Supporting Information

Pheeney et al. 10.1073/pnas.1201551109

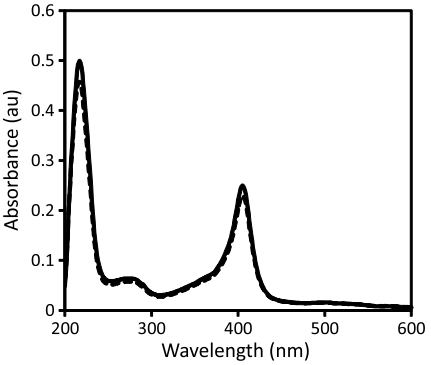

Fig. S1. Absorbance spectrum of hemoglobin (5 μM) in phosphate buffer (5 mM phosphate, 5 mM NaCl, 40 mM $MgCl_2$, 5 mM spermidine, and pH 7) before (solid) and after (dotted) electrocatalysis with MB-DNA.

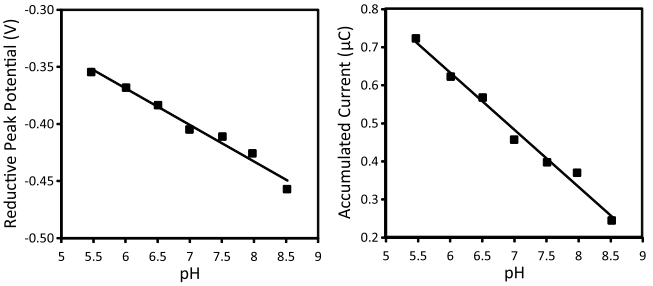

Fig. S2. *Left*: The MB-DNA peak reduction potential as a function of pH, ranging from 5.5 to 8.5 in the absence of hemoglobin measured from the cyclic voltammetry data (scan rate = 100 mV/s). *Right*: The accumulated current for electrocatalytically amplified MB-DNA in phosphate buffer (5 mM phosphate, 5 mM NaCl, 40 mM $MgCl_2$, and 5 mM spermidine) as a function of pH, ranging from 5.5 to 8.5, is presented. The accumulated current was determined from chronocoulometry (V = −450 mV for 10 s) in the presence of 25 μM Hemoglobin.

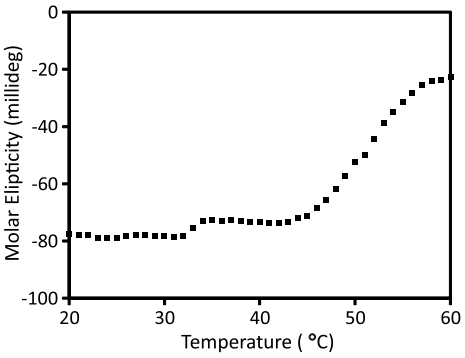

Fig. S3. Denaturation curve of hemoglobin (1 μM) measured by circular dichroism in phosphate buffer (5 mM phosphate, 5 mM NaCl, 40 mM $MgCl_2$, 5 mM spermidine, and pH 7). The molar elipticity was measured at 225 nm as the temperature was varied from 20 °C to 60 °C. An initial transition can be observed from 32–35 °C and a larger transition at 45–56 °C corresponding to the denaturation of the alpha helices.