

***Viola “inconspicua”* No More: An Analysis of Antibacterial Cyclotides**

Nicole C. Parsley, Patric W. Sadecki, Conrad J. Hartmann and Leslie M. Hicks

Department of Chemistry, University of North Carolina at Chapel Hill, NC, United States

Contents:

Figure S1: CID MS/MS spectra of gluC linearized cyl1 and chymotrypsin digested cyl1 fragment.

Figure S2: CID MS/MS spectra of gluC linearized cyl2 and chymotrypsin digested cyl2 fragment.

Figure S3: CID MS/MS spectra of gluC linearized cyl4 and chymotrypsin digested cyl4 fragment.

Figure S4: CID MS/MS spectra of gluC linearized cyl5 and chymotrypsin digested cyl5 fragment.

Figure S5: CID MS/MS spectra of gluC linearized cyl6 and chymotrypsin digested cyl6 fragment.

Table S1: Putative cyclotide masses identified in *V. inconspicua* reduction/alkylation LC-MS mass shift analysis.

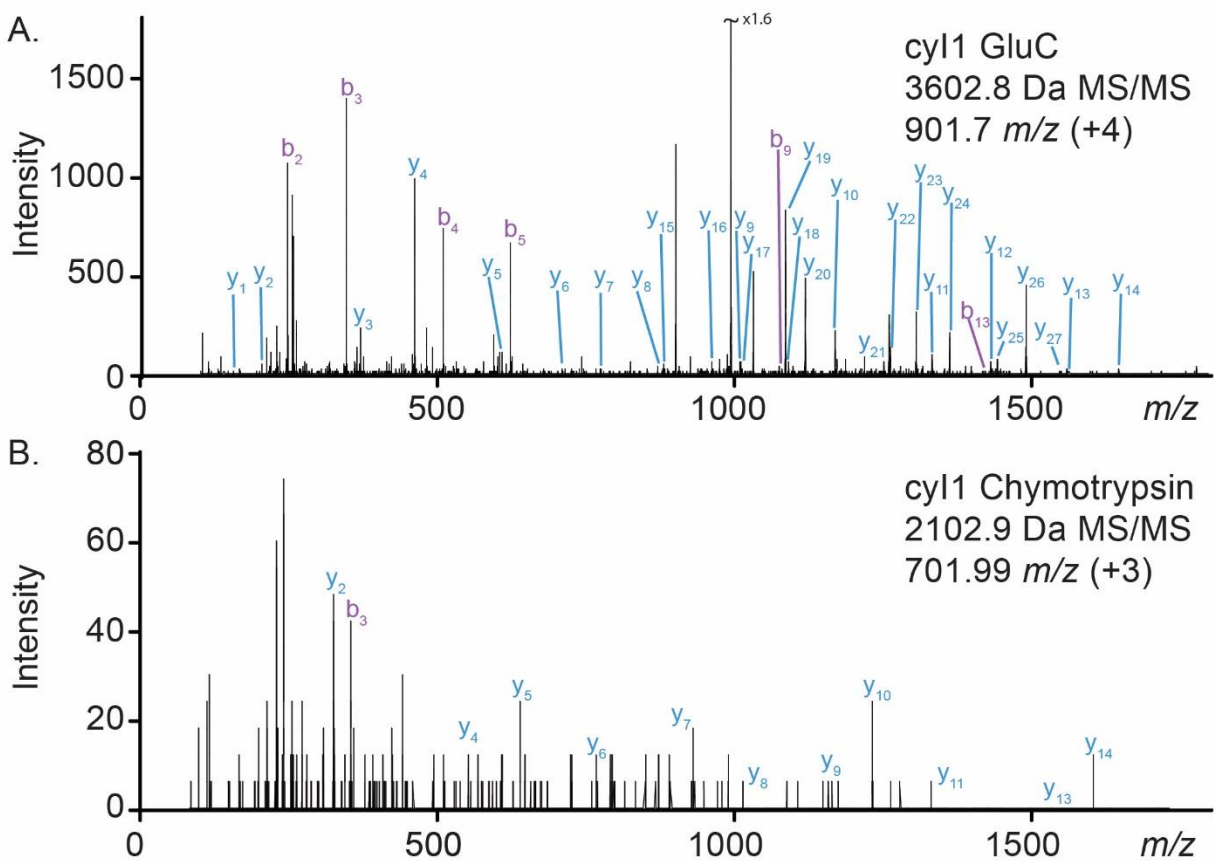


Figure S1. *V. inconspicua* cyclotide *cyl1* (3236.4 Da) CID MS/MS spectra of (A) gluC linearized *cyl1* (+4) and (B) *cyl1* chymotrypsin fragment 2102.9 Da (+3). Spectra are annotated with b (purple) and y (blue) ion series.

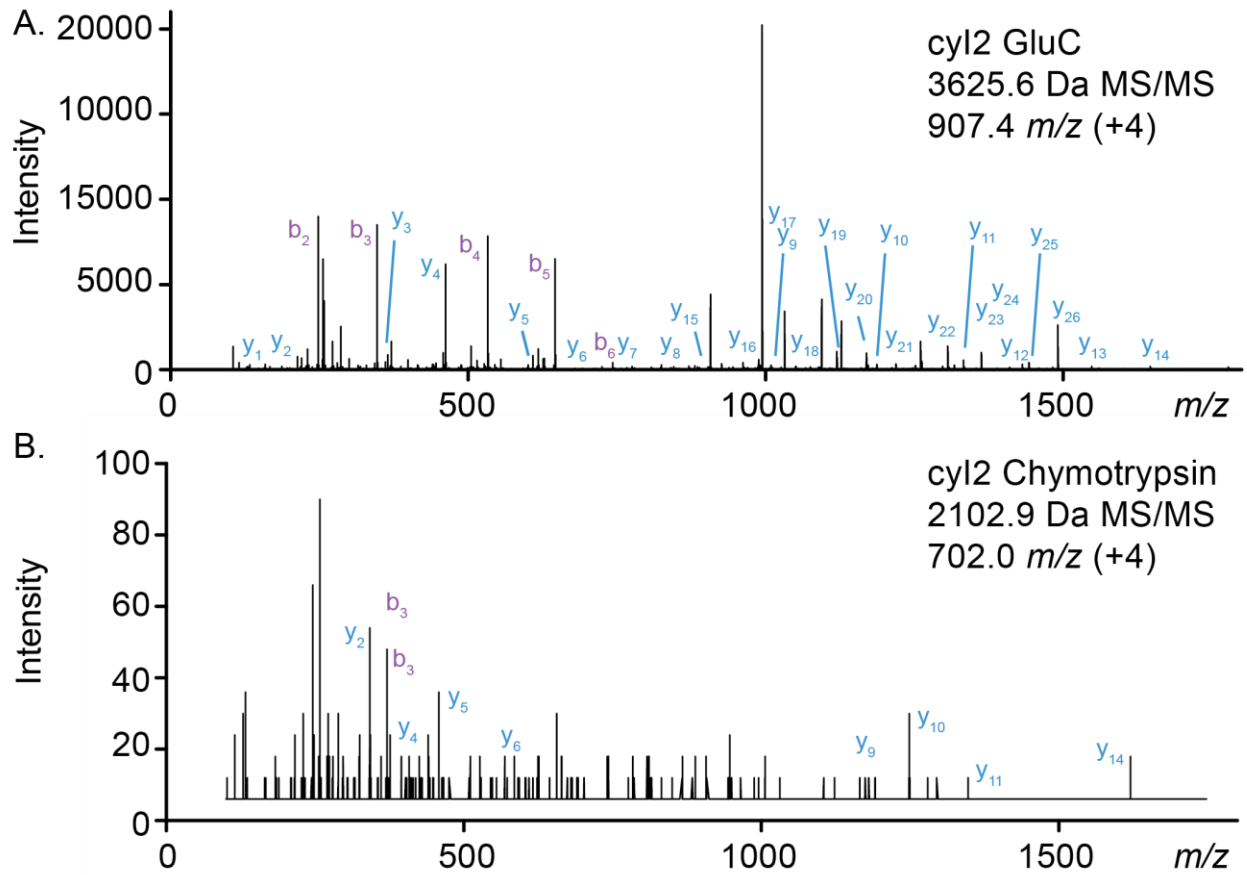


Figure S2. *V. inconspicua* cyclotide cyl2 (3259.4 Da) CID MS/MS spectra of (A) gluC linearized cyl2 (+4) and (B) cyl2 chymotrypsin fragment 2102.9 Da (+2). Spectra are annotated with b (purple) and y (blue) ion series.

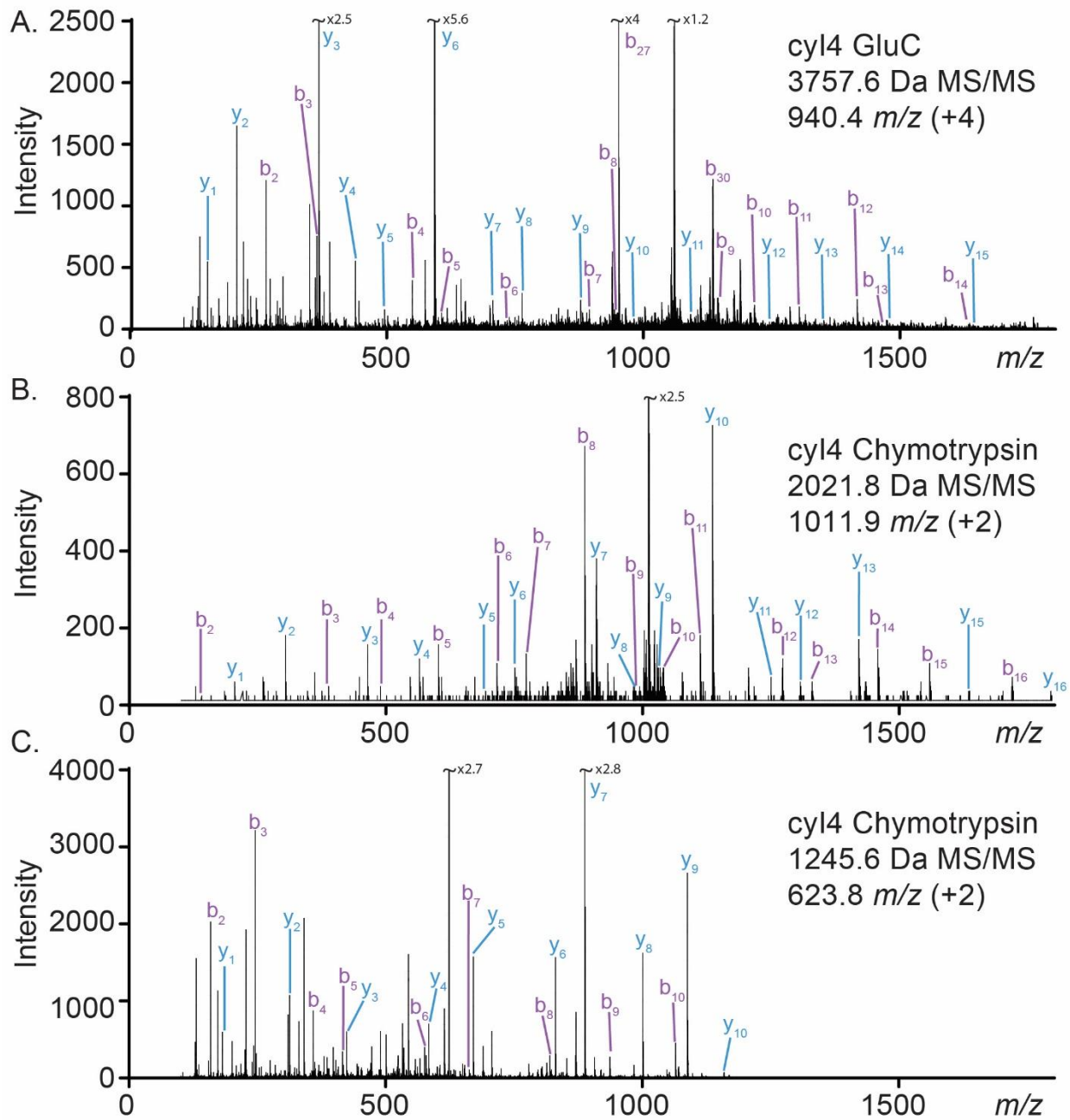


Figure S3. *V. inconspicua* cyclotide cyl4 (3391.4 Da) CID MS/MS spectra of (A) gluC linearized cyl4 (+4), (B) cyl3 chymotrypsin fragment 2021.8 Da (+2), and (C) cyl4 chymotrypsin fragment 1245.6 Da (+2). Spectra are annotated with b (purple) and y (blue) ion series.

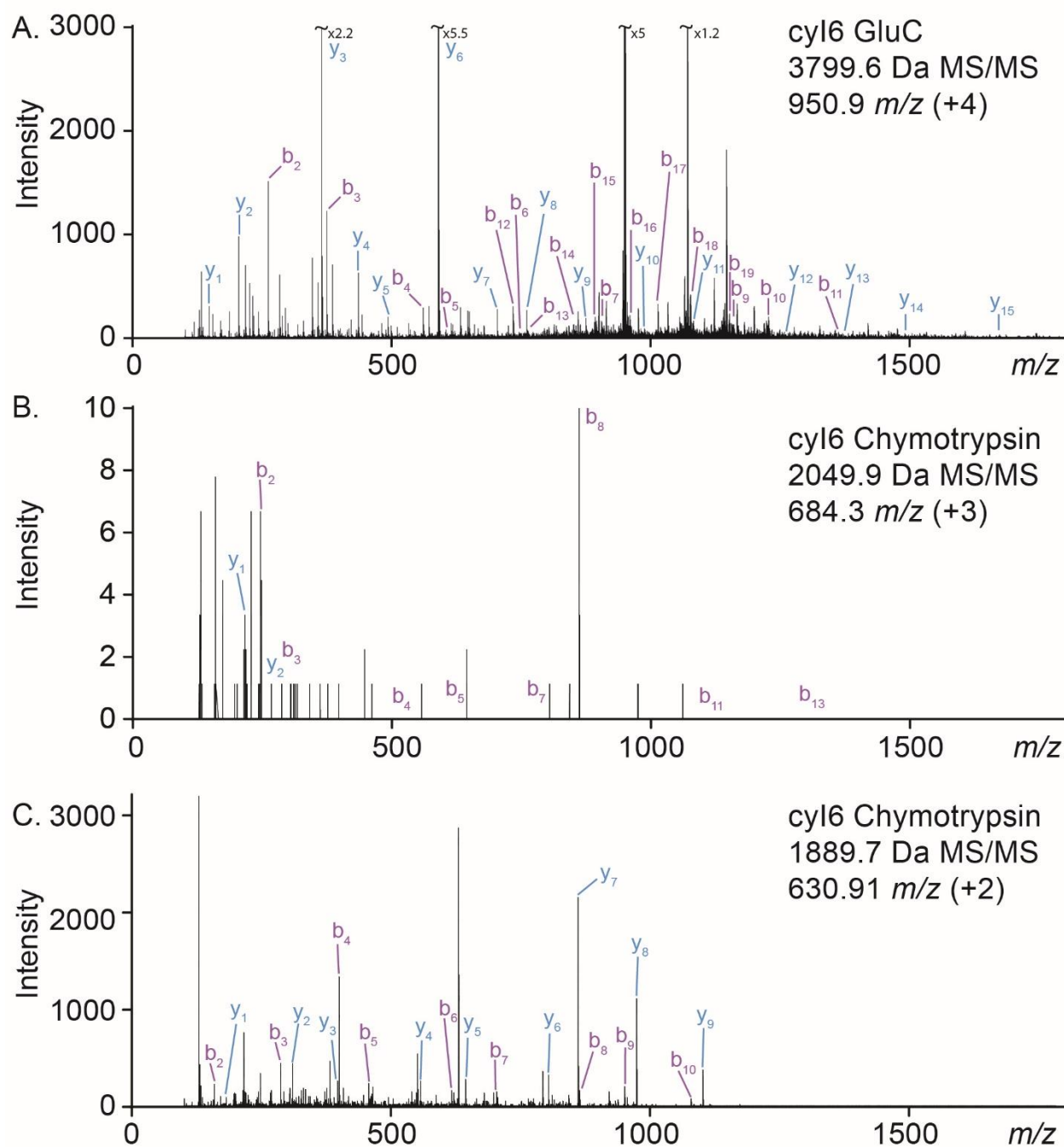


Figure S5. *V. inconspicua* cyclotide cyl6 (3433.5 Da) CID MS/MS spectra of (A) gluC linearized cyl6 (+4), (B) cyl6 chymotrypsin fragment 2049.9 Da (+3), and (C) cyl6 chymotrypsin fragment 1889.7 Da (+2). Spectra are annotated with b (purple) and y (blue) ion series.

Table S1. Putative cyclotide masses identified in *V. inconspicua* reduction/alkylation LC-MS mass shift analysis exhibiting 348.16 Da mass shift. Asterisks indicate known cyclotide sequences previously identified in different botanical species. Novel cyclotide sequences described herein are denoted with cyl1-6 nomenclature. Mass species are denoted by Type I, Type II, or Mixed as per CID MS/MS fingerprint ion identifications. Mixed species were not resolved from other cyclotidyl species in the MS1 and thus conflicting fingerprint fragment ions confounded motif type identification.

	Mass (Da)	Identity			Mass (Da)	Identity
1	3099.3			24	3277.5	
2	3108.4	viba 11*		25	3291.4	
3	3116.3			26	3303.5	
4	3138.4	cyO9*		27	3317.4	Type I
5	3140.4			28	3319.4	
6	3142.4			29	3332.4	
7	3156.4			30	3347.4	
8	3170.4			31	3373.5	Mixed
9	3208.4	Type I		32	3378.5	cyl3
10	3225.4	cyO8*		33	3382.5	
11	3229.5			34	3391.5	cyl4
12	3236.4	cyl1		35	3394.5	
13	3242.5			36	3396.5	Mixed
14	3243.4			37	3406.5	cyl5
15	3252.4			38	3408.4	
16	3253.4			39	3410.5	
17	3254.4			40	3423.5	
18	3255.5			41	3433.5	cyl6
19	3259.4	cyl2		42	3437.5	Type II
20	3263.5			43	3451.5	
21	3271.4			44	3465.5	
22	3273.5			45	3526.5	
23	3275.4					