

Graphite–metal oxide composites as potential anodic catalysts for Microbial Fuel Cells

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Supplementary data

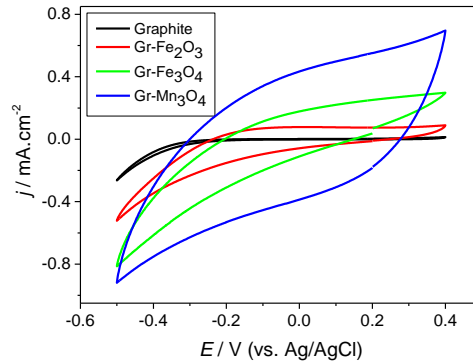


Fig. S1. Cyclic voltammograms of the investigated materials in a non-inoculated cultivation medium.

Table S1. Experimental XRD peaks compared to ICDD reference data.

Graphite		Gr-Fe ₂ O ₃		Gr-Fe ₃ O ₄		Gr-Mn ₃ O ₄		Diffraction data*		ICDD Ref.
2θ, °	Intens., cps	2θ, °	Intens., cps	2θ, °	Intens., cps	2θ, °	Intens., cps	2θ, °	crystal planes	PDF No.
26.26	50 544	26.49	6 255	26.54	10 256	26.49	8175	26.42	0 0 2	Graphite 00-008-0415
42.28	1 123	42.39	123	42.42	181	42.42	108	42.36	1 0 0	
44.42	1 450	44.59	1 358	44.71	187	44.80	124	44.46	1 0 1	
54.40	3 545	54.59	350	54.59	614	54.52	457	54.51	0 0 4	
----	----	35.40	838	35.39	165	----	----	35.61	1 1 0	Fe₂O₃ 00-033-0664
----	----	43.11	283	----	----	----	----	43.52	2 0 2	
----	----	53.45	134	50.19	106	----	----	54.09	1 1 6	
----	----	56.95	293	57.07	92	----	----	56.15	2 1 1	
----	----	30.11	270	----	----	----	----	30.07	2 2 0	Fe₃O₄ 00-076-1849
----	----	37.07	113	----	----	----	----	37.04	2 2 2	
----	----	35.68	408	36.10	642	----	----	35.87	1 1 1	FeO 00-074-1886
----	----	41.78	293	41.88	1081	----	----	41.66	2 0 0	
----	----	----	----	----	----	35.02	571	35.02	1 1 1	MnO 00-075-0626
----	----	----	----	----	----	40.68	797	40.66	2 0 0	
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Table S2. Open circuit potentials before and after inoculation with bacteria.

OCP (vs. Ag/AgCl), V		
Material	Nutrient medium	After inoculation
Graphite	0.065	0.149
Gr-Fe ₂ O ₃	0.296	0.199
Gr-Fe ₃ O ₄	0.446	0.100
Gr-Mn ₃ O ₄	0.167	0.217