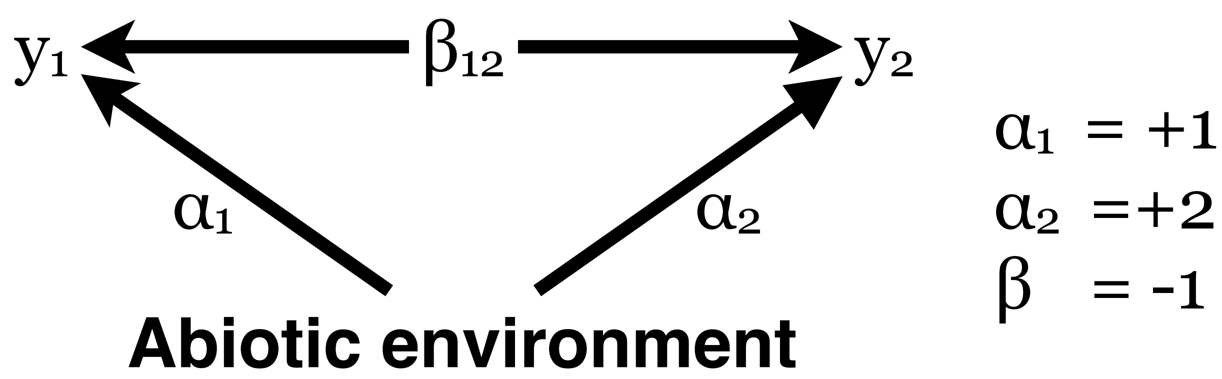
A. Defining a small network



B. Solving the network

$$
\begin{array}{llllll}
 & & \underline{\alpha_1 y_1} & \underline{\alpha_2 y_2} & \underline{\beta y_1 y_2} & \\
P[0\ 0] & = e^{(} & +0 & +0 & +0) / Z & = e^{(0)} / Z \\
P[y_1\ 0] & = e^{(} & +1 & +0 & +0) / Z & = e^{(1)} / Z \\
P[0\ y_1] & = e^{(} & +0 & +2 & +0) / Z & = e^{(2)} / Z \\
P[y_1 y_2] & = e^{(} & +1 & +2 & -1) / Z & = e^{(2)} / Z
\end{array}
$$

$$(e^0 + e^1 + e^2 + e^2) / Z = 1$$

C. Expected co-occurrence rates

		Species 1: Absent	Species 1: Present
Species 2	Absent	5%	15%
	Present	40%	40%

D. Expected co-occurrence without competition (β_{12}=0)

		Species 1: Absent	Species 1: Present
Species 2	Absent	3%	9%
	Present	24%	64%