Supporting Information

In-situ Growth of Nano-Gold on Anodized Aluminum Oxide with Tandem Nanozyme Activities Towards Sensitive Electrochemical Nanochannel Sensing

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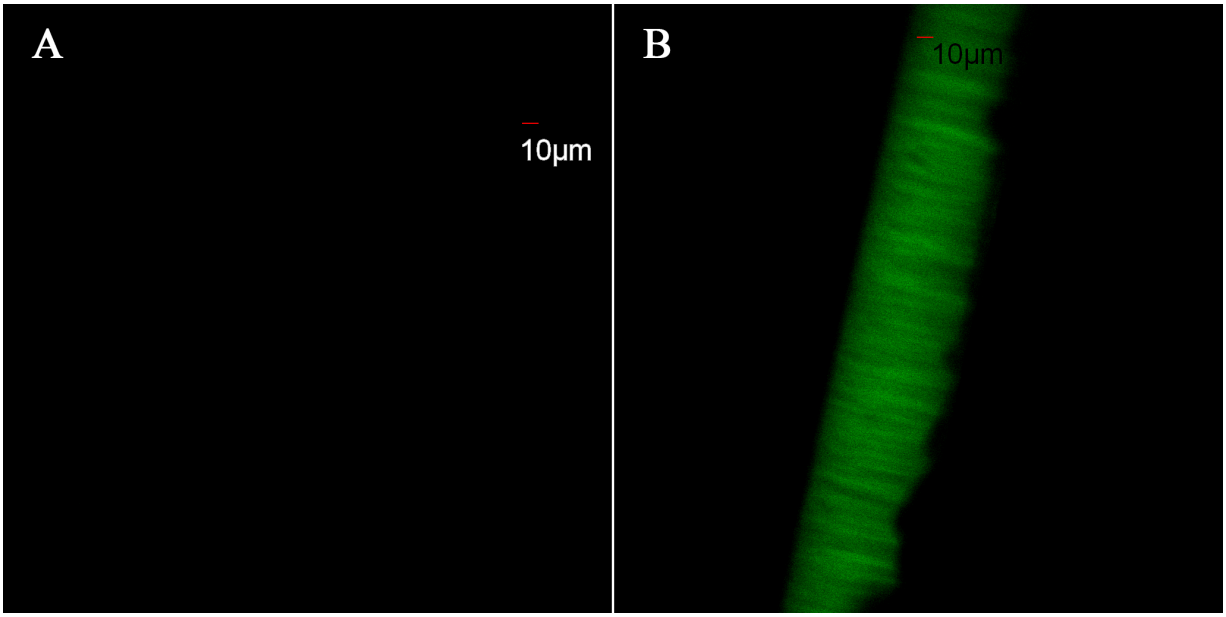

Figure S1. The LSCM cross-sectional images of (A) bare AAO nanochannel and (B) PDA-AAO nanochannel.

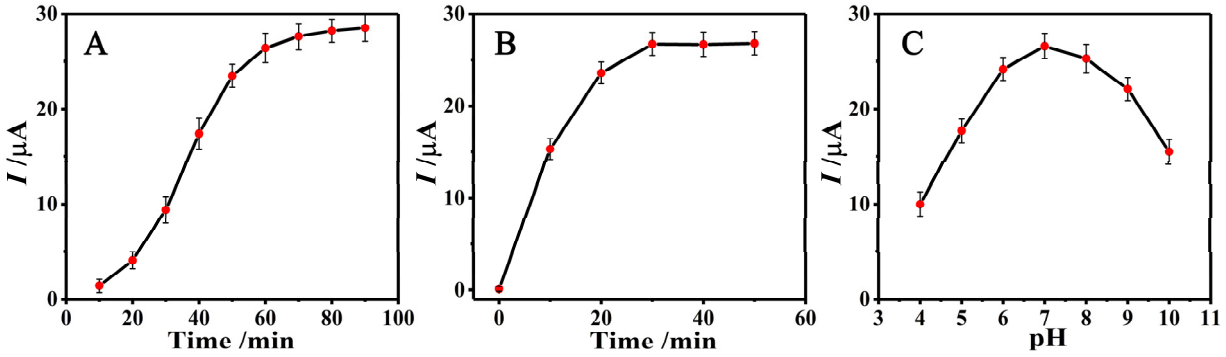

Figure S2. Impact of the reaction time for (A) dopamine self-polymerization and (B) AuNPs growth on the ionic current response of Au-PDA-AAO nanochannel towards 10 μM glucose at +1.0 V. (C) Impact of solution pH on the ionic current response of Au-PDA-AAO nanochannel towards 10 μM glucose at +1.0 V.

Table S1. Assay performance comparison of our method with other enzyme-free glucose sensors.

Sensor	Linear range	Detection limit	Reference
Nanozyme-based sensor	0.4 to 80 mM	0.4 mM	[1]
Nanozyme-based sensor	1 μM to 0.3 mM	0.6 μM	[2]
Nanozyme-based sensor	10 μM to 130 μM	0.5 μM	[3]
Nanozyme-based sensor	10 μM to 300 μM	8.5 μM	[4]
Nanozyme-based sensor	5 μM to 1.2 mM	1.0 μM	[5]
Nanozyme-based sensor	10 μM to 200 μM	4.2 μM	[6]
Electrocatalysis-based sensor	1 μM to 10 mM	1.0 μM	[7]
Electrocatalysis-based sensor	30 to 500 μM	1.0 μM	[8]
Electrocatalysis-based sensor	0.005 to 31 mM.	1.0 μM	[9]
Electrocatalysis-based sensor	5.0 μM to 2.0 mM	2.0 μM	[10]
Electrocatalysis-based sensor	2 μM to 2.5 mM	1.0 μM	[11]
Electrocatalysis-based sensor	0.005 to 3.0 mM	1.2 μM	[12]
Au-PDA-AAO nanochannel sensor	0.5 μM to 50 μM	0.2 μM	This work

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