Supplementary Materials

Enhanced Anaerobic Biodegradation of Benzoate under Sulfate-reducing Conditions with Conductive Iron-oxides in Sediment of Pearl River Estuary

Li Zhuang[1], Ziyang Tang[2], Jinlian Ma[2], Zhen Yu[2], Yueqiang Wang[2], Jia Tang[2*]

Running title: Enhanced benzoate degradation under sulfate-reducing conditions by iron oxides

Correspondence：

Jia Tang tangjia@soil.gd.cn

Table S1: Contribution of microbial Fe(III) reduction to benzoate degradation

Treatment	feeding cycle	benozoate degraded (mM)	electrons produced from benzoate oxidation (mmol)	Fe(III) reduced (mM)	electrons consumed by Fe(III) reduction (mmol)	Electron recovery by Fe(III) reduction
Magnetite-amended	1st	2.32	69.6	7.5	7.5	11%
	2nd	2.36	70.8	1.6	1.6	2%
Hematite-amended	1st	2.31	69.3	7.0	7.0	10%
	2nd	2.46	73.8	1.6	1.6	2%

Figure S1 Fe(II) produced from microbial reduction of magnetite or hematite in the absence and presence of sulfate

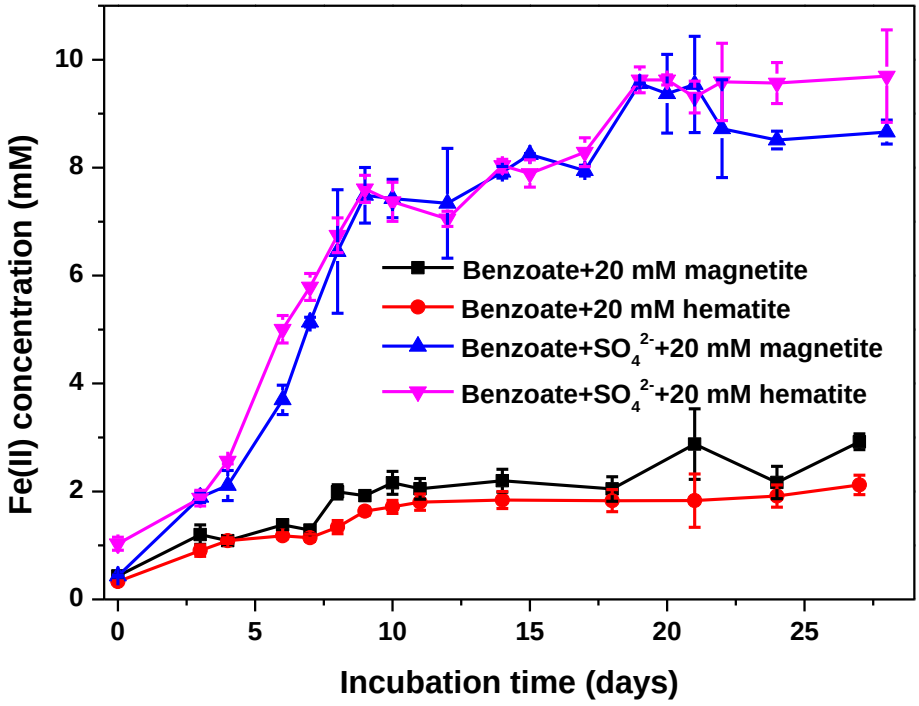

Figure S2 A hypothetic scheme showing DIET-facilitated benzoate degradation under sulfate-reducing conditions

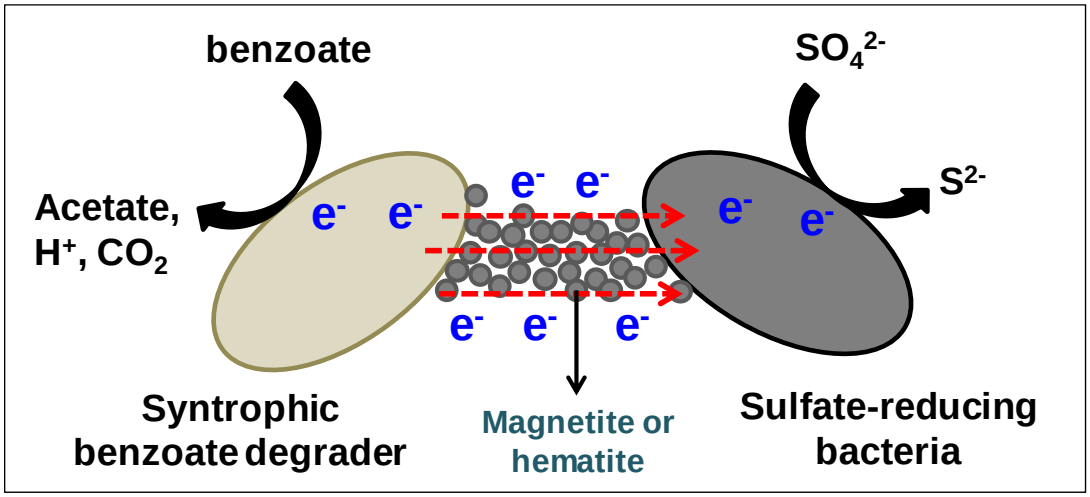

Figure S3 A hypothetic scheme showing DIET-facilitated acetate degradation under sulfate-reducing conditions