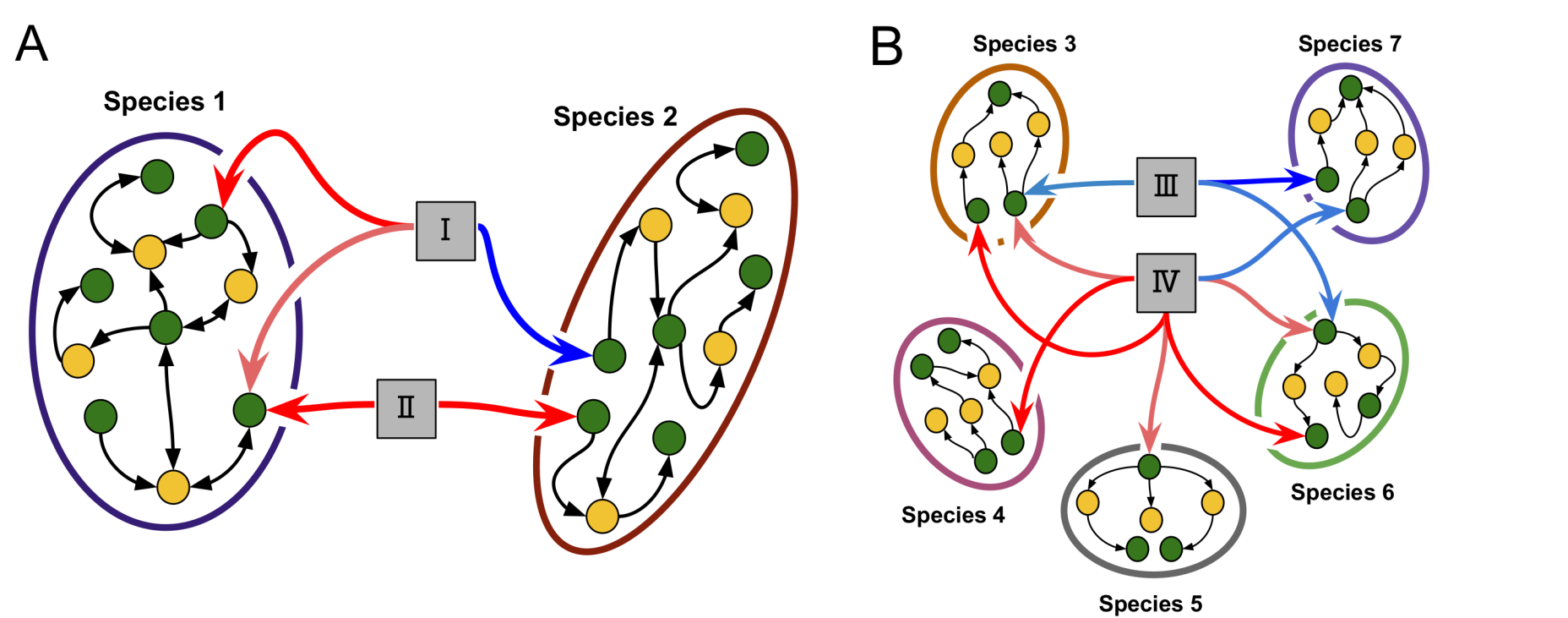

* with x = species[a], and y = species[b]

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

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