km1	13	KI	3.5e-06
Y1	0.04	KS1	0.3
kdec,1	0.02	KS2	0
km2	0	KS3	0.001
Y2	0	KS3c	0
kdec,2	0	n1	3
km3	21	n2	3
Y3	0.04	n3	3
kdec,3	0.02		
γ0	0.43		
γ1	0		
γ2	0		

		S2,in	0
S1,in	5	S3,in	0
Time	1000	Dilution Rate	0.1

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Equations

$$\frac{dS_1}{dt} = D(S_{1,in} - S_1) - f_1 X_1$$
$$\frac{dX_1}{dt} = -DX_1 + Y_1 f_1 X_1 - k_{dec,1} X_1$$
$$\frac{dS_2}{dt} = -DS_2 + \gamma_0(1 - Y_1) f_1 X_1$$
$$\frac{dX_2}{dt} = -DX_2 + Y_3 f_3 X_2 I_2 - k_{dec,3} X_2$$
$$\frac{dS_3}{dt} = D(S_{3,in} - S_3) - f_3 X_2 I_2$$

$$f_1 = \frac{k_{m,1} S_1}{K_{S,1} + S_1}$$
$$f_3 = \frac{k_{m,3} S_3}{K_{S,3} + S_3}$$
$$I_2 = \frac{1}{1 + \frac{S_2}{K_{i,2}}}$$