

**Efficient removal of harmful algae from eutrophic natural water
by Mg(OH)₂ coated nanoscale zero-valent iron**

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Table S1-S2; Figure S1

Table S1. Water qualities of the filtered MHL water.

Water quality parameters	Value
pH	8.65
DOC (mg/L)	2.65
Cl ⁻ (mg/L)	179.54
SO ₄ ²⁻ (mg/L)	68.49
Total Fe (mg/L)	0.011
Total Mn (mg/L)	0.003
Nitrate (mg/L)	0.800
Phosphorus (mg/L)	0.012
Total alkalinity as CaCO ₃ (mg/L)	249.77

Table S2. XPS element concentration (atomic%) of *M. aeruginosa* after treatment with Fe⁰@Mg(OH)₂ at pre-determined time.

Element (%)	Iron (Fe)	Magnesium (Mg)	Oxygen (O)	Carbon (C)
0 h	1.33	0.54	32.10	66.04
1.5 h	1.73	2.31	38.89	57.07
6 h	3.07	4.12	43.95	48.86

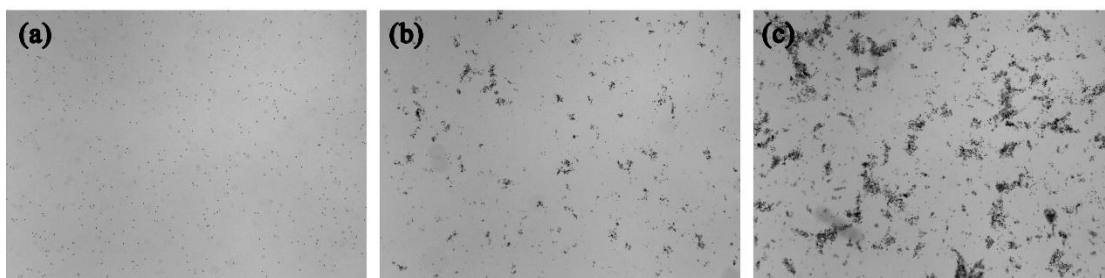


Fig. S1 Micrographs of *M. aeruginosa* samples (the initial cell density was 1.0×10^6 cells/mL) in the bottom, (a) control, (b) and (c) flocs after Fe⁰@Mg(OH)₂ (20 mg/L) treatment for 0.25 and 0.75 h.