

Supplementary Materials

**Enhanced hemocompatibility and antibacterial activity of
biodegradable poly(ester-urethane) modified with quercetin and
phosphorylcholine for durable blood-contacting application**

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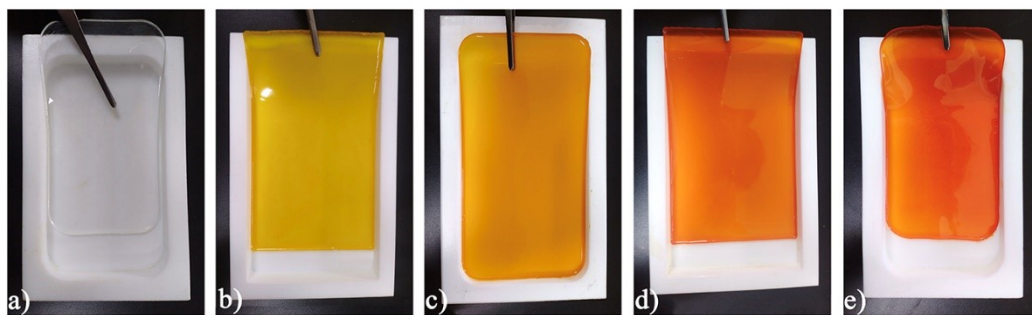


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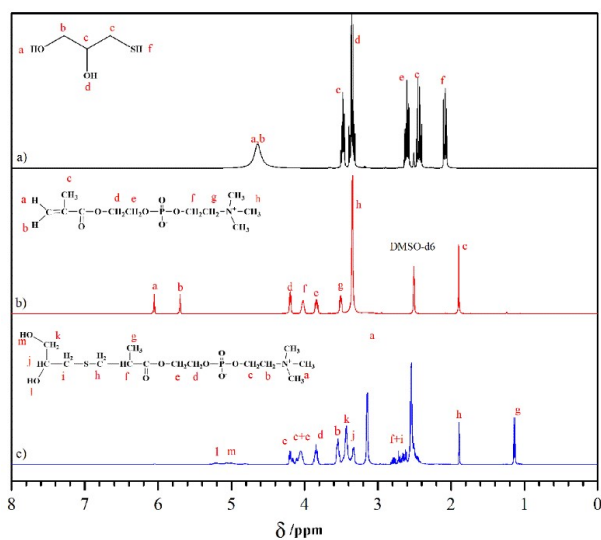


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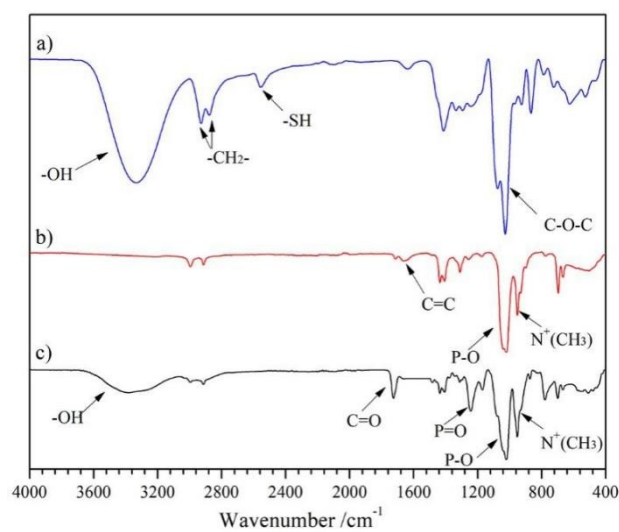
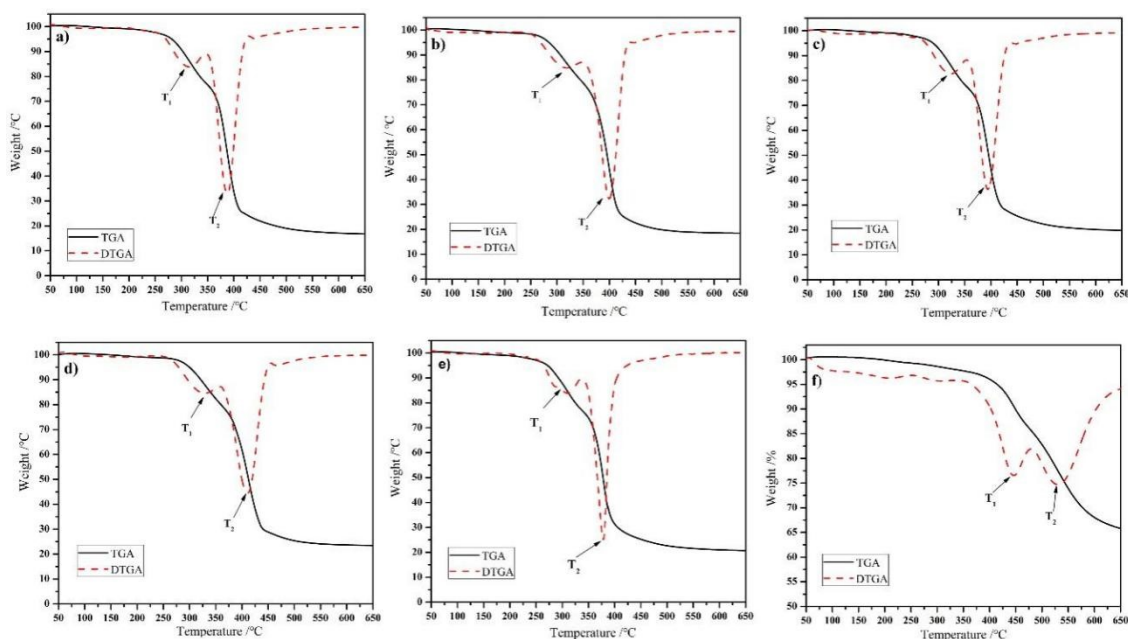


Fig. S3. FT-IR spectra of a) TG, b) MPC and c) PC-diol.

Table S1. Characteristic values of PEU-PQ films from DSC thermograms.

Film samples	$T_g / ^\circ\text{C}$	$T_m / ^\circ\text{C}$	$\Delta H_m / \text{J}\cdot\text{g}^{-1}$
PEU-P _{1.0} Q ₀	-53.6	98.3	19.8
PEU-P _{0.75} Q _{0.25}	-50.4	101.3	17.2
PEU-P _{0.5} Q _{0.5}	-47.8	103.3	15.3
PEU-P _{0.25} Q _{0.75}	-44.7	107.5	13.8
PEU-P ₀ Q _{1.0}	-43.2	109.1	10.1

**Fig. S4.** TGA and DTGA curves of a) PEU-P_{1.0}Q₀, b) PEU-P_{0.75}Q_{0.25}, c) PEU-P_{0.5}Q_{0.5}, d) PEU-P_{0.25}Q_{0.75}, e) PEU-P₀Q_{1.0} and f) QC.**Table S2.** Characteristic values of PEU-PQ films and QC powder from TGA and DTGA curves.

Samples	$T_{5\%} / ^\circ\text{C}$	$T_{\text{max-1}} / ^\circ\text{C}$	$T_{\text{max-2}} / ^\circ\text{C}$	$W_r / \%$
PEU-P _{1.0} Q ₀	273.8	315.3	387.3	7.3
PEU-P _{0.75} Q _{0.25}	276.5	316.9	394.3	12.1
PEU-P _{0.5} Q _{0.5}	281.2	320.6	401.2	14.6
PEU-P _{0.25} Q _{0.25}	290.5	324.5	406.8	18.1
PEU-P ₀ Q _{1.0}	298.4	329.2	411.4	21.0
QC	385.3	439.2	480.2	68.3

$T_{5\%}$: decomposition temperature at 5% weight loss.

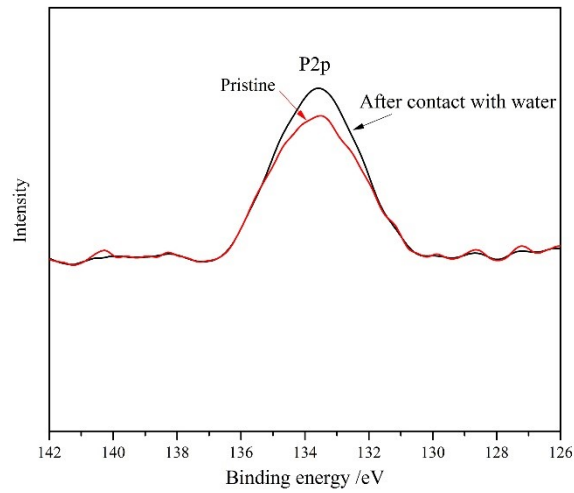
$T_{\text{max-x}}$: maximum decomposition temperature at stage x.

W_r : residual weight at test endpoint.

Table S3. Mechanical properties of PEU-PQ films ($n = 3$).

Film samples	UTS /MPa	EBA /%	FT /MJ·m ⁻³
PEU-P _{1.0} Q ₀	11.63±0.86	817.9±80	37.55
PEU-P _{0.75} Q _{0.25}	23.5±1.38	782.6±63	60.07
PEU-P _{0.5} Q _{0.5}	31.94±2.1	732.0±61	76.14
PEU-P _{0.25} Q _{0.75}	47.91±3.2	642.1±55	90.44
PEU-P ₀ Q _{1.0}	61.75±3.8	541.9±42	110.08

UTS: ultimate tensile strength; EAB: elongation at break; FT: fracture toughness

**Fig. S5.** XPS charts of PEU-P_{0.5}Q_{0.5} film before and after contact with water.**Table S4.** Weight-average molecular weight and molecular weight distribution of PEU-PQ.

Samples	PEU-P _{1.0} Q ₀	PEU-P _{0.75} Q _{0.25}	PEU-P _{0.5} Q _{0.5}	PEU-P _{0.25} Q _{0.75}	PEU-P ₀ Q _{1.0}
M _w /kDa	105	102	113	112	124
M _w /M _n	1.76	1.98	2.23	2.56	2.89

M_w: weight-average molecular weight; M_w/M_n: molecular weight distribution.

Table S5. Inhibitory zone diameters of PEU-PQ films against *E. coli* and *S. aureus*. ($n = 3$)

Samples	PEU-P _{1.0} Q ₀	PEU-P _{0.75} Q _{0.25}	PEU-P _{0.5} Q _{0.5}	PEU-P _{0.25} Q _{0.75}	PEU-P ₀ Q _{1.0}	Positive control
<i>E. coli</i> /mm	0	10.2±0.15	13.1±0.2	14.2±0.19	15.5±0.22	18.5±0.23
<i>S. aureus</i> /mm	0	18.1±0.21	22.0±0.25	24.6±0.25	26.8±0.26	39.0±0.28

Table S6. Quantification of adherent platelets on the PEU-PQ surface.

Film samples	PEU-P ₀ Q _{1.0}	PEU-P _{0.25} Q _{0.75}	PEU-P _{0.5} Q _{0.5}	PEU-P _{0.75} Q _{0.25}	PEU-P _{1.0} Q ₀
Quantity of adherent platelets /mm ⁻²	18,800 ± 960	7650 ± 540	4,520 ± 320	2,850 ± 170	1050 ± 105