

**Table S4. Change of mutation configuration.**

**A Mutation:**

site \ <i>h</i>	000	001	010	100	011	101	110	111
1	100	101	110	000	111	001	010	011
2	010	011	000	110	001	111	100	101
3	001	000	011	101	010	100	111	110

**B Recombination:**

<i>h1</i> \ <i>h2</i>	000	001	010	100	011	101	110	111
000		001 / 000 001 / 000	010 / 000 000 / 010	000 / 100 000 / 100	011 / 000 001 / 010	001 / 100 001 / 100	010 / 100 000 / 110	011 / 100 001 / 110
001			010 / 001 000 / 011	000 / 101 000 / 101	011 / 001 001 / 011	001 / 101 001 / 101	010 / 101 000 / 111	011 / 101 001 / 111
010				000 / 110 010 / 100	011 / 010 011 / 010	001 / 110 011 / 100	010 / 110 010 / 110	011 / 110 011 / 110
100					111 / 000 101 / 010	101 / 100 101 / 100	110 / 100 100 / 110	111 / 100 101 / 110
011						001 / 111 011 / 101	010 / 111 010 / 111	011 / 111 011 / 111
101							110 / 101 100 / 111	111 / 101 101 / 111
110								111 / 110 111 / 110

(A) Mutation configuration outcomes for all possible initial configurations *h* of the mutating haplotype (columns) if a mutation occurs at one of the three adaptive sites (rows). White cells denote mutation events that decrease resistance. Gray cells are events that potentially increase resistance. (B) Mutation configuration outcomes for all possible combinations of two recombining haplotypes *h1*, *h2*. The upper line of each cell specifies the mutation configurations of the two resulting haplotypes if the recombination breakpoint lies between sites one and two, lower lines specify the outcome for recombination breakpoints between sites two and three. Notice that recombinations between haplotypes with equal mutation configuration, and events where the recombination breakpoint does not lie between sites one and three, cannot give rise to new configurations. Grey-shaded outcomes represent events where a haplotype with higher resistance than each of the two original haplotypes is generated. The matrix is symmetrical.