Random chromosome partitioning in the polyploid bacterium

***Thermus thermophilus* HB27**

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Supplementary data

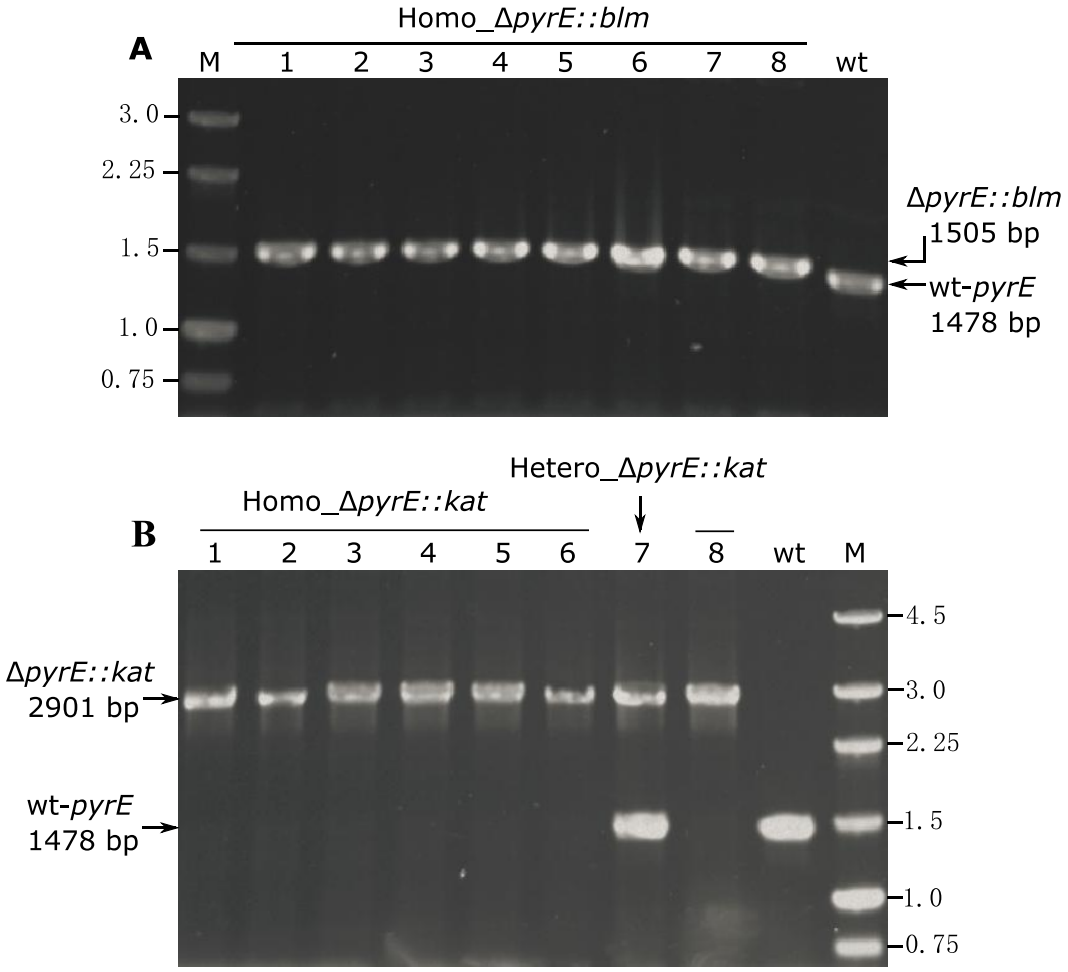

Figure S1 Generation of homozygous Δ*pyrE::blm* (A) and Δ*pyrE::kat* (B) mutants. The allele exchange vectors pJ-Δ*pyrE::blm* and pCT3FK-2 were linearized, and transformed into *T. thermophilus* HB27 respectively. For each transformation, eight colonies were randomly selected, and PCR was used to determine the homozygous mutant in which the wild-type *pyrE* gene was completely replaced by *blm* or *kat* allele.

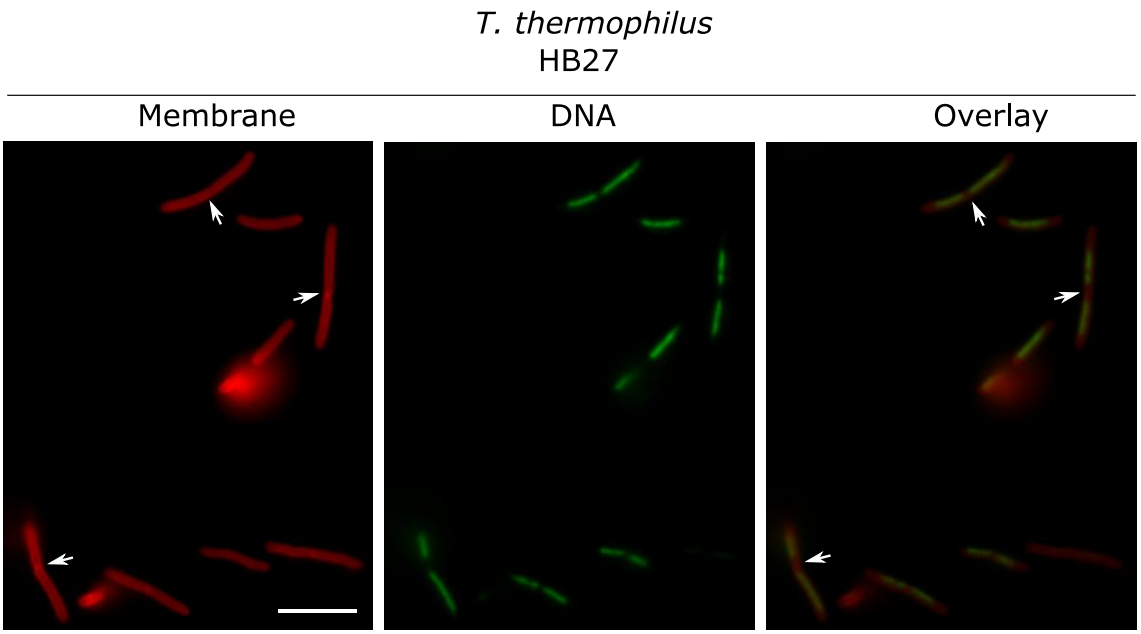

Figure S2 Representative image of dividing *T. thermophilus* HB27 cells in which septa are not formed at mid-cell positions. Septa are pointed with white arrows, bar, 5 μm.

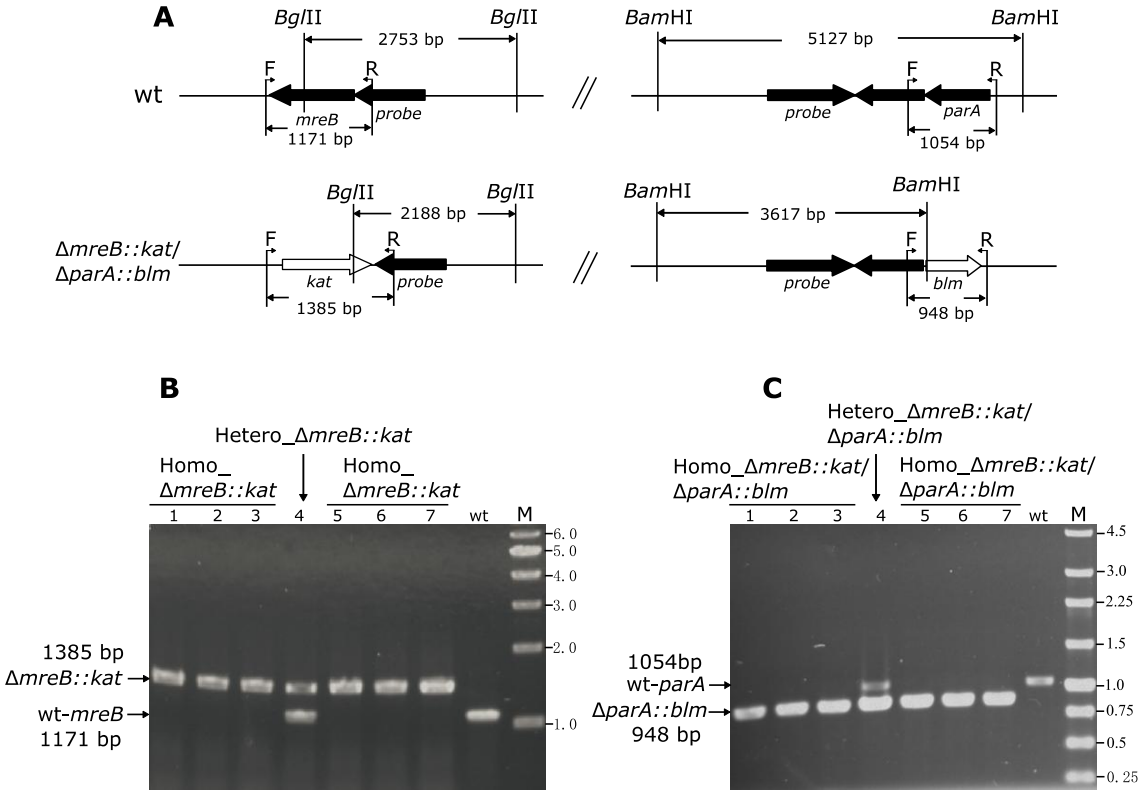

Figure S3 Generation of homozygous single gene deletion mutant Δ*mreB::kat* (B) and double gene deletion

mutant Δ*mreB::kat*/Δ*parA::blm* (C). (A) Schematic drawings of the genotypes of the wild-type and mutant *mreB* and *parA* gene loci, respectively. Primers used for PCR detection of the mutant are shown with F and R. (B) The allele exchange vector pUC-Δ*mreB::kat* was linearized, and transformed into *T. thermophilus* HB27 followed by selection on agar plates supplemented with kanamycin. Seven transformants were randomly selected and PCR was used to determine the homozygous Δ*mreB::kat* deletion mutants (primers flanking *mreB*). (C) pUC-Δ*parA::blm* was sequentially transformed into the correct Δ*mreB::kat* strain, and the homozygous double gene deletion mutant Δ*mreB::kat*/Δ*parA::blm* was determined by PCR using primers flanking the *parA* gene.

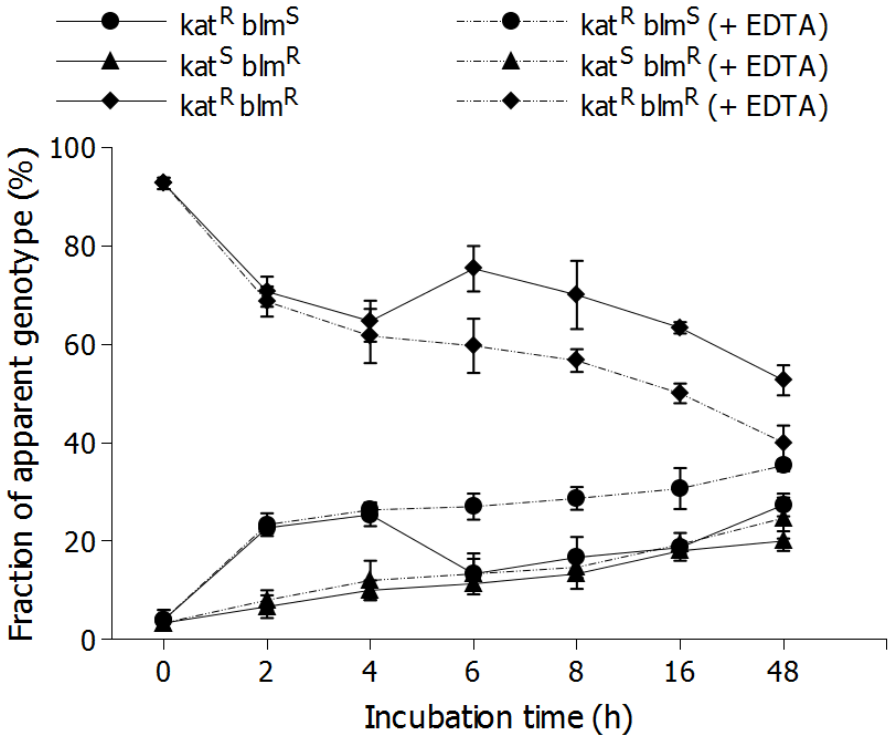

Figure S4 The allele segregation kinetics of the heterozygous strain HL01 grown in selection-free liquid medium with and without addition of EDTA. The preculture was grown with both antibiotics, upon washing away the antibiotics, the culture was re-inoculated into two batches of growth parallelly, and EDTA was added to one of the growth (final concentration 1mM/L). The fraction of apparent genotype was scored by spreading the culture on antibiotic-free agar plates and streaking 50 colonies from each time point on plates containing kanamycin and bleomycin, respectively. Solid lines: the apparent genotype changes in the culture without adding EDTA; dashed lines: the apparent genotype changes in the culture with addition of EDTA. Shown are mean and standard deviation from three independent repeats.