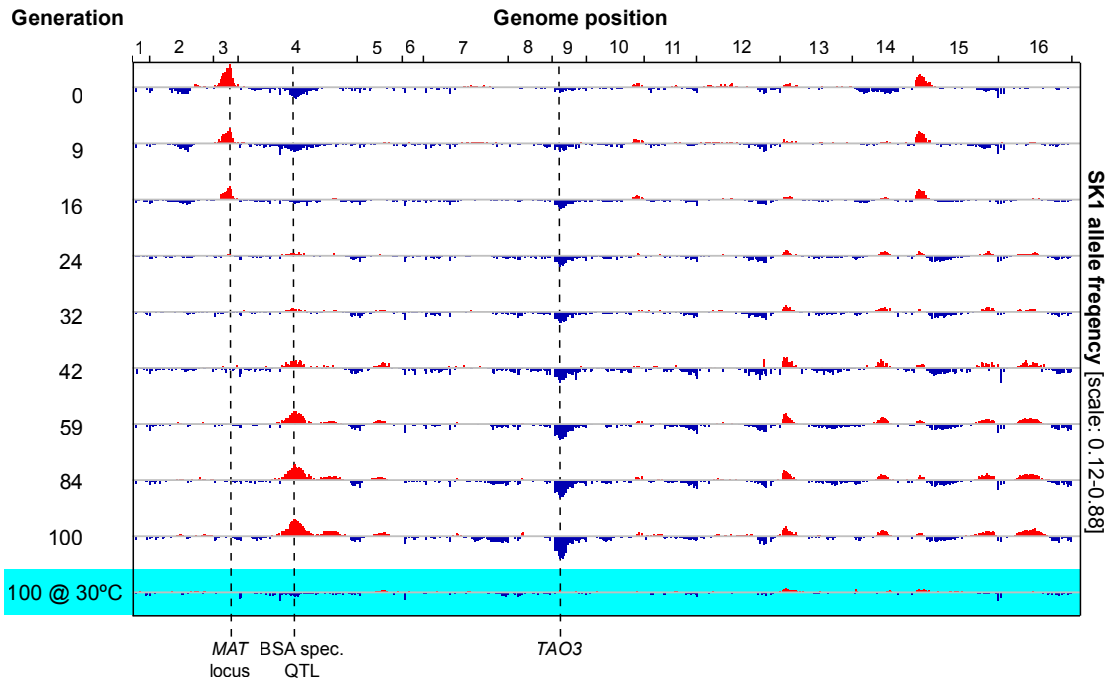

Figure S10: **Time course of high temperature QTLs in BSA.** To obtain a profile of the progression of allele enrichment, we sequenced samples of the BSA pool at nine different time points under high temperature (38°C) condition. BSA samples with red amplitude corresponding to enrichment of the SK1 allele and blue to the S96 allele. A time-dependent decrease of an initially strong SK1 allele enrichment on chr 3 to 50% allele frequency was observed between generation 16 and 24. This QTL on chr 3 corresponds to the *MATa* locus used for the initial selection of haploid progeny for BSA. The loss of this loci was confirmed to be due to a switch from a haploid to diploid population over time. Very little selection was observed in the control pool (30ºC) after 100 generations (bottom line with light blue background) and a loss of *MATa* peak on chr 3 was observed as well. The QTL on chr 4 is specific to BSA while the QTL on chr 9 is the major ISA QTL and includes the *TAO3* gene.

References

Granek JA, Magwene PM. 2010. Environmental and Genetic Determinants of Colony Morphology in Yeast. *PLoS Genet* **6**(1): e1000823.