1   **SUPPORTING TABLE**

2   **Table S1. Primers used in this study.**

Primers	Direction	Characteristic(s)	Sequence 5'→ 3'
CMD96	Forward	Amplification of the *vat* gene (used with CMD97)	AACGGTTGGTGGCAACAATCC
CMD97	Reverse		AGCCCTGTAGAATGGCGAGTA
CMD1070	Reverse	Contains a XmaI restriction site; Amplification of the *glmS-pstA* region (used with CMD1072)	TCGCCCGGGATGCACTTCGCGAATCAG GCTTAC
CMD1072	Forward		CACCAATCTTCTACACCGTTCCGC
CMD1099	Forward	Contains a XbaI restriction site; Amplification of *yaiC* (used with CMD1100)	ATA TCT AGA ACG GGT GAG CTA CGA AAA TG
CMD1100	Reverse	Contains a HindIII restriction site	TGC AAG CTT TCA GGC CGC CAC
CMD1111	Forward	Amplification of the *phoA-psiF* region (used with CMD1112) or the *phoA-yaiC* region (used with CMD1114)	GCGCTAAATACCAAAGATGGCGCA
CMD1112	Reverse		ACAGGAGGTCATACGCTGTTGTTG
CMD1113	Forward	Amplification of the *psiF-yaiC* region (used with CMD1114)	TTGCCTGAAGAACAGCAAGTCTGC
CMD1114	Reverse		GAAACCAGCGTTGAAGCAATCGGT
CMD1156	Forward	Contains a XhoI restriction site; Amplification of *yaiC* and its promoter (used with CMD1157)	AAAGCCCTCGAGTACCTGATAGTGCTAA CGGGTGAG
CMD1157	Reverse	Contains a XmaI restriction site	TTCCGTCCCGGGGTGATCGAAGCGATG ACGAAGTGT
CMD1245	Reverse	Amplification of *phoA* and its upstream promoter (Pho box) (used with CMD1335)	AGCCATTTTCGTAGCTCACC
CMD1336	Forward		GATACGGAGCTGCTGCGCGATTAC

CMD1334	Reverse	Used with primer CMD1335 to introduce point mutations in the promoter of *phoA* (Pho box)	§CTTCGCAGACTGACCTAAAAAGATTAACTTTTTACTGACGA
CMD1335	Forward		§TAGGTCAGTCTGCGAAGTTGTCACGGCCGAGACTTATAGTC
CMD1246	Forward	Amplification of ON-orientation of *fimS* (used with CMD1248)	ACCGTAACGCAGACTCATCCTCAT
CMD1247	Reverse	Amplification of OFF-orientation of *fimS* (used with CMD1248)	TGAACGGTCCCACCATTAACCG
CMD1248	Forward or Reverse	Primer binds to *fimS*. Alternates between forward and reverse according to the orientation of *fimS* (used with CMD1247 and CMD1248)	TCACATCACCTCCGCTATATGT
CMD1260	Reverse	Contains a XmaI restriction site; Amplification of the *phoA-psiF-yaiC* region with the promoter of *phoA* (Pho box) (used with CMD1261)	CAGCCCGGGTCGAAGCGATGACGAAGTGT
CMD1261	Forward		GGACTCGAGGCTGCTGCGCGATTACGTAA
CMD1461	Forward	Contains a BspHI restriction site; Amplification of *ydaM* (used with CMD1462)	TATCTGATTCATGACGTGGCTTTTTTGCGATCGG
CMD1462	Reverse	Contains a PstI restriction site	GACGCATCCTGCAGTTATGCCGCCAGCACGCGGTTGCG
CMD1463	Forward	Contains a BspHI restriction site; Amplification of *yhjH* (used with CMD1464)	CAGGACATTCATGATGATAAGGCAGGTTATCCAGC
CMD1464	Reverse	Contains a PstI restriction site	GAAAATGACTGCAGTTATAGCGCCAGAACCGCCGTATT
CMD1508	Forward	Used with CMD 1509 to generate a knockout of *ipuA*	CATGGTCTGCGTGTTAGTGAGCTCTTATCTCTGCAGTTGTCGGATTTAGACATATGAATATCCTCCTTAG
CMD1509	Reverse	Used with CMD 1508 to generate a knockout of *ipuA*	GCGTCACCTATCCCCCACATTTTTTCAAATCTCATTGAATTAGAAGCAGTGTGTAGGCTGGAGCTGCTTC

| CMD1510 | Forward | Used with CMD 1511 to generate a knockout of *ipbA* | GAGATTACATCGATAACGTTCTGATTGCAGGCATACTTATCTGGGTGTGCGTGTAGGCTGGAGCTGCTTC |
| CMD1511 | Reverse | Used with CMD 1510 to generate a knockout of *ipbA* | CCACACCCCTTTAAAACGAGCAGCATTACTGGCTGTGTATCTGACAGTATCATATGAATATCCTCCTTAG |

3   § Underlined nucleotides in red were altered from the original sequence to introduce point mutations into

4   the promoter of *phoA* (Pho box).

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