

Electronic Supplementary Information for

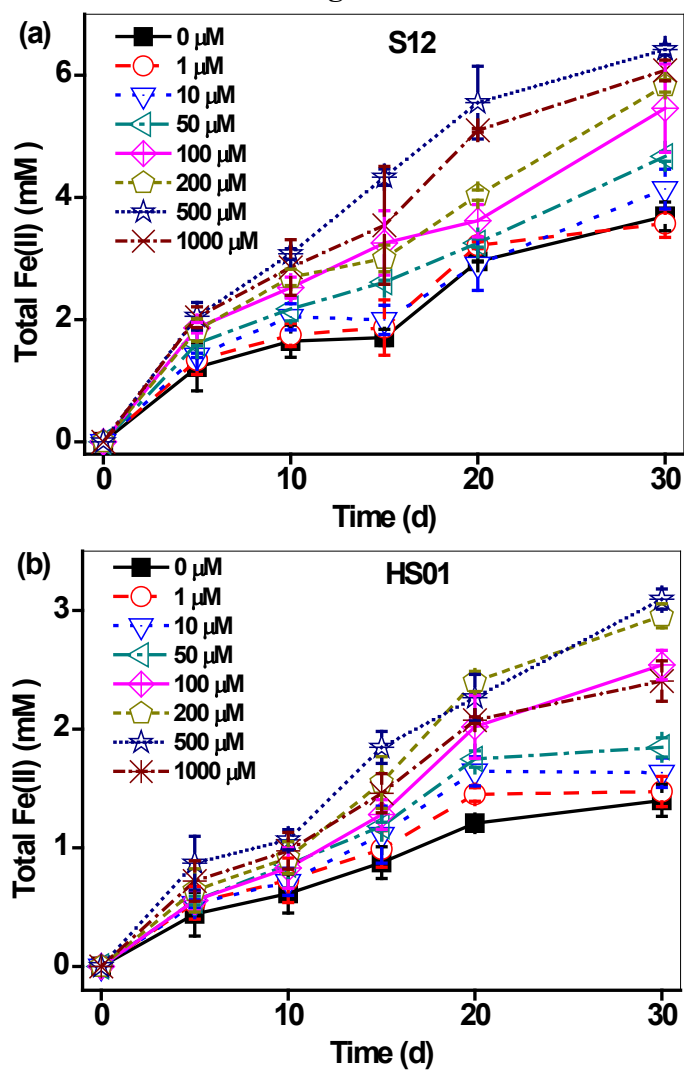
Dependence of the electron transfer capacity on the kinetics of quinone-mediated Fe(III) reduction by two iron/humic reducing bacteria

Xiaomin Li, Tongxu Liu*, Liang Liu and Fangbai Li*

Guangdong Institute of Eco-Environmental and Soil Sciences, Guangzhou 510650, PR China.

E-mail addresses: txliu@soil.gd.cn (T.X.L); cefbli@soil.gd.cn (F.B.L).

Fig. S1



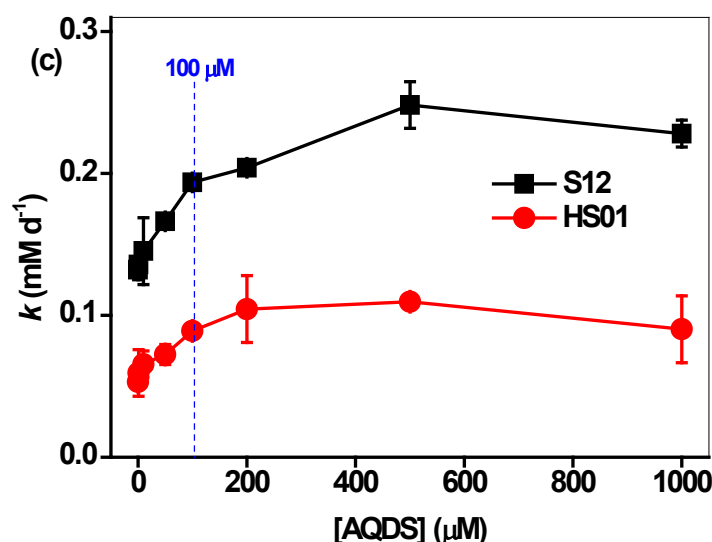


Fig. S1 Concentration of 0.5 M HCl extractable Fe(II) with time dependence during the bioreduction of goethite (30 mM) by 10^7 cells mL^{-1} of (a) S12 and (b) HS01 provided with 5 mM glucose in the presence and absence of different concentrations of AQDS (0 – 1000 μM). Lines are a visual aid only. Data are mean $\pm$ SD ($n = 3$). (c) Dependence of AQDS concentrations on the zero-order rates of iron reduction by S12 and HS01.

Results in Figs. S1a and S1b showed the kinetics of total Fe(II) formation by HS01 and S12 in the presence of 0, 1, 10, 50, 100, 200, 500, and 1000 μM of AQDS, respectively. The zero-order rates (k) were calculated with results in Fig. S1c which showed that the iron reduction rates increased significantly as increasing AQDS concentrations from 0 to 100 μM , and then reached a plateau from 100 to 1000 μM . This indicated that 100 μM is an appropriate concentration of AQDS to maximum its effect on microbial iron reduction. The experiments of microbial iron reduction were conducted with addition of 100 μM quinones which is coincident with previous studies.^{8,10}