

Supplemental Table 1. Primer sequences used for construction of prioritized fitness gene mutants.

Name	Sequence (5'-3')
SM <i>atp1BEFHAGDC</i> KO F	GATCGCTCAAATGCTAAAGACGGTTTTGGTTGACCATCGGCTATAAATCAgTGTAGGCTGGAGCTGCTTC
SM <i>atp1BEFHAGDC</i> KO R	CCCgATATCAGGGTTATACACCACACCGCCCGCTGGCTGAAATGCTACATATGAATATCCTCCTTAGT
SM <i>atp1BEFHAGDC</i> confirm F	CGTTCGACGGCGTGTATCAGC
SM <i>atp1BEFHAGDC</i> confirm R	CGTCCAGCTTGACCGTCAGC
SM <i>arnBCADTEF</i> KO F	TTAAGGTTTAGTTAAGCTTGCGGCCCTTACATTGTGAGTTAATCCACGGAAGTGTAGGCTGGAGCTGCTTC
SM <i>arnBCADTEF</i> KO R	CCGGCACCACGTAAGGAGAGCGCTATTTGGCGTTAATTTATCTCCCGCACCATATGAATATCCTCCTTAGT
SM <i>arnBCADTEF</i> confirm F	TTATCTCAGCCAGCAACAGC
SM <i>arnBCADTEF</i> confirm R	GTCGTTGGTATCGTAAATGC
SM <i>gmhB</i> KO F	GGTAAACATCGCATACTGTACAGCGTATACAGGCCCTCAGGAGCAAAGCGGTgTGTAGGCTGGAGCTGCTTC
SM <i>gmhB</i> KO R	TCTGACCGCTCACTATTATTGTAACGCCTATTAACCCCGCTTTTTGATCATATGAATATCCTCCTTAGT
SM <i>gmhB</i> confirm F	TGGCTTCATCGCACAGCAGC
SM <i>gmhB</i> confirm R	GCTGCTGGCACGGAGTTAGC
SM <i>ubiH</i> KO F	cgccgatccatcgaggctttgatgcccggccaagtaacggaatgagcGTGTAGGCTGGAGCTGCTTC
SM <i>ubiH</i> KO R	cgattctgtgtcaactccaccgcccagcgtgctggcgaagcCATATGAATATCCTCCTTAGT
SM <i>ubiH</i> confirm F	gtacgacattgtctggcgt
SM <i>ubiH</i> confirm R	gtaatcagcgtgatgtccgaca
SM <i>wzxE</i> KO F	CAATCAGCGTACGGTAATCAATACCATCCTGAGTTTCTTTCCTGATATGgTGTAGGCTGGAGCTGCTTC
SM <i>wzxE</i> KO R	GATATCGGATCCCAGAACGTGAATCAGTGTGGTCATACTCGTCTACGATACATATGAATATCCTCCTTAGT
SM <i>wzxE</i> confirm F	GTTGCTGGTGGAAAGATGCCG
SM <i>wzxE</i> confirm R	CGCTTCGATATGCCGATTGC
SM <i>ruvA</i> KO F	atgcccgtcattctgcaggaggtaaatgataggtcgtctcagaggaGTGTAGGCTGGAGCTGCTTC
SM <i>ruvA</i> KO R	aggcgtcggctcaatcattatctacctcttagcggcctacaagcCATATGAATATCCTCCTTAGT
SM <i>ruvA</i> confirm F	ccagaatgtcgtcggatg
SM <i>ruvA</i> confirm R	ttcgtggccacgatgttg
SM <i>aroC</i> KO F	gcacggcggcctataacgataaaagactaacggaaggagccgtgatGTGTAGGCTGGAGCTGCTTC
SM <i>aroC</i> KO R	caggcccacatccagttttcatggcattaccagcggcagcctggaCATATGAATATCCTCCTTAGT
SM <i>aroC</i> confirm F	gctgctgatttgaagtg
SM <i>aroC</i> confirm R	acctggtagttcgggtgagt
SM <i>pdxA</i> KO F	cttacgtgaagatcctcgtggcagcgtgcacagcaataaacgctcGTGTAGGCTGGAGCTGCTTC
SM <i>pdxA</i> KO R	tggggactctgttattcattacaattaattatcatttaagtcgagCATATGAATATCCTCCTTAGT
SM <i>pdxA</i> confirm F	gaaagatcgctaccgc
SM <i>pdxA</i> confirm R	cggagacaatgctatcgtg
SM <i>apaGH</i> KO F	tggctgtcagccaatccggcggcagcaataaggagttgtcatgGTGTAGGCTGGAGCTGCTTC
SM <i>apaGH</i> KO R	gccctgcctccagcggagcccagtgccgaagcagatggtgtattcCATATGAATATCCTCCTTAGT
SM <i>apaGH</i> confirm F	ttcaaccagcggcggaaaac
SM <i>apaGH</i> confirm R	cggactacaagcagatgttcg
SM <i>lpdA</i> KO F	taaaaatgacgtctgaccgccggacaatcaattaaggagtcagtgGTGTAGGCTGGAGCTGCTTC
SM <i>lpdA</i> KO R	gccgctgttaaccggtcaaacaccagcagaattactctcttgctttCATATGAATATCCTCCTTAGT
SM <i>lpdA</i> confirm F	gccgctcgttgatgtaatg
SM <i>lpdA</i> confirm R	tttgctgaatcgttgagcgc

SM <i>hscBA</i> KO F	CTTGCCTCCCGCTTCCAGGATCTGCAGCGCCAAATTCACCCCGATCGTTTgTGTAGGCTGGAGCTGCTTCGaag
SM <i>hscBA</i> KO R	AATGGAAGCGTCCATCGCGCCGCGGCAAAATCTTGGCTTTGTGCATCTACATGAATATCCTCCTTAGTtct
SM <i>hscBA</i> confirm F	CTGGAATTTGTTGACGAAGC
SM <i>hscBA</i> confirm R	TATTGGTCGTACAGGGCTTC
SM <i>sapABCDF</i> KO F	CAGAGTGCATACACTAACGCTATTGCTATTAAACCCATGAGCCTCTATgTGTAGGCTGGAGCTGCTTC
SM <i>sapABCDF</i> KO R	CGCAGCGGGTTTATTGCAGGCCAGGACGGGCCTCAAAAACGGCCGCGTCCATATGAATATCCTCCTTAGT
SM <i>sapABCDF</i> confirm F	TCGTTACATATCCCCTTGC
SM <i>sapABCDF</i> confirm R	CGAAGGCTGTTTCATCAGTGC
SM <i>prc</i> KO F	acttgcagcttgatagcggagccaaccagcgaacaattcGTGAGGCTGGAGCTGCTTC
SM <i>prc</i> KO R	tgctgctgagcggccgatctttccagatgagccagctccagCATATGAATATCCTCCTTAGT
SM <i>prc</i> confirm F	agtcagagcaggcaagag
SM <i>prc</i> confirm R	ataaattgtcaggcagcg
SM <i>xerC</i> KO F	tccaagtagaagcggcaactcagcccgtgacgcagctGTGAGGCTGGAGCTGCTTC
SM <i>xerC</i> KO R	acacgttcgagatgttgaagtcgaggtgggtataatCATATGAATATCCTCCTTAGT
SM <i>xerC</i> confirm F	gcgatacgaacactatcag
SM <i>xerC</i> confirm R	tgacgtcgtgtagatctcc
SM <i>proP</i> KO F	acgcttcaagaacaagaataattcaaggatgattatgGTGAGGCTGGAGCTGCTTC
SM <i>proP</i> KO R	cgggtgctttgttttgcgcgagcaatccagctgggatgCATATGAATATCCTCCTTAGT
SM <i>proP</i> confirm F	taacctggcataaacgagc
SM <i>proP</i> confirm R	atggaaaggtccatcgtgctc
SM <i>pstSCABphoU</i> KO F	ATTAAAACGACTCGAAGTCGATTTTAAATATCCCATTAGGAGGATTATGgTGAGGCTGGAGCTGCTTC
SM <i>pstSCABphoU</i> KO R	ACCCGCGCTTTGAAGGATATTACCCGAAAGGGTCAGTCGGCTTTGTCGTCATATGAATATCCTCCTTAGT
SM <i>pstSCABphoU</i> confirm F	GCAGCTGTGTCTTACCAGC
SM <i>pstSCABphoU</i> confirm R	AGTTCACTTCTTGCGCGC
SM <i>SufI</i> F	AGATTAAGAGGAGAAAAGAGTCCcATGCTACTCAGTCGACGTCA
SM <i>SufI</i> R	ccctctgcaaggcagtagcGGGTAATGGGGTCTGCGTTC
Dasher GFP F	gctactgccttgacagaggg
Dasher GFP R	TgGGACTCTTCTCCTCTTAAATCT
KP <i>atp/BEFHAGDC</i> KO F	AAAGGACGTTTTATACGACACGCGACATACCTCAAAGGAGCAGGAGTAAAAACGTGATGGTGTAGGCTGGAGCTGCTTC
KP <i>atp/BEFHAGDC</i> KO R	CCAGCCTGGAACCCAGACTGGCTTTTTACGTTCAAGCCGGTGTACATCGCTTTTTTGGTCATATGAATATCCTCCTTAGT
KP <i>atp/BEFHAGDC</i> confirm F	GATGCTTGACTCTTCGTC
KP <i>atp/BEFHAGDC</i> confirm R	TTCACTTCATCCGCTC
KP <i>amBCADTEF</i> KO F	ATATTTTATTCTAACGACCCAGATTGTCGCTGGGTCATCTACAGAACAGGATGATGATGGTGTAGGCTGGAGCTGCTTC
KP <i>amBCADTEF</i> KO R	GATCTGTCTGGCCCGGGCCGTCCAAAAGCCGGCTCCCGGCTAGCGCGCTTACCAGGCATATGAATATCCTCCTTAGT
KP <i>amBCADTEF</i> confirm F	GCCGTGCTGAACACTACT
KP <i>amBCADTEF</i> confirm R	GCCATTAACCAGCGTC
KP <i>wzxE</i> KO F	CAATCTGTCTGTGGTGAACCAGCGGACGGTGATTAACCTCGCTGCTGAGCTACTTCTCCTGATATGGTGTAGGCTGGAGCTGCTTC
KP <i>wzxE</i> KO R	CTGGTTATGATCGGGATATCCGATCCCAGTACATGTATCAGTGTGTCATGCCGCTTTACGCCACATATGAATATCCTCCTTAGT
KP <i>wzxE</i> confirm F	CATTACATCCCCTGCACAG
KP <i>wzxE</i> confirm R	CAGTTGCTGTTAAAGAACC
KP <i>ruvA</i> KO F	ATCCAGCCTTTTTTATGATACCCAGACTTAGACCATAACGCAGGAGCCCCACGTGGTGTAGGCTGGAGCTGCTTC

KP <i>ruvA</i> KO R	TGTCCTGCCGATACCAGCCGGTCTGCTTCAATCATCCCTTACCTCACAACGCAGCGCGCAGCATATGAATATCCTCCTTAGT
KP <i>ruvA</i> confirm F	TCAGATCAGCGAGACC
KP <i>ruvA</i> confirm R	CGACATACTCTGCCAGCA
KP <i>apaGH</i> KO F	GTACTIONCTGATGGCCAACTGGCTGTGACAATCTGCCAACGAAGGAGAGCTAACCATGGTGTAGGCTGGAGCTGCTTC
KP <i>apaGH</i> KO R	GGTAGCCCGGATAAGGCGCAACGCGCCGCTATCCGGGAAGAGTCAGGACGCGACGGCTCCATATGAATATCCTCCTTAGT
KP <i>apaGH</i> confirm F	GTATCCGGTCAAAGAGATCC
KP <i>apaGH</i> confirm R	TAGGTCCGGTAAGGCGTTAG
KP <i>lpdA</i> KO F	ACTTGGGCGTAAGAATAATAGCGTCAGACCCCGCCGGATATAAATTACAGAGGTCATGATGGTGTAGGCTGGAGCTGCTTC
KP <i>lpdA</i> KO R	CGGCTCCCGGAGCCGCTTATGCTTTTTCTGAAAGAAAAGTTACTTTTTCTCGCTTTCATATGAATATCCTCCTTAGT
KP <i>lpdA</i> confirm F	ATACACGCGGATAGAACGTC
KP <i>lpdA</i> confirm R	GTAGCGGTTTATGAACAGTGAC
KP <i>hscBA</i> KO F	AACGTATAATCGGTACTCCTCAACCCACCGCGTCACGCCGCGTGGGGTTTTAATTTAGATGGTGTAGGCTGGAGCTGCTTC
KP <i>hscBA</i> KO R	GGGGCAGAAATACAATTTTTGGCATTAAAACTCGTCCACGGATTGGCTTTACGCGGATACGCATATGAATATCCTCCTTAGT
KP <i>hscBA</i> confirm F	TCAAAGATGAGTCCGGCTGC
KP <i>hscBA</i> confirm R	TCTCAGCTTCCACAACGATG
KP <i>sapABCDF</i> KO F	CGGTGGTGAAGTCTATTAATCTTAATAAGATAGAGTTCAGCTCTATAATCAAACAGAAAATATGGTGTAGGCTGGAGCTGCTTC
KP <i>sapABCDF</i> KO R	TGAATGACAAGGGCGCGTGAGGGCCGCCCTGCCGTTGCCTGCCAGCTATTTCCCGCTTTTGGCAGATATGAATATCCTCCTTAGT
KP <i>sapABCDF</i> confirm F	GTAAACCGCATTATCCTCAG
KP <i>sapABCDF</i> confirm R	CGATGTCTCATGGATAATAGG
KP <i>prc</i> KO F	GGTATGTCAATGATTGTACGCGCAGAACAACCTGGTGTCTGAAACGGAGCCGGGCCAGGCATGAGTGTAGGCTGGAGCTGCTTC
KP <i>prc</i> KO R	AACGCGCACAAAAAAGCGGCACCTCTCAGGGTCCCGTTAGCAACTTATTGTGCGCCGGCGGCATATGAATATCCTCCTTAGT
KP <i>prc</i> confirm F	CACCAAAGATGGCGTTCTGTG
KP <i>prc</i> confirm R	TTGTAGCATCTTGCTGACAG
KP <i>xerC</i> KO F	CAGCTGTTGACGAGATTGCCAGATGCTGCCCGCTGCTGGAGCGCTGGATTGAACGCGCATGGTGTAGGCTGGAGCTGCTTC
KP <i>xerC</i> KO R	GTCAAACGTCAGCGCGAAATCTGGCCAGAGTCCGGTAAAAACGATTATTTCCCGCTTTAGCCATATGAATATCCTCCTTAGT
KP <i>xerC</i> confirm F	GGGTGATGCTCTCAGCAGC
KP <i>xerC</i> confirm R	TGAGCGAAGGATGGTAGCTG
KP <i>proP</i> KO F	GCGAATGGCCTTGCCATTGGCGAAGAGCGTGCCTCAAGCGGAGTAGCAGAGAAAAATATGGTGTAGGCTGGAGCTGCTTC
KP <i>proP</i> KO R	AATGCCGCGGGGTTCCCGAGGCGCATGATTAACAGTAAAAACGGTTAGTCGTTGATACGCGGCATATGAATATCCTCCTTAGT
KP <i>proP</i> confirm F	AGCAATTCACCGCTCCTGAC
KP <i>proP</i> confirm R	TCCAGCAGTCGCTTCTACAG
KP <i>pstSCABphoU</i> KO F	TTGACCTATTTTGCTCACCATAGCCTCGAAACAATGATTTACGAATCCAGCAGGAGACATTATGGTGTAGGCTGGAGCTGCTTC
KP <i>pstSCABphoU</i> KO R	TATCTAATTCTGATAAATCCATTTACCAGAATTAGACAGAATGATTATTACTCTTTCCGGATCTTTCATATGAATATCCTCCTTAGT
KP <i>pstSCABphoU</i> confirm F	TACGAATCCAGCAGGA
KP <i>pstSCABphoU</i> confirm R	GCGGGGTAACATATC
KP <i>tatC</i> KO F	gtccgctacggcgagttccccatttccccccgcatcgagtgataaacgtaaacatgGTGTAGGCTGGAGCTGCTTC
KP <i>tatC</i> KO R	tcgctccatattgccaacogccctgacggcggttggcggtattactctctctgctcCATATGAATATCCTCCTTAGT
KP <i>tatC</i> confirm F	taccatcttaatccggttg
KP <i>tatC</i> confirm R	gctcgccagtttctgcg
KP <i>kan</i> insert confirm R	ATGCTCTTCGTCCAGATCATC
KP <i>ubiH</i> KO F	TGGCCATCTCCGTTTGACCGCGGGCGCGCTGCCGTTCCACCTCATTGAAGCGCAGGATCCGCATGTGTAGGCTGGAGCTGCTTC

KP <i>ubiH</i> KO R	ACGGGGAACCCACCAGGGTACGCTGCGCCAGCGCATCGCGCGCCGGGTAATAATCCAATGGGAATTAGCCATGGTCC
KP <i>ubiH</i> confirm F	GGCGAGATTGACGAGCTTAT
KP <i>ubiH</i> confirm R	CCACACTTCCATACCGTGATAG
KP <i>aroC</i> KO F	ATGGCAGGAAATACAATTGGACAACCTTTTCGCGTCACTACCTTCGGCGAATCGCACGGTCTGGCGTGTAGGCTGGAGCTGCTTC
KP <i>aroC</i> KO R	ATAAAGTGATCCATCAGAACGATCGCCAGCATCGCCTCAGCGATCGGTACGGCGCGGATGCCGACATGGGAATTAGCCATGGTCC
KP <i>aroC</i> confirm F	CTTTATGCTGACCAAACAGCAG
KP <i>aroC</i> confirm R	AGATCCGGATGACCGAAGTA
EC <i>ruvA</i> KO F	TATCCAGCATTTTTTATCATAACAGCATTGGCAGAGTGTAGGCTGGAGCTGCTTC
EC <i>ruvA</i> KO R	AATCATCCTTTACCTCATAACGCGGCGGTAGGGCCATATGAATATCCTCCTTAGT
EC <i>ruvA</i> confirm F	CACATTTCTTCGCTGAATATGTAAT
EC <i>ruvA</i> confirm R	TGGCAAGCGTAGTTTTACCC
EC <i>pdxA</i> KO F	GCCAGCGCTACGTTAAAATCCTGAGCAACTAATGGTGTAGGCTGGAGCTGCTTC
EC <i>pdxA</i> KO R	CTGGTGGACTCGATTATTCATTGGGTGTTAACAATCATATGAATATCCTCCTTAGT
EC <i>pdxA</i> confirm F	GCTGGATACCCGTAATGTCG
EC <i>pdxA</i> confirm R	AAACAATGCTGTCGATCACG
EC <i>apaGH</i> KO F	AGAACGCGCCTTTGCAGGAGAGTTAACGATGATCAGTGTAGGCTGGAGCTGCTTC
EC <i>apaGH</i> KO R	AGCATTAGATTTTATGCTCGACGGGATTTAAGACGCATATGAATATCCTCCTTAGT
EC <i>apaGH</i> confirm F	CCTGTTTAGCGTCGAGGTGT
EC <i>apaGH</i> confirm R	CATGACGCATGAGACTGCAAC
EC <i>lpdA</i> KO F	TAATTTGCCGGATGTTCCGGCAAACGAAAAATTACTTCATATGAATATCCTCCTTAGT
EC <i>lpdA</i> KO R	CCGCCGGAGATAAATATATAGAGGTCATGATGAGTGTAGGCTGGAGCTGCTTC
EC <i>lpdA</i> confirm F	CTTATCGGGCCTACACAAGC
EC <i>lpdA</i> confirm R	AAATCGGTTGCCGTTTGTT
EC <i>sapABCD</i> KO F	TGCTCCTCGTAAGTTGTTCTGTGAGTTATAGTTAGTGTAGGCTGGAGCTGCTTC
EC <i>sapABCD</i> KO R	GAGGGGGCCTGTCAGGATGAGGTGCAAAACACTACATATGAATATCCTCCTTAGT
EC <i>sapABCD</i> confirm F	TCCCGTACGCATTGATGAGA
EC <i>sapABCD</i> confirm R	ATTGCTCACGGTCTTATGCG
EC <i>arnBCADTEF</i> KO F	ACTCAGTAACGTGTTTTGTTGTTGGCAGGAAATCATATGAATATCCTCCTTAGT
EC <i>arnBCADTEF</i> KO R	TGGACAGGTATTCAATGACGGATGGAAAAAATGGTGTAGGCTGGAGCTGCTTC
EC <i>arnBCADTEF</i> confirm F	GGGGATTTACTCTCGCCTTT
EC <i>arnBCADTEF</i> confirm R	TTGCCAAATGCAAAGCTAAA
EC <i>prc</i> KO F	CGGAGGCGGGCCAGGCATGAACATGTTTTTGGGTGTAGGCTGGAGCTGCTTC
EC <i>prc</i> KO R	AATCAGGCACAATTTCTGTGCCTGATTGATATTACATATGAATATCCTCCTTAGT
EC <i>prc</i> confirm F	ACACCCCGTTTCTGACATT
EC <i>prc</i> confirm R	TGCGTAAGTCACCAGAAAGAC
EC <i>proP</i> KO F	AAATCGGCAATCTCGTGGTCAATATCATCGATTTTCATATGAATATCCTCCTTAGT
EC <i>proP</i> KO R	GCGGAAATGGGCCAACTCTGCGAGGAAAGCTATGCGTGTAGGCTGGAGCTGCTTC
EC <i>proP</i> confirm F	GGACCGGGTATTGATGAGAGT
EC <i>proP</i> confirm R	GGGCAATGGTCGAGGAAATC
EC <i>pstSCABphoU</i> KO F	ACAATGCTTTATGAATCCTCCAGGAGACATTATGGTGTAGGCTGGAGCTGCTTC
EC <i>pstSCABphoU</i> KO R	AATAATTAATATTGGGATTTACTTGGTGAATTACATATGAATATCCTCCTTAGT

EC <i>pstSCABphoU</i> confirm F	ATCCTGCCAACTCCATGTGA
EC <i>pstSCABphoU</i> confirm R	GCATGTTCCATAGCAAGGACCT
EC <i>ECAoperon</i> KO F	TCTGCTAATAATTTTCTCTGAGAGCATGCATTGTGGTGTAGGCTGGAGCTGCTTC
EC <i>ECAoperon</i> KO R	TTCGTCGCTTTACAAAGAGAGGAAAATCAGAGGTT
EC <i>ECAoperon</i> confirm F	AGAAAATGTGGATCCTGCGC
EC <i>ECAoperon</i> confirm R	CCGCCATCCACATAAACCCAG
EC <i>atp/BEFHAGDC</i> KO F	atacctcgaaggagcaggagtgaaaaactgatgGTGTAGGCTGGAGCT
EC <i>atp/BEFHAGDC</i> KO R	tgctttcaagccggtgttacatcctttttggTCATATGAATATCCTCCTTAGT
EC <i>atp/BEFHAGDC</i> confirm F	ACCGCTTTTTGATGCTTG
EC <i>atp/BEFHAGDC</i> confirm R	TTCAGGACGGGTCAATAC
EC <i>gmhB</i> KO F	gcgtcacatgccttattaaggagctataaaaggTGTGTAGGCTGGAGCTGCTTC
EC <i>gmhB</i> KO R	cgctcatcttttatcatcaogccggttttgctCATATGAATATCCTCCTTAGT
EC <i>gmhB</i> confirm F	CAGACGTCTAAATCAATCAGG
EC <i>gmhB</i> confirm R	GATGGAGGCGCATTATAG
EC <i>wzxE</i> KO F	aattgcgacctgttgaactactctctcatalgGTGTAGGCTGGAGCTGCTTC
EC <i>wzxE</i> KO R	tacgtgaatcagtcagtcagtcagccgctacgccaCATATGAATATCCTCCTTAGT
EC <i>wzxE</i> confirm F	CTACACCACCAAGAGAG
EC <i>wzxE</i> confirm R	TCGTTGAAAACCGCAG
EC <i>hscBA</i> KO F	gttatcgccgcatcgagccctgagaatggtatGTGTAGGCTGGAGCTGCTTC
EC <i>hscBA</i> KO R	ataacaatctttggcatattaaacctcgtccaoggaCATATGAATATCCTCCTTAGT
EC <i>hscBA</i> confirm F	cgaaagctccacggtt
EC <i>hscBA</i> confirm R	caatctogataccgttacg
EC <i>xerC</i> KO F	ggcgcgttgattgaacgcatgaccgatttacacGTGTAGGCTGGAGCTGCTTC
EC <i>xerC</i> KO R	aaggccgtaaaaacgcattatccccctttggcCATATGAATATCCTCCTTAGT
EC <i>xerC</i> confirm F	gattgggtgtgtgct
EC <i>xerC</i> confirm R	tcggtgcgcaaaatca
EC <i>tatC</i> KO F	ccttccccctcgtcgatgataaacctgaaacatgGTGTAGGCTGGAGCTGCTTC
EC <i>tatC</i> KO R	ctgagggcggttgattttatctcagtttttcCATATGAATATCCTCCTTAGT
EC <i>tatC</i> confirm F	AACAGAAGCCAGAAACTAC
EC <i>tatC</i> confirm R	CGAGCTGGTCAAATTAAC
EC <i>ubiH</i> KO F	GGGCACGACGCTGGCGCTGGCTATTTCCCGGTTAAGTCACGTGTAGGCTGGAGCTGCTTC
EC <i>ubiH</i> KO R	ACATCGCTGTGCTGGGGTAAATAATCCATCGTCATCAGCCATATGAATATCCTCCTTAGT
EC <i>ubiH</i> confirm F	GAACCAGGGCTGTATATTGCG
EC <i>ubiH</i> confirm R	CATCCGCCGCCAGAGG
EC <i>aroC</i> KO F	AAAGATTAGTAAACACGCAAAACACAACAATAACGGAGCCGTGTAGGCTGGAGCTGCTTC
EC <i>aroC</i> KO R	TTACCAGCGTGAATATCAGTCTCACATCGGCATTTTGCATATGAATATCCTCCTTAGT
EC <i>aroC</i> confirm F	GGCAGATTACCTCGTGATGA
EC <i>aroC</i> confirm R	TCAGCACCACGATACAGC
EH <i>atp/BEFHAGDC</i> KO F1	cgaaaggagcaggag taaaaactgtgcatgcatgcaattagctcaaaag
EH <i>atp/BEFHAGDC</i> KO F2	gttttatcagacacgcccatacct cgaaaggagcaggag
EH <i>atp/BEFHAGDC</i> KO R1	gactggctttgtgctttc aagccggtggacgatogaattggggatct

EH <i>atp/BEFHAGDC</i> KO R2	aaaaagccagccctgggatcca gactggcttttgcttttc
EH <i>atp/BEFHAGDC</i> confirm F	cgcttgggcaaaagtg
EH <i>atp/BEFHAGDC</i> confirm R	gaatacatcggggtaccttg
EH <i>arcA</i> KO F1	cactcgaggtttacata lgaacaaagacgatcgaattggggatctt
EH <i>arcA</i> KO F2	gacccttgatcaattgaaatcgga cactcgaggtttacat
EH <i>arcA</i> KO R1	ctcctgtttaagt taagacttgcgatcgaattagcttcaaaag
EH <i>arcA</i> KO R2	cgataaagaattaggcatgcttaacgg ctcctgtttaagtaa
EH <i>arcA</i> confirm F	gttgccgaaacacctg
EH <i>arcA</i> confirm R	cgataacctgcgtaacg
EH <i>gmhB</i> KO F1	cgaaacaagccttttcaggagc aaaccggacgatcgaattggggatctt
EH <i>gmhB</i> KO F2	ctgogattcatgagatactagcc gaacaagccttttcaggagc
EH <i>gmhB</i> KO R1	tattcaaccgctcacttttcgcaaaa acgctgcatgataaattagcttcaaaag
EH <i>gmhB</i> KO R2	agcggaaaaaatgcattttt tattcaaccgctcacttttcgcaaaa ac
EH <i>gmhB</i> confirm F	cttctgccagatacggg
EH <i>gmhB</i> confirm R	caggatttttctctcaaccg
EH <i>ubiH</i> KO F1	caacatttgcacggtcaatactc cgacgatcgaattggggatctt
EH <i>ubiH</i> KO F2	attccggcccccacaatggcgacat caacatttgcacggtcaatactc
EH <i>ubiH</i> KO R1	aggcgctgatggcgggcgacgcg gttgcgatgataaattagcttcaaaag
EH <i>ubiH</i> KO R2	gtggtgaaaaaacgacgatc gaggcgctgatggcgggcgacgcgt
EH <i>ubiH</i> confirm F	gtcagtagctttctgctgg
EH <i>ubiH</i> confirm R	catggtgctgacctg
EH <i>wzxE</i> KO F1	ctgagttattccctg atgacgatcgaattggggatctt
EH <i>wzxE</i> KO F2	ggtgaaccagcglacgggatcaattcgctt ctgagttattccctg
EH <i>wzxE</i> KO R1	gtgatcagtgacgtcattg catgataaattagcttcaaaag
EH <i>wzxE</i> KO R2	tggtgtagatcgggatattccgata gtgatcagtgacgtcattg
EH <i>wzxE</i> confirm F	gctggcgaagccttc
EH <i>wzxE</i> confirm R	cgttatcgctccaac
EH <i>ruvA</i> KO F1	ctttacctcacaatgcag cgcgcagacgatcgaattggggatctt
EH <i>ruvA</i> KO F2	ataccaggcgggtctgcttcaatcat ctttacctcacaatgcag
EH <i>ruvA</i> KO R1	ttccagaacgaggagc gtcaactgcatgataaattagcttcaaaag
EH <i>ruvA</i> KO R2	ttttattatgctggcagataatt ttccagaacgaggagc
EH <i>ruvA</i> confirm F	cctggatgaaaatctccatctg
EH <i>ruvA</i> confirm R	catgctgattaccactgtc
EH <i>aroC</i> KO F1	agagcgattgcggttttttc atagacgatcgaattggggatctt
EH <i>aroC</i> KO F2	tgctcactgaccagcagccag agagcgattgcggttttttc atag
EH <i>aroC</i> KO R1	cacaaacaacaacatcgagc cggtgcatgataaattagcttcaaaag
EH <i>aroC</i> KO R2	tcggccogtttcaaacgctcaaac cacaaacaacaacatcgagc cggtg
EH <i>aroC</i> confirm F	gtgogcatcacctgatag
EH <i>aroC</i> confirm R	catggtacatctgatagacgag
EH <i>pdxA</i> KO F1	gactcgattgctgattgatt aacatgacgatcgaattggggatctt
EH <i>pdxA</i> KO F2	acgggctaagtggccctgat gactcgattgctgattgatt aac

EH <i>pdxA</i> KO R1	tcacccggcgaa cccgcggttgcgatgcatgaattagctcaaaag
EH <i>pdxA</i> KO R2	ctgatgaaaccgatcgtgtgtgatc acccggcgaa cc
EH <i>pdxA</i> confirm F	gttcgtcgaggcgttc
EH <i>pdxA</i> confirm R	cagctgatggacacgc
EH <i>apaGH</i> KO F1	gaaggagaggataaacatc tgcgatcgaattgggatctt
EH <i>apaGH</i> KO F2	aacgtcgttaacggtttatcctcctc gaaggagaggataaacatc
EH <i>apaGH</i> KO R1	gacaatgcccgcgaag gagagcgaagcctgcatgcatgaattagctcaaaag
EH <i>apaGH</i> KO R2	agctggctaattacacagc gacaatgcccgcgaag
EH <i>apaGH</i> confirm F	cgcaaaactgtatcgaacg
EH <i>apaGH</i> confirm R	tgctgagccgatcagc
EH <i>lpdA</i> KO F1	gggtatacattaagaggtcatgatg tgcgatcgaattagctcaaaag
EH <i>lpdA</i> KO F2	cggatagaacgaccggtggacgac gggtatacattaagaggtcatgatg
EH <i>lpdA</i> KO R1	tctgaagaacctatttctctcgc ttgacgatcgaattgggatctt
EH <i>lpdA</i> KO R2	ggcctgagcgcgtttttctc tgaagaacctatttctctcgc
EH <i>lpdA</i> confirm F	ctggtgatgtaatcgaaaagc
EH <i>lpdA</i> confirm R	ggtaatgagctttgtgtaac
EH <i>hscBA</i> KO F1	tcttggcatataaacctcgtc acggagacgatcgaattgggatctt
EH <i>hscBA</i> KO F2	ccgcatgaggcaaaattaca cttggcatataaacctcgtc
EH <i>hscBA</i> KO R1	acaggctcccctgag attggtatgcatgcatgaattagctcaaaag
EH <i>hscBA</i> KO R2	cccgtacgcgtggggtttgtct gacaggctcccctgag
EH <i>hscBA</i> confirm F	gtcgaaacctcgaacgac
EH <i>hscBA</i> confirm R	caattcctcaacgacctc
EH <i>sapABCDF</i> KO F1	atcgaatctaaaaccttaaaact tgcgatcgaattagctcaaaag
EH <i>sapABCDF</i> KO F2	ggcgttaagtgcgatacatttgcgatcgaat ctaaaaccttaaaact
EH <i>sapABCDF</i> KO R1	actctgctggcaagc gggttacgcaacgggacgatcgaattgggatctt
EH <i>sapABCDF</i> KO R2	ccgcatgccatagagggtttact ctgctggcaagc
EH <i>sapABCDF</i> confirm F	cctgaaagagggcgaatataatc
EH <i>sapABCDF</i> confirm R	gagtcgacccgtcagac
EH <i>prc</i> KO F1	cctgttgggattatttgc ggagcaggacgatcgaattgggatctt
EH <i>prc</i> KO F2	aaacaggcacaatttctgt cccttgggattatttgc
EH <i>prc</i> KO R1	tgaacggaggc cgagcctggcatgtgcatgcatgaattagctcaaaag
EH <i>prc</i> KO R2	tgtacgcgcagaacacttgttct gaacggaggccgag
EH <i>prc</i> confirm F	octcagtttaacaaaacgac
EH <i>prc</i> confirm R	cggttctgacatcaatgc
EH <i>xerC</i> KO F1	tggagcgtggattgag cgctatgtgcatgcatgaattagctcaaaag
EH <i>xerC</i> KO F2	atgcocctgatggtcctgagttg ctggagcgtggattgag
EH <i>xerC</i> KO R1	gtaaaacgcattattccccg ttggcgacgatcgaattgggatctt
EH <i>xerC</i> KO R2	tgagatctgaccgagtgggcg gtaaaacgcattattccccg
EH <i>xerC</i> confirm F	gccggaagccaaagc
EH <i>xerC</i> confirm R	cagggactgacgcag
EH <i>proP</i> KO F1	ggctgagctacgaggaa gctatgtgcatgcatgaattagctcaaaag

EH <i>proP</i> KO F2	gcaaaatgcgctgfgaaacggacgggctgagctacgaggaag
EH <i>proP</i> KO R1	cggtttttatcactcgtaattctcggaacgatcgaattgggatctt
EH <i>proP</i> KO R2	taaagaaaaccgccagcggc cggtttttatcactcgtaattc
EH <i>proP</i> confirm F	cgctgglaggglaaaaagg
EH <i>proP</i> confirm R	gcacgtccctgaactg
EH <i>pstSCABphoU</i> KO F	tcatcgtagccacttaaaccaatgattacgaaactctgcaggagacattgcatgatcgaattagctcaaaag
EH <i>pstSCABphoU</i> KO R	accgaatggtccctctccctgtgggaggggttaggggtgagggtaaaaagacgatcgaattgggatctt
EH <i>pstSCABphoU</i> confirm F	gaaccagactaaacatgcttattgtg
EH <i>pstSCABphoU</i> confirm R	cgatccgcacaacaagc
CF <i>atp/BEFHAGDC</i> KO F	CGCGGCATACCTCGAAGGAGCAGGAGTAAAAACGTGATGGTGTAGGCTGGAGCTGCTTC
CF <i>atp/BEFHAGDC</i> KO R	CTGGAACACGACTGGCCTTTGTGCTTTTCAAGCCGGTGCATATGAATATCCTCCTTAGT
CF <i>atp/BEFHAGDC</i> confirm F	GCATAAAAGTGATAAATGTGGCGTAG
CF <i>atp/BEFHAGDC</i> confirm R	AGTGGCGCTGACTGATAAAC
CF <i>arnBCADTEF</i> KO F	AAACTTCGGTAGCGTTAATGGCTTGAAGGAATAATGATGGTGTAGGCTGGAGCTGCTTC
CF <i>arnBCADTEF</i> KO R	ATGGGAGCGCCTTTACGACTGTCCGGCAGATAAATGAGCCATATGAATATCCTCCTTAGT
CF <i>arnBCADTEF</i> confirm F	TAAACCACTCCCACTGTCTTTG
CF <i>arnBCADTEF</i> confirm R	CAAAAGGTGCGCTATGGAATGG
CF <i>gmhB</i> KO F	GTGGCAAAGTCTGTACCCGCAATTTTCTCGACCGTGACGGTGTAGGCTGGAGCTGCTTC
CF <i>gmhB</i> KO R	TGCATTTTTGTTCAACCGCTCACCTTTTACCATAACGCATATGAATATCCTCCTTAGT
CF <i>gmhB</i> confirm F	CTGTGAGGTACGGTGAAGCC
CF <i>gmhB</i> confirm R	CGGCTGTTGTGTAAGTGATTC
CF <i>ubiH</i> KO F	GTGACATTGAAGCATTAAATGGCTGCGGCGGACTGCAATGATGTAGGCTGGAGCTGCTTC
CF <i>ubiH</i> KO R	TTATCAGGCCTACTCTTTAATTCGGCCTACAGTTATATATGAATATCCTCCTTAGT
CF <i>ubiH</i> confirm F	CGGCATTGATTGAGGATGACATC
CF <i>ubiH</i> confirm R	CCTGAAAATAGGACAATCAAAAACCGTAG
CF <i>wzxE</i> KO F	ACGGTAATTCGACCTTACTCAACTACTTCGCCTGAAATGGTGTAGGCTGGAGCTGCTTC
CF <i>wzxE</i> KO R	CGTGAATCAGTACAGTCATGCCCGCCTACGCCAGAGTAACATATGAATATCCTCCTTAGT
CF <i>wzxE</i> confirm F	GTGTTCCACTACATCCCGCTG
CF <i>wzxE</i> confirm R	CTGGTGTGAAGTACCGCTG
CF <i>ruvA</i> KO F	(14)
CF <i>ruvA</i> KO R	(14)
CF <i>ruvA</i> confirm F	(14)
CF <i>ruvA</i> confirm R	(14)
CF <i>aroC</i> KO F	ATTACACGCGCACATACACAACACTCATAACGGAGCCGGTGTAGGCTGGAGCTGCTTC
CF <i>aroC</i> KO R	TTACCAGCGTGGAATATCGGTCTTACCGTCCGCATTTTGCATATGAATATCCTCCTTAGT
CF <i>aroC</i> confirm F	TAACGGTATTCTGATTTGTGAAGTCGG
CF <i>aroC</i> confirm R	GCCAGCGCCGAAGTG
CF <i>pdxA</i> KO F	AGCGCGCCAGCGCTTACGTTAAAGTTCTGAGCAACTAATGGTGTAGGCTGGAGCTGCTTC
CF <i>pdxA</i> KO R	TGATGGACTCGATTATTCATTGGTATTAAACATCATTTTCATATGAATATCCTCCTTAGT
CF <i>pdxA</i> confirm F	ACTCCTCTTTCGGTTGGCATC
CF <i>pdxA</i> confirm R	GTTCAATGACCGTGAGCTTGTGTC

CF <i>apaGH</i> KO F	ACTATCTGT CAGAAAACGCGCCATCGAAGGAGAGTTAAACGTGTAGGCTGGAGCTGCTTC
CF <i>apaGH</i> KO R	GTAGGCCTGATAAGCGTAGCGCCATCAGGCATAAATCTCCATATGAATATCCTCCTTAGT
CF <i>apaGH</i> confirm F	CGCCAGCGCCTAAAGTTGATTC
CF <i>apaGH</i> confirm R	AGAAGCTGTATCTGACGCACATTG
CF <i>lpdA</i> KO F	GACCCGGTGGACGACGGGTATAAATTAAGAGGTCATGATGGTGTAGGCTGGAGCTGCTTC
CF <i>lpdA</i> KO R	AAACGCCTCCGAAGAGCGTTTTTCACAAAAGCGGGAAGACATATGAATATCCTCCTTAGT
CF <i>lpdA</i> confirm F	TCATGAAGTCAGTGAGGTTATTGTGC
CF <i>lpdA</i> confirm R	GTCCGCAATCATGCCAAC
CF <i>hscBA</i> KO F	CCCGTGAAACAACAGAGAATCGATGCCCTGAGAATGTTATGGTGTAGGCTGGAGCTGCTTC
CF <i>hscBA</i> KO R	AAAAATAACAATCTTTGGCATATTAACCTCGTCCACAGACATATGAATATCCTCCTTAGT
CF <i>hscBA</i> confirm F	GGTACGCAGTTAGATTTTCGTCAAAG
CF <i>hscBA</i> confirm R	CCTTCACGTACGATGCAGTGG
CF <i>sapABCDF</i> KO F	TTAGTAAGATAGCCTCTTTATATAATCCATTAATAATTATGGTGTAGGCTGGAGCTGCTTC
CF <i>sapABCDF</i> KO R	GATGGCAGAATGCCCGGTTAAGGGGCGAGTCGTTGCATATGAATATCCTCCTTAGT
CF <i>sapABCDF</i> confirm F	CGCGTTTTATAGCAAGTCAGATGGG
CF <i>sapABCDF</i> confirm R	CAACTGTGCGACGAGGCCAG
CF <i>prc</i> KO F	GCAGAACACCTGGTGTCTGAAACGGAGGCCAGGCCTGGCGTGTAGGCTGGAGCTGCTTC
CF <i>prc</i> KO R	TGTTAAAAAACAGGCACAATTTCTGTGCCTGTTCCGAGGATATGAATATCCTCCTTAGT
CF <i>prc</i> confirm F	GGATGCCACCATTAGAAATCAC
CF <i>prc</i> confirm R	CTTATGACTATTTCAAGCATCCATAGGT
CF <i>xerC</i> KO F	GTTGCCGGAGCTGCTGGAGCGCTGGATTGAACGCGTATGAGTGTAGGCTGGAGCTGCTTC
CF <i>xerC</i> KO R	CCAAAGGCCGGTAAAAACGCATTATTTCCCGCTTTGGCCATATGAATATCCTCCTTAGT
CF <i>xerC</i> confirm F	GAATTGCTGGTCATGATGCCGGAG
CF <i>xerC</i> confirm R	GGTGACGCCATTGGGTAACATC
CF <i>proP</i> KO F	ACTGGAGCGTGACAGGGCTAAGTCTATGAGGACGAGATGGTGTAGGCTGGAGCTGCTTC
CF <i>proP</i> KO R	GTAGGCCTAAAAGCTGCGTGCCATCAGGCAATGACACGACATATGAATATCCTCCTTAGT
CF <i>proP</i> confirm F	GGTCATTAACCGCCAATCAGG
CF <i>proP</i> confirm R	GCACACGGTGGTCAAACCTTC
CF <i>psiSCABphoU</i> KO F	TCAAACAACGATTTACGAAAACCGTGCGAGGACATTATGGTGTAGGCTGGAGCTGCTTC
CF <i>psiSCABphoU</i> KO R	TGGCGCTAACGCTTATCCGGCCTACTTTCTACGTTTTTACATATGAATATCCTCCTTAGT
CF <i>psiSCABphoU</i> confirm F	CCATCCGAATCCCAACGCATC
CF <i>psiSCABphoU</i> confirm R	CCGCATAACAACCGATCGATC
CF <i>tatC</i> KO F	(14)
CF <i>tatC</i> KO R	(14)
CF <i>tatC</i> confirm F	(14)
CF <i>tatC</i> confirm R	(14)