Electronic supplementary information for:

**An Effective Strategy for the Preparation of Intrinsic Low-k and Ultralow-loss Dielectric Polysiloxanes at High Frequency by Introducing Trifluoromethyl Groups into the Polymers**

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Supplementary Figures

Scheme 1. Procedure for the Synthesis of 2

2a, R\(^1\) = -OCH\(_3\), R\(^2\) = -CH\(_3\);
2b, R\(^1\) = -CF\(_3\), R\(^2\) = -CH\(_3\);
2c, R\(^1\) = -CF\(_3\), R\(^2\) = p-trifluoromethylphenyl
Figure S1. GPC curves of prepolymers M1–M3.

Figure S2. $^1$H NMR (400 MHz, CDCl$_3$) spectrum of 2a.
Figure S3. $^{13}$C NMR (126 MHz, CDCl$_3$) spectrum of 2a.
Figure S4. FT-IR spectrum of 2a.

Figure S5. $^1$H NMR (400 MHz, CDCl$_3$) spectrum of 2b.
Figure S6. $^{13}$C NMR (126 MHz, CDCl$_3$) spectrum of 2b.
Figure S7. $^{19}$F NMR (376 MHz, CDCl$_3$) spectrum of 2b.

Figure S8. FT-IR spectrum of 2b.
Figure S9. $^1$H NMR (400 MHz, CDCl$_3$) spectrum of 2c.
Figure S10. $^{13}\text{C} \text{NMR (126 MHz, CDCl}_3$ spectrum of 2c.
Figure S11. $^{19}$F NMR (376 MHz, CDCl$_3$) spectrum of 2c.

Figure S12. FT-IR spectrum of 2c.
Figure S13. $^1$H NMR (400 MHz, CDCl$_3$) spectrum of M1.
Figure S14. $^{13}$C NMR (101 MHz, CDCl$_3$) spectrum of M1.

Figure S15. $^1$H NMR (400 MHz, CDCl$_3$) spectrum of M2.
Figure S16. $^{13}$C NMR (126 MHz, CDCl$_3$) spectrum of M2.
Figure S17. $^{19}$F NMR (376 MHz, CDCl$_3$) spectrum of M2.

Figure S18. $^1$H NMR (400 MHz, CDCl$_3$) spectrum of M3.
Figure S19. $^{13}$C NMR (126 MHz, CDCl$_3$) spectrum of M3.

Figure S20. $^{19}$F NMR (376 MHz, CDCl$_3$) spectrum of M3.
Figure S21. DSC traces of monomers with an initiator of AIBN at a heating rate of 10 °C min⁻¹ in N₂.