

```

cko_eutS      tttcactttaattcattccggcgcggggttccccgcgcttttttatttctctct--TTCG
sty_eutS      gcaccacgatatttatcggttaacaccttcgacagaagtcacctttattttcttt--CTCT
eco_eutS      tttatattcatgcggttgcatatgaaagtttatgcaccacagcgaatatctctcca--TTCG
kpn_eutS      ggtgagtaaaaaacgctgagcctgcctttttaaattccgocgcaatattattttctc--TCCT
sdy_eutS      tttatattcatgcggttgcatatgaaagtttatgcaccacagcgaatatctctcca--TTCG

cko_eutS      TAGTGATCTACCTCACCTTTTAAAtctgCTTGCCGAATTTTGTATTATTCcttgacaaaa
sty_eutS      TAGTGATCTACCTCACCTTTTACAAtcacCTTGCCGAATTTTGTATTATTCctcgacaaaa
eco_eutS      TAGTGATCTACCTCACCTTTTAAAcgcgCTTGCCGAATTTTGTATTATTCcttgacgaaa
kpn_eutS      GAGTGATCCACTCACCTTTTAAAcccaCTTGCCGAATTTTGTATTATTCcgcgctgaaa
sdy_eutS      TAGTGATCTACCTCACCTTTTAAAcgcgCTTGCCGAATTTTGTATTATTCcttgacgaaa

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A

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mpe_eat      ttcaaCATTGCCGATTTCCGTAACGctccctctgcgct
pna_eat      tgaaaCTTTGCCGAAATTCGATAACGcctcccaaaaccagg
rfe_eat      aaaaaCTTTGCCGAAATTCGATAACGcaaaaagctgcc
buc_eat      ctcatCTTTGCCGAAATTCGATAACAGtccctttaatga
bur_eat      gcgatCTTTGCCGAAATTCGATAACAGtctgtttaatga
bvi_eat      gccatCTTTGCCGAAATTCGATAACAGtctgttttatga
bce_eat      gcgatCTTTGCCGAAATTCGATAACAGtctgtttaatga
bup_eat      cggacCTTTGCCGATTTTCGATAACAGtctcgattaatga
Bum_eat      cggacCTTTGCCGATTTTCGATAACAGtctcgattaatga
bth_eat      cggacCTTTGCCGATTTTCGATAACAGtctcgattaatga
bx_eat      ctgaaCTTTGCCGAAATTCGATAACAGctcgaataatgg

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B

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cko TGATAATTCGTCCGCCGAGTCCGCAATAATAGCAATATTTTGCATTGCCGATTTTGTAT
sty -----TGAATAGCAATATTTTGCATTGCCGATTTTGTAT
kpn --CCGGATCACAAACTGAGTCTTTTAAATGACAATATTTTGCATTGCCGATTTTGTAT

cko ATCGTATTGTATGTCAGTCATTATAAAATGAAAAAACTATAGCAGAGCAATAAAATGTGTC
sty AGTCTTTTGTATCTTAATCATTTTCAGAAAGAAAATTTATCTGGTGTAAACAATAAAATGTGTC
kpn ATCCCGAGTATCTTCATCAATATAAAATGAAAAAAACGACAGTAGAGCAATAAAATGTGTC

cko ATAGCGCAACAAAAATAATGTTATCTGAAGGATAAACTGAGCCAGTTTTTTATTTTGTGAT
sty ATAGCGCAACAAAAATAATGTTATCTGAAGGATAAACTGAGCCAGTTTTTTATTTTGTGAT
kpn ATAGCGCAACAAAAATAGTGATATTCGAAGGGATAAACTACACCAGTTTTTTATTTTGTGAT

cko GAGATACAGTGTCTATTATGAATAGGTTTCATTATTCCTTTTGCAGTGTTCAT--TCAA
sty GAAGTACAGTGTCTAGGAAAGATAAGTTTTTATTACGCTTTTGTGATACGTTTTTATCGTCAA
kpn GAGATAGAGTGTCCG-----TTAATA-----CGAGACAGCTGATTATCAC

cko AACA-----GGCGTCATTACACCATTG-----CGTTGGCATAATGGCGC--
sty TATACCGGTAAGGATGAGTAGATTAAACGTCAGATGAGCAACCGCTCAGGCTATTGCTCAC
kpn AACACC-----GCTTCCCTTCACGTGACGT-----CATTGTGACGAGTGATGA-

cko -----GTAACAGGTAATAAAAATTTAATTTGTCGTTATGAGCGAGAAAGTGATGCTCATA
sty AGAAAATGTAACCGTAGCACATTATTAATTTGTCGTTATGGGTGTGCCGT--ACAGCCATA
kpn --AACGGTAAAAGAAAACATAAAGT-AATACCGTTCG-----ATGCAGGGCGCATCGGGC

cko ACATCAGCCGACAGGTTTGGCACA--TTTGTGTCAGGGAAGGGGTGAGAATCCCCCGC
sty ACGTAAACCAACAGGTTTGGCACA--TTTGTGGTAGGGAAGGGGTGAAAATCCCCCGC
kpn AAACAAACCGACAGGTTTCGACACCAGTTTGGTGTCTAGGGAAGGGGTGATAATCCCCCGC

cko AGCCCCCGCTGCTGTGATGCTGACGACCCCGTAA-GACCACCTGATCGCAAGATTGGGAAG
sty AGCCCCCGCTGCTGTGATGCTGACGACCCCGTAAAGACCACCTGATCGCAAGATTGGGAAG
kpn AGCCCCCGCTGCTGTGATGCTGACGACCCCGCAAAAACCACTGATCGAAAGATTGGGAAG

cko GACGGGCGAGGAGGACGCTAAGCCAGAAGACCTGCCTGTGGGTAT-TTACCAACAACCTTC
sty GACGGGCGAGGAGGACGCTAAGCCAGAAGACCTGCCTGTGGGTGA-TAACCAACAACCTTC
kpn GCGGGGCGAGAACGAGGCTAAGCCAGAAGACCTGCCTGTGGGTAACTGACCAACAACCTTC

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C

Figure S2. The regulatory elements in the upstream regions of various bacteria. A. The upstream region of the *eut* operon of the *Enterobacteriaceae*; B. The upstream region of the *eut* operon of Betaproteobacteria; C. The upstream region of the *cob* operon of the Entrobacteriales. Green – the putative EutR-binding site; red – the putative Crp-binding site; blue – the PocR-binding sites [8]; purple – the B12-riboswitch [25]; yellow – the EutR-binding site and the PocR-binding site overlap. The arrow indicates the transcription start site of *cbiA* [23]