Supporting Information

Single Pt Nanowire Electrode: Preparation, Electrochemistry and Electrocatalysis

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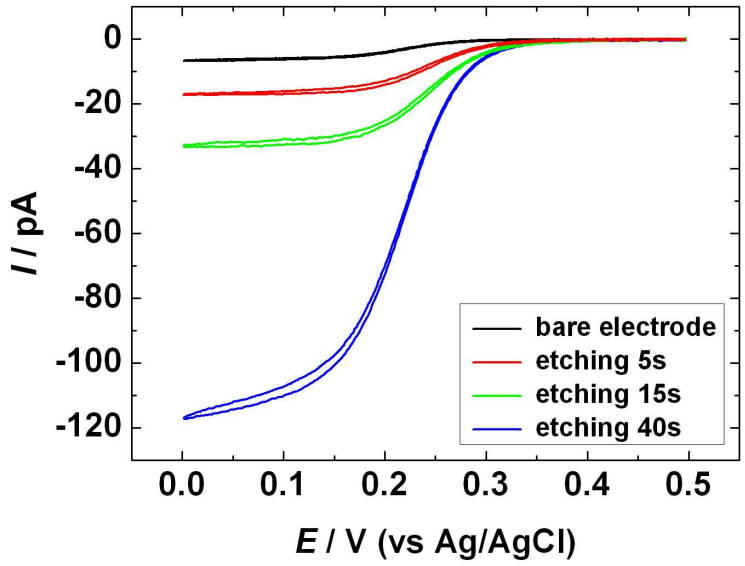

Figure S1. CVs of 5mM $K_3Fe(CN)_6$ in 0.2 M KCl aqueous solution at bare Pt electrode and etched Pt nanoelectrodes in different etching time (5s, 15s, 40s).

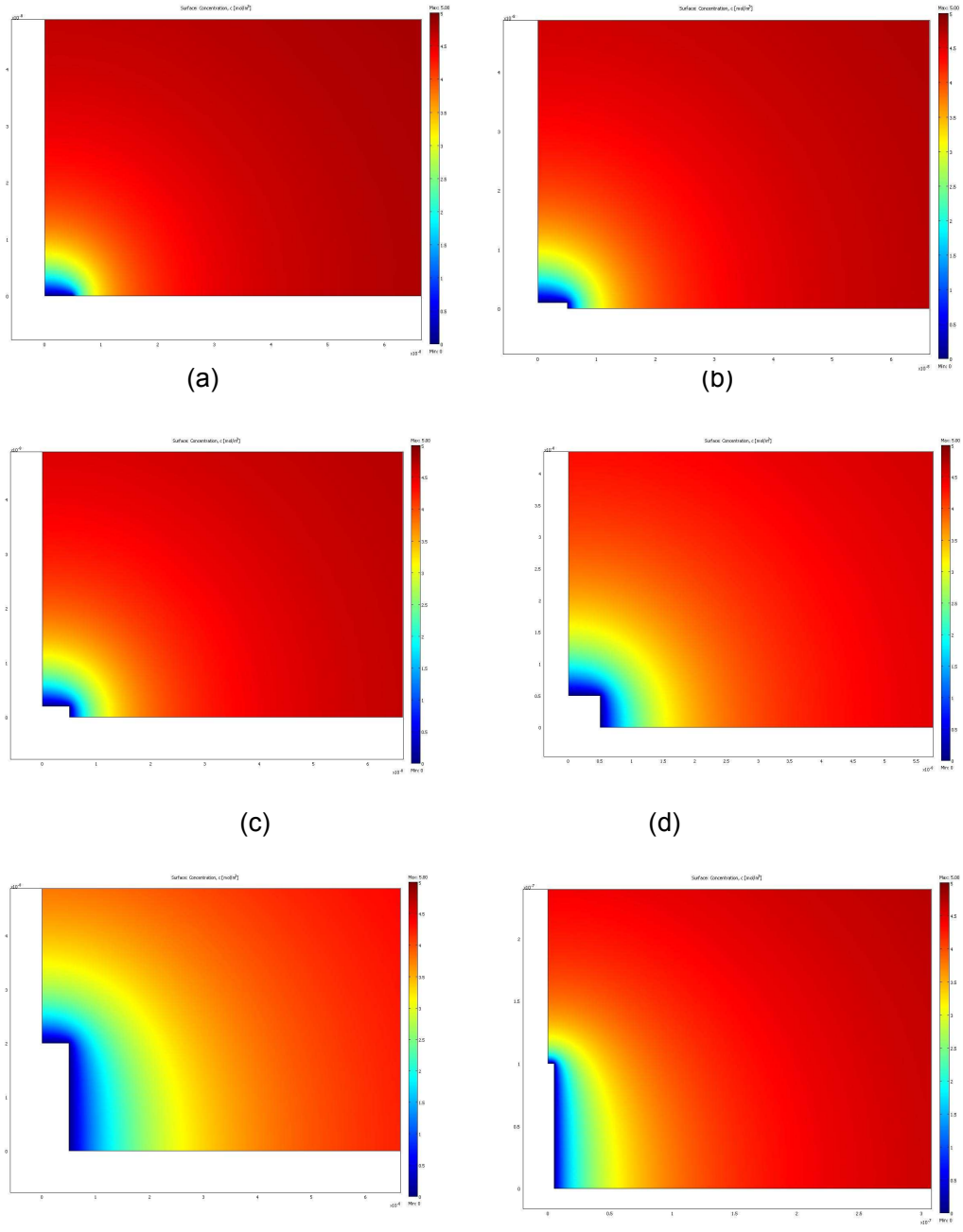

Figure S2. The simulation results of 5 mM Fc diffusion on the surface of Pt nanowire electrodes with different wire length (a, 0 nm; b, 1 nm; c, 2 nm; d, 5 nm; e, 20 nm; f, 100 nm)

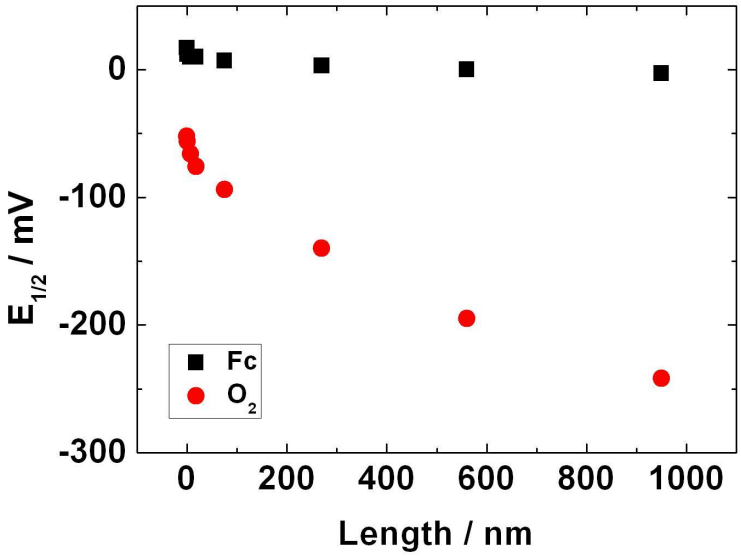

Figure S3. The relationship between the $E_{1/2}$ and the length of Pt nanowire scanning in a 0.5 mM Fc ACN solution (black dots) and an oxygen-saturated aqueous solution containing 0.10 M KOH (red dots). The potential values collected from the CV in 0.5 mM Fc solution are subtracted by 400 mV. Radius of Pt nanowire, ~ 4 nm

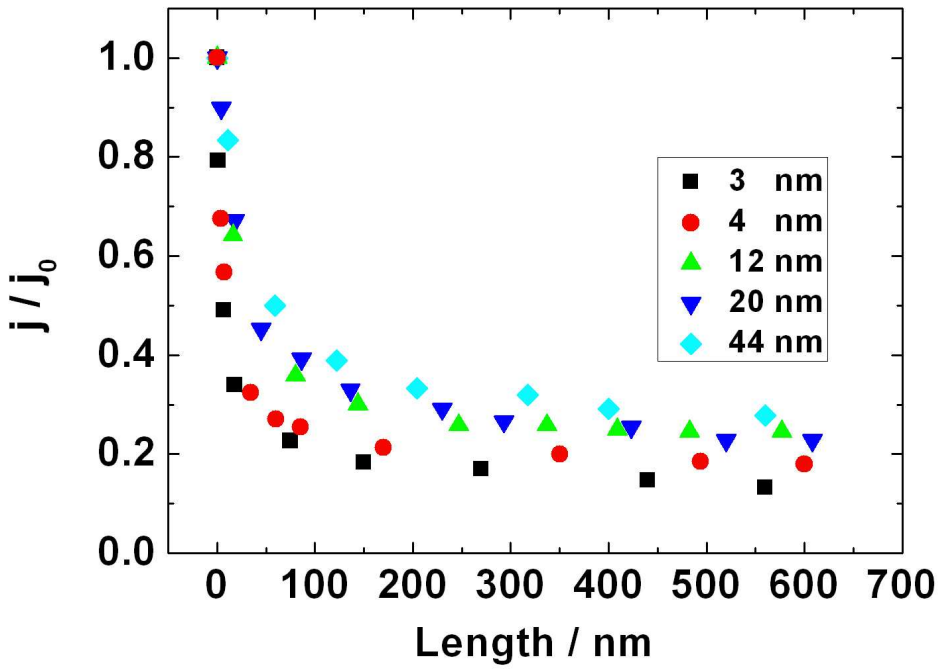

Figure S4. The relationship between normalized limiting current density scanning in a 0.5 M Fc ACN solution and the length of Pt nanowire with different radii.

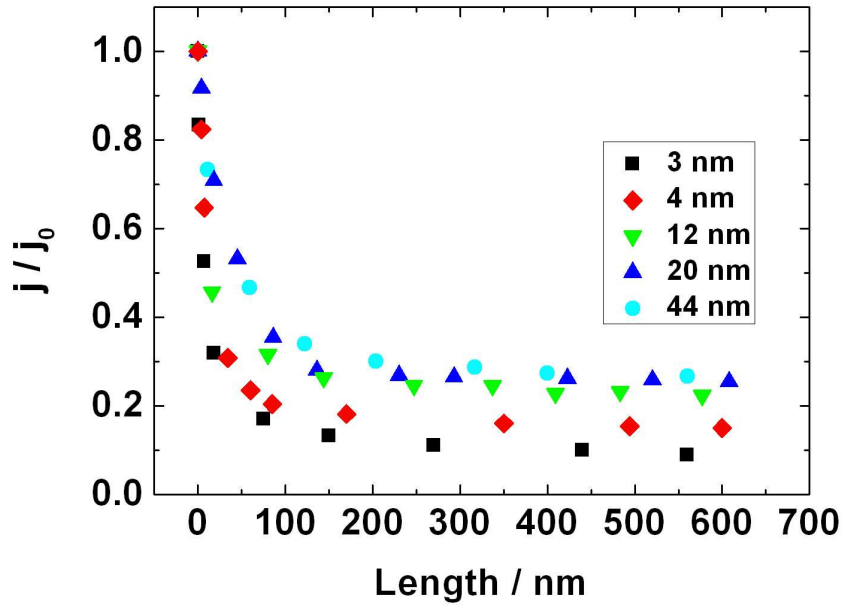

Figure S5. The relationship between normalized limiting current density scanning in an oxygen-saturated aqueous solution containing 0.10 M KOH and the length of Pt nanowire with different radii.

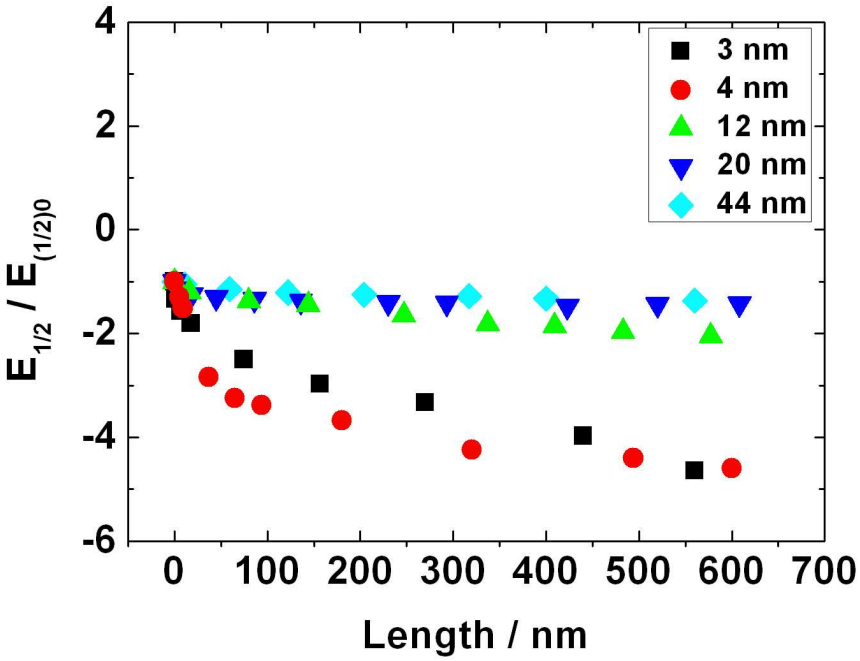

Figure S6. The relationship between normalized $E_{1/2}$ scanning in an oxygen-saturated 0.10 M KOH aqueous solution and the length of Pt nanowire with different radii.