

Supplementary materials

Synthesis of tricyclic oxazine and thiazine-fused derivatives of **1,4-naphthoquinone** based on ethanolamine and cysteamine. Primary evaluation of cytotoxic, antimicrobial and neuroprotective activity

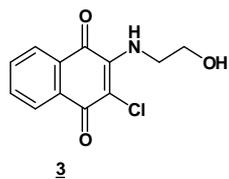
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Fax: (423) 231 4050. E-mail: alixar2006@yandex.ru*

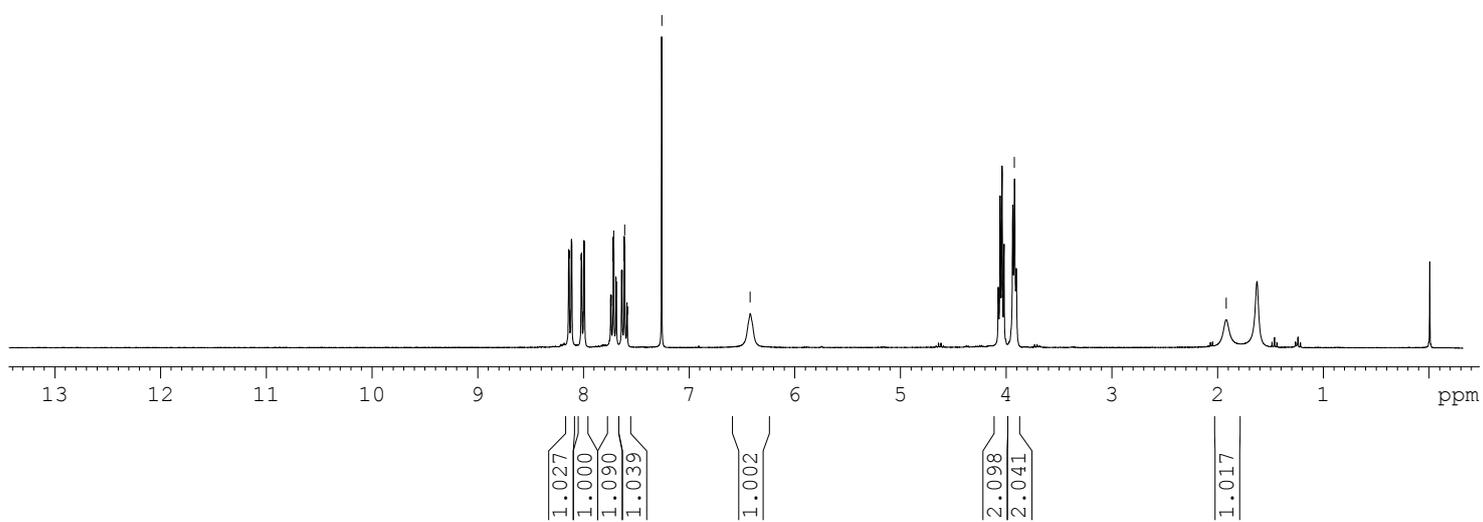
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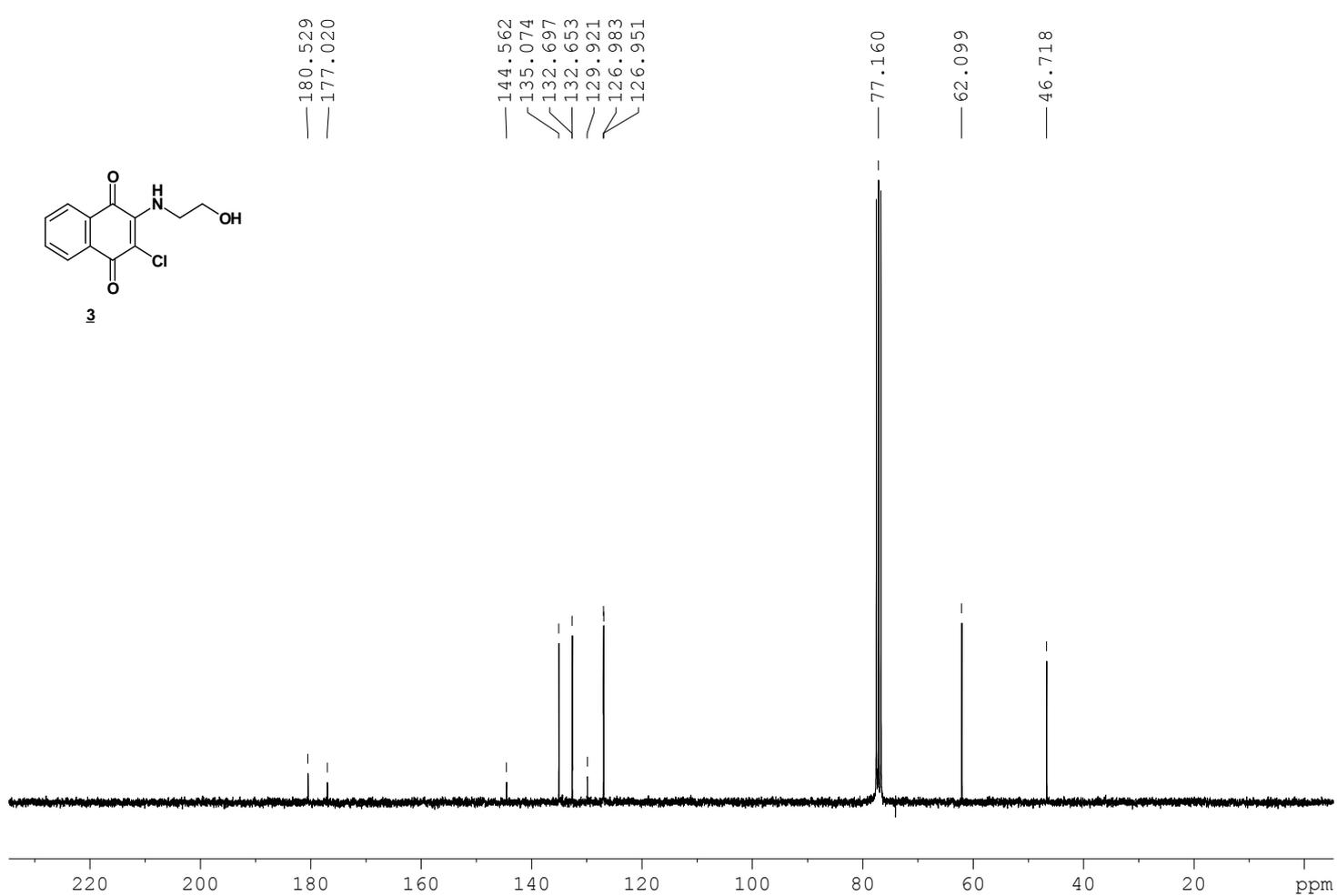
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^1H and ^{13}C NMR spectra of compound **3** (CDCl_3)

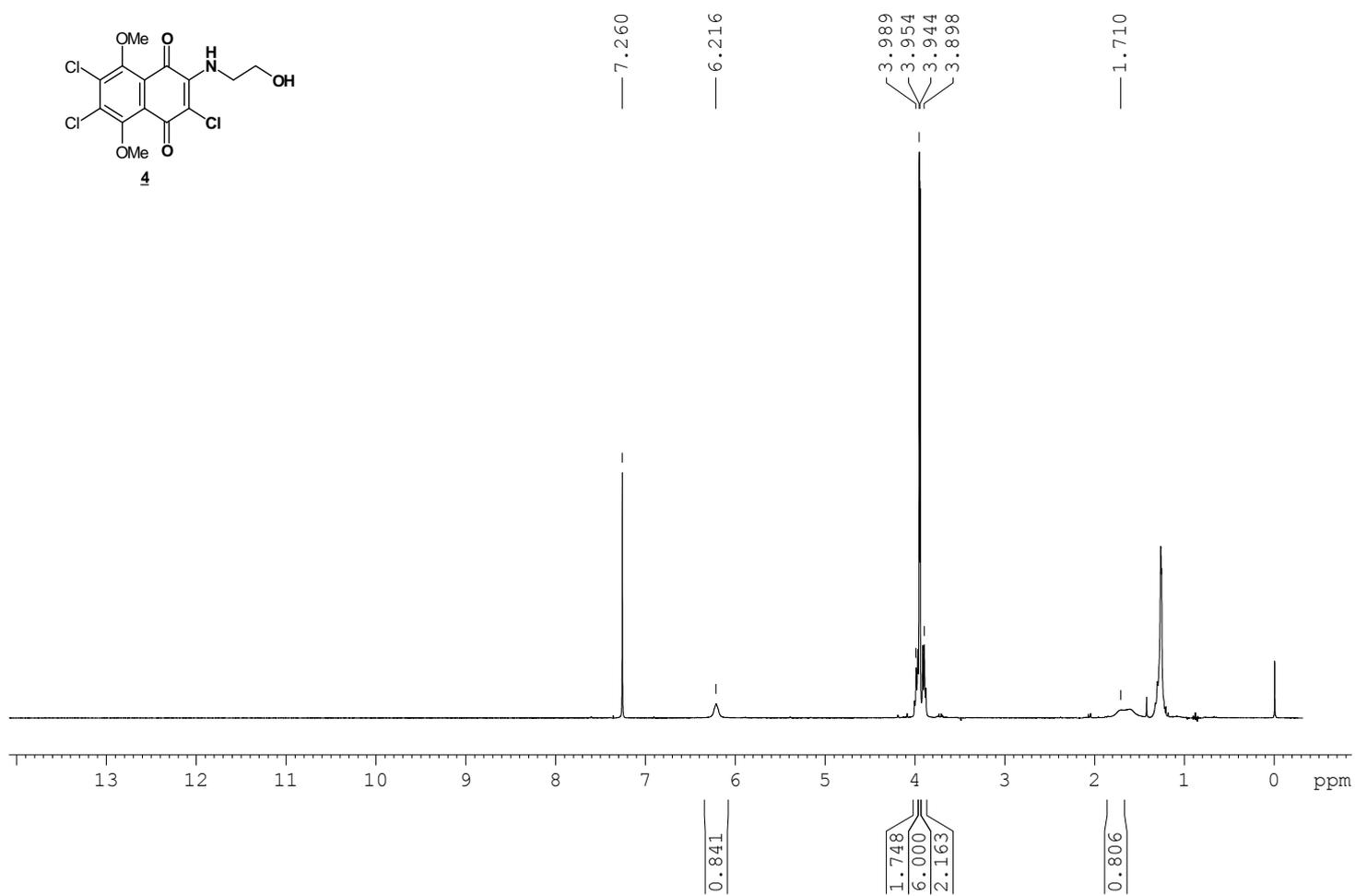


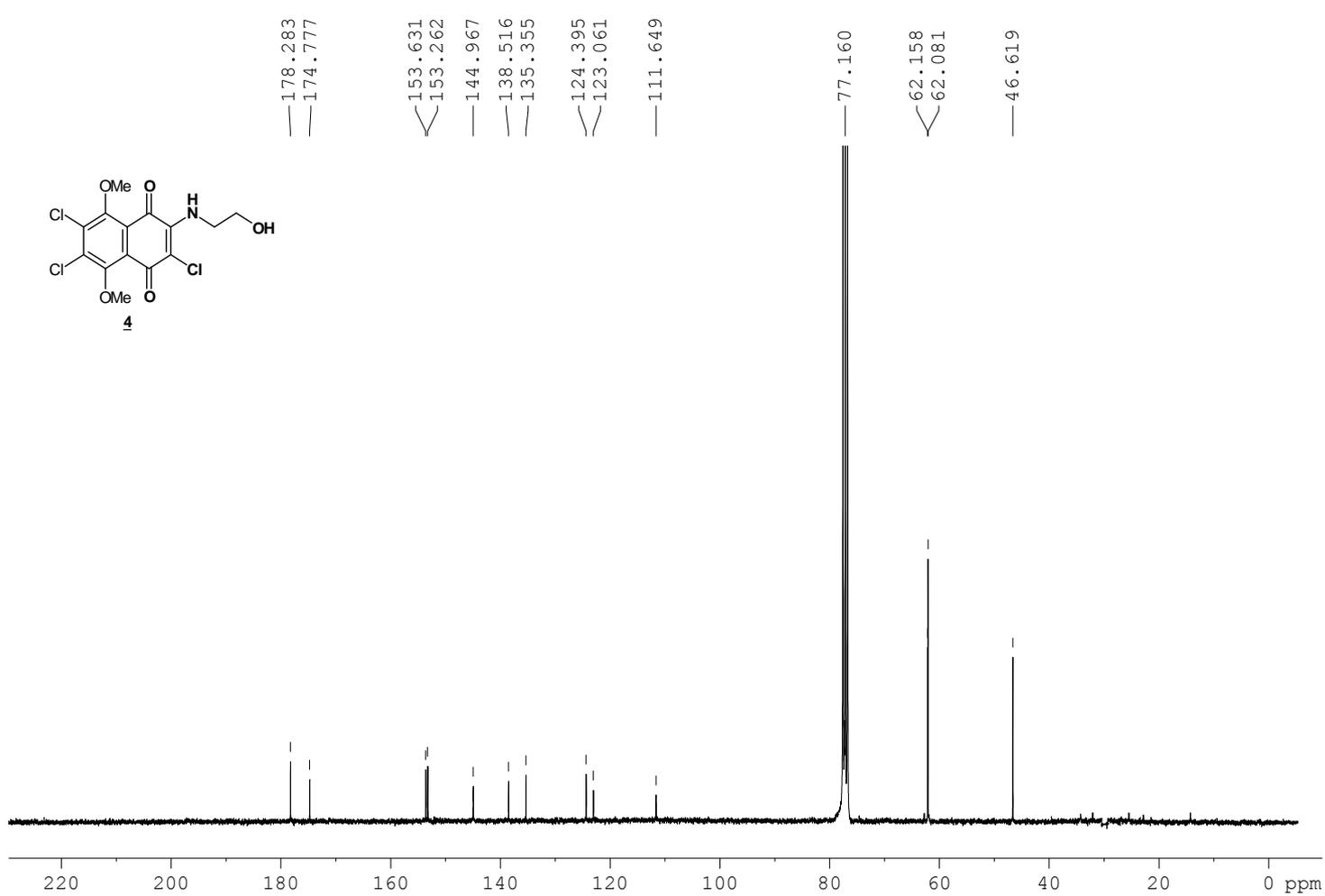
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7.715
7.611
7.260
6.424
4.050
3.924
1.920



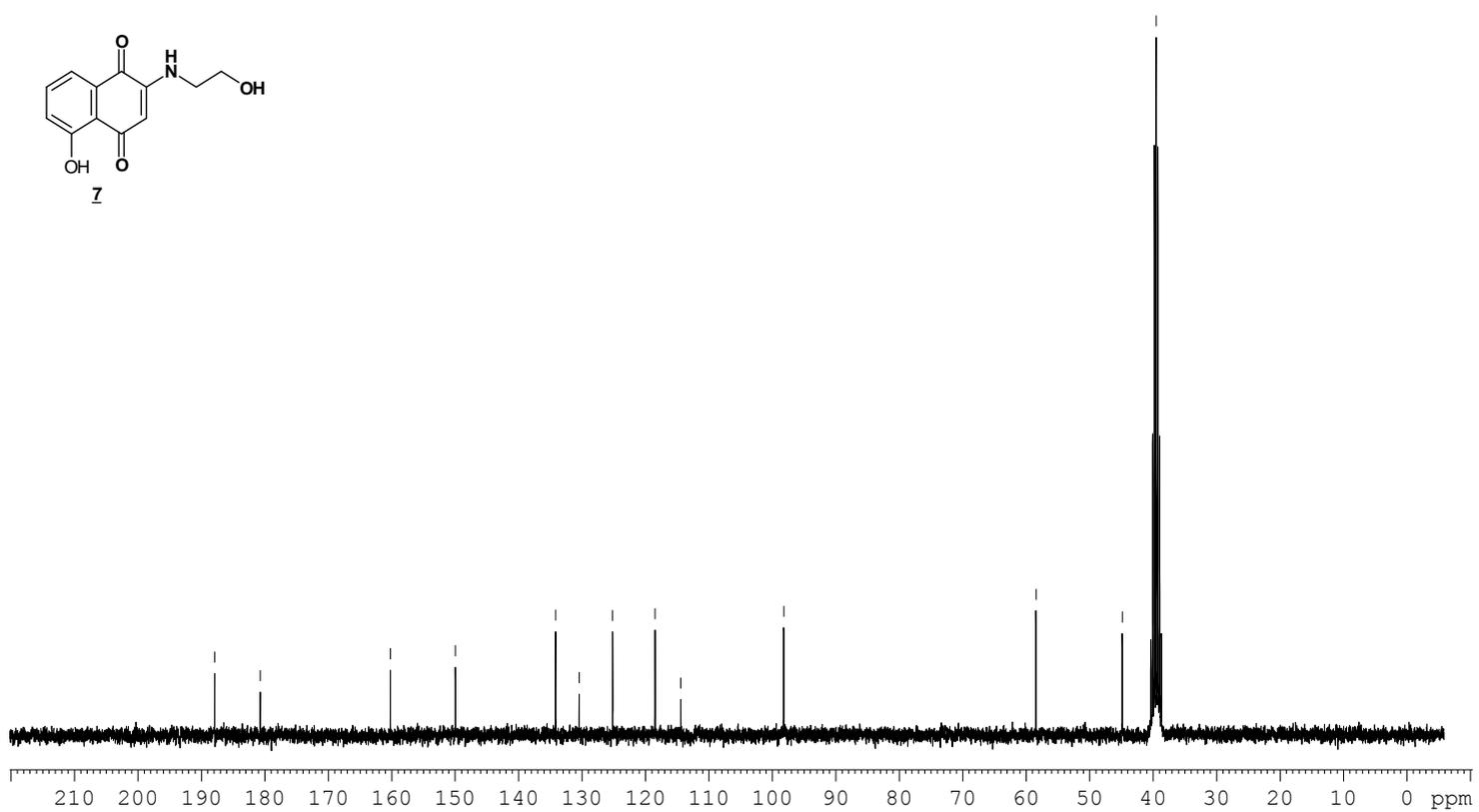
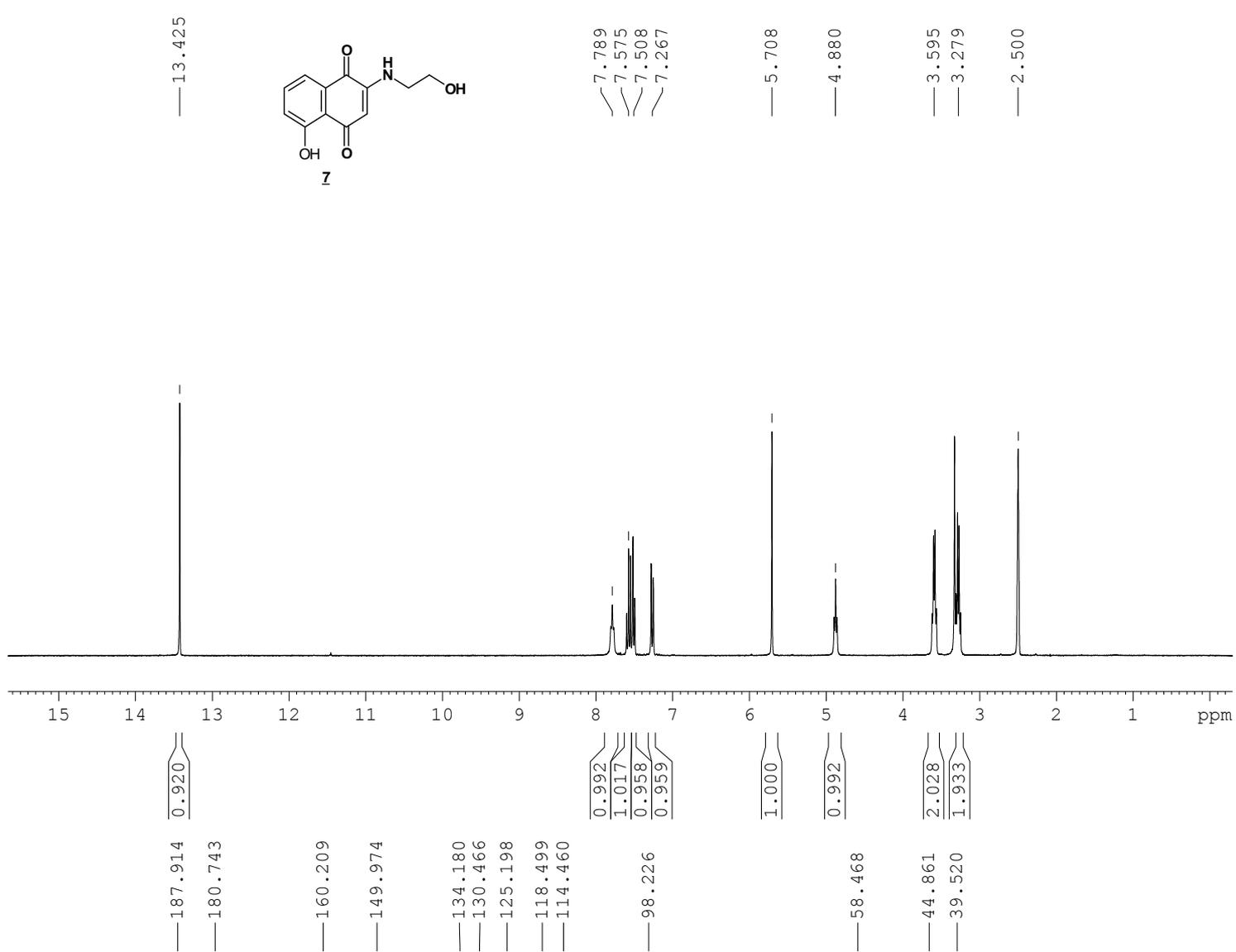


¹H and ¹³C NMR spectra of compound **4** (CDCl₃)

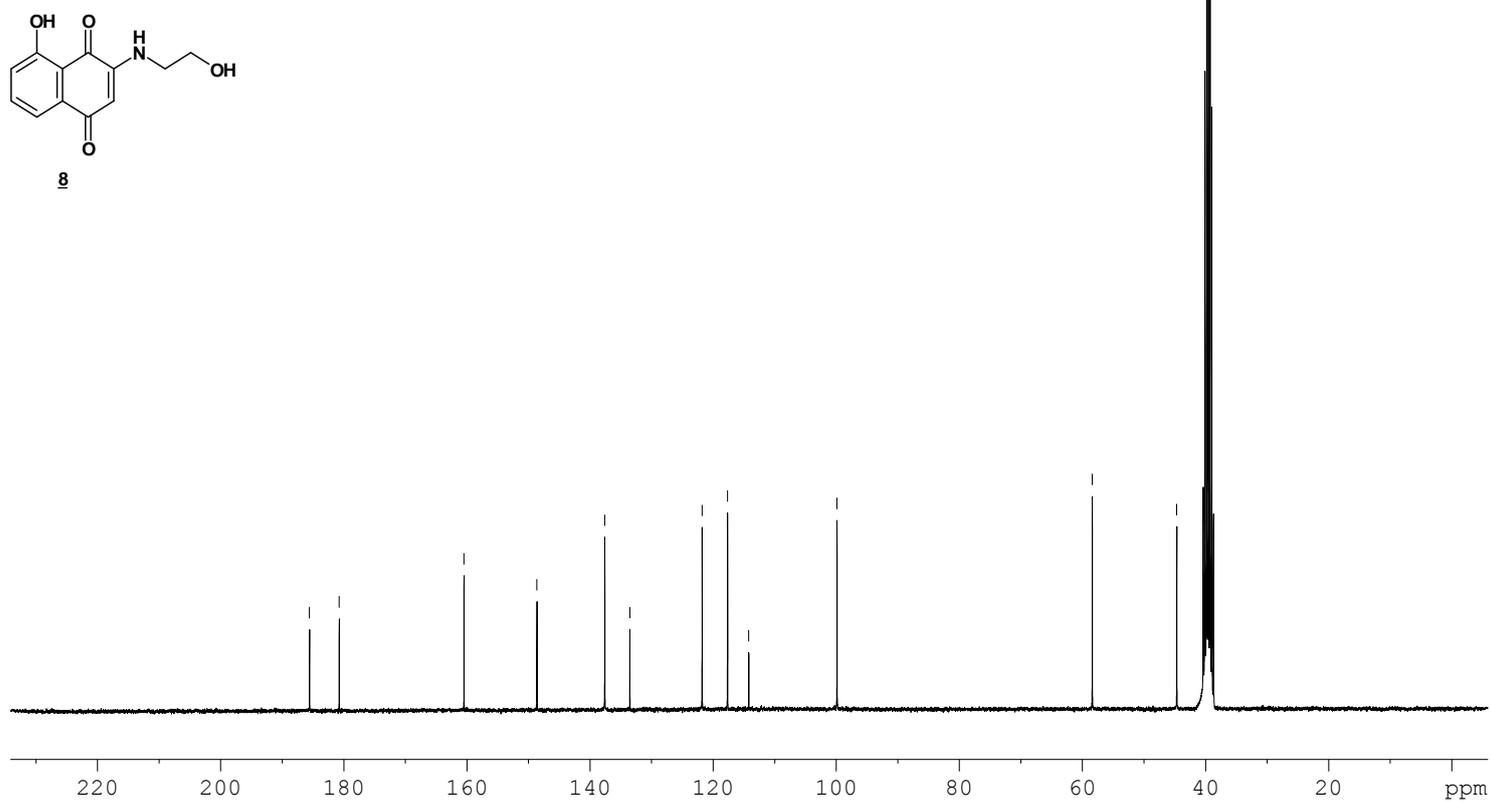
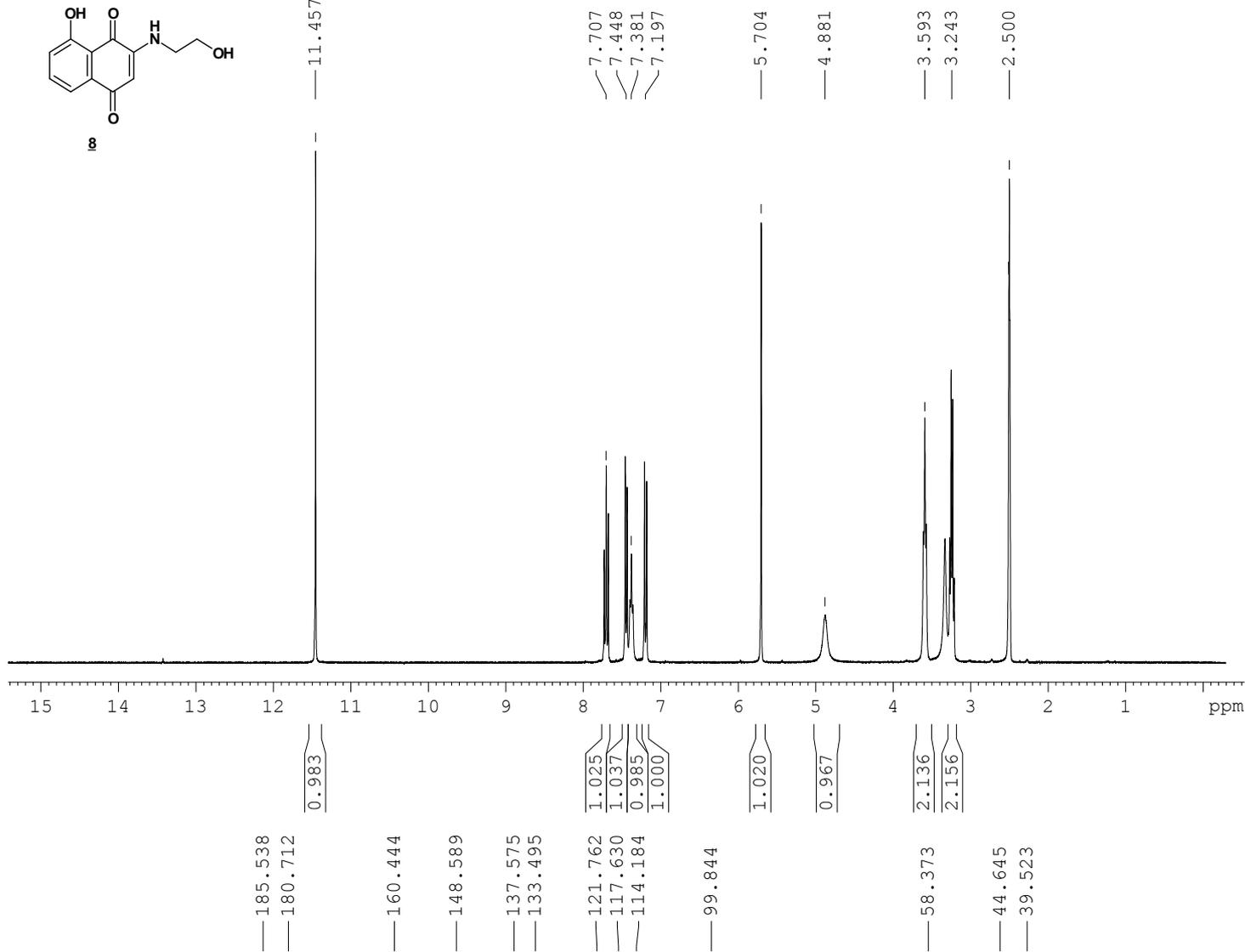




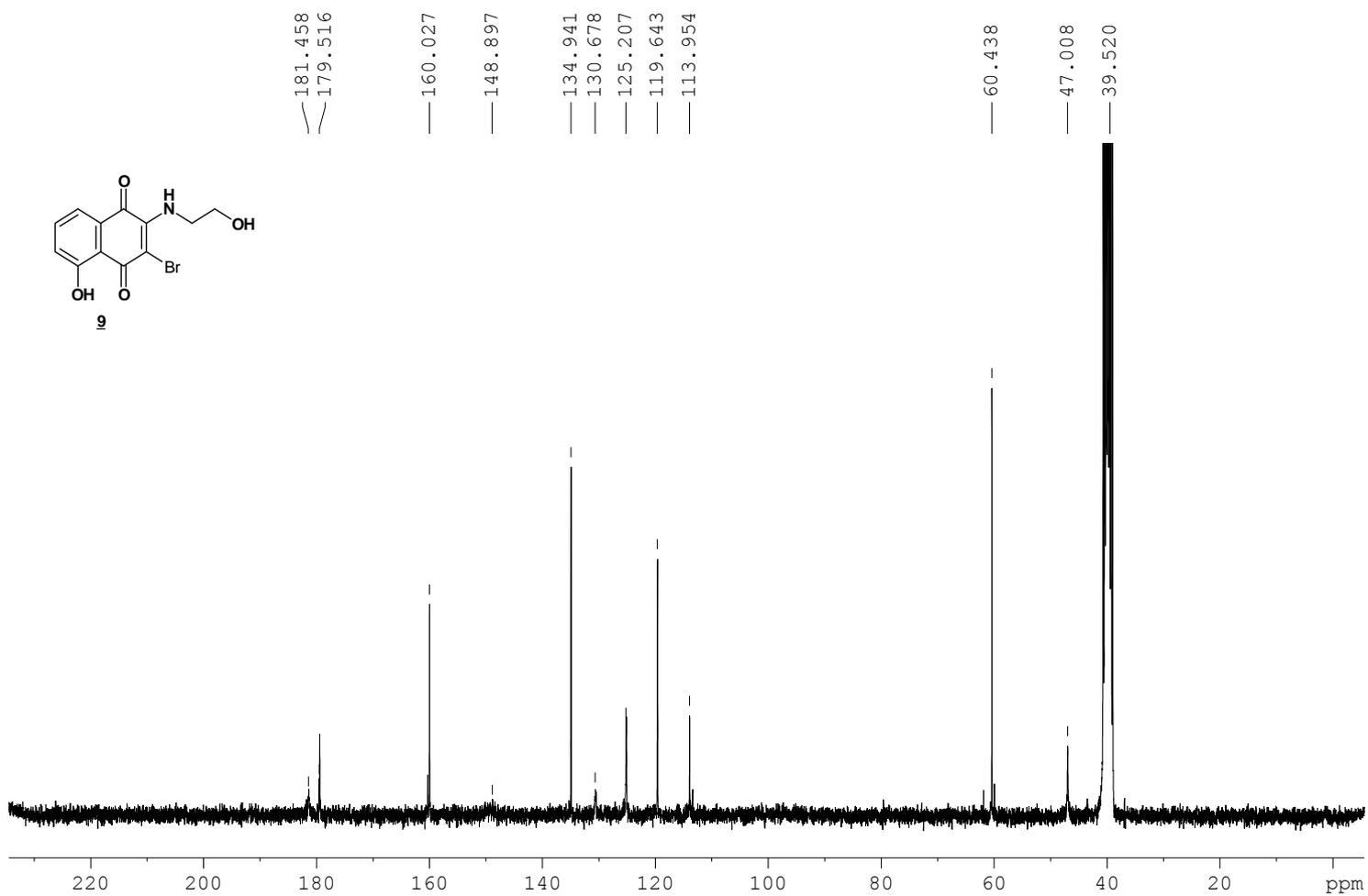
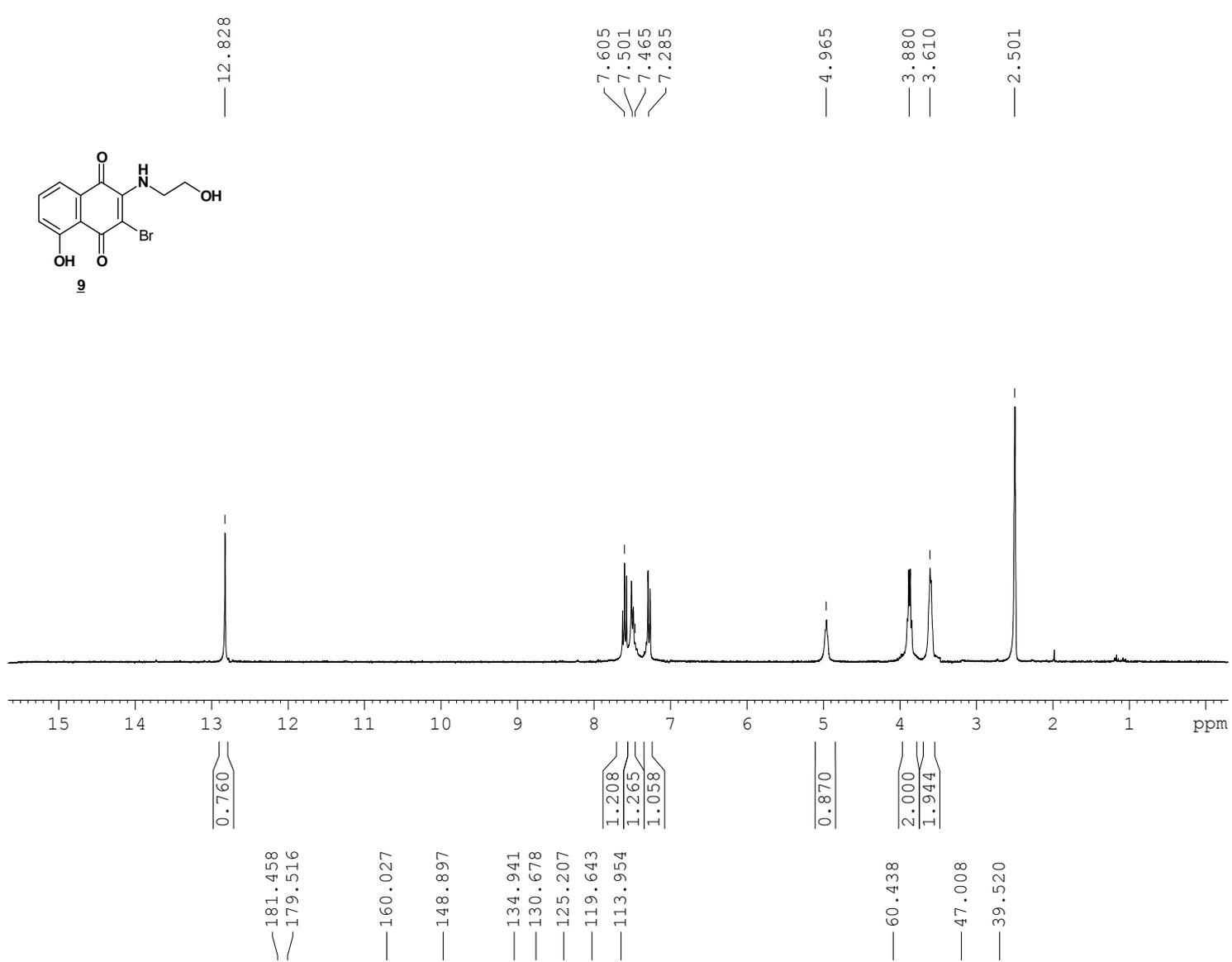
^1H and ^{13}C NMR spectra of compound **7** (DMSO- d_6)



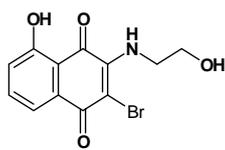
^1H and ^{13}C NMR spectra of compound **8** (DMSO- d_6)



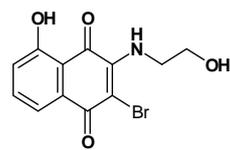
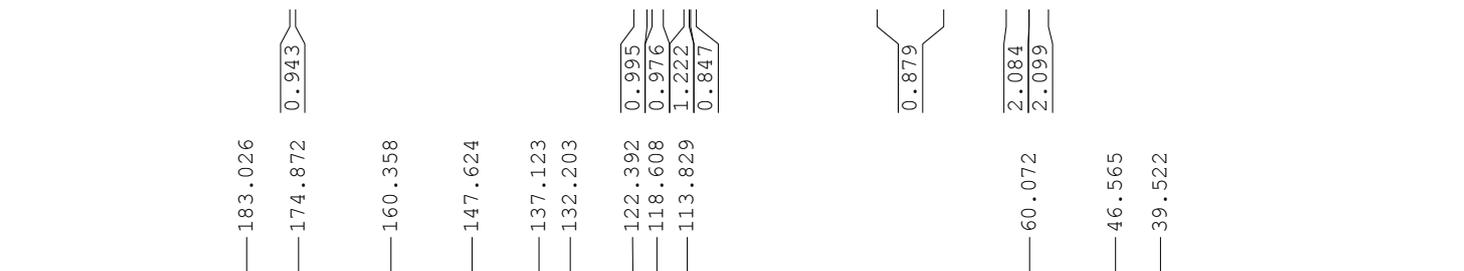
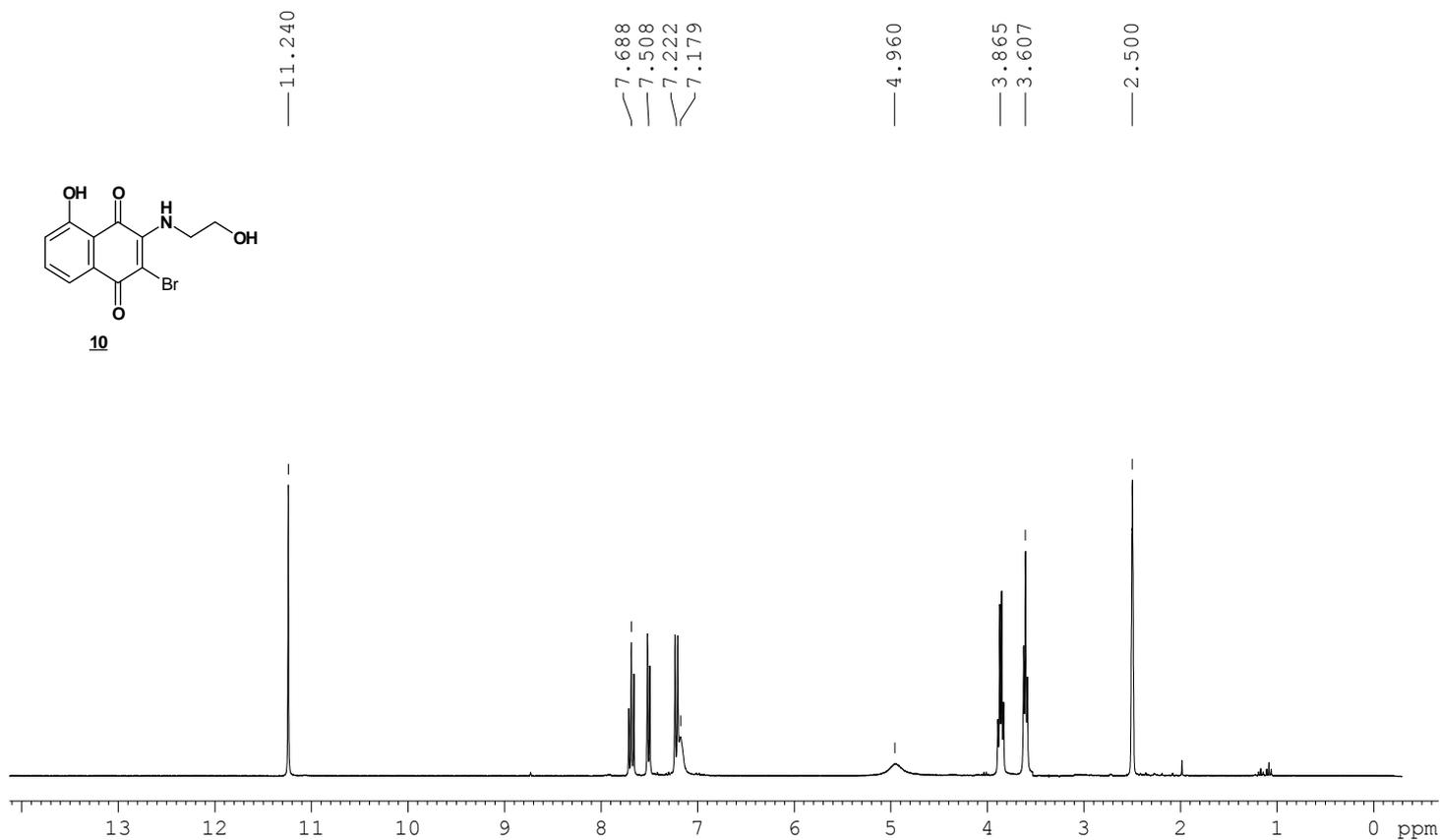
^1H and ^{13}C NMR spectra of compound **9** (DMSO- d_6)



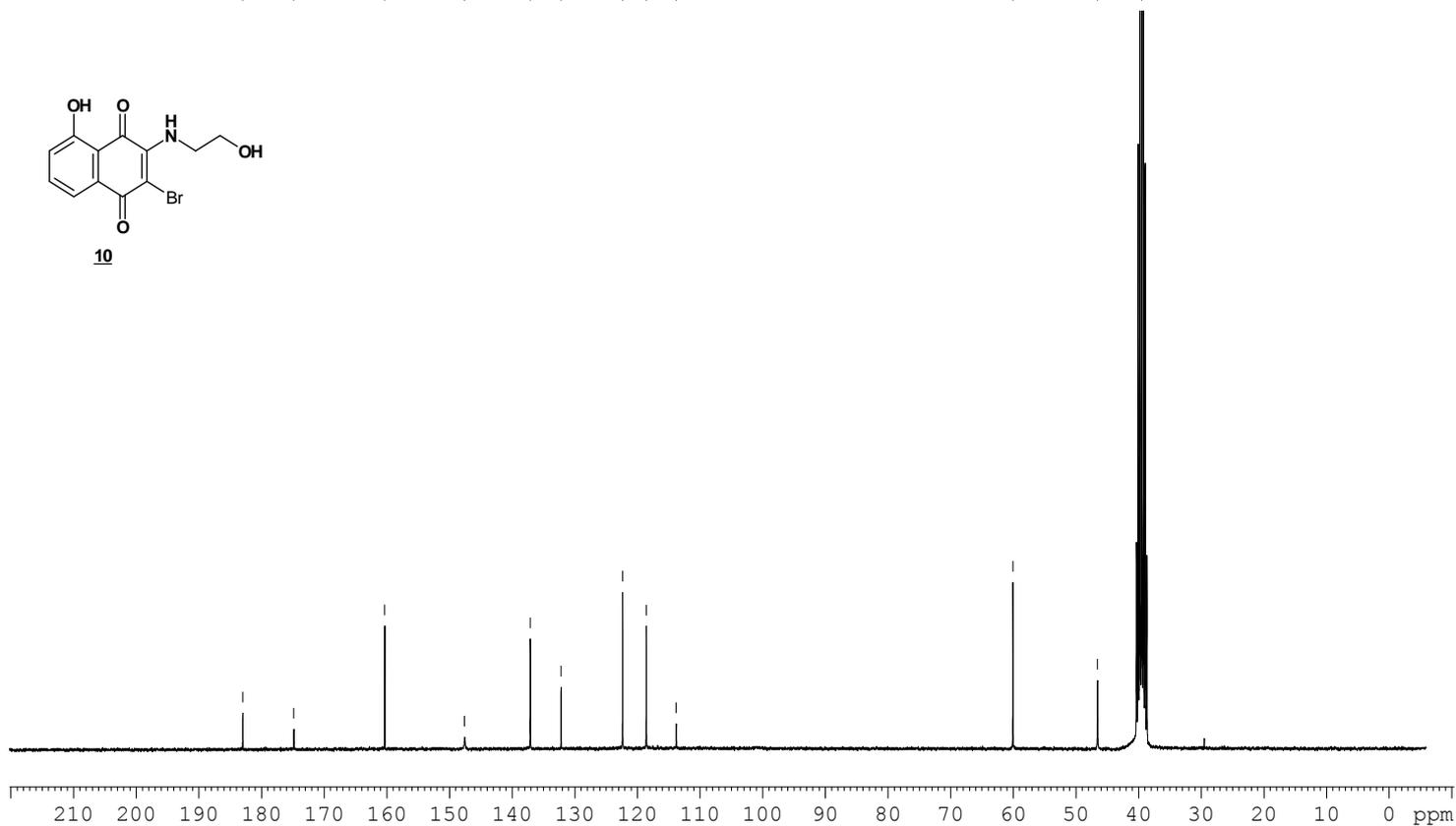
¹H and ¹³C NMR spectra of compound **10** (DMSO-d₆)



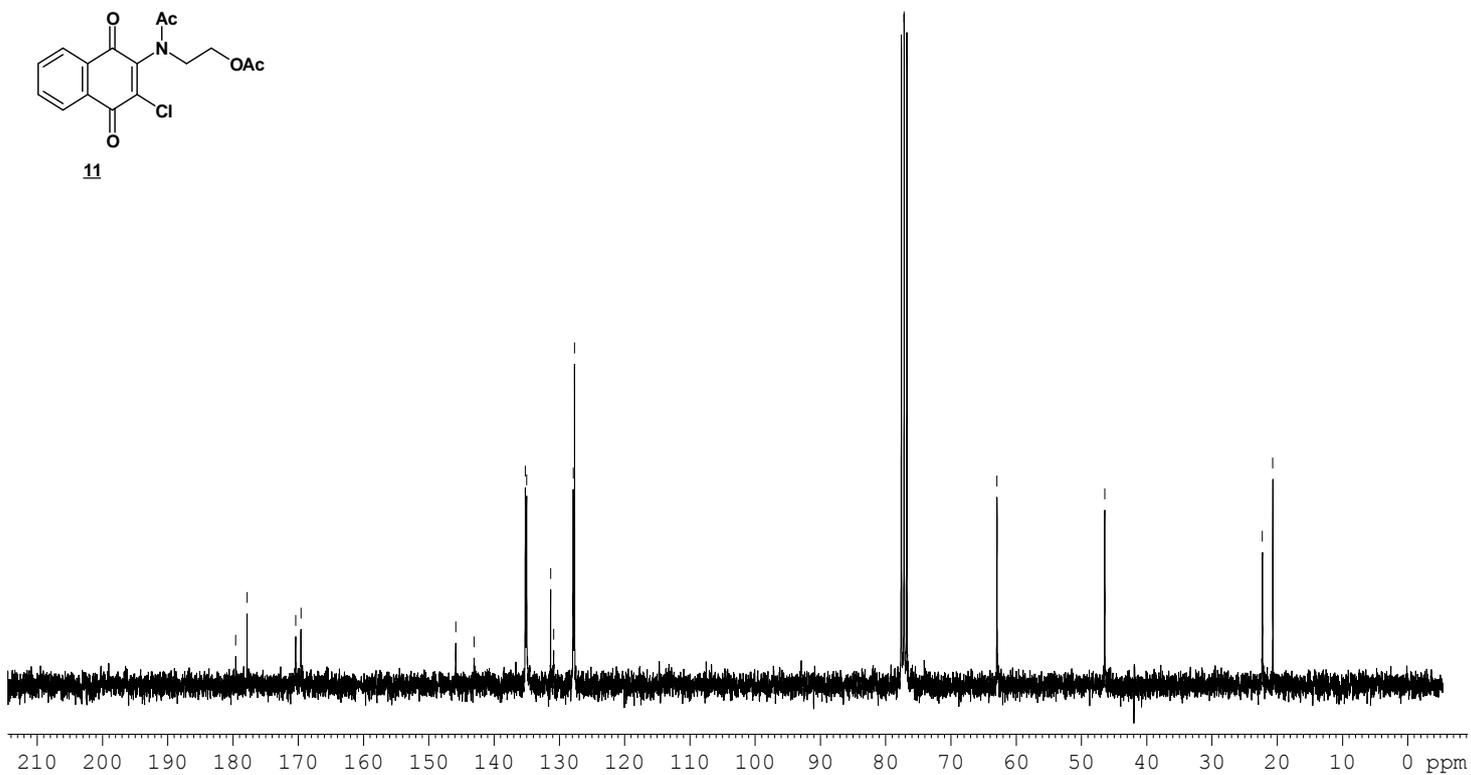
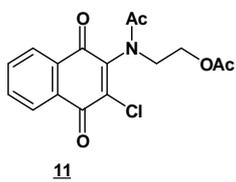
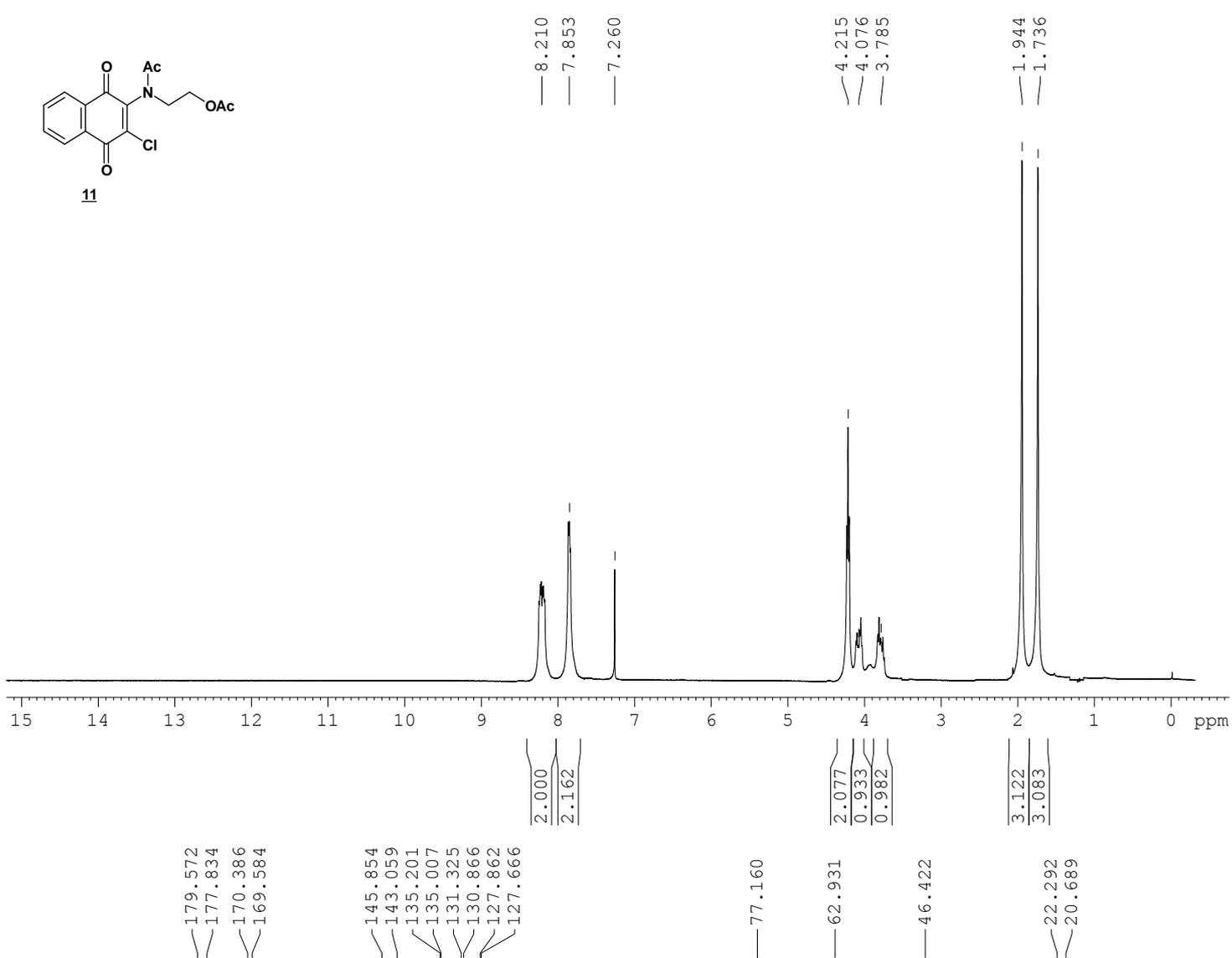
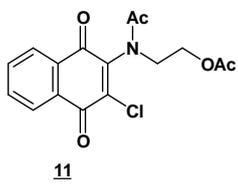
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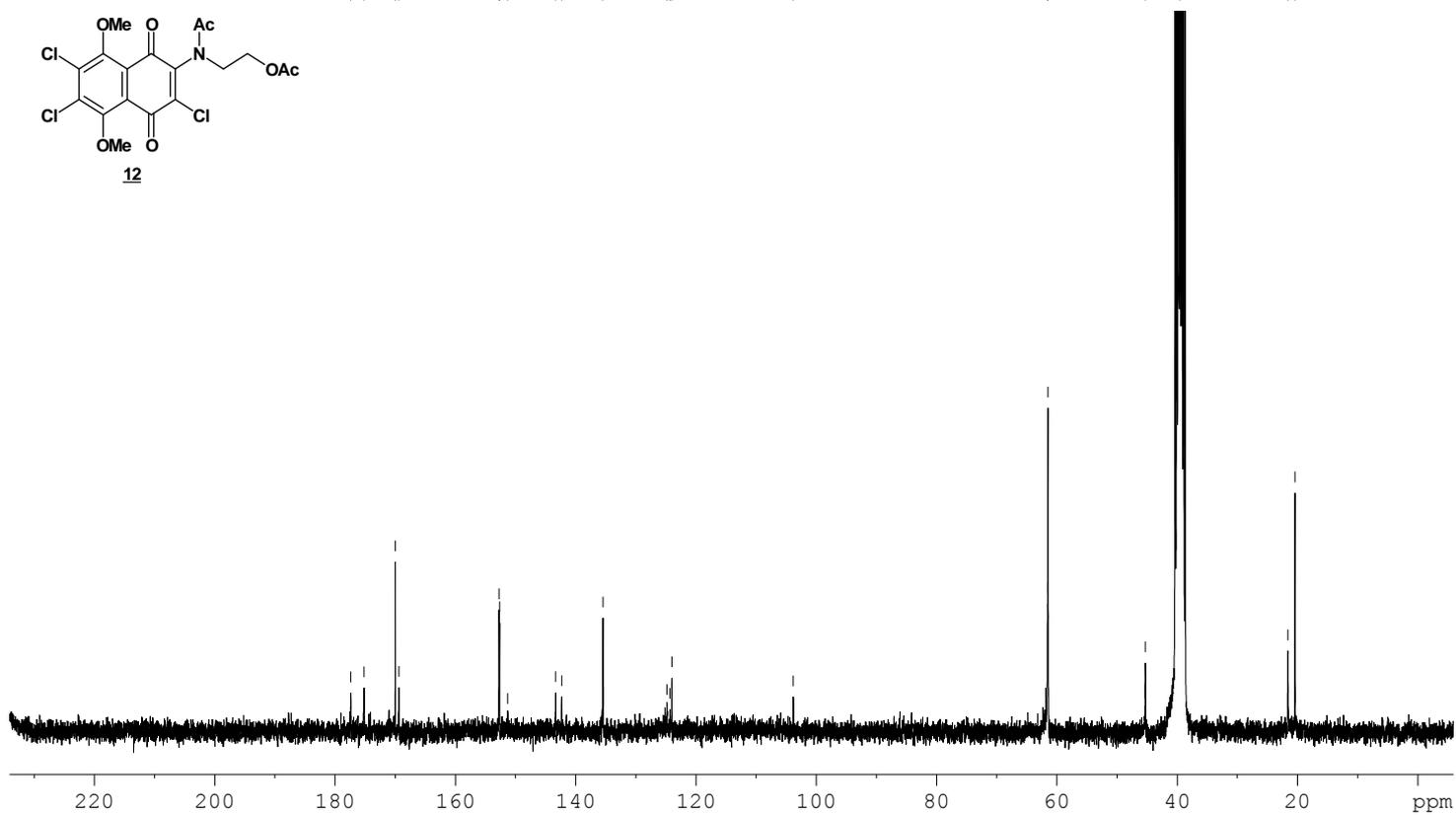
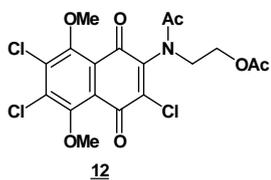
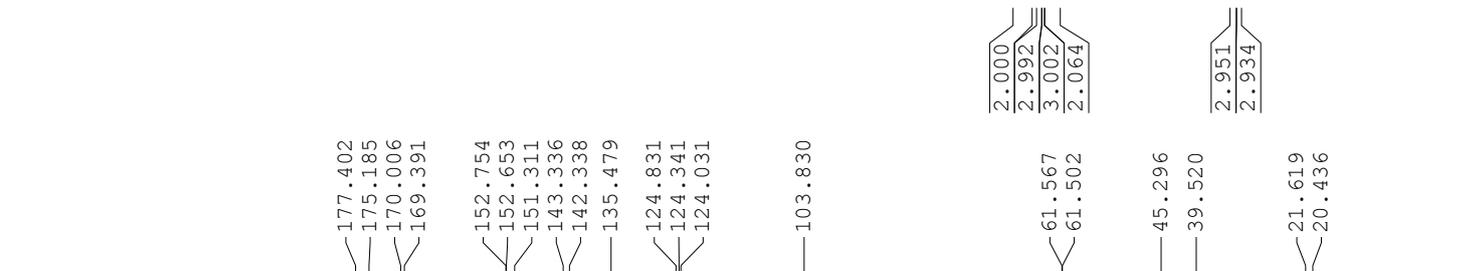
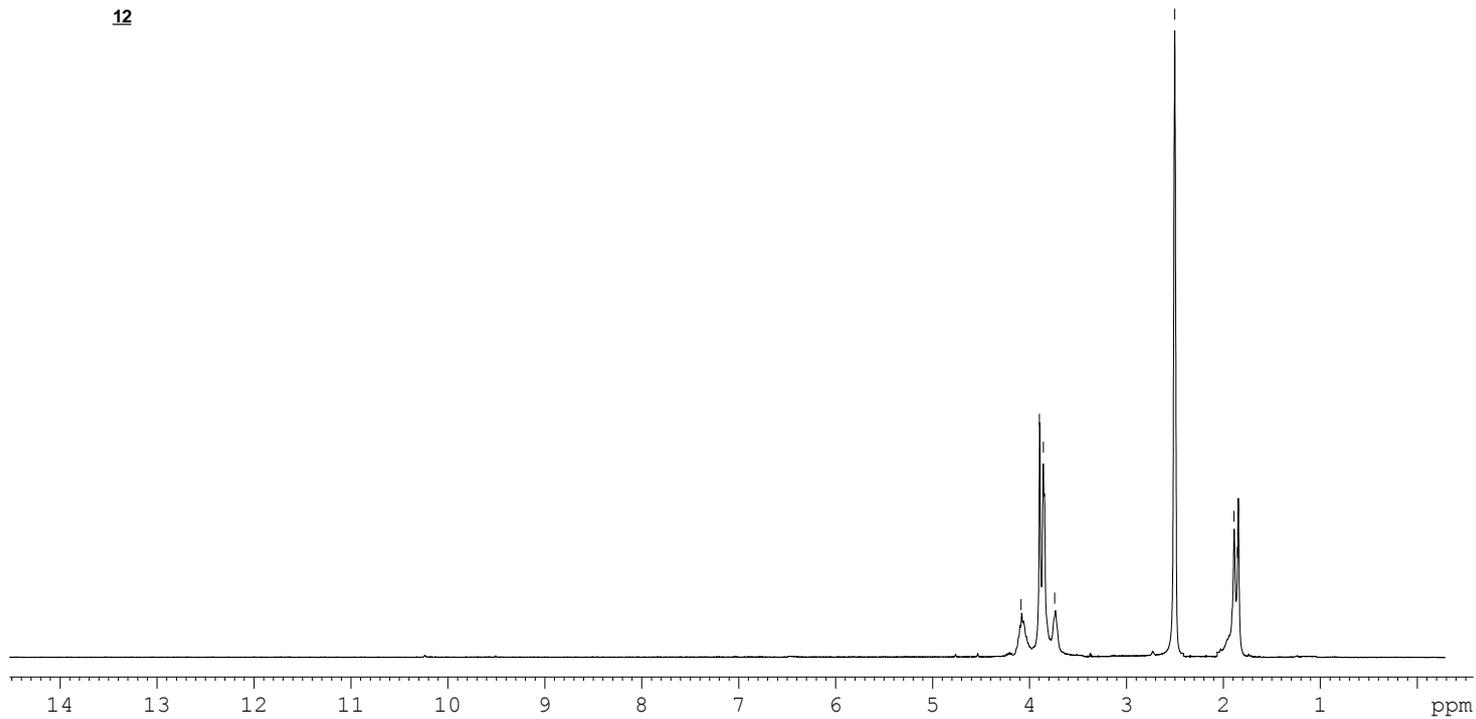
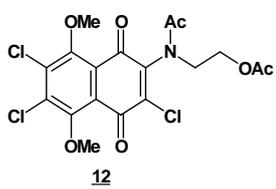
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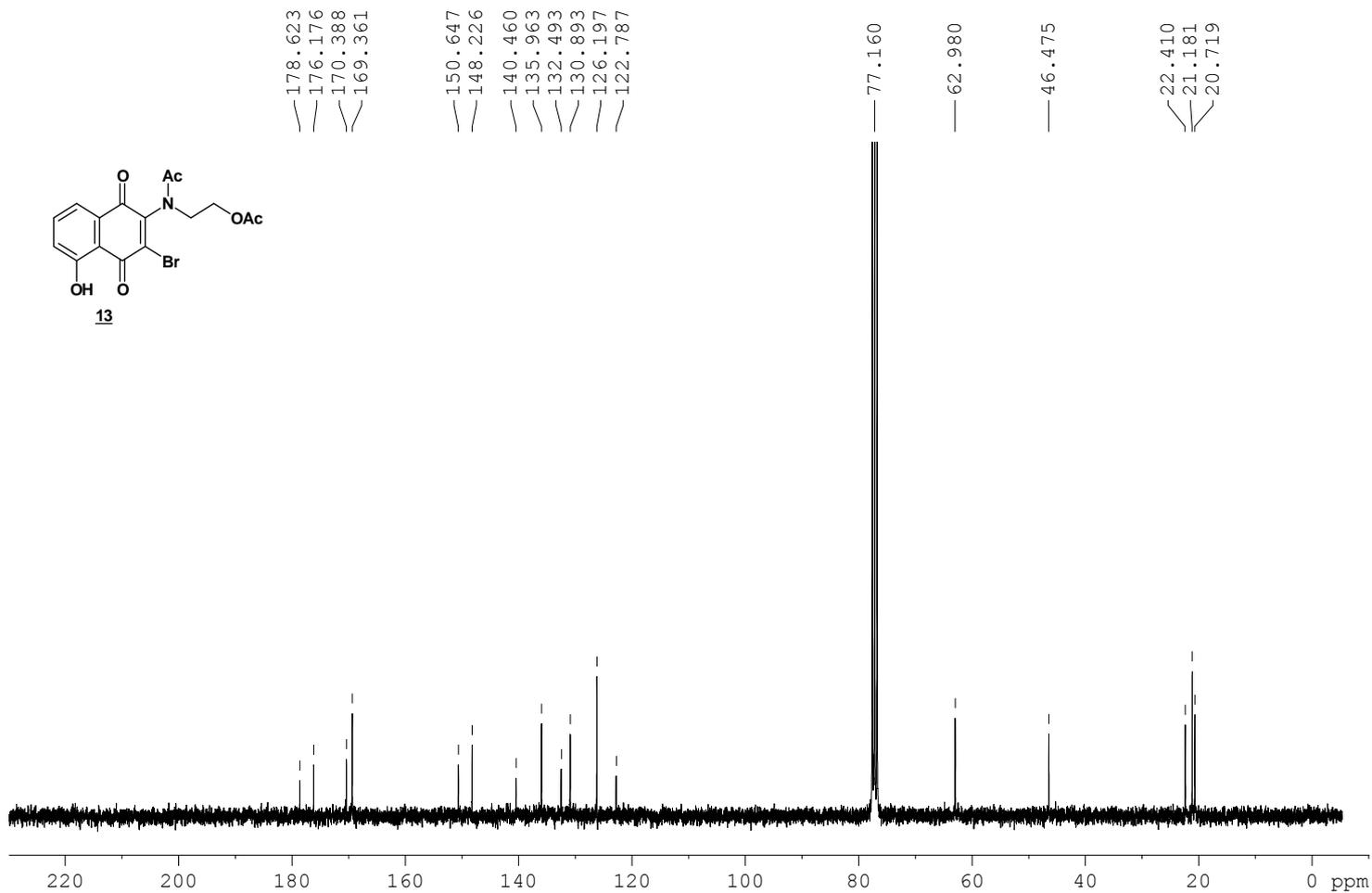
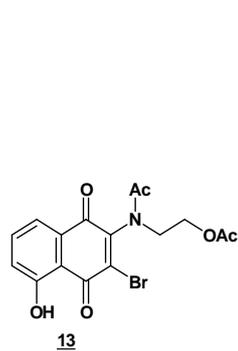
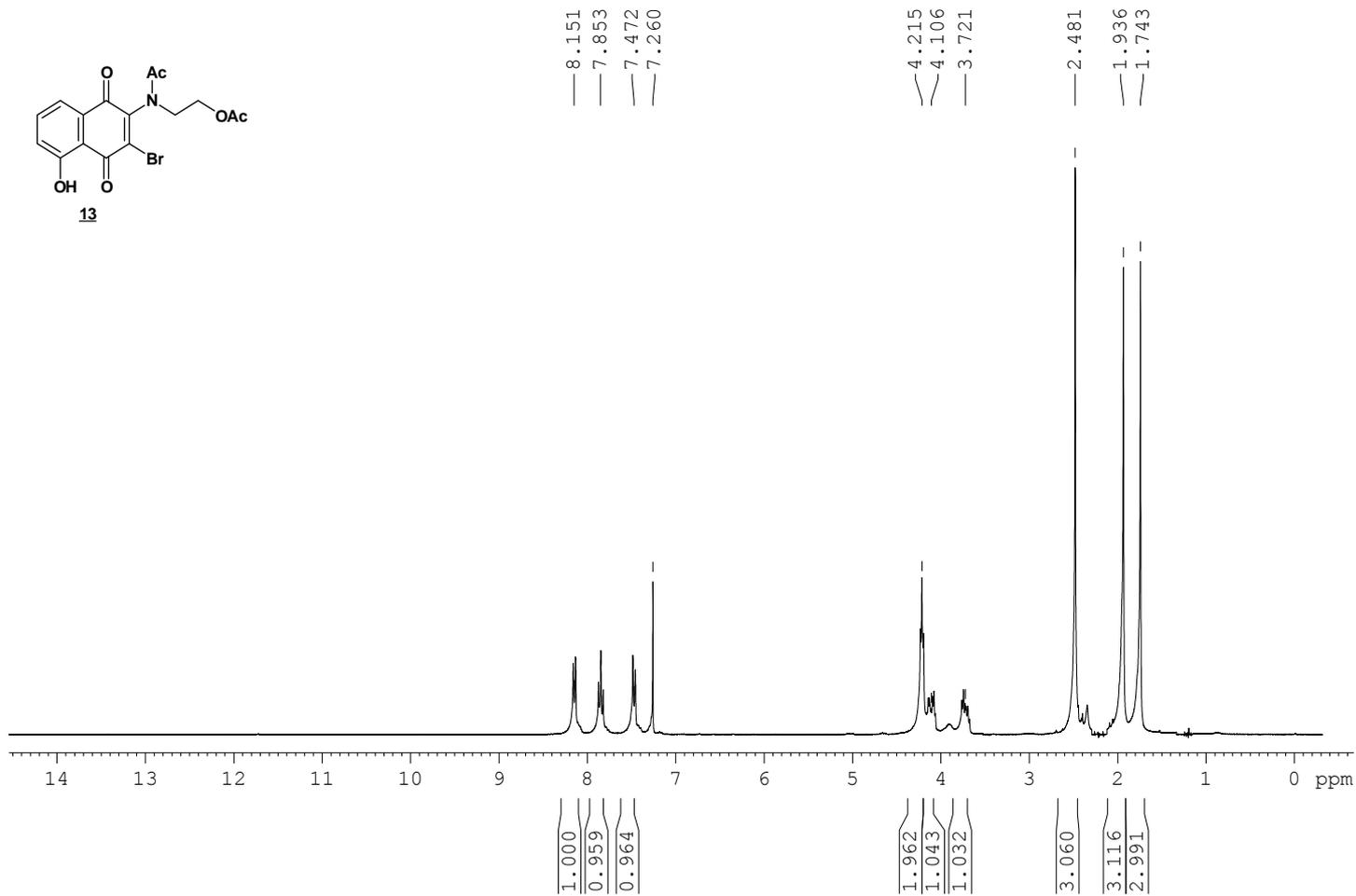
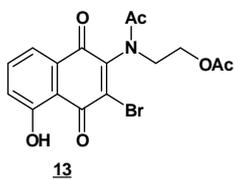
^1H and ^{13}C NMR spectra of compound **11** (CDCl_3)



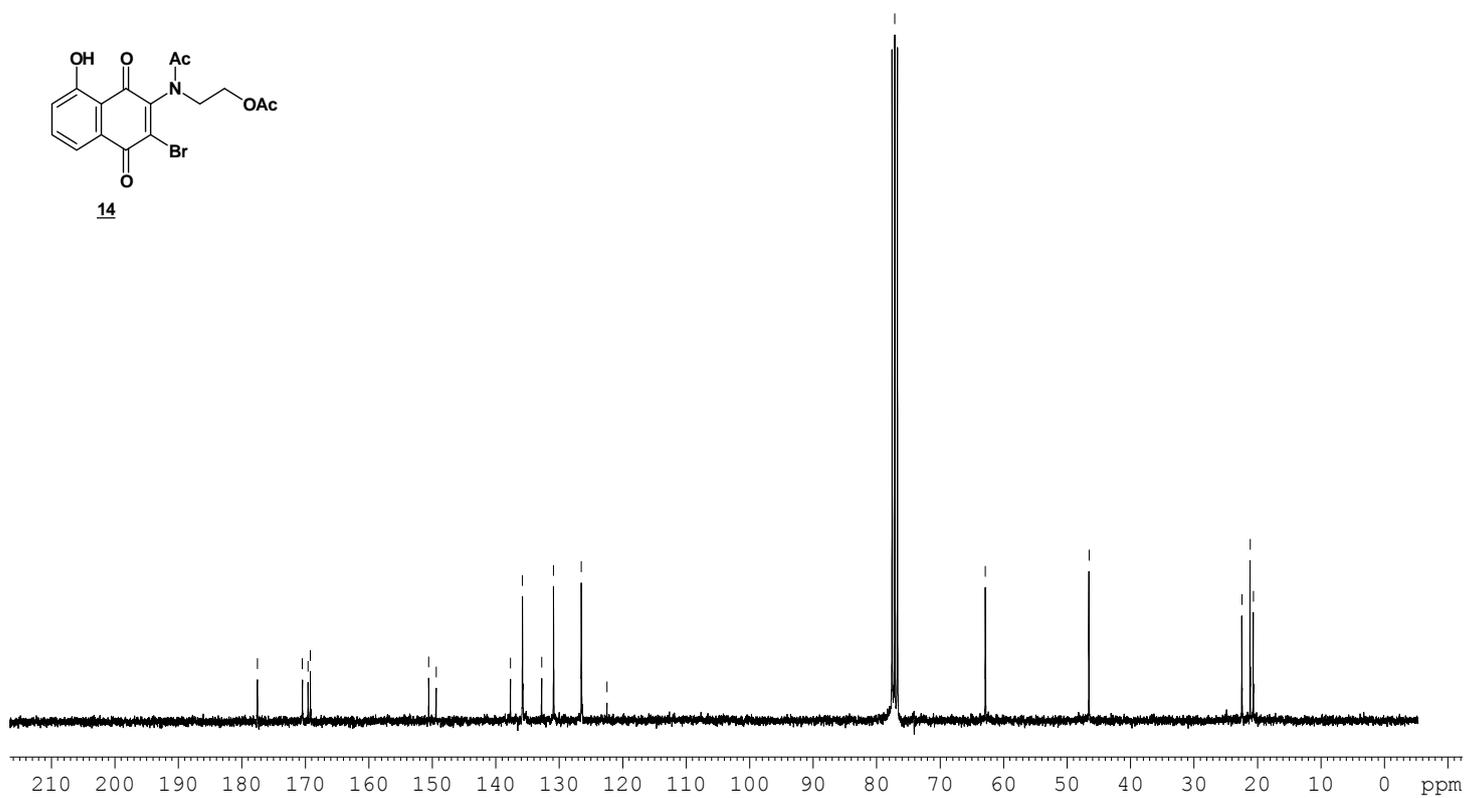
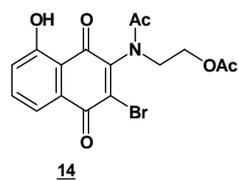
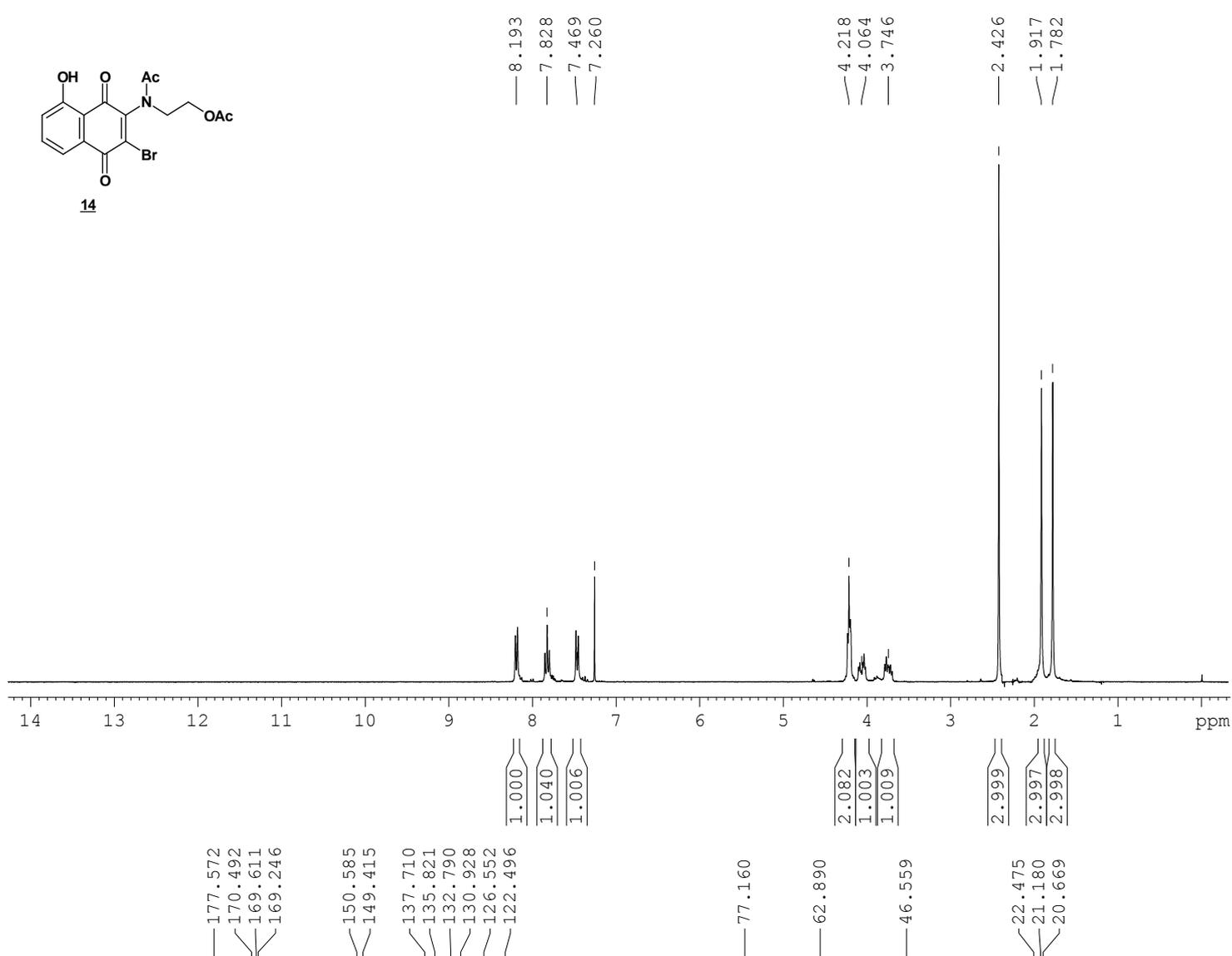
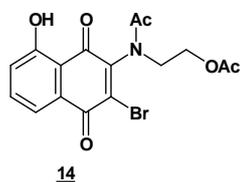
¹H and ¹³C NMR spectra of compound **12** (DMSO-d₆)



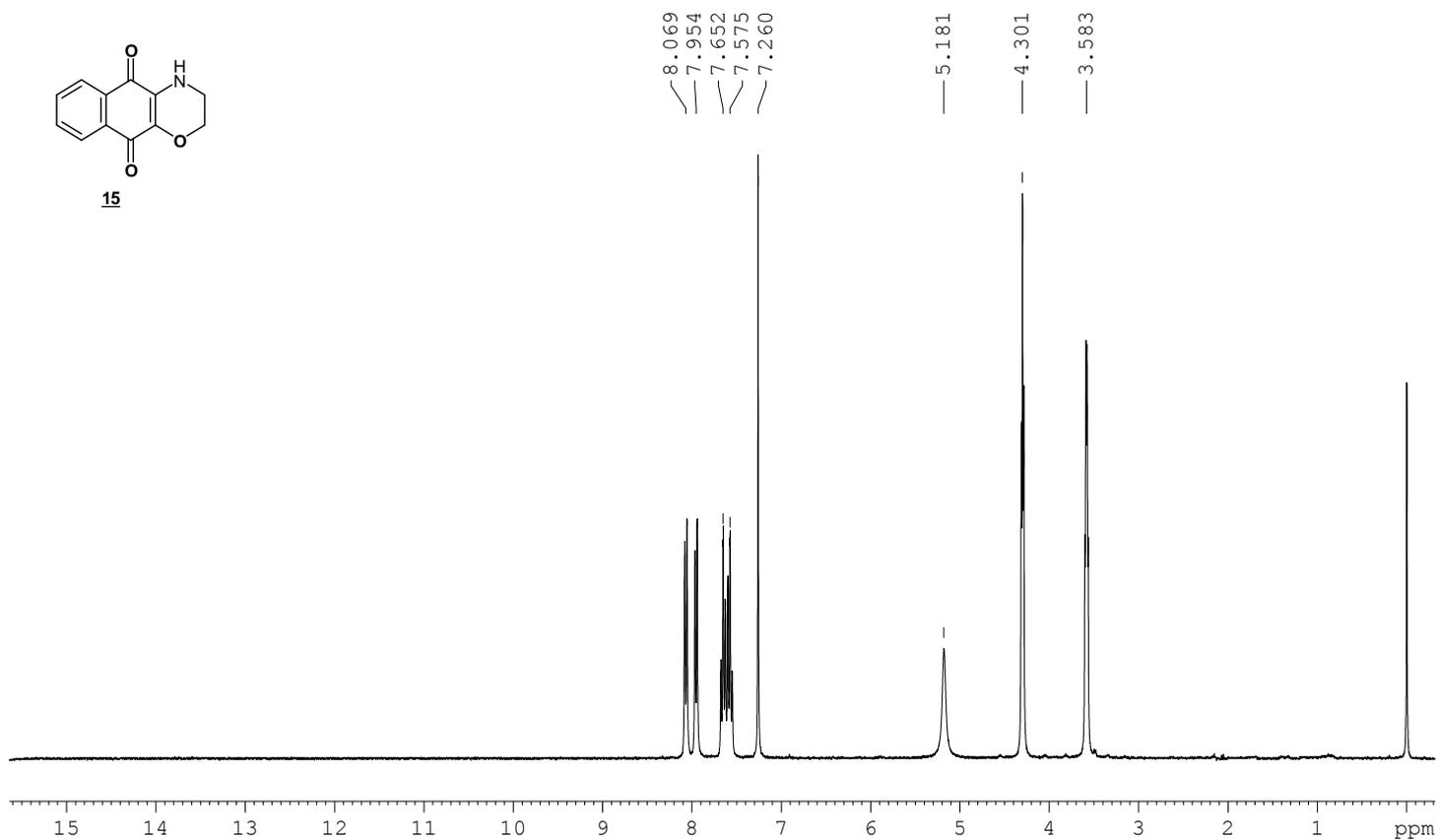
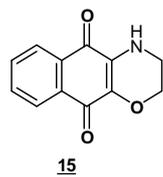
^1H and ^{13}C NMR spectra of compound **13** (CDCl_3)



¹H and ¹³C NMR spectra of compound **14** (CDCl₃)



¹H and ¹³C NMR spectra of compound 15 (CDCl₃)



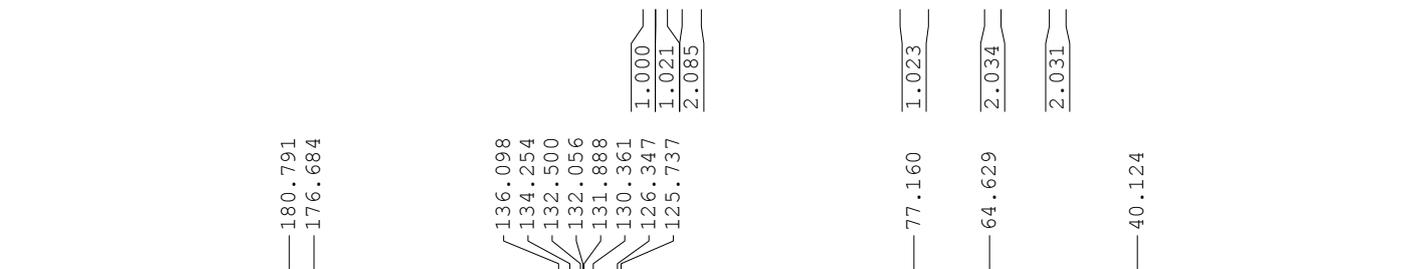
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7.575
7.260

5.181

4.301

3.583

ppm



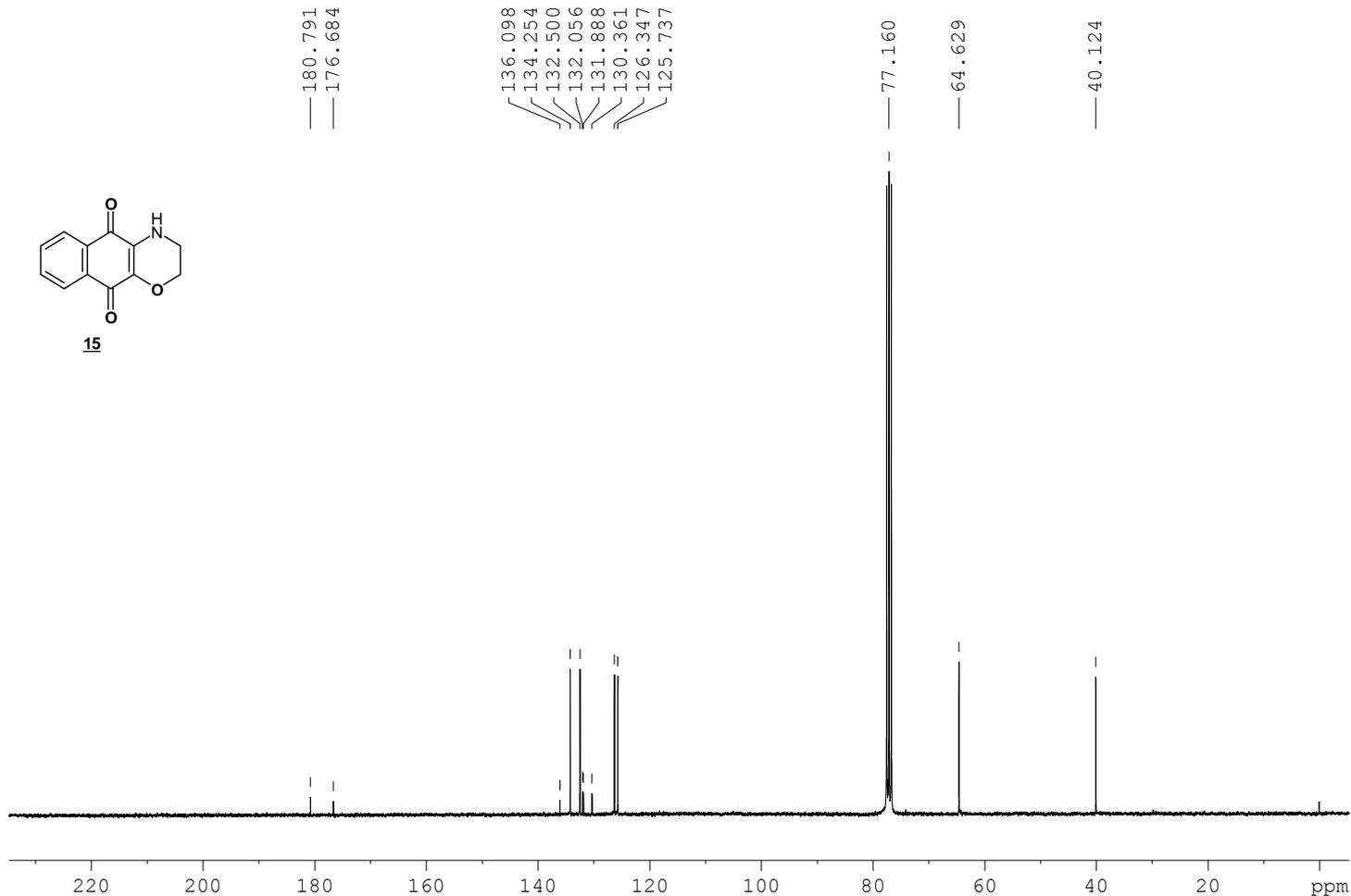
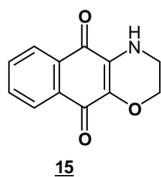
180.791
176.684

136.098
134.254
132.500
132.056
131.888
130.361
126.347
125.737

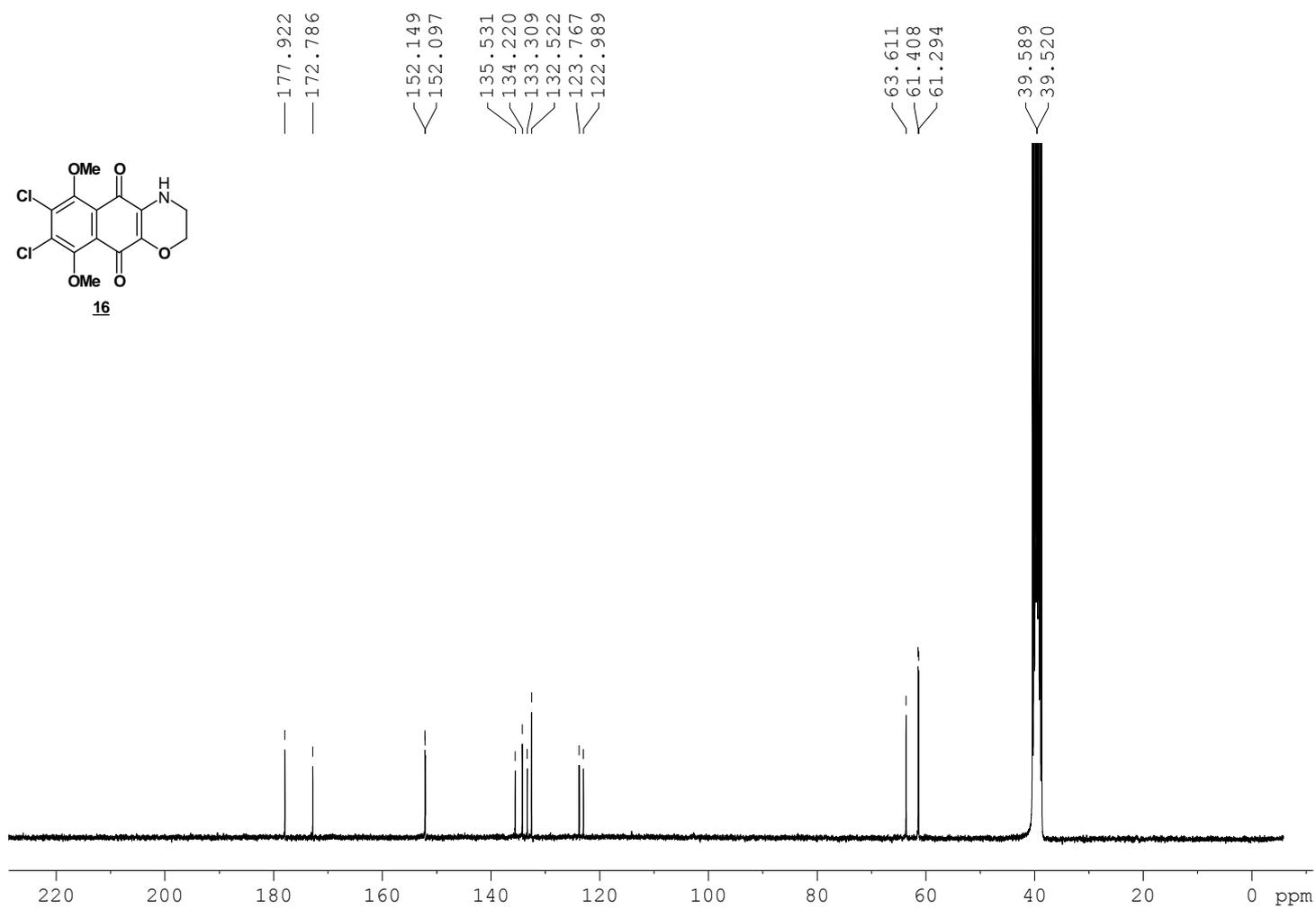
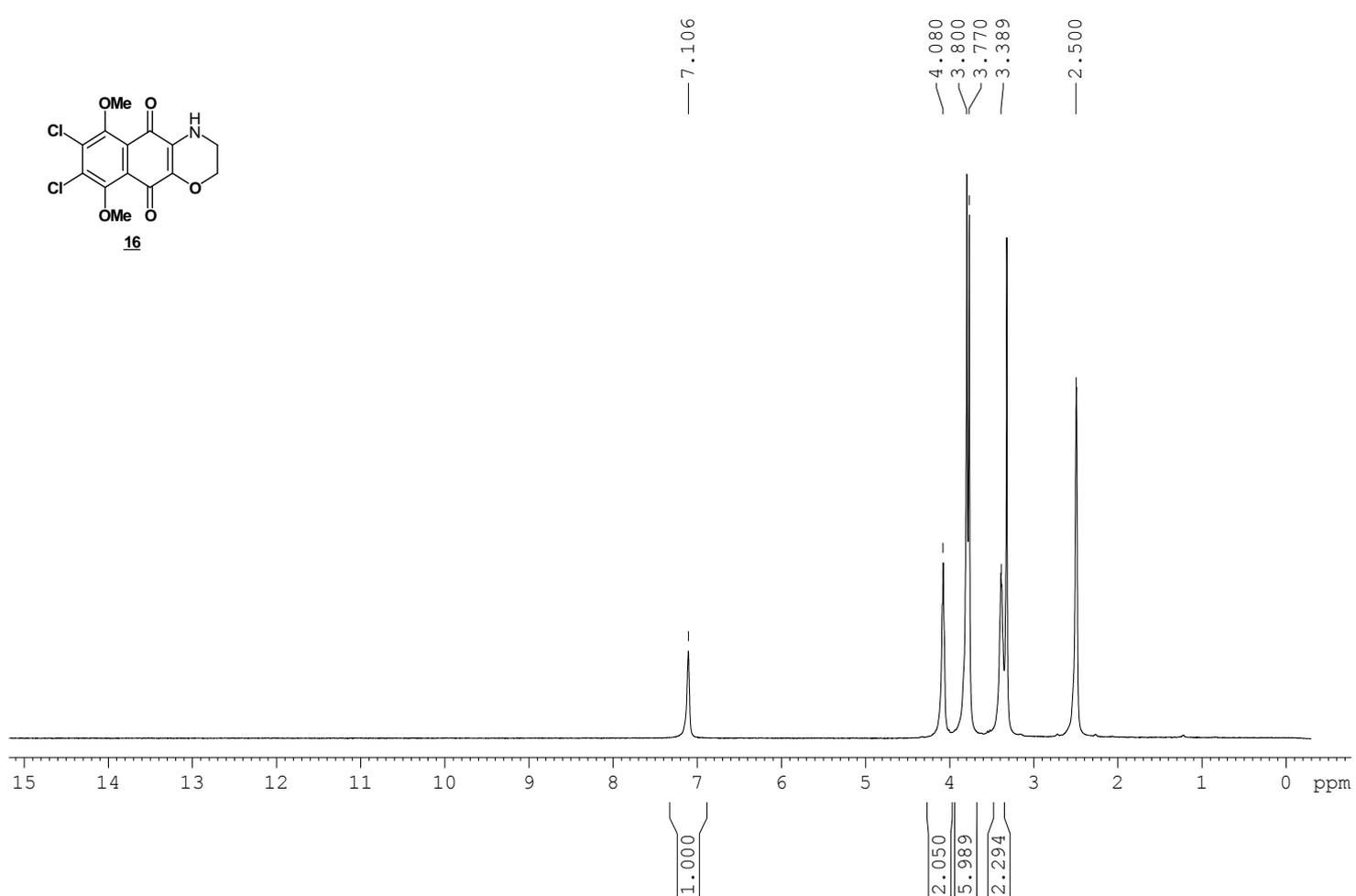
77.160

64.629

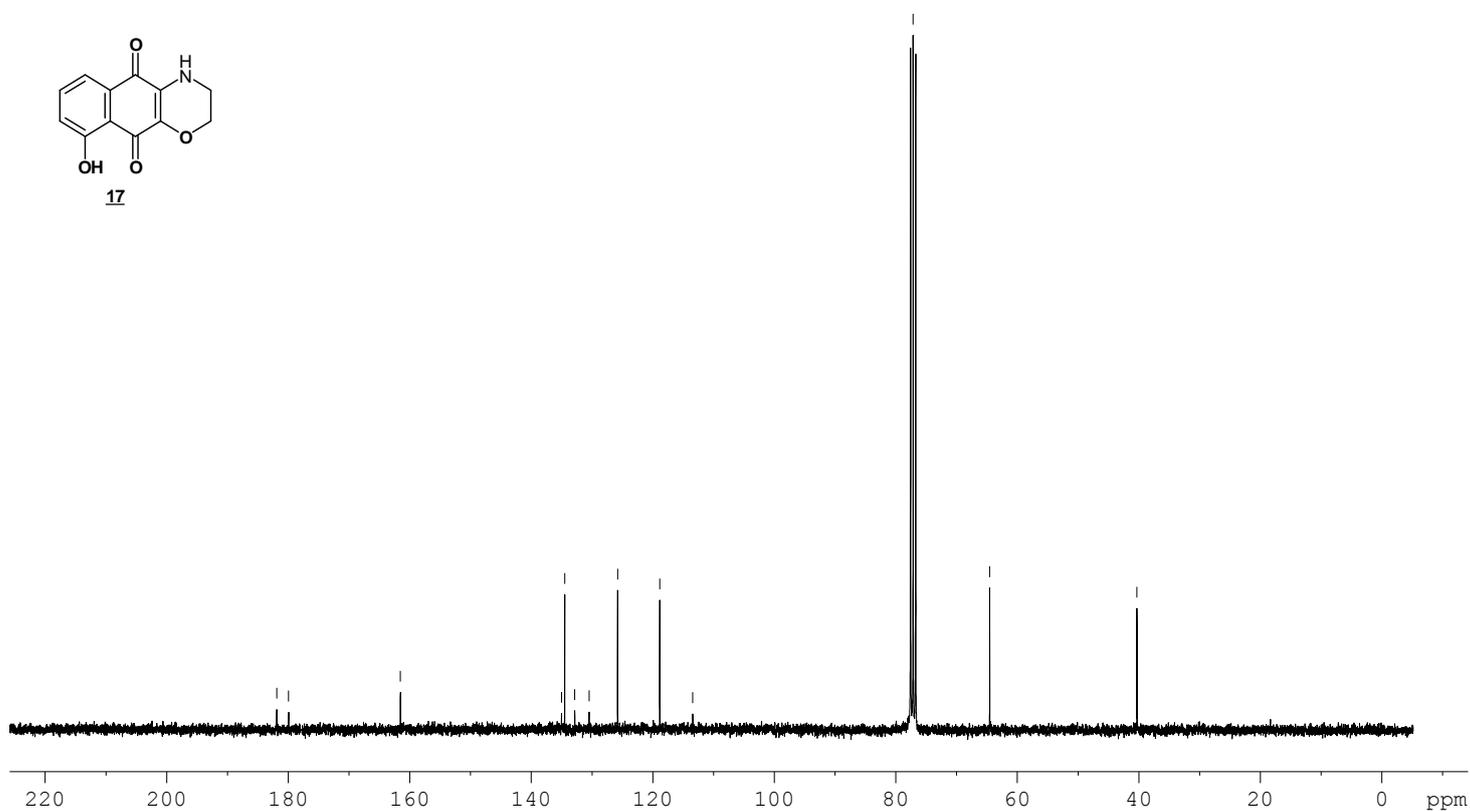
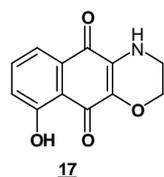
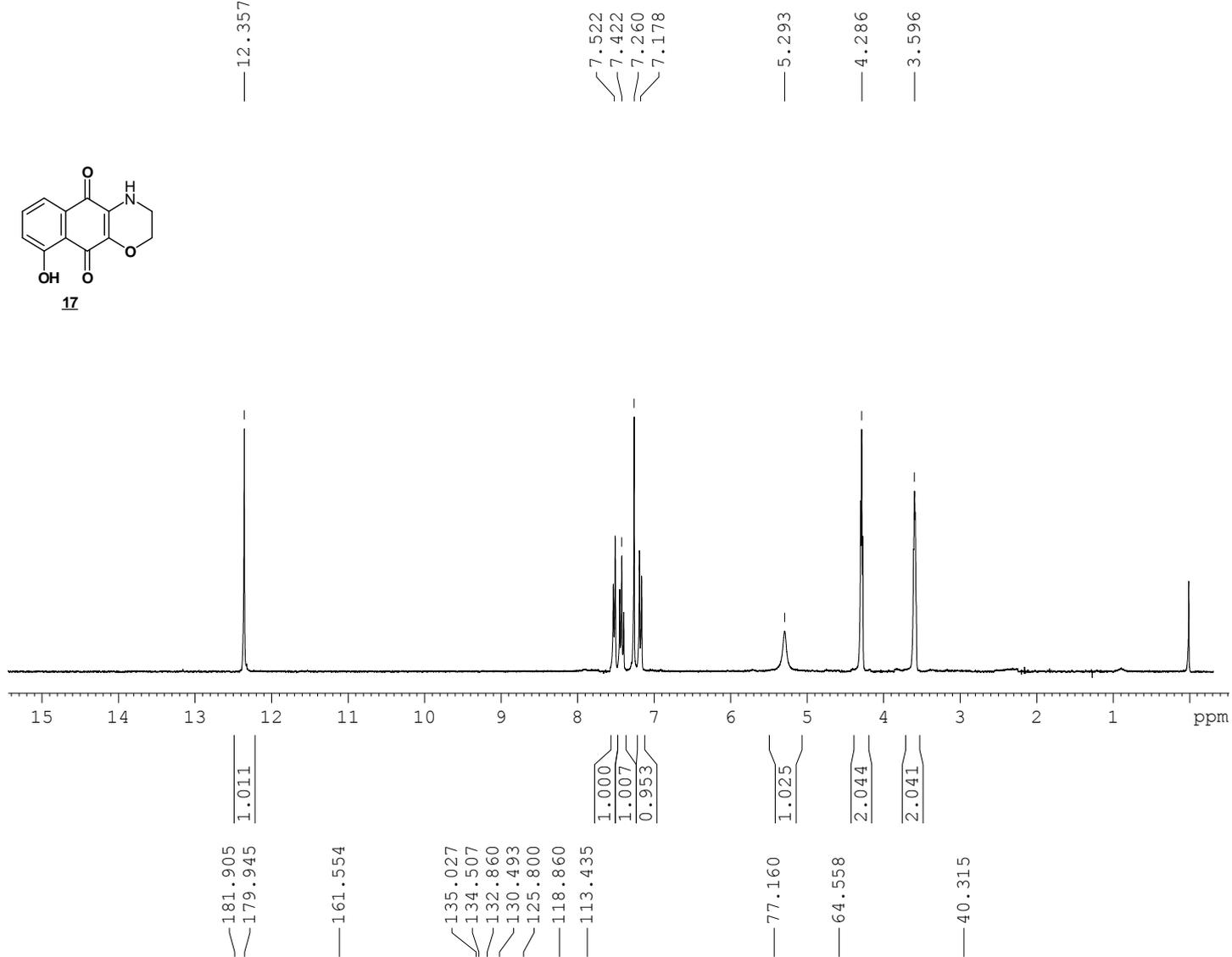
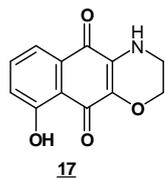
40.124



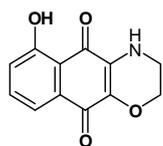
^1H and ^{13}C NMR spectra of compound **16** (DMSO- d_6)



^1H and ^{13}C NMR spectra of compound **17** (CDCl_3)



^1H and ^{13}C NMR spectra of compound **18** (CDCl₃)



18

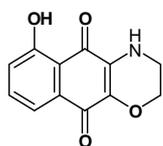
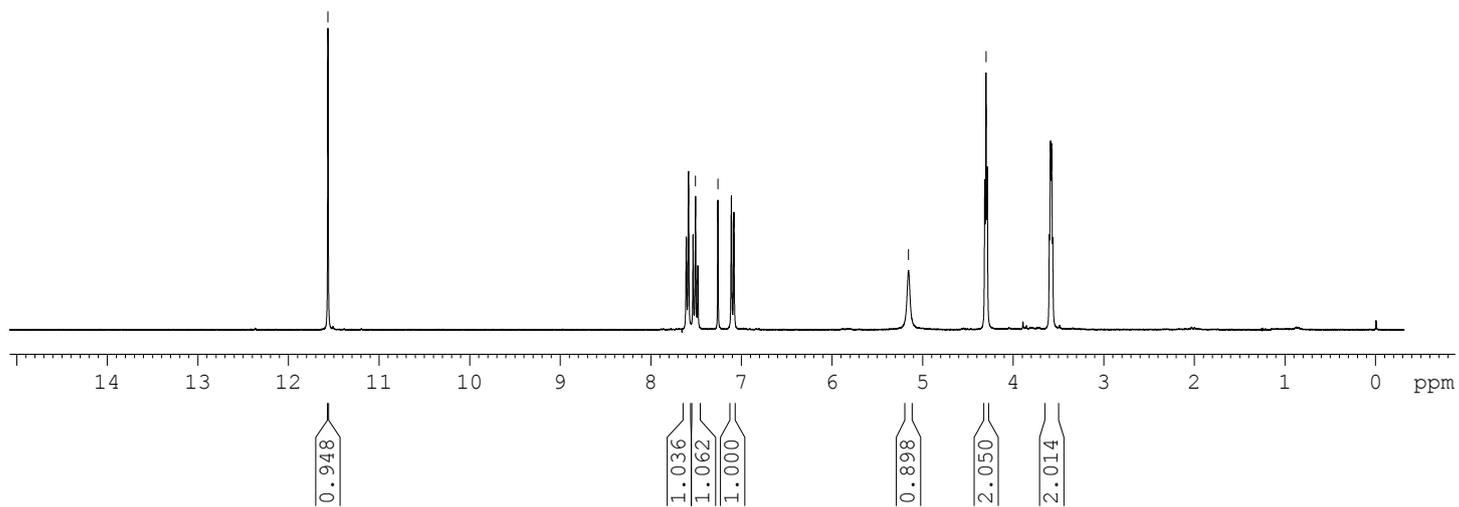
— 11.566

7.598
7.507
7.260
7.098

— 5.157

— 4.300

— 3.582



18

— 185.232

— 176.051

— 160.951

136.577
136.398
131.599

— 123.437

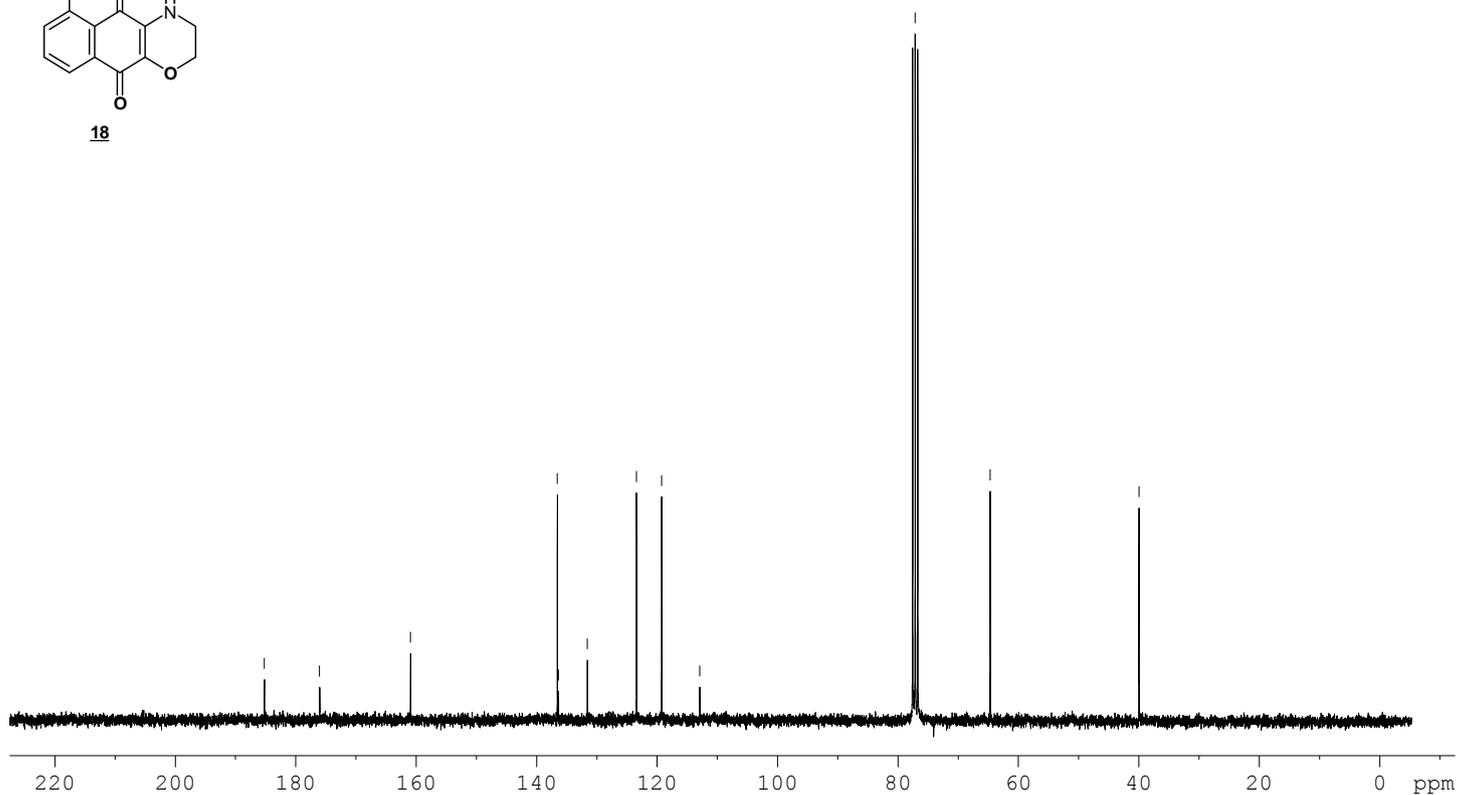
— 119.269

— 112.943

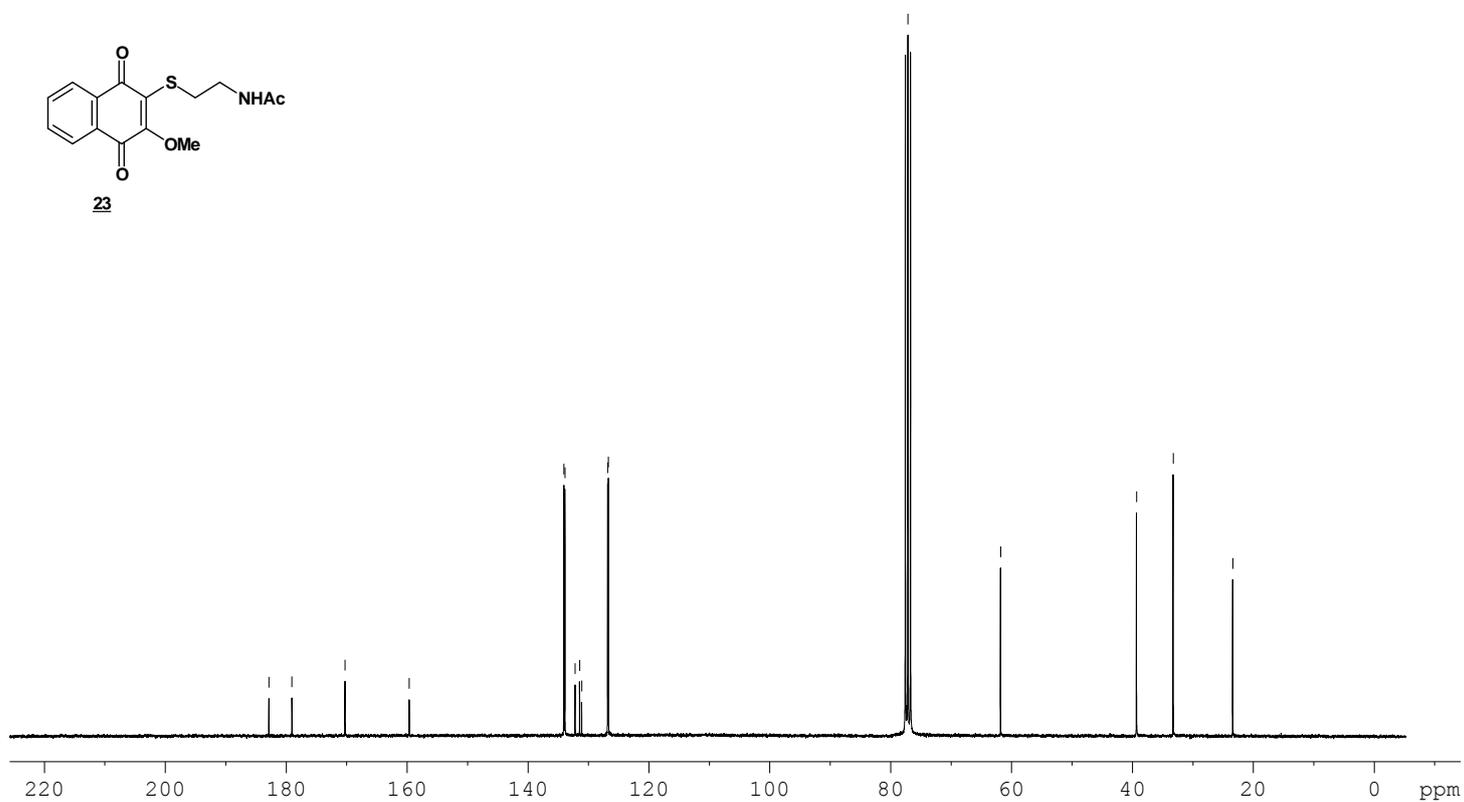
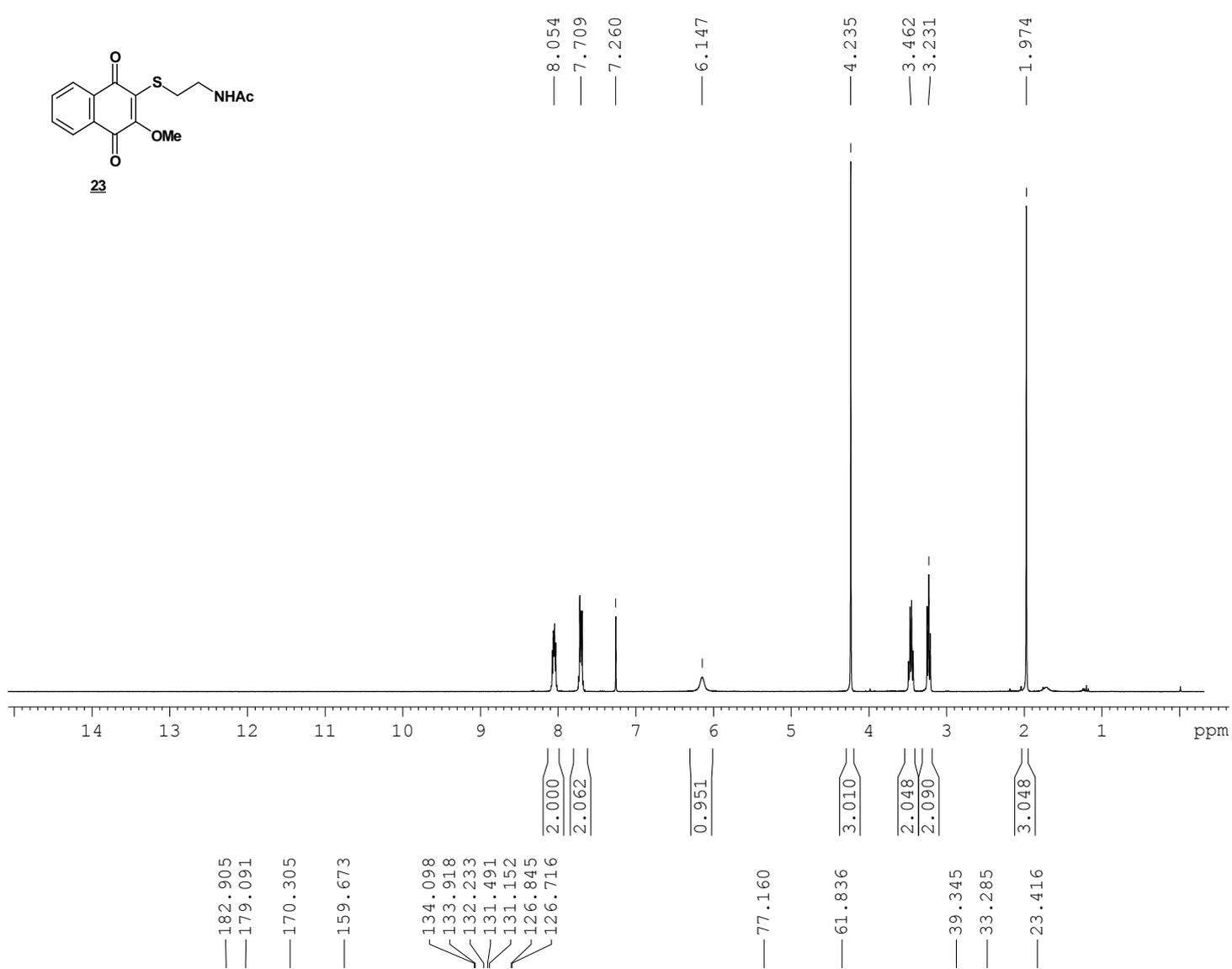
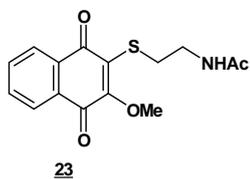
— 77.160

— 64.708

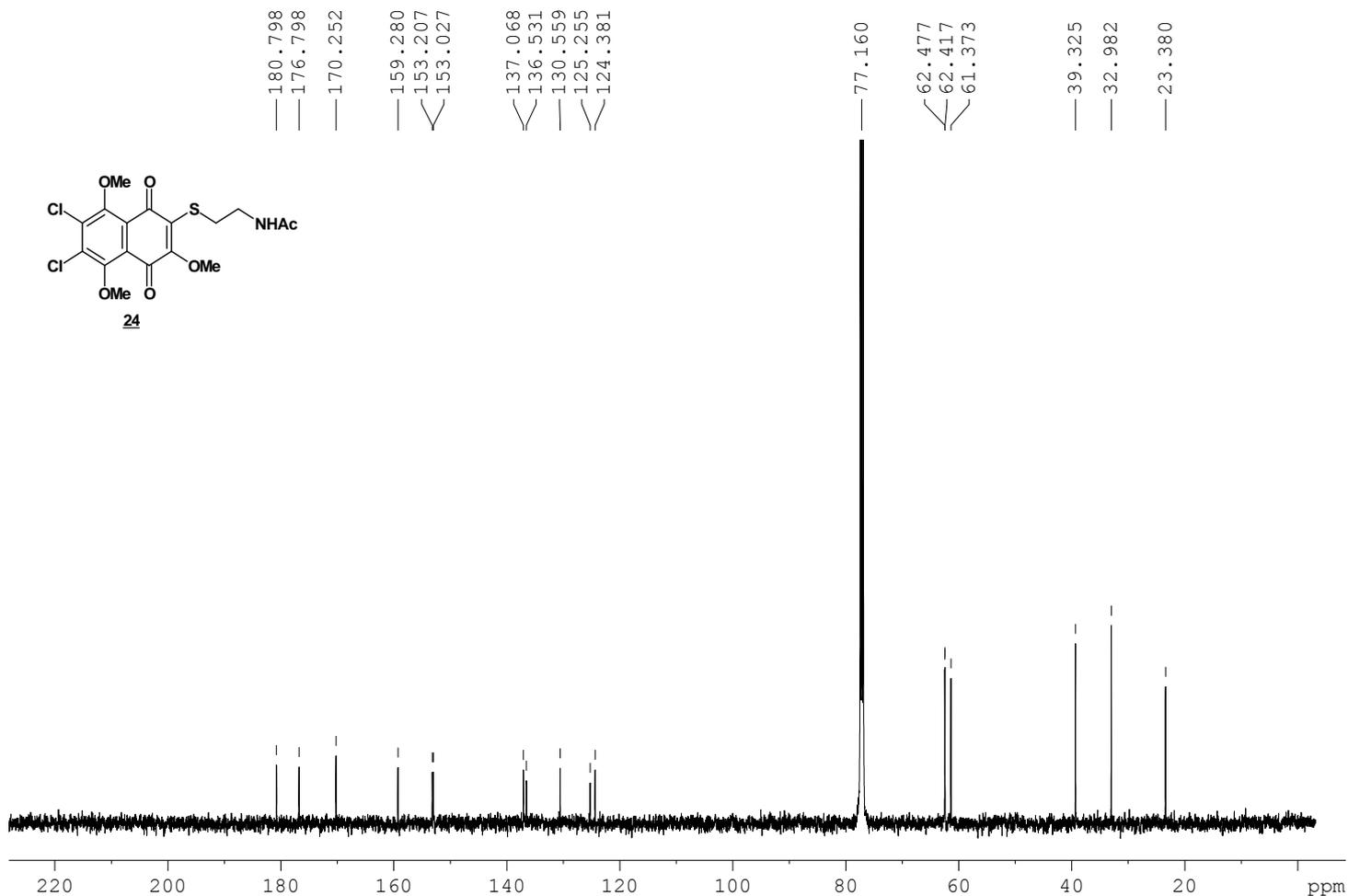
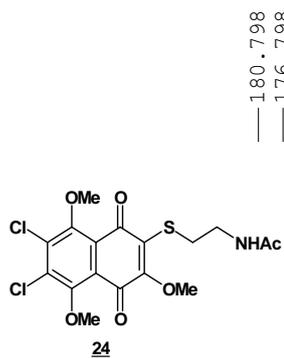
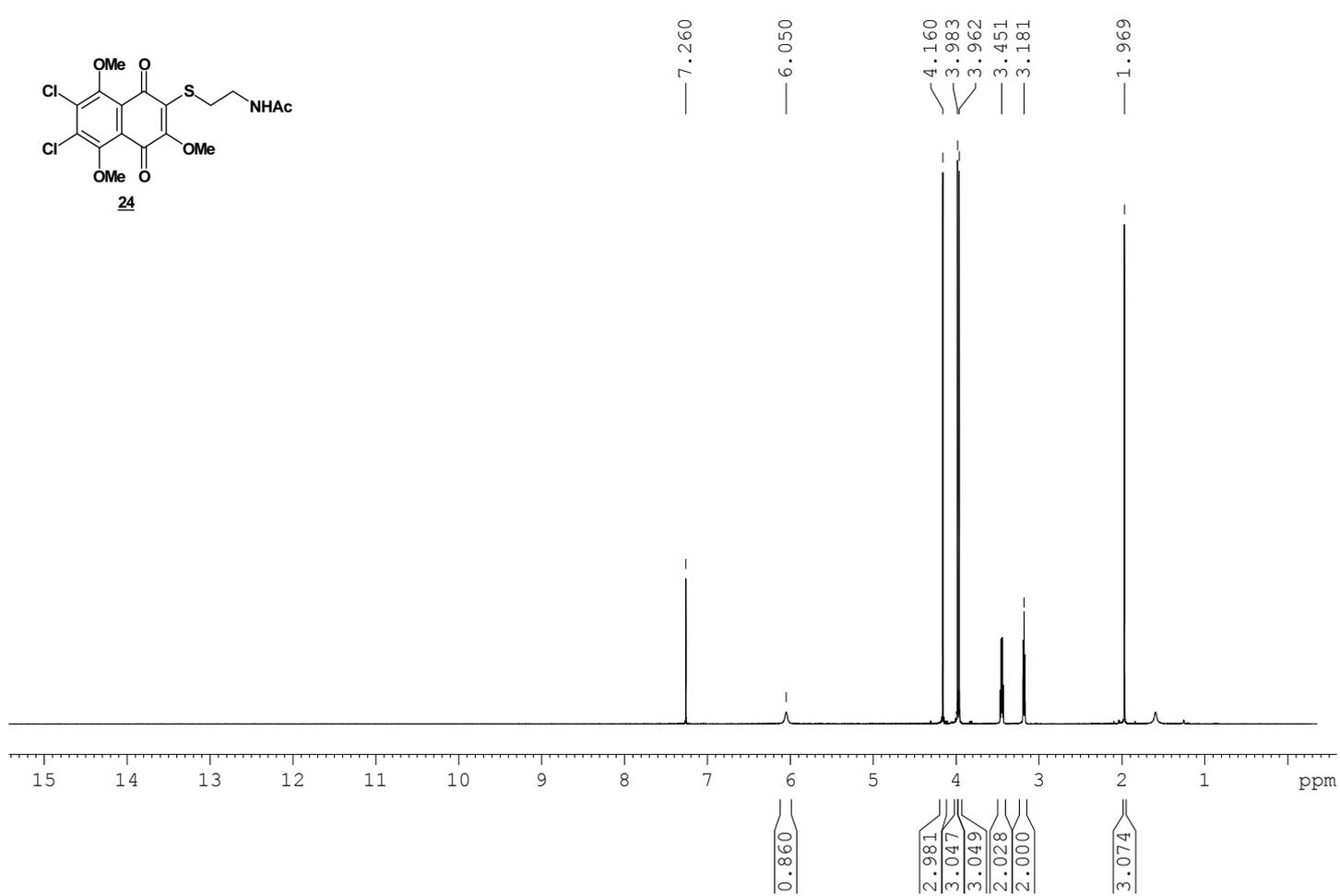
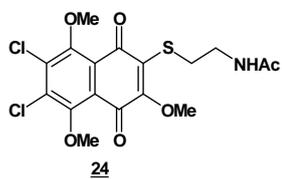
— 39.984



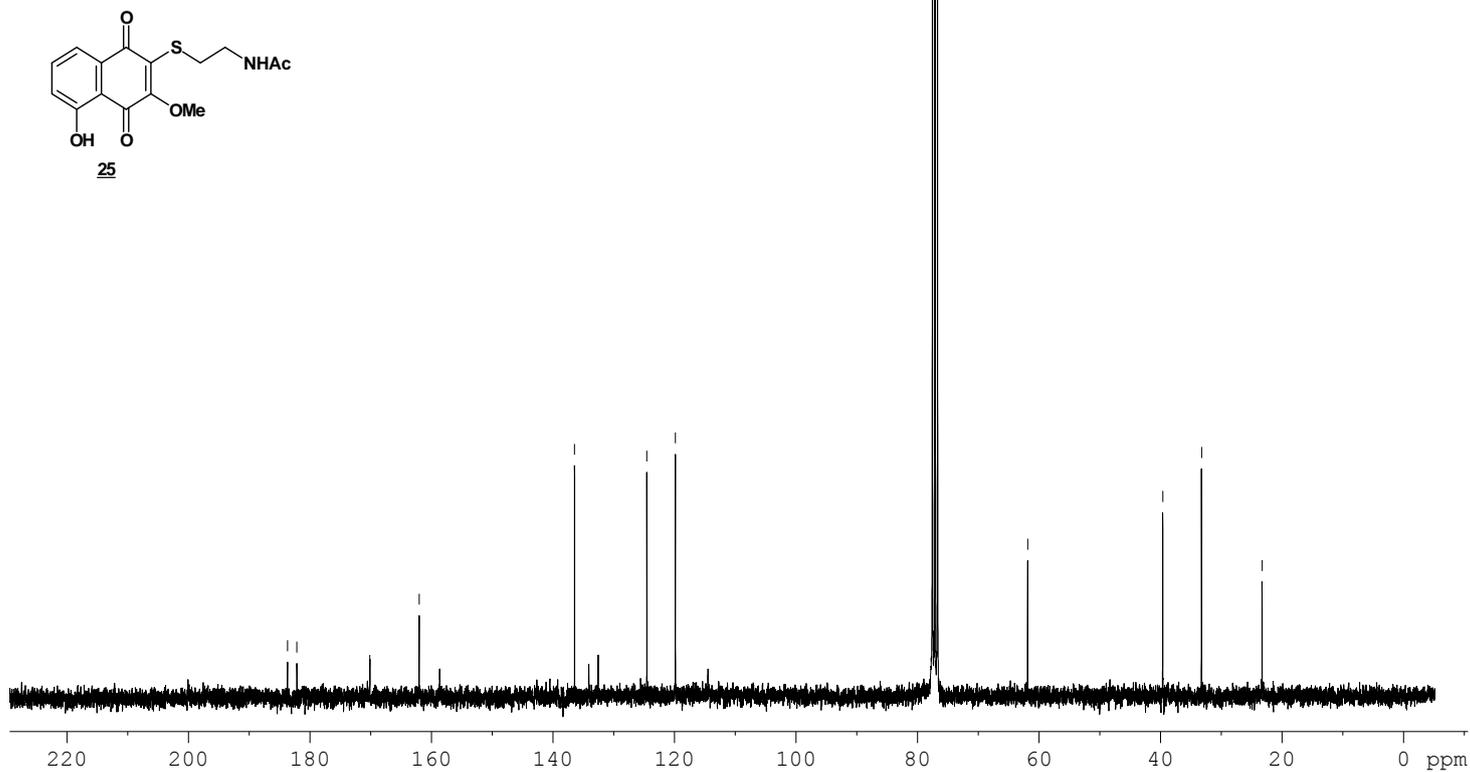
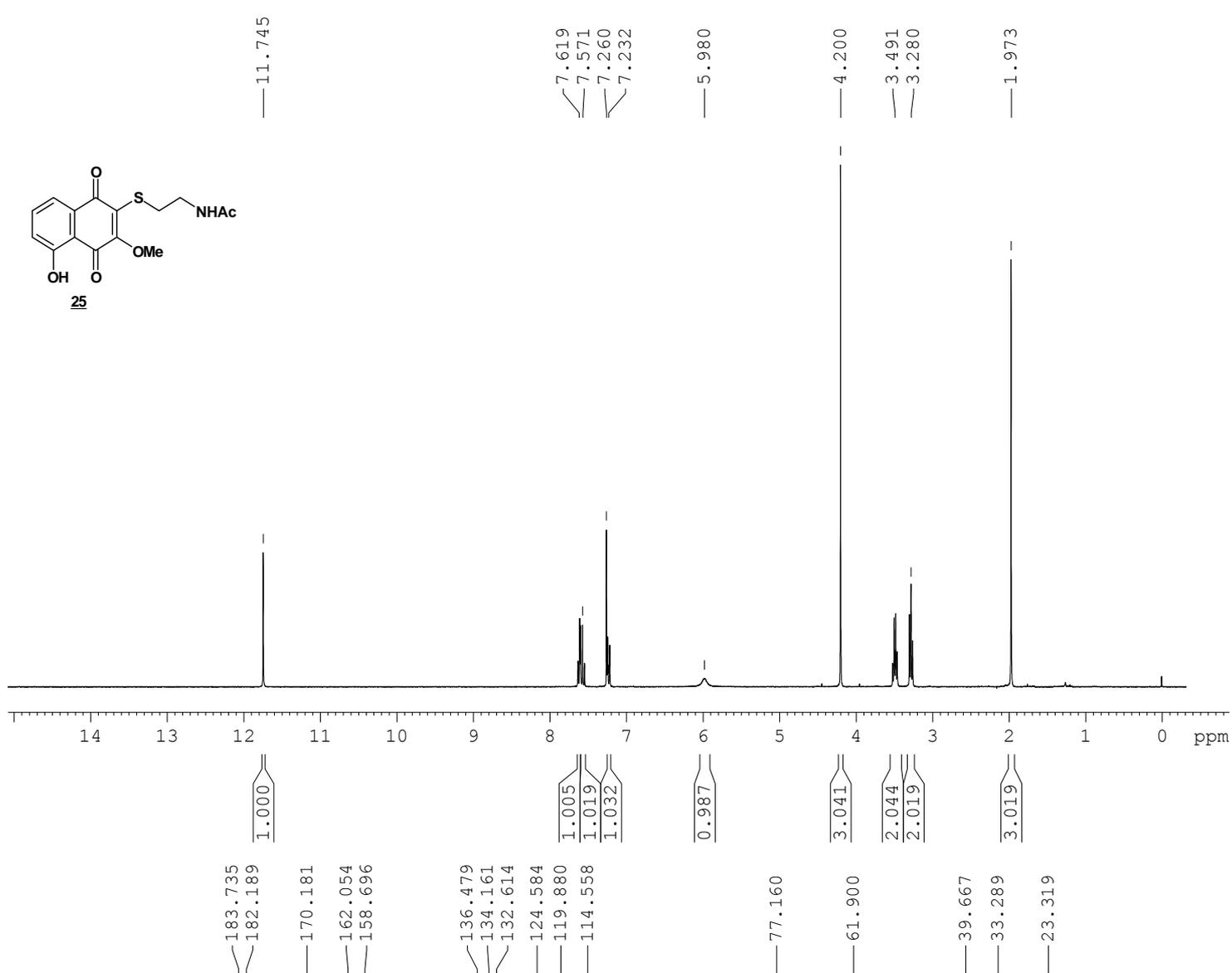
¹H and ¹³C NMR spectra of compound **23** (CDCl₃)



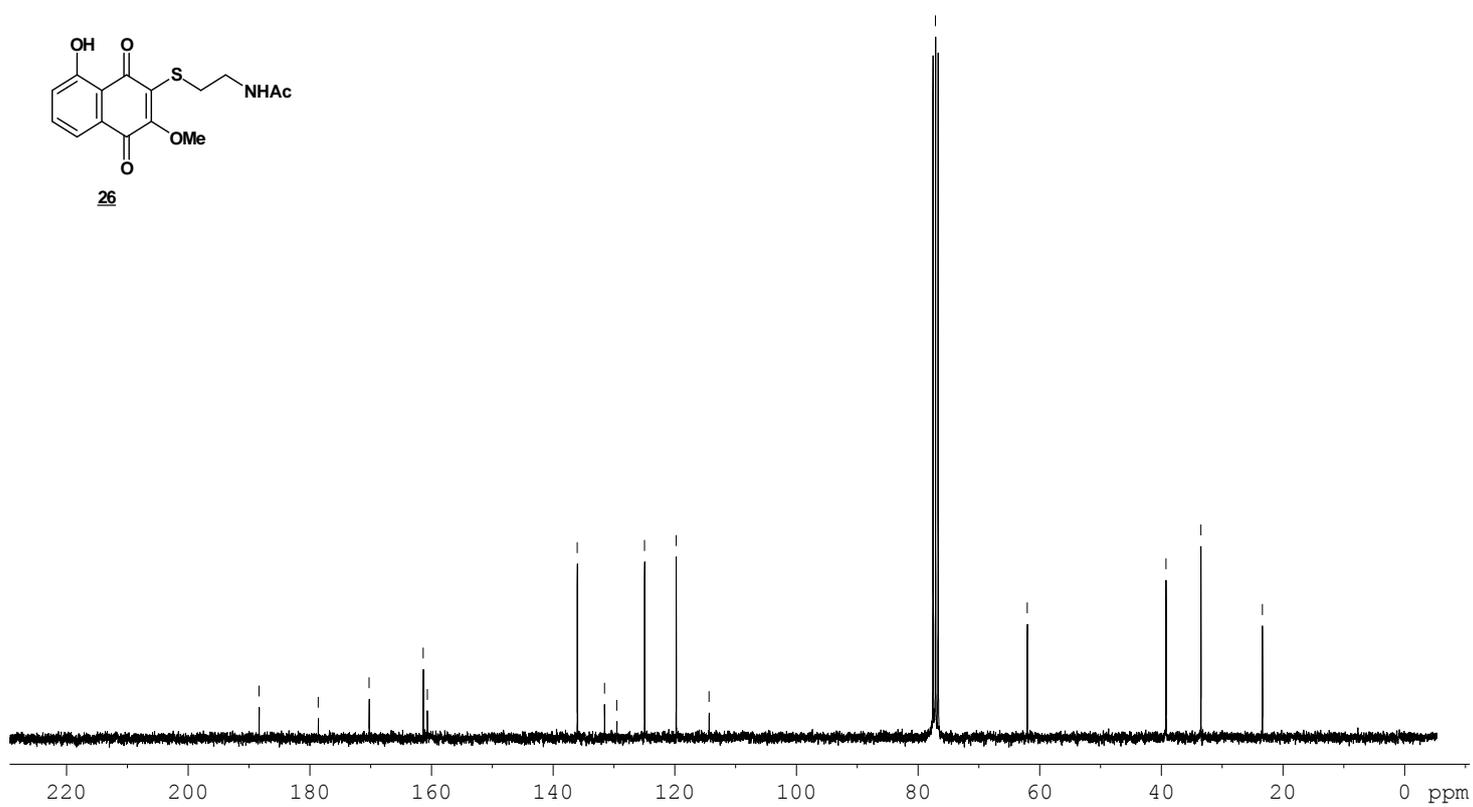
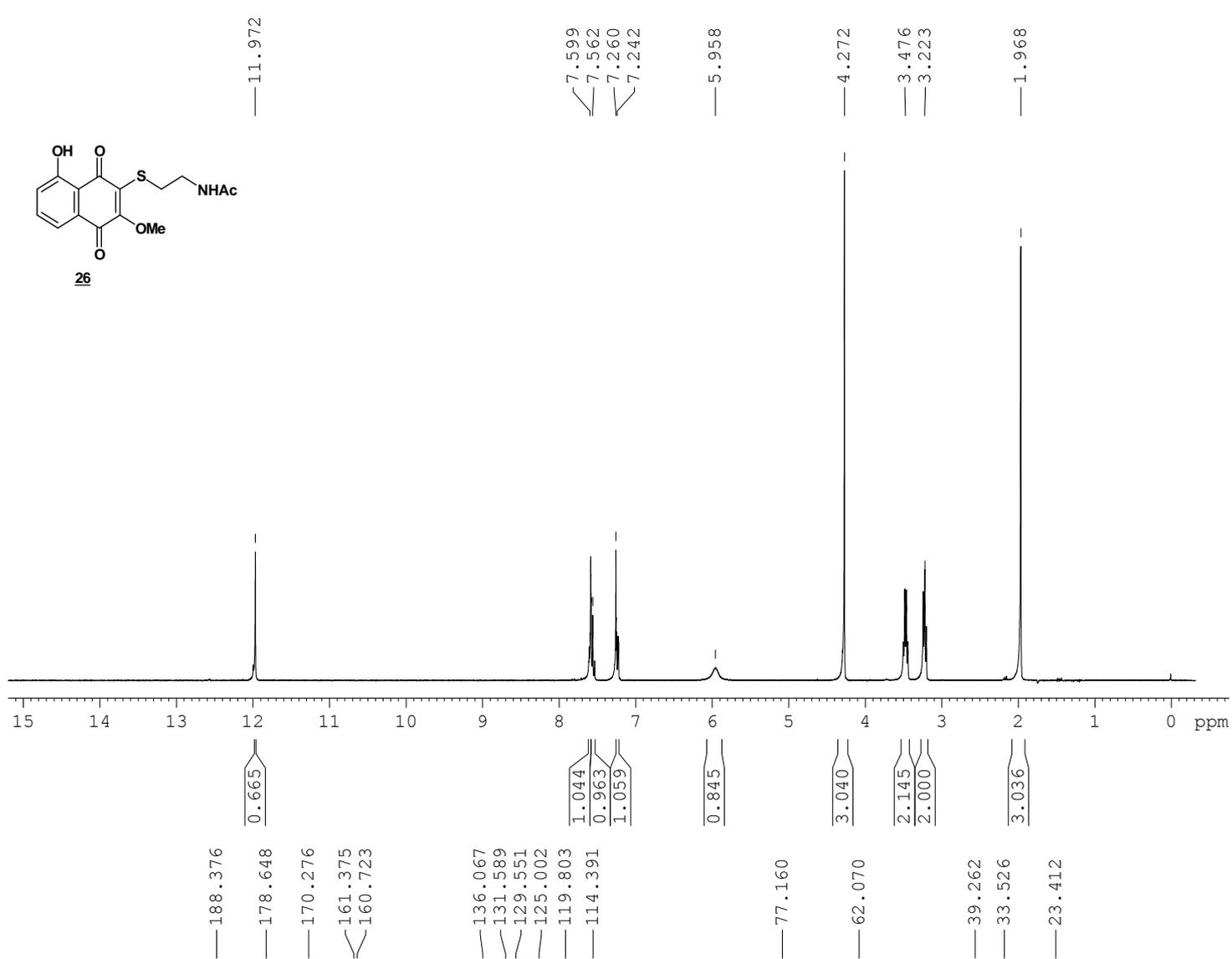
¹H and ¹³C NMR spectra of compound **24** (CDCl₃)



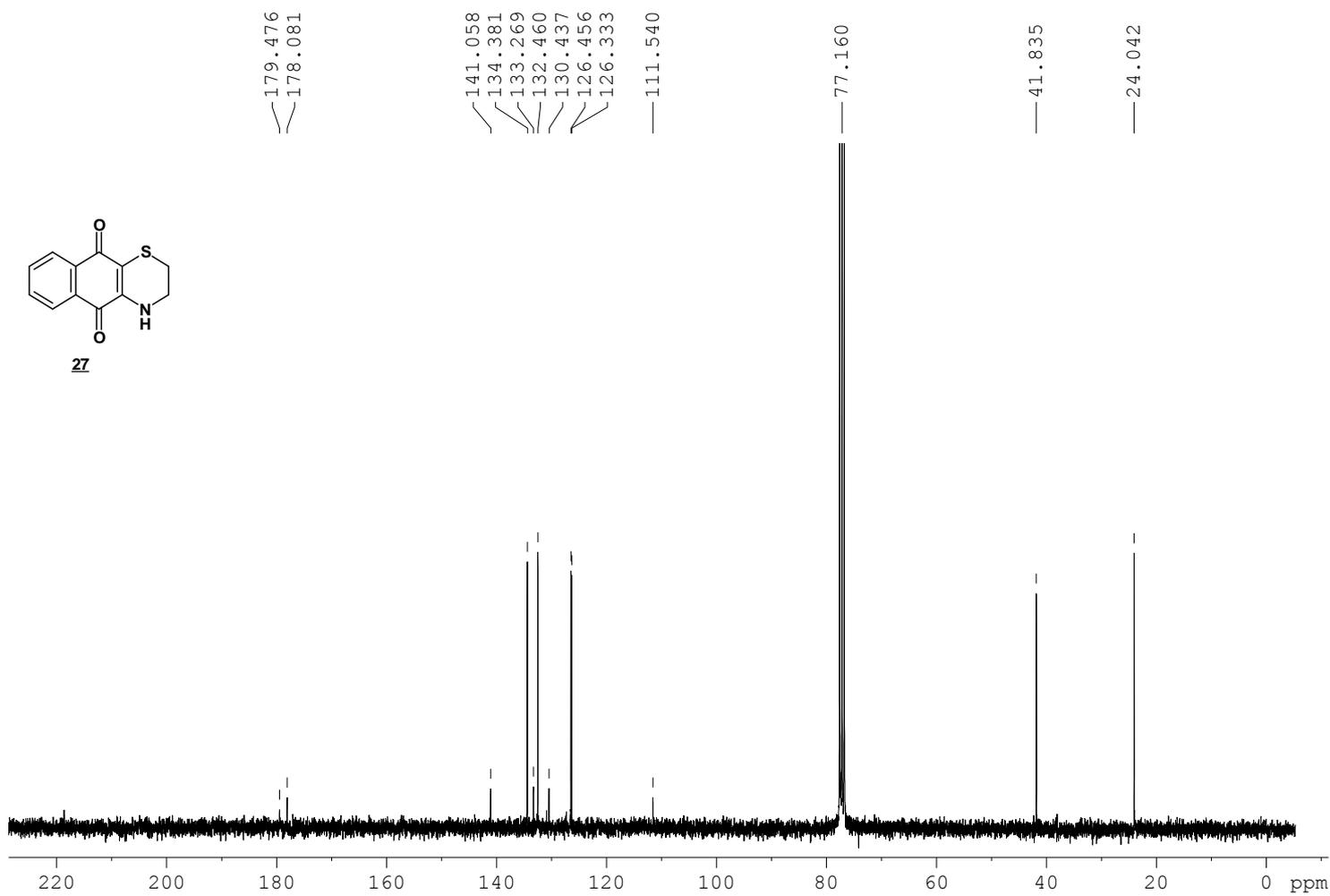
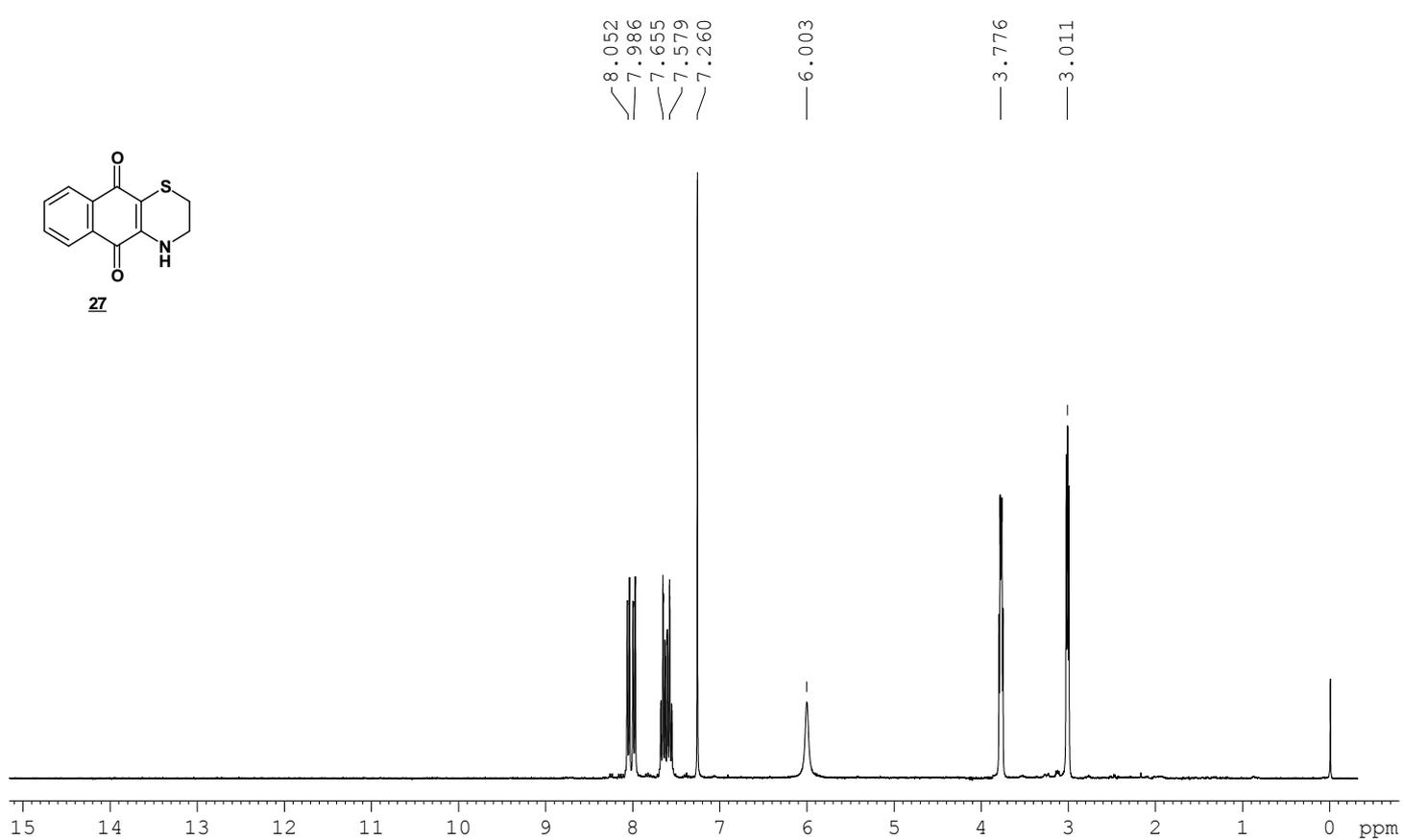
¹H and ¹³C NMR spectra of compound **25** (CDCl₃)



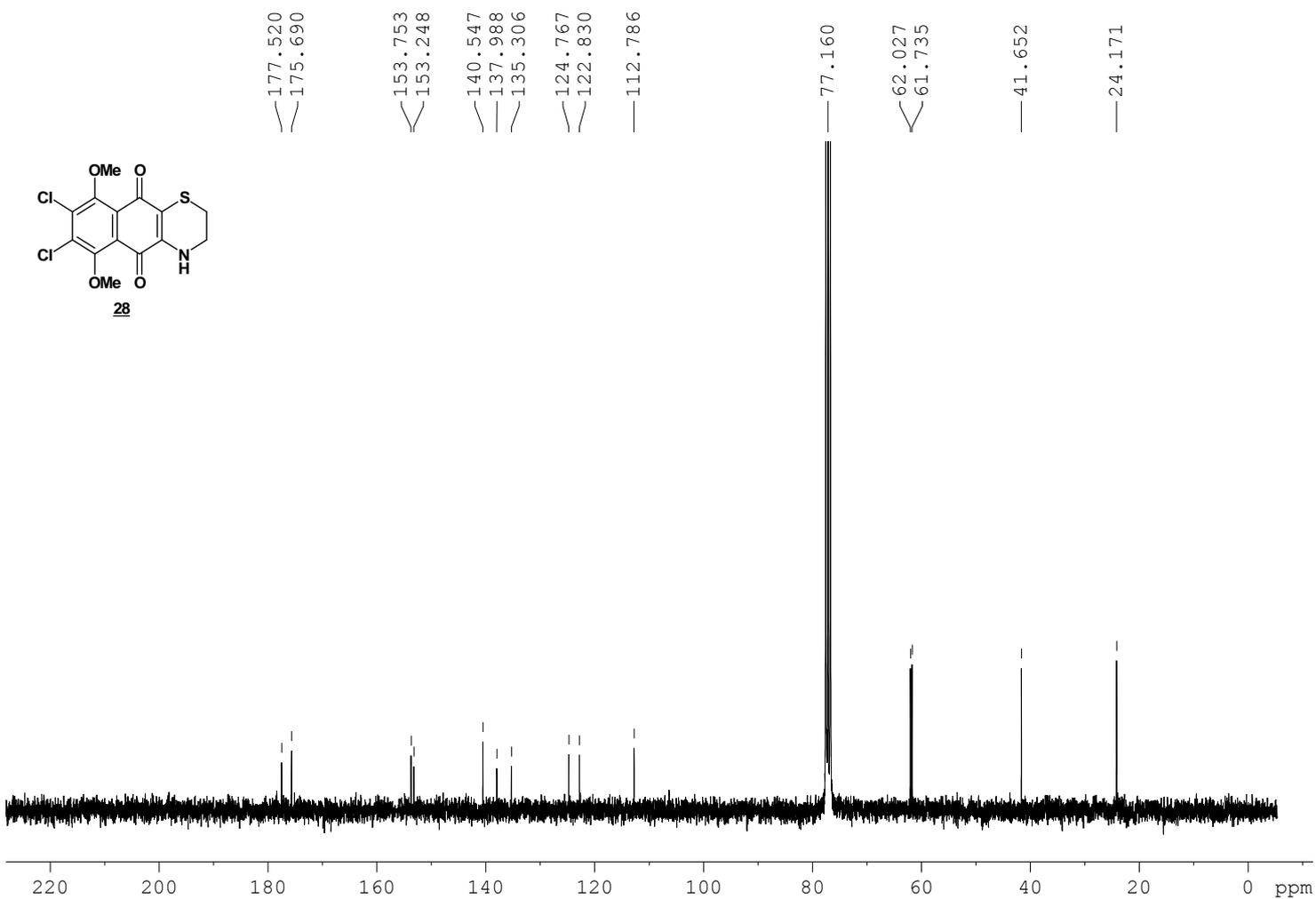
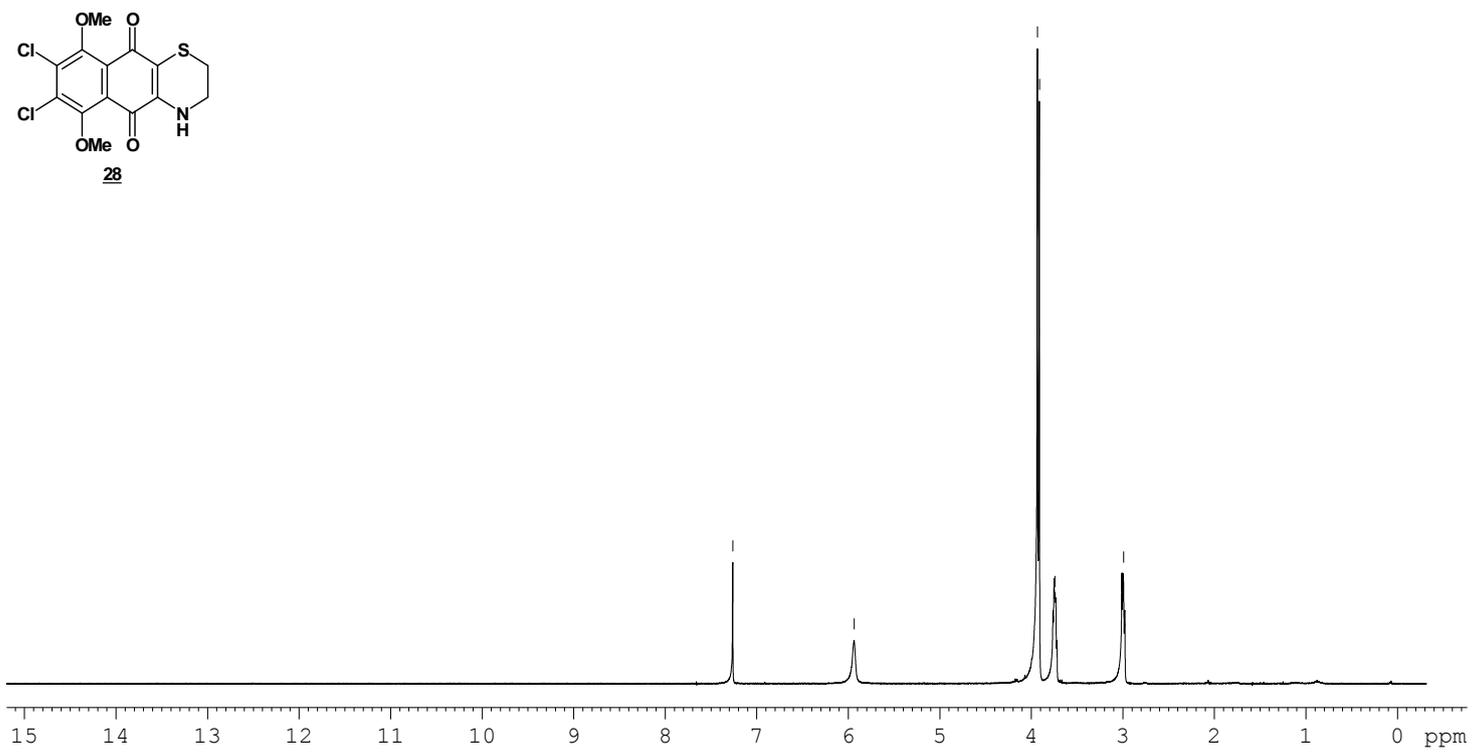
^1H and ^{13}C NMR spectra of compound **26** (CDCl₃)



^1H and ^{13}C NMR spectra of compound **27** (CDCl₃)



^1H and ^{13}C NMR spectra of compound **28** (CDCl_3)



^1H and ^{13}C NMR spectra of compound **29** (CDCl_3)

