

Support information

Pectin-based photoactivated bactericide nanosystem for improved utilization rate, photostability and targeting of hematoporphyrin

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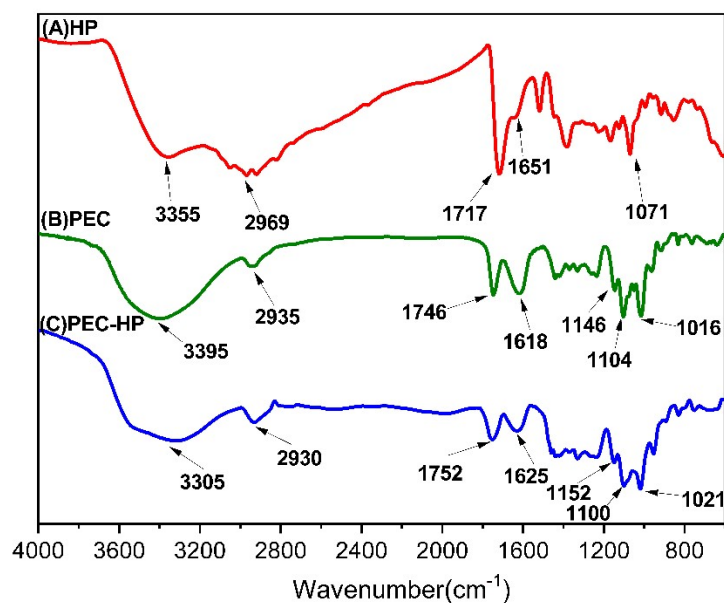


Fig. SI-1. FT-IR spectra of HP (A), PEC (B) and PEC-HP conjugates (C).

Table SI-1 The particle size, PDI, and zeta potential of PEC-HP NPs before and after 30 days

	sample	particle size (nm)	PDI	zeta potential (mV)
before treatment	PEC-HP NP ₁	377.7 ± 6.40	0.195 ± 0.050	-27.9 ± 0.87
	PEC-HP NP ₂	328.3 ± 2.78	0.215 ± 0.009	-20.1 ± 0.36
	PEC-HP NP ₃	267.4 ± 5.72	0.100 ± 0.005	-19.3 ± 0.60
30 days storage	PEC-HP NP ₁	445.1 ± 5.36	0.282 ± 0.005	-32.1 ± 1.14
	PEC-HP NP ₂	338.1 ± 1.96	0.234 ± 0.008	-21.4 ± 0.53
	PEC-HP NP ₃	271.7 ± 4.05	0.115 ± 0.018	-20.5 ± 1.14

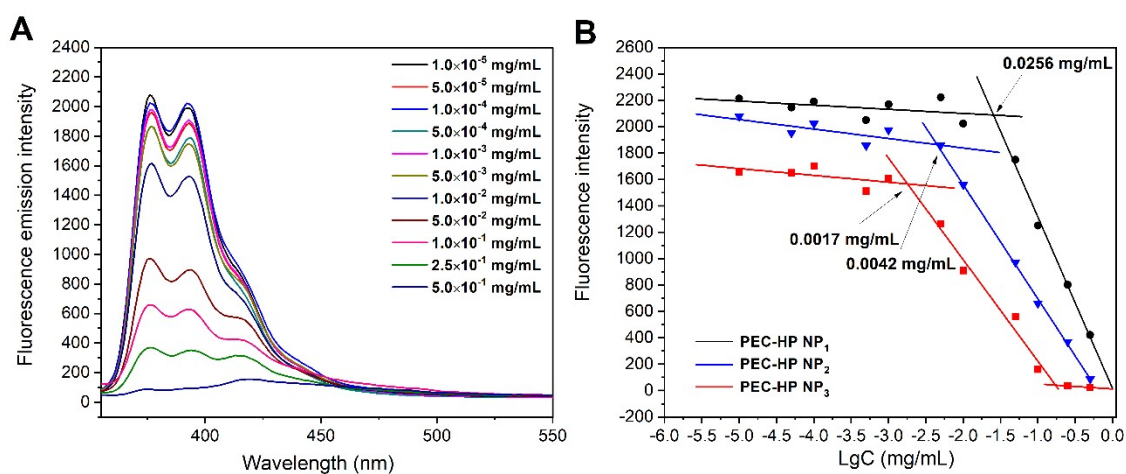


Fig. SI-2 (A) Fluorescence emission spectra of pyrene at different concentrations of PEC-HP NPs. (B) The plot of fluorescence intensity at 376 nm as a function of the logarithm of concentration.

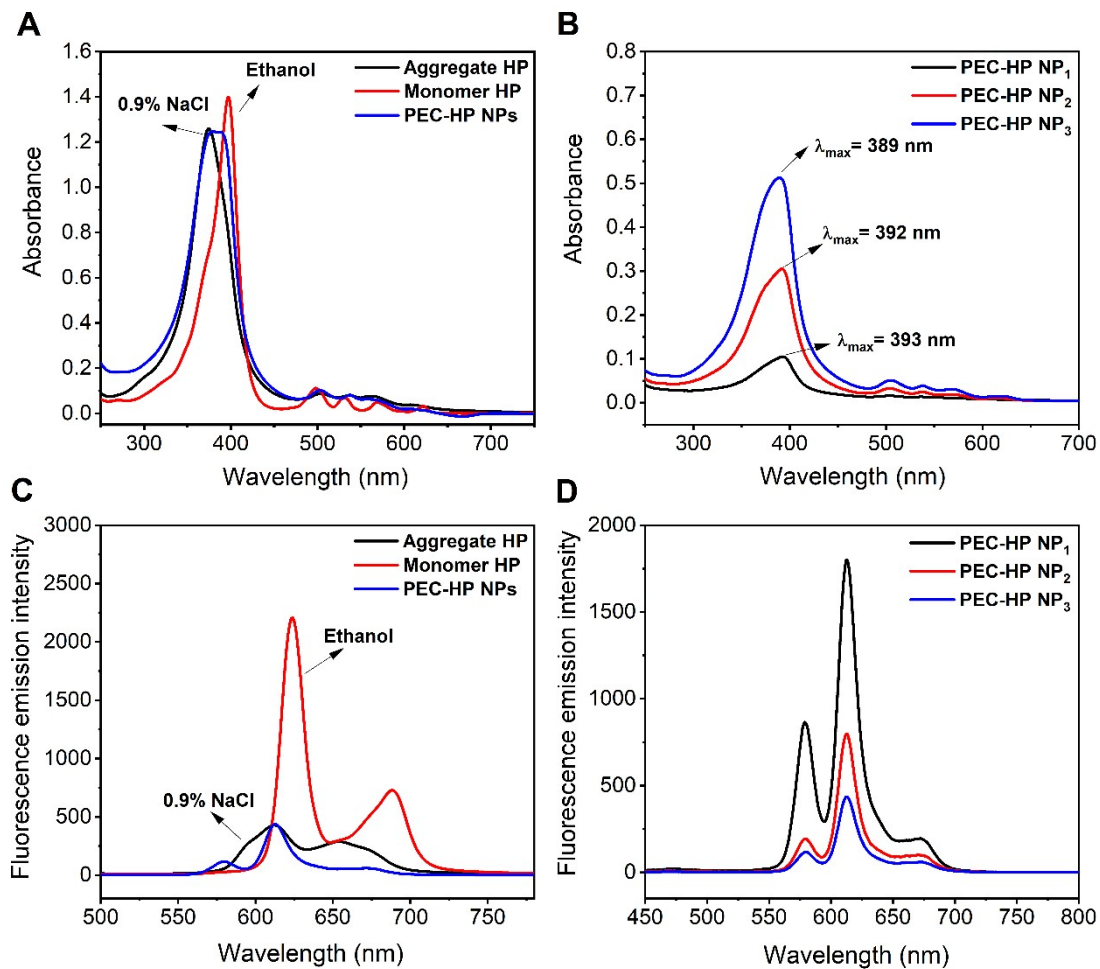


Fig. SI-3 UV-vis absorption spectra of (A) monomer HP, aggregate HP and PEC-HP NPs and (B) PEC-HP NPs with different grafting rates. Fluorescence emission spectra of (C) monomer HP, aggregate HP and PEC-HP NPs and (D) PEC-HP NPs with different grafting rates.

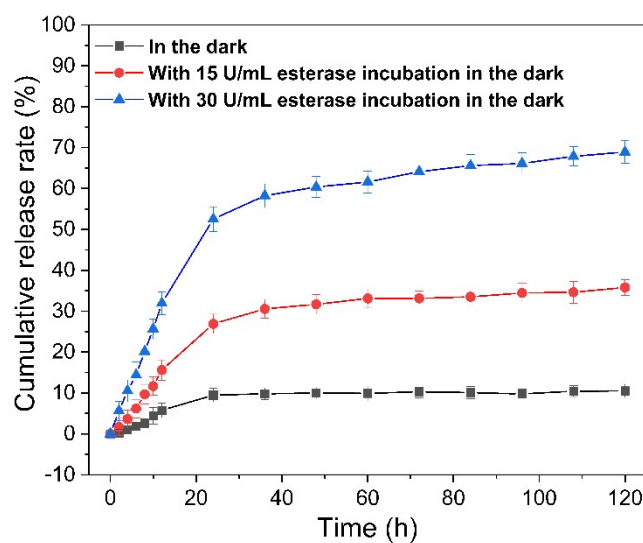


Fig. SI-4 The cumulative release rate of HP in PEC-HP NPs under different solution conditions.

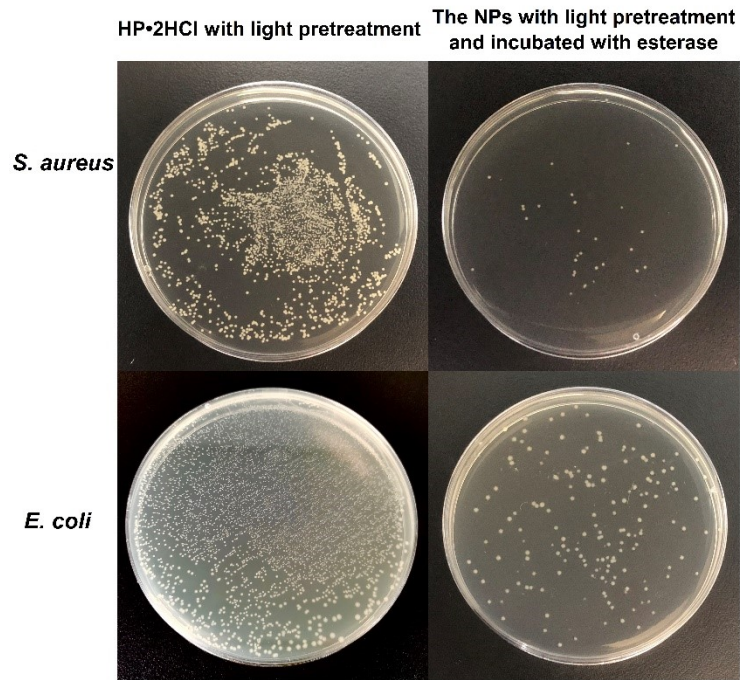


Fig. SI-5 Colony counts of *S. aureus* and *E. coli* under treatment of NPs with esterase incubation before and after light pretreatment, equal dose of HP•2HCl was used as a control.