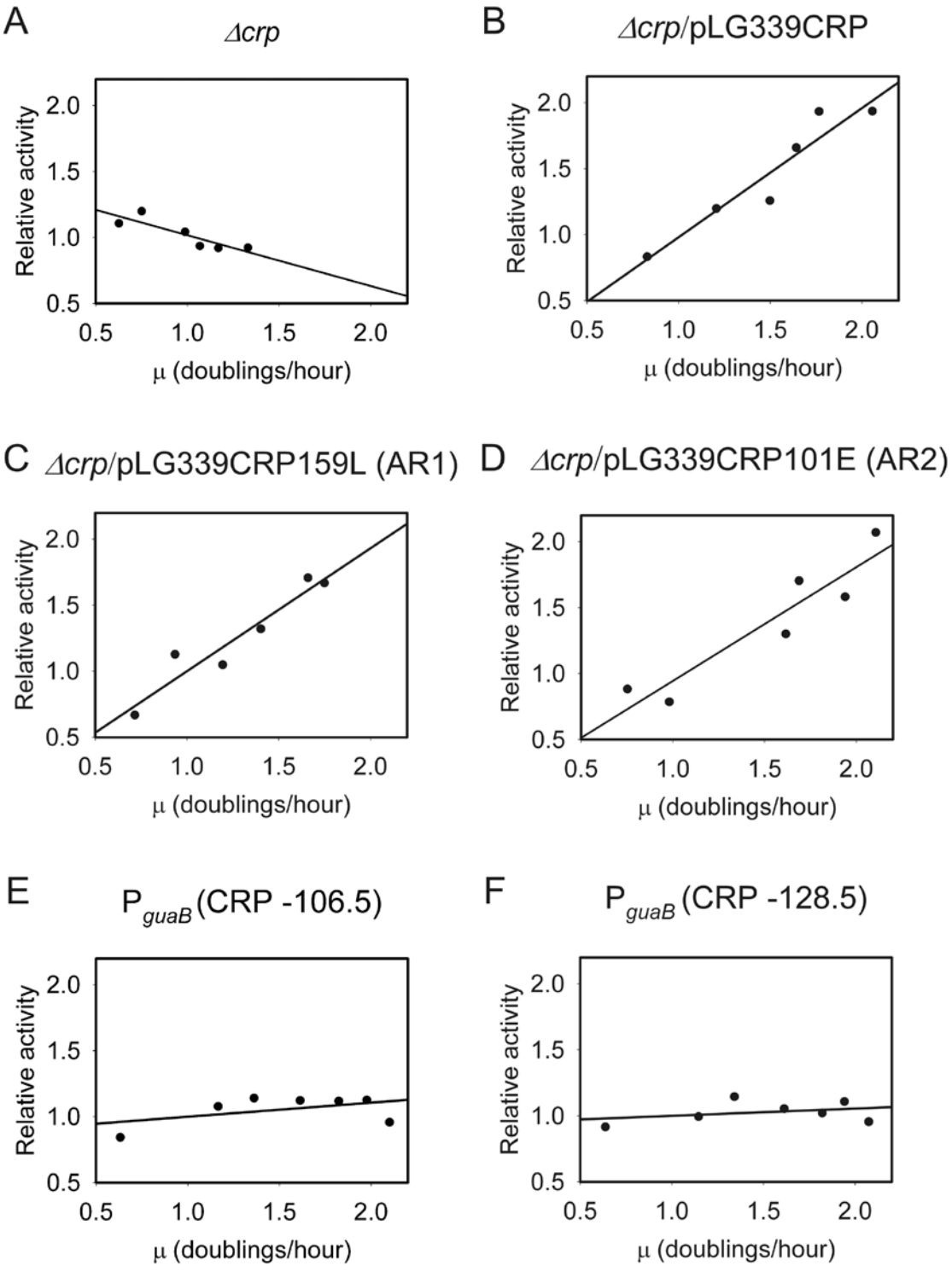
Supplementary Figure 1. Involvement of CRP in GRDC of P_{guaB}. Data from Figure 4 are replotted to show relative promoter activities. The β-galactosidase activity specified by each promoter was normalized to the β-galactosidase activity corresponding to a growth rate of one doubling per hour. The β-galactosidase activity specified by each promoter (in Miller units) at a growth rate of one doubling per hour was as follows: *Δcrp*, 2763; *Δcrp/*pLG339CRP, 1425; *Δcrp/*pLG339CRP159L, 782; *Δcrp/*pLG339CRP101E, 1333; P_{guaB} (CRP -106.5), 3091; P_{guaB} (CRP -128.5), 3035.

Supplementary Figure 2. Effect of growth rate on the intracellular levels of CRP. Strain VH1000G-133 was grown at different rates using 'standard media'. Cells were sonically disrupted, and 2.4 μg of total cell protein was used for SDS-PAGE and western blotting with polyclonal anti-CRP antibody. Samples were loaded in order of increasing growth rate, and are as follows: M9 minimal medium + 5 μg/ml thiamine and (1) glycerol, (2) succinate + 20 amino acids, (3) glycerol + 20 amino acids, (4) glycerol + 1% (w/v) casamino acids, (5) glycerol + 2% (w/v) casamino acids, (6) glucose + 20 amino acids and (7) glucose + 0.8% (w/v) casamino acids. Lanes 8 was loaded with a lysate isolated from strain VH1000G-133*Δcrp*, grown in M9 minimal medium + 5 μg/ml thiamine and fructose. Carbon sources were included at a final concentration of 0.4% (w/v), and 20 amino acids were each present at 20 μg/ml. In the plot of CRP band intensity versus growth rate, the band intensity is expressed relative to the intensity of the band corresponding to the highest cell growth rate (i.e., lane 7), which was assigned a value of 1.0. Each data point is the mean (with standard error) of data obtained from two independent experiments.

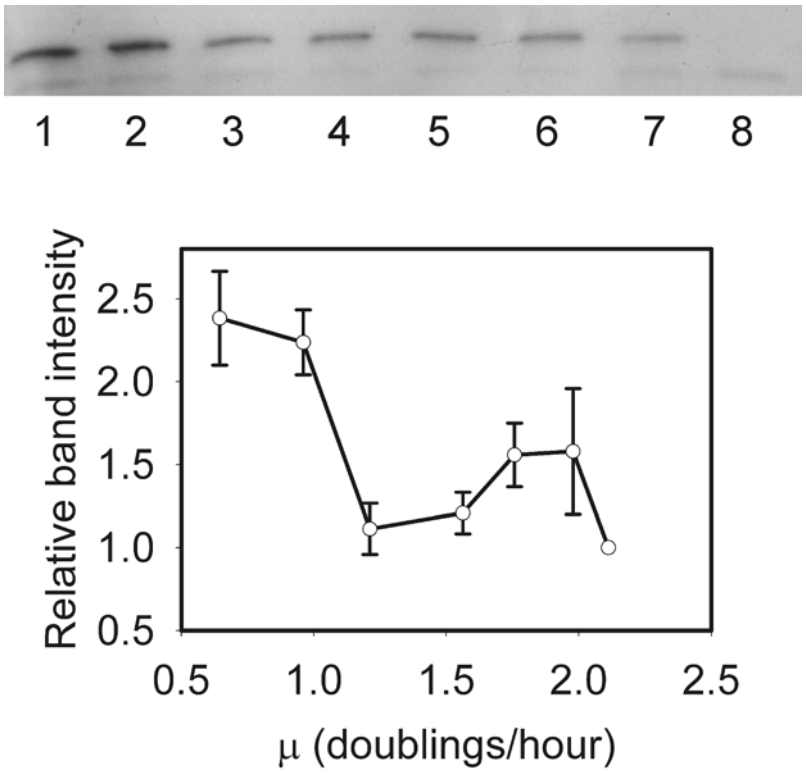
Supplementary Figure 3. Effect of exogenously added cAMP on GRDC of P_{guaB}. Data from Figure 6B and 6D are replotted to show relative promoter activities. The β-galactosidase activity specified by each promoter was normalized to the β-galactosidase activity corresponding to a growth rate of one doubling per hour. The β-galactosidase activity specified by each promoter (in Miller units) at a growth rate of one doubling per hour was as follows: P_{guaB} (-133 to +36)/Δ*cyaA* + cAMP, 1537; P_{guaB} (-133 to +36, G-122C)/Δ*cyaA* +cAMP, 4617.

Supplementary Figure 4. Growth rate-dependent control of the *guaB* promoter. A strain harbouring a fusion of the wild type *guaB* promoter (P_{guaB} (-133 to +36)) to *lacZ* was grown at different cellular growth rates in M9 minimal salts medium supplemented with the carbon sources listed in the accompanying table, whereupon the β-galactosidase activity was determined (expressed as Miller units). Each data point represents the mean promoter activity and mean growth rate, and was calculated using data obtained from at least three independent experiments. Media highlighted in the same colour supports a similar growth rate and similar P_{guaB} activity.

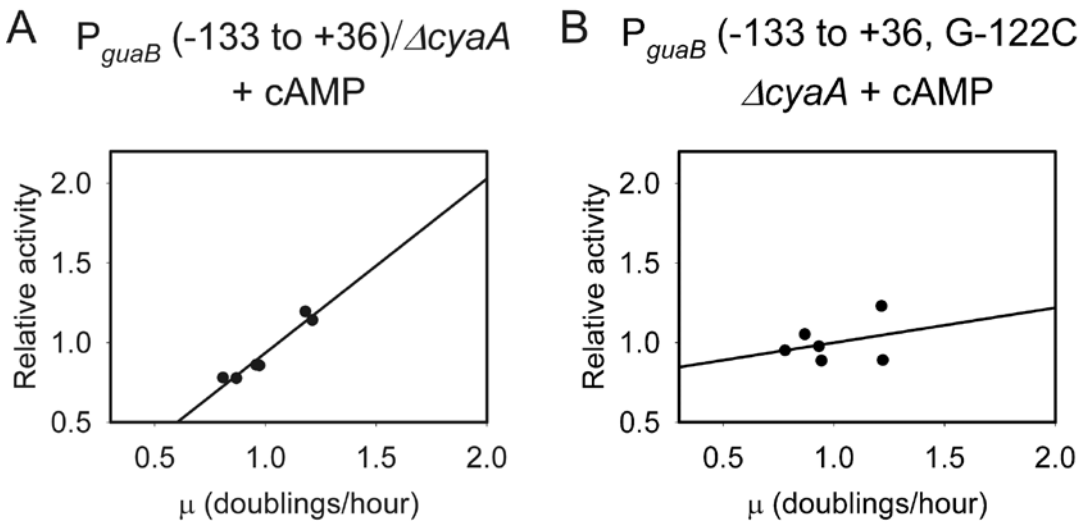
Supplementary Figure 1



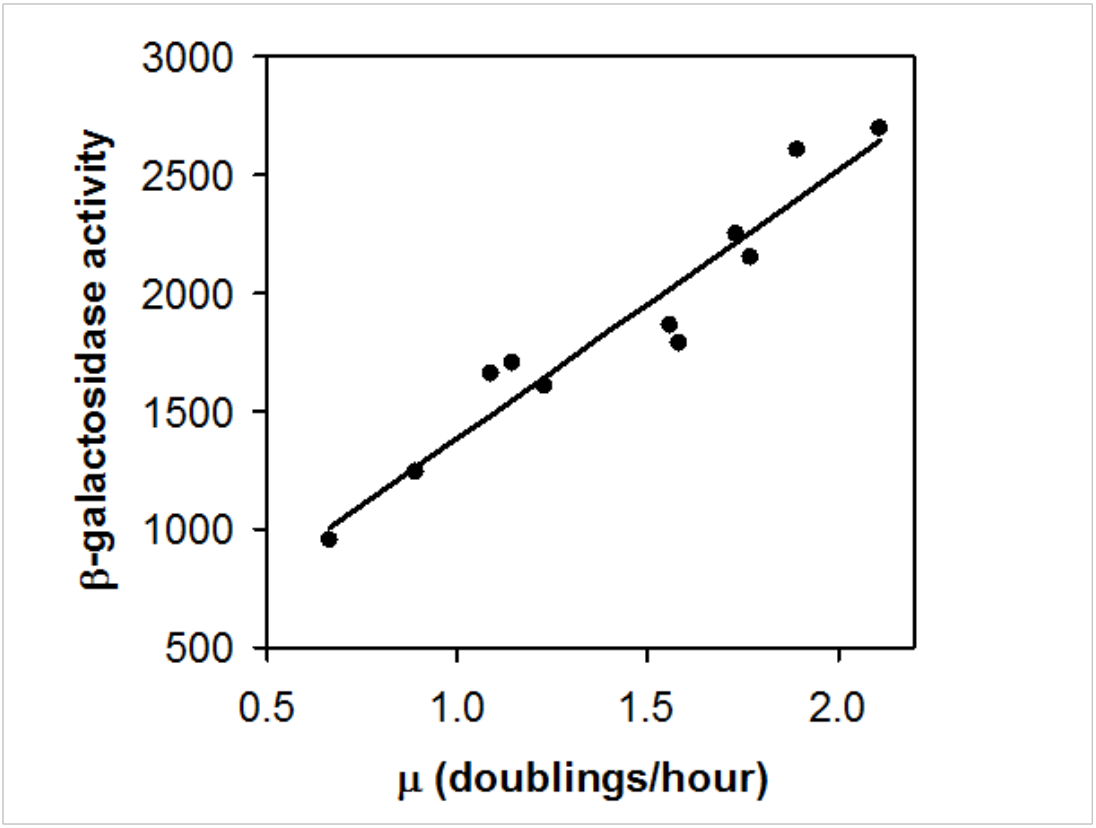
Supplementary Figure 2



Supplementary Figure 3



Supplementary Figure 4



Medium	doublings/hour	β-gal activity
glycerol	0.66	951.35
fructose	0.89	1242.23
succinate + 20 amino acids	1.09	1661.10
glucose	1.15	1707.78
glycerol + 20 amino acids	1.23	1608.60
fructose + 20 amino acids	1.56	1861.07
glycerol + 1% casamino acids	1.58	1789.46
fructose + 1% casamino acids	1.73	2250.17
glycerol + 2% casamino acids	1.77	2151.64
glucose + 20 amino acids	1.89	2603.39
glucose + 0.8% casamino acids	2.11	2696.15

Supplementary TABLE 1. Oligonucleotide primers used for promoter construction

Primer	Sequence (5' to 3')[a]	Promoter constructed[b]
Forward primer		
P_{guaB} -253	gcgcGAATTCAGCTGGTTGCGTGAAATTAGA	P_{guaB} (-253 to +36)
		P_{guaB} (-253 to +10)
P_{guaB} -133	gcgcGAATTCAGGTAACATGTGAGCGAG	P_{guaB} (-133 to +36)
P_{guaB} -133G7C	gcgcGAATTCAGGTAACATGTCAGCGAGATCAAATTCTAA	P_{guaB} (-133 to +36, G-122C)
P_{guaB} -133A18C	gcgcGAATTCAGGTAACATGTGAGCGAGATCACATTCTAAATCAGCAG	P_{guaB} (-133 to +36, A-111C)
P_{guaB} -117	gcgcGAATTCAGATCAAATTCTAAATCAGCAG	P_{guaB} (-117 to +36)
P_{guaB} -37	gcgcGAATTCGACTGCAGTGGTACCTAGGAATGGTAGATGCAATCGGTTACG	P_{guaB} (-37 to +36)
P_{guaB} -133CRPUP	gcgcGAATTCACATGTGAGCGAGATCAAATTCAGAGACTGTTCTAAATCAGCAGGTTA	P_{guaB} (CRP -128.5)
P_{guaB} -133CRPDN	gcgcGAATTCAGGTAACAGACTGGCGACATGTGAGCGAGATCAAATTCGTTATTCAGTCGATA GTA	P_{guaB} (CRP -106.5)
Reverse primer		
P_{guaB} +10	gcgcAAGCTTTAAATATTGCCGCGGCATTATA	P_{guaB} (253 to +10)
P_{guaB} +36	gcgcAAGCTTGGCAATATCTCGACCAGAG	All remaining constructs with endpoints at +36.

[a]Restriction sites for *Eco*RI and *Hin*dIII are underlined. Oligonucleotides also contain a GC clamp immediately preceding a restriction site at the 5' end (shown in lower case).

[b]Refer to Table 1 for information about promoters used in this work.