

Appendix A. Supporting materials

Integrated inactivation of *Microcystis aeruginosa* by allelochemicals and a flow-through copper ionization cell: performance insights and mechanisms

Yuewen Zhang^{1,2,3,#}, Chen Wang^{1,2,3,#}, Yu Hong (✉)^{1,2,3}, Man Liang^{1,2,3}, Yujia Gao^{1,2,3},
Xing Xie⁴

1 Beijing Key Laboratory of Water Pollution Source Control Technology, Beijing Forestry University, Beijing 100083, China

2 Engineering Research Center of Beijing Higher Education University for Contaminated Water Source Control and Ecological Remediation Technology, Beijing Forestry University, Beijing 100083, China

3 Hebei Key Laboratory for Emerging Contaminants Control and Risk Management, College of Environmental Science and Engineering, Beijing Forestry University, Beijing 100083, China

4 School of Civil and Environmental Engineering, Georgia Institute of Technology, Atlanta GA 30332, USA

✉ Corresponding author
E-mail: yuhong829908@gmail.com

These authors contributed to the work equally and should be regarded as co-first authors.

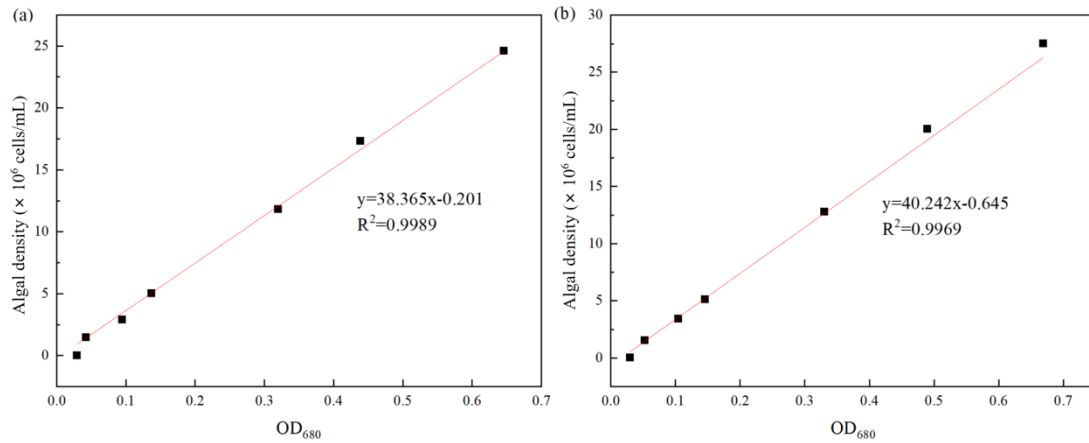


Fig. S1 Algal density-OD value curve of non-toxic (a) and toxic (b) *Microcystis aeruginosa*.

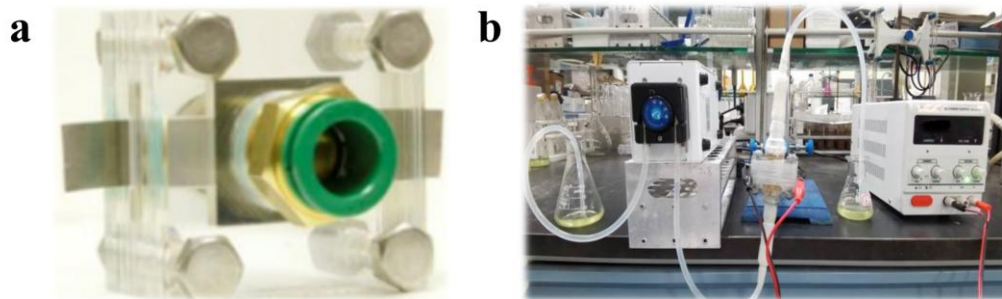


Fig. S2 The electrode device (a) and flow-through system driven by low voltage electric field (b).

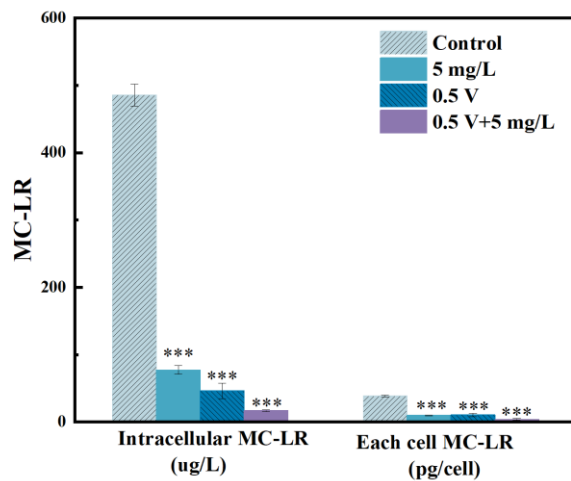


Fig. S3 Intracellular and each cell microcystin-LR (MC-LR) contents during the logarithmic growth phase.

Table S1 Experimental apparatus parameters

Parameter	Value/Specification	Basis/Standard
Electrode spacing	10 ± 0.5 mm	Based on the pre-experiment
Reaction chamber volume	10 mL	ISO standards
Water flow characteristics	Laminar flow	Controlled by a peristaltic pump
Structure of the plexiglass electrode bracket	Square sealed reactor made of acrylic material	Customized design (See Fig. S2)
Copper mesh electrode	60 mesh; 0.2 mm	ASTM E2016-16 Standard