

## Supporting Information

### **A versatile fluorinated Pd@Au nanoplates doped with yttrium for tumor theranostics**

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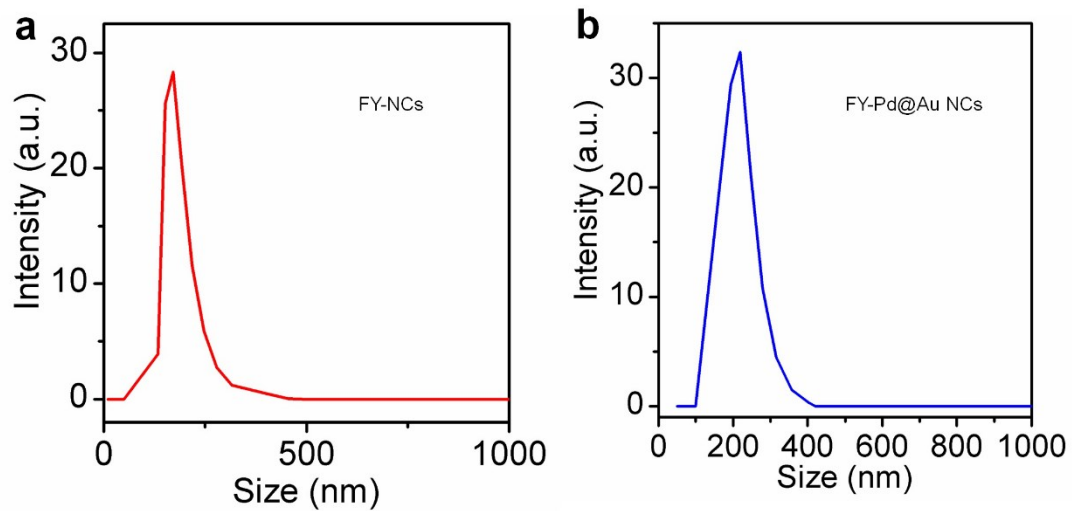
**Figure S5.** The mean DFCH-DA fluorescence for saline, Pd@Au, FY-NCs and FY-Pd@Au NCs with 808 nm laser irradiation.

**Figure S6.** MTT of 4T1 cells treated with Pd@Au, FY-NCs and FY-Pd@Au NCs.

**Figure S7.** UV-vis absorption spectra of FY-Pd@Au NCs before and after 3 days treated.

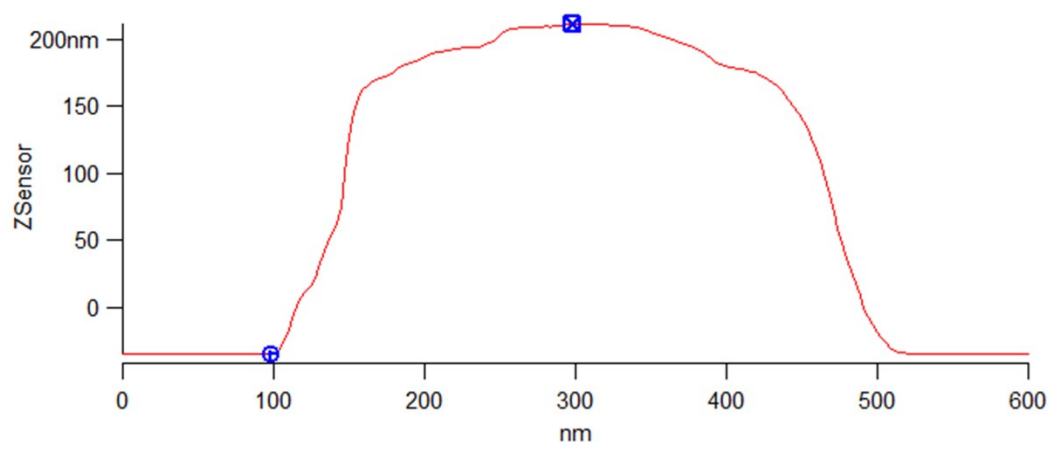
**Figure S8.** H&E-stained tumor slices after treatments.

**Table 1.** The <sup>19</sup>F Relaxation Times of FY-Pd@Au NCs.

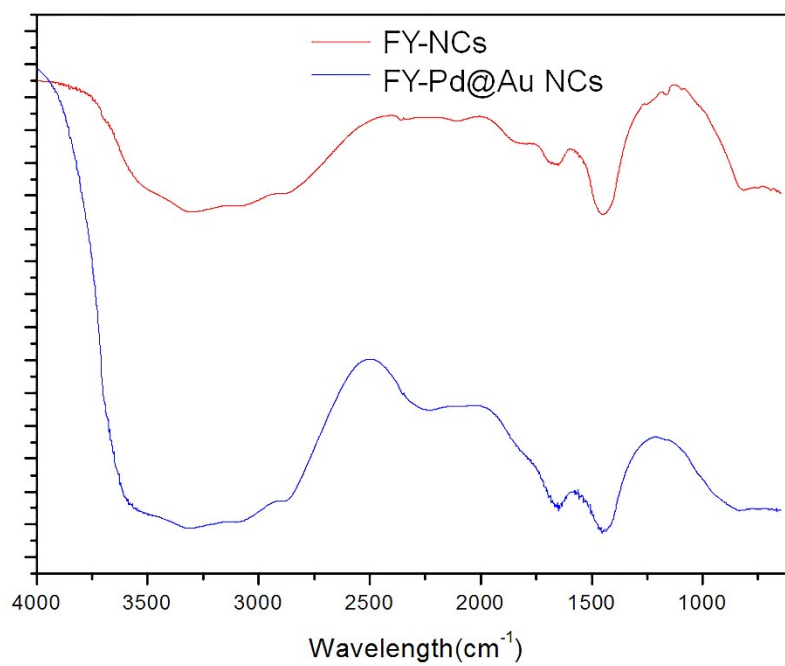


**Figure S1.** DLS size distributions of FY-NCs and FY-Pd@Au NCS.

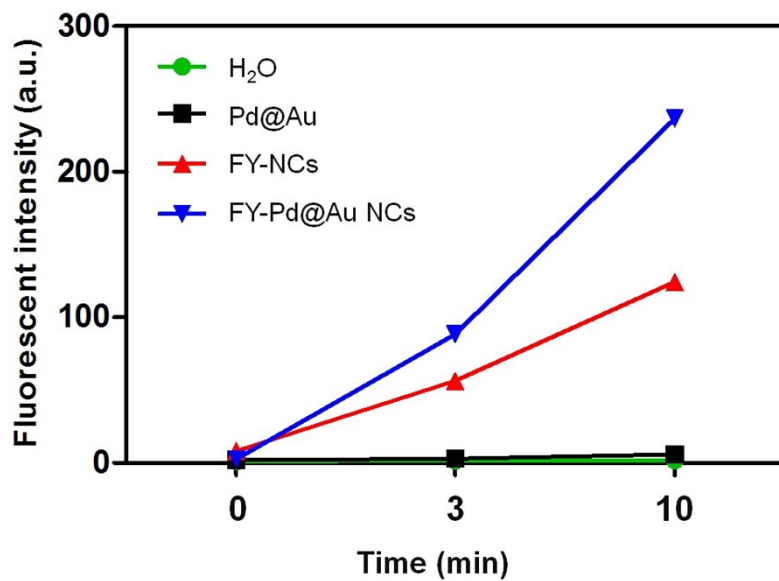
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Ya 498.03 nm  
Za -34.59 nm  
Xb 287.34 nm  
Yb 299.95 nm  
Zb 211.49 nm  
dx 23.22 nm  
dy -198.08 nm  
dz 246.09 nm  
dxy 199.43 nm  
Surface 362.16 nm  
SurfaceSlope 1.23 m/m  
SurfaceAngle 51°



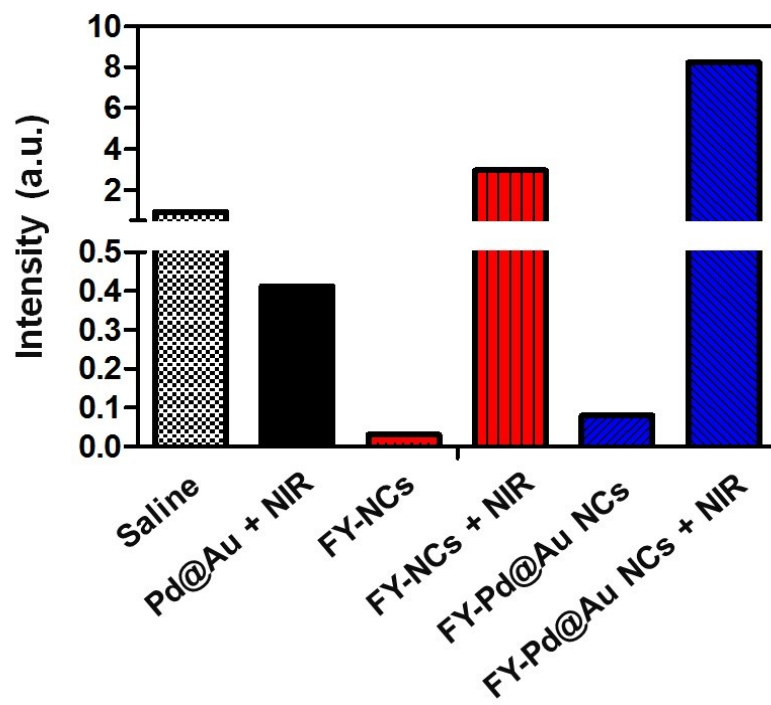
**Figure S2.** The distribution of height for FY-Pd@Au NCs in AFM.



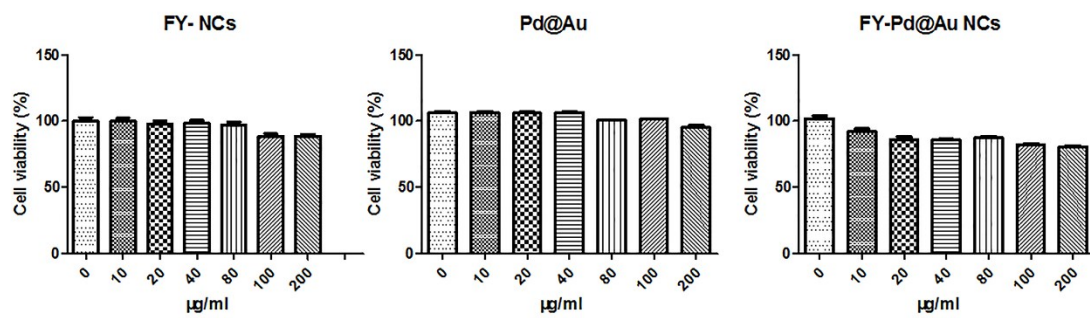
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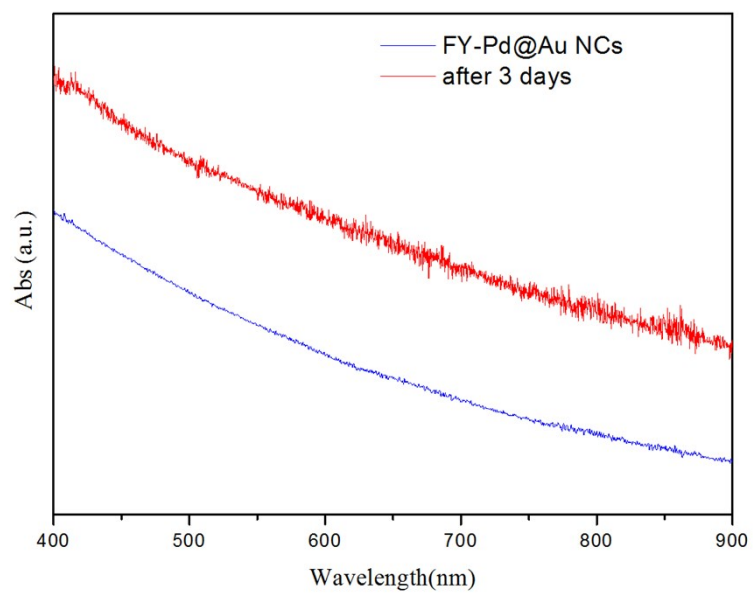


**Figure S5.** The mean DFCH-DA fluorescence for saline, Pd@Au, FY-NCs and FY-Pd@Au NCs with 808 nm laser irradiation.

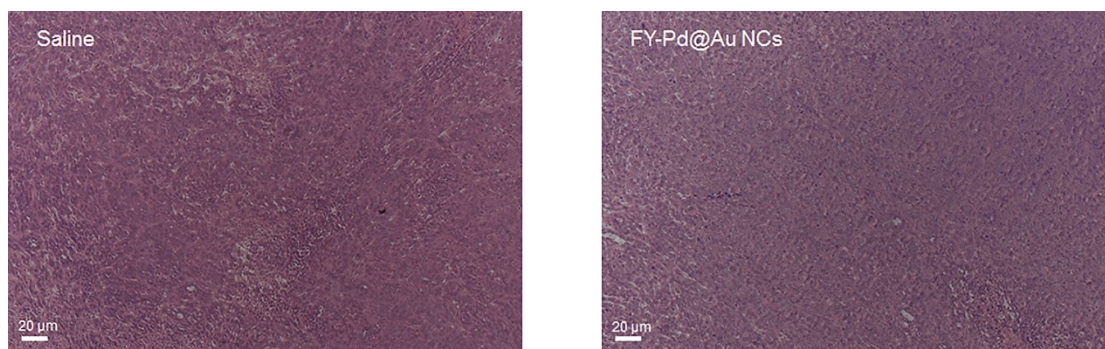


**Figure S6.** MTT of 4T1 cells treated with Pd@Au, FY-NCs and FY-Pd@Au NCs.





**Figure S7.** UV-vis absorption spectra of FY-Pd@Au NCs before and after 3 days treated.



**Figure S8.** H&E-stained tumor slices after treatments.

**Table 1.** The  $^{19}\text{F}$  Relaxation Times of FY-Pd@Au NCs

	Longitudinal Relaxation Time (T1) [ms]	Transverse Relaxation Time (T2) [ms]

FY-NCs	3628	56.66
FY-Pd@Au NCs	1497	37.22