

SUPPLEMENTARY MATERIAL

Costa C. A comprehensive view of the ASM1

Table S1. Table of errors between simulated values (Sim) and analysed values (COD) for fine tuning, $Y_H = 0.60$ and $\mu_{H,max} = 0.40, 0.38$ and 0.42 d^{-1} .

Day	COD (mg/L)	Sim 0.40	Error (%) 0.40	Sim 0.38	Error (%) 0.38	Sim 0.42	Error (%) 0.42
1	23.7	30.0	26.6	30.0	26.6	30.0	26.6
5	32.9	22.7	-31.0	25.5	-22.5	21.5	-34.5
7	27.3	14.9	-45.4	16.0	-41.3	14.2	-48.0
12	25.3	11.8	-53.5	12.6	-50.2	11.1	-56.0
14	24.1	14.7	-39.1	15.6	-35.4	15.2	-36.9
19	21.6	24.5	13.5	26.5	22.8	22.7	5.0
21	21.0	24.2	15.3	26.3	25.3	22.1	5.4
26	27.2	27.6	1.4	27.9	2.4	25.1	-7.8
29	34.1	31.0	-9.2	33.8	-0.8	28.5	-16.5
33	29.3	34.3	17.0	37.5	28.0	31.8	8.4
35	31.1	37.6	21.0	41.7	34.0	34.7	11.6
40	25.9	21.6	-16.5	23.6	-8.9	20.1	-22.6
42	25.6	21.0	-17.9	23.5	-8.3	20.0	-21.8
47	23.7	17.7	-25.4	18.9	-20.4	16.2	-31.8
49	23.9	21.5	-10.2	22.8	-4.8	20.0	-16.5
54	26.2	19.2	-26.7	21.0	-19.9	17.4	-33.6
56	23.7	24.3	2.6	25.8	8.9	22.5	-5.2
61	18.6	12.4	-33.2	13.3	-28.5	11.9	-36.1
63	24.3	27.3	12.2	30.2	24.2	25.5	5.0
68	45.6	23.5	-48.4	25.4	-44.3	21.7	-52.5
70	22.4	16.4	-26.9	17.8	-20.5	15.7	-29.8
77	31.4	69.7	122.1	78.7	150.7	65.1	107.4
82	25.9	21.9	-15.3	24.1	-7.0	19.5	-24.8
84	40.6	10.3	-74.7	11.0	-72.8	9.7	-76.1
89	21.5	9.4	-56.2	11.0	-48.7	8.8	-59.0
91	21.5	16.2	-24.4	17.6	-18.2	14.4	-33.1
96	21.1	19.2	-9.0	25.1	19.1	21.8	3.1
98	19.3	36.7	90.0	38.5	99.3	33.5	73.7
105	26.7	18.2	-31.7	19.8	-25.7	17.6	-34.3
113	27.5	27.7	0.9	29.8	8.3	29.1	5.8
118	29.9	23.1	-22.6	23.2	-22.6	19.6	-34.5
120	35.0	33.5	-4.2	37.0	5.7	30.9	-11.6
125	17.8	17.1	-4.2	18.5	3.8	15.7	-11.8
127	22.7	16.2	-28.6	17.9	-21.2	15.3	-32.7
132	37.0	25.5	-31.2	27.1	-26.9	22.9	-38.1
134	30.2	36.9	22.1	40.6	34.4	34.0	12.5
135	26.7	16.5	-38.1	18.6	-30.2	15.5	-42.1
139	26.9	21.6	-19.7	23.5	-12.6	20.0	-25.6
141	25.0	18.9	-24.4	19.4	-22.5	16.8	-32.6
147	27.2	36.2	33.1	40.3	48.2	33.2	22.1
149	28.3	31.3	10.8	34.4	21.6	29.1	2.9
153	23.6	42.0	77.8	45.7	93.7	38.2	61.8
155	15.4	9.5	-38.2	9.7	-37.0	9.0	-41.5
160	18.1	20.2	11.5	21.8	20.5	18.8	3.7
162	20.2	21.8	7.7	22.1	9.6	19.4	-4.2
167	27.6	35.4	28.3	39.0	41.2	32.6	18.0
169	33.2	28.7	-13.5	32.4	-2.4	26.4	-20.4
173	23.2	12.8	-45.0	14.0	-39.7	11.9	-48.6

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175	25.8	38.1	47.6	39.1	51.4	34.5	33.6
180	33.9	26.9	-20.5	28.7	-15.3	24.5	-27.8
182	25.9	47.0	81.3	52.5	102.8	44.7	72.6
187	24.7	19.0	-23.1	19.7	-20.3	17.2	-30.3
189	17.7	23.0	30.1	24.8	40.1	21.3	20.4
194	27.3	21.1	-22.8	22.2	-18.6	19.4	-28.9
195	24.1	34.2	41.9	36.1	49.8	32.9	36.5
197	12.6	48.0	281.2	53.7	326.2	42.5	237.3
203	18.6	25.5	37.3	26.5	42.3	22.4	20.7
208	24.9	51.9	108.5	56.0	124.9	47.7	91.6
210	23.5	28.6	21.6	30.1	28.1	25.6	8.9
215	29.5	32.6	10.5	36.3	23.1	28.1	-4.9
222	26.9	55.1	105.0	60.2	123.8	54.1	101.0
229	37.3	77.6	108.0	89.7	140.6	72.4	94.2
232	38.9	59.7	53.4	66.5	70.8	54.3	39.6
236	32.1	30.4	-5.3	33.5	4.5	28.2	-12.0
239	30.5	35.9	17.7	39.3	28.7	32.8	7.5
243	30.7	38.1	24.2	40.4	31.7	35.1	14.3
246	23.5	16.3	-30.5	17.3	-26.4	16.4	-30.3
250	53.2	27.8	-47.8	29.7	-44.2	24.7	-53.6
253	58.1	43.2	-25.6	47.7	-17.8	39.2	-32.5
257	49.5	45.6	-7.9	50.8	2.6	41.4	-16.4
260	28.1	6.7	-76.1	7.8	-72.3	6.8	-75.9
264	33.3	16.3	-51.0	17.2	-48.5	15.2	-54.4
267	24.0	14.6	-39.3	14.0	-41.7	13.6	-43.3
271	20.3	8.6	-57.4	9.4	-53.7	8.4	-58.7
274	24.8	11.6	-53.1	12.4	-50.1	10.8	-56.4
278	20.7	12.2	-41.2	13.6	-34.4	11.6	-43.9
281	27.4	18.1	-33.8	19.5	-28.7	16.9	-38.4
285	32.1	17.6	-45.1	19.1	-40.6	16.7	-48.0
288	23.6	9.3	-60.7	8.1	-65.8	8.0	-66.1
292	24.1	24.7	2.4	26.8	11.3	21.4	-11.1
295	26.8	28.2	5.2	30.7	14.5	26.2	-2.3
299	28.8	35.7	24.0	37.8	31.4	31.6	9.8
301	24.3	28.1	15.4	30.6	25.7	25.9	6.5
306	26.9	28.2	5.0	33.4	24.3	26.2	-2.6
309	47.6	36.7	-22.9	40.0	-15.9	33.3	-30.0
313	28.6	32.2	12.6	35.4	23.6	30.8	7.6
320	30.8	22.1	-28.1	24.3	-21.2	20.3	-34.2
323	27.1	20.1	-26.0	21.7	-19.9	18.6	-31.3
327	22.7	19.9	-12.3	22.1	-2.5	19.5	-14.3
334	24.5	23.7	-3.4	26.3	7.5	23.1	-5.9
336	27.4	20.9	-23.8	22.3	-18.4	19.4	-29.1
341	62.1	19.4	-68.7	20.8	-66.5	18.4	-70.4
343	19.9	38.8	94.8	42.1	111.8	35.8	79.9
Average error			-0.5		8.1		-7.7