## **Supporting Information**

## pH-sensitive poly( $\beta$ -amino ester)s nanocarriers facilitate the inhibition of drug resistance in breast cancer cells

Mengxue Zhou<sup>1,2,†</sup>, Xingcai Zhang<sup>3,†</sup>, Jin Xie<sup>1</sup>, Rongxiang Qi<sup>1</sup>, Huiru Lu<sup>1</sup>, Stefano Leporatti<sup>4,\*</sup>, Jun Chen<sup>1,2,\*</sup> and Yi Hu<sup>1,2,\*</sup>

<sup>1</sup>CAS Key Laboratory for Biomedical Effects of Nanomaterials and Nanosafety, Multidisciplinary Research Division, Institute of High Energy Physics, Chinese Academy of Sciences, Beijing 100049, China

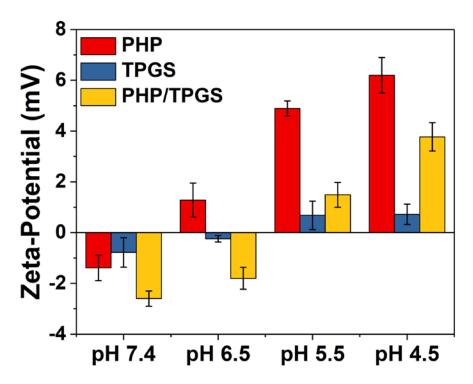
<sup>&</sup>lt;sup>2</sup>University of Chinese Academy of Sciences, Beijing 100049, China

<sup>&</sup>lt;sup>3</sup>John A. Paulson School of Engineering and Applied Sciences, Harvard University, Cambridge, Massachusetts 02138, United States

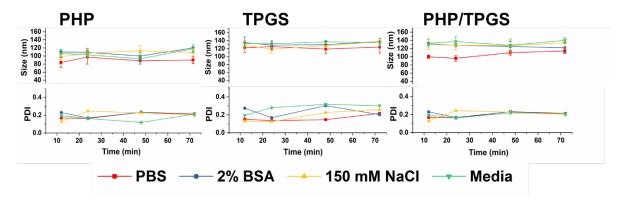
<sup>&</sup>lt;sup>4</sup>CNR Nanotec-Istituto di Nanotecnologia, Polo di Nanotecnologia, Lecce 73100, Italy

<sup>&</sup>lt;sup>†</sup>These authors are co-first authors who contributed equally to this work.

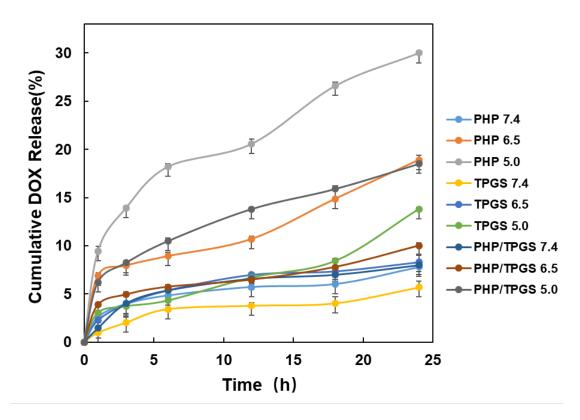
<sup>\*</sup>Correspondence: stefano.leporatti@nanotec.cnr.it, chenjun@ihep.ac.cn, and huyi@ihep.ac.cn.



**Figure S1.** Zeta potentials of PHP, TPGS and PHP/TPGS nanoparticles at different pH. Data are presented as mean  $\pm$  SD (n = 6).



**Figure S2.** Stability of nanoparticles in PBS, 2% BSA, 150 mM sodium chloride and cell culture media for three days at 37 °C. The particles were examined by dynamic light scattering. Data are presented as mean  $\pm$  SD (n = 6).



**Figure S3.** Cumulative DOX release profiles of DOX-loaded nanoparticles in cell culture media at different pH. Data are presented as mean  $\pm$  SD (n = 3).