

**NUCLEOPHILIC ADDITION TO *N*-BENZOYLISOQUINOLINIUM CATION CATALYZED  
BY SODIUM TETRACYANOCYCLOPENTADIENIDES**

Takeo Sakai,\* Mai Hattori, Akari Tada, Junpei Matsuoka, and Yuji Mori

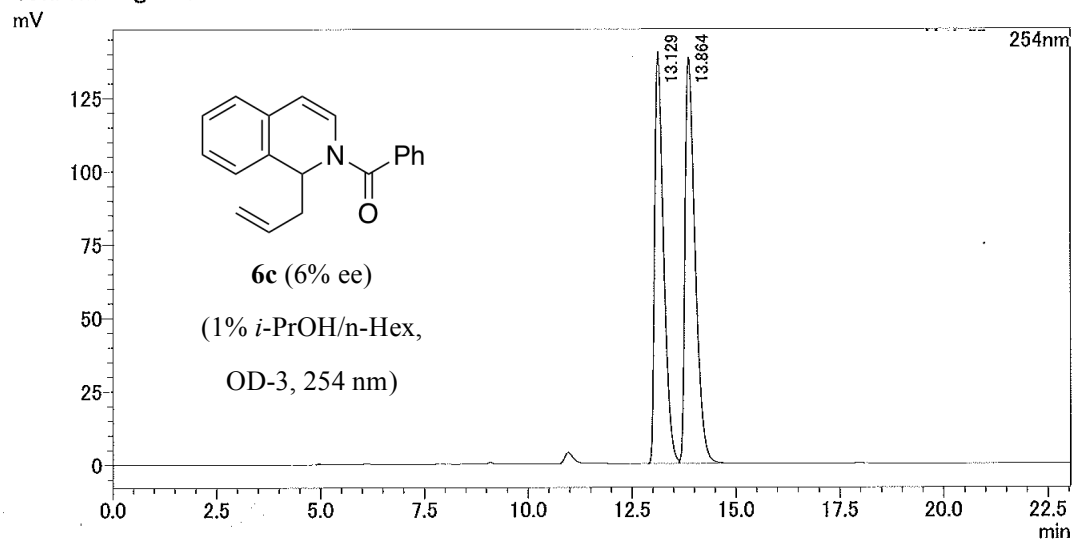
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Copies of <sup>1</sup> H and <sup>13</sup> C NMR spectra .....	S 4

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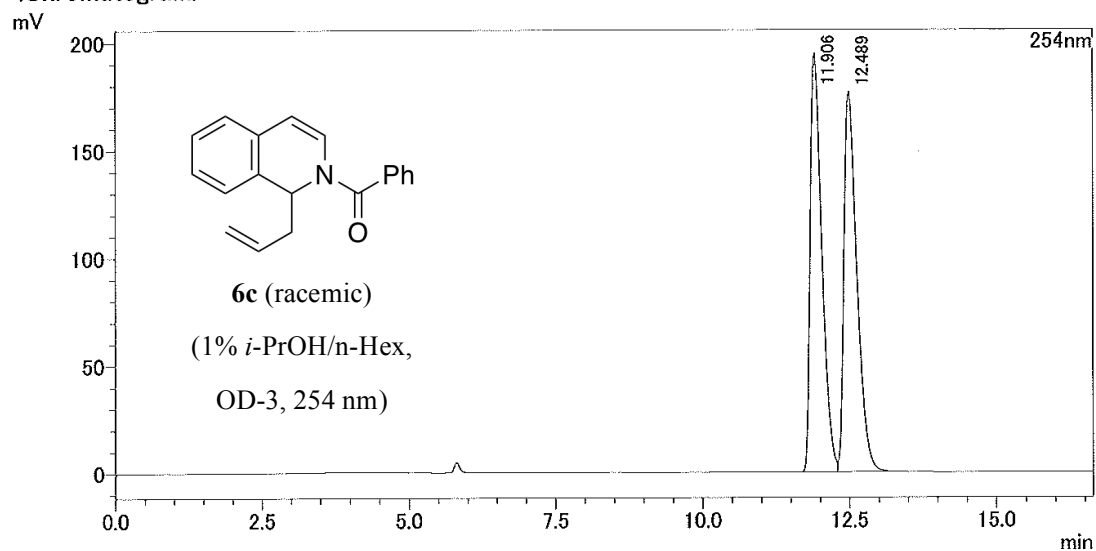


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254nm

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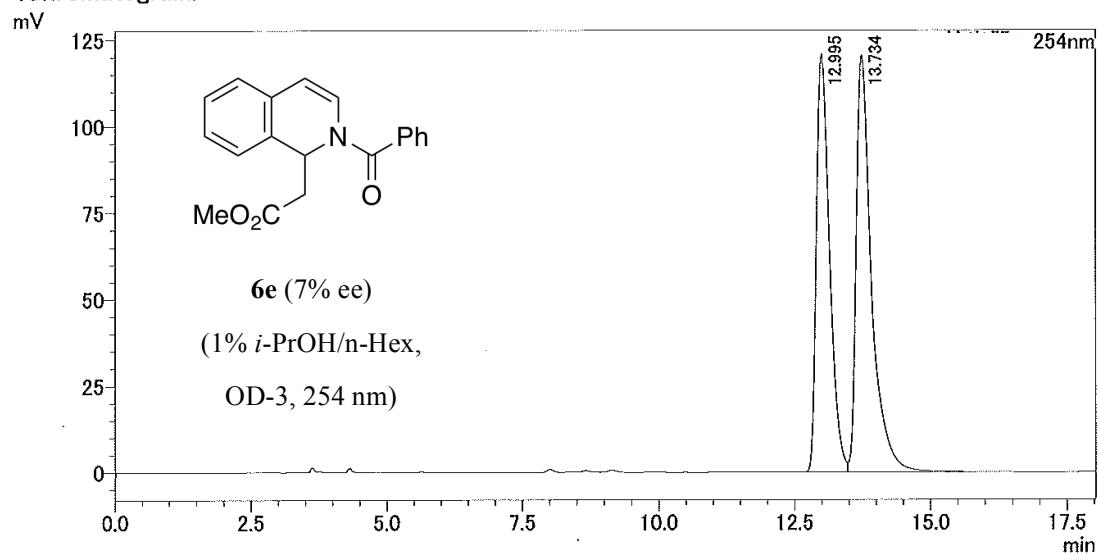


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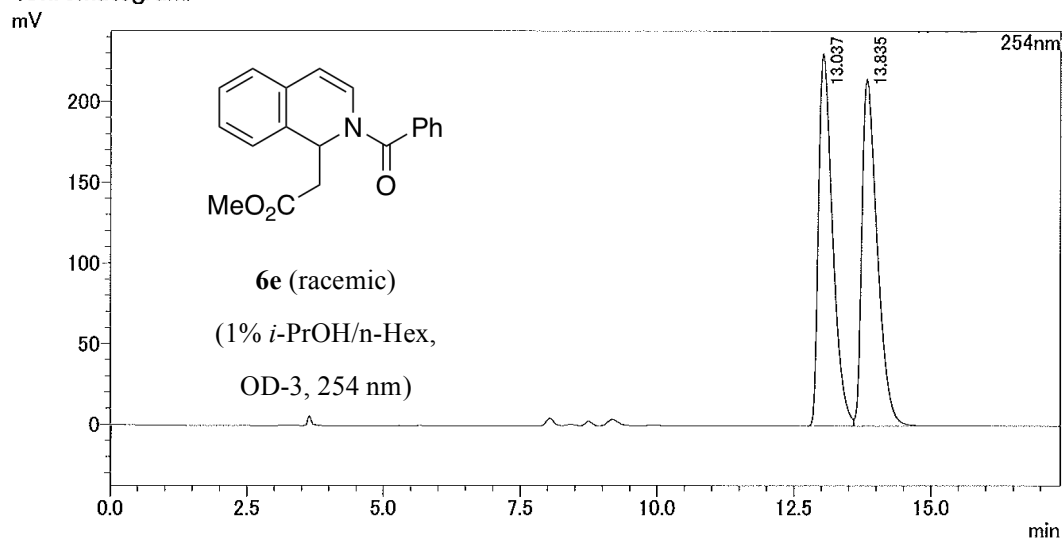


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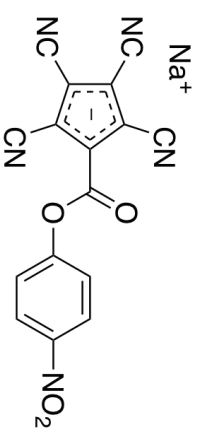


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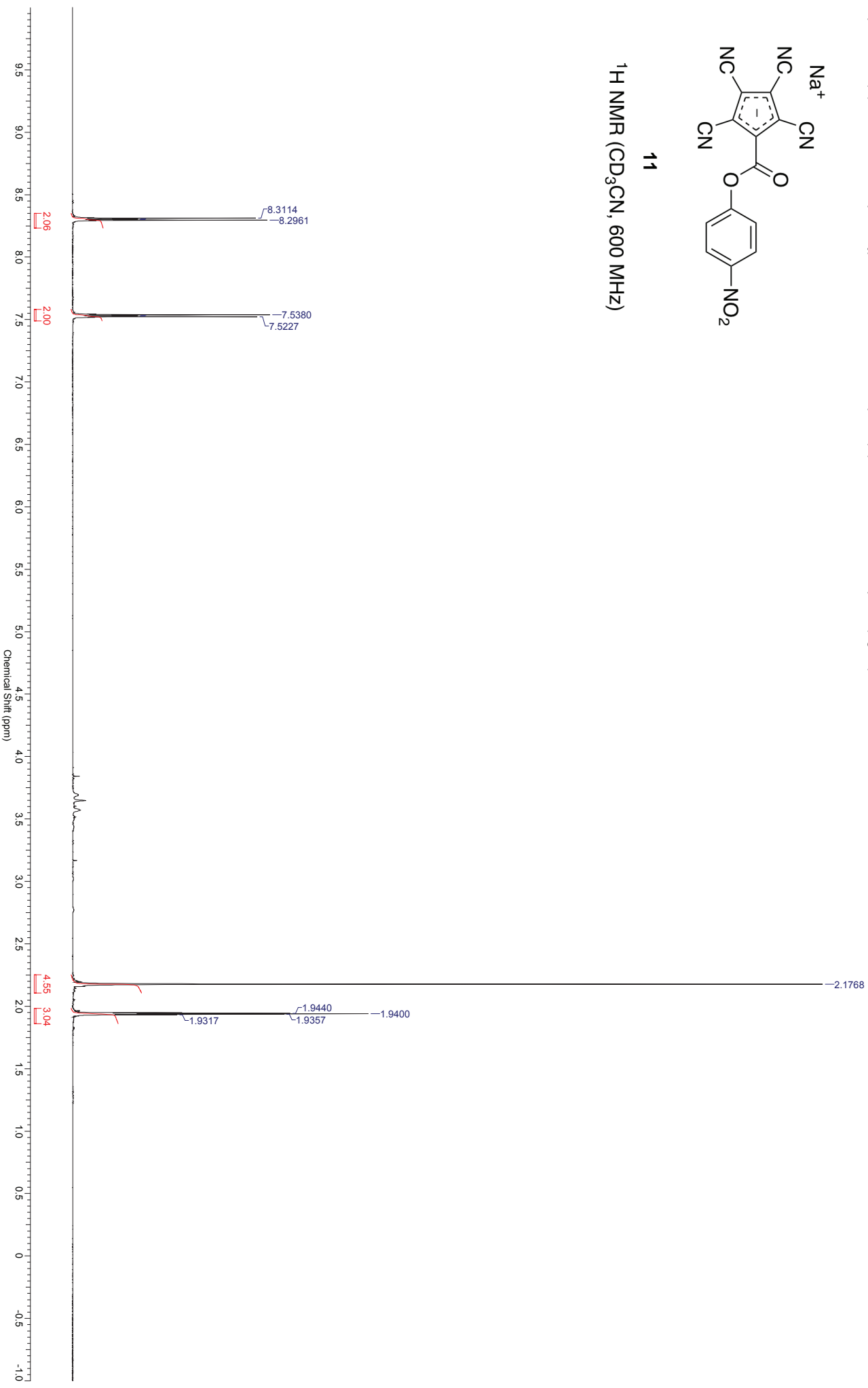
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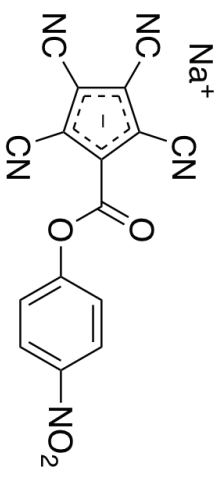
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				Nucleus	<sup>1</sup> H
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				Number of Transients	8
				SI (cycles)	12019.23
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				Solvent	ACETONITRILE-d3



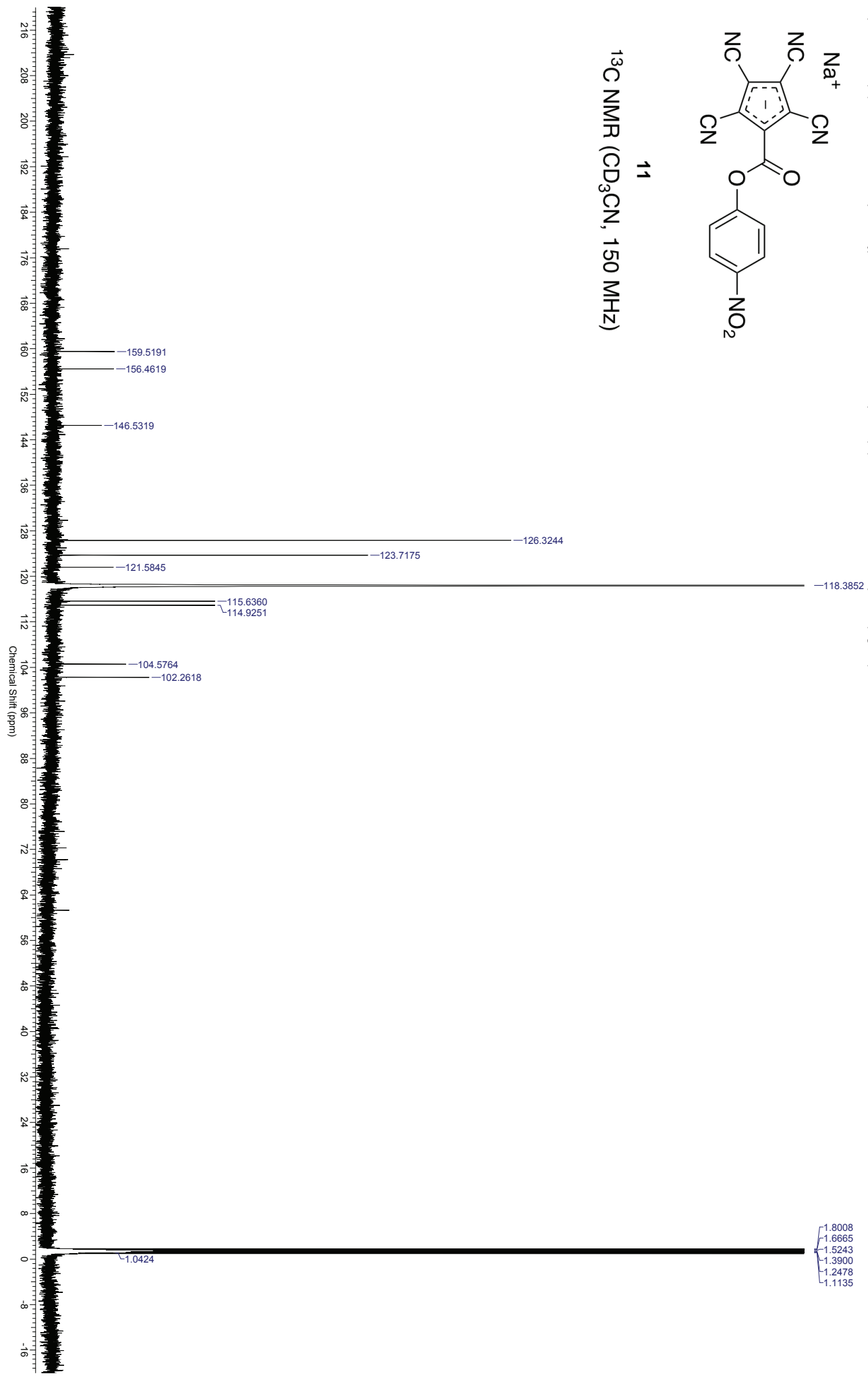
<sup>1</sup>H NMR (CD<sub>3</sub>CN, 600 MHz)



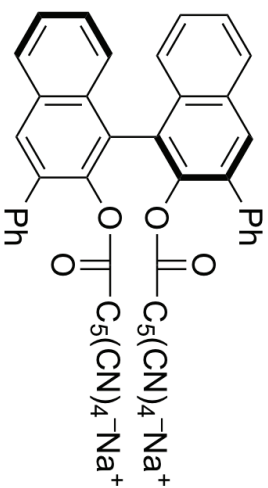
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<sup>13</sup>C NMR (CD<sub>3</sub>CN, 150 MHz)

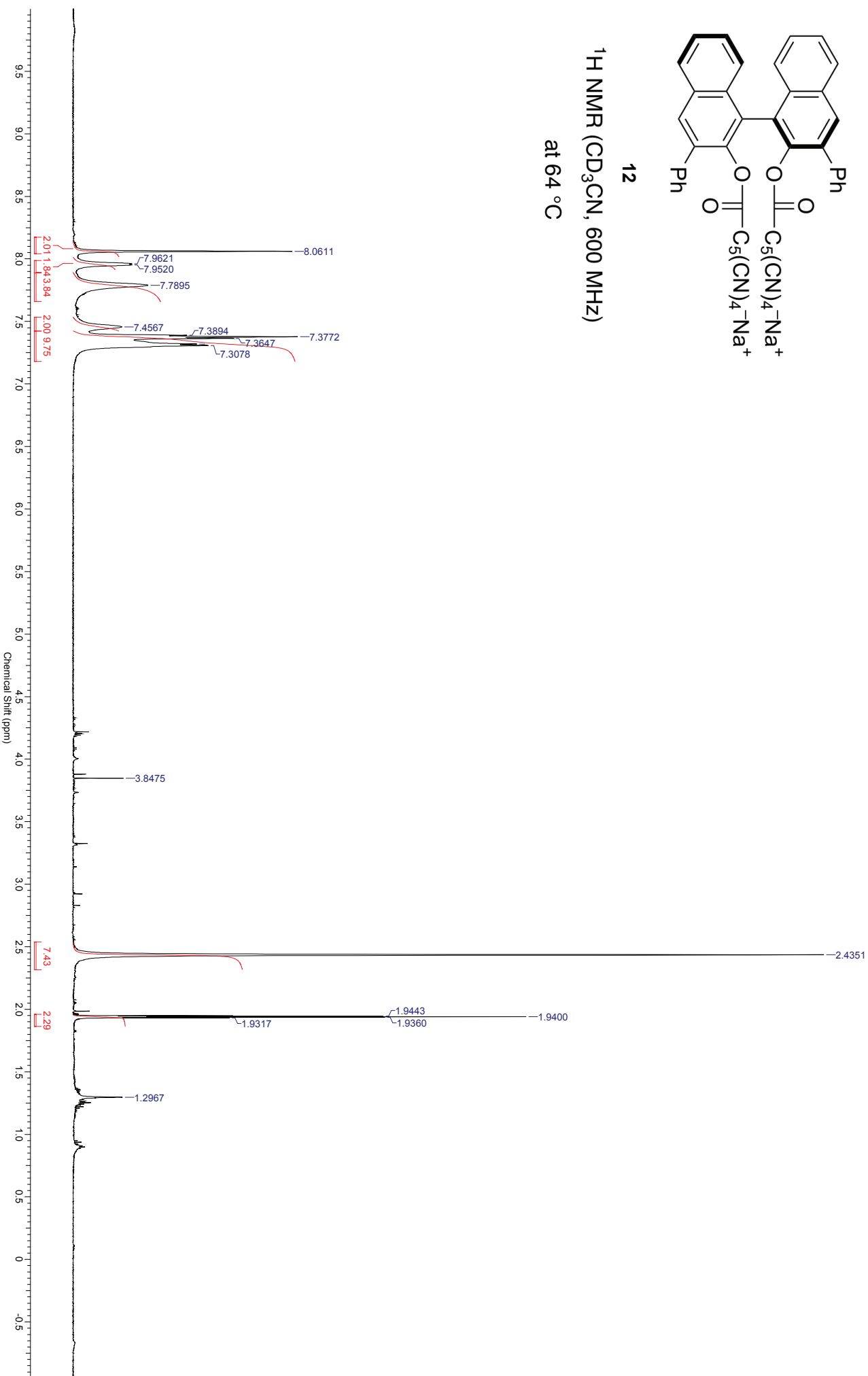


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						Solvent	acet
						Original Points Count	32768
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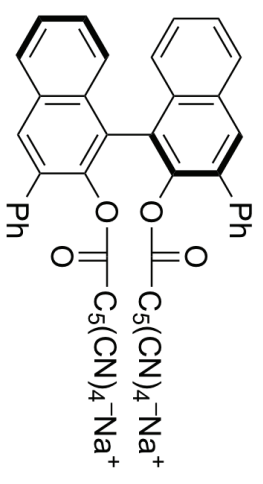


12

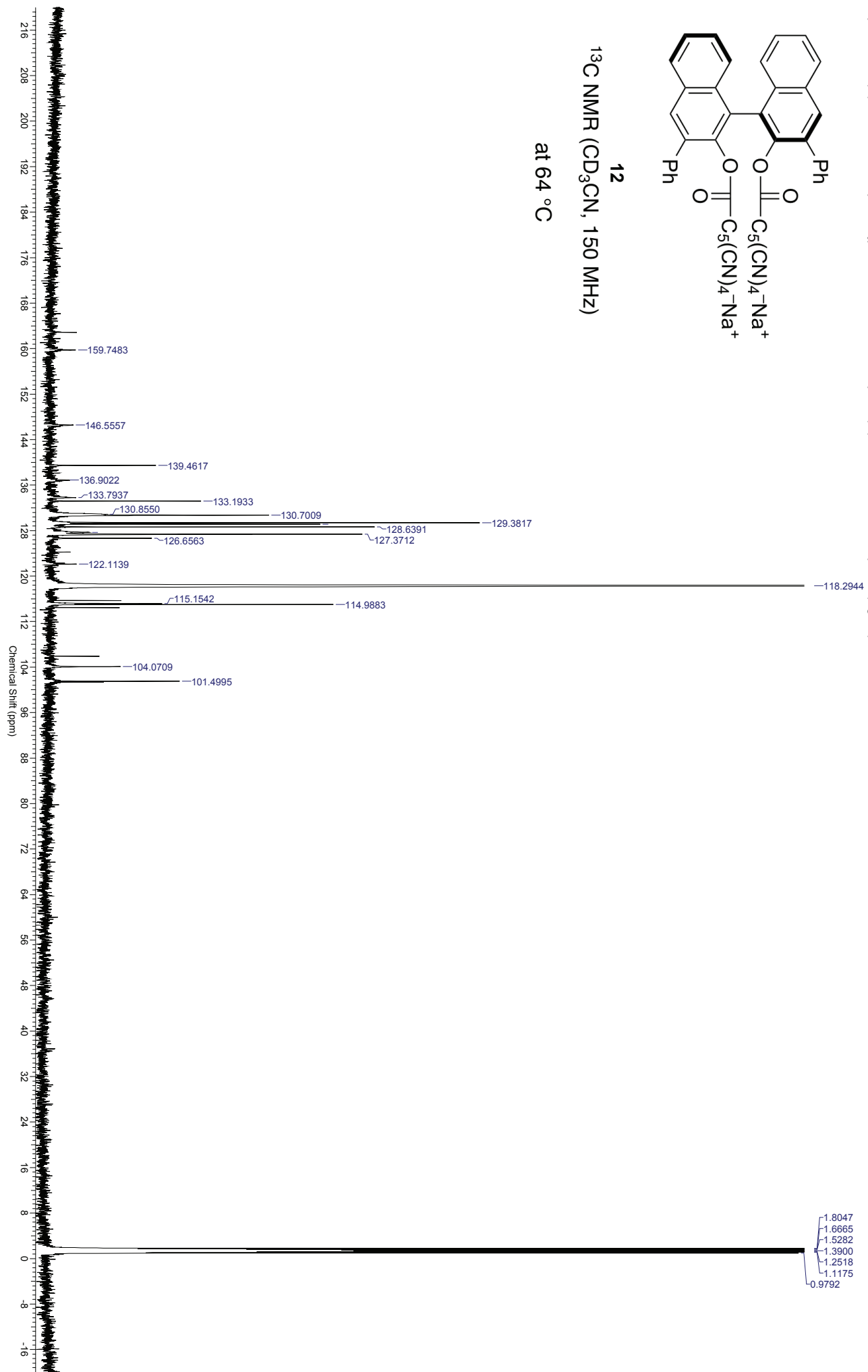
<sup>1</sup>H NMR (CD<sub>3</sub>CN, 600 MHz)  
at 64 °C



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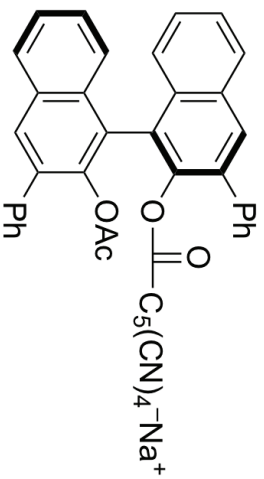


**12**  
<sup>13</sup>C NMR (CD<sub>3</sub>CN, 150 MHz)  
 at 64 °C



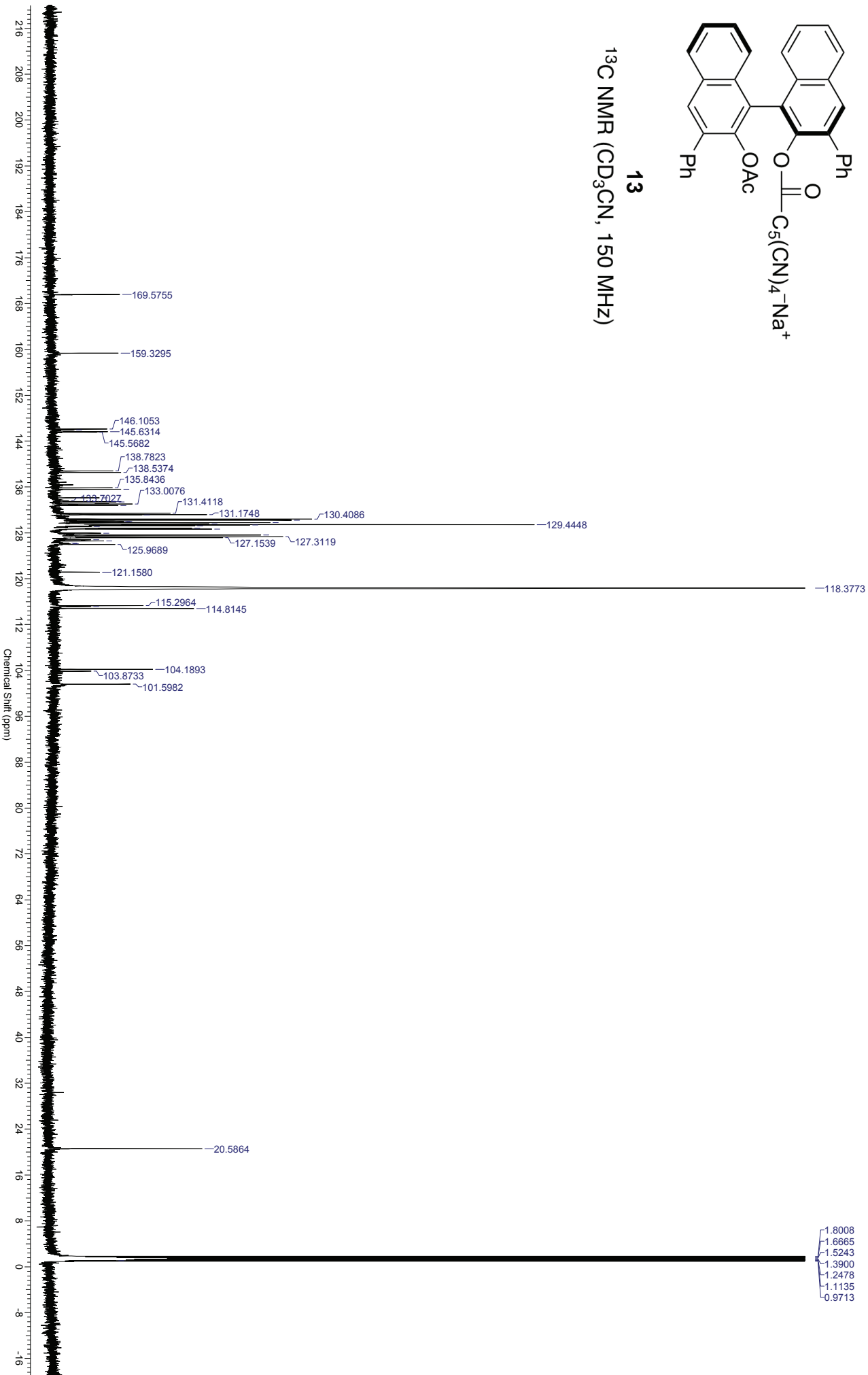


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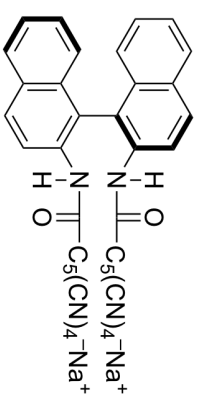
13

<sup>13</sup>C NMR (CD<sub>3</sub>CN, 150 MHz)

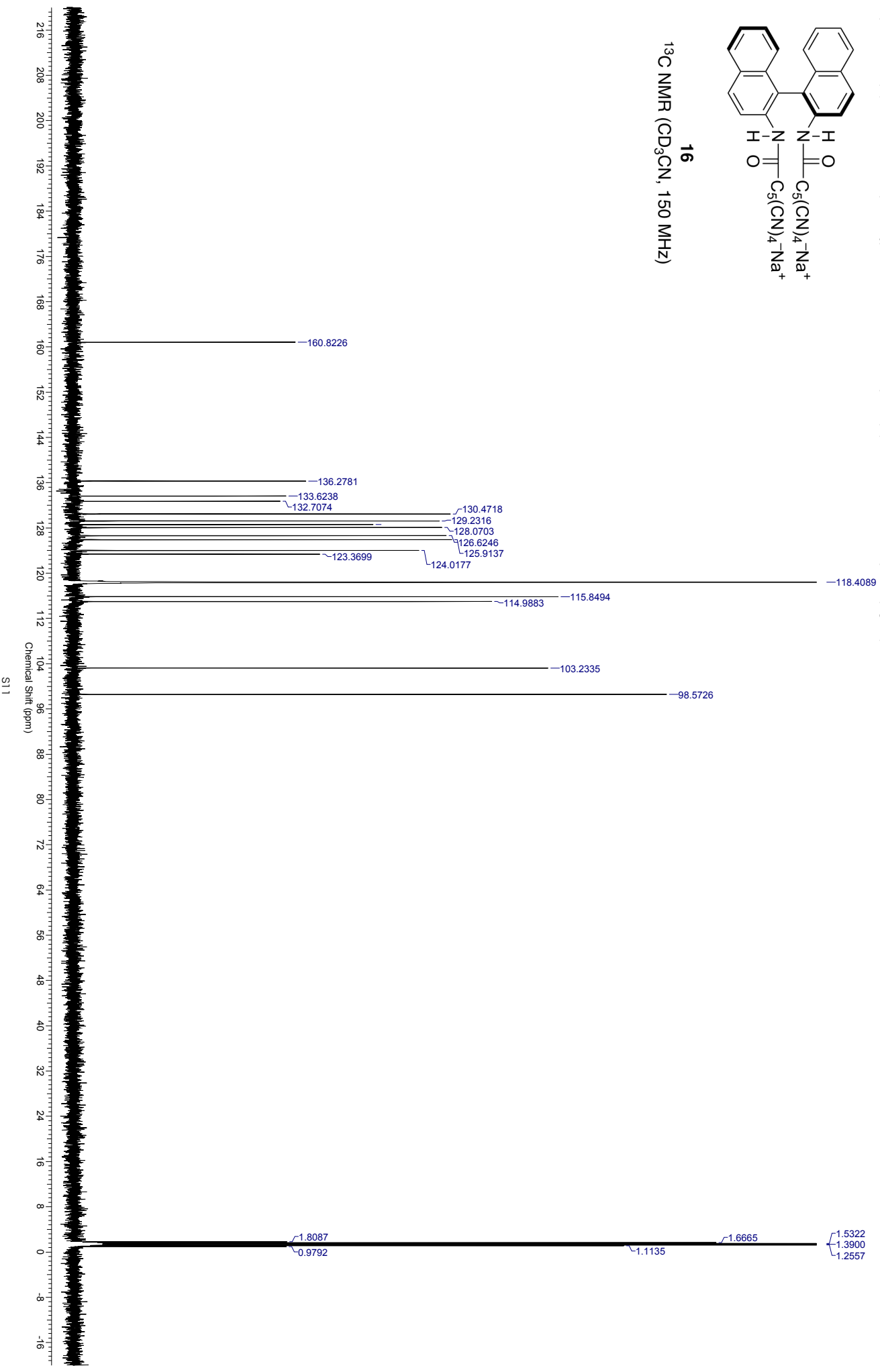




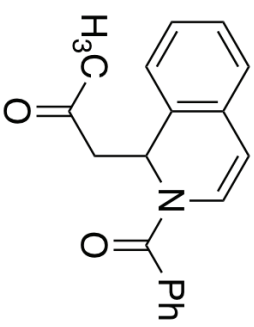
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		Temperature (degree C)	25.42		
Date Stamp	29 Jan 2015 10:12:32	Nucleus	<sup>13</sup> C	Number of Transients	65
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Origin	spec	Solvent	ACETONITRILE-d3		



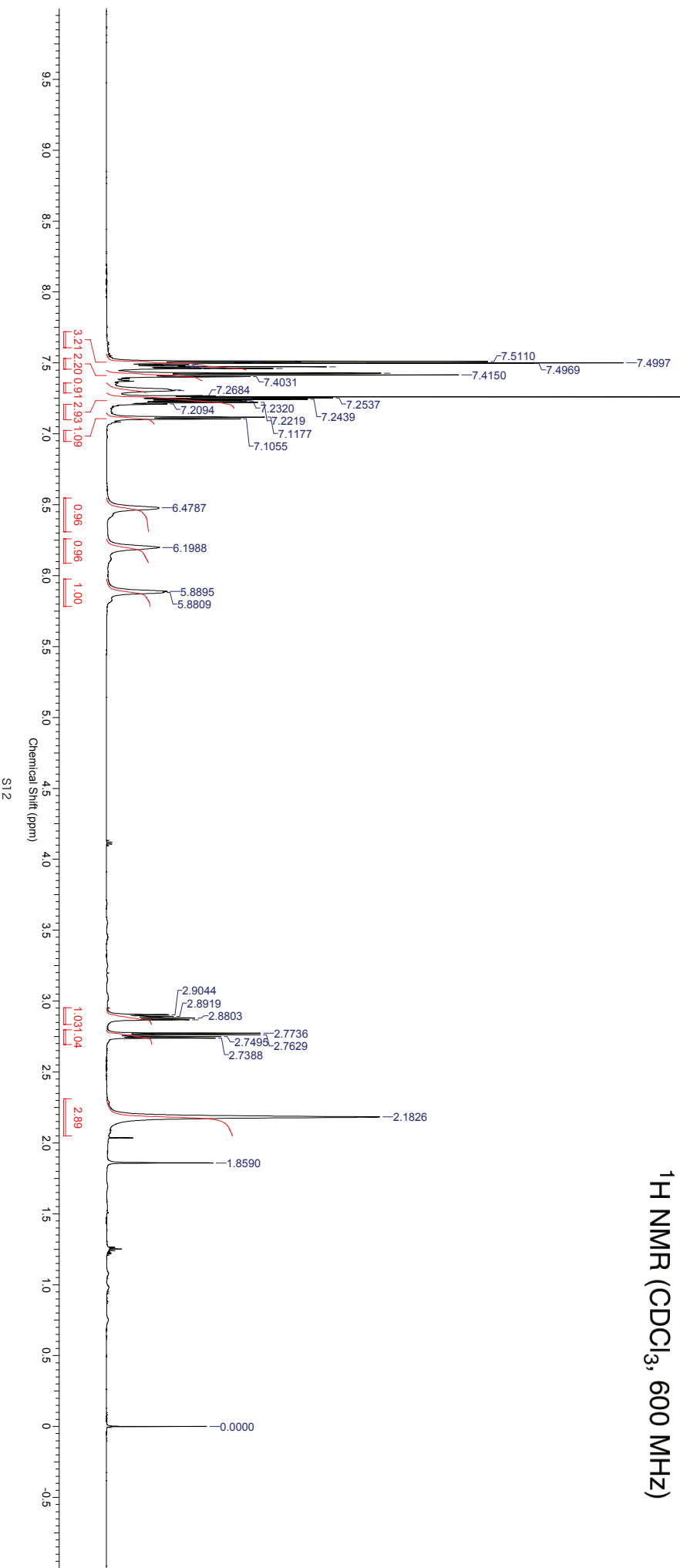
**16**  
<sup>13</sup>C NMR (CD<sub>3</sub>CN, 150 MHz)



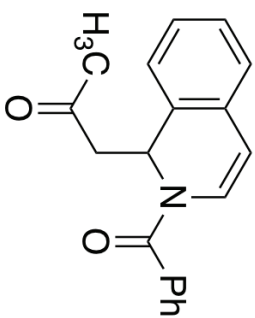
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Original Points Count	32768	Spectrum Type	STANDARD	Temp (MHz)	12019.05	Receiver Gain	30.91
Spectrum Offset (Hz)	3888.6104	Stack Method (Hz)		Temperature (degree C)	25.153	Number of Transients	8
						Solvent	CHLOROFORM-d



**6a**  
<sup>1</sup>H NMR (CDCl<sub>3</sub>, 600 MHz)

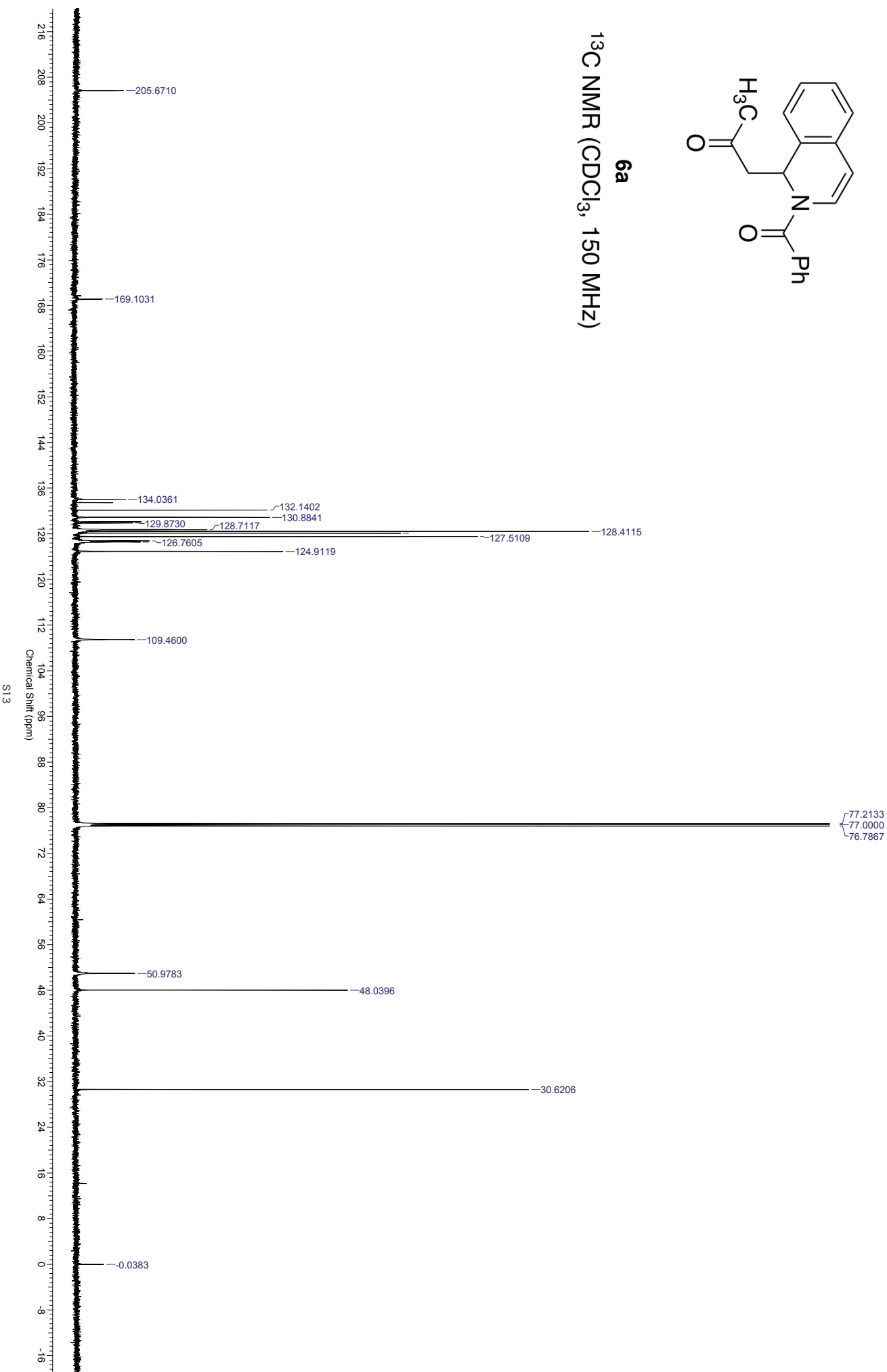


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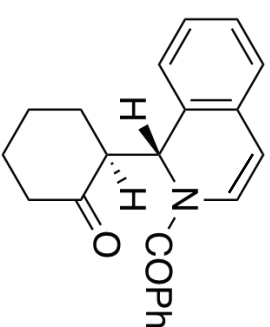


6a

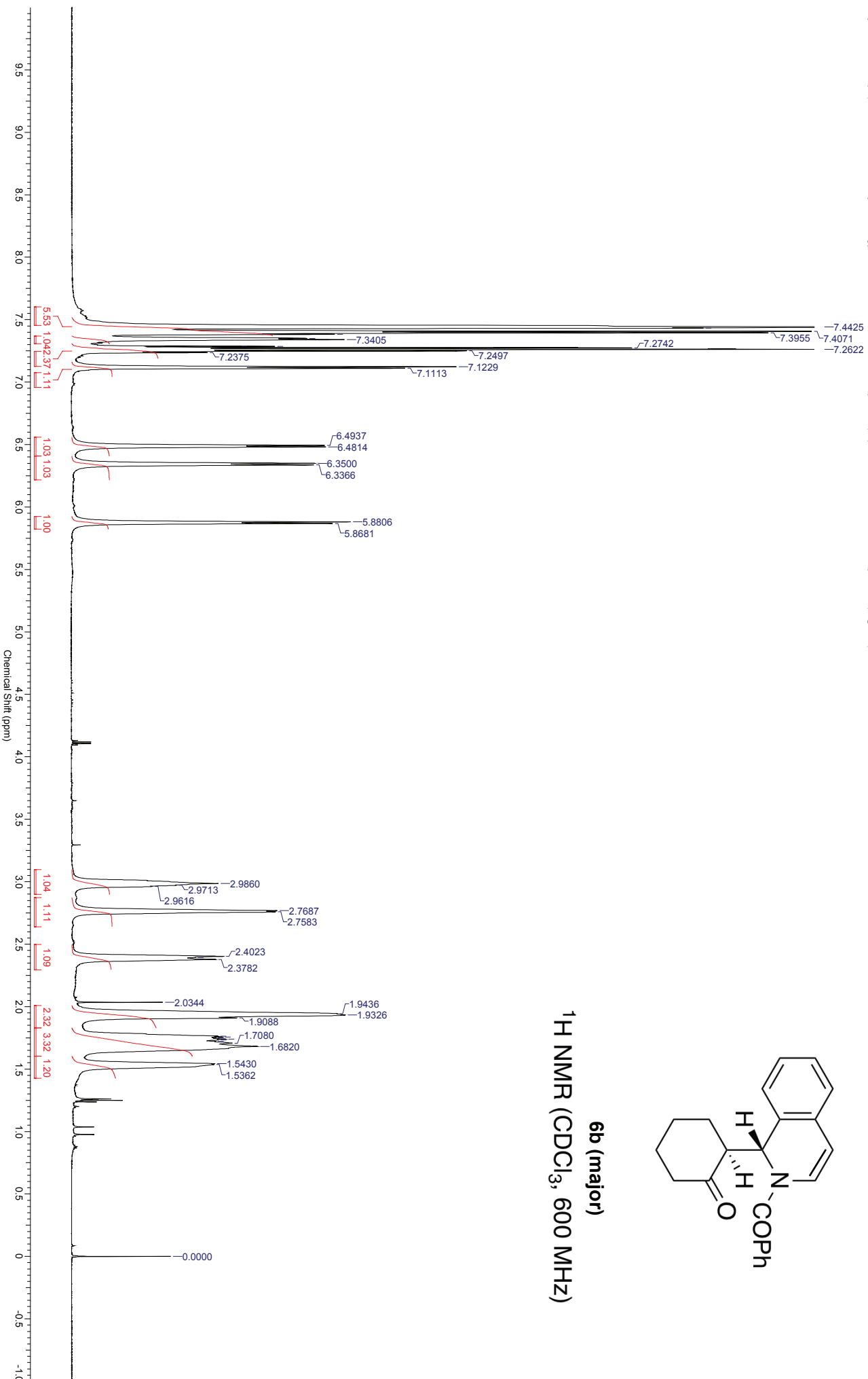
<sup>13</sup>C NMR (CDCl<sub>3</sub>, 150 MHz)



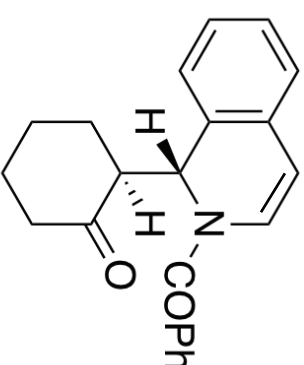
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Original Points Count	32768	Spectrum Type	STANDARD	Sweep Width (Hz)	12019.05	Temperature (degree C)	25.149	Acquisition		Number of Cycles	12019.23	Chemical Shift (ppm)	
Spectrum Offset (Hz)	38924.4300												



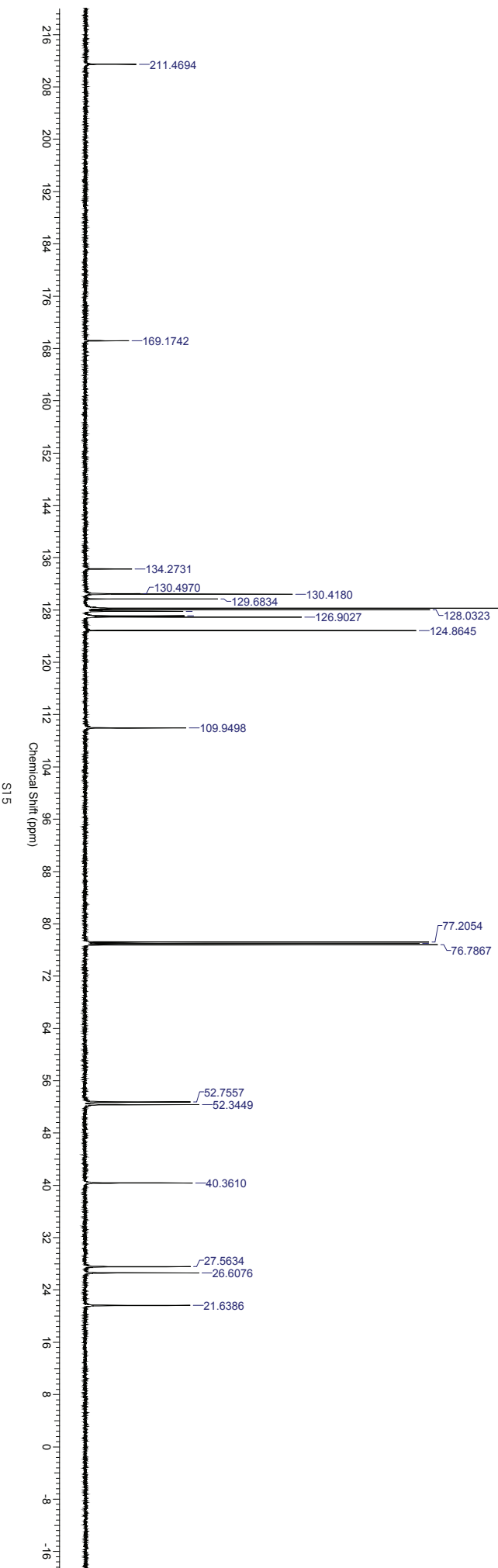
**6b (major)**  
<sup>1</sup>H NMR (CDCl<sub>3</sub>, 600 MHz)



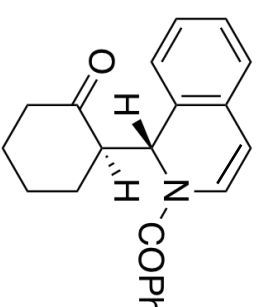
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Owner	nmru	Temperature (degrees C)	25.153
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Spectrum Type	STANDARD	Number of Transients	32
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		Solvent	CHLOROFORM-d



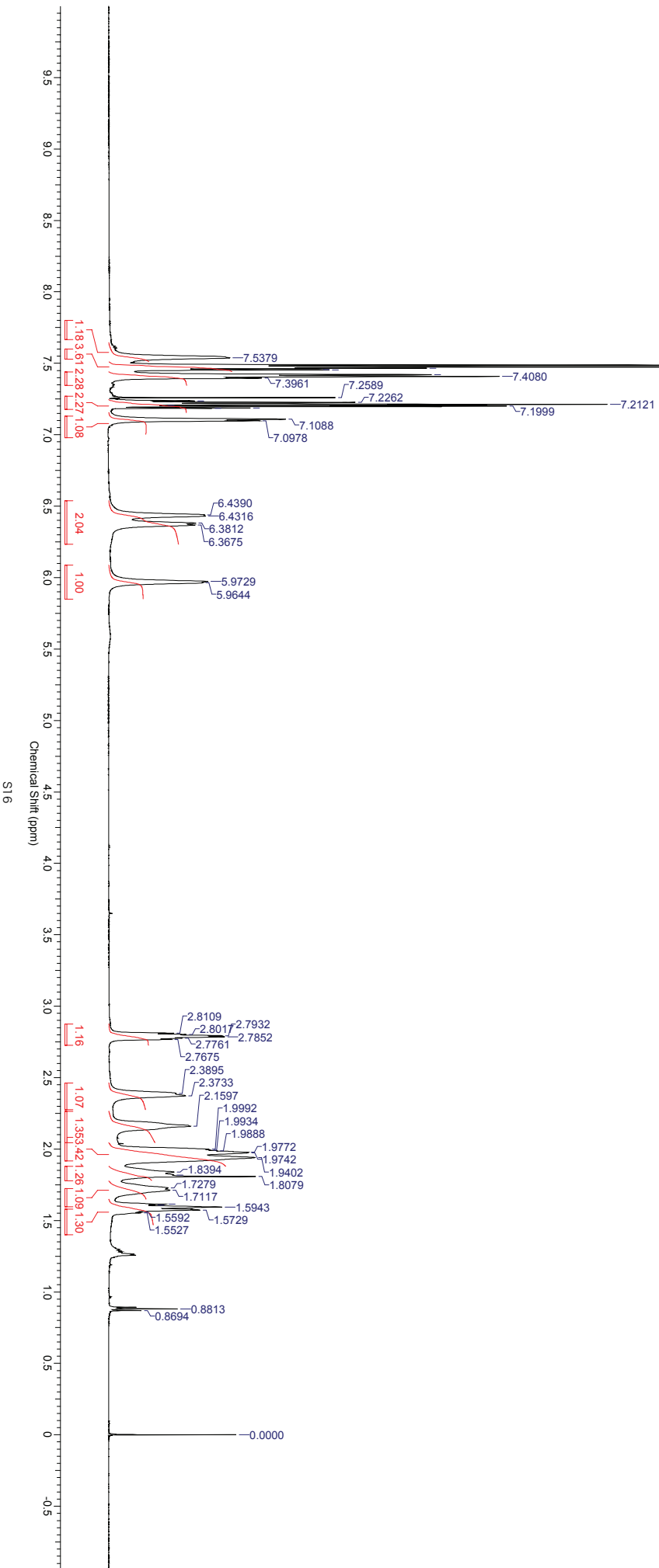
**6b (major)**  
<sup>13</sup>C NMR (CDCl<sub>3</sub>, 150 MHz)



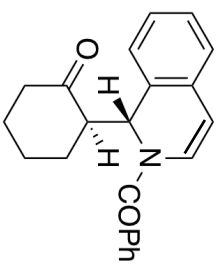
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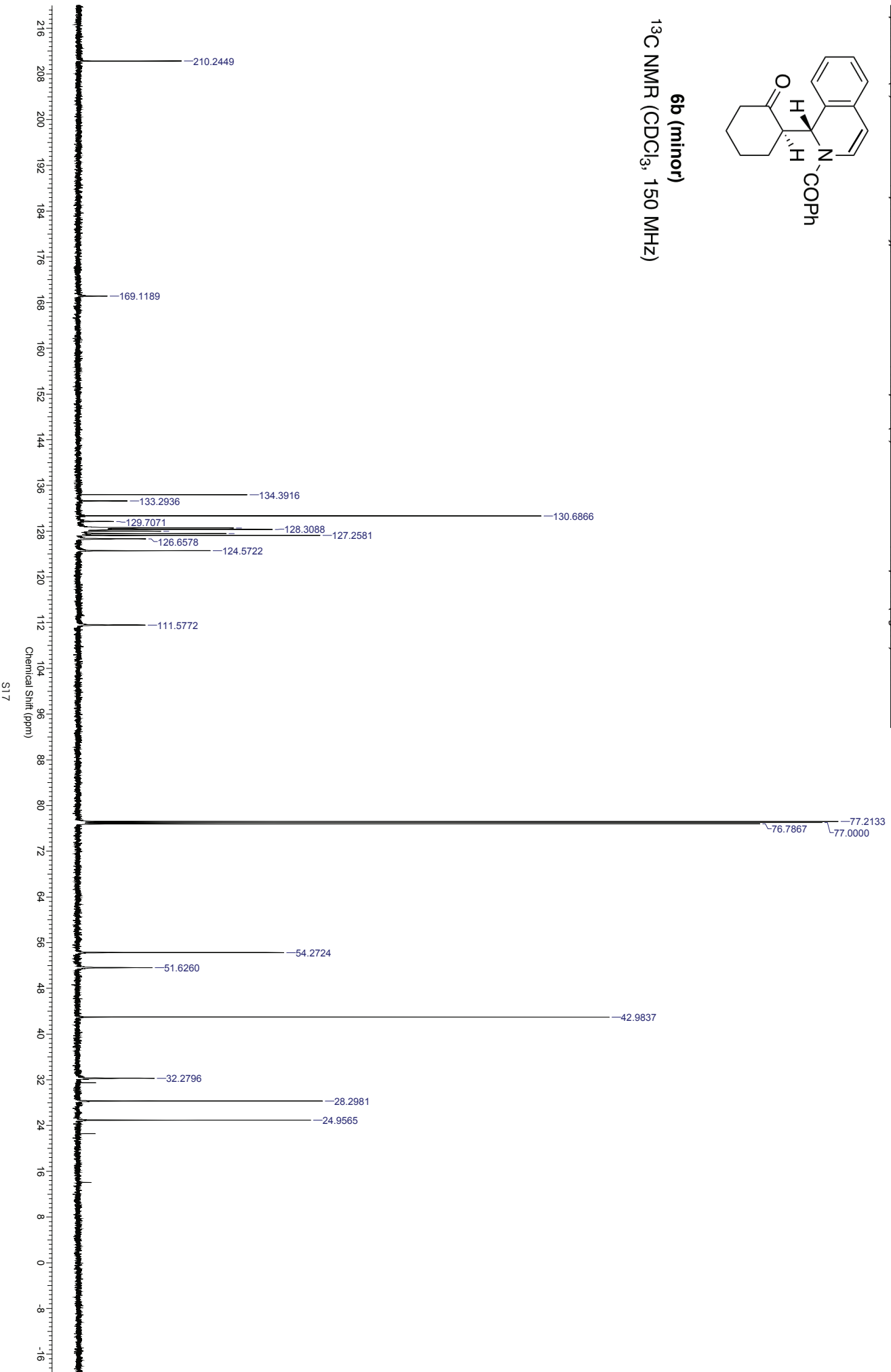
6b (minor)  
<sup>1</sup>H NMR (CDCl<sub>3</sub>, 600 MHz)



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**6b (minor)**  
<sup>13</sup>C NMR (CDCl<sub>3</sub>, 150 MHz)



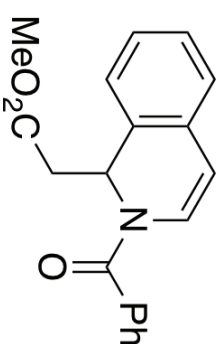






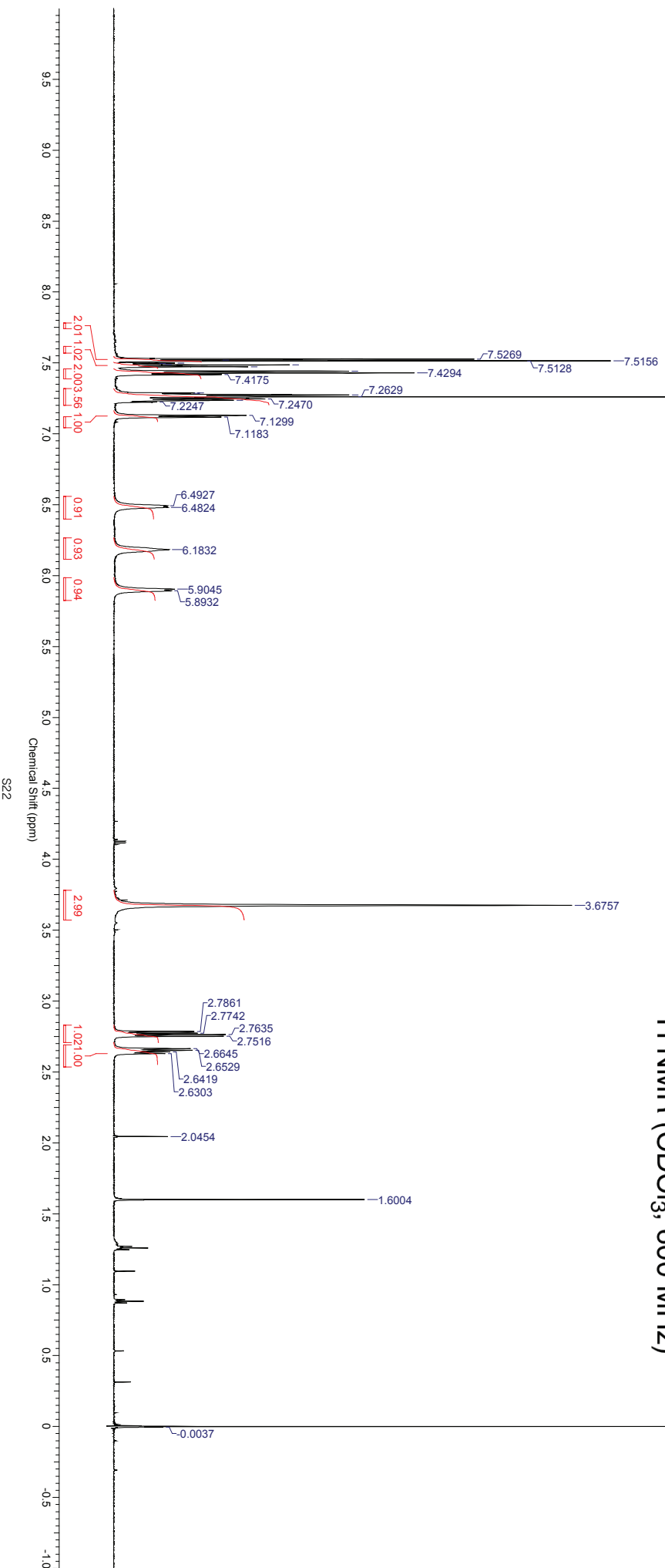


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				Temperature (degree C)	25.192
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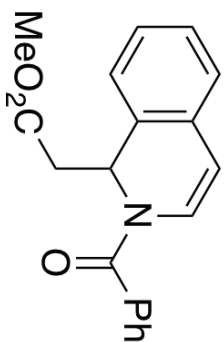


**6e**

<sup>1</sup>H NMR (CDCl<sub>3</sub>, 600 MHz)



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Spectrum Offset (Hz)	15024.5340			Temperature (degree C)	291.51	Temperature (degree C)	291.51				



6e

<sup>13</sup>C NMR (CDCl<sub>3</sub>, 150 MHz)

