

## Supporting Information

### INDUCTION OF IMMUNOGENIC CELL DEATH IN BREAST CANCER BY CONDUCTIVE POLYMER NANOPARTICLE-MEDIATED PHOTOTHERMAL THERAPY

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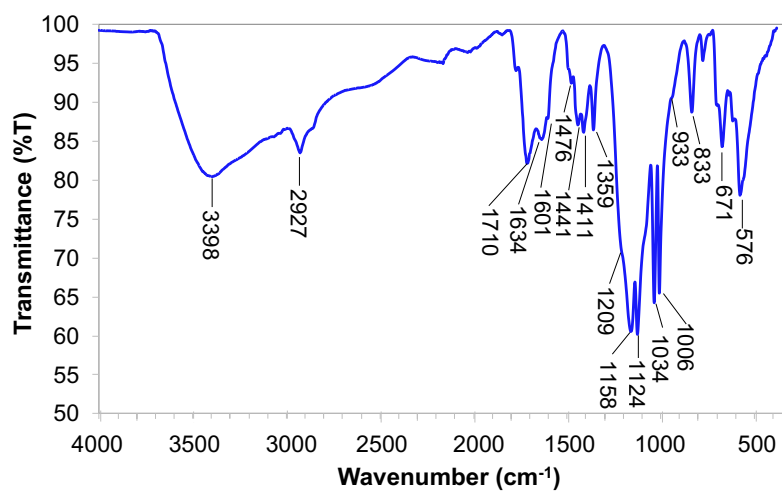
601 University Drive

San Marcos, TX 78666

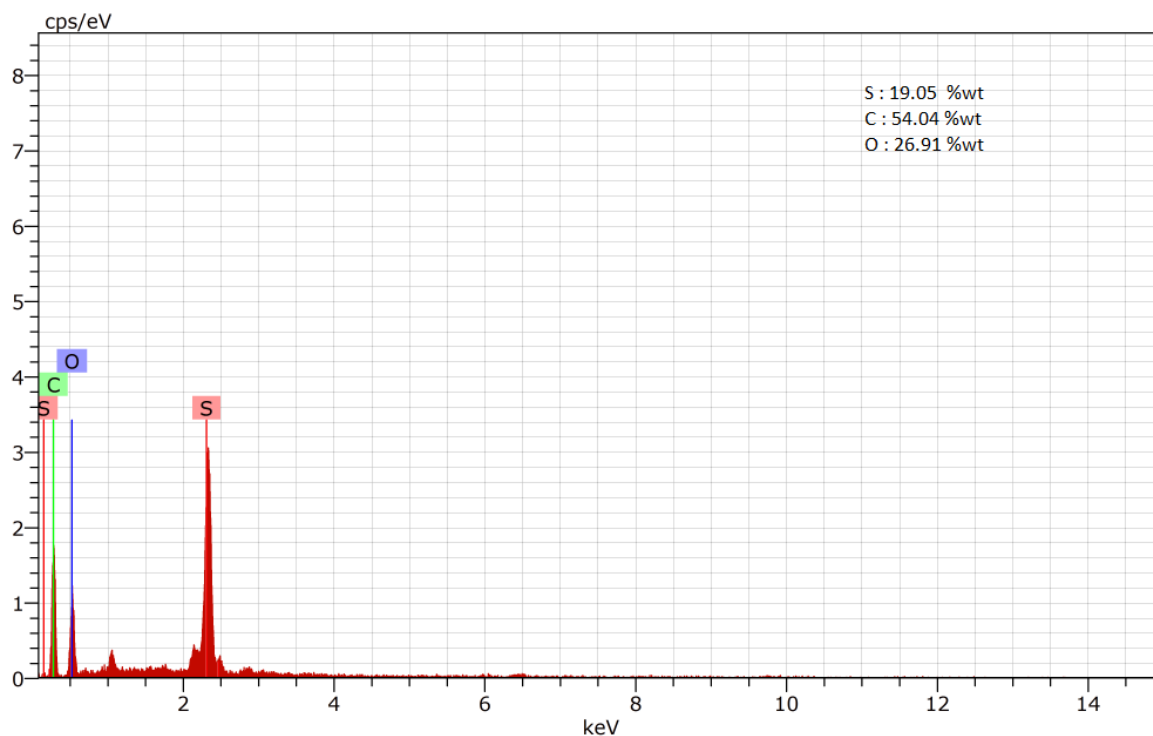
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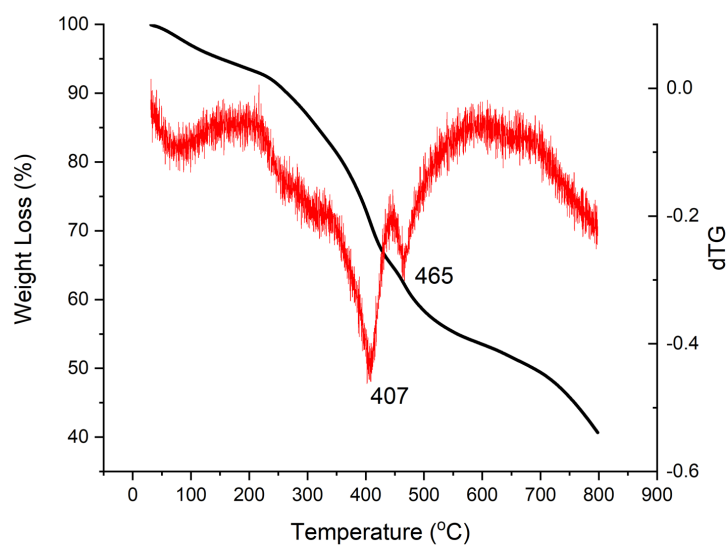
## S.1 Supplemental Figures



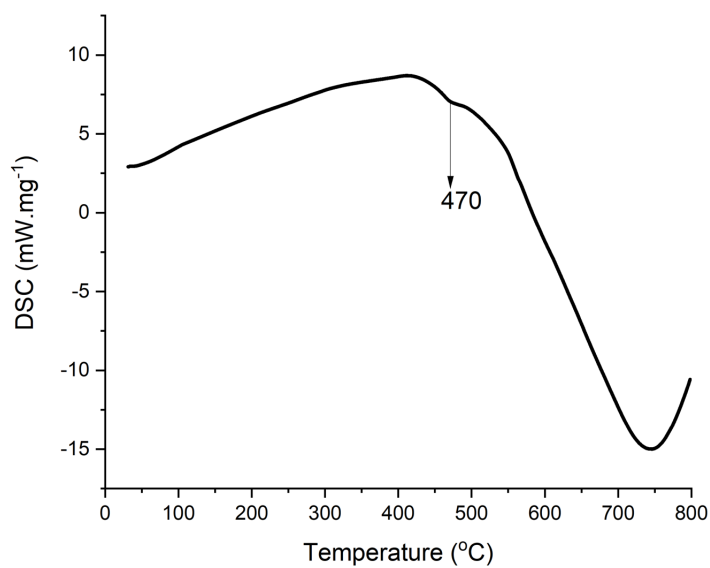
**Figure S1.** FTIR spectrum of NPs.



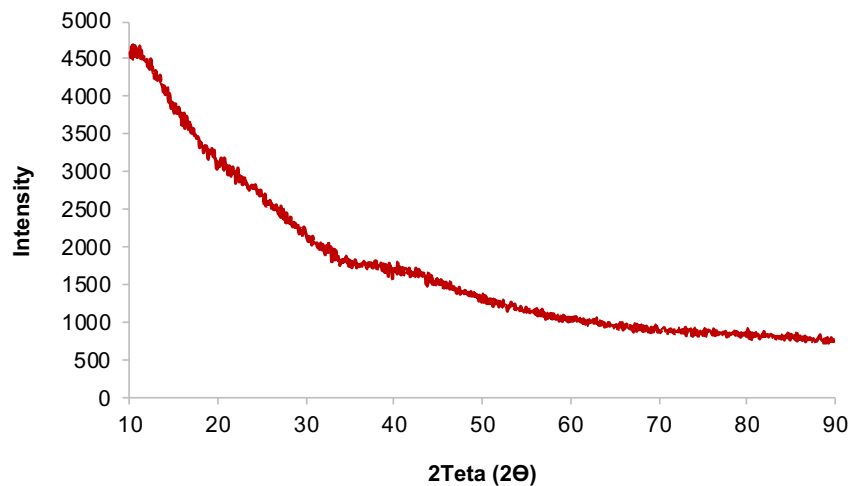
**Figure S2.** EDX spectra of PEDOT NPs showing the presence of the elements C, O, and S, as expected for NPs containing PEDOT and the anionic surfactants PSS-co-MA and DBSA.



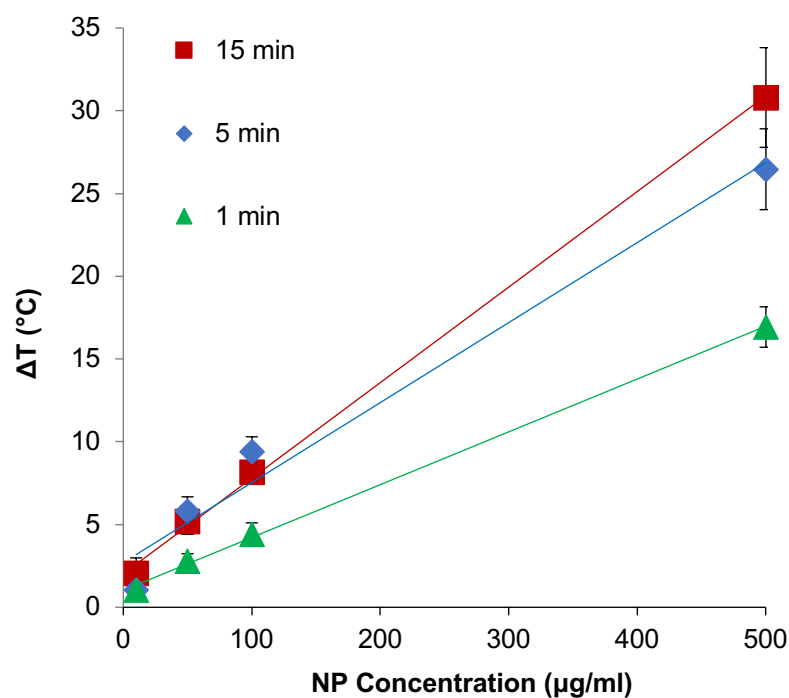
**Figure S3.** TGA (black) and dTG (red) curves of PEDOT NPs. Heating was carried out in the temperature range of 30–800 °C at a heating rate of 5 °C min<sup>-1</sup> in a N<sub>2</sub> atmosphere.



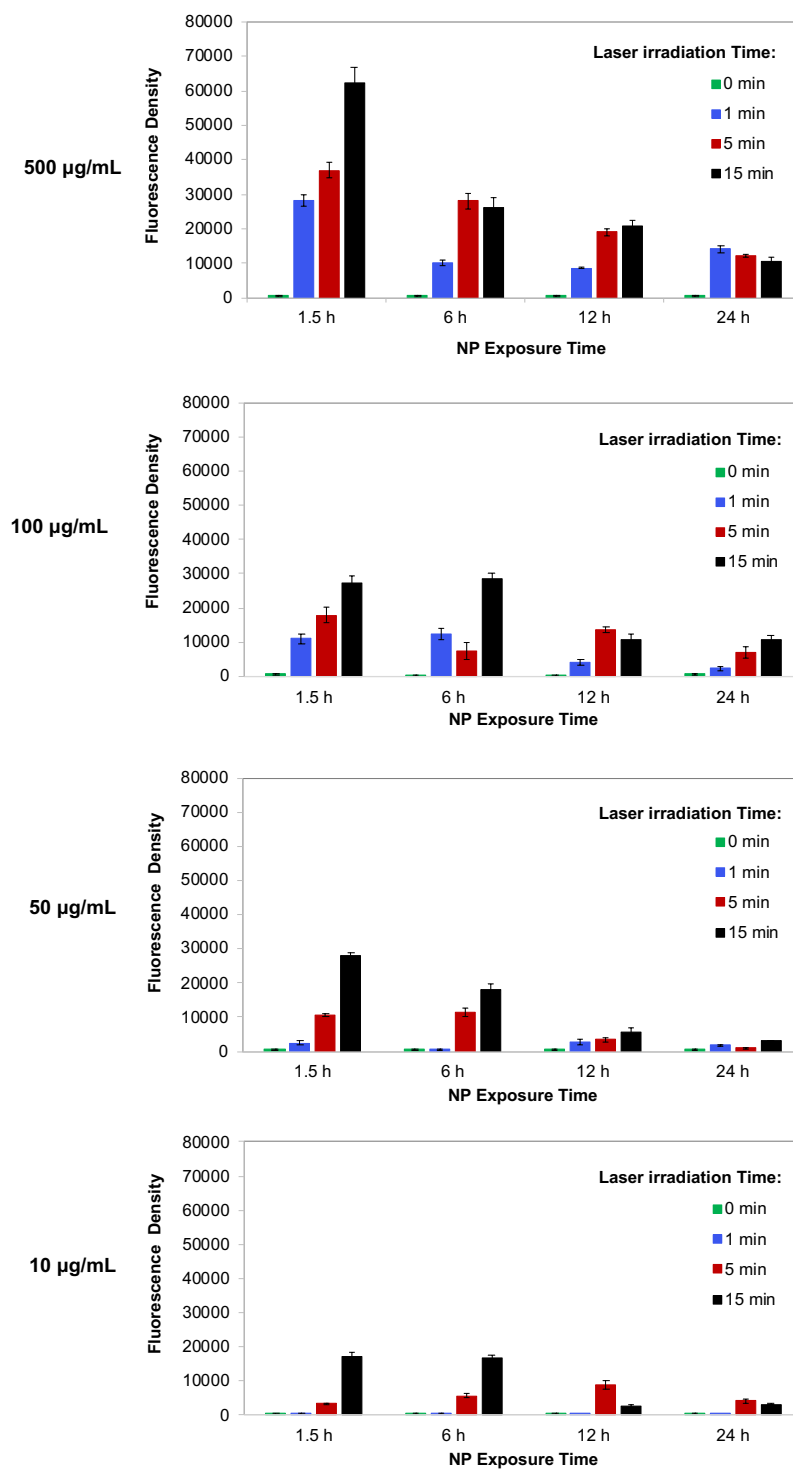
**Figure S4.** DSC curve of PEDOT NPs



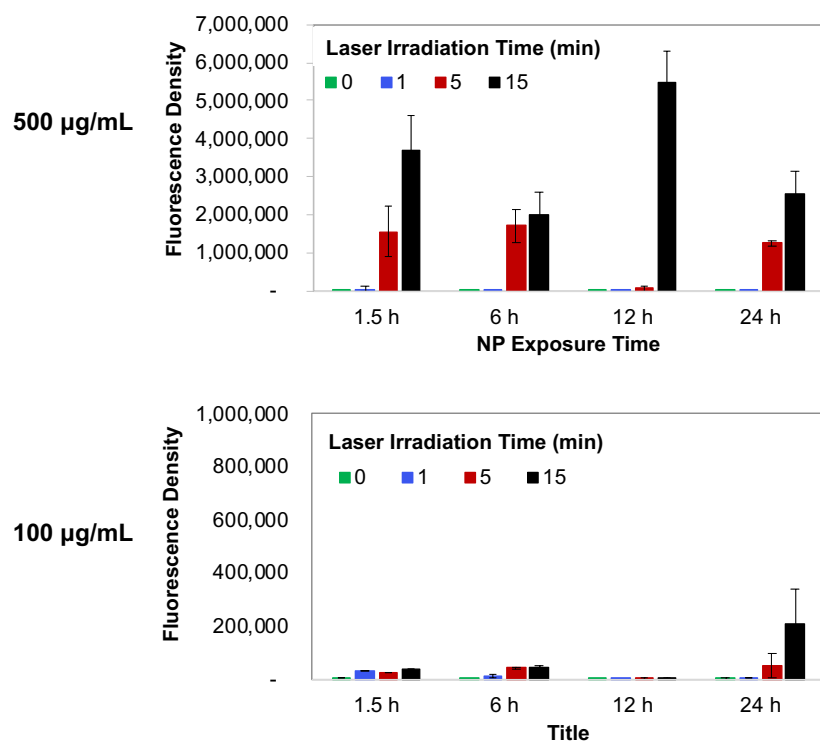
**Figure S5.** XRD pattern of PEDOT NPs



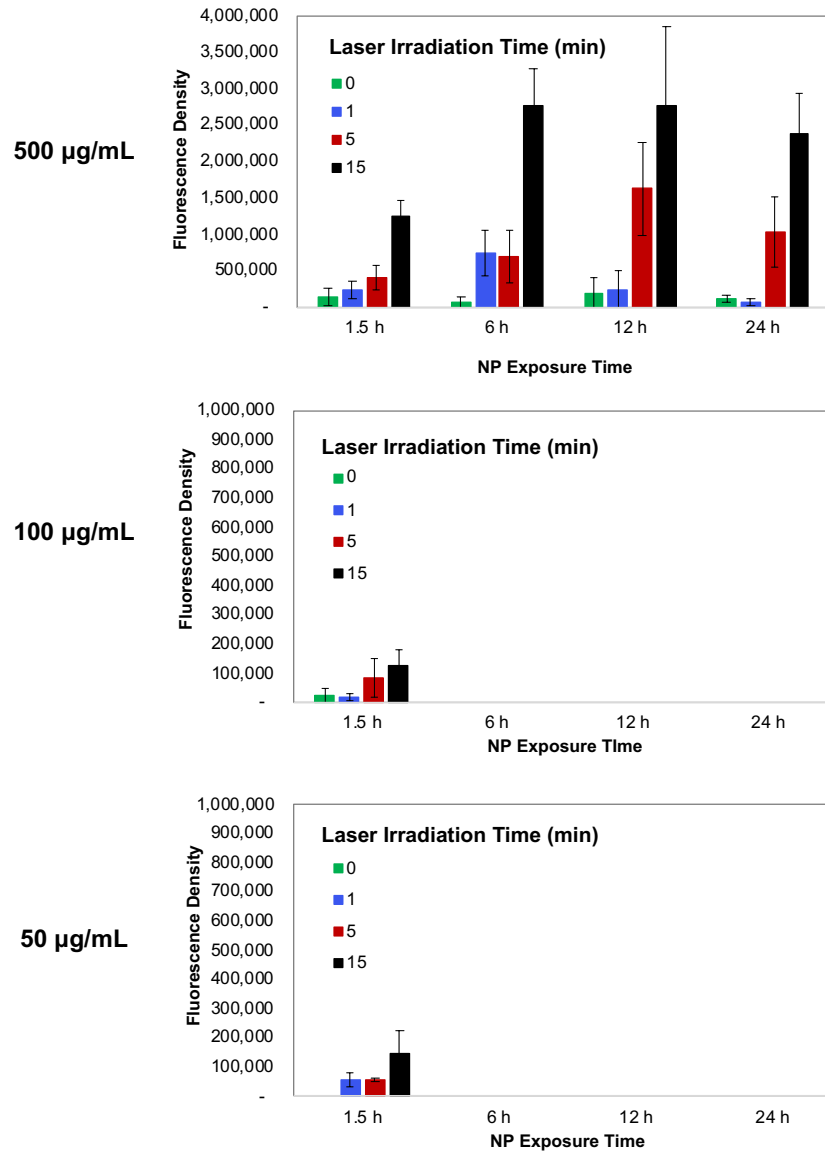
**Figure S6.** Temperature rise as a function of NP concentration upon laser irradiation for different time periods. Linear trendlines ( $r^2 \geq 0.98$ ) were used to fit the experimental data (bullets). Experiments were performed in triplicate. Error bars represent the standard deviation between replicates.



**Figure S7.** Fluorescence density indicative of caspase-3/7 expression for cells treated with PEDOT NP-mediated PTT. Standard deviations (error bars) were calculated from 4 separate images of each variable as a function of the NP exposure time. Fluorescence intensity quantification of microscopy images was performed using ImageJ.



**Figure S8.** Fluorescence density, indicative of calreticulin presentation, of cells treated with PEDOT NP-mediated PTT. Standard deviations were calculated from separate images ( $n \geq 3$ ) of each condition. Fluorescence intensity quantification of microscopy images was performed using ImageJ. Note different scales used in the y axis of both plots. Fluorescence densities for cell exposed to 50 and 10 µg/mL were very low ( $< 200$ ).



**Figure S9.** Fluorescence density indicative of HMGB1 presentation on the membrane of cells treated with PEDOT NP-mediated PTT. Standard deviations (error bars) were calculated from separate images ( $n \geq 3$ ) of each condition. Fluorescence intensity quantification of microscopy images was performed using ImageJ. Note different scales used in the y axis of plots. Fluorescence densities for cell exposed to 10 µg/mL were close to zero.

## S.2 Determination of Cumulative Equivalent Minutes at 43°C (CEM43)

CEM43 was calculated from the temperature elevation achieved over the time of irradiation of the NPs (data in Figure 3A) using the following equation:

$$\text{CEM43} = t R^{(43-T)} \quad \text{Equation 1}$$

where  $t$  represents a time interval in minutes,  $T$  the average temperature for a given time interval, and  $R = 0.25$  for  $T < 43^\circ\text{C}$  or  $R = 0.5$  for  $T > 43^\circ\text{C}$ . The resulting CEM43 values can be seen in Table S.1. below.

**Table S.1.** CEM43 of Thermal Conditions Used

<b>Laser Irradiation Time</b>	<b>CEM43 Measure</b>	<b>500 µg/mL</b>	<b>100 µg/mL</b>	<b>50 µg/mL</b>	<b>10 µg/mL</b>
<b>15 min</b>	CEM43	$3.0 \times 10^8$	96.5	8.7	0.10
	logCEM43	8.5	2.0	0.90	-1.0
<b>5 min</b>	CEM43	$3.1 \times 10^6$	14.3	0.51	0.010
	logCEM43	6.5	1.16	-0.29	-3.0
<b>1 min</b>	CEM43	3.9	0.003	0.002	$4.3 \times 10^{-4}$
	logCEM43	0.6	-2.5	-2.7	-3.4