Electronic Supplementary Material (ESI) for New Journal of Chemistry.

Co/CoO Nanoparticles armored by N-doped nanoporous carbon polyhedrons towards glucose oxidation in high-performance non-enzymatic sensor

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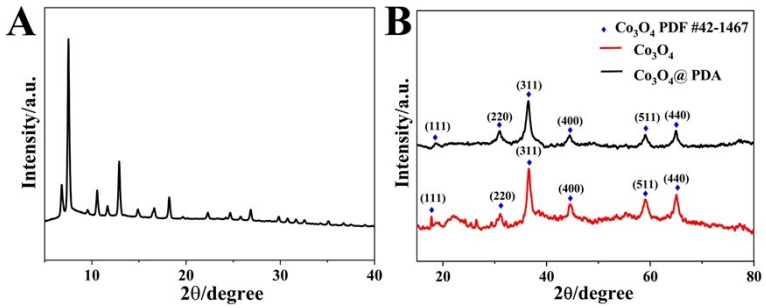

Fig. S1. XRD patterns of ZIF-67 (A), Co_3O_4 and Co_3O_4@PDA (B).

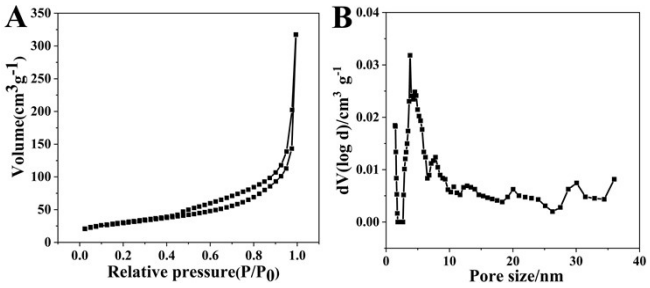

Fig. S2. (A) N_2 adsorption/desorption isotherm and (B) pore size distribution of Co/CoO/N-C.

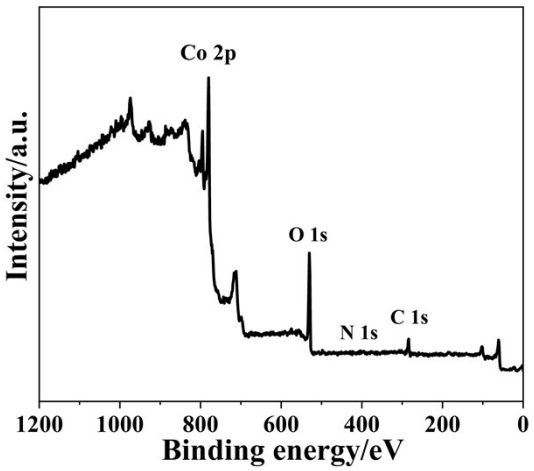

Fig. S3. XPS spectra of Co/CoO/N-C survey.

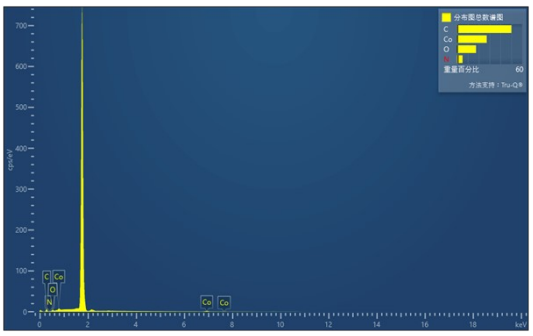

Fig. S4. EDS analysis of Co/CoO/N-C.

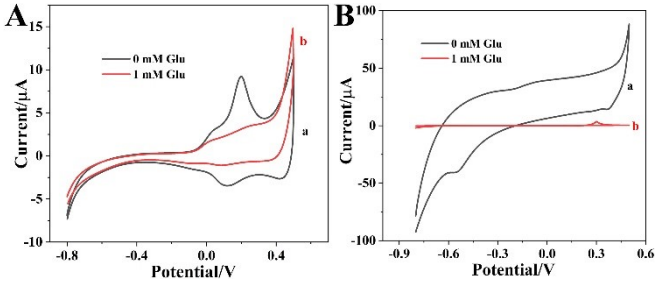

Fig. S5. CVs of ZIF-67/ITO (A) and Co_3O_4/ITO (B) in 0.2 M NaOH without (black line) and with (red line)1 mM glucose, scan rate: 50 mV s^{-1}.

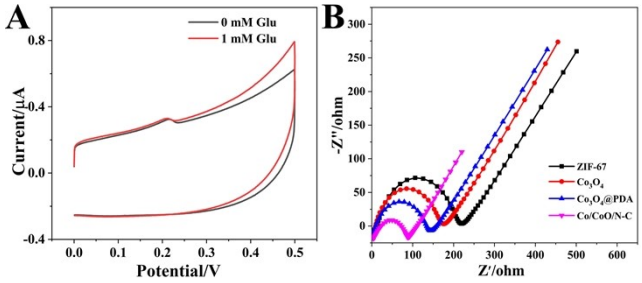

Fig. S6. The CVs of ZIF-67@PDA after pyrolysis in N_2 without and with 1 mM glucose in 0.2 M NaOH (A). EIS spectra of the ZIF-67/ITO, Co_3O_4/ITO, Co_3O_4@PDA/ITO and Co/CoO/N-C/ITO in 5 mM $K_3Fe(CN)_6/K_4Fe(CN)_6$ solution containing 0.1 M KCl with frequency between 100 kHz and 0.01 Hz (B).

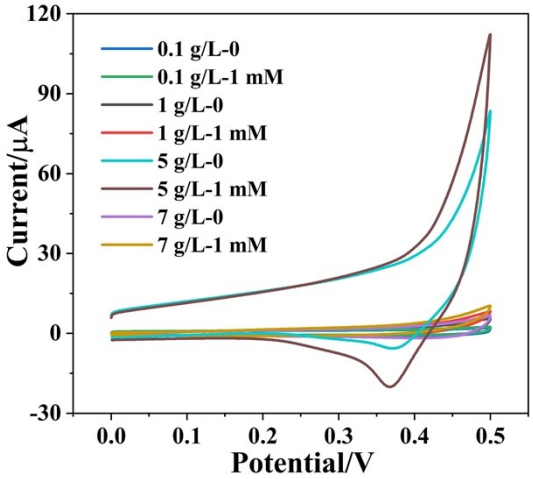

Fig. S7. The effects of the concentration of Co_3O_4 in Tris-buffer solution on the electrochemical performance.

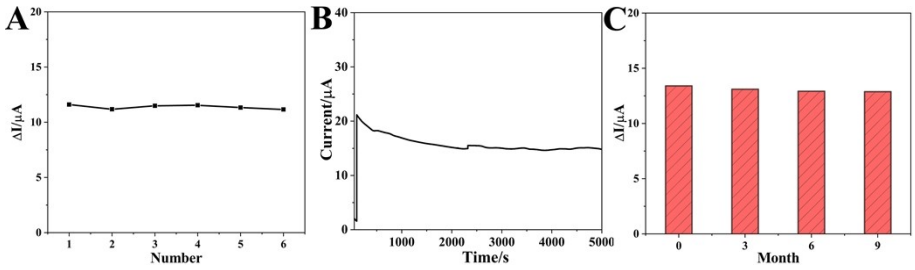

Fig. S8. (A) Results of six repetitive measurements of 1 mM glucose. (B) Amperometric response obtained at Co/CoO/N-C/ITO on addition of 1 mM glucose into 0.6 M NaOH at +0.55 V. (C) The stability of the Co/CoO/N-C/ITO towards 1 mM glucose in a period of 9 months.