

Supporting Information

Highly Sensitive Strain-sensor Based on Silica@Polyaniline Core-Shell Particle Reinforced Hydrogel with Excellent Flexibility, Stretchability, Toughness and Conductivity

Youqiang Li, Chuang Liu, Xue Lv*, Shulin Sun*

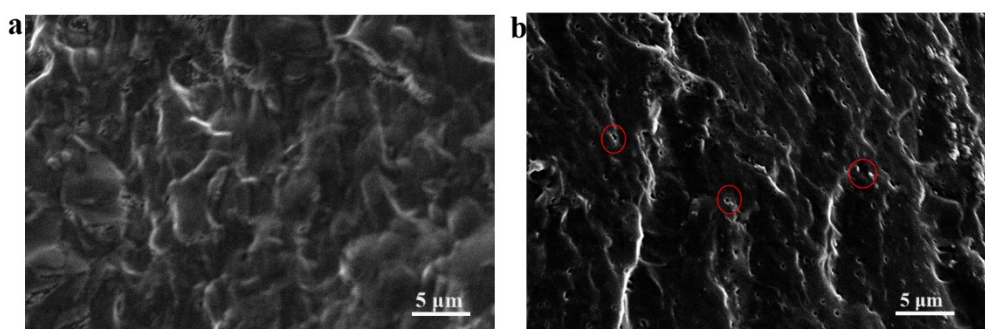


Fig. S1 SEM image of the pure PAM hydrogel (a) and the PAM-SiO₂@PANI hydrogel (b)

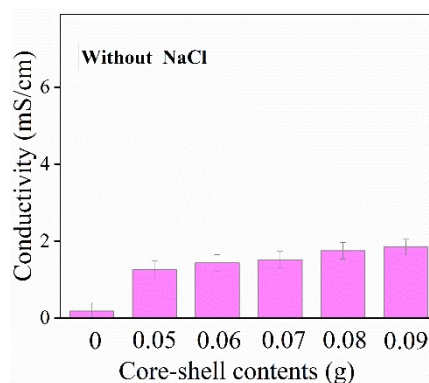


Fig. S2 Conductivity of CHs-SiO₂@PANI hydrogels with different PANI@SiO₂ content

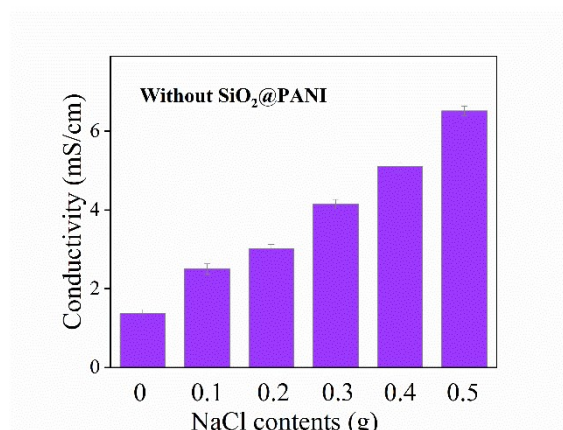


Fig. S3 Conductivity of CHs-NaCl hydrogels with different NaCl content

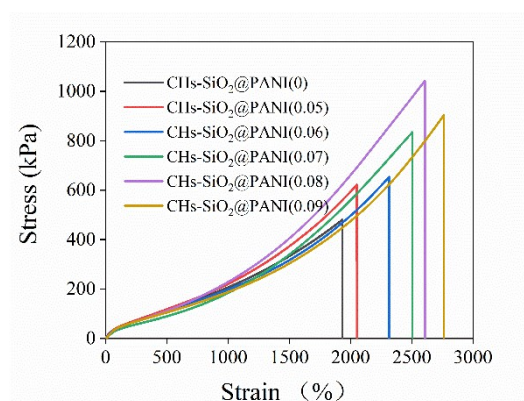


Fig. S4 Stress-strain curves of CHs-SiO₂@PANI hydrogels with different PANI@SiO₂ content

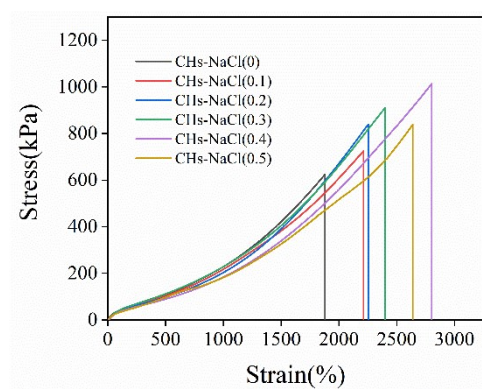


Fig. S5 Stress-strain curves of CHs-NaCl hydrogels with different NaCl content

Table S1. The composition of the CHs-SiO₂@PANI hydrogels

Sample	H ₂ O	SDS	NaCl	LMA	SiO ₂ @PAN I	AM	KPS	TMEDA
CHs-SiO ₂ @PANI(0)	27 g	0.5 g	0 g	0.3 g	0 g	9 g	0.03 g	60 μL
CHs-SiO ₂ @PANI(0.05)	27 g	0.5 g	0 g	0.3 g	0.05 g	9 g	0.03 g	60 μL
CHs-SiO ₂ @PANI(0.06)	27 g	0.5 g	0 g	0.3 g	0.06 g	9 g	0.03 g	60 μL
CHs-SiO ₂ @PANI(0.07)	27 g	0.5 g	0 g	0.3 g	0.07 g	9 g	0.03 g	60 μL
CHs-SiO ₂ @PANI(0.08)	27 g	0.5 g	0 g	0.3 g	0.08 g	9 g	0.03 g	60 μL
CHs-SiO ₂ @PANI(0.09)	27 g	0.5 g	0 g	0.3 g	0.09 g	9 g	0.03 g	60 μL

Table S2. The composition of the CHs-NaCl hydrogels

Sample	H ₂ O	SDS	NaCl	LMA	SiO ₂ @PANI	AM	KPS	TMEDA
CHs-NaCl(0)	27 g	0.5 g	0	0.3 g	0 g	9 g	0.03 g	60 μL
CHs-NaCl(0.1)	27g	0.5 g	0.1 g	0.3g	0g	9 g	0.03 g	60 μL
CHs-NaCl(0.2)	27g	0.5 g	0.2 g	0.3 g	0g	9 g	0.03 g	60 μL
CHs-NaCl(0.3)	27g	0.5 g	0.3 g	0.3 g	0g	9 g	0.03 g	60 μL
CHs-NaCl(0.4)	27g	0.5 g	0.4 g	0.3 g	0g	9 g	0.03 g	60 μL
CHs-NaCl(0.5)	27g	0.5 g	0.5 g	0.3 g	0g	9 g	0.03 g	60 μL