

Supplemental text

Sequences of seven housekeeping genes:

>arc *Staphylococcus aureus* subsp. *aureus* NCTC 8325 chromosome, complete genome.

gcatcgacagcaagcaactactaacaatggacgattggtatcatagcctcaattatgctatatggcttatatatgcagcagg
tatcaattacttattattgacgatgttactttatattccagctcttctgtttatacaatcgttcaaaagaataatcagacacgtttgat
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atgcgggtggtggcggtattccagttataaaaaagaaaatacctatgaagggtgtgaagcgggttatagataaagatttgc
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>aro *Staphylococcus aureus* subsp. *aureus* NCTC 8325 chromosome, complete genome.

gcaaagagaaacgcgatgttatgatctctggtctaggctttataactataggaccaggggctaaagtaatcgttcgtgttccta
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aaagcaccatga

>glp *Staphylococcus aureus* subsp. *aureus* NCTC 8325 chromosome, complete genome.

gggagatttctacgagccaaactgctagtgtaggaatctcttctgtcttttgggaggacattaatatgaatgtatatttagcaga
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>gmK *Staphylococcus aureus* subsp. *aureus* NCTC 8325 chromosome, complete genome.

tgtgaacacgtcctgttgtaaaaaattgtagagactcaaccattttctttgtaaataagccatcataagccataatttatcttccac
cttcttcataatcctgtttcattttaacatgattgttaactttcagtatagttattgaaccatacattatgccatacattttacattatct
aaaagtttgcaattcaattttatttaataaaattaatcgtgcaatataacgatattgttagacttaatagaattatggcatgcaattt
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aagtacatcatataagtatttctatttcaatgacaacacgtcaaatgcgtgaagggtgaagttgatggcgtagattactttttaaaa
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>pta *Staphylococcus aureus* subsp. *aureus* NCTC 8325 chromosome, complete genome.

tgccaatcaactgcataaaataaatgtagactataccaacctctaatgtttcggctgcttgactcatgtttatcgctccttttca
aaaatcatcagttctttataaaattttatcataaagcaaaagggttaacgataaaattatgattacaaattgggtgacgtggcattatg
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>tpi *Staphylococcus aureus* subsp. *aureus* NCTC 8325 chromosome, complete genome.

tgcttggtatcaagcaatcaataataaataaaagtgatagtttaaagtgatgtggcatgtttgttaacattgttacgggaaa
acagtcacaagatgacatcgtgtttcatcacttttcaaaaatatttacaacaaggagtgctttaatgagaacaccaattata
gctggtaactggaaaaatgaacaaaacagtacaagaagcaaaagacttcgtcaatacattaccaacactaccagattcaaaa
gaagtagaatcagtaatttgtgcaccagcaattcaattagatgcattaactactgcagttaaagaaggaaaaagcacaaggttt
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gcgttaaatacgttgttatcggtcattctgaacgtcgtgaattattccacgaacagatgaagaaattaacaaaaaagcgcac
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agcaaagaagtatcagaagcaactcgtattcaatatgggtgtagtgtaaacctaacaacattaaagaatacatggcacaaa
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>yqi *Staphylococcus aureus* subsp. *aureus* NCTC 8325 chromosome, complete genome.

ccgattgccccaaacaattacatcattgtataatatgatttgttaaatgcataacaagaatgaaaatgtaacatacgtagcaatt
ggtttcataaattggatgttagtggcgtattggttcattagacgtatttagtaataaaattgtatataatcataaggagatgaatatga
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gatagtgaatagttccagtagtcattcctaacgtaaaggtgaaccaatcgtagtcactaaggatgaaggtgacgtgaaa
atgtatcagtcgaaaaattaagtcgattaagaccagctttcaaaaaagacggtagcagttacagcaggaatgcatcaggaat
caatgatgggtgctgcgatgatgttagtcagtcagaagacaaagctaagaattaaatatgaaccattggcagtgcttgatg
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atattagtcatttgatgggttaattgcaaatgctctaacaggggaaccaggtgca

The above sequences can be obtained through the following links:

arcC's reverse complement:

<https://www.ncbi.nlm.nih.gov/nucleotide/CP000253.1?from=2726672&to=2727976>

aroE's reverse complement

<https://www.ncbi.nlm.nih.gov/nucleotide/CP000253.1?from=1606989&to=1608372>

glpF:

<https://www.ncbi.nlm.nih.gov/nucleotide/CP000253.1?from=1232268&to=1233412>

gmk:

<https://www.ncbi.nlm.nih.gov/nucleotide/CP000253.1?from=1126504&to=1127663>

pta:

<https://www.ncbi.nlm.nih.gov/nucleotide/CP000253.1?from=576837&to=578152>

tpiA:

<https://www.ncbi.nlm.nih.gov/nucleotide/CP000253.1?from=779493&to=780559>

yqiL:

<https://www.ncbi.nlm.nih.gov/nucleotide/CP000253.1?from=347693&to=349181>

Primer sequences used in this study:

Please note that our PCR barcodes (PB01-PB08) were designed based on the sequences of native barcodes. Therefore, the bold sequences are the native barcodes.

>PB01-arcC-F

AAGAAAGTTGTCGGTGTCTTTGTGCATCGACAGCAAGCAACTA

>PB02-arcC-F

TCGATTCCGTTTGTAGTCGTCTGTGCATCGACAGCAAGCAACTA

>PB03-arcC-F

GAGTCTTGTGTCCCAGTTACCAGGCATCGACAGCAAGCAACTA

>PB04-arcC-F

TTCGGATTCTATCGTGTTTCCCTAGCATCGACAGCAAGCAACTA
>PB05-arcC-F

CTTGTCCAGGGTTTGTGTAACCTTGCATCGACAGCAAGCAACTA
>PB06-arcC-F

TTCTCGCAAAGGCAGAAAGTAGTCGCATCGACAGCAAGCAACTA
>PB07-arcC-F

GTGTTACCGTGGGAATGAATCCTTGCATCGACAGCAAGCAACTA
>PB08-arcC-F

TTCAGGGAACAAACCAAGTTACGTGCATCGACAGCAAGCAACTA
>PB01-arcC-R

AAGAAAGTTGTTCGGTGTCTTTGTGAACCTTGCAAAGTGTCAGCA
>PB02-arcC-R

TCGATTCCGTTTGTAGTCGTCTGTAACCTTGCAAAGTGTCAGCA
>PB03-arcC-R

GAGTCTTGTGTCCCAGTTACCAGGAACCTTGCAAAGTGTCAGCA
>PB04-arcC-R

TTCGGATTCTATCGTGTTTCCCTAACCTTGCAAAGTGTCAGCA
>PB05-arcC-R

CTTGTCCAGGGTTTGTGTAACCTTAACCTTGCAAAGTGTCAGCA
>PB06-arcC-R

TTCTCGCAAAGGCAGAAAGTAGTCAACCTTGCAAAGTGTCAGCA
>PB07-arcC-R

GTGTTACCGTGGGAATGAATCCTTAACCTTGCAAAGTGTCAGCA
>PB08-arcC-R

TTCAGGGAACAAACCAAGTTACGTAACCTTGCAAAGTGTCAGCA
>PB01-aroE-F

AAGAAAGTTGTTCGGTGTCTTTGTGCAAAGAGAAACGCGATGTT
>PB02-aroE-F

TCGATTCCGTTTGTAGTCGTCTGTGCAAAGAGAAACGCGATGTT
>PB03-aroE-F

GAGTCTTGTGTCCCAGTTACCAGGCAAAGAGAAACGCGATGTT
>PB04-aroE-F

TTCGGATTCTATCGTGTTTCCCTAGCAAAGAGAAACGCGATGTT
>PB05-aroE-F

CTTGTCCAGGGTTTGTGTAACCTTGCAAAGAGAAACGCGATGTT
>PB06-aroE-F

TTCTCGCAAAGGCAGAAAGTAGTCGCAAAGAGAAACGCGATGTT
>PB07-aroE-F

GTGTTACCGTGGGAATGAATCCTTGCAAAGAGAAACGCGATGTT
>PB08-aroE-F

TTCAGGGAACAAACCAAGTTACGTGCAAAGAGAAACGCGATGTT
>PB01-aroE-R

AAGAAAGTTGTCTGGTGTCTTTGTGTCATGGTGCTTTTTCAATGGAGAC
>PB02-aroE-R

TCGATTCCGTTTGTAGTCGTCTGTGTCATGGTGCTTTTTCAATGGAGAC
>PB03-aroE-R

GAGTCTTGTGTCCCAGTTACCAGGTCATGGTGCTTTTTCAATGGAGAC
>PB04-aroE-R

TTCGGATTCTATCGTGTTTCCCTATCATGGTGCTTTTTCAATGGAGAC
>PB05-aroE-R

CTTGTCCAGGGTTTGTGTAACCTTCATGGTGCTTTTTCAATGGAGAC
>PB06-aroE-R

TTCTCGCAAAGGCAGAAAGTAGTCATGGTGCTTTTTCAATGGAGAC
>PB07-aroE-R

GTGTTACCGTGGGAATGAATCCTTCATGGTGCTTTTTCAATGGAGAC
>PB08-aroE-R

TTCAGGGAACAAACCAAGTTACGTGTCATGGTGCTTTTTCAATGGAGAC
>PB01-glpF-F

AAGAAAGTTGTCTGGTGTCTTTGTGGGAGATTCTACGAGCCAAA
>PB02-glpF-F

TCGATTCCGTTTGTAGTCGTCTGTGGAGATTCTACGAGCCAAA
>PB03-glpF-F

GAGTCTTGTGTCCCAGTTACCAGGAGATTCTACGAGCCAAA
>PB04-glpF-F

TTCGGATTCTATCGTGTTTCCCTAGGAGATTCTACGAGCCAAA
>PB05-glpF-F

CTTGTCCAGGGTTTGTGTAACCTTGGAGATTCTACGAGCCAAA
>PB06-glpF-F

TTCTCGCAAAGGCAGAAAGTAGTCGGAGATTCTACGAGCCAAA
>PB07-glpF-F

GTGTTACCGTGGGAATGAATCCTTGGAGATTCTACGAGCCAAA
>PB08-glpF-F

TTCAGGGAACAAACCAAGTTACGTGGAGATTCTACGAGCCAAA
>PB01-glpF-R

AAGAAAGTTGTCTGGTGTCTTTGTGAACCCAACCTGATTGTGGAA
>PB02-glpF-R

TCGATTCCGTTTGTAGTCGTCTGTAACCCAACCTGATTGTGGAA
>PB03-glpF-R

GAGTCTTGTGTCCCAGTTACCAGGAACCCAACCTGATTGTGGAA
>PB04-glpF-R

TTCGGATTCTATCGTGTTTCCCTAACCCAACCTGATTGTGGAA
>PB05-glpF-R

CTTGTCCAGGGTTTGTGTAACCTTAACCCAACCTGATTGTGGAA
>PB06-glpF-R

TTCTCGCAAAGGCAGAAAGTAGTCAACCCAACCTGATTGTGGAA
>PB07-glpF-R

GTGTTACCGTGGGAATGAATCCTTAACCCAACCTGATTGTGGAA
>PB08-glpF-R

TTCAGGGAACAAACCAAGTTACGTAACCCAACCTGATTGTGGAA
>PB01-gmk-F

AAGAAAGTTGTTCGGTGTCTTTGTGTGAACGCGTCCTGTTGTTA
>PB02-gmk-F

TCGATTCCGTTTGTAGTCGTCTGTGAACGCGTCCTGTTGTTA
>PB03-gmk-F

GAGTCTTGTGTCCCAGTTACCAGGTGAACGCGTCCTGTTGTTA
>PB04-gmk-F

TTCGGATTCTATCGTGTTTCCCTAGTGAACGCGTCCTGTTGTTA
>PB05-gmk-F

CTTGTCCAGGGTTTGTGTAACCTTGTGAACGCGTCCTGTTGTTA
>PB06-gmk-F

TTCTCGCAAAGGCAGAAAGTAGTCGTGAACGCGTCCTGTTGTTA
>PB07-gmk-F

GTGTTACCGTGGGAATGAATCCTTGTGAACGCGTCCTGTTGTTA
>PB08-gmk-F

TTCAGGGAACAAACCAAGTTACGTGAACGCGTCCTGTTGTTA
>PB01-gmk-R

AAGAAAGTTGTTCGGTGTCTTTGTGTAACAGGGCGAATTTTACCG
>PB02-gmk-R

TCGATTCCGTTTGTAGTCGTCTGTAACAGGGCGAATTTTACCG
>PB03-gmk-R

GAGTCTTGTGTCCCAGTTACCAGGTAACAGGGCGAATTTTACCG
>PB04-gmk-R

TTCGGATTCTATCGTGTTTCCCTAACAGGGCGAATTTTACCG
>PB05-gmk-R

CTTGTCCAGGGTTTGTGTAACCTTAACAGGGCGAATTTTACCG
>PB06-gmk-R
TTCTCGCAAAGGCAGAAAGTAGTCTAACAGGGCGAATTTTACCG
>PB07-gmk-R
GTGTTACCGTGGGAATGAATCCTTAACAGGGCGAATTTTACCG
>PB08-gmk-R
TTCAGGGAACAAACCAAGTTACGTAACAGGGCGAATTTTACCG
>PB01-ptA-F
AAGAAAGTTGTTCGGTGTCTTTGTGCCCAATCAACTGCATAAA
>PB02-ptA-F
TCGATTCCGTTTGTAGTCGTCTGTGCCCAATCAACTGCATAAA
>PB03-ptA-F
GAGTCTTGTGTCCCAGTTACCAGGTGCCCAATCAACTGCATAAA
>PB04-ptA-F
TTCGGATTCTATCGTGTTCCTATGCCCAATCAACTGCATAAA
>PB05-ptA-F
CTTGTCCAGGGTTTGTGTAACCTTGCCCAATCAACTGCATAAA
>PB06-ptA-F
TTCTCGCAAAGGCAGAAAGTAGTCTGCCCAATCAACTGCATAAA
>PB07-ptA-F
GTGTTACCGTGGGAATGAATCCTTGCCCAATCAACTGCATAAA
>PB08-ptA-F
TTCAGGGAACAAACCAAGTTACGTGCCCAATCAACTGCATAAA
>PB01-ptA-R
AAGAAAGTTGTTCGGTGTCTTTGTGCGAATGCGAAAGATTGCATA
>PB02-ptA-R
TCGATTCCGTTTGTAGTCGTCTGTGCGAATGCGAAAGATTGCATA
>PB03-ptA-R
GAGTCTTGTGTCCCAGTTACCAGGCGAATGCGAAAGATTGCATA
>PB04-ptA-R
TTCGGATTCTATCGTGTTCCTACGAATGCGAAAGATTGCATA
>PB05-ptA-R
CTTGTCCAGGGTTTGTGTAACCTTCGAATGCGAAAGATTGCATA
>PB06-ptA-R
TTCTCGCAAAGGCAGAAAGTAGTCGAATGCGAAAGATTGCATA
>PB07-ptA-R
GTGTTACCGTGGGAATGAATCCTTCGAATGCGAAAGATTGCATA
>PB08-ptA-R

TTCAGGGAACAAACCAAGTTACGTCGAATGCGAAAGATTGCATA

>PB01-tpiA-F

AAGAAAGTTGTTCGGTGTCTTTGTGCCTGGTATCAAAGCAATCAA

>PB02-tpiA-F

TCGATTCCGTTTGTAGTCGTCTGTCCTGGTATCAAAGCAATCAA

>PB03-tpiA-F

GAGTCTTGTGTCCCAGTTACCAGGCCTGGTATCAAAGCAATCAA

>PB04-tpiA-F

TTCGGATTCTATCGTGTTTCCCTACCTGGTATCAAAGCAATCAA

>PB05-tpiA-F

CTTGTCCAGGGTTTGTGTAACCTTCCTGGTATCAAAGCAATCAA

>PB06-tpiA-F

TTCTCGCAAAGGCAGAAAGTAGTCCTGGTATCAAAGCAATCAA

>PB07-tpiA-F

GTGTTACCGTGGGAATGAATCCTTCCTGGTATCAAAGCAATCAA

>PB08-tpiA-F

TTCAGGGAACAAACCAAGTTACGTCCTGGTATCAAAGCAATCAA

>PB01-tpiA-R

AAGAAAGTTGTTCGGTGTCTTTGTGTAAGCCACTCGCTTCGATTT

>PB02-tpiA-R

TCGATTCCGTTTGTAGTCGTCTGTAAGCCACTCGCTTCGATTT

>PB03-tpiA-R

GAGTCTTGTGTCCCAGTTACCAGGTAAGCCACTCGCTTCGATTT

>PB04-tpiA-R

TTCGGATTCTATCGTGTTTCCCTAAGCCACTCGCTTCGATTT

>PB05-tpiA-R

CTTGTCCAGGGTTTGTGTAACCTTAAGCCACTCGCTTCGATTT

>PB06-tpiA-R

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>PB07-tpiA-R

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Sequences of 96 dual barcodes:

E.g., NB01PB01: rc(NB01)+CAGCACCT+(PB01)

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>NB01PB02

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>NB01PB03

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