Supporting Information

Turnover-dependent inactivation of the nitrogenase MoFe-protein at high pH

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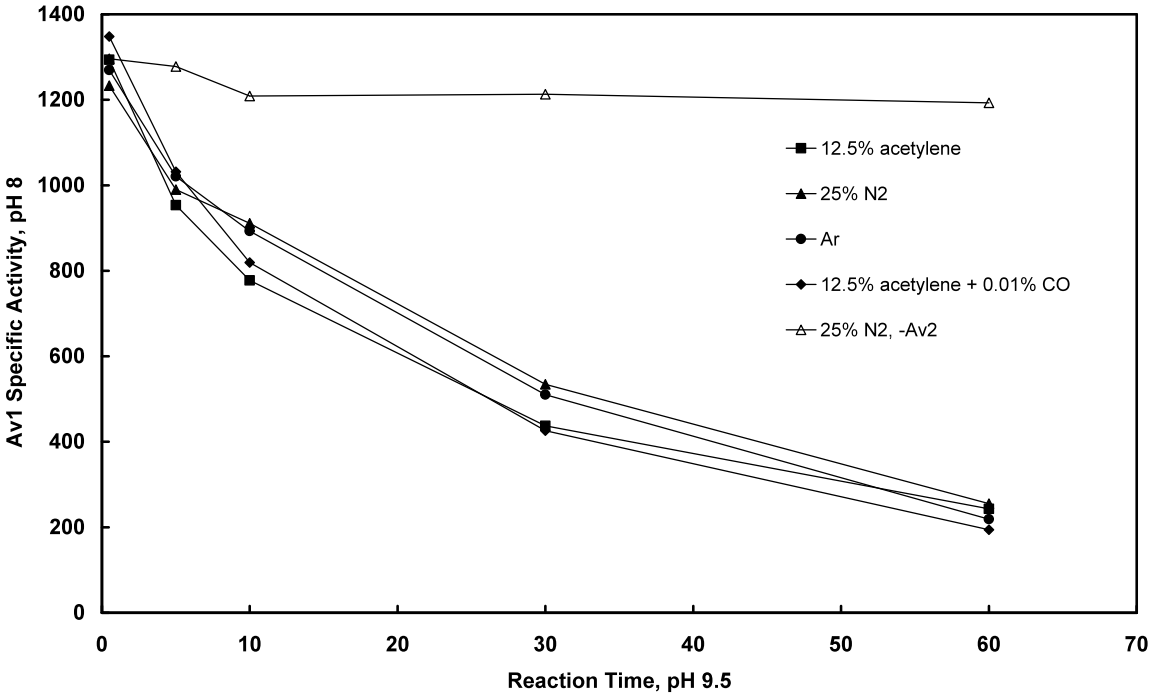

Figure S1. Inactivation rates for Av1 with different substrates and inhibitors at pH 9.65. Av1 and Av2 at CR = 2.4 were incubated with ATP regenerating components as described in the Methods section with Ar as the head space gas. Acetylene, acetylene plus CO, or N_2, were added to reaction vials as given in the legend. In Ar alone, with out other substrates, proton reduction is the sole reaction. The reaction at pH 9.65 was monitored by gas chromatography for H_2 and for ethylene production to demonstrate nitrogenase activity. 0.01% CO suppressed acetylene reduction ca. 95% with concomitant increase in H_2 evolution. As a control, Av2 was omitted from one 25% N_2 reaction vial and no substrate reduction was detected by gas chromatography. At specified time of reaction, aliquots were removed for specific activity of Av1 at pH 8 with excess fresh Av2. Initial specific activity of Av1 was ca. 1500 nmoles $min^{-1}mg^{-1}$.