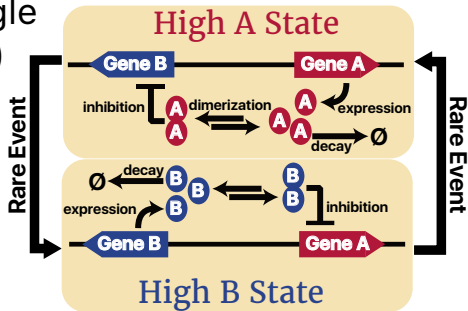


# Genetic Toggle Switch (GTS) Model



Species	Description
O	operator DNA
A	B protein
A <sub>2</sub>	B <sub>2</sub> dimer
OA <sub>2</sub>	OB <sub>2</sub> dimer complexed to operator

Reactions		Rate Constants		Description
Protein A	Protein B	forward	reverse	
$O \longrightarrow O + A$	$O \longrightarrow O + B$	$\theta$		expression
$A \longrightarrow \emptyset$	$B \longrightarrow \emptyset$	$\theta/4$		decay
$2A \rightleftharpoons A_2$	$2B \rightleftharpoons B_2$	5	5	dimerization
$O + A_2 \rightleftharpoons OA_2$	$O + B_2 \rightleftharpoons OB_2$	5	1	operator binding
$OA_2 \longrightarrow OA_2 + A$	$OB_2 \longrightarrow OB_2 + B$	$\theta$		bound expression