Electronic Supplementary Material (ESI) for RSC Advances.

Supporting information

Cost-Effective CuO Nanotube Electrodes for Energy Storage and Nonenzymatic Glucose Detection

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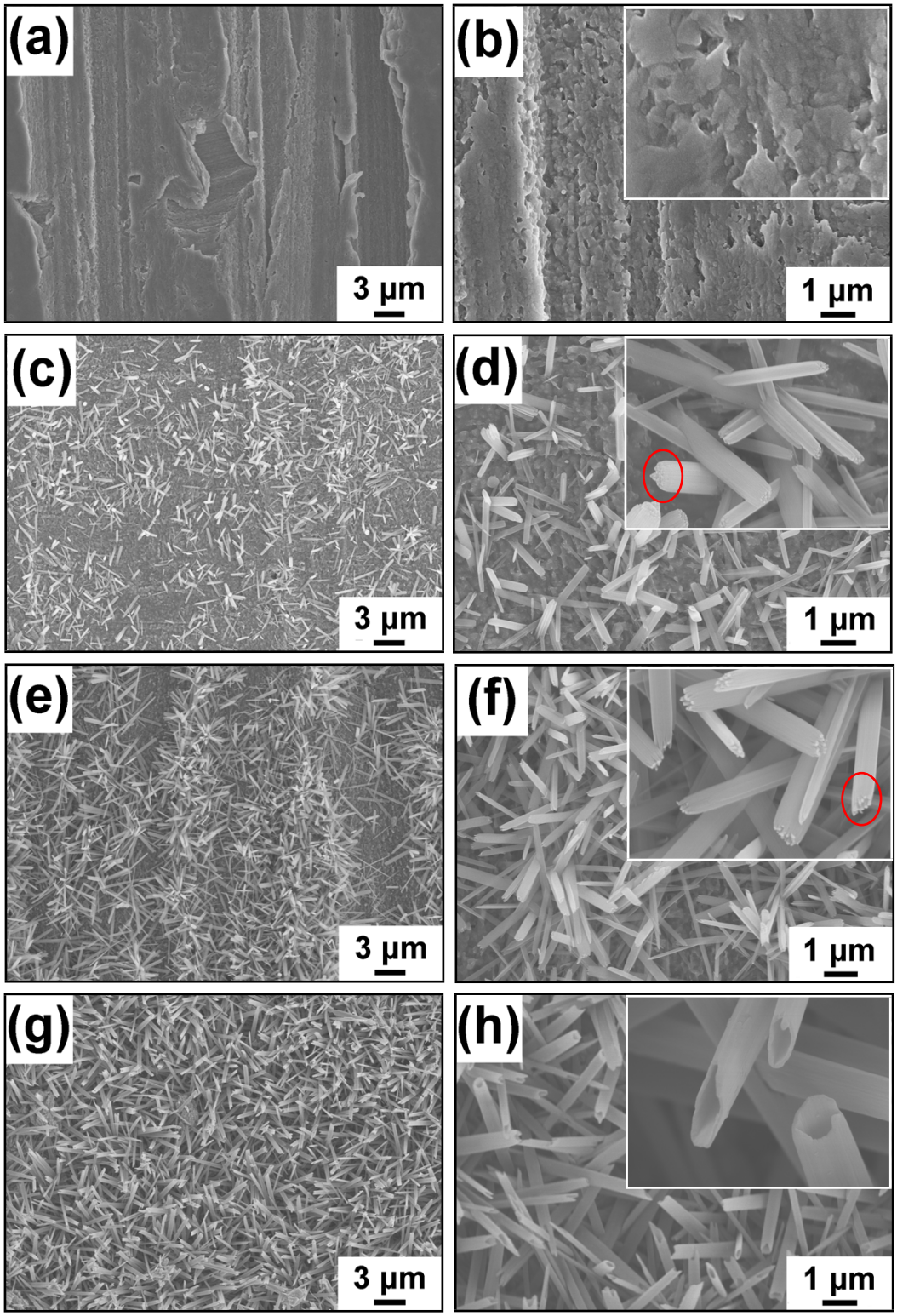

Fig. S1 FESEM images taken at different stages of $Cu(OH)_2$ nanotube growth on a Cu foil: (a, b) 0 s; (c, d) 5 min; (e, f) 10 min; and (g, h) 20 min.

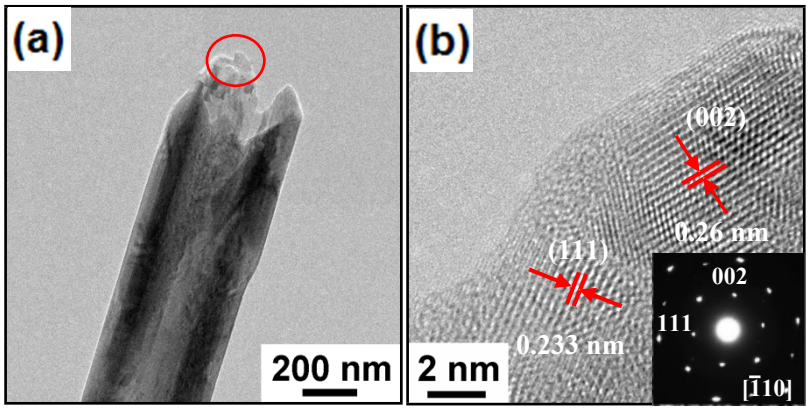

Fig. S2 (a) TEM image and (b) lattice fringes of a CuO nanotube with the corresponding selected area electron diffraction (SAED) pattern (inset).

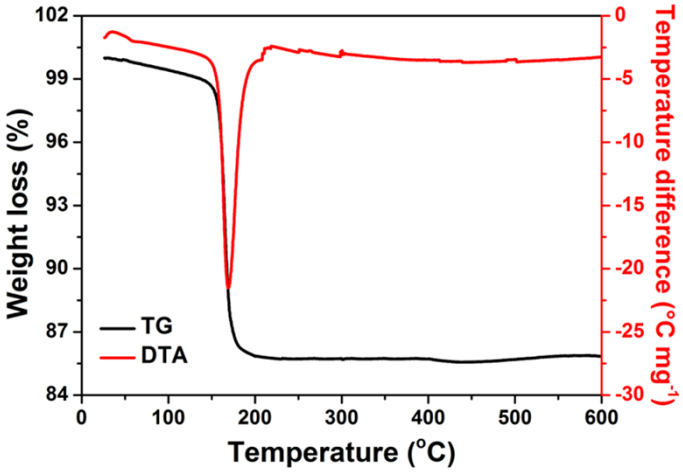

Fig. S3 TG and DTA curves of as-prepared $Cu(OH)_2$ precursor.

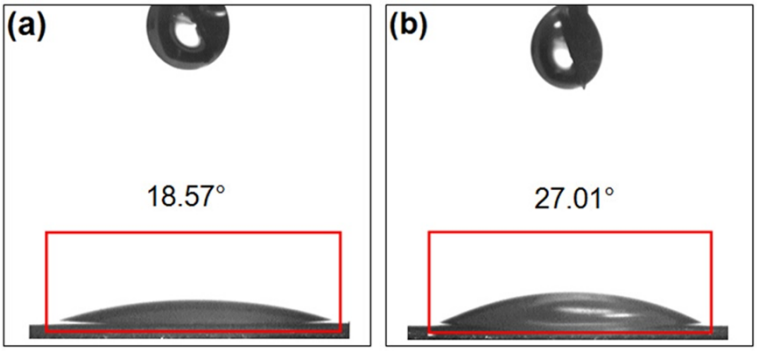

Fig. S4 Photographs and corresponding contact angles of water droplets on the surfaces of (a) $Cu(OH)_2$ and (b) CuO nanotubes.

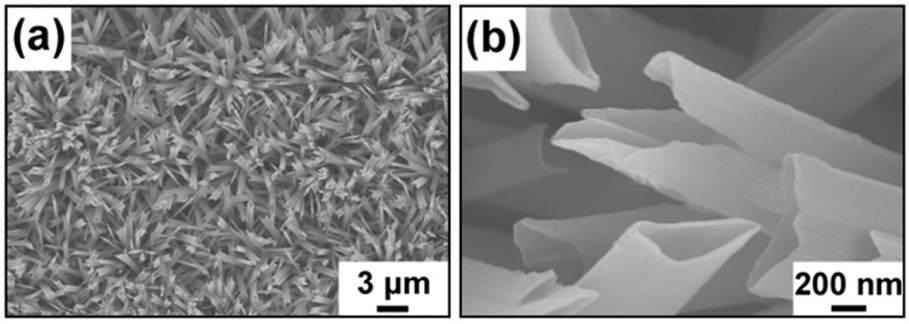

Fig. S5 FESEM images of CuO nanotube electrode after 5000 discharge/charge cycles at 1 A g^{-1}.

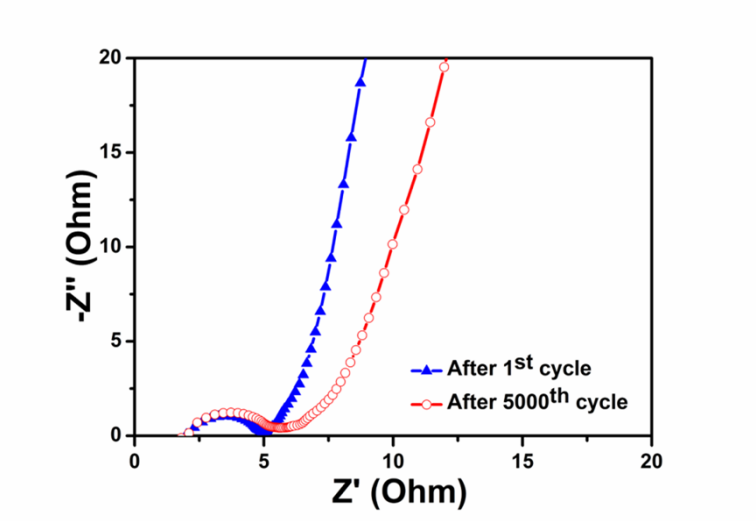

Fig. S6 Electrochemical impedance spectra of CuO nanotube electrode after 1st and 5000th cycles.

Table S1 Internal resistance (R_s) and charge transfer resistance (R_{ct}) of synthesized composites.

Materials	R_{ct} (Ω)	R_s (Ω)
$Cu(OH)_2$ nanotubes	**5.11**	**2.79**
CuO nanotubes	**3.09**	**1.71**

Table S2 Internal resistance (R_s) and charge transfer resistance (R_{ct}) of CuO nanotube electrode after 1st and 5000th cycles.

Cycles	R_{ct} (Ω)	R_s (Ω)
1st	**3.09**	**1.71**
5000th	**4.50**	**1.83**

Table S3 Comparison of the key performance characteristics of different CuO-based electrodes for enzyme-free electro-oxidation of glucose.

Type of electrodes	Potential (V)	Sensitivity ($\mu A\ mM^{-1}cm^{-2}$)	Linear range (up to, mM)	Reference
CuO/MWCNTs	**0.7**	**2109**	**3**	**54**
CuO fibers	**0.4**	**431**	**2.5**	**55**
CuO nanospheres	**0.6**	**404.5**	**2.6**	**56**
CuO nanoparticles	**0.55**	**1397**	**2.3**	**57**
CuO nanotubes	**0.5**	**2231**	**3**	**Current work**