

Table 1: Parameters and samples for PCA of *Shewanella* spp. MFCs [26]

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	R	S	T	U	V
MR-1	MFC 1	1	0	100	0	20	1.88E+08	1	0	52.47	3.41	-0.44	0.29	0.73	38.3	227.4	1	0	1	0
W3-18-1	MFC 1	1	0	100	0	20	6.00E+08	0	1	8.18	3.17	-0.5	0.24	0.78	38.5	247.6	1	0	1	0
SB2B	MFC 1	1	0	100	0	20	8.80E+08	1	0	1.63	6.71	-0.48	0.28	0.75	22.1	158.8	1	0	1	0
ANA-3	MFC 1	1	0	100	0	20	2.44E+09	0	1	33.56	3.38	-0.45	0.28	0.72	29.6	243.2	1	0	1	0
MR-4	MFC 1	1	0	100	0	20	3.31E+09	1	0	34.59	6.26	-0.4	0.28	0.73	17.5	139.8	1	0	1	0
MR-7	MFC 1	1	0	100	0	20	3.00E+09	1	0	8.38	5.68	-0.45	0.13	0.47	9.8	117.2	1	0	1	0
CN-32	MFC 1	1	0	100	0	20	8.32E+08	1	0	7.57	6.81	-0.51	0.26	0.68	16.5	108.1	1	0	1	0
PV-4	MFC 1	1	0	100	0	20	1.63E+09	0	1	2.11	8.6	-0.46	0.27	0.85	15.9	96.2	1	0	1	0
MR-1	MFC 2	0	1	0	50	5	1.88E+08	1	0	54.22	3.86	-0.42	0.33	0.77	55.3	311.9	1	0	1	0
W3-18-1	MFC 2	0	1	0	50	5	6.00E+08	0	1	36.52	2.27	-0.5	0.3	0.83	110.5	470.0	1	0	1	0
SB2B	MFC 2	0	1	0	50	5	8.80E+08	1	0	39.66	2.4	-0.44	0.3	0.75	32.8	293.4	1	0	1	0
ANA-3	MFC 2	0	1	0	50	5	2.44E+09	0	1	21.35	2.37	-0.44	0.29	0.74	32.4	292.7	1	0	1	0
MR-4	MFC 2	0	1	0	50	5	3.31E+09	1	0	7.83	5.12	-0.45	0.3	0.75	23.8	177.2	1	0	1	0
MR-7	MFC 2	0	1	0	50	5	3.00E+09	1	0	39.12	3.97	-0.51	0.28	0.79	44.1	267.8	1	0	1	0
CN-32	MFC 2	0	1	0	50	5	8.32E+08	1	0	27.18	2.72	-0.45	0.25	0.73	35.7	270.8	1	0	1	0
PV-4	MFC 2	0	1	0	50	5	1.63E+09	0	1	16.04	10.9	-0.54	0.3	0.84	21.6	135.9	1	0	1	0
MR-1	MFC 1	1	0	100	0	20	1.88E+08	1	0	52.47	3.41	-0.44	0.29	0.73	0.35	10.1	0	1	0	1
W3-18-1	MFC 1	1	0	100	0	20	6.00E+08	0	1	8.18	3.17	-0.5	0.24	0.78	1.00	17.8	0	1	0	1
SB2B	MFC 1	1	0	100	0	20	8.80E+08	1	0	1.63	6.71	-0.48	0.28	0.75	0.26	6.2	0	1	0	1
ANA-3	MFC 1	1	0	100	0	20	2.44E+09	0	1	33.56	3.38	-0.45	0.28	0.72	2.54	27.4	0	1	0	1
MR-4	MFC 1	1	0	100	0	20	3.31E+09	1	0	34.59	6.26	-0.4	0.28	0.73	0.58	9.6	0	1	0	1
MR-7	MFC 1	1	0	100	0	20	3.00E+09	1	0	8.38	5.68	-0.45	0.13	0.47	0.02	1.9	0	1	0	1
CN-32	MFC 1	1	0	100	0	20	8.32E+08	1	0	7.57	6.81	-0.51	0.26	0.68	0.04	2.6	0	1	0	1
PV-4	MFC 1	1	0	100	0	20	1.63E+09	0	1	2.11	8.6	-0.46	0.27	0.85	0.19	4.7	0	1	0	1
MR-1	MFC 2	0	1	0	50	5	1.88E+08	1	0	54.22	3.86	-0.42	0.33	0.77	42.9	105.4	0	1	0	1
W3-18-1	MFC 2	0	1	0	50	5	6.00E+08	0	1	36.52	2.27	-0.5	0.3	0.83	131.3	240.5	0	1	0	1
SB2B	MFC 2	0	1	0	50	5	8.80E+08	1	0	39.66	2.4	-0.44	0.3	0.75	25.7	103.5	0	1	0	1
ANA-3	MFC 2	0	1	0	50	5	2.44E+09	0	1	21.35	2.37	-0.44	0.29	0.74	46.6	140.2	0	1	0	1
MR-4	MFC 2	0	1	0	50	5	3.31E+09	1	0	7.83	5.12	-0.45	0.3	0.75	38.0	86.2	0	1	0	1
MR-7	MFC 2	0	1	0	50	5	3.00E+09	1	0	39.12	3.97	-0.51	0.28	0.79	53.4	116.0	0	1	0	1
CN-32	MFC 2	0	1	0	50	5	8.32E+08	1	0	27.18	2.72	-0.45	0.25	0.73	35.7	114.5	0	1	0	1
PV-4	MFC 2	0	1	0	50	5	1.63E+09	0	1	16.04	10.9	-0.54	0.3	0.84	36.9	58.2	0	1	0	1
MR-1	MFC 1	1	0	100	0	20	1.88E+08	1	0	52.47	3.41	-0.44	0.29	0.73	38.3	227.4	1	0	1	0

Column labels:

A – *Shewanella* spp.; B – MFC type; C - Nafion 424 membrane; D - Nafion 117 membrane; E – phosphate buffer (PB); F – PIPES buffer; G – lactate, mM; H – number of cells inoculated; I - early log phase; J – lag phase; K – Biofilm coverage; L – MFC internal resistance (R_{int}); M – OCP of the anode, V; N – OCP of the cathode, V; O – OCV, V; P – maximum power (P_{max}), μW; R – maximum current (I_{max}), μA; S – polarization curves; T – discharge curves; U - Batch mode; V - Semi-batch mode.

Table 2: Parameters and samples for PCA of *Shewanella oneidensis* MFCs

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	Ref.
# 1	1.23	69.6	0	1	0	1	0	0	50	0	20	50	48	1	0	1	0	0	0	0	0	1	2	1	0	0	0	0.615	1.00E+10	[56]
# 2	0.79	44.7	1	0	0	0.5	0	0	50	1	0	48	20	1	0	1	0	0	0	0	0	1	3.1	1	0	0	0	0.255	1.00E+10	[29]
# 3	0.79	44.7	1	0	0	0	0	0	50	0	20	14	20	1	0	1	0	0	0	0	0	1	3.1	0	0	1	0	0.255	1.00E+10	[29]
# 4	0.79	44.7	1	0	0	0	0	0	50	0	20	16	20	1	0	1	0	0	0	0	0	1	3.1	1	0	1	0	0.255	1.00E+10	[29]
# 5	1.33	10	0	0	1	0.7	1	100	0	0	20	22.02	18	1	0	0	1	0	0	0	0	1	30	1	0	0	0	0.044	1.00E+10	[55]
# 6	1.33	10	0	0	1	0.7	1	100	0	0	20	22.18	18	1	0	0	0	1	0	0	0	1	30	1	0	0	0	0.044	1.00E+10	[55]
# 7	1.33	10	0	0	1	0.7	1	100	0	0	20	10	18	0	1	0	1	0	0	0	0	1	30	1	0	0	0	0.044	1.00E+10	[55]
# 8	1.33	10	0	0	1	0.7	1	100	0	0	20	20	18	0	1	0	0	1	0	0	0	1	30	1	0	0	0	0.044	1.00E+10	[55]
# 9	0.28	10	0	0	1	0.7	1	100	0	0	20	10	18	0	1	0	0	0	1	0	0	1	30	1	0	0	0	0.009	2.00E+10	[8]
# 10	0.28	10	0	0	1	0.5	0	100	0	0	20	20	18	0	1	0	0	0	1	0	0	1	30	1	0	0	0	0.009	2.00E+10	[8]
# 11	7.065	3.28	0	1	0	1	0	100	0	0	100	429	16	1	0	0	0	0	0	1	1	0	30	1	0	0	30	0.236	1.00E+14	[40]
# 12	7.065	3.28	0	1	0	1	0	100	0	0	100	589	16	1	0	0	0	0	0	1	1	0	30	1	0	0	30	0.236	1.00E+14	[40]
# 13	7.065	3.28	0	0	1	0.5	0	100	0	0	100	20	16	0	1	0	0	0	0	1	1	0	30	0	1	0	30	0.236	1.00E+14	[40]

Column labels:

A – MFC samples; B – geometrical surface area (G); C - anode resistance; D – mediated electron transfer (MED); E – direct electron transfer (DET); F – mixed electron transfer; G – biofilm coverage; H – Si encapsulation; I – phosphate buffer; J – PIPES buffer; K – LB; L – lactate, mM; M – maximum current, μ A; N – Cultivation time, hours; O – polarization curve; P – discharge curve; Q - Chit/NTs anode; R - PHBV 30/CF anode; S - PHBV45/CF anode; T - TP-MWNTs anode; U – carbon felt (CF) anode; V – log phase; W – stationary phase; X – anode volume; Y - Batch mode; Z - Semi-batch mode; AA - Flow mode; AB – Fumarate, mM; AC - Surface/volume ratio; AD – number of cells.

Table 3: Parameters and samples for PCA of *Shewanella oneidensis* anodes

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>	<i>F</i>	<i>G</i>	<i>H</i>	<i>I</i>	<i>J</i>	<i>K</i>	<i>L</i>	<i>M</i>	<i>N</i>	<i>O</i>	<i>P</i>	<i>Q</i>	<i>R</i>	<i>S</i>	<i>T</i>	<i>U</i>	<i>V</i>	<i>W</i>	<i>X</i>
# 1	1	0	0	0	0	1.23	1.23	1	0	0	25	25	11.3	100	0	0	0	50	0	20	0	0	7.0
# 2	0	1	0	0	0	1.23	1.23	1	0	0	25	25	11.3	0	50	0	0	50	0	5	0	0	7.0
# 3	1	0	0	0	0	1.23	1.23	1	0	0	25	25	11.3	100	0	0	0	50	0	20	0	0	7.0
# 4	0	1	0	0	0	1.23	1.23	1	0	0	25	25	11.3	0	50	0	0	50	0	5	0	0	7.0
# 5	0	0	1	0	0	1.23	1.23	0	8	0	2.0	1.0	1.23	0	0	0	100	0	0	0	1	0	7.0
# 6	0	0	1	0	0	1.23	1.23	0	8	0	2.0	1.0	1.23	0	50	0	100	0	0	20	0	0	7.0
# 7	0	0	1	0	0	0.79	0.79	1	0	0	2.7	2.0	0.79	0	50	0	0	50	0	20	0	0	7.0
# 8	0	0	1	0	0	0.79	0.79	1	0	0	25	25	11.3	0	50	0	0	50	0	5	0	0	7.0
# 9	0	0	1	0	0	0.79	0.79	1	0	0	3.0	2.0	0.79	0	0	0	0	50	0	0	1	0	7.0
# 10	0	0	1	0	0	0.79	0.79	1	0	0	3.0	2.0	0.79	0	50	0	0	50	0	20	0	0	7.0
# 11	0	0	1	0	0	0.79	0.79	1	0	0	3.0	2.0	0.79	0	50	0	0	50	0	20	0	0	7.0
# 12	1	0	0	0	0	20.0	20.0	1	0	0	25	25	11.3	0	50	0	0	50	0	20	0	0	7.0
# 13	1	0	0	0	0	20.0	20.0	1	0	0	25	25	11.3	0	50	0	0	50	0	2	0	0	7.0
# 14	0	1	0	0	0	1.67	1.67	1	0	0	1.2	1.2	2.0	100	0	0	100	0	0	10	0	0	7.0
# 15	0	1	0	0	0	1.67	1.67	0	0	0	1.2	1.2	2.0	100	0	0	100	0	0	10	0	0	7.0
# 16	0	1	0	0	0	1.67	1.67	0	0	50	1.2	1.2	2.0	100	0	0	100	0	0	10	0	0	7.0
# 17	0	1	0	0	0	1.67	1.67	0	0	50	1.2	1.2	2.0	0	50	0	100	0	0	25	0	0	7.2
# 18	0	1	0	0	0	1.67	1.67	0	0	50	1.2	1.2	2.0	0	50	0	100	0	0	25	0	0	7.2
# 19	0	1	0	0	0	1.67	1.67	0	0	50	1.2	1.2	2.0	0	50	0	100	0	0	25	0	0	7.2
# 20	0	1	0	0	0	1.67	1.67	0	0	50	1.2	1.2	2.0	0	50	0	100	0	0	25	0	0	7.2
# 21	0	1	0	0	0	1.67	1.67	0	0	50	1.2	1.2	2.0	0	50	0	100	0	0	25	0	0	7.2
# 22	0	1	0	0	0	1.67	1.67	0	0	50	1.2	1.2	2.0	0	50	0	100	0	0	25	0	0	7.2
# 23	0	1	0	0	0	0.40	0.40	0	0	50	0.004	0.004	0.4	0	0	1	100	0	0	20	0	0	7.3
# 24	0	1	0	0	0	0.40	0.40	0	0	50	0.004	0.004	0.4	0	0	1	100	0	0	20	0	0	7.3
# 25	0	1	0	0	0	7.00	7.00	1	0	0	25	0	7.0	0	50	0	0	50	0	10	0	0	7.0
# 26	0	1	0	0	0	7.00	7.00	1	0	0	25	0	7.0	0	50	0	0	50	0	10	0	0	7.0
# 27	0	1	0	0	0	7.00	7.00	1	0	0	25	0	7.0	0	50	0	0	50	0	10	0	0	7.0
# 28	0	1	0	0	0	7.00	7.00	1	0	0	25	0	7.0	0	50	0	0	50	0	10	0	0	7.0
# 29	0	1	0	0	0	7.00	7.00	1	0	0	25	0	7.0	0	50	0	0	50	0	10	0	0	7.0
# 30	0	1	0	0	0	7.00	7.00	1	0	0	25	0	7.0	0	50	0	0	50	0	10	0	0	7.0
# 31	0	1	0	0	0	7.00	7.00	1	0	0	25	0	7.0	0	50	0	0	50	0	10	0	0	7.0
# 32	0	1	0	0	0	7.00	7.00	1	0	0	25	0	7.0	0	50	0	0	50	0	10	0	0	7.0
# 33	0	0	0	1	0	64.0	15.5	0	0	0	295	295	15.5	0	50	0	0	0	1	44	0	0	7.0
# 34	0	1	0	0	0	0.09	0.20	0	0	50	0.5	0	0.5	100	0	0	100	0	0	10	0	0	7.0
# 35	0	1	0	0	0	0.09	0.20	0	0	50	0.5	0	0.5	100	0	0	100	0	0	10	0	0	7.0
# 36	0	1	0	0	0	0.09	0.20	0	0	50	0.5	0	0.5	100	0	0	100	0	0	0	0	10	7.0
# 37	0	1	0	0	0	0.09	0.20	0	0	50	0.5	0	0.5	100	0	0	100	0	0	0	0	10	7.0
# 38	0	0	0	0	1	50.0	27.0	1	0	0	220	220	19.6	0	50	0	100	0	0	20	0	20	7.0
# 39	0	0	0	0	1	225	27.0	1	0	0	220	220	19.6	0	50	0	100	0	0	20	0	0	7.0

Continuation:

A	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	Ref.
# 1	7.0	48	1	0	0	0	100	38.3	227.4	1	0	12	1	0	0	1	0	0	0	0	0	0	1	0	[26]
# 2	7.0	48	1	0	0	0	100	55.3	311.9	1	0	12	1	0	0	1	0	0	0	0	0	0	1	0	[26]
# 3	7.0	48	1	0	0	0	100	0.35	10.07	0	1	12	0	1	0	1	0	0	0	0	0	0	1	0	[26]
# 4	7.0	48	1	0	0	0	100	42.92	105.44	0	1	12	0	1	0	1	0	0	0	0	0	0	1	0	[26]
# 5	6.2	48	1	0	0	0	100	26.3	65	1	0	96	1	0	0	0	0	1	0	0	0	0	1	0	[55]
# 6	6.2	48	1	0	0	0	100	16	37	1	0	37.5	1	0	0	0	0	1	0	0	0	0	1	0	[55]
# 7	7.0	20	0	0	1	0	100	1.49	5.09	1	0	96	1	0	0	0	0	1	0	0	0	0	1	0	[14]
# 8	7.0	20	0	0	1	0	50.0	0.64	8	0	1	1	0	1	0	1	0	1	0	0	0	0	1	0	[14]
# 9	7.0	20	0	0	1	0	100	9.88	33	1	0	96	1	0	0	0	0	1	0	0	0	0	1	0	[29]
# 10	7.0	20	0	0	1	0	100	5.7	31	1	0	96	1	0	0	0	0	1	0	0	0	0	1	0	[29]
# 11	7.0	20	0	0	1	0	100	5	26	1	0	120	0	0	1	0	0	1	0	0	0	0	1	0	[29]
# 12	7.0	48	1	0	0	0	100	20	160	1	0	12	1	0	0	1	0	0	0	0	0	0	1	0	[61]
# 13	7.0	24	0	0	0	1	100	0.76	276	0	1	1	1	0	0	1	0	0	0	0	0	0	1	0	[25]
# 14	7.2	120	0	0	0	1	100	150	700	1	0	1	0	0	1	1	0	0	0	0	0	0	1	0	[15]
# 15	7.2	120	0	0	0	1	100	14	200	1	0	1	0	0	1	1	0	0	0	0	0	0	1	0	[15]
# 16	7.2	120	0	0	0	1	100	400	1180	1	0	1	0	0	1	1	0	0	0	0	0	0	1	0	[15]
# 17	7.2	48	0	0	0	1	50.0	330	1400	1	0	0	0	0	1	1	0	0	2.08	0	0	0	1	0	[62]
# 18	7.2	48	0	0	0	1	20.0	152	700	1	0	0	0	0	1	1	0	0	0	0	0	0	1	0	[62]
# 19	7.2	48	0	0	0	1	20.0	34.6	480	0	1	0	0	0	1	1	0	0	0	0	0	0	1	0	[62]
# 20	7.2	48	0	0	0	1	100	50.5	580	0	1	24	0	0	1	1	0	0	0	0	0	0	1	0	[62]
# 21	7.2	48	0	0	0	1	50.0	122.5	904	0	1	0	0	0	1	1	0	0	1.4	0	0	0	1	0	[62]
# 22	7.2	48	0	0	0	1	100	173	1075	0	1	24	0	0	0	1	0	0	1.4	0	0	0	1	0	[62]
# 23	7.2	24	0	0	0	1	80.0	0.03	1.7	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	[63]
# 24	7.2	24	0	0	0	1	80.0	0.25	4.4	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	[63]
# 25	7.0	24	0	0	0	1	100	38.2	195.5	0	1	24	0	1	0	0	0	0	0	1	0	0	1	0	[48]
# 26	7.0	24	0	0	0	1	100	40	200	0	1	24	0	1	0	0	0	0	0	1	3	0	1	0	[48]
# 27	7.0	24	0	0	0	1	100	72.9	270	0	1	24	0	1	0	0	0	0	0	1	6	0	1	0	[48]
# 28	7.0	24	0	0	0	1	100	77.3	278	0	1	24	0	1	0	0	0	0	0	1	10	0	1	0	[48]
# 29	7.0	24	0	0	0	1	100	362	1862	1	0	24	0	1	0	0	0	0	0	1	0	0	1	0	[48]
# 30	7.0	24	0	0	0	1	100	490	1960	1	0	24	0	1	0	0	0	0	0	1	3	0	1	0	[48]
# 31	7.0	24	0	0	0	1	100	774	3675	1	0	24	0	1	0	0	0	0	0	1	6	0	1	0	[48]
# 32	7.0	24	0	0	0	1	100	630	4532.5	1	0	24	0	1	0	0	0	0	0	1	10	0	1	0	[48]
# 33	6.5	18	0	0	1	0	100	600	2000	0	1	24	0	1	0	0	0	0	0	0	0	0	1	0	[64]
# 34	7.0	24	0	0	0	1	80.0	1.6	4	0	1	200	0	1	0	0	0	0	0	0	0	0	1	1	[60]
# 35	7.0	24	0	0	0	1	100	48.8	22	0	1	200	0	1	0	0	0	0	0	0	0	1	0	1	[60]
# 36	7.0	24	0	0	0	1	80.0	0.1	1	0	1	200	0	1	0	0	0	0	0	0	0	0	1	1	[60]
# 37	7.0	24	0	0	0	1	80.0	28.9	17	0	1	200	0	1	0	0	0	0	0	0	0	1	0	1	[60]
# 38	7.0	24	0	0	0	1	100	400	1000	0	1	480	0	0	1	0	1	0	0	0	0	0	1	0	[49]
# 39	7.0	24	0	0	0	1	100	783	1797	1	0	528	0	0	1	0	0	0	0	1	0	1	0	0	[49]

Column labels:

A – MFC samples; B - Nafion 424; C - Nafion 117; D - CMI-700 membrane; E - MK-40 membrane; F - AMI-7001 membrane; G - anode GSA; H - cathode GSA; I - Pt at the cathode; J - laccase cathode; K - $K_3[Fe(CN)_6]$, mM; L - anode volume, mL; M - cathode volume, mL; N - membrane area, cm^2 ; O – phosphate buffer at the anode (PBA), mM; P - PIPES at the anode, mM; Q – TSB at the anode; R – phosphate buffer at the cathode (PBC), mM; S – PIPES at the cathode, mM; T - H_2O at the cathode; U – lactate, mM; V – LB; W – glucose, mM; X – pH at the anode; Y – pH at the cathode; Z – cultivation time, hours; AA - early log phase; AB – lag phase; AC – log phase; AD - stationary phase; AE – Biofilm coverage; AF – maximum power (Pmax), μW ; AG – maximum current (Imax), μA ; AH – polarization curve; AI – discharge curve; AJ – acclimatization time, hours; AK - Batch mode; AL - Semi-batch mode; AM – Flow mode; AN – carbon felt; AO - carbon paper (CP); AP - Chitosan/MWNTs; AQ - $CaCl_2$, mM; AR - carbon cloth (CC); AS - Fe (III), mM; AT – aerobic conditions; AU – anaerobic conditions; AV - carbon-coated Ti-flags.

Table 4: Expanded uncertainties of OD_{600nm} during *Shewanella spp.* development

Time, hours	Expanded Uncertainties %							
<i>Shewanella spp.</i>	MR1	SB2B	CN32	MR4	MR7	W3-18-1	ANA	PV4
8.5	31.43	4.49	15.71	23.35	15.10	31.43	38.90	15.71
14.5	0.20	28.98	23.57	11.98	0.99	40.86	1.52	30.63
20.5	17.43	19.26	3.61	26.98	1.49	4.69	4.06	42.28
24	16.48	18.56	12.78	34.23	22.54	9.42	1.45	1.98
28	17.74	13.98	0.82	12.59	2.10	16.28	6.90	7.23
31.5	15.29	8.40	7.12	11.33	16.14	0.61	11.74	11.71
39	7.27	0.59	26.84	9.11	4.31	12.68	14.22	7.17
48	9.00	0.95	4.04	6.34	4.19	8.66	2.87	0.26
Median	16.48	13.98	12.78	11.98	4.19	9.41	6.90	11.71
Minimum	0.20	0.59	0.82	6.34	0.99	0.61	1.45	0.26
Maximum	31.43	28.98	26.84	34.23	22.54	40.86	38.90	42.28