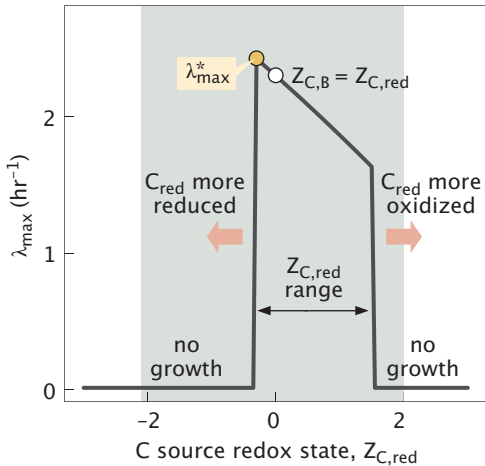
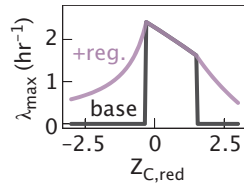


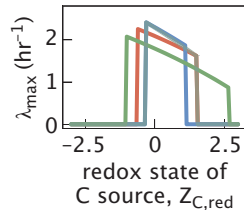
(A) model has a range of viable carbon source redox states, $Z_{C,red}$



(B) flux-balancing regulation expands the $Z_{C,red}$ range



(C) model stoichiometries alter the $Z_{C,red}$ range



(D) a tradeoff between metabolic flexibility and λ_{max}

