# Supporting Information

## Tumor-targeting Polycaprolactone nanoparticles with co-delivery of paclitaxel and IR780 for combinational therapy of drug-resistant ovarian cancer

Qianqian Pan[1,2], Jingjun Tian[1], Huihui Zhu[1], Liangjie Hong[3], Zhengwei Mao[3]*, Joaquim Miguel Oliveira[4,5,6], Rui L. Reis[4,5,6], Xiao Li[1]*

[1.]Women's Reproductive Health Laboratory of Zhejiang Province, Women's Hospital, School of Medicine, Zhejiang University, Hangzhou, Zhejiang 310006, China

[2.]Zhejiang Financial College, No.118 Xueyuan Street, 310018 Hangzhou, Zhejiang, China.

[3.]MOE Key Laboratory of Macromolecular Synthesis and Functionalization, Department of Polymer Science and Engineering, Zhejiang University, Hangzhou 310027, P. R. China

[4.]3B's Research Group, I3Bs - Research Institute on Biomaterials, Biodegradables and Biomimetics, University of Minho, Headquarters of the European Institute of Excellence on Tissue Engineering and Regenerative Medicine, AvePark, Zona Industrial da Gandra, 4805-017 Barco GMR, Portugal

[5.]ICVS/3B's - PT Government Associate Laboratory, Braga/Guimarães, Portugal

[6.]The Discoveries Centre for Regenerative and Precision Medicine, Headquarters at University of Minho, Avepark, 4805-017 Barco, Guimarães, Portugal

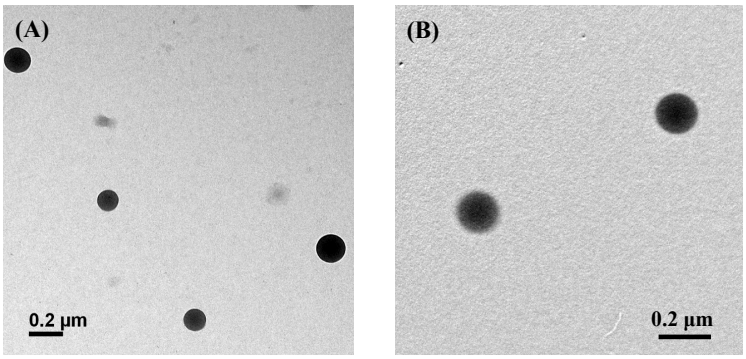


**Figure S1**. TEM images of (A) PCL and (B) PCL/IR780-PTX nanoparticles.

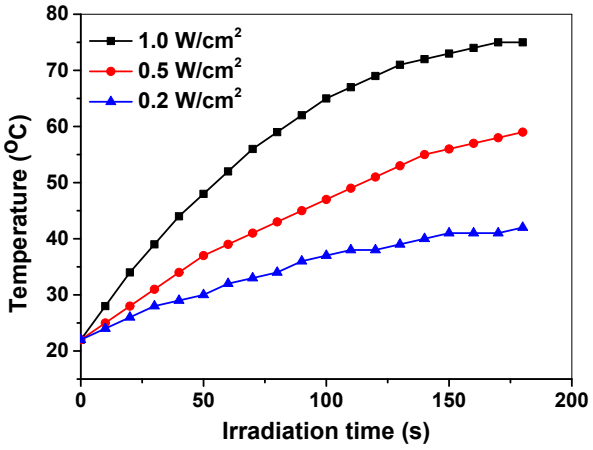


**Figure S2**. The temperature of 0.5 mg/mL PCL-LHRH/IR780-PTX nanoparticle suspension as a function of irradiation time under different light dosage.

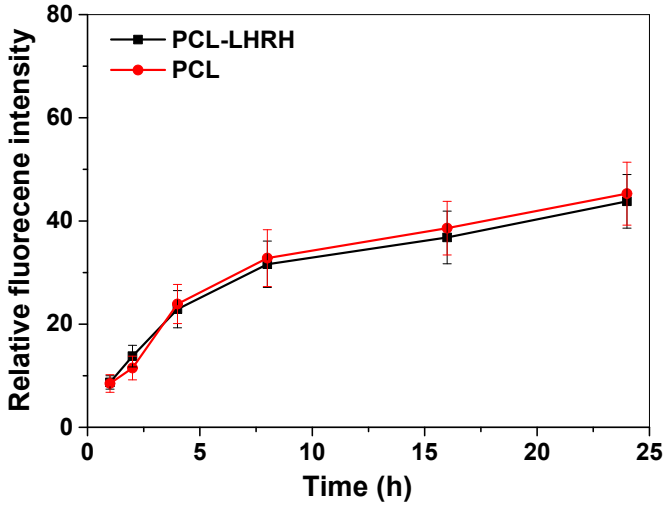


**Figure S3**. Fluorescent intensity of endothelial cells cultured with Nile red-labelled PCL NPs or PCL-LHRH NPs, as a function of incubation time.

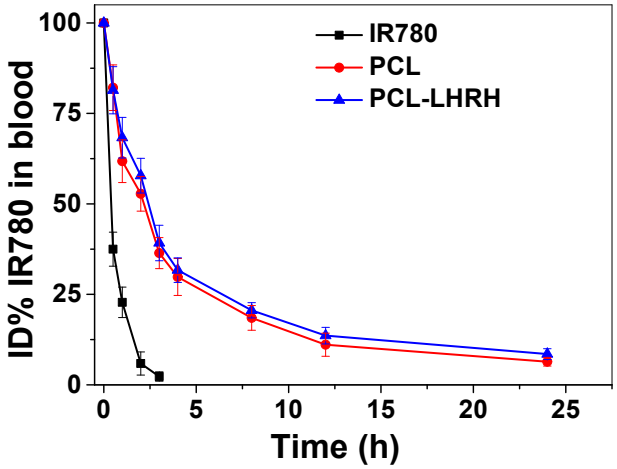


**Figure S4**. Plasma ID% of IR780 in tumor bearing mice as a function of time after administration of free IR780, PCL/IR780 and IR780-LHRH/IR780, respectively.

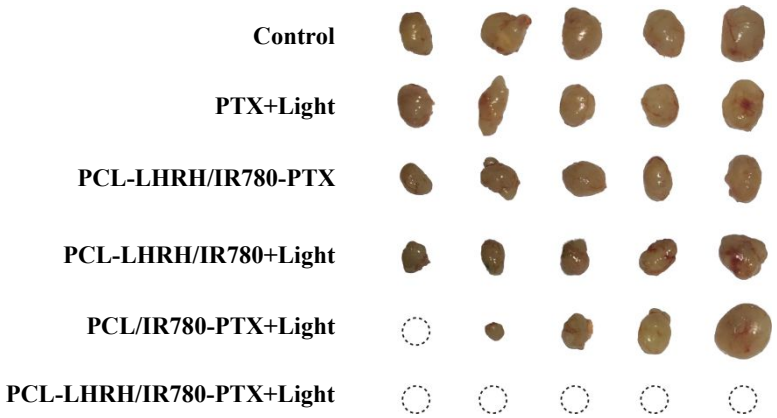


**Figure S5**. Photos of ST30 tumors harvested from mice after sacrifice. Circles indicate that there is no tumor left.

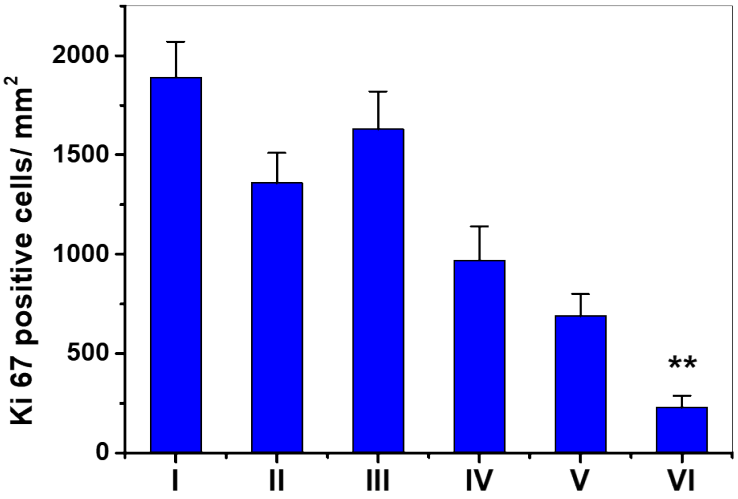


**Figure S6**. The density of proliferative (Ki67 positive) cells. ** indicates significant difference at $p<0.01$ level. (I) control group, (II) PTX + Light group, (III) PCL-LHRH/IR780-PTX NPs, (IV) PCL-LHRH/IR780 + Light, (V) PCL/IR780-PTX + Light, and (VI) PCL-LHRH/IR780-PTX + Light, respectively (n = 5).

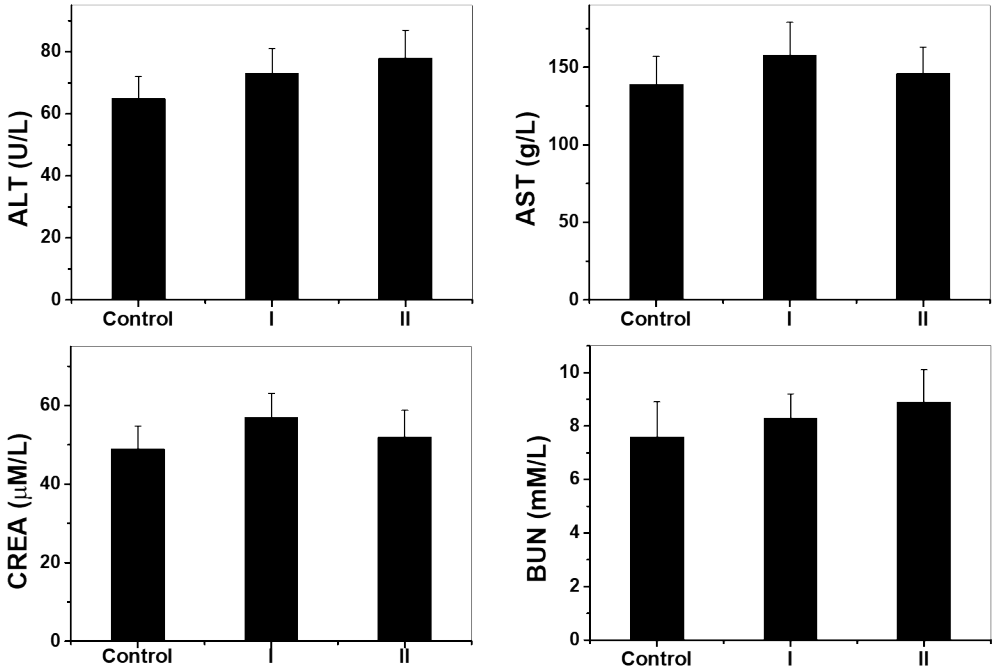


**Figure S7**. Blood test results of mice received (I) PCL-LHRH NPs and (II) PCL-LHRH/IR780-PTX NPs (n=4). The blood was collected and tested after 1 day after i.v. injection of nanoparticles. The dosages of PCL-LHRH NPs and IR780 were 2 mg and 148 μg for each mouse, respectively.