Electronic Supplementary Material (ESI) for Polymer Chemistry.

SUPPORTING INFORMATIONS

Citric Acid Induced Self-healing Polysiloxane Elastomers with Tunable Mechanical Property and Untraditional AIE Fluorescence

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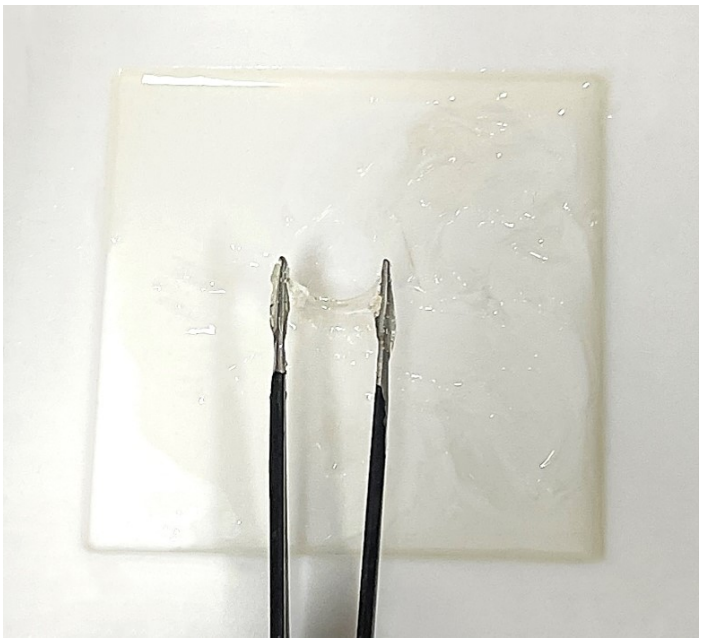

Fig. S1. Photo of viscous CA-PDMS.

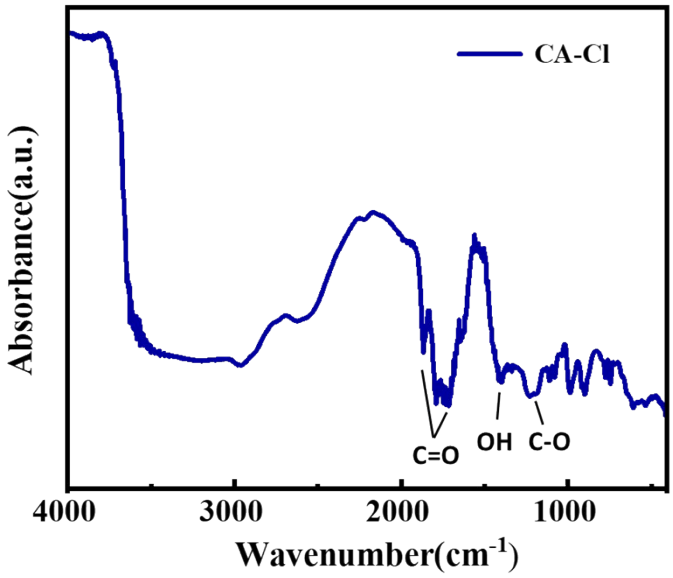

Fig. S2. FTIR spectra of citric acid chloride (CA-Cl). The absorption bands of 1877 cm^{-1}, 1790 cm^{-1} and 1714 cm^{-1} are attributed to the C=O stretching vibration of the molecule. The characteristic peaks in 1401 cm^{-1} and 1231 cm^{-1} belong to the in-plane vibration of OH and stretching vibration of C-O, respectively.

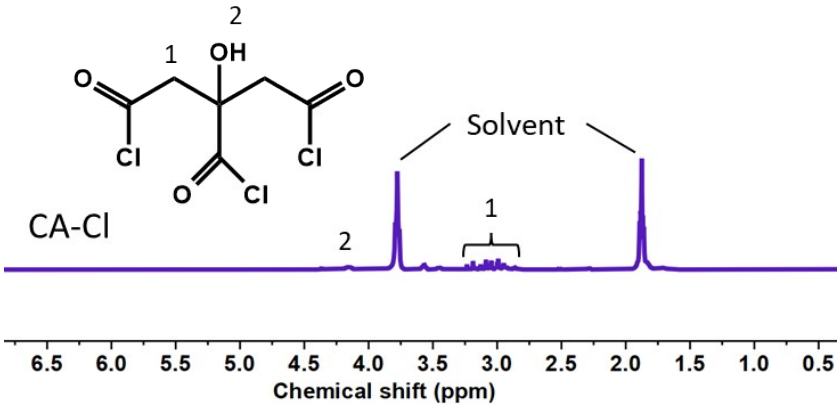

Fig. S3. ^{1}H NMR spectra of citric CA-Cl.

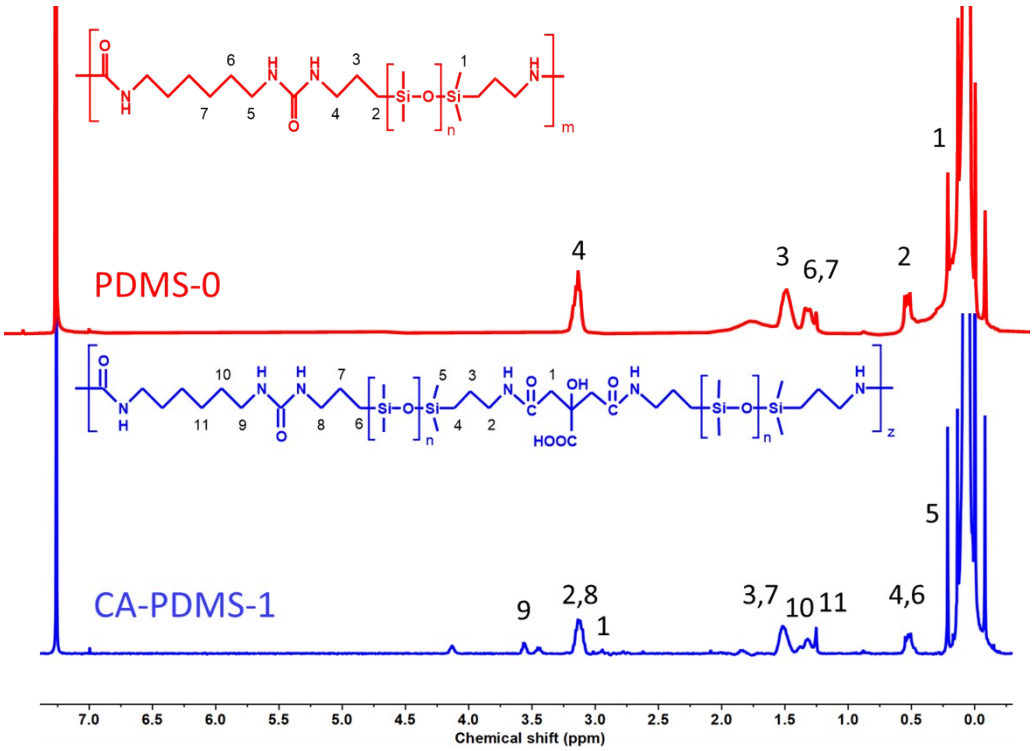

Fig. S4. ^{1}H NMR spectra of PDMS-0 and CA-PDMS-1.

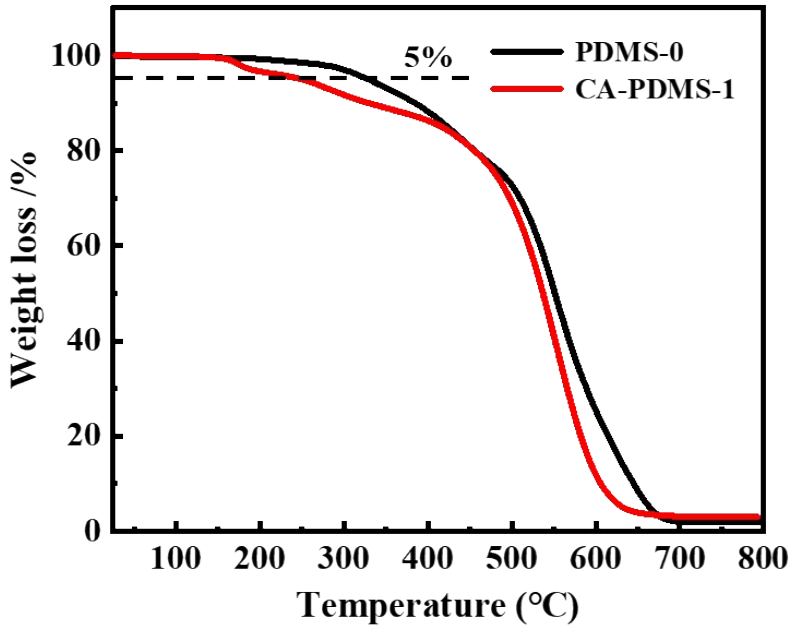

Fig. S5. TGA curves of PDMS-0 and CA-PDMS-1.

Table S1. Table of mechanical properties of elastomers.

	Elongation at break (%)	Tensile strength (kPa)	Young's modulus (MPa)
PDMS-0	881.26±7.62	437.18±15.44	0.331±0.066
CA-PDMS-1	635.57±3.35	762.01±29.57	1.549±0.242
CA-PDMS-2	770.73±6.23	603.28±37.78	1.042±0.102
CA-PDMS-3	1076.33±9.58	305.16±20.10	0.303±0.125

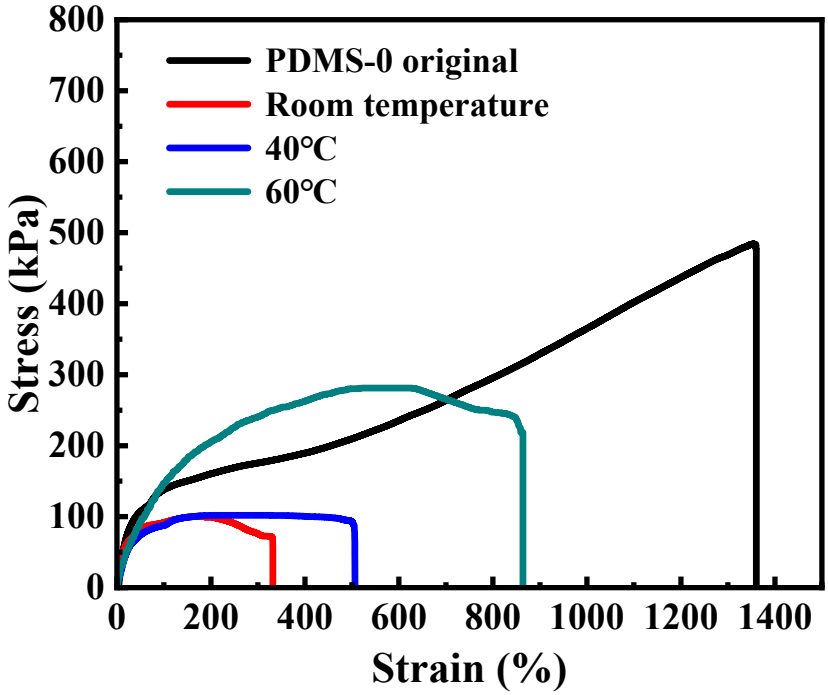

Fig. S6. Stress-strain curves of PDMS-0 sample before and after self-healing at room temperature, 40 °C and 60 ℃ for 8 h.

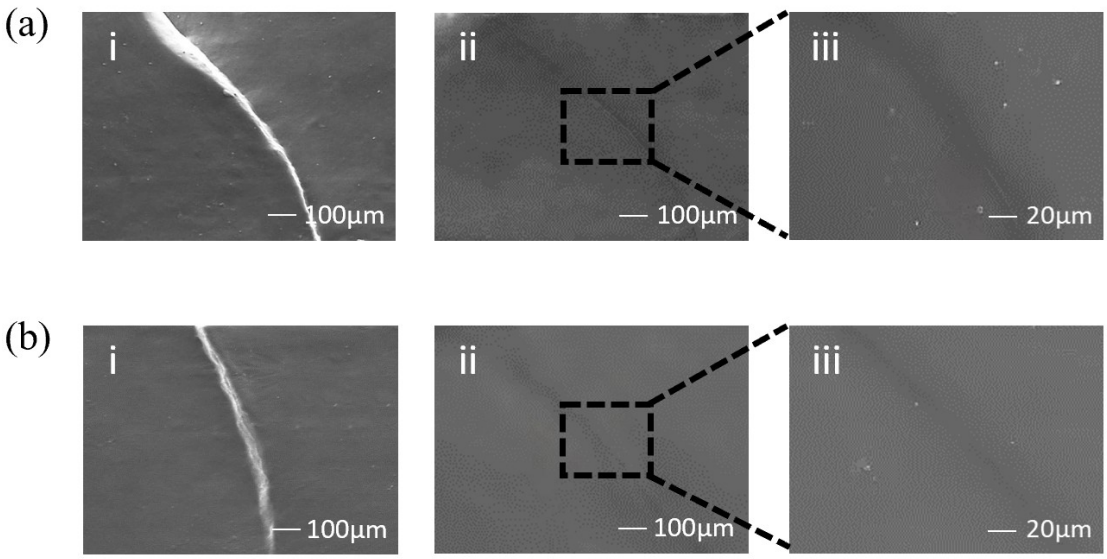

Fig. S7. Longitudinal section SEM images of (a) CA-PDMS-1 and (b) CA-PDMS-2 before and after healing 8 h at room temperature.