

Revealing the characteristics of a novel bioflocculant and its flocculation performance in *Microcystis aeruginosa* removal

Pengfei Sun^a, Cai Hui^a, Naling Bai^a, Shengmao Yang^b, Li Wan^c, Qichun Zhang^{d*},
YuHua Zhao^{a*}

^a *College of Life Sciences, Zhejiang University, 310058 Hangzhou, Zhejiang, PR China*

^b *Institute of Environment Resource and Soil Fertilizer, Zhejiang Academy of Agriculture Science, 310021 Hangzhou, Zhejiang, China.*

^c *Department of Chemical and Biomolecular Engineering, Vanderbilt University, 37235-1604, Nashville, Tennessee, USA*

^d *College of Environmental and Resource Sciences, Zhejiang University, 310058 Hangzhou, Zhejiang, PR China*

* Corresponding authors.

Tel.: +86-571-88982413; E-mail address: qc Zhang@zju.edu.cn (Q.C. Zhang)

Tel. +86-571-88208557; E-mail address: microbeapply@zju.edu.cn (Y.H. Zhao)

1 AAGTATCCGGCGGTCTTCACGGTGTAGGGGCATCCGTCGTAACGCCTTGTGACCACTC
61 TTGACGTTACGGTTCATCGTAAGTATCCGGCGGTCTTCACGGTGTAGGGGCATCCGTCGT
121 AAACGCCTTGTGACCACTCTTGACGTTACGGTTCATCGTGACGGAAAAATCCATTATCA
181 GCGGTACGAGCGCGGTGTACCTGTGGCCGATCTTGAAGTGATCGGCGAAACTGATAAGAC
241 CGGAACGATTACGCACTTCGTTCCGGACCCGGAAATTTTCAAAGAAACAACGTGATATGA
301 CTATGATCTGCTTTCAAACCGTGTCCGGGAATTGGCCTTCCTGACAAAAGGCGTAAACAT
361 CACGATTGAAGACAAACGTGAAGGACAAGAACGGAAAAACGAGTACCACTACGAAGGCGG
421 AATCAAAGCTATGTTGAGTACTTAAACCGTTCCAAAGAAGTCGTTTCATGAAGAGCCGAT
481 TTATATTGAAGGCGAGAAAGACGGCATAACGGTTGAAGTTGCATTGCAATACAACGACAG
541 CTATACAAGCAATATTTATTCTTTCACAAATAATATCAACACATACGAAGGCGGCACGCA
601 CGAGGCCGGATTTAAACCGGTCTGACCCGTGCATAAACGACTATGCAAGAAGAAAAGG
661 GATTTTCAAAGAAAATGATCCGAATTTAAGCGGGGATGATGTGAGAGAAGGGCTGACTGC
721 CATTATTTCAATTAAGCACCCCTGATCCGCAATTCGAAGGGCAGACGAAAACCAAGCTCGG
781 CAACTCCGAAGCGAGAACGATCACTGATACGCTGTTTTCTTCTGCGCTGGAAACATTCTT
841 TCTTGAAAATCCGGACTCAGCCCGCAAATCGTTGAAAAAGGTTAATGGCCGCAAGAGC
901 GCGGATGGCGGCGAAAAAAGCCCGGAATTGACCCGGCGCAAAGTGCGCTTGAGATTTT
961 CAATCTGCCGGGCAAACGTGGCGGACTGTTCTTCTAAAGATCCGAGCATTTCGAGCTGTA
1021 TATCGTAGAGGGTACTCTGCGGGCGGATCAGCGAAACAGGGACGGGACCGTCATTTCCA
1081 AGCCATTCTGCCGCTGCGCGGTAAGATTCTGAACGTTGAGAAAGCCAGACTTGATAAGAT
1141 TCTCTCAAACAATGAGGTCAGATCAATGATCACGGCCCTCGGAACAGGAATCGGAGAAGA
1201 TTTAATCTTGAAAACGCGCGTTATCATAAAGTGGTC

Figure S1 Sequence of the *gyrB* gene of *Bacillus amyloliquefaciens* DT.

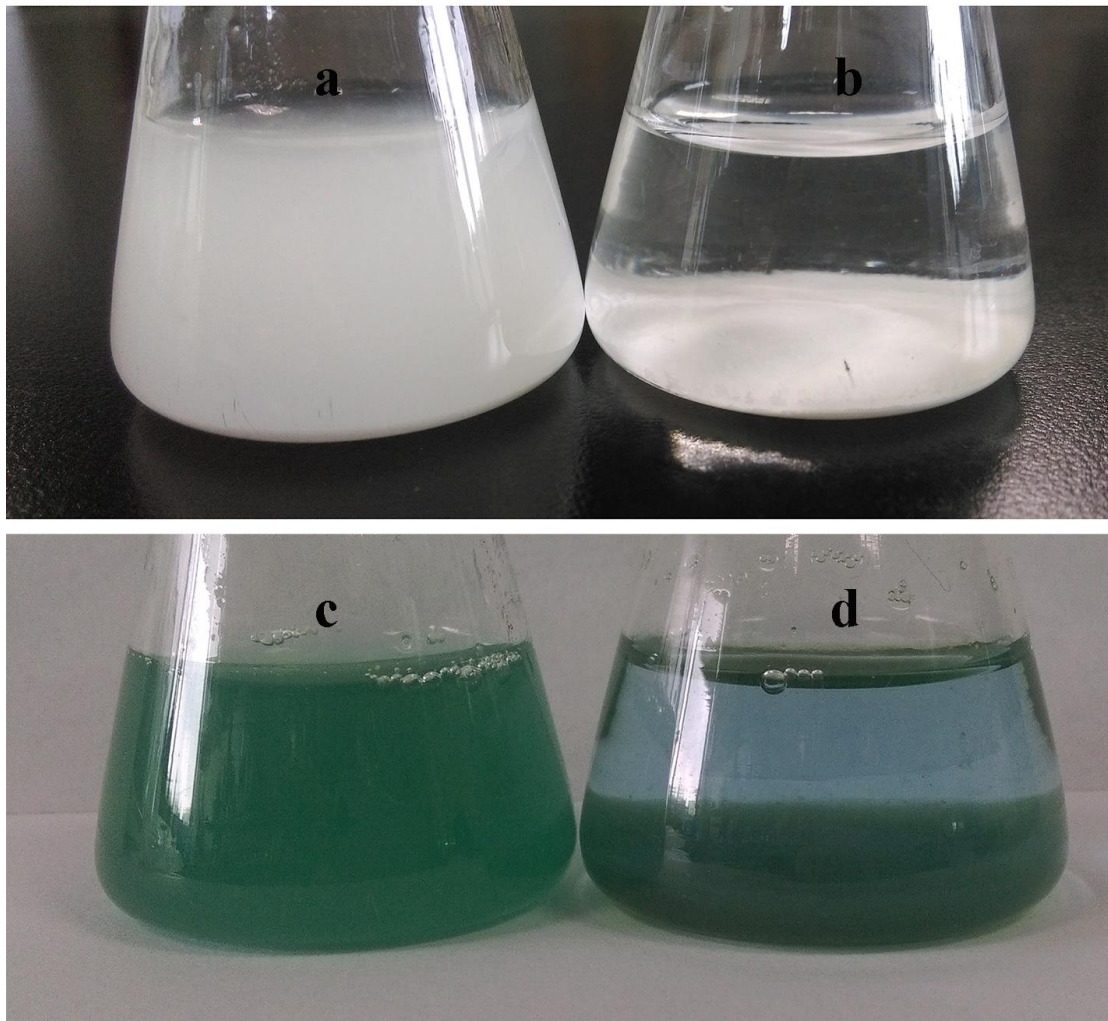


Figure S2 The actual effects of EPS-1 against kaolin suspensions and *Microcystis aeruginosa* cultures. (a) Untreated kaolin suspension; (b) EPS-1 treated kaolin suspension; (c) Untreated *Microcystis aeruginosa* culture; (d) EPS-1 treated *Microcystis aeruginosa* culture.