

# Totopotensamides, Polyketide-Cyclic Peptide Hybrids from a Mollusk-Associated Bacterium *Streptomyces* sp.

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**Figure S1.**  $^1\text{H}$  NMR spectrum of compound 1 in  $\text{DMSO-}d_6$ .

**Figure S2.**  $^1\text{H}$  NMR spectrum of compound 1 in  $\text{CD}_3\text{OD}$ .

**Figure S3.**  $^{13}\text{C}$  NMR spectrum of compound 1 in  $\text{DMSO-}d_6$ .

**Figure S4.** HSQC spectrum of compound 1 in  $\text{DMSO-}d_6$ .

**Figure S5.** HMBC spectrum of compound 1 in  $\text{DMSO-}d_6$ .

**Figure S6.**  $^1\text{H-}^1\text{H}$  COSY spectrum of compound 1 in  $\text{DMSO-}d_6$ .

**Figure S7.** NOESY spectrum of compound 1 in  $\text{DMSO-}d_6$ .

**Figure S8.** 1D TOCSY spectrum of compound 1 in  $\text{CD}_3\text{OD}$ .

**Figure S9.**  $^1\text{H}$  NMR spectrum of compound 2 in  $\text{DMSO-}d_6$ .

**Figure S10.** HSQC spectrum of compound 2 in  $\text{DMSO-}d_6$ .

**Figure S11.** HMBC spectrum of compound 2 in  $\text{DMSO-}d_6$ .

**Figure S12.**  $^1\text{H-}^1\text{H}$  COSY spectrum of compound 2 in  $\text{DMSO-}d_6$ .

**Figure S13.** LC-MS Analysis of D/L-FDLA Derivatives.

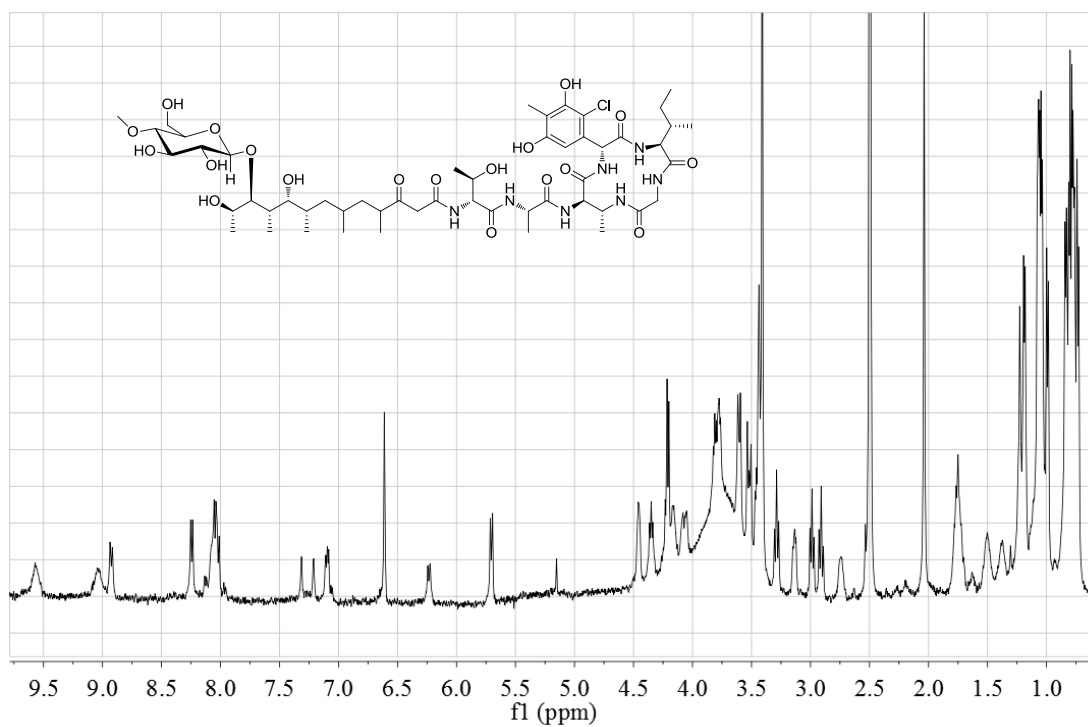
**Figure S14.** LC-MS Analysis of L-FDAA Derivatives.

**Figure S15.** HRESIMS spectra of compounds 1 and 2.

**Figure S16.**  $^1\text{H}$  NMR spectrum of FDLA derivatives of Phg and DHPg in  $\text{CD}_3\text{OD-}d_4$ .

**Table S1.** The chemical differences of the  $\alpha$  protons of the Leu and Phgs.

**Figure S1.**  $^1\text{H}$  NMR spectrum of compound 1 in  $\text{DMSO-}d_6$ .



**Figure S2.**  $^1\text{H}$  NMR spectrum of compound 1 in  $\text{CD}_3\text{OD}$ .

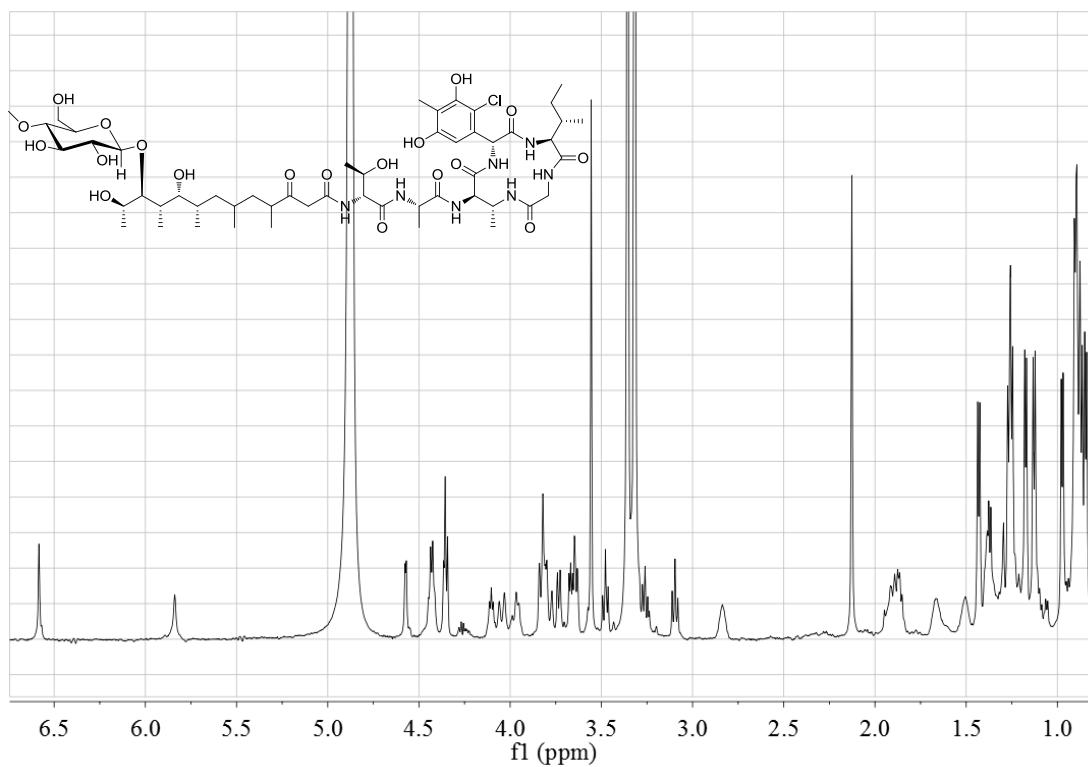


Figure S3.  $^{13}\text{C}$  NMR spectrum of compound 1 in  $\text{DMSO-}d_6$ .

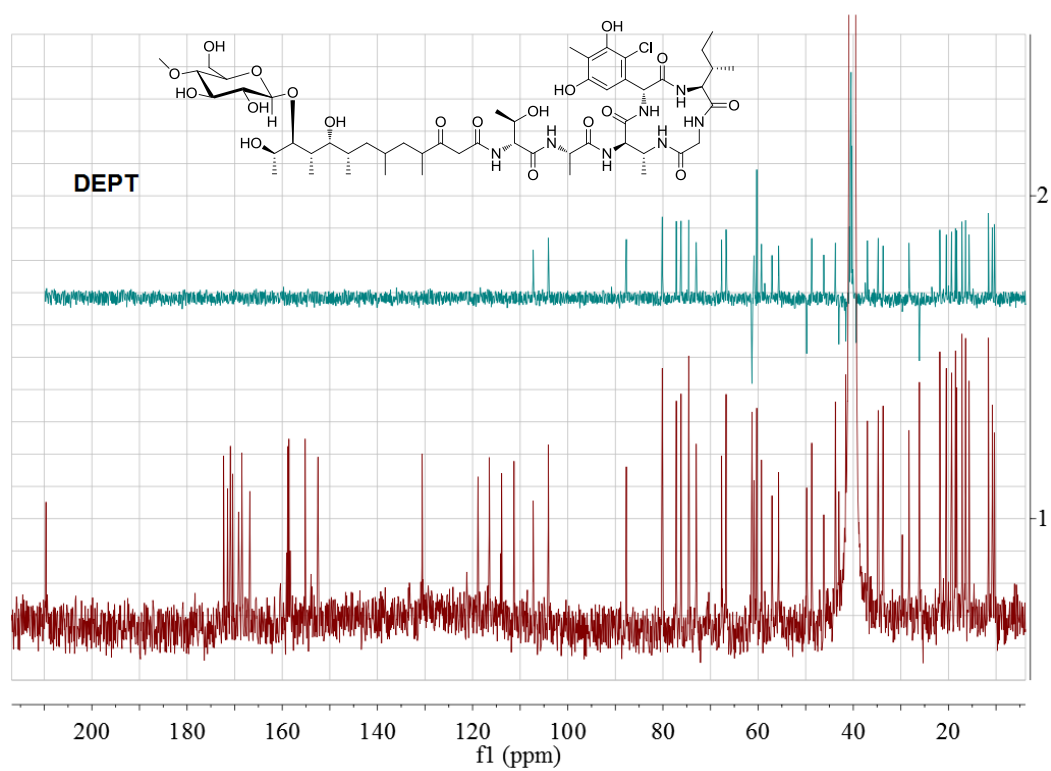
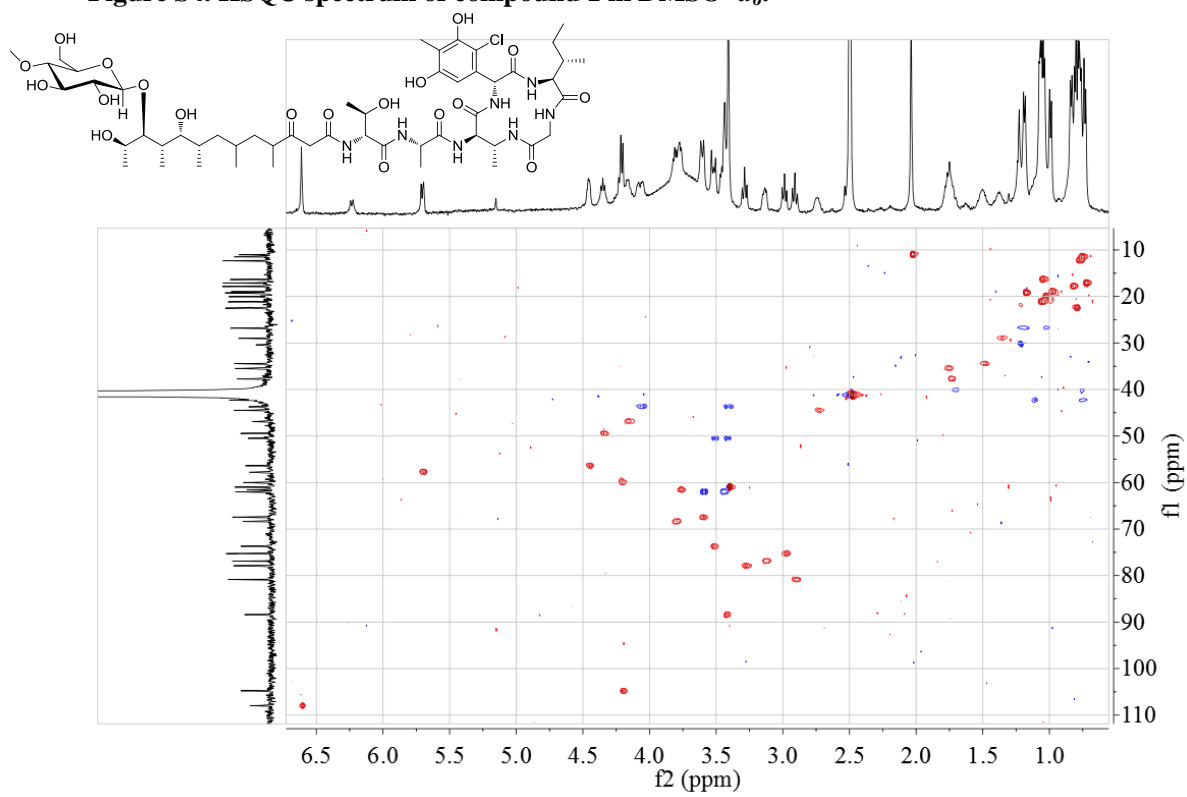
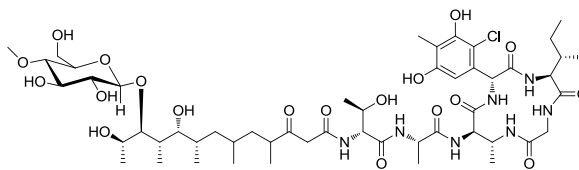
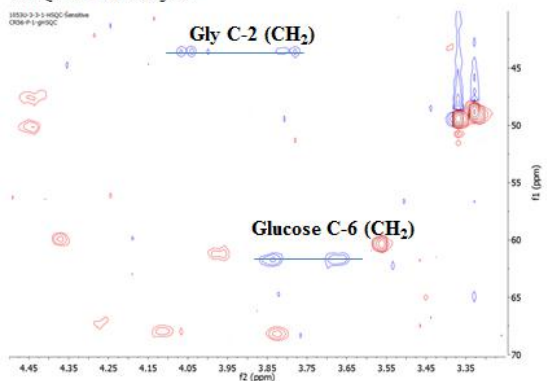


Figure S4. HSQC spectrum of compound 1 in  $\text{DMSO-}d_6$ .



HSQC of 1 in CD<sub>3</sub>OD



HSQC of 1 in DMSO-d<sub>6</sub>

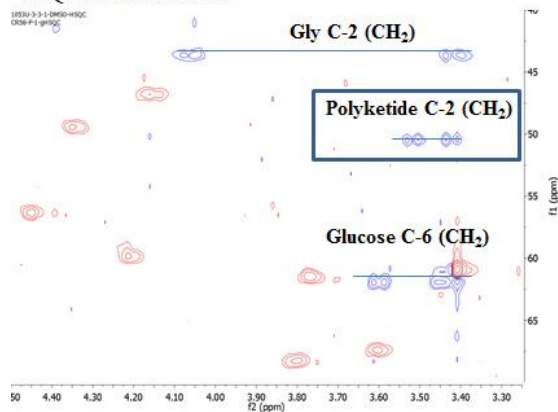


Figure S5. HMBC spectrum of compound 1 in DMSO-*d*<sub>6</sub>.

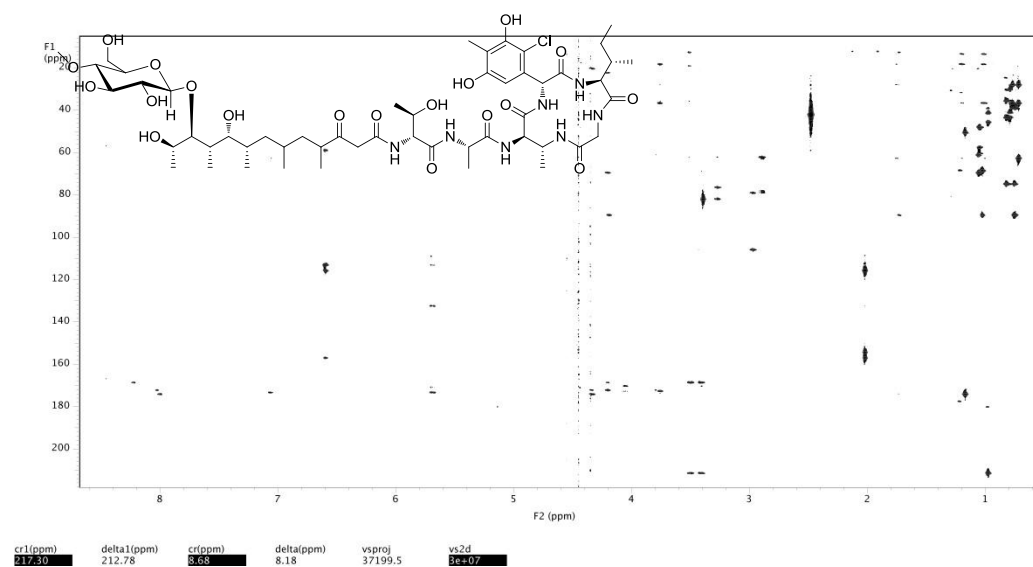


Figure S6.  $^1\text{H}$ - $^1\text{H}$  COSY spectrum of compound 1 in  $\text{DMSO-}d_6$ .

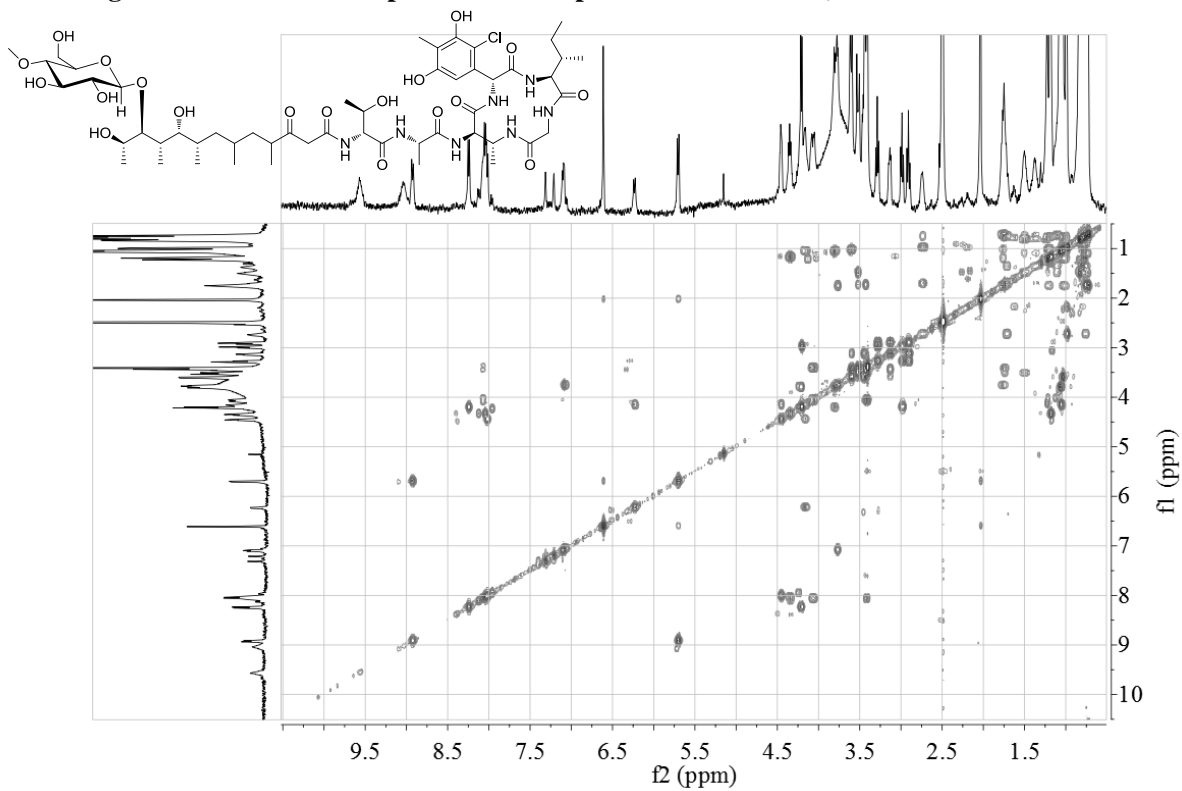


Figure S7. NOESY spectrum of compound 1 in  $\text{DMSO-}d_6$ .

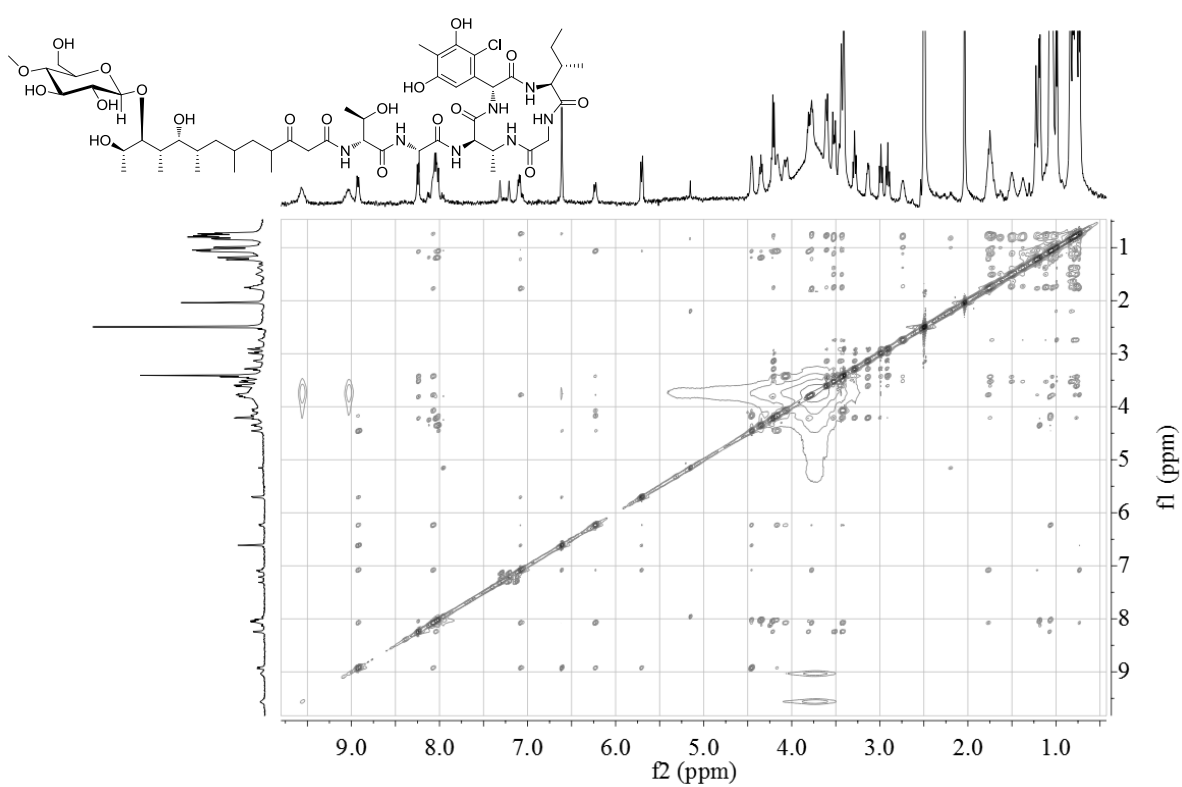


Figure S8. 1D TOCSY spectrum of compound 1 in CD<sub>3</sub>OD.

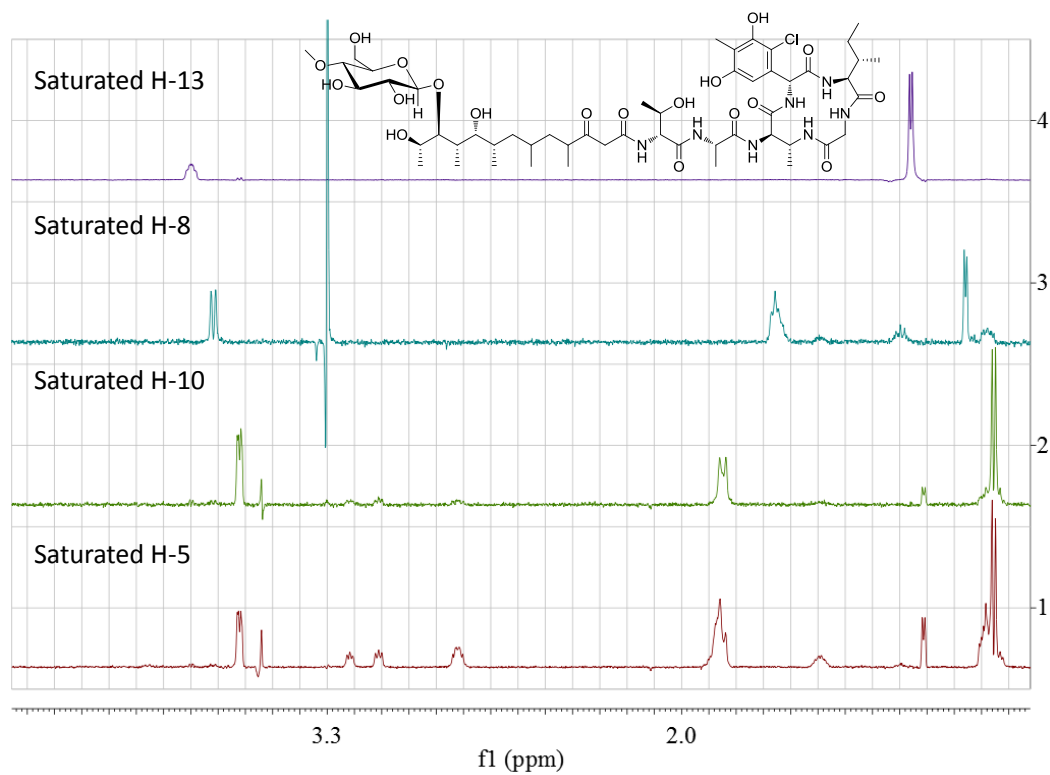


Figure S9. <sup>1</sup>H NMR spectrum of compound 2 in DMSO-*d*<sub>6</sub>.

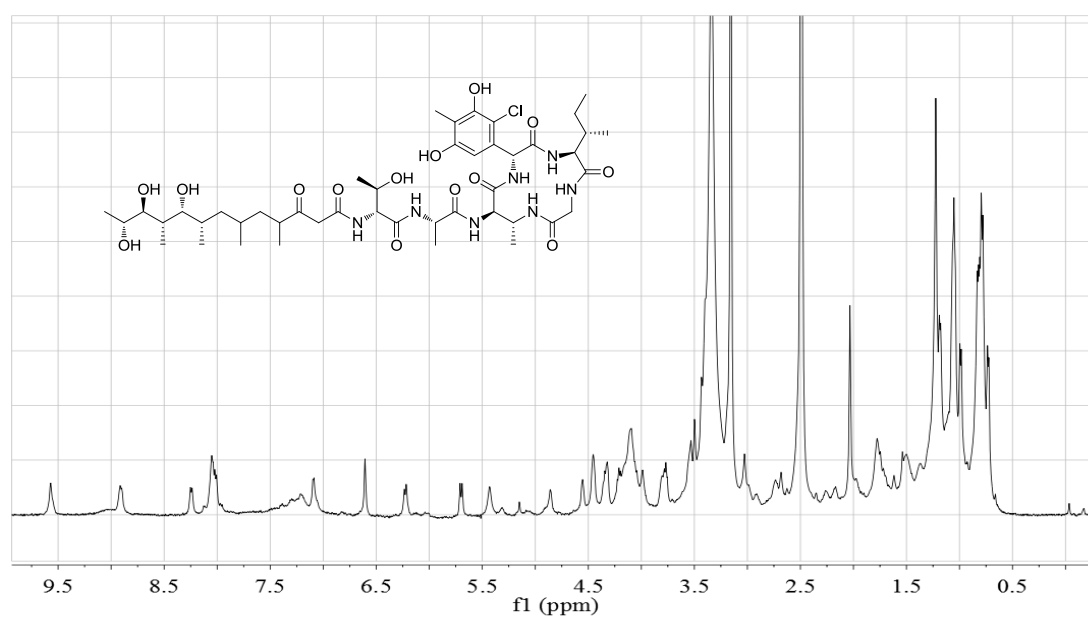


Figure S10. HSQC spectrum of compound 2 in DMSO-*d*<sub>6</sub>.

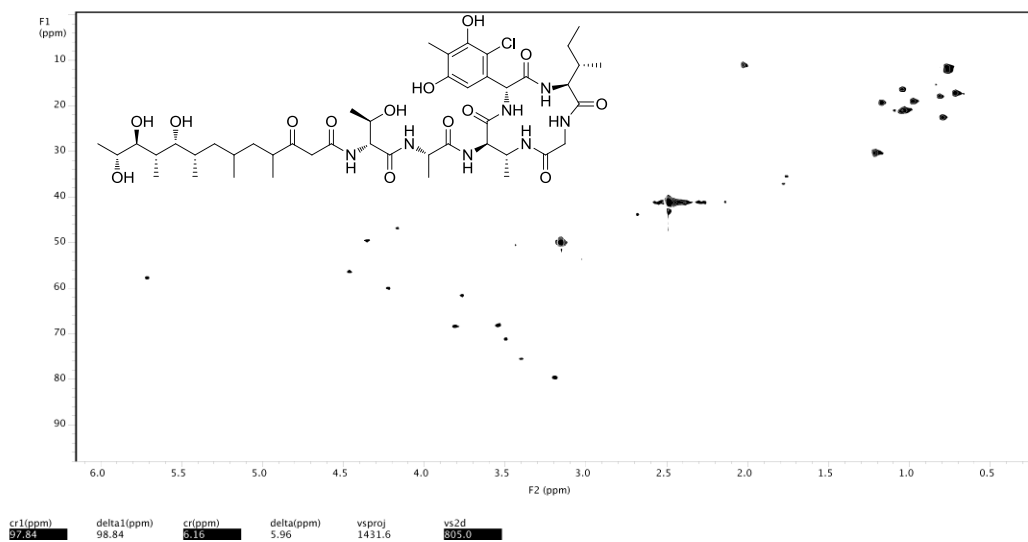
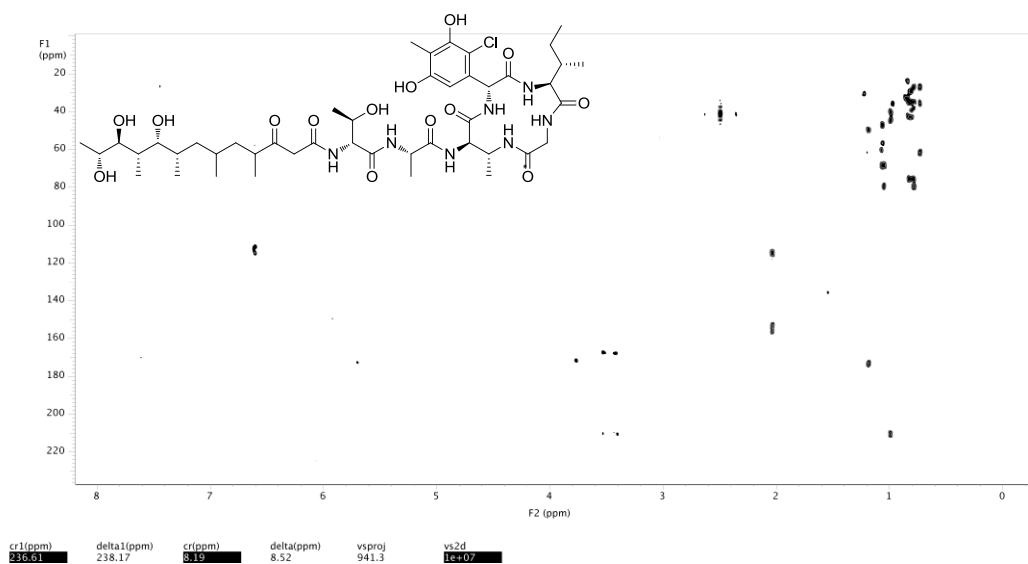
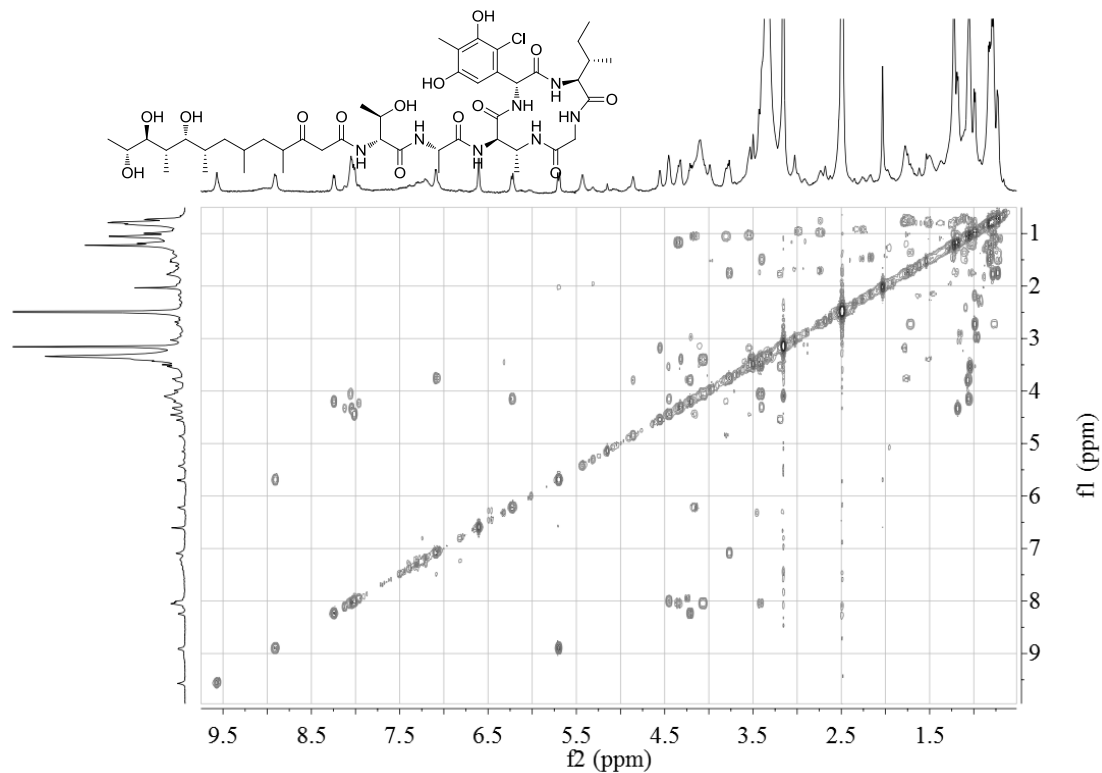


Figure S11. HMBC spectrum of compound 2 in DMSO-*d*<sub>6</sub>.





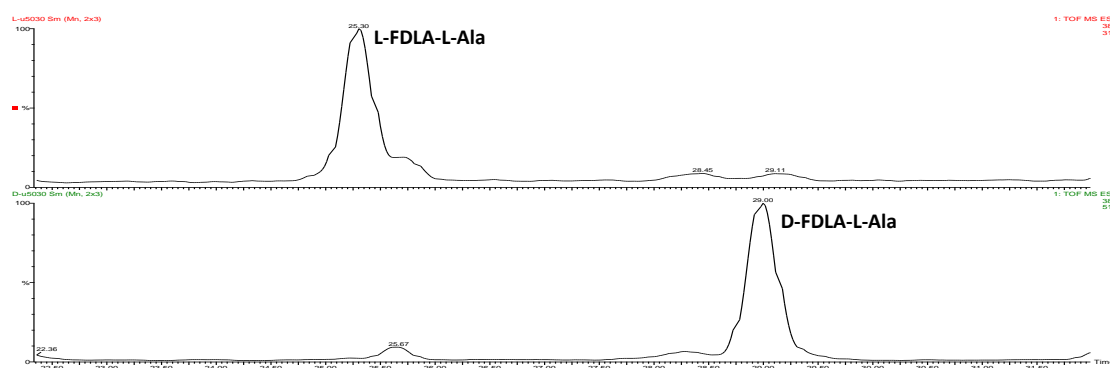
**Figure S12.**  $^1\text{H}$ - $^1\text{H}$  COSY spectrum of compound **2** in  $\text{DMSO-}d_6$ .



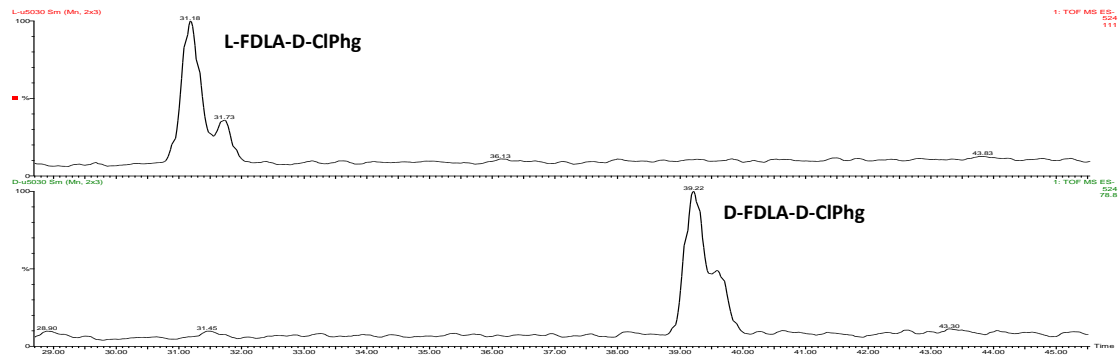
**Figure S13.** LC-MS Analysis of D/L-FDLA Derivatives.

Hydrolysate of **1** was reacted with L-FDLA (top) and D-FDLA (bottom), showing are extracted ion chromatographs.

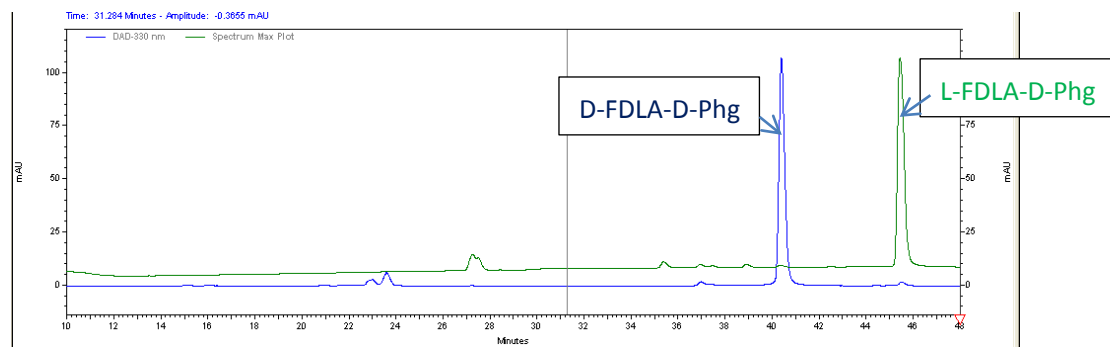
A) L-Ala in **1**:  $m/z$  382  $[\text{M} - \text{H}]^-$



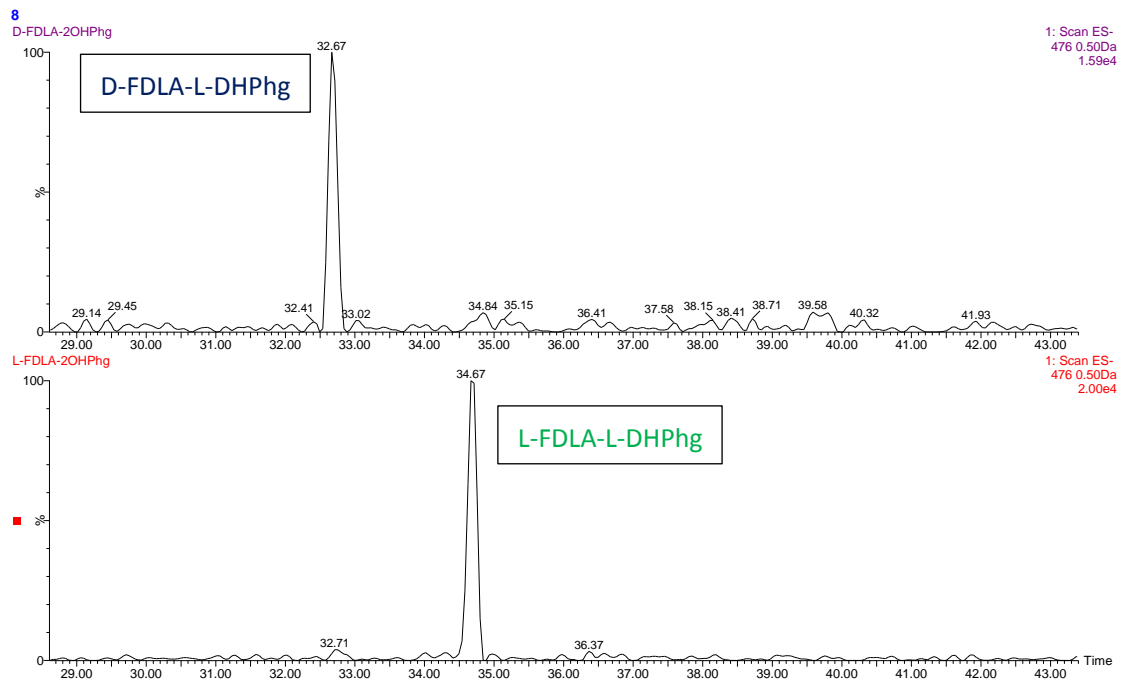
B) D-CIPh in 1:  $m/z$  524  $[M - H]^-$



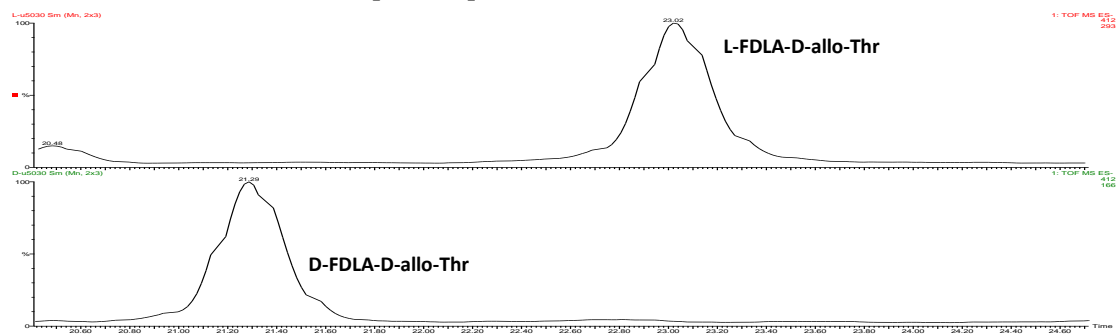
C) HPLC analysis of D/L-FDLA Derivatives for standard D-Phg



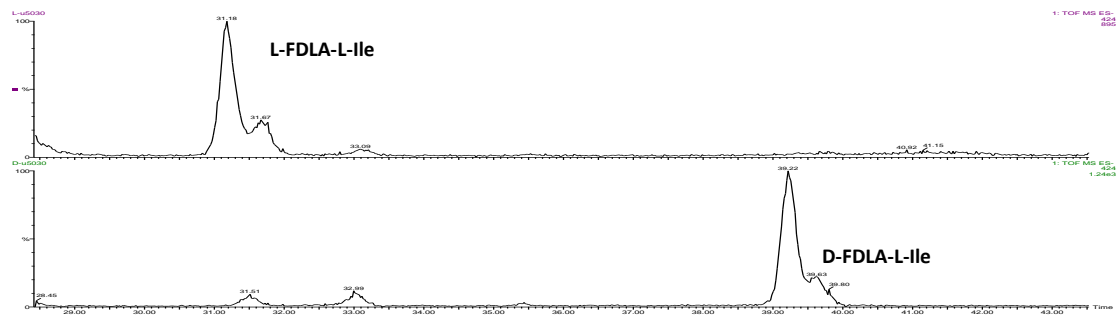
D) LC-MS analysis of D/L-FDLA Derivatives for standard L-3,5-Dihydroxyphenylglycine (DHPg)



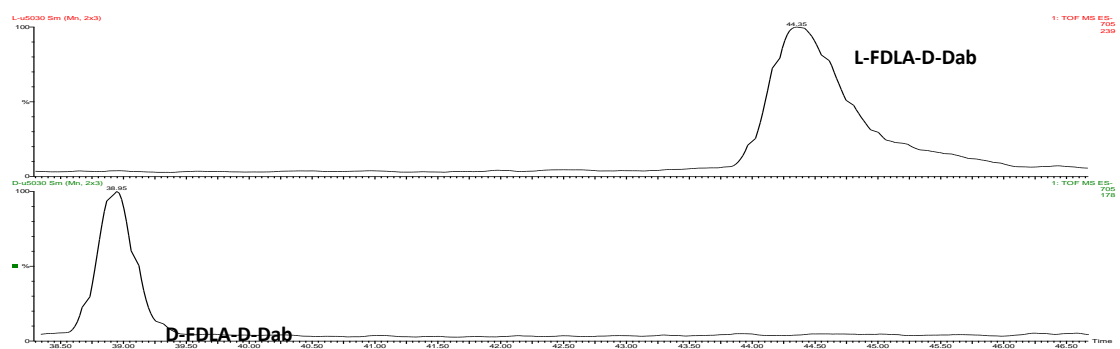
E) D-allo-Thr in **1**:  $m/z$  412  $[M - H]^-$



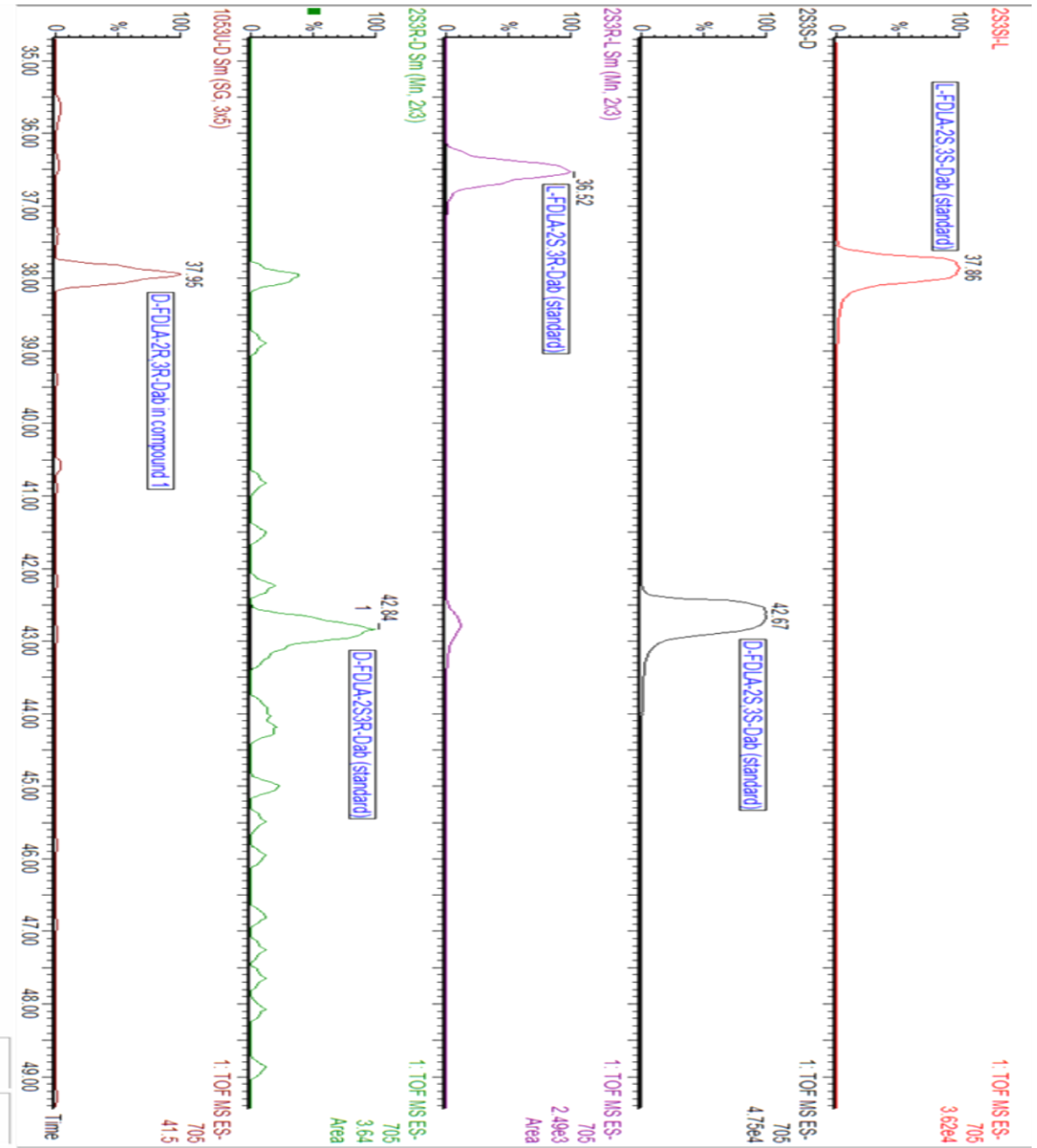
F) L-Ile in **1**:  $m/z$  424  $[M - H]^-$



G) D-Dab in **1**:  $m/z$  705  $[M - H]^-$



H) LC-MS analysis of D/L-FDLA Derivatives for standard 2*S*,3*S*-Dab and 2*S*,3*R*-Dab.



**Figure S14. LC-MS Analysis of L-FDAA Derivatives.**

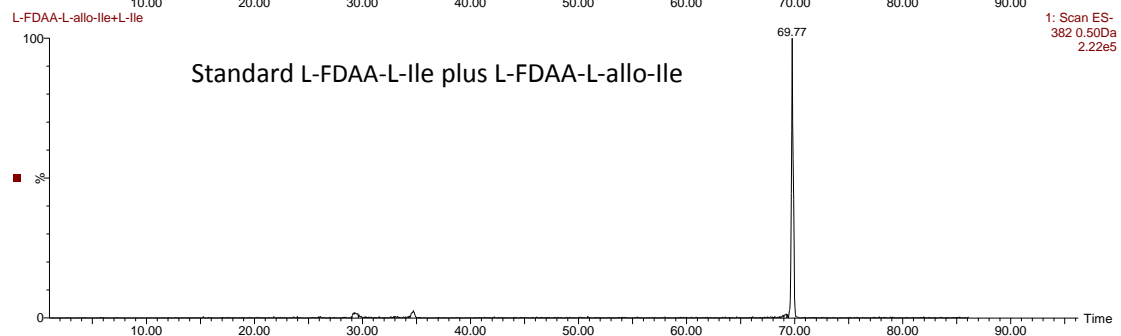
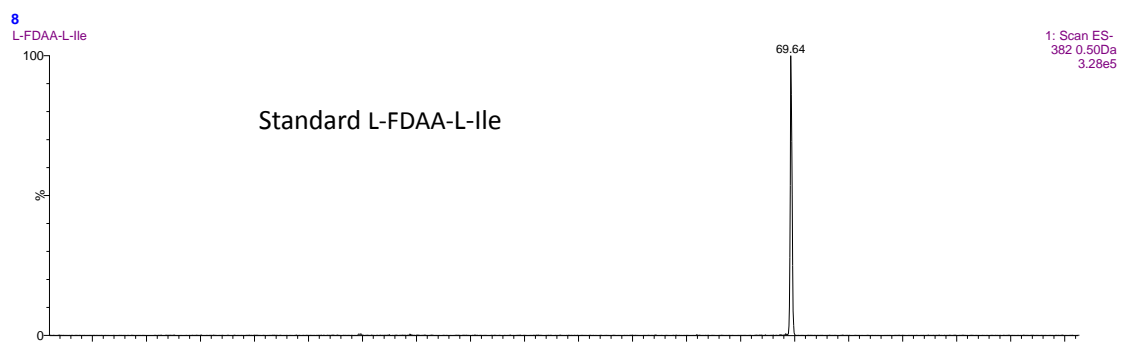
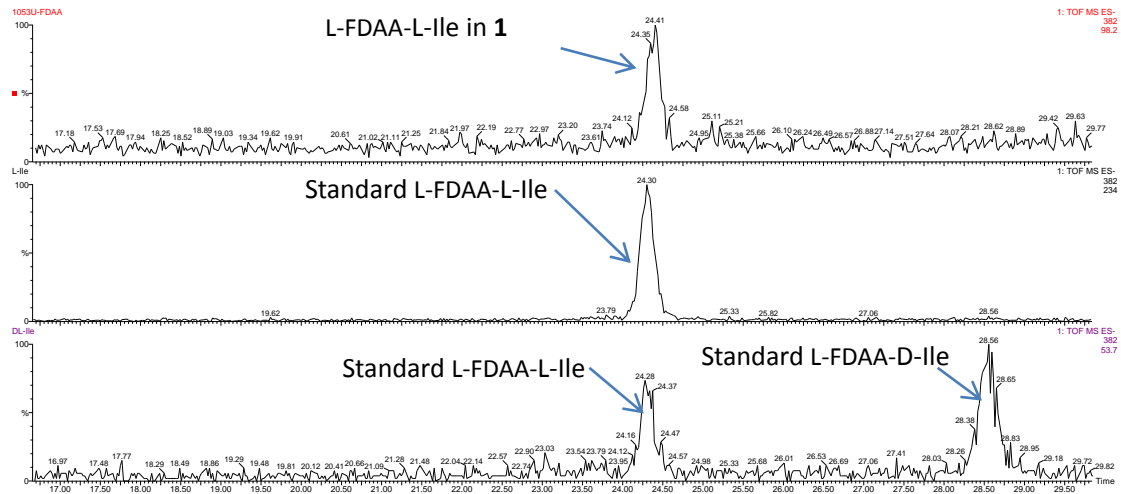
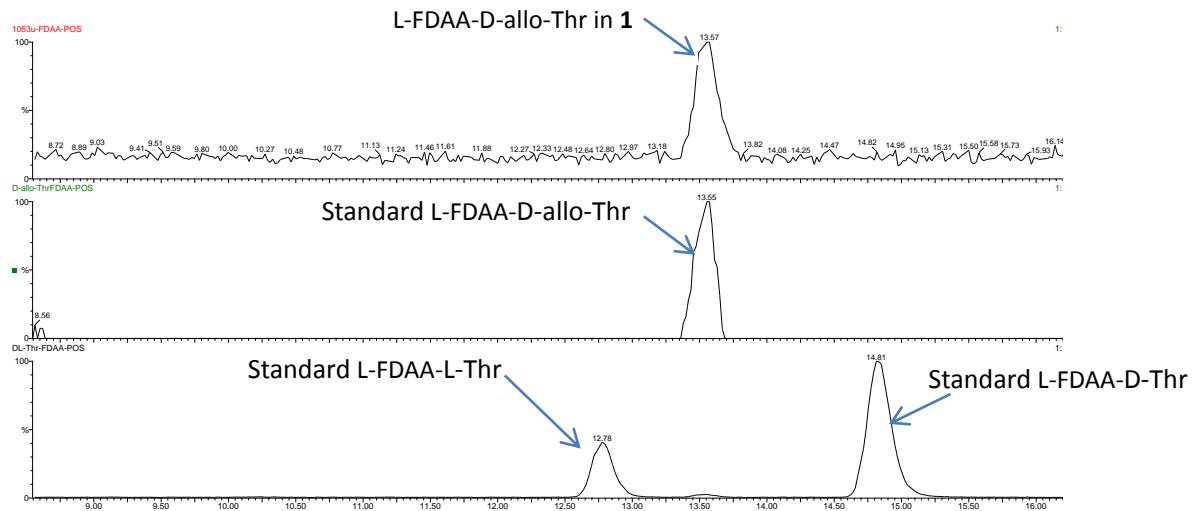
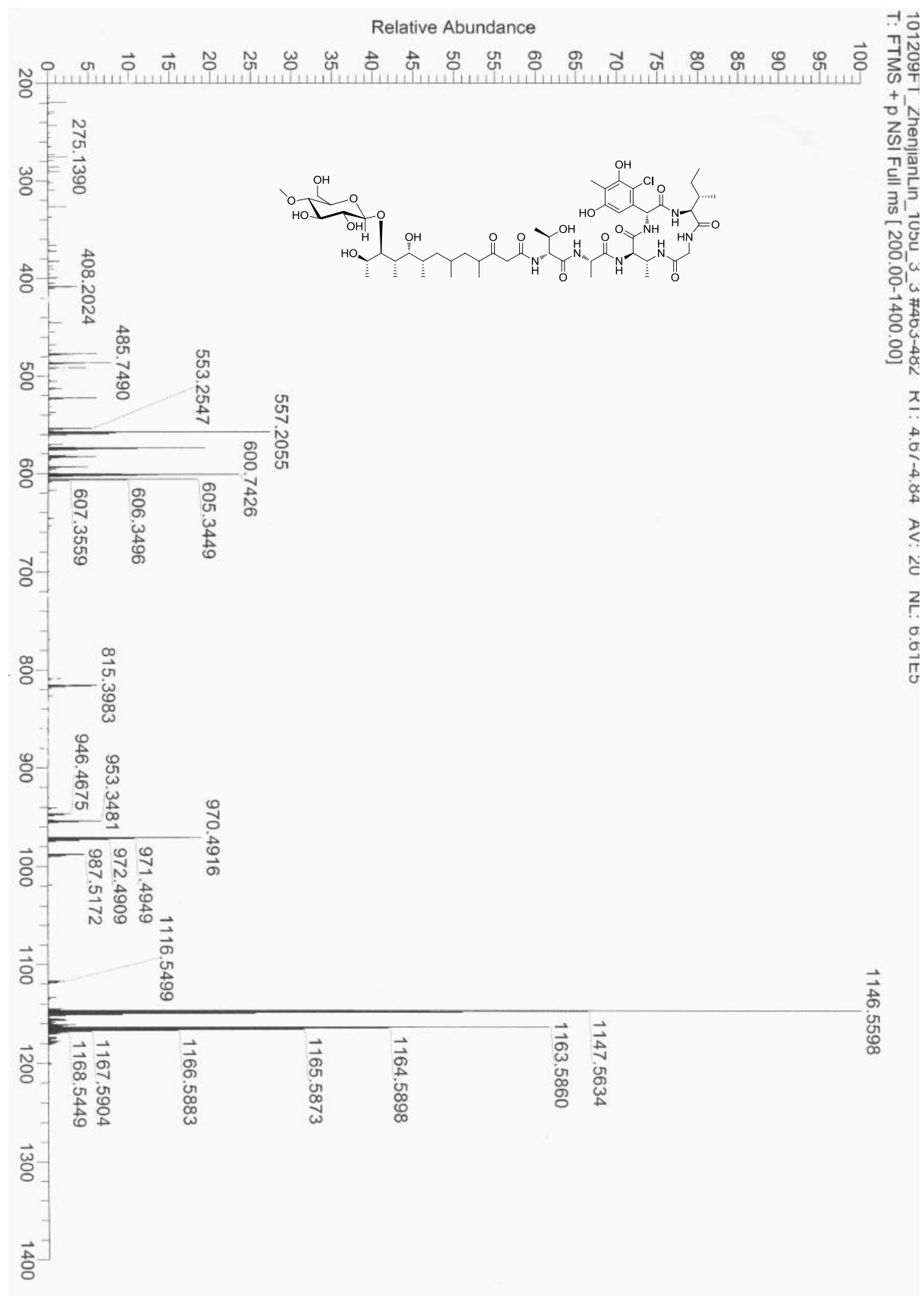


Figure S15. HRESIMS spectra of compounds 1 and 2.



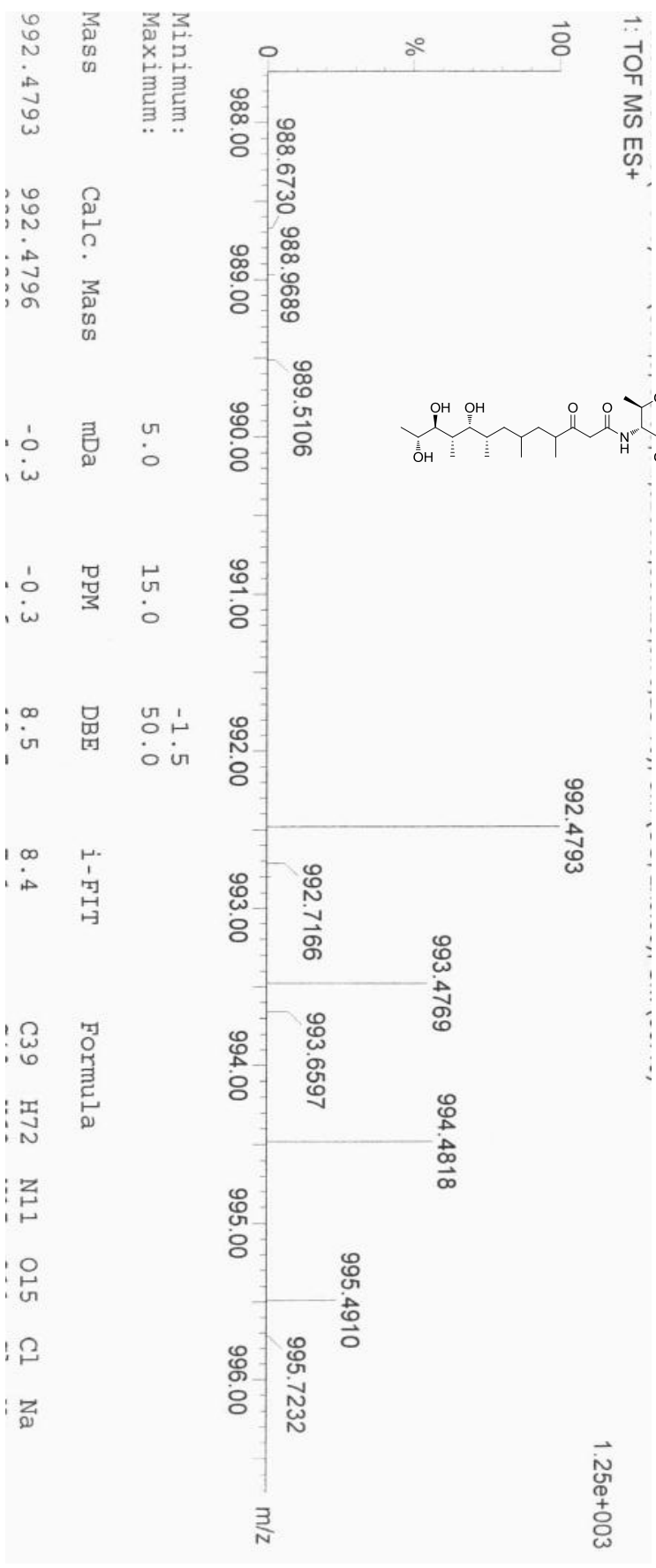
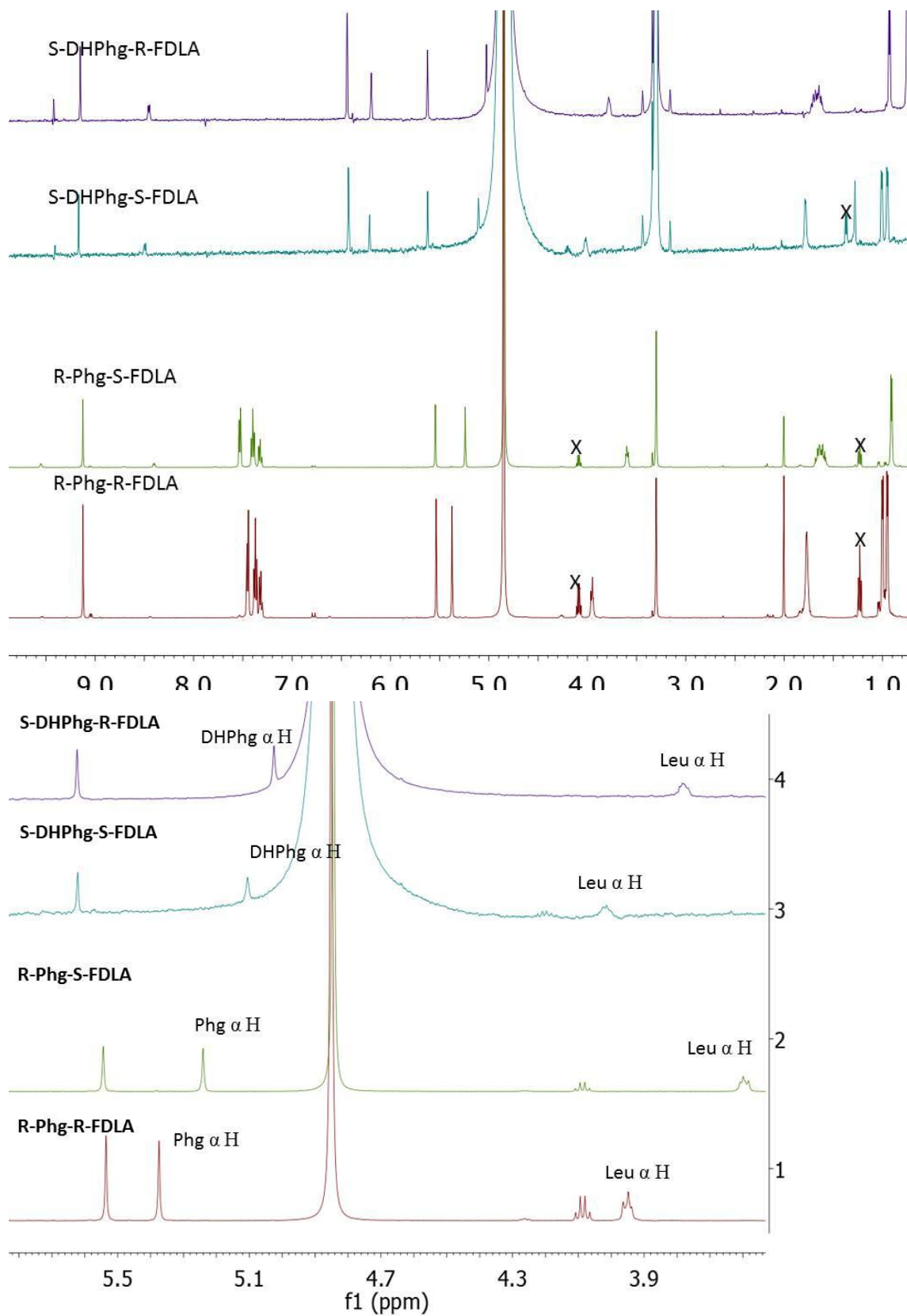
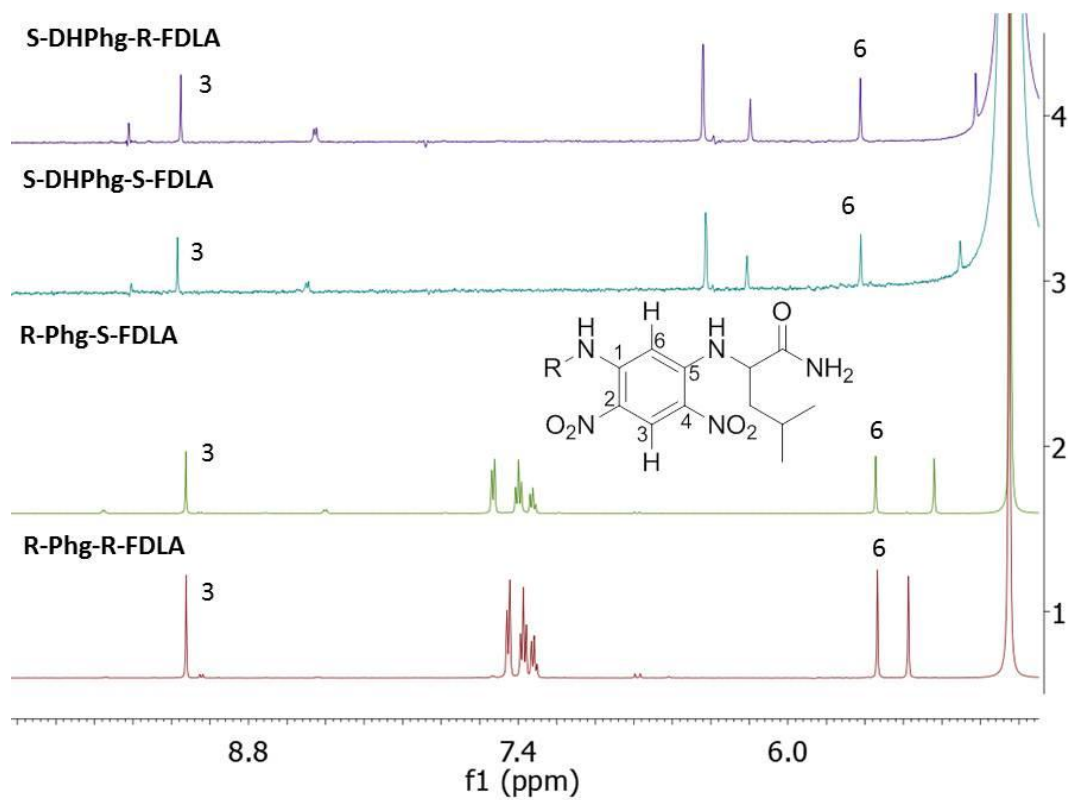


Figure S16.  $^1\text{H}$  NMR spectrum of FDLA derivatives of Phg and DHPg in  $\text{CD}_3\text{OD}-d_4$ .







**Table S1. The chemical difference of the  $\alpha$  protons of the Leu and Phgs.**

	S-DHPhg-R-FDLA	S-DHPhg-S-FDLA	$\Delta\delta_1$	R-Phg-S-FDLA	R-Phg-R-FDLA	$\Delta\delta_2$
$\alpha$ H-Leu (ppm)	3.7794	4.0153	-0.2359	3.5955	3.9494	-0.3539
$\alpha$ H-Phgs (ppm)	5.0252	5.1045	-0.0793	5.2400	5.3738	-0.1338