

Supporting Information

**FIRST TOTAL SYNTHESIS OF PALMARUMYCIN C₆ BASED ON DOUBLE OXA-MICHAEL ADDITION OF
1,8-DIHYDROXYNAPHTHALENE TO 3-BROMO-1-INDENONE**

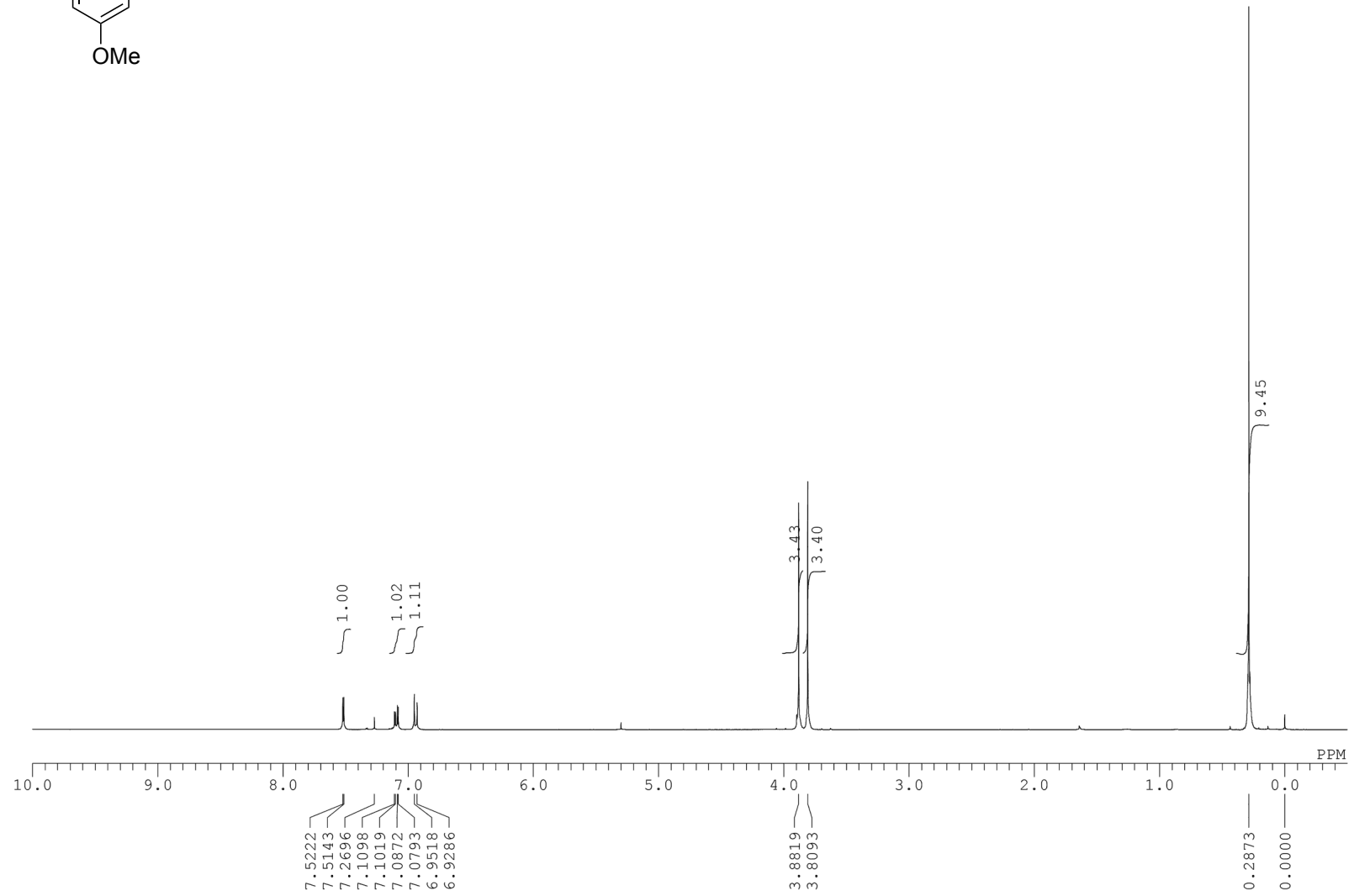
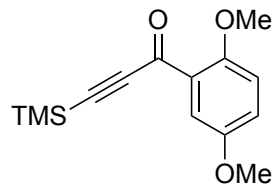
*Hirokazu Tsukamoto, Yumi Nomura, and Takayuki Doi**

Graduate School of Pharmaceutical Sciences, Tohoku University, Aramaki-aza aoba 6-3, Aoba-ku, Sendai 980-8578, Japan

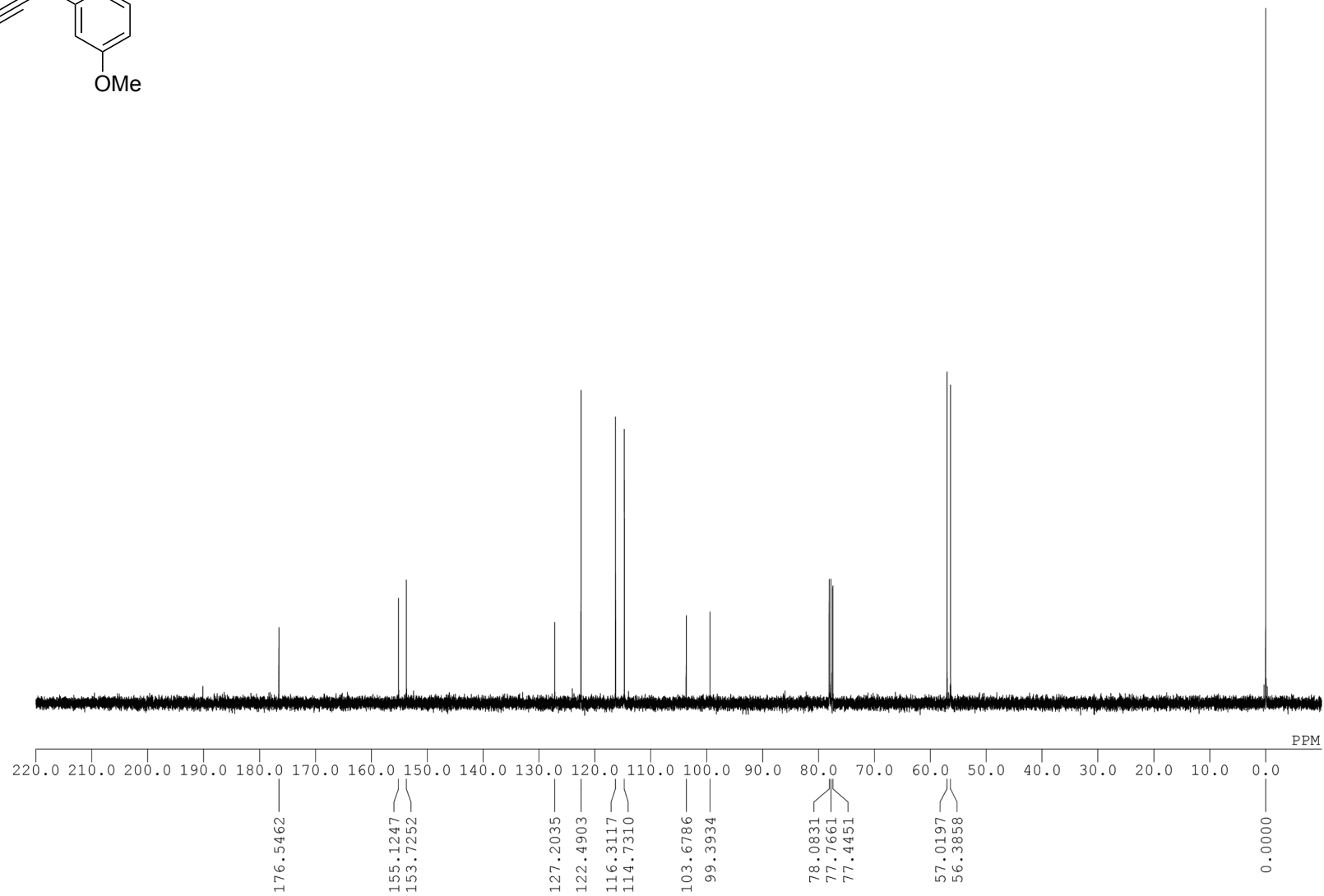
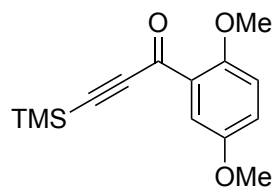
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¹H and ¹³C NMR spectra

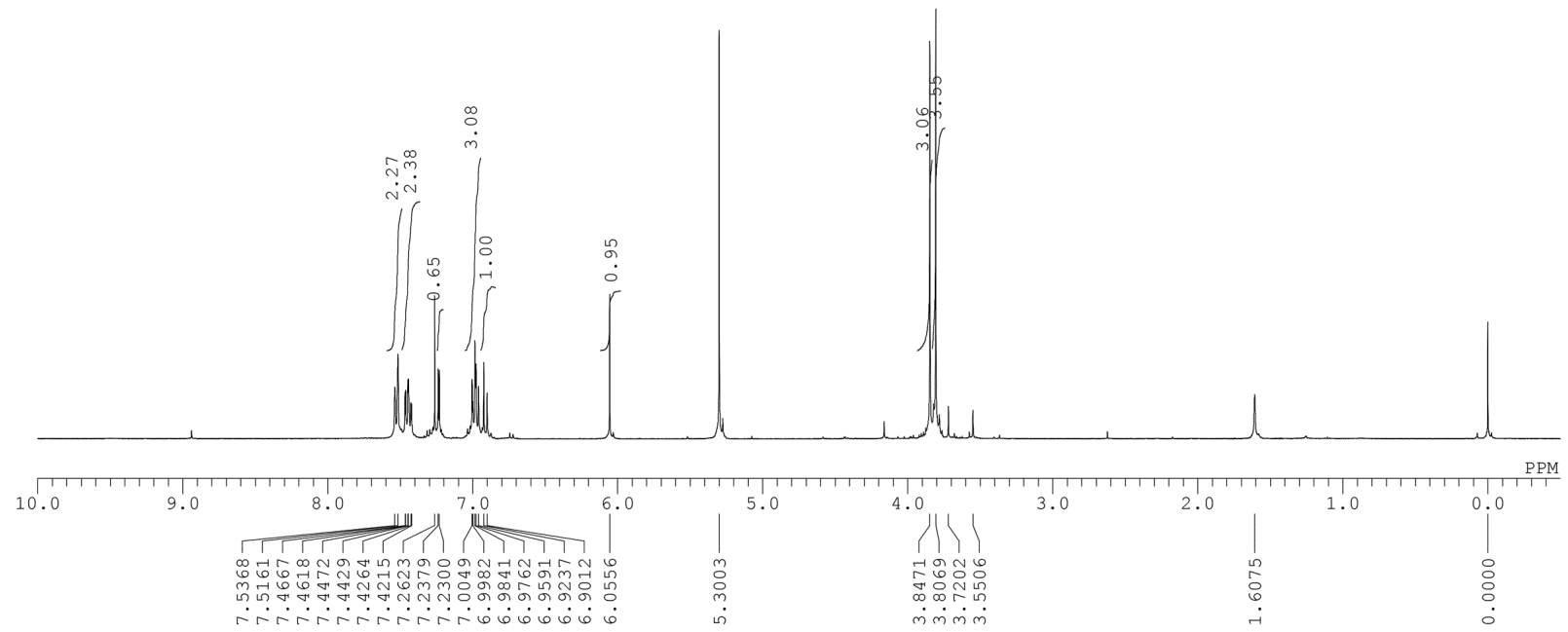
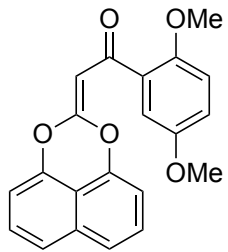
¹H NMR spectrum of **10**



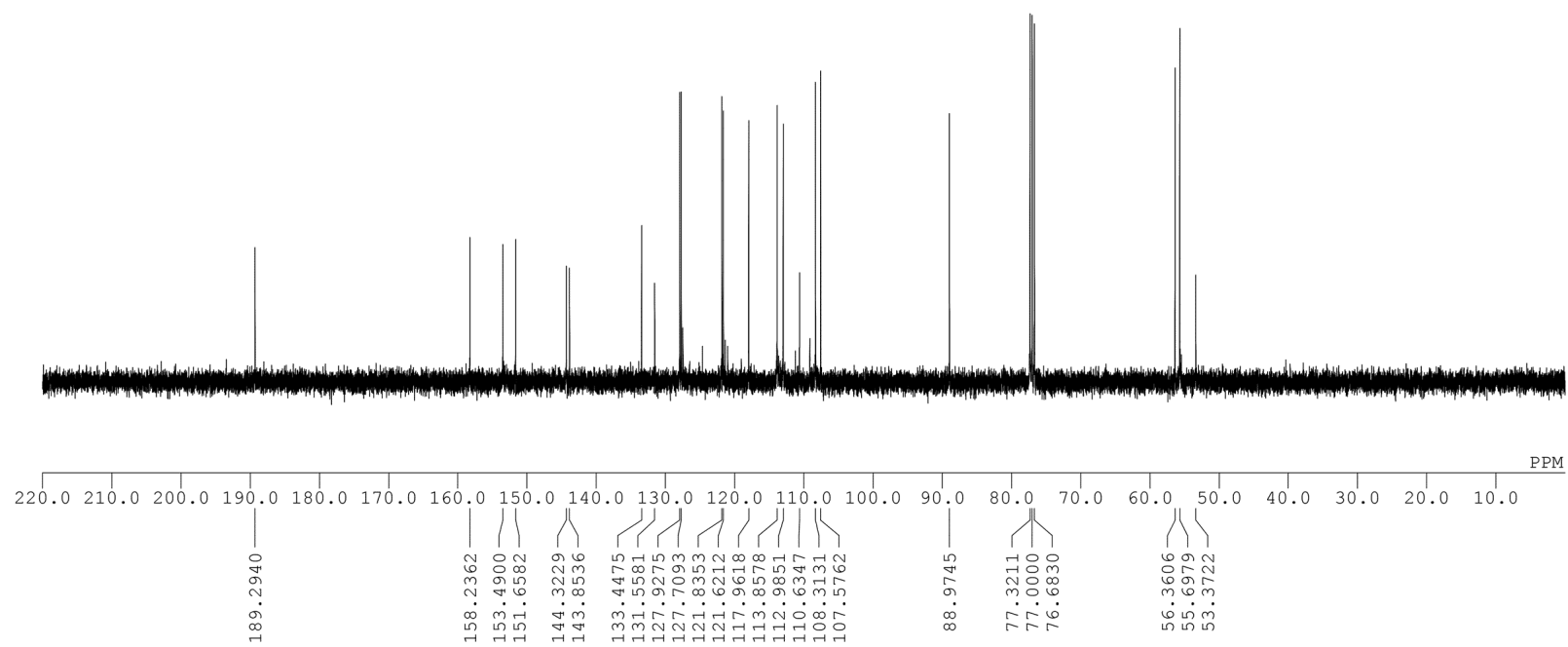
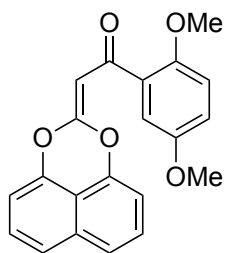
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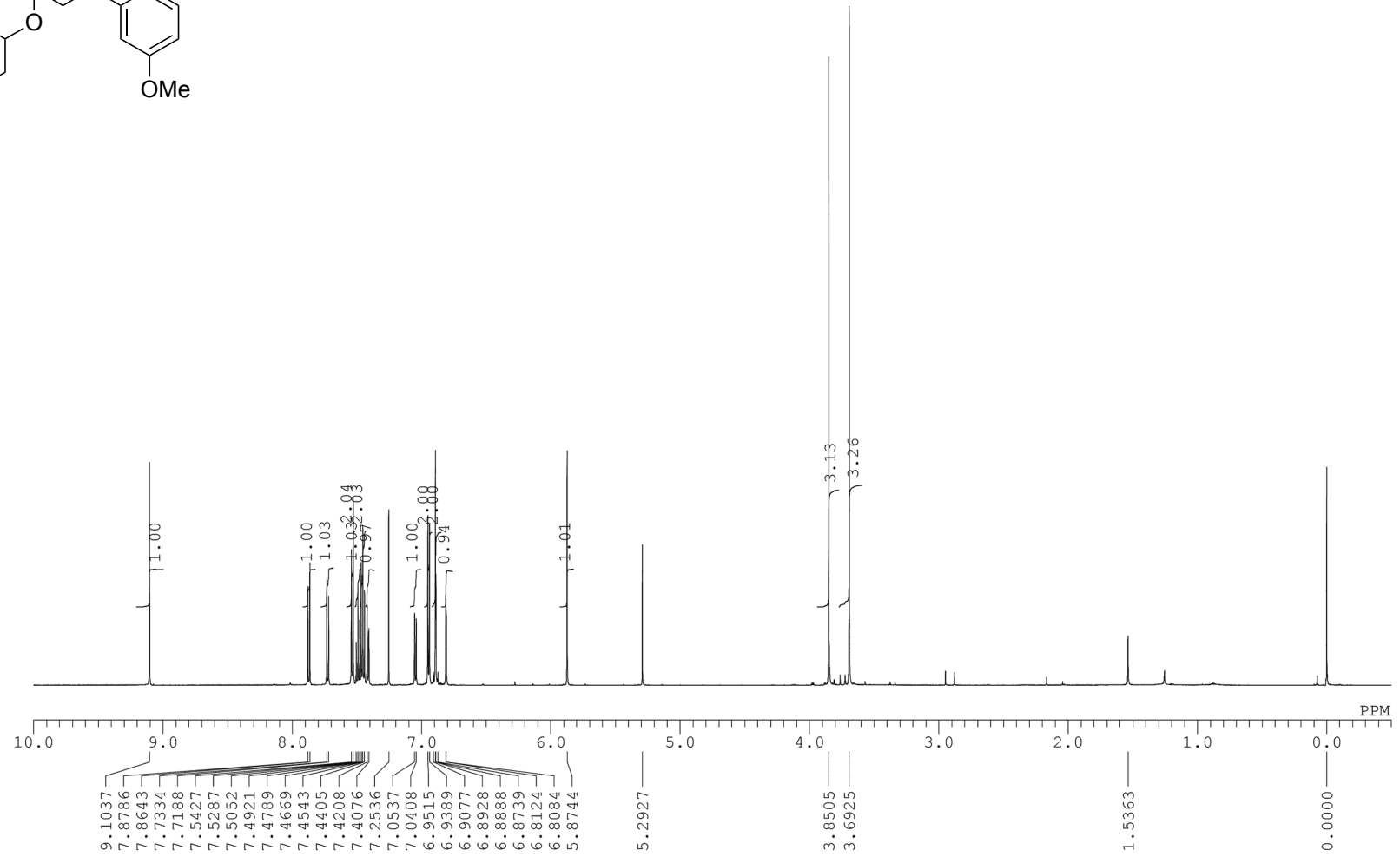
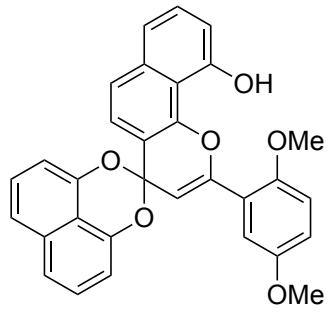
¹H NMR spectrum of **3a**



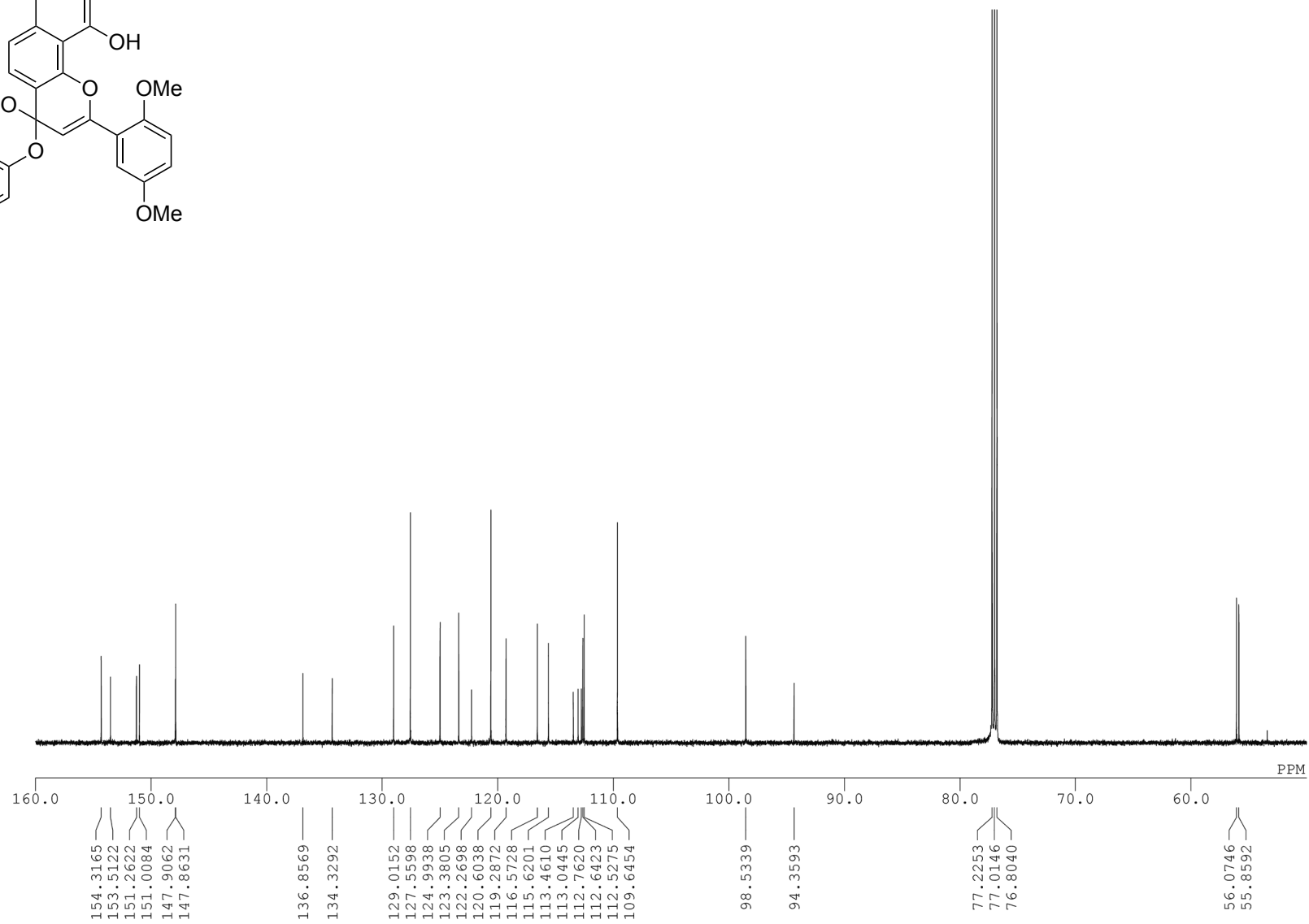
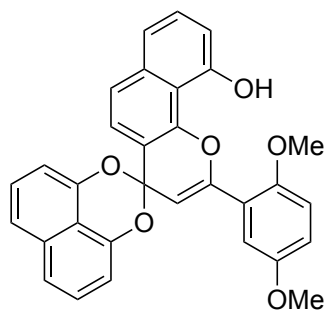
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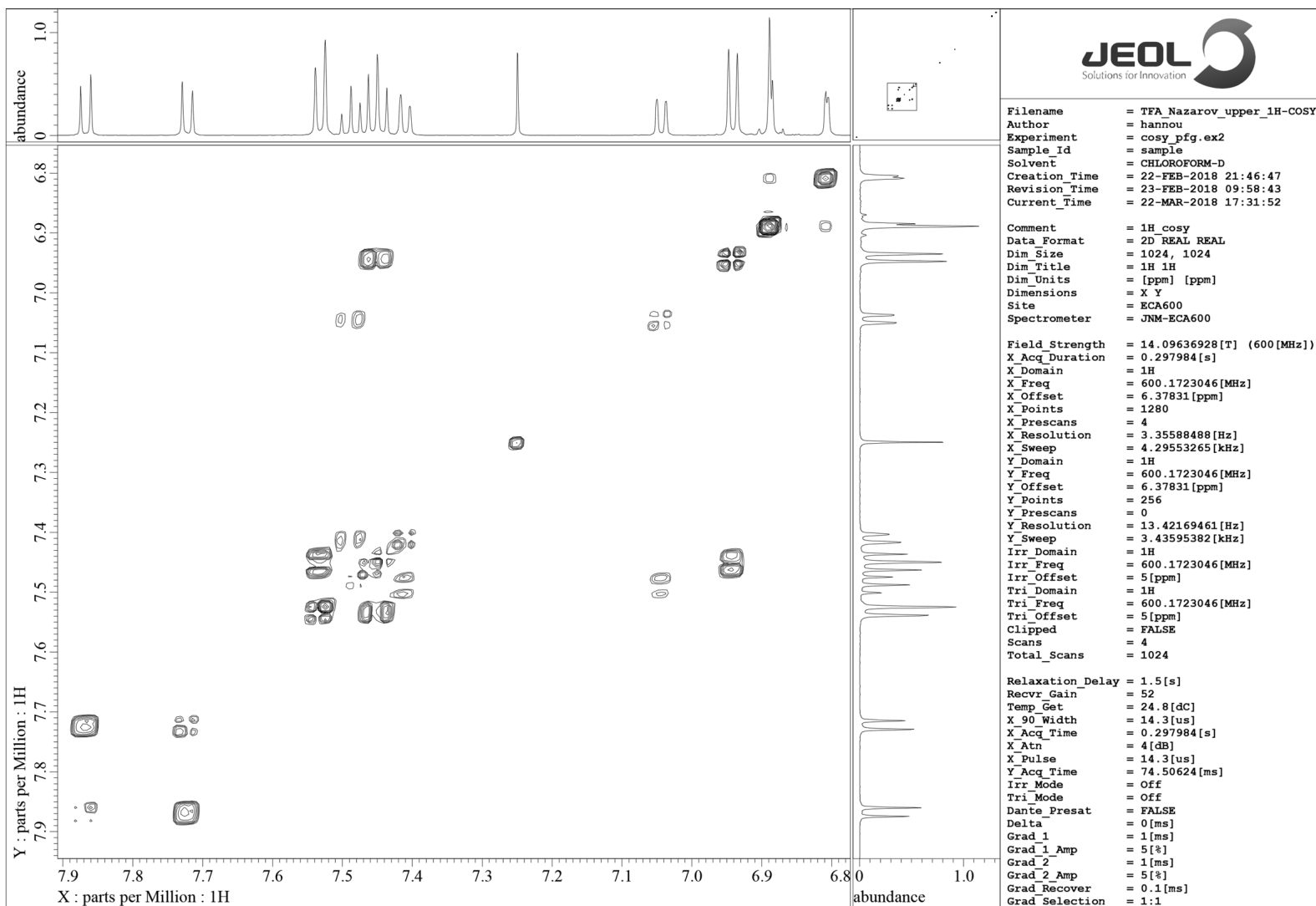
¹H NMR spectrum of **12**



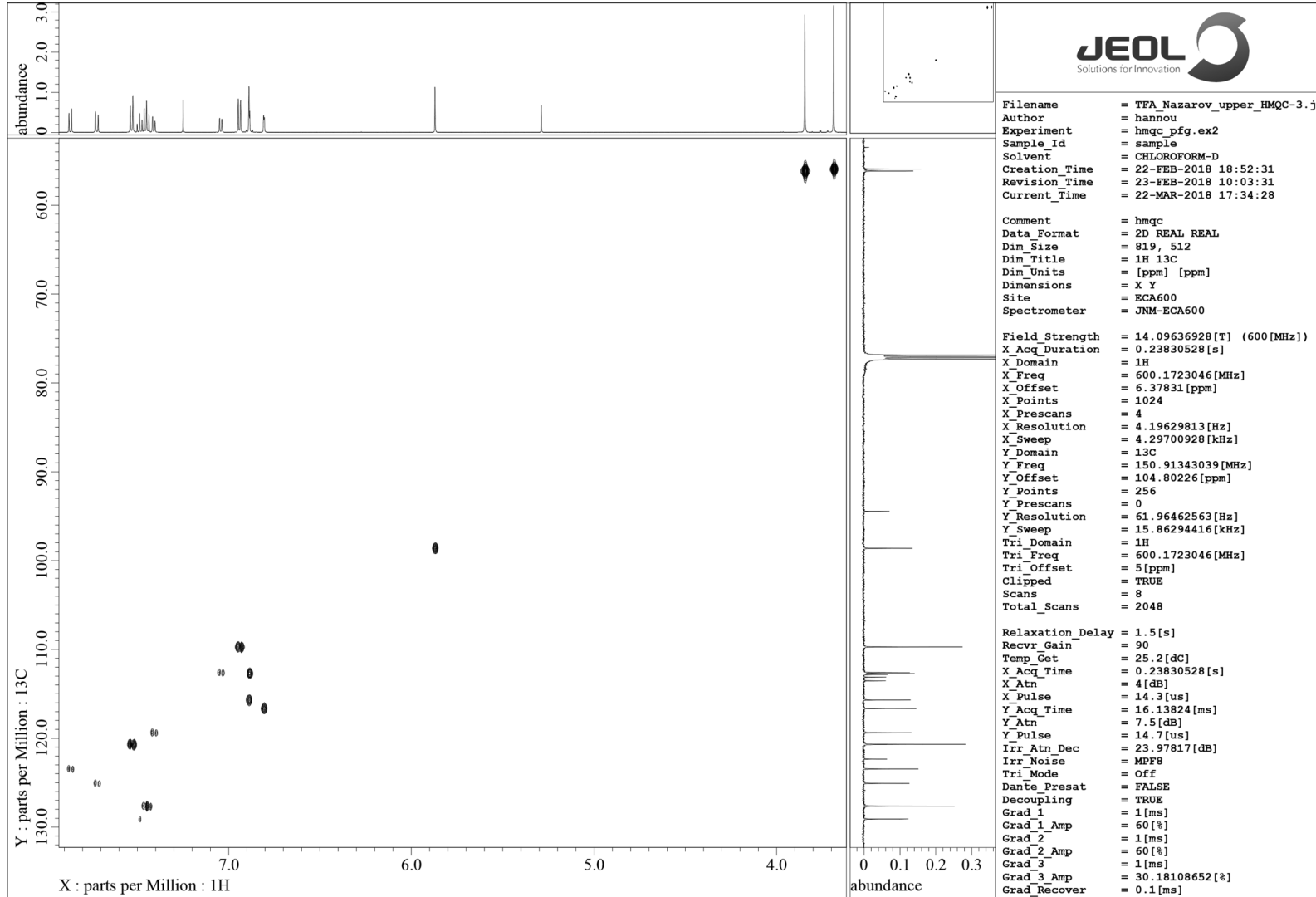
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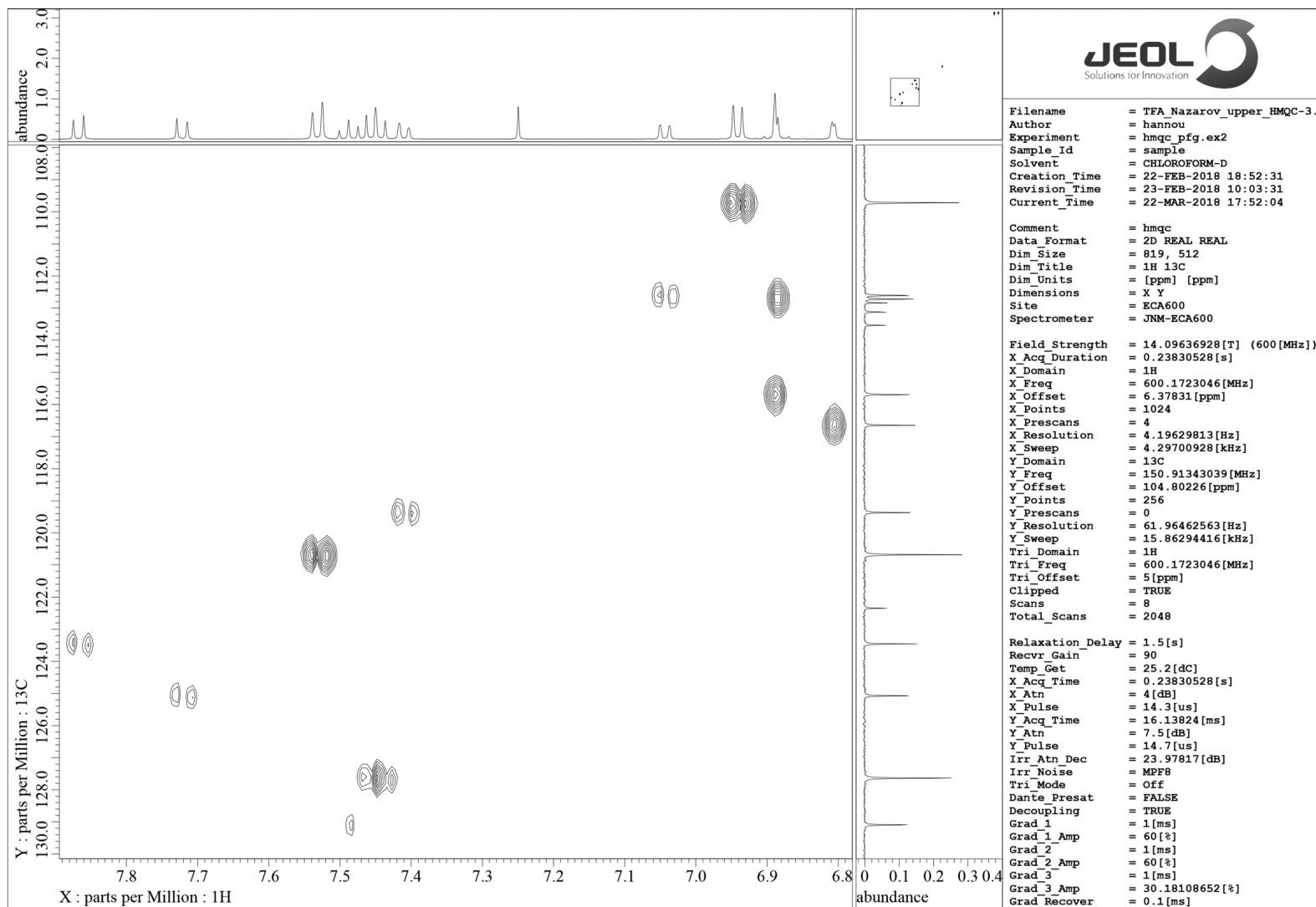
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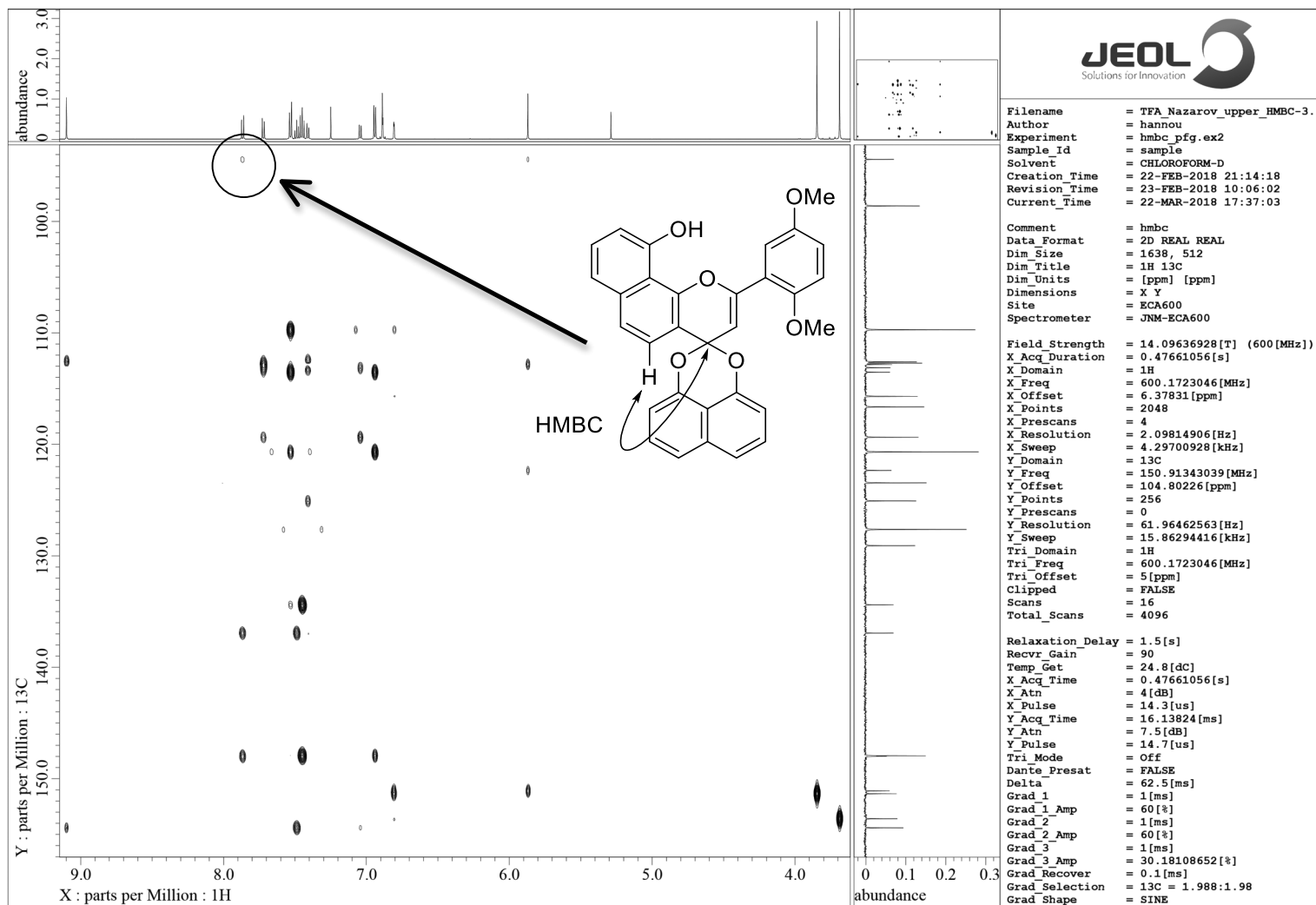
HMQC spectrum of 12



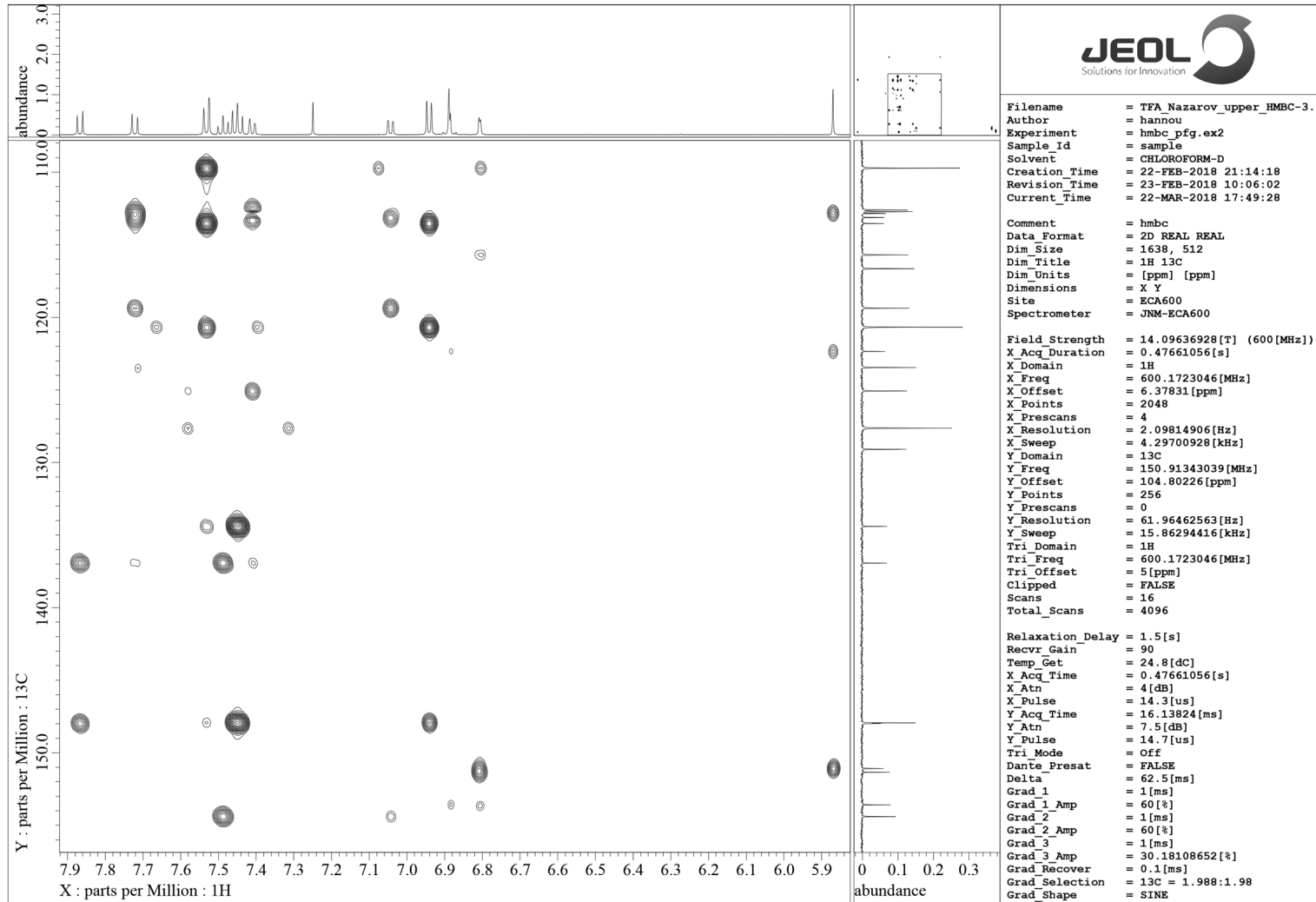
HMQC spectrum of 12



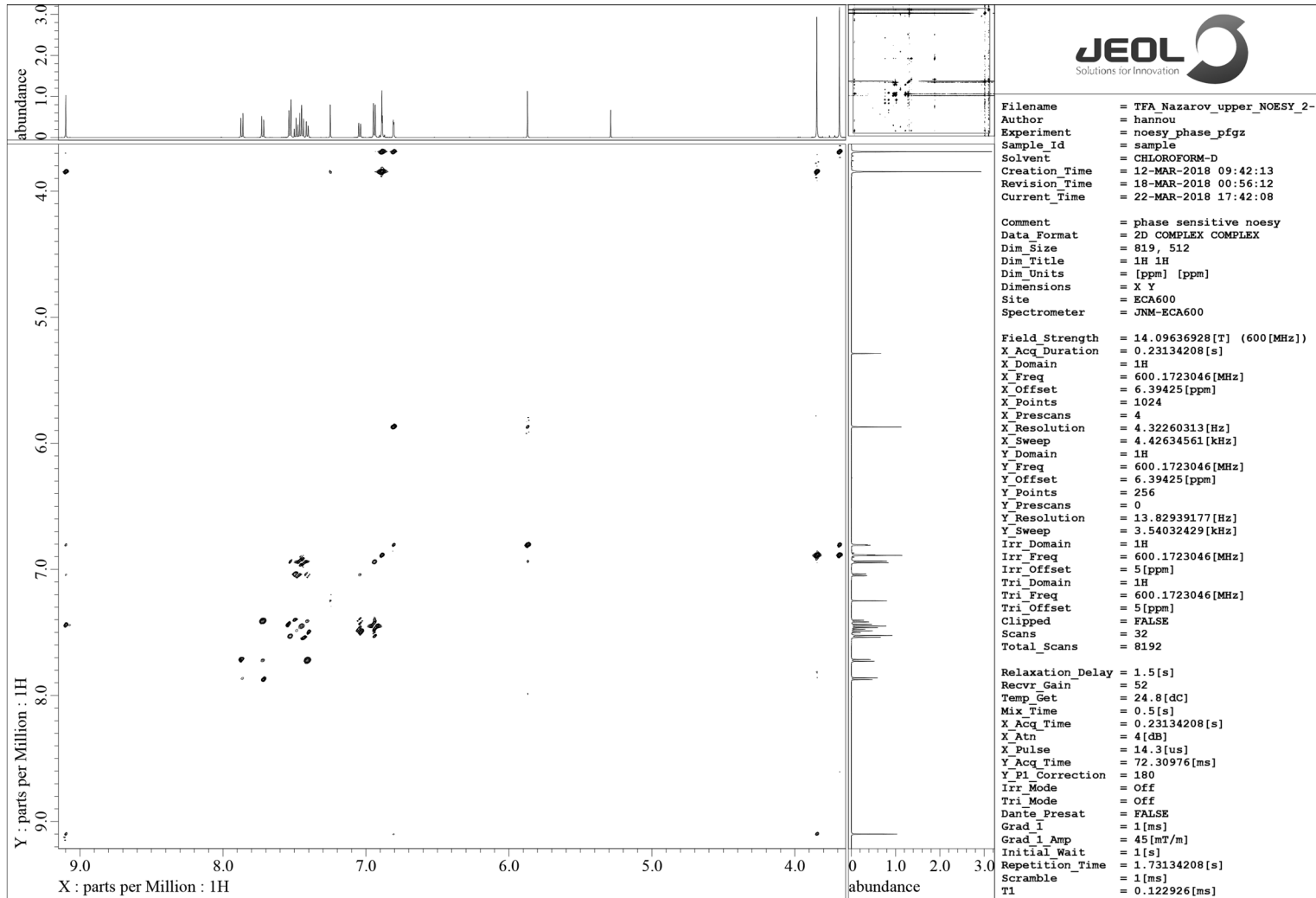
HMBC spectrum of 12



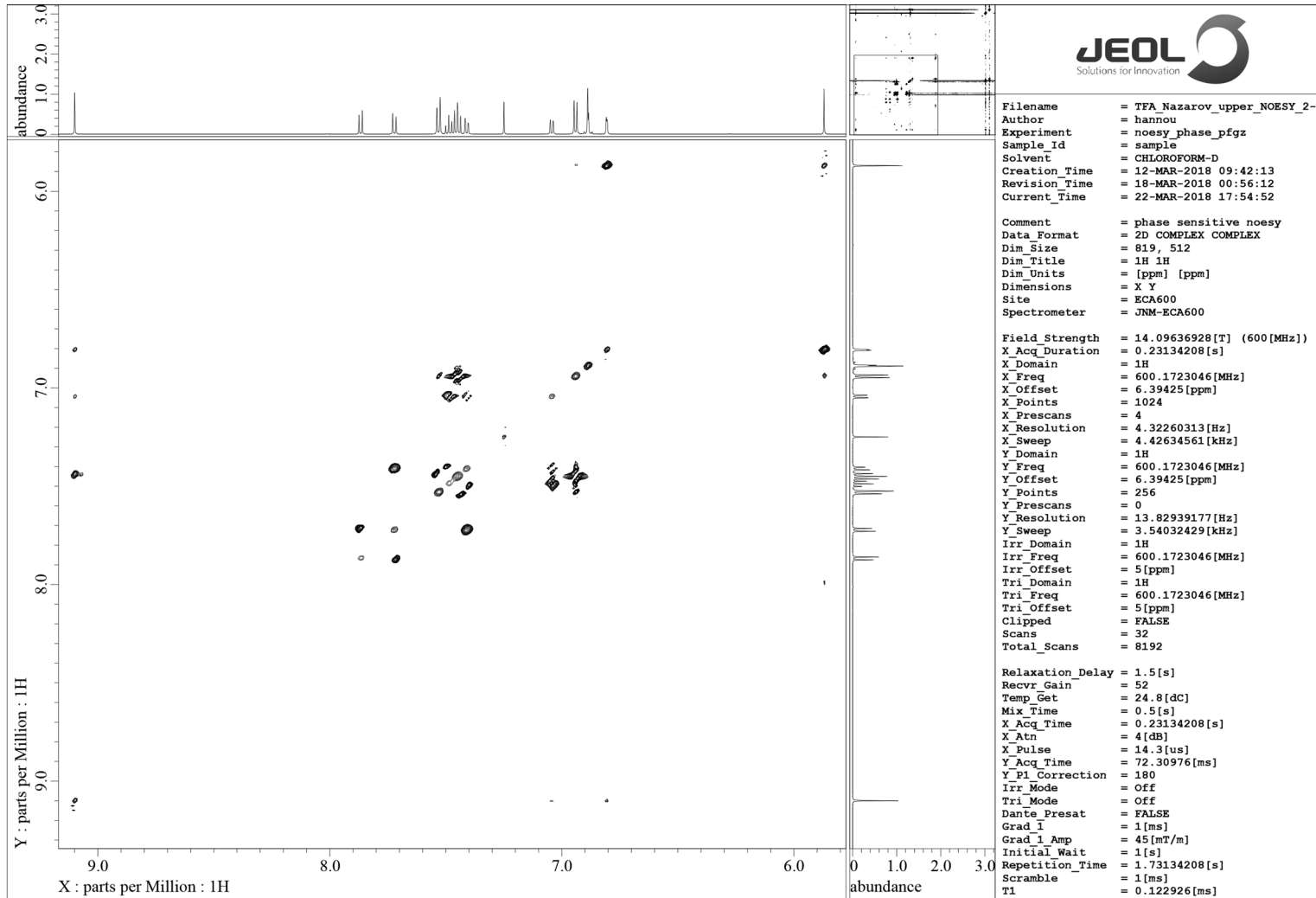
HMBC spectrum of 12



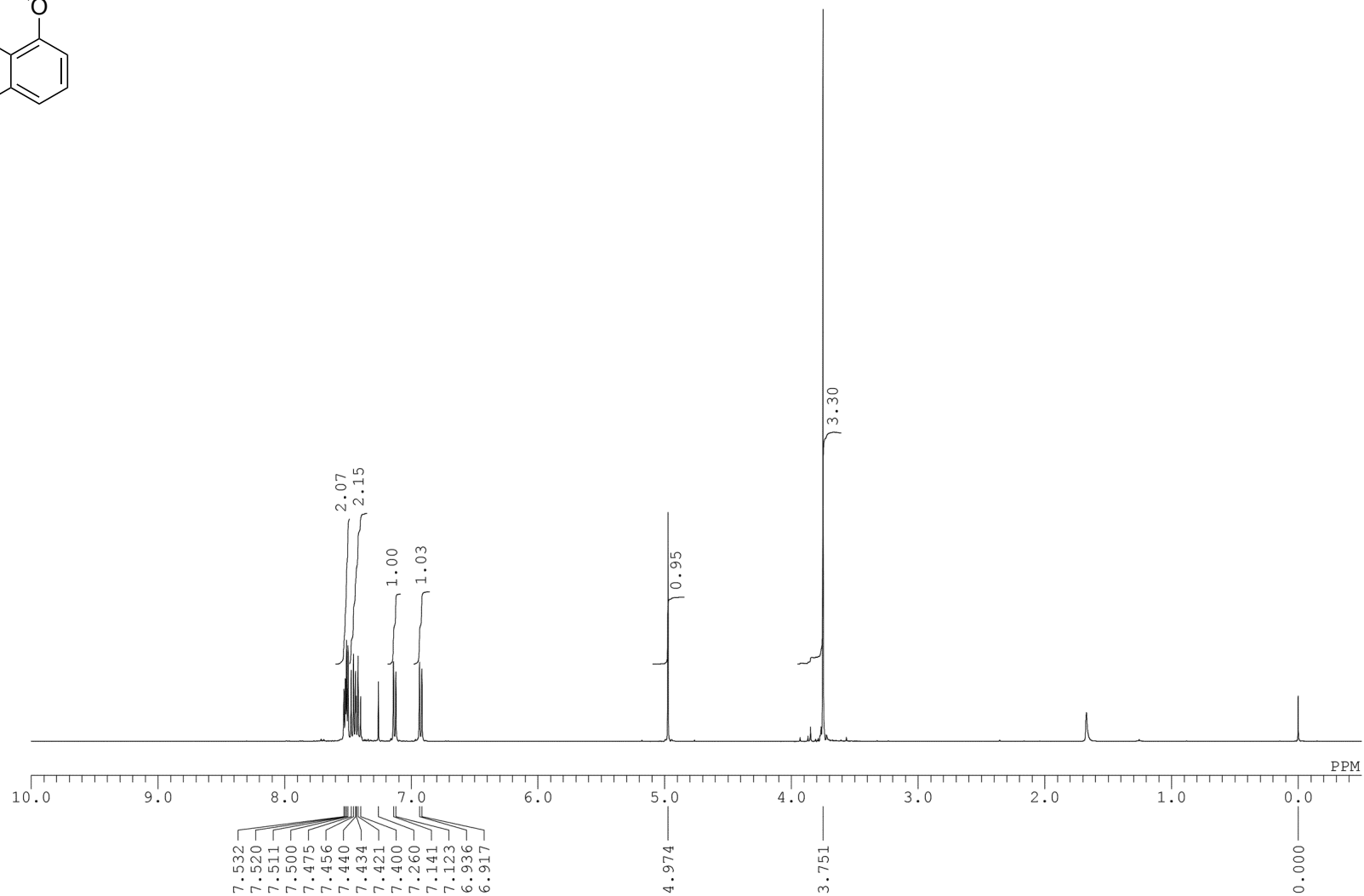
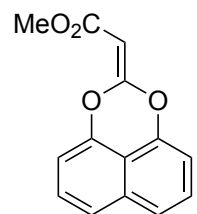
NOESY spectrum of 12



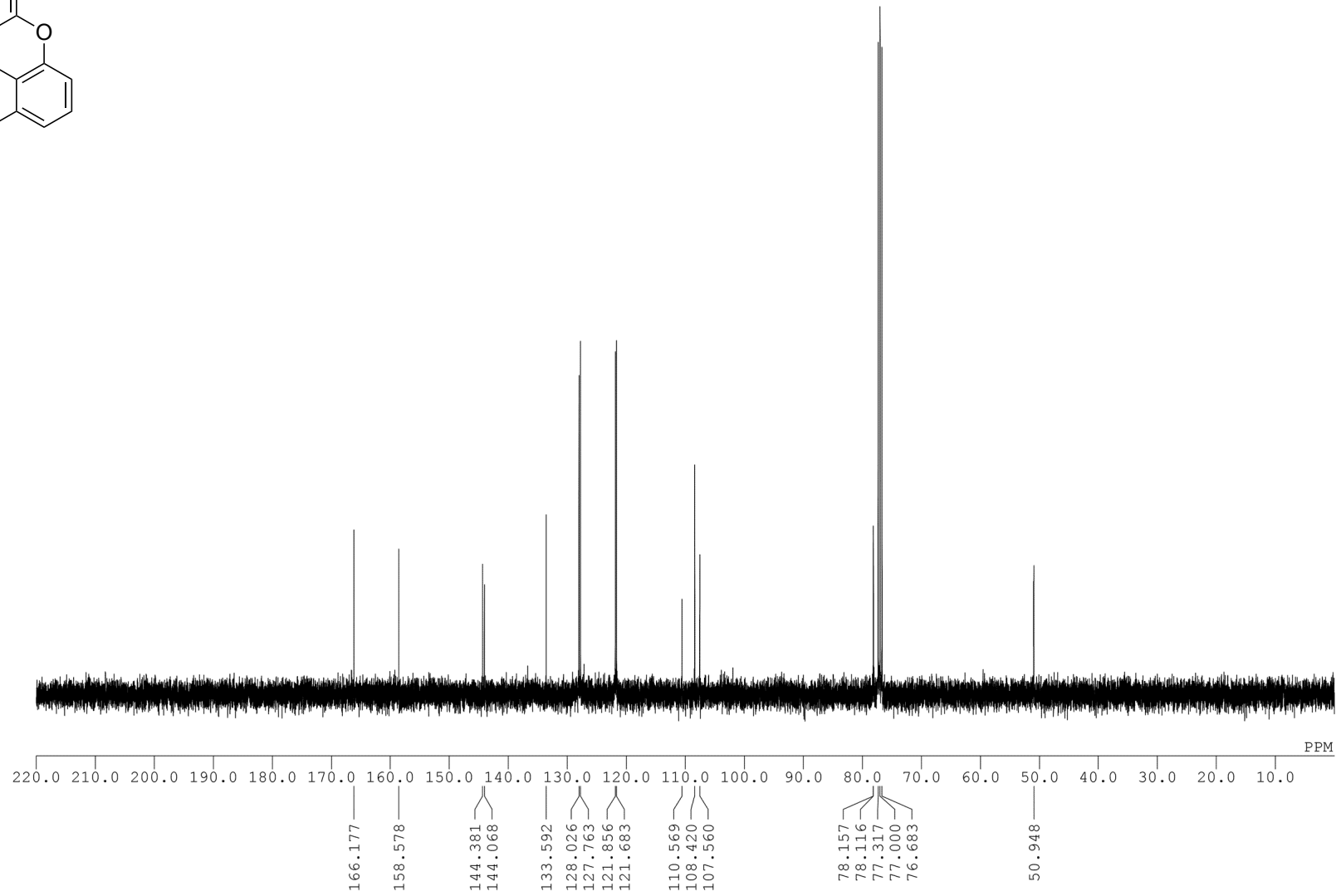
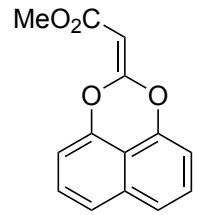
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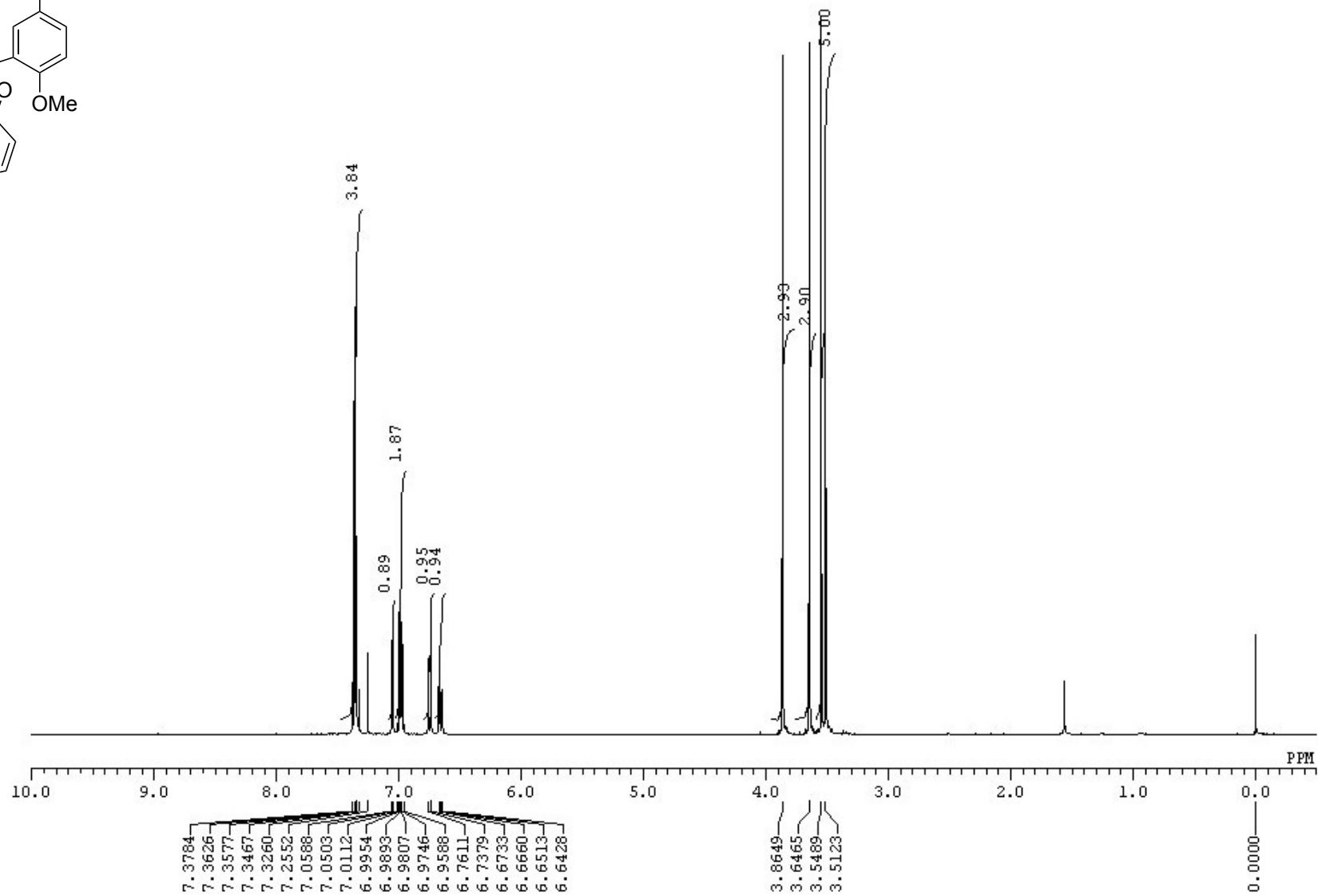
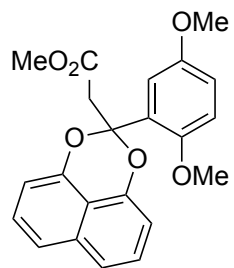
¹H NMR spectrum of 6



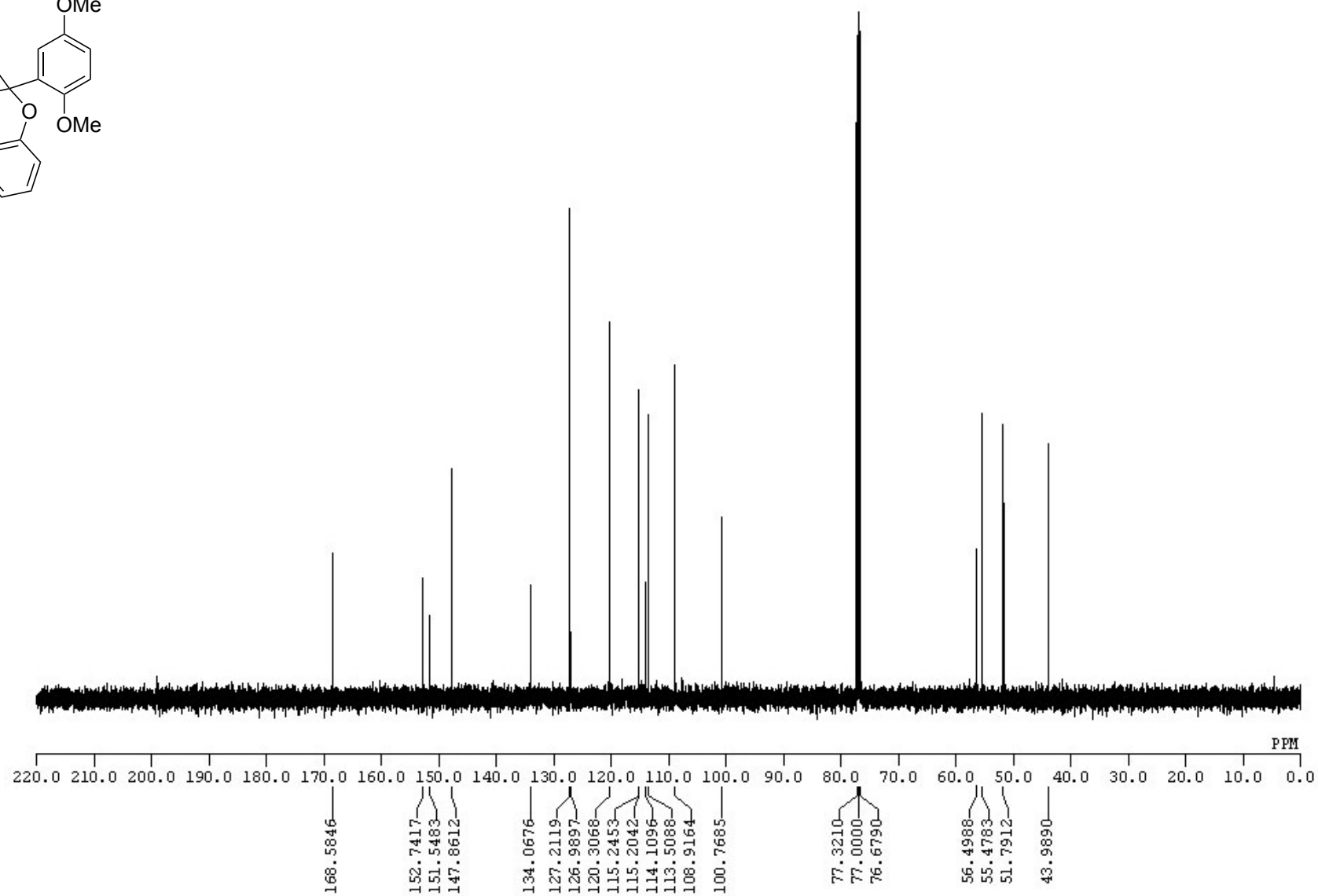
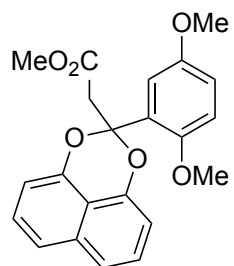
¹³C NMR spectrum of **6**



¹H NMR spectrum of **13**

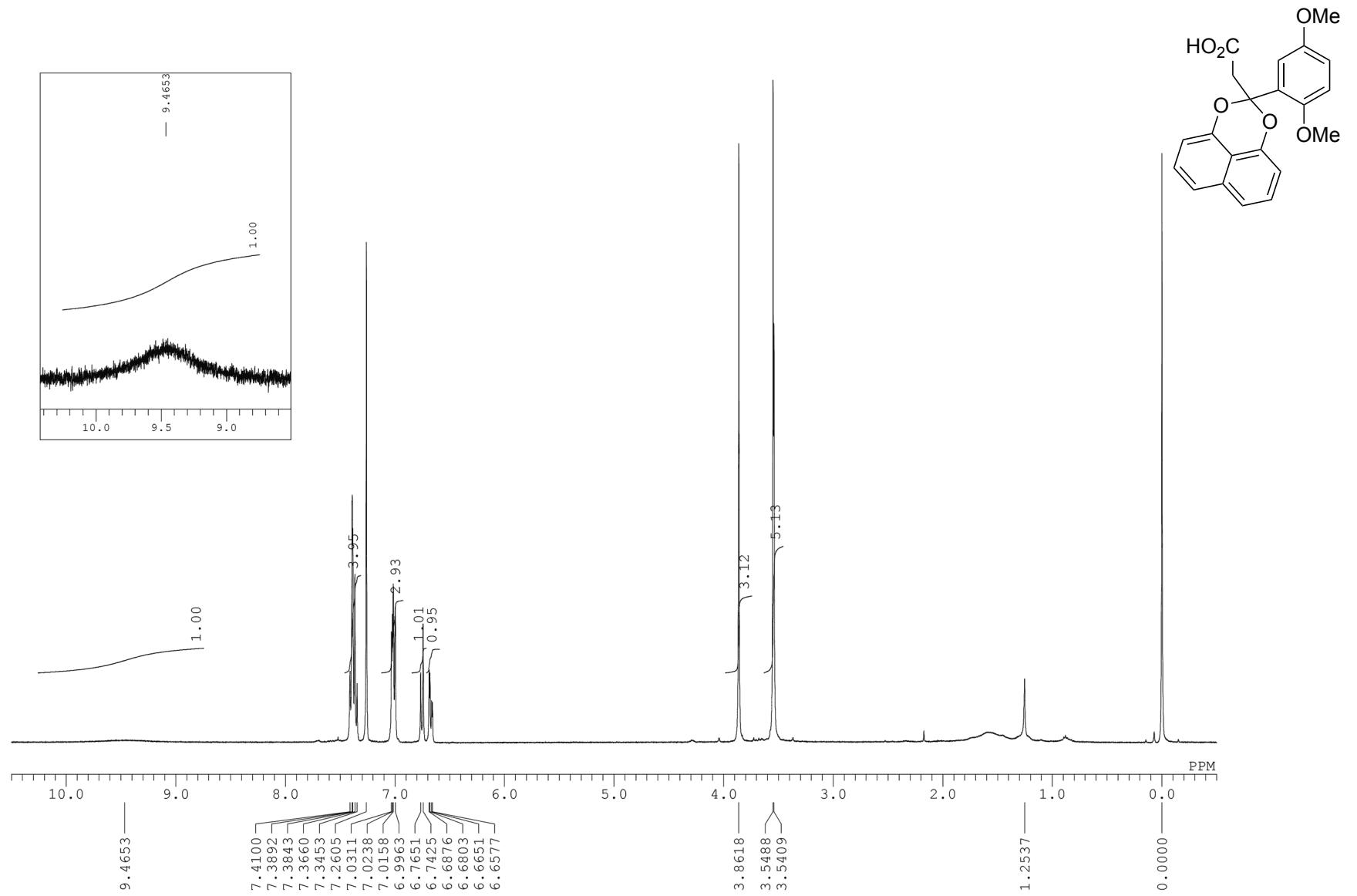


^{13}C NMR spectrum of **13**

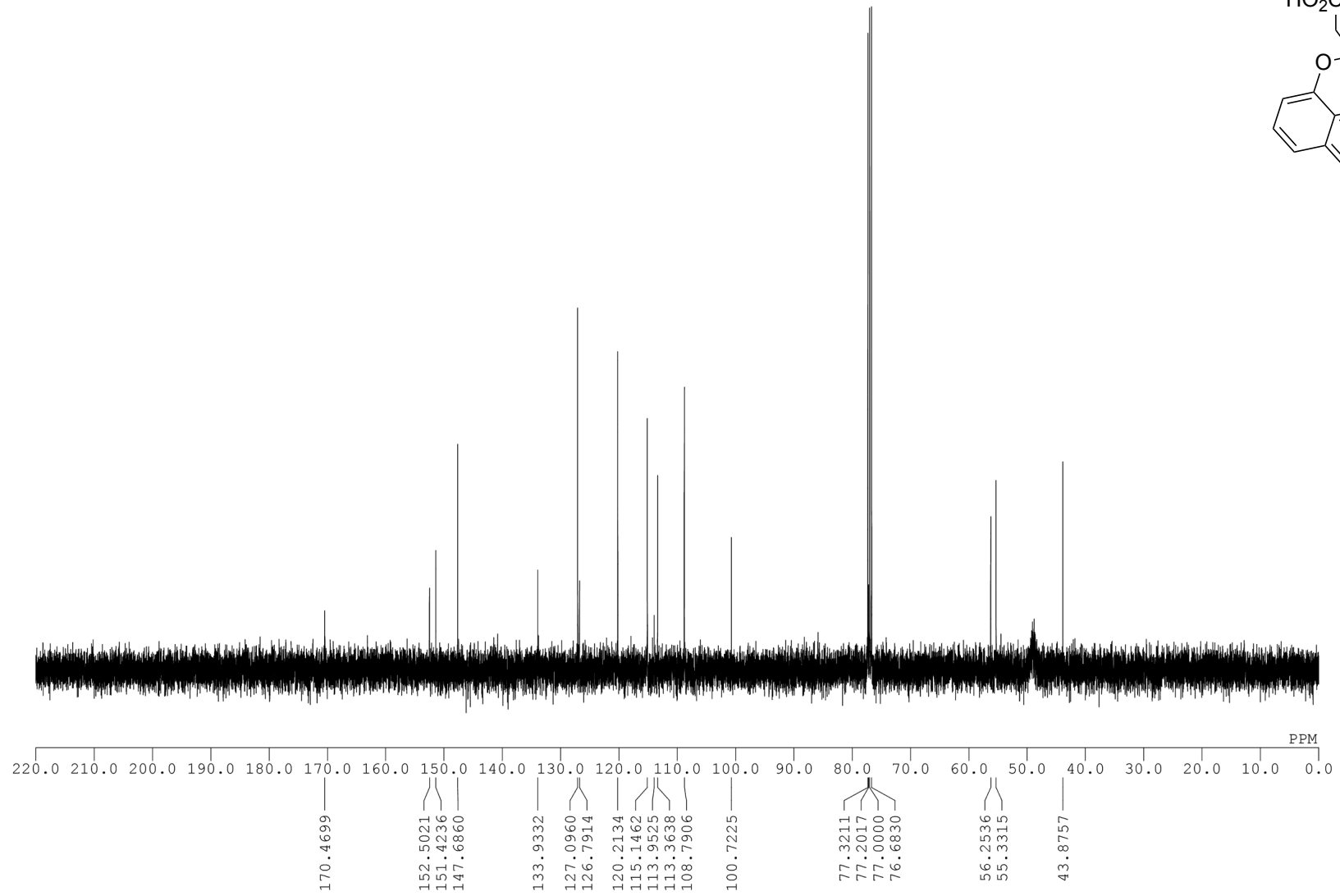
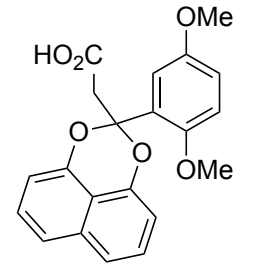


S17

¹H NMR spectrum of **14**

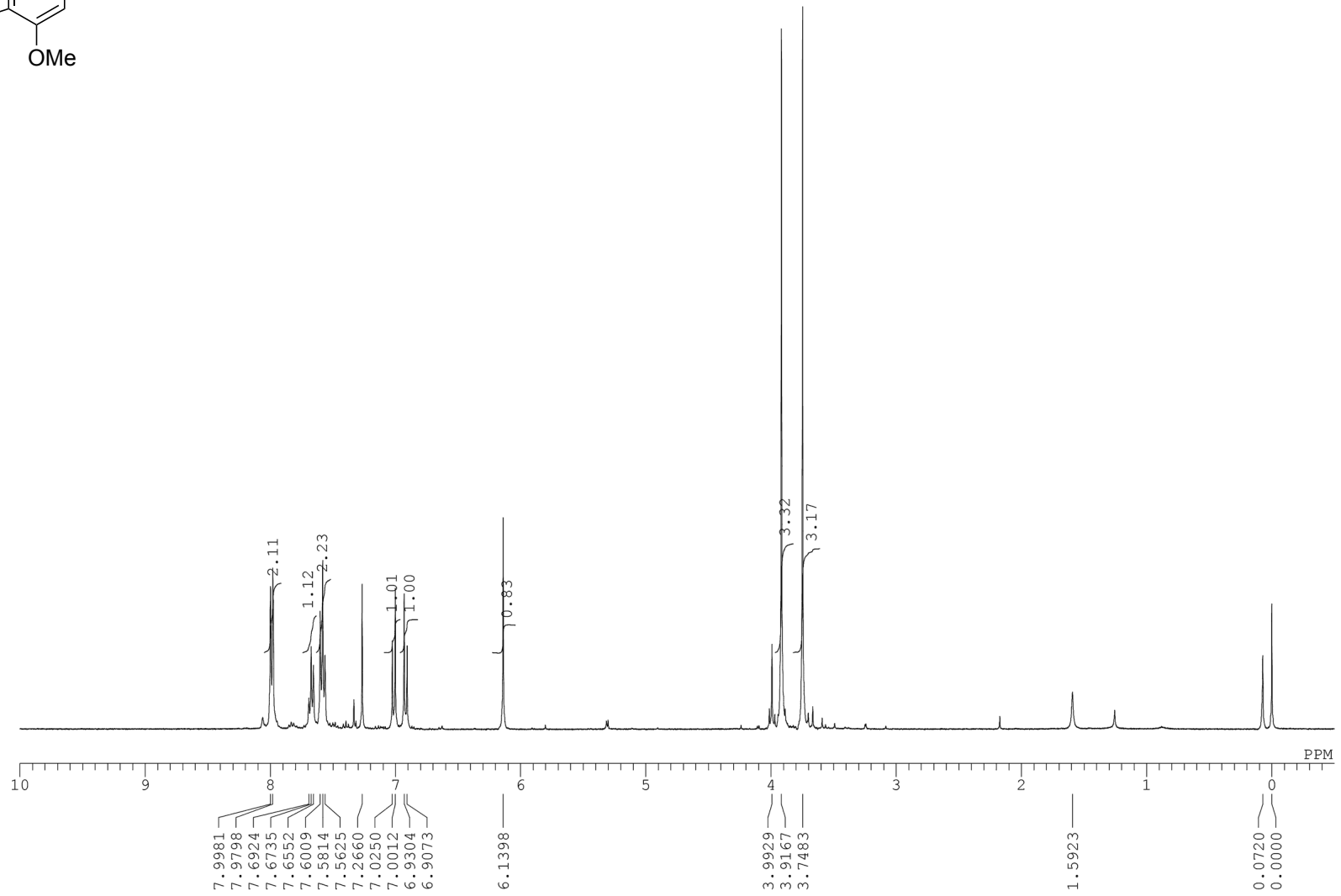
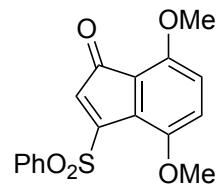


^{13}C NMR spectrum of **14**

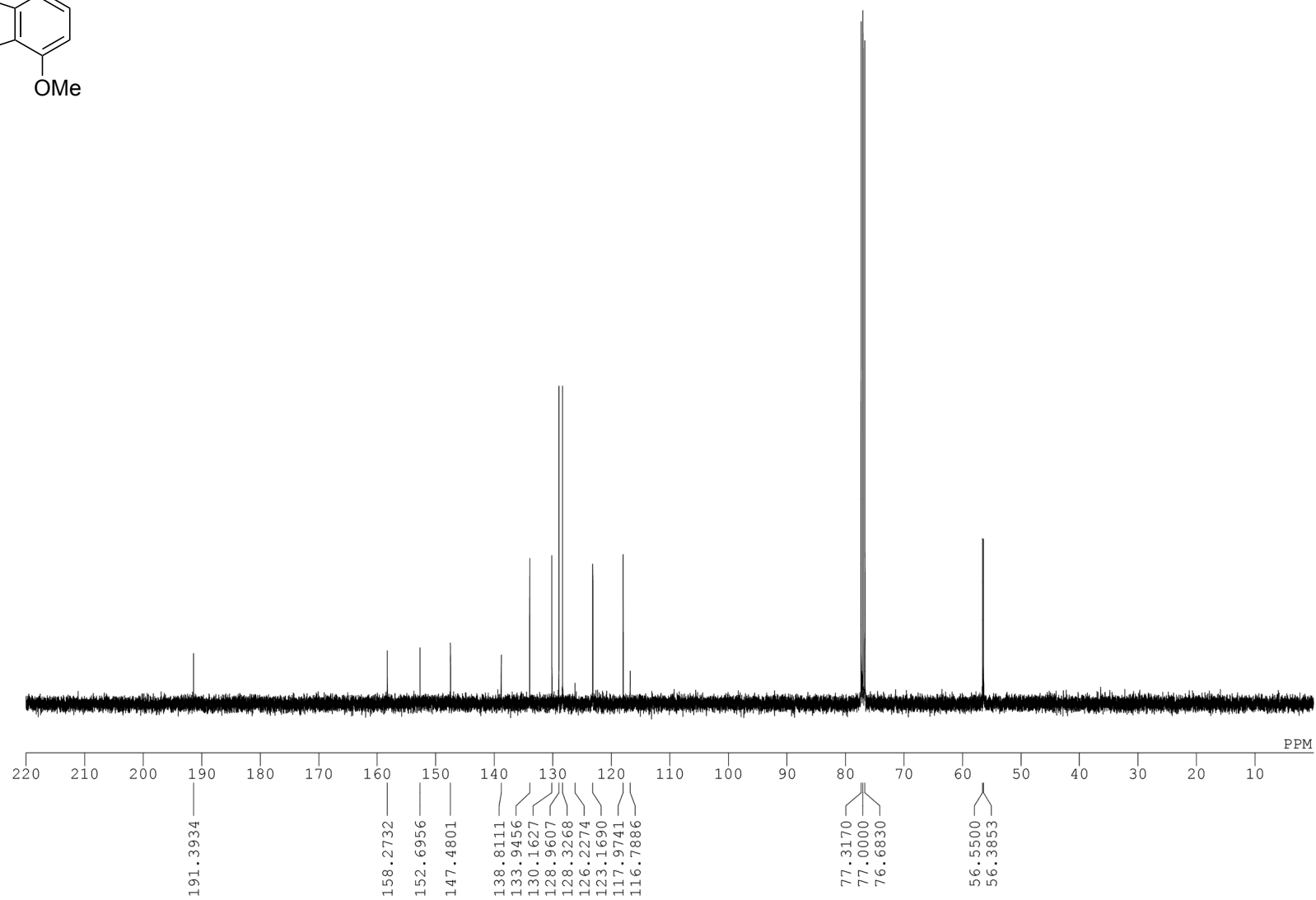
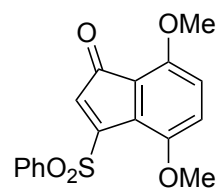


S19

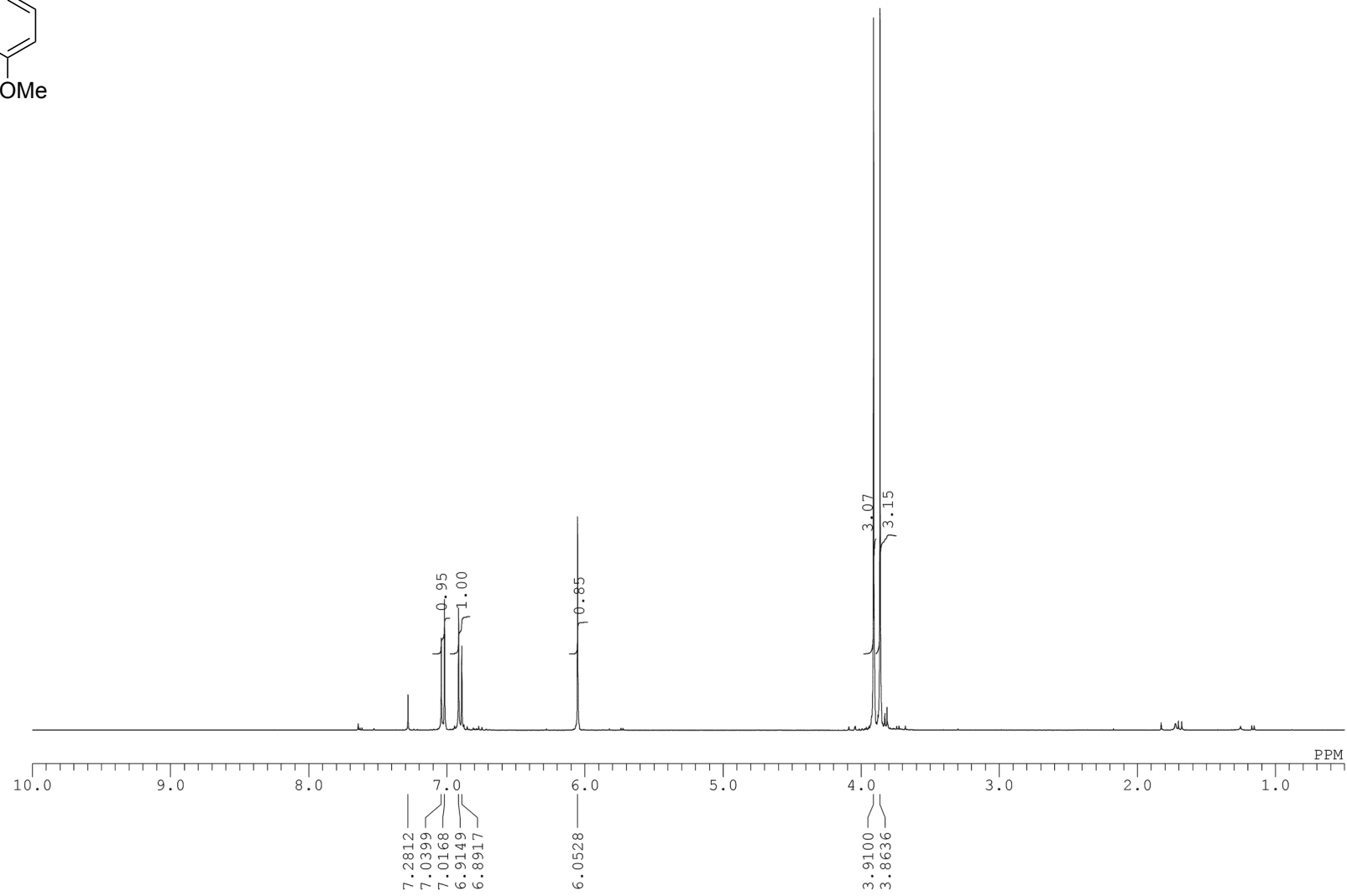
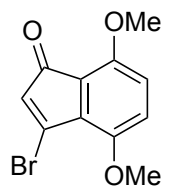
¹H NMR spectrum of **8a**



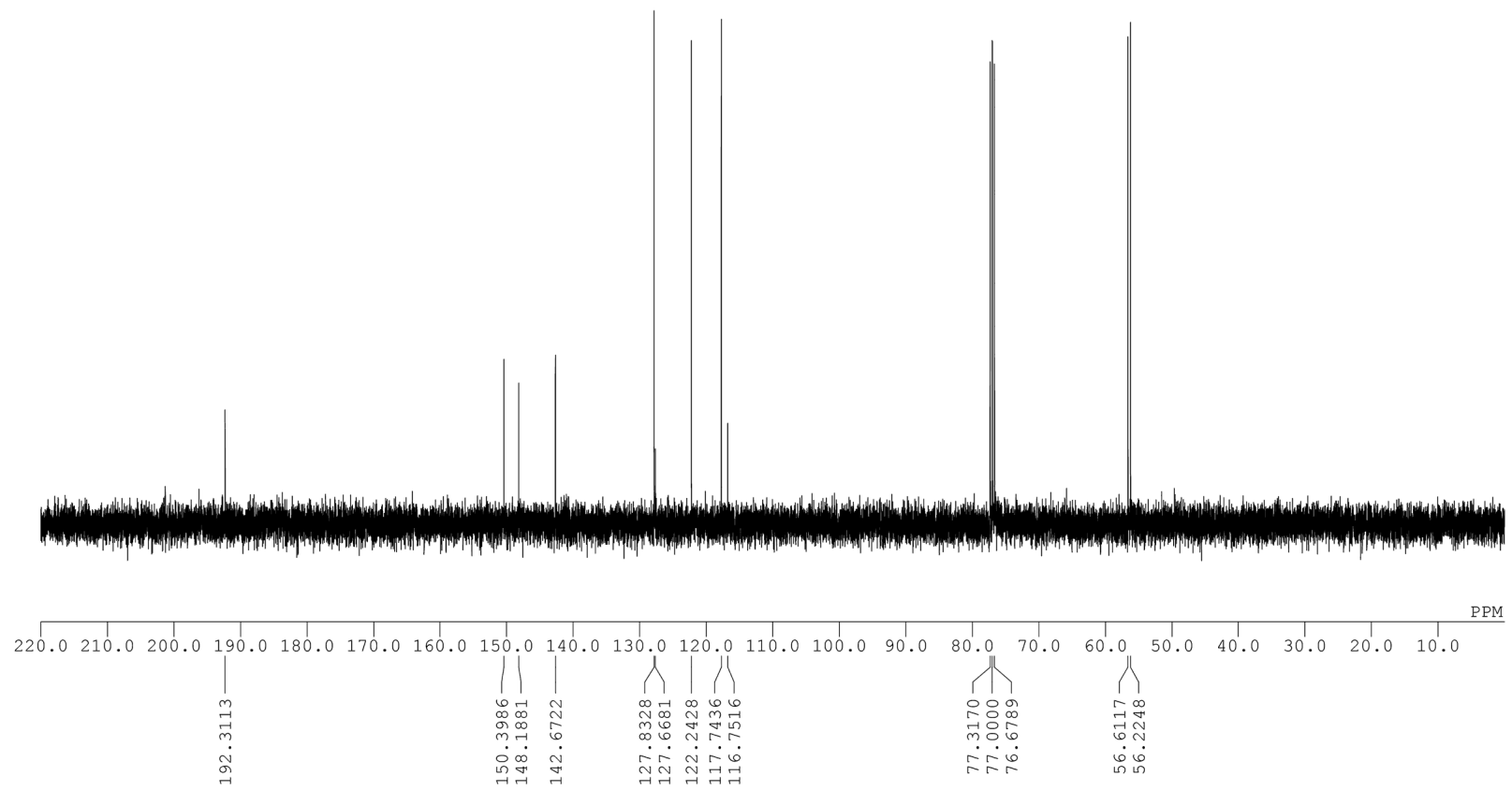
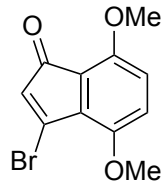
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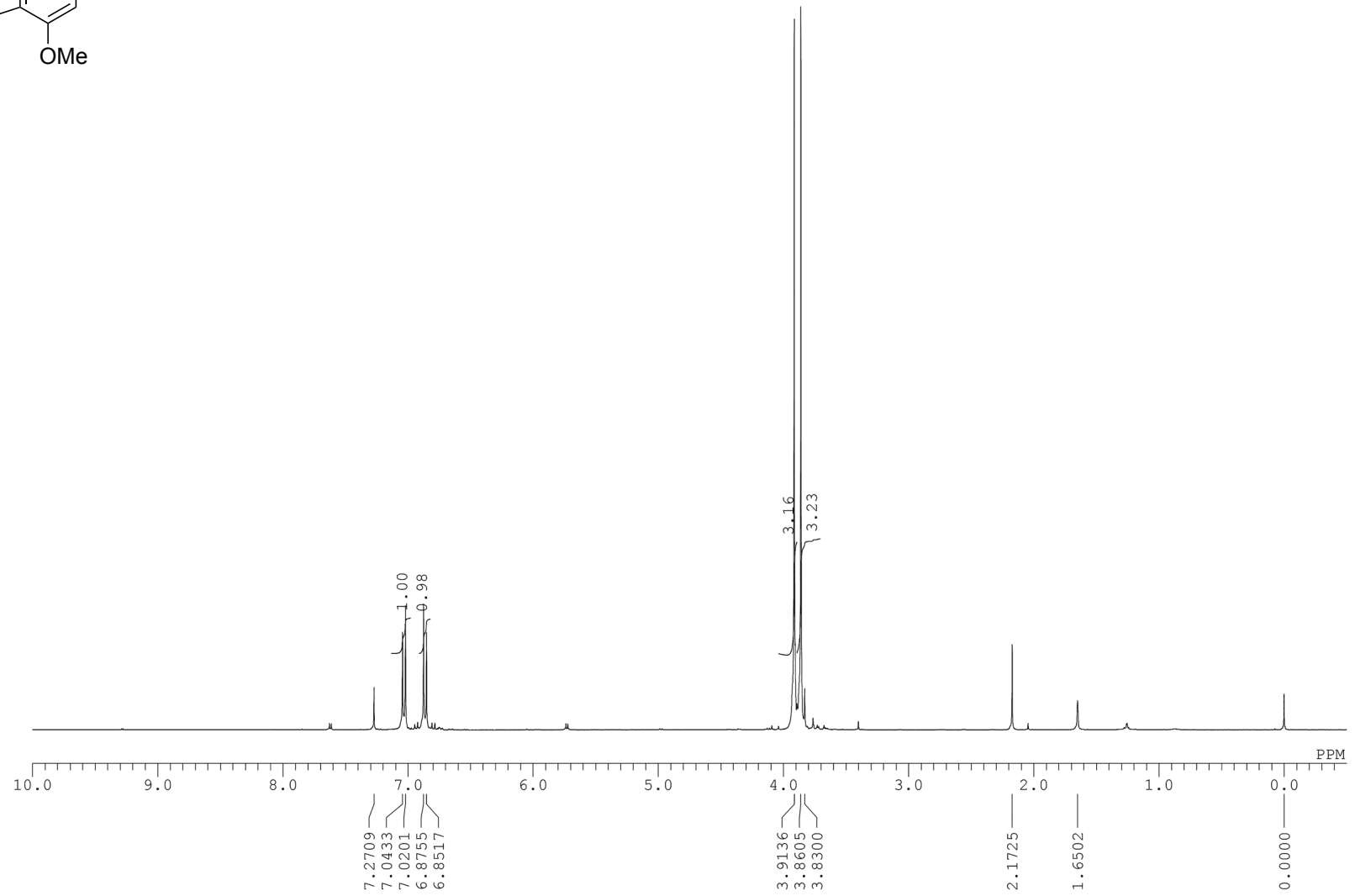
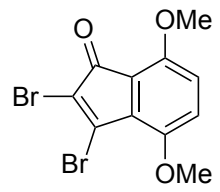
^1H NMR spectrum of **8b**



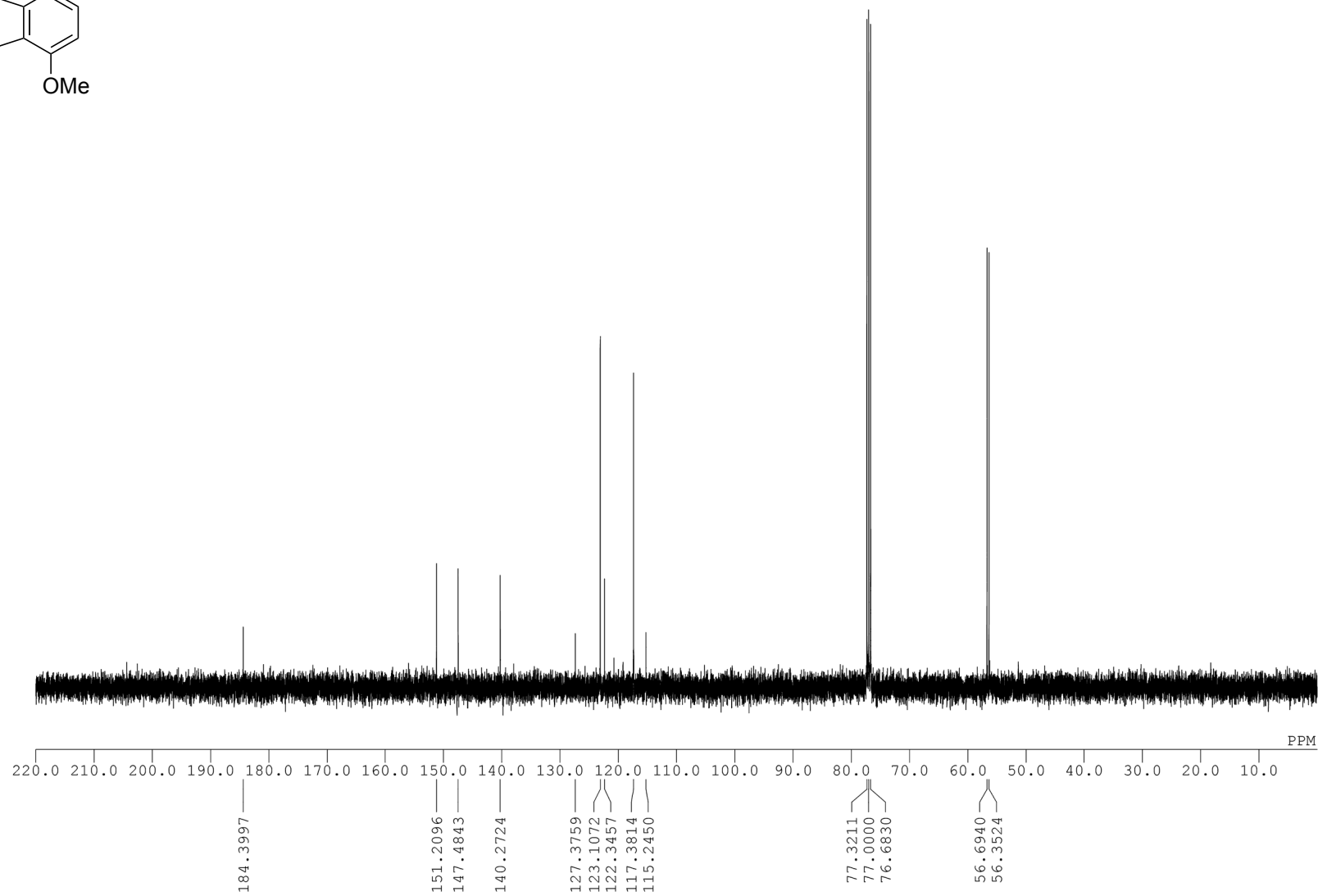
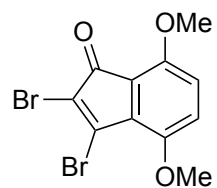
^{13}C NMR spectrum of **8b**



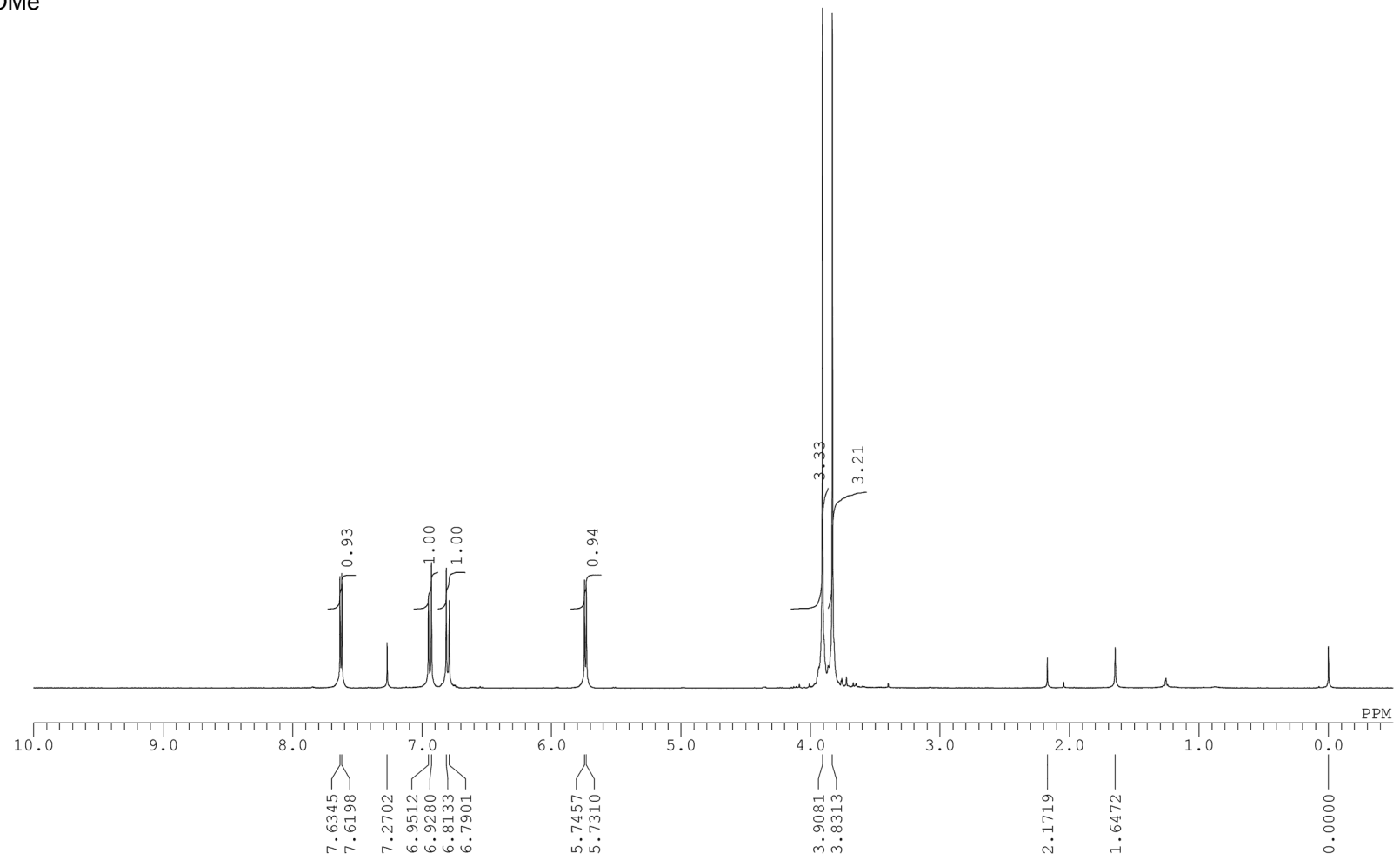
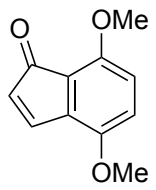
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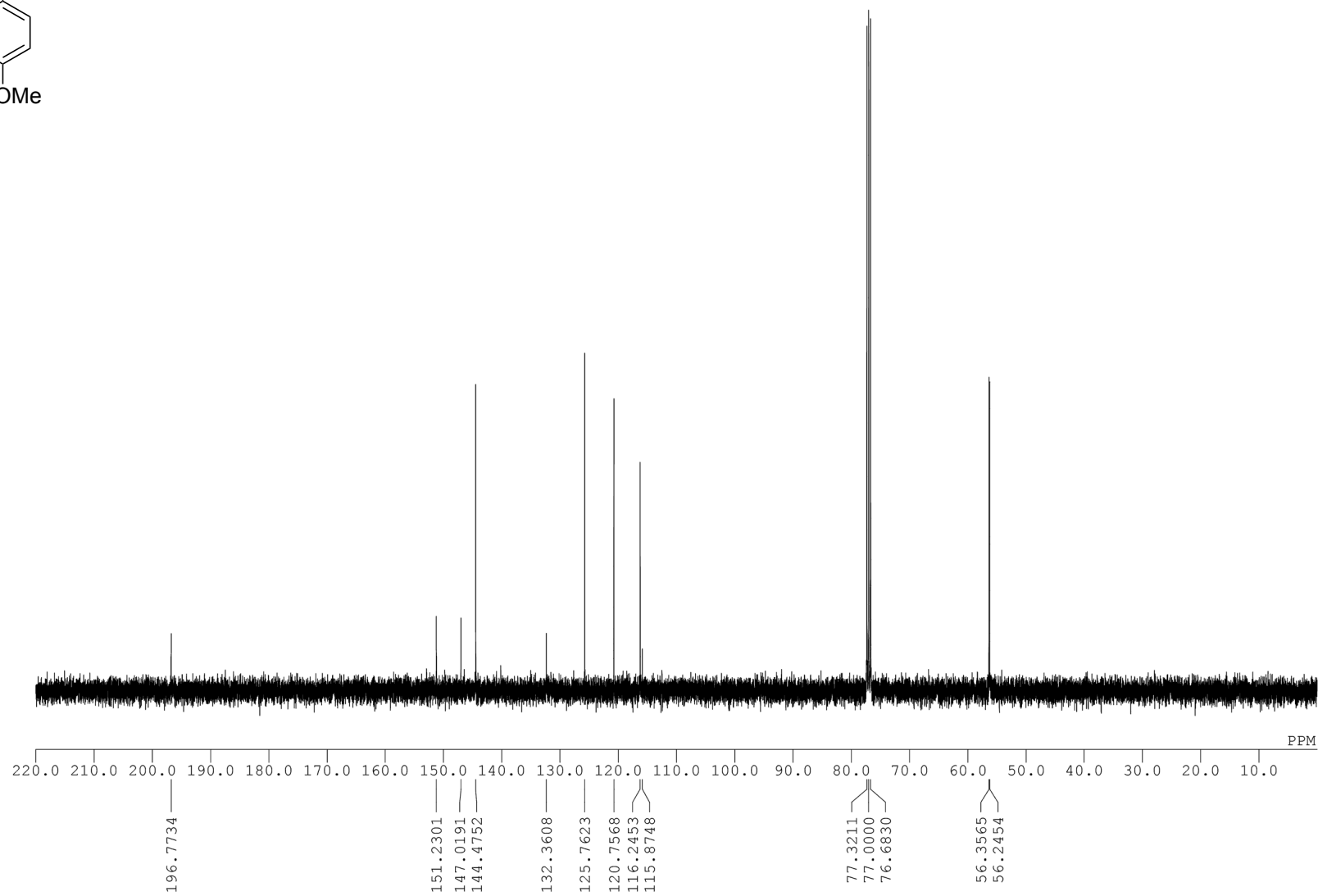
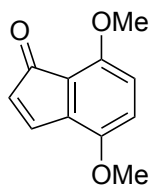
¹³C NMR spectrum of **17**



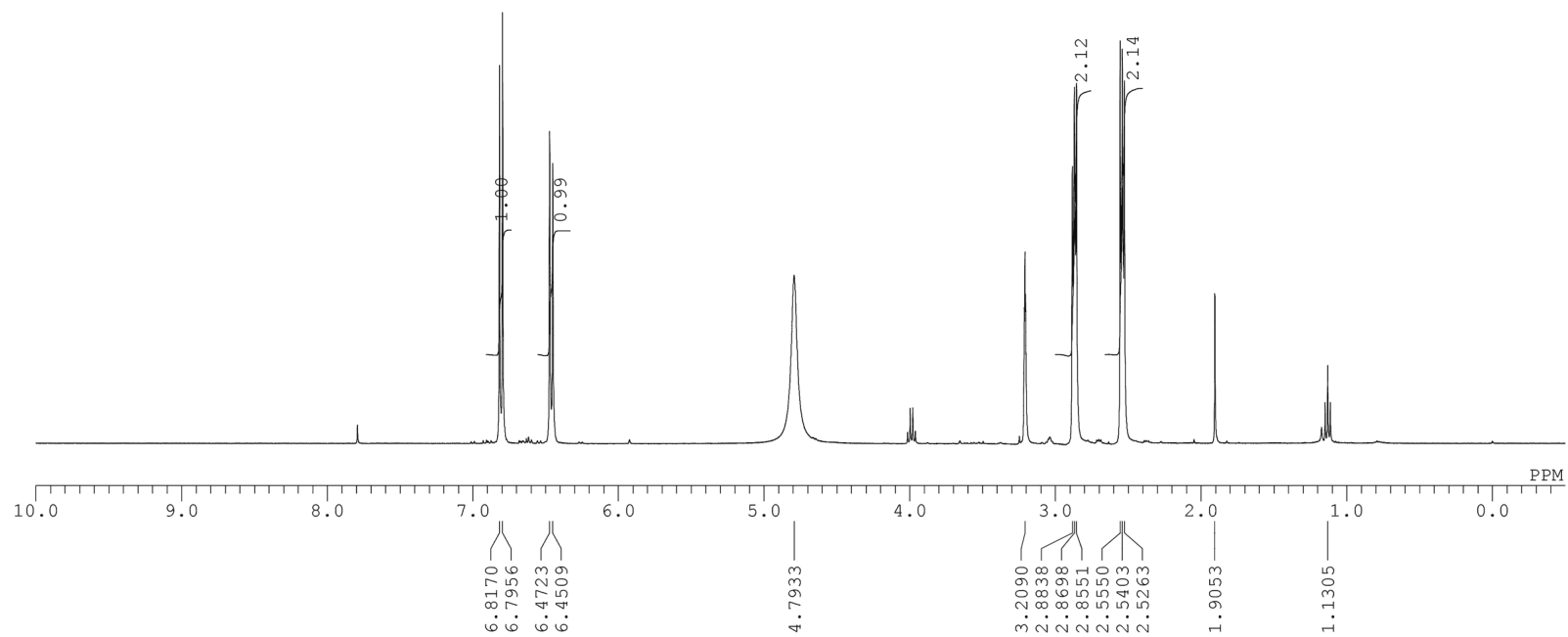
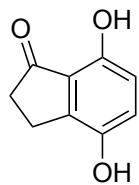
¹H NMR spectrum of **18**



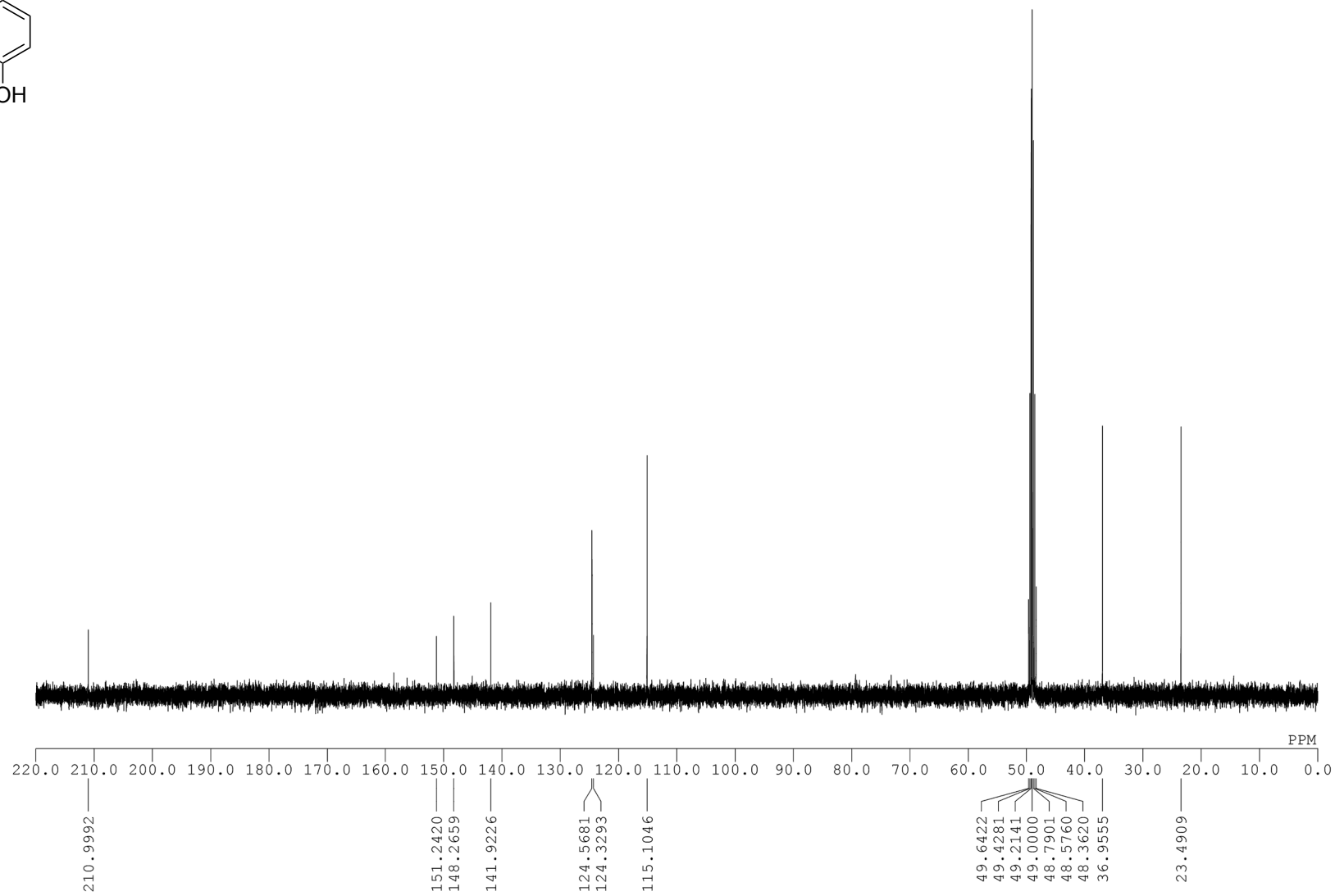
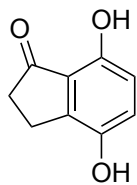
^{13}C NMR spectrum of **18**



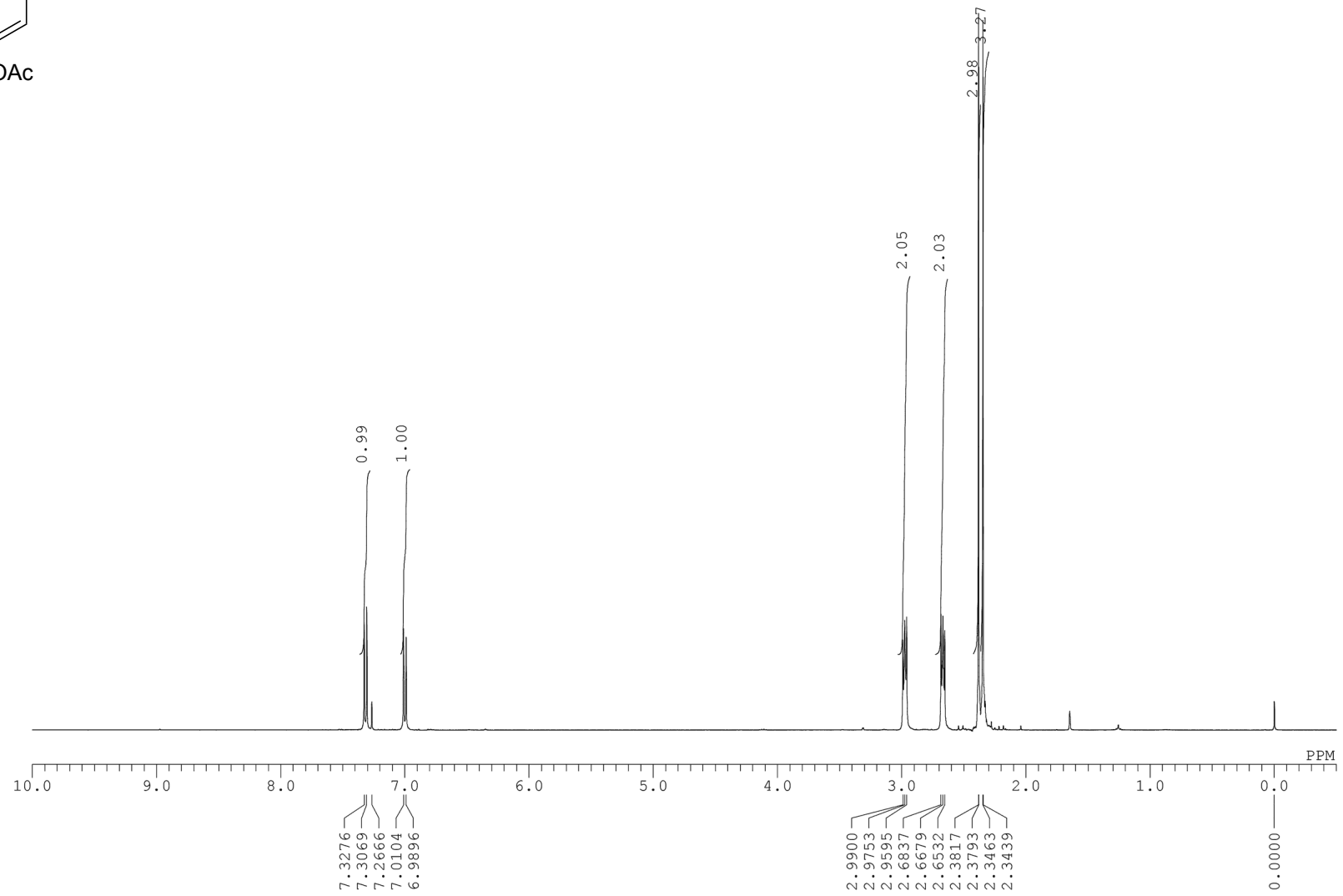
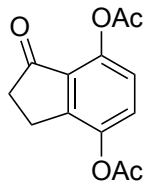
¹H NMR spectrum of 4,7-dihydroxy-2,3-dihydro-1H-inden-1-one



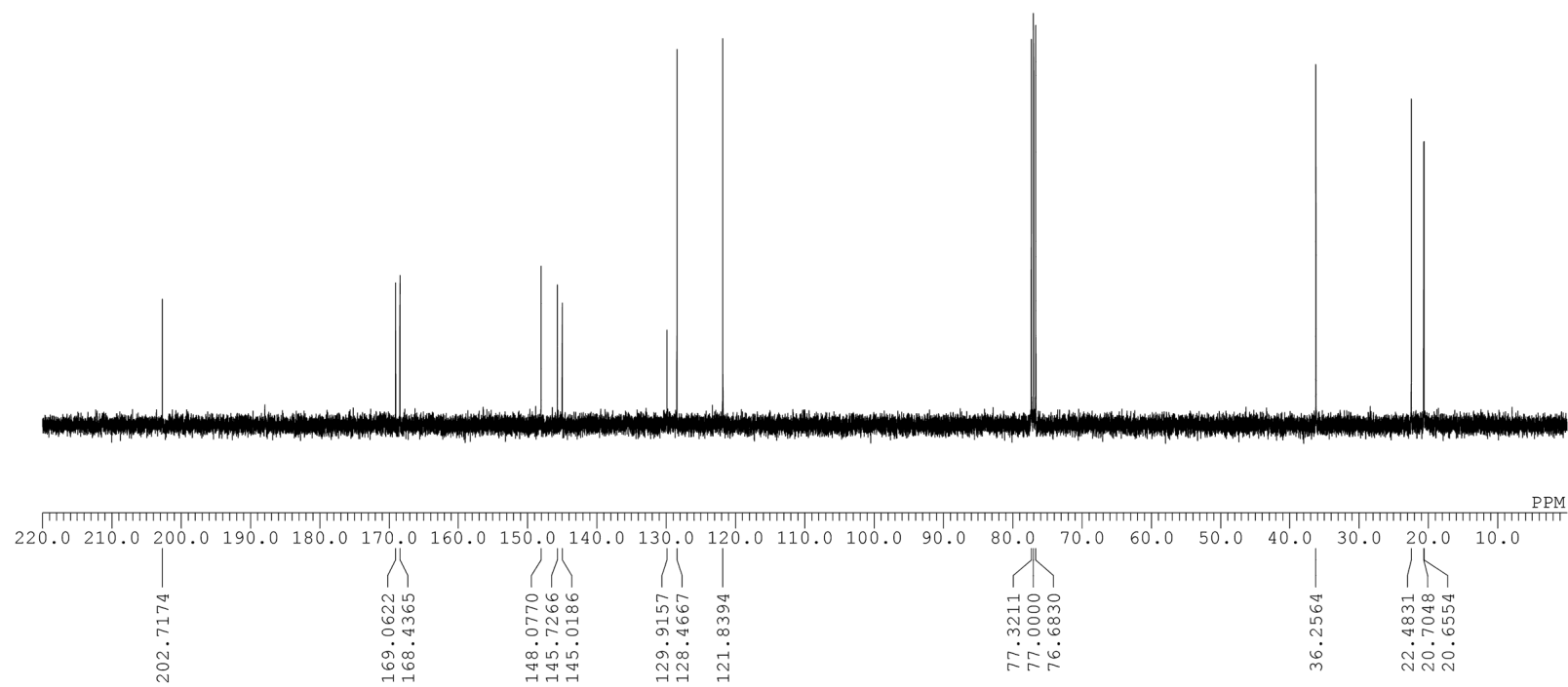
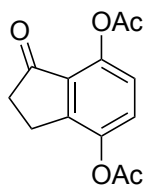
^{13}C NMR spectrum of 4,7-dihydroxy-2,3-dihydro-1*H*-inden-1-one



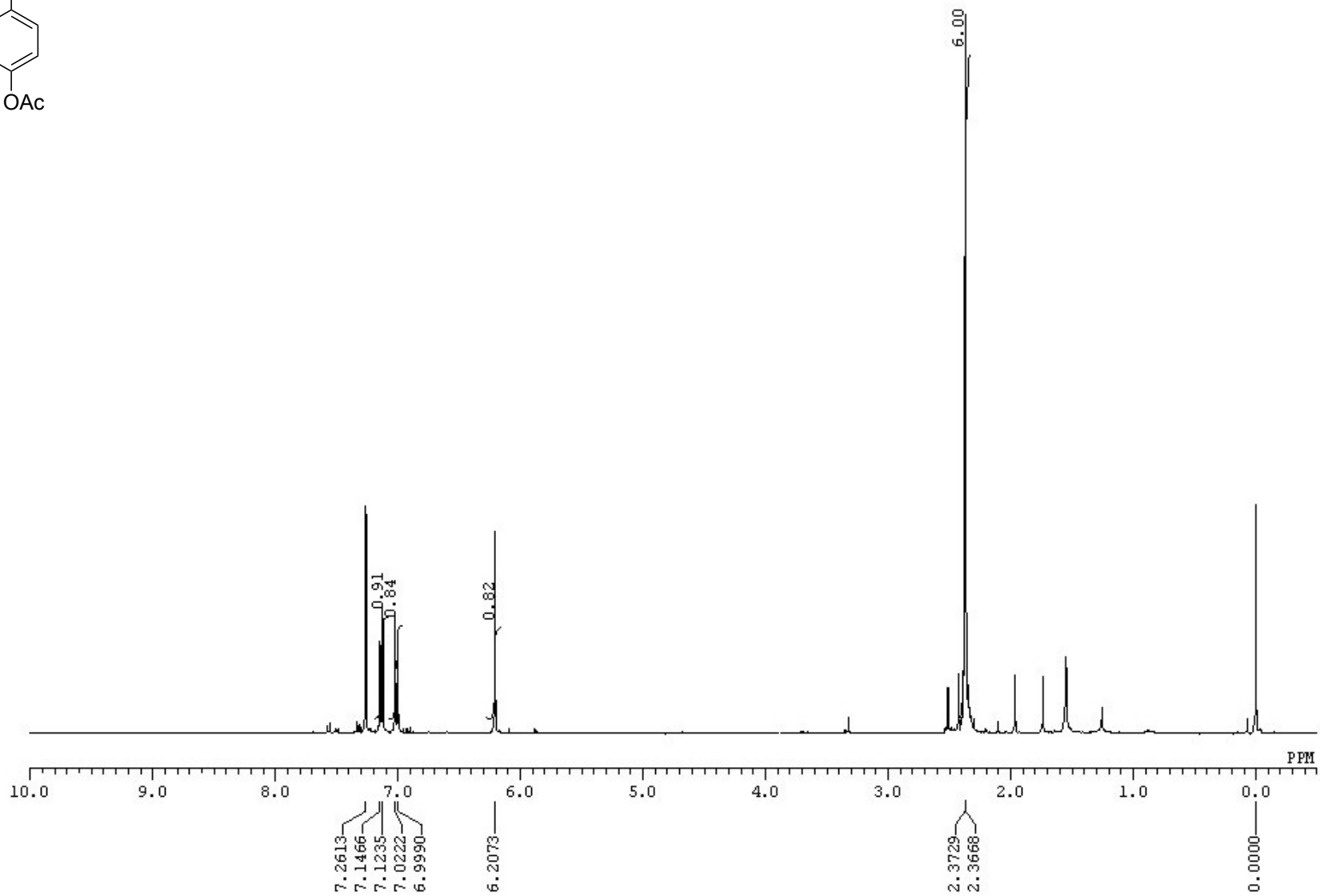
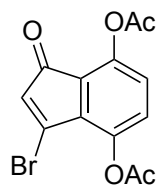
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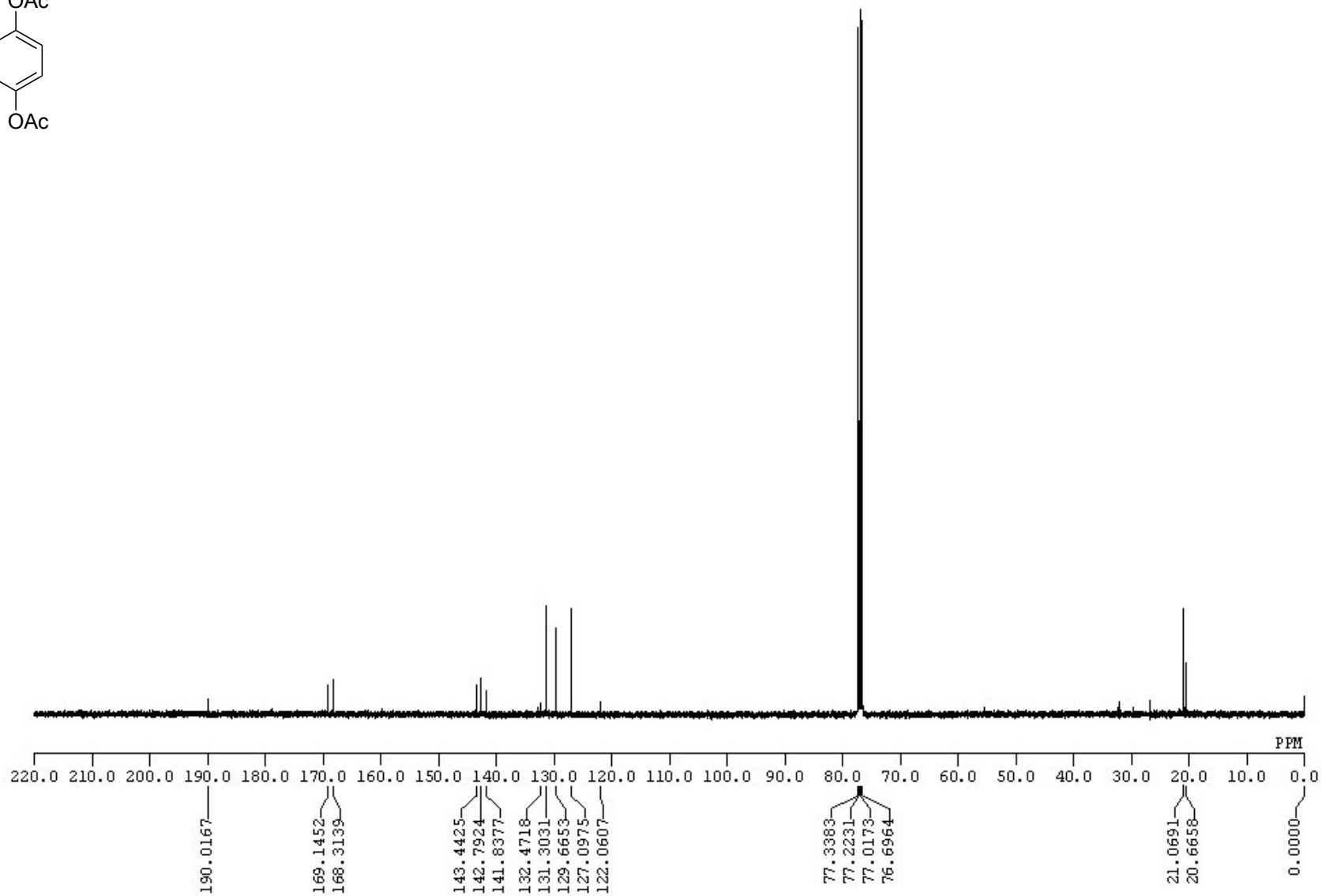
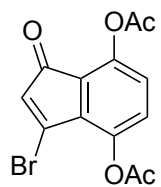
^{13}C NMR spectrum of **19**



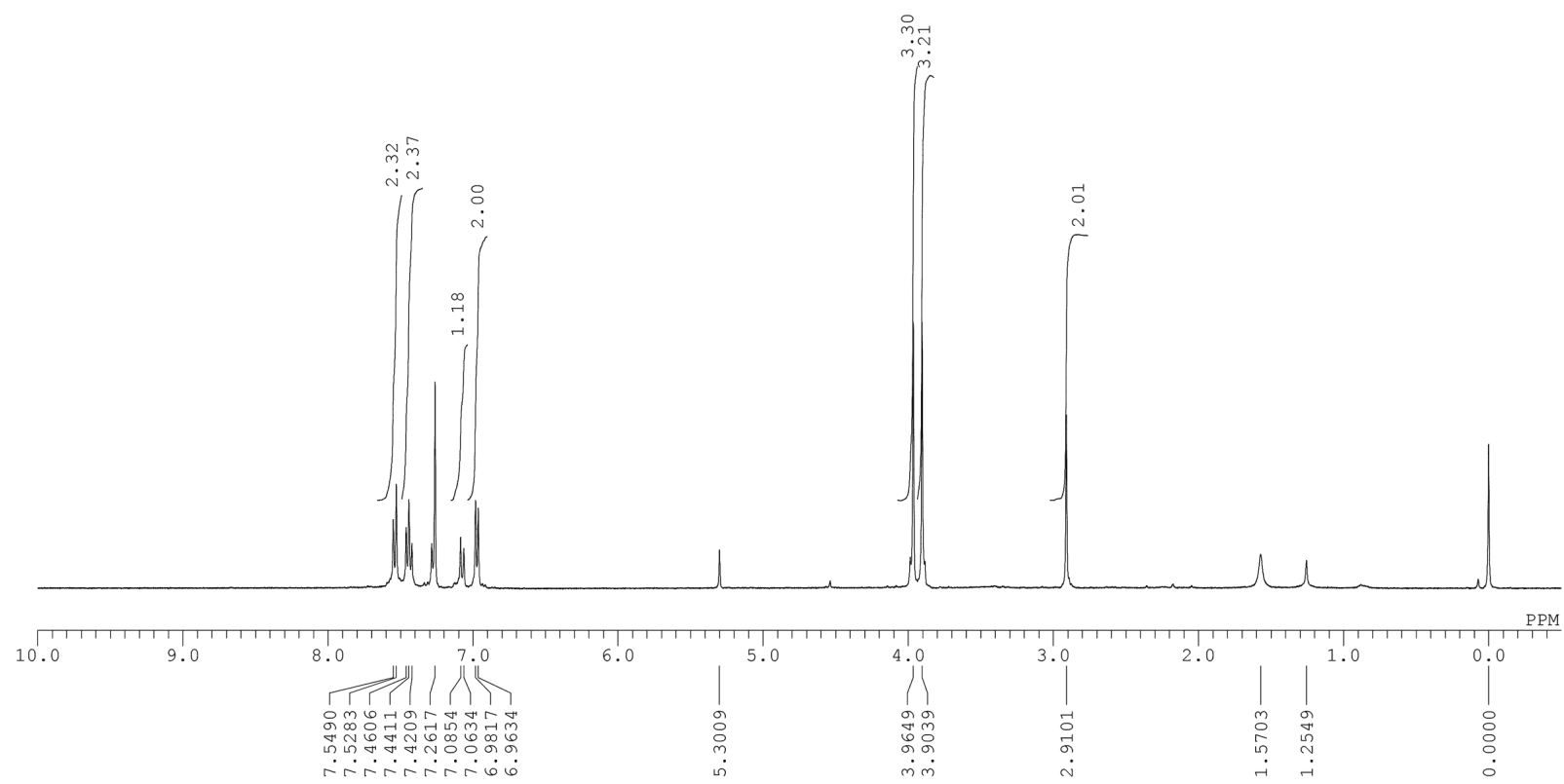
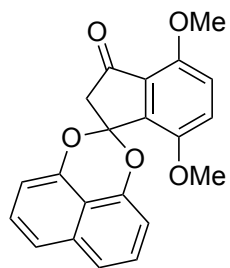
¹H NMR spectrum of **8c**



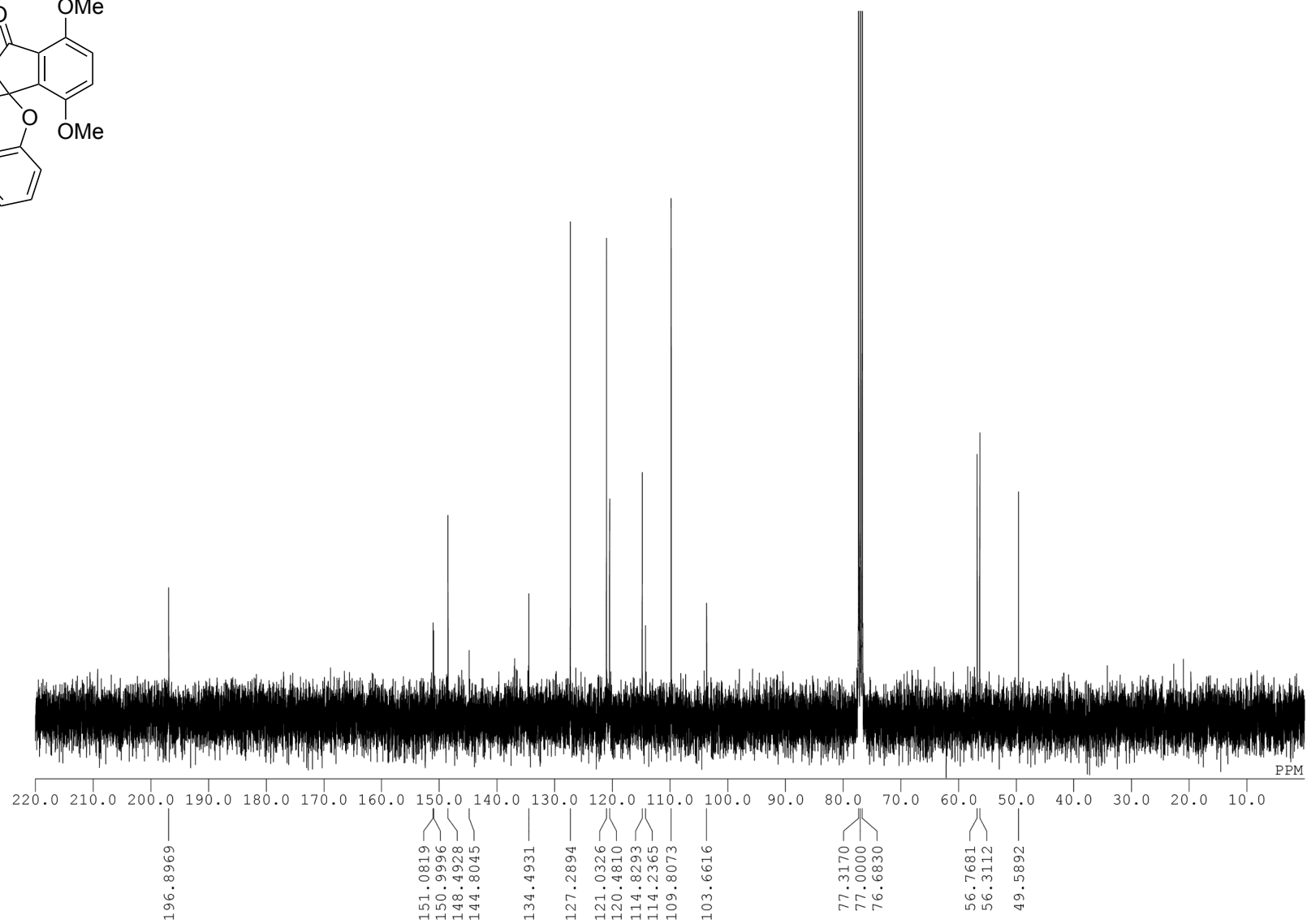
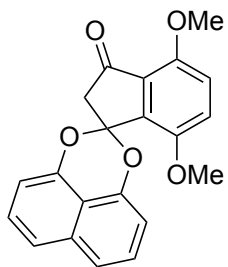
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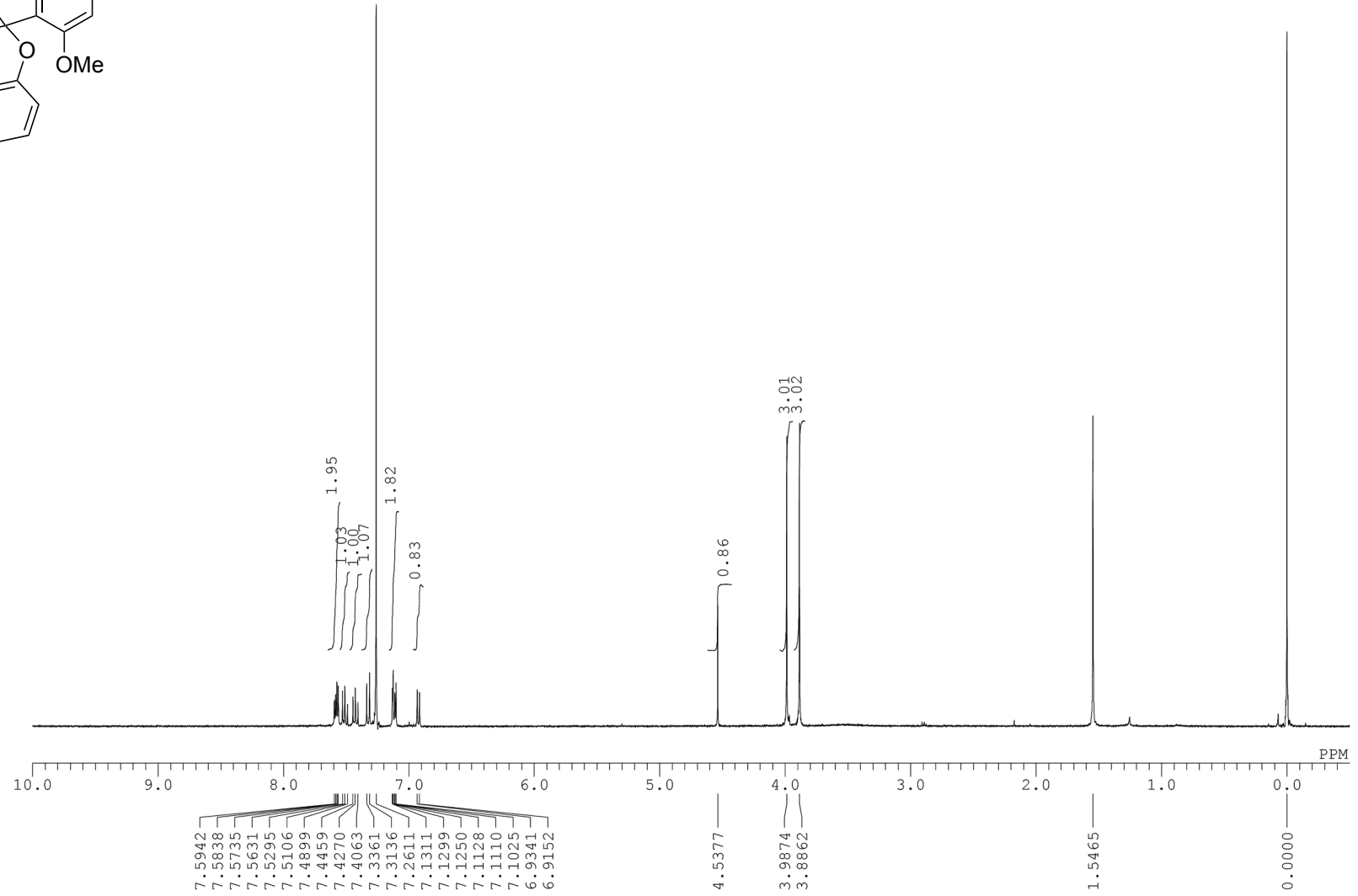
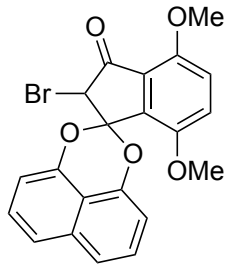
¹H NMR spectrum of **11a**



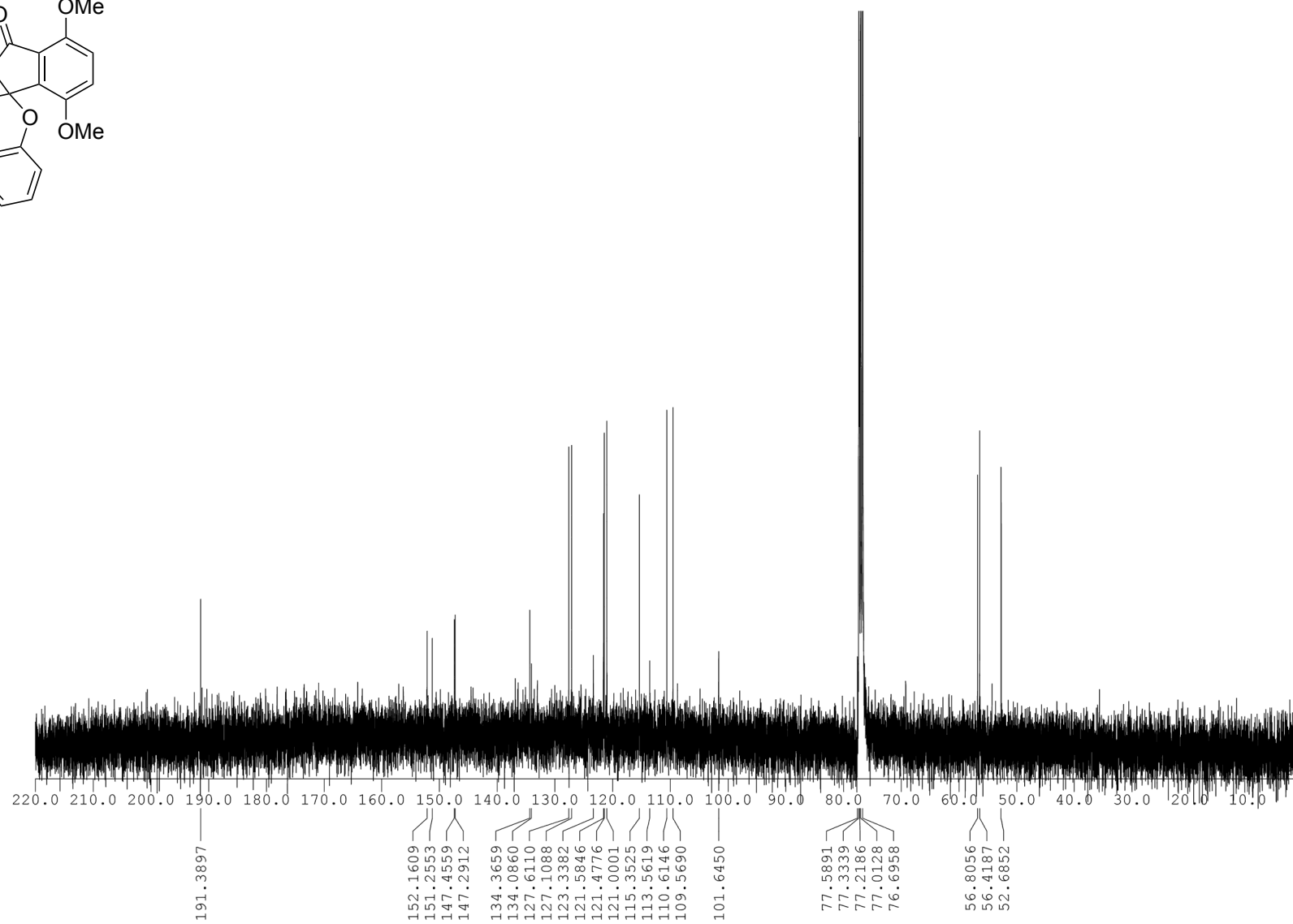
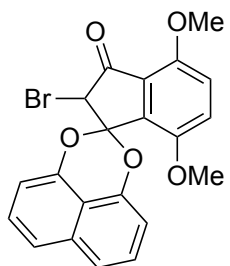
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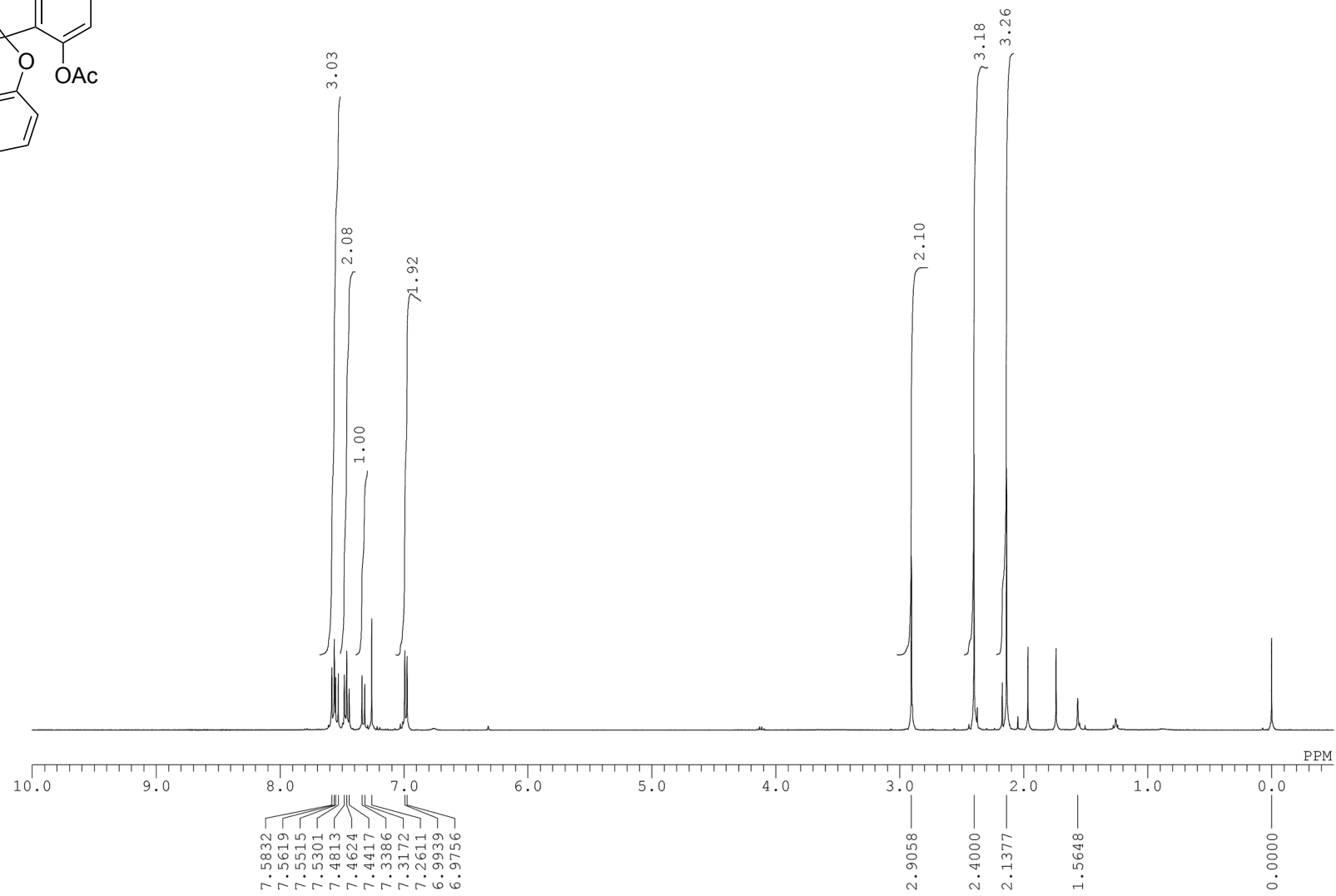
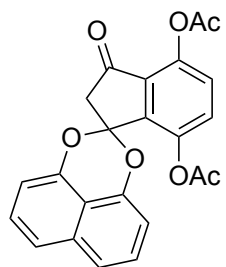
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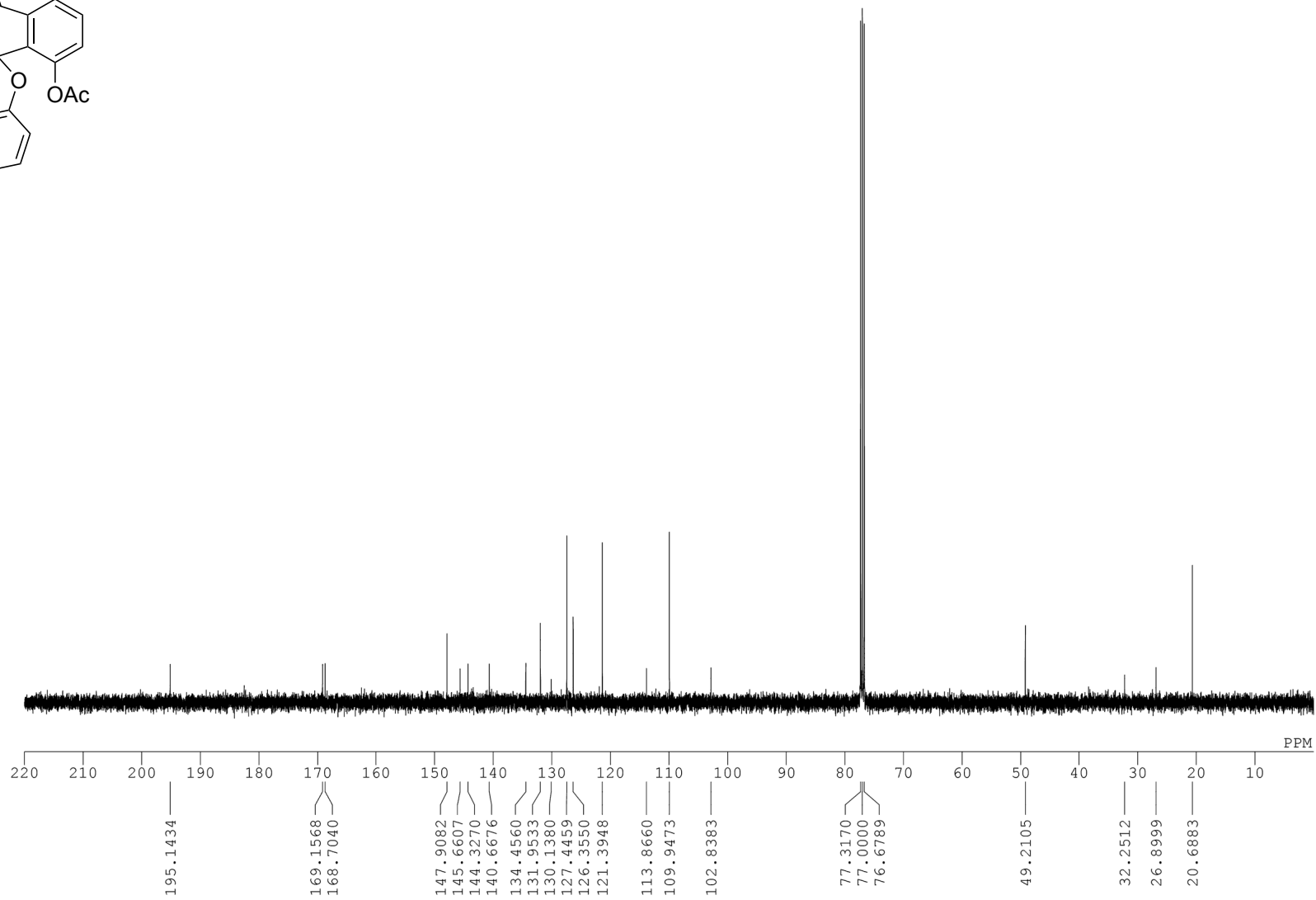
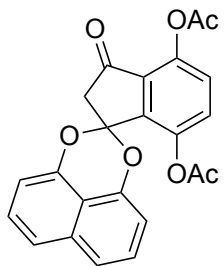
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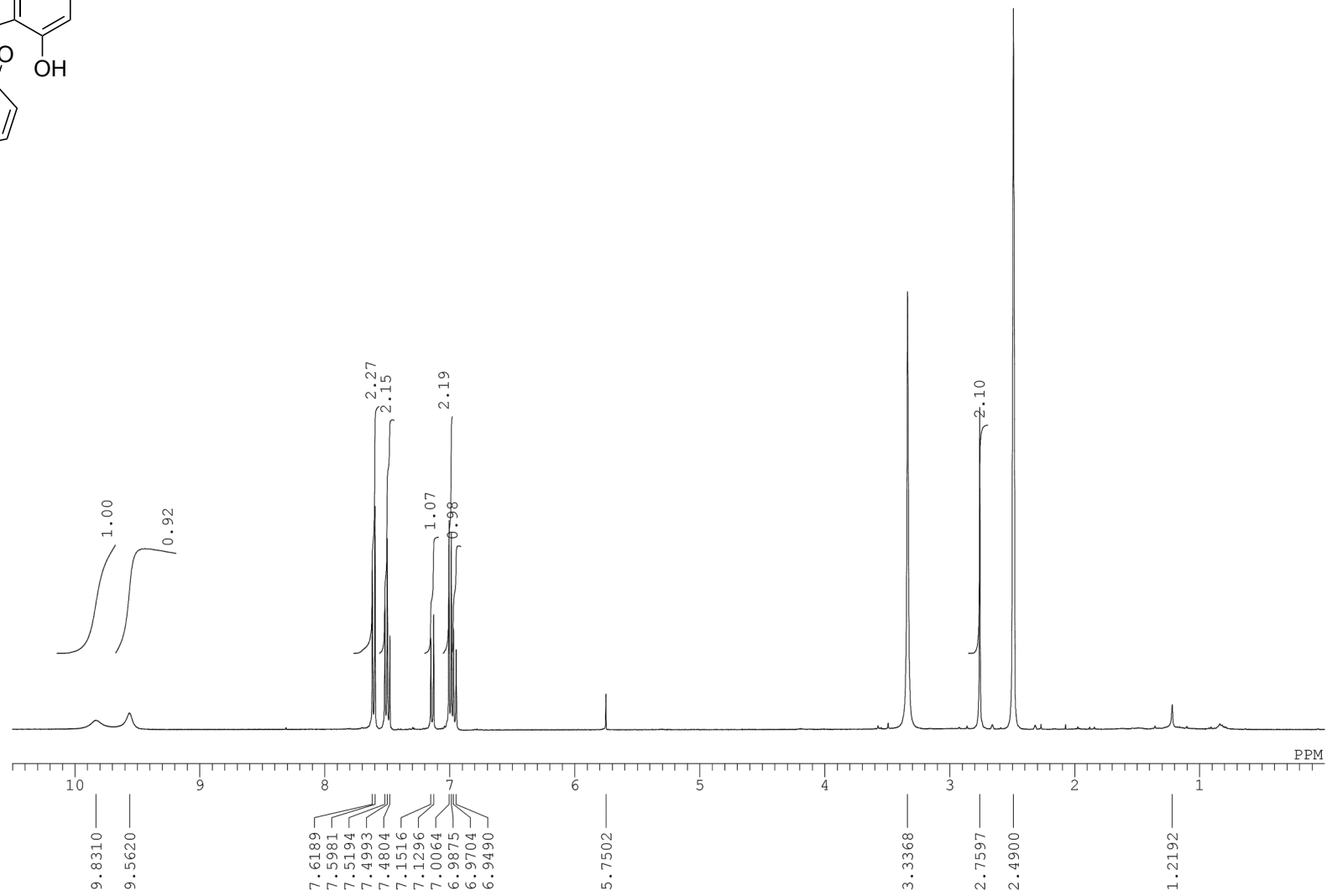
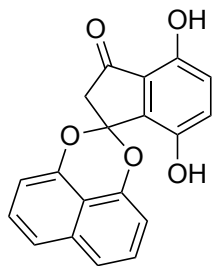
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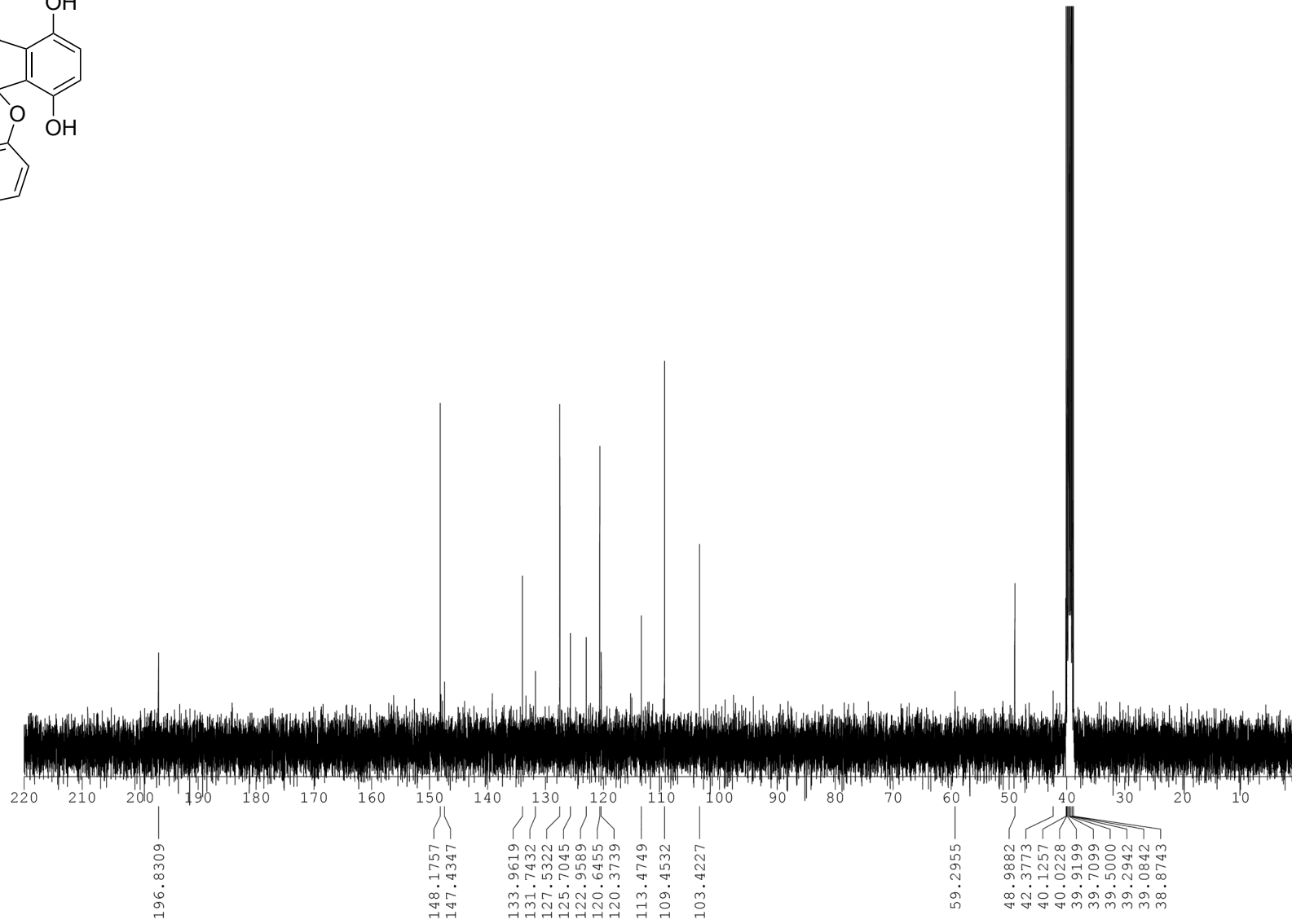
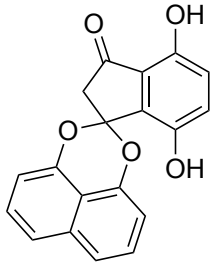
¹³C NMR spectrum of **11b**



¹H NMR spectrum of **1**



^{13}C NMR spectrum of **1**



S41