Supporting Information

Synthesis of A Library of Propargylated and PEGylated α-Hydroxy Acids Towards 'Clickable' Polylactides via Hydrolysis of Cyanohydrin Derivatives

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[††] Prof. Gregory L. Baker passed away on October 18, 2012 unexpectedly.

1. General information for NMR measurement

^{1}H NMR and ^{13}C NMR were recorded on a 300 MHz, 500 MHz or 600 MHz instrument in $CDCl_3$ unless otherwise noted. $CDCl_3$ was used as the internal standard for both ^{1}H NMR (δ = 7.24) and ^{13}C NMR (δ = 77.0). Data for ^{1}H NMR and ^{13}C NMR are reported in terms of chemical shift (δ ppm). High-resolution mass spectra (HRMS) were taken on an ESI-TOF mass spectrometer.

2. NMR Spectra of Compounds

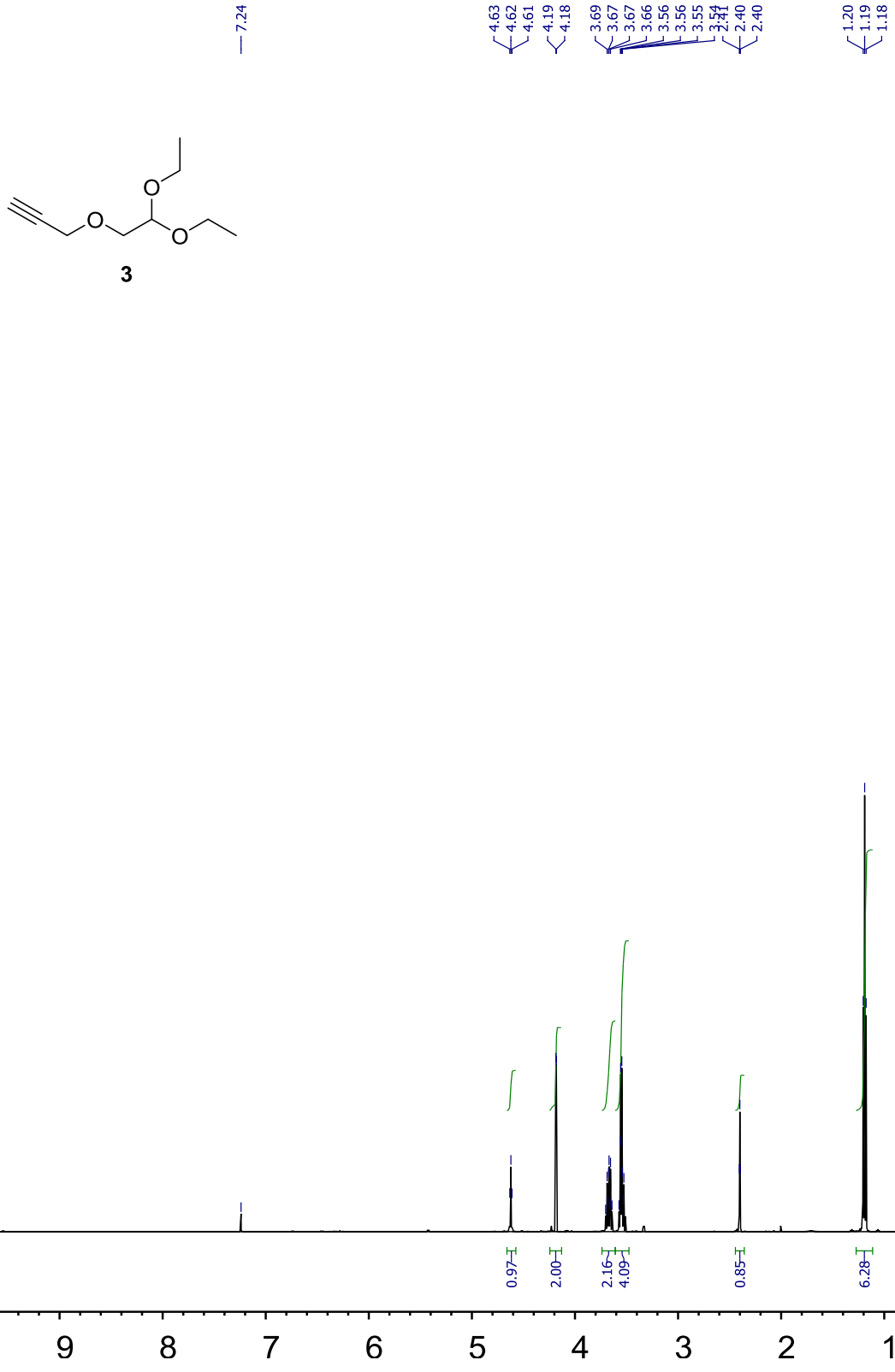

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Figure S1. ^{1}H NMR spectrum of **3** ($CDCl_3$, 500 MHz).

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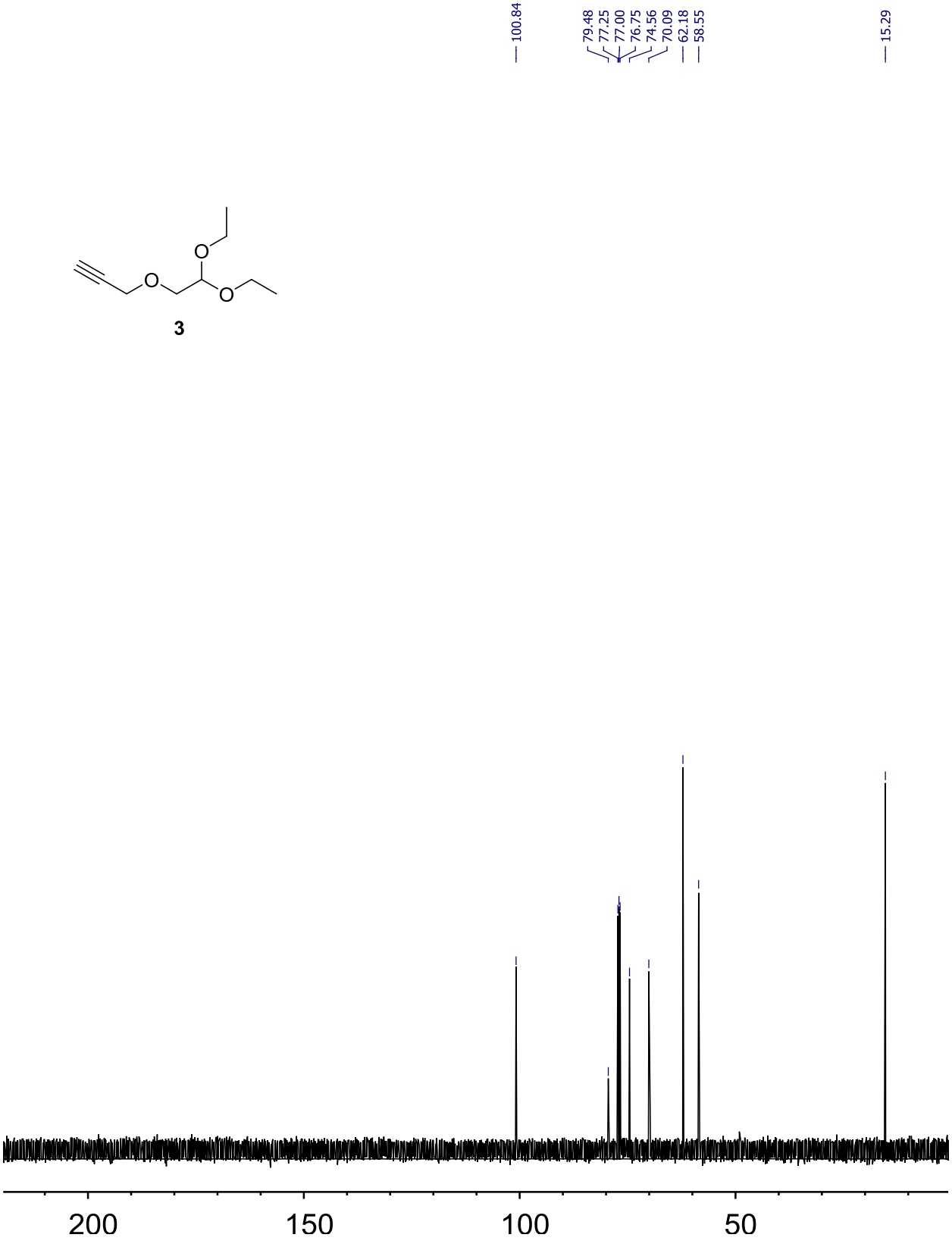

Figure S2. ^{13}C NMR spectrum of **3** ($CDCl_3$, 125 MHz).

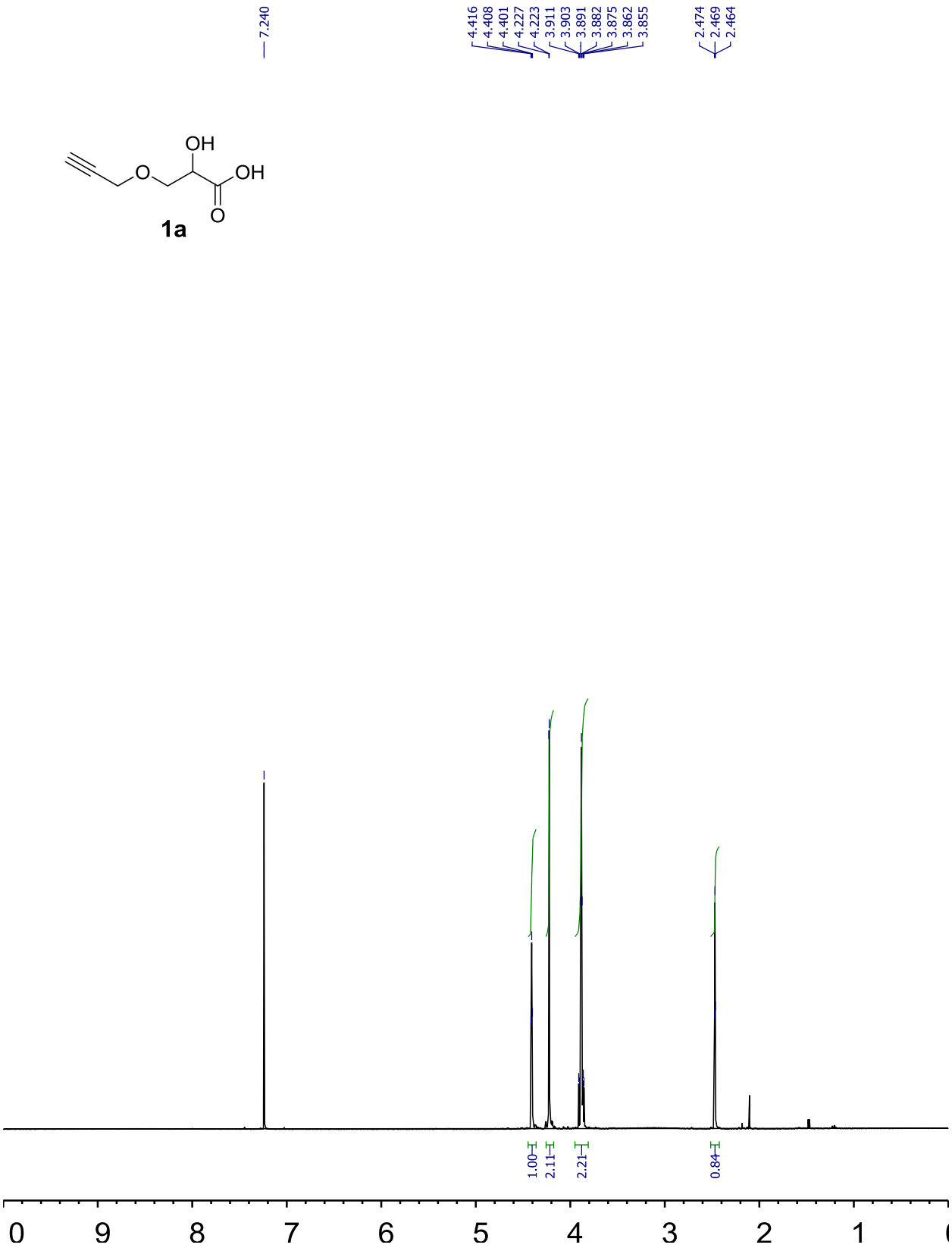

Figure S3. ^{1}H NMR spectrum of **1a** ($CDCl_3$, 500 MHz).

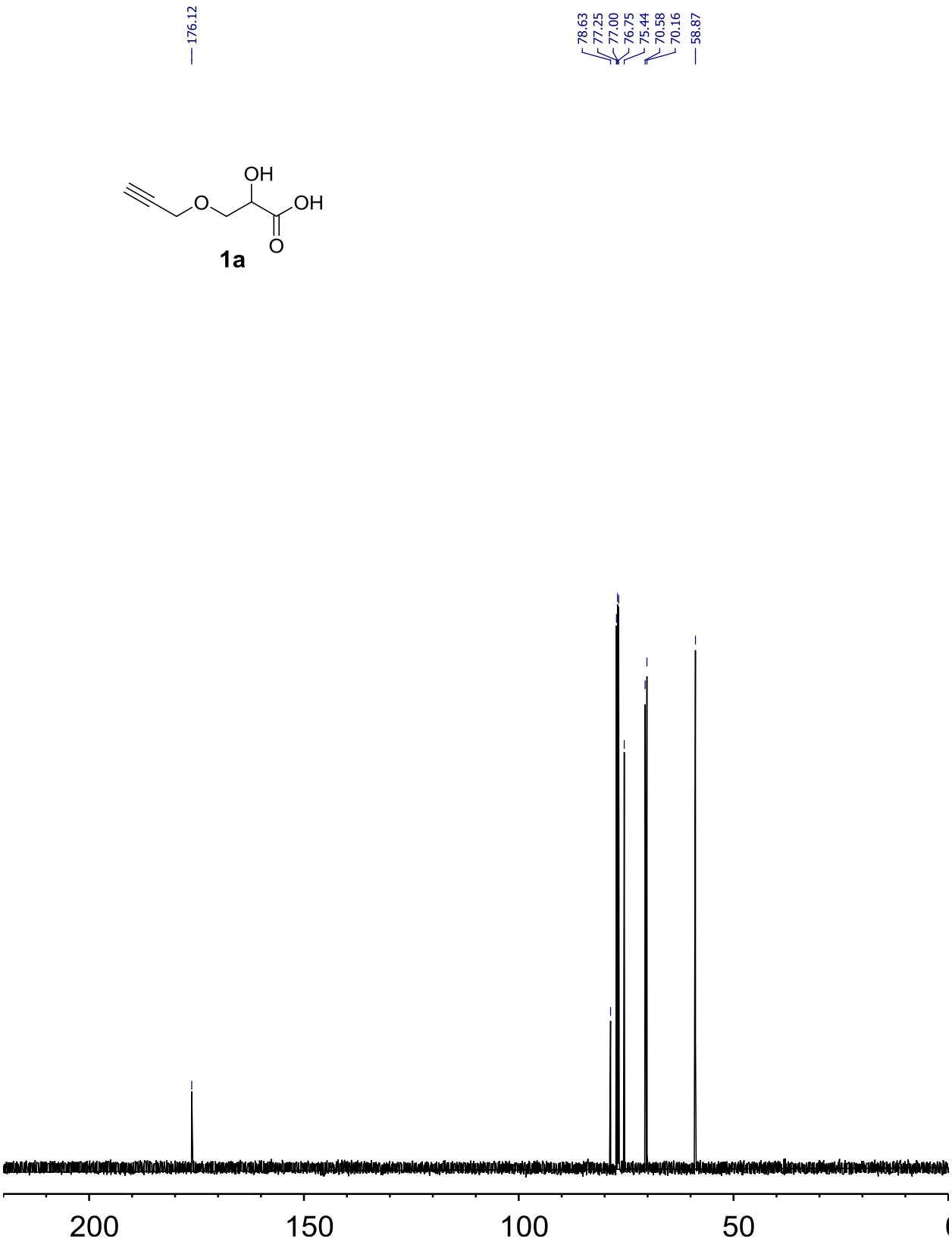

Figure S4. ^{13}C NMR spectrum of **1a** ($CDCl_3$, 125 MHz).

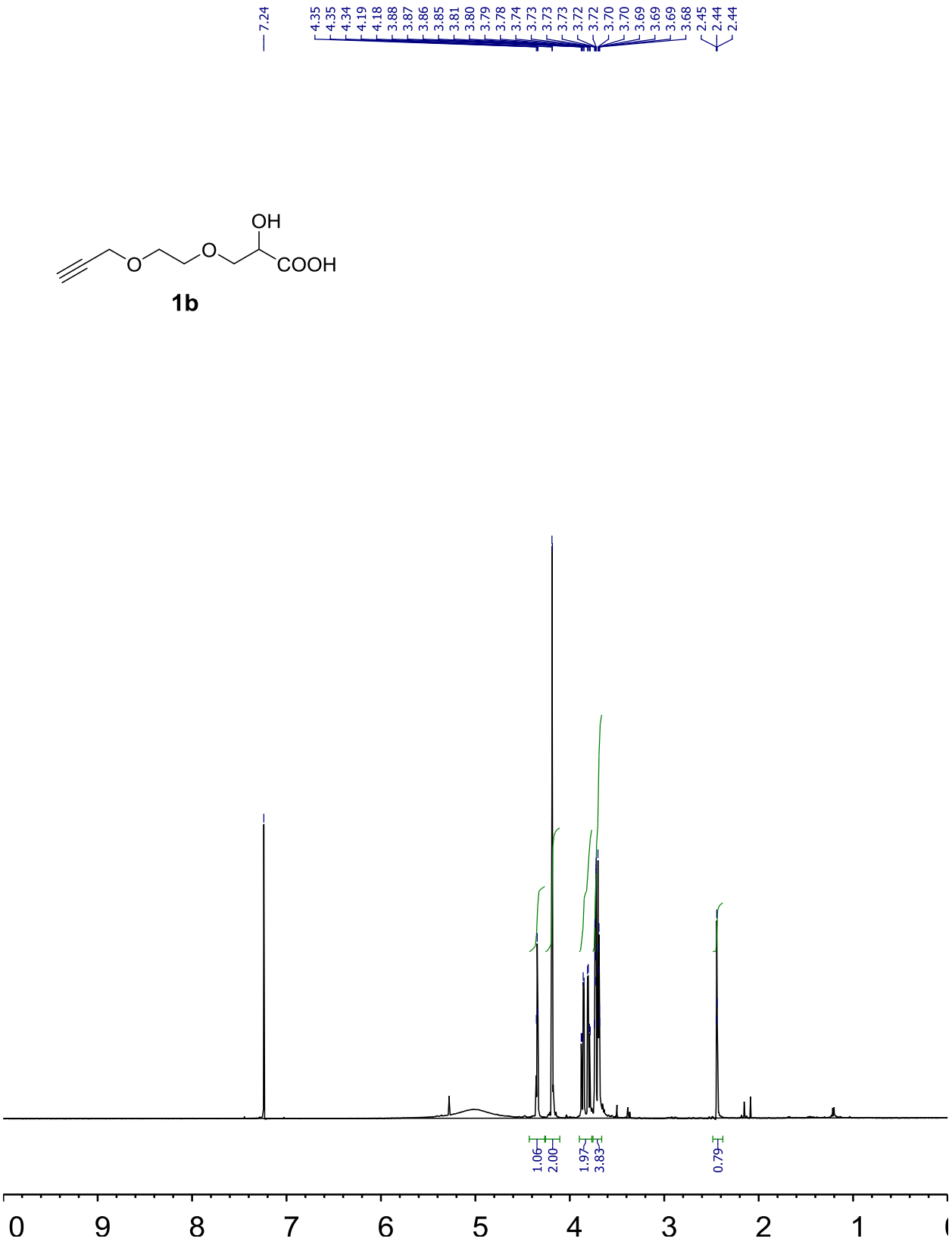

Figure S5. ^{1}H NMR spectrum of **1b** ($CDCl_3$, 500 MHz).

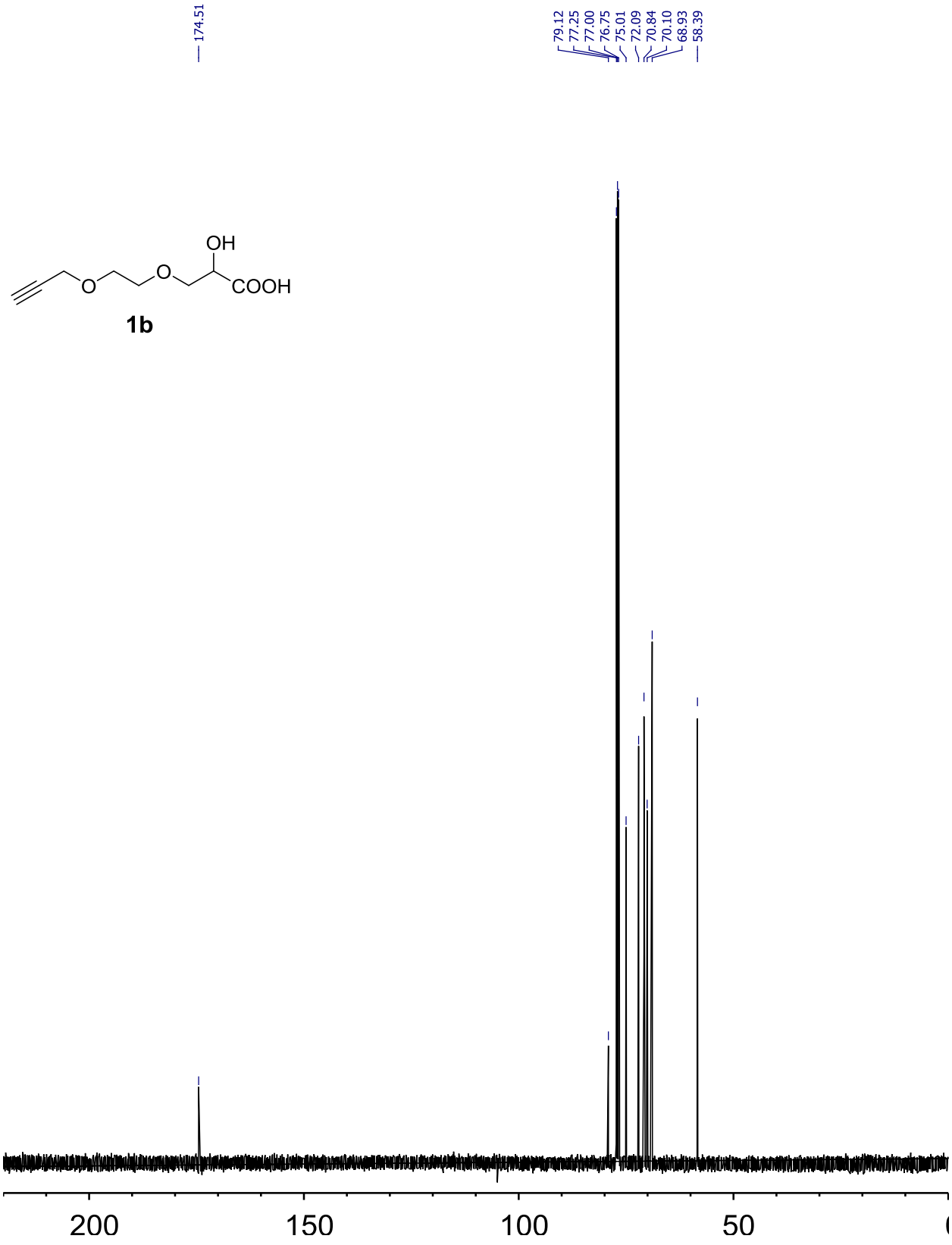

Figure S6. ^{13}C NMR spectrum of **1b** ($CDCl_3$, 125 MHz).

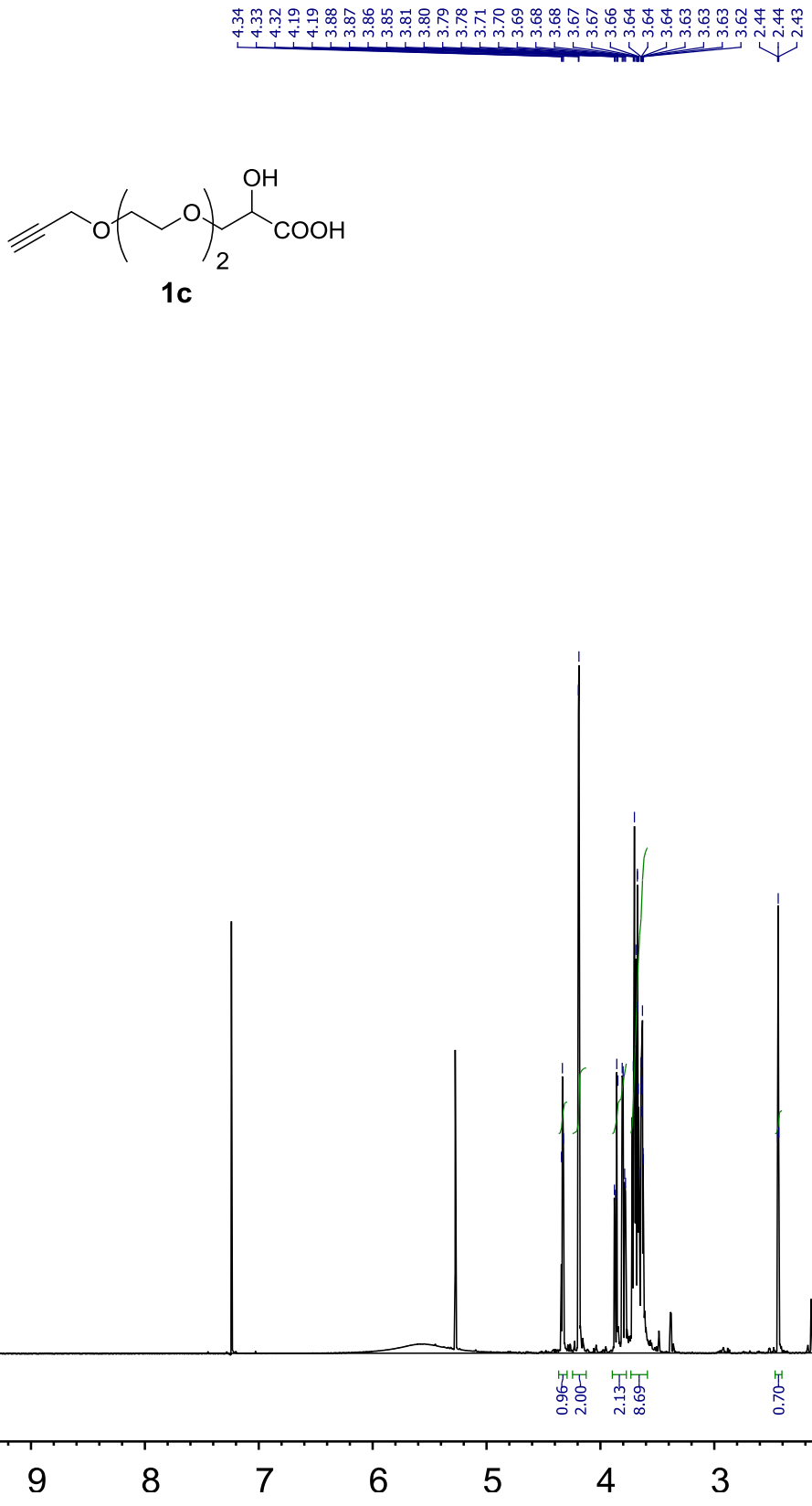

Figure S7. ^{1}H NMR spectrum of **1c** ($CDCl_3$, 500 MHz).

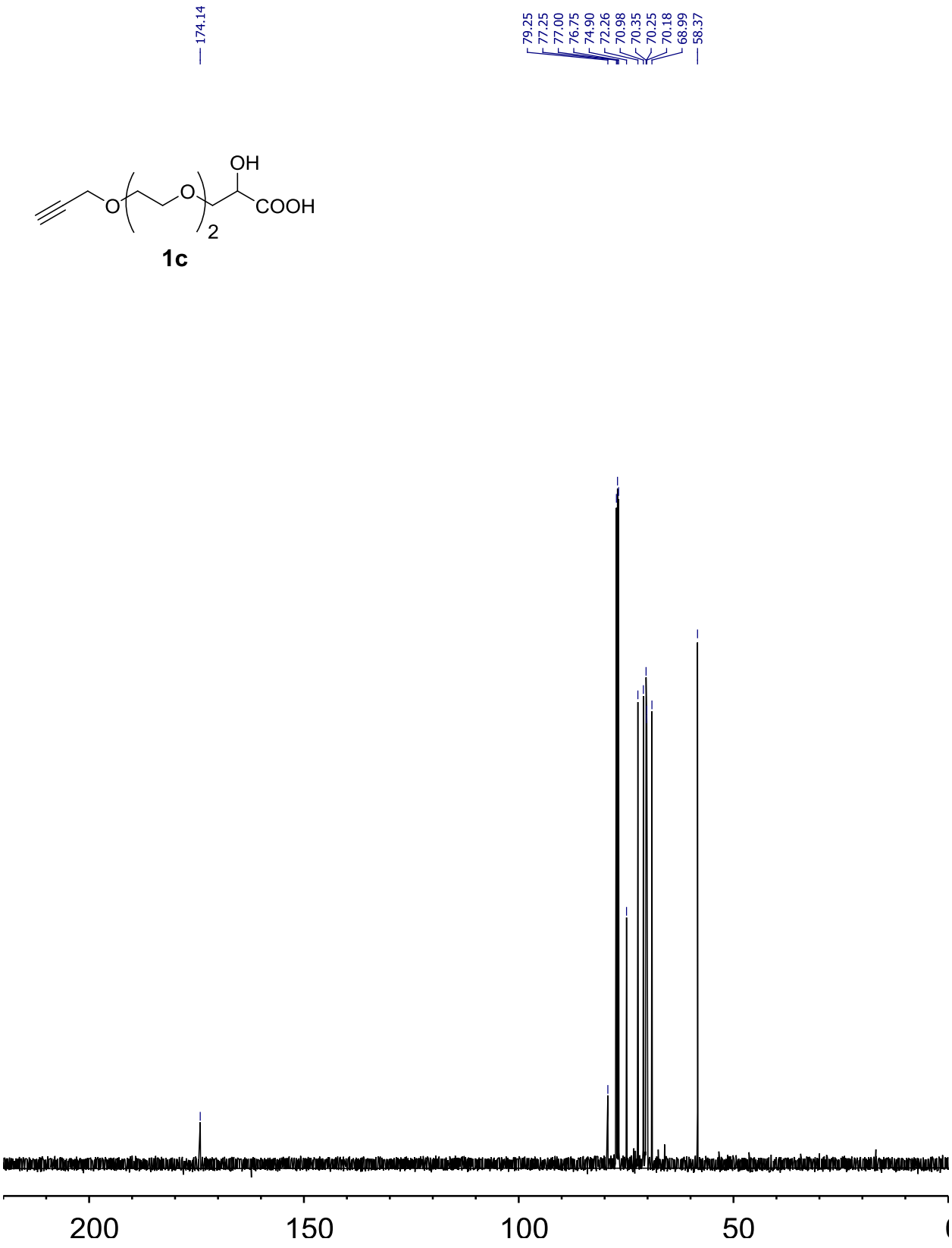

Figure S8. ^{13}C NMR spectrum of **1c** ($CDCl_3$, 125 MHz).

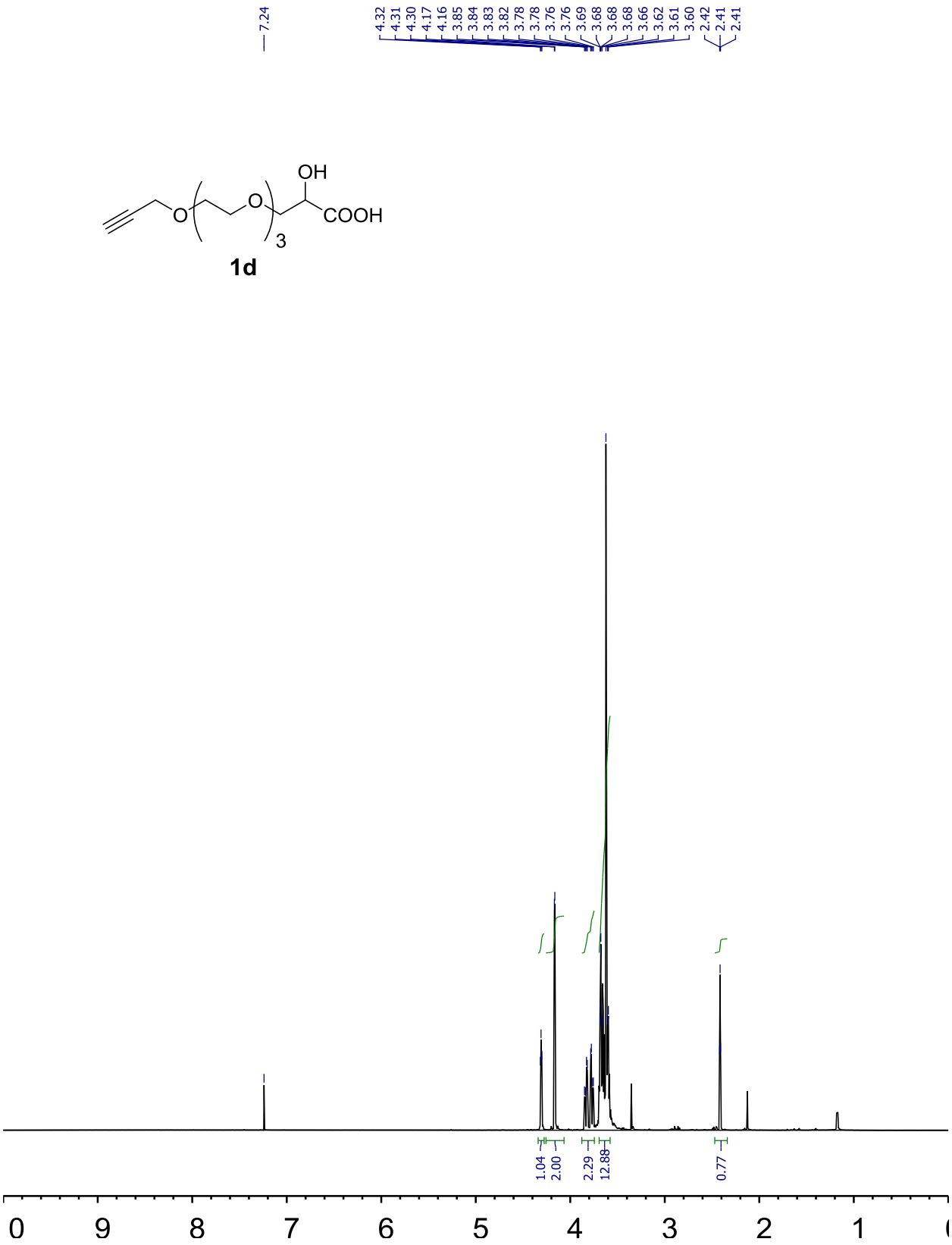

Figure S9. ^{1}H NMR spectrum of **1d** ($CDCl_3$, 500 MHz).

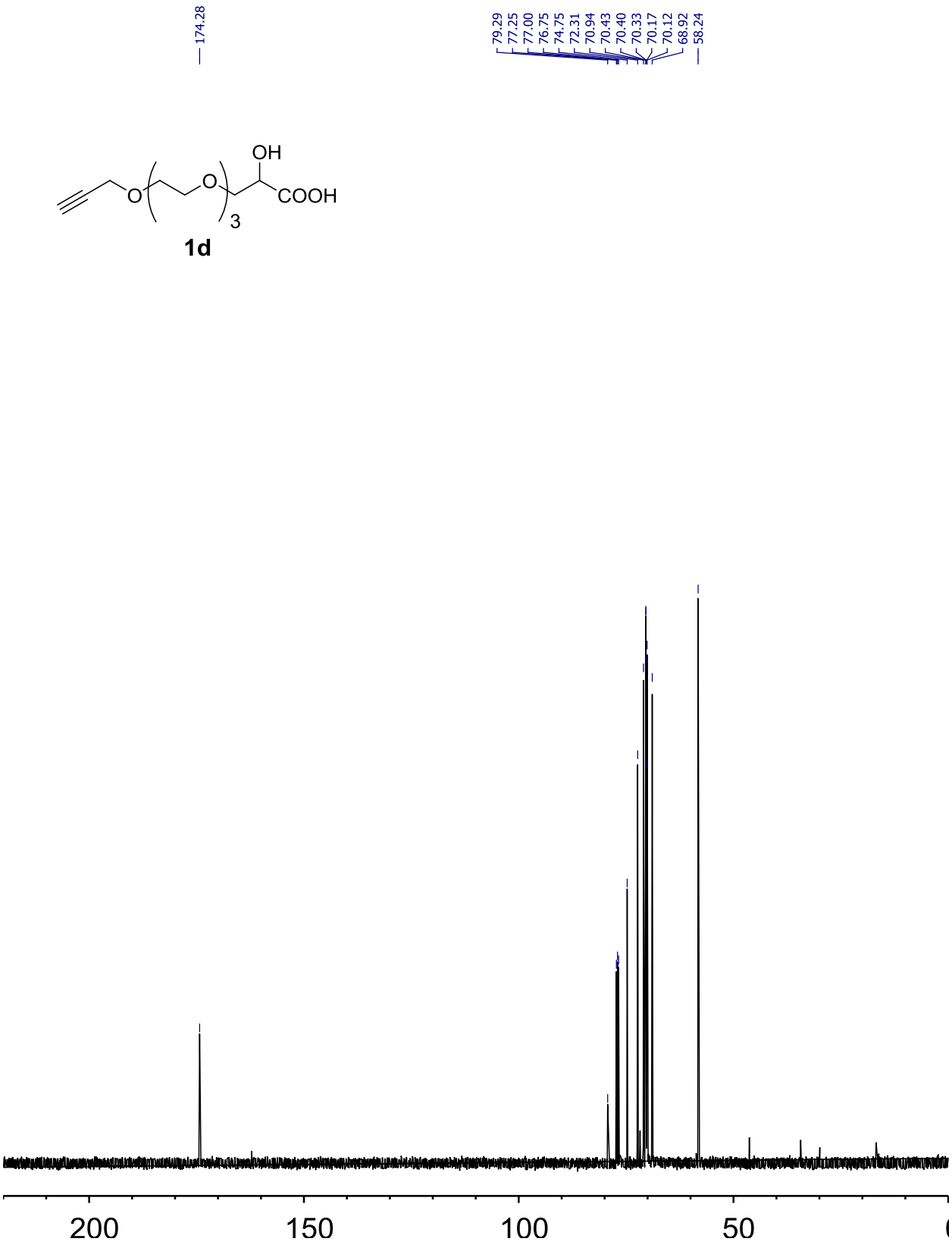

Figure S10. ^{13}C NMR spectrum of **1d** ($CDCl_3$, 125 MHz).

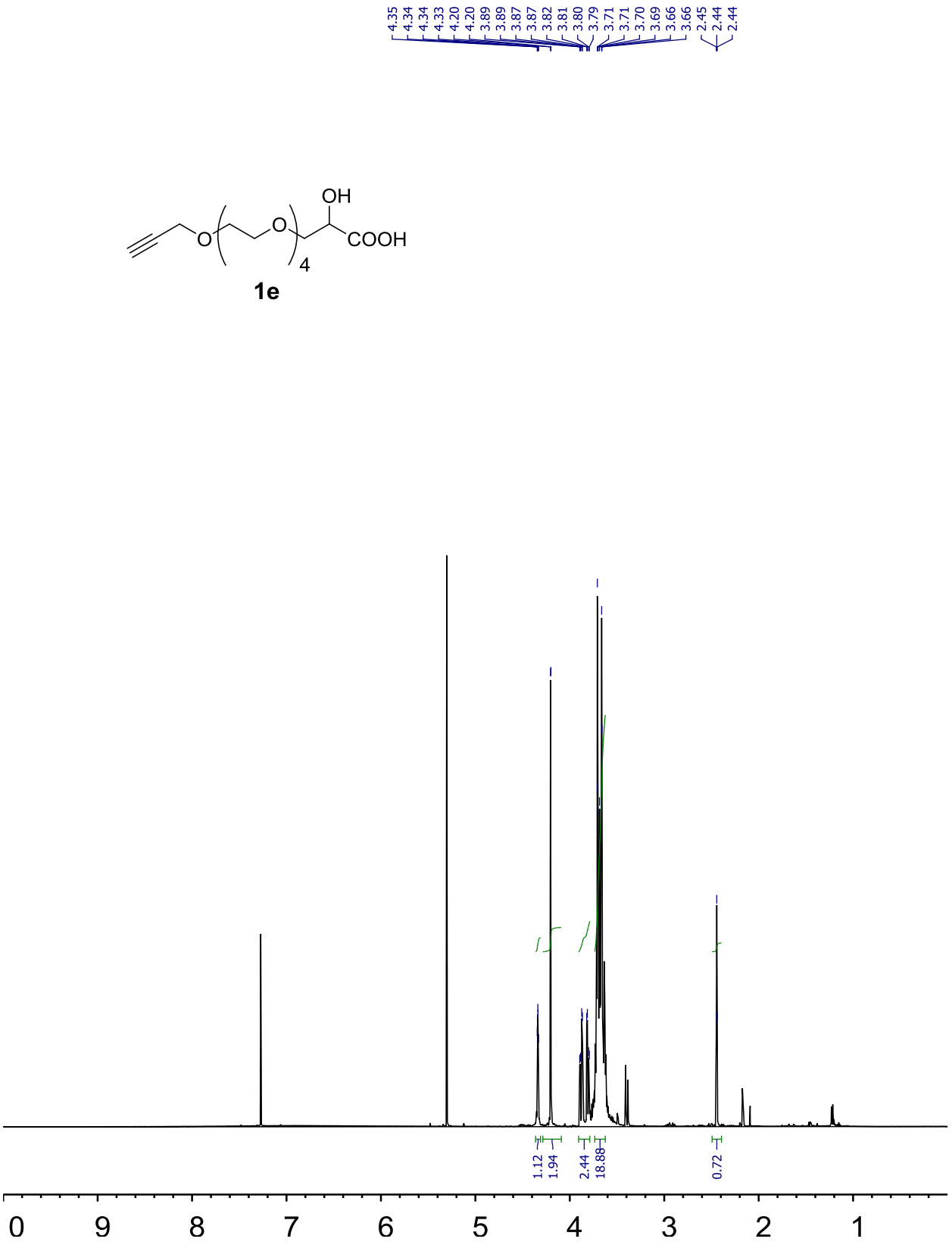

Figure S11. ^{1}H NMR spectrum of **1e** ($CDCl_3$, 500 MHz).

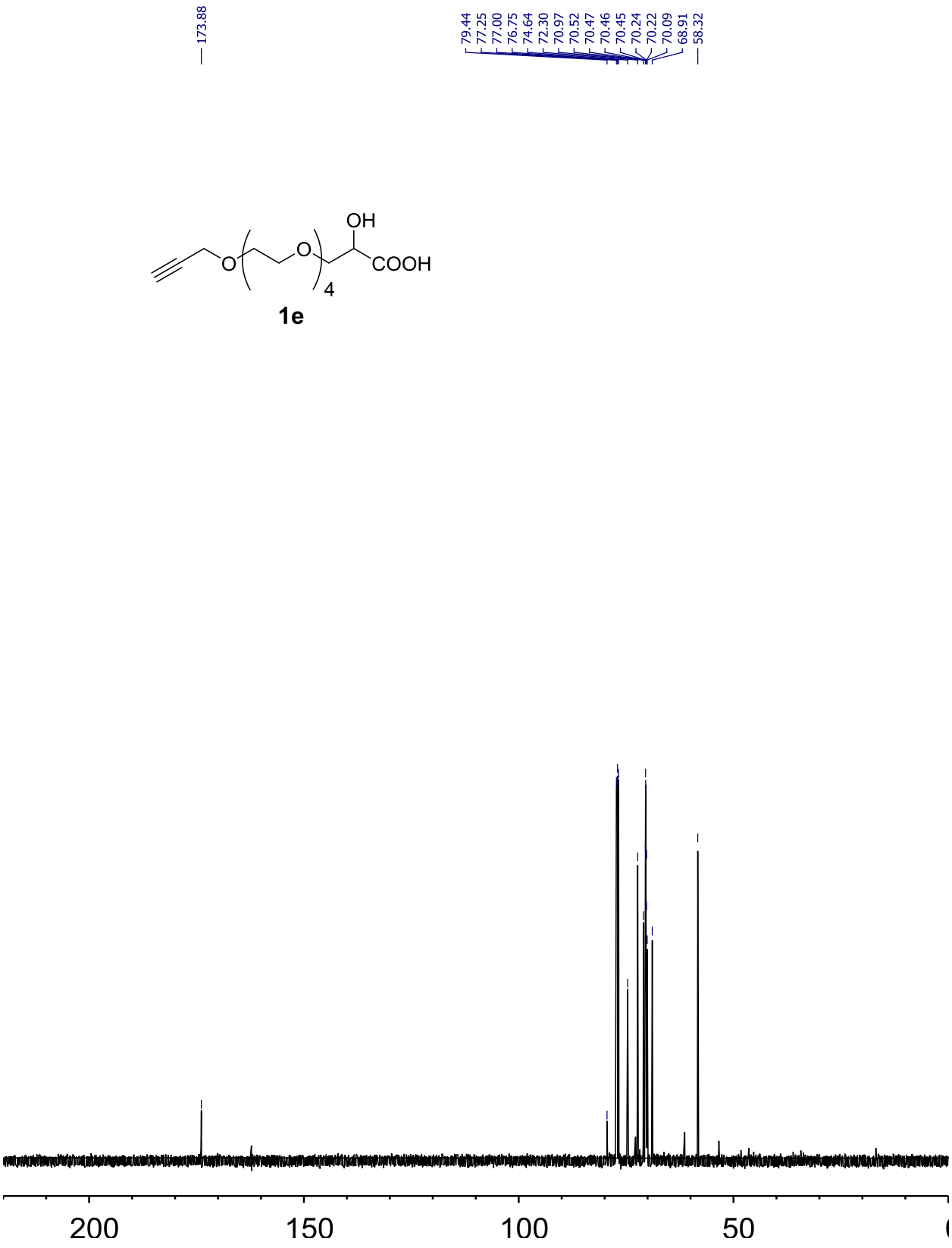

Figure S12. ^{13}C NMR spectrum of **1e** ($CDCl_3$, 125 MHz).

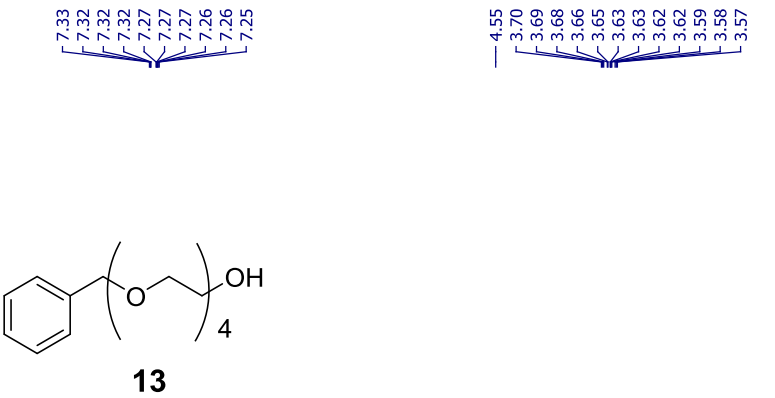

Figure S13. ^{1}H NMR spectrum of **13** ($CDCl_3$, 500 MHz).

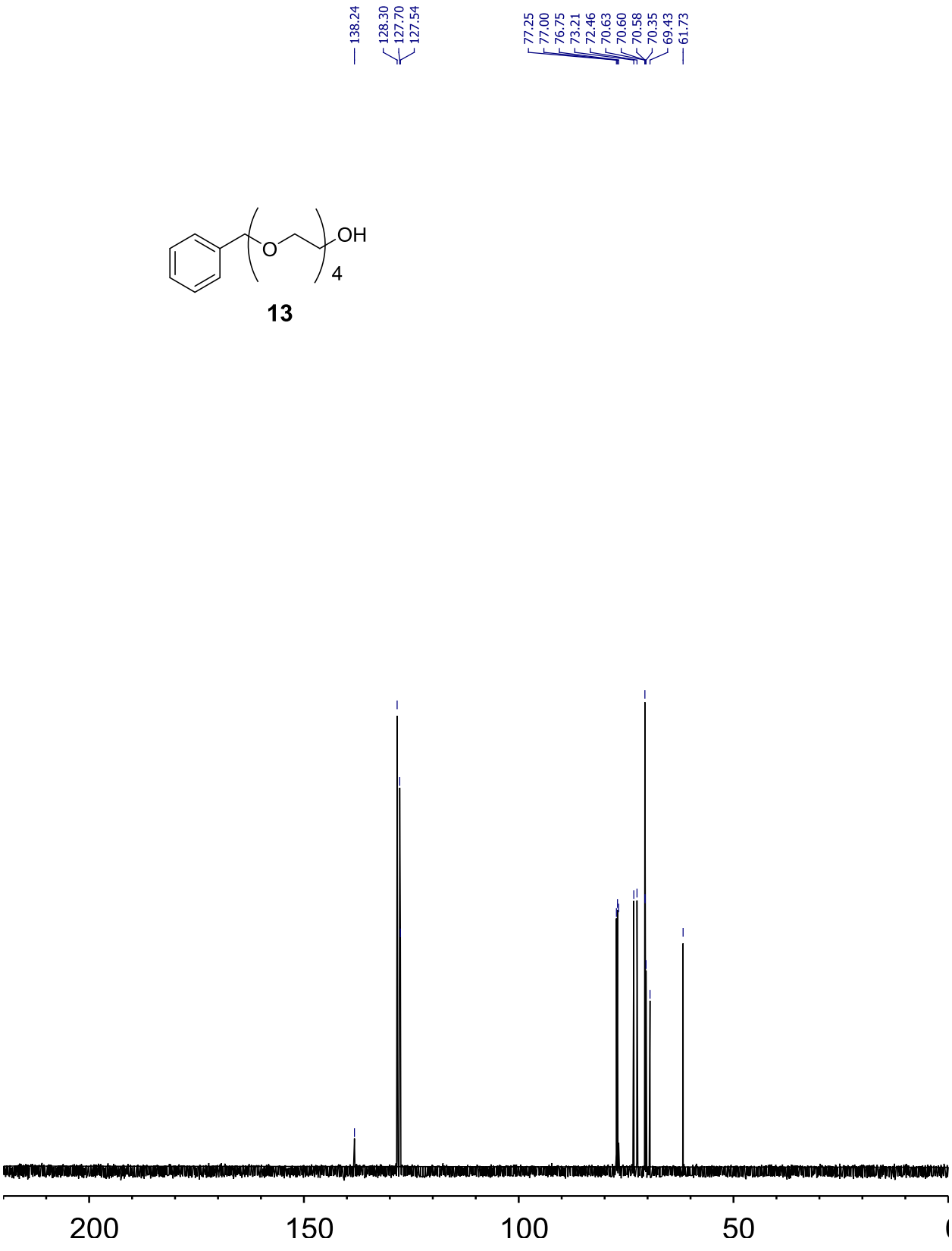

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Figure S14. ^{13}C NMR spectrum of **13** ($CDCl_3$, 125 MHz).

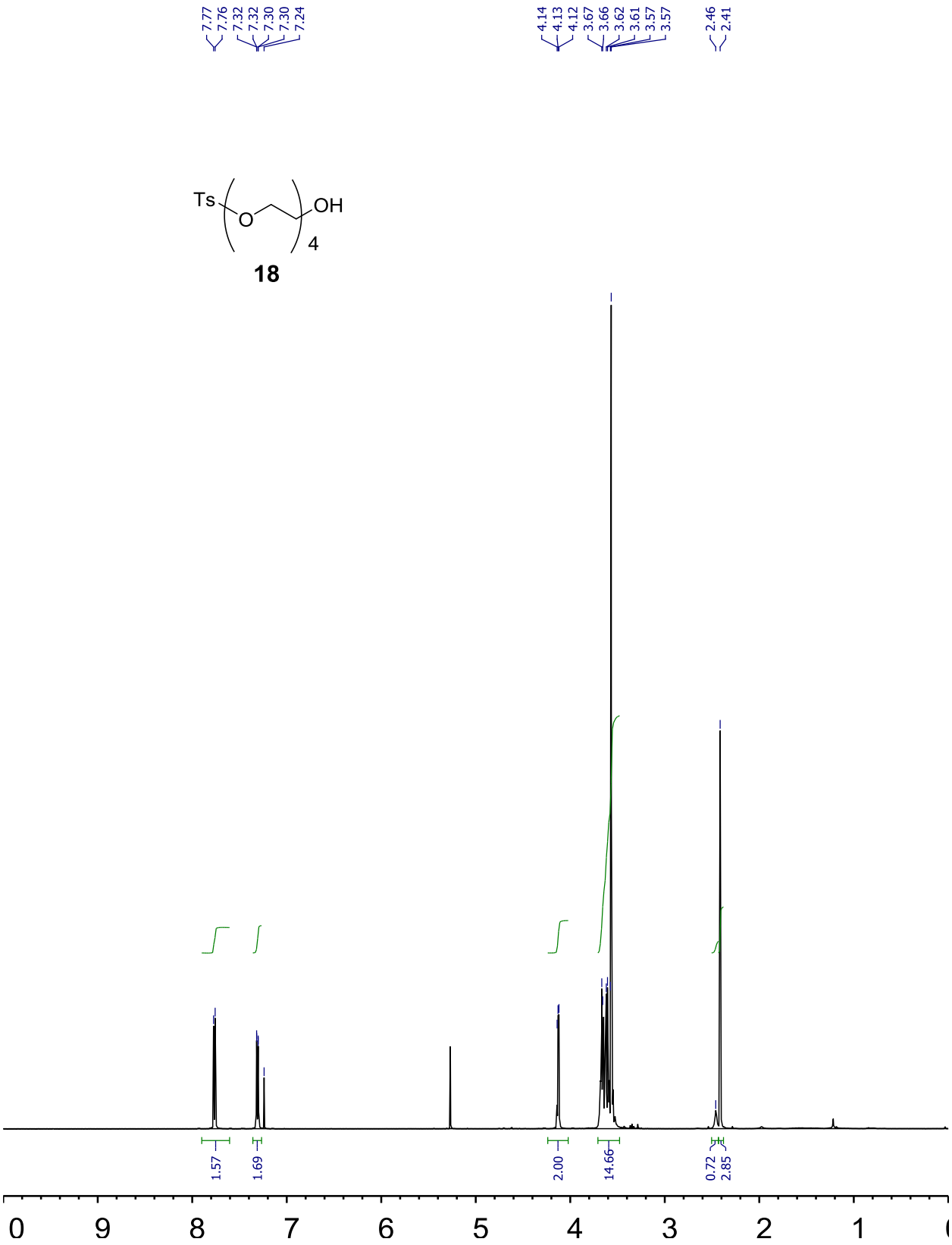

Figure S15. ^{1}H NMR spectrum of **18** ($CDCl_3$, 500 MHz).

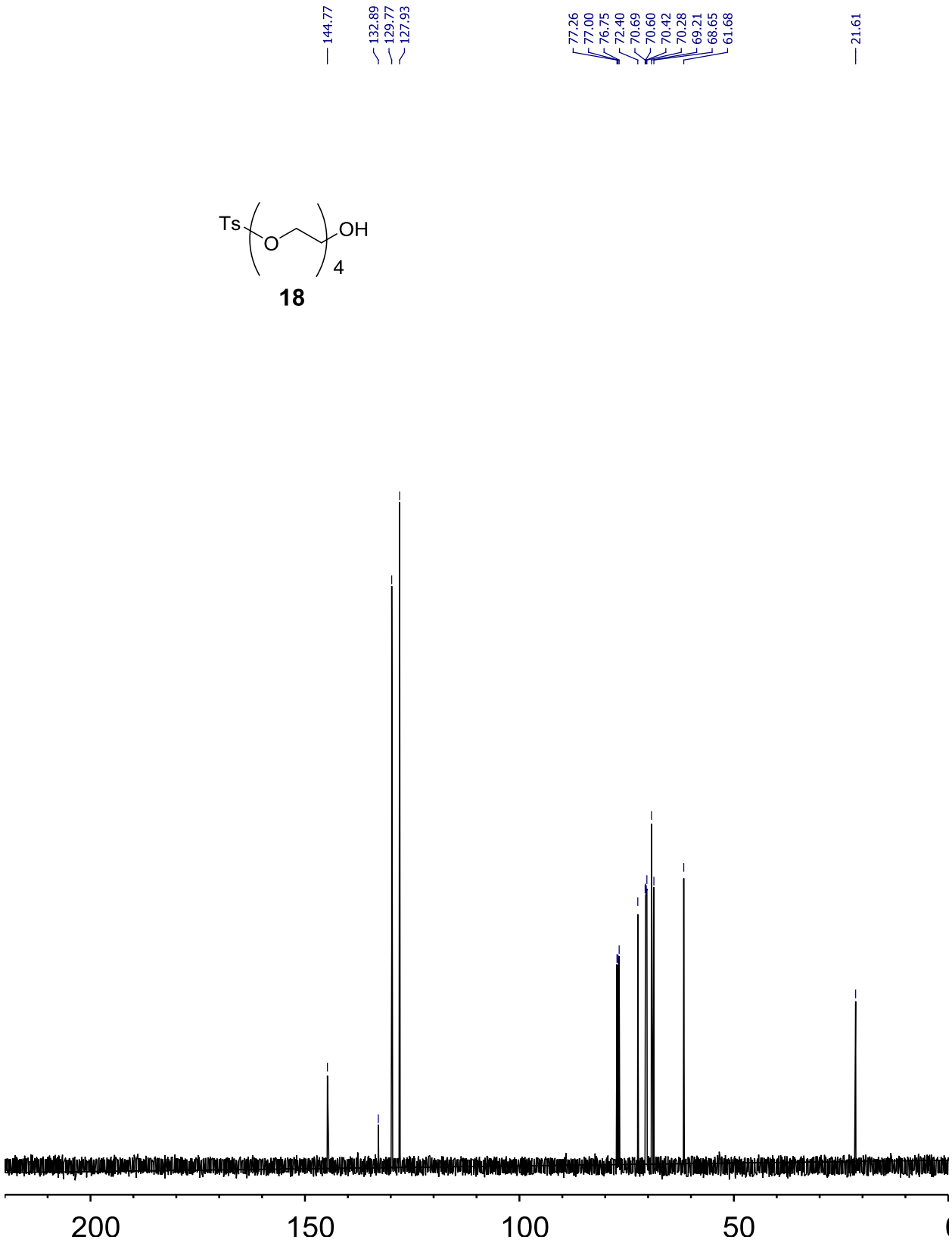

Figure S16. ^{13}C NMR spectrum of **18** ($CDCl_3$, 125 MHz).

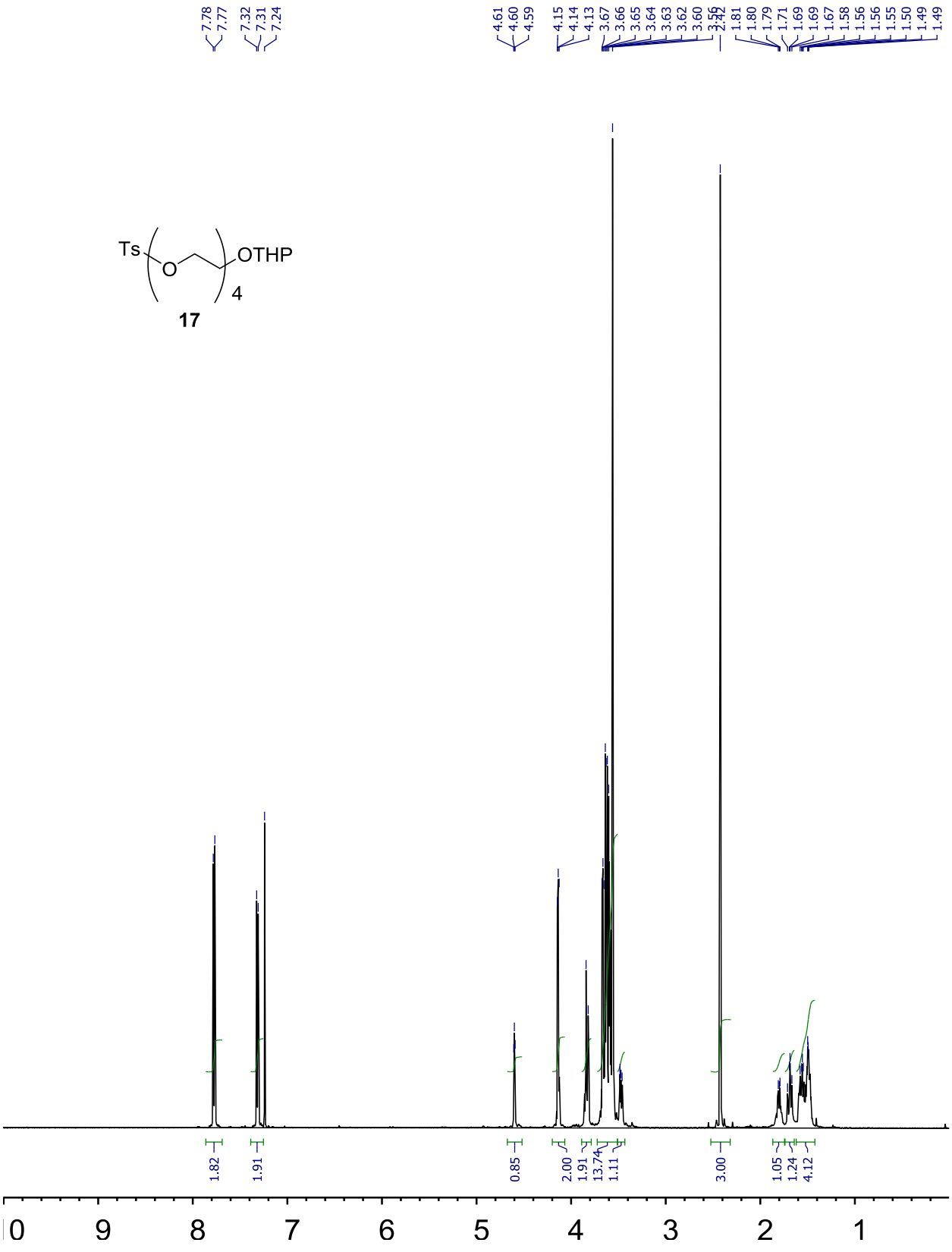

Figure S17. ^{1}H NMR spectrum of **17** ($CDCl_3$, 500 MHz).

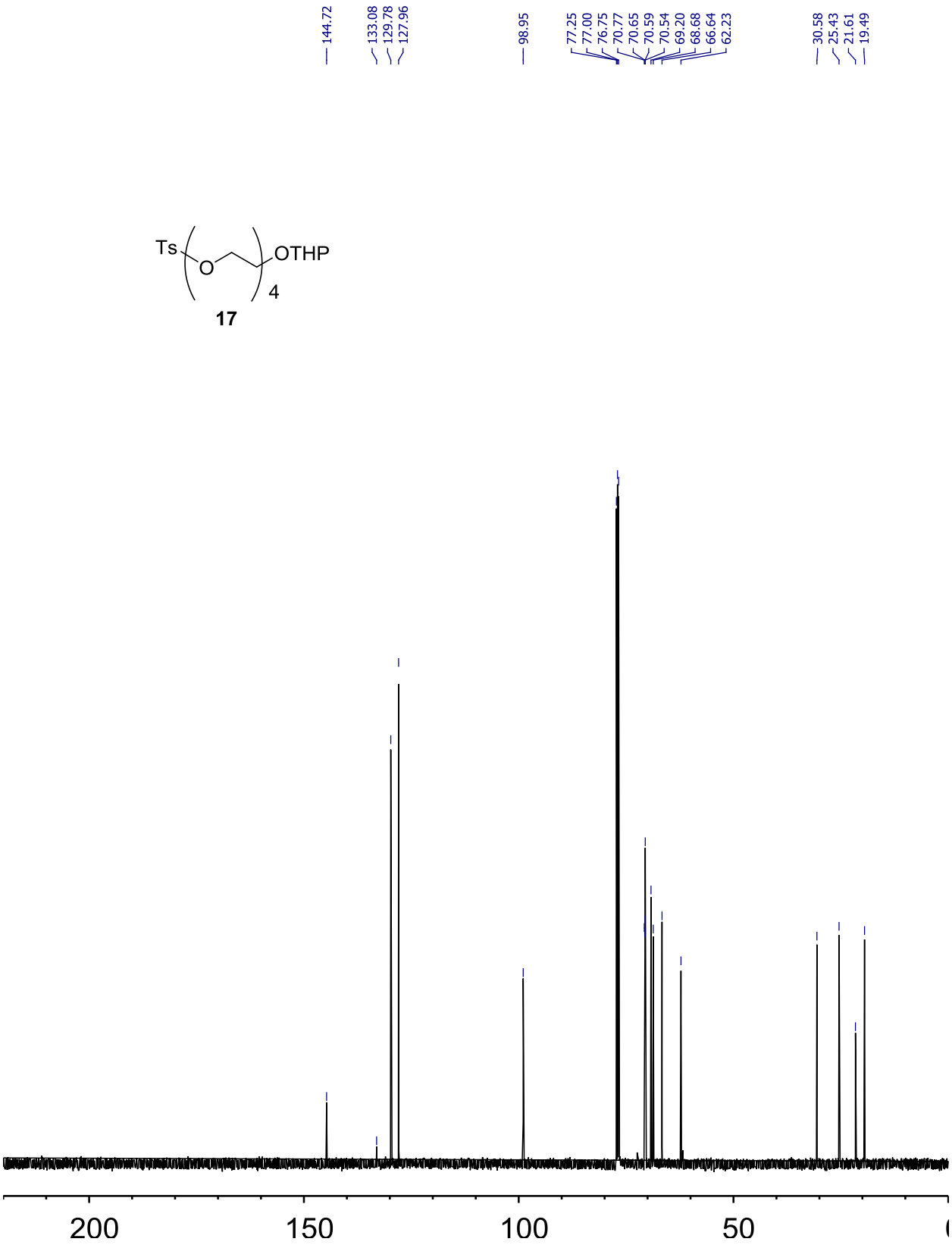

Figure S18. ^{13}C NMR spectrum of **17** ($CDCl_3$, 125 MHz).

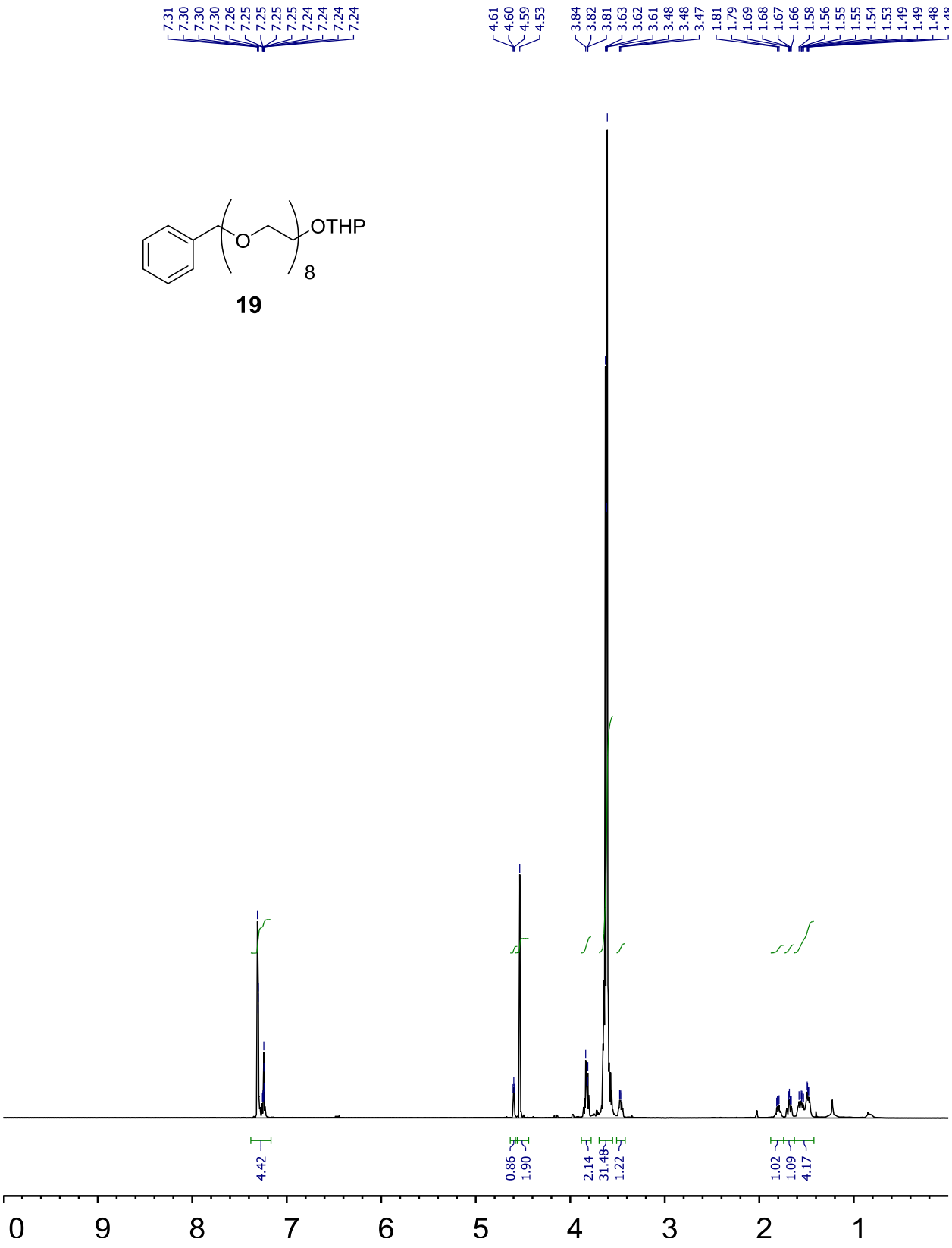

Figure S19. ^{1}H NMR spectrum of **19** ($CDCl_3$, 500 MHz).

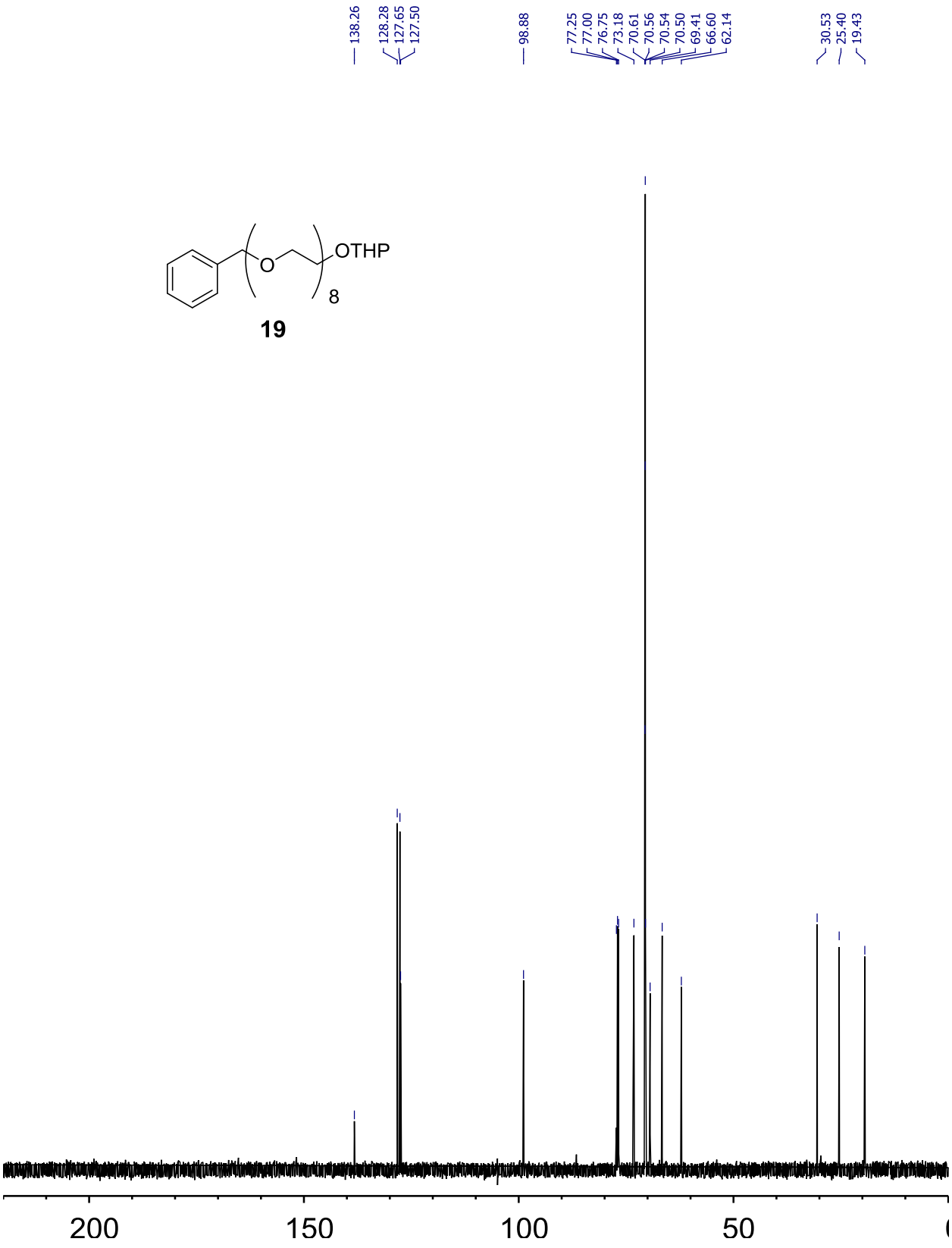

Figure S20. ^{13}C NMR spectrum of **19** ($CDCl_3$, 125 MHz).

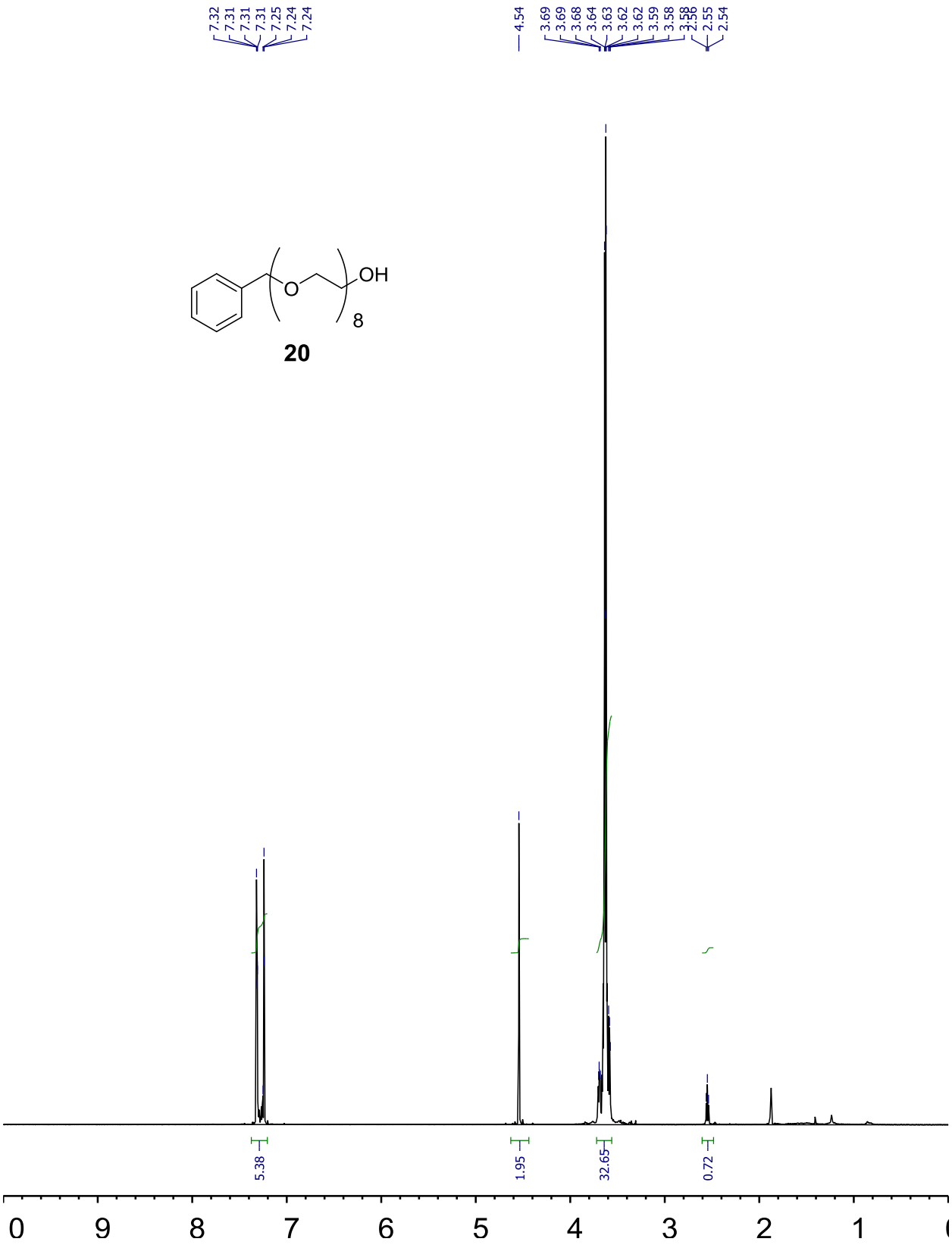

Figure S21. ^{1}H NMR spectrum of **20** ($CDCl_3$, 500 MHz).

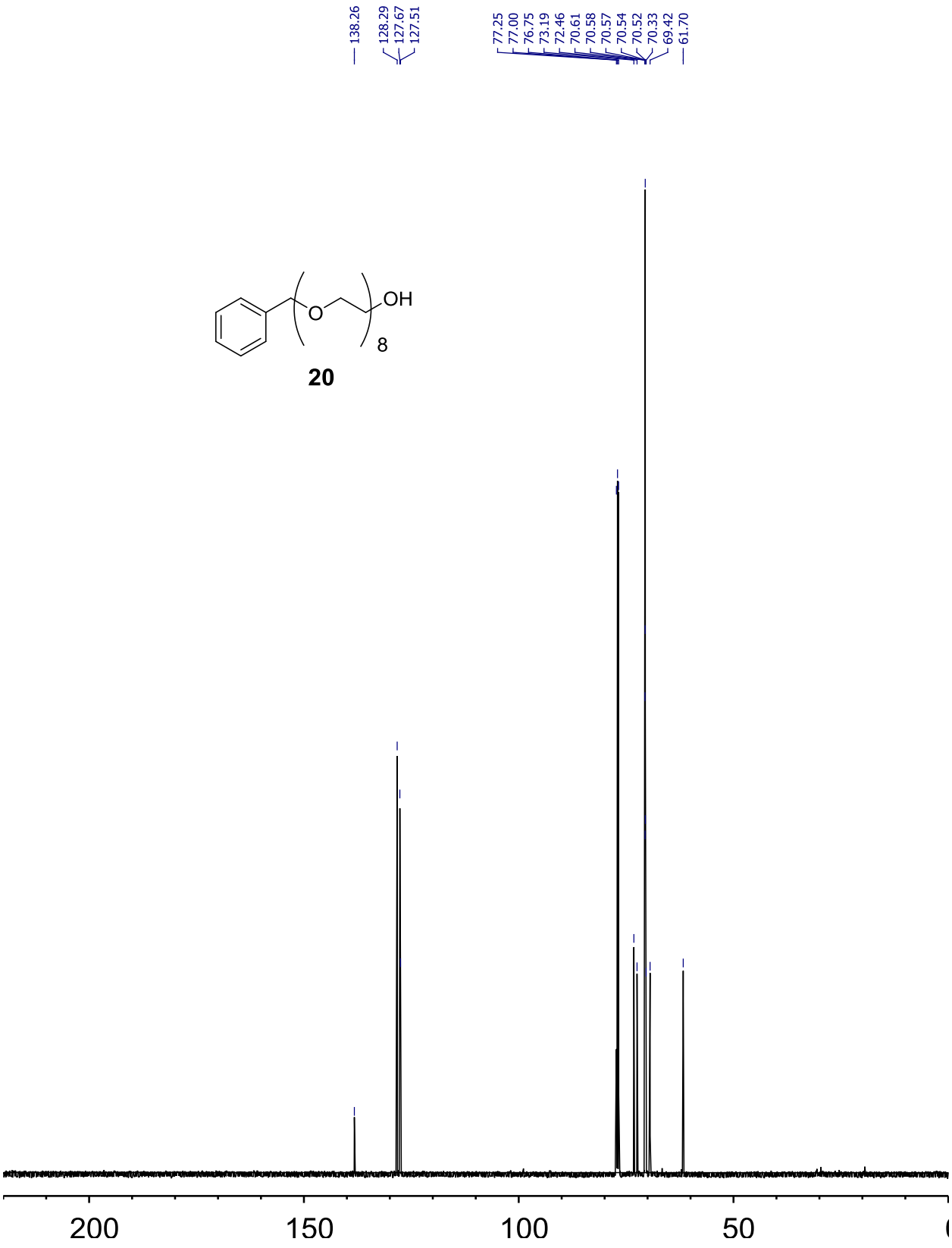

Figure S22. ^{13}C NMR spectrum of **20** ($CDCl_3$, 125 MHz).

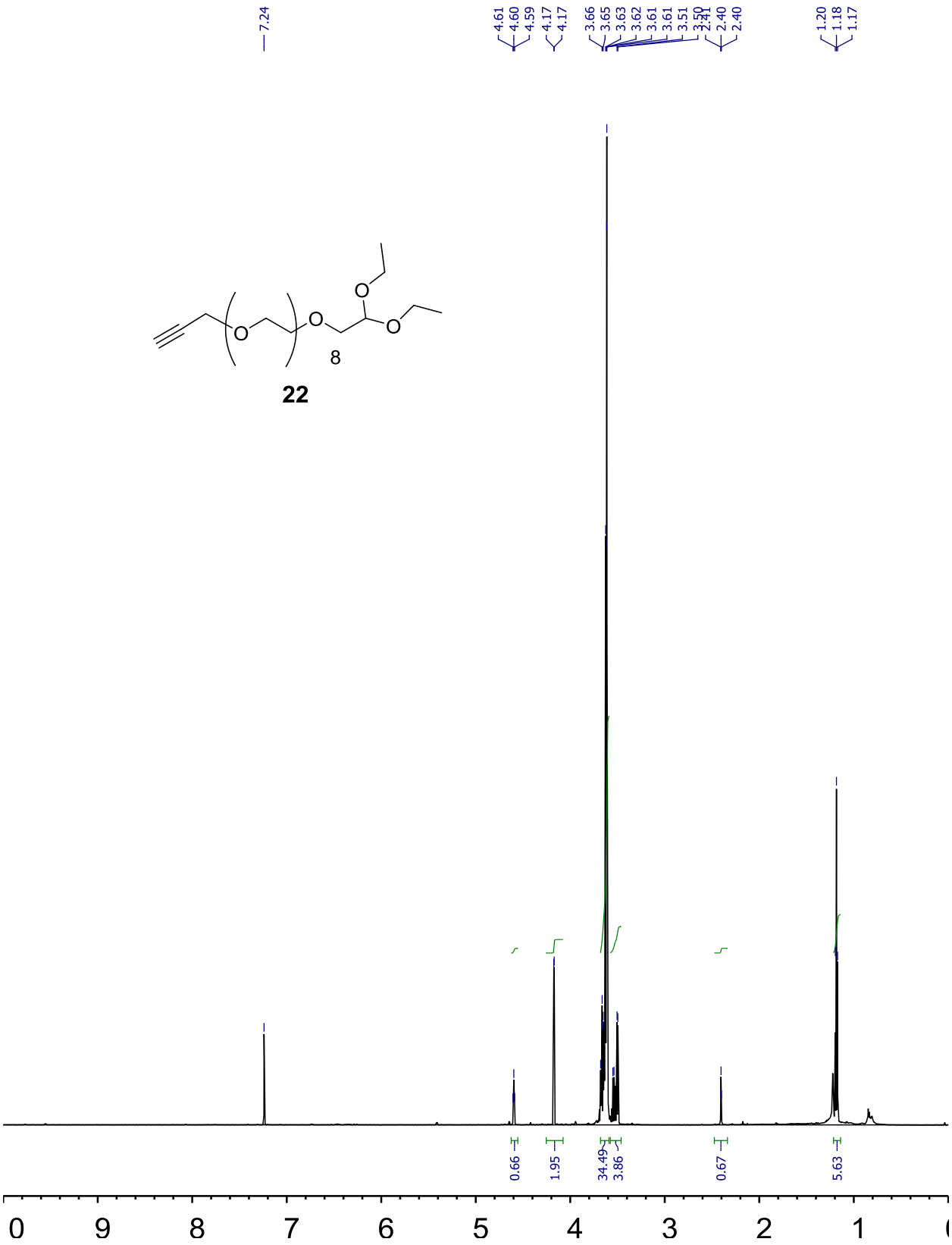

Figure S23. ^{1}H NMR spectrum of **22** ($CDCl_3$, 600 MHz).

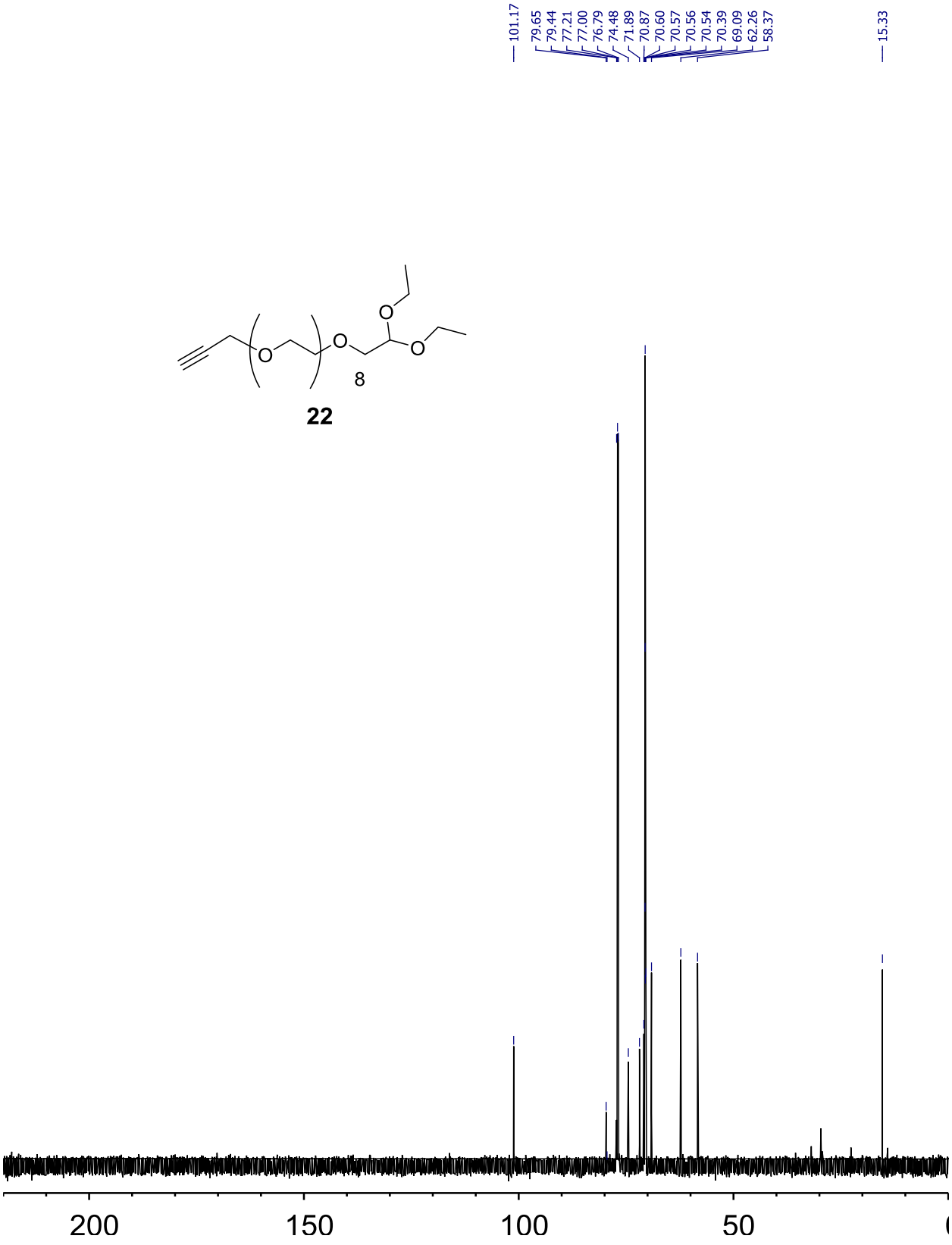

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Figure S24. ^{13}C NMR spectrum of **22** ($CDCl_3$, 150 MHz).

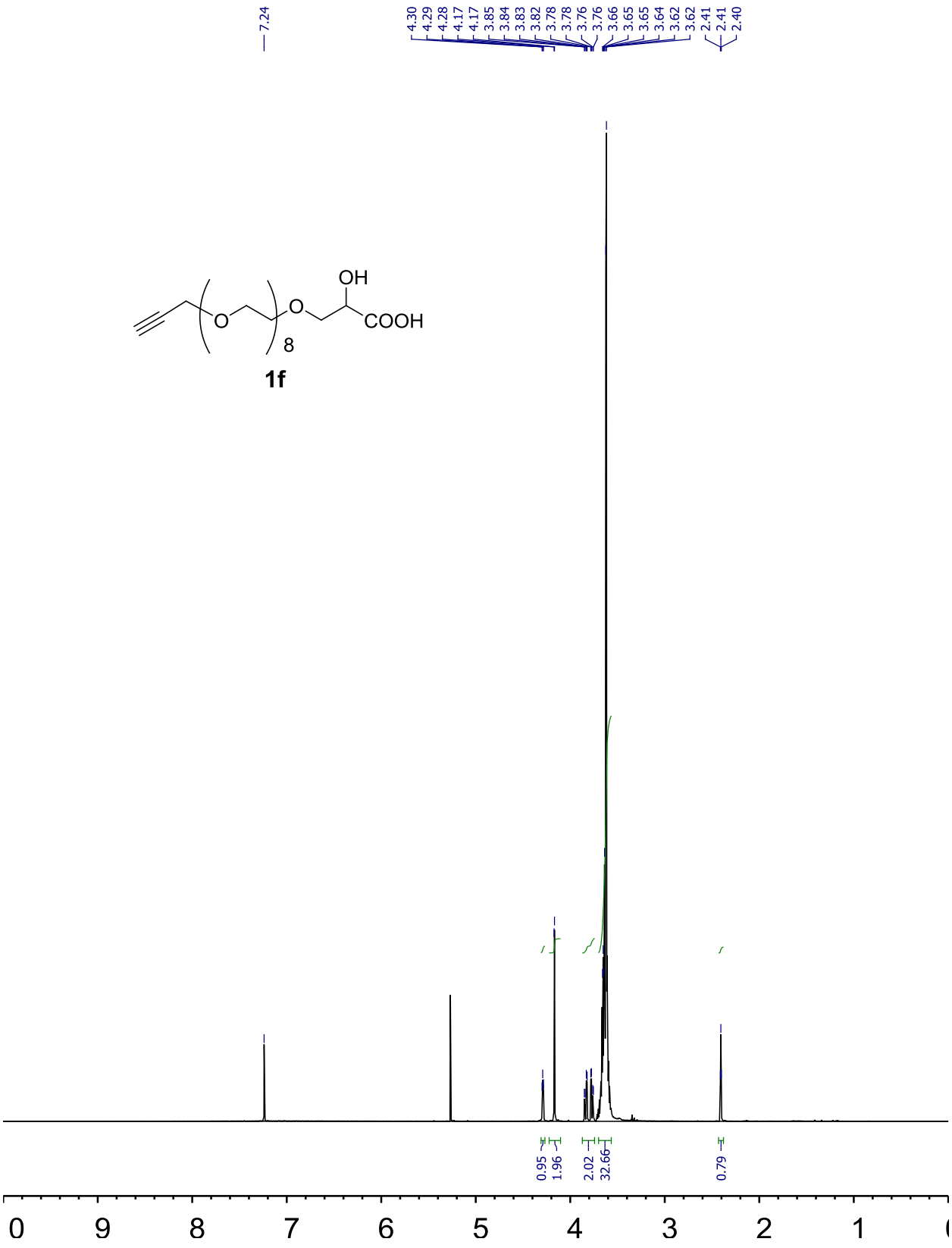

Figure S25. ^{1}H NMR spectrum of **1f** ($CDCl_3$, 500 MHz).

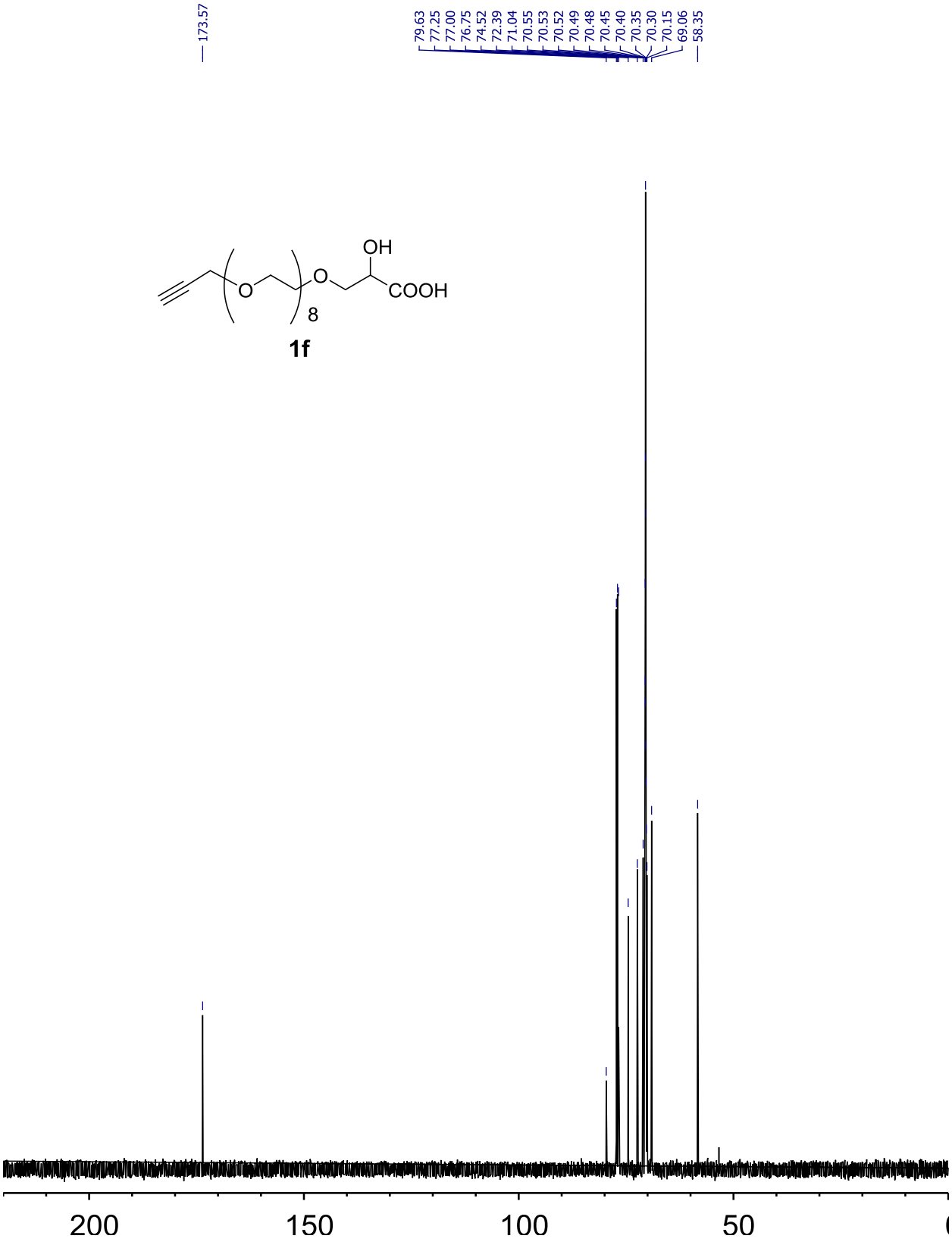

Figure S26. . ^{13}C NMR spectrum of **1f** ($CDCl_3$, 125 MHz).

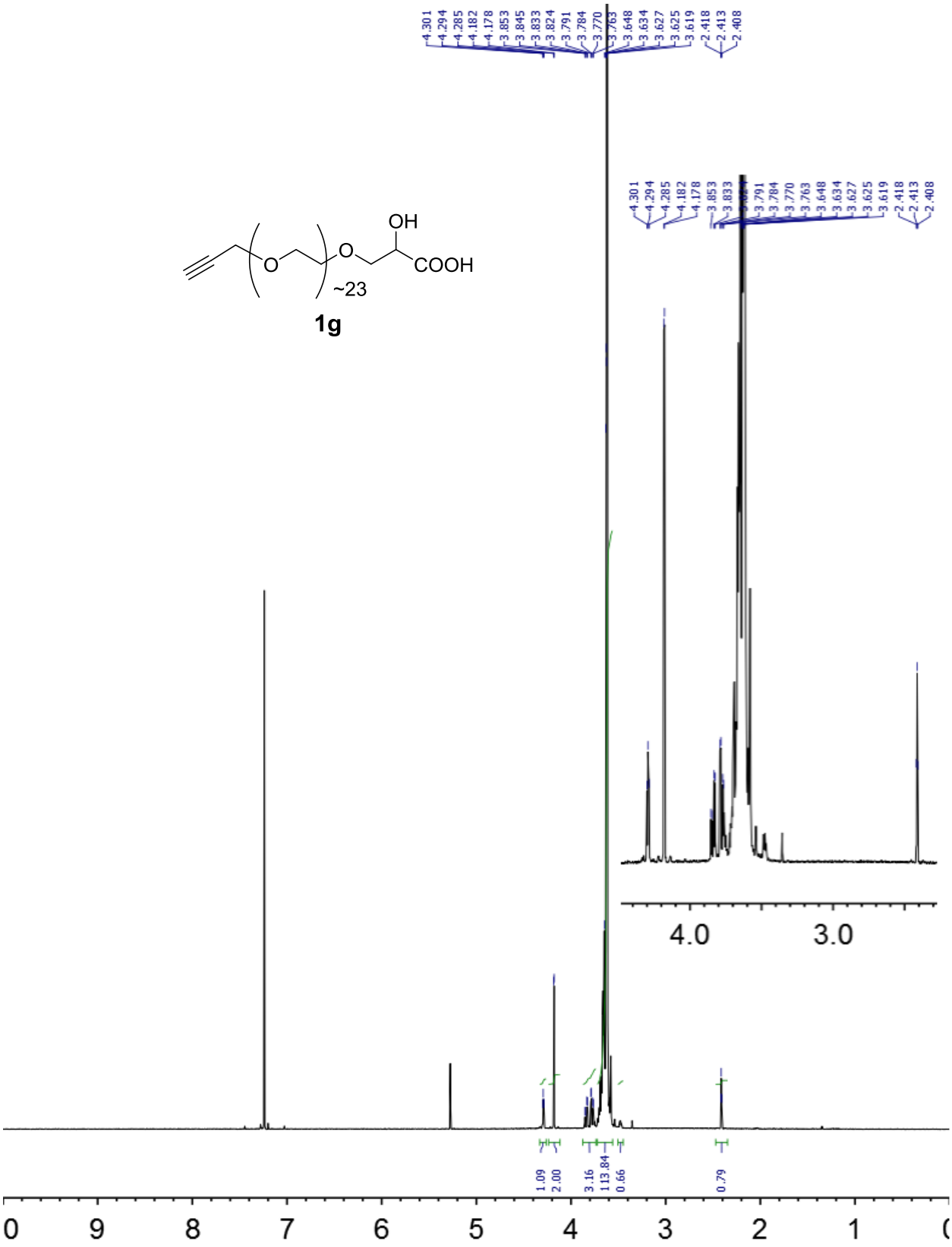

Figure S27. ^{1}H NMR spectrum of **1g** ($CDCl_3$, 500 MHz).

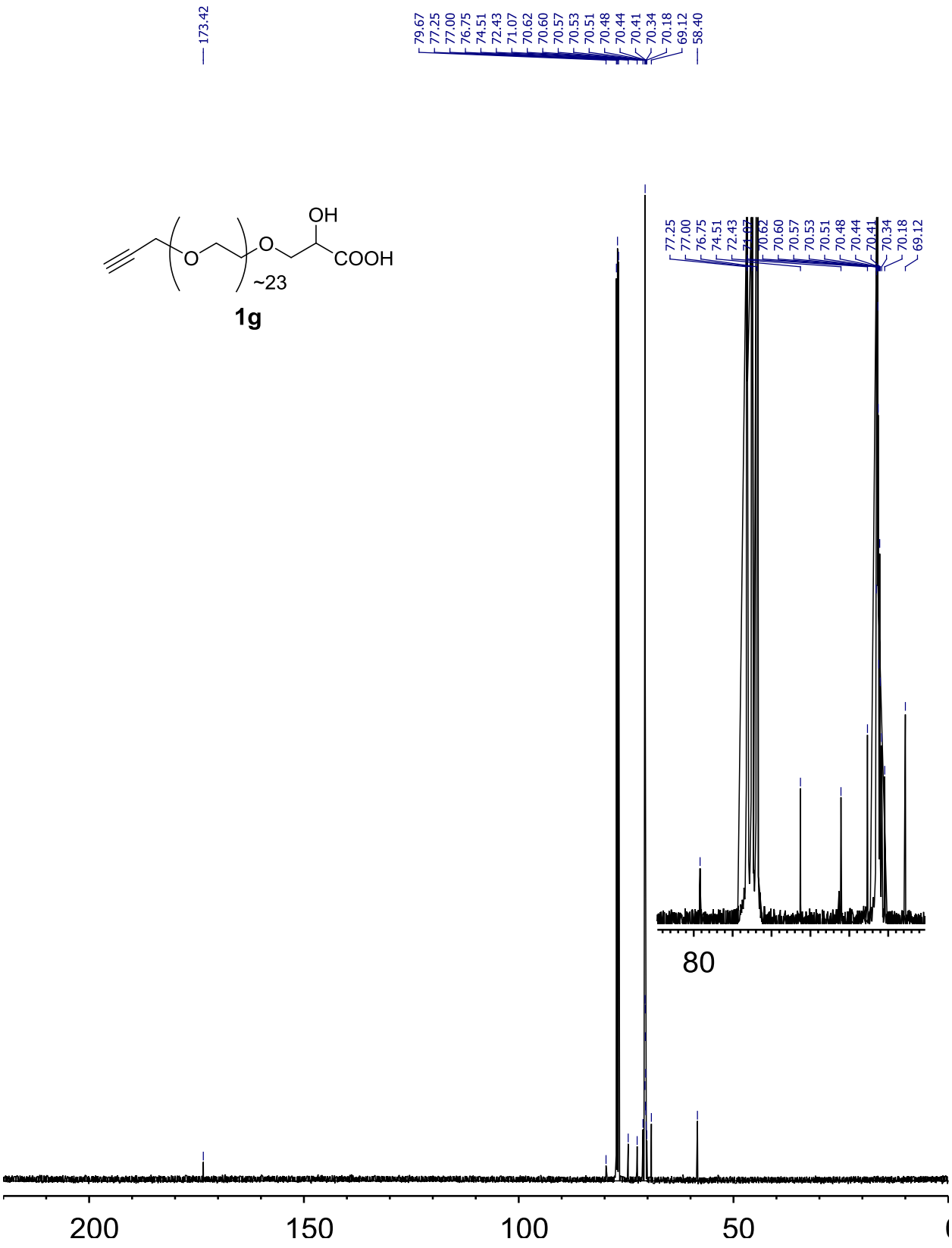

Figure S28. ^{13}C NMR spectrum of **1g** ($CDCl_3$, 125 MHz).

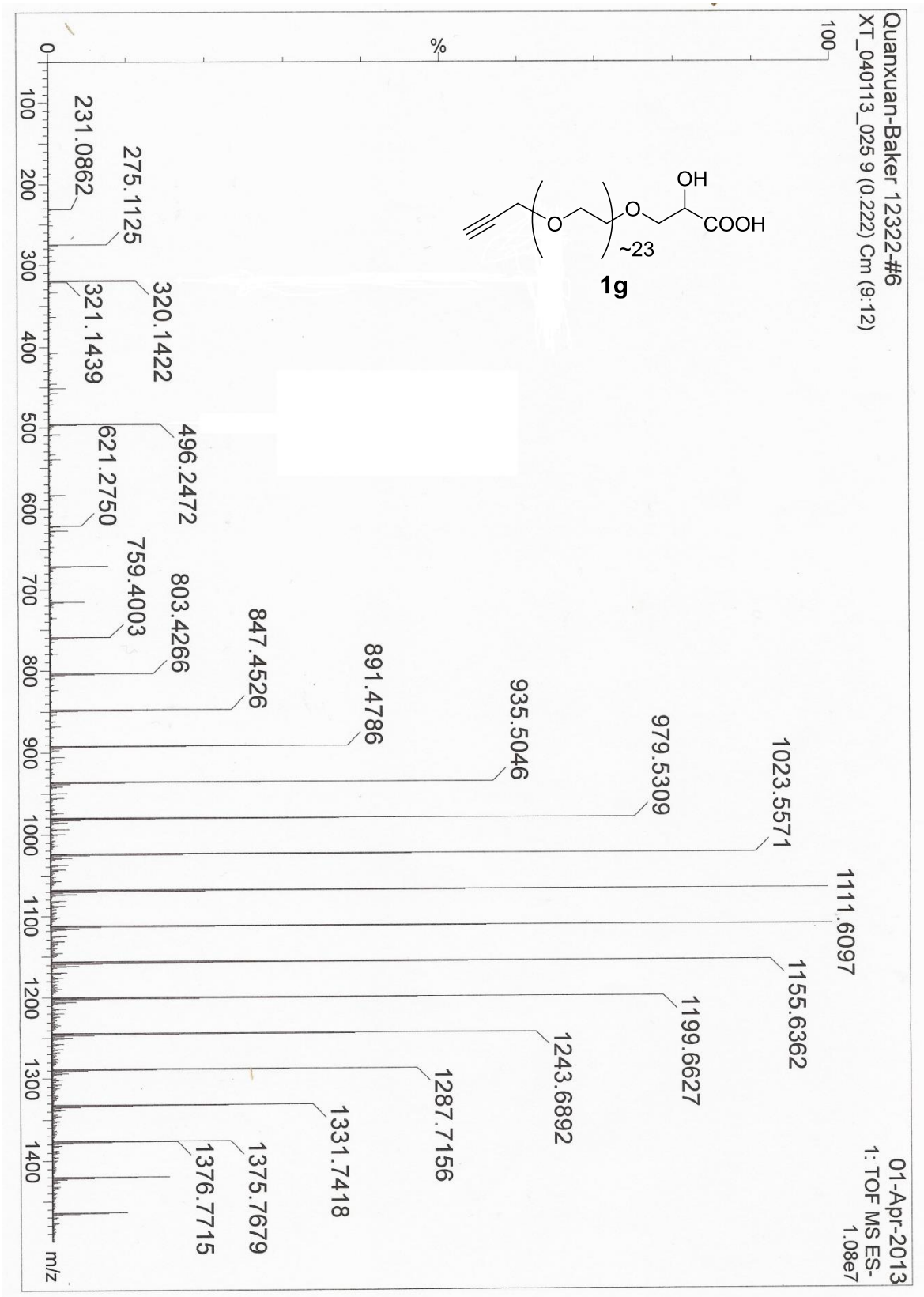

Figure S29. HRMS of **1g**.

Table S1. Exact Mass of 1g from HRMS Peaks[a]

n	Formula		Calcd for $[M-H]^-$	Found for $[M-H]^-$
	M	$[M-H]^-$		
14	$C_{34}H_{64}O_{18}$	$C_{34}H_{63}O_{18}$	759.4013	759.4003
15	$C_{36}H_{68}O_{19}$	$C_{36}H_{67}O_{19}$	803.4275	803.4266
16	$C_{38}H_{72}O_{20}$	$C_{38}H_{71}O_{20}$	847.4537	847.4526
17	$C_{40}H_{76}O_{21}$	$C_{40}H_{75}O_{21}$	891.4799	891.4786
18	$C_{42}H_{80}O_{22}$	$C_{42}H_{79}O_{22}$	935.5061	935.5046
19	$C_{44}H_{84}O_{23}$	$C_{44}H_{83}O_{23}$	979.5323	979.5309
20	$C_{46}H_{88}O_{24}$	$C_{46}H_{87}O_{24}$	1023.5585	1023.5571
21	$C_{48}H_{92}O_{25}$	$C_{48}H_{91}O_{25}$	1067.5847	-- [b]
22	$C_{50}H_{96}O_{26}$	$C_{50}H_{95}O_{26}$	1111.6109	1111.6097
23	$C_{52}H_{100}O_{27}$	$C_{52}H_{99}O_{27}$	1155.6371	1155.6362
24	$C_{54}H_{104}O_{28}$	$C_{54}H_{103}O_{28}$	1199.6633	1199.6627
25	$C_{56}H_{108}O_{29}$	$C_{56}H_{107}O_{29}$	1243.6895	1243.6892
26	$C_{58}H_{112}O_{30}$	$C_{58}H_{111}O_{30}$	1287.7157	1287.7156
27	$C_{60}H_{116}O_{31}$	$C_{60}H_{115}O_{31}$	1331.7419	1331.7418
28	$C_{62}H_{120}O_{32}$	$C_{62}H_{129}O_{32}$	1375.7681	1375.7679

[a] Mass data of **1g** are calculated or extracted from HRMS (**Figure S29**). [b] Exact mass was not reported by HRMS of **1g** possibly due to the overcrowded printing .

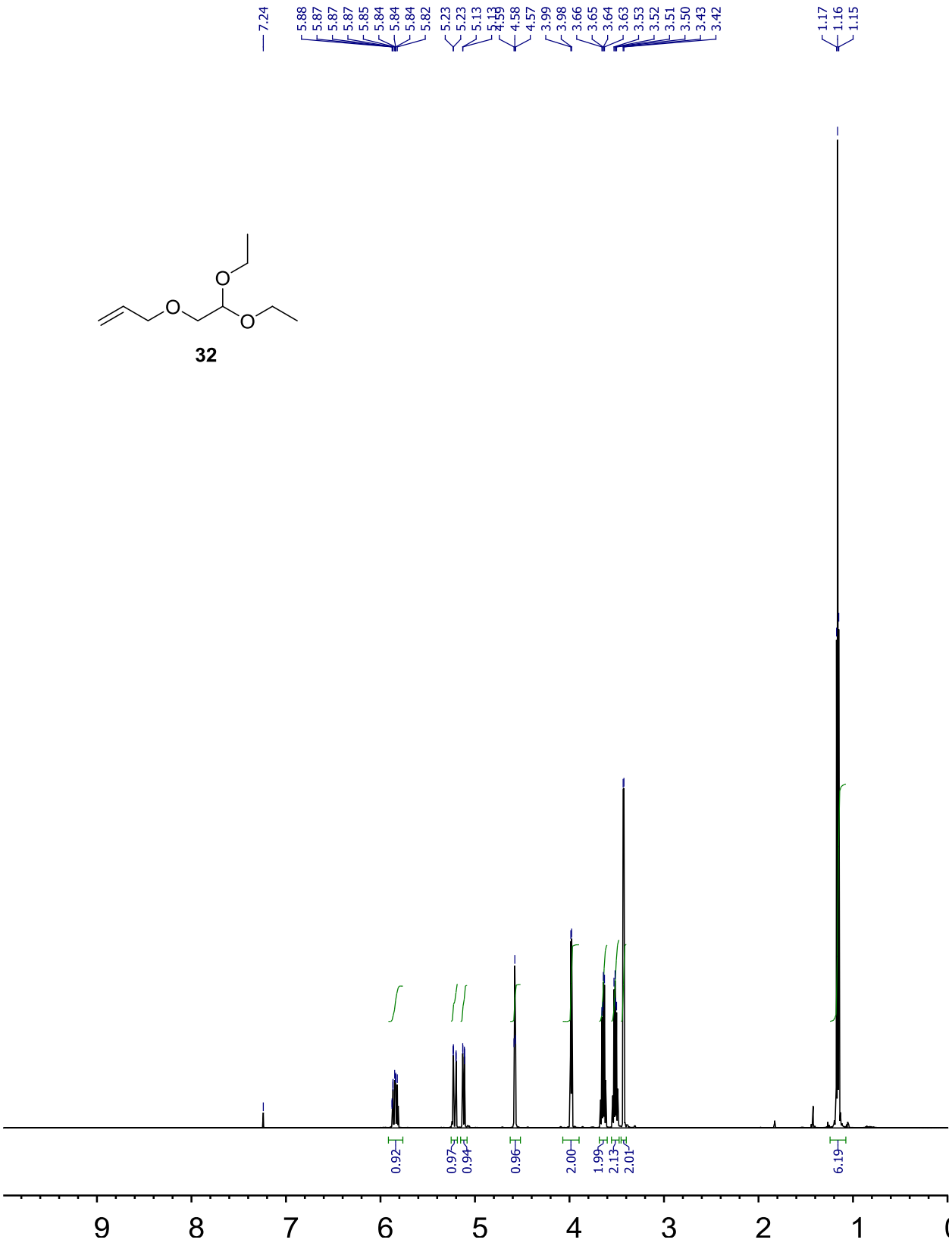

Figure S30. ^{1}H NMR spectrum of **32** ($CDCl_3$, 600 MHz).

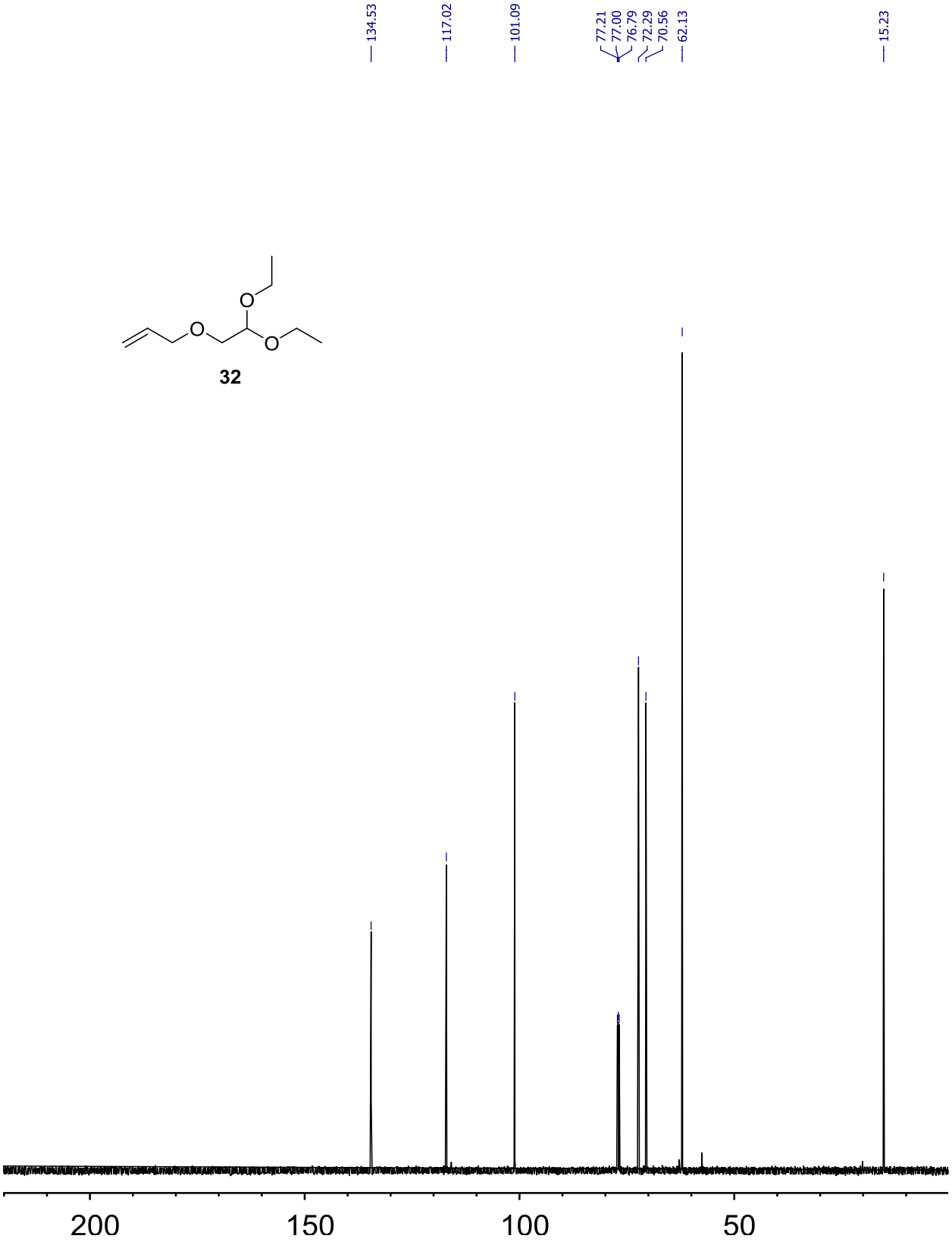

Figure S31. ^{13}C NMR spectrum of **32** ($CDCl_3$, 150 MHz).

Figure S32. ^{1}H NMR spectrum of **1h** ($CDCl_3$, 500 MHz).

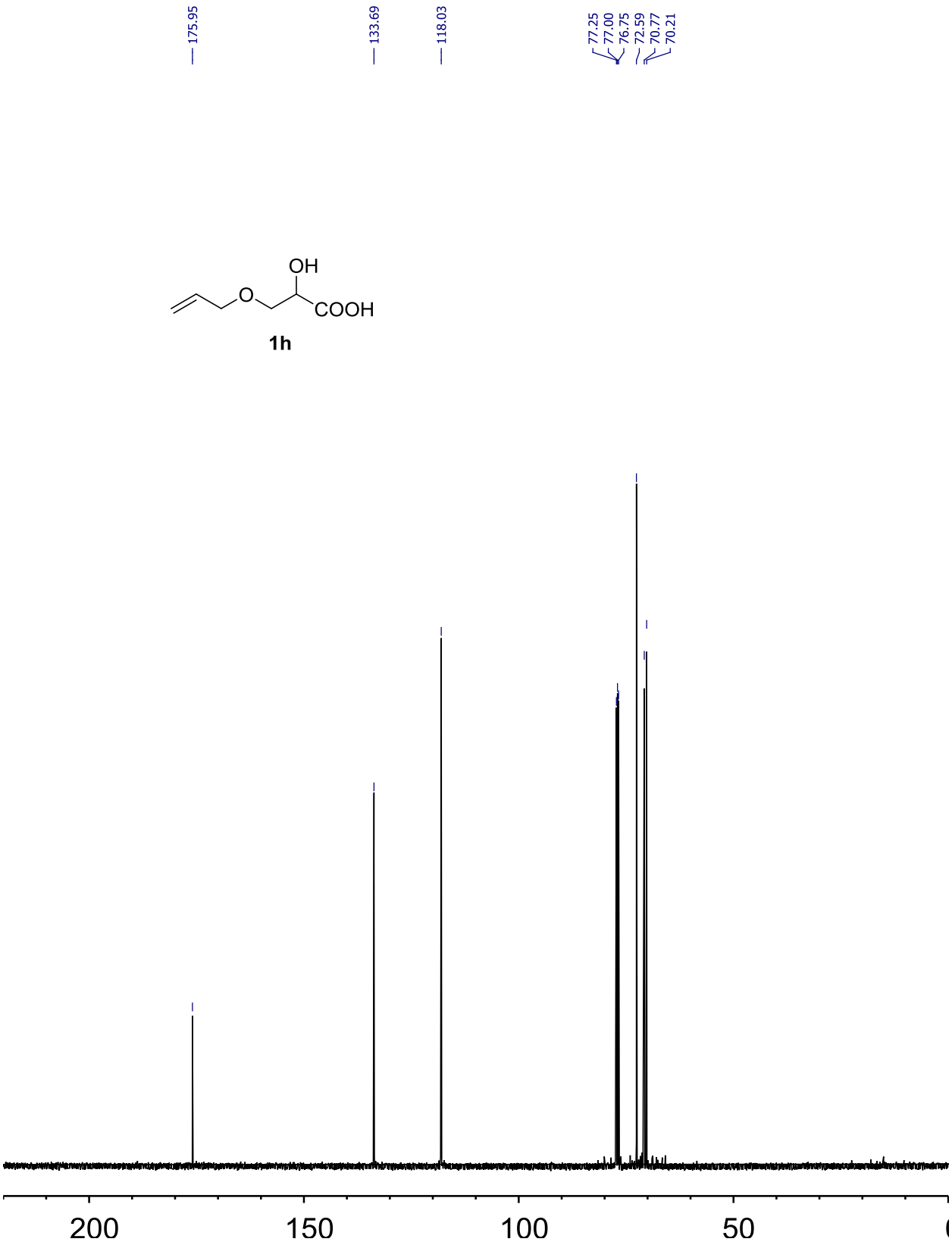

Figure S33. ^{13}C NMR spectrum of **1h** ($CDCl_3$, 125 MHz).