

**Phycoremediation of textile wastewater using native algal isolates:
pollutant removal, nutrient recovery, and ecofriendly resource valorization**

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Supplementary data

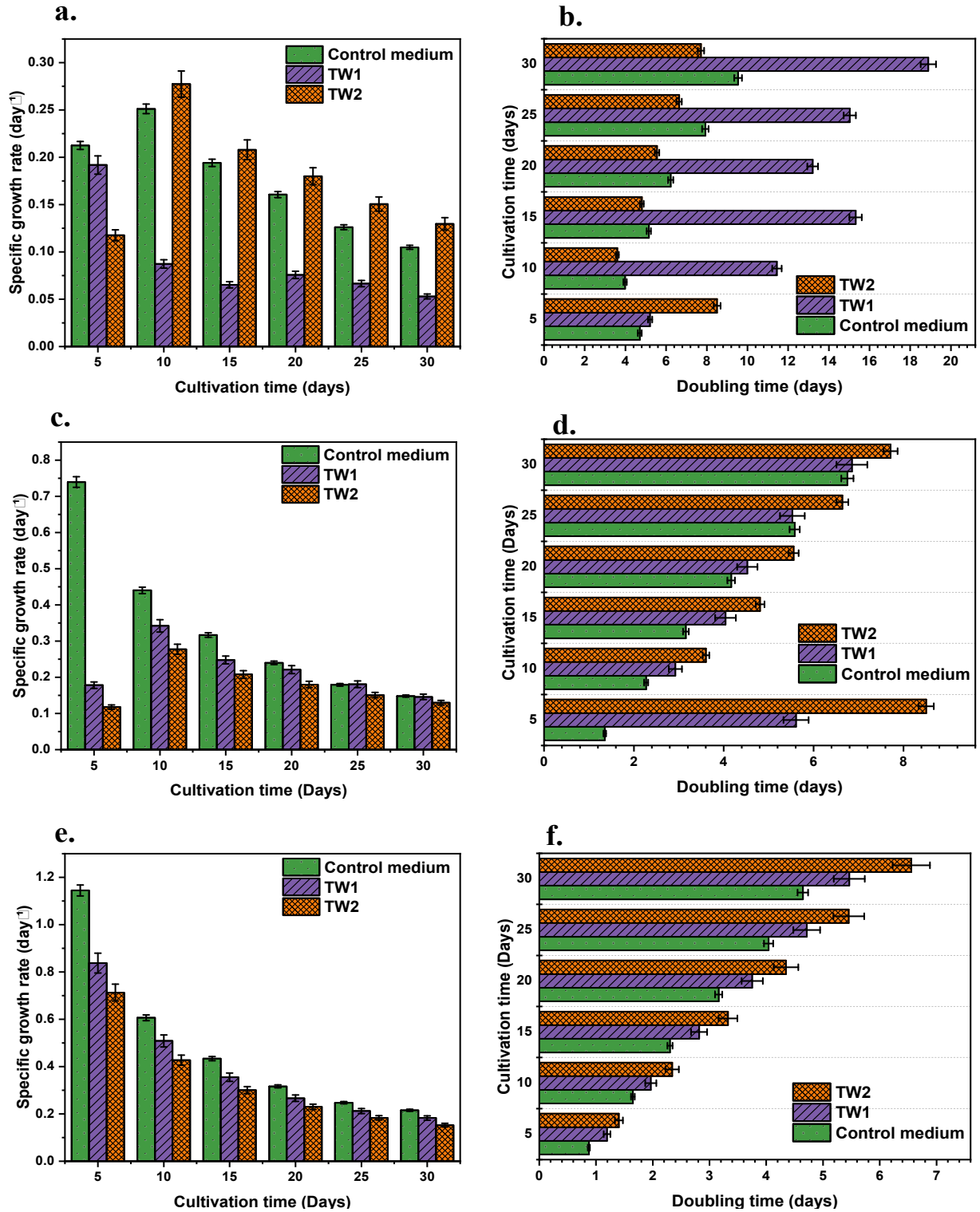


Figure 1S. Specific growth rate and doubling time of isolated algal strains (CS, DS, and CM) cultivated for 30 days in control medium, TW1 and TW2: a. Specific growth rate of CS, b. Doubling time of CS, c. Specific growth rate of DS, d. Doubling time of DS, e. Specific growth rate of CM, and f. Doubling time of CM.

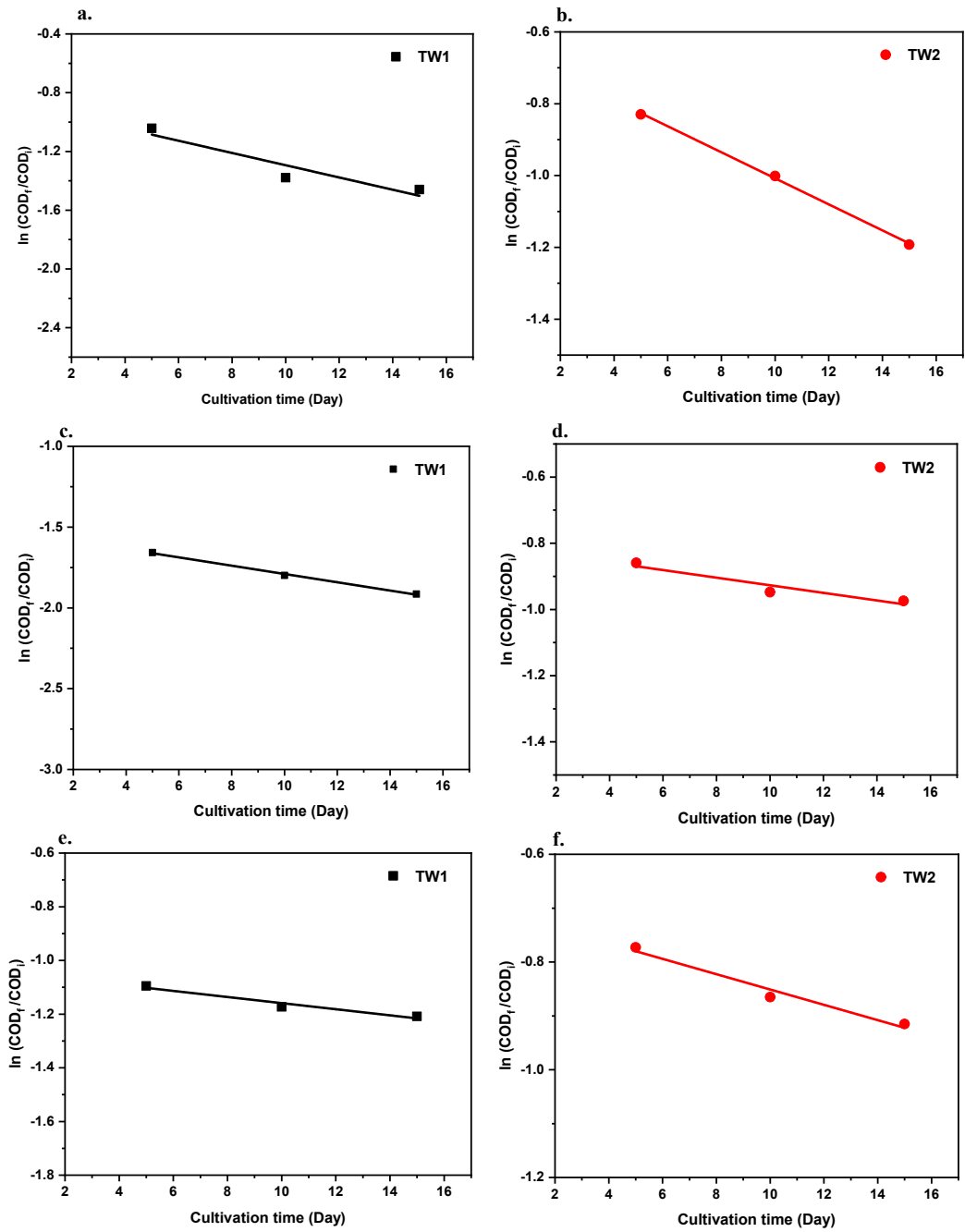


Figure 2S First-order kinetic models for the COD removal: a. CS-TW1, b. CSTW2, c. DS-TW1, d. DS-TW2, e. CM-TW1, and f. CM-TW2

Table 1S Analytical precision and reproducibility of experimental measurements expressed as Coefficient of Variation (CV%)

Isolates Type	Wastewater Type	COD (mg L ⁻¹)	Nitrate (mg L ⁻¹ as NO ₃ ⁻)	Ammonia (mg L ⁻¹ as NH ₄ ⁺)	Phosphate (mg L ⁻¹ as PO ₄ ³⁻)
CS	TW1	3.45	3.51	4.88	3.47
CS	TW2	3.45	4.45	1.76	3.45
DS	TW1	3.69	3.55	3.47	3.34
DS	TW2	3.45	3.43	3.52	4.56
CM	TW1	3.33	3.42	3.41	3.45
CM	TW2	3.47	3.41	3.41	3.45

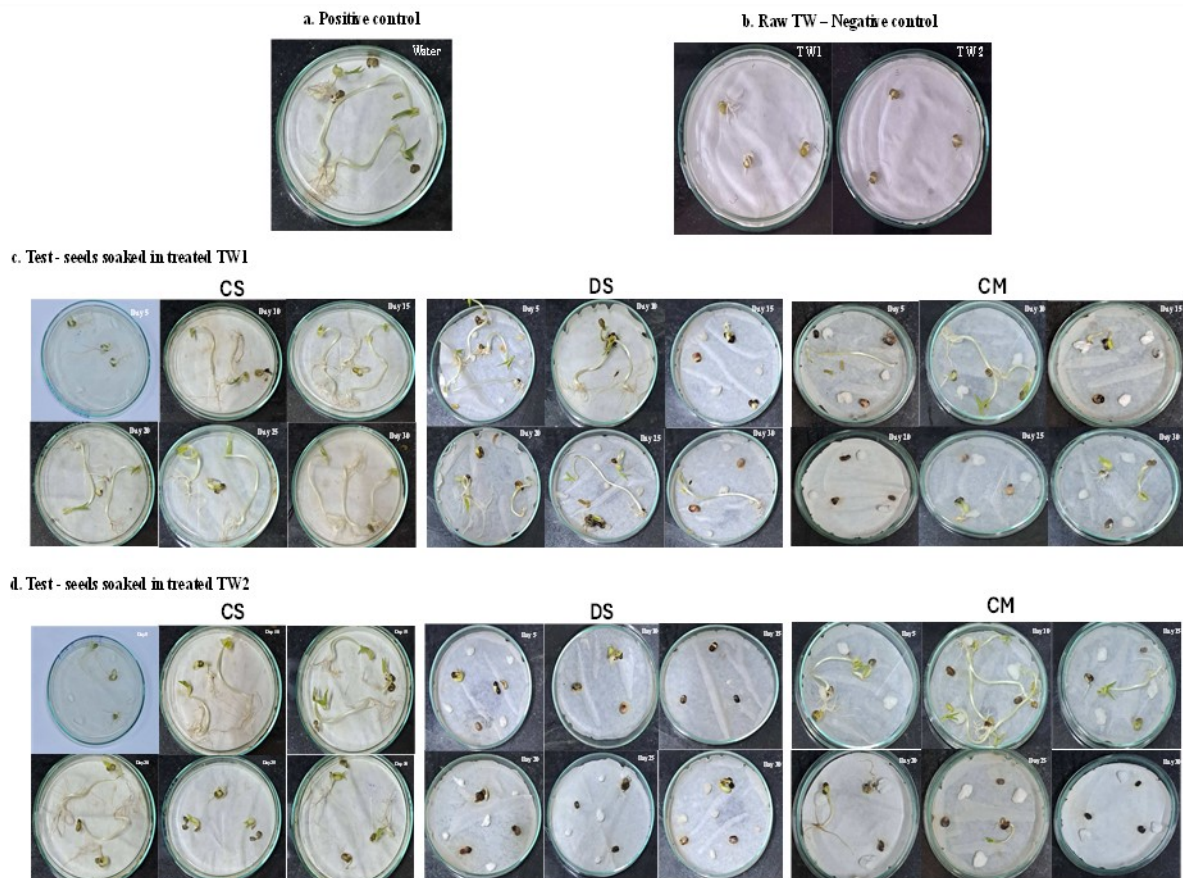


Figure 3S. Seed germination study with treated and untreated wastewater. (a) Germination in water (positive control), (b) Germination in untreated TW1 and TW2 (negative controls), (c) Germination in treated TW1 on days 5, 10, 15, 20, 25, and 30, (d) Germination in treated TW2 on days 5, 10, 15, 20, 25, and 30

Table 2S. Effect of treated untreated TW1 and TW2 on germination parameters

		TW 1				TW 2			
		Seed germinatio n percentage (%)	Relative root growth (%)	Germinatio n index (%)	Seedling vigor index (SVI)	Seed germinatio n percentage (%)	Relative root growth (%)	Germinatio n index	Seedling vigor index (SVI)
Control	TWW	100.00	30.00	30.00	210.00	66.67	18.00	12.00	93.33
	5th day treated	100.00	66.67	66.67	450.00	100.00	24.67	24.67	250.00
	10th day treated	100.00	85.33	85.33	1170.00	100.00	37.33	37.33	296.67
	15th day treated	100.00	98.00	98.00	1383.33	100.00	96.67	96.67	1223.33
	20th day treated	100.00	97.33	97.33	1373.33	100.00	89.33	89.33	1043.33
	25th day treated	100.00	74.00	74.00	1050.00	100.00	80.00	80.00	680.00
CS	30th day treated	100.00	56.00	56.00	950.00	100.00	80.00	80.00	720.00
DS	5th day treated	66.67	36.67	24.44	551.11	33.33	10.00	3.33	150.00

	10th day treated	66.67	60.00	40.00	853.33	33.33	46.51	15.50	66.67
	15th day treated	100.00	68.67	68.67	1220.00	33.33	23.26	7.75	33.33
	20th day treated	66.67	64.00	42.67	746.67	33.33	23.26	7.75	33.33
	25th day treated	66.67	70.00	46.67	576.67	0.00	0.00	0.00	0.00
	30th day treated	66.67	22.00	14.67	173.33	0.00	0.00	0.00	0.00
	5th day treated	100.00	42.67	42.67	810.00	100.00	60.00	60.00	1150.00
	10th day treated	100.00	39.33	39.33	586.67	100.00	93.33	93.33	1293.33
	15th day treated	33.33	36.00	12.00	186.67	100.00	54.00	54.00	743.33
	20th day treated	33.33	10.00	3.33	133.33	66.67	55.00	36.67	446.67
	25th day treated	33.33	10.00	3.33	316.67	33.33	36.00	12.00	153.33
CM	30th day treated	0	0	0	0.00	0	0	0	0.00