

Supplementary data for: Joint multi-optimisation of an extremophilic microbial bioanode for mitigation of mixed hazardous azo dyes in textile synthetic wastewater

Table S1. *P* values of studied variables and their quadratic and interaction terms for equation 4 (supplementary data).

Name	Coefficient	F.Inflation	Stand Dev	t.exp.	<i>P</i> values
β_0	1.139		0.332	3.43	< 0.01**
β_1	-0.685	1.00	0.212	-3.23	< 0.01**
β_2	-0.602	1.00	0.212	-2.36	< 0.01**
β_3	1.064	1.00	0.212	5.01	< 0.0001***
β_4	0.608	1.00	0.212	0.98	< 0.01**
β_{11}	-0.289	2.33	0.562	-0.51	= 0.62 NS
β_{22}	1.066	2.33	0.562	1.90	< 0.05*
β_{33}	-0.659	2.33	0.562	-1.17	< 0.05*
β_{44}	-0.109	2.33	0.562	-0.19	=0.84NS
β_{12}	0.272	1.00	0.225	1.21	=0.25NS
β_{13}	-0.719	1.00	0.225	-3.19	<0.01**
β_{23}	-0.427	1.00	0.225	-1.90	< 0.05*
β_{14}	0.044	1.00	0.225	0.20	= 0.84NS
β_{24}	-0.473	1.00	0.225	-2.10	< 0.05*
β_{34}	0.216	1.00	0.225	0.96	= 0.35NS

NS: non significant, ***Significant at the level of 99.9%, **Significant at the level 99.0%, * Significant at the level 95.0%.

Table S2. *P* values of studied variables and their quadratic and interaction terms for equation 5 (supplementary data).

Nom	Coefficient	F.Inflation	Stand Dev	t.exp.	<i>P</i> values %
β_0	88.222		2.537	34.77	< 0.0001***
β_1	-2.833	1.00	1.623	-1.75	< 0.05*
β_2	-0.556	1.00	1.623	-0.34	=73.6NS
β_3	26.778	1.00	1.623	16.50	***
β_4	1.222	1.00	1.623	0.75	=47.1NS
β_{11}	-5.833	2.33	4.293	-1.36	=19.7NS
β_{22}	1.667	2.33	4.293	0.39	=70.5NS
β_{33}	-28.333	2.33	4.293	-6.60	< 0.0001***
β_{44}	0.667	2.33	4.293	0.16	=87.4NS
β_{12}	0.938	1.00	1.721	0.54	=60.1NS
β_{13}	-2.938	1.00	1.721	-1.71	< 0.05*
β_{23}	0.188	1.00	1.721	0.11	=91.1NS
β_{14}	0.438	1.00	1.721	0.25	=79.9NS
β_{24}	-2.438	1.00	1.721	-1.42	< 0.05*
β_{34}	0.438	1.00	1.721	0.25	=79.9NS

NS: non significant, ***Significant at the level of 99.9%, **Significant at the level 99.0%, * Significant at the level 95.0%.

Table S3. *P* values of studied variables and their quadratic and interaction terms for equation 6 (supplementary data).

Nom	Coefficient	F.Inflation	Ecart-Type	t.exp.	Signif. %
β_0	71.321		1.185	60.21	***
β_1	-3.000	1.00	0.758	-3.96	*
β_2	-2.333	1.00	0.758	-3.08	9.0%
β_3	18.333	1.00	0.758	24.20	**
β_4	-3.333	1.00	0.758	-4.40	*
β_{11}	-6.815	2.33	2.005	-3.40	7.5%

β_{22}	16.185	2.33	2.005	8.07	*
β_{33}	-22.815	2.33	2.005	-11.38	**
β_{44}	-12.815	2.33	2.005	-6.39	*
β_{12}	2.438	1.00	0.804	3.03	9.3%
β_{13}	-4.188	1.00	0.804	-5.21	*
β_{23}	-1.188	1.00	0.804	-1.48	27.8%
β_{14}	-0.188	1.00	0.804	-0.23	82.9%
β_{24}	-5.688	1.00	0.804	-7.08	*
β_{34}	-1.563	1.00	0.804	-1.94	19.2%

NS: non significant, ***Significant at the level of 99.9%, **Significant at the level 99.0%, * Significant at the level 95.0%. .