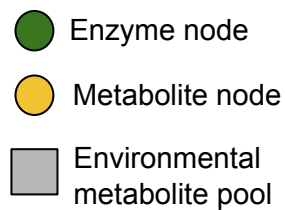
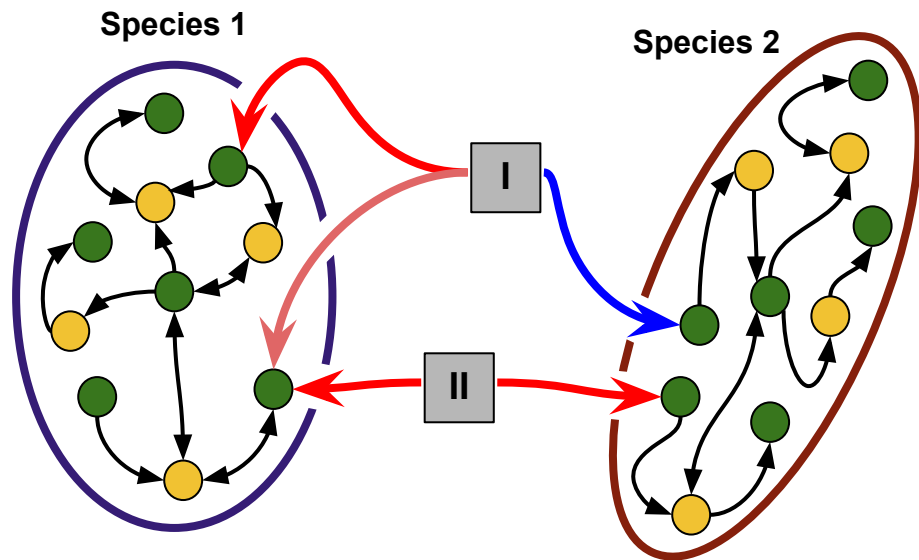
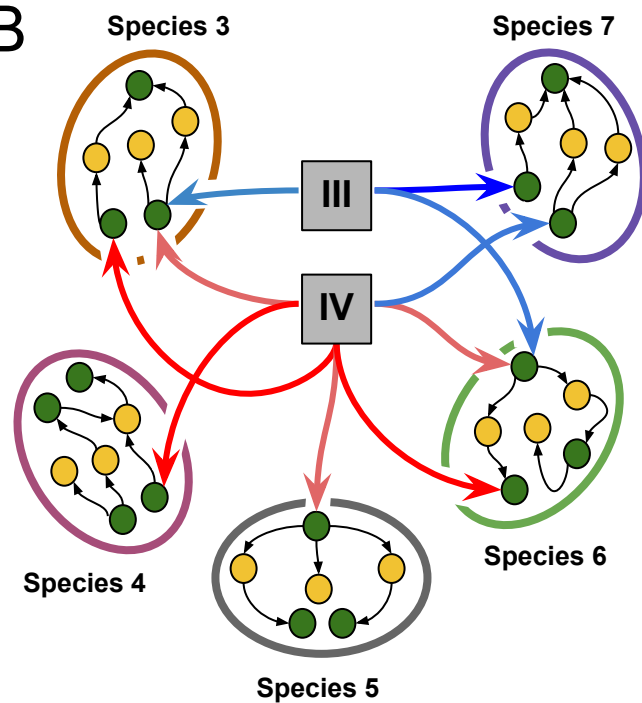


# A



# B



\* with  $x = \text{species}(a)$ , and  $y = \text{species}(b)$

(a)  $\text{Competition} = \max(x(I) \cup y(I)) - (\log_{y(I)}(x(I)) + \log_{x(I)}(y(I)))$

(b)  $\text{Cumulative competition} = \text{for } x(\text{III}) \text{ in species: } C = (\log_2(C * x(\text{III})))$