

- Enzyme node
- Metabolite node
- Environmental metabolite pool
- Increasing Importance Score

- \* with x = species[a], and y = species[b]
- (a) Competition = max(x[ I ]  $\cup$  y[ I ]) (log<sub>y[ I ]</sub>(x[ I ]) + log<sub>x[ I ]</sub>(y[ I ]))
- (b) Cumulative competition = for x[III] in species:  $C = (log_2(C * x[III]))$