

Supporting Information

Oxidative cascade cyclization of *N*-arylacrylamides with TMSN₃

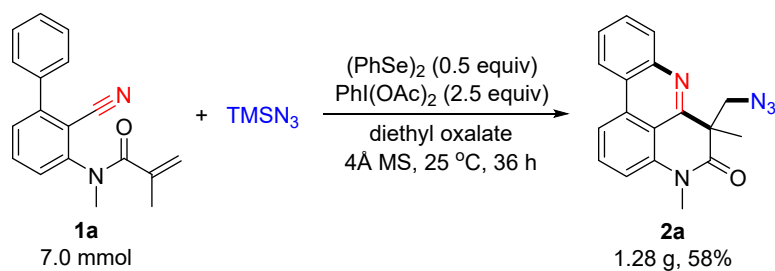
Bo Jiang, Tai-Gang Fan, Yu-Song Ran, Yun-Tao Shen, Cui Zhang, Wei Jiang, and Ya-Min Li*

Faculty of Life Science and Technology, Kunming University of Science and Technology, Kunming 650500, P. R. China. E-mail: liym@kust.edu.cn

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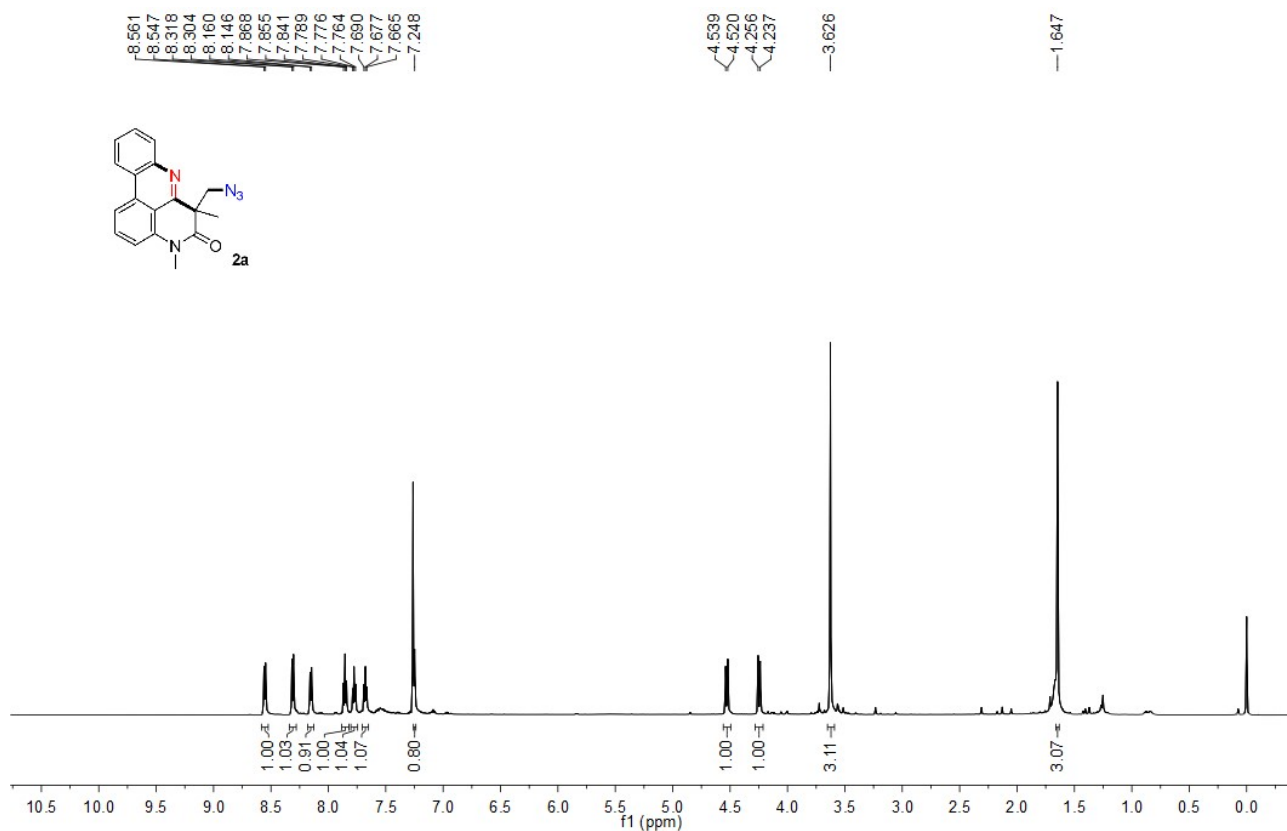
1. Gram-scale synthesis



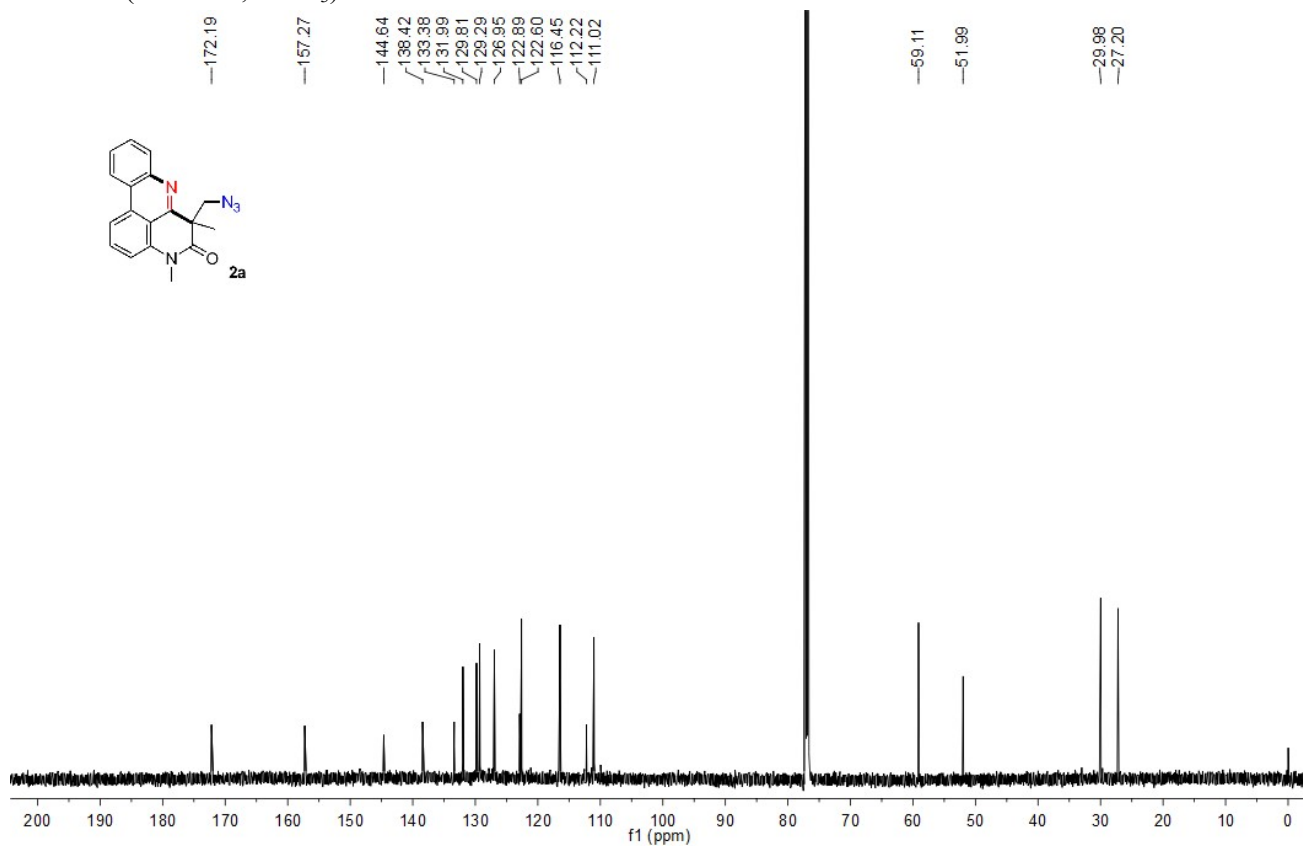
In a 250 mL oven-dried flask, acrylamide **1a** (7.0 mmol), $(\text{PhSe})_2$ (3.5 mmol, 1.09 g), $\text{PhI}(\text{OAc})_2$ (17.5 mmol, 5.64 g) and 4Å MS (5.2 g) were added and charged with argon three times. Then, diethyl oxalate (105.0 mL) was added. After stirring at 25 °C for 30 minutes, TMSN_3 (24.5 mmol, 2.82 g) was added dropwise. The mixture was allowed to stir at 25 °C for 36 hours. After the reaction was complete, the mixture was concentrated by rotary evaporation and purified by flash chromatography on silica gel with petroleum ether/ethyl acetate (15/1, v/v) as the eluent to afford the corresponding product **2a** with 58% yield (1.28 g).

2. Charts of compounds

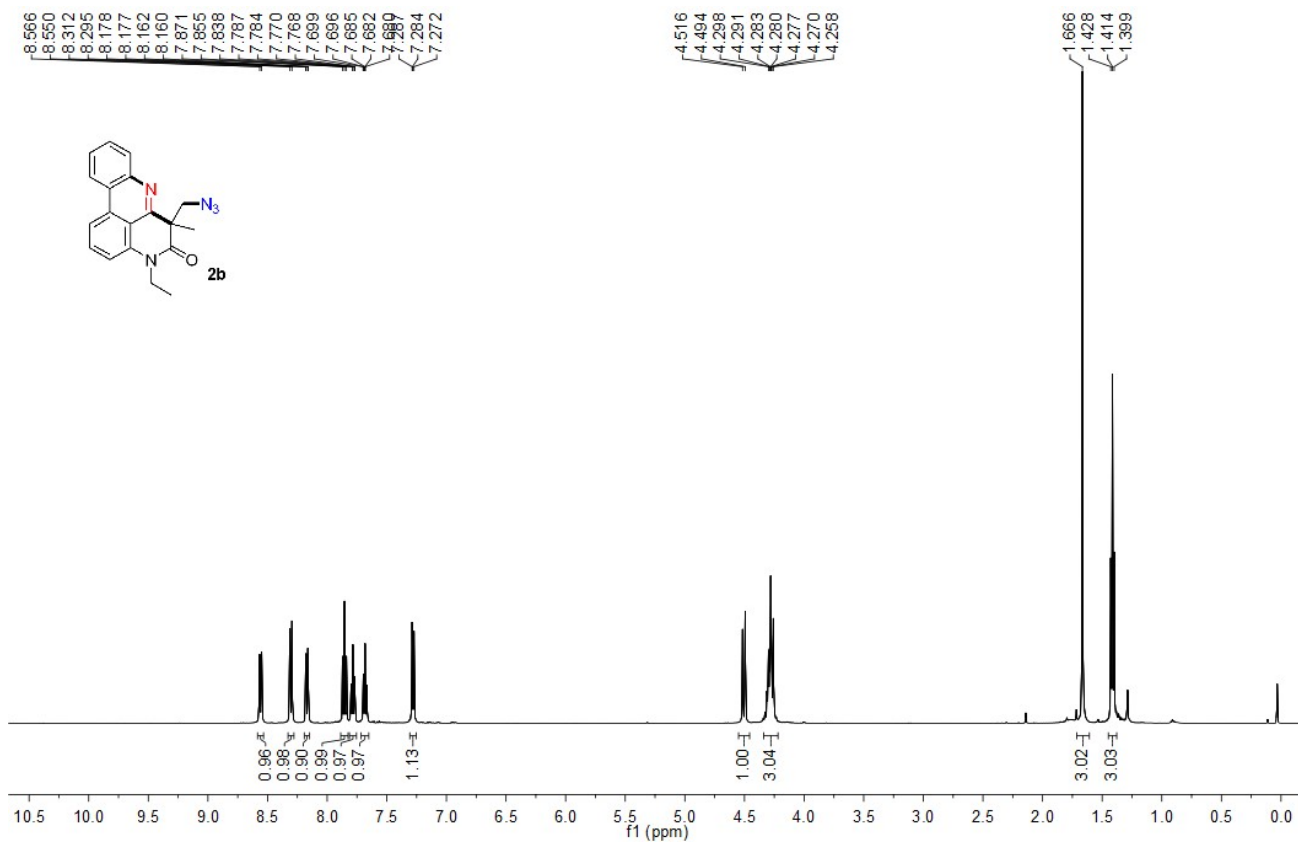
^1H NMR, 600 MHz, CDCl_3



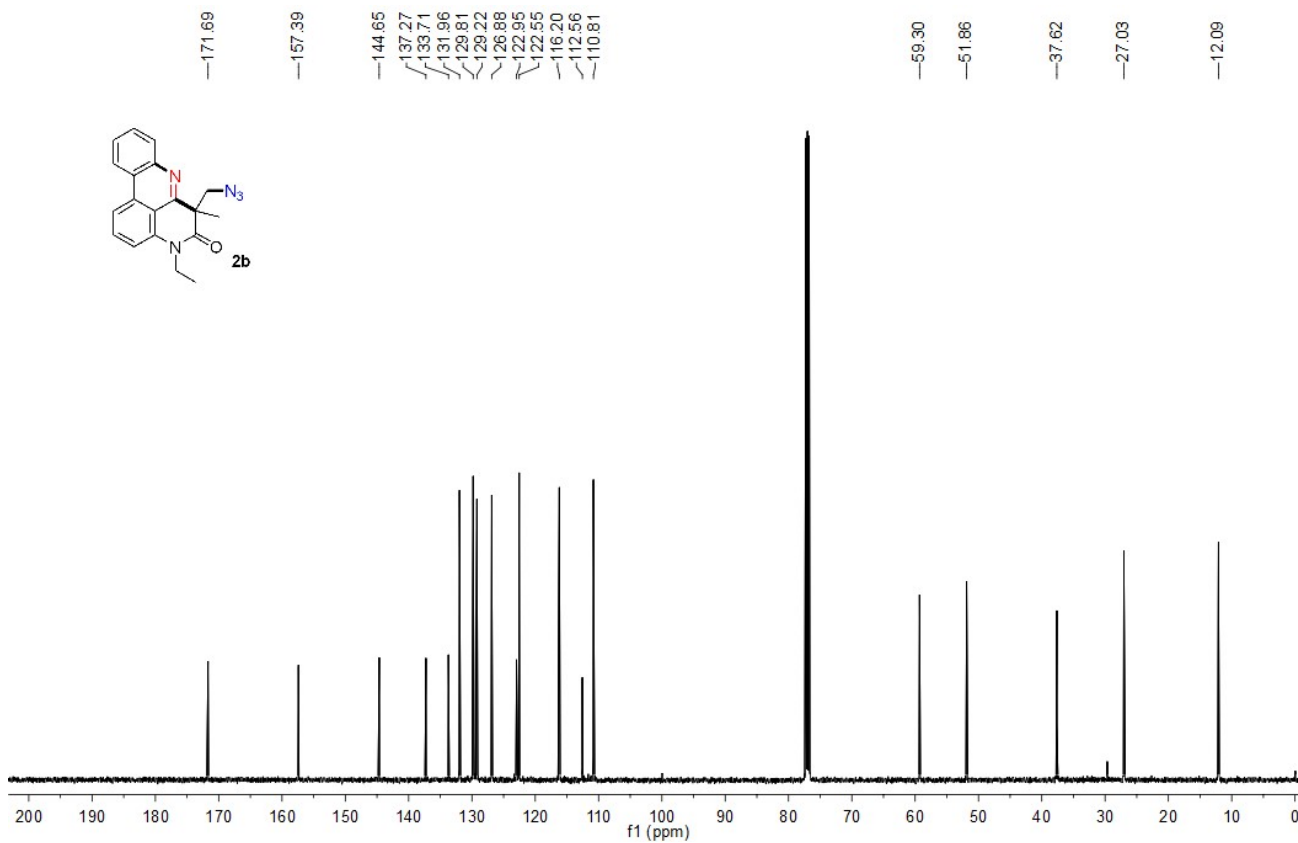
^{13}C NMR (151 MHz, CDCl_3)



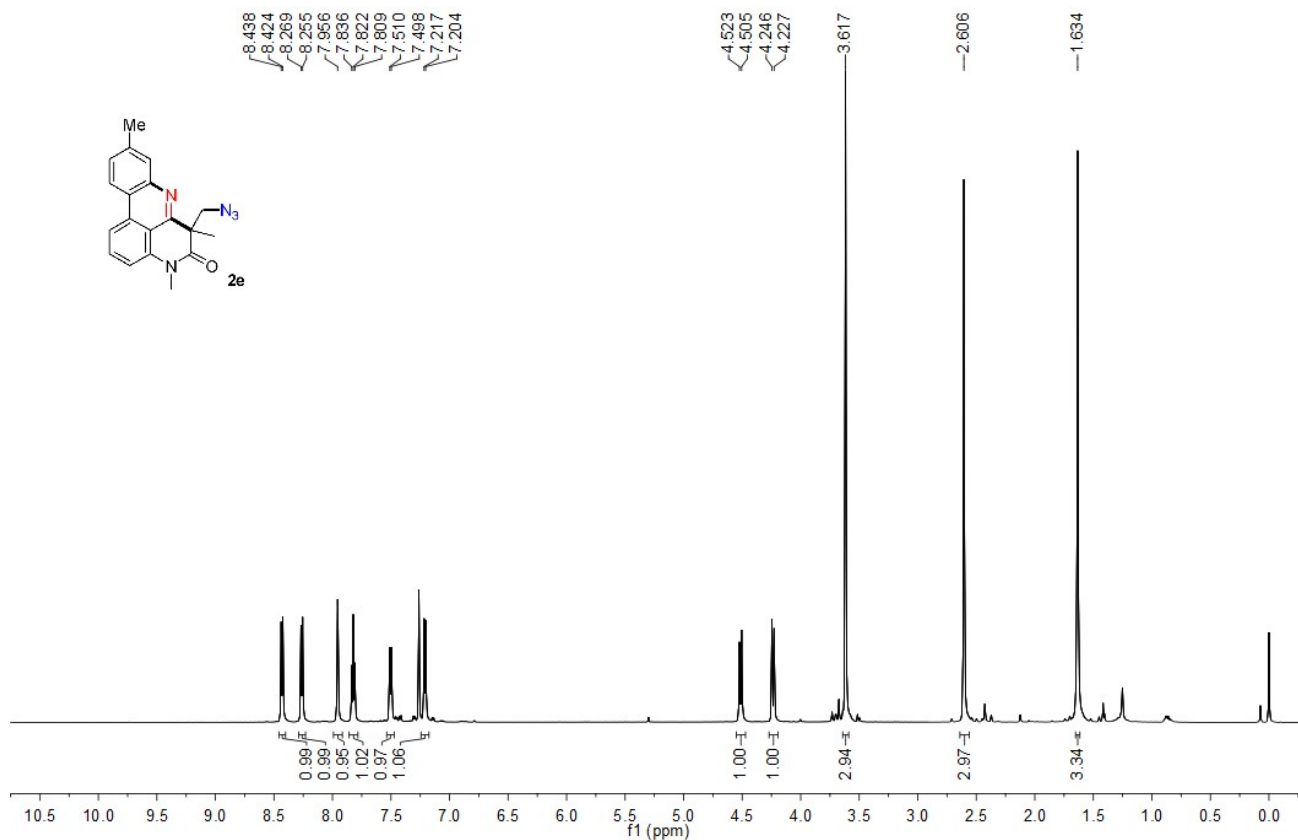
¹H NMR, 500 MHz, CDCl₃



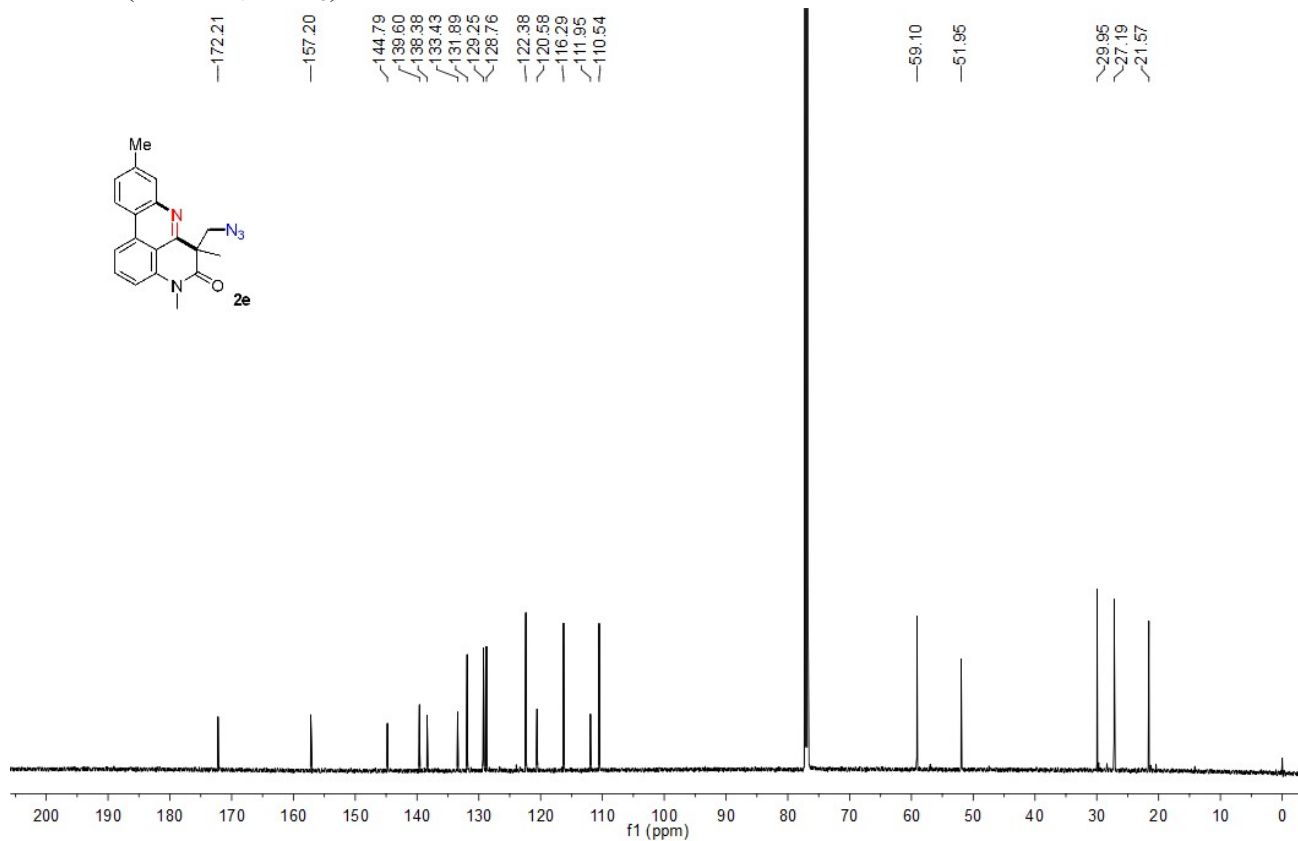
¹³C NMR (126 MHz, CDCl₃)



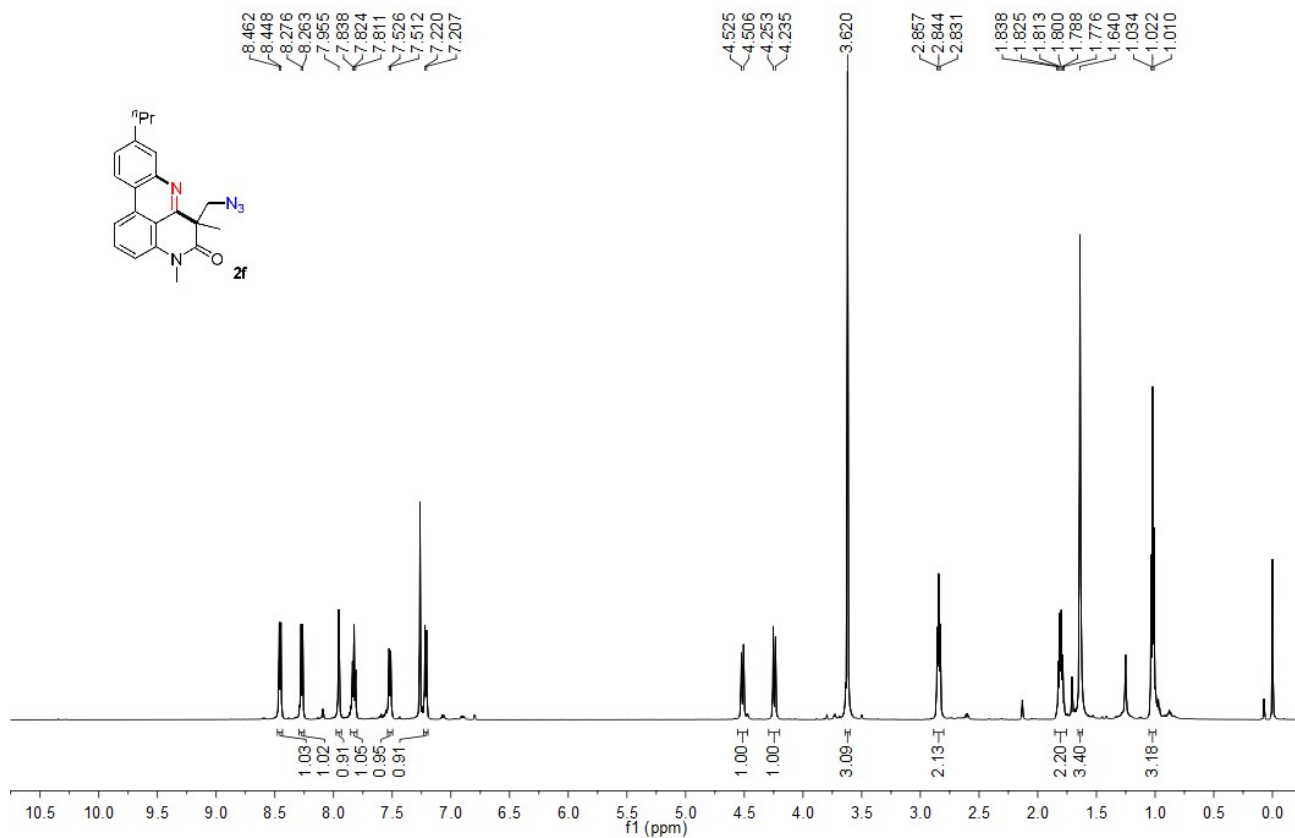
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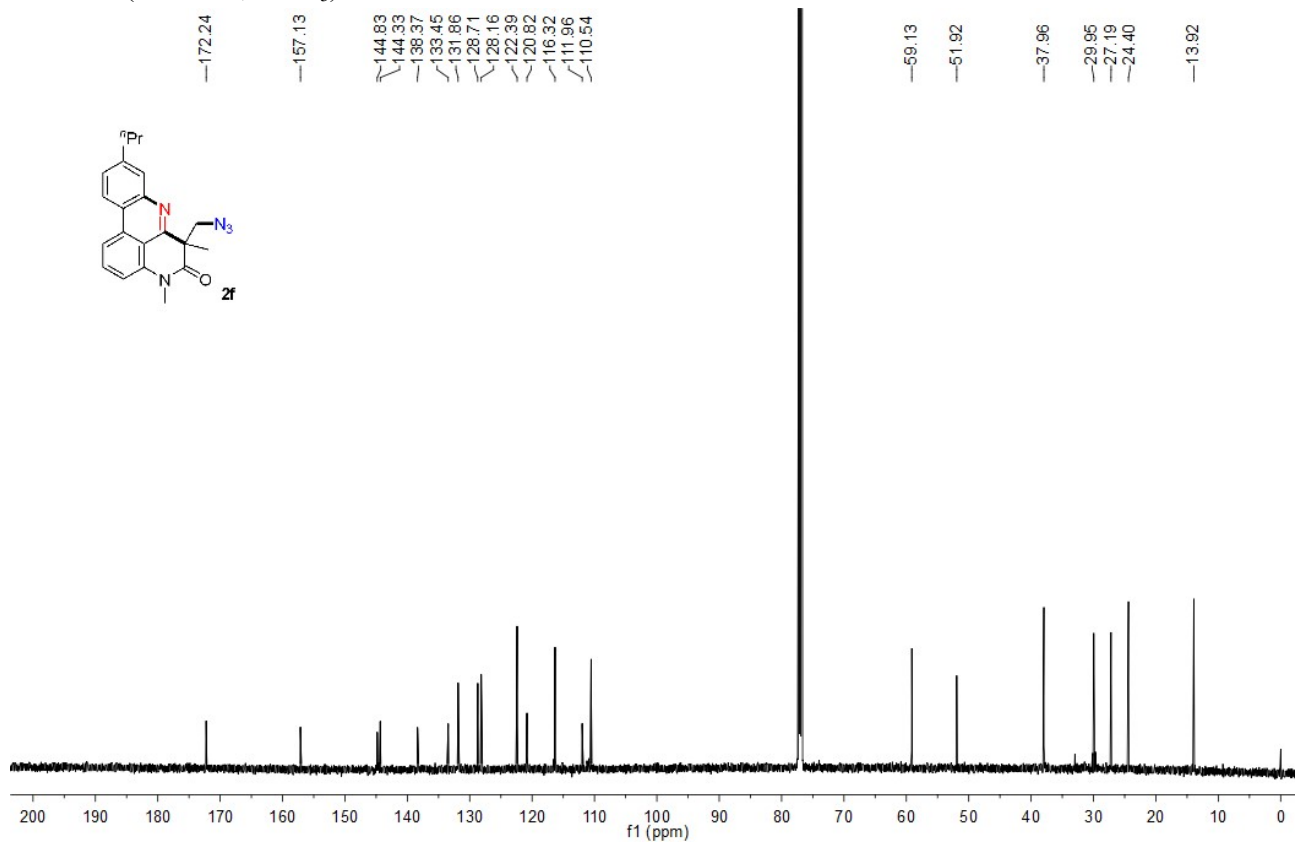
^{13}C NMR (151 MHz, CDCl_3)



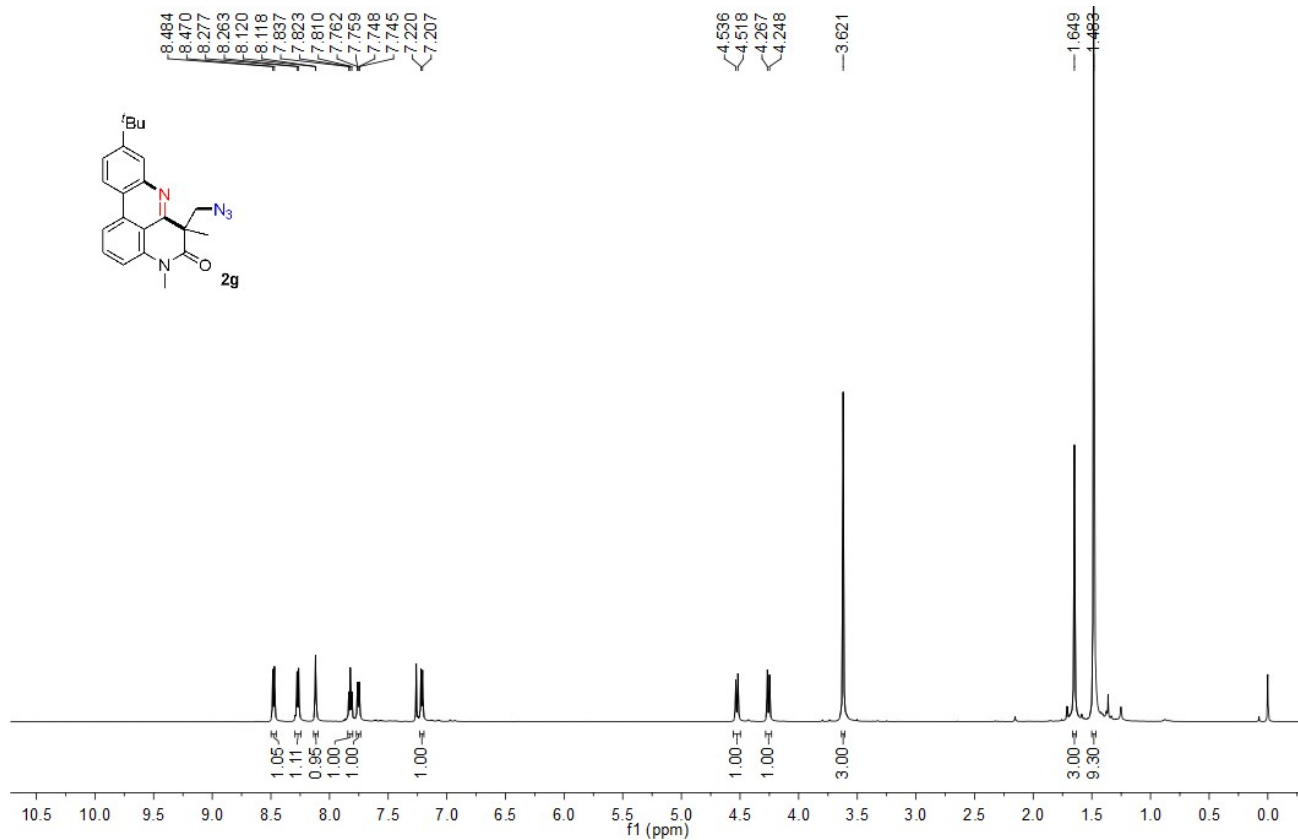
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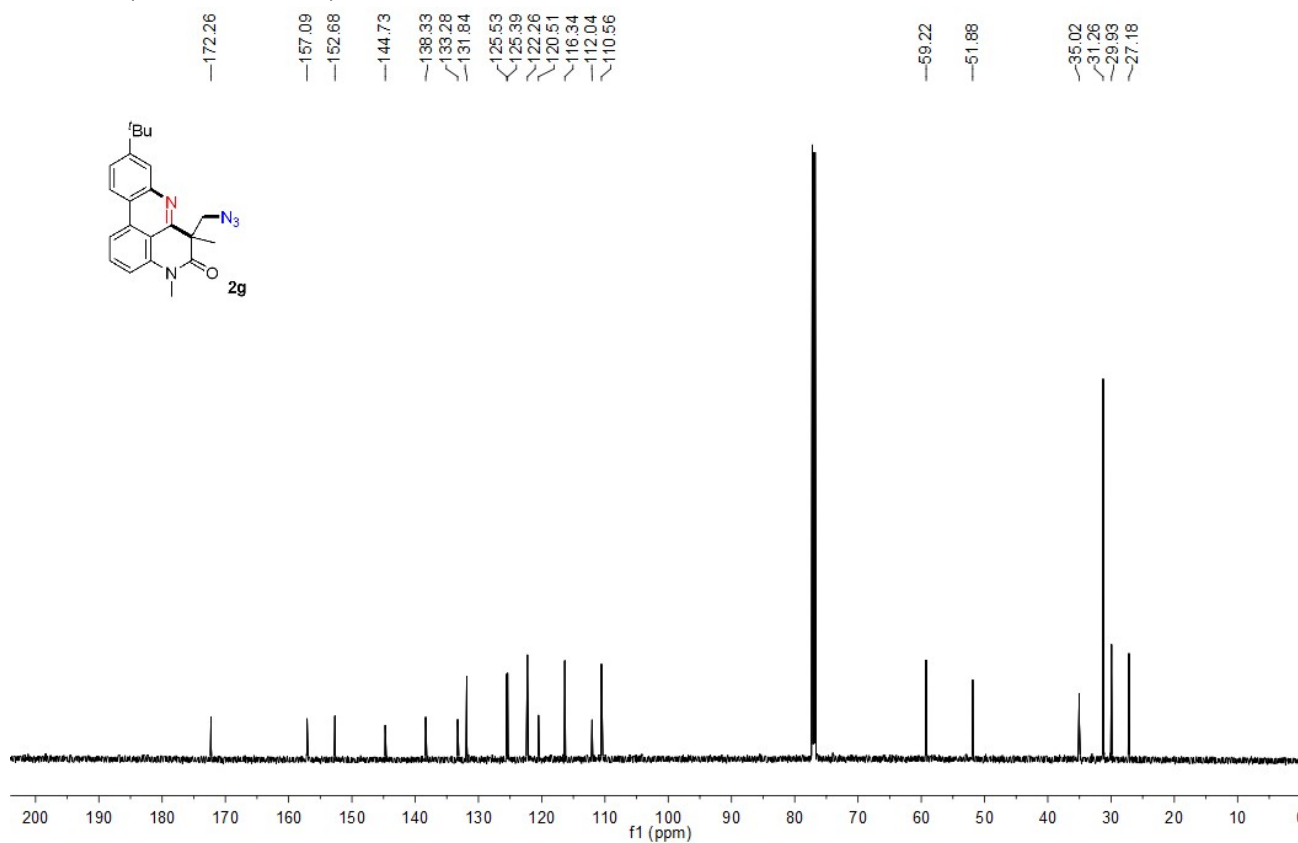
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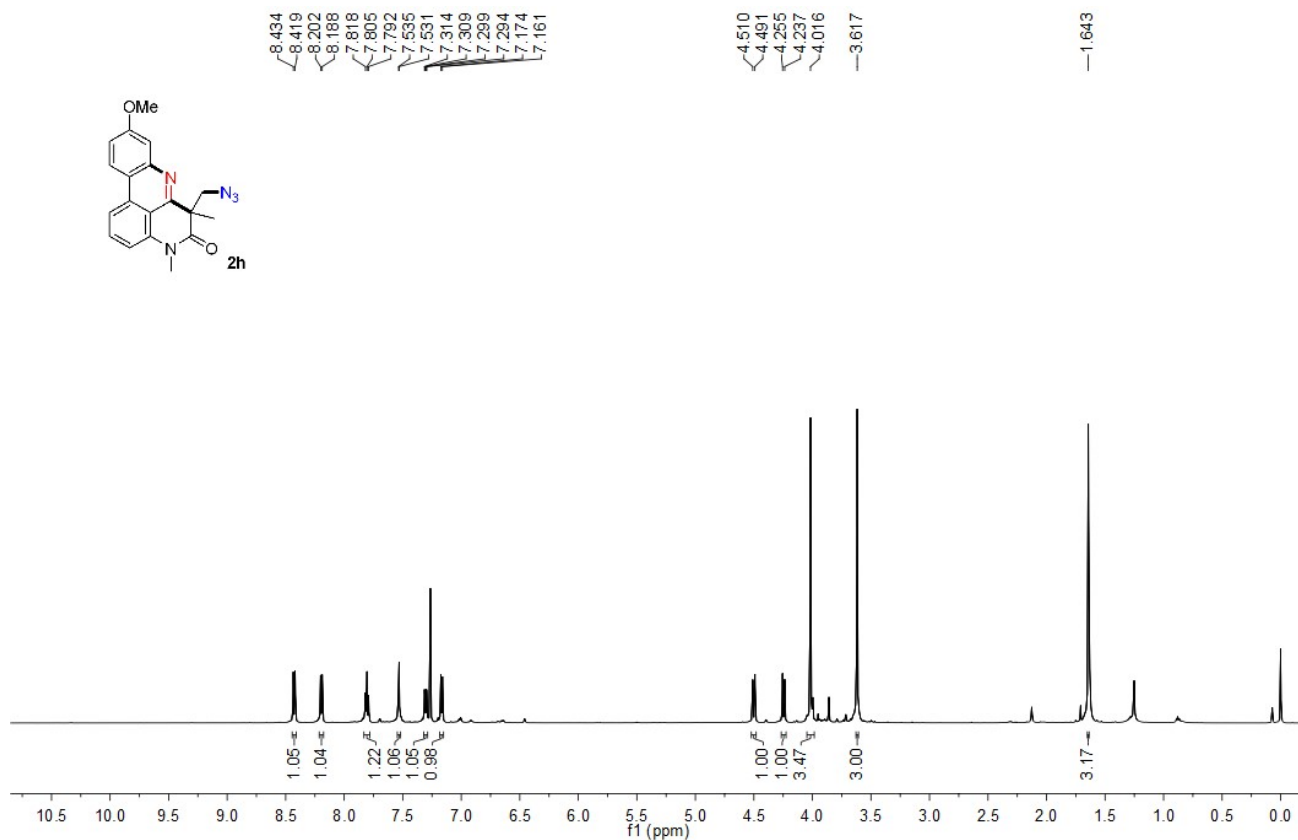
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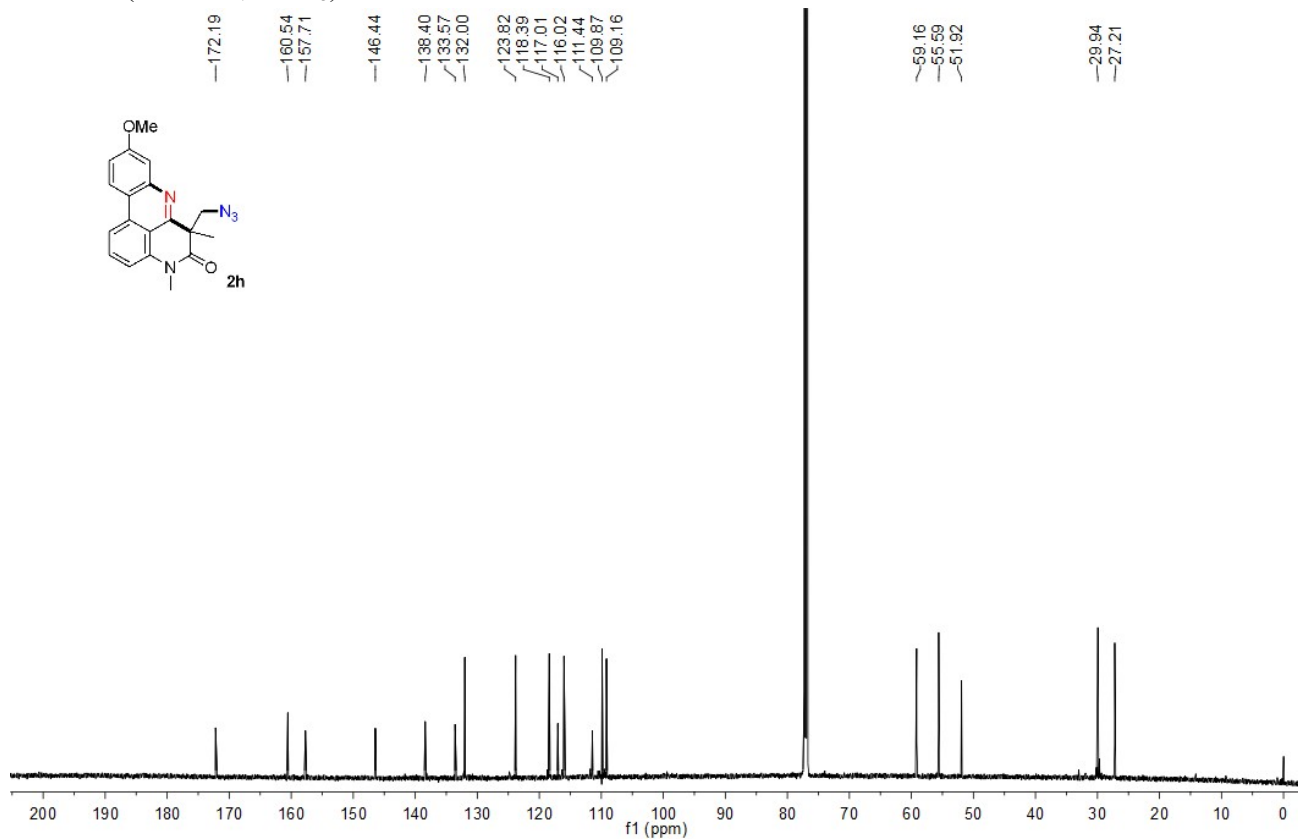
¹³C NMR (151 MHz, CDCl₃)



^1H NMR, 600 MHz, CDCl_3



^{13}C NMR (151 MHz, CDCl_3)



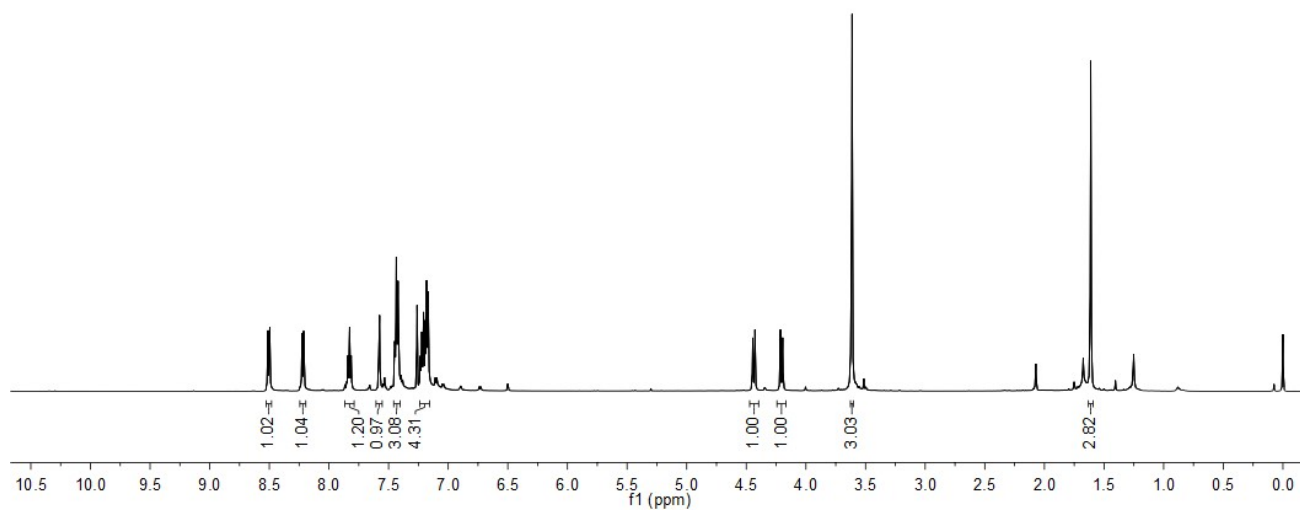
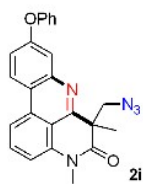
¹H NMR, 600 MHz, CDCl₃

8.511
8.496
8.226
8.212
7.840
7.827
7.813
7.580
7.576
7.448
7.435
7.421
7.417
7.234
7.221
7.206
7.193
7.181
7.168

4.446
4.427
4.214
4.195

3.613

1.612



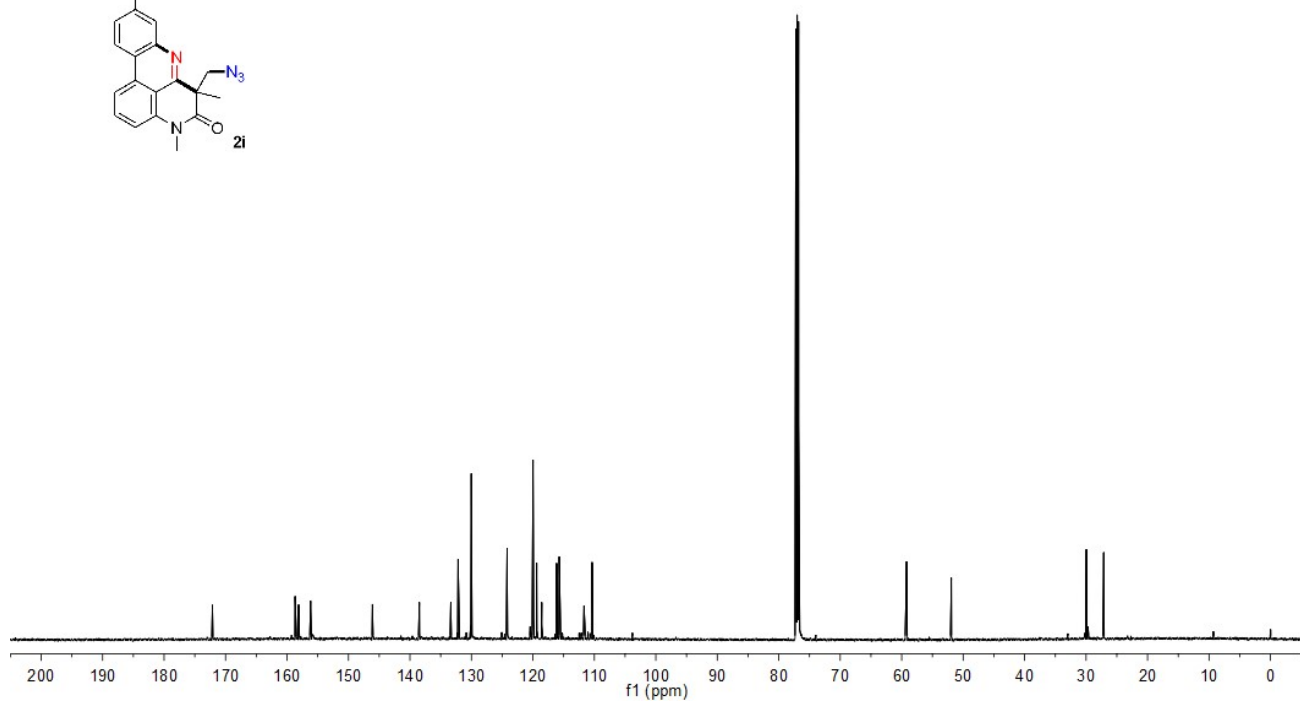
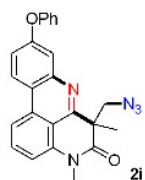
¹³C NMR (151 MHz, CDCl₃)

172.14
158.68
158.12
156.17
146.10
138.47
133.36
132.17
130.01
124.25
124.20
119.97
119.38
118.57
116.14
115.70
111.68
110.37

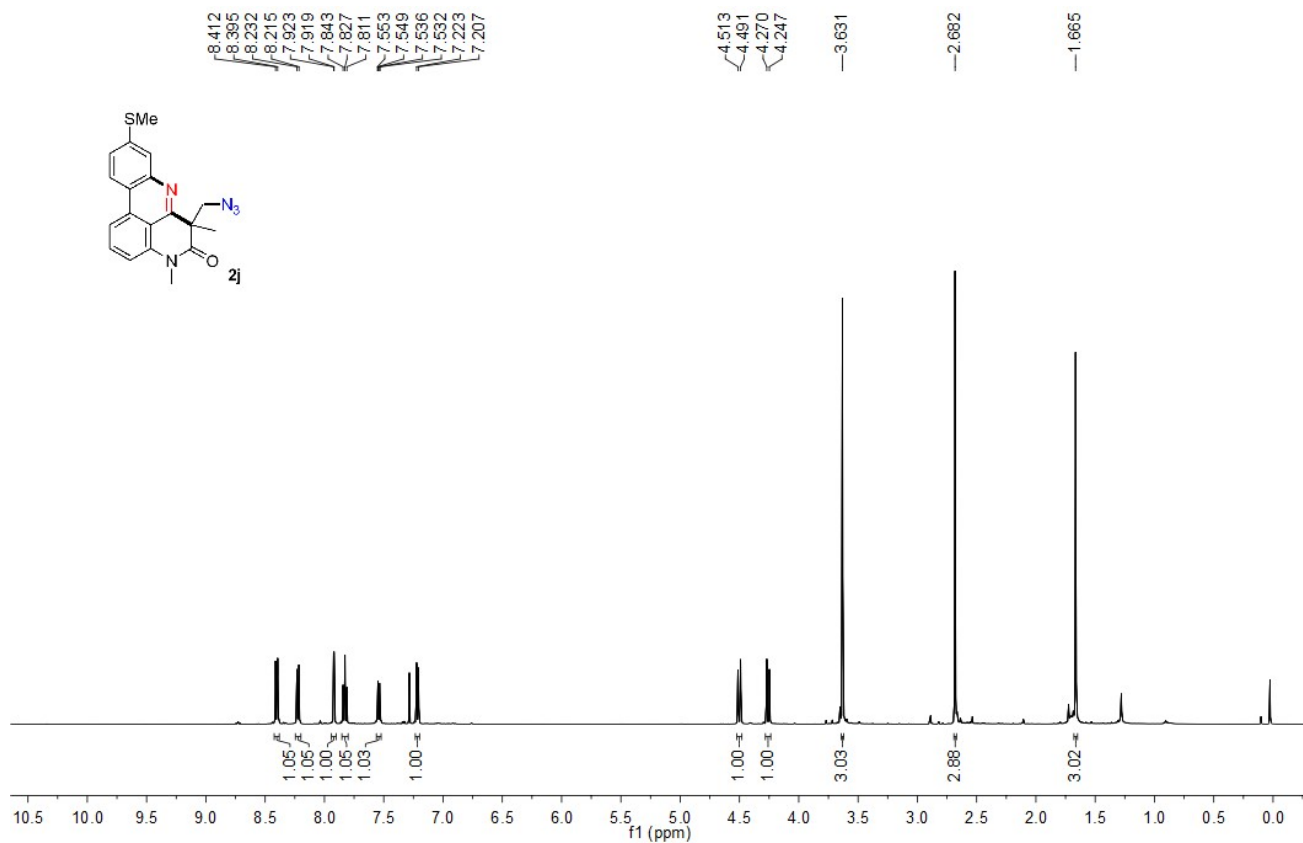
69.19

51.93

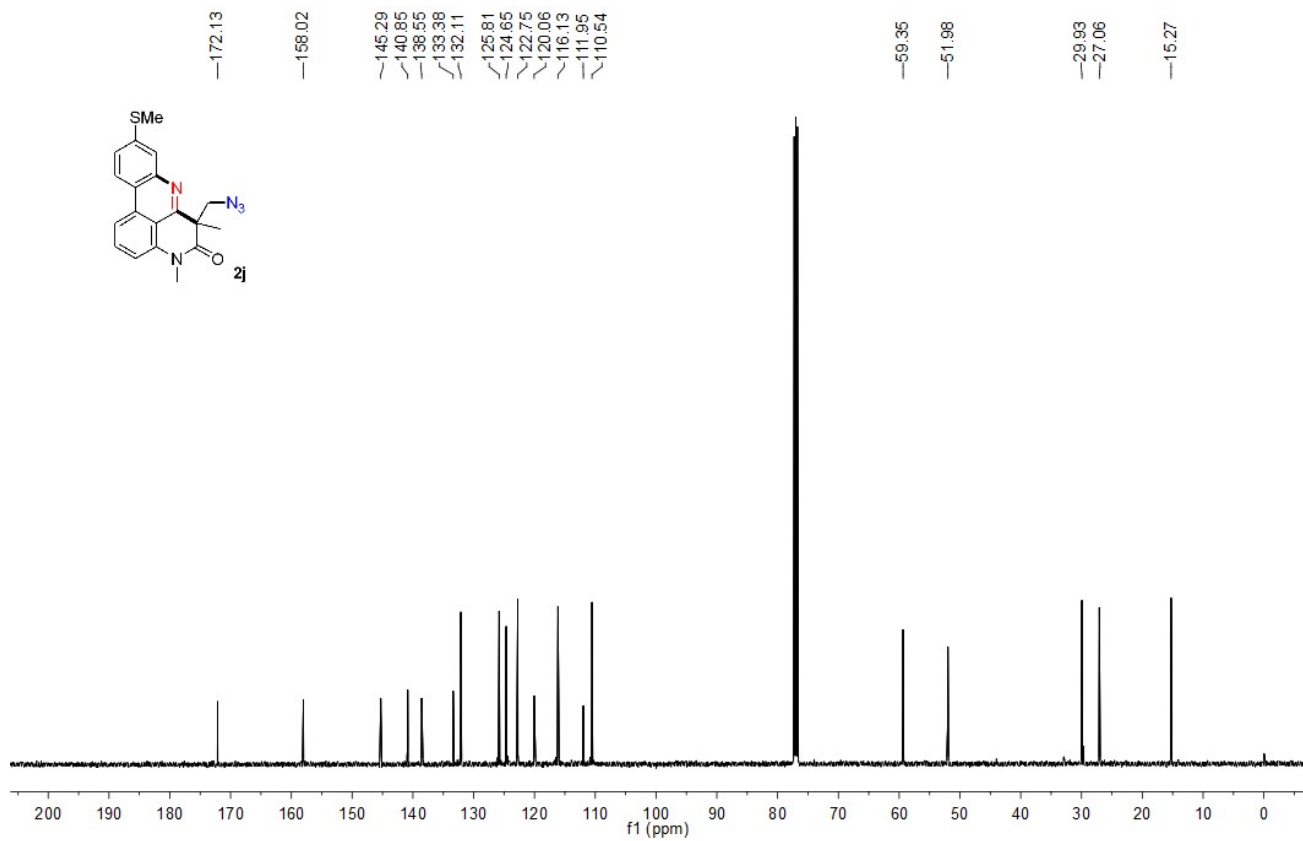
29.94
27.12



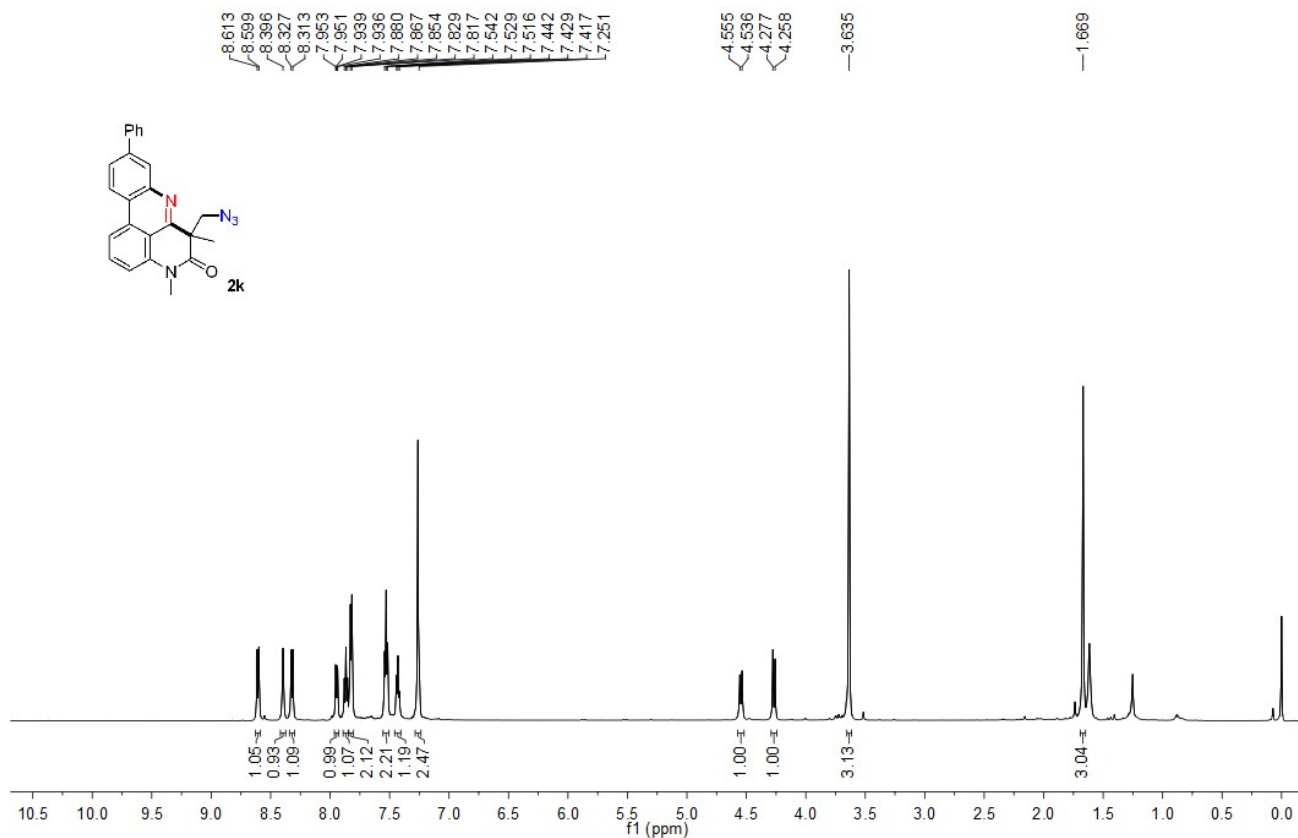
¹H NMR, 500 MHz, CDCl₃



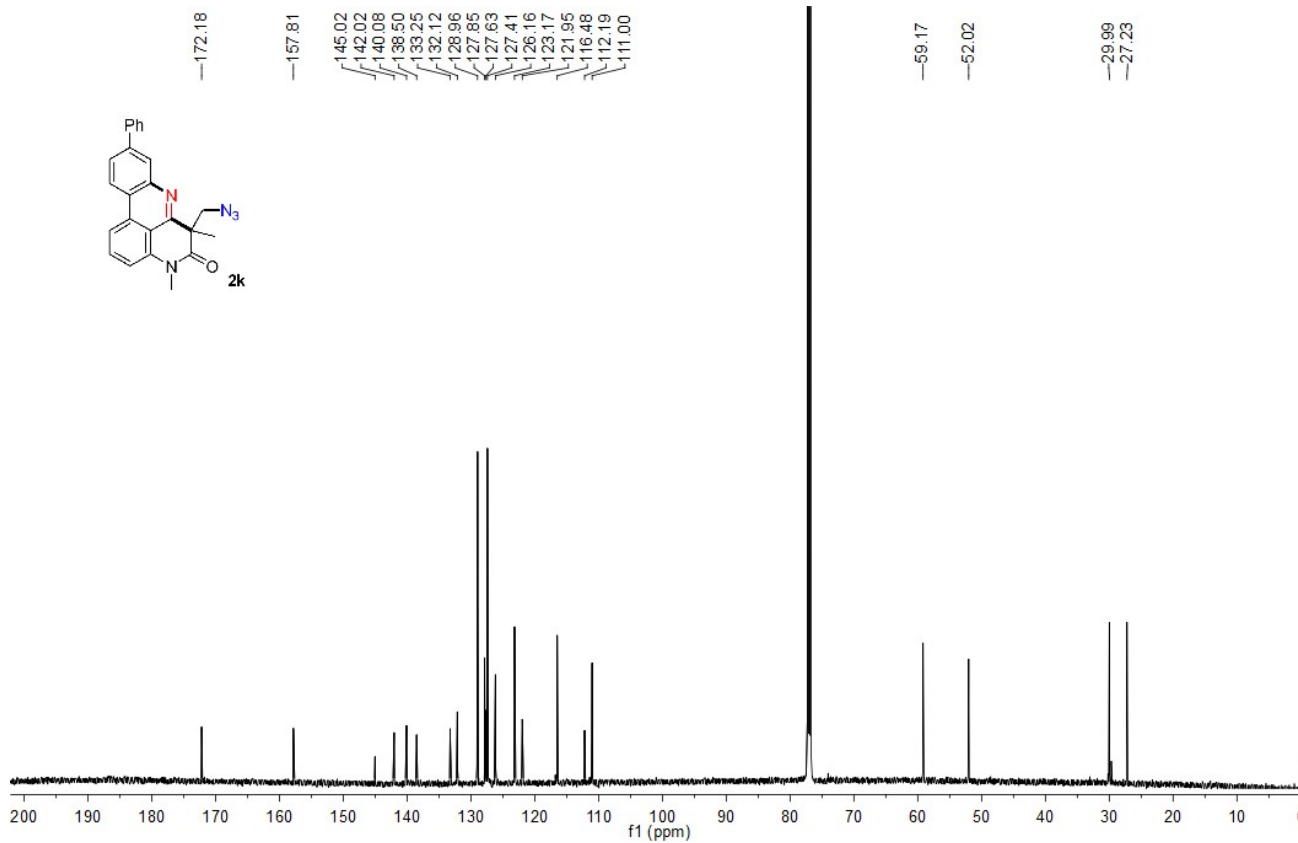
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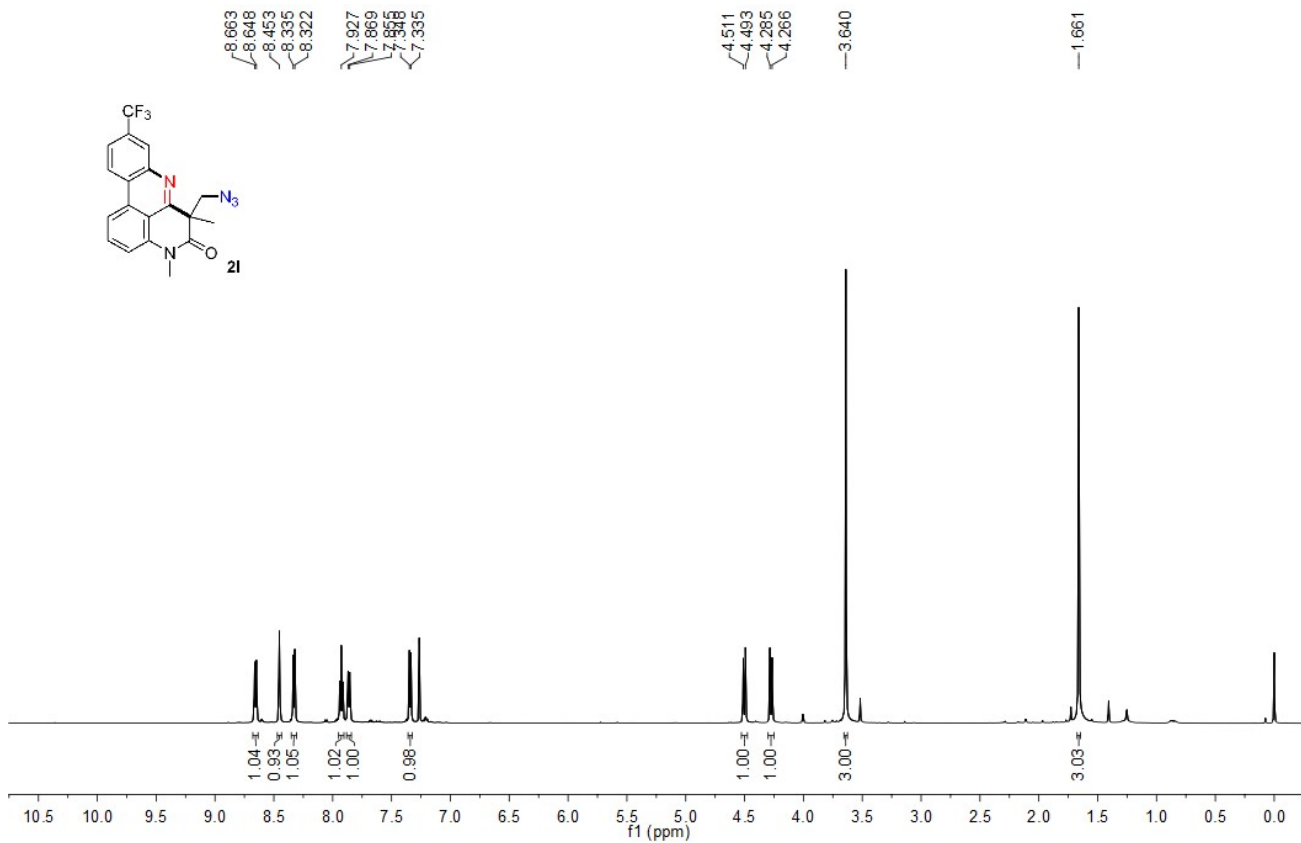
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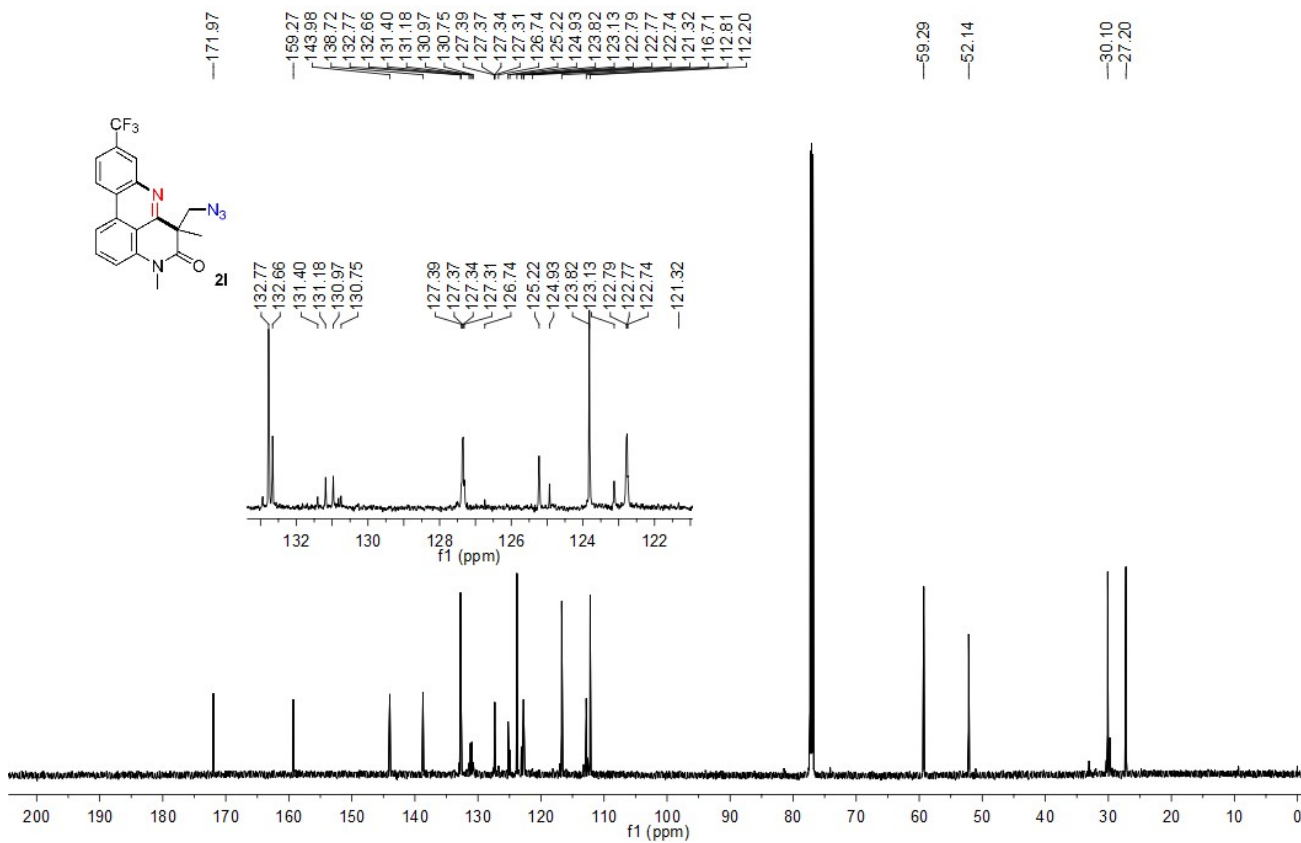
^{13}C NMR (151 MHz, CDCl_3)



^1H NMR, 600 MHz, CDCl_3



^{13}C NMR (151 MHz, CDCl_3)



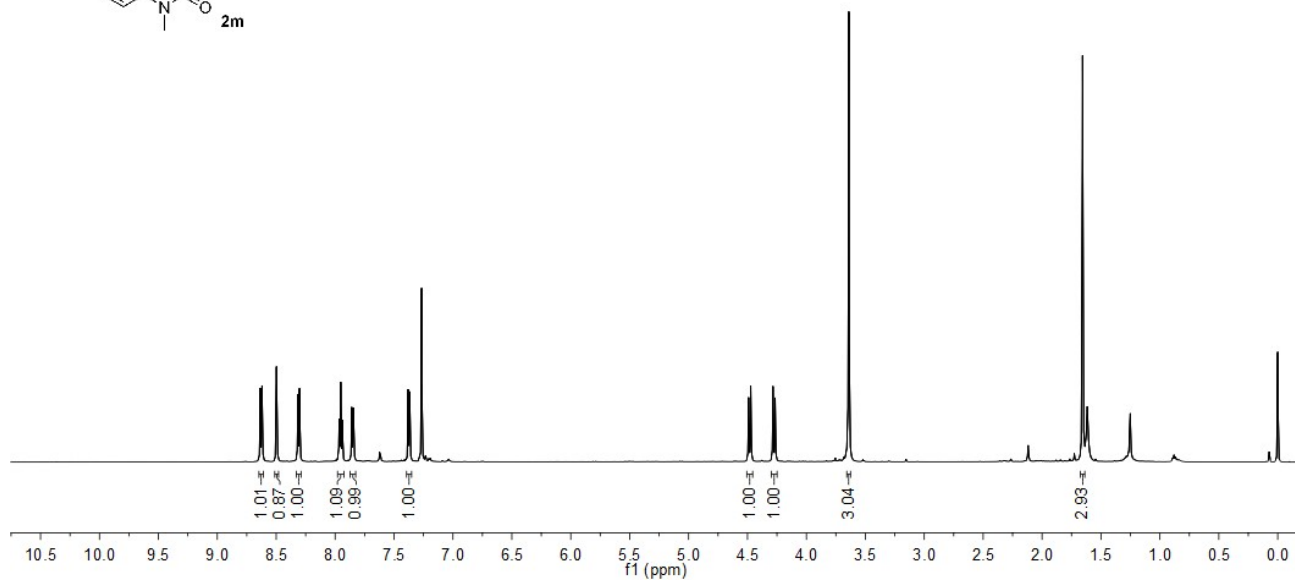
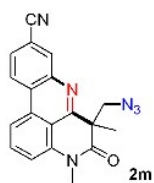
^1H NMR, 600 MHz, CDCl_3

8.635
8.621
8.498
8.496
8.316
8.302
7.952
7.859
7.885
7.967

4.491
4.472
4.284
4.265

3.640

1.656



^{13}C NMR (151 MHz, CDCl_3)

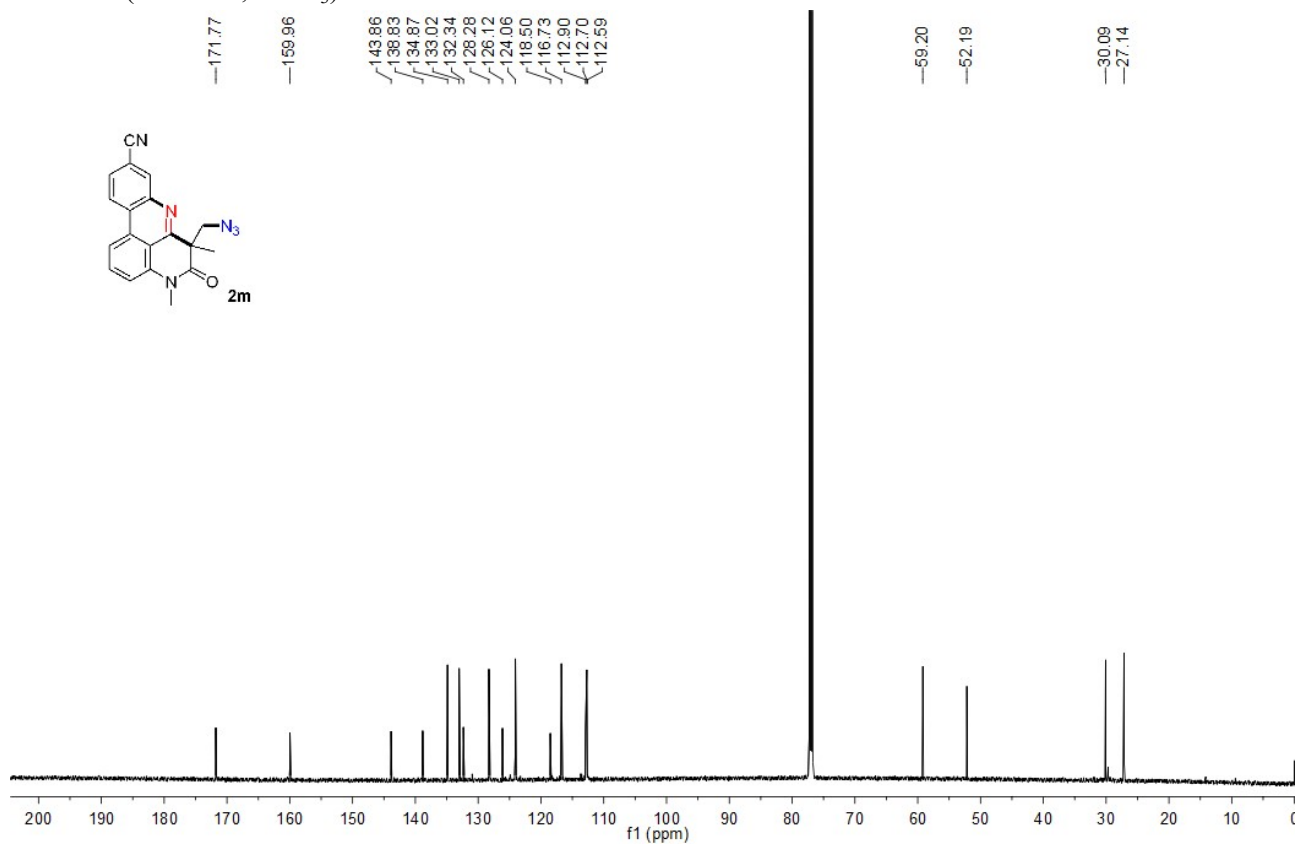
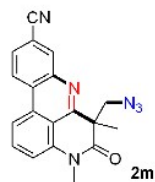
171.77
159.96

143.86
138.83
134.87
133.02
132.34
128.28
126.12
124.06
118.50
116.73
112.90
112.70
112.59

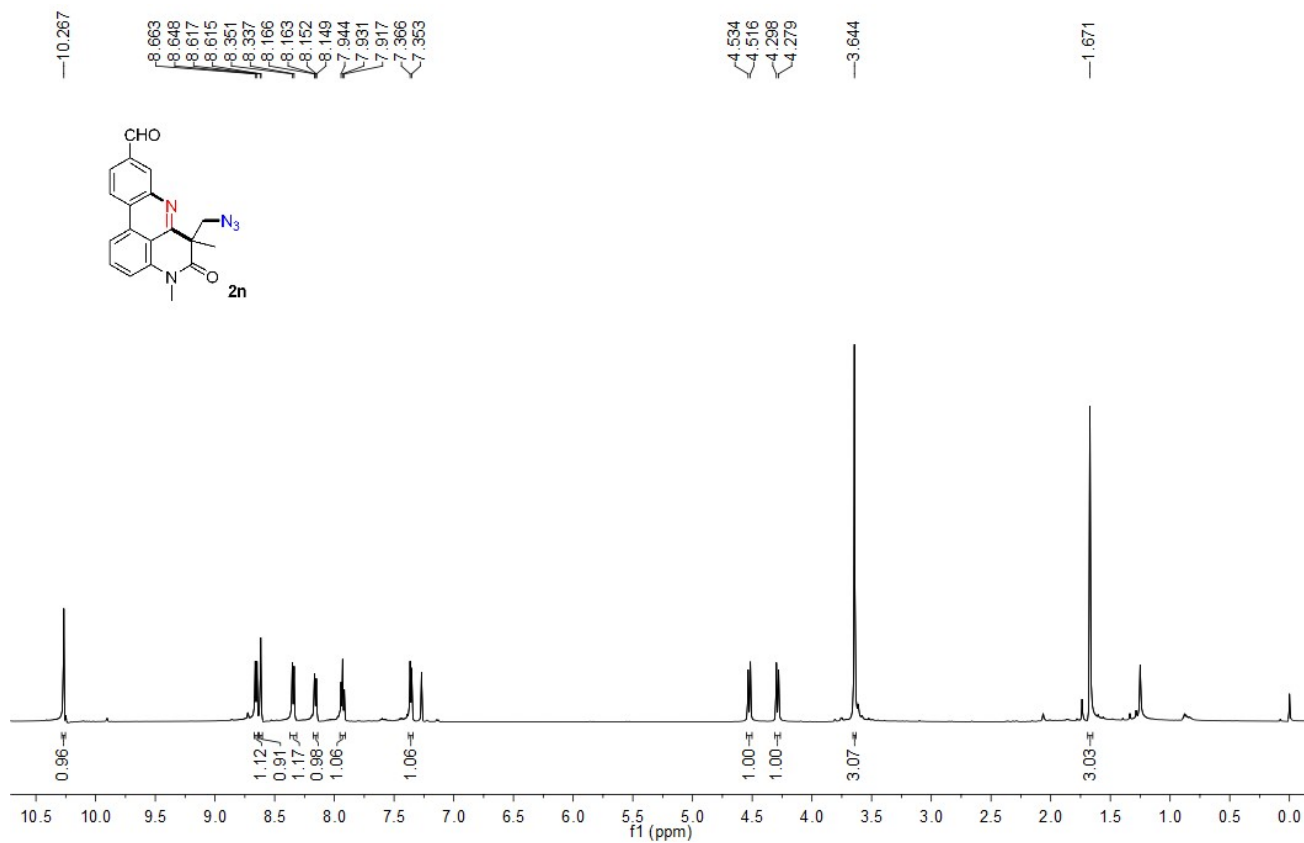
59.20

52.19

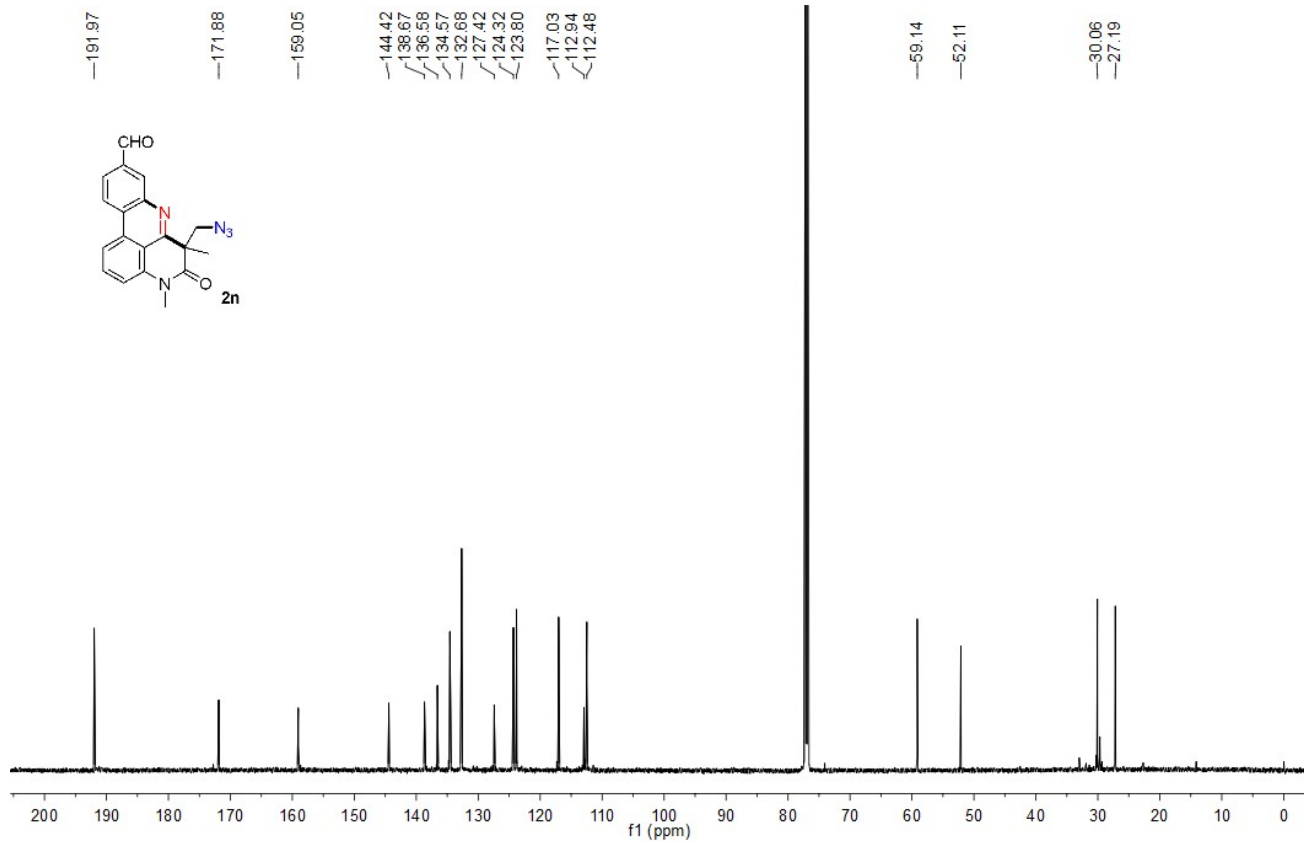
30.09
27.14



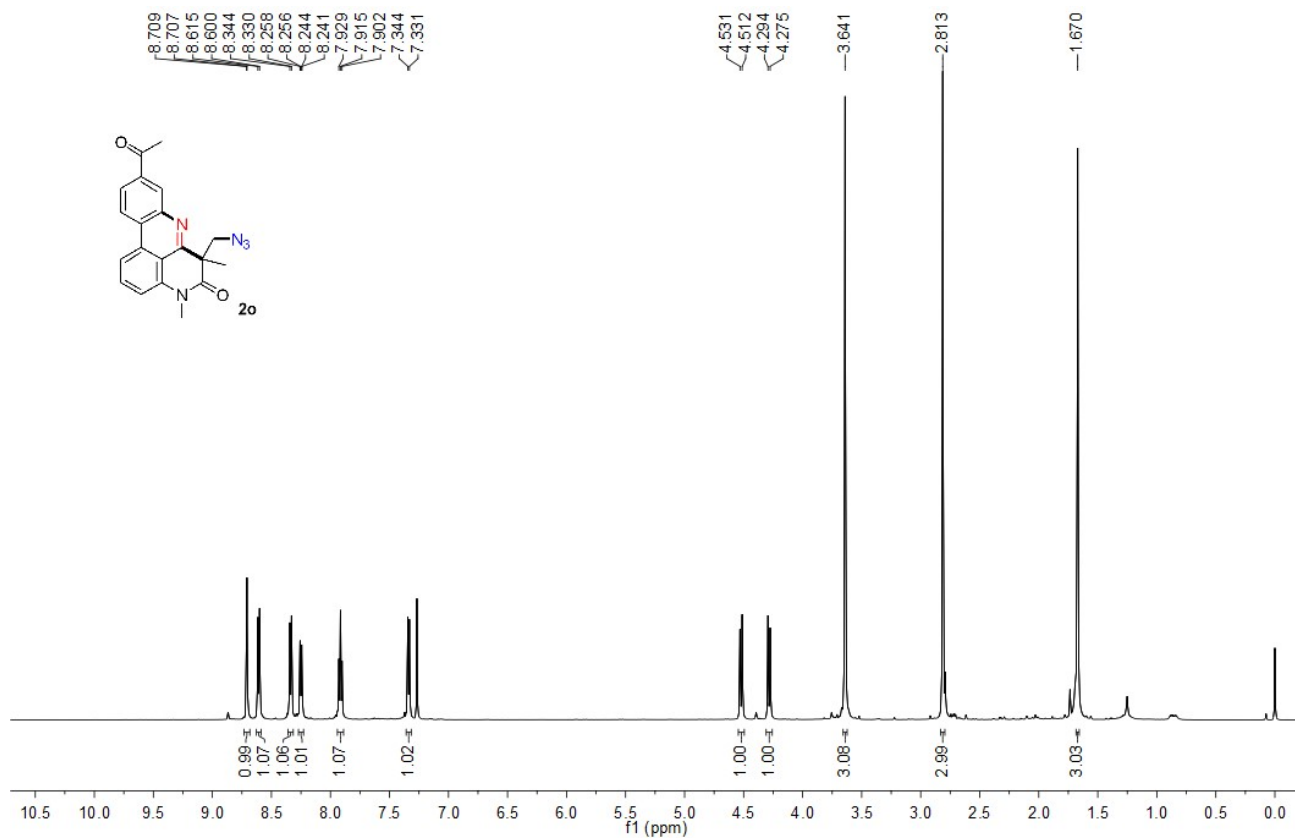
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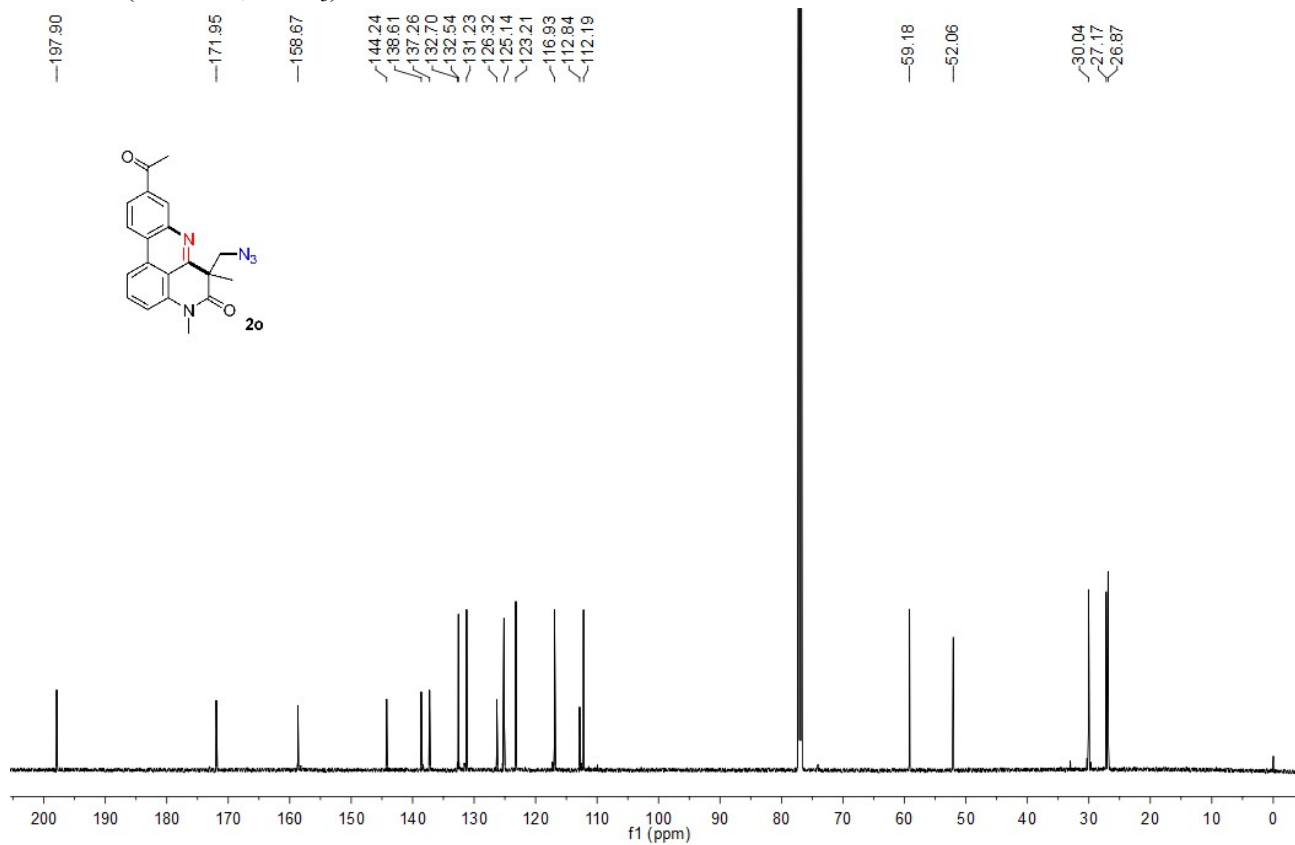
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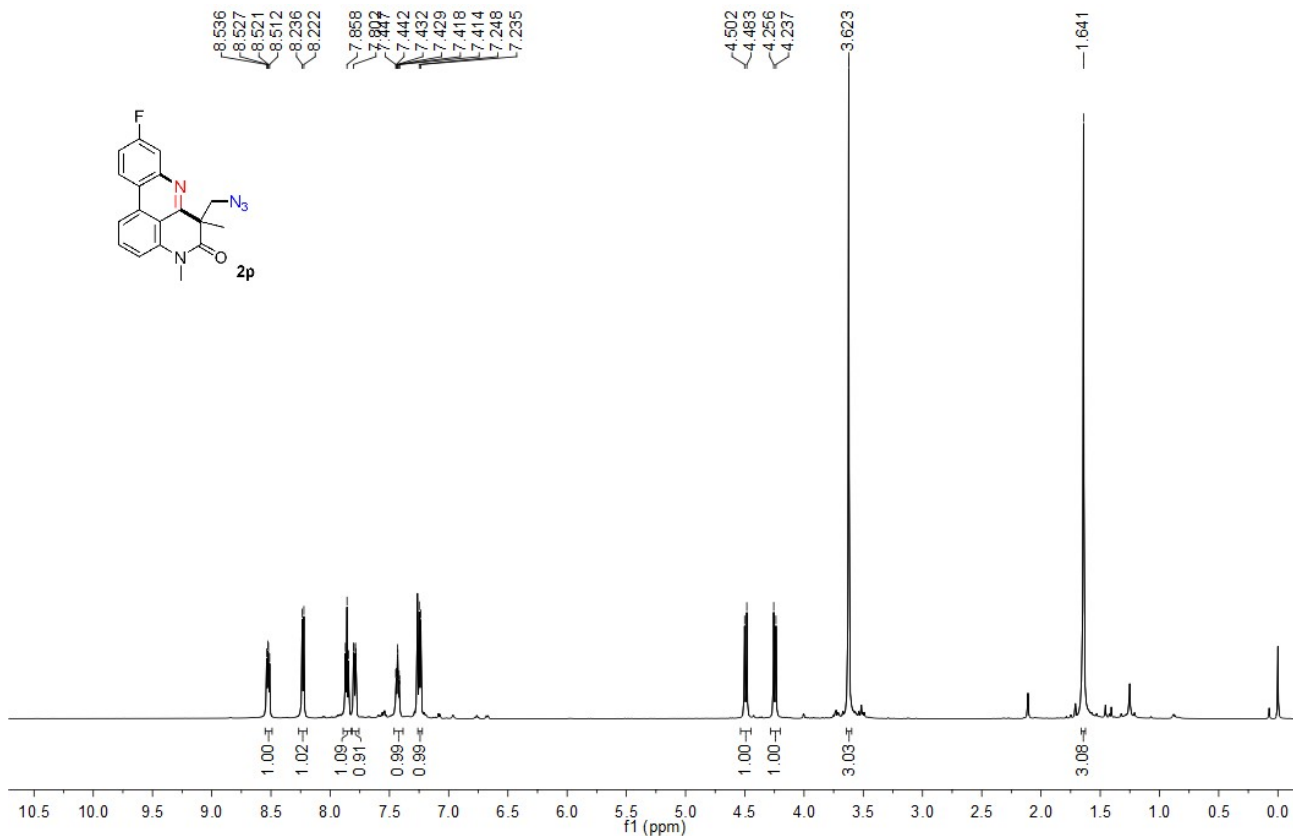
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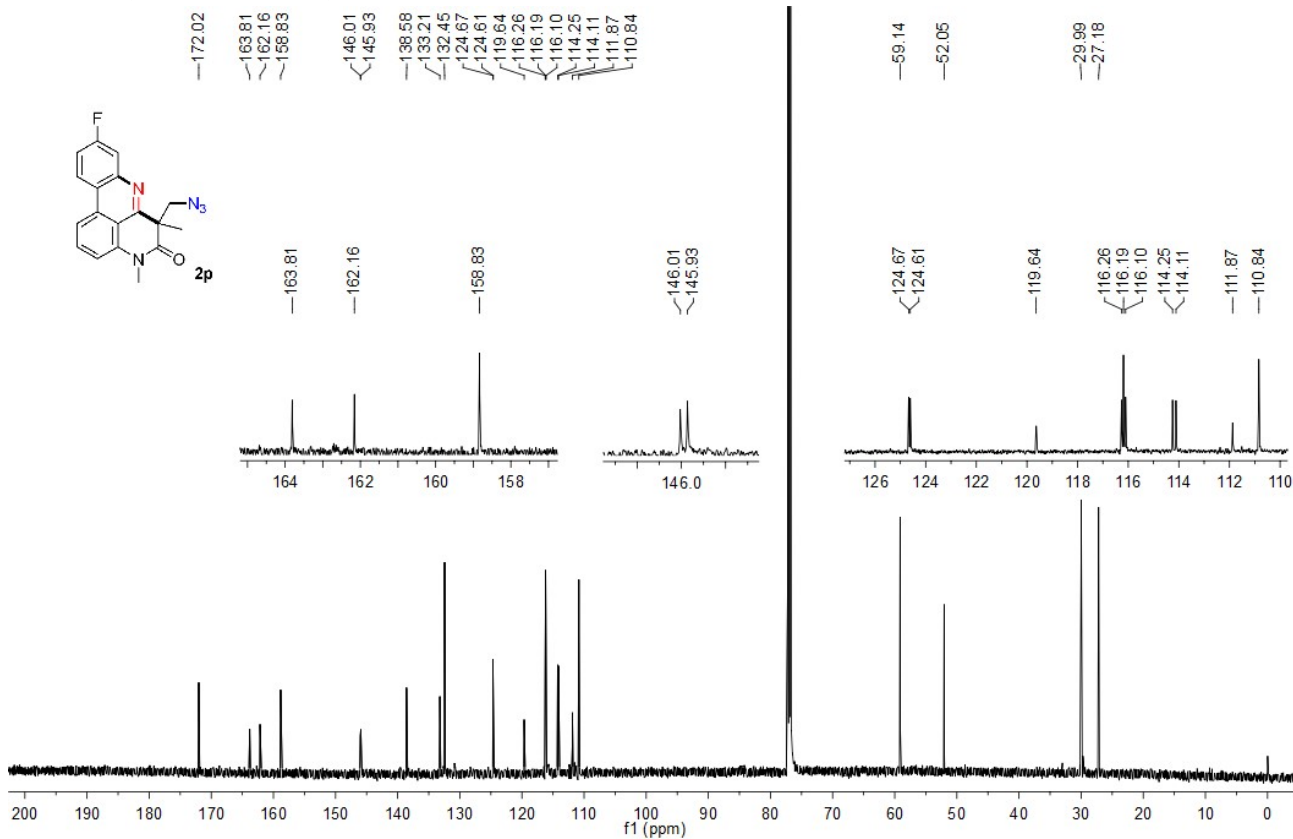
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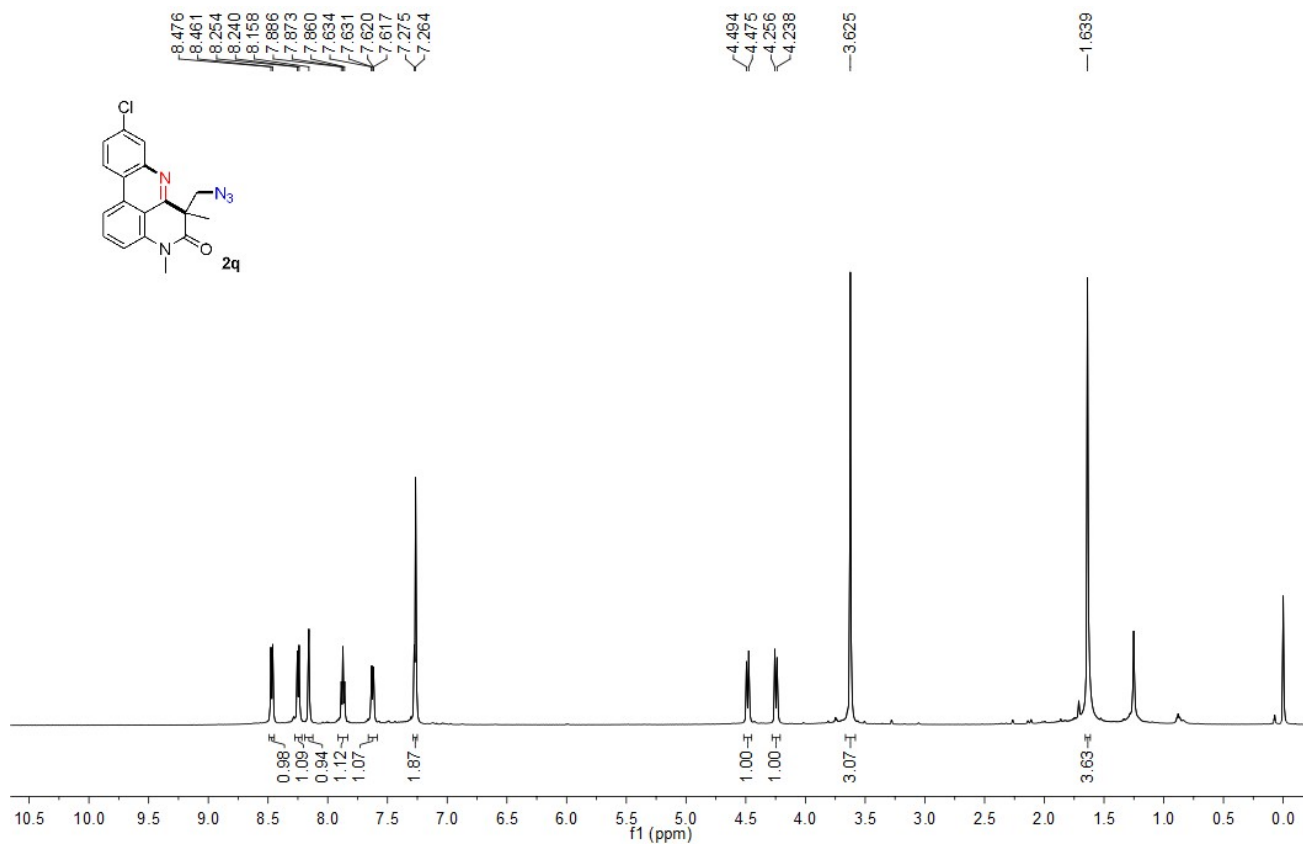
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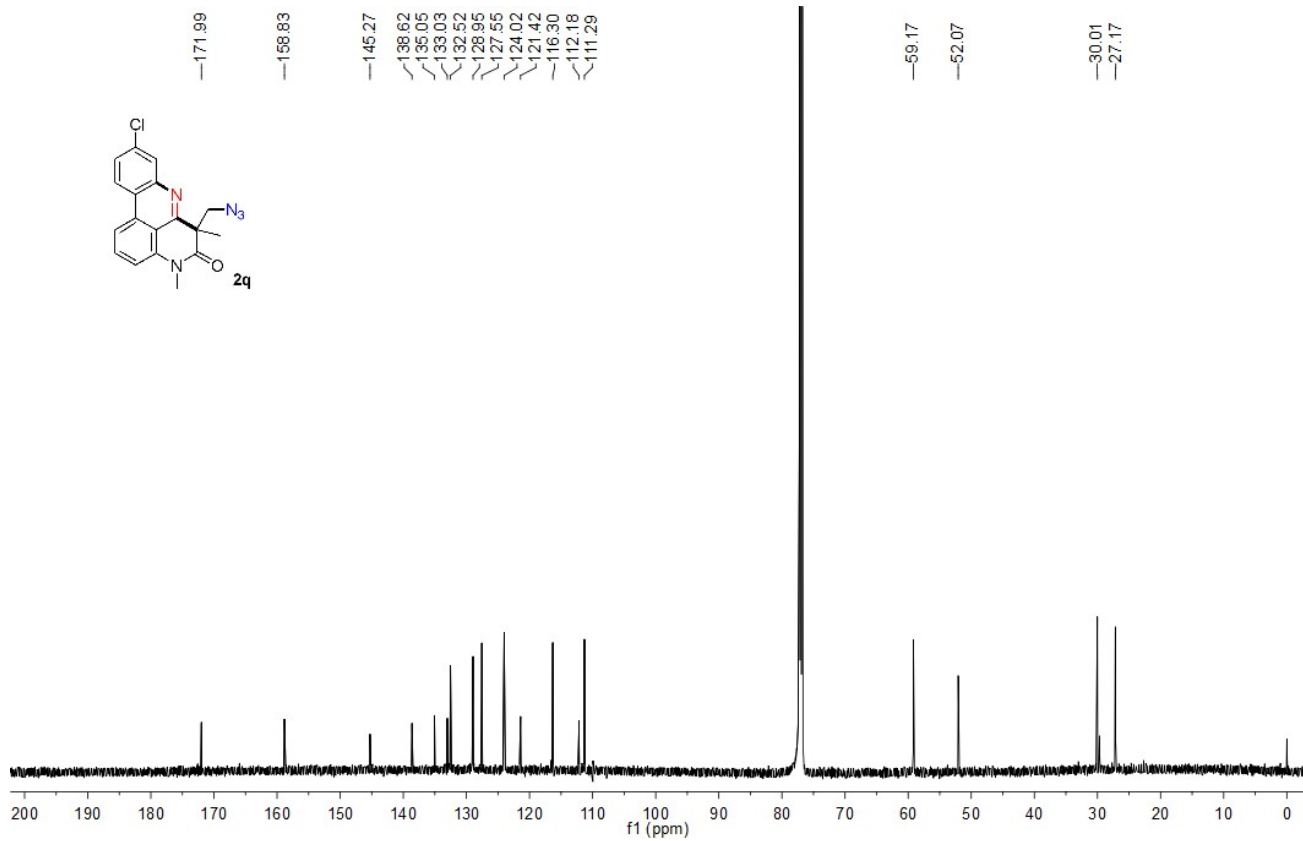
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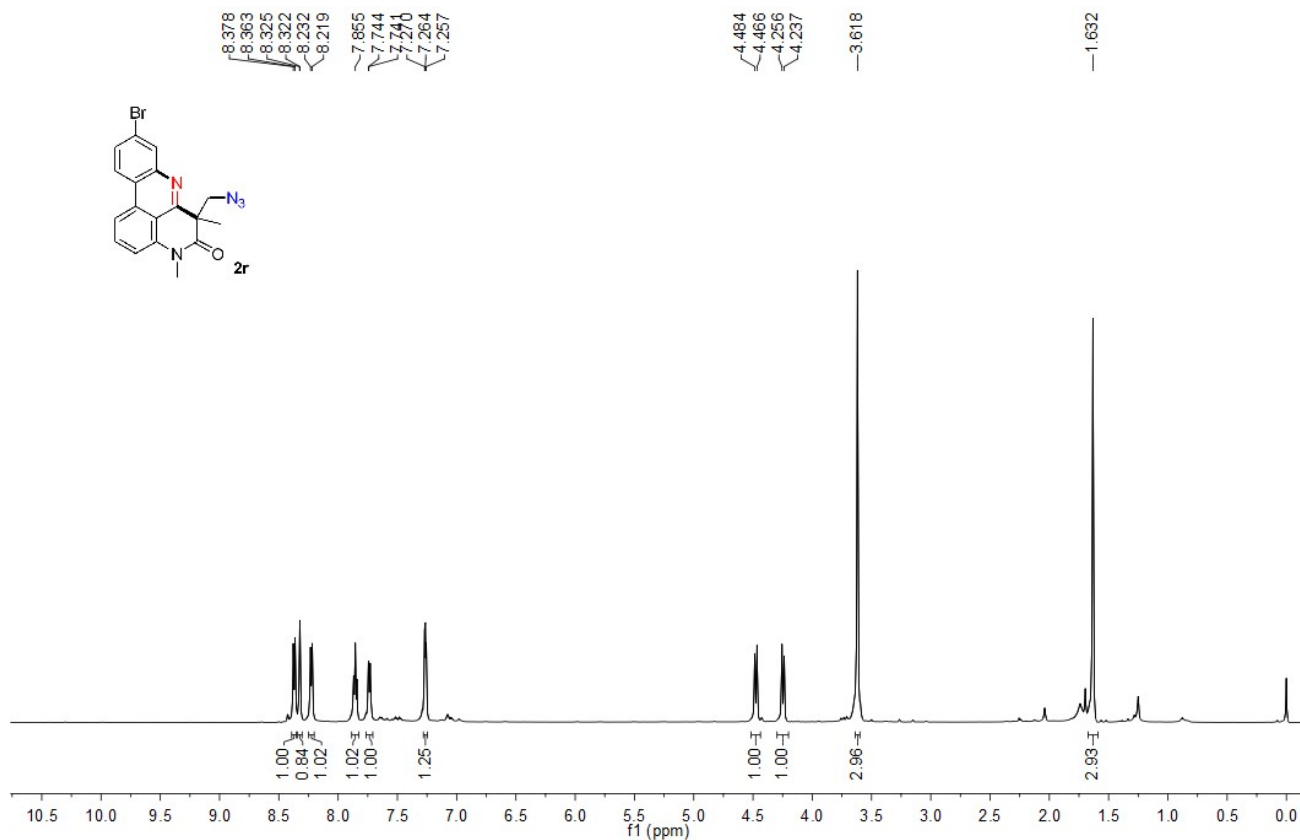
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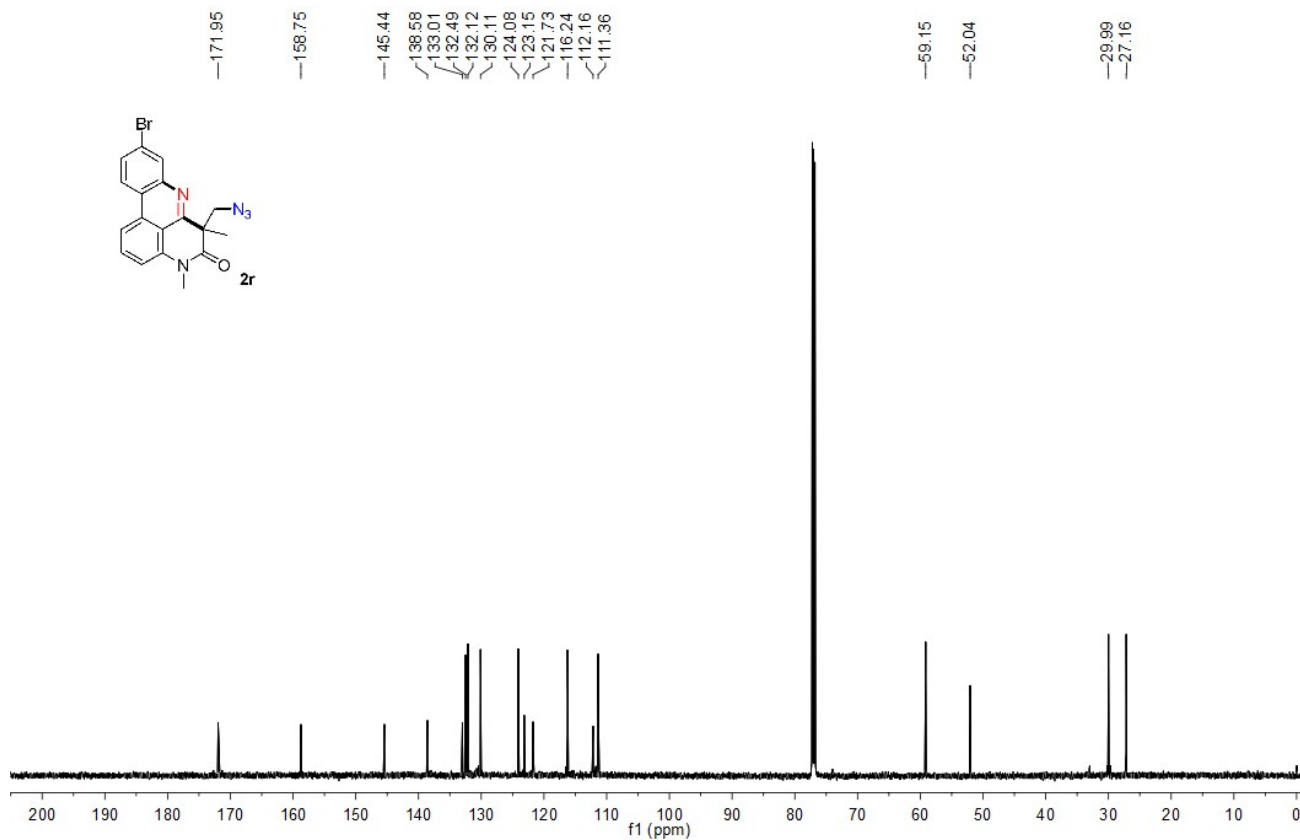
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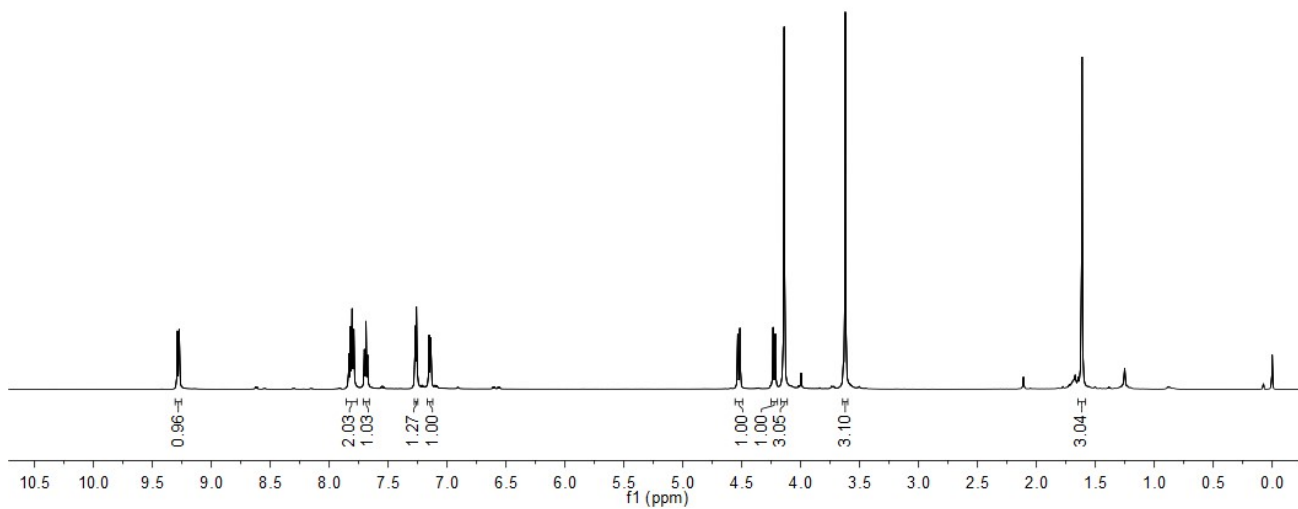
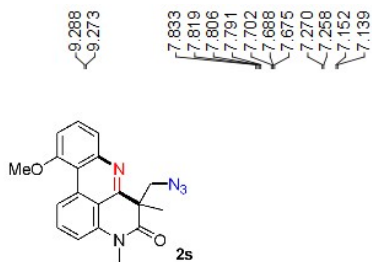
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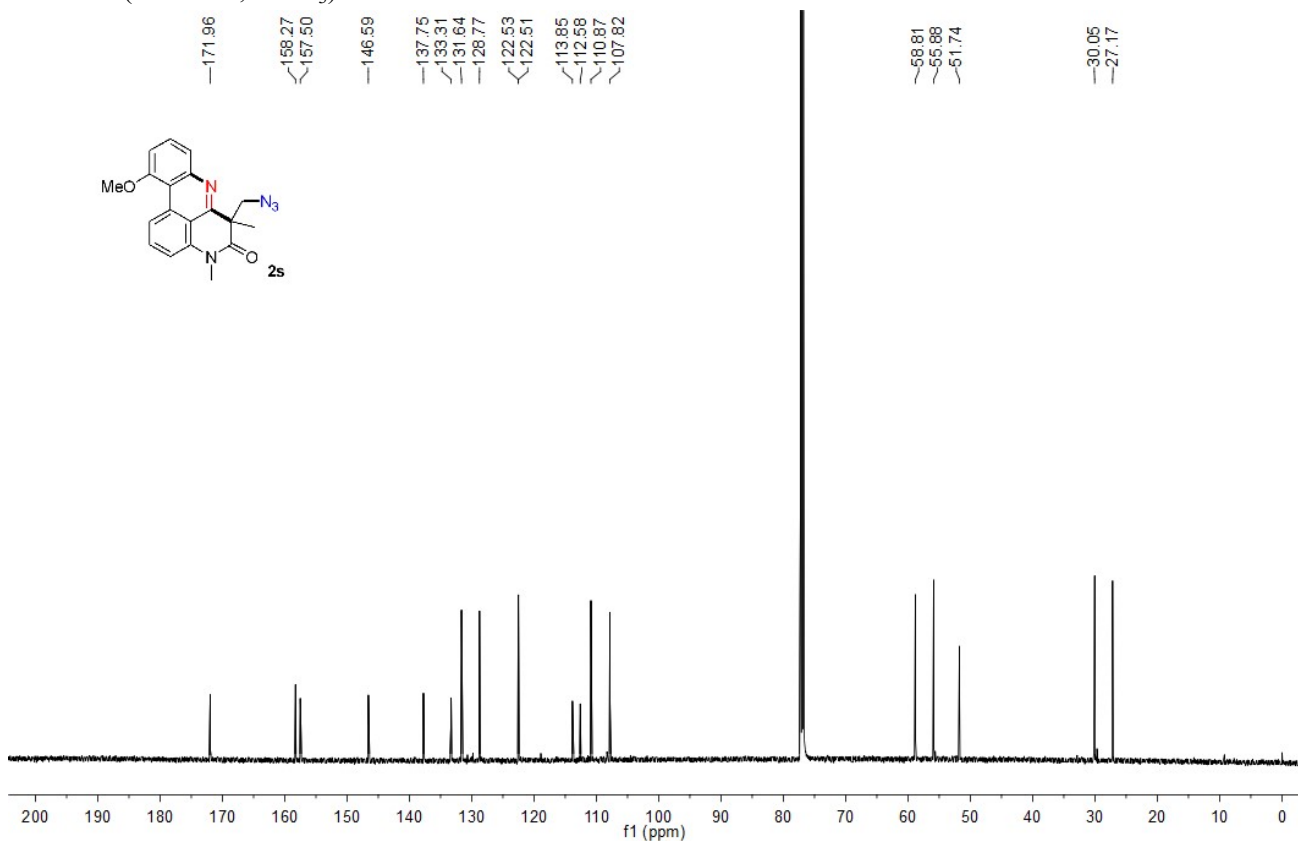
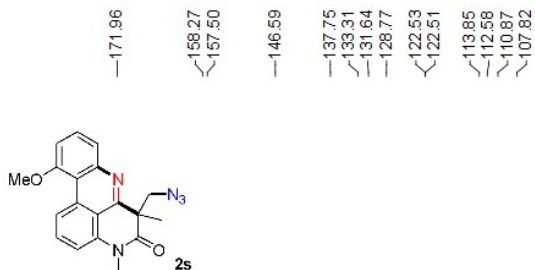
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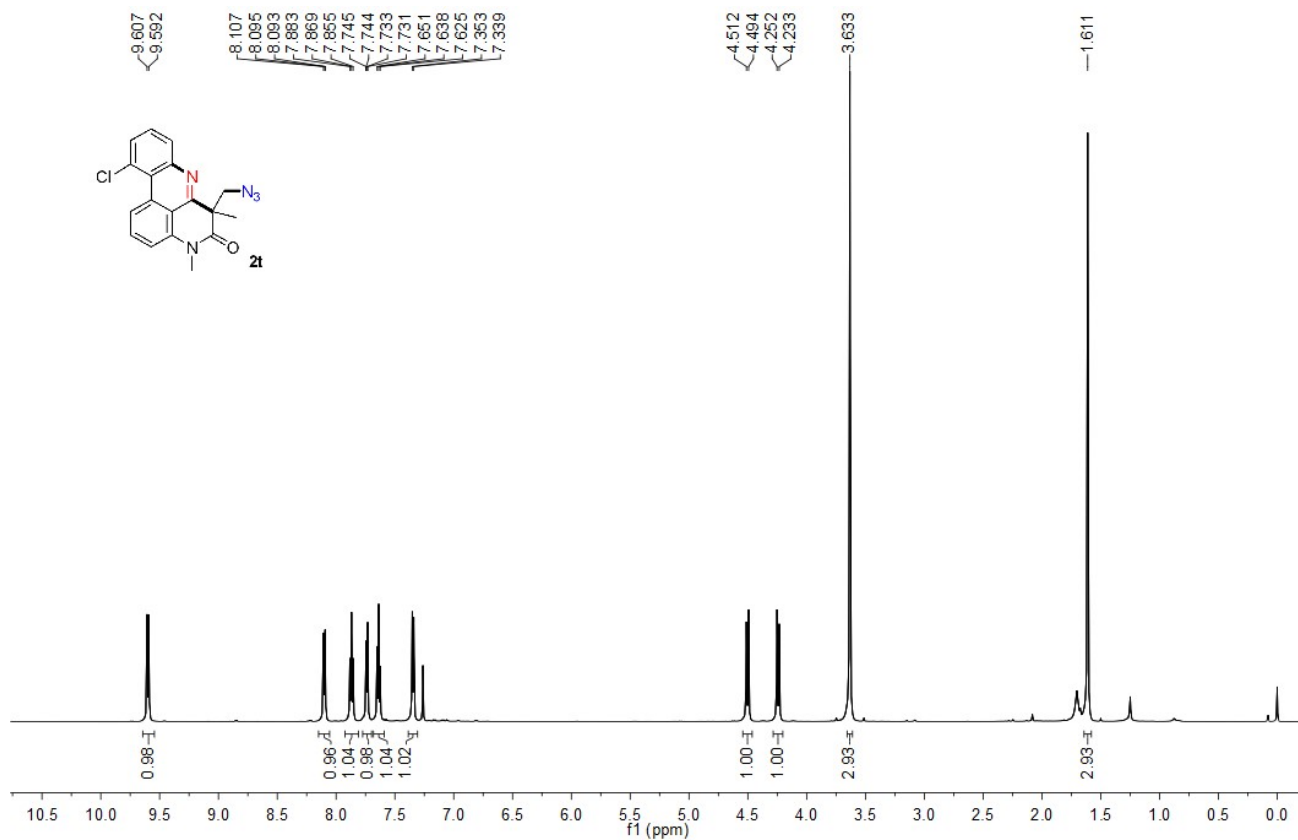
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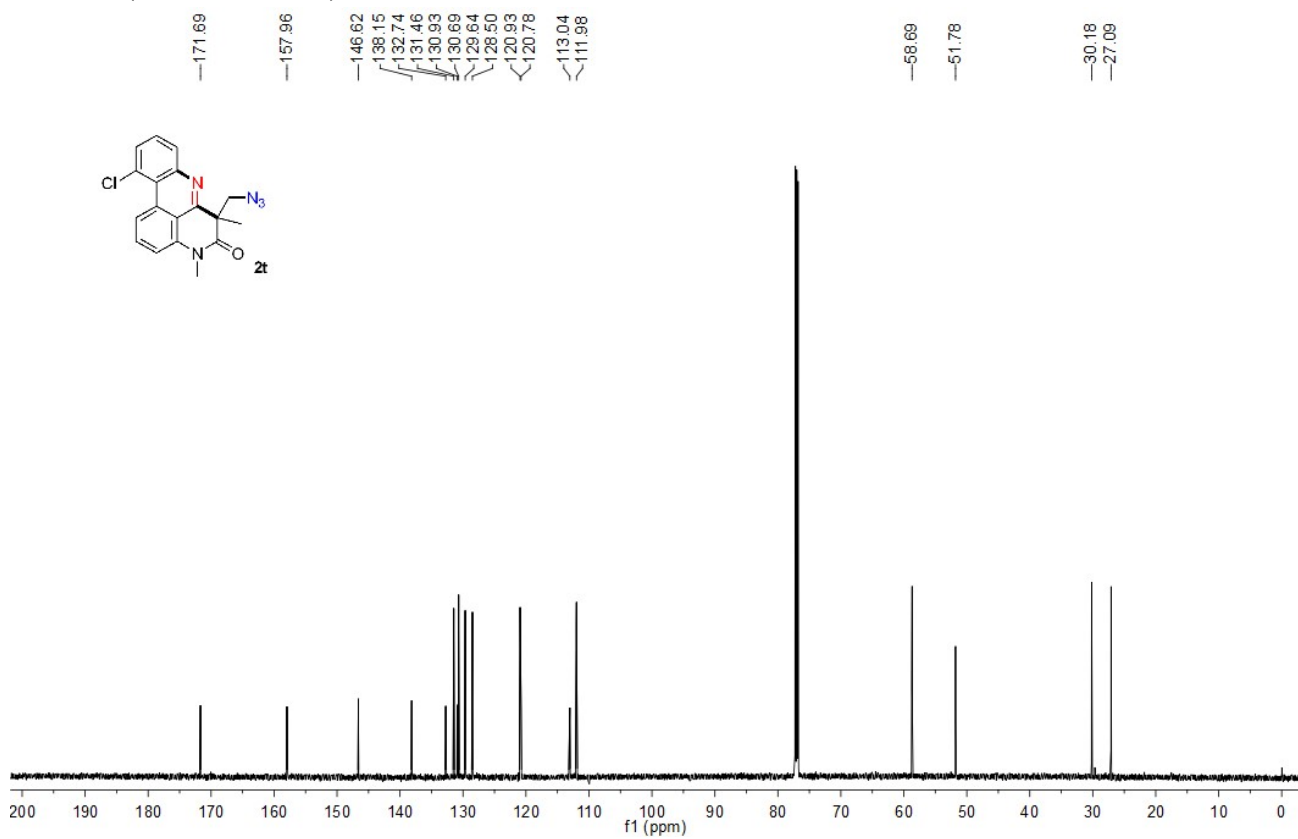
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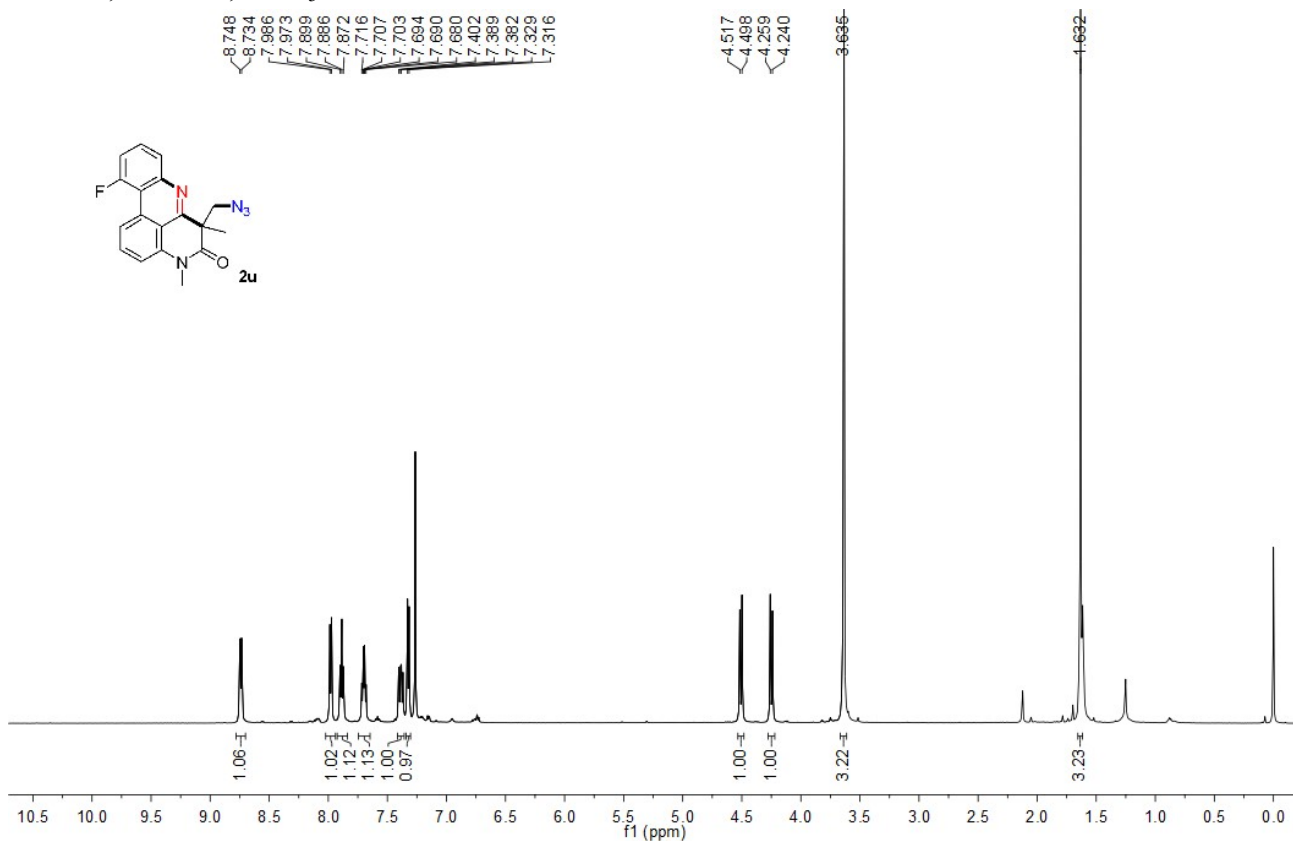
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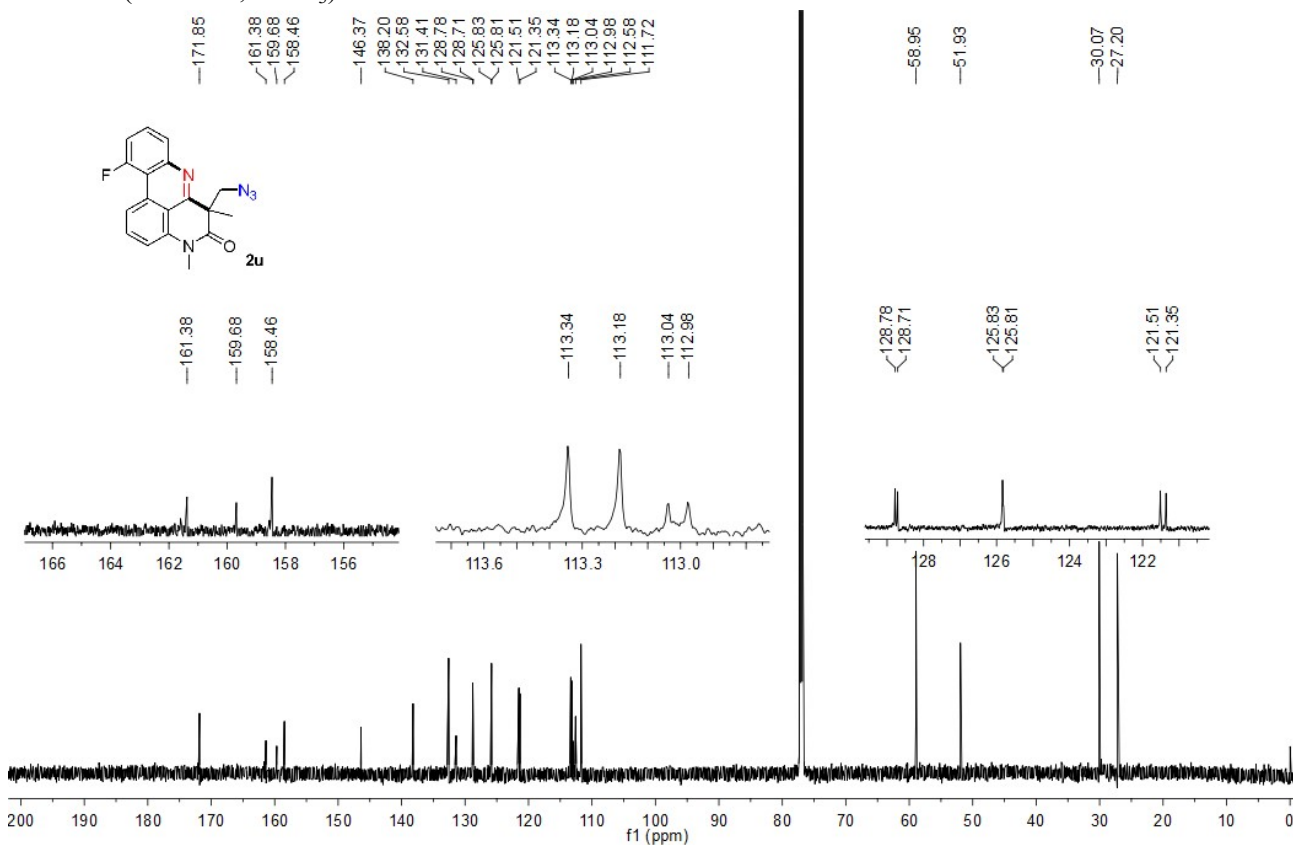
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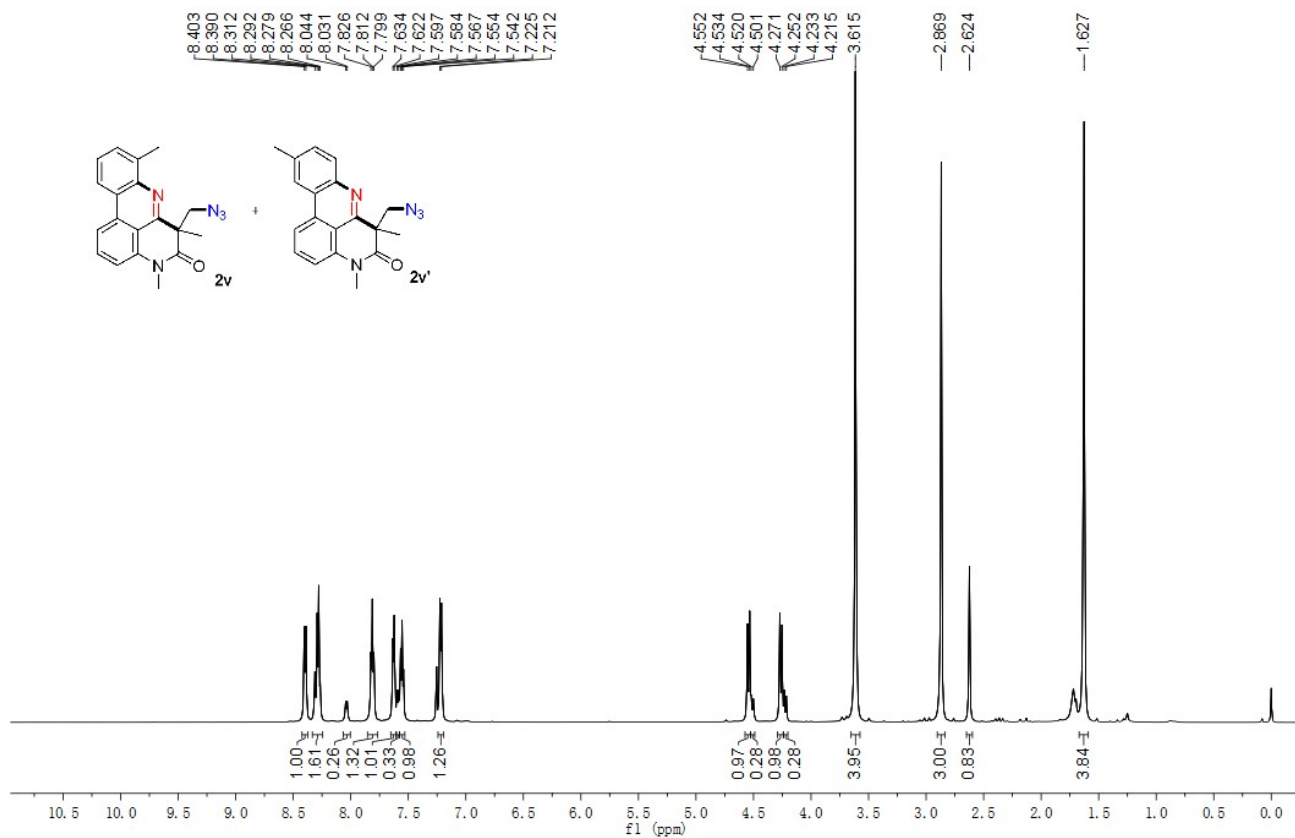
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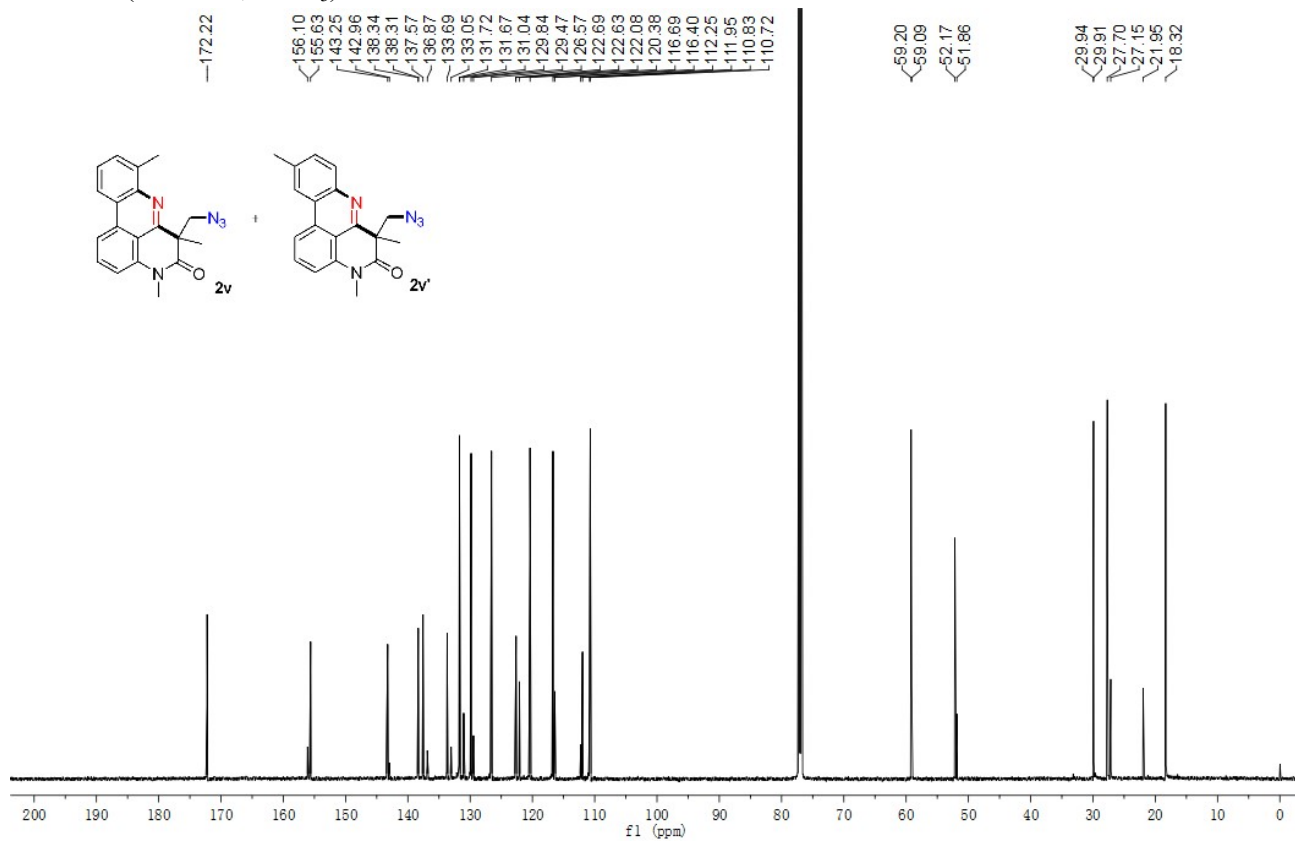
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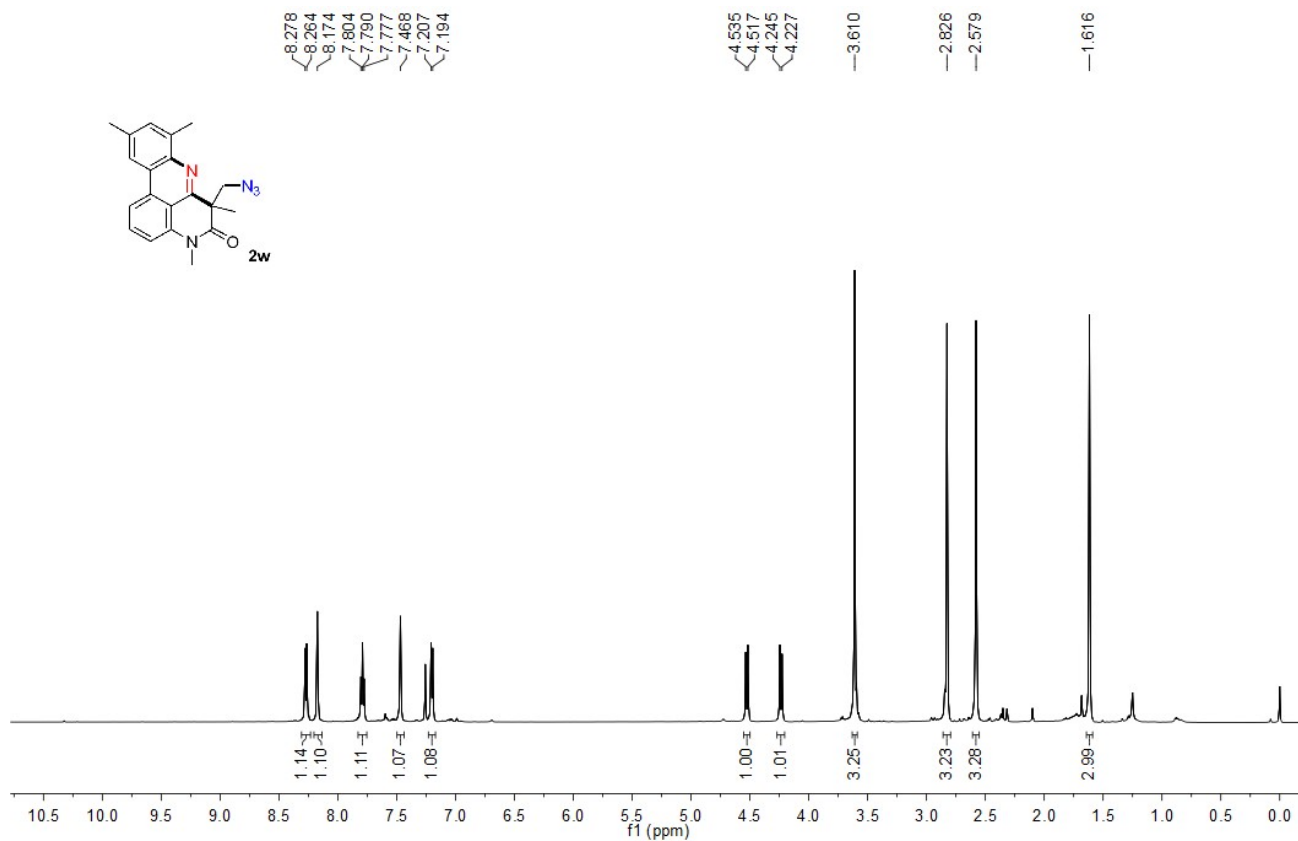
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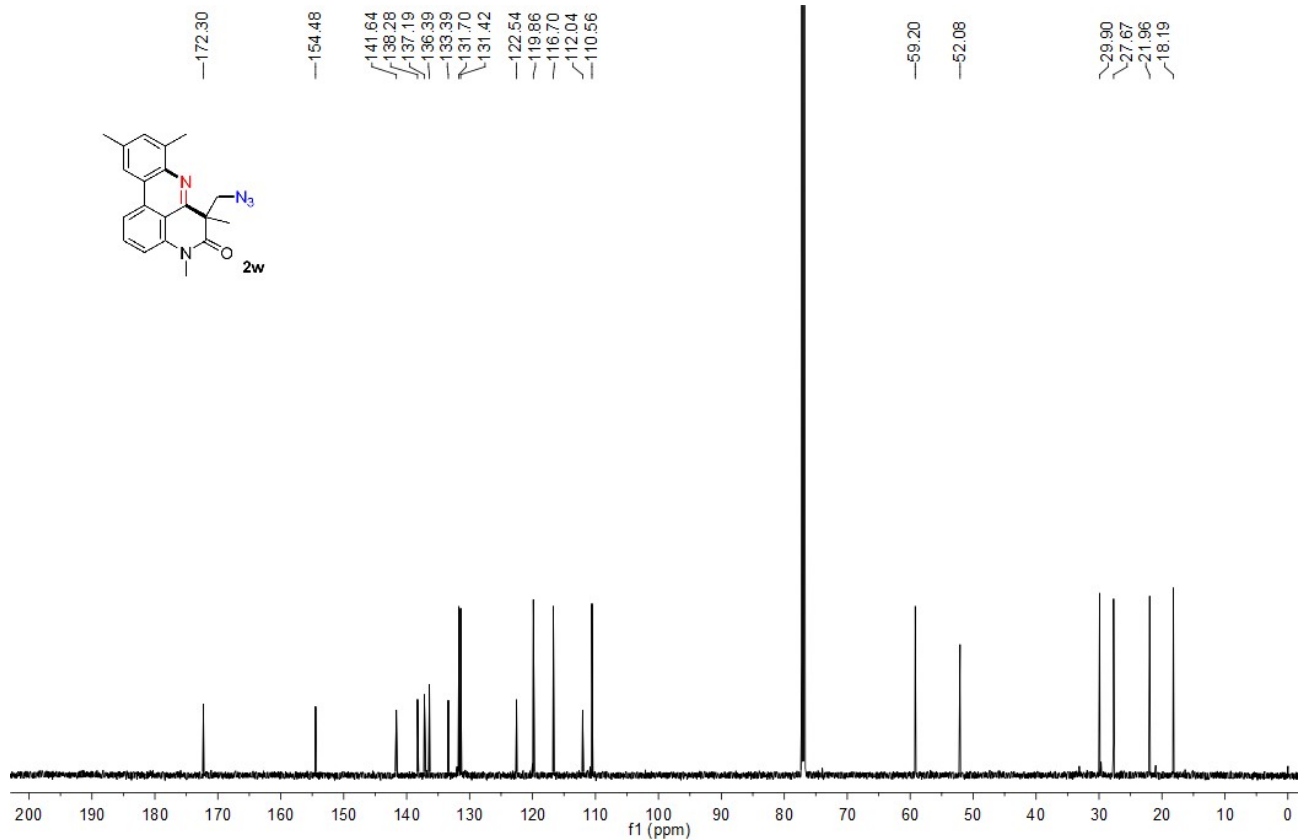
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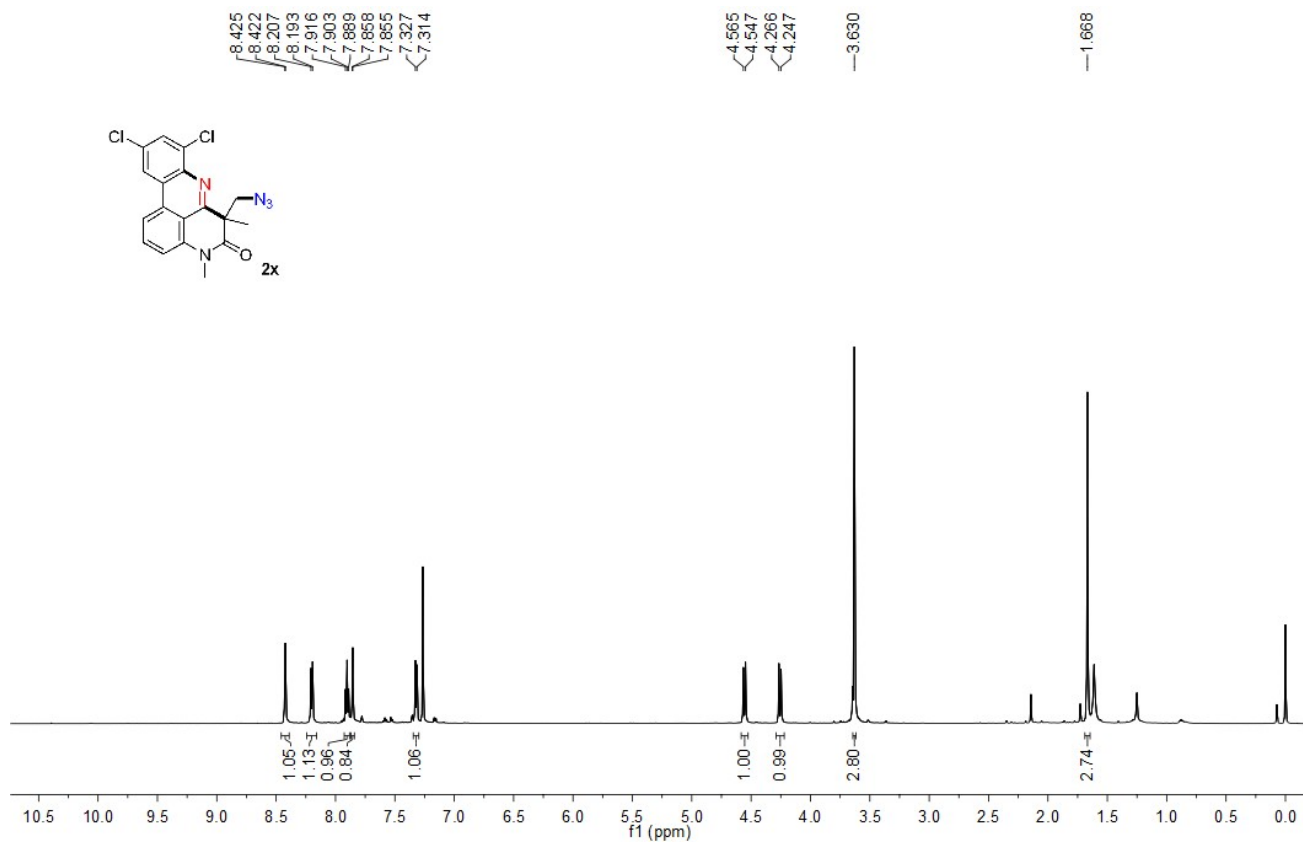
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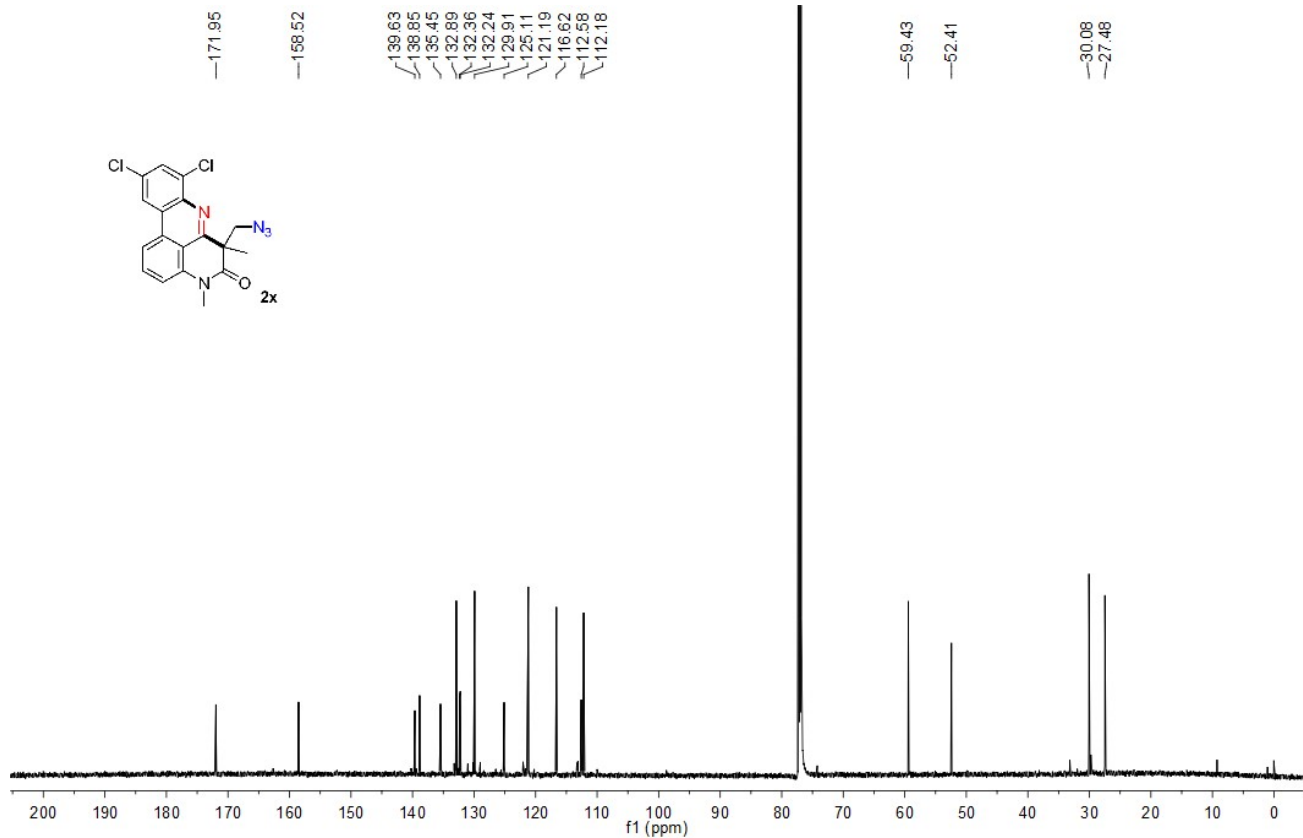
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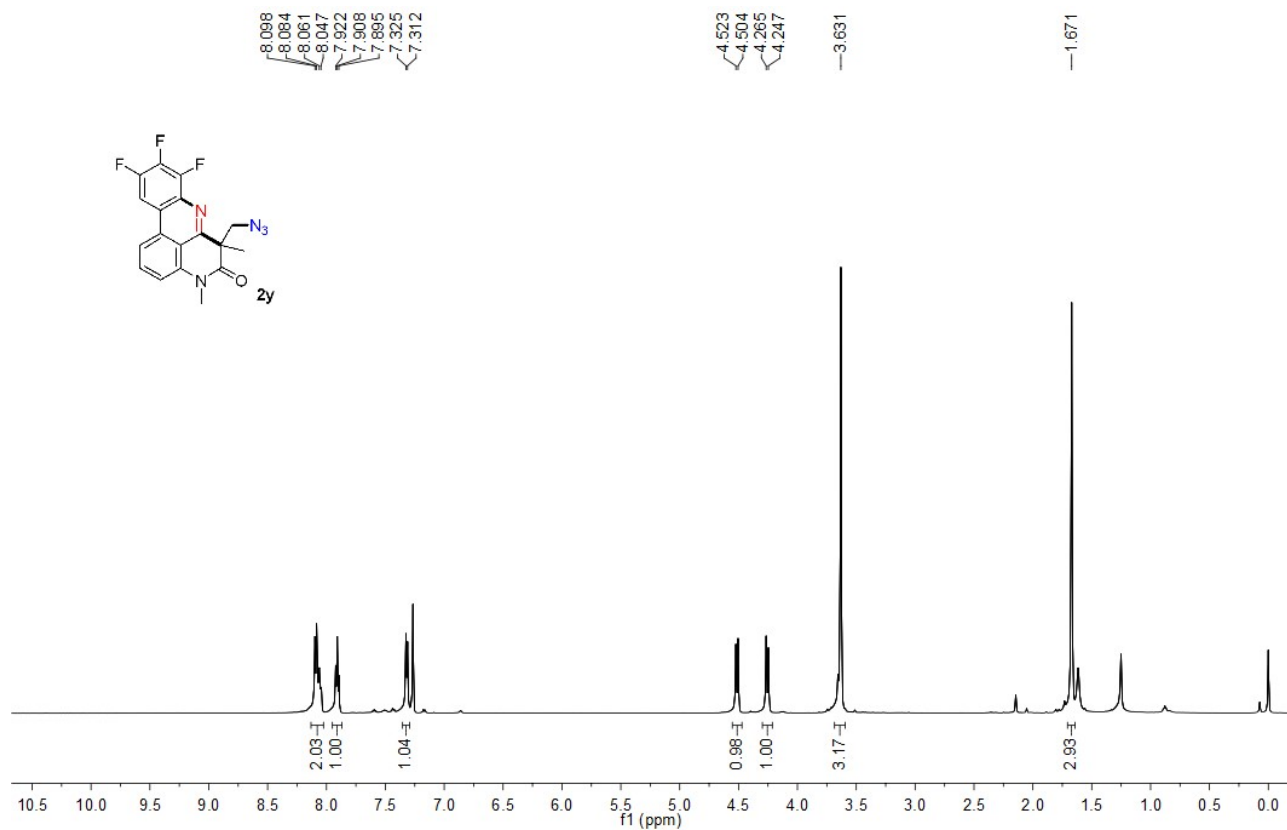
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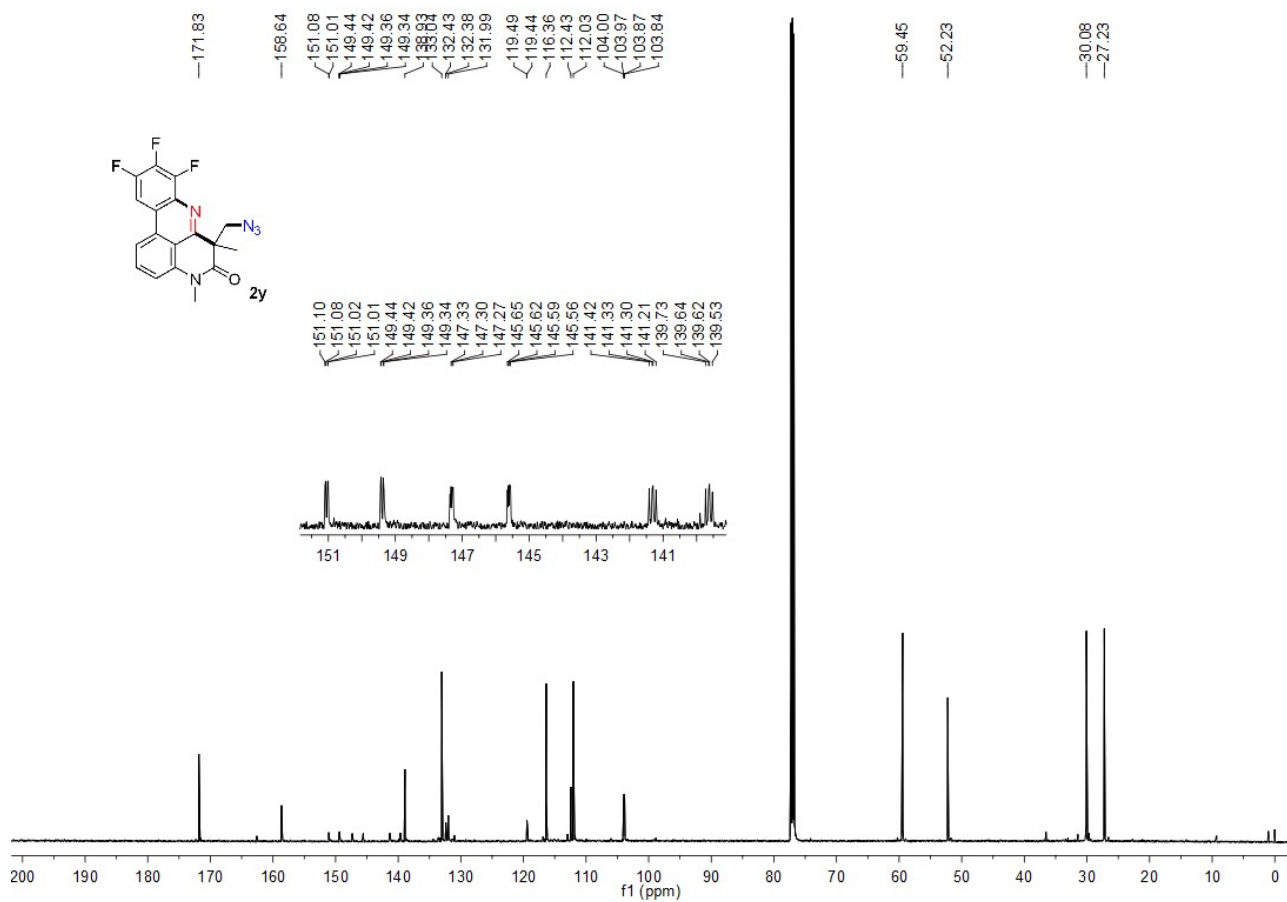
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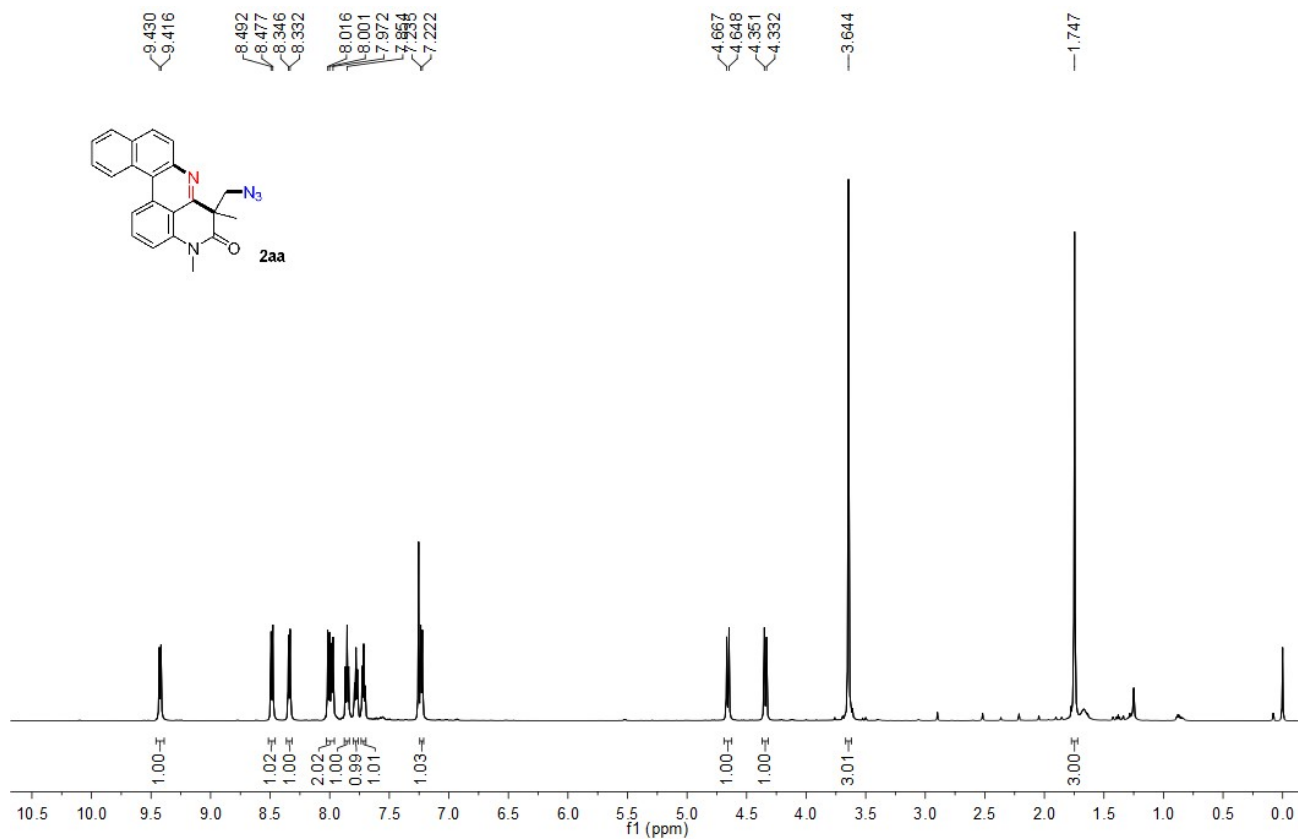
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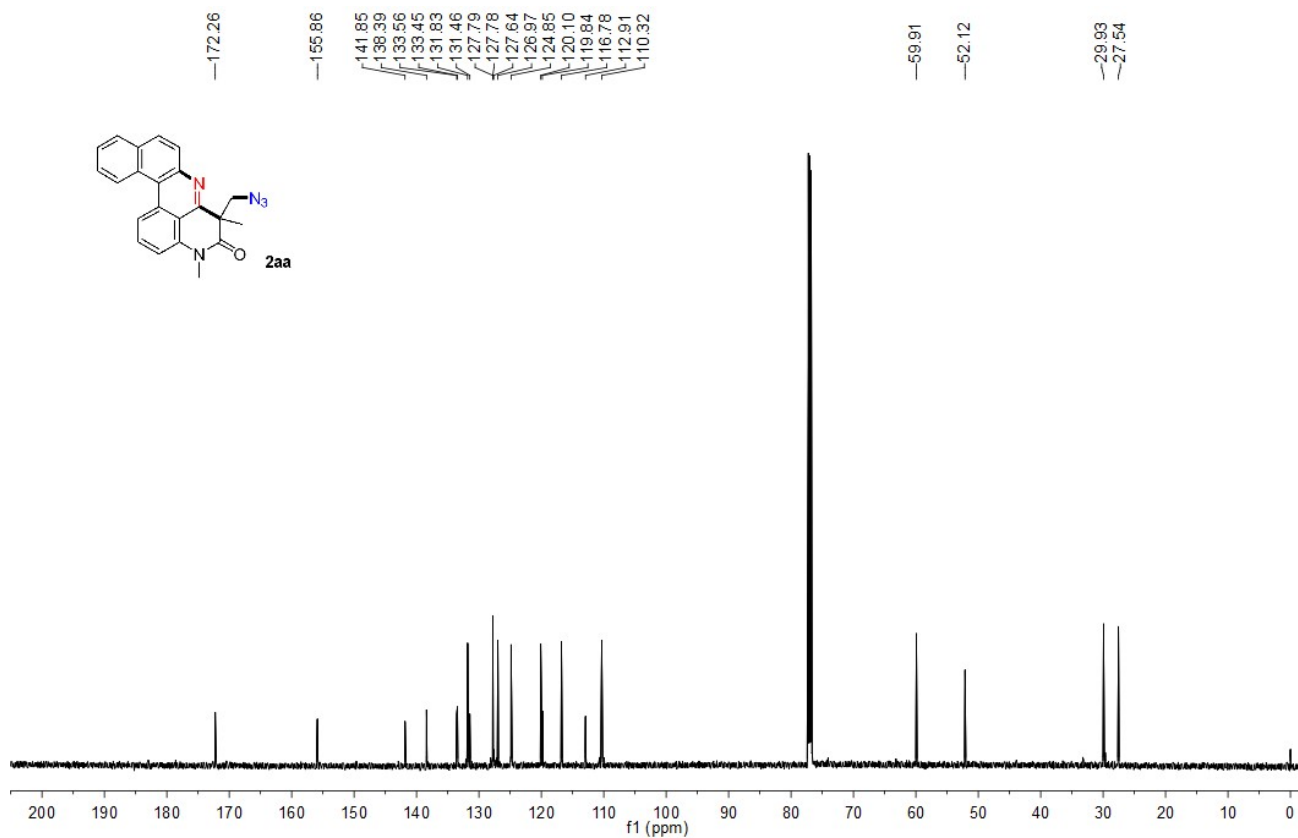
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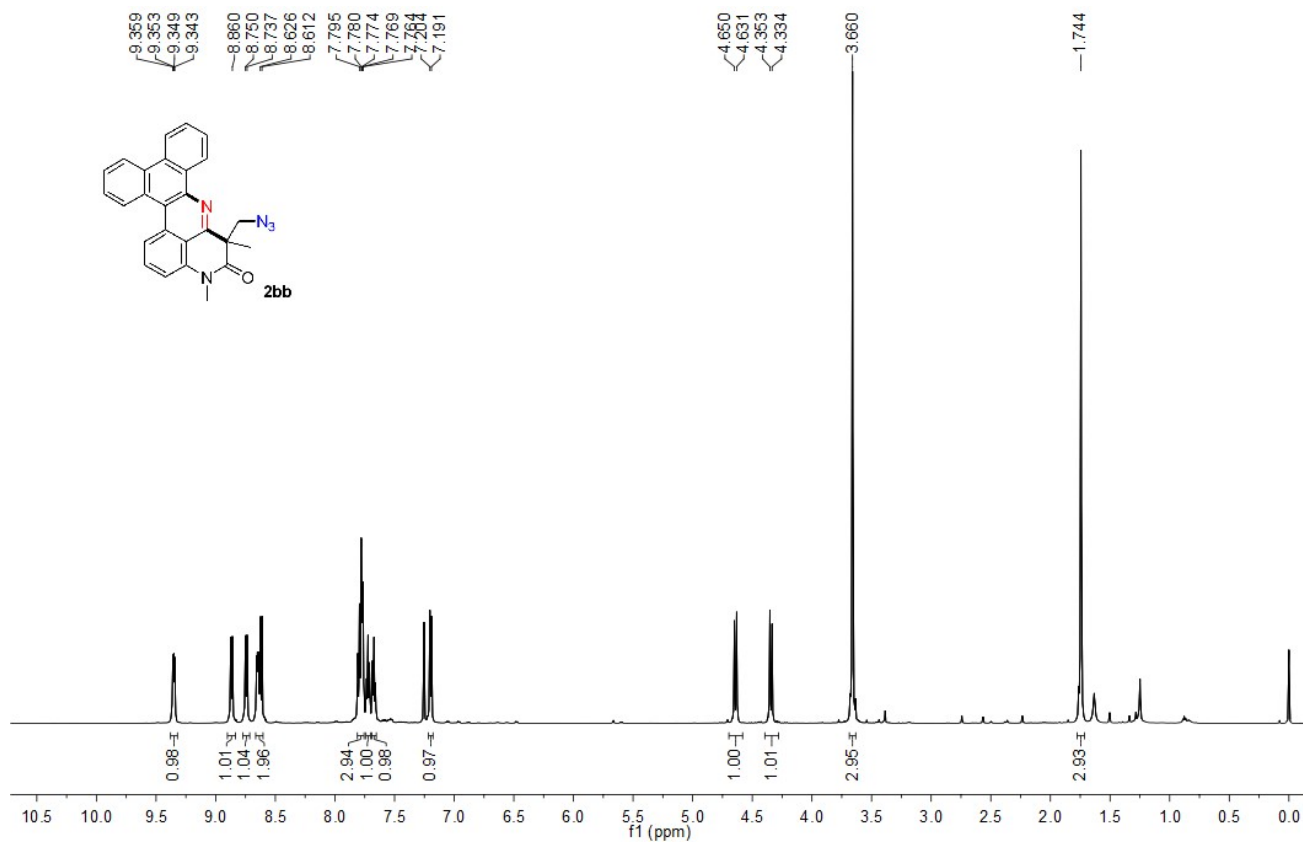
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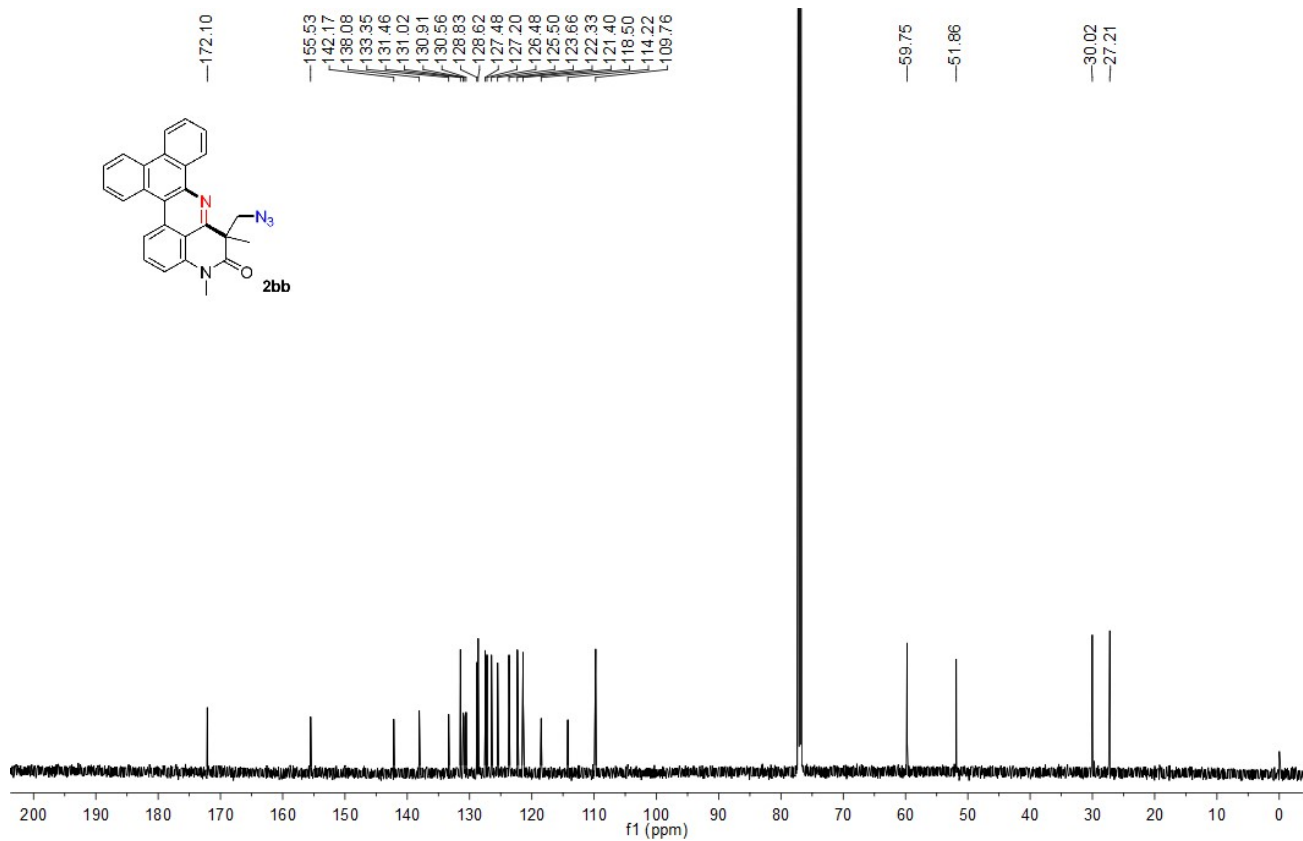
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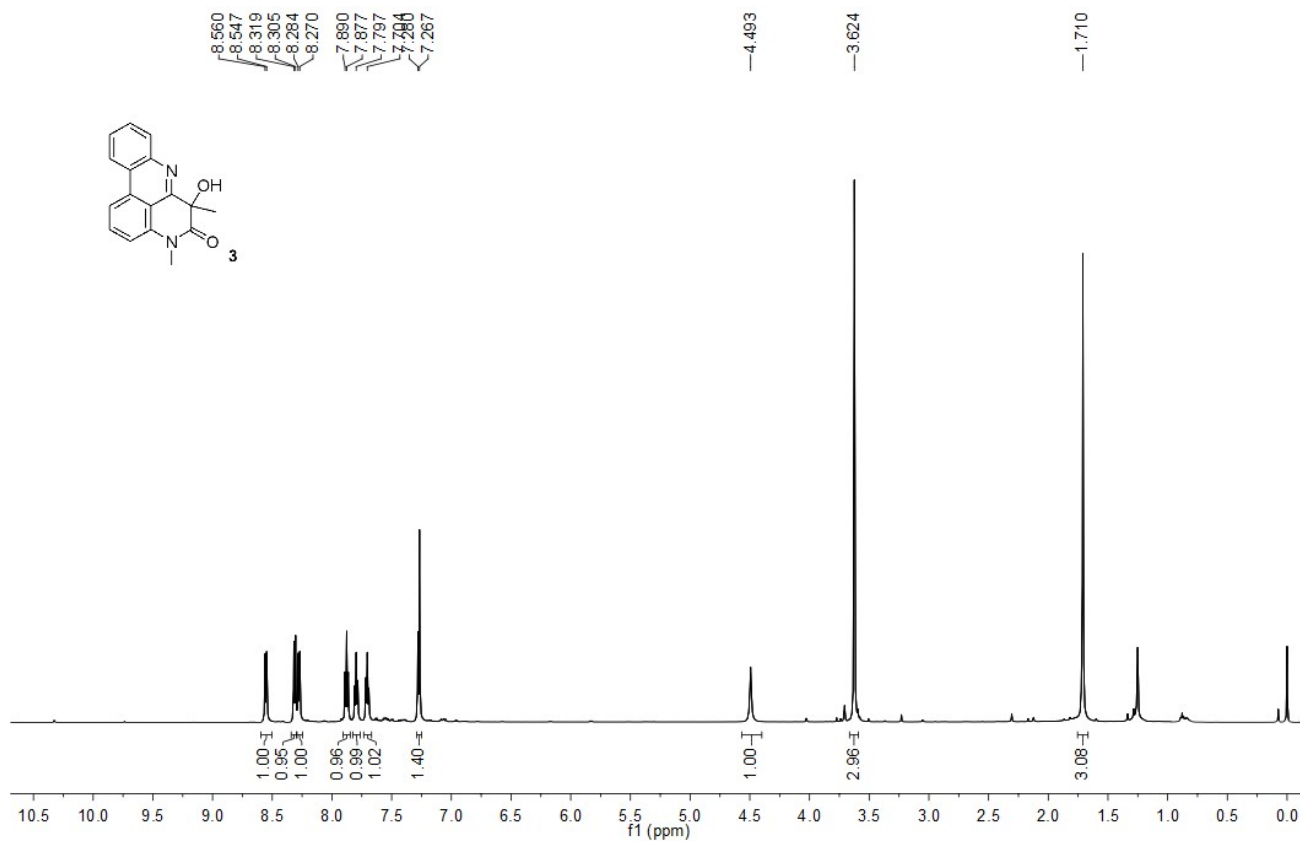
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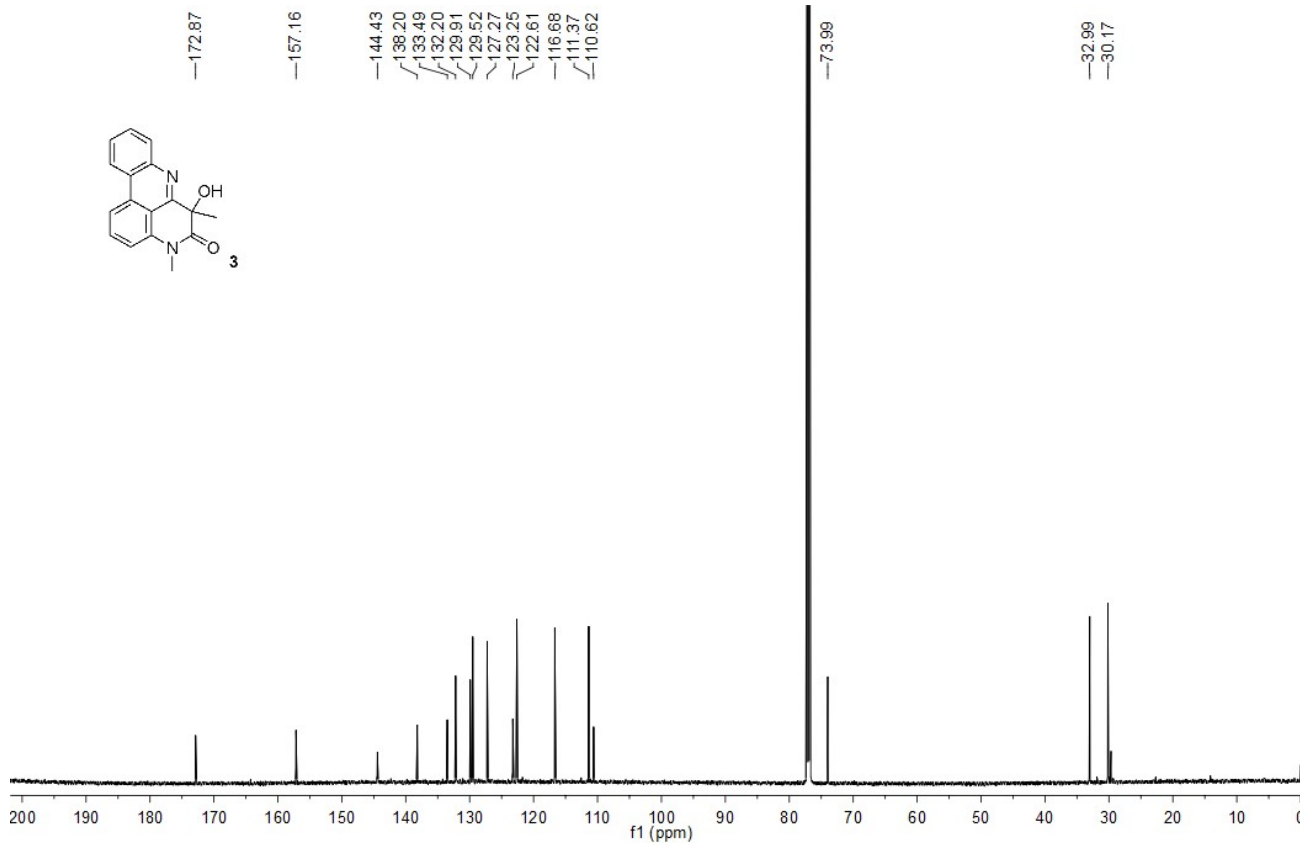
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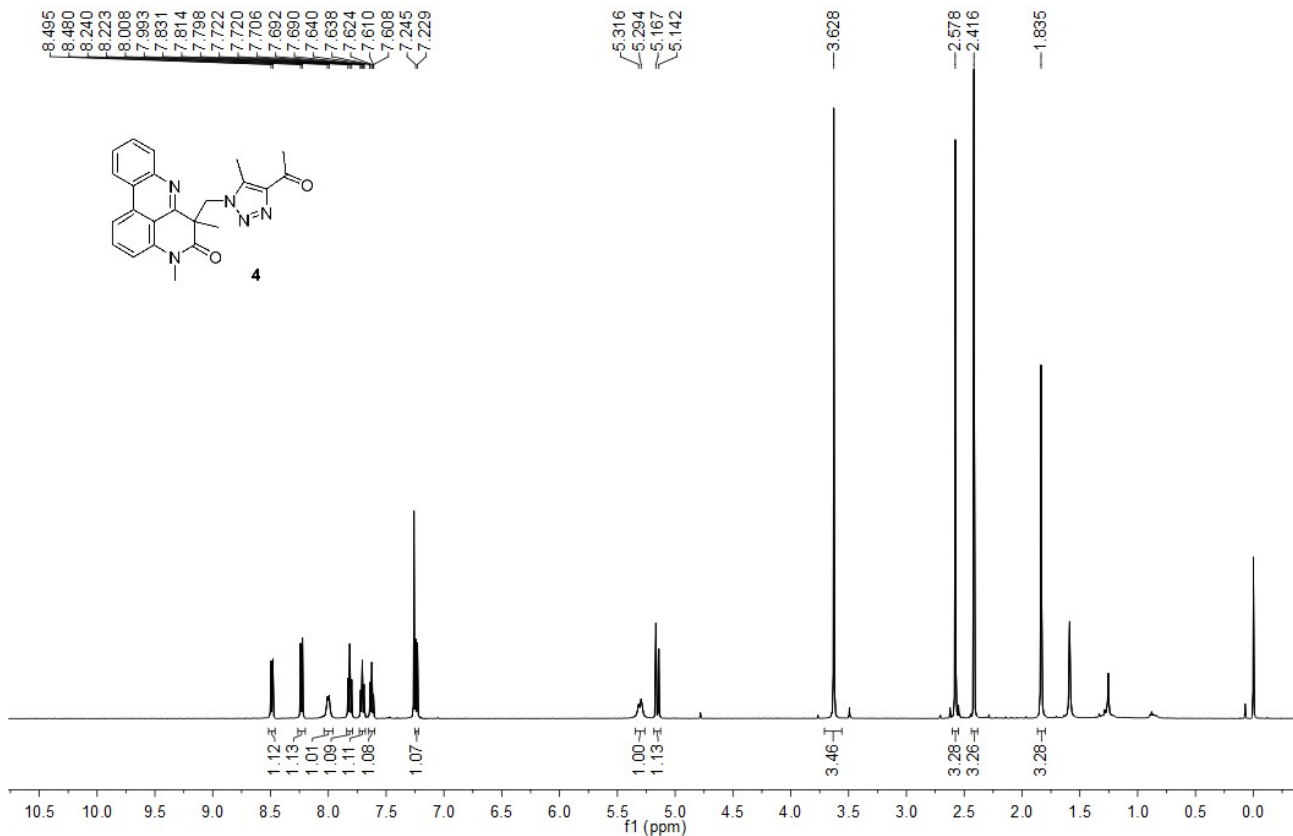
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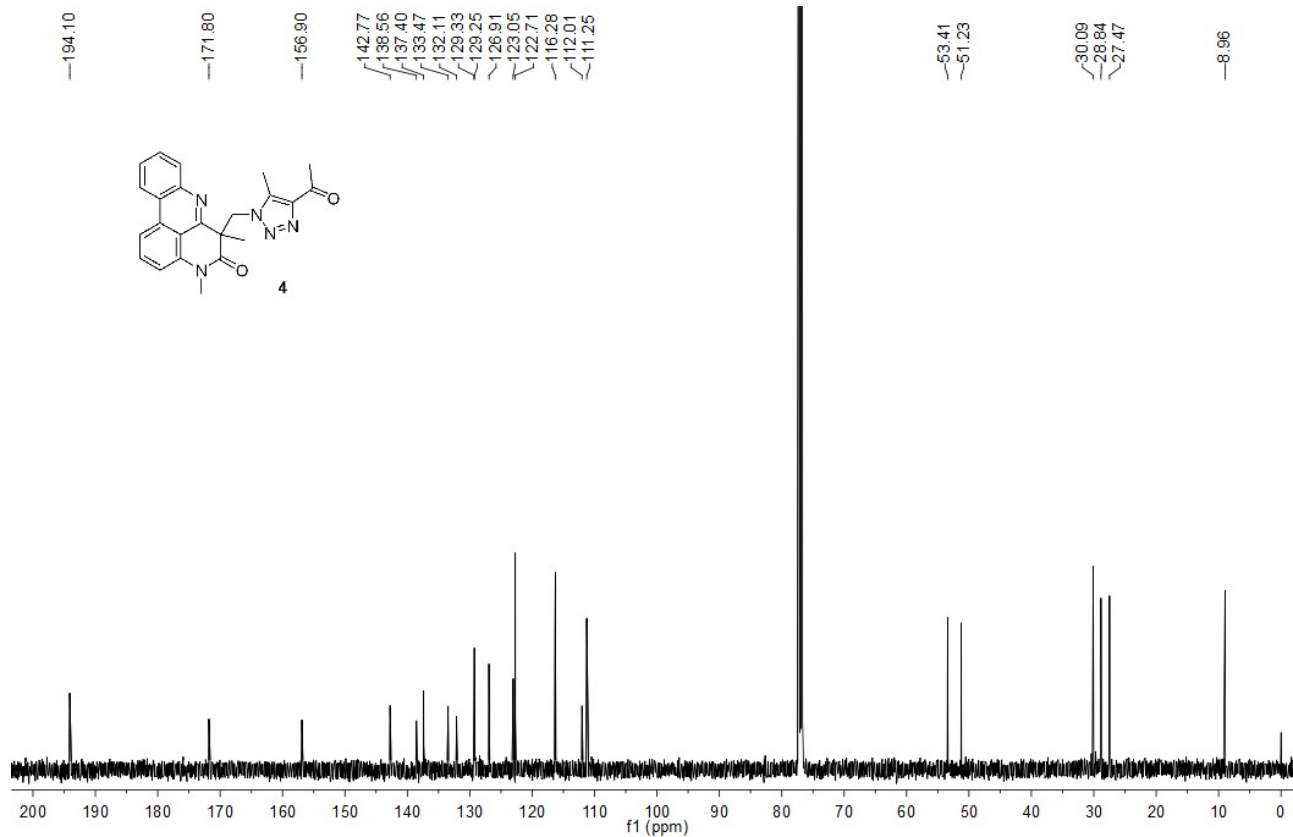
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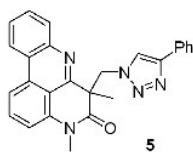
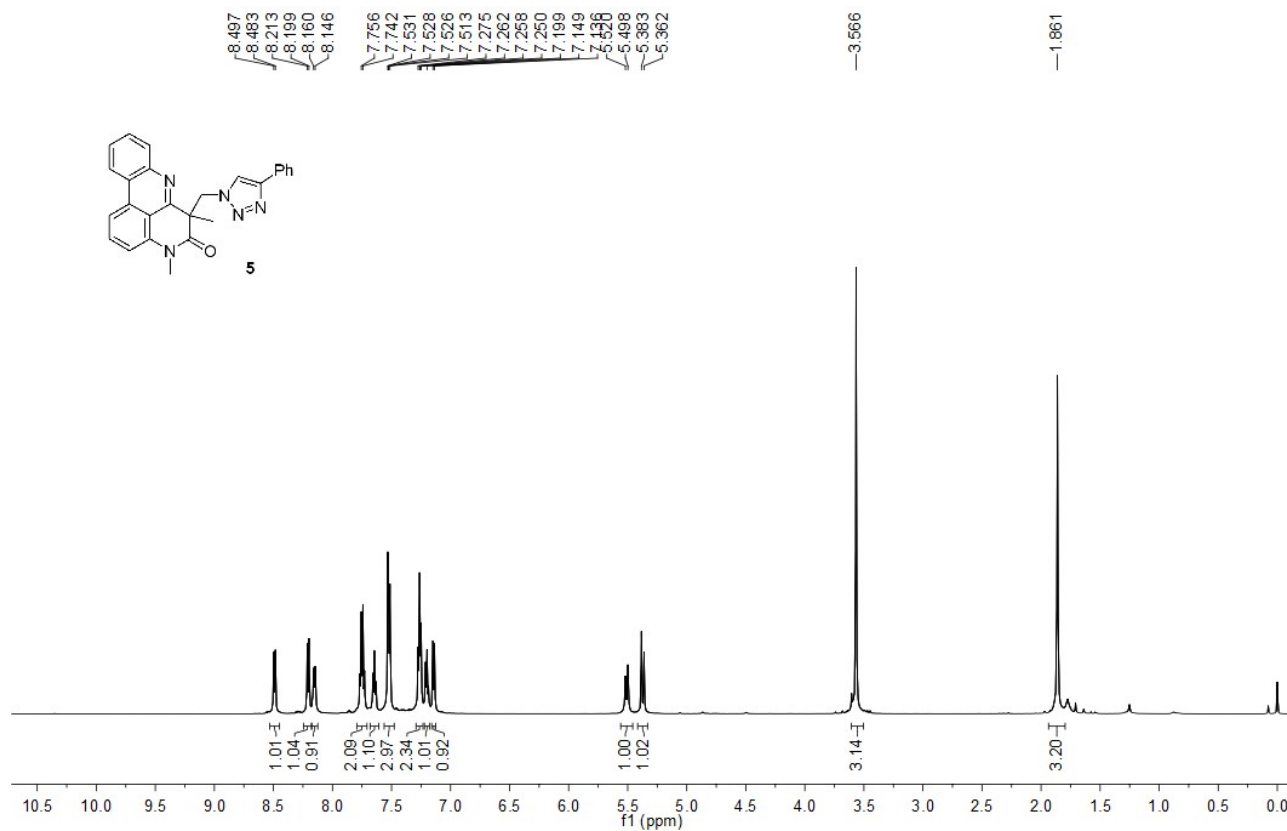
¹H NMR, 600 MHz, CDCl₃



¹³C NMR (151 MHz, CDCl₃)



^1H NMR, 600 MHz, CDCl_3



^{13}C NMR (151 MHz, CDCl_3)

