

Supplementary Materials

Nitrate enhances TCE removal by adjusting denitrifying and aerobic TCE co-metabolic bi-functional microbes in the joint H₂/O₂ system

Wenyi Huang^a, Weiwei Ouyang^a, Haonan Bian^a, Hui Liu^{a,b*}

^a Hubei Key Laboratory of Yangtze Catchment Environmental Aquatic Science, School of Environmental Studies, China University of Geosciences, Wuhan, Hubei 430078, P R China

^b State Key Laboratory of Geomicrobiology and Environmental Changes, China University of Geosciences, Wuhan, Hubei 430078, P R China

* Corresponding author.

Tel: (86) 27-87436235 Fax: (86) 27-87436235

E-mail addresses: hliu2009@cug.edu.cn (H. Liu).

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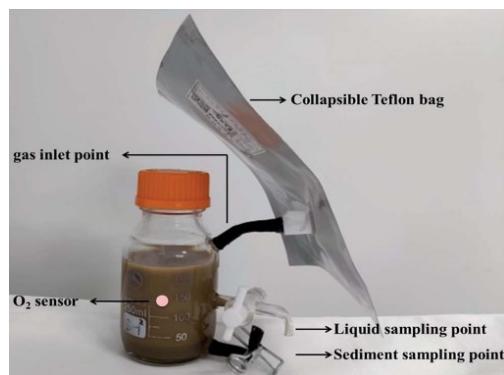


Fig. S1. Experimental device used for the TCE degradation in sediment systems.

Table. S1 *q*PCR primers used in the experiment.

Gene	Sequence (5'-3')	<i>q</i> PCR program	Primer concentration	Reference
16s	CCTACGGGAGGCA GCAG ATTACCGCGGCTG CTGG	3 min 95°C, 40 cycles: 15 s 95 °C/15 s 59°C/1min72°C/Melt	250 nM	1
<i>tceA</i>	TAATATATGCCGC	3 min 95°C, 40 cycles:	750 nM	2

	CACGAATGG				
	AATCGTATAACCAA	15 s 95°C/15 s 55°C/1min			
	GGCCCGAGG	72°C/Melt			
	GCCTGACCATGGA				
	TGCSTACTGG	3 min 95°C,40 cycles:			
<i>phe</i>	CGCCAGAACCACT	15 s 95°C/15 s 57°C/1min	750 nM	2	
	TGTCCRRTCCA	72°C/Melt			
	GGNGACTGGGACT				
	TCTGG	3 min 95°C,40 cycles:			
<i>pmoA</i>	CCGGMGCAACGT	15 s 95°C/15 s 55°C/1min	750 nM	3	
	CYTTCACC	72°C/Melt			
	TAYGTSGGGCAGG				
	ARAAACTG	3 min 95°C,40 cycles:			
<i>narG</i>	CGTAGAAGAACAGCT	15 s 95°C/15 s 56°C/1min	750 nM	4	
	GGTGCTGTT	72°C/Melt			
	TACCACCCSGARC				
	CGCGCGT	3 min 95°C,40 cycles:			
<i>nirS</i>	GCCGCCGTCRTGV	15 s 95°C/15 s 56°C/1min	750 nM	4	
	AGGAA	72°C/Melt			
	CGCTGTTCHTCGA				
	CAGYCA	3 min 95°C,40 cycles:			
<i>nosZ</i>	ATRTCGATCARCT	15 s 95°C/15 s 56°C/1min	750 nM	5	
	GBTCGTT	72°C/Melt			

Table. S2 Microbial diversity index during biodegradation of TCE by sediments different nitrate concentrations.

Sample	Chao1	Observed species	Shannon	Simpson
Seed-0d	1122.57	958.40	5.27	0.91

0mg/L NO ₃ ⁻ - 5d	1279.44	1169.50	6.22	0.95
50mg/L NO ₃ ⁻ - 5d	751.89	741.30	5.46	0.94
100mg/L NO ₃ ⁻ - 5d	817.49	796.00	5.04	0.92
400mg/L NO ₃ ⁻ - 5d	668.75	658.20	5.01	0.92

Reference

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