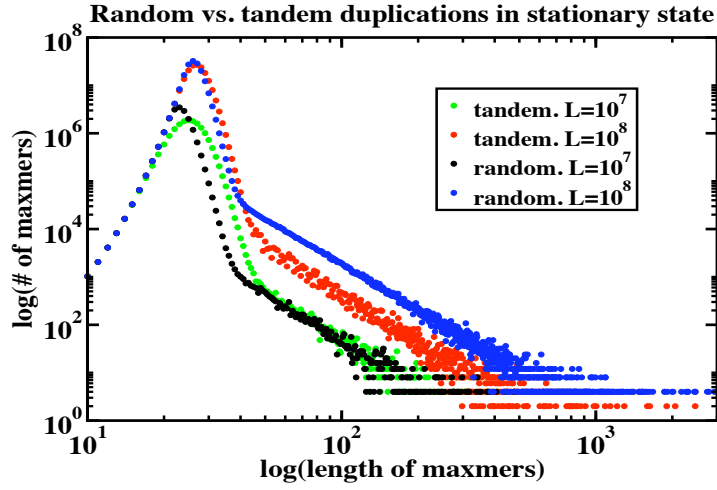
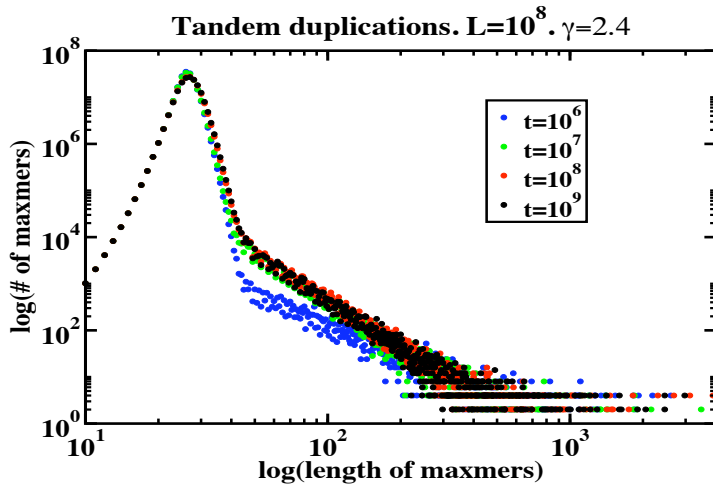


FIG. 1: Supplementary figure. Snapshots of tails of  $m$ -mer length distribution with corresponding fits for various values of  $\gamma$ . Fits obtained by maximum likelihood method assuming a power-law form.  $\gamma_{\text{eff}}$  shown on figures. All length distribution are represented in log-log scale with  $\log(\text{length of maxmers})$  on x axis and  $\log(\# \text{ of maxmers})$  on y axis.

# 1 Tandem duplications

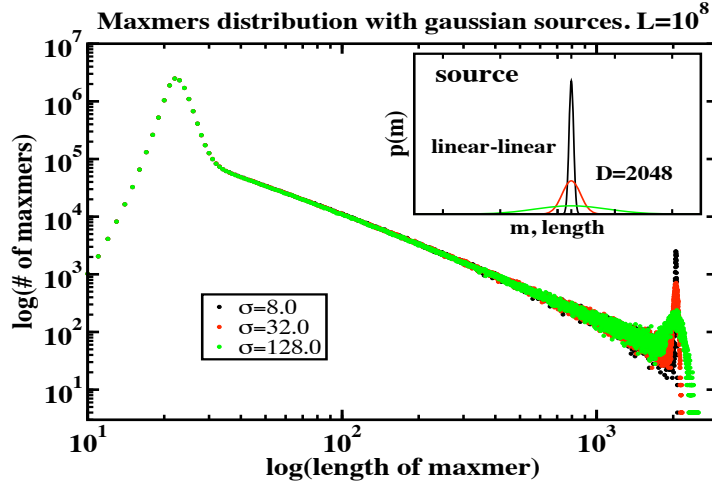


**Supplemental figure 2.** Steady-state length distributions for tandem duplications in stationary state portrayed along with random duplication model(SDD) demonstrate the same slope for the steady-state length distributions.  $\gamma = 2.4$

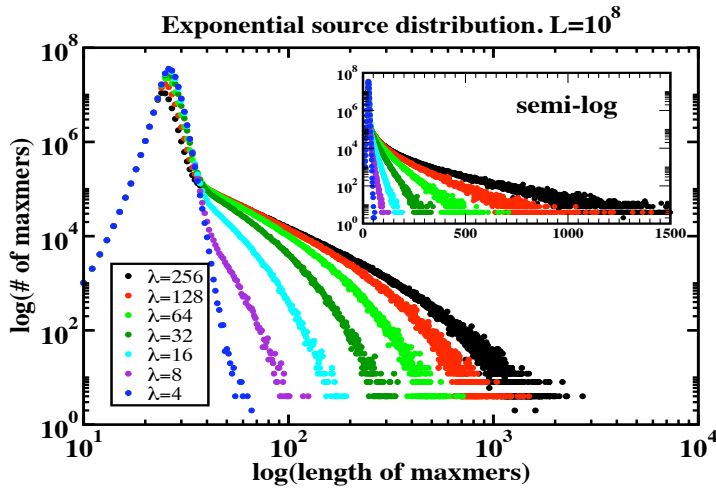


**Supplemental figure 3.** Steady-state length distributions for tandem duplications. Lengths of duplicates are chosen according to the power law with  $\gamma = 2.4$ . Progressive time indicates that the stationary state is attained for this computation.

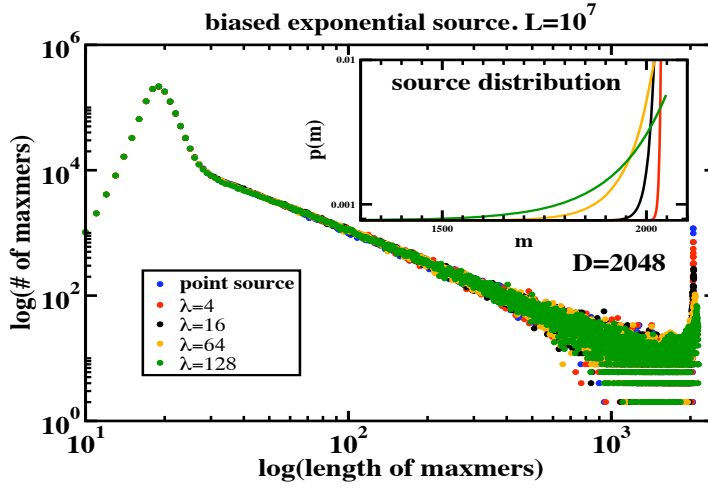
## 2 Length-distributions with different sources



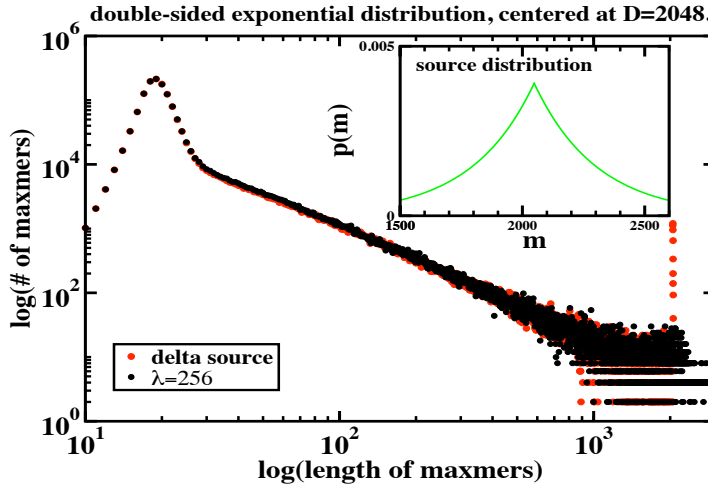
Supplemental figure 4. Steady-state length distributions for gaussian length source.  $p(m) = \frac{1}{\sqrt{2\pi\sigma^2}} e^{-(m-D)^2/2\sigma^2}$ .  $D$  parameter is fixed to 2048, and  $\sigma$  varies.



Supplemental figure 5. Steady-state length distributions for maxmers when the source is exponential  $p(m) = (1/\lambda)e^{-m/\lambda}$  for various values of the parameter.



**Supplemental figure 6.** Steady-state length distributions for mamxers when the source is exponential and centered at  $D = 2048$  for various values of the parameter  $\lambda$ ,  $p(m) \sim (1/\lambda)e^{(D-m)/\lambda}$ ,  $m < D$ . The point source corresponds to delta-like source which generates duplications only at one length  $D = 2048$ .



**Supplemental figure 7.** Steady-state length distributions for mamxers when the source is exponential and centered at  $D = 2048$  for various values of the parameter  $\lambda$ ,  $p(m) \sim (1/\lambda)e^{-|D-m|/\lambda}$ . The point source corresponds to delta-like source which generates duplications only at one length  $D = 2048$ . The inset shows the density of the source distribution.