

**Figure S1.** Electronic absorption spectra obtained during the determination of the concentration of  $H_2O_2$  accumulated while bubbling  $O_2$  through a solution containing 0.25 mM hydrazine at 25 °C. The blank (a) was obtained from a freshly prepared solution of hydrazine (see text), whereas spectra (b) and (c) were obtained from solutions of hydrazine bubbled with  $O_2$  for 1.0 and 2.5 h, respectively.