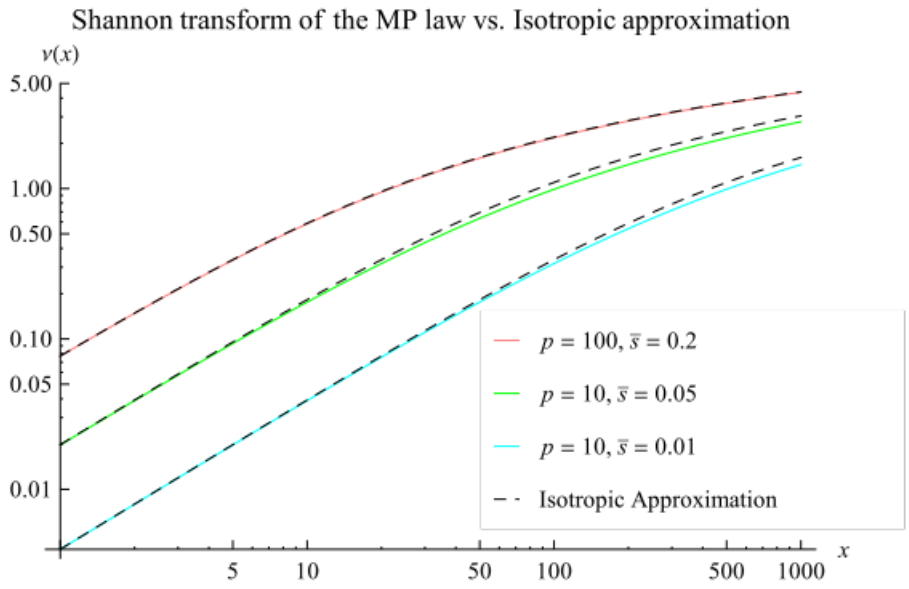

Figure S1 Convergence of the Shannon transform to the isotropic approximation

The Shannon transform of the M-P law ($v_{H.H^*}(x)$ with $\lambda_{\mathrm{H.H^*}} \sim MP(\beta, \zeta)$, see eq. A1.3) is compared to the isotropic approximation ($v(x) \approx \log(1 + \tilde{\lambda}\, x)$) where $\tilde{\lambda} = \beta\zeta = 2\bar{s}/n$ where $\bar{s} = -E(s)$ is the mean (deleterious) effect of mutations. The parameters are indicated on the graph, with $n = 5$ and recalling that $\beta = p/n$ and $\zeta = 2\bar{s}/p$. The isotropic approximation proves accurate over a wide range of parameter values.