Supporting Information

Fabrication of Single Pt@Au Nanowire Electrodes for Monitoring Hydrogen Peroxide Released from Living Cells

Yong Liu, Yaoyao Zhang, Hongmei Hua, and Yongxin Li*

Anhui Key Laboratory of Chemo/Biosensing, College of Chemistry and Materials Science, Anhui Normal University, Wuhu, 241000, P.R. China

*corresponding author. Email: yongli@mail.ahnu.edu.cn;
Phone: 86-553-386-9302; Fax: 86-553-386-9303
Figure S1. The simulation results of 5 mM Fc diffusion on the surface of Au nanowire electrodes with different wire length (a, 0 nm; b, 6 nm; c, 21 nm; d, 45 nm; e, 80 nm; f, 100 nm)
Figure S2. (a) Voltammetric responses of Au nanowire electrodes in a ACN solution containing 0.2 M TBAPF₆. Radius: 7 nm, Length: 71 nm; Scan rate is 20 mV/s. (b) The simulation result of Fc diffusion on the surface of Au nanowire electrode.
Figure S3. Amperometric responses of the single Pt@AuNWE to the successive additions of 4 μM H₂O₂ into 10 mM the stirring PBS (pH= 7.4) at the applied potential of 0.1 V, 0.15 V, 0.25V, respectively. Radius of the nanoelectrode, ~10 nm; Length of the nanoelectrode, ~ 200 nm.
Figure S4. Amperometric responses of single Pt@AuNWE for the detection of 10 µM H2O2 at day1, day3 and day5, respectively. Applied potential, 0.10 V; Radius of the nanoelectrode, ~10 nm; Length of the nanoelectrode, ~200 nm.
**Figure S5.** Amperometric responses of single Pt@AuNWE for the detection of 10 μM H₂O₂ in the presence of 0.5 mM ascorbic acid (1), 0.1 mM dopamine (2), 1.0 mM glucose (3), 1.0 mM uric acid (4), 1.0 mM lysine (5), and 1.0 mM L-cysteine (6), respectively. Applied potential, 0.10 V; Radius of the nanoelectrode, ~10 nm; Length of the nanoelectrode, ~200 nm.