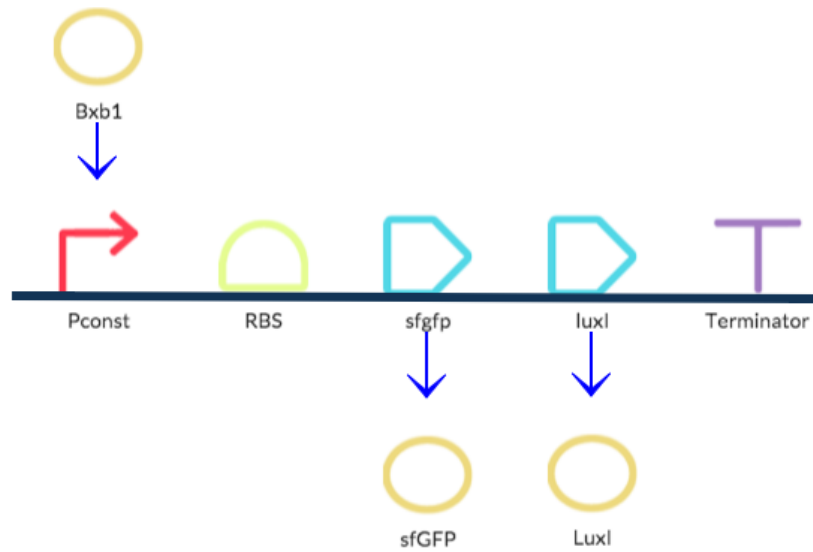


Reporter



Formulae for two certain parts

SfGFP and sfgfp:

$$\frac{d[\text{sfGFP}]}{dt} = \alpha_{\text{sfGFP}}[\text{sfgfp}^F]\chi_{P_{\text{const}}} - d[\text{sfGFP}]$$

LuxI and luxI:

$$\frac{d[\text{LuxI}]}{dt} = \alpha_{\text{LuxI}}[\text{luxI}^F]\chi_{P_{\text{const}}} - d[\text{LuxI}]$$

Sfgfp and Bxb1:

$$[\text{sfgfp}^F] = \frac{[\text{sfgfp}][\text{Bxb1}]^n}{k_{\text{Bxb1}}^n\chi_{P_{\text{const}}} + [\text{Bxb1}]^n}$$

◦ luxI and Bxb1:

$$[\text{luxI}^F] = \frac{[\text{luxI}][\text{Bxb1}]^n}{k_{\text{Bxb1}}^n + [\text{Bxb1}]^n}$$

Parameter Table

d_LuxAHL	Degradation rate of lux-AHL 3OC6HSL	0.004 min ⁻¹
alpha_LuxR	Production rate of LuxR	0.005 uM*min ⁻¹
d_LuxR	Degradation rate of LuxR	0.0231 min ⁻¹
k_Rlux	Production rate of LuxR-lux-AHL	0.1 nM ⁻¹ *min ⁻¹
k_{-Rlux}	Binding rate constant	10 min ⁻¹
d_Rlux	Degradation rate of LuxR-lux-AHL	0.0231 min ⁻¹
Alpha_Bxb1	Production rate of Bxb1	0.588 min ⁻¹

d_Bxb1	Degradation rate of Bxb1	0.01 min ⁻¹
k_Bxb1	Bxb1 repression coefficient	0.1 min ⁻¹
Alpha_sfGFP	Production rate of sfGFP	0.473 min ⁻¹
d_sfGFP	Degradation rate of sfGFP	0.012 min ⁻¹
Alpha_LuxI	Production rate of LuxI	0.621 min ⁻¹
d_LuxI	Degradation rate of LuxI	0.018 min ⁻¹
n	Hill coefficient	2

Reference: http://2014.igem.org/Team:ETH_Zurich/