Electronic supplementary information for:

A Fluoropolymer with Low Dielectric Constant at High Frequency Derived from Bio-based Anethole

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Preparation of the Cured Samples for dielectric measurements.

Sample cured in the ratio of 1 to 2 (M1 to M2). A flat-bottomed glass tube, equipped with a mixture of **M1** (337 mg, 0.6 mmol) and **M2** (641 mg, 1.2 mmol) was placed in a quartz tube furnace, and the curing procedure was similar to the preparation of the cured sample **8F-BCB-A**, as described in the article.

Sample cured in the ratio of 1 to 5 (M1 to M2). A flat-bottomed glass tube, equipped with a mixture of **M1** (197 mg, 0.35 mmol) and **M2** (935 mg, 1.75 mmol) was placed in a quartz tube furnace, and the curing procedure was similar to the preparation of the cured sample **8F-BCB-A**, as described in the article.

Preparation of the samples for CTE and DMA measurements.

Sample cured in the ratio of 1 to 1 (M1 to M2). M1 (0.844 g, 1.5 mmol) and **M2** (0.802 g, 1.5 mmol) was taken in a mold made with aluminum foil. The mold was placed in a quartz tube furnace, and the curing procedure was similar to the preparation of the cured sample **8F-BCB-A**, as described in the article.

Sample cured in the ratio of 1 to 2 (M1 to M2). M1 (0.562 mg, 1.0 mmol) and **M2** (1.069 g, 2.0 mmol) was taken in a mold made with aluminum foil. The mold was placed in a quartz tube furnace, and the curing procedure was similar to the preparation of the cured sample **8F-BCB-A**, as described in the article.

Sample in the ratio of 1 to 5 (M1 to M2). M1 (0.281g, 0.5 mmol) and **M2** (1.336 g, 2.5 mmol) was taken in a mold made with aluminum foil. The mold was placed in a quartz tube furnace, and the curing procedure was similar to the preparation of the cured sample **8F-BCB-A**, as described in the article.

Supplementary Figures

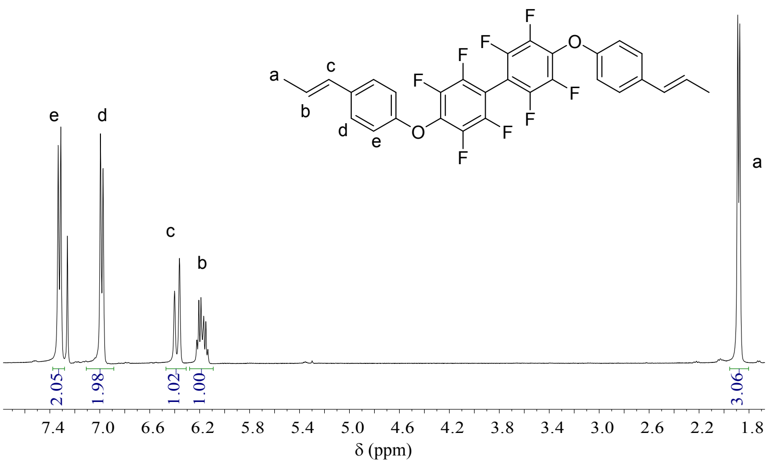


Figure S1. ^{1}H NMR (400 MHz, $CDCl_3$) spectrum of **M1**.

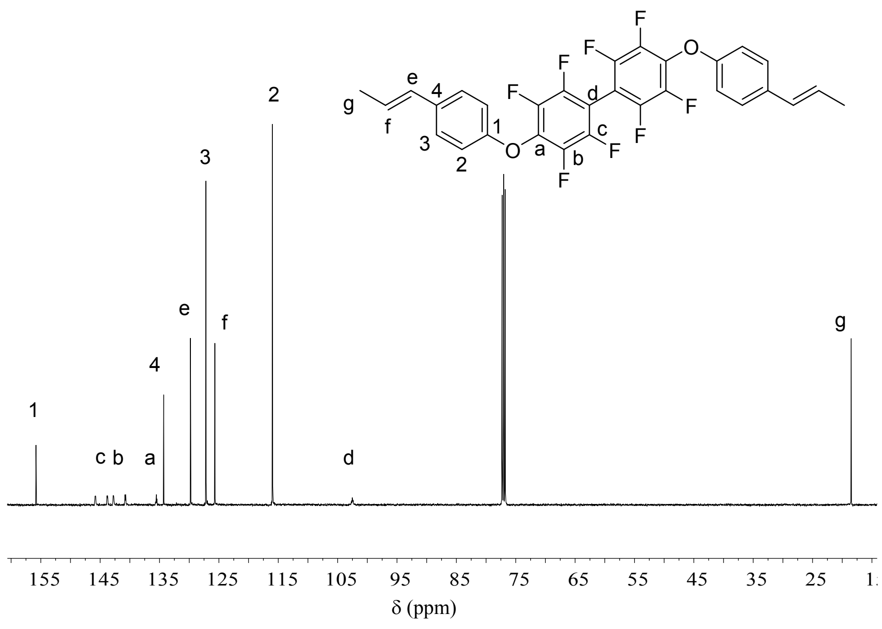


Figure S2. ^{13}C NMR (126 MHz, $CDCl_3$) spectrum of **M1**.

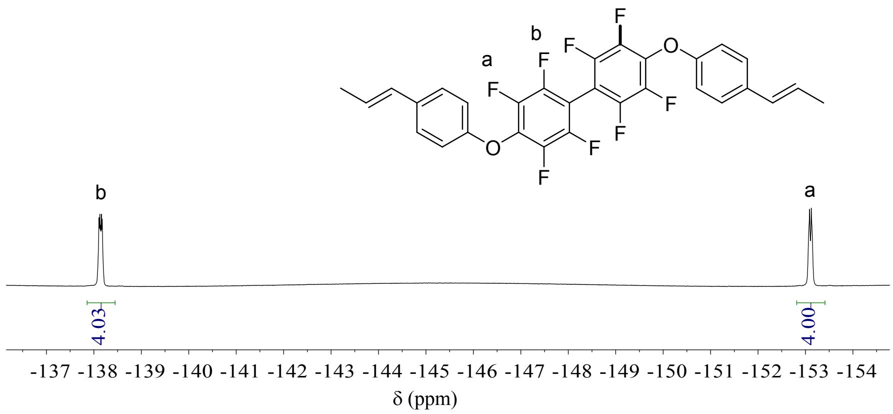


Figure S3. ^{19}F NMR (376 MHz, $CDCl_3$) spectrum of **M1**.

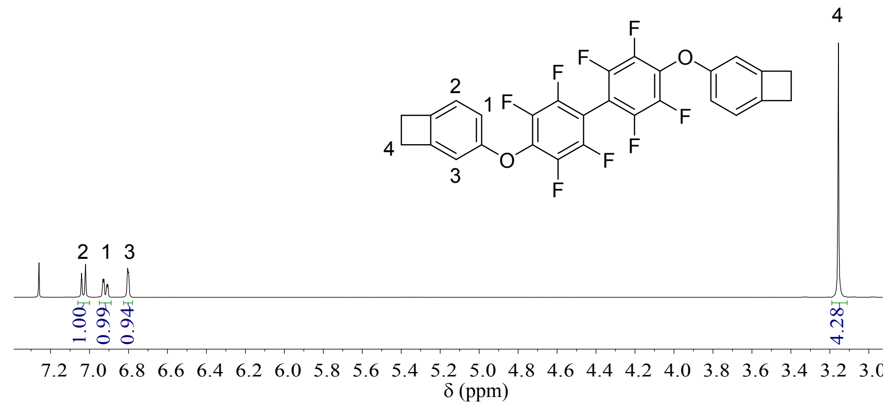


Figure S4. ^{1}H NMR (400 MHz, $CDCl_3$) spectrum of **M2**.

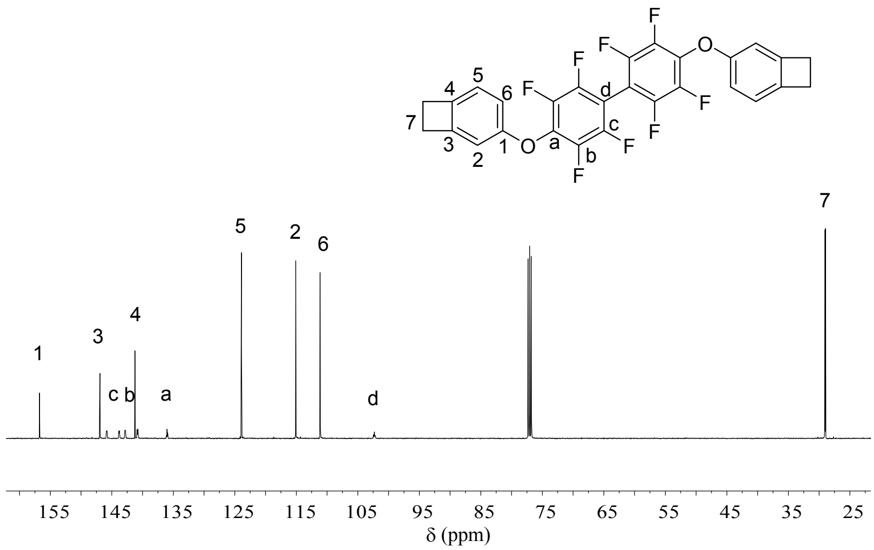


Figure S5. ^{13}C NMR (126 MHz, $CDCl_3$) spectrum of **M2**.

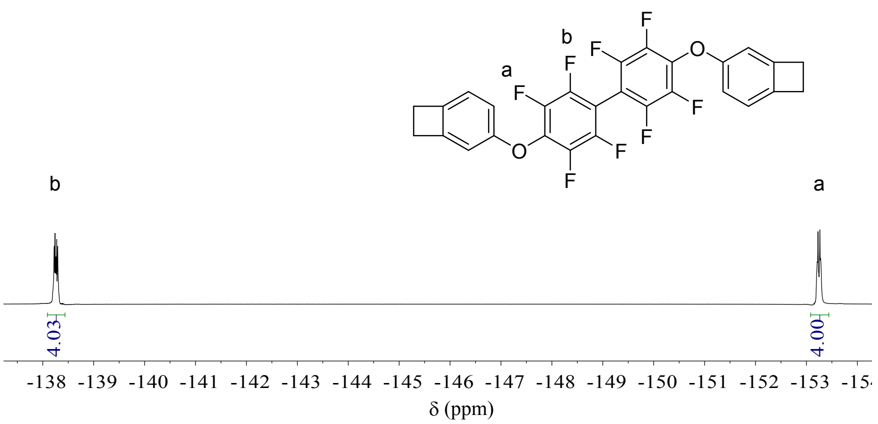


Figure S6. ^{19}F NMR (376 MHz, $CDCl_3$) spectrum of **M2**.

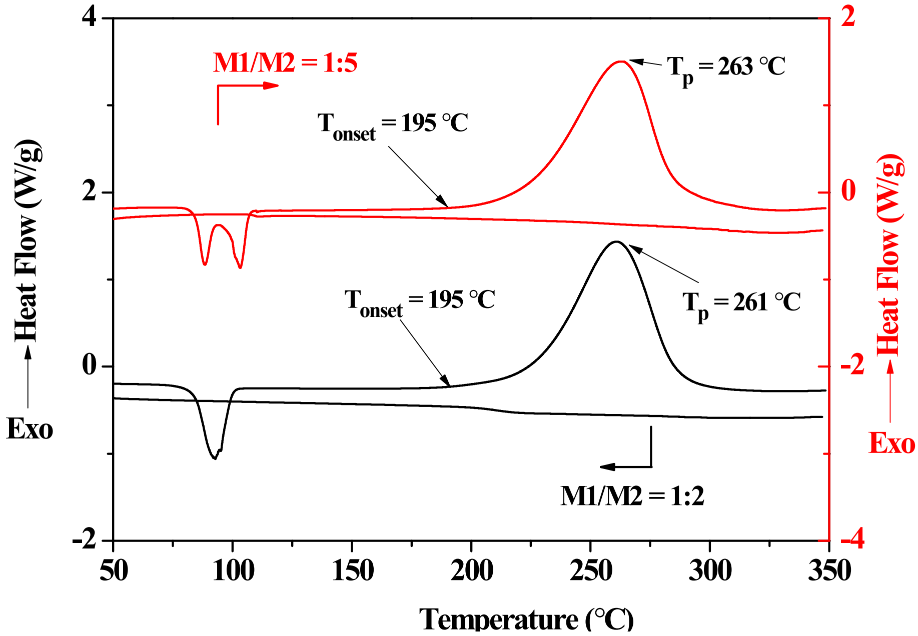
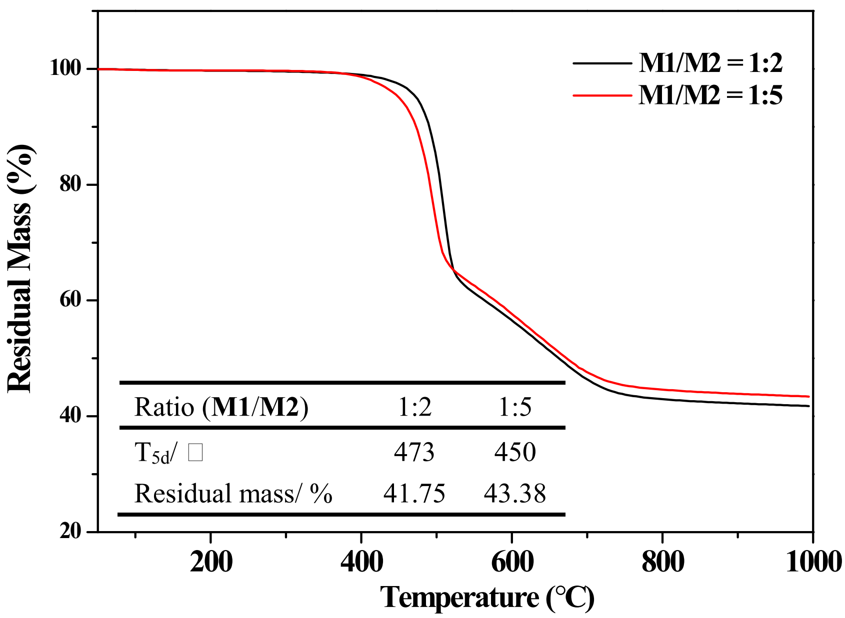
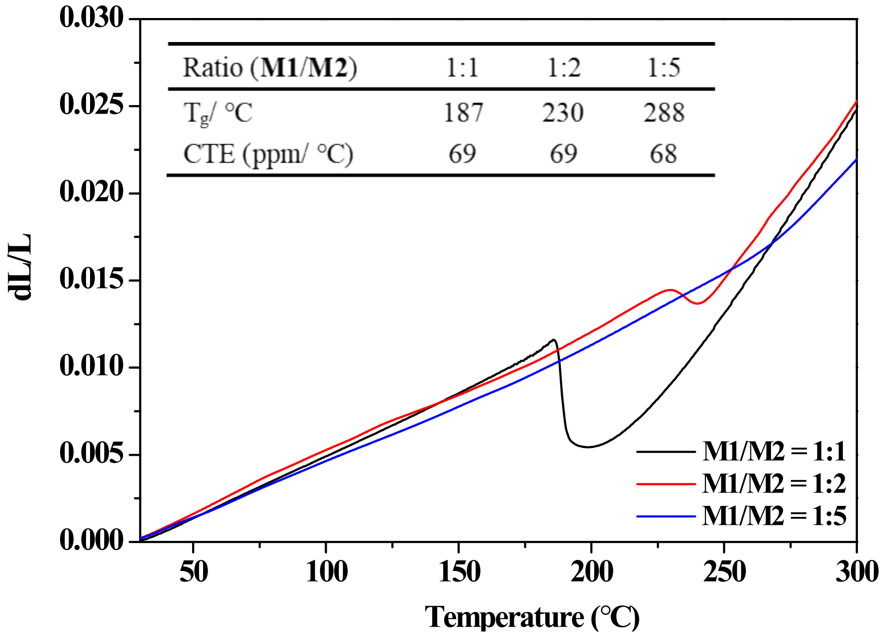


Figure S7. DSC traces of the mixture of **M1 and M2** with a molar ratio of 1 to 2 and 1 to 5 at a heating rate of 10 °C min $^{-1}$ in N_2.



Ratio (**M1**/**M2**)	1:2	1:5
T_{5d}/ □	473	450
Residual mass/ %	41.75	43.38

Figure S8. TGA curves of cured resins in different molar ratios of **M1** to **M2** at a heating rate of 10 °C min^{-1} in N_2.



Ratio (**M1**/**M2**)	1:1	1:2	1:5
T_g/ °C	187	230	288
CTE (ppm/ °C)	69	69	68

Figure S9. CTE curves of cured resins in different molar ratios of **M1** to **M2** at a heating rate of 3 °C min $^{-1}$ in N_2.

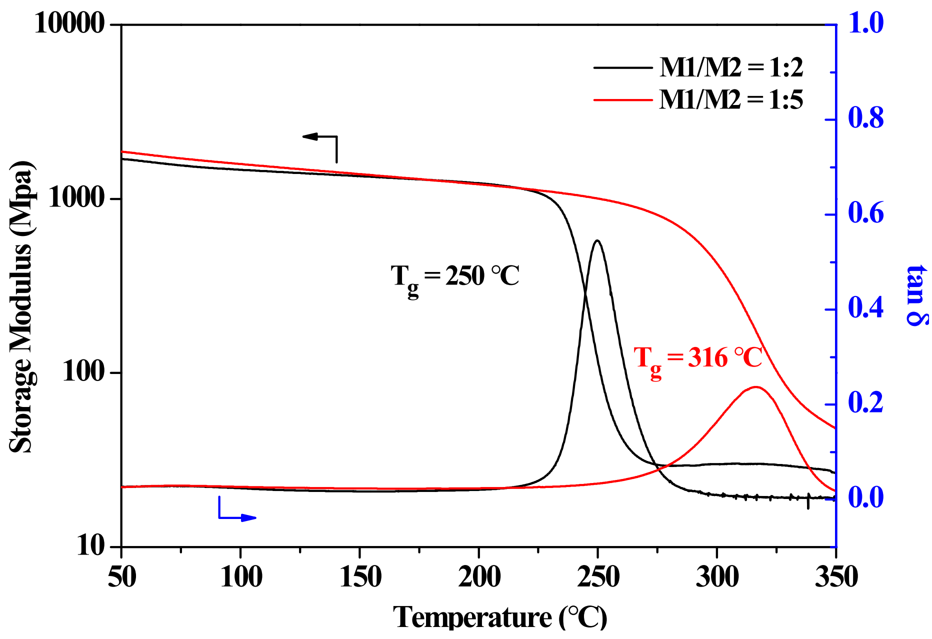


Figure S10. DMA curves of cured resins in different molar ratios of **M1** to **M2** at a heating rate of 3 °C min $^{-1}$ in N_2.

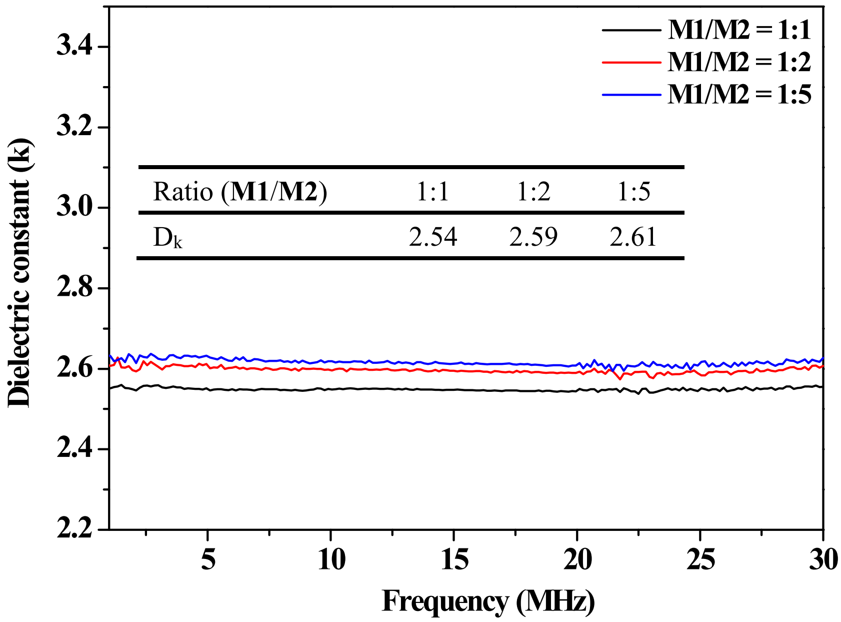


Figure S11. Dielectric constants of cured resins in different molar ratios of **M1** to **M2** at the range of frequencies varying from 0.1 to 30 MHz.

Figure S12. The images of cured resins in different molar ratios of **M1** to **M2**.