multiple origins of replication skew protein expression in favor of additional ribosomes

(A) $\langle \# \text{ ori} \rangle = 2^{t_{cyc} \times \lambda / \ln(2)}$

- t_{cyc} [min] vs growth rate [hr^{-1}]

(B) ribosomes per cell vs estimated $\langle \# \text{ ori} \rangle$

(C) growth rate [hr^{-1}]
- ori
- ter

(D) ori
- ribosomal protein loci
- ter
- growth rate [hr^{-1}]
- $\langle \# \text{ ori} \rangle$ 3 7 11