



Figure S2: Pairwise cosine distance between 200 SVMs trained on cross-population data (matrices of the XP-SFS scaled to 8×8 frequency bins, and vectorized). The data was simulated under different selection pressures $s \in [0.005, 0.08]$, and sampled at different times under selection $\tau \in [0, 4000]$ generations. Selection pressure boundaries are denoted by black lines, and mean time to fixation for each pressure is denoted by dashed blue lines. We observe two main similarity blocks at each selection pressure, corresponding to "near fixation" and "post-fixation" of the beneficial allele. The stronger the selection pressure (e.g., bottom right) the earlier and shorter the near-fixation stage, and vice versa.