

Supporting Information

Electrocatalytic Activity of Carbon Spheres towards NADH Oxidation at Low Overpotential and Its Applications in Biosensors and Biofuel Cells

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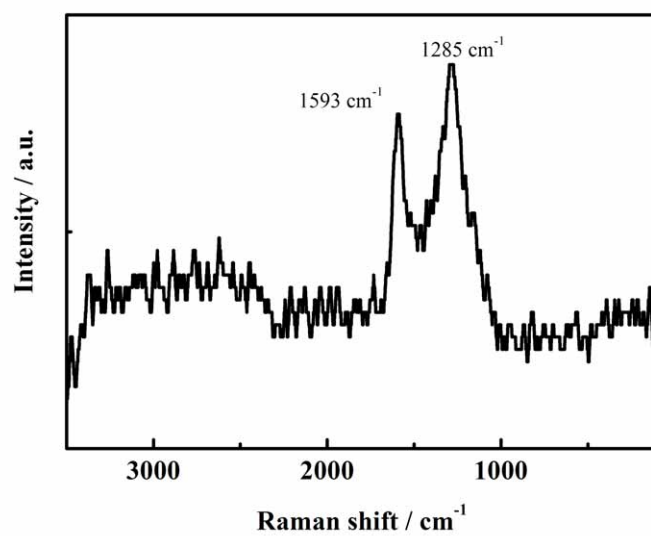


Figure S1. Raman spectra of carbon double-shelled hollow spheres.

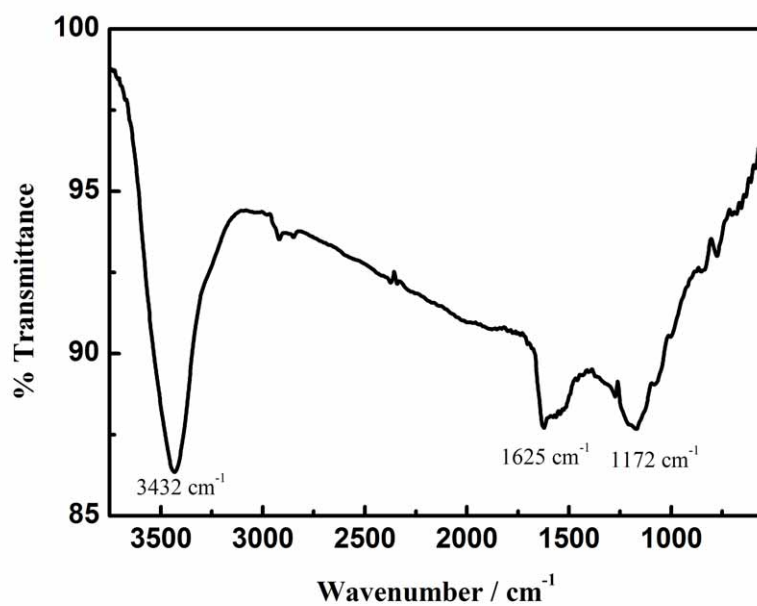


Figure S2. IR spectra in KBr of the carbon double-shelled hollow spheres.

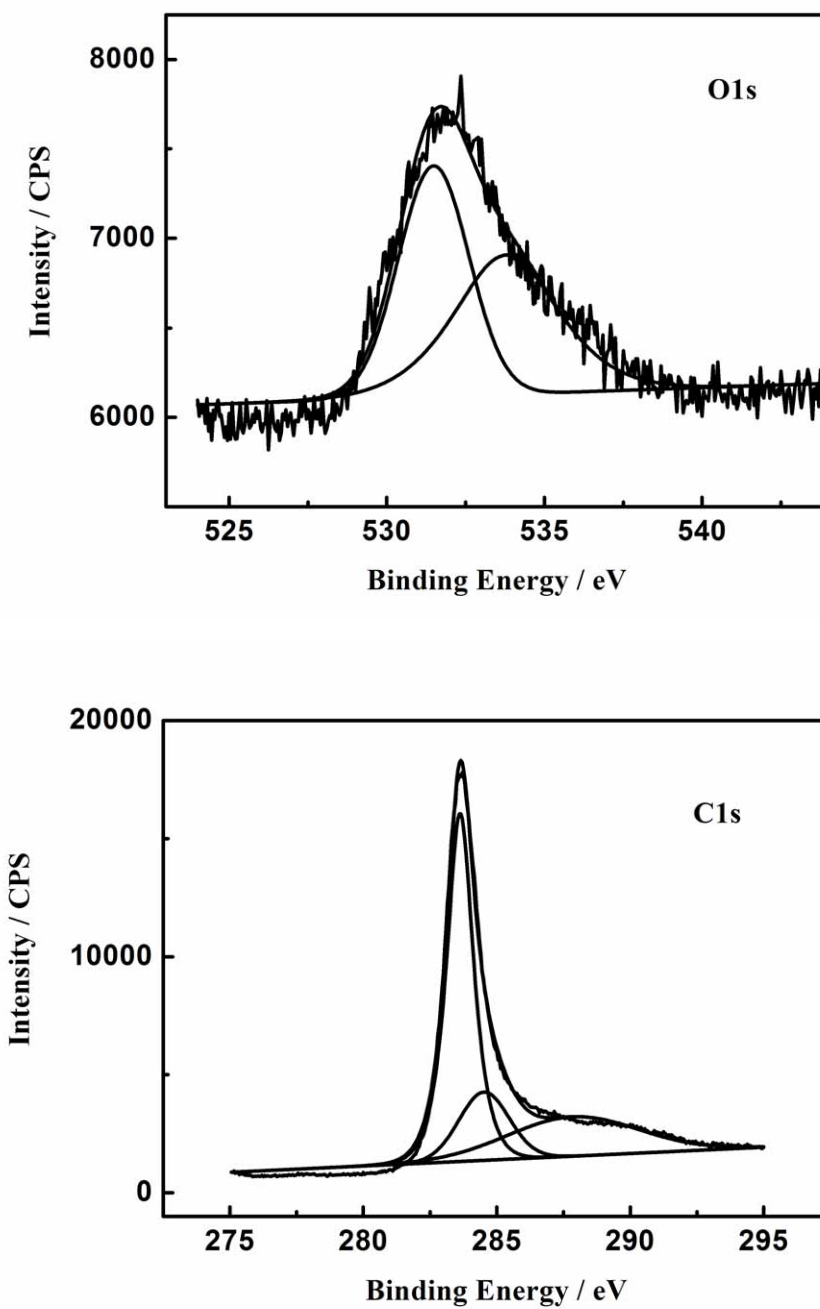


Figure S3. XPS spectra of the carbon double-shelled hollow spheres samples.

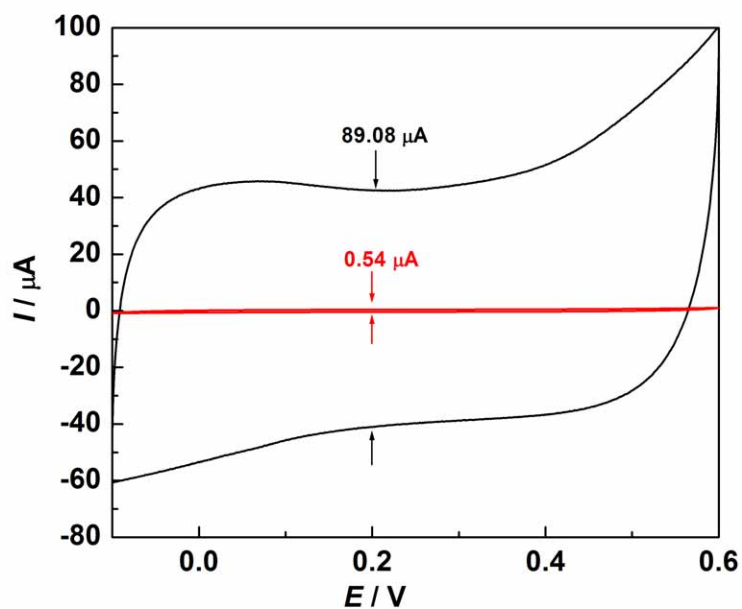


Figure S4. Cyclic voltammograms obtained at CS-coated (black line), and bare GC (red line) electrode in 0.1M phosphate buffer (pH 7.0) containing 0.1 M KCl with a scan rate of 300 mV s^{-1} . The current values represent the sum of the charge current in the positive and negative scan directions at CS-coated and bare GC electrodes, correspondingly. The charge currents were measured at +0.2 V.

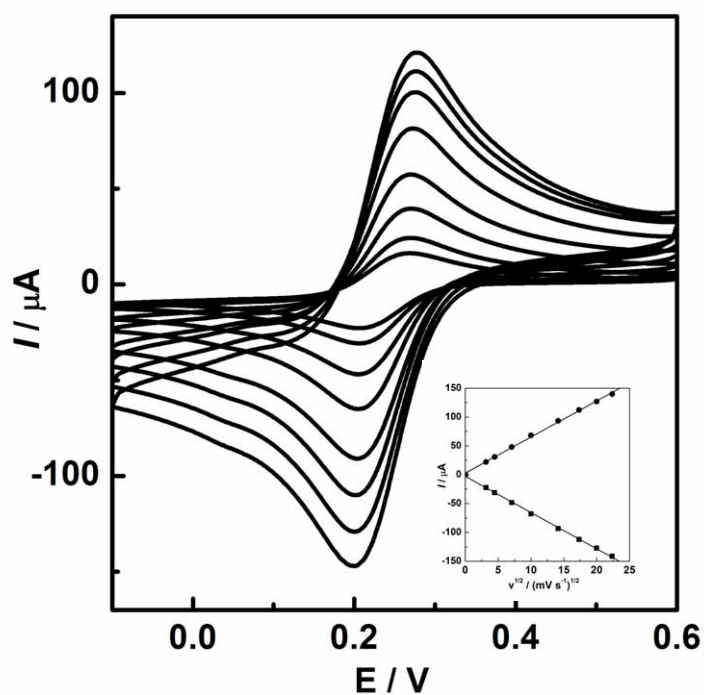


Figure S5. Cyclic voltammograms obtained at CS-coated GC electrode in 0.1M phosphate buffer (pH 7.0) containing 5mM $\text{Fe}(\text{CN})_6^{3-}$ at different scan rate, from inside to outside: 10, 20, 50, 100, 200, 300, 400, and 500 mV s^{-1} , respectively. The linear dependence of peak current on the square root of scan rate is shown in inset.

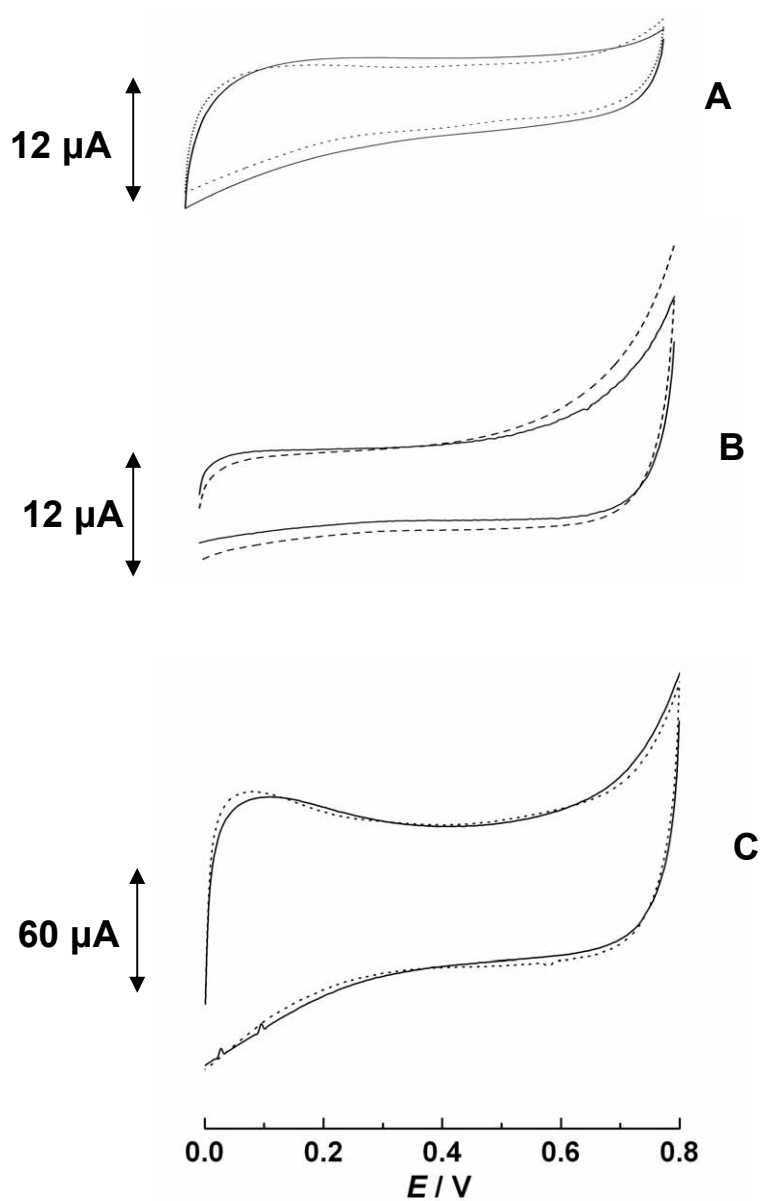


Figure S6. CVs obtained at bare GC(A), BOD-GC(B), and CS/GC electrode in N_2 -saturated (solid line) or O_2 -saturated (dotted line) atmosphere in 0.10 M phosphate buffer (pH 7.0) with a scan rate of 10 mV s^{-1} .