Supporting Information

Flexible aliphatic-bridged bisphenol-based polybenzoxazines

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NMR Characterization

^{1}H-NMR and ^{13}C-NMR measurements were performed in deuterated chloroform ($CDCl_3$) and deuterated acetone ($(CD_3)_2CO$) to determine purity of the synthesized molecules using a Varian Mercury Plus 300 MHz NMR spectrometer operating at a frequency of 300 MHz with tetramethylsilane as an internal standard. The number of transients for ^{1}H and ^{13}C are 32 and 256, respectively, and a relaxation time of 5 s was used for the integrated intensity determination of ^{1}H NMR spectra.

Contents

Figures S1 – S8: ^{1}H-NMR and ^{13}C-NMR of the aliphatic-bridged dibenzaldehyde compounds.

Figures S9 – S16: ^{1}H-NMR and ^{13}C-NMR of the aliphatic-bridged diformate compounds.

Figures S17 – S24: ^{1}H-NMR and ^{13}C-NMR of the aliphatic-bridged diphenol compounds.

Figures S25 – S32: ^{1}H-NMR and ^{13}C-NMR of the aliphatic-bridged bisbenzoxazine monomers.

Supporting Information

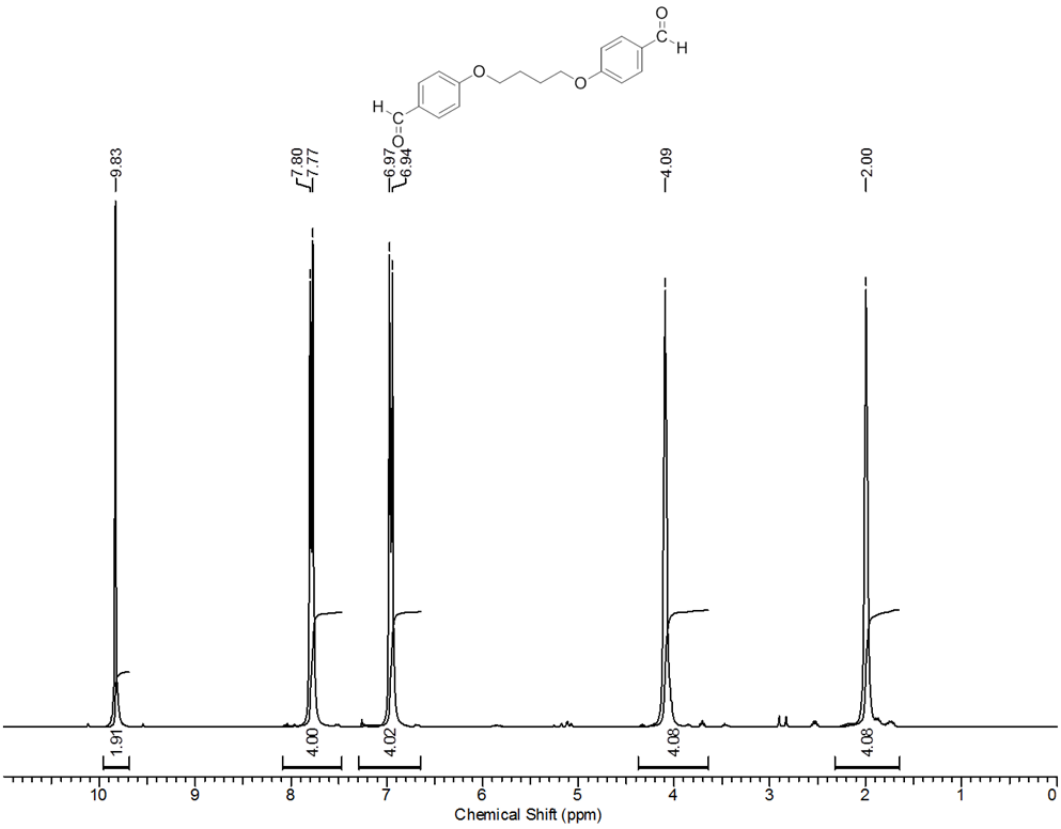

Figure S1. ^{1}H NMR of 4,4'-(butane-1,4-diylbis(oxy))dibenzaldehyde (3a).

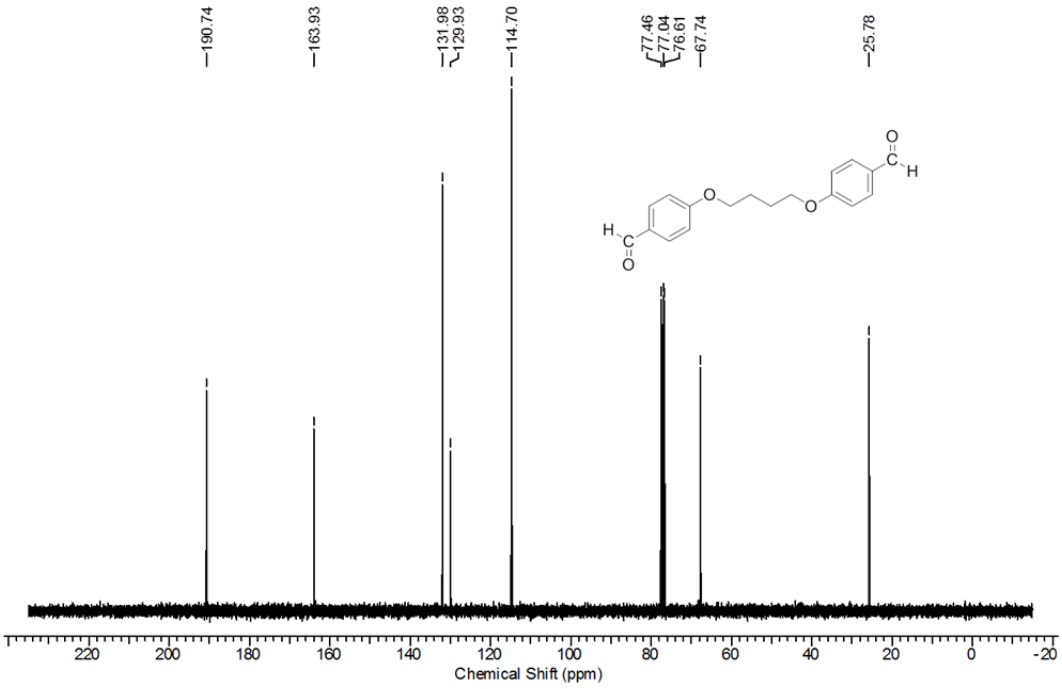

Figure S2. ^{13}C NMR of 4,4'-(butane-1,4-diylbis(oxy))dibenzaldehyde (3a).

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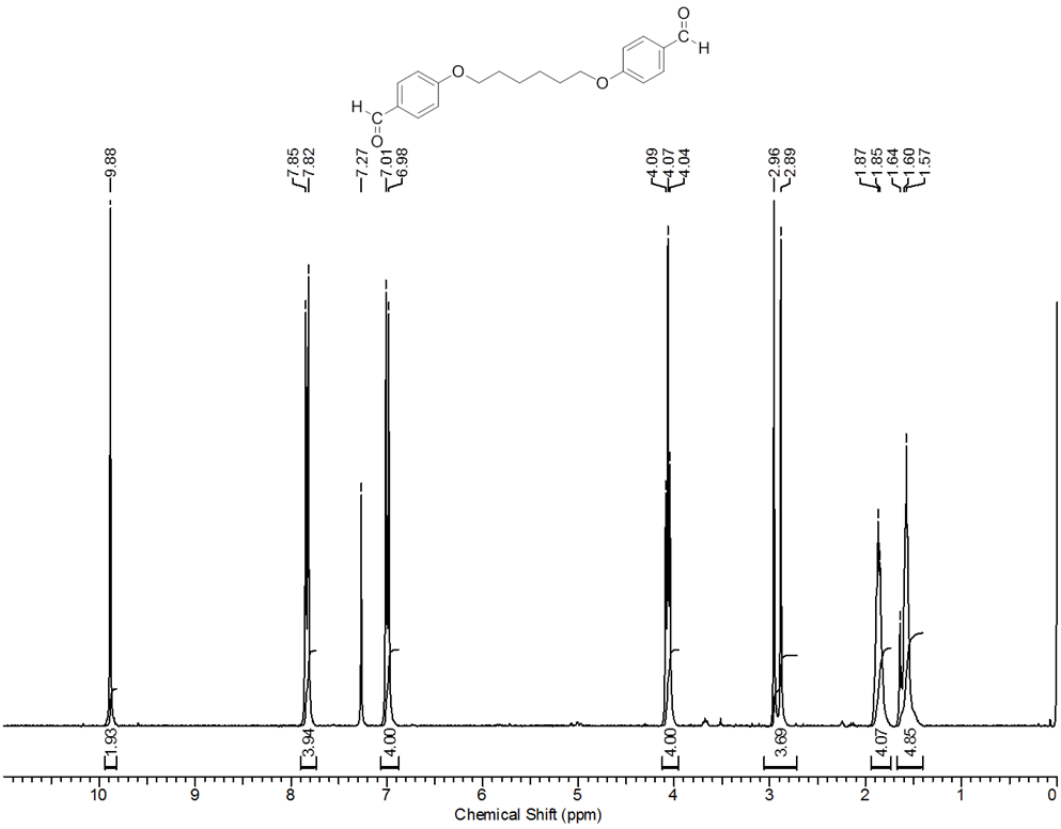

Figure S3. ^{1}H NMR of 4,4'-(hexane-1,6-diylbis(oxy))dibenzaldehyde (3b).

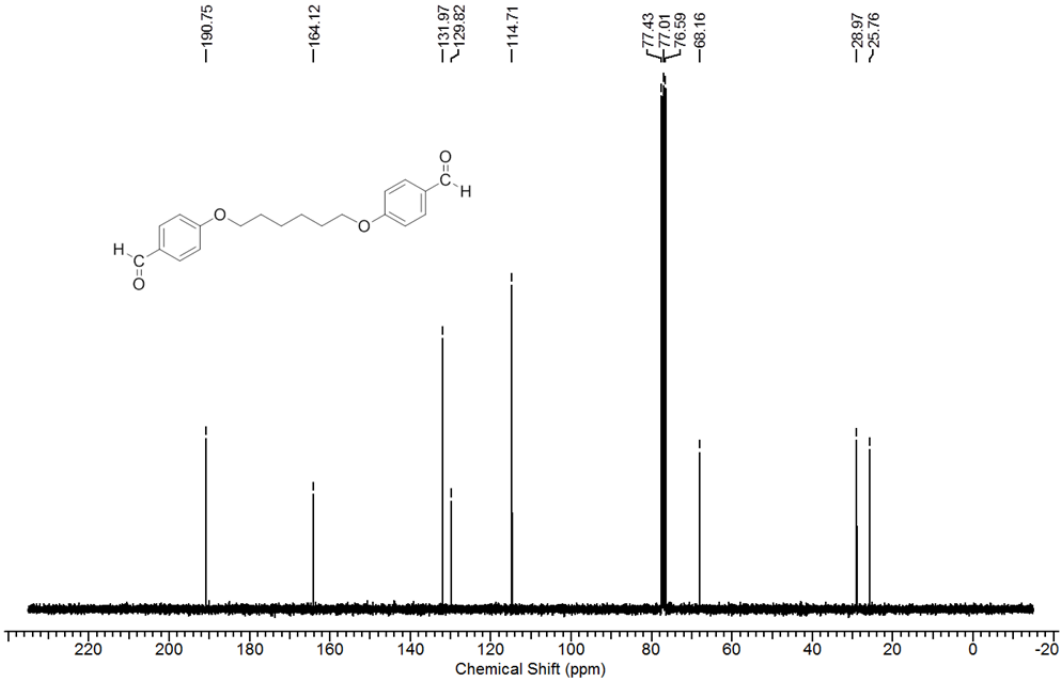

Figure S4. ^{13}C NMR of 4,4'-(hexane-1,6-diylbis(oxy))dibenzaldehyde (3b).

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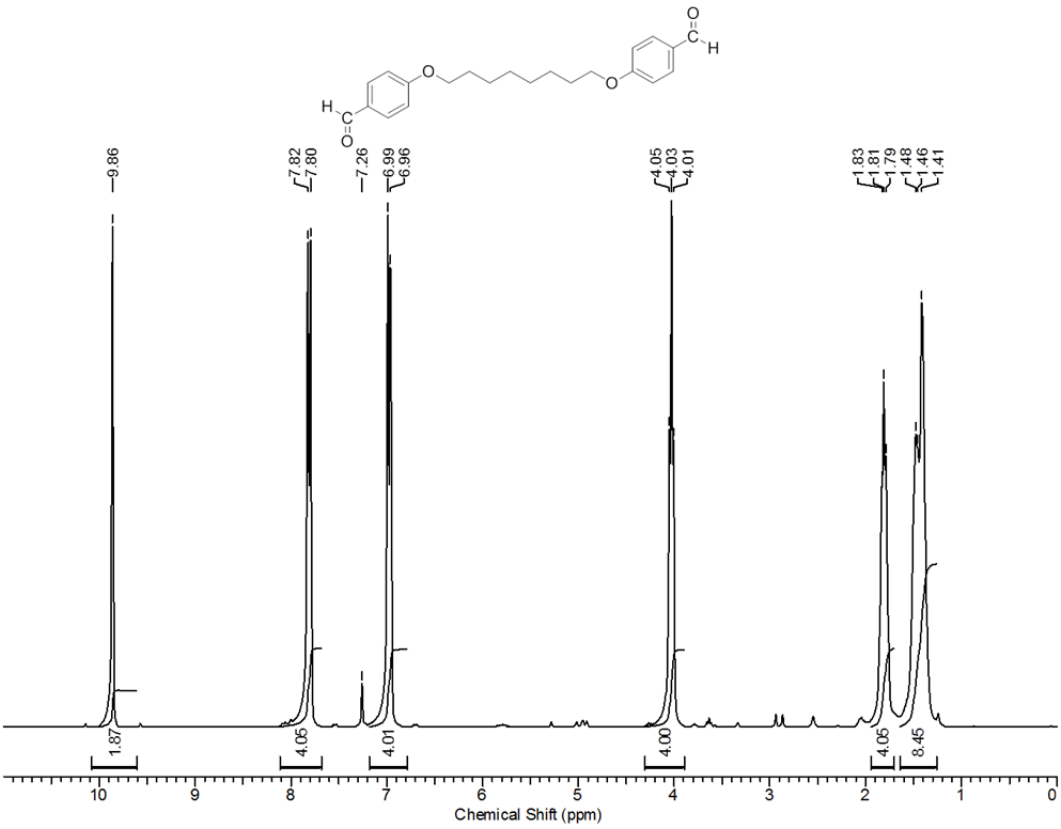

Figure S5. ^{1}H NMR of 4'-(octane-1,8-diylbis(oxy))dibenzaldehyde (3c).

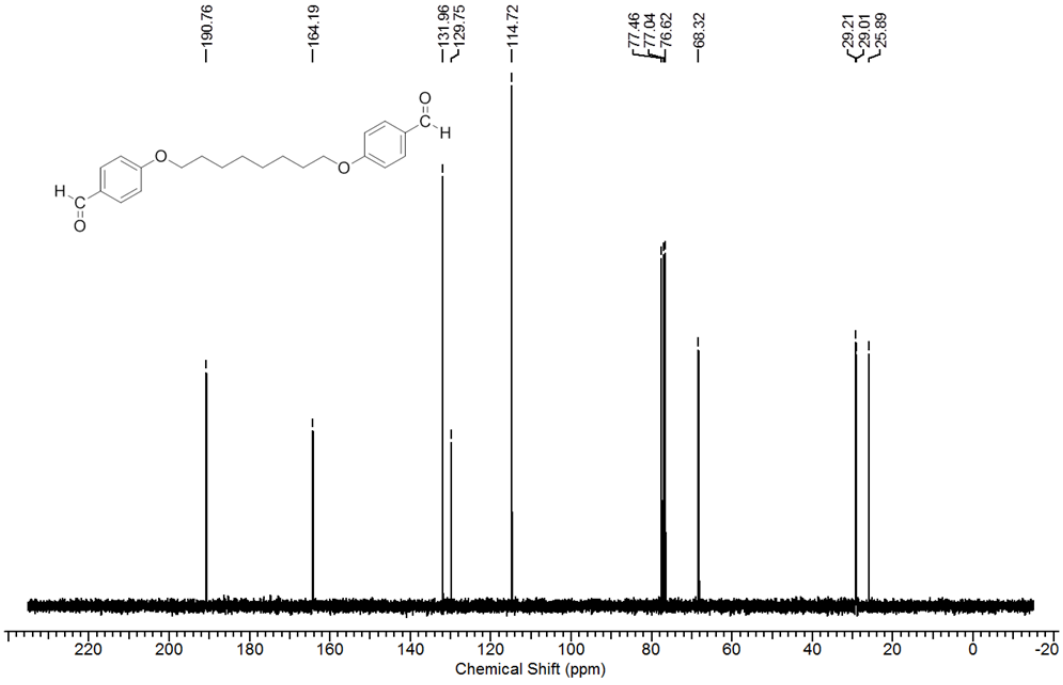

Figure S6. ^{13}C NMR of 4'-(octane-1,8-diylbis(oxy))dibenzaldehyde (3c).

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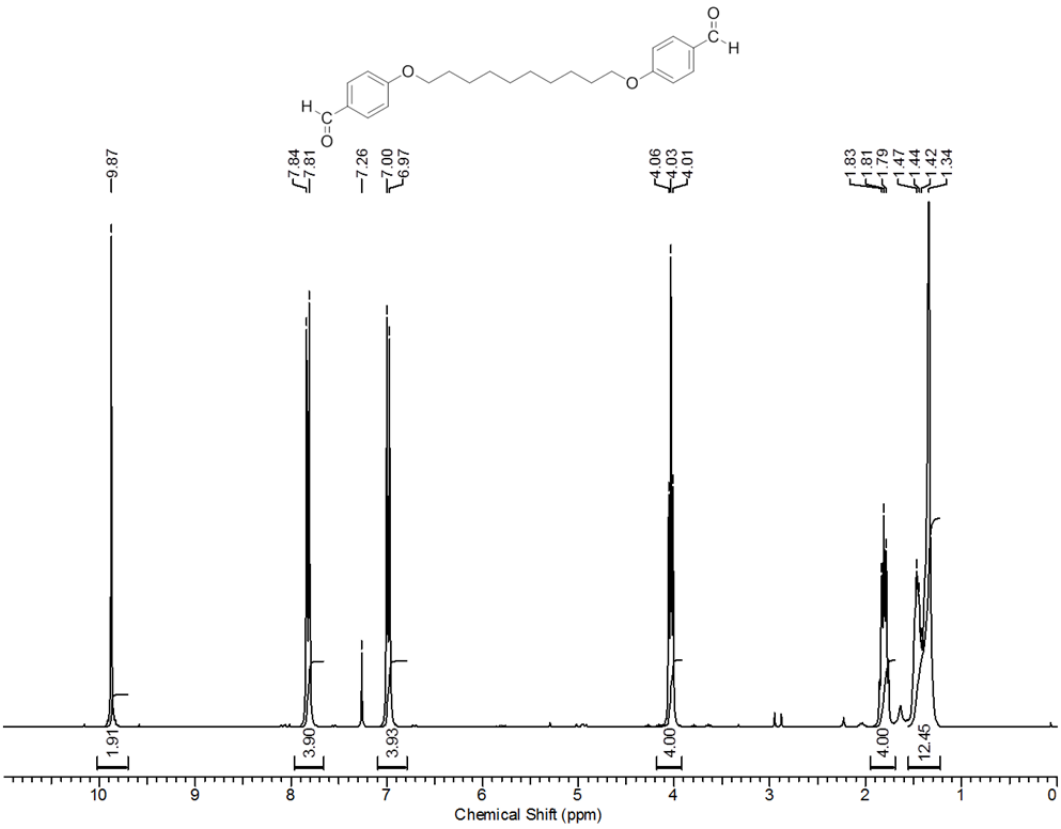

Figure S7. ^{1}H NMR of 4,4'-(decane-1,10-diylbis(oxy))dibenzaldehyde (3d).

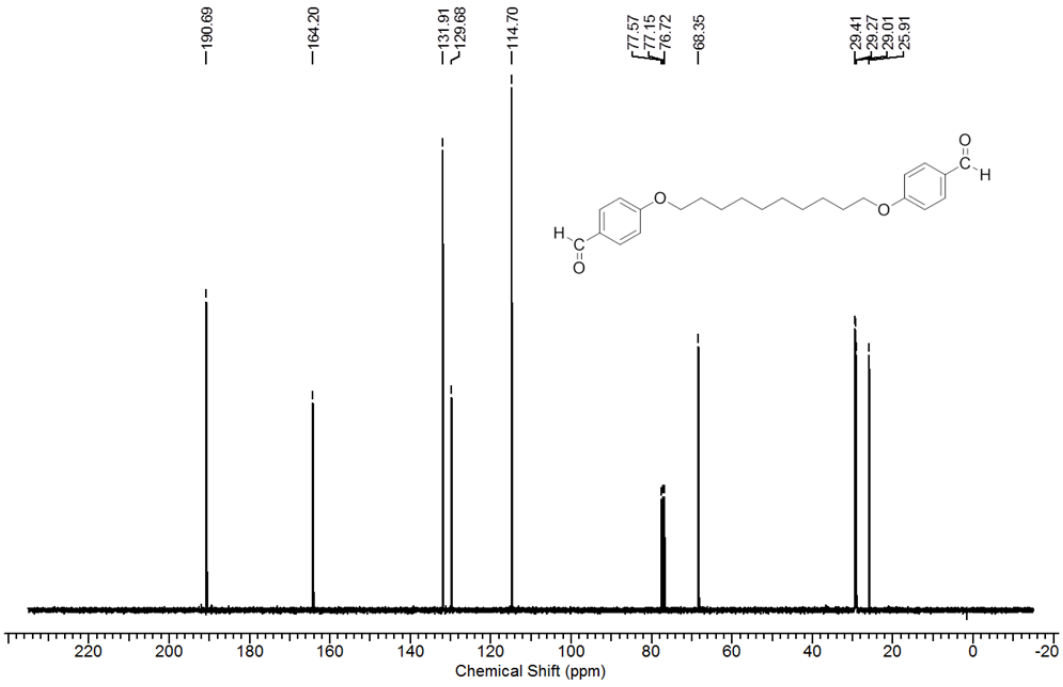

Figure S8. ^{13}C NMR of 4,4'-(decane-1,10-diylbis(oxy))dibenzaldehyde (3d).

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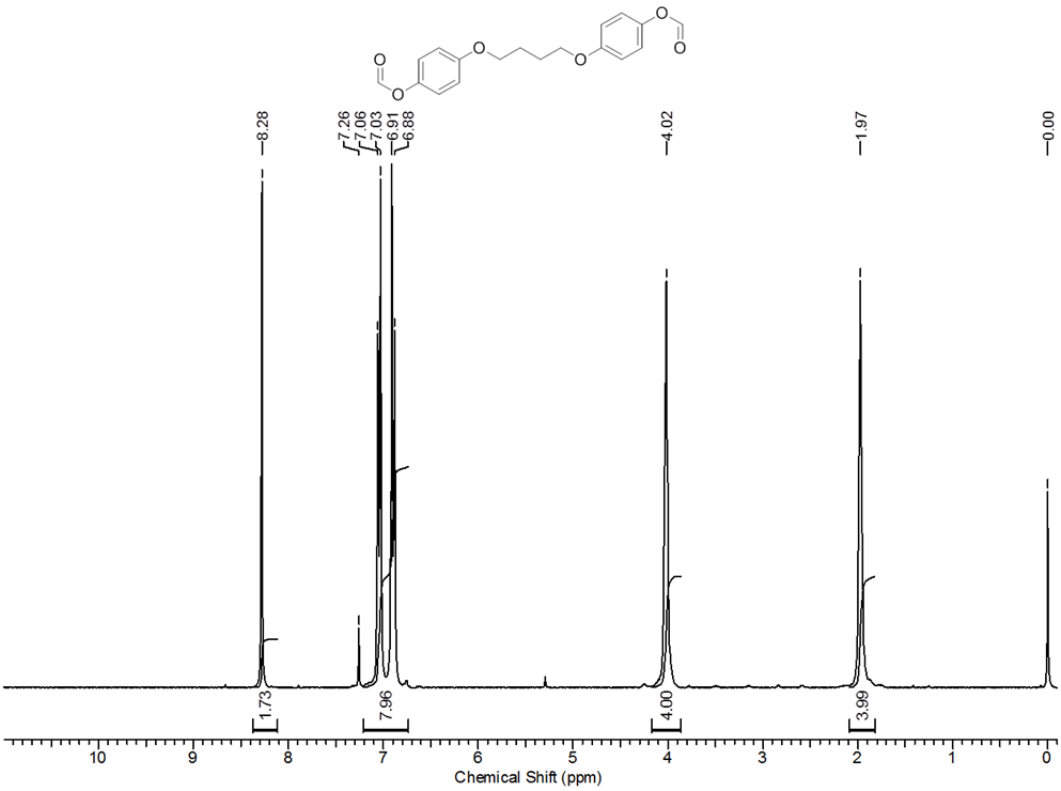

Figure S9. ^{1}H NMR of (Butane-1,4-diylbis(oxy))bis(4,1-phenylene) diformate (4a).

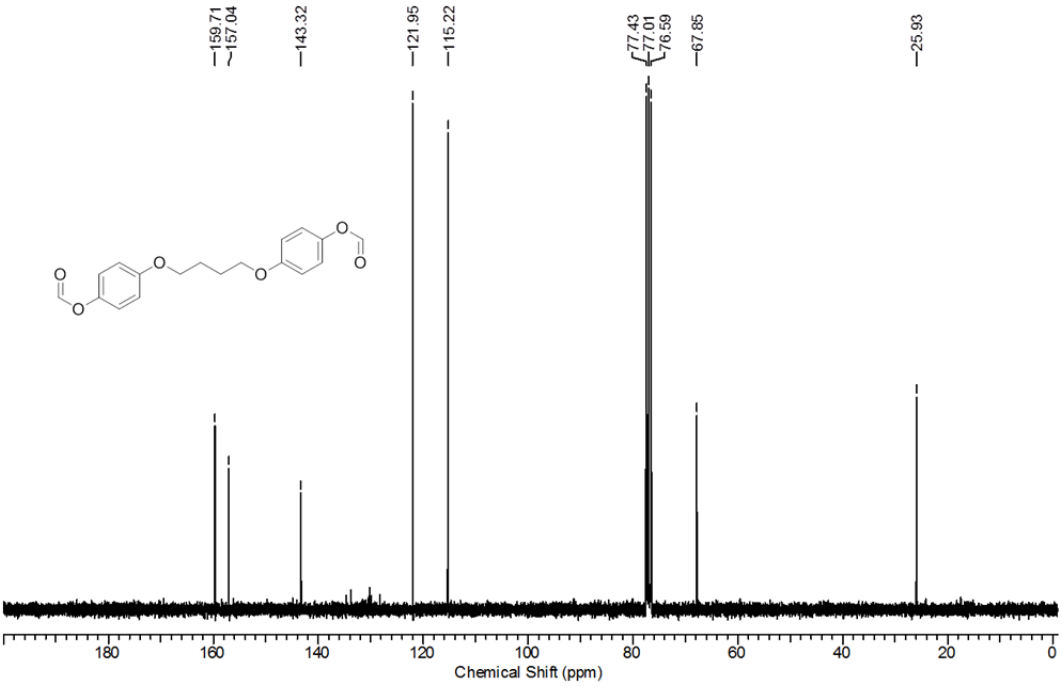

Figure S10. ^{13}C NMR of (Butane-1,4-diylbis(oxy))bis(4,1-phenylene) diformate (4a).

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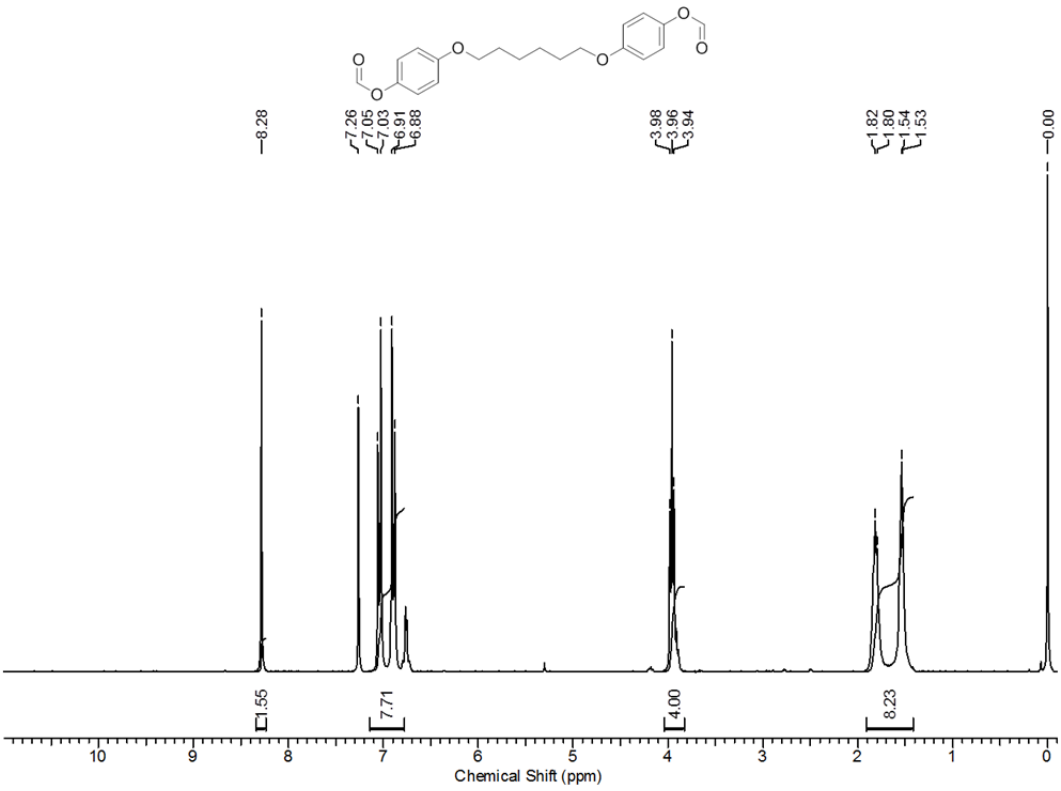

Figure S11. ^{1}H NMR of (Hexane-1,6-diylbis(oxy))bis(4,1-phenylene) diformate (4b).

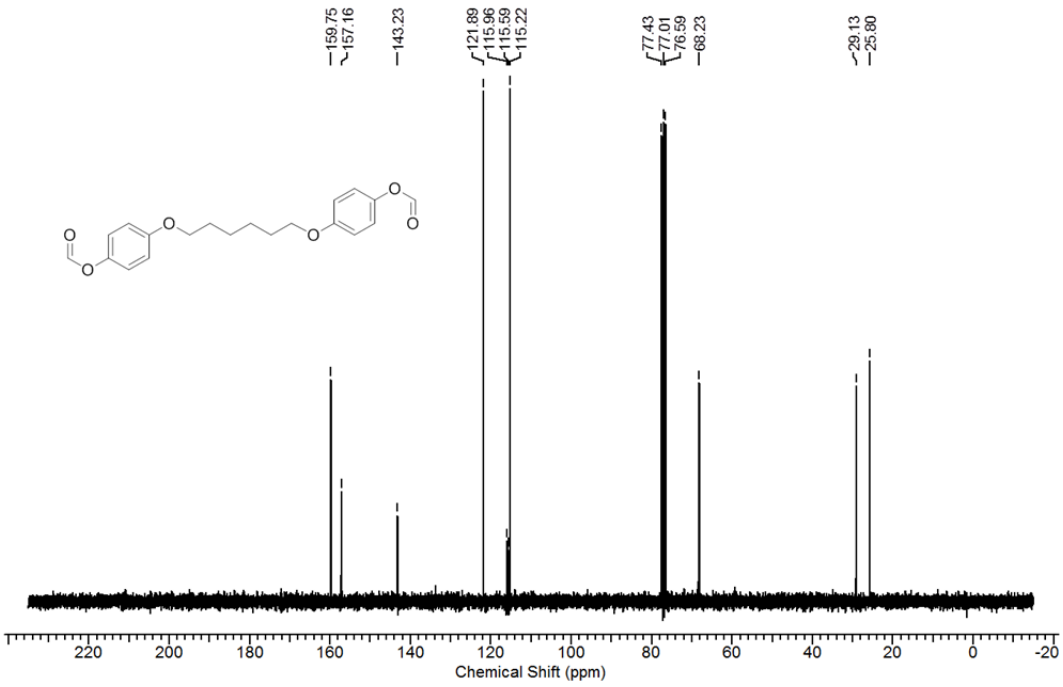

Figure S12. ^{13}C NMR of (Hexane-1,6-diylbis(oxy))bis(4,1-phenylene) diformate (4b).

Supporting Information

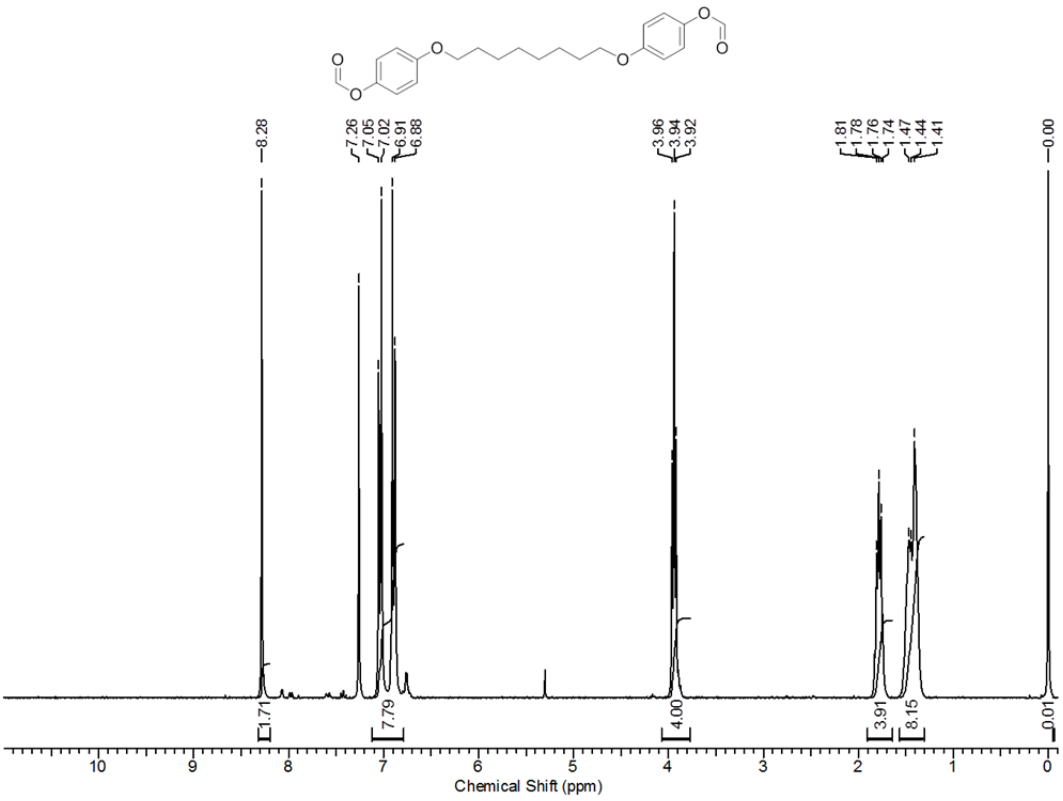

Figure S13. ^{1}H NMR of (Octane-1,8-diylbis(oxy))bis(4,1-phenylene) diformate (4c).

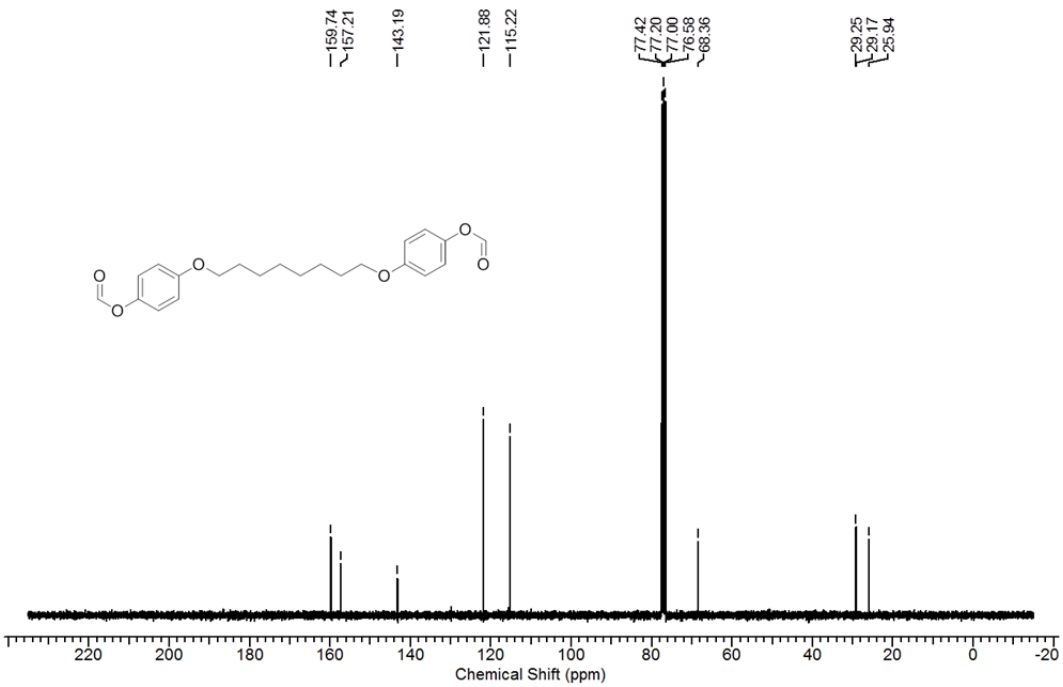

Figure S14. ^{13}C NMR of (Octane-1,8-diylbis(oxy))bis(4,1-phenylene) diformate (4c).

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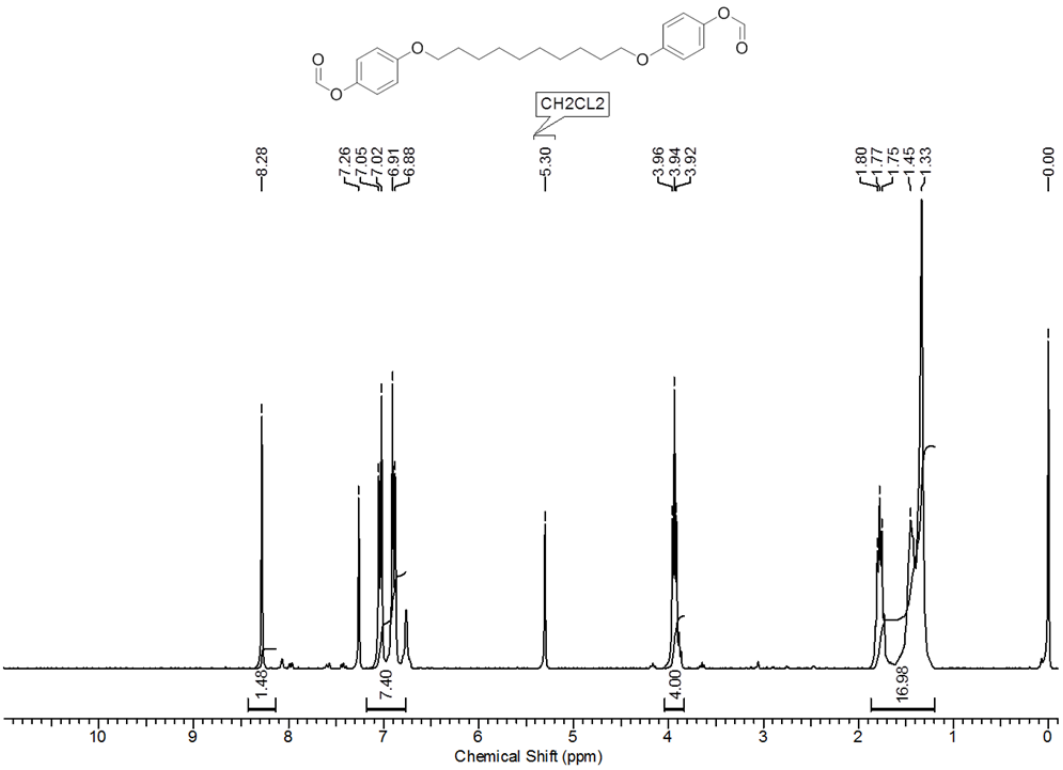

Figure S15. ^{1}H NMR of (Decane-1,10-diylbis(oxy))bis(4,1-phenylene) diformate (4d).

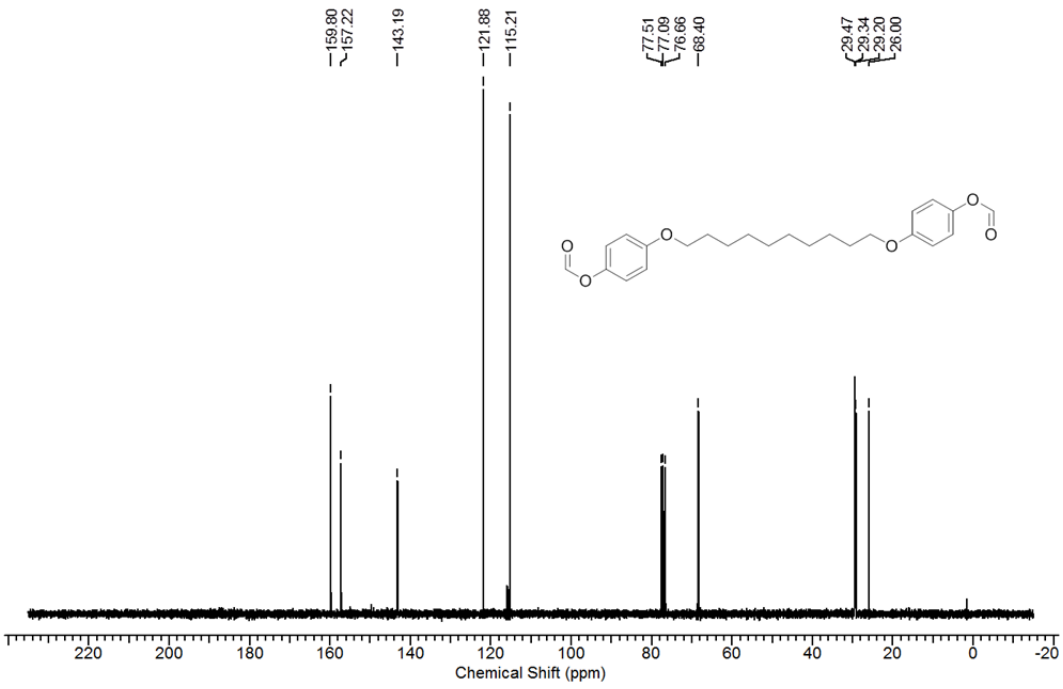

Figure S16. ^{13}C NMR of (Decane-1,10-diylbis(oxy))bis(4,1-phenylene) diformate (4d).

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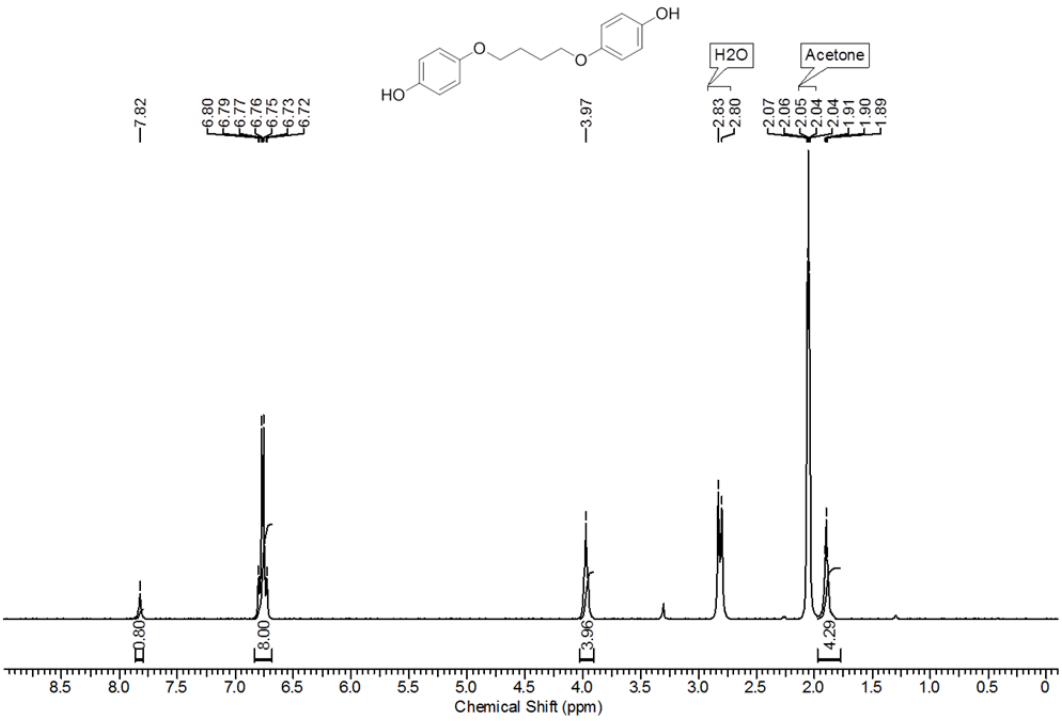

Figure S17. ^{1}H NMR of 4,4'-(butane-1,4-diylbis(oxy))diphenol (5a).

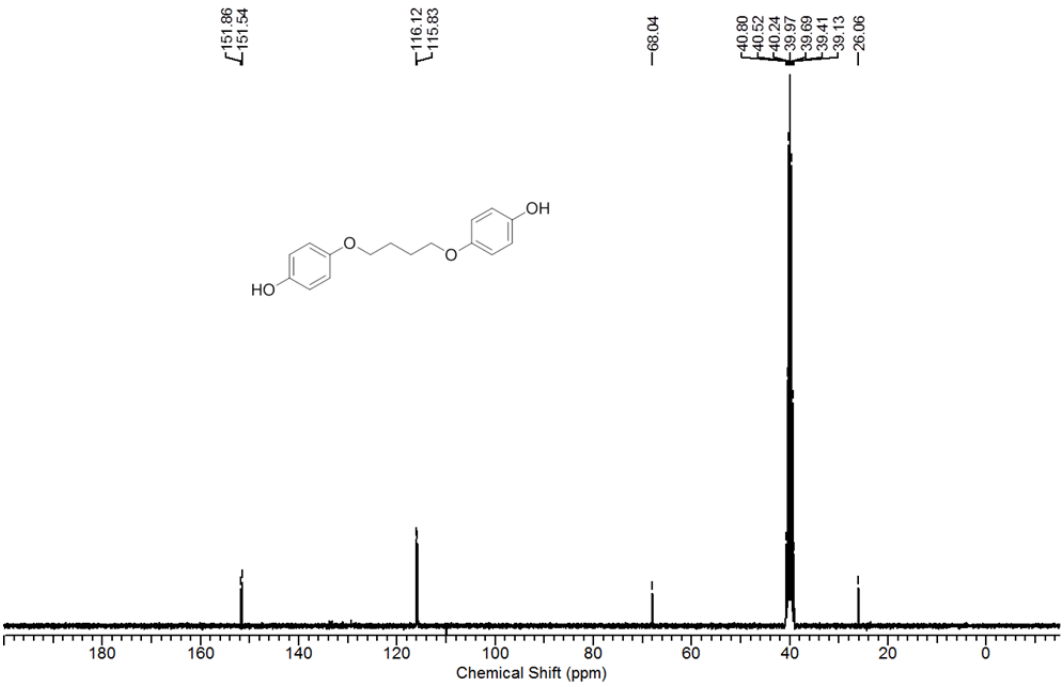

Figure S18. ^{13}C NMR of 4,4'-(butane-1,4-diylbis(oxy))diphenol (5a).

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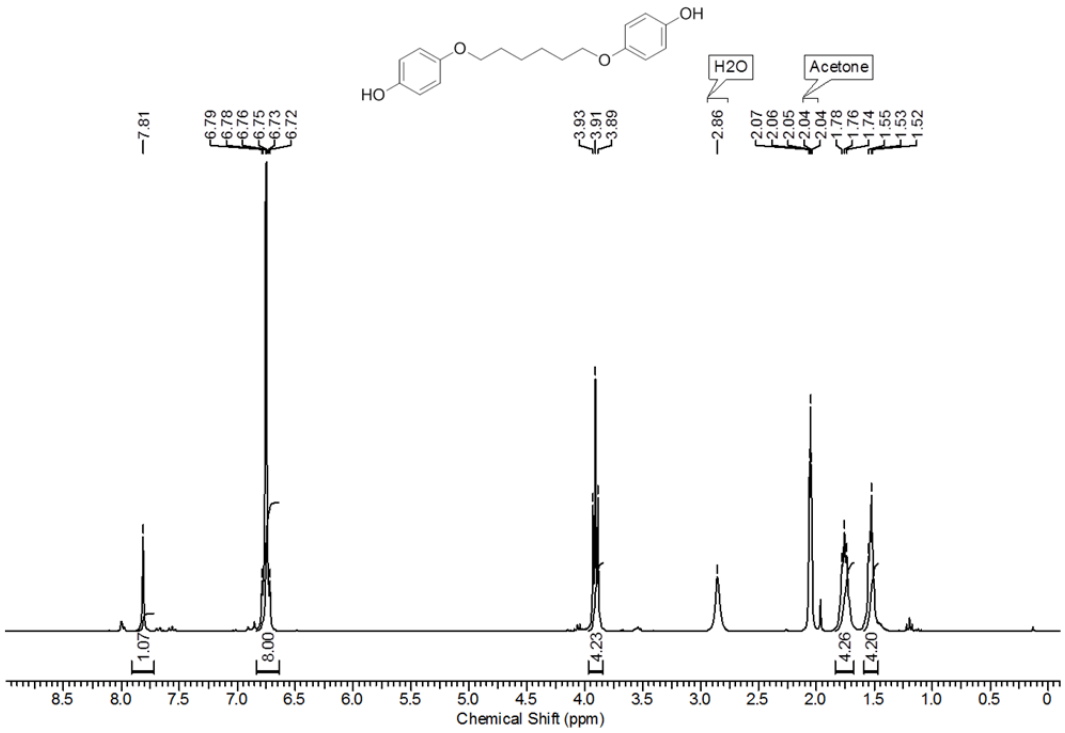

Figure S19. ^{1}H NMR of 4,4'-(hexane-1,6-diylbis(oxy))diphenol (5b).

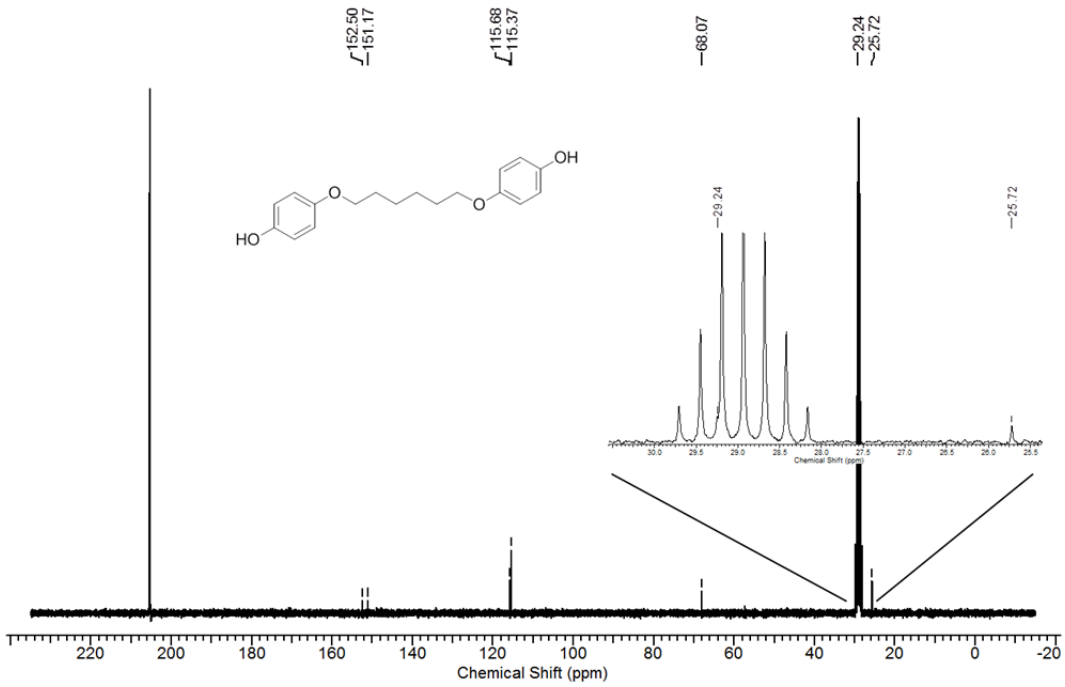

Figure S20. ^{13}C NMR of 4,4'-(hexane-1,6-diylbis(oxy))diphenol (5b).

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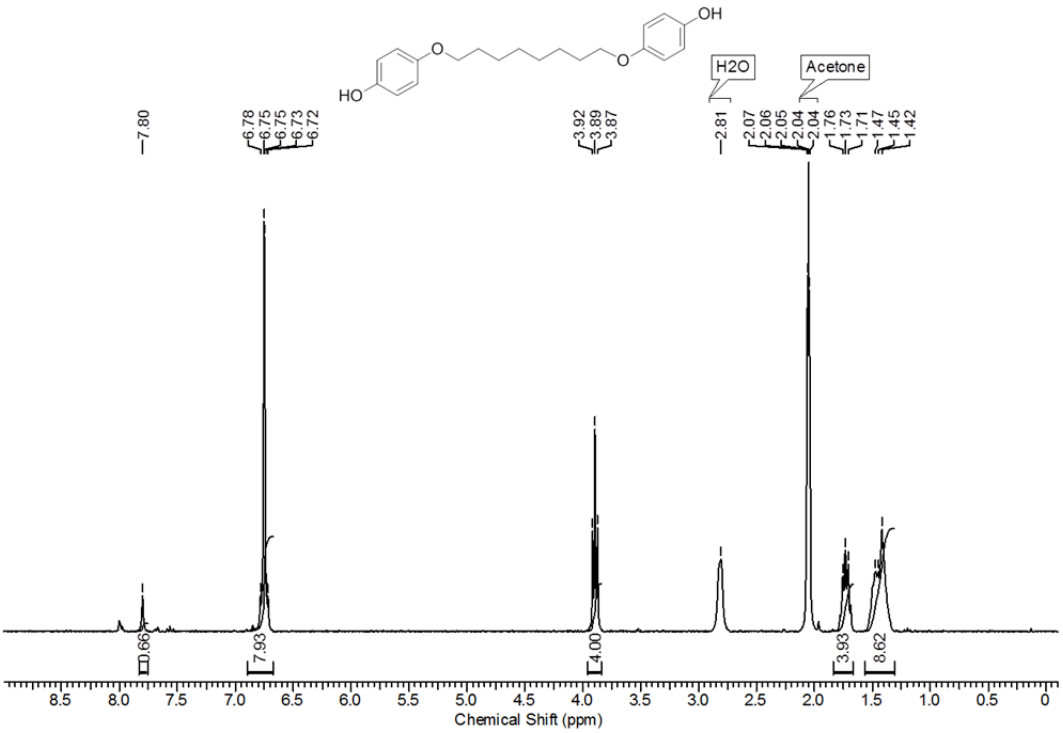

Figure S21. ^{1}H NMR of 4,4'-(octane-1,8-diylbis(oxy))diphenol (5c).

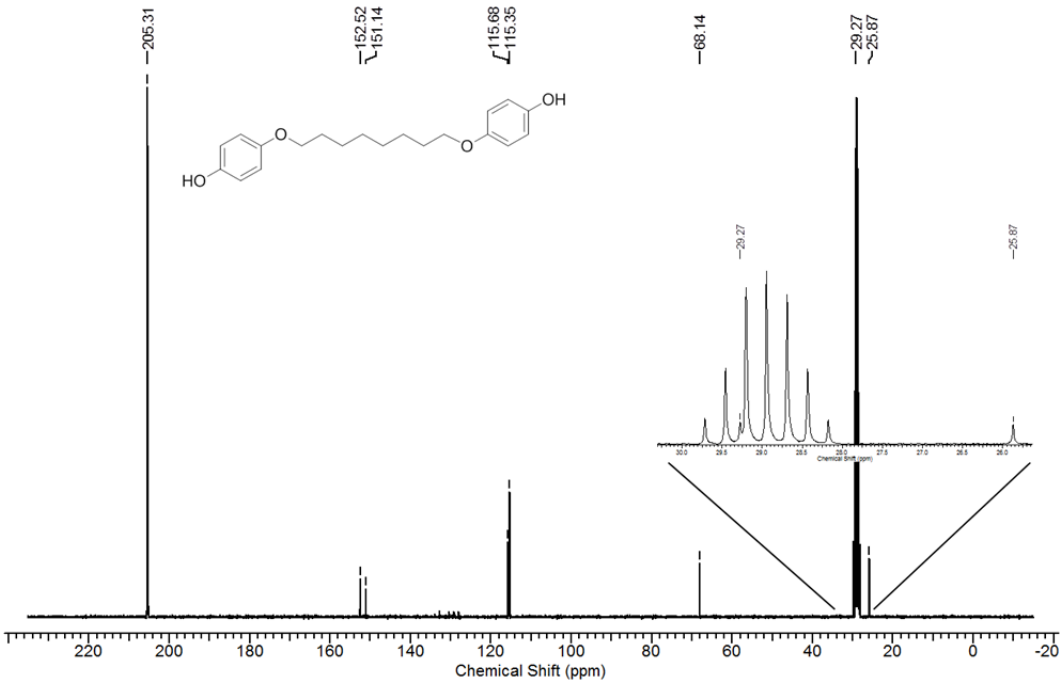

Figure S22. ^{13}C NMR of 4,4'-(octane-1,8-diylbis(oxy))diphenol (5c).

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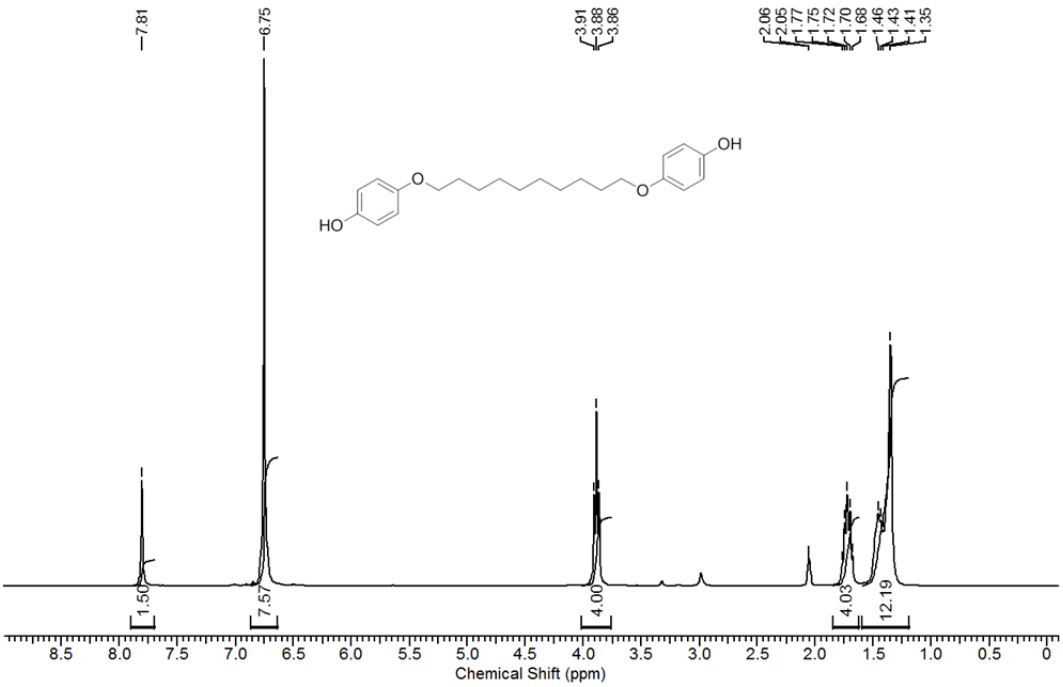

Figure S23. ^{1}H NMR of 4,4'-(decane-1,10-diylbis(oxy))diphenol (5d).

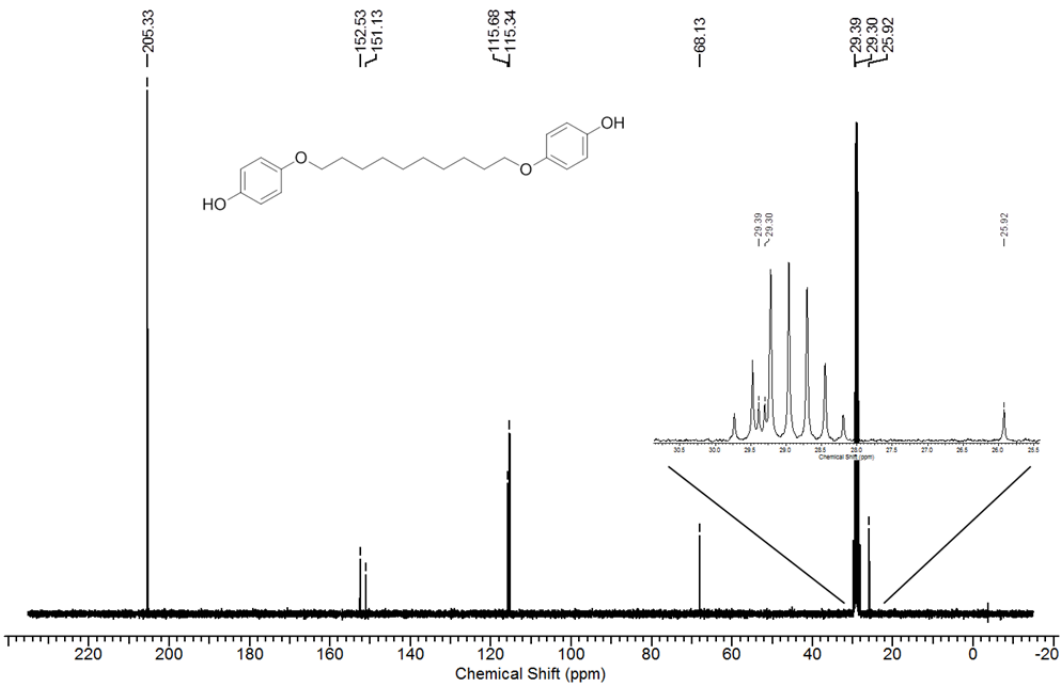

Figure S24. ^{13}C NMR of 4,4'-(decane-1,10-diylbis(oxy))diphenol (5d).

Supporting Information

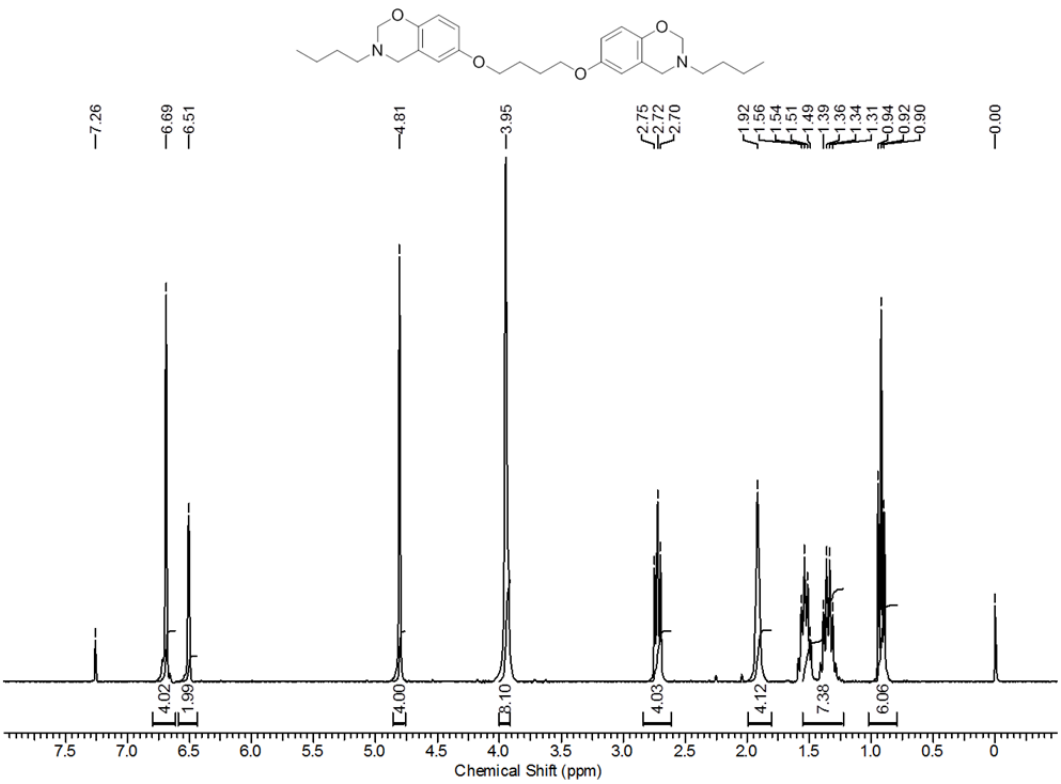

Figure S25. [1]H NMR of 1,4-bis((3-butyl-3,4-dihydro-2H-benzo[e][1,3]oxazin-6-yl)oxy)butane (6a).

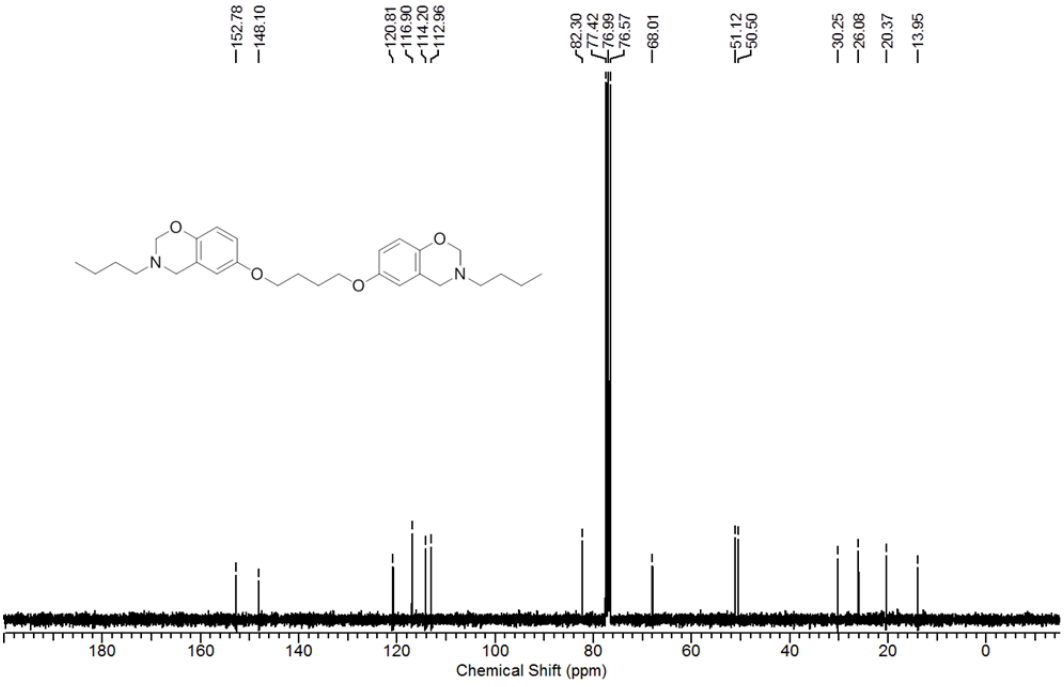

Figure S26. [13]C NMR of 1,4-bis((3-butyl-3,4-dihydro-2H-benzo[e][1,3]oxazin-6-yl)oxy)butane (6a).

Supporting Information

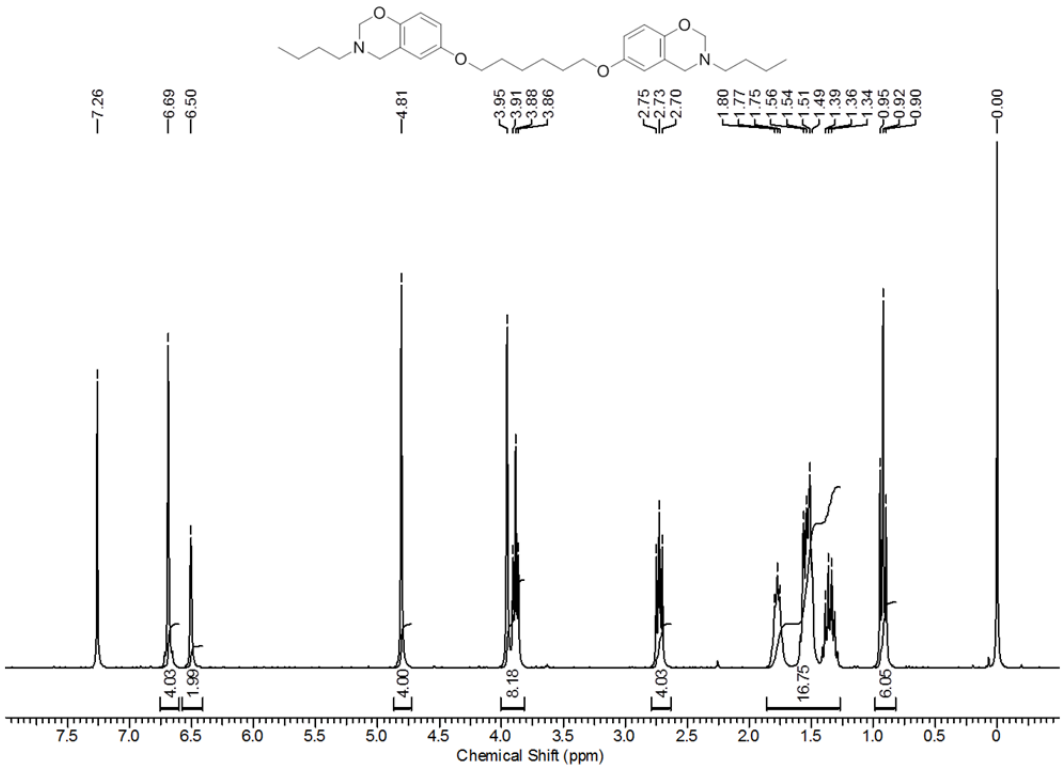

Figure S27. ^{1}H NMR of 1,6-bis((3-butyl-3,4-dihydro-2H-benzo[e][1,3]oxazin-6-yl)oxy)hexane (6b).

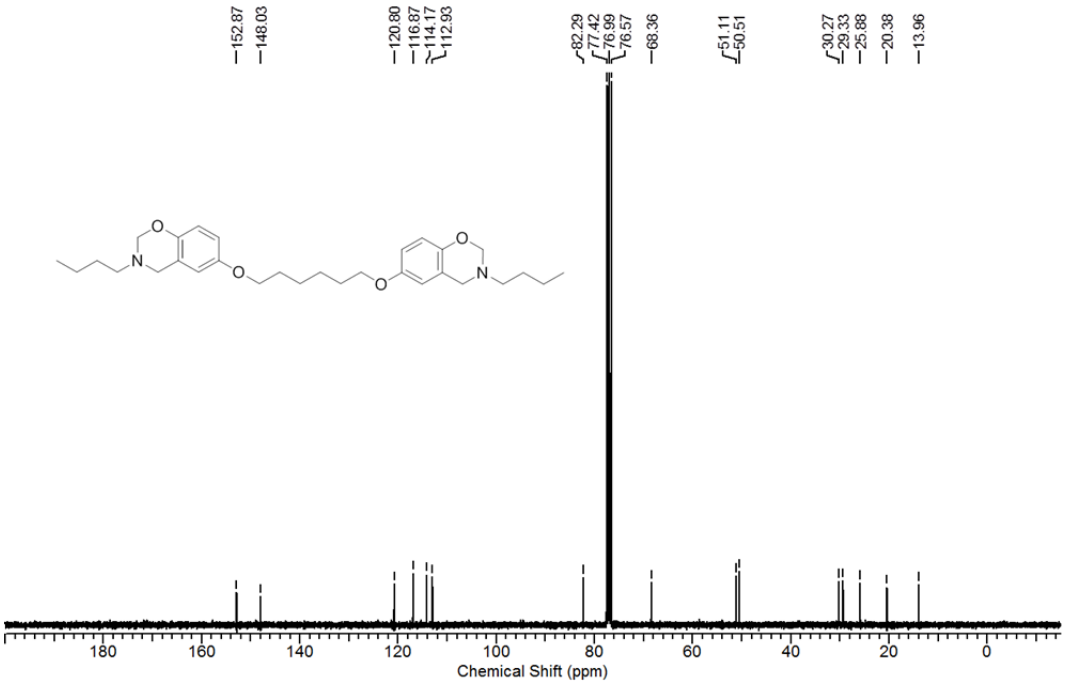

Figure S28. ^{13}C NMR of 1,6-bis((3-butyl-3,4-dihydro-2H-benzo[e][1,3]oxazin-6-yl)oxy)hexane (6b).

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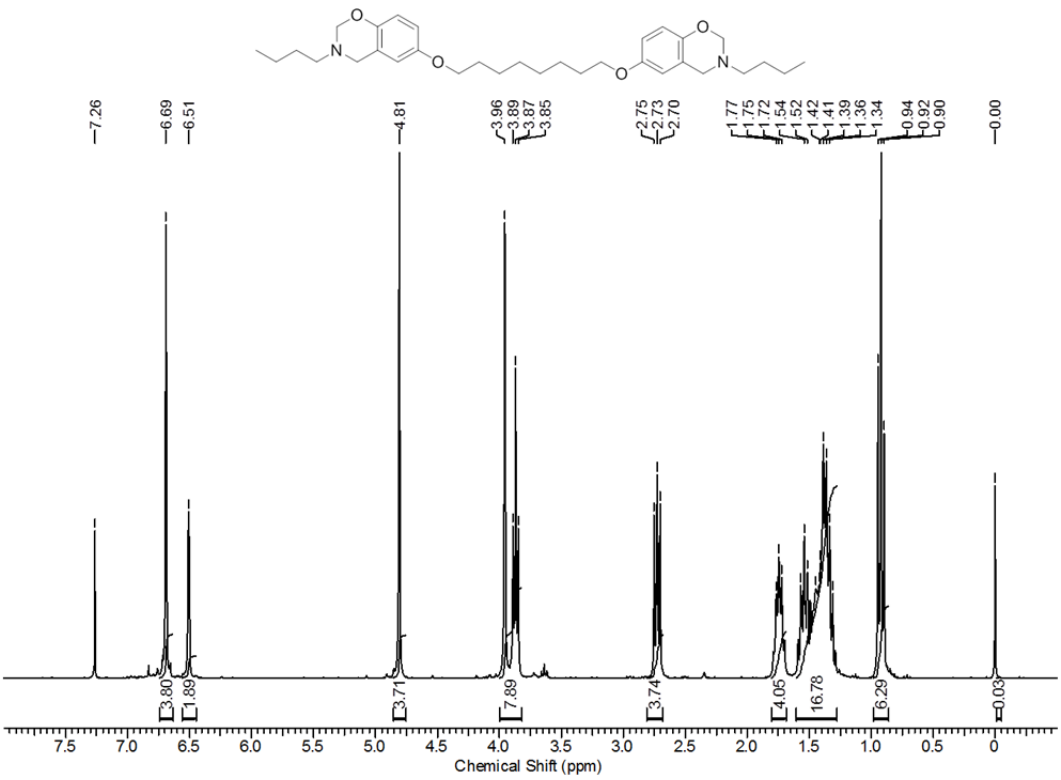

Figure S29. ^{1}H NMR of 1,8-bis((3-butyl-3,4-dihydro-2H-benzo[e][1,3]oxazin-6-yl)oxy)octane (6c).

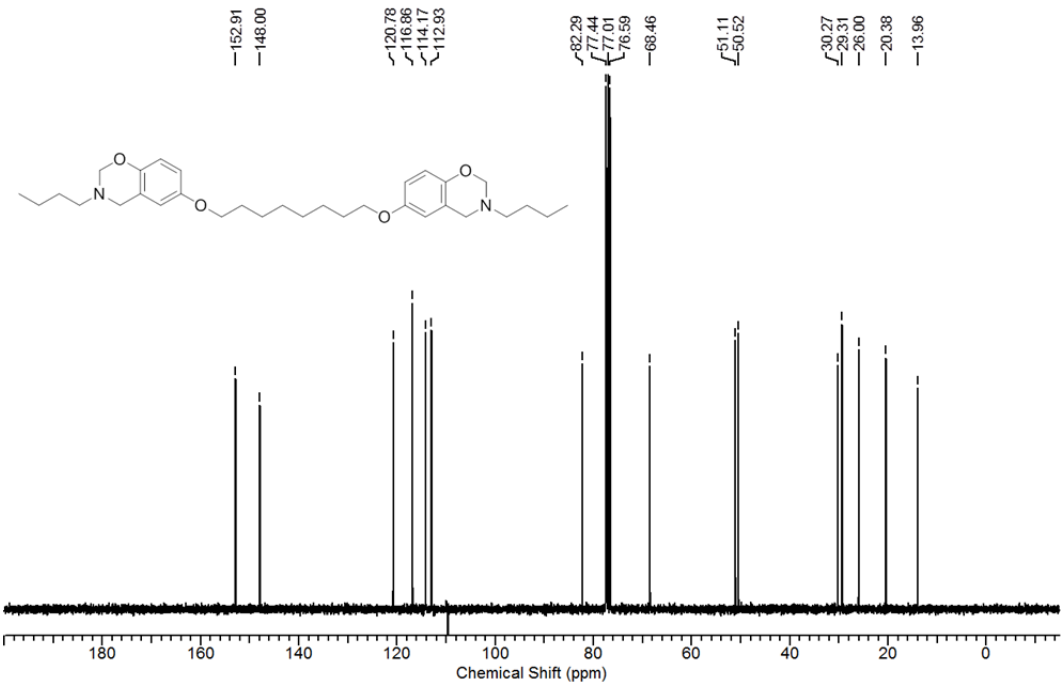

Figure S30. ^{13}C NMR of 1,8-bis((3-butyl-3,4-dihydro-2H-benzo[e][1,3]oxazin-6-yl)oxy)octane (6c).

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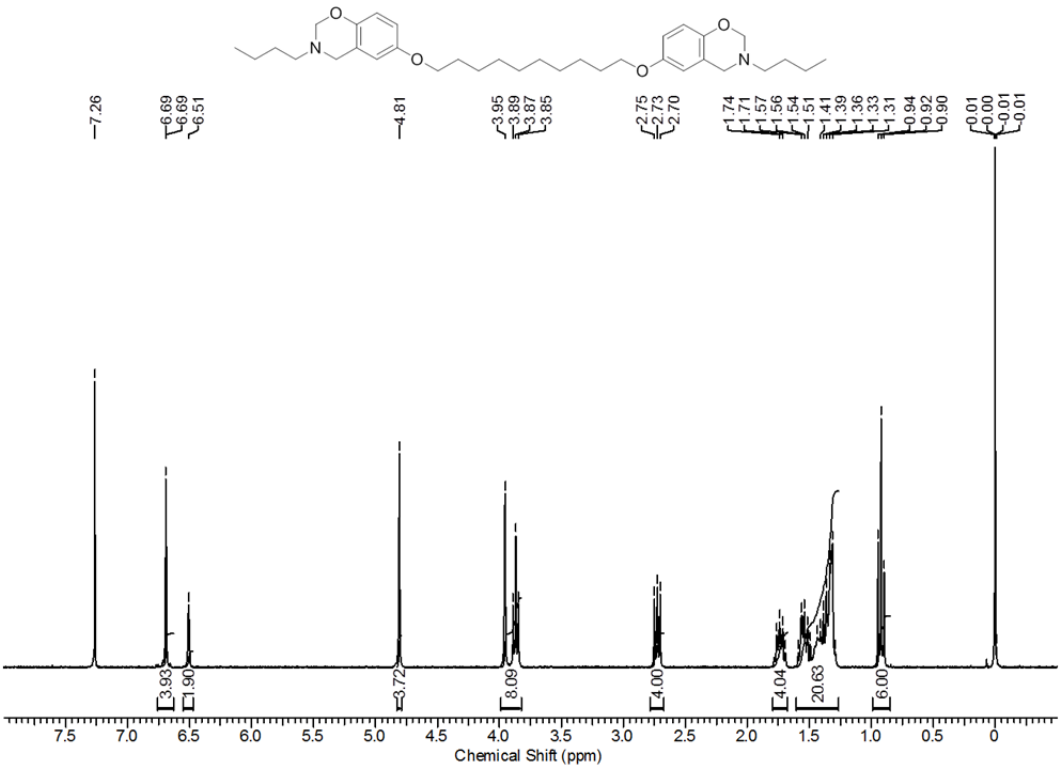

Figure S31. [1]H NMR of 1,10-bis((3-butyl-3,4-dihydro-2H-benzo[e][1,3]oxazin-6-yl)oxy)decane (6d).

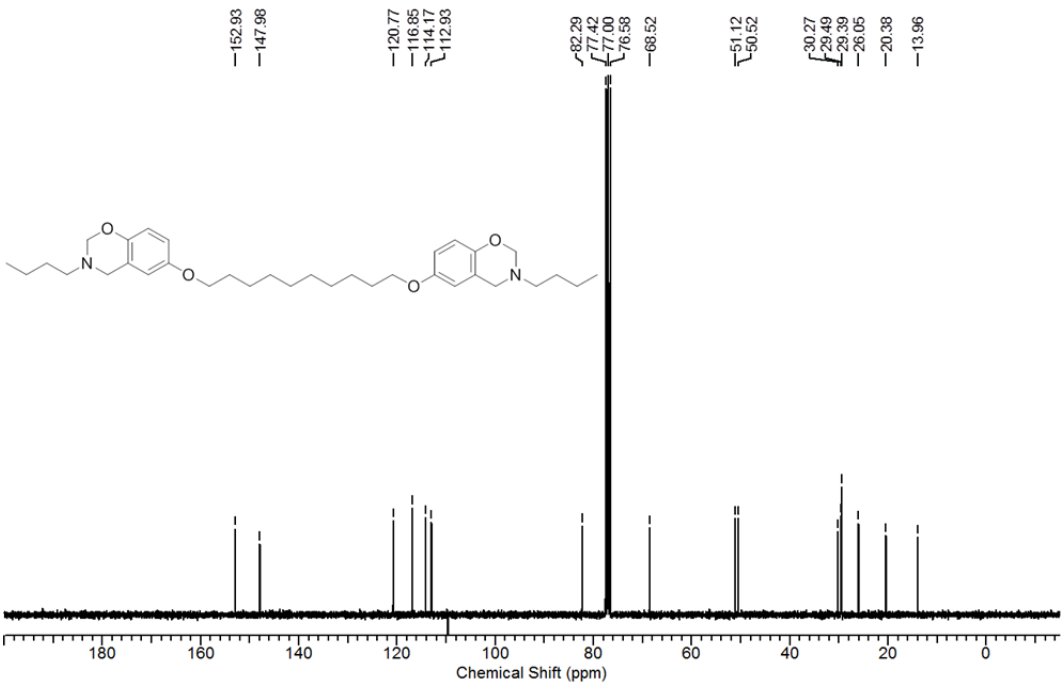

Figure S32. [13]C NMR of 1,10-bis((3-butyl-3,4-dihydro-2H-benzo[e][1,3]oxazin-6-yl)oxy)decane (6d).