

Supporting Information

Synthesis and antiproliferative activity of thiazole-fused anthraquinones

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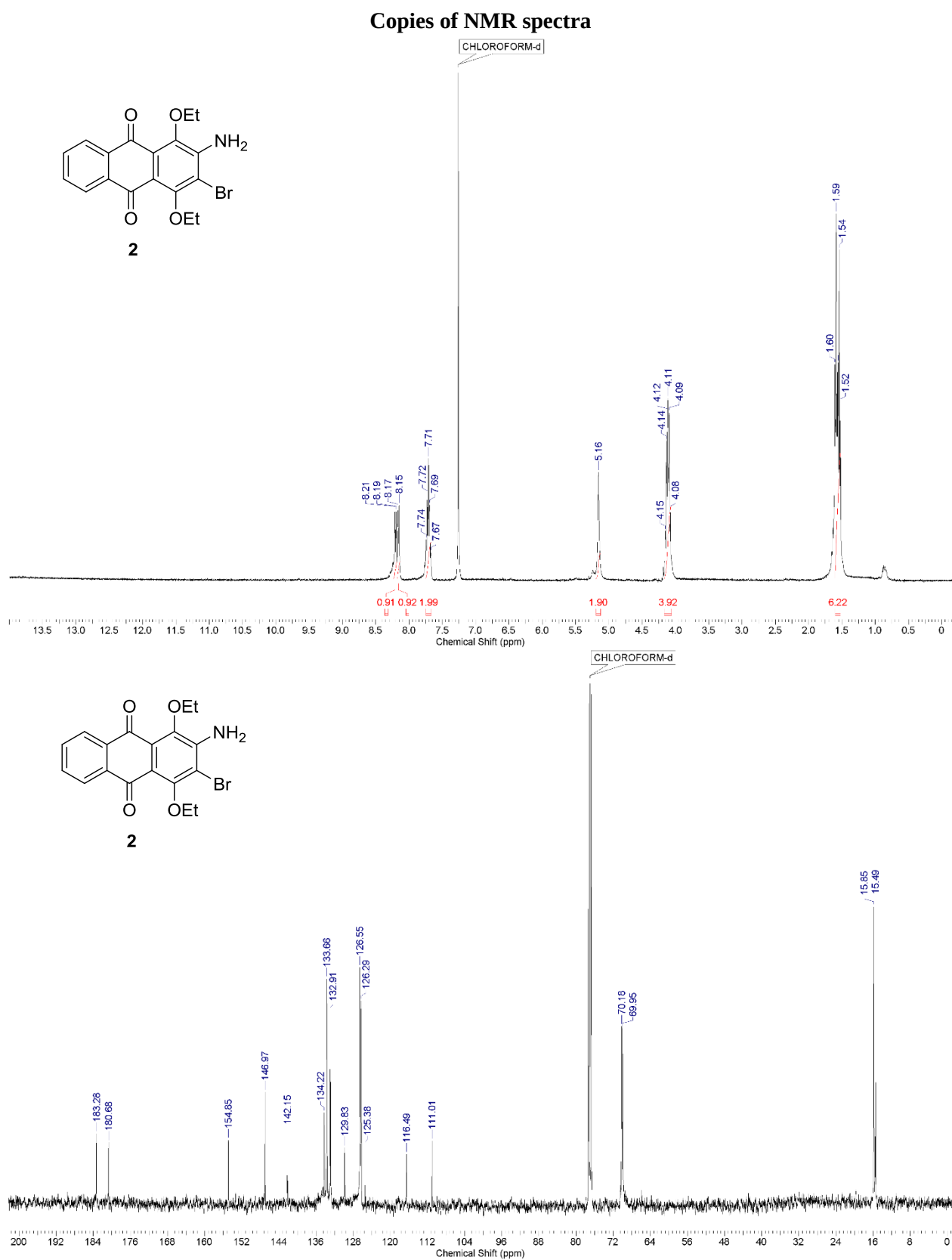


Figure S1. ^1H and ^{13}C spectra of compound 2.

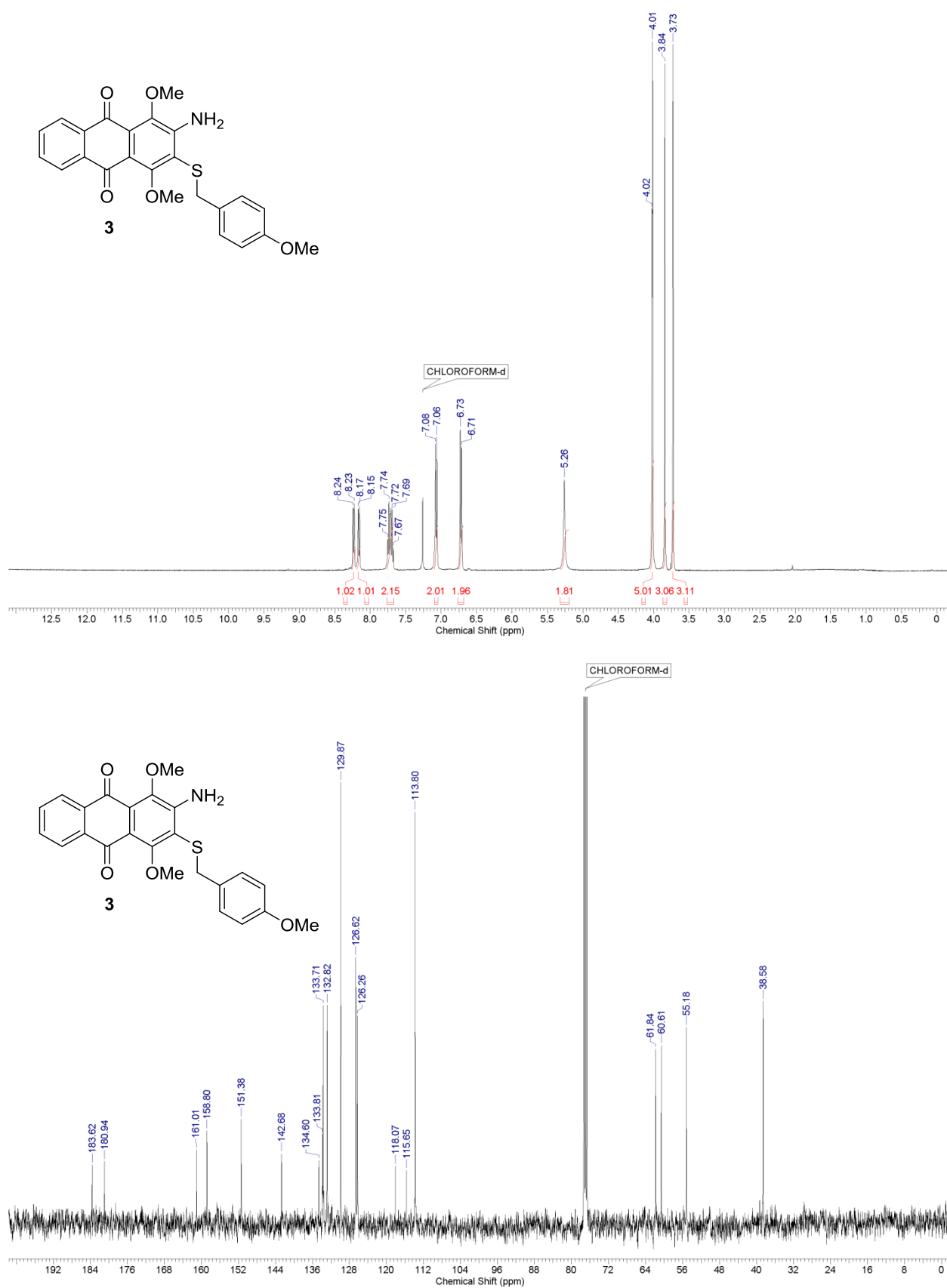


Figure S2. ^1H and ^{13}C spectra of compound **3**.

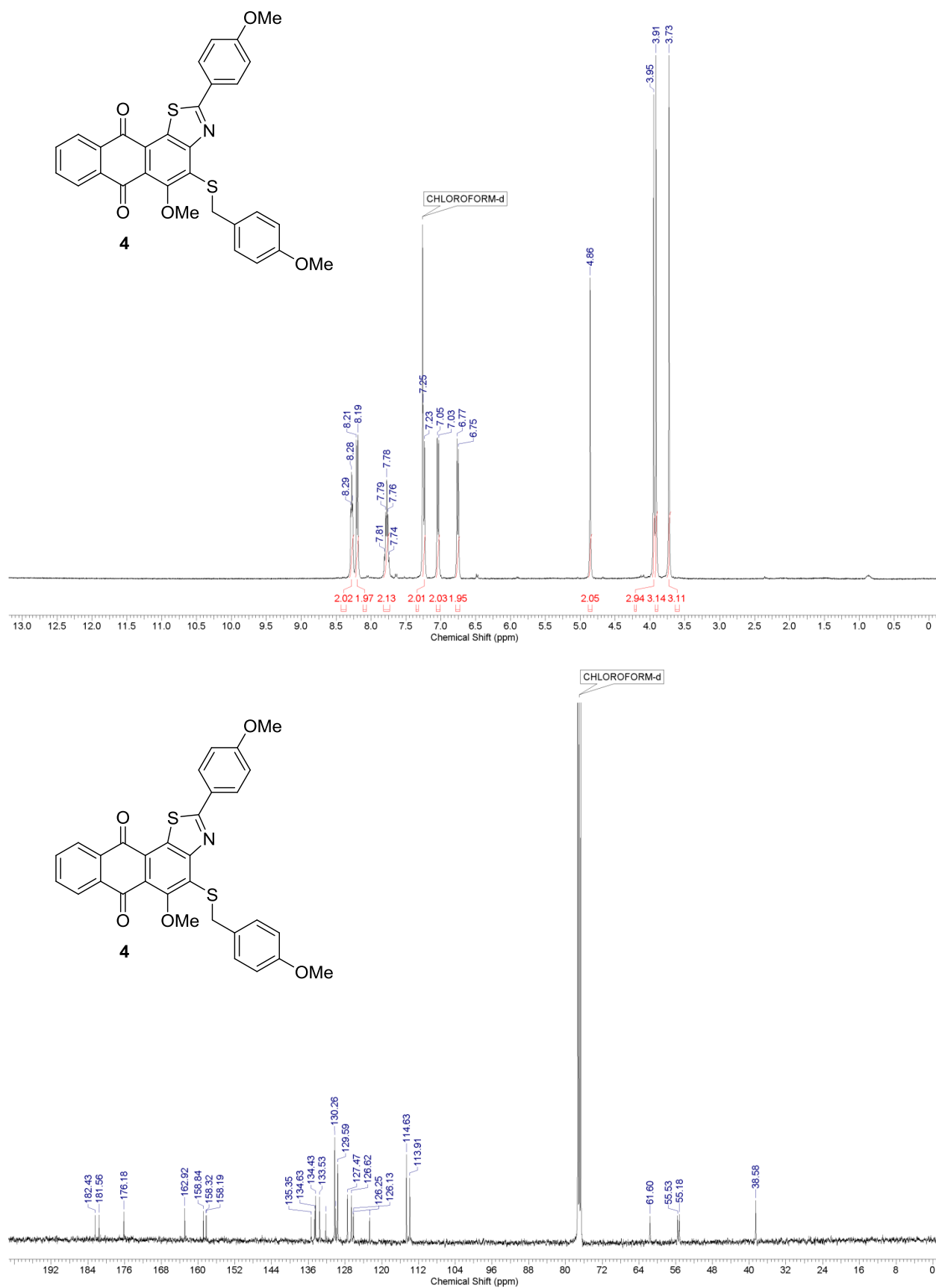


Figure S3. ^1H and ^{13}C spectra of compound 4.

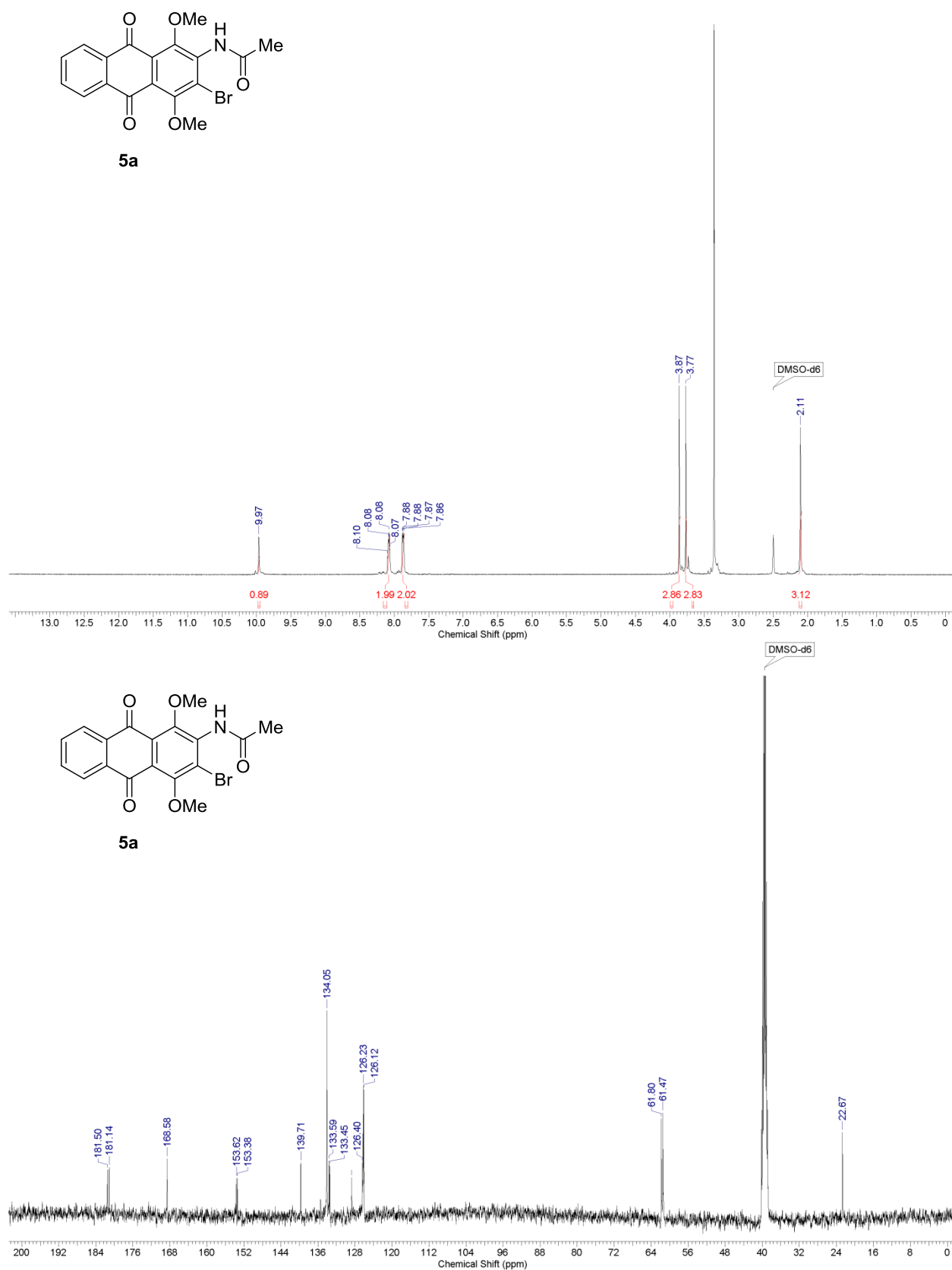


Figure S4. ^1H and ^{13}C spectra of compound **5a**.

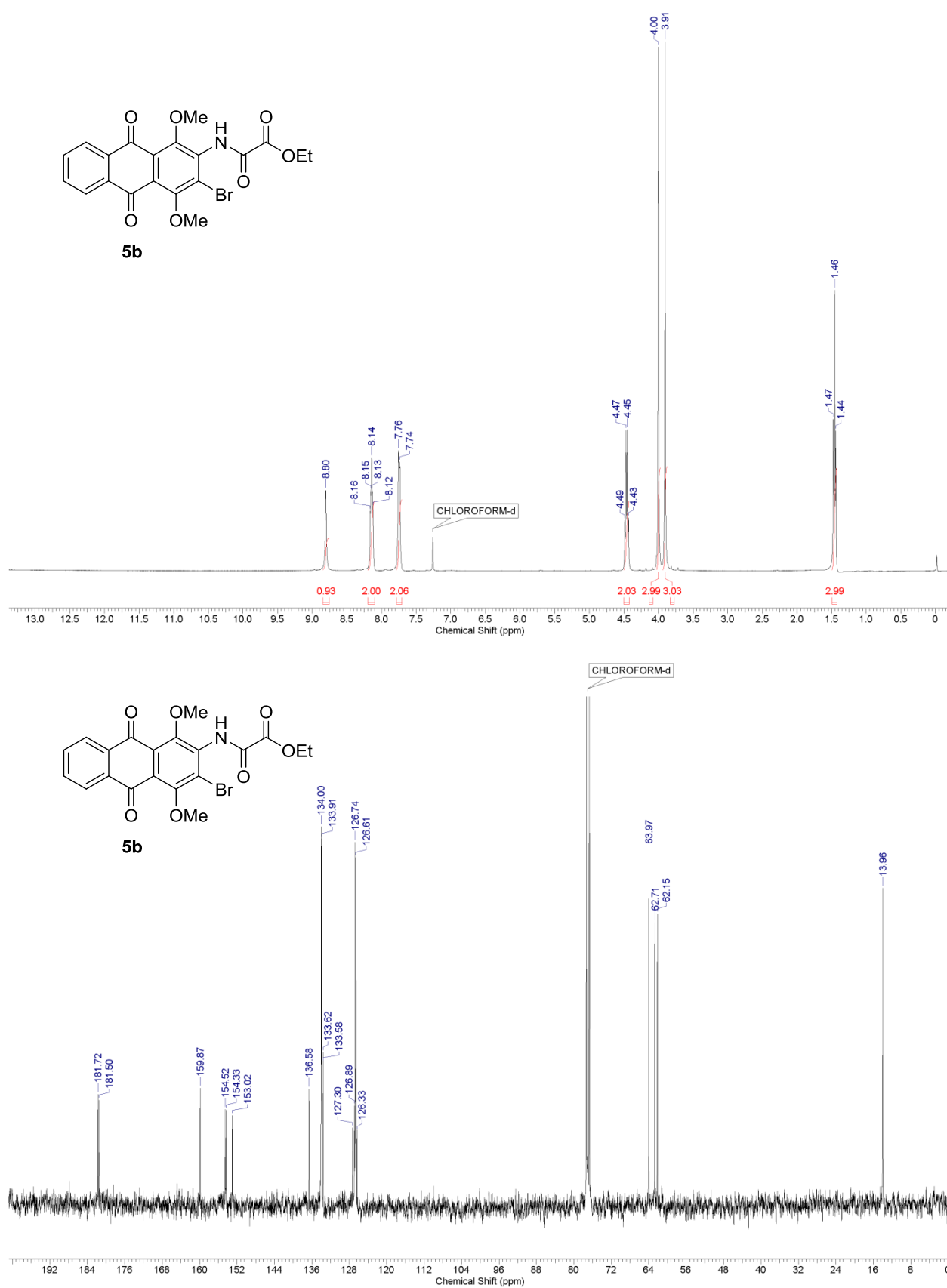


Figure S5. ¹H and ¹³C spectra of compound **5b**.

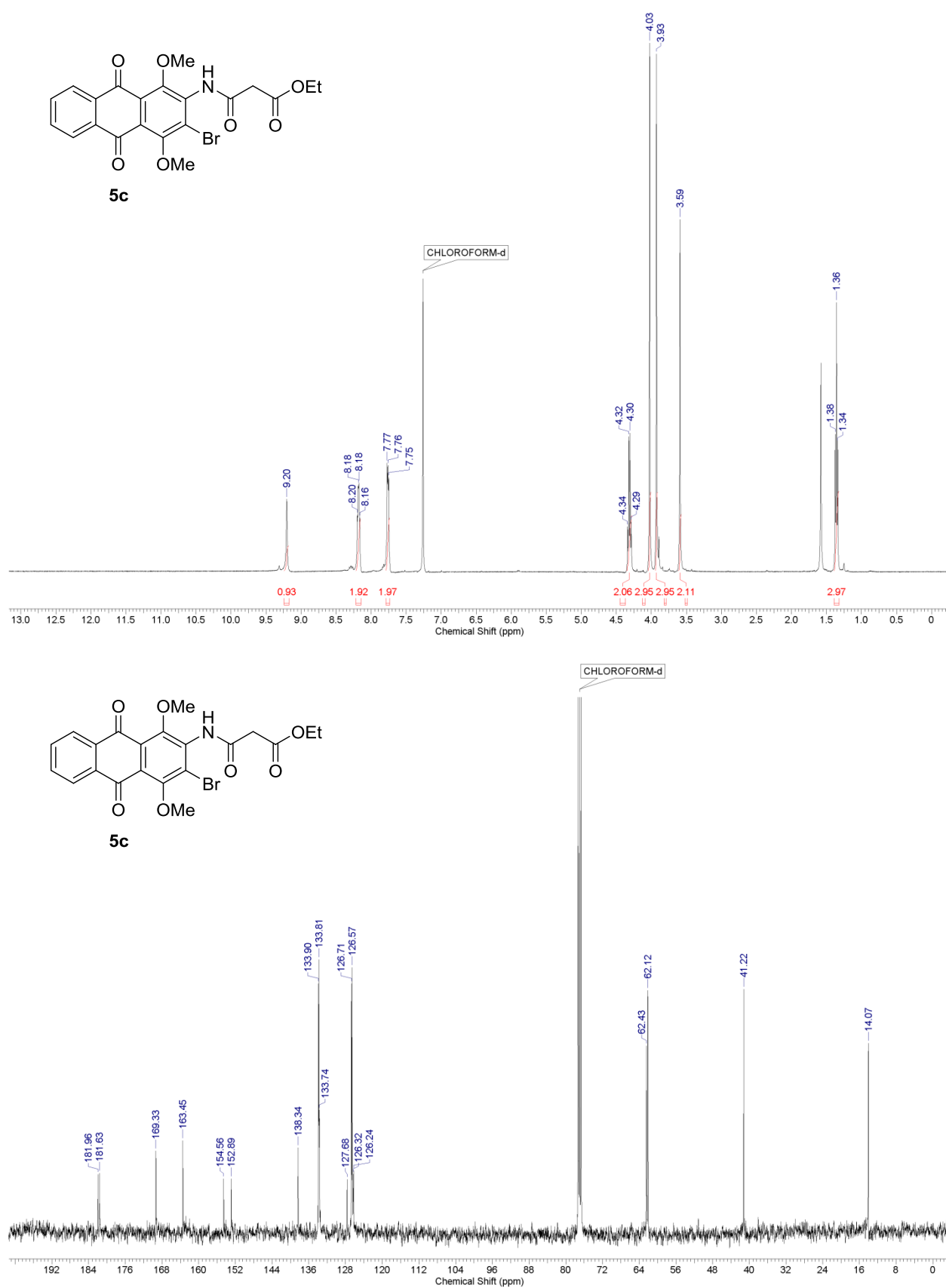


Figure S6. ^1H and ^{13}C spectra of compound **5c**.

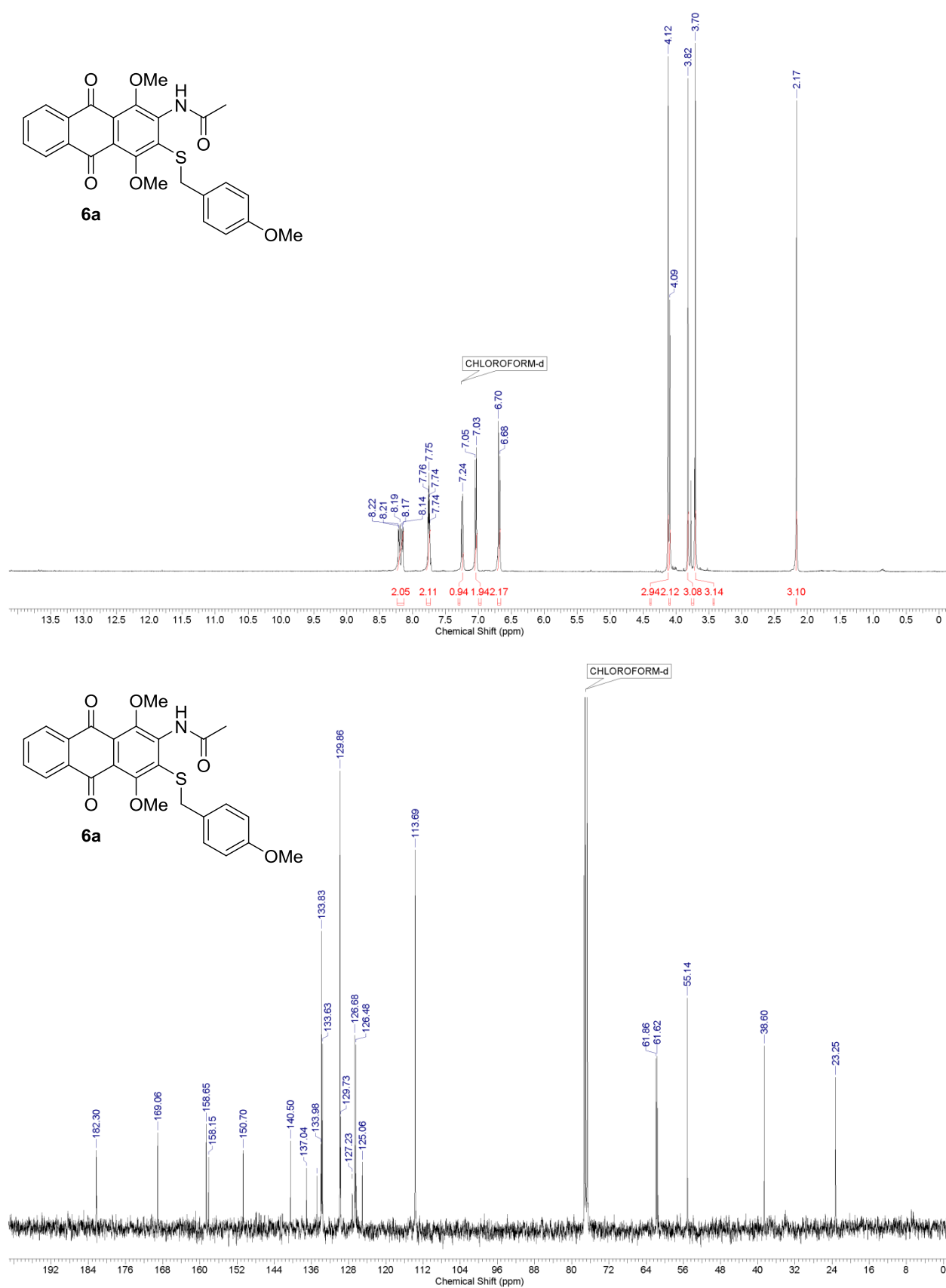


Figure S7. ¹H and ¹³C spectra of compound **6a**.

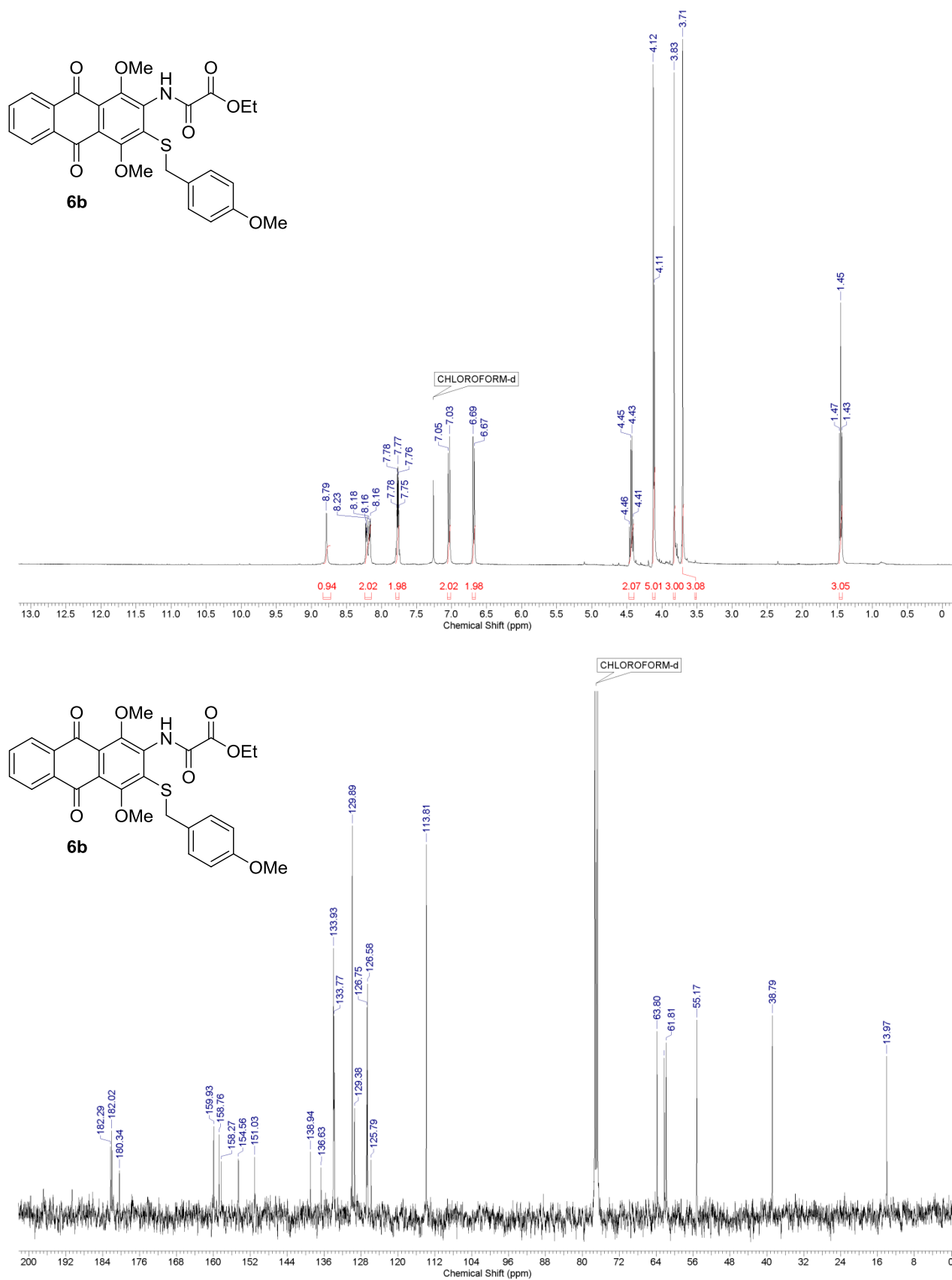


Figure S8. ¹H and ¹³C spectra of compound **6b**.

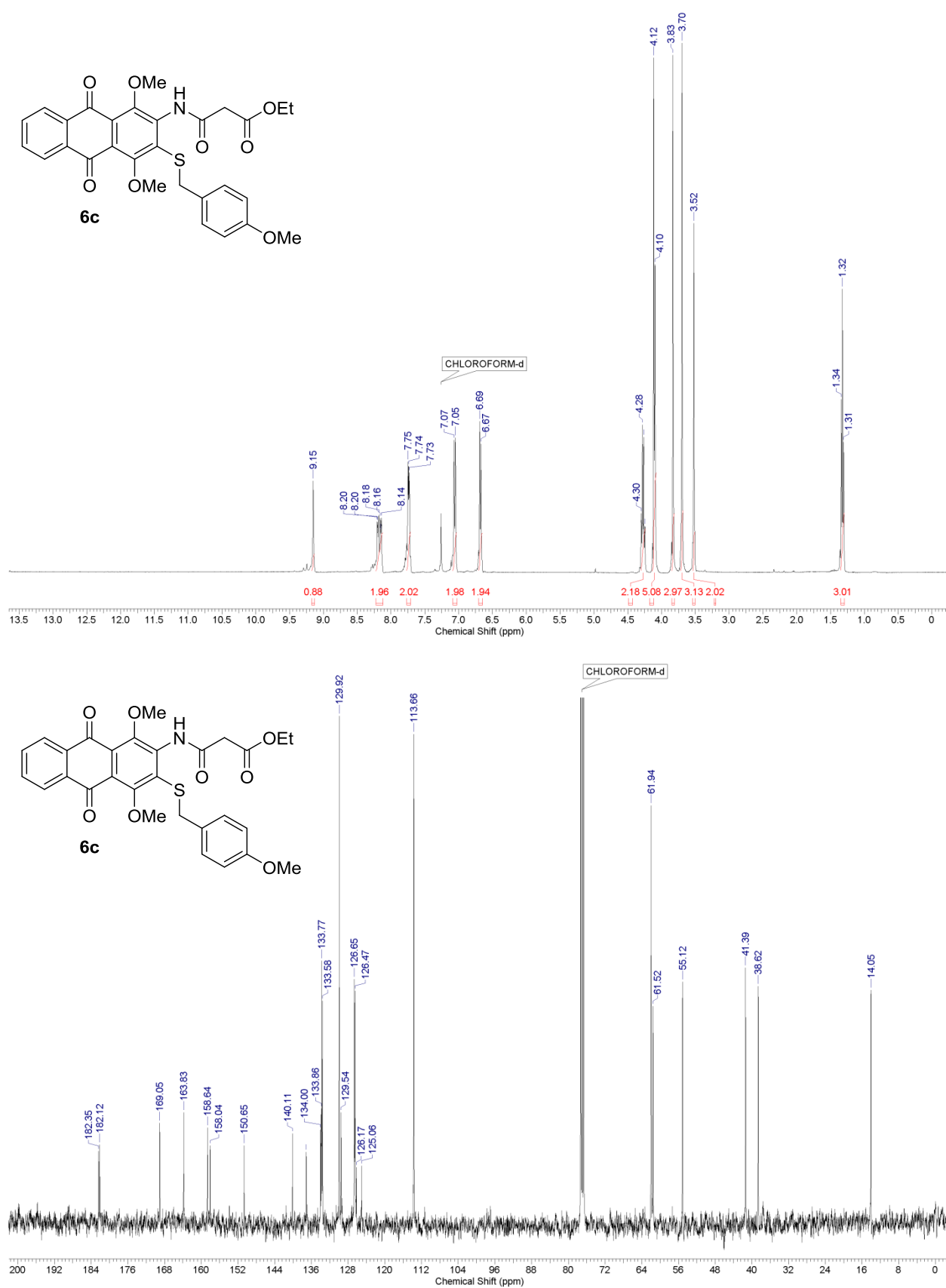


Figure S9. ^1H and ^{13}C spectra of compound **6c**.

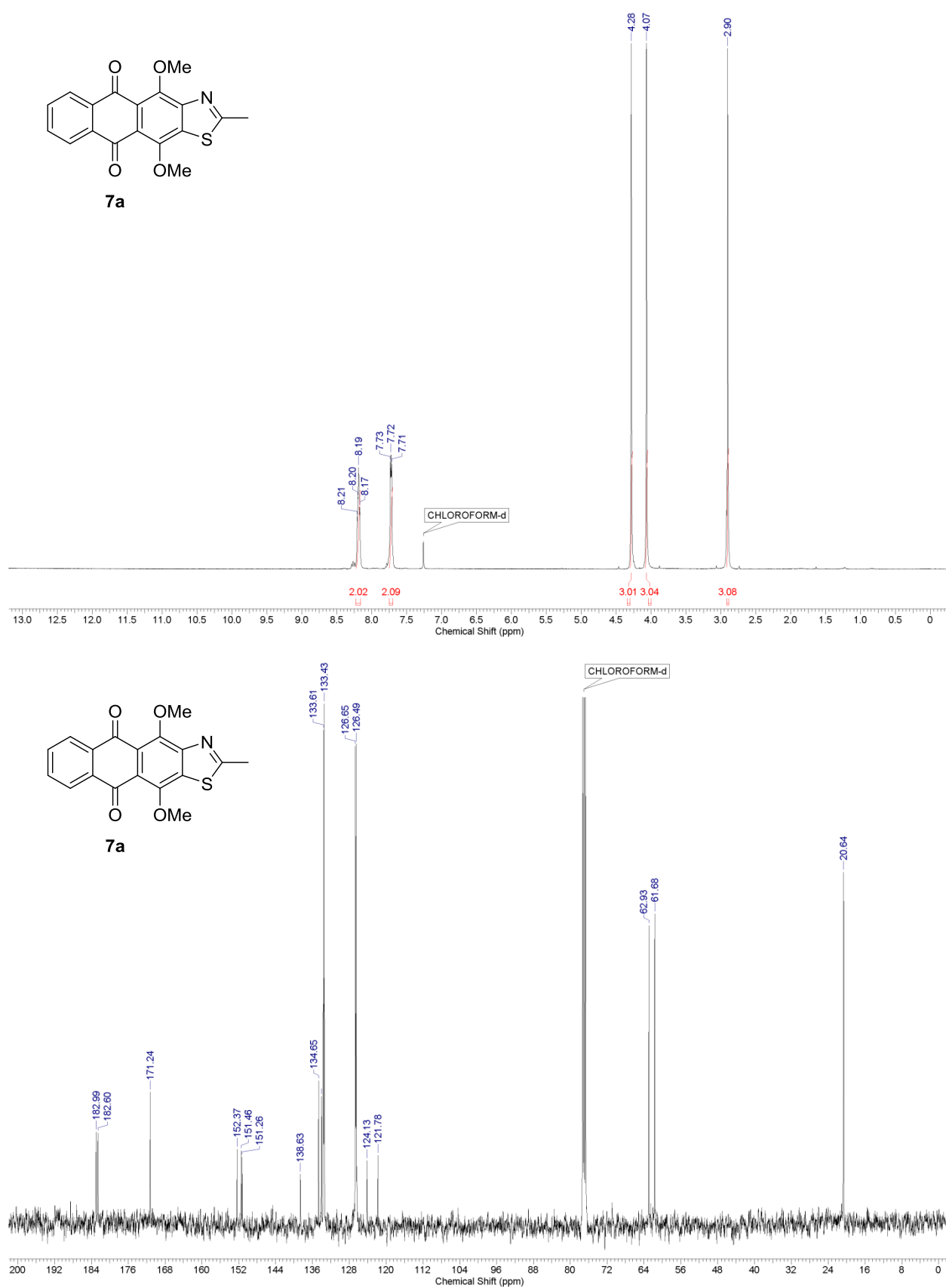


Figure S10. ^1H and ^{13}C spectra of compound **7a**.

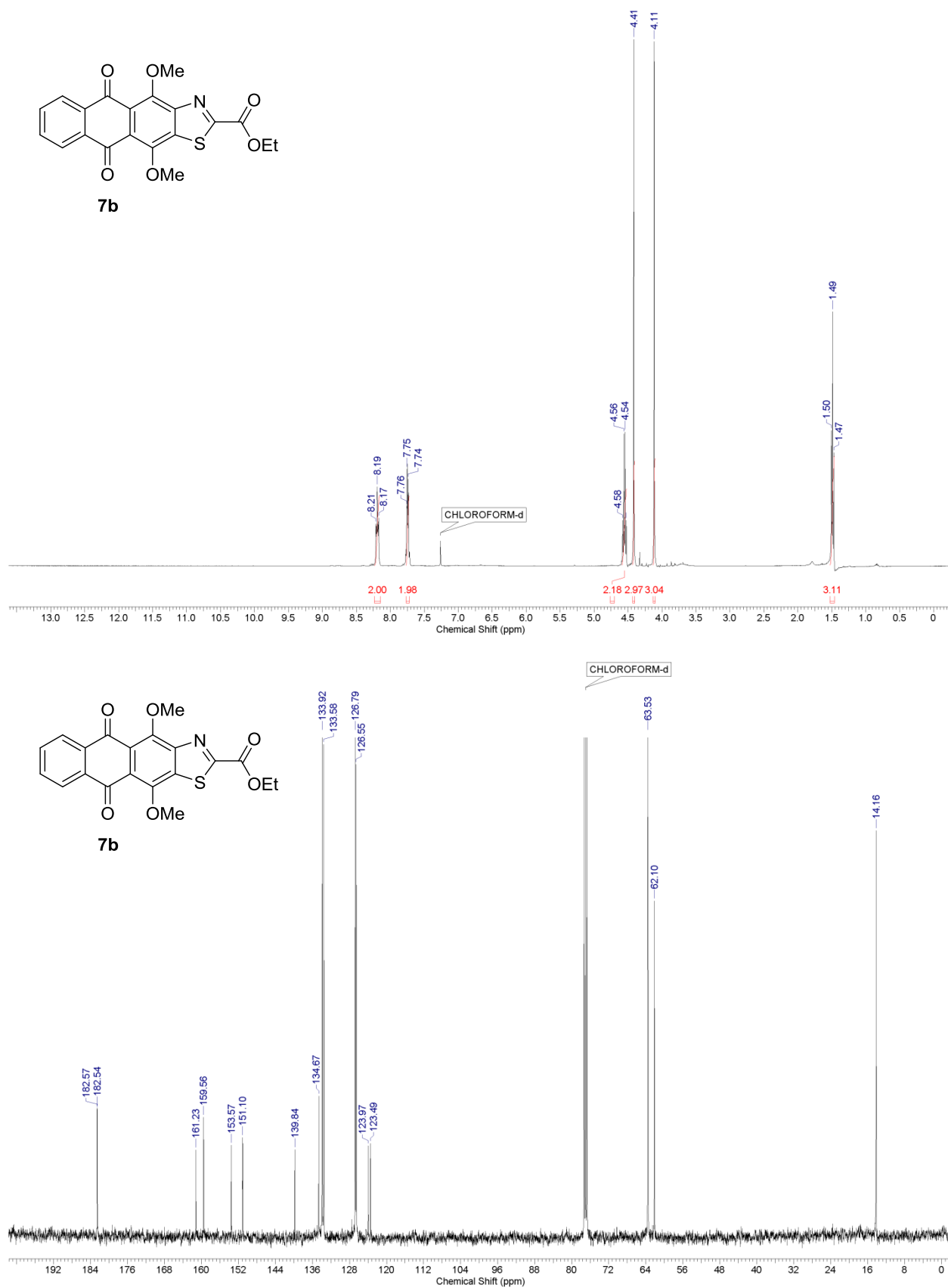


Figure S11. ¹H and ¹³C spectra of compound **7b**.

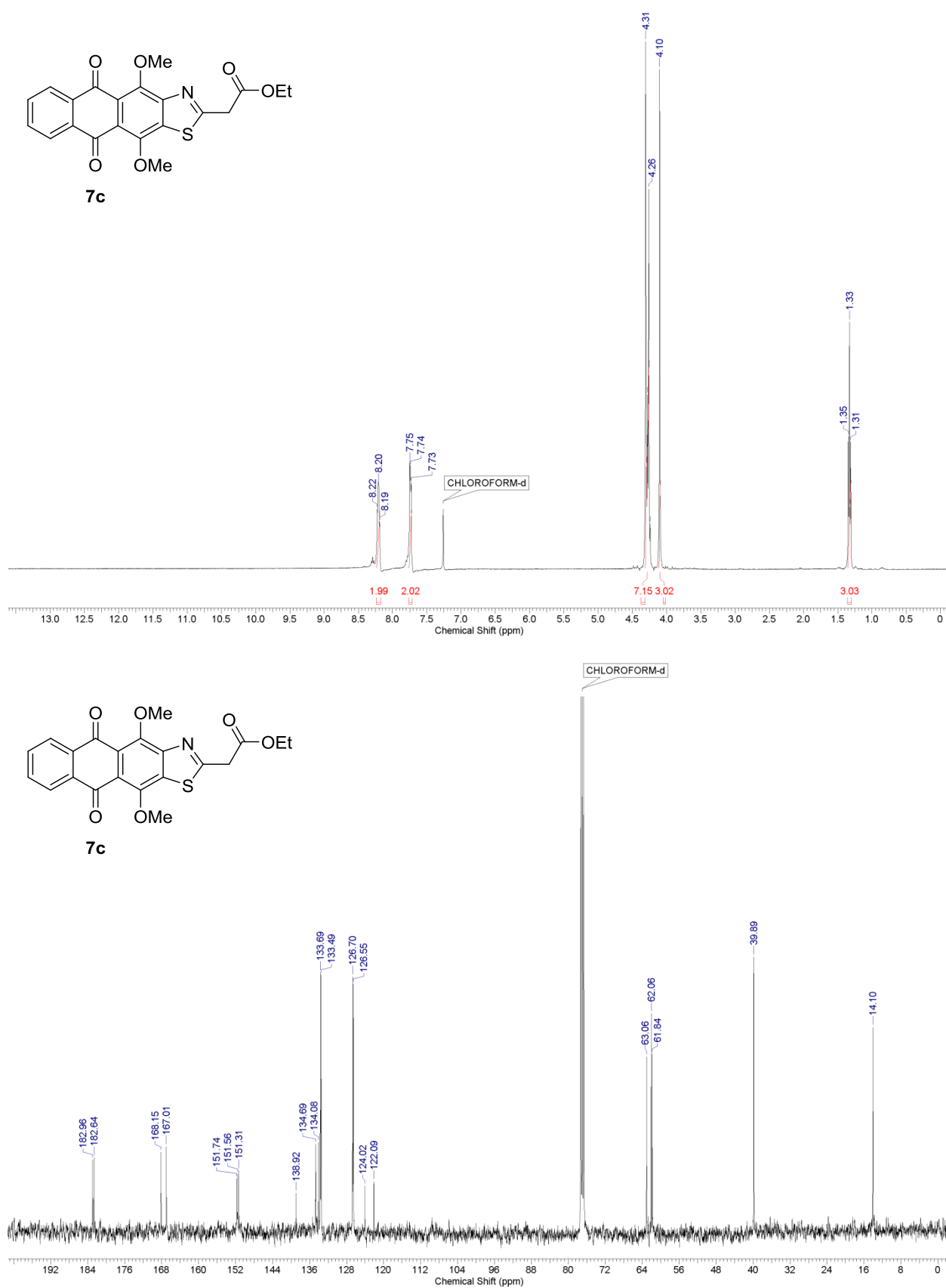


Figure S12. ¹H and ¹³C spectra of compound **7c**.

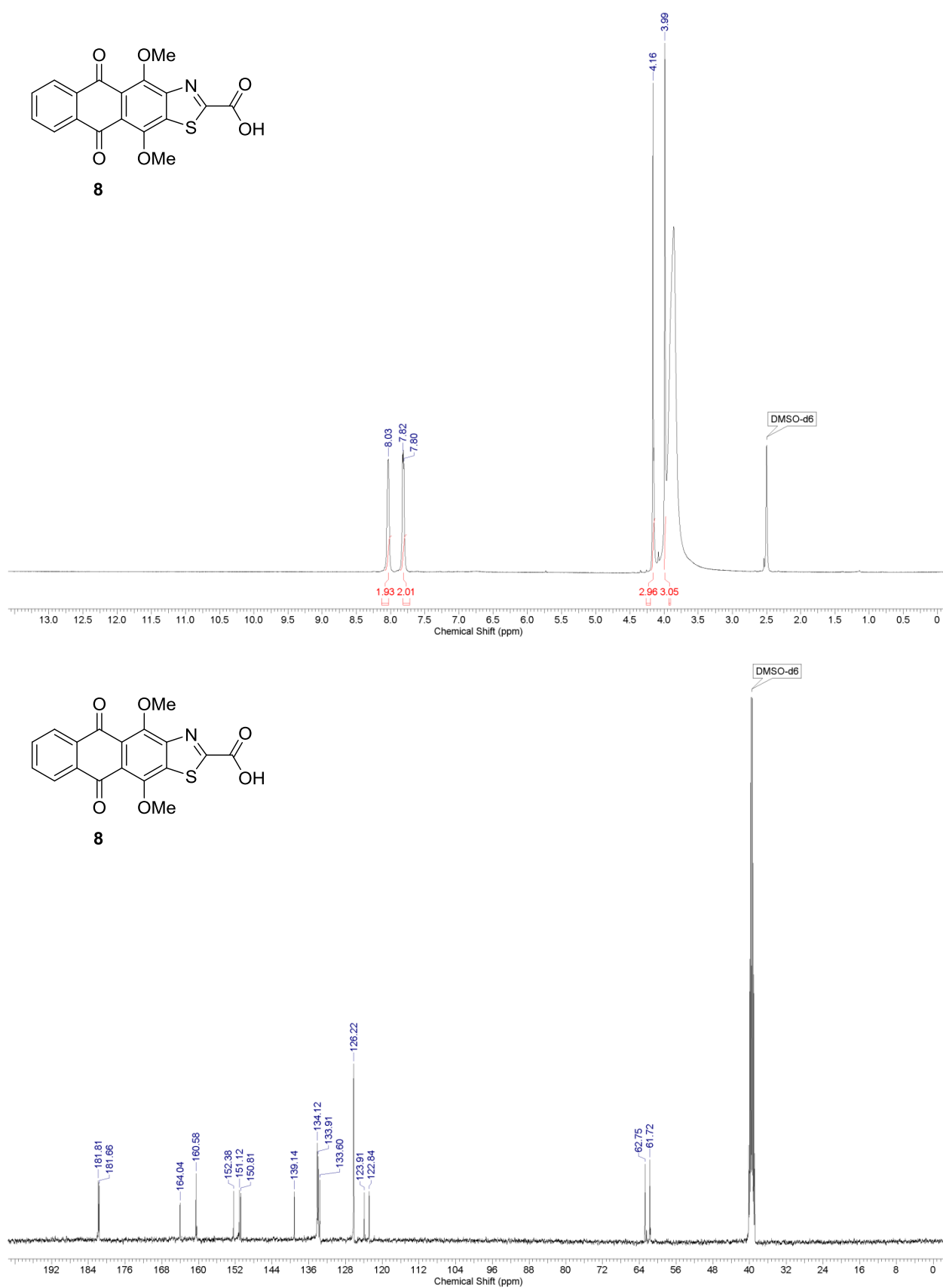


Figure S13. ^1H and ^{13}C spectra of compound **8**.

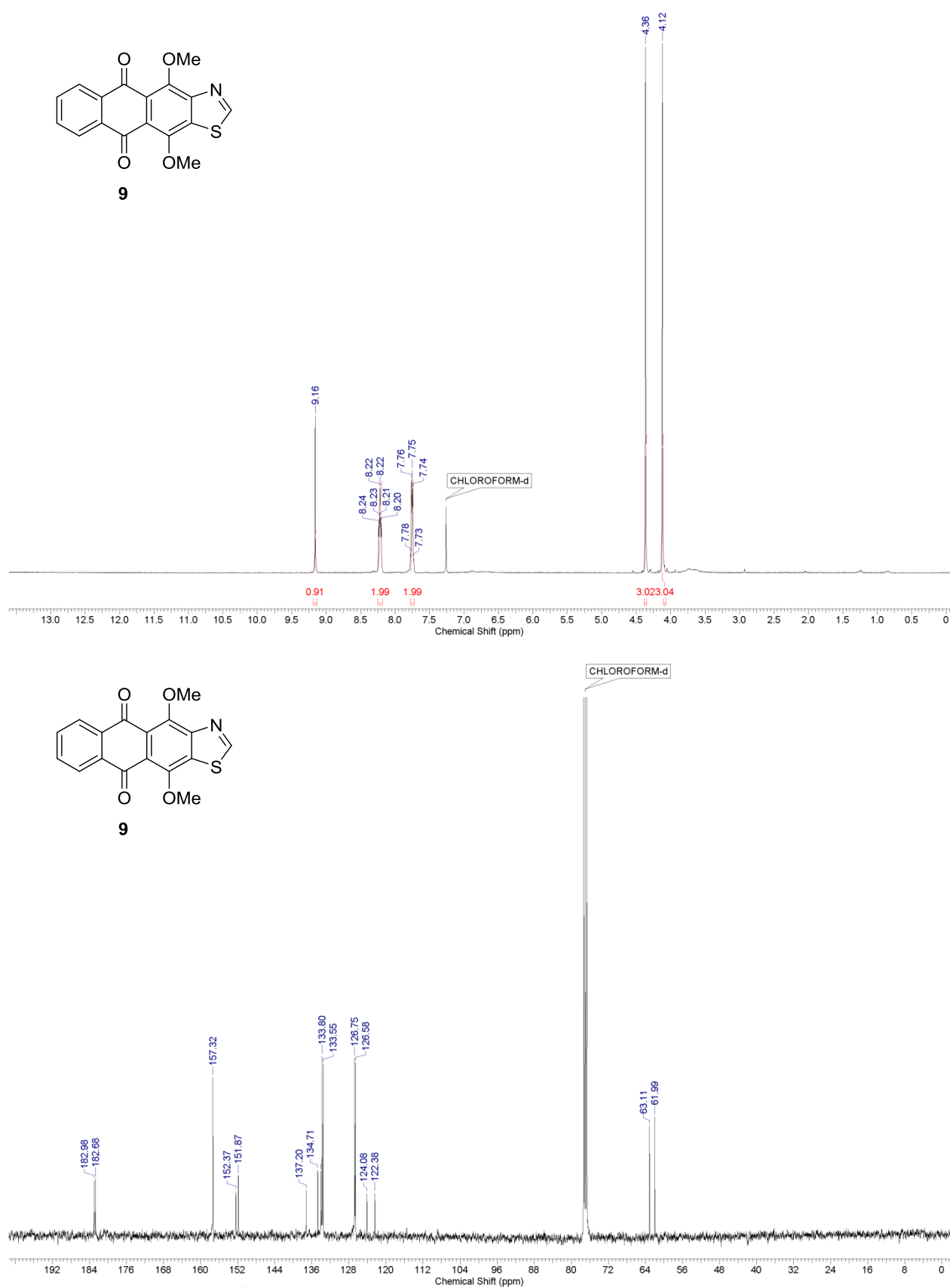


Figure S14. ^1H and ^{13}C spectra of compound **9**.

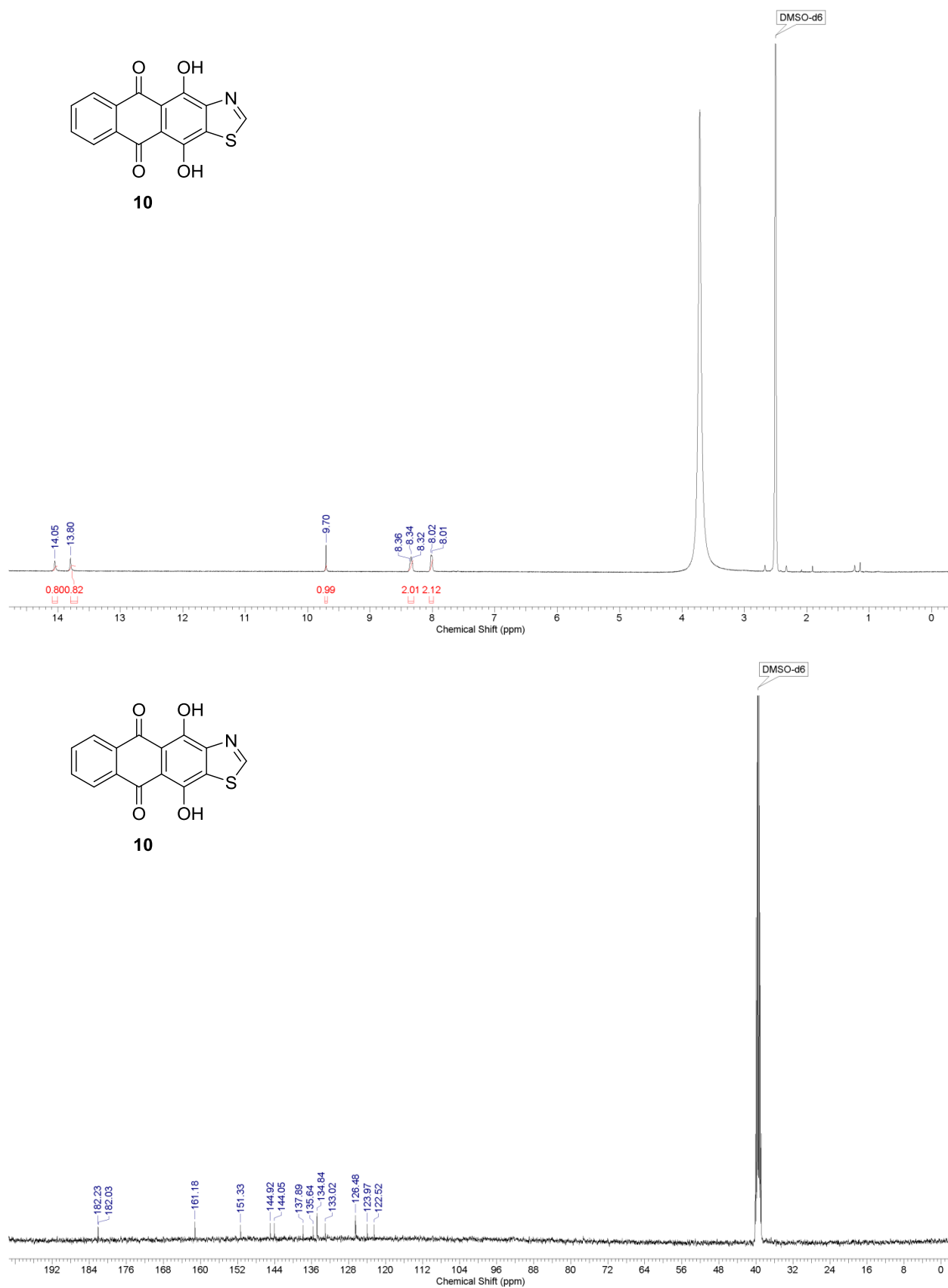


Figure S15. ^1H and ^{13}C spectra of compound **10**.

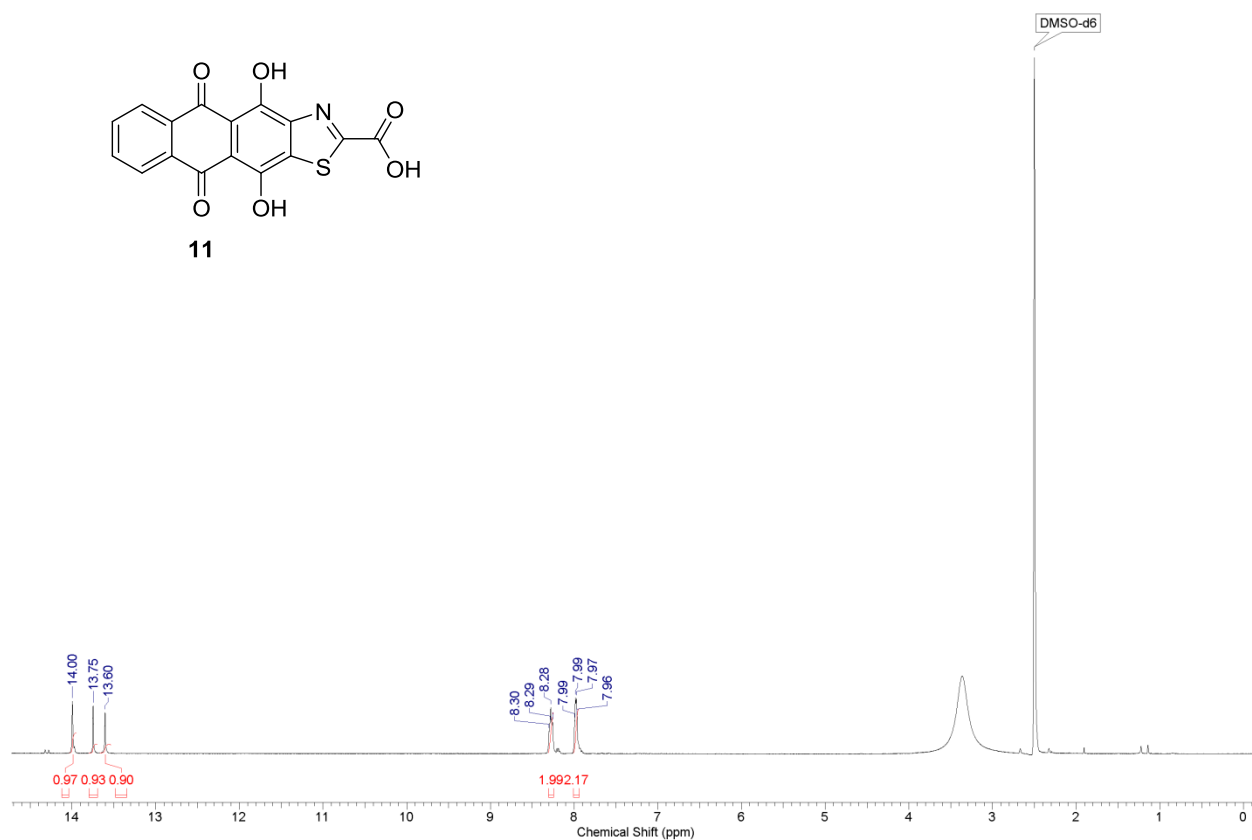


Figure S16. ^1H of compound **11**.

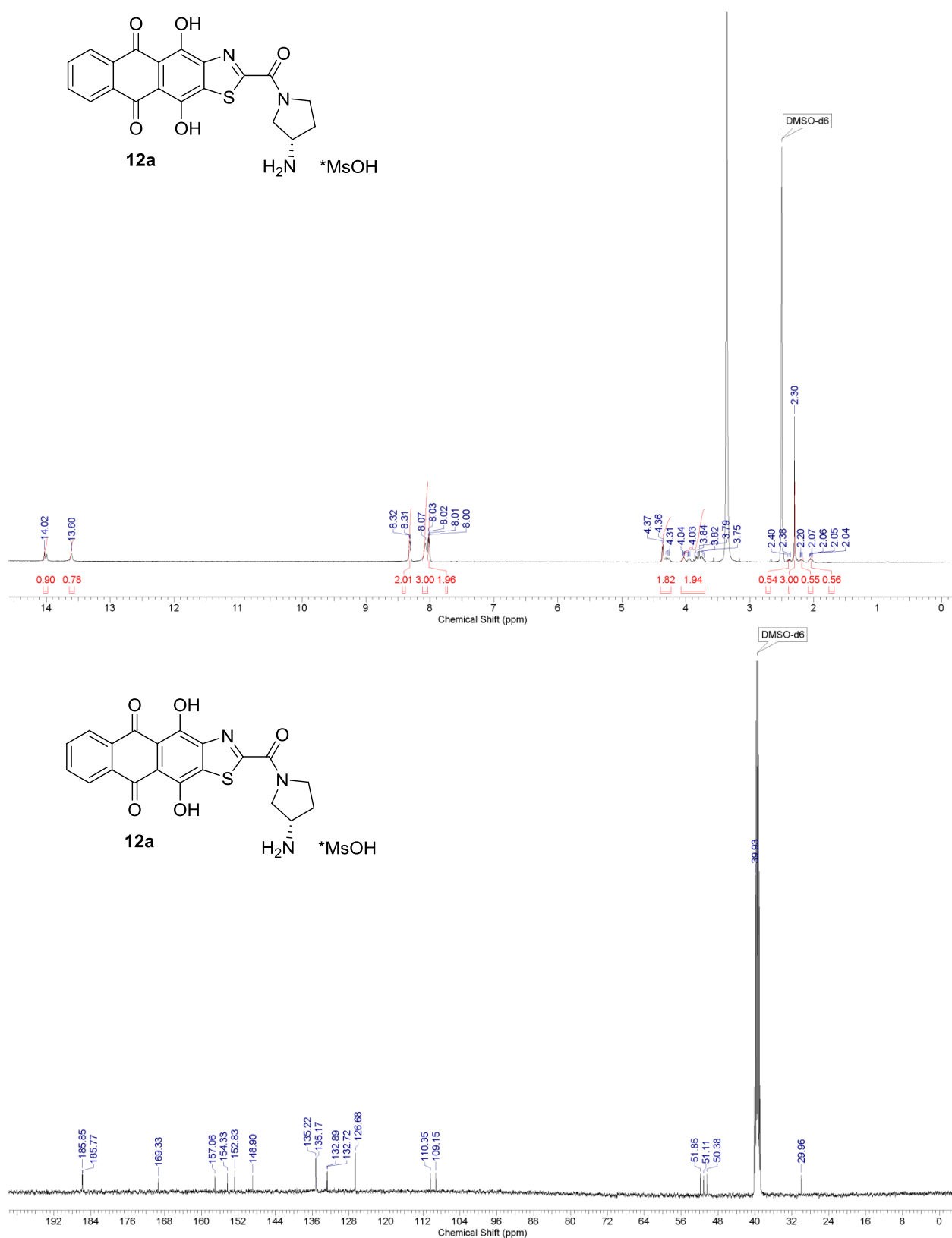


Figure S17. ^1H and ^{13}C spectra of compound **12a**.



Figure S18. ¹H and ¹³C spectra of compound **12b**.

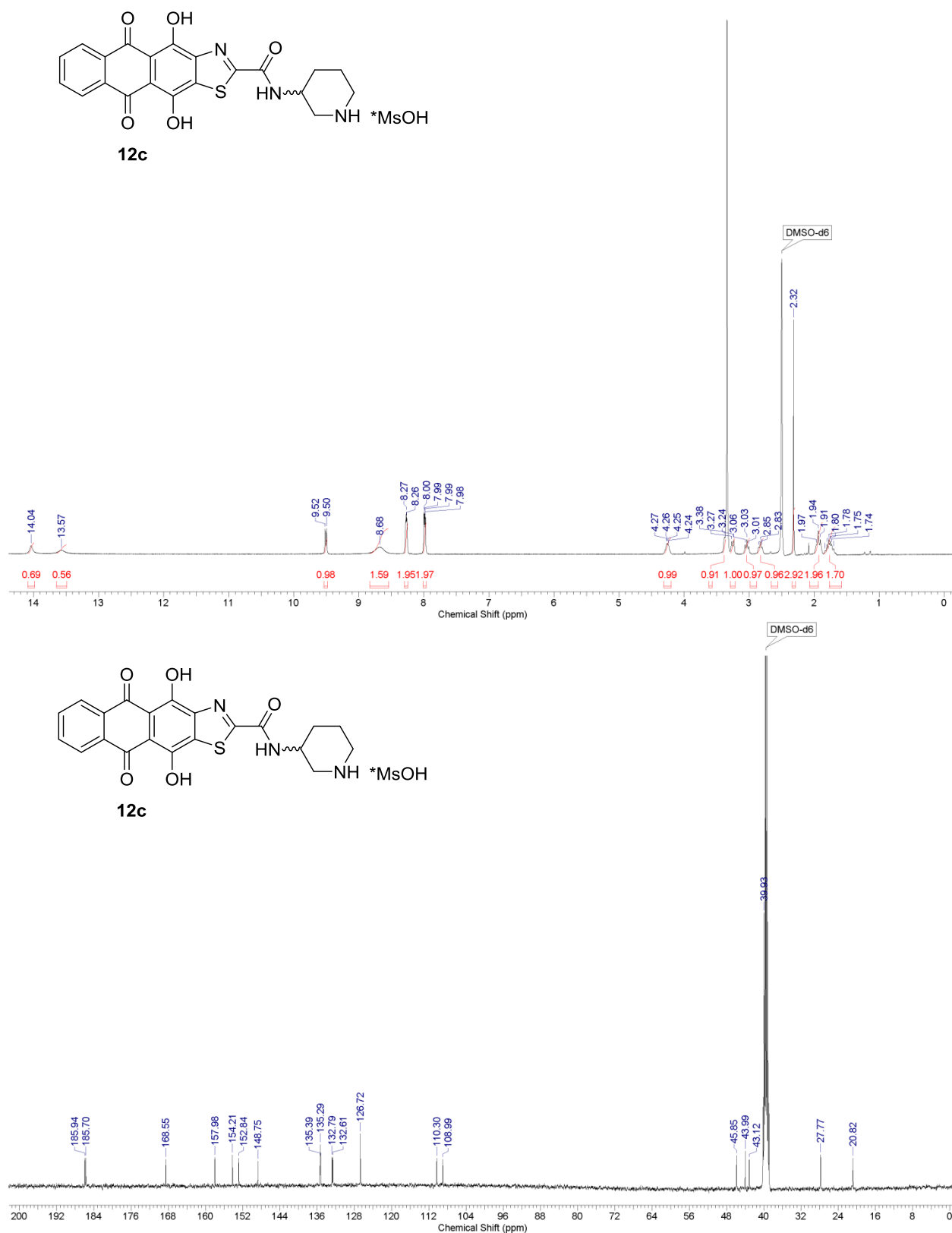


Figure S19. ¹H and ¹³C spectra of compound **12c**.

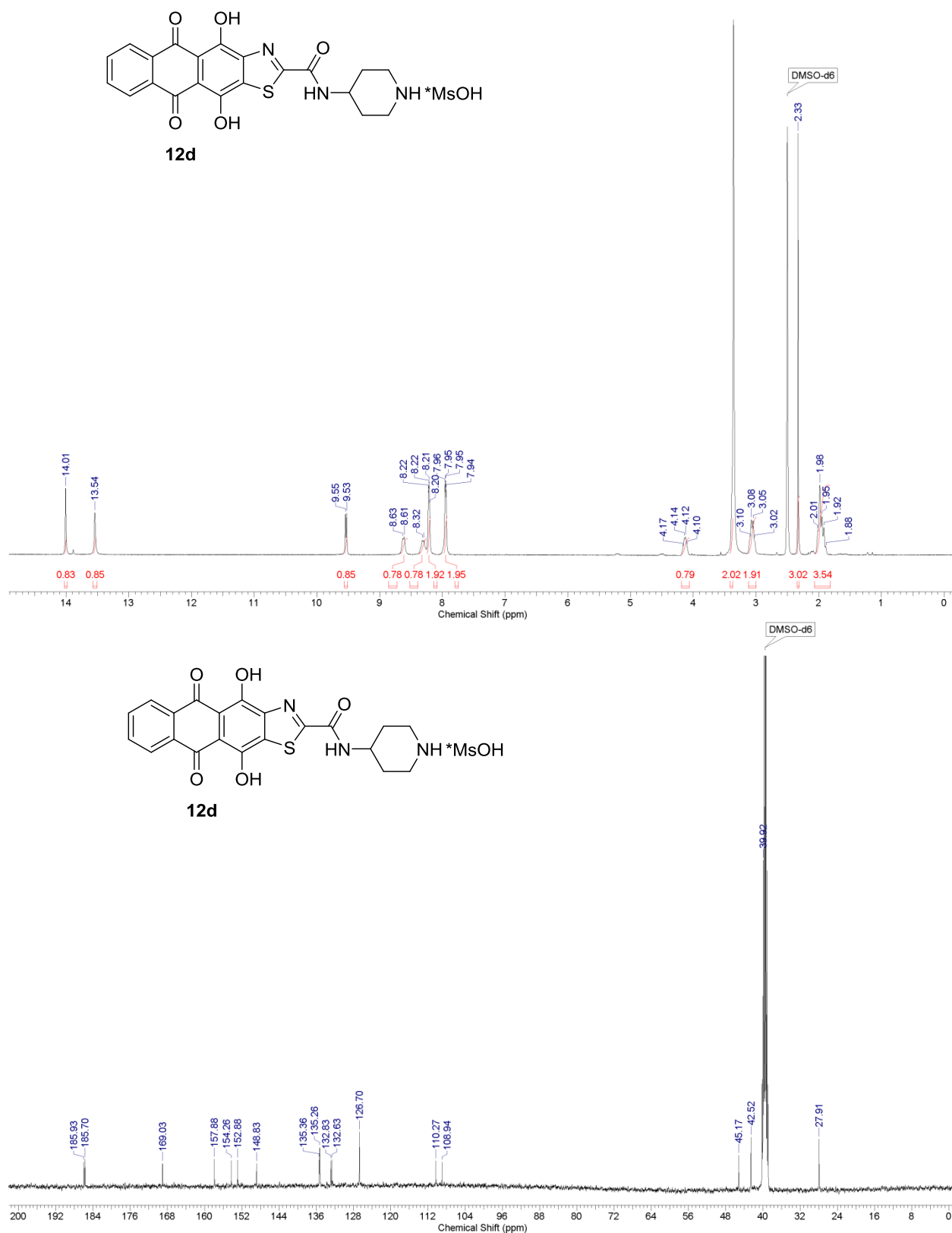
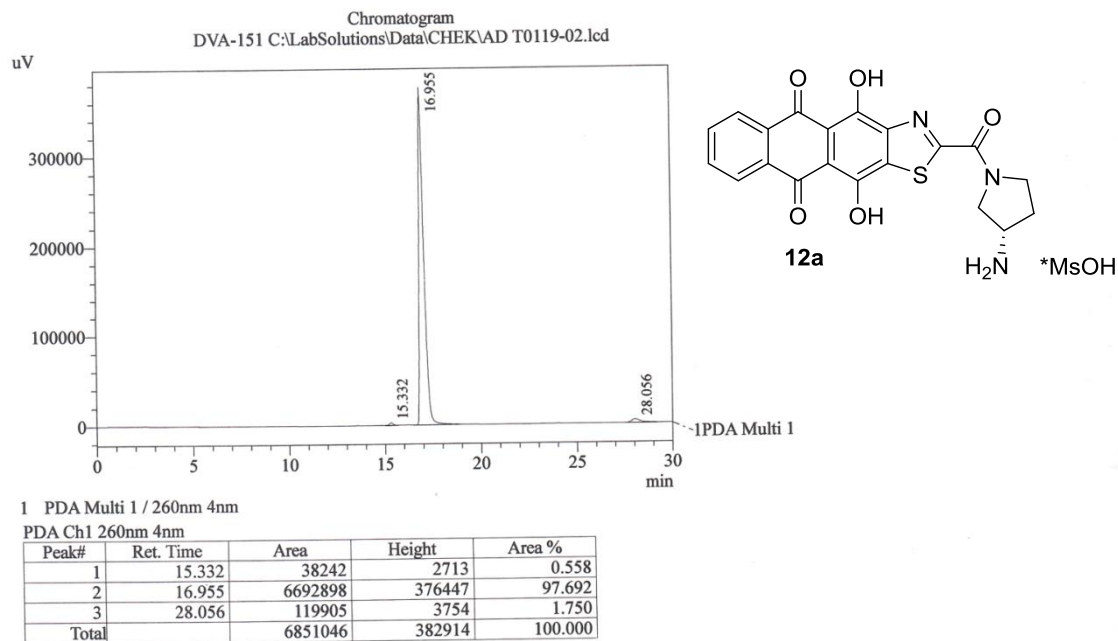


Figure S20. ¹H and ¹³C spectra of compound **12d**.

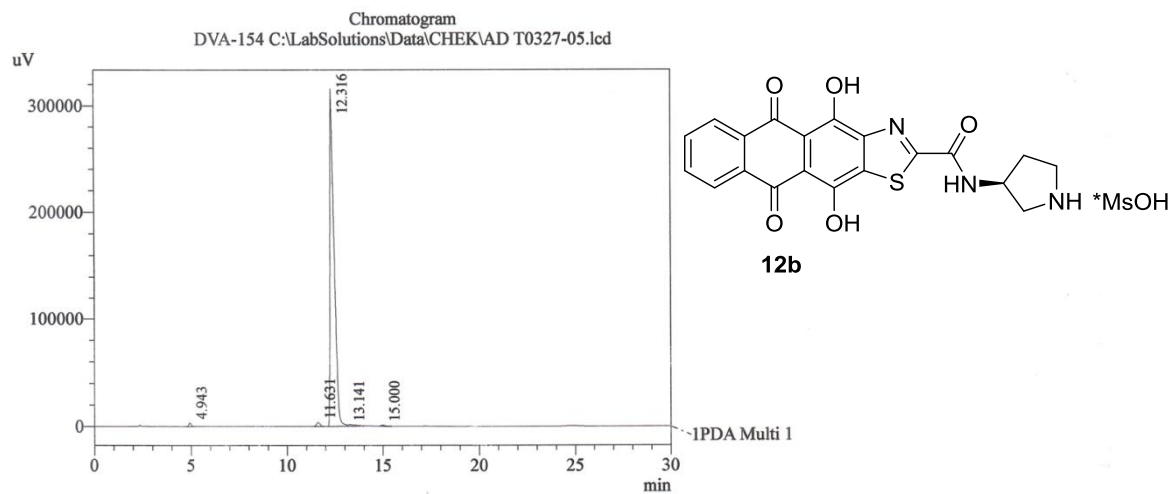


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Time	Unit	Command	Valu
0.01	Pumps	B.Conc	20
30.00	Pumps	B.Conc	70
33.00	Pumps	B.Conc	20
45.00	Controller	Stop	

Shimadzu LC-20 AD; System - FOS Colon- Kromasil-100-5mkm. C-18, 4,6x250 mm. N 62511
Elution: A - H₃PO₄ 0,01M pH 2,6; B - MeCN, fl - 1.0 ml/min, loop 20 mkl

Figure S21. HPLC spectra of compound **12a**.



1 PDA Multi 1 / 280nm 4nm

PDA Ch1 280nm 4nm

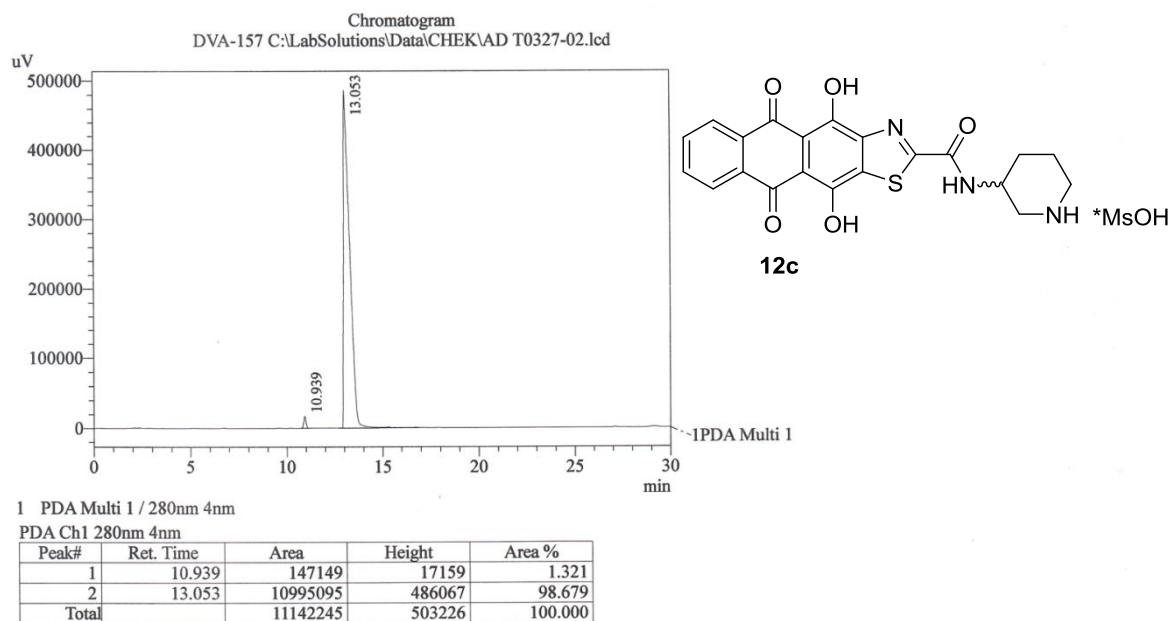
Peak#	Ret. Time	Area	Height	Area %
1	4.943	29456	3267	0.592
2	11.631	47833	3717	0.962
3	12.316	4857449	315644	97.657
4	13.141	28602	1083	0.575
5	15.000	10654	844	0.214
Total		4973994	324556	100.000

Method Filename : FOS B.lcm 28.03.2023 13:19:52

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30.00	Pumps	B.Conc	70
33.00	Pumps	B.Conc	30
45.00	Controller	Stop	

Shimadzu LC-20 AD; System - FOS Colon- Kromasil-100-5mk. C-18, 4,6x250 mm. N 62511
Elution: A - H₃PO₄ 0,01M pH 2,6; B - MeCN, fl - 1.0 ml/min, loop 20 mkl

Figure S22. HPLC spectra of compound **12b**.

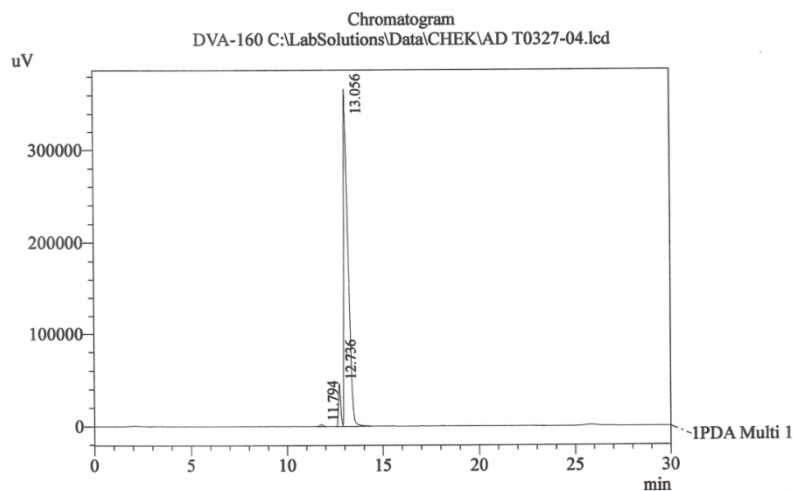


Method Filename : FOS B.lcm 27.03.2023 15:46:40

Time	Unit	Command	Valu
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30.00	Pumps	B.Conc	70
33.00	Pumps	B.Conc	30
45.00	Controller	Stop	

Shimadzu LC-20 AD; System - FOS Colon- Kromasil-100-5mkm. C-18, 4,6x250 mm. N 62511
Elution: A - H3PO4 0,01M pH 2,6; B - MeCN, fl - 1.0 ml/min, loop 20 mkl

Figure S23. HPLC spectra of compound **12c**.



1 PDA Multi 1 / 280nm 4nm

PDA Ch1 280nm 4nm

Peak#	Ret. Time	Area	Height	Area %
1	11.794	22981	1800	0.368
2	12.736	199560	46180	3.196
3	13.056	6021212	366293	96.436
Total		6243753	414273	100.000

Method Filename : FOS B.lcm 28.03.2023 12:26:27

Time	Unit	Command	Valu
0.01	Pumps	B.Conc	30
30.00	Pumps	B.Conc	70
33.00	Pumps	B.Conc	30
45.00	Controller	Stop	

Shimadzu LC-20 AD; System - FOS Colon- Kromasil-100-5mkm. C-18, 4,6x250 mm. N 62511
Elution: A - H3PO4 0,01M pH 2,6; B - MeCN, fl - 1.0 ml/min, loop 20 mkl

Figure S24. HPLC spectra of compound **12d**.

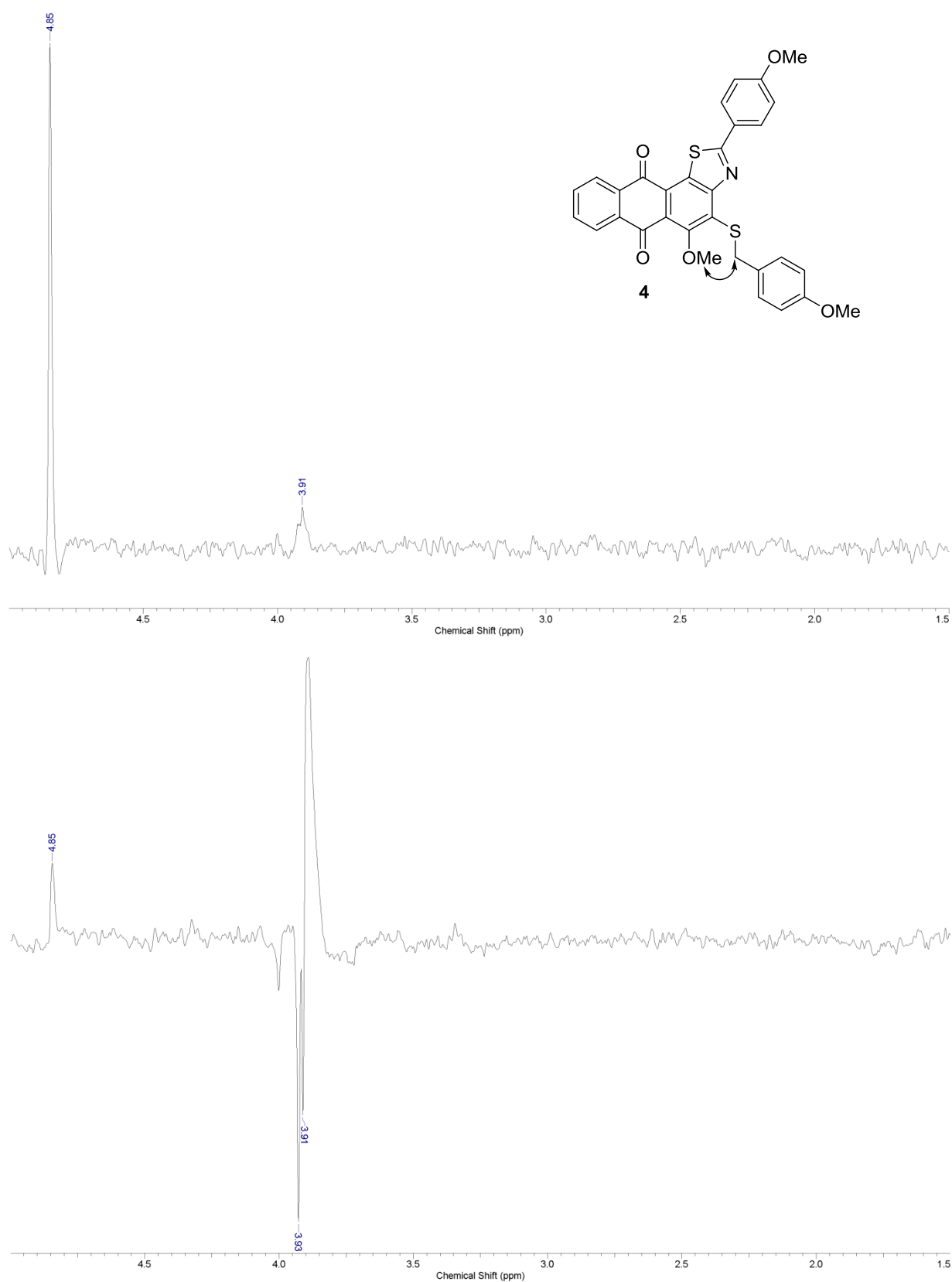


Figure S25. 1D NOESY NMR spectra of compound **4**.

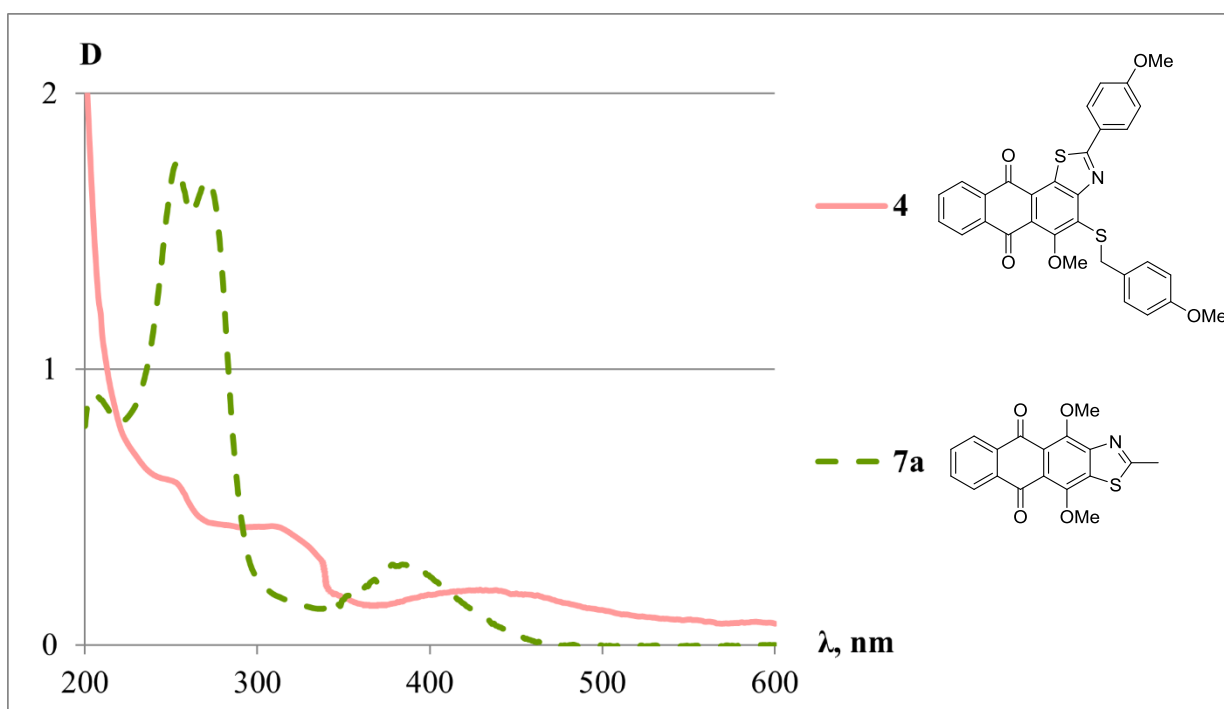


Figure S26. Electronic absorption spectra of derivatives **4** and **7a** in EtOH (4×10^{-5} M).