

**Synthesis and Photophysical Properties of Difluoroboron Complexes of
Curcuminoid Derivatives Bearing Different Terminal Aromatic Units and a
meso-Aryl Ring**

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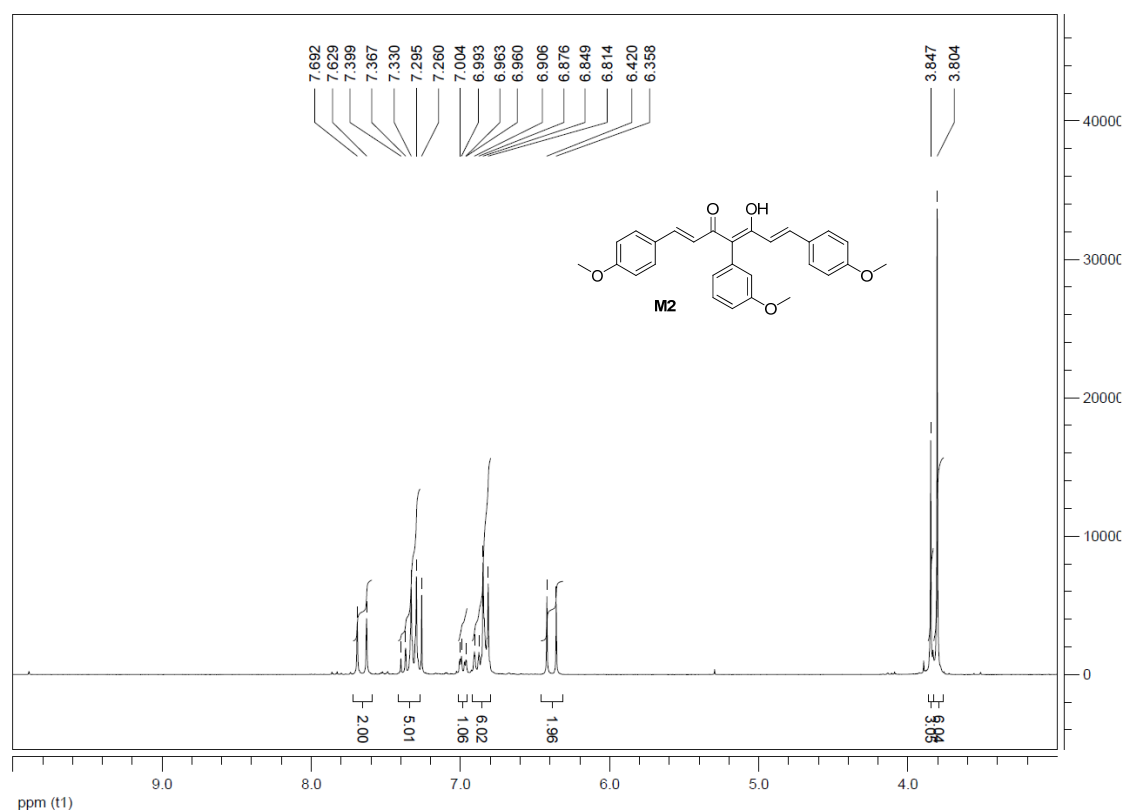


Figure S1. ¹H NMR spectrum of **Lig M2** ((1E,4Z,6E)-5-hydroxy-4-(3-methoxyphenyl)-1,7-bis(4-methoxyphenyl)hepta-1,4,6-trien-3-one)

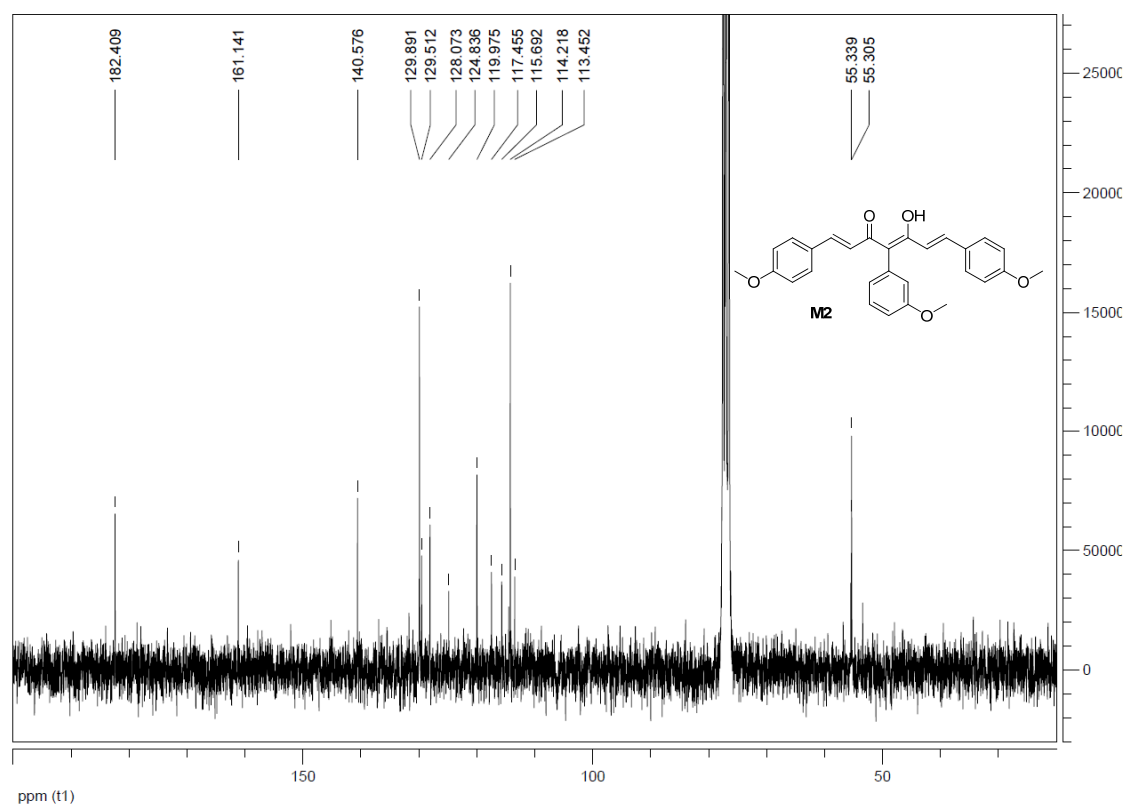


Figure S2. ¹³C NMR spectrum of **Lig M2** ((1E,4Z,6E)-5-hydroxy-4-(3-methoxyphenyl)-1,7-bis(4-methoxyphenyl)hepta-1,4,6-trien-3-one)

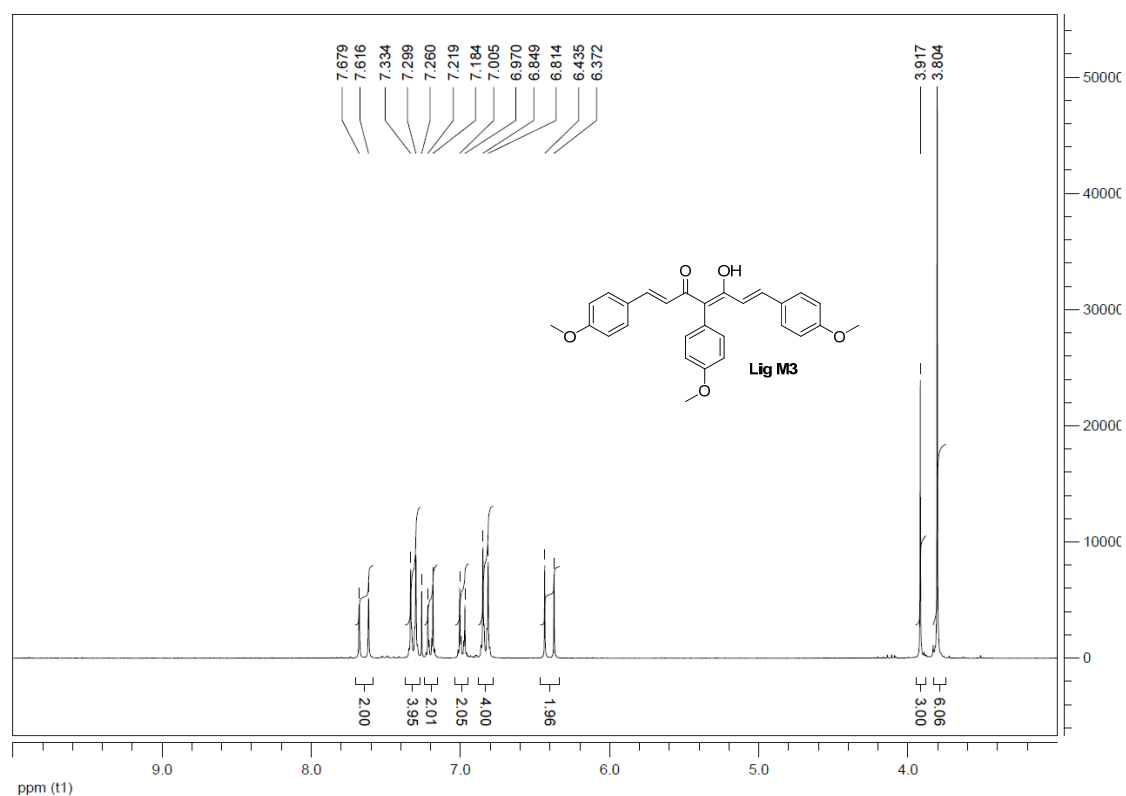


Figure S3. ¹H NMR spectrum of **Lig M3** ((1E,4Z,6E)-5-hydroxy-1,4,7-tris(4-methoxyphenyl)hepta-1,4,6-trien-3-one)

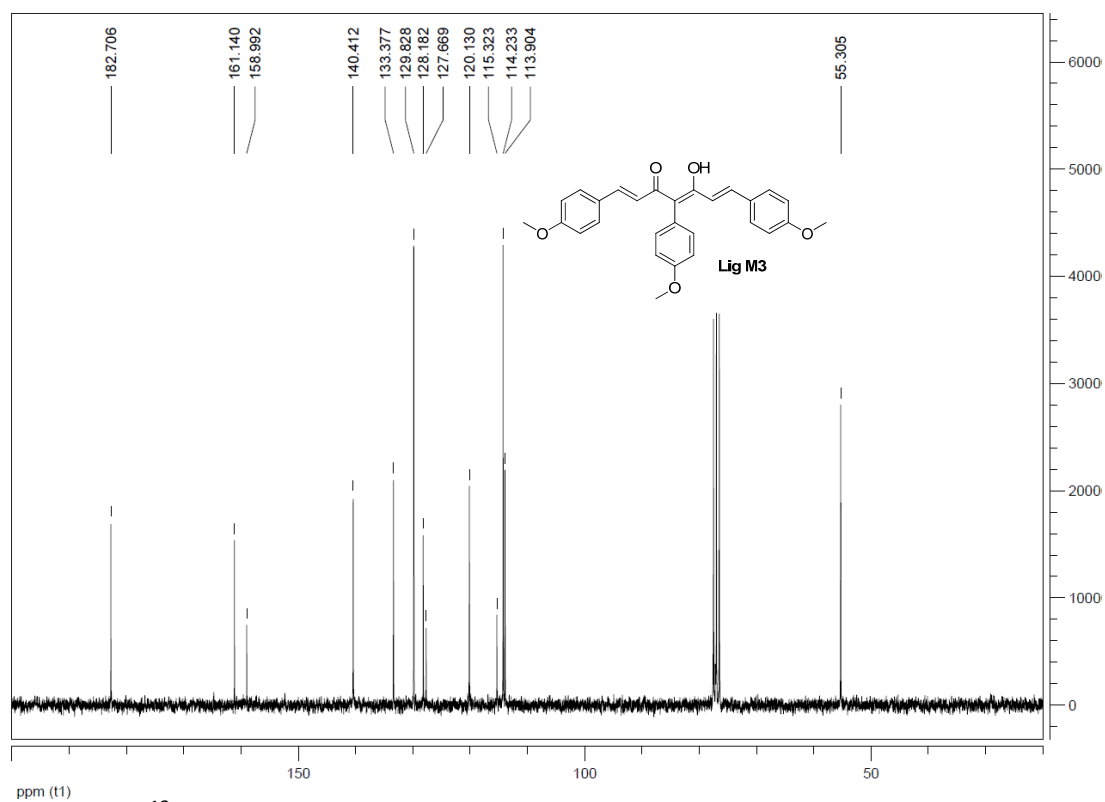


Figure S4. ¹³C NMR spectrum of **Lig M3** ((1E,4Z,6E)-5-hydroxy-1,4,7-tris(4-methoxyphenyl)hepta-1,4,6-trien-3-one)

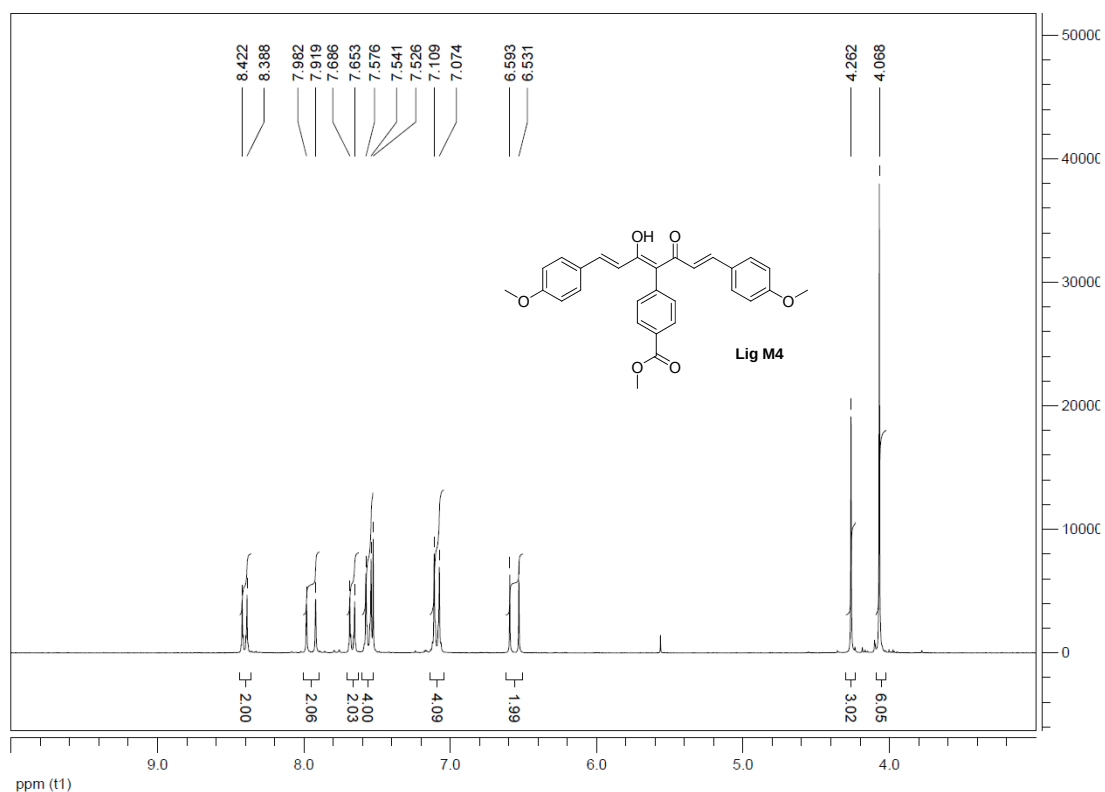


Figure S5. ^1H NMR spectrum of **Lig M4** (methyl 4-((1E,3Z,6E)-3-hydroxy-1,7-bis(4-methoxyphenyl)-5-oxohepta-1,3,6-trien-4-yl)benzoate)

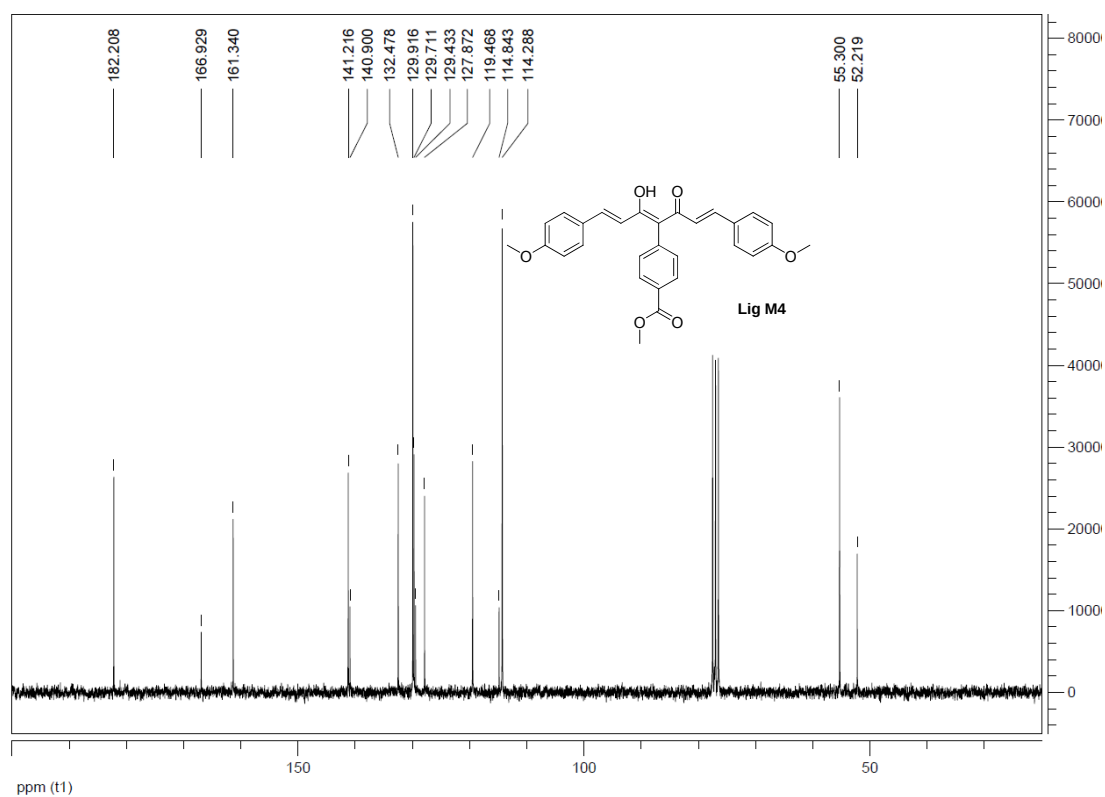


Figure S6. ^{13}C NMR spectrum of **Lig M4** (methyl 4-((1E,3Z,6E)-3-hydroxy-1,7-bis(4-methoxyphenyl)-5-oxohepta-1,3,6-trien-4-yl)benzoate)

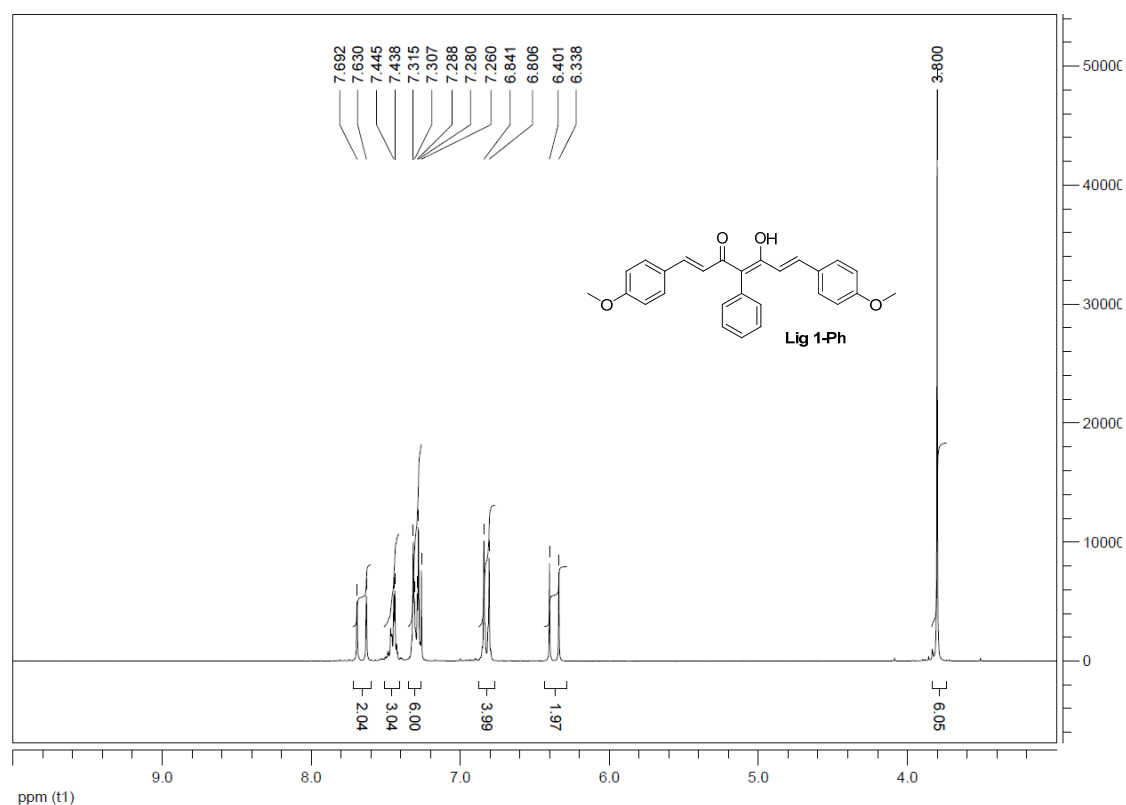


Figure S7. ^1H NMR spectrum of **Lig 1-Ph** ((1E,4Z,6E)-5-hydroxy-1,7-bis(4-methoxyphenyl)-4-phenylhepta-1,4,6-trien-3-one)

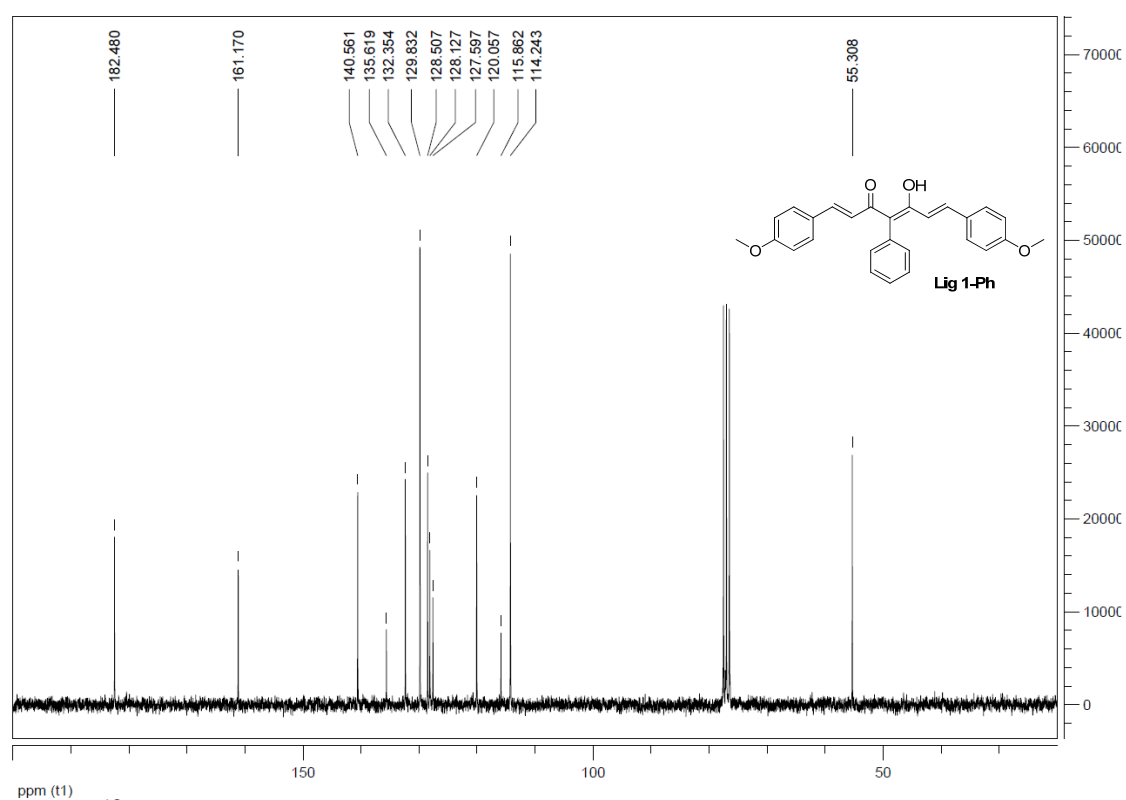


Figure S8. ^{13}C NMR spectrum of **Lig 1-Ph** ((1E,4Z,6E)-5-hydroxy-1,7-bis(4-methoxyphenyl)-4-phenylhepta-1,4,6-trien-3-one)

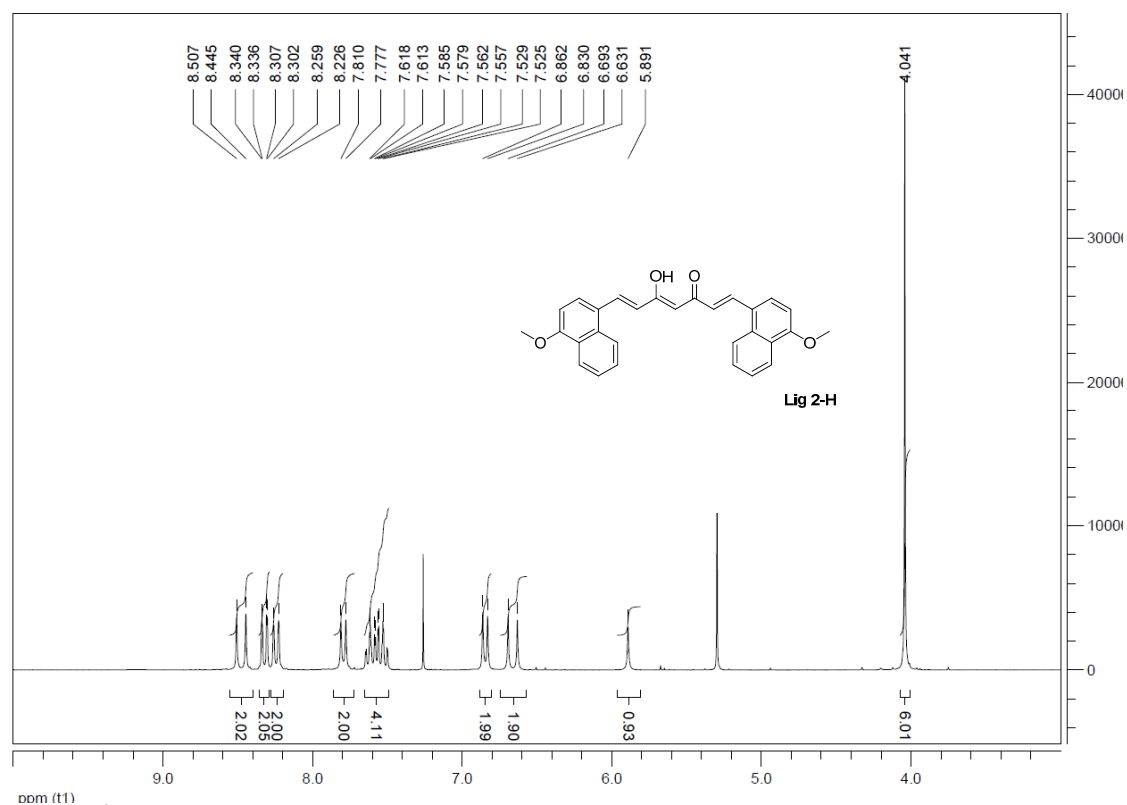


Figure S9. ¹H NMR spectrum of **Lig 2-H** ((1E,4Z,6E)-5-hydroxy-1,7-bis(4-methoxynaphthalen-1-yl)hepta-1,4,6-trien-3-one)

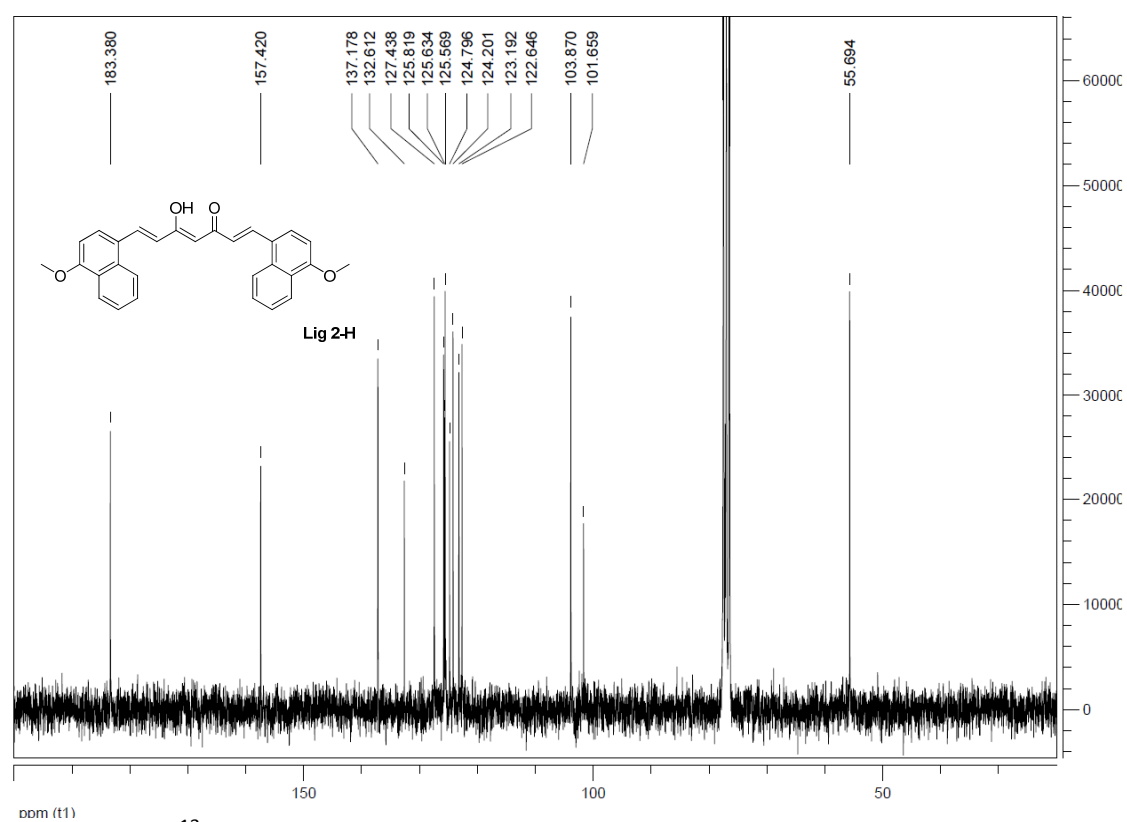


Figure S10. ¹³C NMR spectrum of **Lig 2-H** ((1E,4Z,6E)-5-hydroxy-1,7-bis(4-methoxynaphthalen-1-yl)hepta-1,4,6-trien-3-one)

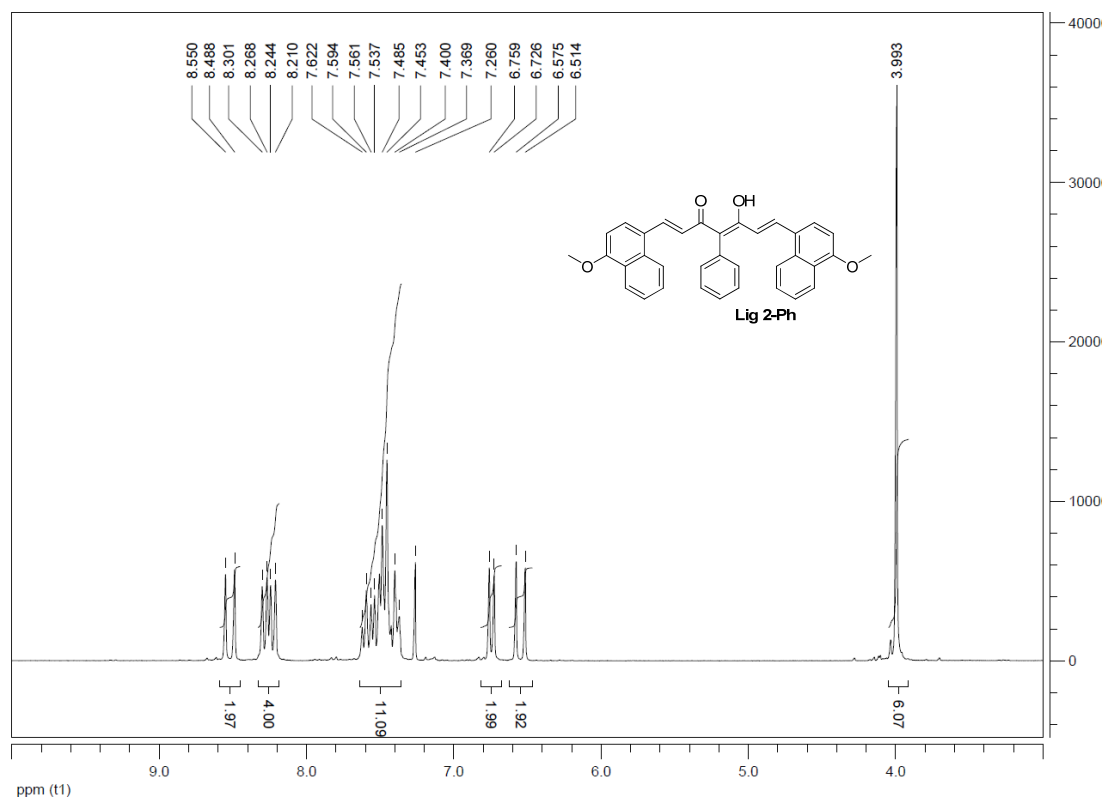


Figure S11. ¹H NMR spectrum of **Lig 2-Ph** ((1E,4Z,6E)-5-hydroxy-1,7-bis(4-methoxynaphthalen-1-yl)-4-phenylhepta-1,4,6-trien-3-one)

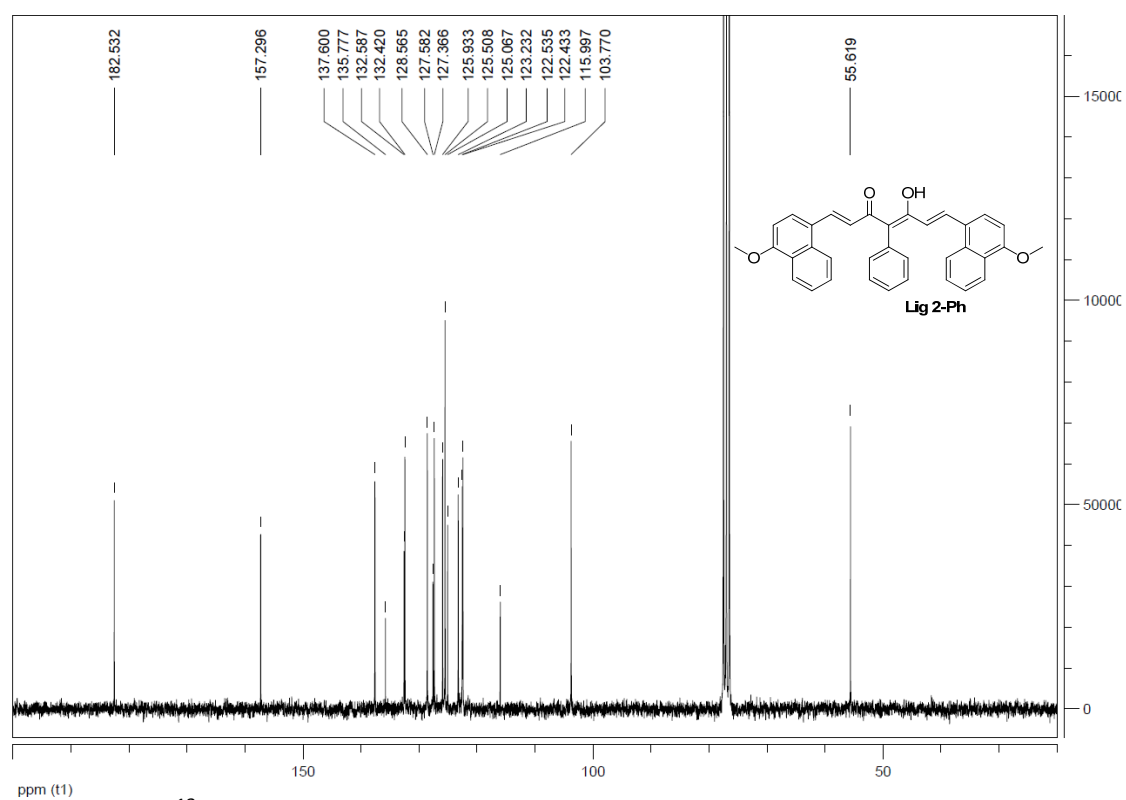


Figure S12. ¹³C NMR spectrum of **Lig 2-Ph** ((1E,4Z,6E)-5-hydroxy-1,7-bis(4-methoxynaphthalen-1-yl)-4-phenylhepta-1,4,6-trien-3-one)

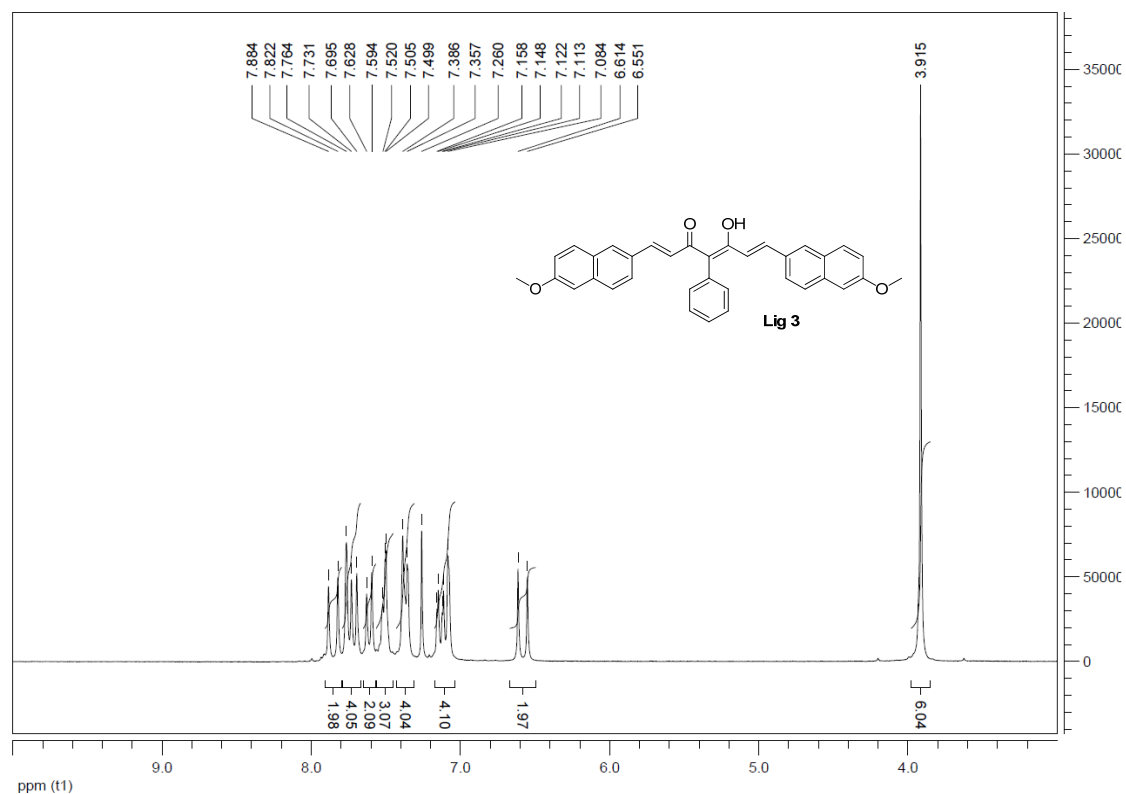


Figure S13. ¹H NMR spectrum of **Lig 3** ((1E,4Z,6E)-5-hydroxy-1,7-bis(6-methoxynaphthalen-2-yl)-4-phenylhepta-1,4,6-trien-3-one)

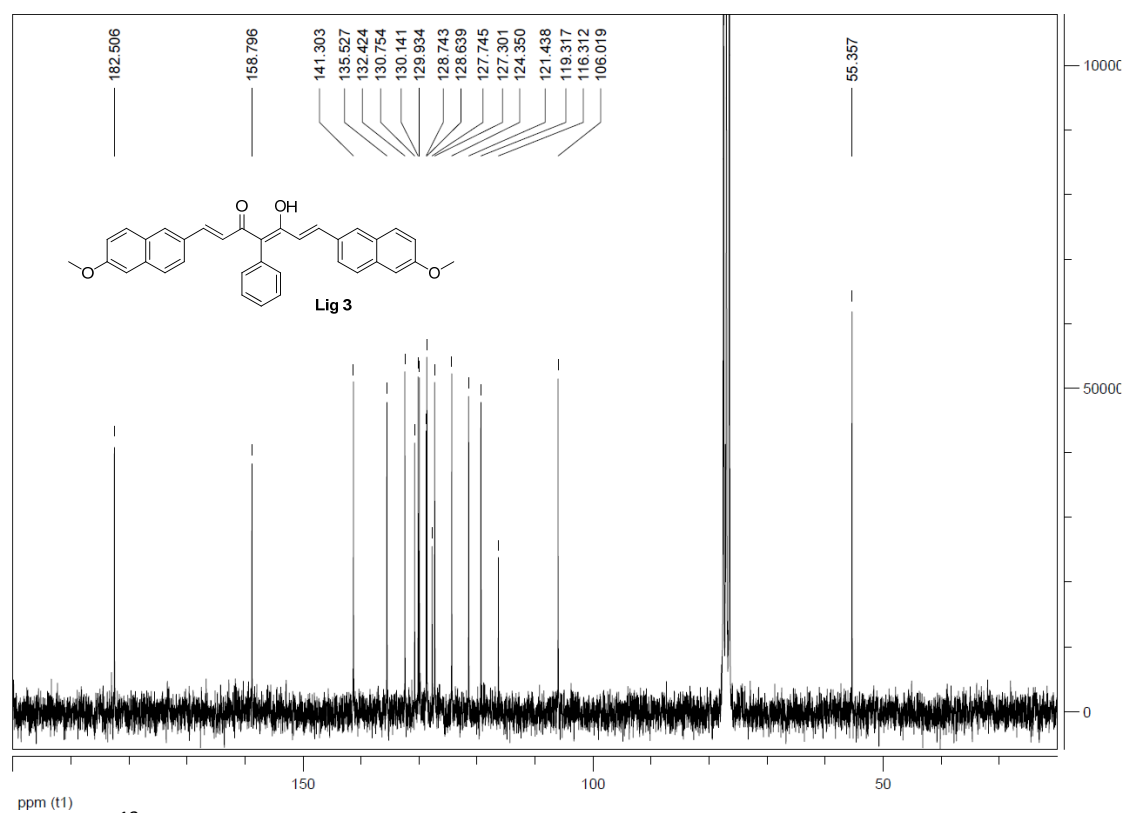


Figure S14. ¹³C NMR spectrum of **Lig 3** ((1E,4Z,6E)-5-hydroxy-1,7-bis(6-methoxynaphthalen-2-yl)-4-phenylhepta-1,4,6-trien-3-one)

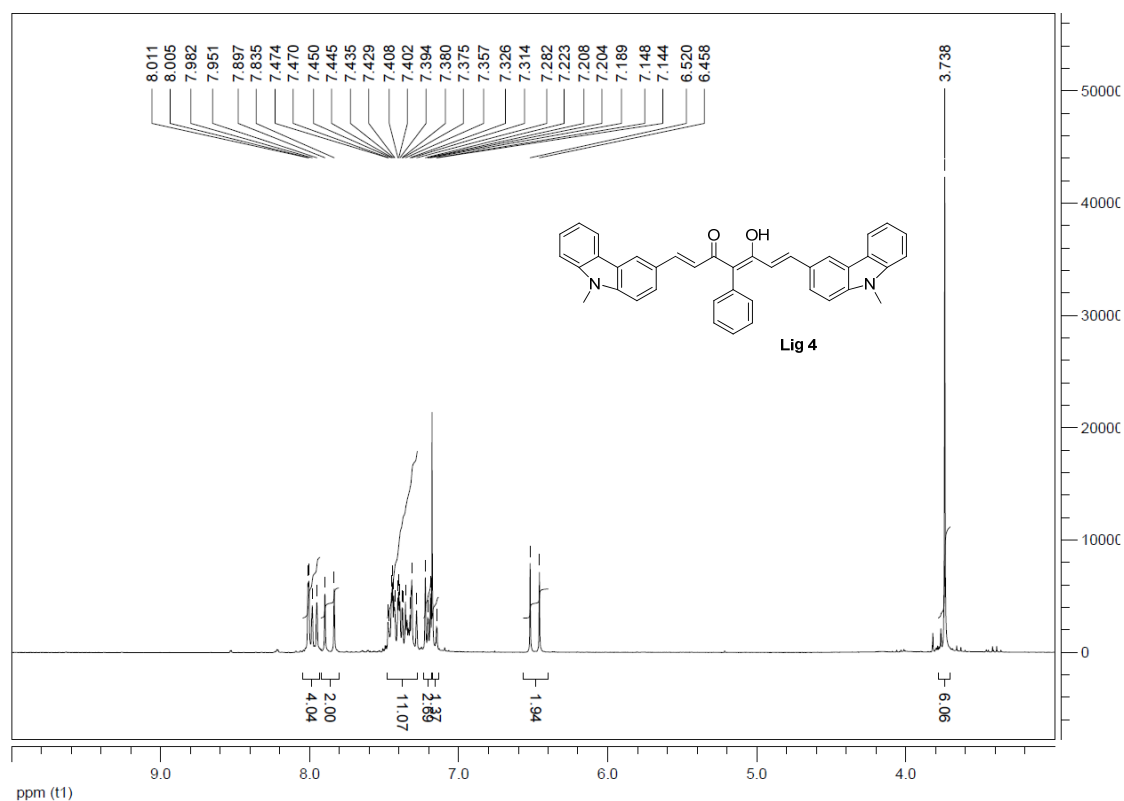


Figure S15. ¹H NMR spectrum of **Lig 4** ((1E,4Z,6E)-5-hydroxy-1,7-bis(9-methyl-9H-carbazol-3-yl)-4-phenylhepta-1,4,6-trien-3-one)

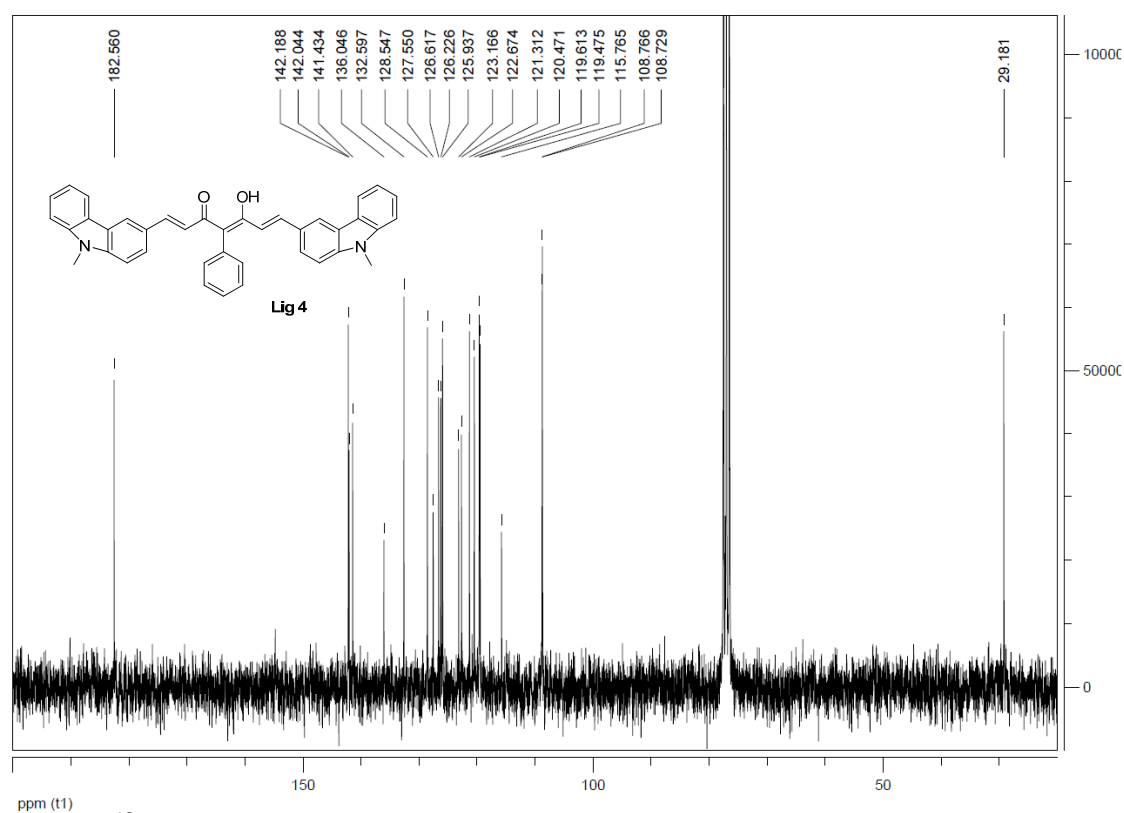


Figure S16. ¹³C NMR spectrum of **Lig 4** ((1E,4Z,6E)-5-hydroxy-1,7-bis(9-methyl-9H-carbazol-3-yl)-4-phenylhepta-1,4,6-trien-3-one)

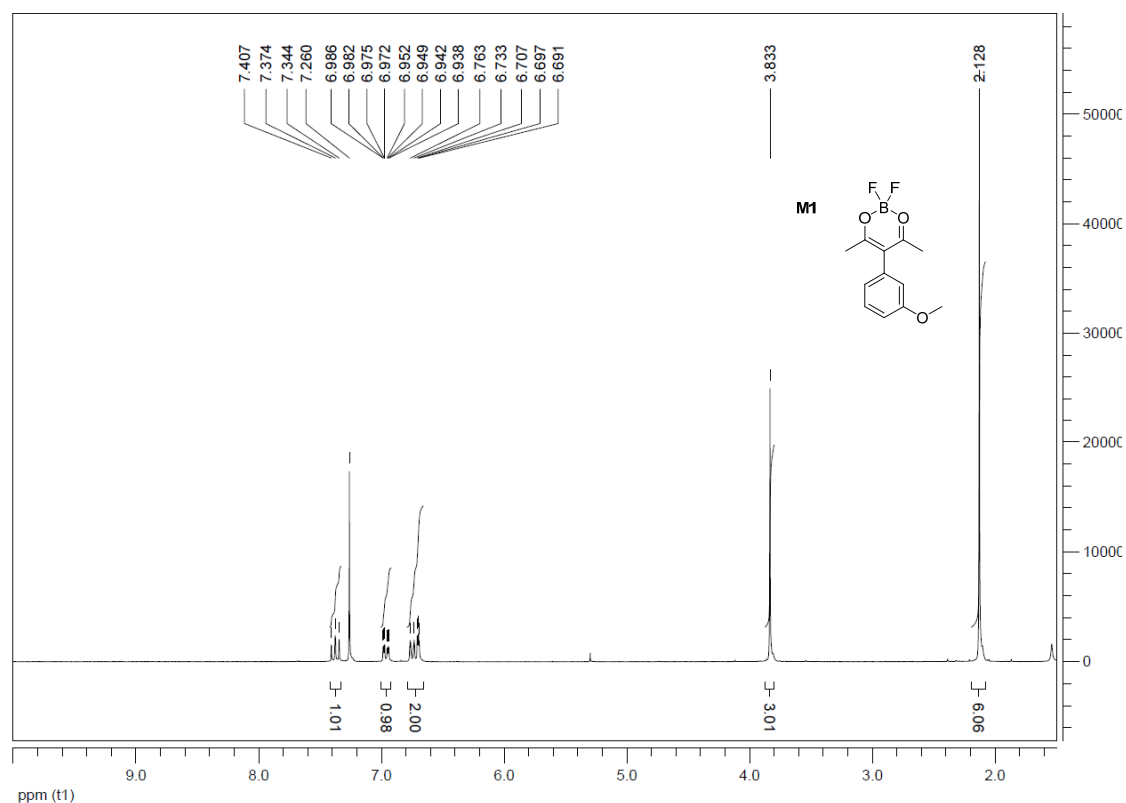


Figure S17. ^1H NMR spectrum of **M1** ((Z)-4-(difluoroboryloxy)-3-(3-methoxyphenyl)pent-3-en-2-one)

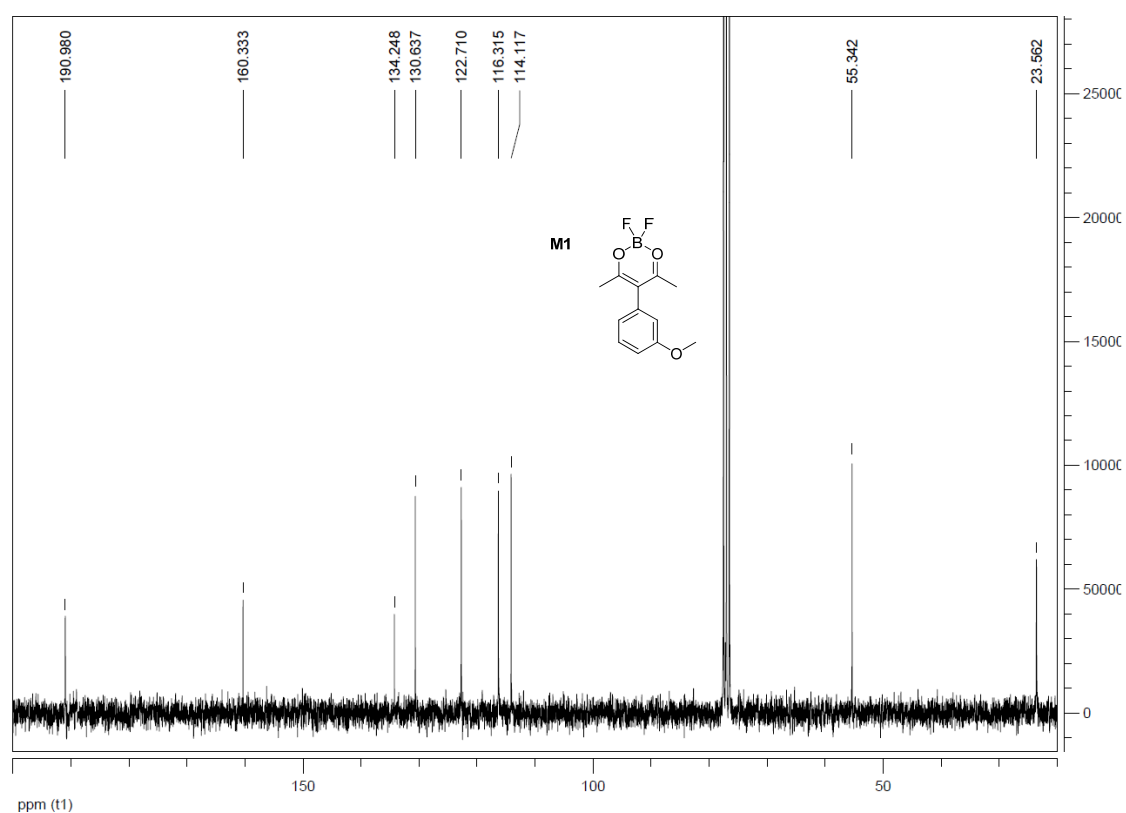


Figure S18. ^{13}C NMR spectrum of **M1** ((Z)-4-(difluoroboryloxy)-3-(3-methoxyphenyl)pent-3-en-2-one)

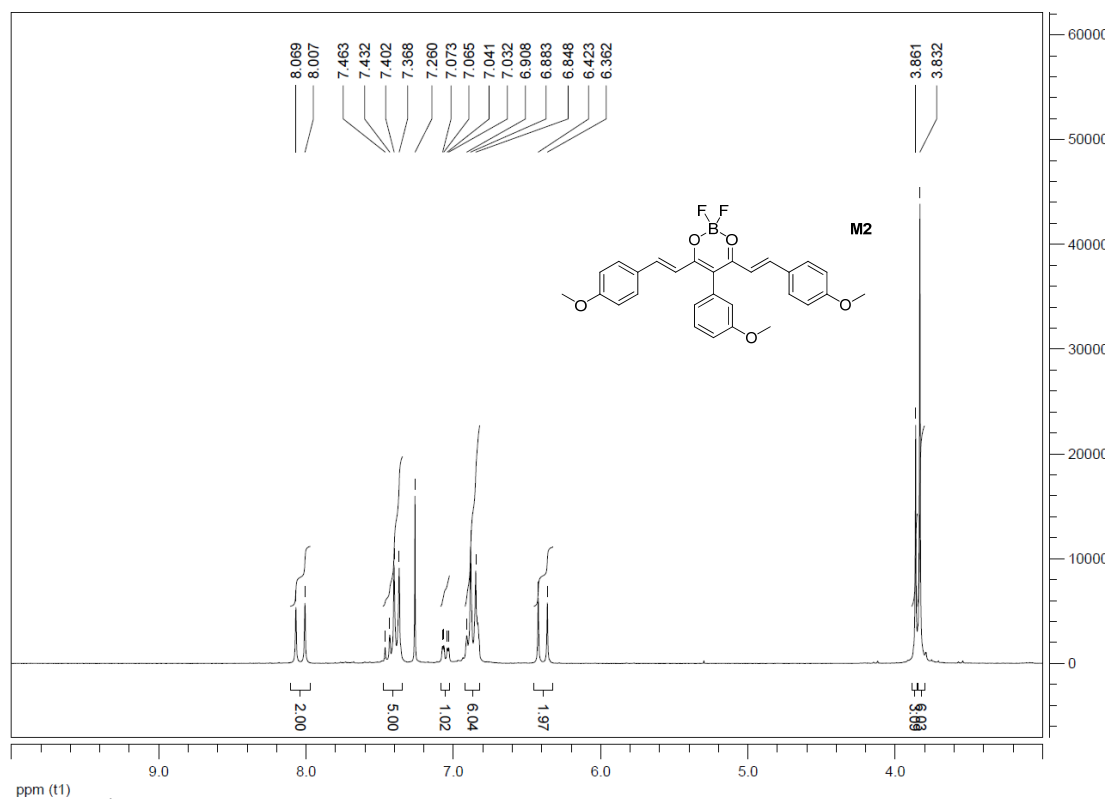


Figure S19. ¹H NMR spectrum of **M2** ((1E,4Z,6E)-5-(difluoroboryloxy)-4-(3-methoxyphenyl)-1,7-bis(4-methoxyphenyl)hepta-1,4,6-trien-3-one)

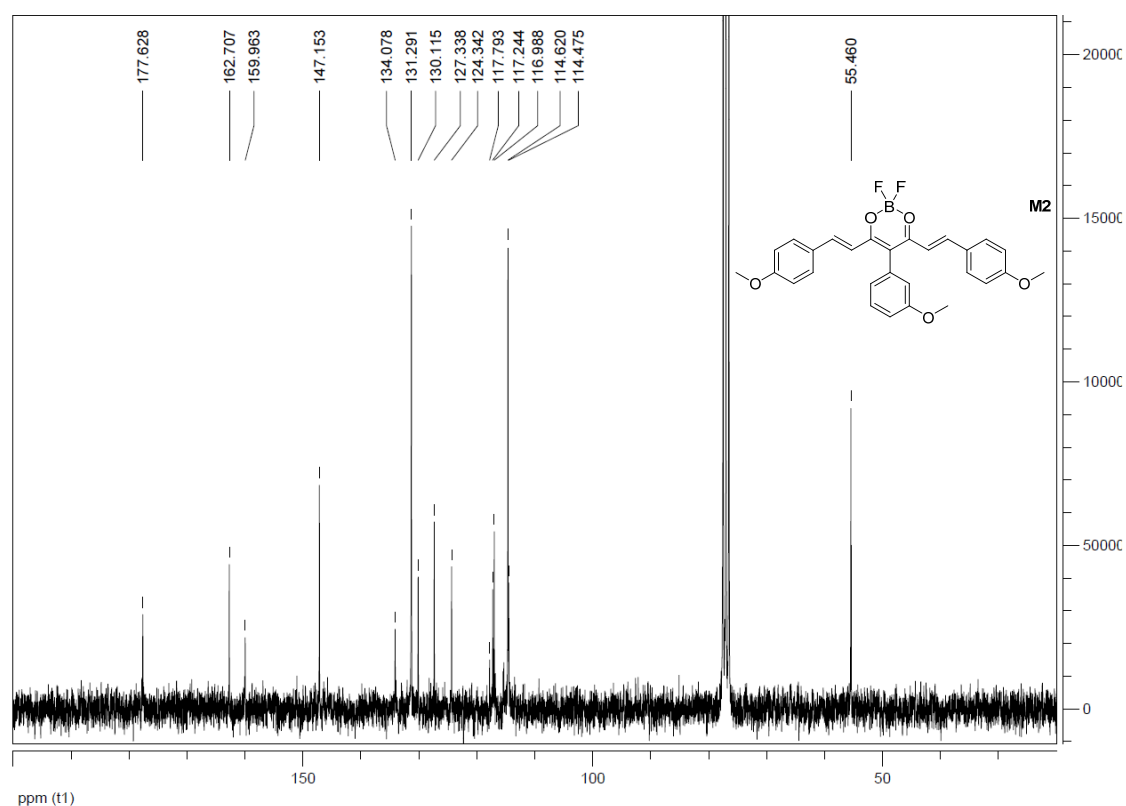


Figure S20. ¹³C NMR spectrum of **M2** ((1E,4Z,6E)-5-(difluoroboryloxy)-4-(3-methoxyphenyl)-1,7-bis(4-methoxyphenyl)hepta-1,4,6-trien-3-one)

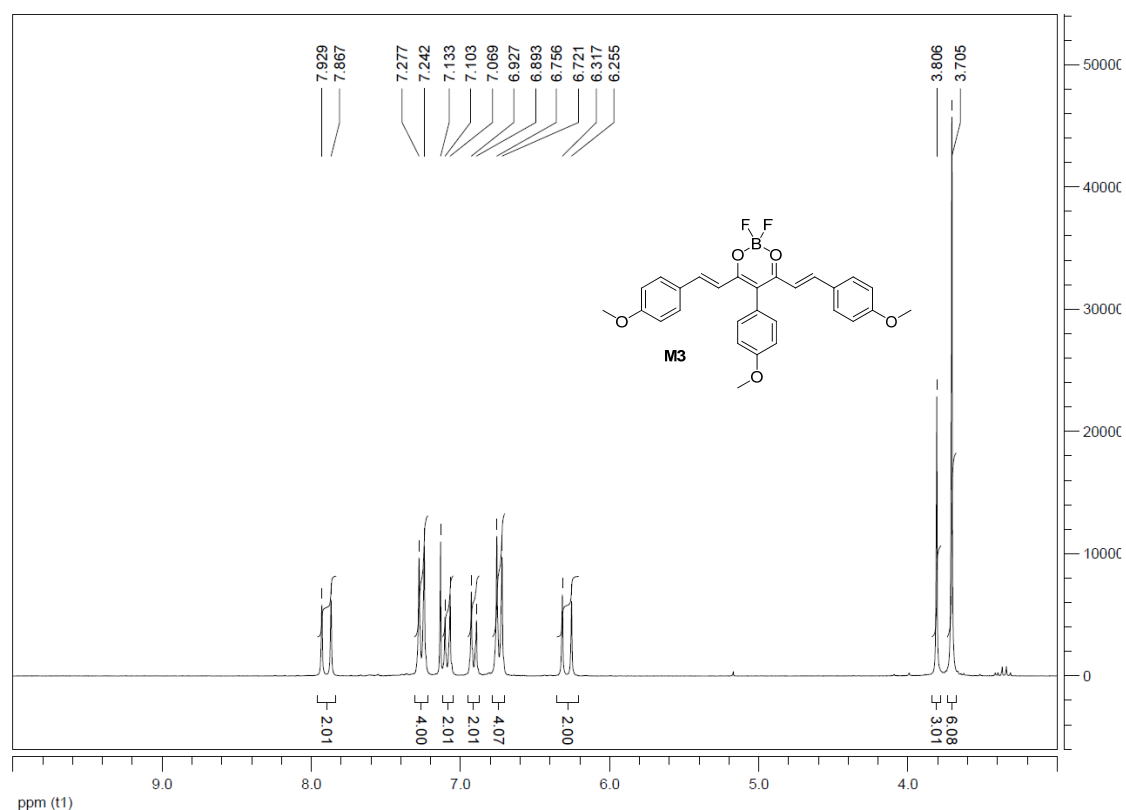


Figure S21. ¹H NMR spectrum of **M3** ((1E,4Z,6E)-5-(difluoroboryloxy)-1,4,7-tris(4-methoxyphenyl)hepta-1,4,6-trien-3-one)

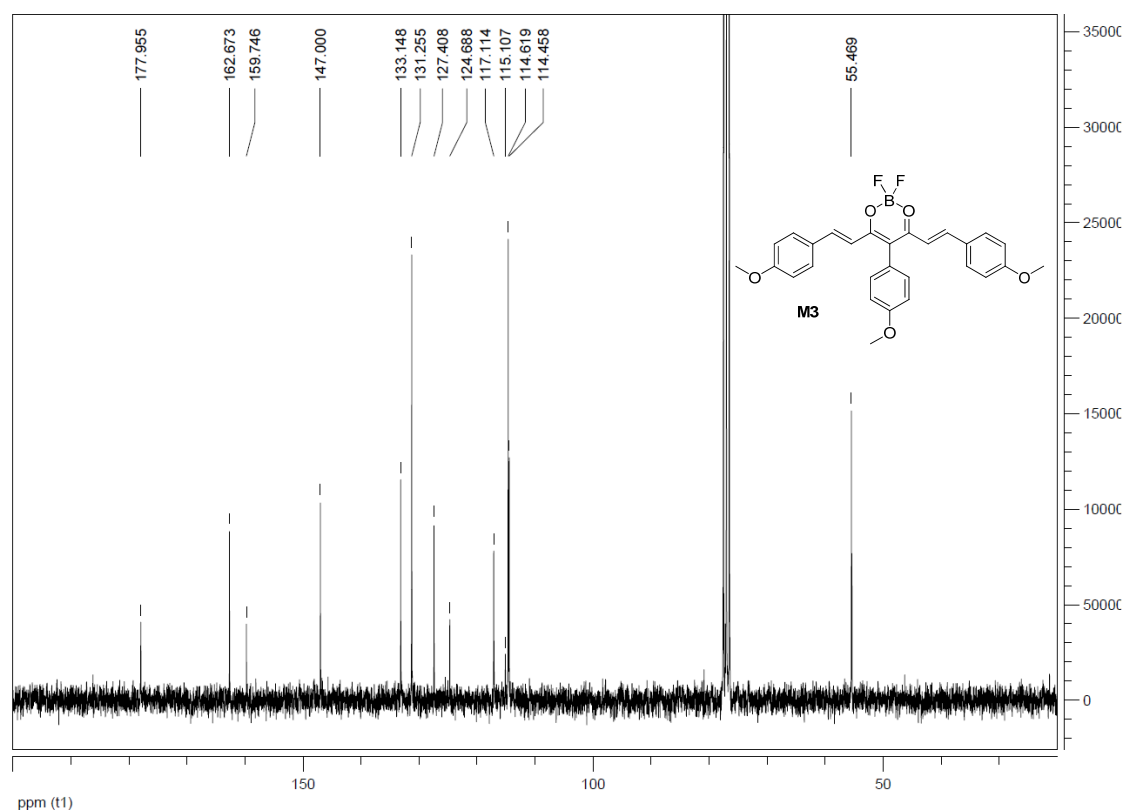


Figure S22. ¹³C NMR spectrum of **M3** ((1E,4Z,6E)-5-(difluoroboryloxy)-1,4,7-tris(4-methoxyphenyl)hepta-1,4,6-trien-3-one)

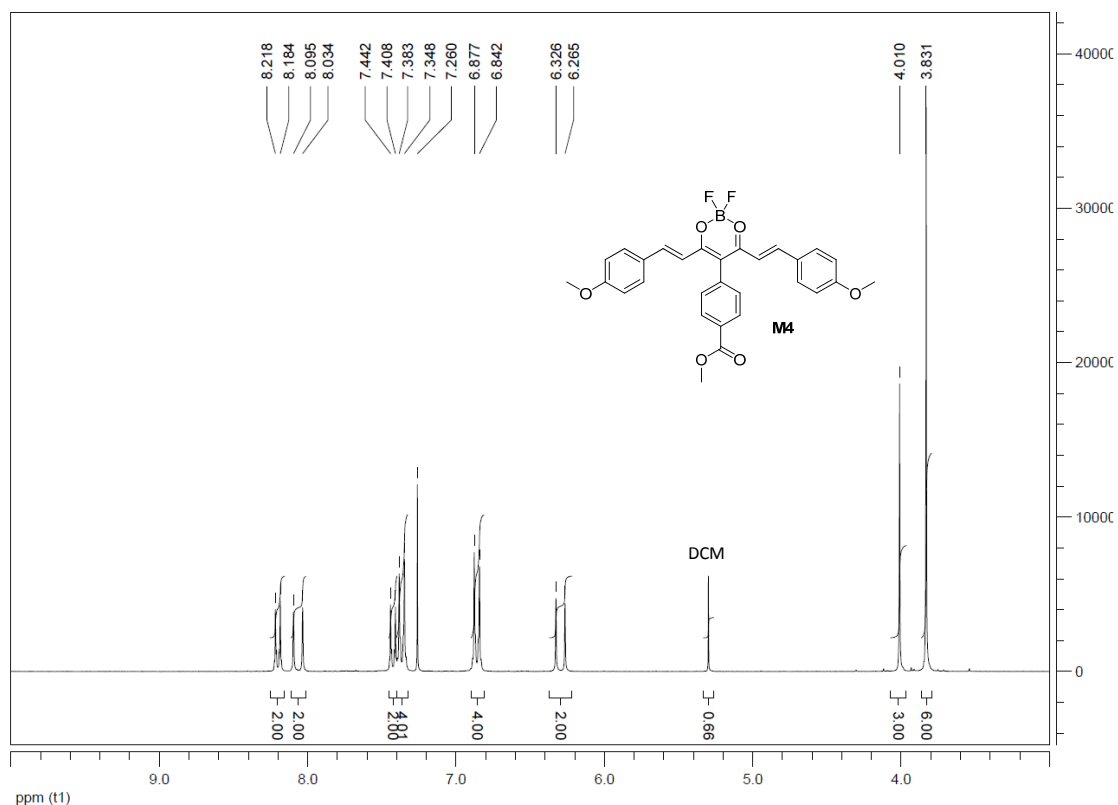


Figure S23. ¹H NMR spectrum of **M4** (methyl 4-((1E,3Z,6E)-3-(difluoroboryloxy)-1,7-bis(4-methoxyphenyl)-5-oxohepta-1,3,6-trien-4-yl)benzoate)

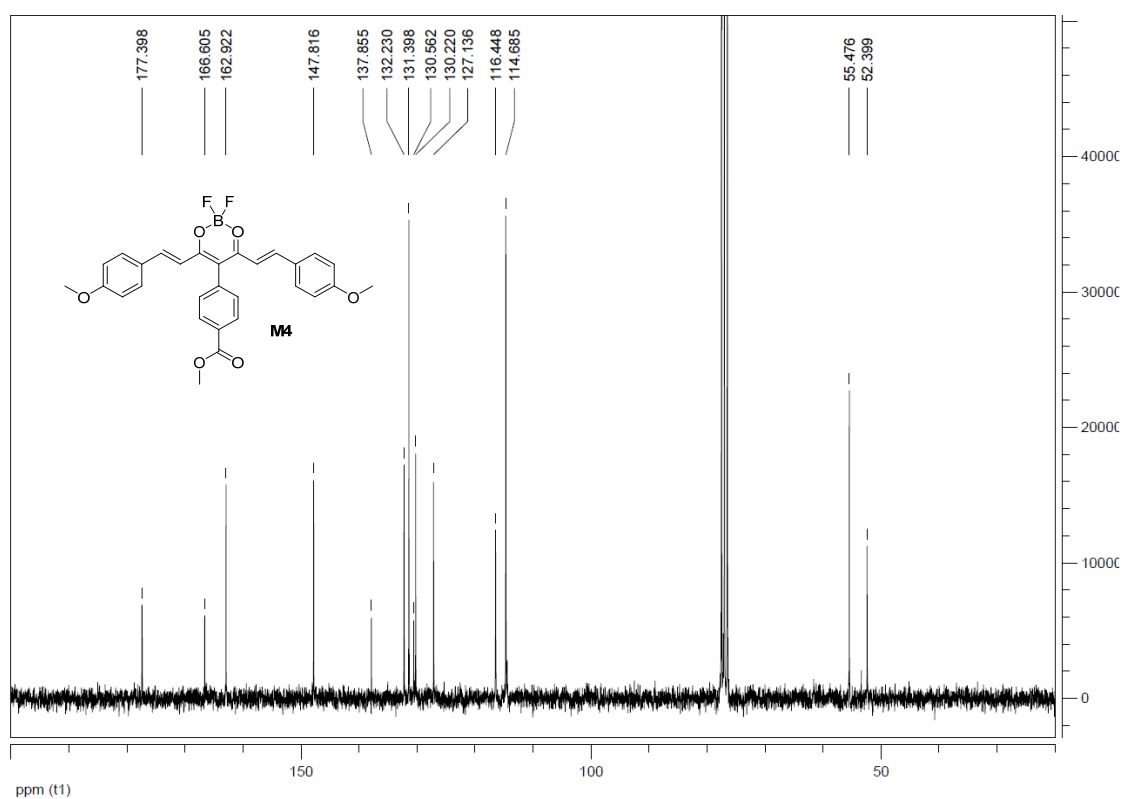


Figure S24. ¹³C NMR spectrum of **M4** (methyl 4-((1E,3Z,6E)-3-(difluoroboryloxy)-1,7-bis(4-methoxyphenyl)-5-oxohepta-1,3,6-trien-4-yl)benzoate)

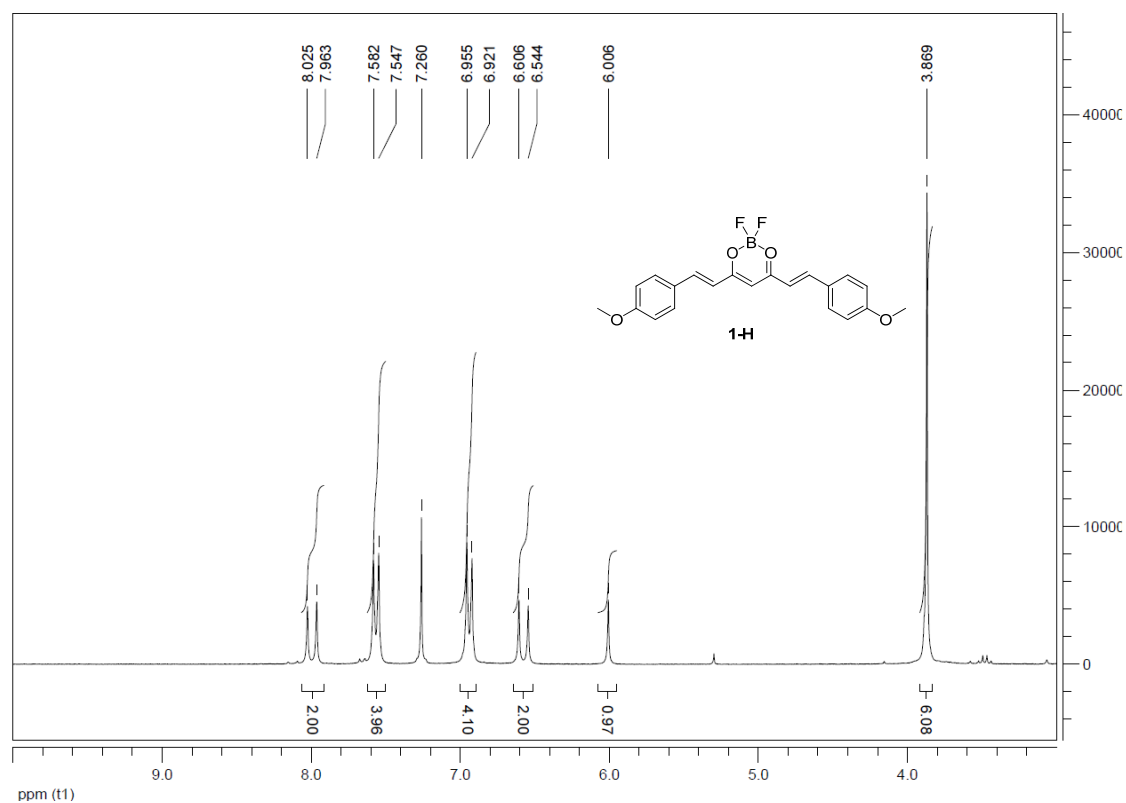


Figure S25. ¹H NMR spectrum of **1-H** ((1E,4Z,6E)-5-(difluoroboryloxy)-1,7-bis(4-methoxyphenyl)hepta-1,4,6-trien-3-one)

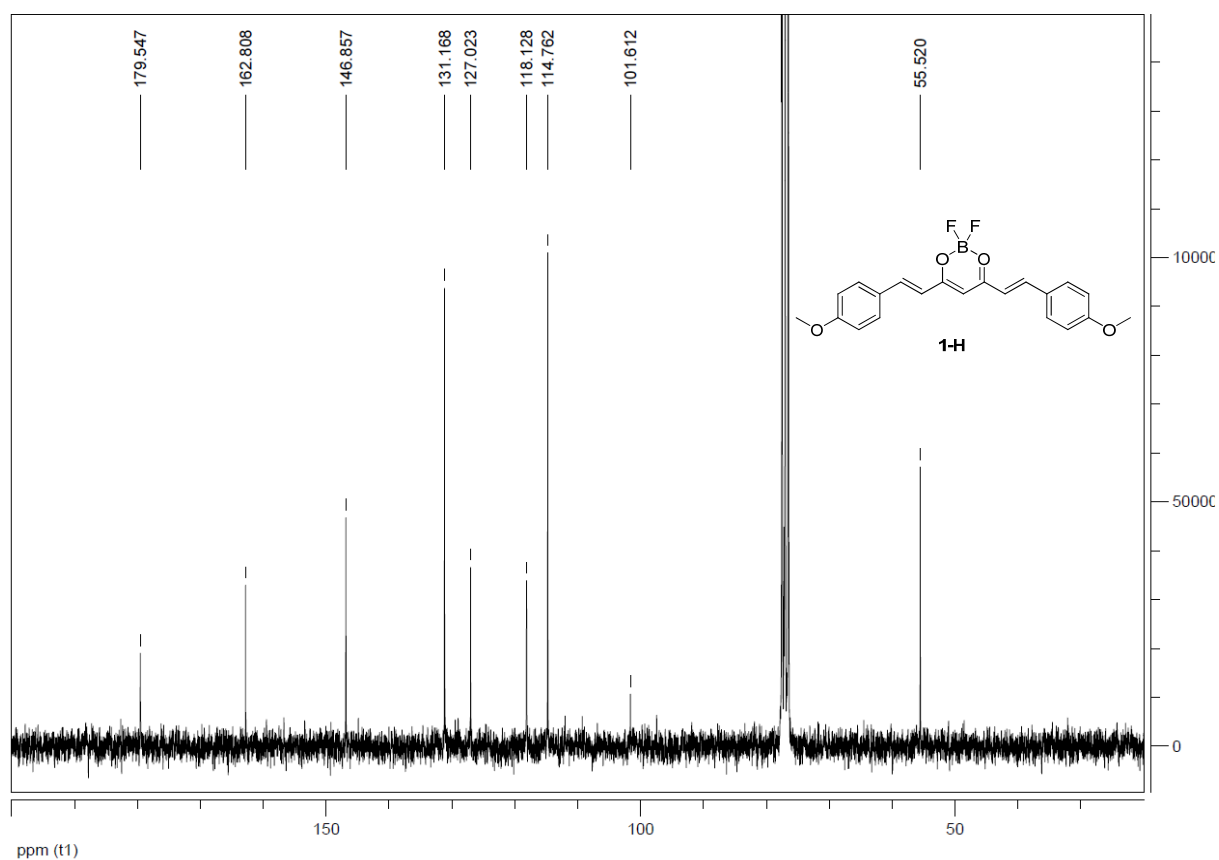


Figure S26. ¹³C NMR spectrum of **1-H** ((1E,4Z,6E)-5-(difluoroboryloxy)-1,7-bis(4-methoxyphenyl)hepta-1,4,6-trien-3-one)

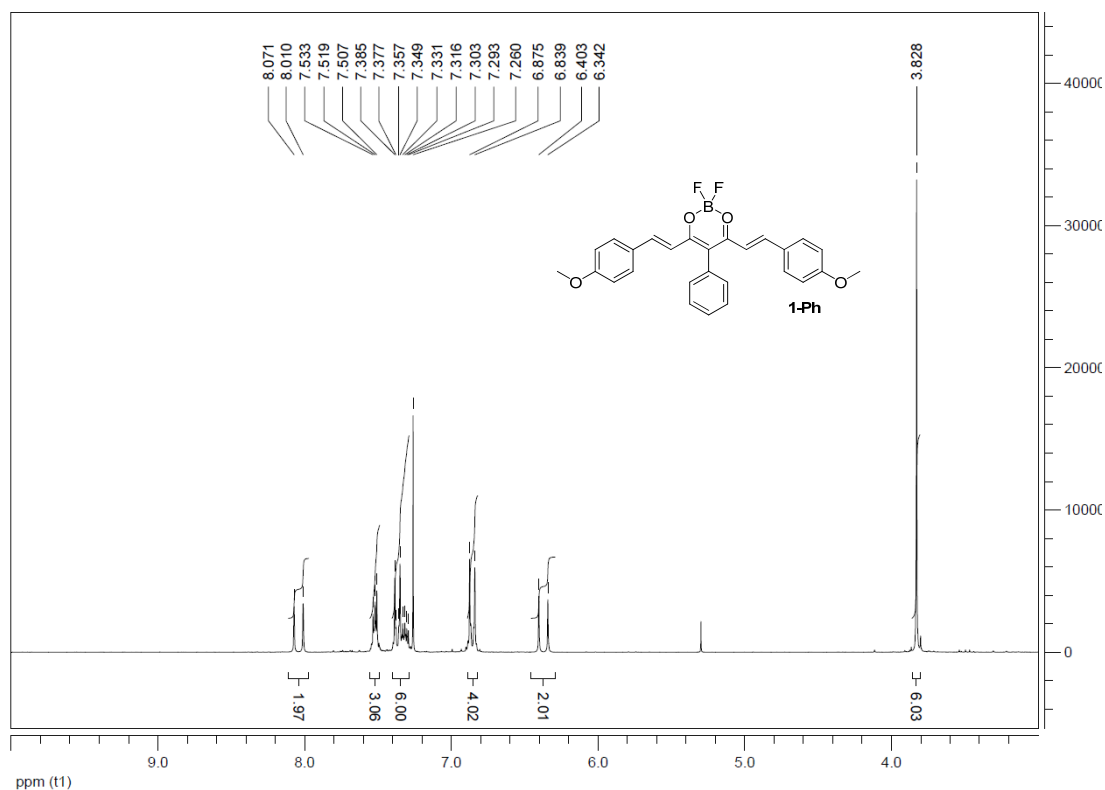


Figure S27. ^1H NMR spectrum of **1-Ph** ((1E,4Z,6E)-5-(difluoroboryloxy)-1,7-bis(4-methoxyphenyl)-4-phenylhepta-1,4,6-trien-3-one)

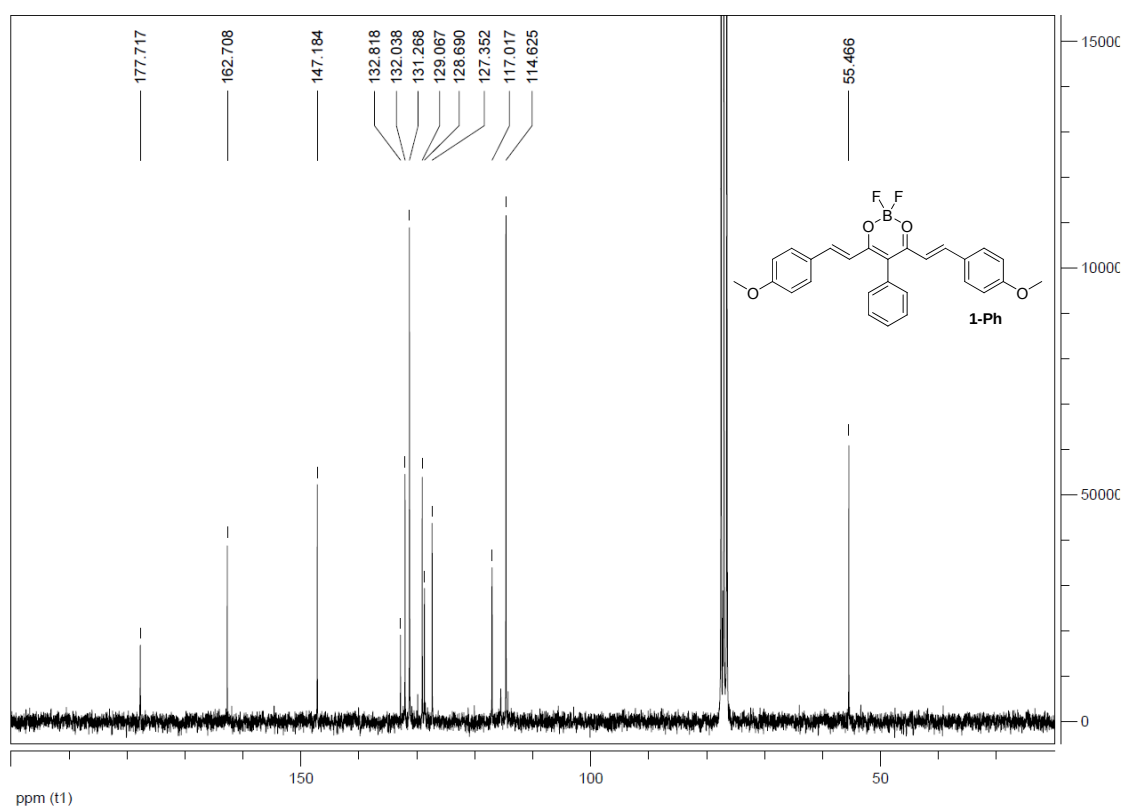


Figure S28. ^{13}C NMR spectrum of **1-Ph** ((1E,4Z,6E)-5-(difluoroboryloxy)-1,7-bis(4-methoxyphenyl)-4-phenylhepta-1,4,6-trien-3-one)

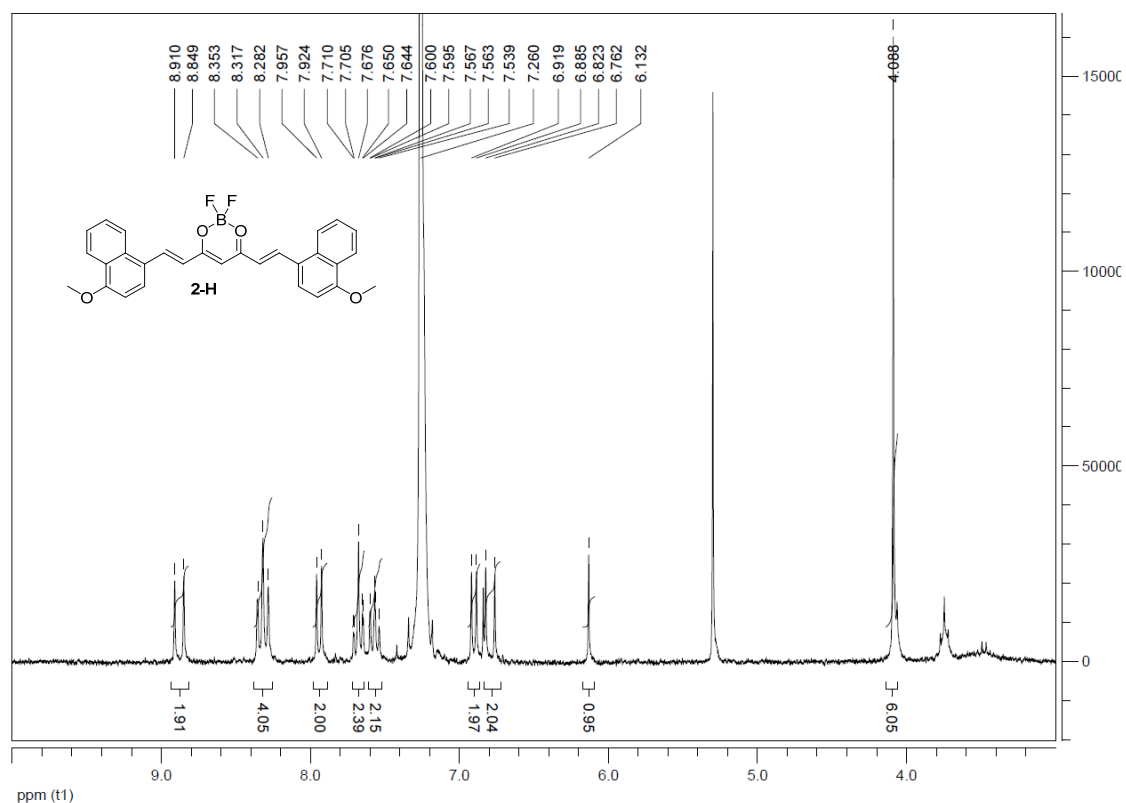


Figure S29. ^1H NMR spectrum of **2-H** ((1E,4Z,6E)-5-(difluoroboryloxy)-1,7-bis(4-methoxynaphthalen-1-yl)hepta-1,4,6-trien-3-one)

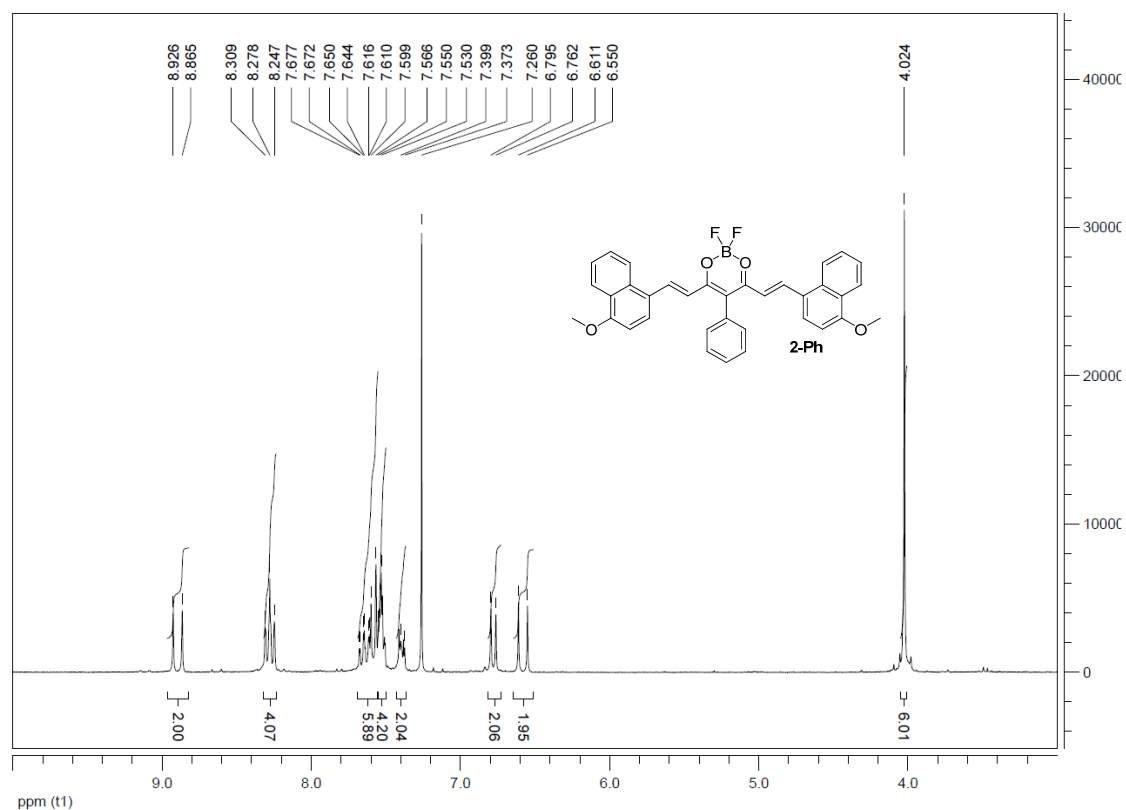


Figure S30. ^1H NMR spectrum of **2-Ph** ((1E,4Z,6E)-5-(difluoroboryloxy)-1,7-bis(4-methoxynaphthalen-1-yl)-4-phenylhepta-1,4,6-trien-3-one)

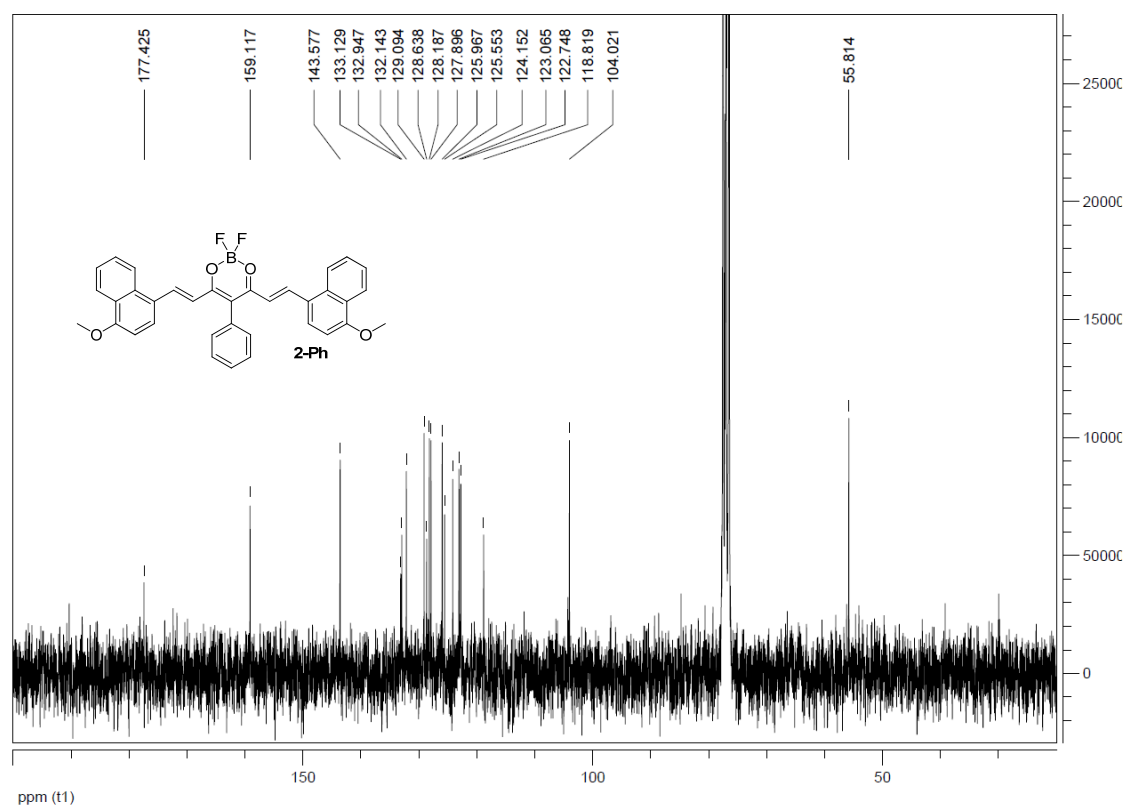


Figure S31. ¹³C NMR spectrum of **2-Ph** ((1E,4Z,6E)-5-(difluoroboryloxy)-1,7-bis(4-methoxynaphthalen-1-yl)-4-phenylhepta-1,4,6-trien-3-one)

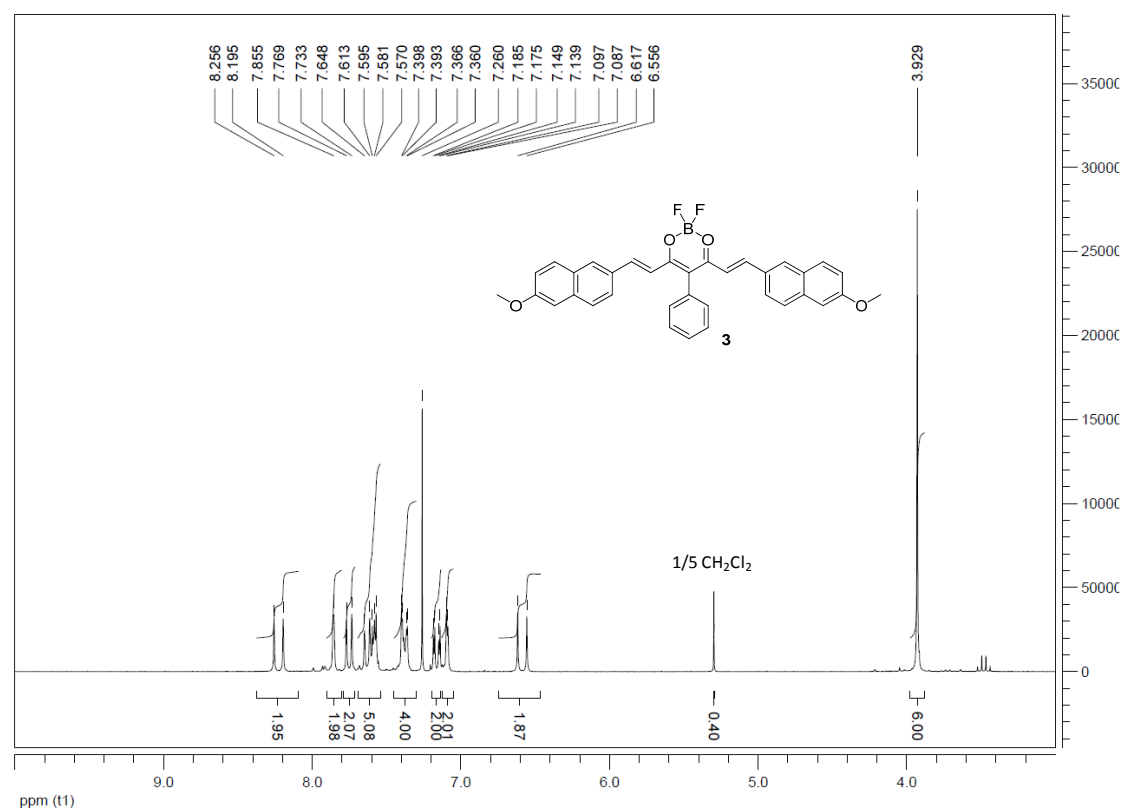


Figure S32. ¹H NMR spectrum of **3** ((1E,4Z,6E)-5-(difluoroboryloxy)-1,7-bis(4-methoxynaphthalen-1-yl)-4-phenylhepta-1,4,6-trien-3-one)

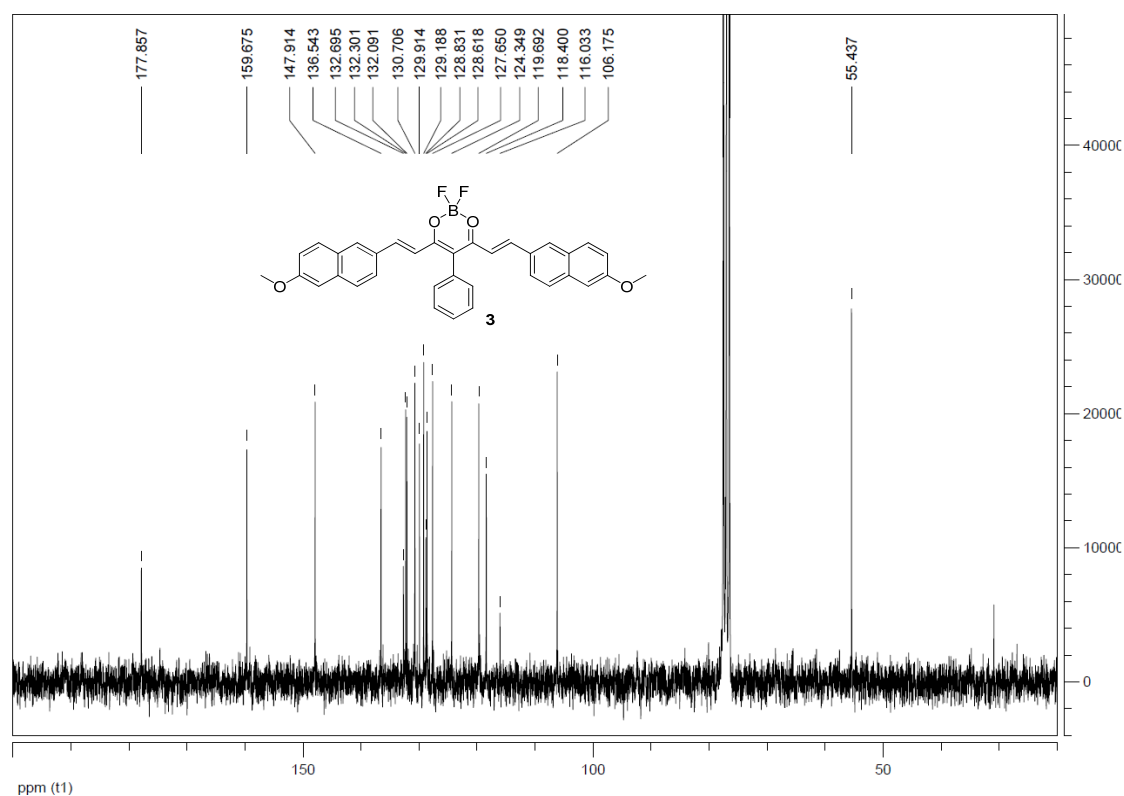


Figure S33. ¹³C NMR spectrum of **3** ((1E,4Z,6E)-5-(difluoroboryloxy)-1,7-bis(6-methoxynaphthalen-2-yl)-4-phenylhepta-1,4,6-trien-3-one)

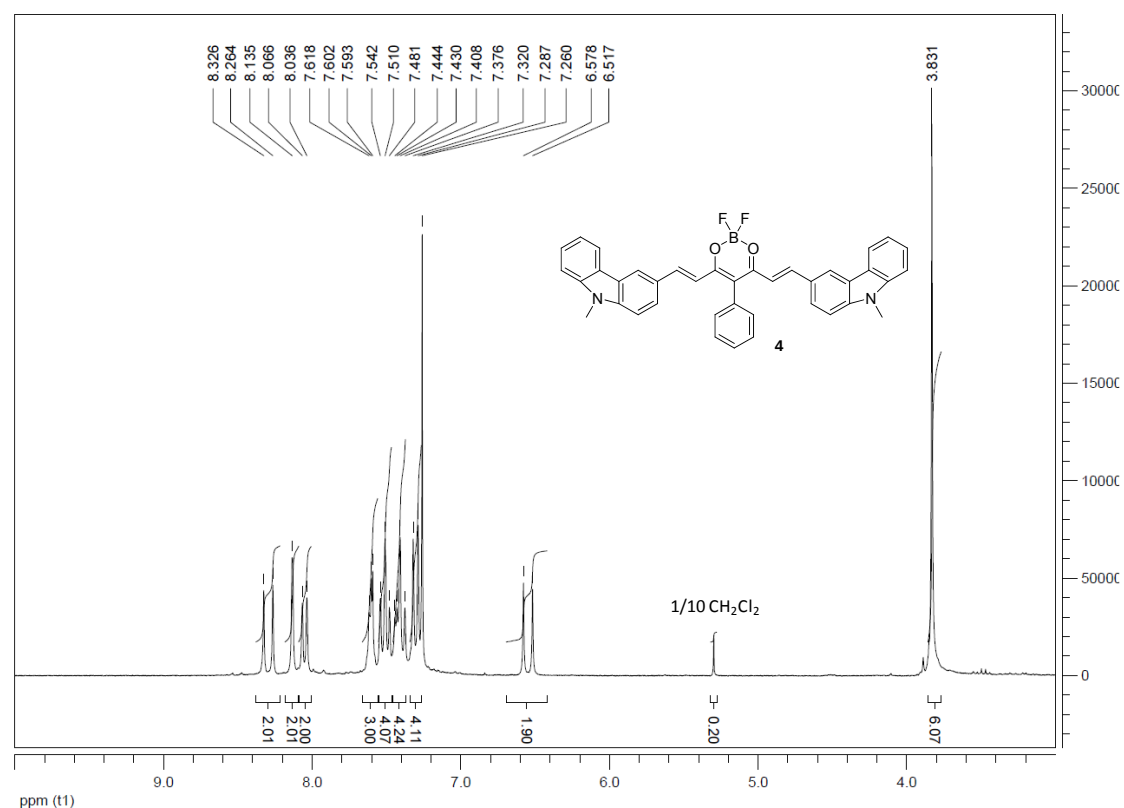


Figure S34. ¹H NMR spectrum of **4** ((1E,4Z,6E)-5-(difluoroboryloxy)-1,7-bis(9-methyl-9H-carbazol-3-yl)-4-phenylhepta-1,4,6-trien-3-one)

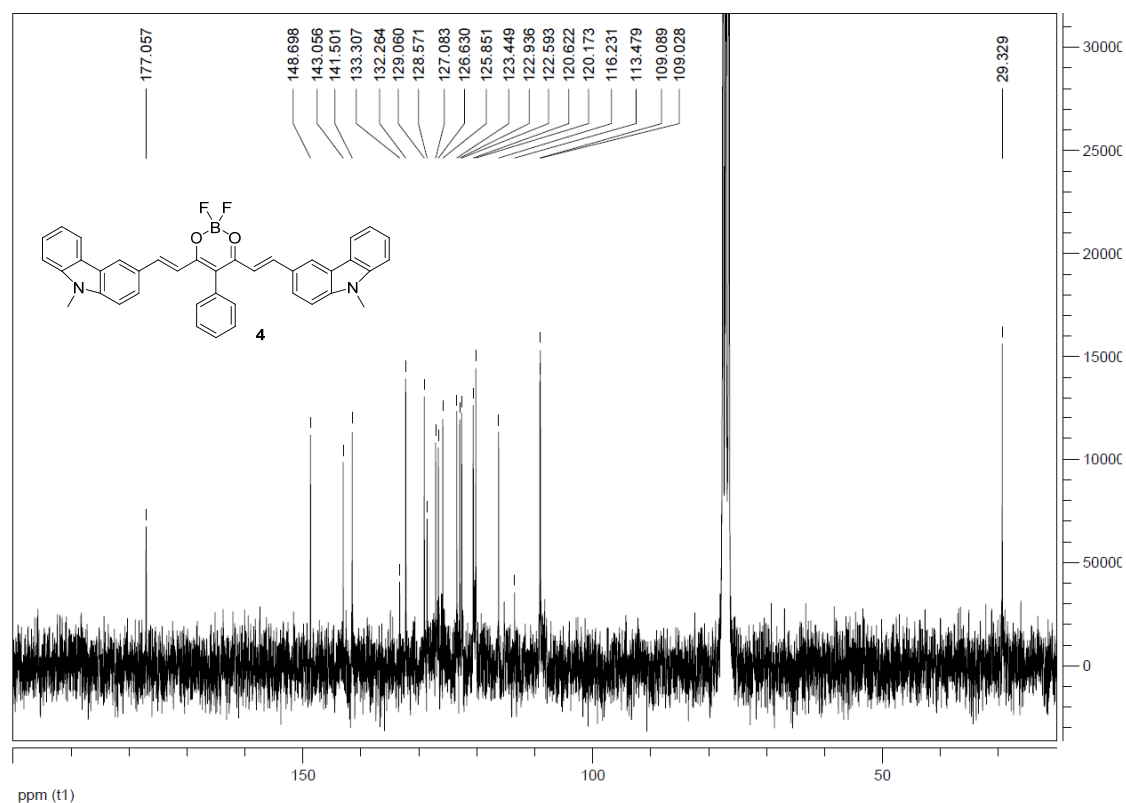


Figure S35. ¹³C NMR spectrum of **4** ((1E,4Z,6E)-5-(difluoroboryloxy)-1,7-bis(9-methyl-9H-carbazol-3-yl)-4-phenylhepta-1,4,6-trien-3-one)

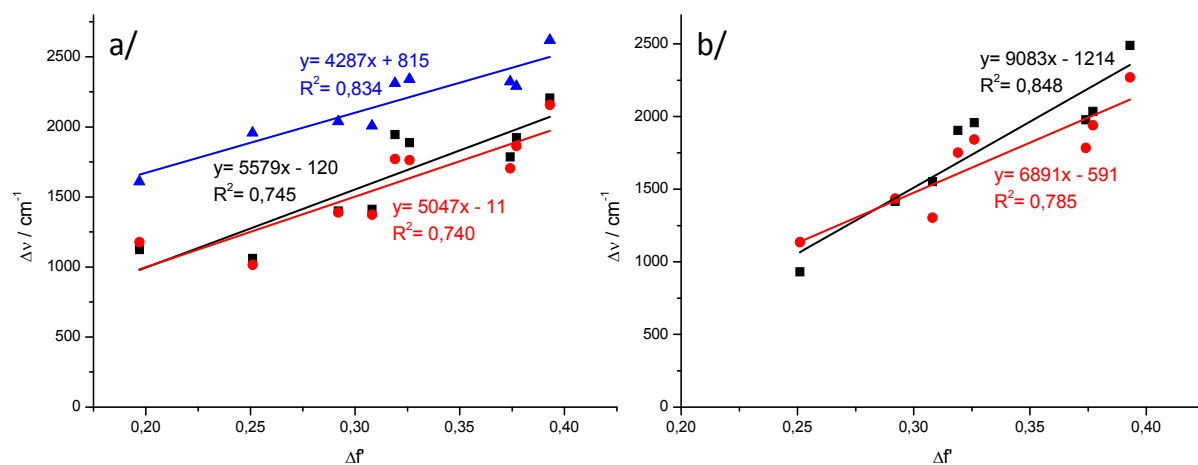


Figure S36. Lippert-Mataga plots for a/ **M2** (■), **M3** (●) and **M4** (▲), b/ **1-H** (■) and **1-Ph** (●) with their linear regression.

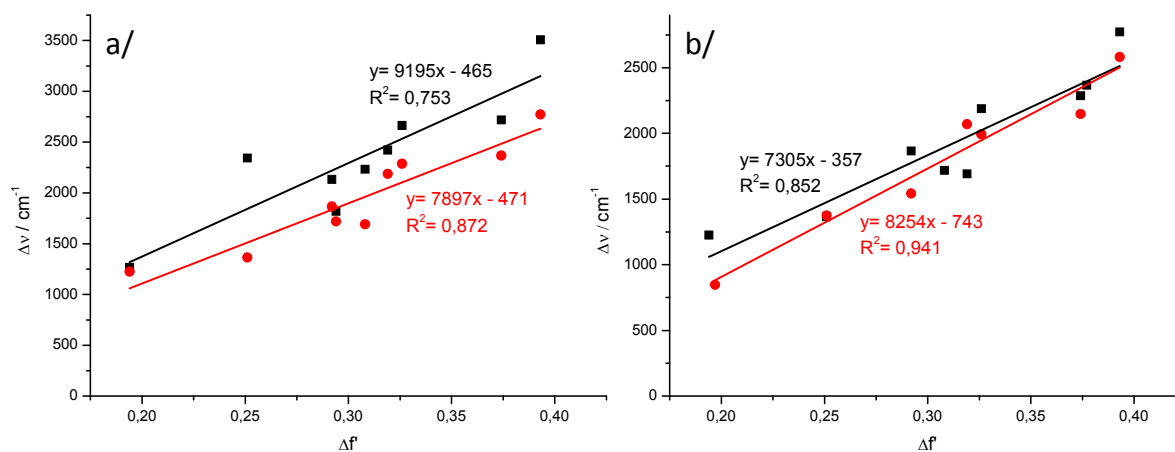


Figure S37. Lippert-Mataga plots for a/ **2-H** (■) and **2-Ph** (●), b/ **3** (■) and **4** (●) with their linear regression.

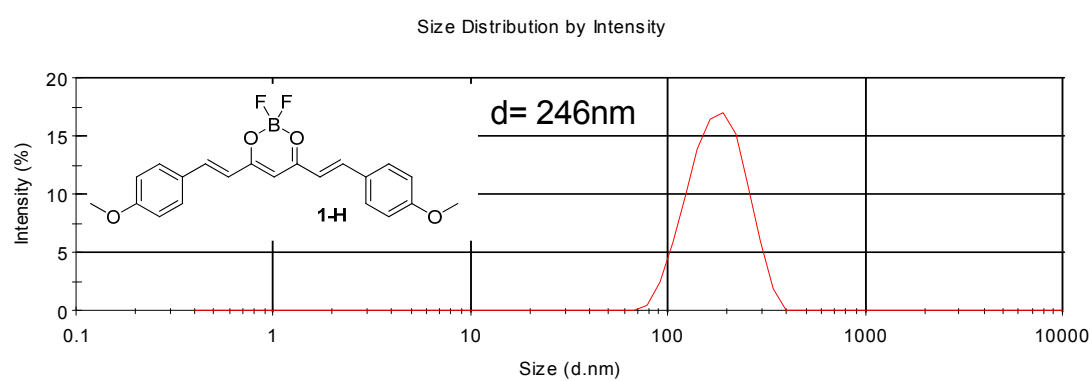


Figure S38. Size distribution by intensity determined by dynamic light scattering for **1-H**

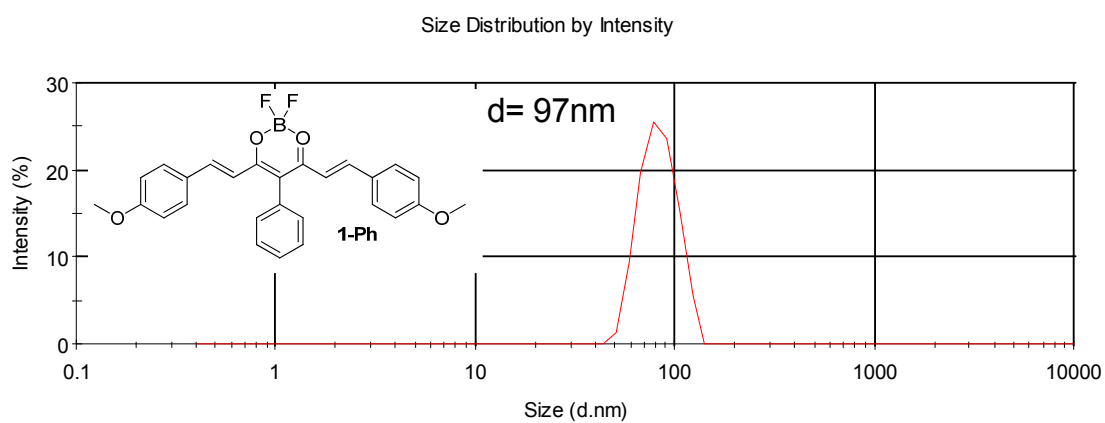


Figure S39. Size distribution by intensity determined by dynamic light scattering for **1-Ph**

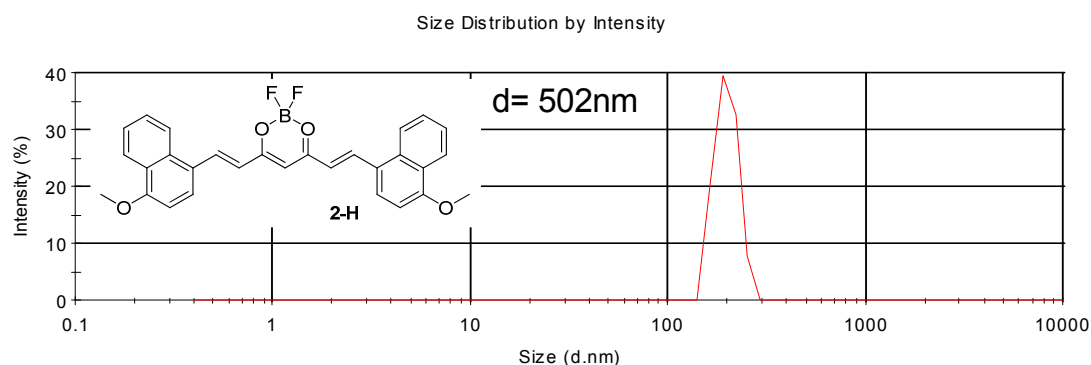


Figure S40. Size distribution by intensity determined by dynamic light scattering for **2-H**

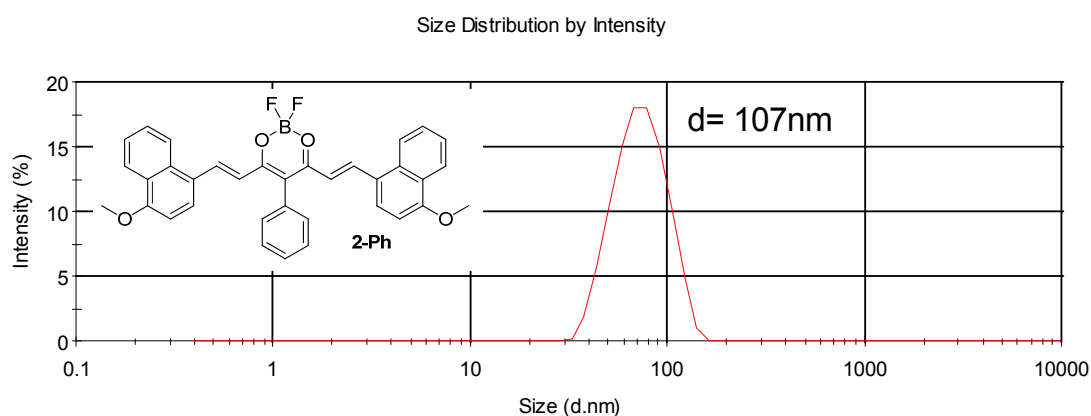


Figure S41. Size distribution by intensity determined by dynamic light scattering for **2-Ph**

TableS1. Atom coordinates of crystal structure of **M4**
(see Figure 2 for atom numbers)

Atom Label	X coordinate	Y coordinate	Z coordinate
C1	0.2905(3)	0.0040(2)	0.41614(19)
C2	0.2580(3)	-0.0016(2)	0.51171(19)
H2	0.2305	-0.0731	0.53
C3	0.2656(3)	0.0912(2)	0.57513(19)
H3	0.2928	0.1614	0.5546
C4	0.2359(3)	0.0945(2)	0.67296(19)
C5	0.2834(4)	0.1892(3)	0.7384(2)
H5	0.3344	0.2518	0.7192
C6	0.2572(4)	0.1941(4)	0.8326(2)
H6	0.2921	0.2586	0.8761
C7	0.1788(5)	0.1021(4)	0.8609(2)
C8	0.1291(5)	0.0085(4)	0.7961(3)
H8	0.0749	-0.053	0.8146
C9	0.1578(5)	0.0040(3)	0.7049(2)
H9	0.1243	-0.0616	0.6624
C10	0.2893(3)	-0.0932(2)	0.34979(18)
C11	0.3103(3)	-0.0756(2)	0.25571(19)
C12	0.3059(4)	-0.1692(3)	0.1821(2)
H12	0.2914	-0.2442	0.1982
C13	0.3215(4)	-0.1546(3)	0.0910(2)
H13	0.3301	-0.0787	0.0753

C14	0.3261(4)	-0.2451(3)	0.0152(2)
C15	0.2932(6)	-0.3611(3)	0.0231(3)
H15	0.2619	-0.3826	0.0786
C16	0.3058(7)	-0.4439(4)	-0.0489(3)
H16	0.2823	-0.521	-0.0421
C17	0.3527(5)	-0.4155(3)	-0.1316(2)
C18	0.3832(5)	-0.3025(3)	-0.1428(2)
H18	0.4134	-0.2819	-0.1989
C19	0.3687(5)	-0.2192(3)	-0.0702(2)
H19	0.3883	-0.1421	-0.0788
C20	0.2554(3)	-0.2121(2)	0.37423(17)
C21	0.3634(3)	-0.2679(2)	0.44367(18)
H21	0.4587	-0.2297	0.4776
C22	0.3308(3)	-0.3793(2)	0.46283(19)
H22	0.4048	-0.4156	0.5093
C23	0.1895(3)	-0.4380(2)	0.41381(19)
C24	0.0798(4)	-0.3819(3)	0.3458(2)
H24	-0.0166	-0.4194	0.3129
C25	0.1134(3)	-0.2707(2)	0.3267(2)
H25	0.0388	-0.2341	0.2808
C26	0.1593(4)	-0.5581(2)	0.4370(2)
C27	-0.0224(5)	-0.7171(3)	0.4010(3)
H27A	0.0431	-0.7667	0.3682
H27B	-0.1351	-0.7344	0.3731
H27C	0.0007	-0.7296	0.4691
C28	0.1611(8)	0.1930(7)	1.0140(3)
H28A	0.2716	0.2211	1.0284
H28B	0.1319	0.1745	1.0732
H28C	0.0911	0.2517	0.9851
C29	0.4228(8)	-0.4806(4)	-0.2821(3)
H29A	0.3563	-0.4229	-0.3152
H29B	0.4169	-0.5502	-0.325
H29C	0.5332	-0.4524	-0.2631
B1	0.3601(5)	0.1321(3)	0.3002(2)
O1	0.3189(2)	0.10812(16)	0.39277(13)
O2	0.3360(3)	0.02803(17)	0.23106(14)
O3	0.2543(3)	-0.61264(18)	0.49022(17)
O4	0.0132(3)	-0.59887(17)	0.38999(18)
O5	0.1452(4)	0.0971(3)	0.95111(19)
O6	0.3664(5)	-0.5050(2)	-0.19762(19)
F1	0.5206(3)	0.16630(19)	0.31978(14)
F2	0.2650(3)	0.21680(18)	0.26048(14)