

Supporting Information

The Mechanism of Heme Transfer from the Cytoplasmic Heme Binding Protein PhuS to the δ -regioselective Heme Oxygenase of *Pseudomonas aeruginosa*

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Table S1. Temperature dependence of the rate constant of heme-transfer from PhuS to *pa*-HO-wt, *pa*-HO mutants and BphO.^a

Protein	Rate of heme-transfer (sec ⁻¹) at various temperature (°C)			
	10	15	25	35
<i>pa</i> -HO-wt	0.037 (2)	0.052 (1)	0.11 (1)	0.20 (3)
<i>pa</i> -HO-N19K/F117Y-(DM)	0.036 (2)	0.049 (2)	0.11 (1)	0.20 (2)
DM-K34N	0.038 (2)	0.053 (2)	0.12 (1)	0.23 (3)
DM-K132A	0.035 (1)	0.050 (2)	0.11 (1)	0.20 (3)
<i>pa</i> -HO-G125V ^b	0.028 (1)	0.040 (4)	0.10 (1)	0.16 (1)
BphO	0.035 (3)	0.045 (2)	0.11 (1)	0.27 (3)

^a Reactions were carried out with 10 μ M PhuS and 30 μ M *pa*-HO/BphO in 20mM Tris, pH 7.5. The reactions were fit to a two-exponential expression unless otherwise stated, and the standard deviations for the last significant figures are given in parentheses from the mean of at least three independent experiments (only the fast phase rates are shown).

^b Reactions were fit to single-exponential expression.

Table S2. *Temperature dependence of the rate constant of heme-transfer from PhuS to pa-HO-wt, pa-HO mutants and BphO in the presence of 10mM KCN.*^a

<i>Protein</i>	Rate of heme-transfer (sec ⁻¹) at various temperature (°C)			
	10	15	25	35
<i>pa</i> -HO-wt	0.033 (1)	0.052 (2)	0.14 (1)	0.26 (3)
<i>pa</i> -HO-N19K/F117Y-(DM)	0.020 (3)	0.032 (1)	0.10 (1)	0.23 (1)
DM-K34N	0.038 (3)	0.052 (4)	0.13 (1)	0.21 (3)
DM-K132A	0.025 (2)	0.049 (1)	0.13 (1)	0.20 (1)
<i>pa</i> -HO-G125V	0.031 (2)	0.036 (1)	0.10 (1)	0.21 (3)
BphO	0.027 (3)	0.036 (1)	0.09 (1)	0.16 (1)

^a Reactions were carried out with 10μM PhuS and 30μM *pa*-HO/BphO in 20mM Tris-HCl, pH 7.5. The reactions were fit to a two-exponential expression unless otherwise stated, and the standard deviations for the last significant figures are given in parentheses from the mean of at least three independent experiments.