Consider equation (6.75).

$$\lambda_{mn}(t_b,t_a) = \delta_{mn}\exp\left(-\frac{i}{\hbar}E_m(t_b-t_a)\right) - \frac{i}{\hbar}\int_{t_a}^{t_b}\exp\left(-\frac{i}{\hbar}E_m(t_b-t_a)\right)\sum_j V_{mj}(t_c)\lambda_{jn}(t_c,t_a)\,dt_c \tag{6.75}$$

Let $E = E_1 = E_2$ and $T = t_b - t_a$. Then by (6.75) we have

$$\begin{aligned}
\lambda_{11}(t_b,t_a) &= \exp\left(-\frac{iET}{\hbar}\right) - \frac{i}{\hbar}\int_{t_a}^{t_b}\exp\left(-\frac{i}{\hbar}E(t_b-t_c)\right)v(t_c)\lambda_{21}(t_c,t_a)\,dt_c \\
\lambda_{12}(t_b,t_a) &= -\frac{i}{\hbar}\int_{t_a}^{t_b}\exp\left(-\frac{i}{\hbar}E(t_b-t_c)\right)v(t_c)\lambda_{21}(t_c,t_a)\,dt_c \\
\lambda_{21}(t_b,t_a) &= -\frac{i}{\hbar}\int_{t_a}^{t_b}\exp\left(-\frac{i}{\hbar}E(t_b-t_c)\right)v(t_c)\lambda_{12}(t_c,t_a)\,dt_c \\
\lambda_{22}(t_b,t_a) &= \exp\left(-\frac{iET}{\hbar}\right) - \frac{i}{\hbar}\int_{t_a}^{t_b}\exp\left(-\frac{i}{\hbar}E(t_b-t_c)\right)v(t_c)\lambda_{12}(t_c,t_a)\,dt_c
\end{aligned}$$

FIXME