



**Figure S2** Volcano plots for each replicate. Significance computed as NLP from the Drift-Variance approximation is plotted against the allele frequency change for the major allele with higher frequency in Baseline to the right. Since the significance is calculated with respect to the initial major allele frequency, the maximum frequency change is bounded, with the consequence that very highly significant changes in frequency are more likely to occur when the allele frequency is reduced under selection. For each figure above, the significant SNPs (NLP>6) for the first replicate of each diet are colored, and the same SNPs are colored in the second replicate: the vast majority change in the same direction and many are highly significant.