Three-dimensional nickel–cobalt oxide nanomaterials as enzyme-mimics
electrocatalyst for the glucose and lactic acid oxidation reaction

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**Fig. S1.** CV curves of the NiCo$_2$O$_4$ recorded at various scan rates in 0.1 M KOH (a); and the plot of current density vs square root of scan rate (b).
Fig. S2. CV curves of the NiCo$_2$O$_4$ recorded for 10.0 mM glucose + 0.1 M KOH at various scan rates (a) and the plot of current density vs square root of scan rate (b).
Fig. S3. CV curves of the NiCo₂O₄ electrode recorded with various scan rates under 1.0 M KOH (a); and the corresponding plot of anodic current density vs square root of the scan rates.

Calculated electrochemical active surface area:

\[
A_{ECSA} = \frac{35.8 \text{ mF cm}^{-2}}{40 \mu \text{F cm}^{-2} \text{ per cm}^{2}_{ECSA}} = 895 \text{ cm}^{2}_{ECSA}
\]

NiCo₂O₄:

\[
A_{ECSA} = \frac{8.2 \text{ mF cm}^{-2}}{40 \mu \text{F cm}^{-2} \text{ per cm}^{2}_{ECSA}} = 205 \text{ cm}^{2}_{ECSA}
\]

NiO :

\[
A_{ECSA} = \frac{9.4 \text{ mF cm}^{-2}}{40 \mu \text{F cm}^{-2} \text{ per cm}^{2}_{ECSA}} = 235 \text{ cm}^{2}_{ECSA}
\]

Co₃O₄ :
Fig. S4. The plot of electrode potential vs applied current density (a); and current density vs applied potential at the NiCo$_2$O$_4$ electrode recorded in presence of 25.0 mM lactic acid.
Fig. S5. The plot of the relative current density against the number of cycles of the NiCo$_2$O$_4$ electrode. Inset: CV curves of the NiCo$_2$O$_4$ electrode recorded for 25 mM of lactic acid from 1st to 400 cycles.