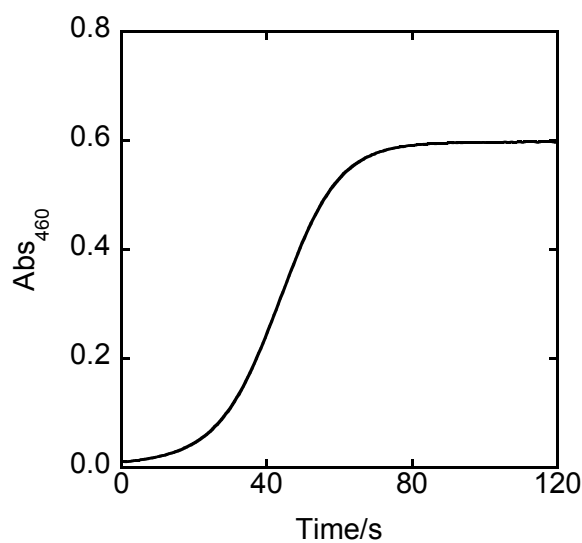
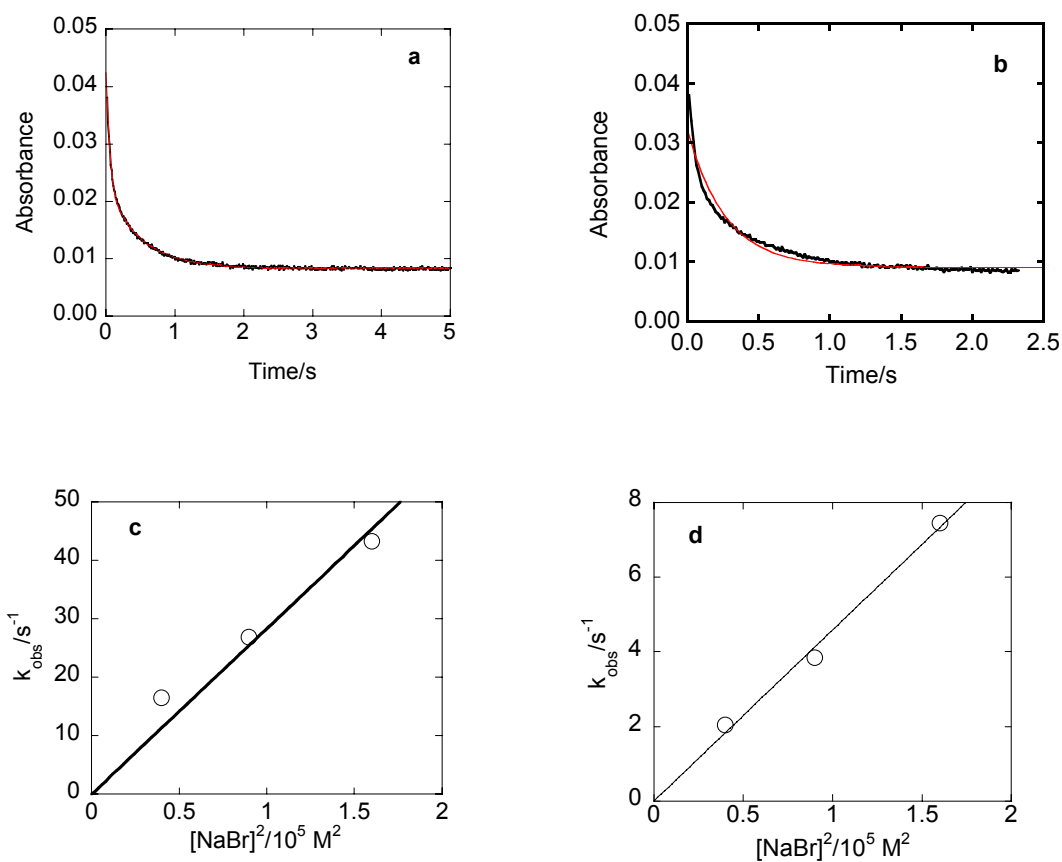


**Supporting Information**  
**for**  
**PREPARATION AND CHARACTERIZATION OF MANGANESE(IV) IN**  
**AQUEOUS ACETIC ACID**



**Figure S1.** Kinetic trace for the formation of Mn(IV) from Mn(OAc)<sub>2</sub> (1.0 mM) and mcpba (1.2 mM) in glacial AcOH,  $\lambda$  460 nm. Molar absorptivity of Mn(IV) at this wavelength is  $617 \text{ M}^{-1} \text{ cm}^{-1}$ , and that of Mn(III) is  $277 \text{ M}^{-1} \text{ cm}^{-1}$ . Mn<sup>II</sup>(OAc)<sub>2</sub> has no measurable absorbance at this wavelength.



**Figure S2.** Kinetic data for the reaction between NaBr and commercial (Aldrich) Mn(III). Panels *a* and *b* show a kinetic trace for 0.10 mM Mn(III) and 2.0 mM NaBr in glacial HOAc at 380 nm, and fits to consecutive (*a*) and first-order (*b*) kinetics. Panel *c* shows a plot of the pseudo-first order rate constants for the faster stage against the square of bromide concentration, and panel *d* shows the analogous plot for the slower stage.