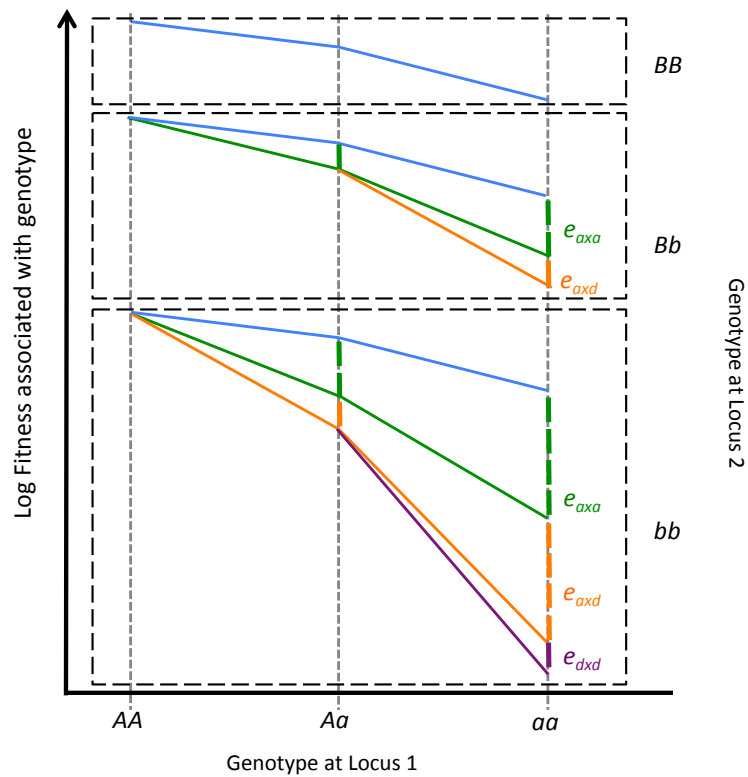
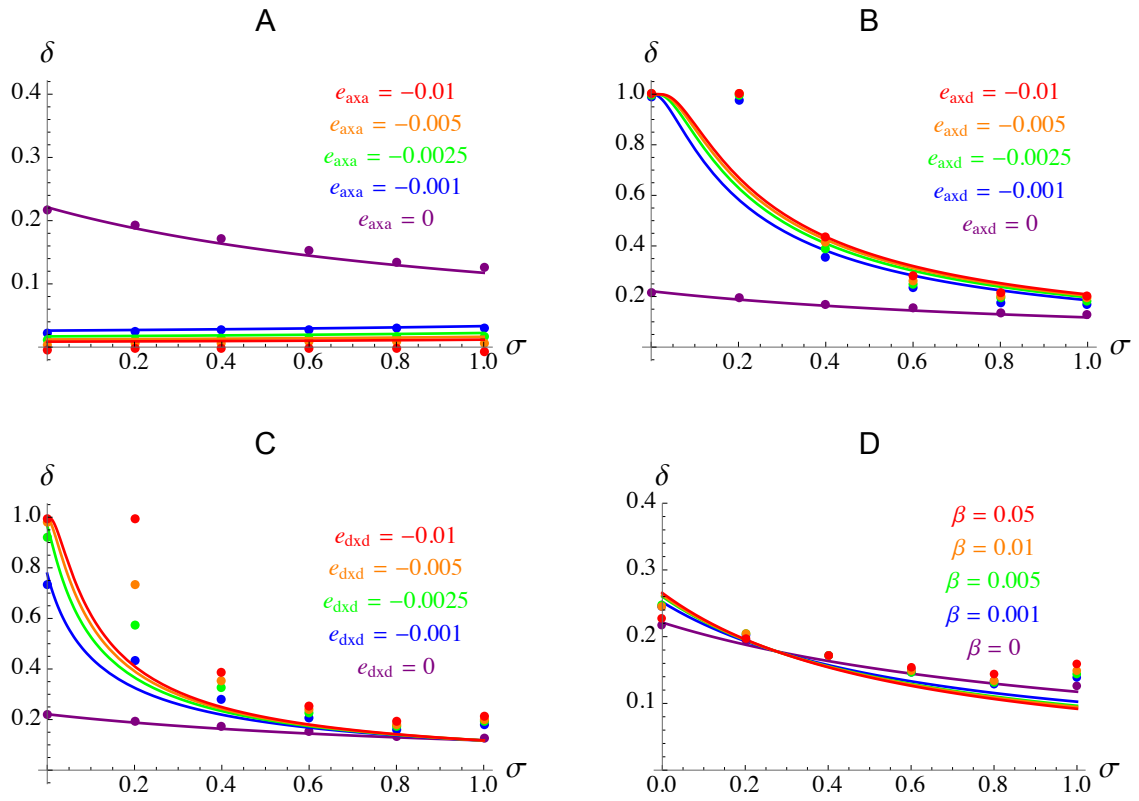


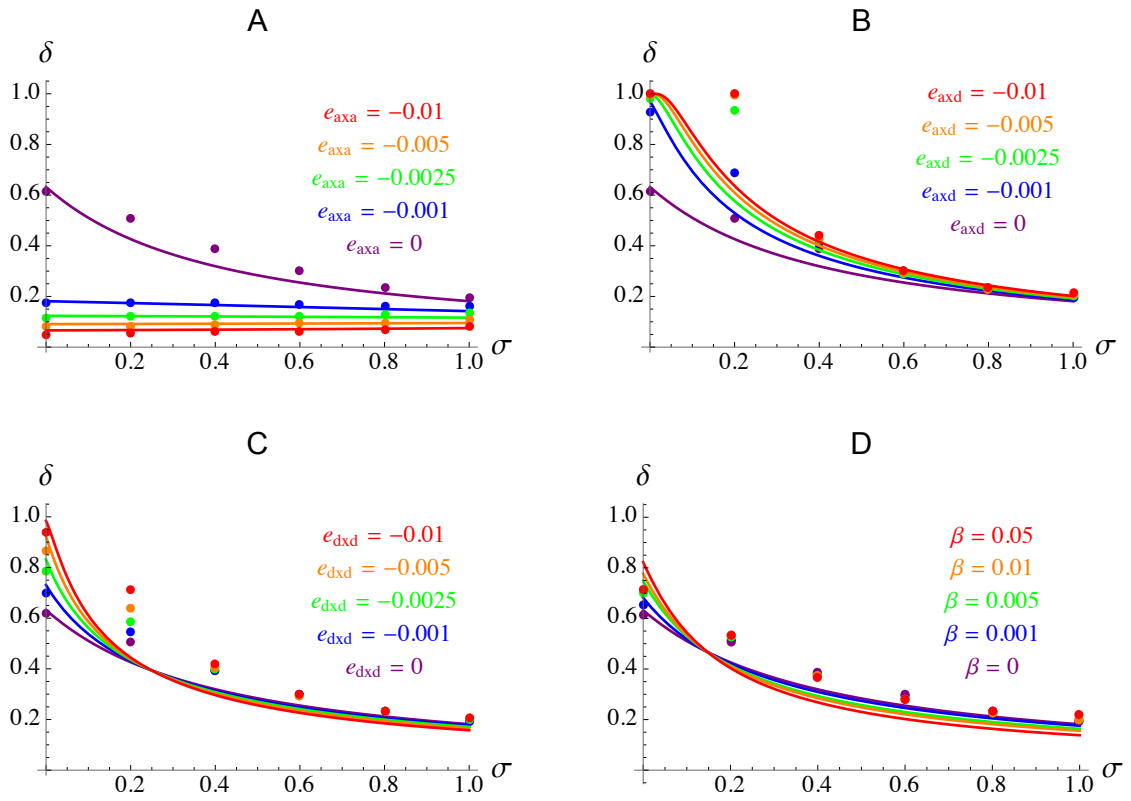
SUPPLEMENTARY FIGURES



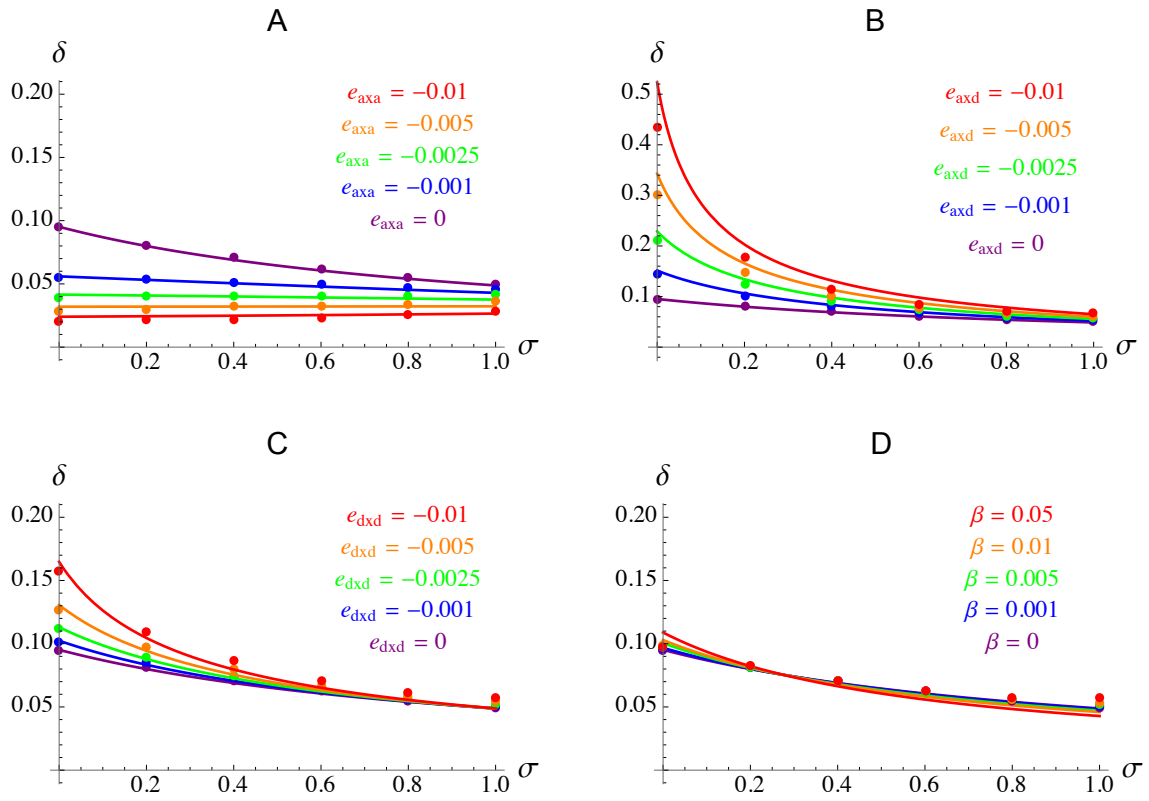
**Figure S1.** Graphical interpretation of the different components of epistasis in diploids. The  $y$ -axis shows the log-fitness of the different genotypes at two loci, where  $a$  and  $b$  are the deleterious alleles. Additive-by-additive epistasis ( $e_{axa}$ ) measures the effect of the interaction between two deleterious alleles at the two loci, additive-by-dominance epistasis ( $e_{axd}$ ) the extra effect of the interaction between three deleterious allele, and dominance-by-dominance epistasis ( $e_{dxd}$ ) the extra effect of the interaction between four deleterious alleles. Here these three forms of epistasis are negative.



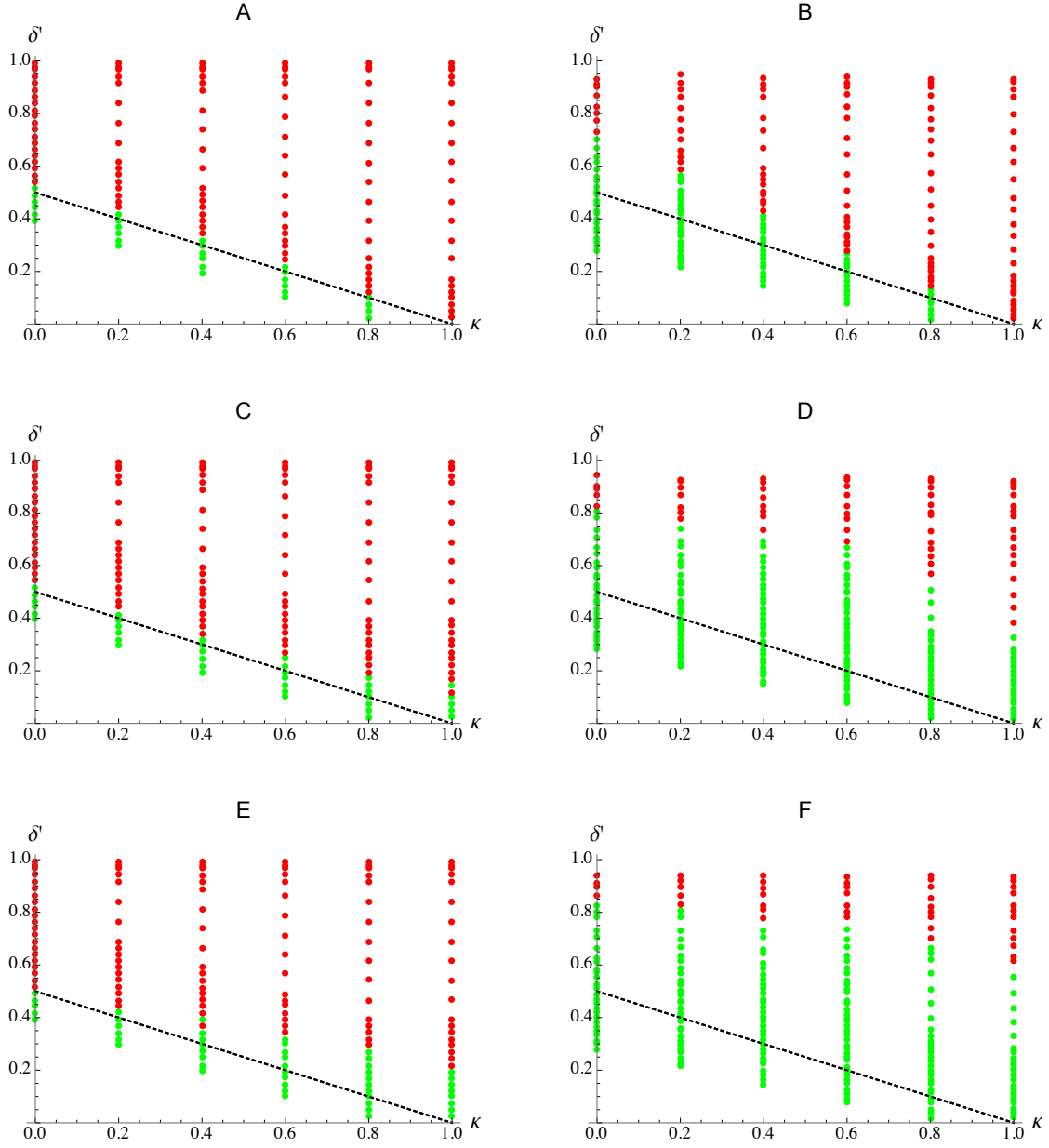
**Figure S2.** Same as Figure 1 in the main text, with  $s = 0.01$ .



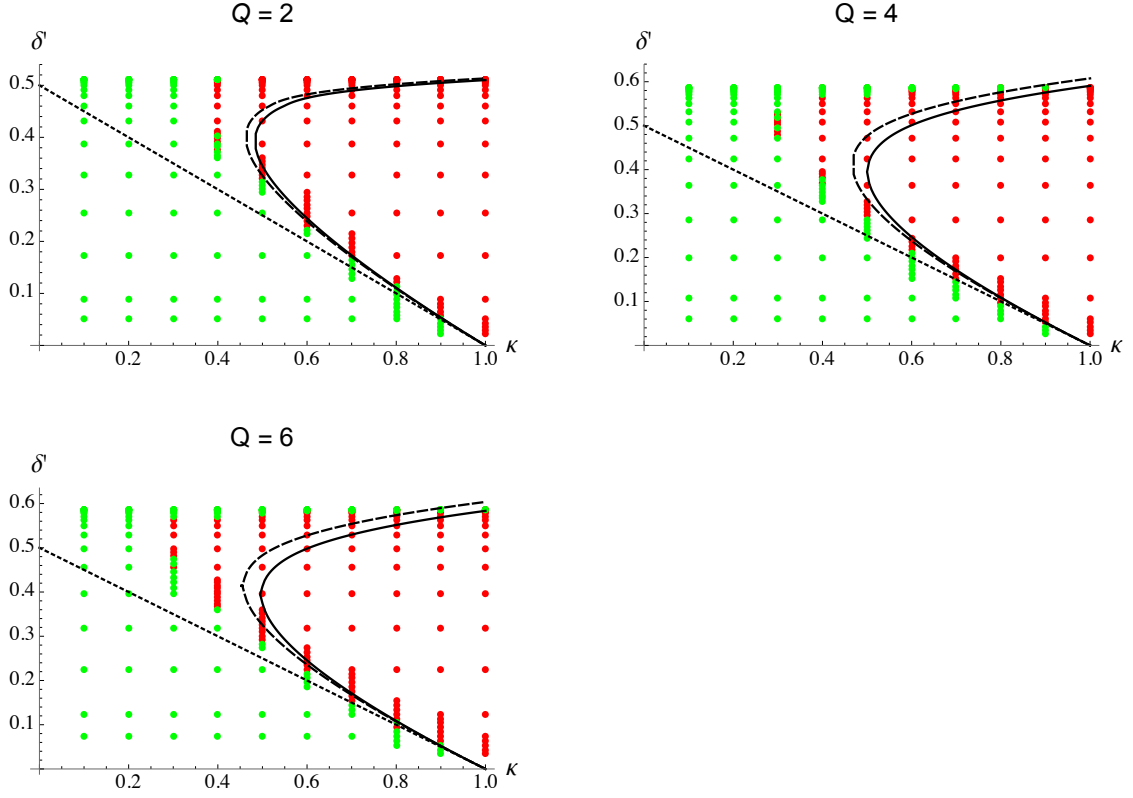
**Figure S3.** Same as Figure 1 in the main text, with  $h = 0.1$ .



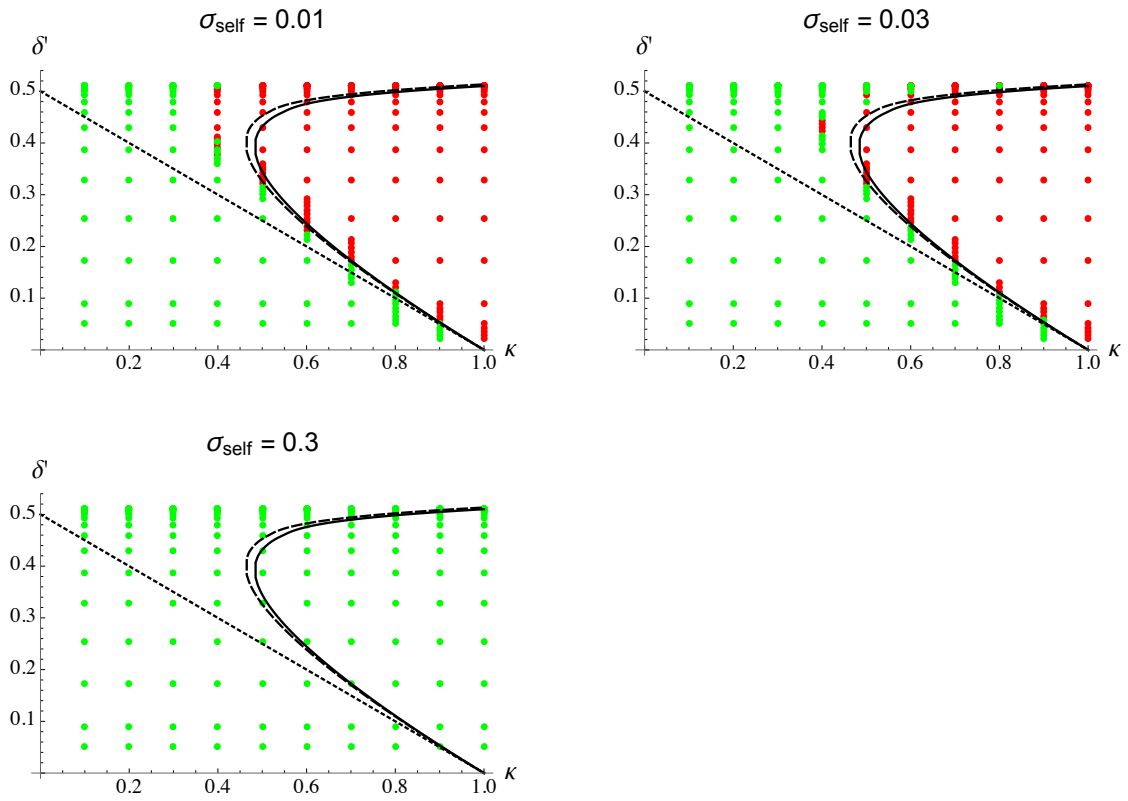
**Figure S4.** Same as Figure 1 in the main text, with  $U = 0.1$ .



**Figure S5.** A, C, E: same as Figure 4A in the main text (no epistasis), with  $\sigma_{\text{self}} = 0.03$  (A),  $\sigma_{\text{self}} = 0.3$  (C), and mutation only between  $\sigma = 0$  and  $\sigma = 1$  in E. B, D, F: same as Figure 4E in the main text ( $e_{\text{axa}}, e_{\text{axd}}, e_{\text{dxd}} < 0$ ), with  $\sigma_{\text{self}} = 0.03$  (B),  $\sigma_{\text{self}} = 0.3$  (D), and mutation only between  $\sigma = 0$  and  $\sigma = 1$  in F.



**Figure S6.** Same as Figure 5 in the main text with  $n = 15$ , for different values of the parameter  $Q$  governing the shape of the fitness peak (equation 15 in the main text). Parameter values are the same as in Figure 5, the variance of mutational effects  $a^2$  being set to  $1/75$  (so that  $\bar{\varsigma} = 0.01$  when  $Q = 2$ ) in all cases.



**Figure S7.** Same as Figure 5 in the main text with  $n = 15$ , for different values of the standard deviation of mutational effects at selfing modifier loci  $\sigma_{\text{self}}$ . Parameter values are the same as in Figure 5.