

## Supplemental Information

### Supplemental Table 1

*S. cerevisiae* strains and plasmids used in this study.

### Supplemental Figure 1

Nucleosome removal from the *PHO5* promoter does not require *ASF1*. Topoisomer analysis of repressed (R) and activated (A) *PHO5* gene circles (GC) in *asf1Δ* cells. The distribution shown is one of four measurements that have an average  $\Delta Lk$  value of 1.81 with a standard deviation of 0.25.

## Supplemental Table 1

*S. cerevisiae* strains and plasmids used in this study.

Strain	Parental Strain	Plasmid/ PCR	Relevant genotype	Source
YS18			WT	Hörz Lab
yM7.8	YS18	pM67.6	<i>pho80::HIS3</i>	Boeger et al., 2003
yM19.2	yM17.3	pM70.1	<i>pho80::HIS3, PHO5[GC, &lt;TATA&gt;]</i>	Boeger et al., 2003
yM51.1	YS18	pM78.5	<i>pho8::URA3</i>	This study
yM52.2	yM7.8	pM78.5	<i>pho80::HIS3, pho8::URA3</i>	This study
yM53.78	yM51.1	pM82.1	<i>PHO8[GC, &lt;TATA&gt;]</i>	This study
yM54.9	yM52.2	pM82.1	<i>pho80::HIS3, PHO8[GC, &lt;TATA&gt;]</i>	This study
yM59.20	yM53.78	PCR	<i>PHO8[GC, &lt;TATA&gt;], pho4::URA3</i>	This study
yM63.19	yM19.2	pCM4.5	<i>pho80::HIS3, PHO5[GC, &lt;TATA&gt;], pho4::URA3</i>	Mao et al., 2010
yM67.17	yM63.19	pCM5.2	<i>pho80::HIS3, PHO5[GC, &lt;TATA&gt;], pho4-Δ75-99</i>	Mao et al., 2010
yM68.19	yM63.19	pCM6.3	<i>pho80::HIS3, PHO5[GC, &lt;TATA&gt;], pho4-Δ79-90</i>	Mao et al., 2010
yM79.8	yM63.19	pCM39.1	<i>pho80::HIS3, PHO5[GC, &lt;TATA&gt;], pho4-Δ78A</i>	Mao et al., 2010
yM83.5	yM63.19	pCM72.1	<i>pho80::HIS3, PHO5[GC, &lt;TATA&gt;], pho4-Δ76-90</i>	Mao et al., 2010
yM86.1	yM63.19	pCM58.2	<i>pho80::HIS3, PHO5[GC, &lt;TATA&gt;], pho4-Δ79-93</i>	Mao et al., 2010
yM88.1	yM63.19	pCM60.1	<i>pho80::HIS3, PHO5[GC, &lt;TATA&gt;], pho4-Δ82-99</i>	Mao et al., 2010
yM89.1	yM63.19	pCM61.5	<i>pho80::HIS3, PHO5[GC, &lt;TATA&gt;], pho4-Δ85-99</i>	Mao et al., 2010
yM96.1	yM63.19	pCM57.1	<i>pho80::HIS3, PHO5[GC, &lt;TATA&gt;], pho4-Δ79-86</i>	Mao et al., 2010
yM120.2	yM54.9	pCM4.5	<i>pho80::HIS3, PHO8[GC, &lt;TATA&gt;], pho4::URA3</i>	This study
yM121.1	yM120.2	pCM39.1	<i>pho80::HIS3, PHO8[GC, &lt;TATA&gt;], pho4-Δ78A</i>	This study
yM122.2	yM120.2	pCM57.1	<i>pho80::HIS3, PHO8[GC, &lt;TATA&gt;], pho4-Δ79-86</i>	This study
yM123.1	yM120.2	pCM61.5	<i>pho80::HIS3, PHO8[GC, &lt;TATA&gt;], pho4-Δ85-99</i>	This study
yM124.8	yM120.2	pCM72.1	<i>pho80::HIS3, PHO8[GC, &lt;TATA&gt;], pho4-Δ76-90</i>	This study
yM125.1	yM120.2	pCM5.2	<i>pho80::HIS3, PHO8[GC, &lt;TATA&gt;], pho4-Δ75-99</i>	This study
yM126.1	yM120.2	pCM58.2	<i>pho80::HIS3, PHO8[GC, &lt;TATA&gt;], pho4-Δ79-93</i>	This study
yM127.1	yM120.2	pCM60.1	<i>pho80::HIS3, PHO8[GC, &lt;TATA&gt;], pho4-Δ82-99</i>	This study
yM129.10	yM120.2	pCM6.3	<i>pho80::HIS3, PHO8[GC, &lt;TATA&gt;], pho4-Δ79-90</i>	This study
CBY11.4	yM53.78	PCR	<i>PHO8[GC, &lt;TATA&gt;], asf1::KanMX</i>	This study
CBY12.1	yM54.9	PCR	<i>pho80::HIS3, PHO8[GC, &lt;TATA&gt;], asf1::KanMX</i>	This study
CBY14.5	yM53.78	PCR	<i>PHO8[GC, &lt;TATA&gt;], snf2::KanMX</i>	This study
CBY15.5	yM54.9	PCR	<i>pho80::HIS3, PHO8[GC, &lt;TATA&gt;], snf2::KanMX</i>	This study
CBY16.1	yM59.20	PCR	<i>PHO8[GC, &lt;TATA&gt;], pho4::URA3, snf2::KanMX</i>	This study
yE21.3	yE1.1	pM51.1	<i>MATa, pho5::URA3, pho80::LEU2</i>	Mao et al., 2010
yE22.1	yE2.1	pM51.1	<i>MATa, pho5::URA3, pho80::LEU2</i>	This study
yC44.1	yM19.2	PCR	<i>pho80::HIS3, PHO5[GC, &lt;TATA&gt;], snf2::KanMX</i>	This study
yC45.3	yM63.19	PCR	<i>pho80::HIS3, PHO5[GC, &lt;TATA&gt;], pho4::URA3, snf2::KanMX</i>	This study
yC56.11	yE21.3	pM67.6	<i>MATa, pho5::URA3, pho80::HIS3</i>	Mao et al., 2010
yC57.10	yE22.1	pM67.6	<i>MATa, pho5::URA3, pho80::HIS3</i>	This study
yC58.8	yC56.11	pM70.1	<i>pho80::HIS3, PHO5[GC, &lt;TATA&gt;]</i>	Mao et al., 2010
yC59.11	yC57.10	pM70.1	<i>pho80::HIS3, PHO5[GC, &lt;TATA&gt;]</i>	This study
yC72.1	yC58.8	pCM90.1	<i>pho80::HIS3, PHO5[GC, &lt;TATA&gt;], pho4::URA3</i>	Mao et al., 2010
yC87.2	yC59.11	pCM90.1	<i>pho80::HIS3, PHO5[GC, &lt;TATA&gt;], pho4::URA3</i>	This study
yC117.1	yC58.8	PCR	<i>pho80::HIS3, PHO5[GC, &lt;TATA&gt;], asf1::KanMX</i>	This study
yC118.1	yC59.11	PCR	<i>pho80::HIS3, PHO5[GC, &lt;TATA&gt;], asf1::KanMX</i>	This study
yC119.1	yC72.1	PCR	<i>pho80::HIS3, PHO5[GC, &lt;TATA&gt;], pho4::URA3, asf1::KanMX</i>	This study
yC120.1	yC87.2	PCR	<i>pho80::HIS3, PHO5[GC, &lt;TATA&gt;], pho4::URA3, asf1::KanMX</i>	This study
yC104.34	yM52.2	pCM110.1	<i>pho80::HIS3, PHO8[PC, &lt;TATA&gt;]</i>	This study
yC192.1	yC104.34	pCM4.5	<i>pho80::HIS3, PHO8[PC, &lt;TATA&gt;], pho4::URA3</i>	This study
yJL4.4	yC57.10	pM50.1	<i>MATa, pho80::HIS3</i>	This study
yJL5.7	yC56.11	pM50.1	<i>MATa, pho80::HIS3</i>	This study
yJL6.4	yJL4.4	pM78.5	<i>MATa, pho80::HIS3, pho8::URA3</i>	This study
yJL7.4	yJL5.7	pM78.5	<i>MATa, pho80::HIS3, pho8::URA3</i>	This study
yJL8.1	yJL6.4	pJL2.2	<i>MATa, pho80::HIS3, PHO8p:CFP</i>	This study
yJL9.1	yJL7.4	pJL3.4	<i>MATa, pho80::HIS3, PHO8p:YFP</i>	This study
yJL10.1	yJL8.1 x yJL9.1	Diploid	<i>MATa/MATa, pho80::HIS3/pho80::HIS3, PHO8p:CFP/PHO8p:YFP</i>	This study
yJL12.1	yJL9.1	pCM4.5	<i>MATa, pho80::HIS3, PHO8p:YFP, pho4::URA3</i>	This study
yE1.1	EY1655	pCM43.12	<i>PHO5p:YFP-HIS3, pho80::LEU2</i>	Mao et al., 2010
yE3.1	yE1.1	pCM4.5	<i>PHO5p:YFP-HIS3, pho80::LEU2, pho4::URA3</i>	Mao et al., 2010

# Supplemental Figure 1

