Supporting Information
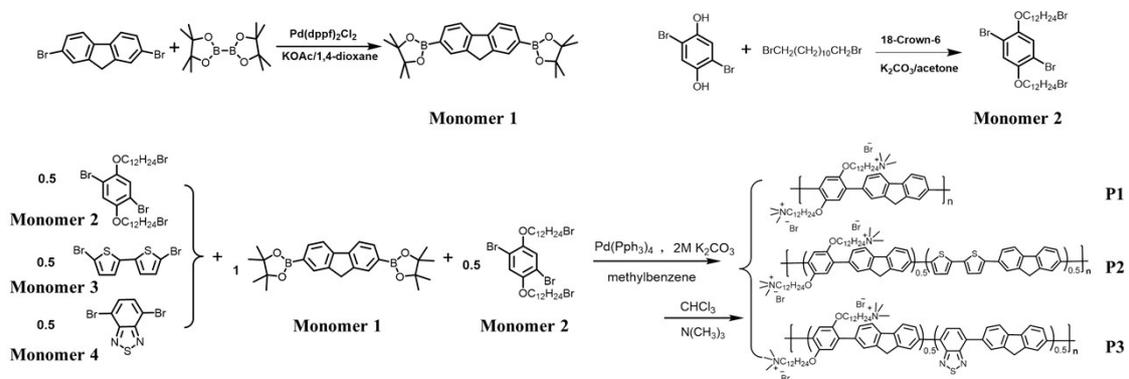
Bactericidal activity tunable conjugated polymers as human-friendly bactericide for treatment of wound infections

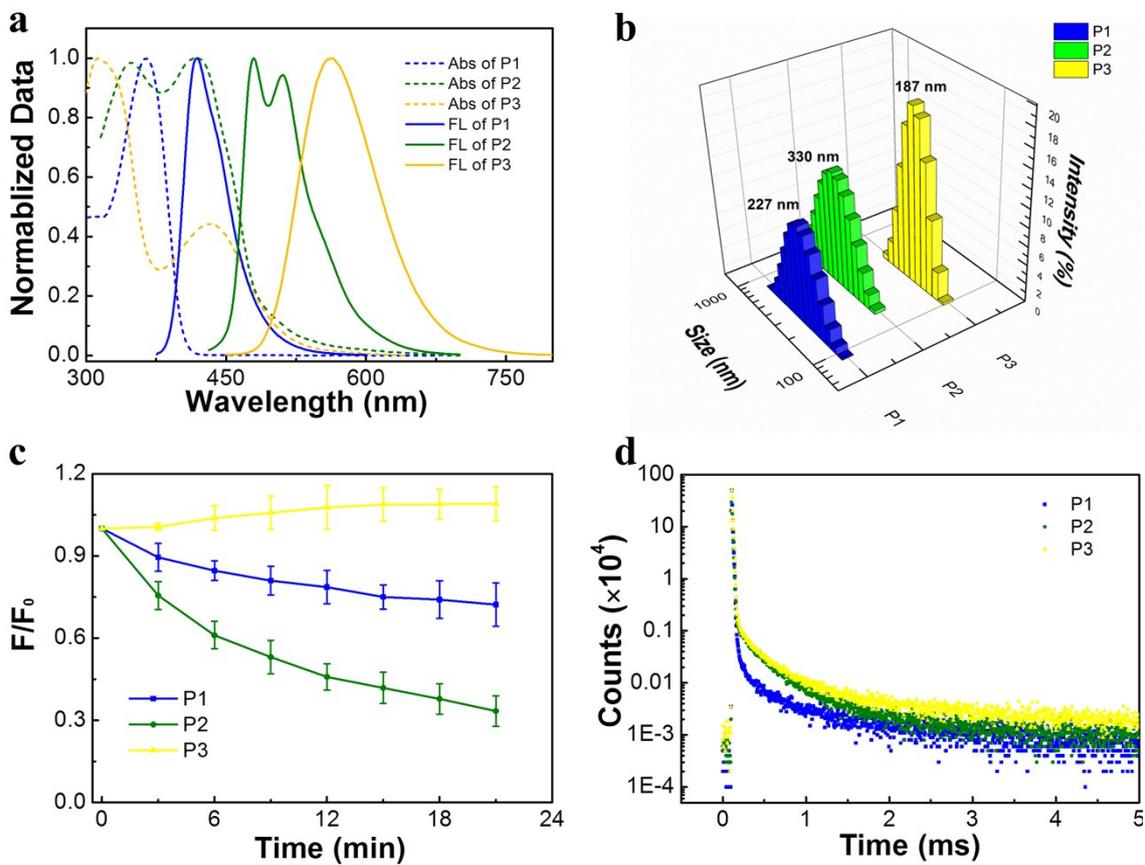*Haoping Wang, Lixia Guo, Yunxia Wang* and Liheng Feng **

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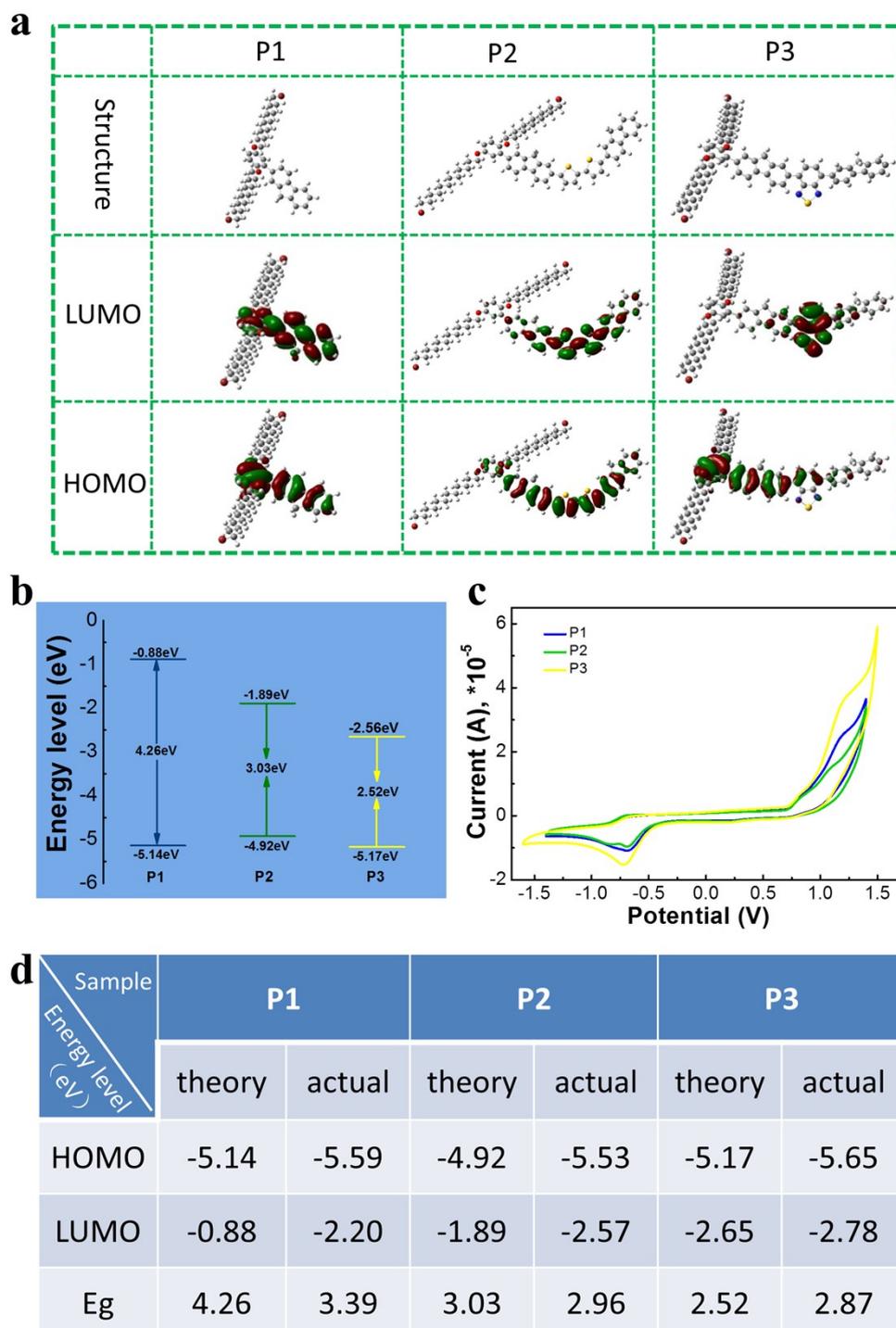
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Fig. S1. Synthetic routes of monomers and polymers (P1-P3).

Fig. S2. (a) Normalized UV-vis absorption and fluorescence emission spectra of P1-P3 in DMSO. (b)

Size distribution of P1-P3 (10 μM in RUs) in water measured by DLS. (c) Photostability of P1-P3 in

aqueous solution under a white light at a density of 25mW/cm². (d) Phosphorescence attenuation

processes of P1-P3.

a

b

c

d

| Sample / Energy level (eV)	P1		P2		P3	
	theory	actual	theory	actual	theory	actual
HOMO	-5.14	-5.59	-4.92	-5.53	-5.17	-5.65
LUMO	-0.88	-2.20	-1.89	-2.57	-2.65	-2.78
Eg	4.26	3.39	3.03	2.96	2.52	2.87

Fig. S3. (a) HOMO and LUMO electron distributions of P1-P3. (b) HOMO and LUMO energy levels of P1-P3. (c) Cyclic voltammograms of P1-P3. The supporting electrolyte was 0.1 M Bu$_4$NClO$_4$ and the scan rate was 0.10 V/s. [P1] = [P2] = [P3] = 100.0 μM in RUs. (d) Comparison of energy levels between theory and actual for P1-P3.
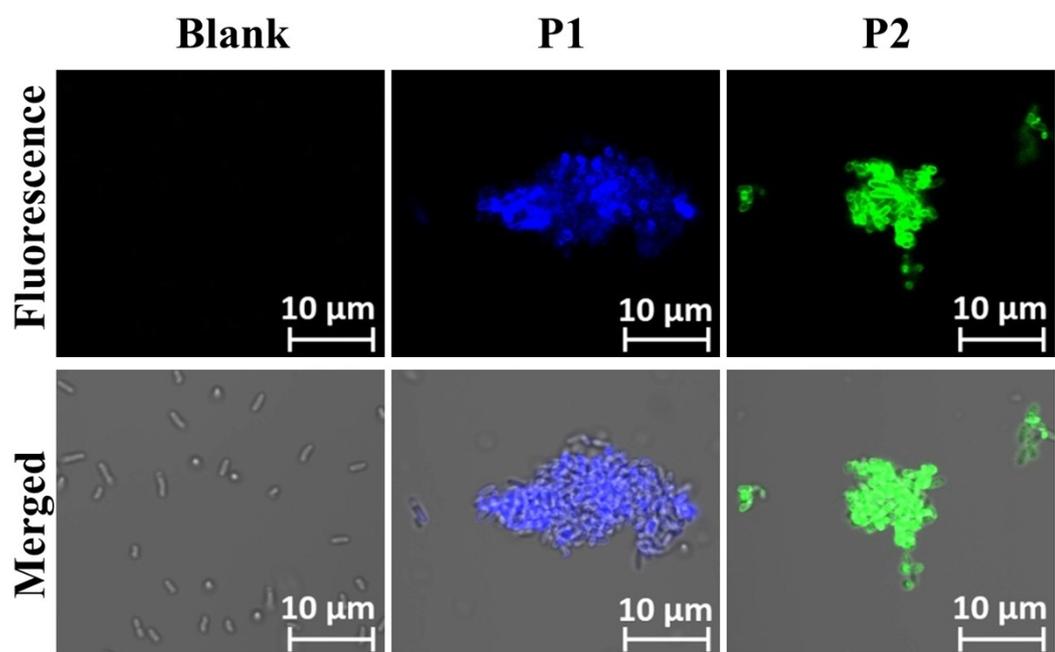
Fig. S4. CLSM images of *E. coli* before and after treatment with P1 and P2 (5.0 μM in RUs) in the

dark.
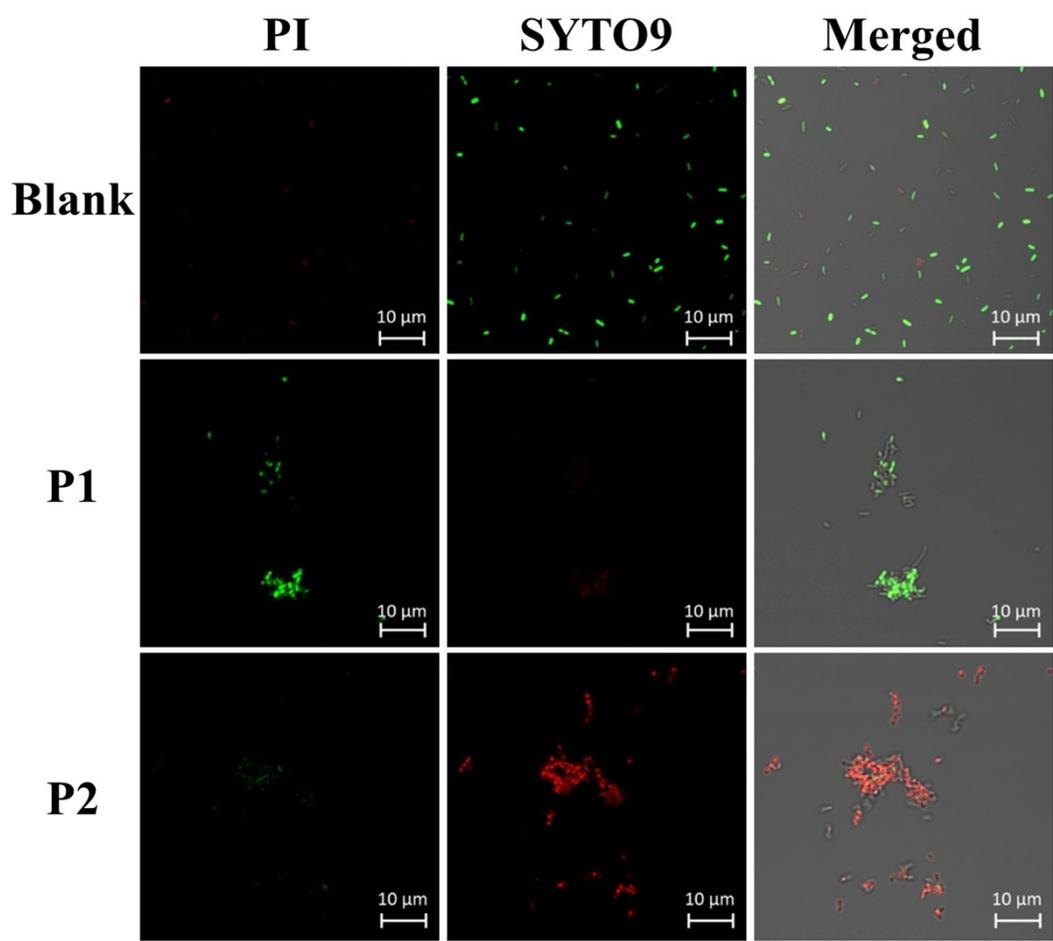
Fig. S5. CLSM images of *E.coli* before and after treatment with P1, and P2 (5.0 μM in RUs) upon

irradiation of white light (25 mW/cm^2, 15 min). PI and SYTO9 were used to stain the bacteria as red

and green fluorescence.
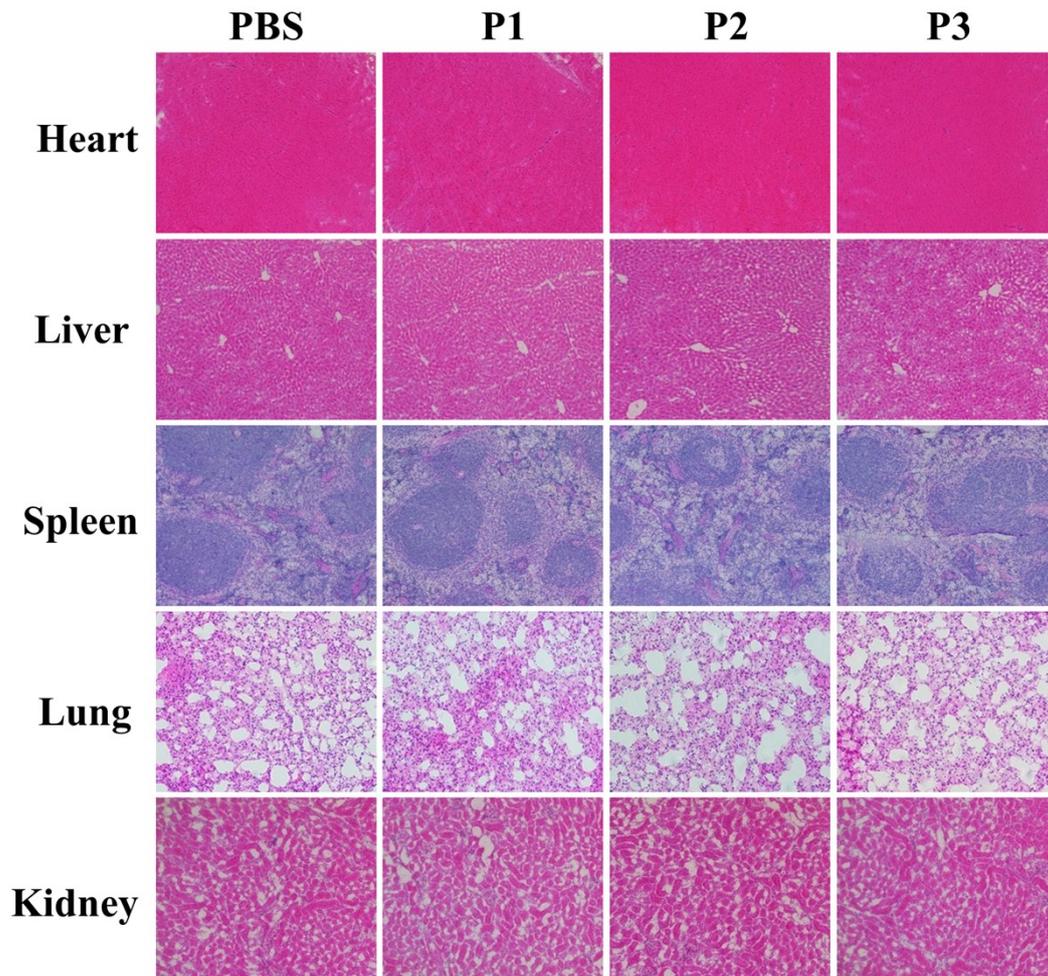
Fig. S6. Histological images of different organs (heart, liver, spleen, lung, and kidney) of mice with treatment of PBS and P1-P3.