

<b>pTKRED Construction</b>	
SphI-araC-Pc-PBAD-ISceI F	CAAACCCTCACTGATCCGCATGCTTATGACAACTTGACGGCTACATC
PBAD-ISceI R	TCATTACCTGGTTTTTTTTGATGCATTTTTTATAACCTCCTTAGAGCTCGA
I-SceI F	ATGCATCAAAAAAACCAGGTAATGA
I-SceI-SphI R	CTTCTGTATGGAACGGGCATGCTTATTTTCAGGAAAGTTTCGGAGGAG
NheI-PlacI-lacI F	GCACTGGCTGATCAGCTAGCATCGAATGGCGCAAACCTTTTCGC
lacI-NheI R	GTCCATACCCATGGGCTAGCTCACTGCCCGCTTTCAGTCGGGAAA
<b>pTKS/CS Construction</b>	
pTKS/CS PlacIQ1-Tet F	AGACACCAGGTAGGGATAACAGGGTAATGTACCATTTACGTTGACACCACCTTTTCGCGTATGGCATGATAGCGCCCGGAAGAGAGTCAATTCAGGGTGGTGAATATGAATAGTTCGACAAAGATC
pTKS/CS Tet R	ATTACCCTGTTATCCCTACTAAGCACTTGTCTCCTGTTTAC
LP2-ISceI-p15A F	AACAGGAGACAAGTGCTTAGTAGGGATAACAGGGTAATGATGGCGCCTCATCCCTGAAGCCAAGGCATCAAATAAAACGAAAGGCTCA
p15A-LP1-ISceI R	GTGGTGTCAACGTAAATATTACCCTGTTATCCCTATCACCGTTTGGACCCTTGGGGCCGTAGAAAGGGCCTCGTGATACGCCTATT
<b>pTKIP Construction</b>	
pTKIP MCS F	CCGAAAAGTGCCACCTTAGGGATAACAGGGTAATTACGGCCCCAAGGTCCAAACGGTGAAGGTACCGGGCCCCCCTCGAGGTC
neo FRT pTKIP R	AGCATCCTGCATTACCCTGTTATCCCTATTGGCTTCAGGGATGAGGC GCCATCGAAGTTCCTATACTTTCTAGAGAATAGGAACCTCTGATCAGCGAGCTCTAGAGAATTGA
I-SceI pMB1 F	CCCTGAAGCCAATAGGGATAACAGGGTAATGCAGGATGCTGCTGGCTACCCTGTG
pMB1 I-SceI R	GGACCTTGGGGCCGTAATTACCCTGTTATCCCTAAGGTGGCACTTTTCGGGGAAATGTG

pTKIP-cat F	TAGTATATCGGCATAGTATAATACGACAAGGTGAGGAACTAAACCAT GGAGAAAAAATCACTGGATATA
pTKIP cat R	TAGAGAATAGGAACTTCTGATCAGCGAGCTCTAGAGAATTGATCCCC TCACGCCCCGCCCTGCCACTCAT
pTKIP-hygro F	CGGCATAGTATATCGGCATAGTATAATACGACAAGGTGAGGAACTAA ACCATGAAAAGCCTGAACTCAC
pTKIP-hygro R	TAGAGAATAGGAACTTCTGATCAGCGAGCTCTAGAGAATTGATCCCC TCATCCGGGGCGTCCGTTTCCAC
pTKIP-gent F	CGGCATAGTATATCGGCATAGTATAATACGACAAGGTGAGGAACTAA ACCATGTTATGGAGCAGCAACGA
pTKIP-gent R	TAGAGAATAGGAACTTCTGATCAGCGAGCTCTAGAGAATTGATCCCC TCATTAGGTGGCGGTACTTGGGT
pTKIP-tri F	CGGCATAGTATATCGGCATAGTATAATACGACAAGGTGAGGAACTAA ACCATGGGTCAAAGTAGCGATGA
pTKIP-tri R	TAGAGAATAGGAACTTCTGATCAGCGAGCTCTAGAGAATTGATCCCC TCATTAGGCCACACGTTCAAGTG
<b>IvT Cassette Construction</b>	
KpnI-PlacI F	AAACGGTGAAGGTACCATCGAATGGCGCAAACCTTTCGCG
venus-T1 R	TGAGCCTTTCGTTTTATTTGATGCCTCTAGAGTCTCGAGGGGGGGCC CCTGCCCTTGTACAGCTCGTCCATG
T1 F	GGCATCAAATAAAACGAAAGGCTCA
T1-Sall R	TATCGATACCGTTCGACTCTAGGGCGGCGGATTTGTCCTACTC
<b>O1Z Cassette Construction</b>	
HindIII PLlacO1- lacZ F	ATCGATAAGCTTCCGAAAAGTGCCACCTGACGTCTAAGAAACCATTA TTATCCTCGAGAATTGTGAGCGGATAACAATTGACATTGTGAGCGGA TAACAAGATACTGAGCACATCAGCAGGACGCACTGACCGAATTCATT AAAGAGGAGAAAGGTACCATGACCATGATTACGGATTCCTGG
lacZ NheI R	CTGCAGCCAAGCTAGCTTATTTTTGACACCAGACCAACTGGT

<b>Landing Pad Recombineering</b>	
atpl/gidB S/CS F	CAAAAAGCGGTCAAATTTATACGGTGCGCCCCCGTGATTTCAAACAAT AAGTACGGCCCCAAGGTCCAAACGGTGA
atpl/gidB S/CS R	ATAACGTGGCTTTTTTTGGTAAGCAGAAAAATAAGTCATTAGTGAAAA TATTTGGCTTCAGGGATGAGGCGCCATC
essQ/cspB S/CS F	CCCAAACCTGCACCCAAGAGTCAGAACACAGTTTTTTCAAGAGTACAAA AAGTACGGCCCCAAGGTCCAAACGGTGA
essQ/cspB S/CS R	GCTAACCATTGTGGTGAAGTGCAGGTTTGCTGCATGAATAGTTTTTAC AGCTTGGCTTCAGGGATGAGGCGCCATC
nth/tppB S/CS F	CTGCTTTCCGCTCAGGCGACCGATGTCAGTGTTAATAAGGCGACGGC GAATACGGCCCCAAGGTCCAAACGGTGA
nth/tppB S/CS R	CGGAAAATGTGCGTGTGACAGCAATAGTCGGCCAGCCGAATGCAGT GTTTTGGCTTCAGGGATGAGGCGCCATC
ybbD/ylbG S/CS F	ACTGAGAAAAGACATGTGCGCTATTGTGTAAAGCCATATAGCTCAGA CGATACGGCCCCAAGGTCCAAACGGTGA
ybbD/ylbG S/CS R	TTCTATGTAAACTCTCTGACTGTTTCATTTTTATTTGTTGTTTCAGGGT CGGTTGGCTTCAGGGATGAGGCGCCATC
ygcE/ygcF S/CS F	TCAACAGCGTATAGAGGCGGTTATGTAAAACCACTCATTAGCCTCAA AACTACGGCCCCAAGGTCCAAACGGTGA
ygcE/ygcF S/CS R	GATACAAAAAATTAATTTAATCAAAGTGTATTTGTATGATTCTTA AATTTGGCTTCAGGGATGAGGCGCCATC
yieN/trkD S/CS F	CTACGTTCATAAAGCCCCTTTTCCAACGAACTGCTCAGGCGGGAAAT TCTTACGGCCCCAAGGTCCAAACGGTGA
yieN/trkD S/CS R	CAAAGAAAAATACCCCCCTTTGAGACTATTTTAGCCACCAGCAAGA AACTTGGCTTCAGGGATGAGGCGCCATC
atpl/gidB ver F	CAGTAACTGAACGAGCAGAAG
atpl/gidB ver R	CTTCGTCAGGTGCAACATGAGC
nth/tppB ver F	ACCACCGAGCTTAATTTAGTTTCGC
nth/tppB ver R	CCTGTTCGACGTTTTTTCCCCGGCGC
essQ/cspB ver F	CGGCCATTTATACAGGAAAAGCCTA
essQ/cspB ver R	GTTACCTTCTCTATAGAGAGTGGTG

ybbD/ylbG ver F	ATTGGAGCTGGATTGCCTGATGCTTG
ybbD/ylbG ver R	CTCACATTAAACACGTAACATTTTAATTAATG
ygcE/ygcF ver F	CGCTGATGCAGGGAACATAATAAAAAC
ygcE/ygcF ver R	CCCCGCGCCAGCGGGGATAAACCA
yieN/trkD ver F	ACCTGGCGGGCCAAGGAGGAACACA
yieN/trkD ver R	AAAGCGCACAGTATGCACGATTAAC
<b>Recombineering Efficiency</b>	
del_lacZ F1	ATGACCATGATTACGGATTCACTGGCCGTCGTTTTACAACGTCGTCT GCAGCCTGTTGACAATTA
del_lacZ R1	TTATTTTTGACACCAGACCAACTGGTAATGGTAGCGACCGGCGCTGG ACAGTGGGAGTGGCACCT
del_lacZ R2	TTATTTTTGACACCAGACCAACTGGTAATGGTAGCGACCGGCGCTCG CAATTAATGTGAGTTAGC
del_lacZ R3	TTATTTTTGACACCAGACCAACTGGTAATGGTAGCGACCGGCGCTCT GAGATACCTACAGCGTGA
del_lacZ R4	TTATTTTTGACACCAGACCAACTGGTAATGGTAGCGACCGGCGCTTA AAACTTCATTTTAAATTT
del_lacZ R5	TTATTTTTGACACCAGACCAACTGGTAATGGTAGCGACCGGCGCTCT TACTTCTGACAACGATCG
del_lacZ R6	TTATTTTTGACACCAGACCAACTGGTAATGGTAGCGACCGGCGCTAC CCCTATTTGTTTATTTTT
del_lacZ R7	TTATTTTTGACACCAGACCAACTGGTAATGGTAGCGACCGGCGCTAA TGGCGAATGGGACGCGCC
del_lacZ R8	TTATTTTTGACACCAGACCAACTGGTAATGGTAGCGACCGGCGCTAG GAGTAGAAGGTGGCGCGA