

## SUPPORTING INFORMATION

### **Poly(3-hexylthiophene) nanoparticles as visible-light photoinitiators and photosensitizers in 3D printable acrylic hydrogels for photodynamic therapies**

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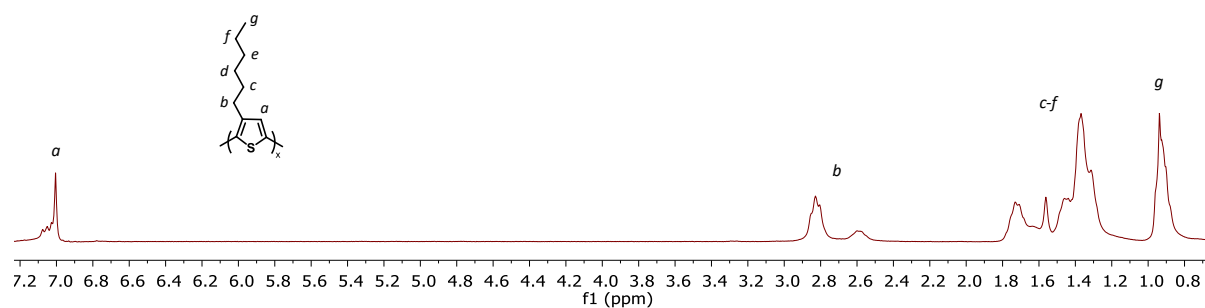
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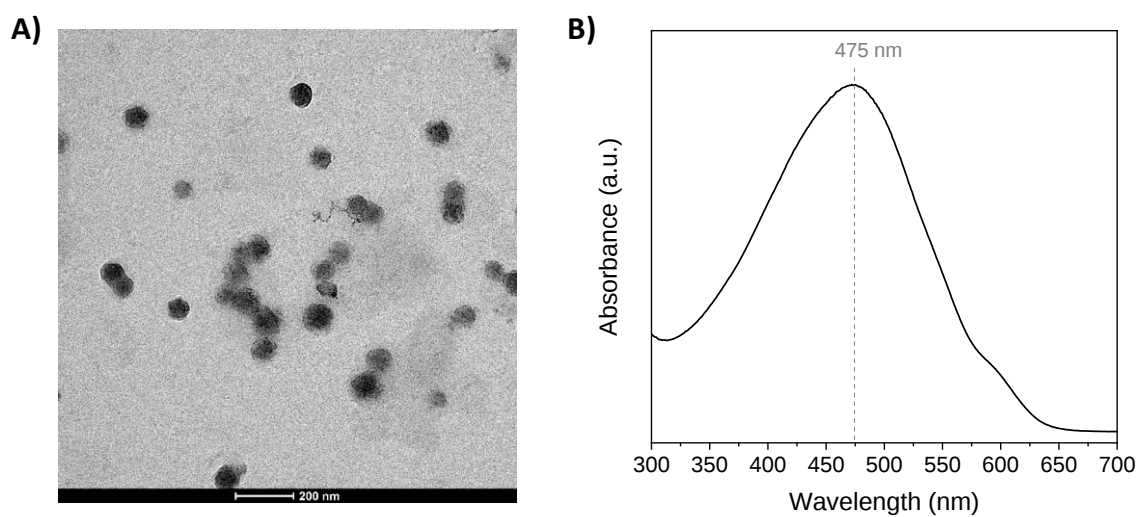
*\*Corresponding Authors*

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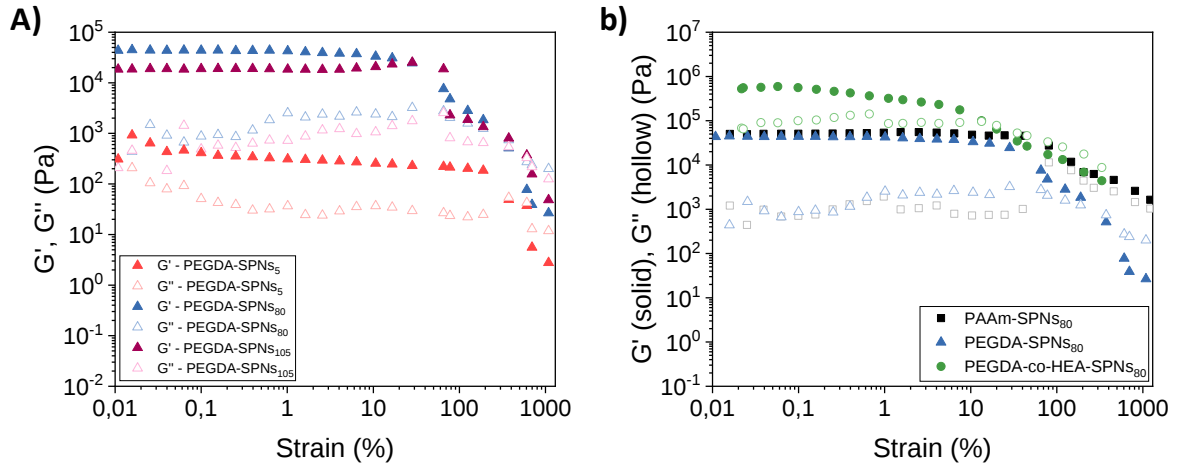
## SUPPLEMENTARY FIGURES



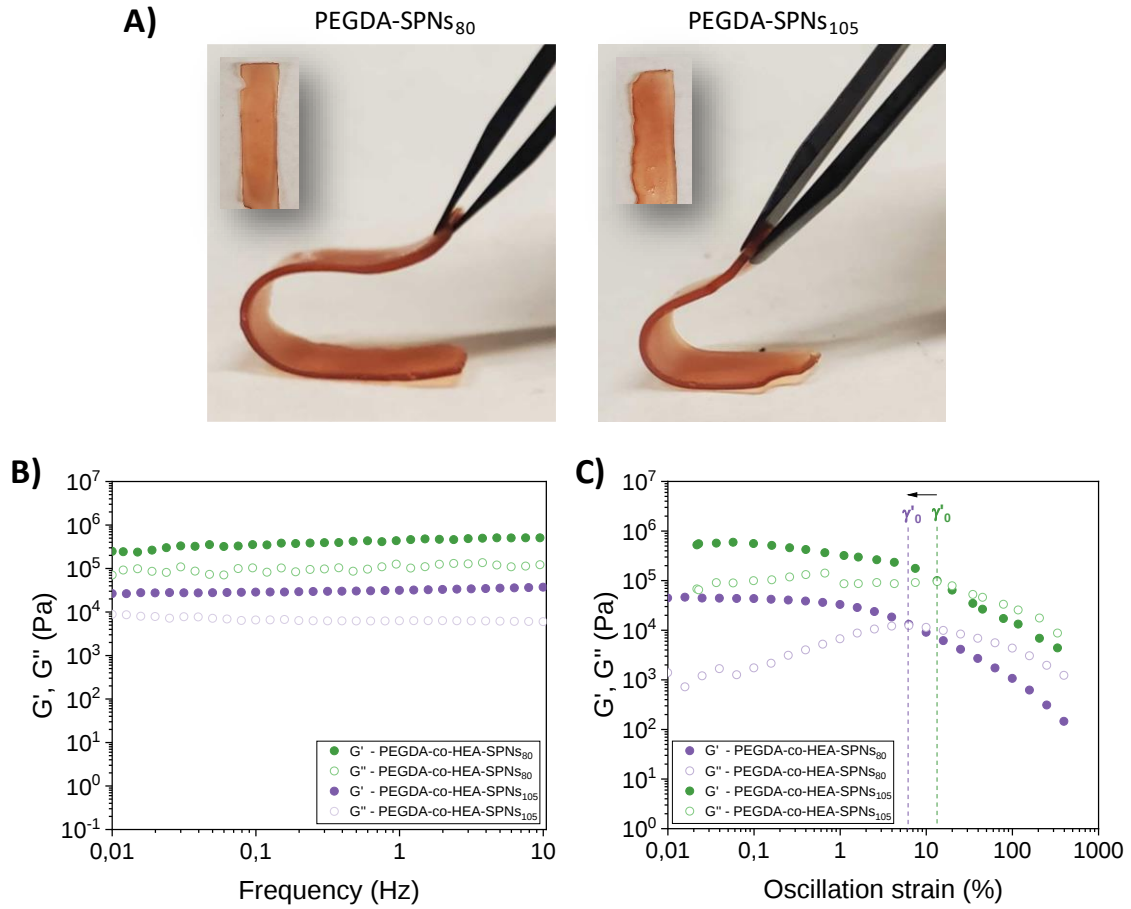
**Fig. S1**  $^1\text{H}$  NMR spectrum of synthesized P3HT.



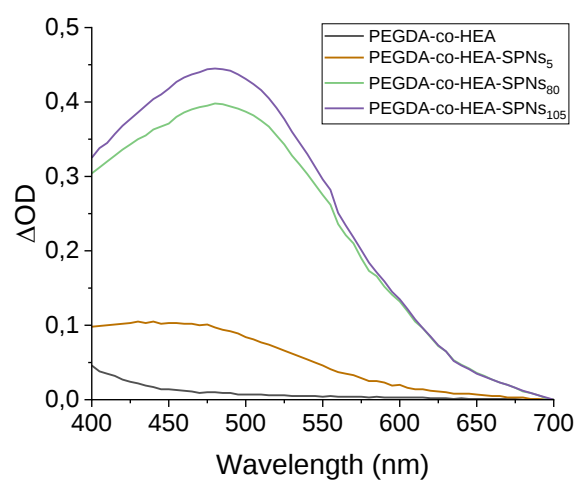
**Fig. S2** (A) TEM image and (B) UV-vis absorption spectrum of synthesized P3HT SPNs.



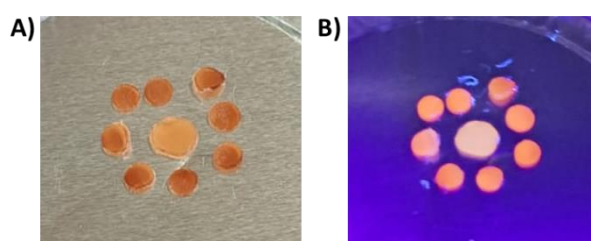
**Fig. S3** Elastic modulus ( $G'$ ) and Loss modulus ( $G''$ ) of (A) PEGDA-SPNs<sub>x</sub> and (B) PAAm-SPNs<sub>80</sub>, PEGDA-SPNs<sub>80</sub>, and PEGDA-co-HEA-SPNs<sub>80</sub> hydrogels as a function of the oscillation strain.



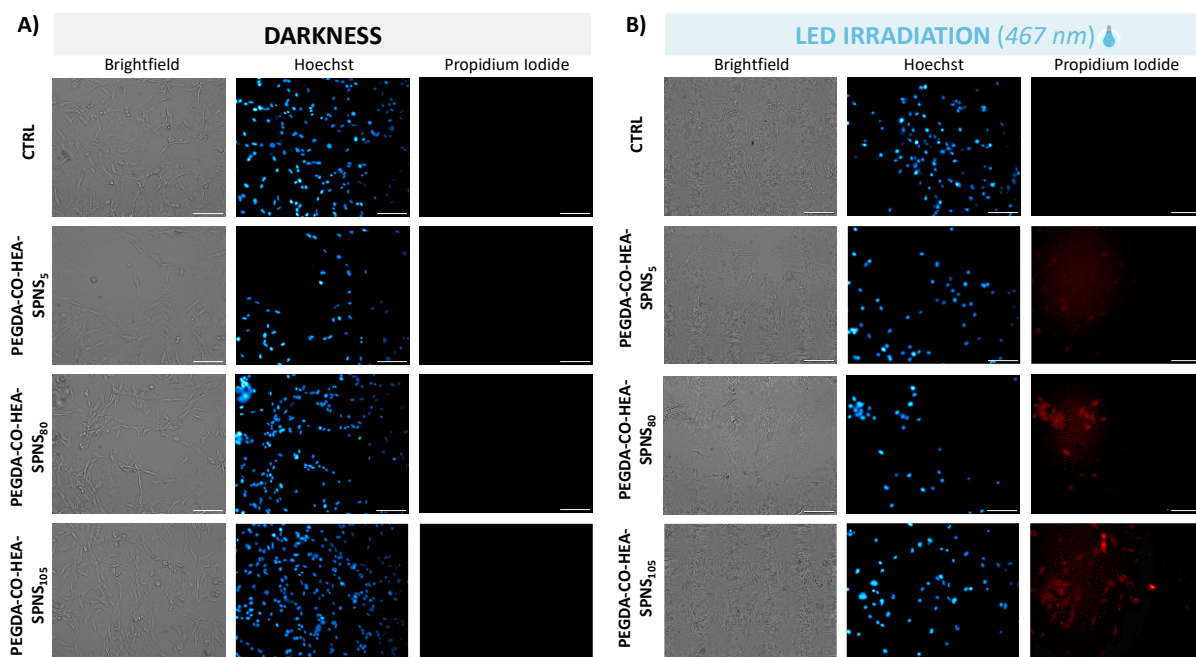
**Fig. S4** (A) Representative pictures of PEGDA-co-HEA-SPNs<sub>x</sub> hydrogels that show their flexibility properties. Elastic modulus ( $G'$ ) and Loss modulus ( $G''$ ) of PEGDA-co-HEA-SPNs<sub>x</sub> hydrogel as a function of the (B) frequency and (C) oscillation strain.



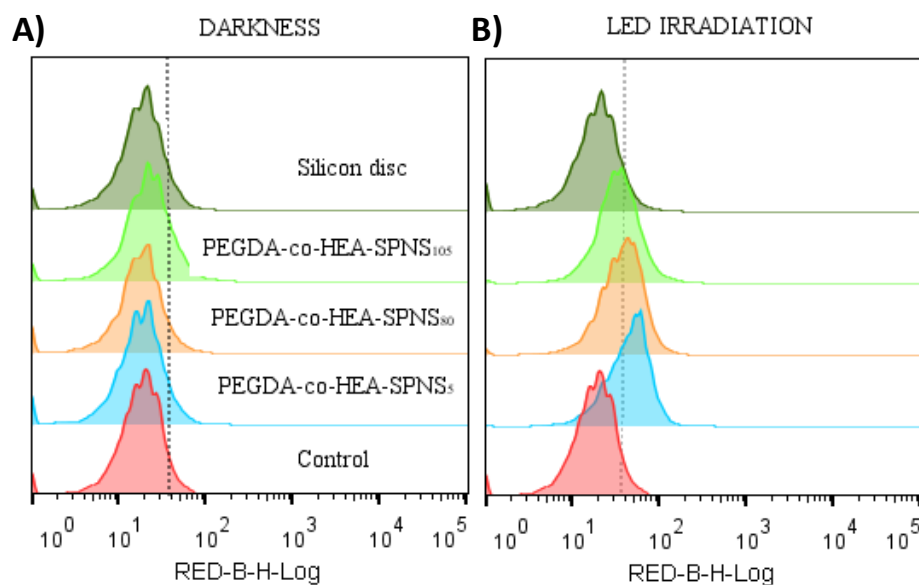
**Fig. S5** UV-vis spectra of PEGDA-co-HEA and PEGDA-co-HEA-SPNS<sub>x</sub> (x = 5, 80, and 105 mg mL<sup>-1</sup>) hydrogels.



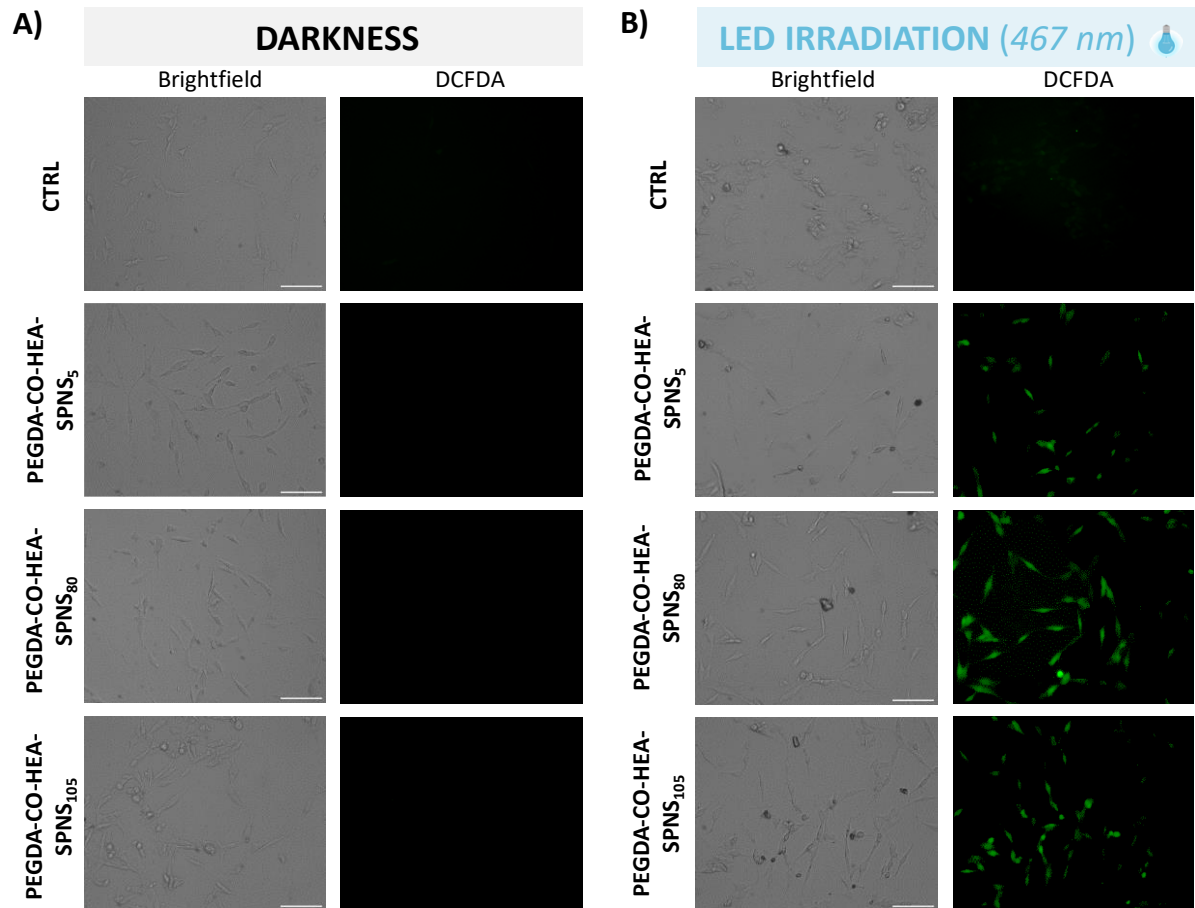
**Fig. S6** Pictures of PEGDA-co-HEA-SPNS<sub>80</sub> hydrogels (A) before and (B) after light excitation ( $\lambda_{\text{exc}} = 250$  nm) emitting fluorescence.



**Fig. S7** Fluorescence microscopy images of mouse glioma 261 (GL261) cells in contact with silicone disks (CTRL) and PEGDA-co-HEA-SPNs<sub>x</sub> hydrogels (A) before and (B) after LED irradiation ( $\lambda = 467 \text{ nm}$ ;  $60 \text{ mW cm}^{-2}$ ,  $40 \text{ J cm}^{-2}$ ) for 10 min. Scale bars =  $100 \mu\text{m}$ .



**Fig. S8** Flow cytometry results of mouse glioma 261 (GL261) cells in contact with silicone disks (CTRL) and PEGDA-co-HEA-SPNs<sub>x</sub> hydrogels, (A) before and (B) after LED irradiation ( $\lambda = 467 \text{ nm}$ ;  $60 \text{ mW cm}^{-2}$ ,  $40 \text{ J cm}^{-2}$ ) for 10 min.



**Fig. S9** Fluorescence microscopy images of mouse glioma 261 (GL261) cells in contact with silicone disks (CTRL) and PEGDA-co-HEA-SPNS<sub>x</sub> hydrogels, and incubated with the fluorescence probe DCFDA, (A) before and (B) after LED irradiation ( $\lambda = 467 \text{ nm}$ ;  $60 \text{ mW cm}^{-2}$ ,  $40 \text{ J cm}^{-2}$ ) for 10 min. Scale bars =  $100 \text{ }\mu\text{m}$ .