

Supplemental Materials

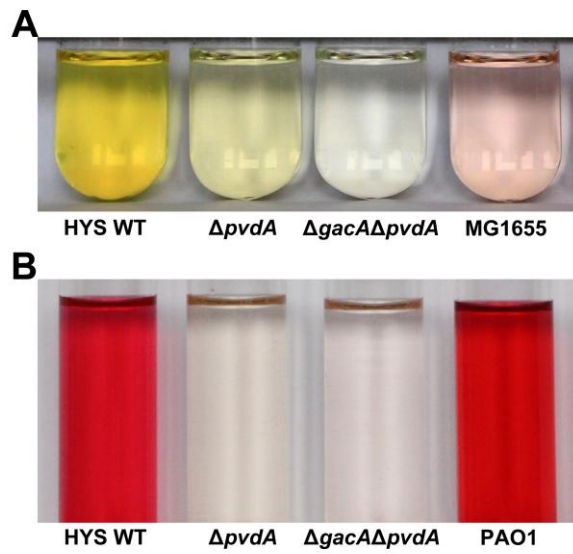


FIG. S1. Results of the Arnov (A) and modified Csáky (B) tests for catechol-type and hydroxamate-type siderophore activity, respectively, using cell-free culture supernatants of wild-type *Pseudomonas* sp. HYS and its genetically modified strains. Cell-free culture supernatants of *E. coli* MG1655 and *P. aeruginosa* PAO1 were used as positive controls in the Arnov and modified Csáky tests, respectively.

TABLE S1. Oligonucleotide primers used in this study

Primer	Sequence (5'-3') ^a	Use
gacS-up-1	CCGGAATTCTAGCAGGATGTCCATCAAC	Δ <i>gacS</i>
gacS-up-2	TGCTCTAGACCAGTGCCATCAGGCTG	Δ <i>gacS</i>
gacS-down-1	GCTCTAGAGCCTGAACCCTGGCTGAC	Δ <i>gacS</i>
gacS-down-2	CCCAAGCTTAGGCCGGTACTCGCA	Δ <i>gacS</i>
gacS-M-1	TCGACCATGCTGAAGGGTTT	Knock verify of <i>gacS</i>
gacS-M-2	GGTTGAGTGCCAGGATCAGTG	Knock verify of <i>gacS</i>
gacS-1	CGGAATTCGCGCACAGGAGAGTG	<i>gacS</i> amplicon
gacS-2	CGGGATCCTCAGGCGCTCATGC	<i>gacS</i> amplicon
gacA-up-1	GGAATTCACCCAGCGGTATTTGG	Δ <i>gacA</i>
gacA-up-2	GCTCTAGAGTGATGCCCGTACGCA	Δ <i>gacA</i>
gacA-down-1	GCTCTAGAGCCACGGCATGGTTGA	Δ <i>gacA</i>
gacA-down-2	CCCAAGCTTGGGTGCGGTTGCT	Δ <i>gacA</i>
gacA-M-1	ACGGAATCGGTTTCGCGTATC	Knock verify of <i>gacA</i>
gacA-M-2	CGCCTTGCAGCGCTTGAT	Knock verify of <i>gacA</i>
gacA-1	CAAAGAATTCCAATTACCGCCGAGTGCGAG	<i>gacA</i> amplicon
gacA-2	CAAAGGATCCGAATGCGCTCAGAGACTGGCGTC	<i>gacA</i> amplicon
pvdA-up-1	GGAATTCACCCGCAACGCCAACA	Δ <i>pvdA</i>
pvdA-up-2	GCTCTAGATGTGTCGTCGATTCTTGAAG	Δ <i>pvdA</i>
pvdA-down-1	GCTCTAGACGCCTGAAGCGAGAG	Δ <i>pvdA</i>
pvdA-down-2	CCCAAGCTTACCACGGTCAGGG	Δ <i>pvdA</i>
pvdA-M-1	GCACTACCGCATGGTCAGC	Knock verify of <i>pvdA</i>
pvdA-M-2	ACAGCATCGCCAGGTAGCC	Knock verify of <i>pvdA</i>
orf1-up-1	GGAATTCAGCTTGTCTGTCAGGCTC	Δ <i>orf1</i>
orf1-up-2	GCTCTAGAGCGTTCCAGGAAGGCT	Δ <i>orf1</i>
orf1-down-1	GCTCTAGACATCGTGAACGTCCTTT	Δ <i>orf1</i>
orf1-down-2	CCCAAGCTTCTCGTCAGCCAGTT	Δ <i>orf1</i>
orf1-M-1	CCTCGGTCAGGAACGGAGTC	Knock verify of <i>orf1</i>
orf1-M-2	CCTGCCAGTGTTCAATCTCG	Knock verify of <i>orf1</i>
orf2-up-1	CGAGCTCAACGAGGACCAGACG	Δ <i>orf2</i>
orf2-up-2	GCTCTAGATGAAGCGGTCGAGCCA	Δ <i>orf2</i>
orf2-down-1	GCTCTAGAAGTCCAGGAGAGTTTCATTGC	Δ <i>orf2</i>
orf2-down-2	CCCAAGCTTCTCAACGATGTTTCAACT	Δ <i>orf2</i>
orf2-M-1	TCACCGTGCAGCCGAGTT	Knock verify of <i>orf2</i>
orf2-M-2	GCGCCGCACTCGGTTAT	Knock verify of <i>orf2</i>
orf3-up-1	CGAGCTCTGCGGGTTTCGCT	Δ <i>orf3</i>
orf3-up-2	GCTCTAGAAAACGCTAAAAGCCTGC	Δ <i>orf3</i>
orf3-down-1	GCTCTAGACATCTGGGCGACG	Δ <i>orf3</i>

orf3-down-2	CCCAAGCTTCAACAGCGCTATCGA	$\Delta orf3$
orf3-M-1	CAGCATGGCCTTGGCTG	Knock verify of <i>orf3</i>
orf3-M-2	CTGCCGACTCCGTTCC	Knock verify of <i>orf3</i>
orf4-up-1	CGAGCTCACATCACTGACGACGACT	$\Delta orf4$
orf4-up-2	GCTCTAGAAGCCAGCCCCGCAAT	$\Delta orf4$
orf4-down-1	GCTCTAGAGCCAATGGTCATATCCATGAT	$\Delta orf4$
orf4-down-2	CCCAAGCTTTGGGAAGACCATTCT	$\Delta orf4$
orf4-M-1	CGAACAGATCCAGCGCAAGC	Knock verify of <i>orf4</i>
orf4-M-2	TGCGGGTCGGGATCTTCGGT	Knock verify of <i>orf4</i>
rsmY-up-1	CGAGCTCTACGAAGGCACCAAC	$\Delta rsmY$
rsmY-up-2	GCTCTAGAGTAAGAAGATTAAGTGTGGA	$\Delta rsmY$
rsmY-down-1	GCTCTAGACTTTTGCCTGCGATTG	$\Delta rsmY$
rsmY-down-2	GCGTCGACCTGTTGTTGTACGAAG	$\Delta rsmY$
rsmY-M-1	CCATGGTTACATCCGTGAG	Knock verify of <i>rsmY</i>
rsmY-M-2	GCCTGGAAATCGAACG	Knock verify of <i>rsmY</i>
rsmZ-up-1	GGAATTCTGTCTGGAAGGGCAC	$\Delta rsmZ$
rsmZ-up-2	GCTCTAGATTGCCGCAACAAACA	$\Delta rsmZ$
rsmZ-down-1	GCTCTAGACAGGACAAATACTAACGCG	$\Delta rsmZ$
rsmZ-down-2	GCGTCGACTGTTGGCCTGGAGA	$\Delta rsmZ$
rsmZ-M-1	CCCGCACAAGCTGATAG	Knock verify of <i>rsmZ</i>
rsmZ-M-2	ACAAGCAGCGTGAGGTG	Knock verify of <i>rsmZ</i>
rsmA-up-1	CAAAGAATTCGCACGATAACACCACCGACTTC	$\Delta rsmA$
rsmA-up-2	CAAATCTAGAATCAACATAGCTTTCTCCTCACGC	$\Delta rsmA$
rsmA-down-1	CAAATCTAGAACCAACCCATTAATTTTTATCGAG	$\Delta rsmA$
rsmA-down-2	CAAAAAGCTTGATGGACCAGATCACCTCTGG	$\Delta rsmA$
rsmA-M-1	GATGAAGCCAAGCTGACCATTTCGTG	Knock verify of <i>rsmA</i>
rsmA-M-2	GAAAGCAAAAAGCCCGCCTTGATAG	Knock verify of <i>rsmA</i>
rsmA-1	GCGTCGACTGAGGAGAAAGCTATGT	<i>rsmA</i> amplicon
rsmA-2	GGAATTCCTTAATGGGTTGGTTCTTCG	<i>rsmA</i> amplicon
rsmE-up-1	CGAGCTCGCATCACCCGTTA	$\Delta rsmE$
rsmE-up-2	GCTCTAGATATCAGCATGTATATCTC	$\Delta rsmE$
rsmE-down-1	GCTCTAGAGAGCACTAAGTAGCCCCCA	$\Delta rsmE$
rsmE-down-2	CCCAAGCTTCGGGTGGTAACAC	$\Delta rsmE$
rsmE-M-1	TCGAAGGCCAGGTCAGTGCCTACAACA	Knock verify of <i>rsmE</i>
rsmE-M-2	GCTCAAGCGTTTGCTGTCGGTCCTCA	Knock verify of <i>rsmE</i>
rsmE-1	GCGTCGACCAAGGAGATATACATG	<i>rsmE</i> amplicon
rsmE-2	GGAATTCCTTAGTGCTCGTCGCCTC	<i>rsmE</i> amplicon
U1	GCTCATCAATCTCCTCAAGCATG	TAIL-PCR; Arbitrarily primed PCR
U2	TTGGGCATACGGGAAGAAGT	TAIL-PCR;

		Arbitrarily primed PCR
U3	GGATGAAGTGGTTCGCATCCT	TAIL-PCR
AD-1	NTCgA(g/C)T(A/T)T(g/C)g(A/T)gTT	TAIL-PCR
AD-2	NgTCgA(g/C)(A/T)gANA(A/T)Gaa	TAIL-PCR
AD-3	(A/T)gTgNAg(A/T)ANCANAgA	TAIL-PCR
AD-4	Tg(A/T)gNAg(A/T)ANCA(g/C)AgA	TAIL-PCR
ARB1	GGCCACGCGTCGACTAGTACNNNNNNNNNGATAT	Arbitrarily primed PCR
ARB2	GGCCACGCGTCGACTAGTAC	Arbitrarily primed PCR
lacZ-1	CCG <u>CTCGAG</u> ATGACCATGATTACGGAT	<i>lacZ</i> amplicon
lacZ-2	GCAGGGCCCTTATTTTTGACACCAG	<i>lacZ</i> amplicon
Pnfs-1	CCCA <u>AAGCTT</u> CAGTCCACGCCTGTC	<i>nfs</i> promoter amplicon
Pnfs-2	CCG <u>CTCGAGG</u> ACGGTGTCAAAAC	<i>nfs</i> promoter amplicon
orf1-orf2RT-1	GCACGCCTACCTCTGCTAC	RT-PCR
orf1-orf2RT-2	GCGGTCTTTCTGCTCGTC	RT-PCR
orf2-orf3RT-1	CAACCACCAGTATGTGCAGAAG	RT-PCR
orf2-orf3RT-2	CACCAACGAGGACCAGACG	RT-PCR
orf3-orf4RT-1	CGACATGCTGATCATTCGCG	RT-PCR
orf3-orf4RT-2	ACAGGGTGTGGTGCATCAGG	RT-PCR

^a Specified restriction sites are underlined.