Electronic Supplementary Information

Novel bamboo leaf shaped CuO nanorods@hollow carbon fibers derived from plant biomass for efficient and nonenzymatic glucose detection

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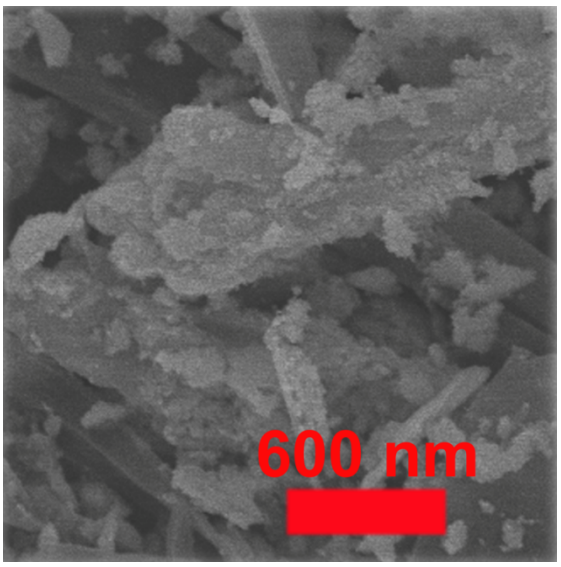

Fig. S1 SEM image of the CuO NRs@PCF (9 h).

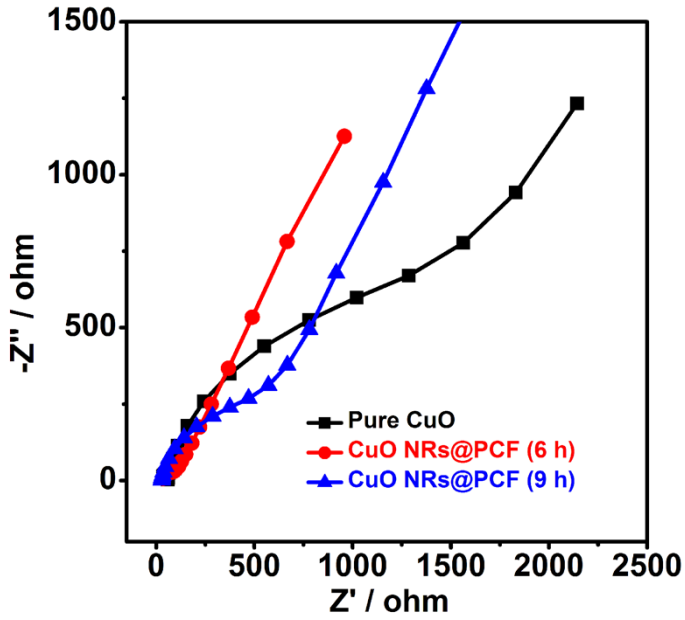

Fig. S2 Nyquist plots at pure CuO/GCE, CuO NRs@PCF(6 h)/GCE and CuO NRs@PCF(9 h)/GCE in 0.1 M KCl solution containing 5 mM $[Fe(CN)_6]^{3-/4-}$.

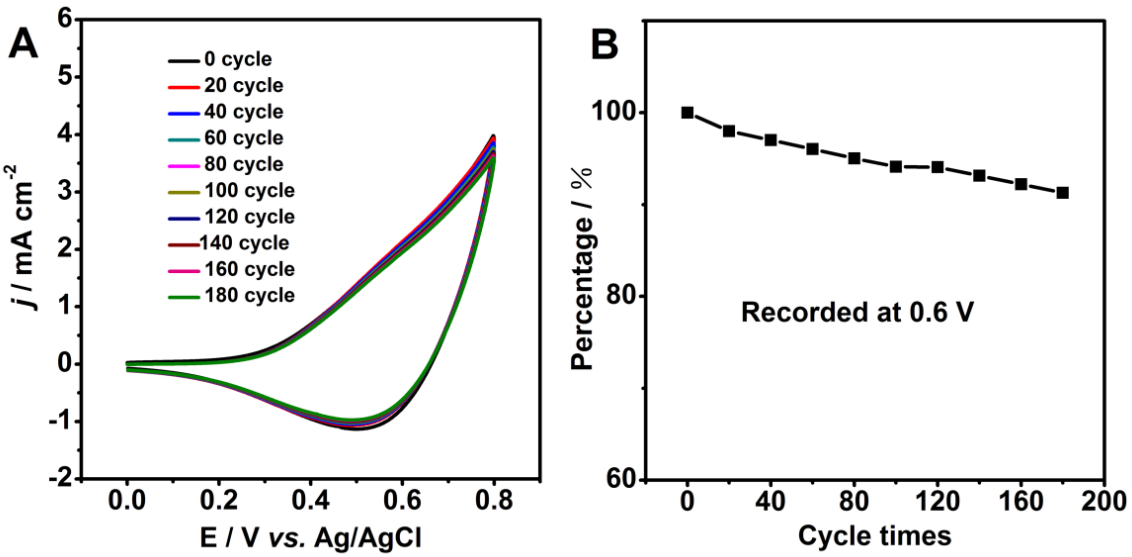

Fig. S3 (A) CV plots recorded for CuO NRs@PCF/GCE after different CV cycles. (B) The current density recorded at 0.6 V after different CV cycles.

Table S1

n	Detected by our method (mM)[a]	Detected by hospital (mM)[b]
1	6.02	6.01
2	5.95	5.99
3	6.015	6.02
4	6.051	6.03
5	6.05	5.98
6	5.98	6.02
7	6.08	-
8	6.02	-
9	5.965	-
Average (x)	6.014556	6.008333
Standard Deviation (s)	0.04293	0.0194

To compare the accuracy and precision of the method in real sample analysis, t-test and F-test have been used.

For the t-test: $t_a = |x_a\text{-}T| / s_a \times n^{-½}$. First, we detected the glucose concentration of

human serum for 9 times (n=9) and got a x_a value of 6.014556 mM accompanying an s value of 0.04293. As the glucose concentration value detected by the local hospital acts as the standard value (T = x_b = 6.00833 mM); thus, t_a = 0.435, compared with that of $t_{0.95,\ 8}$ (2.31), $t_a < t_{0.95,\ 8;}$ this result proved that the system error is very small in the detection process by our method.

When for the F-test ($F = s_{big}^2/s_{small}^2$) in our detection of the glucose concentration for human serum, we mainly contrast the significant differences of two methods. Thus, $s_{big} = s_a$, $s_{small} = s_b$, and then F=4.3528; meanwhile, the $F_{0.95}$ got from standard table is 4.82. One can see that F (4.3528) < $F_{0.95}$ (4.82), which illustrates that there is no significant difference between our method and that of local hospital.