Supporting Information

Effects of surface charge on the stability of PEG-b-PCL micelles: simulate the interactions between charged micelles and plasma

components

Yaoming Wan,^a Zhihua Gan^{*b} and Zhibo Li^{*a}

^a Beijing National Laboratory for Molecular Sciences (BNLMS), Institute of Chemistry, Chinese Academy of Science, Beijing 100190, China; ^b State Key Laboratory of Organic-inorganic Composites, College of Life Science and Technology, Beijing University of Chemical Technology, Beijing 100029, China.

 \ast To whom correspondence should be addressed.

^a Beijing National Laboratory for Molecular Sciences (BNLMS), Institute of Chemistry, Chinese Academy of Sciences, Beijing 100190, China. Tel: (+) 8610 6256 5612; zbli@iccas.ac.cn;

 ^b State Key Laboratory of Organic-inorganic Composites, College of Life Science and Technology, Beijing University of Chemical Technology, Beijing 100029, China.
Tel: (+) 8610 6443 2762; zhgan@mail.buct.edu.cn.



Fig. S1 GPC traces of CH₃O-PEG-OH (A: M_W =1000, PDI=1.05), CH₃O -PEG-b-PCL (B: M_W =3100, PDI=1.15) in DMF



Fig. S2 TEM images of CH₃O micelles (**A**), NH₂ /COOH(1:1) mixed micelles (**B**) and COOH micelles(**C**)



Fig. S3 DLS and TEM result of NH₂-PEG-PCL micelles after degradation at 25 °C (pH 7.0)



Fig. S4 Time dependence of UV transparency at 500 nm recorded for 1 mg/mL aqueous solution of COOH micelles prepared by COOH-PEG-b-PCL diblock copolymer upon treating with 1 mg/mL lipase PS and 1mg/mL BSA at 25 °C (pH 7.0)



Fig. S5 Time dependence of UV transparency at 500 nm recorded for 1 mg/mL aqueous solution of $NH_2/COOH$ (1:1) micelles prepared by NH_2 -PEG-b-PCL and COOH-PEG-b-PCL diblock copolymers upon treating with 1mg/mL lipase PS and 1mg/mL BSA at 25 °C (pH 7.0)



Fig. S6 Time dependence of UV transparency at 500 nm recorded for 1 mg/mL aqueous solution of CH_3O micelles prepared by CH_3O -PEG-b-PCL diblock copolymer upon treating with 1 mg/mL lipase PS and 1mg/mL BSA at 25 °C (pH 7.0)