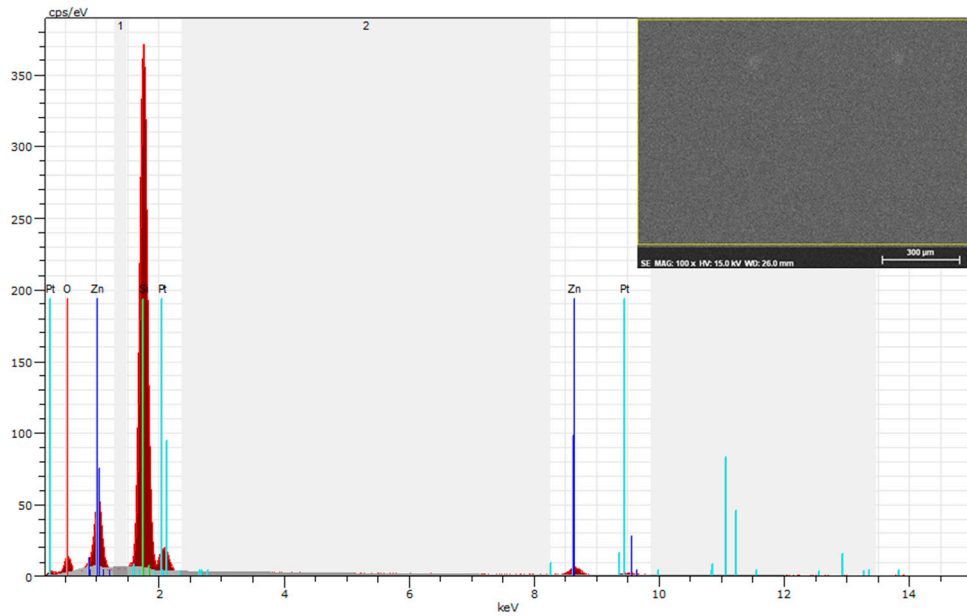


Supplementary Materials

(a)



(b)

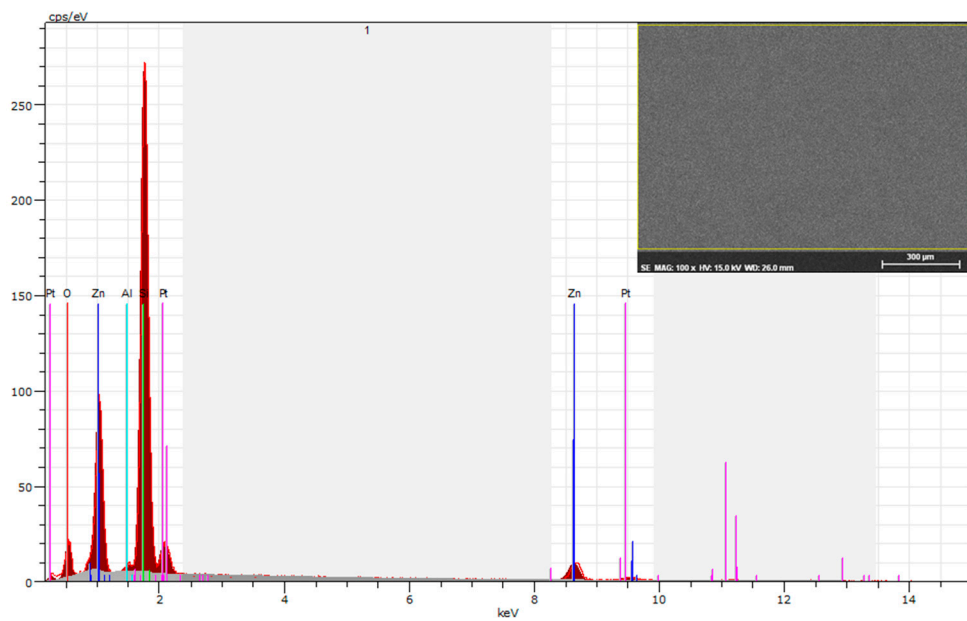


Figure S1. EDX spectra of different membranes: (a) ZnO and (b) AZO.

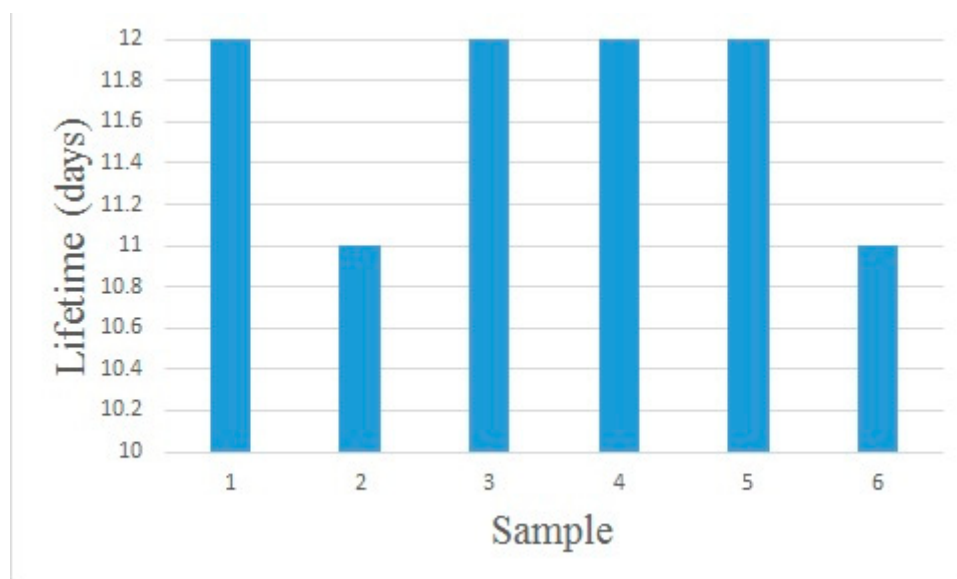


Figure S2. The reducibility test for the lifetime of the glucose biosensors.

Table S1. *p*-value for response voltages intervals under different glucose concentrations.

Membrane	Interval of Concentration	N (6 windows)	Degree of freedom	<i>p</i> -Value (Two-Tailed Tests)	Significance
Nafion-GOx/GO/ZnO	(0, 2)	6	2	1.92×10^{-3}	**
	(2, 4)			2.17×10^{-5}	***
	(4, 6)			4.72×10^{-7}	***
	(6, 8)			8.27×10^{-7}	***
	(8, 10)			9.87×10^{-6}	***
	(10, 12)			9.32×10^{-3}	**
	(12, 14)			1.14×10^{-6}	N/A
Nafion-GOx/GO/AZO	(0, 2)	6	2	6.06×10^{-4}	***
	(2, 4)			2.51×10^{-5}	***
	(4, 6)			6.37×10^{-7}	***
	(6, 8)			8.32×10^{-7}	***
	(8, 10)			4.47×10^{-5}	***
	(10, 12)			3.72×10^{-2}	*
	(12, 14)			1.97×10^{-1}	N/A