

## Supporting Information

### Bioinspired Tissue-Compliant Hydrogels with Multifunction for Synergistic Surgery-Photothermal Therapy

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## Results

1.

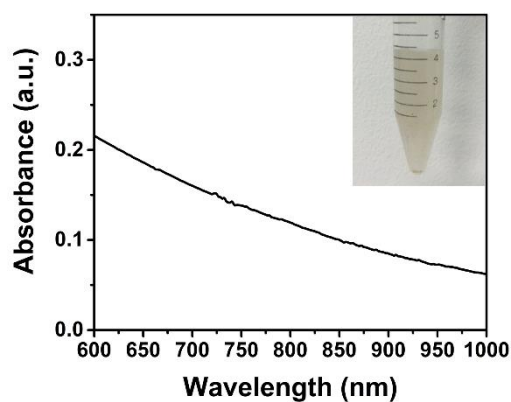
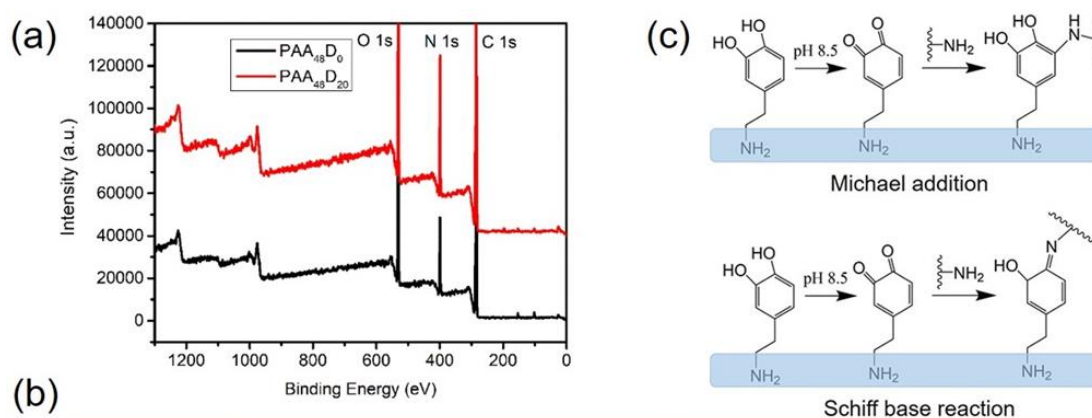


Figure S1. (a) A photograph of PDA NPs solution. (b) UV-vis spectrum of (inset) PDA NPs solution that was highly diluted.

2.



	Theoretical (%)			Determined (%)		
	C (atom)	O (atom)	N (atom)	C (atom)	O (atom)	N (atom)
PAA <sub>48</sub> D <sub>0</sub>	60.169	19.831	20.000	62.77	21.03	16.21
<sup>a</sup> PAA <sub>48</sub> D <sub>20</sub>	60.194	19.828	19.978	62.8	19.15	18.05
<sup>b</sup> PAA <sub>48</sub> D <sub>20</sub>	60.205	19.813	19.982			

a: Michael addition; b: Schiff base reaction

Figure S2. XPS analysis of hydrogels. Elemental (a) spectra and (b) content. (c) Potential chemical reactions of PDA with the nucleophilic amine groups of hydrogels.

3.

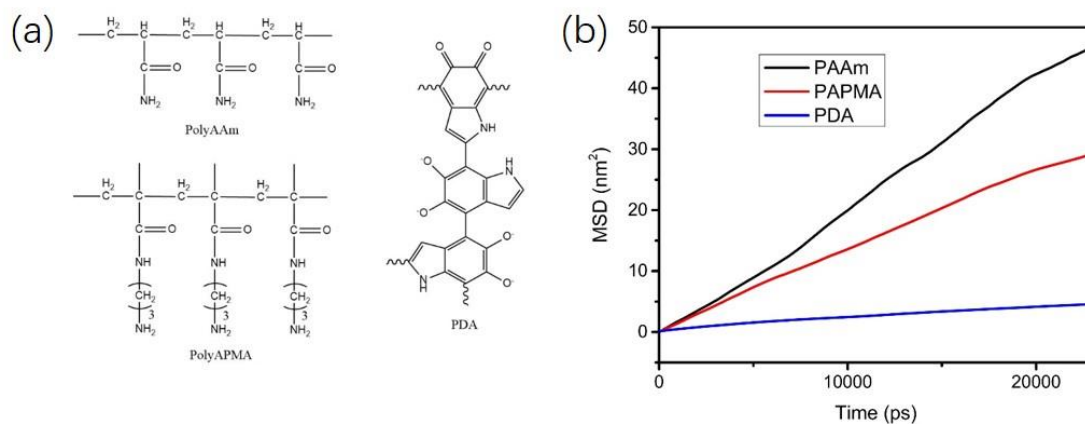


Figure S3. (a) The structures of polymers having 3 repeated monomer units, (b) MSD values as a function of running time in the PAAm/PAPMA/PDA/water system.

4.

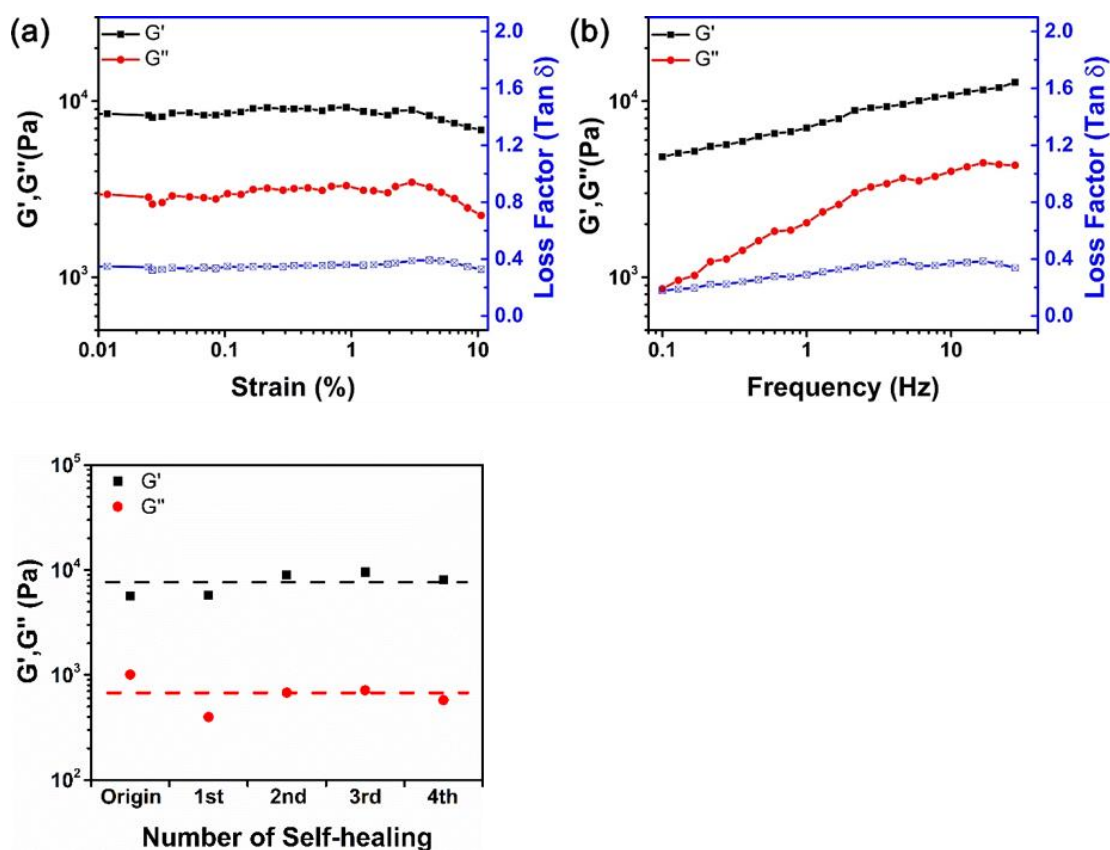


Figure S4. Dynamic mechanical analysis of hydrogels. (a) Strain amplitude sweep, (b) frequency sweep and (c) self-healing tests. The data in (c) was averaged by G' and G'' for time sweep in 10 min.

5.

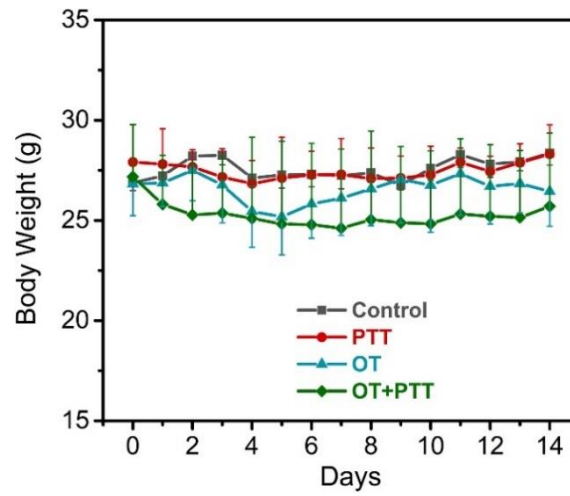


Figure S5. The body weight in the mice that underwent different treatments.

6.

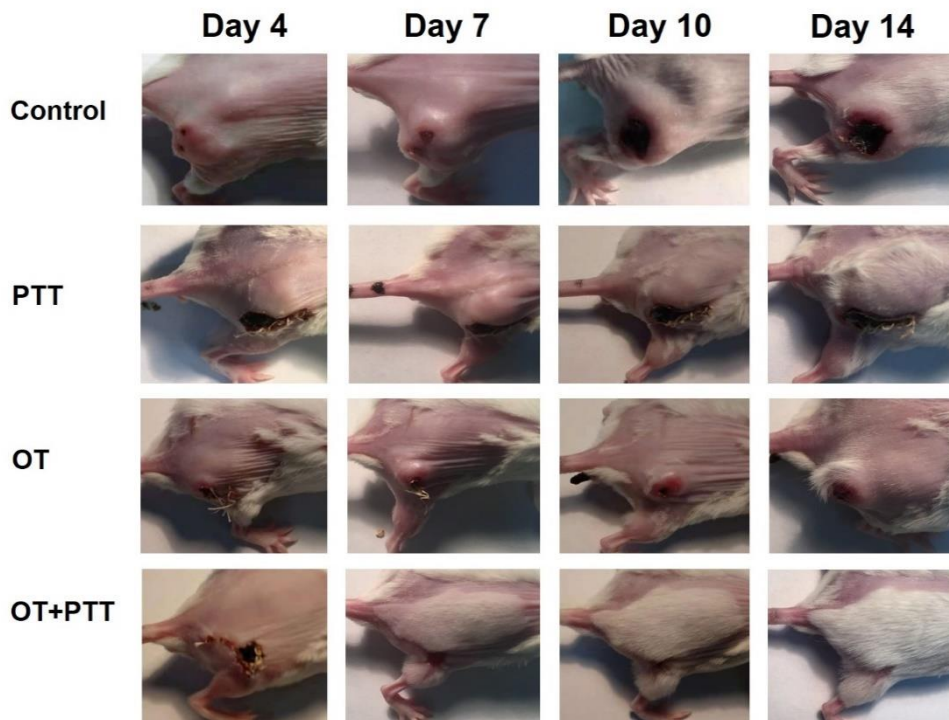


Figure S6. Cancer recurrence in different groups. The results revealed that the OT+PTT strategy can ablate tumors and suppress their growth.

7.

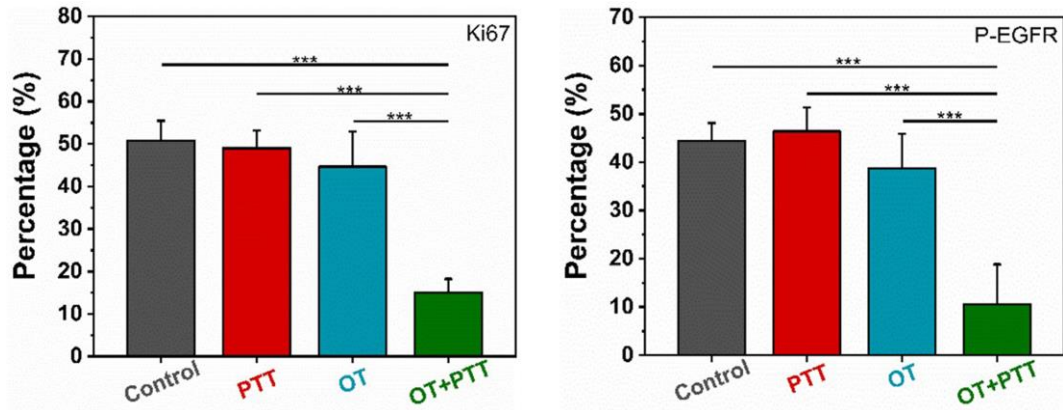


Figure S7. The analysis of Ki-67-, and p-EGFR-stained sections tumors after different treatments. Tumors were excised from 4T1 tumor-bearing mice on Day 14. Each data point is the average of 5 random regions (80  $\mu\text{m}$   $\times$  60  $\mu\text{m}$ ) in (Figure 7b, c, respectively), with the error bars showing the standard deviation. \* $P < 0.05$ , \*\* $P < 0.01$ , \*\*\* $P < 0.001$ . For the “OT+PPT“ group, the tissue where tumors were seeded was excised and analyzed.