Loss of the response regulator CtrA causes pleiotropic effects on gene expression in Rhodobacter capsulatus but does not mediate growth phase regulation

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Supplemental Figures (Figures S1, S2, S3, and S4)

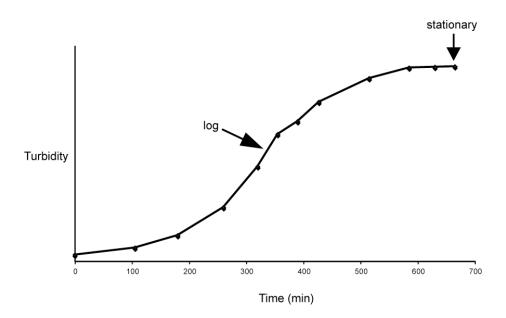


Figure S1. Growth curve of a representative experimental *R. capsulatus* culture. The time-points where cells were harvested for analyses are indicated.

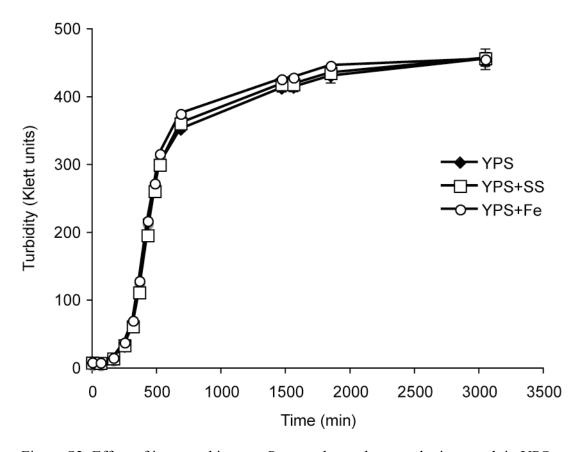


Figure S2. Effect of increased iron on *R. capsulatus* photosynthetic growth in YPS medium. *R. capsulatus* SB1003 was grown in YPS medium (YPS; filled diamonds), YPS medium supplemented with EDTA, MgSO<sub>4</sub>, CaCl<sub>2</sub>, FeSO<sub>4</sub>, thiamine HCl, MnSO<sub>4</sub>, H<sub>3</sub>BO<sub>3</sub>, Cu(NO<sub>3</sub>)<sub>2</sub>, ZnSO<sub>4</sub>, and NaMoO<sub>4</sub> (YPS+Fe; open circles) and YPS supplemented with the same components except FeSO<sub>4</sub> (YPS+SS; open squares). Triplicate cultures were grown in each type of medium and the growth monitored by turbidity using a Klett-Summerson photoelectric colorimeter, and plotted as the mean ± SD.

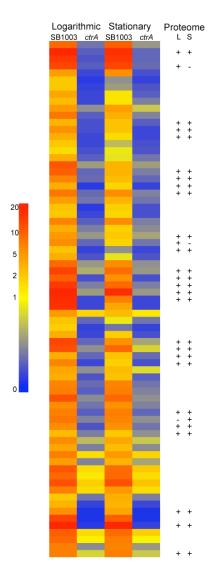


Figure S3. CtrA control of flagellum-dependent motility gene expression in *R*. *capsulatus*. The heat map shows the quantitative transcription data for the 73 putative flagellum-dependent motility genes identified as requiring CtrA for proper expression, by their gene order on the chromosome. For the peptides detected by proteomics, concordance of protein and transcription data are indicated with a "+" or "-" for the different growth phases (L, logarithmic; S, stationary). The scale is colored to indicate relative amounts of the transcripts as indicated in the culture samples indicated above the columns. The numerical transcript and proteome data for these genes is in Table S6.

		Transcriptome			Proteome				
		Logarithmic		Stationary		Logarithmic		Stationary	
GTA Gene	Description	SB1003	ctrA	SB1003	ctrA	SB1003	ctrA	SB1003	ctrA
g1	putative gene transfer agent protein					ND			
g2	DNA Packaging Protein (terminase)					ND			
g3	portal protein					ND			
g3.5	hypothetical protein					ND			
g4	prohead protease								
g5	major capsid protein								
<i>g</i> 6	gene transfer agent protein								
g7	putative head-tail adaptor					ND			
g8	gene transfer agent protein					ND			
g9	major tail protein					ND			
g10	putative gene transfer agent protein					ND			
g10.1	conserved hypothetical protein					ND			
g11	putative tail tape measure protein					ND			
g12	putative gene transfer agent protein					ND			
g13	gene transfer agent protein					ND			
g14	putative gene transfer agent protein, NlpC/P60 family					ND			
g15	gene transfer agent protein					ND			
		Low				Percentile			High
			10th			50th			90th

Figure S4. Expression of the RcGTA structural gene cluster. The requirement for CtrA and the effects of growth phase on RcGTA gene expression are shown. The scale is colored to indicate relative abundance of the transcripts and proteins as indicated. ND, not detected. The RcGTA proteins encoded by *g3* and *g15* (rcc01684 and rcc01698, respectively) were detected in the proteomic analyses but did not pass the threshold criteria for inclusion.