

1 **Supplementary Data 4**

Supplementary Table 6. Sequences of minimal promoters (minP), promoters and GOI modules used in this study	
Module	Sequence
minP	
YB_TATA	TCTAGAGGGTATATAATGGGGGCCA
miniCMV	GTAGGCGTGTACGGTGGGAGGTCTATATAAGCAGAGCTCGTT TAGTGAACCGTCAGATC
miniTK	TTCGCATATTAAGGTGACGCGTGTGGCCTCGAACACCGAGC GACCCTGCAGCGACCCGCTTAA
lateADEp-5'UTR	AGACGCTAGCGGGGGGCTATAAAAGGGGGTGGGGGCGTTC GTCCTCACTCT AGATCTGCGATCTAAGTACAGCTTGGCATTCCGGTACTGTTGGTAAA
Promoter	
shEF1a	GGGCAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGG GGAGGGGTCGGCAATTGATCCGGTGCCTAGAGAAGGTGGCG CGGGGTAAACTGGGAAAGTGATGTCGTGTACTGGCTCCGCC TTTTTCCCGAGGGTGGGGGAGAACCGTATATAAGTGCAGTAG TCGCCGTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAA CACAGAT
pUAS	GGAGCACTGTCCTCCGAACGTCCGAGCACTGTCCTCCGAAC GTCGGAGCACTGTCCTCCGAACGTCCGAGCACTGTCCTCCG AACGGAGCATGTCCTCCGAACGTCCGAGCACTGTCCTCCGA ACGACTAGTTAGGCGTGACGGTGGGAGGCCTATATAAGCA GAGCTCGTTTAGTGAACCGTCAGATCGCCTGCAGACGCCATC CACGCTGTTTTGACCTCCATAGAAGACACCGGGACCGATCCA GCGCCACT
GOI	
mCherry	ATGGTGAGCAAGGGCGAGGAGGATAACATGGCCATCATCAA GGAGTTCATGCGCTTCAAGGTGCACATGGAGGGCTCCGTGA ACGGCCACGAGTTCGAGATCGAGGGCGAGGGCGAGGGCCG CCCCTACGAGGGCACCAGACCGCCAAGCTGAAGGTGACCA AGGGTGCCCCCTGCCCTTCGCCTGGGACATCCTGTCCCCT CAGTTCATGTACGGCTCCAAGGCCTACGTGAAGCACCCCGC CGACATCCCCGACTACTTGAAGCTGTCCTTCCCCGAGGGCTT CAAGTGGGAGCGCGTGATGAACTTCGAGGACGGCGGCGTG GTGACCGTGACCCAGGACTCCTCCCTGCAGGACGGCGAGTT CATCTACAAGGTGAAGCTGCGCGGCACCAACTTCCCCTCCGA CGGCCCCGTAATGCAGAAGAAGACCATGGGCTGGGAGGCCT CCTCCGAGCGGATGTACCCCGAGGACGGCGCCCTGAAGGG CGAGATCAAGCAGAGGCTGAAGCTGAAGGACGGCGGCCACT ACGACGCTGAGGTCAAGACCACCTACAAGGCCAAGAAGCCC GTGCAGCTGCCCGGCGCCTACAACGTCAACATCAAGTTGGA

	CATCACCTCCCACAACGAGGACTACACCATCGTGGAACAGTACGAACGCGCCGAGGGCCGCGCACTCCACCGGCGGCATGGACGAGCTGTACAAGTAG
EGFP	ATGGTGAGCAAGGGGCGAGGAGCTGTTACCGGGGTGGTGCCCATCCTGGTTCGAGCTGGACGGCGACGTAAACGGCCACAAGTTCAGCGTGTCCGGCGAGGGCGAGGGCGATGCCACCTACGGCAAGCTGACCCTGAAGTTCATCTGCACCACCGGCAAGCTGCCCGTGCCCTGGCCCACCCTCGTGACCACCCTGACCTACGGCGTGCAAGTGCTTCAGCCGCTACCCCGACCACATGAAGCAGCACGACTTCTTCAAGTCCGCCATGCCCCGAAGGCTACGTCCAGGAGCGCACCATCTTCTTCAAGGACGACGGCAACTACAAGACCCGCGCCGAGGTGAAGTTCGAGGGCGACACCCTGGTGAACCGCATCGAGCTGAAGGGCATCGACTTCAAGGAGGACGGCAACATCTGGGGCACAAGCTGGAGTACAACAGCCACAACGTCTATATCATGGCCGACAAGCAGAAGAACGGCATCAAGGTGAACCTTCAAGATCCGCCACAACATCGAGGACGGCAGCGTGCAGCTCGCCGACCACTACCAGCAGAACACCCCCATCGGCGACGGCCCCGTGCTGCTGCCCCGACAACCACTACCTGAGCACCCAGTCGCCCCTGAGCAAAGACCCCAACGAGAAGCGCGATCACATGGTCCTGCTGGAGTTCGTGACCGCCGCGGGGATCACTCTCGGCATGGACGAGCTGTACAAGGGTTCTCCAGCCGGCTGGAGGAGGAGCTGAGAAGAAGACTGACCGAACC CGGATCCTAA
EGFP-DR	ATGGTGAGCAAGGGGCGAGGAGCTGTTACCGGGGTGGTGCCCATCCTGGTTCGAGCTGGACGGCGACGTAAACGGCCACAAGTTCAGCGTGTCCGGCGAGGGCGAGGGCGATGCCACCTACGGCAAGCTGACCCTGAAGTTCATCTGCACCACCGGCAAGCTGCCCGTGCCCTGGCCCACCCTCGTGACCACCCTGACCTACGGCGTGCAAGTGCTTCAGCCGCTACCCCGACCACATGAAGCAGCACGACTTCTTCAAGTCCGCCATGCCCCGAAGGCTACGTCCAGGAGCGCACCATCTTCTTCAAGGACGACGGCAACTACAAGACCCGCGCCGAGGTGAAGTTCGAGGGCGACACCCTGGTGAACCGCATCGAGCTGAAGGGCATCGACTTCAAGGAGGACGGCAACATCTGGGGCACAAGCTGGAGTACAACAGCCACAACGTCTATATCATGGCCGACAAGCAGAAGAACGGCATCAAGGTGAACCTTCAAGATCCGCCACAACATCGAGGACGGCAGCGTGCAGCTCGCCGACCACTACCAGCAGAACACCCCCATCGGCGACGGCCCCGTGCTGCTGCCCCGACAACCACTACCTGAGCACCCAGTCGCCCCTGAGCAAAGACCCCAACGAGAAGCGCGATCACATGGTCCTGCTGGAGTTCGTGACCGCCGCGGGGATCACTCTCGGCATGGACGAGCTGTACAAGGGTTCTCCAGCCGGCTGGAGGAGGAGCTGAGAAGAAGACTGACCGAACC CGGATCCTAACTAGAGATCTATGTGAGGATC CAAGTAAACCCCTACCAACTGGT CGGGGTTTGAAACT CGAGATCGAGCTG
EBFP	ATGGTGAGCAAGGGGCGAGGAGCTGTTACCGGGGTGGTGCCCATCCTGGTTCGAGCTGGACGGCGACGTAAACGGCCACAAGTTCAGCGTGAGGGGCGAGGGCGAGGGCGATGCCACCAACGGCAAGCTGACCCTGAAGTTCATCTGCACCACCGGCAAGCTGCCCGTGCCCTGGCCCACCCTCGTGACCACCCTGAGCCACGGCGTGCAAGTGCTTCGCCCCGCTACCCCGACCACATGAAGCAGCAC

	GACTTCTTCAAGTCCGCCATGCCCCGAAGGCTACGTCCAGGA GCGCACCATCTTCTTCAAGGACGACGGCACCTACAAGACCC GCGCCGAGGTGAAGTTTCGAGGGCGACACCCTAGTGAACCGC ATCGAGCTGAAGGGCGTCGACTTCAAGGAGGACGGCAACAT CCTGGGGCACAAGCTGGAGTACAACCTTCAACAGCCACAACAT CTATATCATGGCCGTCAAGCAGAAGAACGGCATCAAGGTGAA CTTCAAGATCCGCCACAACGTGGAGGACGGCAGCGTGCAGC TCGCCGACCACTACCAGCAGAACACCCCCATCGGCGACGGC CCCGTGCTGCTGCCCCGACAGCCACTACCTGAGCACCCAGTC CGTGCTGAGCAAAGACCCCAACGAGAAGCGCGATCACATGG TCCTGCTGGAGTTCCGCACCGCCGCCGGGATCACTCTCGGC ATGGACGAGCTGTACAAG
N7-VP16	ATGGGGGAAATTGCTGCTCTGGAAGCCAAAAATGCGGCGTT GAAAGCCGAGATTGCGGCCTTGGAAGCTAAGATCGCTGCTTT AAAGGCCGGATACGGCGGTTCTGGAGGTGGATCTGGCGGTT CTGATCCAAAAAAGAAGAGAAAGGTAGCCCCCCCCGACCGAT GTCAGCCTGGGGGACGAGCTCCACTTAGACGGCGAGGACGT GGCGATGGCGCATGCCGACGCGCTAGACGATTTGATCTGG ACATGTTGGGGGACGGGGATTCCCCGGGTCCGGGATTTACC CCCCACGACTCCGCCCCCTACGGCGCTCTGGATATGGCCGA CTTCGAGTTTGAGCAGATGTTTACCGATGCCCTTGGAATTGA CGAGTACGGTGGGGGATCCTAA
GAL4-N8	ATGCACCATCACCATCACCATAAGCTACTGTCTTCTATCGAAC AAGCATGCGATATTTGCCGACTTAAAAAGCTCAAGTGCTCCA AAGAAAAACCGAAGTGCGCCAAGTGTCTGAAGAACAACTGGG AGTGTGCTACTCTCCCAAACCAAAGCTCTCCGCTGACTA GGGCACATCTGACAGAAGTGGAATCAAGGCTAGAAAGACTG GAACAGCTATTTCTACTGATTTTTCTCGAGAAGACCTTGACA TGATTTTGAAAATGGATTCTTTACAGGATATAAAAGCATTGTTA ACAGGATTATTTGTACAAGATAATGTGAATAAAGATGCCGTCA CAGATAGATTGGCTTCAGTGGAGACTGATATGCCTCTAACATT GAGACAGCATAGAATAAGTGCGACATCATCATCGGAAGAGAG TAGTAACAAAGGTCAAAGACAGTTGACTGTATCGGGTGGTTC TGGAGGTGGATCTGGCGGATCGTACGGGAAAATCGCGGCAT TAAAGGCGGAGAACGCAGCTCTGGAAGCCAAGATTGCAGCC TTAAAGCGGAGATTGCTGCGTTAGAGGCAGGCTACGGATCC TAA
GFP1-10	ATGTCCAAAGGAGAAGAAGTGTGTTTACCGGTGTTGTGCCAATT TTGGTTGAACTCGATGGTGATGTCAACGGACATAAGTTCTCA GTGAGAGGCGAAGGAGAAGGTGACGCCACCATTGGAAAATT GACTCTTAAATTCATCTGTACTACTGGTAAACTTCCTGTACCA TGGCCGACTCTCGTAACAACGCTTACGTACGGAGTTCAGTGC TTTTCGAGATACCCAGACCATATGAAAAGACATGACTTTTTTA AGTCGGCTATGCCTGAAGGTTACGTGCAAGAAAGAACAATTT CGTTCAAAGATGATGGAAAATATAAACTAGAGCAGTTGTTAA ATTTGAAGGAGATACTTTGGTTAACCGCATTGAACTGAAAGGA ACAGATTTTAAAGAAGATGGTAATATTCTTGGACACAACTCG AATACAATTTTAATAGTCATAACGTATACATCACTGCTGATAAG CAAAAGAACGGAATTAAAGCGAATTTACAGTACGCCATAAT

	GTAGAAGATGGCAGTGTTCAACTTGCCGACCATTACCAACAA AACACCCCTATTGGTGACGGTCCGGTACTTCTTCCTGATAAT CACTACCTCTCAACACAAACAGTCCTGAGCAAAGATCCAAAT GAAAAAGGAACAGGTGGCGGCGGATCCTAA
GFP11-βActin	ATGCGTGACCACATGGTCCTTCATGAGTATGTAAATGCTGCT GGGATTACAGGTGGCGGCGGTTCTGATGATGATATCGCCGC GCTCGTCGTTGACAACGGCTCCGGCATGTGCAAGGCCGGCT TCGCGGGCGACGATGCCCCCGGGCCGTCTTCCCCTCCATC GTGGGGCGCCCCAGGCACCAGGGCGTGATGGTGGGCATGG GTCAGAAGGATTCTATGTGGGCGACGAGGCCCAGAGCAAG AGAGGCATCCTCACCTGAAGTACCCCATCGAGCACGGCAT CGTCACCAACTGGGACGACATGGAGAAAATCTGGCACCACA CCTTCTACAATGAGCTGCGTGTGGCTCCCGAGGAGCACCCC GTGCTGCTGACCGAGGCCCCCCCTGAACCCCAAGGCCAACCG CGAGAAGATGACCCAGATCATGTTTGAAACCTTCAACACCCC AGCCATGTACGTTGCTATCCAGGCTGTGCTATCCCTGTACGC CTCTGGCCGTACCACTGGCATCGTGATGGACTCCGGTGACG GGGTCACCCACACTGTGCCCATCTACGAGGGGTATGCCCTC CCCCATGCCATCCTGCGTCTGGACCTGGCTGGCCGGGACCT GACTGACTACCTCATGAAGATCCTCACCGAGCGCGGCTACAG CTTCACCACCACGGCCGAGCGGGAAATCGTGCGTGACATTA AGGAGAAGCTGTGCTACGTCGCCCTGGACTTCGAGCAAGAG ATGGCCACGGCTGCTTCCAGCTCCTCCCTGGAGAAGAGTTAC GAGCTGCCTGACGGCCAGGTCATCACCATTGGCAATGAGCG GTTCCGCTGCCCTGAGGCACTCTTCCAGCCTTCCTTCCTGGG CATGGAGTCCTGTGGCATCCACGAAACTACCTTCAACTCCAT CATGAAGTGTGACGTGGACATCCGCAAAGACCTGTACGCCAA CACAGTGCTGTCTGGCGGCACCACCATGTACCCTGGCATTG CCGACAGGATGCAGAAGGAGATCACTGCCCTGGCACCCAGC ACAATGAAGATCAAGATCATTGCTCCTCCTGAGCGCAAGTAC TCCGTGTGGATCGGCGGCTCCATCCTGGCCTCGCTGTCCAC CTTCCAGCAGATGTGGATCAGCAAGCAGGAGTATGACGAGTC CGGCCCCTCCATCGTCCACCGCAAATGCTTCGGATCCTAA
rtTA-3G	ATGTCTAGACTGGACAAGAGCAAAGTCATAAACTCTGCTCTG GAATTACTCAATGGAGTCGGTATCGAAGGCCTGACGACAAGG AAACTCGCTCAAAAGCTGGGAGTTGAGCAGCCTACCCTGTAC TGGCACGTGAAGAACAAGCGGGGCCCTGCTCGATGCCCTGCC AATCGAGATGCTGGACAGGCATCATACCCACTCCTGCCCCCT GGAAGGCGAGTCATGGCAAGACTTTCTGCGGAACAACGCCA AGTCATACCGCTGTGCTCTCCTCTCACATCGCGACGGGGCTA AAGTGCATCTCGGCACCCGCCCAACAGAGAAACAGTACGAAA CCCTGGAAAATCAGCTCGCGTTCCTGTGTGTCAGCAAGGCTTCT CCCTGGAGAACGCACTGTACGCTCTGTCCGCCGTGGGCCAC TTTACACTGGGCTGCGTATTGGAGGAACAGGAGCATCAAGTA GCAAAAGAGGAAAGAGAGACACCTACCACCGATTCTATGCC CACTTCTGAAACAAGCAATTGAGCTGTTGACCGGCAGGGA GCCGAACCTGCCTTCCTTTTCGGCCTGGAACATAATCATATGT GGCCTGGAGAAACAGCTAAAGTGCGAAAGCGGCGGGCCGAC

	CGACGCCCTTGACGATTTTGACTTAGACATGCTCCCAGCCGA TGCCCTTGACGACTTTGACCTTGATATGCTGCCTGCTGACGC TCTTGACGATTTTGACCTTGACATGCTCCCCGGGGGATCCTA A
IL12p70	ATGTGTCACCAACAGTTGGTTATCTCTTGGTTCAGTCTTGTCT TCCTGGCTTCCCCCTGGTAGCCATCTGGGAGTTGAAGAAAG ATGTGTACGTGGTGAATTGGACTGGTATCCGGACGCACCC GGTGAGATGGTGGTACTTACCTGCGACACCCCCGAGGAGGA CGGAATCACCTGGACTCTTGATCAGTCTAGCGAGGTCTTGGG TAGTGGAAGACCCTGACCATTGAGGTGAAGGAATTCGGAGA TGCAGGGCAGTACACATGTCACAAGGGTGGGGAAGTGCTCT CTCATTCCCTTCTTCTCCTCCACAAAAAGGAGGACGGAATTTG GTCAACCGATATTCTGAAGGATCAGAAAGAGCCAAAAAACAA AACATTCCTGAGGTGTGAAGCCAAGAACTACAGCGGACGGTT TACGTGTTGGTGGCTGACTACAATTTCAACCGATCTGACTTTC AGTGTGAAGTCCTCCCGCGGCAGCTCAGATCCCCAGGGGGT GACATGTGGCGCAGCGACGCTCTCCGCAGAGCGAGTGAGG GGGGATAACAAAGAATACGAATATAGCGTGGAGTGCCAGGA GGATTCCGCCTGCCAGCCGCCGAAGAGTCCCTGCCCATCG AGGTTATGGTCGACGCAGTGCATAAACTCAAATACGAGAACT ATACGTCCTCCTTTTTCATACGCGACATCATCAACCTGACCC CCCAAAAAACCTTCAACTCAAACCCCTGAAAAATAGTCGGCA GGTGGAGGTCAGTTGGGAATACCCGGATACTTGGAGTACTC CGCACTCCTATTTTTCTTGACTTTTTGTGTCCAGGTACAGGG AAAGAGCAAAAGGGAAAAGAAGGACCGCGTCTTCACTGACAA GACATCAGCTACAGTGATCTGTGCAAGAATGCAAGCATTAG CGTGAGAGCCCAGGACAGGTACTATAGTTCTAGCTGGTCAGA ATGGGCAAGCGTACCTTGCTCTGGCGGTGGAGGCTCCGGCG GGGGGGGGAGCGGCGGGGGAGGATCTCGGAATCTCCCTGT TGCCACTCCAGACCCAGGTATGTTTCCATGCCTGCACCACTC TCAGAACTTGCTCCGGGGCTGTCTCTAACATGCTGCAGAAGGC CAGGCAGACATTGGAGTTTTACCCCTGTACGTCTGAAGAGAT CGATCATGAGGACATTACAAAGGATAAAACATCAACGGTCGA AGCCTGCCTTCCCCTTGAGCTTACCAAAAATGAAAGCTGTCT GAATAGCCGCGAAACATCCTTTATTACTAATGGTTCATGCCTC GCCTCCAGGAAAACATCTTTTATGATGGCGCTCTGTCTCAGTT CTATTTATGAGGATCTCAAAATGTATCAAGTTGAGTTCAAGAC CATGAACGCCAAACTGCTGATGGATCCTAACGCCAGATCTT TTTGGATCAAAATATGCTTGCTGTCATCGACGAACCTCATGCAG GCCCTGAATTTCAACTCCGAGACTGTTCCCCAAAAATCATCC CTGGAAGAGCCCGACTTTTACAAAACAAAGATCAAGCTCTGC ATTCTTCTGCACGCTTTTTCGGATCCGAGCTGTGACTATAGACA GAGTGATGTCCTACCTGAATGCTAGTGGTTCTGGCGGTGGAG GCTCCGAGCAGAAGCTGATCAGCGAGGAGGACCTGGGATCC TAA