



**Figure S3:** The upper bound on the probability of no sharing. Simulation results (symbols) are plotted for the fraction of pairs in the Wright-Fisher population that did not share even a single segment of length  $\geq m$ . Lines correspond to the theoretical upper bound, Eq. S33. (A) The probability of no sharing vs. the population size  $N$  (cf. Figure 2A in the main text). (B) The probability of no sharing vs. the chromosome size  $L$  (Figure 2C in the main text).