

Supplementary information

Electrodeposition of ZnCo_2O_4 nanoparticles for biosensing applications

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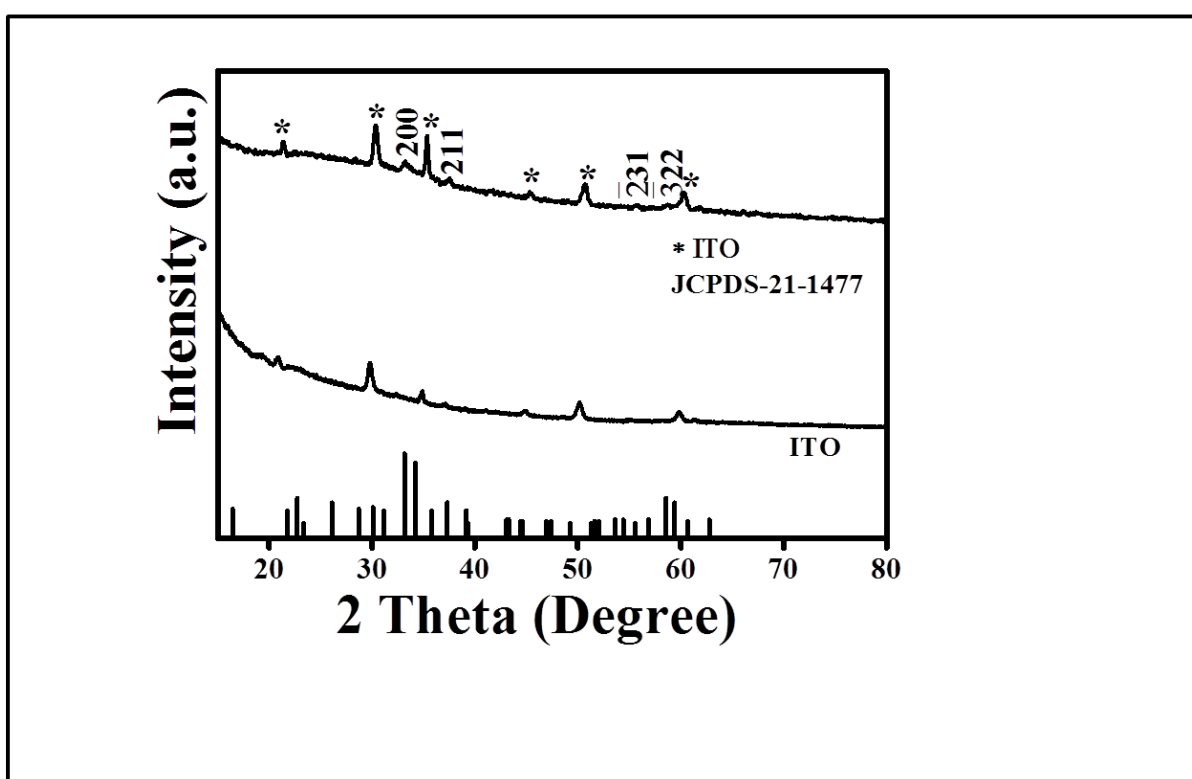


Fig. S1 XRD of ZnCo_2O_4 nanoparticles before calcination.

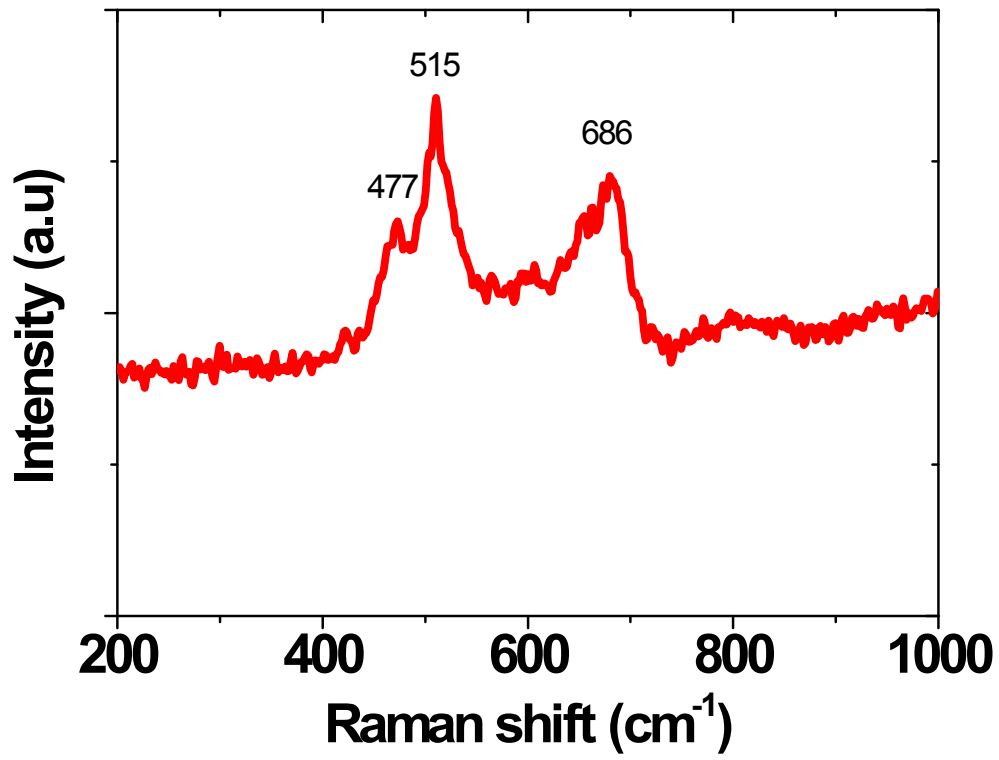


Fig. S2 Raman spectrum of ZnCo₂O₄ nanoparticles.

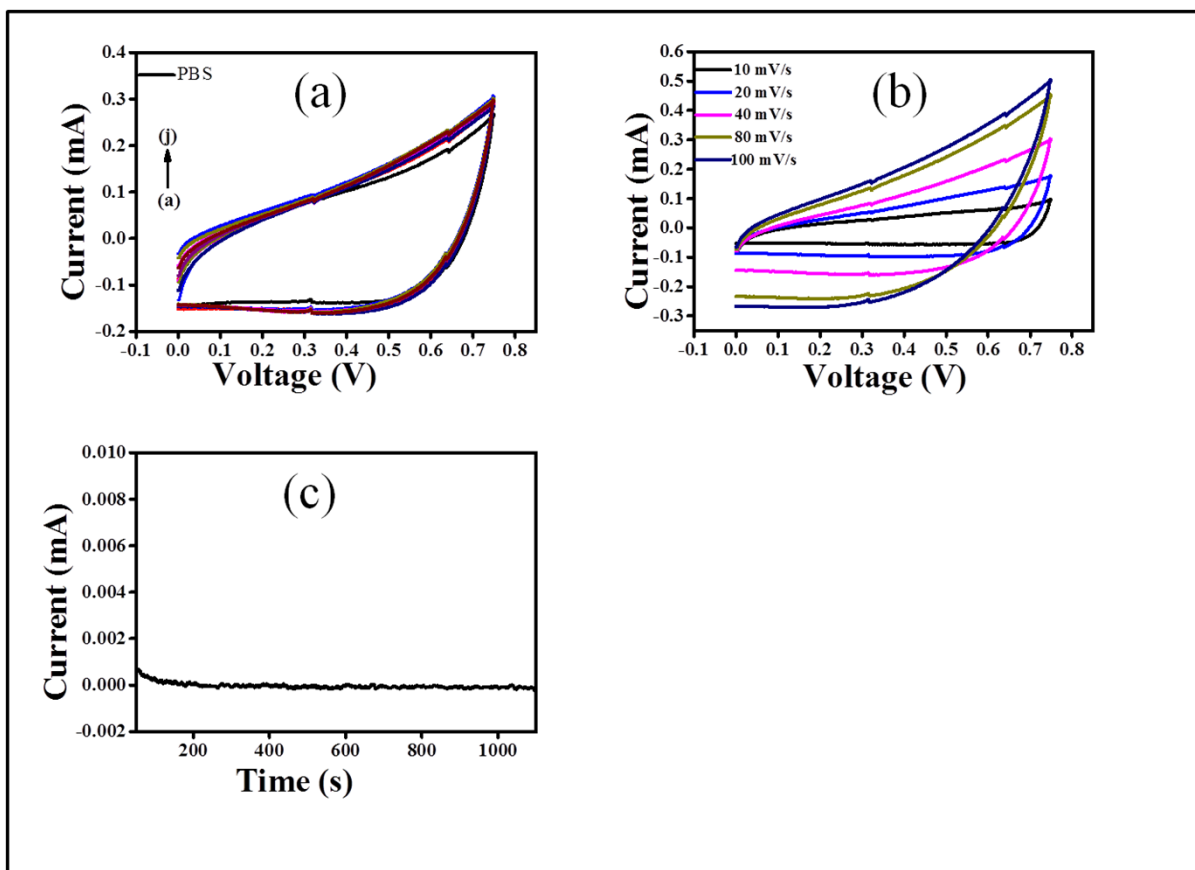


Fig. S3 (a) CVs of ZnCo₂O₄ nanoparticles in 0.1 M potassium buffer solution (PBS) having pH 7.4 with different concentration of glucose (concentration of glucose varies from 100 μM to 1000 μM), (b) CVs at different scan rates in the presence of 100 μM glucose concentration, (c) Chrono-amperometric response of ZnCo₂O₄ nanoparticles with successive addition of glucose molecules (We did not observe much change due to low sensitivity in PBS).

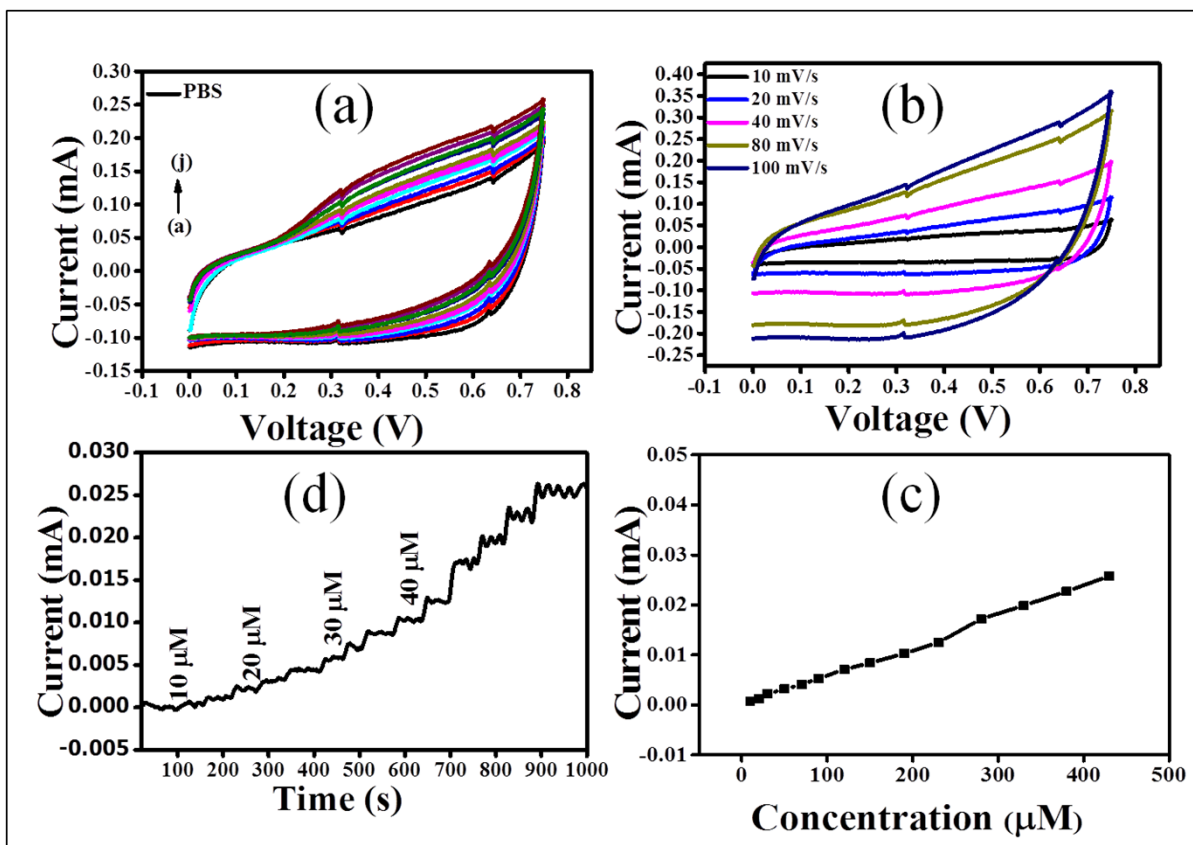


Fig. S4 (a) CVs of ZnCo₂O₄ nanoparticles in 0.1 M potassium buffer solution (PBS) having pH 7.4 at different concentration of dopamine (concentration of dopamine varies from 100 μM to 1000 μM), (b) CVs at different scan rates in the presence of 100 μM dopamine concentration, (c) Chrono-amperometric response of ZnCo₂O₄ nanoparticles with successive addition of dopamine molecules and (d) Calibration graph.

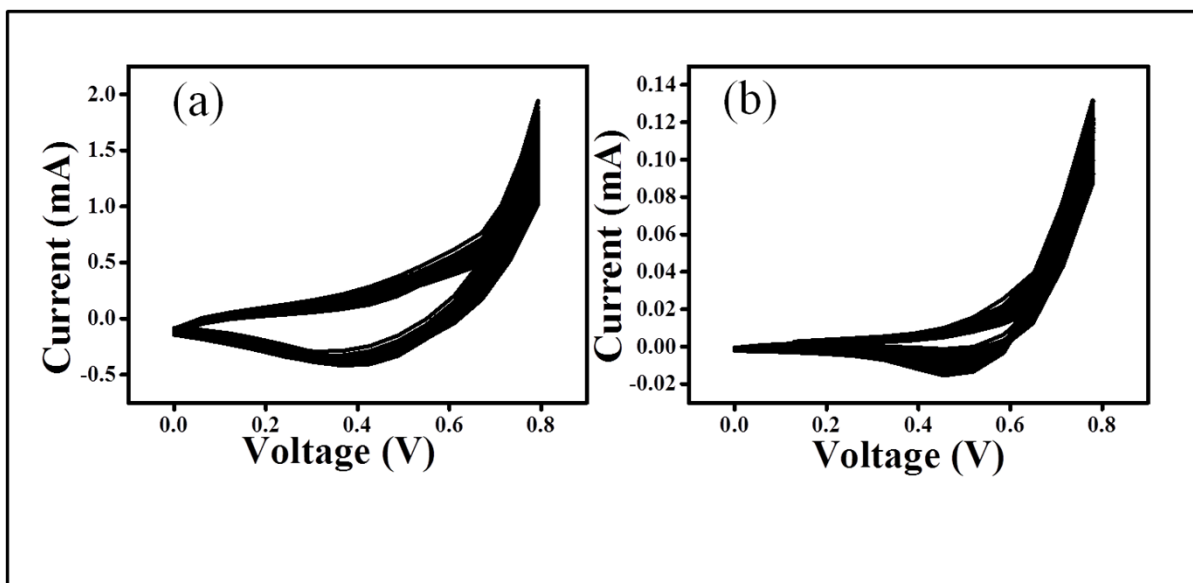


Fig. S5 (a) CVs of 5000 cycles of ZnCo_2O_4 in the presence of $100 \mu\text{M}$ glucose molecules in 0.1 M of NaOH solution and (b) CVs of 5000 cycles of ZnCo_2O_4 in the presence of $100 \mu\text{M}$ dopamine molecules in 0.1 M of NaOH solution.

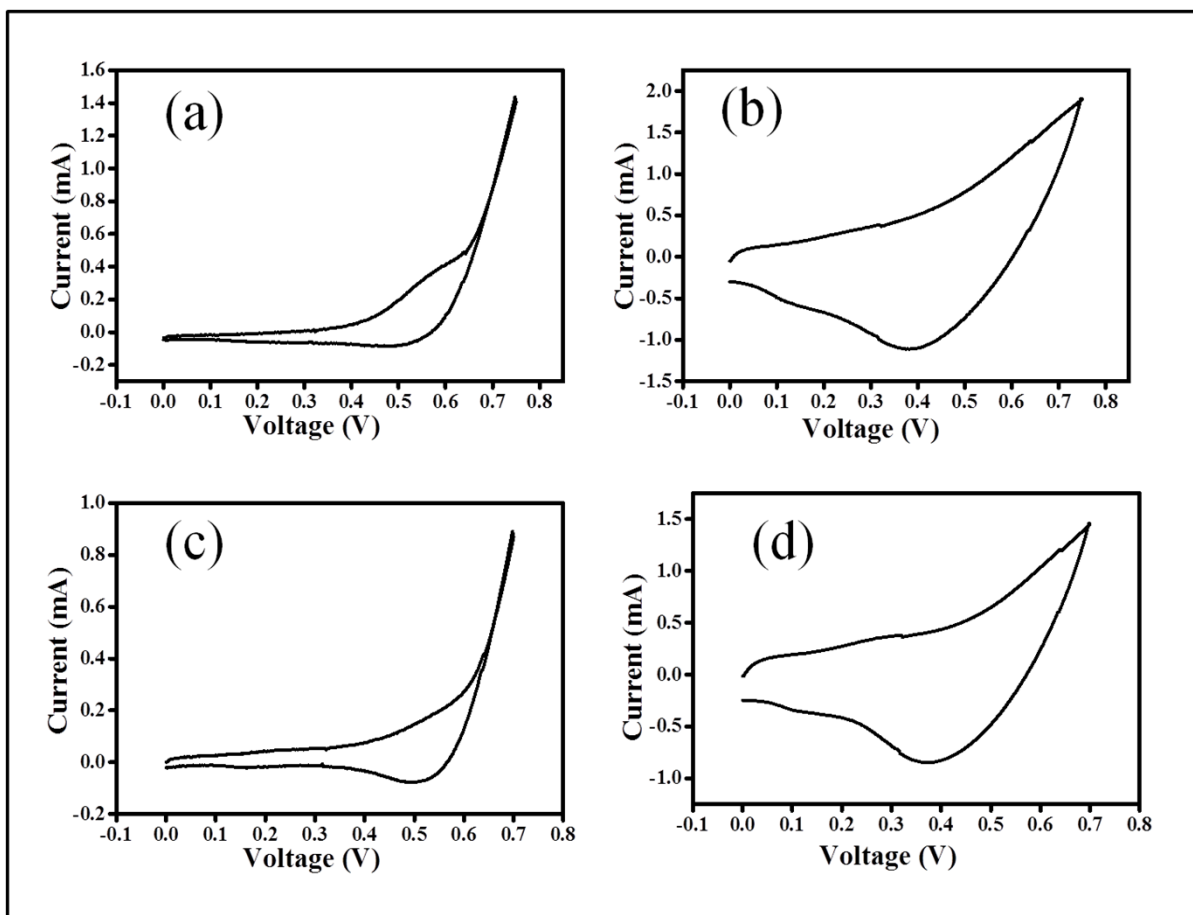


Fig. S5 (a) and (b) the CVs of ZnCo_2O_4 in the presence of $100 \mu\text{M}$ glucose molecules in 0.1 M of NaOH solution at 8 mV/s and 100 mV/s scan rates, (c) and (d) the CVs of ZnCo_2O_4 in

the presence of 100 μM dopamine molecules in 0.1 M of NaOH solution at 8 mV/s and 100 mV/s scan rates respectively.