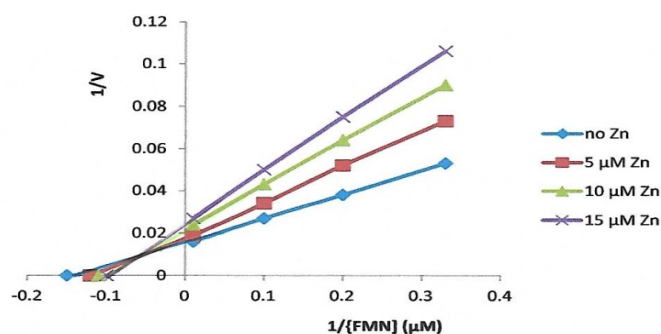
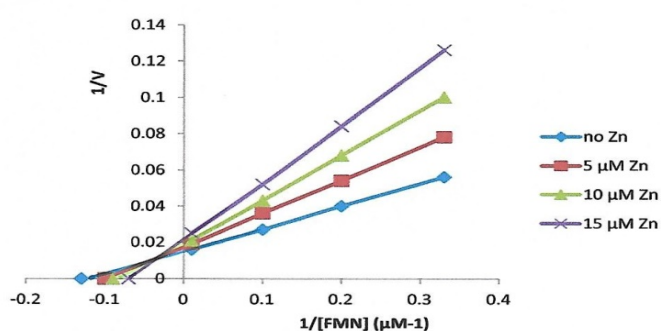




## 1 Supplementary Materials:

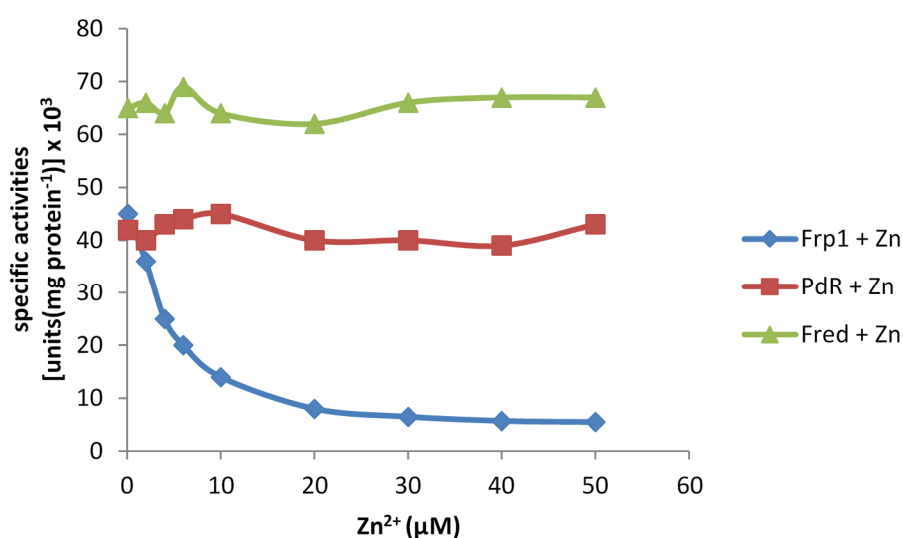


(A)

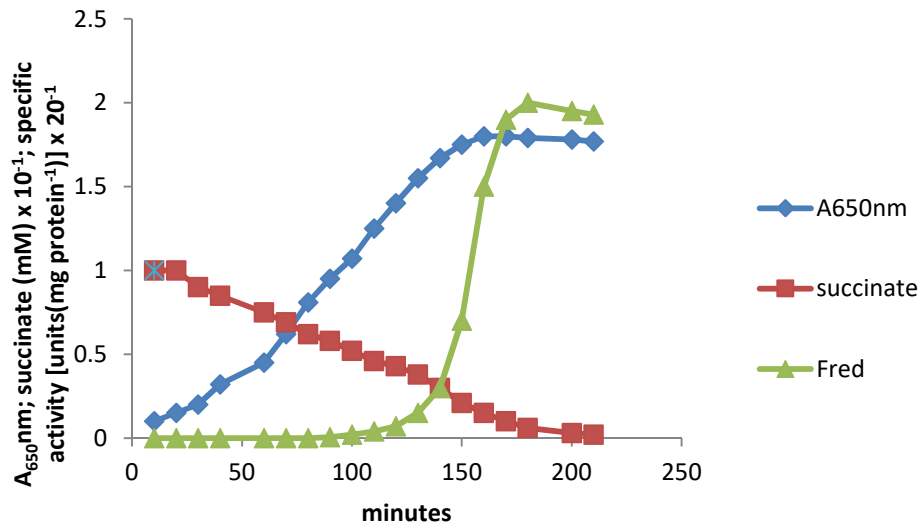


(B)

**Figure S1.** (A) Frp1 initial velocity as a function of NADH in the presence of 3.0, 5.0, 10.0 and 100.0  $\mu\text{M}$  FMN in the absence of  $\text{Zn}^{2+}$  and with the divalent metal ion added to concentrations of 5.0, 10.0 and 15.0  $\mu\text{M}$ . (B) Equivalent plots for Frp2



**Figure S2.** Activity of highly purified preparations of PdR and Fred in the presence of increasing levels of  $\text{Zn}^{2+}$ . Equivalent data for highly purified Frp1 is included for comparative purposes.



early | mid | late | stationary/  
log log log idiophase

**Figure S3.** Growth of *P. putida* ATCC 17453 on 10 mM succinate minimal medium and the induction profile of Fred.