

Enhanced Cytotoxic Activity of PEGylated Curcumin Derivatives: Synthesis, Structure–Activity Evaluation, and Biological Activity

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Supporting Information

Citation: Lazewski, D.; Kucinska, M.; Potapskiy, E.; Kuzminska, J.; Popenda, L.; Tezyk, A.; Goslinski, T.; Wierzchowski, M.; Murias, M. Enhanced Cytotoxic Activity of PEGylated Curcumin Derivatives: Synthesis, Structure–Activity Evaluation, and Biological Activity. *Int. J. Mol. Sci.* **2023**, *24*, 1467. <https://doi.org/10.3390/ijms24021467>

Academic Editor(s): Hwan-Suck Chung

Received: 9 November 2022

Revised: 25 December 2022

Accepted: 6 January 2023

Published: 11 January 2023



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S1 – NMR spectroscopy

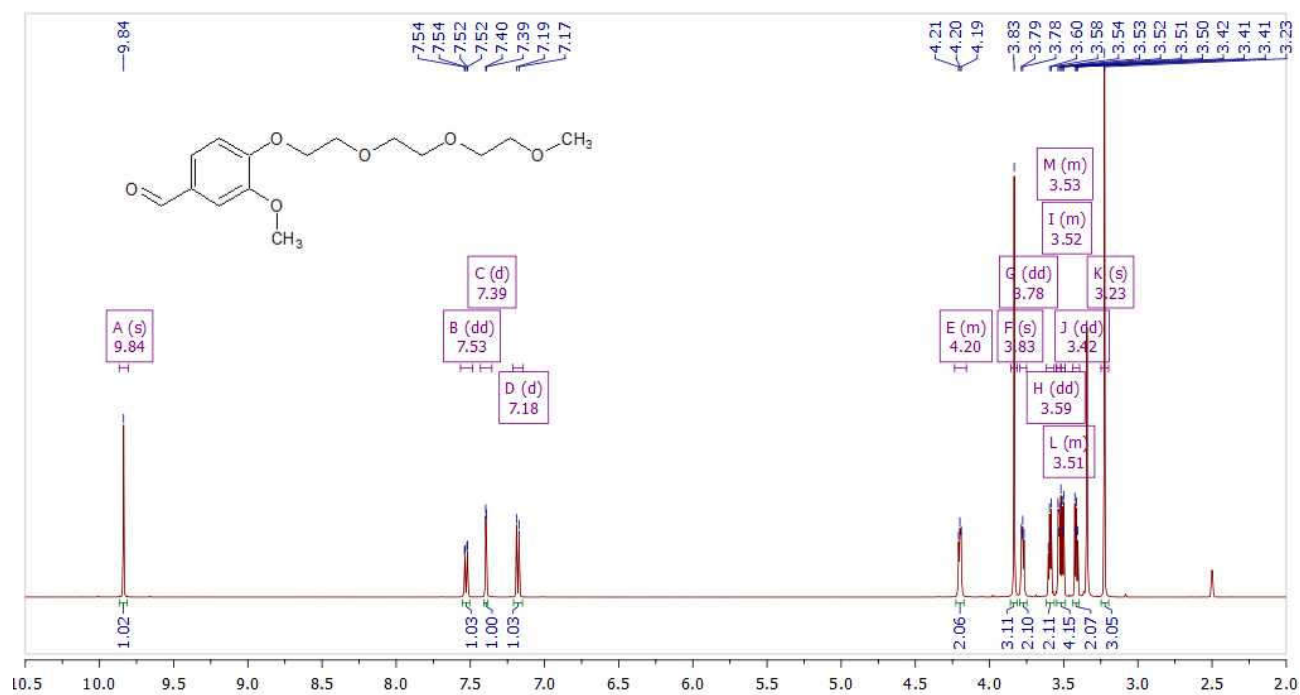


Figure S1. ¹H NMR spectrum of aldehyde 1.

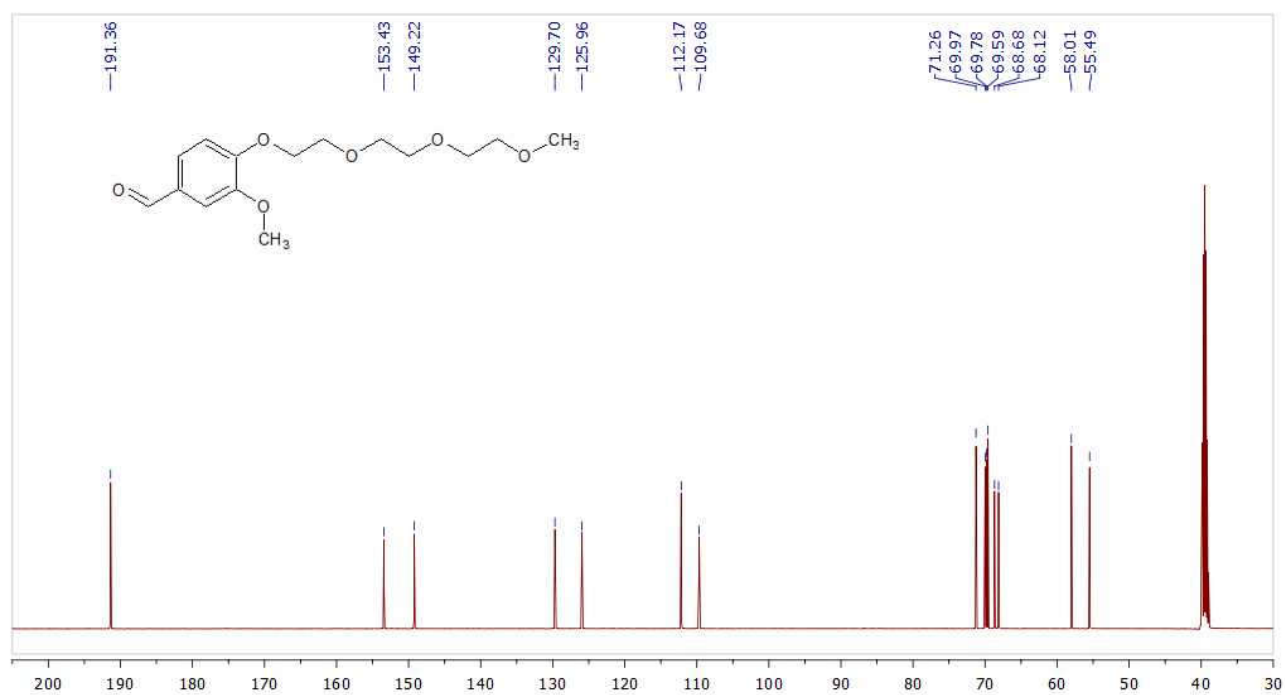


Figure S2. ¹³C NMR spectrum of aldehyde 1.

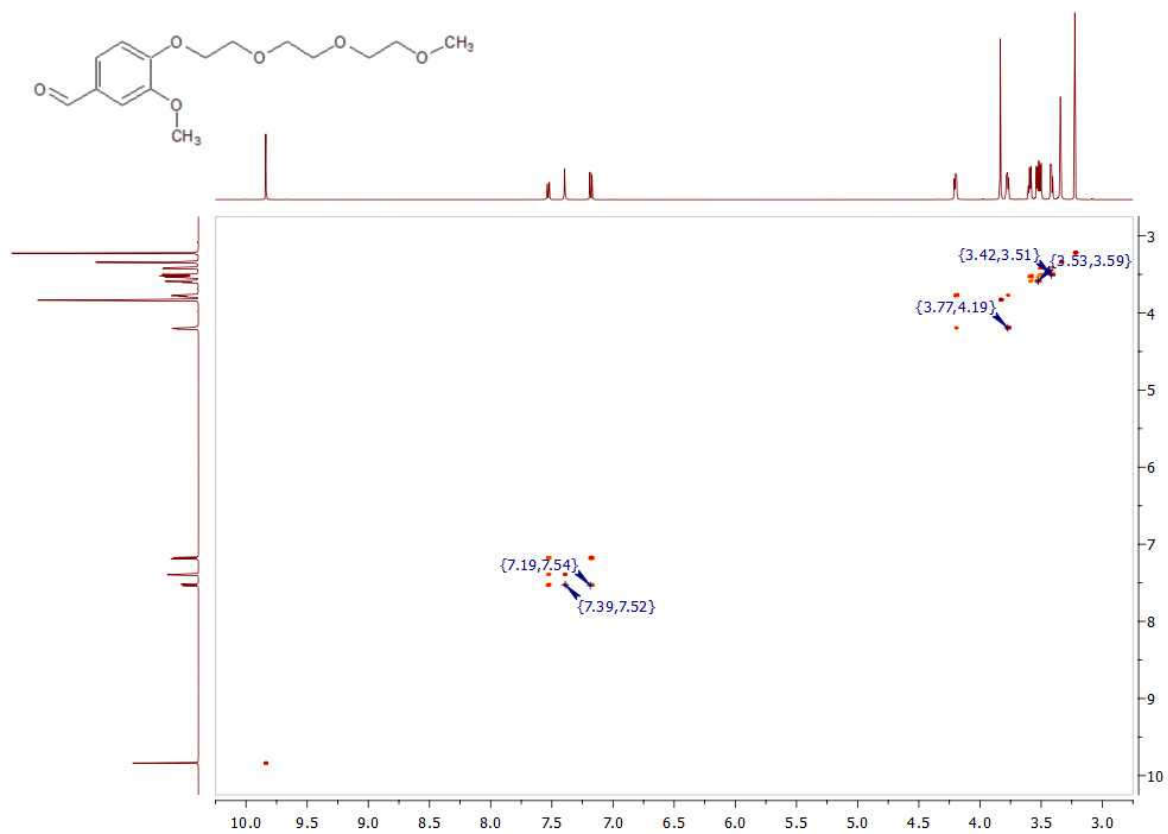


Figure S3. ^1H - ^1H COSY spectrum of aldehyde 1.

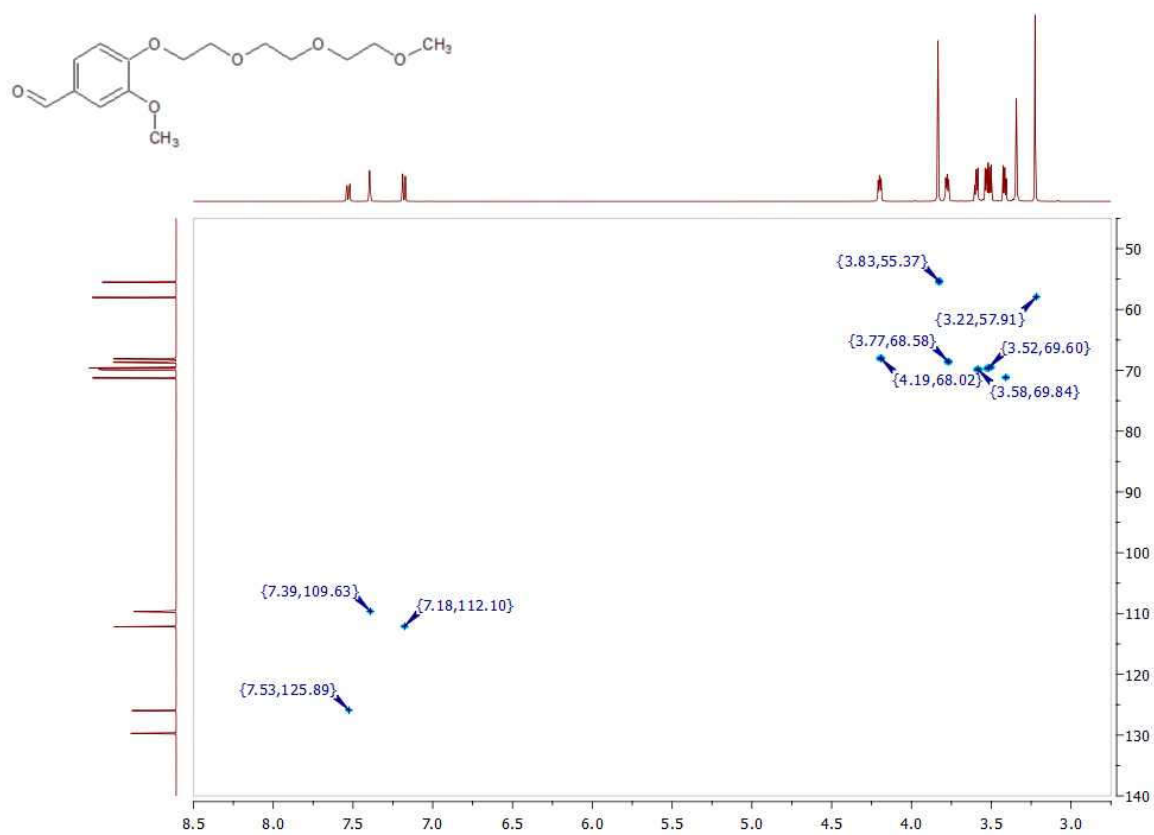


Figure S4. ^1H - ^{13}C HSQC spectrum of aldehyde 1.

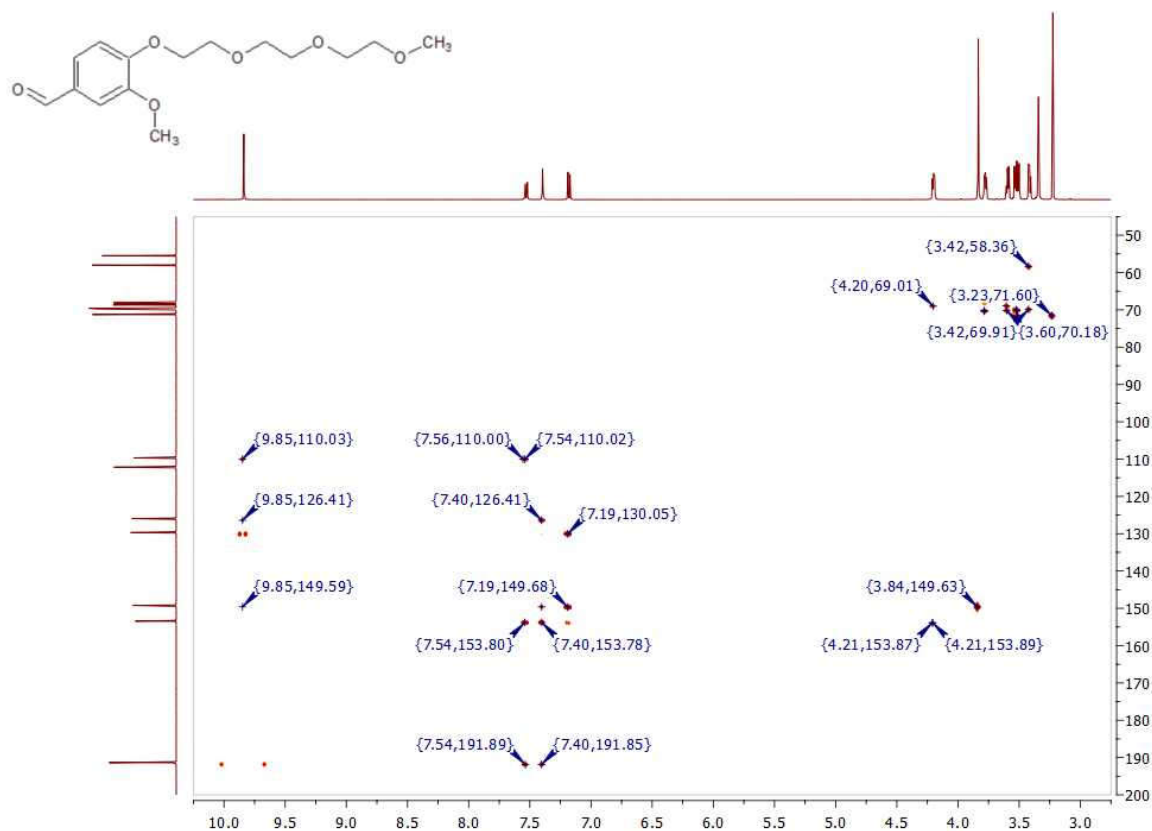


Figure S5. ^1H - ^{13}C HMBC spectrum of aldehyde 1.

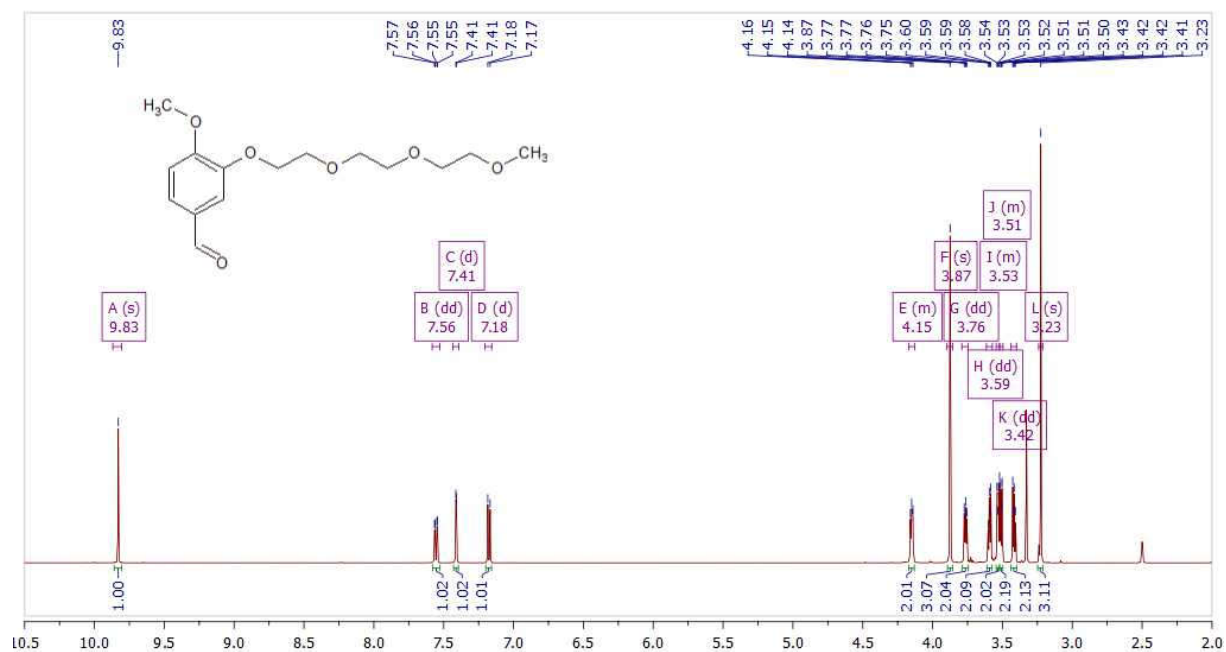


Figure S6. ^1H NMR spectrum of aldehyde 2.

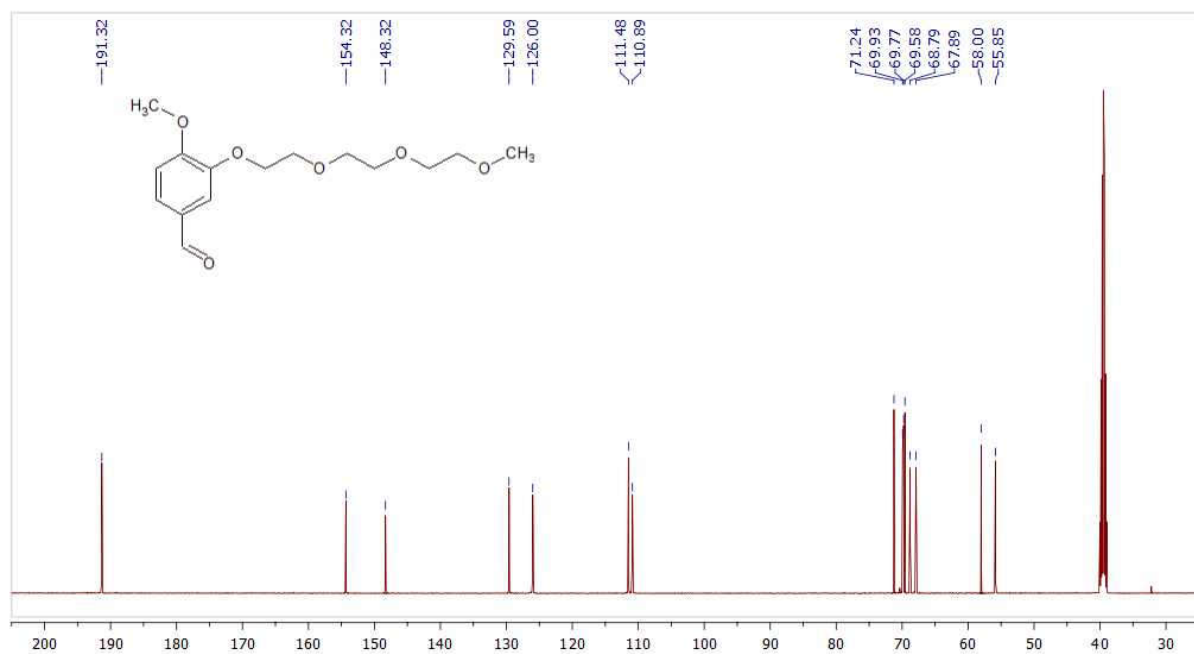


Figure S7. ^{13}C NMR spectrum of aldehyde 2.

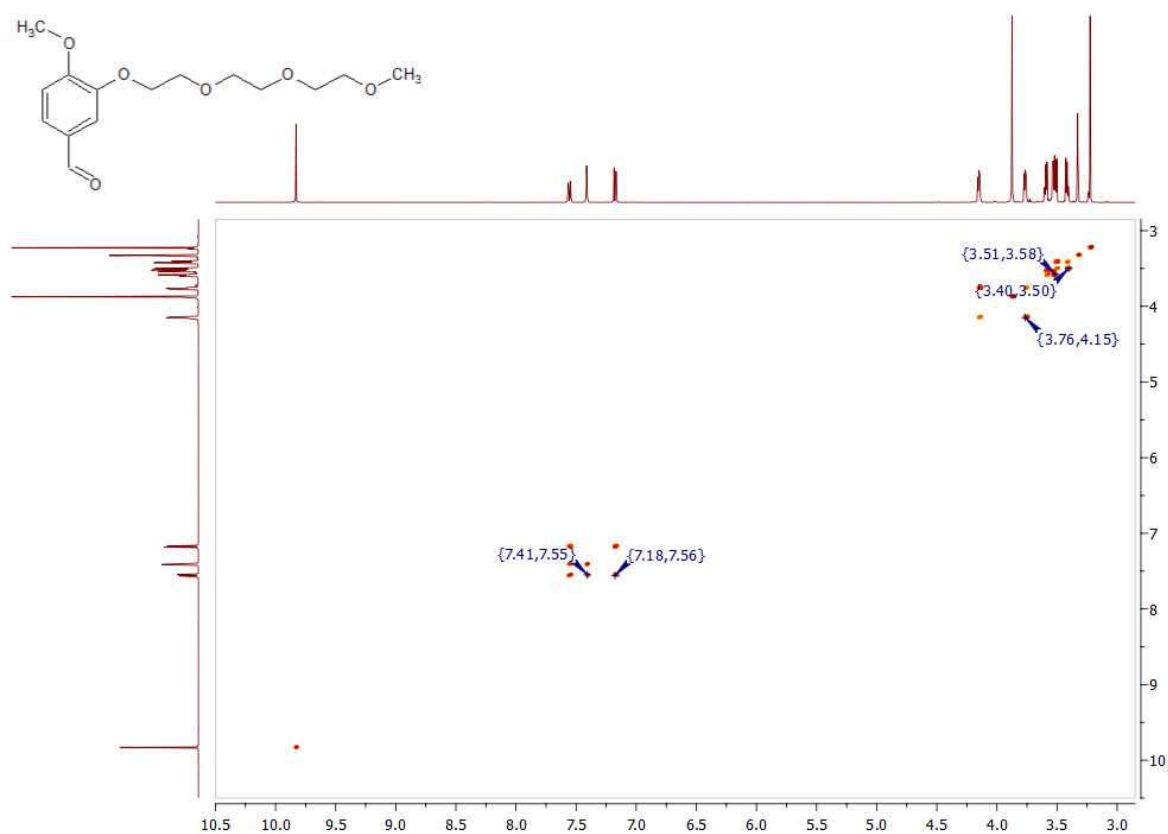


Figure S8. ^1H - ^1H COSY spectrum of aldehyde 2.

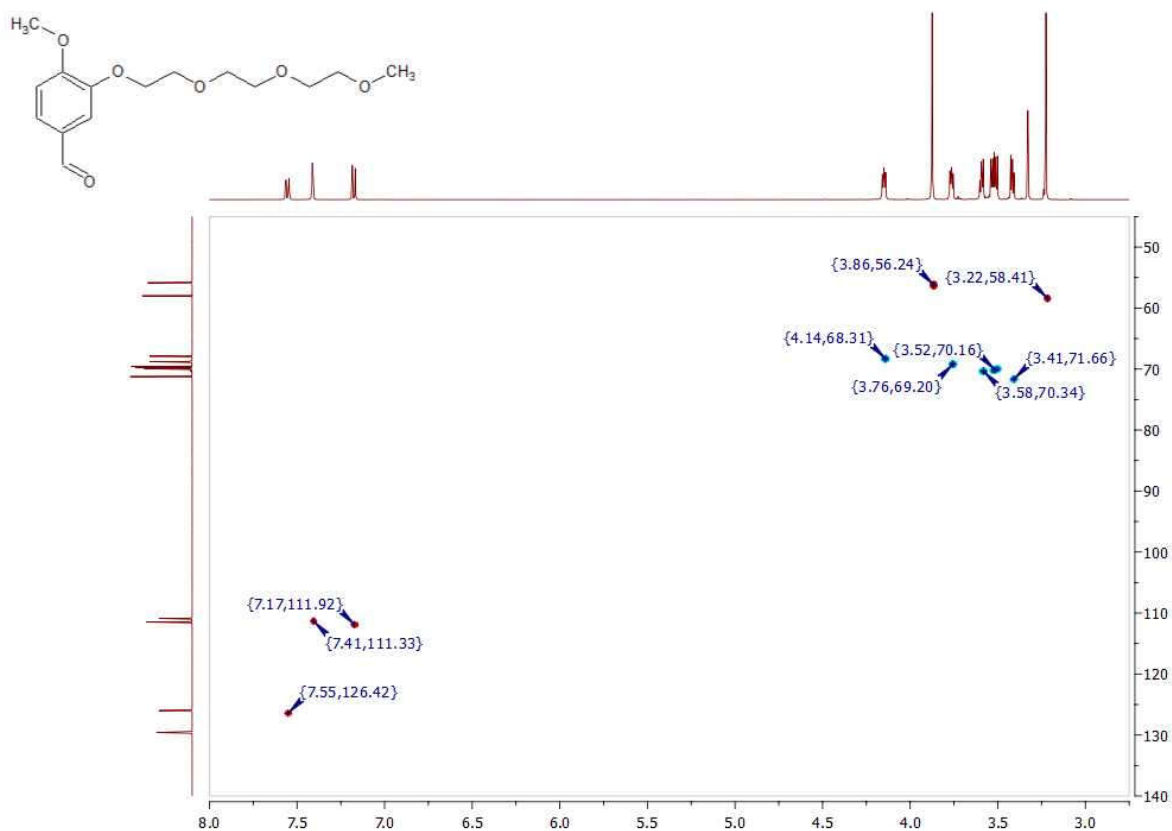


Figure S9. ¹H-¹³C HSQC spectrum of aldehyde 2.

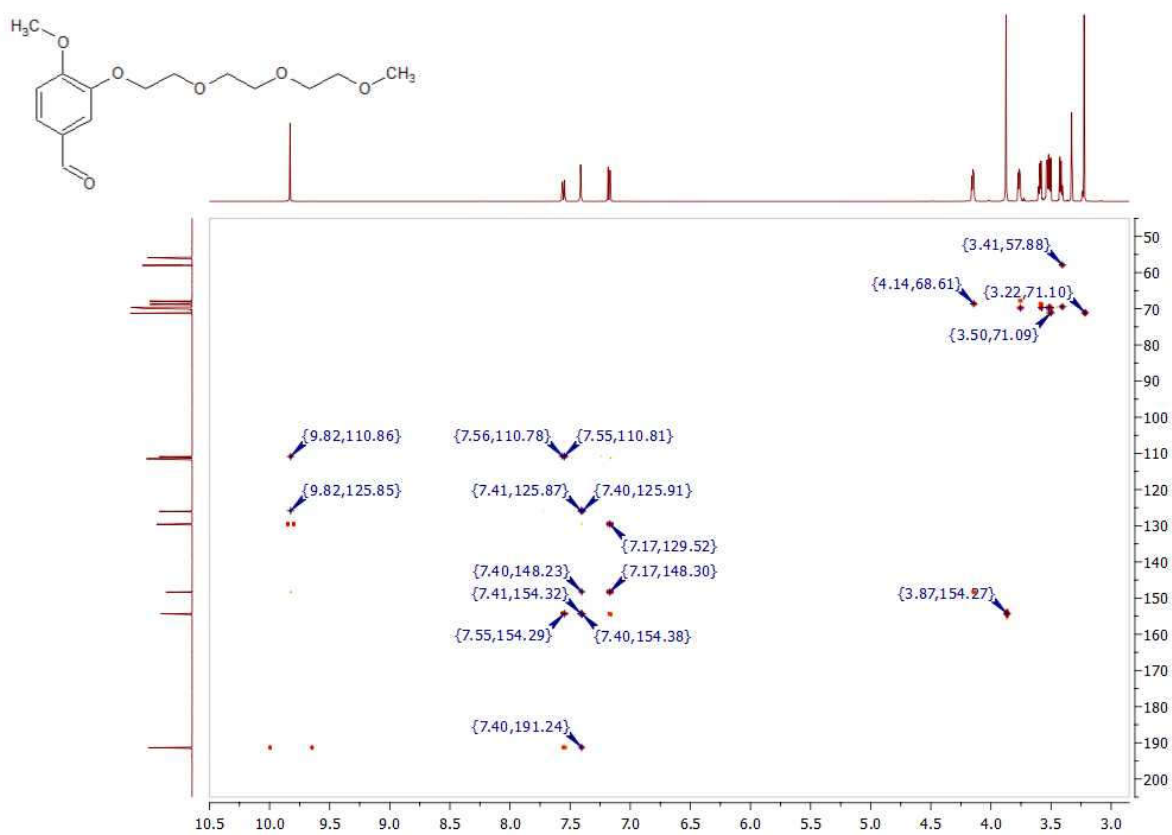


Figure S10. ¹H-¹³C HMBC spectrum of aldehyde 2.

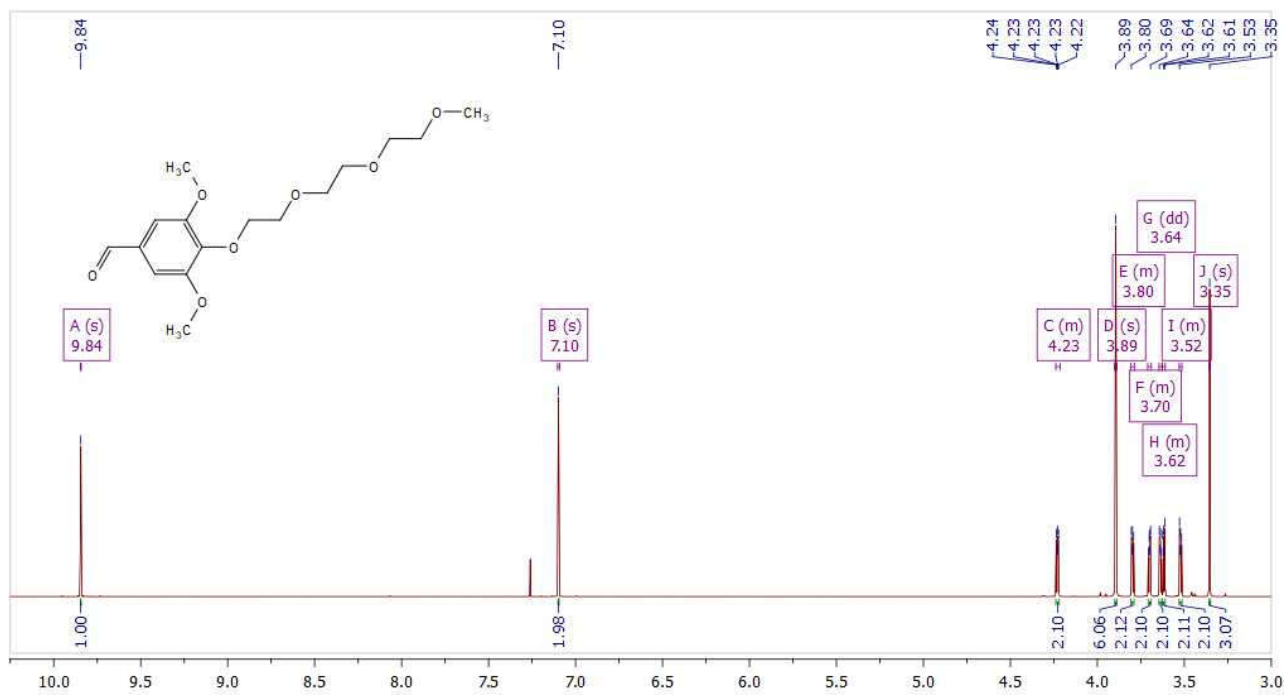


Figure S11. ¹H NMR spectrum of aldehyde 3.

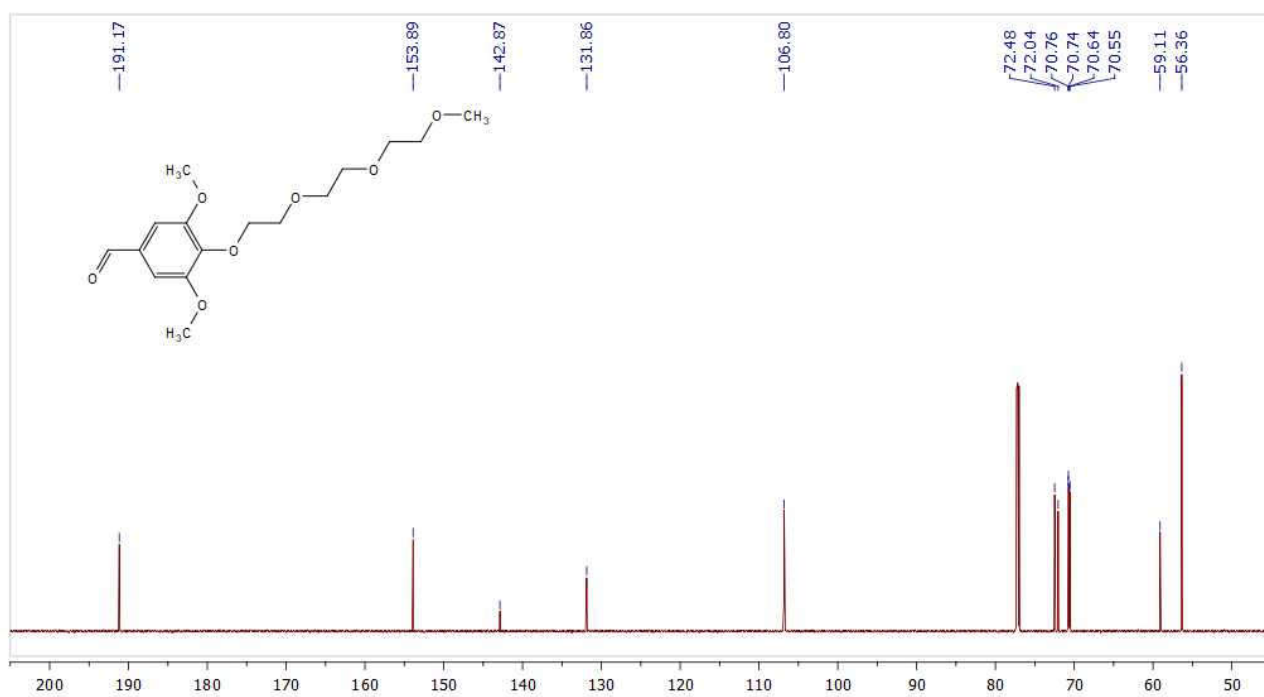


Figure S12. ¹³C NMR spectrum of aldehyde 3.

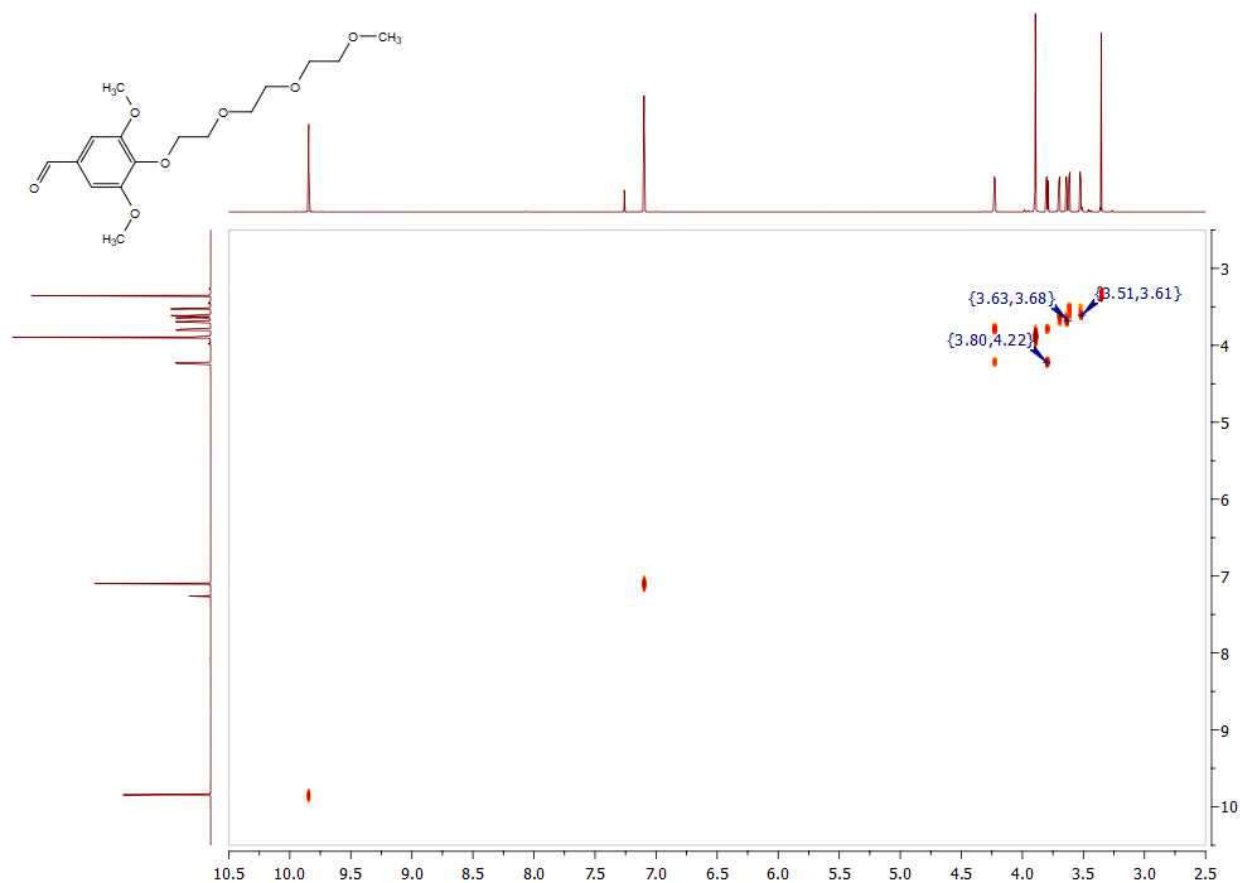


Figure S13. ^1H - ^1H COSY spectrum of aldehyde 3.

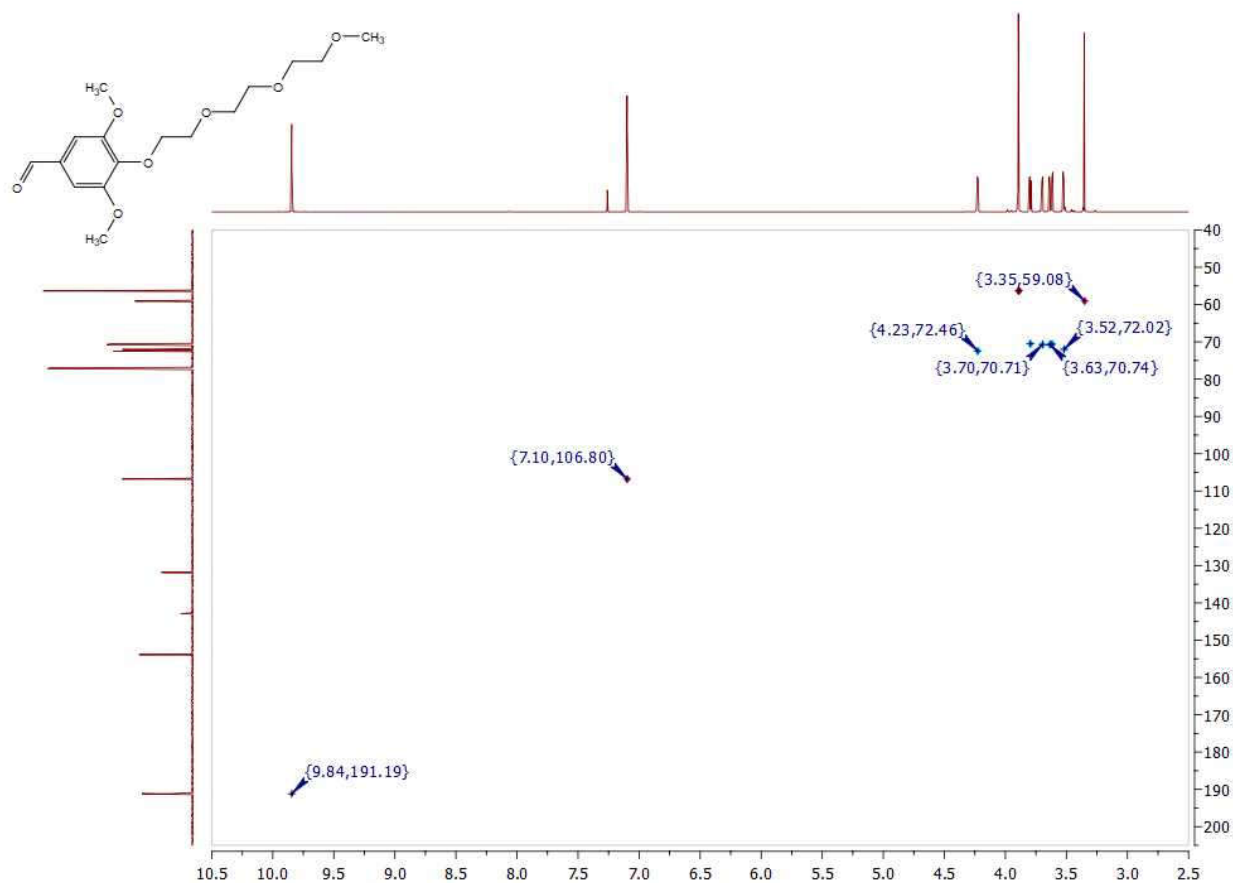


Figure S14. ¹H-¹³C HSQC spectrum of aldehyde 3.

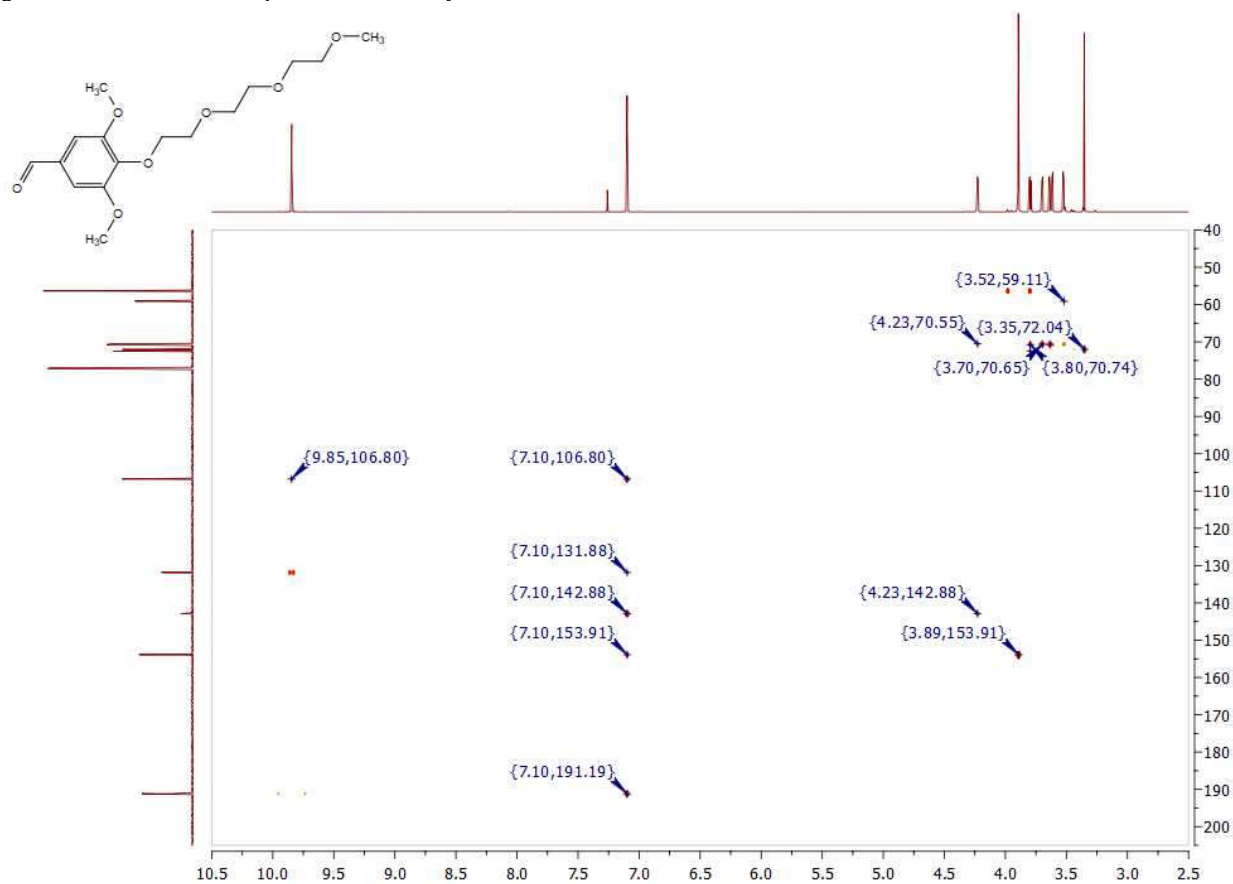


Figure S15. ¹H-¹³C HMBC spectrum of aldehyde 3.

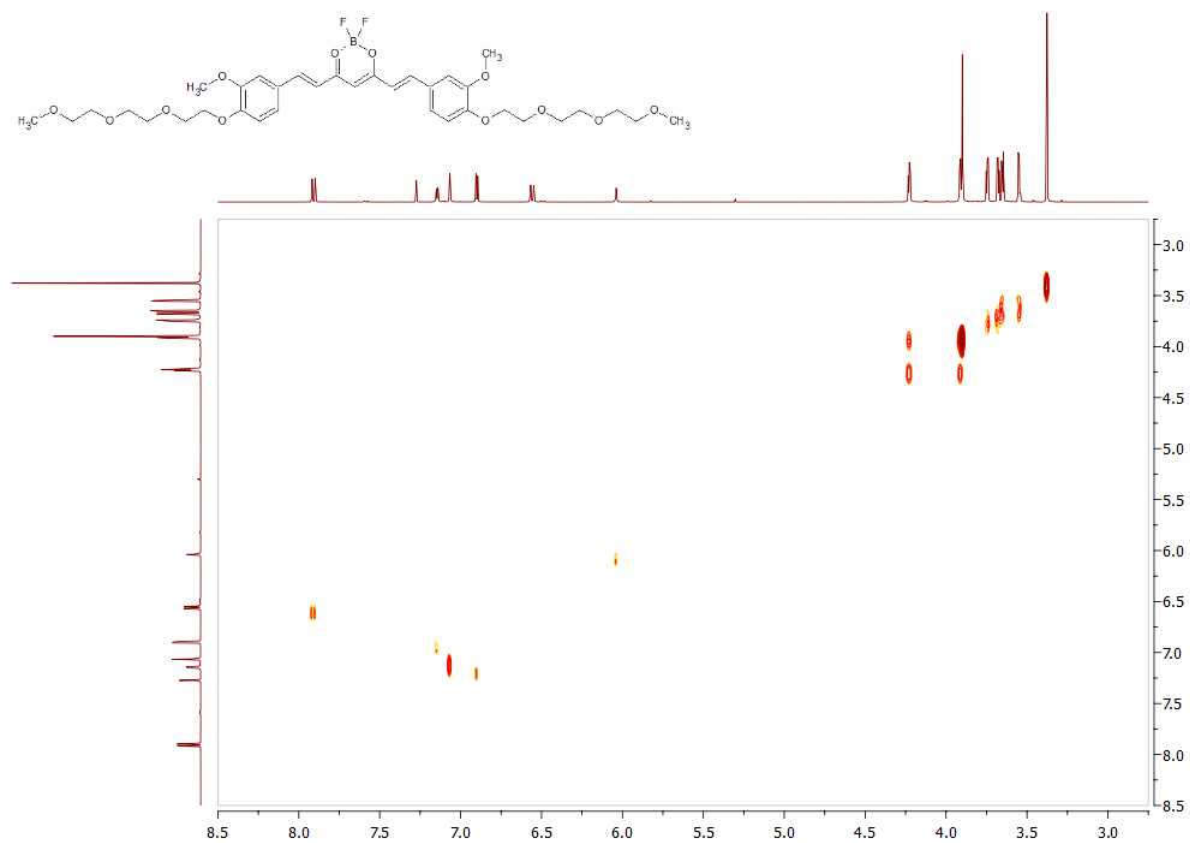


Figure S18. ¹H-¹H COSY spectrum of compound 4.

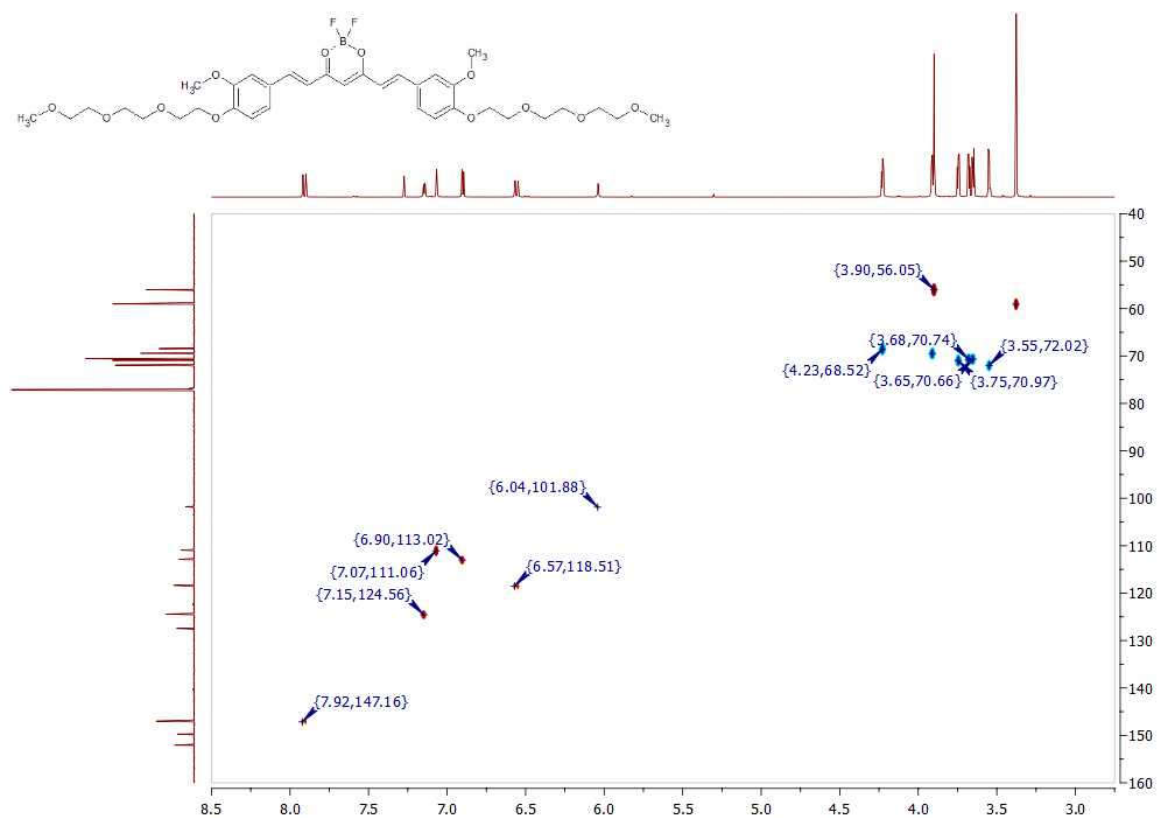


Figure S19. ¹H-¹³C HSQC spectrum of compound 4.

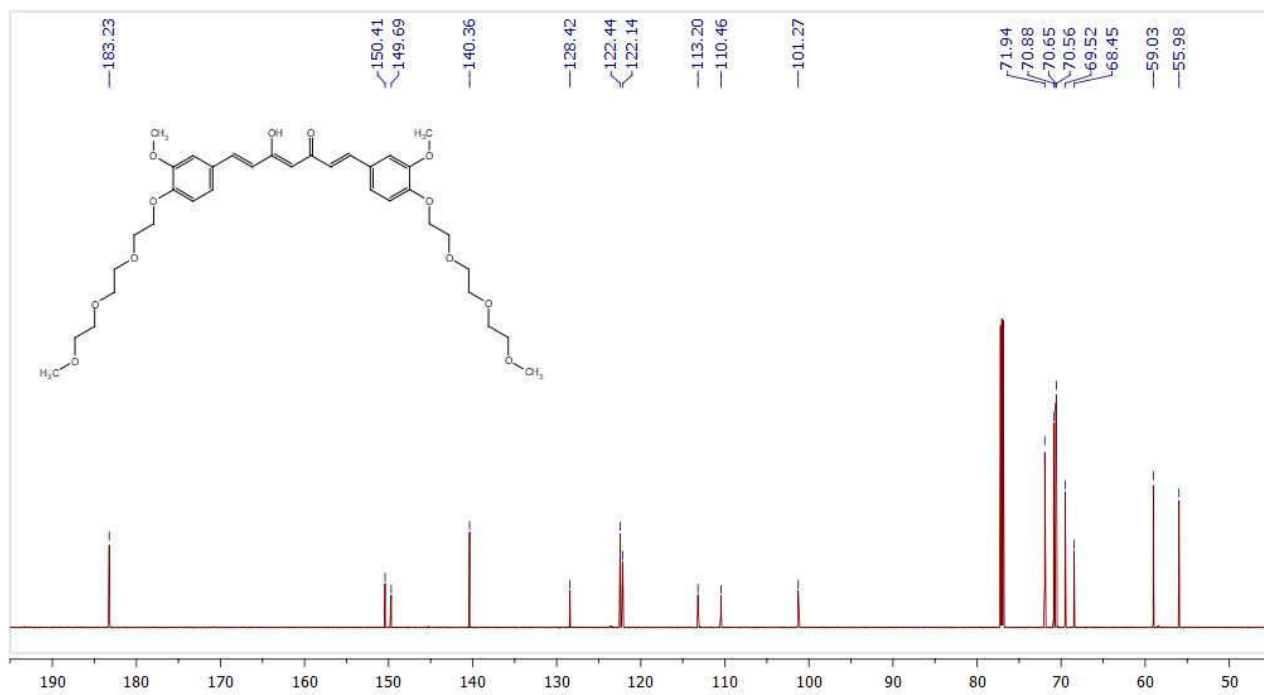


Figure S22. ¹³C NMR spectrum of compound 5.



Figure S23. ¹H-¹H COSY spectrum of compound 5.

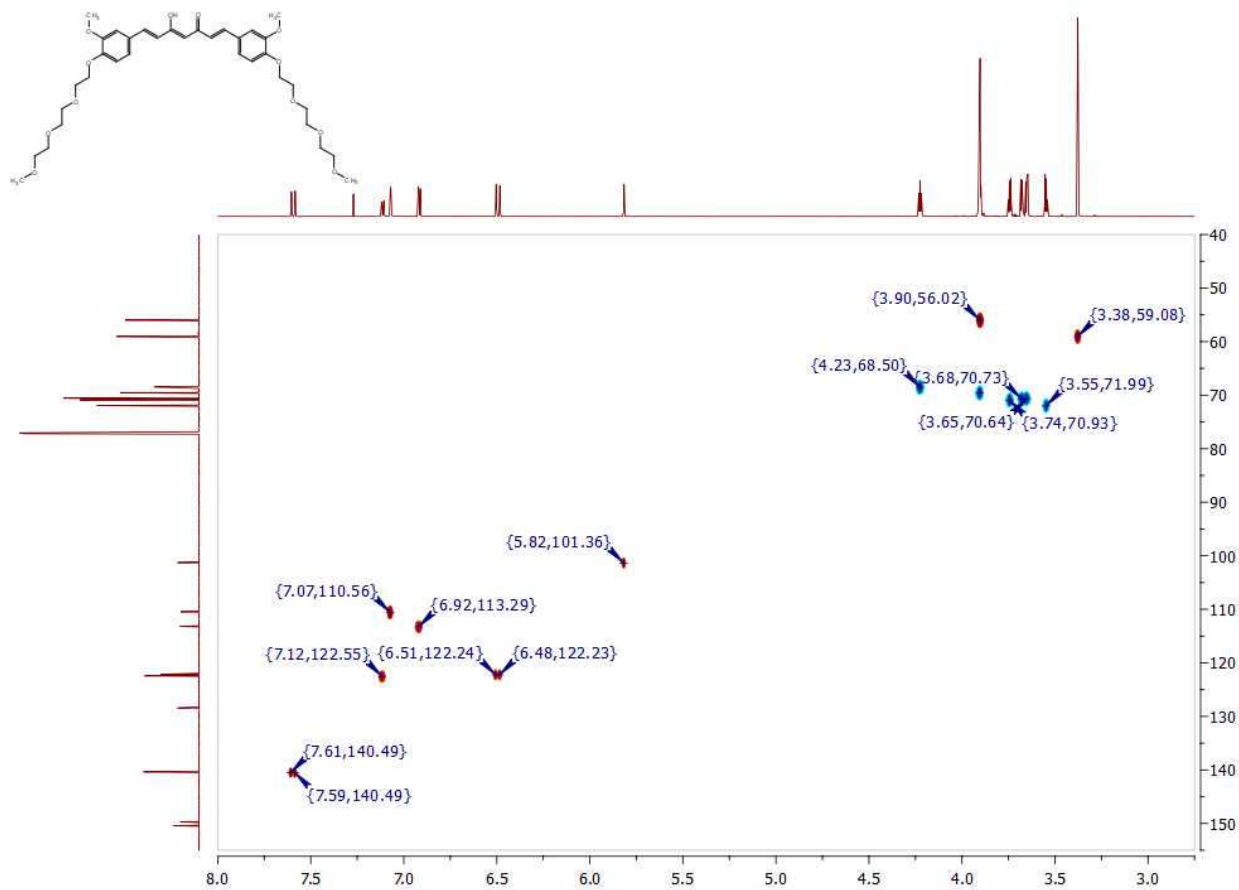


Figure S24. ^1H - ^{13}C HSQC spectrum of compound **5**.

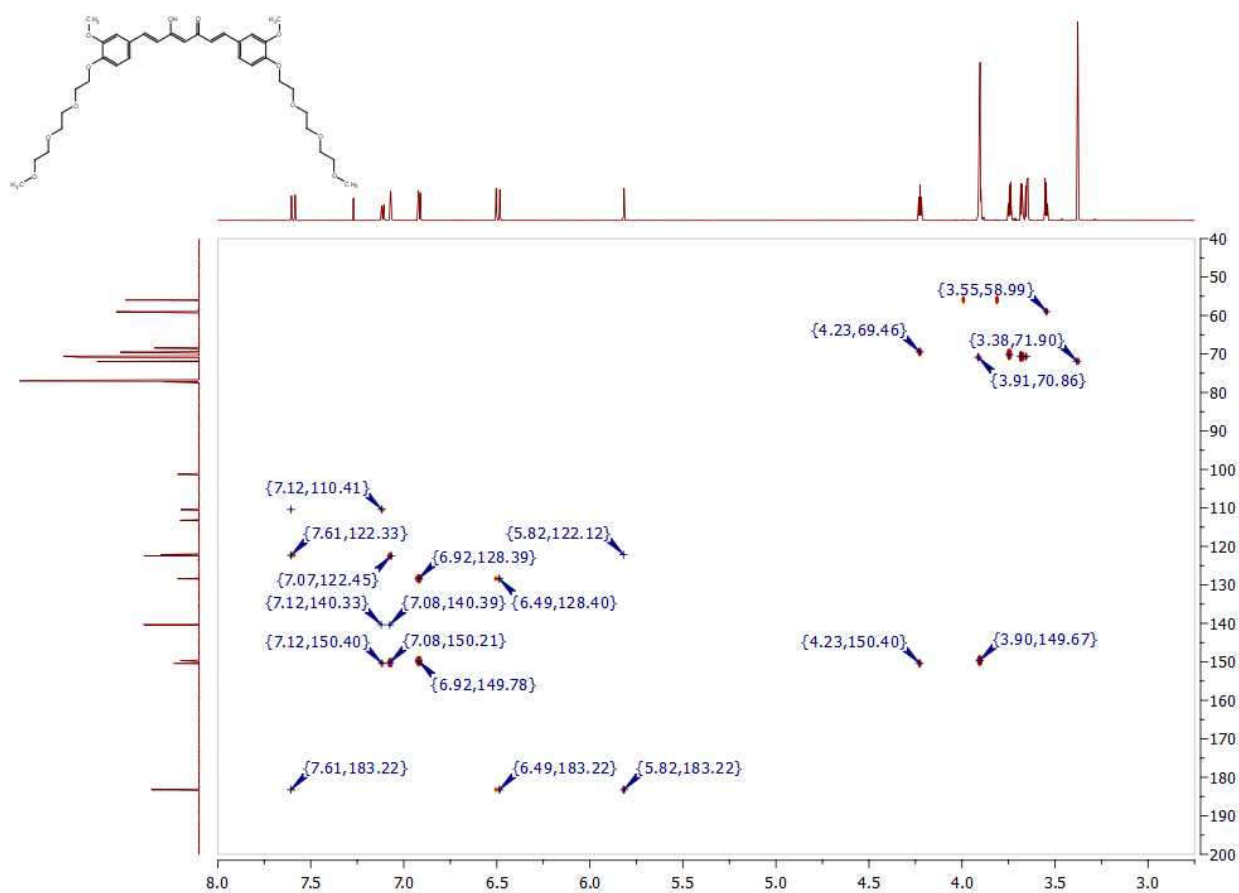


Figure S25. ^1H - ^{13}C HMBC spectrum of compound **5**.

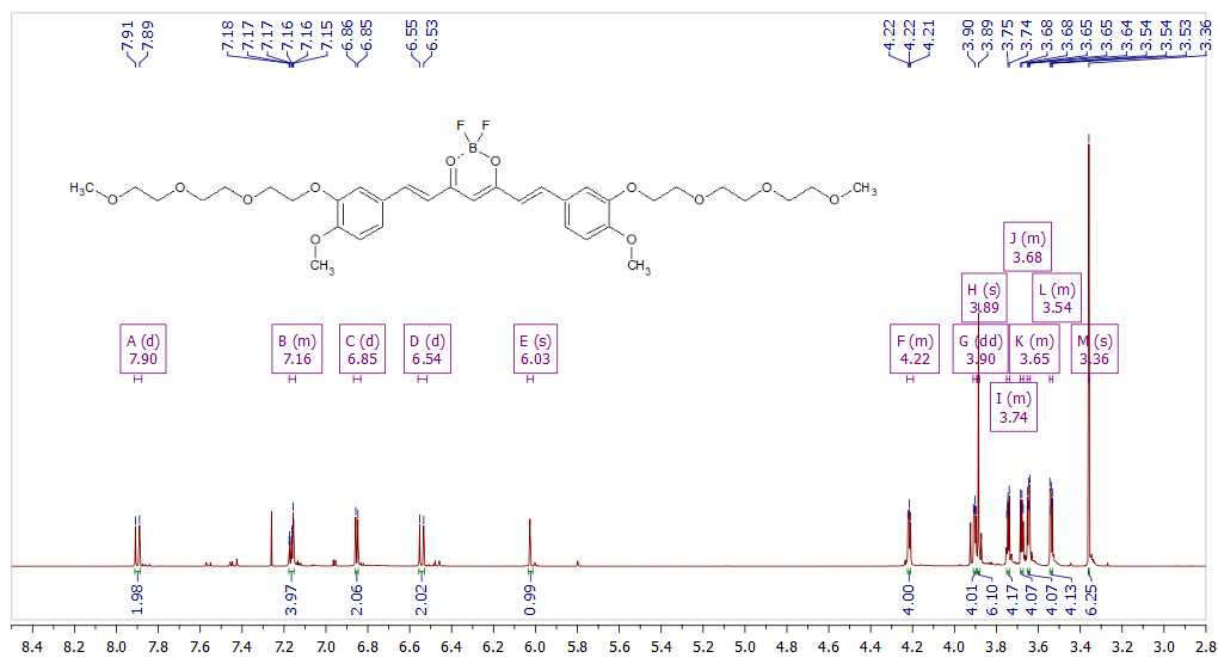


Figure S26. ¹H NMR spectrum of compound 6.

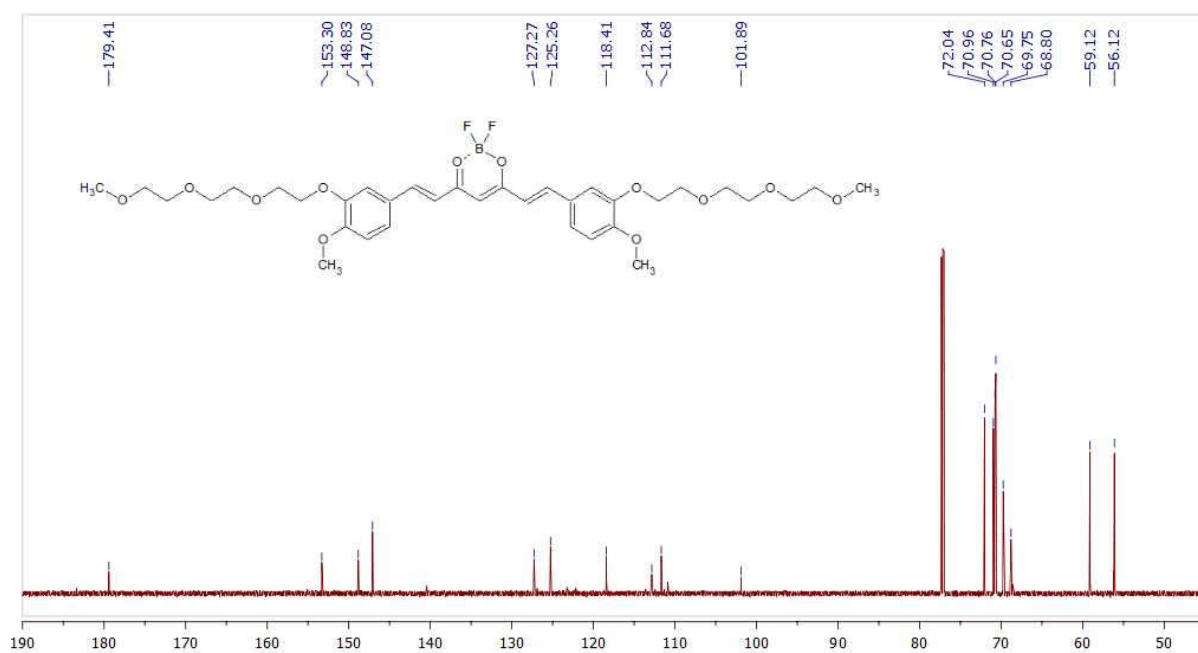


Figure S27. ¹³C NMR spectrum of compound 6.

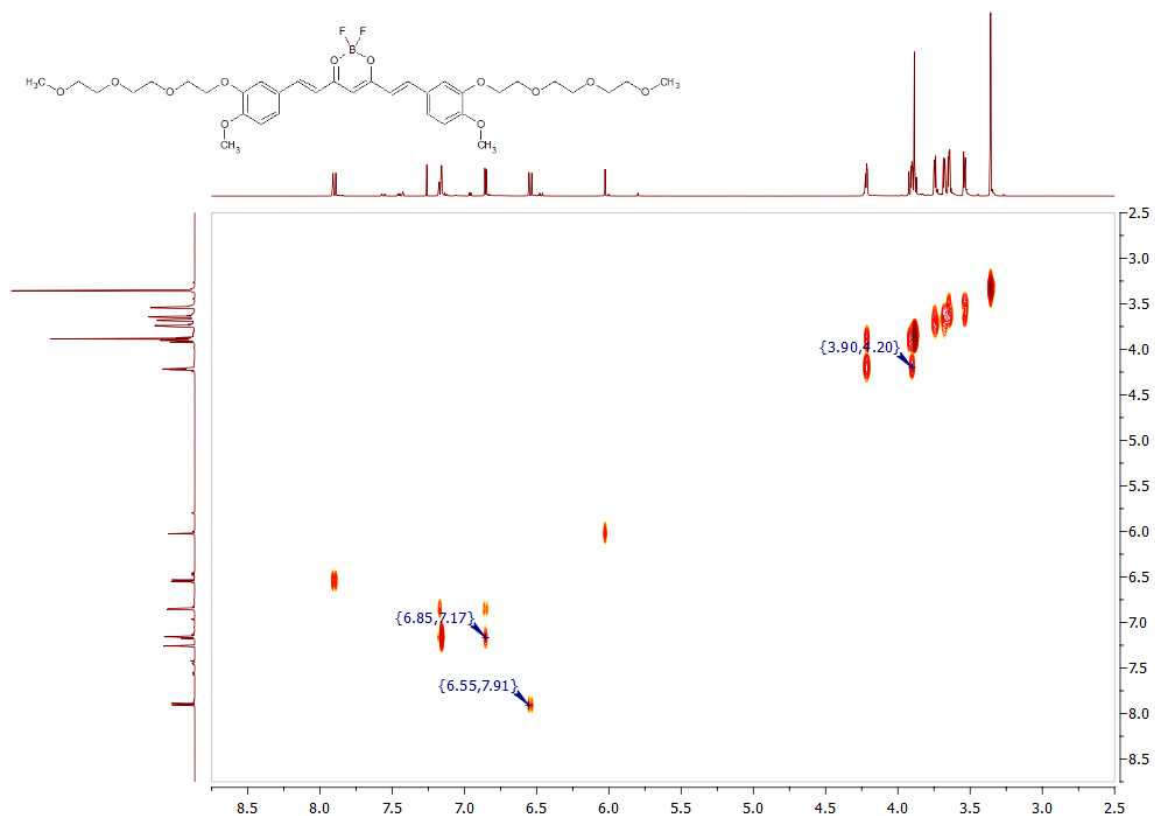


Figure S28. ¹H-¹H COSY spectrum of compound 6.

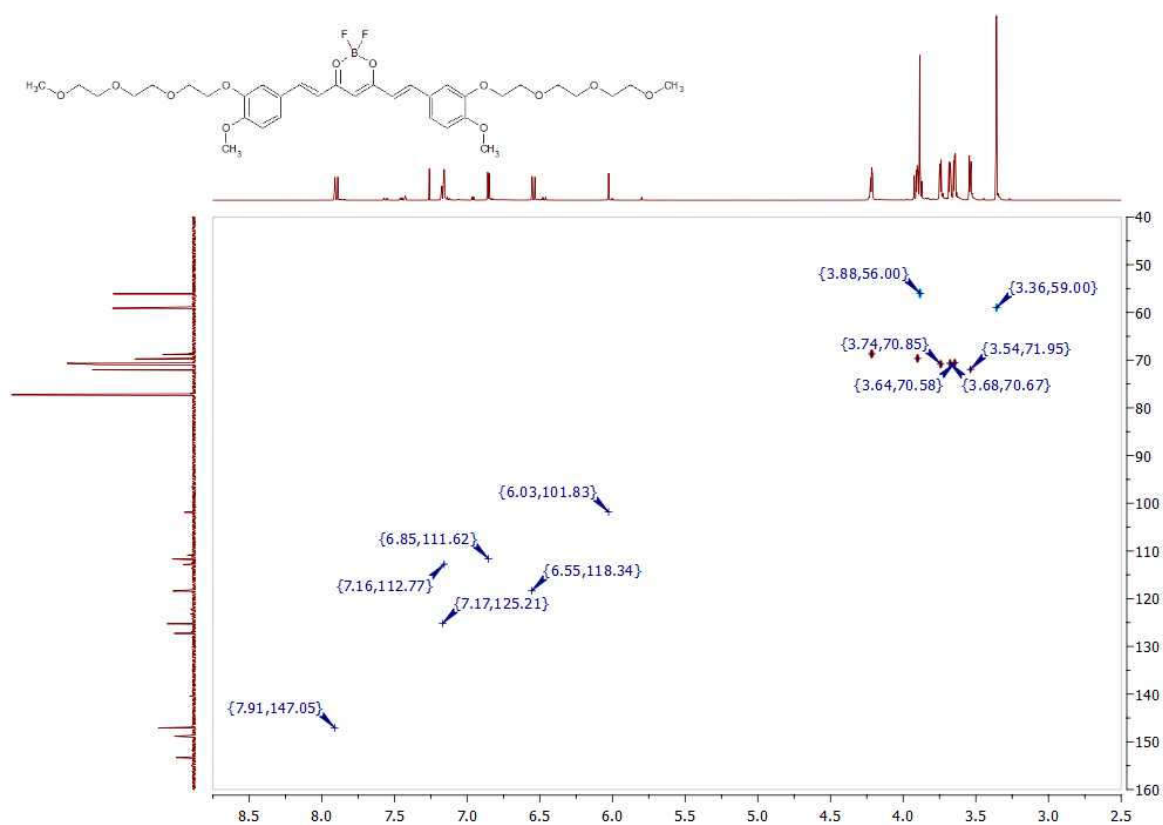


Figure S29. ¹H-¹³C HSQC spectrum of compound 6.

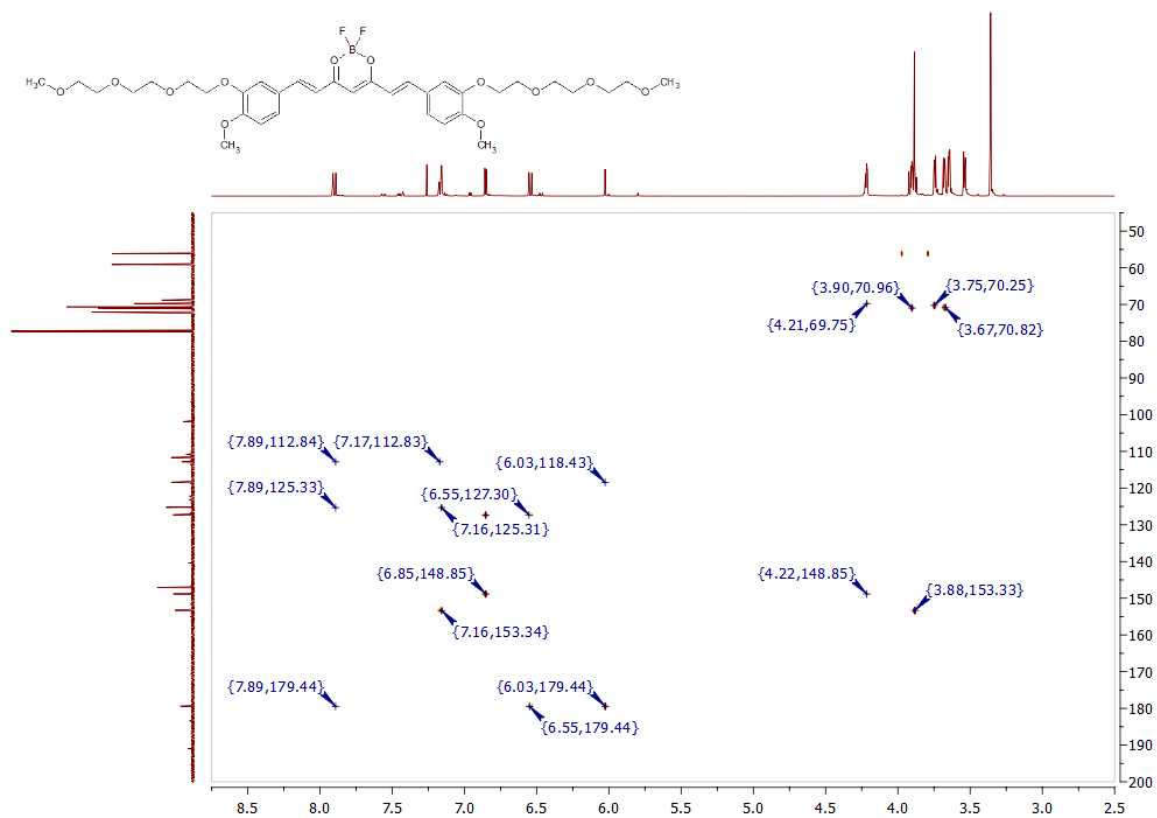


Figure S30. ^1H - ^{13}C HMBC spectrum of compound 6.

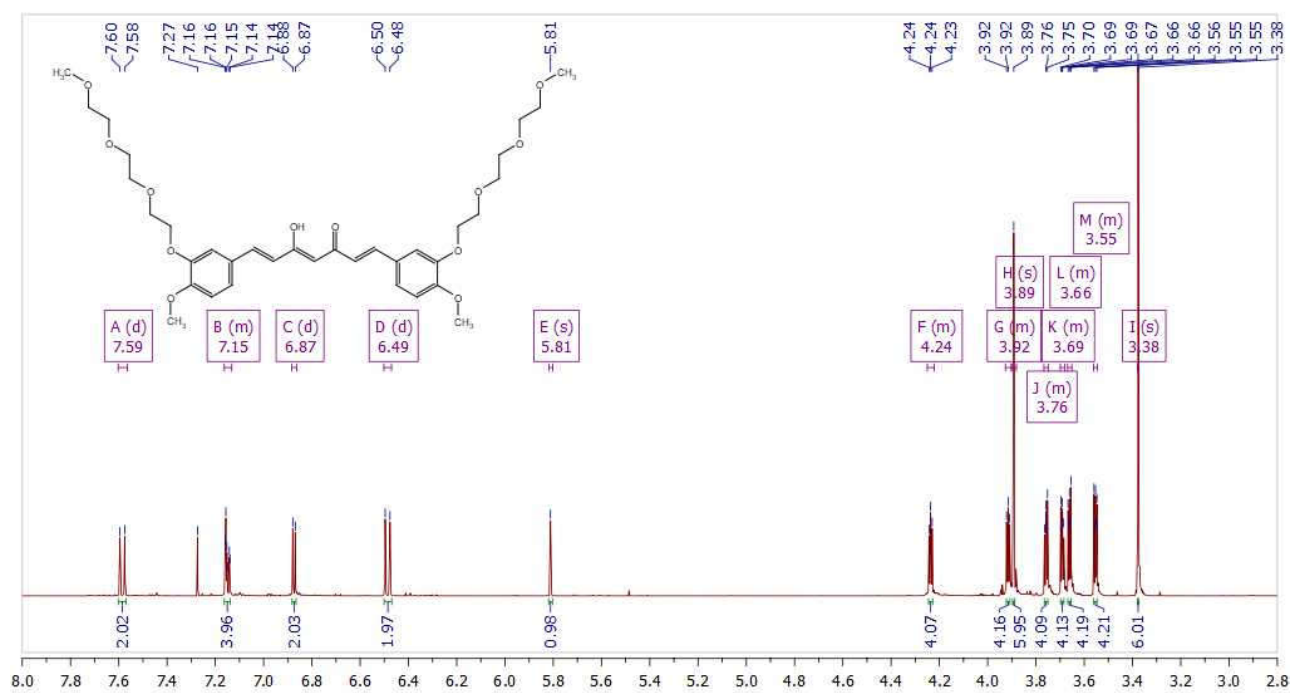
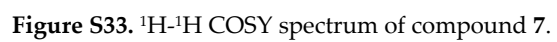
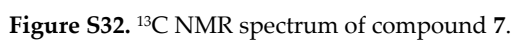


Figure S31. ^1H NMR spectrum of compound 7.



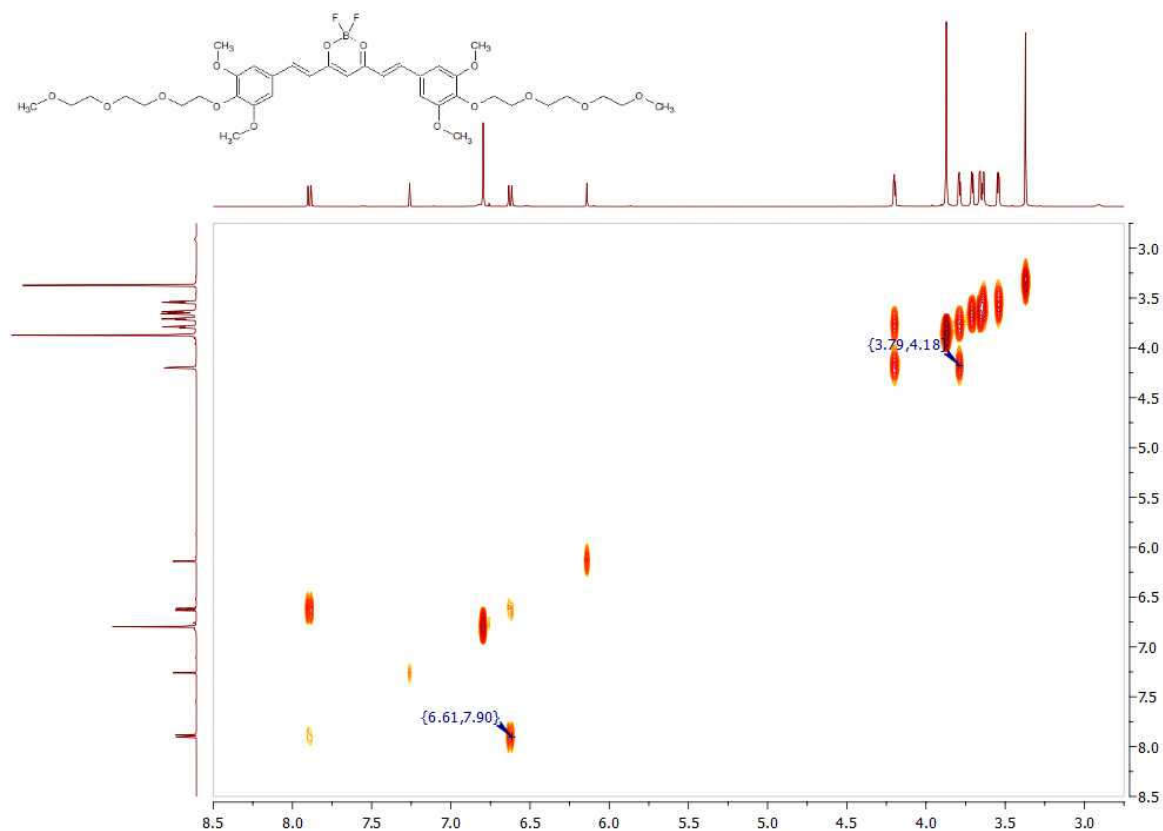


Figure S38. ^1H - ^1H COSY spectrum of compound 8.

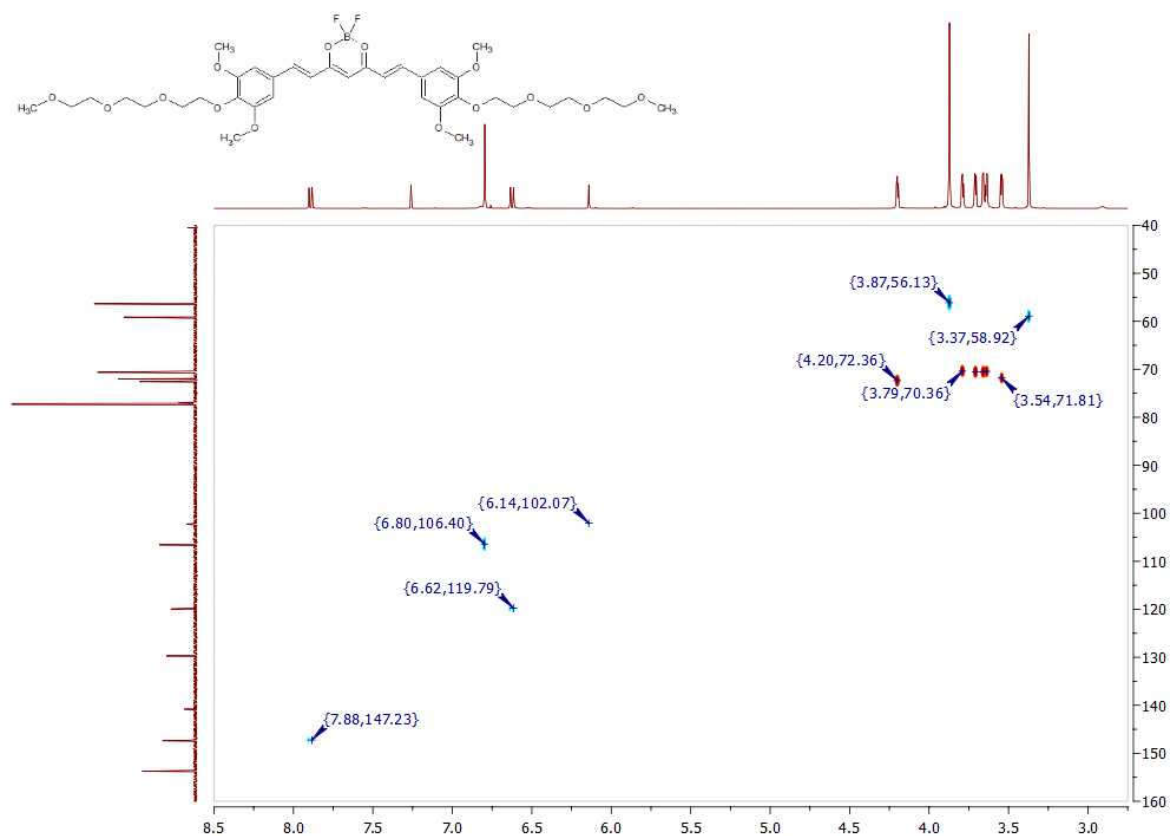


Figure S39. ^1H - ^{13}C HSQC spectrum of compound 8.

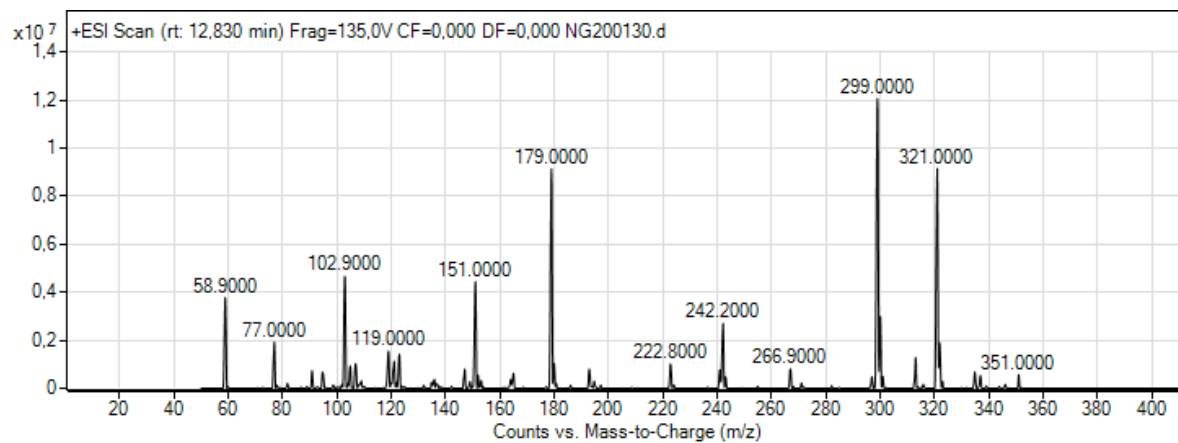


Figure S42. Mass spectra of aldehyde 2.

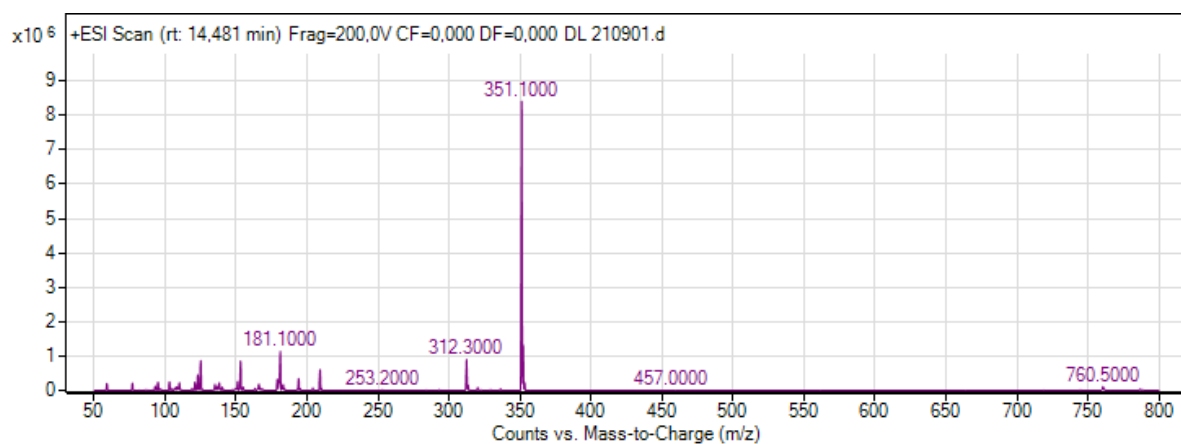


Figure S43. Mass spectra of aldehyde 3 sodium adduct.

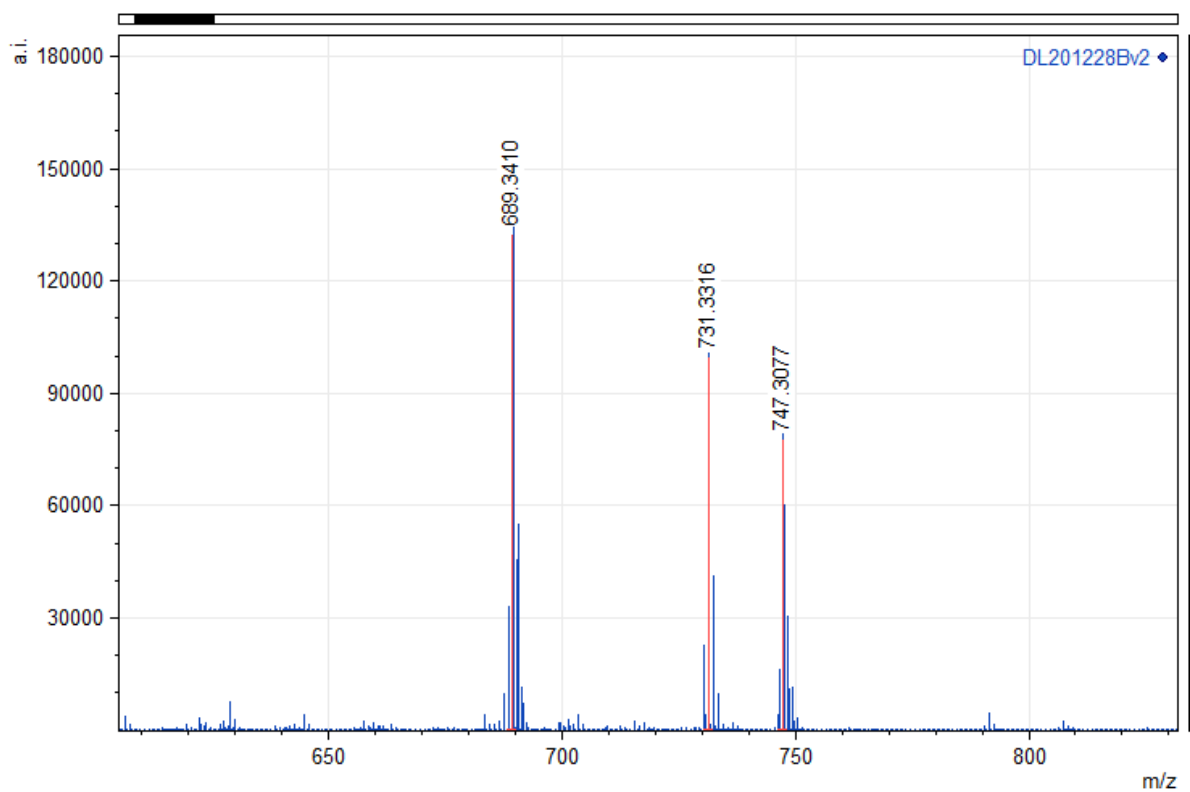


Figure S44. Mass spectrum of compound 4.

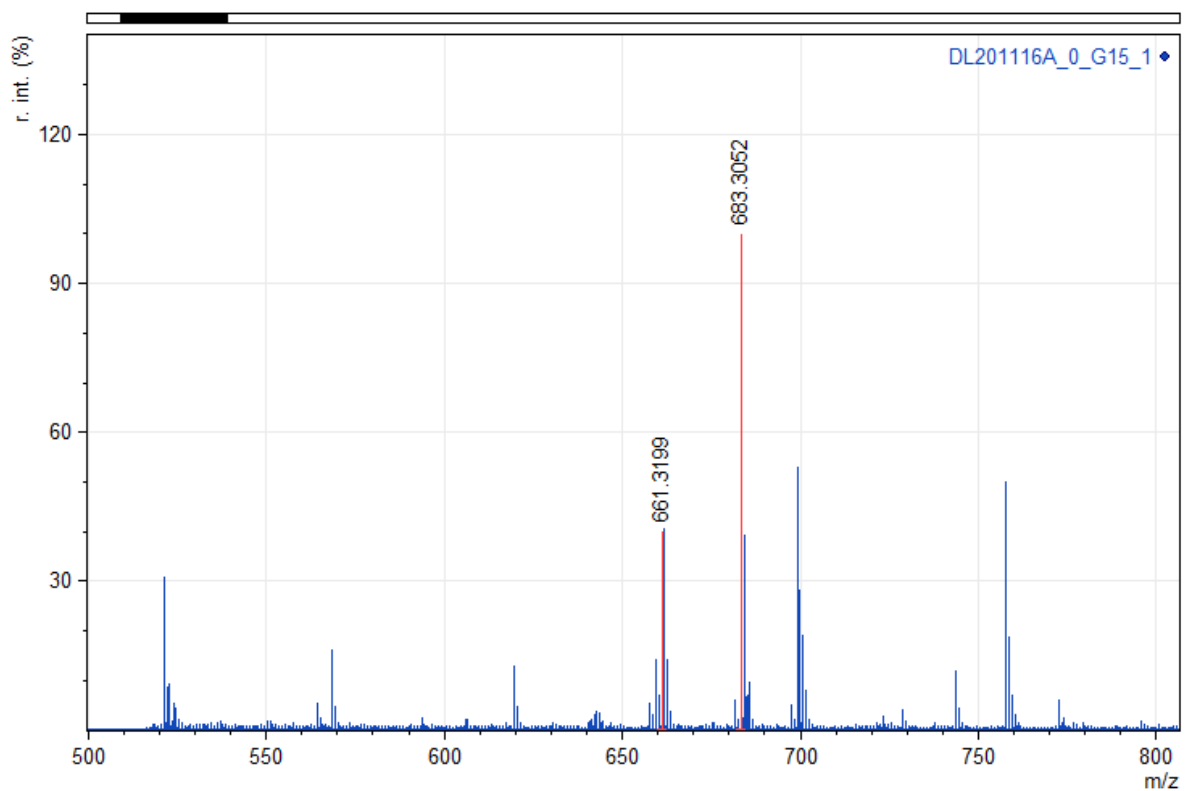


Figure S45. Mass spectrum of compound 5.

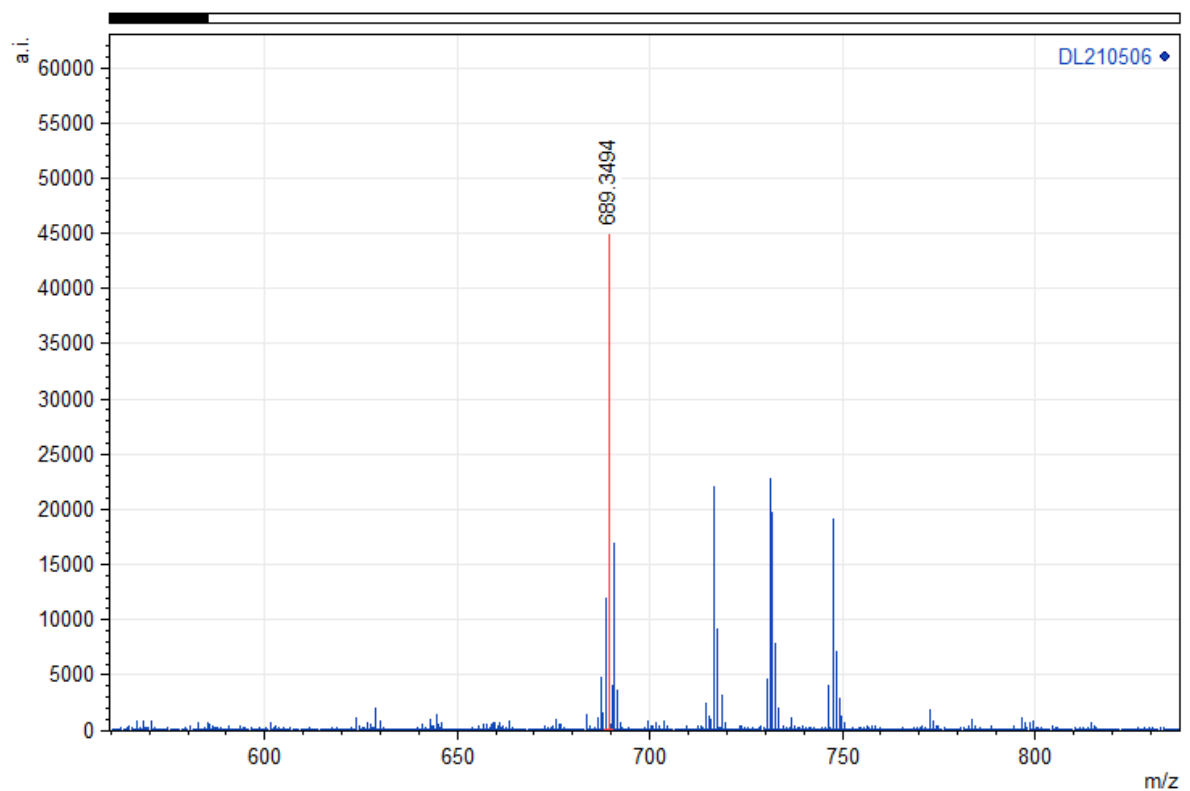


Figure S46. Mass spectrum of compound 6.

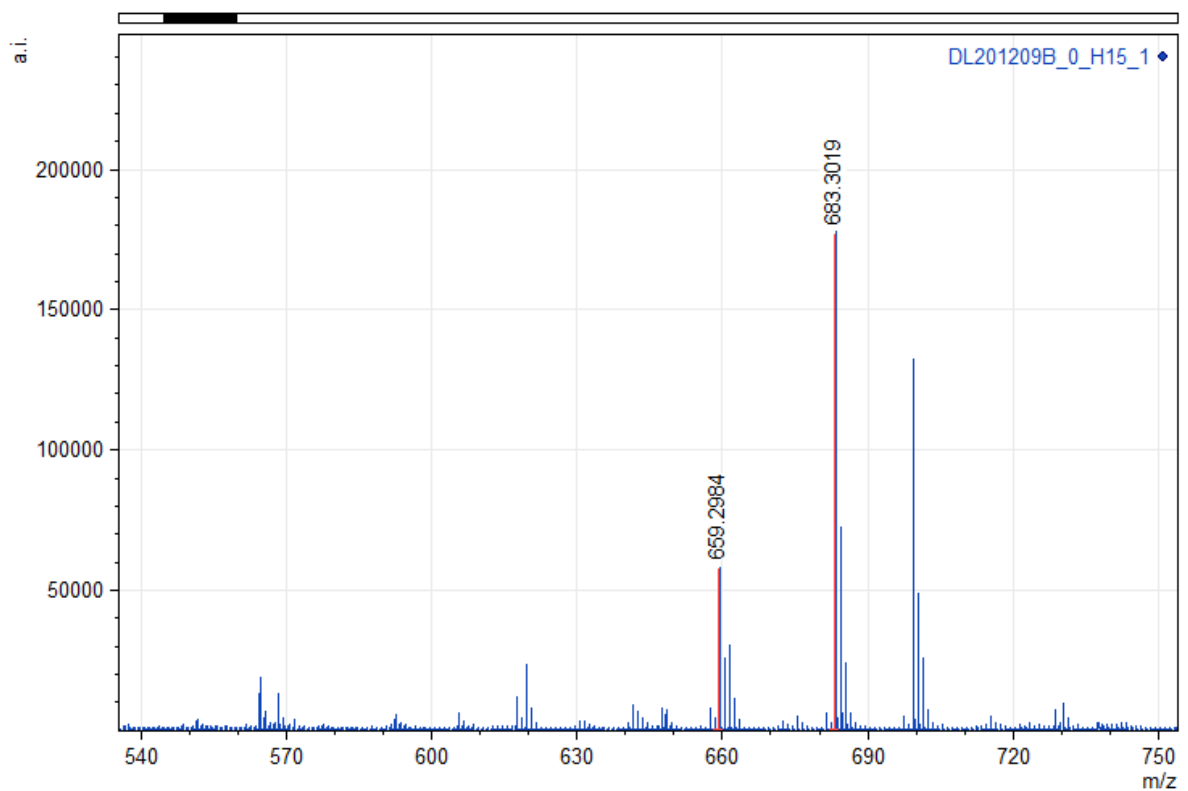


Figure S47. Mass spectrum of compound 7.

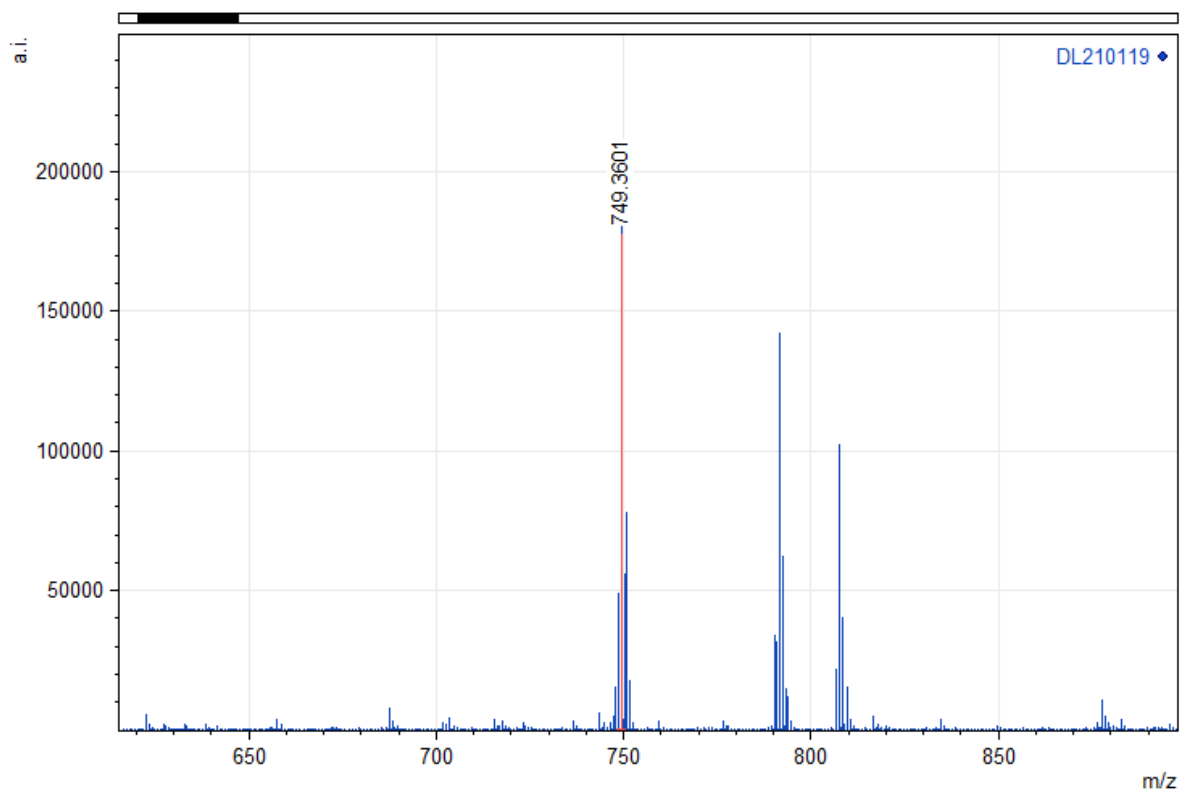


Figure S47. Mass spectrum of compound 8.

S3 – UV-vis spectroscopy

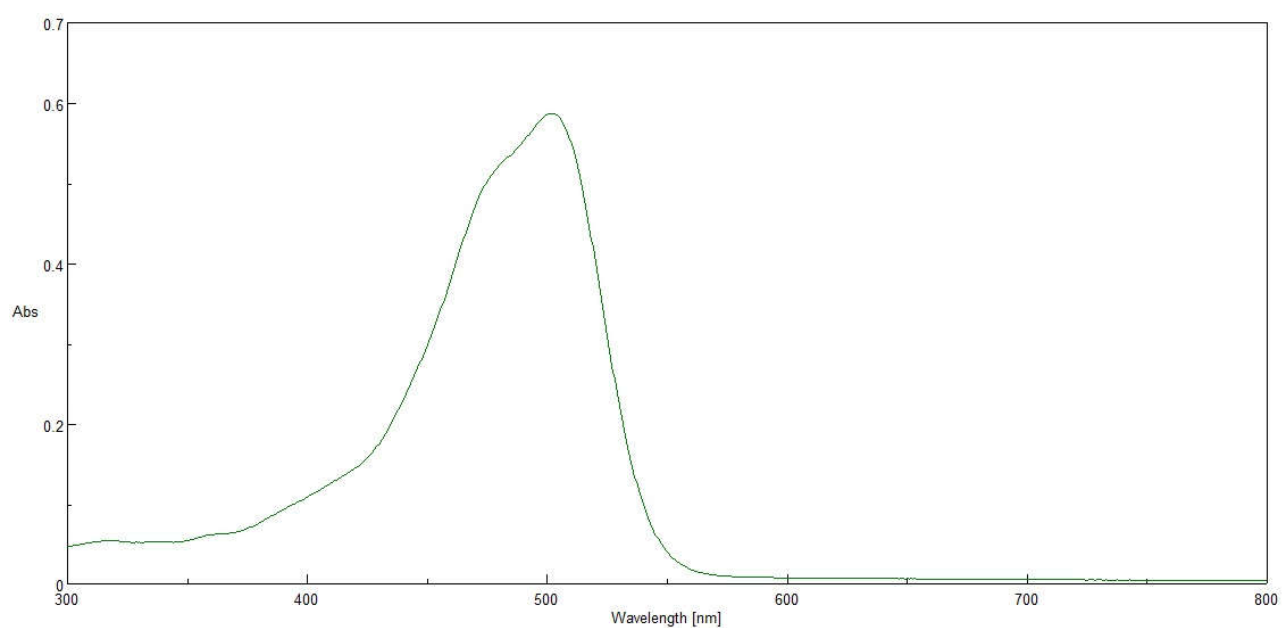


Figure S8. UV-vis spectrum of compound 4 in chloroform.

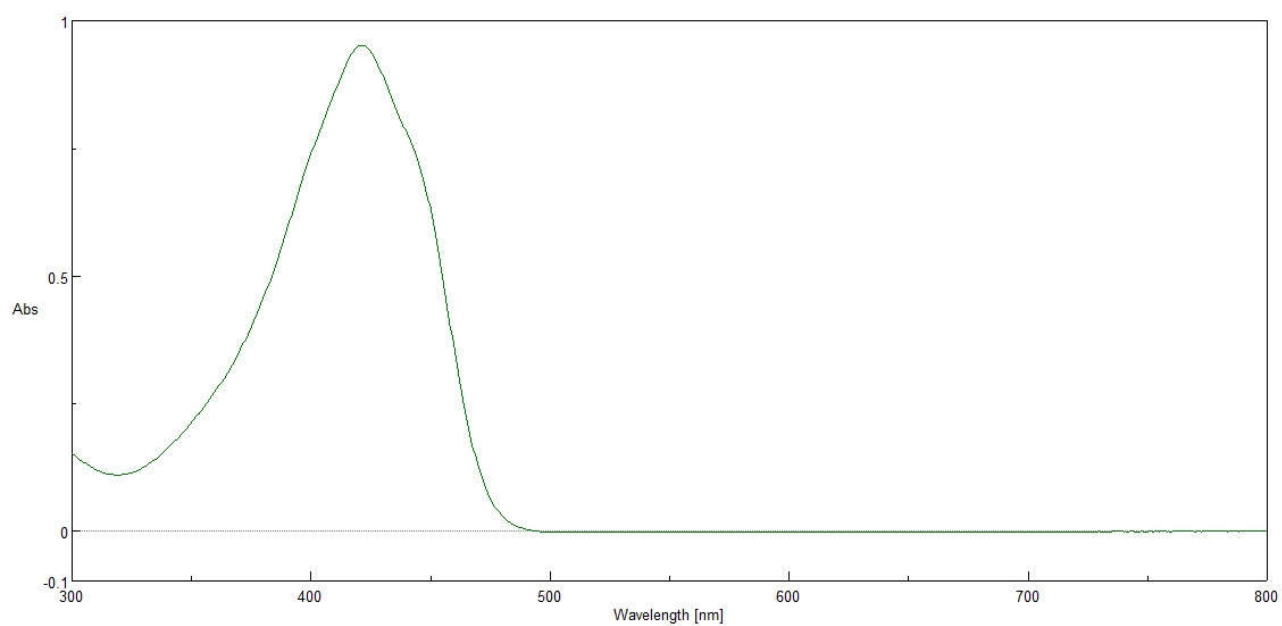


Figure S9. UV-vis spectrum of compound 5 in chloroform.

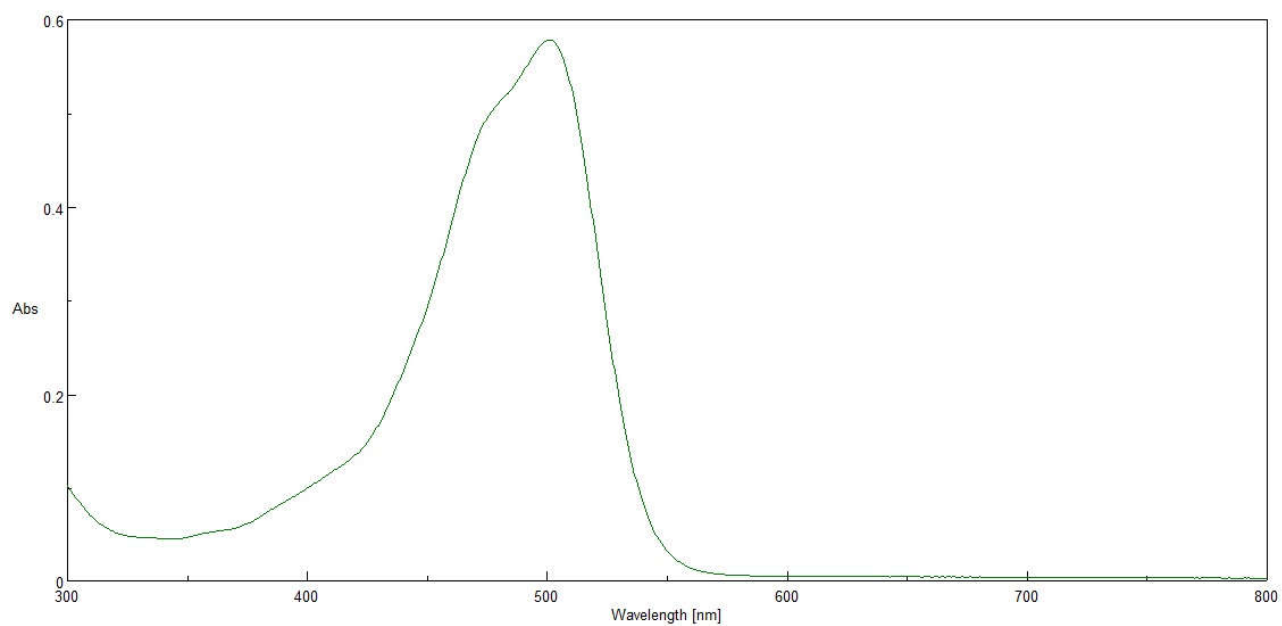


Figure S10. UV-vis spectrum of compound 6 in chloroform.

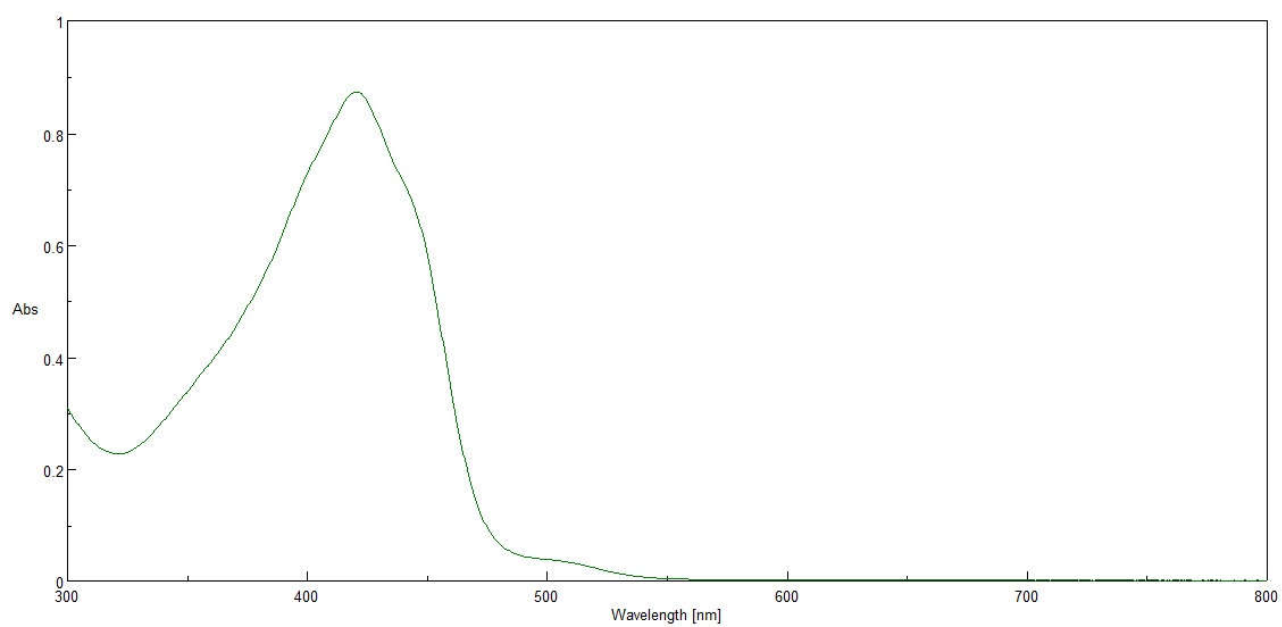


Figure S11. UV-vis spectrum of compound 7 in chloroform.

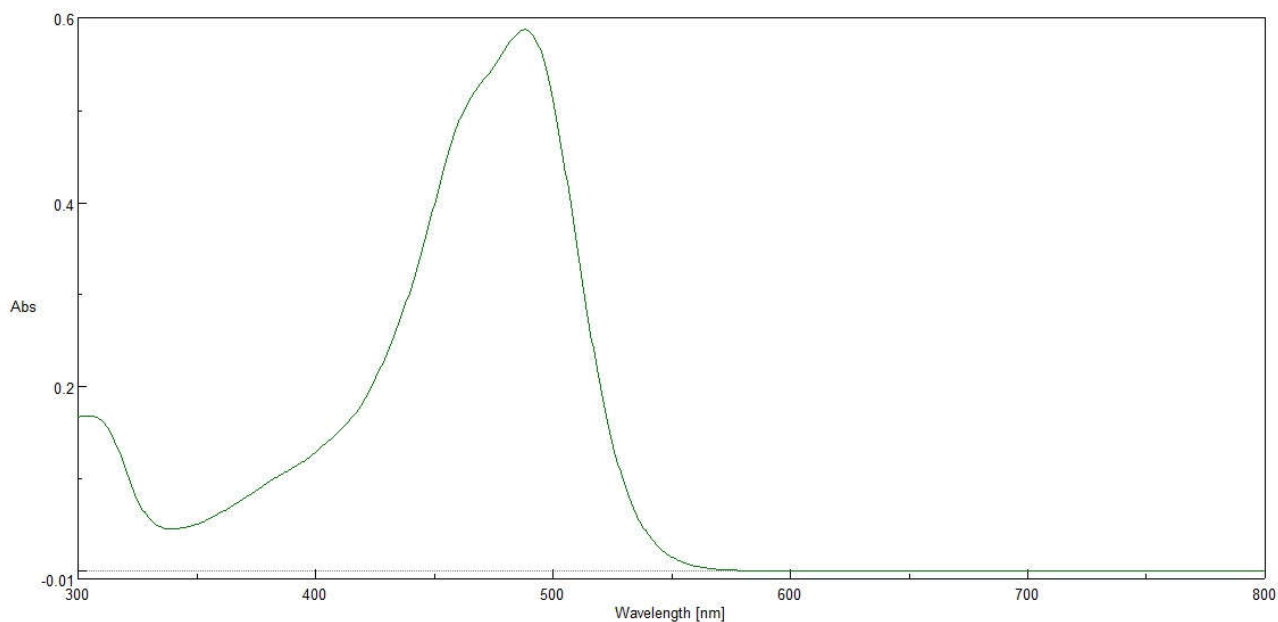


Figure S12. UV-vis spectrum of compound 8 in chloroform.

S4 – HPLC data

Table S1. HPLC gradient used for the analysis of new synthesized compound.

Time [min]	Phase A [%]	Phase B [%]
0	25	75
7	60	40
25	70	30
28	100	0
35	25	75

Table S2. Purity data for synthesized curcuminoids.

Symbol	C, mg/ml	λ_{max} , nm	t_{R} , min	%
4	0.2	491	11.21	97.47
5	0.2	418	12.04	97.38
6	0.2	502	12.11	99.38
7	0.2	418	12.77	97.20
8	0.2	480	12.62	98.90
10	0.2	502	9.12	98.81
11	0.2	424	9.58	99.41
12	0.2	492	9.26	98.59
13	0.2	418	9.56	99.42