

**Glucose-sensitive poly(ether sulfone) membranes blended
with phenylboronic acid-based amphiphilic block copolymer
for self-regulated insulin release**

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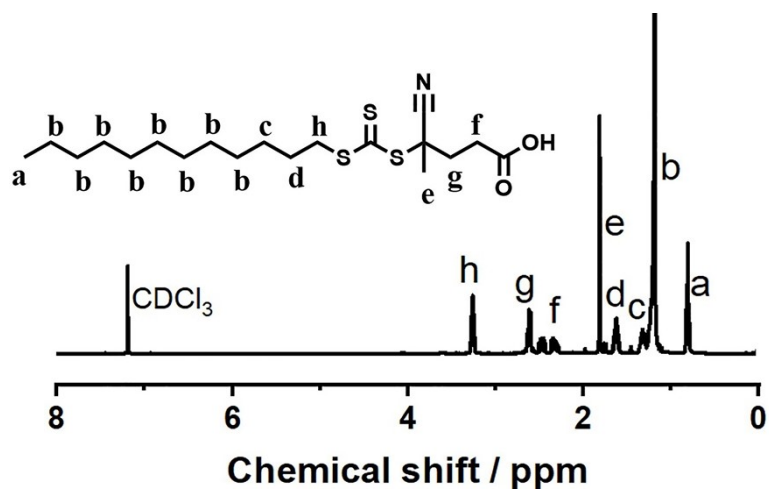


Fig. S1 ^1H NMR spectrum of CDTPA with CDCl_3 as solvent.

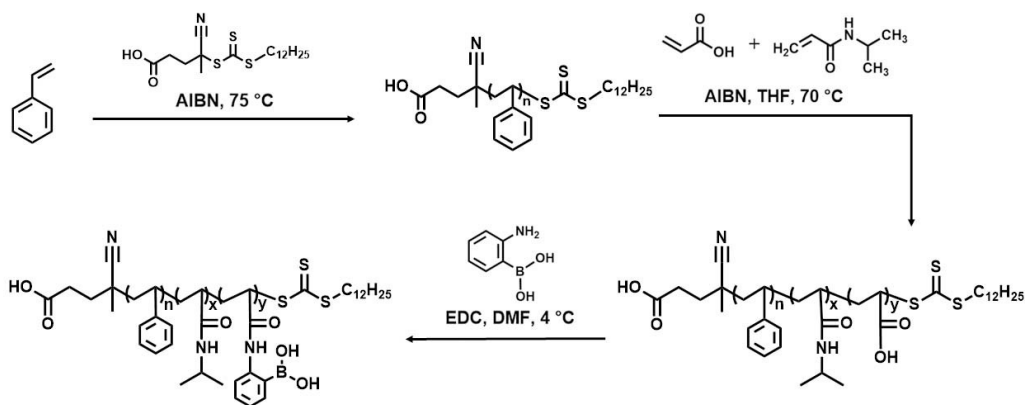


Fig. S2 Synthetic route to PSNB.

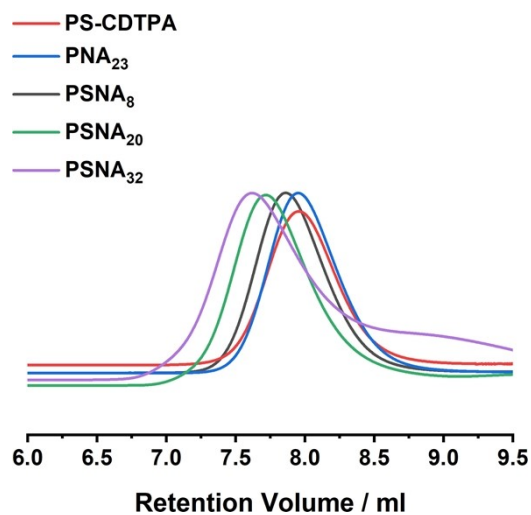


Fig. S3 GPC analysis of PS-CDTPA, PNA₂₃, PSNA₈, PSNA₂₀, PSNA₃₂.

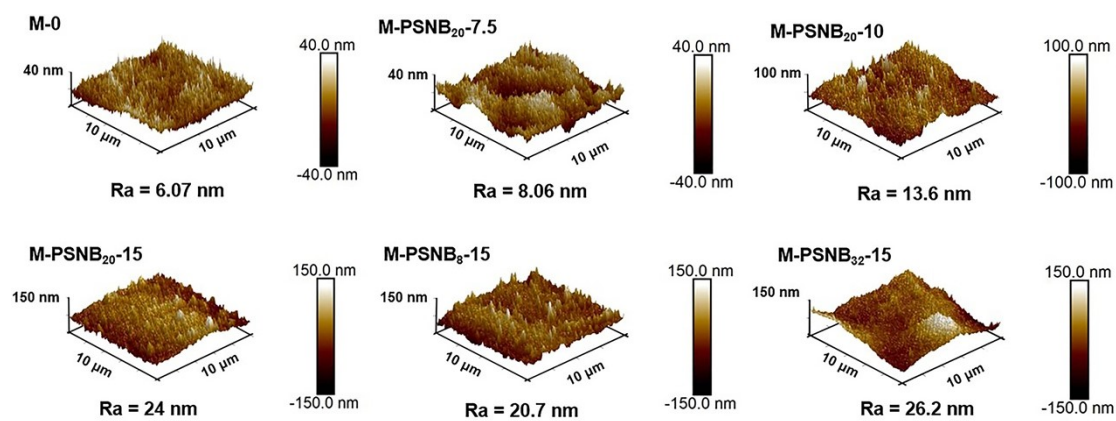


Fig. S4 Three-dimensional AFM images and Ra value of M-0, M-PSNB₂₀-7.5, M-PSNB₂₀-10, M-PSNB₂₀-15, M-PSNB₈-15, M-PSNB₃₂-15.

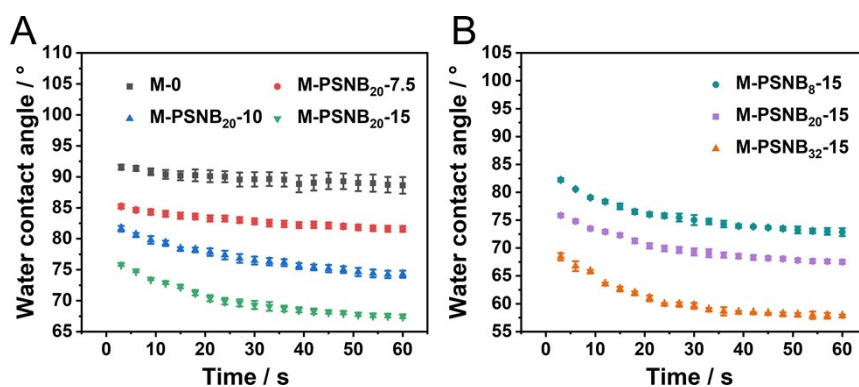


Fig. S5 (A) The time-dependent water contact angles of M-0, M-PSNB₂₀-7.5, M-PSNB₂₀-10 and M-PSNB₂₀-15. (B) The time-dependent water contact angles of M-PSNB₈-15, M-PSNB₂₀-15 and M-PSNB₃₂-15.

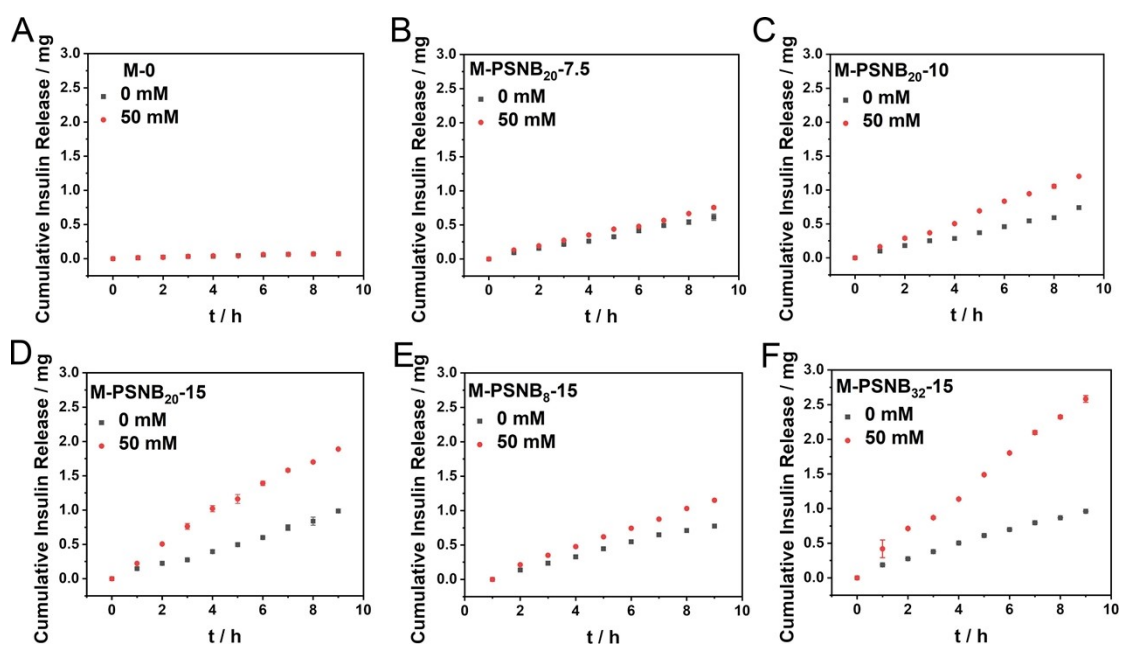


Fig. S6 The cumulative release of M-0, M-PSNB₂₀-7.5, M-PSNB₂₀-10, M-PSNB₂₀-15, M-PSNB₈-15, M-PSNB₃₂-15 membranes.

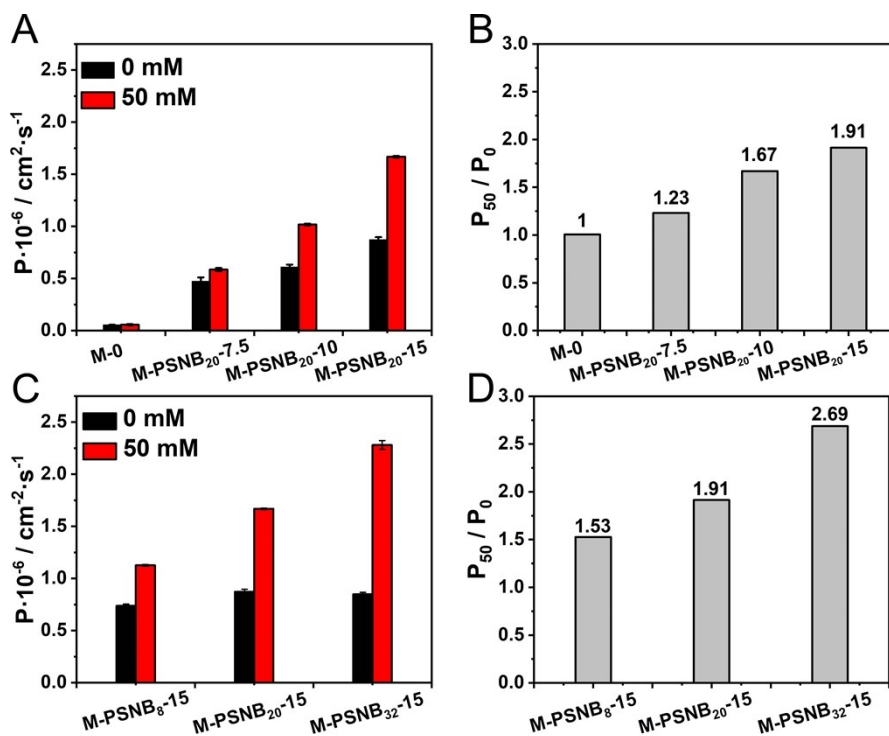


Fig. S7 P (A) and P_{50}/P_0 (B) of blend membrane with different polymer additive content at 37 °C. P (C) and P_{50}/P_0 (D) of blend membrane with different chain length of PNB at 37 °C.

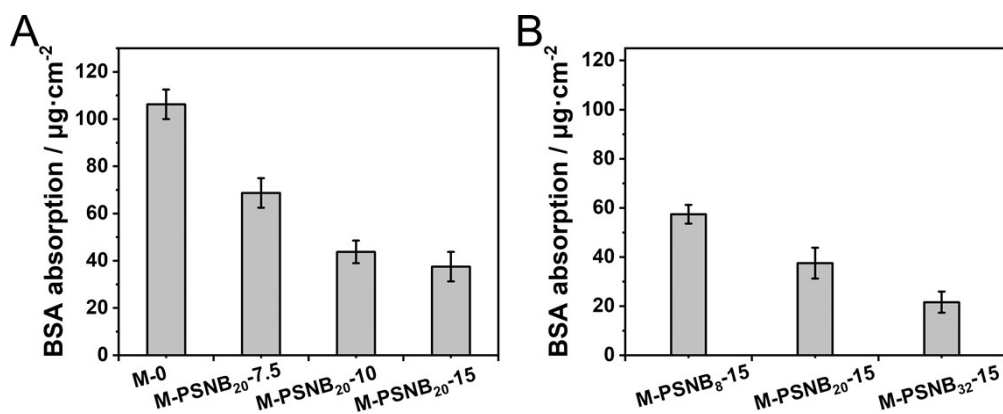


Fig. S8 BSA adsorption amount of the pure PES membrane and blend membranes.

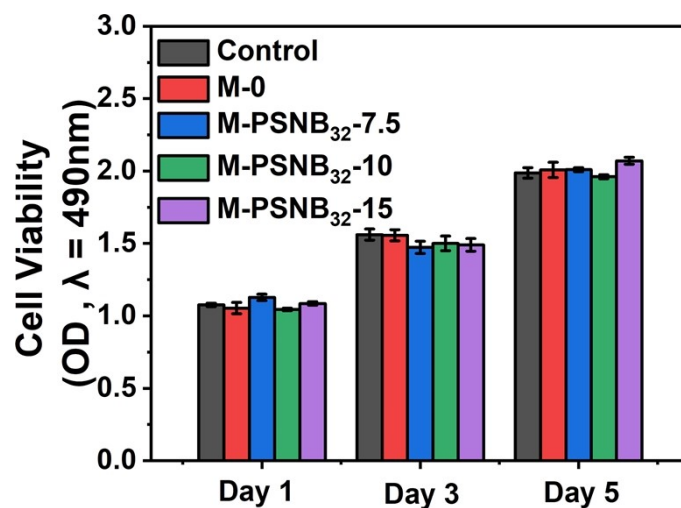


Fig. S9 Cell viability of L929 cell against M-0, M-PSNB₃₂-7.5, M-PSNB₃₂-10, M-PSNB₃₂-15. Data are shown as mean value \pm S.D. ($n = 4$). Error bars represent the standard deviation of four replicates.

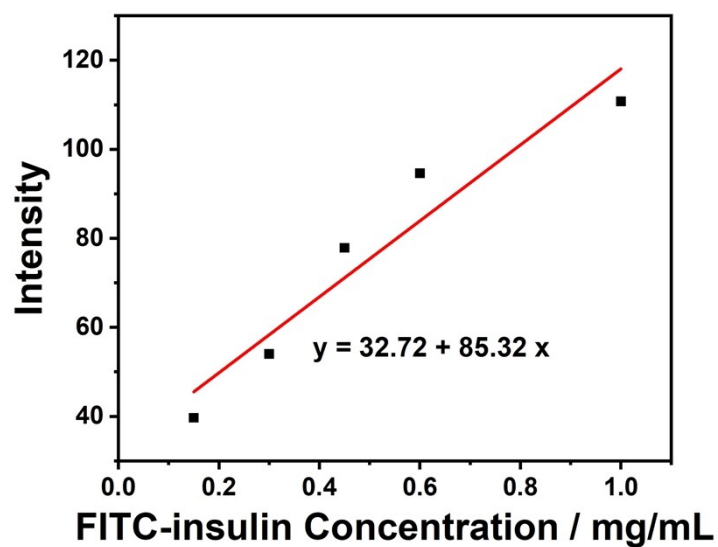


Fig. S10 Linear relationship between the FITC-insulin concentration and fluorescence intensity ($E_x = 450$ nm, $E_m = 581$ nm).