**Supplementary Information.** Contains Supplementary Table 1 and Supplementary Figures 1-10. PDF: 75 MB.

**Supplemental File 1.** Information on important strains and reagents used in the study. XLSX file: 12 KB.

**Supplemental File 2.**  Transposon insertion information and essentiality determinations broken down by gene. Data is from two technical replicates of the library mapping experiment. P values are calculated using a one-tailed binomial test as defined in the methods. P values are provided both before and after a Bonferroni correction. Numbers of transposon insertions seen for each gene in each replicate are also provided. CSV file: 505 KB.

**Supplemental File 3.**  Fitness effects and HCR phenotypes broken down by gene. Data is from two replicates of the competitive growth assay. CSV file: 268 KB.

**Supplemental File 4.**  FASTA file containing the genes used to generate Supplemental Figure 4a. FASTA file: 471 KB.

**Supplemental File 5.**  FASTA file containing the genes used to generate figure 5a. FASTA File: 886 KB.