



FIG. S3 **Lineage dynamics data and simulations for  $s_0 = 7.3\%$ .** Each panel shows the trajectories of seeded lineages with initial fitness  $s_0 = 7.3\%$  as observed in the experiment (top left) and as reproduced by simulations assuming the DFE parameters indicated above each panel (which are also the ones indicated by the star, triangle and square in Fig. 4).