Electronic Supplementary Information (ESI)

Synthesis of *N*-Isoindolinonyl Peptides via Pd-Catalyzed C(sp2)-H Olefination/activation and Their Conformational Studies

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Contents

1. NMR and Mass spectra of peptides and their respective Isoindolinone derivatives

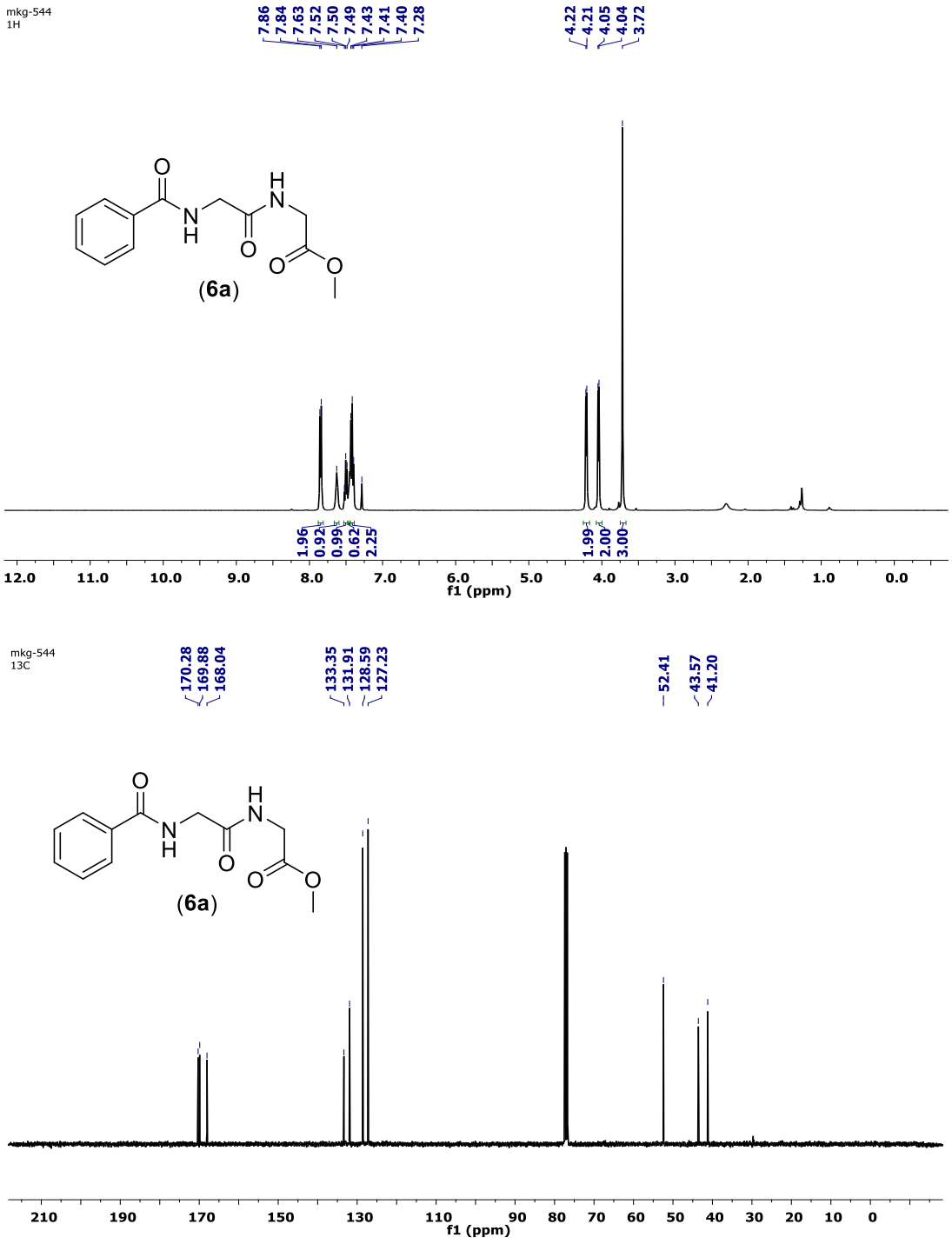


Figure. S1. ^{1}H, ^{13}C NMR spectra of **6a**

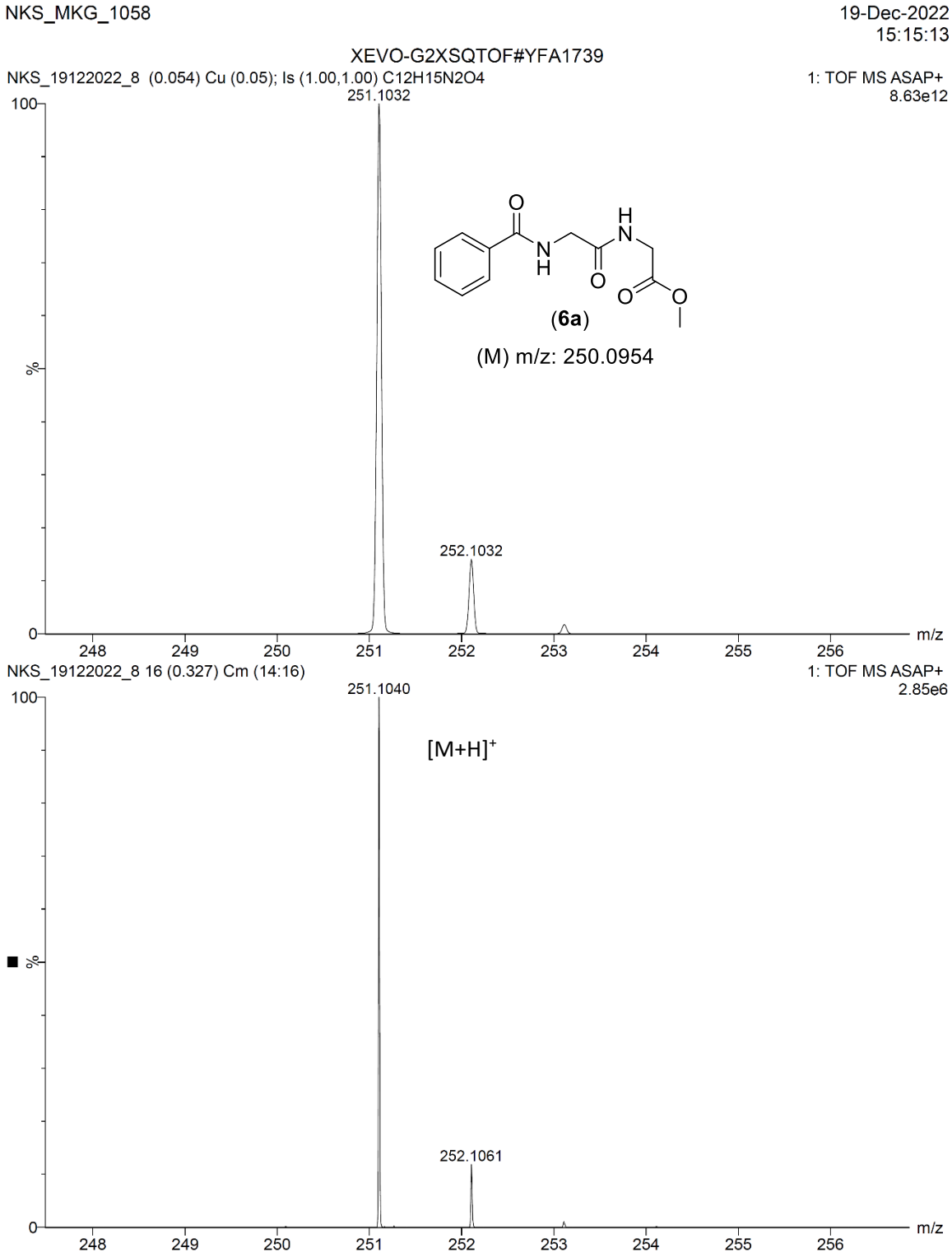


Figure. S2. ESI-HRMS spectra of **6a**

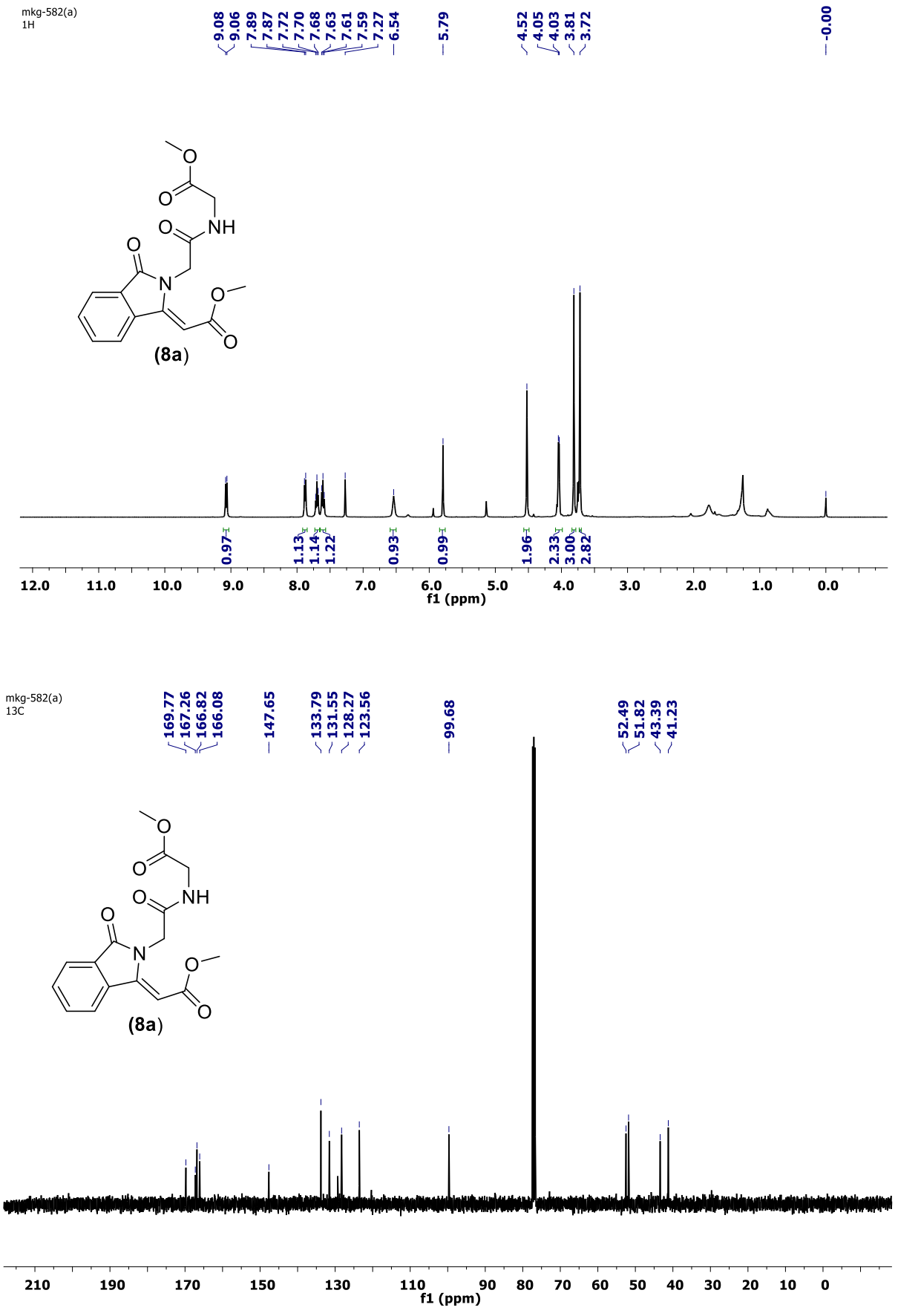


Figure. S3. ^{1}H, ^{13}C NMR spectra of **8a**

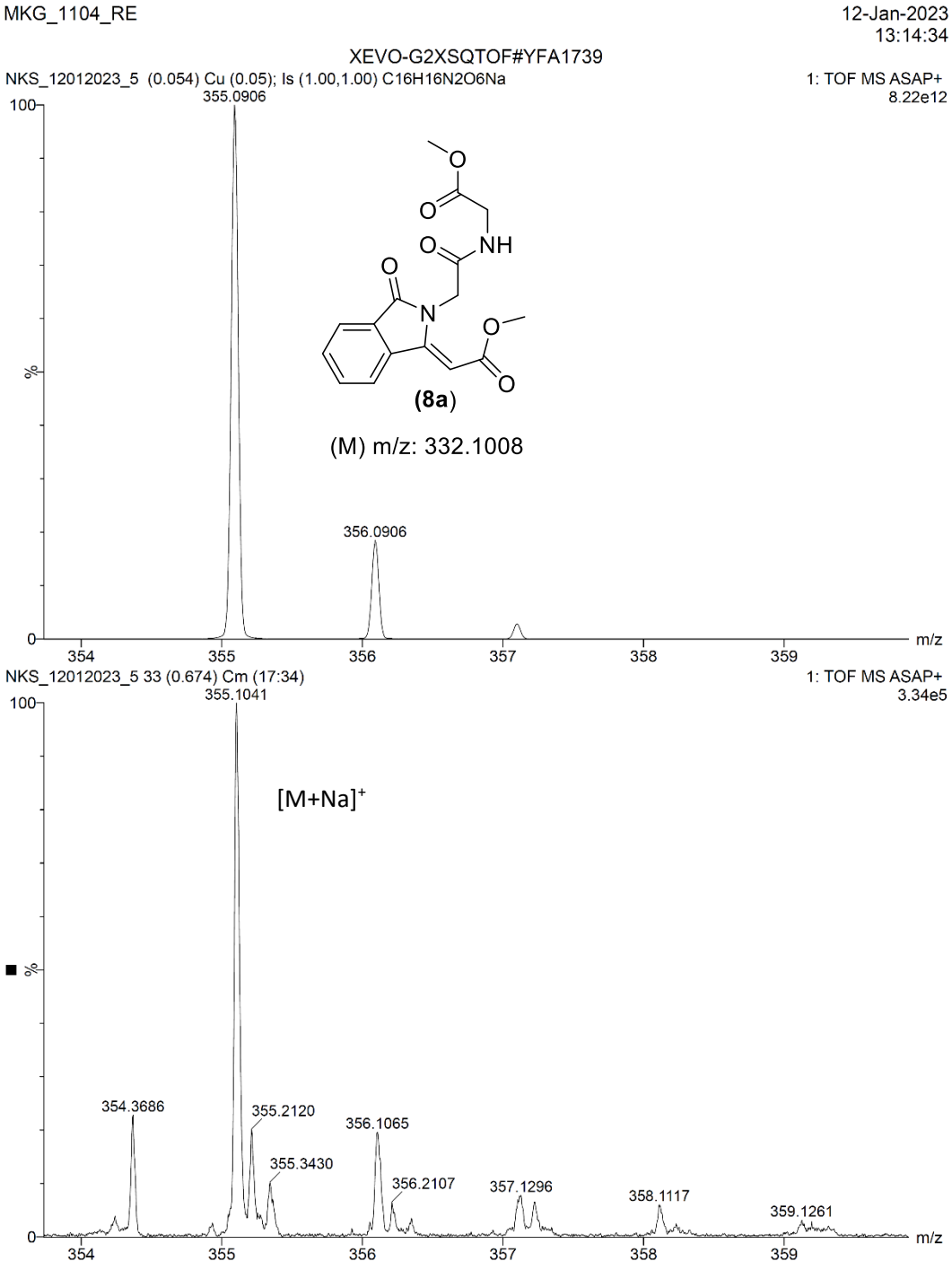


Figure. S4. ESI-HRMS spectra of indolinone **8a**

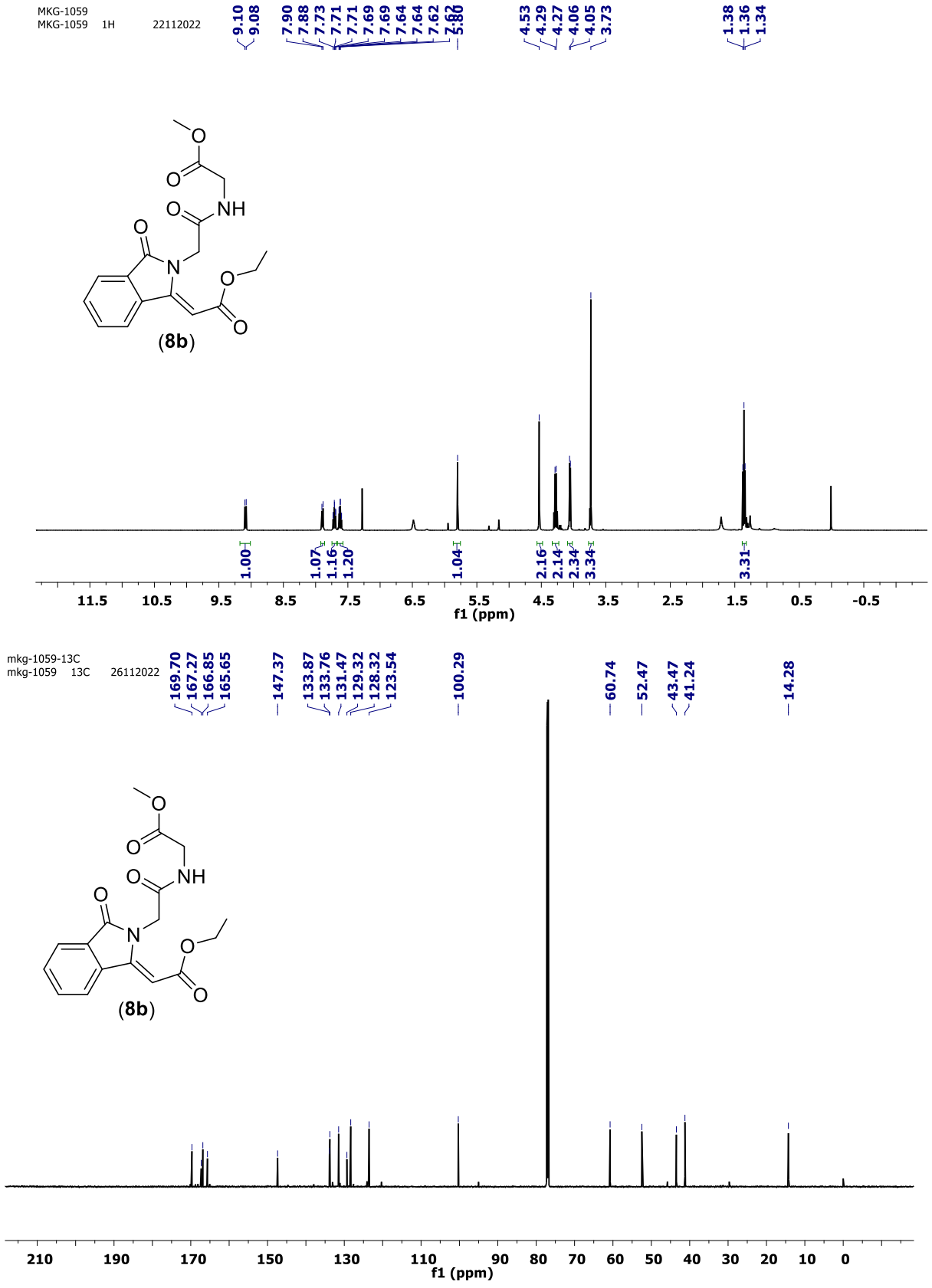


Figure. S5. ^{1}H, ^{13}C NMR spectra of **8b**

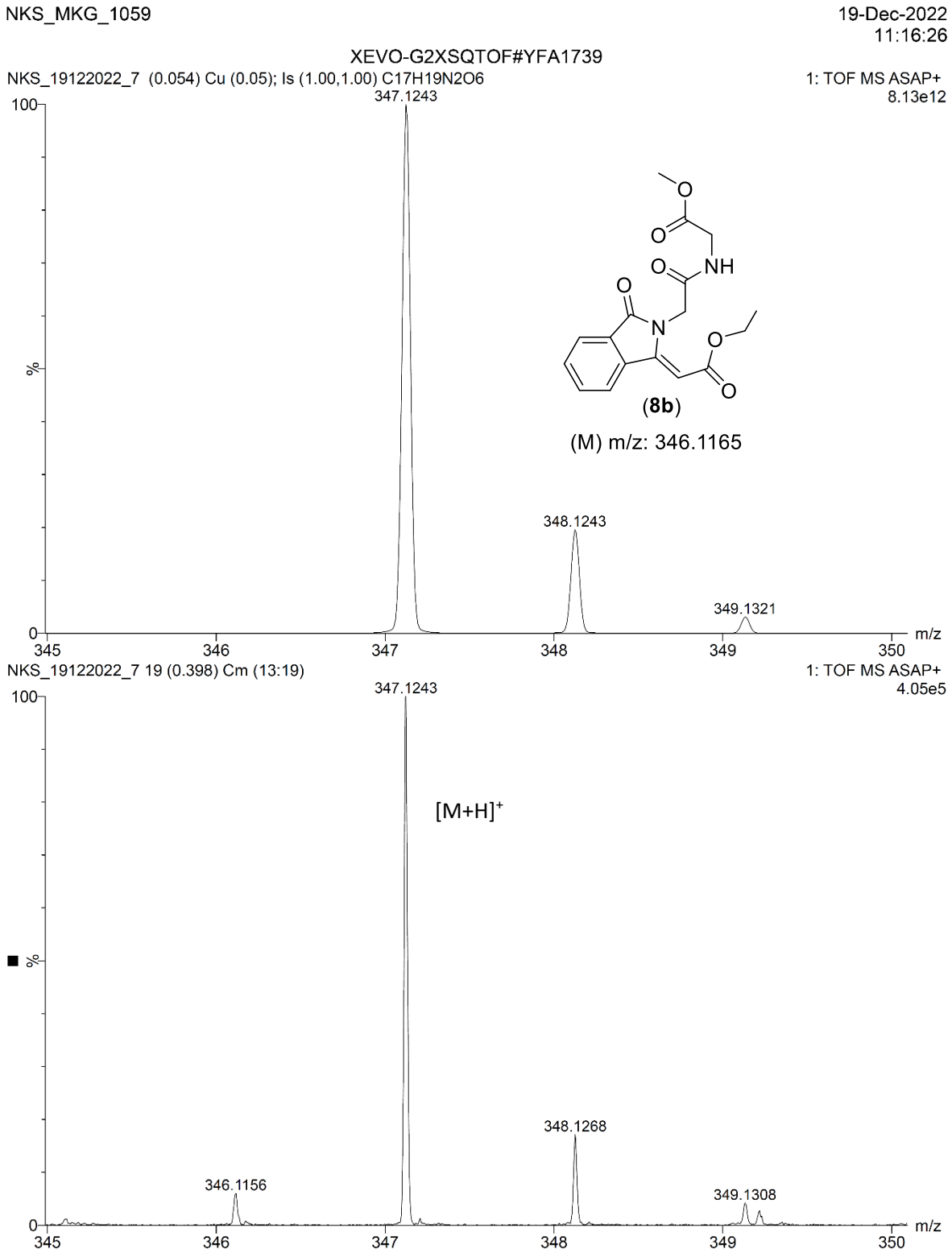


Figure. S6. ESI-HRMS spectra of **8b**

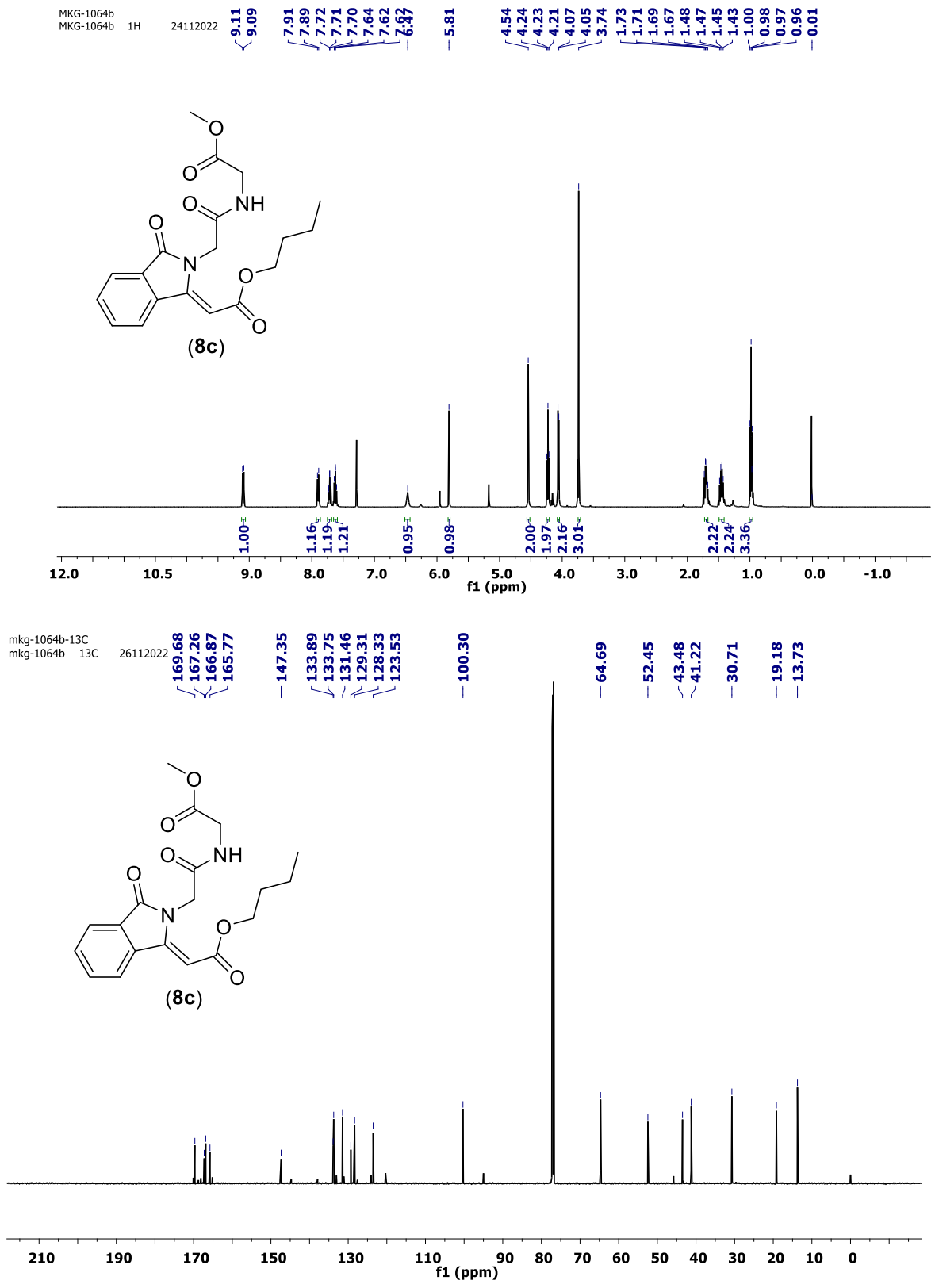


Figure. S7. ^{1}H, ^{13}C NMR spectra of **8c**

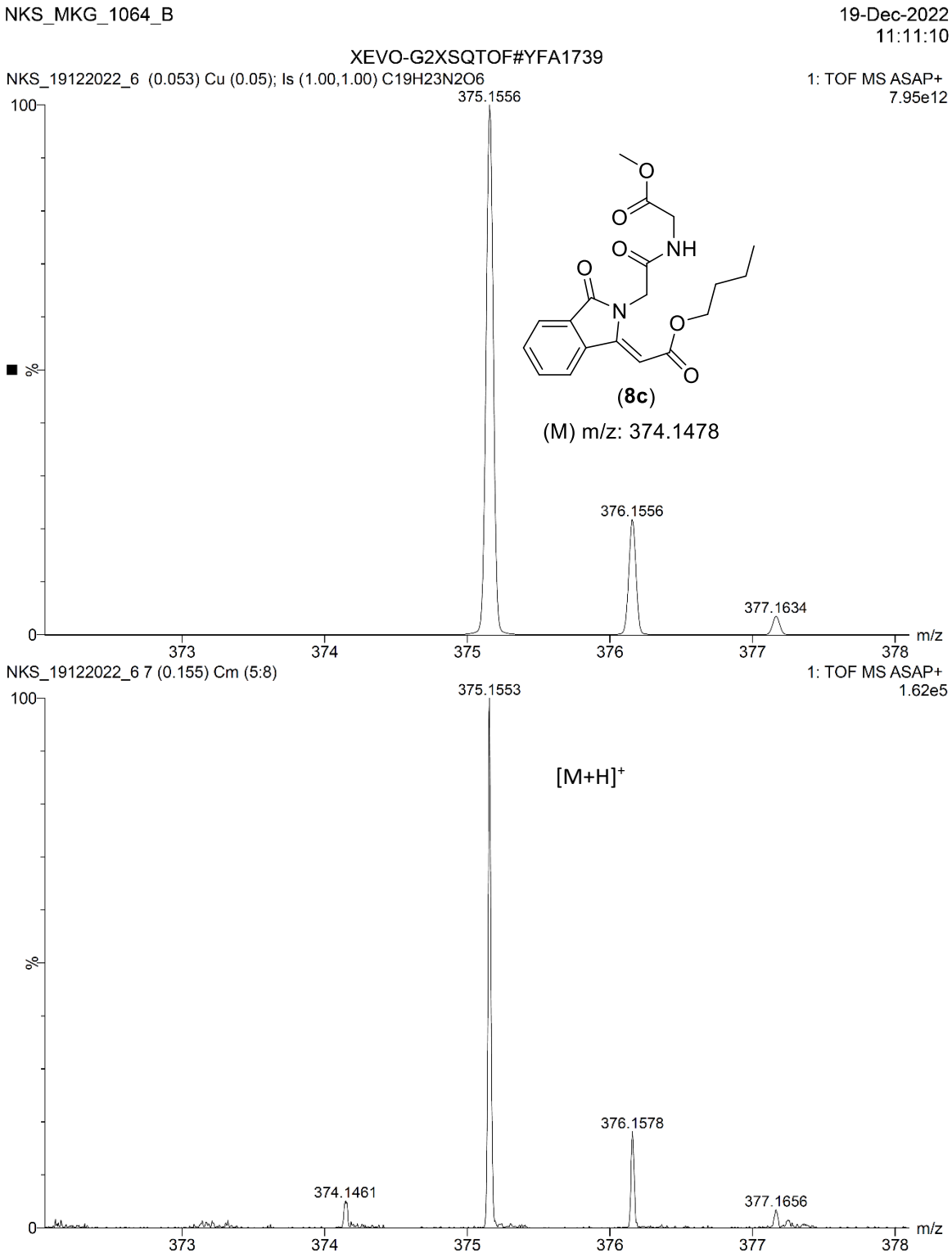


Figure. S8. ESI-HRMS spectra of **8c**

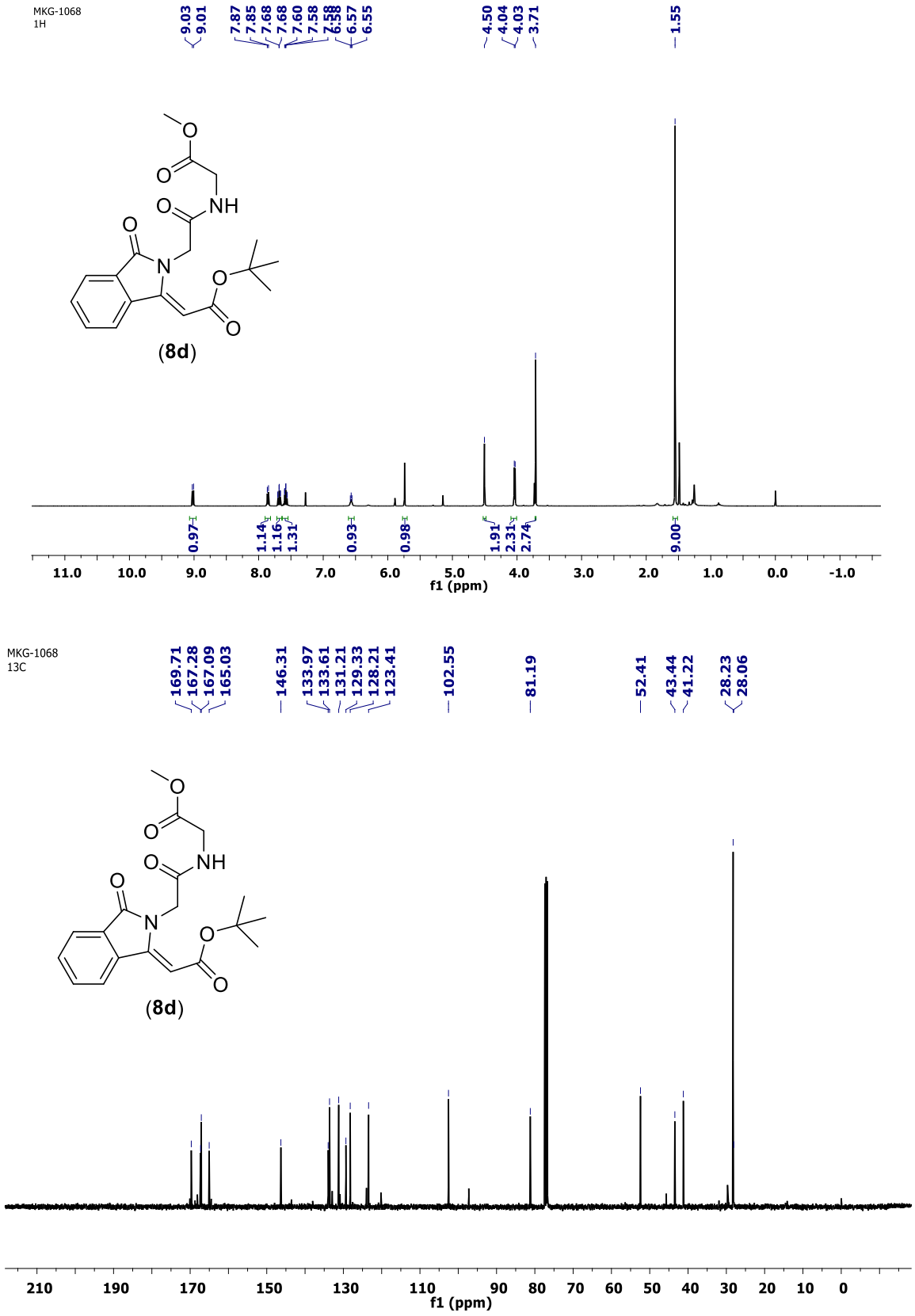


Figure. S9. ^{1}H, ^{13}C NMR spectra of **8d**

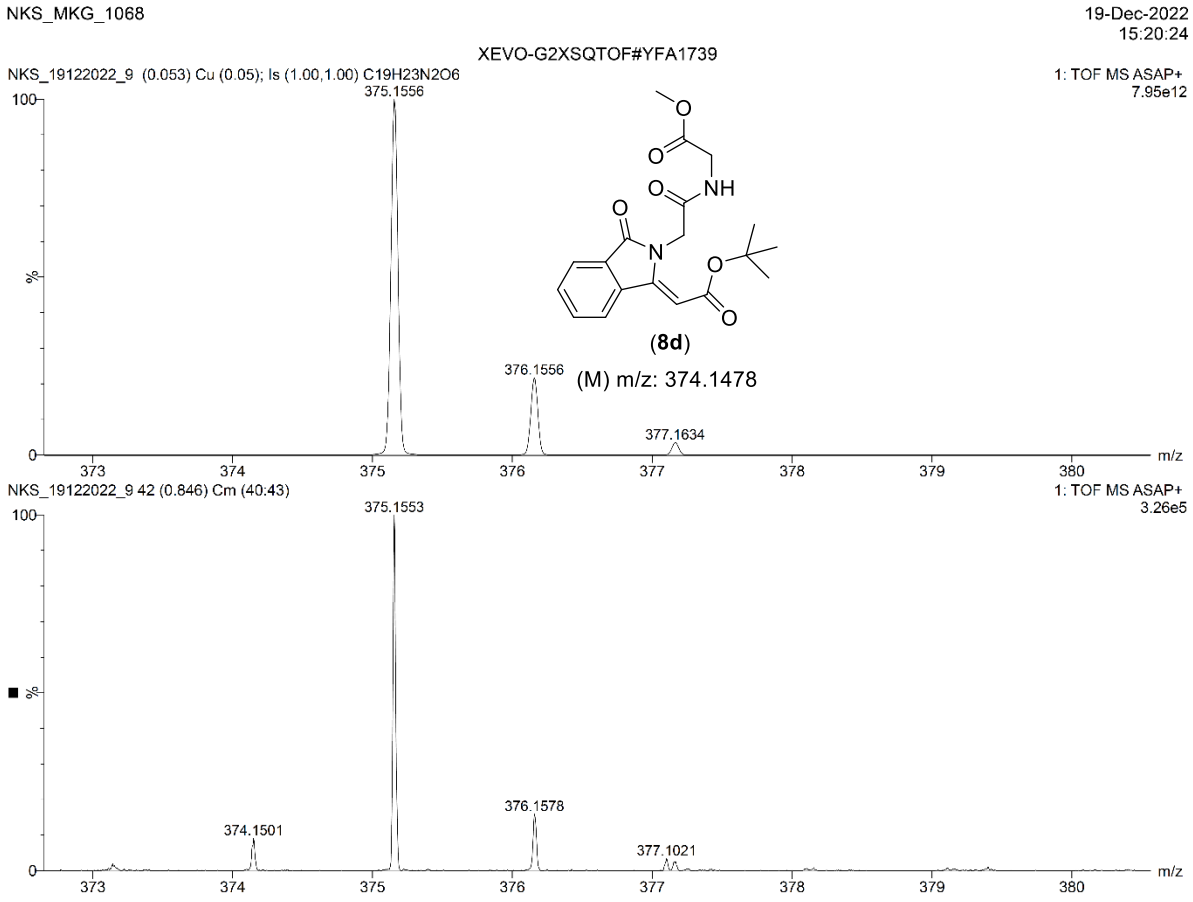


Figure. S10. ESI-HRMS spectra of **8d**

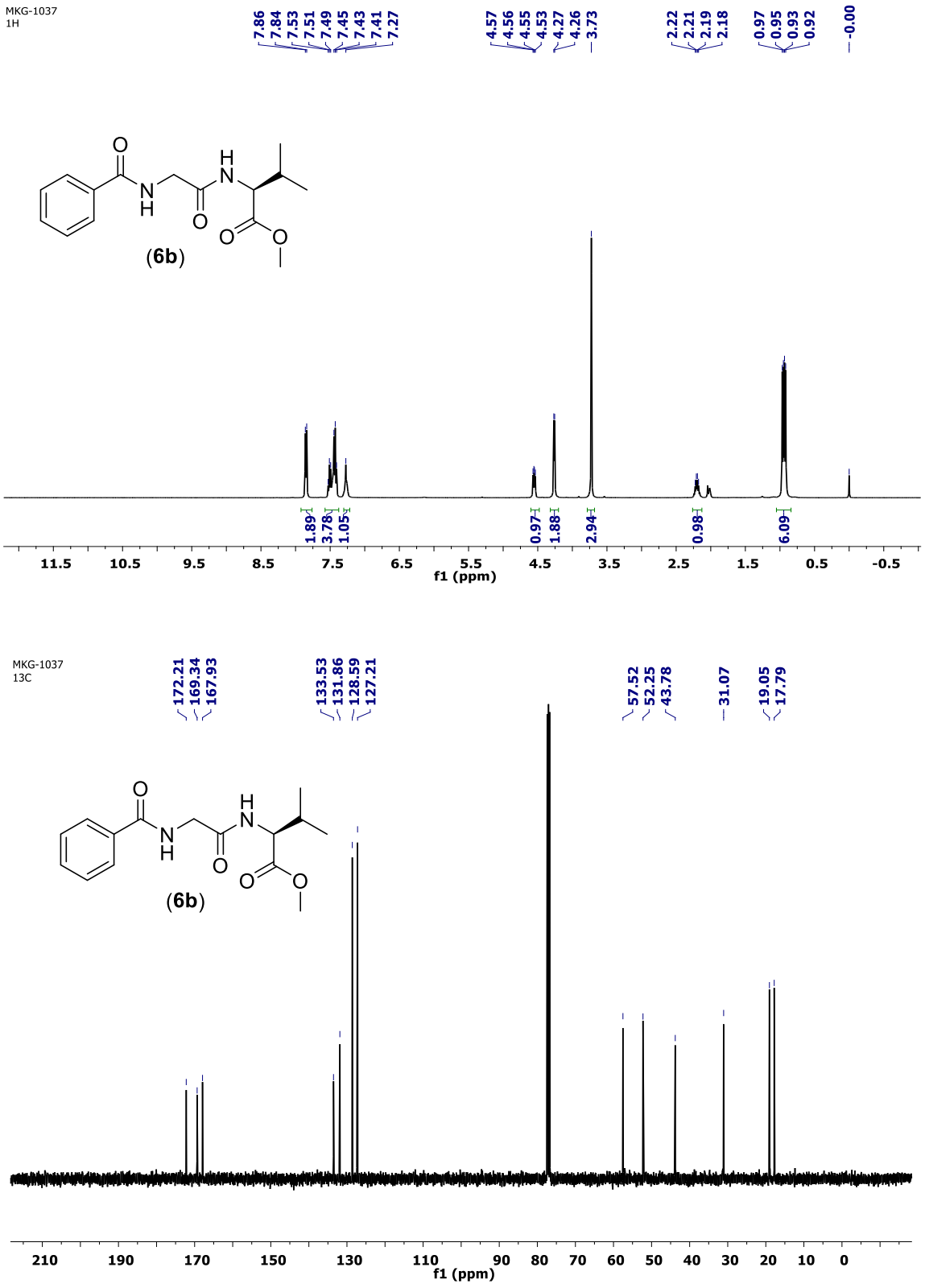


Figure. S11. ^{1}H, ^{13}C NMR spectra of **8**

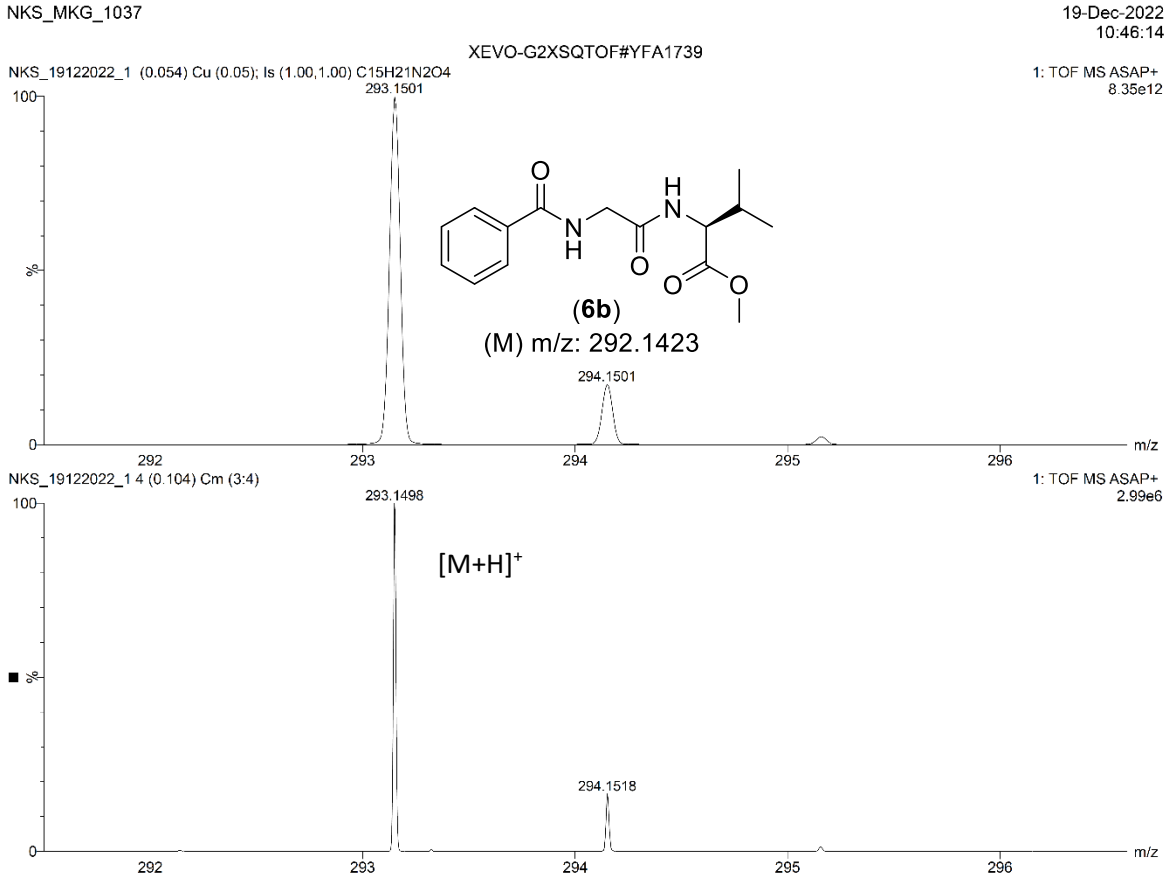


Figure. S12. ESI-HRMS spectra of **6b**

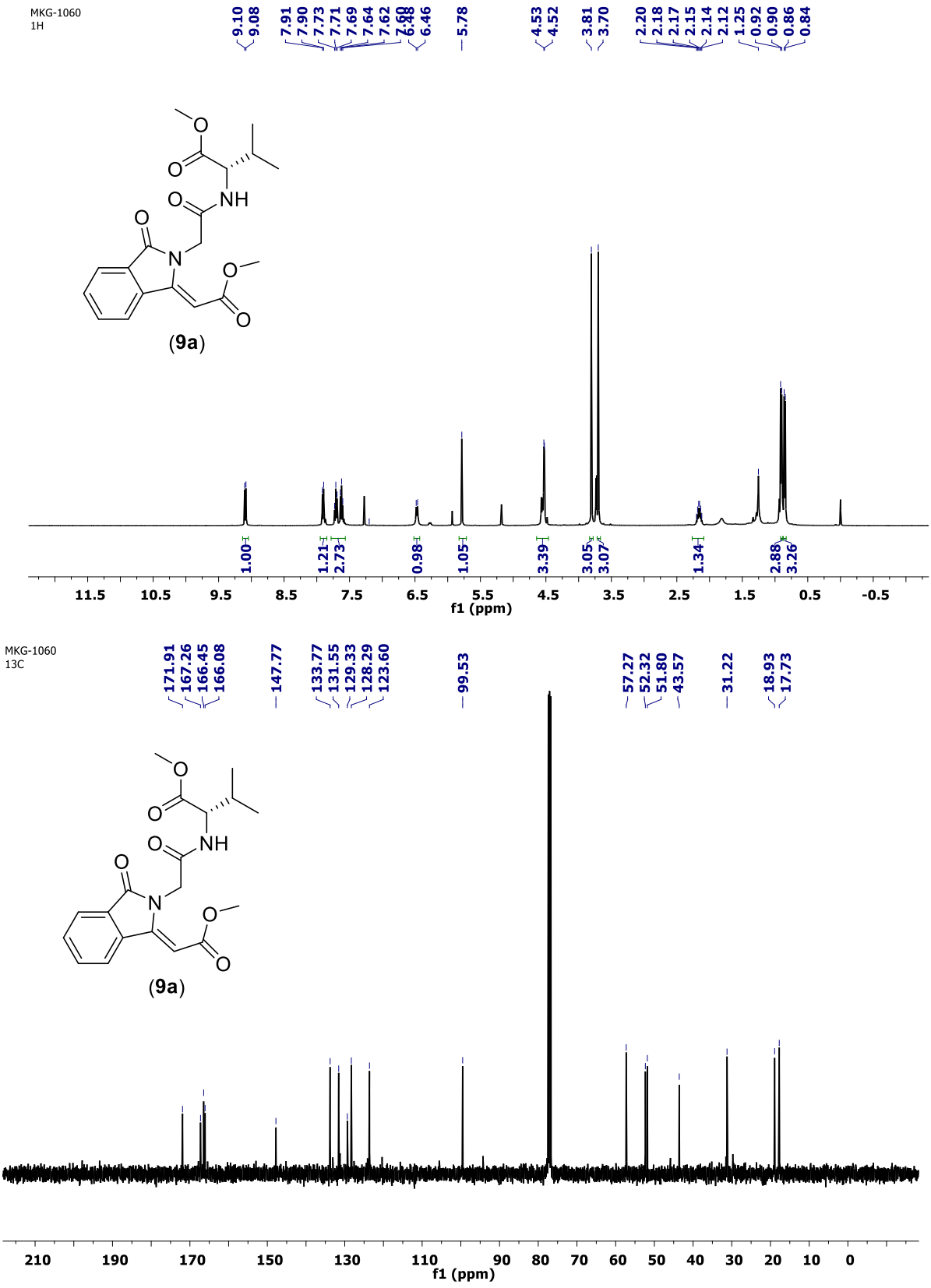


Figure. S13. ^{1}H, ^{13}C NMR spectra of **9a**

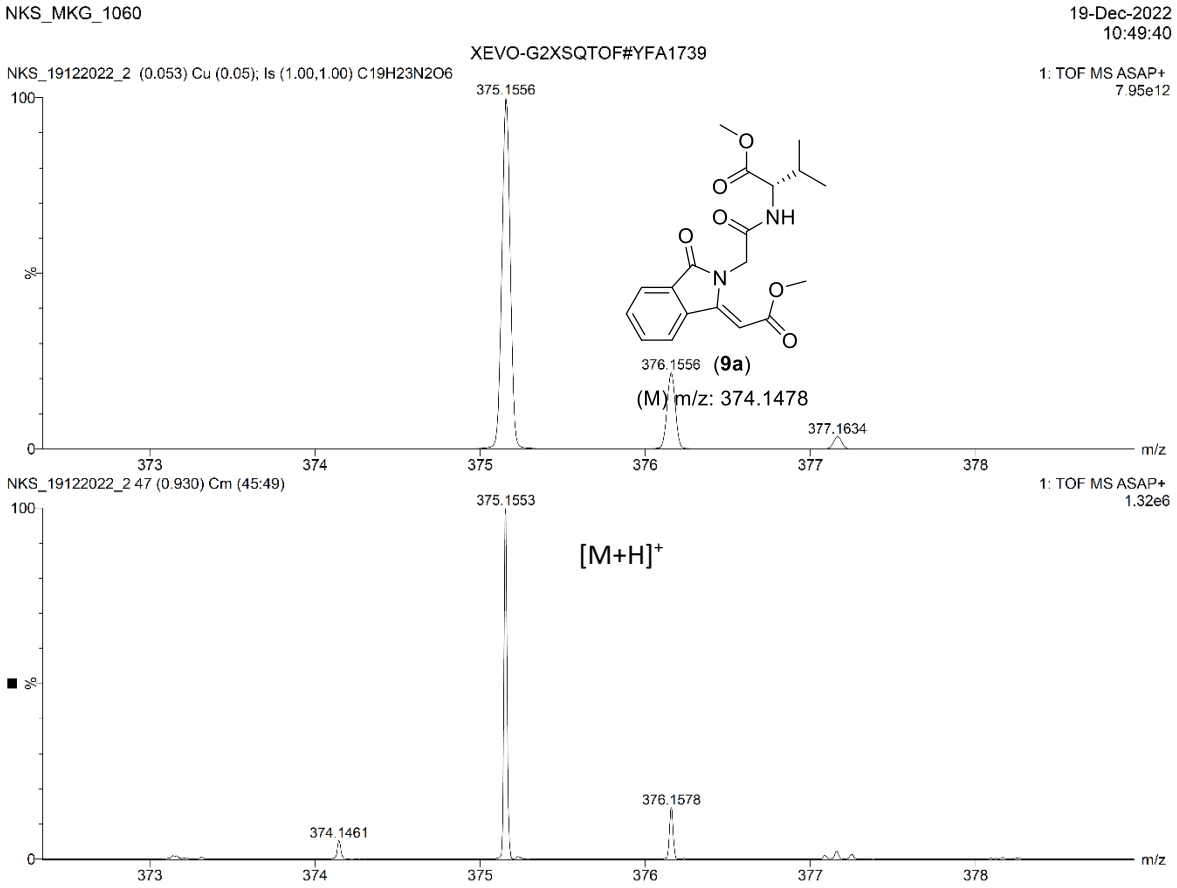


Figure. S14. ESI-HRMS spectra of **9a**

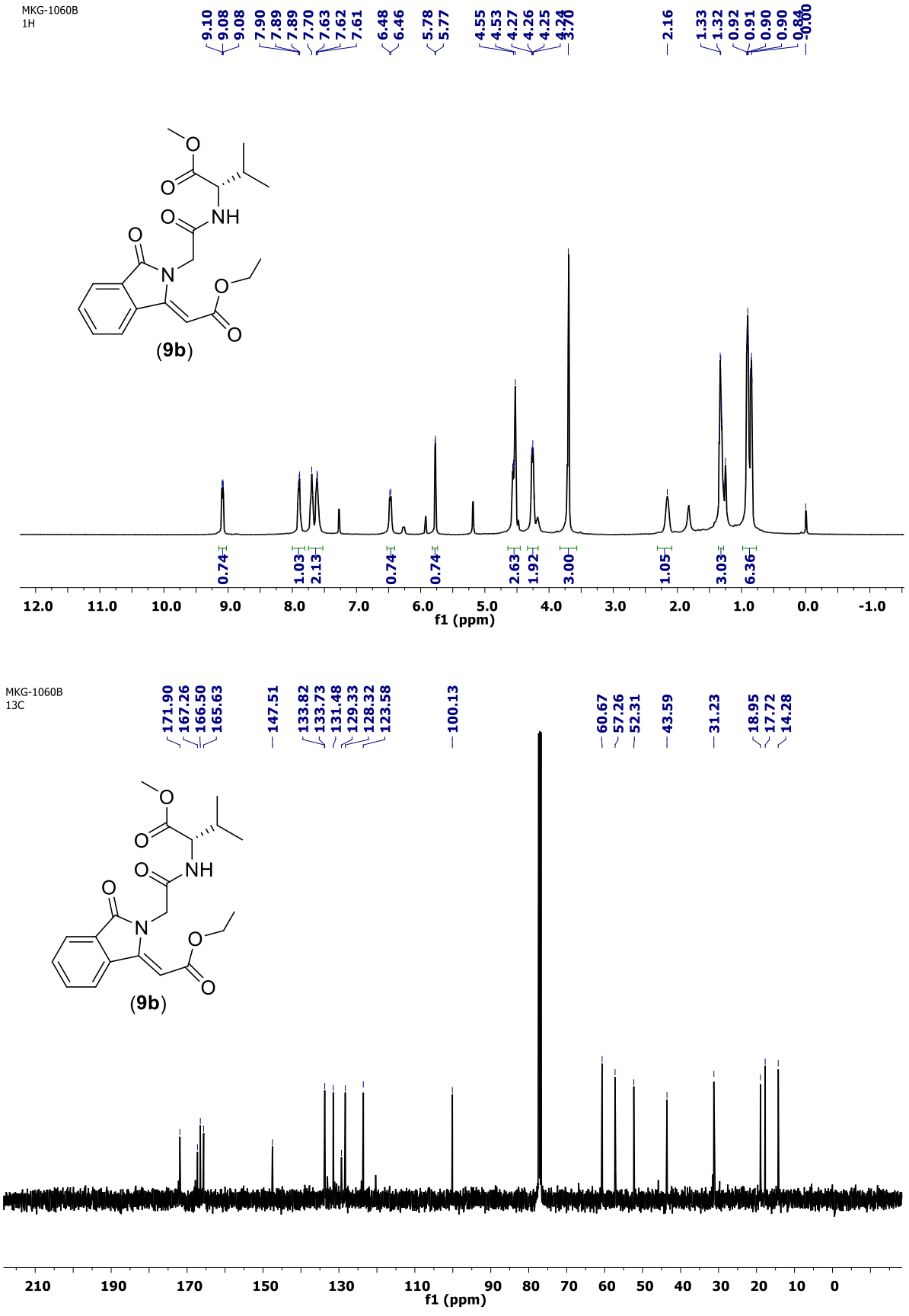


Figure. S15. ^{1}H, ^{13}C NMR spectra of **9b**

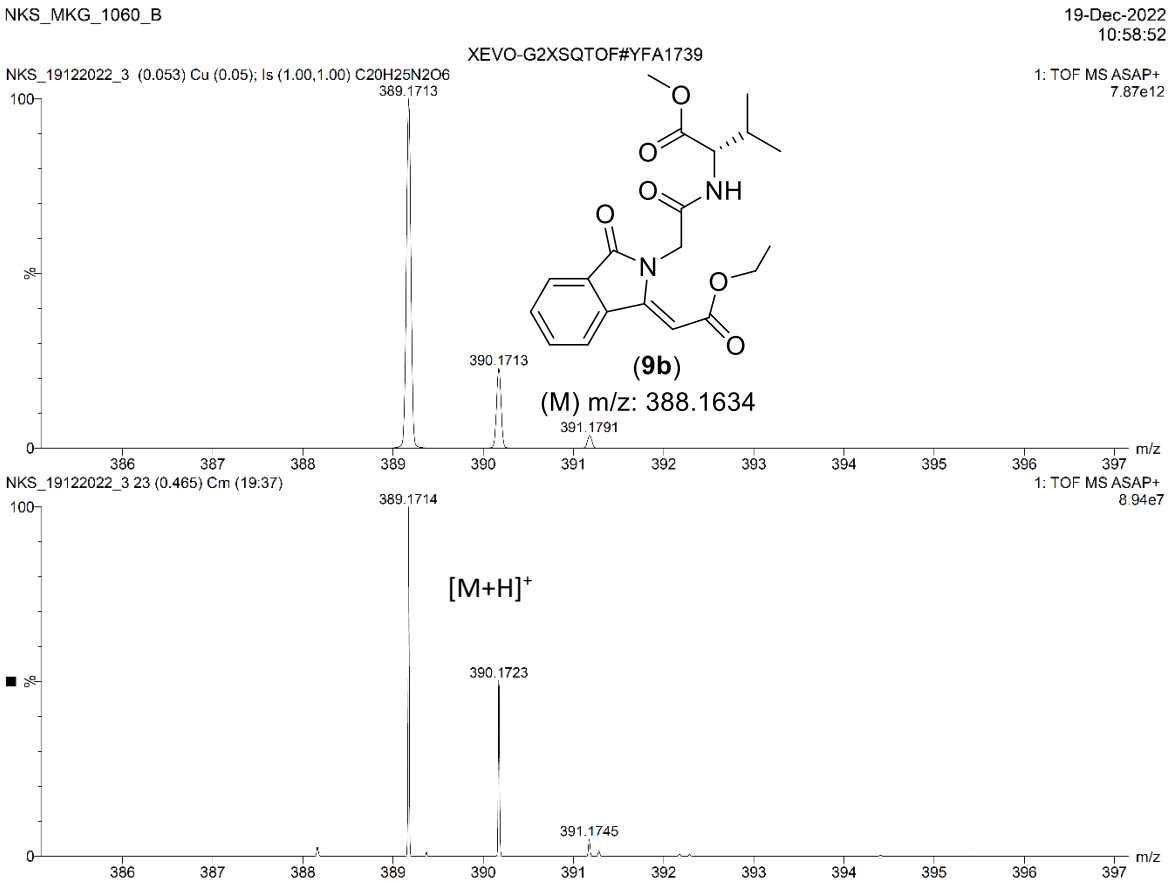


Figure. S16. ESI-HRMS spectra of **9b**

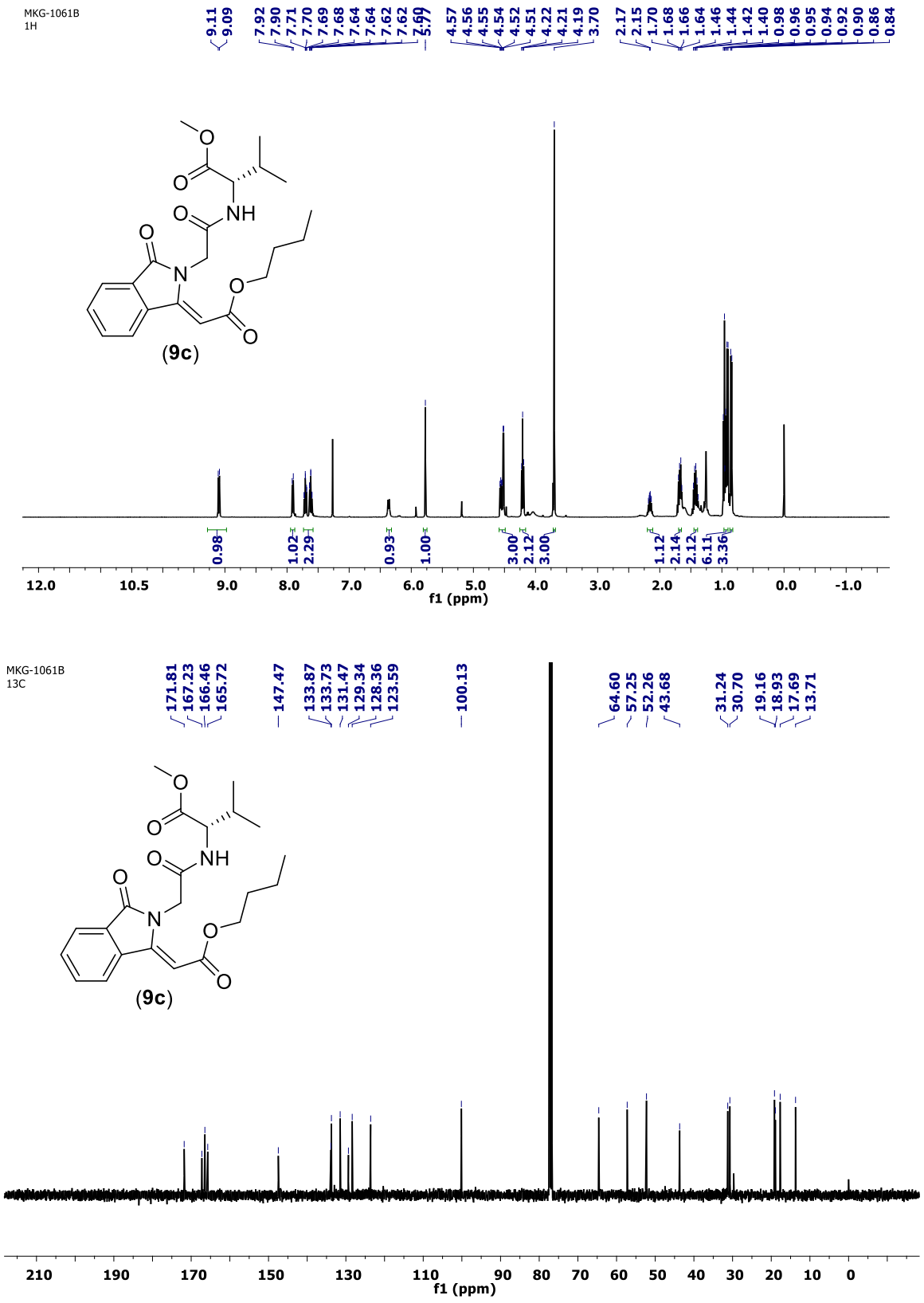


Figure. S17.^{1}H, ^{13}C NMR spectra of **9c**

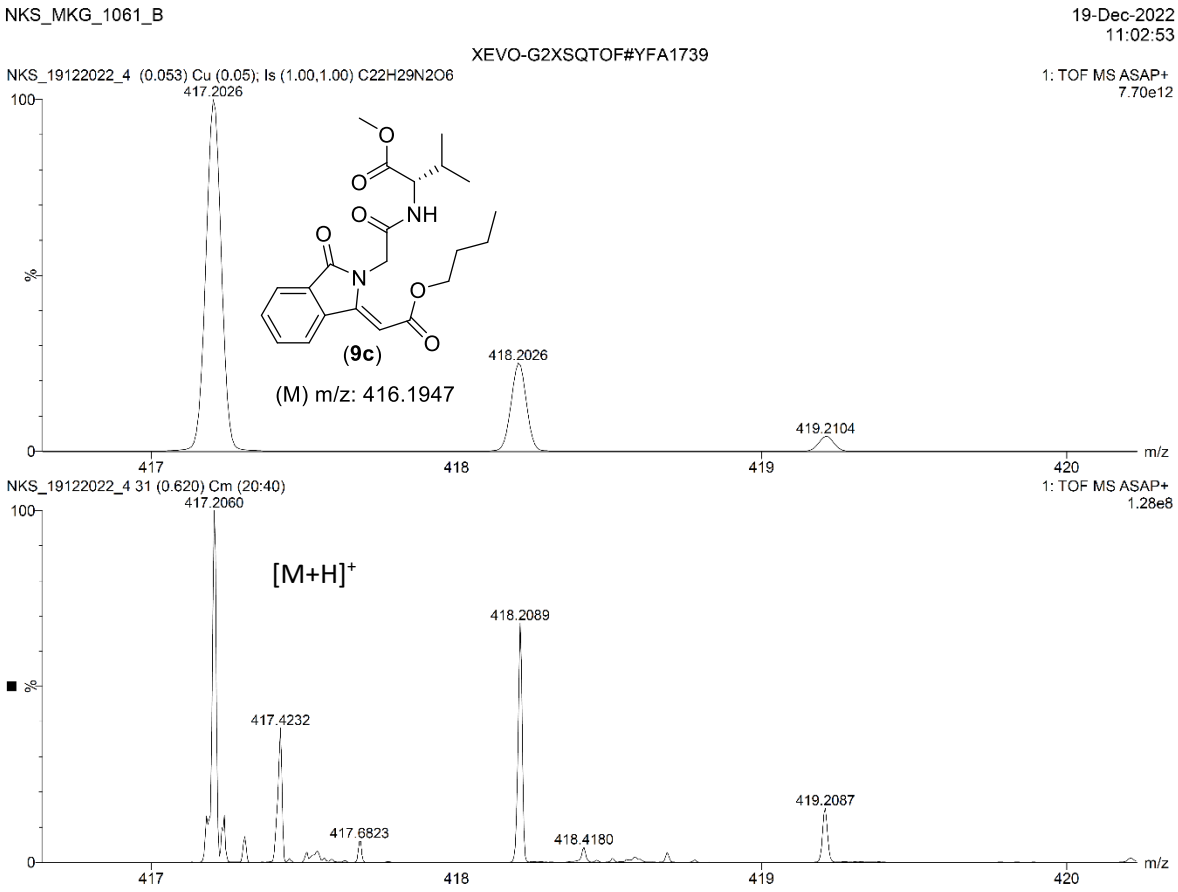


Figure. S18. ESI-HRMS spectra of **9c**

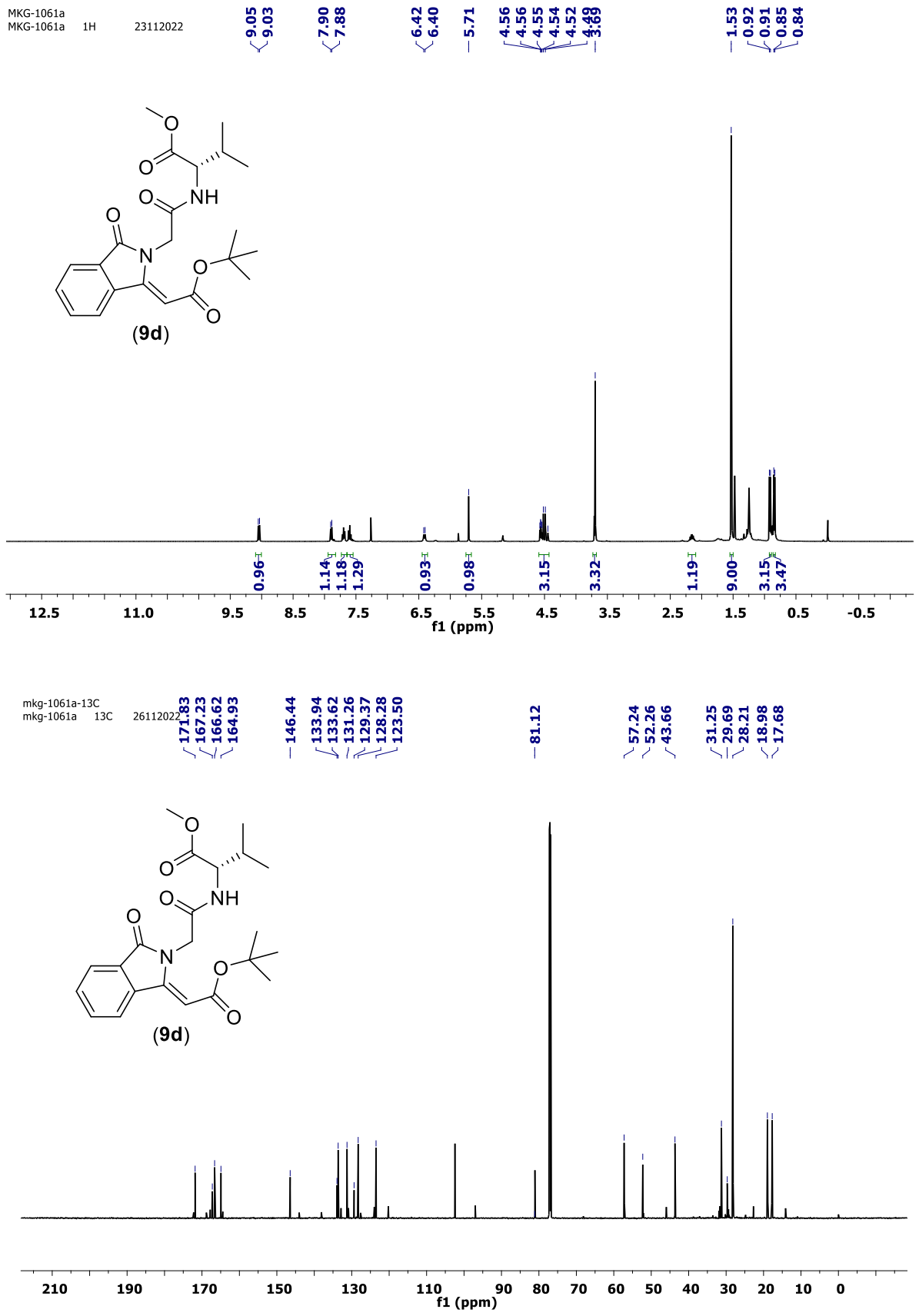


Figure. S19. ^{1}H, ^{13}C NMR spectra of **9d**

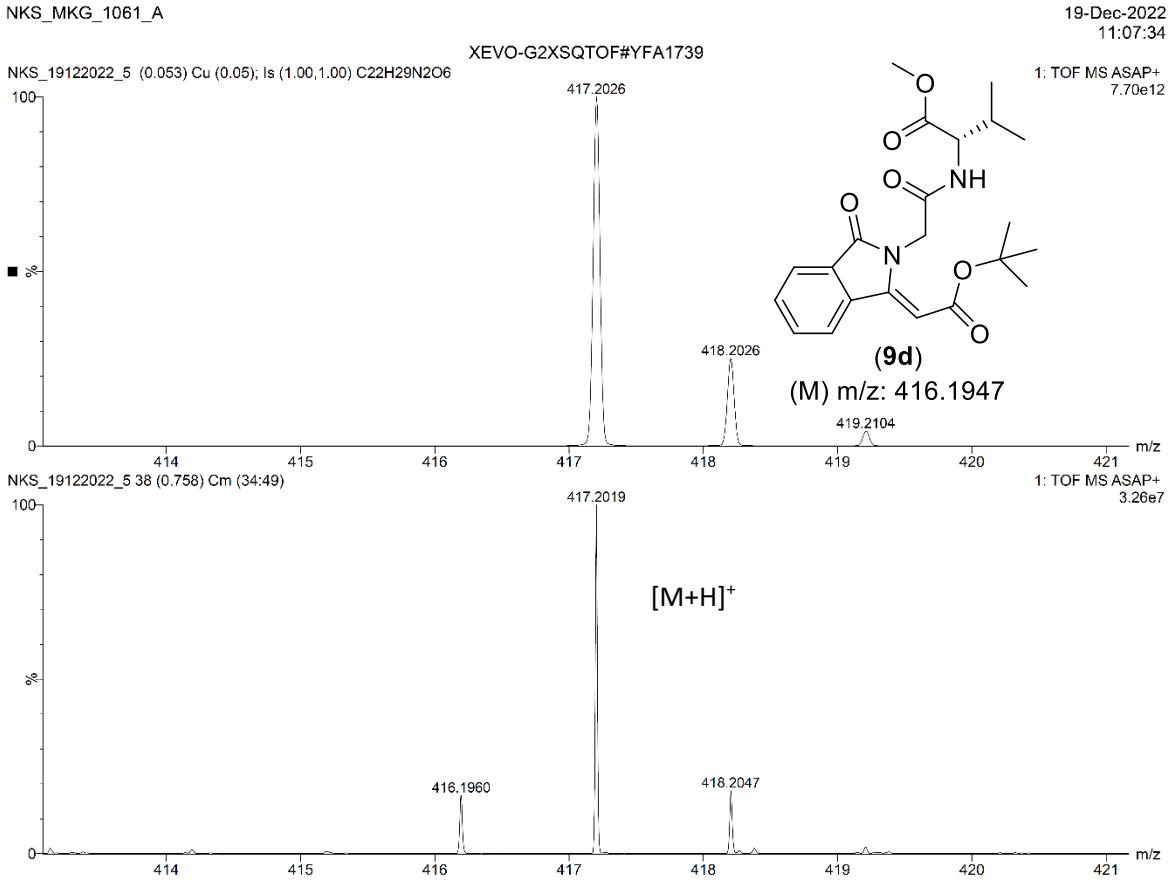


Figure. S20. ESI-HRMS spectra of **9d**

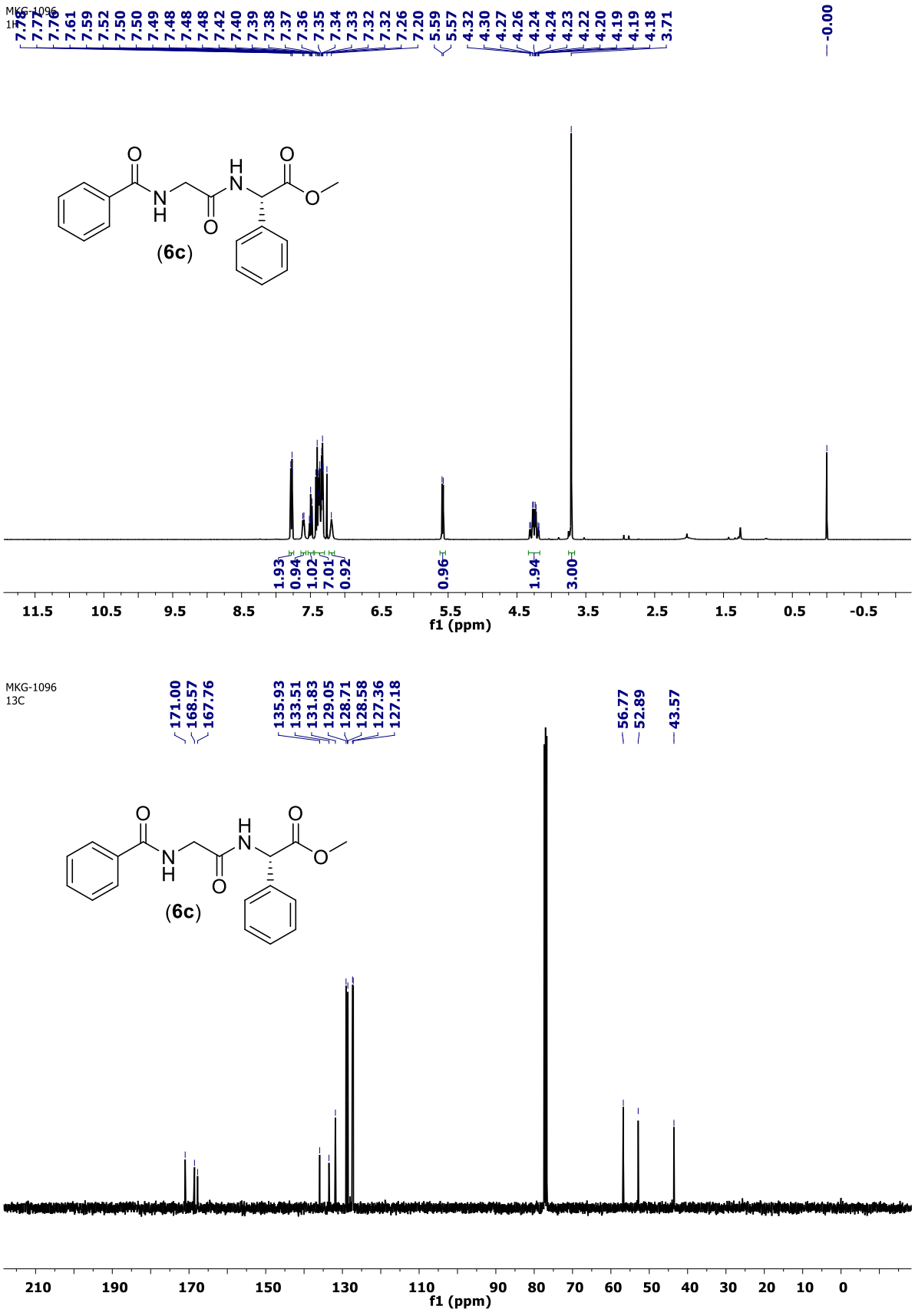


Figure. S21.^{1}H, ^{13}C NMR spectra of **6c**

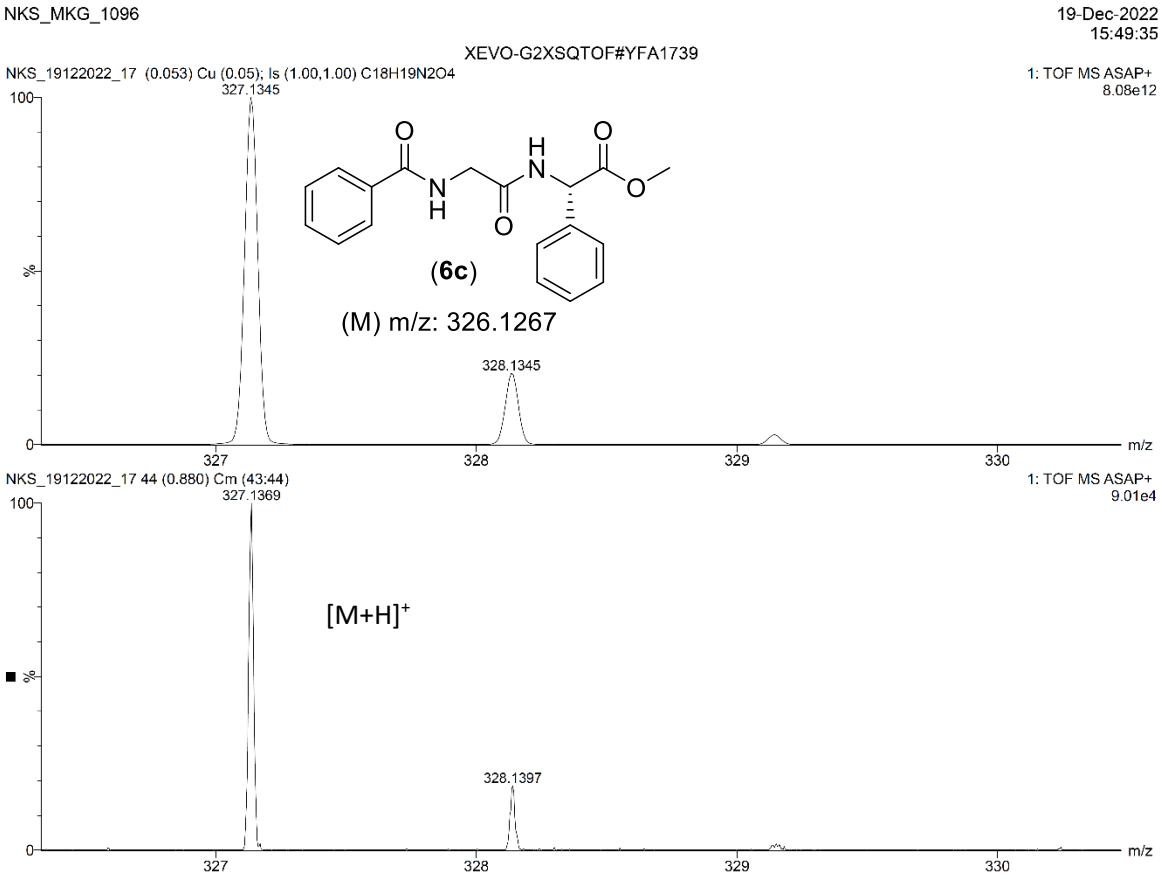


Figure. S22. ESI-HRMS spectra of **6c**

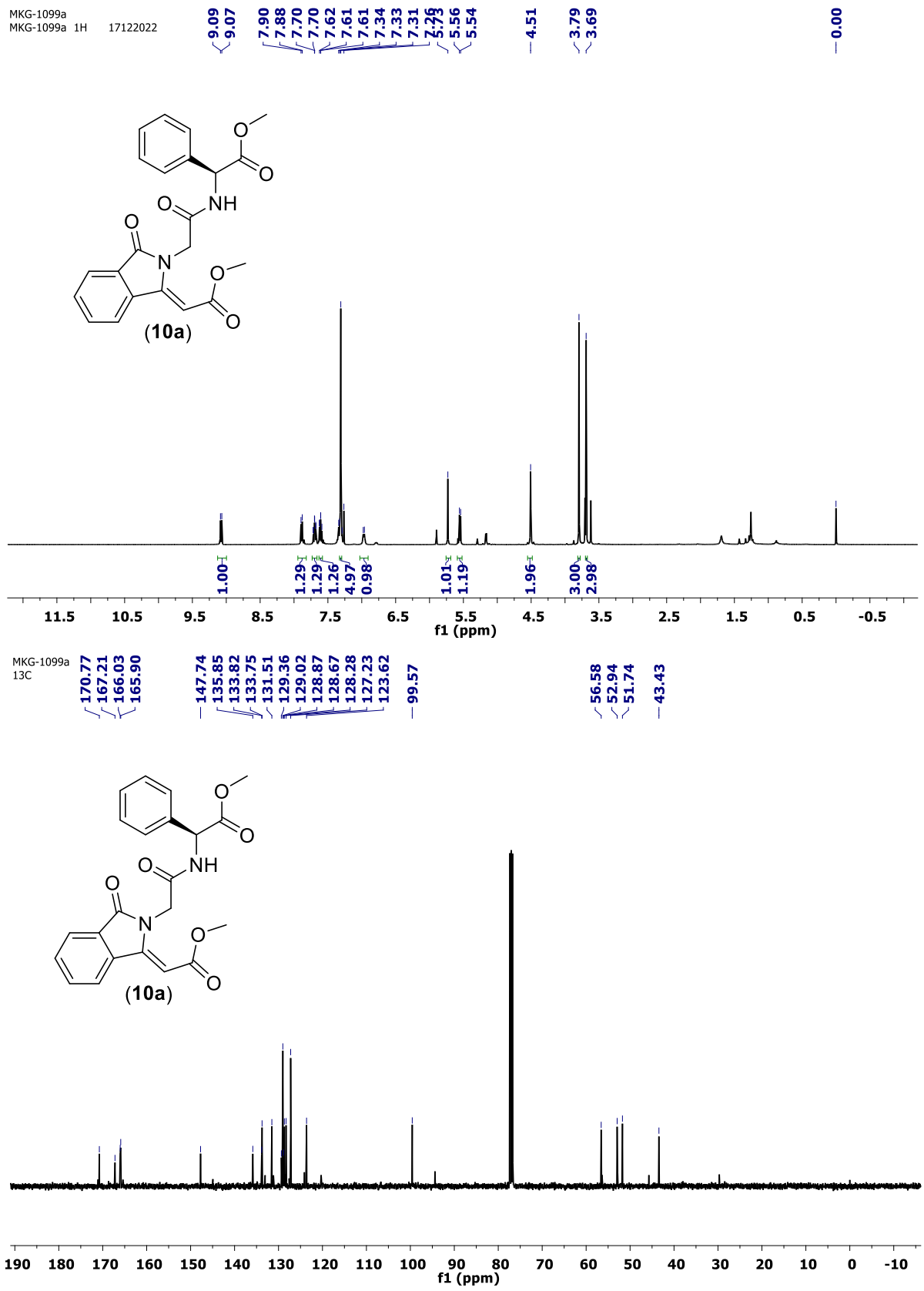


Figure. S23. ^{1}H, ^{13}C NMR spectra of **10a**

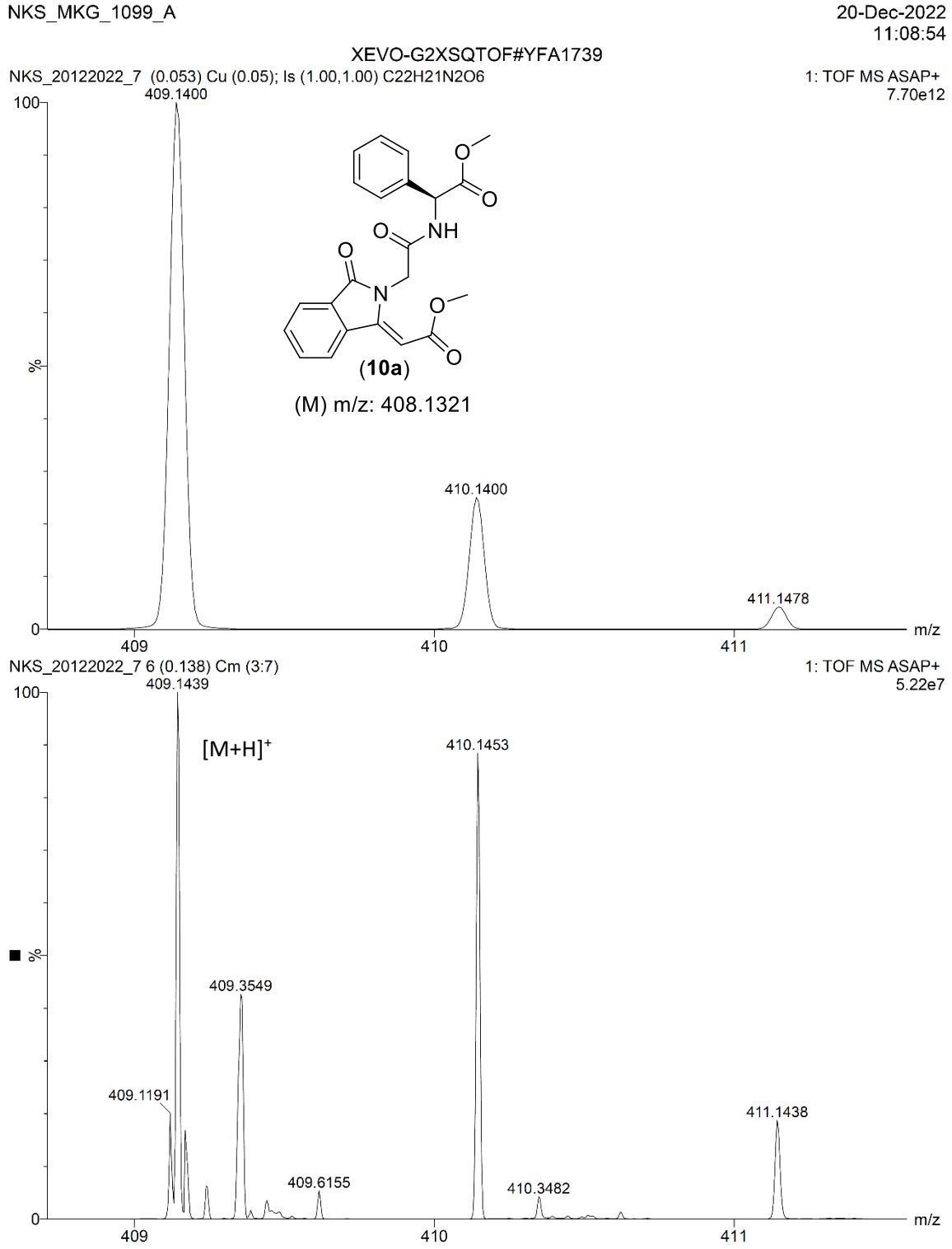


Figure. S24. ESI-HRMS spectra of **10a**

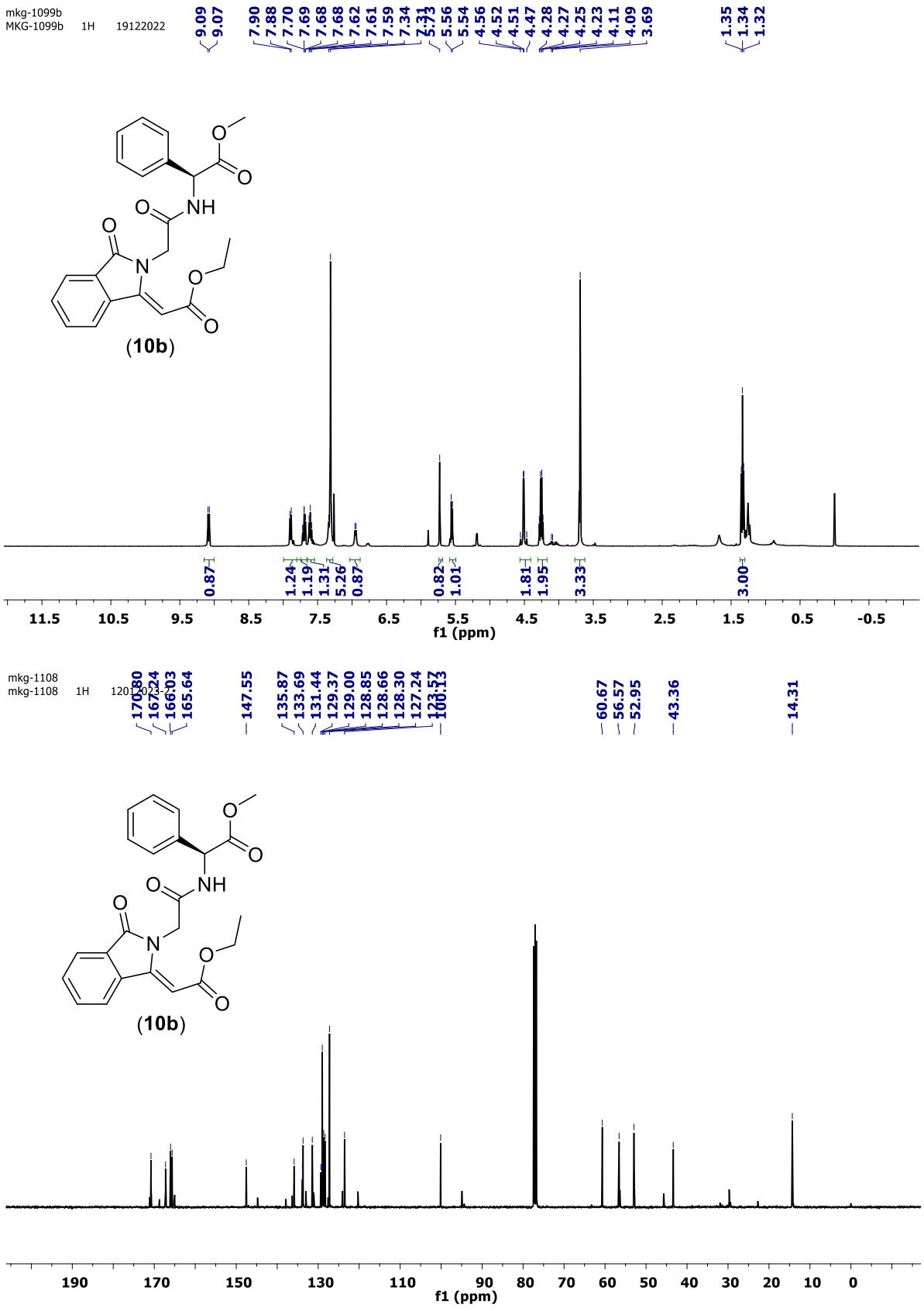


Figure. S25.[1]H, [13]C NMR spectra of **10b**

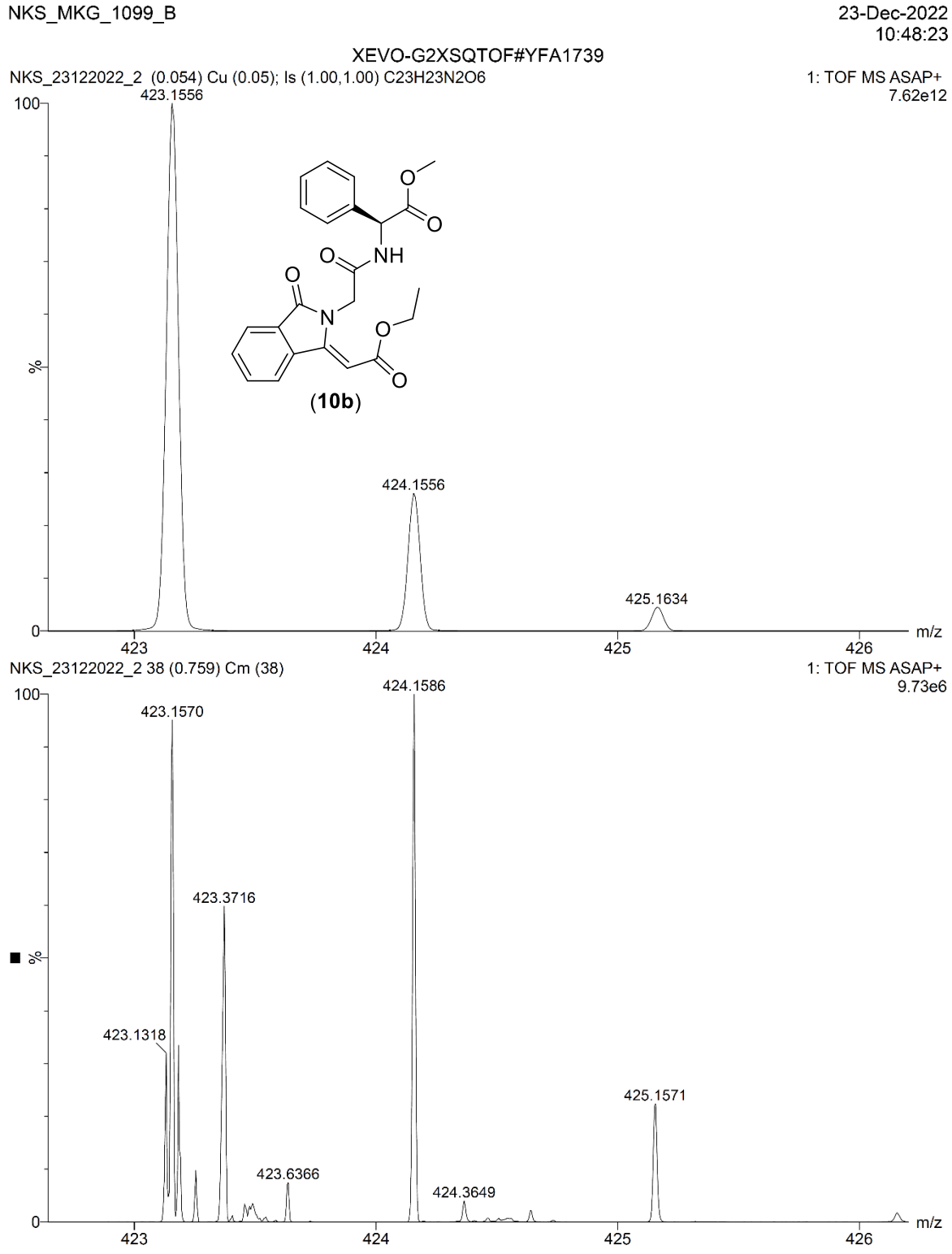


Figure. S26. ESI-HRMS spectra of **10b**

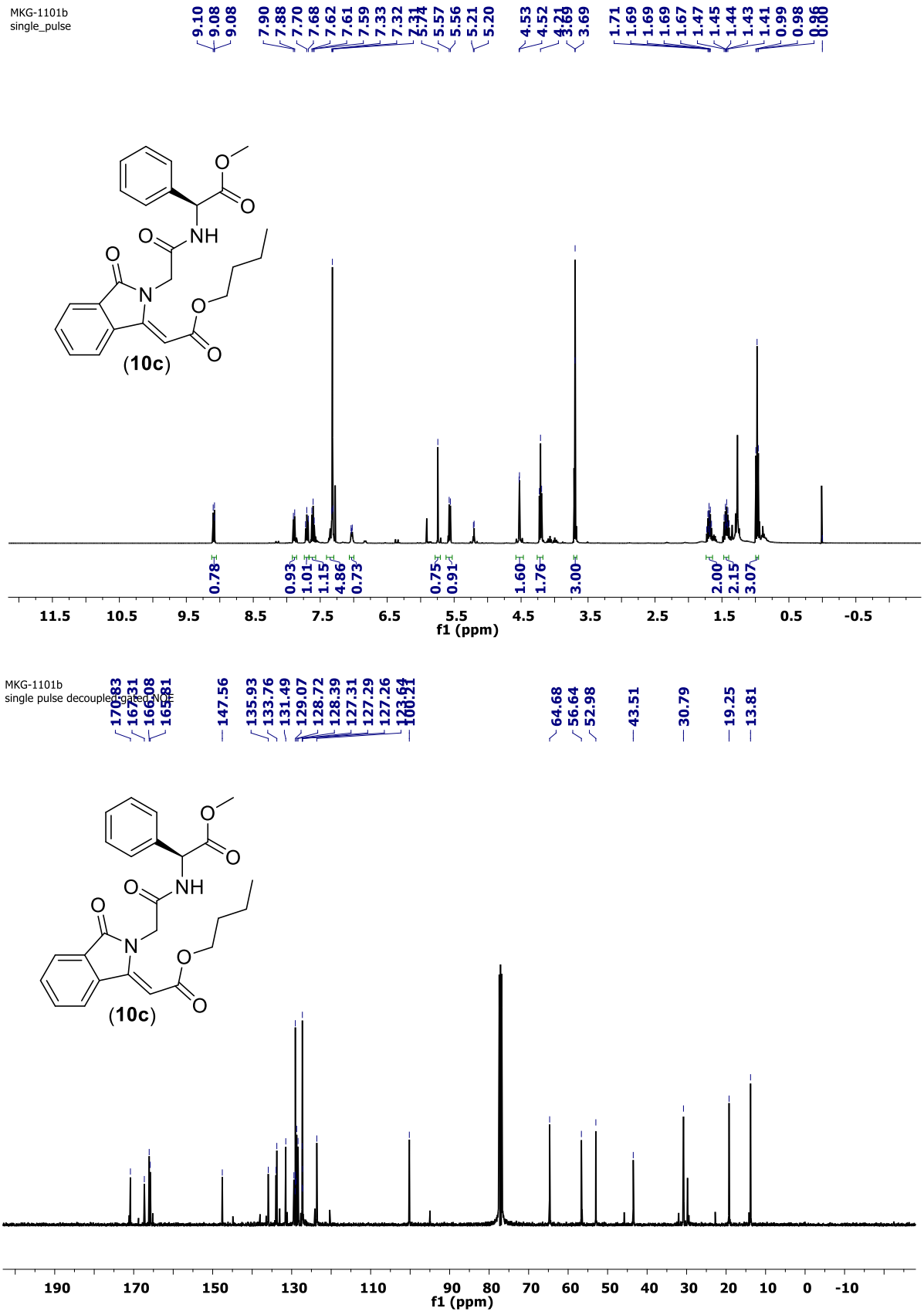


Figure. S27.^{1}H, ^{13}C NMR spectra of **10c**

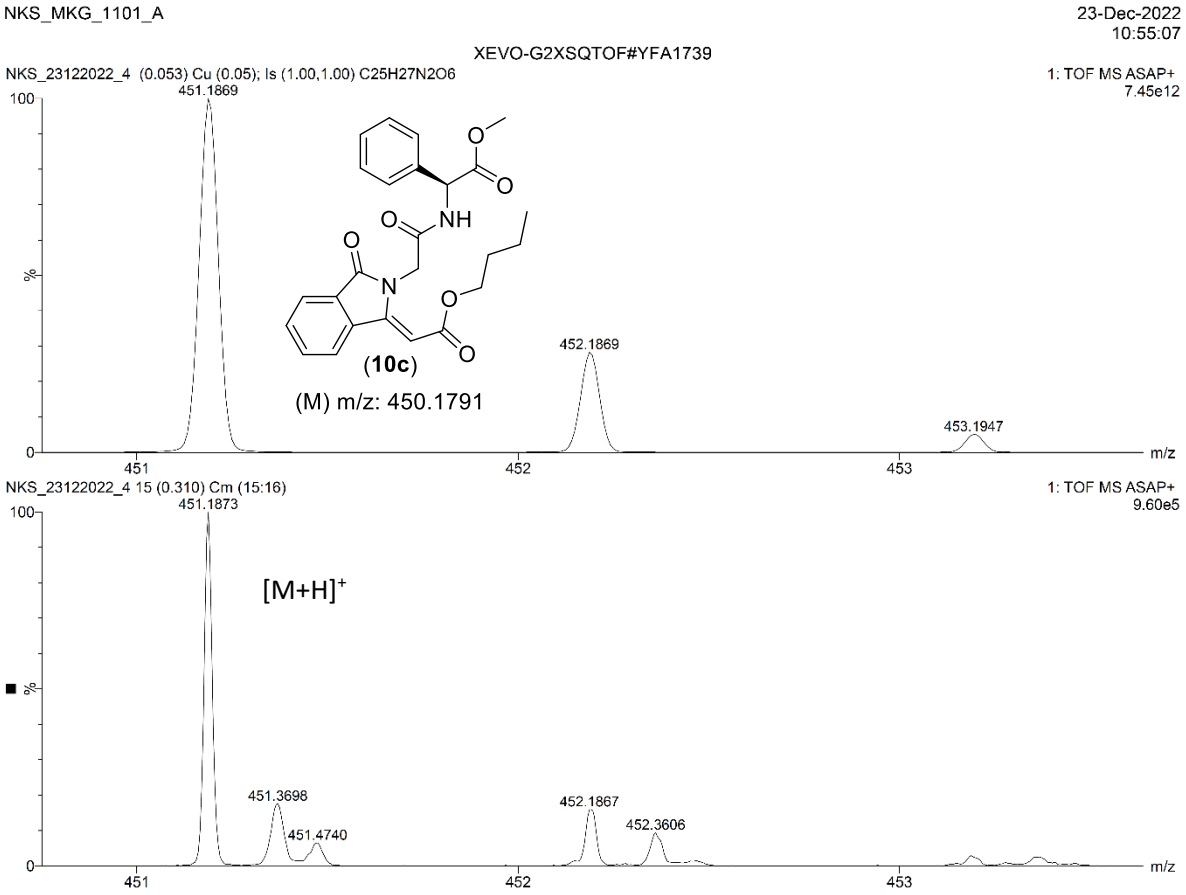


Figure. S28. ESI-HRMS spectra of **10c**

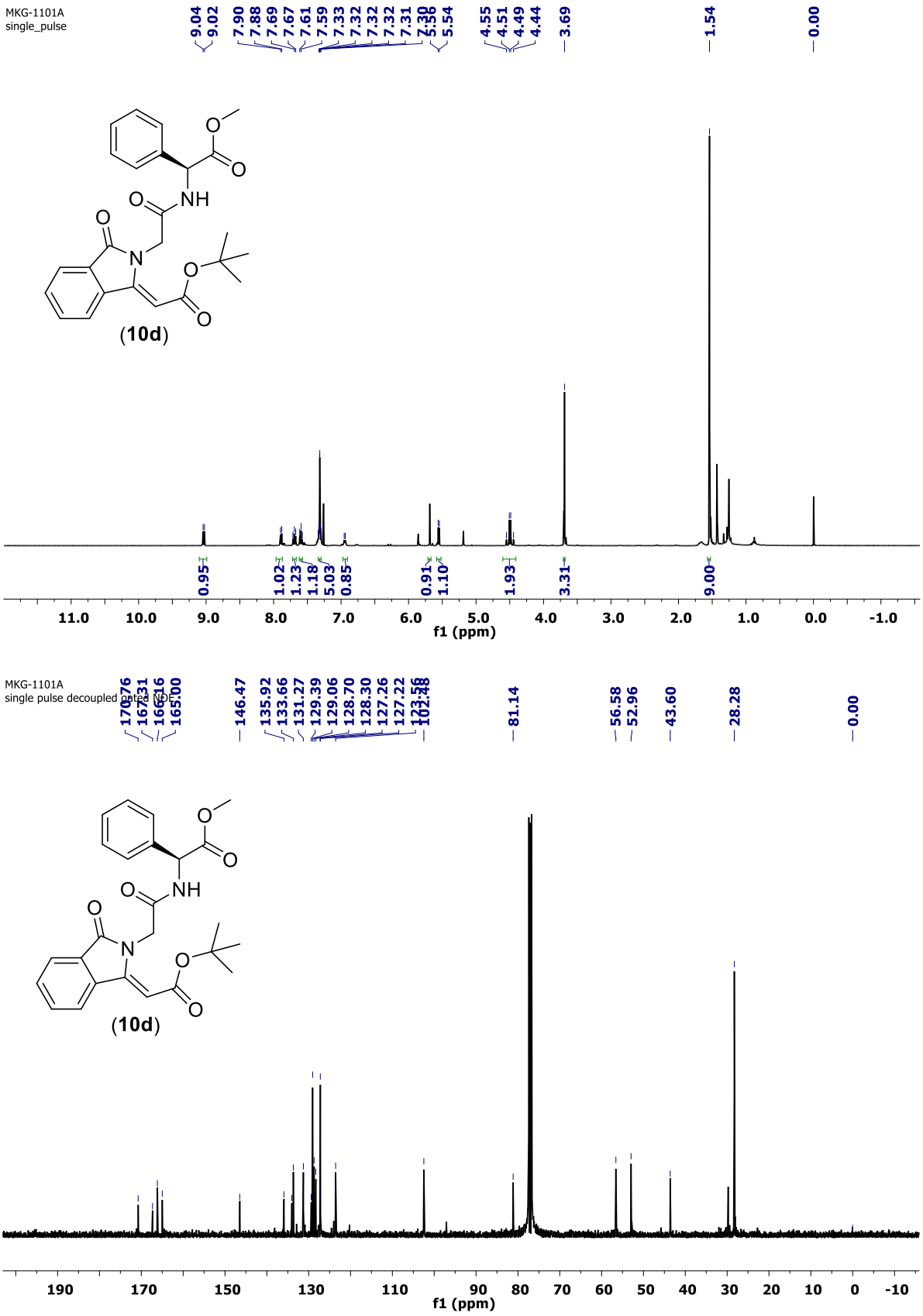


Figure. S29. ^{1}H, ^{13}C NMR spectra of indolinone **10d**

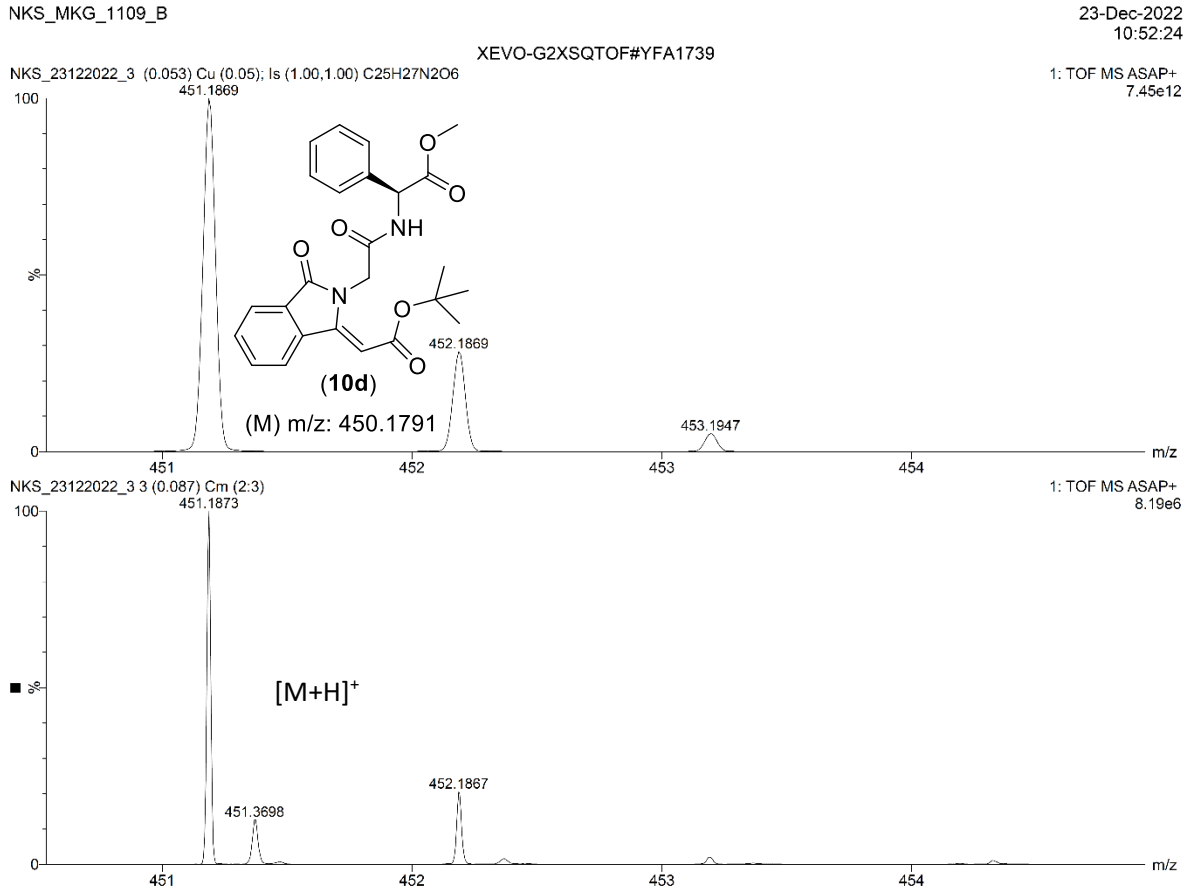


Figure. S30. ESI-HRMS spectra of indolinone **10d**

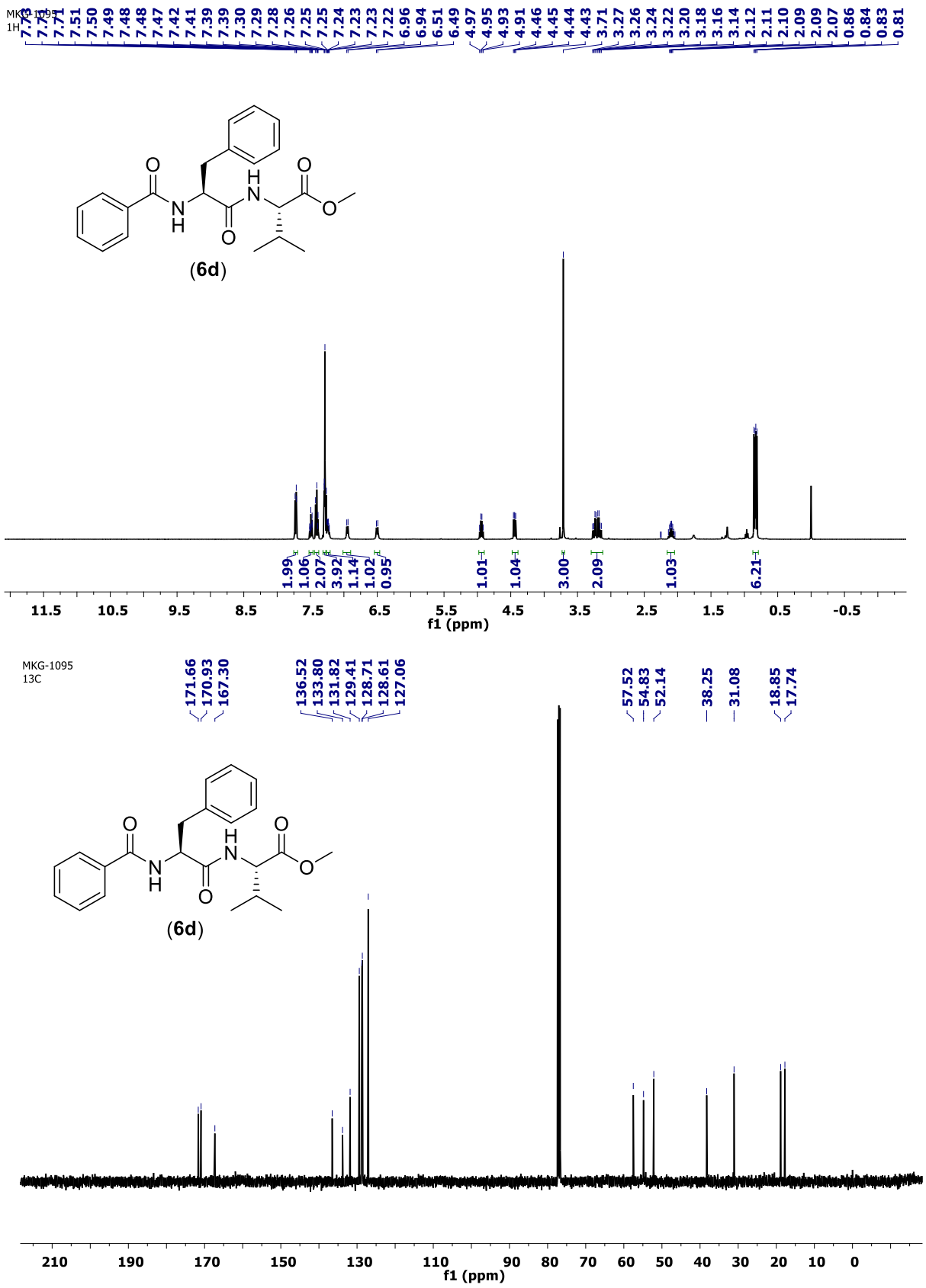


Figure. S31. ^{1}H, ^{13}C NMR spectra of **6d**

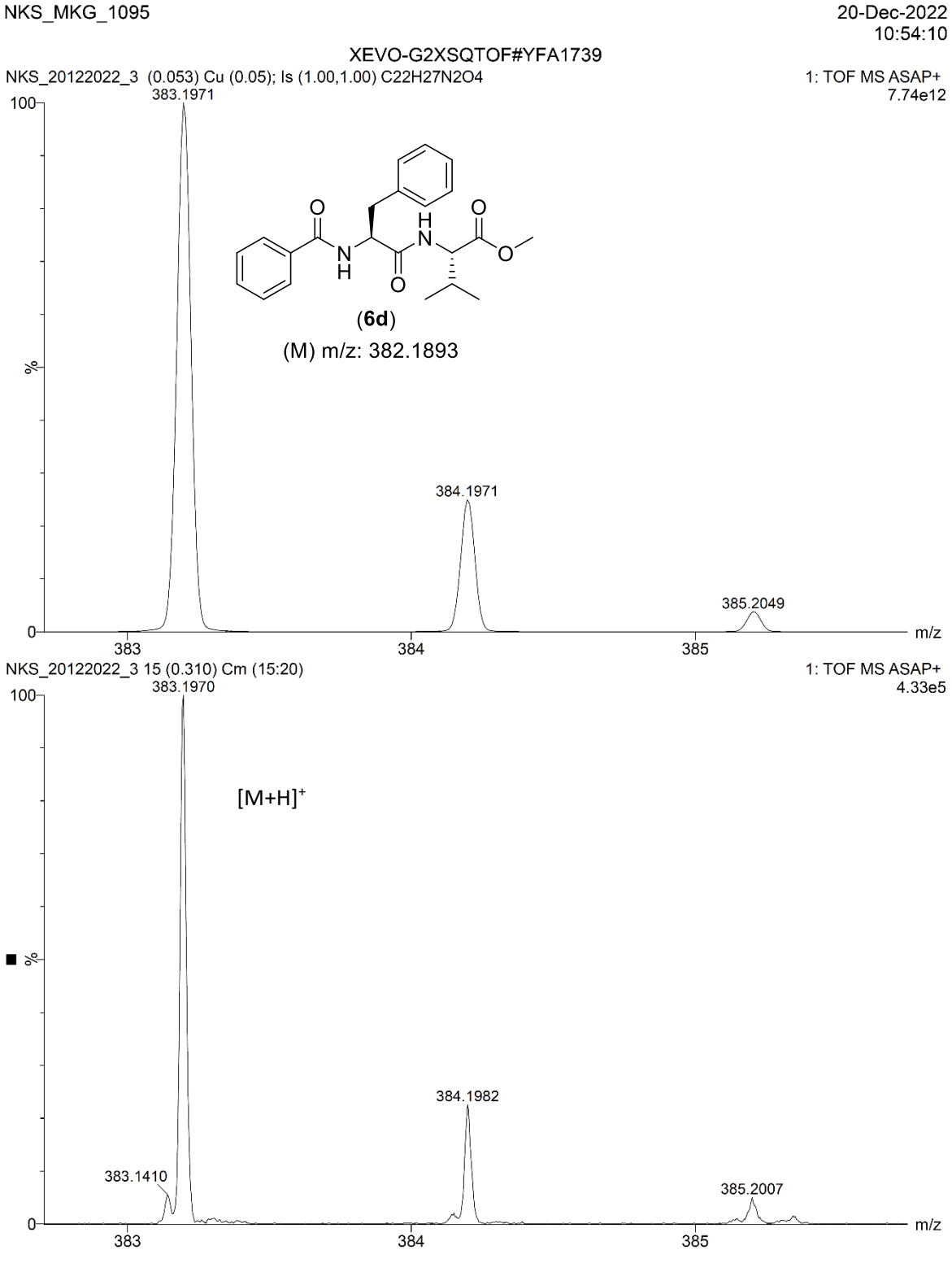


Figure. S32. ESI-HRMS spectra of **6d**

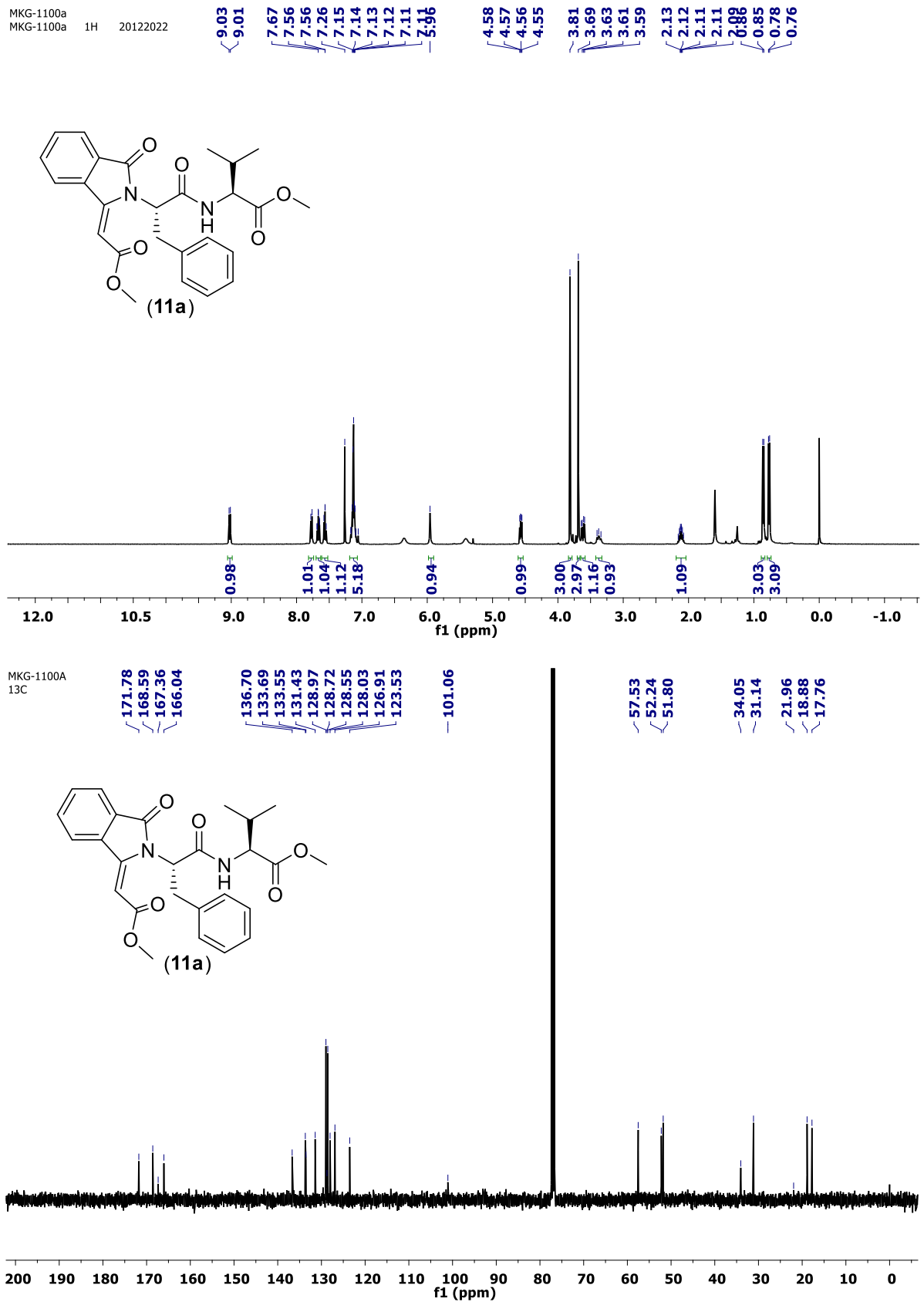


Figure. S33. ^{1}H, ^{13}C NMR spectra of **11a**

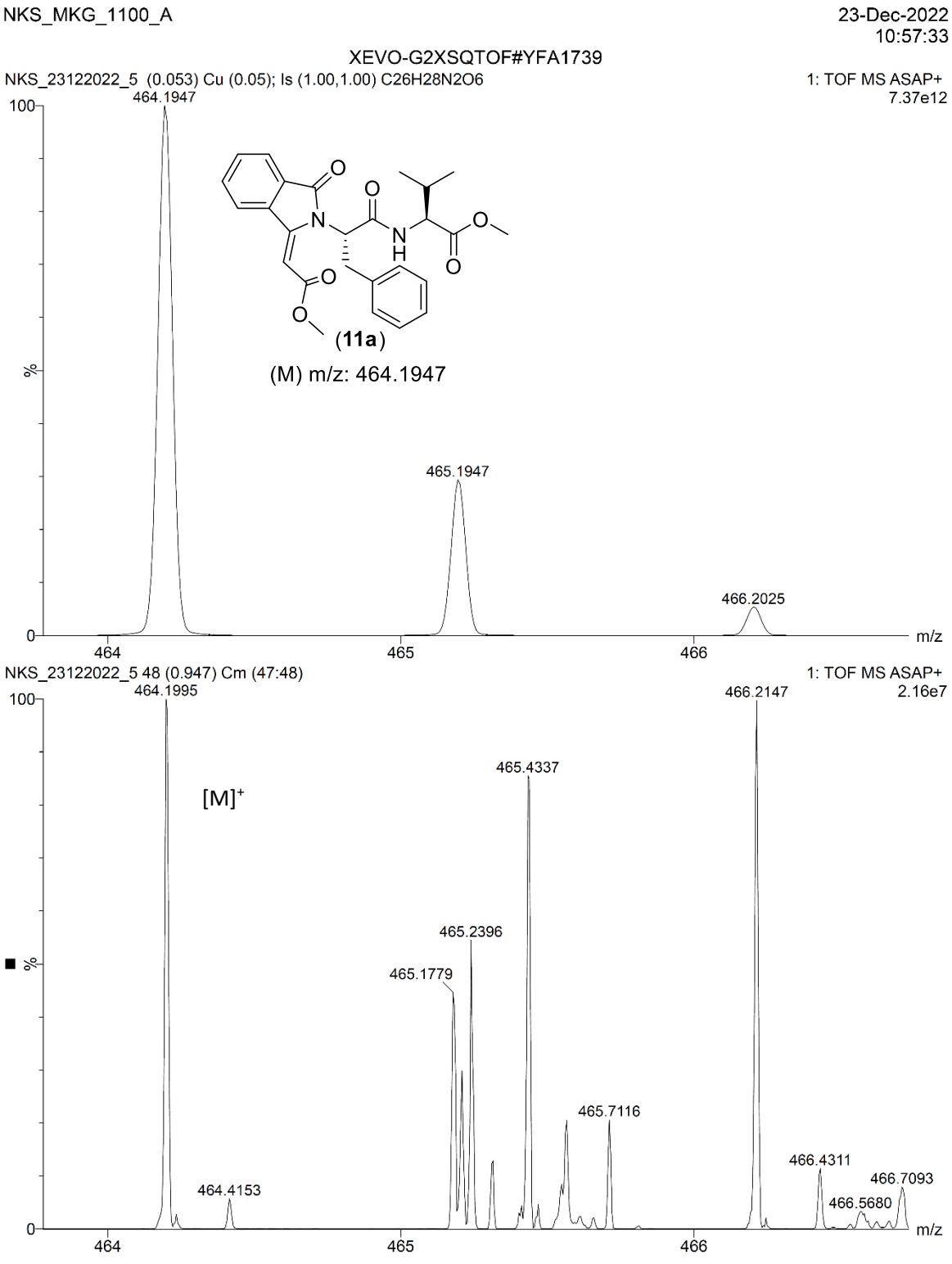


Figure. S34. ESI-HRMS spectra of **11a**

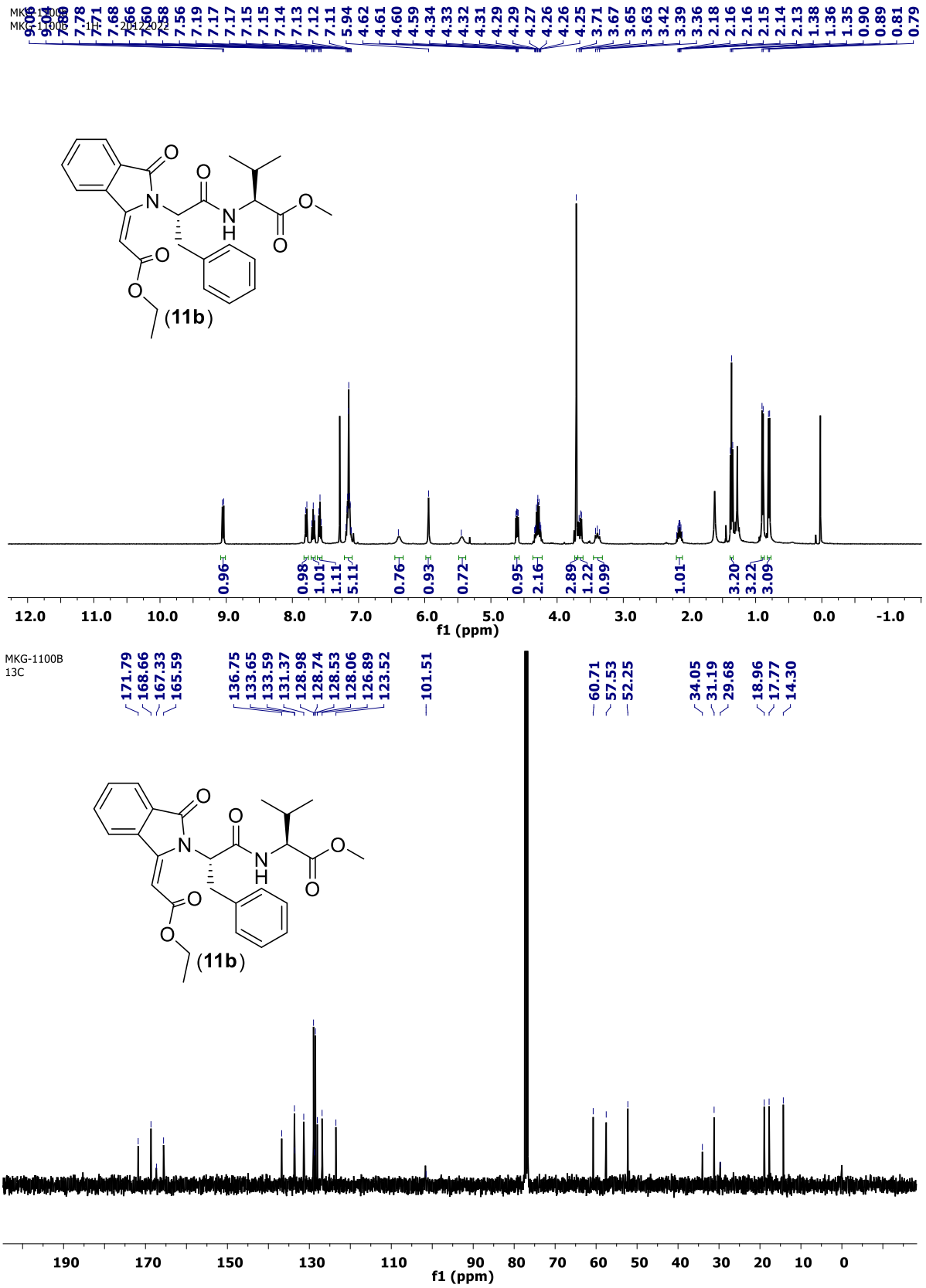


Figure. S35. ^{1}H, ^{13}C NMR spectra of **11b**

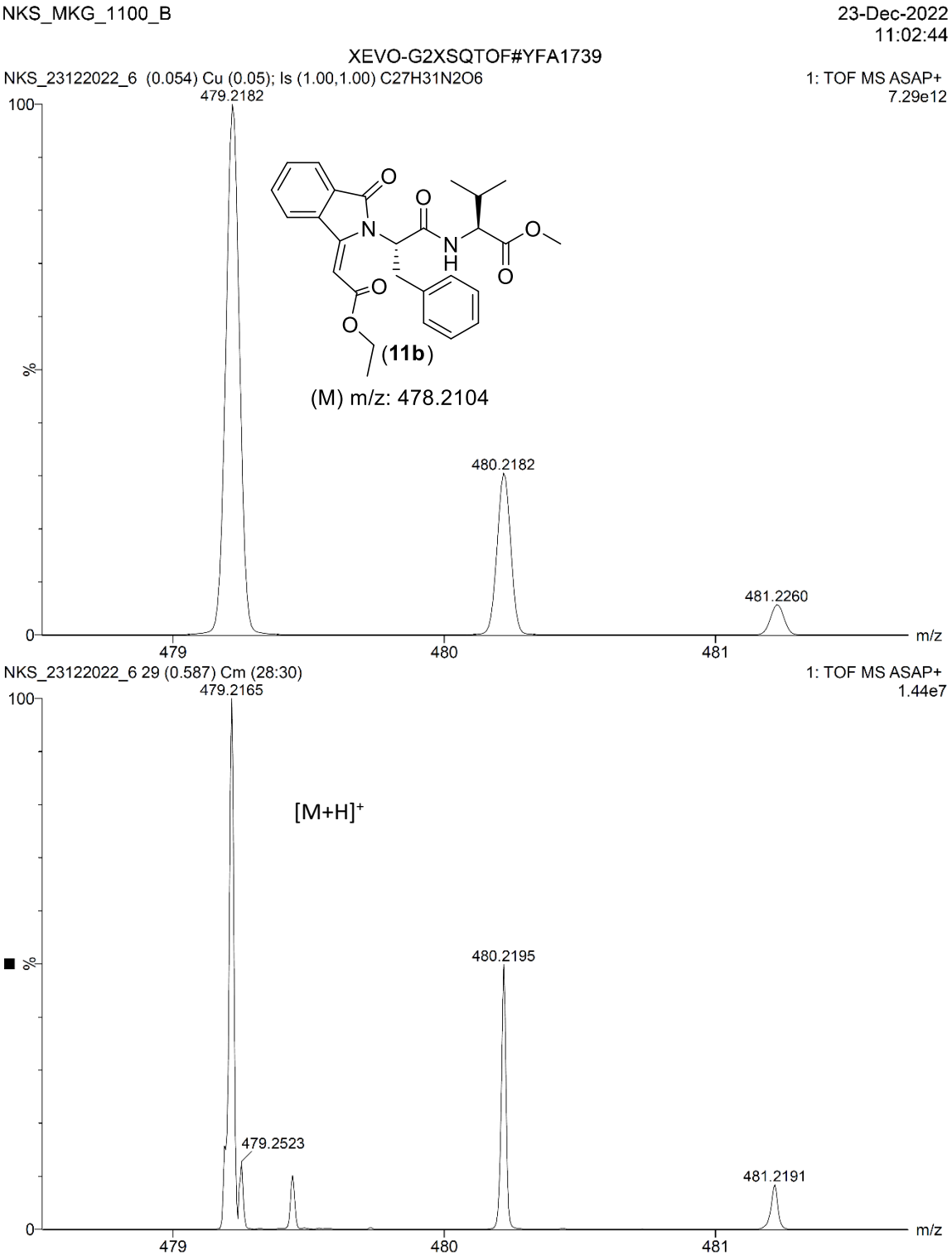


Figure. S36. ESI-HRMS spectra of **11b**

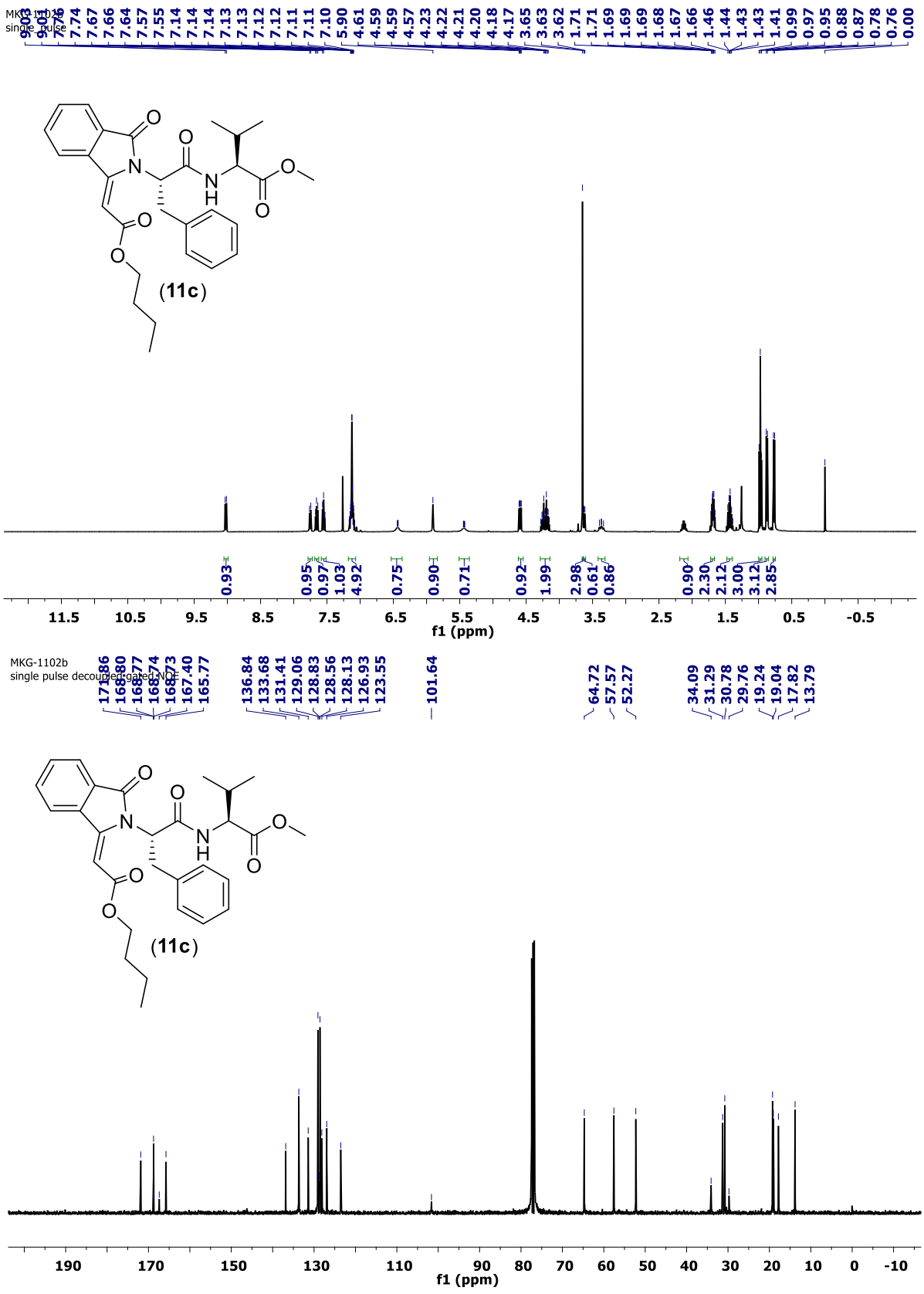


Figure. S37. ^{1}H, ^{13}C NMR spectra of **11c**

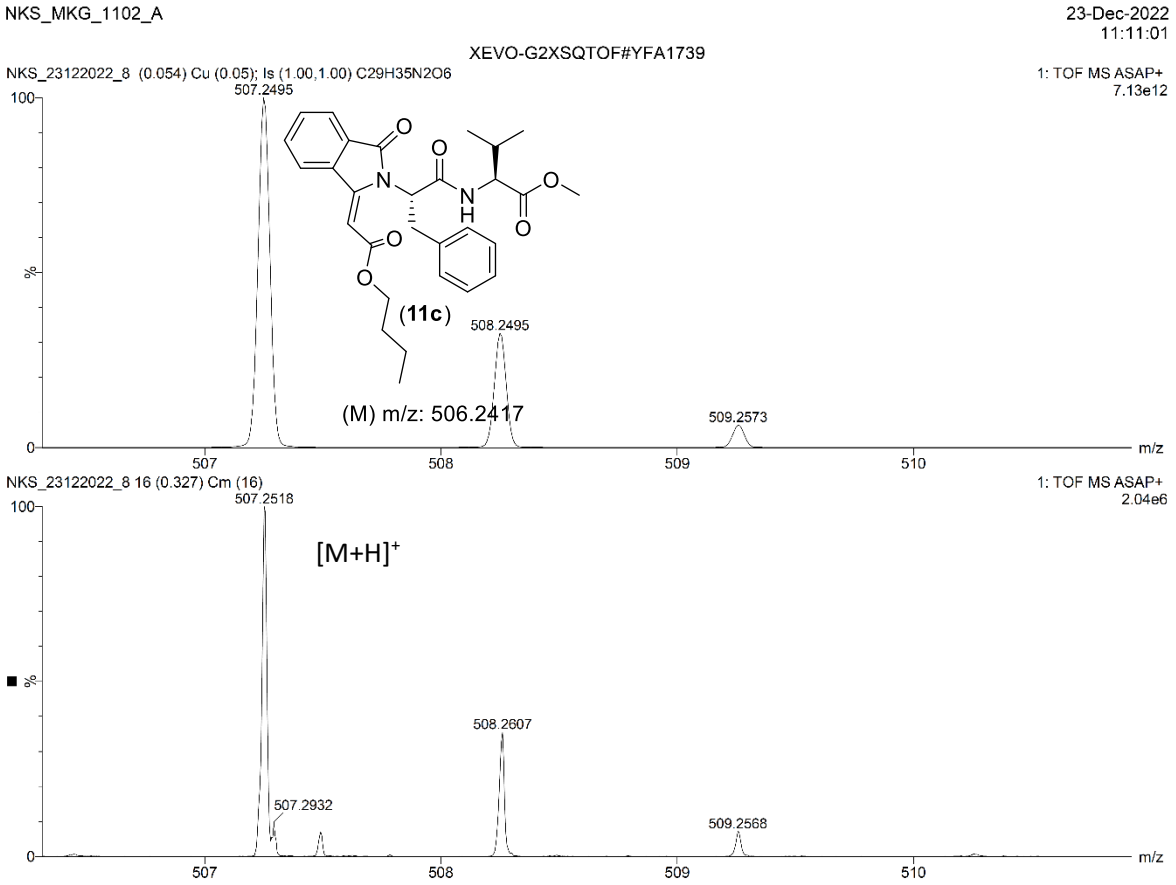


Figure. S38. ESI-HRMS spectra of **11c**

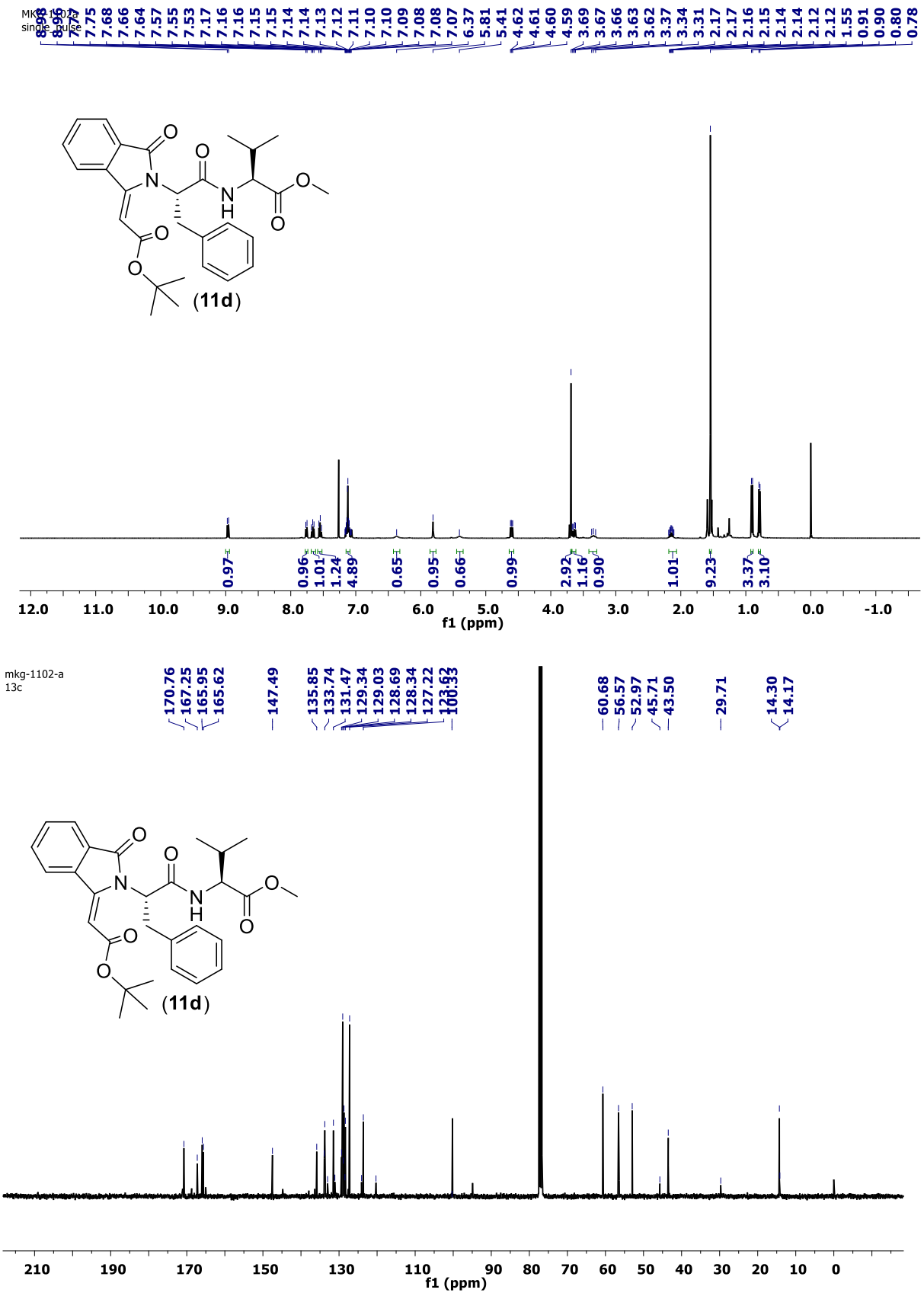


Figure. S39. ^{1}H, ^{13}C NMR spectra of **11d**

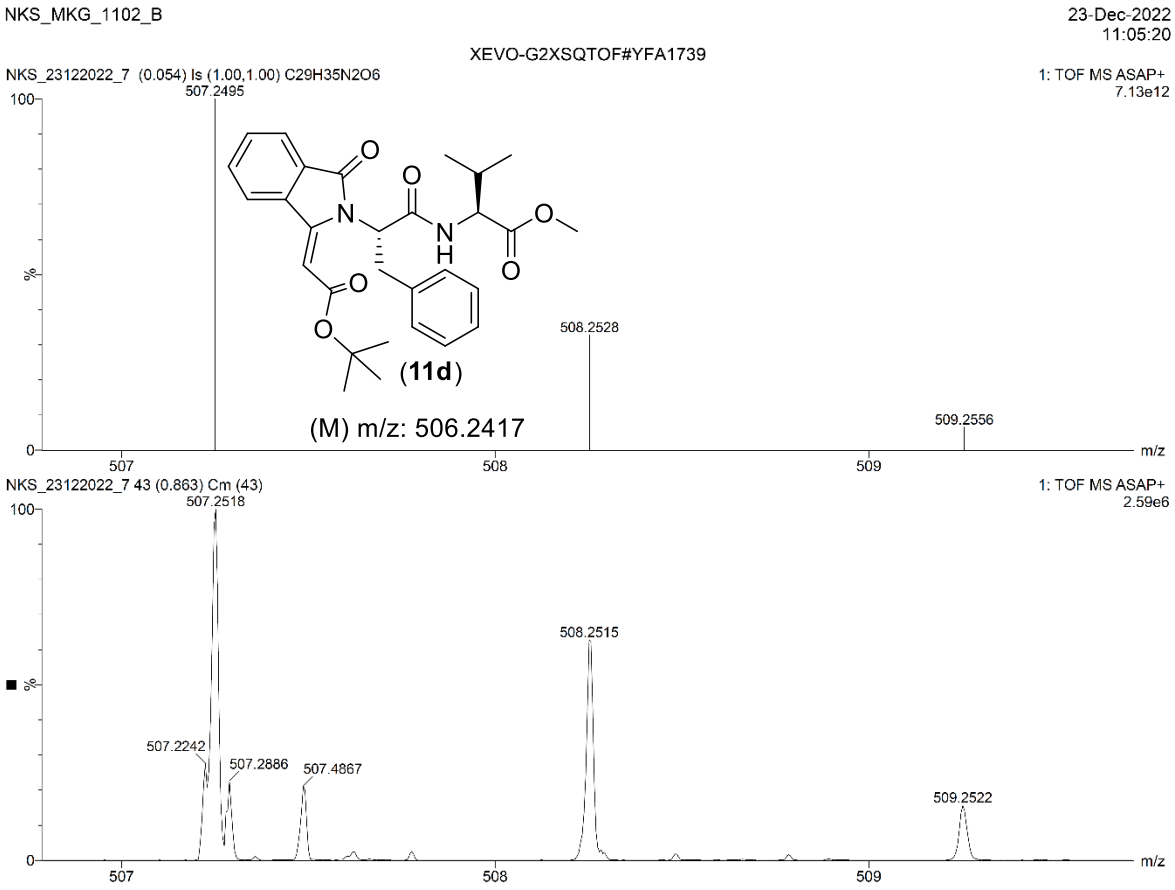


Figure. S40. ESI-HRMS spectra of **11d**

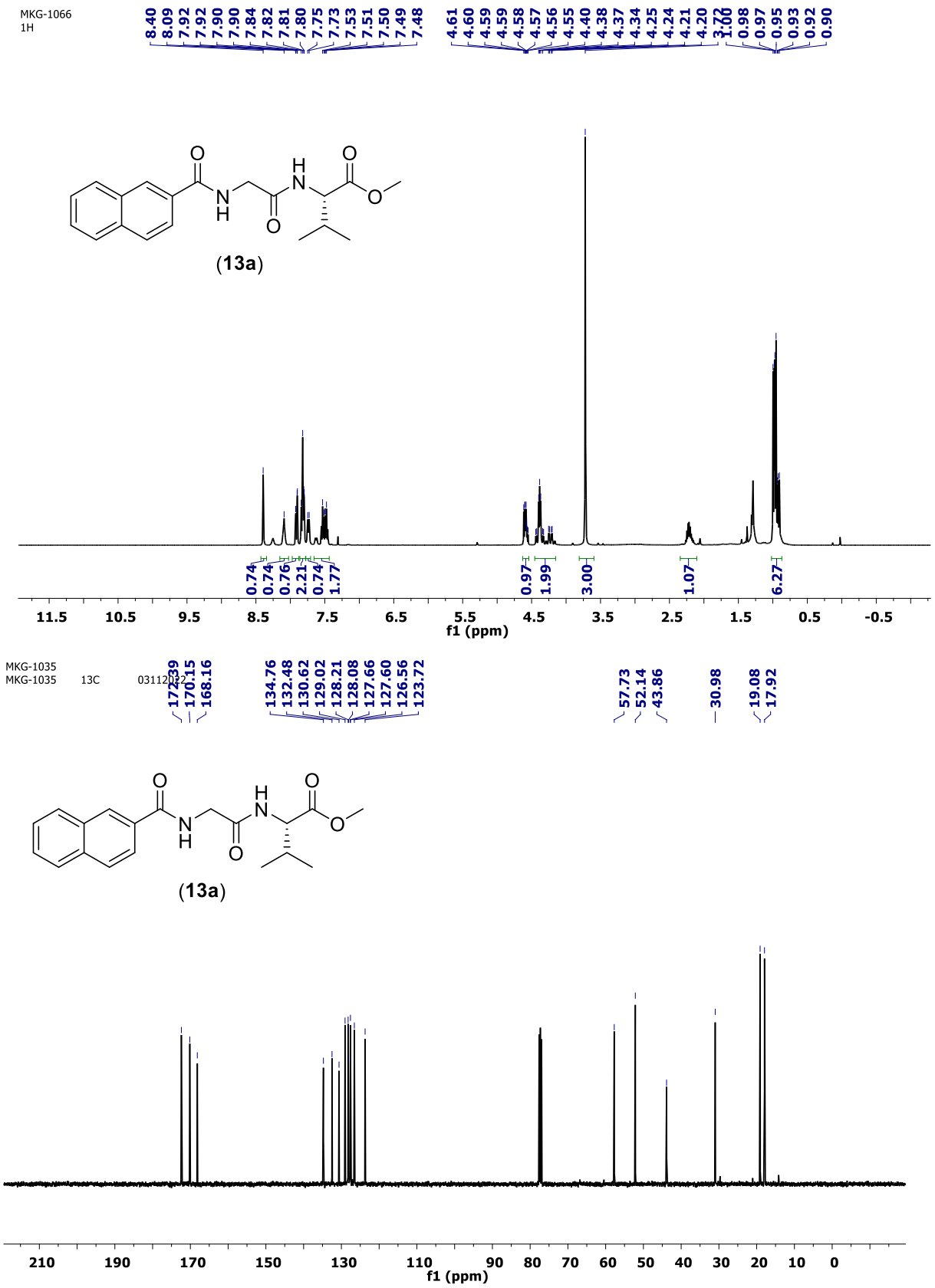


Figure. S41.^{1}H, ^{13}C NMR spectra of **13a**

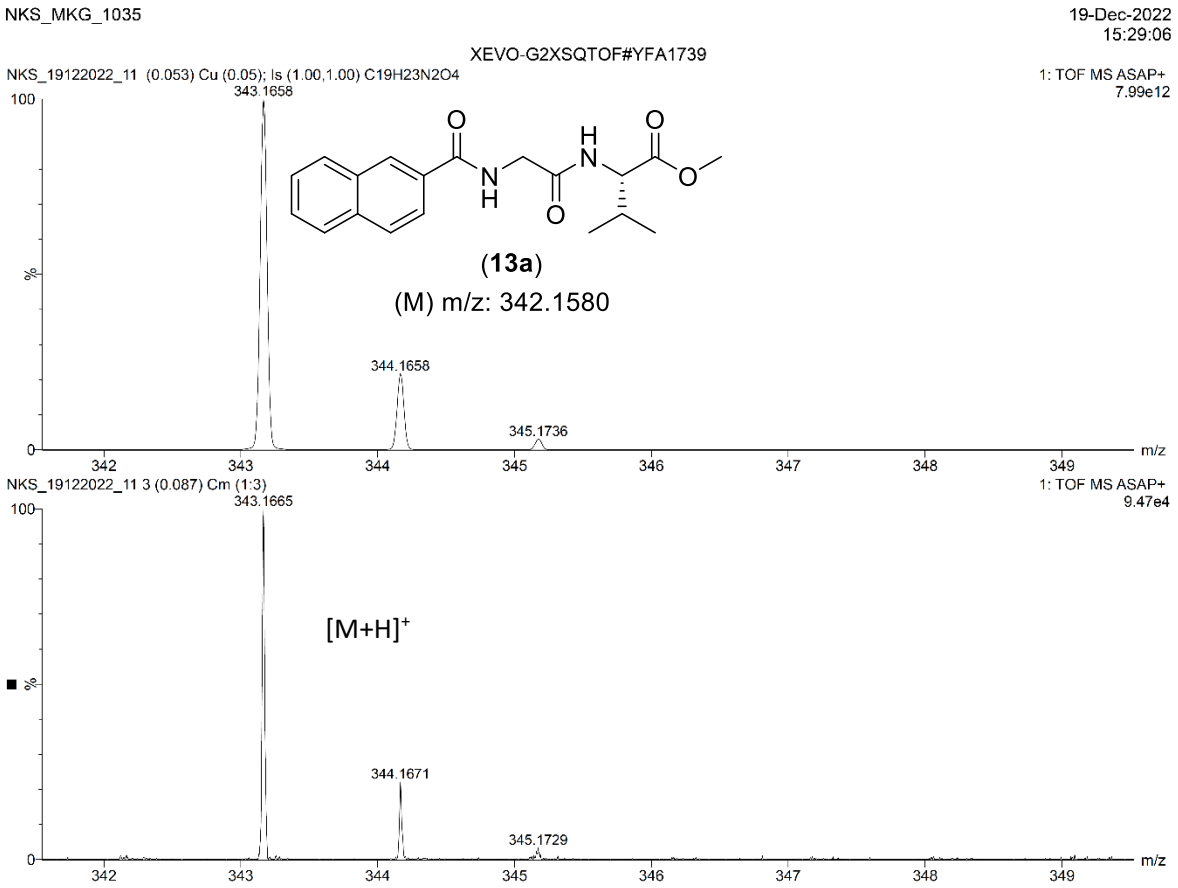


Figure. S42. ESI-HRMS spectra of **13a**

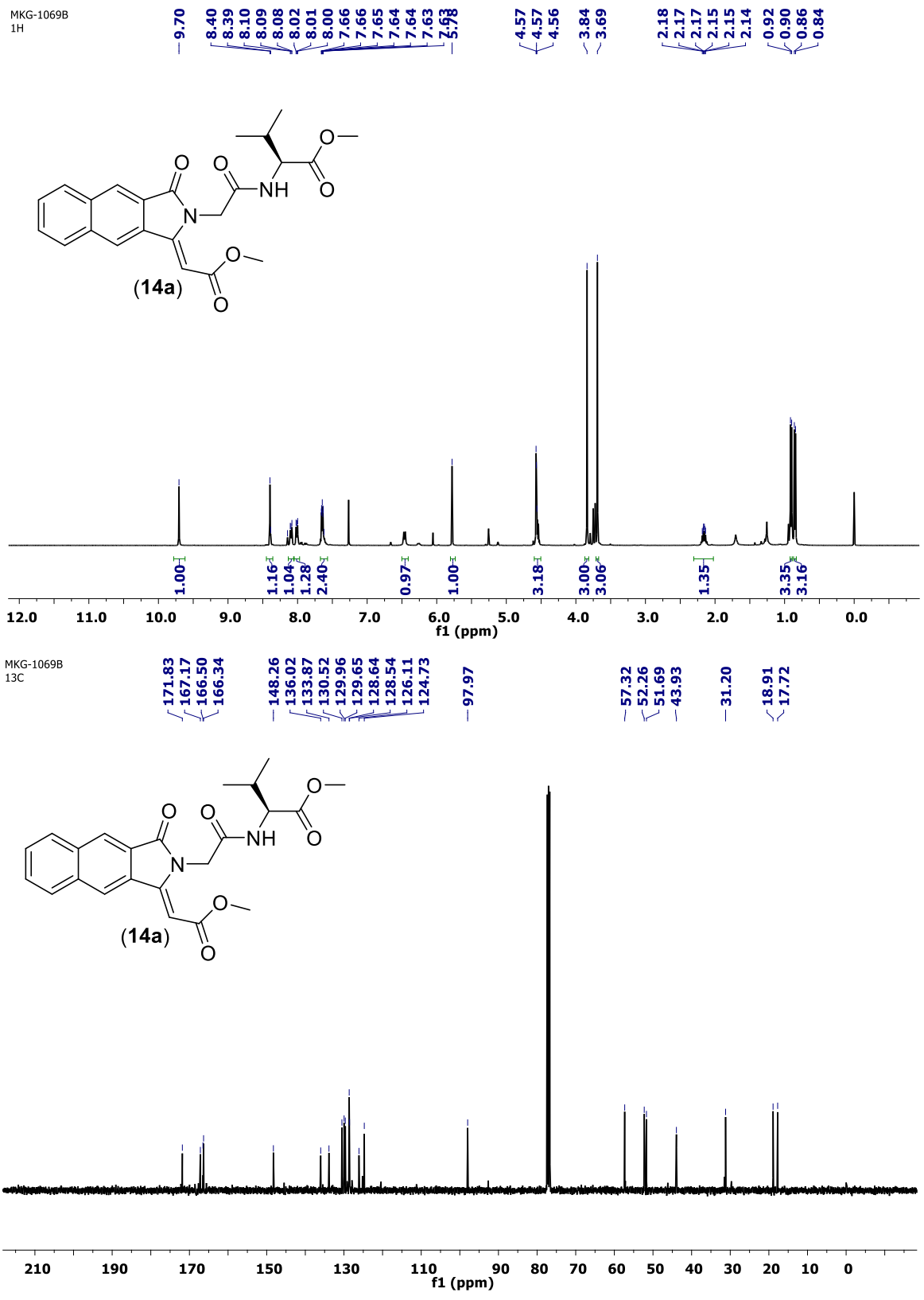


Figure.S43.[1]H, [13]C NMR spectra of **14a**

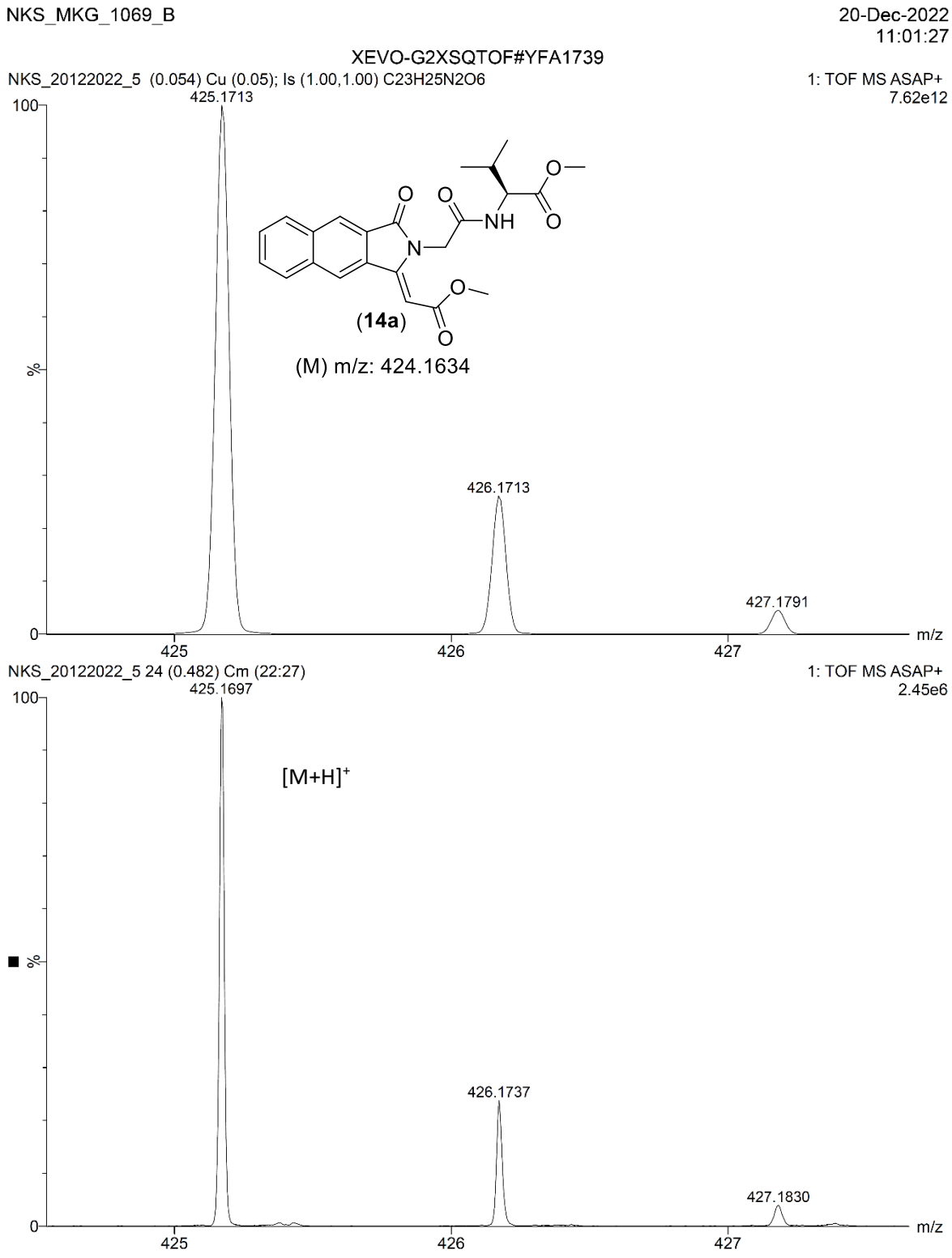


Figure. S44. ESI-HRMS spectra of **14a**

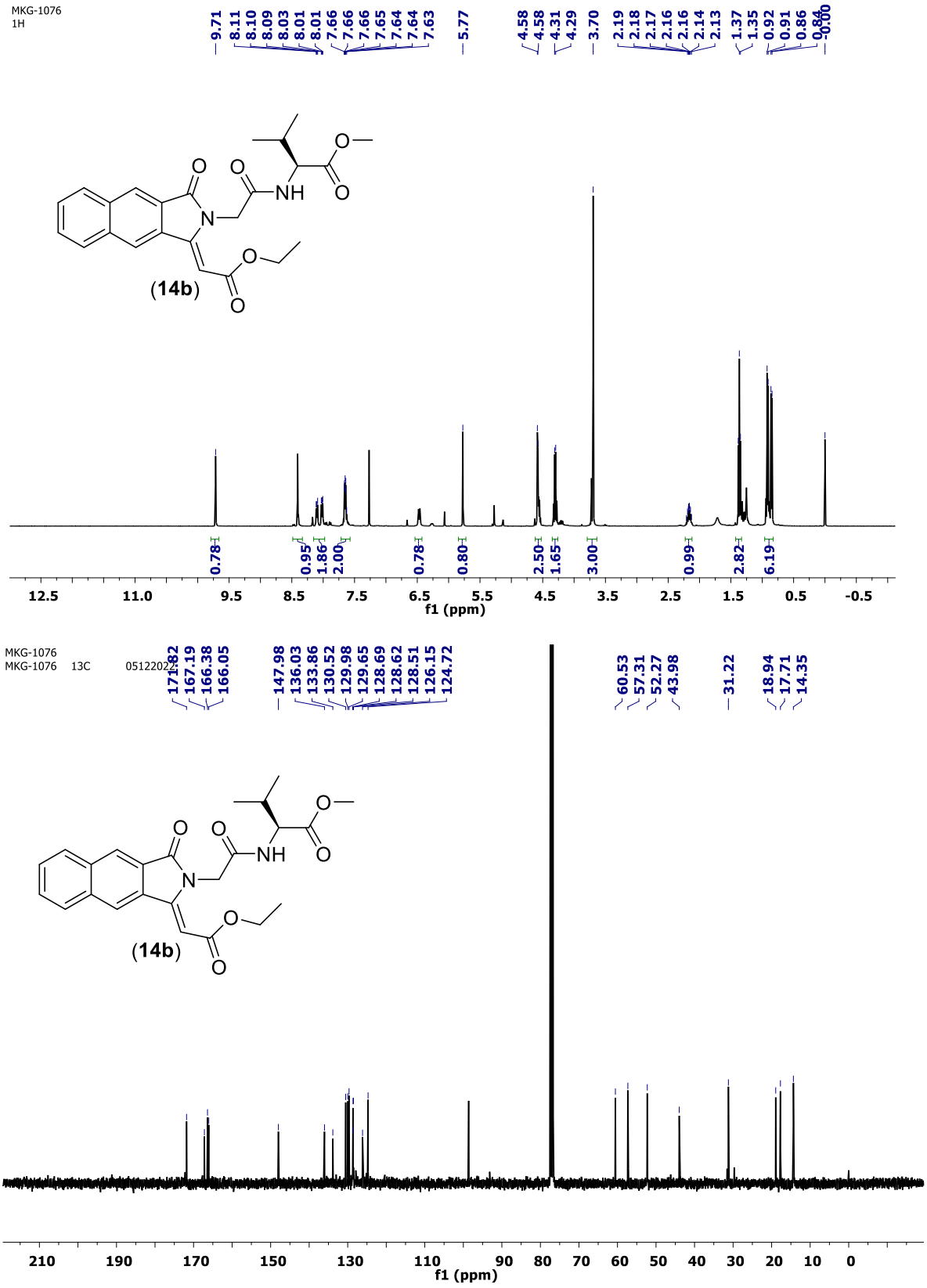


Figure. S45.[1]H, [13]C NMR spectra of **14b**

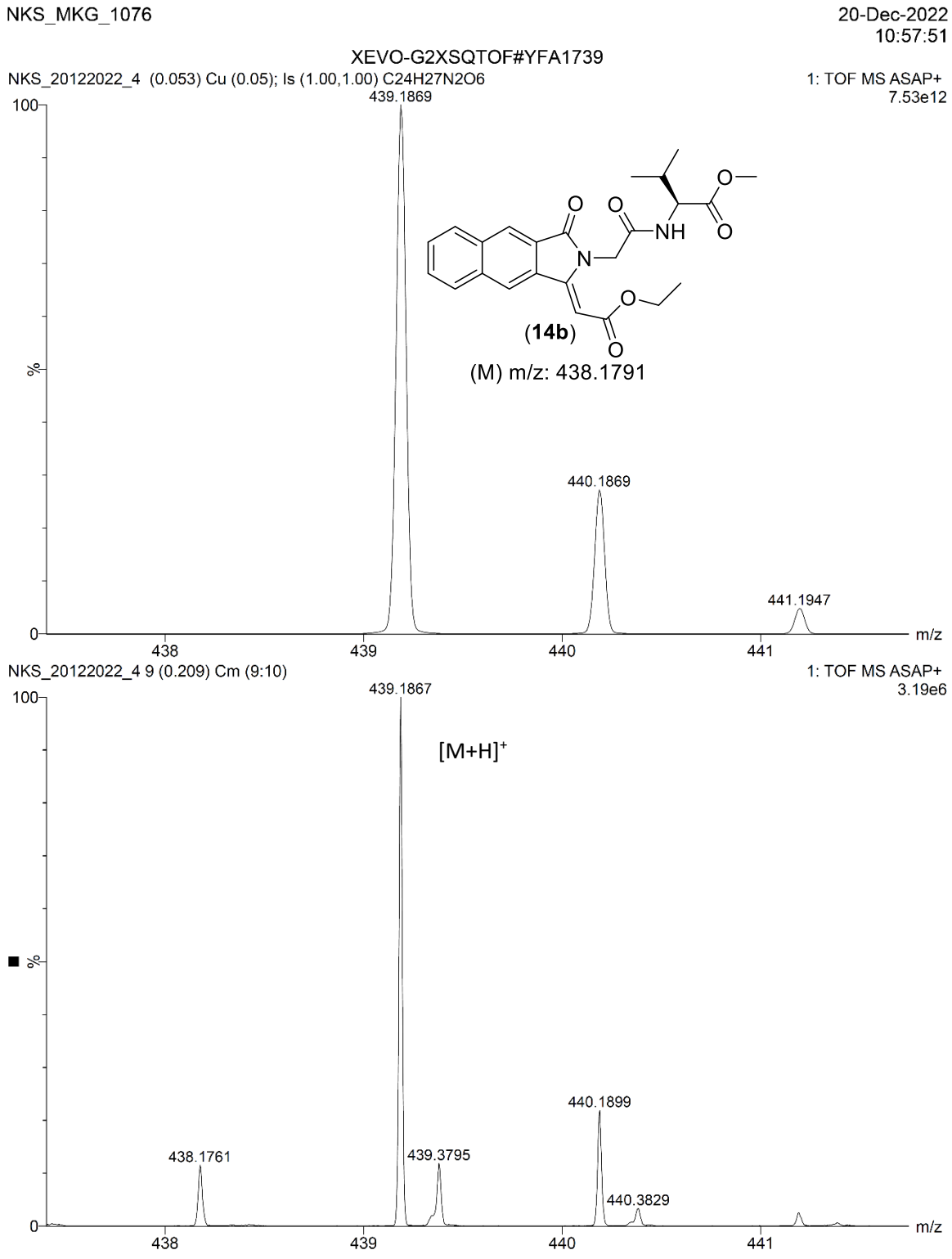


Figure. S46. ESI-HRMS spectra of **14b**

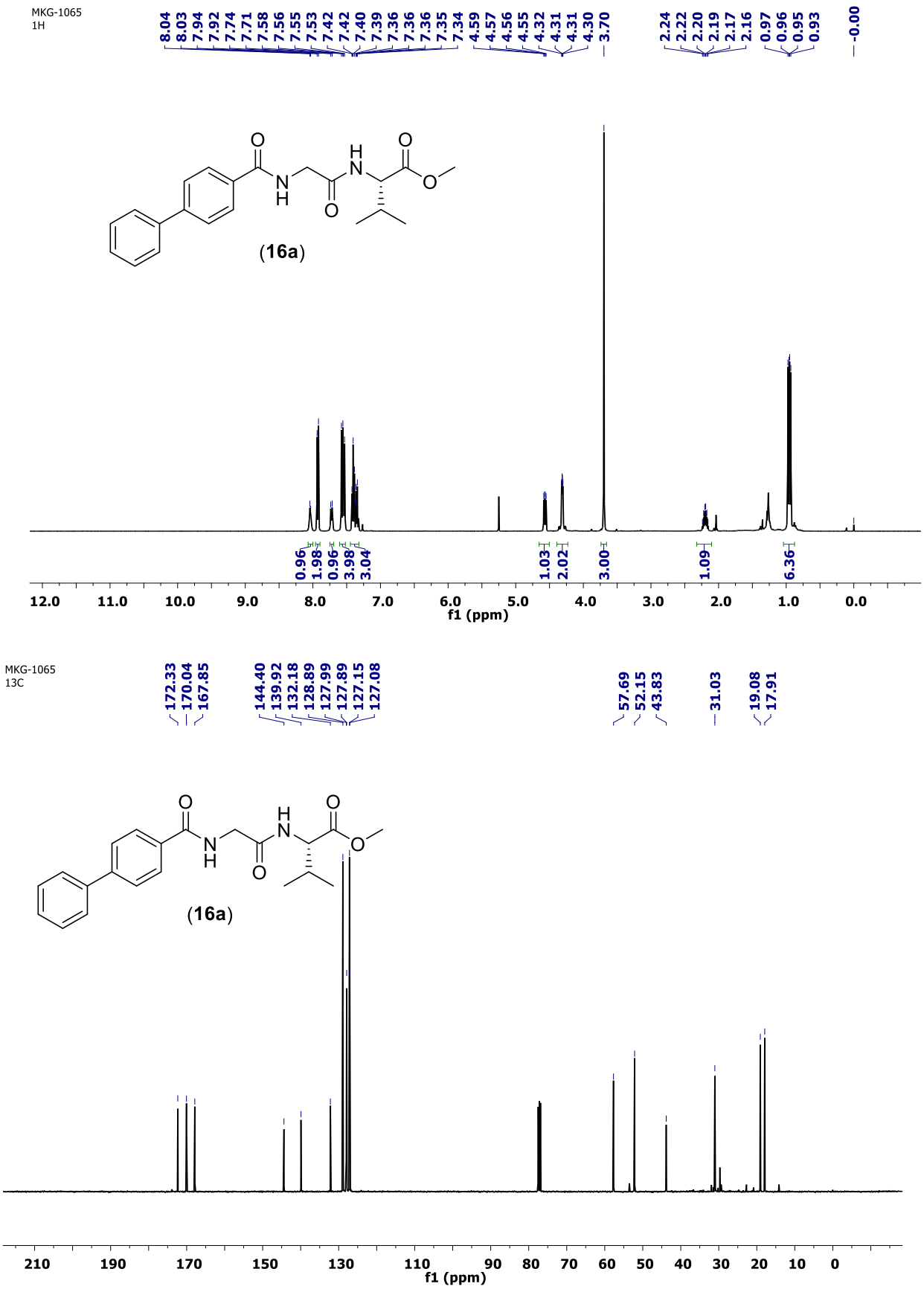


Figure. S47. ^{1}H, ^{13}C NMR spectra of **16a**

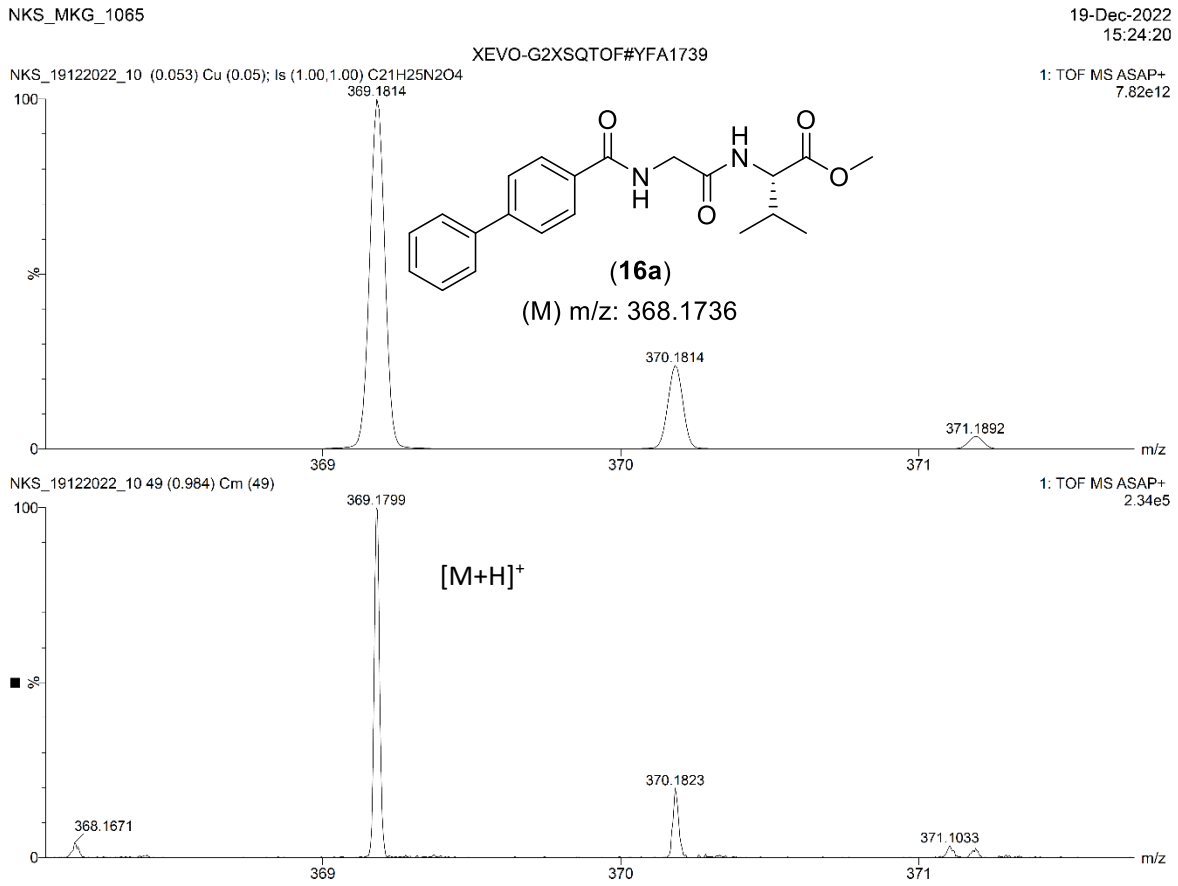


Figure. S48. ESI-HRMS spectra of **16a**

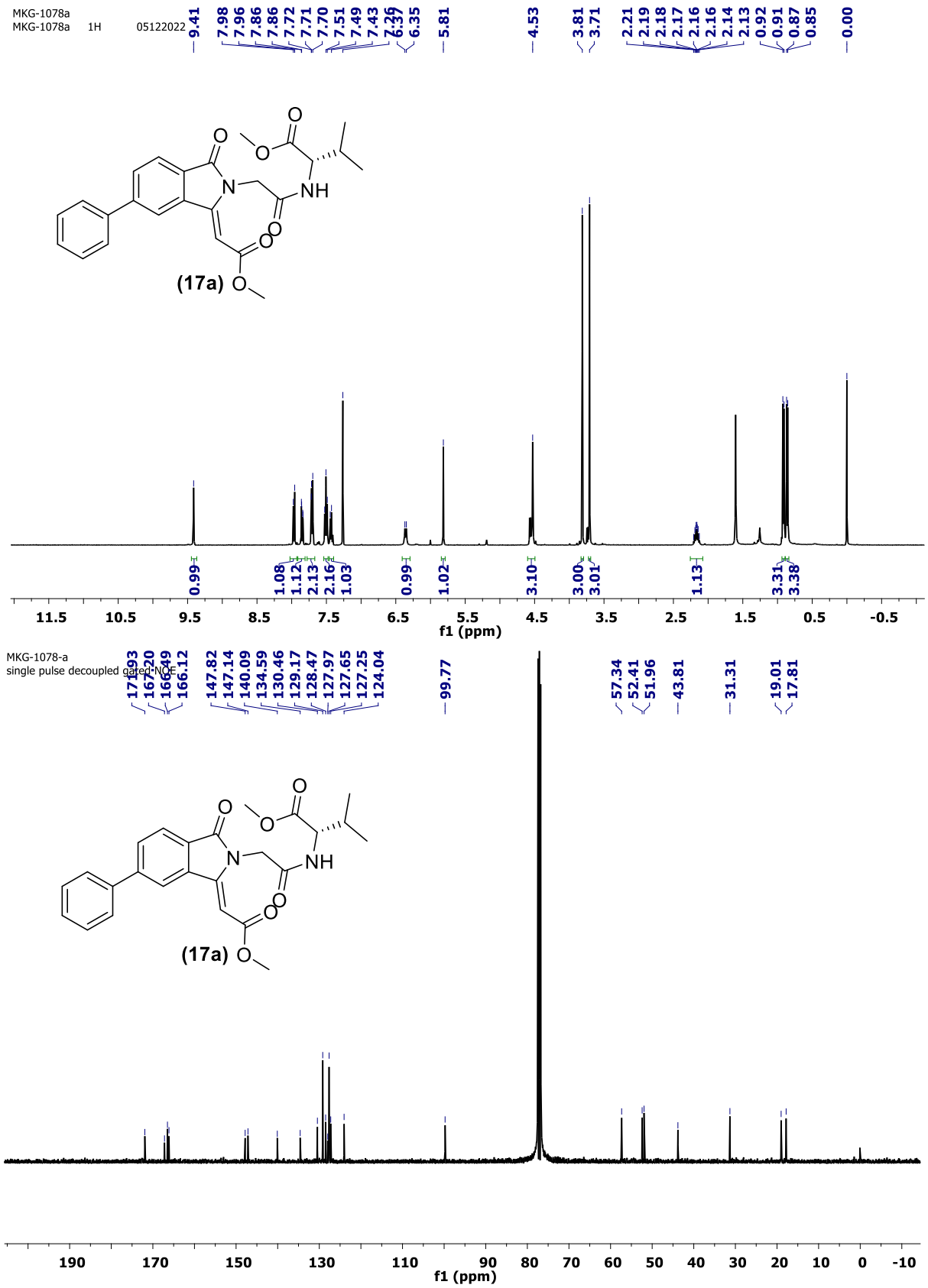


Figure. S49. ^{1}H, ^{13}C NMR spectra of **17a**

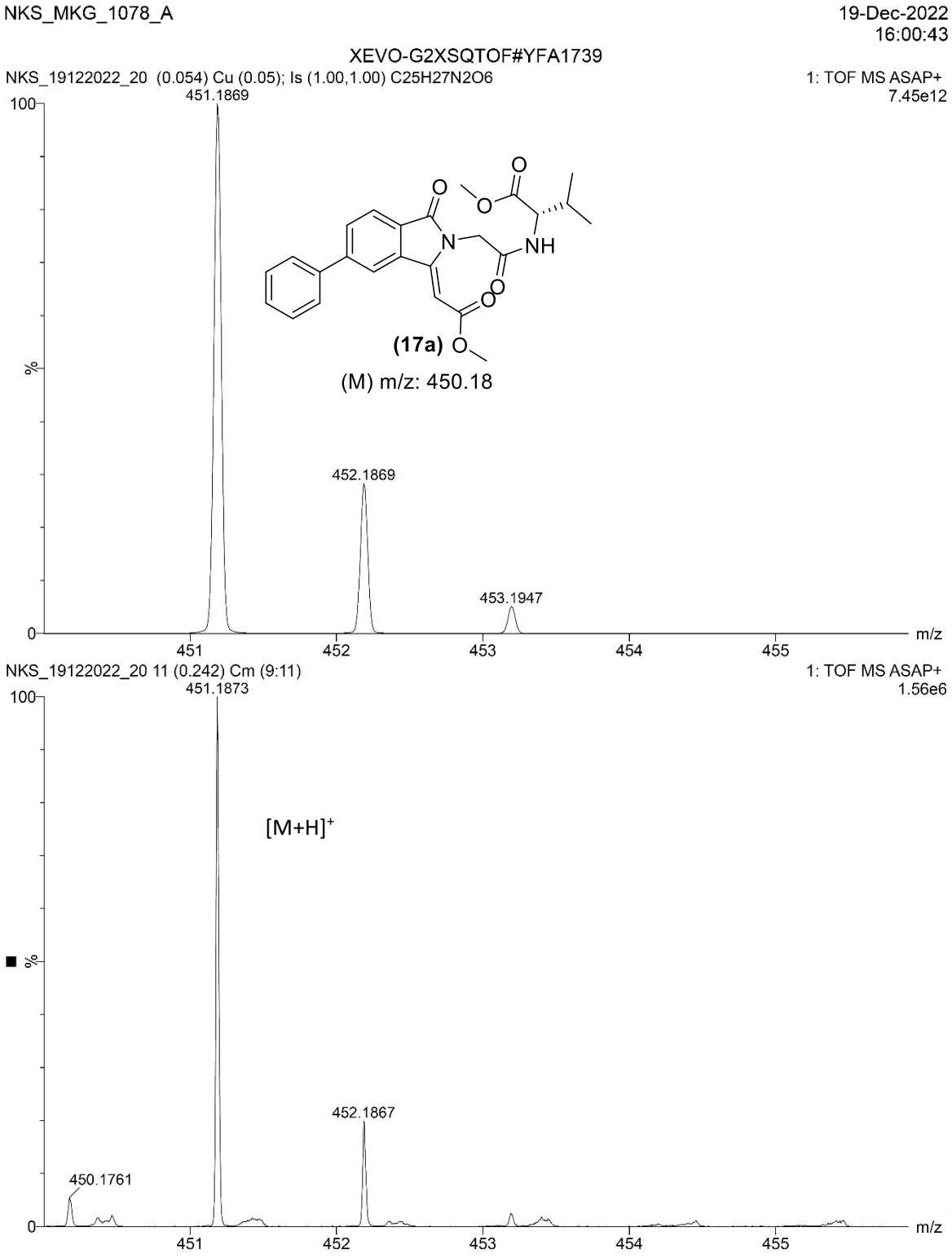


Figure. S50. ESI-HRMS spectra of **17a**

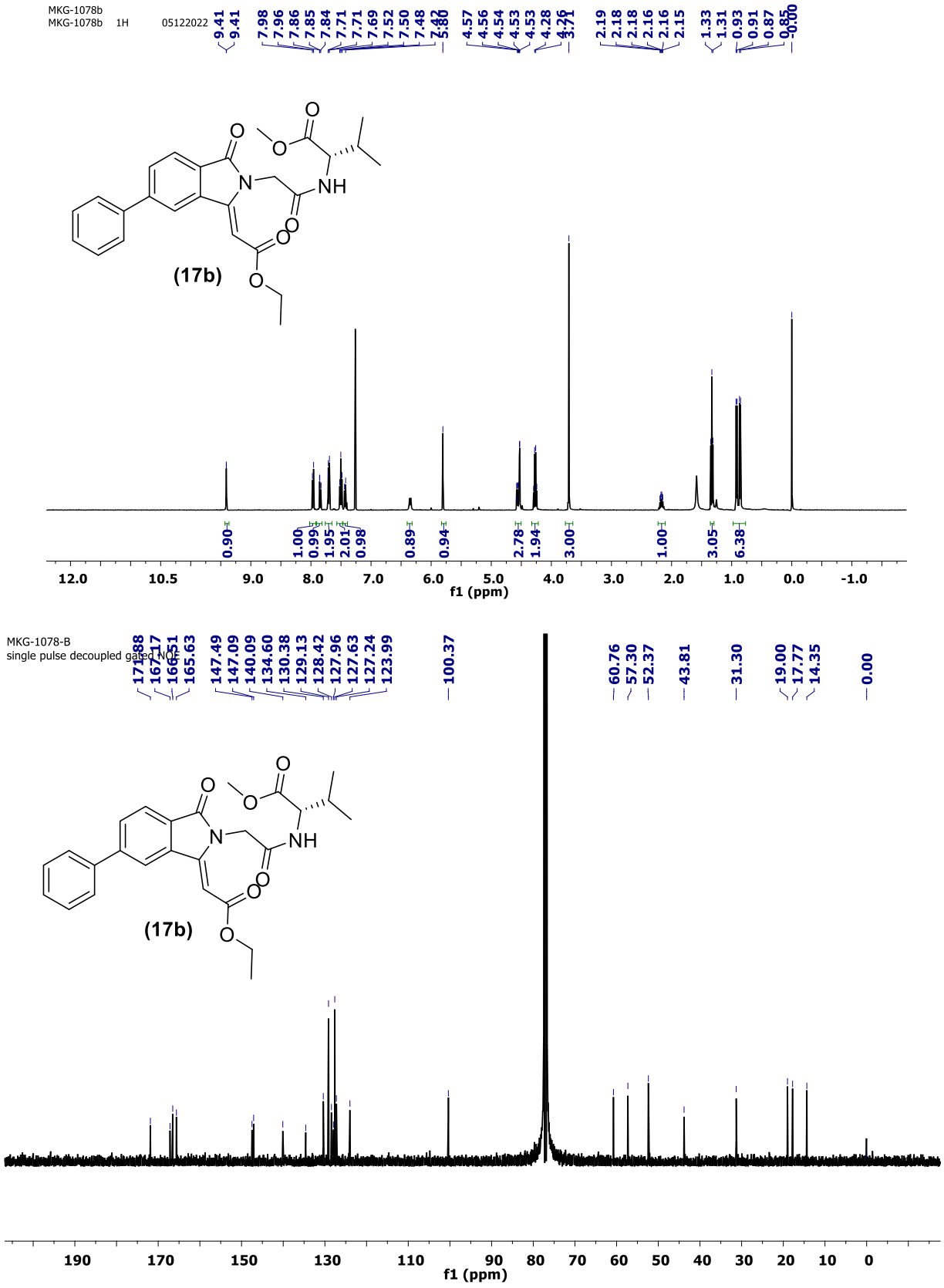


Figure. S51.[1]H, [13]C NMR spectra of **17b**

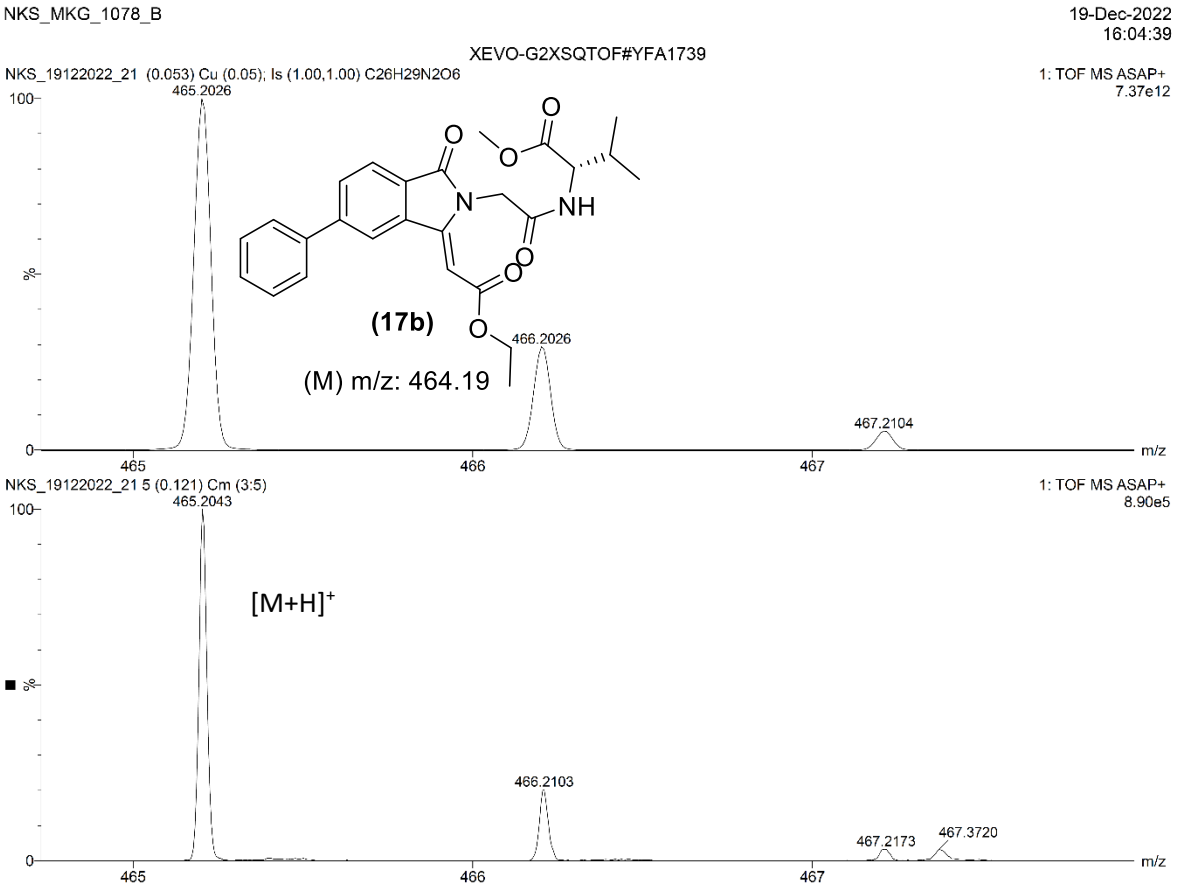


Figure. S52. ESI-HRMS spectra of benzamide **17b**

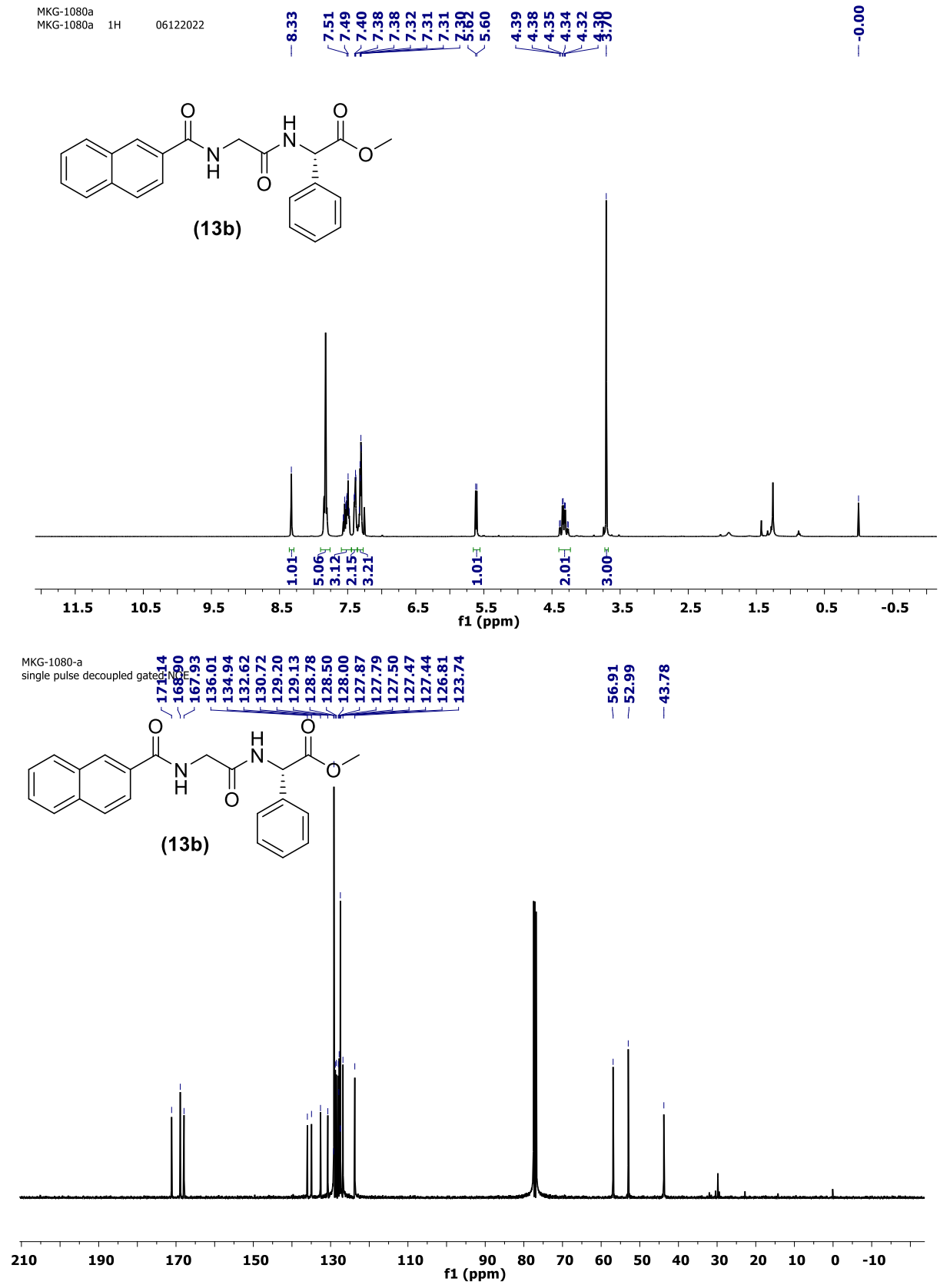


Figure. S53. ^{1}H, ^{13}C NMR spectra of **13b**

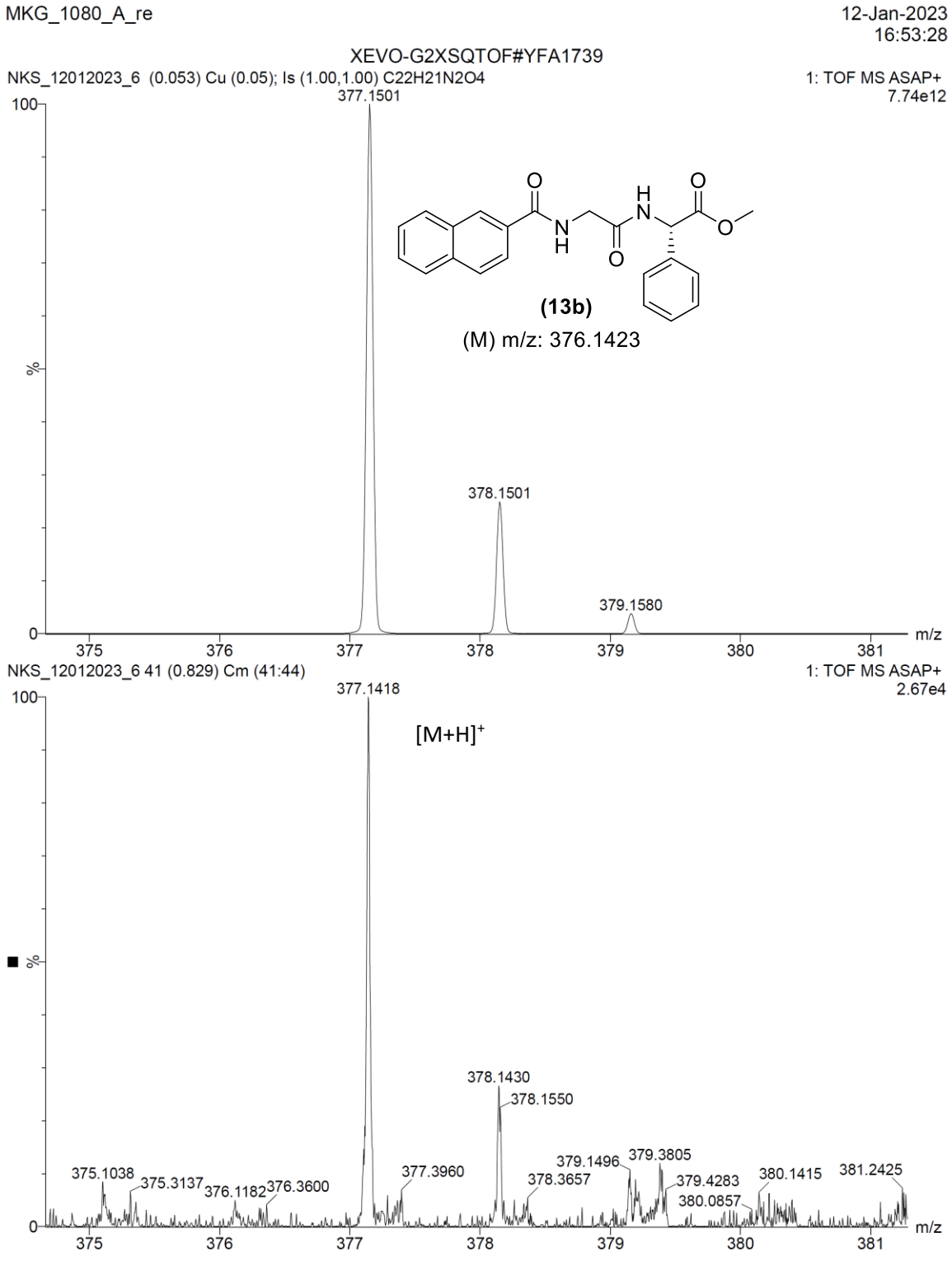


Figure. S54. ESI-HRMS spectra of **13b**

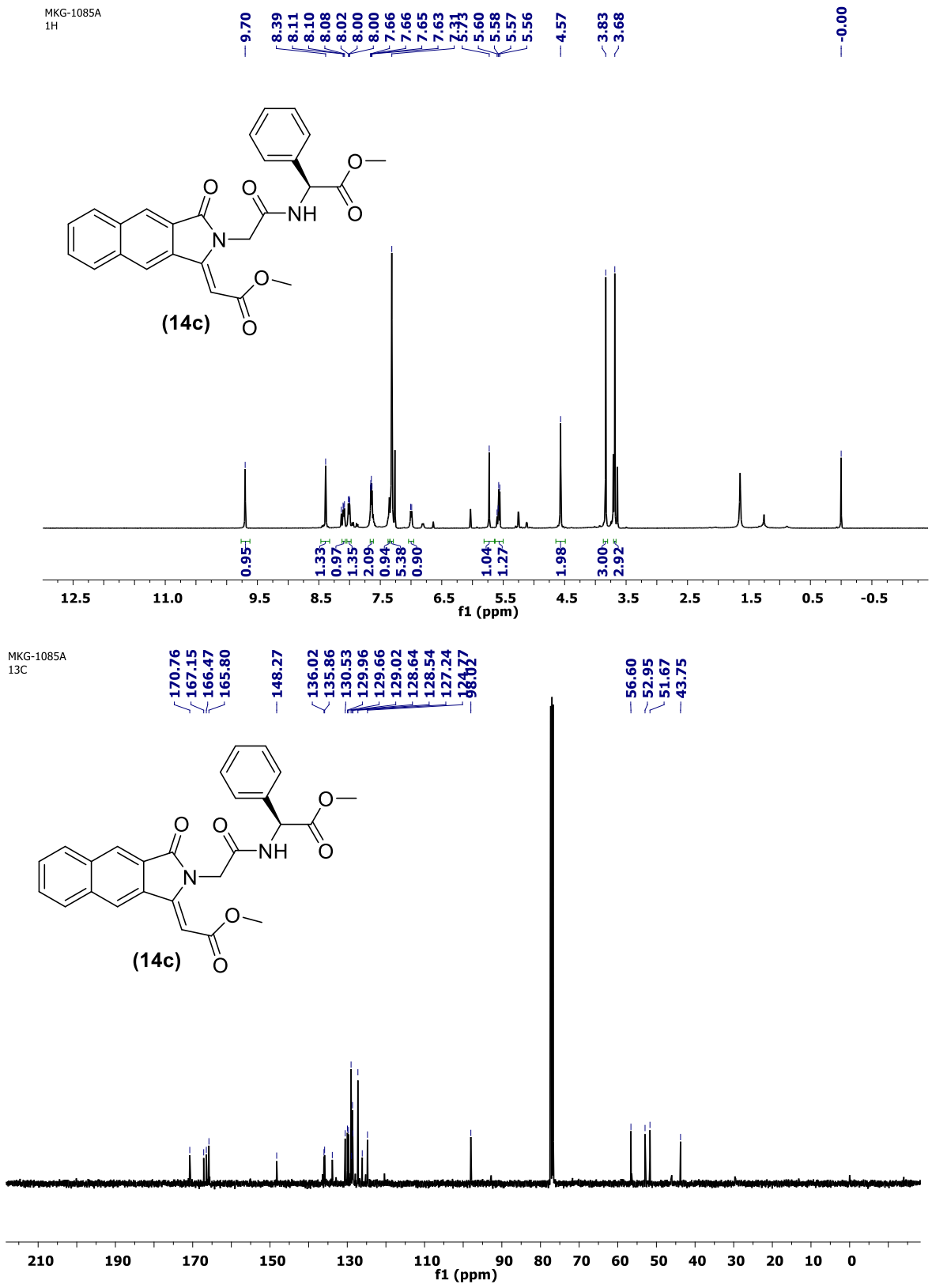


Figure. S55. ^{1}H, ^{13}C NMR spectra of **14**

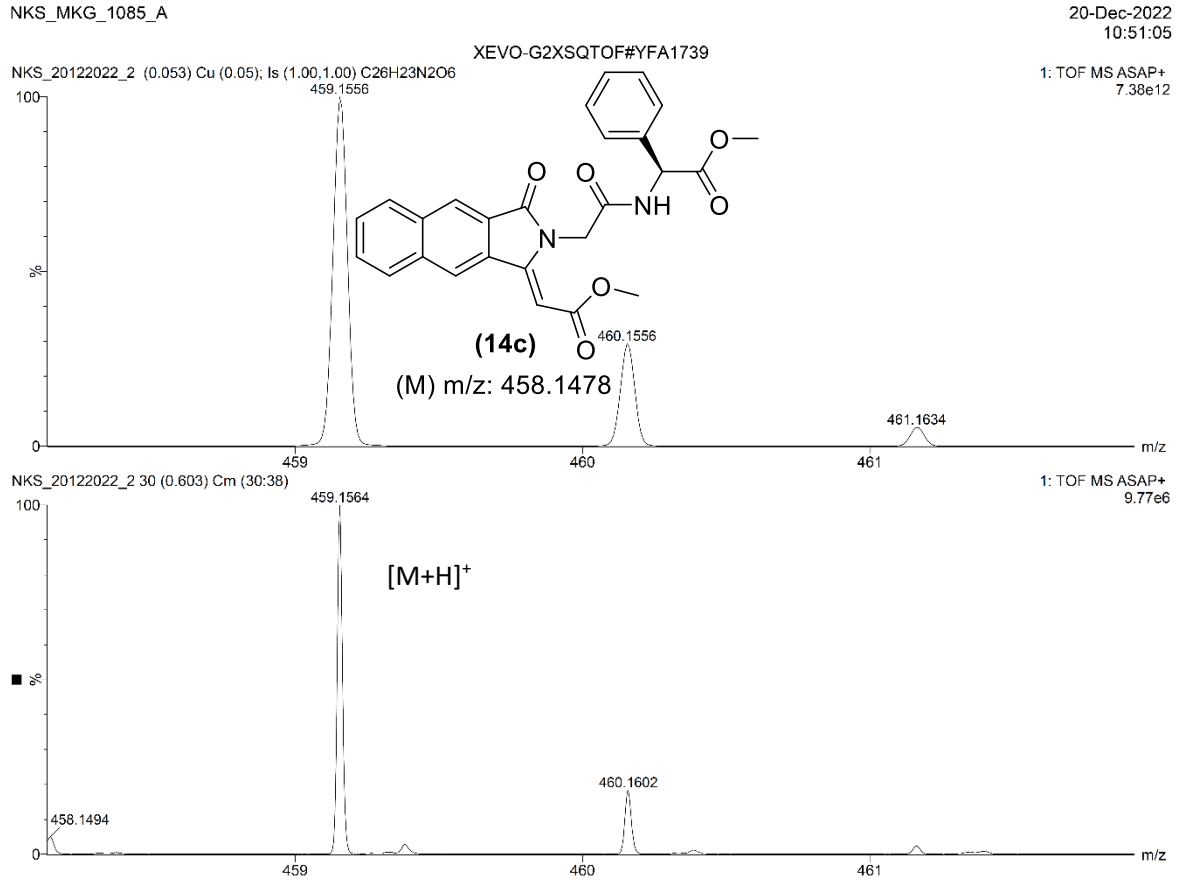


Figure. S56. ESI-HRMS spectra of **14c**

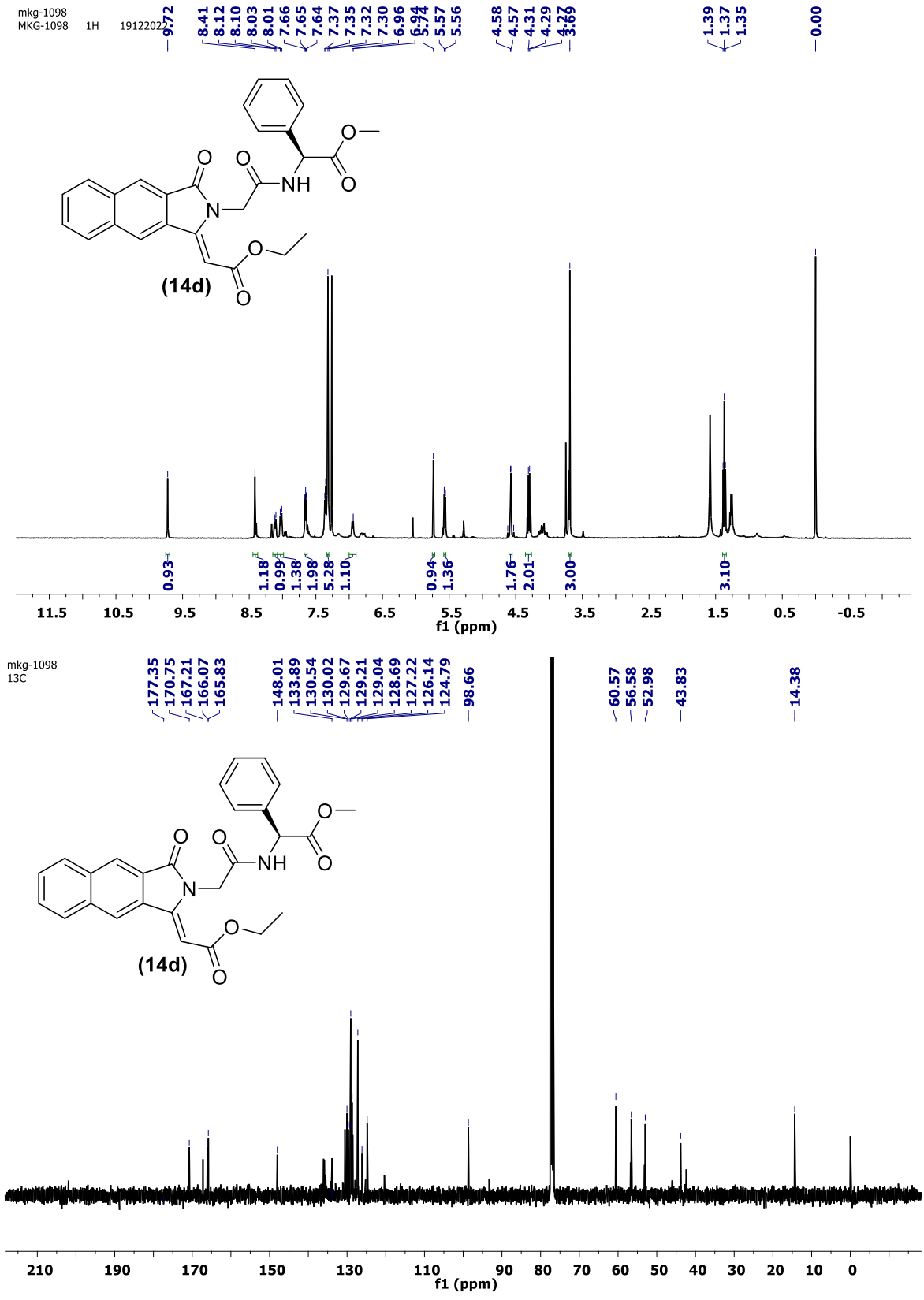


Figure. S57. ^{1}H, ^{13}C NMR spectra of **14d**

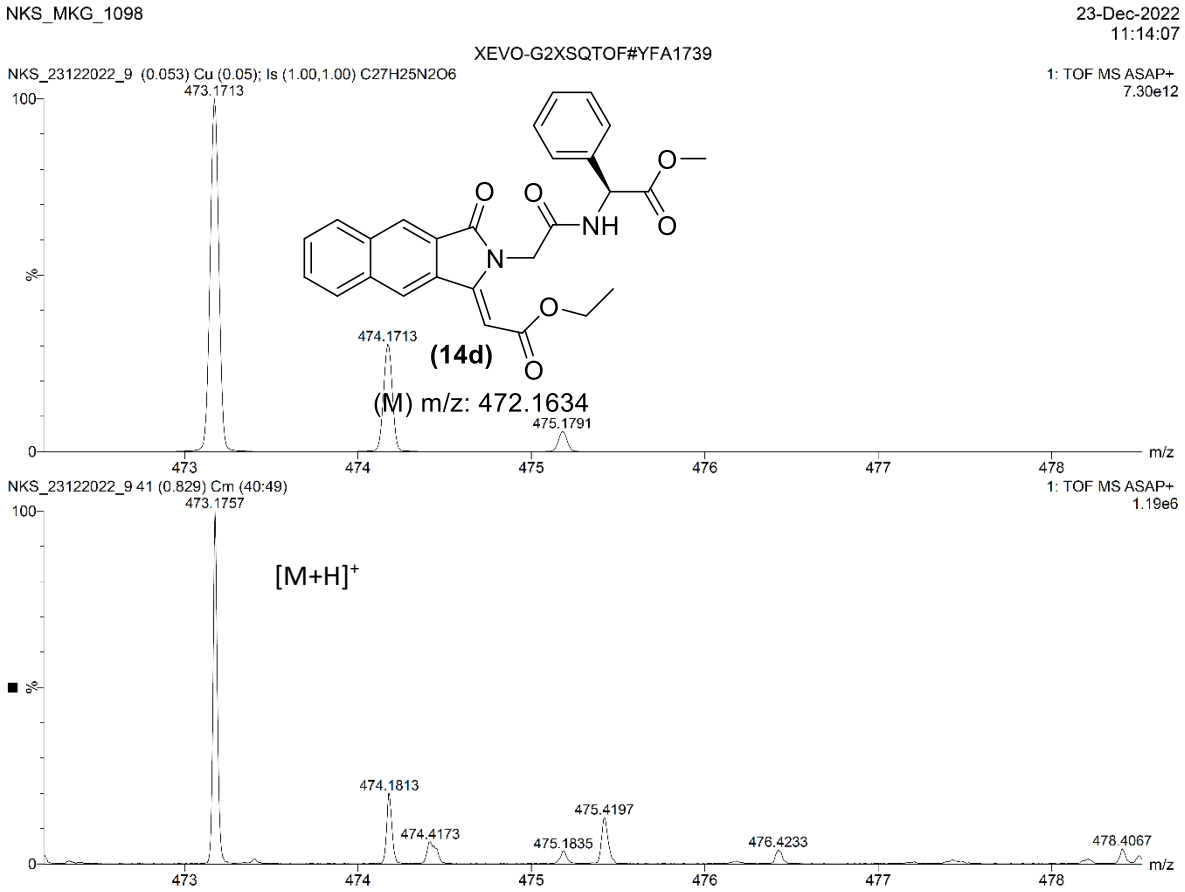


Figure. S58. ESI-HRMS spectra of **14d**

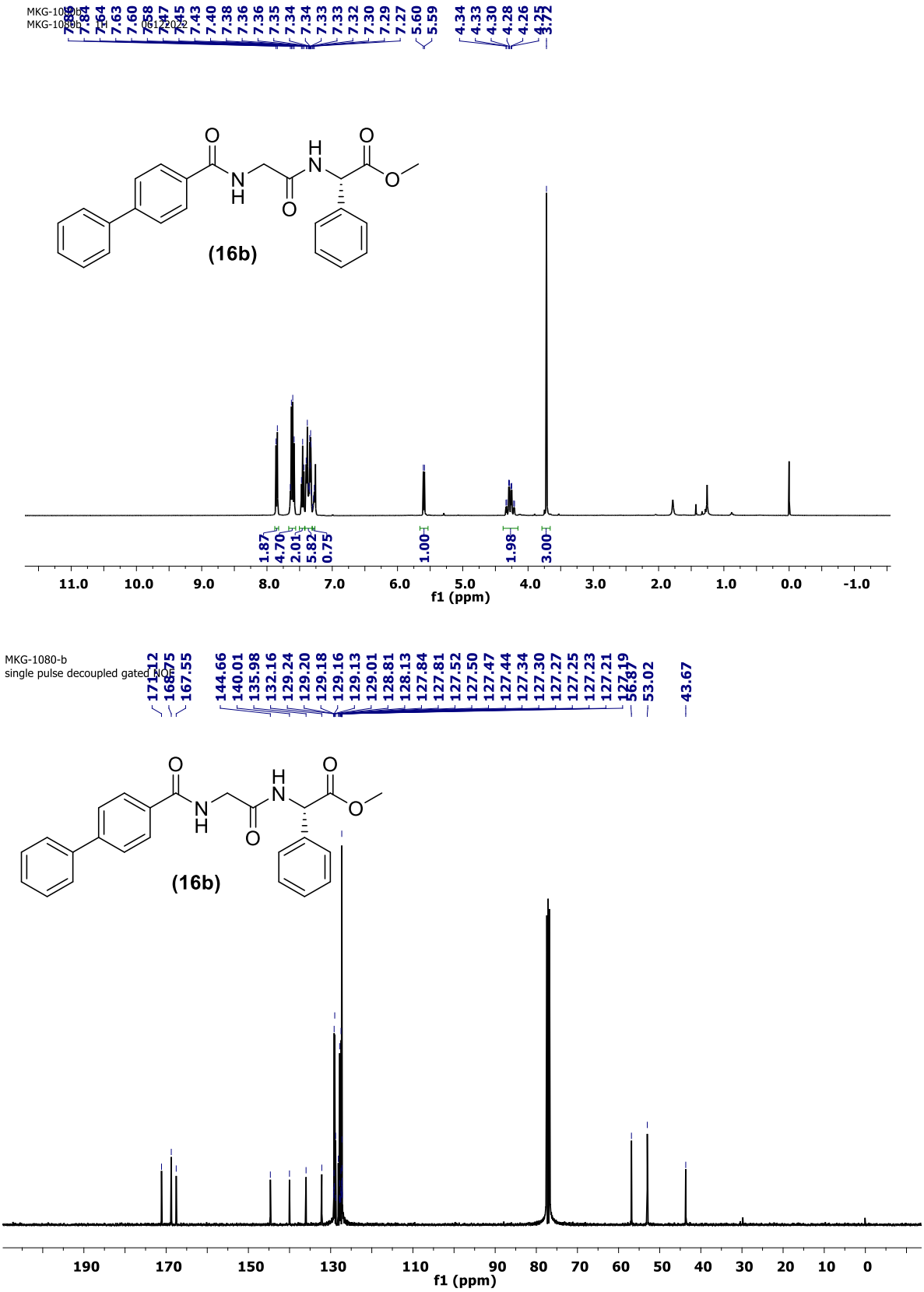


Figure. S59. ^{1}H, ^{13}C NMR spectra of **16b**

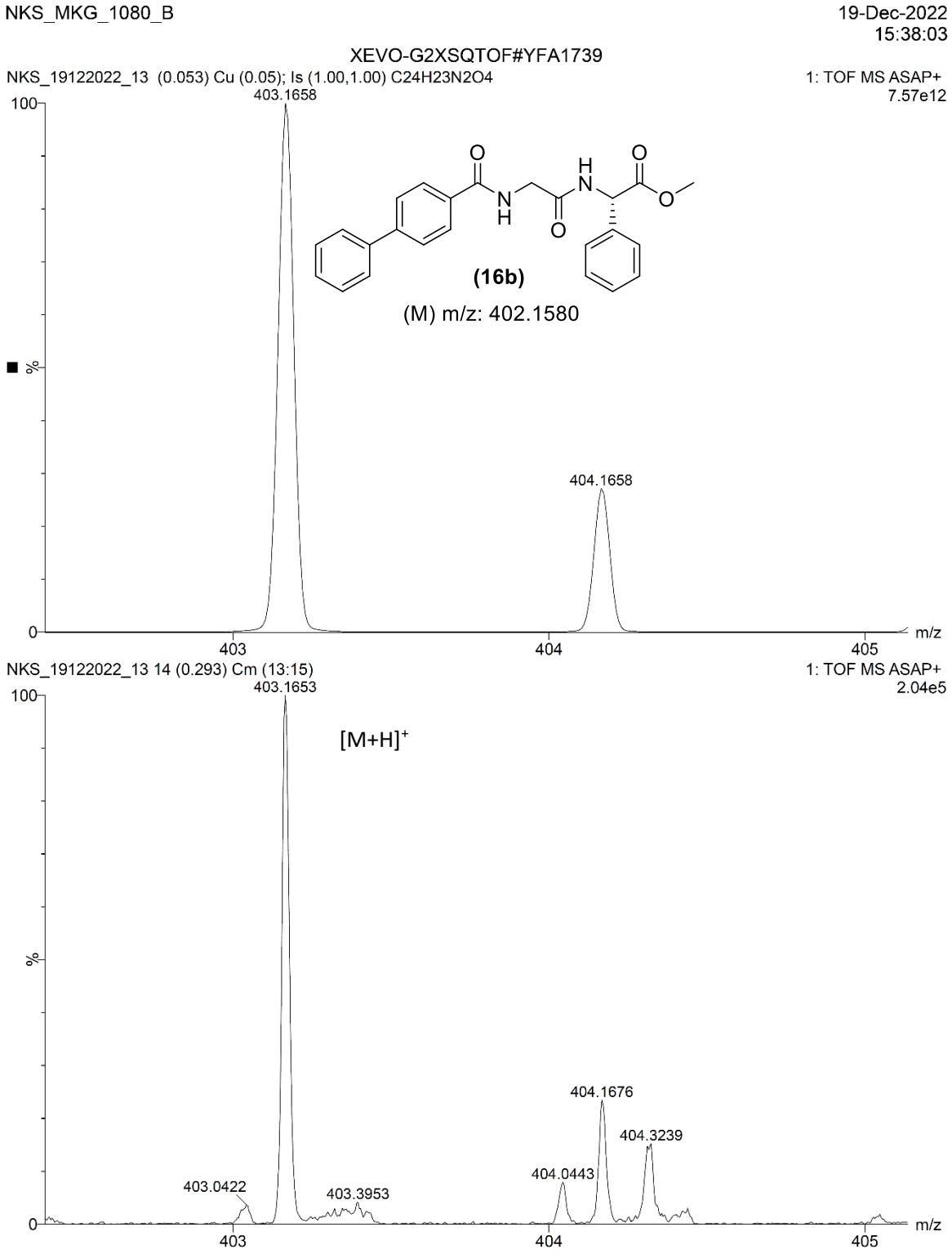


Figure. S60. ESI-HRMS spectra of **16b**

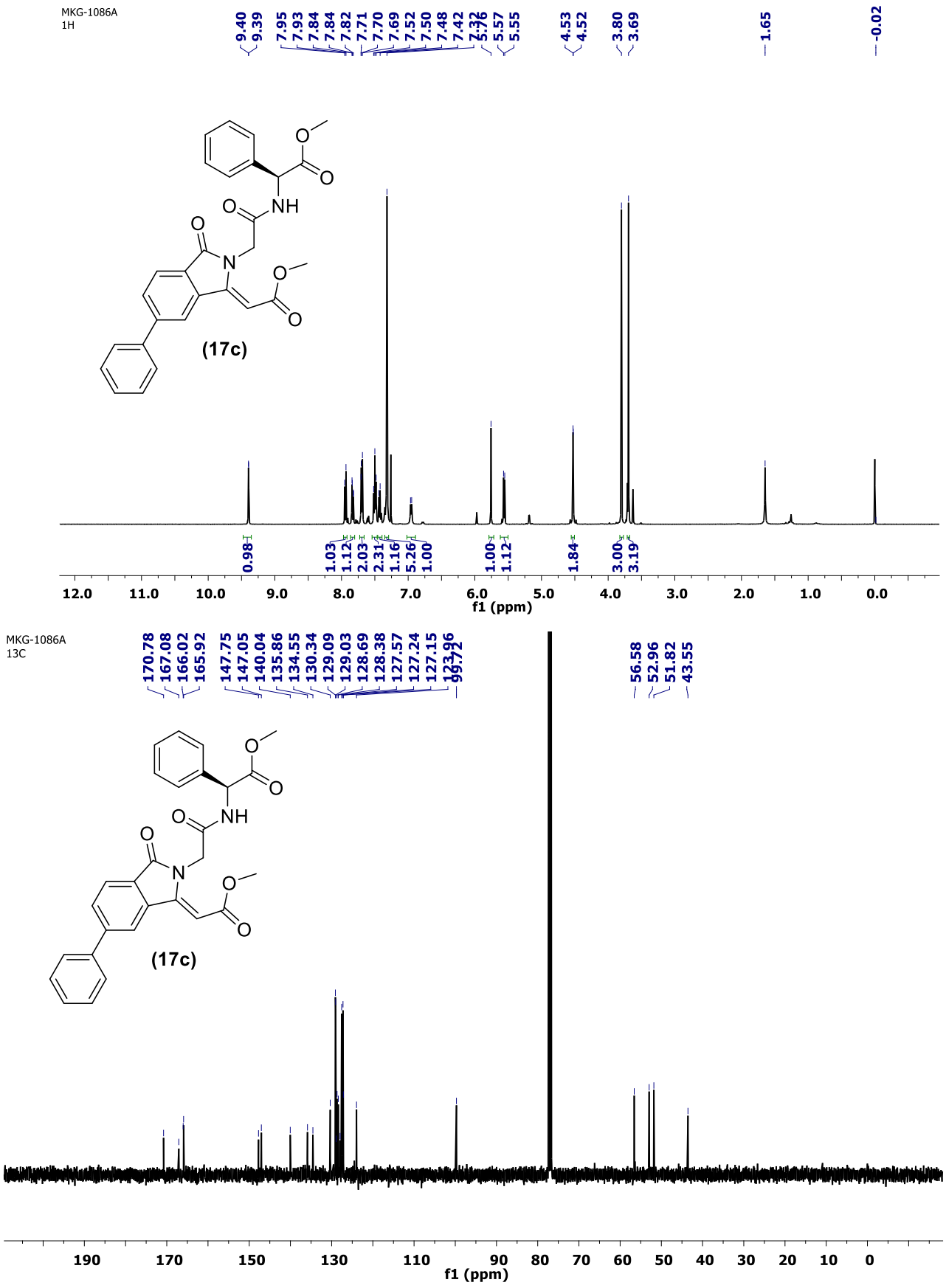


Figure. S61. ^{1}H, ^{13}C NMR spectra of **17c**

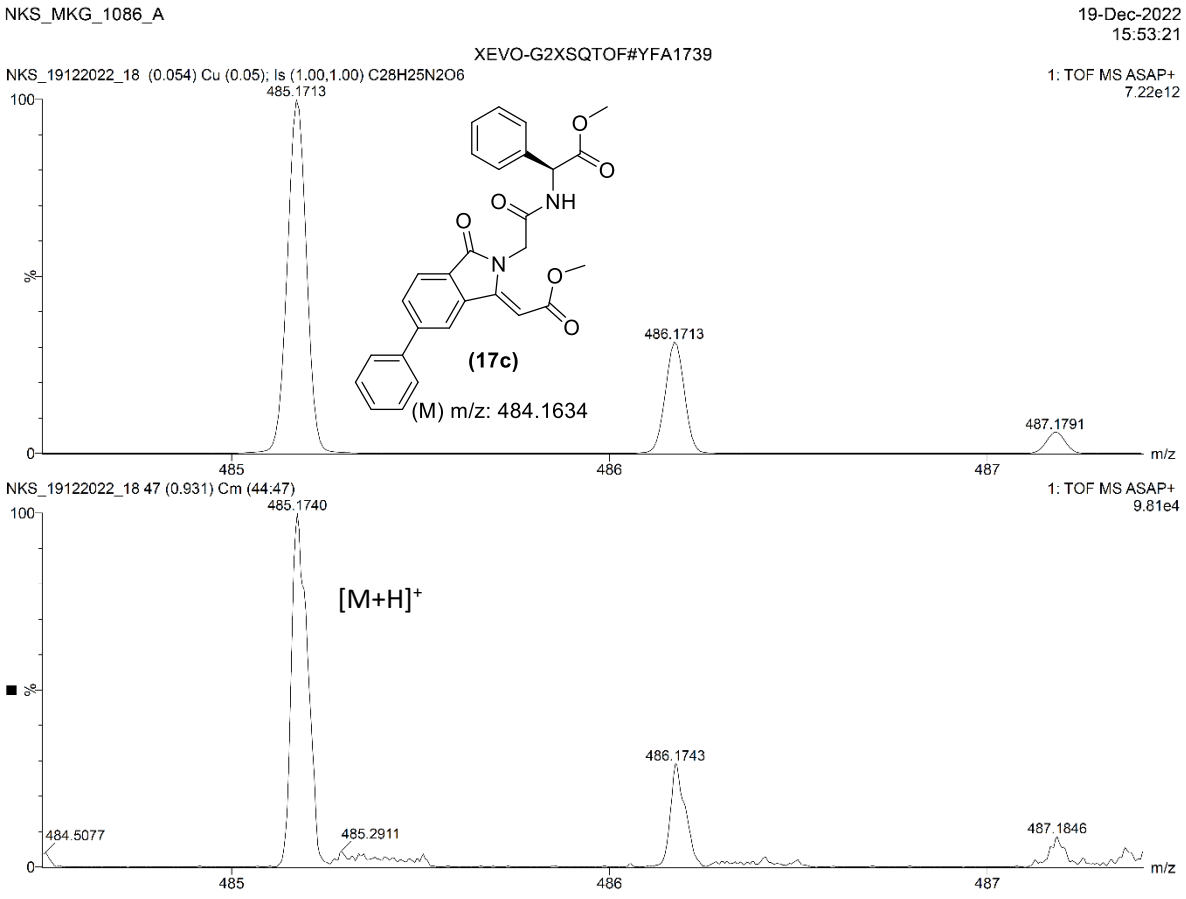


Figure. S62. ESI-HRMS spectra of **17c**

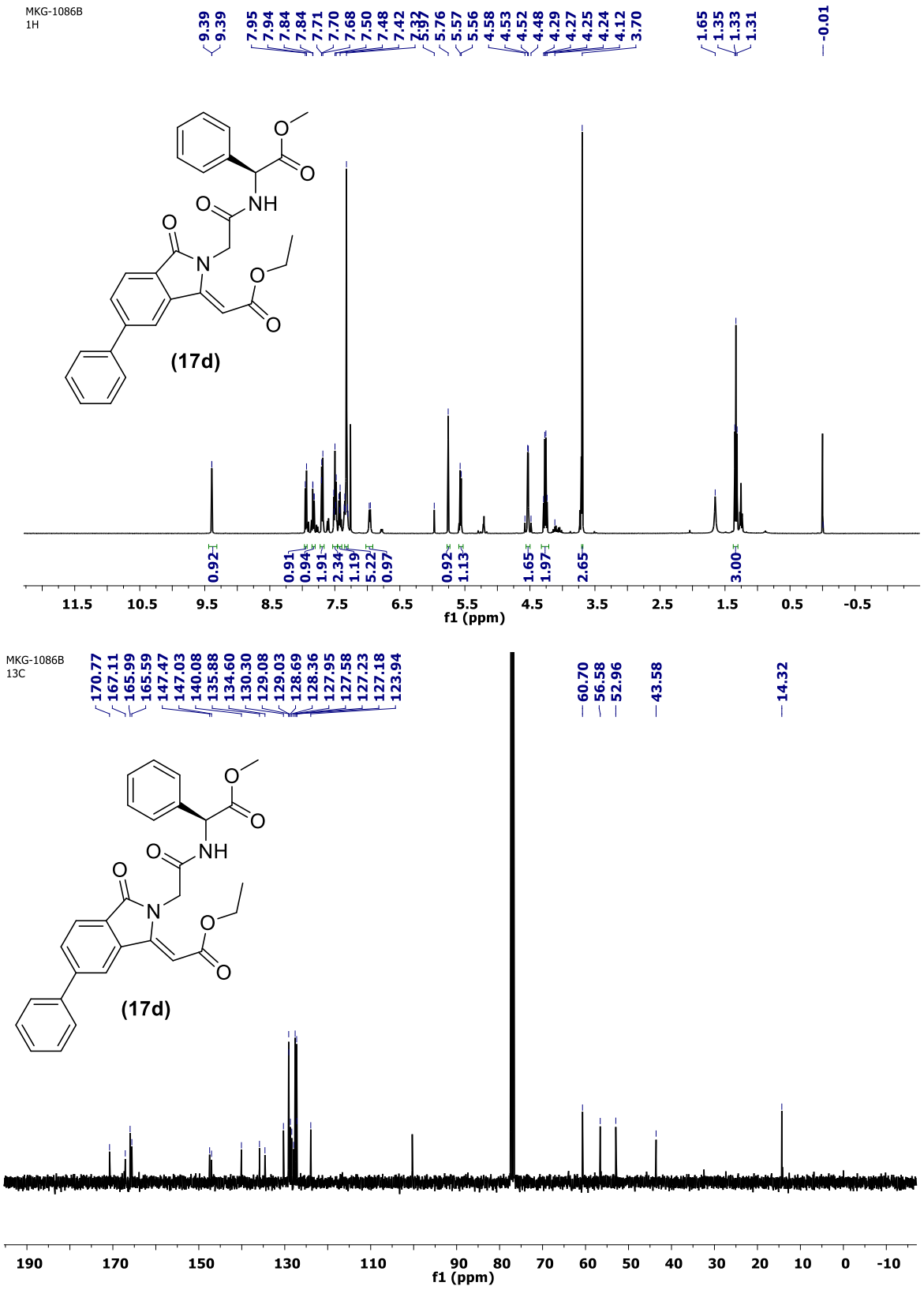


Figure. S63. ^{1}H, ^{13}C NMR spectra of **17d**

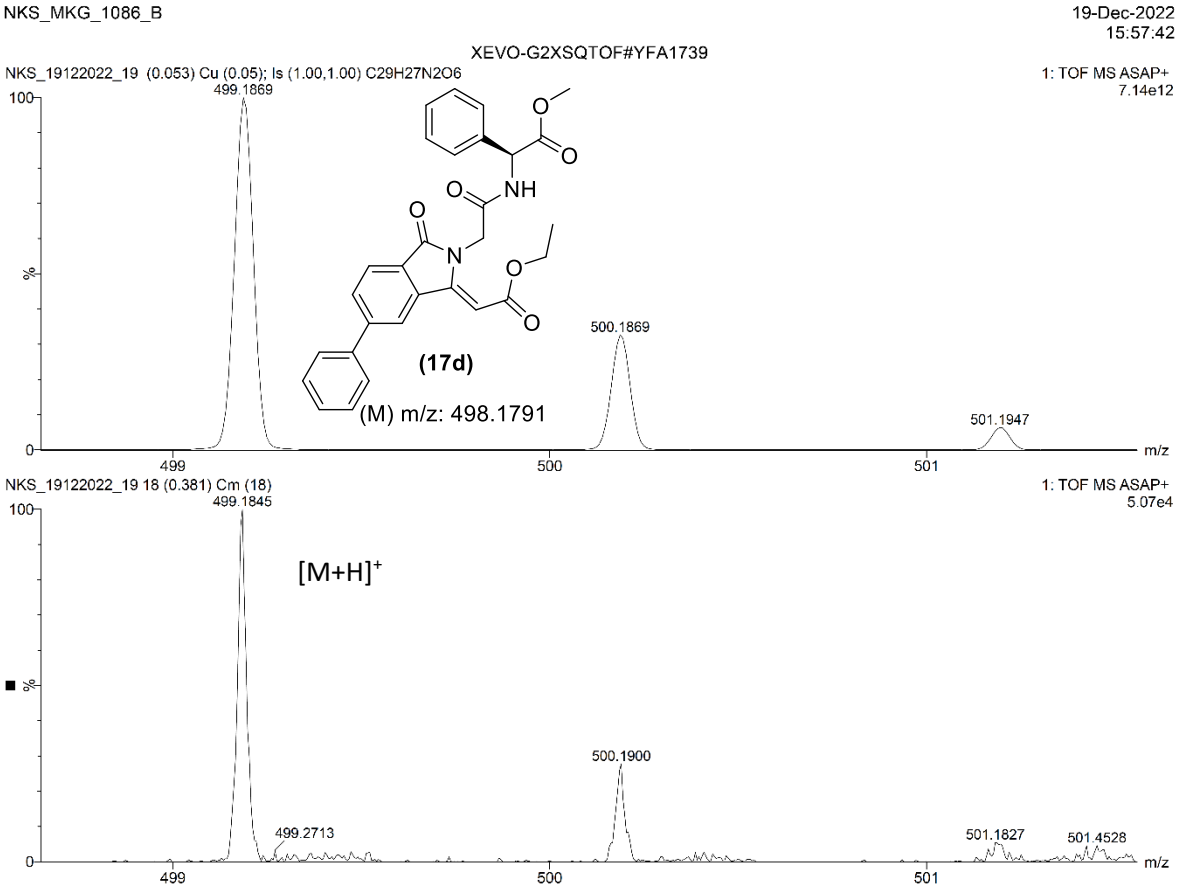


Figure. S64. ESI-HRMS spectra of **17d**

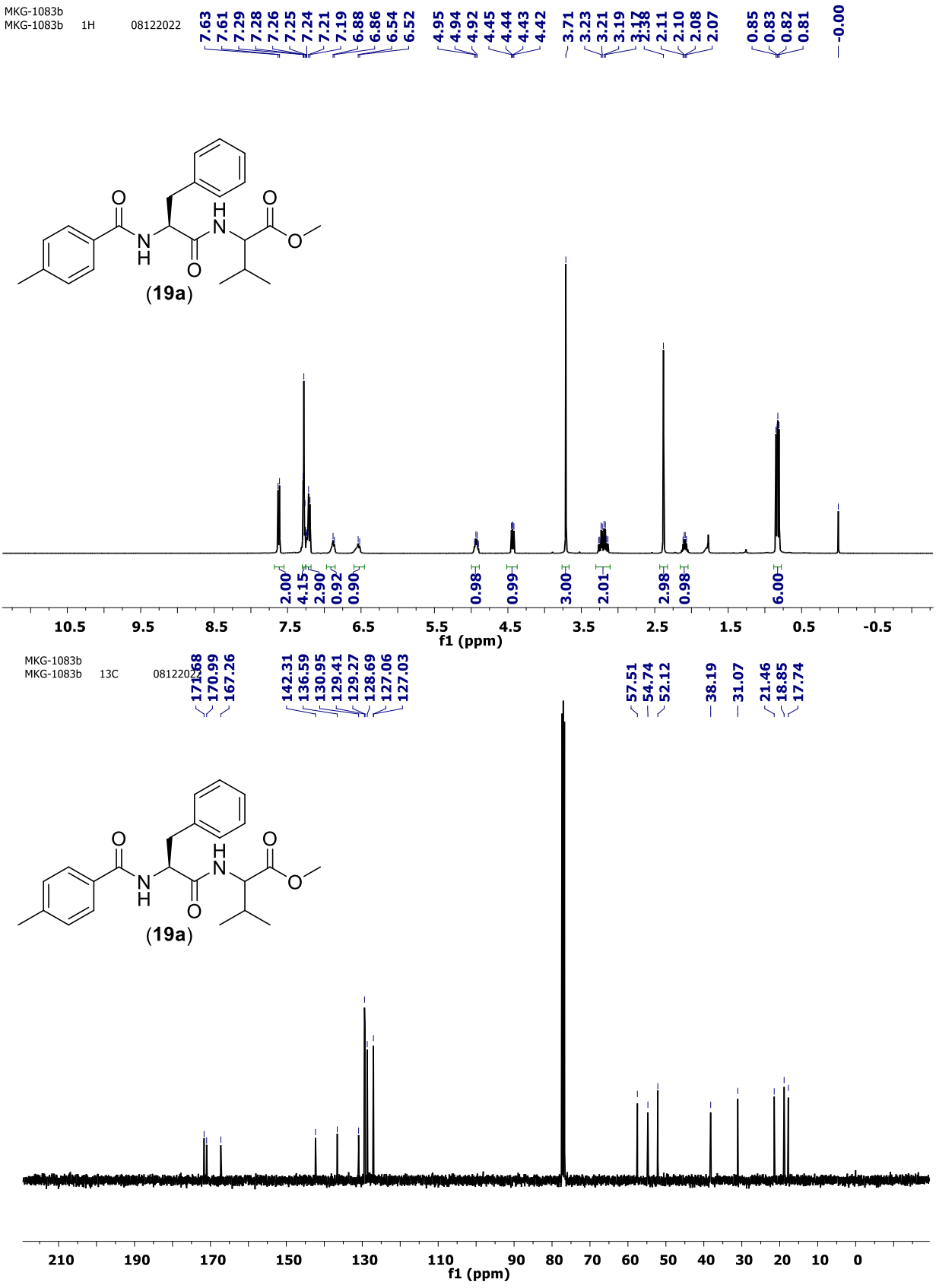


Figure. S65. ^{1}H, ^{13}C NMR spectra of **19a**

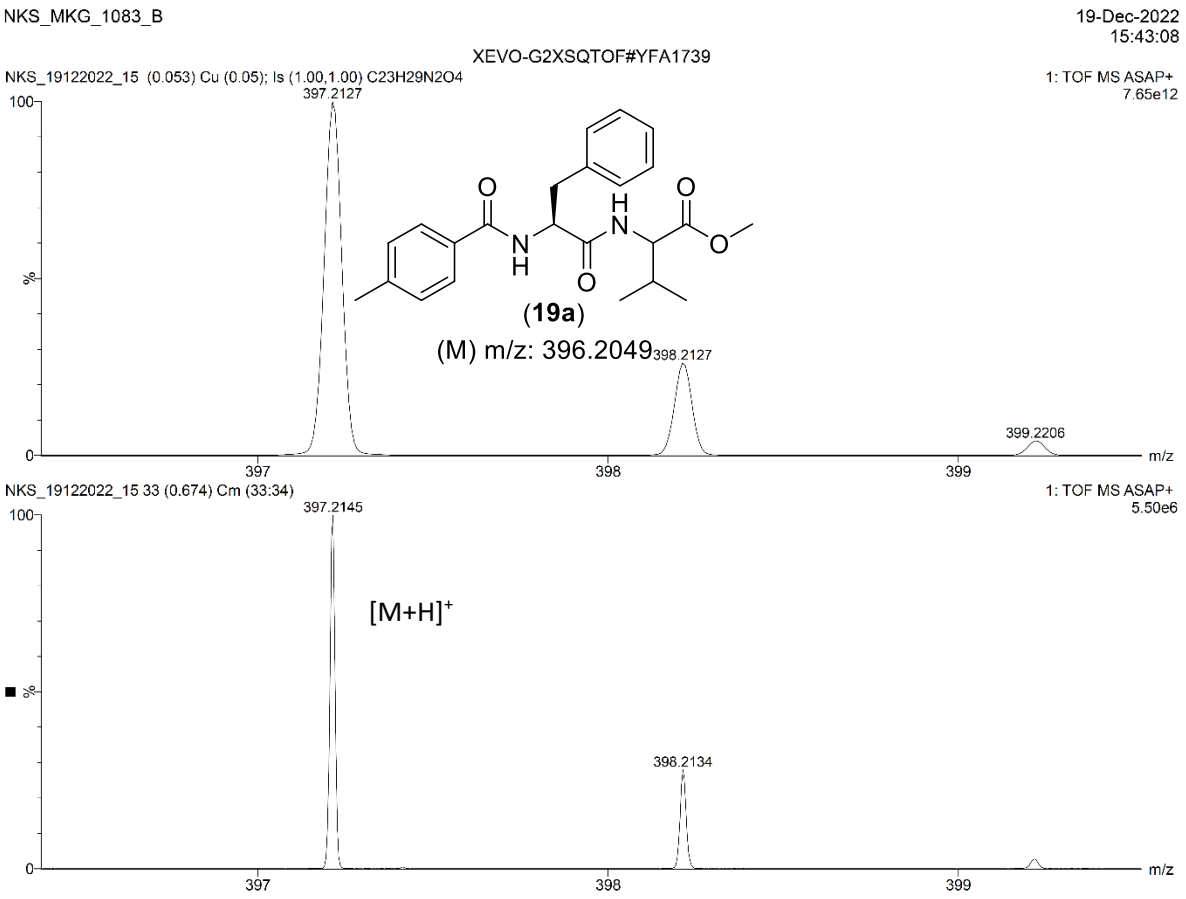


Figure. S66. ESI-HRMS spectra of **19a**

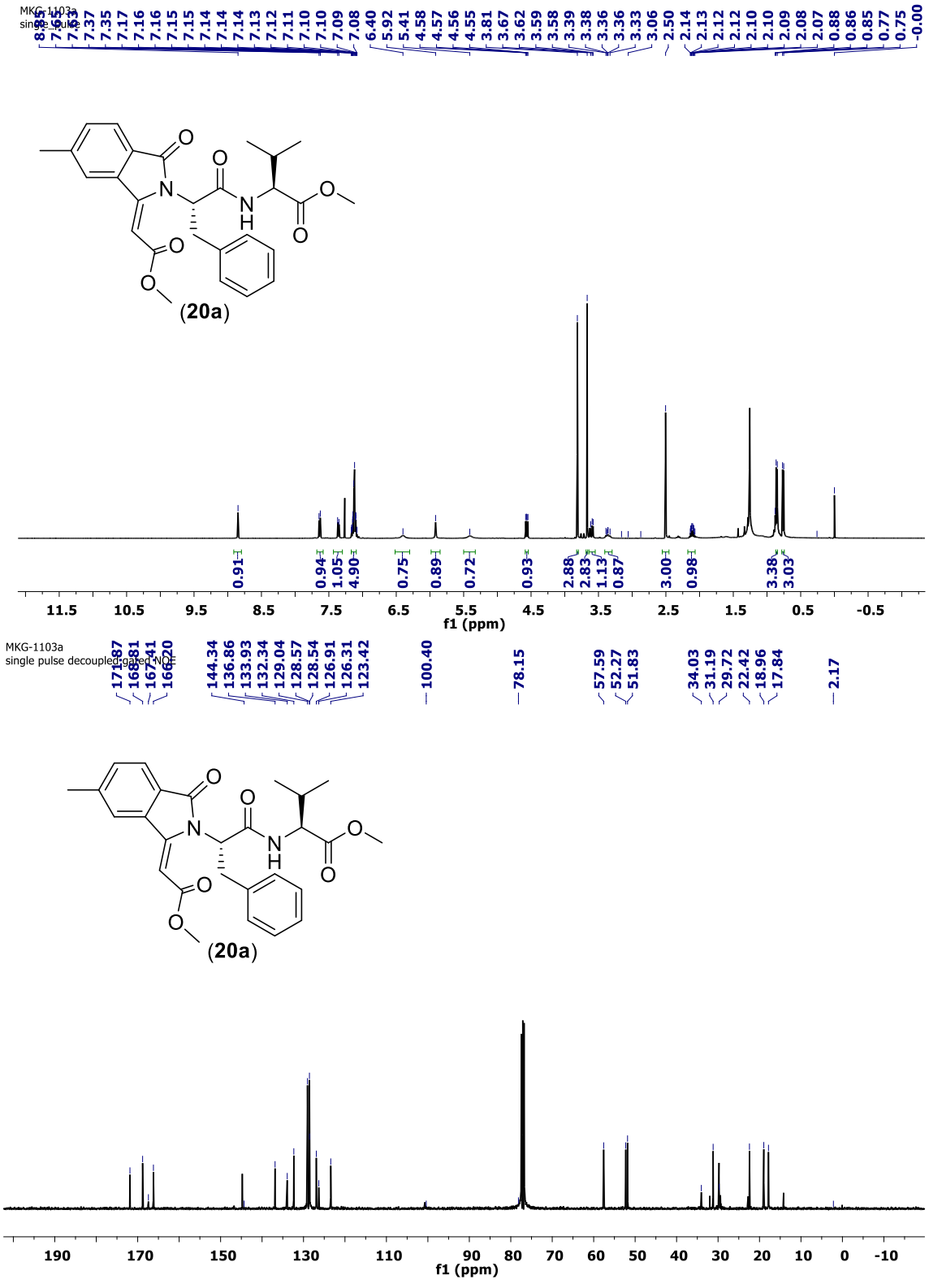


Figure. S67.^{1}H, ^{13}C NMR spectra of **20a**

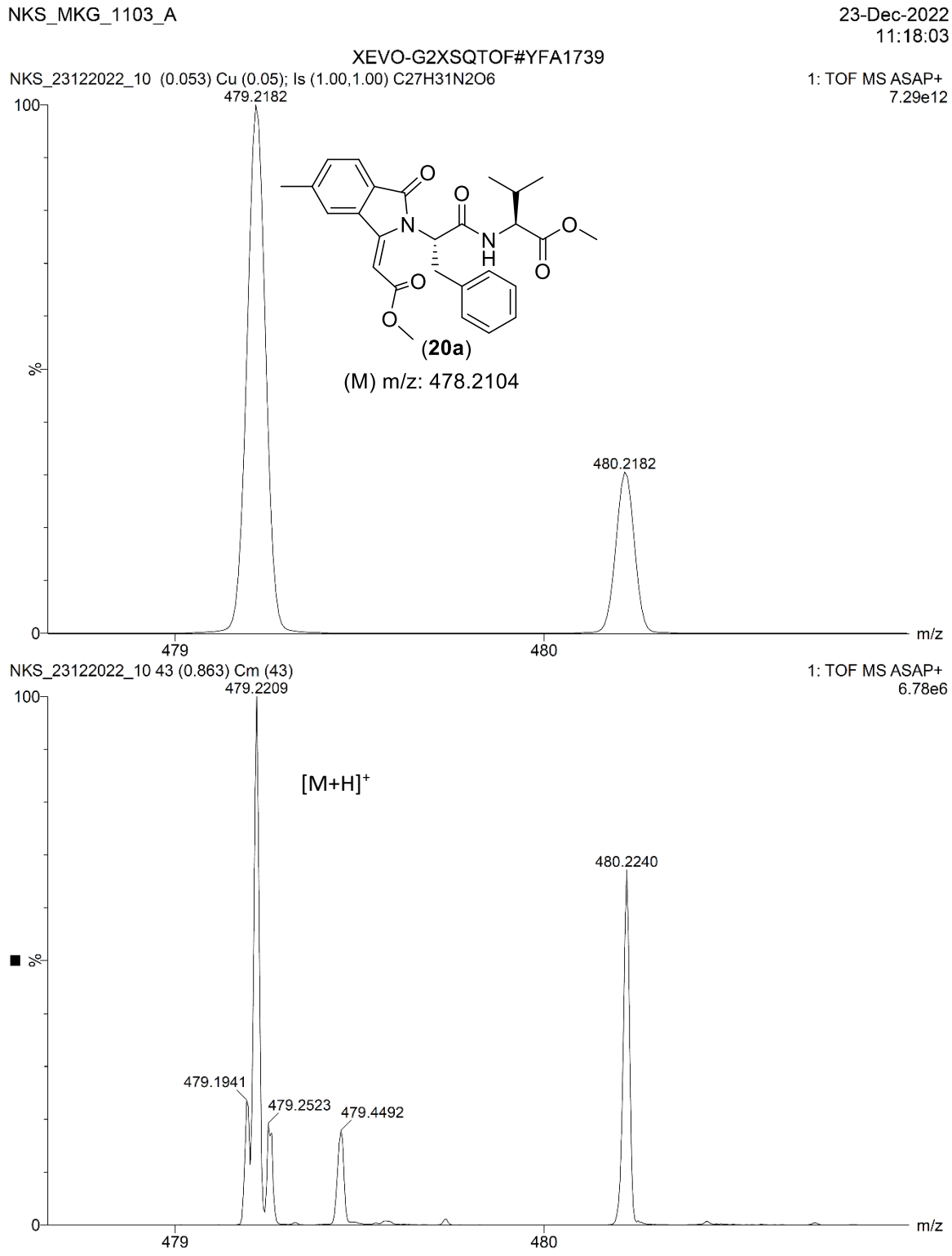


Figure. S68. ESI-HRMS spectra of **20a**

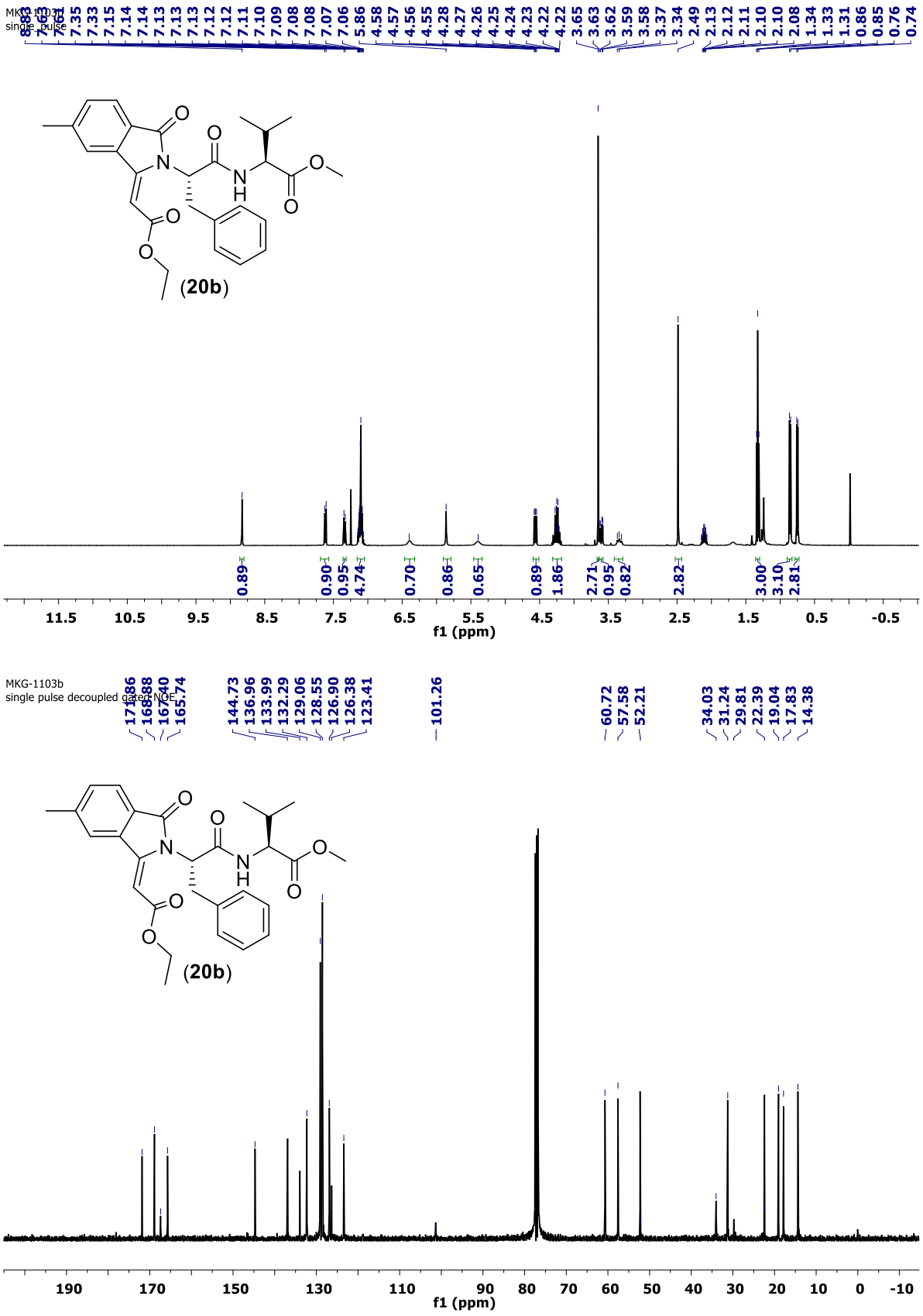


Figure. S69. ^{1}H, ^{13}C NMR spectra of **20b**

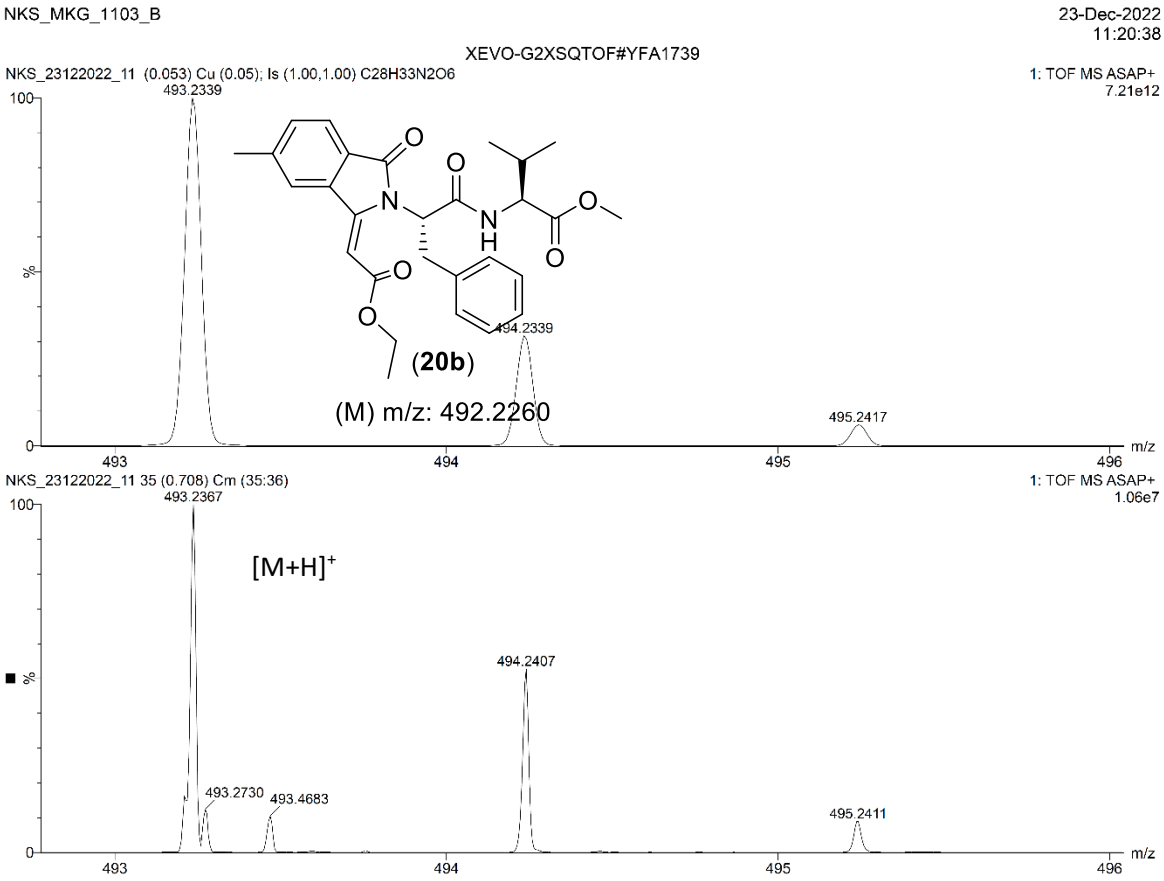


Figure. S70. ESI-HRMS spectra of **20b**

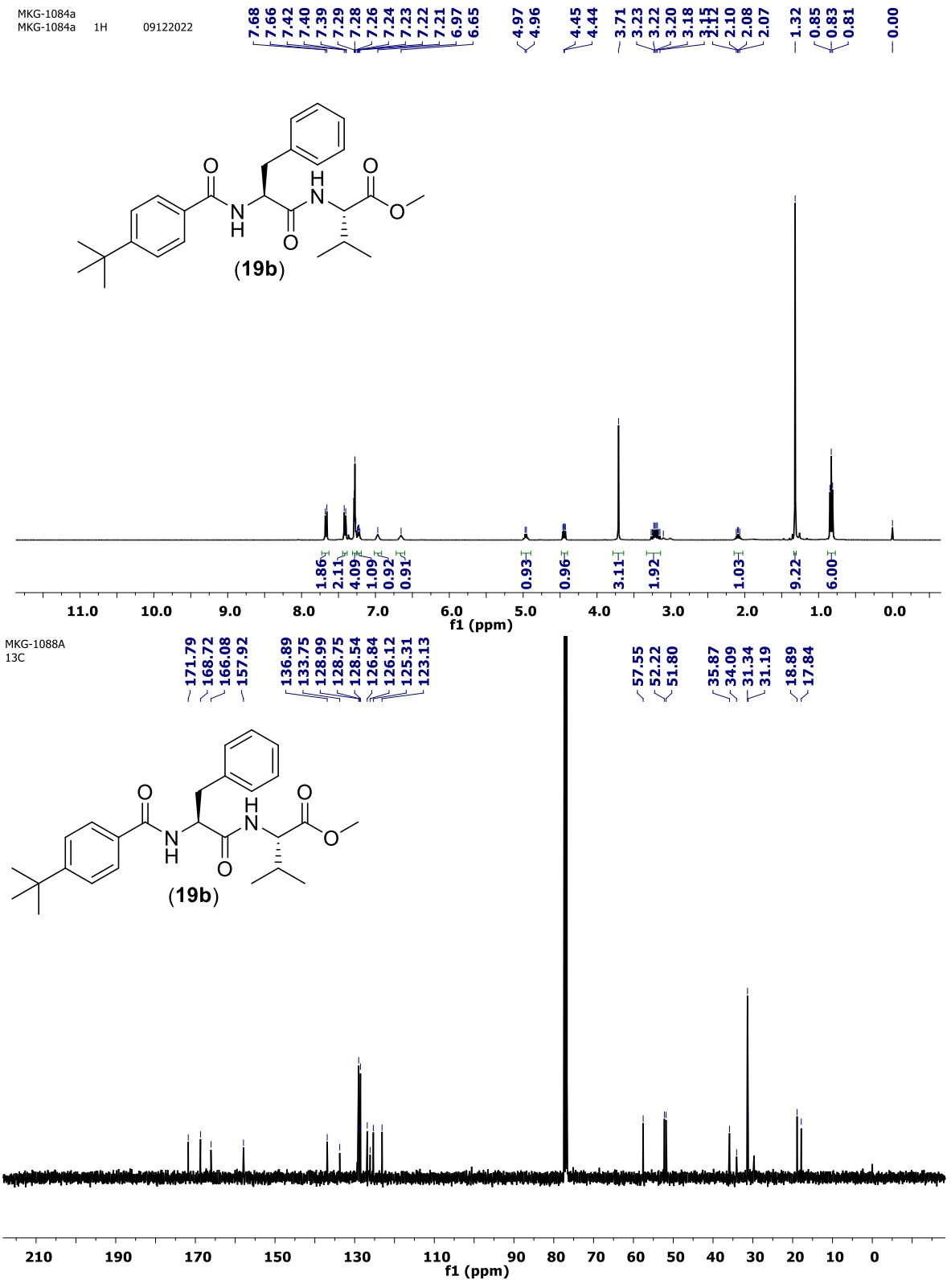


Figure. S71. ^{1}H, ^{13}C NMR spectra of **19b**

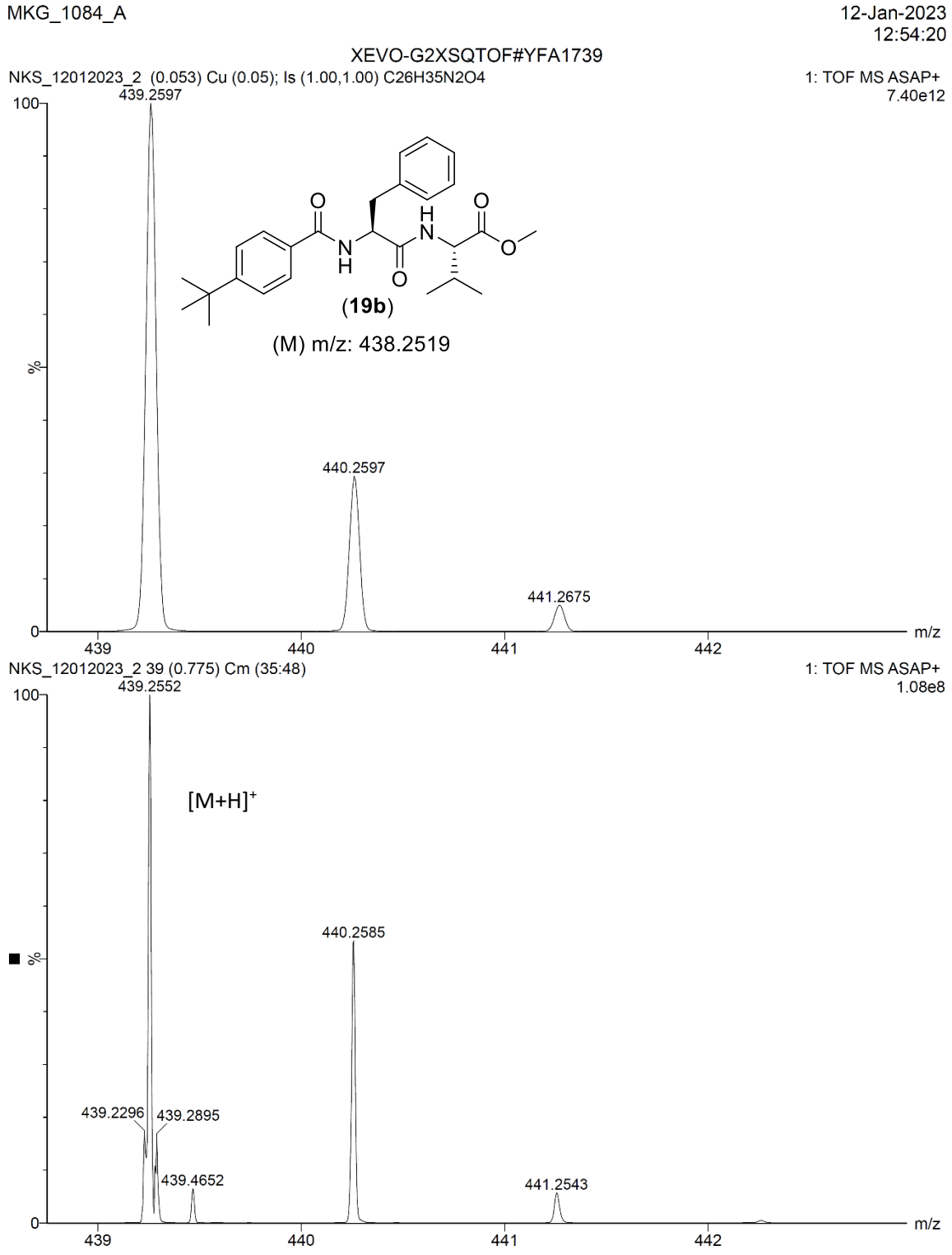


Figure. S72. ESI-HRMS spectra of **19b**

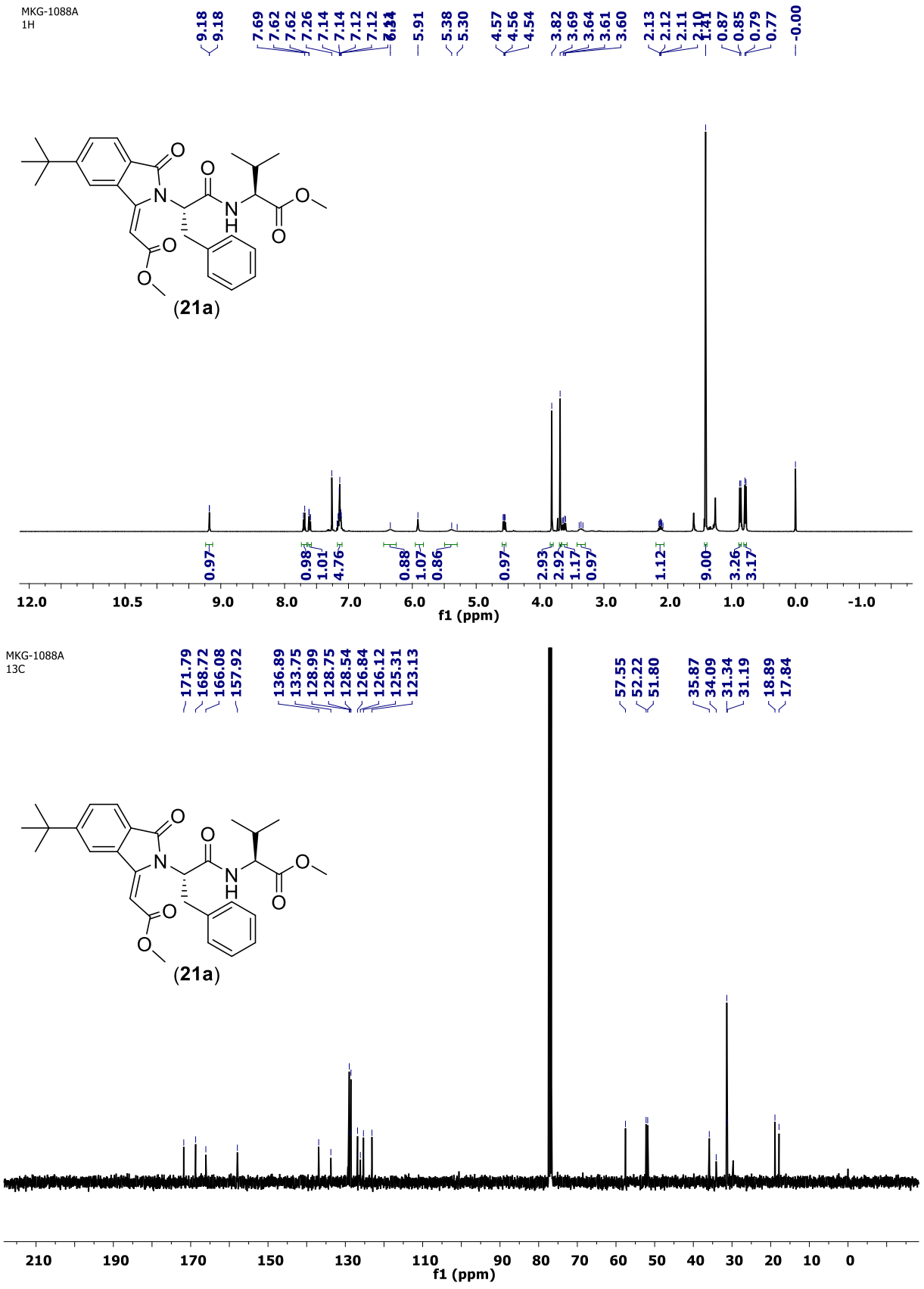


Figure. S73.^{1}H, ^{13}C NMR spectra of **21a**

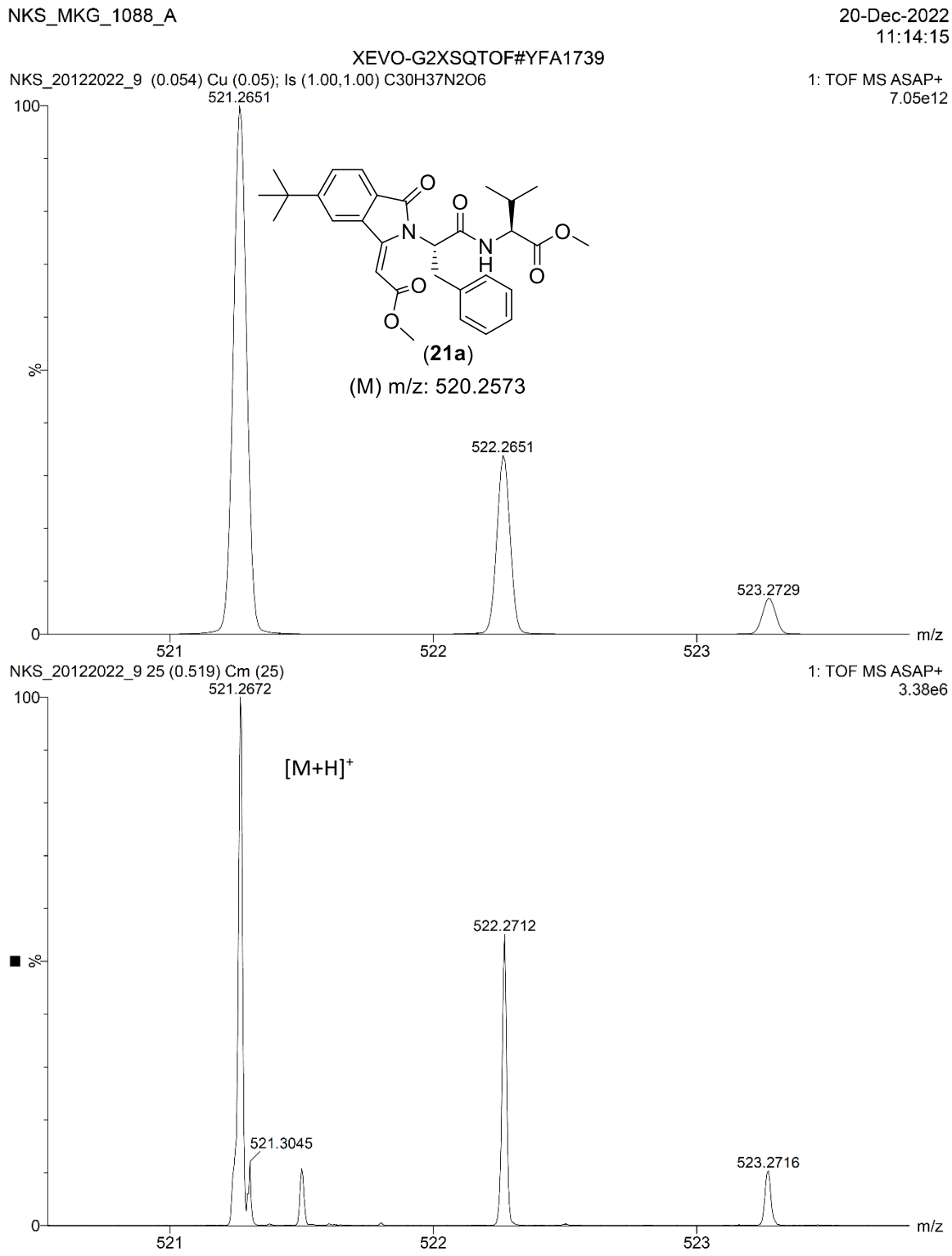


Figure. S74. ESI-HRMS spectra of **21a**

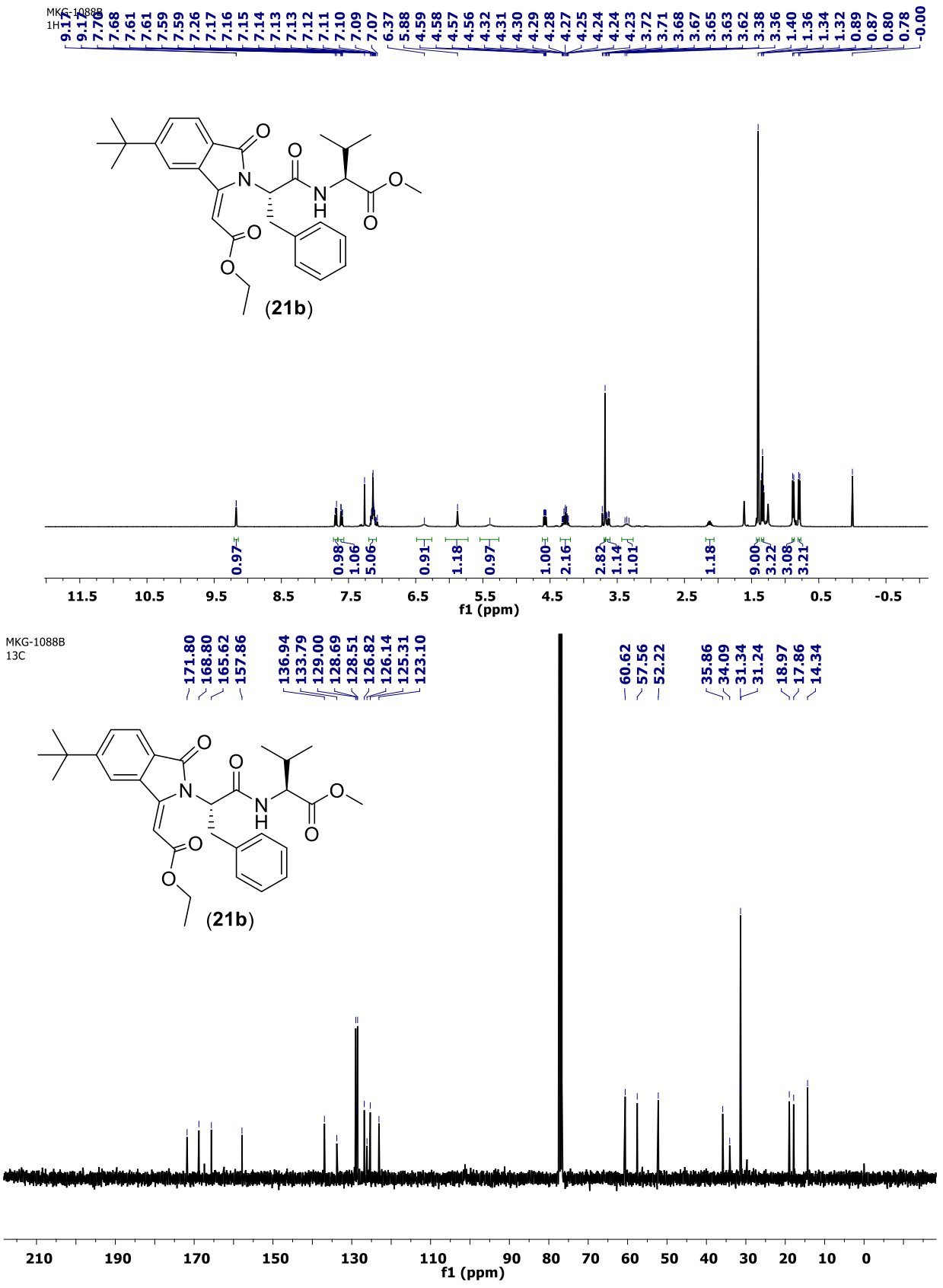


Figure. S73. ^{1}H, ^{13}C NMR spectra of **21b**

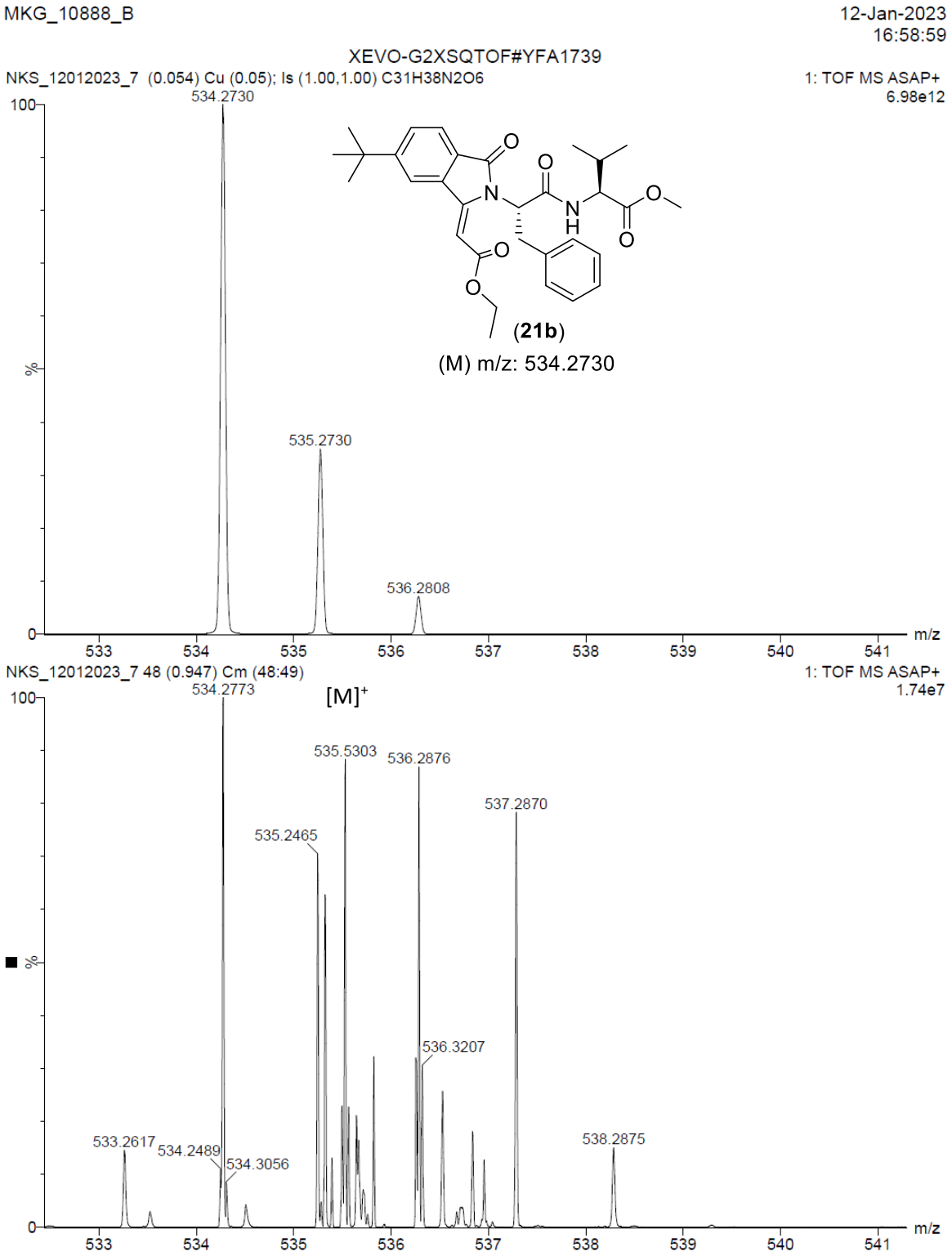


Figure. S74. ESI-HRMS spectra of **21b**

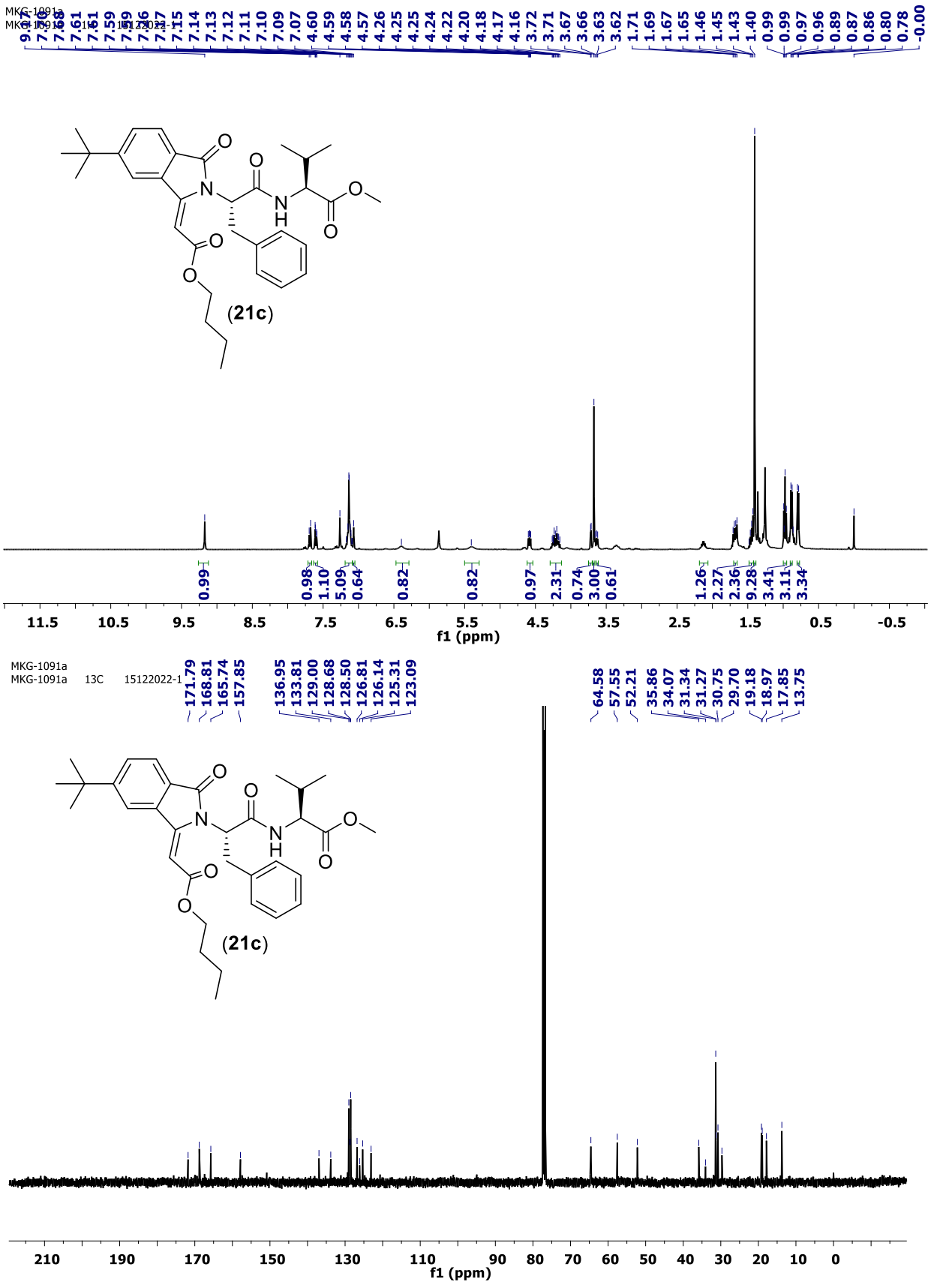


Figure. S74. ^{1}H, ^{13}C NMR spectra of **21c**

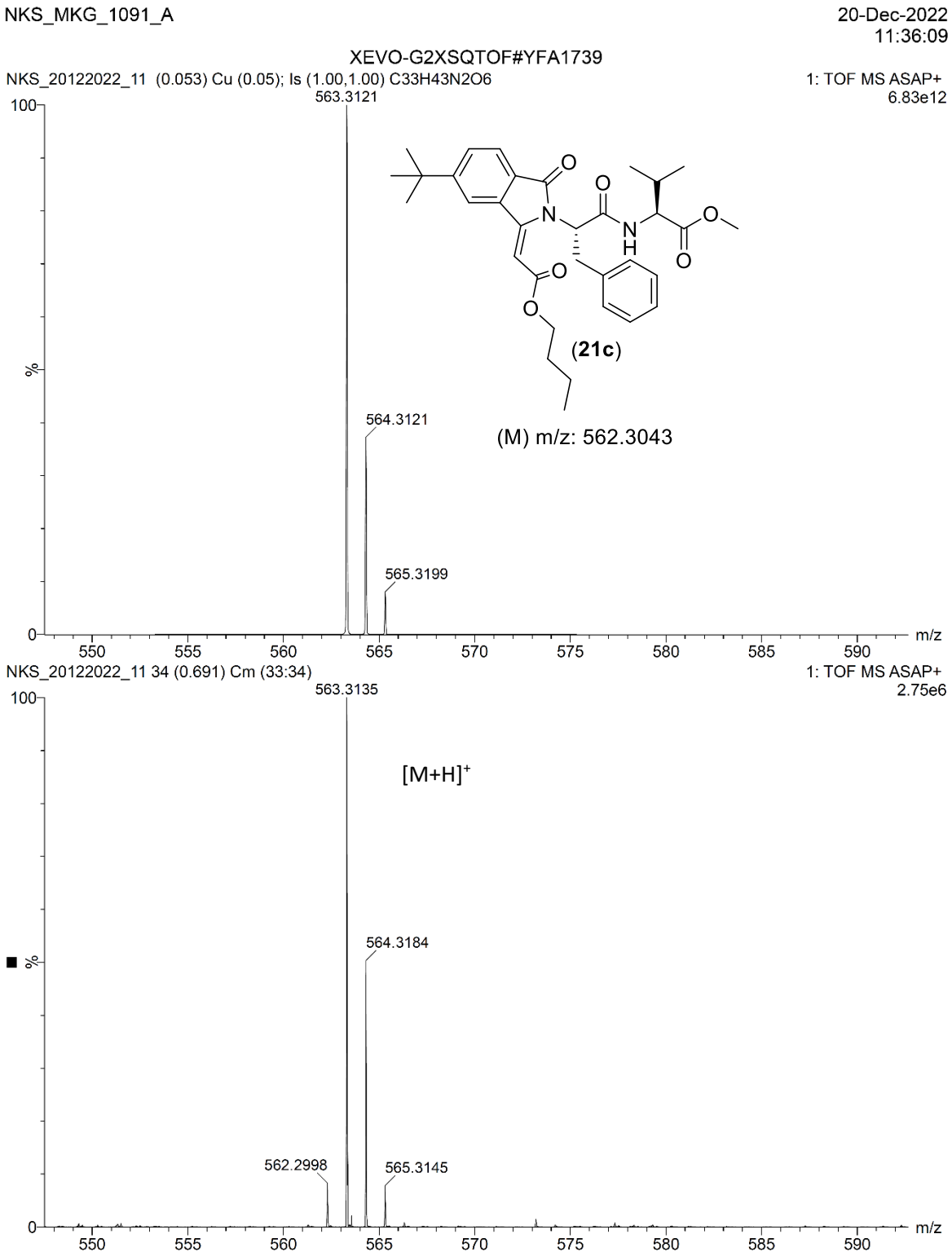


Figure. S75. ESI-HRMS spectra of **21c**

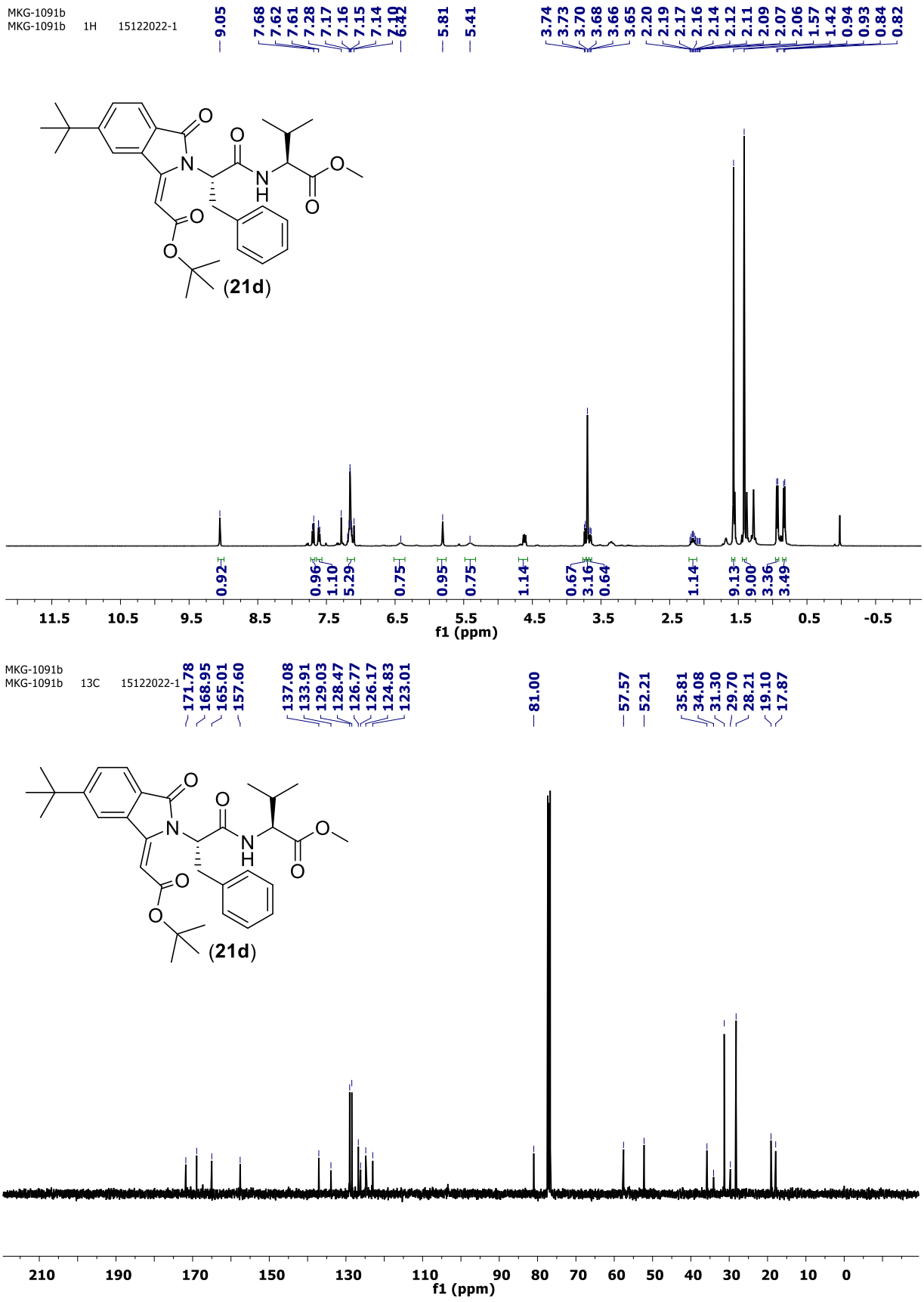


Figure. S76. ^{1}H, ^{13}C NMR spectra of **21d**

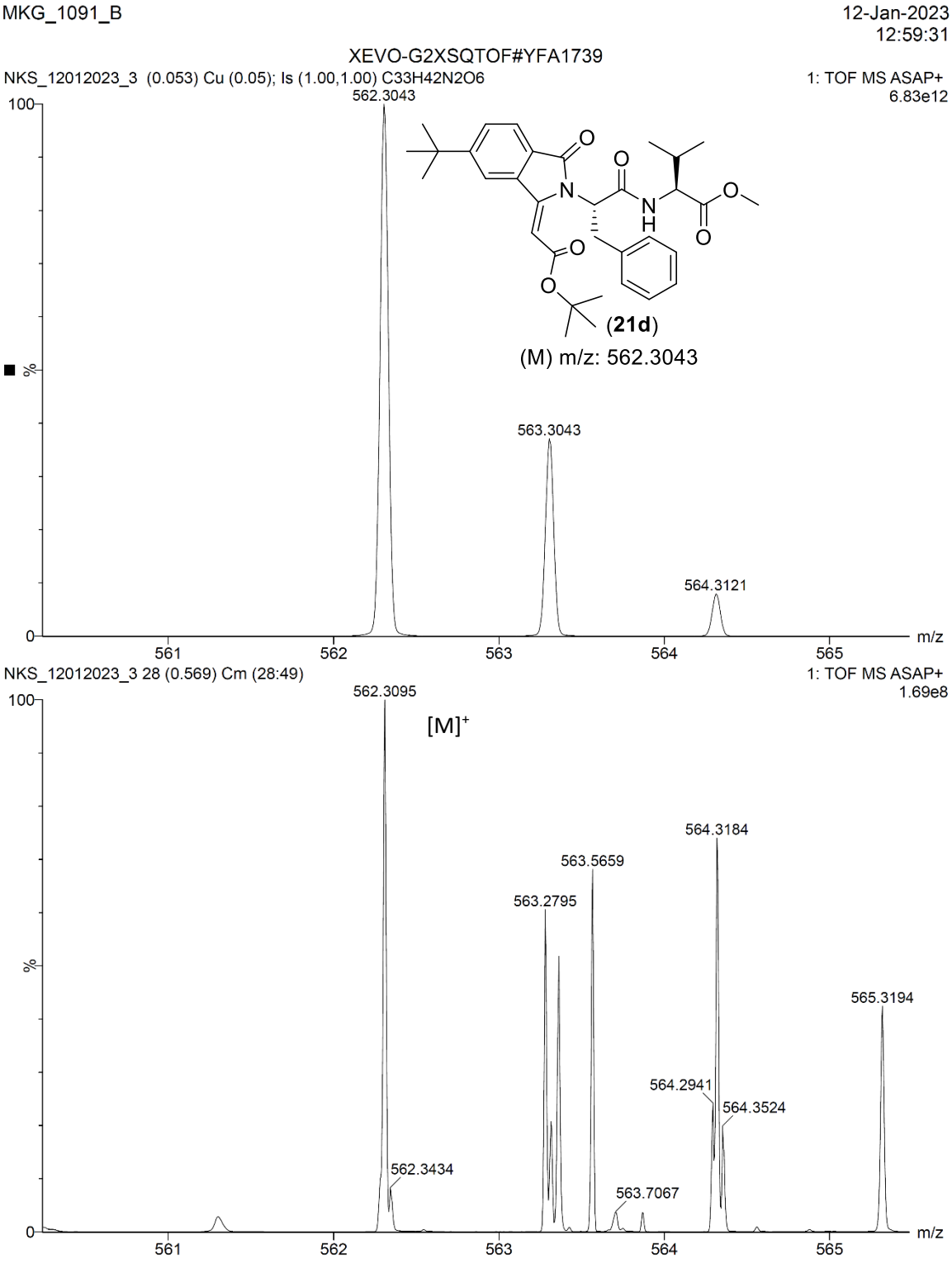


Figure. S77. ESI-HRMS spectra of **21d**

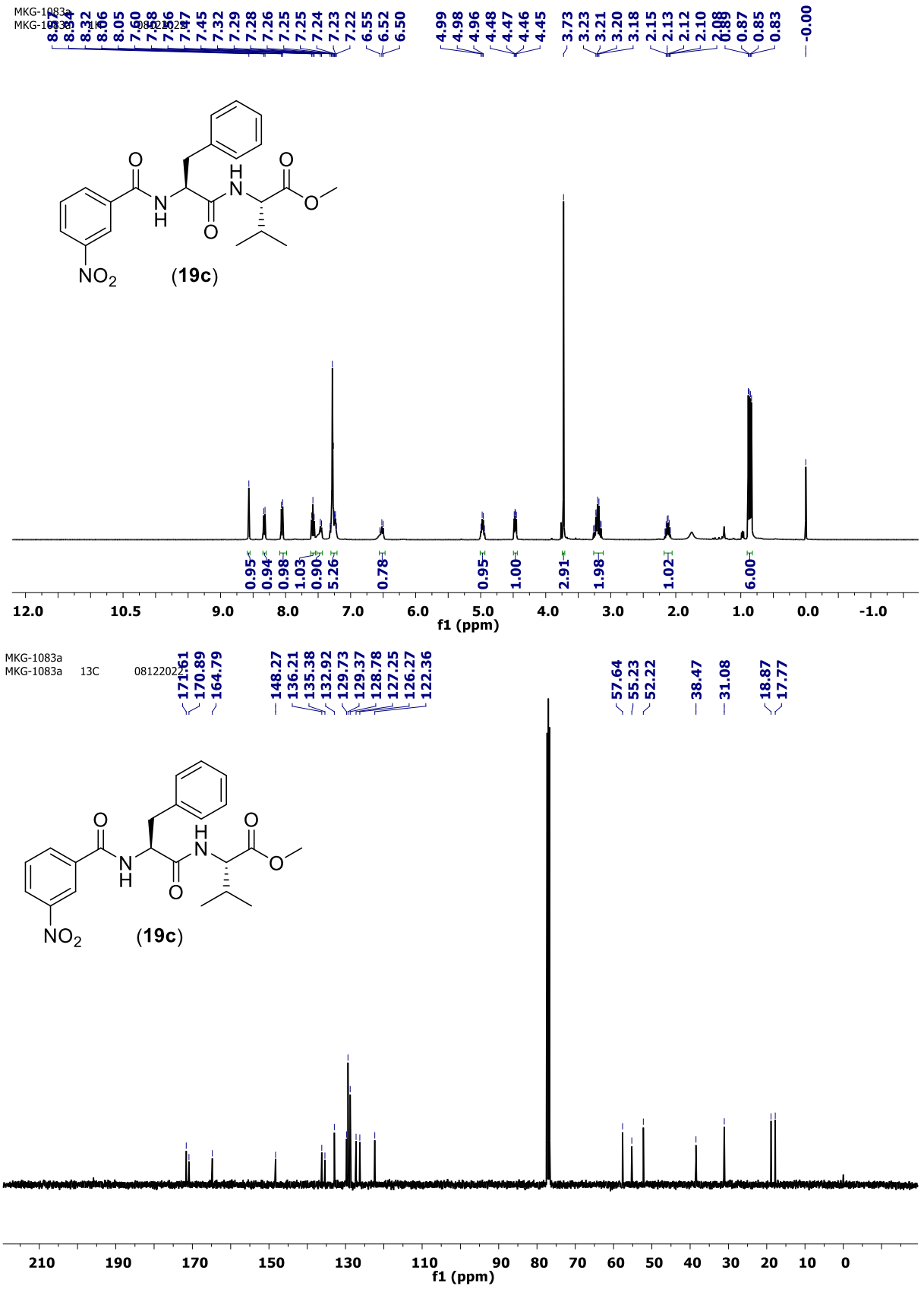


Figure. S78. ^{1}H, ^{13}C NMR spectra of spectra of **19c**

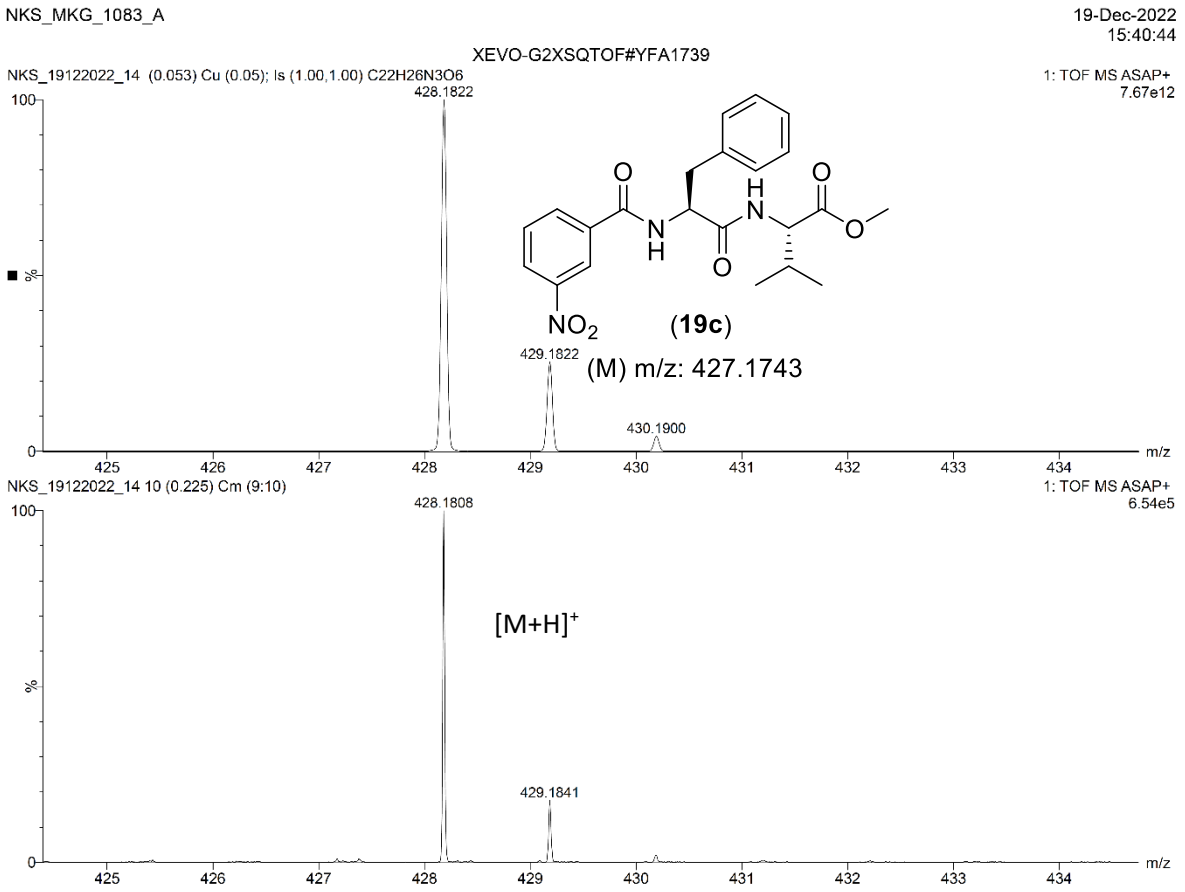


Figure. S79. ESI-HRMS spectra of **19c**

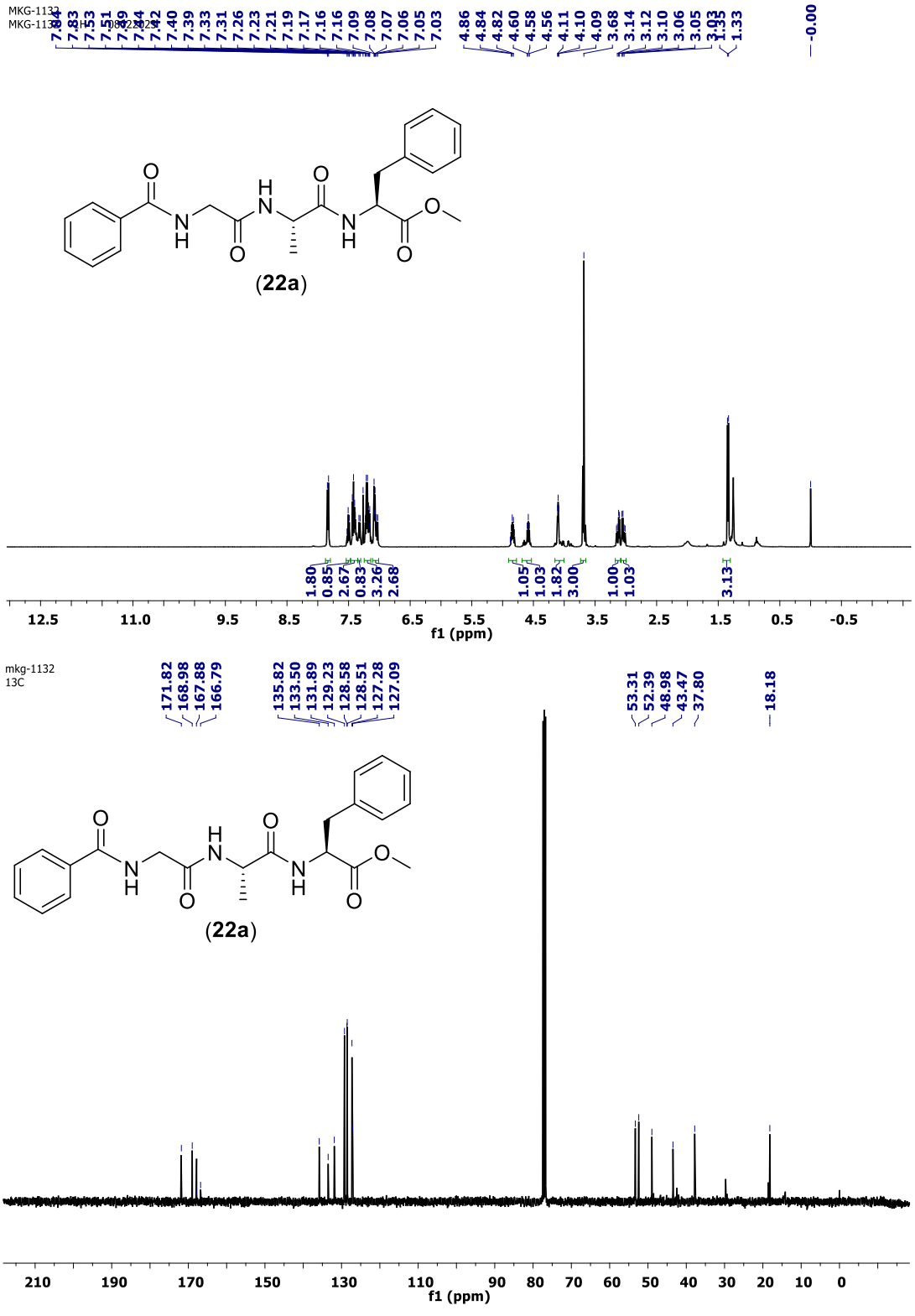


Figure. S80. ^{1}H, ^{13}C NMR spectra of **22a**

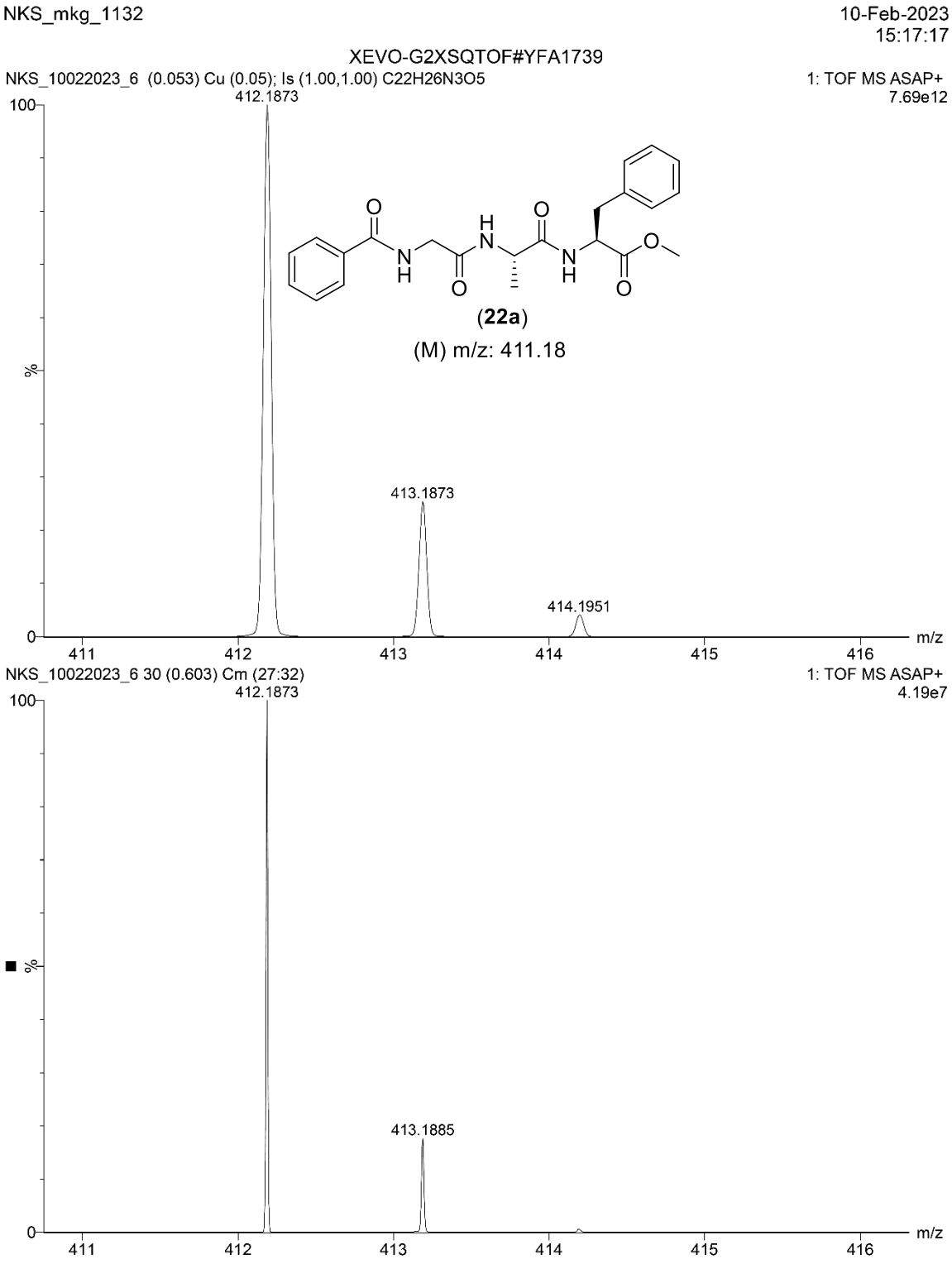


Figure. S81. ESI-HRMS spectra of **22a**

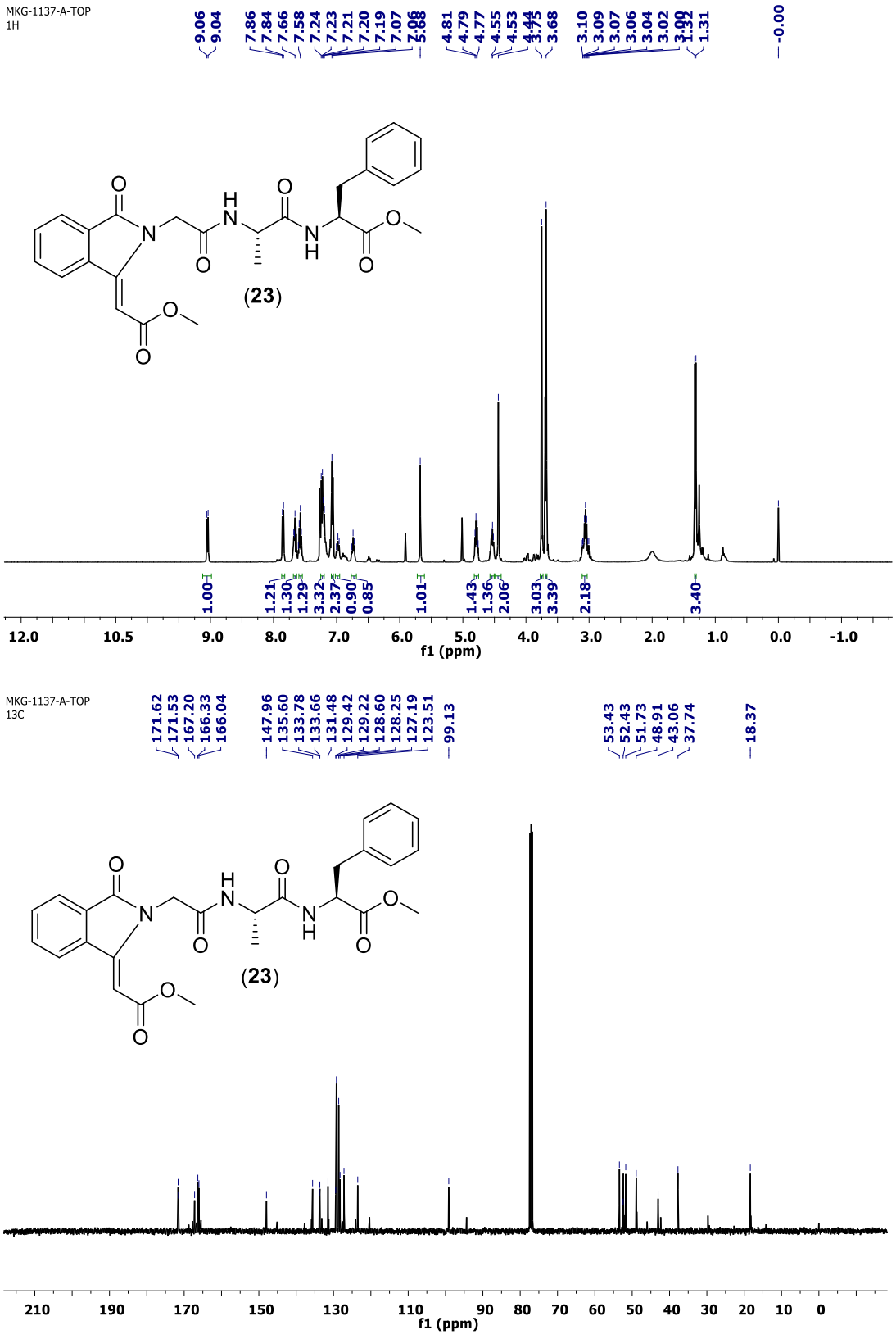


Figure. S82. ^{1}H, ^{13}C NMR spectra of **23**

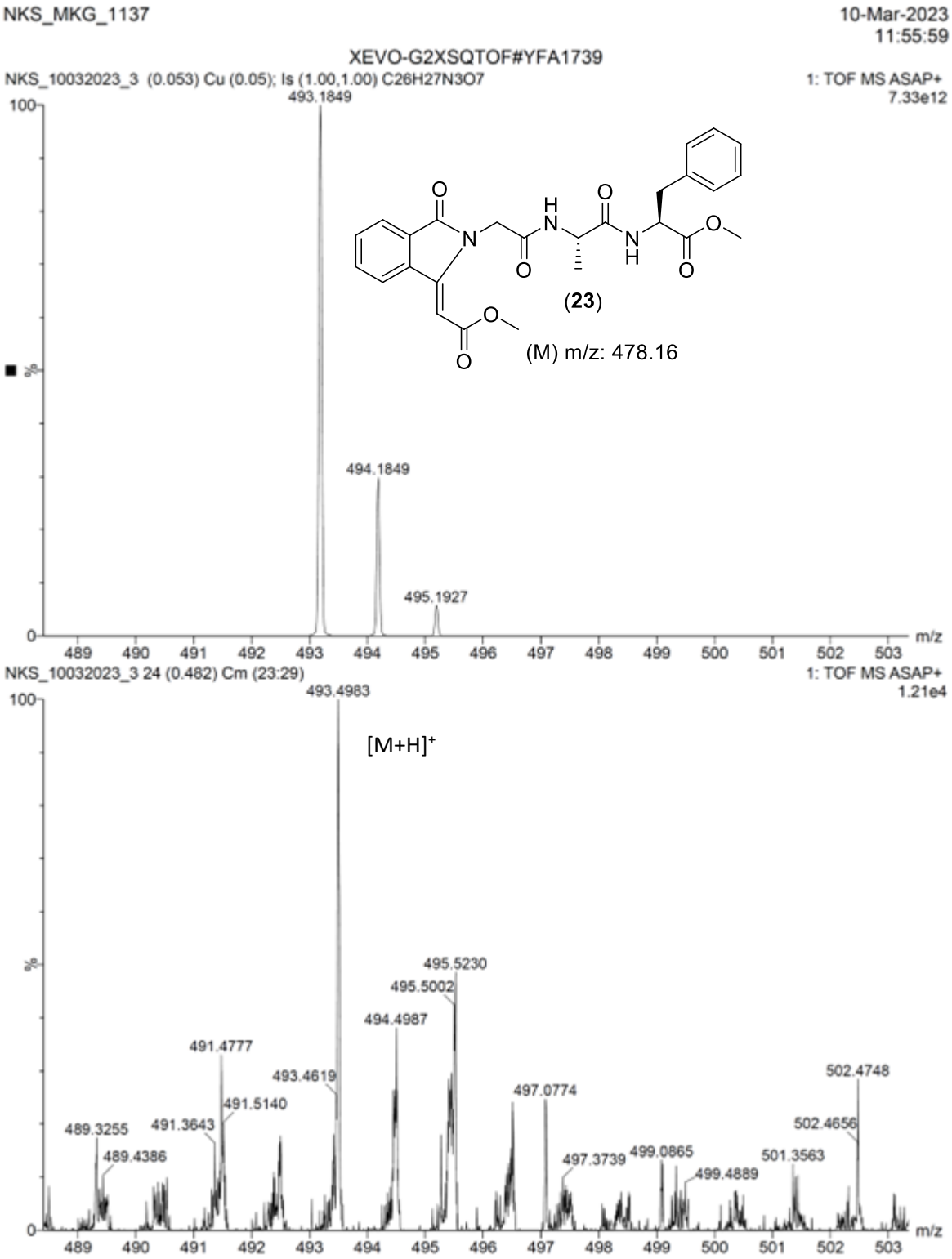


Figure. S83. ESI-HRMS spectra of **23**

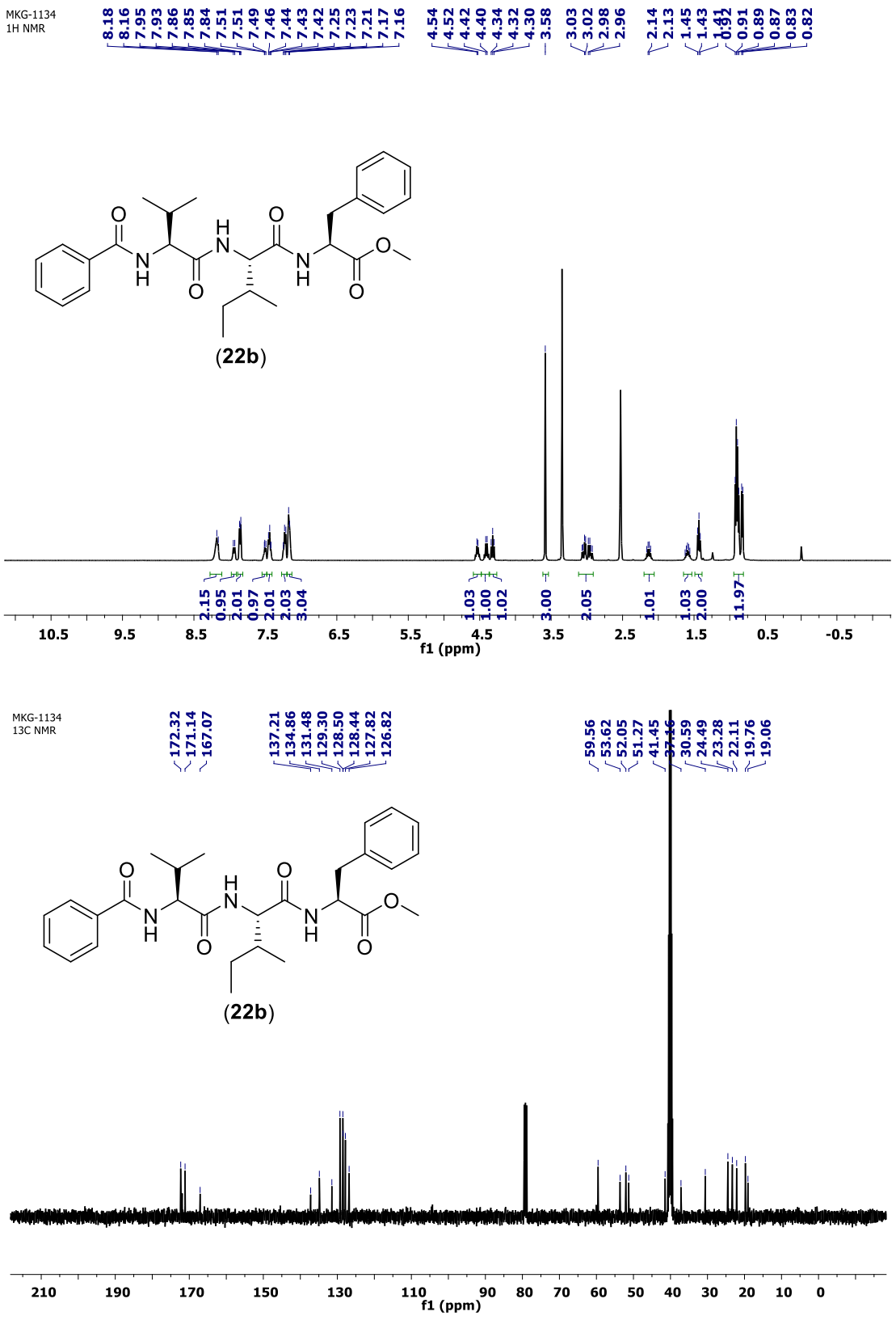


Figure. S84. ^{1}H, ^{13}C NMR spectra of **22b** in DMSO d_6.

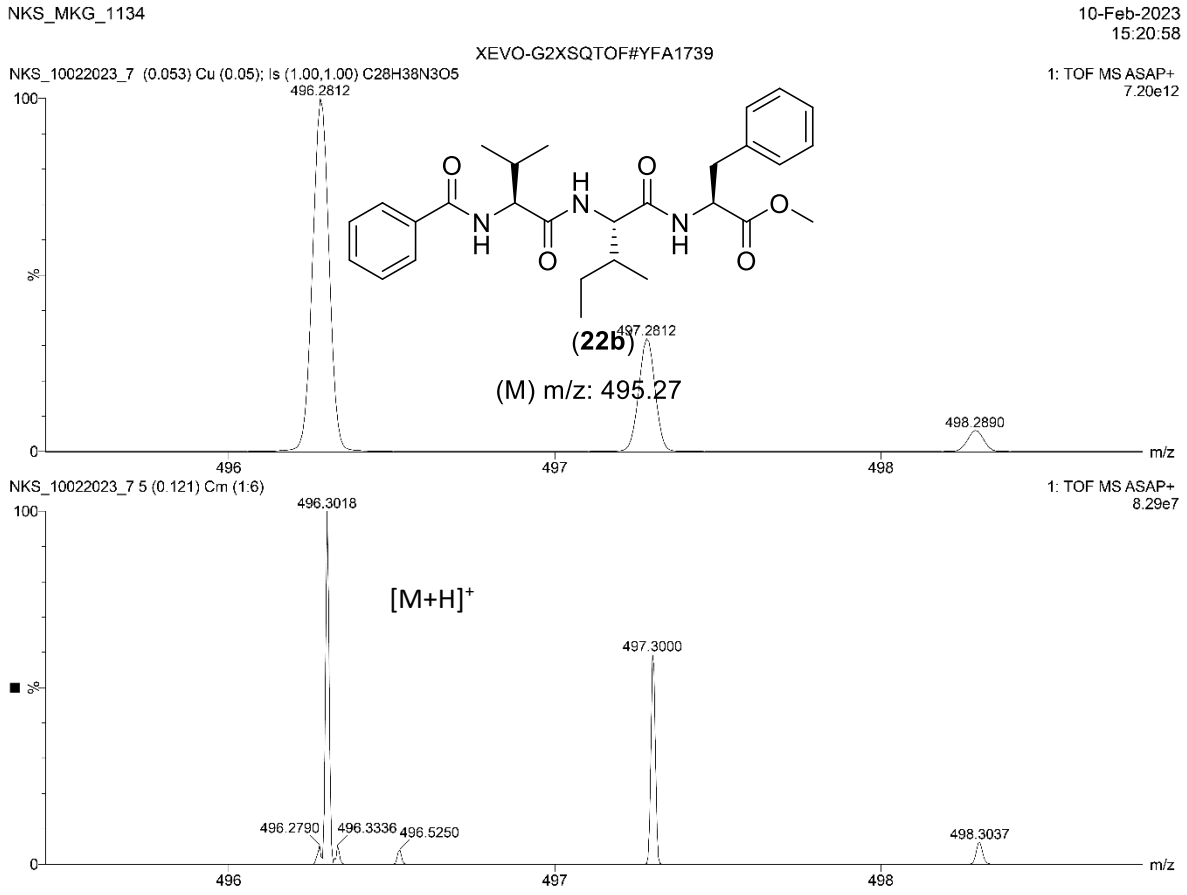


Figure. S85. ESI-HRMS spectra of **22b**

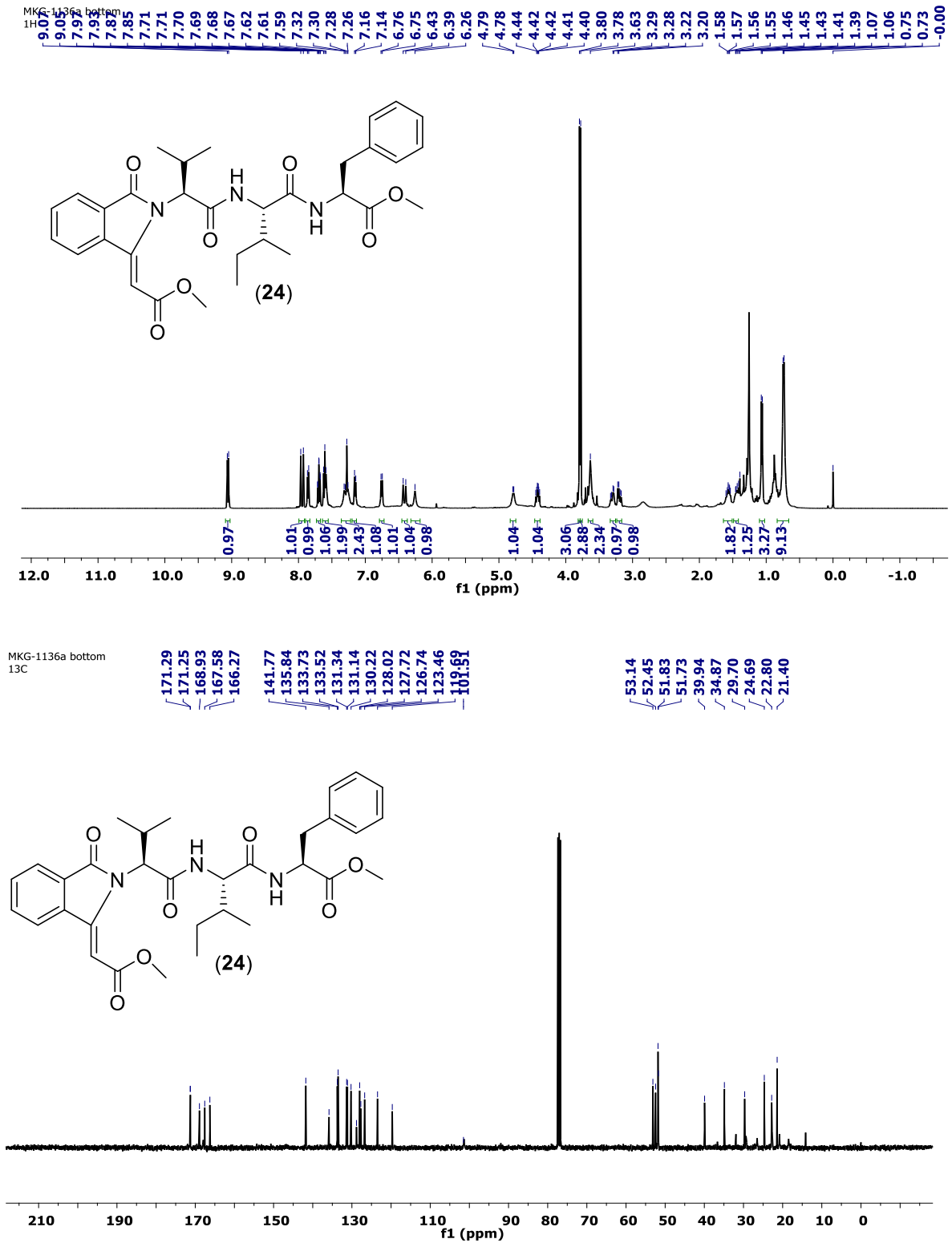


Figure. S86. ESI-HRMS spectra of **24**

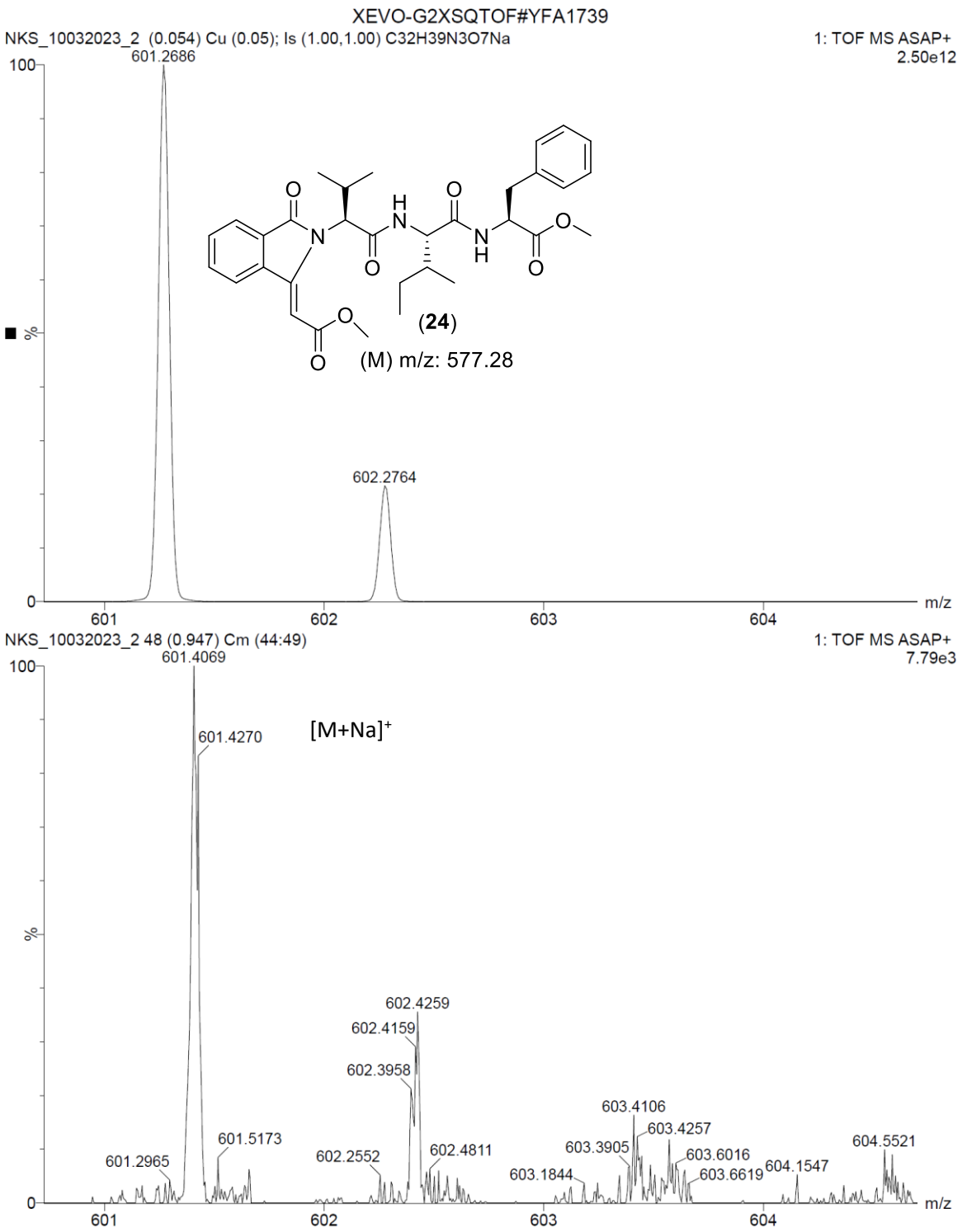


Figure. S87. ESI-HRMS spectra of **24**

2. 2D Spectra of Peptides

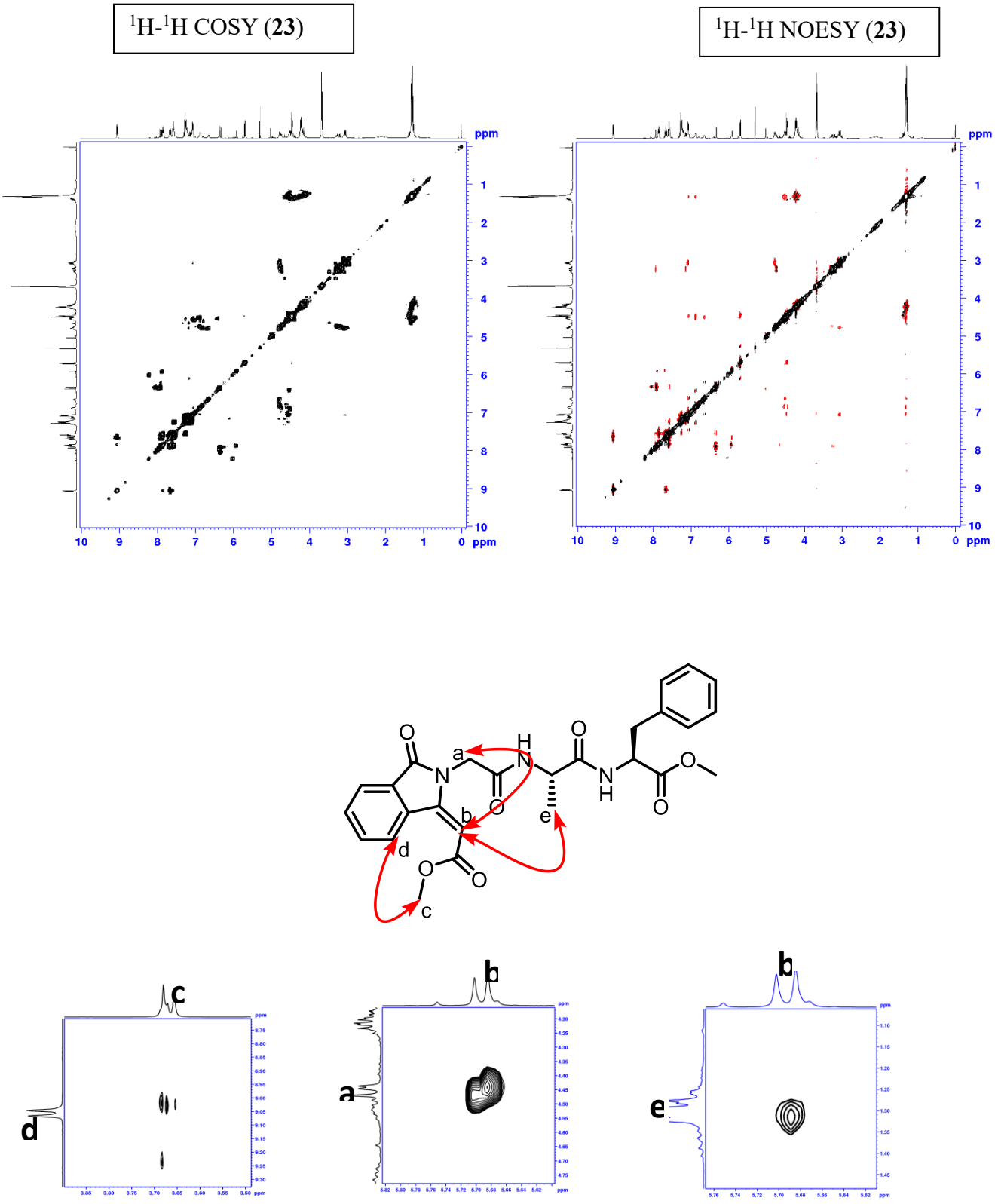
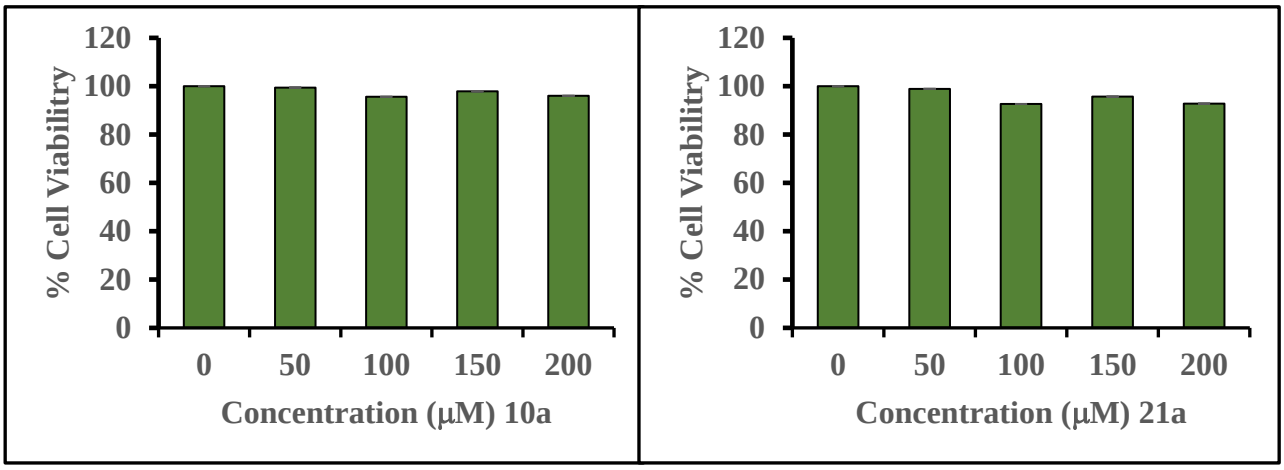
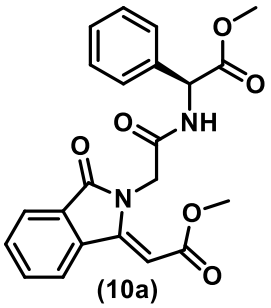


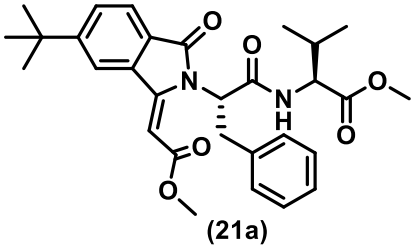
Figure. S88. 2D 1H1H NOESY Spectra of tetra peptide isoindolinone(**23**)

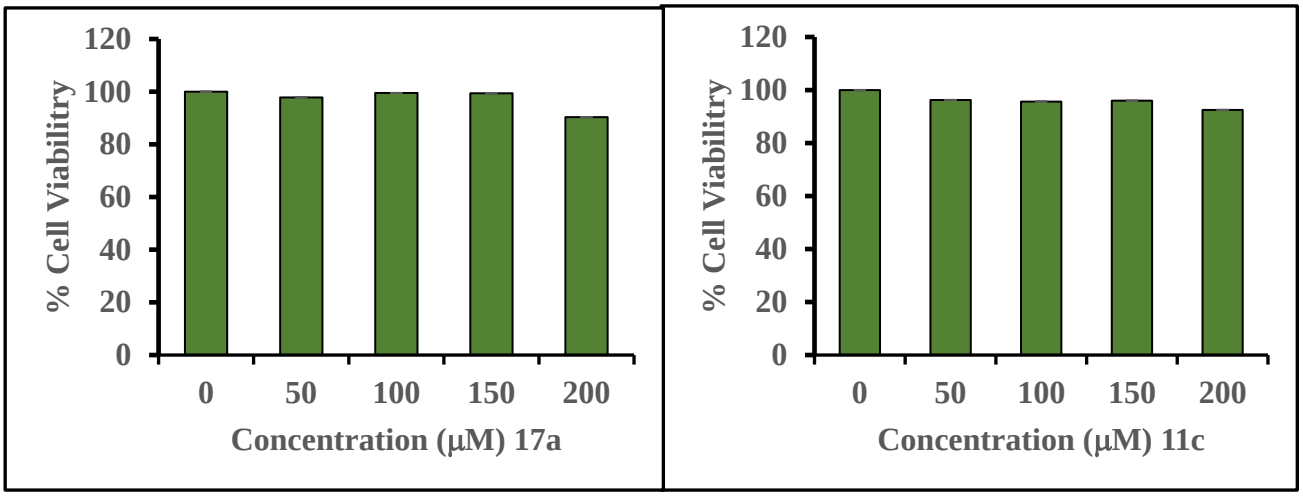
3. Cell proliferation

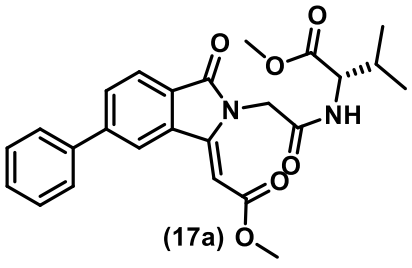
4.

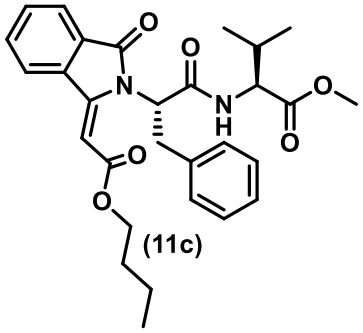


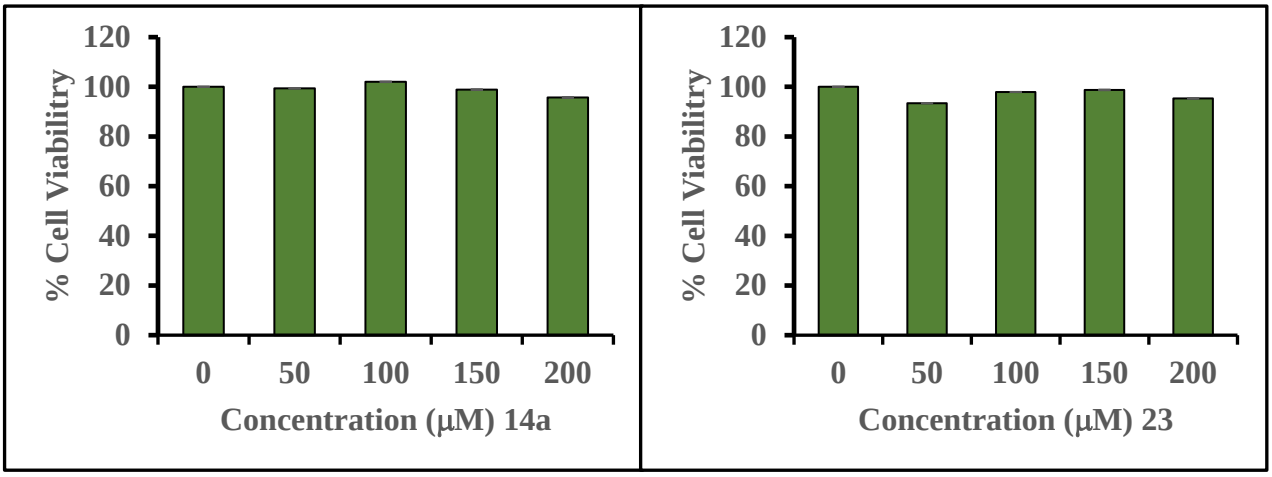








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100
150
200
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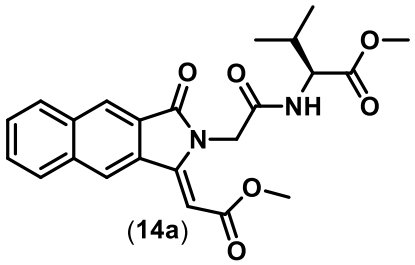
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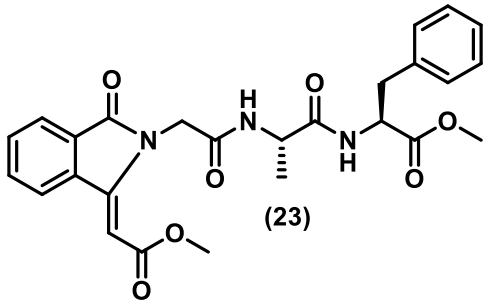
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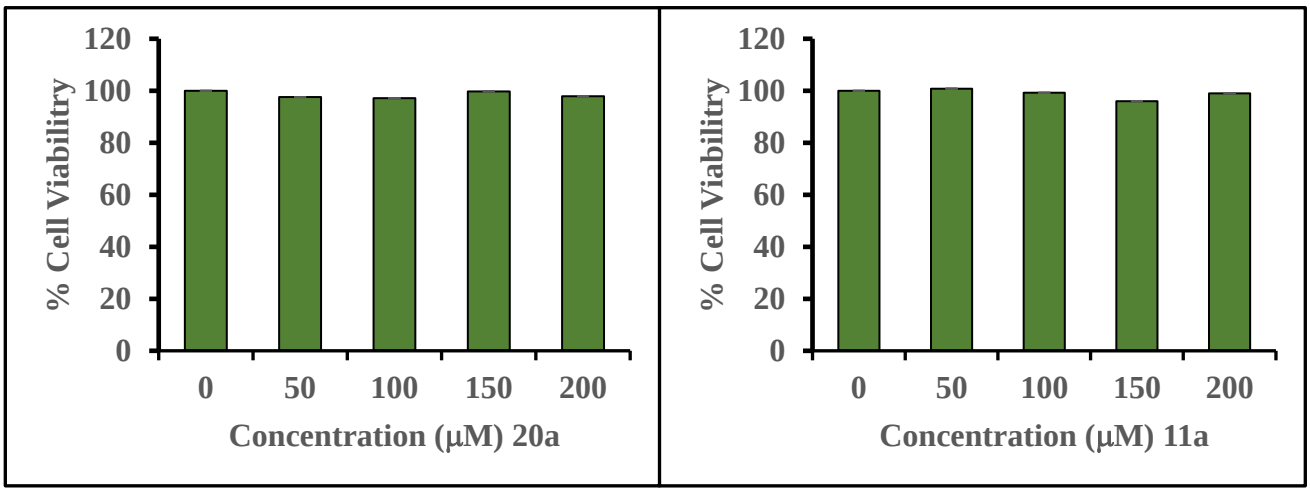
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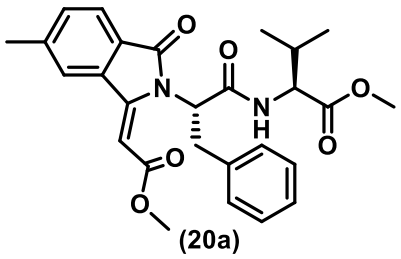
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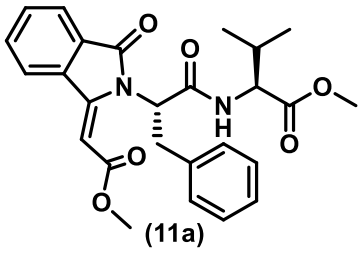
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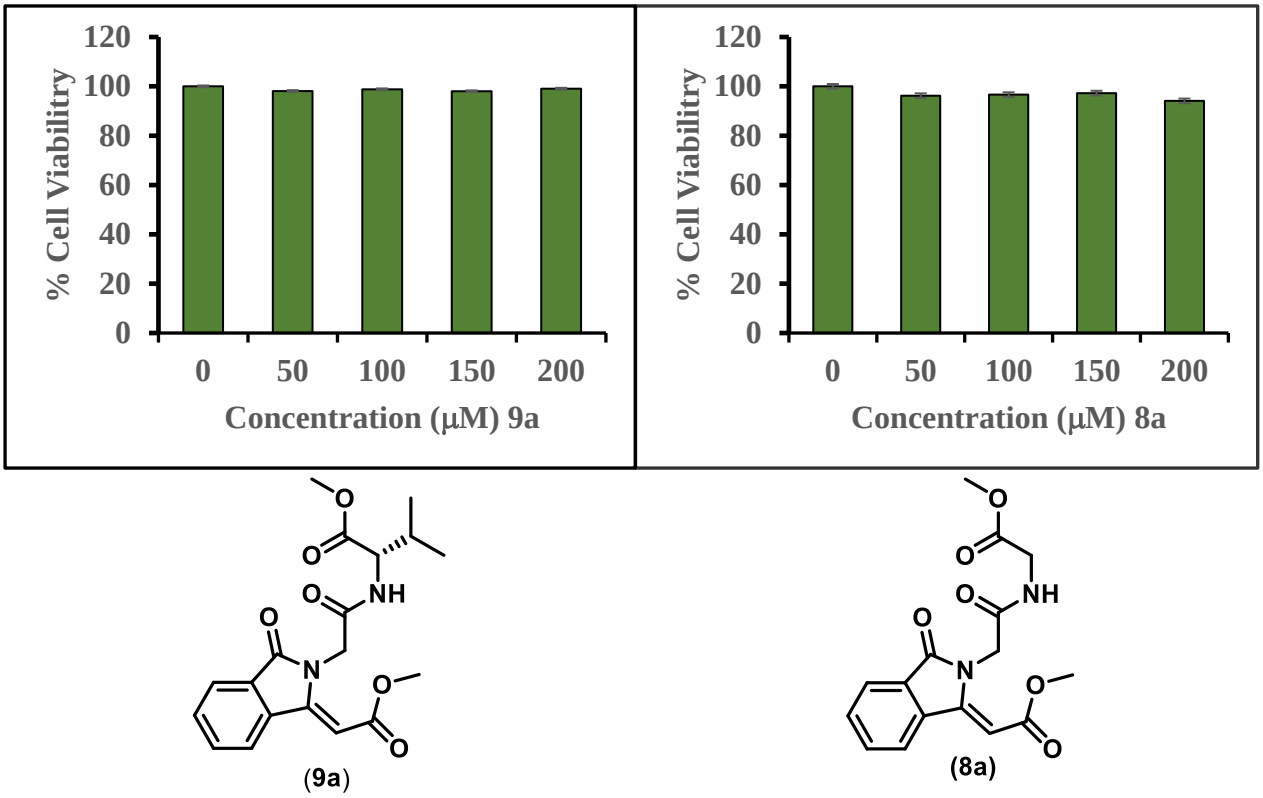
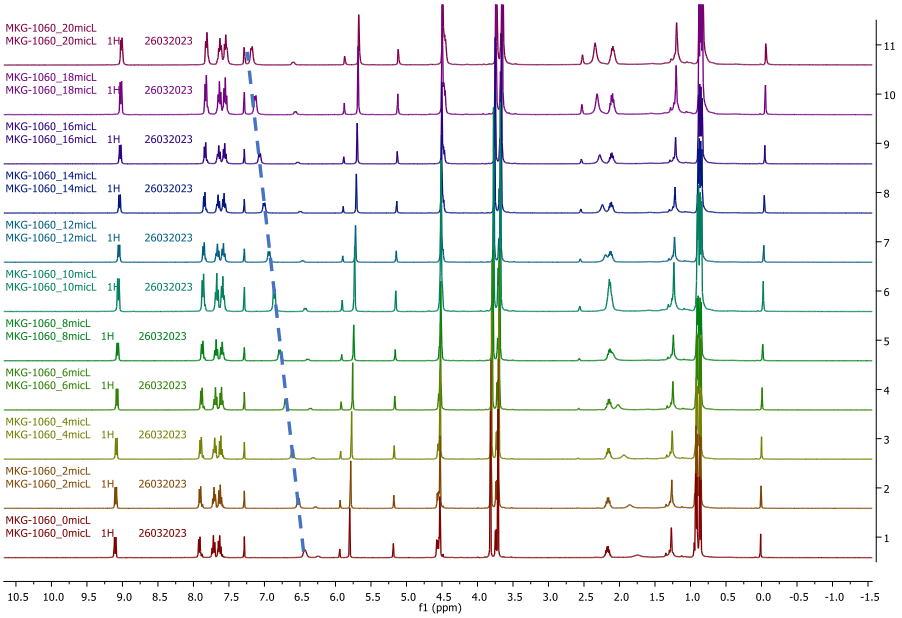
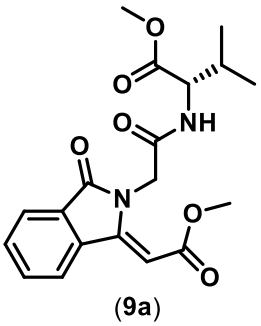


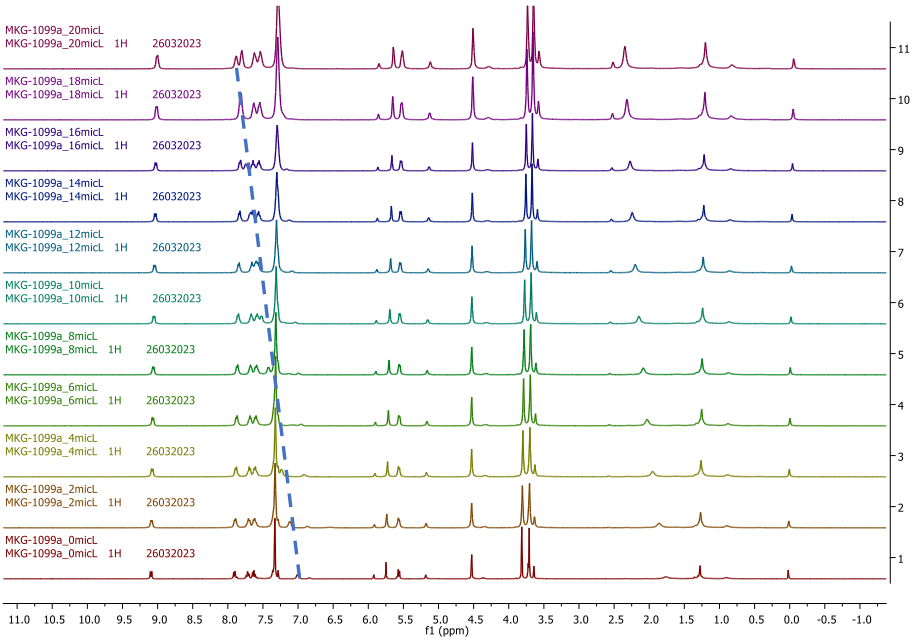
Figure. S89 Cell proliferation data of peptides.

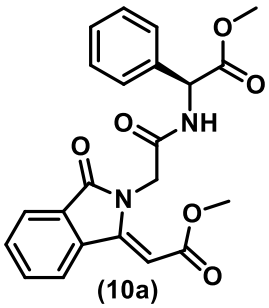
5. DMSO d6 Titration of peptides



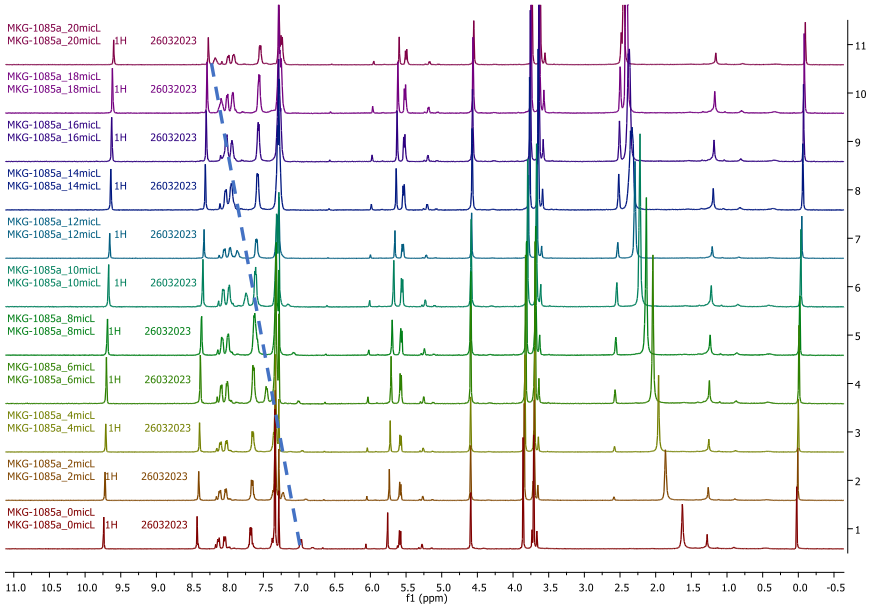


(9a)





(10a)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MKG-1085a_18micL
MKG-1085a_16micL
MKG-1085a_14micL
MKG-1085a_12micL
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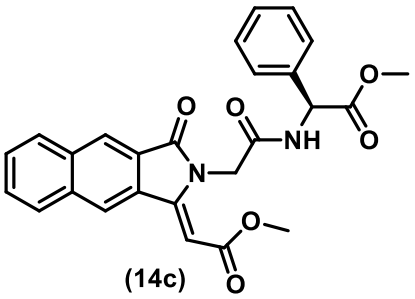
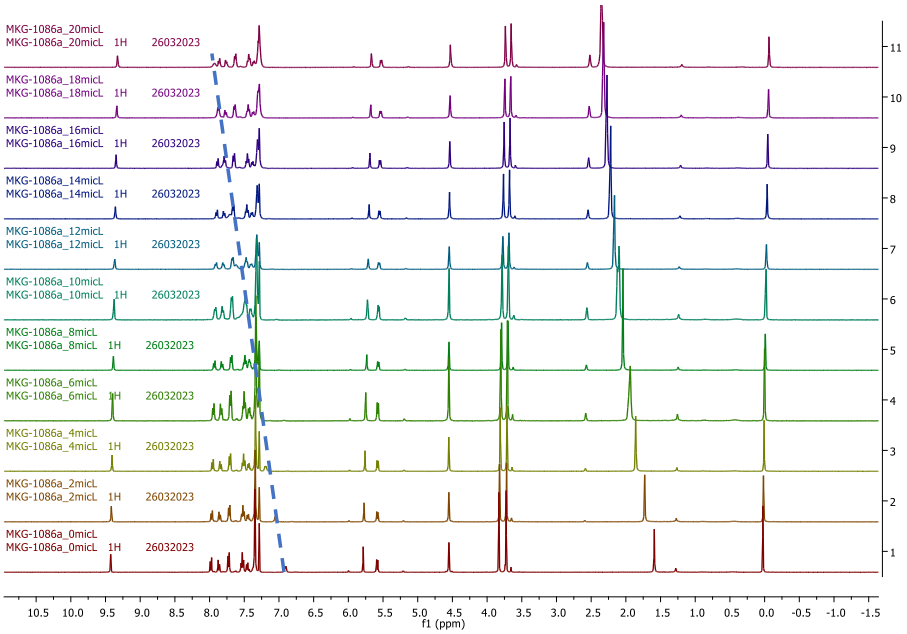
MKG-1085a_8micL
MKG-1085a_6micL
MKG-1085a_4micL
MKG-1085a_2micL
MKG-1085a_0micL
1H
26032023
f1 (ppm)


O
O
NH
O
N
O
O
O

(14c)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MKG-1086a_18micL
MKG-1086a_16micL
MKG-1086a_14micL
MKG-1086a_12micL
MKG-1086a_10micL
MKG-1086a_8micL
MKG-1086a_6micL
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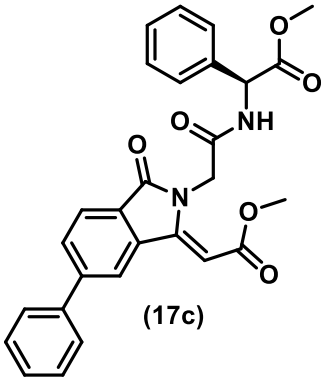
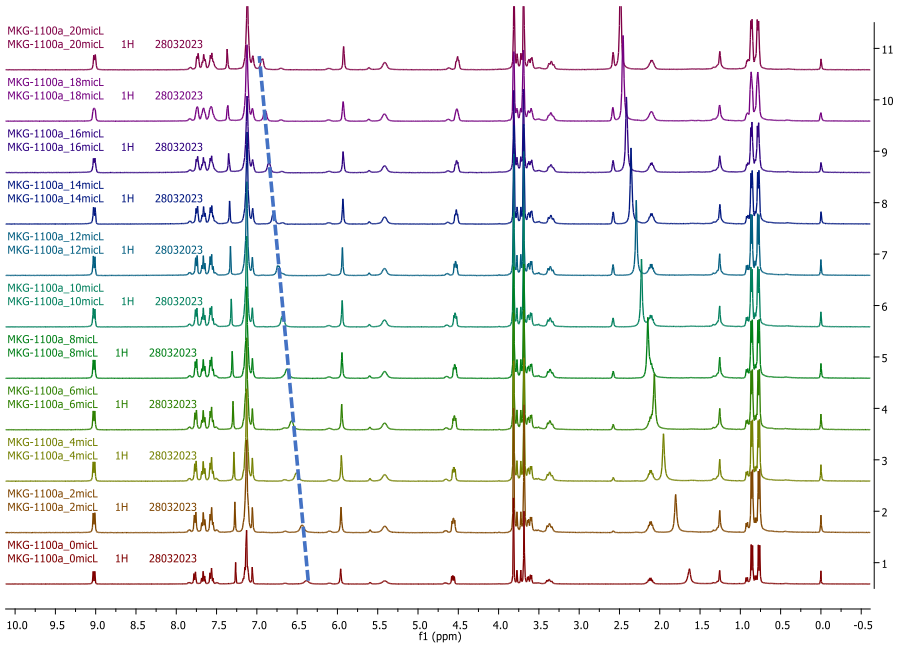
MKG-1086a_0micL
1H
26032023
f1 (ppm)


O
O
NH
O
N
O
O

(17c)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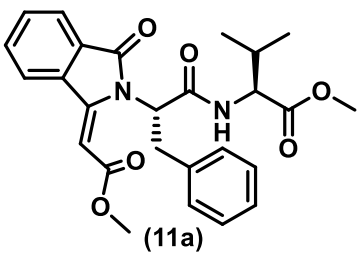
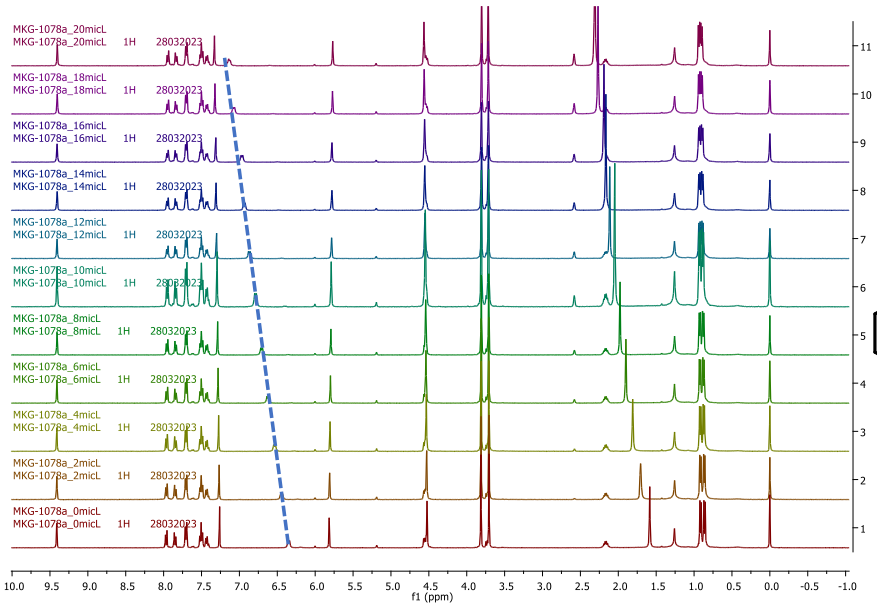
MKG-1100a_20micL 1H 28032023
MKG-1100a_18micL
MKG-1100a_18micL 1H 28032023
MKG-1100a_16micL
MKG-1100a_16micL 1H 28032023
MKG-1100a_14micL
MKG-1100a_14micL 1H 28032023
MKG-1100a_12micL
MKG-1100a_12micL 1H 28032023
MKG-1100a_10micL
MKG-1100a_10micL 1H 28032023
MKG-1100a_8micL
MKG-1100a_8micL 1H 28032023
MKG-1100a_6micL
MKG-1100a_6micL 1H 28032023
MKG-1100a_4micL
MKG-1100a_4micL 1H 28032023
MKG-1100a_2micL
MKG-1100a_2micL 1H 28032023
MKG-1100a_0micL
MKG-1100a_0micL 1H 28032023
f1 (ppm)


(11a)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MKG-1078a_20micL 1H 28032023
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MKG-1078a_18micL 1H 28032023
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MKG-1078a_16micL 1H 28032023
MKG-1078a_14micL
MKG-1078a_14micL 1H 28032023
MKG-1078a_12micL
MKG-1078a_12micL 1H 28032023
MKG-1078a_10micL
MKG-1078a_10micL 1H 28032023
MKG-1078a_8micL
MKG-1078a_8micL 1H 28032023
MKG-1078a_6micL
MKG-1078a_6micL 1H 28032023
MKG-1078a_4micL
MKG-1078a_4micL 1H 28032023
MKG-1078a_2micL
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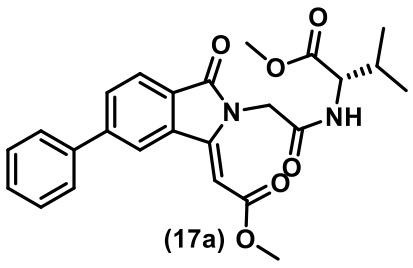
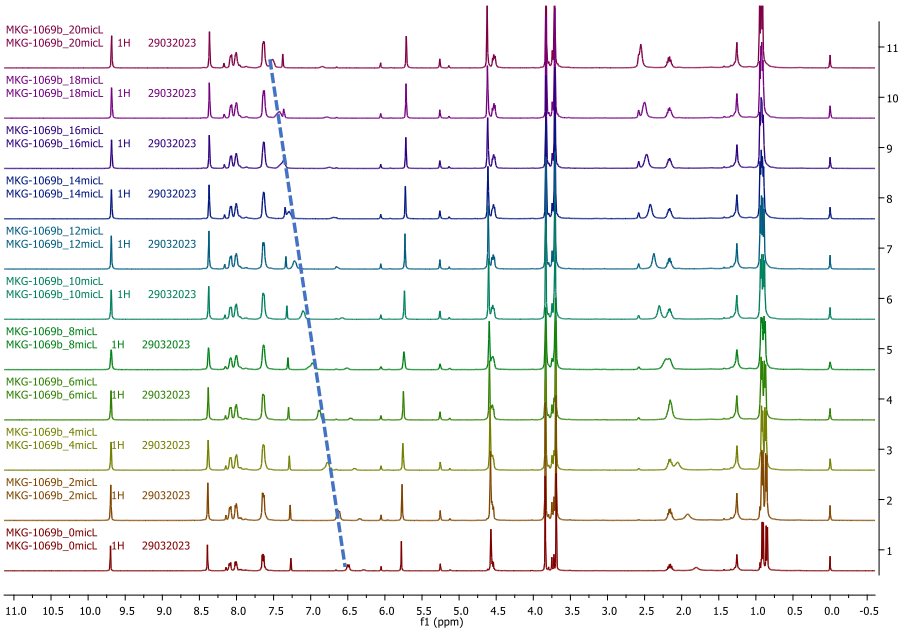
MKG-1078a_0micL 1H 28032023
f1 (ppm)


(17a)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MKG-1069b_18micL
MKG-1069b_16micL
MKG-1069b_14micL
MKG-1069b_12micL
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MKG-1069b_8micL
MKG-1069b_6micL
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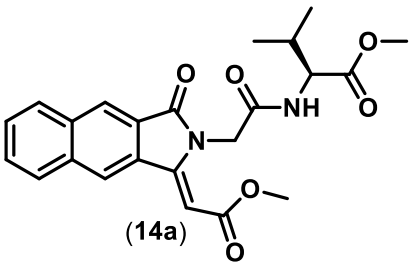
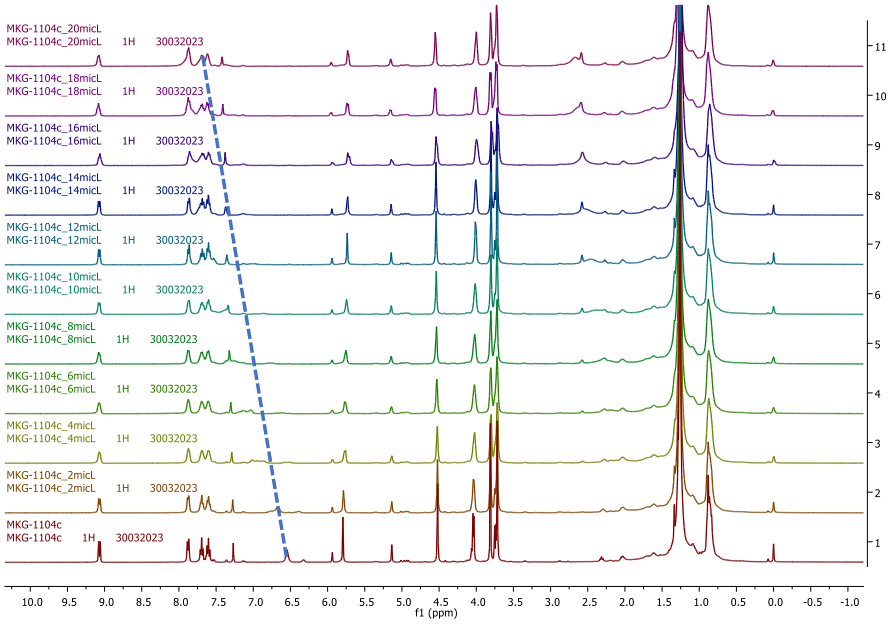
MKG-1069b_0micL
1H
29032023
f1 (ppm)


O
O
NH
O
O
N
O
O
O

(14a)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MKG-1104c_18micL
MKG-1104c_16micL
MKG-1104c_14micL
MKG-1104c_12micL
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MKG-1104c_8micL
MKG-1104c_6micL
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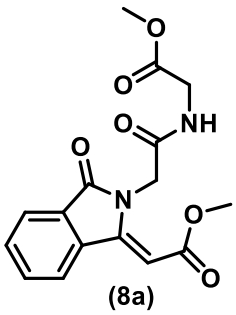
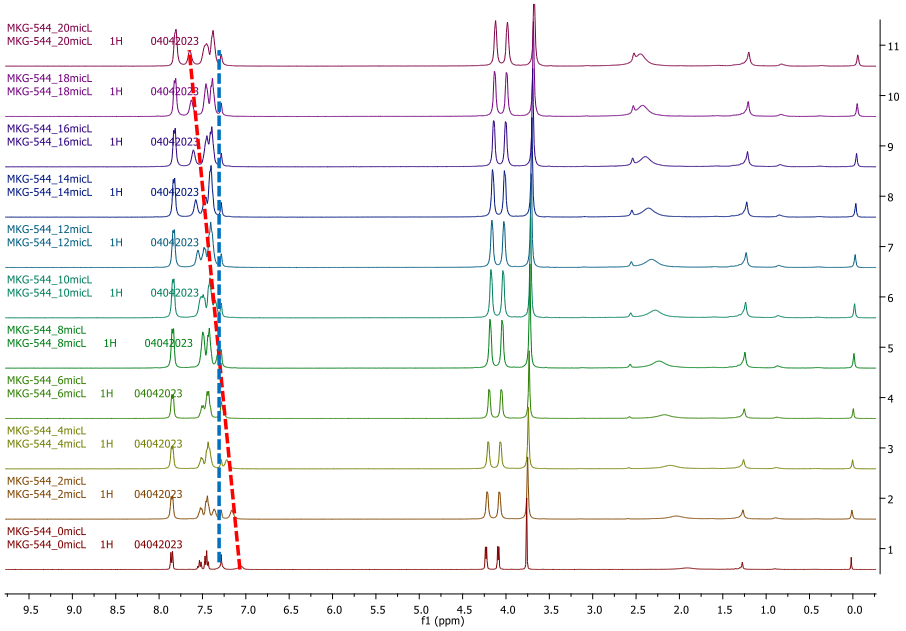
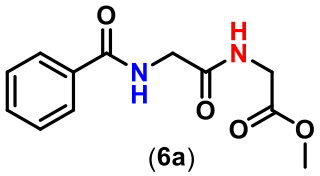
MKG-1104c_2micL
MKG-1104c
1H
30032023
f1 (ppm)

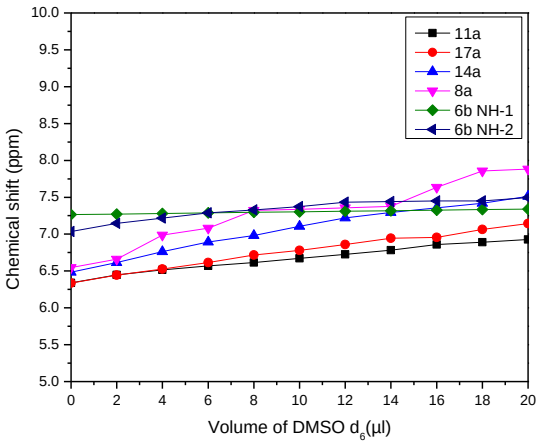

O
O
O
NH
O
N
O
O

(8a)





(**6a**)



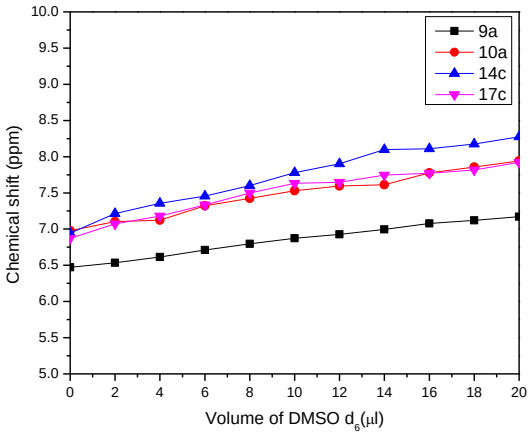
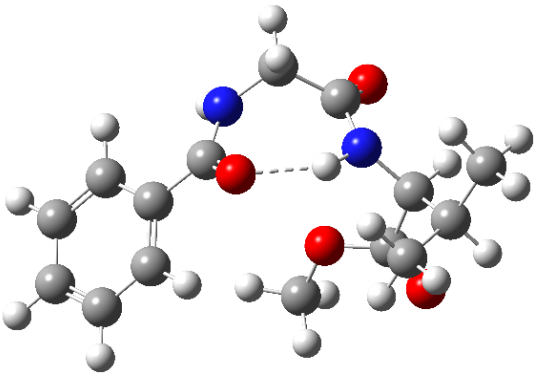
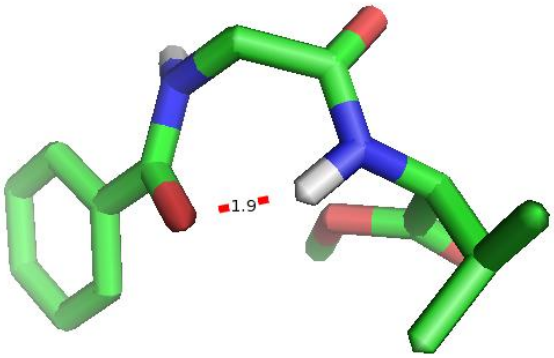


Figure. S90 DMSO-d_6 titration of peptides.

6. GMMX Energy Plot and conformation





Control 6b (N-H….O: 1.9Å)
∠N-H-O: 149^{O})

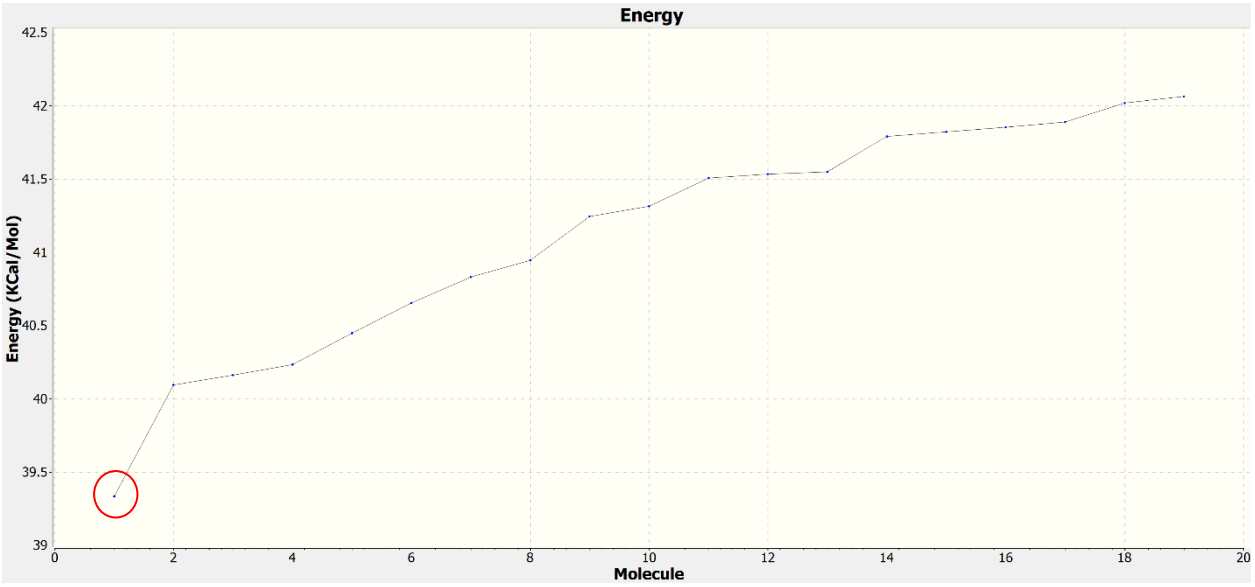


Figure. S91 GMMX results peptide **6b**: Energy Plot and conformation of lowest energy conformer

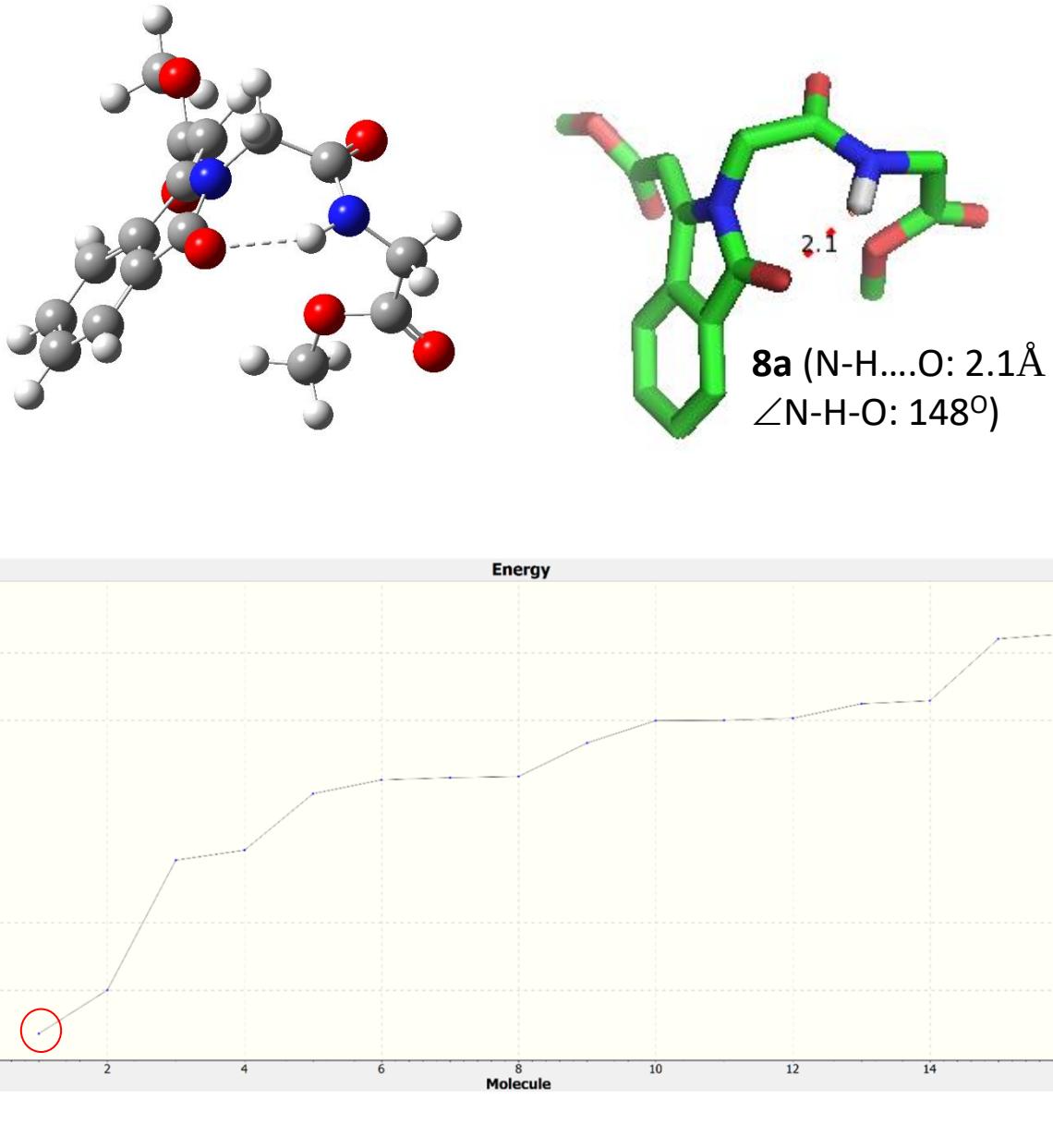
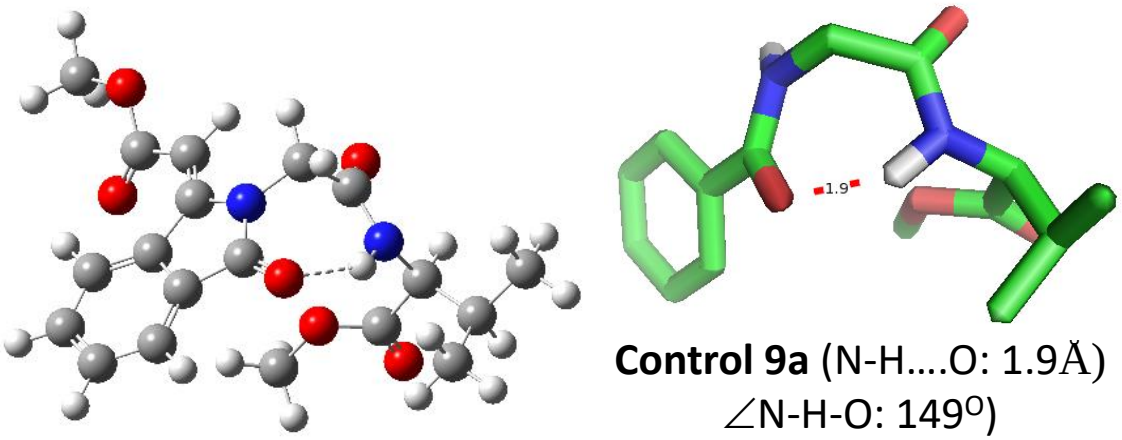


Figure. S92 GMMX results peptide **8a**: Energy Plot and conformation of lowest energy conformer



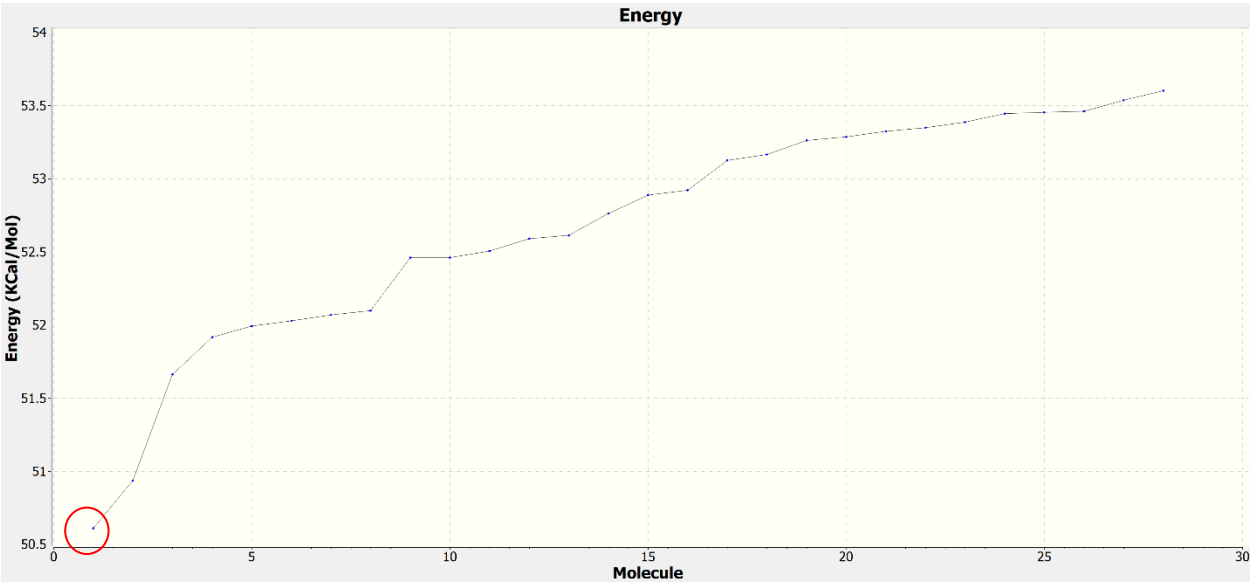
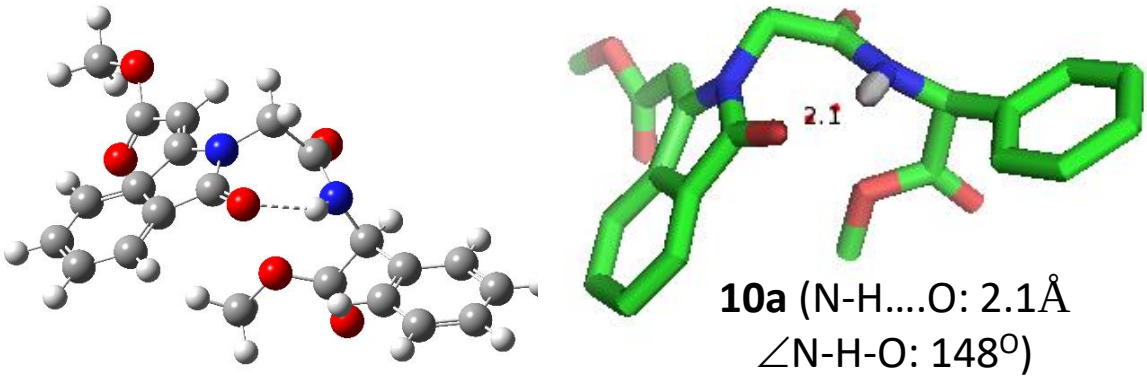


Figure. S93 GMMX results peptide **9a**: Energy Plot and conformation of lowest energy conformer



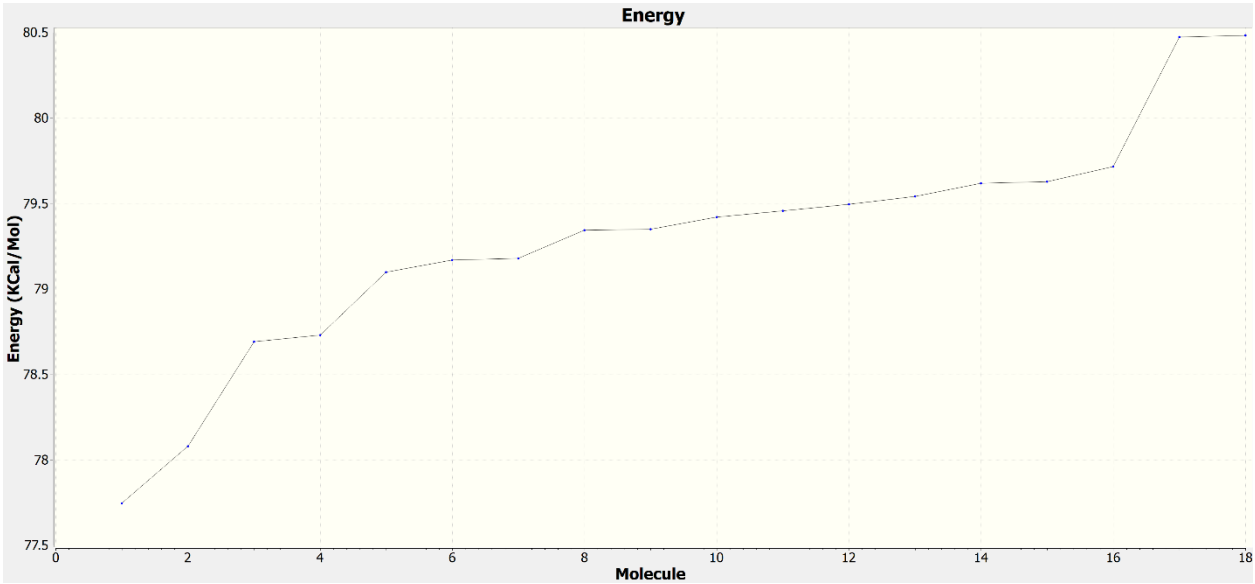
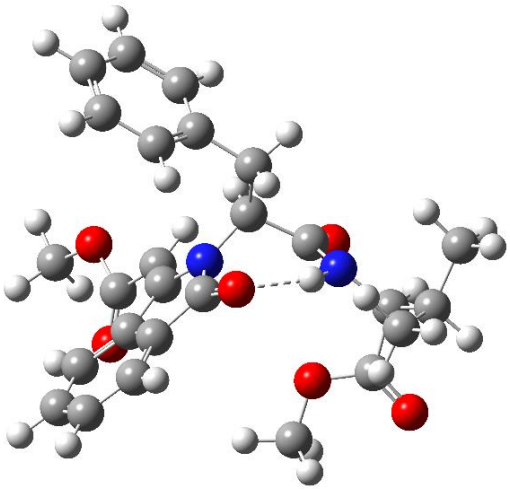
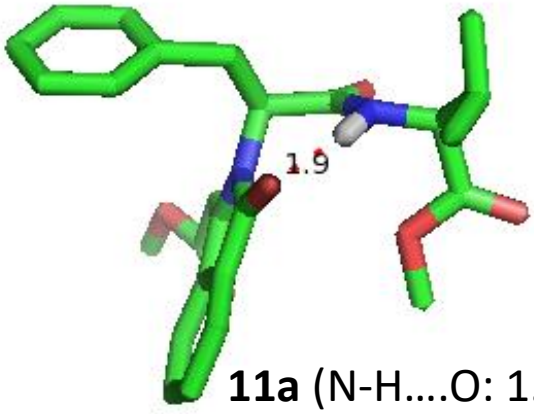


Figure. S94 GMMX results peptide **10a**: Energy Plot and conformation of lowest energy conformer





11a (N-H….O: 1.9Å
∠N-H-O: 153^{O})

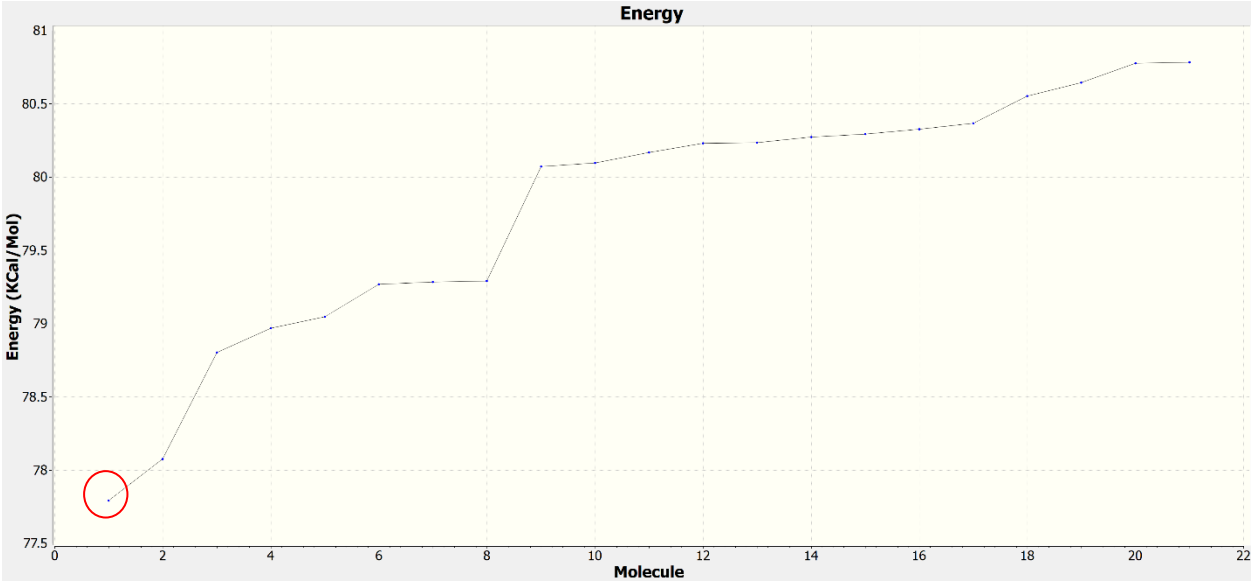
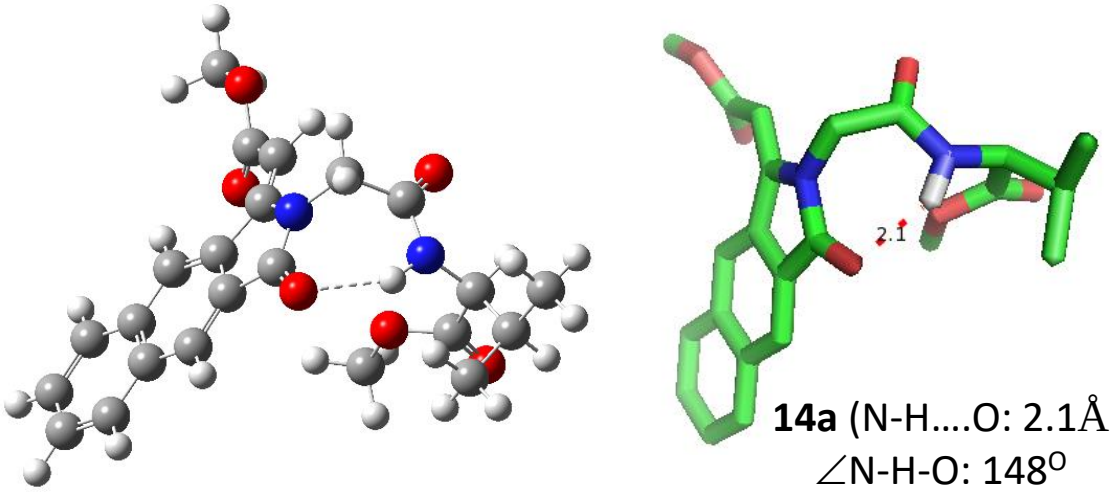


Figure. S95 GMMX results peptide **11a**: Energy Plot and conformation of lowest energy conformer



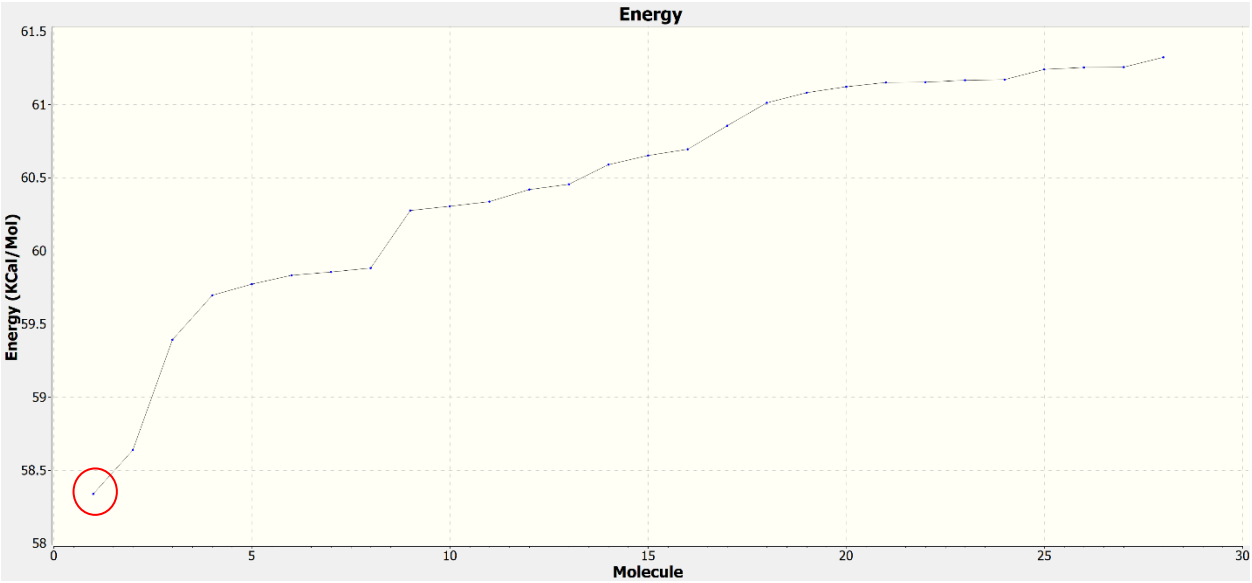
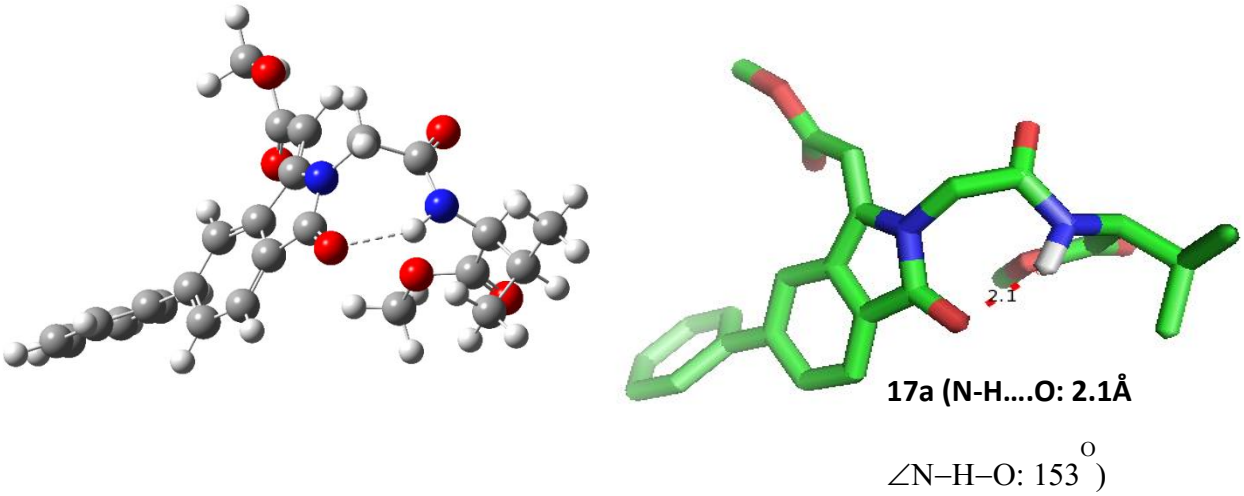


Figure. S96 GMMX results peptide **14a**: Energy Plot and conformation of lowest energy conformer



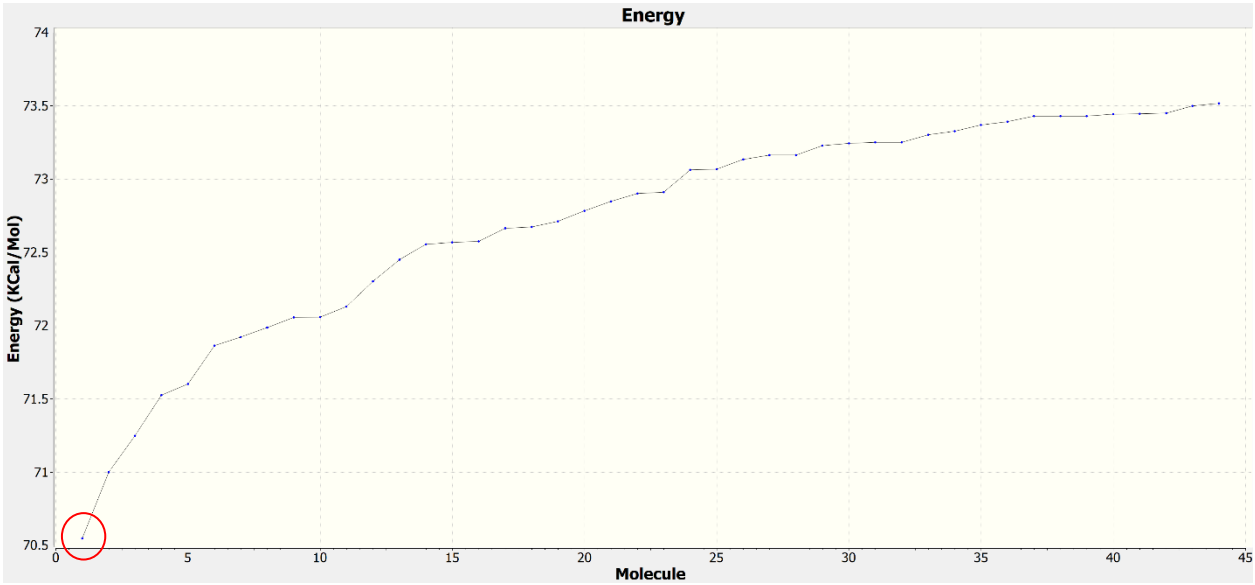
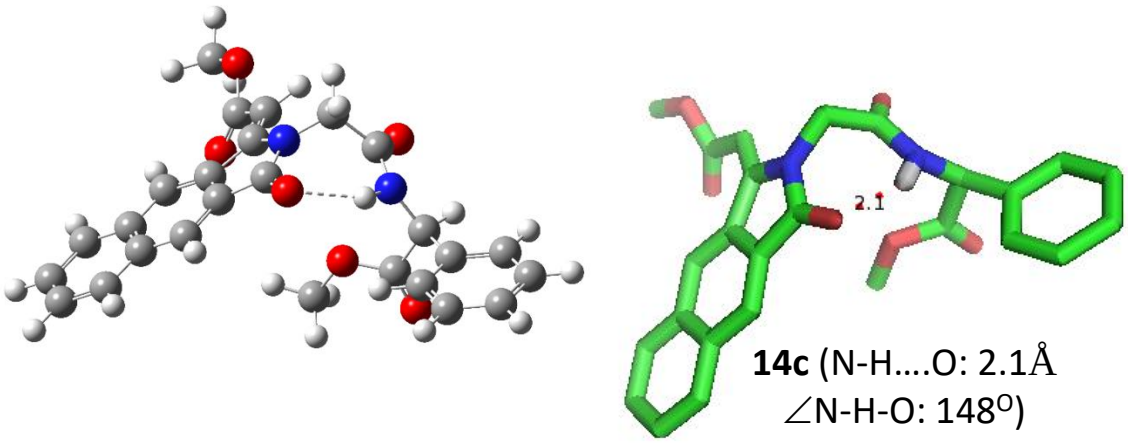


Figure. S97 GMMX results peptide **17a**: Energy Plot and conformation of lowest energy conformer



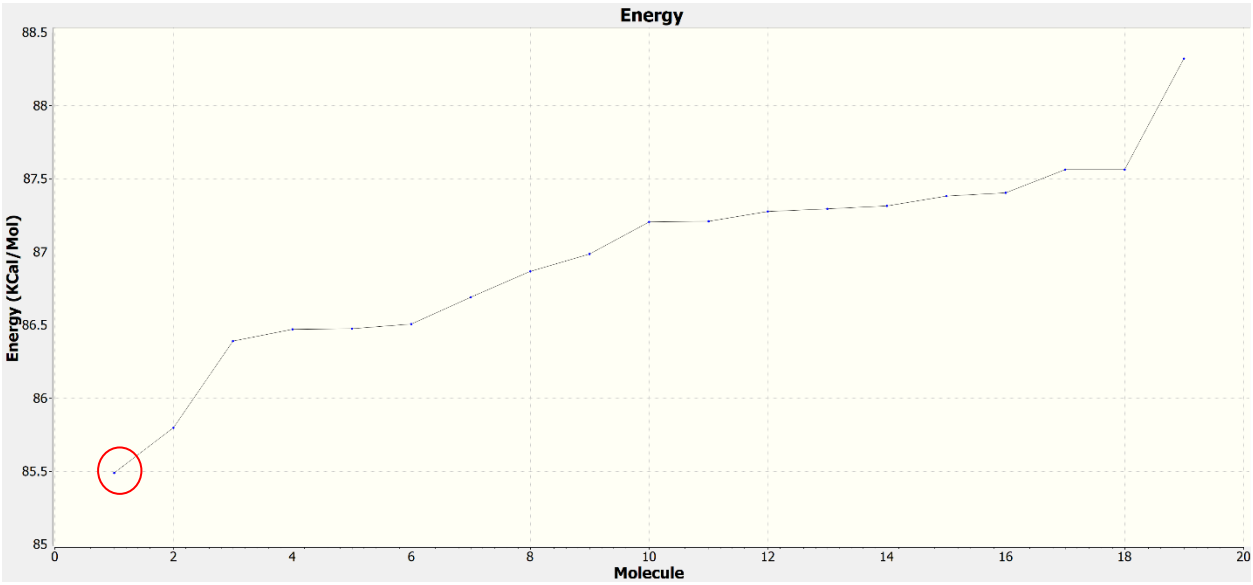
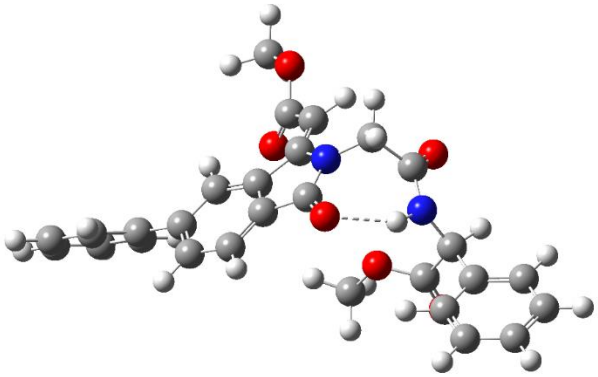
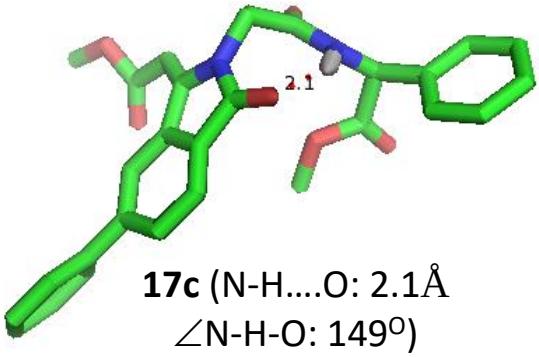


Figure. S98 GMMX results peptide **14c**: Energy Plot and conformation of lowest energy conformer





17c (N-H….O: 2.1Å
∠N-H-O: 149^{O})

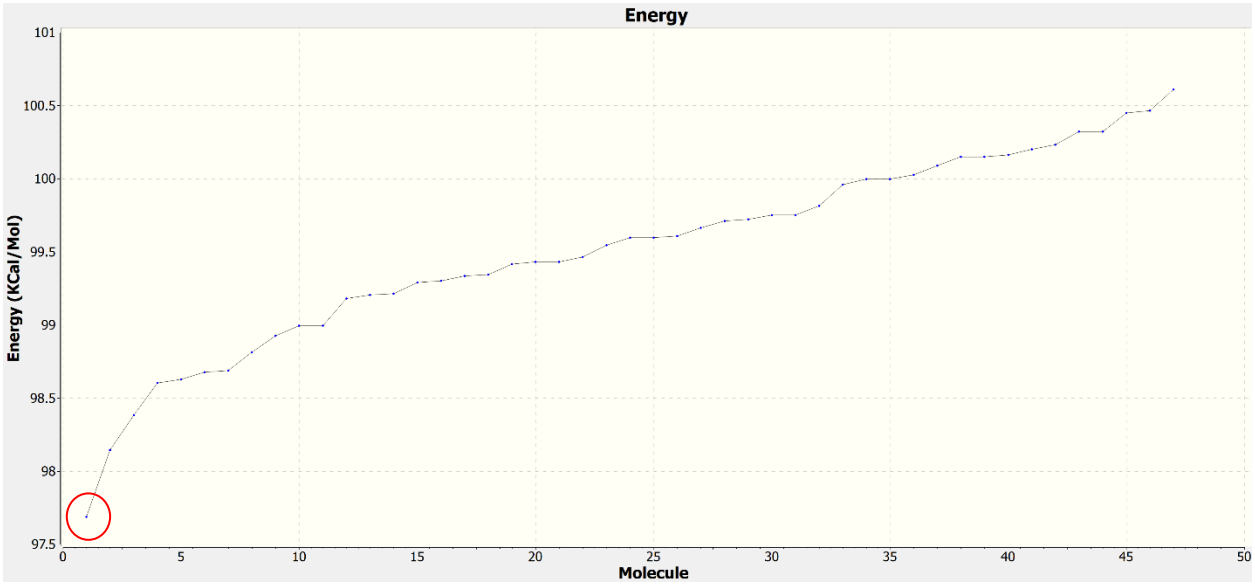
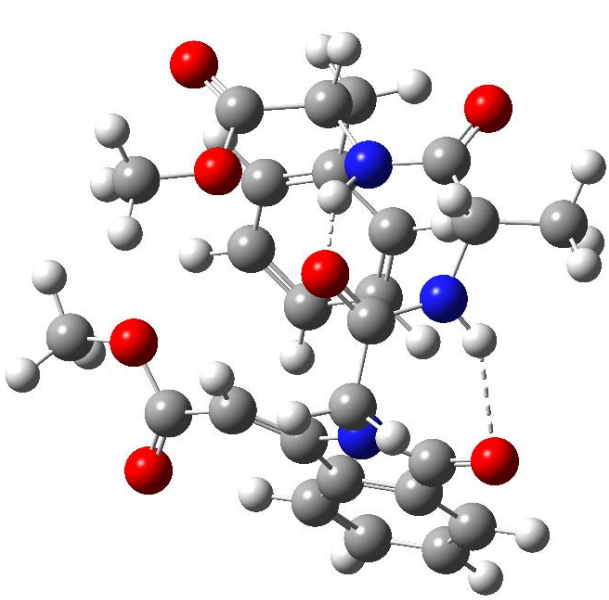
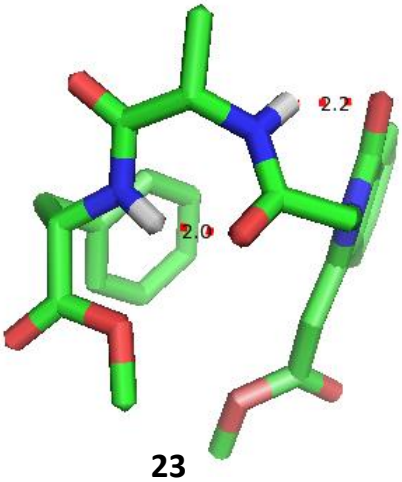


Figure. S99 GMMX results peptide **17c**: Energy Plot and conformation of lowest energy conformer





23
N-H….O: 2.1Å;
∠N-H-O: 150)^{O}
N-H…..O: 2.2Å;
N-H-O: 148^{O})

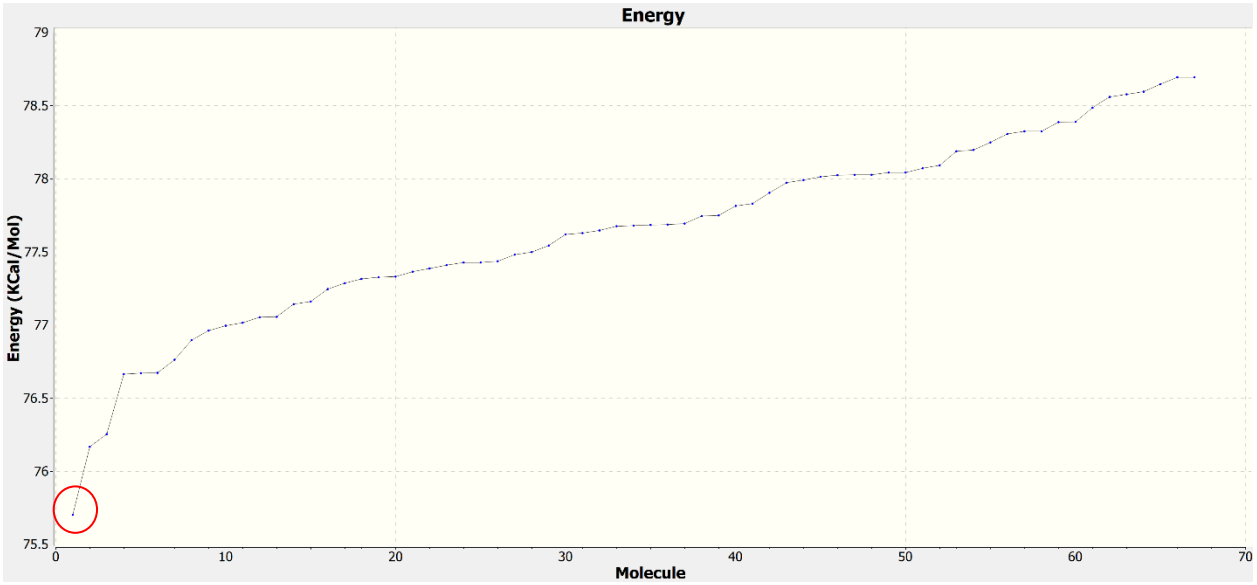
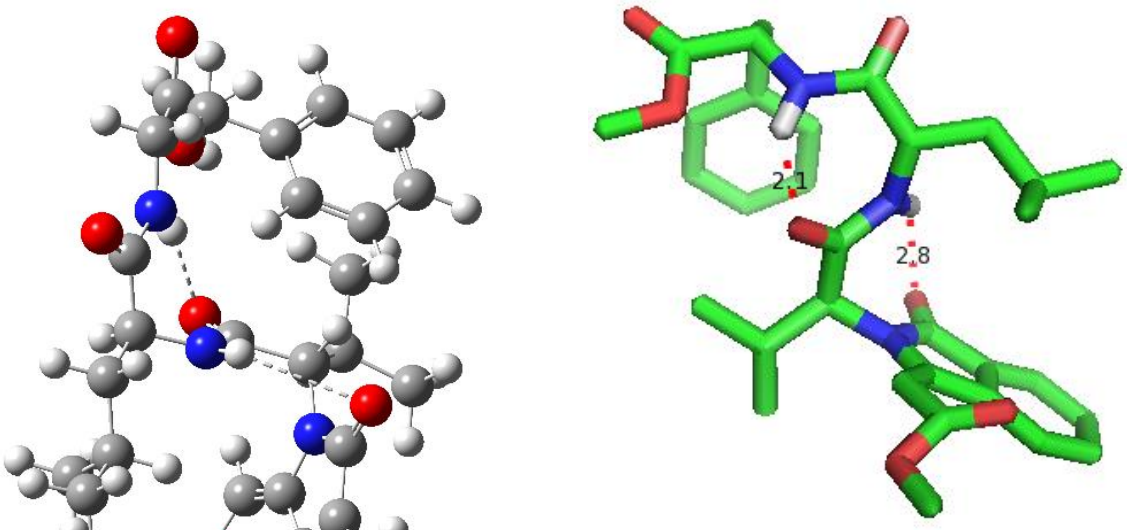


Figure. S100 GMMX results peptide **23**: Energy Plot and conformation of lowest energy conformer



24 (N-H….O: 2.1Å;
∠N-H-O: 147^{O})
N-H….O: 2.8Å ;
∠N-H-O: 136^{O}

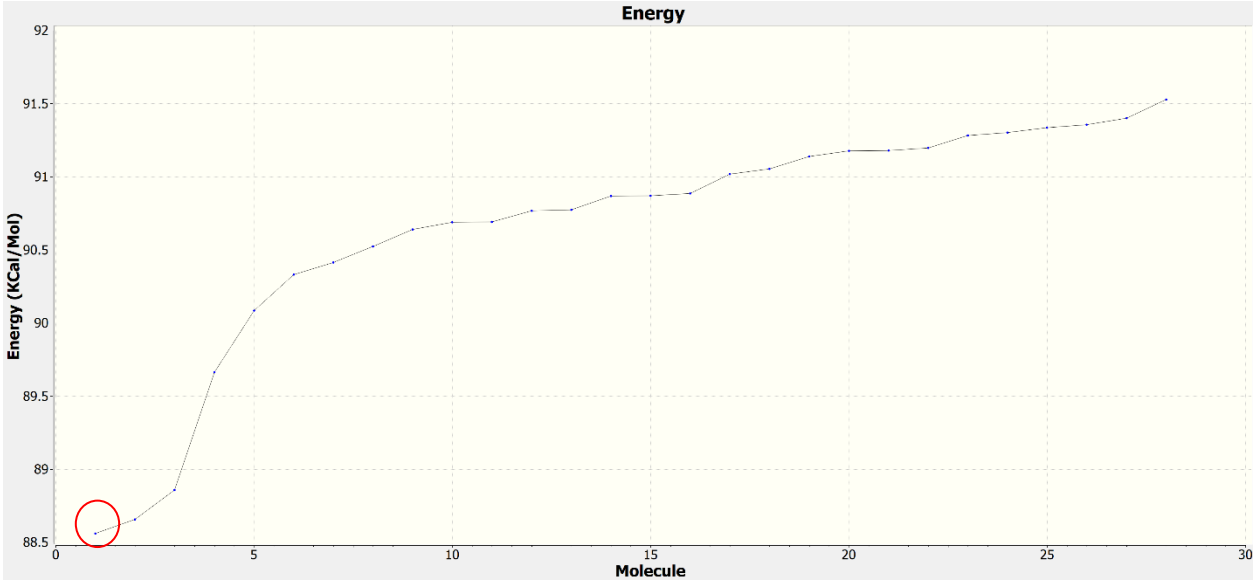


Figure. S101 GMMX results peptide **24**: Energy Plot and conformation of lowest energy conformer