

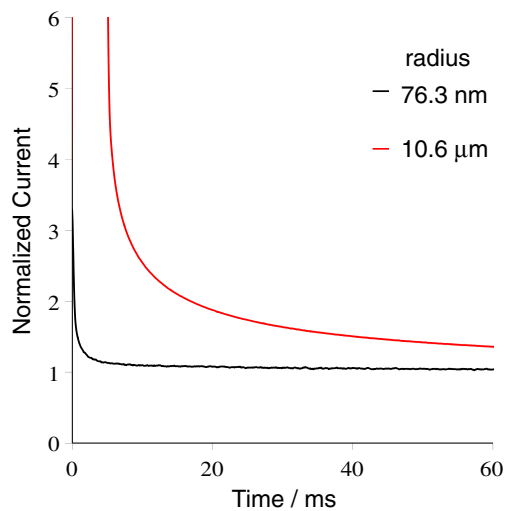
# Supporting Information

Takahashi et al. 10.1073/pnas.1203570109

## SI Text

**Time-Dependent Characteristics of Carbon Nanoelectrode.** The characteristic diffusion time response of the carbon nanoelectrode was investigated using chronoamperometry. The current-time response of a 76.3-nm radius carbon nanoelectrode is given in Fig. S1. Also shown is the response for 10.6- $\mu\text{m}$  radius Pt disk

ultramicroelectrode (UME) for comparison. The potential of the UMEs were stepped from 0.0 to 0.5 V vs. Ag/AgCl, in PBS containing 1.0 mM  $\text{FcCH}_2\text{OH}$ . The characteristic rapid response of the nanoelectrode is evident.



**Fig. S1.** Time-dependent characteristics of the 76.3-nm radius carbon nanoelectrode and Pt 10.6- $\mu\text{m}$  radius electrode. Potential step chronoamperometry in PBS containing 1.0 mM  $\text{FcCH}_2\text{OH}$ . The potential was stepped 0 V to +0.5 V vs. Ag/AgCl to promote the diffusion-limited oxidation of  $\text{FcCH}_2\text{OH}$ , and time-dependent currents have been normalized with respect to the steady-state current in each case to aid comparison.