Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.

Supporting information for

Polydiacetylene hydrogel self-healing capacitive strain sensor

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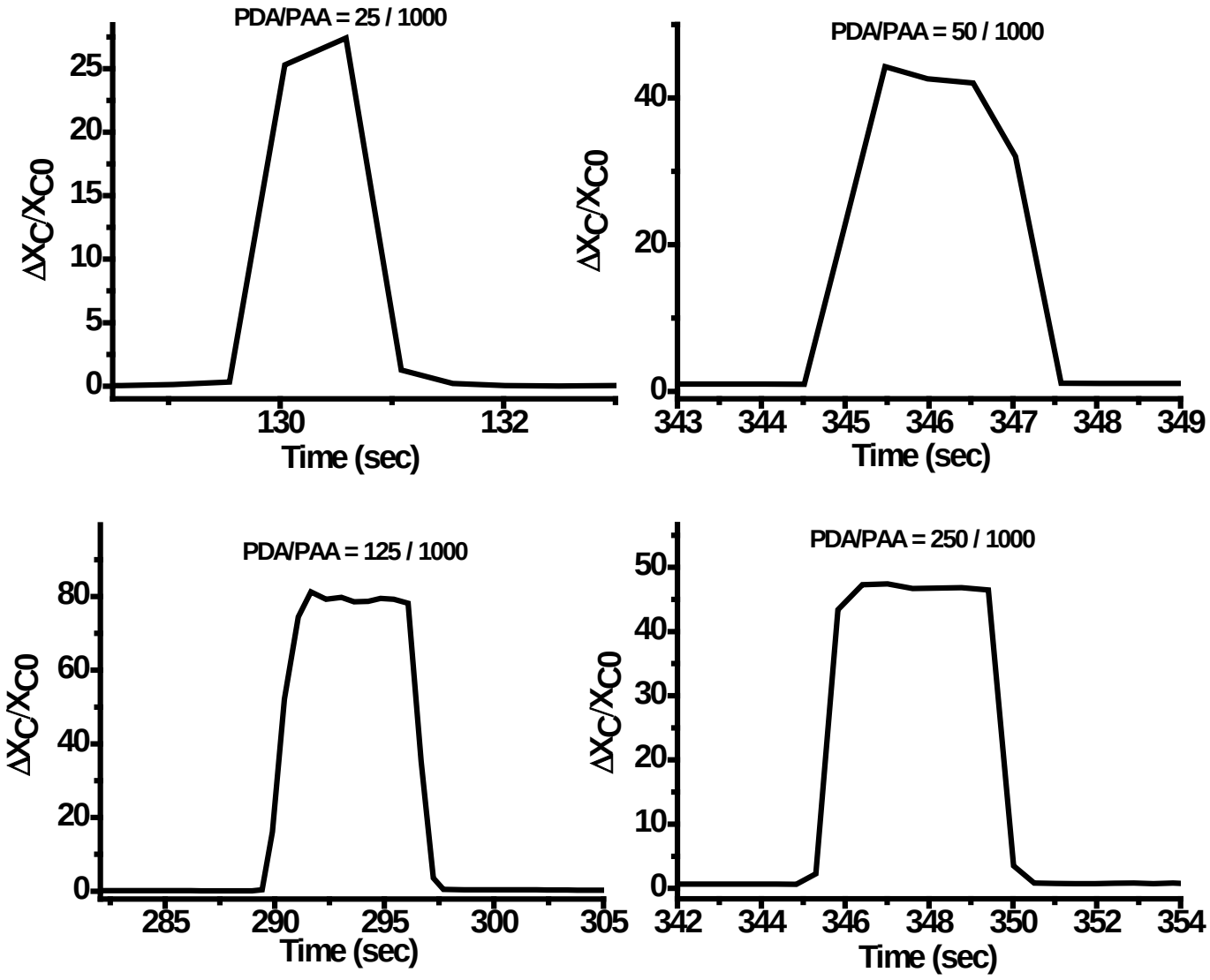

Figure S1. Capacitive reactance change of the PDA-PAA-Cr^{3+} hydrogel sensor with weight ratio range (0.025 to 0.25). The strains applied were approximately 350%.

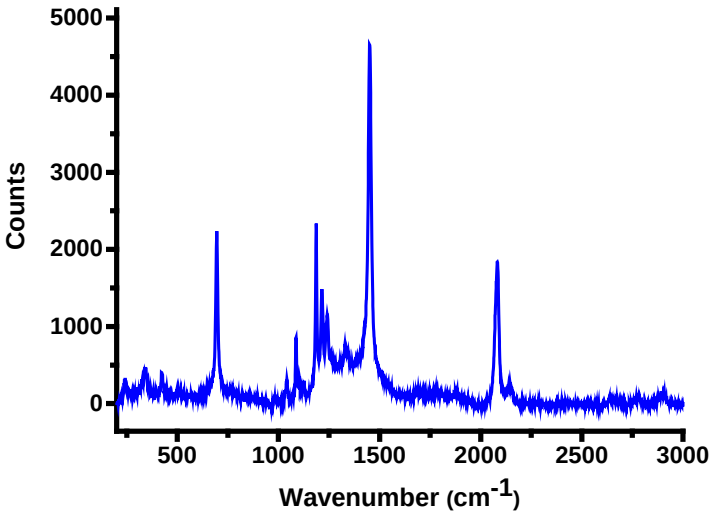

Figure S2. Raman spectra of the PDA-PAA-Cr^{3+} hydrogel.

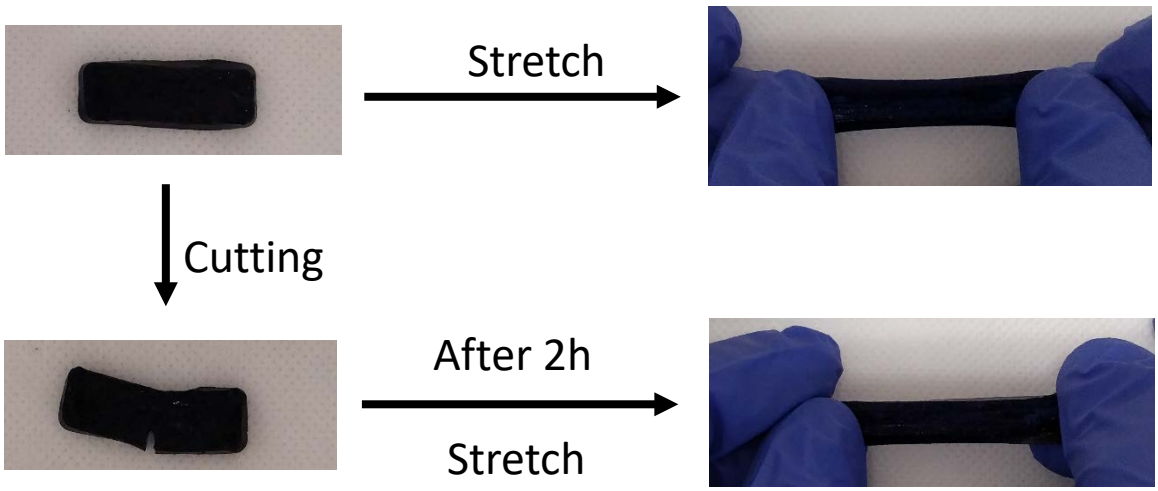

Figure S3. Photographs demonstrating the self-healability and stretchability of the prepared PDA-PAA-Cr^{3+} hydrogel.

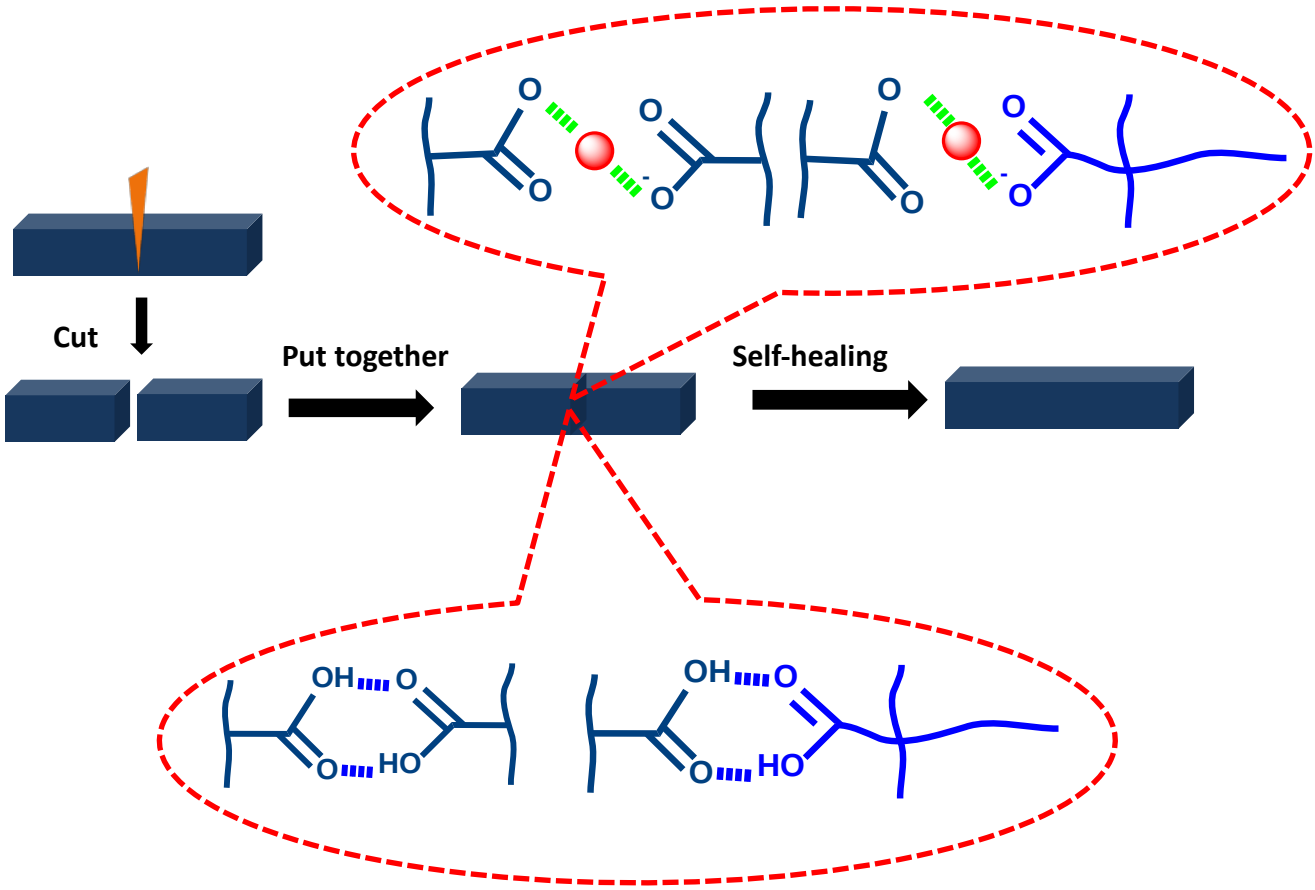

Figure S4. Illustration of the self-healing process in the PDA-PAA-Cr^{3+} hydrogel

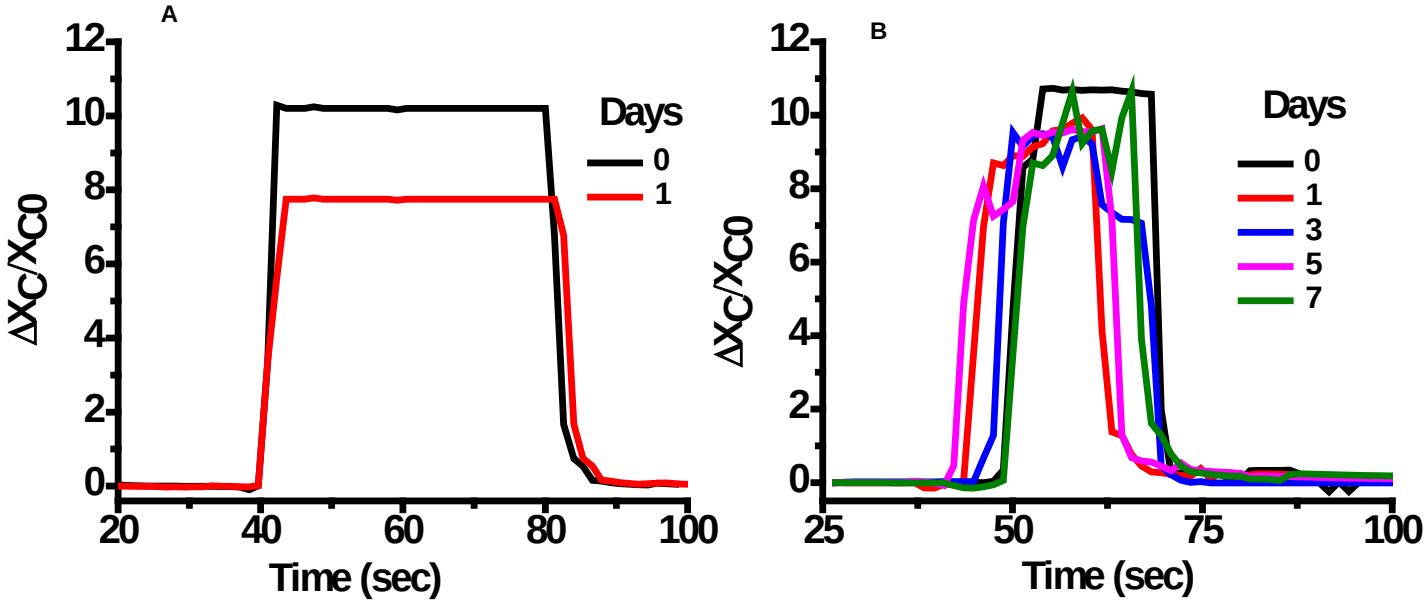

Figure S5. Stability of PDA-PAA-Cr^{3+} hydrogels: Capacitive strain sensing of (A) bare hydrogel (B) hydrogel sandwiched between VHB tape. The strains applied were approximately 200%.

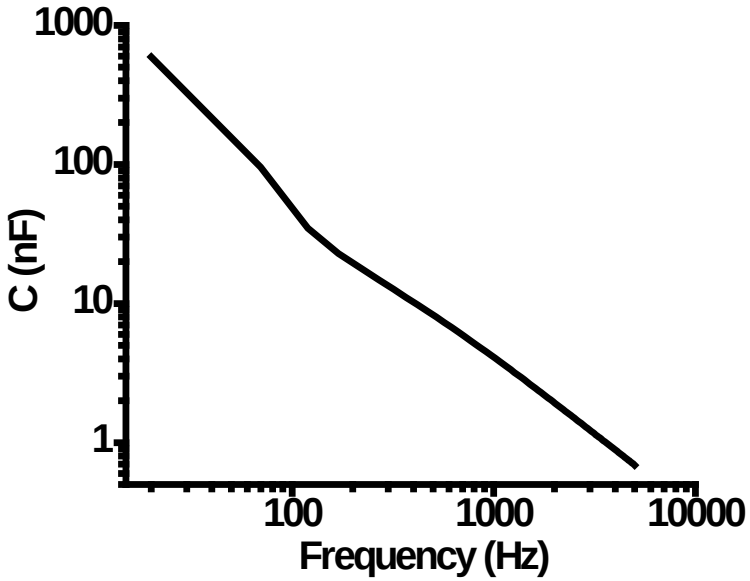

Figure S6. Capacitance plotted versus frequency of the PDA-PAA-Cr^{3+} hydrogel.

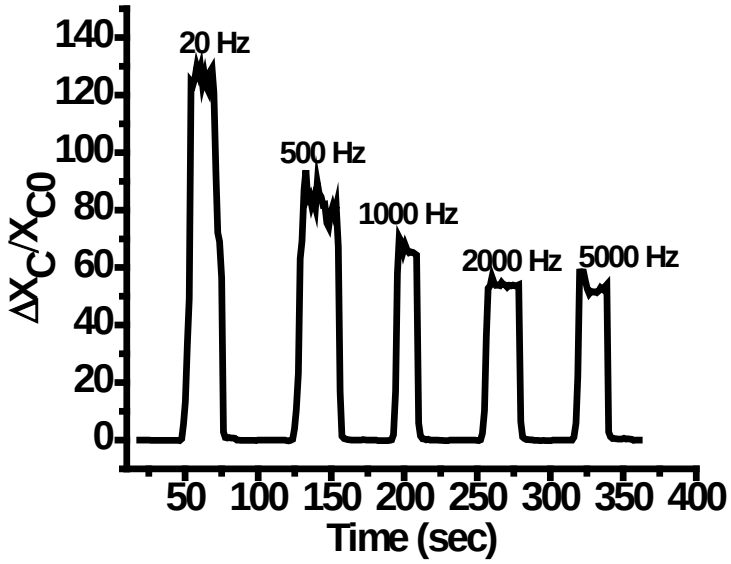

Figure S7. Capacitance response of the PDA-PAA-Cr^{3+} hydrogel sensor at 20 Hz. The strains applied were approximately 350%.

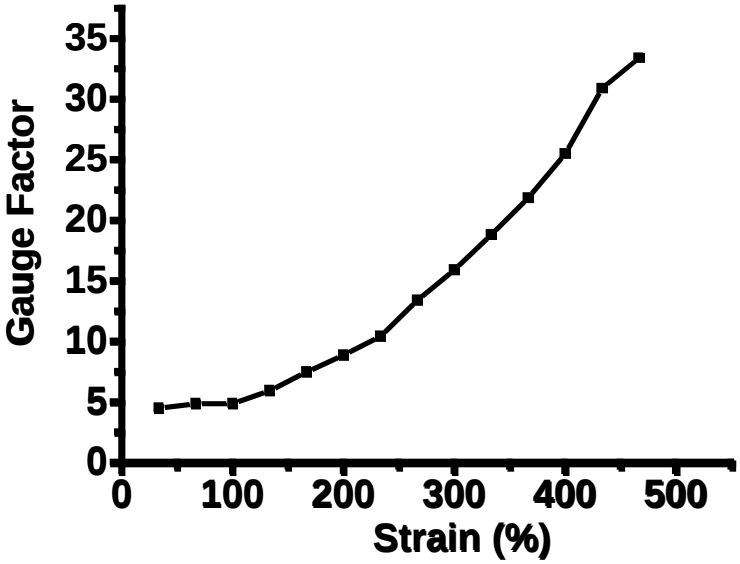

Figure S8. Gauge factors versus strain, calculated for the PDA-PAA-Cr^{3+} hydrogel at 1000 Hz.

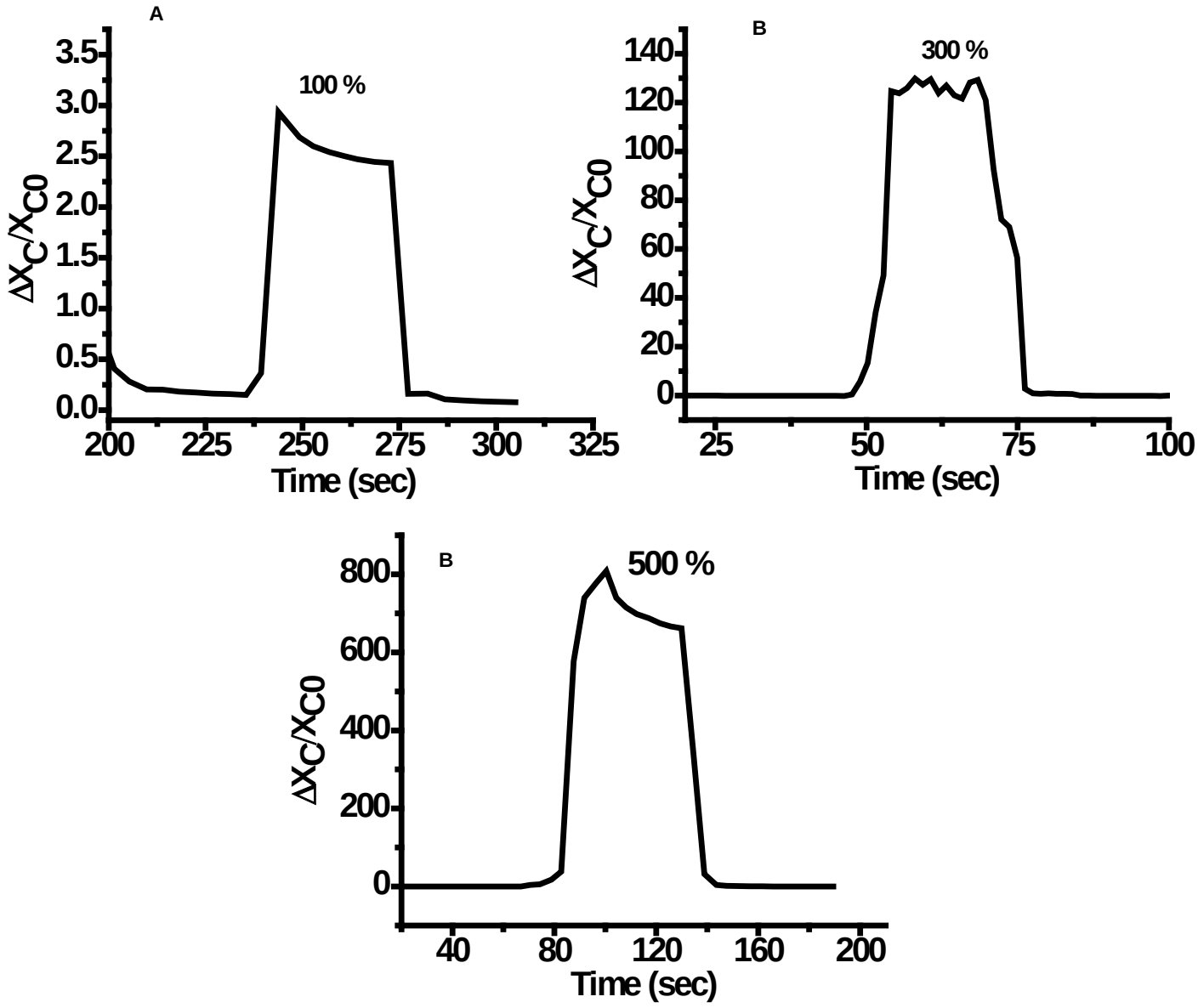

Figure S9. Capacitance response of the PDA-PAA-Cr^{3+} hydrogel sensor at 20 Hz for (A) 100 %, (B) 300 % and (C) 500 % strain.

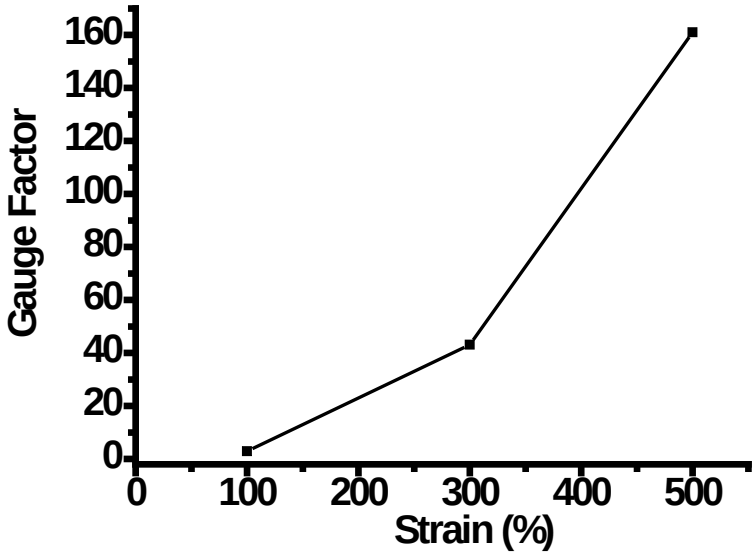

Figure S10. Gauge factors versus strain, calculated for the PDA-PAA-Cr^{3+} hydrogel at 20 Hz.