|  |  |
| --- | --- |
| **Supplemental Table S1. Sequences of fragments used for vector construction** | |
| *Name of DNA Fragment* | *Sequence* |
| PacI-5xQUAS:mEmerald-AscI | ttaattaagaattcGGGTAATCGCTTATCCtcGGATAAACAATTATCCtcacGGGTAATCGCTTATCCgctcGGGTAATCGCTTATCCtcGGGTAATCGCTTATCCttgaagacctcctgcgcaagacccttcctctatataaggaagttcatttcatttggagaggactatttttacaacaattaccaacaacaacaaacaacaaacaacattacaattactatttacaattacaccatggtgagcaagggcgaggagctgttcaccggggtggtgcccatcctggtcgagctggacggcgacgtaaacggccacaagttcagcgtgtccggcgagggcgagggcgatgccacctacggcaagctgaccctgaagttcatctgcaccaccggcaagctgcccgtgccctggcccaccctcgtgaccaccttgacctacggcgtgcagtgcttcgcccgctaccccgaccacatgaagcagcacgacttcttcaagtccgccatgcccgaaggctacgtccaggagcgcaccatcttcttcaaggacgacggcaactacaagacccgcgccgaggtgaagttcgagggcgacaccctggtgaaccgcatcgagctgaagggcatcgacttcaaggaggacggcaacatcctggggcacaagctggagtacaactacaacagccacaaggtctatatcaccgccgacaagcagaagaacggcatcaaggtgaacttcaagacccgccacaacatcgaggacggcagcgtgcagctcgccgaccactaccagcagaacacccccatcggcgacggccccgtgctgctgcccgacaaccactacctgagcacccagtccaagctgagcaaagaccccaacgagaagcgcgatcacatggtcctgctggagttcgtgaccgccgccgggatcactctcggcatggacgagctgtacaagaggtgagtggcgcgcc |
| MfeI-Nos:QF-SpeI | caattggggtttctggagtttaatgagctaagcacatacgtcagaaaccattattgcgcgttcaaaagtcgcctaaggtcactatcagctagcaaatatttcttgtcaaaatgctccactgacgttccataaattcccctcggtatccaattagagtctcatattcactctcaatccaaataatctgcaggtctccctaggATGCCGCCTAAACGCAAGACACTCAATGCCGCTGCCGAAGCCAATGCCCACGCTGATGGCCATGCTGATGGCAATGCTGATGGTCATGTCGCTAACACTGCAGCAAGCAGCAACAACGCCCGTTTTGCGGACTTGACCAACATTGACACACCCGGCCTCGGCCCTACCACGACGACGTTACTTGTCGAGCCCGCTCGTTCGAAACGCCAGAGAGTCTCGAGGGCCTGTGATCAGTGTCGAGCTGCACGTGAAAAGTGTGATGGAATCCAGCCGGCTTGCTTCCCCTGTGTGTCGCAGGGCCGGTCGTGTACCTACCAGGCCAGTCCCAAGAAGCGAGGAGTCCAGACGGGCTACATCCGCACTCTCGAACTGGCTCTGGCTTGGATGTTCGAGAACGTTGCCCGCAGCGAGGACGCCCTCCACAATCTTTTGGTCCGTGATGCTGGCCAGGGCAGCGCTCTCCTGGTCGGCAAAGACTCGCCTGCTGCAGAACGCCTGCATGCAAGATGGGCGACGAGTCGAGTCAACAAAAGCATCACCCGTCTTCTCTCAGGTCAGGCCGCACAAGATCCATCTGAAGACGGCCAATCCCCGTCCGAAGACATAAATGTCCAAGATGCCGGGGCAAAGACATCCGACTTCCCTCATGCGCCTCACTTGACTTTCTCGGCGCCTAAGTCTAGTACAGCTGAGACACGCACTCTACCAGGCCCGGTCCGACCACCTATTTCGGCAAACACCCTGGAAAACAACCTTCAGCCAGATGGTACCGGGATAGGGAAGCTACCACCCAATCATTGGCGCCTGCTGGATATCTACTTTTCCTACACGCATTCTTGGCTCCCTATCCTCGAGAAGAAAGACATGTACCAAGCATTGTACCAGTACTCTGAACAAGGCTCGTTGCTTCCCTCTGCGAATGTCGAGTCTGGCGTTCATGCCGAGCTCTGGAGCGCGCTCGCCCTGGCGTCCTTCCAGGCTGCTGCTACTGCTGCATCGAGTGCTACGGGTCCAGCTTCAGCTGCTCATGGCCATGACAATGCCATCAATCCTTCACCTGCAGACATATCTGACACAGCCCGAAAGCTCATACCTTTGGAAAGCGGGCCGTTCCAGGTTCAGCACTGCAGAGCGTTGCTGCTTCTTTGTCTCGTAAGCCTTGGGCGGGATGATTGGGAGTCTGCTTGGTTGCTGGTTGGCTTTGCGGTCCGCGTCCTACTTGTTGTTCGCACCCAGTTGCCTCCTGATGATGACCGGCCACGACCAAGAATGCGTGCGCTGCTCGTCGCGTGCTTCATCGTGGATACCATTGTGTCTATGAGACACAACGTGCCGGCCCATCTCAAGCCAGACGACATTGCGGATCTGCCGTTACCTGAAGACGGTCAAGATCAATGGGAGCCGTGGACACCATGTGAGGGCTTAGGCGGTGAACACACCATGCTGCAAATGTTGAGGAACCCGGCATACCCTTTAAGCACATTCAACCACCTATATGGCGTGACCAAGCTGGTTGCTTTGGAGCTTCTGCCAAGAATACGAACATCTTCACAGAACGCTCCCTTGGAGTTCAGGTCGCGGTTGCAGCAGGTAATCGGCCACAATTCTCCCTTCAGCGTCTTTGTCCTTTCCCAGGATACAGCATCGGCTTTTGTGCCTACTGCATACCTTACCCGTACCGTTTATTTATGGGCAGCTGCCTTTTCTGAGCCTCTCAACGAACACTACTCGCATCTTCTGATCGAAACTCTTGATCAGTATCAGAAGCGGTTTGGTACATATGCAATCCCACCTCTGATCCCTTCTCTTCTAGACTCCCTTCTTGCTTTAAAGAAACAATCACATTCTTCAGAGCGGCATCGAAGGCACTTGGAAGAGCTTTTCCCCGCCTACTCCTCCATTTGGCCTCGGGGAGGCCGACACAGCAATACTGGCCTCCAACCCATACGACAACTTGAGCTTCCGCCGACTGCGACTGCCACTGCAAGTATCATGCCCCATGTCATGGAACAGCCCCTGTCAACGTCAATAAATCCGGTCAATGATCGGTTTAATGGAATACCGAATCCTACCCCCTACAATAGCGATGCGGCCCTAGACGCAATTACTCAAACCAATGACTACGGATCAGTCAATACCCATGGCATTCTCAGTACATATCCACCACCTGCCACCCACTTGAACGAGGCCTCGGTGGCCCTTGCGCCTGGAGGTGCTCCTCCCAGACCACCCCCGCCATACGTTGATAGTACAACGAACCATCCTCCTTACCATAGTAACCTCGTCCCCATGGCCAATTTCGGATATTCGACTGTAGACTATGATGCGATGGTGGATGATCTGGCATCGATCGAGTACACGGATGCGGTTGACGTTGATCCGCAGTTCATGACGAACCTCGGGTTTGTCCCAGGGTGTAATTTTAGCGATATCAACACGTATGAGCAATAGtaaactagt |
| MfeI-Nos:QF2-SpeI | caattggggtttctggagtttaatgagctaagcacatacgtcagaaaccattattgcgcgttcaaaagtcgcctaaggtcactatcagctagcaaatatttcttgtcaaaatgctccactgacgttccataaattcccctcggtatccaattagagtctcatattcactctcaatccaaataatctgcaggtctccctaggATGCCACCCAAGCGCAAAACGCTTAACGCTGCGGCTGAGGCTAACGCTCATGCCGACGGACACGCCGACGGAAACGCCGACGGACACGTGGCCAATACGGCCGCGTCCTCGAATAATGCGAGGTTCGCTGATCTCACTAACATCGATACTCCGGGTCTGGGACCCACAACTACGACCCTGCTCGTGGAACCAGCACGCTCAAAGCGTCAACGAGTGTCCCGCGCATGCGACCAGTGCCGTGCAGCCCGAGAGAAATGCGACGGAATACAGCCTGCGTGTTTCCCGTGCGTTTCCCAGGGAAGGTCCTGCACTTATCAGGCTTCGCCGAAAAAGAGGGGAGTTCAAACCGGTTATATTCGTACGCTGGAGCTCGCCCTCGCCTGGATGTTTGAAAATGTCGCGCGTTCCGAAGATGCCTTGCATAACCTCCTCGTCCGTGACGCCGGACAAGGATCAGCTCTGCTCGTTGGTAAAGATTCGCCGGCTGCCGAGCGACTCCATGCCCGTTGGGCTACTAGCCGTGTCAATAAGAGCATTACCCGCCTCCTCCGTCAGTTGGAGCTCCCTCCTACCGCCACGGCTACGGCCTCGATAATGCCGCACGTGATGGAGCAGCCTCTCAGTACCAGCATTAACCCCGTCAACGACCGCTTCAACGGTATTCCCAACCCCACTCCGTATAACTCCGATGCAGCTCTCGATGCTATCACTCAGACCAACGATTATGGAAGCGTAAATACACATGGTATCCTCTCTACTTACCCGCCACCGGCTACGCACCTTAATGAAGCTTCCGTCGCTCTCGCTCCCGGTGGCGCCCCCCCCCGACCGCCTCCTCCGTATGTTGACAGCACGACCAATCACCCGCCGTACCACTCGAATCTGGTTCCAATGGCGAACTTTGGTTACTCGACCGTTGATTACGATGCCATGGTTGACGATTTGGCTAGCATTGAATACACGGACGCTGTGGATGTCGACCCACAGTTTATGACCAATCTGGGATTCGTTCCTGGATGTAACTTCTCCGACATTAATACATACGAACAGTGATGAtaaactagt |
| MfeI-Nos:QF2w-SpeI | caattggggtttctggagtttaatgagctaagcacatacgtcagaaaccattattgcgcgttcaaaagtcgcctaaggtcactatcagctagcaaatatttcttgtcaaaatgctccactgacgttccataaattcccctcggtatccaattagagtctcatattcactctcaatccaaataatctgcaggtctccctaggATGCCACCCAAGCGCAAAACGCTTAACGCTGCGGCTGAGGCTAACGCTCATGCCGACGGACACGCCGACGGAAACGCCGACGGACACGTGGCCAATACGGCCGCGTCCTCGAATAATGCGAGGTTCGCTGATCTCACTAACATCGATACTCCGGGTCTGGGACCCACAACTACGACCCTGCTCGTGGAACCAGCACGCTCAAAGCGTCAACGAGTGTCCCGCGCATGCGACCAGTGCCGTGCAGCCCGAGAGAAATGCGACGGAATACAGCCTGCGTGTTTCCCGTGCGTTTCCCAGGGAAGGTCCTGCACTTATCAGGCTTCGCCGAAAAAGAGGGGAGTTCAAACCGGTTATATTCGTACGCTGGAGCTCGCCCTCGCCTGGATGTTTGAAAATGTCGCGCGTTCCGAAGATGCCTTGCATAACCTCCTCGTCCGTGACGCCGGACAAGGATCAGCTCTGCTCGTTGGTAAAGATTCGCCGGCTGCCGAGCGACTCCATGCCCGTTGGGCTACTAGCCGTGTCAATAAGAGCATTACCCGCCTCCTCCGTCAGTTGGAGCTCCCTCCTACCGCCACGGCTACGGCCTCGATAATGCCGCACGTGATGGAGCAGCCTCTCAGTACCAGCATTAACCCCGTCAACGACCGCTTCAACGGTATTCCCAACCCCACTCCGTATAACTCCGATGCAGCTCTCGATGCTATCACTCAGACCAACGATTATGGAAGCGTAAATACACATGGTATCCTCTCTACTTACCCGCCACCGGCTACGCACCTTAATGAAGCTTCCGTCGCTCTCGCTCCCGGTGGCGCCCCCCCCCGACCGCCTCCTCCGTATGTTGACAGCACGACCAATCACCCGCCGTACCACTCGAATCTGGTTCCAATGGCGAACTTTGGTTACTCGACCGTTGATTACGATGCCATGGTTGACGATTTGGCTAGCATTGAATACACGGACGCTGTGGATGTCGACCCACAGTTTATGACCAATCTGGGATTCGTTCCTGGATGTAACTTCTCCGACATTAATACATACAAAAAGAAGAAATGATGAtaaactagt |
| MfeI-35S:QF-SpeI | caattgtgagacttttcaacaaagggtaatatccggaaacctcctcggattccattgcccagctatctgtcactttattgtgaagatagtggaaaaggaaggtggctcctacaaatgccatcattgcgataaaggaaaggccatcgttgaagatgcctctgccgacagtggtcccaaagatggacccccacccacgaggagcatcgtggaaaaagaagacgttccaaccacgtcttcaaagcaagtggattgatgtgatatctccactgacgtaagggatgacgcacaatcccactatccttcgcaagacccttcctctatataaggaagttcatttcatttggagaggacggtctccctaggATGCCGCCTAAACGCAAGACACTCAATGCCGCTGCCGAAGCCAATGCCCACGCTGATGGCCATGCTGATGGCAATGCTGATGGTCATGTCGCTAACACTGCAGCAAGCAGCAACAACGCCCGTTTTGCGGACTTGACCAACATTGACACACCCGGCCTCGGCCCTACCACGACGACGTTACTTGTCGAGCCCGCTCGTTCGAAACGCCAGAGAGTCTCGAGGGCCTGTGATCAGTGTCGAGCTGCACGTGAAAAGTGTGATGGAATCCAGCCGGCTTGCTTCCCCTGTGTGTCGCAGGGCCGGTCGTGTACCTACCAGGCCAGTCCCAAGAAGCGAGGAGTCCAGACGGGCTACATCCGCACTCTCGAACTGGCTCTGGCTTGGATGTTCGAGAACGTTGCCCGCAGCGAGGACGCCCTCCACAATCTTTTGGTCCGTGATGCTGGCCAGGGCAGCGCTCTCCTGGTCGGCAAAGACTCGCCTGCTGCAGAACGCCTGCATGCAAGATGGGCGACGAGTCGAGTCAACAAAAGCATCACCCGTCTTCTCTCAGGTCAGGCCGCACAAGATCCATCTGAAGACGGCCAATCCCCGTCCGAAGACATAAATGTCCAAGATGCCGGGGCAAAGACATCCGACTTCCCTCATGCGCCTCACTTGACTTTCTCGGCGCCTAAGTCTAGTACAGCTGAGACACGCACTCTACCAGGCCCGGTCCGACCACCTATTTCGGCAAACACCCTGGAAAACAACCTTCAGCCAGATGGTACCGGGATAGGGAAGCTACCACCCAATCATTGGCGCCTGCTGGATATCTACTTTTCCTACACGCATTCTTGGCTCCCTATCCTCGAGAAGAAAGACATGTACCAAGCATTGTACCAGTACTCTGAACAAGGCTCGTTGCTTCCCTCTGCGAATGTCGAGTCTGGCGTTCATGCCGAGCTCTGGAGCGCGCTCGCCCTGGCGTCCTTCCAGGCTGCTGCTACTGCTGCATCGAGTGCTACGGGTCCAGCTTCAGCTGCTCATGGCCATGACAATGCCATCAATCCTTCACCTGCAGACATATCTGACACAGCCCGAAAGCTCATACCTTTGGAAAGCGGGCCGTTCCAGGTTCAGCACTGCAGAGCGTTGCTGCTTCTTTGTCTCGTAAGCCTTGGGCGGGATGATTGGGAGTCTGCTTGGTTGCTGGTTGGCTTTGCGGTCCGCGTCCTACTTGTTGTTCGCACCCAGTTGCCTCCTGATGATGACCGGCCACGACCAAGAATGCGTGCGCTGCTCGTCGCGTGCTTCATCGTGGATACCATTGTGTCTATGAGACACAACGTGCCGGCCCATCTCAAGCCAGACGACATTGCGGATCTGCCGTTACCTGAAGACGGTCAAGATCAATGGGAGCCGTGGACACCATGTGAGGGCTTAGGCGGTGAACACACCATGCTGCAAATGTTGAGGAACCCGGCATACCCTTTAAGCACATTCAACCACCTATATGGCGTGACCAAGCTGGTTGCTTTGGAGCTTCTGCCAAGAATACGAACATCTTCACAGAACGCTCCCTTGGAGTTCAGGTCGCGGTTGCAGCAGGTAATCGGCCACAATTCTCCCTTCAGCGTCTTTGTCCTTTCCCAGGATACAGCATCGGCTTTTGTGCCTACTGCATACCTTACCCGTACCGTTTATTTATGGGCAGCTGCCTTTTCTGAGCCTCTCAACGAACACTACTCGCATCTTCTGATCGAAACTCTTGATCAGTATCAGAAGCGGTTTGGTACATATGCAATCCCACCTCTGATCCCTTCTCTTCTAGACTCCCTTCTTGCTTTAAAGAAACAATCACATTCTTCAGAGCGGCATCGAAGGCACTTGGAAGAGCTTTTCCCCGCCTACTCCTCCATTTGGCCTCGGGGAGGCCGACACAGCAATACTGGCCTCCAACCCATACGACAACTTGAGCTTCCGCCGACTGCGACTGCCACTGCAAGTATCATGCCCCATGTCATGGAACAGCCCCTGTCAACGTCAATAAATCCGGTCAATGATCGGTTTAATGGAATACCGAATCCTACCCCCTACAATAGCGATGCGGCCCTAGACGCAATTACTCAAACCAATGACTACGGATCAGTCAATACCCATGGCATTCTCAGTACATATCCACCACCTGCCACCCACTTGAACGAGGCCTCGGTGGCCCTTGCGCCTGGAGGTGCTCCTCCCAGACCACCCCCGCCATACGTTGATAGTACAACGAACCATCCTCCTTACCATAGTAACCTCGTCCCCATGGCCAATTTCGGATATTCGACTGTAGACTATGATGCGATGGTGGATGATCTGGCATCGATCGAGTACACGGATGCGGTTGACGTTGATCCGCAGTTCATGACGAACCTCGGGTTTGTCCCAGGGTGTAATTTTAGCGATATCAACACGTATGAGCAATAGtaaactagt |
| MfeI-35S:QF2-SpeI | caattgtgagacttttcaacaaagggtaatatccggaaacctcctcggattccattgcccagctatctgtcactttattgtgaagatagtggaaaaggaaggtggctcctacaaatgccatcattgcgataaaggaaaggccatcgttgaagatgcctctgccgacagtggtcccaaagatggacccccacccacgaggagcatcgtggaaaaagaagacgttccaaccacgtcttcaaagcaagtggattgatgtgatatctccactgacgtaagggatgacgcacaatcccactatccttcgcaagacccttcctctatataaggaagttcatttcatttggagaggacggtctccctaggATGCCACCCAAGCGCAAAACGCTTAACGCTGCGGCTGAGGCTAACGCTCATGCCGACGGACACGCCGACGGAAACGCCGACGGACACGTGGCCAATACGGCCGCGTCCTCGAATAATGCGAGGTTCGCTGATCTCACTAACATCGATACTCCGGGTCTGGGACCCACAACTACGACCCTGCTCGTGGAACCAGCACGCTCAAAGCGTCAACGAGTGTCCCGCGCATGCGACCAGTGCCGTGCAGCCCGAGAGAAATGCGACGGAATACAGCCTGCGTGTTTCCCGTGCGTTTCCCAGGGAAGGTCCTGCACTTATCAGGCTTCGCCGAAAAAGAGGGGAGTTCAAACCGGTTATATTCGTACGCTGGAGCTCGCCCTCGCCTGGATGTTTGAAAATGTCGCGCGTTCCGAAGATGCCTTGCATAACCTCCTCGTCCGTGACGCCGGACAAGGATCAGCTCTGCTCGTTGGTAAAGATTCGCCGGCTGCCGAGCGACTCCATGCCCGTTGGGCTACTAGCCGTGTCAATAAGAGCATTACCCGCCTCCTCCGTCAGTTGGAGCTCCCTCCTACCGCCACGGCTACGGCCTCGATAATGCCGCACGTGATGGAGCAGCCTCTCAGTACCAGCATTAACCCCGTCAACGACCGCTTCAACGGTATTCCCAACCCCACTCCGTATAACTCCGATGCAGCTCTCGATGCTATCACTCAGACCAACGATTATGGAAGCGTAAATACACATGGTATCCTCTCTACTTACCCGCCACCGGCTACGCACCTTAATGAAGCTTCCGTCGCTCTCGCTCCCGGTGGCGCCCCCCCCCGACCGCCTCCTCCGTATGTTGACAGCACGACCAATCACCCGCCGTACCACTCGAATCTGGTTCCAATGGCGAACTTTGGTTACTCGACCGTTGATTACGATGCCATGGTTGACGATTTGGCTAGCATTGAATACACGGACGCTGTGGATGTCGACCCACAGTTTATGACCAATCTGGGATTCGTTCCTGGATGTAACTTCTCCGACATTAATACATACGAACAGTGATGAtaaactagt |
| MfeI-35S:QF2w-SpeI | caattgtgagacttttcaacaaagggtaatatccggaaacctcctcggattccattgcccagctatctgtcactttattgtgaagatagtggaaaaggaaggtggctcctacaaatgccatcattgcgataaaggaaaggccatcgttgaagatgcctctgccgacagtggtcccaaagatggacccccacccacgaggagcatcgtggaaaaagaagacgttccaaccacgtcttcaaagcaagtggattgatgtgatatctccactgacgtaagggatgacgcacaatcccactatccttcgcaagacccttcctctatataaggaagttcatttcatttggagaggacggtctccctaggATGCCACCCAAGCGCAAAACGCTTAACGCTGCGGCTGAGGCTAACGCTCATGCCGACGGACACGCCGACGGAAACGCCGACGGACACGTGGCCAATACGGCCGCGTCCTCGAATAATGCGAGGTTCGCTGATCTCACTAACATCGATACTCCGGGTCTGGGACCCACAACTACGACCCTGCTCGTGGAACCAGCACGCTCAAAGCGTCAACGAGTGTCCCGCGCATGCGACCAGTGCCGTGCAGCCCGAGAGAAATGCGACGGAATACAGCCTGCGTGTTTCCCGTGCGTTTCCCAGGGAAGGTCCTGCACTTATCAGGCTTCGCCGAAAAAGAGGGGAGTTCAAACCGGTTATATTCGTACGCTGGAGCTCGCCCTCGCCTGGATGTTTGAAAATGTCGCGCGTTCCGAAGATGCCTTGCATAACCTCCTCGTCCGTGACGCCGGACAAGGATCAGCTCTGCTCGTTGGTAAAGATTCGCCGGCTGCCGAGCGACTCCATGCCCGTTGGGCTACTAGCCGTGTCAATAAGAGCATTACCCGCCTCCTCCGTCAGTTGGAGCTCCCTCCTACCGCCACGGCTACGGCCTCGATAATGCCGCACGTGATGGAGCAGCCTCTCAGTACCAGCATTAACCCCGTCAACGACCGCTTCAACGGTATTCCCAACCCCACTCCGTATAACTCCGATGCAGCTCTCGATGCTATCACTCAGACCAACGATTATGGAAGCGTAAATACACATGGTATCCTCTCTACTTACCCGCCACCGGCTACGCACCTTAATGAAGCTTCCGTCGCTCTCGCTCCCGGTGGCGCCCCCCCCCGACCGCCTCCTCCGTATGTTGACAGCACGACCAATCACCCGCCGTACCACTCGAATCTGGTTCCAATGGCGAACTTTGGTTACTCGACCGTTGATTACGATGCCATGGTTGACGATTTGGCTAGCATTGAATACACGGACGCTGTGGATGTCGACCCACAGTTTATGACCAATCTGGGATTCGTTCCTGGATGTAACTTCTCCGACATTAATACATACAAAAAGAAGAAATGATGAtaaactagt |
| EcoRI-QS-AscI | GAATTCATGAACACCATCCCGGCACGCCATGTCGGGGATGTCGCCGCCCGCGATCCTCTACCTCTACCGCACATATCATCCTCCGTCGCCAGCGGCATGAAGCGTTCCTTCGCAACCATGGCCATGCTCTACAACGACACTGGCAACAGCAACGATGTCGGTGCCCATGCCAGGCGACCACCACGAACCCTCTCCAATAGTCGGAGCACTTCCGCCCACAGAGTACCTCTAGGCTCTTGGTCGGCGCCCAATTCCCCGCCCCGCCGTGCGCTGCCGCATCATCCCATCACCGCCAGCTTCGATCCCGATGCTTCCATTGTTATCGCCGGCATTCGTGGCGCTGGCAAGTCTACGCTGGCCATCATGGCATCTACCGCCATGAAGCGCAAGATAGTCGACCTGGAATCCGAGTTCCATCATCTTACTGGCTTGTCTAGTTCCAGCTACAAGAAGACACACGGCCCGGTCGACTATGGGAGGCGCCAGATCGCCATCTTGCAGAACATCTTGAATCTGCACAGGACCCGCGCCATTCTCGTCTGCTCTTGGCTGGAGCGGGATGTGCAGGCCATGTTGCAGGATTTCAGCGTGTCTAATCCTGTCATTTACGTTCTGCGCGATGCCAAAGCTATCGAGGCCCATCTGAAGGGATACGACAAGTCCAAAGTTGGCACCCTCCTTGATGCCACCAGTACTGTCCTTCGCCGCTGCACCCGTTTCGAGTTCTTCAACGTCTCCGAAGAGAACCTGGACACCCACTCCGCTTCAACATCACCACCTGCTGTTCCGGACCAGCGGCATACCGCGCCGTATCTAACGCTTAAACGAGCCGAGCGCCACTTCCTCAAATTTCTCTCCTTGATTCTACCCAAGGGGACCATACCTTTTGTCGAGTCCGCCTTTCCCCTGGCTTCCGTCCCCGTTGAACAGCGCCGCTTTACCTACGCCCTCGCCTTGCCTGTATCTGCCTTGCTCGACAAAGGCGTCGATATCCAAGAGCTTGATGTCGGTGTAGACGCAATCGAGATCATTGTAGACGATCTTGCAACGAGCGAATCCGGCCCAACGAGCCCCTTGGGTCTTGCGCCCCACCGAGCGAGCGAGATCAGTCGTGTTGTAGGCGAAATCAGGAGGGACACAGTGATCCCCATCATTCTGCACGTGGTCTTTCCAGAAAGAGCGCTATATGAAGAAGCTCTGCTCGCGCTTTACATGACTTACCTGAACCATGCCTTAAGGCTTGCGCCAGATTATCTTACGGTCGATCTGGGGCTCGATTCTGGCTTGCTTGGGCAACTAACCACCGTTCAAGGAACCACCAAGGTCATCGGCAATAAACAACTTGCAGAGGTCAATTCGCCGCGCTGGGGGGATCCATCTTGGTTACAAGCCTATGAAAAGGCCCAGAATACAGGATGCGACTTGGTAAGGTTGACCAGACCGGCTTCAAATCCCCGGGACAACACAGACATTCGGCAGTTCCACGTTGCTGTAGAGGCCGTCGGGGGTCCAAGGCTCCCATTTATTGCTTACAACACAGGACGCCTAGGTCGGACATCGATGTGTTTTAACGAGATCCTGACTCCAGTTACACCAGTGCCTACCAAGGAGGATGCAATCGGGCTCCGCAATCCAGCCCATCGCTATCTCCAGCCTCCGCTCACGGCTCTGGAAGCAACACAGGCTCTCTACTCGGCATTTGTCCACGACCCAATGAAGCTGTATGTCTTTGGCGCAAATGTGGGATATAGCTTGTCCCCAGCCATGCACAATGCCGCACTCAAGGCCTGTGGCATTCCACACCATTACAAGCCCCTTTCCACAGCAAACATCGGGACTTTGCGCGAGGTTATCAGCGATCCGCAGTTTGCTGGAGCCTCGGTCGGCCTGCCGTTTAAGGTGGAAATCATCAGCCTCACACACTCGCTGAGCCGGCACGCGAAAGCCATCGGAGCCGTCAACACCTTGATTCCGGTACGACACCTTACCGCGGACGGTGGAATACCGGACGAGGTGTCCATGTTCAACAATATCAGCCAAGCCGGCGCTGTCAGAGCTCTCTACGGCGAGAACACGGATTGGATTGGTATCCGAGCCTGCCTTCGCCGCGGTTTATCGCCCGCCAATGCCGTGAGATCAACAAGCACTGGTCTTGTCATCGGCGCTGGCGGAATGGCTAGGGCAGCTGTCTATGCCATGCTTCAACTGGGAGTCAAGAAGATTTTGATCTTTAACCGAACATTTGCTAATGCCGAGAAGCTGGTTCTACACTTCGAGAACCTGTTGGTCAGAGACGCATTGCCTCTGTTGAGCACAGGGCCAAGATCCCACGACAACACCTGTTTTCACATCATTCGATCTCGAGACGATCCGCTCCCAGAAAACTTCAAAAACCCGACCATGATCGTTTCCTGCATACCGACACACACAGTGGACAACACCCCTGACCCTGAATTTACTGTGCCTTTGCACTGGCTCGACAACCCCACTGGCGGCATTGTACTAGAACTCGACTACAAATGTCTCACATCACCCTTGCTCGAACAAACACGACGCGAGGCTCACAGAGGCTGGGTCGCAATGGATGGACTTGACCTCTTGCCAGAACAAGGGTTTGCCCAATTTGAACTGTTCACCGGGCGGCGAGCACCTCGTCGCTTGATGAGGCGCGAGGTTTTGCGAGCATACCCAGATGATCAAGCAAAATCTCATACCGCGCAGTTACAGCCTCGCCTCAACGGAATTGCAACGCAAATATCTTGATAAGGCGCGCC |
| SpeI-2X35S-QS-PacI | ACTAGTCCGATCGTTCAAACATTTGGCAATAAAGTTTCTTAAGATTGAATCCTGTTGCCGGTCTTGCGATGATTATCATATAATTTCTGTTGAATTACGTTAAGCATGTAATAATTAACATGTAATGCATGACGTTATTTATGAGATGGGTTTTTATGATTAGAGTCCCGCAATTATACATTTAATACGCGATAGAAAACAAAATATAGCGCGCAAACTAGGATAAATTATCGCGCGCGGTGTCATCTATGTTACTAGATCGGGAATCCTCGAGGAGATTAGCCTTTTCAATTTCAGAAAGAATGCTAACCCACAGATGGTTAGAGAGGCTTACGCAGCAGGTCTCATCAAGACGATCTACCCGAGCAATAATCTCCAGGAAATCAAATACCTTCCCAAGAAGGTTAAAGATGCAGTCAAAAGATTCAGGACTAACTGCATCAAGAACACAGAGAAAGATATATTTCTCAAGATCAGAAGTACTATTCCAGTATGGACGATTCAAGGCTTGCTTCACAAACCAAGGCAAGTAATAGAGATTGGAGTCTCTAAAAAGGTAGTTCCCACTGAATCAAAGGCCATGGAGTCAAAGATTCAAATAGAGGACCTAACAGAACTCGCCGTAAAGACTGGCGAACAGTTCATACAGAGTCTCTTACGACTCAATGACAAGAAGAAAATCTTCGTCAACATGGTGGAGCACGACACACTTGTCTACTCCAAAAATATCAAAGATACAGTCTCAGAAGACCAAAGGGCAATTGAGACTTTTCAACAAAGGGTAATATCCGGAAACCTCCTCGGATTCCATTGCCCAGCTATCTGTCACTTTATTGTGAAGATAGTGGAAAAGGAAGGTGGCTCCTACAAATGCCATCATTGCGATAAAGGAAAGGCCATCGTTGAAGATGCCTCTGCCGACAGTGGTCCCAAAGATGGACCCCCACCCACGAGGAGCATCGTGGAAAAAGAAGACGTTCCAACCACGTCTTCAAAGCAAGTGGATTGATGTGATATCTCCACTGACGTAAGGGATGACGCACAATCCCACTATCCTTCGCAAGACCCTTCCTCTATATAAGGAAGTTCATTTCATTTGGAGAGAACACGGGGGACTCTAGAGGATCCAAGGAGATATAACAATGAACACCATCCCGGCACGCCATGTCGGGGATGTCGCCGCCCGCGATCCTCTACCTCTACCGCACATATCATCCTCCGTCGCCAGCGGCATGAAGCGTTCCTTCGCAACCATGGCCATGCTCTACAACGACACTGGCAACAGCAACGATGTCGGTGCCCATGCCAGGCGACCACCACGAACCCTCTCCAATAGTCGGAGCACTTCCGCCCACAGAGTACCTCTAGGCTCTTGGTCGGCGCCCAATTCCCCGCCCCGCCGTGCGCTGCCGCATCATCCCATCACCGCCAGCTTCGATCCCGATGCTTCCATTGTTATCGCCGGCATTCGTGGCGCTGGCAAGTCTACGCTGGCCATCATGGCATCTACCGCCATGAAGCGCAAGATAGTCGACCTGGAATCCGAGTTCCATCATCTTACTGGCTTGTCTAGTTCCAGCTACAAGAAGACACACGGCCCGGTCGACTATGGGAGGCGCCAGATCGCCATCTTGCAGAACATCTTGAATCTGCACAGGACCCGCGCCATTCTCGTCTGCTCTTGGCTGGAGCGGGATGTGCAGGCCATGTTGCAGGATTTCAGCGTGTCTAATCCTGTCATTTACGTTCTGCGCGATGCCAAAGCTATCGAGGCCCATCTGAAGGGATACGACAAGTCCAAAGTTGGCACCCTCCTTGATGCCACCAGTACTGTCCTTCGCCGCTGCACCCGTTTCGAGTTCTTCAACGTCTCCGAAGAGAACCTGGACACCCACTCCGCTTCAACATCACCACCTGCTGTTCCGGACCAGCGGCATACCGCGCCGTATCTAACGCTTAAACGAGCCGAGCGCCACTTCCTCAAATTTCTCTCCTTGATTCTACCCAAGGGGACCATACCTTTTGTCGAGTCCGCCTTTCCCCTGGCTTCCGTCCCCGTTGAACAGCGCCGCTTTACCTACGCCCTCGCCTTGCCTGTATCTGCCTTGCTCGACAAAGGCGTCGATATCCAAGAGCTTGATGTCGGTGTAGACGCAATCGAGATCATTGTAGACGATCTTGCAACGAGCGAATCCGGCCCAACGAGCCCCTTGGGTCTTGCGCCCCACCGAGCGAGCGAGATCAGTCGTGTTGTAGGCGAAATCAGGAGGGACACAGTGATCCCCATCATTCTGCACGTGGTCTTTCCAGAAAGAGCGCTATATGAAGAAGCTCTGCTCGCGCTTTACATGACTTACCTGAACCATGCCTTAAGGCTTGCGCCAGATTATCTTACGGTCGATCTGGGGCTCGATTCTGGCTTGCTTGGGCAACTAACCACCGTTCAAGGAACCACCAAGGTCATCGGCAATAAACAACTTGCAGAGGTCAATTCGCCGCGCTGGGGGGATCCATCTTGGTTACAAGCCTATGAAAAGGCCCAGAATACAGGATGCGACTTGGTAAGGTTGACCAGACCGGCTTCAAATCCCCGGGACAACACAGACATTCGGCAGTTCCACGTTGCTGTAGAGGCCGTCGGGGGTCCAAGGCTCCCATTTATTGCTTACAACACAGGACGCCTAGGTCGGACATCGATGTGTTTTAACGAGATCCTGACTCCAGTTACACCAGTGCCTACCAAGGAGGATGCAATCGGGCTCCGCAATCCAGCCCATCGCTATCTCCAGCCTCCGCTCACGGCTCTGGAAGCAACACAGGCTCTCTACTCGGCATTTGTCCACGACCCAATGAAGCTGTATGTCTTTGGCGCAAATGTGGGATATAGCTTGTCCCCAGCCATGCACAATGCCGCACTCAAGGCCTGTGGCATTCCACACCATTACAAGCCCCTTTCCACAGCAAACATCGGGACTTTGCGCGAGGTTATCAGCGATCCGCAGTTTGCTGGAGCCTCGGTCGGCCTGCCGTTTAAGGTGGAAATCATCAGCCTCACACACTCGCTGAGCCGGCACGCGAAAGCCATCGGAGCCGTCAACACCTTGATTCCGGTACGACACCTTACCGCGGACGGTGGAATACCGGACGAGGTGTCCATGTTCAACAATATCAGCCAAGCCGGCGCTGTCAGAGCTCTCTACGGCGAGAACACGGATTGGATTGGTATCCGAGCCTGCCTTCGCCGCGGTTTATCGCCCGCCAATGCCGTGAGATCAACAAGCACTGGTCTTGTCATCGGCGCTGGCGGAATGGCTAGGGCAGCTGTCTATGCCATGCTTCAACTGGGAGTCAAGAAGATTTTGATCTTTAACCGAACATTTGCTAATGCCGAGAAGCTGGTTCTACACTTCGAGAACCTGTTGGTCAGAGACGCATTGCCTCTGTTGAGCACAGGGCCAAGATCCCACGACAACACCTGTTTTCACATCATTCGATCTCGAGACGATCCGCTCCCAGAAAACTTCAAAAACCCGACCATGATCGTTTCCTGCATACCGACACACACAGTGGACAACACCCCTGACCCTGAATTTACTGTGCCTTTGCACTGGCTCGACAACCCCACTGGCGGCATTGTACTAGAACTCGACTACAAATGTCTCACATCACCCTTGCTCGAACAAACACGACGCGAGGCTCACAGAGGCTGGGTCGCAATGGATGGACTTGACCTCTTGCCAGAACAAGGGTTTGCCCAATTTGAACTGTTCACCGGGCGGCGAGCACCTCGTCGCTTGATGAGGCGCGAGGTTTTGCGAGCATACCCAGATGATCAAGCAAAATCTCATACCGCGCAGTTACAGCCTCGCCTCAACGGAATTGCAACGCAAATATCTTGATAAGGCGCGCCCGATCGTTCAAACATTTGGCAATAAAGTTTCTTAAGATTGAATCCTGTTGCCGGTCTTGCGATGATTATCATATAATTTCTGTTGAATTACGTTAAGCATGTAATAATTAACATGTAATGCATGACGTTATTTATGAGATGGGTTTTTATGATTAGAGTCCCGCAATTATACATTTAATACGCGATAGAAAACAAAATATAGCGCGCAAACTAGGATAAATTATCGCGCGCGGTGTCATCTATGTTACTAGATCTTAATTAA |
| EcoRI-10xQUAS-BbsI | GAATTCGGGTAATCGCTTATCCTCGGATAAACAATTATCCTCACGGGTAATCGCTTATCCGCTCGGGTAATCGCTTATCCTCGGGTAATCGCTTATCCTTGGTAATCGCTTATCCTCGGATAAACAATTATCCTCACGGGTAATCGCTTATCCGCTCGGGTAATCGCTTATCCTCGGGTAATCGCTTATCCTTGAAGACCTCCTGC |
| EcoRI-15xQUAS-BbsI | GAATTCGGGTAATCGCTTATCCTCGGATAAACAATTATCCTCACGGGTAATCGCTTATCCGCTCGGGTAATCGCTTATCCTCGGGTAATCGCTTATCCTTGGTAATCGCTTATCCTCGGATAAACAATTATCCTCACGGGTAATCGCTTATCCGCTCGGGTAATCGCTTATCCTCGGGTAATCGCTTATCCTTGGTAATCGCTTATCCTCGGATAAACAATTATCCTCACGGGTAATCGCTTATCCGCTCGGGTAATCGCTTATCCTCGGGTAATCGCTTATCCTTGAAGACCTCCTGC |
| EcoRI-20xQUAS-BbsI | GAATTCGGGTAATCGCTTATCCTCGGATAAACAATTATCCTCACGGGTAATCGCTTATCCGCTCGGGTAATCGCTTATCCTCGGGTAATCGCTTATCCTTGGTAATCGCTTATCCTCGGATAAACAATTATCCTCACGGGTAATCGCTTATCCGCTCGGGTAATCGCTTATCCTCGGGTAATCGCTTATCCTTGGTAATCGCTTATCCTCGGATAAACAATTATCCTCACGGGTAATCGCTTATCCGCTCGGGTAATCGCTTATCCTCGGGTAATCGCTTATCCTTGGTAATCGCTTATCCTCGGATAAACAATTATCCTCACGGGTAATCGCTTATCCGCTCGGGTAATCGCTTATCCTCGGGTAATCGCTTATCCTTGAAGACCTCCTGC |
| EcoRI-25xQUAS-BbsI | GAATTCGGGTAATCGCTTATCCTCGGATAAACAATTATCCTCACGGGTAATCGCTTATCCGCTCGGGTAATCGCTTATCCTCGGGTAATCGCTTATCCTTGGTAATCGCTTATCCTCGGATAAACAATTATCCTCACGGGTAATCGCTTATCCGCTCGGGTAATCGCTTATCCTCGGGTAATCGCTTATCCTTGGTAATCGCTTATCCTCGGATAAACAATTATCCTCACGGGTAATCGCTTATCCGCTCGGGTAATCGCTTATCCTCGGGTAATCGCTTATCCTTGGTAATCGCTTATCCTCGGATAAACAATTATCCTCACGGGTAATCGCTTATCCGCTCGGGTAATCGCTTATCCTCGGGTAATCGCTTATCCTTGGTAATCGCTTATCCTCGGATAAACAATTATCCTCACGGGTAATCGCTTATCCGCTCGGGTAATCGCTTATCCTCGGGTAATCGCTTATCCTTGAAGACCTCCTGC |

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| **Supplemental Table S2. Primers used for qRT-PCR** | | |
| **Gene**​ | **Primer Sequence (5'-3')**​ | |
| **Forward**​ | **Reverse**​ |
| mEmerald ​ | AAGGGCATCGACTTCAAGGA                   ​ | ATGCCGTTCTTCTGCTTGTC  ​ |
| GAPDH​ | AGCTCAAGGGAATTCTCGATG​ | AACCTTAACCATGTCATCTCCC​ |
| QF ​ | CTATGATGCGATGGTGGATGA                 ​ | ATTACACCCTGGGACAAACC                  ​ |
| QS​ | GCGAGATCAGTCGTGTTGTAG  ​ | GCGAGCAGAGCTTCTTCATATAG​ |