

SUPPLEMENTARY MATERIAL

Tripeptide Derivatives from Vietnamese Mangrove-Derived Fungus *Aspergillus terreus* LM.5.2

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Abstract: Three new tripeptide-derivatives containing in their structures a rare cinnamic acid residue asterripeptides A-C (1-3) were isolated from Vietnamese mangrove-derived fungus *Aspergillus terreus* LM 5.2. Structures of isolated compounds were determined by NMR and ESIMS techniques combination. Absolute configurations of all stereocenters were determined using the Murfey's method via determining of amino acids configuration. Cytotoxicity against several cancer cell lines and inhibition ability of sortase A from *Staphylococcus aureus* of asterripeptides A-C were investigated.

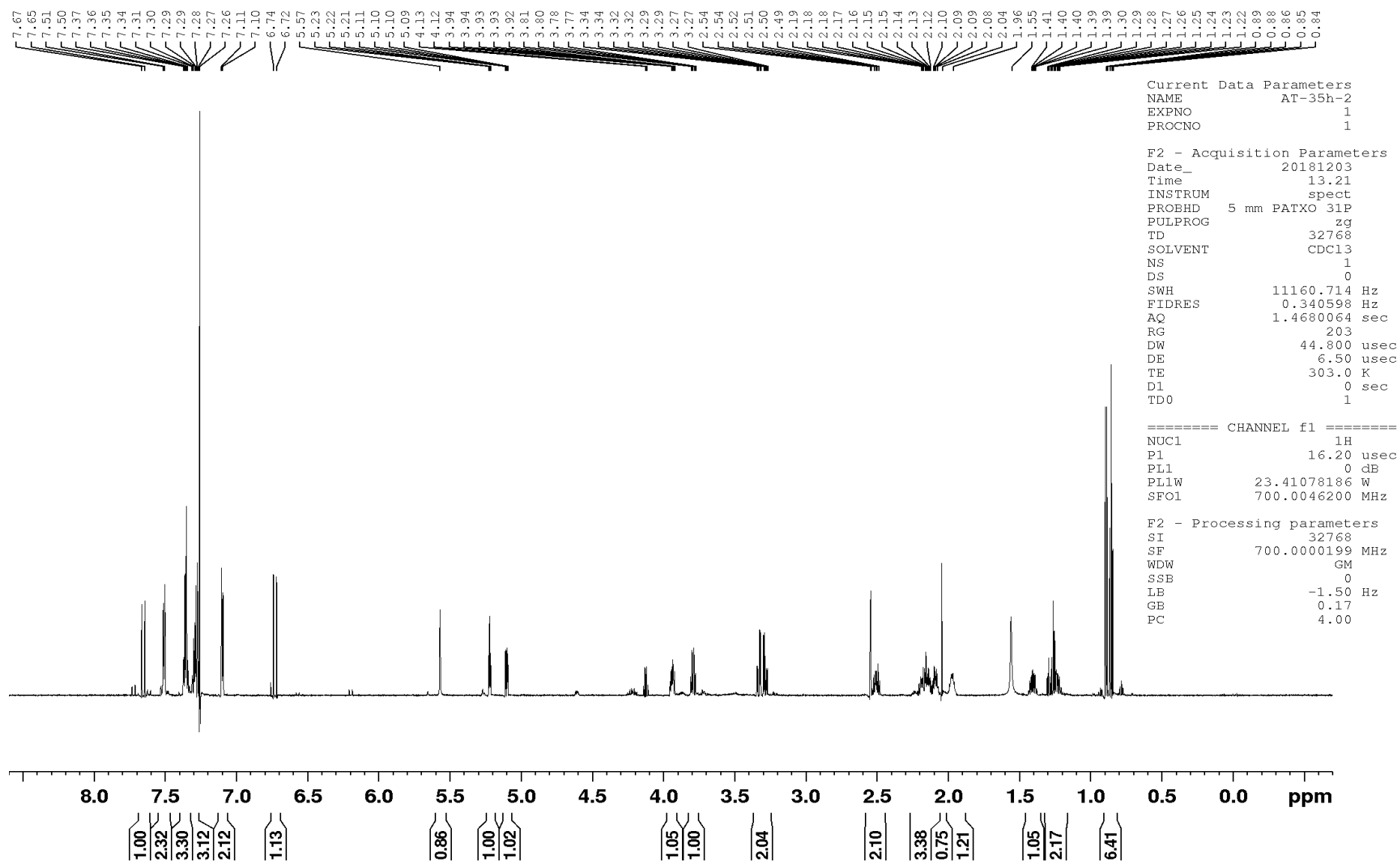
Keywords: marine-derived fungi, mangrove-derived fungi, secondary metabolites, diketopiperazines, tripeptide derivatives, cinnamic acid, sortase A, cytotoxicity

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Figure S1. ¹H NMR spectrum of asterriptide A (1)



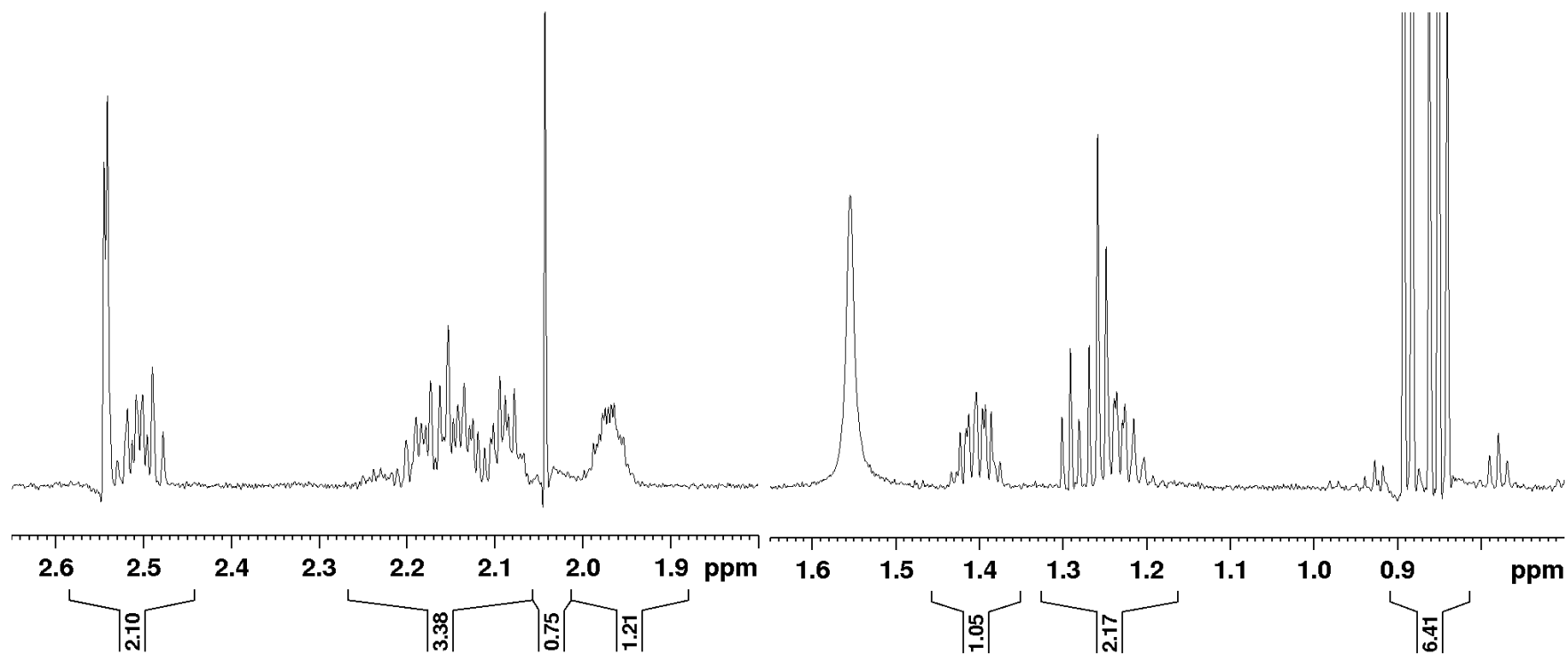


Figure S2. ^{13}C NMR spectrum of asterripeptide A (1)

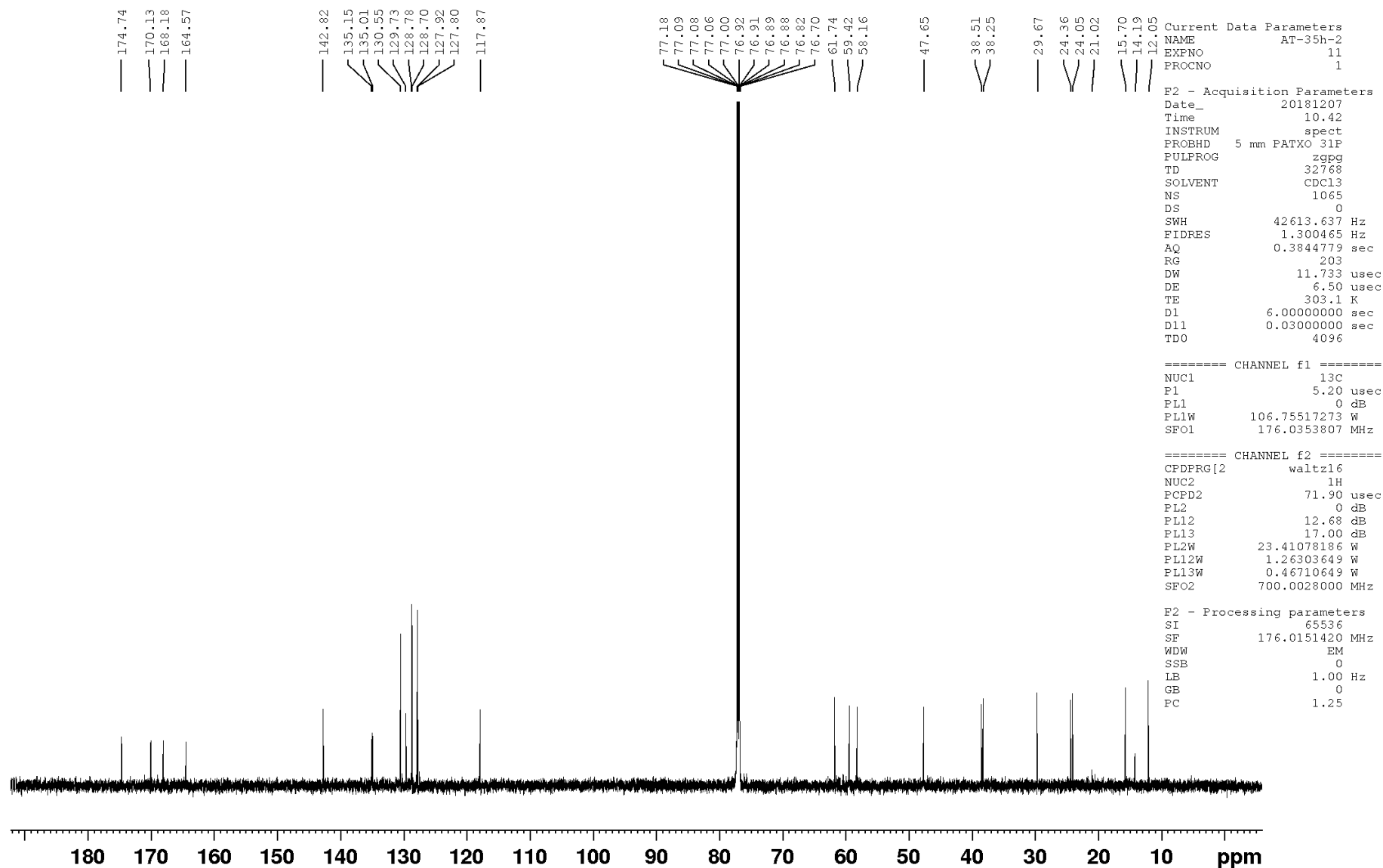


Figure S3. DEPT-135 spectrum of asterripeptide A (1)

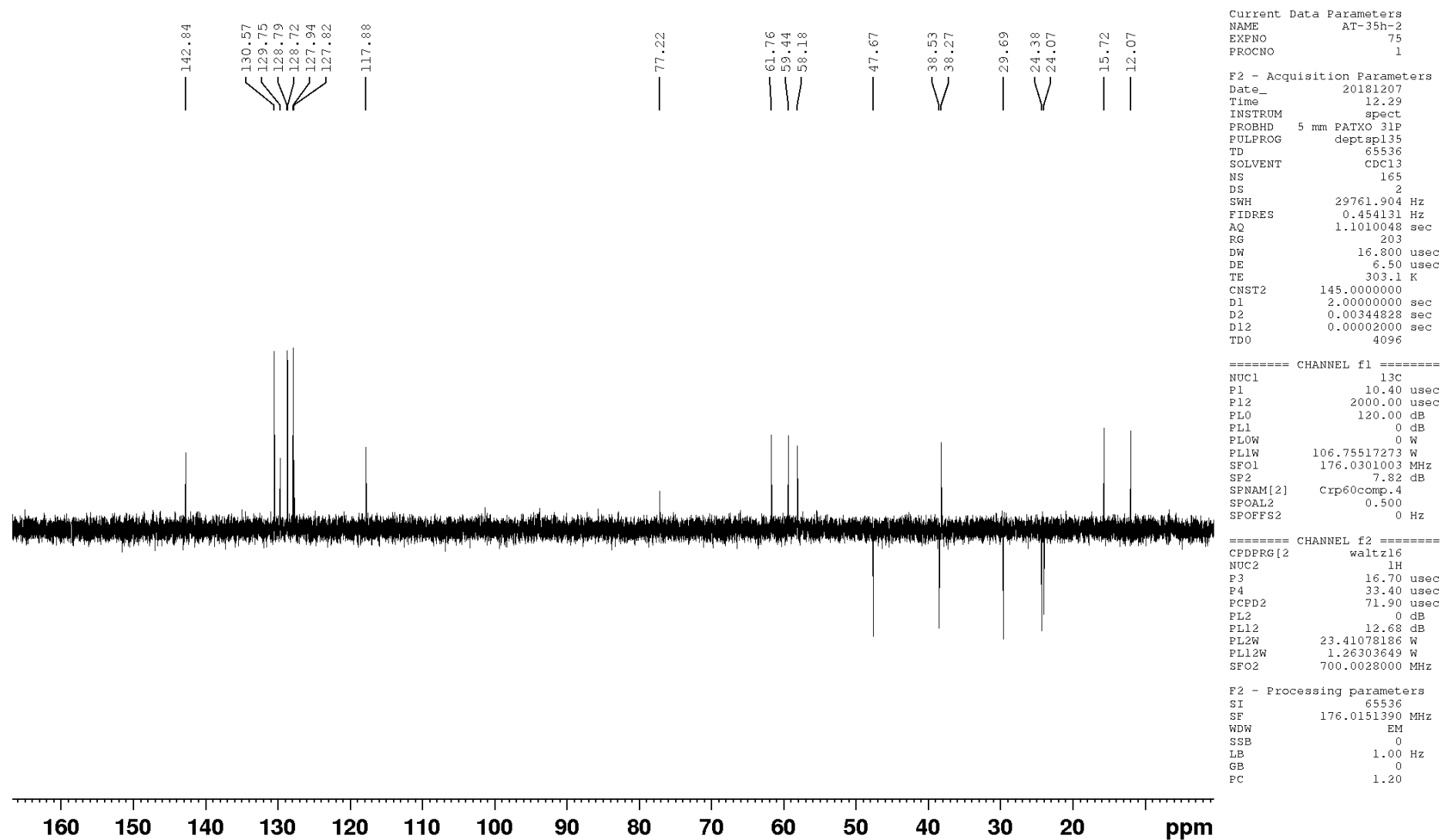


Figure S4. ¹H-¹H COSY spectrum of asterriptide A (1)

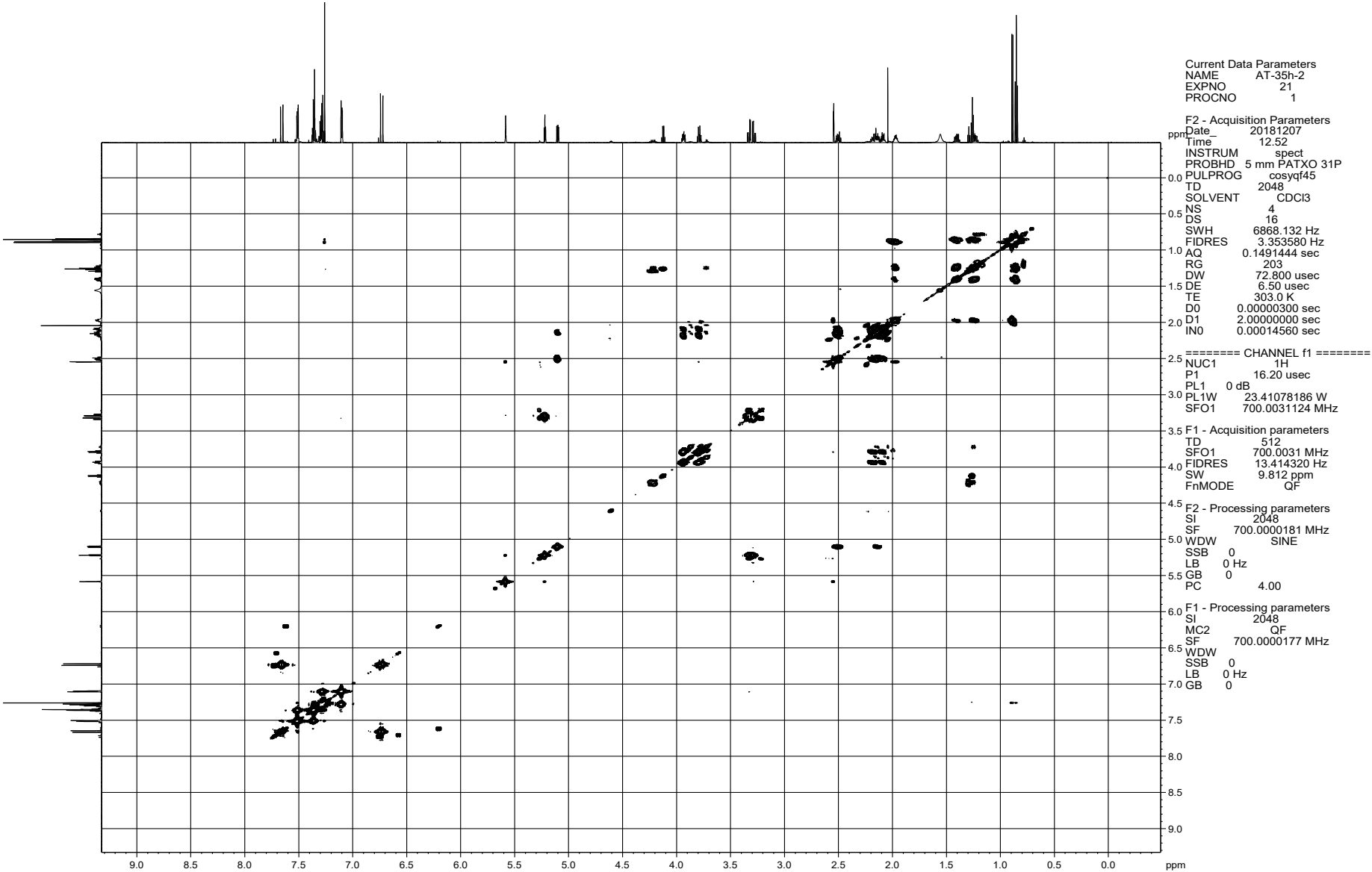


Figure S5. HMBC spectrum of asterripeptide A (1)

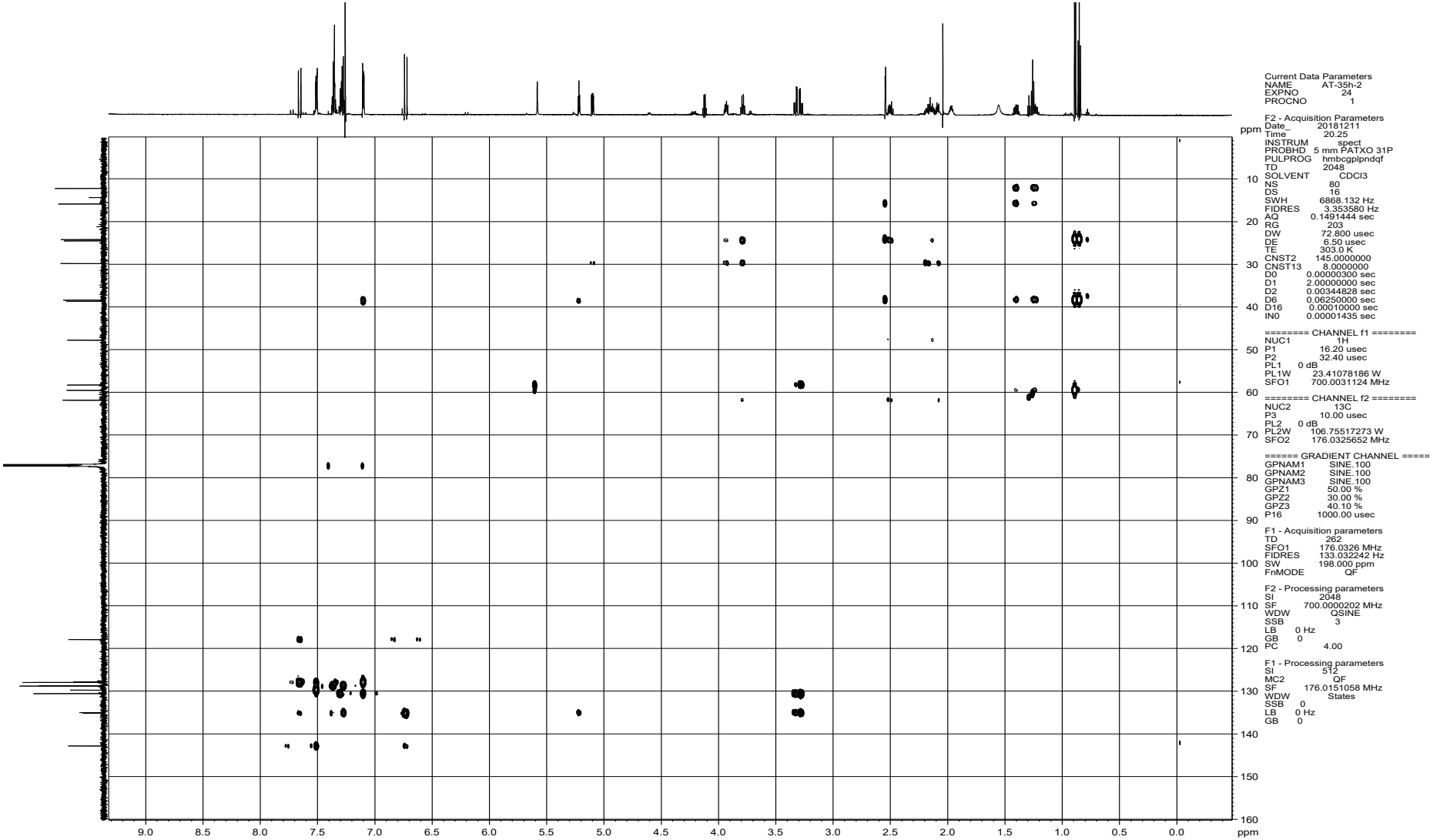


Figure S6. HSQC spectrum of asterripeptide A (1)

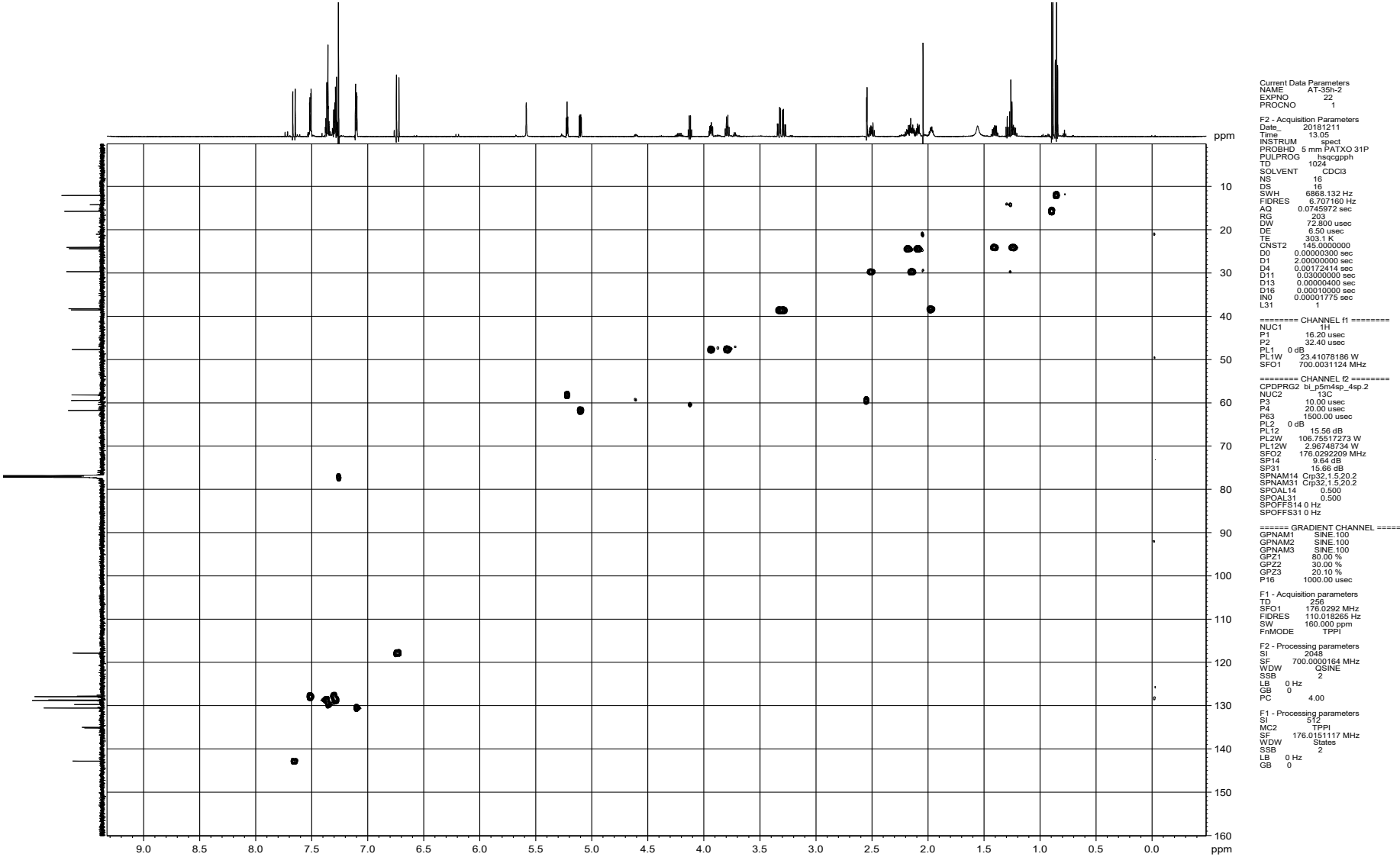


Figure S7. ROESY spectrum of asterriptide A (1)

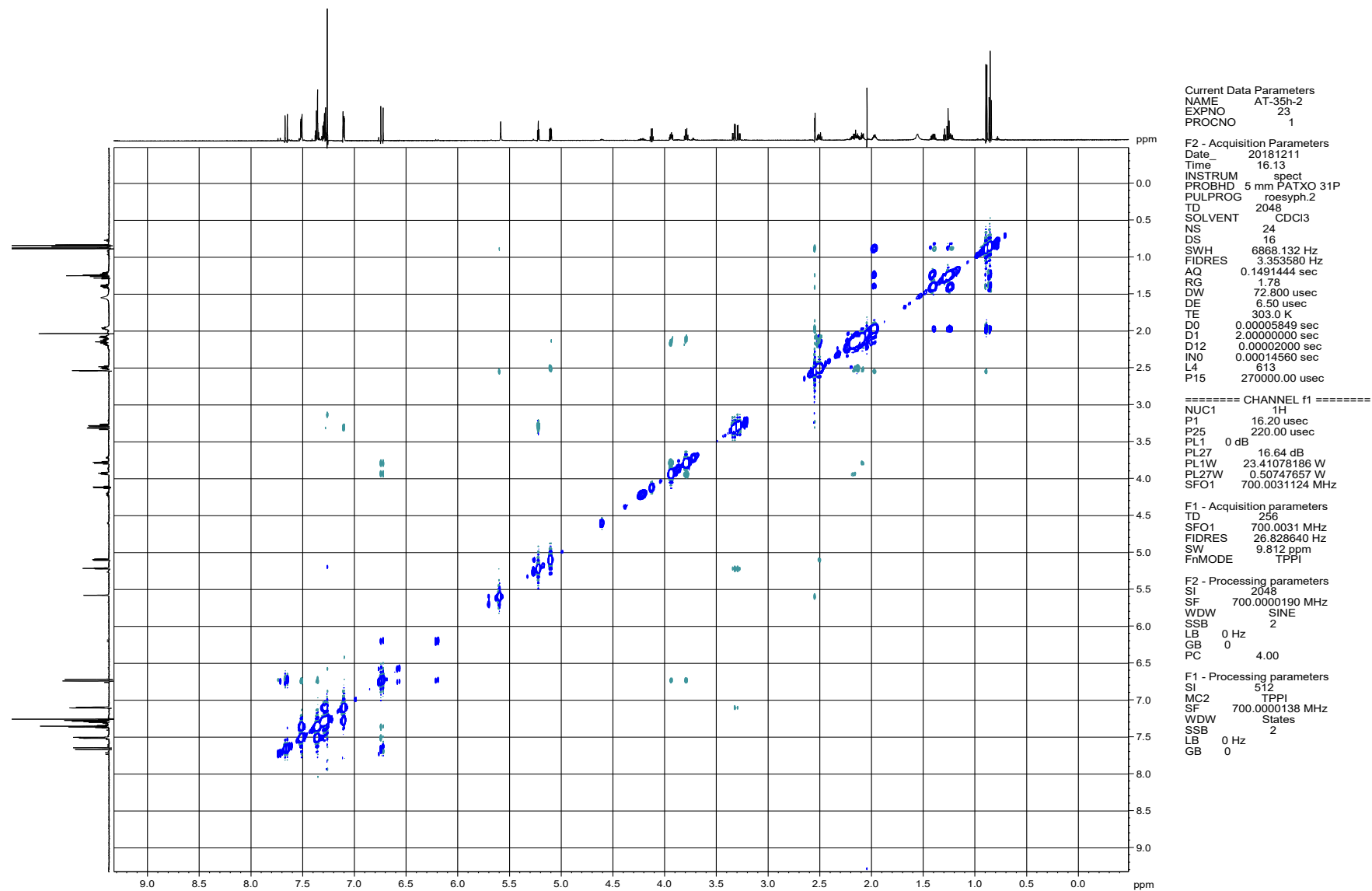
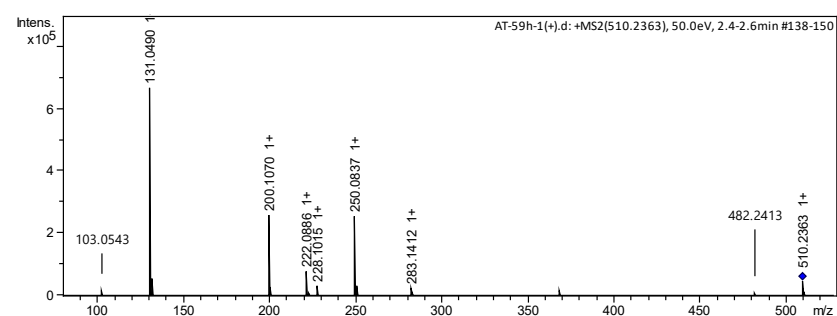
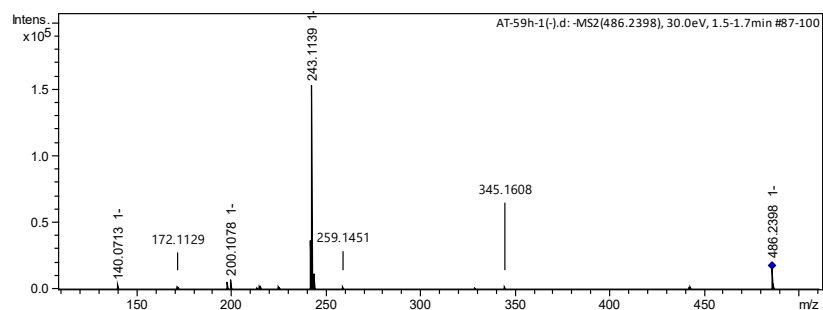
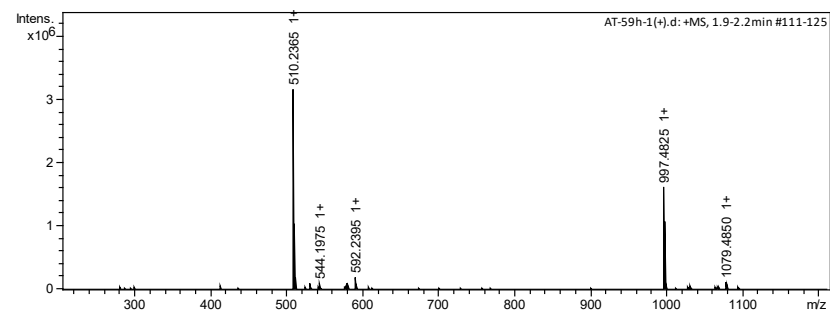
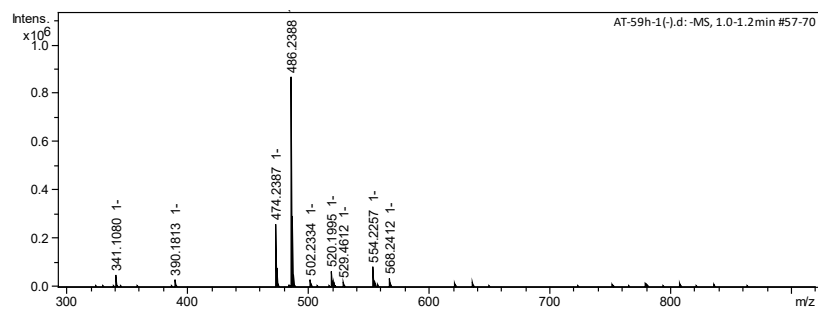
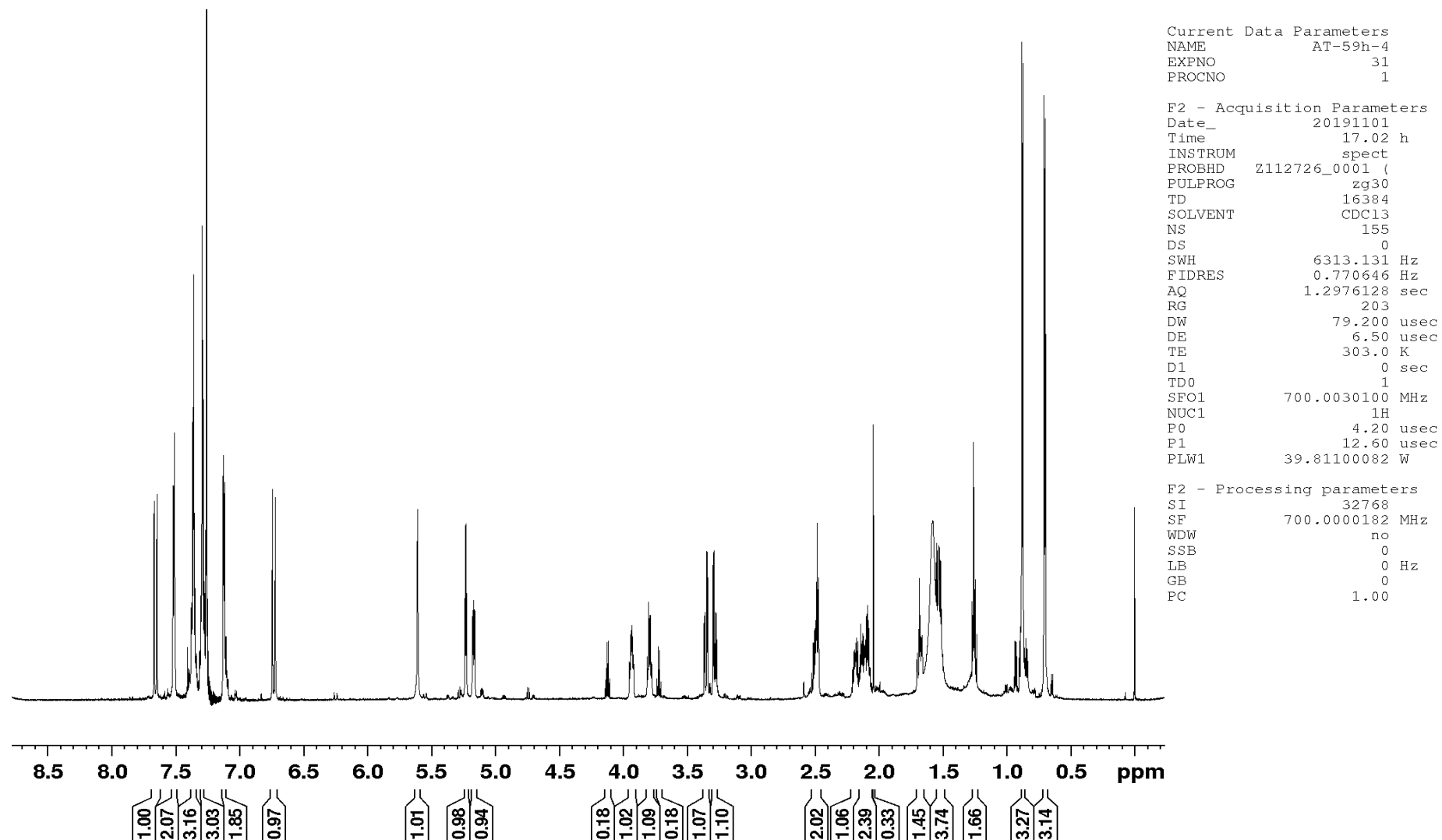


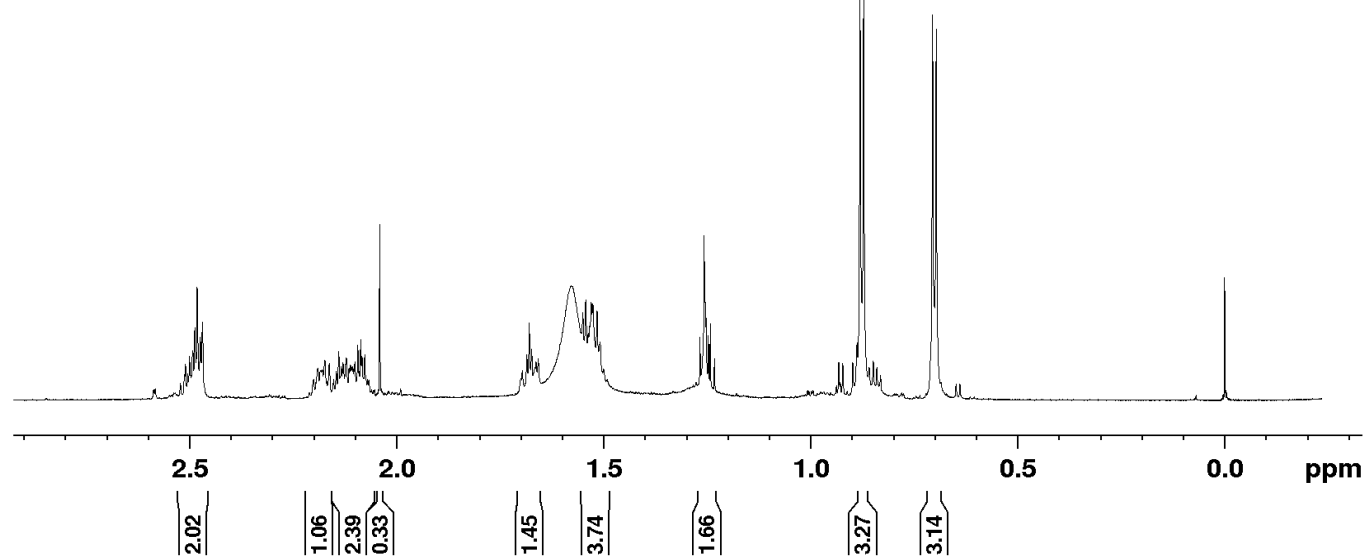
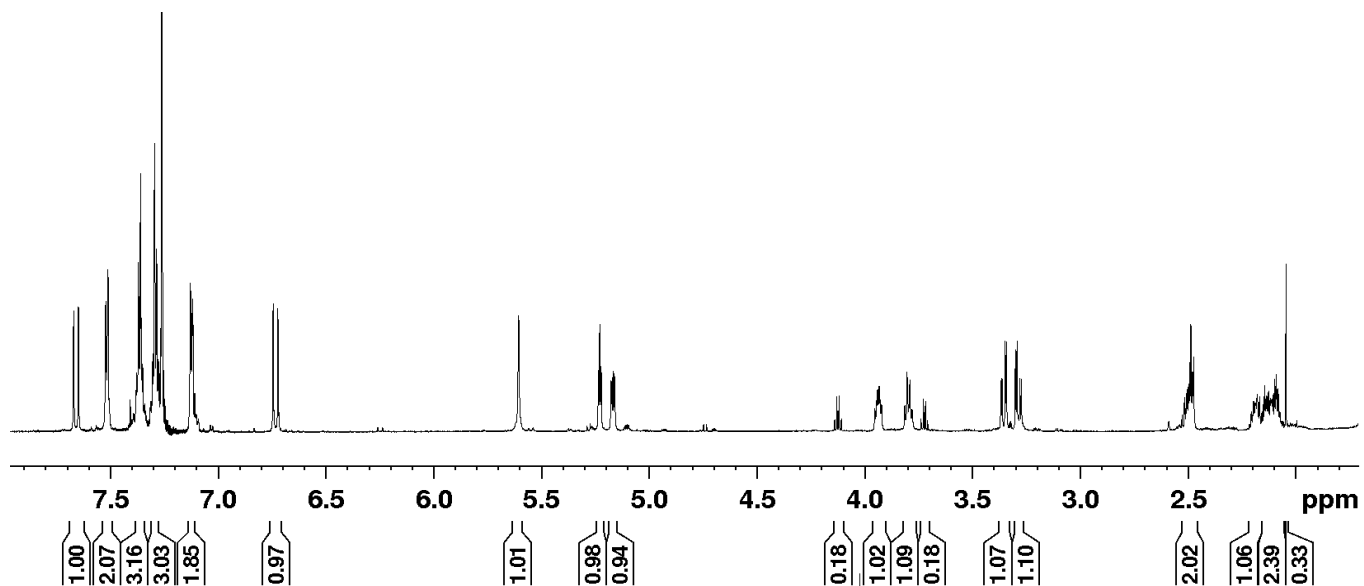
Figure S8. MS and MS/MS data of asterriptide A (1)



	meas.	calc.	Δ (ppm)
[M-H] ⁻	486,2387	486,2398	2,2
[M+Na] ⁺	510,2365	510,2363	-0,3

Figure S9. ^1H NMR data of asterriptide B (2)



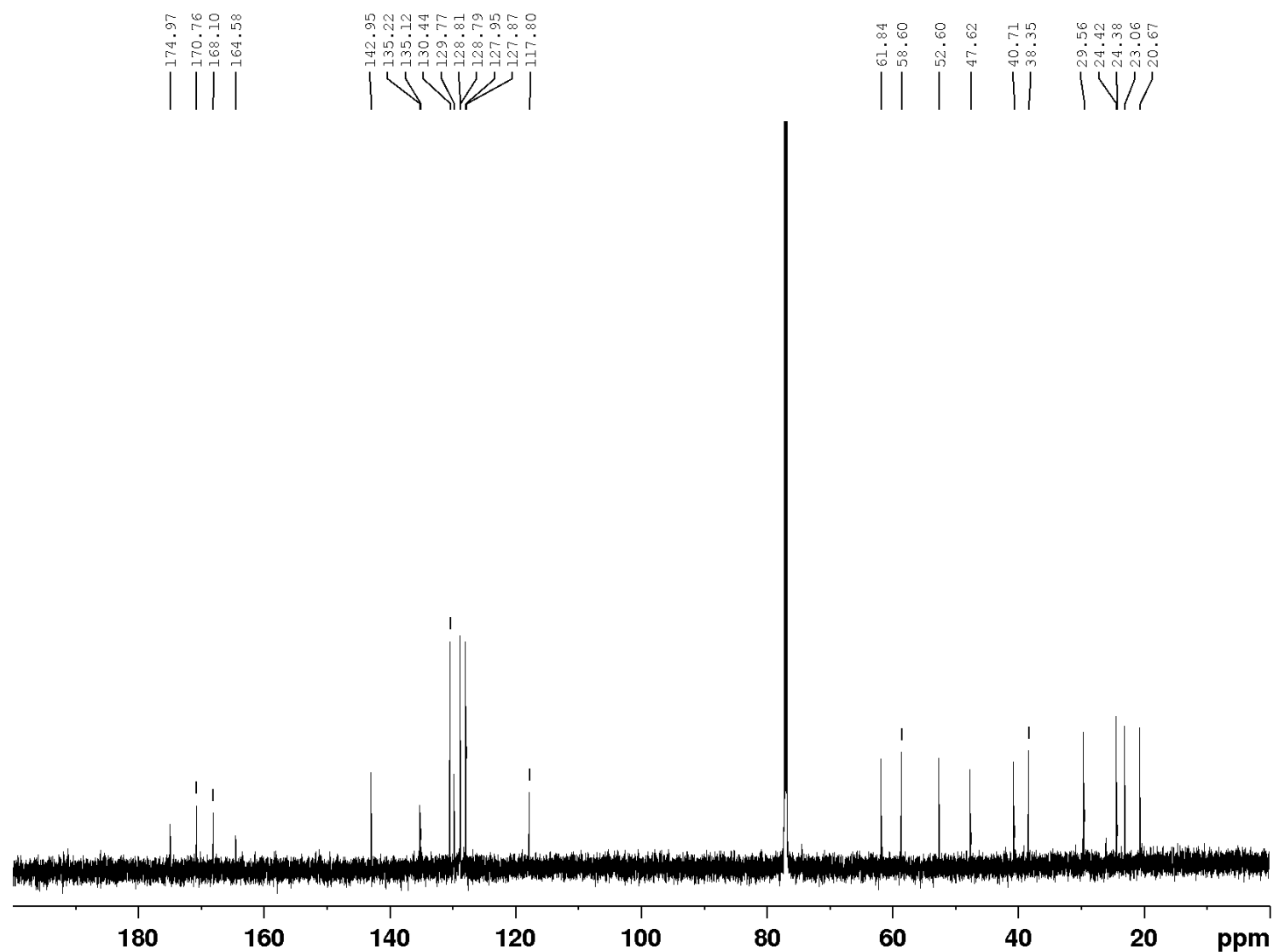


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 RG 203
 DW 79.200 usec
 DE 6.50 usec
 TE 303.0 K
 D1 0 sec
 TD0 1
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 P0 4.20 usec
 P1 12.60 usec
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F2 - Processing parameters
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 WDW no
 SSB 0
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Figure S10. ^{13}C NMR spectrum of asterriptide B (2)



Current Data Parameters

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EXPNO 3730
PROCNO 1

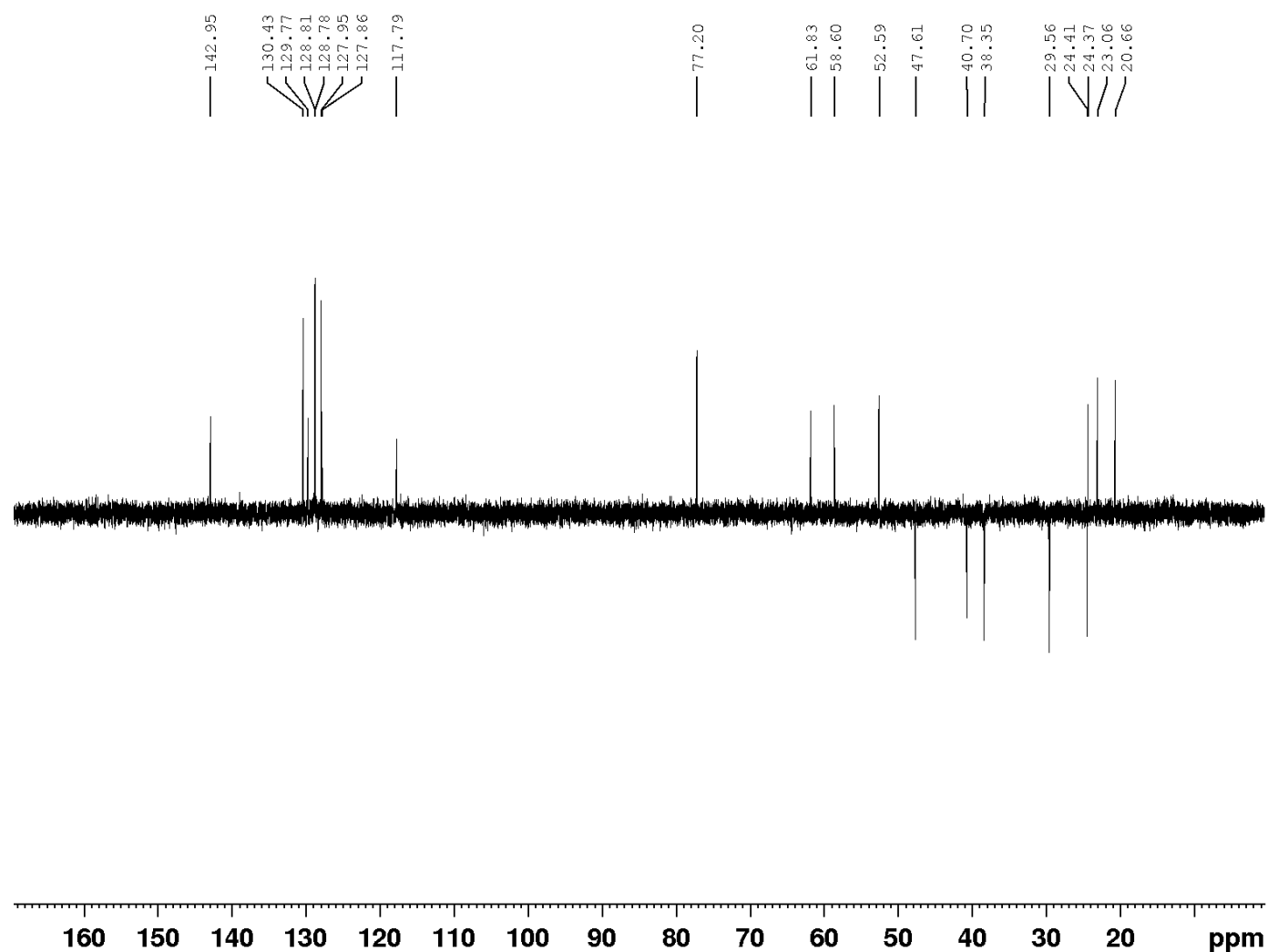
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DE 6.50 usec
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D11 0.03000000 sec
TD0 4096
SFO1 176.0353807 MHz
NUC1 ^{13}C
P0 3.50 usec
P1 10.50 usec
PLW1 35.48099899 W
SFO2 700.0028000 MHz
NUC2 ^1H
CPDPRG[2] waltz16
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PLW12 1.43719995 W
PLW13 0.83929998 W

F2 - Processing parameters

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PC 1.00

Figure S11. DEPT NMR spectrum of asterriptide B (2)



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EXPNO 3135
PROCNO 1

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DE 6.50 usec
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CNST2 145.000000
D1 2.00000000 sec
D2 0.00344828 sec
D12 0.00002000 sec
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NUC1 13C
P1 10.50 usec
P13 2000.00 usec
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PLW1 35.48099899 W
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SPW5 7.96899986 W
SFO2 700.0028000 MHz
NUC2 1H
CPDPRG[2] waltz16
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P4 26.60 usec
PCPD2 70.00 usec
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PLW12 1.43719995 W

F2 - Processing parameters
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WDW EM
SSB 0
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Figure S12. HSQC spectrum of asterriptide B (2)

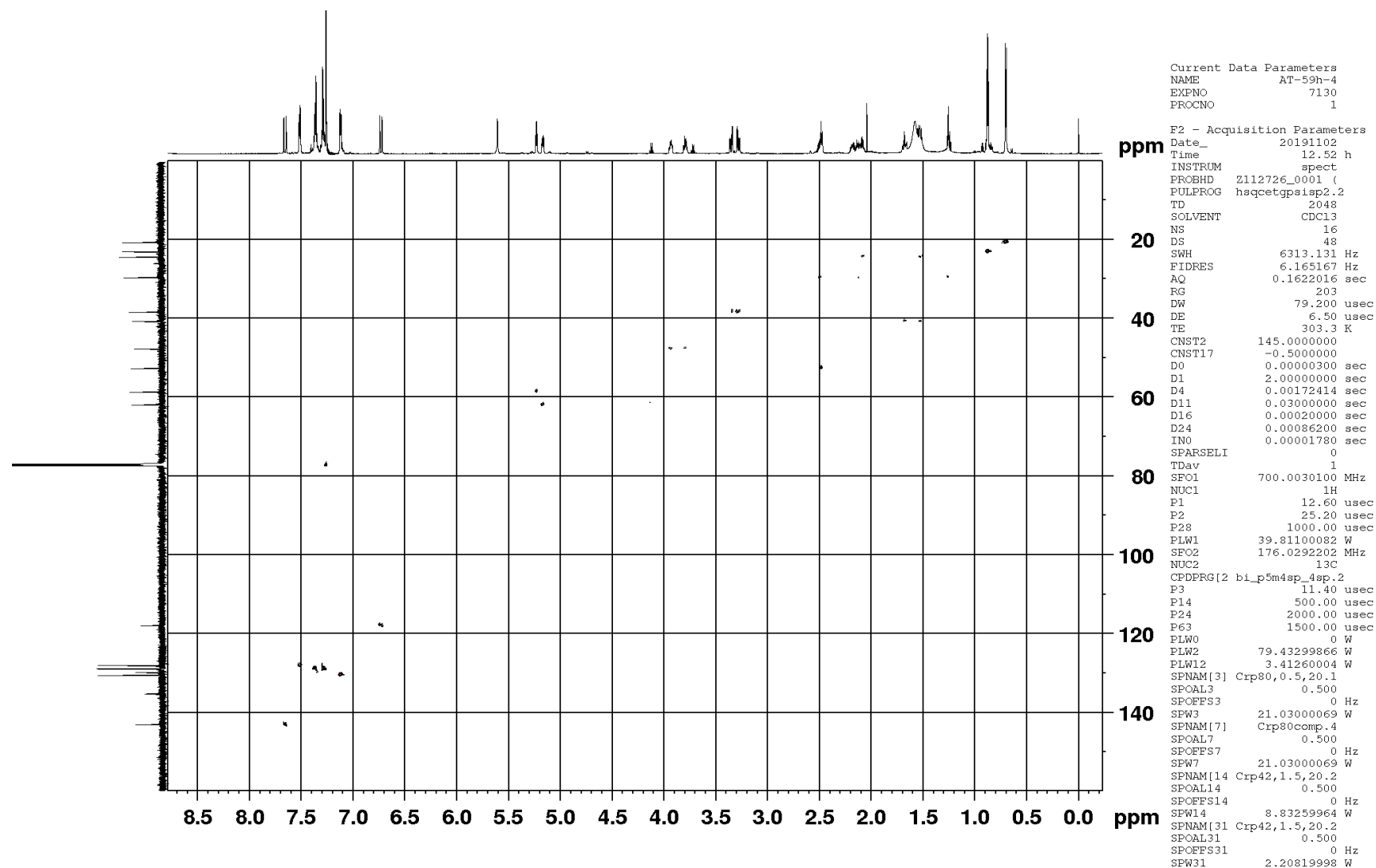


Figure S13. HMBC spectrum of asterriptide B (2)

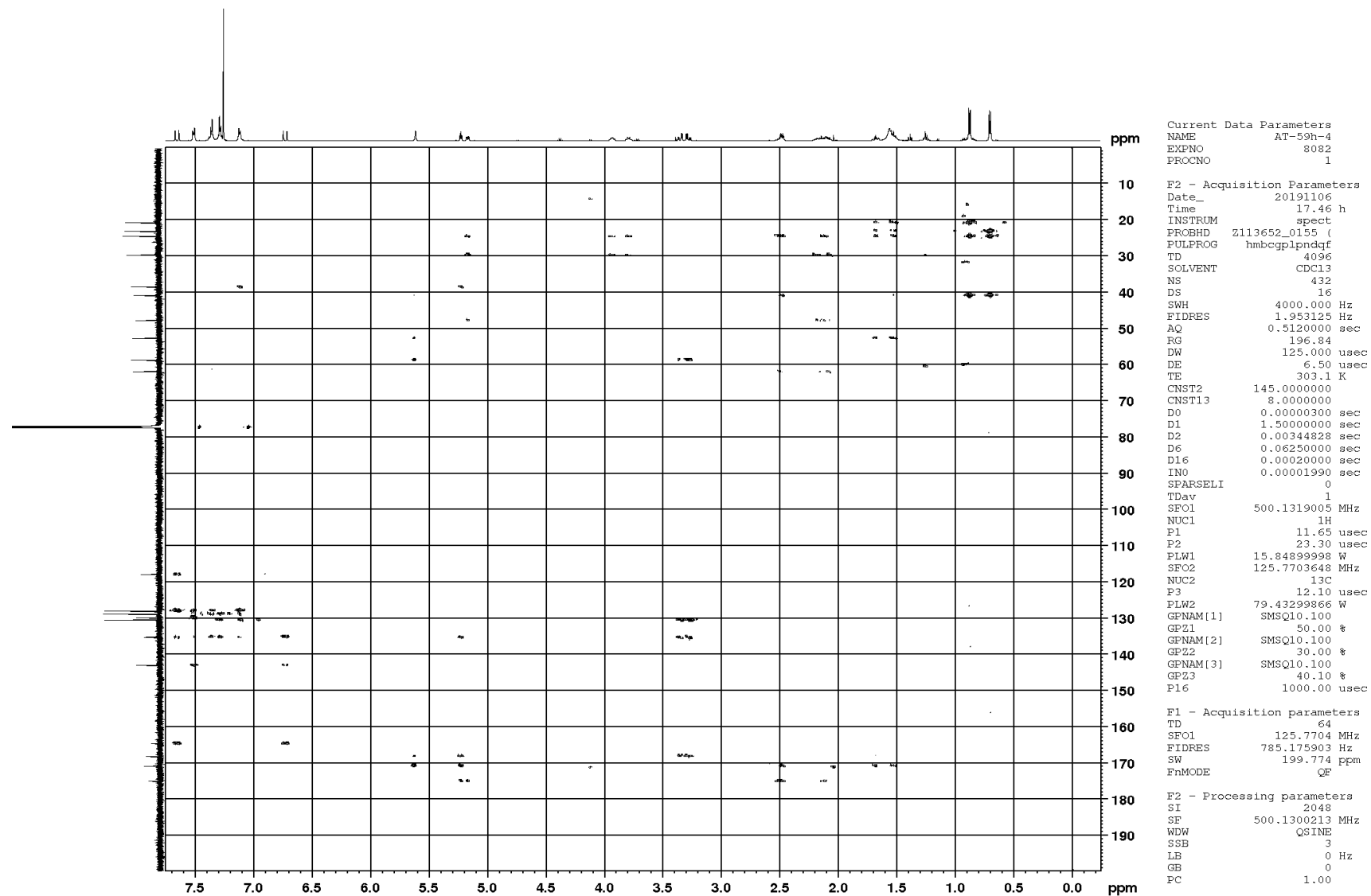


Figure S14. ^1H - ^1H COSY spectrum of asterriptide B (2)

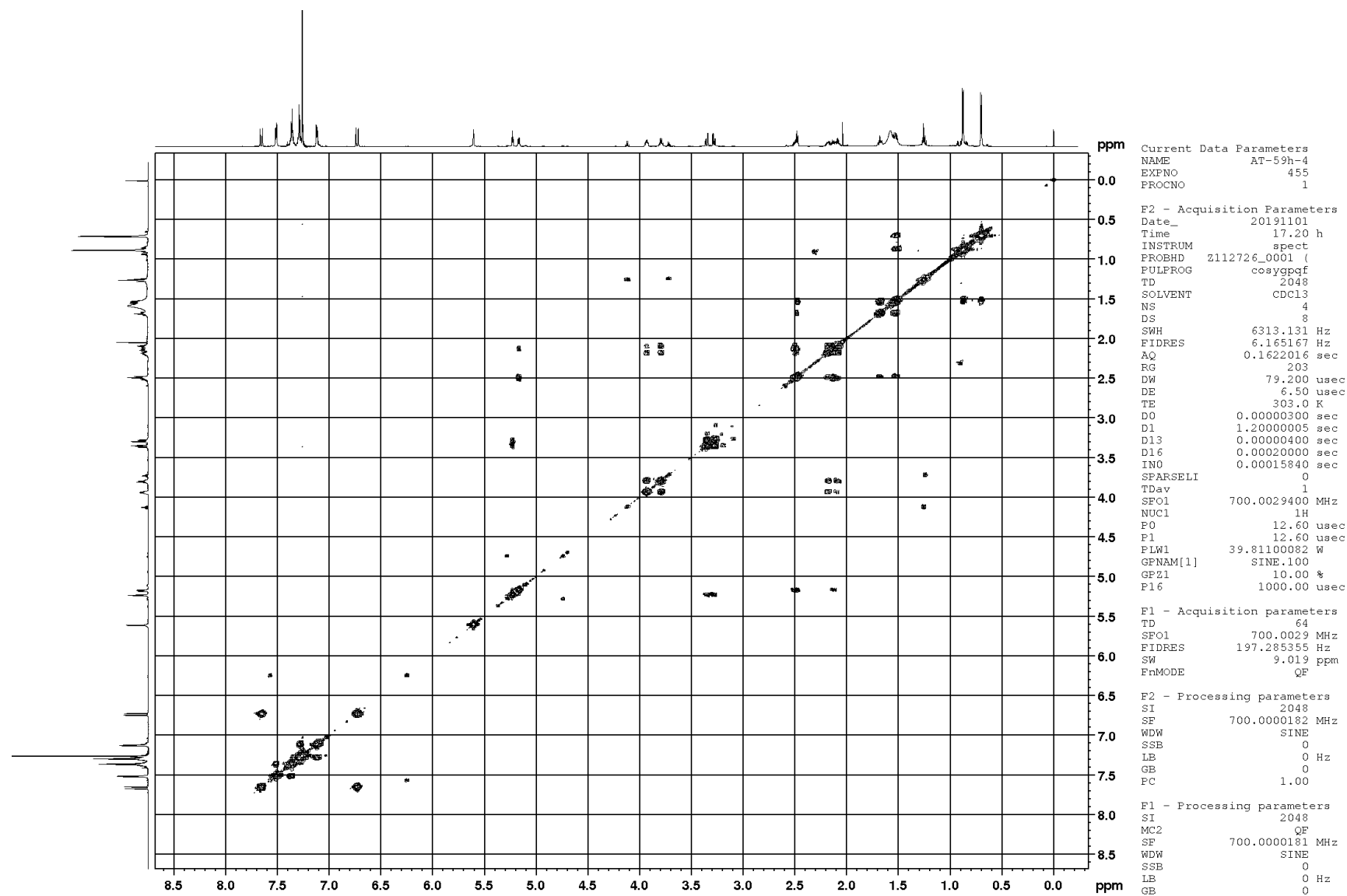


Figure S15. NOESY spectrum of asterriptide B (2)

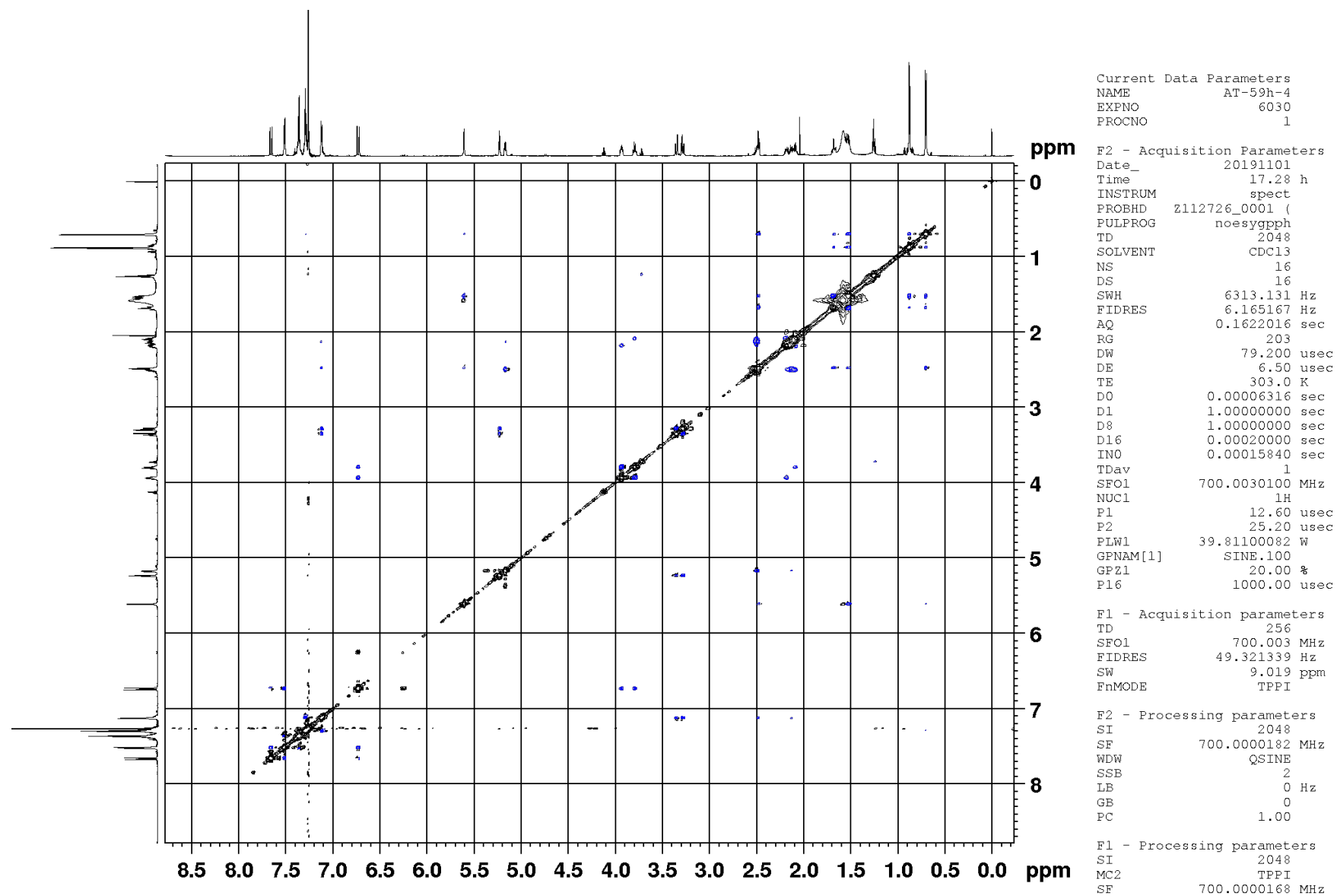
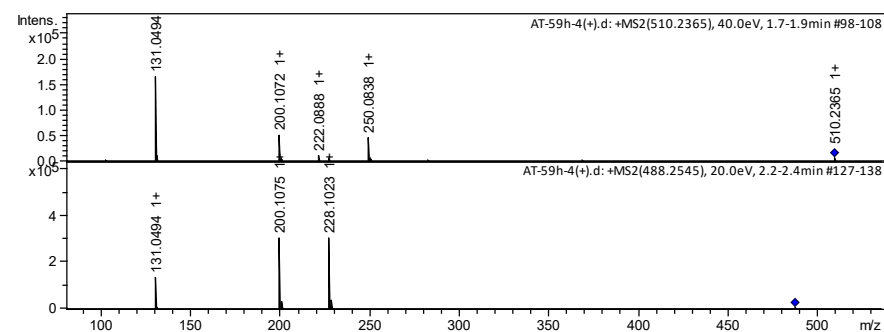
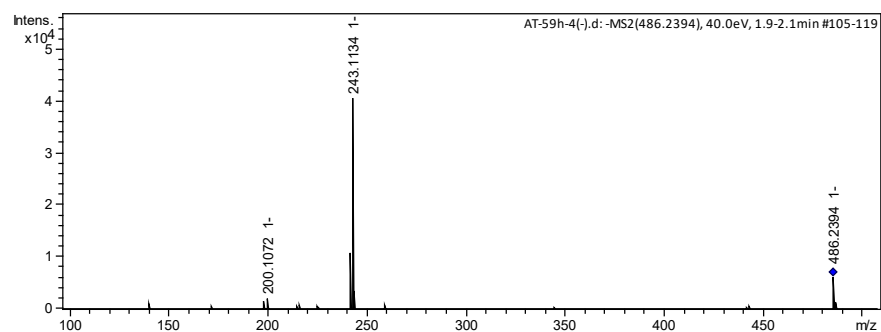
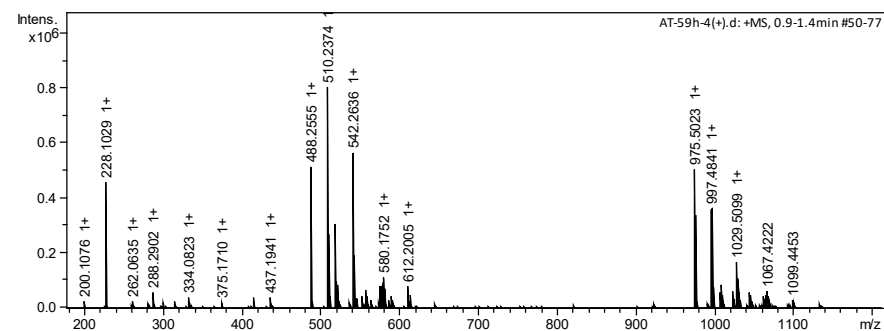
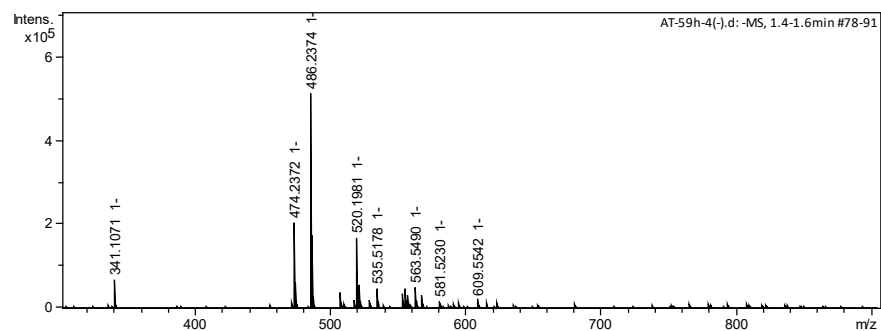
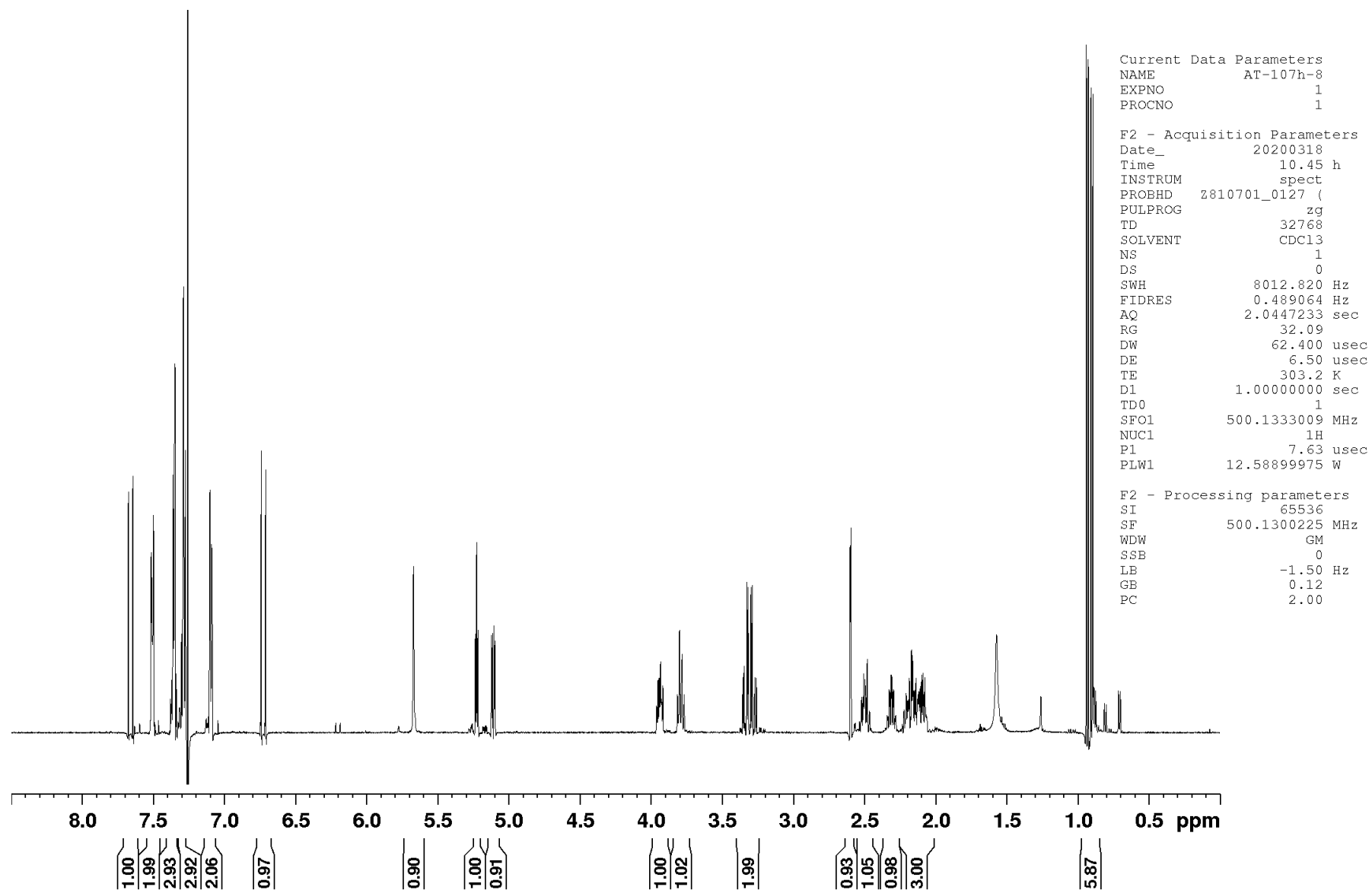


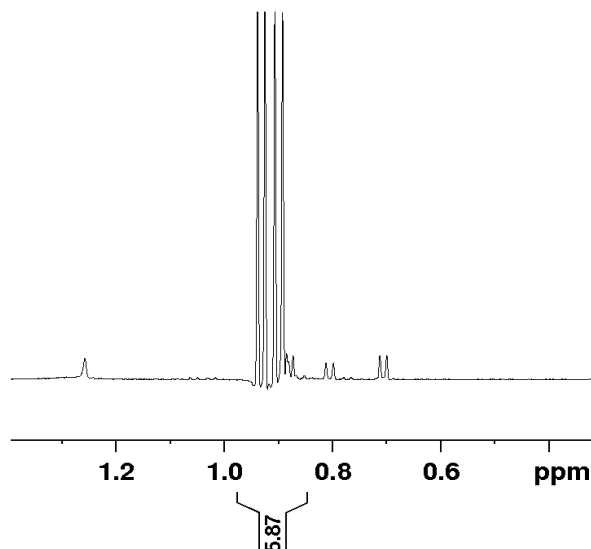
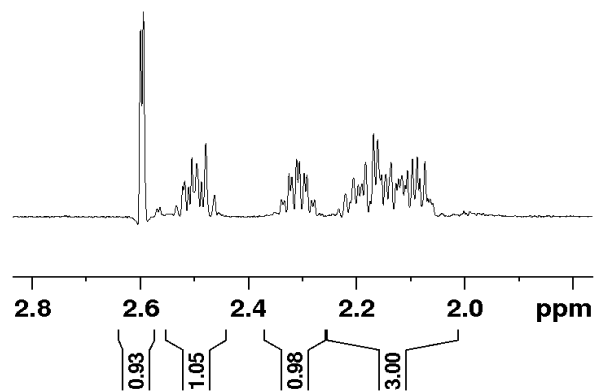
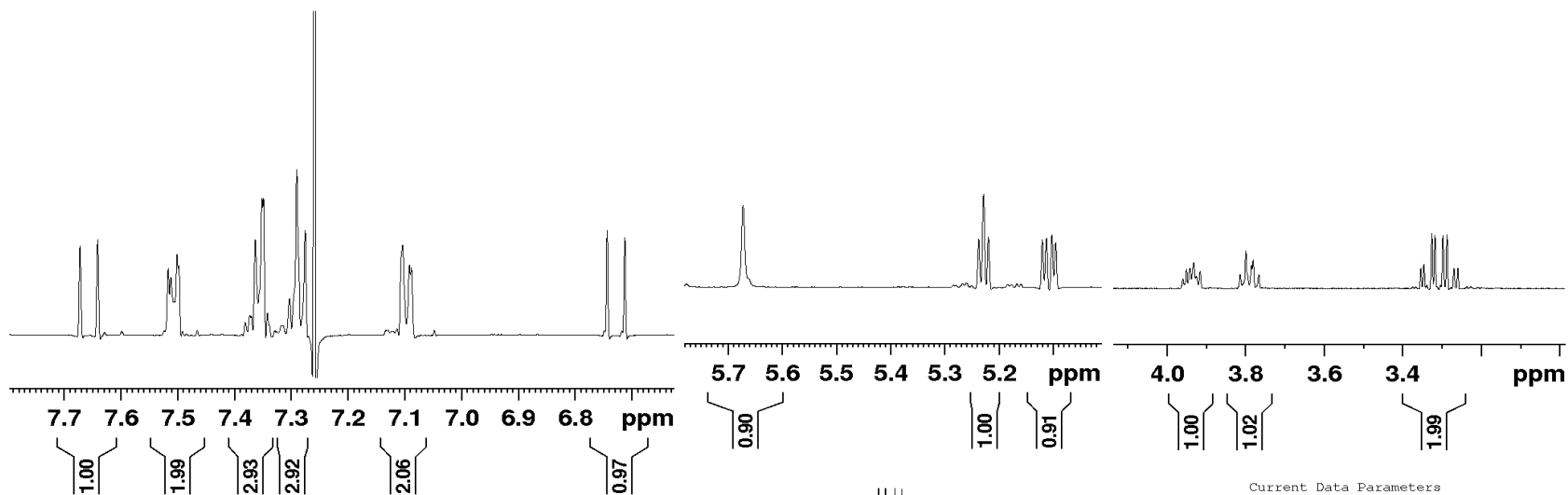
Figure S16. MS and MS/MS data of asterriptide B (2)



	meas.	calc.	Δ (ppm)
[M-H] ⁻	486,2374	486,2398	5,1
[M+Na] ⁺	510,2374	510,2363	-2,1

Figure S17. ^1H NMR spectrum of asterriptide C (3)





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PROCNO 1

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FIDRES 0.489064 Hz
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DW 62.400 usec
DE 6.50 usec
TE 303.2 K
D1 1.00000000 sec
TD0 1
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NUC1 1H
P1 7.63 usec
PLW1 12.58899975 W

F2 - Processing parameters
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GB 0.12
PC 2.00

Figure S18. ^{13}C NMR spectrum of asterripeptide C (3)

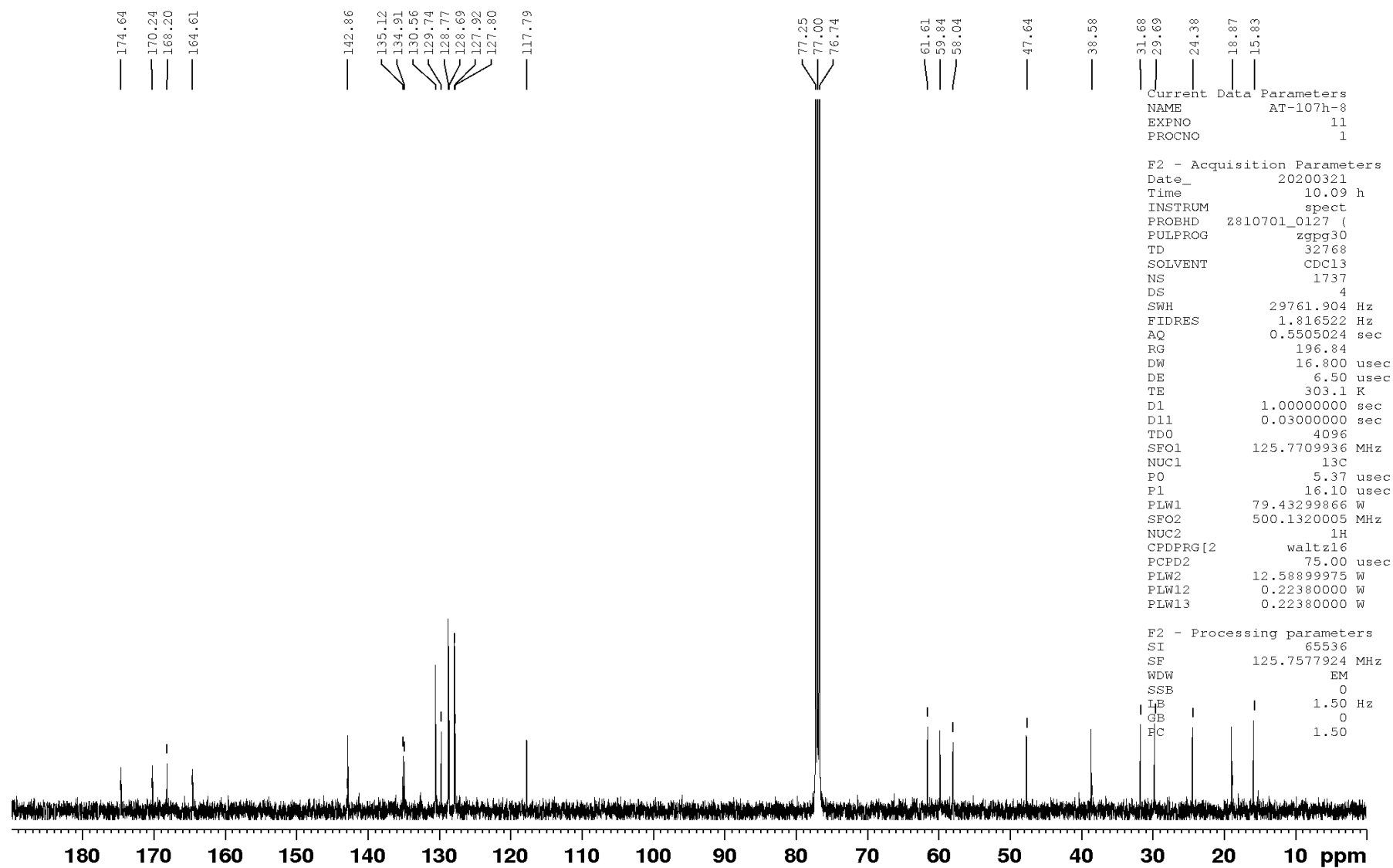


Figure S19. DEPT NMR spectrum of asterriptide C (3)

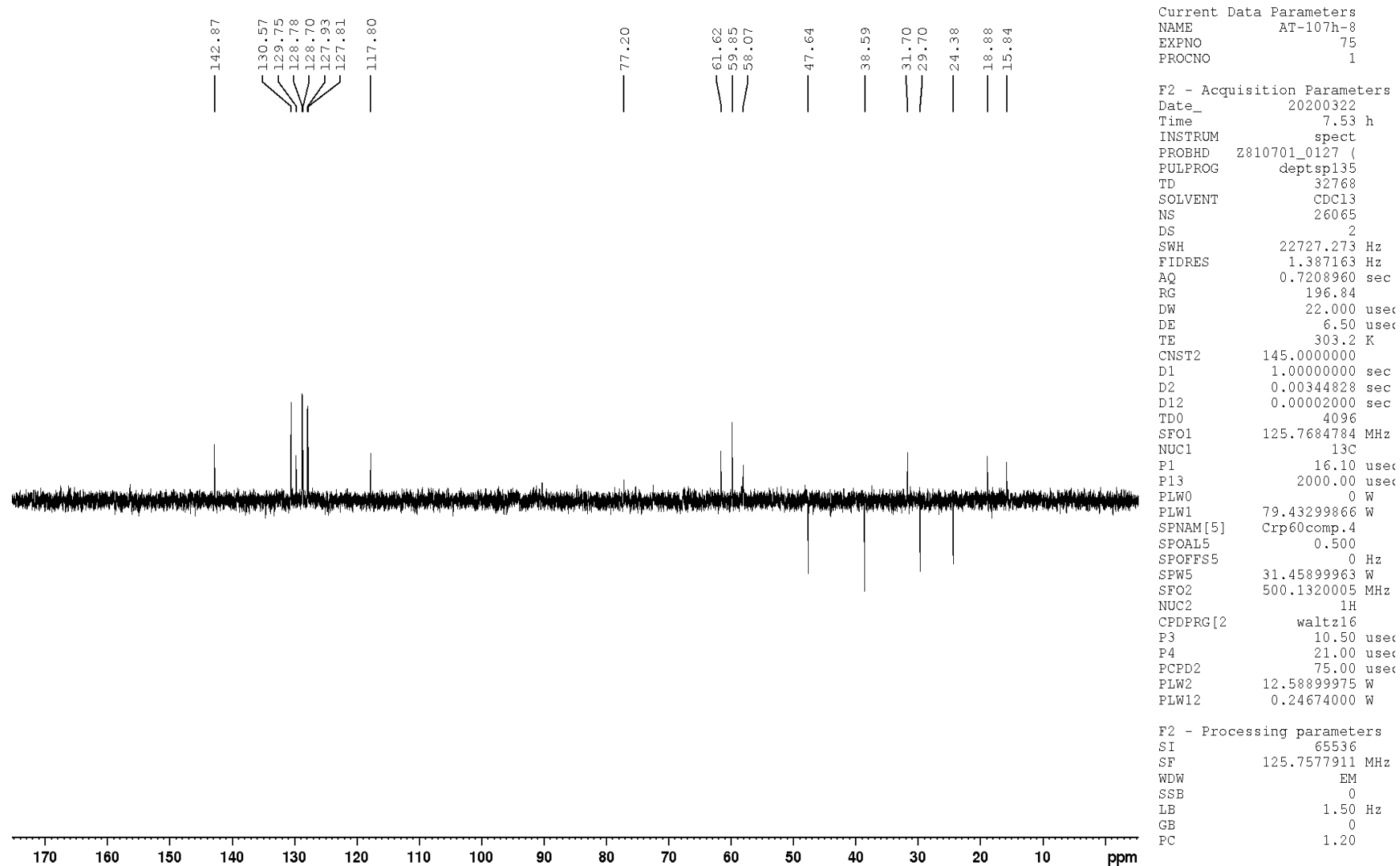


Figure S20. HSQC NMR spectrum of asterriptide C (3)

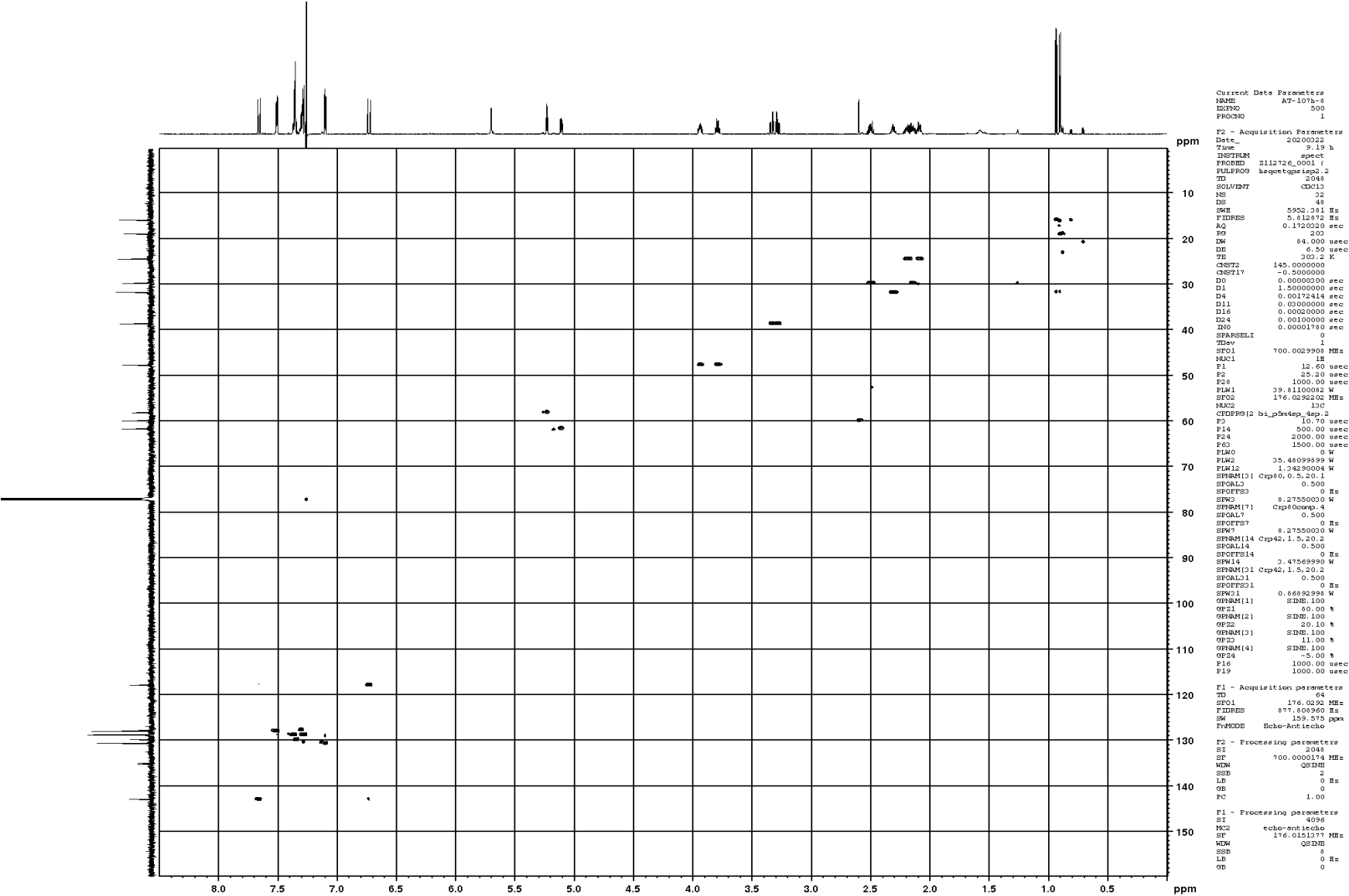


Figure S21. HMBC NMR spectrum of asterriptide C (3)

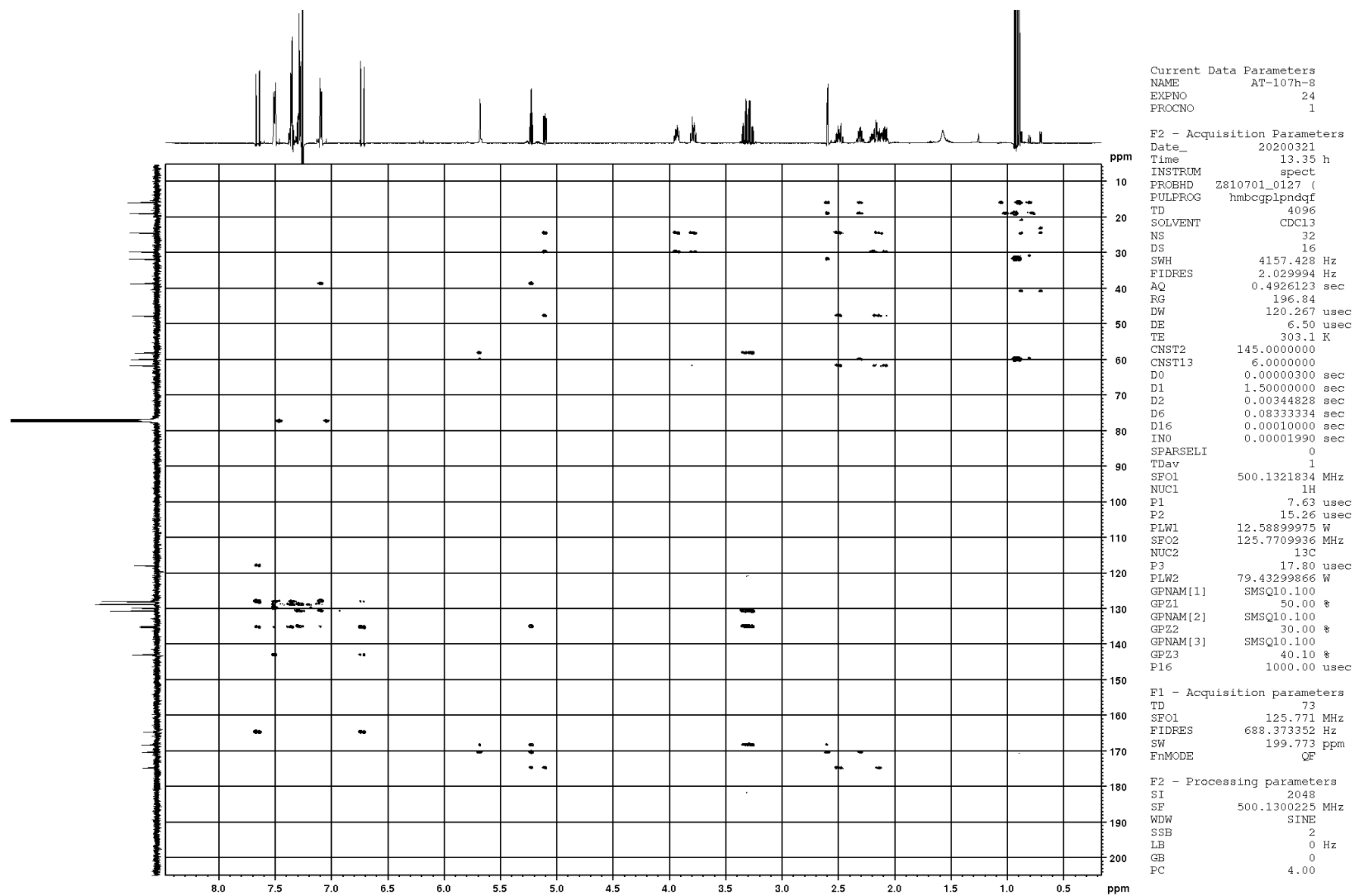


Figure S22. ^1H - ^1H COSY NMR spectrum of asterriptide C (3)

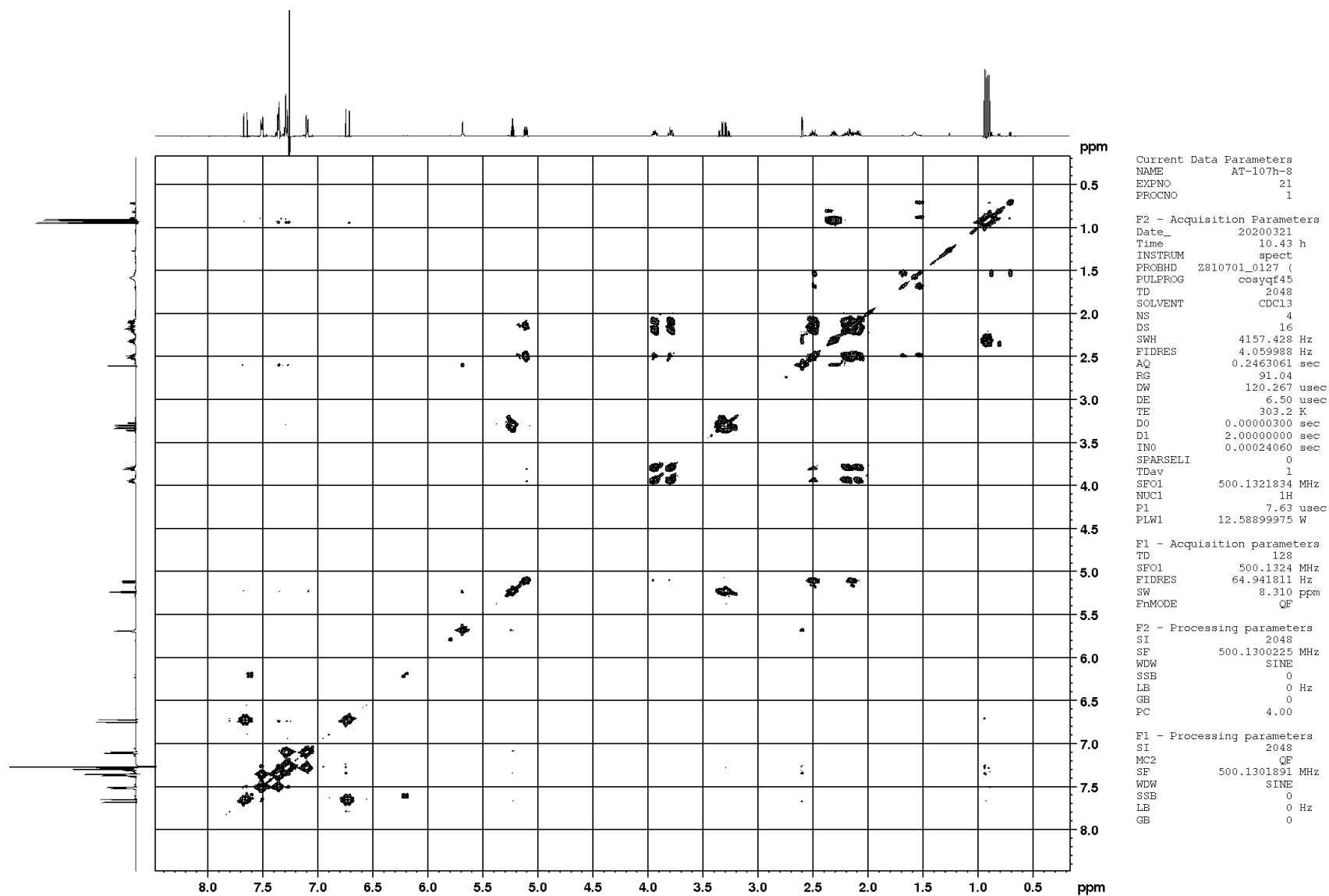


Figure S23. ROESY NMR spectrum of asterripeptide C (3)

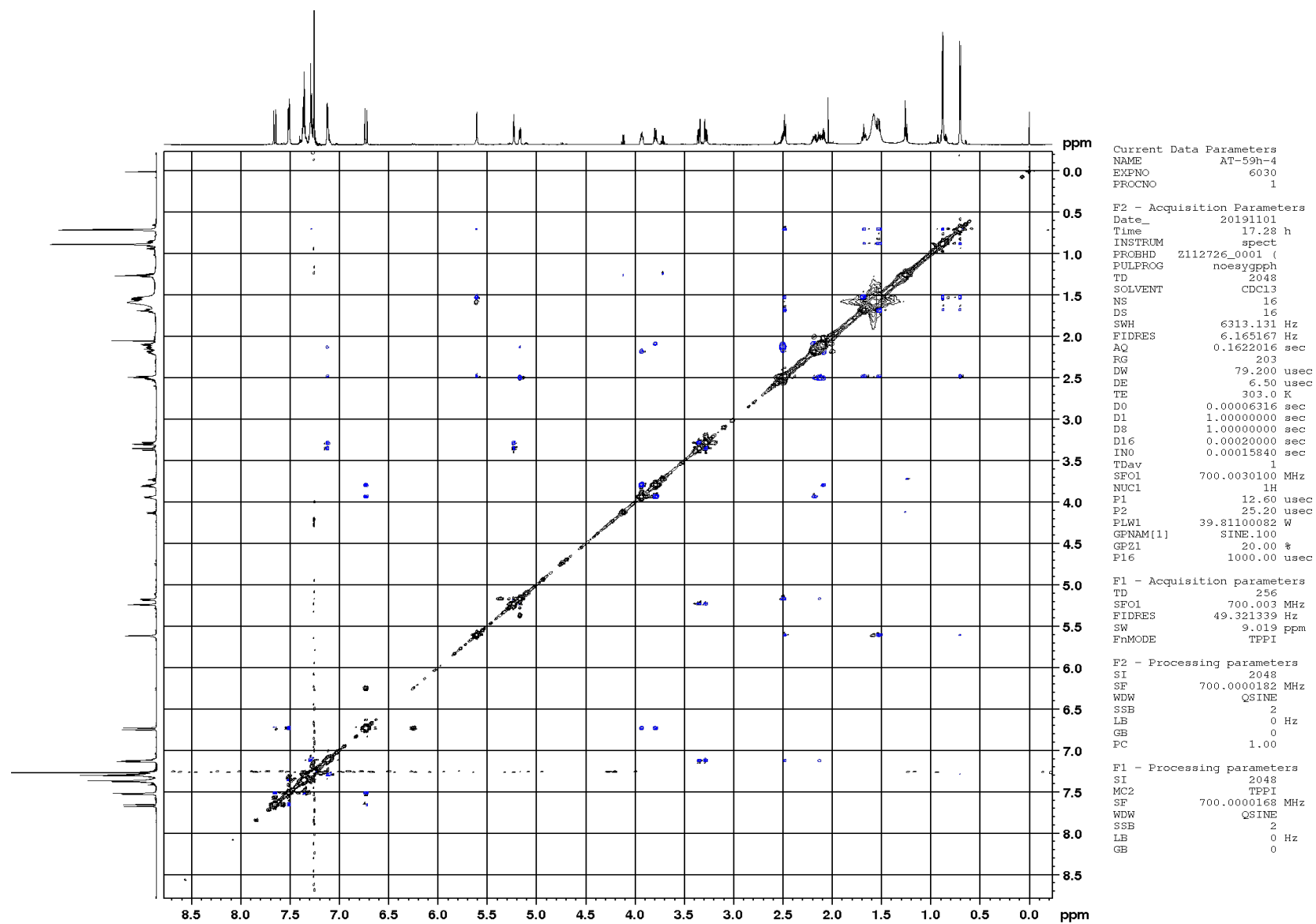
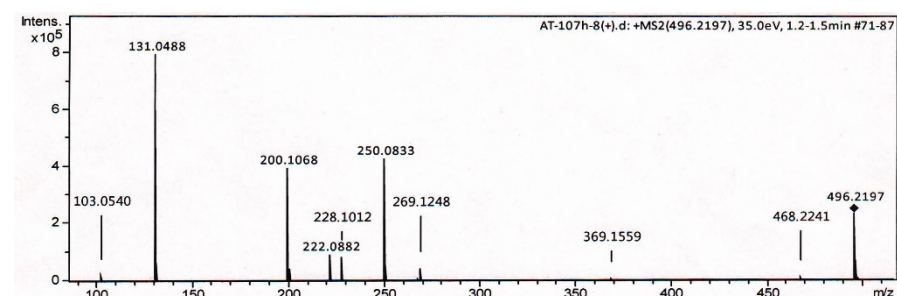
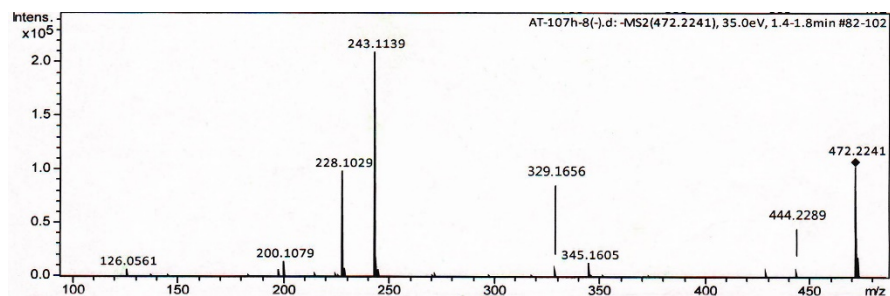
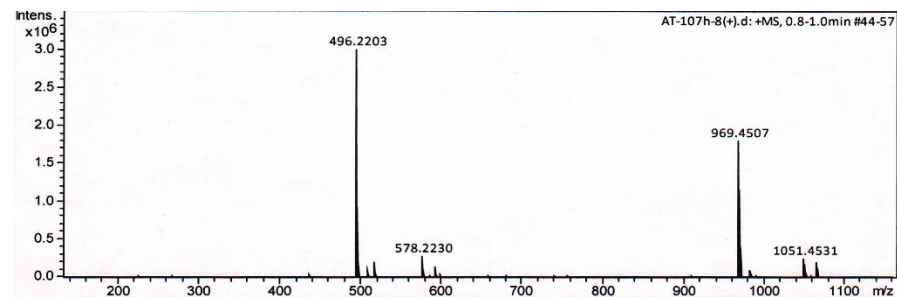
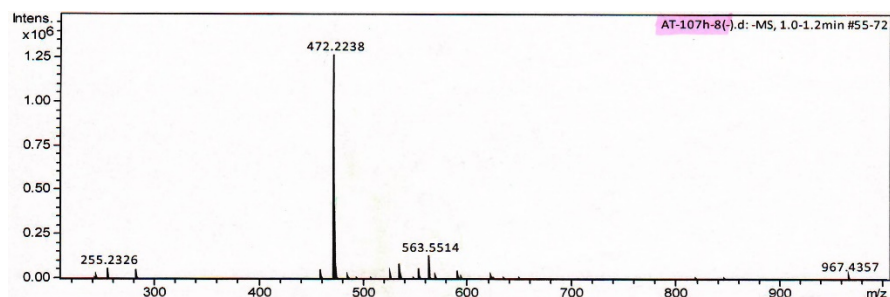


Figure S24. MS and MS/MS data of asterriptide C (3)



	meas.	calc.	Δ (ppm)
[M-H] ⁻	472.2238	472.2242	0.7
[M+Na] ⁺	496.2203	496.2207	0.8

Figure S25. HPLC profile of *L*-FDAA-derivatives of asterriptide A (1) hydrolysis products (HP)

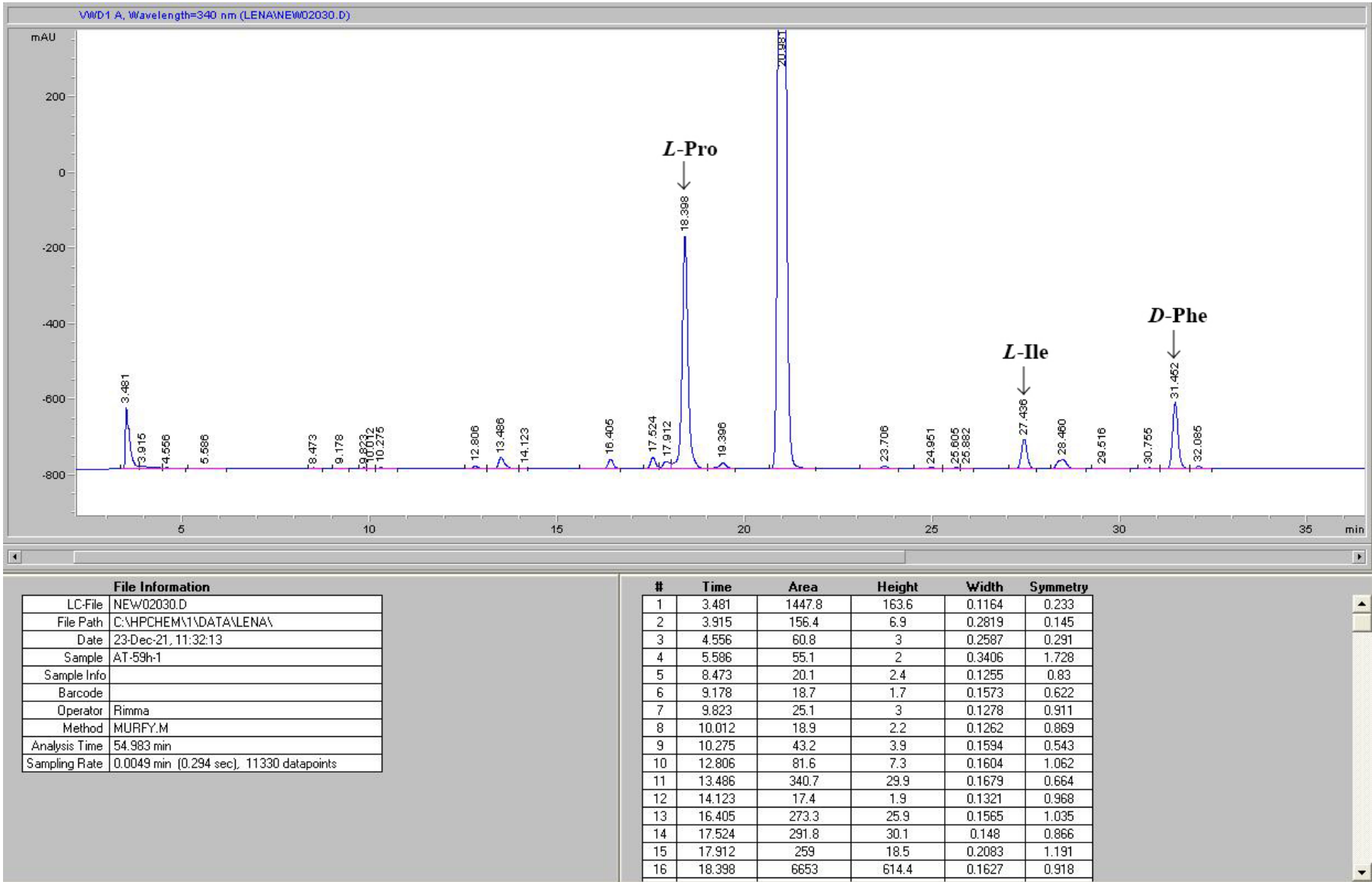


Figure S26. HPLC profile of *L*-FDAA-derivatives of asterriptide A (1) HP (a), asterriptide A HP+*L*-Ile (b) and asterriptide A HP+*D,L*-Ile (c)

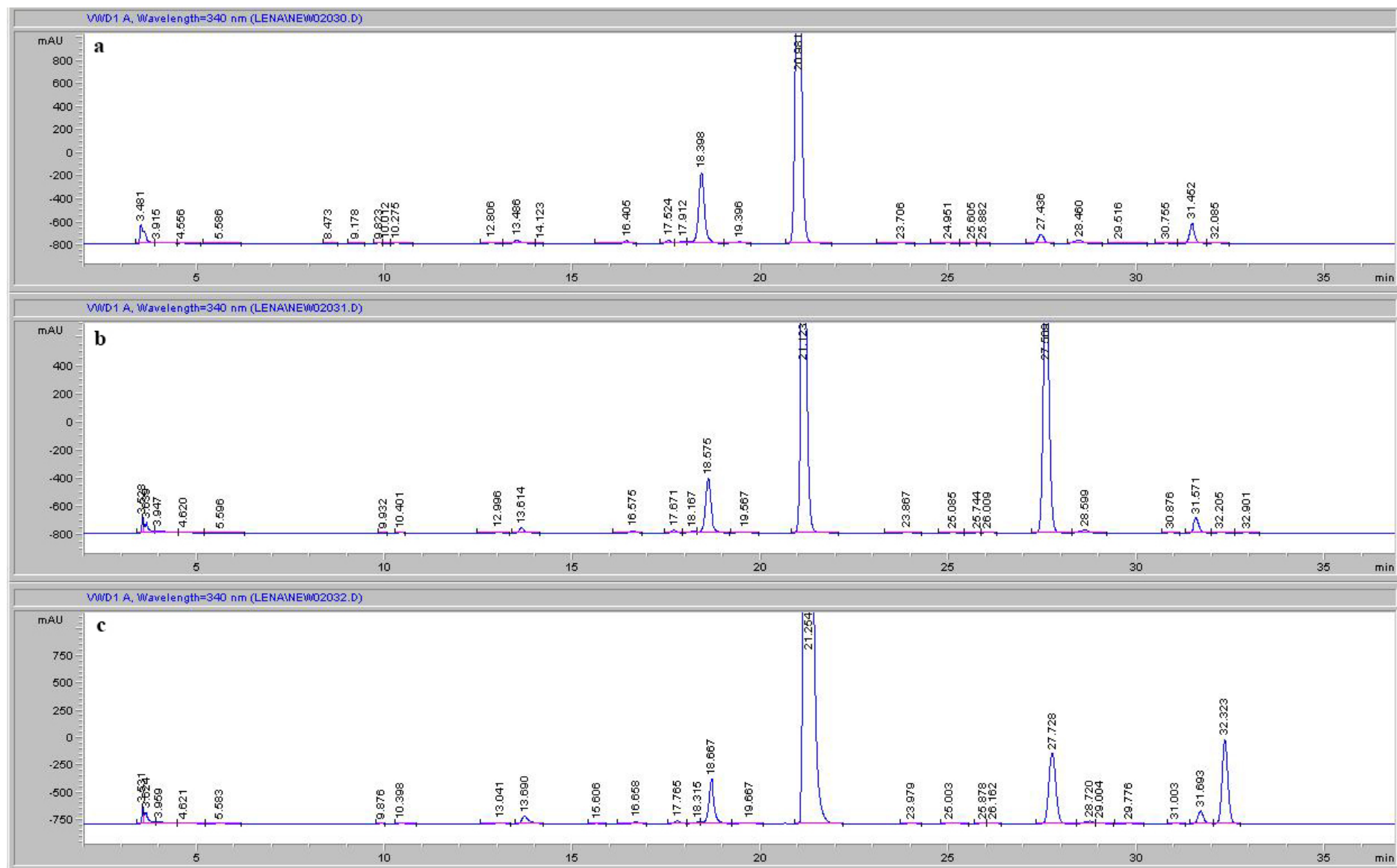


Figure S27. HPLC profile of *L*-FDAA-derivatives of asterriptide A (1) HP, asterriptide A HP+*L*-Phe and asterriptide A HP+*D,L*-Phe

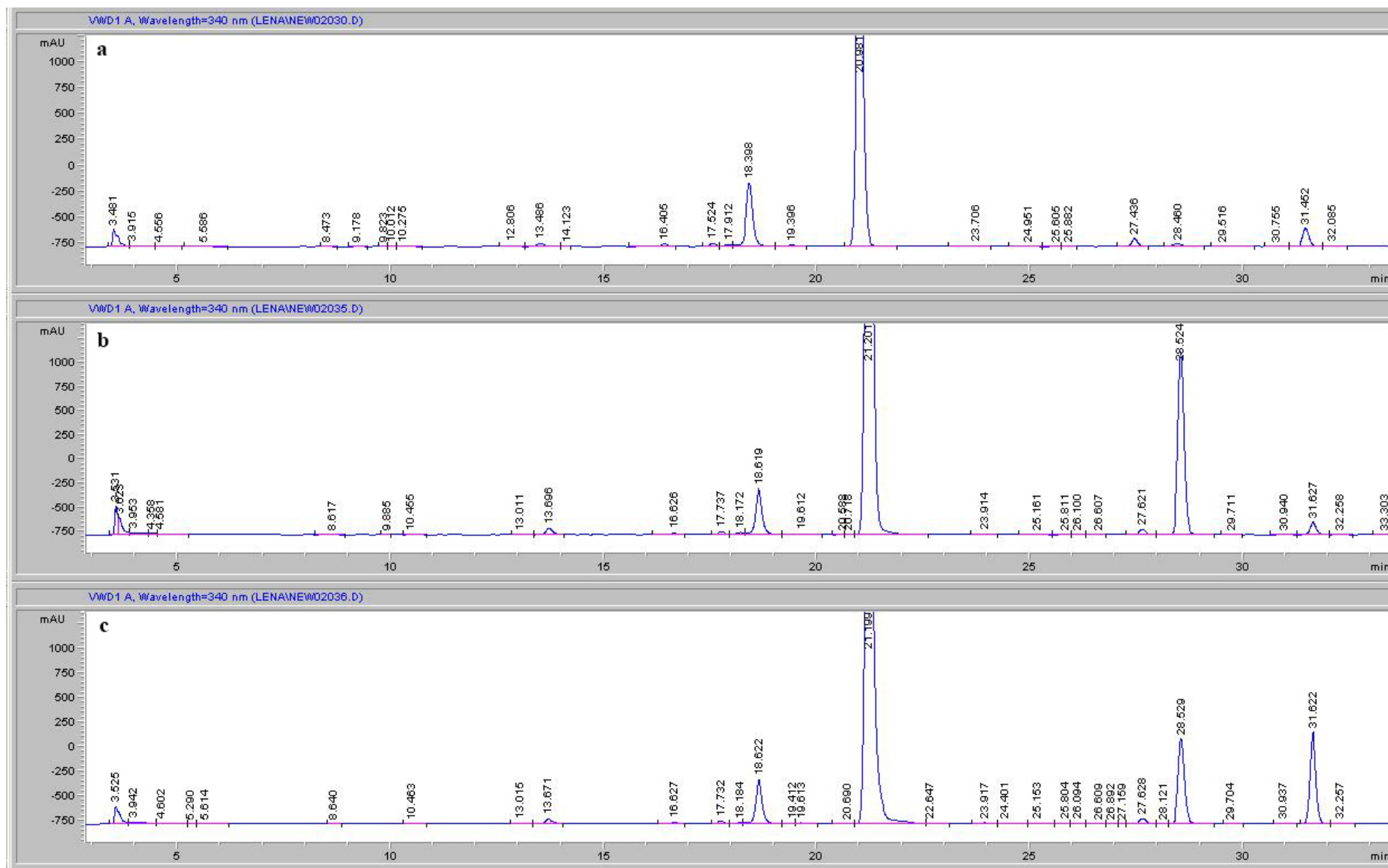


Figure S28. HPLC profile of *L*-FDAA-derivatives of asterriptide A (1) HP, asterriptide A HP+*D,L*-Pro and asterriptide A HP+*L*-Pro

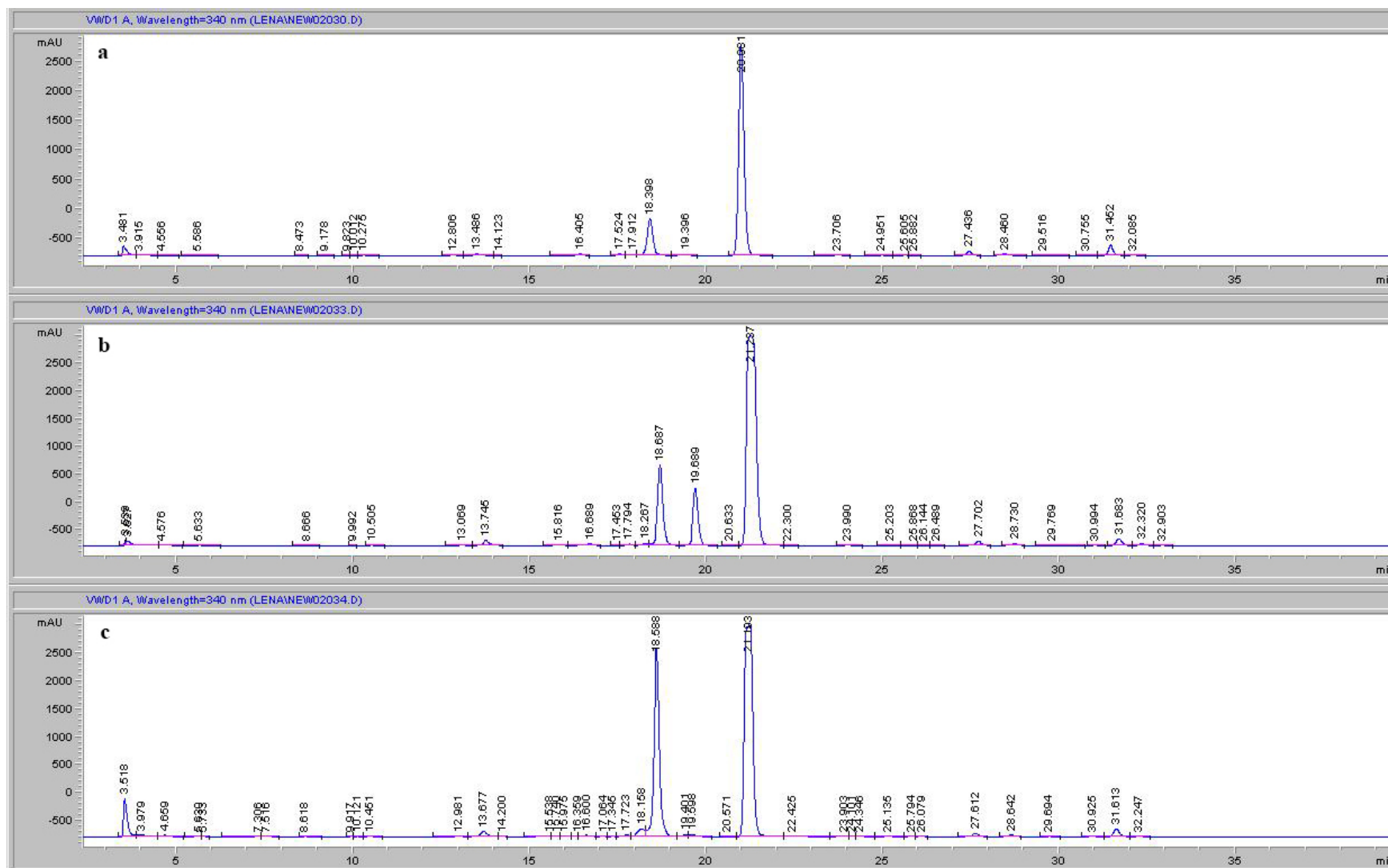


Figure S29. HPLC profile of L-FDAA-derivatives of asterripeptide B (2) HP

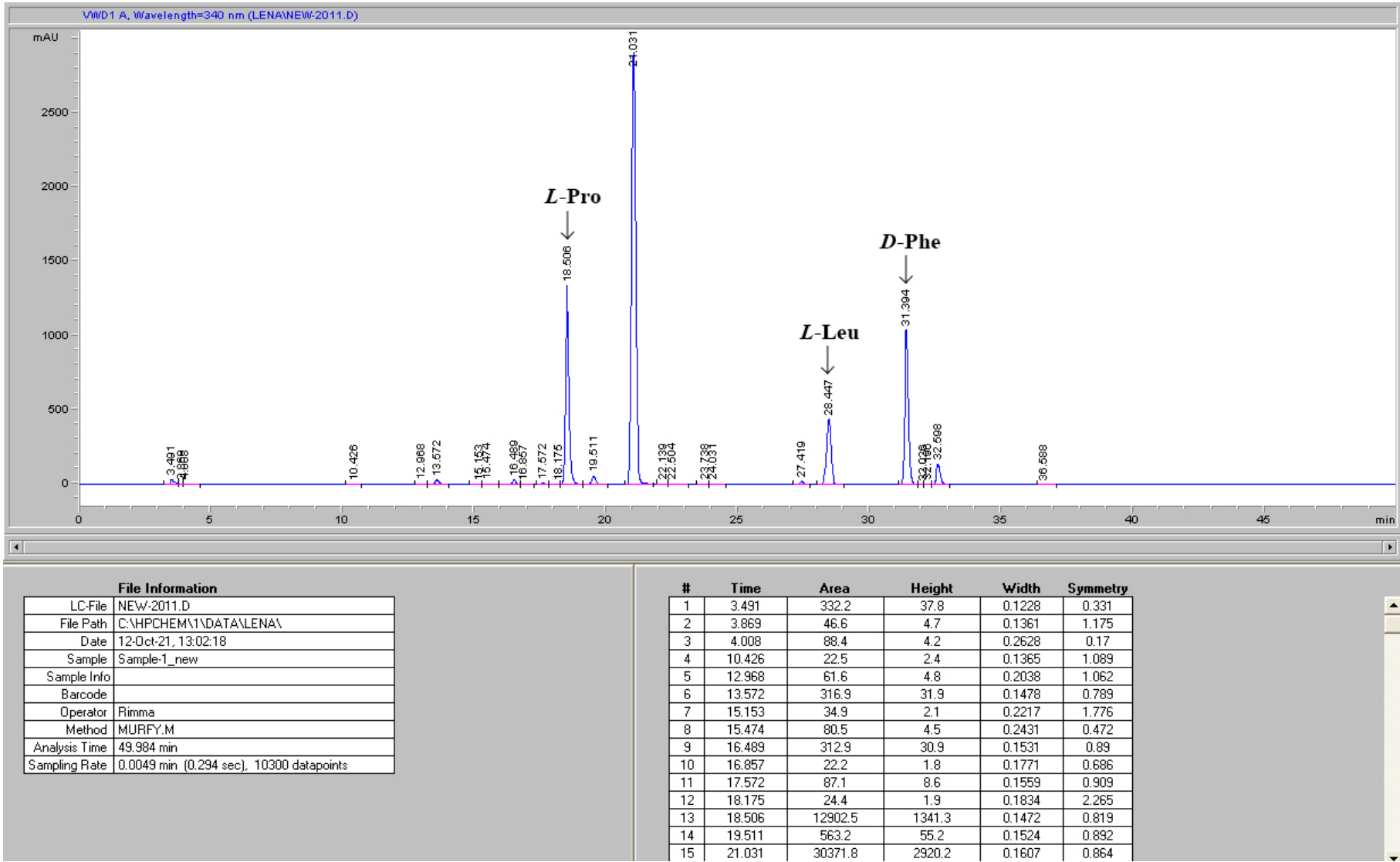


Figure S30. HPLC profiles of *L*-FDAA-derivatives of asterriptide B (2) HP (a), asterriptide B HP+*L*-Leu (b) and asterriptide B HP+*D,L*-Leu (c)

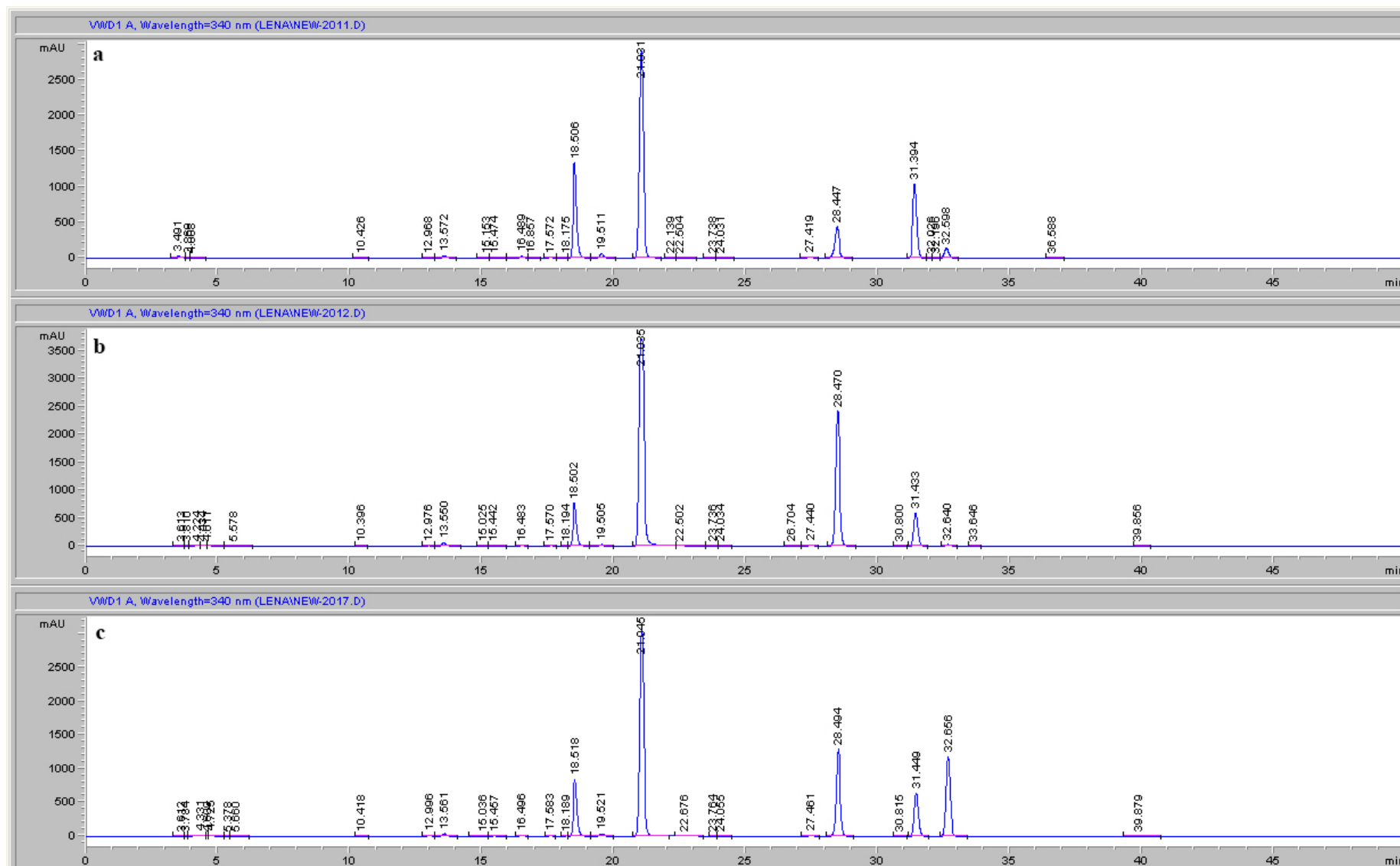


Figure S31. HPLC profiles of *L*-FDAA-derivatives of asterriptide B (2) HP (a), asterriptide B+ *D,L*-Pro (b) and asterriptide B+ *L*-Pro (c)

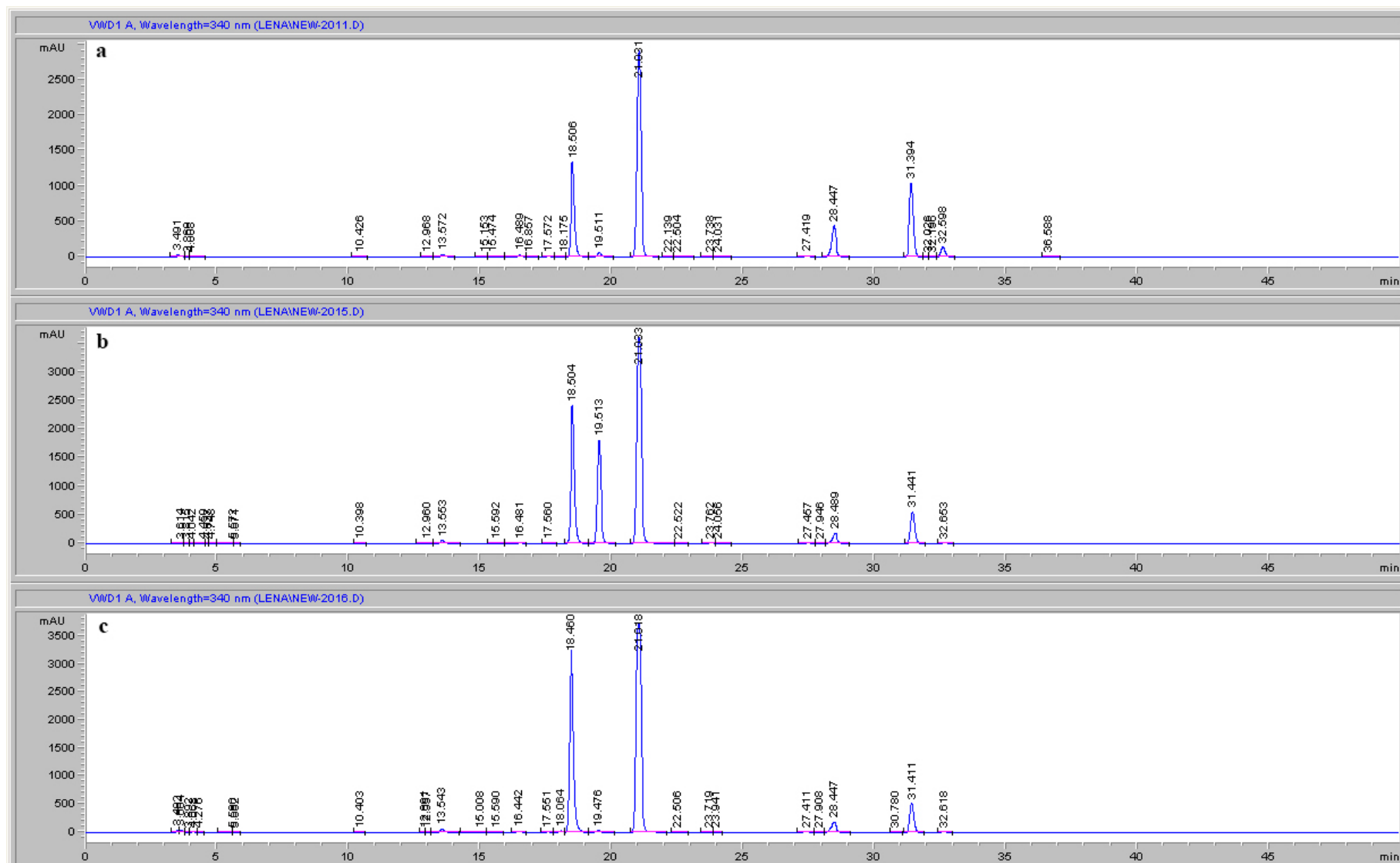


Figure S32. HPLC profiles of *L*-FDAA-derivatives of asterriptide B (2) HP (a), asterriptide B HP+ *L*-Phe (b) and asterriptide B HP+ *D,L*-Phe (c)

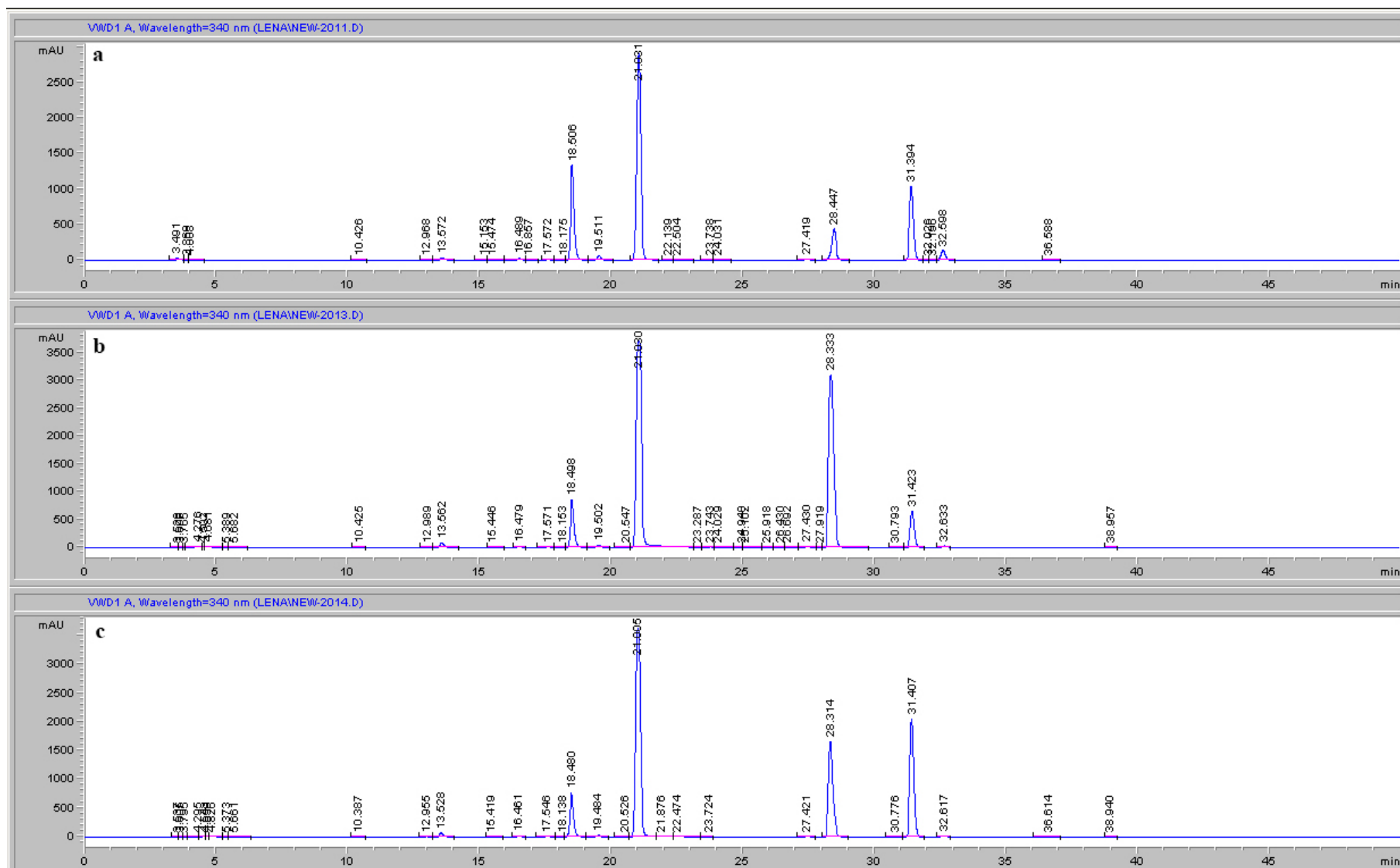


Figure S33. HPLC profile of L-FDAA-derivatives of asterripeptide C (3) HP

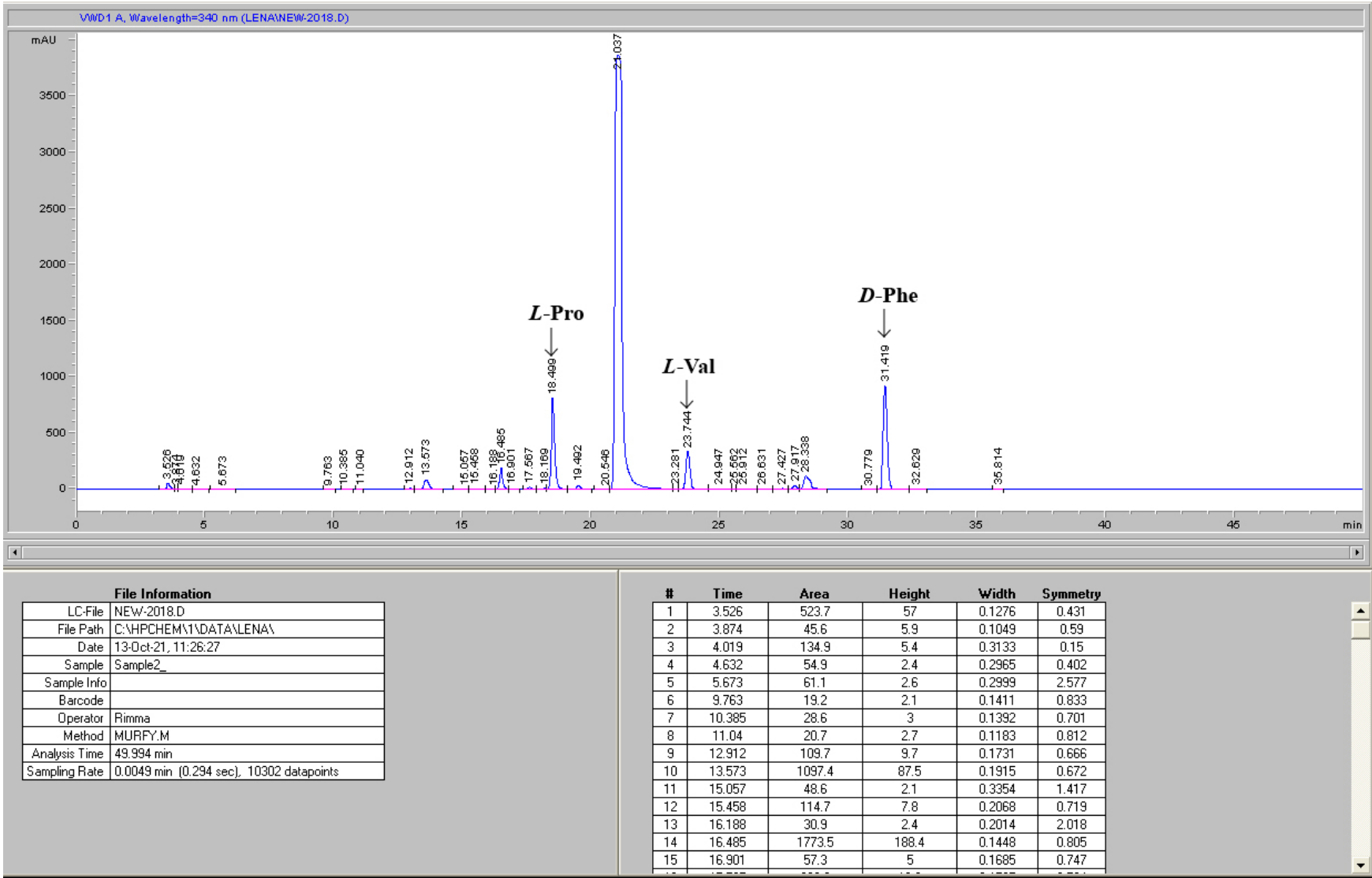


Figure S34. HPLC profiles of *L*-FDAA-derivatives of asterripeptide C (3) HP (a), asterripeptide C+*L*-Val H (b)P and asterripeptide C HP+*D,L*-Val (c)

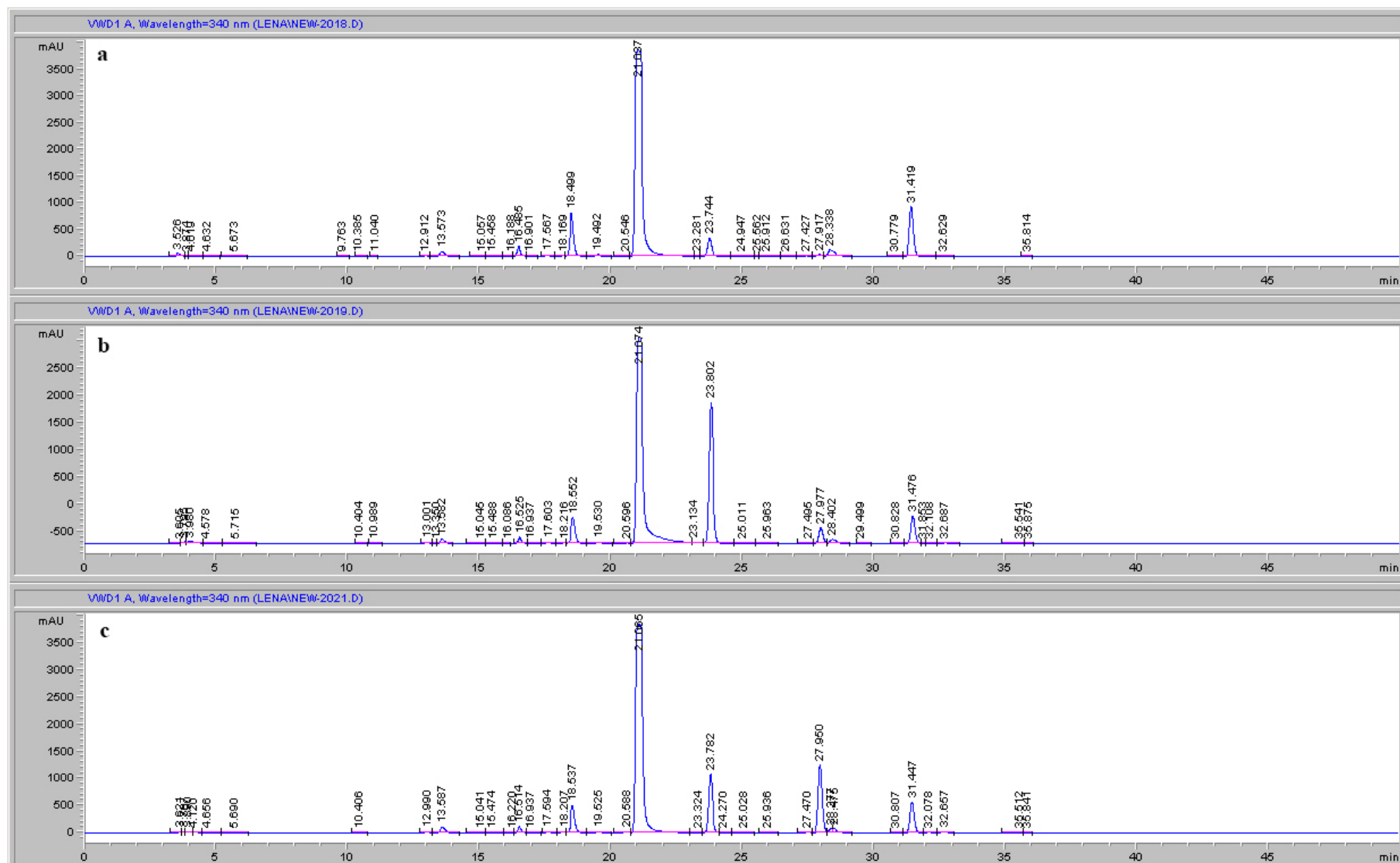


Figure S35. HPLC profiles of *L*-FDAA-derivatives of asterripeptide C (3) HP (a), asterripeptide C HP+*L*-Pro (b) and asterripeptide C HP+*D,L*-Pro (c)

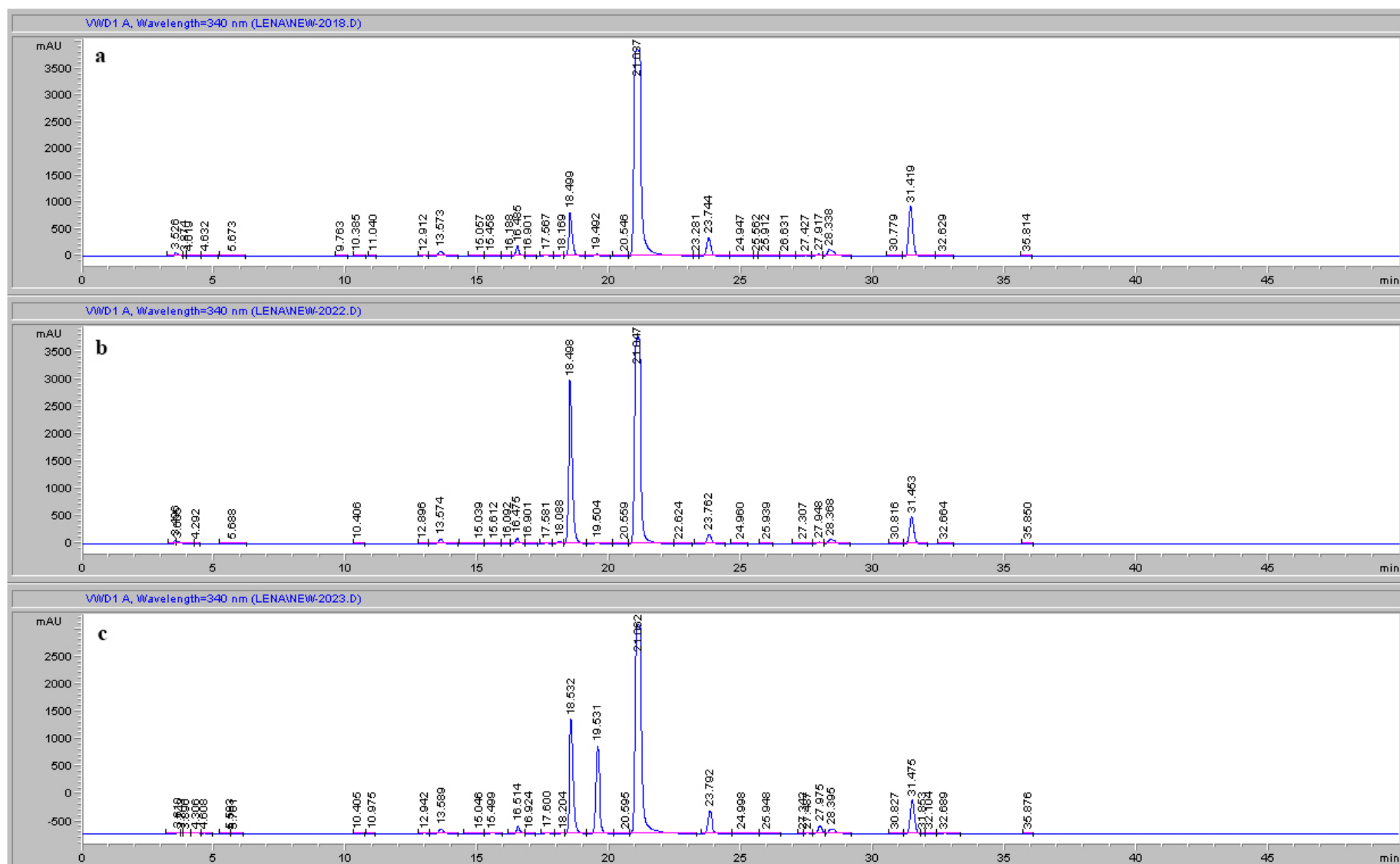


Figure S36. HPLC profiles of *L*-FDAA-derivatives of asterriptide C (3) HP (a), asterriptide C HP+ *D,L*-Phe (b) and asterriptide C HP+*L*-Phe (c)

