

Supplementary Materials: Unusual Emission of Polystyrene-Based Alternating Copolymers from Aminobutyl Maleimide Fluorophore-Containing Polyhedral Oligomeric Silsesquioxanes Nanoparticle

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Table S1. Quantum yield (%) of MIPOSS-NHBu, and poly(*S-alt*-MIPOSS-Br).

Sample	DCM	Dioxane	Acetone	DMSO	EA	Hexane
MIPOSS-NHBu	65.8	11.8	12.7	1.9	10.3	10.5
<i>S-alt</i> -MIPOSS-NHBu	13.3	6.9	1.4	-	-	-

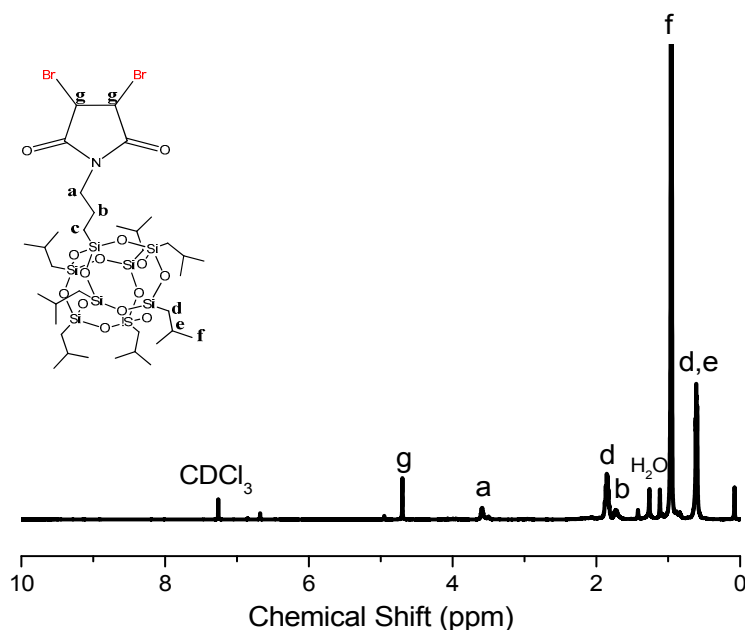


Figure S1. ^1H NMR spectrum of MIPOSS-2Br.

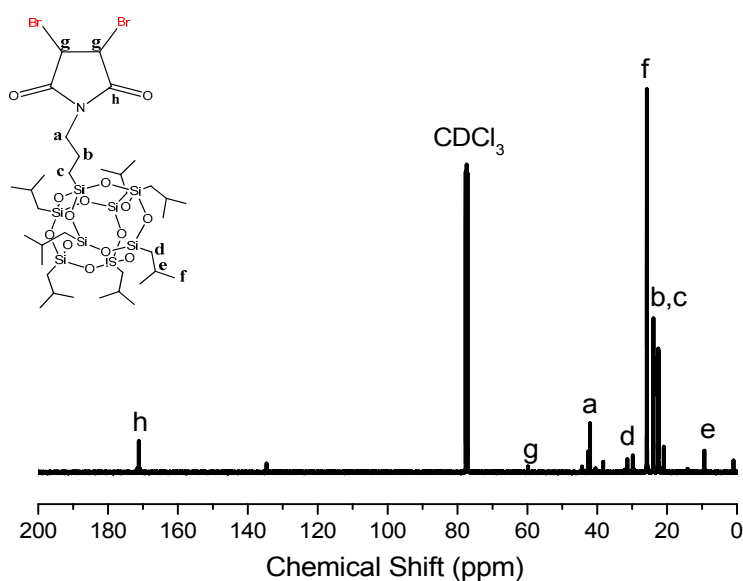


Figure S2. ^{13}C NMR spectrum of MIPOSS-2Br.

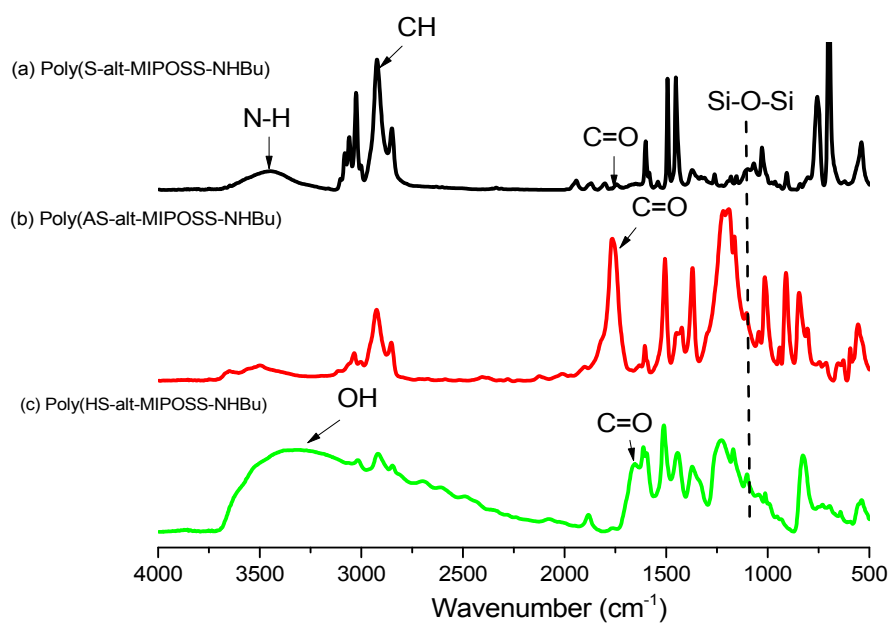


Figure S3. FTIR spectra of (a) poly(S-*alt*-MIPOSS-NHBu), (b) poly(AS-*alt*-MIPOSS-NHBu), and (c) poly(HS-*alt*-MIPOSS-NHBu).

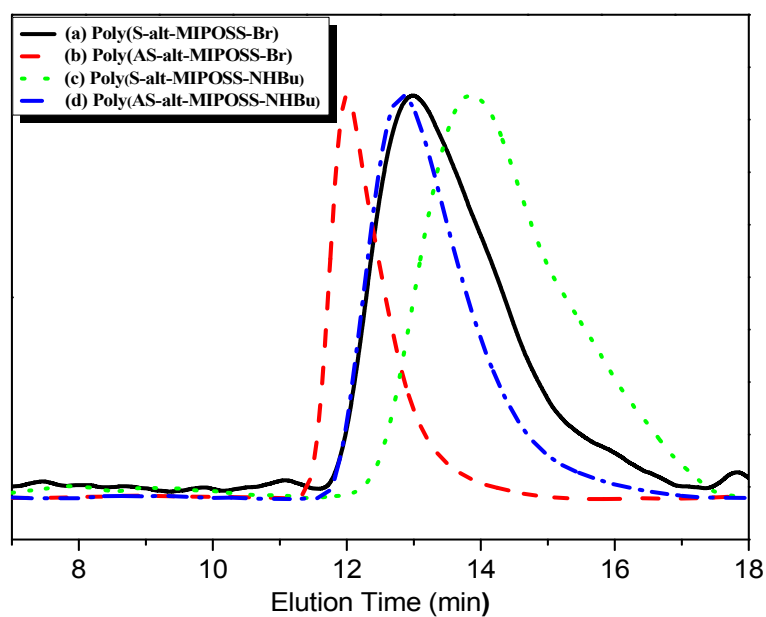


Figure S4. GPC analyses of the alternating copolymers (a) poly(S-*alt*-MIPOSS-Br), (b) poly(AS-*alt*-MIPOSS-Br), (c) poly(S-*alt*-MIPOSS-NHBu), and (d) poly(AS-*alt*-MIPOSS-NHBu).

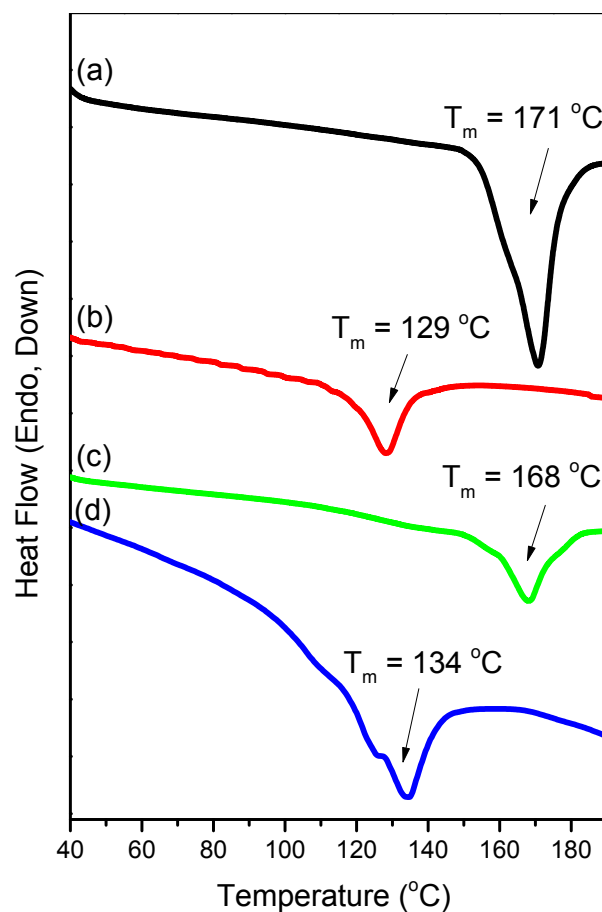


Figure S5. DSC thermograms of (a) MIPOSS, (b) MIPOSS-2Br, (c) MIPOSS-Br, and (d) MIPOSS-NHBu.

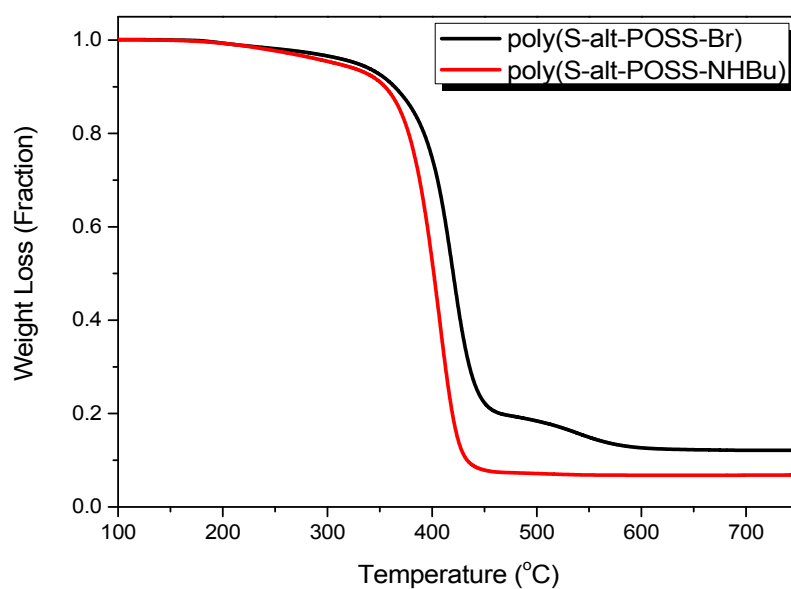


Figure S6. TGA analyses of the alternating copolymers poly(S-alt-MIPOSS-Br) and poly(S-alt-MIPOSS-NHBu).

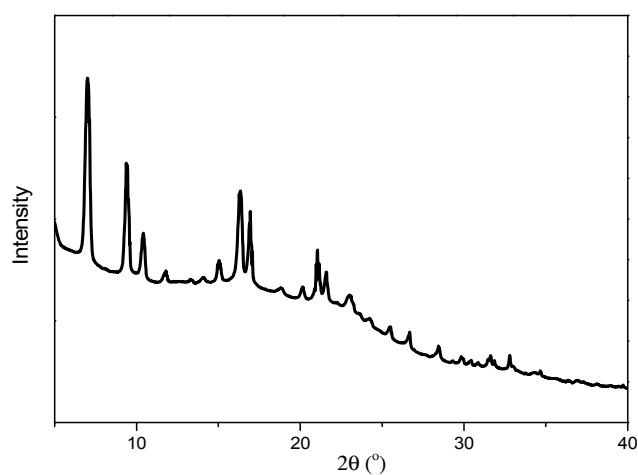


Figure S7. WAXD patterns of the monomer MIPOSS.

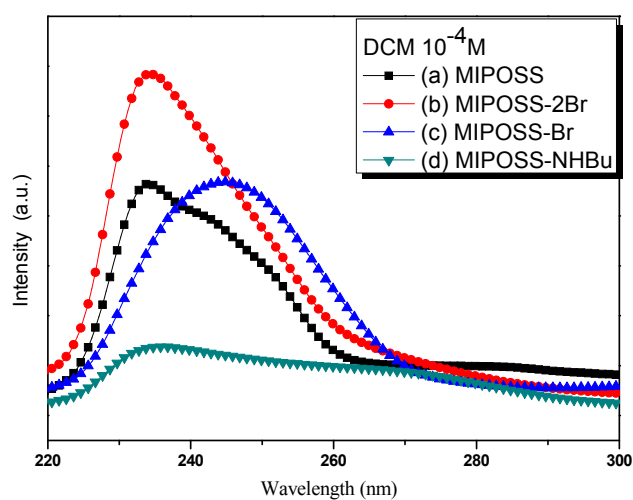


Figure S8. UV-vis spectra of the monomers (a) MIPOSS, (b) MIPOSS-2Br, (c) MIPOSS-Br and (d) MIPOSS-NHBu in DCM solution (10^{-4} M).

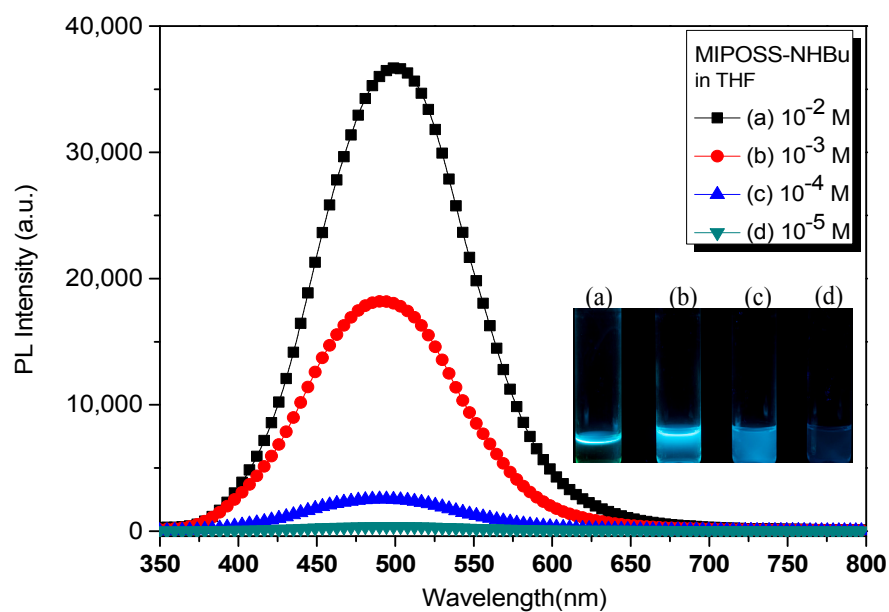


Figure S9. Fluorescence spectra of the monomer MIPOSS-NHBu in THF solution at concentrations from 10^{-5} to 10^{-2} M (excitation: 330 nm).

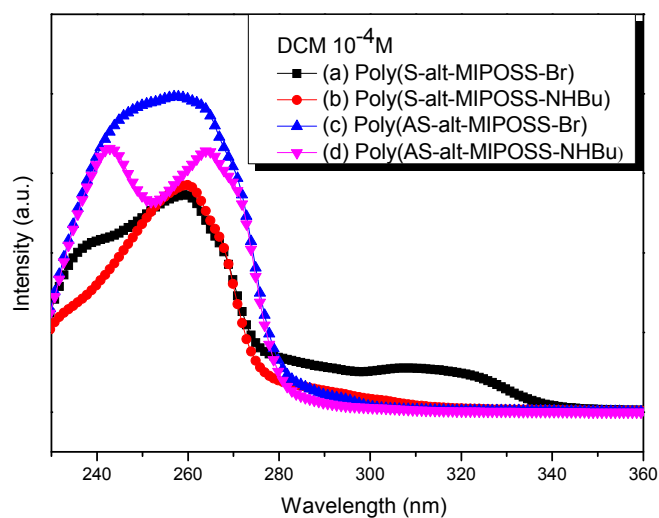


Figure S10. UV-vis spectra of the alternating copolymers (a) poly(S-alt-MIPOSS-Br), (b) poly(S-alt-MIPOSS-NHBu), (c) poly(AS-alt-MIPOSS-Br), and (d) poly(AS-alt-MIPOSS-NHBu) in DCM solution (10^{-4} M).

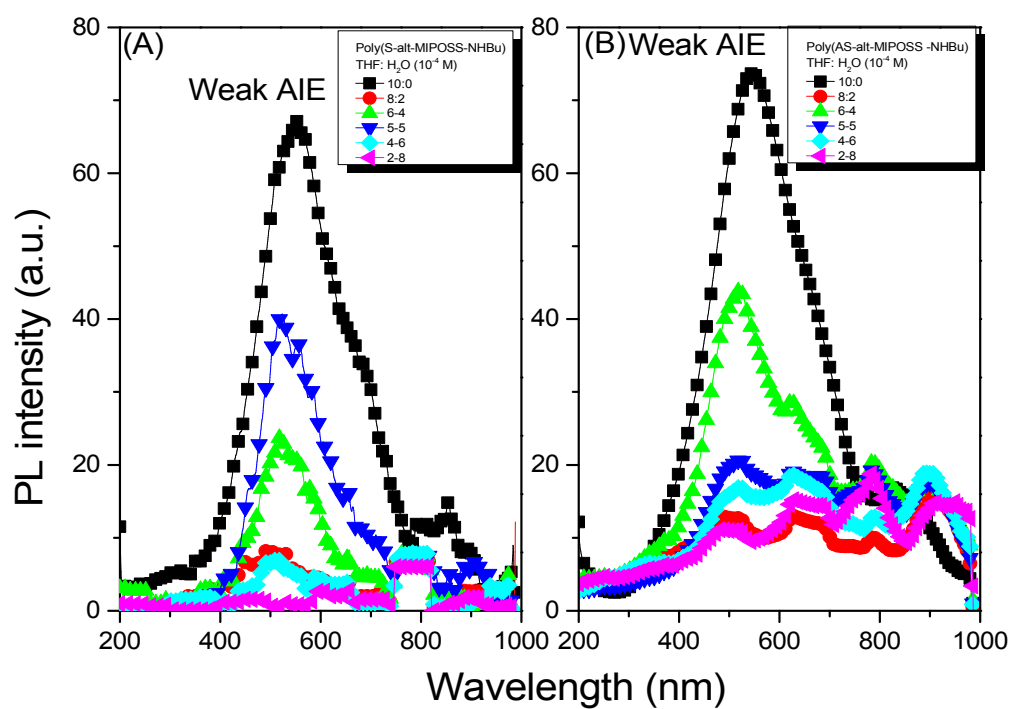


Figure S11. Fluorescence spectra (excitation: 330 nm) of (A) poly(S-alt-MIPOSS-NHBu) and (B) poly(AS-alt-MIPOSS-NHBu) in THF/H₂O at various ratios, at a concentration of 10⁻⁴ M.

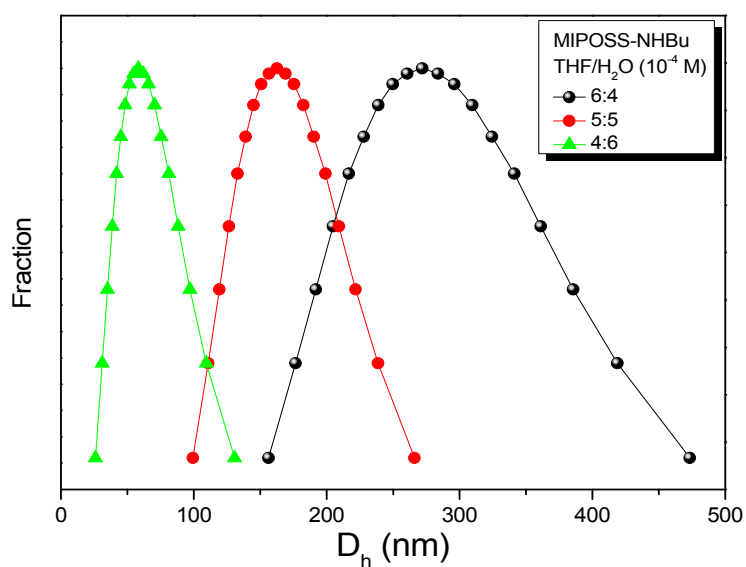


Figure S12. DLS analysis of the monomer MIPOSS-NHBu in THF/H₂O at various ratios, at a concentration of 10⁻⁴ M.

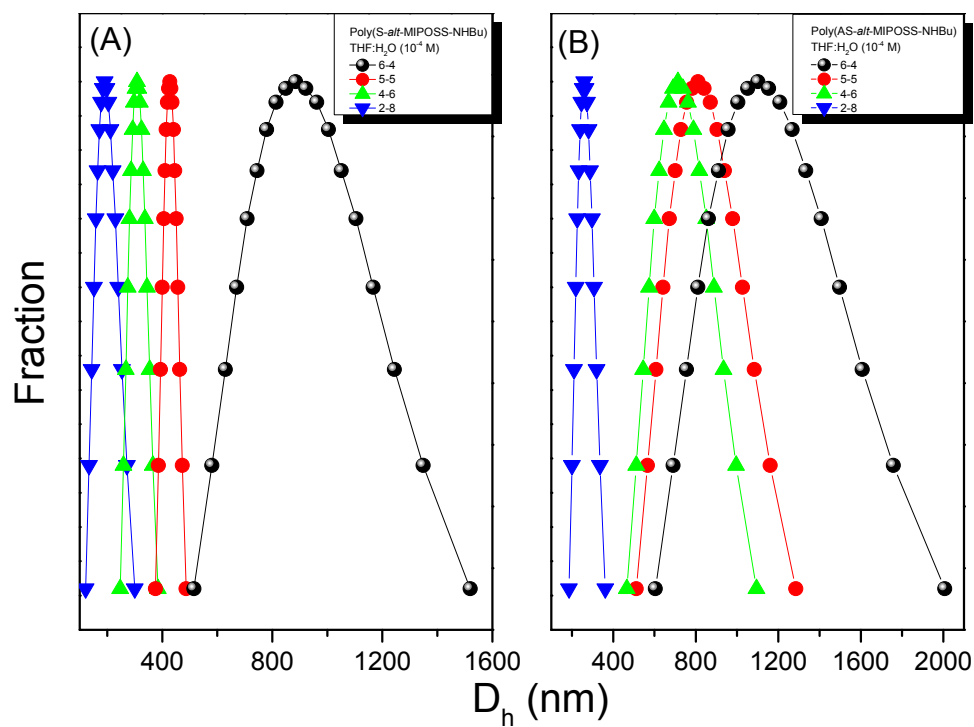


Figure S13. DLS analysis of (A) poly(S-alt-MIPOSS-NHBu) and (B) poly(AS-alt-MIPOSS-NHBu) in THF/H₂O at various ratios, at a concentration of 10^{-4} M.