

Supplementary Information

Near IR responsive integrated targeted lipid polymer nanoconstruct for enhanced magnolol cytotoxicity in breast cancer

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Element	Weight (%)	Atomic (%)
O K	63.66	95.57
Au M	36.34	4.43
Totals	100	

Table S1

Percent of O and Au in Mag-GNPs/PLGA NPs determined by EDX. *O*: oxygen, *Au*: gold, *K*: *K* level of the X-ray emission lines for oxygen, *M*: *M* level of the X-ray emission lines for gold.

Incubation time (h)	PS (nm)
0	136.1±1.27
1	141.4±5.83
2	137.1±2.62
4	144.0±6.81

Table S2

Characteristics of Mag-GNPs/PLGA-TZB NPs (formula P4) after storage in serum (50% FBS for 4 h). Results are mean of 3 determinations (±standard deviation).

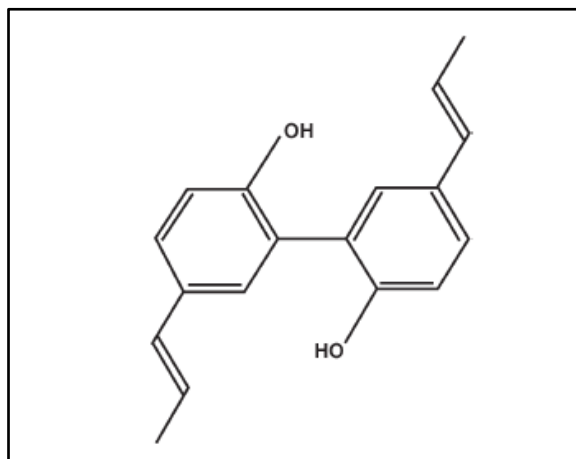


Figure S1: Chemical structure of magnolol (2-(2-hydroxy-5-prop-2-enylphenyl)-4-prop-2-enylphenol)



Figure S2: Photograph of gold dispersion (A) before and (B) after GNPs formation by the Turkevich method. For NPs preparation, HAuCl₄ solution (100mL) was boiled in a conical flask under continuous stirring followed by addition of 1% w/v sodium citrate aqueous solution (10mL). Heating under reflux with stirring continued till formation of a red color.

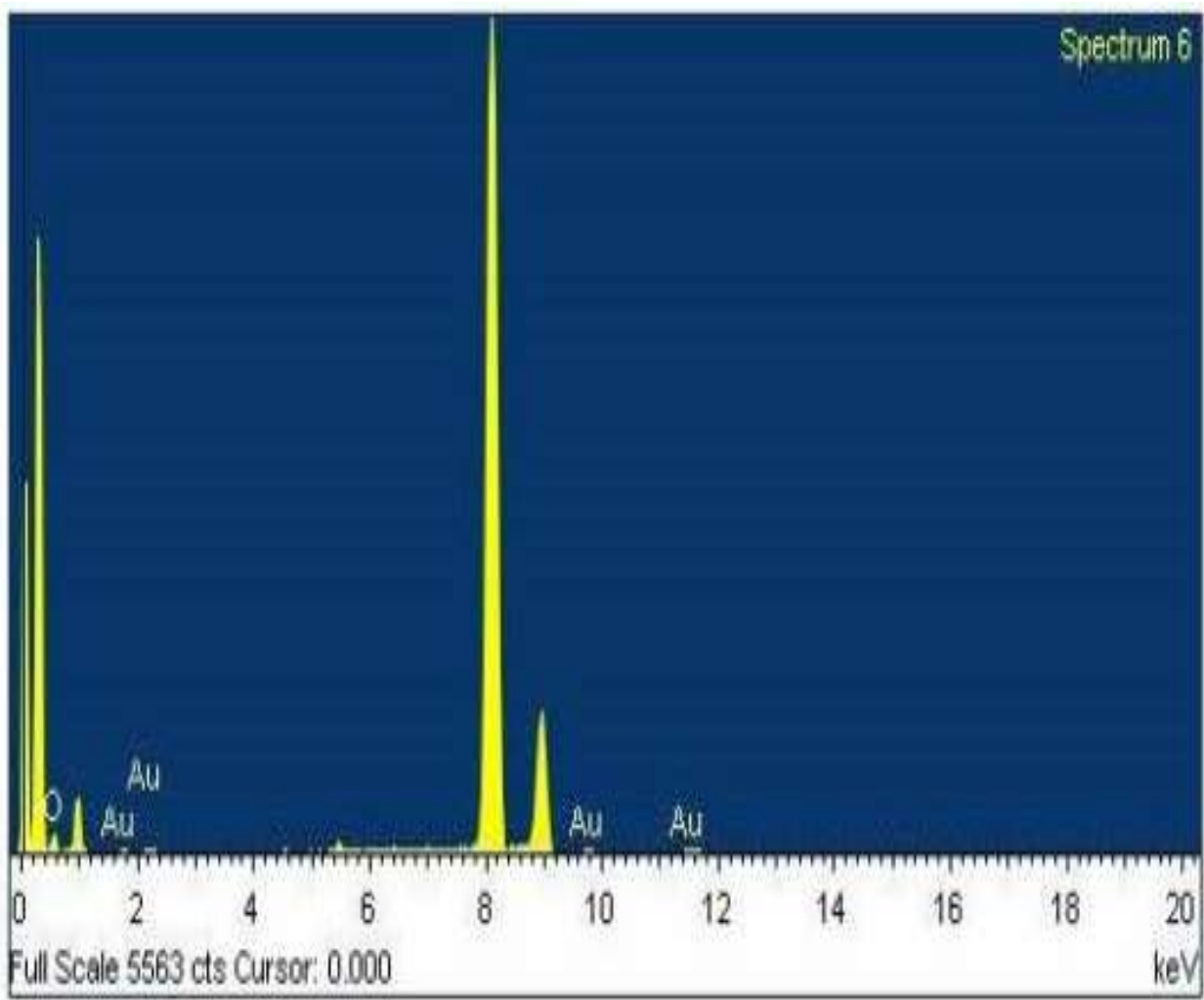


Figure S3 EDX of Mag-GNPs/PLGA NPs.

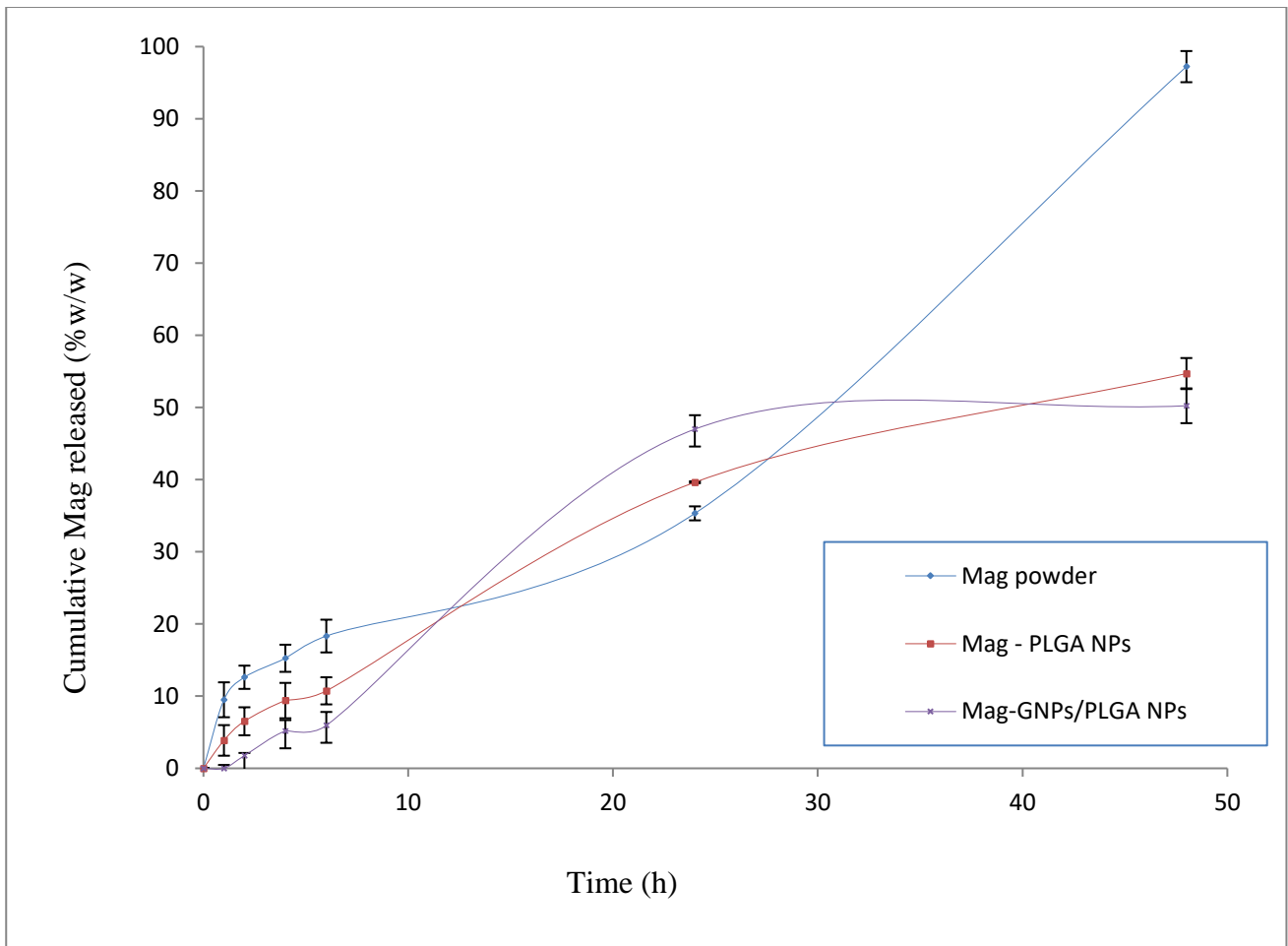


Figure S4 Release profiles of Mag from various formulations in PBS (pH= 7.4) containing 0.5% w/v SDS at 37°C. Presented data are mean of 3 replicates (\pm standard deviation).

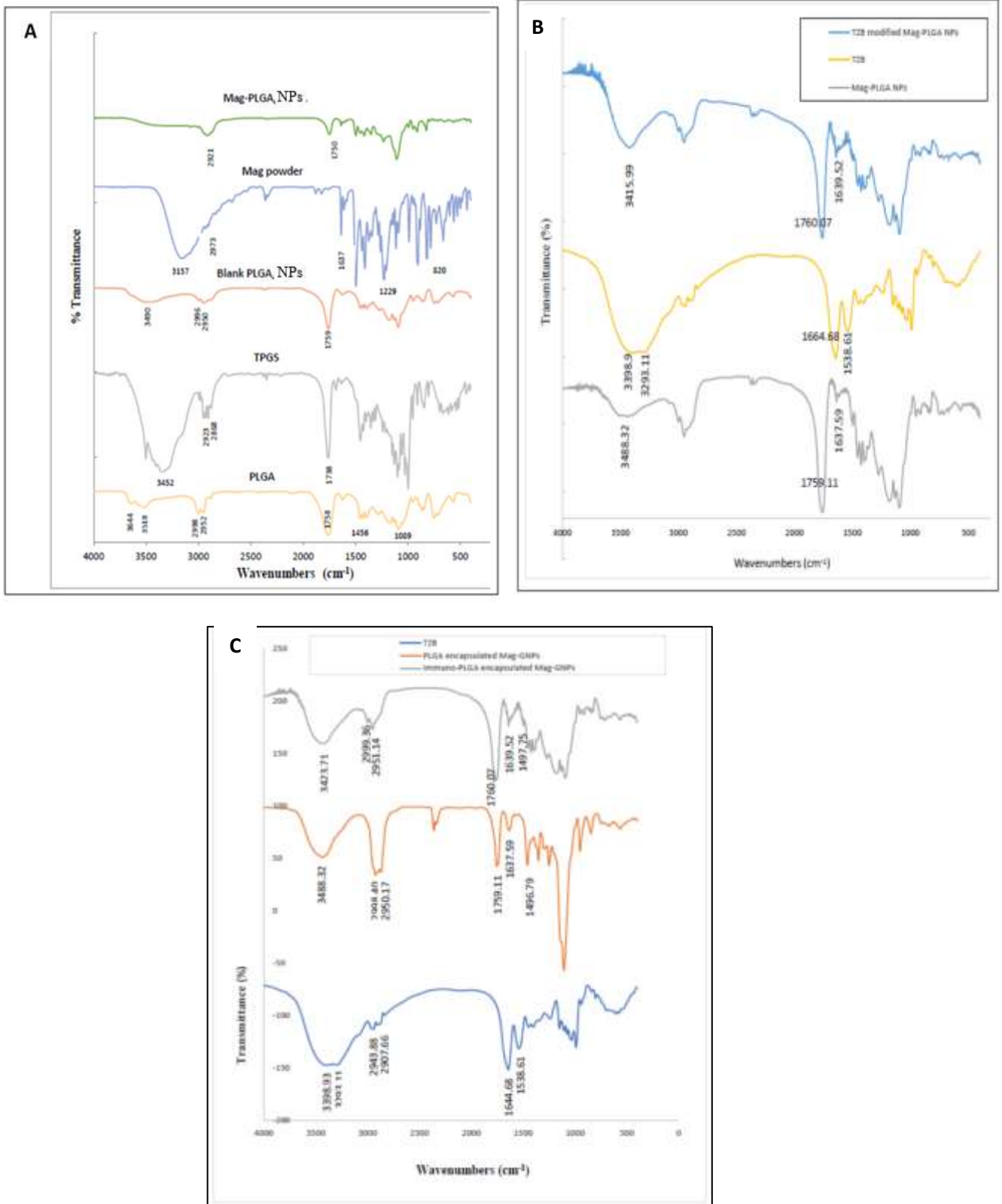


Figure S5 FTIR spectra of (A) PLGA, Mag, TPGS, Blank PLGA NPs, Mag-PLGA NPs; (B) TZB, Mag-PLGA NPs, TZB modified Mag-PLGA NPs and (C) TZB, PLGA encapsulated Mag-GNPs/PLGA NPs, Mag-GNPs/PLGA-TZB NPs. All PLGA NPs formulae contain TPGS.

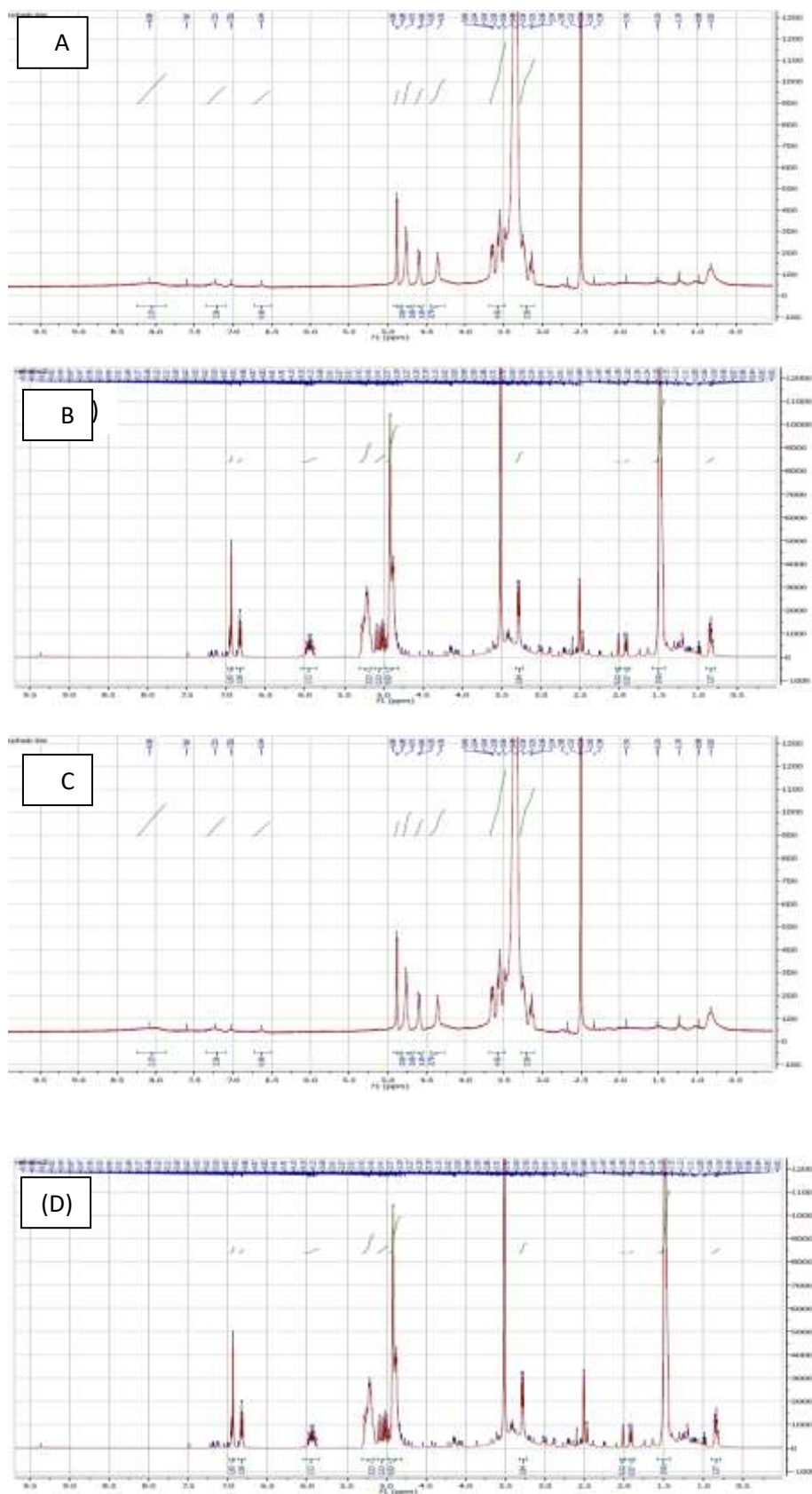


Figure S6 ^1H NMR spectra of (A): TPGS, (B) Mag-PLGA NPs, (C) TZB and (D) Mag-PLGA-TZB NPs.

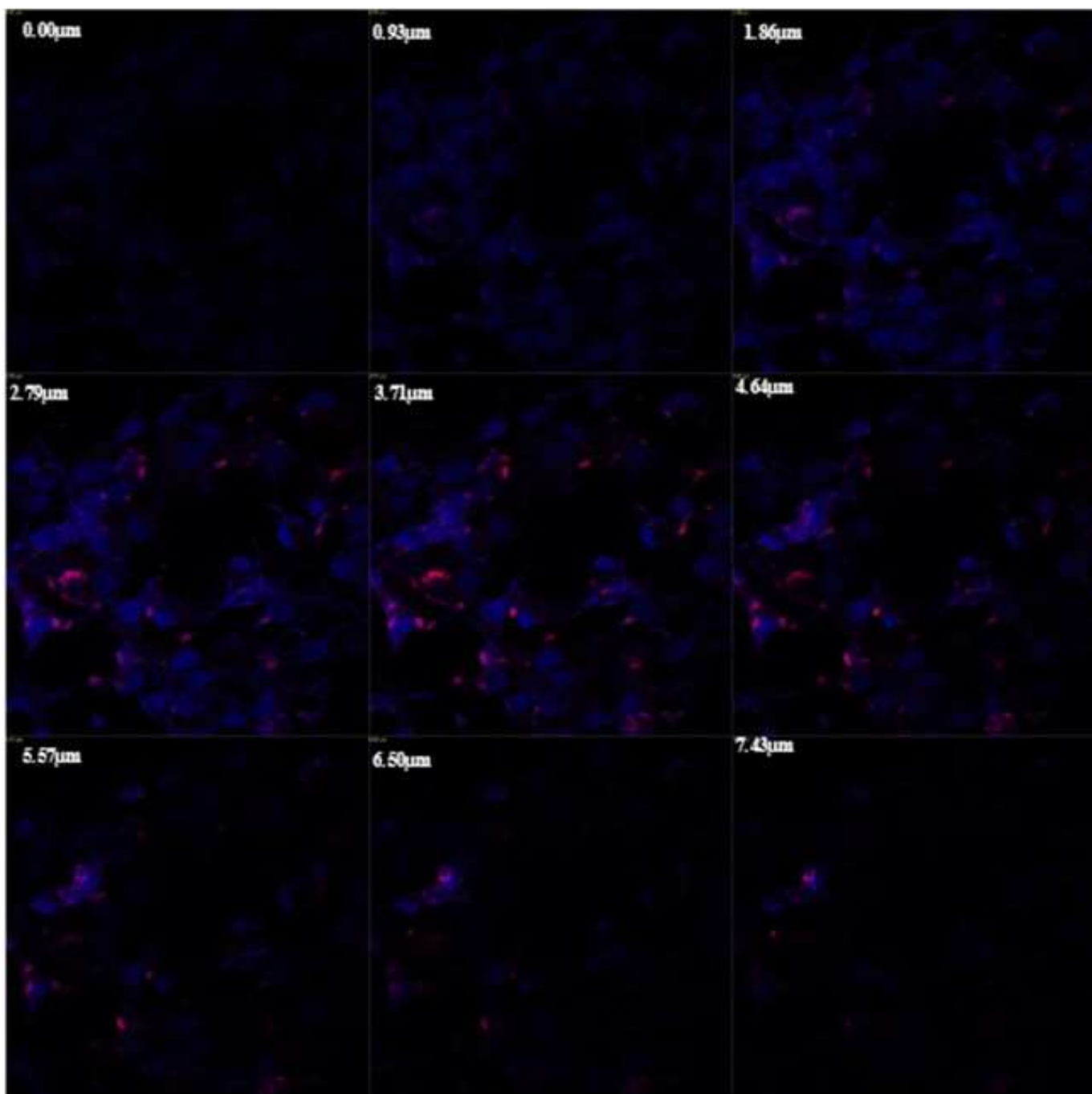


Figure S7 Z-staked CLSM images of MCF-7 cells treated with Nile red-GNPs/PLGANPs. The nuclei were stained with DAPI and the NPs were labeled with Nile red.

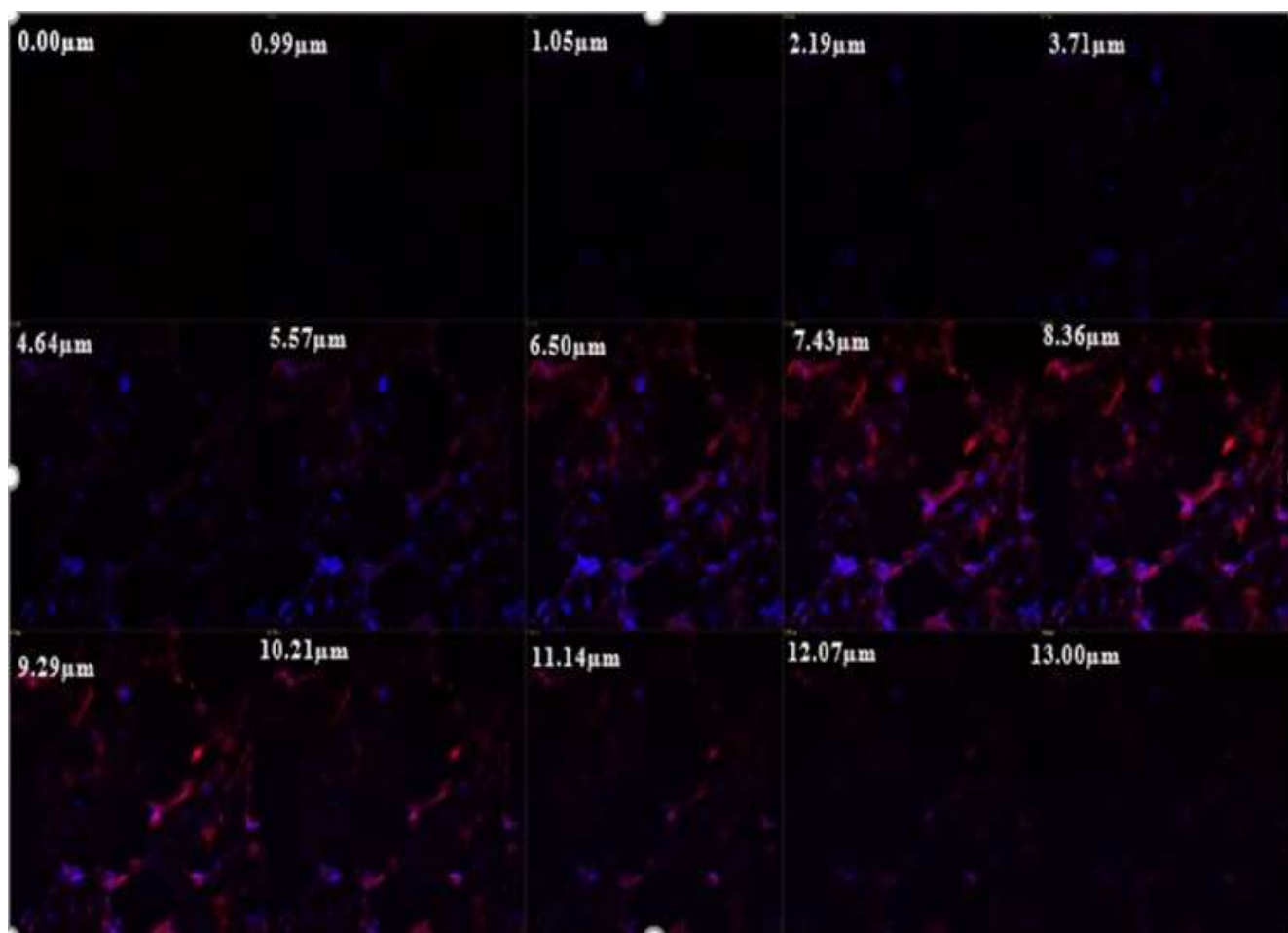


Figure S8 Z-staked CLSM images of MCF-7 cells treated with TZB modified Nile red/GNPs-PLGA NPs for 60min. The nuclei were stained with DAPI and the NPs were labeled with Nile red.