQNRNLALVDRNELRRHTLLTLREQLEY
IQQAIAWNTENPEIIECDIHKLIERNAASTPNVAIDAWDGMLTYAQLDQMANRLAHYLIKTFDIKSDDLILCLFE
KSLWYVVTVIAVNKGAAWVPLDPSPHTQRQQVARQTKANLLLASSQLNLGNQLSHTVLEVGGQALDDVLIQ
TEPSTQAPDVTVSTRNAAVYVLTSGSTGTPKGLVMEHGAVCTSQTAITARIGLHSGVRLLQFGAHVFDLSVGEIFCS
LIRGACLVIPSDIEIRMNSLAKFIHEKNINWAIFTPSFIRLTLEPTDVPHLELVILCGEFPDCKILEKWVGKVRLENGWG
PAETCVYSLSLHEWKSTAESPLTIGKPVASFIVWDPKPHNRLAPVGTIGEAAIQQGPTLLREYLDDBPTRTQASILELIPD
WAPPREPQQRWNRVYLTGDHCSYNPDGTIEYHGRKDTQIKIRGLRVELGEVEHQIKLSENLVHVAVDVHVKFEA
GSMVLVAYLGYSEKNSDDPDFAIFMPLNNNLQRDLAMASQLGVLLPRYMPVPTLPIPCSQMP
DLQQAISYNVKEPGMVSVCHELITQQALRDPHHEAIYSNEGTMITYATLDRLSLLAAQYLHELGVPRPESVVPFCF
DKSSWAIVAMAILAKAGGVFLPLDPSPHPRNRREALVQEVGAEMIVSPSSVPCHELSTMTVELTPQLEELSSYGD
AFQEIQPKAKPSNAAVYVLTSGSTGTPKGLVMEHSFAFATSTLGHGRVYNLSPPSRVQFQSNYIFDGLSGEIFTLSFG
GTVCPVPSDDERLQGAFFPMRRARVNTAMLTPSFVRTFTPEQVPSQLLVLGGEPSKDLLETWCDRLRLVNGYGP
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WSAKGPAVKVTPSDVAYILFTSGSTGTPKGLVIEHSLCTSQTSQALQFQEDVRVLQFSSYSFDAALFEIGSTFLT
GACLFVPVWDEQMINELTEYRKHQITCALLTPTLARTIRPEDVPSLNMLLAAGEAPTRDILDIWFGKVRLLNNAWG
PTECCVIACLHEWTSVDESPKVIGRPIGGSCWIVDPDSDTRMAPLGTVEIVQGNRLREYLDSPVKTAATAVVTG
LPQWVPKRDLSLHWRFYLTGDLGFVNESGNIEYCTRKDTQVKIRGQRLGEIEHHQANLEGVQVQALRVDVVRKS
DAGSALVAFVSFSDAKEPISLDEATVGNIGFLPLDASLQATISSLVGTGLTLMPRYMPVPSAFI
LANSMKQNSDIPDIVESCVIHQIERQAAOQPDALAIVSWDRDFTYRQLNEASNRALHVLISRYNVQPEDLIPVCF
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TEASENGPIVAISPRNAAVYVLTSGSTGTPKGLVMEHGSVCTSQVAIAKRLGLNSKVRMLQFAAFVFDLSIGEIGP
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GPAETCCFSALHEWQSAEESPLTVGRPVGSFCWIVDPENPCQLAPTGLIGEVVIIQGGPTLLREYLSDKERTDTAVVKS
LYGTNLVAYFSFSDETRQIQEADPSGPFQPMDENLQARLTAVVGELNIALPRYMIPTLFIPLRK
DVEQAIERNYSIEPTESCHVELISQAAKNPQQEAITYSTSGSMTYRKVDRLSNQLASHLIGKSETIVTPFCYKESV
WSIAMLGIKAGGVFLPLDPSHPLSRRALIDETSAYQIMVSPTTAKECKGMTKNNIELSPNFSSKKSSTARKFK
PIKPRFCAMVYLTSGSTGTPKPKGVIEHKAISFLVKLEVVVQFSGNSKMLQFSSYGFDAISFIEAALISGTCVVPIT
ETERMQHTSTFIEEAINTAILTPTFVKTSFSPESVPSLKTLFLCGEAPSKEVVDLWCQHVSLWNAYGPTETCVIATL
QHYTDVSVPTTIGRGFAHHCWVYNPENHHELTPIGCVGELLIQGDSLGRGYNDEEKTNNAPHNHVEWLPANV
DVGKRRFYKTGDLVRNPDGGSFNYLGRKDTQVKIRGQRIELGEIEYQVKLHLPLDLEHAIAVDIIRHDTHESLVAFVS
FSGDKGPFSEVARVQLVSHNDELQELFSQLVTNLTTVLPSYMPVKYFIAVESMP
YELAIASNNVLEPIVDSTVHELIDRRARASPDAPAISSWDAKFTYSELISASNKLAHYLIIHAHEIKPDDFVHVCFEK
SAWYVYSIAINKAGAAWVPLDPSQPEERLFQIVRQTAKQYALVSPNNAALCTLVKHIVIEVTVDLCHKLSLSVPD
TVVPCVASSRSNAAYLTFTSGSTGTPKGVVIEHKSVCSTSQVAVADRLGITPSVRILHFAAHTDILGIAIPLSGAC
ICIPSNRDRMENIVNFIKEQRVNWIFLTSPSFARTIQPEDIPNVVFLFLAGEAVPQDLFLTVWGVKVRFNCGWPTETC
FISTIQEWTSAAESPLVLGRPLGGFCWIVEPDPNQRALPIGTIGEVLQGGPTLLREYLDGQFQRTQASILPRFTWAPLP
DSQHWSCRYSRSGDLCFYDKDGNIVFSGRRDTPQVKIRGFRVELGDIEYHIRDKLDATECAAVDVLKTTTGASLVAF
VSFNTQAQQPSTGNDSSDGIHLHLDSGTQEIFGLTLLHLKALLPPYMPVPTTFV
DIQRAIENCSEEPDISSCLHQIEHHALKRPDAMAVHASDILTLYSQLNLAADRLSSYLMDCNCAVQARDLVHVC
FEKSAWVFFVSLAINKAGAAWVPLDPSHPLQRHKKVLMQTKAKLALASPSNMPLCADLVENVVEVSATLDEML
MRRRGQKNKPRMVSPSDACVYVLTSGSTGTPKGLVMQHKSVCSTSQTAIVAKRLGMDTSIDQVLFQFASVYFDMISGEI
VGPWIAGACICVPSSEVRMNGLAEYIRTDINWVYLTSPFSRTLPDIPGVELMLLAGEAVSRDVELTWFEGKRLR
INAWGPAETCVFSTLHEFGLDPSLTIGRPVGGFCWVVDPENPHRLAPFTCIGEGVQIGPTLLREYLADPAKTKS
ATVKPLPSWAPNRSSDQWNRFYKSGDLCKYNSDGTIAFVTRKDTQIKIRGLRVELGEVEHQIACLDGVHVQIVD
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AVISGTDVNDVFMLTEEVQHHIAAMVGEIKILLPEYMIPTLFIQCR
MQQSHKLSNDVPEIINSCLHHLVEDQATYRPNAMAIRSWDGDFTYAELNQANRLANHLVQTYDIETNELIHV
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TEWAPRPDGTNWNRFKSGDLCRYNADGTLEFSTRKDTQIKIRGLRVELSEVEYHIQQALTGVQGVAVDVLFGKD
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DPTHQVVSNVQPQHASVILFTSGSTGTPKGLVMQHKSVCSTSQIAIARRLLGTPEVRMLQFAAFVDFLSGIELLQ
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KADDENAHIDLLAFVWYTEEDTAQSQSLSMQSLPEKTQRFIRHLDSSLAEALPSYMIPLSIFEGKFE
QRSMKWNHDHKVVEIEHCHMDHVISRRTSCPNDEALYSSEGLTYAALERLSDLVAYQLLQYNVQPETIVPFCMEK
SIWVVVAMVGILKAGGALMPLDPSPHSPERRLALIQEVNAKVIITSPSTALSCEGMAQHTVQVSSSLTHAPKTKTS
YIHSNYYKKEPPHNAAVYVLTSGSTGTPKGLVMPHSAACTSLLRHPEKFSINKSTRTFQFSAVYVDVCEIEFVSFLV
GATTCVPTETERVGNTRSFRMTEARVWTCLTSPFIGLTDPTLPTLQTLGIGGEAPTDRILSKWGHGRAEIIINAYGPA
EACVDVAGHVFYSRSDPTNIGRPFHAKLWIVEPDNHNRLTPICIGELVIEGHAIARGYNNEEKTESFVDDLE
WLSSATPSDRPRVYKSGDLARFNPDGTIEFFGRDRDTQVKIRGQRLGEIEYINIRAKLADQVHTTVDLIEREAGKM
IIAFTFKNYLCTMTDIAIDPYGNFIKDVKLTSFQDLMLERRLVLPYMIPLSIFPLR
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SGACVCPISWDMQNLNSLPAFIRDNTVWAILTPSLANVISPQDVPCLEFLALGGEAPSKVEFNIWFGKVRFLNVAW
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LPRWTPNRELWNRFYRTGDLVAYNSDGTIKYCSRKDQGIKIRGLRIELGEIEHHIRKSLDTTGQVAVAEALKESEAGA
NLVAFICQNSDTPIASMANNMSTEDIVLPLTDELKSSLGALRSSLISSLPGYMVPFAFFIC
QKAIISPNPEMPEVVEKCFHQFLESQALTEPEATICAWDRLSTYAEILDSTANRLAHYLMQAQHAVKLDLHIVCF
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GYSSSPVTKVSPNNAVYVLTSGSTGTPKGLVMEHRSVSSQRAIKRLGLHSNVRMLQFAAFVFDLSIGEIIAPLIS
GACICVPSQARMNDIAGFIRETGYNWYLTSPFIRVLKPEDVPTLELLLLCEVTPRVNTWVGKVRFISGWGP
AETCVFSTLHEWKSNTESPLNVGKPGVAFCWVVDPERPDQLAPIGTVEGMVLQGPITLLREYLDDBPERTRLSVITSL
PNWALQRAPOQWTRFYKSGDLAMYNPDGTIEFCSRKDTQVKIRGLRVELSEVEHRIRESLEGIRQVAVDVLTSDDG
SNLVSYLCSFEEIRSSDAQANLDDIFLPTLAELQPLLAAMIGQLKVVLPNYMIPTLFMC
VGWDIDKIHAVDSQLSITSQSTCHWLQDRAIRAYPDSPAVASWDGELTYAELGTVSRLSTKLQQLGVGPEVLVP
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HGLYGPAAESICAWNSTVGRSGKSTNLGRPLSSAFWVVEPSDIHNLVPGCIGELLIQGPLMARGVNLVCAEQA

> <i>Trichoderma_lentiforme-mod6</i>	ANWIEDFSADWLPHGFPNRYRTGDLVRRNADGTYDYGKRDQVQLHGQRIELGEIESQIQKALPAEMTAIVD VVKSHVLAFLWYTHETAAPNKKSSKLINTLSEAQKVLISDIDMTLSIALPSYMPSSYLFDGKPDHHT LEKAIAVNHEIPFMDTCLHTLIEIQADQRPNALIASASDGEFTYSQLEAANRLAHLIKTYSVEVEDLIHVCFEK SIWHVISVIAINKVGAAWVPLDPSHPEQRLQIIDQGTGARLALASTTHSALCAKVIKNVLEVNSIIDQLVDAGVS SSNPVAVTVSPRNTVYVFTSGSTGTPKGVLEHAACVCTGLNAISKRLGLPATARMLQFSAFTFDVSVGEFTSLISGA CVCIPSDWARMNNITGFIQENHVNWAYLVPSYIRTDPEEVPSLEVVALMGEPATKDVYNWFGKVRLEFNSWGP TETVVISSHEWKSANESPSVIGKPLGTWCWILDTRNPTQLAATGIVGELVQGPQTLREYLAAPDKTKASIIDLPN WIPRQALPGCDRLYKTDGLCFYNPDGNIYFSRQDQTKIRGHRVEAGEIEYQVSQAMTVQVAVELANTESGST LVAYLCFNLDCKPISPTATPDEIFIPLTDDMQQLISTAVAQKTLTAHYMVPITTFVCK EHDFAASANGIPPVAIKQCHSLIEEEAKHPESYAIQAWDADFYQQLDICANRLANYLISSLHVKIGDIVHVCF DKSAWYIVAILAINKAGATWSPLDPTHVPRRYQQTISQTGSSLITSPTNASKCATLADSIIESSGPYETLVKDVTE RRPDVAVAPEDAAYILFTSGTTPGVKGVVIEHQSLCTSQALAQVRGFTNDTRMLQFSSFFDASVLEIIAPLVMG GCVCMPSWDEQMNDLAGFIARASVNAVFATPTVARSLRPEEIPGVRLVVGGEAAASDILETWIGKRLFNWAG PTEICVAGSVHEWKDMDSPMTIGRPIILGNWFIVDPNNPMRMVPTGCVGEIVYQGPVFEYLANPSQTEVIVS SLPPWAPNRNMRDWSRFYRTGDLGRYNPDGTMEYLGKRDQTKIRGLRIELHEIEHQIFAHLPVRVQVAVDVM KREETSHLVAYYCISNGTLPSHQAVDDAGKGVFLPLRVELMPQIQDLIAHLKGVLPYMPVSTFI VEQSMKNPEVPEIMDTCVHTLIEAQAHREPNAISAWDGDLTYRQLNESANRLAHYLVKNYNIQPDTLIHVC FEKSVWHFVAIIAINKAGAAWVPLDPSYPEQRLRQVISQTRSTLVLTSSRNAKLCSNLSIDVLQIDVELDKRLILTED GHKGPTVAVTYRHAAYVLTSGSTGKPKGLVMEHGAVCTSQTAIAKRLNLAISDVRLQFAAFVFDLSIGEIIPLI SGACLYIPSEDTRMNGLKYVYVNTGYNWAYLTPAFVTRFVPEDMPGLELLLLAGEAVPREVLSTWFGKVRVNG WGPATCCFSTLHEWSSVDESPLVVGPRVGGFCWIVNQDDPQKLTPTGTGLGEIVYQGPVFEYLANPSQTEVIVS YALPKWAPRPDSEHWNRFYKSGDLGYNPDGTIVFSSRKDQTKIRGLRVLEGEVEHYIHETLEGVCQVVDVYQ KEGRSNLVAICYFNEEMKNPSADEEFTAAALFASITDDMRQRIAVMLGELRITLPQYMIPTLFI SWDLQALDASRLRPATESCTHWHIQDKIKEQPEETAITSWDGDLTYVQLGVHATCLAAKQDLGVGPESLVPIC FHKSKWAVVSMVAVQMAGGAFIPLDPSAPPARLQGIQDGTGAALASIDPSQATLQSLGVEVITVDNETISKLPS VALQCEVQPANASVLTFTSGSTGKPKGMIIQHNSLSSSDAYGSDNLNIGLGRTRVFQFSAYTFDVGVLDCVLSLRG ACICIPSEHDLNLAITAATASQATWVFLTPTVADLLHPVDVPTLTKVCLGGEAISKKCAERWYNHVDLHGLYG PAEASICAWNMSVKGSGRSTNLGHPISAFVVDVNDPKSLVPLGICIGELLIEGPMARGYNVNSADVAANWM EGVDWLPKSGKPRRIYRTGDLVRRNADGTFDYIGKRDQVQLHGQRLVLEGEIAWVNEFLPDNMAAIVDVAKD NDGPDLSLLAFLWYTEEASNSPARLMDVVSDEARAAILHLDLSLSTILPPYMPSSYLLFGGKPEQT YSQLSAANQLAHHLIKIGIKADDLVHVCFEKSVWFFVSLIAINKVGAAWVPLDPSHPEQRLRQVVGQTLAKFAL SSPTNAALCNKLHVNIEVSPSLIDELSKFCDFNSPAINVPSNAAYVLTFTSGSTGTPKGLVMQHGAVCTSQTAI AKRLSLTPDVRILQFAAYVFDLSIGEIVAPLIHGACVCPSEETRMNGLKEFIRDARINWAYLTPSFVRLTRFEDVPS LQLLLLAGEAVGRDILDTWFGKVRVINGWPAETCVFSTLHEWSSIDESPLTIGRPGVCYCWIVEAEDSNKLTPIG CLGEVVLQGPITLLREYLADPQRSKETITELPPWAPKQVSDAHLWSRFYKSGDLCFYNPNGLTEFYSRKDQVQKI
> <i>Trichoderma_lentiforme-mod7</i>	
> <i>Trichoderma_lentiforme-mod8</i>	
> <i>Trichoderma_lentiforme-mod9</i>	
> <i>Trichoderma_virens_Aib_mod12</i>	

Table S2. Putative BGCS found in the genome of *T. endophyticum* MMSRG85.

Region	Type	Most similar known	cluster	Similarity
Region 1.1	Terpene	-	-	-
Region 1.2	Fungal-RiPP-Like	-	-	-
Region 1.3	Fungal-RiPP-like, NRPS	choline	NRP	100%
Region 1.4	Terpene	-	-	-
Region 1.5	Terpene	-	-	-
Region 1.6	Fungal-RiPP-like, NRPS-Like	-	-	-
Region 1.7	NRPS-Like	-	-	-
Region 1.8	NRPS	-	-	-
Region 2.1	T1PKS	-	-	-
Region 2.2	T1PKS	clavarinic acid	Polyketide	100%
Region 2.3	NRPS, indole	-	-	-
Region 3.1	T1PKS	-	-	-
Region 3.2	T1PKS	harziphilone/t22azaphilone/isoharziphilone-1/isoharziphilone-2/compound 4/compound 1	Polyketide	70%
Region 3.3	NRPS	-	-	-
Region 3.4	T1PKS	decumbenone a/calbistrin A/calbistrin C/decumbenone B/decumbenone c/dioic acid moiety	Polyketide	15%

Region 3.5	T1PKS	-	-	-
Region 3.6	Terpene	squalestatin S1	Terpene	40%
Region 3.7	Terpene	-	-	-
Region 3.8	T1PKS	-	-	-
Region 3.9	T1PKS	-	-	-
Region 3.10	Fungal-RiPP-like,	-	-	-
Region 4.1	NRPS	-	-	-
Region 4.2	NRPS, T1PKS	-	-	-
Region 4.3	NRPS, T1PKS	-	-	-
Region 4.4	Terpene	trichobrasilenol/xylarenic acid B/brasilane A/brasilane F/brasilane E/brasilane D	Terpene	60%
Region 4.5	NRPS	-	-	-
Region 4.6	NRPS, like	-	-	-
Region 4.7	T1PKS	-	-	-
Region 4.8	T1PKS, NRPS	lucilactaene	Polyketide	38%
Region 4.9	T1PKS	-	-	-
Region 4.10	T1PKS, NRPS	-	-	-
Region 5.1	T1PKS	-	-	-
Region 5.2	T1PKS	-	-	-
Region 5.3	T1PKS	1,3,6,8-tetrahydroxynaphthalene	Polyketide	100%
Region 8.1	NRPS-like	-	-	-
Region 8.2	T1PKS, NRPS, betalactone	harzianopyridine	NRP+ Polyketide: Iterative Typi I polyketide - I	60%
Region 8.3	NRPS	-	-	-
Region 9.1	Fungal-RiPP-like	-	-	-
Region 10.1	NRPS	-	-	-
Region 11.1	T1PKS	depudecin	Polyketide: Iterative	33%

Region 11.2	T1PKS	tricholignan A	Typi I polyketide Polyketide: Iterative Typi I polyketide Polyketide	88%
Region 12.1	T1PKS	trichoxide		
Region 12.2	T1PKS	-	-	-
Region 12.3	NRPS-like	peramine/intermediate 1/intermediate 2	NRP	100%
Region 13.1	T1PKS	YWA1	Polyketide	100%
Region 13.2	NRPS-like, T1PKS	dichlorodiaporthin	Polyketide	66%
Region 13.3	Terpene	karaiol	Terpene	100%
Region 15.1	NRPS	-	-	-
Region 17.1	NRPS	metachelin C/metachelin A/metachelin A-CE/metachelin B/dimerumic acid 11-mannoside/dimerumic acid	NRP	62%
Region 17.2	NRPS-like	-	-	-
Region 17.3	T1PKS, NRPS	-	-	-
Region 18.1	T1PKS, NRPS	Phyllostictine A e B	NRP + Polyketide	40%
Region 19.1	T1PKS, NRPS	-	-	-

Figure S1. Synteny analysis between BGC 8.3 of *Trichoderma endophyticum* strain MMSRG85 and BGC related to the NRPS2 gene containing an NRPS that performs the biosynthesis of 14mer and 11mer peptaibols in *Trichoderma virens* Tv29-8.

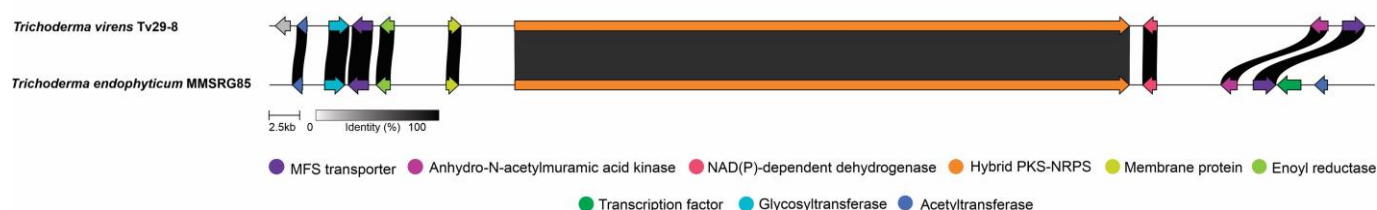


Figure S2: Phylogeny of 14-res NRPS adenylation modules.

Tree scale: 1

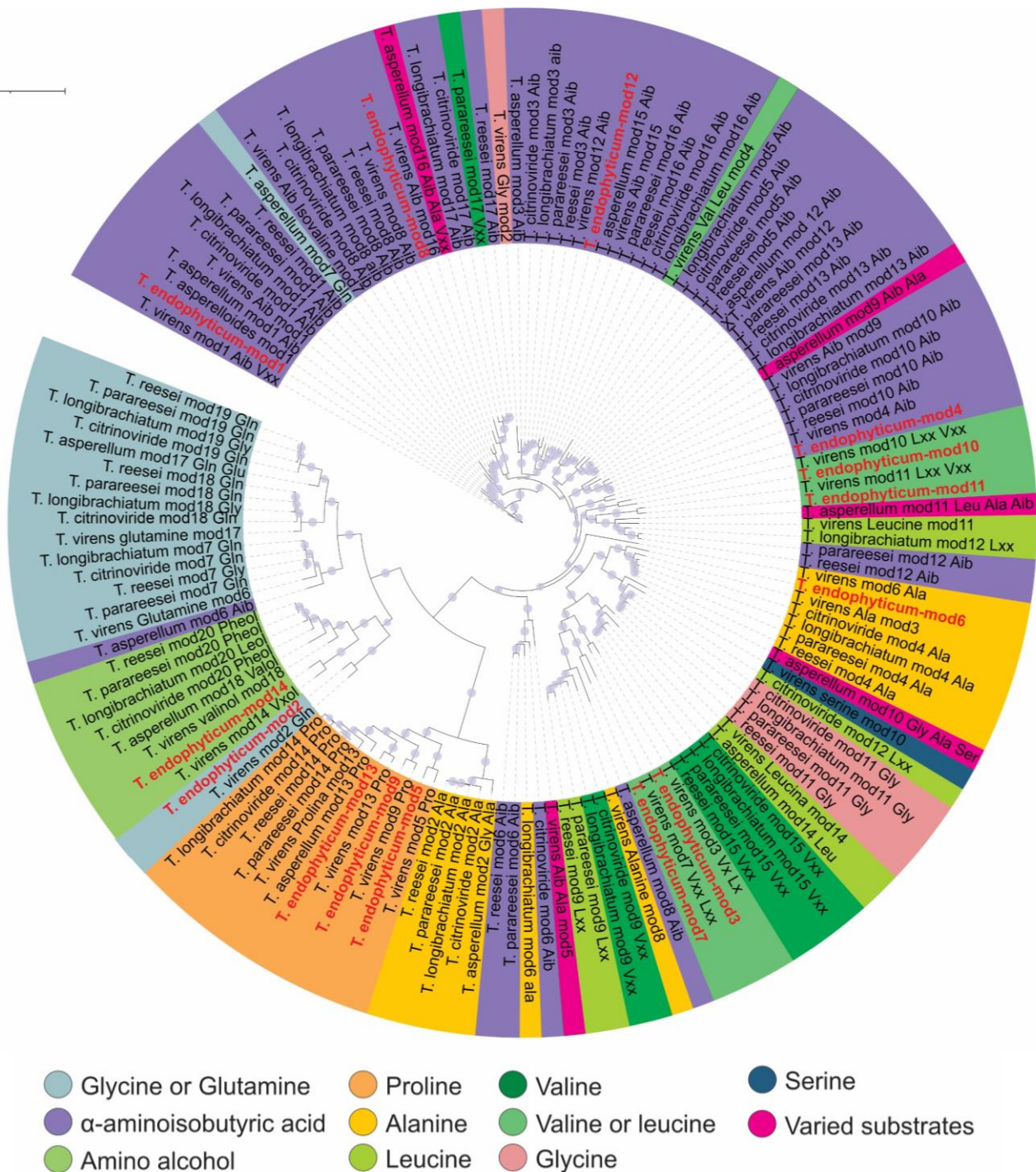


Table S3: LC-MS data of peptaibols annotated in *Trichoderma endophyticum* extract MMSRG85.

Compound	<i>m/z</i> [M+H] ⁺	Retention time	Molecular formula	Error (ppm)	Ion MS/MS	Sequence
1	1394.8370	37.4	C ₆₃ H ₁₁₁ N ₁₇ O ₁₈	-0.07	284.1604, 355.1956, 426.2391, 554.3048, 639.3458, 752.4357, 837.4838, 908.5229, 993.5716, 1078.6187, 1149.6505, 1277.7352, 1394.8387	Ac-Aib-Ala-Aib-Ala-Ala-Gln-Aib-Lxx-Aib-Ala-Aib-Aib-Ala-Gln-Lxxol
2	1394.8322	39.5	C ₆₃ H ₁₁₁ N ₁₇ O ₁₈	-3.51	284.1553, 355.1978, 440.2517, 568.3123, 653.3643, 752.4338, 837.4845, 908.5159, 993.5721, 1078.5278, 1149.6594, 1277.7419, 1394.8379	Ac-Aib-Ala-Aib-Ala-Aib-Gln-Aib-Vxx-Aib-Ala-Aib-Aib-Ala-Gln-Lxxol
3	1175.7746	40.4	C ₅₈ H ₁₀₂ N ₁₂ O ₁₃	-1.78	355.1983, 468.2845, 553.3363, 961.6092, 1175.4093	Ac-Aib-Gln-Lxx-Vxx-Aib-Pro-Lxx-Lxx-Aib-Pro-Lxxol
4	1444.9157	40.4	C ₇₀ H ₁₂₁ N ₁₅ O ₁₇	0.96	369.2154, 454.2676, 822.4721, 1230.7485, 1444.8807	Ac-Aib-Gln-Lxx-Aib-Aib-Ser-Vxx-Pro-Aib-Pro-Lxx-Lxx-Pro-Lxxol
5	1408.8505	40.5	C ₆₄ H ₁₁₃ N ₁₇ O ₁₈	1.56	284.1484, 355.2011, 440.2510, 568.3143, 653.3626, 752.4332, 837.4845, 908.5200, 993.5721, 993.5726, 1078.6262, 1163.6783, 1291.7062, 1408.8513	Ac-Aib-Ala-Aib-Ala-Aib-Gln-Aib-Vxx-Aib-Ala-Aib-Aib-Aib-Gln-Lxxol
6	1442.8390	41.1	C ₆₇ H ₁₁₁ N ₁₇ O ₁₈	6.72	284.1661, 355.2003, 440.2494, 568.3050, 653.3651, 752.4323, 837.4857, 908.5265, 993.5726, 1078.6259, 1163.6814, 1291.4200, 1442.8397	Ac-Aib-Ala-Aib-Ala-Aib-Gln-Aib-Vxx-Aib-Ala-Aib-Aib-Aib-Gln-Pheol
7	1408.8424	41.6	C ₆₄ H ₁₁₃ N ₁₇ O ₁₈	1.06	284.1597, 355.2026, 440.2509, 568.3172, 667.3791, 766.4458, 851.4984, 922.5381, 1007.5884,	Ac-Aib-Ala-Aib-Ala-Aib-Gln-Vxx-Vxx-Aib-Ala-Aib-Aib-Ala-Gln-Lxxol

					1092.6406, 1163.6837, 1291.7368 1408.8523
8	1422.8657	41.7	C₆₅H₁₁₅N₁₇O₁₈	1.89	284.1740, 355.1954, 440.2512, Ac-Aib-Ala-Aib-Ala-Aib-Gln-Aib-Lxx-Aib-Ala-Aib-Aib-Aib-Gln-Lxxol 568.3141, 653.3627, 766.4474, 851.4987, 922.5355, 1007.5898, 1092.6430, 1177.6992, 1305. 7424, 1422.8676
9	1458.9296	41.8	C₇₁H₁₂₃N₁₅O₁₇	0.20	369.2148, 454.2680, 836.4913, Ac-Aib-Gln-Lxx-Aib-Pro-Lxx-Aib-Ser-Lxx-Lxx-Pro-Aib-Pro-Lxxol 1244.7631, 1458.8755
10	1456.8501	42.3	C₆₈H₁₁₃N₁₇O₁₈	1.78	284.1656, 355.1958, 440.2491, Ac-Aib-Ala-Aib-Ala-Aib-Gln-Aib-Lxx-Aib-Ala-Aib-Aib-Aib-Gln-Pheol 568.3138, 656.3638, 766.4485, 922.5378, 1007.5888, 1092.6419, 1177.6948, 1306.7673, 1456.8544
11	1409.8345	42.6	C₆₄H₁₁₂N₁₆O₁₉	1.56	284.1545, 355.1992, 440.2523, Ac-Aib-Ala-Aib-Ala-Aib-Gln-Aib-Vxx-Aib-Ala-Aib-Aib-Aib-Glu-Lxxol 568.3125, 653.3638, 752.4288, 908.5219, 993.5745, 1078.6253, 1163.6845, 1292.7164, 1305.7491, 1409.8410
12	1422.8665	43.3	C₆₅H₁₁₅N₁₇O₁₈	1.33	284.1616, 355.1993, 454.2678, Ac-Aib-Ala-Aib-Ala-Vxx-Gln-Aib-Lxx-Aib-Ala-Aib-Aib-Ala-Gln-Lxxol 582.3273, 667,3808 780.4649, 865.5158, 936.5531, 1021.6070, 1106.6585, 1177.6998,1422.8688
13	1428. 9224	43.4	C₇₀H₁₂₁N₁₅O₁₆	2.09	369.2143, 454.2683, 806.4772, Ac-Aib-Gln-Lxx-Aib-Pro-Ala-Vxx-Aib-Pro-Lxx-Lxx-Aib-Pro-Lxxol 1214.7550, 1428.9136
14	1436.8805	43.7	C₆₆H₁₁₇N₁₇O₁₈	2.43	284.1582, 355.1988, 454.2674, Ac-Aib-Ala-Aib-Ala-Vxx-Gln-Vxx-Lxx-Aib-Ala-Aib-Aib-Ala-Gln-Lxxol 582.3278, 681.3946, 794.4769, 879.5296, 950.5671, 1035.6188, 1120.6722, 1191.7089, 1319.7460 1436.8801
15	1423.8642	44.0	C₆₅H₁₁₄N₁₆O₁₉	8.28	284.1576, 355.1982, 440.2513, Ac-Aib-Ala-Aib-Ala-Aib-Gln-Vxx-Vxx-Aib-Ala-Aib-Aib-Aib-Glu-Lxxol

568.3123, 667.3783, 766.4446,
851.4976, 922.5364, 1007.5905,
1092.6452, 1177.6919,
1306.7379, 1423.8536

16	1175.7683	44.0	C₅₈H₁₀₂N₁₂O₁₃	7.14	369.2131, 468.2825, 553.3329, Ac-Aib-Gln-Vxx-Lxx-Aib-Pro-Lxx-Lxx-Aib-Pro-Lxxol 961.6094, 1175.7225
17	1470.8589	44.2	C₆₉H₁₁₅N₁₇O₁₈	2.37	284.1722, 355.1994, 440.2502, Ac-Aib-Ala-Aib-Ala-Vxx-Gln-Vxx-Vxx-Aib-Ala-Aib-Aib-Aib-Gln-Pheol 568.3014, 667.3768, 780.4610, 865.5139, 936.5531, 1021.6047, 1106.6617, 1191.7090, 1470.8703
18	1456.8505	44.7	C₆₈H₁₁₃N₁₇O₁₈	-1.51	284.1617, 355.1963, 454.2669, Ac-Aib-Ala-Aib-Ala-Vxx-Gln-Vxx-Vxx-Aib-Ala-Aib-Aib-Ala-Gln-Pheol 582.3243, 681.3923, 780.4607, 865.5146, 936.5494, 1021.6053, 1106.6567, 1177.6776, 1319.7197, 1456.8458
19	1423.8525	44.8	C₆₅H₁₁₄N₁₆O₁₉	0.07	284.1668, 355.1995, 454.2680, Ac-Aib-Ala-Aib-Ala-Vxx-Gln-Vxx-Vxx-Aib-Ala-Aib-Aib-Ala-Glu-Lxxol 582.3255, 681.3951, 780.4641, 865.5164, 936.5510, 1021.6060, 1106.6563, 1177.6946, 1423.8664
20	1470.8673	45.5	C₆₉H₁₁₅N₁₇O₁₈	0.74	284.1606, 355.1975, 454.2676, Ac-Aib-Ala-Aib-Ala-Aib-Gln-Vxx-Lxx-Aib-Ala-Aib-Aib-Aib-Gln-Pheol 582.3241, 681.3934, 780.4607, 865.5146, 936.5503, 1021.6009, 1106.6558, 1191.7141, 1319.7568, 1470.8667
21	1189.7795	45.5	C₆₁H₁₁₀N₁₄O₁₆	8.74	369.2137, 482.2979, 567.3479, Ac-Aib-Gln-Lxx-Lxx-Aib-Vxx-Lxx-Pro-Vxx-Pro-Lxxol 779.4644, 975.6276, 1189.7397
<u>23</u> <u>22</u>	1436.8827	45.6	C₆₆H₁₁₇N₁₇O₁₈	0.90	284.1643, 355.1993, 440.2498, Ac-Aib-Ala-Aib-Ala-Aib-Gln-Vxx-Lxx-Aib-Ala-Aib-Aib-Aib-Gln-Lxxol 568.3101, 667.3788, 780.4624, 865.5143, 936.5512, 1021.6029, 106.6537, 1191.7119,

1319.7707, 1436.8820

<u>2223</u>	1450.8959	46.5	C₆₇H₁₁₉N₁₇O₁₈	-1.51	284.1587, 355.1978, 454.2669, Ac-Aib-Ala-Aib-Ala-Vxx-Gln-Vxx-Lxx-Aib-Ala-Aib-Aib-Aib-Gln-Lxxol 582.3289, 681.3947, 794.4773, 950.5690, 1035.6197, 1120.6743, 1205.7256, 1333.7759, 1450.8943
24	1437.8672	46.6	C₆₆H₁₁₆N₁₆O₁₉	0.55	284.1626, 355.1987, 454.2655, Ac-Aib-Ala-Aib-Ala-Vxx-Gln-Aib-Lxx-Aib-Ala-Aib-Aib-Aib-Glu-Lxxol 582.3260, 667.3785, 780.4620, 865.5145, 936.5504, 1021.6044, 1106.6561, 1191.7109, 1320.7566, 1437.8666
25	1484.8862	46.9	C₇₀H₁₁₇N₁₇O₁₈	1.48	284.1626, 355.1955, 454.2649, Ac-Aib-Ala-Aib-Ala-Vxx-Gln-Vxx-Lxx-Aib-Ala-Aib-Aib-Aib-Gln-Pheol 582.3268, 681.3925, 794.4753, 879.5292, 950.5676, 1035.6190, 1120.6728, 1205.7273, 1333.7802, 1484.8852
26	1471.8369	46.9	C₆₉H₁₁₄N₁₆O₁₉	3.05	284.1522, 355.1979, 454.2668, Ac-Aib-Ala-Aib-Ala-Vxx-Gln-Aib-Lxx-Aib-Ala-Aib-Aib-Aib-Glu-Pheol 582.3385, 667.3755, 780.4692, 865.5148, 936.5466, 1021.6040, 1106.6511, 1191.7112, 1320.7664, 1471.8489
27	1485.8639	46.9	C₇₀H₁₁₆N₁₆O₁₉	-2.75	284.1630, 355.1991, 454.2704, Ac-Aib-Ala-Aib-Ala-Vxx-Gln-Vxx-Vxx-Aib-Ala-Aib-Aib-Aib-Gln-Pheol 582.3242, 681.3919, 794.4776, 879.5294, 950.5666, 1035.6229, 1120.6690, 1205.7367, 1334.7902, 1485.8585

Figure S3: Total ion chromatogram of the annotated compounds. Numbers indicate compounds annotated in ascending order of retention time (RT).

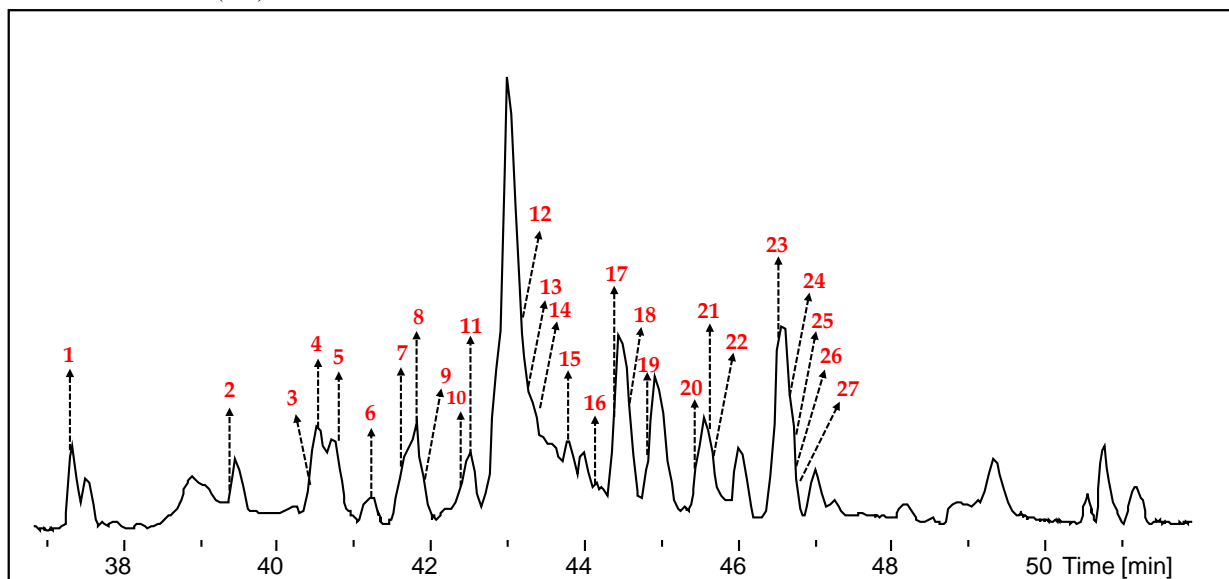


Figure S4. Mirror match of peptaibol harzianin HC XIII (black color spectrum), annotated by means of similarity with the MS/MS spectrum present in the GNPS spectral library (green color spectrum).

Top: mzspect:GNPS:TASK-e55a2b672d394d4d829f27a1a8d338d9-spectra/specs_ms.mgf:scan:2687
Precursor m/z : 1445.8929 Charge: 0

Bottom: mzspect:GNPS:GNPS-LIBRARY:accession:CCMSLIB00000577850
Precursor m/z : 1444.9100 Charge: 1

Cosine similarity = 0.4190

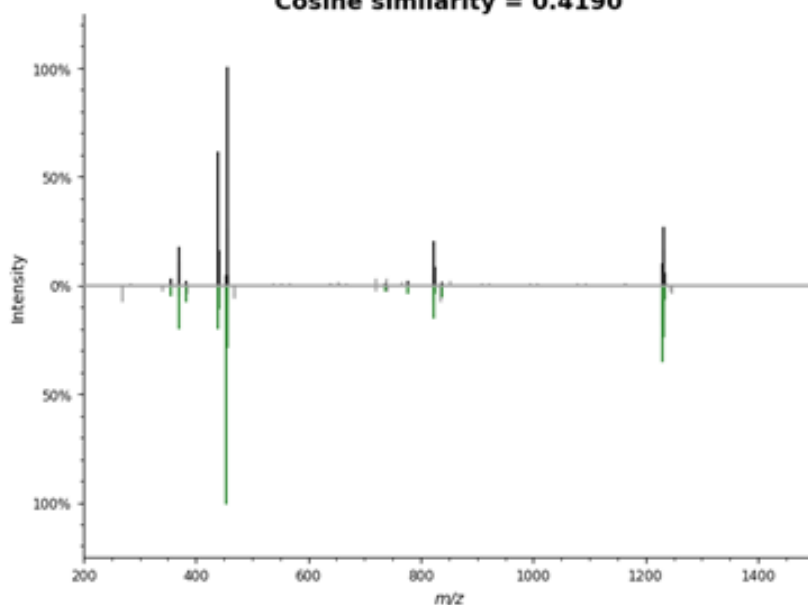


Figure S5: MS (A) and MS/MS (B) spectra of compound 4.

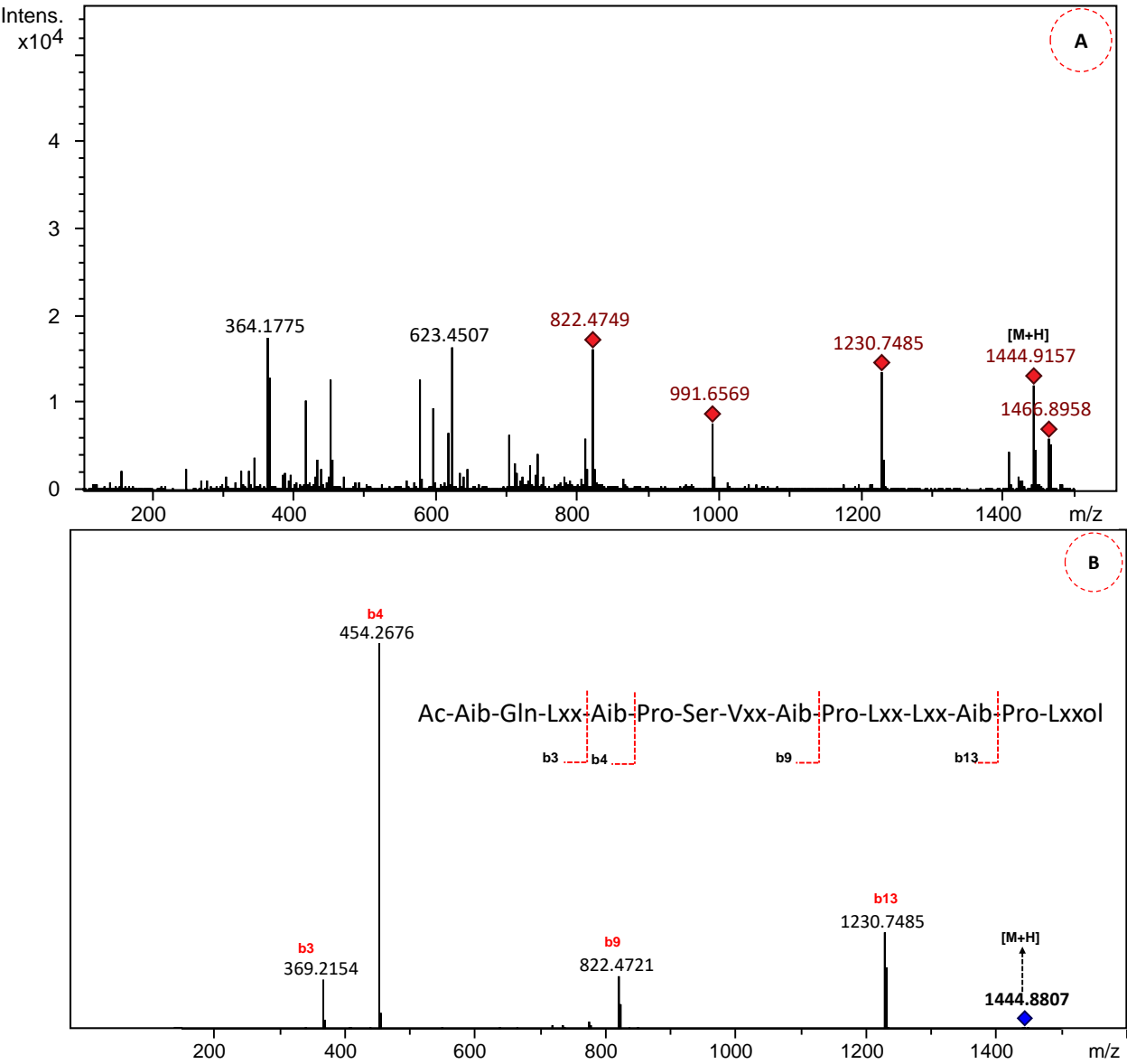


Figure S6: MS (A) and MS/MS (B) spectra of compound 13.

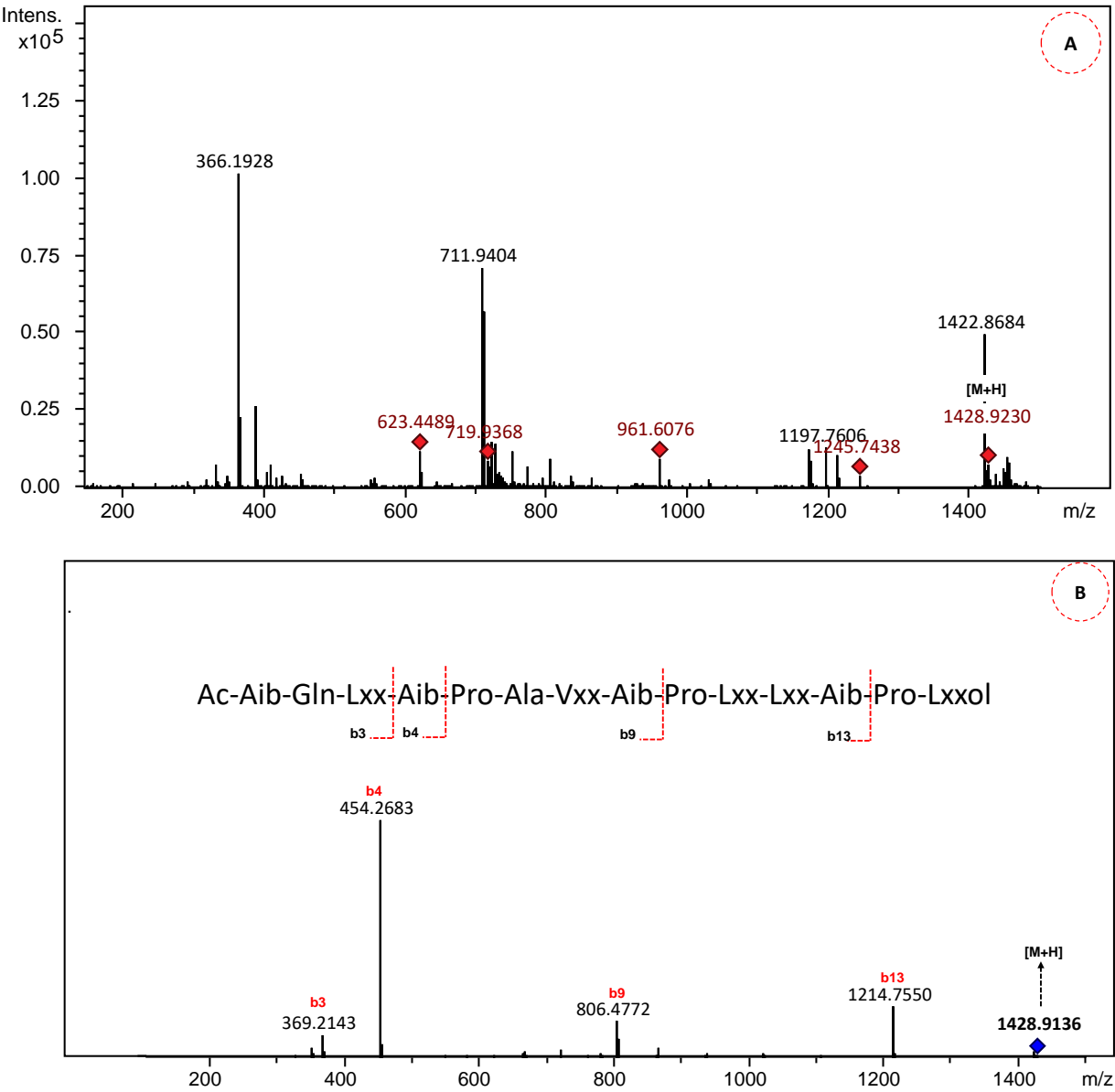


Figure S7: MS (A) and MS/MS (B) spectra of compound 9.

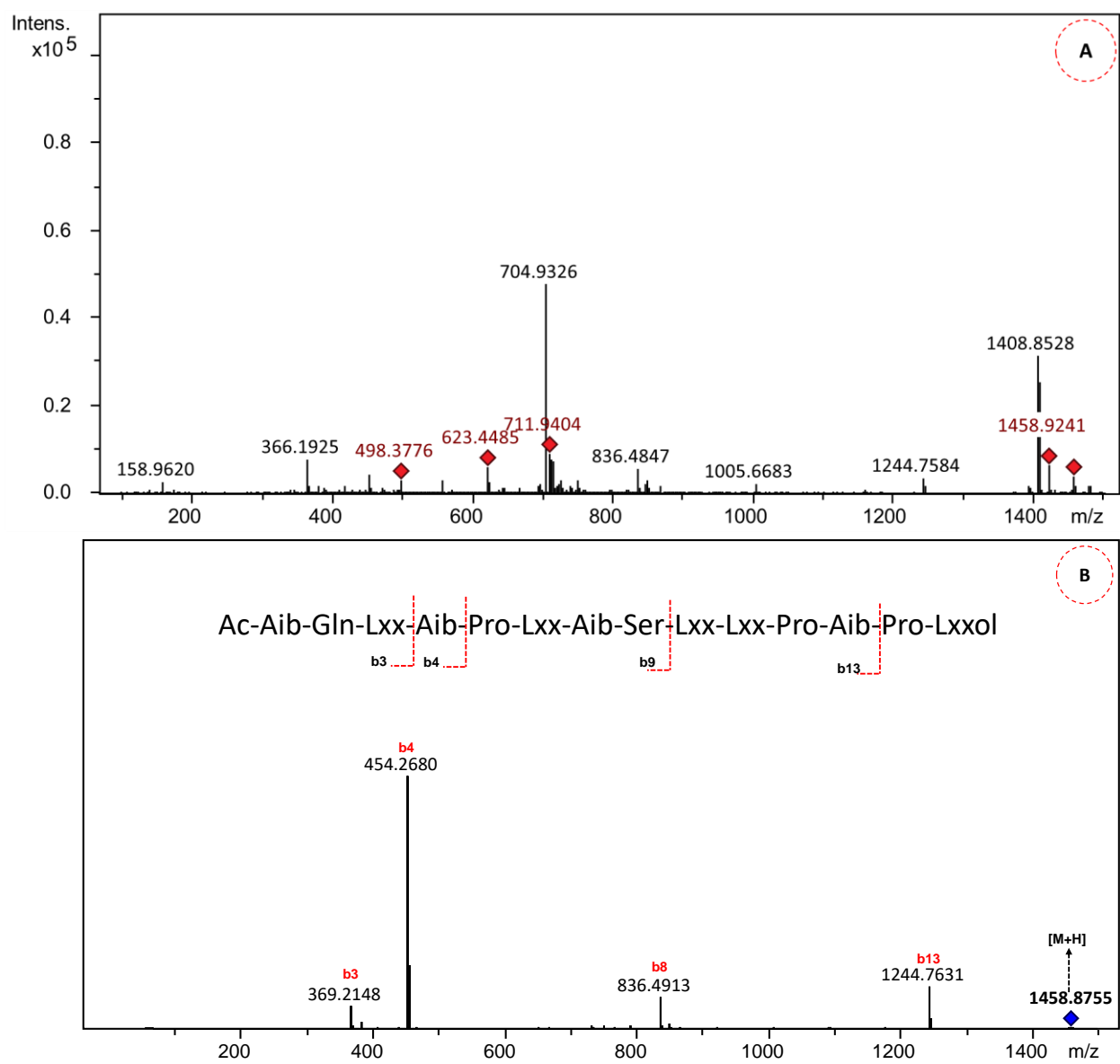


Figure S8: MS (A) and MS/MS (B) spectra of compound 3.

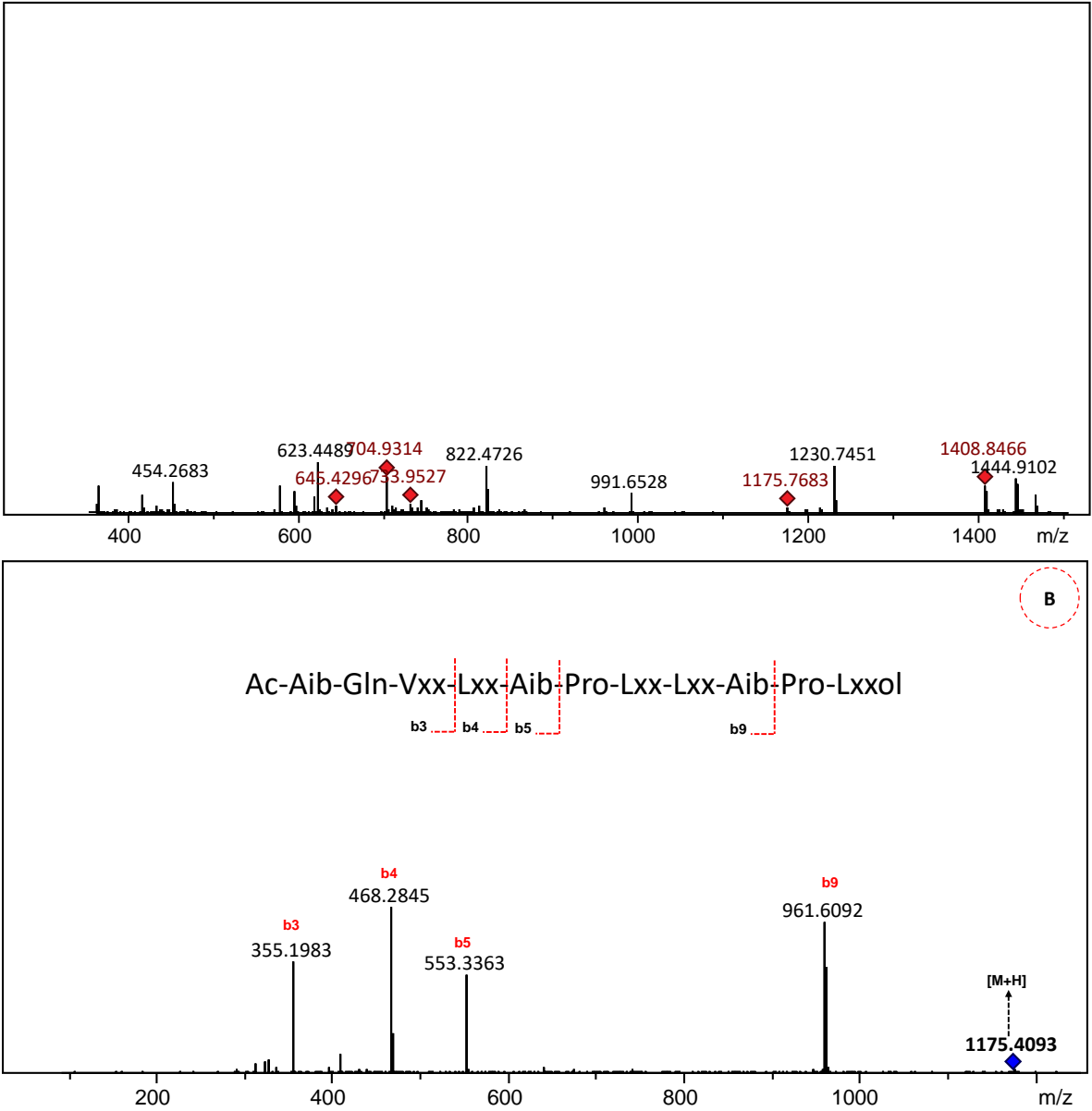


Figure S9: MS (A) and MS/MS (B) spectra of compound 16.

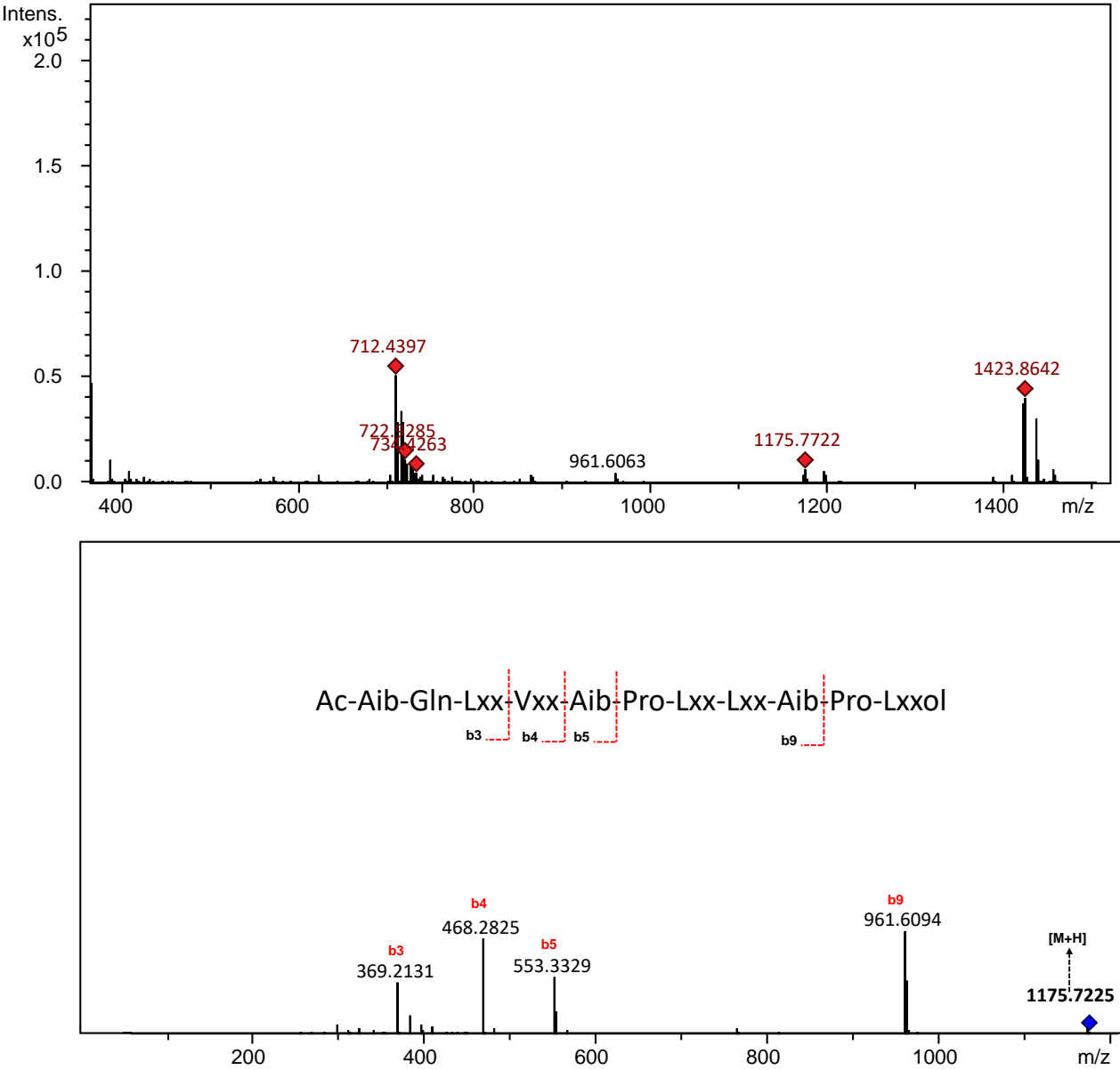


Figure S10: MS (A) and MS/MS (B) spectra of compound 21.

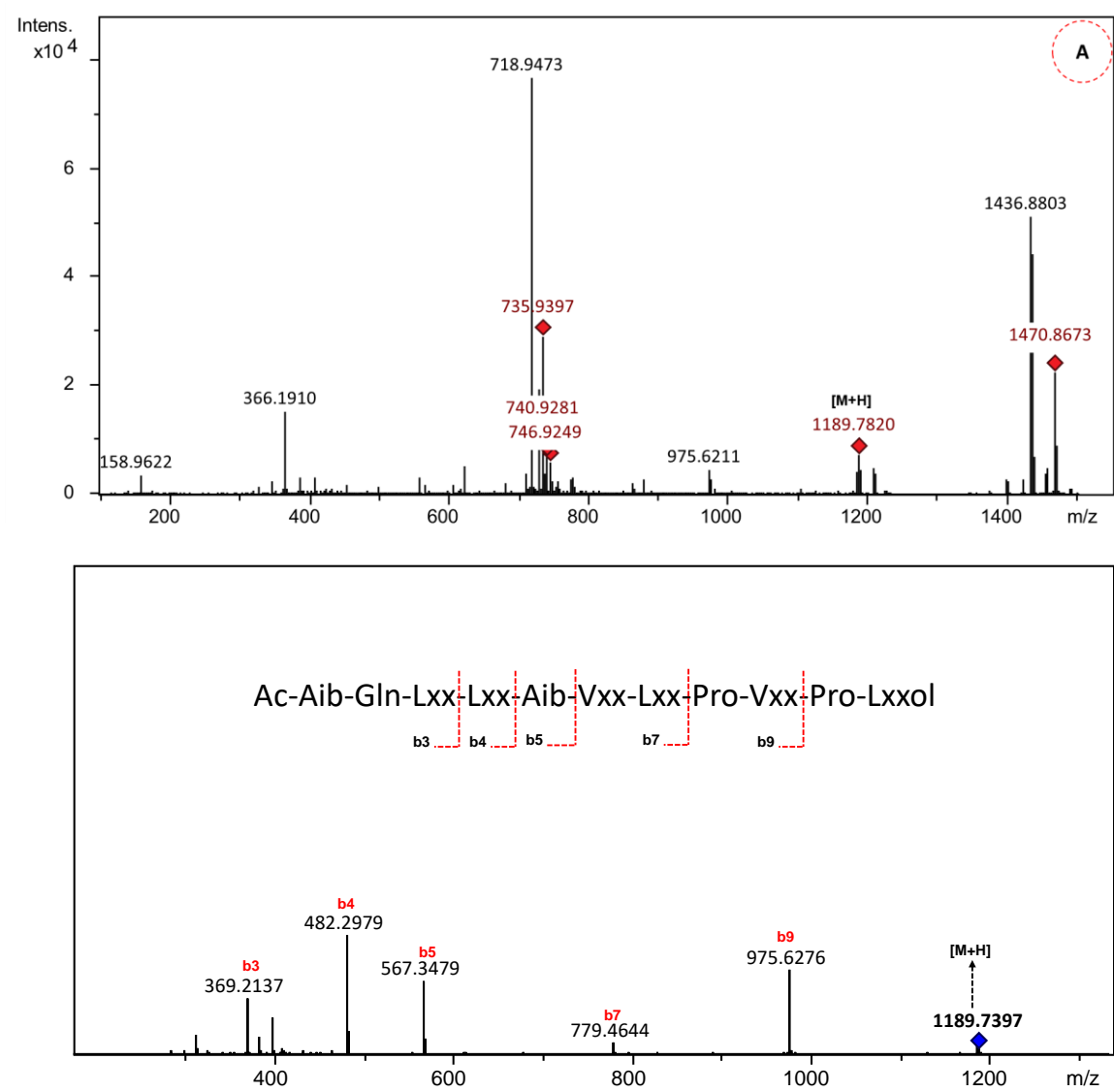


Figure S11: MS (A) and MS/MS (B) spectra of endophytin A1.

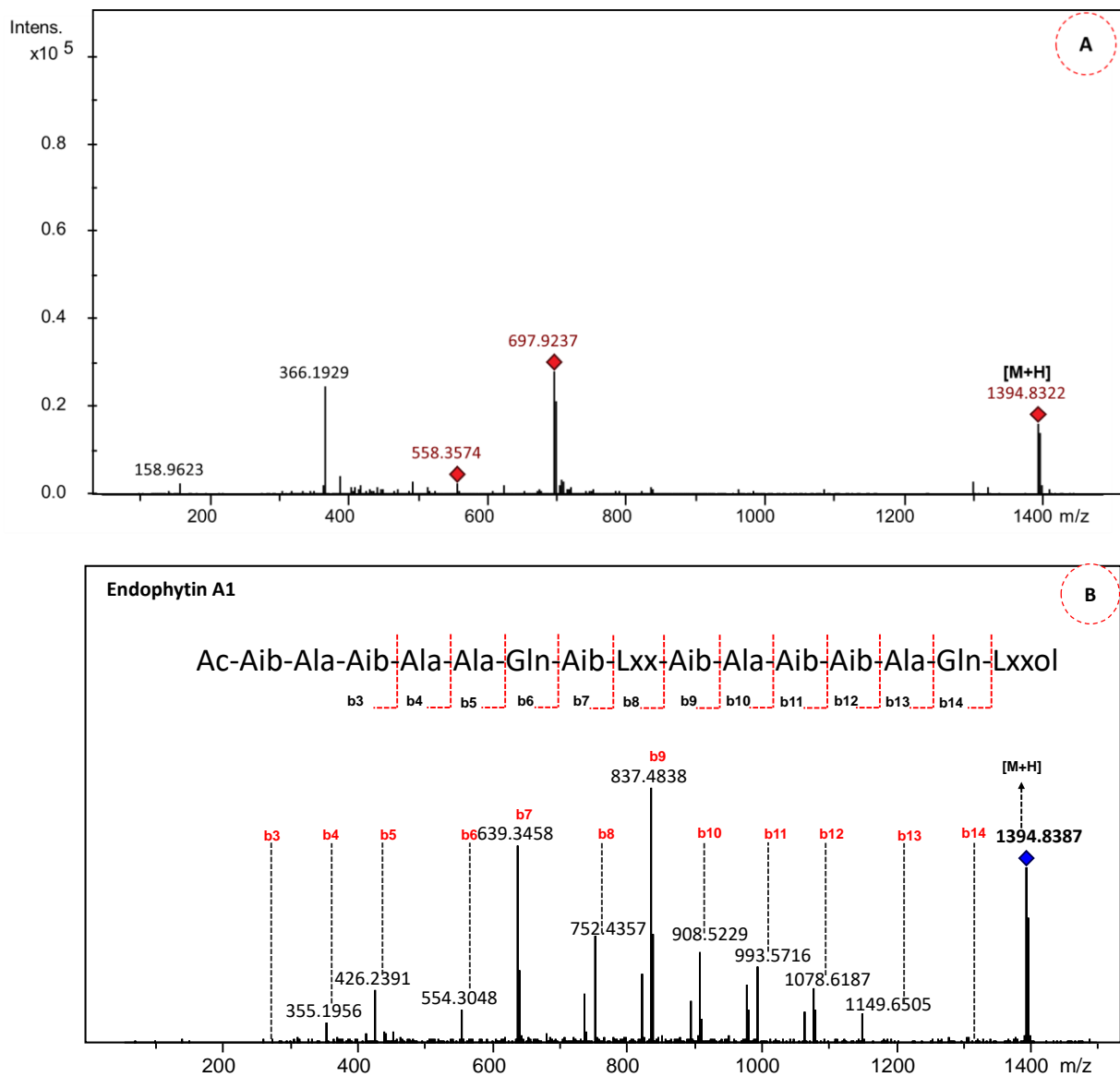


Figure S12: MS (A) and MS/MS (B) spectra of endophytin A3.

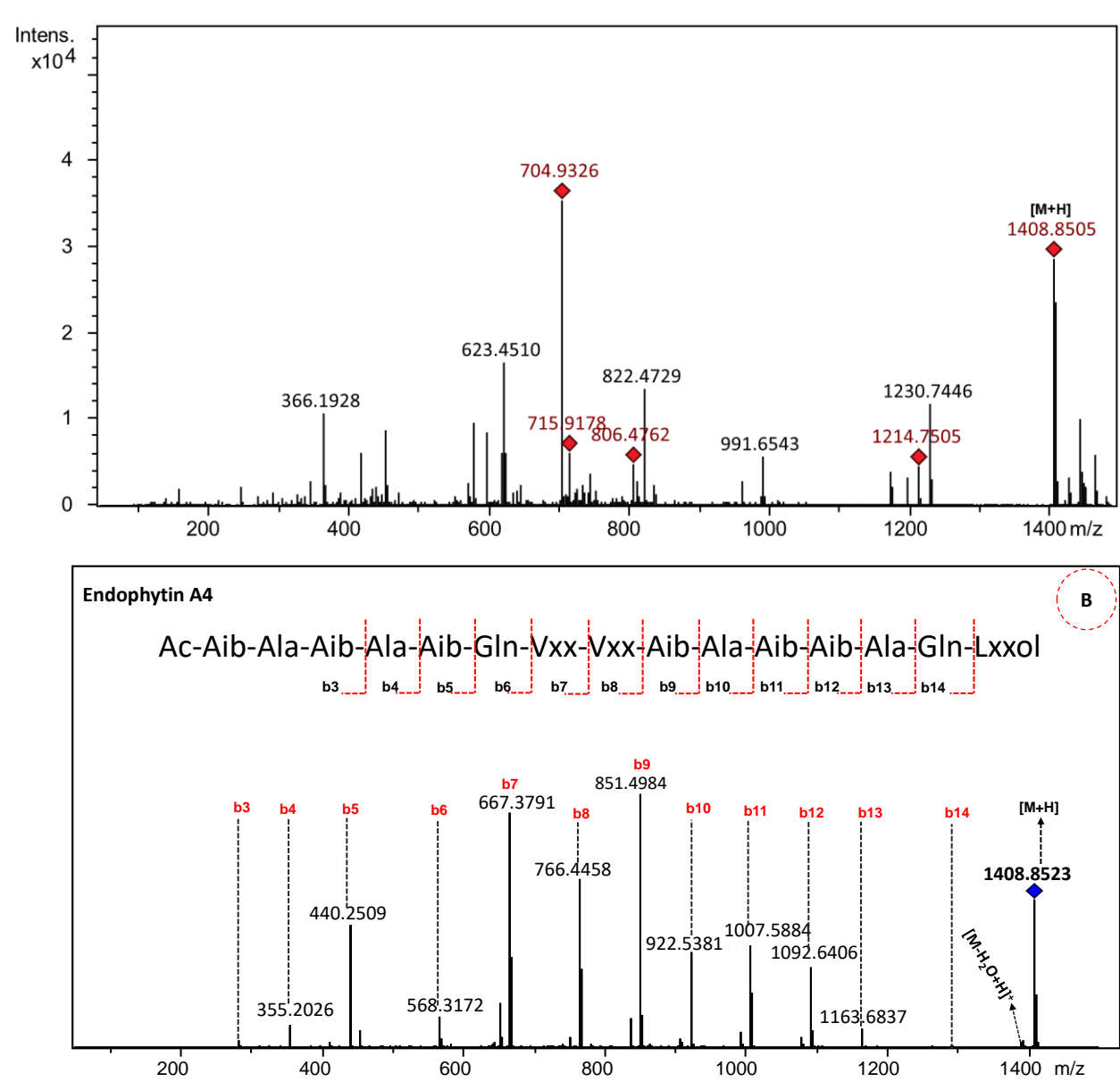


Figure S13: MS (A) and MS/MS (B) spectra of endophytin A4.

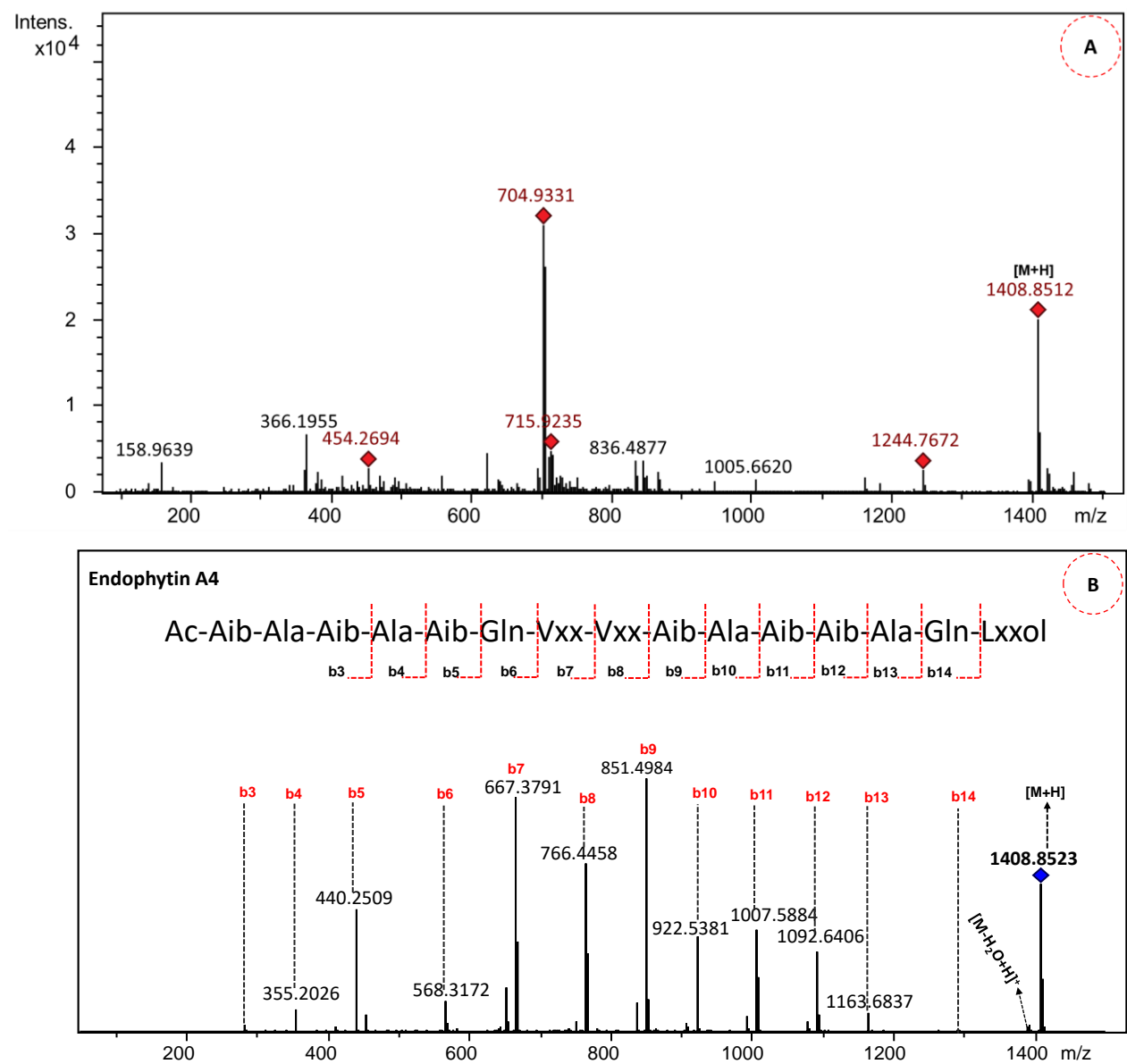


Figure S14: MS (A) and MS/MS (B) spectra of **endophytin A5**.

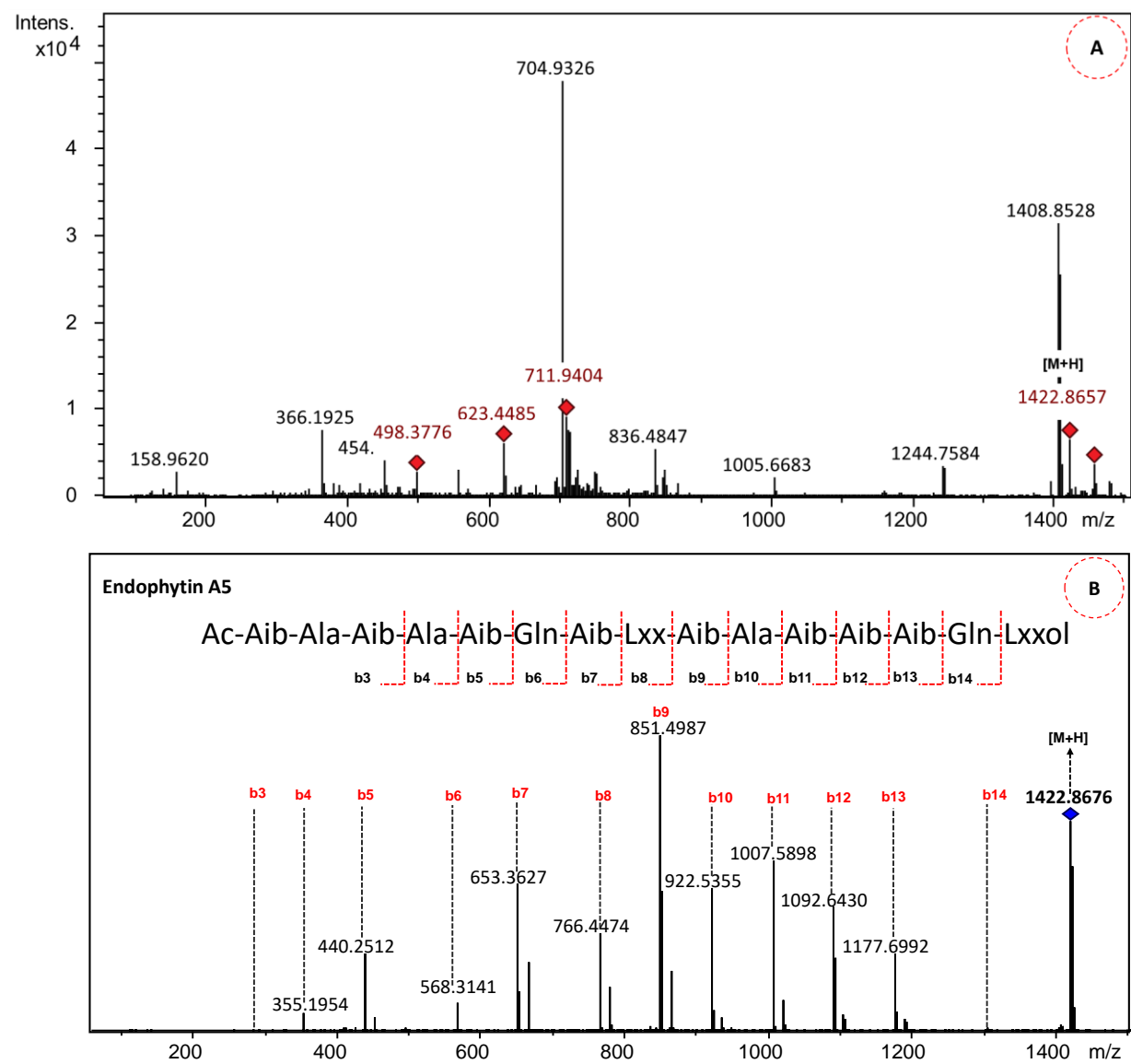


Figure S15: MS (A) and MS/MS (B) spectra of **endophytin A6**.

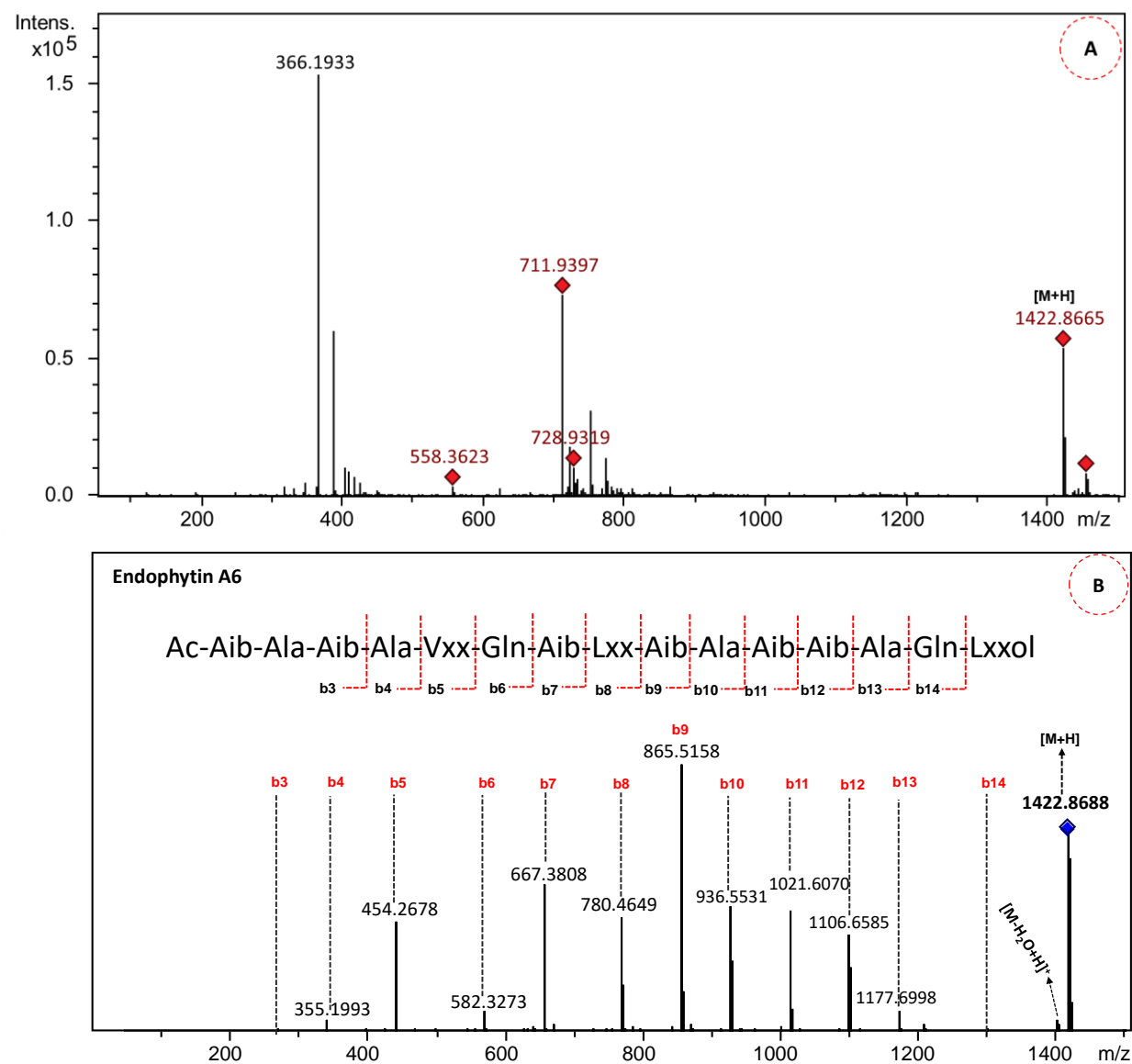


Figure S16: MS (A) and MS/MS (B) spectra of **endophytin A7**.

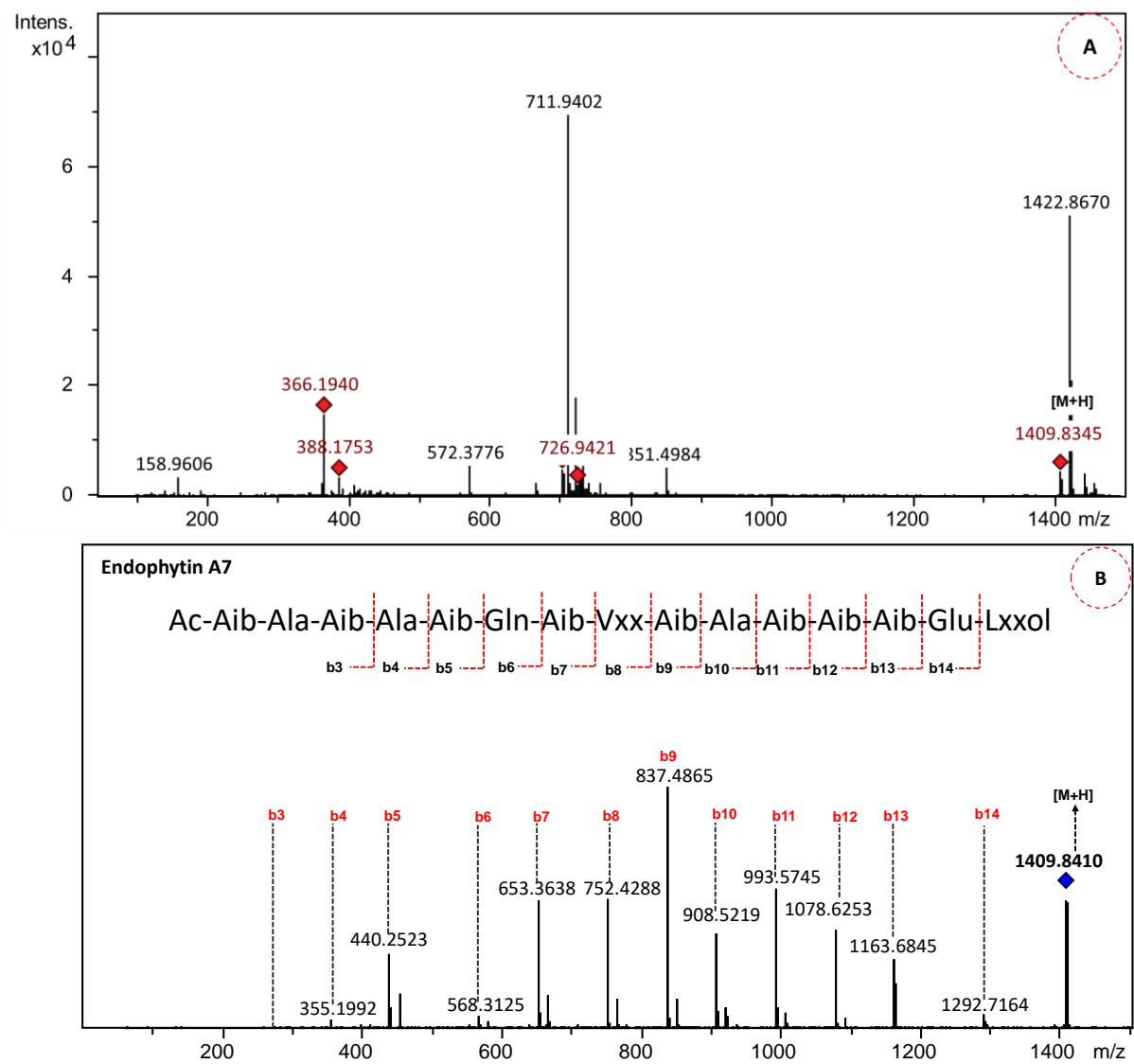


Figure S17: MS (A) and MS/MS (B) spectra of endophytin A8.

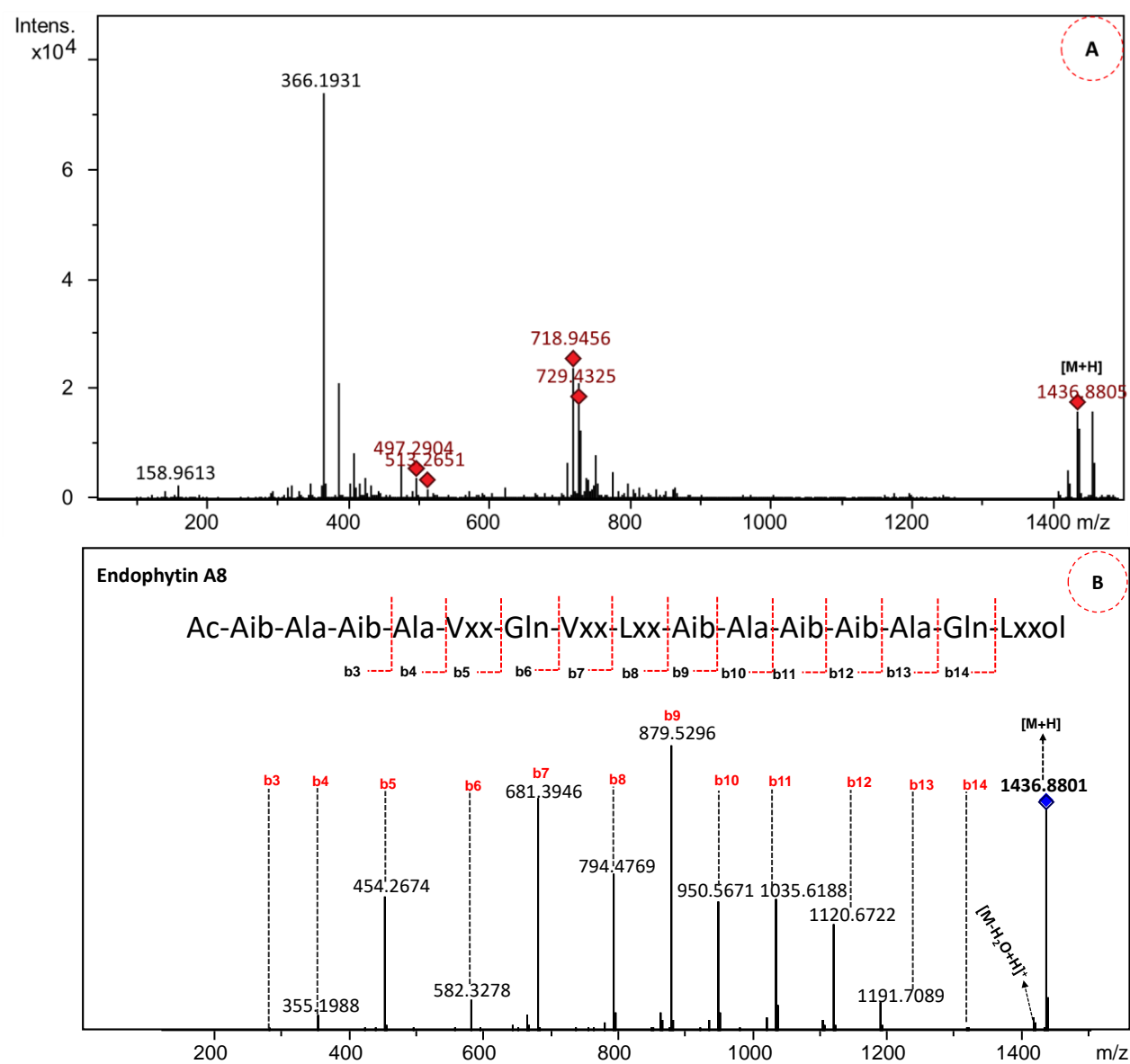


Figure S18: MS (A) and MS/MS (B) spectra of endophytin A9.

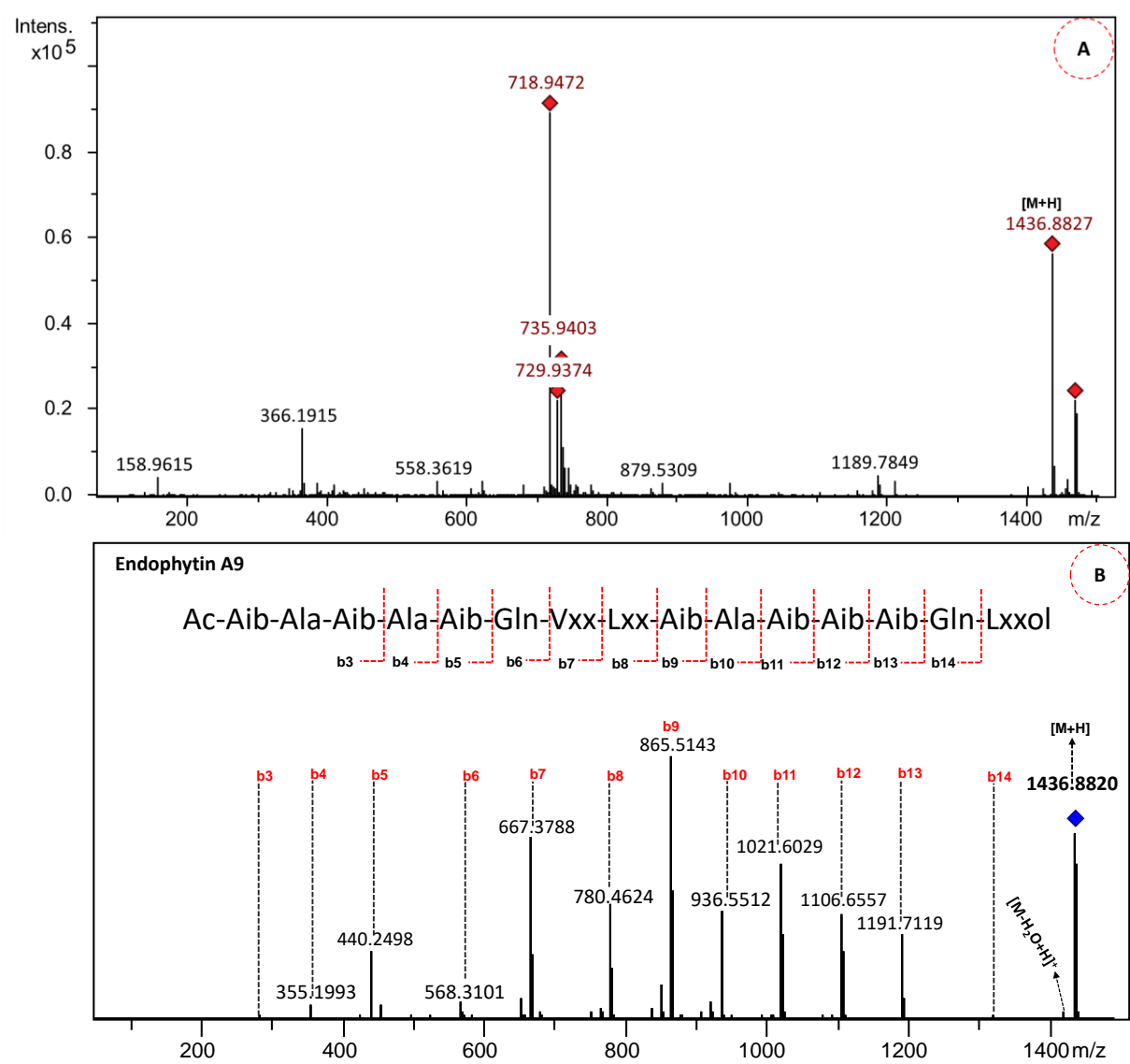


Figure S19: MS (A) and MS/MS (B) spectra of endophytin A10.

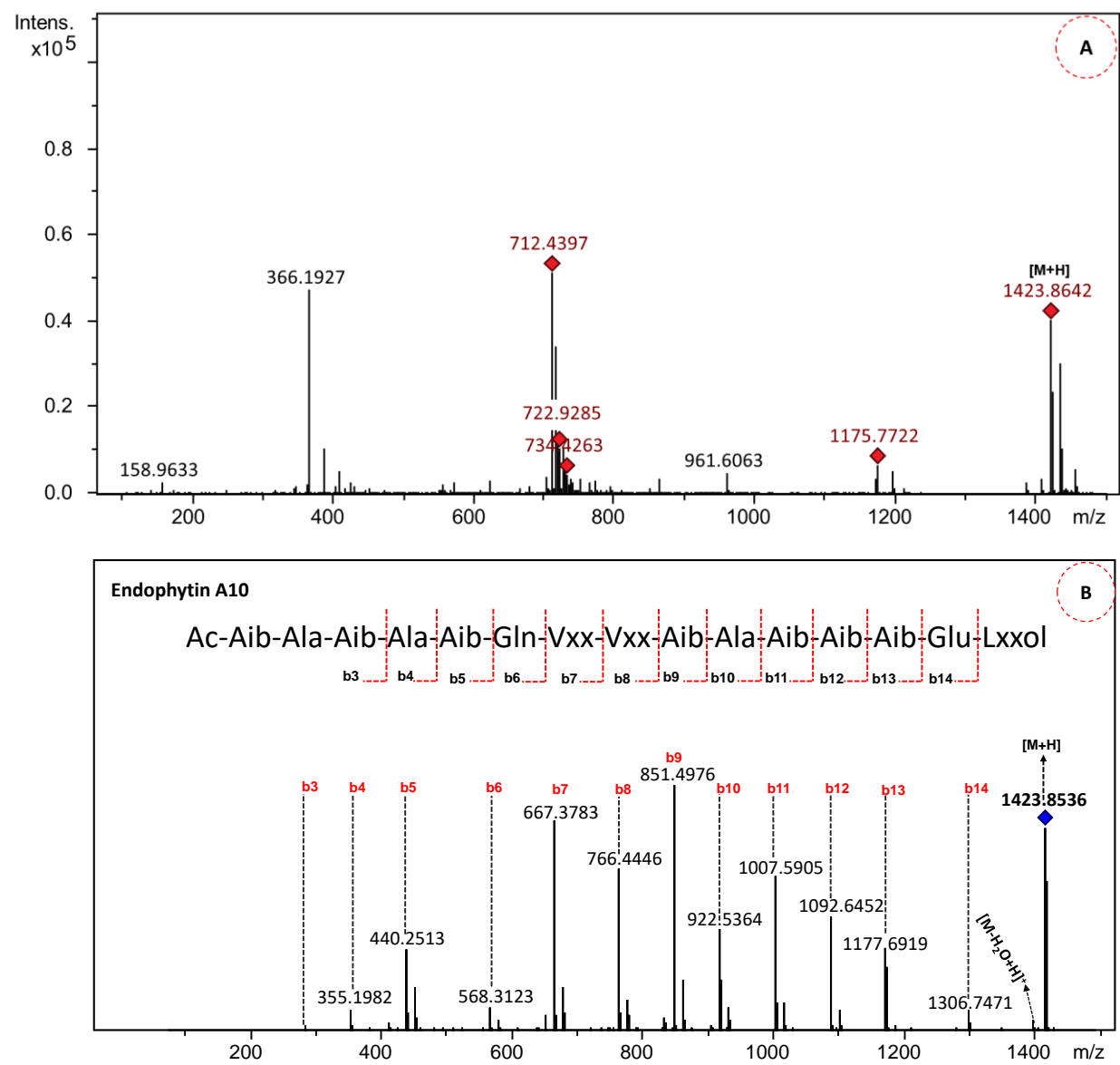


Figure S20: MS (A) and MS/MS (B) spectra of endophytin A11.

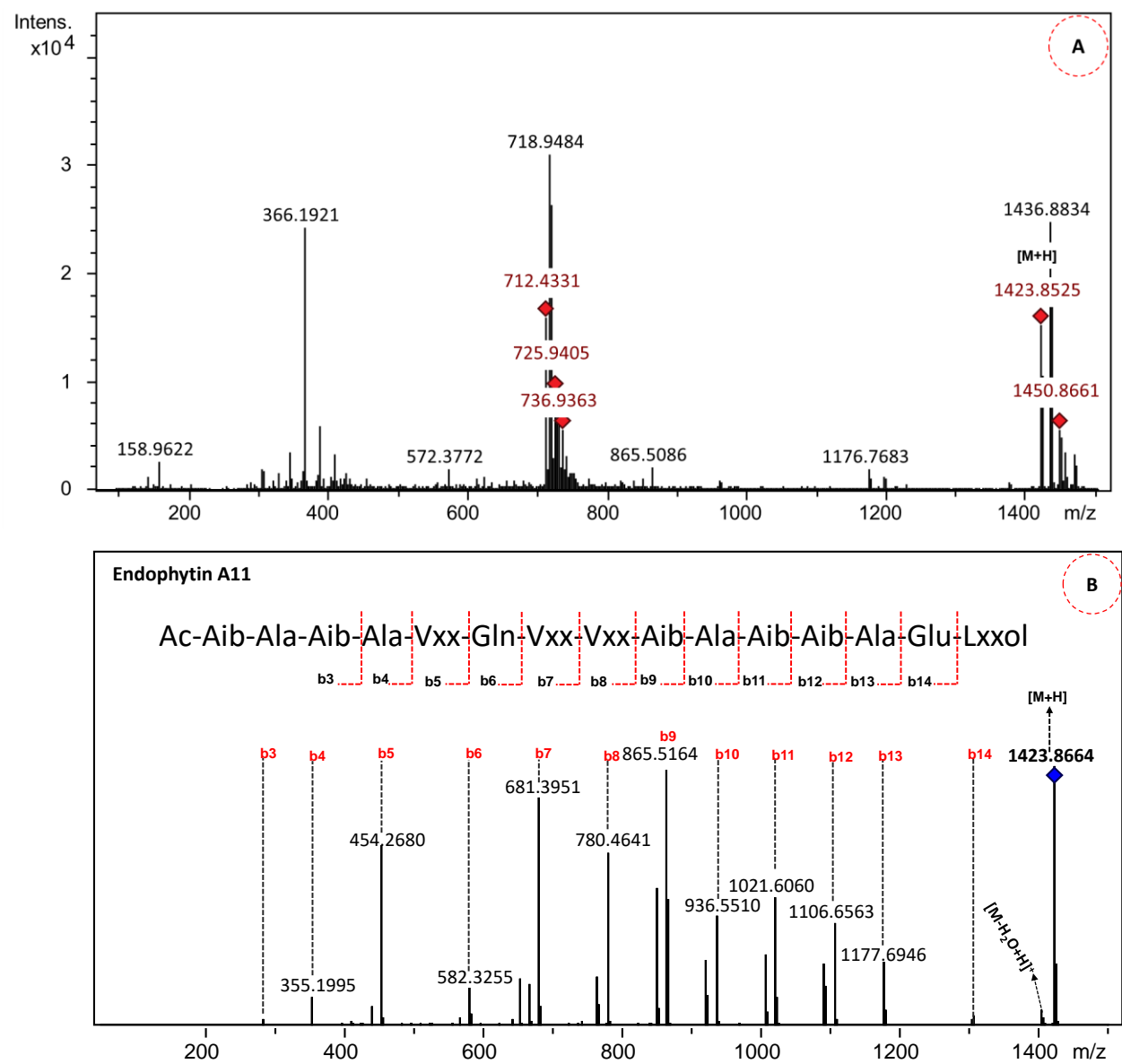


Figure S21: MS (A) and MS/MS (B) spectra of endophytin A12.

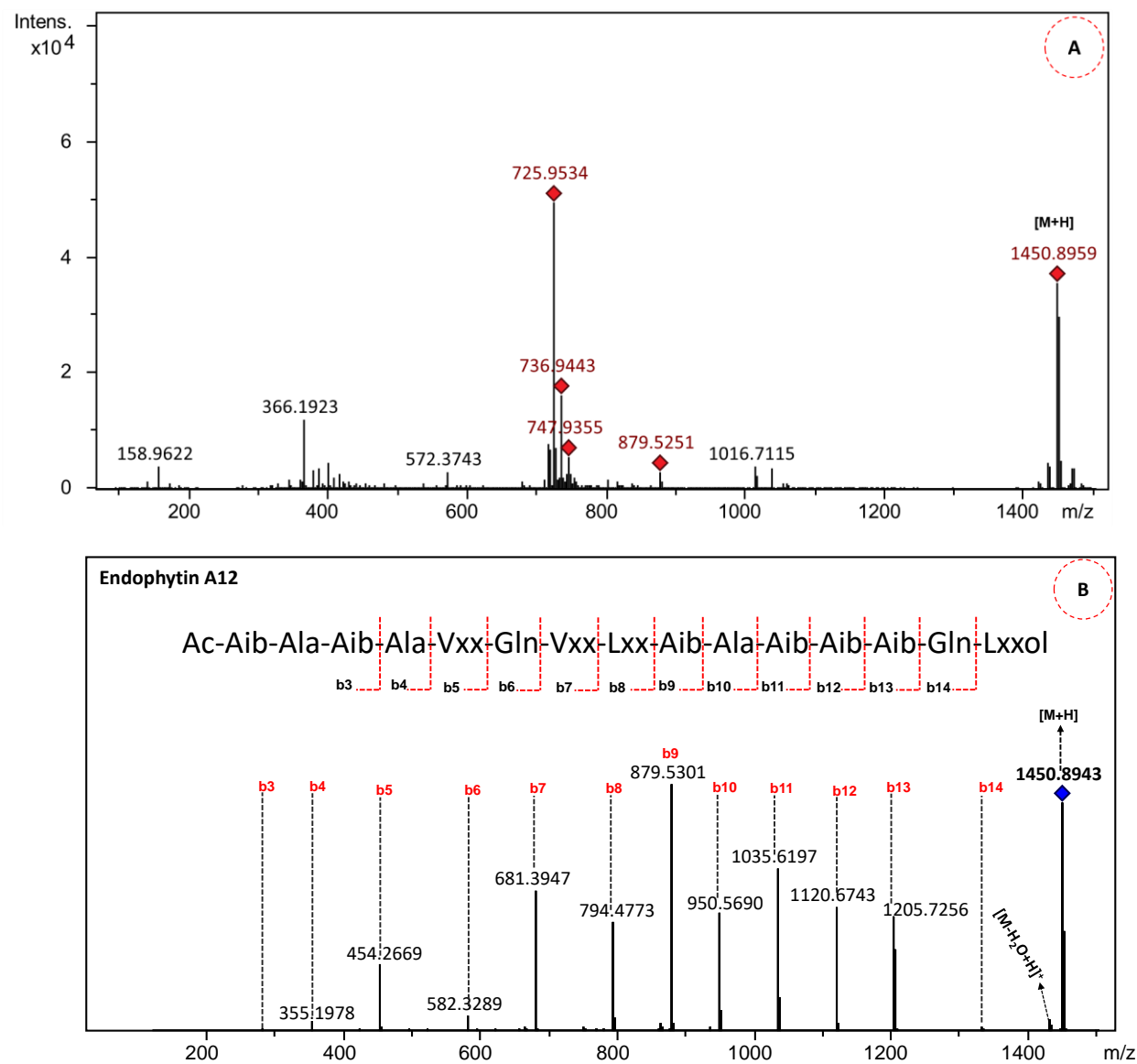


Figure S22: MS (A) and MS/MS (B) spectra of **endophytin A13**.

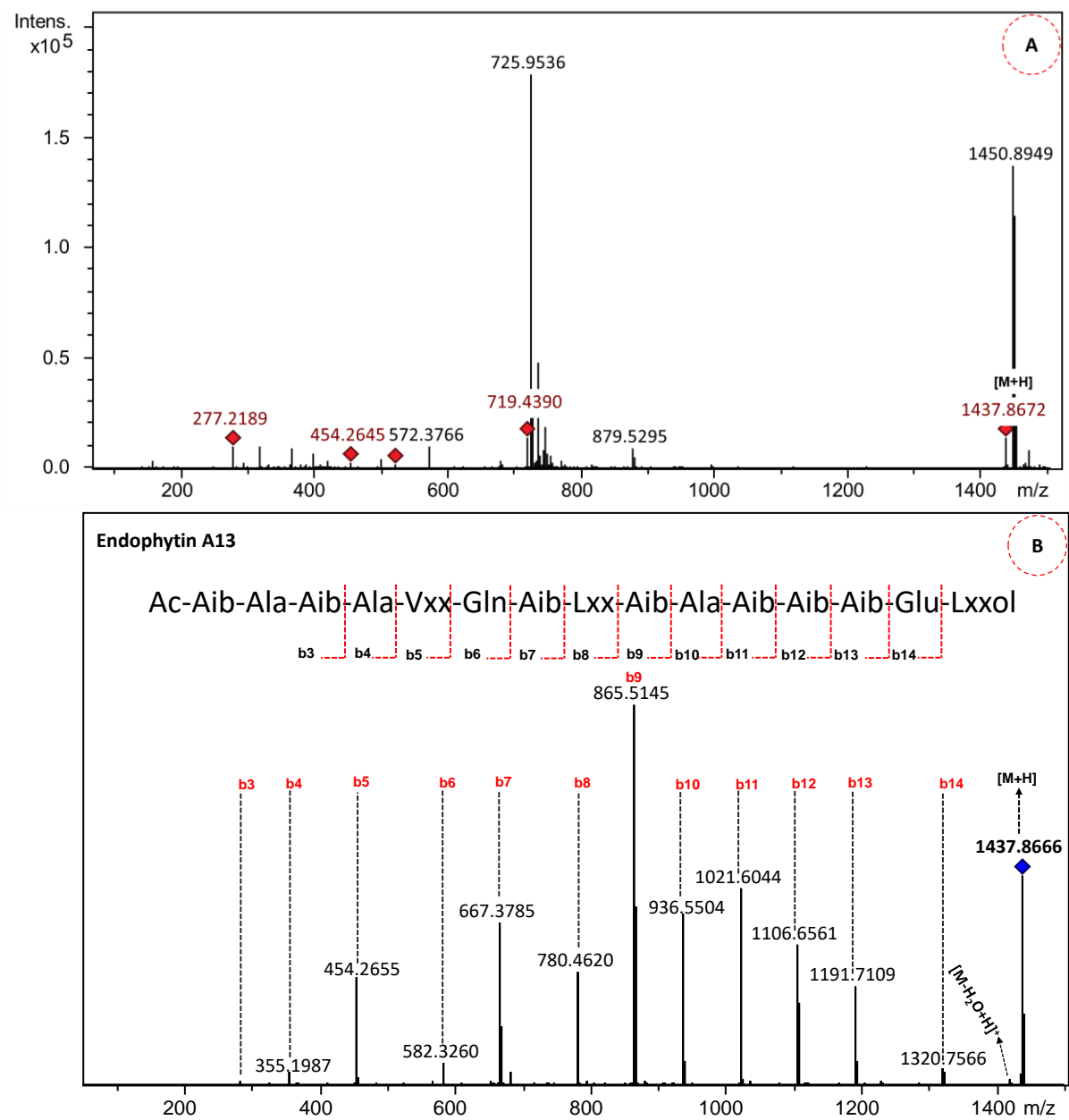


Figure S23: MS (A) and MS/MS (B) spectra of endophytin B1.

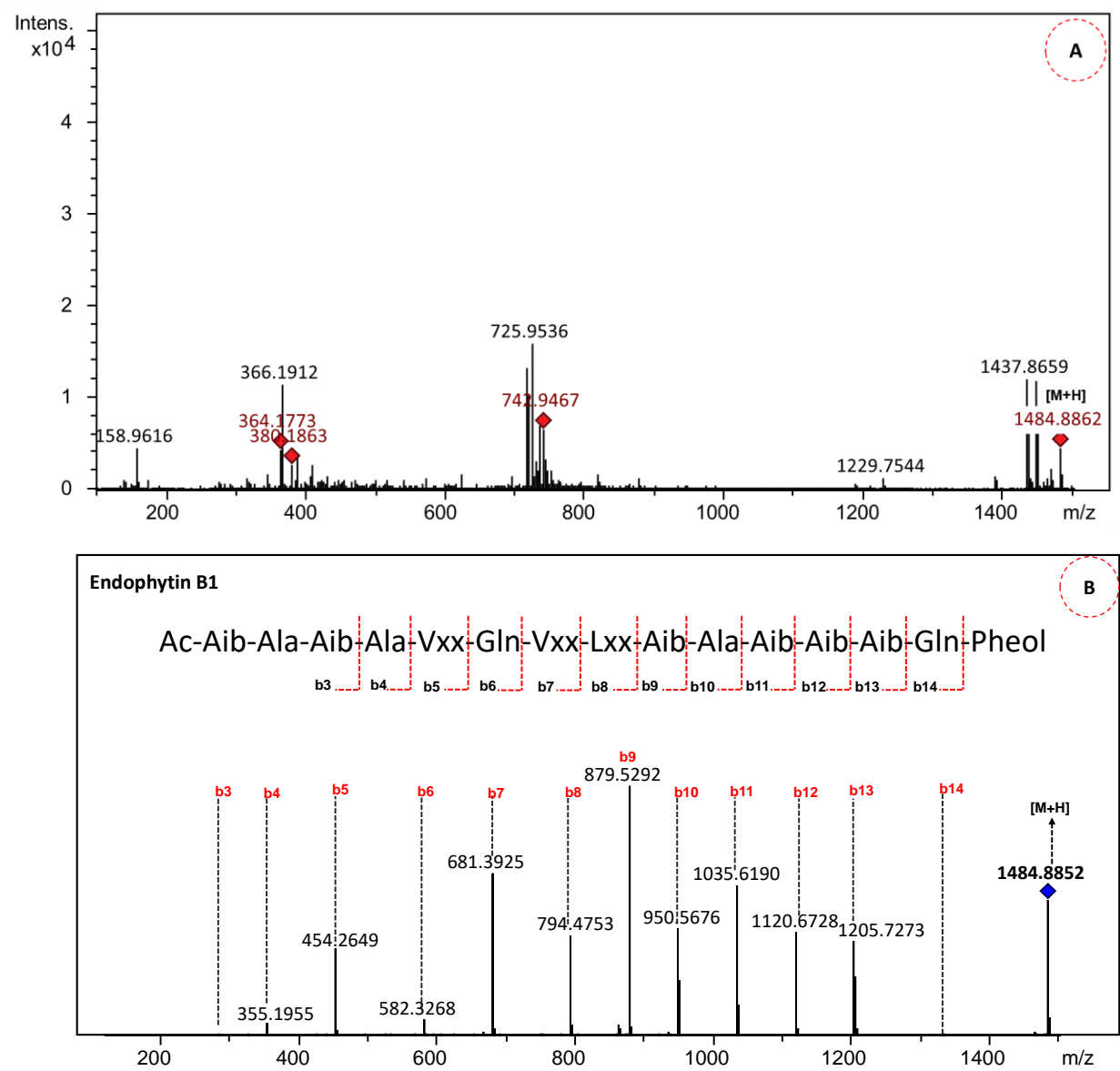


Figure S24: MS (A) and MS/MS (B) spectra of **endophytin B2**.

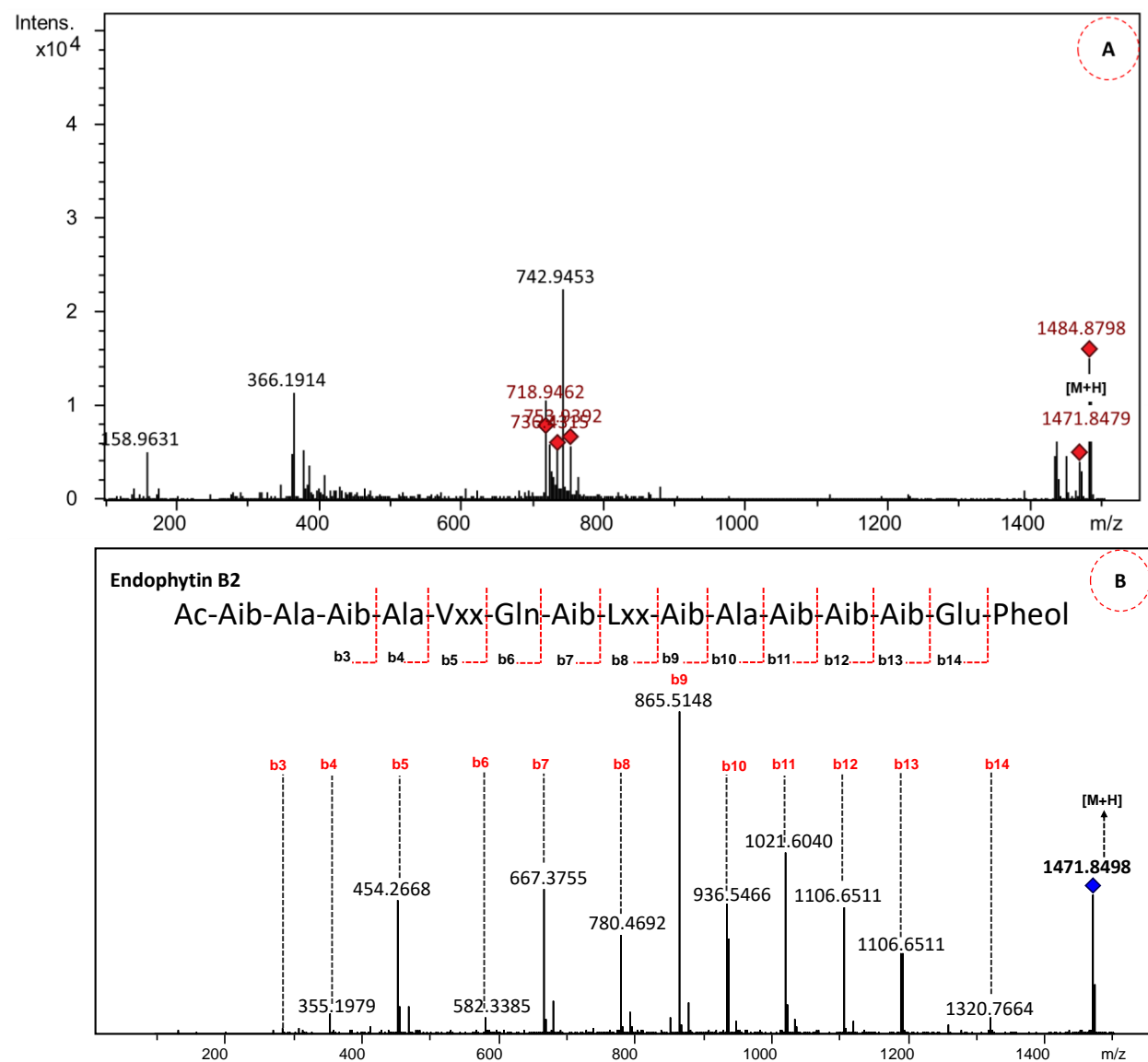


Figure S25: MS (A) and MS/MS (B) spectra of endophytin B3.

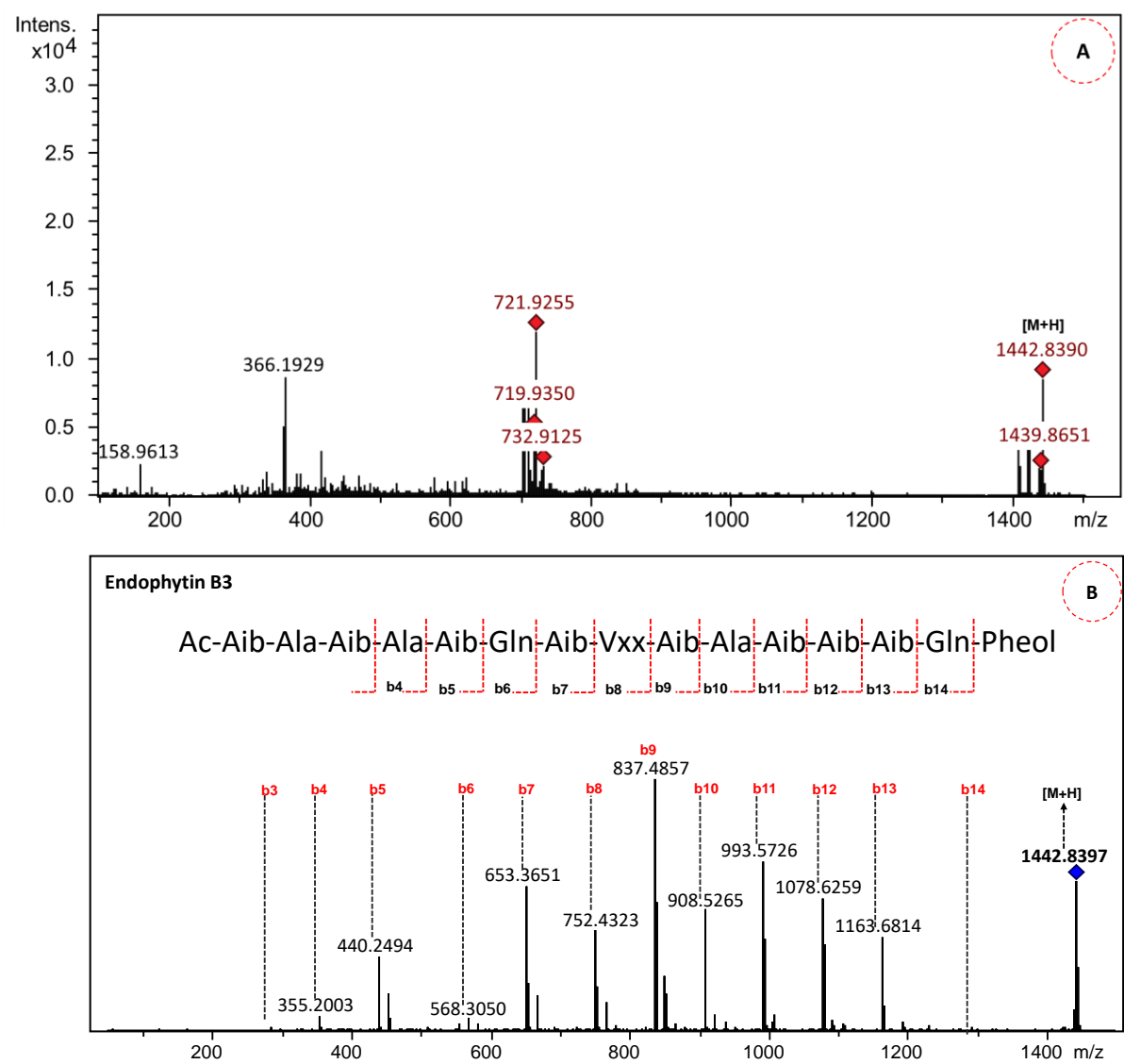


Figure S26: MS (A) and MS/MS (B) spectra of **endophytin B4**.

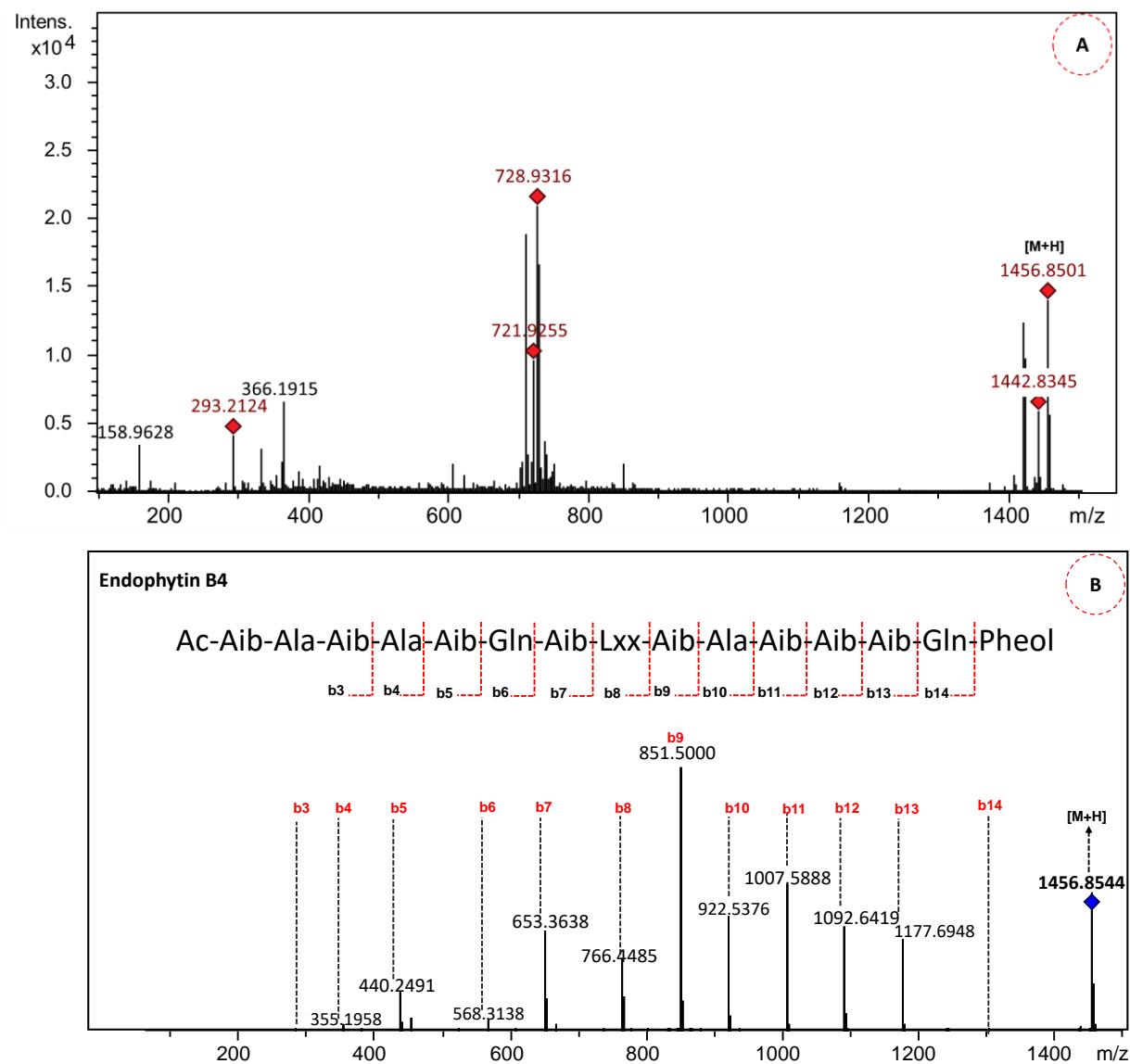


Figure S27: MS (A) and MS/MS (B) spectra of endophytin B5.

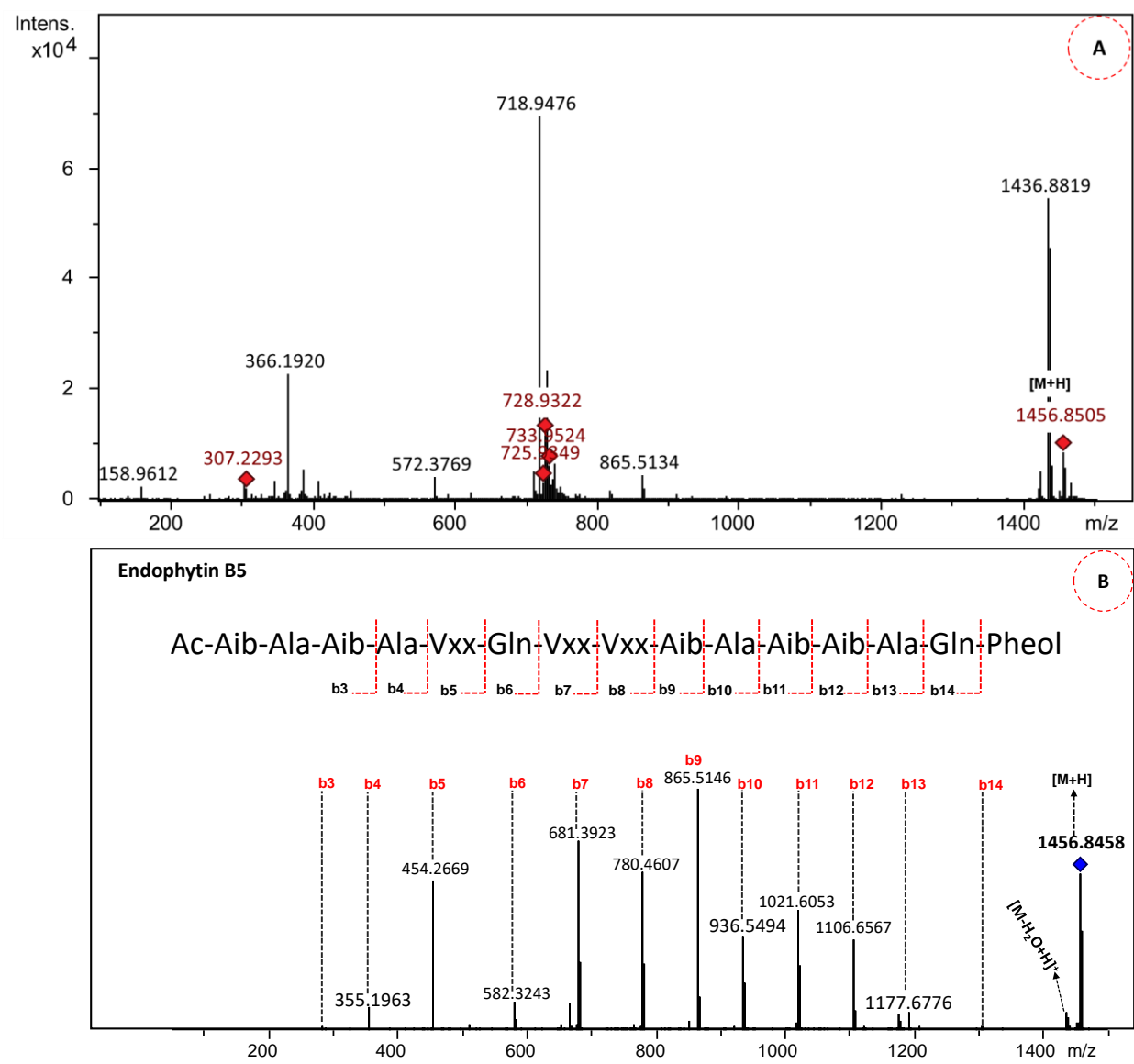


Figure S28: MS (A) and MS/MS (B) spectra of endophytin B6.

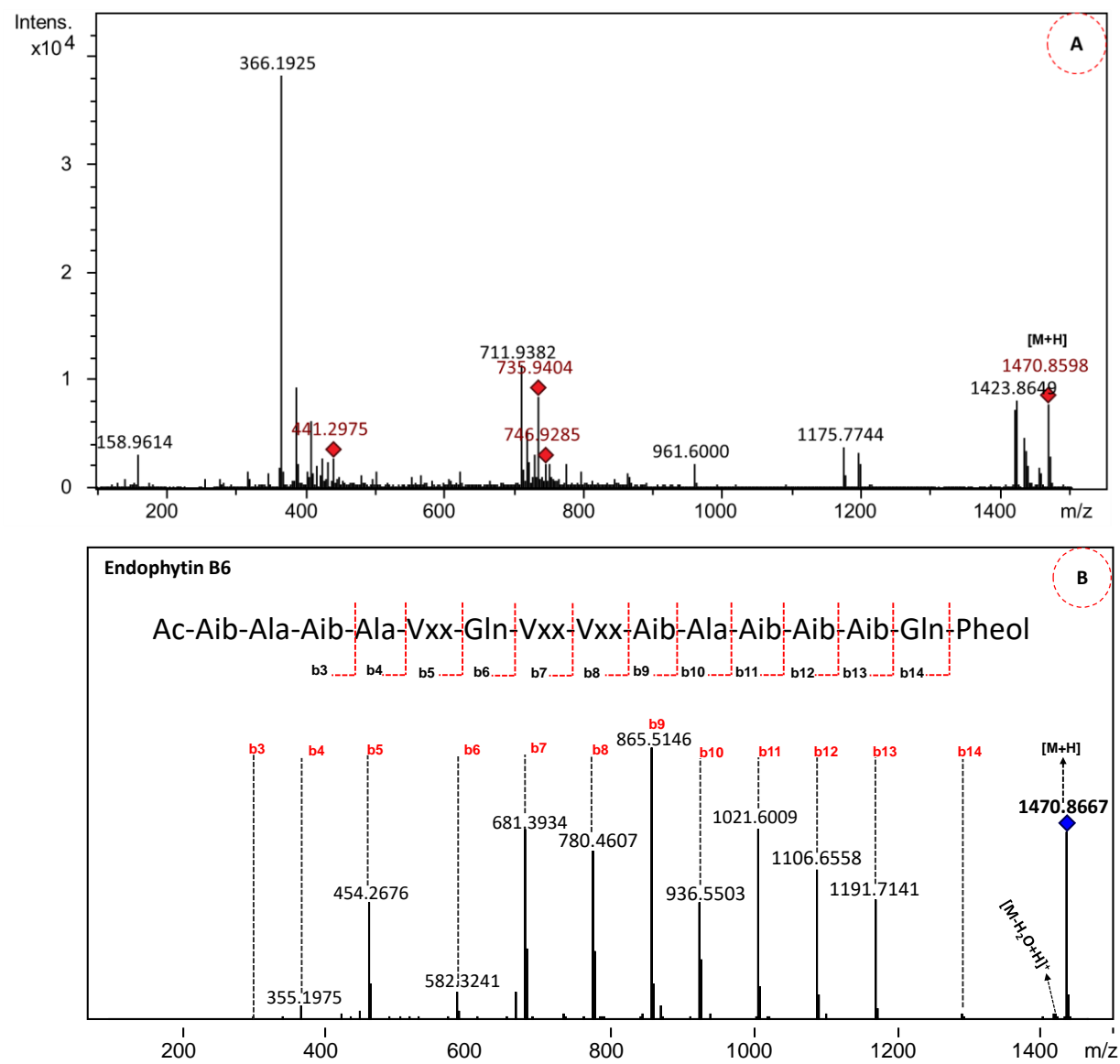


Figure S29: MS (A) and MS/MS (B) spectra of endophytin B7.

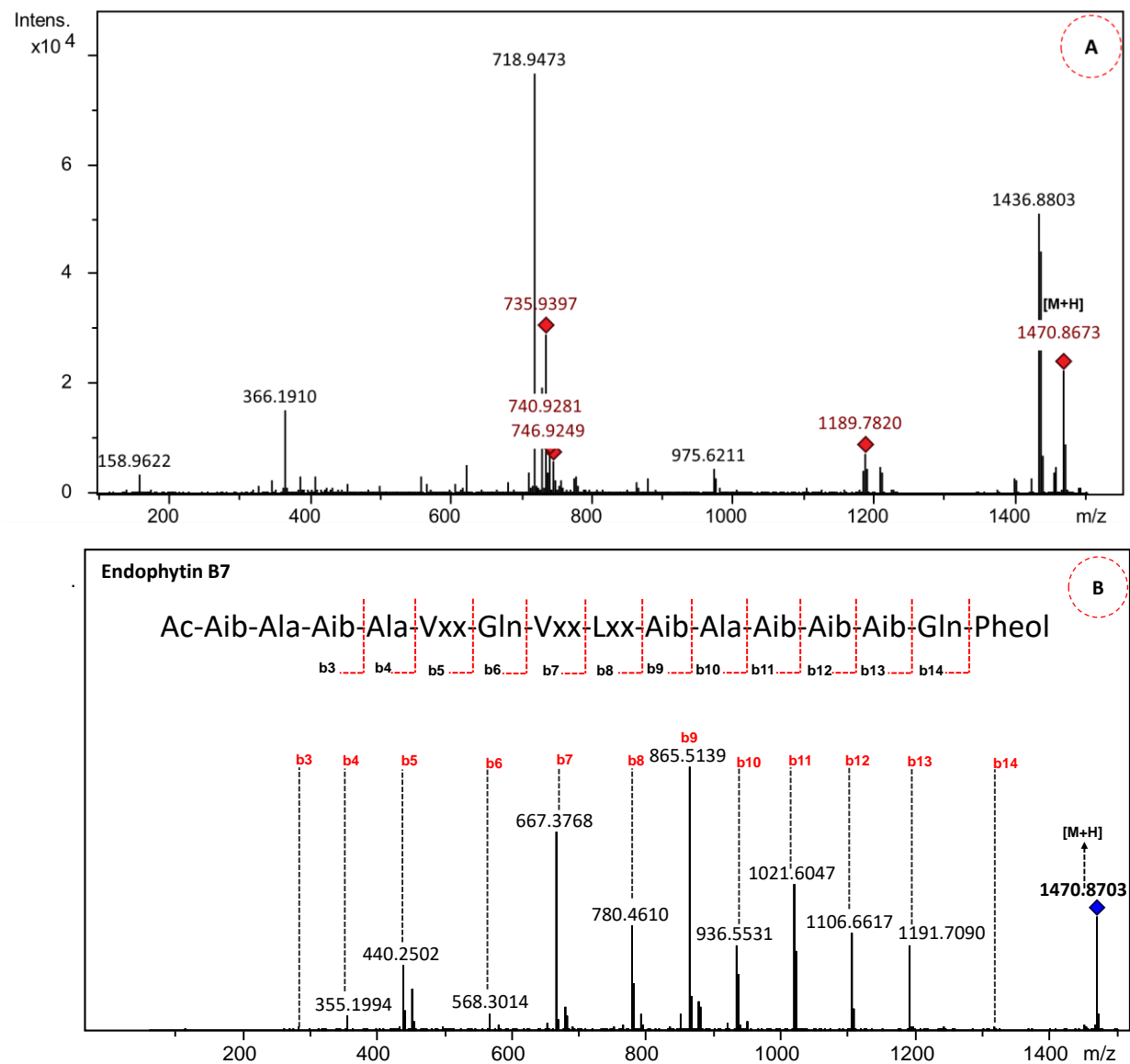


Figure S30: MS (A) and MS/MS (B) spectra of endophytin B8.

