

Supplemental File S2: Matrix \mathbf{A} , derived for the metabolic structure provided in Figure 1.

$$\mathbf{A} = \begin{pmatrix} \frac{\alpha F}{[PSuc_{pia}]_0} & -\frac{\beta\alpha F}{[PSuc_{pia}]_0} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & -\frac{(1-\beta)\alpha F}{[PSuc_{pia}]_0} & 0 & 0 \\ 0 & \frac{\beta\alpha F}{[PSuc_{cyr}]_0} & -\frac{F}{[PSuc_{cyr}]_0} & 0 & 0 & 0 & 0 & 0 & \frac{F-\beta\alpha F}{[PSuc_{cyr}]_0} & 0 & 0 & 0 \\ 0 & 0 & \frac{F}{[Suc_{cyr}]_0} & -\frac{\alpha F}{[Suc_{cyr}]_0} & \frac{\gamma(1-\alpha)F}{[Suc_{cyr}]_0} & 0 & -\frac{(1-\gamma)(1-\alpha)F}{[Suc_{cyr}]_0} & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & \frac{(1-\gamma)(1-\alpha)F}{[Hex_{cyr}]_0} & \frac{\gamma(1-\alpha)F}{[Hex_{cyr}]_0} & -\frac{F-\beta\alpha F}{[Hex_{cyr}]_0} & 0 & \frac{(1-\beta)\alpha F}{[Hex_{cyr}]_0} & 0 \\ 0 & 0 & 0 & 0 & \frac{\gamma(1-\alpha)F}{[Suc_{vac}]_0} & -\frac{\gamma(1-\alpha)F}{[Suc_{vac}]_0} & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & \frac{\gamma(1-\alpha)F}{[Hex_{vac}]_0} & 0 & -\frac{\gamma(1-\alpha)F}{[Hex_{vac}]_0} & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & \frac{(1-\beta)\alpha F}{[Sta_{pia}]_0} & -\frac{(1-\beta)\alpha F}{[Sta_{pia}]_0} & 0 \\ 0 & 0 & 0 & \frac{\alpha F}{[Suc_{Est}]_0} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & -\frac{\alpha F}{[Suc_{Est}]_0} \end{pmatrix}$$