nnnn: vector backbone
NNN: homology arm/intergenic region
NNN: homology arm/coding region
NNN: attP
NNN: Gal4
NNN: mini-white

GTCCGAACAACATGGTCATAGTGCAGGTATTATAGTGTAAAAGCCAAAAGTGAGAAAACCA
GCAGCCAAAGGACTACGCCACGAGCATACAAATGCCAGCCATGCCGTCGCAACTTGTCATA
AGCGGCACCGCCGGCTTACCAGCAAAATAAACAGCGAACACAGGGACACCAGCCAGCAAAC
TCGAGACGCAGCAGCAGCAAACGCAGCAGGATACCAGCCAGGAGCAGCAGCAGCAGCAGCA
GCAGCATCAGCATTCGCACAGCCAACtctagaCCCAGGTCAGAAGCGGTTTTCGGGAGTAG
TGCCCCAACTGGGGTAACCTTTGAGTTCTCTCAGTTGGGGGCGTAGGGTCGCCGACATGAC
ACAAGGGGTTagatctATGAAGCTGCTGAGTAGTATTGAACAAGCGTGTGACATATGCCGA
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GGGAGTGCCGGTACTCGCCAAAGACGAAGCGAAGCCCTTTGACACGCGCTCATTTGACTGA
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CTCGACATGATACTGAAGATGGATAGTCTCCAAGATATTAAGGCCCTGCTCACTGGCCTGT
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TATGCCACTTACCTTGCGGCAGCATCGCATCTCGGCTACCAGCAGTAGTGAAGAAAGTTCC
AATAAGGGTCAACGGCAACTGACGGTATCGATCGACAGTGCGGCCCACCACGACAACAGCA
CCATTCCACTGGACTTCATGCCTCGTGACGCACTGCATGGATTTGACTGGAGCGAGGAGGA
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TTACGCAGAAGAAGTCGCAGCTTGAGCAAGATCAGAACGACCATCAGTCCTACGAGGTAAA
GAGGTGCAGCATAATGCTCTCCGACGCAGCCCAGCGCACCGTGATGTCGGTGTCGTCCTAT
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CCGTGTTGGTCCCAATCAAGACTCTTCTGAGCAACTCCAAATCGAACGCCGAGAATAACGA
GACAGCACAGCTCTTGCAGCAAATTAACACCGTGTTGATGCTGTTGAAGAAACTCGCTACA
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TATCAAGAATATCGTCGGCTCCGCTACAATCGCGCAGTATCCCACGCTGCCTGAGGAAAAT
GTTAACAACATATCGGTGAAGTATGTAAGTCCAGGCAGCGTCGGCCCGAGCCCTGTGCCGC

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49  TGAAAAGCGGAGCCTCCTTCAGCGATCTGGTCAAGCTGCTCAGCAACCGCCCACCATCCCG
50  CAACTCCCCTGTCACTATACCCCGATCGACCCCGTCGCATCGTAGCGTTACCCCATTCCTG
51  GGACAACAGCAGCAACTGCAGAGTCTGGTGCCACTTACGCCCTCGGCATTGTTTGGCGGAG
52  CCAACTTCAACCAGAGTGGTAACATTGCGGACAGCTCCTTGAGCTTCACGTTTACCAACAG
53  CTCCAACGGTCCAAACTTGATCACGACTCAGACAAACTCCCAGGCATTGTCCCAGCCCATT
54  GCCAGCTCGAATGTGCATGATAACTTTATGAATAATGAAATTACTGCCTCCAAGATTGACG
55  ACGGCAACAACAGCAAGCCCCTTTCCCCAGGCTGGACTGACCAGACGGCCTACAATGCTTT
56  CGGTATCACCACTGGCATGTTCAACACCACAACGATGGACGACGTATATAACTATCTTTTT
57  GATGATGAGGATACTCCACCGAACCCAAAGAAGGAGTAGgatctataacttcgtataatgt
58  atgctatacgaagttatggtaccttgcatgccccgttattcTCTATTCTCTATTCGTTTTG
59  TGACTCTCCCTCTCTGTACTATTGCTCTCTCACTCTGTCGCACAGTAAACGGCACGCTATT
60  CTCGTTGCTTCGAGAGAGCGCGCCTCGAATGTTCGCGAAAAGAGCGCCGGAGTATAAATAG
61  AGGCGCTTCGTCGACGGAGCGTCAATTCAATTCAAACAAGCAAAGTGAACACATCGCGAAG
62  CGTAAGCTGAGCAAACAAACAAGCGCAGCTGAACAAGCTAAACAATCTGCAATAAAGTGCA
63  AGTTAAAGTGAATCAATTAAAAGTAACCAACAACCAAGTAATTAAACTAAAAACTGCAACT
64  ACTGAAATCAACCAAGAAGTCATTATTGAAGACAAGAAGAGAACTCTgaataggtcgatag
65  cgtcaattcggcacgagcggtttcgtgacgaagctccaagcggtttacgccatcaattaaa
66  cacaaagtgctgtgccaaaactcctctcgcttcttatttttGTTTGTTTTTTGAGTGATTG
67  GGTGGGTGATTGGTTTTGGGTGGGTAAGCAGGGGAAAGTGTGAAAAATCCCGGCAATGGGC
68  CAAGAGGATCAGGAGCTATTAATTCGCGGAGGCAGCAAACACCCATCTGCCGAGCATCTGA
69  ACAATGGTGACAGCGGAGCGGCTTCGCAGAGCTGCATTAACCAGGGCTTCGGGCAGGCCAA
70  AAACTACGGCACGCTCCTGCCACCCAGTCCGCCGGAGGACTCCGGTTCAGGGAGCGGCCAA
71  CTAGCCGAGAACCTCACCTATGCCTGGCACAATATGGACATCTTTGGGGCGGTCAATCAGC
72  CGGGCTCCGGATGGCGGCAGCTGGTCAACCGGACACGCGGACTATTCTGCAACGAGCGACA
73  CATACCGGCGCCCAGGAAACATTTGCTCAAGAACGTTTGCGGCGTGGCCTATCCGGGCGAA
74  CTTTTGGCCGTGATGGGCAGTTCCGGTGCCGGAAAGACGACCCTGCTGAATGCCCTTGCCT
75  TTCGATCGCCGCAGGGCATCCAAGTATCGCCATCCGGGATGCGACTGCTCAATGGCCAACC
76  TGTGGACGCCAAGGAGATGCAGGCCAGGTGCGCCTATGTCCAGCAGGATGACCTCTTTATC
77  GGCTCCCTAACGGCCAGGGAACACCTGATTTTCCAGGCCATGGTGCGGATGCCACGACATC
78  TGACCTATCGGCAGCGAGTGGCCCGCGTGGATCAGGTGATCCAGGAGCTTTCGCTCAGCAA
79  ATGTCAGCACACGATCATCGGTGTGCCCGGCAGGGTGAAAGGTCTGTCCGGCGGAGAAAGG
80  AAGCGTCTGGCATTCGCCTCCGAGGCACTAACCGATCCGCCGCTTCTGATCTGCGATGAGC
81  CCACCTCCGGACTGGACTCATTTACCGCCCACAGCGTCGTCCAGGTGCTGAAGAAGCTGTC
82  GCAGAAGGGCAAGACCGTCATCCTGACCATTCATCAGCCGTCTTCCGAGCTGTTTGAGCTC
83  TTTGACAAGATCCTTCTGATGGCCGAGGGCAGGGTAGCTTTCTTGGGCACTCCCAGCGAAG
84  CCGTCGACTTCTTTTCCTACGTGGGTGCCCAGTGTCCTACCAACTACAATCCGGCGGACTT
85  TTACGTACAGGTGTTGGCCGTTGTGCCCGGACGGGAGATCGAGTCCCGTGATCGGATCGCC
86  AAGATATGCGACAATTTTGCCATTAGCAAAGTAGCCCGGGATATGGAGCAGTTGTTGGCCA
87  CCAAAAATTTGGAGAAGCCACTGGAGCAGCCGGAGAATGGGTACACCTACAAGGCCACCTG
88  GTTCATGCAGTTCCGGGCGGTCCTGTGGCGATCCTGGCTGTCGGTGCTCAAGGAACCACTC
89  CTCGTAAAAGTGCGACTTATTCAGACAACGATGGTTGCCATCTTGATTGGCCTCATCTTTT
90  TGGGCCAACAACTCACGCAAGTGGGCGTGATGAATATCAACGGAGCCATCTTCCTCTTCCT
91  GACCAACATGACCTTTCAAAACGTCTTTGCCACGATAAATGTGTTCACCTCAGAGCTGCCA
92  GTTTTTATGAGGGAGGCCCGAAGTCGACTTTATCGCTGTGACACATACTTTCTGGGCAAAA
93  CGATTGCCGAATTGCCGCTTTTTCTCACAGTGCCACTGGTCTTCACGGCGATTGCCTATCC
94  GATGATCGGACTGCGGGCCGGAGTGCTGCACTTCTTCAACTGCCTGGCGCTGGTCACTCTG
95  GTGGCCAATGTGTCAACGTCCTTCGGATATCTAATATCCTGCGCCAGCTCCTCGACCTCGA
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TGGCGCTGTCTGTGGGTCCGCCGGTTATCATACCATTCCTGCTCTTTGGCGGCTTCTTCTT
GAACTCGGGCTCGGTGCCAGTATACCTCAAATGGTTGTCGTACCTCTCATGGTTCCGTTAC
GCCAACGAGGGTCTGCTGATTAACCAATGGGCGGACGTGGAGCCGGGCGAAATTAGCTGCA
CATCGTCGAACACCACGTGCCCCAGTTCGGGCAAGGTCATCCTGGAGACGCTTAACTTCTC
CGCCGCCGATCTGCCGCTGGACTACGTGGGTCTGGCCATTCTCATCGTGAGCTTCCGGGTG
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ACTGAGAGAACTCAAAGGTTACCCCAGTTGGGGCACTACTCCCGAAAACCGCTTCTGACCT
GGGctcgagggcgcgAGGTCCTGCAAAGAAAAGCGGCACCACCCTATCCGTCGACCGGGCC
GCCTTCCTTTTGCTGCGCGTCAGGAAAGTGTTCAAGAAGAAGCGACAGCAGCGCAAGGAGC
GACA

Supplementary Data 2. The sequence of the knock-in cassette is displayed and coloured as specified to indicate the different segments.