Supporting information for

Fmoc-based synthesis of disulfide-rich cyclic peptides

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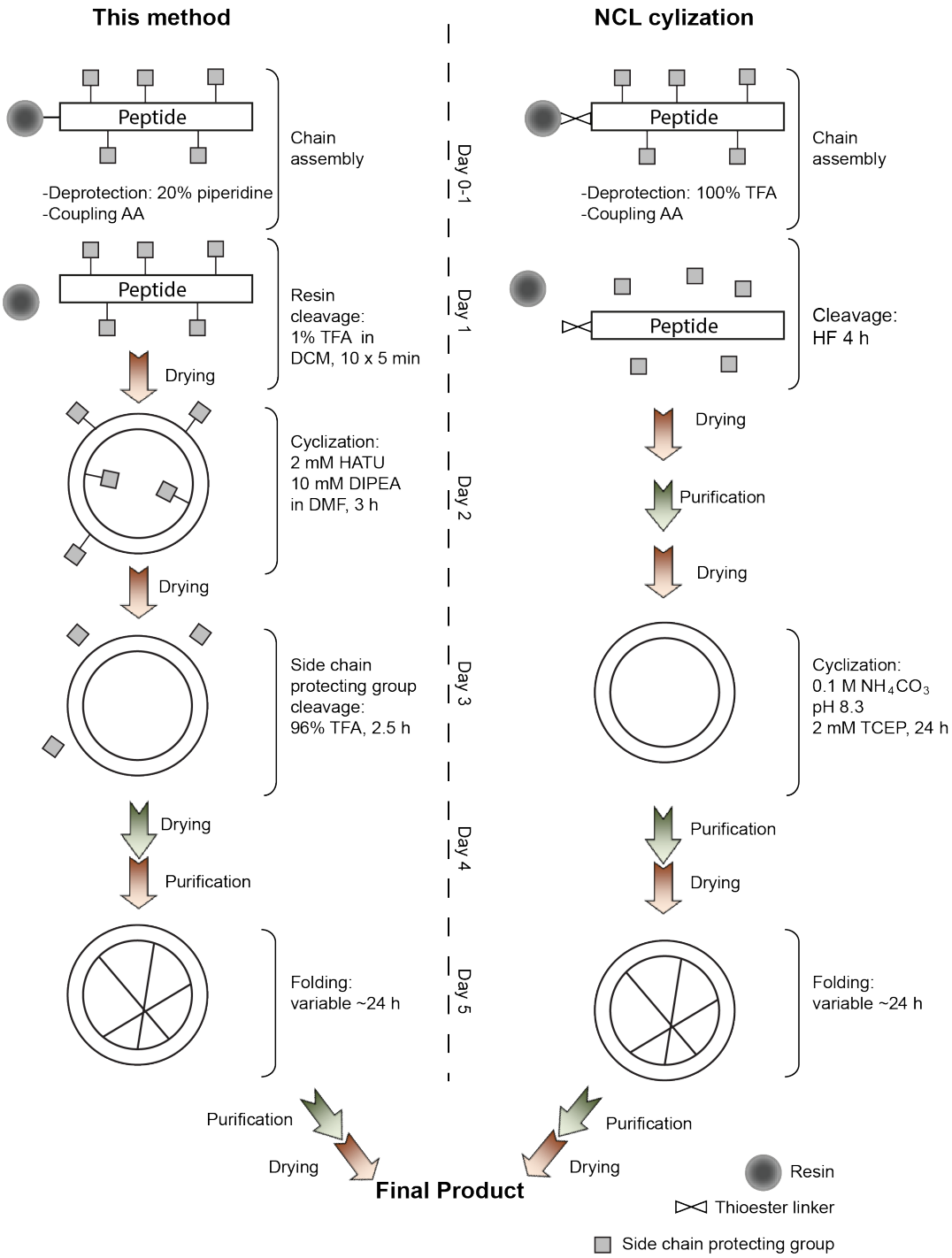
Table of content



Scheme S1. **Comparison of the current cyclization method vs. NCL cyclization**. This diagram summarizes and compares the timeframe of the two SPPS methods.

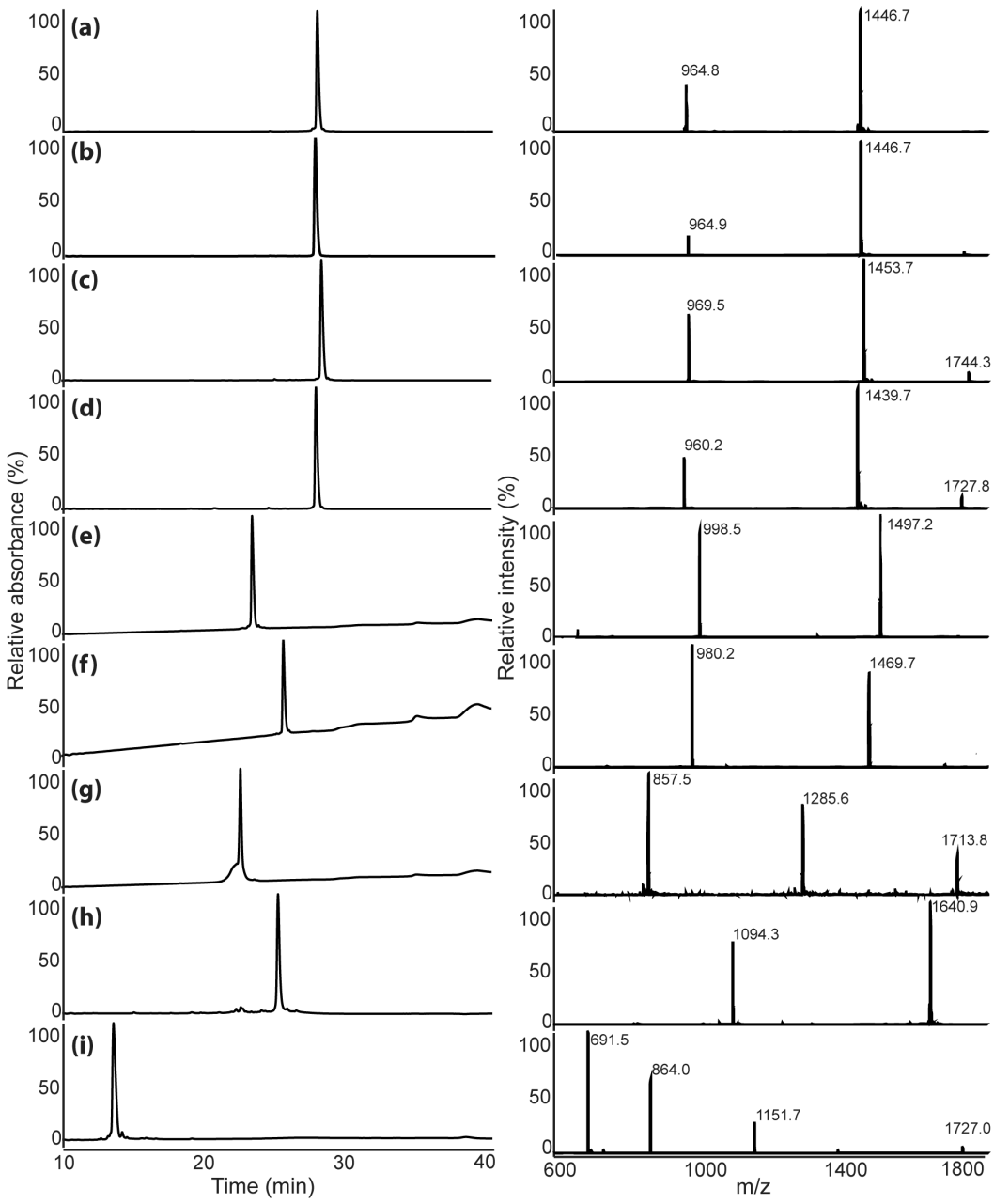


Figure S1. **Analytical HPLC traces and mass spectra of final cyclic oxidized peptides**. Final peptides have been analyzed using LC-MS with a gradient from 2 to 82% solvent B, 2% per min and the 214 nm wavelength was recorded. **(a)** kalata B1, **(b)** D-kalata B1, **(c)** [G6A]kalata B1, **(d)** [T20S]kalata B1, **(e)** [L2-RGDS]kalata B1, **(f)** [L3-RGDS]kalata B1, **(g)** [L6-RGDS]kalata B1, **(h)** parigidin-br-1, **(i)** MCoTI-II

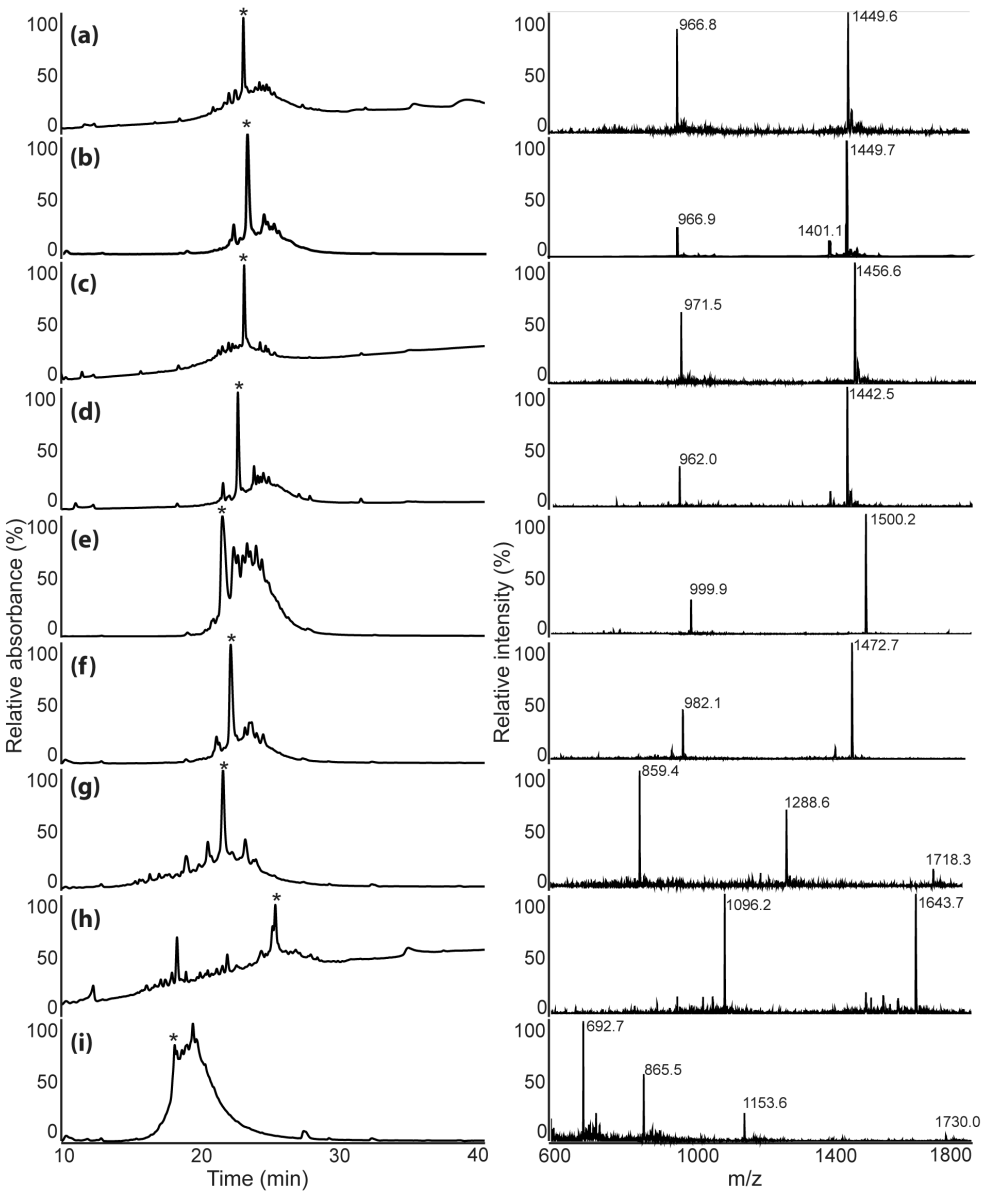
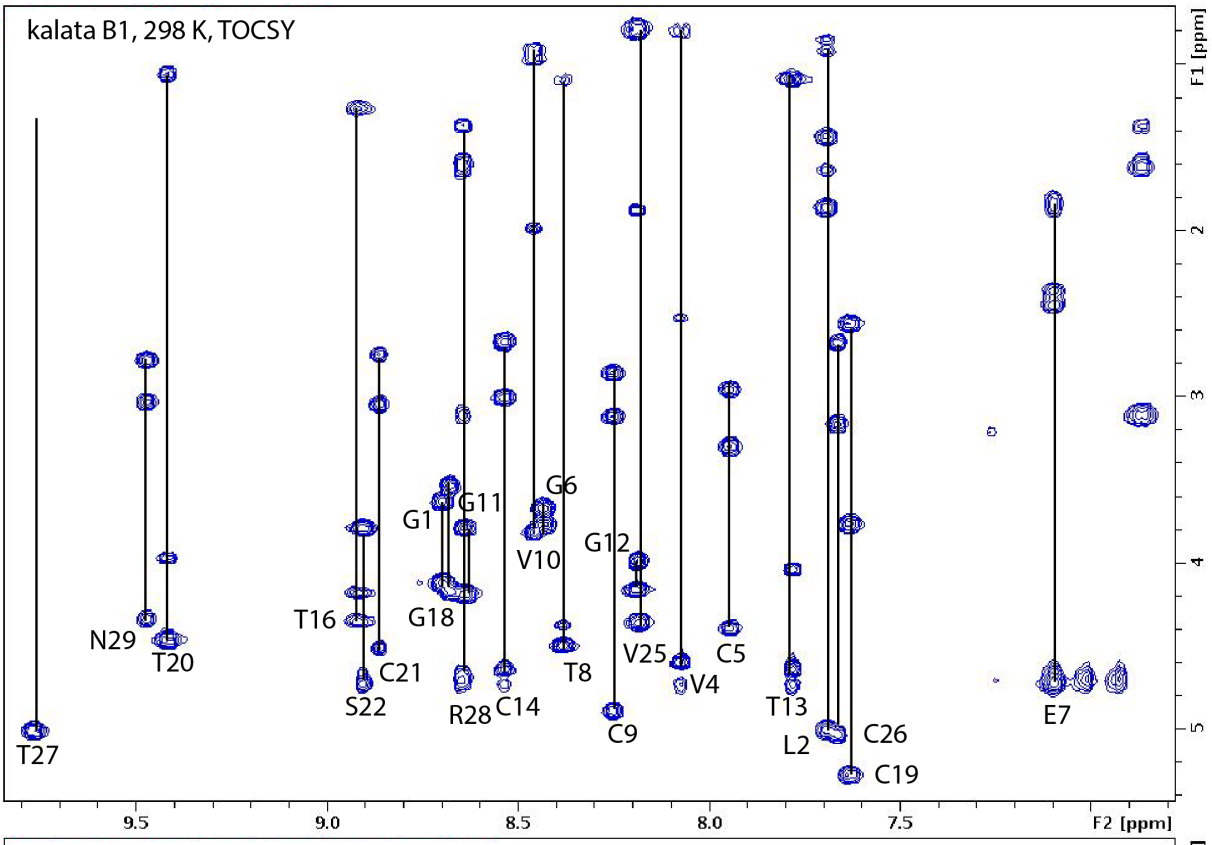
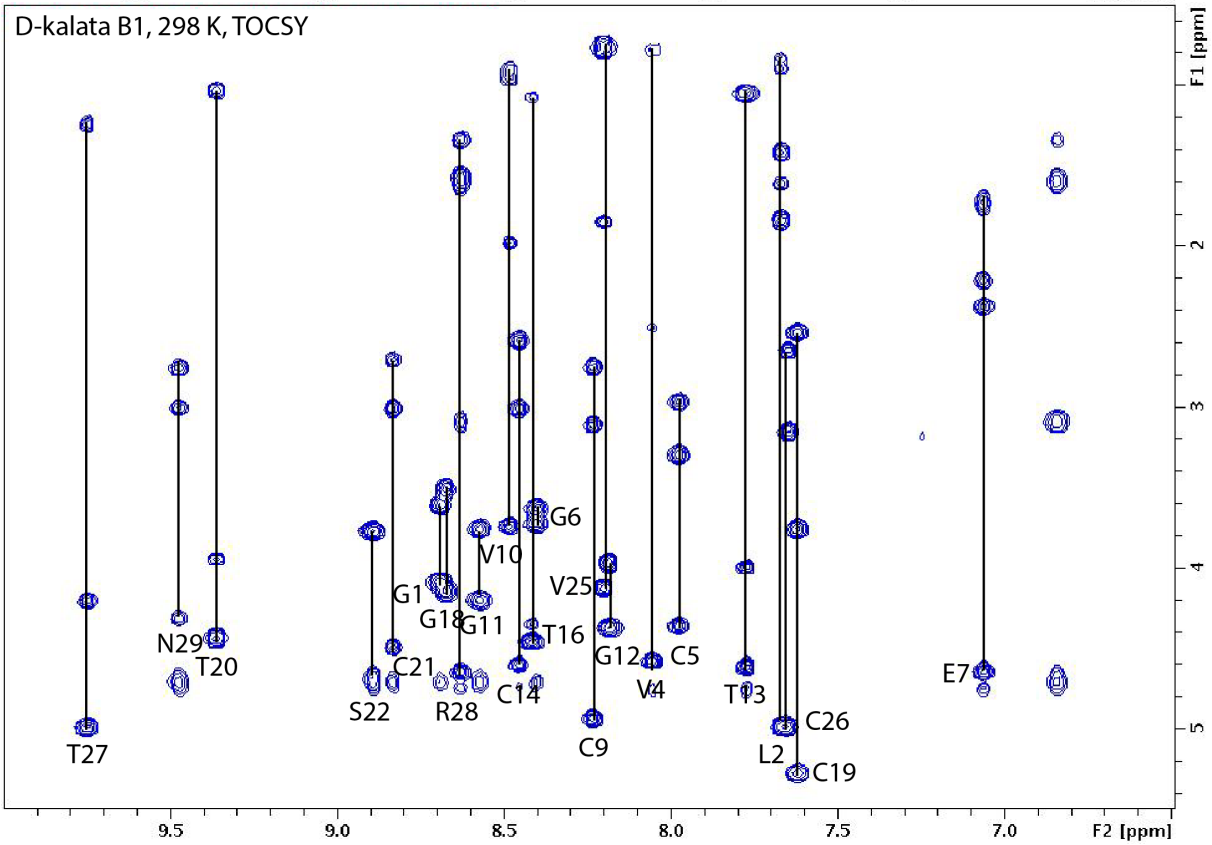
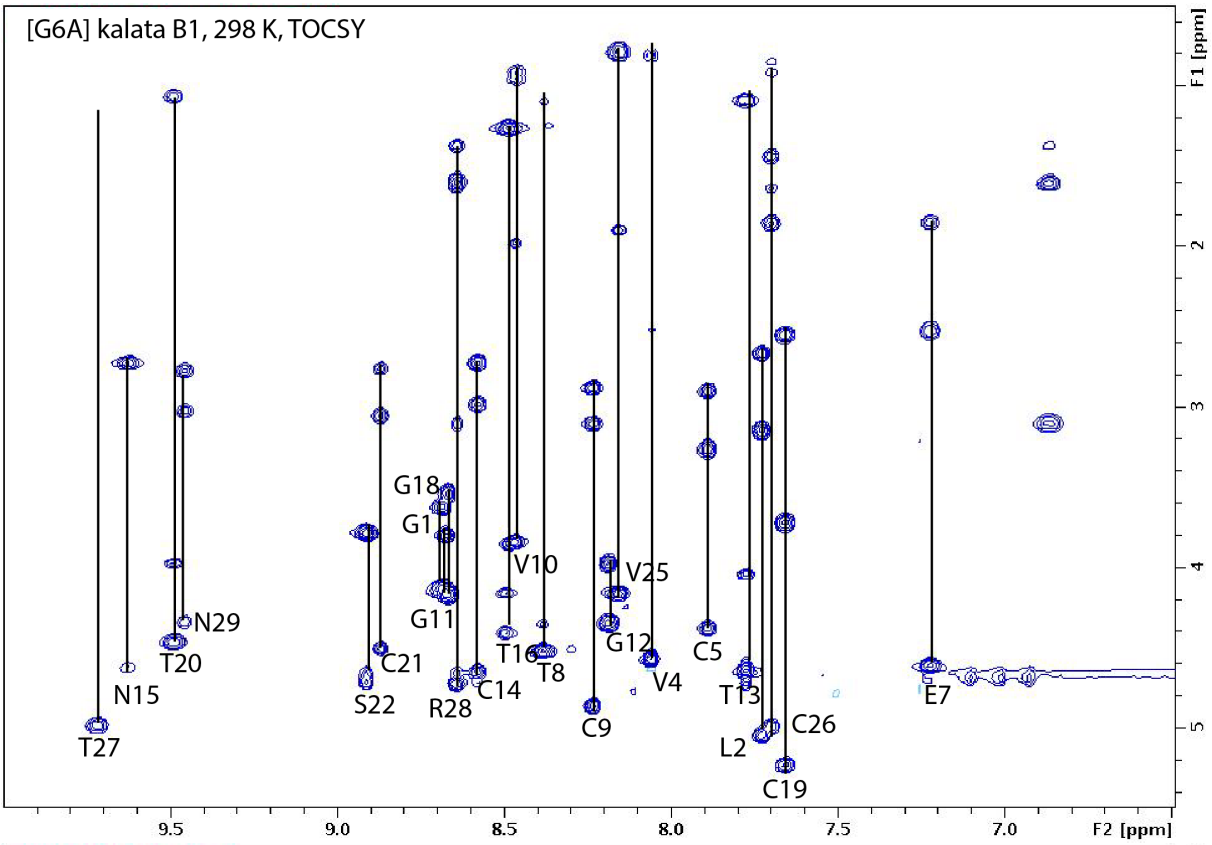
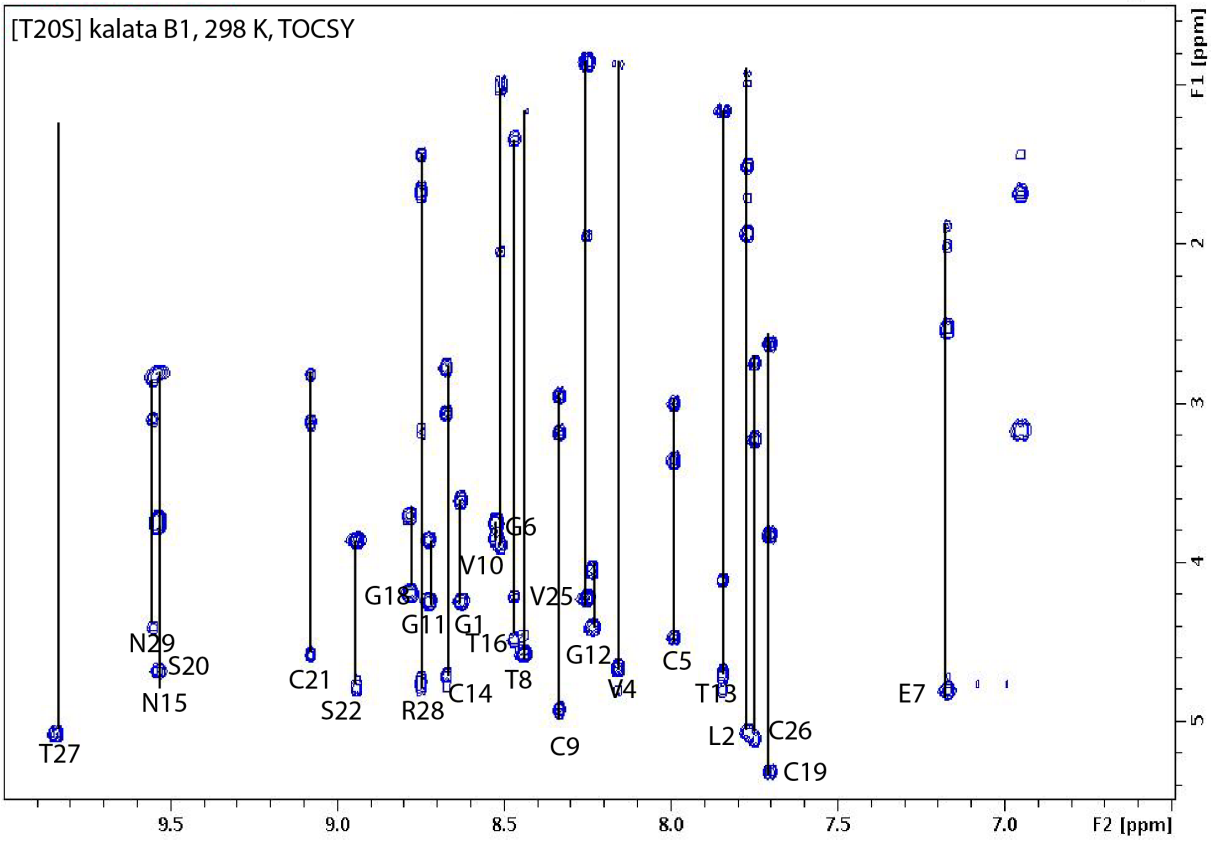


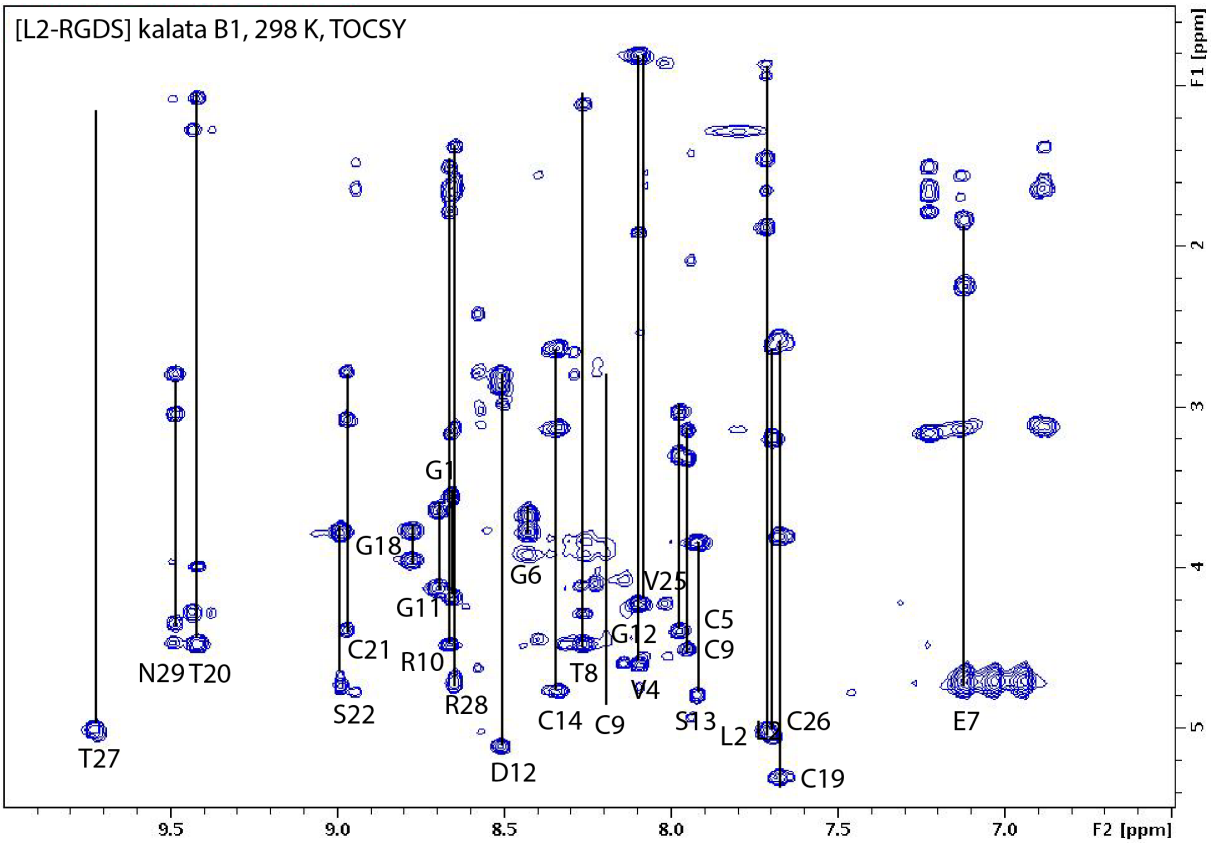
Figure S2. **HPLC and MS of crude cyclic synthetic compound**. HPLC chromatograms recorded at 214nm of crude deprotected cyclic products are shown on the left hand side of the figure. Mass spectrum for each cyclic product indicated (*) on the chromatogram are shown on the right hand side. **(a)** kalata B1, **(b)** D-kalata B1, **(c)** [G6A]kalata B1, **(d)** [T20S]kalata B1, **(e)** [L2-RGDS]kalata B1, **(f)** [L3-RGDS]kalata B1, **(g)** [L6-RGDS]kalata B1, **(h)** parigidin-br-1, **(i)** MCoTI-II

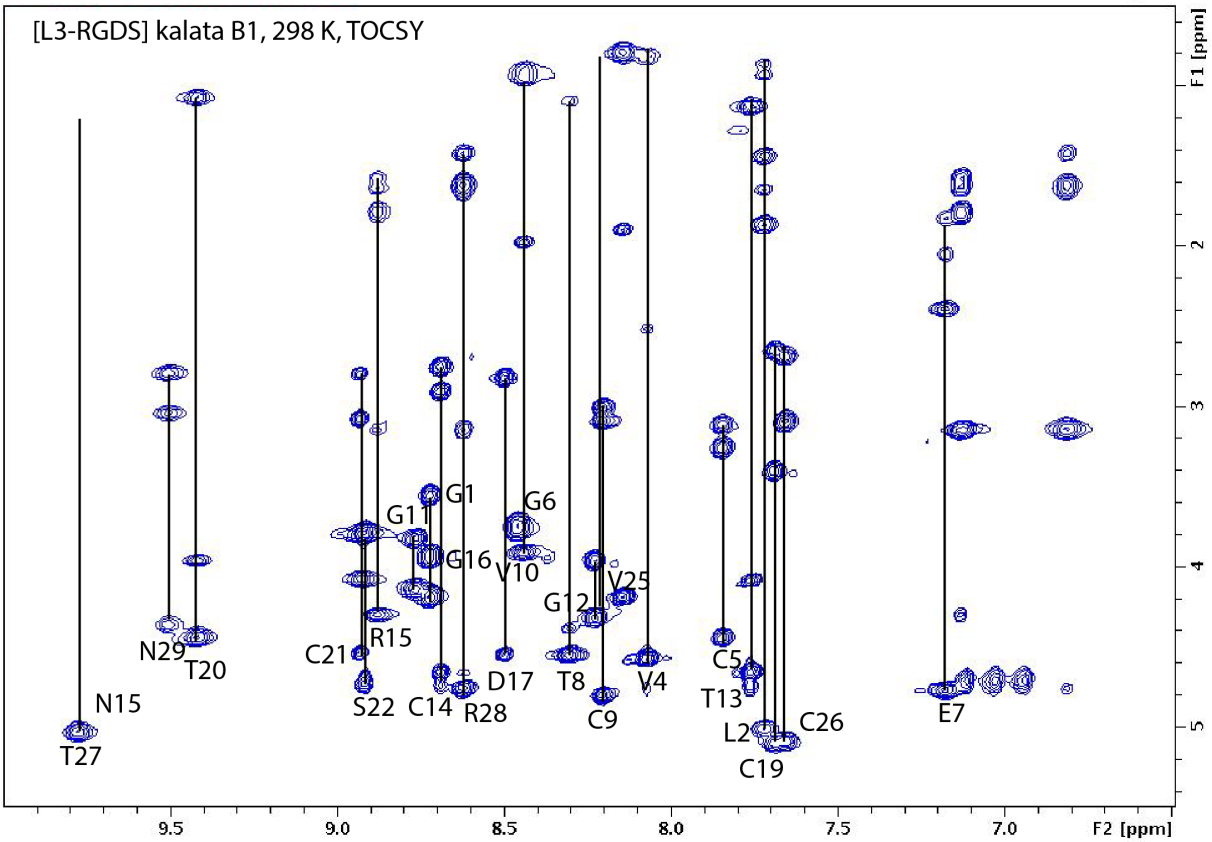

kalata B1, 298 K, TOCSY
F1 [ppm]
F2 [ppm]
T27
N29
T20
T16
C21
S22
G1
G11
G18
R28
G6
V10
C14
T8
G12
C9
V25
V4
C5
T13
L2
C26
C19
E7


D-kalata B1, 298 K, TOCSY
F1 [ppm]
F2 [ppm]
T27
N29
T20
S22
C21
G1
G18
G11
R28
G6
V10
C14
T16
V25
G12
C9
C5
V4
T13
L2
C26
C19
E7


[G6A] kalata B1, 298 K, TOCSY
F1 [ppm]
F2 [ppm]
T27
N15
T20
N29
S22
C21
G18
G1
G11
R28
C14
T16
V10
T8
C9
V25
G12
V4
C5
T13
L2
C26
C19
E7


[T20S] kalata B1, 298 K, TOCSY
F1 [ppm]
F2 [ppm]
T27
N15
S20
N29
C21
S22
G18
G11
G1
G6
R28
C14
T16
V10
T8
C9
V25
G12
V4
C5
T13
L2
C26
C19
E7


[L2-RGDS] kalata B1, 298 K, TOCSY
F1 [ppm]
F2 [ppm]
G1
G18
G6
V25
G11
C5
G12
C9
C21
R10
T8
V4
N29
T20
S22
R28
C14
C9
S13
L2
C26
E7
T27
D12
C19


[L3-RGDS] kalata B1, 298 K, TOCSY
F1 [ppm]
F2 [ppm]
G1
G6
G11
G16
V10
V25
G12
R15
N29
C21
C5
T20
D17
T8
V4
T13
N15
S22
C14
R28
C9
L2
C26
E7
T27
C19

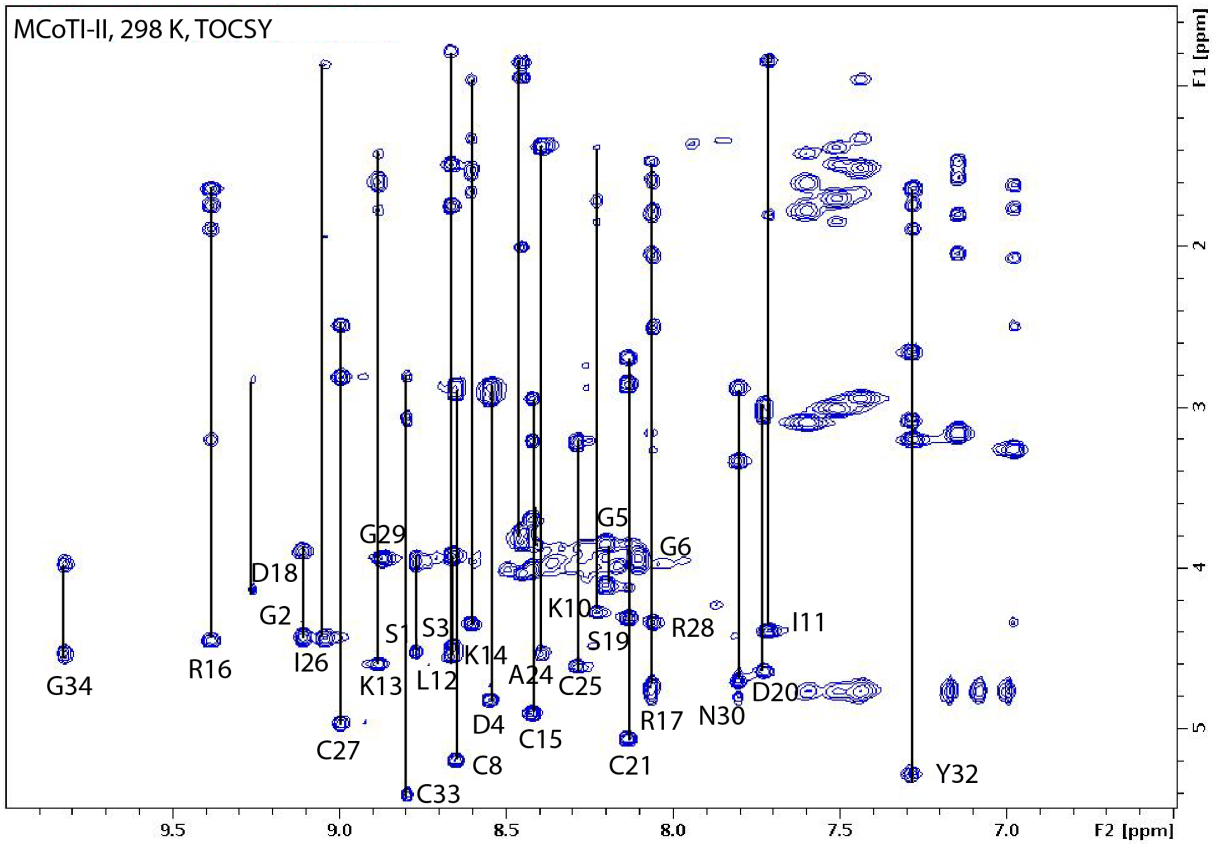


Figure S3. **TOCSY spectra** for kalata B1, D-kalata B1, [G6A]kalata B1, [T20S]kalata B1, [L2-RGDS]kalata B1, [L3-RGDS]kalata B1 and MCoTI-II with individual spin systems assigned. Data was acquired at 298 K on a Bruker Advance 600 spectrometer.