Supporting Information

"Diazene (HN=NH) Is a Substrate for Nitrogenase: Insights into the Pathway of N_2 Reduction" By Brett M. Barney, Jammi McClead, Dmitriy Lukoyanov, Mikhail Laryukhin, T. C. Yang, Brian M. Hoffman, Dennis R. Dean, and Lance C. Seefeldt

Figure Legends

Figure S1. Power dependence of 2K Q-band EPR spectra of hydrazine- and diazene-dependent intermediates in the α-70^{Ala}/α-195^{Gln} MoFe protein variant.

Figure S2. pH dependence of the diazene and hydrazine EPR signals. The EPR signal intensity (measured as peak height of the g = 2.07 and g = 2.09 signals) for the α-70^{Ala} / α-195^{Gln} MoFe protein trapped during turnover with azodiformate (◇) or hydrazine (▲) are shown as a function of the pH of the turnover solution. Conditions are as described in the **Materials and Methods** section.

Figure S3. Microwave power dependence of the diazene and hydrazine EPR signals. The microwave power dependence for the resting state (◆) EPR inflection at g = 4.43 or the diazene turnover (△) EPR inflection at g = 2.07 or the hydrazine turnover (○) EPR inflection at g = 2.09 for the α-70^{Ala}/α-195^{His} modified MoFe protein are shown against the square root of the microwave power (in μW). Linear fits were forced to zero and included only the lower values for the turnover species.

Figure S1

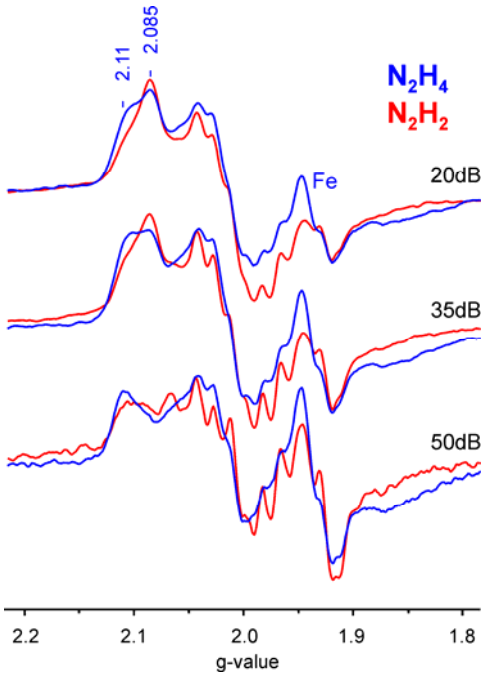

Figure S2

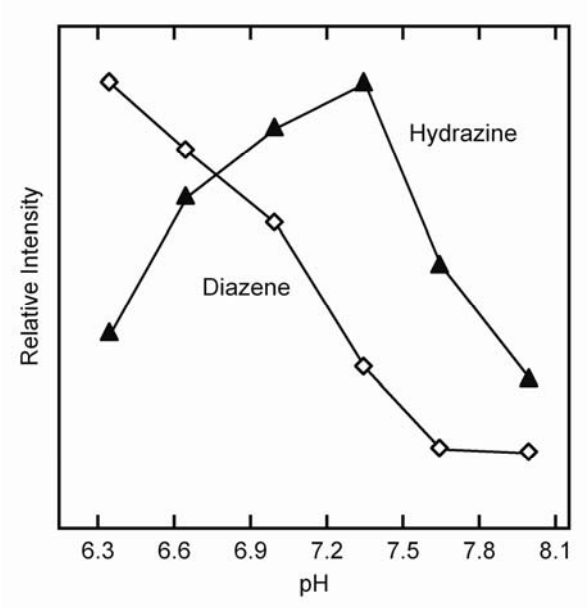

Figure S3