Supplementary files

Branch point control at malonyl-CoA node: A computational framework to optimize the controller architecture toward ideal metabolic switches

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Parameters for Fig. 2, Fig. 3 and Fig. 4: alpha1=0.8; alpha2=0.05; alpha3=0.05; alpha4=0.8; beta1=0.5; beta2=2.0; m=4; n=4; p=4; q=4; r=4; u=4; K1=2; K2=5; K3=2; K4=2; K5=0.5; K6=0.5; k1=0.5; k2=0.6; k3=2; k4=2; X0=0; S0=45; Y_XS=0.6; Y_PS1=0.4; Y_PS2=1.8; mu_max=2.2; K_S=0.75; K_m=0.5;

Parameters for Fig. 5 and Fig. 6: alpha1=0.8; alpha2=0.05; alpha3=0.05; alpha4=0.8; beta1=0.5; beta2=2.0; m=4; n=4; p=4; q=4; r=4; u=4; D=0.15; K2=5; K3=2; K4=2; K5=0.5; K6=0.5; k1=0.5; k2=0.6; k3=2; k4=2; X0=0; S0=45; Y_XS=0.6; Y_PS1=0.4; Y_PS2=1.8; mu_max=2.2; K_S=0.75; K_m=0.5;

Parameters for Fig. 7: alpha1=0.8; alpha2=0.05; alpha3=0.05; alpha4=0.8; beta1=0.5; m=4; n=4; p=4; q=4; r=4; u=4; D=0.15; K1=2; K2=5; K3=2; K4=2; K5=0.5; K6=0.5; k1=0.5; k2=0.6; k3=2; k4=2; X0=0; S0=45; Y_XS=0.6; Y_PS1=0.4; Y_PS2=1.8; mu_max=2.2; K_S=0.75; K_m=0.5;

Parameters for Fig. 8: alpha1=0.8; alpha2=0.05; alpha3=0.05; alpha4=0.8; beta1=0.5; beta2=2.0; m=4; n=4; p=4; q=4; r=4; u=4; D=0.15; K1=2; K2=5; K3=2; K5=0.5; K6=0.5; k1=0.5; k2=0.6; k3=2; k4=2; X0=0; S0=45; Y_XS=0.6; Y_PS1=0.4; Y_PS2=1.8; mu_max=2.2; K_S=0.75; K_m=0.5;

Parameters for Fig. 9: alpha1=0.8; alpha2=0.05; alpha3=0.05; alpha4=0.8; beta1=0.5; beta2=2.0; m=4; n=4; p=4; q=4; r=4; u=4; D=0.15; K1=2; K2=5; K4=2; K5=0.5; K6=0.5; k1=0.5; k2=0.6; k3=2; k4=2; X0=0; S0=45; Y_XS=0.6; Y_PS1=0.4; Y_PS2=1.8; mu_max=2.2; K_S=0.75; K_m=0.5;

Parameters for Fig. 10: alpha1=0.8; alpha2=0.05; alpha3=0.05; alpha4=0.8; beta1=0.5; beta2=2.0; m=4; p=4; q=4; r=4; u=4; D=0.15; K1=2; K2=5; K3=2; K4=2; K5=0.5; K6=0.5; k1=0.5; k2=0.6; k3=2; k4=2; X0=0; S0=45; Y_XS=0.6; Y_PS1=0.4; Y_PS2=1.8; mu_max=2.2; K_S=0.75; K_m=0.5;