

Table S1 The water adsorption rate and membrane expansion rate of blending polymers of PDMS/HT.

Polymer sample	Water adsorption rate (72h)	Membrane expansion rate (72h)
PDMS/HT 10:50	27.8%	32.5%

Table S2 Samples of PDMS/HT with different PDMS percentages with the corresponding sensitivity and membrane thickness.

Sample	Sensitivity (nA/mM)	Membrane thickness (μm) n = 3	Response time (s)
PDMS/HT 10:50	3.88	44.7 \pm 1.5	30

Table S3 The sensitivity of the glucose sensor before and after sterilization.

	Sensitivity before sterilization (nA/mM)	Sensitivity after sterilization (nA/mM)
Sensor 1#	3.88	3.85
Sensor 2#	3.79	3.72
Sensor 3#	3.76	3.72
Sensor 4#	3.83	3.81
Sensor 5#	3.85	3.88

Table S4 The sensitivity of nine sensors before implantation (in vitro sensitivity) and explanted from beagles after 31 days of implantation were tested in PBS at 32.0 °C.

Electrode number	In vitro sensitivity (nA/mM)	Sensitivity explanted from beagles after 31 days of implantation and tested in PBS (nA/mM)
1	3.89	3.85
2	3.87	3.83
3	3.85	3.88
4	3.82	3.75
5	3.80	3.68
6	3.88	3.59
7	3.85	3.81
8	3.82	3.73
9	3.89	3.76

Table S5 Consensus error grid results for the cases without recalibration.

Zone	A	B	C	D	E
	713	97	0	0	0
%Freq	88.0	12.0	0	0	0

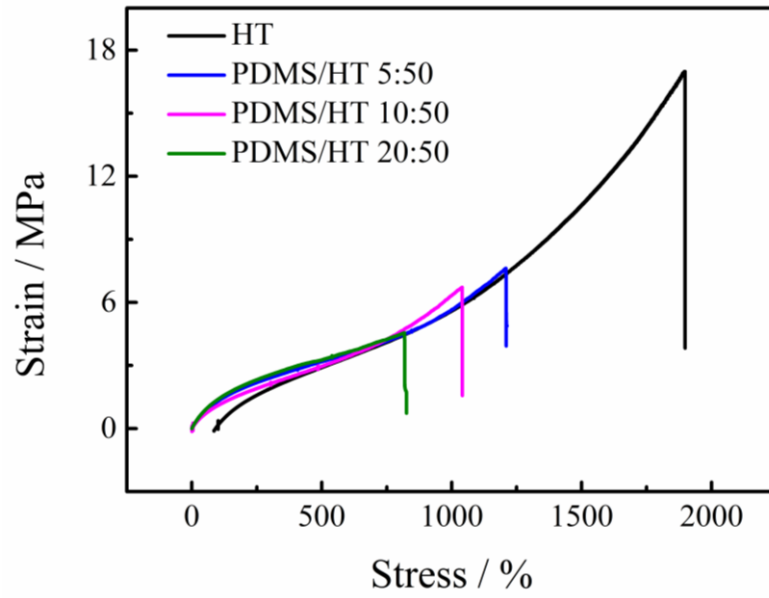


Fig. S1 Tensile behavior of PDMS/HT samples with different weight ratios.

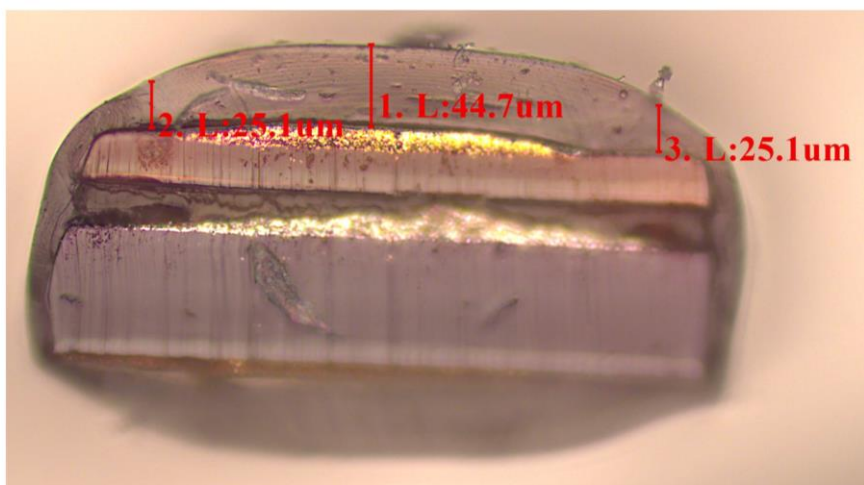


Fig. S2 Samples of PDMS/HT with the weight ratio of 10:50 and the corresponding outer membrane thickness.

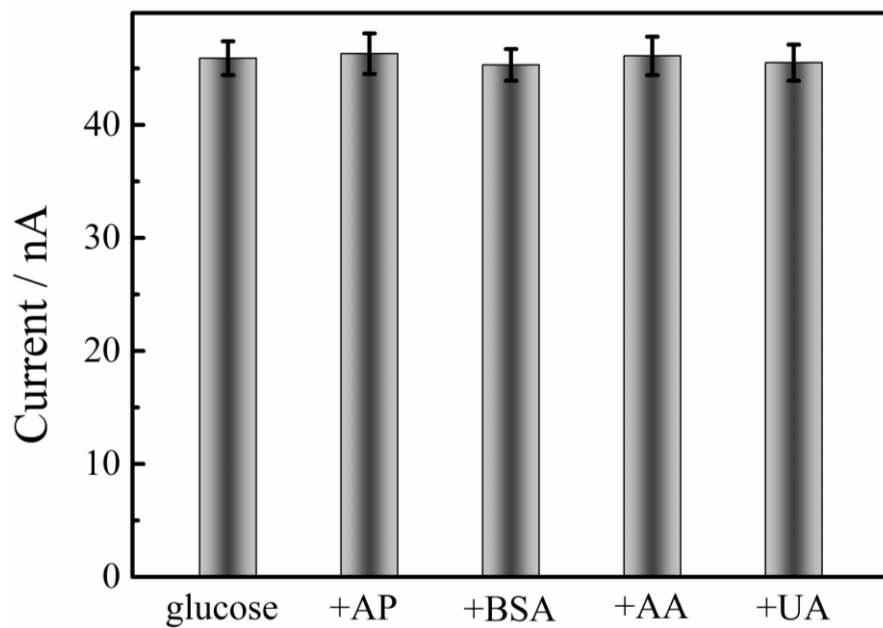
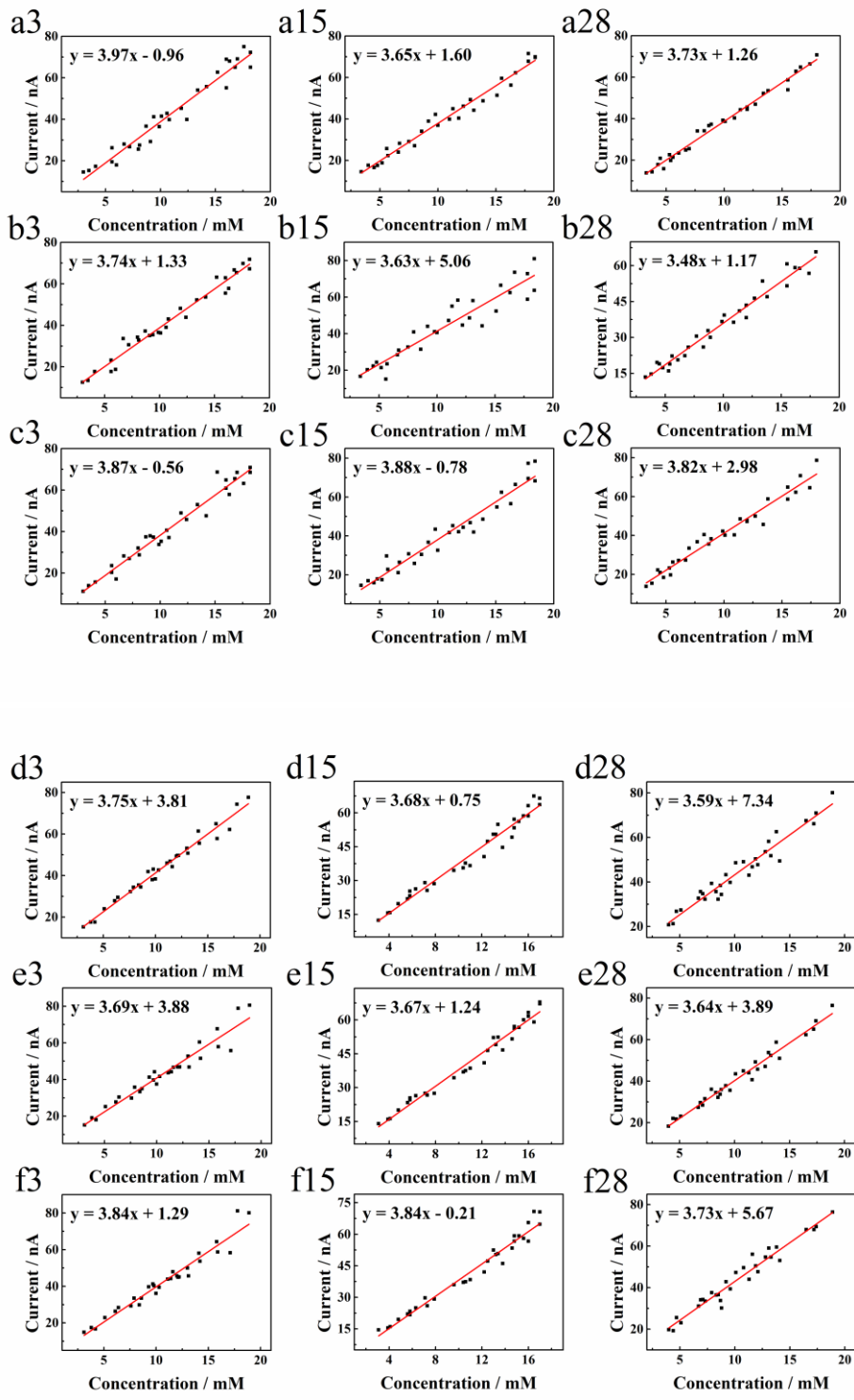


Fig. S3 Test results of 10 mM glucose (pH 7.4, 32.0 ± 0.5 °C) containing interfering substances, including 0.17 mM AP, 22 mg/mL BSA, 0.11 mM AA, 0.48 mM UA.



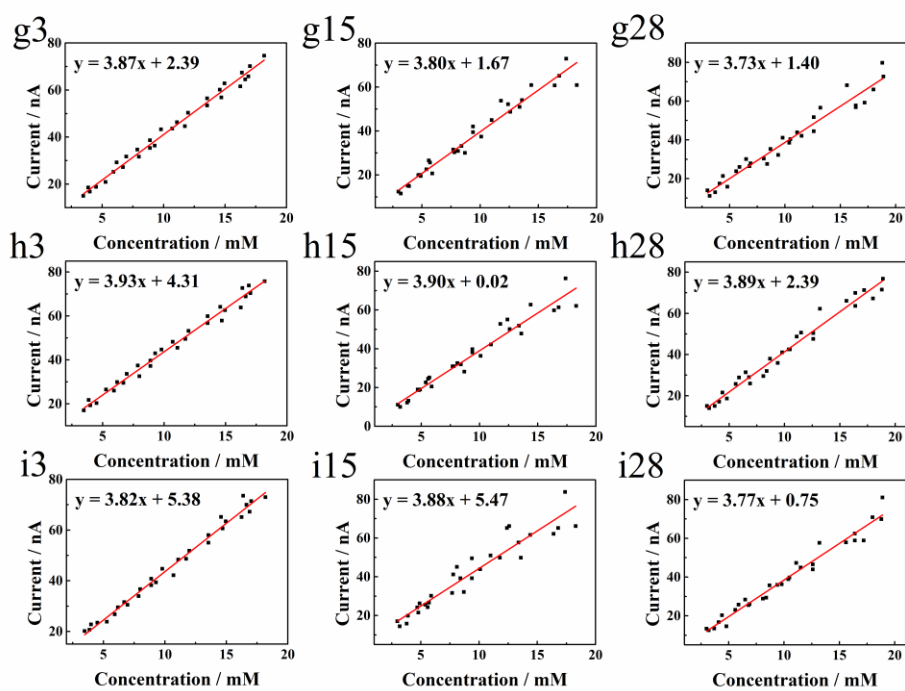


Fig. S4 The in vivo sensitivity of nine glucose sensors in 3 beagles on days 3, 15, and 28. Sensors a, b, and c were worn on beagle 1; Sensors d, e, and f were worn on beagle 2; Sensors g, h, and i were worn on beagle 3. a3, a15, and a28 represent sensor a was worn on dog 1 on day 3, day 15, and day 28.

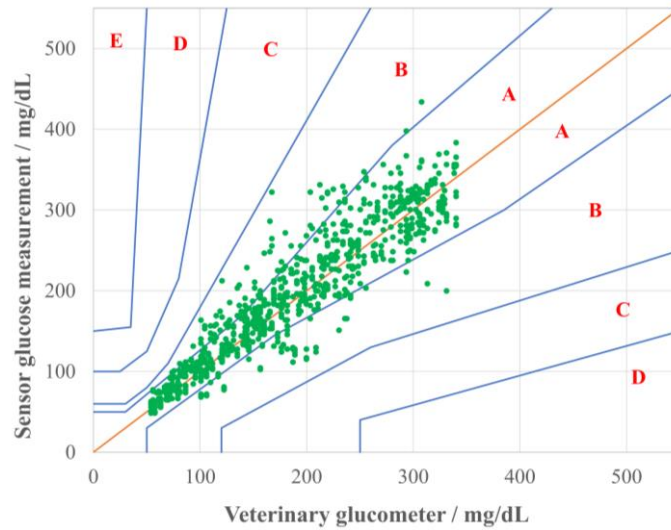


Fig. S5 Consensus error grids of the interstitial glucose concentration measured by CGMS sensors implanted at the neck of the beagles and the blood glucose concentration measured by using a veterinary glucometer in each of the 3 beagles. Zones for consensus error grid analysis are as follows: A = no effect on clinical action, B = altered clinical action unlikely to affect the outcome, C = altered clinical action likely to affect clinical outcome, D = altered clinical action that could pose a serious medical risk, and E = altered clinical action that could have dangerous consequences.