

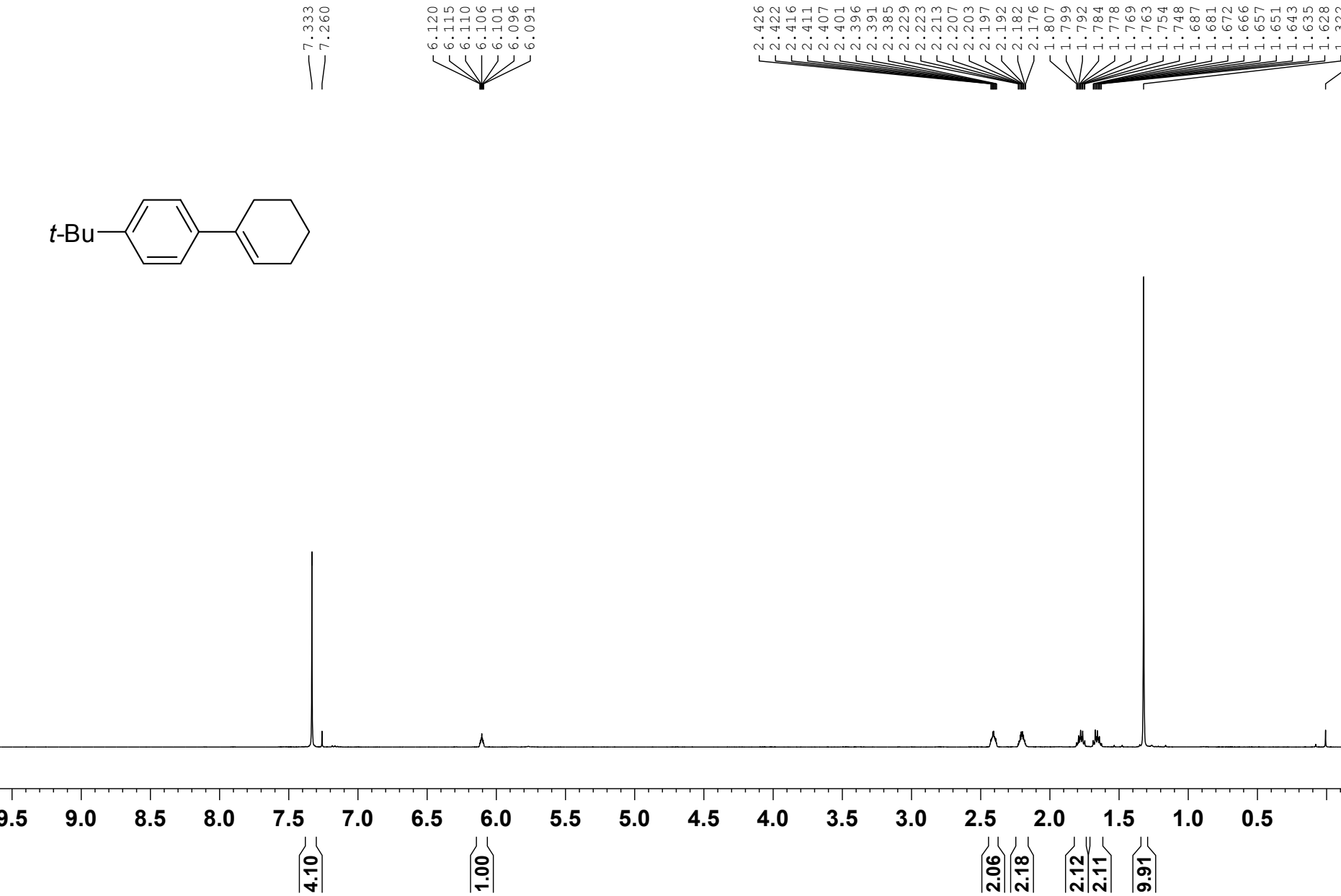
Selective Arylation at Vinylic Site of Cyclic Olefins

Xiaojin Wu and Jianrong (Steve) Zhou

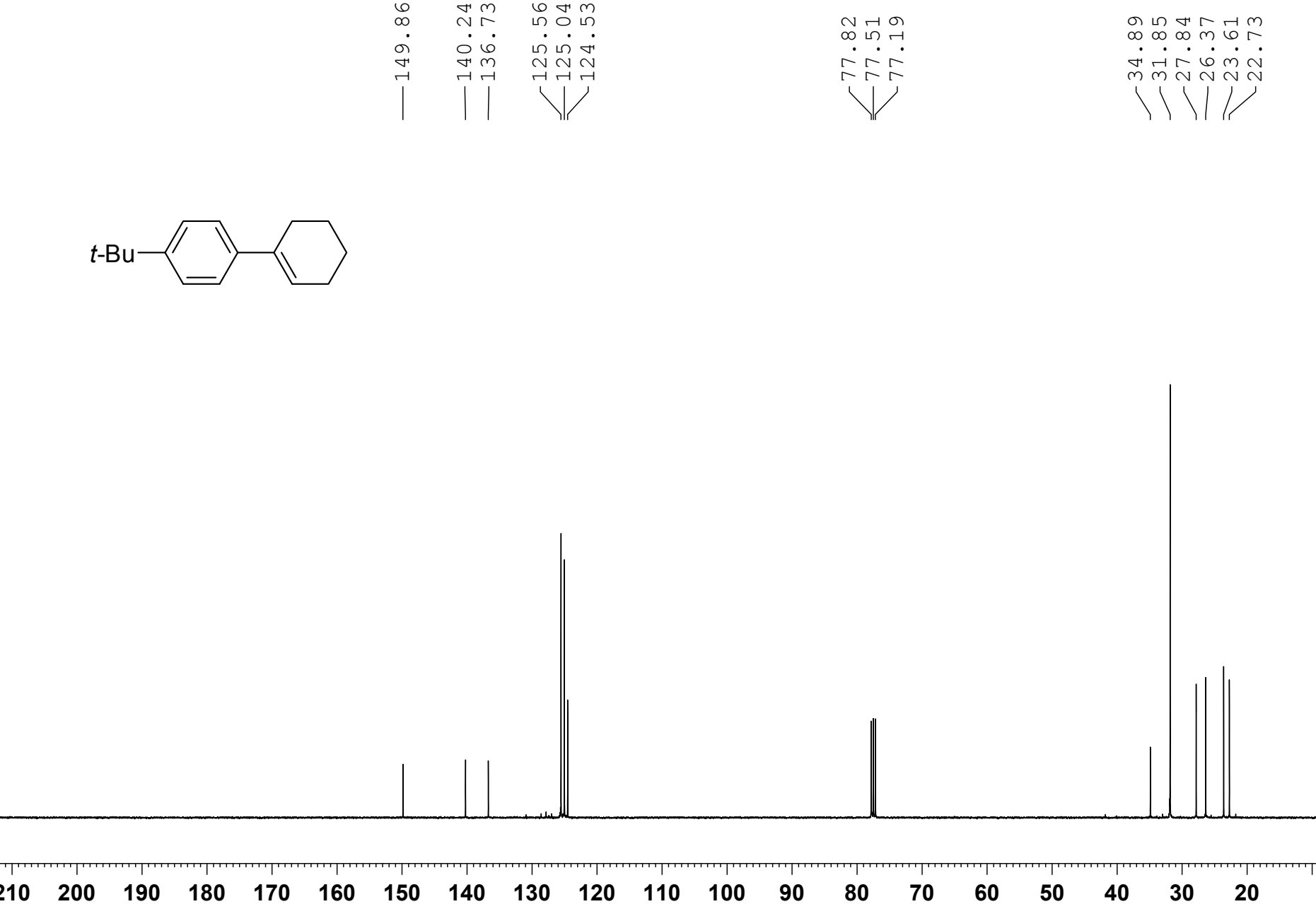
E-mail: jrzhou@ntu.edu.sg

**Supporting Information: NMR spectra**

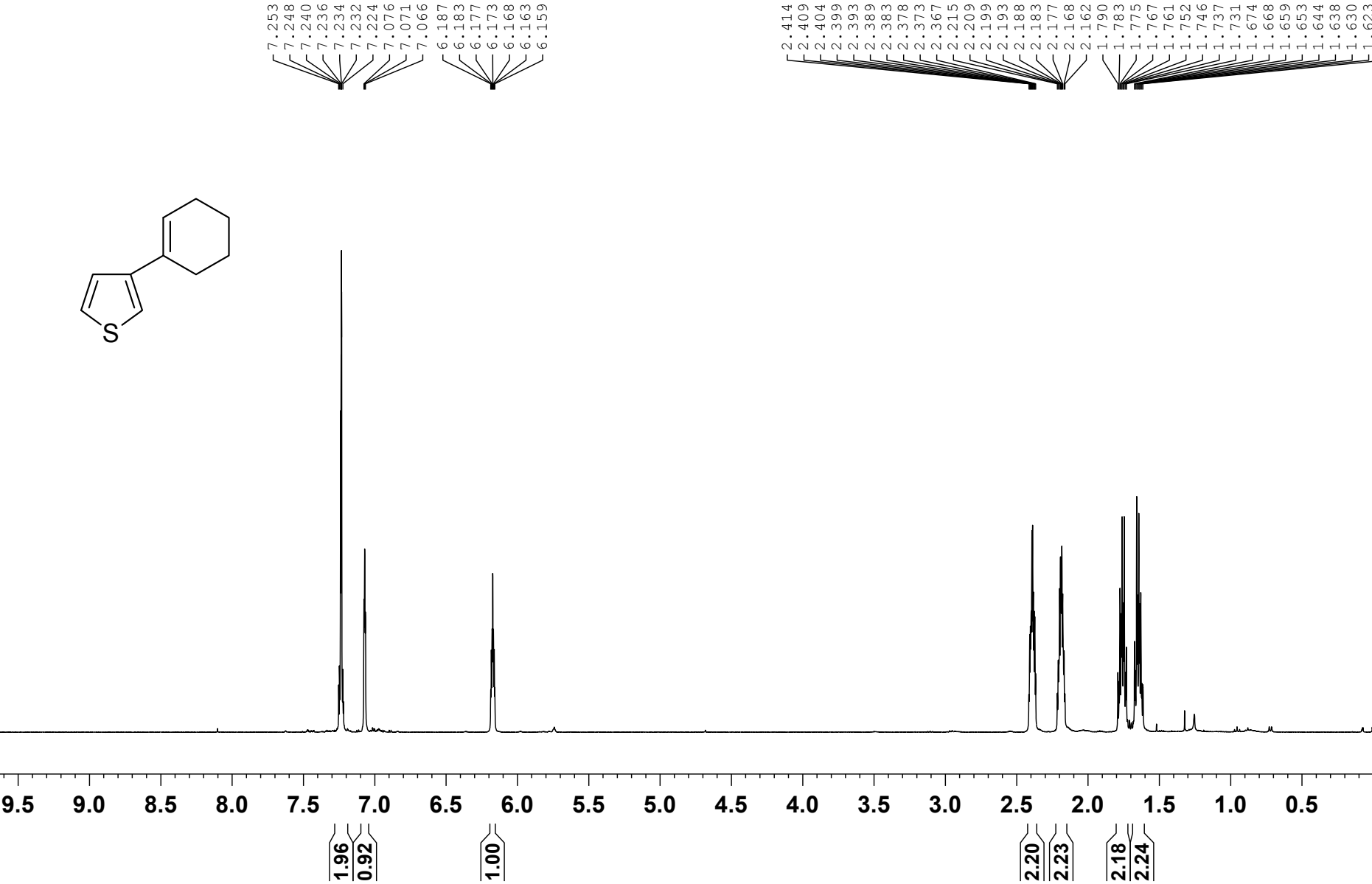
-2-3-tBuPhCy 1H NMR CDCl3 BBFO2 Feb 10, 2012



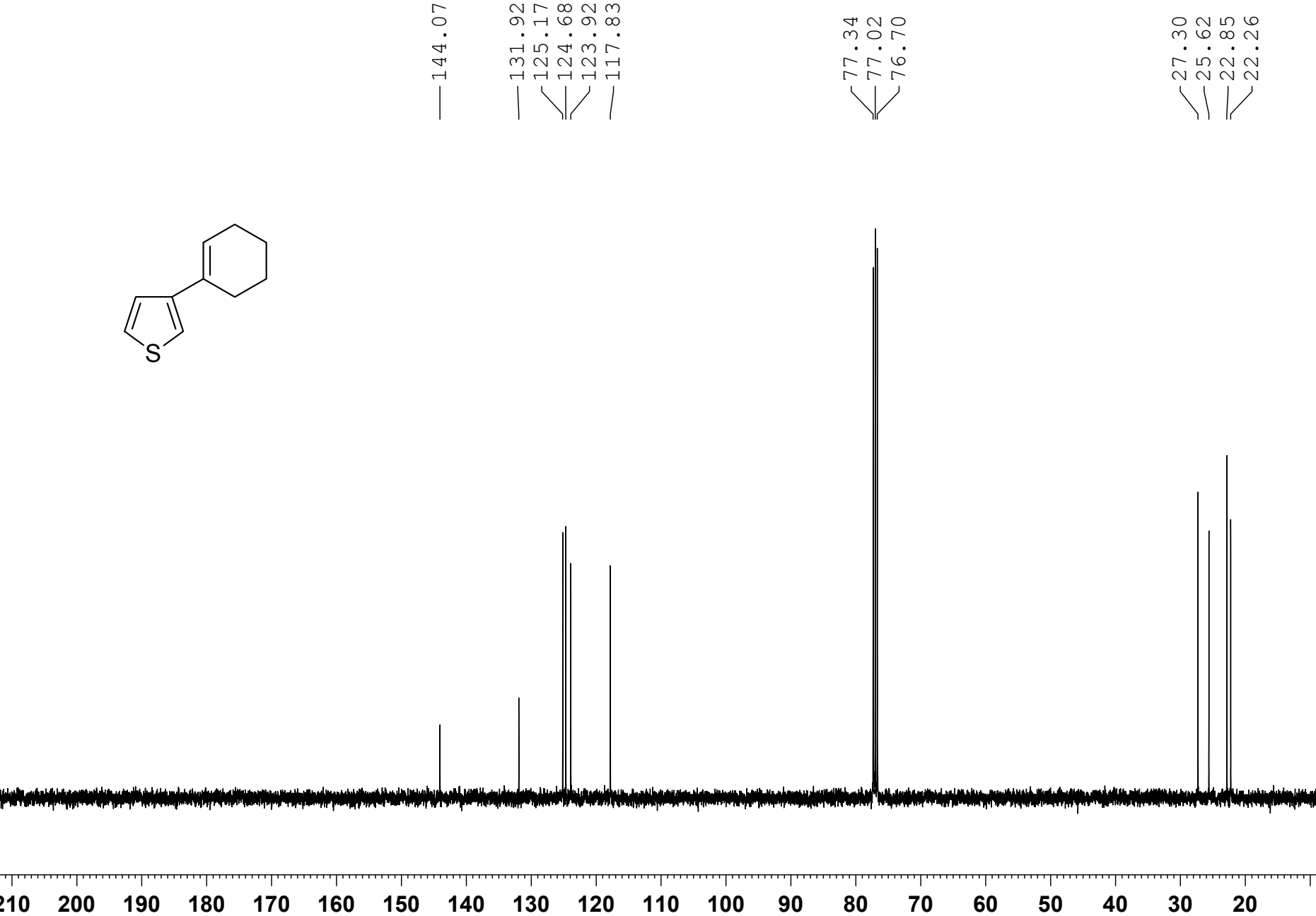
-2-1-tBuPhCy 13C NMR CDCl3 BBFO2 Feb 10, 2012



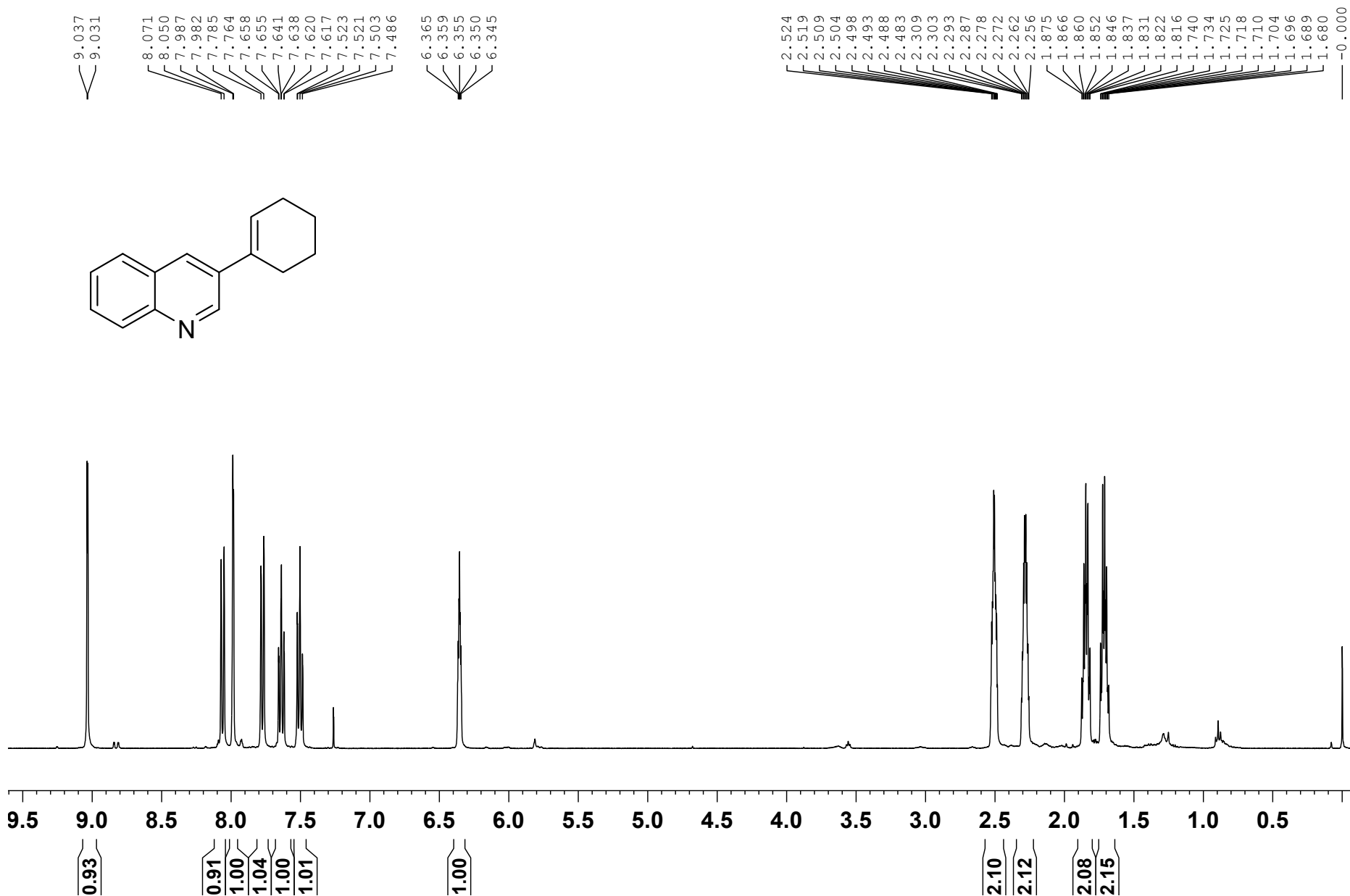
0-4 CDCl3 1HNMR BBFO1 June 19 2012



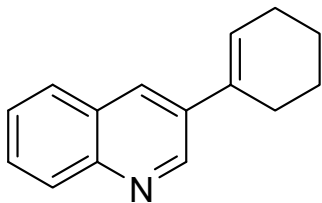
-4 CDC13 13C NMR BBFO1 June 19 2012



-5-1 CDCl<sub>3</sub> 1HNMR BBFO1 June 19 2012



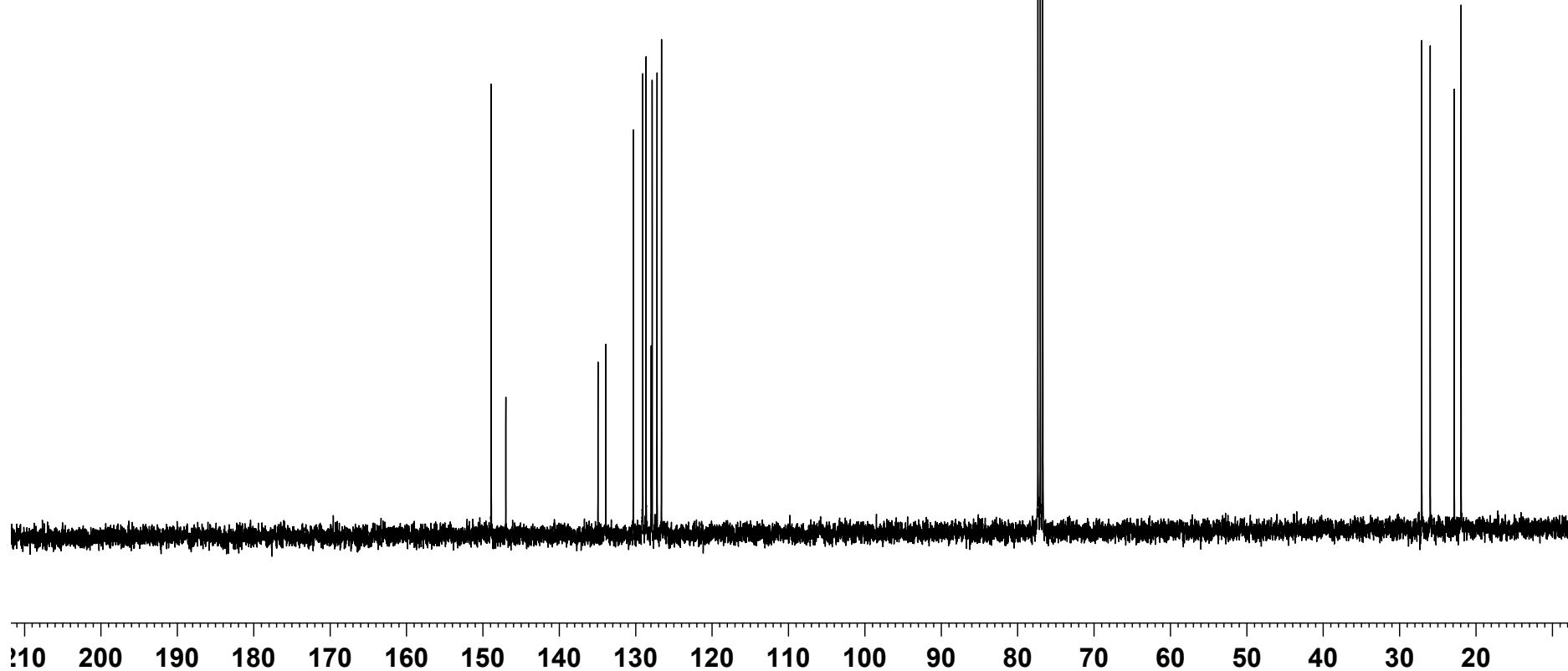
-5-1 CDCl3 13C NMR BBFO1 June 19 2012



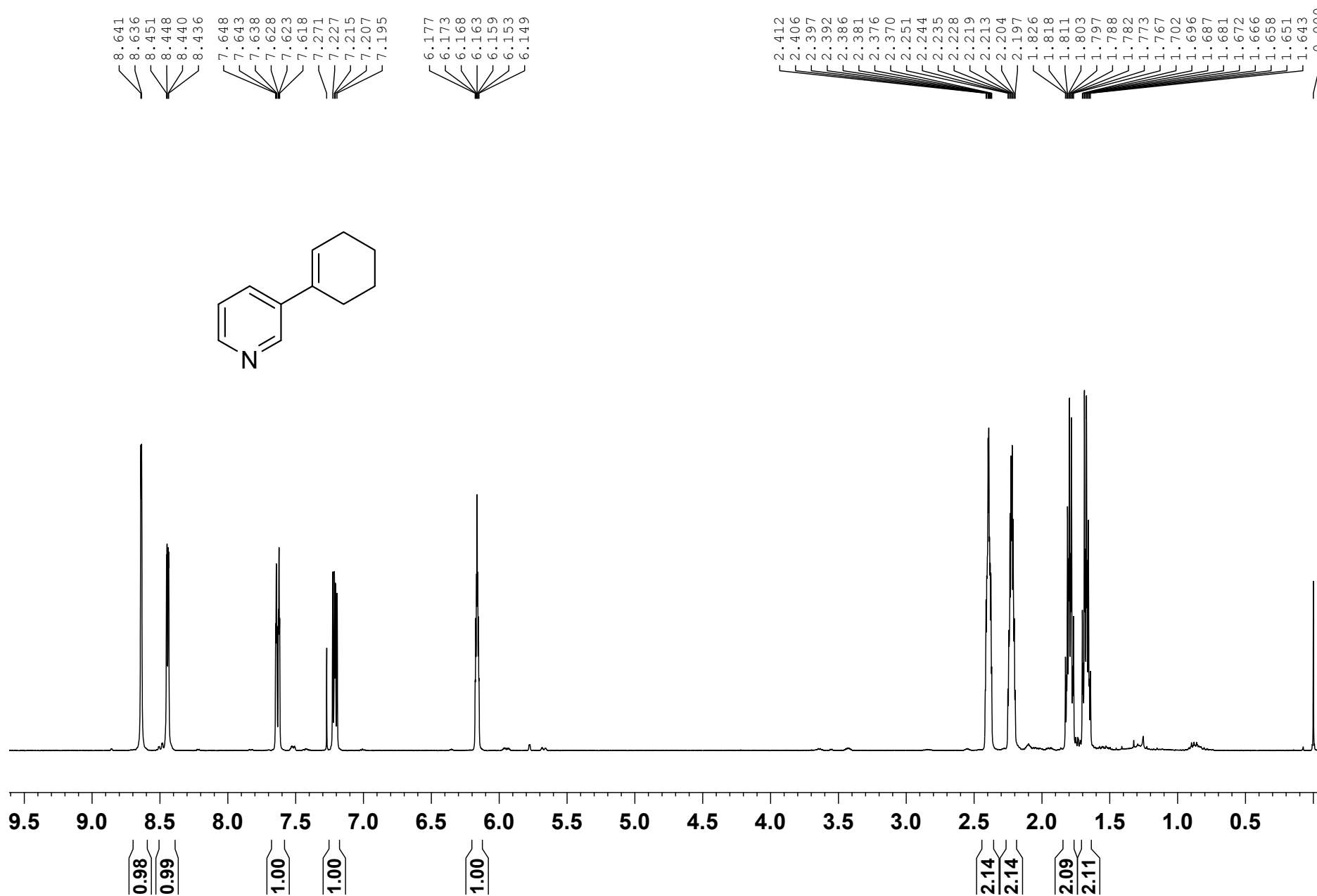
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134.94  
133.91  
130.30  
129.08  
128.64  
127.97  
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77.03  
76.72

27.11  
26.00  
22.85  
21.95

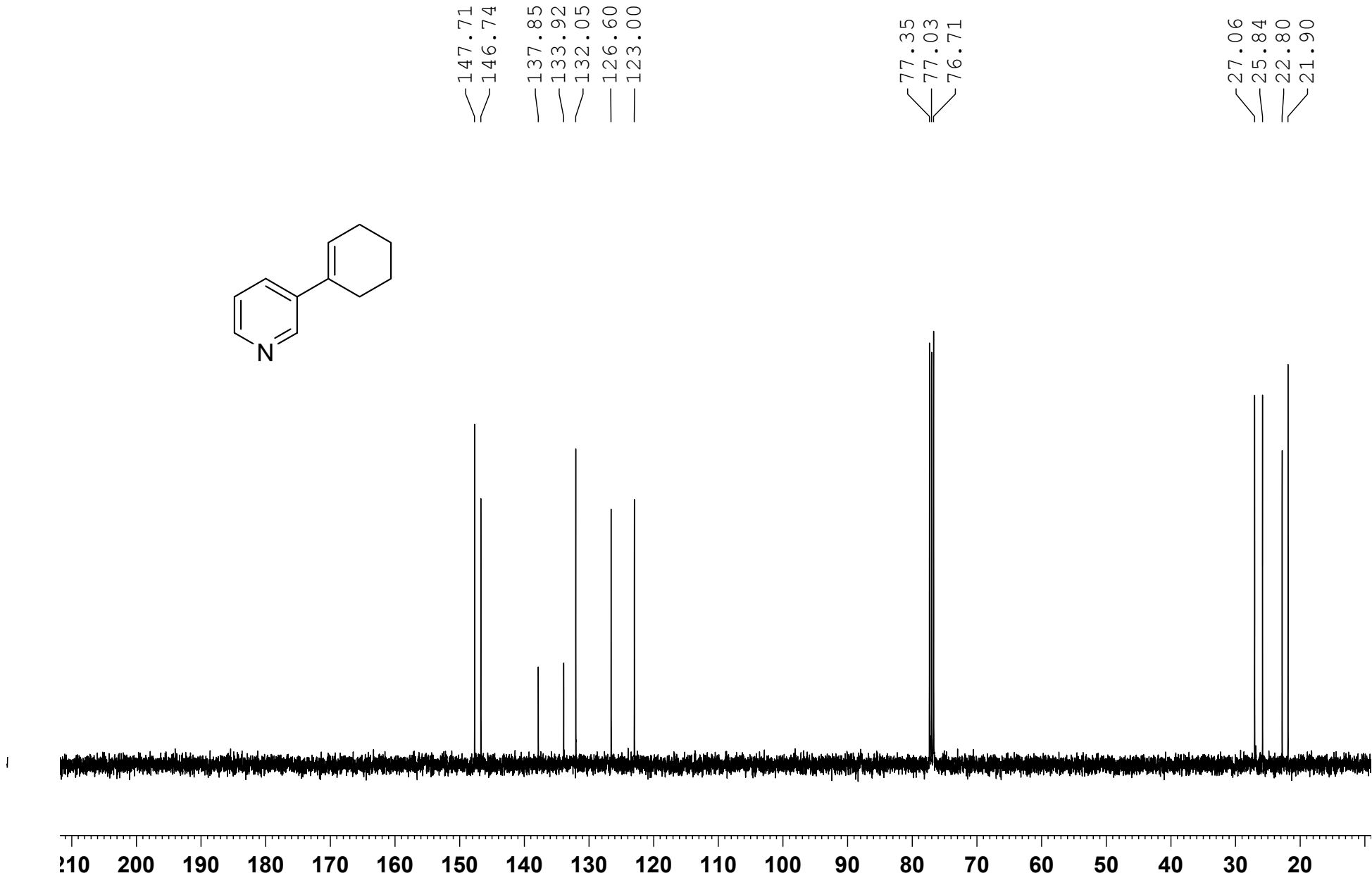


-6 CDC13 1HNMR BBFO1 June 21 2012

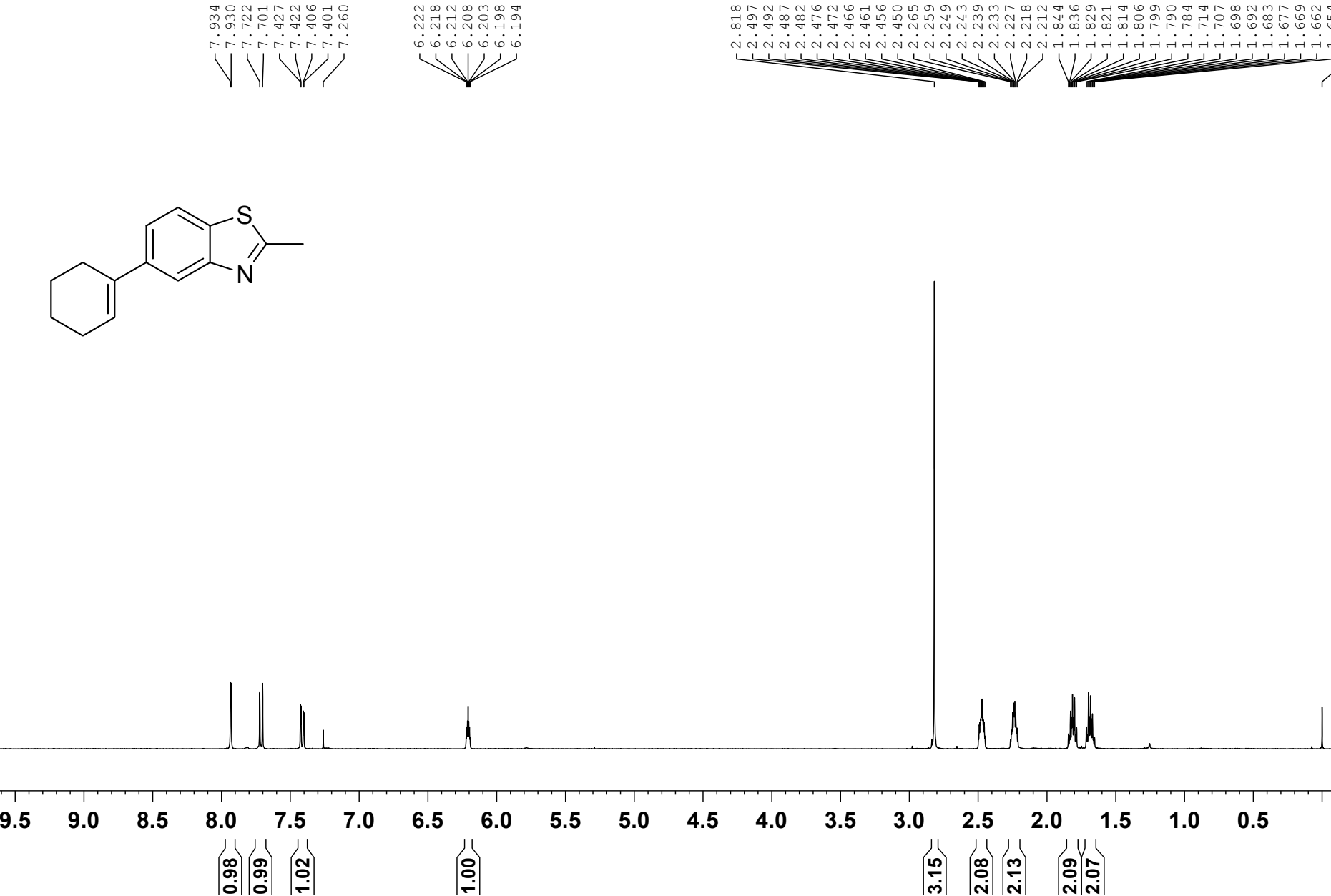




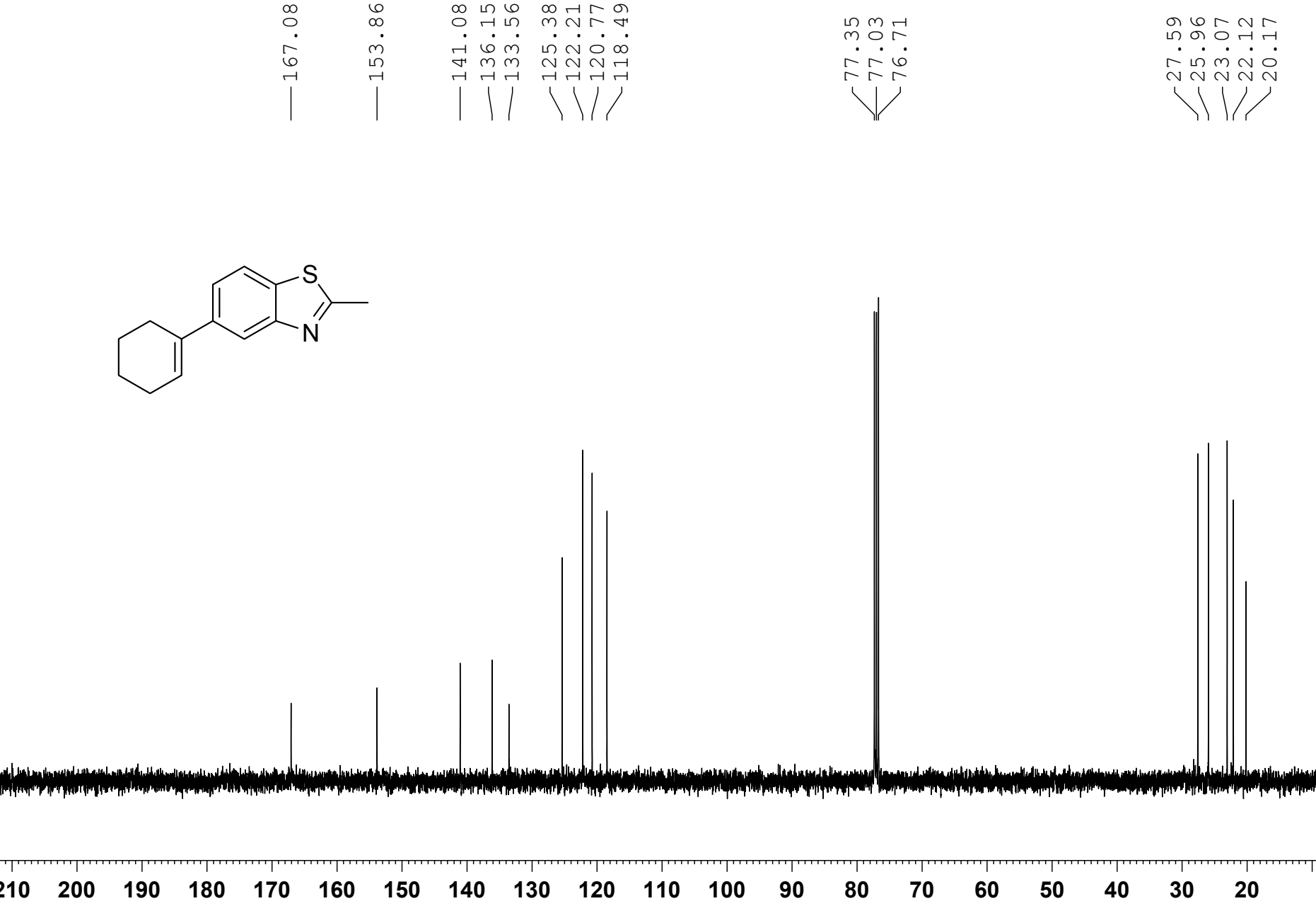
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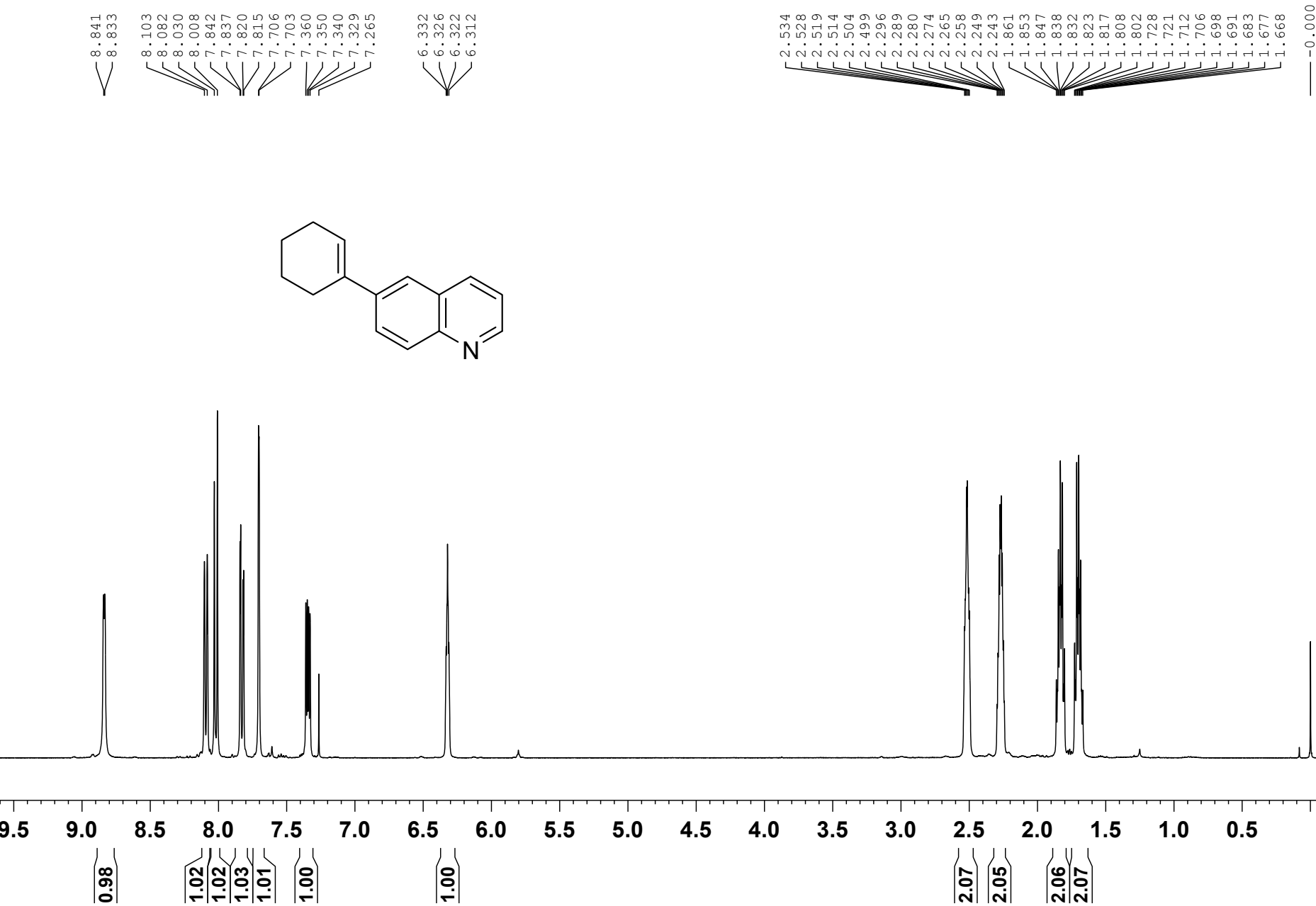
-1 CDC13 1H NMR BBFO1 June 19 2012



-1 CDC13 13C NMR BBFO1 June 19 2012



-2 CDC13 1H NMR BBFO1 June 22 2012

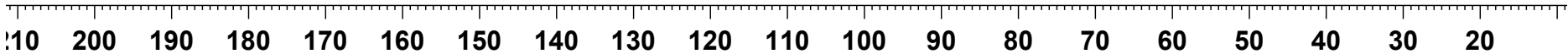
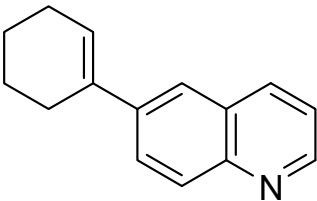


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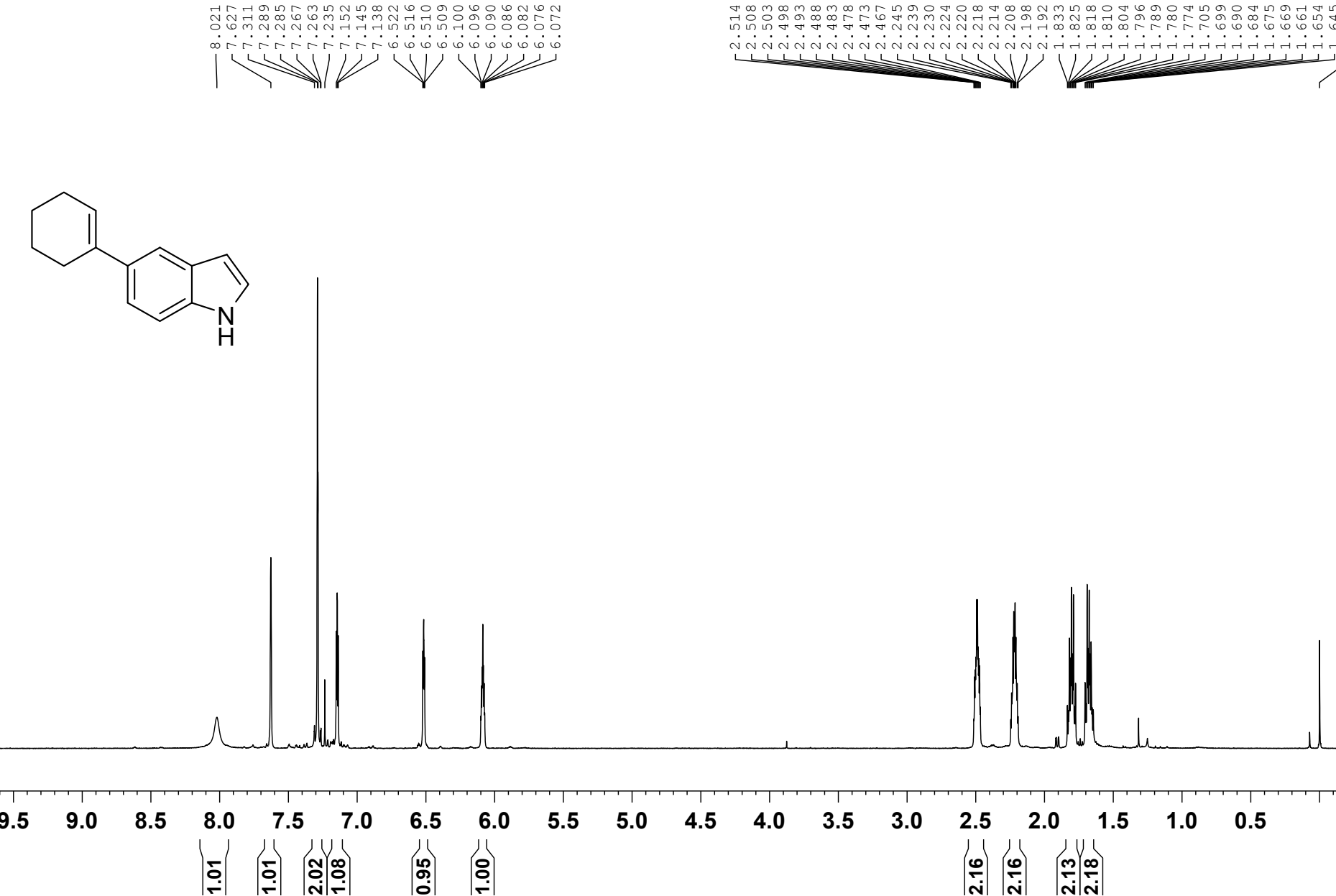
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147.58  
140.48  
136.06  
135.74  
129.02  
128.30  
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122.65  
121.17

77.36  
77.04  
76.72

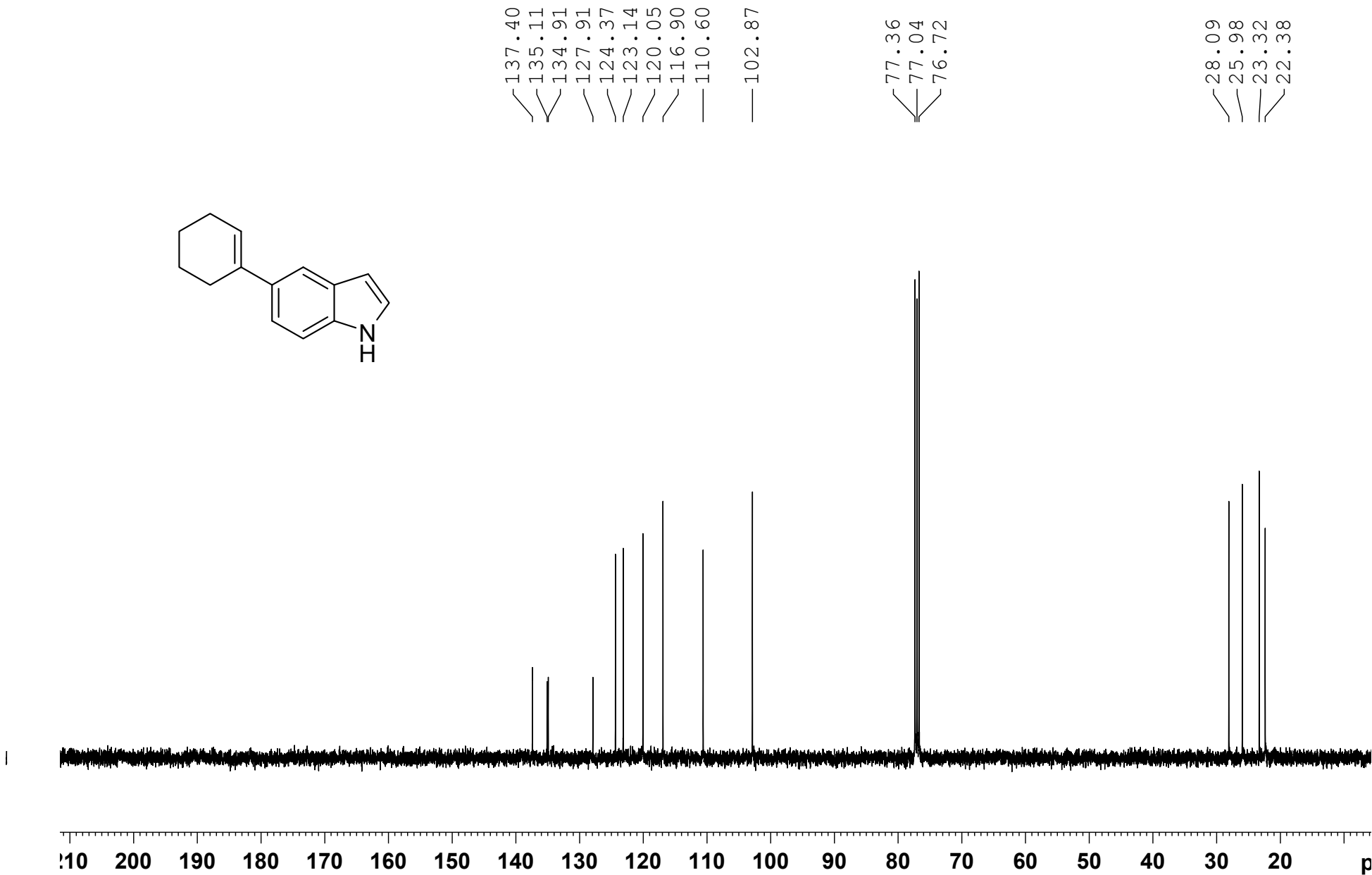
27.33  
26.04  
23.01  
22.09



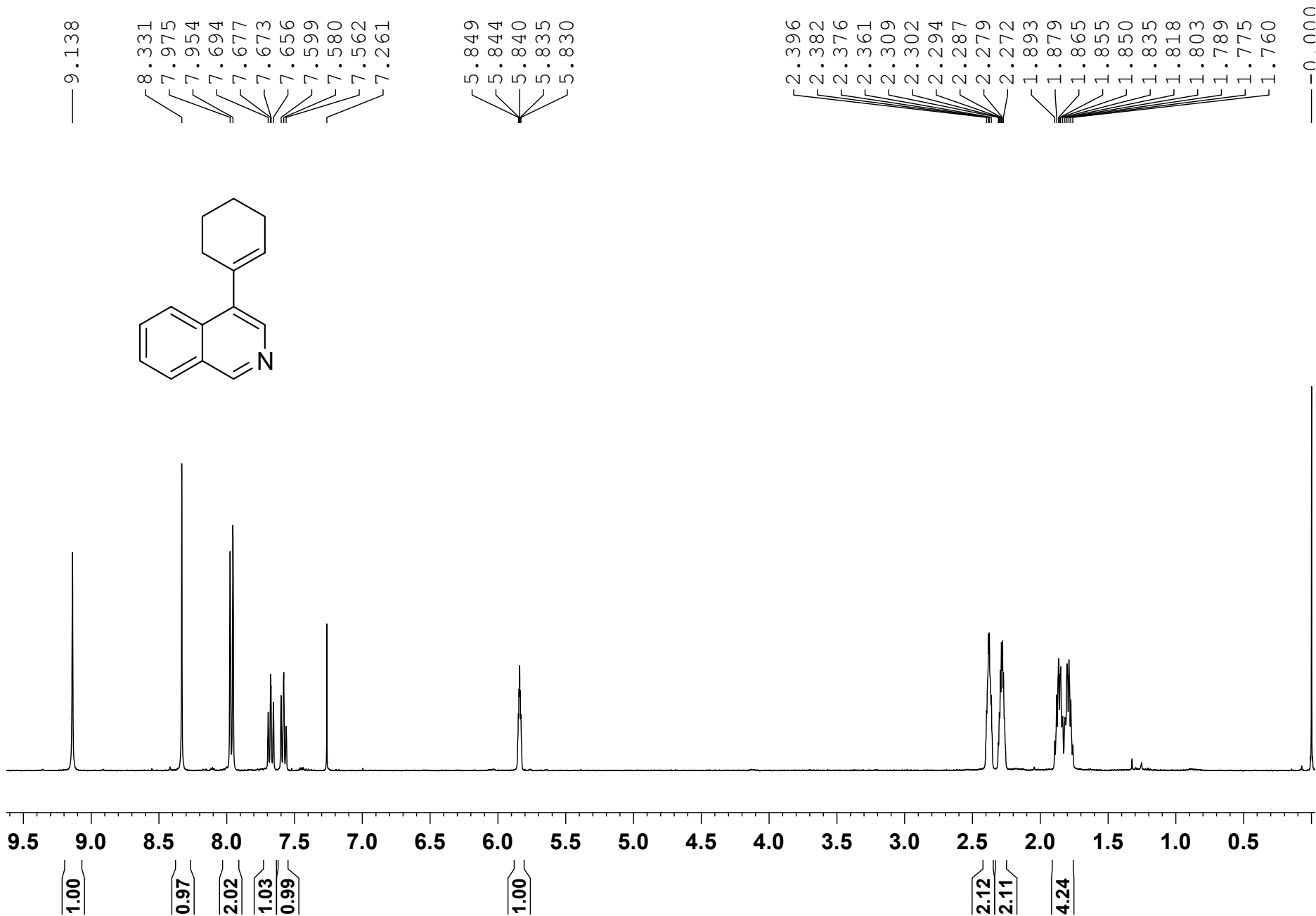
-3 CDC13 1H NMR BBFO1 June 22 2012



-3 CDC13 13C NMR BBFO1 June 21 2012

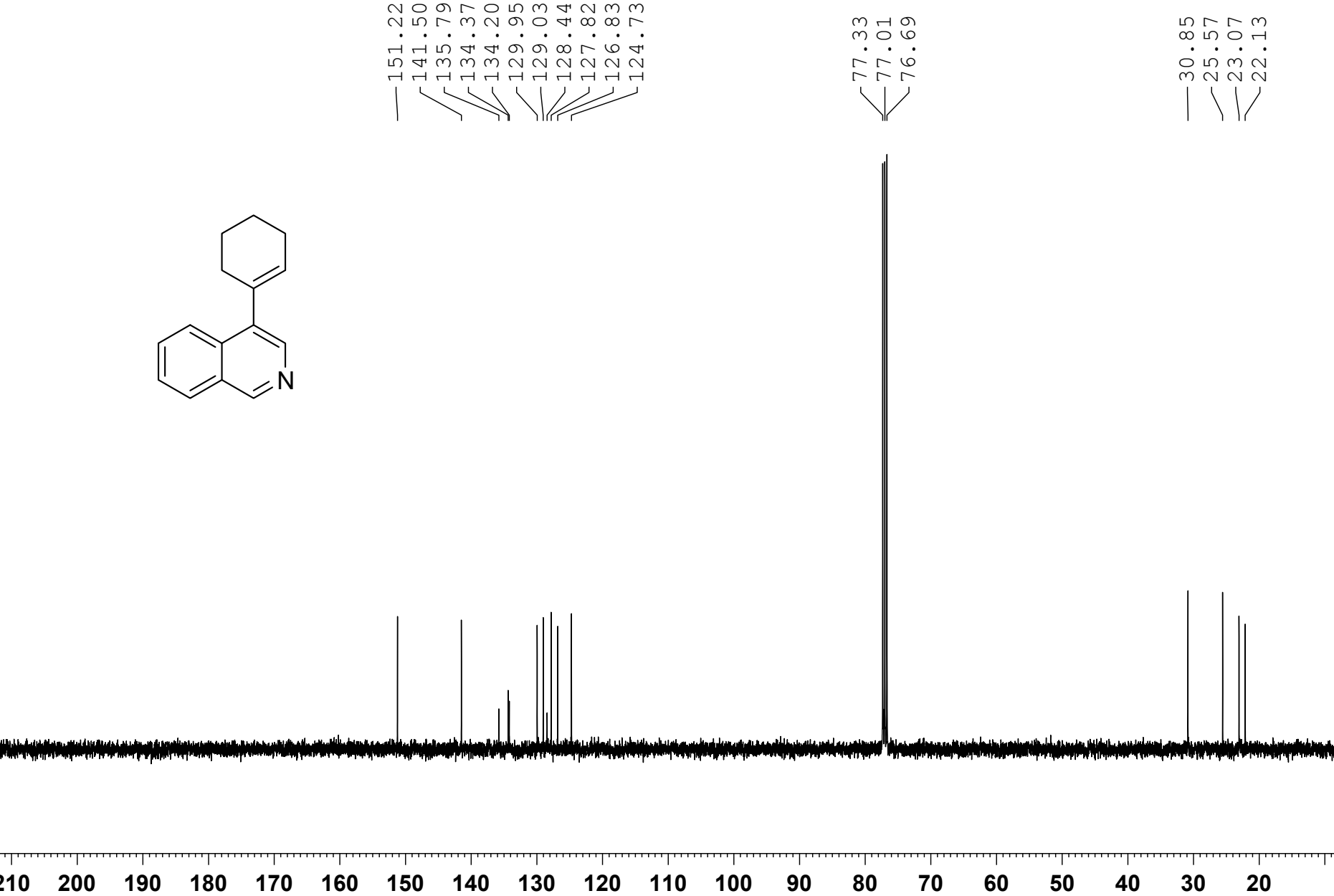
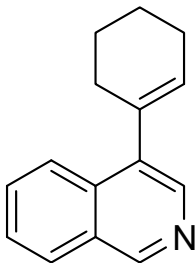


-4-1 CDCl<sub>3</sub> 1H NMR BBFO1 June 22 2012

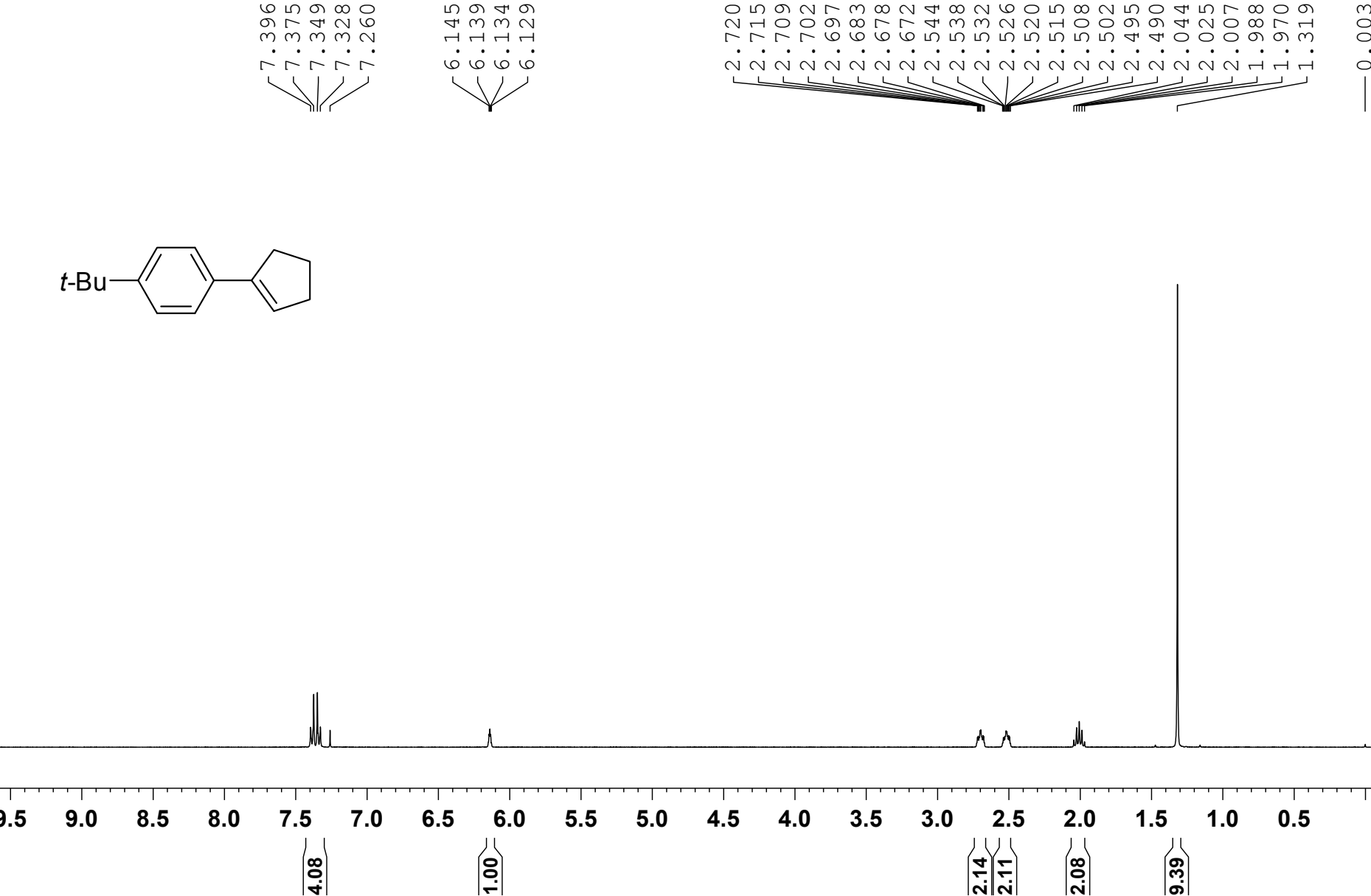




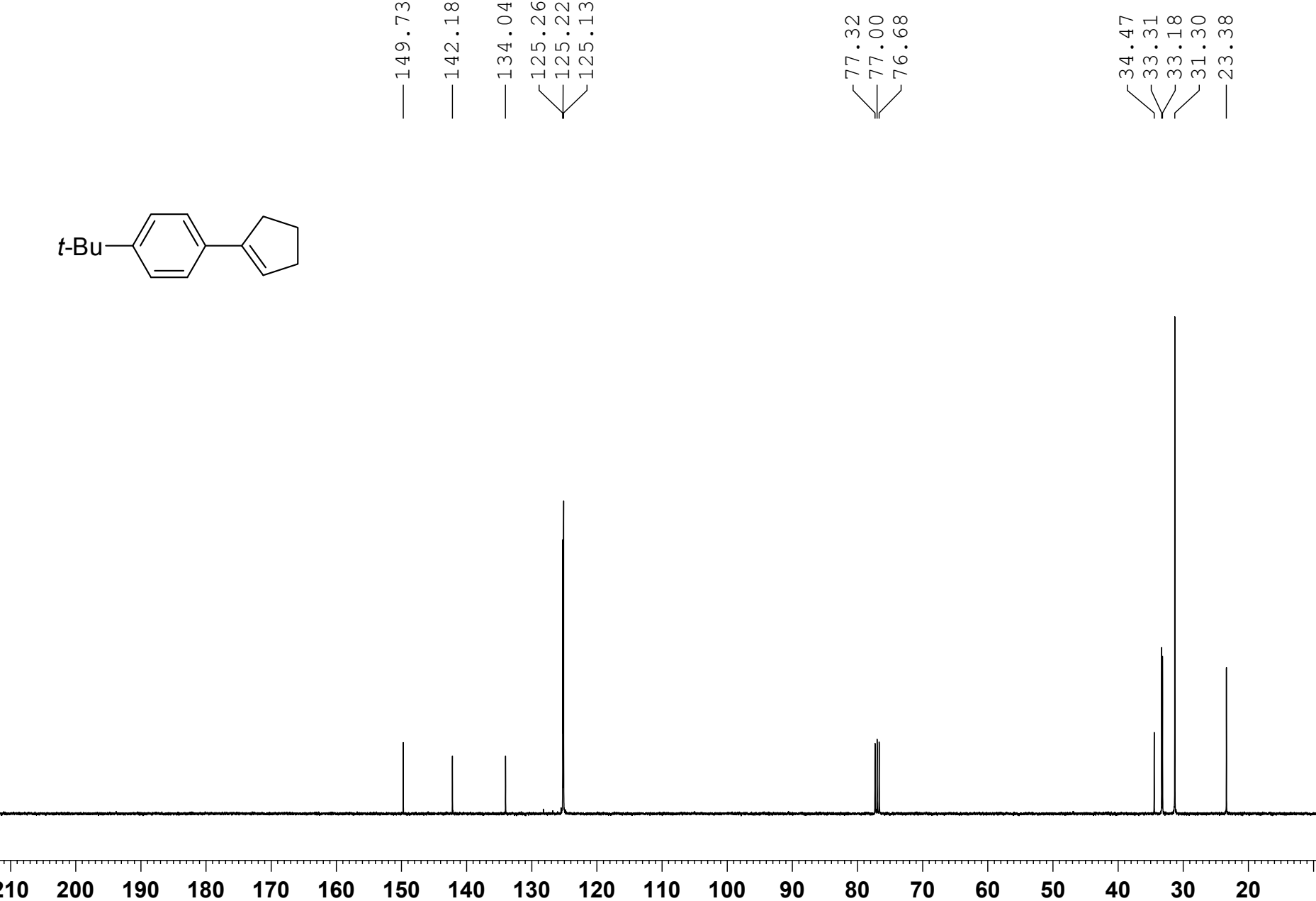
-4-1 CDC13 13C NMR BBFO1 June 22 2012



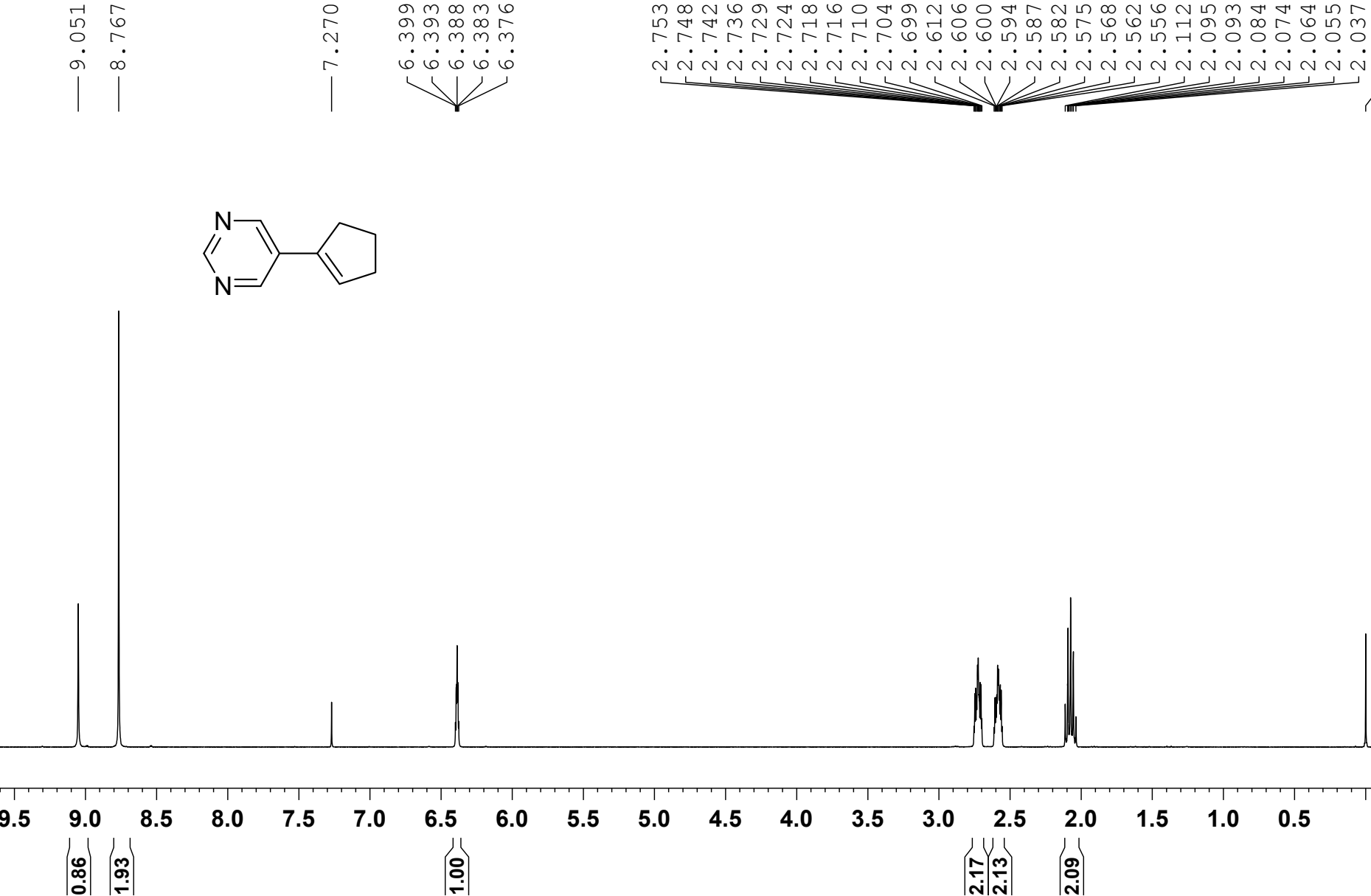
-3 4-*t*BuPh-Cpent 1H NMR CDCl3 BBFO2 Feb 21, 2012



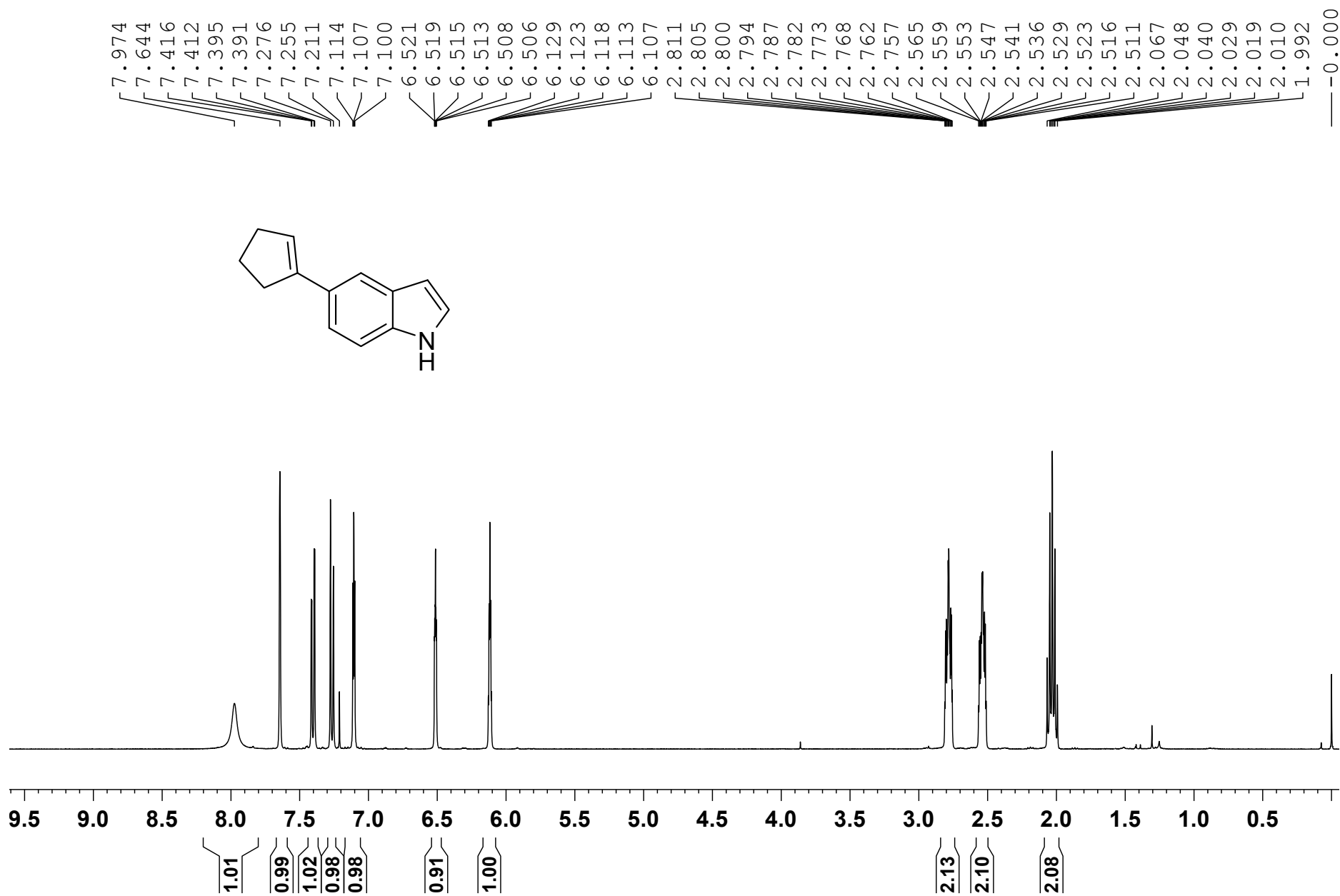
-3 4-*t*Bu-PhCpent 13C NMR CDCl3 BBFO1 Feb 21 2012



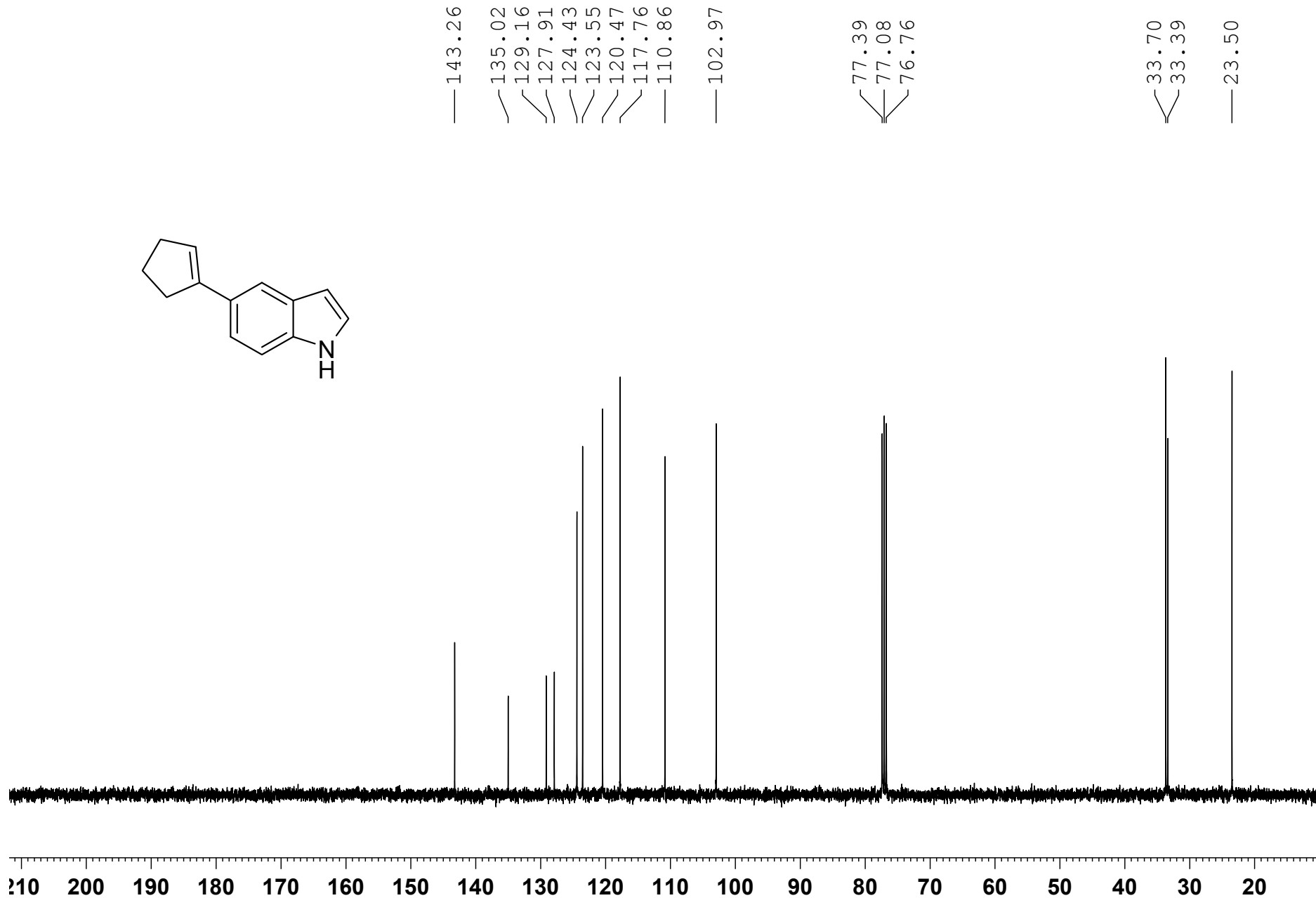
-8 1H NMR BBFO 2, CDC13, 10-07-2012



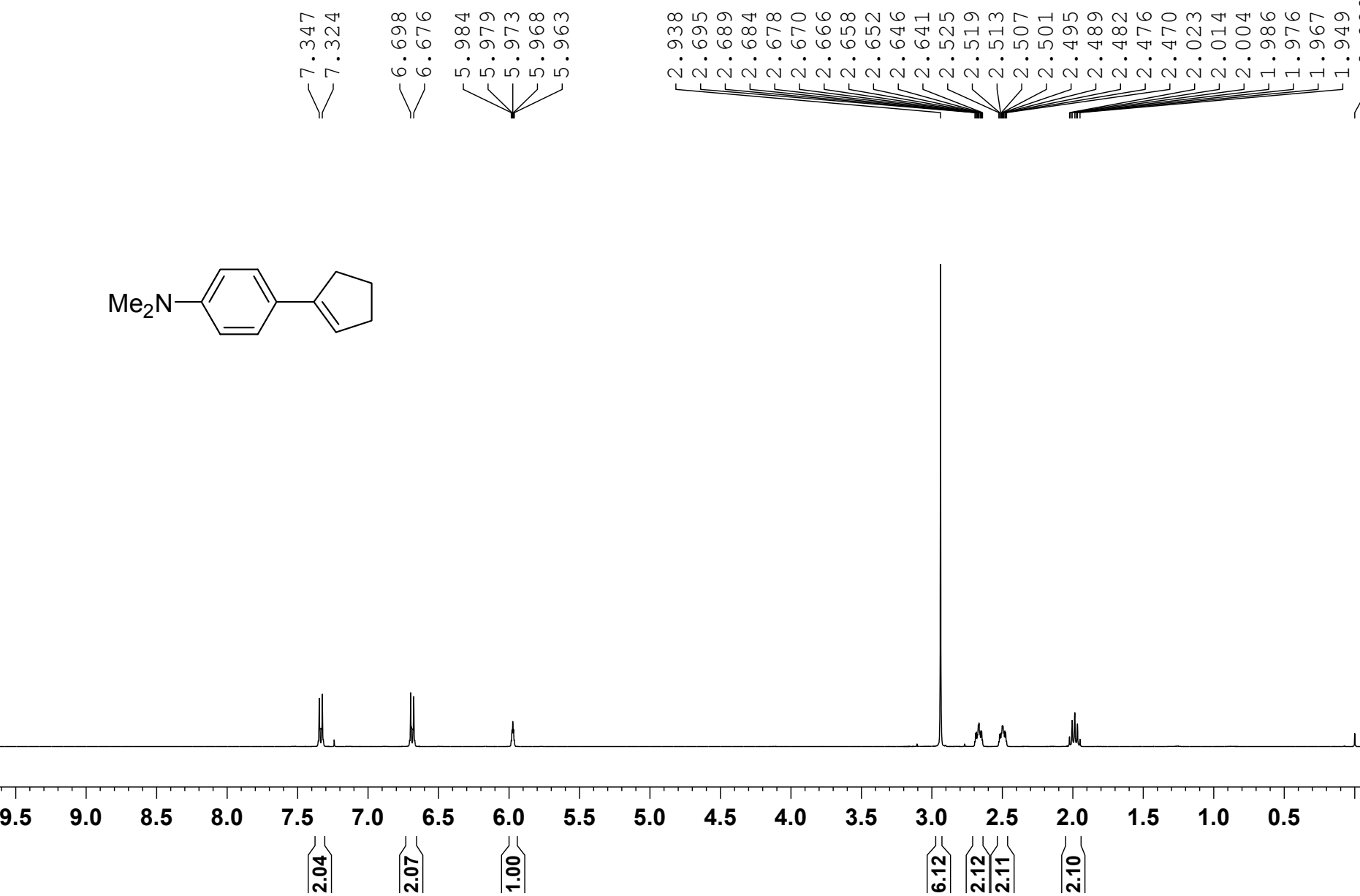
-9-1 1H NMR BBFO 2, CDCl3, 23-07-2012



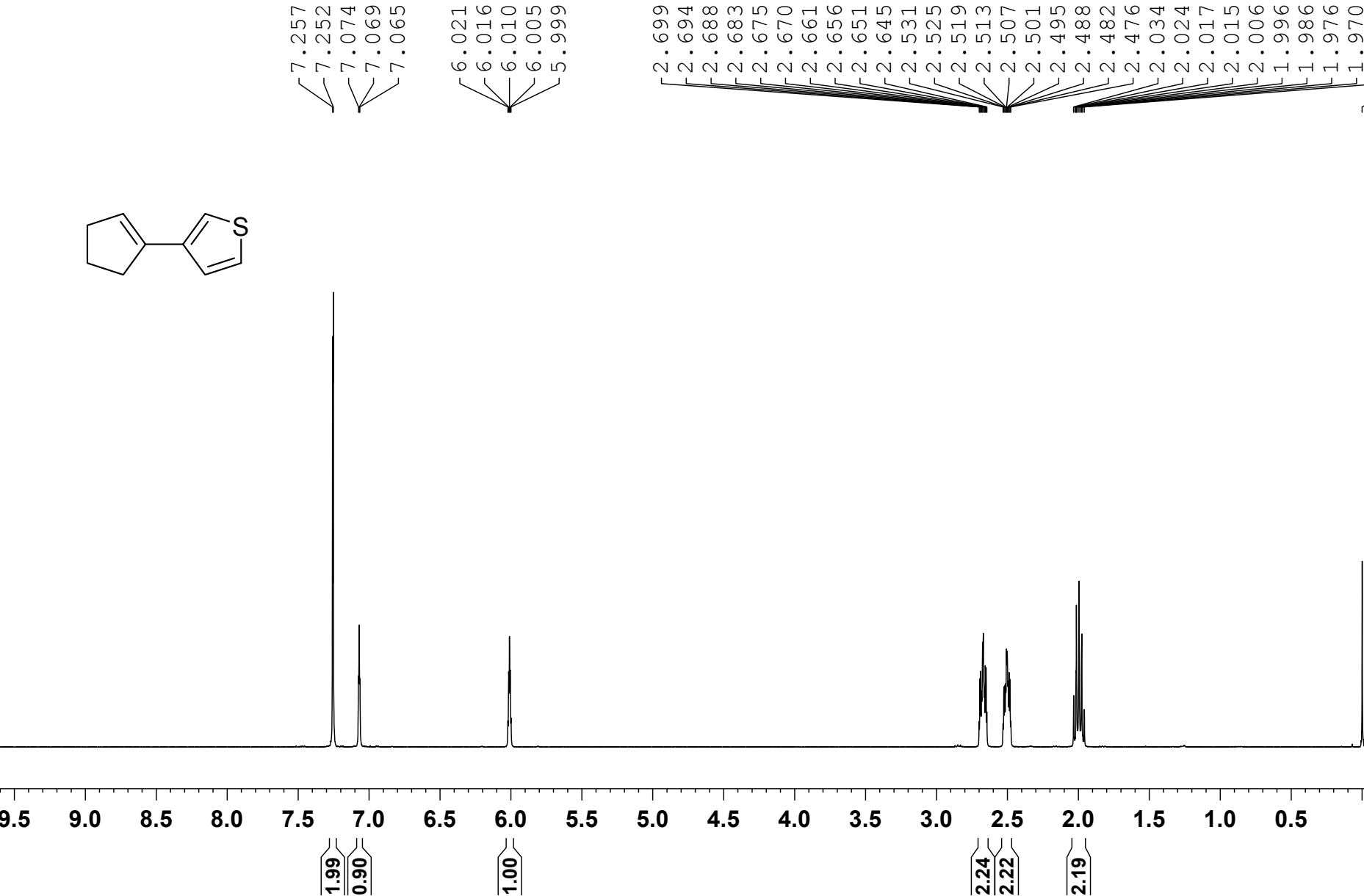
-9-1 <sup>13</sup>C NMR BBFO 2, CDCl<sub>3</sub>, 23-07-2012



-10 1H NMR BBFO 2, CDC13, 10-07-2012

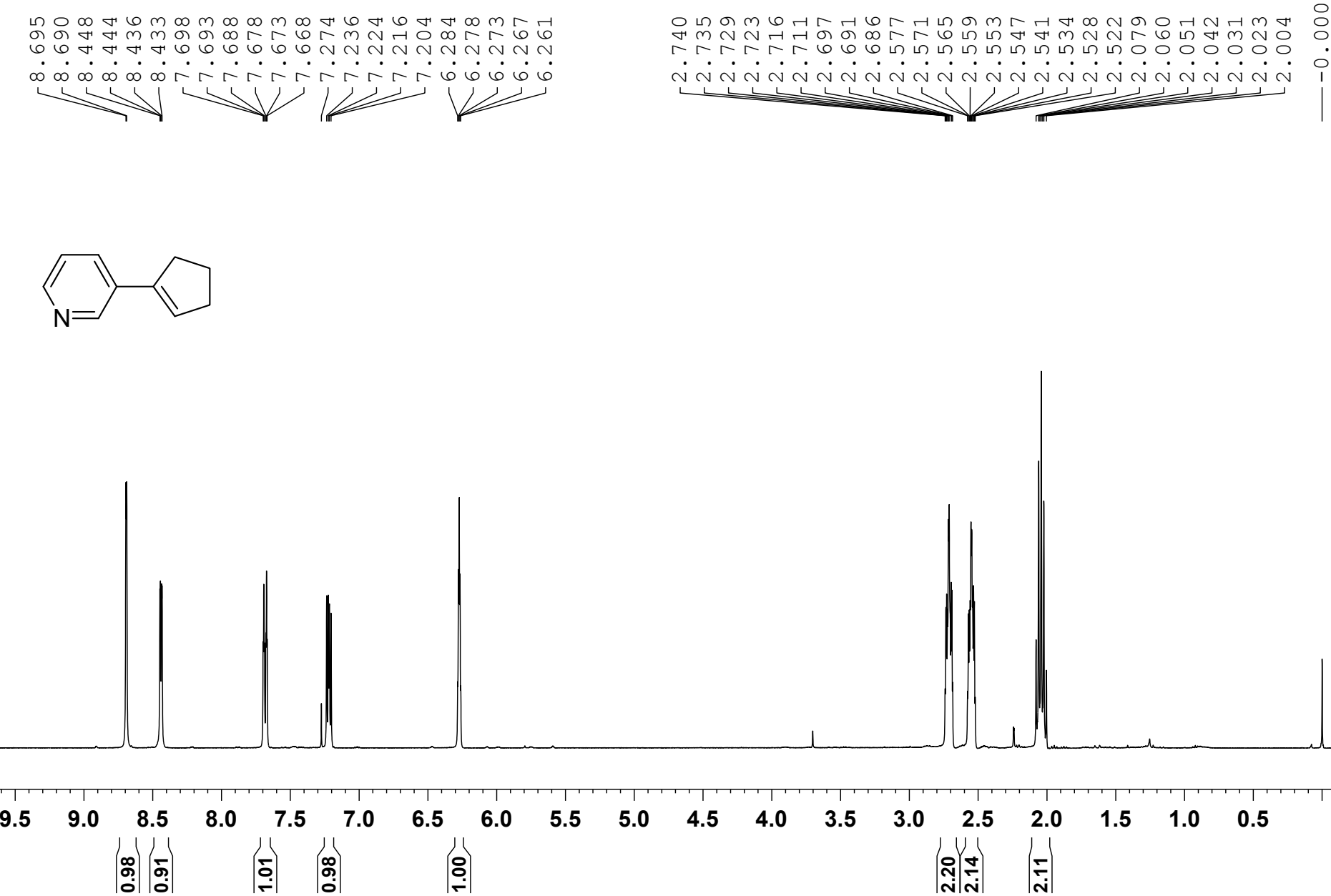


-11 1H NMR BBFO 2, CDC13, 10-07-2012

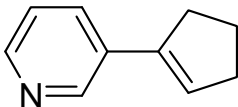




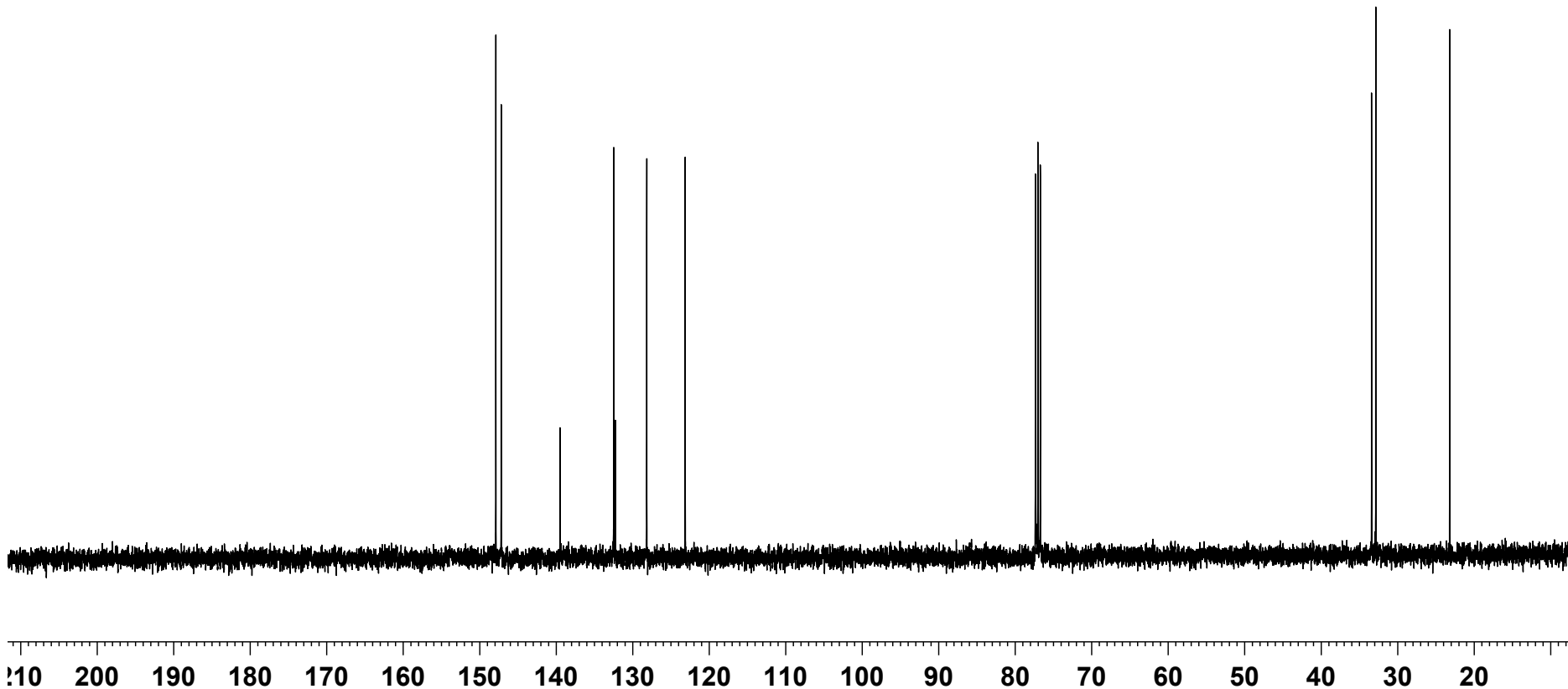
-12 1H NMR BBFO 2, CDCl3, 10-07-2012



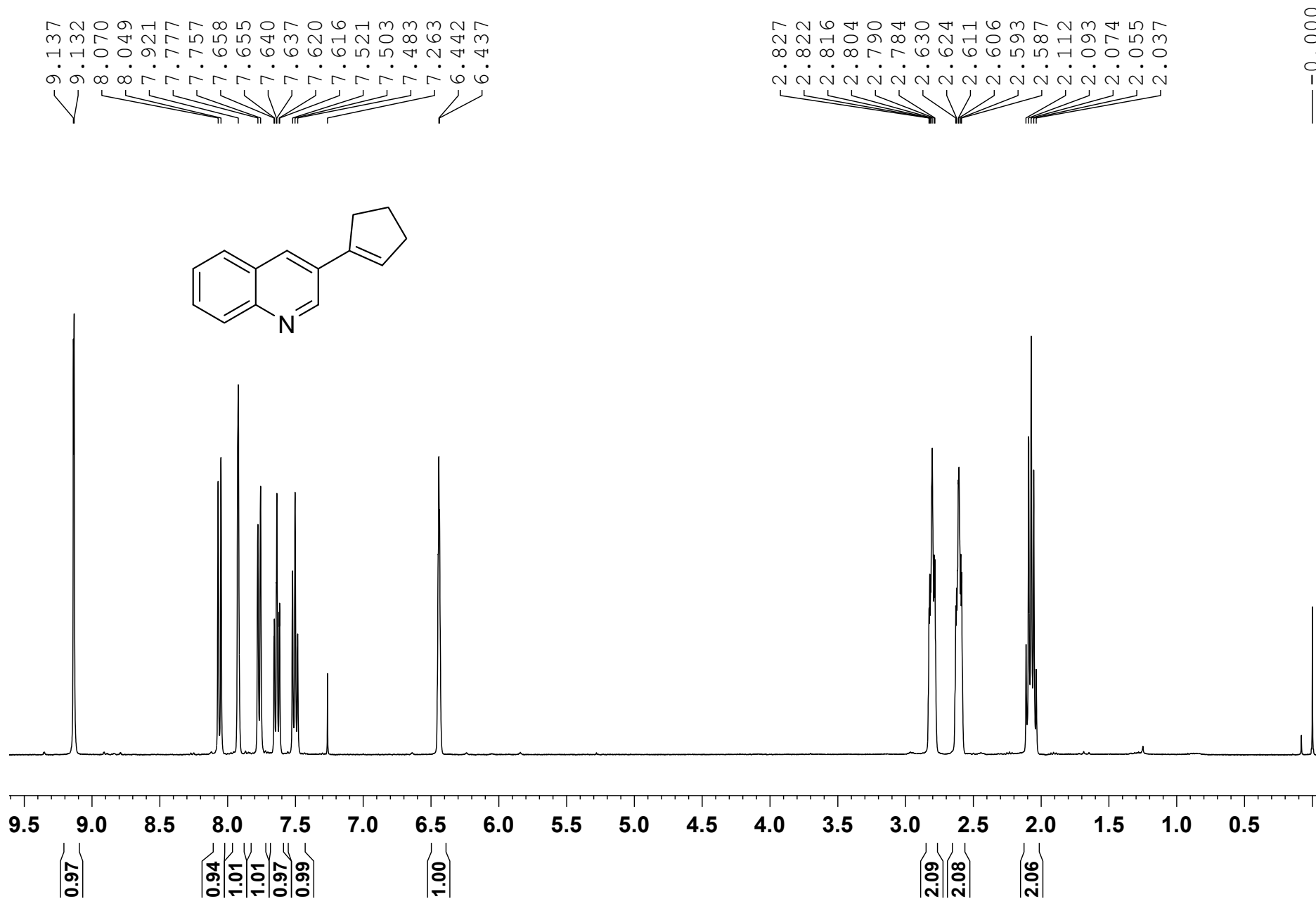
-12 <sup>13</sup>C NMR BBFO 2, CDC13, 10-07-2012



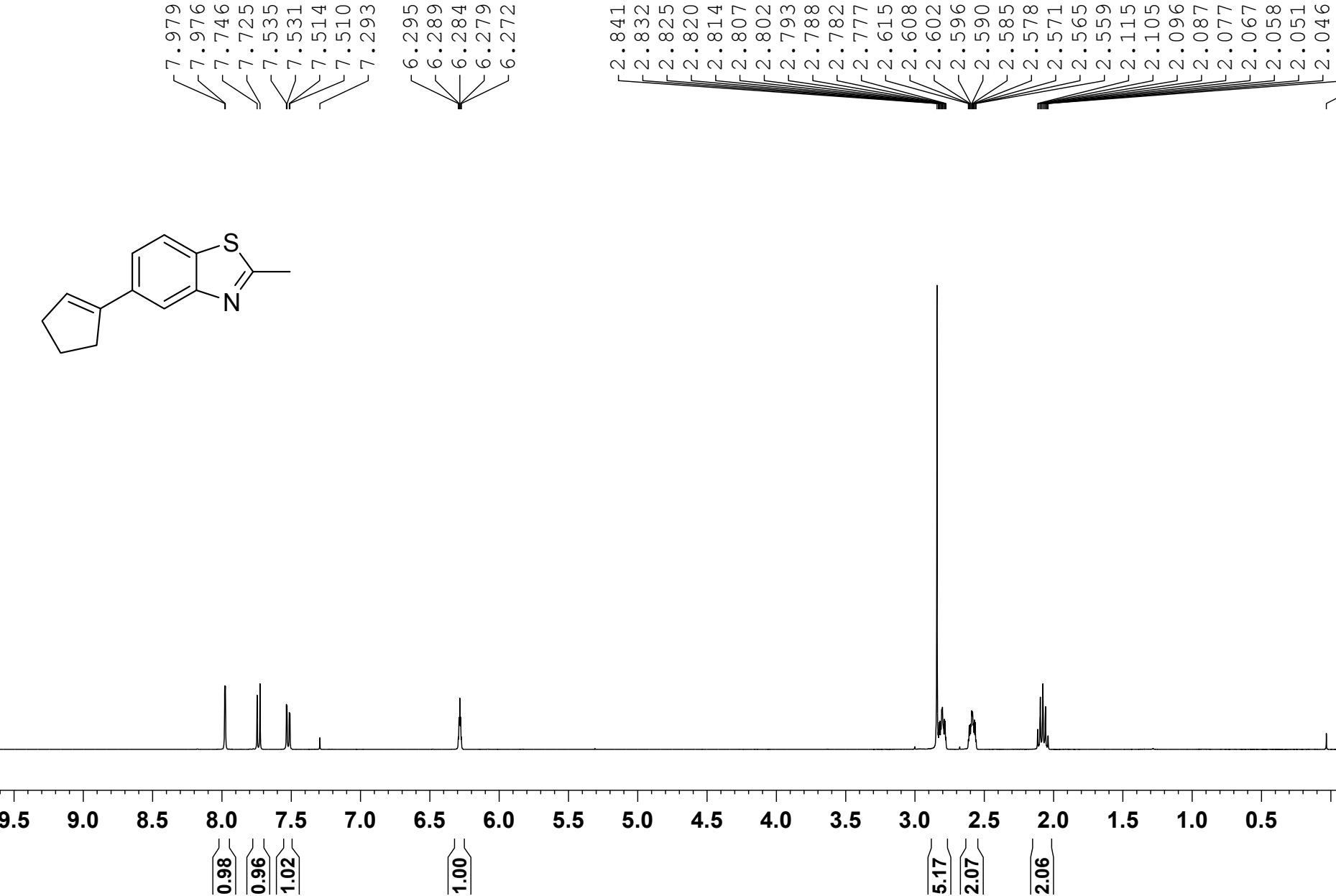
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147.20  
139.52  
132.49  
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128.18  
123.15  
77.36  
77.05  
76.73  
33.42  
32.88  
23.21



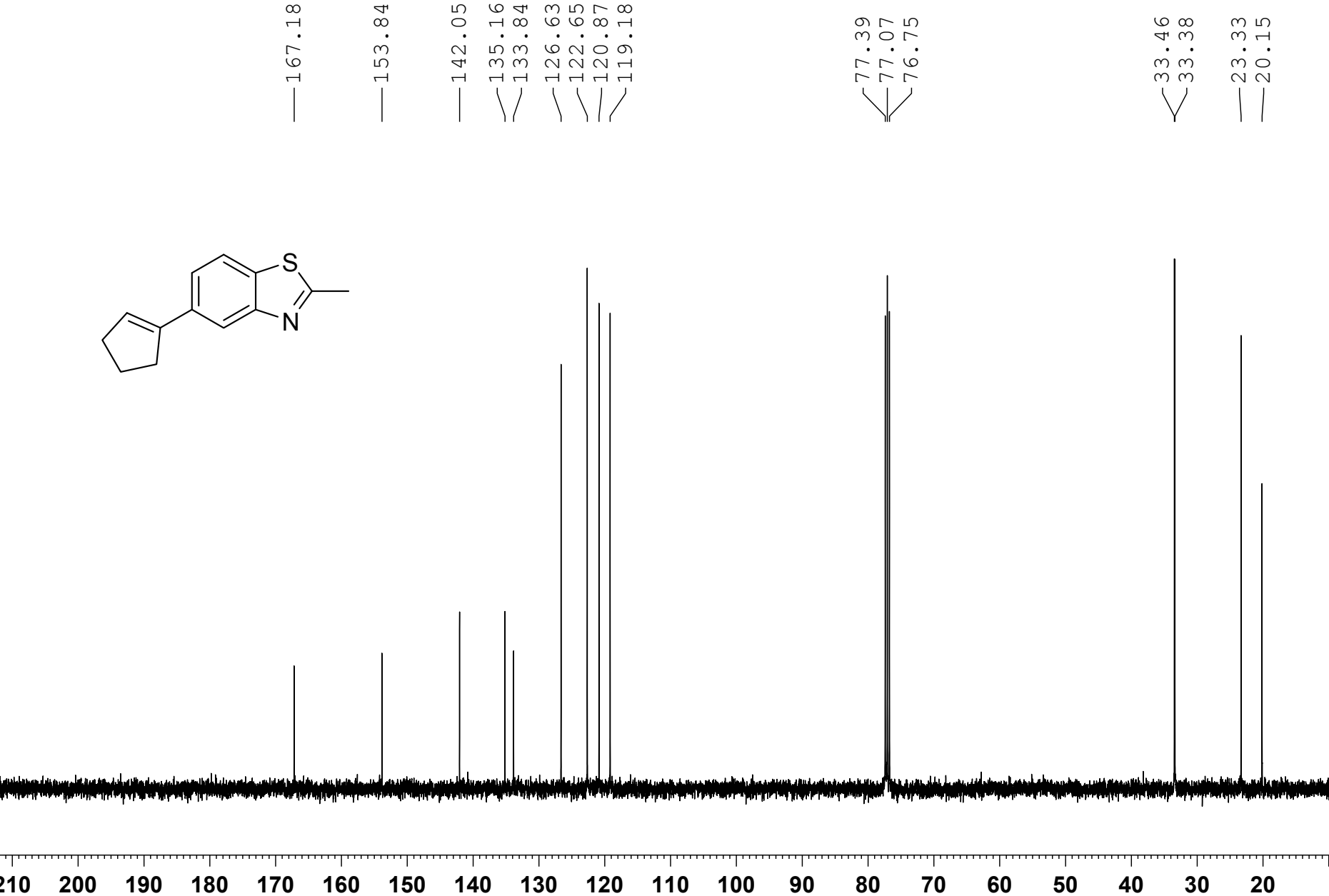
-13 <sup>1</sup>H NMR BBFO 2, CDC13, 10-07-2012



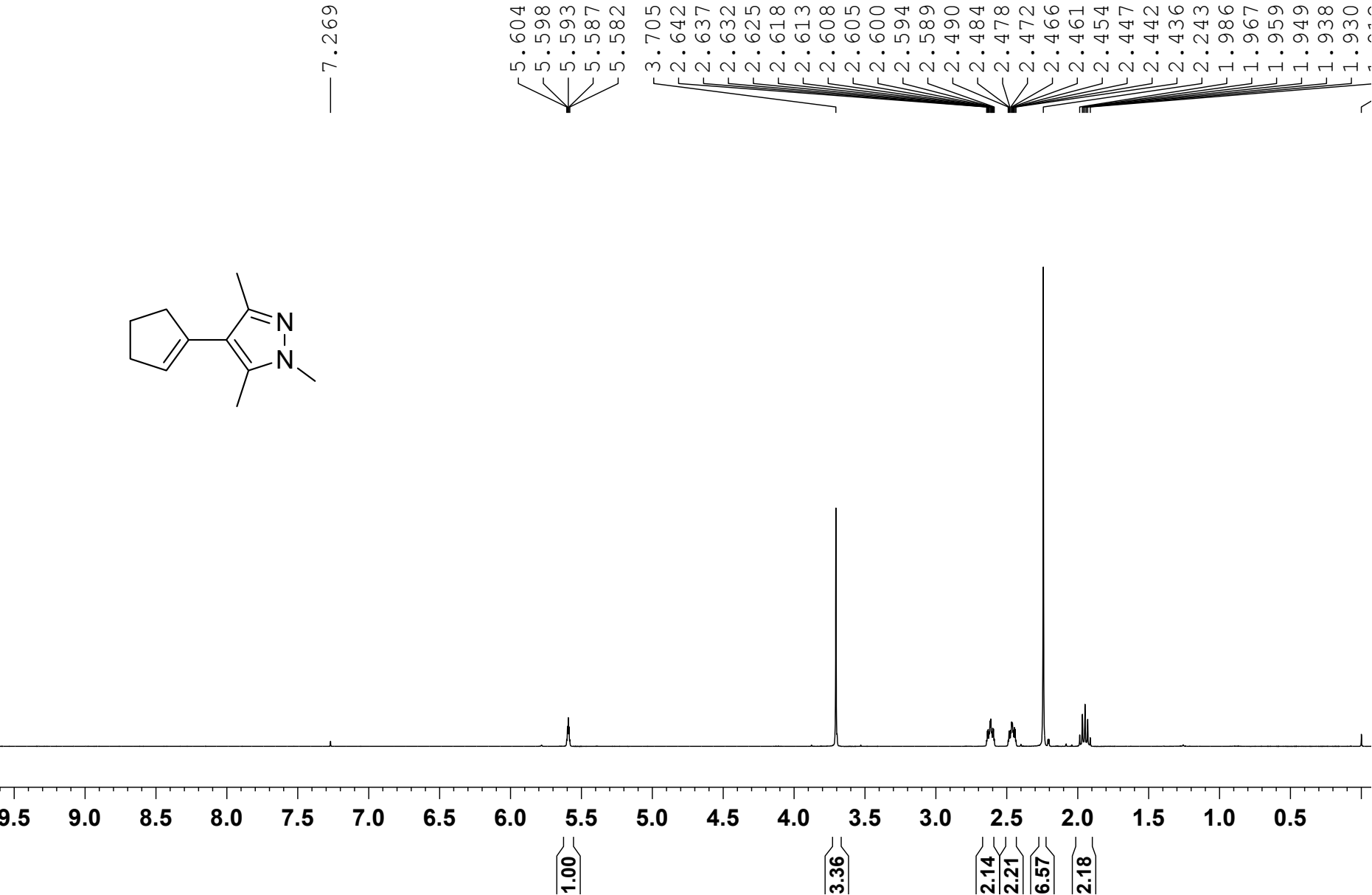
-14 1H NMR BBFO 2, CDCl3, 10-07-2012



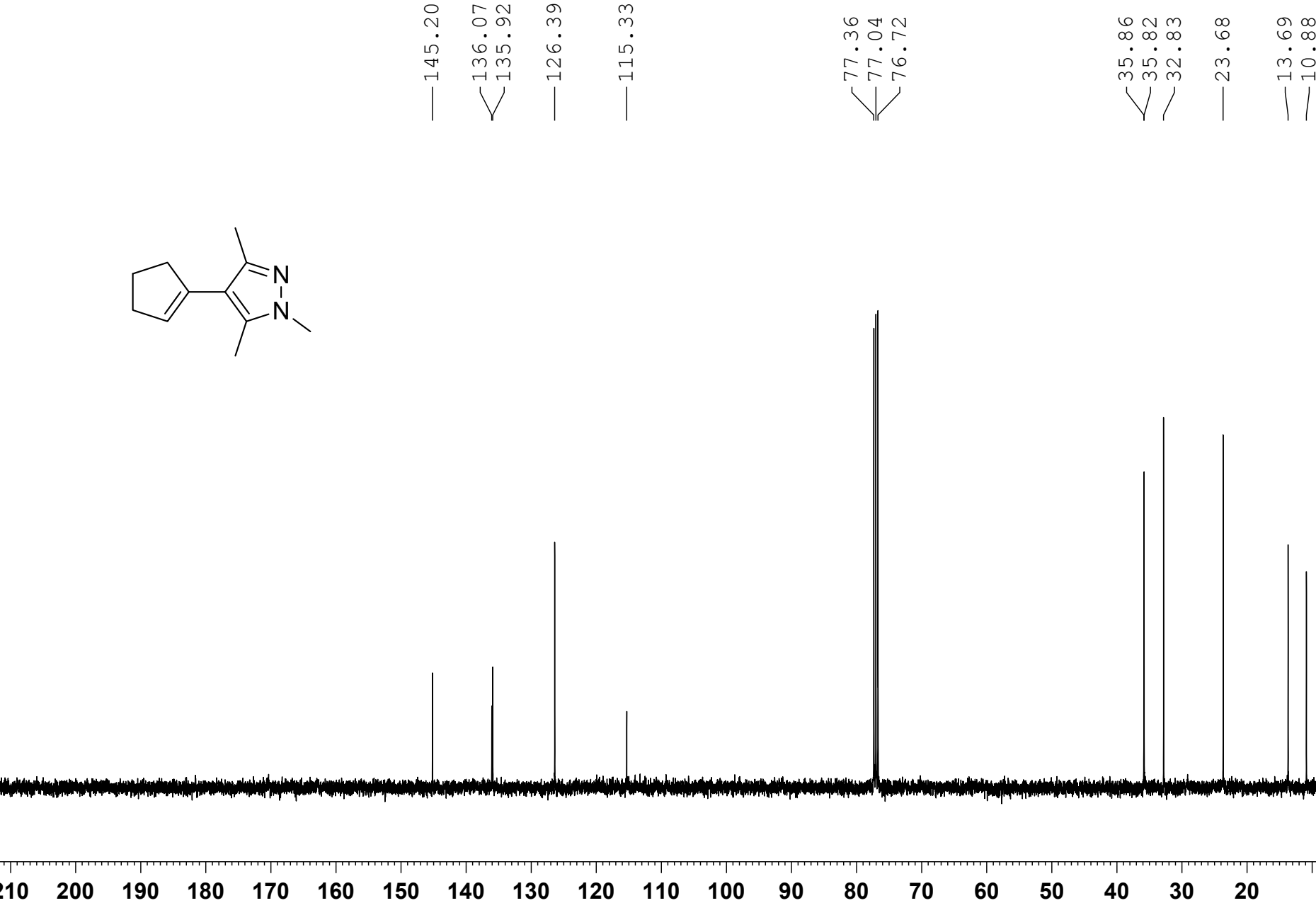
-14 <sup>13</sup>CNMR BBFO 2, CDC13, 10-07-2012



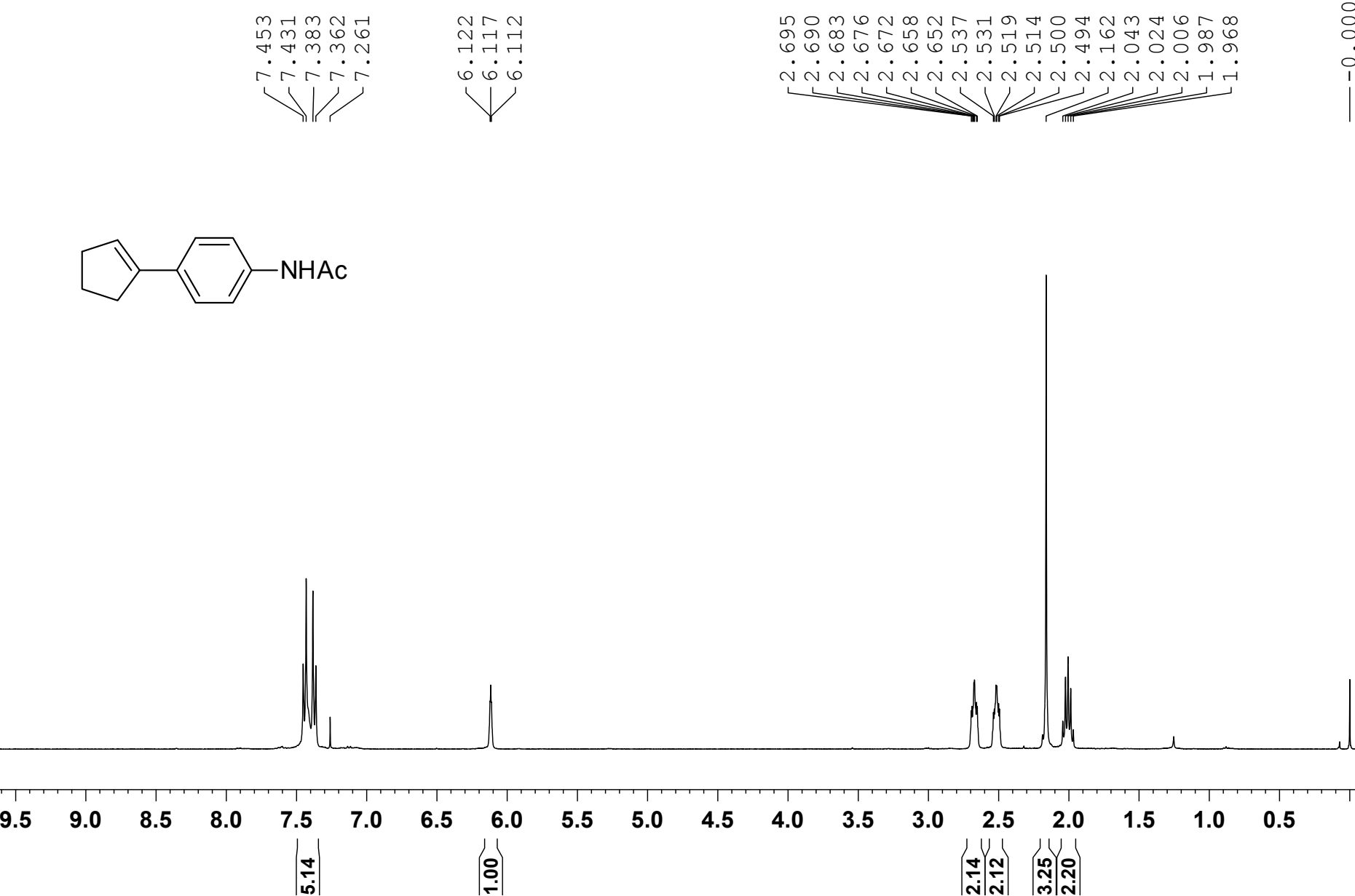
-15 1H NMR BBFO 2, CDC13, 10-07-2012



-15 13C NMR BBFO 2, CDCl3, 10-07-2012

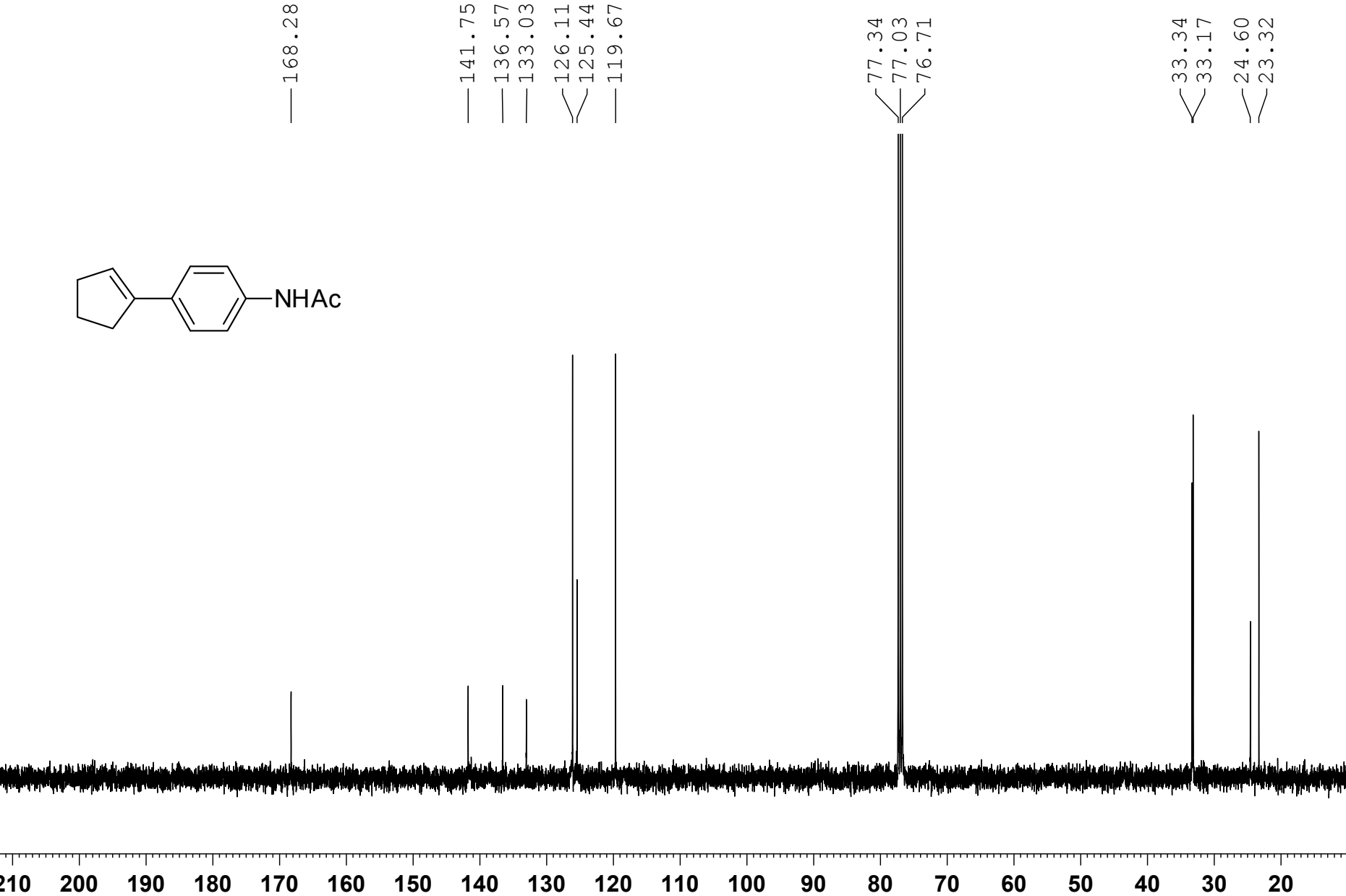
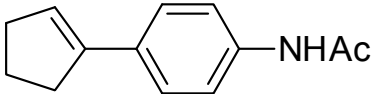


-16-1 CDC13 1H NMR BBFO 1 13-07-2012

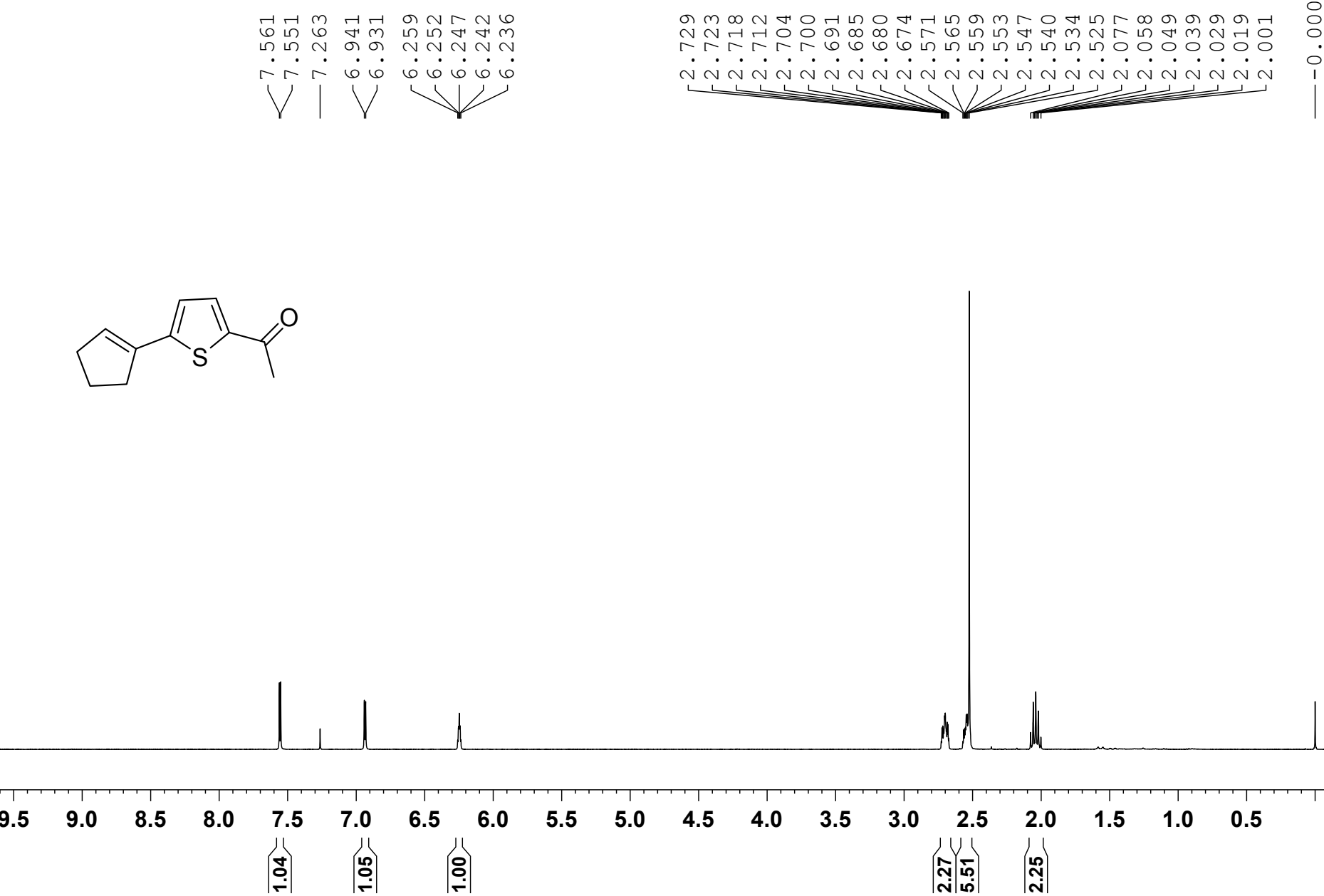




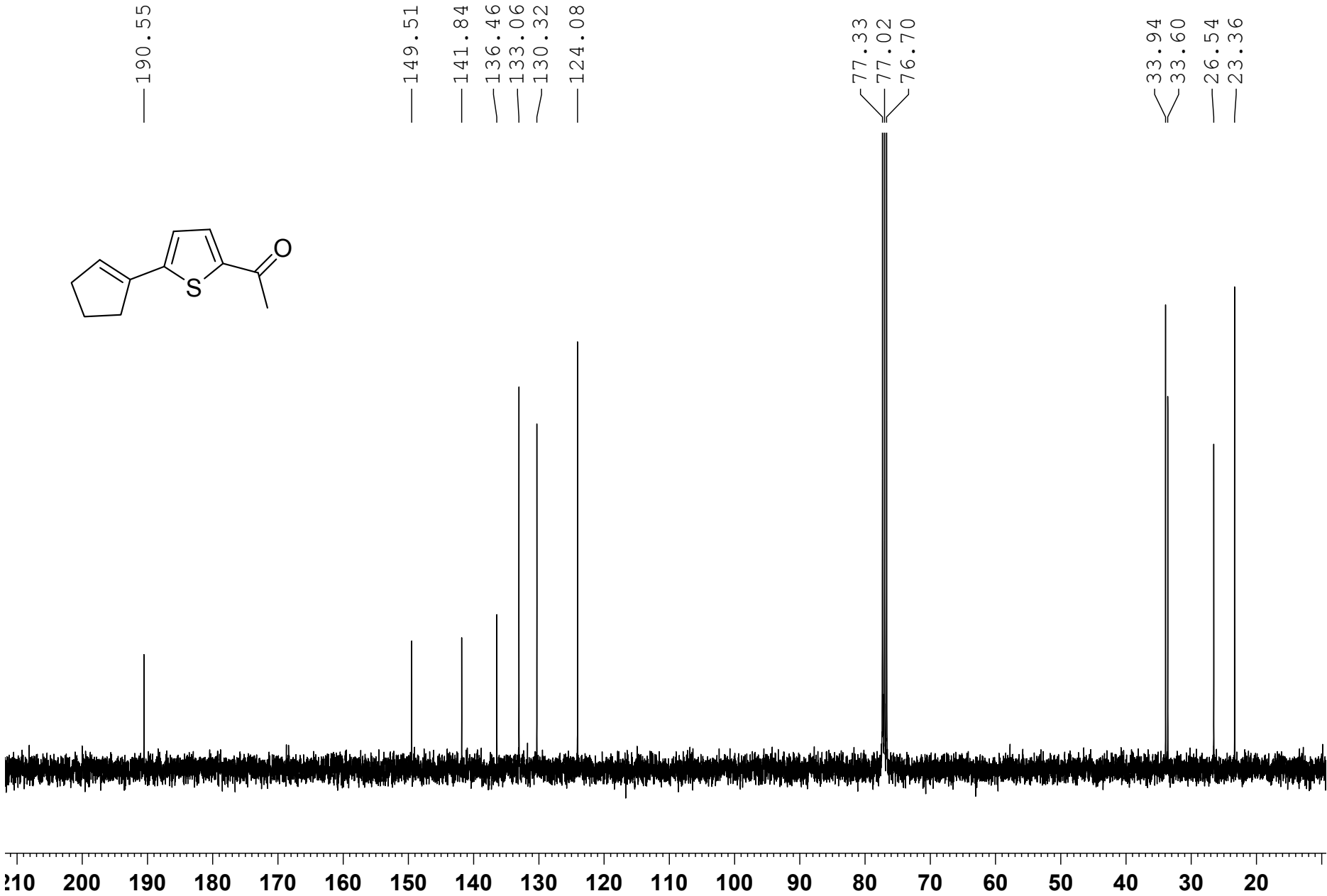
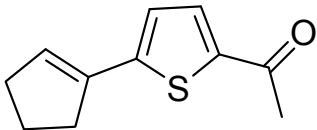
-16 CDC13 13C NMR BBFO 1 11-07-2012



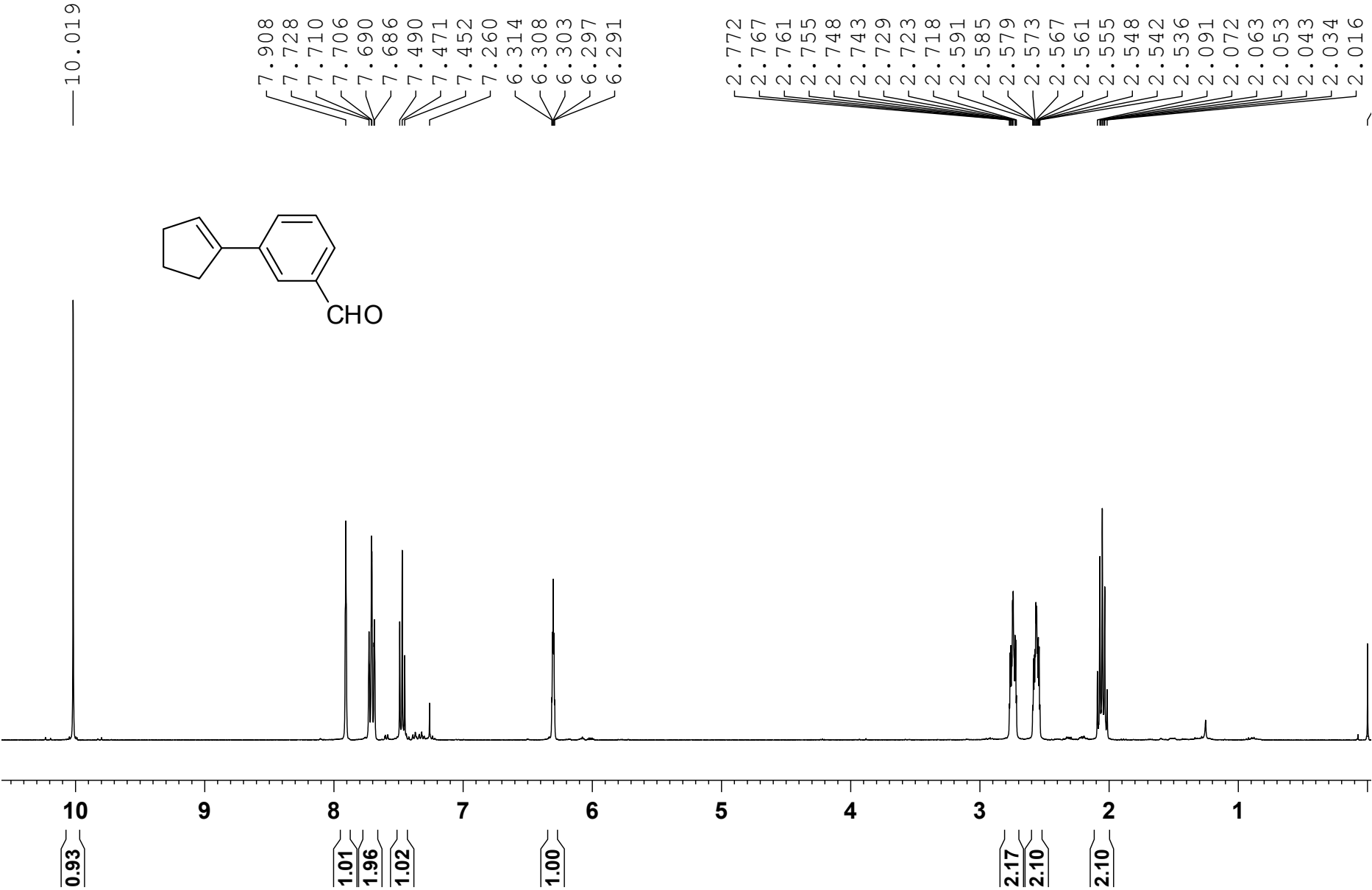
-17 1H NMR BBFO 2, CDC13, 10-07-2012



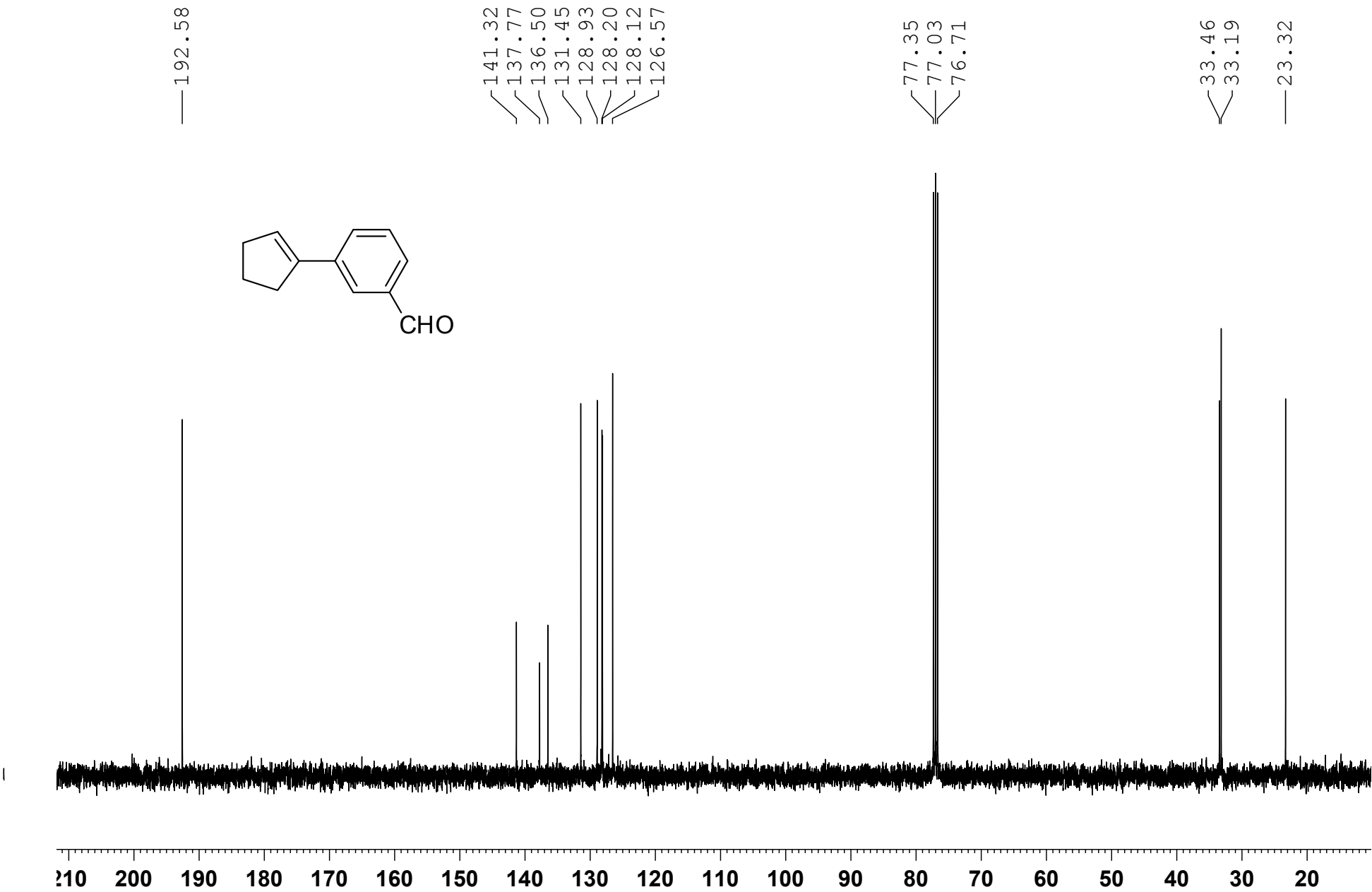
-17 <sup>13</sup>C NMR BBFO 2, CDCl<sub>3</sub>, 10-07-2012



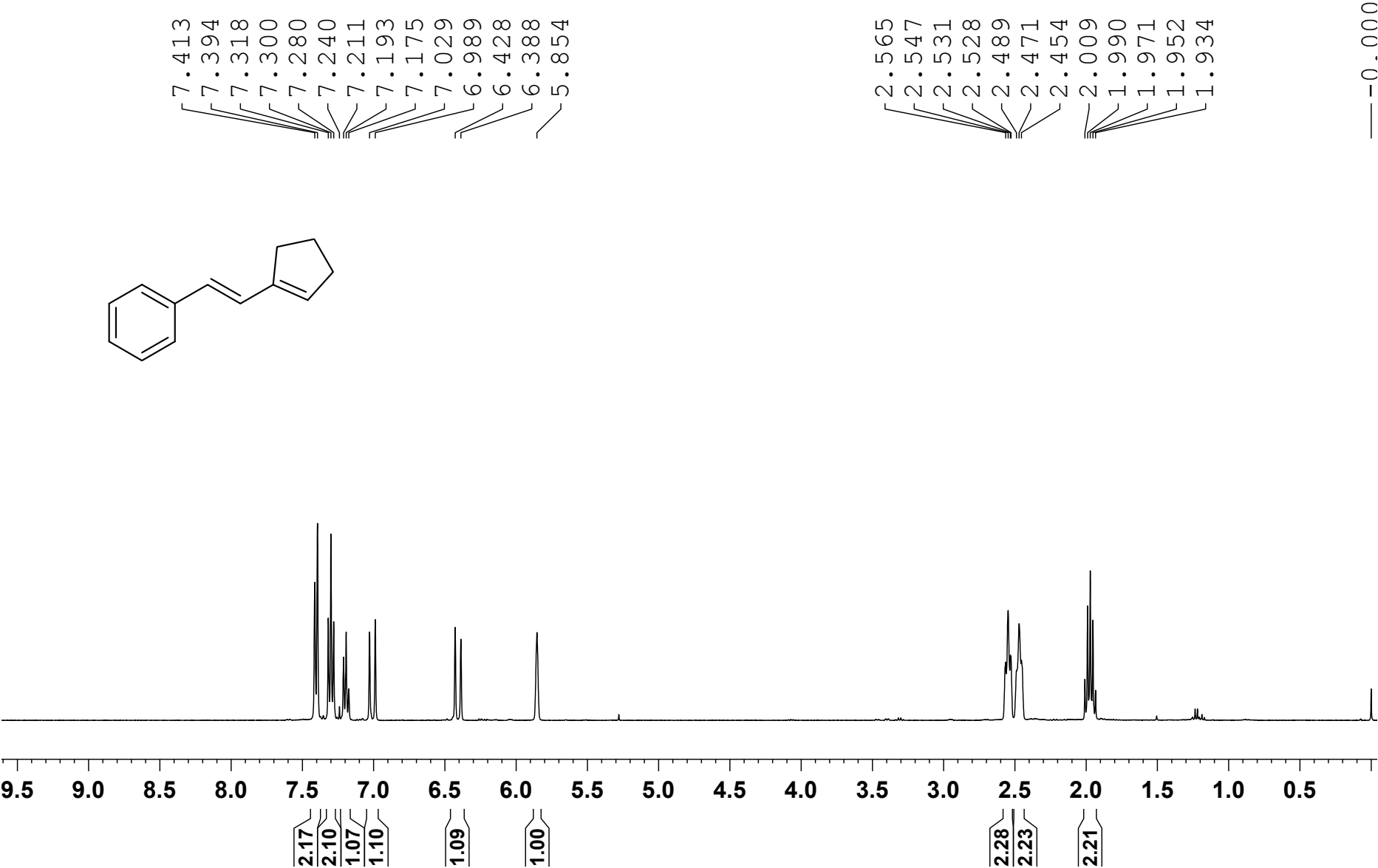
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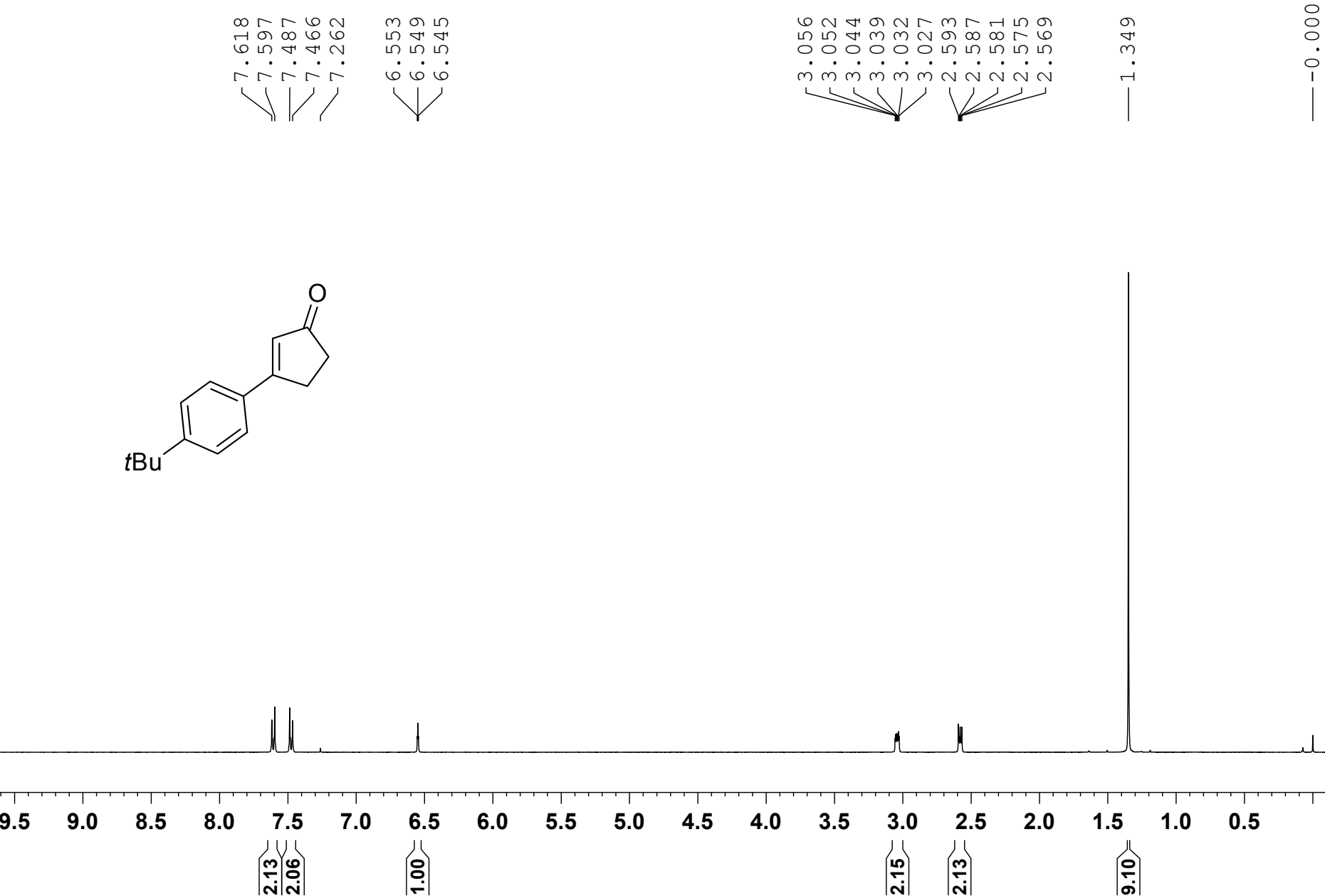
<sup>13</sup>C NMR 400 MHz BBFO2 CDC13 2012-11-20



-5  
3 BBFO2  
MR 2013-03-06

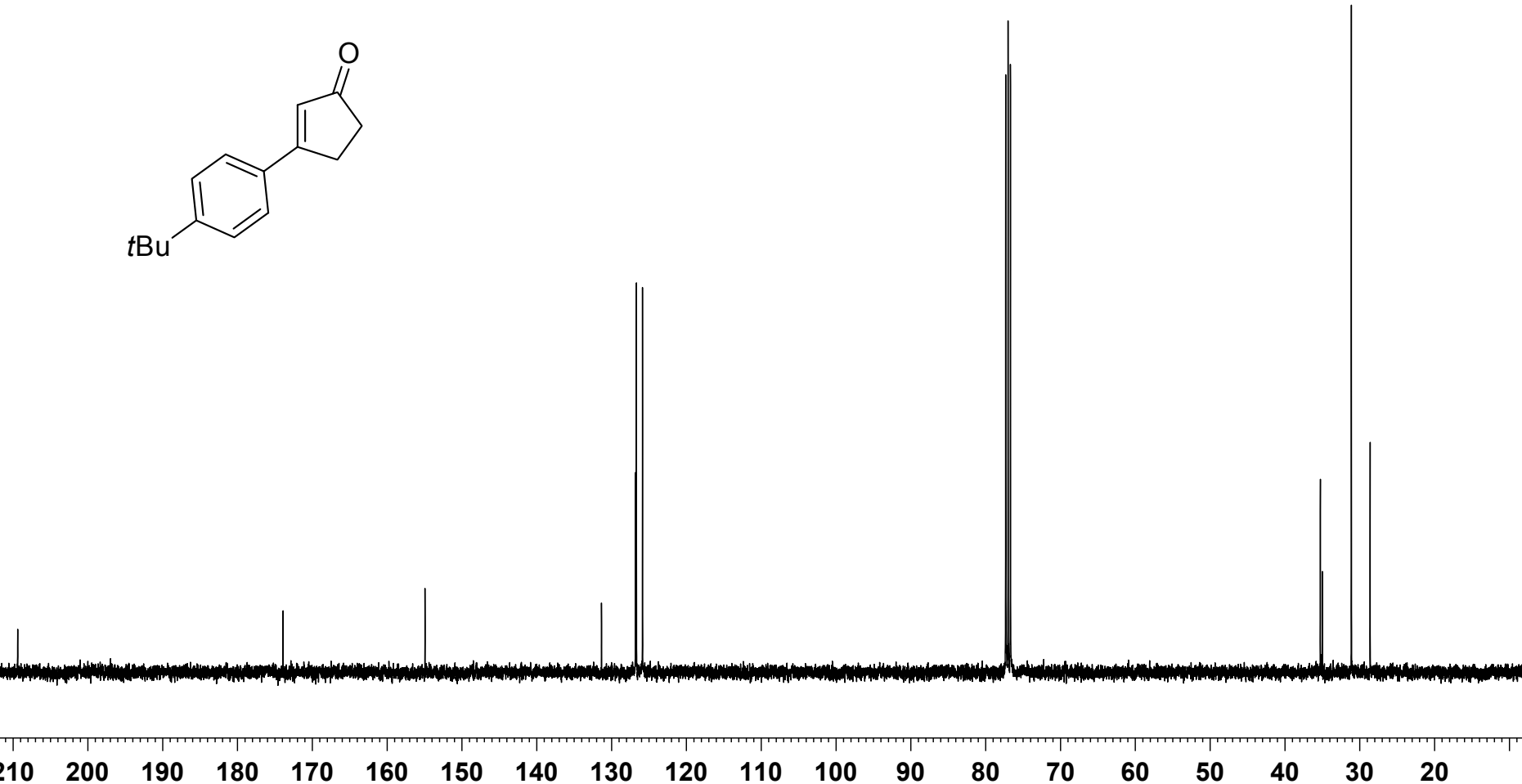
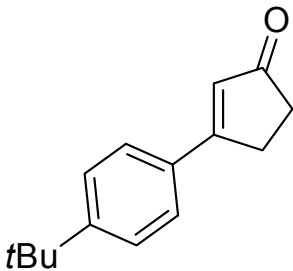


-5 CDC13 1H NMR 2012-09-17 400 MHz BBF0 2



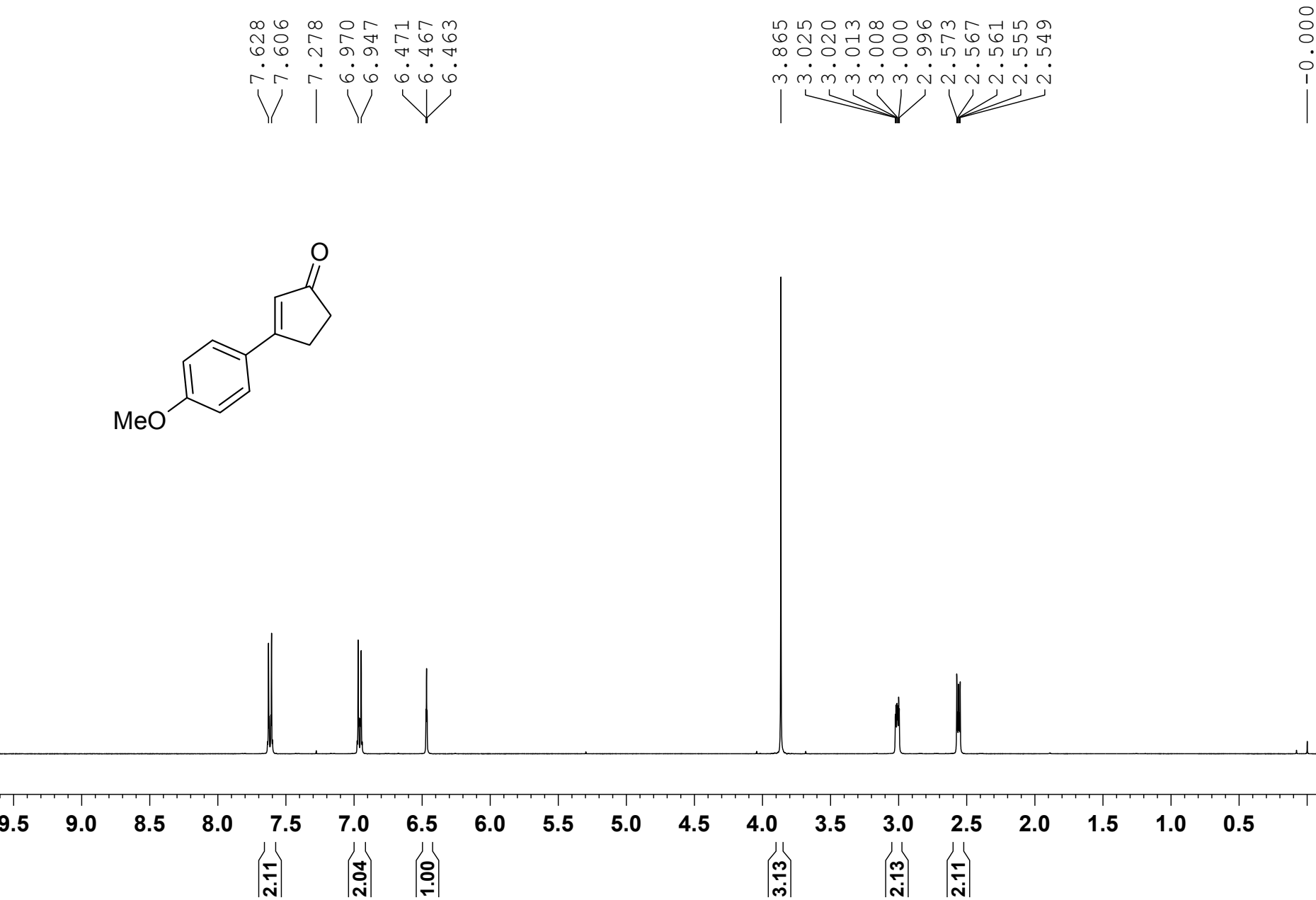
-5 CDC13 1H NMR 2012-09-17 400 MHz BBF0 2

—209.37  
—173.93  
—154.95  
131.36  
126.82  
126.69  
125.88  
77.33  
77.01  
76.70  
35.27  
35.00  
31.13  
28.62

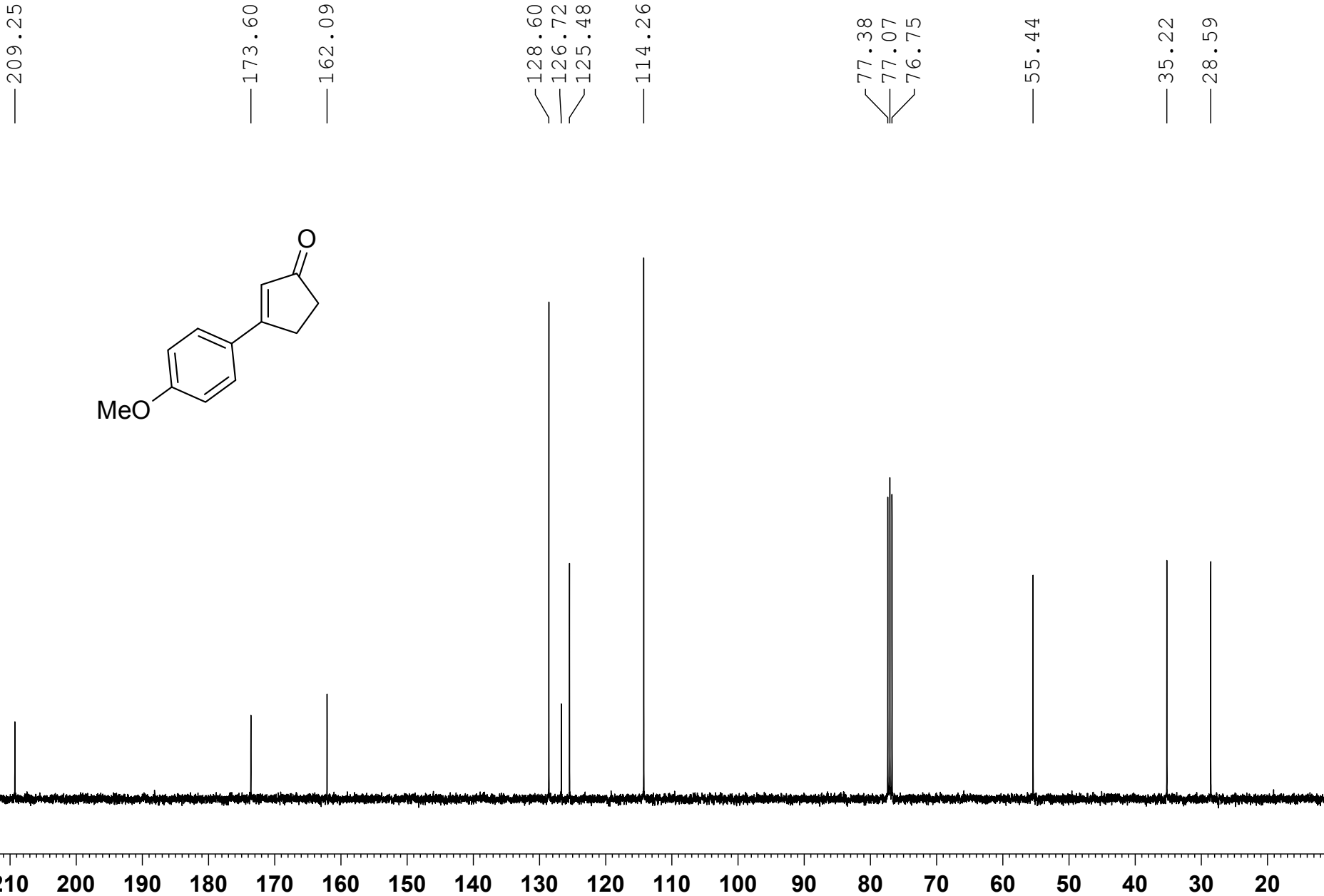




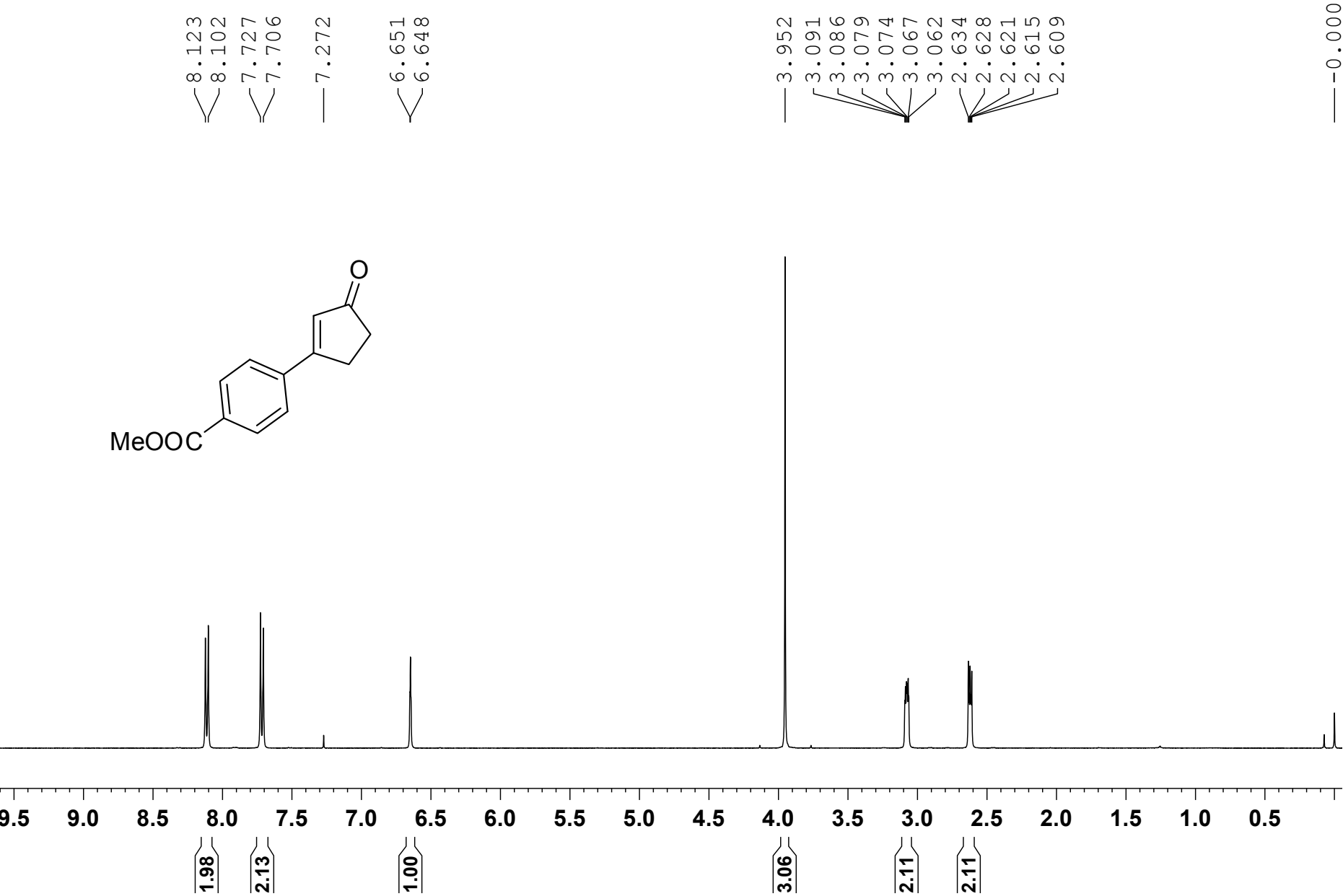
-4 BBFO1 1H NMR 2012-10-17



-4 BBFO1 13C NMR 2012-10-17

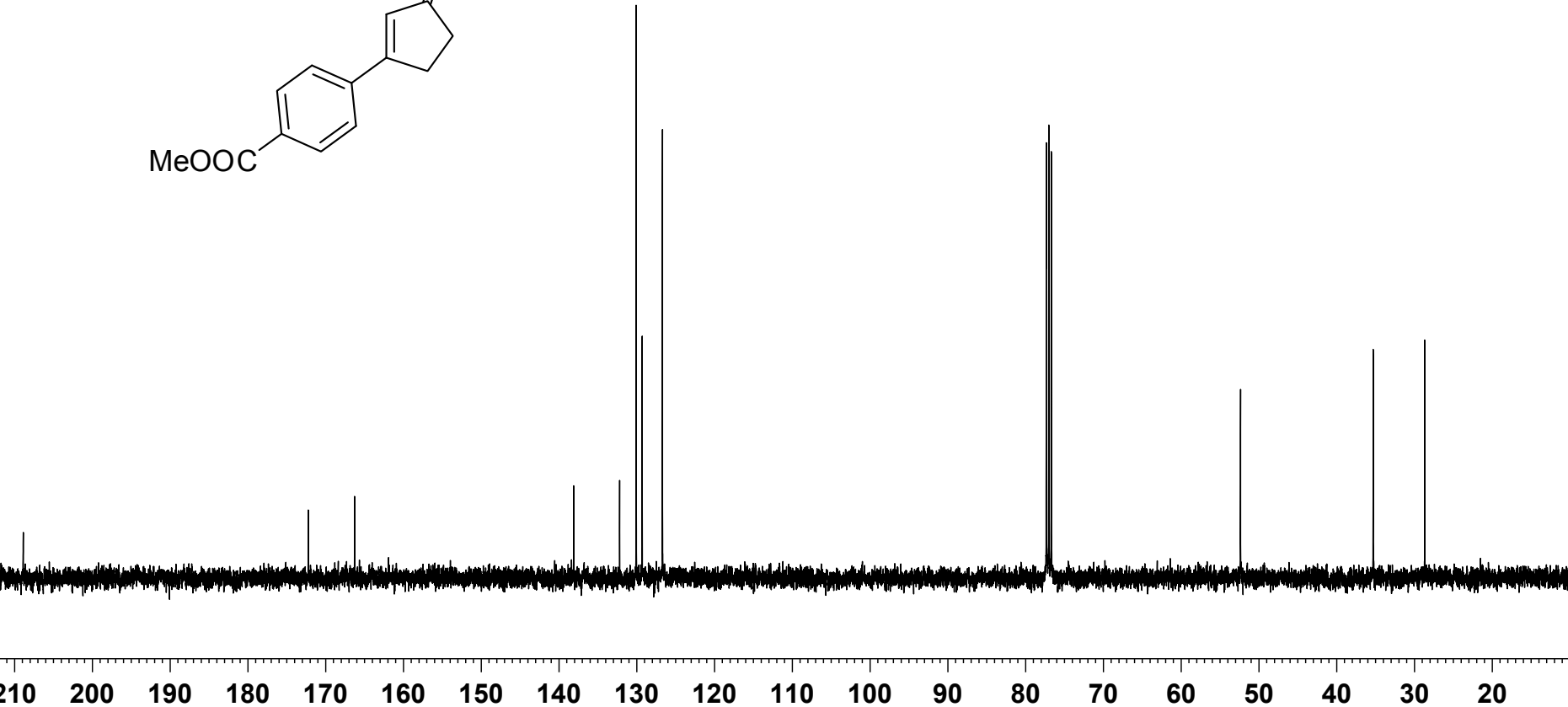
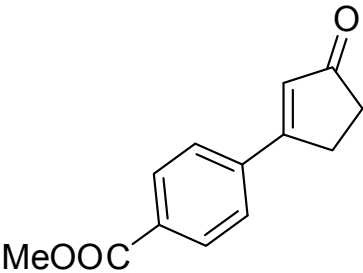


-8-2 1H NMR 400 MHz BBFO2 CDCl3 2012-11-01

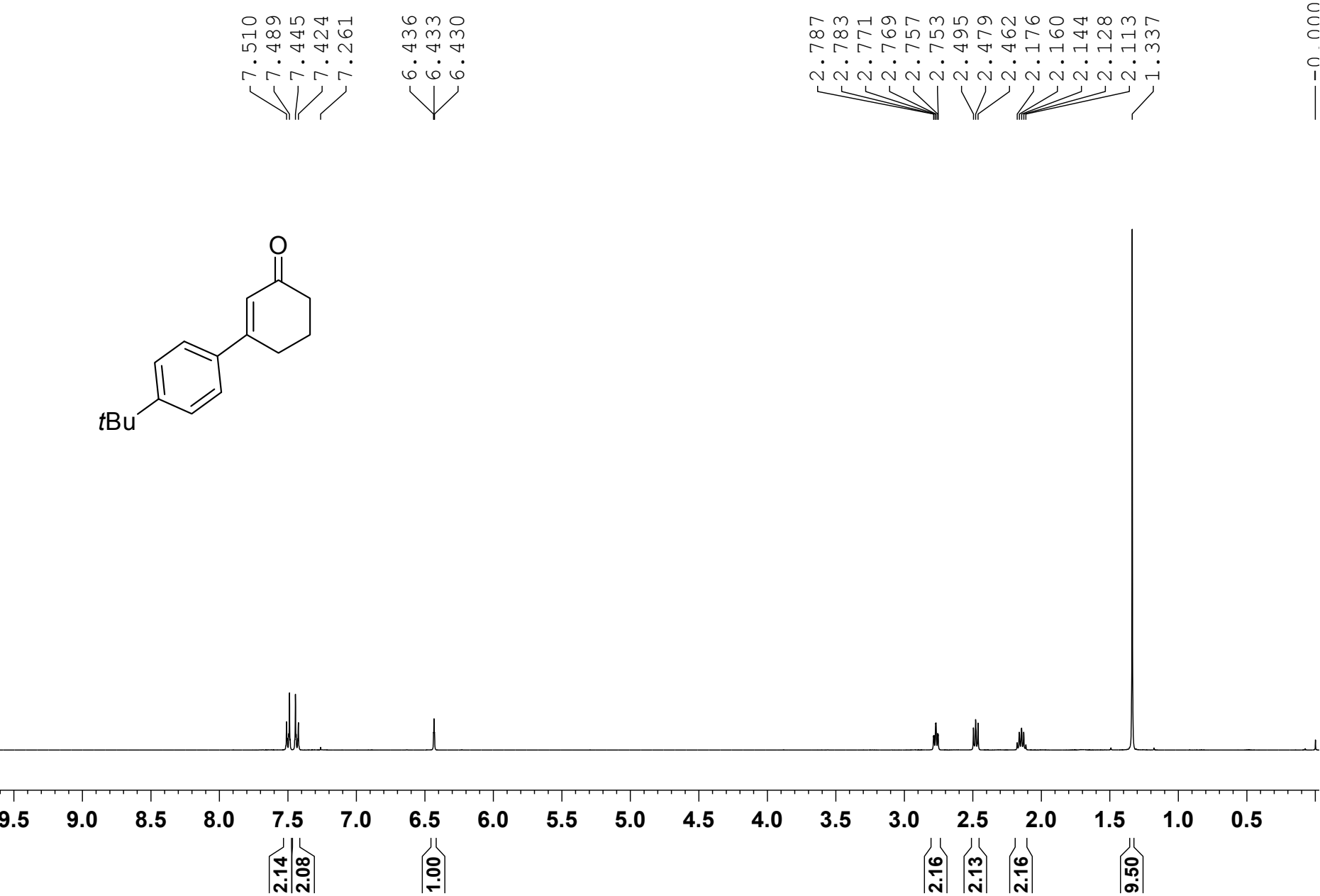


-8-2 13C NMR 400 MHz BBFO2 CDC13 2012-11-01

— 208.88  
— 172.23  
— 166.28  
— 138.13  
— 132.22  
— 130.09  
— 129.32  
— 126.71  
— 77.35  
— 77.03  
— 76.71  
— 52.38  
— 35.32  
— 28.69



-6 CDC13 1H NMR 2012-09-17 400 MHz BBF0 2



-6 CDC13 13CNMR 2012-09-17 400 MHz BBF0 2

—199.94

—159.56

—153.55

—135.75

125.92

125.73

124.75

77.35

77.03

76.72

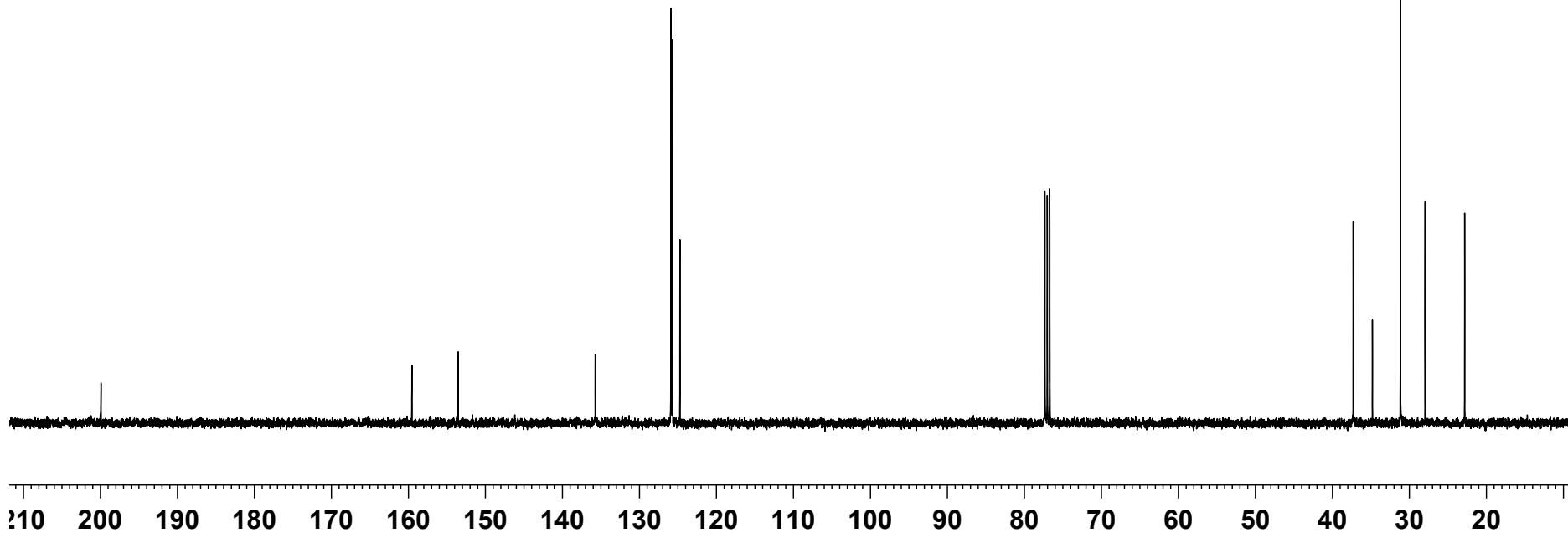
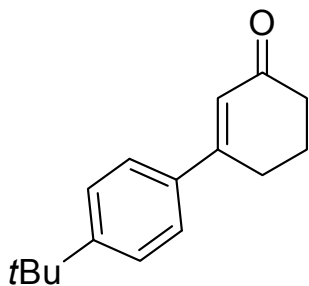
37.30

34.81

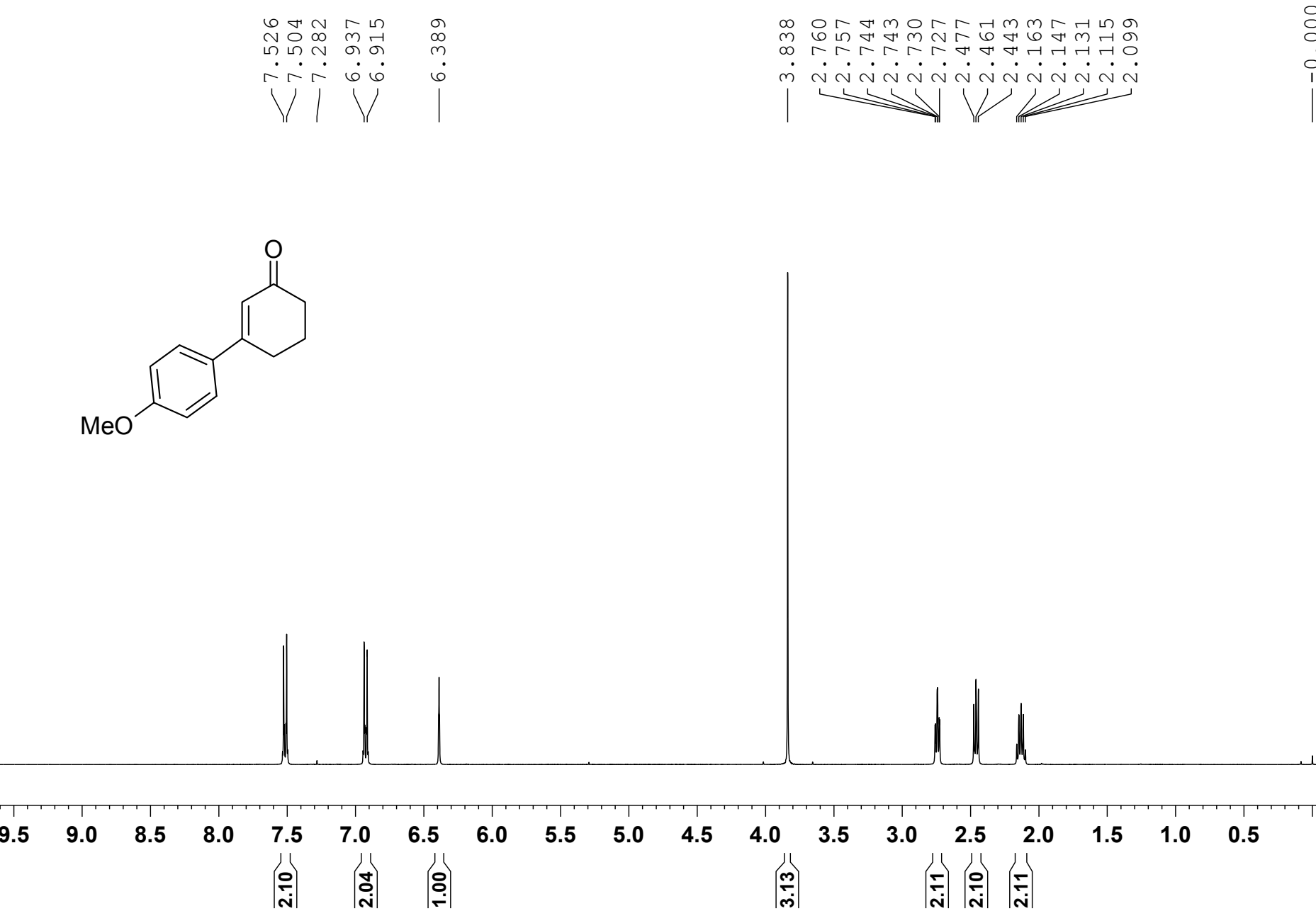
31.18

27.97

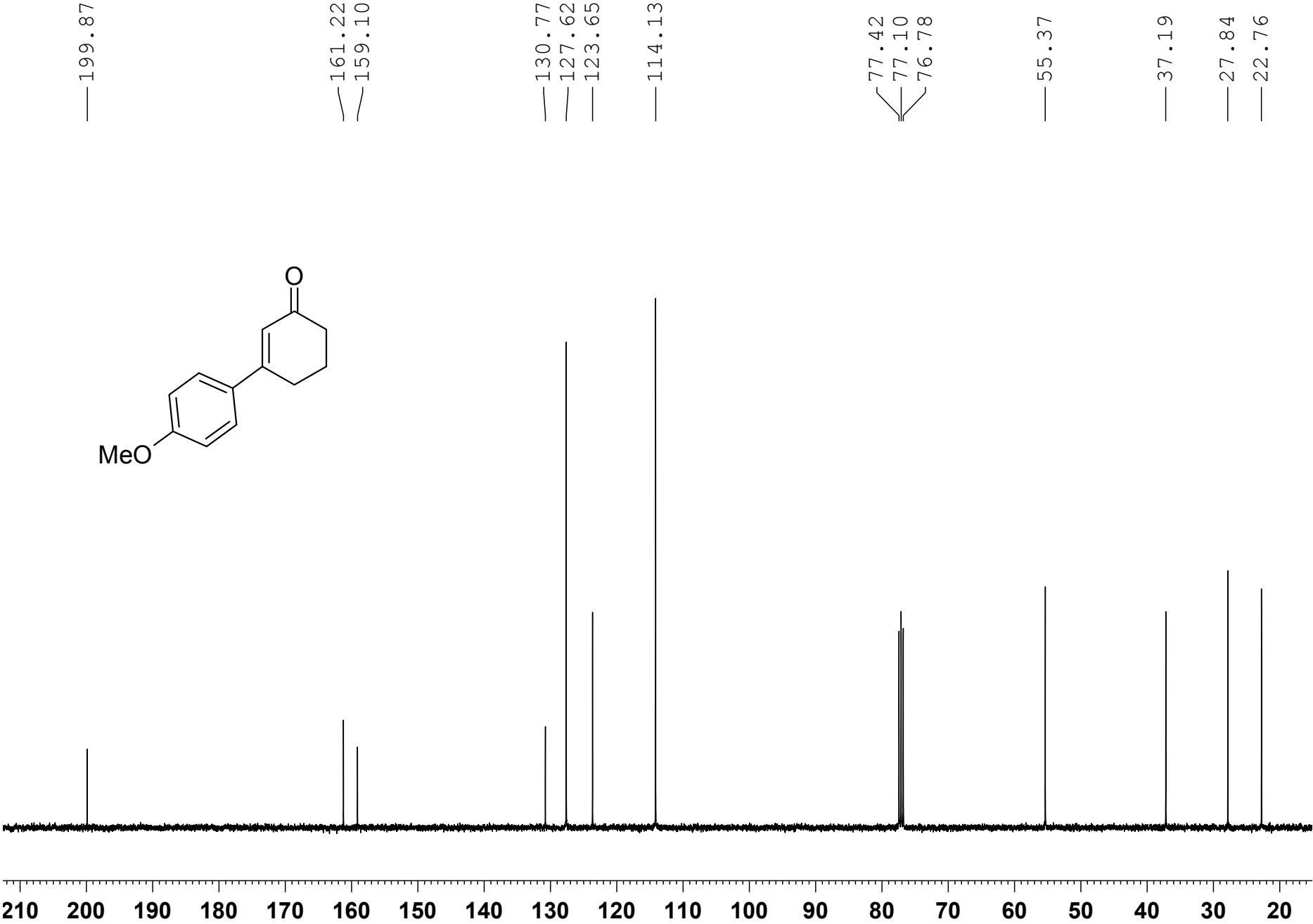
22.83



-5 BBFO1 1H NMR 2012-10-17

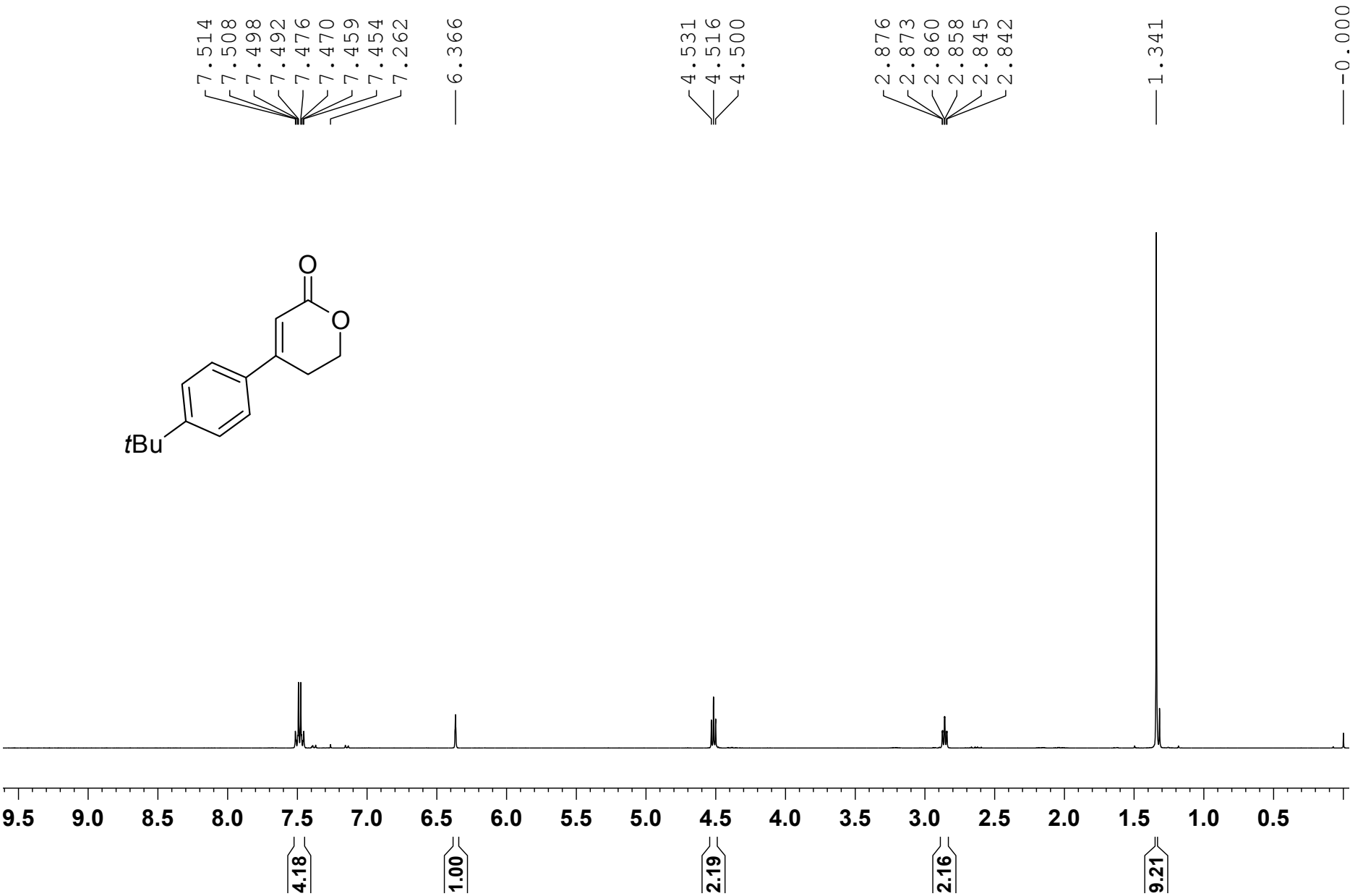


!-5 BBFO1 13C NMR 2012-10-17

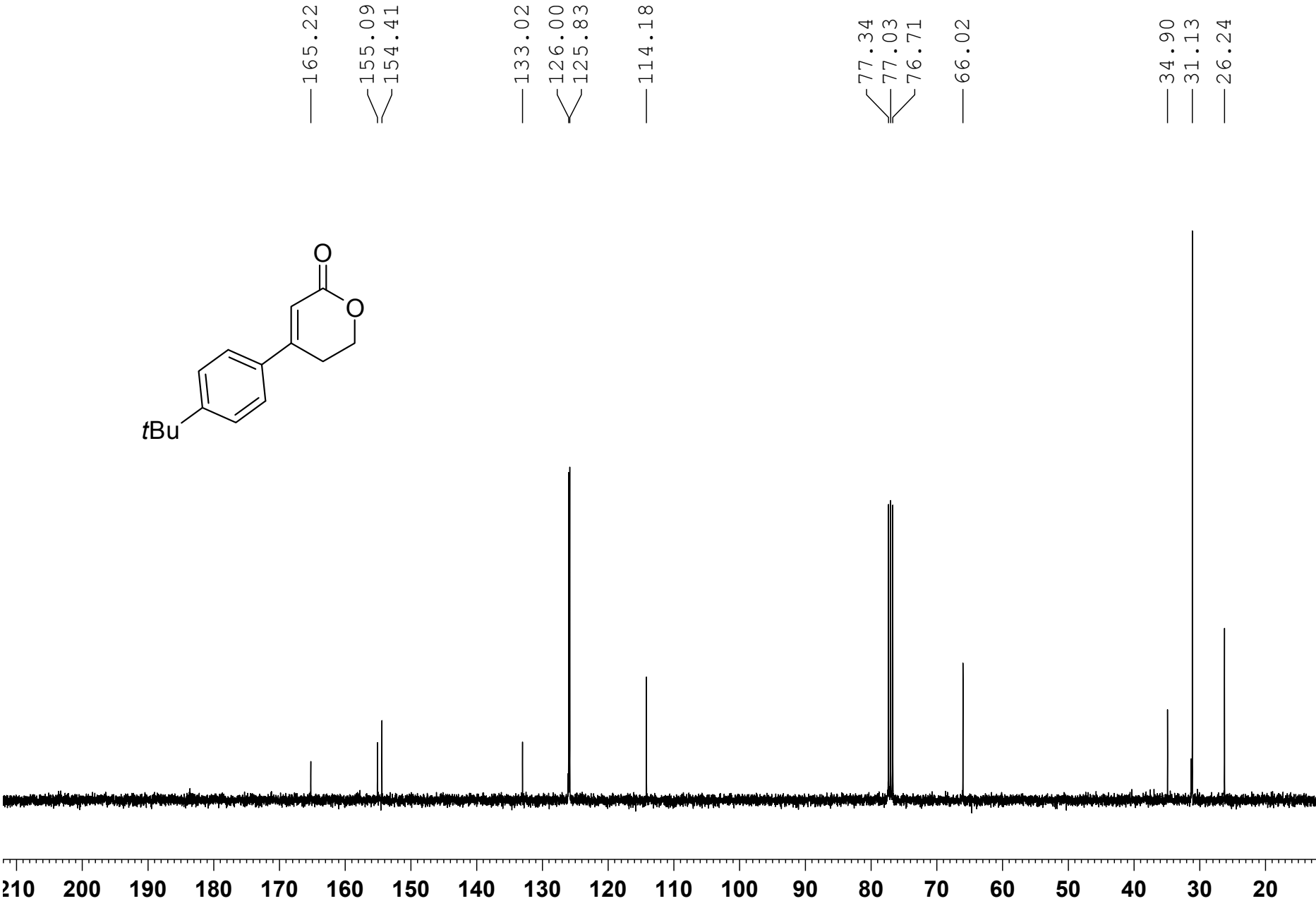




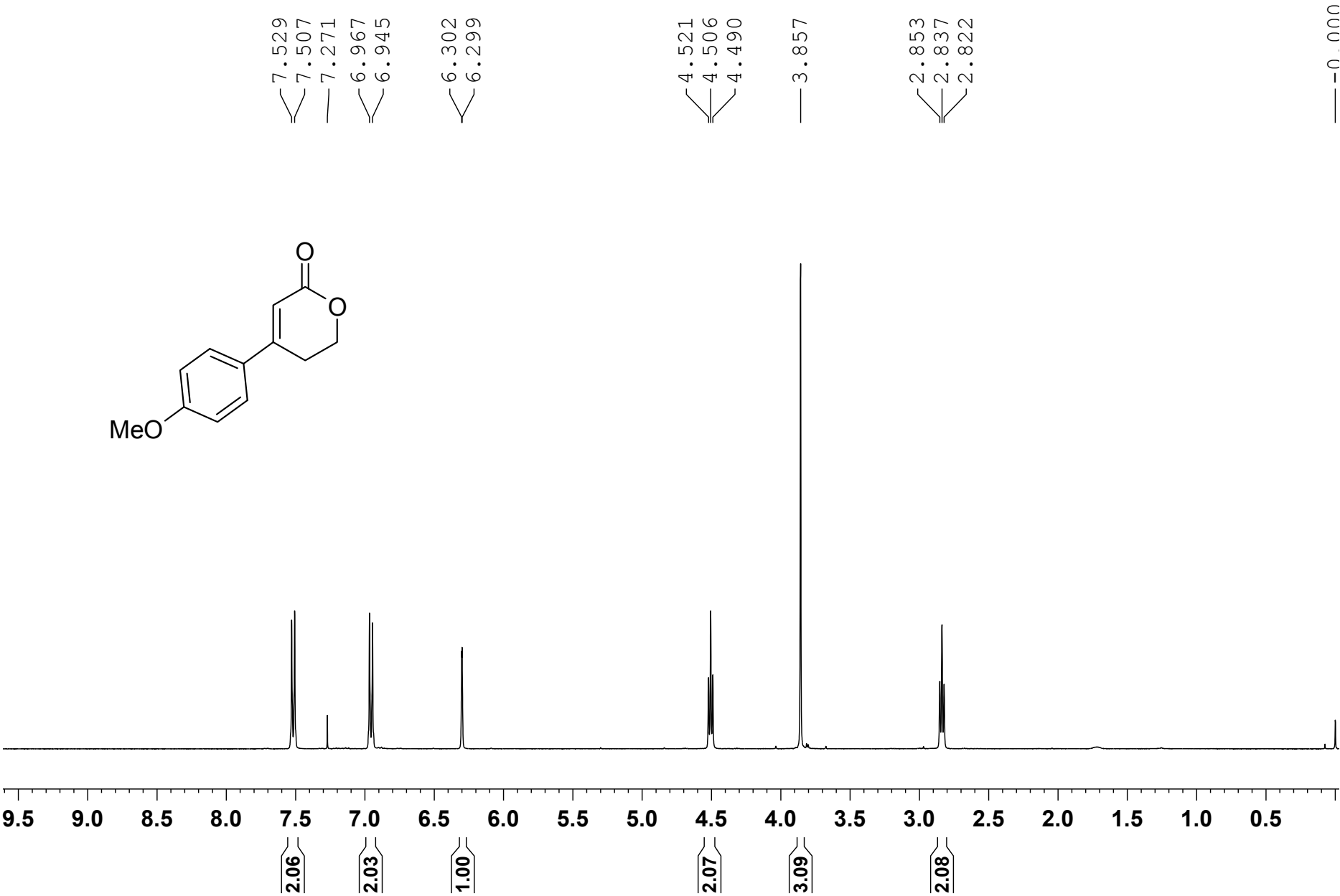
56-7 CDC13 1H NMR 2012-09-17 400 MHz BBF0 2



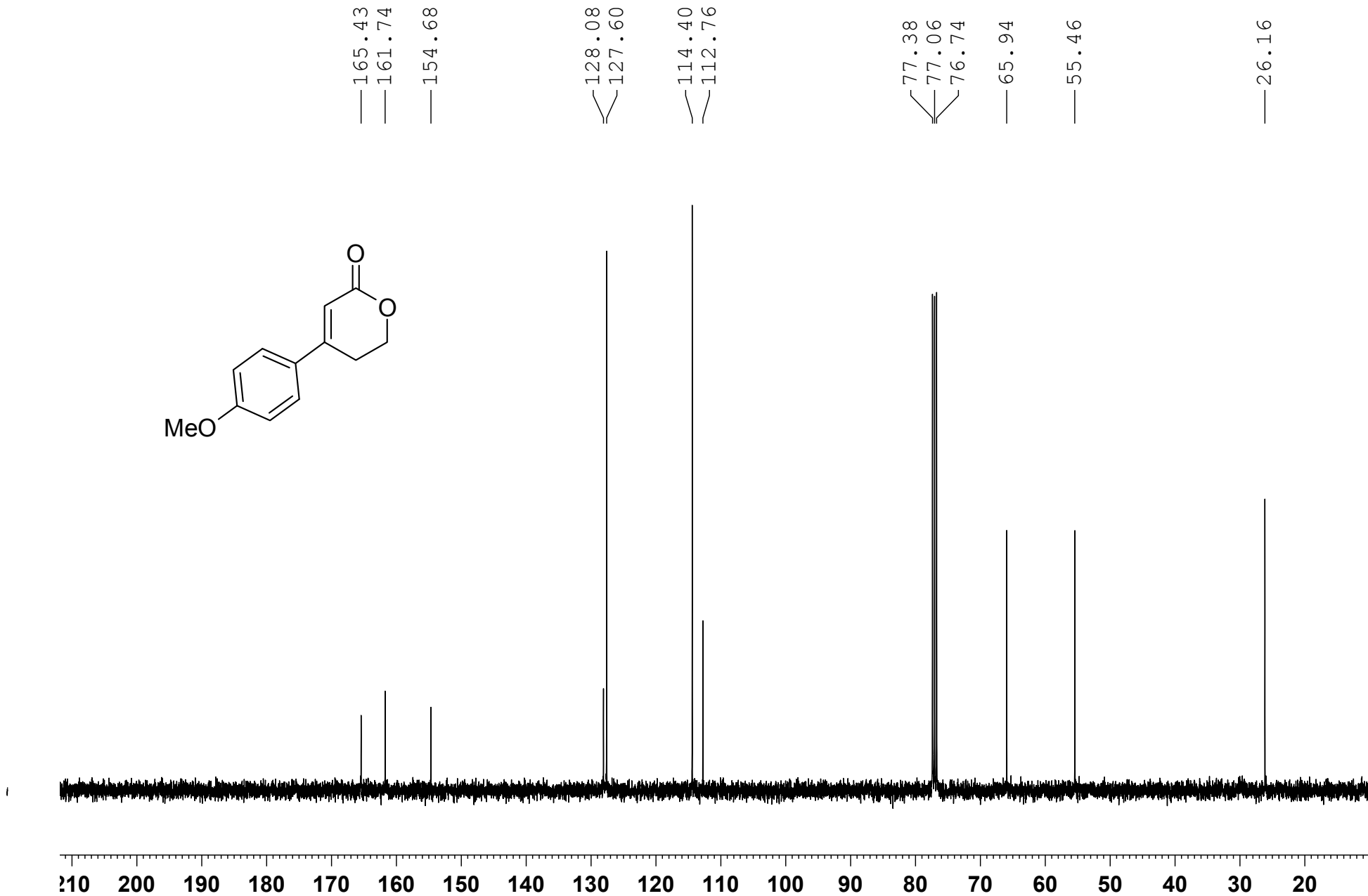
S-7 CDCl3 13C NMR 2012-09-17 400 MHz BBF0 2



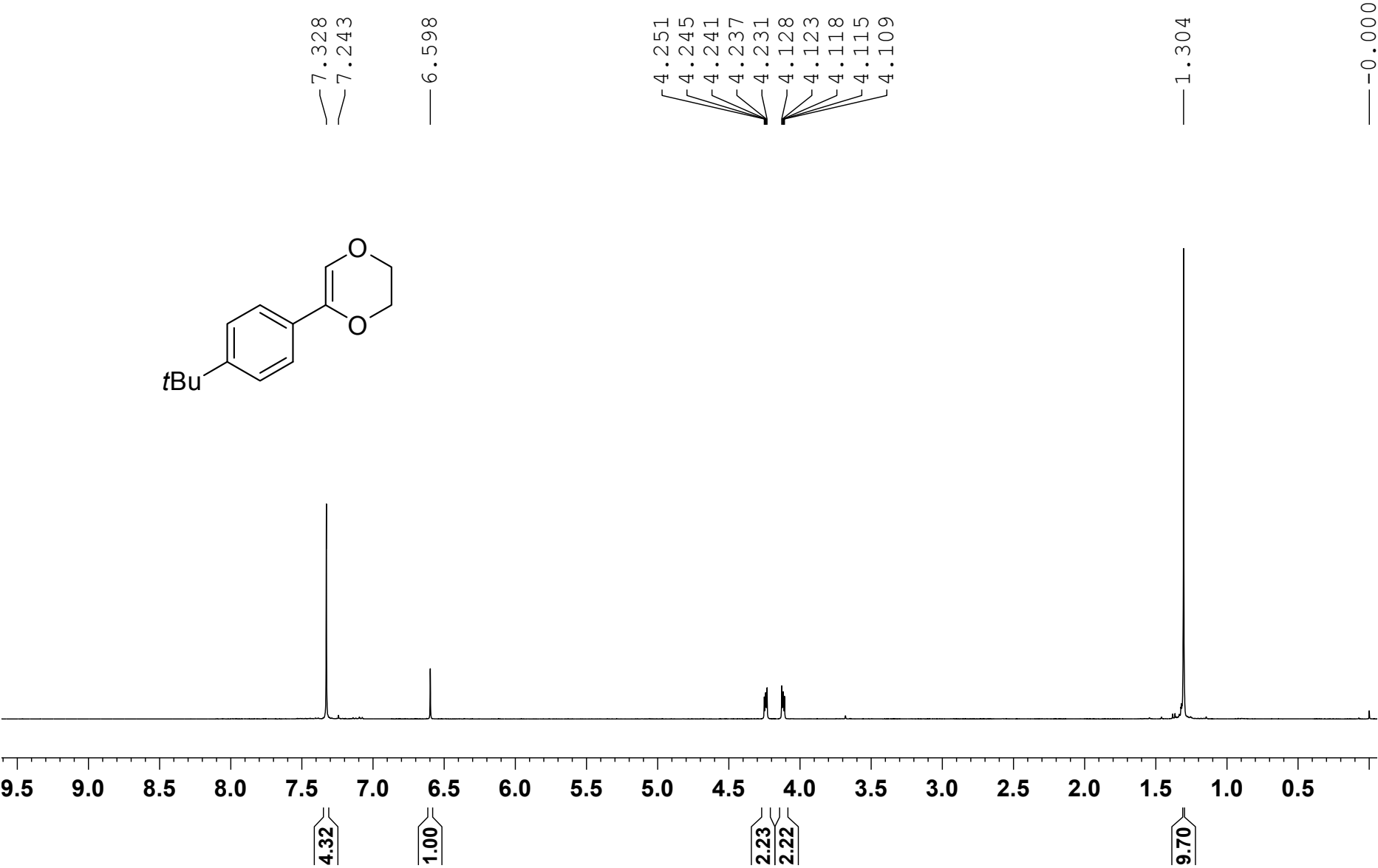
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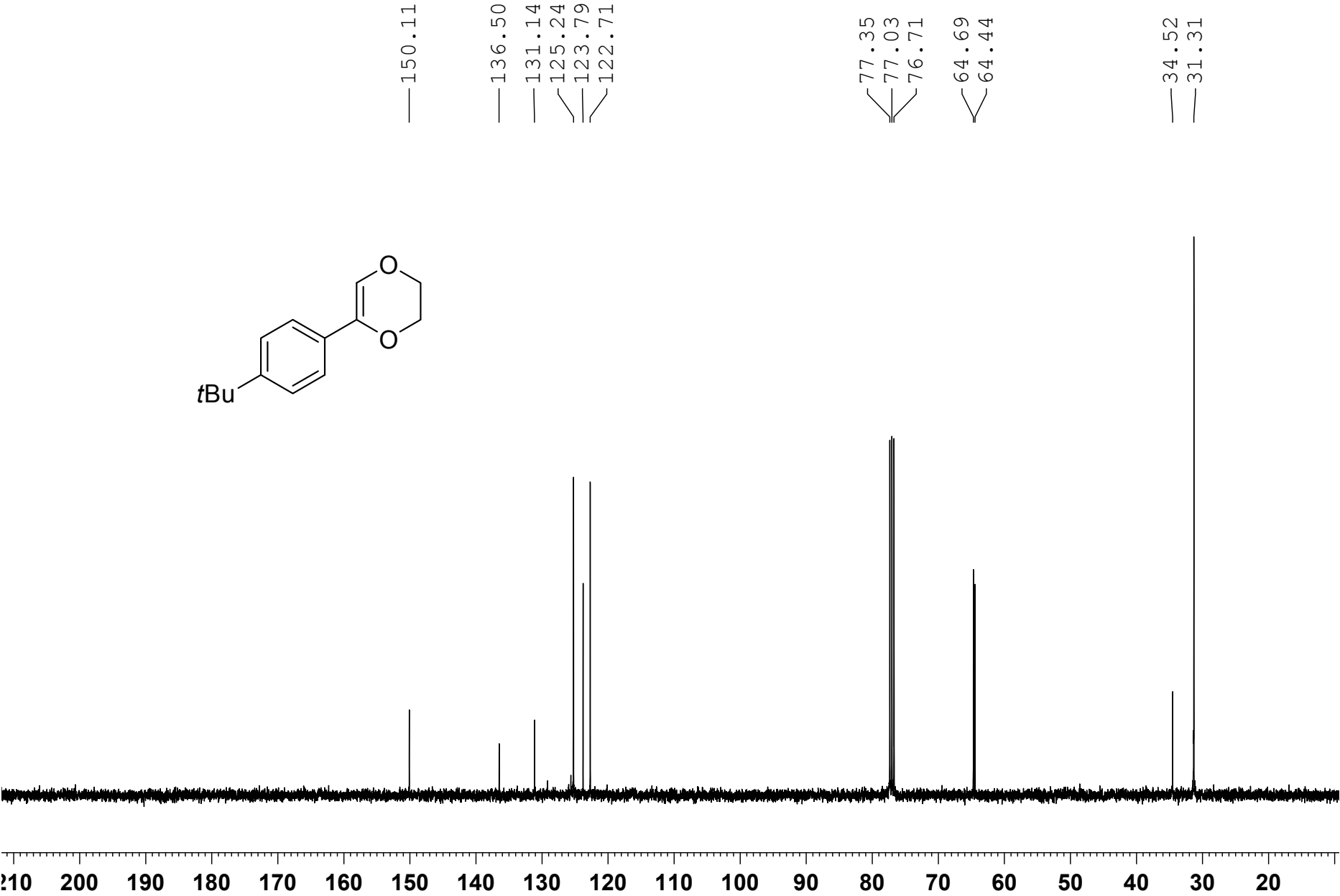
-6 BBFO1 13C NMR 2012-10-23



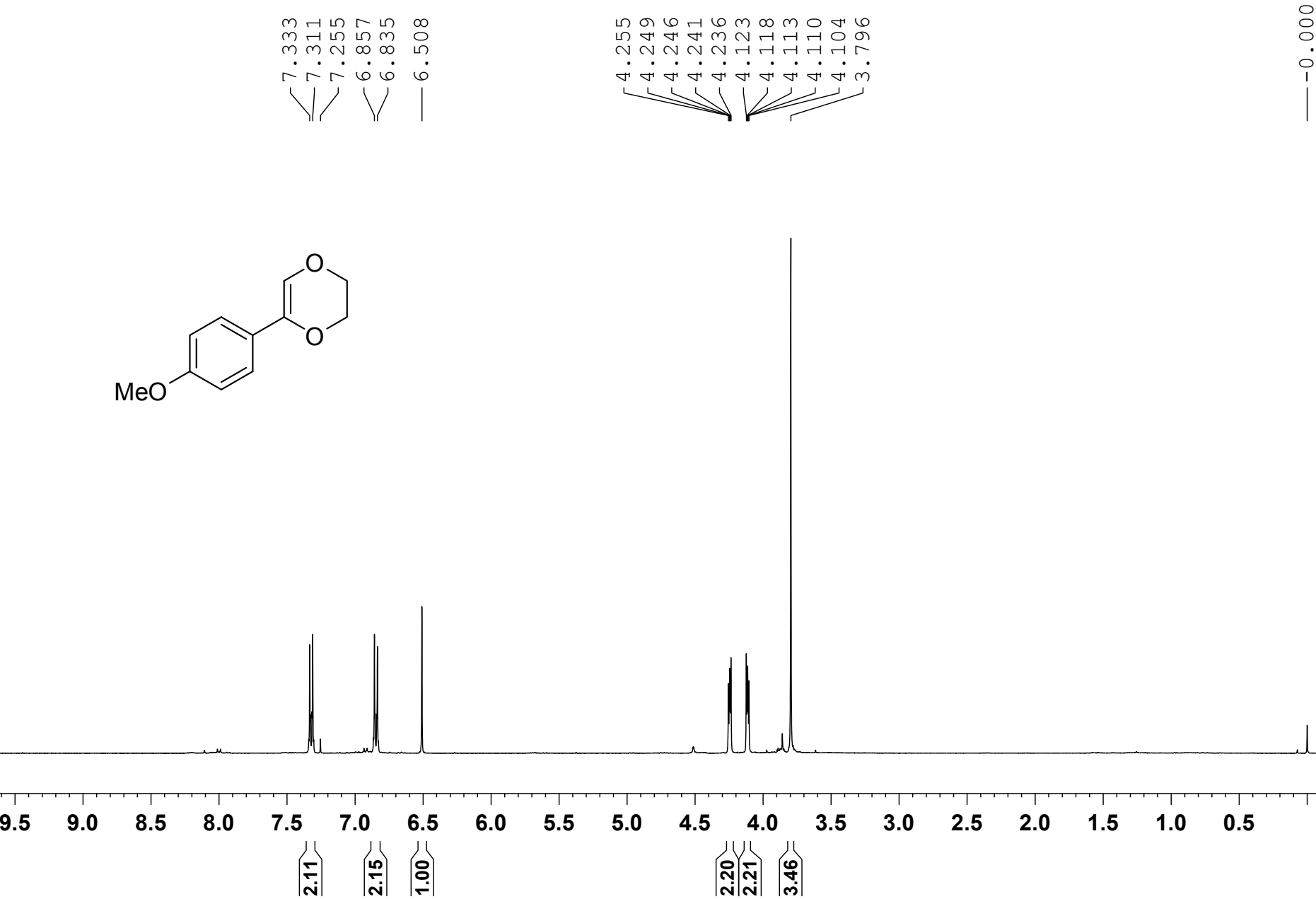
-3 1H NMR CDCl3  
2 2012-10-11



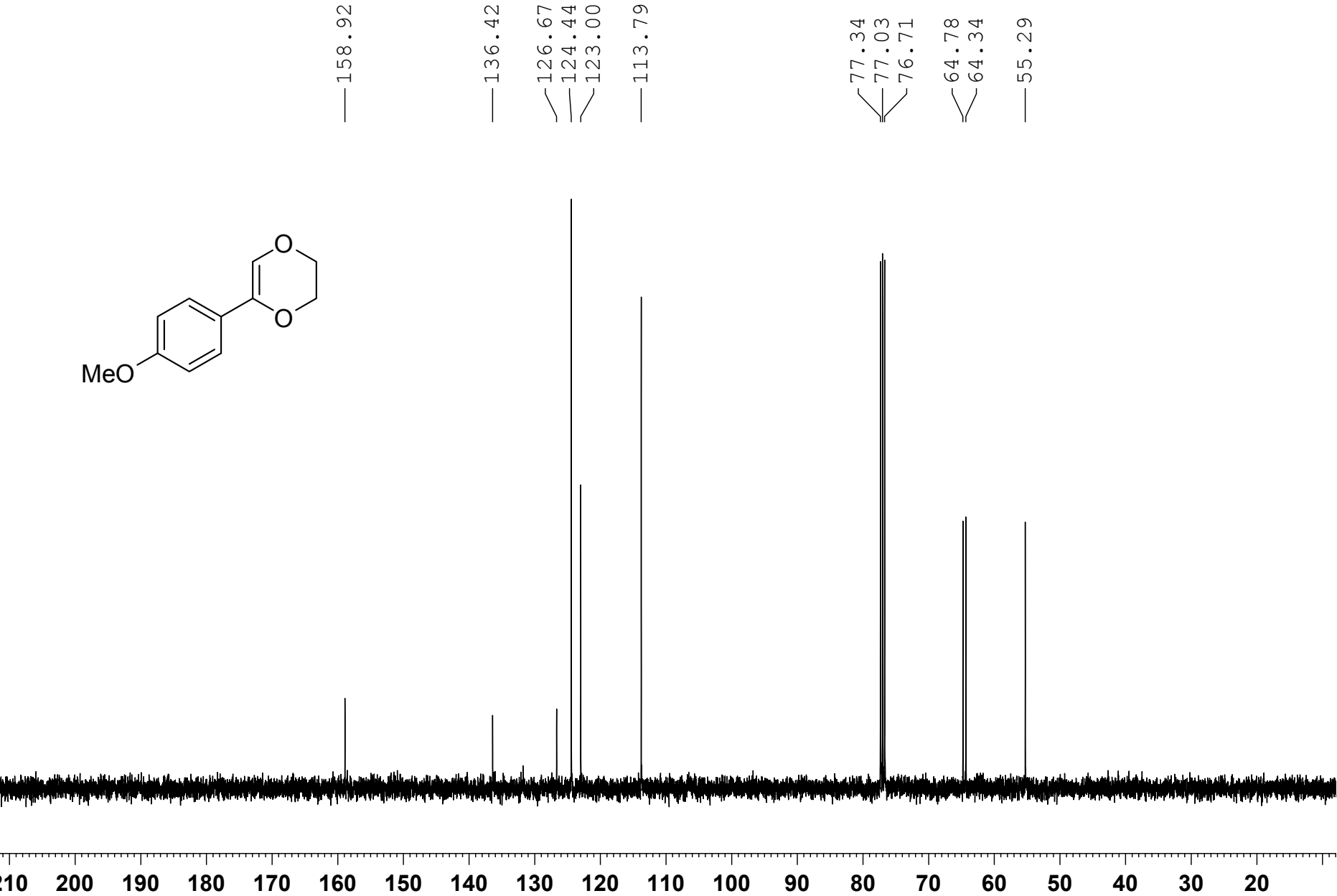
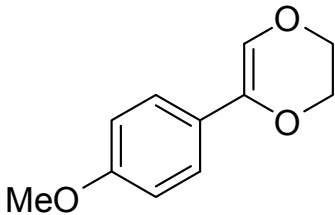
-3 13C NMR CDC13  
2 2012-10-11



-7 1H NMR 400 MHz BBFO2 CDC13 2012-11-01

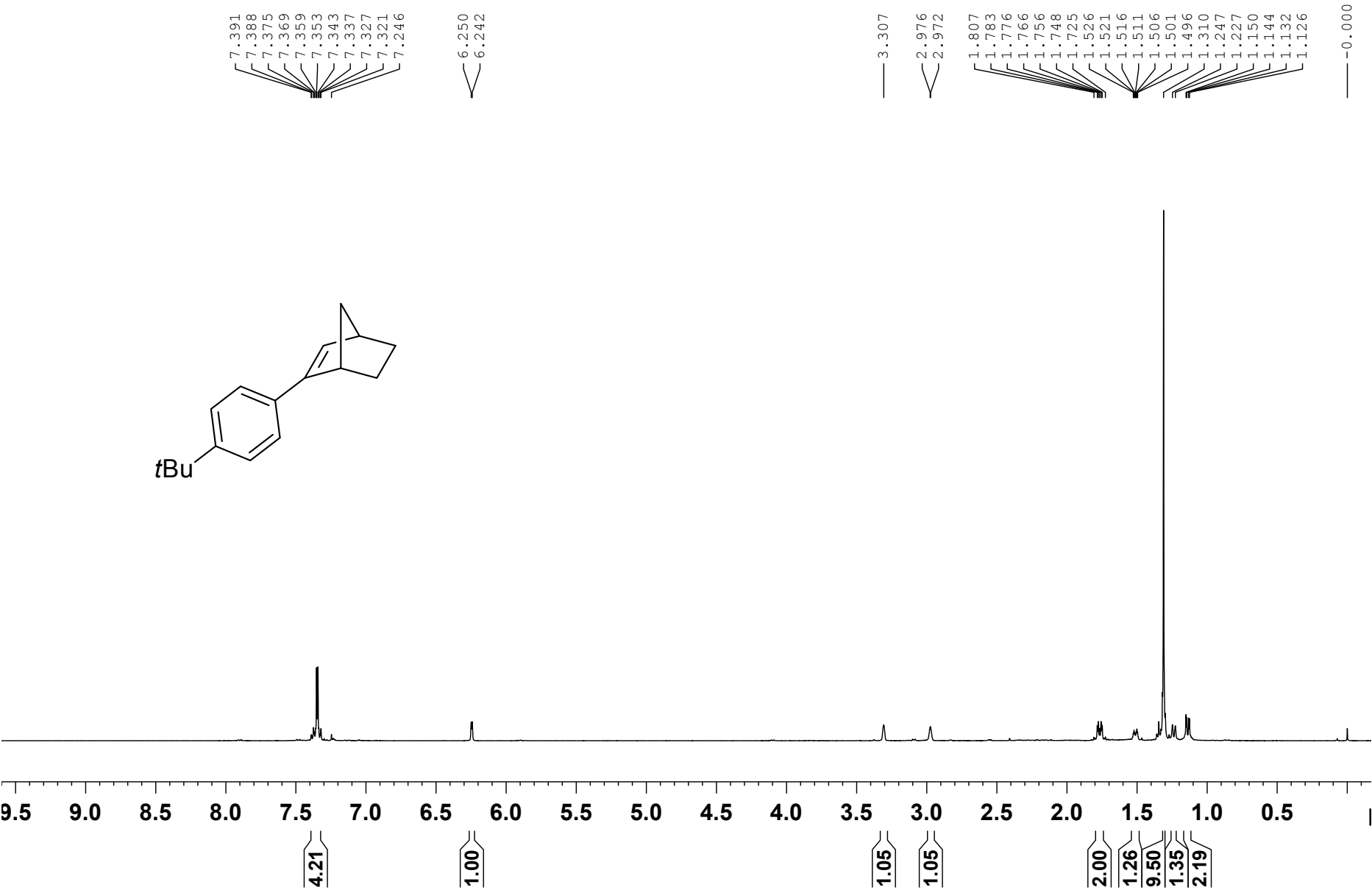


-7 13C NMR 400 MHz BBFO2 CDCl3 2012-11-01

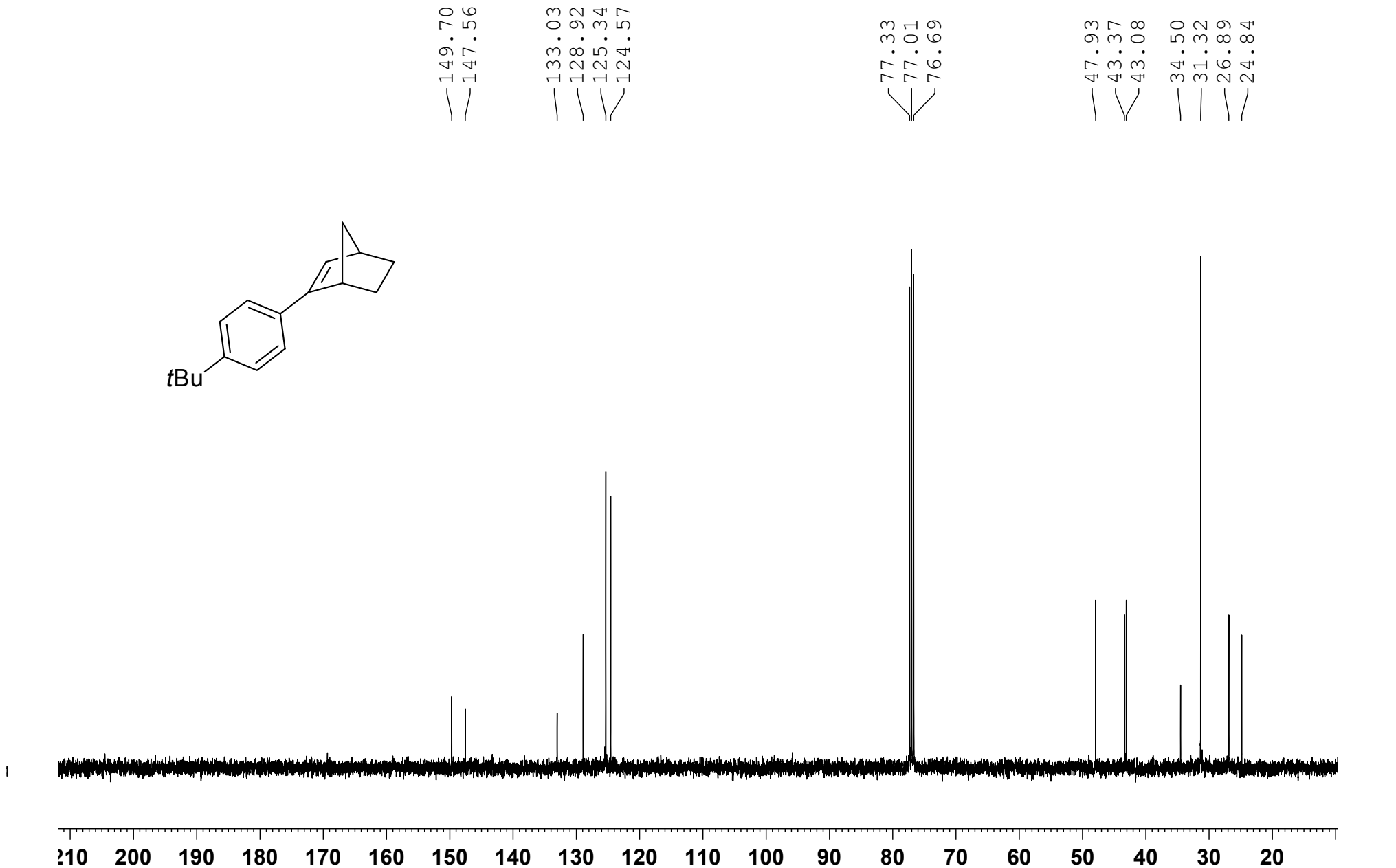




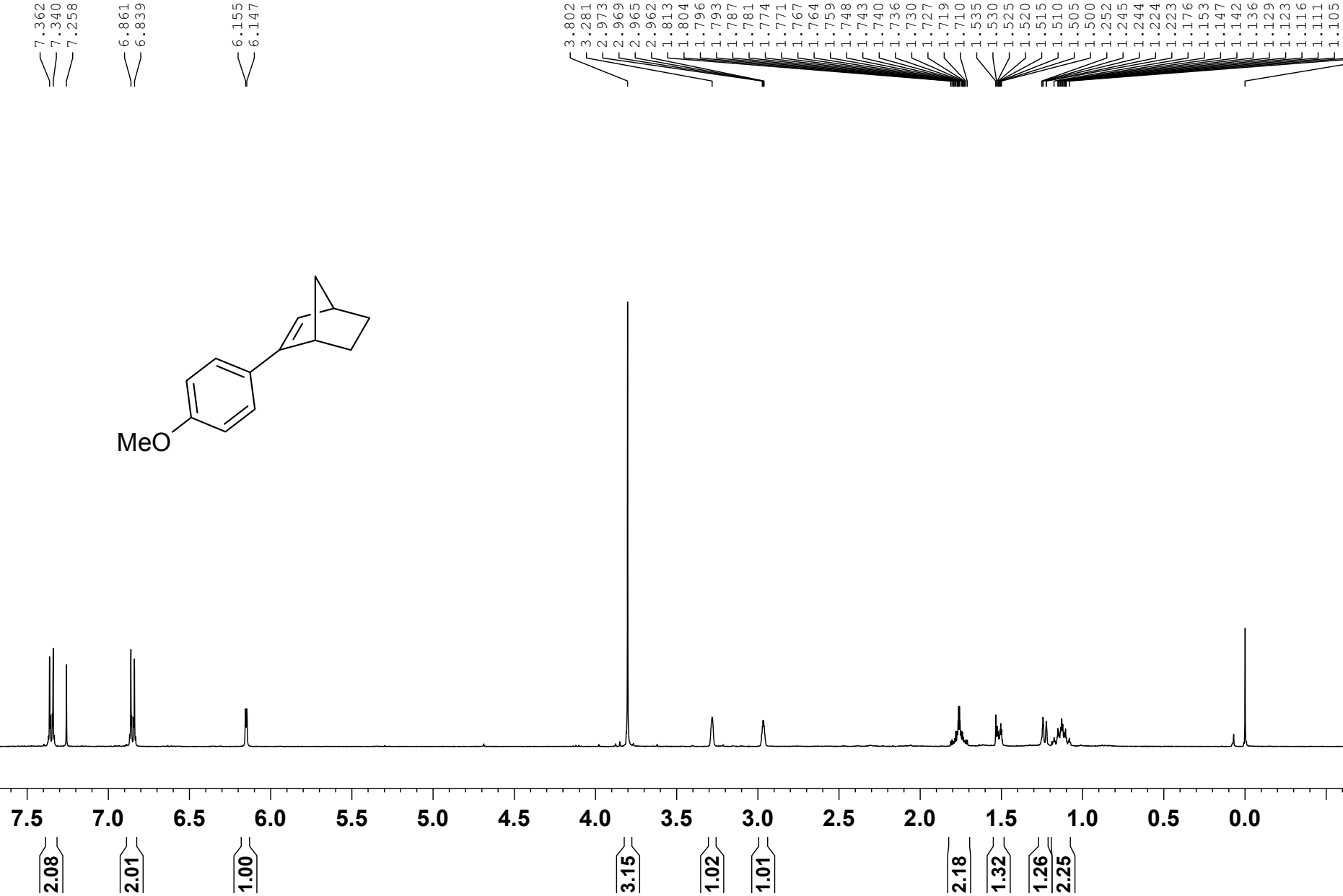
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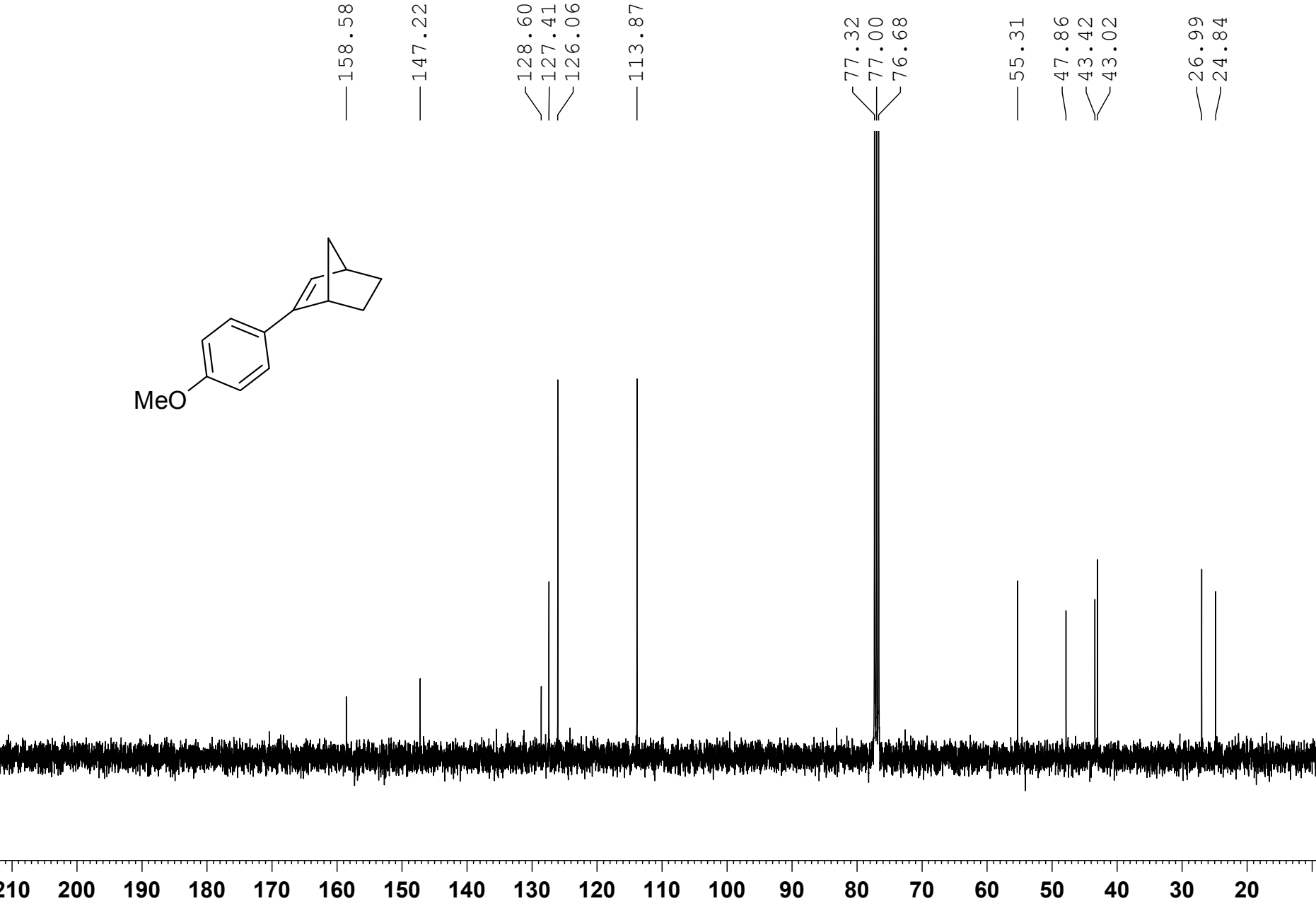
-1 <sup>13</sup>C NMR BBFO 1, 2012-12-30



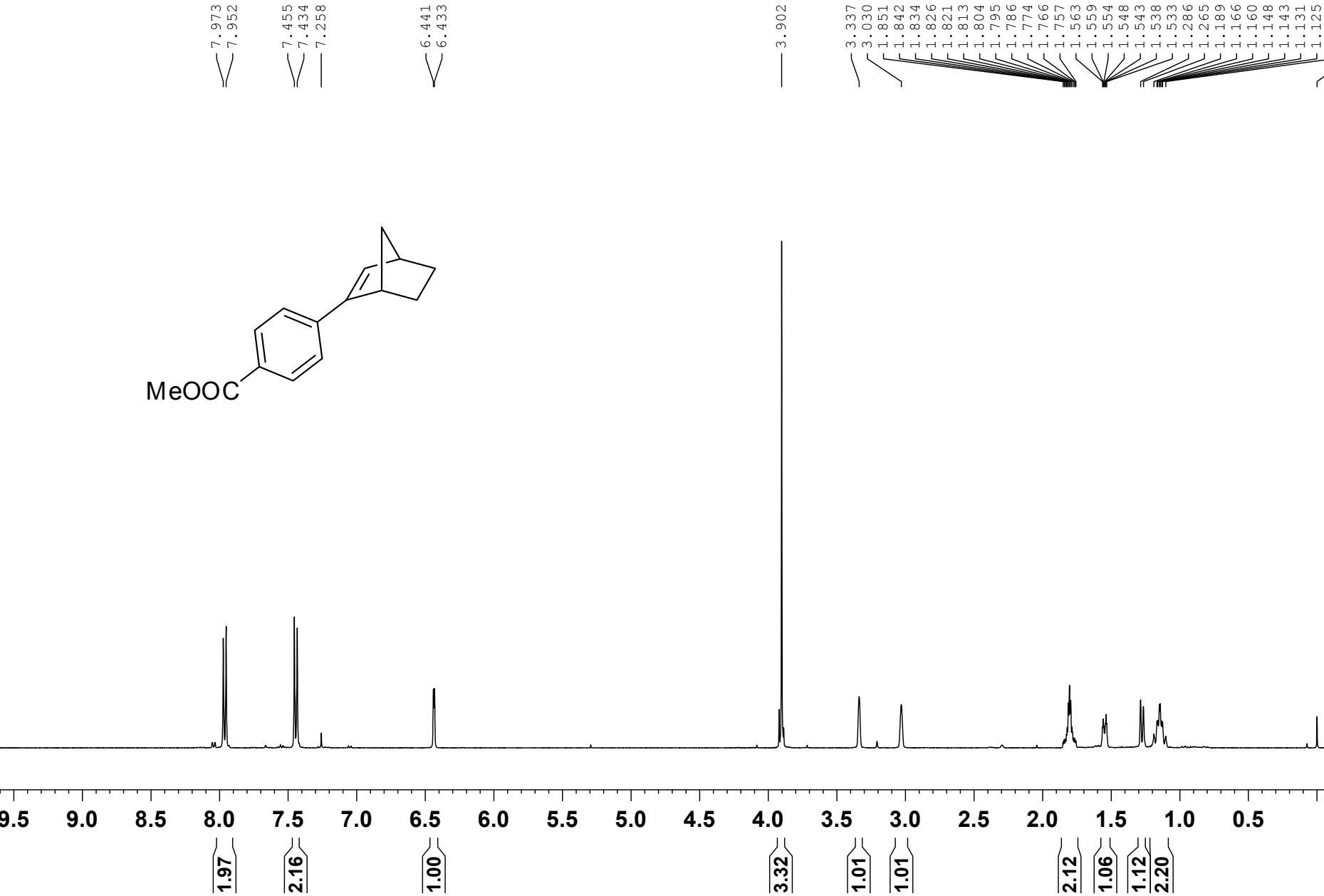
-2 1H NMR BBFO 1, 2012-12-30



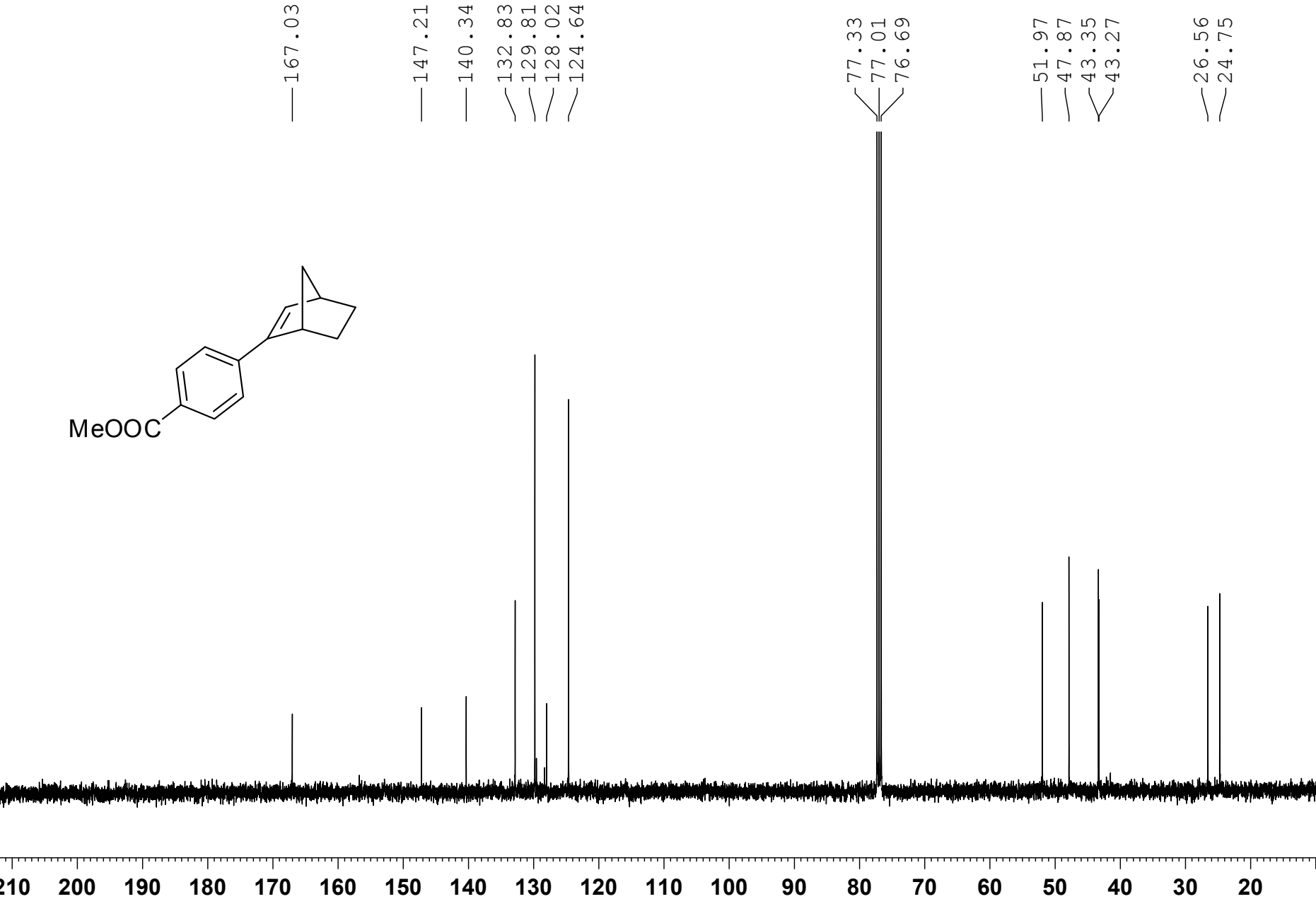
-2 <sup>13</sup>C NMR BBFO 1, 2012-12-30



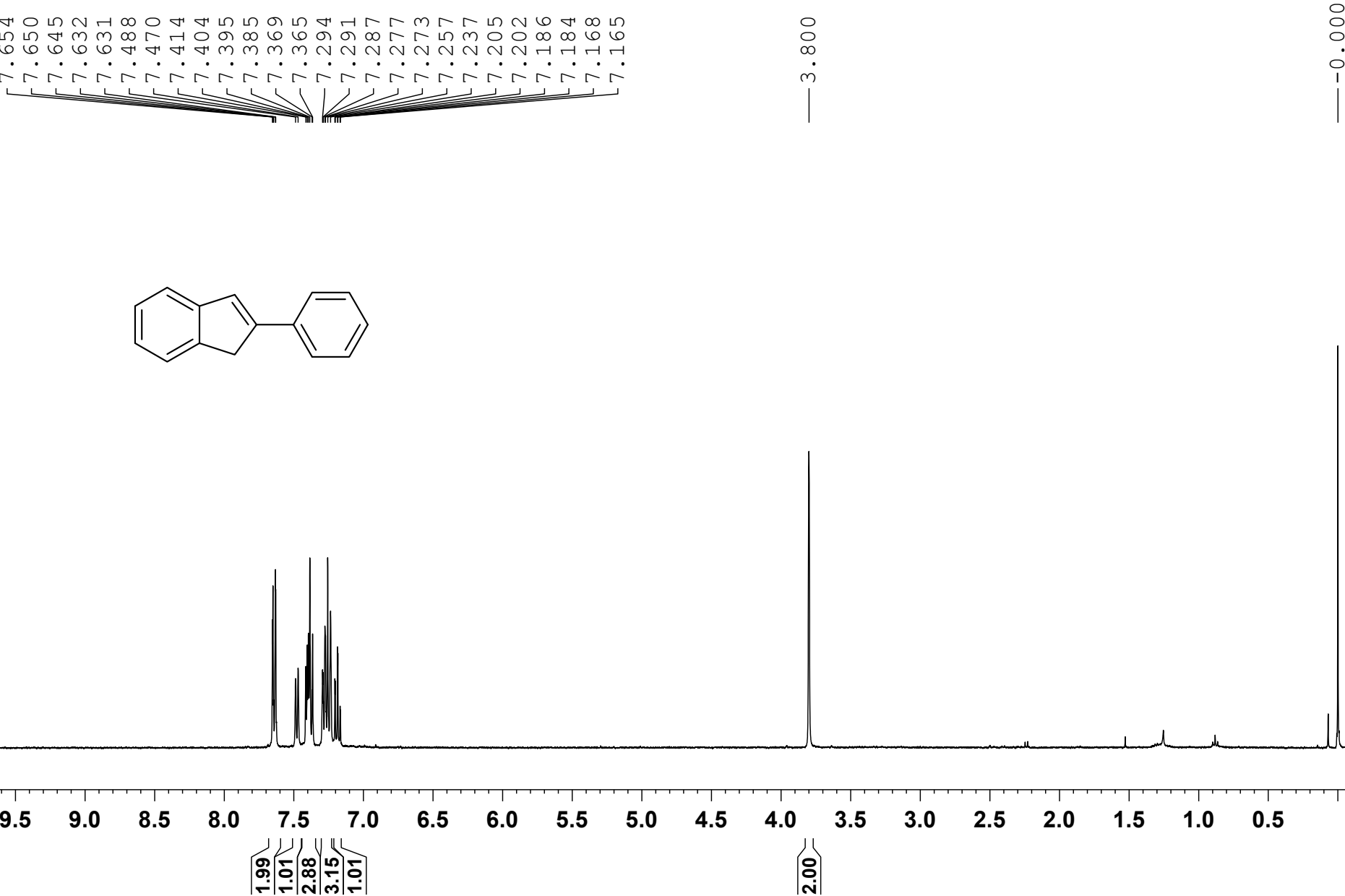
-8 1H NMR 2013-01-30



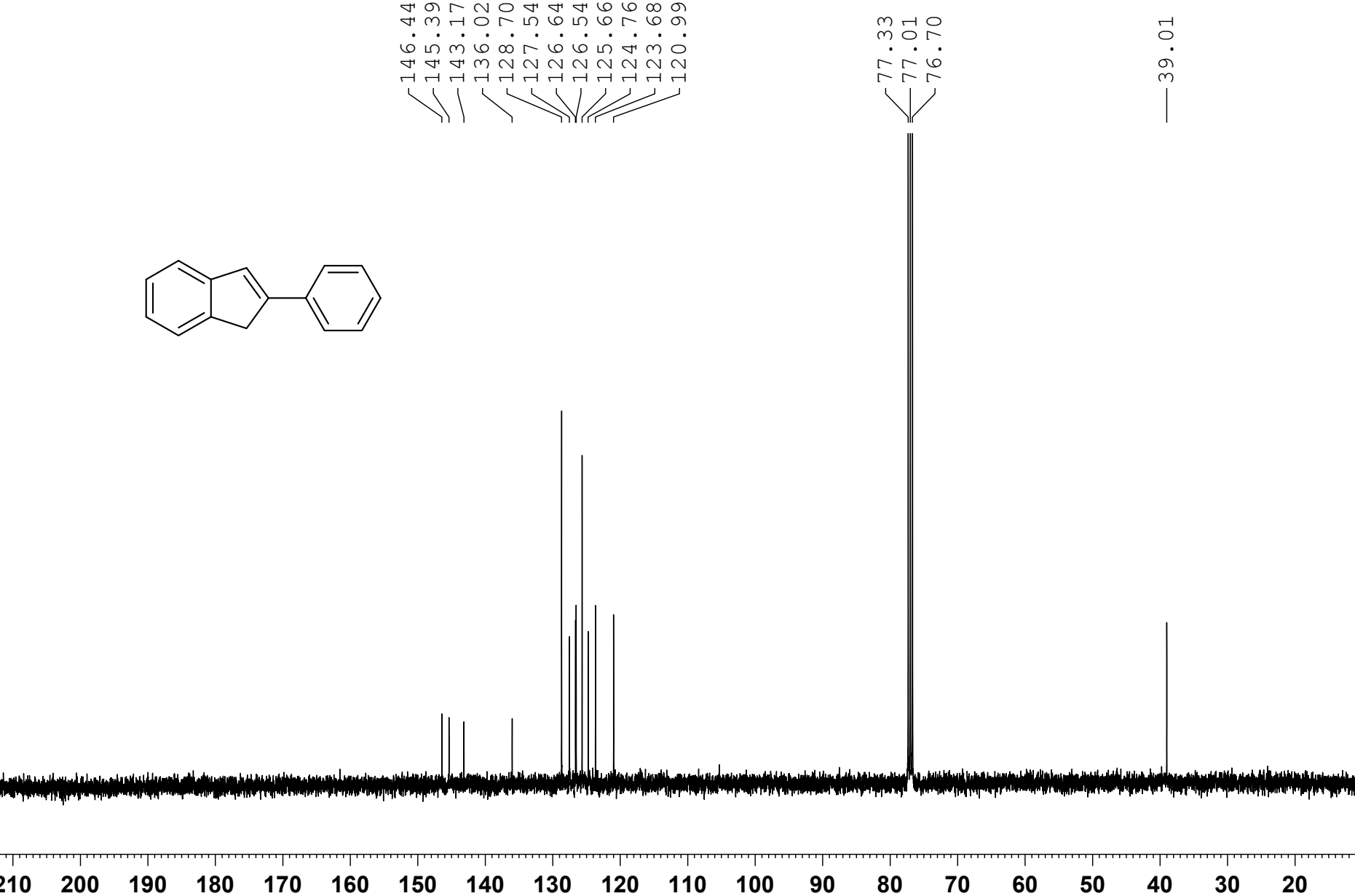
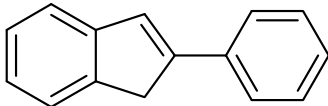
-8 13C NMR 2013-01-30



-1-1 1H NMR BBFO1 400MHz, CDC13, 2013-03-05

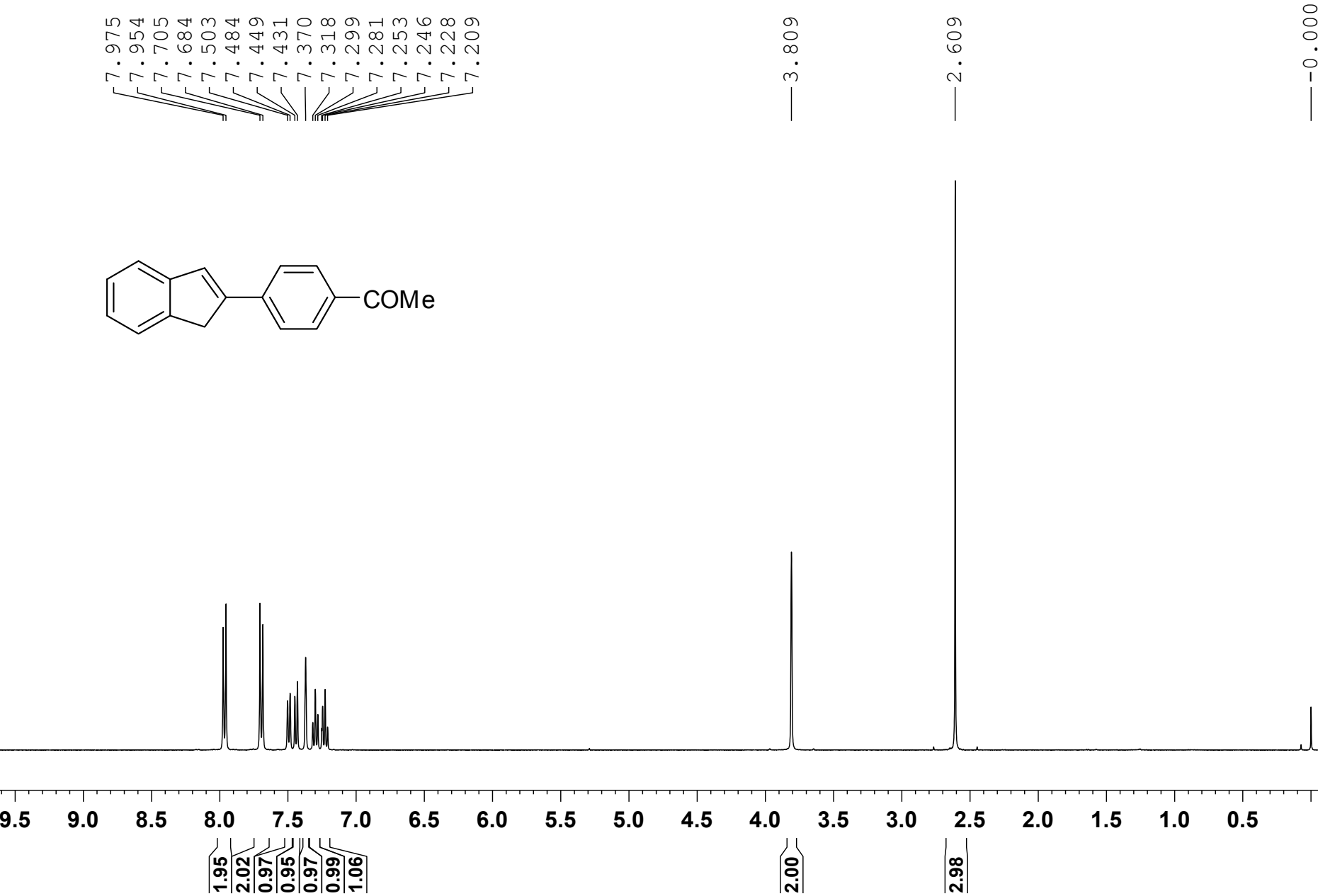


-113C NMR 2013-01-30

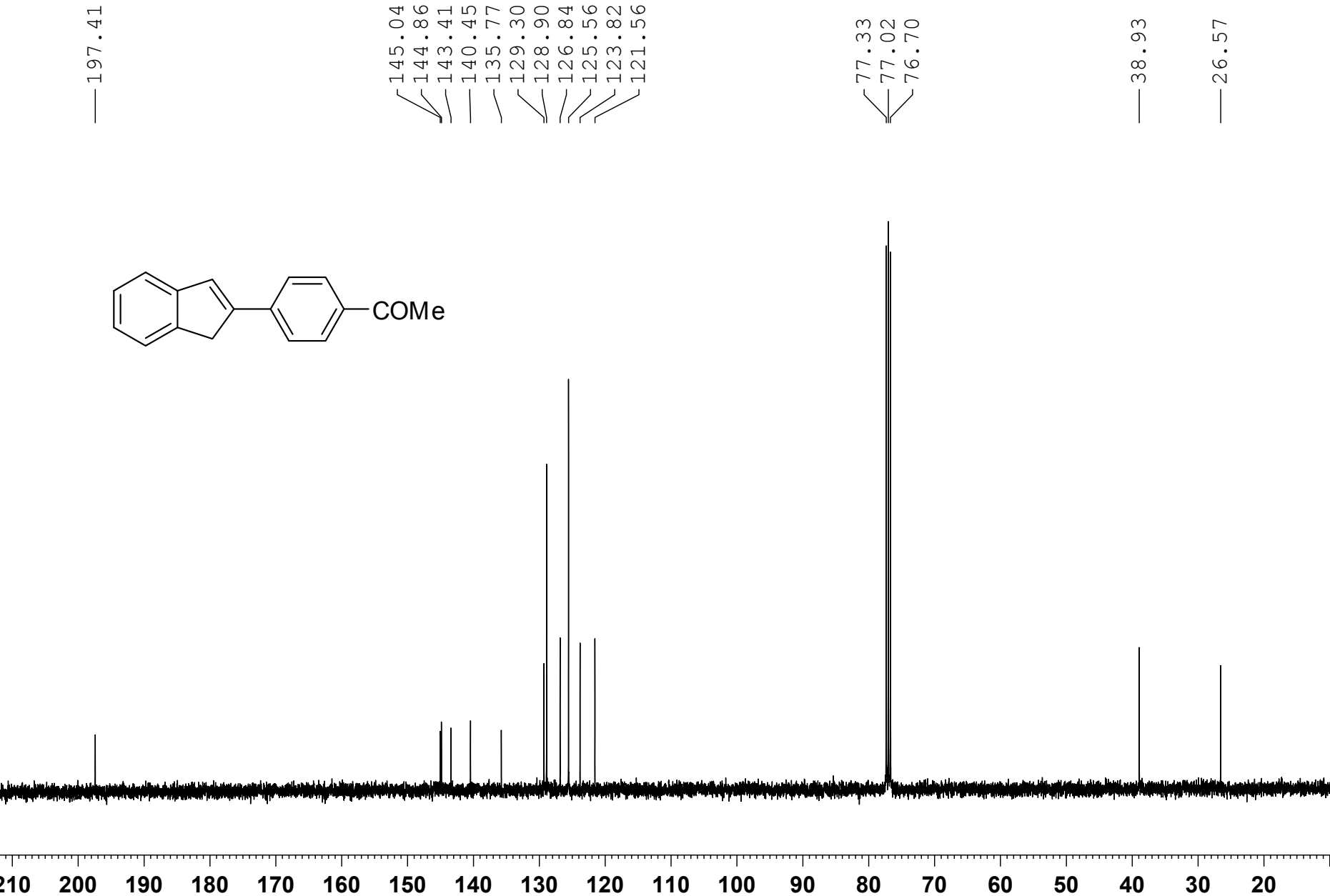




-21H NMR 2013-01-30 BBFO1



-2 13C NMR 2013-01-30 BBFO1



-2 4-OMe-Ph-Indene 1H NMR BBFO1 400MHz, CDCl3, 2013-03-05

