

Supplementary materials

Novel Strategy for Improvement of the Bioleaching Efficiency of *Acidithiobacillus ferrooxidans* Based on the AfeI/R Quorum Sensing System

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Table S1. List of the primers used in this study.

| Primer Name | Primer Sequence (5'-3') |
|------------------------|---|
| Construction primers | |
| QSUP-F | TTACGCGTCGACGTCTAGACGGATTCATCAACTCGCAGA |
| QSUP-R | TTTCGGGGTACCTCGCTCTGGCAGGCGGAGTTTC |
| QSDW-F | TTTCGGGGTACCCCGAAATTTCCGAATTCTG |
| QSDW-R | AAACGCGGATCCAAGCTTTGGACTCCCGCAGAAAGGAA |
| PQS-F | CCGCTCGAGGGGTACCCGGGAAAATGCGTCACGTC |
| PQS-R | TGGACTAGTGCTCTAGAGAGCAGCCCTTCAAATGGT |
| Identification primers | |
| P1-F | TTACGCGTCGACGTCTAGACGTGCCTTTACCAGGCTG |
| P1-R | TTTCGCGGATCCAAGCTTCCGTGTTAGAGGTGGATTCC |
| P2-F | ATCACGCTACCTGAAACAATCC |
| P2-R | AAACGGTGAGGTAATGCGC |
| P3-F | CTGGTATTCTGCGCTTGA |
| P3-R | TTGTCTATGAAAGCGAATCTACC |
| P4-F | ATACCGTAAAGCACGAGGAAG |
| P4-R | GAGCAGCCCTTCAAATGGT |
| RT-qPCR primers | |
| AFE_0042(tsd2)-F | TGGTCGTTCAAGCATCCG |
| AFE_0042(tsd2)-R | GCGTTCGCCTTCCATTTA |
| AFE_0043(sbp2)-F | GACAAATCCGCAACTCACGA |
| AFE_0043(sbp2)-R | TGCCACCCTGCTTCATCTG |
| AFE_0044(doxDA2)F | CCACTGGATGGCCTACAAAT |
| AFE_0044(doxDA2)R | CCGACAATCAGCATAAAGCCTG |
| AFE_0045(rhd1)-F | TGTGCCAGGTGCTCAGAATA |
| AFE_0045(rhd1)-R | CAAGGCGTAGGCGTCATAAC |
| AFE_0046(rhd2)-F | GATGACGCACTGGTGGATAA |
| AFE_0046(rhd2)-R | GCATTCCGCAGCATCACA |
| AFE_0047(resA)-F | TCTCGTCCATCGGCTCCT |
| AFE_0047(resA)-R | GGCCCACGTGACTTATCCTT |
| AFE_0048(doxDA1)F | CCAGTTGTCCAGGGAATAAGC |
| AFE_0048(doxDA1)R | GCTTGTCTTTCGTGCTGATG |
| AFE_0049(sbp1)-F | GGGTGCTCCTTCTCAAACG |
| AFE_0049(sbp1)-R | AATCCAGCGACCTCCAAA |
| AFE_0050(tsd1)-F | TGTTCCAGATGAAATCGTCGTA |
| AFE_0050(tsd1)-R | AGTCCGTGGCTGAACTTGAT |

Table S1. Cont.

| Primer Name | Primer Sequence (5'-3') |
|------------------|-------------------------|
| RT-qPCR primers | |
| AFE_2550(sdhC)-F | GGGAAATCCACGCTCACG |
| AFE_2550(sdhC)-R | CAACGGCCTGAAGATCGC |
| AFE_2551(hdrC)-F | GTTGCCCGGCACGTTTGA |
| AFE_2551(hdrC)-R | CGCCCACTGGATGGAAGA |
| AFE_2552(hyp)-F | GCGTTTCGTCTTTCCCCTAG |
| AFE_2552(hyp)-R | CGTGGAGCAGATGTTTACCG |
| AFE_2553(hdrA)-F | GCCAGATTCGTTGTCCTTC |
| AFE_2553(hdrA)-R | GGAAACGGTGCAACAGATC |
| AFE_2554(hdrB)-F | CGGATGTTGCTCATGTTCGAT |
| AFE_2554(hdrB)-R | GCGGGAGAAGGTCAAGAAGA |
| AFE_2555(hdrC)-F | GTCCATCGCATCAATCCC |
| AFE_2555(hdrC)-R | AGGTCTGGTCCGCTCTCGTC |
| AFE_2556(dsrE)-F | GTTATCCGCCCTTCATCCT |
| AFE_2556(dsrE)-R | CAGATGGCTCAAATCCTTC |
| AFE_2557(tusA)-F | CCGATTCTCCGCACCAA |
| AFE_2557(tusA)-R | GCTTCCGCCTGTTCCAA |
| AFE_2558(rhd)-F | ACAGGGAGGGGCGTTTA |
| AFE_2558(rhd)-R | CGAGCGGTTGCGATTTAT |
| AFE_2586(hdrB)-F | CAACTTCCATCAGGCCTAC |
| AFE_2586(hdrB)-R | TCTGGTGGACGGCAAGAT |
| AFE_0029(tetH)-F | TGTGGTCTATGCGGAAAG |
| AFE_0029(tetH)-R | GTTGGCGAAGTTGAAGGCT |
| AFE_0267(sqr)-F | ATACCTTCCGCAGCGAGTT |
| AFE_0267(sqr)-R | GGTAATGCAACAGATAACGCC |
| AFE_1792(sqr)-F | TGCCATGATCGTCGCTTCC |
| AFE_1792(sqr)-R | TTCCTTGAGGCCCTTCGTC |
| AFE_0269(sdo)-F | GAAACCAGCACCTACACCT |
| AFE_0269(sdo)-R | TGGGTATCGAGCACGTATG |
| AFE_2644(sdo)-F | ACATACCGATAACCCACCAG |
| AFE_2644(sdo)-R | TTCCTGAACGGAGCGGTA |
| AFE_2321(luxA)-F | GCTTTCCGGGCCATTCAA |
| AFE_2321(sdo)-R | GCCGCATCTTCCAAACATAA |
| AFE_2322(galE)-F | TTTATGGTGCTCAGCCCTCG |
| AFE_2322(galE)-R | CGGAATAGACGACTTGCGGTA |
| AFE_2323(galK)-F | ACAGCCTTATGTTTCTGGAGC |
| AFE_2323(galK)-R | CGCCGATGAGGATGGTAG |
| AFE_2324(pgm)-F | GAGAACGCACCCGACTTTG |
| AFE_2324(pgm)-R | GGCGATGCCTTTGAGACC |
| AFE_2325(galM)-F | GGTCACGGCTCTGCTCTTC |
| AFE_2325(galM)-R | TTCGCTATAAATGGCAATGGT |
| AFE_1497(OprD)-F | GATGTCGGCAGGGCGTAGT |
| AFE_1497(OprD)-R | ATGGCGGACCCAATGTGC |
| AFE_1991(TonB)-F | TGGTGTAACCCAGAGTGCC |
| AFE_1991(TonB)-R | ACCCTGCTGAATTTCAACGA |