

Supplementary Information

pH and glucose dual-responsive phenylboronic acid hydrogel for smart insulin delivery

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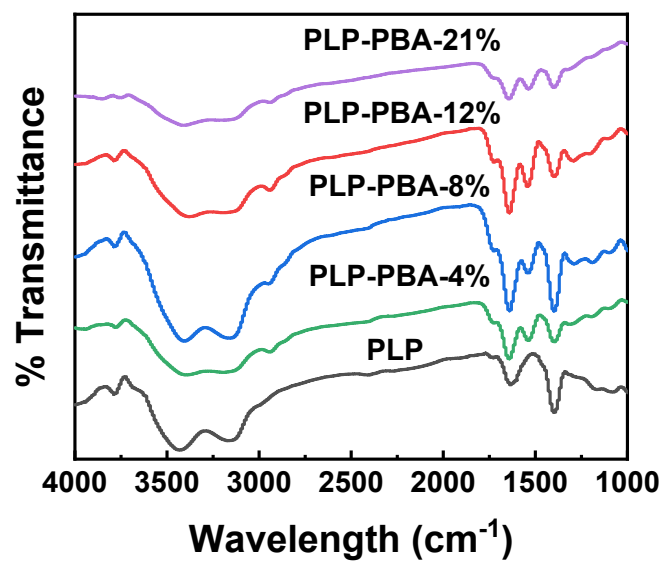


Fig. S1. FT-IR spectra of PLP and PLP-PBA series polymers.

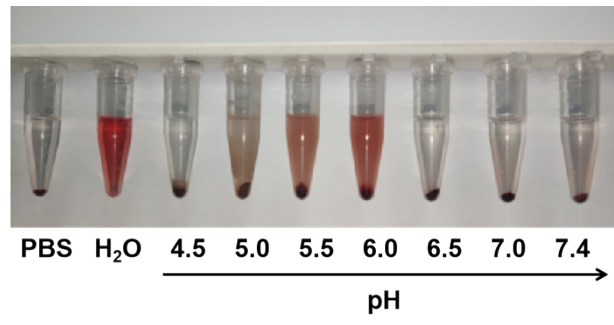





Fig. S2. Hemolysis images of PLP-PBA-12% series polymers at a polymer concentration of 1.0 mg/mL.

Tab. S1. Hydrogel formulation optimization.

LME : PLP-PBA molar ratio (n_{-NH₂}/n_{-COOH})	LME-(PLP-PBA- 8%)	LME-(PLP-PBA- 12%)	LME-(PLP-PBA- 21%)
10	Formed	Formed	Formed 
6.7	Formed	Formed 	Not form
5	Formed	Not form	Not form
3.3	Formed	Not form	Not form
2.5	Formed 	Not form	Not form

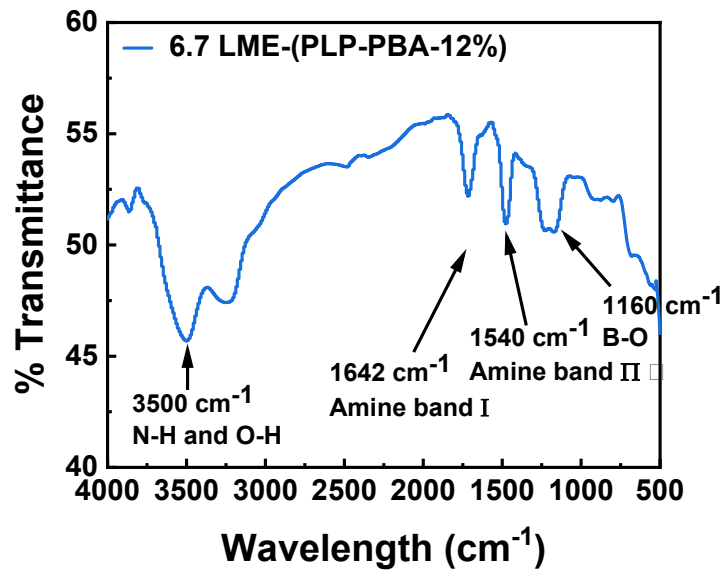


Fig. S3. FT-IR spectra of 6.7 LME-(PLP-PBA-12%) hydrogel.

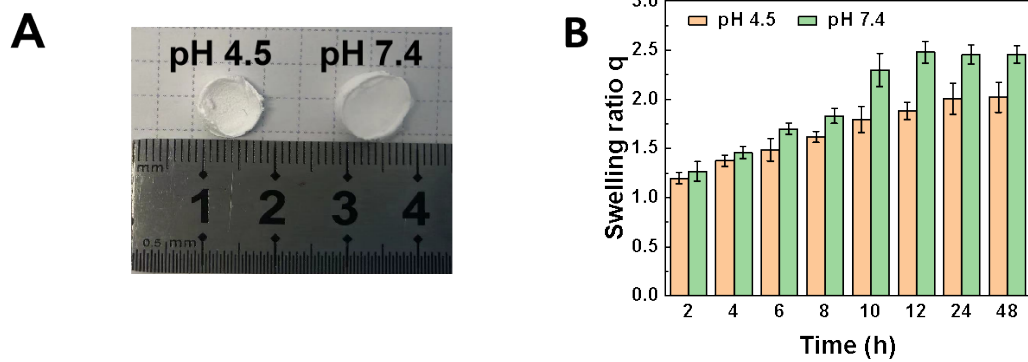


Fig. S4. (A) Macroscopic appearance of 6.7 LME- (PLP-PBA-12%) hydrogel at pH 4.5 and 7.4. (B) Swelling ratio q of 6.7 LME- (PLP-PBA-12%) hydrogel at pH 4.5 and 7.4 for various time. Mean \pm SD ($n = 3$).

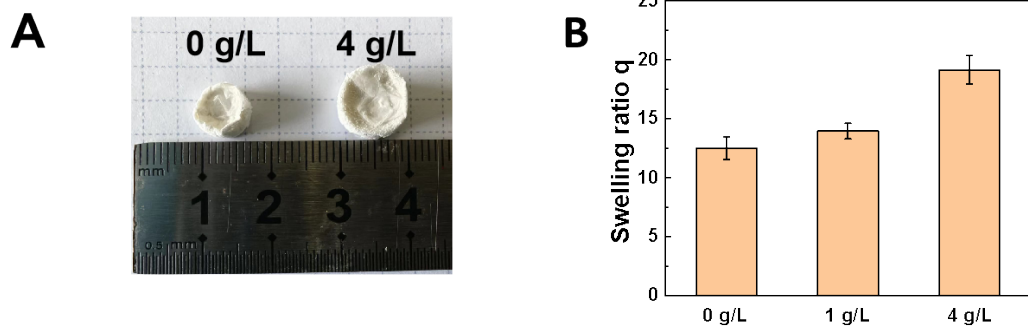


Fig. S5. (A) Macroscopic appearance of 6.7 LME- (PLP-PBA-12%) hydrogel at a glucose concentration of 0 g/L and 4 g/L. (B) Swelling ratio q of 6.7 LME- (PLP-PBA-12%) hydrogel at a glucose concentration of 0 g/L and 4 g/L for various time. Mean \pm SD ($n = 3$).