

**Table S5** The mean absorption time under the QLE approximation relative to the one without linkage.

$r$	$m$	$N_e = 100$				$N_e = 10^3$				$N_e = 10^4$			
		$q_c = 0$	$q_c = 0.2$	$q_c = 0.5$	$q_c = 0.8$	$q_c = 0$	$q_c = 0.2$	$q_c = 0.5$	$q_c = 0.8$	$q_c = 0$	$q_c = 0.2$	$q_c = 0.5$	$q_c = 0.8$
0.05	0.006	3.887	2.738	1.763	1.228	$1.377 \times 10^6$	$4.280 \times 10^4$	$468.965$	$9.837$	$1.037 \times 10^{181}$	$1.033 \times 10^{166}$	$3.122 \times 10^{146}$	$5.560 \times 10^{129}$
0.05	0.012	2.563	1.897	1.386	1.116	$3.898 \times 10^{10}$	$7.261 \times 10^8$	$8.047 \times 10^6$	$2.895 \times 10^5$	$3.186 \times 10^{94}$	$1.105 \times 10^{77}$	$1.511 \times 10^{57}$	$2.154 \times 10^{42}$
0.05	0.018	1.679	1.407	1.187	1.059	$2.092 \times 10^4$	$1.212 \times 10^3$	$118.033$	$46.914$	$5.463 \times 10^{38}$	$3.218 \times 10^{25}$	$1.172 \times 10^{13}$	$1.268 \times 10^6$
0.05	0.024	1.335	1.224	1.111	1.037	246.649	150.044	111.839	97.857	NA	NA	NA	NA
0.10	0.006	2.183	1.815	1.418	1.140	$4.032 \times 10^3$	608.988	45.294	4.288	$6.045 \times 10^{155}$	$4.043 \times 10^{147}$	$2.273 \times 10^{136}$	$1.374 \times 10^{126}$
0.10	0.012	1.580	1.403	1.209	1.071	$5.262 \times 10^7$	$9.268 \times 10^6$	$9.804 \times 10^5$	$1.497 \times 10^5$	$2.960 \times 10^{65}$	$6.234 \times 10^{57}$	$6.338 \times 10^{47}$	$2.248 \times 10^{39}$
0.10	0.018	1.256	1.189	1.104	1.037	224.875	118.051	60.712	41.759	$7.771 \times 10^{16}$	$1.157 \times 10^{13}$	$2.039 \times 10^8$	$1.085 \times 10^3$
0.10	0.024	1.131	1.109	1.064	1.024	116.181	111.037	102.175	95.712	NA	NA	NA	NA
0.20	0.006	1.519	1.386	1.218	1.079	91.941	34.912	8.699	2.325	$2.582 \times 10^{139}$	$1.660 \times 10^{135}$	$1.588 \times 10^{129}$	$3.019 \times 10^{123}$
0.20	0.012	1.247	1.188	1.108	1.040	$1.550 \times 10^6$	$7.361 \times 10^5$	$2.525 \times 10^5$	$9.391 \times 10^4$	$6.923 \times 10^{49}$	$3.274 \times 10^{45}$	$5.148 \times 10^{41}$	$1.717 \times 10^{37}$
0.20	0.018	1.112	1.091	1.055	1.021	63.566	55.483	45.480	38.849	$4.712 \times 10^8$	$3.624 \times 10^7$	$6.508 \times 10^5$	$2.380 \times 10^4$
0.20	0.024	1.059	1.054	1.035	1.014	101.157	100.356	97.307	94.249	NA	NA	NA	NA

Tabulated is the ratio  $\bar{t}_{\text{QLE}}/\bar{t}_{\text{OLM}}$ . The initial frequency of the focal mutant  $A_1$  is  $p_0 = 1/(2N)$  (we assumed  $N_e = N$ ). Other parameters are  $a = 0.02$  and  $b = 0.04$ . NA denotes cases where  $\bar{t}_{\text{OLM}}$  is numerically indistinguishable from 0 and hence the ratio  $\bar{t}_{\text{QLE}}/\bar{t}_{\text{OLM}}$  not defined.