

Supporting Information

Effect of Side Chains on Color Purities of Mono-triphenylamine-functionalized polyspirobifluorenes for pure blue polymer light-emitting diodes

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Content

Page S2–S11: ¹H and ¹³C NMR spectra of monomers and polymers.

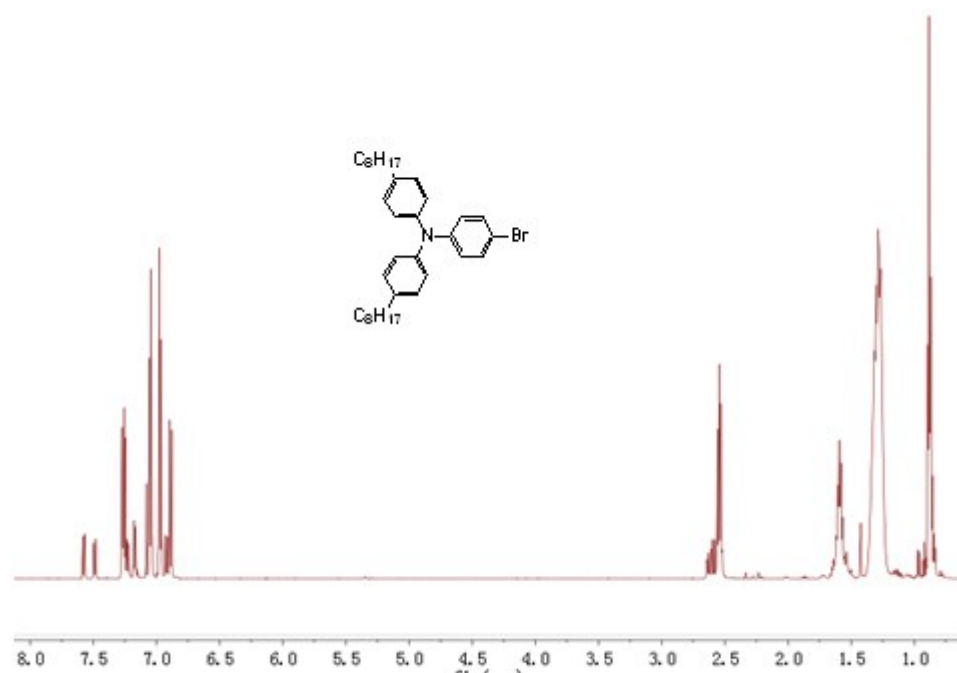


Fig S1. ¹H NMR of *4-bromo-N,N-bis(4-octylphenyl)aniline (C1)*

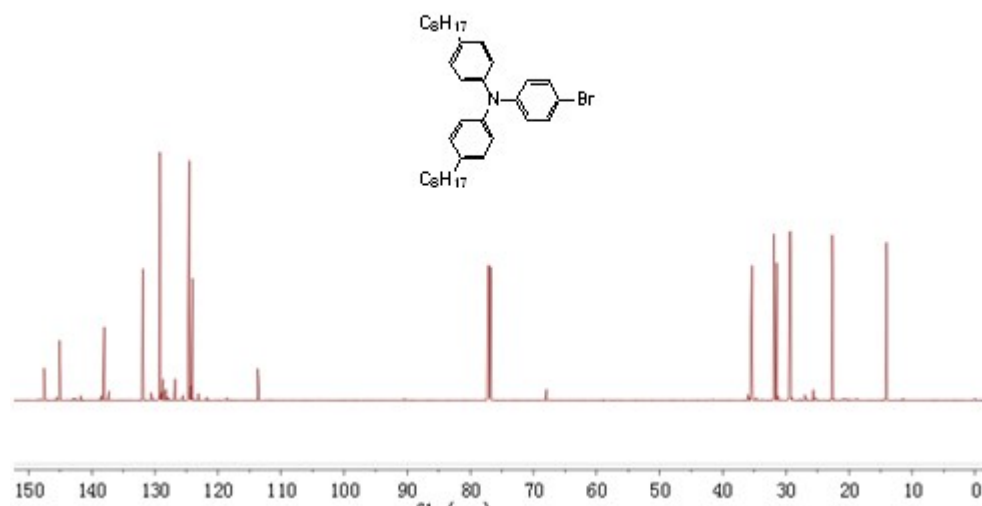


Fig S2. ¹³C NMR of *4-bromo-N,N-bis(4-octylphenyl)aniline (C1)*

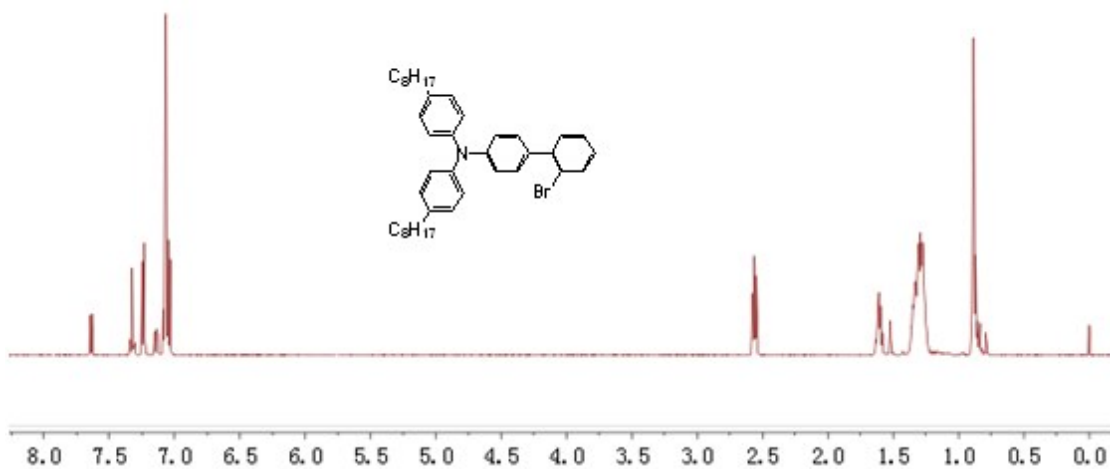


Fig S3. ¹H NMR of (2-Bromo-biphenyl-4-yl)-di(4-octylphenyl)-amine (C3)

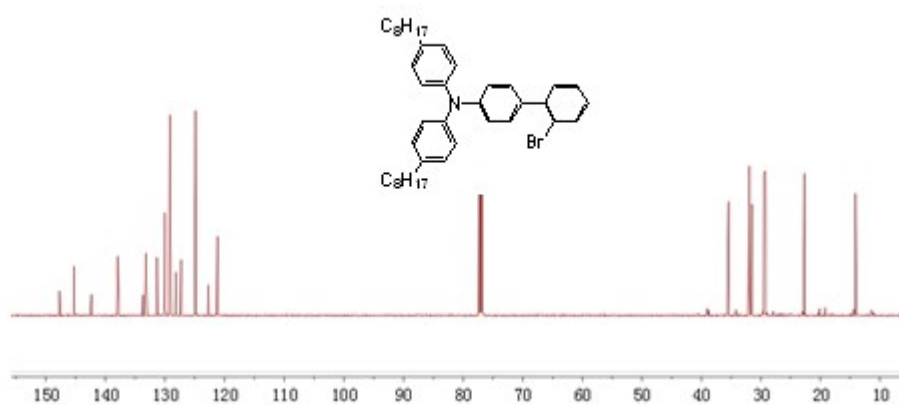


Fig S4. ¹³C NMR of (2-Bromo-biphenyl-4-yl)-di(4-octylphenyl)-amine (C3)

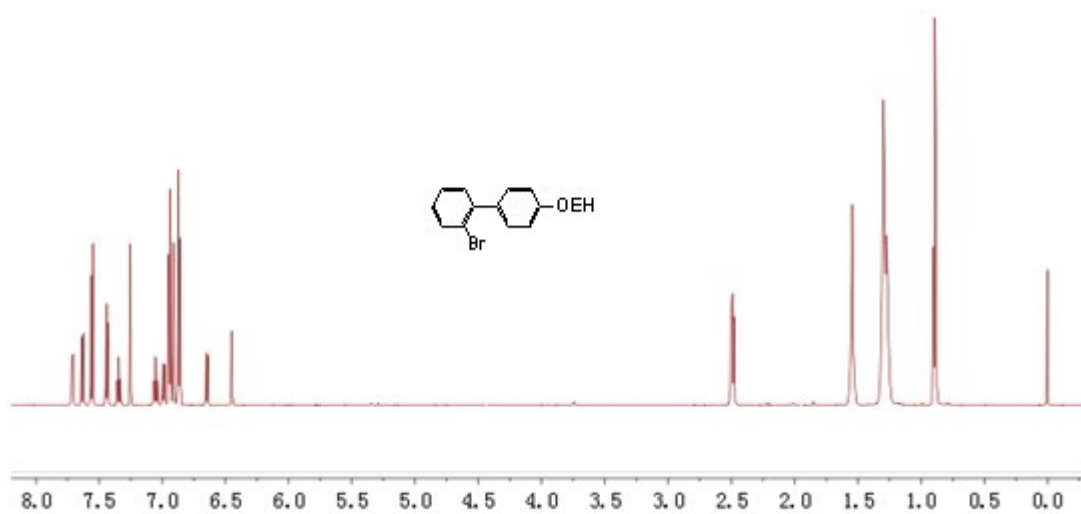


Fig S5. ¹H NMR of *2-bromo-4'-(2-ethylhexyl)oxy)-1,1'-biphenyl (C5)*

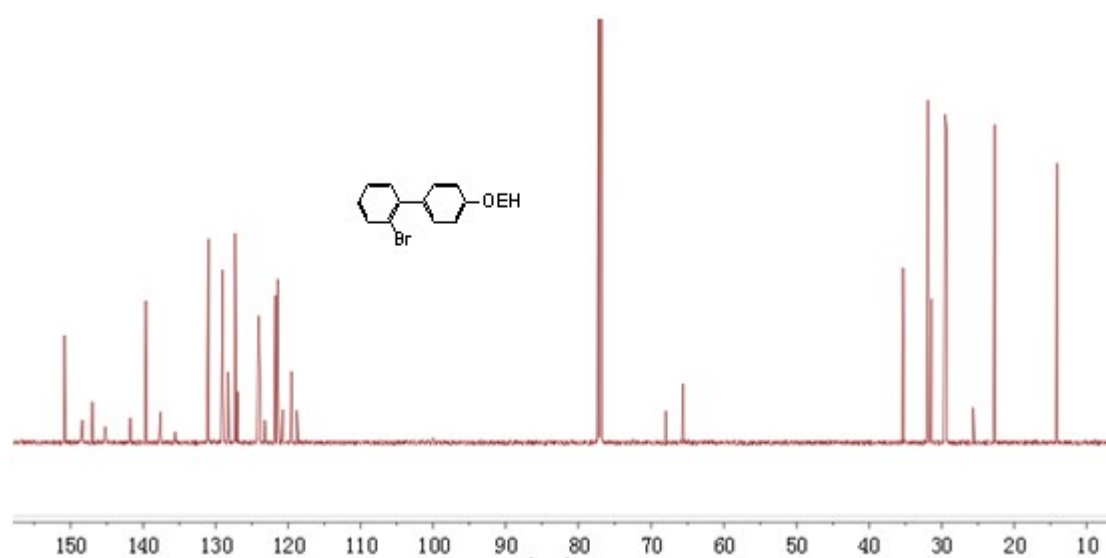


Fig S6. ¹³C NMR of *2-bromo-4'-(2-ethylhexyl)oxy)-1,1'-biphenyl (C5)*

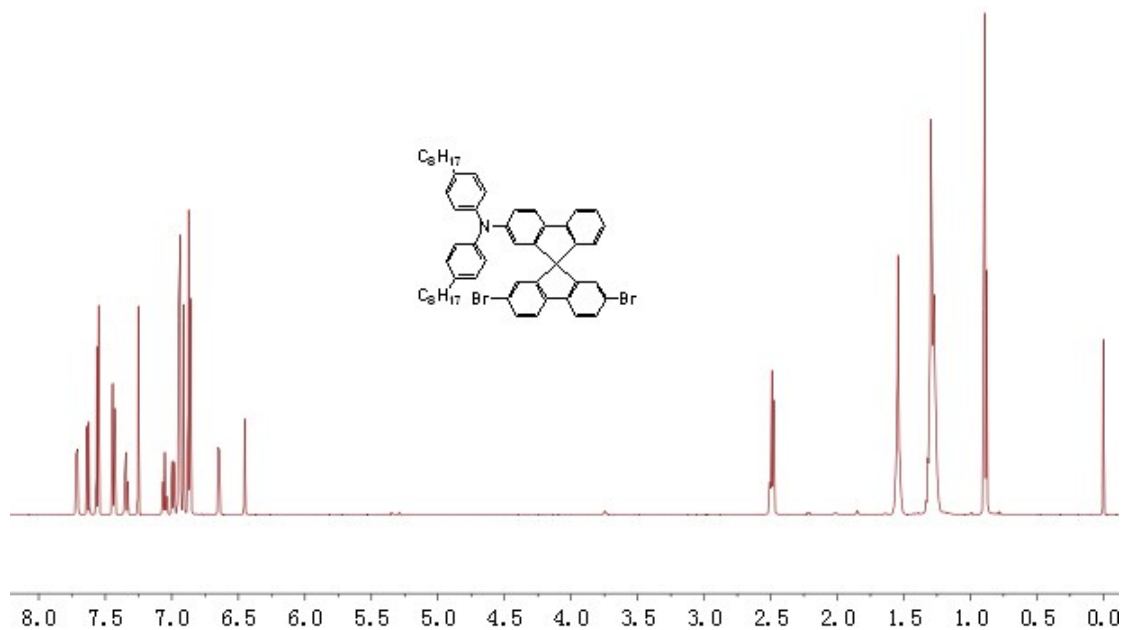


Fig S7. ¹H NMR of 2',7'-dibromo-N,N-bis(4-octylphenyl)-9,9'-
spirobifluoren-2-amine (M1)

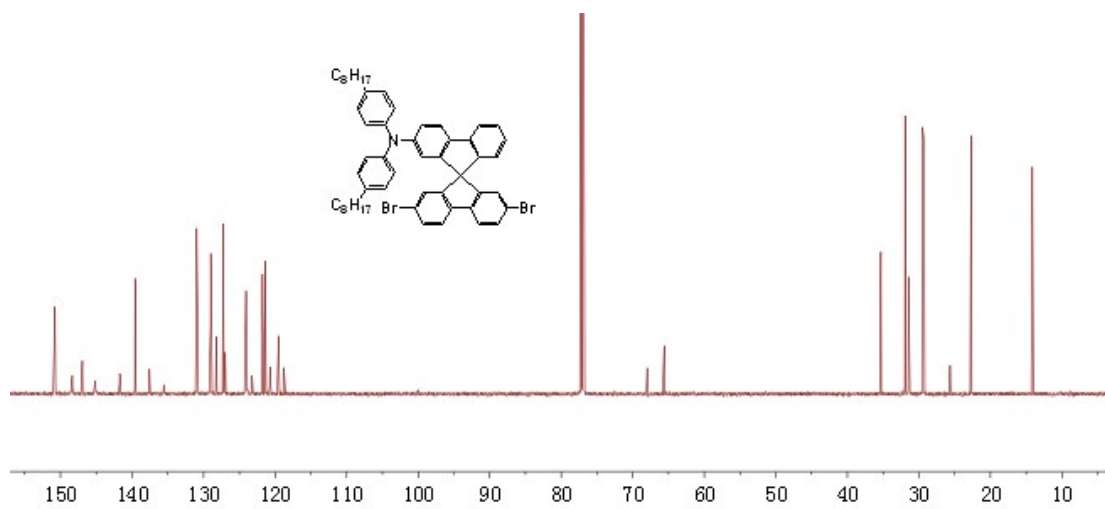


Fig S8. ¹³C NMR of 2',7'-dibromo-N,N-bis(4-octylphenyl)-9,9'-
spirobifluoren-2-amine (M1)

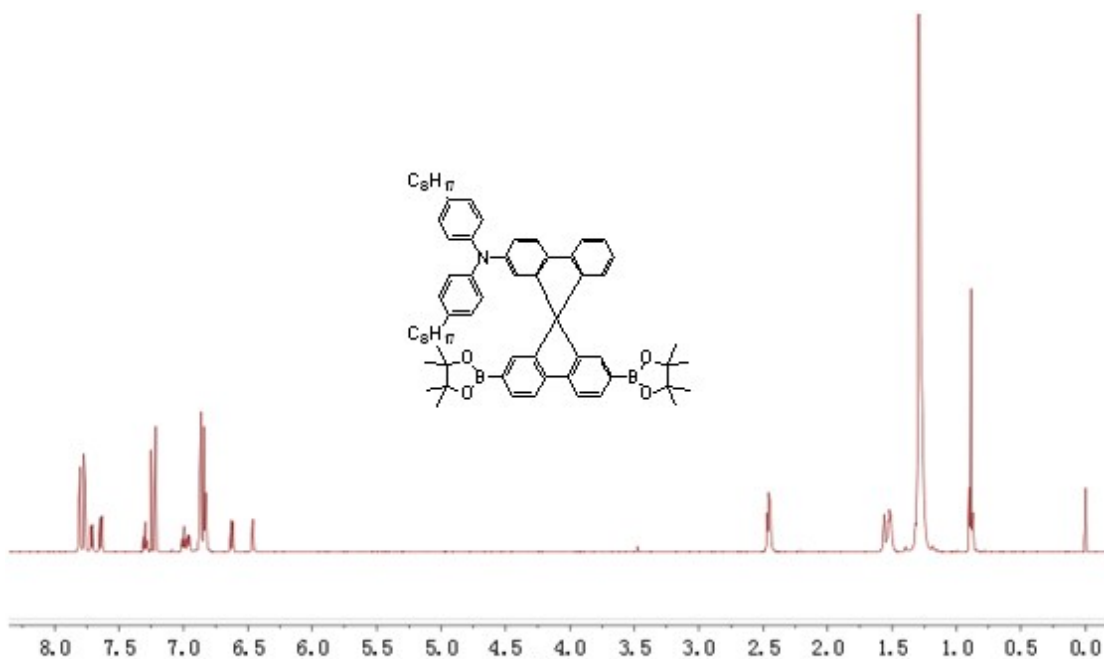


Fig S9. ^1H NMR of *N,N*-bis(4-octylphenyl)-2',7'-bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-9,9'-spirobifluorene-2-amine (M2)

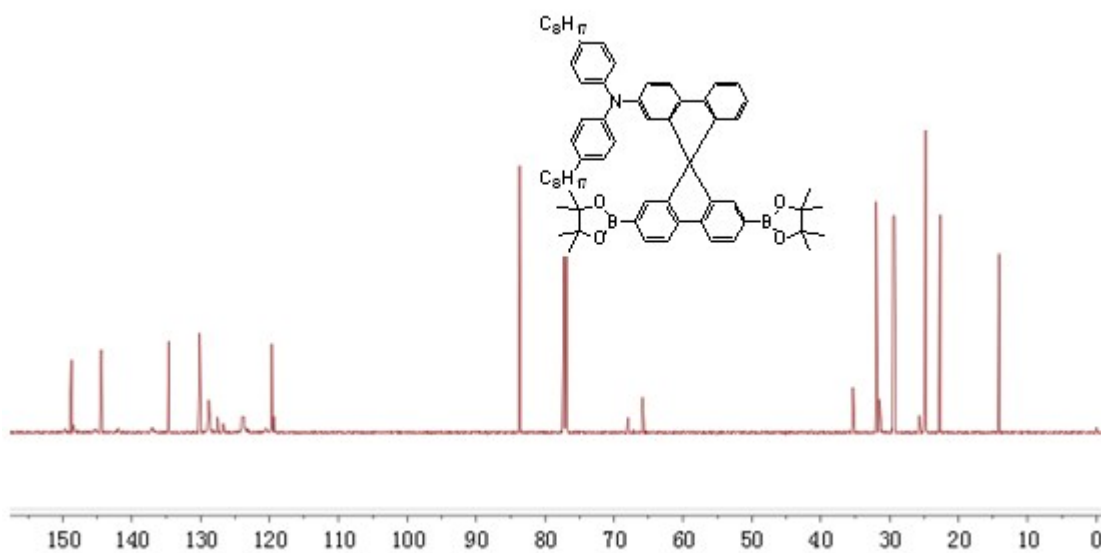


Fig S10. ^{13}C NMR of *N,N*-bis(4-octylphenyl)-2',7'-bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-9,9'-spirobifluorene-2-amine (M2)

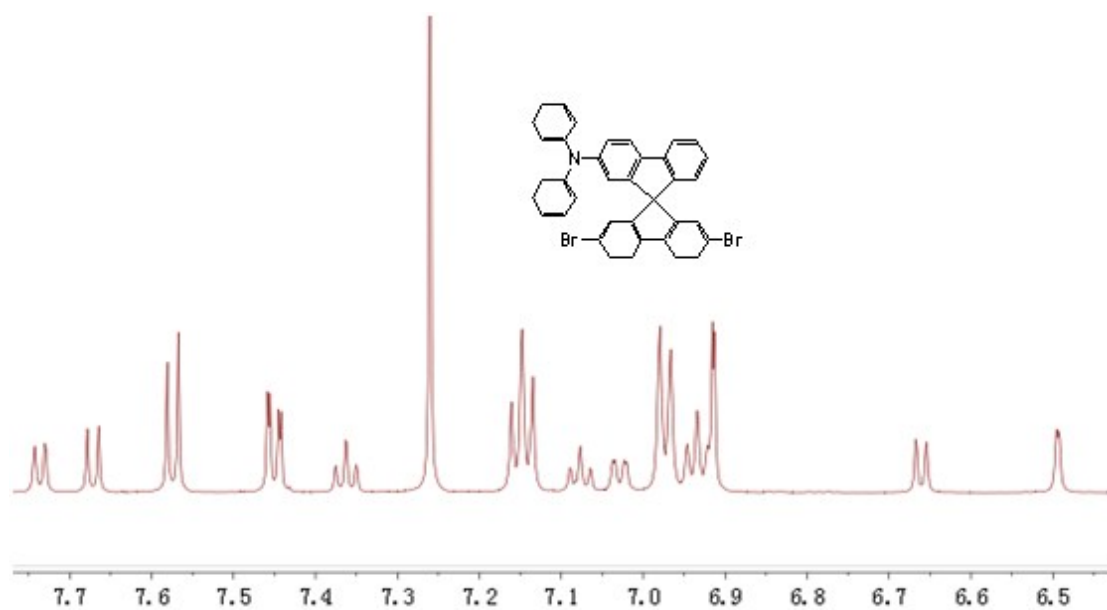


Fig S11. ¹H NMR of 2,7-dibromo-N,N-diphenyl-9,9'-spirobifluoren-2-amine (M3)

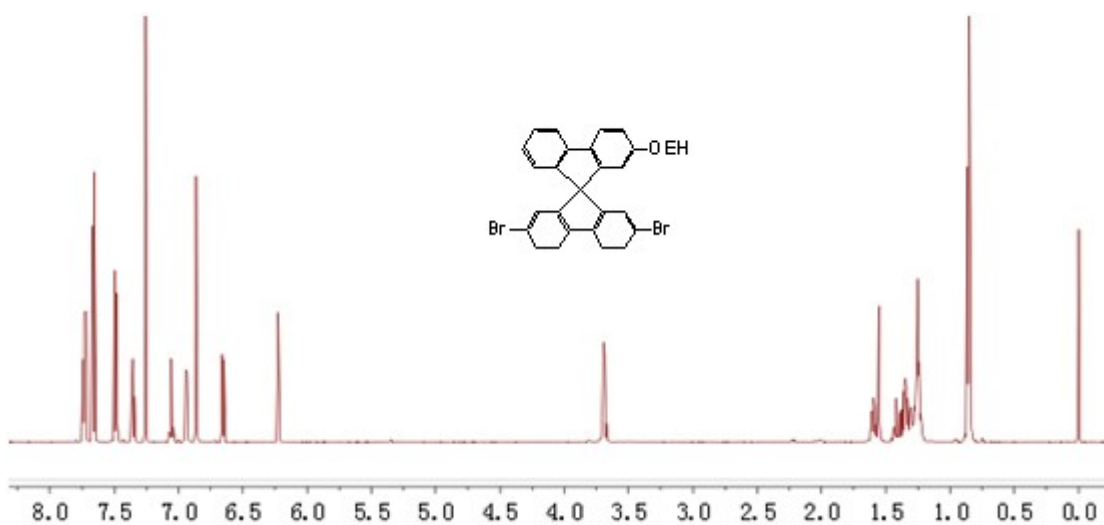


Fig S12. ¹H NMR of 2,7-dibromo-2'-(2-ethylhexyloxy)-9,9'-spirobifluorene (*M4*)

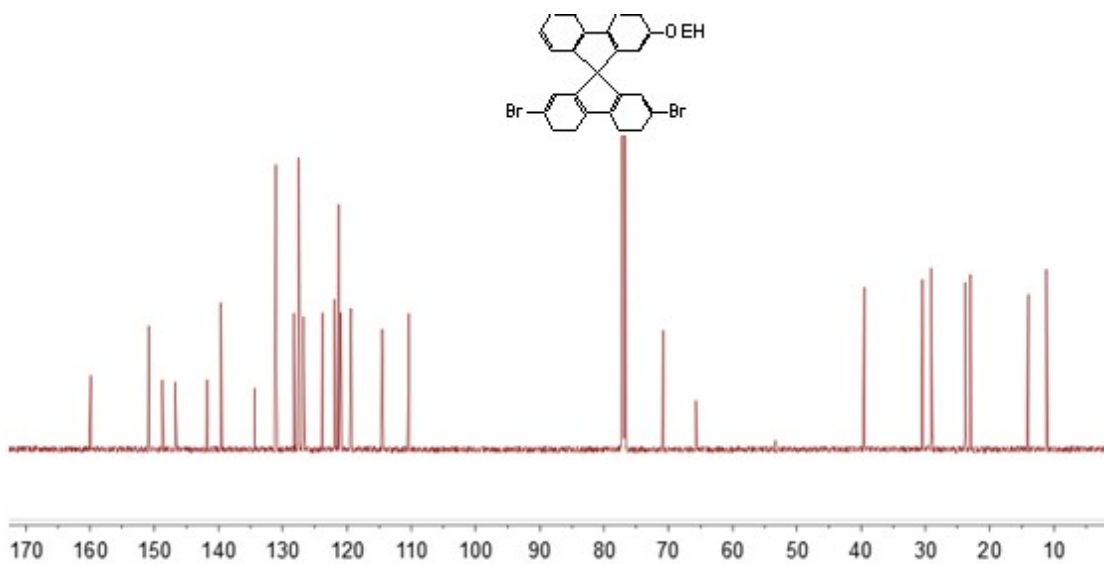


Fig S13. ¹³C NMR of 2,7-dibromo-2'-(2-ethylhexyloxy)-9,9'-spirobifluorene (*M4*)

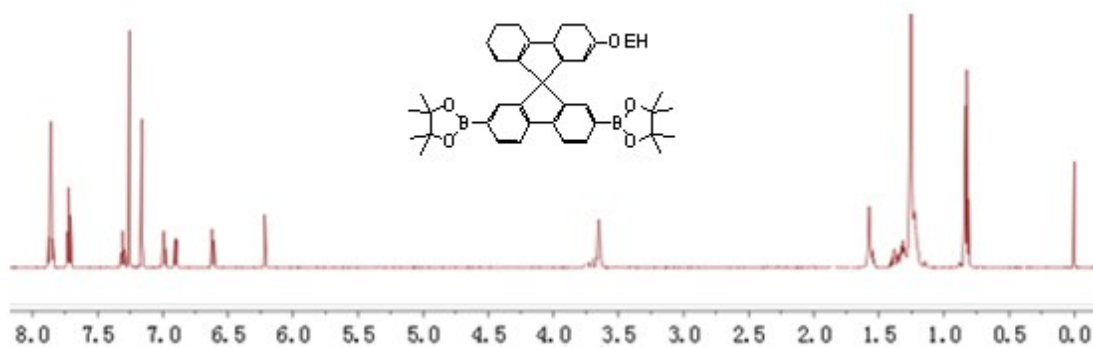


Fig S14. ¹H NMR of 2,7-bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-2'-(2-ethylhexyloxy)-9,9'-spirobifluorene (M5)

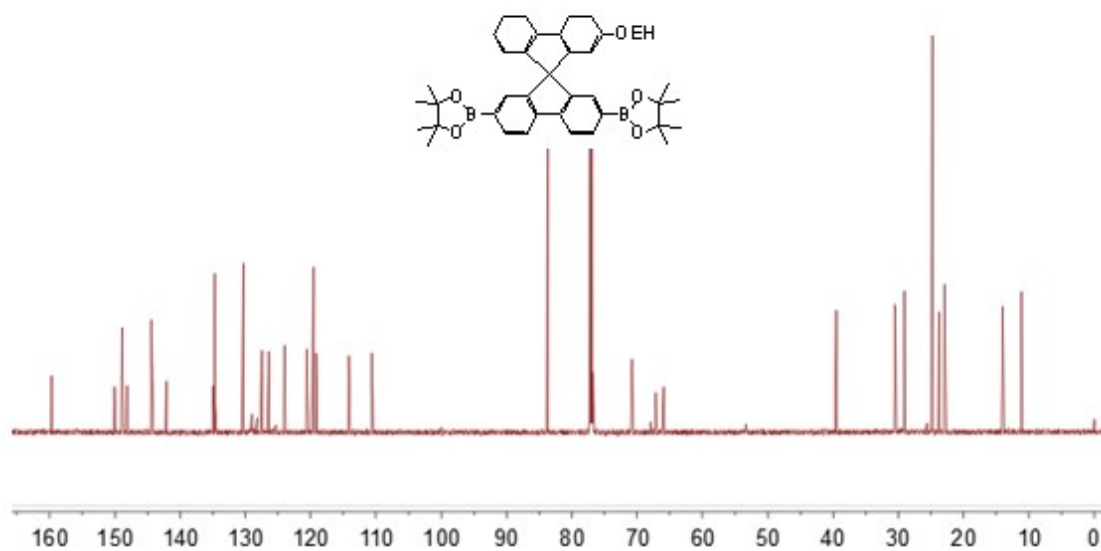


Fig S15. ¹³C NMR of 2,7-bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-2'-(2-ethylhexyloxy)-9,9'-spirobifluorene (M5)

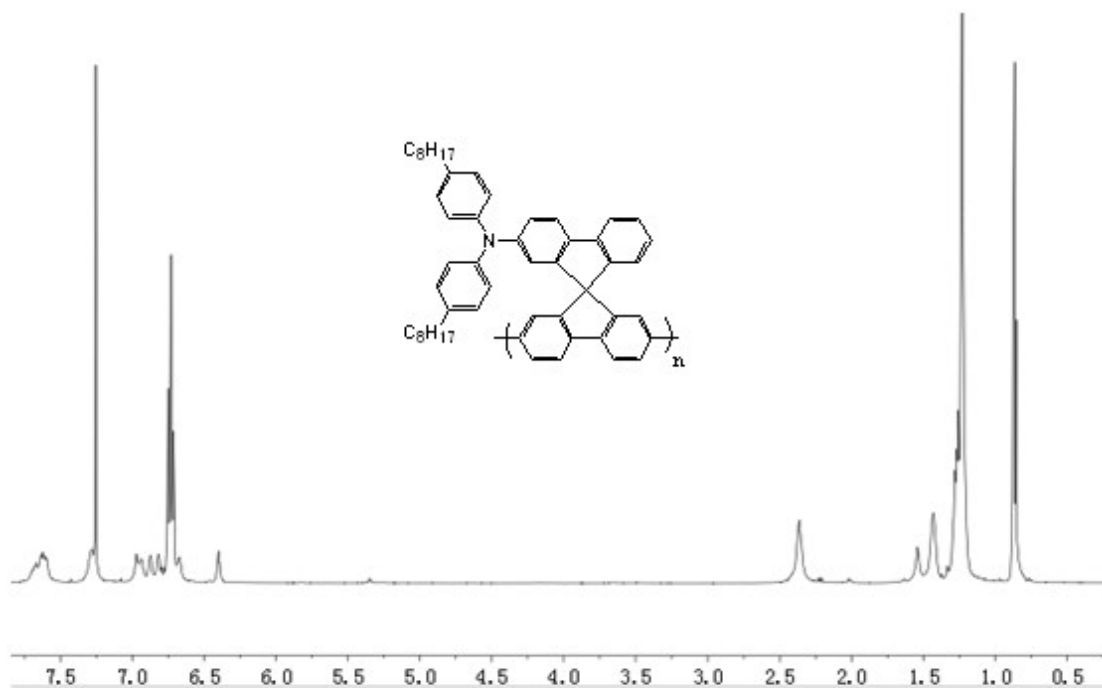


Fig S16. ¹H NMR of *Poly(N,N-bis(4-octylphenyl)-9,9'-spirobifluoren-2-amine)* (C8T-PsF)

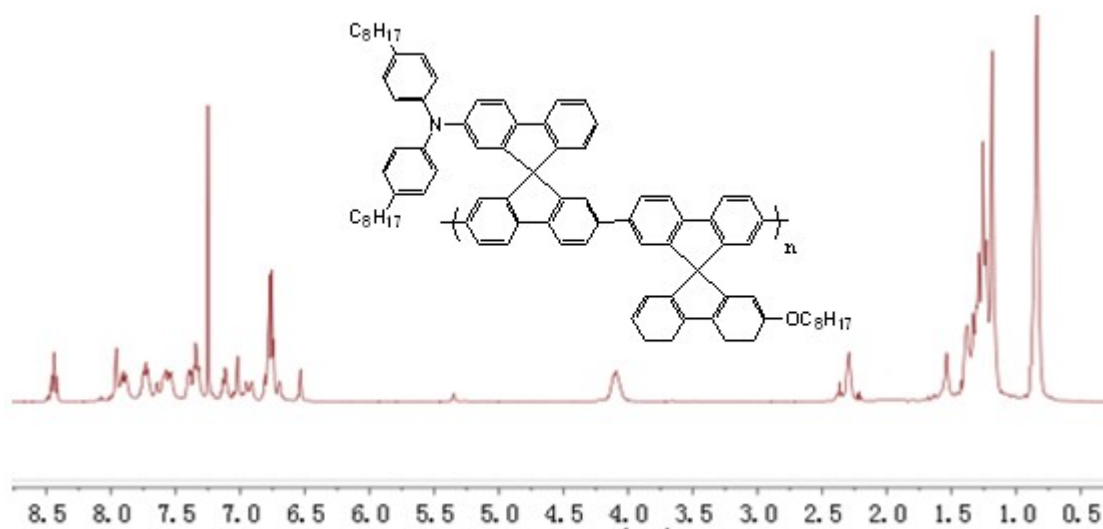


Fig S17. ¹H NMR of *Poly(N,N-bis(4-octylphenyl)-9,9'-spirobifluoren-2-amine-alt-2'-ethylhexyl-9,9'-spirobifluorene)* (C8T-alt-mO-PsF)

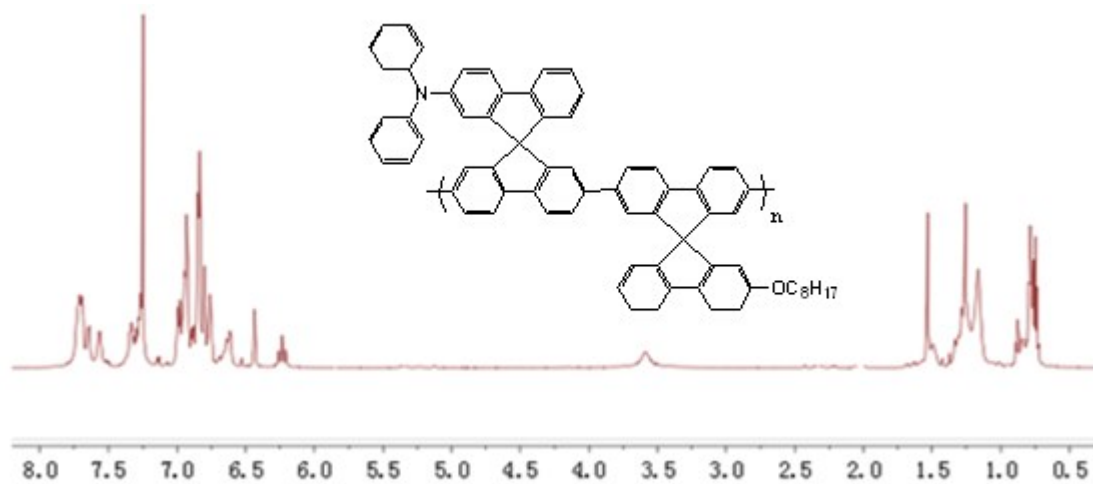


Fig S18. ¹H NMR of *Poly(N,N-bisphenyl-9,9'-spirobifluoren-2-amine-alt-2'-ethylhexyl-9,9'-spirobifluorene)* (*T-alt-mO-PsF*)

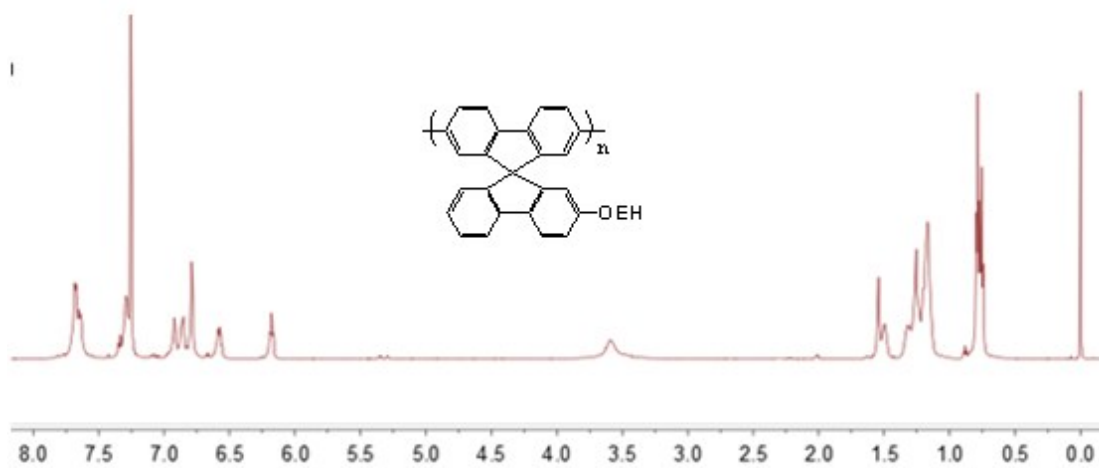


Fig S19. ¹H NMR of *Poly(2'-ethylhexyl-9,9'-spirobifluorene)* (*mO-PsF*)