Supporting Information

Phenylboronic acid conjugated poly(3,4-ethylenedioxythiophene)(PEDOT) coated Ag dendrite for electrochemical non-enzymatic glucose sensing

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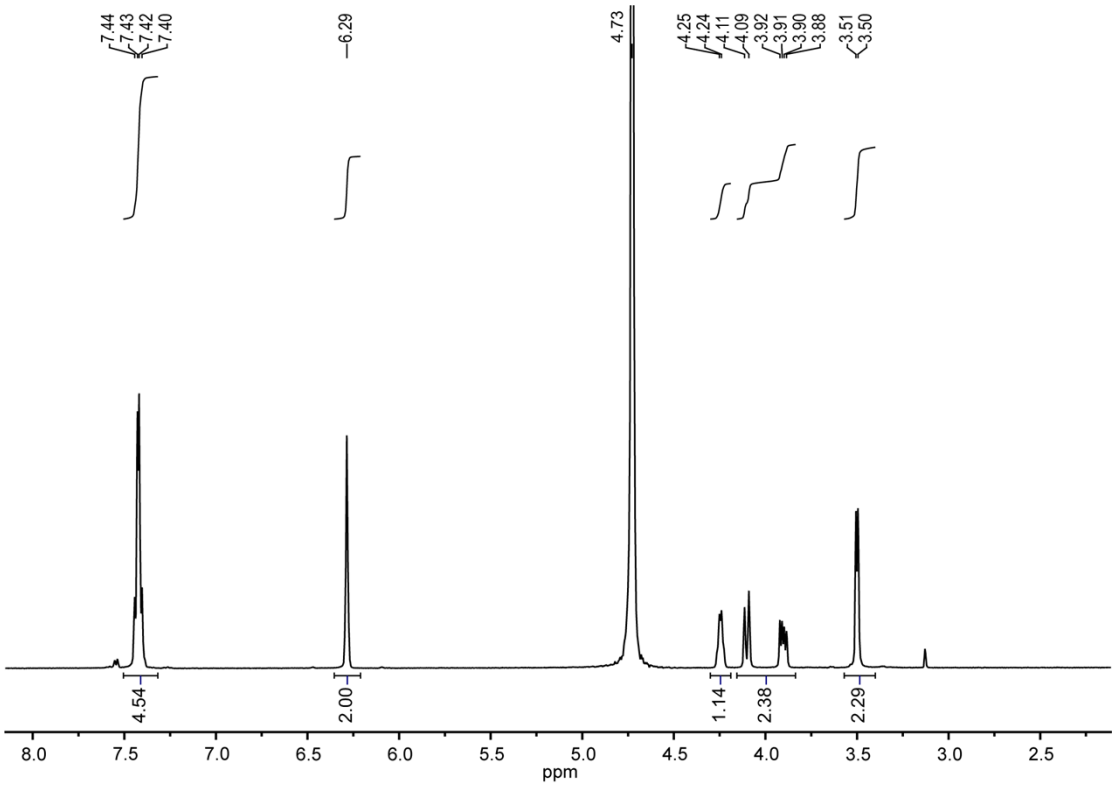

Figure S1. ^{1}H NMR (500 MHz, D_2O) spectra of poly(EDOT-PBA) δ 7.42 (q, J = 7.7 Hz, 4H), 6.29 (s, 2H), 4.73 (s, H_2O), 4.25 (d, J = 5.6 Hz, 1H), 4.16 – 3.83 (m, 2H), 3.50 (d, J = 5.3 Hz, 2H).

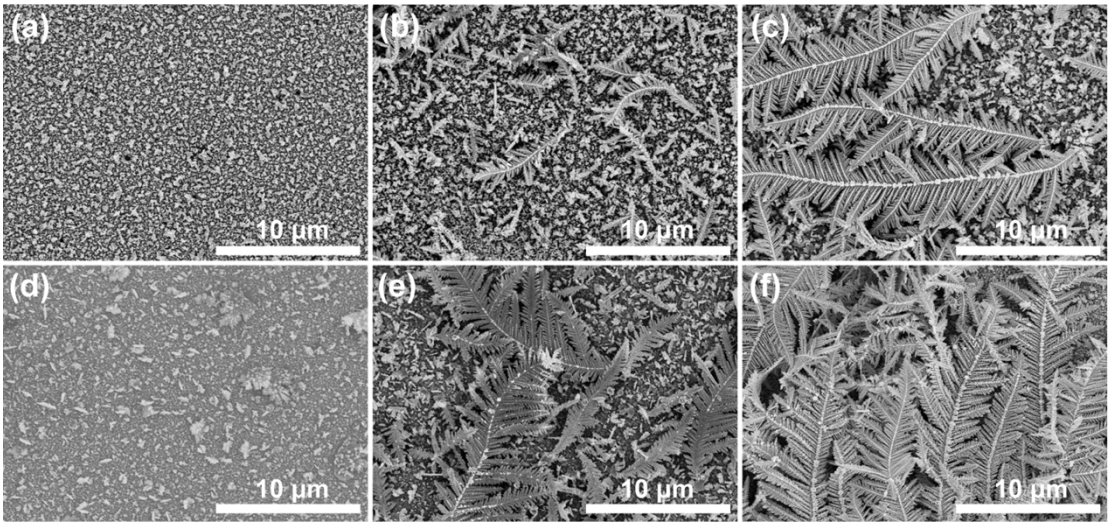

Figure S2. The morphology of the Ag on Cu/GCE at different conditions. (a-c) when deposition time is (a) 30 s, 60 s and 180 s in 20 mM $AgNO_3$ aqueous solution, and (d-f) in 5 mM, 10 mM, and 20 mM $AgNO_3$ solution deposited for 120 s.

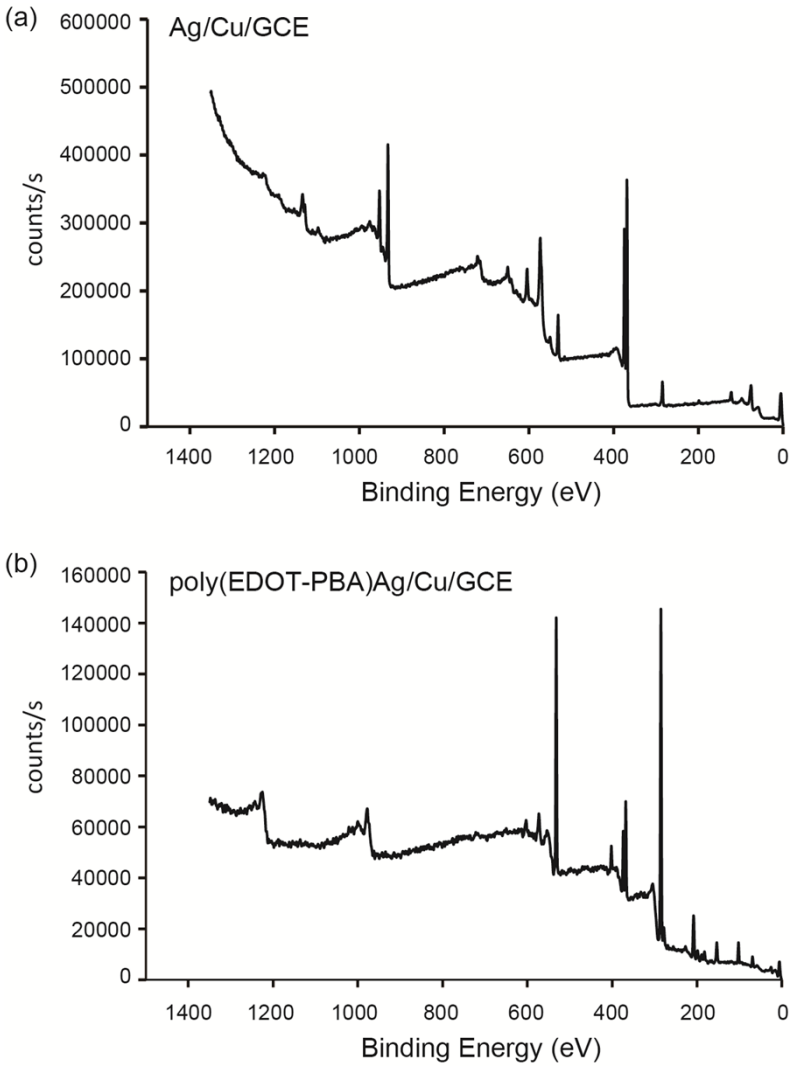

Figure S3. XPS wide-scan spectra of (a) Ag/Cu/GCE and (b) Poly(EDOT-PBA)/Ag/Cu/GCE films.

Table S1. Elemental composition and calculated atomic percentage of each element on surface of Ag/Cu/GCE and Poly(EDOT-PBA)/Ag/Cu/GCE films.

		Ag/Cu/GCE	Poly(EDOT-PBA)/Ag/Cu/GCE
Elements	Peak BE	Atomic%	Atomic%
C1s	284.81	35.09	68.2
O1s	532.06	24.63	17.91
N1s	399.04	1.2	4.51
S2p	164.2	0	3.36
B1s	188.55	0	2.98
Cl2p	197.88	0.43	0.93
Ag3d	367.78	20.81	1.74
Cu2p	934.08	17.84	0.37

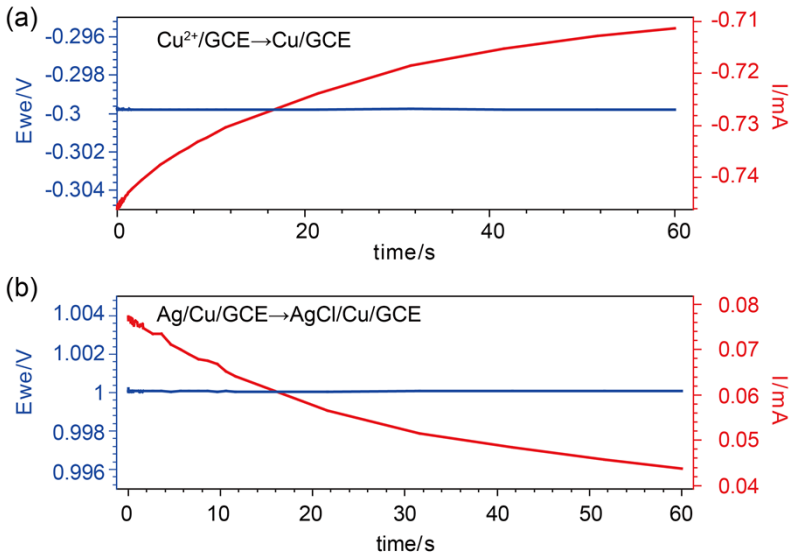

Figure S4. Change of current and voltage with time during electrode modification. (a) Cu2+ is reduced to Cu and deposited on the glassy carbon electrode. A constant voltage of -0.3V was applied to the glass carbon working electrode for 60 seconds in an electrolyte consisting of 1 mL $CuSO_4$ (15 mM) solution and 0.1 mL H_2SO_4 (5 mM). (b) the Ag that is not covered by the poly(EDOT-PBA) reacts to form AgCl. The poly(EDOT-PBA)/Ag/Cu/GCE as the working electrode was placed in 1 mL HCl (1 mM) solution to react at a constant voltage of 1 V for 60 s. Platinum wire was used as the counter electrode and Ag/AgCl (in 3.3 M KCl aqueous solution) as the reference electrode.