

# SUPPORTING INFORMATION (*New J. Chem*)

## Understanding multivalent effects in glycosidase inhibition using C-glycoside click clusters as molecular probes

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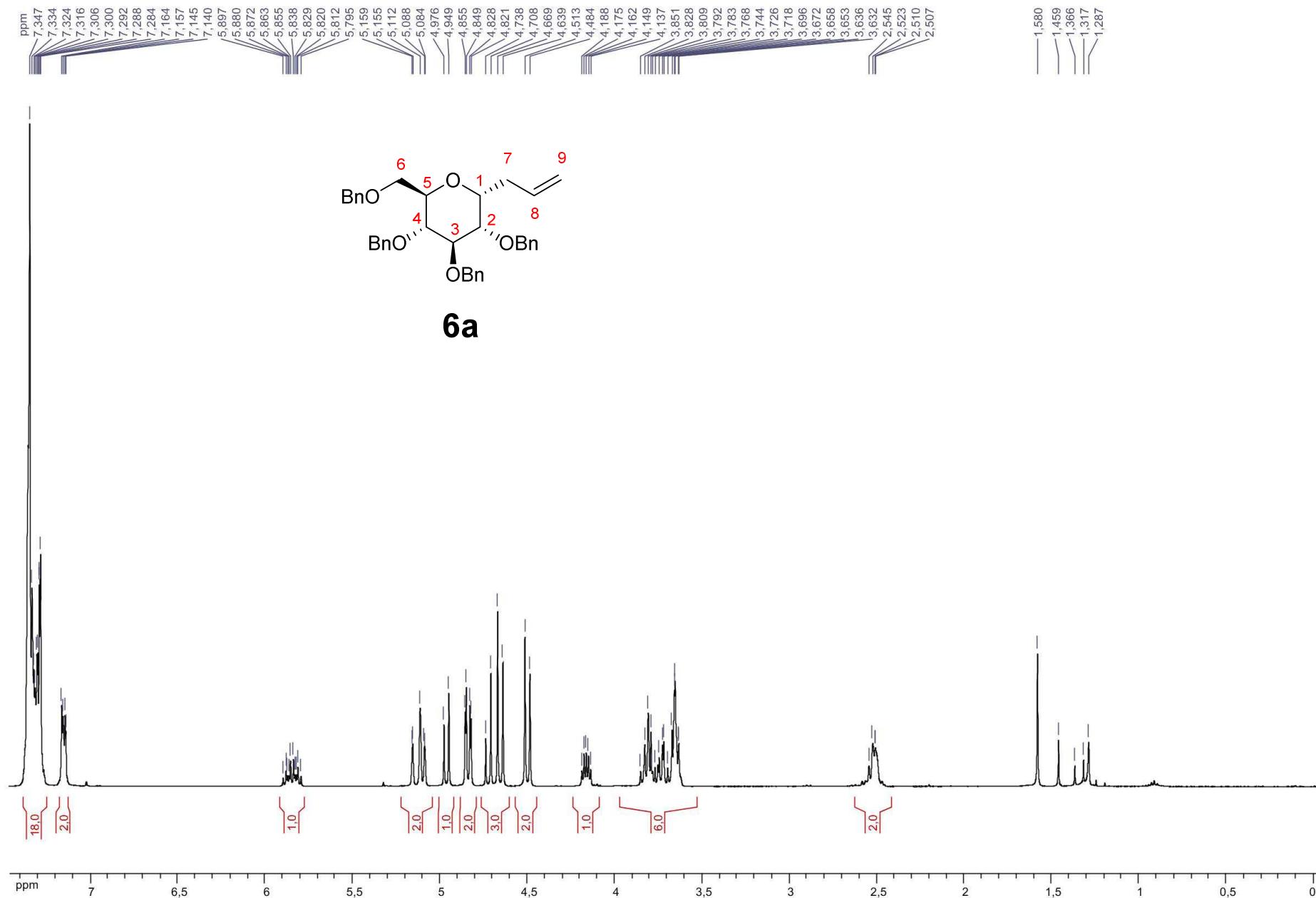
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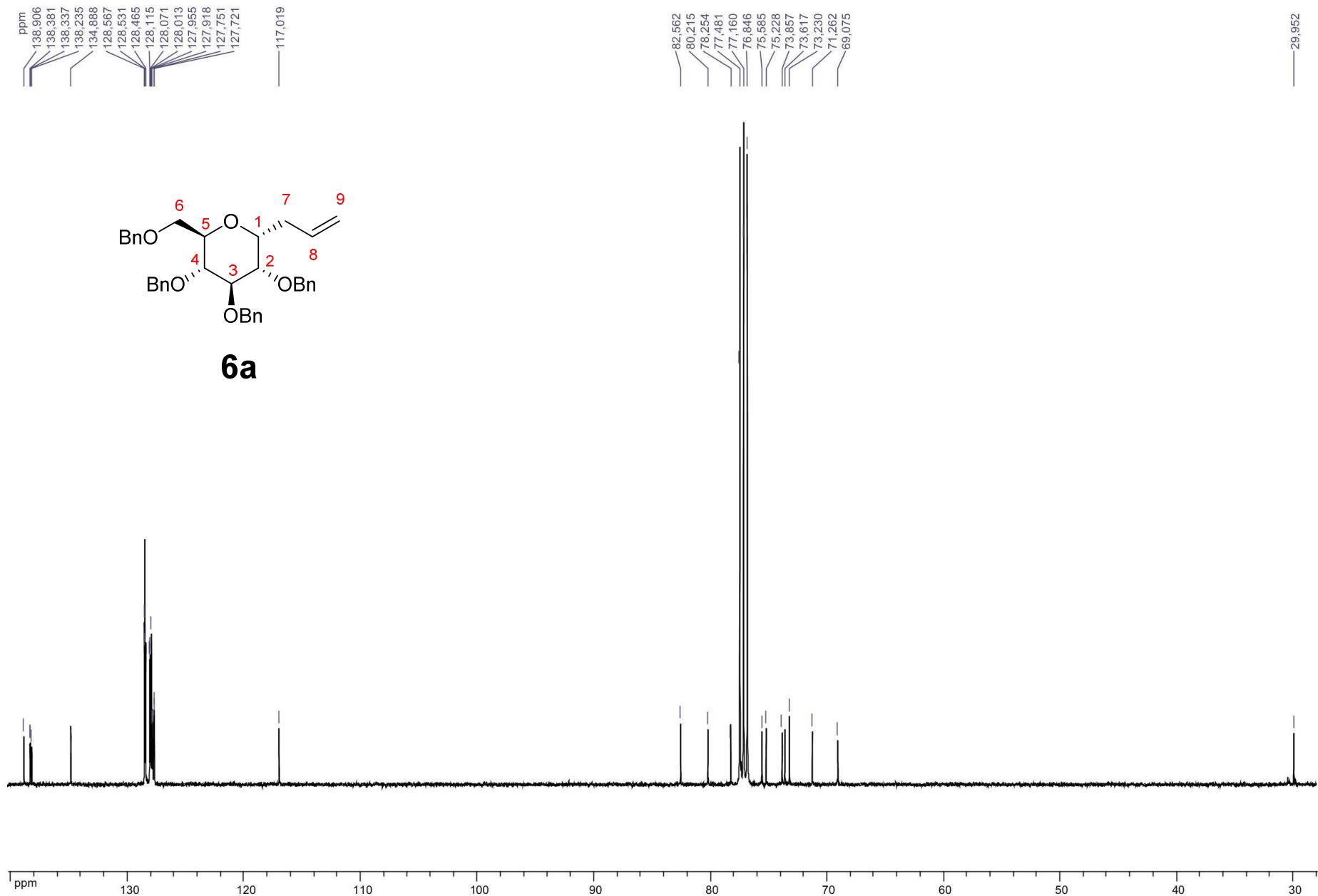
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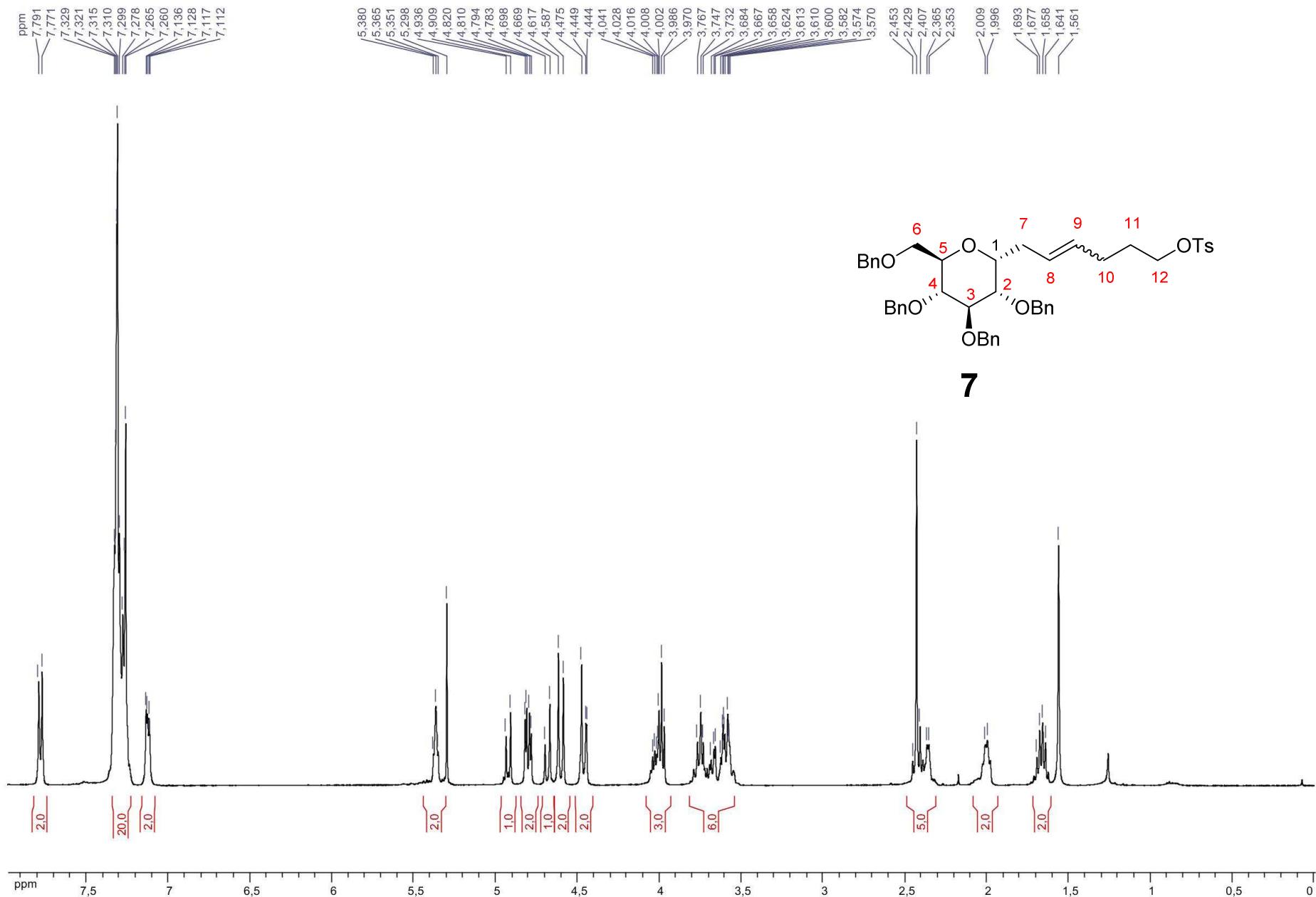
<sup>1</sup>H NMR spectrum (400 MHz, CDCl<sub>3</sub>) of compound 6a:



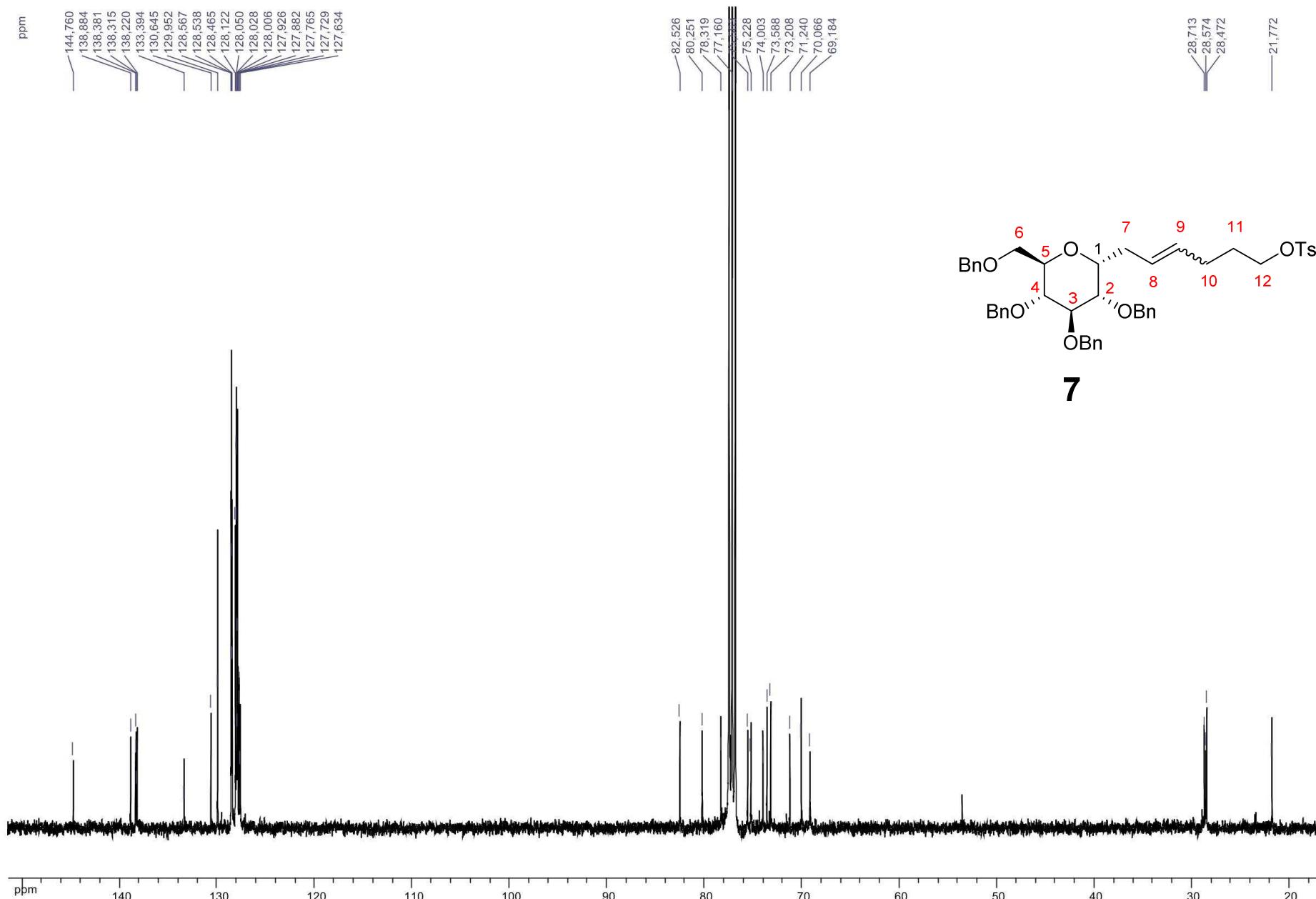
<sup>13</sup>C NMR spectrum (100 MHz, CDCl<sub>3</sub>) of compound 6a:



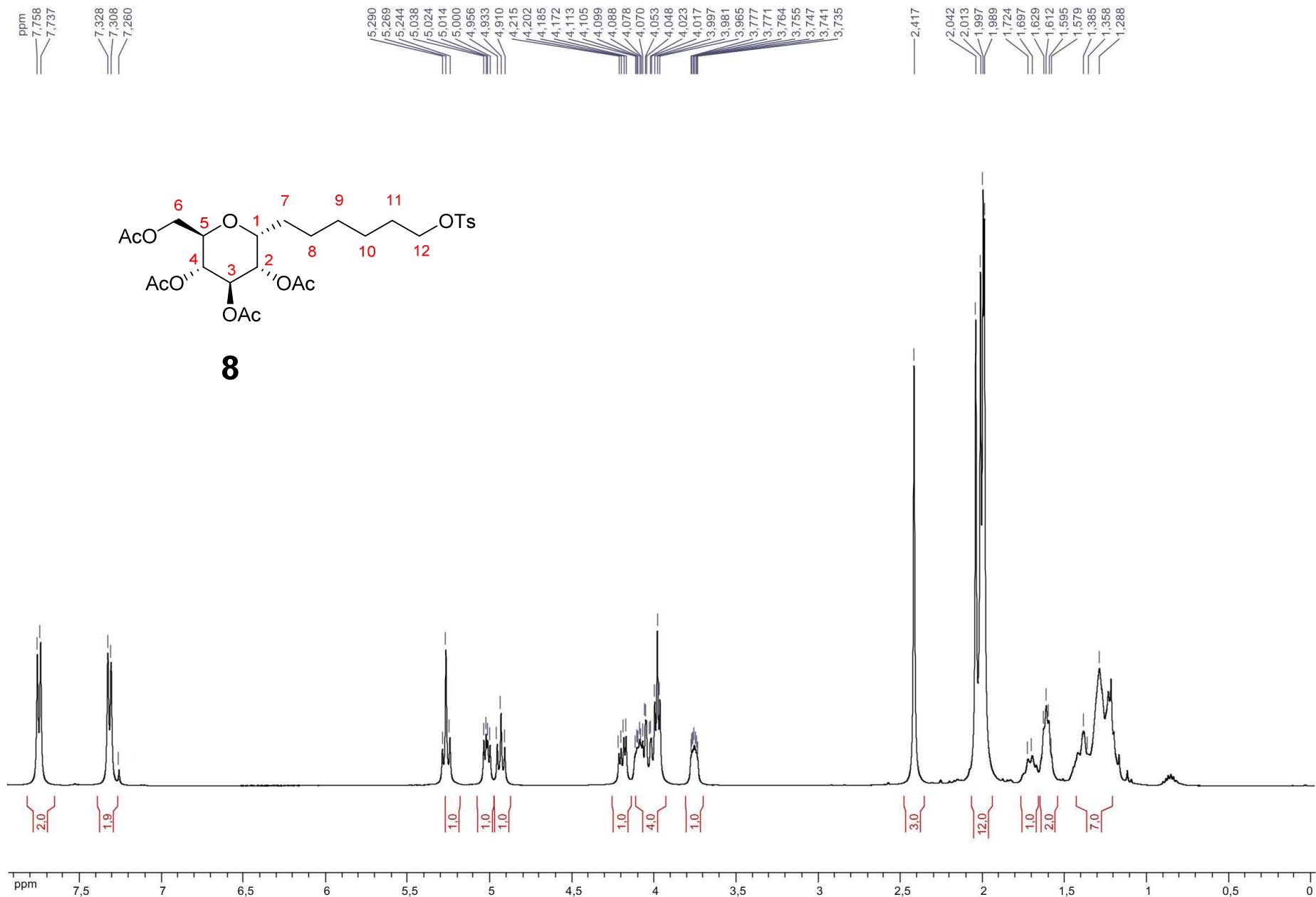
**<sup>1</sup>H NMR spectrum (400 MHz, CDCl<sub>3</sub>) of compound 7:**



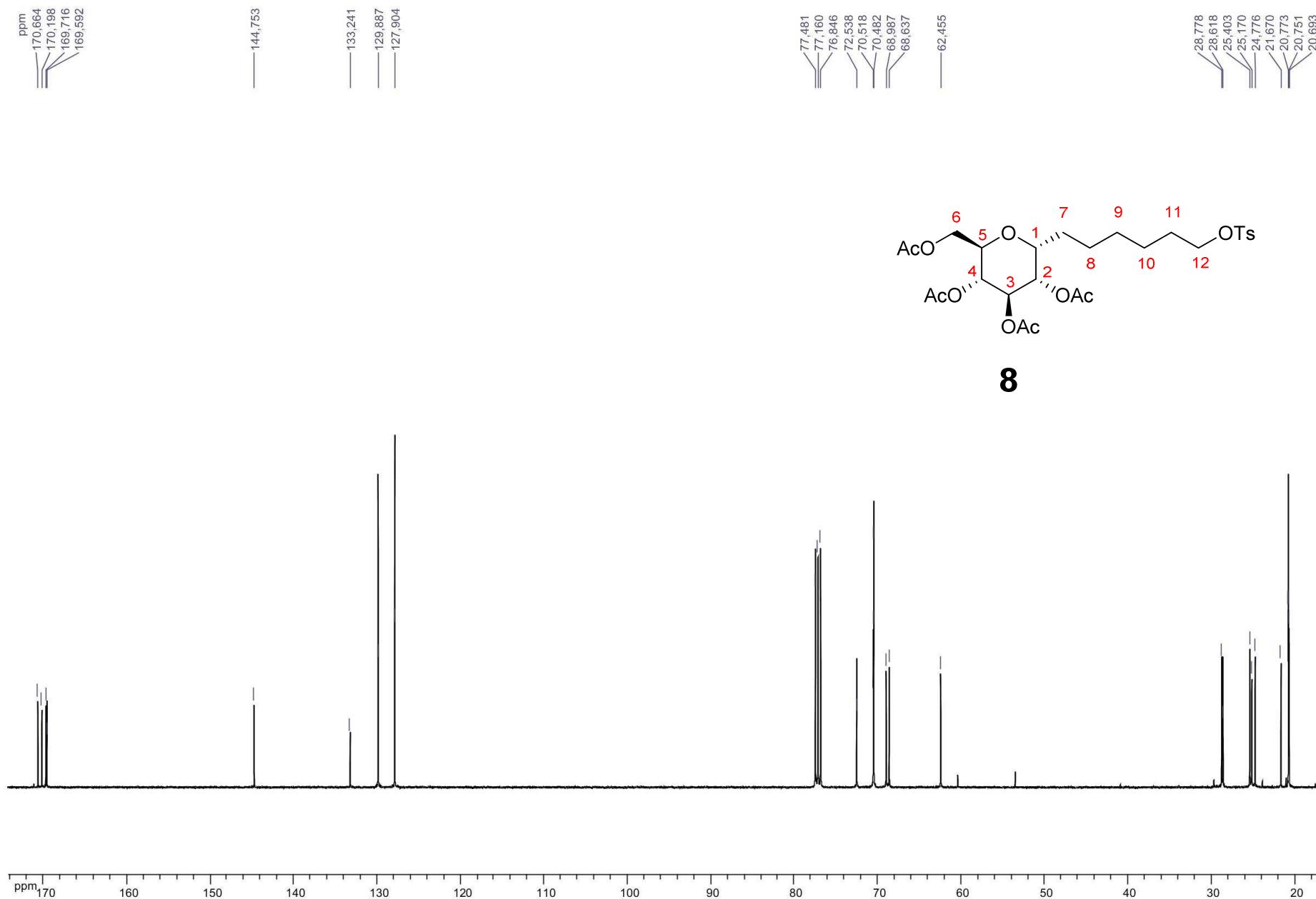
**$^{13}\text{C}$  NMR spectrum (100 MHz,  $\text{CDCl}_3$ ) of compound 7:**



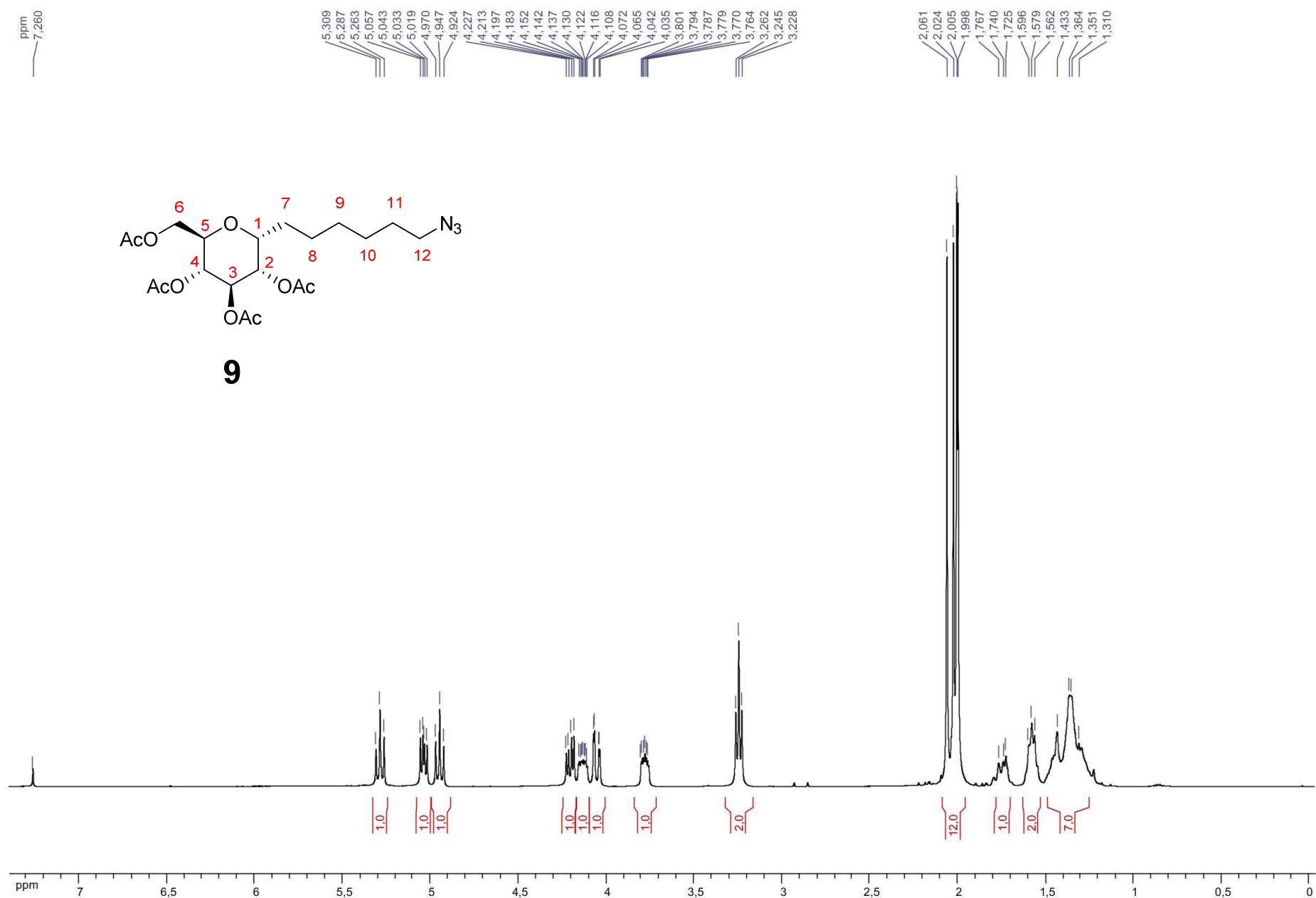
**<sup>1</sup>H NMR spectrum (400 MHz, CDCl<sub>3</sub>) of compound 8:**



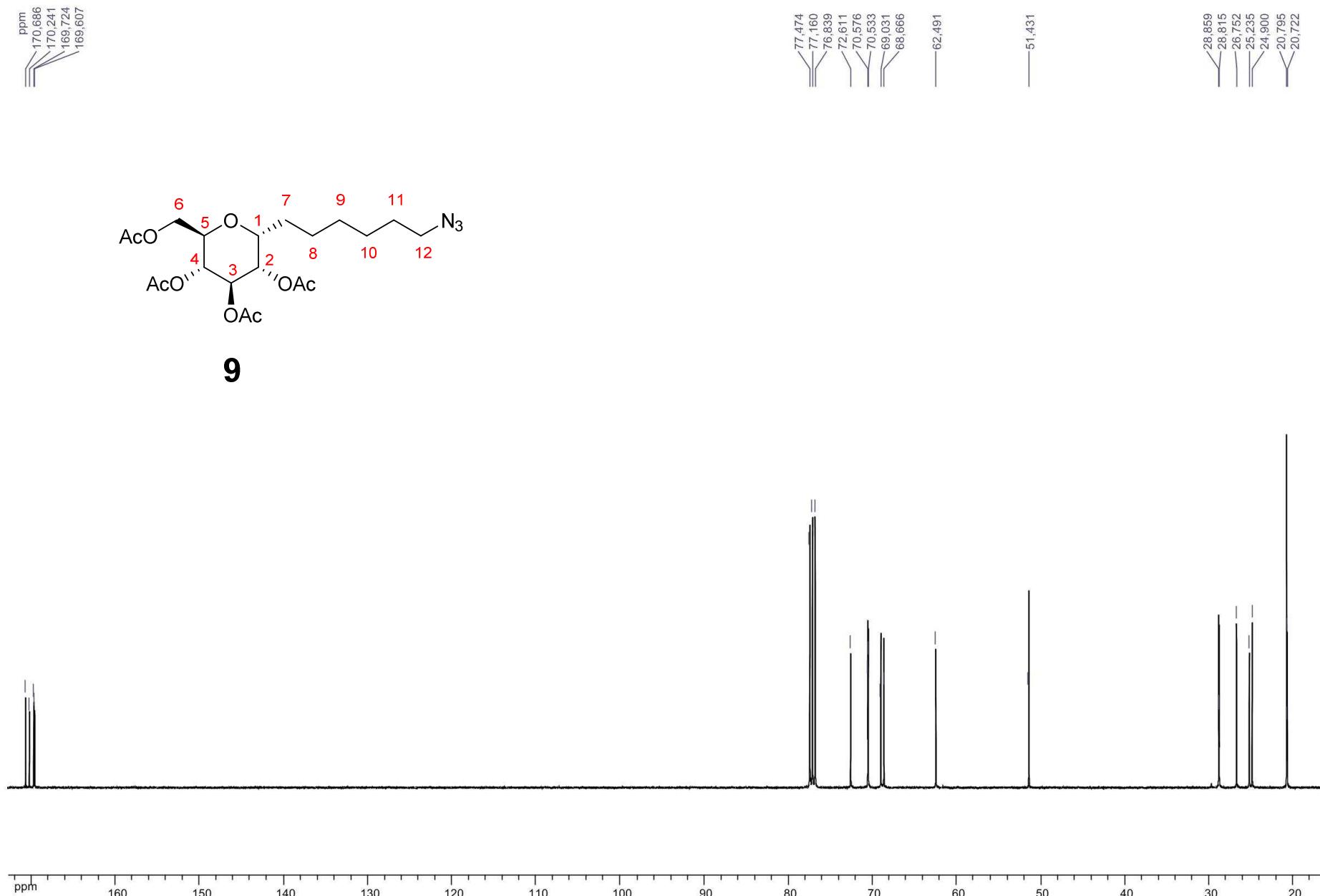
**$^{13}\text{C}$  NMR spectrum (100 MHz,  $\text{CDCl}_3$ ) of compound 8:**



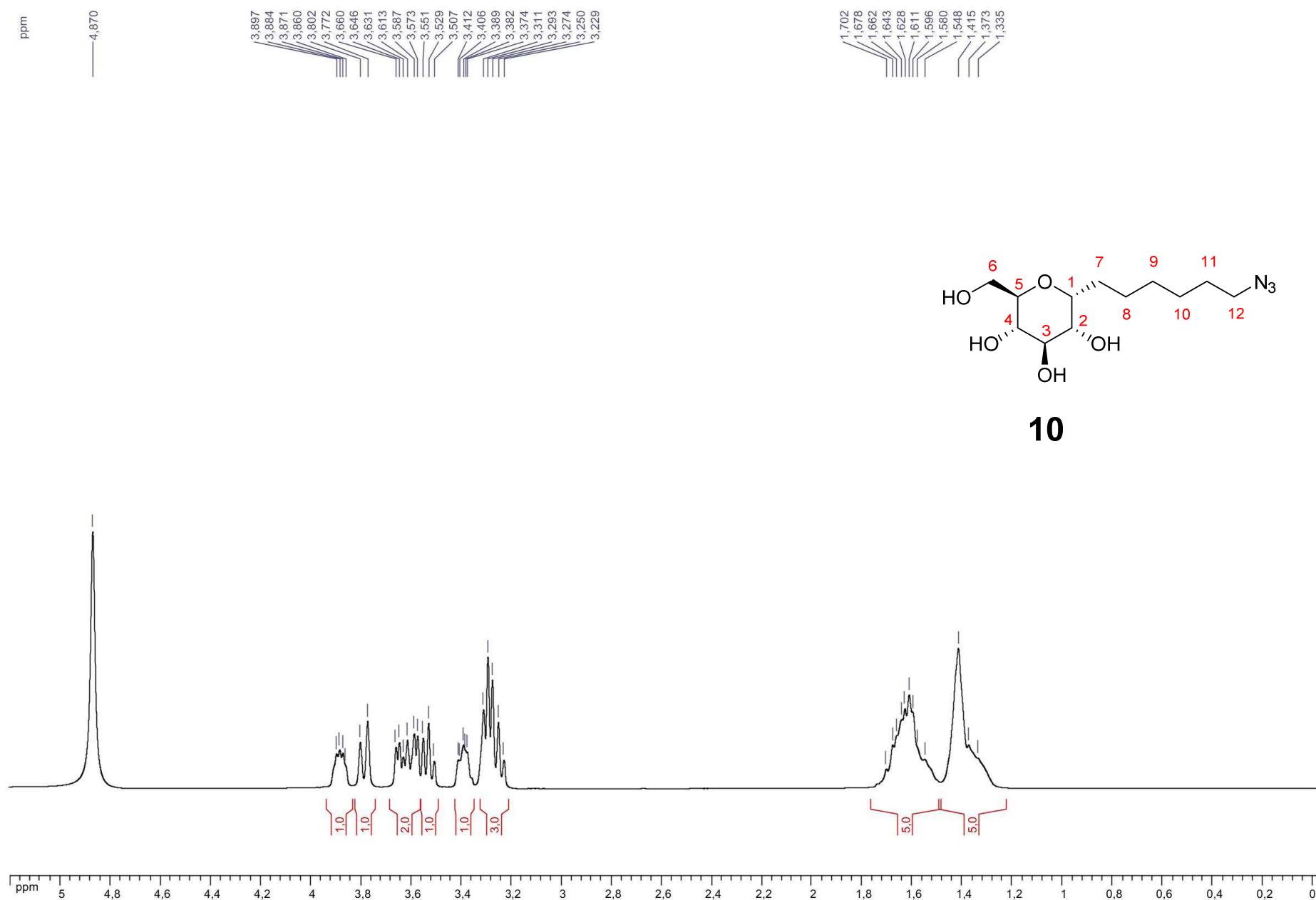
**<sup>1</sup>H NMR spectrum (400 MHz, CDCl<sub>3</sub>) of compound 9:**



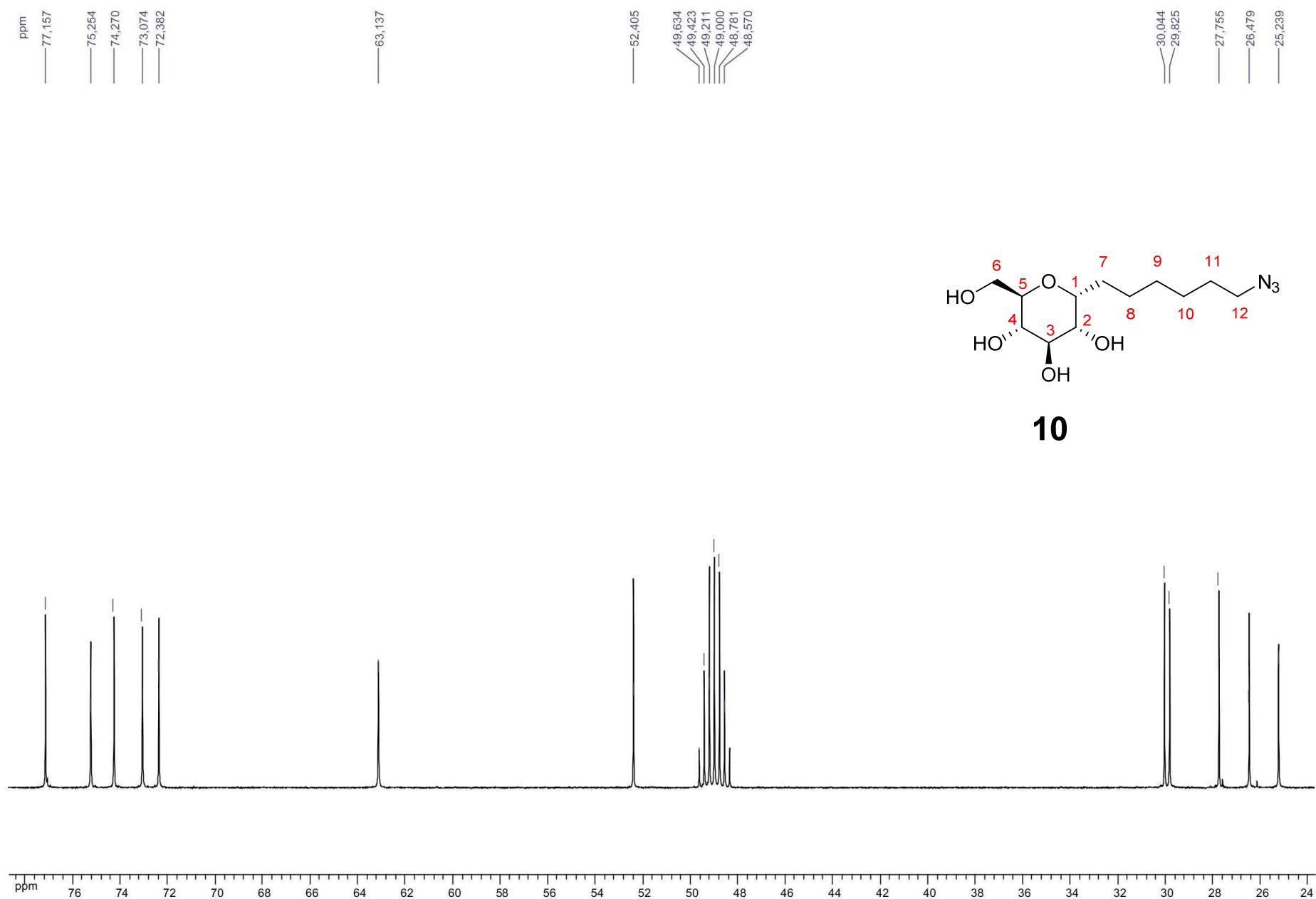
<sup>13</sup>C NMR spectrum (100 MHz, CDCl<sub>3</sub>) of compound 9:



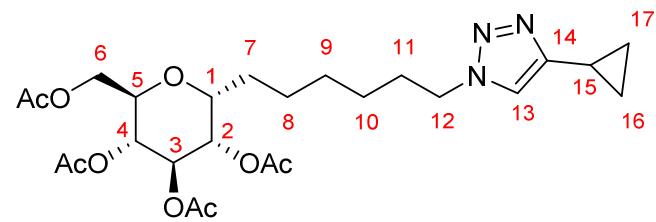
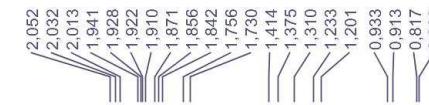
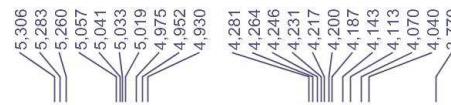
**<sup>1</sup>H NMR spectrum (400 MHz, CD<sub>3</sub>OD) of compound 10:**



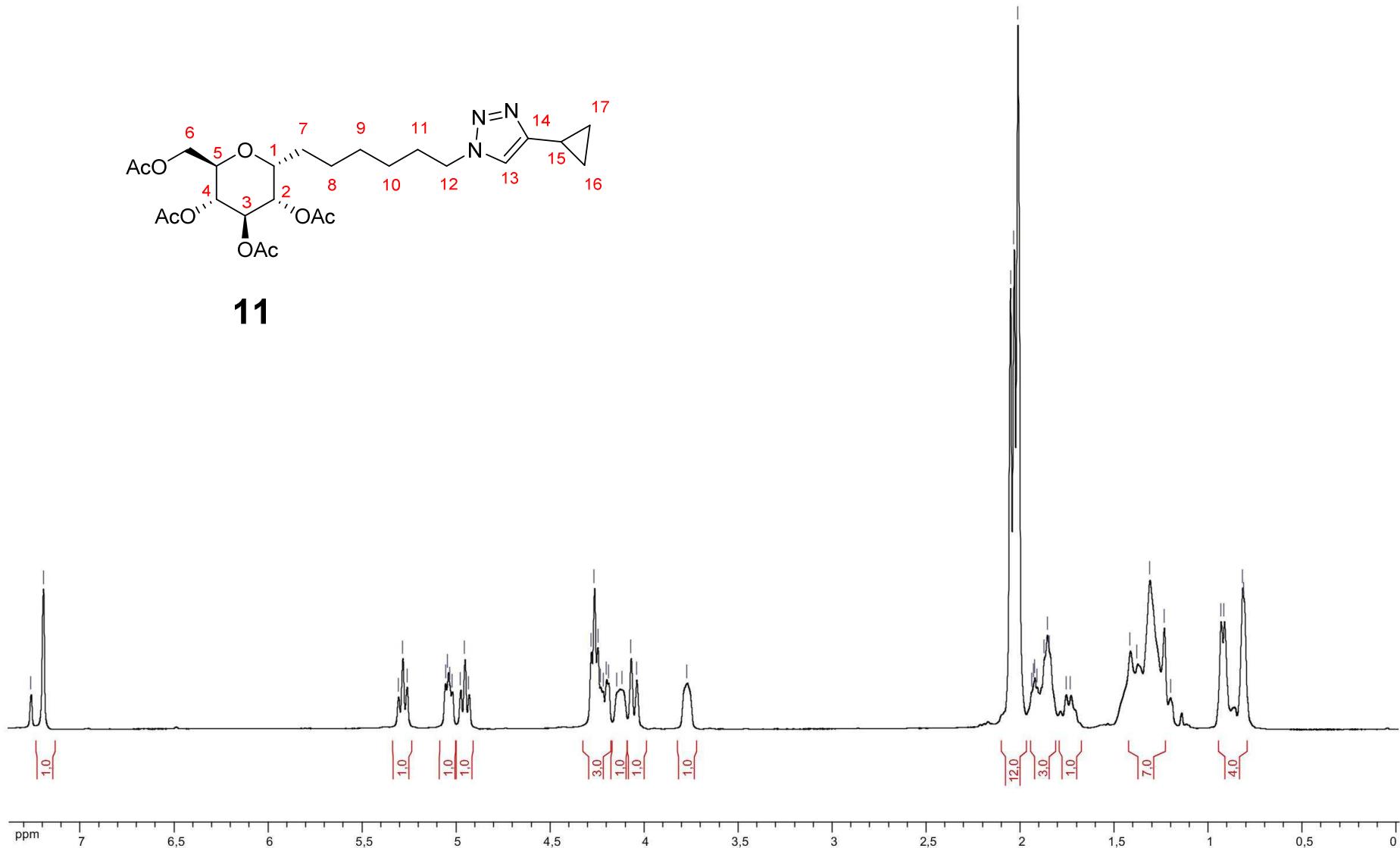
<sup>13</sup>C NMR spectrum (100 MHz, CD<sub>3</sub>OD) of compound 10:



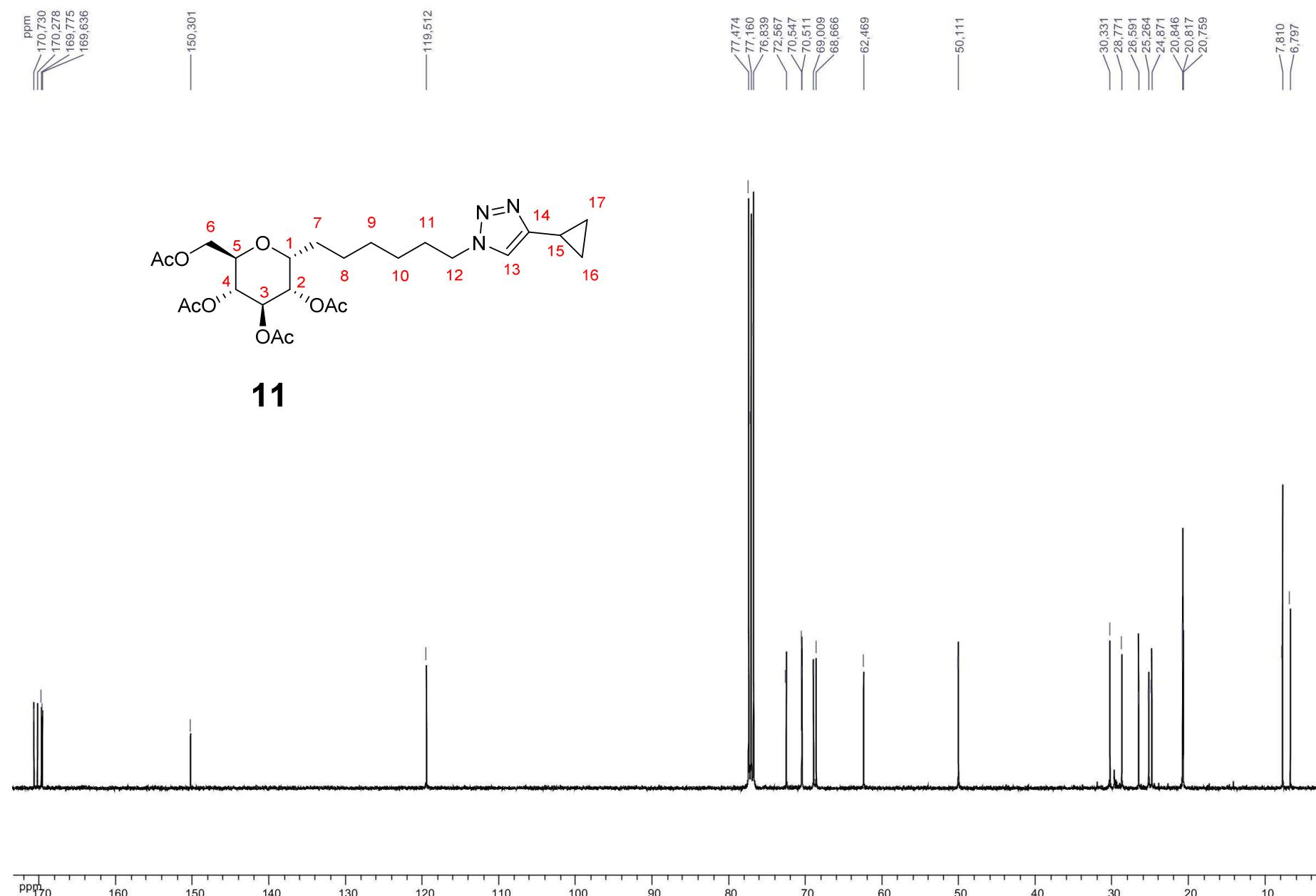
**<sup>1</sup>H NMR spectrum (400 MHz, CDCl<sub>3</sub>) of compound 11:**



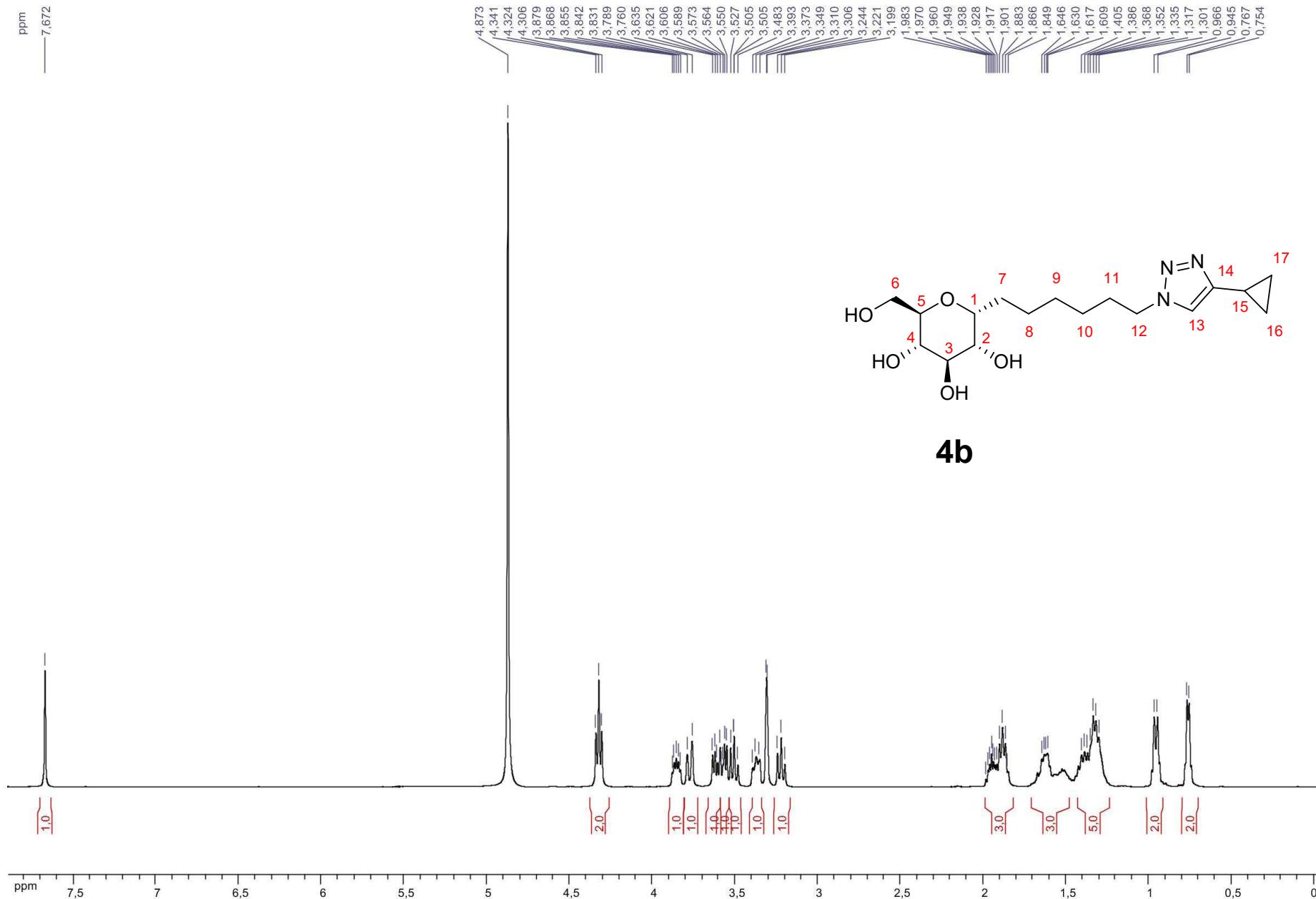
11



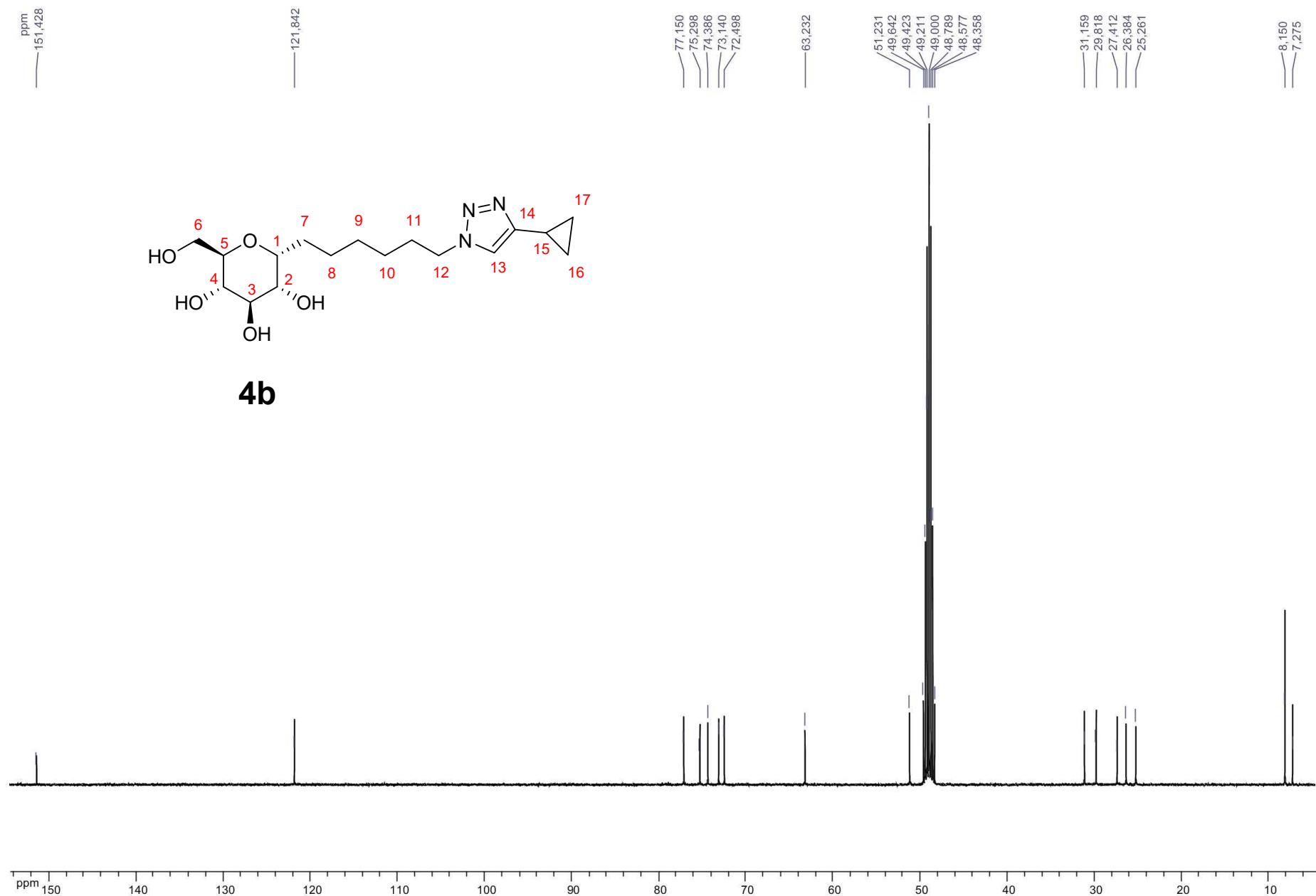
**<sup>13</sup>C NMR spectrum (100 MHz, CDCl<sub>3</sub>) of compound 11:**



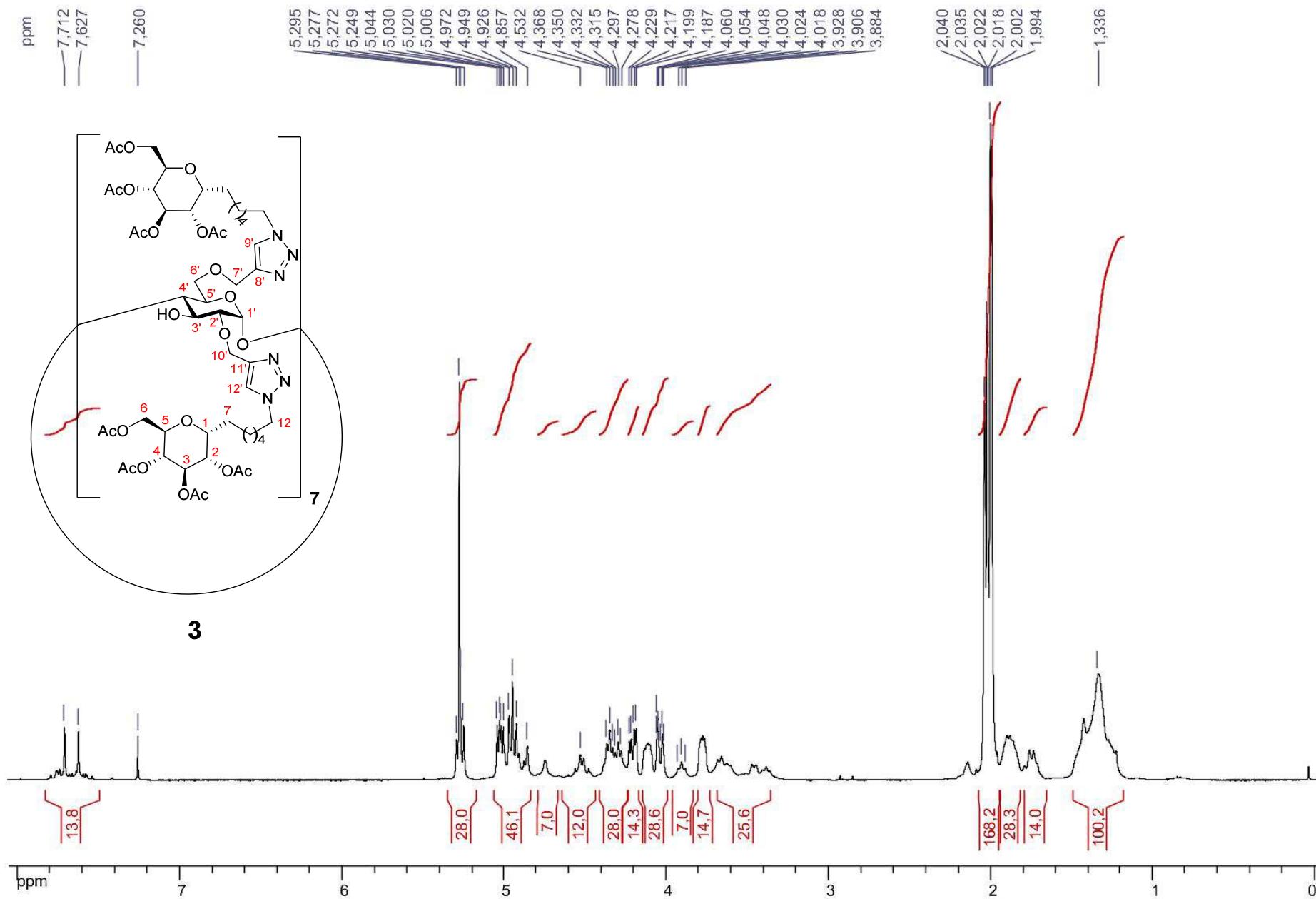
**<sup>1</sup>H NMR spectrum (400 MHz, CD<sub>3</sub>OD) of compound 4b:**



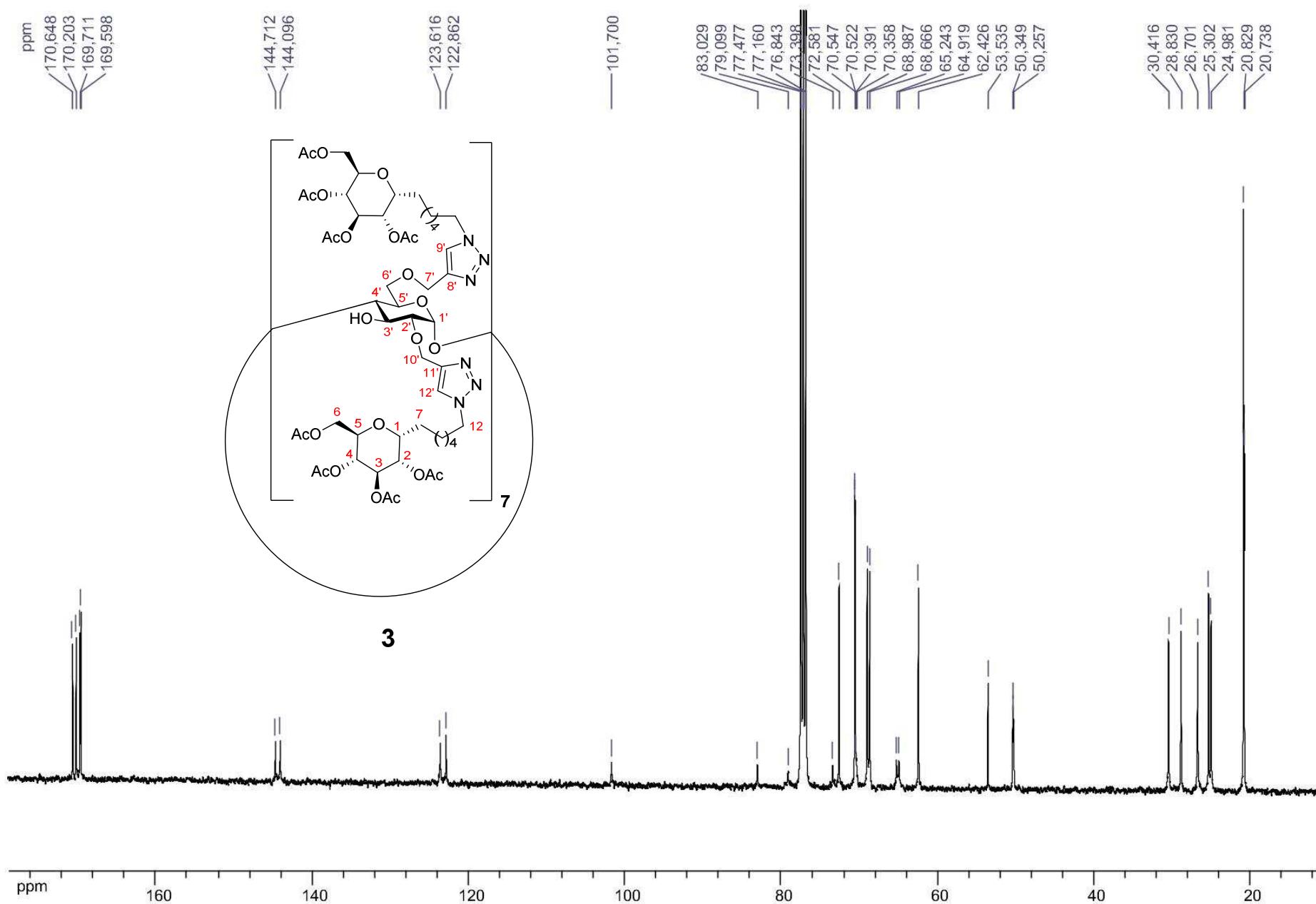
**$^{13}\text{C}$  NMR spectrum (100 MHz,  $\text{CD}_3\text{OD}$ ) of compound 4b:**



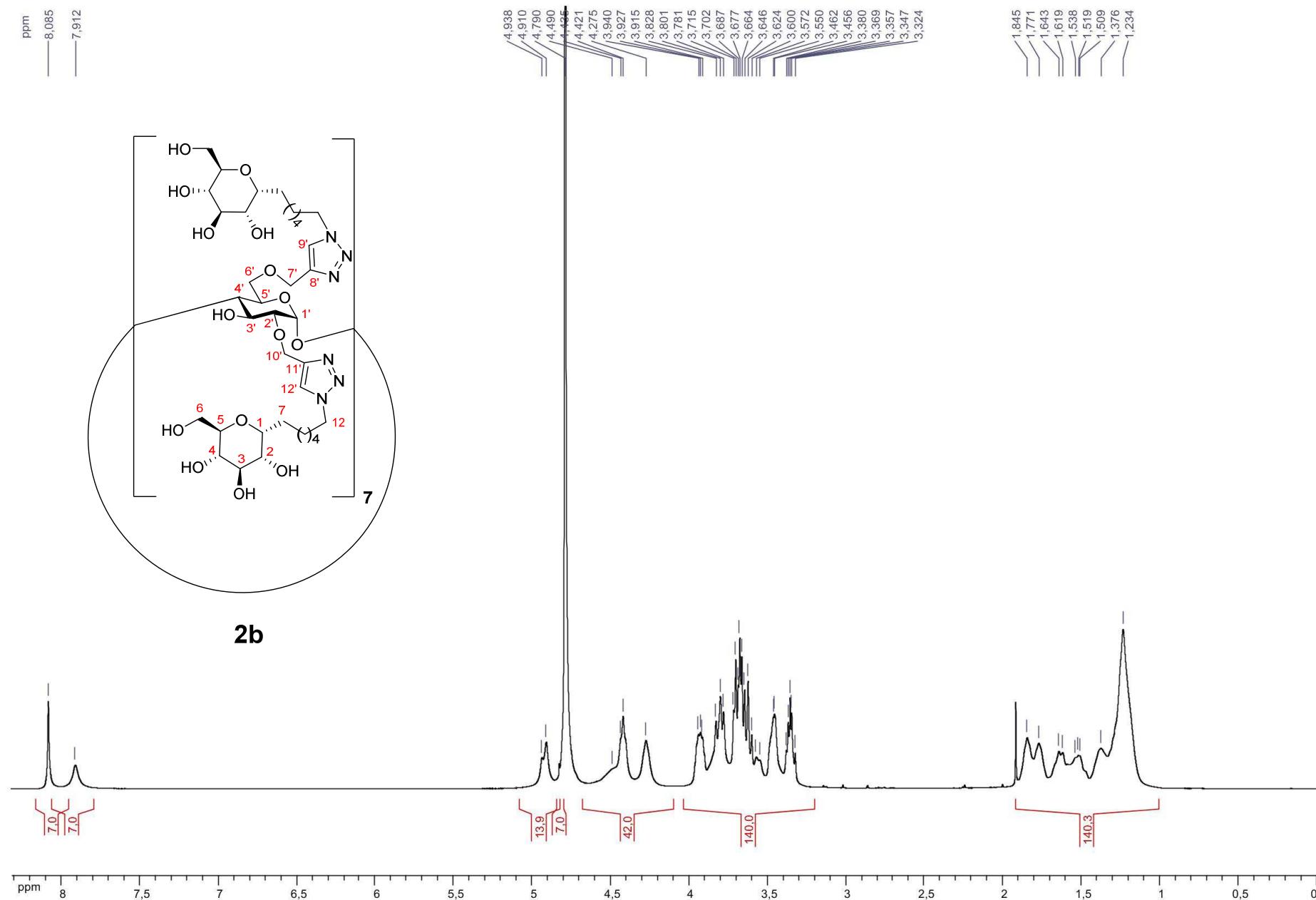
<sup>1</sup>H NMR spectrum (400 MHz, CDCl<sub>3</sub>) of compound 3:



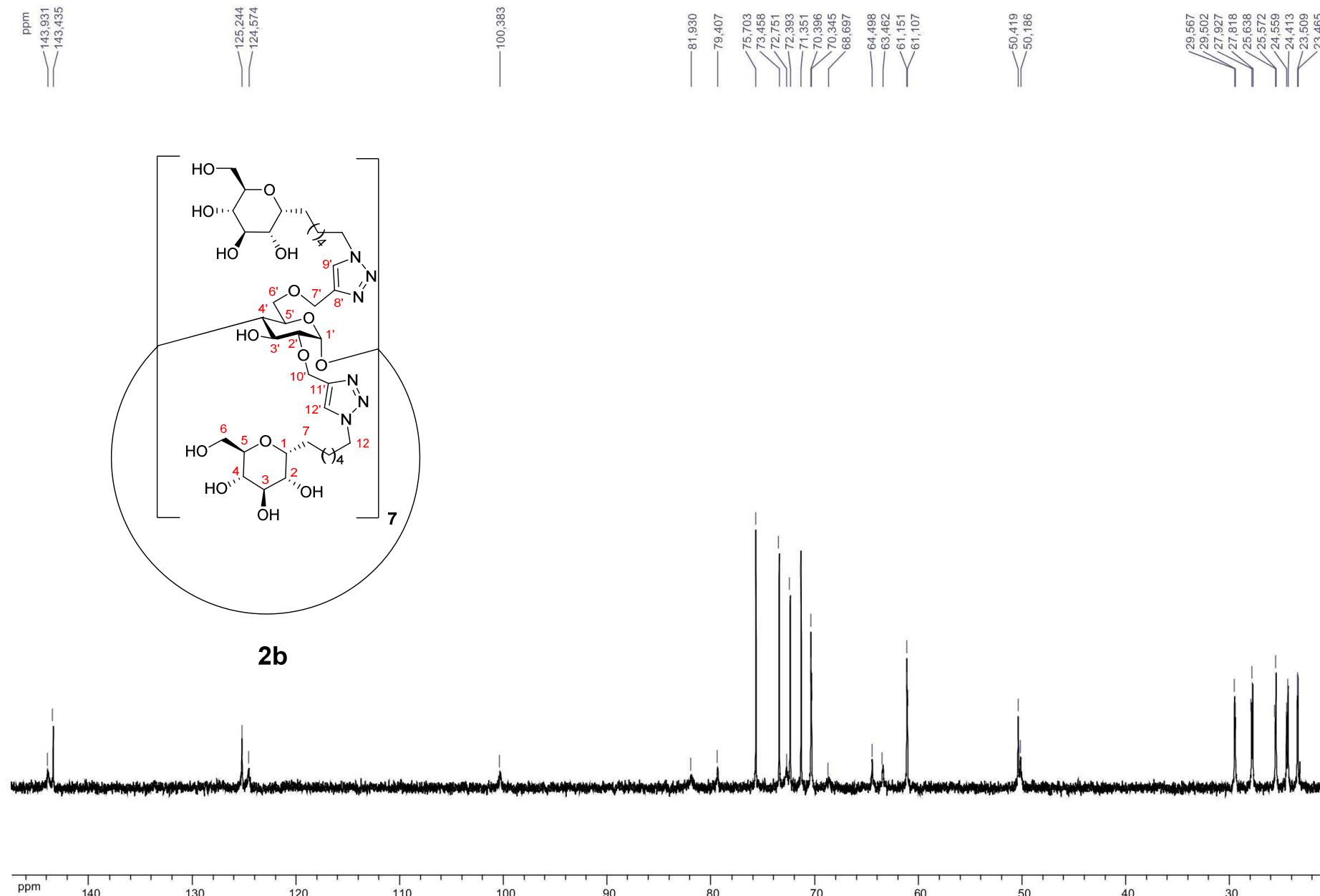
<sup>13</sup>C NMR spectrum (100 MHz, CDCl<sub>3</sub>) of compound 3:



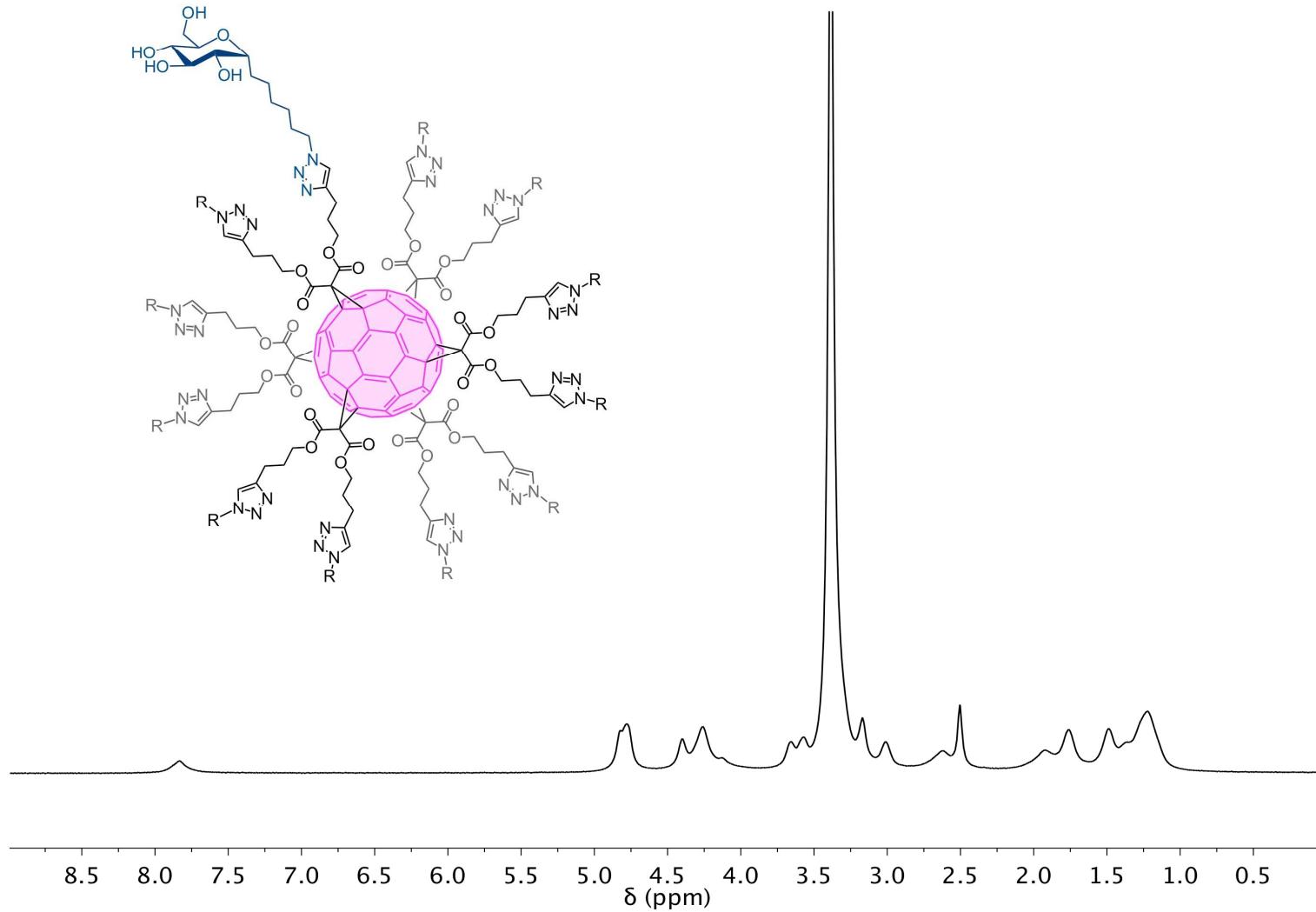
**<sup>1</sup>H NMR spectrum (300 MHz, D<sub>2</sub>O) of compound 2b:**



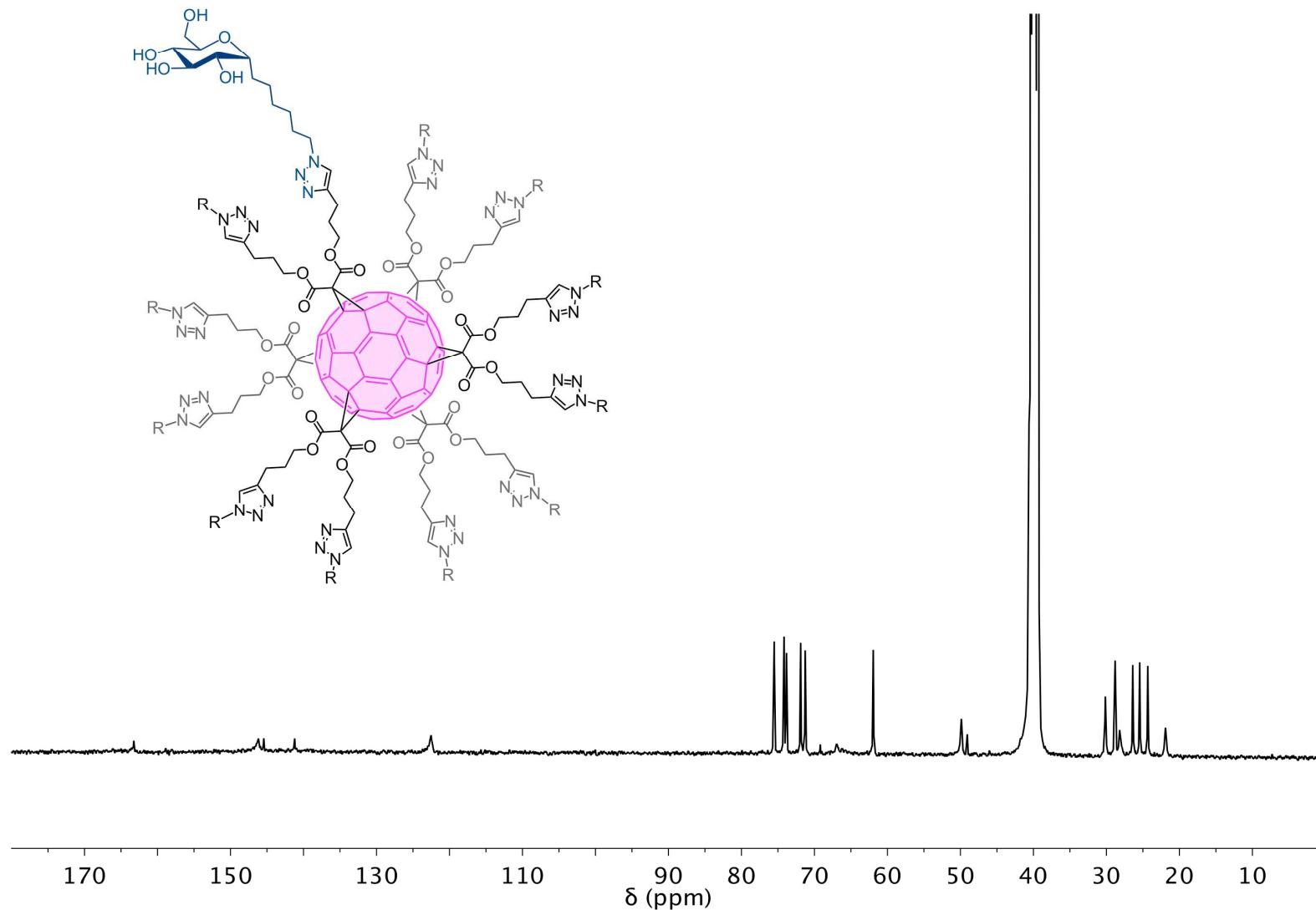
<sup>13</sup>C NMR spectrum (75.5 MHz, D<sub>2</sub>O) of compound 2b:



**<sup>1</sup>H NMR spectrum (400 MHz, D<sub>2</sub>O/DMSO-d<sub>6</sub>, 4:1) of compound 2a:**



<sup>13</sup>C NMR spectrum (100 MHz, D<sub>2</sub>O/DMSO-*d*<sub>6</sub>, 4:1) of compound 2a:



**Table S1.** Optimization of the olefin metathesis reaction of compound **6a**.<sup>[a]</sup>

Entry	Catalyst	T (°C)	Time	Additive	Product <b>7</b>
1	Hoveyda-Grubbs II (20 mol%)	40	18 h	-	~ 42% <sup>[b]</sup>
2	Grubbs I (10 mol%)	40	26 h	1,4-BQ (20 mol%)	35%
3	Grubbs II (15 mol%)	rt	23 h	1,4-BQ (20 mol%)	55%
4	Grubbs II (15 mol%)	rt	70 h	1,4-BQ (20 mol%)	68%

<sup>[a]</sup> Reactions were performed in CH<sub>2</sub>Cl<sub>2</sub> under argon. <sup>[b]</sup> Contaminated with analogues of **7** bearing C<sub>5</sub> or C<sub>7</sub> alkyl spacer as judged by MS analysis.