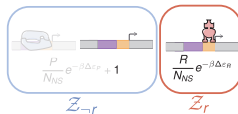
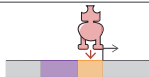


# ARCHITECTURE

# EFFECTIVE STATES

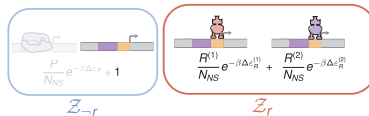
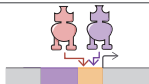
# EFFECTIVE FREE ENERGY

## simple repression



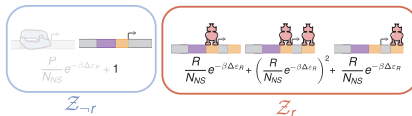
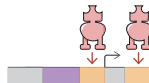
$$-k_B T (\log Z_r - \log Z_{\neg r})$$

## competitive repression



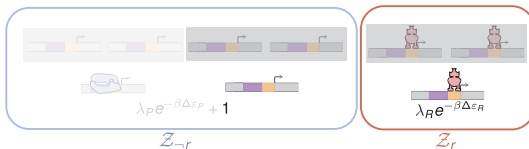
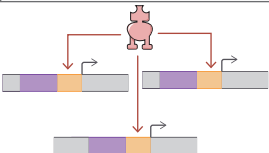
$$-k_B T (\log Z_r - \log Z_{\neg r})$$

## dual repression



$$-k_B T (\log Z_r - \log Z_{\neg r})$$

## simple repression with multiple gene copies



$$-k_B T (\log Z_r - \log Z_{\neg r})$$