

Dual crosslinked ion-based temperature response conductive hydrogels with multiple sensors and steady electrocardiogram monitoring

Yun Tan,^a Yuyuan Zhang,^a Yanjing Zhang,^b Jun Zheng,^a Huiqiong Wu,^a Yang Chen,^a Shimei Xu,^c Junliang Yang,^{b*} Chuntai Liu^d and Yi Zhang^{a*}

a. Hunan Provincial Key Laboratory of Micro & Nano Materials Interface Science, College of Chemistry and Chemical Engineering, Central South University, Changsha 410083, Hunan, China

b. Hunan Key Laboratory for Super-microstructure and Ultrafast Process, School of Physics and Electronics, Central South University, Changsha 410083, Hunan, China

c. College of Chemistry, Sichuan University, Chengdu 610064, China

d. Key Laboratory of Materials Processing and Mold, Ministry of Education, Zhengzhou University, Zhengzhou 450002, China.

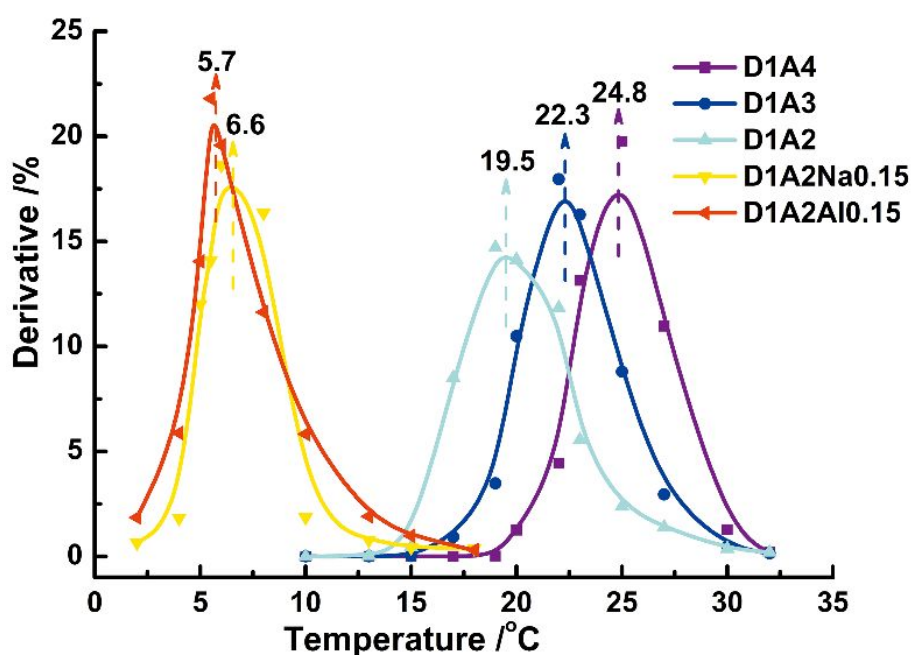


Figure S1 Differentiation of transparency to temperature of hydrogel.

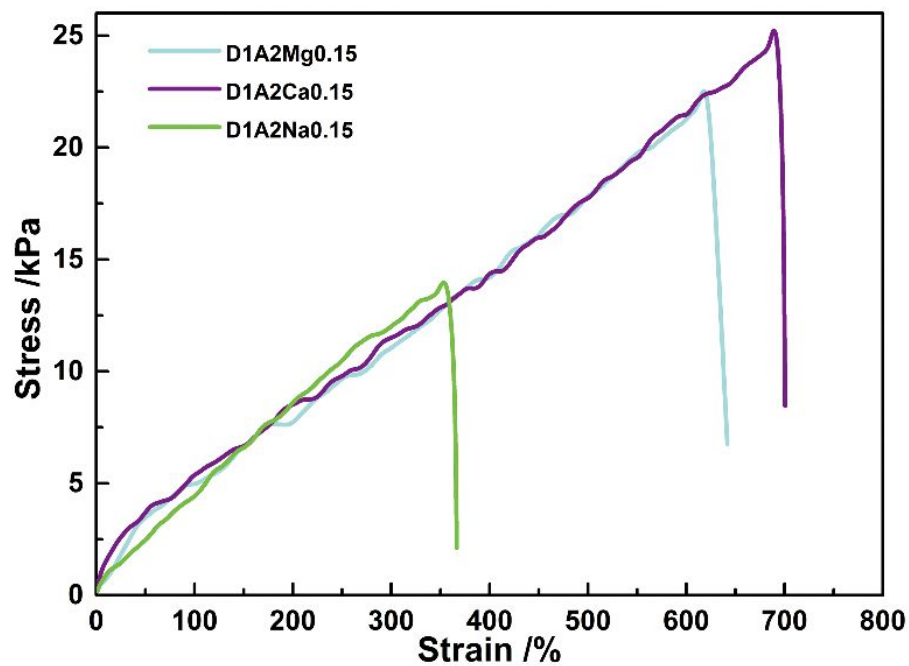


Figure S2 Mechanical properties of crosslinked hydrogels with different metal ions.

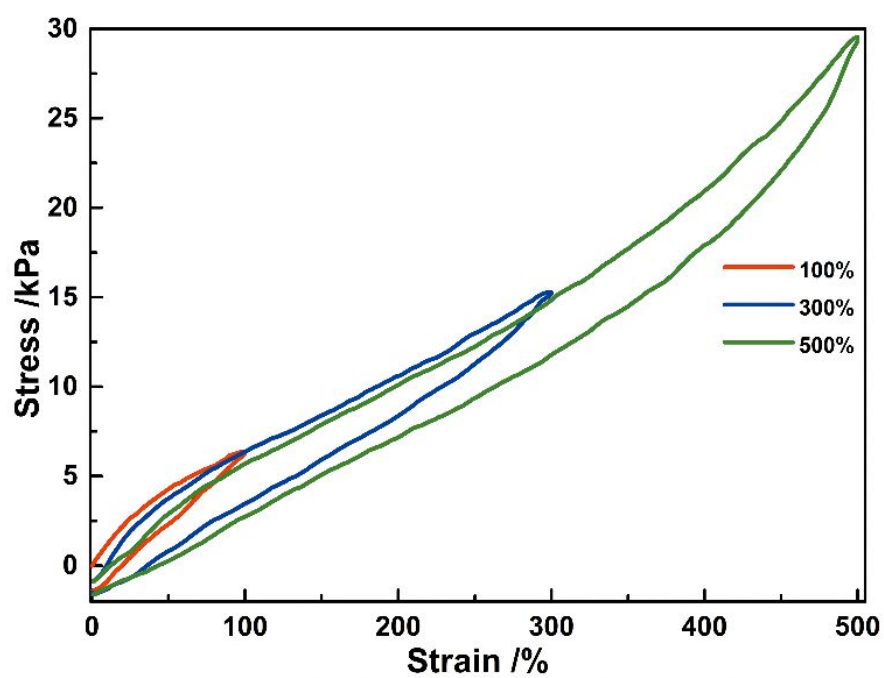


Figure S3 Loading-unloading cyclic tensile of D1A2Al0.15 under different strains.

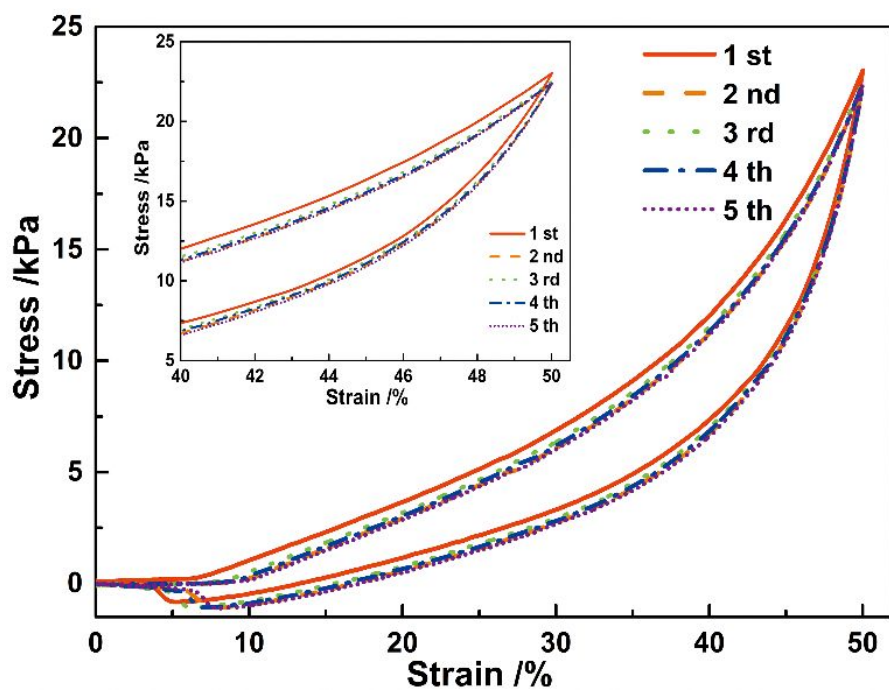


Figure S4 Cyclic compression properties of D1A2A10.15 at strain of 50%.

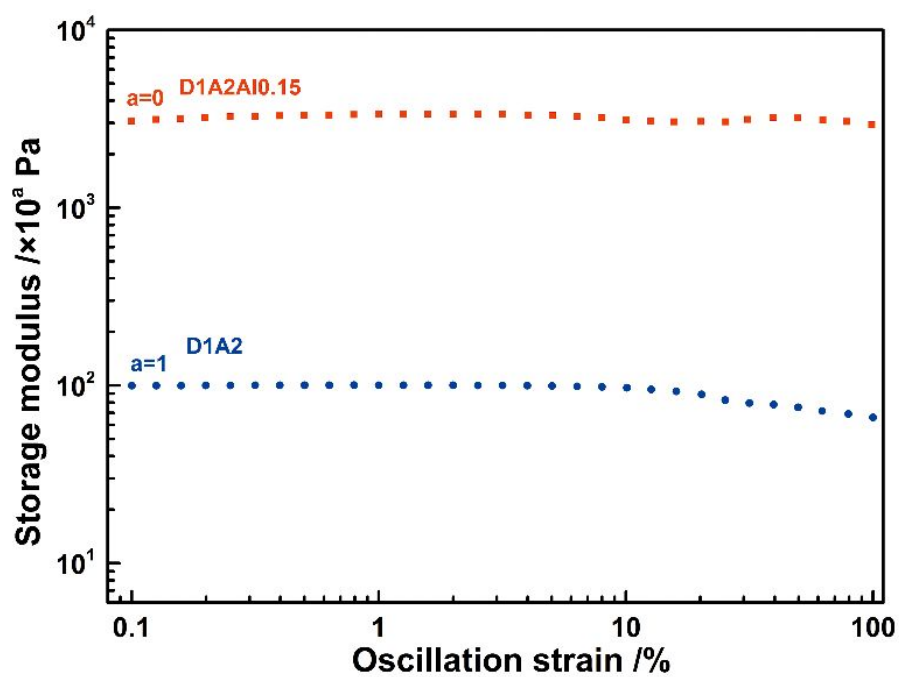


Figure S5 Rheological properties of hydrogels with oscillation strain.

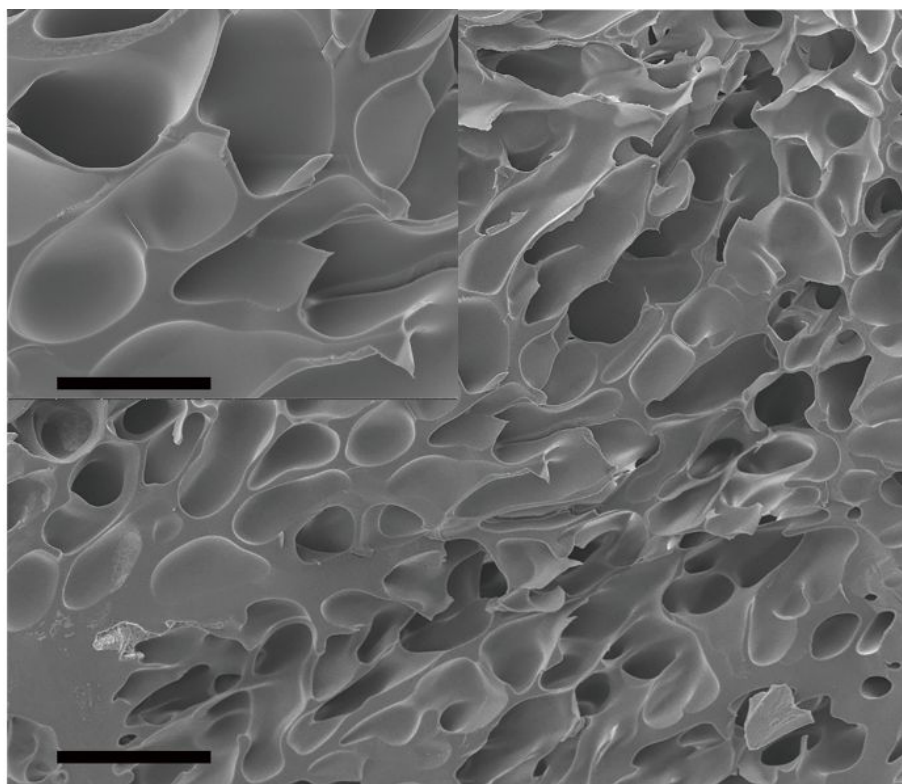


Figure S6 SEM image of D1A2Na0.15.

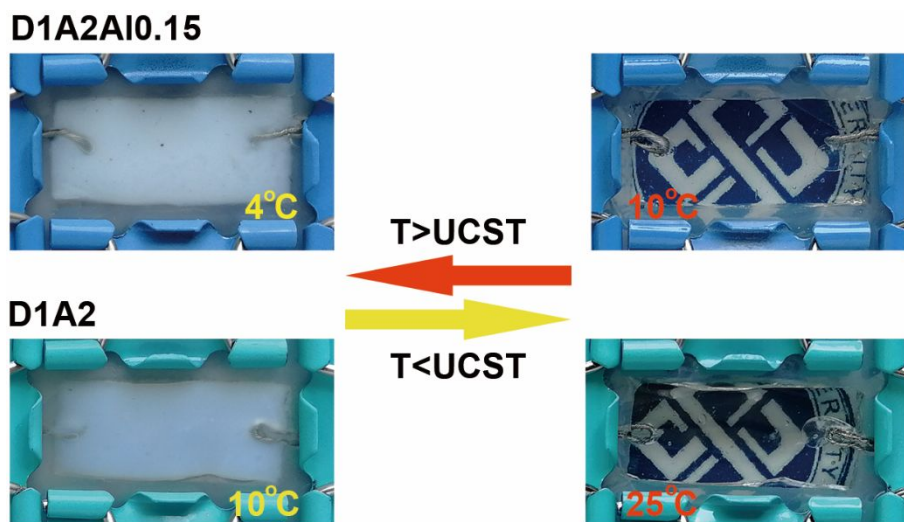


Figure S7 Visual temperature response performance of sensors. (The Central South University logo is used with permission.)

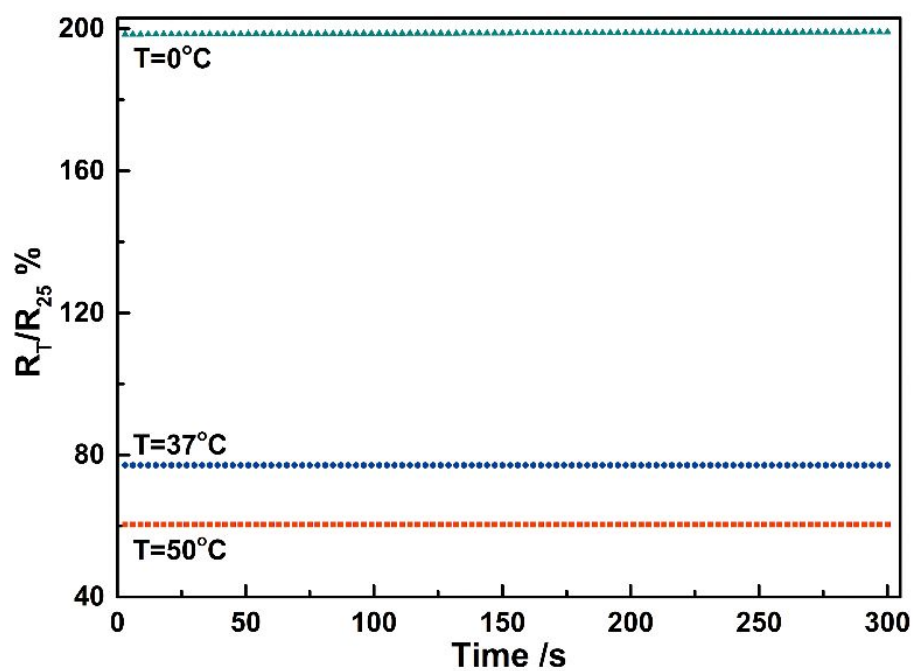


Figure S8 The resistance stability of D1A2 at 0, 37 and 50°C.

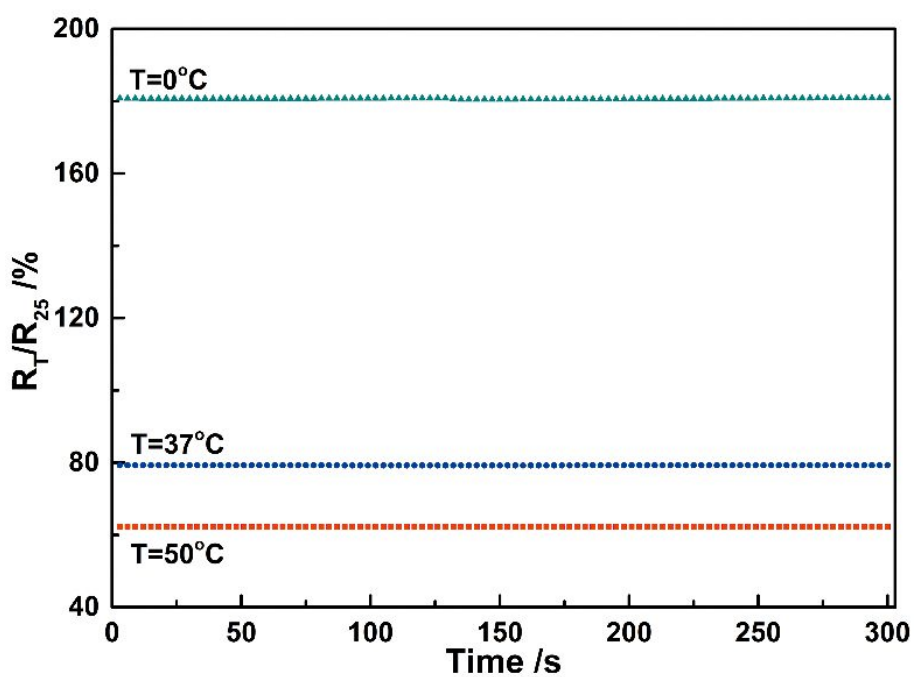


Figure S9 The resistance stability of D1A2Al_{0.15} at 0, 37 and 50°C.

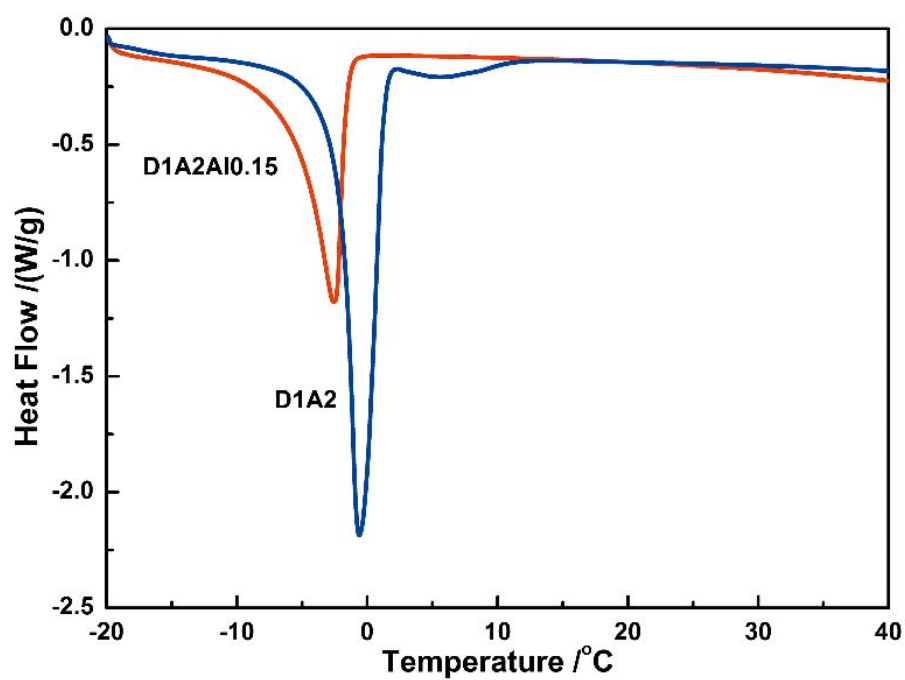


Figure S10 DSC analysis of D1A2Al0.15 and D1A2.

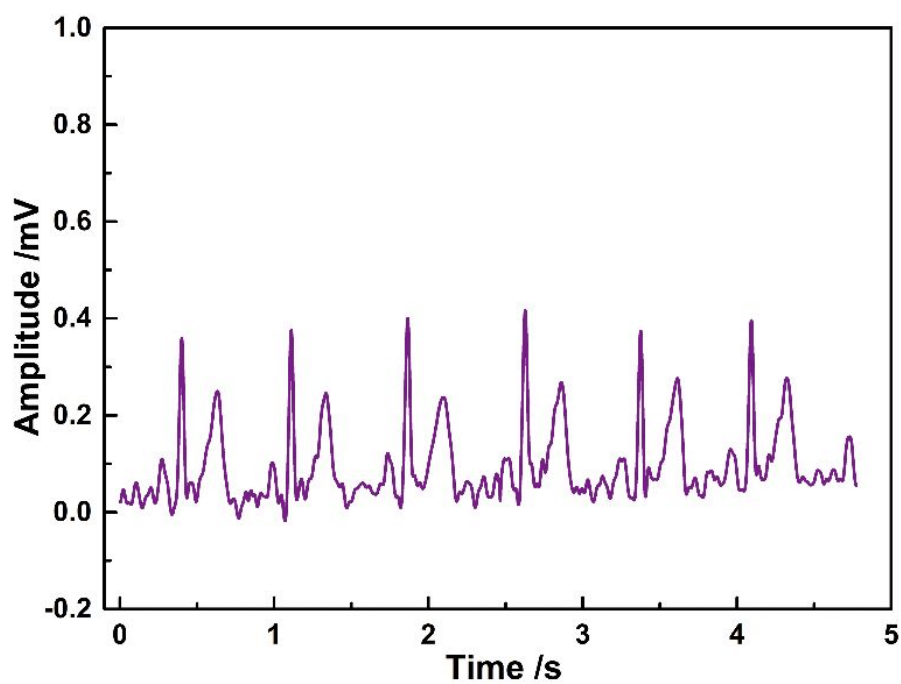


Figure S11 ECG signal monitoring of commercial Ag/AgCl electrode.