-- SUPPORTING INFORMATION--

GEOCHIP-BASED FUNCTIONAL GENE ANALYSIS OF ANODOPHILIC COMMUNITIES IN MICROBIAL ELECTROLYSIS CELLS UNDER DIFFERENT OPERATIONAL MODES

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Table S1. Reactor operations and performances under different startup conditions.

Reactors and operations (switch)			CEs %	COD removal %	Gas production in MEC operation (mL)		
					H_2	CH_4	CO_2
Reactor operation under different startup conditions							
Startup to 1.5 month	#1	MFC	20±3	93±1	na	na	na
	#2	MFC	24±4	91±3	na	na	na
	#3	MFC control	na	8.7	na	na	na
	#4	MEC with 0.3V	88±2	87±5	2.0	4.2	2.1
	#5	MEC with 0.7V	90±4	89±2	34.2±1.7	1.1±0.1	3.6±0.4
	#6	MEC control	na	7.1	na	na	na
Reactor operations under MEC mode							
1.5 to 2.5 month (cathode change)	#1	MFC to MEC with 0.3V	90±5	89±5	2.3	2.7	2.4
	#2	MFC to MEC with 0.7V	95±4	90±5	27.8±1.5	0.7±0.4	4.2±1.0
	#3	MFC to MEC without voltage (Control)	na	10.4	na	na	na
	#4	MEC with 0.3V	90±5	90±5	2.5±1.0	5.6±1.4	1.7±0.1
	#5	MEC with 0.7V	95±5	90±5	31.1±6.1	2.8±0.5	2.9±1.0
	#6	MEC control without voltage (Control)	na	9.2	na	na	na

Data were collected over ten days for each phase and calculated as average ± SD.

"na" means not available because they could not be detected or calculated.

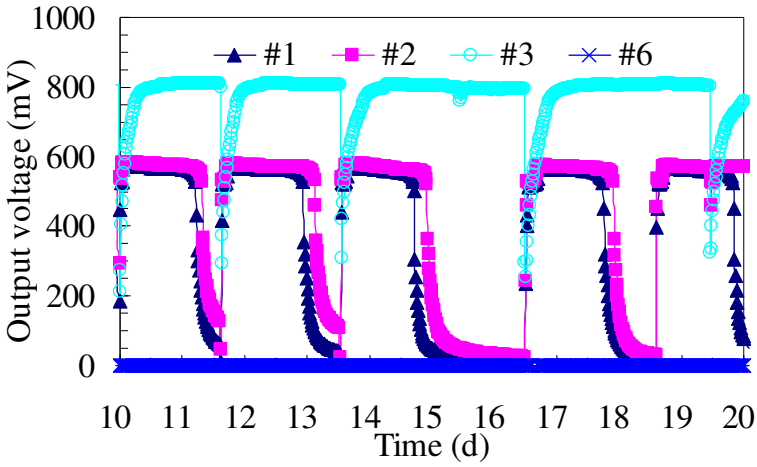

Figure S1 Voltages produced by reactors during enrichment: #1 and #2, closed circuit operation (1000 Ω); #3, open circuit voltage of the MFC (control); #6, open circuit MEC.

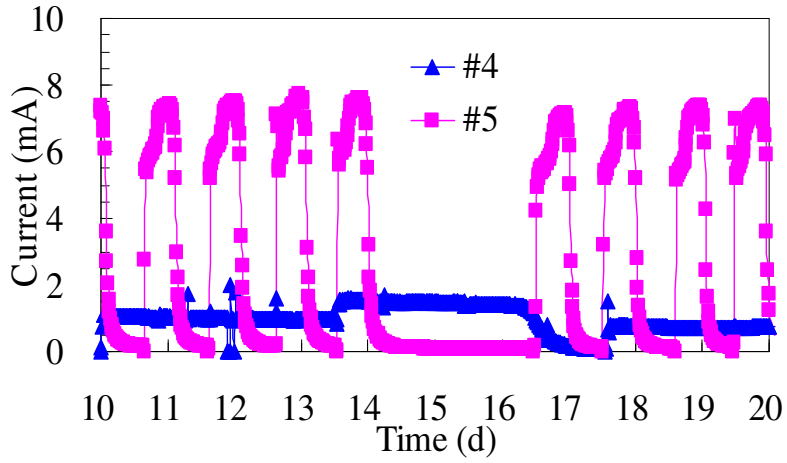

Figure S2 Current produced by MECs at applied voltages of 0.3 V (#4) or 0.7 V (#5).

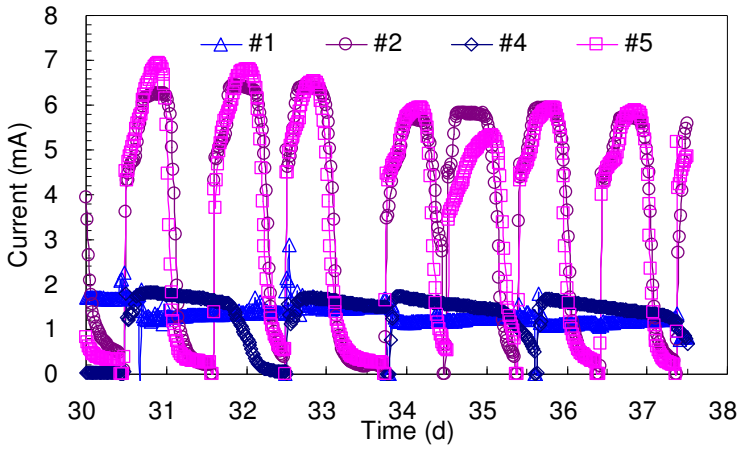

Figure S3 Current produced by reactors always operated as MECs (#4, #5) compared to those switched from MFC mode to MEC, at applied voltages of 0.3 V (#1, #3) and 0.7 V (#2, #4)

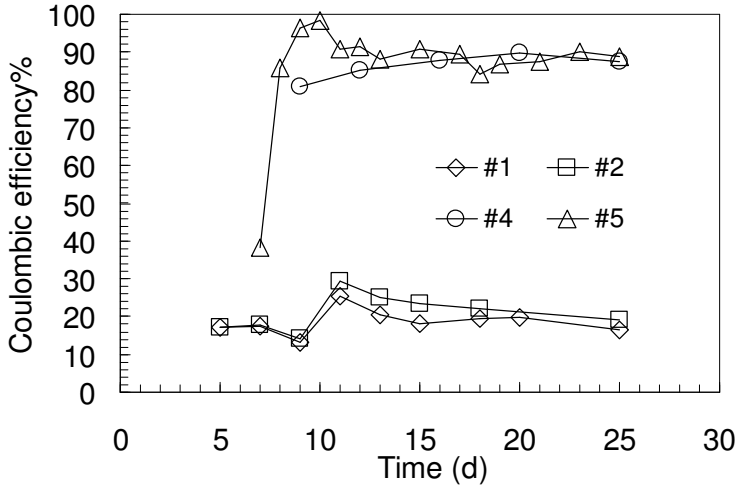

Figure S4 Differences of coulombic efficiencies of the reactors in different startup operations with waste water