

## DATA SET S3

Sequences of *mcr* gene variants.

>MK070339.1 E. coli strain 68A plasmid mcr-9.1

```
ATGCCTGTACTTTTCAGGGTGAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTAC
TTAACTGGCCAATATTGCTGCATTTTTACGAGATTTTGTGCGATTTAGAGCATGTCAAAATTGGTTTTGT
CATTTCTATTCCCTTTGTTCTGGTTGCGGCGCTTAACGTTGTTTTATGCCTTTCTCAGTTCGTTTTCTG
CTGAAACCTTTCTTTGCTTTACTGTTTATCACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAG
TAATGTTTGATCAAACGATGATTCAAAACATTATTGAACTAACCCCGAGGAAGCGCATTCTATCTTAA
TGGCTCAATTATTATATGGTTCGTCTTACCGGTATCCTCCTGCCATCCTCCTTTTTTCAATAAAAAATT
CAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCCTCGTGCTGGCATCGTTGAGTTTGA
TTGCAGGTGTTGCCGCACTTATTATCAGGATTATGCCTCTGTGCGCCGCAATAACTCGACATTGAATAA
AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTACTTTACGACTAAA
GTGCCTTTCCAGACGCTGGGGAATGATGCTAAACGCGTCGTCGCTCACGAAAAACCCACGCTGATGTTCC
TGGTGATTGGCGAAACGGCACGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTT
TACCAGCAAATCCGGCGGGCTTATTCGTTAAAAATATGCATTCTGCGGTACCGCTACCGCAATATCC
GTTCCGTGCATGTTCTCGAATATGAATCGCACCGAGTACGACAGTAAAAAAGCATCTAACAGTGAAAATT
TCCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAAAGAGAACGATGGCGGTTGTAAAGGCGT
ATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGTGCGATGGCAAAACGTGC
CATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCTTGTCGCTT
TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCC
CGAATGTGCACGTAGCGATATCGAAAACCTGTAICTAGGAACAATTGGTCAACACCTACGACAACACCCTT
CGTTATACAGACTATGTATTAGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCG
TGCTGCTTTATGTGTCGGATCATGGTGAATCATTGGGCGAAAGCGGGCTATATCTGCACGGCACGCCGTA
CAAACGGCACCGGATCAGCAGACGCATATTCCGATGCAGGTCTGGATGTCACCGGGCTTTATCGCCGGG
AAACACATCAACATGTCTTGCCCTTGAAAATAATGCGGCGAAAAAATCATATTCCCACGACAACCTGTTCT
CATCGATTTTGGGGCTGTGGGACGTAAGCACCAGCGTCTATAATCCTGACCGCGATTTGTTCCGCGAATG
CCGTGGCTAA
```

>CP027112.1:E. hormaechei BW plasmid unnamed1

ATGCCTGTA CTTTT CAGGGT GAAAGT TATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGCATTTAGAGCATGTCAAATTGGTTTTGTCATTTCTATTCCCTTT  
GTTC

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTTCTCAGTTCGTTTTCTGCTGAAACCTTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAACATTAT  
TGAAAC

TAACCCCGAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGCTTTACCGGTATCCTTCCTGC  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGCAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTACTTTACGACTAAAGTG  
CCTTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGTCGCTCACGAAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGGCTTA  
TTTCGTT

TAAAAATATGCATTCCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTGAAAATTTCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAACCTGTA CACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAGCGGGCTATATCTGCACGGCACGCCGTACAAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGGCGAAAA  
AATCATA

TTCCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCAGCGTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>CP023570.1:E. hormaechei BW plasmid unnamed2

ATGCCTGTACTTTTCAGGGTGAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTACGAGATTTTGTGCGATTTAGAGCATGTCAAATGGTTTTGTCATTTCTATTCCCTTT  
GTTC

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTCTCAGTTCGTTTTCTGCTGAAACCTTCTTTGCTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTACCGGTATCCTTCTGCG  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGCAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTACTTTACGACTAAAGTG  
CCTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGTCGCTCACGAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTGAAAATTTCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAAGCGGGCTATATCTGCACGGCACGCCGTACAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCAGCGTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>CP033102.1:E. hormaechei L51 chromosome

ATGCCTGTACTTTTCAGGGTGAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGATTTAGAGCATGTCAAATGGTTTTGTCATTTCTATTCCCTTT  
GTTC

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTTCTCAGTTCGTTTTCTGCTGAAACCTTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCGAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTTACCGGTATCCTTCCTGC  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGCAATAACTCGACATT  
GAATAA

AGAGATCATCCCGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTACTTTACGACTAAAGTG  
CCTTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGTCGCTCACGAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTAAAATTTCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAGCGGGCTATATCTGCACGGCACGCCGTACAAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCAGCGTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>CP045205.1:Citrobacter sp. NMI7904\_11 chromosome

ATGCCTGTACTTTTCAGGGTGAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTACGAGATTTTGTGCGCATTTAGAGCATGTCAAATGGTTTTGTCATTTCTATTCCCTTT  
GTTT

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTCTCAGTTCGTTTTCTGCTGAAACCTTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCGAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTTACCGGTATCCTTCTGC  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGCAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTACTTTACGACTAAAAGTG  
CCTTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGCTCACGAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTGAAAATTCCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAAGCGGGCTATATCTGCACGGCACGCCGTACAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGGCGAAAA  
AATCATA

TTCCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCAGCGTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>CP042552.1:E. hormaechei C45 plasmid pC45\_001

TTAGCCACGGCATTTCGCGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG

AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTTCAAGGCAAGACATGTTGATGTGTTTCCCG  
GCGATA

AAGCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTCCGCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTGTTACTGATCGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTGTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA

CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGCTGCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTCGACAGTCGGGATGCGG  
CTACAT

ACGCCTTTACAACCGCCATCGTTCTCTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAAT  
TTCAT

GTTAGATGCTTTTTACTGTCGTAICTGGTGCGATTCAATTCGAGAACATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTTAAACGAAATAACGCCGCCGGATTTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC

ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTCTGAGCGACGA  
CGCGTTT

AGCATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT

AGTTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTAG  
GATATTG

AATTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATATTTTAGTG  
TCGAA

TAAGTACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAGG  
CATAAAAAAC

AACGTTAAGCGCCGCAACCAGAACAAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGA  
CAAATCT

CGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAA  
TAACTTTC

ACCCTGAAAAGTACAGGCAT

>CP043767.1:E. hormaechei plasmid pIMPInch12\_331kb

TTAGCCACGGCATTTCGCGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG

AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTTCAAGGCAAGACATGTTGATGTGTTTCCCG  
GCGATA

AAGCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTCGCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTGTACTGATCGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA

CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGCTGCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTTTCGACAGTCGGGATGCGG  
CTACAT

ACGCCTTTACAACCGCCATCGTTCTCTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAATT  
TTCAT

GTTAGATGCTTTTTACTGTCGTA CTGGTGCGATTTCATATTCGAGAACATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTTAAACGAAATAACGCCGCCGGATTTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC

ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTTCGTGAGCGACGA  
CGCGTTT

AGCATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT

AGTTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTAG  
GATATTG

AATTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATATTTTAGTG  
TCGAA

TAAGTACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAAGG  
CATAAAAAC

AACGTTAAGCGCCGCAACCAGAACAAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGA  
CAAAATCT

CGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAA  
TAACTTTC

ACCCTGAAAAGTACAGGCAT

>CP042525.1:C. freundii E11 plasmid pE11\_001

TTAGCCACGGCATTGCGGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG



AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTTCAAGGCAAGACATGTTGATGTGTTTCCCG  
GCGATA

AAGCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTTCGCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTGTACTGATCGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTGTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA

CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGCTGCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTTGACAGTCGGGATGCGG  
CTACAT

ACGCCTTTACAACCGCCATCGTTCTCTTCCATAACAGCGAGACACCGTTTTCTGCACGATGTCGAGGAAATT  
TTCACT

GTTAGATGCTTTTTTACTGTCGTAICTGGTGCATTTCATATTCGAGAACATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTTAAACGAAATAACGCCGCCGATTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC

ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTTCGTGAGCGACGA  
CGCGTTT

AGCATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT

AGTTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTAG  
GATATTG

AATTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATATTTTAGTG  
TCGAA

TAAGTACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAGG  
CATAAAAAC

AACGTTAAGCGCCGAACCCAGAACAAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGA  
CAAAATCT

CGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAA  
TAACTTTC

ACCCTGAAAAGTACAGGCAT

>CP042579.1:E. kobei C16 plasmid pC16\_001

ATGCCCTGACTTTTCAGGGTGAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGCATTTAGAGCATGTCAAATTGGTTTTGTCATTTCTATTCCCTTT  
GTTT

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTTCTCAGTTCGTTTTCTGCTGAAACCTTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCCAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTTACCGGTATCCTTCCTGC  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGCAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTACTTTACGACTAAAAGTG  
CCTTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGCTCACGAAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTGAAAATTTCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAGCGGGCTATATCTGCACGGCACGCCGTACAACTGGCACCCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCAGCGTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>CP042494.1:L. adecarboxylata plasmid pE61\_001

TTAGCCACGGCATTTCGCGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG

AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTTCAAGGCAAGACATGTTGATGTGTTCCCG  
GCGATA

AAGCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTCGCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTGTACTGATCGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTTGTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA

CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGCTGCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTTCGCGATTTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTTGACAGTCGGGATGCGG  
CTACAT

ACGCCTTTACAACCGCCATCGTTCTCTTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAAT  
TTCACT

GTTAGATGCTTTTTACTGTCGTAICTGGTGCGATTTCATATTCGAGAACATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTTAAACGAAATAACGCCGCCGATTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC

ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTTCGTGAGCGACGA  
CGCGTTT

AGCATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT

AGTTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTTCAG  
GATATTG

AATTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATATTTTAGTG  
TCGAA

TAAGTACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAAGG  
CATAAAAAAC

AACGTTAAGCGCCGCAACCAGAACAAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGA  
CAAAATCT

CGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAA  
TAACTTTC

ACCCTGAAAAGTACAGGCAT

>CP042489.1:E. hormaechei C15 plasmid pC15\_001

TTAGCCACGGCATTTCGCGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG

AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTTCAAGGCAAGACATGTTGATGTGTTCCCG  
GCGATA

AAGCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTTCGCCAATGATTACCATGATCGGACACATAAAGCAGCACGGTGTTGTACTGATCGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTGTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA

CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGTGCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTTTCGACAGTCGGGATGCGG  
CTACAT

ACGCCTTTACAACCGCCATCGTTCTCTTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAATT  
TTCAT

GTTAGATGCTTTTTTACTGTCGTAAGTTCGGTGCATTATTCGAGAACATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTTAAACGAAATAACGCCCGCGGATTTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC

ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTTCGTGAGCGACGA  
CGCGTTT

AGCATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT

AGTTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTAG  
GATATTG

AATTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATATTTTAGTG  
TCGAA

TAAGTACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAGG  
CATAAAAAAC

AACGTTAAGCGCCGAACCCAGAACAAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGA  
CAAATCT

CGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAA  
TAACTTTC

ACCCTGAAAAGTACAGGCAT

>CP042506.1:L. adecarboxylata E1 plasmid pE1\_001

TTAGCCACGGCATTTCGCGGAACAAATCGCGGTCCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG

AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTTCAAGGCAAGACATGTTGATGTGTTTCCG  
GCGATA

AAGCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTCGCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTGTAAGTATGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTGTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA

CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGCTGCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTTTCGACAGTCGGGATGCGG  
CTACAT

ACGCCTTTACAACCGCCATCGTTCTCTTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAATT  
TTCACT

GTTAGATGCTTTTTACTGTCGTA CTGGTGC GATT CATATTCGAGA ACATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTTAAACGAAATAACGCCGCCGATTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC

ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTCTGTGAGCGACGA  
CGCGTTT

AGCATCATTCCCAGCGTCTGGAAAGGCACCTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT

AGTTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTAG  
GATATTG

AATTTTTATTGAAAAAGGAGGATGGCAGGAAGGATACCGGTAAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATATTTAGTG  
TCGAA

TAAGTACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAGG  
CATAAAAAC

AACGTTAAGCGCCGCAACCAGAACAAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGA  
CAAAATCT

CGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAA  
TAACTTTC

ACCCTGAAAAGTACAGGCAT

>CP044215.1:K. aerogenes plasmid pIMPIncH12\_334kb

ATGCCTGTACTTTTCAGGGTAAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGATTTAGAGCATGTCAAATGGTTTTGTCATTTCTATTCCCTTT  
GTTT

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTTCTCAGTTCGTTTTCTGCTGAAACCTTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAACATTAT  
TGAAAC

TAACCCCGAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTTACCGGTATCCTTCTGCG  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTACTIONTACACTAAAGTG  
CCTTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGTCGCTCACGAAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTGAAAATTTCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAAGCGGGCTATATCTGCACGGCACGCCGTACAAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCGCGTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>CP044177.1:S. enterica AR-0407 chromosome

ATGCCTGTACTIONTTTACGGGTGAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGATTTAGAGCATGTCAAATGGTTTTGTCATTTCTATTCCCTTT  
GTTC

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTCTCAGTTCGTTTTCTGCTGAAACCTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTTACCGGTATCCTTCCTGC  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGACTTTATTATCAGGATTATGCCTCTGTGCGCCGCAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCAGTATGTTAAGGATACGTACTTTACGACTAAAGTG  
CCTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGTCGCTCACGAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTGAAAATTTCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAGCGGGCTATATCTGCACGGCACGCCGTACAAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCACGACAACCTGTTCTCATCGATTTGGGGCTGTGGGACGTAAGCACCGCTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA



>CP043927.1:K. quasipneumoniae plasmid p17277A\_477

ATGCCGTACTTTTCAGGGTGAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGCATTTAGAGCATGTCAAATTGGTTTTGTCATTTCTATTCCCTTT  
GTTT

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTCTCAGTTCGTTTTCTGCTGAAACCTTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCCAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTTACCGGTATCCTTCCTGC  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGCAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTACTTTACGACTAAAAGTG  
CCTTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGCTCACGAAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTGAAAATTTCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAGCGGGCTATATCTGCACGGCACGCCGTACAACTGGCACCCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCAGCGTCTATAATCCTGACCCGG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>CP040696.1:C. freundii R47 plasmid pR47-309

TTAGCCACGGCATTTCGCGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG

AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTCAAGGCAAGACATGTTGATGTGTTCCCG  
GCGATA

AAGCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTGCCCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTGTACTGATCGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTTGTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA

CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGCTGCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTTTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTTGACAGTCGGGATGCGG  
CTACAT

ACGCCTTTACAACCGCCATCGTTCTCTTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAATT  
TTCACT

GTTAGATGCTTTTTACTGTCGTAICTGGTGCGATTTCATATTCGAGAATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTTAAACGAAATAACGCCGCCGATTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC

ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTCTGTGAGCGACGA  
CGCGTTT

AGCATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT

AGTTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTTCAG  
GATATTG

AATTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATATTTTAGTG  
TCGAA

TAAGTACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAAGG  
CATAAAAAC

AACGTTAAGCGCCCAACCAAGAAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGA  
CAAAATCT

CGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAA  
TAACTTTC

ACCCTGAAAAGTACAGGCAT

>MK070339.1:E. coli 68A plasmid

ATGCCTGTACTTTTCAGGGTGAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGATTTAGAGCATGTCAAATGGTTTTGTCATTTCTATTCCCTTT  
GTTT

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTCTCAGTTCGTTTTCTGCTGAAACCTTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCGAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGCTTTACCGGTATCCTTCTGTC  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGCAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGGAACACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTAATTTACGACTAAAAGTG  
CCTTTC

AGACGCTGGGGAATGATGCTAAACGCGTCGCTCACGAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTGCGGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAGCATCTAACAGTGAAAATTCCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAGCGGGCTATATCTGCACGGCAGCCGTACAAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCGCTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>NG\_064792.1:S. enterica HUM\_TYPH\_WA\_10\_R9\_3274 plasmid

ATGCCTGTACTTTTCAGGGTCAAAGTTATCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGATTTAGAGCATGTCAAATTGGTTTTGTCATTTCTATTCCCTTT  
GTTT

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTTCTCAGTTCGTTTTCTGCTGAAACCTTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCGAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTTACCGGTATCCTTCCTGC  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGCAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTACTTTACGACTAAAAGTG  
CCTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGCTCGCTCACGAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTGAAAATTTCTCGACATCGTGAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAGCGGGCTATATCTGCACGGCACGCCGTACAAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCAGCGTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>CP020529.1:E. cloacae 174 plasmid unnamed1

ATGCCTGTACTTTTCAGGGTGAAAGTTATTCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCATTTAGAGCATGTCAAATGGTTTTGTCATTTCTATTCCCTTT  
GTTC

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTTCTCAGTTCGTTTTCTGCTGAAACCTTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCCAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTTACCGGTATCCTTCCTGC  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTA CTTTACGACTAAAAGTG  
CCTTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGTCGCTCACGAAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTGAAAATTTCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAAGCGGGCTATATCTGCACGGCACGCCGTACAAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCGCGTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>MH909331.1:L. adecarboxylata plasmid p707804-NDM

ATGCCTGTA CTTTTAGGGTGAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGATTTAGAGCATGTCAA AATTGGTTTTGTCATTTCTATTCCCTTT  
GTTT

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTCTCAGTTCGTTTTCTGCTGAAACCTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTTACCGGTATCCTTCCTGC  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGACTTTATTATCAGGATTATGCCTCTGTGCGCCGCAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCAGTATGTTAAGGATACGTACTTTACGACTAAAGTG  
CCTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGTCGCTCACGAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTGAAAATTCCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAGCGGGCTATATCTGCACGGCACGCCGTACAAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCACGACAACCTGTTCTCATCGATTTGGGGCTGTGGGACGTAAGCACCGCTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>MK191844.1:S. enterica 4[5]12:i:- 77 plasmid

TTAGCCACGGCATTTCGCGGAACAAATCGCGGTGAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG

AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTTCAAGGCAAGACATGTTGATGTGTTTCCCG  
GCGATA

AAGCCCAGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTTCGCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTGTACTGATCGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTGTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA

CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGCTGCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTTGCACAGTCGGGATGCGG  
CTACAT

ACGCCTTACAACCGCCATCGTTCTCTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAATT  
TTCAT

GTTAGATGCTTTTTTACTGTCGTAICTGGTGCGATTTCATATTCGAGAACATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTTAAACGAAATAACGCCGCCGGATTTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC

ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTTCGTGAGCGACGA  
CGCGTTT

AGCATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT

AGTTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTAG  
GATATTG

AATTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATTTTTAGTG  
TCGAA



TAACTGACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAGG  
CATAAAAAC

AACGTTAAGCGCCGCAACCAGAACAAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGA  
CAAAATCT

CGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAA  
TAACTTTC

ACCCTGAAAAGTACAGGCAT

>MK191841.1:S. Typhimurium var. 5- 64 plasmid

ATGCCTGTACTTTTCAGGGTGAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGATTTAGAGCATGTCAAATGGTTTTGTCATTTCTATTCCCTTT  
GTTC

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTCTCAGTTCGTTTTCTGCTGAAACCTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAACATTAT  
TGAAAC

TAACCCCGAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTTACCGGTATCCTTCCTGC  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGCAATAACTCGACATT  
GAATAA

AGAGATCATCCCGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTACTTTACGACTAAAGTG  
CCTTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGTCGCTCACGAAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGGCGTTA  
TTTCGTT

TAAAAATATGCATTCCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTAAAAATTCCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAAGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAAGCGGGCTATATCTGCACGGCAGCCGTACAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCAGCGTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>MK191835.1:S. Braenderup 76 plasmid

TTAGCCACGGCATTTCGCGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG

AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGCATTATTTCAAGGCAAGACATGTTGATGTGTTCCCG  
GCGATA

AAGCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTGCCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTGACTGATCGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTGTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA

CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGCTGCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTCGACAGTCGGGATGCGG  
CTACAT

ACGCCTTTACAACCGCCATCGTTCTCTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAATT  
TTCAT

GTTAGATGCTTTTTACTGTCGTAICTGGTGCGATTATTCGAGAACATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTTAAACGAAATAACGCCCGCGGATTTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC

ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTTCGTGAGCGACGA  
CGCGTTT

AGCATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT

AGTTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTAG  
GATATTG

AATTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATATTTTAGTG  
TCGAA

TAAGTACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAGG  
CATAAAAAAC

AACGTTAAGCGCCGCAACCAGAACAAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGA  
CAAAATCT

CGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAA  
TAACTTTC

ACCCTGAAAAGTACAGGCAT

>CP028975.1:Cronobacter sakazakii pGW1

TTAGCCACGGCATTTCGCGGAACAAATCGCGGTGAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG

AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTTCAAGGCAAGACATGTTGATGTGTTTCCG  
GCGATA

AAGCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTCGCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTGACTGATCGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTGTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA

CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGCTGCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTTTCGACAGTCGGGATGCGG  
CTACAT

ACGCCTTTACAACCGCCATCGTTCTCTTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAATT  
TTCACT

GTTAGATGCTTTTTACTGTCGTA CTGGTGC GATT CATATTCGAGA ACATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTTAAACGAAATAACGCCGCCGATTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC

ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTCTGTGAGCGACGA  
CGCGTTT

AGCATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT

AGTTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTAG  
GATATTG

AATTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATATTTTAGTG  
TCGAA

TAAGTACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAGG  
CATAAAAAC

AACGTTAAGCGCCGCAACCAGAACAAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGA  
CAAAATCT

CGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAA  
TAACTTTC

ACCCTGAAAAGTACAGGCAT

>MH829594.1:E.cloacae EC62 plasmid pIMP-4-EC62

ATGCCTGTACTTTTCAGGGTAAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGATTTAGAGCATGTCAAATTGGTTTTGTCATTTCTATTCCCTTT  
GTTT

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTTCTCAGTTCGTTTTCTGCTGAAACCTTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCGAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTTACCGGTATCCTTCTGCG  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTA CTTTACGACTAAAAGTG  
CCTTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGTCGCTCACGAAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTGAAAATTTCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAAGCGGGCTATATCTGCACGGCACGCCGTACAAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCGAGCTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>CP032893.1:E.kobei WCHEK045523 plasmid p1\_045523

ATGCCTGTA CTTTTAGGGTGAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGATTTAGAGCATGTCAA AATTGGTTTTGTCATTTCTATTCCCTTT  
GTTT

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTCTCAGTTCGTTTTCTGCTGAAACCTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTTACCGGTATCCTTCCTGC  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTGCGCCGCAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTACTTTACGACTAAAGTG  
CCTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGTCGCTCACGAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTGAAAATTTCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAGCGGGCTATATCTGCACGGCACGCCGTACAAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCACGACAACCTGTTCTCATCGATTTGGGGCTGTGGGACGTAAGCACCGCTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>CP032842.1:E. hormaechei C15117 plasmid pSPRC-Echo1

TTAGCCACGGCATTTCGCGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG

AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTTCAAGGCAAGACATGTTGATGTGTTTCCCG  
GCGATA

AAGCCCAGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTTCGCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTGTACTGATCGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA

CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGCTGCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTTCGGCGATTTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTCGACAGTCGGGATGCGG  
CTACAT

ACGCCTTACAACCGCCATCGTTCTCTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAATT  
TTCAT

GTTAGATGCTTTTTTACTGTCGTAICTGGTGCGATTTCATTCGAGAACATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTTAAACGAAATAACGCCCGCGGATTTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC

ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTTCGTGAGCGACGA  
CGCGTTT

AGCATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT

AGTTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTAG  
GATATTG

AATTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATTTTTAGTG  
TCGAA

TAACTGACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAGG  
CATAAAAAC

AACGTTAAGCGCCGCAACCAGAACAAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGA  
CAAAATCT

CGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAA  
TAACTTTC

ACCCTGAAAAGTACAGGCAT

>MH399264.1:E. cloacae RJ702 plasmid pIMP26

ATGCCTGTACTTTTCAGGGTGAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGATTTAGAGCATGTCAAATGGTTTTGTCATTTCTATTCCCTTT  
GTTT

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTCTCAGTTCGTTTTCTGCTGAAACCTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAACATTAT  
TGAAAC

TAACCCCGAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTTACCGGTATCCTTCTGCG  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGCAATAACTCGACATT  
GAATAA

AGAGATCATCCCGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTACTTTACGACTAAAGTG  
CCTTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGTCGCTCACGAAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGGCGTTA  
TTTCGTT

TAAAAATATGCATTCCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTAAAAATTTCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCCT



TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAAGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAAGCGGGCTATATCTGCACGGCACGCCGTACAAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCAGCGTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>CP031568.1:E. hormaechei plasmid pSHV12-1301491

ATGCCTGTACTTTTCAGGGTAAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGATTTAGAGCATGTCAAATGGTTTTGTCATTTCTATTCCCTTT  
GTTT

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTCTCAGTTCGTTTTCTGCTGAAACCTTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCGAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGCTTTACCGGTATCCTTCTGTC  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGCAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTACTTTACGACTAAAAGTG  
CCTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGCTCACGAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAGCATCTAACAGTGAAAATTCCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAGCGGGCTATATCTGCACGGCAGCCGTACAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCGCTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>CP031575.1:E. hormaechei A1 plasmid pIncHI2-1502264

ATGCCTGTACTTTTCAGGGTGAAAGTTATCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGATTTAGAGCATGTCAAATTGGTTTTGTCATTTCTATTCCCTTT  
GTTT

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTTCTCAGTTCGTTTTCTGCTGAAACCTTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCGAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTTACCGGTATCCTTCCTGC  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGCAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTACTTTACGACTAAAAGTG  
CCTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGTCGCTCACGAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTAAAATTTCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCAGCTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAGCGGGCTATATCTGCACGGCACGCCGTACAAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCAGCGTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>CP031571.1:E. hormaechei N1 chromosome

ATGCCTGTACTTTTCAGGGTGAAAGTTATTCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGATTTAGAGCATGTCAAATGGTTTTGTCATTTCTATTCCCTTT  
GTTC

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTTCTCAGTTCGTTTTCTGCTGAAACCTTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCGAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTTACCGGTATCCTTCTGCG  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTA CTTTACGACTAAAAGTG  
CCTTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGTCGCTCACGAAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTGAAAATTTCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAAGCGGGCTATATCTGCACGGCACGCCGTACAAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCGAGCTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>CP029248.1:E. xiangfangensis plasmid pOSUEC\_D

TTAGCCACGGCATTGCGGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG

AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTCAAGGCAAGACATGTTGATGTGTTTCCCG  
GCGATA

AAGCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTGCCCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTTGTAAGTACTGATCGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTTGTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA

CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGCTGCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTCGACAGTCGGGATGCGG  
CTACAT

ACGCCTTTACAACCGCCATCGTTCTCTTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAAT  
TTCAT

GTTAGATGCTTTTTACTGTCGTAAGTCTCGGTGCGATTTCATATTCGAGAACATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTTAAACGAAATAACGCCGCCGATTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC

ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTTCGTGAGCGACGA  
CGCGTTT

AGCATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT

AGTTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTAG  
GATATTG

AATTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATATTTTAGTG  
TCGAA

TAACTGACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAGG  
CATAAAAAC

AACGTTAAGCGCCGCAACCAGAACAAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGA  
CAAAATCT

CGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAA  
TAACTTTC

ACCCTGAAAAGTACAGGCAT

>CP031102.1:Leclercia sp. W17 plasmid pW17-1

TTAGCCACGGCATTTCGCGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG

AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTTCAAGGCAAGACATGTTGATGTGTTTCCCG  
GCGATA

AAGCCCAGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTTCGCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTGTACTGATCGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA

CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGCTGCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTTCGGCGATTTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTCGACAGTCGGGATGCGG  
CTACAT

ACGCCTTACAACCGCCATCGTTCTCTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAATT  
TTCAT

GTTAGATGCTTTTTTACTGTCGTAICTGGTGCGATTTCATTCGAGAACATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTTAAACGAAATAACGCCCGCGGATTTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC

ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTTCGTGAGCGACGA  
CGCGTTT

AGCATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT

AGTTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTAG  
GATATTG

AATTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATTTTTAGTG  
TCGAA

TAAGTACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAGG  
CATAAAAAC  
AACGTTAAGCGCCGCAACCAGAACAAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGA  
CAAAATCT  
CGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAA  
TAACTTTC  
ACCCTGAAAAGTACAGGCAT

>CP030186.1:S. enterica plasmid pSA20094620.1

TTAGCCACGGCATTTCGCGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG  
AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTCAAGGCAAGACATGTTGATGTGTTCCCG  
GCGATA  
AAGCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA  
TAGCCCGCTTTTCGCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTGTACTGATCGCTGTAAT  
TTTTTA  
GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTGTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA  
CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC  
ATGGTGCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTTCATCATCAAGGTTTTCCA  
GCATCA  
CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTTGACAGTCGGGATGCGG  
CTACAT  
ACGCCTTTACAACCGCCATCGTTCTCTTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAAT  
TTCAT  
GTTAGATGCTTTTTACTGTCGTAAGTTCGGTTCGATTTCATATTCGAGAACATGCACGGAACGGATATTGCGGTA  
GCGGTAC  
CGCAGGAATGCATATTTTAAACGAAATAACGCCCGCGGATTTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC  
ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTTCGTGAGCGACGA  
CGCGTTT  
AGCATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT  
AGTTCGCCGGGATGATCTCTTTATTCAATGTGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTTCAG  
GATATTG

AATTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATATTTTAGTG  
TCGAA

TAAGTACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAAGG  
CATAAAAAAC

AACGTTAAGCGCCCAACCAGAACAAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGA  
CAAAATCT

CGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAA  
TAACTTTC

ACCCTGAAAAGTACAGGCAT

>LT994835.1:K. pneumoniae plasmid CNR48

TTAGCCACGGCATTTCGCGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG

AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTTCAAGGCAAGACATGTTGATGTGTTCCCG  
GCGATA

AAGCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTTCGCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTTGTACTGATCGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTGTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA

CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGTGCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTTGACAGTCGGGATGCGG  
CTACAT

ACGCCTTTACAACCGCCATCGTTCTCTTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAATT  
TTCAT

GTTAGATGCTTTTTTACTGTCGTAAGTTCGGTGCATTCATATTCGAGAACATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTTAAACGAAATAACGCCCGCGGATTTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC



ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTTCGTGAGCGACGA  
CGCGTTT

AGCATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT

AGTTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTAG  
GATATTG

AATTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATATTTTAGTG  
TCGAA

TAAGTACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAGG  
CATAAAAAAC

AACGTTAAGCGCCGCAACCAGAACAAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGA  
CAAAATCT

CGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAA  
TAACTTTC

ACCCTGAAAAGTACAGGCAT

>CP030080.1:E. hormaechei plasmid pIMP-20710

ATGCCTGTACTTTTCAGGGTGAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGATTTAGAGCATGTCAAATTGGTTTTGTCATTTCTATTCCCTTT  
GTTT

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTTCTCAGTTCGTTTTCTGCTGAAACCTTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCCAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTTACCGGTATCCTTCCTGC  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGCAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTACTTTACGACTAAAAGTG  
CCTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGTCGCTCACGAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTGAAAATTTCTCGACATCGTGAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCAGCTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAGCGGGCTATATCTGCACGGCACGCCGTACAAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCAGCGTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>CP024910.1:E. xiangfangensis plasmid pOSUKPC4

TTAGCCACGGCATTTCGCGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG

AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTTCAAGGCAAGACATGTTGATGTGTTTCCG  
GCGATA

AAGCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTCCGCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTGACTGATCGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTGTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA

CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGCTGCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTCGACAGTCGGGATGCGG  
CTACAT

ACGCCTTTACAACCGCCATCGTTCTCTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAATT  
TTCCT

GTTAGATGCTTTTTACTGTCGTA CTGGTGCATTATTCGAGAACATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTTAAACGAAATAACGCCCGCGATTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC

ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTCTGAGCGACGA  
CGCGTTT

AGCATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT

AGTTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTAG  
GATATTG

AATTTTTATTGAAAAAGGAGGATGGCAGGAAGGATACCGGTAAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATATTTTAGTG  
TCGAA

TAAGTACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAAGG  
CATAAAAAC

AACGTTAAGCGCCGCAACCAGAACAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGA  
CAAAATCT

CGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAA  
TAACTTTC

ACCCTGAAAAGTACAGGCAT

>CP029037.1:S. Senftenberg str. 361154004 plasmid

ATGCCTGACTTTTCAGGGTGAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGATTTAGAGCATGTCAAATGGTTTTGTCATTTCTATTCCCTTT  
GTTC

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTCTCAGTTCGTTTTCTGCTGAAACCTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTTACCGGTATCCTTCCTGC  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTGCGCCGCAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTACTTTACGACTAAAGTG  
CCTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGTCGCTCACGAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTGAAAATTTCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAGCGGGCTATATCTGCACGGCACGCCGTACAAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCGCTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>CP027678.1:S. Corvallis plasmid pSE12-01738-1

TTAGCCACGGCATTTCGCGGAACAAATCGCGGTGAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG

AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTTCAAGGCAAGACATGTTGATGTGTTTCCCG  
GCGATA

AAGCCCAGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTTCGCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTGTACTGATCGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA

CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGCTGCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTATCACTAGGCTTAATTCGACAGTCGGGATGCGG  
CTACAT

ACGCCTTACAACCGCCATCGTTCTCTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAATT  
TTCAT

GTTAGATGCTTTTTTACTGTCGTAICTGGTGCGATTTCATTCGAGAACATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTTAAACGAAATAACGCCCGCGGATTTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC

ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTTCGTGAGCGACGA  
CGCGTTT

AGCATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT

AGTTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTAG  
GATATTG

AATTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATTTTTAGTG  
TCGAA

TAACTGACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAGG  
CATAAAAAC

AACGTTAAGCGCCGCAACCAGAACAAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGA  
CAAAATCT

CGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAA  
TAACTTTC

ACCCTGAAAAGTACAGGCAT

>MG288680.1:K. pneumoniae plasmid pD610-HI2

TTAGCCACGGCATTTCGCGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG

AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTTCAAGGCAAGACATGTTGATGTGTTCCCG  
GCGATA

AAGCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTTCGCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTTGTACTGATCGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTTGTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA

CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGTGCCAAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTTGACAGTCGGGATGCGG  
CTACAT

ACGCCTTTACAACCGCCATCGTTCTCTTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAAT  
TTCAT

GTTAGATGCTTTTTTACTGTCGTAICTGGTGCGATTTCATATTCGAGAACATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTTAAACGAAATAACGCCCGCGGATTTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC

ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTTCGTGAGCGACGA  
CGCGTTT

AGCATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT

AGTTCGCCGGGATGATCTCTTTATTCAATGTGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTTCAG  
GATATTG

AATTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATATTTTAGTG  
TCGAA

TAAGTACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAAGG  
CATAAAAAC

AACGTTAAGCGCCCAACCAGAACAAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGA  
CAAAATCT

CGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAA  
TAACTTTC

ACCCTGAAAAGTACAGGCAT

>CP028197.1:S. Concord plasmid pGMI14-002\_1

ATGCCTGTACTTTTCAGGGTGAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGATTTAGAGCATGTCAAATGGTTTTGTCATTTCTATTCCCTTT  
GTTC

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTCTCAGTTCGTTTTCTGCTGAAACCTTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCGAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGCTTTACCGGTATCCTTCTGTC  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGCAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTACTTTACGACTAAAAGTG  
CCTTTC

AGACGCTGGGGAATGATGCTAAACGCGTCGCTCACGAAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTGCGGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAGCATCTAACAGTAAAATTCCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAGCGGGCTATATCTGCACGGCACGCCGTACAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCGCGTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>CP026661.1:S. enterica plasmid pSE15-SA01028

TTAGCCACGGCATTTCGCGGAACAAATCGCGGTACAGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG

AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTTCAAGGCAAGACATGTTGATGTGTTCCCG  
GCGATA

AAGCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTCGCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTTGTAAGTATCGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTTGTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA

CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGCTGCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTTCGCGATTTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTCGACAGTCGGGATGCGG  
CTACAT



ACGCCTTTACAACCGCCATCGTTCTCTTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAATT  
TTCACT

GTTAGATGCTTTTTACTGTCGTA CTGGTGC GATT CATATTCGAGA ACATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTTAAACGAAATAACGCCGCCGATTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC

ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTCTGAGCGACGA  
CGCGTTT

AGCATCATTCCCAGCGTCTGGAAAGGCACCTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT

AGTTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTAG  
GATATTG

AATTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATATTTTAGTG  
TCGAA

TAACTGACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAGG  
CATAAAAAC

AACGTTAAGCGCCGCAACCAGAACAAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGA  
CAAAATCT

CGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAA  
TAACTTTC

ACCCTGAAAAGTACAGGCAT

>CP027144.1:E. hoffmannii AR\_0365 plasmid unnamed1

TTAGCCACGGCATTGCGGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG

AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTTCAAGGCAAGACATGTTGATGTGTTTCCG  
GCGATA

AAGCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTGCCCAATGATTACCATGATCGGACACATAAAGCAGCACGGTGTGACTGATCGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTGTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA

CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGCTGCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTCGACAGTCGGGATGCGG  
CTACAT

ACGCCTTACAACCGCCATCGTTCTCTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAATT  
TTCCT

GTTAGATGCTTTTTACTGTCGTA CTGGTGCATTTCATATTCGAGAACATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTTAAACGAAATAACGCCCGCGGATTTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC

ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTTCGTGAGCGACGA  
CGCGTTT

AGCATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT

AGTTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTAG  
GATATTG

AATTTTTATTGAAAAAGGAGGATGGCAGGAAGGATACCGGTAAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATATTTTAGTG  
TCGAA

TAAGTACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAAGG  
CATAAAAAC

AACGTTAAGCGCCGCAACCAGAACAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGA  
CAAAATCT

CGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAA  
TAACTTTC

ACCCTGAAAAGTACAGGCAT

>MF344583.1:E. cloacae N1863 plasmid pN1863-HI2

ATGCCTGACTTTTCAGGGTGAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGATTTAGAGCATGTCAAATGGTTTTGTCATTTCTATTCCCTTT  
GTTC

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTCTCAGTTCGTTTTCTGCTGAAACCTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTTACCGGTATCCTTCCTGC  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTGCGCCGCAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTACTTTACGACTAAAGTG  
CCTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGTCGCTCACGAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTGAAAATTTCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAGCGGGCTATATCTGCACGGCACGCCGTACAAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCACGACAACCTGTTCTCATCGATTTGGGGCTGTGGGACGTAAGCACCGCTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>MF344582.1:C. freundii plasmid p525011-HI2

TTAGCCACGGCATTTCGCGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG

AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTCAAGGCAAGACATGTTGATGTGTTTCCCG  
GCGATA

AAGCCCAGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTTCGCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTGTACTGATCGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA

CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGCTGCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTCGACAGTCGGGATGCGG  
CTACAT

ACGCCTTACAACCGCCATCGTTCTCTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAATT  
TTCAT

GTTAGATGCTTTTTTACTGTCGTAICTGGTGGCATTATTCGAGAACATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTTAAACGAAATAACGCCCGCGGATTTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC

ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTTCGTGAGCGACGA  
CGCGTTT

AGCATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT

AGTTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTAG  
GATATTG

AATTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATATTTTAGTG  
TCGAA

TAACTGACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAAGG  
CATAAAAAC

AACGTTAAGCGCCGCAACCAGAACAAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGA  
CAAAATCT

CGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAA  
TAACTTTC

ACCCTGAAAAGTACAGGCAT

>CP026168.1:Leclercia sp. LSNIH1 plasmid pLEC-b38d

TTAGCCACGGCATTTCGCGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG

AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTCAAGGCAAGACATGTTGATGTGTTCCCG  
GCGATA

AAGCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTTCGCCAATGATTACCATGATCGGACACATAAAGCAGCACGGTGTTGTACTGATCGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTTGTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA

CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGCGGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGTGCCAAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTTGACAGTCGGGATGCGG  
CTACAT

ACGCCTTTACAACCGCCATCGTTCTCTTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAAT  
TTCAT

GTTAGATGCTTTTTACTGTCGTAICTGGTGCATTATTCGAGAACATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTAAACGAAATAACGCCCGCGGATTTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC

ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTTCGTGAGCGACGA  
CGCGTTT

AGCATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT

AGTTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTTCAG  
GATATTG

AATTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATATTTTAGTG  
TCGAA

TAAGTACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAAGG  
CATAAAAAAC

AACGTTAAGCGCCGAACCCAGAACAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGA  
CAAAATCT

CGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAA  
TAACTTTC

ACCCTGAAAAGTACAGGCAT

>MF788071.1:R. ornithinolytica plasmid p23141-3

TTAGCCACGGCATTTCGCGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG

AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGCATTATTTTCAAGGCAAGACATGTTGATGTGTTCCCG  
GCGATA

AAGCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTCGCCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTGACTGATCGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTGTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA

CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGCTGCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTTTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTTGACAGTCGGGATGCGG  
CTACAT

ACGCCTTTACAACCGCCATCGTTCTCTTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAATT  
TTCAT

GTTAGATGCTTTTTACTGTCGTAAGTGGTGGCATTATTCGAGAACATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTTAAACGAAATAACGCCCGCGGATTTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC

ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTTCGTGAGCGACGA  
CGCGTTT

AGCATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT

AGTTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTAG  
GATATTG

AATTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATATTTTAGTG  
TCGAA

TAAGTACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAGG  
CATAAAAAAC

AACGTTAAGCGCCGAACCCAGAACAAAGGGAATAGAAATGACAAAACCAATTTGACATGCTCTAAATGCGA  
CAAATCT

CGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAA  
TAACTTTC

ACCCTGAAAAGTACAGGCAT

>CP022696.1:C. farmeri plasmid pAUSMDU8141-1

ATGCCTGTACTTTTCAGGGTGAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGATTTAGAGCATGTCAAATGGTTTTGTCATTTCTATTCCCTTT  
GTTT

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTTCTCAGTTCGTTTTCTGCTGAAACCTTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCCAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTTACCGGTATCCTTCCTGC  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTACTTTACGACTAAAAGTG  
CCTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGCTCGCTCACGAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTGAAAATTTCTCGACATCGTGAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCAGCTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAGCGGGCTATATCTGCACGGCACGCCGTACAAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCAGCGTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>KY978628.1:C. sakazakii plasmid p505108-MDR

TTAGCCACGGCATTTCGCGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG

AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTTCAAGGCAAGACATGTTGATGTGTTTCCG  
GCGATA

AAGCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTGCCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTGACTGATCGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTGTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA



CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGCTGCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGCGGATTTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTCGACAGTCGGGATGCGG  
CTACAT

ACGCCTTACAACCGCCATCGTTCTCTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAATT  
TTCCT

GTTAGATGCTTTTTACTGTCGTAACGGTGCATTATTCGAGAACATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTTAAACGAAATAACGCCGCCGGATTTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC

ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTCTGTGAGCGACGA  
CGCGTTT

AGCATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT

AGTTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTAG  
GATATTG

AATTTTTATTGAAAAAGGAGGATGGCAGGAAGGATACCGGTAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATTTTTAGTG  
TCGAA

TAAGTACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAAGG  
CATAAAAAC

AACGTTAAGCGCCGCAACCAGAACAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGA  
CAAAATCT

CGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAA  
TAACTTTC

ACCCTGAAAAGTACAGGCAT

>CP022533.1:E. hormaechei plasmid pMS7884A

TTAGCCACGGCATTGCGGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG

AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTCAAGGCAAGACATGTTGATGTGTTCCCG  
GCGATA

AAGCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTGCCCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTTGTAAGTACTGATCGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTTGTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA

CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGCTGCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTCGACAGTCGGGATGCGG  
CTACAT

ACGCCTTTACAACCGCCATCGTTCTCTTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAAT  
TTCAT

GTTAGATGCTTTTTACTGTCGTAAGTCTCGGTGCGATTTCATATTCGAGAACATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTTAAACGAAATAACGCCGCCGATTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC

ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTTCGTGAGCGACGA  
CGCGTTT

AGCATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT

AGTTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTAG  
GATATTG

AATTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATATTTTAGTG  
TCGAA

TAACTGACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAGG  
CATAAAAAC

AACGTTAAGCGCCGCAACCAGAACAAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGA  
CAAAATCT

CGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAA  
TAACTTTC

ACCCTGAAAAGTACAGGCAT

>KY863418.1:E. asburiae AMA 497 plasmid pOXA436

TTAGCCACGGCATTTCGCGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG

AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTTCAAGGCAAGACATGTTGATGTGTTTCCCG  
GCGATA

AAGCCCAGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTTCGCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTGTACTGATCGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTTGTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA

CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGCTGCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTTTCGACAGTCGGGATGCGG  
CTACAT

ACGCCTTACAACCGCCATCGTTCTCTTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAATT  
TTCAT

GTTAGATGCTTTTTTACTGTCGTAICTGGTGCGATTTCATATTCGAGAACATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTTAAACGAAATAACGCCGCCGGATTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC

ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTTCGTGAGCGACGA  
CGCGTTT

AGCATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT

AGTTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTAG  
GATATTG

AATTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATTTTTAGTG  
TCGAA

TAACTGACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAGG  
CATAAAAAC

AACGTTAAGCGCCGCAACCAGAACAAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGA  
CAAAATCT

CGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAA  
TAACTTTC

ACCCTGAAAAGTACAGGCAT

>CP021137.1:Enterobacter sp. DKU\_NT\_01 chromosome

TTAGCCACGGCATTTCGCGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG

AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTTCAAGGCAAGACATGTTGATGTGTTCCCG  
GCGATA

AAGCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTTCGCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTTGTACTGATCGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTTGTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA

CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGCGGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGTGCCAAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTTGACAGTCGGGATGCGG  
CTACAT

ACGCCTTTACAACCGCCATCGTTCTCTTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAAT  
TTCAT

GTTAGATGCTTTTTTACTGTCGTAICTGGTGCATTATTCGAGAACATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTTAAACGAAATAACGCCCGCGGATTTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC

ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTTCGTGAGCGACGA  
CGCGTTT

AGCATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT

AGTTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTTCAG  
GATATTG

AATTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATATTTTAGTG  
TCGAA

TAAGTACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAAGG  
CATAAAAAC

AACGTTAAGCGCCCAACCAAGAAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGA  
CAAAATCT

CGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAA  
TAACTTTC

ACCCTGAAAAGTACAGGCAT

>KY270852.1:E. cloacae plasmid pT5282-mphA

ATGCCTGTACTTTTCAGGGTGAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGATTTAGAGCATGTCAAATGGTTTTGTCATTTCTATTCCCTTT  
GTTT

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTCTCAGTTCGTTTTCTGCTGAAACCTTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCGAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGCTTTACCGGTATCCTTCTGTC  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGCAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTAATTTACGACTAAAAGTG  
CCTTTC

AGACGCTGGGGAATGATGCTAAACGCGTCGCTCACGAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTGCGGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAGCATCTAACAGTAAAATTCCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAGCGGGCTATATCTGCACGGCACGCCGTACAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCGCGTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>CP017930.1:K. oxytoca plasmid pCAV1015-114

TTAGCCACGGCATTTCGCGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG

AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTTCAAGGCAAGACATGTTGATGTGTTCCCG  
GCGATA

AAGCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTCGCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTTGTAAGTATCGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTTGTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA

CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGCTGCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTTCGCGATTTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTCGACAGTCGGGATGCGG  
CTACAT

ACGCCTTTACAACCGCCATCGTTCTCTTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAATT  
TTCACT

GTTAGATGCTTTTTACTGTCGTA CTGGTGC GATT CATATTCGAGA ACATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTTAAACGAAATAACGCCGCCGATTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC

ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTCTGTGAGCGACGA  
CGCGTTT

AGCATCATTCCCAGCGTCTGGAAAGGCACCTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT

AGTTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTAG  
GATATTG

AATTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATATTTTAGTG  
TCGAA

TAAGTACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAGG  
CATAAAAAC

AACGTTAAGCGCCGCAACCAGAACAAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGA  
CAAAATCT

CGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAA  
TAACTTTC

ACCCTGAAAAGTACAGGCAT

>KX810825.1:S. Typhimurium MU1 plasmid pIMP4-SEM1

ATGCCTGTACTTTTCAGGGTGAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGATTTAGAGCATGTCAAATGGTTTTGTCATTTCTATTCCCTTT  
GTTT

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTCTCAGTTCGTTTTCTGCTGAAACCTTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAACATTAT  
TGAAAC

TAACCCCGAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTTACCGGTATCCTTCTGCG  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGCAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTACTIONTACACTAAAGTG  
CCTTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGTCGCTCACGAAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTGAAAATTTCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAAGCGGGCTATATCTGCACGGCACGCCGTACAAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCGCGTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>CP017181.1:E. kobei DSM 13645 chromosome

ATGCCTGTACTIONTTTACGGGTGAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGATTTAGAGCATGTCAAATGGTTTTGTCATTTCTATTCCCTTT  
GTTC



TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTCTCAGTTCGTTTTCTGCTGAAACCTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTTACCGGTATCCTTCCTGC  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTGCGCCGCAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTACTTTACGACTAAAGTG  
CCTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGTCGCTCACGAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTGAAAATTTCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAGCGGGCTATATCTGCACGGCACGCCGTACAAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCGCTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>CP012599.1:S. Newport 0307-213

ATGCCCTGACTTTTCAGGGTGAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAACTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGCATTTAGAGCATGTCAAATGGTTTTGTCATTTCTATTCCCTTT  
GTTT

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTTCTCAGTTCGTTTTCTGCTGAAACCTTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCCAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTTACCGGTATCCTTCCTGC  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGCAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTACTTTACGACTAAAAGTG  
CCTTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGCTCACGAAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTGAAAATTTCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAACCTGACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAGCGGGCTATATCTGCACGGCACGCCGTACAAACTGGCACCCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCAGCGTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>CP016526.1:S. Heidelberg plasmid p09-036813-1A\_261

ATGCCTGTACTTTTCAGGGTCAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGATTTAGAGCATGTCAAATGGTTTTGTCATTTCTATTCCCTTT  
GTTT

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTCTCAGTTCGTTTTCTGCTGAAACCTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAACATTAT  
TGAAAC

TAACCCCGAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGCTTTACCGGTATCCTTCTGCG  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGCAATAACTCGACATT  
GAATAA

AGAGATCATCCCGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTAATTTACGACTAAAAGTG  
CCTTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGTCGCTCACGAAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGGCGTTA  
TTTCGTT

TAAAAATATGCATTCCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTAAAAATTTCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAAGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAAGCGGGCTATATCTGCACGGCAGCCGTACAAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCAGCGTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>CP013215.1:K. pneumoniae H11 plasmid pH11

ATGCCTGTACTTTTCAGGGTAAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTACGAGATTTTGTGCGATTTAGAGCATGTCAAATGGTTTTGTCATTTCTATTCCCTTT  
GTTT

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTCTCAGTTCGTTTTCTGCTGAAACCTTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCGAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGCTTTACCGGTATCCTTCTGTC  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTACTTTACGACTAAAAGTG  
CCTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGCTCACGAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAGCATCTAACAGTGAAAATTCCTCGACATCGTGAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAGCGGGCTATATCTGCACGGCAGCCGTACAAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCGCTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>CP012999.1:Enterobacter sp. E20

ATGCCTGTACTTTTCAGGGTGAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGATTTAGAGCATGTCAAATGGTTTTGTCATTTCTATTCCCTTT  
GTTT

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTTCTCAGTTCGTTTTCTGCTGAAACCTTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCGAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTTACCGGTATCCTTCCTGC  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTACTTTACGACTAAAAGTG  
CCTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGTCGCTCACGAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTGAAAATTTCTCGACATCGTGAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCAGCTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAGCGGGCTATATCTGCACGGCAGCCGTACAAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCAGCGTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>LN555650.1:S. Infantis plasmid pRH-R27

ATGCCTGTACTTTTCAGGGTGAAAGTTATTCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGATTTAGAGCATGTCAAATGGTTTTGTCATTTCTATTCCCTTT  
GTTC

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTTCTCAGTTCGTTTTCTGCTGAAACCTTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCGAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTTACCGGTATCCTTCTGCG  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTA CTTTACGACTAAAAGTG  
CCTTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGTCGCTCACGAAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTGAAAATTTCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAAGCGGGCTATATCTGCACGGCACGCCGTACAAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCAGCGTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>CP012170.1:E. steigerwaltii plasmid p34977-263.138kb

ATGCCTGTA CTTTTAGGGTGAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGATTTAGAGCATGTCAA AATTGGTTTTGTCATTTCTATTCCCTTT  
GTTT

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTCTCAGTTCGTTTTCTGCTGAAACCTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTTACCGGTATCCTTCCTGC  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTGCGCCGCAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTACTTTACGACTAAAGTG  
CCTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGTCGCTCACGAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTGAAAATTTCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAGCGGGCTATATCTGCACGGCACGCCGTACAAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCGCTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA



>CP011617.1:K. oxytoca plasmid pCAV1335-115

ATGCCGTGACTTTTCAGGGTGAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAACTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGCATTTAGAGCATGTCAAATTGGTTTTGTCATTTCTATTCCCTTT  
GTTT

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTTCTCAGTTCGTTTTCTGCTGAAACCTTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCCAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTTACCGGTATCCTTCCTGC  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGCAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTACTTTACGACTAAAAGTG  
CCTTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGCTCACGAAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTGAAAATTTCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAGCGGGCTATATCTGCACGGCACGCCGTACAACTGGCACCCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCAGCGTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>CP011601.1:Phytobacter ursingii plasmid pCAV1151-296

TTAGCCACGGCATTTCGCGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG

AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTTCAAGGCAAGACATGTTGATGTGTTCCCG  
GCGATA

AAGCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTTCGCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTGTACTGATCGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTGTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA

CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGTGCCAAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTTGACAGTCGGGATGCGG  
CTACAT

ACGCCTTTACAACCGCCATCGTTCTCTTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAAT  
TTCAT

GTTAGATGCTTTTTACTGTCGTAICTGGTGCATTATTCGAGAACATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTAAACGAAATAACGCCCGCGGATTTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC

ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTTCGTGAGCGACGA  
CGCGTTT

AGCATCATTCCCAGCGTCTGGAAAGGCACTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT

AGTTCGCCGGGATGATCTCTTTATTCAATGTGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTTCAG  
GATATTG

AATTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATATTTTAGTG  
TCGAA

TAAGTACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAAGG  
CATAAAAAC

AACGTTAAGCGCCCAACCCAGAACAAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGA  
CAAAATCT

CGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAA  
TAACTTTC

ACCCTGAAAAGTACAGGCAT

>CP011596.1:K. oxytoca plasmid pCAV1099-114

ATGCCTGTACTTTTCAGGGTGAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGATTTAGAGCATGTCAAATGGTTTTGTCATTTCTATTCCCTTT  
GTTC

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTCTCAGTTCGTTTTCTGCTGAAACCTTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCGAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGCTTTACCGGTATCCTTCTGTC  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGCAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTACTTTACGACTAAAAGTG  
CCTTTC

AGACGCTGGGGAATGATGCTAAACGCGTCGCTCACGAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTGCGGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAGCATCTAACAGTGAAAATTCCTCGACATCGTGAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAGCGGGCTATATCTGCACGGCAGCCGTACAAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCGCGTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>CP008899.1:E. cloacae plasmid pENT-8a4

ATGCCTGTACTTTTCAGGGTGAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCATTTAGAGCATGTCAAATTGGTTTTGTCATTTCTATTCCCTTT  
GTTT

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTTCTCAGTTCGTTTTCTGCTGAAACCTTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCGAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTTACCGGTATCCTTCCTGC  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTACTTTACGACTAAAAGTG  
CCTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGTCGCTCACGAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTGAAAATTTCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCAGCTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAGCGGGCTATATCTGCACGGCACGCCGTACAAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCAGCGTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>CP006057.1:S. Cubana str. CFSAN002050 plasmid

ATGCCTGTACTTTTCAGGGTGAAAGTTATTCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGATTTAGAGCATGTCAAATGGTTTTGTCATTTCTATTCCCTTT  
GTTC

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTTCTCAGTTCGTTTTCTGCTGAAACCTTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCGAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTTACCGGTATCCTTCTGCG  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGCAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTA CTTTACGACTAAAAGTG  
CCTTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGTCGCTCACGAAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTGAAAATTTCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAAGCGGGCTATATCTGCACGGCACGCCGTACAAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCGAGCTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCTAA

>EU855788.1:E. cloacae plasmid pEC-IMPQ

TTAGCCACGGCATTGCGGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG

AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTCAAGGCAAGACATGTTGATGTGTTCCCG  
GCGATA

AAGCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTGCCCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTTGTAAGTACTGATCGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTTGTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA

CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGCTGCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTCGACAGTCGGGATGCGG  
CTACAT

ACGCCTTTACAACCGCCATCGTTCTCTTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAAT  
TTCAT

GTTAGATGCTTTTTACTGTCGTAAGTCTCGGTGCGATTTCATATTCGAGAACATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTTAAACGAAATAACGCCGCCGATTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC

ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTTCGTGAGCGACGA  
CGCGTTT

AGCATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT

AGTTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTAG  
GATATTG

AATTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATATTTTAGTG  
TCGAA

TAACTGACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAGG  
CATAAAAAC

AACGTTAAGCGCCGCAACCAGAACAAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGA  
CAAAATCT

CGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAA  
TAACTTTC

ACCCTGAAAAGTACAGGCAT

>EU855787.1:E. cloacae plasmid pEC-IMP

TTAGCCACGGCATTTCGCGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG

AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTCAAGGCAAGACATGTTGATGTGTTTCCCG  
GCGATA

AAGCCCAGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTCCGCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTGTACTGATCGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA

CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGCTGCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTCGACAGTCGGGATGCGG  
CTACAT

ACGCCTTACAACCGCCATCGTTCTCTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAATT  
TTCAT

GTTAGATGCTTTTTACTGTCGTAICTGGTGGCATTATTCGAGAACATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTTAAACGAAATAACGCCCGCGGATTTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC

ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTCTGTGAGCGACGA  
CGCGTTT

AGCATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT

AGTTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTAG  
GATATTG

AATTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATATTTTAGTG  
TCGAA



TAACTGACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAAGG  
CATAAAAAC

AACGTTAAGCGCCGCAACCAGAACAAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGA  
CAAAATCT

CGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAA  
TAACTTTC

ACCCTGAAAAGTACAGGCAT

>EF382672.1:K. pneumoniae NK29 plasmid pK29

TTAGCCACGGCATTTCGCGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG

AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTTCAAGGCAAGACATGTTGATGTGTTCCCG  
GCGATA

AAGCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTTCGCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTTGTACTGATCGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTTGTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA

CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGCGGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGTGCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTTGACAGTCGGGATGCGG  
CTACAT

ACGCCTTTACAACCGCCATCGTTCTCTTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAAT  
TTCAT

GTTAGATGCTTTTTTACTGTCGTAICTGGTGCGATTTCATATTCGAGAACATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTTAAACGAAATAACGCCCGCGGATTTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC

ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTTCGTGAGCGACGA  
CGCGTTT

AGCATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT

AGTTCGCCGGGATGATCTCTTTATTCAATGTGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTTCAG  
GATATTG

AATTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATATTTTAGTG  
TCGAA

TAAGTACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAAGG  
CATAAAAAAC

AACGTTAAGCGCCGCAACCAGAACAAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGA  
CAAAATCT

CGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAA  
TAACTTTC

ACCCTGAAAAGTACAGGCAT

>CP038659.1:C. freundii plasmid p680\_1

AGCCACGGCATTTCGCGGAACAAATCGCGGTGAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAAAT  
CGATGAG

AACAGGTTGTCGTGGGAATATGATTTTTTCGCCGCATTATTTTCAAGGCAAGACATGTTGATGTGTTTCCCGGC  
GATAAA

GCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGTGC  
AGATATA

GCCCGCTTTCGCCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTTGTTACTGATCGCTGTAATTT  
TTTAGC

TTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTTGTCGTAGGTGTTGACCAATTGTTCTG  
AGTACA

GTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAAGTC  
GGTCCAT

GGCTGCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTTCATCATCAAGGTTTTCCAG  
CATCACC

TCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTCGACAGTCGGGATGCGGCT  
ACATAC

GCCTTTACAACCGCCATCGTTCTCTTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAATTT  
CACTGT

TAGATGCTTTTTTACTGTCGTAAGTTCGGTGCATTATTCGAGAACATGCACGGAACGGATATTGCGGTAGC  
GGTACCG

CAGGAATGCATATTTTTAAACGAAATAACGCCCGCGGATTTGCTGGTAAAGGCATTGGTATCACGCGAATAAC  
CGTTCAT

CGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTTCGTGAGCGACGACG  
CGTTTAG

CATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTGTAA  
GCGTAG

TTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAGTG  
CGGCAAC

ACCTGCAATCAAACCTAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTTCAGGA  
TATTGAA

TTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAGACGAACCATATAATAATTGAGCCATTAA  
GATAGGAA

TGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATATTTTAGTGTC  
GAATA

ACTGACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAGGCA  
TAAAAACAA

CGTTAAGCGCCGAACCCAGAACAAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGACA  
AAATCTCG

TAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAATA  
ACTTTCAC

CCTGAAAAGTACAGGCAT

>CP038657.1:C. freundii plasmid p565\_1

ATGCCTGTACTTTTCAGGGTGAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGATTTAGAGCATGTCAAATTGGTTTTGTCATTTCTATTCCCTTT  
GTTT

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTTCTCAGTTCGTTTTCTGCTGAAACCTTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCCAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTTACCGGTATCCTTCCTGC  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTACTTTACGACTAAAAGTG  
CCTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGCTCGCTCACGAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTGAAAATTTCTCGACATCGTGAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCAGCTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAGCGGGCTATATCTGCACGGCACGCCGTACAAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCAGCGTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCT

>CP038654.1:C. freundii plasmid p154\_1

ATGCCTGTACTTTTCAGGGTGAAAGTTATTCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGATTTAGAGCATGTCAAATGGTTTTGTCATTTCTATTCCCTTT  
GTTC

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTTCTCAGTTCGTTTTCTGCTGAAACCTTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCGAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTTACCGGTATCCTTCTGCG  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTA CTTTACGACTAAAAGTG  
CCTTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGTCGCTCACGAAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTGAAAATTTCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAAGCGGGCTATATCTGCACGGCACGCCGTACAAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCGAGCTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCT

>CP041734.1:E. steigerwaltii ME-1 plasmid pME-1a

AGCCACGGCATTTCGCGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAAAT  
CGATGAG

AACAGGTTGTCGTGGGAATATGATTTTTTCGCCGCATTATTTCAAGGCAAGACATGTTGATGTGTTTCCCGGC  
GATAAA

GCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGTGC  
AGATATA

GCCCGCTTTCGCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTGTACTGATCGCTGTAATTT  
TTTAGC

TTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTGTCGTAGGTGTTGACCAATTGTTCTG  
AGTACA

GTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAAGTC  
GGTCCAT

GGCTCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTTCATCATCAAGGTTTTCCAG  
CATCACC

TCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTCGACAGTCGGGATGCGGCT  
ACATAC

GCCTTTACAACCGCCATCGTTCTCTTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAATTT  
CACTGT

TAGATGCTTTTTACTGTCGTAICTGGTGCATTATTCGAGAACATGCACGGAACGGATATTGCGGTAGC  
GGTACCG

CAGGAATGCATATTTTTAAACGAAATAACGCCCGCGATTTGCTGGTAAAGGCATTGGTATCACGCGAATAAC  
CGTTCAT

CGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACAGGAACATCAGCGTGGGTTTTTCGTGAGCGACGACG  
CGTTTAG

CATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTGTAA  
GCGTAG

TTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAGTG  
CGGCAAC

ACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTAGGA  
TATTGAA

TTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAGACGAACCATATAATAATTGAGCCATTAA  
GATAGGAA

TGCGCTTCTGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATATTTTAGTGTC  
GAATA

ACTGACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAGGCA  
TAAAAACAA

CGTTAAGCGCCGCAACCAGAACAAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGACA  
AAATCTCG

TAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACAGCGGAATA  
ACTTTCAC

CCTGAAAAGTACAGGCAT

>MN164032.1:1-1618 E. xiangfangensis plasmid p MCR-9.2

ATGCCGTACTTTTCAGGGTGAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGCATTTAGAGCATGTCAAATTGGTTTTGTCATTTCTATTCCCTTT  
GTTT

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTTCTCAGTTCGTTTTCTGCTGAAACCTTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAAACATTAT  
TGAAAC

TAACCCCGAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTTACCGGTATCCTTCCTGC  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGCAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTACTTTACGACTAAAAGTG  
CCTTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGCTCACGAAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTGAAAATTTCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAGCGGGCTATATCTGCACGGCACGCCGTACAACTGGCACCCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TCCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCAGCGTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCT

>CP031724.1:E. hormaechei WCHEH020038 plasmid pCTXM9\_020038

AGCCACGGCATTTCGCGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAAAT  
CGATGAG

AACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTTCAAGGCAAGACATGTTGATGTGTTTCCCGGC  
GATAAA

GCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGTGC  
AGATATA

GCCCGCTTTCGCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTGTTGACTGATCGCTGTAATTT  
TTTAGC

TTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTGTCGTAGGTGTTGACCAATTGTTCTG  
AGTACA

GTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAAGTC  
GGTCCAT

GGTGCCAAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTTTCATCATCAAGGTTTTCCAG  
CATCACC

TCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTCGACAGTCGGGATGCGGCT  
ACATAC

GCCTTTACAACCGCCATCGTTCTCTTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAATTTT  
CACTGT

TAGATGCTTTTTTACTGTCGTAICTCGGTGCGATTATTCGAGAACATGCACGGAACGGATATTGCGGTAGC  
GGTACCG

CAGGAATGCATATTTTTAAACGAAATAACGCCCGCGGATTTGCTGGTAAAGGCATTGGTATCACGCGAATAAC  
CGTTCAT

CGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTTCGTGAGCGACGACG  
CGTTTAG

CATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTGTAA  
GCGTAG

TTCGCCGGGATGATCTCTTTATTCAATGTGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAGTG  
CGGCAAC



ACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTTCAGGA  
TATTGAA

TTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAAGACGAACCATATAATAATTGAGCCATTAA  
GATAGGAA

TGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATATTTTAGTGTC  
GAATA

ACTGACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAAGGCA  
TAAAAACAA

CGTTAAGCGCCCAACCAGAACAAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGACA  
AAATCTCG

TAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAATA  
ACTTTTAC

CCTGAAAAGTACAGGCAT

>LT991958.1:E. cloacae complex plasmid pC45-VIM4

AGCCACGGCATTTCGCGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAAAT  
CGATGAG

AACAGGTTGTCGTGGGAATATGATTTTTTCGCCGCATTATTTTCAAGGCAAGACATGTTGATGTGTTTCCCGGC  
GATAAA

GCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGTGC  
AGATATA

GCCCGCTTCGCCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTTGTTACTGATCGCTGTAATTT  
TTTAGC

TTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTTGTCGTAGGTGTTGACCAATTGTTCTG  
AGTACA

GTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGATAACGCAGGTAATAAGTC  
GGTCCAT

GGCTGCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTTTCATCATCAAGGTTTTCCAG  
CATCACC

TCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTTGACAGTCGGGATGCGGCT  
ACATAC

GCCTTTACAACCGCCATCGTTCTCTTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAATTT  
CACTGT

TAGATGCTTTTTTACTGTCGTAICTGGTGGCATTATTCGAGAACATGCACGGAACGGATATTGCGGTAGC  
GGTACCG

CAGGAATGCATATTTTTAAACGAAATAACGCCGCCGGATTTGCTGGTAAAGGCATTGGTATCACGCGAATAAC  
CGTTCAT

CGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTTCGTGAGCGACGACG  
CGTTTAG

CATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTGTAA  
GCGTAG

TTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAGTG  
CGGCAAC

ACCTGCAATCAAACCTAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTTCAGGA  
TATTGAA

TTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAAGACGAACCATATAATAATTGAGCCATTAA  
GATAGGAA

TGCGTTCCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATATTTTTAGTGTC  
GAATA

ACTGACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAGGCA  
TAAAAACAA

CGTTAAGCGCCGAACCAGAACAAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGACA  
AAATCTCG

TAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAATA  
ACTTTCAC

CCTGAAAAGTACAGGCAT

>KX710093.1:L. adecarboxylata plasmid pP10164-2

AGCCACGGCATTTCGCGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAAAT  
CGATGAG

AACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTTCAAGGCAAGACATGTTGATGTGTTTCCCGGC  
GATAAA

GCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGTGC  
AGATATA

GCCCGCTTTCGCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTTGTACTGATCGCTGTAATTT  
TTTAGC

TTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTTGTCGTAGGTGTTGACCAATTGTTCTG  
AGTACA

GTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAAGTC  
GGTCCAT

GGCTCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTTTCATCATCAAGGTTTTCCAG  
CATCACC

TCGTATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTTGACAGTCGGGATGCGGCT  
ACATAC

GCCTTTACAACCGCCATCGTTCTCTTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAATTT  
CACTGT

TAGATGCTTTTTACTGTCGTACTIONCGGTGCGATTCAATTCGAGAACATGCACGGAACGGATATTGCGGTAGC  
GGTACCG

CAGGAATGCATATTTTTAAACGAAATAACGCCGCCGATTGCTGGTAAAGGCATTGGTATCACGCGAATAAC  
CGTTCAT

CGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTCTGTGAGCGACGACG  
CGTTTAG

CATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTGTAA  
GCGTAG

TTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAGTG  
CGGCAAC

ACCTGCAATCAAACACTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTAGGA  
TATTGAA

TTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAAGACGAACCATATAATAATTGAGCCATTAA  
GATAGGAA

TGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATATTTTAGTGTC  
GAATA

ACTGACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAGGCA  
TAAAAACAA

CGTTAAGCGCCGCAACCAGAACAAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGACA  
AAATCTCG

TAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAATA  
ACTTTCAC

CCTGAAAAGTACAGGCAT

>KP975077.1:E. cloacae plasmid pMRVIM0813

ATGCCTGTACTTTTCAGGGTAAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGGCC

AATATTGCTGCATTTTTACGAGATTTTGTGCGATTTAGAGCATGTCAAATGGTTTTGTCATTTCTATTCCCTTT  
GTTT

TGGTTGCGGCGCTTAACGTTGTTTTATGCCTTTCTCAGTTCGTTTTCTGCTGAAACCTTTCTTTGCTTTACTGTT  
TATC

ACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAACATTAT  
TGAAAC

TAACCCCGAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTTACCGGTATCCTTCTGCG  
CATCC

TCCTTTTTCAATAAAAATTCAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTGG  
CATCG

TTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGCAATAACTCGACATT  
GAATAA

AGAGATCATCCCGGCGAACTACGCTTACAGCACTTTCCAGTATGTTAAGGATACGTACTIONTACACTAAAGTG  
CCTTTCC

AGACGCTGGGGAATGATGCTAAACGCGTCGTCGCTCACGAAAAACCCACGCTGATGTTCTGGTGATTGGCG  
AAACGGCA

CGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTTA  
TTTCGTT

TAAAAATATGCATTCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACCG  
AGTACG

ACAGTAAAAAAGCATCTAACAGTGAAAATTTCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGAA  
AGAGAAC

GATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACTGT  
GCGATGG

CAAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGCT  
TGTCGCCT

TCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGAA  
TGTGCA

CGTAGCGATATCGAAAACTGTACTIONCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGACT  
ATGTATT

AGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCAT  
GGTGAAT

CATTGGGCGAAAAGCGGGCTATATCTGCACGGCACGCCGTACAAACTGGCACCGGATCAGCAGACGCATATTC  
CGATGCAG

GTCTGGATGTCACCGGGCTTTATCGCCGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAAA  
AATCATA

TTCCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCGAGCTCTATAATCCTGACCGCG  
ATTTGT

TCCGCGAATGCCGTGGCT

>CP042616.1:E. coli plasmid pNCYU-26-73-1

TTAGCCACGGCATTGCGGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG

AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTCAAGGCAAGACATGTTGATGTGTTTCCCG  
GCGATA

AAGCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTGCCCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTTGTAAGTACTGATCGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTTGTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA

CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGCTGCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTCGACAGTCGGGATGCGG  
CTACAT

ACGCCTTTACAACCGCCATCGTTCTCTTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAAT  
TTCAT

GTTAGATGCTTTTTACTGTCGTAAGTACTCGGTGCGATTTCATATTCGAGAACATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTTAAACGAAATAACGCCGCCGATTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC

ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCGGGAACATCAGCGTGGGTTTTTCGTGAGCGACGA  
CGCGTTT

AGCATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT

AGTTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTAG  
GATATTG

AATTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATATTTTAGTG  
TCGAA

TAACTGACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGAAAGGTTTCAGCAGAAAACGAACTGAGAAAGG  
CATAAAAAC

AACGTTAAGCGCCGCAACCAGAACAAAGGGAATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGA  
CAAAATCT

CGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACAGCGGAA  
TAACTTTC

ACCCTGAAAAGTACAGGCAT

>HG530658.1:E. coli plasmid pRH-R178

ATGCCGTACTTTTCAGGGTGAAAGTTATTCCGCTGGTTTTACTTCTGGCAATGATCTTTGCGTTTTTACTTAAC  
TGCC

AATATTGCTGCATTTTTTACGAGATTTTGTGCGATTTAGAGCATGTCAAATTGGTTTTGTCATTTCTATCCCTT  
TGTT

CTGGTTGCGGCGCTTAACGTTGTTTTATGCCTTCTCAGTTCGTTTTCTGCTGAAACCTTCTTTGCTTTACTGT  
TTAT

CACTGGCTCACTGGTCAGTTATTCGACACTAAAATATAAAGTAATGTTTGATCAAACGATGATTCAAACATTA  
TTGAAA

CTAACCCCCAGGAAGCGCATTCTATCTTAATGGCTCAATTATTATATGGTTCGTCTTACCGGTATCCTTCCTG  
CCATC

CTCCTTTTTTCAATAAAAATTCAATATCCTGAAAAATGGTATAAAGGCATTGCTTACCGTTTGCTCTCCGTGCTG  
GCATC

GTTGAGTTTGATTGCAGGTGTTGCCGCACTTTATTATCAGGATTATGCCTCTGTCGGCCGAATAACTCGACAT  
TGAATA

AAGAGATCATCCCGGCGAACTACGCTTACAGCACTTCCAGTATGTTAAGGATACGTACTTTACGACTAAAAGT  
GCCTTC

CAGACGCTGGGAATGATGCTAAACGCGTCGTCGCTCACGAAAAACCCACGCTGATGTTCTGGTGATTGGC  
GAAACGGC

ACGCAGCCAGAATTTCTCGATGAACGGTTATTCGCGTGATACCAATGCCTTTACCAGCAAATCCGGCGGCGTT  
ATTCGT

TAAAAAATATGCATTCCTGCGGTACCGCTACCGCAATATCCGTTCCGTGCATGTTCTCGAATATGAATCGCACC  
GAGTAC

GACAGTAAAAAAGCATCTAACAGTGAAAATTTCTCGACATCGTGCAGAAAACCGGTGTCTCGCTGTTATGGA  
AAGAGAA

CGATGGCGGTTGTAAAGGCGTATGTAGCCGCATCCCGACTGTCGAAATTAAGCCTAGTGATAACCCGAAACT  
GTGCGATG

GCAAACGTGCCATGACGAGGTGATGCTGGAAAACCTTGATGATGAAATCGCCAAAATGCCAGGTGATAAGC  
TTGTCGCC

TTCCATATCATTGGCAGCCATGGACCGACTTATTACCTGCGTTATCCGGCTGAGCATCGCCACTTCATGCCCGA  
ATGTGC

ACGTAGCGATATCGAAAACGTACTCAGGAACAATTGGTCAACACCTACGACAACACCCTTCGTTATACAGAC  
TATGTAT

TAGCTGAGATGATTGAAAAGCTAAAAAATTACAGCGATCAGTACAACACCGTGCTGCTTTATGTGTCCGATCA  
TGGTGAA

TCATTGGGCGAAAAGCGGGCTATATCTGCACGGCAGCCGTACAACTGGCACCGGATCAGCAGACGCATATT  
CCGATGCA  
GGTCTGGATGTCACCGGGCTTTATCGCCGGGAAACACATCAACATGTCTTGCCTTGAAAATAATGCGGCGAAA  
AAATCAT  
ATTCCCACGACAACCTGTTCTCATCGATTTTGGGGCTGTGGGACGTAAGCACCAGCGTCTATAATCCTGACCGC  
GATTTG  
TTCCGCGAATGCCGTGGCTAA

>AP022378.1:C. portucalensis IOMTU157

TTAGCCACGGCATTTCGCGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG  
AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTTCAAGGCAAGACATGTTGATGTGTTCCCG  
GCGATA  
AAGCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA  
TAGCCCGCTTTTCGCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTGTACTGATCGCTGTAAT  
TTTTTA  
GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTGTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA  
CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC  
ATGGTGCCAAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTCATCATCAAGGTTTTCCA  
GCATCA  
CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTTGACAGTCGGGATGCGG  
CTACAT  
ACGCCTTTACAACCGCCATCGTTCTCTTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAAT  
TTCCT  
GTTAGATGCTTTTTTACTGTCGTAAGTTCGGTGCATTCATATTCGAGAACATGCACGGAACGGATATTGCGGTA  
GCGGTAC  
CGCAGGAATGCATATTTTAAACGAAATAACGCCCGCGGATTTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC  
ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTTCGTGAGCGACGA  
CGCGTTT  
AGCATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT  
AGTTCGCCGGGATGATCTCTTTATTCAATGTGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTTTCAG  
GATATTG

AATTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAAGACGAACCATATAATAATTGAGCCATT  
AAGATAGG

AATGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGATCAAACATTACTTTATATTTTAGTG

>CP042930.1:L. adecarboxylata J656 chromosome

TTAGCCACGGCATTTCGCGGAACAAATCGCTGTCCGGATTATAGACGCTGGTACTGATGTCCCAAAGCCCCAGA  
ACTGACG

AGAACAGGTTGTCGTGAGAATAGGTTTTTTTCGCTGCATTATCCTGCAGACAAGACATGTTGATGTGTTCCCG  
GCGATA

AAGCCCGGTGACATCCAGATCTGCATCGGGATATGTGTCTGCTGATCCGGTGCCAGTTTGTATGGCGTACCGT  
GCAGATA

GAGTCCGCTTTGCCCCAAGACTCACCGTGATCGGAAACATACAGCAGTACGGTGTGTACTGGCTGCTGTAT  
GCTTTCA

GTTTTTCAATCATCTGCGCTATTACATAGTCGGTATGACGAAGGGTATTGTCGTAGGTATTAACAAGCTGTTCC  
TGAGTA

CAGTTTTCGATATCACTGCGTGCACATTCTGGCATGAAGTGCCGATGCTCAACCGGATAACGCTGGTAATATG  
TCGGCCC

ATGGCTGCCAATGATATGGAAGGCGACCAGCTTGTGCCAGCCATTTTGGCGATTTTCATCATCAAGGTTTTCCA  
GCATCA

CGTCGTCATAGCAGGTTTTGCCATCACACAGTTTCGCGTTATCAGCAGGATTAATTTTCGATGGTCGGTATGCG  
GTTACAC

ACGCCTTTACAACCGCCATCGTTCTCTTCCACAATAATGAGACACCGGTTTTCTGCACGATATCGAGGAAGTT  
TTCACT

GTTAGATGCTTTTTTACCGTCGTAICTGGTGCGGTTTCATATTCGAGAACATGCATGGCACGGAAACAGCAGTA  
GCGGTAC

CGCAGGAATGCATGTTTTTAAACGAAATAACGCCGCCAGATTTGCTGGTAAAGGCATTGGTATCACGCGAATA  
GCCGTTT

ATCGAGAAATTCTGGCTGCGTGCTGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTTCGTTACTGGCGG  
CACGTTT

AGCATCATCCCCAGAGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAACGT

AGTTTGCCGGGATAATCTCTTTATTACGCGTCGAGTTATTGCGCCCGACAGAGGCATAATCCTGGTAATAAAG  
AGCGGCA

ACACCTGCAATCAAACCTCAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATACCTTTATACCATTTTTTCAG  
GGTATTG



GATTTTTATTAATAAGTAGGATAGCAGGGAGGATACCGGTAAACACGAACCATATAATAATCGAGCCATTC  
AGATAGG

AATGGGCTTCTGAGGATTAGTTTCAAGAATGTTTTGGATCATCGTTTGATCAAACATTACTTTATATTTTAGTG  
TTGAA

TAACTGACCAGTGAGCCAGTGACCAGCAGTAAAGCAAAAAAGGTTTCAGCAGAAAACGAACAGAGAAAGG  
CATAAAAAAC

AACGTTAAGCGCCGAACCAAGAAAGGGGATAGAAATGACAAAACCGATTTAACATGCTCGAGATGTGA  
CAATATAT

CGTAAAAATGCAGCAATATAGGCCAGTTTAGTAAAAATGCGAAGATCATTGCCAGAAGTAAAACAAGCGGAA  
TAATTTTC

ATCCTGAAAAGTACAGGCAT

>CP042571.1:E. hormaechei E5 chromosome

TTAGCCACGGCATTGCGGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG

AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTTCAAGGCAAGACATGTTGATGTGTTCCCG  
GCGATA

AAGCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTCGCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTTGACTGATCGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTTGTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA

CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGCTGCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTCGACAGTCGGGATGCGG  
CTACAT

ACGCCTTTACAACCGCCATCGTTCTCTTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAAT  
TTCAT

GTTAGATGCTTTTTACTGTCGTAICTGGTGCGATTATTCGAGAACATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTAAACGAAATAACGCCCGGATTTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC

ATCGAGAAATTCTGGCTGCGTGCCGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTTCTGAGCGACGA  
CGCGTTT

AGCATCATTCCCAGCGTCTGGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTG  
TAAGCGT

AGTTCGCCGGGATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAG  
TGCGGCA

ACACCTGCAATCAAACCTAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCT

>AP019384.1:E. cloacae plasmid pNUH14\_ECL028\_1

TTAGCCACGGCATTTCGCGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCCAAA  
ATCGATG

AGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTTCAAGGCAAGACATGTTGATGTGTTTCCCG  
GCGATA

AAGCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGGTGCCAGTTTGTACGGCGTGCCGT  
GCAGATA

TAGCCCGCTTTTCGCCAATGATTCACCATGATCGGACACATAAAGCAGCACGGTGTGTACTGATCGCTGTAAT  
TTTTTA

GCTTTTCAATCATCTCAGCTAATACATAGTCTGTATAACGAAGGGTGTTGTCGTAGGTGTTGACCAATTGTTCC  
TGAGTA

CAGTTTTCGATATCGCTACGTGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAA  
GTCGGTCC

ATGGCTGCCAATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTCATCATCAAGGTTTTCCA  
GCATCA

CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTTGACAGTCGGGATGCGG  
CTACAT

ACGCCTTTACAACCGCCATCGTTCTCTTCCATAACAGCGAGACACCGGTTTTCTGCACGATGTCGAGGAAATT  
TTCACT

GTTAGATGCTTTTTTACTGTCGTAICTGGTGCATTATTCGAGAACATGCACGGAACGGATATTGCGGTA  
GCGGTAC

CGCAGGAATGCATATTTTTAAACGAAATAACGCCCGCGGATTTGCTGGTAAAGGCATTGGTATCACGCGAATA  
ACCGTTC

ATCGAGAAATTCTGGCTGCGTGC

>AP019635.1:Enterobacter sp. plasmid pECC18A13-1

TATCCACGACATTCCCGAACAGGTCGCTGCCCGGAAGATAGGCCCGGTGGTGATGTCCAGAGCCCCAGT  
ACGGACGC

GAACAGGTTATCGTGGGAATATGTCTTGTTAACGGCATTATGCTGCAGACACGCGGCGTTAATATTTTTATCA  
GCTATGA

AGCCTGGCGACATCCAGAGCTGCATCGGGATATGCGTCTGCTGATCCGGTGCCAGTTTGTAGGGGGTACCGT  
GCAGATAC

AGTCCGCTCTCTCCAGAGATTCGCCGTGATCGGACACATACAGCAGTACGGTGTGTAAGTCTGCTGTATTG  
CTTAAG

CTTTTCAATCATCTGCGCTAACACATAGTCGGTGTGGCGAATGGTATTGTCGTAGGTATTAACCAGCTGTTCT  
GCGTGC

AGTTTTTCGATATCGCTGCGCGCACATTCCGGCATGAAGTGACGATGCTCTGCCGATAACGCTGGTAATAAGT  
CGGTCCA

TGGCTGCCAATCATATGGAAGGCGATCAGCTTGTCTCCGGTCATTTTGCCGATTTCCGGTATCCAGTTTTCCAG  
CATAAC

ATCGTCATAGCAGGTTTTACCGTCACACAATGTTTTGCTGATACCGGGATTAATTTGACAGTCGGGATACGGC  
TGCATA

CGCCTTTACACCCGCCATCGTTTTCTTTCCACAACAGCGAACCCCCGTTTTCTGCACAATGTCGAGGACATTTT  
CACTG

CCGACAGCCTTTTTACCATCGTAATCCGTACGGTTCATATCCGAGAACATACAGGGCACGGAGACTGCGGTCCG  
CCGTGCC

GCAGGAACGCATATTCTGAACGAAATAACGCCATCGATTTTGTGGTAAAGGCGTTAGTGTCACGCGGGTA  
GCCGTTCA

TGAAAAAATTCTGGCTCCGTGCTGTTTCGCCAATCACCAGGAACATCAGCGTGGGTTTACCATTCCGGGTAAC  
GCGCTTC

GCATCATCCCCAGCGTCCGGAAAGGCATTTTCGTCGTAATAAGGTATCCTTACGTAATGGAAAGTGCTGT  
ACGCATA

GTTTGCCGGGATAATTTCTTTGTTGAGCGTCGGGTTATTACGCCCCGACAGAGGCATAATCCTGGTAATACAGG  
GCGGCAA

CACCTGCAATCAGGGCCAGCGAAGCAAGCATGGAAAGCAGCCGGTGGGCAAGACCTTTGTACCATTTGTCTG  
CATATTCA

ATTTAATCAAAAACAACAGAATAGCCGGGAGAATGCCATAAAGACCAGCCACAGCACCAGTGAGGCATTC  
AGGTAGGA

ATGCGCTTCTGTGGGGTTGTTTCCATAATATTCTCGATCATGGACTGATCAAACATCACTTTATATTTTCAGTGT  
GGCGT

AACTCACCAACCGGTGACAAGCAACAGGGCAAAGAAGGGTTTCAGCAGGTAGCGAACCGAGAAAGGC  
ATAAAAAACA

AAGTTAAGCGCTGCAACCAGCACAAACGGAATGGAAATGACAAATCCCGCCCTCACATGTTCAAGGCGGCTC  
AGGATATC

GTAAAAATGCAGCAACACCGGCCAGTTAAGTAAGAATGAAAAACGAGTGCCAGAAGTAAACCAGGGGGA  
TTACCCTCA

TCCTTAAAAGTACGGGCAT

>NG\_066767.1:E. roggenkampii WCHER090065 mcr-10

ATGCCCGTACTTTTCAGGATGAGGGTAATCCCCTTGTTTTACTTCTGGCACTCGTTTTGCATTCTTACTTAAC  
TGGCC

GGTGTGCTGCATTTCTACGATATCCTGAGCCGTCTTGAACATGTGAGGGCGGGGTTTCGTCATCTCCATTCCGT  
TTGTGC

TGGTTGCAGCGCTTAACTTTGTGTTTATGCCCTTCTCGGTTGCTACCTGCTCAAACCCTCTTTGCCCTGTTGCT  
GGTC

ACCGTTTCGGTGGTGAGTTACGCCACACTGAAATATAAAGTGATGTTTGATCAGTCCATGATCGAAAATATAC  
TGGAAAC

AAACCCACAGGAAGCGCATGCCTACCTGAATGGCTCACTGGTGCTGTGGCTGGTCTTCATGGGCATTCTCCG  
GCTATCC

TGTTGTTTTGATTAATAATTGAATATGCAGACAAATGGTACAAAGGGGTTGCCACCGGCTGCTTCCATGCTC  
GCTTCG

CTGATCCTGATTGCAGGTGTTGCCGCTCTGTATTACCAGGATTATGCTTCTGTCGGGCGCAATAACCCGACGCT  
GAACAA

AGAAATTATCCCGCAAACATGCGTACAGCACTTTCATTACGTGAAGGATACCTATTTTACGACGAAAATGC  
CTTTCC

GGACGCTGGGGGATGATGCAAGGCGCGTTACCCGGAATGGTAAACCCACGCTGATGTTCTGGTAATTGGCG  
AAACGGCA

CGGAGCCAGAATTTCTCCATGAACGGCTACCCGCGTGACACAAATGCCTTACCAGCAAAATCGATGGCGTTA  
TTTCGTT

CAGGAATATGCGTTCCTGTGGCACGGCGACCGCAGTCTCGGTGCCCTGTATGTTCTCGGATATGAACCGGACG  
GATTACG

ATGGTAAAAAGGCTGCCGGCAGTGAAAATGTCCTCGACATCGTGCAGAAAACGGGGGTTTCGCTGTTGTGGA  
AAGAAAAC

GATGGCGGGTGTAAGGCGTATGCAGCCGTATCCCGACTGTCGAAATTAATCCCGGTATCAGTAAAAAACTG  
TGTGACGG

TAAAACCTGCTATGACGATGTTATGCTGGAAAACCTGGATACCGAAATCGGCAAAATGGCCGGAGACAAGCT  
GATCGCCT

TCCATATGATTGGCAGCCATGGACCGACCTATTACCAGCGTTATCCGGCAGAGCATCGTCACTTCATGCCGGA  
ATGTGCG

CGCAGCGATATCGAAAACCTGCACGCAGGAACAGCTGGTTAATACCTACGACAATACCATTGCCACACCGACT  
ATGTGTT

AGCGCAGATGATTGAAAAGCTTAAGCAATACAGCGAACAGTACAACACCGTACTGCTGTATGTGTCCGATCAC  
GGCGAAT

CTCTGGGAGAGAGCGGACTGTATCTGCACGGTACCCCCTACAACTGGCACCGGATCAGCAGACGCACATCC  
CGATGCAG

CTCTGGATGTCGCCAGGCTTCATTGCTGCTAAAAATATTAACGCCGCGTGTCTGCAGCATAATGCCGTTAACAG  
GACATA

TCCCACGATAACCTTTTCGCGTCCGTA CTGGGCTCTGGGACATCACCACCGGGCCTATCTCCGAAAAGC  
GACCTGT

TCCGCGAATGTCGTGG

>CP045065.1:E. roggenkampii plasmid pMCR10\_090065

ATGCCCCGTA CTTTT CAGGATGAGGGTAATCCCCTTGTTTTACTTCTGGCACTCGTTTTTGCACTTCTACTTAAC  
TGGCC

GGTGTGCTGCATTTCTACGATATCCTGAGCCGTCTTGAACATGTGAGGGCGGGGTTTCGTCATCTCCATTCCGT  
TTGTGC

TGGTTGCAGCGCTTAACTTTGTGTTTATGCCCTTCTCGGTTGCTACCTGCTCAAACCTTCTTTGCCCTGTTGCT  
GGTC

ACCGTTTCGGTGGTGAGTTACGCCACACTGAAATATAAAGTGATGTTTGATCAGTCCATGATCGAAAATATAC  
TGAAAC

AAACCCACAGGAAGCGCATGCCTACCTGAATGGCTCACTGGTGTGTGGCTGGTCTTCATGGGCATTCTTCCG  
GCTATCC

TGTTGTTTTTGATTA AAAATTGAATATGCAGACAAATGGTACAAAGGGGTTGCCACCGGCTGCTTTCCATGCTC  
GCTTCG

CTGATCCTGATTGCAGGTGTTGCCGCTCTGTATTACCAGGATTATGCTTCTGTGCGGGCGCAATAACCCGACGCT  
GAACAA

AGAAATTATCCCGCAAACCTATGCGTACAGCACTTTCCATTACGTGAAGGATACCTATTTTACGACGAAAATGC  
CTTTCC

GGACGCTGGGGGATGATGCAAGGCGGTTACCCGGAATGGTAAACCCACGCTGATGTTCTGTTAATTGGCG  
AAACGGCA

CGGAGCCAGAATTTCTCCATGAACGGCTACCCGCGTGACACAAATGCCTTTACCAGCAAATCGATGGCGTTA  
TTTCGTT

CAGGAATATGCGTTCCTGTGGCACGGCGACCGCAGTCTCGGTGCCCTGTATGTTCTCGGATATGAACCGGACG  
GATTACG

ATGGTAAAAAGGCTGCCGGCAGTGAAAATGTCCTCGACATCGTGCAGAAAACGGGGGTTTCGCTGTTGTGGA  
AAGAAAAC

GATGGCGGGTGTAAGGCGTATGCAGCCGATCCCGACTGTCGAAATTAATCCCGGTATCAGTAAAAAACTG  
TGTGACGG

TAAAACCTGCTATGACGATGTTATGCTGGAAAACCTGGATACCGAAATCGGCAAATGGCCGGAGACAAGCT  
GATCGCCT

TCCATATGATTGGCAGCCATGGACCGACCTATTACCAGCGTTATCCGGCAGAGCATCGTCACTTCATGCCGGA  
ATGTGCG

CGCAGCGATATCGAAAAGCTTACAGCAATACAGCTGGTTAATACCTACGACAATACCATTGCCACACCGACT  
ATGTGTT

AGCGCAGATGATTGAAAAGCTTAAGCAATACAGCGAACAGTACAACACCGTACTGCTGTATGTGTCCGATCAC  
GGCGAAT

CTCTGGGAGAGAGCGGACTGTATCTGCACGGTACCCCTACAACTGGCACCGGATCAGCAGACGCACATCC  
CGATGCAG

CTCTGGATGTCGCCAGGCTTCATTGCTGCTAAAAATATTAACGCCGCGTGTCTGCAGCATAATGCCGTTAACAG  
GACATA

TTCCACGATAACCTTTTCGCGTCCGTAAGGGGCTCTGGGACATCACCACCGGGCCTATCTCCGAAAGC  
GACCTGT

TCCGCGAATGTCGTGG

>MN179494.1:E. rogenkampii WCHER090065 mcr-10

ATGCCCGTACTTTTCAGGATGAGGGTAATCCCCTTGGTTTTACTTCTGGCACTCGTTTTGCATTCTTACTTAAC  
TGGCC

GGTGTGCTGCATTTCTACGATATCCTGAGCCGTCTGAACATGTGAGGGCGGGGTTGTCATCTCCATTCCGT  
TTGTGC

TGGTTGCAGCGCTTAACTTTGTGTTTATGCCCTTCTCGGTTGCTACCTGCTCAAACCTTCTTTGCCCTGTTGCT  
GGTC

ACCGTTTCGGTGGTGAGTTACGCCACACTGAAATATAAAGTGATGTTTGATCAGTCCATGATCGAAAATATAC  
TGGAAC

AAACCCACAGGAAGCGCATGCCTACCTGAATGGCTCACTGGTGCTGTGGCTGGTCTTCATGGGCATTCTCCG  
GCTATCC

TGTTGTTTTGATTAATAATTGAATATGCAGACAAATGGTACAAAGGGGTTGCCACCGGCTGCTTTCCATGCTC  
GCTTCG

CTGATCCTGATTGCAGGTGTTGCCGCTCTGTATTACCAGGATTATGCTTCTGTGCGGGCGCAATAACCCGACGCT  
GAACAA

AGAAATTATCCCGCAAATATGCGTACAGCACTTTCCATTACGTGAAGGATACCTATTTTACGACGAAAATGC  
CTTCC

GGACGCTGGGGGATGATGCAAGGCGCGTTACCCGGAATGGTAAACCCACGCTGATGTTCTGGTAATTGGCG  
AAACGGCA

CGGAGCCAGAATTTCTCCATGAACGGCTACCCGCGTGACACAAATGCCTTACCAGCAAAATCGATGGCGTTA  
TTTCGTT

CAGGAATATGCGTTCCTGTGGCACGGCGACCGCAGTCTCGGTGCCCTGTATGTTCTCGGATATGAACCGGACG  
GATTACG

ATGGTAAAAAGGCTGCCGGCAGTGAAAATGTCCTCGACATCGTGCGAGAAAACGGGGGTTTCGCTGTTGTGGA  
AAGAAAAC

GATGGCGGGGTGTAAAGGCGTATGCAGCCGTATCCCGACTGTCGAAATTAATCCCGGTATCAGTAAAAAACTG  
TGTGACGG

TAAAACCTGCTATGACGATGTTATGCTGGAAAACCTGGATACCGAAATCGGCAAATGGCCGGAGACAAGCT  
GATCGCCT

TCCATATGATTGGCAGCCATGGACCGACCTATTACCAGCGTTATCCGGCAGAGCATCGTCACTTCATGCCGGA  
ATGTGCG

CGCAGCGATATCGAAAACCTGCACGCAGGAACAGCTGGTTAATACCTACGACAATACCATTGCCACACCGACT  
ATGTGTT

AGCGCAGATGATTGAAAAGCTTAAGCAATACAGCGAACAGTACAACACCGTACTGCTGTATGTGTCCGATCAC  
GGCGAAT

CTCTGGGAGAGAGCGGACTGTATCTGCACGGTACCCCTACAAACTGGCACCGGATCAGCAGACGCACATCC  
CGATGCAG

CTCTGGATGTCGCCAGGCTTCATTGCTGCTAAAAATATTAACGCCGCGTGTCTGCAGCATAATGCCGTTAACAG  
GACATA

TTCCCACGATAACCTTTTCGCGTCCGTAAGTGGGGCTCTGGGACATCACCACCGGGGCCTATCTCCGAAAGC  
GACCTGT

TCCGCGAATGTCGTGG

>CP023893.1:R. ornithinolytica FDAARGOS\_431 plasmid unnamed1

TATCCACGACATTCGCGGAACAGGTCGCTTTCCGGAAGATAGCCCCGGTGGTGATGTCCAGAGCCCCAGT  
ACGGACGC

GAAAAGGTTATCGTGGGAATATGTCCTGTTAACGGCATTATGCTGCAGACACGCGGCGTTAATATTTTTAGCA  
GCAATGA

AGCCTGGCGACATCCAGAGCTGCATCGGGATGTGCGTCTGCTGATCCGGTGCCAGTTTGTAGGGGGTACCGT  
GCAGATAC

AGTCCGCTCTCTCCAGAGATTCGCCGTGATCGGACACATACAGCAGTACGGTGTGTAAGTTGCTGCTGATTG  
CTTAAG

CTTTTCAATCATCTGCGCTAACACATAGTCGGTGTGGCGAATGGTATTGTCGTAGGTATTAACCAGCTGTTCTT  
GCGTGC

AGTTTTCGATATCGCTGCGCGCACATTCGGCATGAAGTGACGATGCTCTGCCGATAACGCTGGTAATAGGT  
CGGTCCA

TGGCTGCCAATCATATGGAAGGCGATCAGCTTGTCTCCGGCATTGCGGATTCGGTATCCAGGTTTTCCAG  
CATAAC

ATCGTCATAGCAGGTTTTACCGTCACACAGTTTTTTACTGATACCGGGATTAATTCGACAGTCGGGATACGGC  
TGCATA

CGCCTTTACACCCGCCATCGTTTTCTTTCCACAACAGCGAAACCCCGTTTTCTGCACGATGTCGAGGACATTTT  
CACTG

CCGGCAGCCTTTTTACCATCGTAATCCGTCCGGTTCATATCCGAGAACATACAGGGCACCGAGACTGCGGTCCG  
CCGTGCC

ACAGGAACGCATATTCTGAACGAAATAACGCCATCGATTTTGCTGGTAAAGGCATTTGTGTCACGCGGGTAG  
CCGTTCA

TGGAGAAATTCTGGCTCCGTGCCGTTTCGCCAATTACCAGGAACATCAGCGTGGGTTTACCATTCCGGGTAAC  
GCGCCTT

GCATCATCCCCAGCGTCCGGAAAGGCATTTTCGTCTGATAAATAGGTATCCTTCACGTAATGGAAAGTGCTGT  
ACGCATA

GTTTGCCGGGATAATTTCTTTGTTTCAGCGTCGGGTTATTGCGCCCGACAGAAGCATAATCCTGGTAATACAGA  
GCGGCAA

CACCTGCAATCAGGATCAGCGAAGCGAGCATGGAAAGCAGCCGGTGGGCAACCCCTTTGTACCATTTGTCTG  
CATATTCA

ATTTTAATCAAAAACAACAGGATAGCCGGAAGAATGCCCATGAAGACCAGCCACAGCACCAGTGAGCCATTC  
AGGTAGGC

ATGCGCTTCTGTGGGTTTGTTCAGTATATTTTCGATCATGGACTGATCAAACATCACTTTATATTTTCAGTGT  
GGCGT

AACTACCACCGAACCGGTGACCAGCAACAGGGCAAAGAAGGGTTTGAGCAGGTAGCGAACCGAGAAGGGC  
ATAAACACA

AAGTTAAGCGCTGCAACCAGCACAAACGGAATGGAGATGACGAACCCCGCCCTCACATGTTCAAGACGGCTC  
AGGATATC

GTAGAAATGCAGCAACACCGGCCAGTTAAGTAAGAATGCAAAAACGAGTGCCAGAAGTAAAACCAAGGGGA  
TTACCTCA

TCCTGAAAAGTACGGGCAT

>CP016763.1:C. freundii B38 plasmid pOZ172

ATGCCCGTACTTTTCAGGATGAGGGTAATCCCCTTGGTTTTACTTCTGGCACTCGTTTTTGCATTCTTACTTAAC  
TGGCC

GGTGTGCTGCATTTCTACGATATCCTGAGCCGTCTTGAACATGTGAGGGCGGGGTTTCGTCATCTCCATTCCGT  
TTGTGC

TGGTTGCAGCGCTTAACTTTGTGTTTATGCCCTTCTCGGTTCTGCTACCTGCTCAAACCTTCTTTGCCCTGTTGCT  
GGTC

ACCGTTCCGGTGGTGAGTTACGCCACACTGAAATATAAAGTGATGTTTGATCAGTCCATGATCGAAAATATAC  
TGGAAC

AAACCCACAGGAAGCGCATGCCTACCTGAATGGCTCACTGGTGCTGTGGCTGGTCTTCATGGGCATTCTTCCG  
GCTATCC



TGTTGTTTTGATTAATAATGAATATGCAGACAAATGGTACAAAGGGGTTGCCACCGGCTGCTTCCATGCTC  
GCTTCG

CTGATCCTGATTGCAGGTGTTGCCGCTCTGTATTACCAGGATTATGCTTCTGTCGGGCGCAATAACCCGACGCT  
GAACAA

AGAAATTATCCCGCAAACATGCGTACAGCACTTCCATTACGTGAAGGATACCTATTTTACGACGAAAATGC  
CTTTCC

GGACGCTGGGGGATGATGCAAGGCGCGTTACCCGGAATGGTAAACCCACGCTGATGTTCTGGTAATTGGCG  
AAACGGCA

CGGAGCCAGAATTTCTCCATGAACGGCTACCCGCGTGACACAAATGCCTTTACCAGCAAAATCGATGGCGTTA  
TTTCGTT

CAGGAATATGCGTTCCTGTGGCACGGCGACCGCAGTCTCGGTGCCCTGTATGTTCTCGGATATGAACCGGACG  
GATTACG

ATGGTAAAAAGGCTGCCGGCAGTGAAAATGTCTCGACATCGTGCAGAAAACGGGGGTTTCGCTGTTGTGGA  
AAGAAAAC

GATGGCGGGTGTAAGGCGTATGCAGCCGATCCCGACTGTCGAAATTAATCCCGGTATCAGTAAAAAAGCT  
TGTGACGG

TAAAACCTGCTATGACGATGTTATGCTGGAAAACCTGGATACCGAAATCGGCAAAATGGCCGGAGACAAGCT  
GATCGCCT

TCCATATGATTGGCAGCCATGGACCGACCTATTACCAGCGTTATCCGGCAGAGCATCGTCACTTCATGCCGGA  
ATGTGCG

CGCAGCGATATCGAAAACGACGCGAGGAACAGCTGGTTAATACCTACGACAATACCATTGCCACACCGACT  
ATGTGTT

AGCGCAGATGATTGAAAAGCTTAAGCAATACAGCGAACAGTACAACACCGTACTGCTGTATGTGTCCGATCAC  
GGCGAAT

CTCTGGGAGAGAGCGGACTGTATCTGCACGGTACCCCTACAAACTGGCACCGGATCAGCAGACGCACATCC  
CGATGCAG

CTCTGGATGTCGCCAGGCTTCATTGCTGCTAAAAATATTAACGCCGCGTGTCTGCAGCATAATGCCGTTAACAG  
GACATA

TTCCCACGATAACCTTTTCGCGTCCGTAAGGGGCTCTGGGACATCACCACCGGGGCTATCTCCGGAAAGC  
GACCTGT

TCCGCGAATGTCGTGG

>CP020091.1:E. cloacae PIMB10EC27 plasmid pEC27-2

TATCCACGACATTCGCGGAACAGGTCGCTTCCGGAAGATAGGCCCGGTGGTATGTCCAGAGCCCCAGT  
ACGGACGC

GAAAAGGTTATCGTGGGAATATGTCTGTTAACGGCATTATGCTGCAGACACGGCGGTTAATATTTTAGCA  
GCAATGA

AGCCTGGCGACATCCAGAGCTGCATCGGGATGTGCGTCTGCTGATCCGGTGCCAGTTTGTAGGGGGTACCGT  
GCAGATAC

AGTCCGCTCTCTCCAGAGATTCGCCGTGATCGGACACATACAGCAGTACGGTGTGTACTGTTGCTGTATTGC  
TTAAGC

TTTTCAATCATCTGCGCTAACACATAGTCGGTGTGGCGAATGGTATTGTCGTAGGTATTAACCAGCTGTTCTG  
CGTGCA

GTTTTGATATCGCTGCGCGCACATTCCGGCATGAAGTGACGATGCTCTGCCGATAACGCTGGTAATAGGTC  
GGTCCAT

GGCTGCCAATCATATGGAAGGCGATCAGCTTGTCTCCGGCCATTTTGCCGATTTCCGGTATCCAGGTTTTCCAGC  
ATAACA

TCGTCATAGCAGGTTTTACCGTCACACAGTTTTTTACTGATACCGGGATTAATTTGACAGTCGGGATACGGCT  
GCATAC

GCCTTTACACCCGCCATCGTTTTCTTTCCACAACAGCGAAACCCCGTTTTCTGCACGATGTCGAGGACATTTTC  
ACTGC

CGGCAGCCTTTTTACCATCGTAATCCGTCCGGTTCATATCCGAGAACATACAGGGCACCGAGACTGCGGTGCG  
CGTGCCA

CAGGAACGCATATTCCTGAACGAAATAACGCCATCGATTTTGCTGGTAAAGGCATTTGTGTCACGCGGGTAGC  
CGTTCAT

GGAGAAATTCTGGCTCCGTGCCGTTTCGCCAATTACCAGGAACATCAGCGTGGGTTTACCATTCCGGGTAACG  
CGCCTTG

CATCATCCCCAGCGTCCGGAAAGGCATTTTCGTCGTAATAAGGTATCCTTCACGTAATGGAAAGTGCTGTA  
CGCATAG

TTTGCCGGGATAATTTCTTTGTTGAGCGTCCGGTTATTGCGCCCGACAGAAGCATAATCCTGGTAATACAGAG  
CGGCAAC

ACCTGCAATCAGGATCAGCGAAGCGAGCATGGAAAGCAGCCGGTGGGCAACCCCTTGTACCATTTGTCTGC  
ATATTCAA

TTTTAATCAAAAACAACAGGATAGCCGGAAGAATGCCCATGAAGACCAGCCACAGCACCAGTGAGCCATTCA  
GGTAGGCA

TGCGTCTCTGTGGGTTTGTTCAGTATATTTTCGATCATGGACTGATCAAACATCACTTTATATTTAGTGTG  
GCGTA

ACTCACCACCGAACCGGTGACCAGCAACAGGGCAAAGAAGGGTTTGAGCAGGTAGCGAACCGAGAAGGGCA  
TAAACACAA

AGTTAAGCGCTGCAACCAGCACAAACGGAATGGAGATGACGAACCCCGCCCTCACATGTTCAAGACGGCTCA  
GGATATCG

TAGAAATGCAGCAACACCGGCCAGTTAAGTAAGAATGCAAAAACGAGTGCCAGAAGTAAACCAAGGGGAT  
TACCCTCAT

CCTGAAAAGTACGGGCAT

>CP033076.1:Buttiauxella sp. 3AFRM03 chromosome

ATGCCCGTACTTTTCAGGATTAAGCTTATCCCACTGGTTTTACTGTTGGCGGTGGTTTTTGCCTTCTTGCTTAAC  
TGGCC

CGTATTACTGCATTTTTACGATATTTTGACGCACCTTGAGCACGTCAAATGGGTTTTGCCATCTCCATACCGTT  
TGTAT

TGGTTGCGGCACTTAACTTTGTCTTTATGCCCTTTTCGATTCGATTTTTGCTGAAGCCGTTTTTGCCTGTTATT  
TGTG

ACAGGCTCAATGGTCAGTTACTCGACGCTGAAATACAAAGTGATGTTTGATCAGTCTATGATCCAAAACATCG  
TCGAAAC

CAATCCACAAGAAGCCCATTCTTATCTGAATGGCTCGATCATTTTATGGCTGCTGCTGACCGGAATACTTCCGG  
CTATCT

TGCTGTTTTTAATTAAGATTGAATATCCAGCCAAGTGGTATAAGGGCATTACATACCGTTTGTGTCTATGGCG  
GCATCA

CTGTTGCTAATTGCGGGTGTGGCCGCACTTTATTACCAGGACTACGCCTCTGTCGGGCGCAATAACTCAACGC  
TAAACAA

AGAGATTATCCCGGCGAACTACGTCTACAGTACCGTCCGCTATCTGCAAGATACCTACTTCACCACCAAAGAAC  
CGTTCC

AGACATTGGGTGATGACGCCAAACGTGTTGCCAATAAAGACAAACCGACACTAATGTTCTGGTGATTGGCG  
AAACCGCA

CGTAGCCAGAATTTCTCGATGAACGGTTATGAGCGTGATACCAACGCTTTCACCAGCCAAAGTGGCGATGTTA  
TTTCGTT

TAAGGACGTTCAATTCGTGCGGCACGGCCACTGCGGTTTCCGTACCCTGCATGTTCTCAAATATGAACCGCACC  
GAGTACA

ACGCCAAAAAAGCGACTAACAGTGAAAACCTTCTCGATATCGTGCAAAAAACCGGGGTTTCGCTGCTGTGGA  
AAGATAAT

GACGGTGGCTGTAAAGCGTGTGTAAACGGTTACCGACTATCGAAATTAACCGACCGATAACCCGAAATTG  
TGTAATGG

CGAAACCTGTTTCGACGAGGTGATGCTGGAAAATATCGATGAAGAGATGGCAAAAATGGCCGGGGATAAGC  
TGGTTGCCT

TTCATATCATTGGTAGCCACGGGCCGACCTATTTCCAGCGTTATCCGGCTAACAACGCCACTTTATGCCGGAA  
TGTGCG

CGTAGCGACATTGAAAACGTACGCAAGAACAACCTGGTCAATACCTACGACAACACCATTTCGTTATACCGACT  
ATGTCGT

GGCACAATGATTGAAAAGCTCAAACCTTATAGCGACAAGTACAACACCGTGCTGCTGTATGTGTCCGACCAC  
GGCGAGT

CTCTGGGGGAAAGTGGCCTGTATCTGCACGGCACGCCGTACAACTGGCACCGGATCAGCAAACGCATATAC  
CGATGCAG

GTGTGGATGTCACCCGGTTTTATCGCGGATAAGCACATTAATATGACTTGTCTGAAAAATAATGCTGCGAAGA  
ACCCGTA

CTCCCATGACAACTTGTTCATCGGTGCTAGGGATTTGGGACATCACCACCCGCGATTACCACGCGGATAGT  
GATTTGT

TCCGCGGGTGCCG

>CP039271.1:Salmonella Senftenberg plasmid pCFSAN004025.1

TGATCAAACATTACTTTATATTTTAGTGTCTGAATAACTGACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGA  
AAGGTTT

CAGCAGAAAACGAACTGAGAAAGGCATAAAAAACAACGTTAAGCGCCGCAACCAGAACAAAGGGAATAGAAA  
TGACAAAAC

CAATTTTGACATGCTCTAAATGCGACAAAATCTCGTAAAAATGCAGCAATATTGGCCAGTTAAGTAAAAACGC  
AAAGATC

ATTGCCAGAAGTAAAACCAGCGGAATAACTTTCACCCTGAAAAGTACAGGCAT

>NXK001000060.1:E. hormaechei K130

TTAGCCACGGCATTTCGCGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCC  
AAAATCGATGAGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGCATTATTTTCAAGGCAAGACATGT  
TGATGTGTTTTCCGGCGATAAAGCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGG  
TGCCAGTTTGTACGGCGTGCCGTGCAGATATAGCCCGCTTTCGCCCAATGATTCACCATGATCGGACACA  
TAAAGCAGCACGGTGTGACTGATCGCTGTAATTTTTTAGCTTTTCAATCATCTCAGCTAATACATAGT  
CTGTATAACGAAGGGTGTGTCGTAGGTGTTGACCAATTGTTCTGAGTACAGTTTTCGATATCGCTACG  
TGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAAGTCGGTCCATGGCTGCCA  
ATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTTTCATCATCAAGGTTTTCCAGCATCA  
CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTTTCGACAGTCGGGAT  
GCGGCTACATACGCTTTACAACCGCCATCGTTCTTTCCATAACAGCGAGACACCGGTTTTCTGCACG  
ATGTCGAGGAAATTTTCACTGTTAGATGCTTTTTTACTGTCTACTCGGTGCGATTTCATATTCGAGAACA  
TGCACGGAACGGATATTGCGGTAGCGGTACCGCAGGAATGCATATTTTAAACGAAATAACGCCGCCGGA  
TTTGCTGGTAAAGGCATTGGTATCACGCGAATAACCGTTCATCGAGAAATTCTGGCTGCGTGCCGTTTTCG  
CCAATCACCAGGAACATCAGCGTGGGTTTTTCGTGAGCGACGACGCGTTTAGCATCATTCCCAGCGTCT  
GGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTGTAAGCGTAGTTCCGCCG

GATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAGTGCGGCA  
ACACCTGCAATCAAACCTAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTT  
CAGGATATTGAATTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAAGACGAACCATATAAT  
AATTGAGCCATTAAGATAGGAATGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGA  
TCAAACATTACTTTATATTTTAGTGTCGAATAACTGACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGA  
AAGGTTTCAGCAGAAAACGAACTGAGAAAGGCATAAAAAACAACGTTAAGCGCCGCAACCAGAACAAAGGG  
AATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGACAAAATCTCGTAAAAATGCAGCAATATT  
GGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAACCAGCGGAATAACTTTCCACCTGAAAA  
GTACAGGCAT

>NXJN0100053.1:E. hormaechei ST-234:K063

TTAGCCACGGCATTTCGCGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCC  
AAAATCGATGAGAACAGGTTGTCGTGGGAATATGATTTTTTCGCCGATTATTTTCAAGGCAAGACATGT  
TGATGTGTTTCCGGCGATAAAGCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGG  
TGCCAGTTTGTACGGCGTGCCGTGCAGATATAGCCCGCTTTCGCCCAATGATTCACCATGATCGGACACA  
TAAAGCAGCACGGTGTTGACTGATCGCTGTAATTTTTTAGCTTTTCAATCATCTCAGCTAATACATAGT  
CTGTATAACGAAGGGTGTTGTCGTAGGTGTTGACCAATTGTTCTGAGTACAGTTTTCGATATCGCTACG  
TGCACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAAGTCGGTCCATGGCTGCCA  
ATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTTTCATCATCAAGGTTTTCCAGCATCA  
CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTTTCGACAGTCGGGAT  
GCGGCTACATACGCCCTTTACAACCGCCATCGTTCTCTTTCATAACAGCGAGACACCGGTTTTCTGCACG  
ATGTCGAGGAAATTTTCACTGTTAGATGCTTTTTACTGTCGTAICTGGTGCGATTTCATATTCGAGAACA  
TGCACGGAACGGATATTGCGGTAGCGGTACCGCAGGAATGCATATTTTTAAACGAAATAACGCCGCCGGA  
TTTGCTGGTAAAGGCATTGGTATCACGCGAATAACCGTTCATCGAGAAATTCTGGCTGCGTGCCGTTTTCG  
CCAATCACCAGGAACATCAGCGTGGGTTTTTCGTGAGCGACGACGCGTTTAGCATCATTCCCAGCGTCT  
GGAAAGGCACTTTAGTCGTAAAGTACGTATCCTTAACATACTGGAAAGTGCTGTAAGCGTAGTTCGCCGG  
GATGATCTCTTTATTCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAGTGCGGCA  
ACACCTGCAATCAAACCTAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTT  
CAGGATATTGAATTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAAGACGAACCATATAAT  
AATTGAGCCATTAAGATAGGAATGCGCTTCTGGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGA  
TCAAACATTACTTTATATTTTAGTGTCGAATAACTGACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGA

AAGGTTTCAGCAGAAAACGAACTGAGAAAGGCATAAAAAACAACGTTAAGCGCCGCAACCAGAACAAAGGG  
AATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGACAAAATCTCGTAAAAATGCAGCAATATT  
GGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAATAACTTTACCCTGAAAA  
GTACAGGCAT

>NXJH01000131.1:E. hormaechei KO06

TTAGCCACGGCATTTCGCGGAACAAATCGCGGTCAGGATTATAGACGCTGGTGCTTACGTCCCACAGCCCC  
AAAATCGATGAGAACAGTTGTCGTGGGAATATGATTTTTTCGCCGCATTATTTTCAAGGCAAGACATGT  
TGATGTGTTTCCCGGCGATAAAGCCCGGTGACATCCAGACCTGCATCGGAATATGCGTCTGCTGATCCGG  
TGCCAGTTTGTACGGCGTGCCGTGCAGATATAGCCCGCTTTCGCCCAATGATTCACCATGATCGGACACA  
TAAAGCAGCACGGTGTTGTAAGTACTGATCGCTGTAATTTTTAGCTTTTCAATCATCTCAGCTAATACATAGT  
CTGTATAACGAAGGGTGTTGTCGTAGGTGTTGACCAATTGTTCTGAGTACAGTTTTCGATATCGCTACG  
TGACATTCGGGCATGAAGTGGCGATGCTCAGCCGGATAACGCAGGTAATAAGTCGGTCCATGGCTGCCA  
ATGATATGGAAGGCGACAAGCTTATCACCTGGCATTGTTGGCGATTTTCATCATCAAGGTTTTCCAGCATCA  
CCTCGTCATGGCACGTTTTGCCATCGCACAGTTTCGGGTTATCACTAGGCTTAATTTTCGACAGTCGGGAT  
GCGGCTACATACGCCCTTTACAACCGCCATCGTTCTCTTTCATAACAGCGAGACACCGGTTTTCTGCACG  
ATGTCGAGGAAATTTTCACTGTTAGATGCTTTTTTACTGTCGTAAGTTCGGTGCATTTCATATTCGAGAACA  
TGCACGGAACGGATATTGCGGTAGCGGTACCGCAGGAATGCATATTTTTAAACGAAATAACGCCGCCGGA  
TTTGCTGGTAAAGGCATTGGTATCACGCGAATAACCGTTCATCGAGAAATTCTGGCTGCGTGCCGTTTTCG  
CCAATCACCAGGAACATCAGCGTGGGTTTTTCGTGAGCGACGACGCTTTAGCATCATTCCCAGCGTCT  
GGAAAGGCACTTTAGTCGTAAGTACGTATCCTTAACATACTGGAAAGTGTGTAAGCGTAGTTTCGCCGG  
GATGATCTCTTTATCAATGTCGAGTTATTGCGGCCGACAGAGGCATAATCCTGATAATAAAGTGCGGCA  
ACACCTGCAATCAAACCTAACGATGCCAGCACGGAGAGCAAACGGTAAGCAATGCCTTTATACCATTTTT  
CAGGATATTGAATTTTTATTGAAAAAAGGAGGATGGCAGGAAGGATACCGGTAAAGACGAACCATATAAT  
AATTGAGCCATTAAGATAGGAATGCGCTTCCTGGGGTTAGTTTCAATAATGTTTTGAATCATCGTTTGA  
TCAAACATTAATTTATATTTAGTGTGAATAACTGACCAGTGAGCCAGTGATAAACAGTAAAGCAAAGA  
AAGGTTTCAGCAGAAAACGAACTGAGAAAGGCATAAAAAACAACGTTAAGCGCCGCAACCAGAACAAAGGG  
AATAGAAATGACAAAACCAATTTTGACATGCTCTAAATGCGACAAAATCTCGTAAAAATGCAGCAATATT  
GGCCAGTTAAGTAAAAACGCAAAGATCATTGCCAGAAGTAAAACCAGCGGAATAACTTTACCCTGAAAA  
GTACAGGCAT

>NG\_050417.1 E. coli SHP45 pHNSHP45 mcr-1

CGCATAATTTTTATATCAGATAAATTGTAAGTGGATTTCTTAAAAAATTGCAGTATAATTGCCGTAATTA  
TCCCACCGTTTATTTTTGAGTAGTTTCTCATGATGCAGCATACTTCTGTGTGGTACCGACGCTCGGTCA  
GTCGTTTGTCTGTGGCGAGTGTGCCGTTTTCTTGACCGCGACCGCCAATCTTACCTTTTTTGATAA  
AATCAGCCAAACCTATCCCATCGCGGACAATCTCGGCTTTGTGCTGACGATCGCTGTCTGTGCTCTTTGGC  
GCGATGCTACTGATCACCACGCTGTTATCATCGTATCGCTATGTGCTAAAGCCTGTGTTGATTTTGCTAT  
TAATCATGGGCGCGGTGACCAGTATTTTACTGACACTTATGGCACGGTCTATGATACGACCATGCTCCA  
AAATGCCCTACAGACCGACCAAGCCGAGACCAAGGATCTATTAACGCAGCGTTTATCATGCGTATCATT  
GGTTTGGGTGTGCTACCAAGTTTGCTTGTGGCTTTTGTAAAGGTGGATTATCCGACTTGGGGCAAGGGTT  
TGATGCGCCGATTGGGCTTGATCGTGGCAAGTCTTGCCTGATTTTACTGCCTGTGGTGGCGTTCAGCAG  
TCATTATGCCAGTTTCTTTCGCGTGCATAAGCCGCTGCGTAGCTATGTCAATCCGATCATGCCAATCTAC  
TCGGTGGGTAAGCTTGCAGTATTGAGTATAAAAAAGCCAGTGCGCCAAAAGATAACATTTATCACGCCA  
AAGACGCGGTACAAGCAACCAAGCCTGATATGCGTAAGCCACGCCTAGTGGTTCGTCGTCGGTGAGAC  
GGCACGCGCCGATCATGTCAGCTTCAATGGCTATGAGCGCGATACTTTCCACAGCTTGCCAAGATCGAT  
GGCGTGACCAATTTAGCAATGTCACATCGTGCAGCACATCGACGGCGTATTCTGTGCCGTGTATGTTCA  
GCTATCTGGGCGCGGATGAGTATGATGTGCATACCGCCAAATACCAAGAAAATGTGCTGGATACGCTGGA  
TCGCTTGGGCGTAAGTATCTTGTGGCGTGATAATAATTCGGACTCAAAGGCGTGATGGATAAGCTGCCA  
AAAGCGCAATTTGCCGATTATAAATCCGCGACCAACAACGCCATCTGCAACACCAATCCTTATAACGAAT  
GCCGCGATGTCGGTATGCTCGTTGGCTTAGATGACTTTGTCGCTGCCAATAACGGCAAAGATATGCTGAT  
CATGCTGCACCAAATGGGCAATCACGGGCTGCGTATTTAAGCGATATGATGAAAAGTTTGCCAAATTC  
ACGCCAGTGTGTAAGGTAATGAGCTTGCCAAGTGCGAACATCAGTCCTTGATCAATGCTTATGACAATG  
CCTTGCTTGCCACCGATGATTTTCATCGCTCAAAGTATCCAGTGGCTGCAGACGCACAGCAATGCCTATGA  
TGTCTCAATGCTGTATGTCAGCGATCATGGCGAAAGTCTGGGTGAGAACGGTGTCTATCTACATGGTATG  
CCAAATGCCTTTGCACCAAAGAAGCAGCGCAGTGTGCCTGCATTTTTCTGGACGGATAAGCAAACCTGGCA  
TCACGCCAATGGCAACCGATACCGTCTGACCCATGACGCGATCACGCCGACATTATTAAGCTGTTTGA  
TGTACCGCGGACAAAGTCAAAGACCGCACCGCATTATCCGCTGATTTCTCCCTGTATTTTTTCCAAAC  
CCACCGCACACTCCATTCGTATTATGGGCGGTGGGGTGGGGTTTGTATGCCGTATTTATCAAATAAACG  
CCTACT

>NG\_052893.1 S. Typhimurium pMCR16\_P053 mcr-1

CGCATAATTTTTATATCAGATAAATTGTAAGTGGATTTCTTAAAAAATTGCAGTATAATTGCCGCAATTA

TCCCACCGTTTATTTTTTAATAGTTTCTCATGATGCAGCATACTTCTGTGTGGTACCGACGCTCGGTCA  
GTCCGTTTGTCTTGTGGCGAGTGTGCCGTTTTCTTGACCGCGACCGCCAATCTTACCTTTTTTGATAA  
AATCAGCCAAACCTATCCCATCGCGGACAATCTCGGCTTTGTGCTGACGATCGCTGTCGTGCTCTTTGGC  
GCGATGCTACTGATCACCACGCTGTTATCATCGTATCGCTATGTGCTAAAGCCTGTGTTGATTTTGCTAT  
TAATCATGGGCGCGGTGACCAGTTATTTACTGACACTTATGGCACGGTCTATGATACGACCATGCTCCA  
AAATGCCCTACAGACCGACCAAGCCGAGACCAAGGATCTATTAACGCAGCGTTTATCATGCGTATCATT  
GGTTTGGGTGTGCTACCAAGTTTGCTTGTGGCTTTTGTAAAGGTGGATTATCCGACTTGGGGCAAGGGTT  
TGATGCGCCGATTGGGCTTGATCGTGGCAAGTCTTGCCTGATTTTACTGCCTGTGGTGGCGTTCAGCAG  
TCATTATGCCAGTTTCTTTCGCGTGCATAAGCCGCTGCGTAGCTATGTCAATCCGATCATGCCAATCTAC  
TCGGTGGGTAAGCTTGCCAGTATTGAGTATAAAAAAGCCAGTGCGCCAAAAGATACCATTTATCACGCCA  
AAGACGCGGTACAAGCAACCAAGCCTGATATGCGTAAGCCACGCCTAGTGGTGTTCGTGTCGGTGAGAC  
GGCACGCGCCGATCATGTCAGCTTCAATGGCTATGAGCGCGATACTTCCACAGCTTGCCAAGATCGAT  
GGCGTGACCAATTTAGCAATGTCACATCGTGCAGCACATCGACGGCGTATTCTGTGCCGTGTATGTTCA  
GCTATCTGGGCGCGGATGAGTATGATGTCGATACCGCCAAATACCAAGAAAATGTGCTGGATACGCTGGA  
TCGCTTGGGCGTAAGTATCTTGTGGCGTGATAATAATTCGGACTCAAAGGCGTGATGGATAAGCTGCCA  
AAAGCGCAATTTGCCGATTATAAATCCGCGACCAACAACGCCATCTGCAACACCAATCCTTATAACGAAT  
GCCGCGATGTCGGTATGCTCGTTGGCTTAGATGACTTTGTCGCTGCCAATAACGGCAAAGATATGCTGAT  
CATGCTGCACCAAATGGGCAATCACGGGCCTGCGTATTTTAAGCGATATGATGAAAAGTTTGCCAAATTC  
ACGCCAGTGTGTGAAGGTAATGAGCTTGCCAAATGCGAACATCAGTCCTTGATCAATGCTTATGACAATG  
CCTTGCTTGCCACCGATGATTTTCATCGCTCAAAGTATCCAGTGGCTGCAGACGCACAGCAATGCCTATGA  
TGTCTCAATGCTGTATGTCAGCGATCATGGCGAAAGTCTGGGTGAGAACGGTGTCTATCTACATGGTATG  
CCAAATGCCTTTGCACAAAAGAACAGCGCAGTGTGCCTGCATTTTCTGGACGGATAAGCAAATGGCA  
TCACGCCAATGGCAACCGATACCGTCTGACCCATGACGCGATCACGCCGACATTATTAAGCTGTTTGA  
TGTCACCGCGGACAAAAGTCAAAGACCACACCGCATTATCCGCTGATTTCTCCCTGTATTTTTTCCAAAC  
CCACCGCACACTCCATTCGTATTATGGGCGGTGGGGTGGGGTTTGTATGCCGTATTATCAAATAAACG  
CCTACT

>NG\_052861.1 E. coli pHeNE867 mcr-1.3

CGCATAATTTTTATATCAGATAAATTGTAAGTCTTAAAAAATTGCAGTAAAATTGCCGCAATTA  
TCCCACCGTTTATTTTTGAGTAGTTTCTCATGATGCAGCATACTTCTGTGTGGTACCGACGCTCGGTCA  
GTCCGTTTGTCTTGTGGCGAGTGTGCCGTTTTCTTGACCGCGACCGCCAATCTTACCTTTTTTGATAA



GGTCAGCCAAACCTATCCCATCGCGGACAATCTCGGCTTTGTGCTGACGATCGCTGTCGTGCTCTTTGGC  
GCGATGCTACTGATCACCACGCTGTTATCATCGTATCGCTATGTGCTAAAGCCTGTGTTGATTTTGCTAT  
TAATCATGGGCGCGGTGACCAGTTATTTTACTGACACTTATGGCACGGTCTATGATACGACCATGCTCCA  
AAATGCCCTACAGACCGACCAAGCCGAGACCAAGGATCTATTAACGCAGCGTTTATCATGCGTATCATT  
GGTTTGGGTGTGCTACCAAGTTTGCTTGTGGCTTTTGTAAAGGTGGATTATCCGACTTGGGGCAAGGGTT  
TGATGCGCCGATTGGGCTTGATCGTGGCAAGTCTTGCCTGATTTTACTGCCTGTGGTGGCGTTCAGCAG  
TCATTATGCCAGTTTCTTTCGCGTGCATAAGCCGCTGCGTAGCTATGTCAATCCGATCATGCCAATCTAC  
TCGGTGGGTAAGCTTGCCAGTATTGAGTATAAAAAAGCCAGTGCGCCAAAAGATAACCATTTATCACGCCA  
AAGACGCGGTACAAGCAACCAAGCCTGATATGCGTAAGCCACGCCTAGTGGTGTTCGTGCTCGGTGAGAC  
GGCACGCGCCGATCATGTCAGCTTCAATGGCTATGAGCGCGATACTTTCCACAGCTTGCCAAGATCGAT  
GGCGTGACCAATTTTAGCAATGTCACATCGTGCGGCACATCGACGGCGTATTCTGTGCCGTGTATGTTCA  
GCTATCTGGGCGCGGATGAGTATGATGTGCATACCGCCAAATACCAAGAAAATGTGCTGGATACGCTGGA  
TCGCTTGGGCGTAAGTATCTTGTGGCGTGATAATAATTCGGACTCAAAGGCGTGATGGATAAGCTGCCA  
AAAGCGCAATTTGCCGATTATAAATCCGCGACCAACAACGCCATCTGCAACACCAATCCTTATAACGAAT  
GCCGCGATGTCGGTATGCTCGTTGGCTTAGATGACTTTGTCGCTGCCAATAACGGCAAAGATATGCTGAT  
CATGCTGCACCAAATGGGCAATCACGGGCCTGCGTATTTTAAAGCGATATGATGAAAAGTTTGCCAAATTC  
ACGCCAGTGTGTGAAGTAATGAGCTTGCCAAGTGCGAACATCAGTCCTTGATCAATGCTTATGACAATG  
CCTTGCTTGCCACCGATGATTTTCATCGCTCAAAGTATCCAGTGGCTGCAGACGCACAGCAATGCCTATGA  
TGTCTCAATGCTGTATGTCAGCGATCATGGCGAAAGTCTGGGTGAGAACGGTGTCTATCTACATGGTATG  
CCAAATGCCTTTGCACCAAAGAAGAGCGCAGTGTGCCCTGCATTTTTCTGGACGGATAAGCAAAGTGGCA  
TCACGCCAATGGCAACCGATACCGTCCTGACCCATGACGCGATCACGCCGACATTATTAAGCTGTTTGA  
TGTCACCGCGGACAAAGTCAAAGACCGCACCGCATTATCCGCTGATTTCTCCCTGTATTTTTTCAAAC  
CCACCGCACACTCCATTCGTATTATGGGCGGTGGGGTGGGGTTTGTATGCCGTATTTATCAAATAAAGC  
CCTACT

>NG\_055582.1 E. coli pLV23529-MCR-1.9

CGCATAATTTTTATATCAGATAAATTGTAAGTGGATTTCTTAAAAAATTGCAGTATAATTGCCGCAATTA  
TCCCACCGTTTATTTTTGAGTAGTTTCTCATGATGCAGCATACTTCTGTGTGGTACCGACGCTCGGTCA  
GTCCGTTTGTCTGTGGCGAGTGTGCGGTTTTCTGACCGCGACCGCAATCTTACCTTTTTTGATAA  
AATCAGCCAAACCTATCCCATCGCGGACAATCTCGGCTTTGTGCTGACGATCGCTGTCGTGCTCTTTGGC  
GCGATGCTACTGATCACCACGCTGTTATCATCGTATCGCTATGTGCTAAAGCCTGTGTTGATTTTGCTAT

TAATCATGGGCGCGGTGACCAGTTATTTTACTGACACTTATGGCACGGTCTATGATACGACCATGCTCCA  
AAATGCCCTACAGACCGACCAAGCCGAGACCAAGGATCTATTAACGCAGCGTTTATCATGCGTATCATT  
GGTTTGGGTGTGCTACCAAGTTTGCTTGTGGCTTTTGTAAAGGTGGATTATCCGACTTGGGGCAAGGGTT  
TGATGCGCCGATTGGGCTTGATCGTGGCAAGTCTTGCCTGATTTTACTGCCTGTGGTGGCGTTCAGCAG  
TCATTATGCCAGTTTCTTTCGCGTGCATAAGCCGCTGCGTAGCTATGTCAATCCGATCATGCCAATCTAC  
TCGGTGGGTAAGCTTGCCAGTATTGAGTATAAAAAAGCCAGTGCGCCAAAAGATACCATTTATCACGCCA  
AAGACGCGGTACAAGCAACCAAGCCTGATATGCGTAAGCCACGCCTAGTGGTGTTCGTGCTGGTGAGAC  
GGCACGCGCCGATCATGTCAGCTTCAATGGCTATGAGCGGATACTTTCCACAGCTTGCCAAGATCGAT  
GGCGTGACCAATTTTAGCAATGTCACATCGTGCGGCACATCGACGGCGTATTCTGTGCCGTGTATGTTCA  
GCTATCTGGGCGCGGATGAGTATGATGTCGATACCGCCAAATACCAAGAAAATGTGCTGGATACGCTGGA  
TCGCTTGGGCGTAAGTATCTTGTGGCGTGATAATAATTCGGA CTCAAAGGCGTGATGGATAAGCTGCCA  
AAAGCGCAATTTGCCGATTATAAATCCGCGACCAACAACGCCATCTGCAACACCAATCCTTATAACGAAT  
GCCGCGATGTCGGTATGCTCGTTGGCTTAGATGACTTTGTCGCTGCCAATAACGGCAAAGATATGCTGAT  
CATGCTGCACCAAATGGGCAATCACGGGCCTGCGTATTTTAAGCGATATGATGAAAAGTTTGCCAAATTC  
ACGCCAGCGTGTGAAGGTAATGAGCTTGCCAAGTGCGAACATCAGTCCTTGATCAATGCTTATGACAATG  
CCTTGCTTGCCACCGATGATTTTCATCGCTCAAAGTATCCAGTGGCTGCAGACGCACAGCAATGCCTATGA  
TGTCTCAATGCTGTATGTCAGCGATCATGGCGAAAGTCTGGGTGAGAACGGTGTCTATCTACATGGTATG  
CCAAATGCCTTTGCACCAAAGAAGACAGCGCAGTGTGCCTGCATTTTCTGGACGGATAAGCAAATGGCA  
TCACGCCAATGGCAACCGATACCGTCCTGACCCATGACGCGATCACGCCGACATTATTAAGCTGTTTGA  
TGTCACCGCGGACAAAGTCAAAGACCGCACCGCATTATCCGCTGATTTCTCCCTGTATTTTTTCAAAC  
CCACCGCACACTCCATTGCTATTATGGGCGGTGGGGTGGGGTTTGTATGCCGTATTTATCAAATAAACG  
CCTACT

>NG\_057460.1 *K. pneumoniae* pKSC24 mcr-1.14

CGCATAATTTTTATATCAGATAAATTGTA CTGATTTCTTAAAAAATTGCAGTATAATTGCCGTAATTA  
TCCCACCGTTTATTTTTGAGTAGTTTCTCATGATGCAGCATACTTCTGTGTGGTACCGACGCTCGGTCA  
GTCCGTTTGTCTTGTGGCGAGTGTGCGTTTTCTTGACCGCGACCGCCAATCTTACTTTTTTGATAA  
GGTCAGCCAAACCTATCCATCGCGACAATCTCGGCTTTGTGCTGACGATCGCTGCTGCTCTTTGGC  
GCGATGCTACTGATCACCACGCTGTTATCATCGTATCGCTATGTGCTAAAGCCTGTGTTGATTTTGCTAT  
TAATCATGGGCGCGGTGACCAGTTATTTTACTGACACTTATGGCACGGTCTATGATACGACCATGCTCCA  
AAATGCCCTACAGACCGACCAAGCCGAGACCAAGGATCTATTAACGCAGCGTTTATCATGCGTATCATT

GGTTTGGGTGTGCTACCAAGTTTGCTTGTGGCTTTTGTAAAGGTGGATTATCCGACTTGGGGCAAGGGTT  
TGATGCGCCGATTGGGCTTGATCGTGGCAAGTCTTGCCTGATTTTACTGCCTGTGGTGGCGTTCAGCAG  
TCATTATGCCAGTTTCTTTCGCGTGCATAAGCCGCTGCGTAGCTATGTCAATCCGATCATAACCAATCTAC  
TCGGTGGGTAAGCTTGCCAGTATTGAGTATAAAAAAGCCAGTGCGCCAAAAGATACCATTTATCACGCCA  
AAGACGCGGTACAAGCAACCAAGCCTGATATGCGTAAGCCACGCCTAGTGGTGTTCGTGCGTGGTGAGAC  
GGCACGCGCCGATCATGTCAGCTTCAATGGCTATGAGCGCGATACTTTCCACAGCTTGCCAAGATCGAT  
GGCGTGACCAATTTTAGCAATGTCACATCGTGCGGCACATCGACGGCGTATTCTGTGCCGTGTATGTTCA  
GCTATCTGGGCGCGGATGAGTATGATGTCGATACCGCCAAATACCAAGAAAATGTGCTGGATACGCTGGA  
TCGCTTGGGCGTAAGTATCTTGTGGCGTGATAATAATTCGGACTCAAAGGGCGTGATGGATAAGCTGCCA  
AAAGCGCAATTTGCCGATTATAAATCCGCGACCAACAACGCCATCTGCAACACCAATCCTTATAACGAAT  
GCCGCGATGTCGGTATGCTCGTTGGCTTAGATGACTTTGTCGCTGCCAATAACGGCAAAGATATGCTGAT  
CATGCTGCACCAAATGGGCAATCACGGGCCTGCGTATTTTAAGCGATATGATGAAAAGTTTGCCAAATTC  
ACGCCAGTGTGTGAAGTAATGAGCTTGCCAAGTGCGAACATCAGTCCTTGATCAATGCTTATGACAATG  
CCTTGCTTGCCACCGATGATTTTCATCGCTCAAAGTATCCAGTGGCTGCAGACGCACAGCAATGCCTATGA  
TGTCTCAATGCTGTATGTCAGCGATCATGGCGAAAGTCTGGGTGAGAACGGTGTCTATCTACATGGTATG  
CCAAATGCCTTTGCACCAAAGAAGACAGCGCAGTGTGCCTGCATTTTTCTGGACGGATAAGCAAATGGCA  
TCACGCCAATGGCAACCGATACCGTCCTGACCCATGACGCGATCACGCCGACATTATTAAGCTGTTTGA  
TGTCACCGCGGACAAAGTCAAAGACCGCACCGCATTTCATCCGCTGATTTCTCCCTGTATTTTTTCAAAC  
CCACCGCACACTCCATTCGTATTATGGGCGGTGGGGTGGGGTTTGTATGCCGTATTTATCAAATAAACG  
CCTACT

>NG\_051171.1 E. coli pKP37-BE mcr-2.1

ACAGCCCCTTTATTTATCTGCACAATATATCTAGATTCTACAACGACATTGAAGTATAATCGCCAACTTG  
TATCGTATATGGCATTGTGGGTAATTTCTATGACATCACATCACTCTTGGTATCGCTATTCTATCAATC  
CTTTTGTGCTGATGGGTTTGGTGGCGTTATTTTGGCAGCGACAGCGAACCTGACATTTTTTGA AAAAAGC  
GATGGCGGTCTATCCTGTATCGGATAACTTAGGCTTTATCATCTCAATGGCGGTGGCGGTGATGGGTGCT  
ATGCTACTGATTGTCGTGCTGTTATCCTATCGCTATGTGCTAAAGCCTGTCCTGATTTTGCTACTGATTA  
TGGGTGCGGTGACGAGCTATTTACCGATACTTATGGCACGGTCTATGACACCACCATGCTCCAAAATGC  
CATGCAAACCGACCAAGCCGAGTCTAAGGACTTGATGAATTTGGCGTTTTTGTGCGAATTATCGGGCTT  
GGCGTGTGCCAAGTGTGTTGGTTCGAGTTGCCAAAGTCAATTATCCAACATGGGGCAAAGGTCTGATTC  
AGCGTGCGATGACATGGGGTGTGAGCCTTGTGCTGTTGCTTGTGCCGATTGGACTATTTAGCAGTCAGTA

TGCGAGTTTCTTCGGGTGCATAAGCCAGTGCCTTTTTATATCAACCCGATTACGCCGATTTATTCCGGTG  
GGTAAGCTTGCCAGTATCGAGTACAAAAAAGCCACTGCGCCAACAGACACCATCTATCATGCCAAAGACG  
CCGTGCAGACCACCAAGCCGAGCGAGCGTAAGCCACGCCTAGTGGTGTTTCGTTCGTCGGTGAGACGGCGCG  
TGCTGACCATGTGCAGTTCAATGGCTATGGCCGTGAGACTTTCCCGCAGCTTGCCAAAGTTGATGGCTTG  
GCCAATTTTAGCCAAGTGACATCGTGTGGCACATCGACGGCGTATTCTGTGCCGTGTATGTTTCAGCTATT  
TGGGTCAAGATGACTATGATGTGCGATACCGCCAAATACCAAGAAAATGTGCTAGATACGCTTGACCGCTT  
GGGTGTGGGTATCTTGTGGCGTGATAATAATTCAGACTCAAAAGGCGTGATGGATAAGCTACCTGCCACG  
CAGTATTTTGATTATAAATCAGCAACCAACAATACCATCTGTAACACCAATCCCTATAACGAATGCCGTG  
ATGTCGGTATGCTTGTGGGCTAGATGACTATGTCAGCGCCAATAATGGCAAAGATATGCTCATCATGCT  
ACACCAAATGGGCAATCATGGGCCGGCGTACTTTAAGCGTTATGATGAGCAATTTGCCAAATTCACCCCC  
GTGTGCGAAGGCAACGAGCTTGCCAAATGCGAACCAATCACTCATCAATGCCTATGACAATGCGCTAC  
TTGCGACTGATGATTTTATCGCCAAAAGCATCGATTGGCTAAAAACGCATGAAGCGAACTACGATGTCGC  
CATGCTCTATGTCAGTGACCACGGCGAGAGCTTGGGCGAAAATGGTGTCTATCTGCATGGTATGCCAAAT  
GCCTTTCACCAAAGAAGACAGCGAGCTGTGCCTGCGTTTTTTTTGGTCAAATAATACGACATTCAAGCCAA  
CTGCCAGCGATACTGTGCTGACGCATGATGCGATTACGCCAACACTGCTTAAGCTGTTTGATGTCACAGC  
GGGCAAGGTCAAAGACCGCGCGGCATTTATCCAGTAAGTTATCATCATAACCCAATCTCAAGCCATCACA  
CTACGGTATCGTGTGATGGCGCAGGGCGGATTTTGCAATCTATTTTGCAATGTTTTTTTAGGAATGT

>NG\_055496.1 *Moraxella pluranimalium* CCUG 54913 mcr-2.2

TGCACTATTTTATTTATCTGCACAATATATCTAGATTCTCCAACGACATTGAAGTATAATCGCCAACTTG  
TATTGTATATGGCATTGTGGGTAATCTTTATGACATCACAGCACTCTTGGTATCGCTACTCCATCAATC  
CTTTTGTACTGATGGGTTTGGTGGCGTTATTTTGGCGGCAACAGCGAACCTGACATTTTTTGAAAAAGC  
GATGGCGGTCTATCCTGTATCGGATAACTTAGGCTTTATCATCTCAATGGCGGTTGCACTGATGGGTGCT  
ATGCTATTGATTGTCGTGCTATTATCCTATCGCTATGTGCTAAAGCCTGTGCTGATTTTATTACTTATCA  
TGGGTGCGGTGACGAGCTATTTTACCGATACTTATGGCACGGTCTATGATACCACCATGCTCCAAAATGC  
CATGCAAACCGACCAAGCTGAATCTAAAGACTTGATGAATTTGGCGTTTTTTGTGCGGATTATCGGGCTT  
GGCGTGTGCCAAGTGTGTTGGTTCGATTTGCCAAAGTCAATTATCCAACATGGGGCAAAGGCCTGATTC  
AGCGTGCGATGACGTGGGGTGTGAGCCTTGTGCTGTTGCTTGTGCCGATTGGGCTATTTAGCAGTCAGTA  
TGCGAGTTTCTTCGGGTGCATAAGCCAGTGCCTTTTTATATCAATCCGATTACGCCGATTTATTCCGGTG  
GGCAAGCTTGCCAGTATCGAGTACAAAAAAGCCACTGCACCAACAGACACCATCTATCATGCCAAAGATG  
CCGTGCAGACCACCAAGCCTAGCGAGCGTAAGCCACGCCTAGTAGTGTTCGTTCGTCGGTGAGACGGCGCG

TGCTGACCATGTGCAGTTCAATGGCTATGGCCGTGAGACTTTCCACAGCTTGCCAAAGTTGATGGCTTG  
GCCAATTTTAGCCAAGTGACATCGTGTGGCACATCGACAGCGTATTCTGTGCCGTGTATGTTTAGCTATT  
TGGGTCAAGATGACTATGATGTGATACCGCCAAATACCAAGAAAATGTGCTAGATACGCTTGACCGCTT  
GGGCGTGGATATCTTGTGGCGTGATAATAATTCAGACTCAAAGGCGTGATGGATAAGCTACCTACCACG  
CAGTATTTTGATTATAAATCAGCGACCAACAACACCATCTGTAACACCAATCCCTTTAATGAATGCCGTG  
ATGTCGGTATGCTTGTGGGCTAGATGACTATGTCAGTGCCAATAATGGCAAAGATATGCTCATCATGCT  
ACACCAAATGGGCAATCATGGGCCGGCGTACTTTAAGCGTTATGATGAGCAATTTGCCAAATTCACCCCT  
GTGTGCGAAGGCAATGAGCTTGCCAAATGCGAACACCAATCACTCATCAATGCCTATGATAATGACTAC  
TTGCCACCGATGATTTTATCGCCAAAAGTATCGATTGGCTAAAAACACATGAAGCAAACACTACGATGTCGC  
TATGCTCTATGTCAGCGACCACGGCGAGAGCTTGGGCGAGAATGGTGTCTATCTGCATGGTATGCCAAAT  
GCCTTTGCACCAAAGAAGACAGCGAGCCGTGCCTGCGTTTTTTTGGTCAAATAATACGACATTCAAGCCAA  
CTGCCAGCGACTGTGCTGACGCATGATGCGATTACCCCGACATTGCTTAAGCTGTTTGATGTCACAGC  
CGACAAGGTCAAAGACCGCACGGCATTATCCAGTAAGTTATCAGCATCACCCAATCCCAAGCCATCATA  
CTACATCATCGTGTGATGGCAAAGGGCGGTTTTGCAATGTGTTTTGCAATGTTTTTTAGGAATGTA

>NG\_065452.1 E. coli ECCTRSRTH05 mcr-2.3

TCAAAGTGATCTACTATTCCGAACAGTTATTTAGATTCTACAACGACATTGAAGTATAATCGCCAACTTG  
TATCGTCTATGGCAATTGCGGGTAACATCTATGACATCACATCACTCTTGGTATCGCTATTCTATCAATC  
CCTTTGTGCTGATGGGTTTTGGTGGCGTTATTTTTGGCAGCGACAGCGAACCTGACATTTTTTGAAAAGC  
GATGGCGGTCTATCCTGTATCGGATAACTTAGGCTTTATCATCTCAATGGCGGTGGCGGTGATGGGTGCT  
ATGCTATTGATTGTTGTGCTATTATCCTATCGCTATGTGCTAAAGCCTGTGCTGATTTTGCTGCTTATCA  
TGGGTGCGGTGACGAGCTATTTACCGATACTTATGGCACGGTCTATGACACCACCATGCTCCAAAATGC  
CATGCAAACCGACCAAGCCGAGTCTAAAGACTTGATGAATTTGGCGTTTTTTGTGCGGATTATCGGGCTT  
GGCGTGTGCCAAGTCTATTGGTCGCAGTTGCCAAAGTGGGTTATCCAACATGGGGCAAAGCCTGATTC  
AGCGTGCGATGACGTGGGGTGTGAGCCTTGTGTTGTTGCTTGTGCCGATTGGGTTATTTAGCAGTCAGTA  
TGCGAGTTTCTTTGCGGTGCATAAGCCAGTGCCTTTTTATATCAACCCGATTACGCCGATTTATTCGGTG  
GGTAAGCTTGCCAGTATCGAGTACAAAAAGCCACTGCACCAACAGACACCATCTATCATGCCAAAGATG  
CCGTGACAGACCACCAAGCCTAGCGAGCGTAAGCCCCGTCTAGTGGTGTTCGTCGTCGGTGAGACGGCGCG  
TGCTGACCATGTGCAGTTCAATGGCTATAGCCGTGAGACTTTCCCGCAGCTTGCCAAAGTTGATGGCTTG  
GCCAATTTAGCCAAGTGACATCGTGTGGCACATCGACGGCGTATTCTGTGCCGTGTATGTTTCAGCTATT

TGGGTCAAGATGACTATGATGTGCGATACCGCCAAATACCAAGAAAATGTGCTAGATACGCTTGACCGCTT  
GGGCGTGGGTATCTTGTGGCGTGATAATAATTCAGACTCAAAGGCGTGATGGATAAGCTACCTGCTACG  
CAGTATTTTGATTATAAATCAGCGACCAACAACACCATCTGTAACACCAACCCTTATAATGAATGTCGTG  
ATGTCGGTATGCTTGTGGGCTTGATGACTATGTCAGCGCCAATAATGGCAAAGATATGCTCATCATGCT  
ACACCAAATGGGCAATCATGGGCCGGCGTACTTTAAGCGTTATGATGAGCAATTTACCAAATTCACCCCT  
GTGTGCGAAGGCAACGAGCTTGCCAAATGCGAACATCAATCGCTCATCAATGCCTATGATAATGCACTGC  
TTGCCACCGATGATTTTATCGCCAAAAGTATCGATTGGCTAAAAACACATGAAGCAAACACTACGATGTCGC  
CATGCTCTATGTCAGCGACCACGGCGAGAGCTTGGGCGAAAATGGTGTCTATCTGCATGGTATGCCAAAT  
GCCTTTCACCAAAGAACAACGAGCCGTACCTGTGTTTTTTGGTCAAATAATACGACATTCAAGCCAA  
CTGCCAGCGATACTGCATTGACCCATGATGCGATTACGCCGACATTGCTTAAGCTGTTTGATGTCACAGC  
TGATAAGGTCAAAGACCGCACGGCATTATCCAGTAAGTTATCAGCATAACCCAATACCGAGCCATCACA  
CTGCATTATCGTGTGATGGCAAAGGGTAGATTTGCAACATTTTTTTGGGCGTAATAGACATTTTTTC

>NG\_055492.1 K. pneumoniae PB517 mcr-3.4

CAATGTGGGAGTATCTGTAATGACCCACTGAAATCCTGCTCAGGTCATAATGAGTGATGTCTCGTTAGAA  
AGTGATTGTTGGACTATTAATGGAGTAAGTATGCCTTCCCTTATAAAAATAAAAATTGTTCCGCTTATGT  
TCTTTTTGGCACTGTATTTTGCATTTATGCTGAACTGGCGTGGAGTTCTCCATTTTTACGAAATCCTTTA  
CAAATTAGAAGATTTAAGTTTGGTTTCGCCATTTCAATACCAATATTGCTTGTGCGAGCGCTTAACTTT  
GTATTTGTTCCATTTTCGATACGGTATTTAATAAAGCCTTTTTTTGCACTTCTTATCGCACTTAGTGCAA  
TCGTTAGTTACACAATGATGAAGTATAGAGTCTTGTGTTGATCAAAACATGATTCAGAATATTTTTGAAAC  
CAATCAAATGAGGCGTTAGCATATTTAAGCTTACCAATTATAGTATGGGTTACTATTGCTGGTTTTATC  
CCTGCCATTTACTTTTCTTGTGAAATTGAATATGAGGAAAAATGGTTCAAAGGGATTCTAACTCGTG  
CCCTATCGATGTTTGCATCACTTATAGTATTGCGGTTATTGCAGCACTATACTATCAAGATTATGTGTC  
AGTGGGGCGCAACAATTCAAACCTCCAGCGTGAGATTGTTCCAGCCAATTCGTTAATAGTACCGTTAAA  
TACGTTTACAATCGTTATCTTGTGAACCAATCCATTTACAACTTTAGGTGATGATGCAAAACGGGATA  
CTAATCAAAGTAAGCCCACGTTGATGTTTCTGGTCGTTGGTGAACCGCTCGTGGTAAAAATTTCTCGAT  
GAATGGCTATGAGAAAAGACACCAATCCATTTACCAGTAAATCTGGTGGCGTGATCTCCTTTAATGATGTT  
CGTTCGTGTGGGACTGCAACCGCTGTATCCGTCCCCTGCATGTTCTCCAATATGGGGAGAAAGGAGTTTG  
ATGATAATCGCGCTCGCAATAGCGAGGGCCTGCTAGATGTGTTGCAAAAAACGGGGATCTCCATTTTTTG  
GAAGGAGAACGATGGAGGCTGCAAAGGCGTCTGCGACCGAGTACCTAACATCGAAATCGAACCAAAGGAT  
CACCTAAGTTCTGCGATAAAAACACATGCTATGACGAGGTTGCTCTTCAAGACCTCGATAGTGAAATTG

CTCAAATGAAAGGGGATAAGCTGGTTGTCTTCCACCTGATAGGTAGCCATGGCCCAACCTACTACAAGCG  
CTACCCTGATGCTCATCGTCAGTTCACCCCTGACTGTCCACGCAGTGATATTGAAAACCTGCACAGATGAA  
GAGCTACCAACACCTATGACAACACCATCCGCTACACCGATTCGTGATTGGAGAGATGATTGCCAAGT  
TGAAAACCTACGAAGATAAGTACAACACCGCGTTGTCTACGTCTCCGATCATGGTGAATCACTGGGAGC  
ATTAGGGCTTTACCTACACGGTACACCGTACCAGTTTGCACCGGATGATCAGACCCGTGTTCTATGCAG  
GTGTGGATGTCACCTGGATTTACCAAAGAGAAAGGCGTTGATATGGCGTGTTCAGCAGAAAGCCGCTG  
ATACTCGTTACTCACACGATAATATTTTCTCATCTGTATTGGGTATCTGGGACGTCAAACATCAGTTTA  
CGAAAAGGGTCTAGATATTTTCAGTCAATGTCGTAATGTTCAATAAATTACATTATTGGGGGCTCAGGCC  
CCCAATCATCTGTTAAATAATAGGTTTATTACTATTGTCCGTGATTTTCATGGTTGAAATTTTAAACGGG  
CAAATC

>NG\_055497.1 C. freundii D36-1 mcr-3.19

AAAATTTATTTATGGAGGTAAAAAGGATGAGTCAAGTTGTTGATTTTTTACAAAGATGTCTCGTTAGAA  
AGTGATTGTTGGACTATTAATGGAGTAAGTATGCCTTCCCTTATAAAAATAAAAATTGTTCCGCTTATGT  
TCTTTTTGGCACTGTATTTTGCATTTGTGCTGAACTGGCGTGGAGTTCTCCATTTTACGAAATCCTTTA  
CAAATTAGAAGATTTAAGTTTGGTTTCGCCATTTCAATACCAATATTGCTTGTTCAGCGCTTAACTTT  
GTATTTGTTCCATTTTCGATACGGTATTTAATAAAGCCTTTTTTTGCACTTCTTATCGCACTTAGTGCAA  
TCGTTAGTTACACAATGATGAAGTATAGAGTCTTGTTGATCAAACATGATTCAGAATATTTTTGAAAC  
CAATCAAATGAGGCGTTAGCATATTTAAGCTTACCAATTATAGTATGGGTTACTATTGCTGGTTTTATC  
CCTGCCATTTTACTTTTCTTTGTTGAAATTGAATATGAGGAAAAATGGTTCAAAGGGATTCTAACTCGTG  
CCCTATCGATGTTTGCATCACTTATAGTGATTGCGGTTATTGCAGCACTATACTATCAAGATTATGTGTC  
AGTGGGGCGCAACAATTCAAACCTCCAGCGTGAGATTGTTCCAGCCAATTCGTTAATAGTACCGTTAAA  
TACGTTTACAATCGTTATCTTGCTGAACCAATCCATTTACAACCTTAGGTGATGATGCAAAACGGGATA  
CTAATCAAAGTAAGCCACGTTGATGTTTCTGGTCGTTGGTGAAACCGCTCGTGGTAAAAATTTCTCGAT  
GAATGGCTATGAGAAAGACACCAATCCATTTACCAGTAAATCTGGTGGCGTGATCTCCTTTAATGATGTT  
CGTTCGTGTGGGACTGCAACCGCTGTATCCGTCCTGCATGTTCTCCAATATGGGGAGAAAGGAGTTTG  
ATGATAATCGCGCTCGCAATAGCGAGGGCCTGCTAGATGTGTTGCAAAAAACGGGGATCTCCATTTTTTG  
GAAGGAGAACGATGGAGGCTGCAAAGGCGTCTGCGACCGAGTACCTAACATCGAAATCGAACCAAAGGAT  
CACCTAAGTTCTGCGATAAAAACACATGCTATGACGAGGTTGTCCTTCAAGACCTCGATAGTGAATTG  
CTCAAATGAAAGGGGATAAGCTGGTTGGCTTCCACCTGATAGGTAGCCATGGCCCAACCTACTACAAGCG  
CTACCCTGATGCTCATCGTCAGTTCACCCCTGACTGTCCACGCAGTGATATTGAAAACCTGCACAGATGAA

GAGCTACCAACACCTATGACAACACCATCCGCTACACCGATTCGTGATTGGAGAGATGATTGCCAAGT  
TGAAAACCTACGAAGATAAGTACAACACCGCGTTGCTCTACGTCTCCGATCATGGTGAATCACTGGGAGC  
ATTAGGGCTTTACCTACACGGTACACCGTACCAGTTTGCACCGGATGATCAGACCCGTGTTCTATGCAG  
GTGTGGATGTCACCTGGATTTACCAAAGAGAAAGGCGTTGATATGGCGTGTTCAGCAGAAAGCCGCTG  
ATACTCGTTACTCACACGATAATATTTTCTCATCTGTATTGGGTATCTGGGACGTCAAAACATCAGTTTA  
CGAAAAGGGTCTAGATATTTTCAGTCAATGTCGTAATGTTCAATAAAATTACATTATTGGGGGCTCAGGCC  
CCCAATCATCTGTTAAATAATAGGTTTATTACTATTGTCCGTGTATTCATGGTTGAAATTTTAAACGGG  
CAAATC

>NG\_055523.1 *Shigella sonnei* ECTRSRT02 mcr-3.2

TGGATTCCGGCTCACCTGTAATGACCCACTGAAATCCTGCTCAGGTCATAATGAGTGATGTCTCGTTAGAA  
AGTGATTGTTGGACTATTAATGGAGTAAGTATGCCTTCCCTTATAAAAATAAAAATTGTTCCGCTTATGT  
TCTTTTTGGCACTGTATTTTGCATTTATGCTGAACTGGCGTGGAGTTCTCATTTTTACGAAATCCTTTA  
CAAATTAGAAGATTTTAAGTTTGGTTTCGCCATTCATTACCAATATTGCTTGTTCAGCGCTTAACTTT  
GTATTTGTTCCATTTTCGATACGGTATTTAATAAAGCCTTTTTTGCACCTTCTATCGCACTTAGTGCAA  
TCGTTAGTTACACAATGATGAAGTATAGAGTCTTGTGGATCAAAACATGATTCAGAATATTTTTGAAAC  
CAATCAAAATGAGGCGTTAGCATATTTAAGCTTACCAATTATAGTATGGGTTACTATTGCTGGTTTTATC  
CCTGCCATTTACTTTTCTTTGTTGAAATTGAATATGAGGAAAAATGGTTCAAAGGGATTCTAACTCGTG  
CCCTATCGATGTTTGCATCACTTATAGTGATTGCGGTTATTGCAGCACTATACTATCAAGATTATGTGTC  
AGTGGGGCGCAACAATTCAAACCTCCAGCGTGAGATTGTTCCAGCCAATTCGTTAATAGTACCGTTAAA  
TACGTTTACAATCGTTATCTTGCTGAACCAATCCATTTACAACTTTAGGTGATGATGCAAAACGGGATA  
CTAATCAAAGTAAGCCACGTTGATGTTTCTGGTCGTTGGTGAACCGCTCGTGGTAAAAATTTCTCGAT  
GAATGGCTATGAGAAAAGACACCAATCCATTTACCAGTAAATCTGGTGGCGTGATCTCCTTAAATGATGTT  
CGTTCGTGTGGGACTGCAACCGCTGTATCCGTCCCCTGCATGTTCTCCAATATGGGGAGAAAGGAGTTTG  
ATGATAATCGCGCTCGCAATAGCGAGGGCCTGCTAGATGTGTTGCAAAAAACGGGGATCTCATTTTTTG  
GAAGGAGAACGATGGAGGCTGCAAAGGCGTCTGCGACCGAGTACCTAACATCGAAATCGAACCAAAGGAT  
CACCTAAGTTCTGCGATAAAAACACATGCTATGACGAGGTTGCTCTCAAGACCTCGATAGTGAAATTG  
CTCAAATGAAAGGGGATAAGCTGGTTGGCTTCCACCTGATAGGTAGCCATGGCCCAACCTACTACAAGCG  
CTACCCTGATGCTCATCGTCAGTTCACCCCTGACTGTCCACGCAGTGATATTGAAAACGCACAGATGAA  
GAGCTACCAACACCTATGACAACACCATCCGCTACACCGATTCGTGATTGGAGAGATGATTGCCAAGT  
TGAAAACCTACGAAGATAAGTACAACACCGCGTTGCTCTACGTCTCCGATCATGGTGAATCACTGGGAGC



ATTAGGGCTTTACCTACACGGTACACCGTACCAGTTTGCACCGGATGATCAGACCCGTGTTCTATGCAG  
GTGTGGATGTCACCTGGATTTATCAAAGAGAAAGGCGTTGATATGGCGTGTTCAGCAGAAAGCCGCTG  
ATACTCGTTACTCACACGATAATATTTTCTCATCTGTATTGGGTATCTGGGACGTCAAAAACATCAGTTTA  
CGAAAAGGGTCTAGATATTTTCAGTCAATGTCGTAATGTTCAATAAATTACATTATTGGGGGCTCAGGCC  
CCCAATCATCTGTAAATAATAGGTTTATTACTATTGTCCGTGATTTTCATGGTTGAAATTTTTAACGGG  
CAAATC

>NG\_055661.1 *Aeromonas media* IMT29879 mcr-3.7

GTGTATAAGAGTCAGCTTTGTTACCATTCATTTTCAACATACAGACAAGATGTATCGTTAGAAAAGTGACT  
GTTGGGCTATTAATGGAGTAAGTATGCCTTCCCTTATAAAAATAAAAATTGTGCCGCTCATATTTTTTTT  
GGCACTGTATTTTGCATTTATGCTGAACTGGCGTGGAGTTCTCCATTTTTACGAAATCTTTATAAATTA  
GAAGATTTTAAATTTGGTTTCGCCATTTTATTACCAATATTGCTTGTTCAGCGCTTAATTTTGCATTTG  
TTCCATTTTCGATACGGTATTTAGTAAAGCCTTTTTTGCACCTTCTTATCGCACTTAGCGCAATCGTTAG  
TTACACAATGATGAAGTATAGAGTCTTGTGGATCAAACATGATTCAGAATATTTTTGAAACCAATCAA  
AATGAGGCATTAGCATATTTAAGTTTGCCAATTATAGGATGGGTTACTATTGTTGGATTTATCCCTGCCA  
TTTTACTTTTCTTTGTTGAAATTGAATATGAGGAAAAATGGTTTAAAGGGATTCTAACTCGCGTCTATC  
GATGTTTGCATCCCTTATAGTGATTGCGGTTATTGCAGCACTATACTATCAAGATTATGTTTCAGTGGGG  
CGCAACAATTCAAACCTCCAGCGTGAAATTGTTCCGGCCAATTTTGTTAATAGTACCGTTAAATATGTTT  
ATAATCGTTATCTTGCAGAACCAATCCCATTTACTACTTTAGGTGATGATGCAAAACGGGATACTAATAA  
AAGTAAGCCCACGTTGATGTTCTGGTTCGTTGGTAAACTGCTCGTGGTAAAAATTTCTCGATGAATGGC  
TATGAGAAAAGATACCAACCCATTTACCAGTAAATCTGGTGGTGTGATCTCCTTAATGATGTTCTGTTCTG  
GTGGGACAGCAACCGCTGTATCTGTCCCTGCATGTTCTCCAATATGGGGAGAAAGGAGTTTGATGATAA  
TCTCGCTCGTAATAGCGAGGGTTTGTAGATGTGTTGCAGAAAACGGGGTCTCCATTTTTTGAAGGAG  
AACGATGGCGGCTGCAAAGGCGTCTGCGACCGAGTACCTAACATCGAGGTCAAACCGAAGGATTACCCAA  
AGTTCTGCGATAAAAATACATGCTATGACGAGGTTGTCCTTCAAGACCTCGATAGTGAATGCTCAAAT  
GAAAGGGGATAAGCTGGTTGGCTTCCACCTGATAGGTAGCCATGGCCAACTACTACAAGCGCTATCCT  
GATGCTCATCGTCAGTTCACCCCTGACTGTCCACGCAGTGATATTGAAAACGACAGATGAAGAGCTCA  
CCAACACCTATGACAACACCATCCGCTACACGGATTTCTGATTGCAGAGATGATTGCCAAGTTGAAAAC  
CTACGAAGATAAGTACAACACCGCGTTGCTCTACGTCTCCGATCATGGTGAATCACTGGGAGCTATGGGG  
CTTTACCTGCACGGTACACCGTACAAGTTTGCACCGGATGATCAGACCCGCGTACCTATGCAGGTGTGGA  
TGTCACCTGGATTTACCAAAGAGAAAGGCATGAATATGGAATGTTTGCAGCAGAAAGCCGCTGATACTCG

TTACTCACACGATAATATTTTCTCATCTGTATTGGGTATCTGGGACGTCAAACATCAGTTTACGAAAAG  
GGTCTAGATATTTTCAGTCAATGTCGTAATGTTCAATAA

>NG\_055782.1 E. coli pMCR3\_WCHEC-LL123 mcr-3.5

AAAATTTATTTATGGAGGTAAAAAAGGATGAGTCAAGTTGTTGATTTTTTACAAAGATGTCTCGTTAGAA  
AGTGATTGTTGGACTATTAATGGAGTAAGTATGCCTTCCCTTATAAAAATAAAAATTGTTCCGCTTATGT  
TCTTTTTGGCACTGTATTTTGCATTTGTGCTGAACTGGCGTGGAGTTCTCCATTTTTACGAAATCCTTTA  
CAAATTAGAAGATTTTAAGTTTGGTTTCGCCATTTCAATACCAATATTGCTTGTTCAGCGCTTAACTTT  
GTATTTGTTCCATTTTCGATACGGTATTTAATAAAGCCTTTTTTTGCACTTCTTATCGCACTTAGTGCAA  
TCGTTAGTTACACAATGATGAAGTATAGAGTCTTGTTTGATCAAACATGATTCAGAATATTTTTGAAAC  
CAATCAAATGAGGCGTTAGCATATTTAAGCTTACCAATTATAGTATGGGTTACTATTGCTGGTTTTATC  
CCTGCCATTTTACTTTTCTTTGTTGAAATTGAATATGAGGAAAAATGGTTCAAAGGGATTCTAACTCGTG  
CCCTATCGATGTTTGCATCACTTATAGTGATTGCGGTTATTGCAGCACTATACTATCAAGATTATGTGTC  
AGTGGGGCGCAACAATTCAAACCTCCAGCGTGAGATTGTTCCAGCCAATTCGTTAATAGTACCGTTAAA  
TACGTTTACAATCGTTATCTTGCTGAACCAATCCATTTACAACCTTAGGTGATGATGCAAAACGGGATA  
CTAATCAAAGTAAGCCCACGTTGATGTTTCTGGTCGTTGGTGAAACCGCTCGTGGTAAAAATTTCTCGAT  
GAATGGCTATGAGAAAGACACCAATCCATTTACCAGTAAATCTGGTGGCGTGATCTCCTTTAATGATGTT  
CGTTCGTGTGGGACTGCAACCGCTGTATCCGTCCCCTGCATGTTCTCCAATATGGGGAGAAAGGAGTTTG  
ATGATAATCGCGCTCGCAATAGCGAGGGCCTGCTAGATGTGTTGCAAAAAACGGGGATCTCCATTTTTTG  
GAAGGAGAACGATGGAGGCTGCAAAGGCGTCTGCGACCGAGTACCTAACATCGAAATCGAACCAAGGAT  
CACCTAAGTTCTGCGATAAAAACACATGCTATGACGAGGTTGCCTTCAAGACCTCGATAGTGAAATTG  
CTCAAATGAAAGGGGATAAGCTGGTTGGCTTCCACCTGATAGGTAGCCATGGCCCAACCTACTACAAGCG  
CTACCCTGATGCTCATCGTCAGTTCACCCCTGACTGTCCACGCAGTGATATTGAAAACCTGCACAGATGAA  
GAGCTACCAACACCTATGACAACACCATCCGCTACACCGATTTTCGTGATTGGAGAGATGATTGCCAAGT  
TGAAAACCTACGAAGATAAGTACAACACCGCGTTGCTCTACGTCTCCGATCATGGTGAATCACTGGGAGA  
ATTAGGGCTTTACCTACACGGTACACCGTACCAGTTTGCACCGGATGATCAGACCCGTGTTCTATGCAG  
GTGTGGATGTCACCTGGATTTATCAAAGAGAAAGGCGTTGATATGGCGTGTTCAGCAGAAAGCCGCTG  
ATACTCGTTACTCACACGATAATATTTTCTCATCTGTATTGGGTATCTGGGACGTCAAACATCAGTTTA  
CGAAAAGGGTCTAGATATTTTCAGTCAATGTCGTAATGTTCAATAAATTACATTATGGGGGCTCAGGCC  
CCAATCATCTGTAAATAATAGGTTTATTACTATTGTCCGTGATTTTCATGGTTGAAATTTTTAACGGG  
CAAATC

>NG\_055658.1 *S. Paratyphi B* pSE12-02541 MCR-5.1

AGCCGAACGGCTCAAAGGCTGCGAAGCCTTGCTGGACGCCTACGCGCAACGGGTGTTGACGCTCACGAT  
GAAAACCGTTGAAAGAAGAGGACATATTTTCATGCGGTTGTCTGCATTTATCACTTTCTTGAAAATGCGCC  
CGCAAGTGCGCACTGAATTTTTGACTCTGTTTCATCAGCCTTGTTGTTACCCCTGCTGTGCAATGGCGTGTT  
TTGGAATGCCCTTCTTGCTGGACGCGACTCCCTAACTTCTGGAACATGGCTAATGCTCCTTTGACTGGG  
TTGCTGATCACCGGGCTGCAATGGTTGTTGCTCCTTCTGGTGGCCACGCGCTGGAGTGTCAAGCCACTAC  
TGATTCTGCTTGCTGTATGACGCCCGCCGCTTTATTTTCATGCGCAACTACGGGGTTTATCTCGACAA  
GGCCATGCTGCGGAATCTGATGGAGACGGACGTCAGGGAAGCCAGTGAGCTGTTGCAATGGAGAATGCTG  
CCCTACTTGTGGTTGCAGCCGTATCCGTGTGGTGGATTGCGAGAGTCAGGGTTTTACGAACGGGCTGGA  
AACAAGCGGTAATGATGCGCAGCGCTTGTCTGGCTGGCGCTCTCGCCATGATTTCCATGGGTCTGTGGCC  
AGTCATGGATGTGCTGATACCCACGCTTCGTGAAAAAAGCCGCTTCGCTATTTGATCACTCCTGCAAAC  
TACGTCATCTCGGGCATTGCGGTTTTGACTGAACAGGCGTCATCGTCAGCAGACGAAGCAAGGGAAGTCG  
TTGACGCCGATGCGCATCGAGGGCCTCAAGAACAAGGCCGCGTCCTCGTGCTCTCGTACTGGTTGTGGG  
GGAAACCGTCAGGGCGGCTAATTGGGGGTTGAGCGGCTATGAACGACAAACCACCCCTGAGTTGGCCGCA  
CGCGACGTGATCAATTTTTCCGATGTCACCAAGTTGCGGGACGGATACGGCTACATCCCTTCCCTGCATGT  
TTTCCCTCAATGGTCGGCGCGACTACGACGAACGCCAGATTGTCGGCGCGAGTCCGTGCTGCACGTTTT  
AAACCGTAGTGACGTCAACATTCTCTGGCGCGATAACCAGTCGGGCTGTAAAGGCGTCTGTGATGGACTG  
CCCTTTGAAAACCTGTCTTCGGCAGGCCATCCCACACTGTGCCATGGCGAGCGCTGCCTGGATGAAATTC  
TGCTCGAAGGGTTGGCCGAGAAGATAACAACAAGCCGACGCGATATGCTGATCGTTCTGCATATGCTGGG  
CAATCACGGCCCAGCGTATTTCCAGCGCTATCCCAGCAAGCTACCGACGCTGGTCGCCAACCTGCGACACC  
ACCGATCTGGCCAGCTGTTTCGATGAAGCCTTGGTGAACACCTACGACAACGCCGTGCTTTACACCGATC  
ATGTGCTTGCCCGTACCATTGACCTGCTGTCCGGCATCCGCTCACACGACACGGCGCTGCTGTACGTTTC  
CGATCATGGGGAATCGCTCGGCGAGAAAGGCCTGTATCTCCATGGCATACTTACGTCATCGCGCCGGAT  
GAGCAGATCAAGGTGCCGATGATCTGGTGGCAGTCGAGTCAGGTTTATGCCGACCAAGCCTGTATGCAAA  
CTCATGCCTCTCGGGCACCGGTAAGTCACGATCACCTGTTTACACCTTGCTCGGGATGTTGACGCTGAA  
AACCGCTGCCTACACGCCAGAGTTGGACCTTCTGGCAACATGCAGAAAAGGACAACCACAATGACGACGT  
CAACGGATGATCCGCCGAAACGCTGGCTCAACCGCACCGTCGAGGTGCGGGGATCACGAGCTCATTGGG  
GGATTTCTGCTACGAAACCACCAC

>NG\_057467.1 *E. coli* 11E02380 MCR-5.2

ATGCGGTTGTCTGCATTTACTTTCTTGAAAATGCGCCCGCAAGTGCGCACTGAATTTTTGACTCTGT  
TCATCAGCCTTGTGTTACCCTGCTGTGCAATGGCGTGTTTTGGAATGCCCTTCTTGCTGGACGCGACTC  
CCTAACTTCTGGAACATGGCTAATGCTCCTTTGCACTGGGTTGCTGATCACCGGGCTGCAATGGTTGTTG  
CTCCTTCTGGTGGCCACGCGCTGGAGTGTCAAGCCACTACTGATTCTGCTTGCTGTCATGACGCCCCGG  
CCGTTTATTTTCATGCGCAACTACGGGGTTTATCTCGACAAGGCCATGCTGCGGAATCTGATGGAGACGGA  
CGTCAGGGAAGCCAGTGAGCTGTTGCAATGGAGAATGCTGCCCTACTTGTGGTTGCAGCCGTATCCGTG  
TGGTGGATTGCGAGAGTCAGGGTTTTACGAACGGGCTGGAAACAAGCGGTAATGATGCGCAGCGCTTGTC  
TGGCTGGCGCTCTCGCCATGATTTCCATGGGTCTGTGGCCAGTCATGGATGTGCTGATACCCACGCTTCG  
TGAAAACAAGCCGCTTCGCTATTTGATCACTCCTGCAAACACTACGTCATCTCGGGCATTGGGTTTTGACT  
GAACAGGCGTCATCGTCAGCAGACGAAGCAAGGGAAGTCGTTGCAGCCGATGCGCATCGAGGGCCTCAAC  
AAGGCCGCCGTCTCGTGCTCTCGTACTGGTTGTCGGGGAAACCGTCAGGGCGGCTAATTGGGGGTTGAG  
CGGCTATGAACGACAAACCACCCTGAGTTGGCCGCACGCGACGTGATCAATTTTTCCGATGTCACCAGT  
TGCGGGACGGATACGGCTACATCCCTTCCCTGCATGTTTTCCCTCAATGGTCGGCGCGACTACGACGAAC  
GCCAGATTCGTCGGCGGAGTCCGTGCTGCACGTTTTAAACCGTAGTGACGTCAACATTCTCTGGCGCGA  
TAACCAGTCGGGCTGTAAAGGCGTCTGTGATGGACTGCCCTTTGAAAACCTGTCTTCGGCAGGCCATCCC  
AACTGTGCCATGGCGAGCGCTGCCTGGATGAAATTCTGCTCGAAGGGTTGGCCGAGAAGATAACAACAA  
GCCGACGATATGCTGATCGTTCTGCATATGCTGGCAATCACGGCCAGCGTATTTCCAGCGCTATCC  
CGCAAGCTACCGACGCTGGTCGCCAACCTGCGACACCACCGATCTGGCCAGCTGTTGCGATGAAGCCTTG  
GTGAACACCTACGACAACGCCGTGCTTTACACCGATCATGTGCTTGCCGTACCATTGACCTGCTGTCCG  
GCATCCGCTCACACGACACGGCGCTGCTGTACGTTTTCCGATCATGGGGAATCGCTCGGCGAGAAAGGCCT  
GTATCTCCATGGCATACTTACGTCATCGCGCCGGATGAGCAGATCAAGGTGCCGATGATCTGGTGGCAG  
TCGAGTCAGTTTTATGCCGACCAAGCCTGTATGCAAACCTCATGCCTCTCGGGCACCGGTAAGTCACGATC  
ACCTGTTTACACCTTGCTCGGGATGTTGACGTGAAAACCGCTGCCTACACGCCAGAGTTGGACCTTCT  
GGCAACATGCAGAAAAGGACAACCACAATGA

>NG\_061405.1 E. coli ECPB39 unnamed MCR-5.3

ATGCGGTTGTCTGCATTTACTTTCTTGAAAATGCGCCCGCAAGTGCGCACTGAATTTTTGACTCTGT  
TCATCAGCCTTGTGTTACCCTGCTGTGCAATGGCGTGTTTTGGAATGCCCTTCTTGCTGGACGCGACTC  
CCTAACTTCTGGAACATGGCTAATGCTCCTTTGCACTGGGTTGCTGATCACCGGGCTGCAATGGTTGTTG  
CTCCTTCTGGTGGCCACGCGCTGGAGTGTCAAGCCACTACTGATTCTGCTTGCTGTCATGACGCCCCGG  
CCGTTTATTTTCATGCGCAACTACGGGGTTTATCTCGACAAGGCCATGCTGCGGAATCTGATGGAGACGGA

CGTCAGGGAAGCCAGTGAGCTGTTGCAATGGAGAATGCTGCCCTACTTGTGGTTGCAGCCGTATCCGTG  
TGGTGGATTGCGAGAGTCAGGGTTTTACGAACGGGCTGGAAACAAGCGGTAATGATGCGCAGCGCTTGTC  
TGGCTGGCGCTCTCGCCATGATTTCCATGGGTCTGTGGCCAGTCATGGATGTGCTGATACCCACGCTTCG  
TGAAAACAAGCCGCTTCGCTATTTGATCACTCCTGCAAACCTACGTCATCTCGGGCATTGGGTTTTGACT  
GAACAGGCGTCATCGTCAGCAGACGAAGCAAGGGAAGTCGTTGCAGCCGATGCGCATCGAGGGCCTCAAG  
AACAAGGCCGCCGCTCCTCGTGCTCTCGTACTGGTTGTGGGGAAACCGTCAGGGCGGCTAATTGGGGGTT  
GAGCGGCTATGAACGACAAACCACCCCTGAGTTGGCCGCACGCGACGTGATCAATTTTTCCGATGTCACC  
AGTTGCGGGACGGATACGGCTACATCCCTCCCTGCATGTTTTCCCTCAATGGTCGGCGCGACTACGACG  
AACGCCAGATTCGTCGGCGCGAGTCCGTGCTGCACGTTTTAAACCGTAGTGACGTCAACATTCTCTGGCG  
CGATAACCAGTCGGGCTGTAAAGGCGTCTGTGATGGACTGCCCTTTGAAAACCTGTCTTCGGCAGGCCAT  
CCCACACTGTGCCATGGCGAGCGCTGCCTGGATGAAATTCTGCTCGAAGGGTTGGCCGAGAAGATAACAA  
CAAGCCGCAGCGATATGCTGATCGTTTGCATATGCTGGGCAATCACGGCCAGCGTATTTCCAGCGCTA  
TCCCGCAAGCTACCGACGCTGGTCGCCAACCTGCGACACCACCGATCTGTCCAGCTGTTTCGCATGAAGCC  
TTGGTGAACACCTACGACAACGCCGTGCTTTACACCGATCATGTGCTTGCCCGTACCATTGACCTGCTGT  
CCGGCATCCGCTCACACGACACGGCGCTGCTGTACGTTTCCGATCATGGGGAATCGCTCGGCGAGAAAGG  
CCTGTATCTCCATGGCATACTTACGTCATCGCGCCGGATGAGCAGATCAAGGTGCCGATGATCTGGTGG  
CAGTCGAGTCAGGTTTATGCCGACCAAGCCTGTATGCAAACCTCATGCCTCTCGGGCACCGGTAAGTCACG  
ATCACCTGTTTCACACCTTGCTCGGGATGTTGACGTGAAAACCGCTGCCTACACGCCAGAGTTGGACCT  
TCTGGCAACATGCAGAAAAGGACAACCACAATGA

>NG\_065945.1 hospital metagenome mcr-5.4

AGCCGAACGGCTCAAAGGCTGCGAAGCCTTGCTGGACGCCTACGCGCAACGGGTGTTTCGACGCTCACGAT  
GAAAACAGTTGAAAGAAGAGGACATATTTTCATGCGGTTGTCTGCATTTATCACTTTCTTGAAAATGCGCC  
CGCAAGTGCGCACTGAATTTTTGACTCTGTTTCATCAGCCTTGTTTACCCTGCTGTGCAATGGCGTGTT  
TTGGAATGCCCTTCTGTGCTGGACGCGACTCCCTAACTTCTGGAACATGGCTAATGCTCCTTTGCACTGGG  
TTGCTGATCACCGGGCTGCAATGGTTGTTGCTCCTTCTGGTGGCCACGCGCTGGAGTGTCAAGCCACTAC  
TGATTCTGCTTGTGTCATGACGCCCCGCCGCTTTATTTTCATGCGCAACTACGGGGTTTATTTTCGACAA  
GGCCATGCTGCGGAATCTGATGGAGACGGACGTCAGGGAAGCCAGTGAGCTGTTGCAATGGAGAATGCTG  
CCCTACTTGTGGTTGCAGCCGATCCGTGTGGTGGATTGCGAGAGTCAGGGTTTTACGAACGGGCTGGA  
AACAAGCGGTAATGATGCGCAGCGCTTGTCTGGCTGGCGCTCTCGCCATGATTTCCATGGGTCTGTGGCC  
AGTCATGGATGTGCTGATACCCACGCTTCGTGAAAACAAGCCGCTTCGCTATTTGATCACTCCTGCAAAC

TACGTCATCTCGGGCATTGGGGTTTTGACTGAACAGGCGTCATCGTCAGCAGACGAAGCAAGGGAAGTCG  
TTGCAGCCGATGCGCATCGAGGGCCTCAAGAACAAGGCCGCCGTCTCGTGCTCTCGTACTGGTTGTCGG  
GGAAACCGTCAGGGCGGCTAATTGGGGGTTGAGCGGCTATGAACGACAAAACCCCTGAGTTGGCCGCA  
CGCGACGTGATCAATTTTTCCGATGTCACCAGTTGCGGGACGGATACGGCTACATCCCTTCCCTGCATGT  
TTTCCCTCAATGGTGGCGCGACTACGACGAACGCCAGATTCTCGGGCGGAGTCCGTGCTGCACGTTTT  
AAACCGTAGTGACGTCAACATTCTCTGGCGGATAACCAGTCGGGCTGTAAAGGCGTCTGTGATGGACTG  
CCTTTGA AACCTGTCTTCGGCAGGCCATCCCACACTGTCCATGGCGAGCGCTGCCTGGATGAAATTC  
TGCTCGAAGGGTTGGCCGAGAAGATAACAACAAGCCGAGCGATATGCTGATCGTTCTGCATATGCTGGG  
CAATCACGGCCCAGCGTATTTCCAGCGCTATCCCGCAAGCTACCGACGCTGGTCGCCAACCTGCGACACC  
ACCGATCTGGCCAGCTGTTTCGCATGAAGCCTTGGTGAACACCTACGACAACGCCGTGCTTTACACCGATC  
ATGTGCTTGCCCGTACCATTGACCTGCTGTCCGGCATCCGCTCACACGACACGGCGCTGCTGTACGTTTC  
CGATCATGGGGAATCGCTCGGCGAGAAAGGCCTGTATCTCCATGGCATACTTACGTATCGCGCCGGAT  
GAGCAGATCAAGGTGCCGATGATCTGGTGGCAGTCGAGTCAGGTTTATGCCGACCAAGCCTGTATGCAAA  
CTCATGCCTCTCGGGCACCGGTAAGTCACGATCACCTGTTTCACACCTTGCTCGGGATGTTTCGACGTGAA  
AACCGCTGCCTACACGCCAGAGTTGGACCTTCTGGCAACATGCAGAAAAGGACAACCACAATGACGACGT  
CAACGGATGATCCGCCGAAACGCTGGCTCAACCGCACCGTCGCAGGTGCGGGGATCACGAGCTCATTGGG  
GGATTTCTGCTACGAAACCACCAC

>NG\_055781.1 *Moraxella* sp. MSG47-C17 MCR-6.1

ATGACACAGCATAGTCCTTGGTACCGCCGTCCGGTCAATCCCTATCTGTTGATGAGCGTGGTCGCTTTAT  
TTTTGTCAGCGACAGCAAACCTAACTTTCTTTGATAAAATCACCAATACTTATCCGATGGCACAAAACGC  
AGGCTTTGTGATCTCAACGGCGCTTGTGCTATTTGGGGCGATGCTATTGATTACTGTGCTGTTATCGTAT  
CGCTATGTGCTTAAGCCTGTGTTGATTTTGTGCTTATCATGGGTGCGGTGACGAGCTATTTTACCGATA  
CTTATGGCACCGTTTATGACACCACCATGCTCCAAAATGCCTTGCAAAGTACCAAGCCGAGTCTAAGGA  
CTTGATGAATATGGCGTTTTTTGTGCGGATTATCGGGCTTGGCGTGTGCAAGTATCTTGGTGGCGTGG  
GTCAAGGTGGATTATCCGACATTGGGTAAGAGTCTGATTCAGCGTGCGATGACTTGGGGTGTGGCAGTGG  
TGATGGCACTTGTGCCGATTTTGGCATTAGTAGTCACTACGCCAGTTTCTTTCGTGAACATAAGCCACT  
GCGTAGCTATGTCAATCCCGTATGCGGATTTATTAGTAGGTAAGCTTGCCAGTATTGAGTACAAAAA  
GCCACCGCGCCAAAAGACACCATCTATCATGCCAAAGATGCTGTACAGACGACGACGCTGCCGAGCGTA  
AGCCACGACTCGTGGTGTTCGTCGTCGGTGAGACGGCTCGAGCTGACCATGTGCAGTTAATGGCTATAG  
TCGTGAGACTTTTCCGCAGCTTGCCAAGATTGACAACCTAGCCAATTTTAGCCAAGTGACATCGTGTGGC

ACATCGACGGCGTACTCTGTGCCGTGTATGTTTCAGTTATCTGGGTCAAGATGACTATGATGTGCGATACCG  
CCAAATACCAAGAAAACGTGCTGGATACGCTTGACCGACTGGGTGTGGGTATCCTGTGGCGGGATAATAA  
TTCAGACTCAAAGGCGTGATGGATAAACTGCCTGCTTCGCAGTATTTTGATTATAAATCAGCGACCAAC  
AACACCATCTGTAACACCAATCCTTACAACGAATGTCGTGATGTCGGTATGTTGGTGGGGCTAGATGATT  
ATGTGAGTACCAATCAAGGCAAAGATATGCTCATCATGCTACACCAAATGGGTAATCATGGGCCGGCGTA  
CTTCAAGCGTTATGACGAGCAATTTGCCAAATACACCCTGTGTGCGAAGGTAATGAACTTGCCAAGTGT  
GAACACCAATCGCTCATCAACGCCTATGATAATGCACTGCTTGCACCGATGATTTTATCGCCAAAAGTA  
TCGATTGGCTAAAAACGCATCAGGCCAACTATGATGTTGCCATGCTCTATGTCAGCGACCACGGCGAGAG  
TCTGGGTGAAAATGGCGTCTATCTGCATGGTATGCCAAATGCCTTGCACCAAAAAGAACAGCGAGCGGTA  
CCGGCATTCTTTTGGTCAAATAATCCATCGTTCACGCCAACTGCCAGCGACACTGTGCTGACACATGATG  
CGATTACGCCGACTCTACTGAAGCTGTTTGATGTCACAGCGGATAAGGTCAAAGACCGCACCGCATTTCAT  
CCGCTGA

>NG\_056413.1 K. pneumoniae SC20141012 pSC20141012 MCR-7.1

TCTTAATTCGCGCTTAATTTTTGCCTTCTACGCTGGCGGCACTGTTTCTGGTAGTGTTGCCCCGCCATT  
ATTGTGTCGTCGCGCATTACAGGAGTCTTCTATGCGCATCACGCTCGGTGTGATGAAGGTGAATTTGTTGC  
TGGTGCTCTTTTTCGCACTGGTGTGACTGGCCTTTCTTTCTCGTTTTTATTCTGTTATCAGTGGTCT  
GGAACATGTCCGGGCCGGTTTTGTTATCTCGGTTCTCTGGTGTGCTTGCCGCACTCAACGCCGTCTTT  
ATCCCTTTACCTTCCGCTGGTTGCTCAAGCCCTTCTTTTCGTTGTTGATCCTGACAGGCTCCATCGTCA  
GTTACGCCATGCTCAAATACGGCGTCATCTTCGATGCCAGCATGATCCAGAACATAGTGAGACCAACAA  
CAGTGAGGCGACCTCTACCTGAATGTGCCGGTCGTGCTCTGGTTCCTGCTGACCGGTGTGTTGCCATG  
GTGGTGCTCTGGTCGCTGAAGGTGCGCTATCCGGCAAACCTGGTACAAGGGGCTGGCCATCAGGGCTGGTG  
CTCTGGCCTTCTCGCTGCTGTTCTGTTGGGAGGCGTTGCCGCACTTACTATCAGGATTACGTCTCGATCGG  
CCGCAATCACCGGATCCTGGGCAAGCAGATAGTGCCGGCCAACTATGTCAACGGCATCTACAAATATGCC  
CGCGACGTGGTATTTGCTACCCCATCCCTTATCAACCGCTGGGGACTGATGCCAAAGTCGTCGCCAAAG  
GGGATAAACCGACCCTGATGTTTCTGGTGGTGGGGGAGACAGCCCGGGCAAGAACTTCTCGATGAACGG  
CTACGAGAAAAGAGACCAACCCCTTACCAGTCAGGCCGGGGGCGTGATCTCCTTCAAGGACGTGCGCTCT  
TGCGGCACGGCCACAGCGGTGTCGGTGCCCTGCATGTTCTCCAACATGGGGCGCAAGGAGTTTGATGACA  
ACCGGGCCCGCAACAGCGAAGGCCTGCTCGATGTGCTGCAAAGAAGCGGGGTCTCCATCTTCTGGAAGGA  
GAACGACGGCGGCTGCAAAGGGGTGTGCGATCGGGTGCCCAACATCGAGATCAAGCCAAAAGATCACCCA  
CAGTTCTGCGACAAGAACACCTGCTATGACGAGGTTGTAAGTCTGACGACGAGGTGGCGCAGA

TGAAGGGCGACAAGCTGGTCGGTTTTCCATCTGATCGGCAGCCACCGCCCGCCCTACCACCAACGCTATCC  
GGACAAACCACCCCGTTTCGTACCGGACTGCCC GCGCAGCGACATCGAGAACTGCAGCGATGAAGAGCTG  
GTCAACACCTATGACAACACCATCCGCTACACCGATTTTGT CATAGCAGAGATGATTACCAAGCTGAAAA  
AGTATGAAGATAAGTACAACACGGCGTTGATCTACCTCTCTGATCACGGCGAGTCGCTGGGTGCGATGGG  
GCTCTATCTGCATGGCAGCCCTACAAGTTTGCCCTGACGACCAGACCCGGGTACCGATGCAGGTCTGG  
ATGTCGCCGGGCTTTGCCAAAGAGAAGGGGATGGATCTGAACTGCCTGCAGCAAAAAGCGGCAGACAATC  
GCTACTCCCATGACAACCTCTTCTCTCTGTGCTCGGGATCTGGGATGTCAGCACGGCGGTGTACGACAA  
GCAGCTCGATATTTTCAGCCAGTGCCGCACCGTGCAGTAAGGTGAGGGCCGACTAGGGGCGCCACTGCGC  
CCCTTTTTATCCCAAATTGTTCAAGTTTTATATATGACTTGCTCCATTTGTTAGATGCTATGTACG

>NG\_061399.1 *K. pneumoniae* KP91 pKP91 MCR-8.1

TAATCCTTGAAACCTTAGAAATTGATGGAGGATCTTAACAAGATCCTGACATAGATTTTCAGATACTGC  
GTACGATTTGTTAATCTTCAGGAATCGTGCATGTTCAAGTATCTTTTATCTTTCAAACCTGAACCCGGTAC  
AACGGACCTGGGCTGCAGCATTTTTTTTCACTACAATCGGCAACATAGCACTTTGGCAAACACTATGGAT  
TAATGTAGATGTT CATAATACATAATCTACTTTTTTTGCCAGTCTGCCAATATTTCTTTCTGCTTT  
CTAAGTATCTTACTTACACCAGTCATGGTTATTCCATATTTATGCAGGCCTCTACTTGTAGTTCTTATTC  
TAATCAGTGCCTGCTGTAGTTATTT CATGATGAAATACAACATATTAATTGACCGCAGCATGGTGCAAAA  
CTTTTTGAGACTAATCAGGCTGAATTAACATCATACTTATCCGTTCTTTTCTTTCCACTCTATTTCTA  
CTTGGCATTGTACCAGCAATTATCCTGGCGTTGCCTTCAACAGACAATAAGCGGGGAGCTTTTAGAATTG  
AATTGTGGTGGTTGGCGCATATTTGCATAGCTGTAGTCTTATTAGCCATGGTTACCATGGTGTTTTATAA  
GGATTACGCATCTCTCATAACGAAACAATATGCAGATTAAGACCAGGCTTTACCTTTAACTTTGTGCGT  
AATACGAATGGTTACCTTAAAAGAAAATACCAGGCATCTTCAACAATTCTACAAAGCGTGGGGGAGGATG  
CTGTACGTCCAATATATTCAAATGCTCCACCGAAACTGGTGGTTGTCGTCTGGGCGAAACCGCCAGAGC  
ACAGAATTTCCAGCTGAATGGCTATTCGCGGGTAACCAACCCCTATCTTTCCAGACGACATGATGTTATC  
AGTTTCAAAAATGTGTCGTATGCGGAACGGCTACCGCAATATCACTACCCTGCATGTTCTCGGAATGT  
CACGTAACGAATACAATGAAGTCCGTGCCGCATCAGAAGAAAACCTTGCTGGATATCCTTAAACGTACAGG  
TGTTGAGGTGCTATGGCGCAACAATAACAATGGTGGTTGTAAGGGAATCTGCAAGCGAGTACCCACAGAT  
GATATGCCGGCAATGAAAGTAATTGGGGAATGTGTTAACAAGATGGTACATGCTTTGATGAGGTGTTAT  
TAAATCAACTCTCATCCGAATTAATGCAATGCAGGGTGTGCGCTTATTGTTTTACATCAAATGGGCAG  
TCATGGACCAACATATTTTGAACGTTATCCGTCTACAAGTAAAGTCTTTAGCCCAACTTGCGACAGCAAC  
CTGATCGAAAAATGCTCAAATAAAGA ACTGGTCAATACATACGACAATACGCTAGTTTATACTGATCGTA



TGCTGAGCAAACTATTGAACTGTTGCAACGTTATTCCGGGATGCGTGACGTTGCTATGATATATCTTTC  
TGATCATGGAGAATCGCTGGGGGAAAAGCGGAATATATCTTCATGGCACACCATATATTATTGCCCCAAT  
GAACAAACACACATCCCAGTGTATGTGGTTTTCTTCATTTCGCGCAGCATTCCAAATTAATCTAG  
AATGCCTGACCGGTAATGCCGACAAACAATACAGTCATGATAATTTTTATCATTCAACTTGGTCTCTT  
CAACGTAAAAACCAGTGTATATAAACCGGAGTTAGATATGTTTACTCTATGTCGACAATCTGACCACACA  
CCACTGTCTTCCGCAGTTGTAAGAGAGAAAACAGATGGGAATGGTTAGTAAATAAACTATCATCTTATTT  
ATTTACCACCCTATAACGCACTATAACAACCTGCTCCTTAAATATAAACAAGGAGCAGTCATTGACAA  
TTTATGGC

>NG\_061627.1 K. pneumoniae SCKLB88 MCR-8.2

TAATCCTTGGAAACCTTAGAAAATTGATGGAGGATCTTAACAAGATCCTGACATAGATTTTCAGATACTGC  
GTACGATTTGTTAATCTTCAGGAATCGTGCATGTTCAAGTATCTTTTATCTTTCAAACCTGAACCCGGTAC  
AACGGACCTGGGCTGCAGCATTCTTTTCACTACAATCGGCAACATAGCACTTTGGCAAACACTATGGAT  
TAATGTAGATGTTCAATATACATAATCTACTTTTTTTGTCAGTCTGCCAATATTTCTTTCTGCTTT  
CTAAGTATCTTACTTACACCAGTCATGGTTATTCCATATTTATGCAGGCCTCTACTTGTAGTTCTTATTC  
TAATCAGTGCCTGCTGTAGTTATTTTCATGATGAAATACAACATATTAATTGACCGCAGCATGGTGCAAAA  
CTTTTTGAGACTAATCAGGCTGAATTAACATCATACTTATCCGTTCTTTTCTTTCCACTCTATTTCTA  
CTTGGCATTGTACCAGCAATTATCCTGGCGTTGCCTTCAACAGACAATAAGCGGGGAGCTTTTAGAATTG  
AATTGTGGTGGTTGGCGCATATTTGCATAGCTGTAGTCTTATTAGCCATGGTTACCATGGTGTTTTATAA  
GGATTACGCATCTCTCATACGAAACAATATGCAGATTAAGACCAAGCTTTACCTTTAACTTTGTGCGT  
AATACGAATGGTTACCTTAAAAGAAAATACCAGGCATCTTCAACAATTCTACAAAGCGTGGGGGAGGATG  
CTGTACGTCCAATATATTCAAATTCTCCACCGAAACTGGTGGTTGTCGTGCGTGGGCGAAACCGCCAGAGC  
ACAGAATTTCCAGCTGAATGGCTATTCGCGGGTAACCAACCCCTATCTTTCCAGACGACATGATGTTATC  
AGTTTCAAAAATGTGTCGTCATGCGGAACGGCTACCGCAATATCACTACCCTGCATGTTCTCGCGAATGT  
CACGTAACGAATACAATGAAGTCCGTGCCGCATCAGAAGAAAACCTGCTGGATATCCTTAAACGTACAGG  
TGTTGAGGTGCTATGGCGCAACAATAACAATGGTGGTTGTAAGGGAATCTGCAAGCGAGTACCCACAGAT  
GATATGCCGGCAATGAAAGTAATTGGGGAATGTGTTAACAAGATGGTACATGCTTTGATGAGGTGTTAT  
TATATCAACTCTCATCCCGAATTAATGCAATGCAGGGTGTGCGCTTATTGTTTTACATCAAATGGGCAG  
TCATGGACCAACATATTTTGAACGTTATCCGTCTACAAGTAAAGTCTTTAGCCCAACTTGGCAGCAAC  
CTGATCGAAAAATGCTCAAATAAAGAACTGGTCAATACATACGACAATACGCTAGTTTATACTGATCGTA  
TGCTGAGCAAACTATTGAACTGTTGCAACGTTATTCCGGGATGCGTGACGTTGCTATGATATATCTTTC

TGATCATGGAGAATCGCTGGGGGAAAGCGGAATATATCTTCATGGCACACCATATATTATTGCCCCCAAG  
GAACAAACACACATCCCGATGTTTATGTGGTTTTTCGTCTTCATTCGCGCAGCATTCCAAATTAATCTAG  
AATGCCTGACCGTAATGCCGACAAACAATACAGTCATGATAATTTTTATCATTCAATACTTGGTCTCTT  
CAACGTAAAAACCAGTGTATATAAACCGGAGTTAGATATGTTTACTCTATGTGACAATCTGACCACACA  
CCACTGTCTTCCGCAGTTGTAAGAGAGAAAAACAGATGGGAATGGTTAGTAAATAAACTATCATCTTATTT  
ATTTACCACCCTATAACGCACTATAACAACCTGCTCCTTAAATATAACAAGGAGCAGTCATTGACAA  
TTTATGGC

>NG\_066547.1 *K. pneumoniae* R3 MCR-8.3

ATGTTCAAGTATCTTTTATCTTTCAAACCTGAACCCGGTACAACGGACCTGGGCTGCAGCATTTTTTTTCA  
CTACAATCGGCAACATAGCACTTTGGCAAACACTATGGATTAATGTAGATGTTCATAATATACATAATCT  
ACTTTTTTTTCCAGTCTGCCAATATTTCTTTTCTGCTTTCTAAGTATCTTACTTACACCAGTCATGGTT  
ATTCATATTTATGCAGGCCTCTACTTGTAGTTCTTATTCTAATCAGTGCCTGCTGTAGTTATTTTCATGA  
TGAAATACAACATATTAATTGACCGCAGCATGGTGCAAACTTTTTTGAGACTAATCAGGCTGAATTAAC  
ATCATACTTATCCGTTCCTTTTCTTTCCACTCTATTTCTACTTGGCATTGTACCAGCAATTATCCTGGCG  
TTGCCTTCAACAGACAATAAGCGGGGAGCTTTTAGAATTGAATTGTGGTGGTTGGCGCATATTTGCATAG  
CTGTAGTCTTATTAGCCATGGTTACCATGGTGTTTTATAAGGATTACGCATCTCTCATACGAAACAATAT  
GCAGATTAAGACCAGGCTTTACCTTTTAACTTTGTGCGTAATACGAATGGTTACCTTAAAAGAAAATAC  
CAGGCATCTTCAACAATTCTACAAAGCGTGGGGGAGGATGCTGTACGTCCAATATATTCAAATGCTCCAC  
CGAAACTGGTGGTTGTGCTGCTGGGCGAAACCGCCAGAGCACAGAATTTCCAGCTGAATGGCTATTCGCG  
GGTAACCAACCCTATCTTTCCAGACGACATGATGTTATCAGTTTCAAAAATGTGTCGTCATGCGGAACG  
GCTACCGCAATATCACTACCCTGCATGTTCTCGCGAATGTCACGTAACGAATACAATGAAGTCCGTGCCG  
CATCAGAAGAAAACCTTGCTGGATATCCTTAAACGTACAGGTGTTGAGGTGCTATGGCGCAACAATAACAA  
TGGTGGTTGTAAGGGAATCTGCAAGCGAGTACCCACAGATGATATGCCGGCAATGAAAGTAATTGGGGAA  
TGTGTTAACAAAGATGGTACATGCTTTGATGAGGTGTTATTAATCAACTCTCATCCGAATTAATGCAA  
TGCAGGGTGTGCGCTTATTGTTTTACATCAAATGGGCAGTCATGGACCAAATATTTTGAACGTTATCC  
GTCTACAAGTAAAGTCTTTAGCCCAACTTGCACAGCAACCTGATCGAAAAATGCTCAAATAAAGAAGT  
GTCAATACATACGACAATACGCTAGTTTATACTGATCGTATGCTGAGCAAACTATTGAAGTGTGCAAC  
GTTATTCGGGATGCGTGACGTTGCTATGATATATCTTTCTGATCATGGAGAATCGCTGGGGGAAAGCGG  
AATATATCTTCATGGCACACCATATATTATTGCCCCAATGAACAAACACACATCCCGATGTTTATGTGG  
TTTTCGTCTTCATTCGCGCAGCATTCCAAATTAATCTAGAATGCCTGACCGGTAATGCCGACAAACAAT

ACAGTCATGATAATTTTATCATTCAATACTTGGTCTCTTCAACGTAAAAACCAGTGTATATAAACCGGA  
GTTAGATATGTTTACTCTATGTCGACAATCTGACCACACACCACTGTCTTCCGCAGTTGTAAGAGAGAAA  
ACAGATGGGAATGGTTAG