Supporting Information

General Procedures

^{1}H-NMR and ^{13}C-NMR spectra were recorded on a Varian NMR spectrometers operating at 300 MHz or 500 MHz for ^{1}H, and 75 MHz or 125 MHz for ^{13}C. All chemical shifts were measured in $CDCl_3$ and DMSO-d6 as solvents. High resolution mass spectroscopic data were acquired on an Agilent 6220 ESI-TOF with electro spray ionization (ESI) mode.

Figure S1. ^{1}H-NMR of compound **12a**.

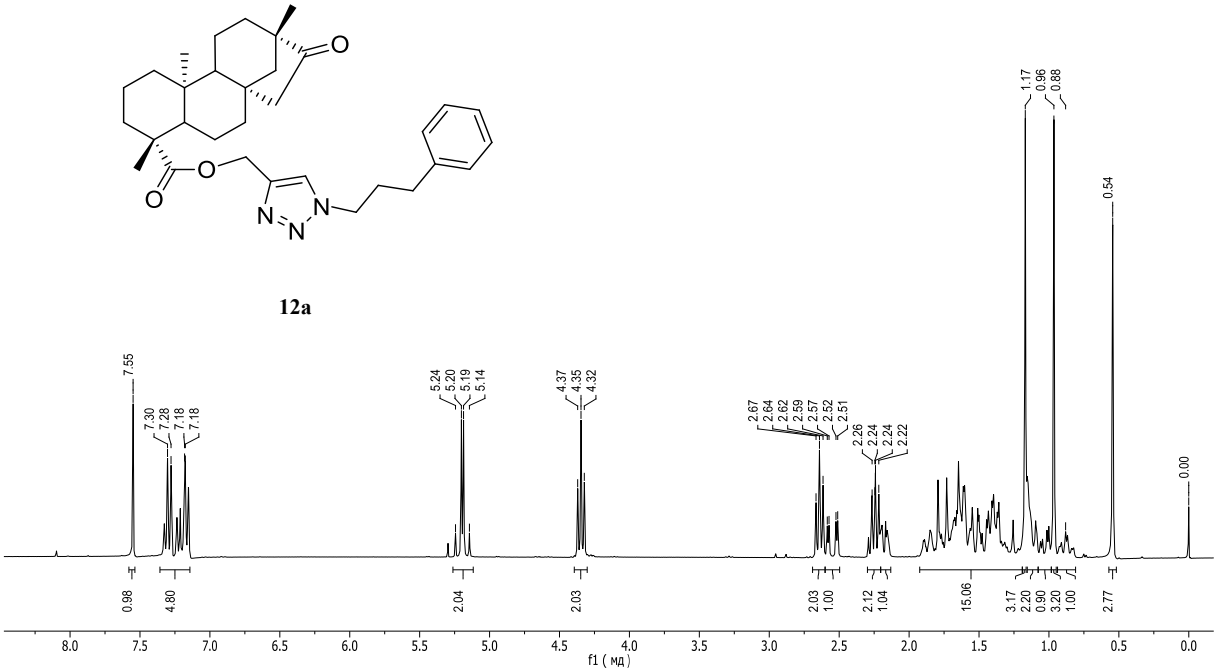
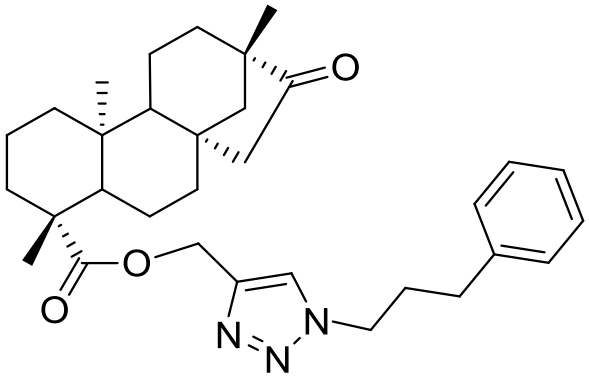


Figure S2. ^{13}C-NMR of compound **12a**.



12a

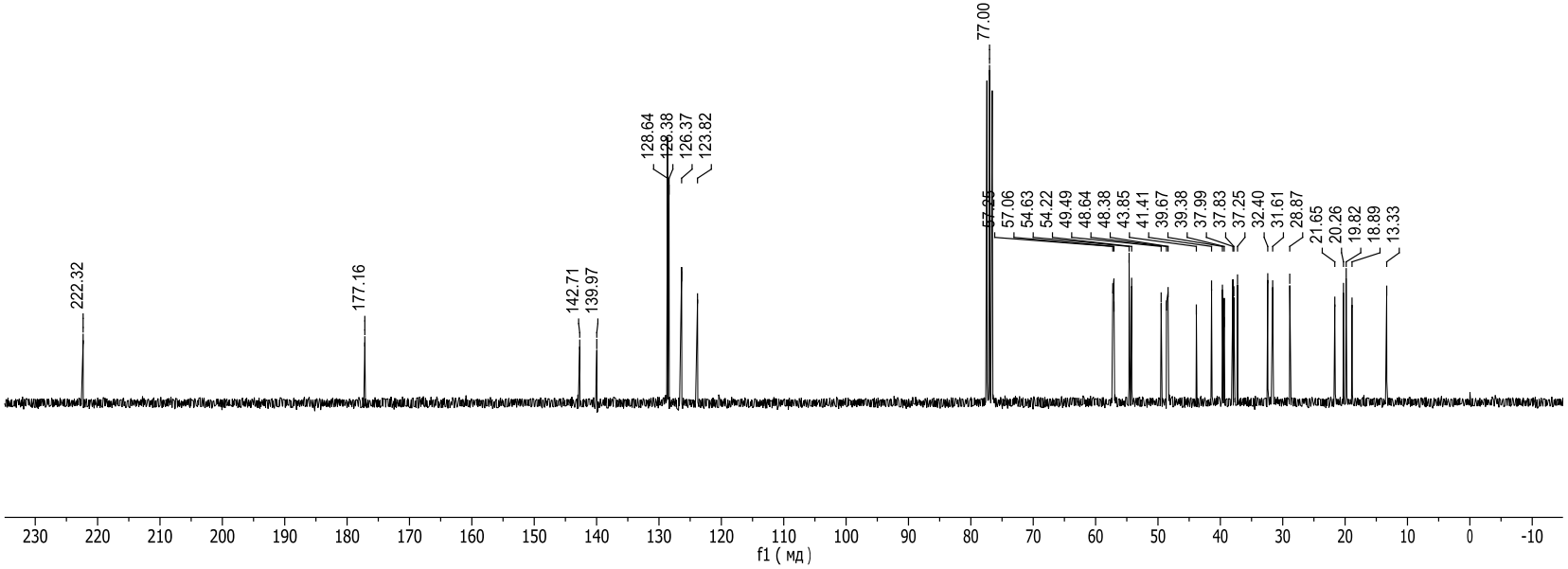
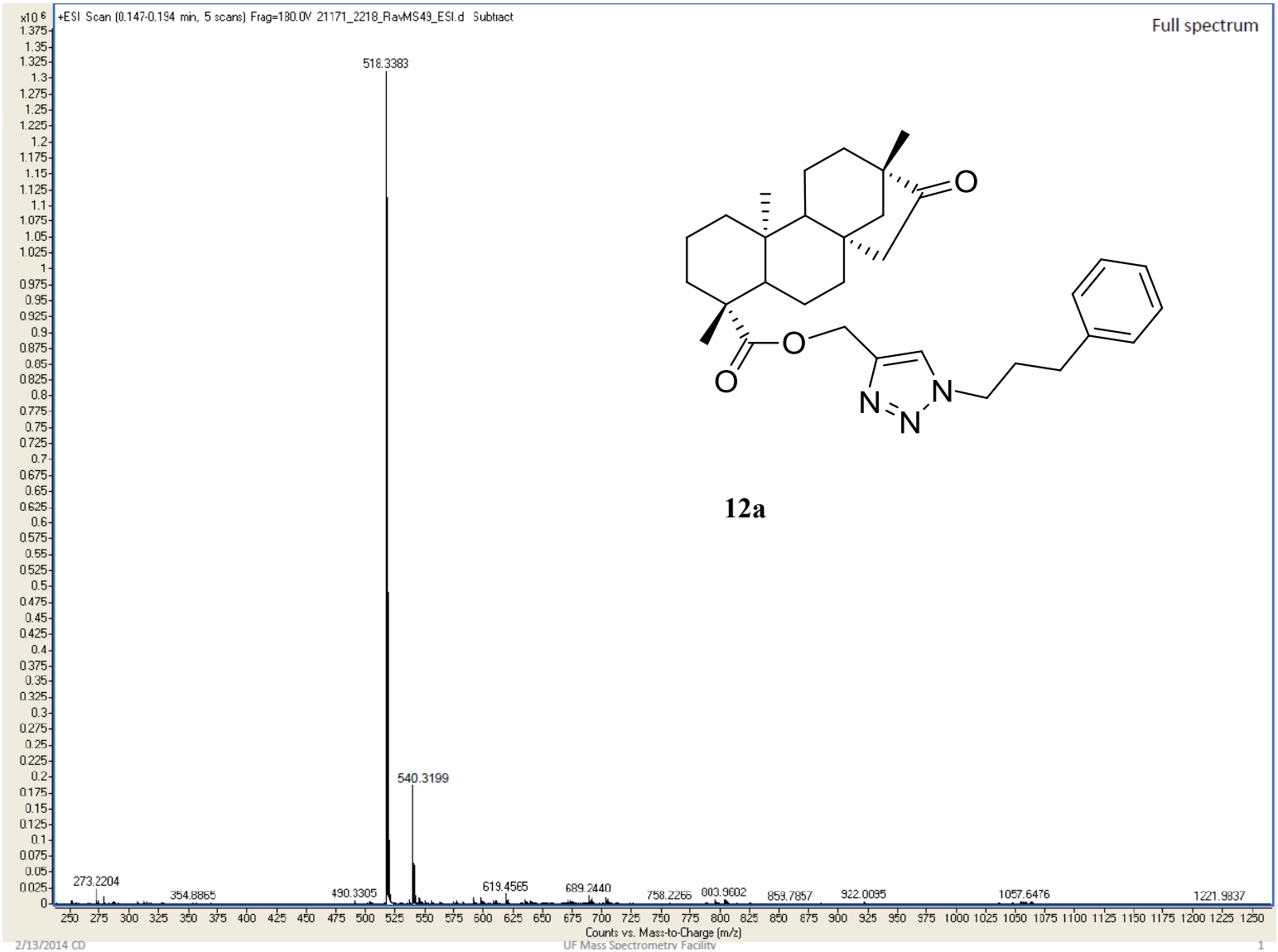


Figure S3. HRMS of compound **12a**.



12a

Figure S4. ^{1}H-NMR of compound **12b**.

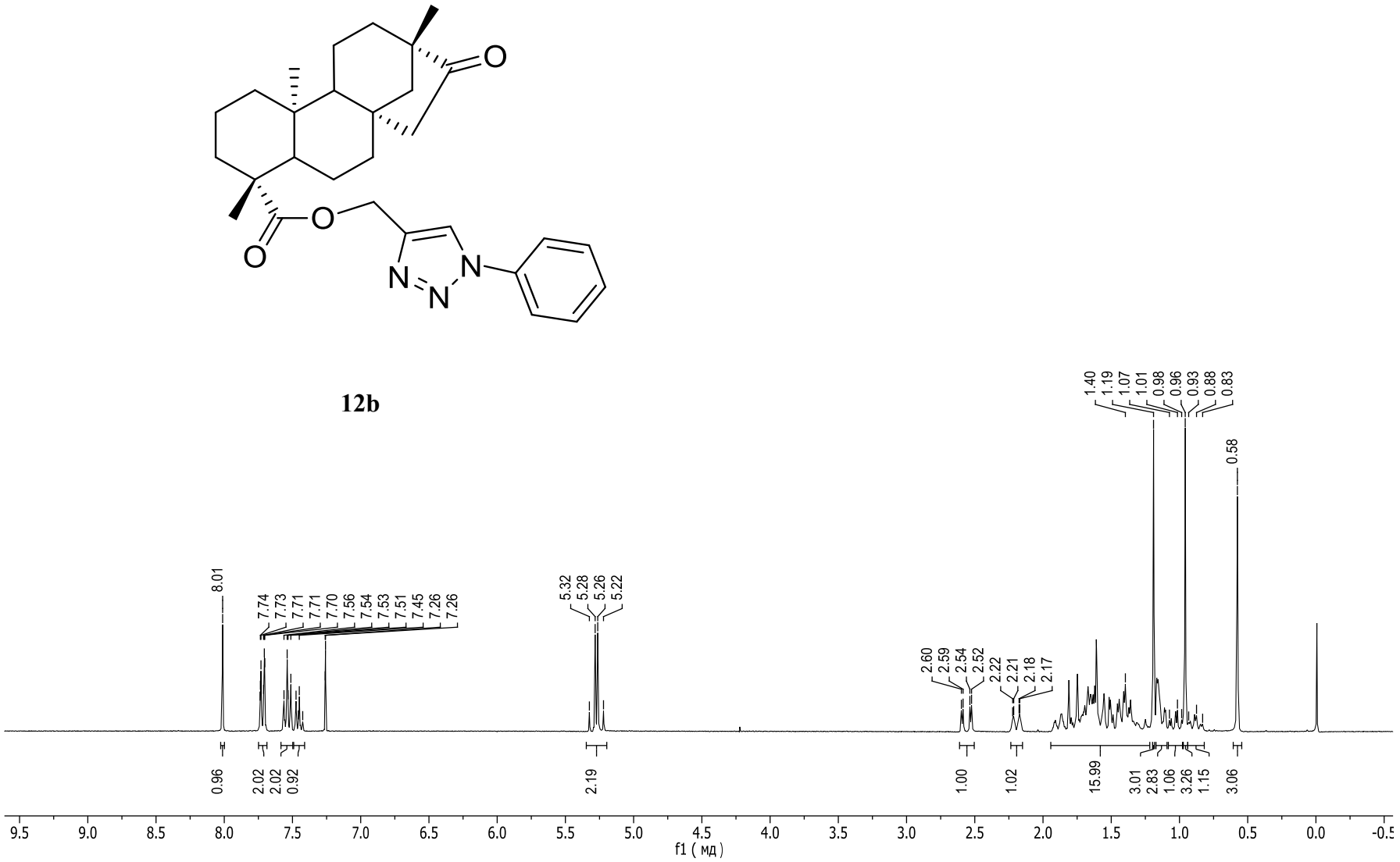


Figure S5. ^{13}C-NMR of compound **12b**.

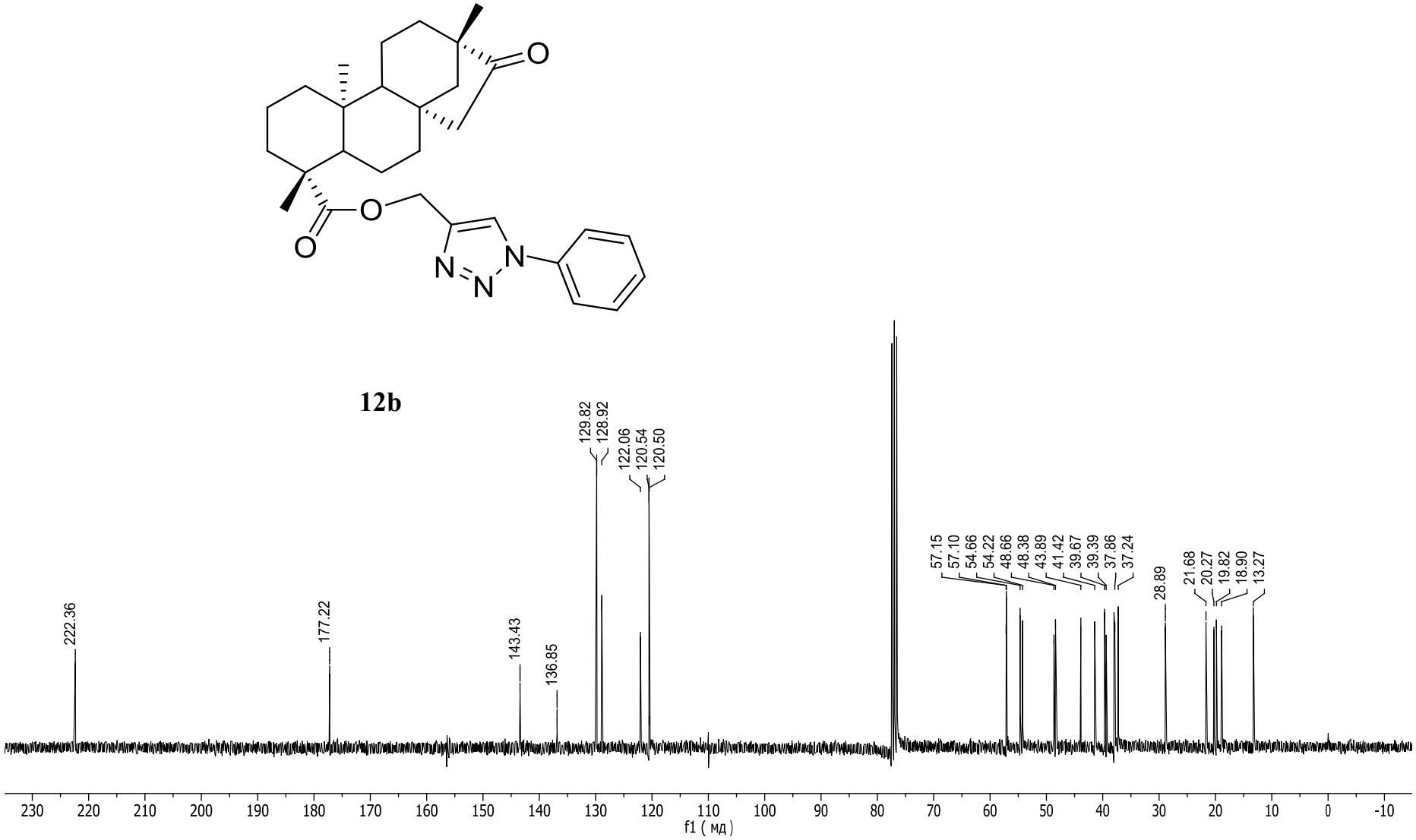
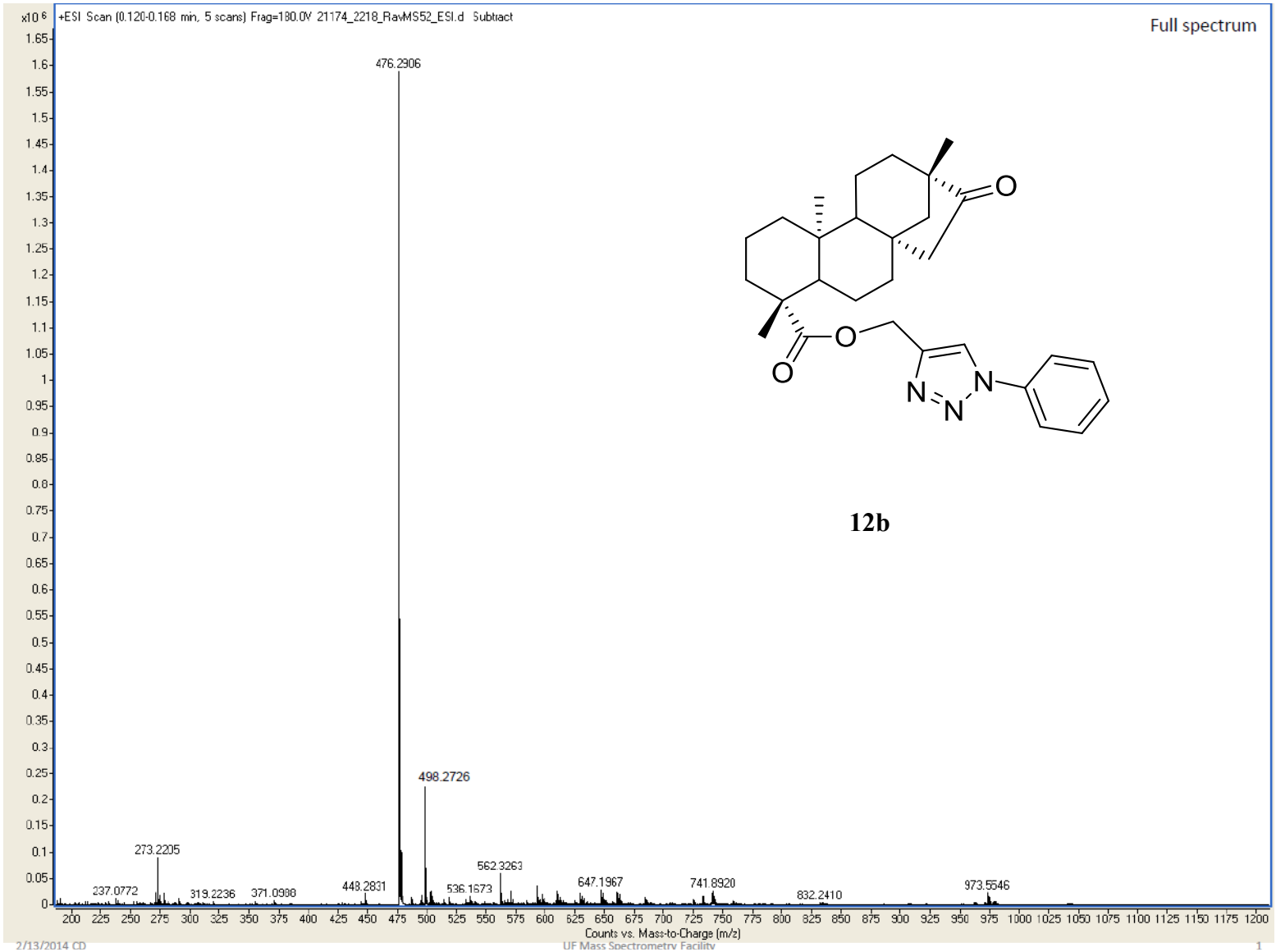


Figure S6. HRMS of compound **12b**.



12b

Figure S7. ^{1}H-NMR of compound **12c**.

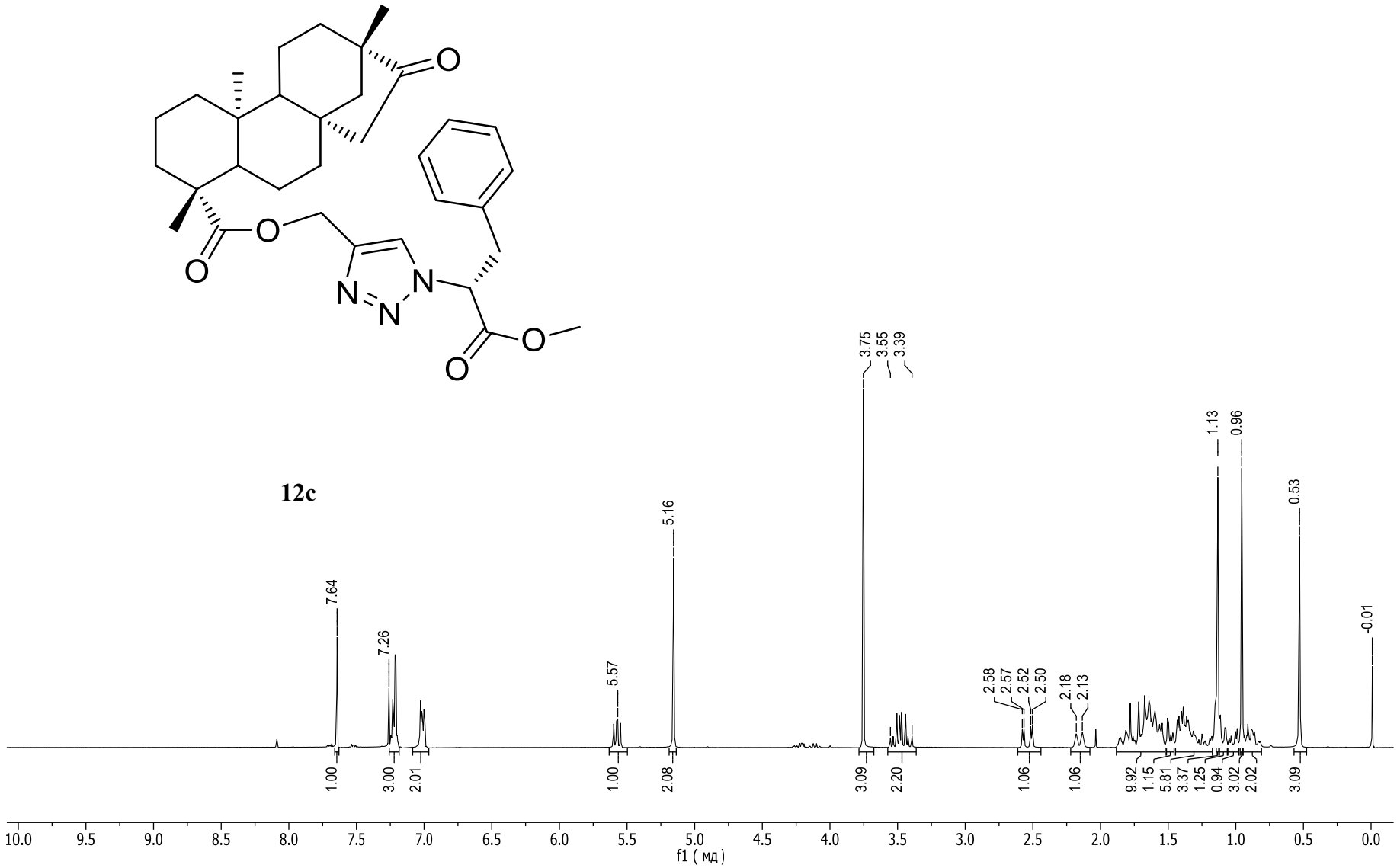


Figure S8. ^{13}C-NMR of compound **12c**.

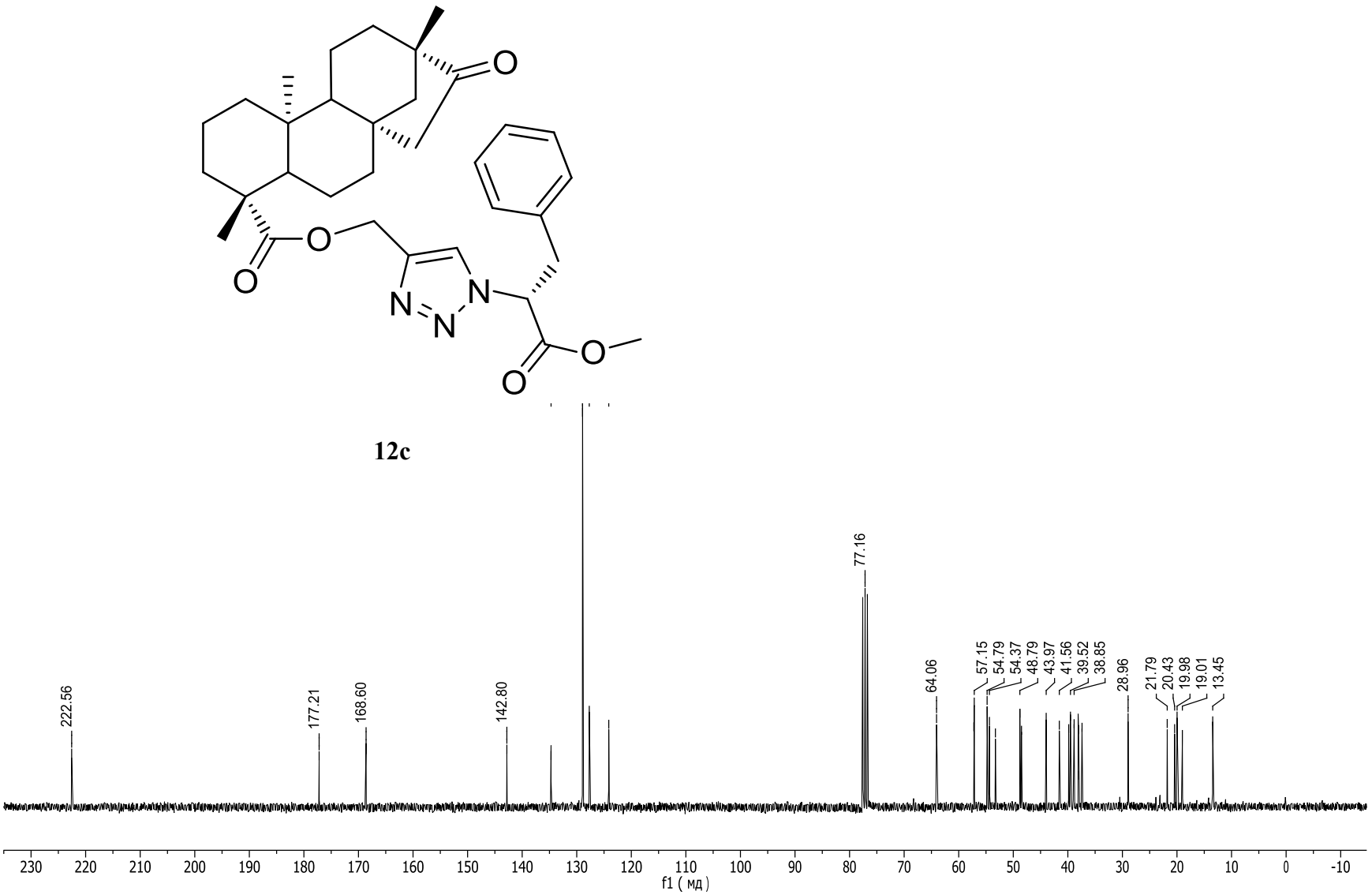


Figure S9. HRMS of compound **12c**.

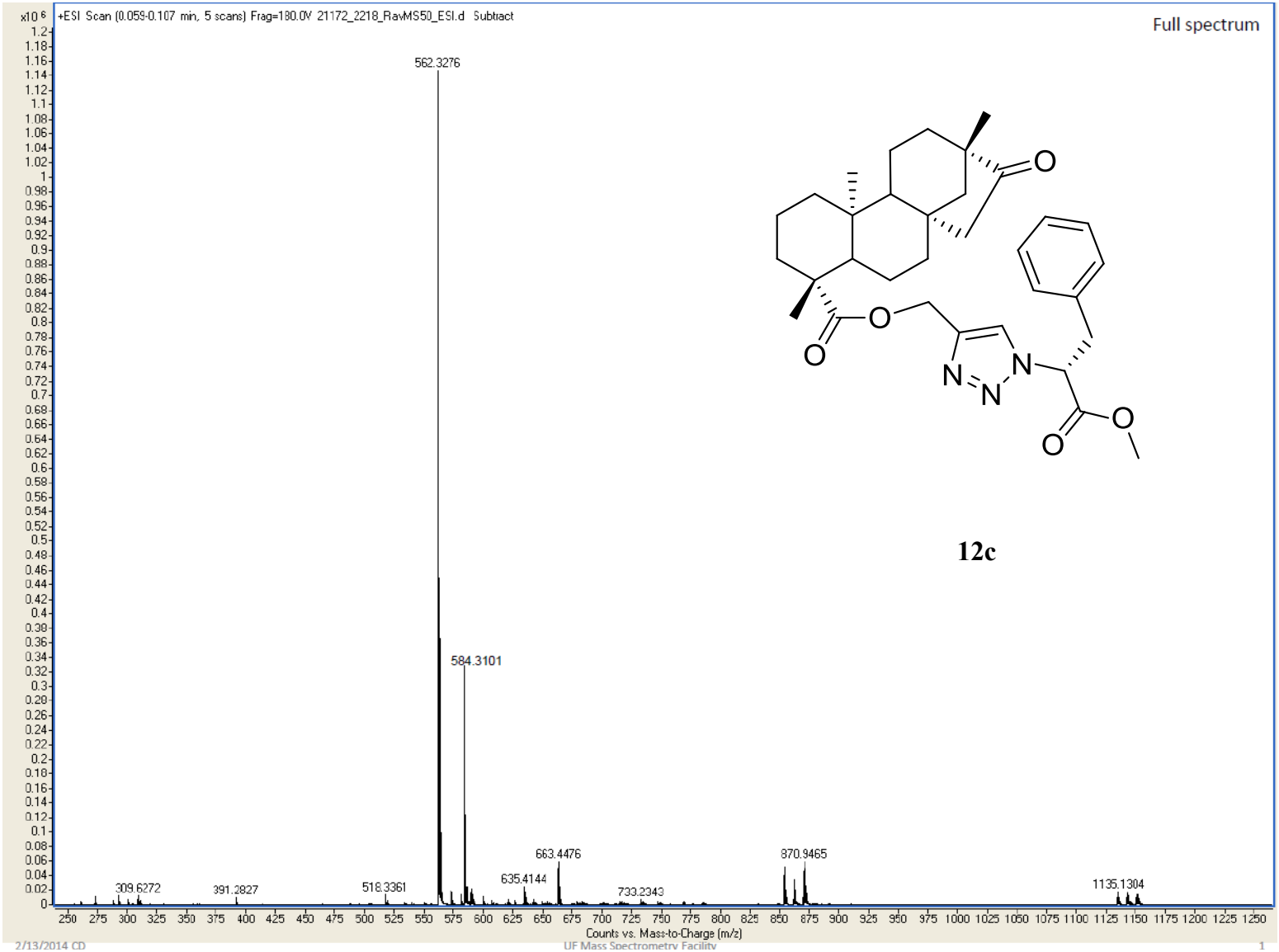


Figure S10. ^{1}H-NMR of compound **12d**.

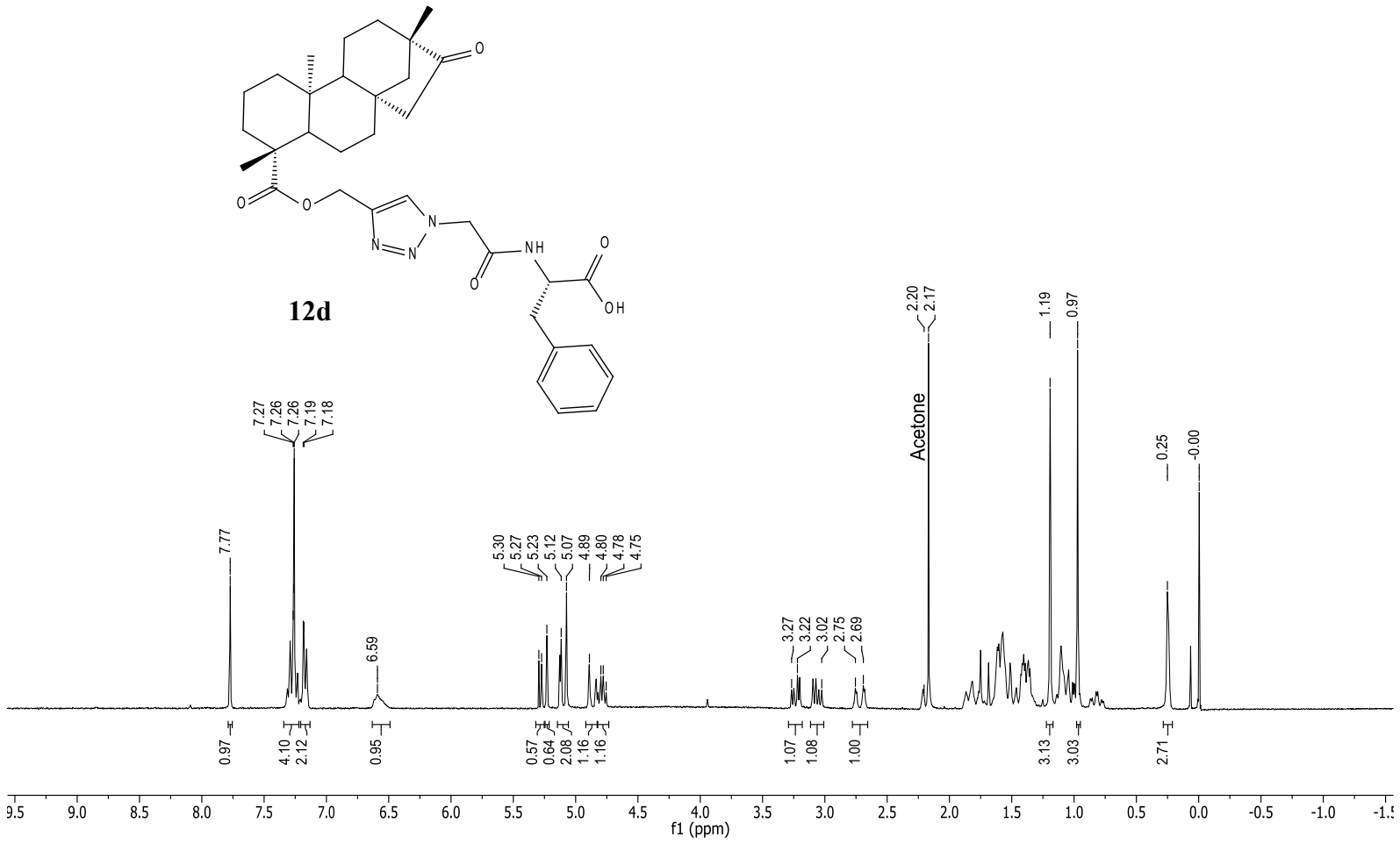


Figure S11. ^{13}C-NMR of compound **12d**.

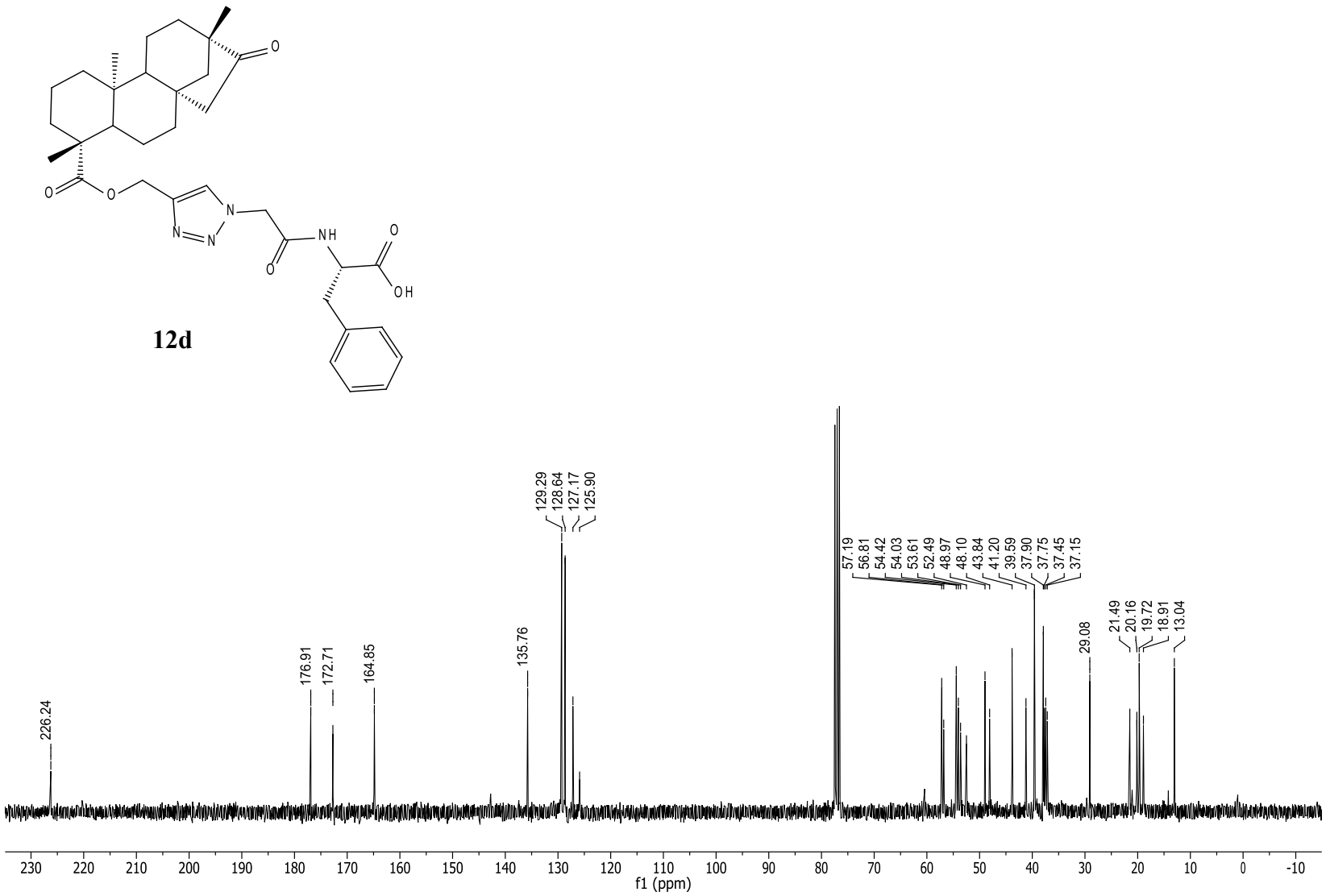


Figure S12. HRMS of compound **12d**.

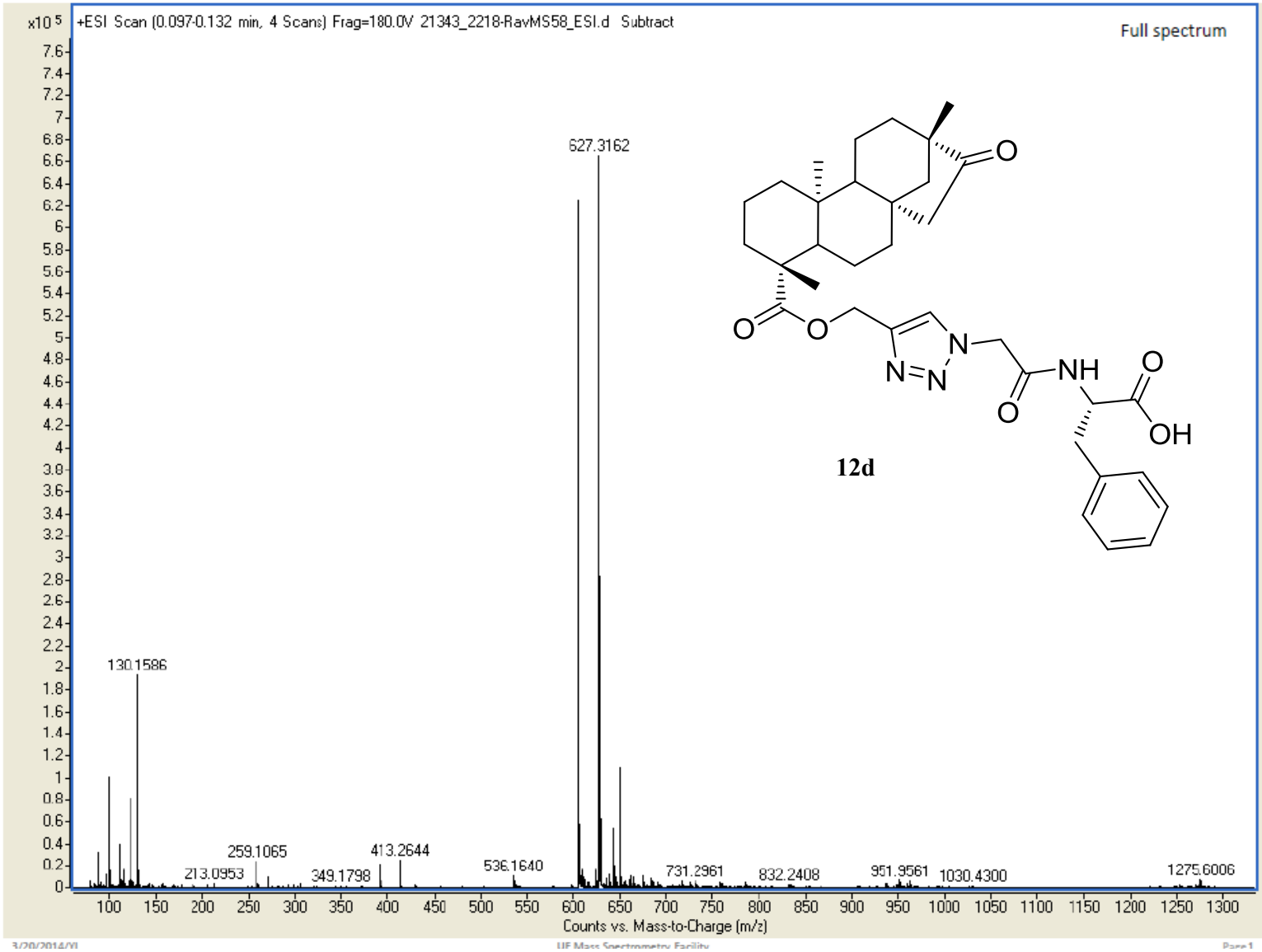


Figure S13. ^{1}H-NMR of compound **13a**.

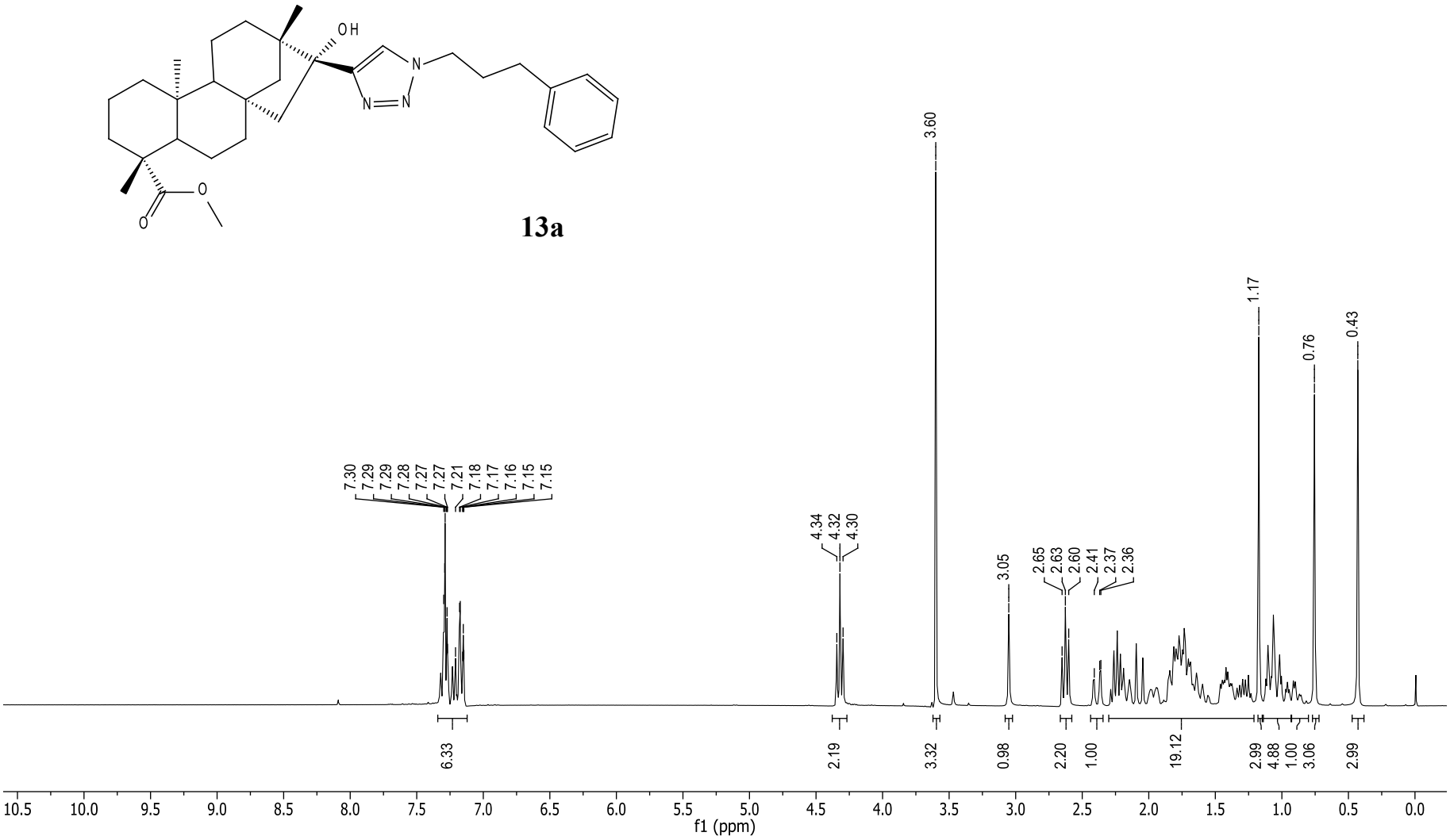


Figure S14. ^{13}C-NMR of compound **13a**.

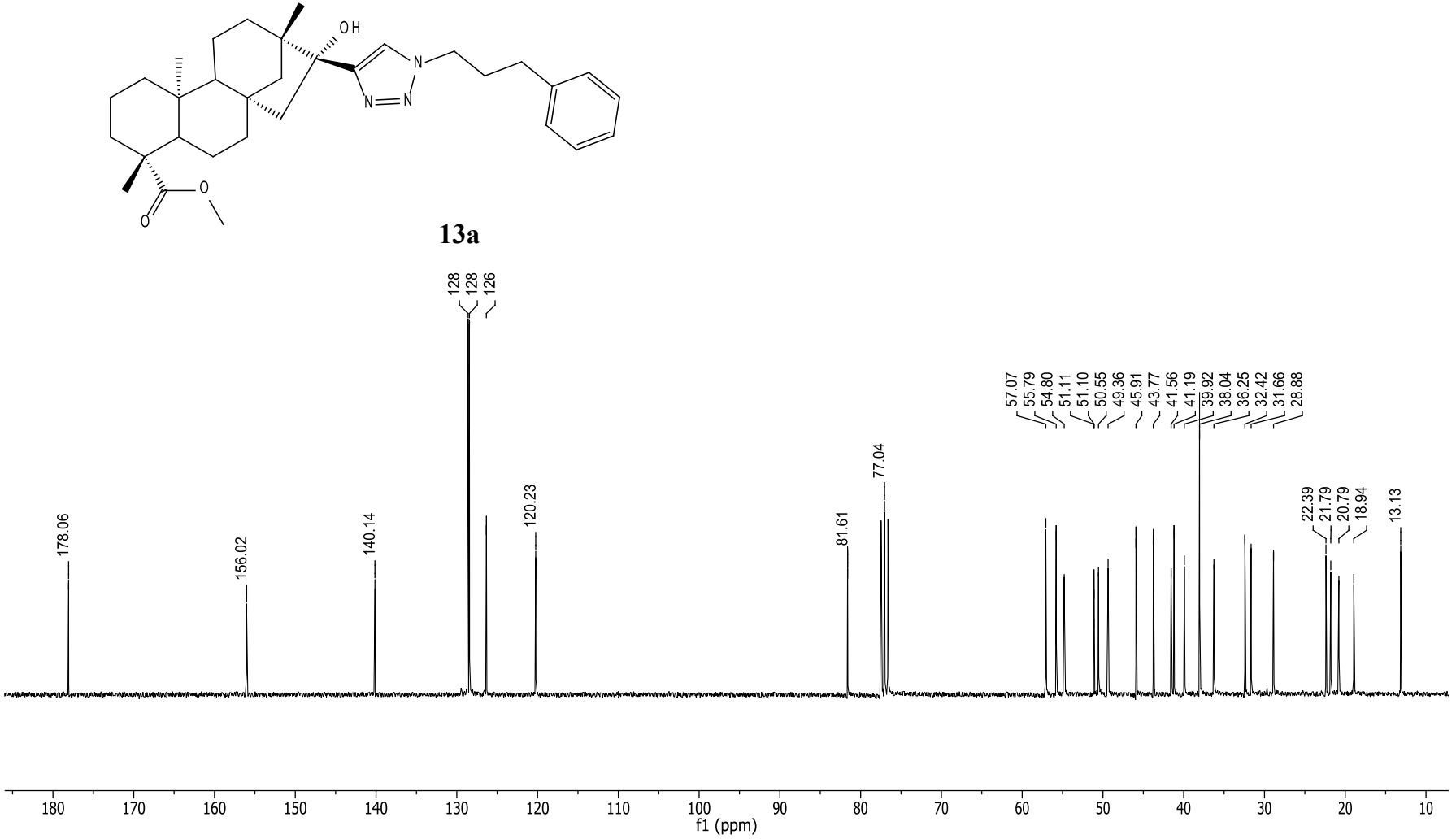
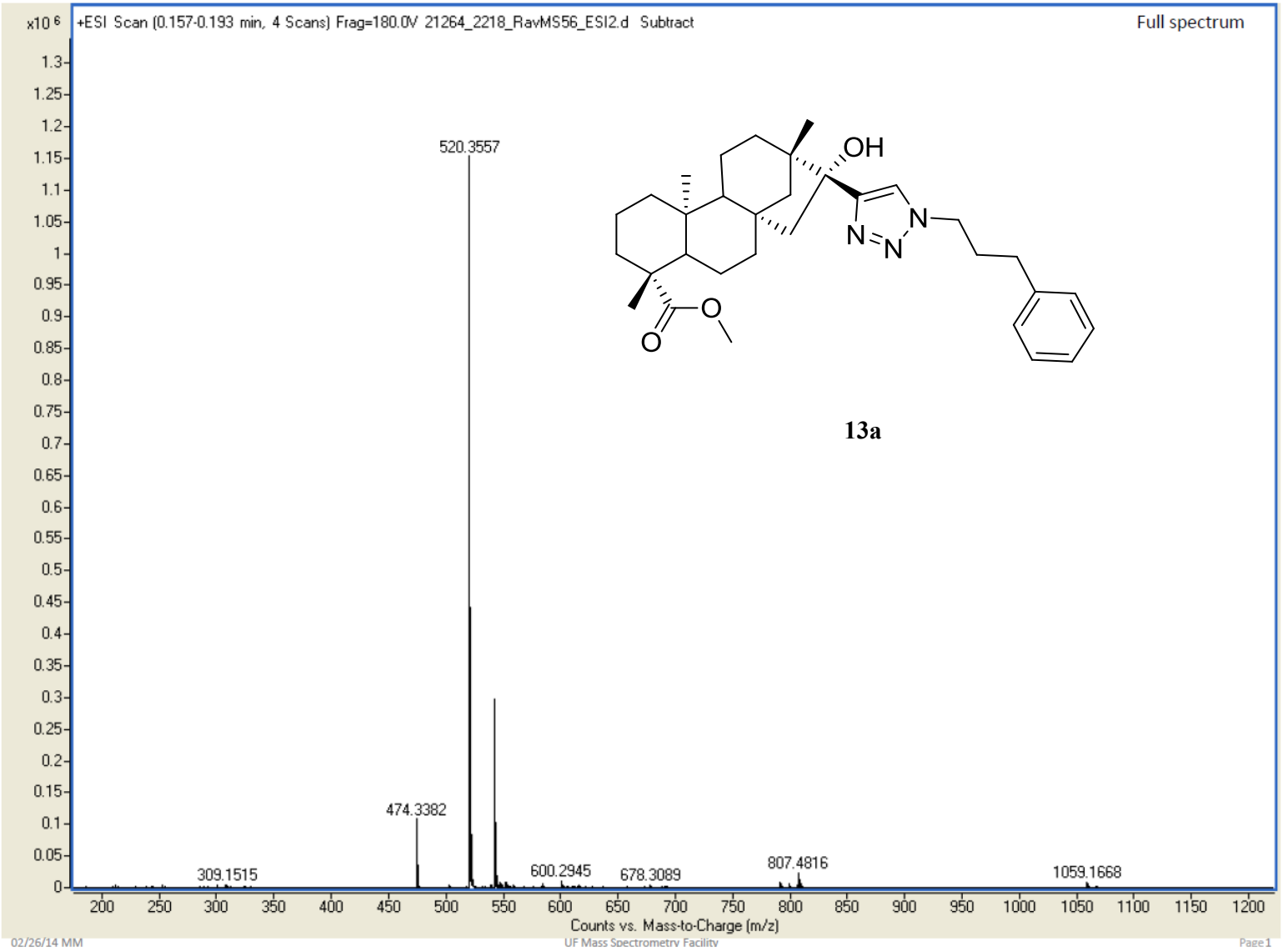


Figure S15. HRMS of compound **13a**.



13a

Figure S16. ^{1}H-NMR of compound **13b**.

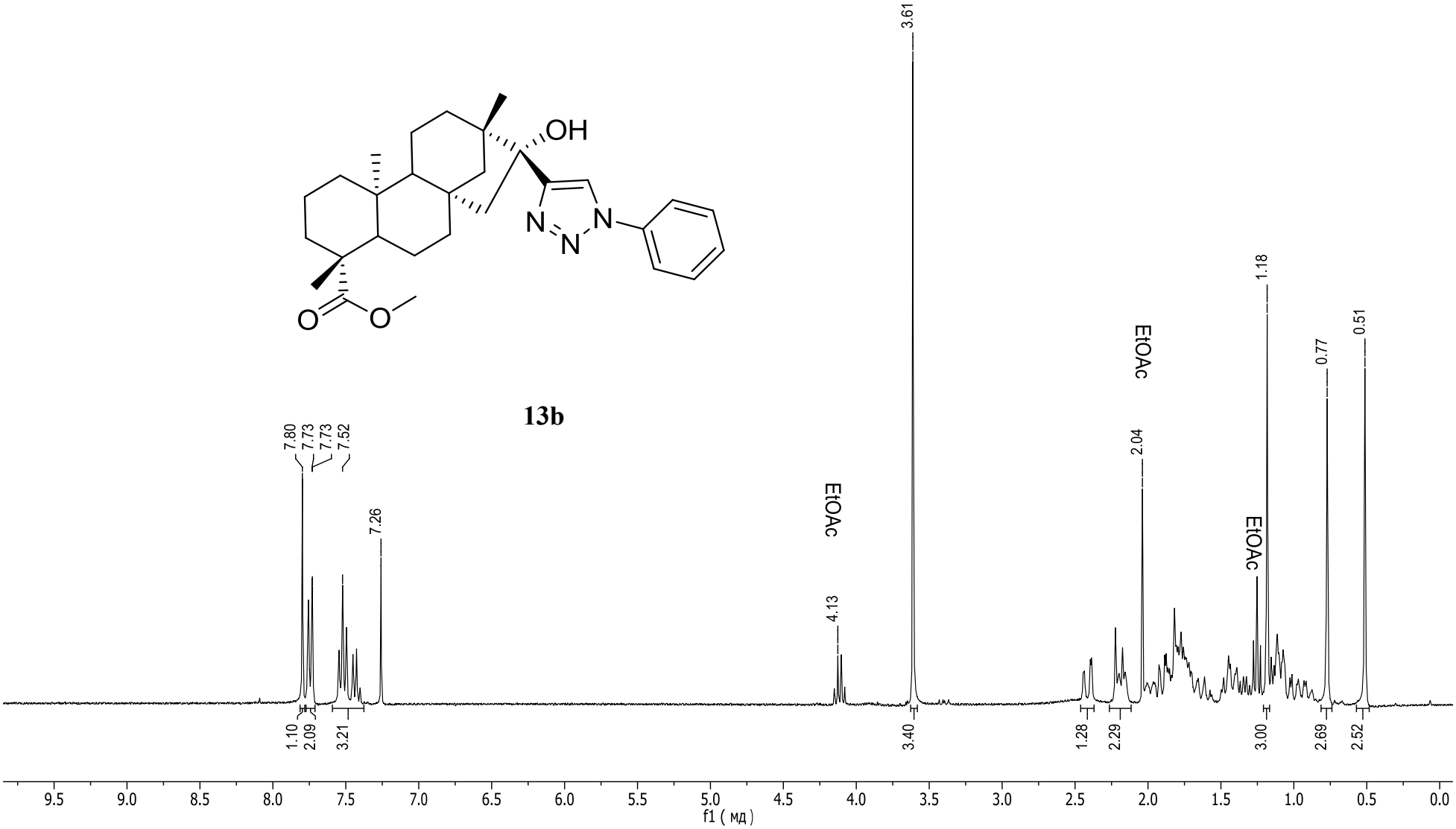


Figure S17. ^{13}C-NMR of compound **13b**.

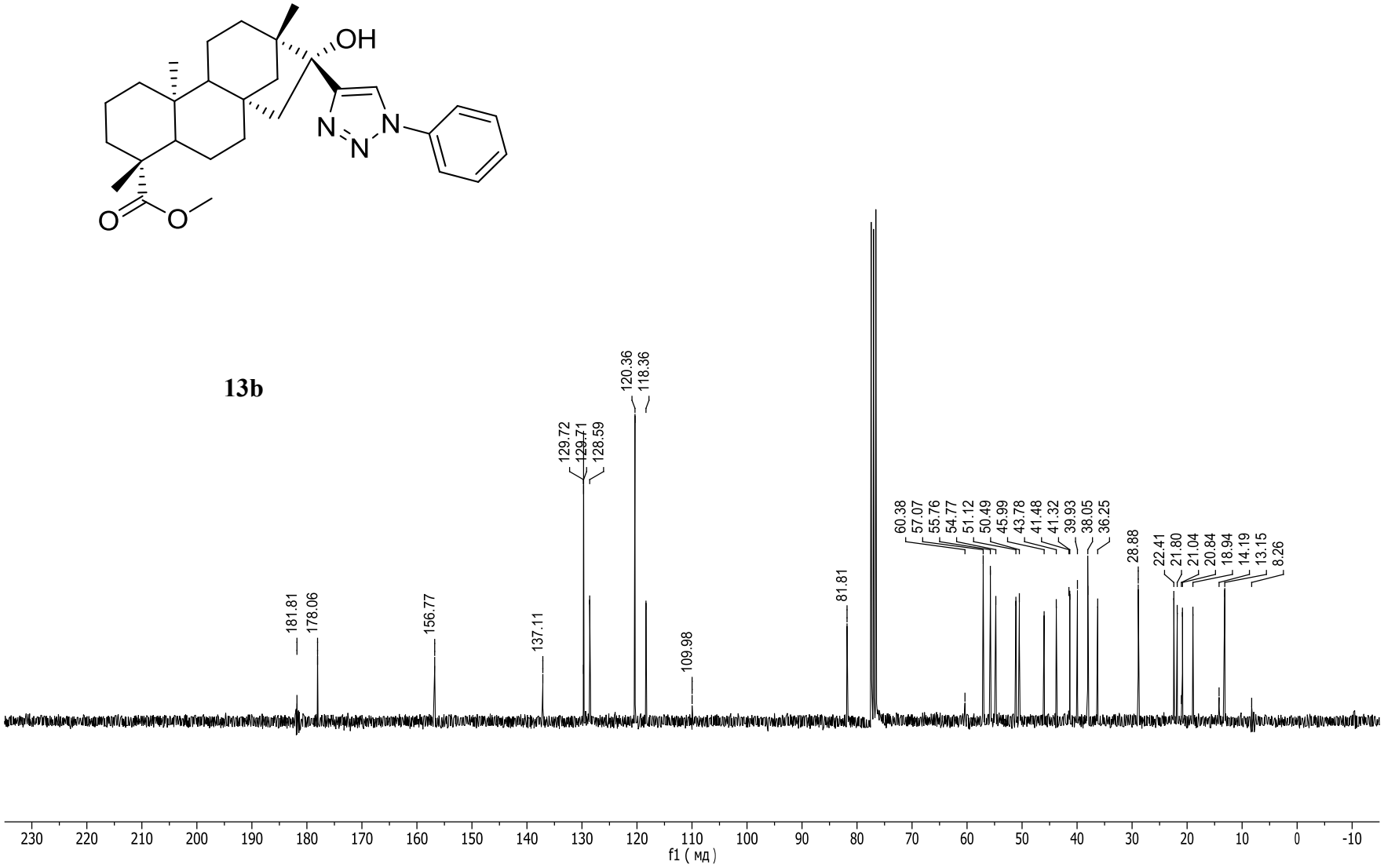


Figure S18. HRMS of compound **13b**.

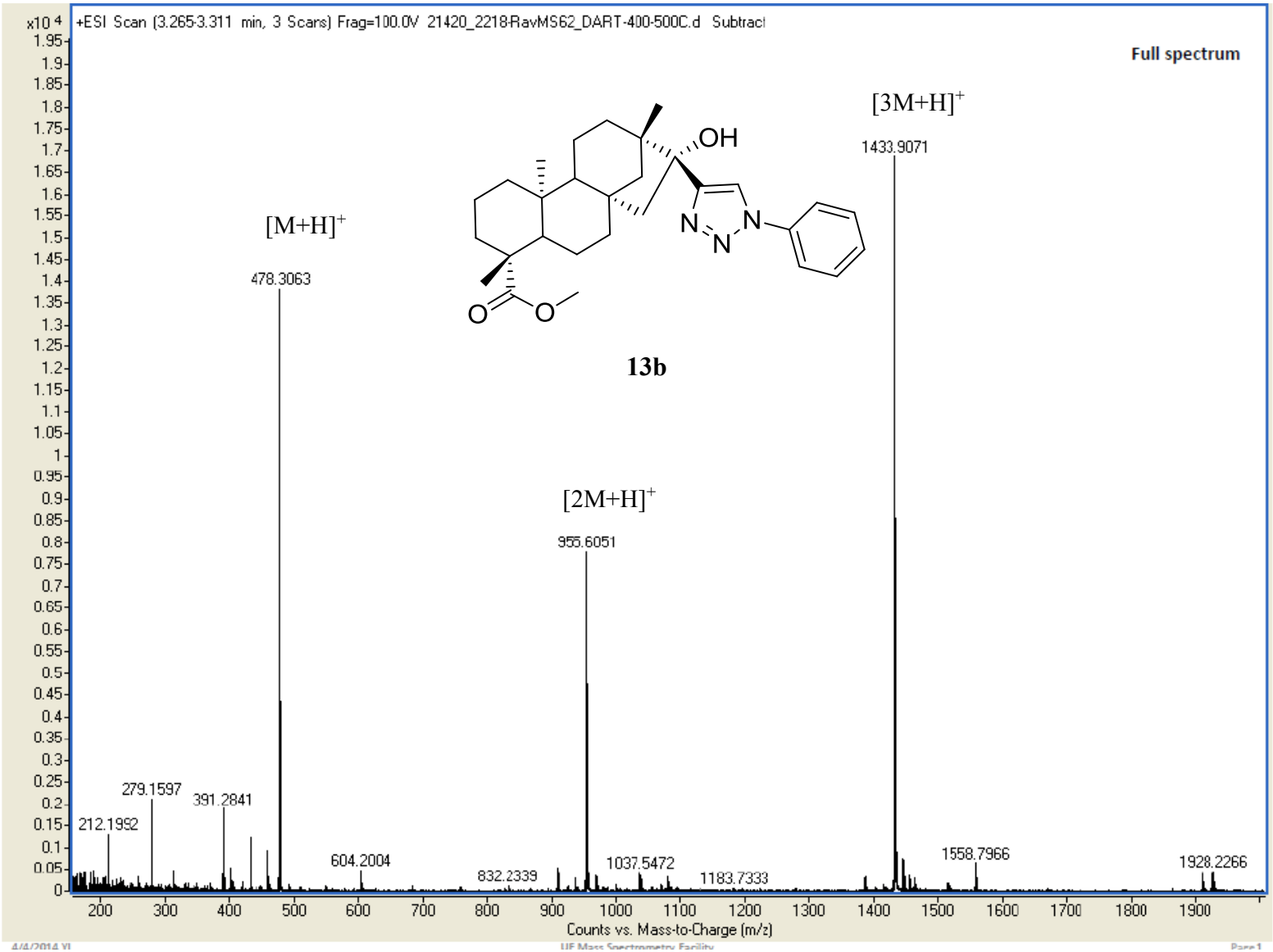


Figure S19. ^{1}H-NMR of compound **13c**.

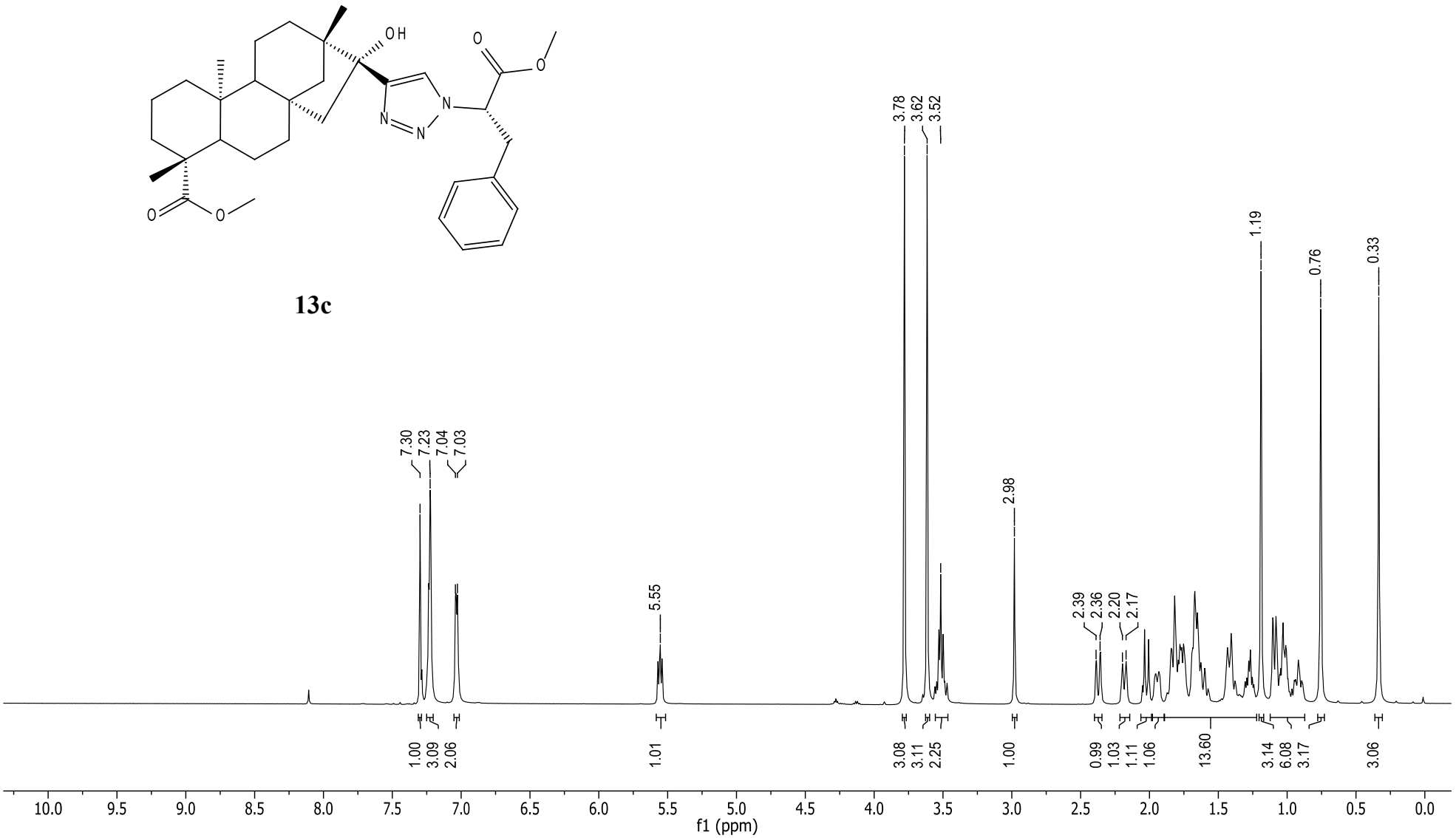


Figure S20. ^{13}C-NMR of compound **13c**.

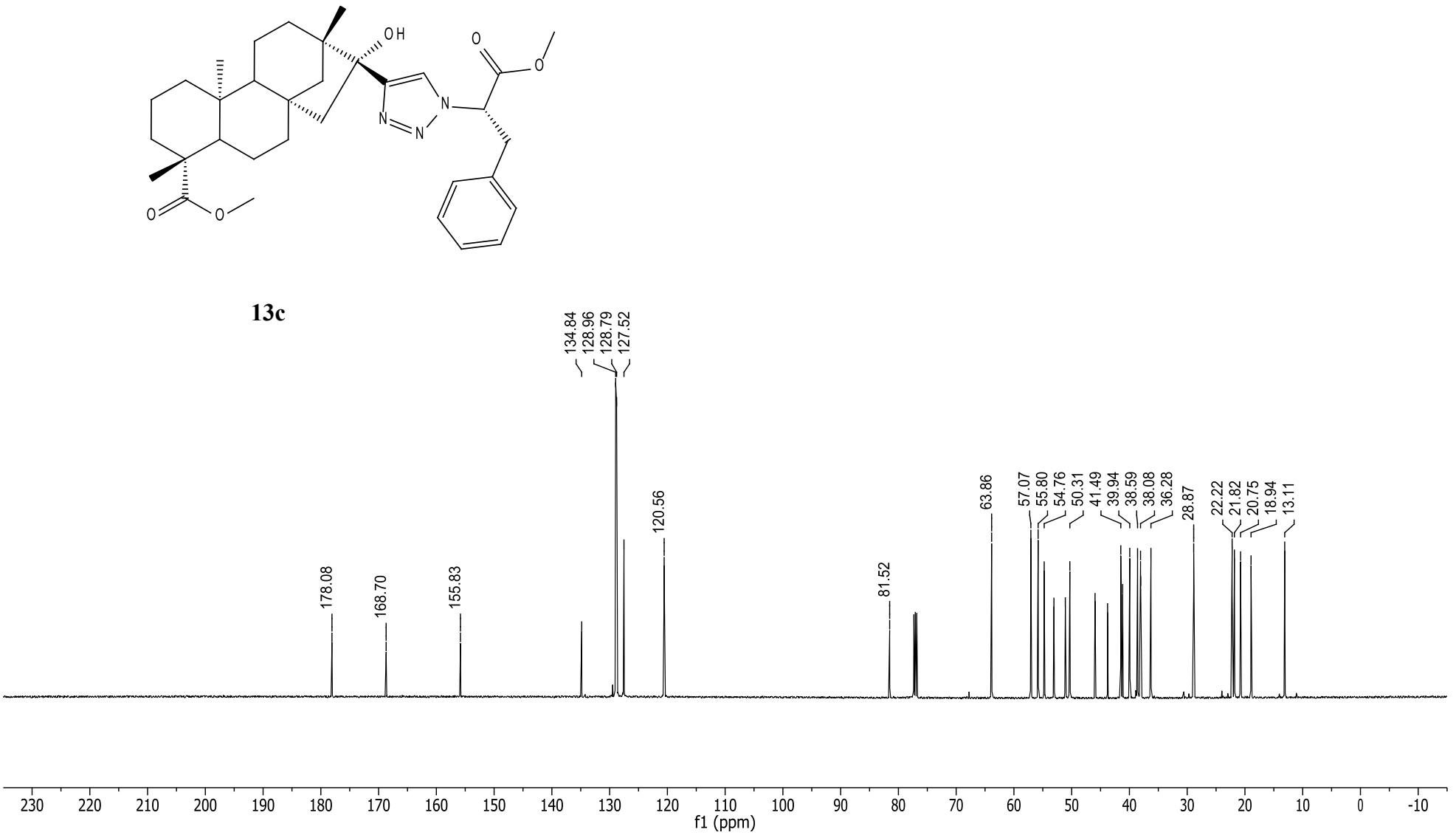
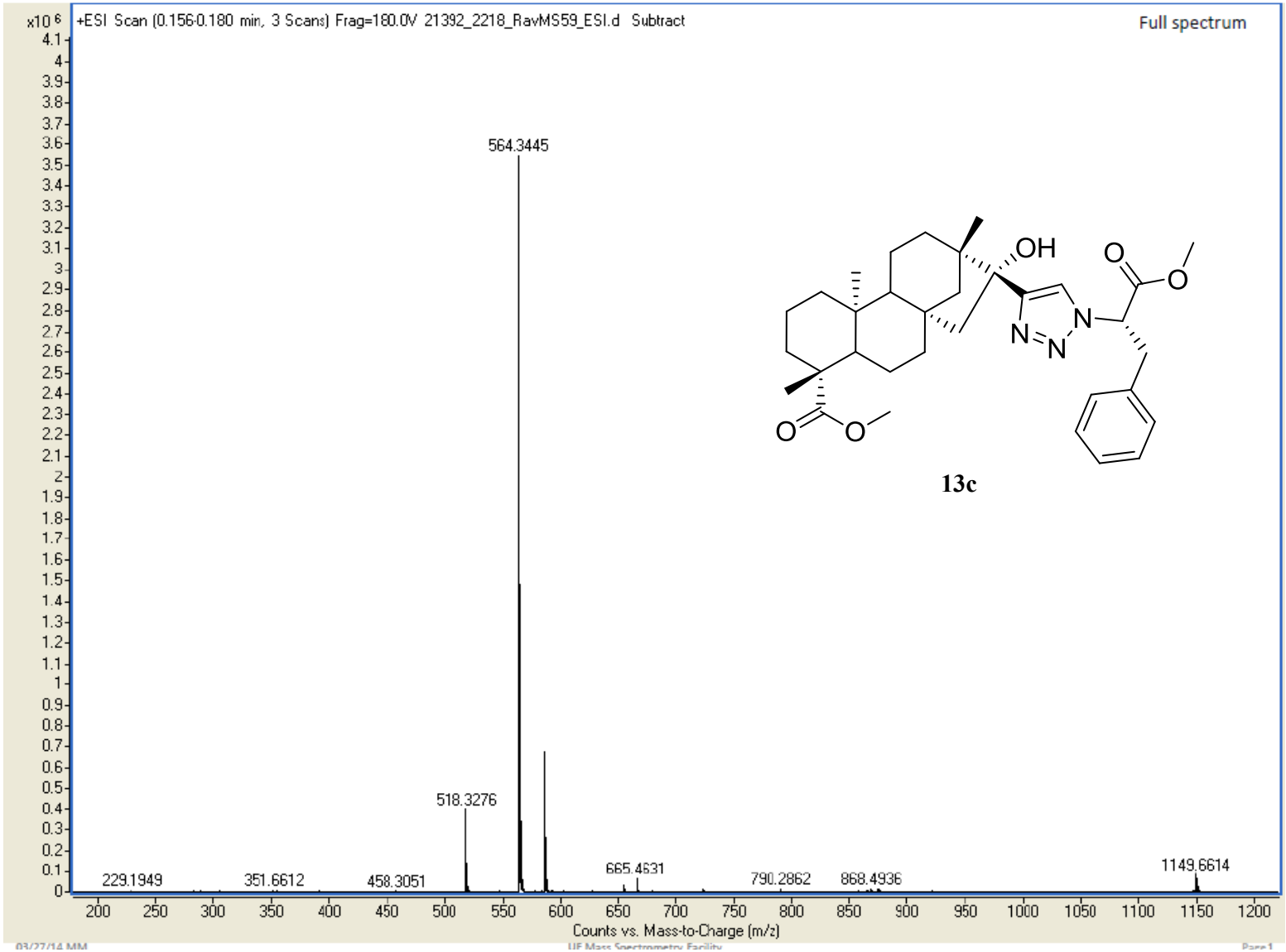


Figure S21. HRMS of compound **13c**.



13c

Figure S22. [1]H-NMR of compound **13d**.

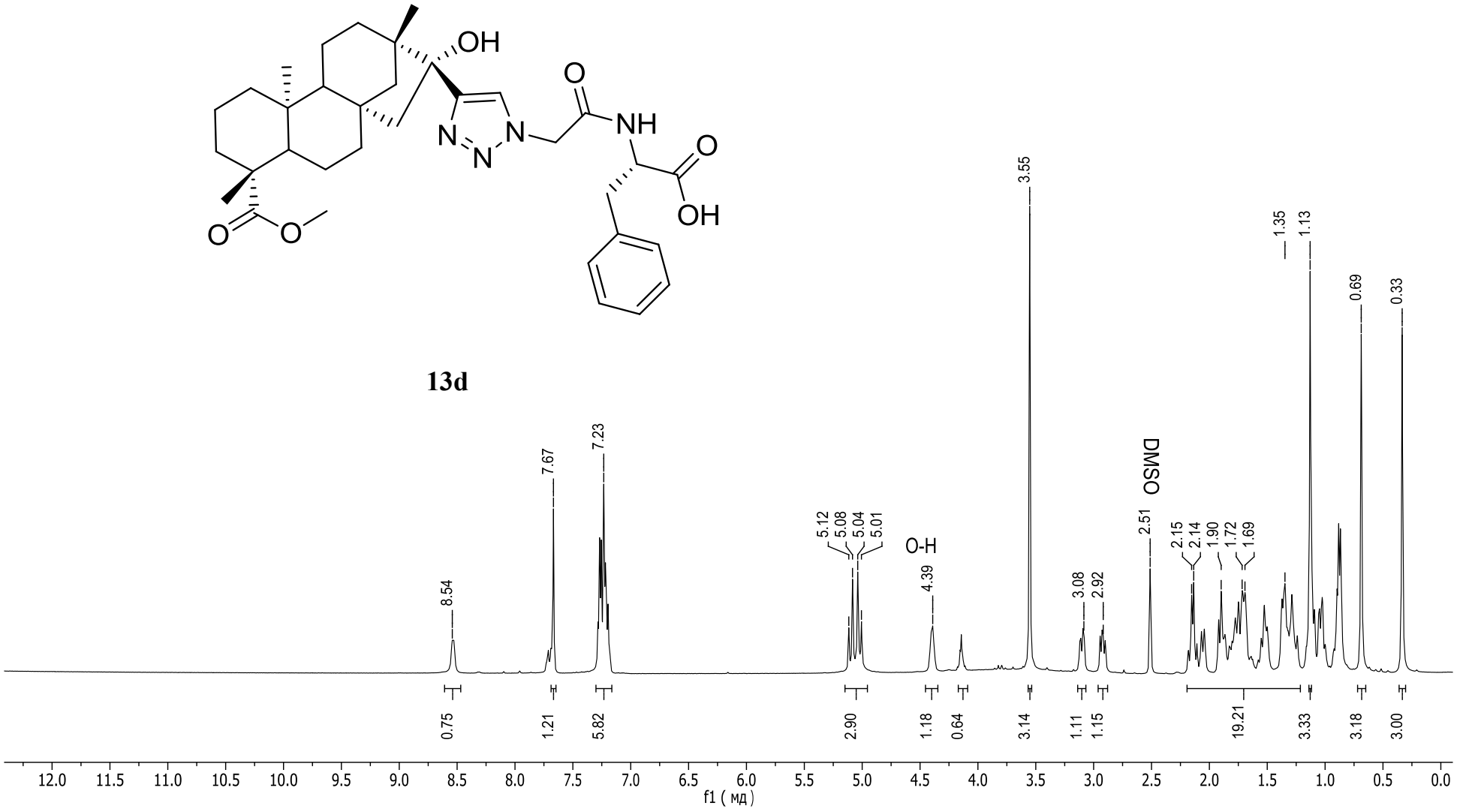


Figure S23. ^{13}C-NMR of compound **13d**.

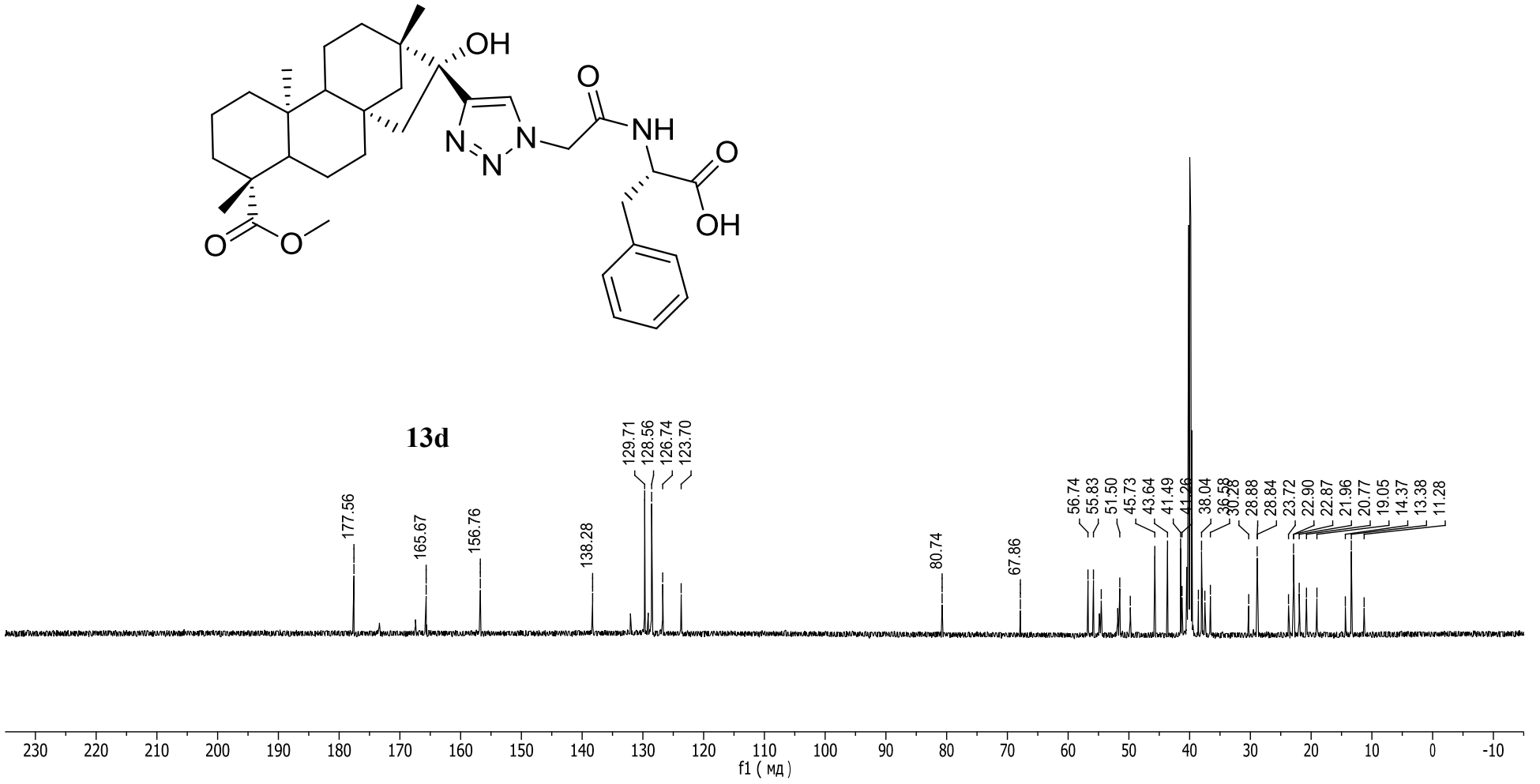
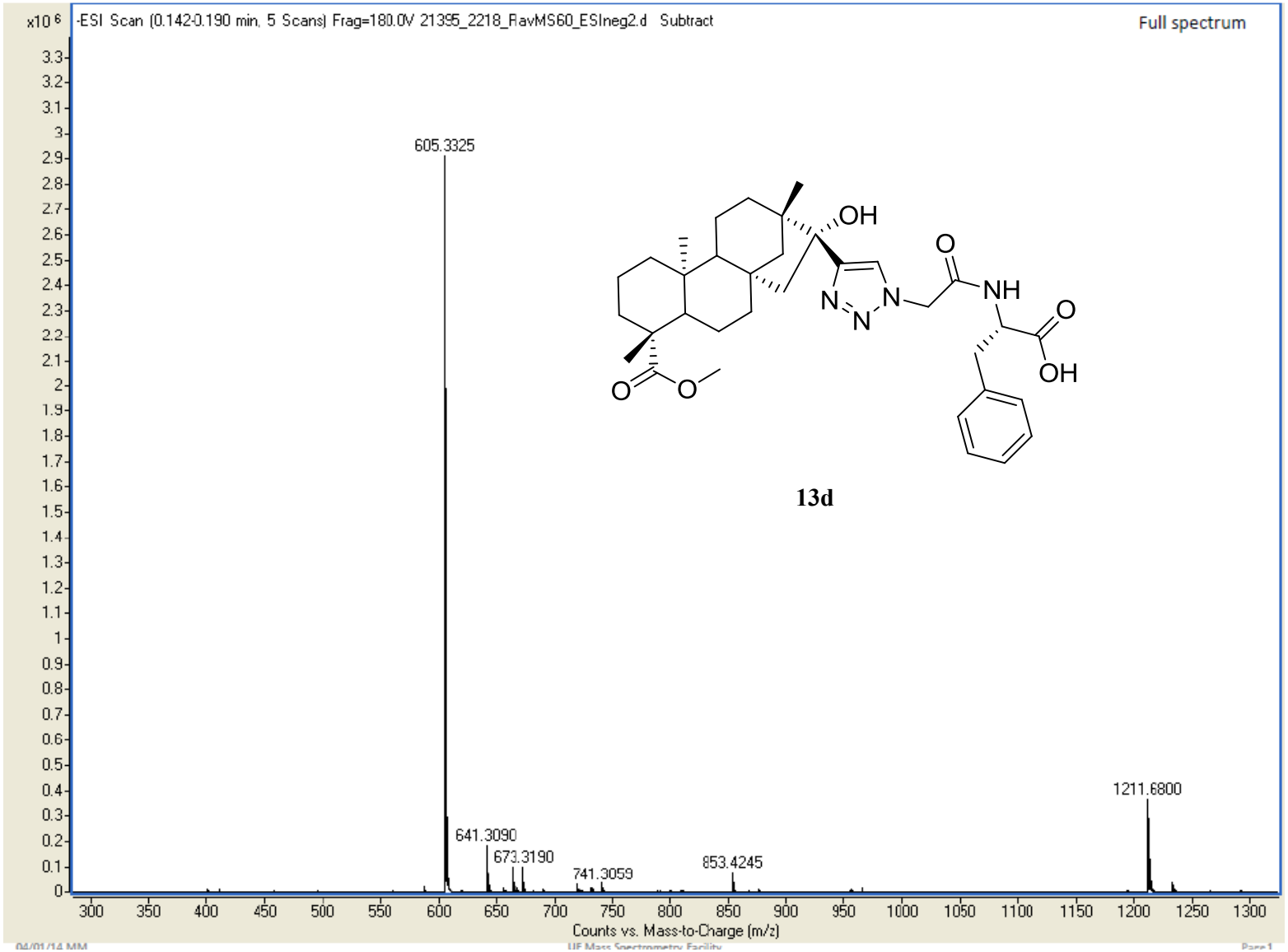


Figure S24. HRMS of compound **13d**.



13d