

Four States

	$z(t)$	$y(t)$	$x(t)$
9. $\begin{array}{c} w \xrightarrow{2} y \xrightarrow{3} z \\ \downarrow \quad \uparrow \\ 1 \xrightarrow{\quad} x \xrightarrow{\quad} z \end{array}$	$\frac{1}{2}(k_2 b_3 + h_1 b_4) t^2$	$k_2 t$	$k_1 t$
10. $\begin{array}{c} w \xrightarrow{2} y \xrightarrow{3} z \\ \downarrow \quad \uparrow \\ 1 \xrightarrow{\quad} x \xrightarrow{\quad} z \end{array}$	$(k_1 + k_2) t$	$\frac{k_2}{k_3} e^{-(k_1 + k_2) t}$	$\frac{k_1}{k_4} e^{-(k_1 + k_2) t}$
11. $\begin{array}{c} w \xrightarrow{2} y \xrightarrow{3} z \\ \downarrow \quad \uparrow \\ 1 \xrightarrow{\quad} x \xrightarrow{\quad} z \end{array}$	$\left(\frac{k_2}{k_1 + k_2}\right) k_3 t + \left(\frac{h_1}{k_1 + k_2}\right) h_4 t$	$\left(\frac{k_2}{k_1 + k_2}\right) e^{-k_3 t}$	$\left(\frac{h_1}{k_1 + k_2}\right) e^{-k_4 t}$
12. $\begin{array}{c} w \xrightarrow{2} y \xrightarrow{3} z \\ \downarrow \quad \uparrow \\ 1 \xrightarrow{\quad} x \xrightarrow{\quad} z \end{array}$	$k_2 t$	$\frac{k_2}{k_3} e^{-(k_1 + k_2) t}$	$k_1 t$

17. $w \xrightarrow{1} y \xrightarrow{2} z$
 $\quad \quad \quad \downarrow \quad \uparrow$
 $\quad \quad \quad 3 \rightarrow x \rightarrow 4$

$z(t)$	$y(t)$	$x(t)$
$\frac{1}{2} k_1 k_2 t^2$	$k_1 t$	$\frac{1}{2} k_1 k_3 t^2$

18. $w \xrightarrow{1} y \xrightarrow{2} z$
 $\quad \quad \quad \downarrow \quad \uparrow$
 $\quad \quad \quad 3 \rightarrow x \rightarrow 4$

$\frac{1}{2} k_1 k_4 t^2$	$\frac{k_1}{h_3} e^{-k_3 t}$	$k_1 t$
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19. $w \xrightarrow{1} y \xrightarrow{2} z$
 $\quad \quad \quad \downarrow \quad \uparrow$
 $\quad \quad \quad 3 \rightarrow x \rightarrow 4$

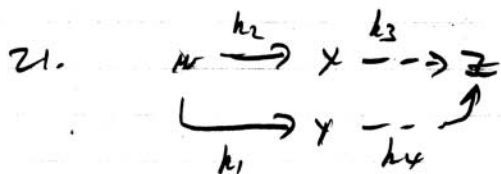
$\frac{1}{2} k_1 (k_2 + k_3) t^2$	$k_1 t$	$\frac{1}{2} k_1 k_3 t^2 \left(\frac{h_1 + k_2 + k_3}{k_4} \right)$
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20. $w \xrightarrow{1} z$
 $\quad \downarrow \quad \uparrow$
 $\quad x \xrightarrow{3} y$

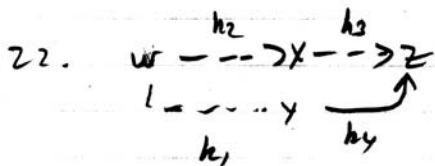
$k_1 t$	$h_2 t$	$\frac{1}{2} k_2 k_3 t^2$
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21. $w \xrightarrow{1} z$
 $\quad \downarrow \quad \uparrow$
 $\quad x \xrightarrow{3} y$

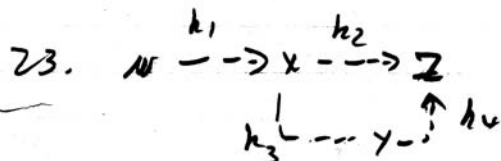
$k_1 t$	$e^{-k_3 t}$
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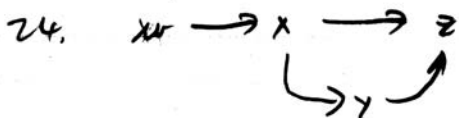
$$\left(\frac{k_2}{k_1+k_2}\right)k_3t + \left(\frac{k_1}{k_1+k_2}\right)k_4t$$



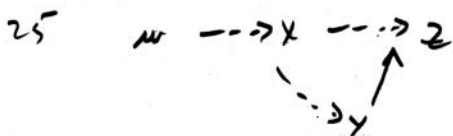
$$k_1t$$



$$\frac{1}{2}k_1k_2t^2$$



$$1$$



$$\frac{1}{2}k_1(k_2+k_3)t^2$$