

Supplementary Information (SI)

Highly stretchable and sensitive carboxymethyl chitosan-based hydrogel for flexible strain sensors

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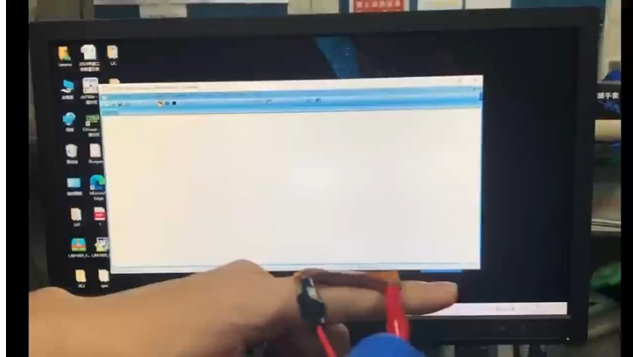
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File. S1 The video of real-time motion detection of finger joints.

In the video, we cut the hydrogel into $30\text{ mm} \times 10\text{ mm} \times 1\text{ mm}$ size. The CGT3-I3 hydrogel was connected to the electrochemical workstation using copper wires. The hydrogel was attached to the knuckles of volunteers to monitor movement. Sensing data can be obtained in real time on the electrochemical workstation (Chi760E workstation, Austin, Texas, the United States). At the end of the video, we can clearly see that the electrical signal of the CGT3-I3 hydrogel material is stable. The CGT3-I3 hydrogel material with excellent sensing effect can be adapted to monitor early symptoms of Parkinsonism.

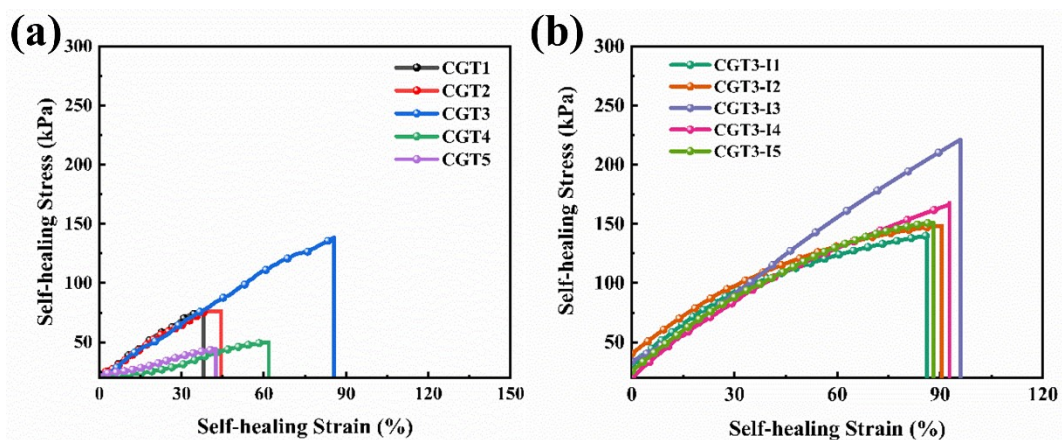


Fig. S1 The tensile test of (a) CGTX and (b) CGT3-IX hydrogels after incision and self-healing for 24 hours.

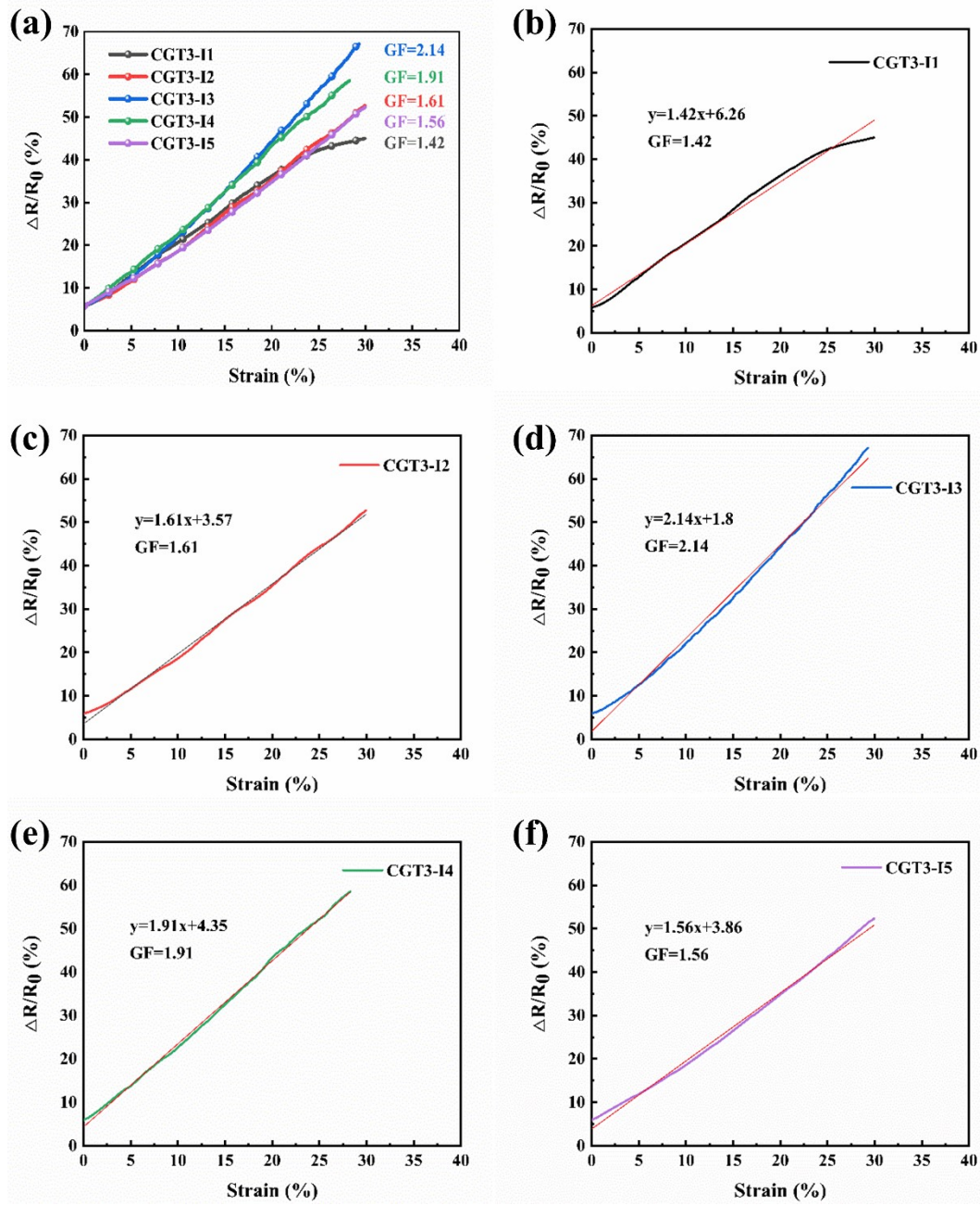


Fig. S2 (a) Relative resistance changes ($\Delta R/R_0$) and corresponding gauge factor (GF) of different CGT3-IX hydrogels. (b)-(f) The gauge factor (GF) variation was calculated from the linear fitting of different CGT3-IX hydrogels under 0-30% strain.