

1 ***Escherichia coli rhaSR-PrhaBAD* inducible promoter system allows tightly**  
2 **controlled gene expression over a wide range in *Pseudomonas aeruginosa***

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6 **Supplemental Material**

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8 **Supplemental Figure Legends**

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10 **Figure S1. Tryptophan biosynthesis.** (A) Enzymatic reaction pathway for the  
11 biosynthesis of tryptophan from chorismate. PRPP stands for phosphoribosyl  
12 pyrophosphate. (B) Organization of the tryptophan biosynthesis genes (1).

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14 **Figure S2. Noninduced expression of *trpC* and *trpA* from *araC-ParaBAD* but not**  
15 ***rhaSR-PrhaBAD* is sufficient to complement tryptophan auxotrophy.** (A) PA14  
16 *trpC::TnMar*, PA14 *trpC::TnMar attCTX::araC-ParaBAD-trpC tet*, and PA14 *trpC::TnMar*  
17 *attCTX::rhaSR-PrhaBAD-trpC tet* were grown overnight (about 15 hours) in M9  
18 succinate (white bars), M9 succinate with tryptophan (gray bar), and M9 succinate with  
19 rhamnose (black bar). Measured OD600 of each overnight culture. (B) PA14  
20 *trpA::TnMar*, PA14 *trpA::TnMar attCTX::araC-ParaBAD-trpA tet*, and PA14 *trpA::TnMar*  
21 *attCTX::rhaSR-PrhaBAD-trpA tet*.

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23 **Figure S3. Tuning growth rate and growth capacity of *trpF* mutant.** (A) PA14 and  
24 PA14 *trpA::TnMar attCTX::rhaSR-PrhaBAD-trpA tet* cultures were grown in M9  
25 succinate in 96-well plates at 37°C with shaking for 8 hours and OD600 was measured  
26 every 15 minutes. Wild-type PA14 was grown without rhamnose (black line). PA14  
27 *trpA::TnMar attCTX::rhaSR-PrhaBAD-trpA tet* cultures were grown with or without  
28 increasing concentrations of rhamnose (indicated to the right of the graph)

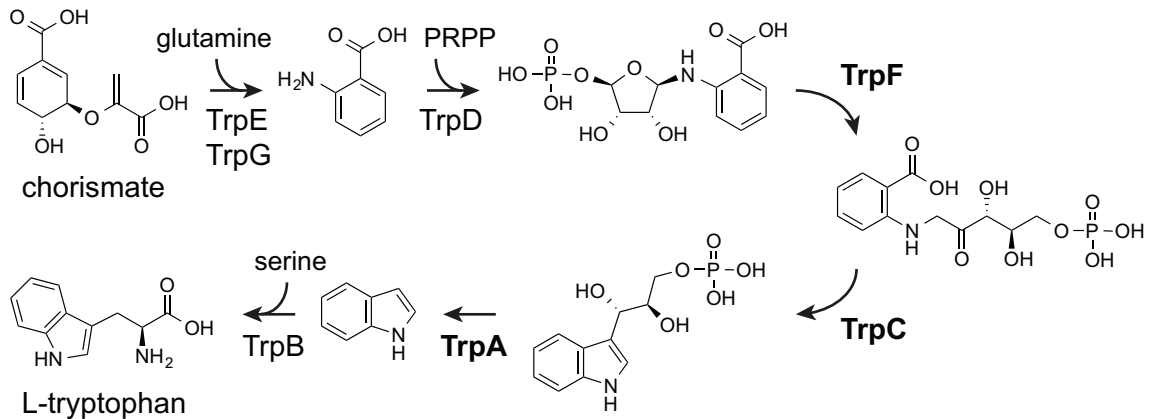
29

### 30 **Supplemental References**

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- 32 1. **Winsor GL, Griffiths EJ, Lo R, Dhillon BK, Shay JA, Brinkman FSL.** 2016.  
33 Enhanced annotations and features for comparing thousands of *Pseudomonas*  
34 genomes in the *Pseudomonas* genome database. *Nucleic Acids Res* **44**:D646–53.

A



B

PA14\_00440

*trpA trpB trpI*

PA14\_07940

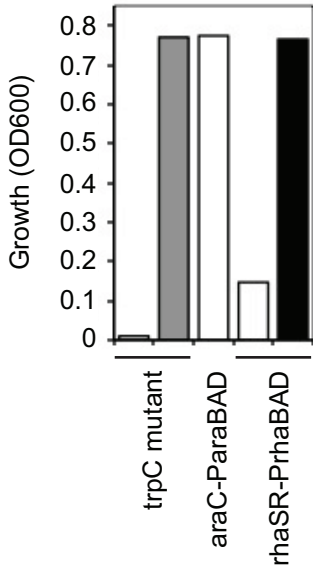
*trpE*

PA14\_08360

*trpG trpD trpC*

PA14\_23850

*trpF*

**A****B**