



Figure S2. Estimate of θ_s from minor allele counts (*Escherichia coli* data shown). X-axis denotes the minor allele count (observed number of strains that have the allele). Formula used to calculate θ_s is derived from equations 6-8 of Fu (1995). Horizontal gray line indicates the average of θ_s across all allele frequencies excluding unique alleles (minor allele count of 1) and is closely related to Watterson's theta (See Supplemental Materials – Calculation of θ_s). Shaded region indicates one standard deviation from the mean of all points except for unique alleles.