Temperature and light dual-responsive hydrogels for anti-inflammation and wound repair monitoring

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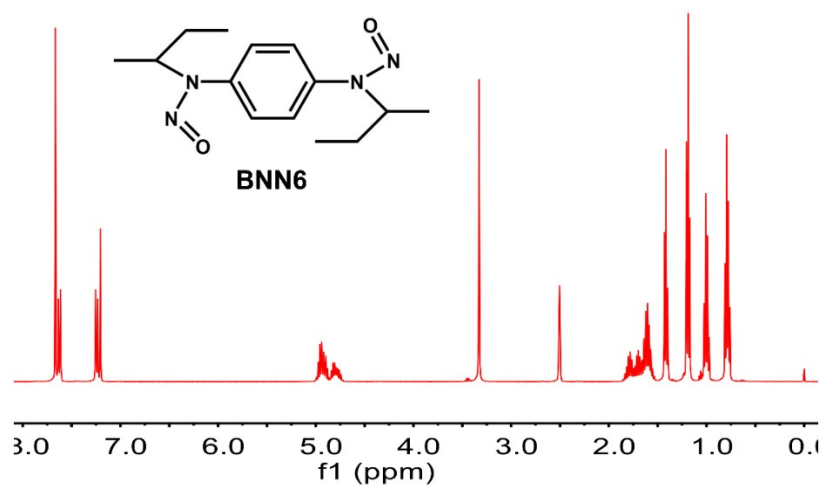Corresponding author: Jie Ding (E-mail: jie_ding@scu.edu.cn)

Figure S1. 1H NMR spectra of BNN6. δ = 7.52 (4H), 4.95 4.69 (2H), 2.00 1.84 (2H), 1.81 1.69 (2H), 1.48 (t, J=7.6Hz, 6H), 1.08 (td, J=7.4, 5.3Hz, 6H).
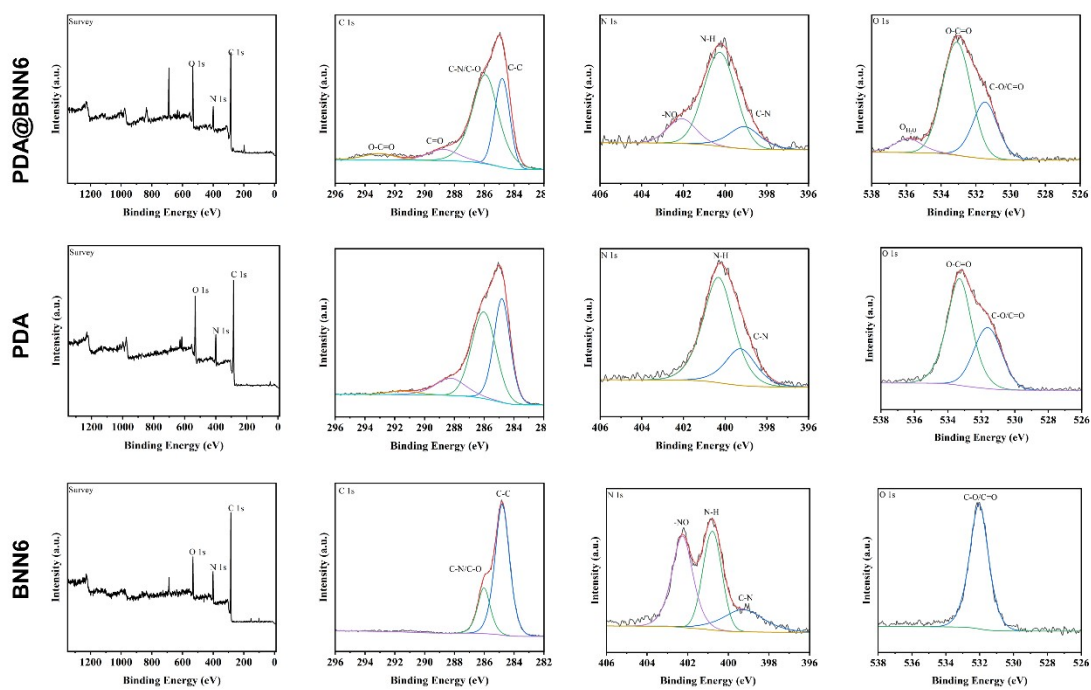

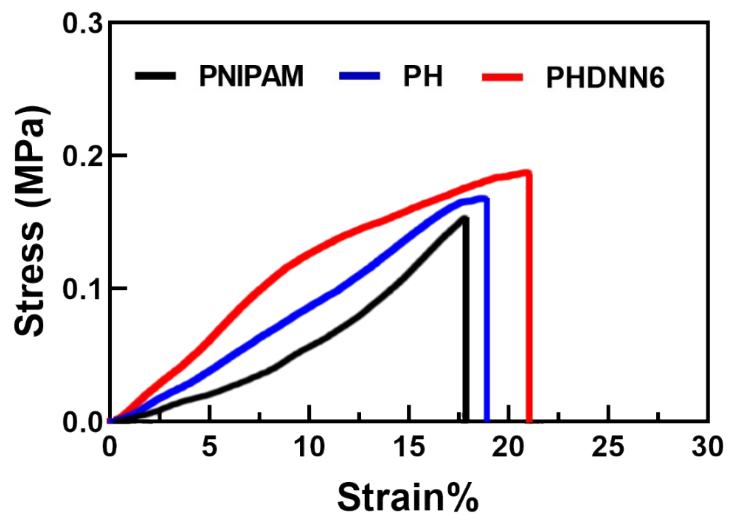Figure S2. C1s, N1s and O1s XPS of PDA@BNN6, PDA and BNN6.

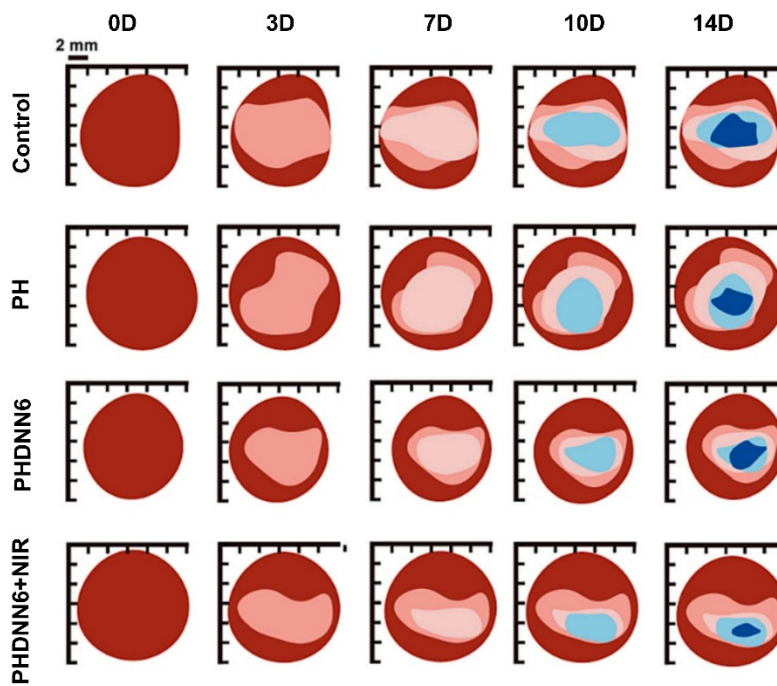Figure S3. Compressive cures of PNIPAM, PH and PHDNN6 hydrogel.

Figure S4. Schematic diagrams and in vivo quantification of the wound area of control, PH, PHDNN6 and PHDNN6+NIR after treatments on day 3, 7, 10 and 14.
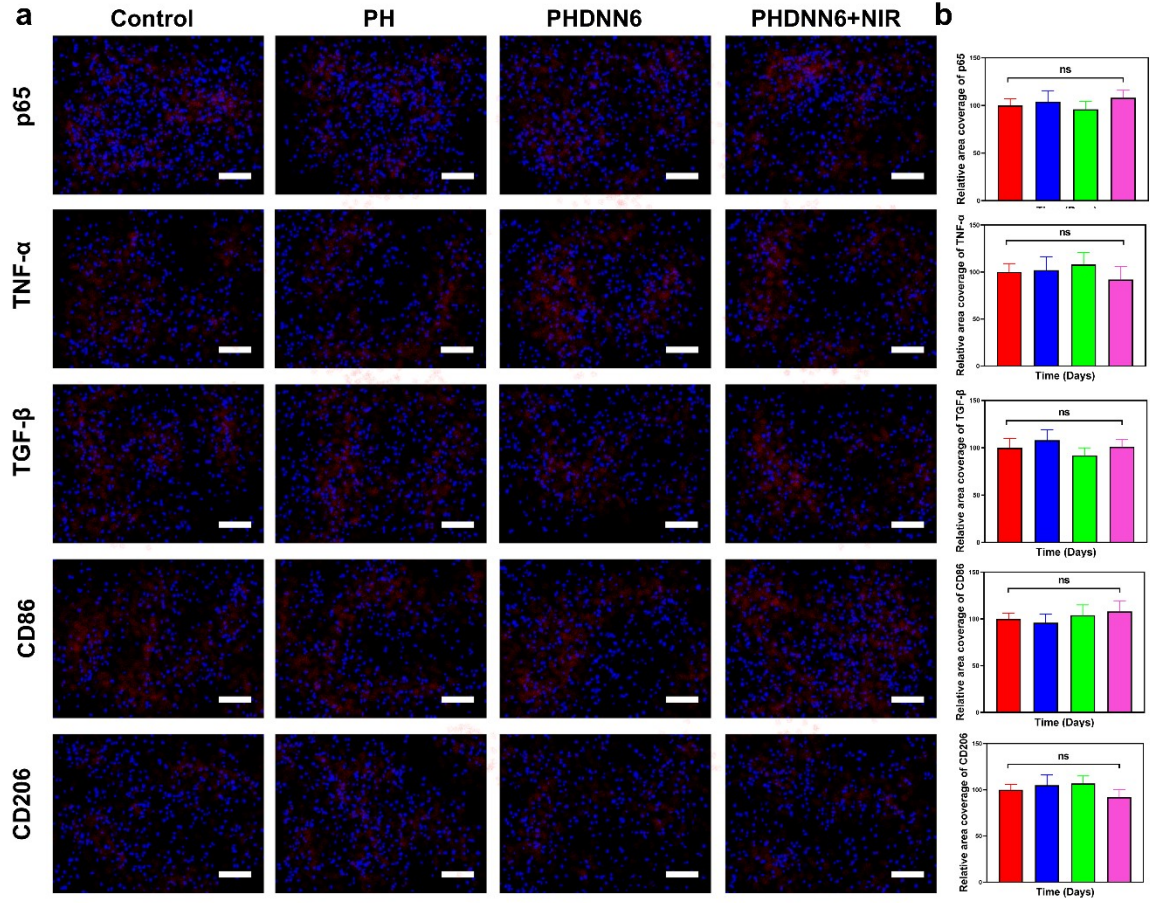
Figure S5. (a) Fluorescence staining of experimental tissue slides of control, PH, PHDNN6 and PHDNN6+NIR (scale bar=200 μm) and (b) corresponding statistical data of relative area coverage of p65, TNF-α, TGF-β, CD86 and CD206 at day 3.

Figure S6. Photographs of assemble PHDNN6 hydrogel matrix with real-time and remote monitoring module on a rat during wound healing.
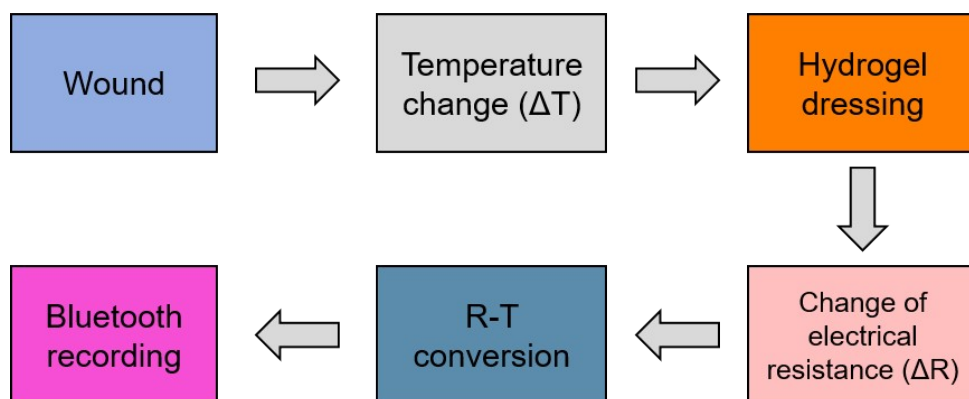
Figure S7 Mechanism of real-time and wireless monitoring of wound temperature by PHDNN6 hydrogel dressing

Table S1 Composition of hydrogels

Code	NIPAM (mg)	HA-DA-MA (mg)	PDA@BNN6 (mg)	MBA (μL)	TEMED (μL)	APS (μL)
PNIPAM	20	0	0	15	10	10
PH	10	10	0	15	10	10
PHDNN6	10	10	0.2	15	10	10