

Table S2. Summary of microbial community composition detected in Goodenough Lake (GEL-M) bioreactors on day 58, 85, 98 and 128 using 16S rRNA gene sequencing. Day 0 microbial mat sample is taken from the initial inoculation. Numbers indicate proportion of reads with a > 1% average relative abundance in an OTU compared to all OTUs listed on a per sample basis. Closest cultured relative as determined by BLAST search is shown.

OTU Number	% total GEL-M OTUs	Relative % abundance in duplicate GEL-M bioreactors at time point (day)										Phylum	Genus	Accession No.	% Identity
		0	58		85		98		128						
			BR1	BR2	BR1	BR2	BR1	BR2	BR1	BR2					
2	15.18	0.27	7.04	5.11	11.34	7.33	17.32	20.07	21.30	28.56	<i>Proteobacteria</i>	<i>Wenzhouxiangella</i>	CP012154.1	98	
1	14.82	0.13	36.68	40.05	26.36	19.37	0.07	0.38	0.08	0.15	<i>Bacillariophyta</i>	<i>Dickieia</i>	FJ002229.1	99	
5	10.97	0.84	2.99	3.82	3.71	3.88	10.49	13.17	20.70	21.35	<i>Proteobacteria</i>	<i>Rhodobaca</i>	EU908048.1	100	
3	10.16	1.14	20.59	21.32	29.13	42.50	0.33	1.31	0.35	0.86	<i>Cyanobacteria</i>	<i>Phormidium</i>	JN166666.1	100	
245	5.06	0.50	2.74	3.15	2.88	2.56	8.57	9.62	5.33	4.66	<i>Bacteroidetes</i>	<i>Lewinella</i>	KF228160.1	89	
7	4.54	1.17	5.25	5.25	3.90	3.91	6.47	8.15	2.40	2.08	<i>Bacteroidetes</i>	<i>Lewinella</i>	NR_115013.1	89	
8	4.40	0.97	0.40	0.35	1.05	0.97	4.69	4.25	5.76	12.53	<i>Proteobacteria</i>	<i>Rhodobaculum</i>	KM077018.1	99	
6	3.93	0.37	2.64	1.22	3.02	1.66	5.87	3.19	7.67	4.52	<i>Proteobacteria</i>	<i>Chelatococcus</i>	NR_025428.1	98	
10	2.86	0.00	2.94	3.05	0.57	0.92	6.26	4.05	1.46	0.58	<i>Verrucomicrobia</i>	<i>Coraliomargarita</i>	NR_074901.1	90	
9	2.69	0.00	0.01	0.00	0.55	0.40	8.08	5.13	1.85	2.70	<i>Bacteroidetes</i>	<i>Fabibacter</i>	NR_137379.1	91	
11	1.74	0.00	0.26	0.15	0.50	1.37	1.58	3.40	4.64	2.57	<i>Deinococcus-Thermus</i>	<i>Truepera</i>	NR_074381.1	88	
13	1.32	0.00	0.00	0.00	0.07	0.00	5.19	0.00	2.04	0.00	<i>Firmicutes</i>	<i>Alkalibacterium</i>	NR_112659.1	99	
28	1.16	0.97	0.35	0.22	0.28	0.38	1.54	1.60	2.33	1.77	<i>Proteobacteria</i>	<i>Wenzhouxiangella</i>	CP012154.1	96	
12	1.08	0.50	0.57	0.34	0.81	0.49	1.42	1.54	1.96	1.37	<i>Proteobacteria</i>	<i>Thioalkalivibrio</i>	NR_074692.1	95	