



Figure S1. Intensity of positive selection.

The average selection coefficient ( $s$ ) of advantageous mutations can be estimated from the rate acceleration of the human 68 bp element, conditioned on the fractions of all mutations that are advantageous, neutral, and deleterious. When the advantageous fraction is more than 2.5%, the average selection coefficient is less than 0.01. Over most of the parameter space,  $s$  is less than 0.001. The red line illustrates the case in which all and only the five fixed mutations are advantageous.