

$$G / : G[\lambda 1_] G[\lambda 2_] := G[\lambda 1 + \lambda 2];$$

$$m_{a_ , b_ \rightarrow c_ } [G[\lambda_]] := \text{Module} \left[\{ \alpha, \beta, \gamma, \delta, \theta, \epsilon, \phi, \psi, \Xi, \mu \},$$

$$\begin{pmatrix} \alpha & \beta & \theta \\ \gamma & \delta & \epsilon \\ \phi & \psi & \Xi \end{pmatrix} = \begin{pmatrix} \partial_{\mathbf{t}_a, \mathbf{h}_a} \lambda & \partial_{\mathbf{t}_a, \mathbf{h}_b} \lambda & \partial_{\mathbf{t}_a} \lambda \\ \partial_{\mathbf{t}_b, \mathbf{h}_a} \lambda & \partial_{\mathbf{t}_b, \mathbf{h}_b} \lambda & \partial_{\mathbf{t}_b} \lambda \\ \partial_{\mathbf{h}_a} \lambda & \partial_{\mathbf{h}_b} \lambda & \lambda \end{pmatrix} / . (\mathbf{t} \mid \mathbf{h})_{a|b} \rightarrow 0;$$

$$\mu = 1 - \beta;$$

$$G \left[\text{Tr} \left[\begin{pmatrix} \mathbf{t}_c \\ 1 \end{pmatrix}^\top \cdot \begin{pmatrix} \gamma + \alpha \delta / \mu & \epsilon + \delta \theta / \mu \\ \phi + \alpha \psi / \mu & \Xi + \psi \theta / \mu \end{pmatrix} \cdot \begin{pmatrix} \mathbf{h}_c \\ 1 \end{pmatrix} \right] \right] / . \mathbf{T}_{a|b} \rightarrow \mathbf{T}_c //$$

$$\text{Factor}];$$

$$\text{Rp}_{a_ , b_ } := G \left[\text{Tr} \left[\begin{pmatrix} \mathbf{t}_a \\ \mathbf{t}_b \end{pmatrix}^\top \cdot \begin{pmatrix} 1 & 1 - \mathbf{T}_a \\ 0 & \mathbf{T}_a \end{pmatrix} \cdot \begin{pmatrix} \mathbf{h}_a \\ \mathbf{h}_b \end{pmatrix} \right] \right];$$

$$\text{Rm}_{a_ , b_ } := \text{Rp}_{a, b} / . \mathbf{T}_a \rightarrow 1 / \mathbf{T}_a;$$