Electronic Supplementary Material (ESI) for RSC Advances.

Hierarchical ZnO nanorods/Ni(OH)$_2$ nanoflakes for room-temperature, cheap fabrication of non-enzymatic glucose sensor

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SUPPORTING INFORMATION

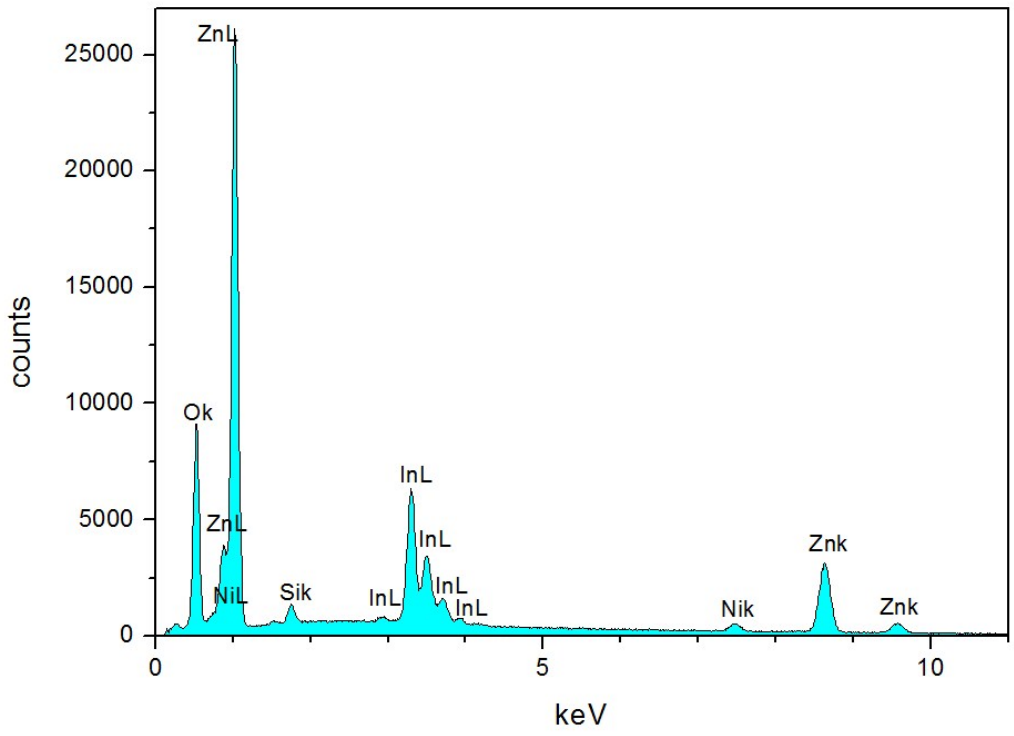

Figure S1. EDX spectrum of the sample 50-60.

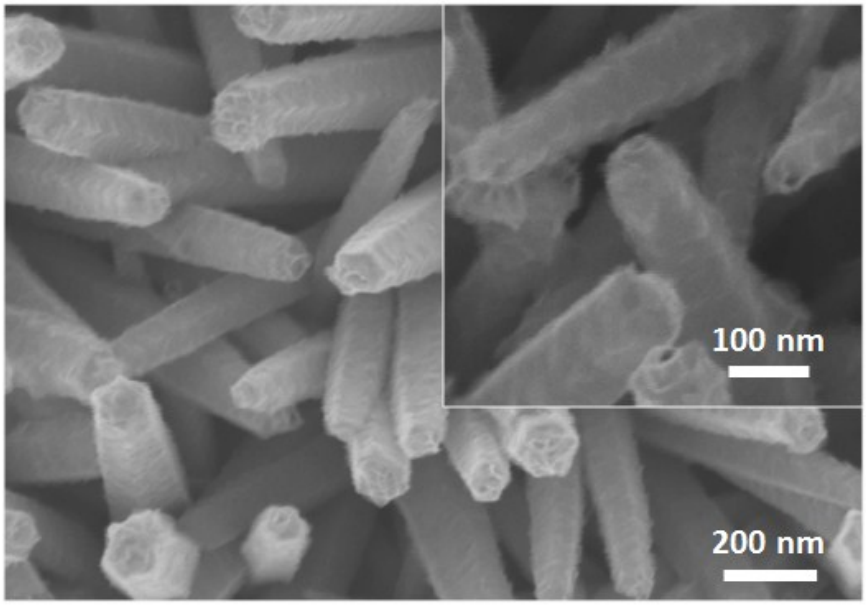

Figure S2. SEM plan view of the sample 50-40 (ZnO NRs grown with 50mM HMTA; 40 electrodeposition cycles for $Ni(OH)_2$). The insets are higher magnification SEM image.

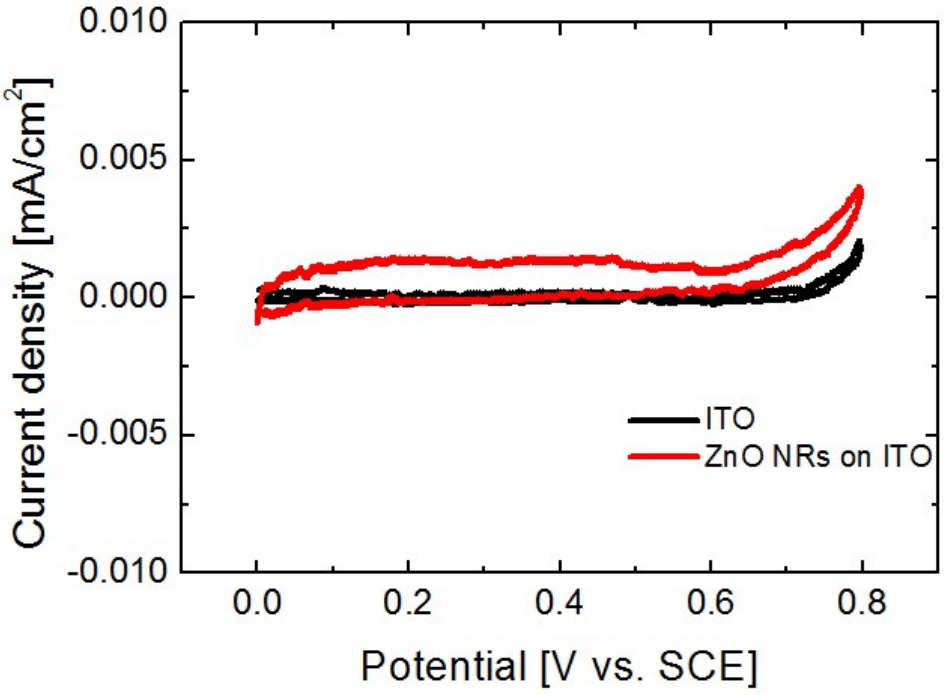

Figure S3. Cyclic voltammograms of bare ITO and ZnO NRs/ITO samples in 0.1M NaOH (scan rate 50 mV s^{-1}).

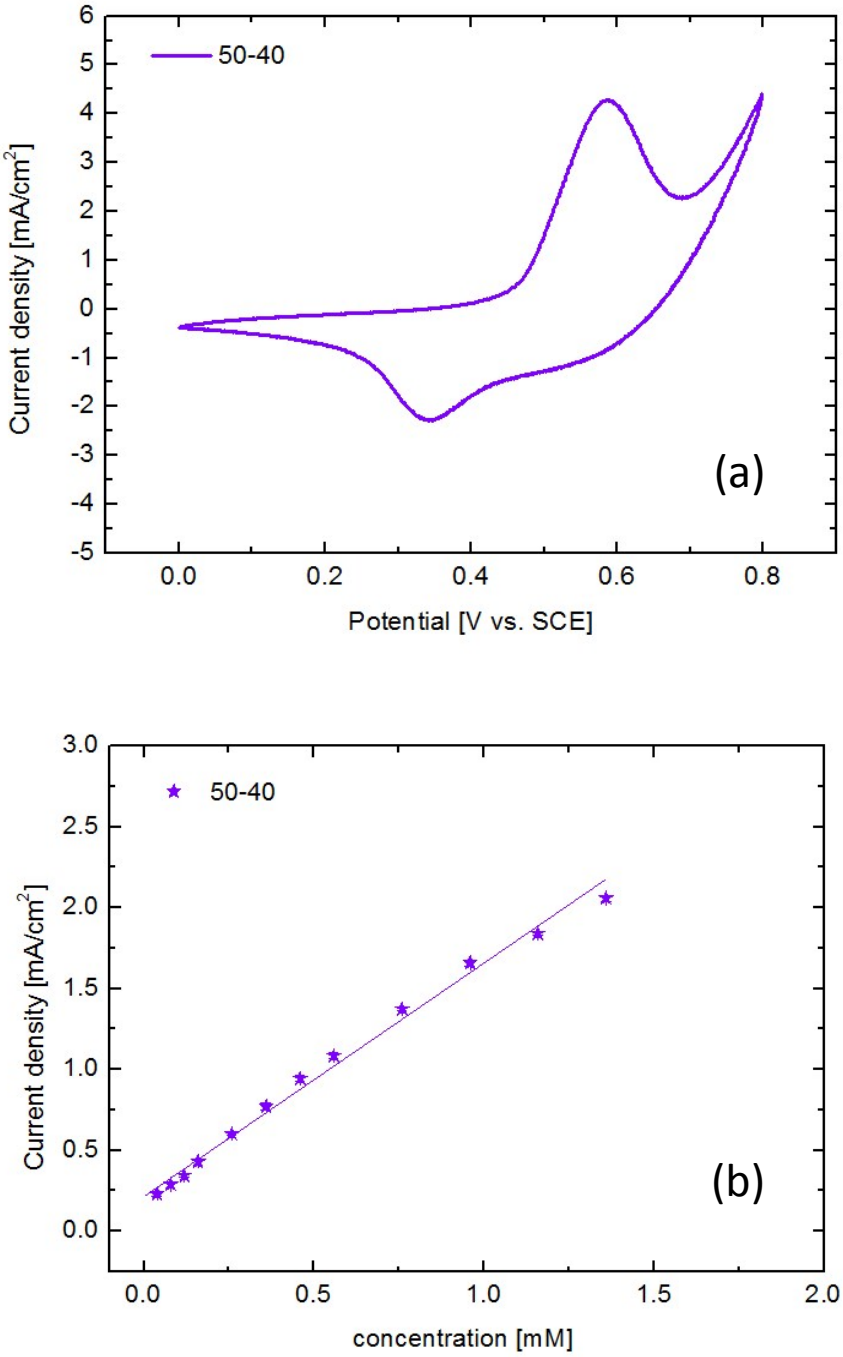

Figure S4. (a) Cyclic voltammograms of the sample 50-40 in 0.1M NaOH (scan rate 50 mV s^{-1}). (b) Calibration curve of sample 50-40 for several addition of glucose. The sensitivity extracted is 1.42 mA/mM cm^2.

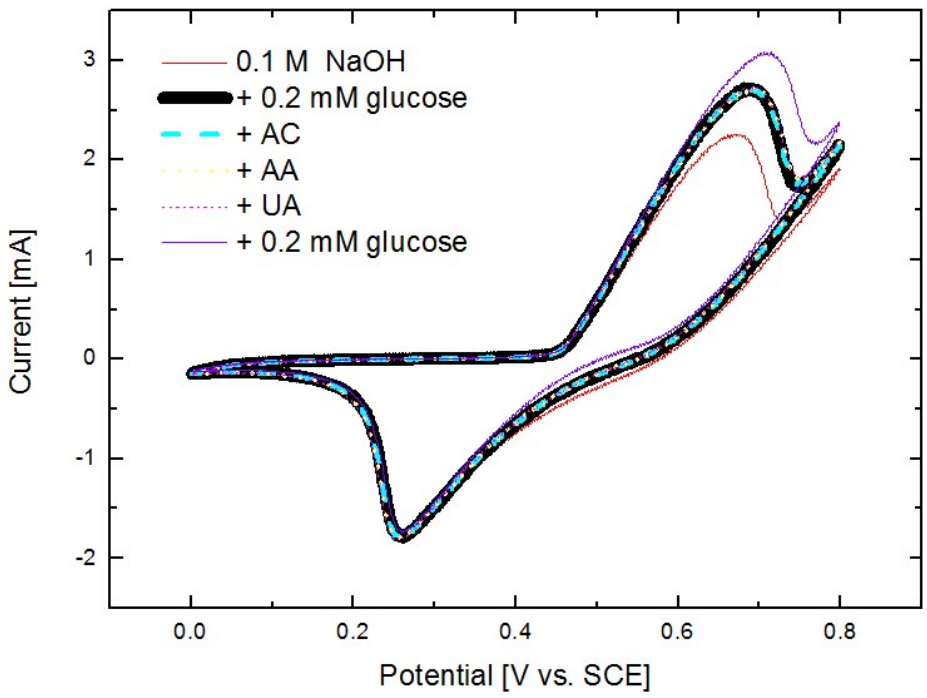

Figure S5. CVs of 25-20 in 0.1M NaOH solution (scan rate 50mV s^{-1}) acquired with successive addition of 0.2 mM glucose, 0.01 mM AC, 0.01 mM AA, 0.02 mM UA, and, finally, 0.2 mM glucose.

Material; method	Sensitivity [mA/mM cm^2]	Linear range [mM]	Selectivity test	Chloride test	Long-term stability	Ref.
Ni/Cu; electrodeposition	1.59	0.01-3.2	AA; UA	n/a	49 days	1
Ni/ITO; electrodeposition	0.61	0.03-3	UA; AA;dopamine	n/a	50 days	2
Ni(OH)2/ZnO; CBD/electrodeposition	1.57	0.002-3.8	UA;AA; aspartic acid; dopamine	n/a	30 days	3
Ni(OH)2/ZnO; electrodeposition/CBD	1.85	0.04-2.10	UA; AA;AC	0.2M KCl	40 days	This work

Table S1. Comparison of selected non-enzymatic glucose sensors based on Ni nanostructures.

References

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2. P. Sivasakthi, G. Ramesh Bapu, M. Chandrasekaran, *Mat. Sci. Eng. C,* 2016, **58**, 782-789;
3. J. Yang, M. Cho, Y. Lee, *Sensor Actuat. B Chem.,* 2016, **222**, 674-681;