

Supplementary material

Efficient inactivation and removal of a harmful marine algae— *Heterosigma akashiwo* by UV-assisted permanganate oxidation

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Table S1; Figure S1-S2

Table S1. Rate constants of KMnO₄ decay (k_{decay}) in the *H. akashiwo* samples treated with KMnO₄ and UV/KMnO₄ at dosages of 3, 5, and 7 mg L⁻¹.

Dosage (mg L ⁻¹)	Treatment	k_{decay}	SE	R^2
3	KMnO ₄	0.179	0.016	0.985
	UV/KMnO ₄	0.690	0.094	0.966
5	KMnO ₄	0.112	0.007	0.985
	UV/KMnO ₄	0.140	0.007	0.994
7	KMnO ₄	0.088	0.003	0.994
	UV/KMnO ₄	0.105	0.006	0.989

* SE : standard errors of k_{decay} ;

R^2 : correlation coefficients.

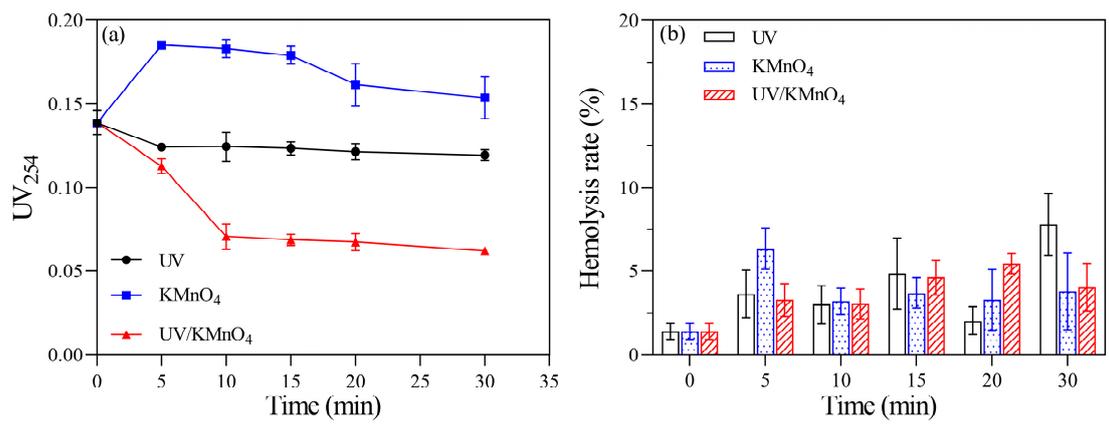


Figure S1. The water quality parameters of filtered algal culture treated with UV, KMnO₄ and UV/KMnO₄: (a) UV₂₅₄ and (b) hemolysis rate. Conditions: [KMnO₄]₀ = 5 mg L⁻¹, exposure time = 0–30 min.

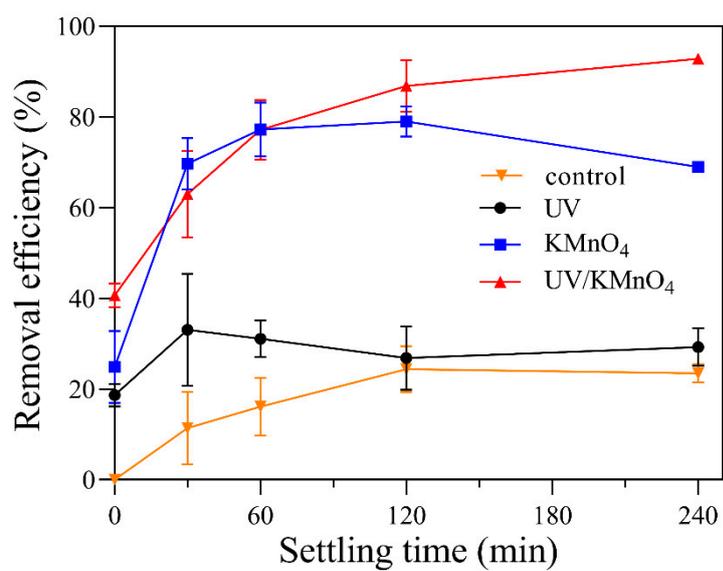


Figure S2. The R_s of *H. akashiwo* samples during self-settling process after various treatments. Conditions: $[KMnO_4]_0 = 5 \text{ mg L}^{-1}$, exposure time = 20 min.