Sono-Responsive Smart Nanoliposomes for Precise and Rapid Hemostasis Application

Qian Zhang<sup>1#</sup>, Lichao Zhu<sup>2#</sup> Kaiyang Wang<sup>2\*</sup>, Song Chen<sup>1</sup>, Yijiong Zhang<sup>1</sup>, Wei Song<sup>1</sup>, Long Qin<sup>1</sup>, Xijian Liu<sup>2</sup>, Yu Luo<sup>2</sup>, Jian Wan<sup>1,2\*</sup>

<sup>1</sup>Department of emergency and critical care medicine, Shanghai Pudong New Area People's Hospital, No. 490 South Chuanhuan Road, Shanghai 201299, P. R. China.

<sup>2</sup>Shanghai Engineering Technology Research Center for Pharmaceutical Intelligent Equipment, Shanghai Frontiers Science Research Center for Druggability of Cardiovascular noncoding RNA, Institute for Frontier Medical Technology, College of Chemistry and Chemical Engineering, Shanghai University of Engineering Science, No. 333 Longteng Road, Shanghai 201620, P. R. China.

Correspond Author:

K. Wang (kaiyang.wang@sues.edu.cn);

J. Wan (wanjian@shpdph.com)

Keywords: sono-responsive; nanoliposome; hemostasis; precision treatment



Figure S1 <sup>1</sup>H NMR spectra of DSPE-PpIX



Figure S2 Fourier transforms infrared spectroscopy (FTIR) of PpIX, DSPE-PpIX, DSPE-S-C(CH<sub>3</sub>)<sub>2</sub>-S-PEG<sub>2k</sub>, and TNL



Figure S3 Stability study of TNL over 7 days (n=6)



Figure S4 DLS data before and after US treatment (n=6)



Figure S5 Hymolysis study of TNL at different concentration (n=6)