Reactions	***Description***	***Rate and Value***
$LTR_{OFF} \leftrightarrow LTR_{ON}$	Promoter toggling from active to inactive state (basal transcription rate)	k_{on} = variable; k_{off} = variable
$LTR_{ON} \rightarrow mRNA + LTR_{ON}$	Transcription of mRNA encoding Tat	α= 1
mRNA → mRNA + mCherry	Translation	$k_p = 10$
*mRNA → mRNA + Tat	Translation	$k_p = 10$
Tat + LTR_{ON} → LTR_{ON} + mRNA + Tat	Tat induction of transcription	α_{Tat} = variable
mRNA → 0	mRNA decay	$d_m = .043$
Tat → 0	Tat decay	$d_m = .0024$
mCherry → 0	mCherry decay	$d_p = 0.008$
**Tat_{init}	Steady-state Tat input; for open-loop simulations	Variable (0-10,000)