

$$\begin{array}{ccc} & \overline{h} & \\ & \updownarrow & \\ h\tau_1 & & h\tau_1^* \\ \mathbb{1} & & \mathbb{1} \\ & \downarrow & \\ & \overline{h} & \end{array}$$

$$\mathbb{1} = \begin{cases} \underbrace{\mathbb{1}^{h\tau_1^*} h\tau_1} \\ \underbrace{\mathbb{1} \mathbb{1} \mathbb{1}} \end{cases}$$

$$\mathbb{1}^* = \begin{cases} \underbrace{\mathbb{1}^* h\tau_1 h\tau_1^*} \\ \underbrace{\mathbb{1} \mathbb{1} \mathbb{1}^*} \end{cases}$$

$$\overline{h} \xrightarrow[\mathbb{1} = \mathbb{1}\eta\mathbb{1}^*]{\tau_1 = \tau_1\eta^*\mathbb{1}^*} \mathbb{C} | \overline{h}$$

$$\mathbb{1} \star \mathbb{1} = \mathbb{1} \eta \mathbb{1}^*$$

$$\mathbb{1} \star \mathbb{1}^* = \begin{cases} \mathbb{1}^* h\tau_1 \mathbb{1}^* = \underbrace{\mathbb{1}^* h\tau_1 \mathbb{1}^*} \star \underbrace{\mathbb{1}^* h\tau_1 \mathbb{1}^*} = \underbrace{\mathbb{1}^* h\tau_1 \eta^* \mathbb{1}^* h\tau_1 \mathbb{1}^*} = \mathbb{1}^* \underbrace{h\tau_1 \eta^* h\tau_1 \mathbb{1}^*} = \underbrace{\mathbb{1}^* h\tau_1 \eta^* \mathbb{1}^* h\tau_1 \mathbb{1}^*} \\ \mathbb{1}^* h\mathbb{1} \mathbb{1}^* = \underbrace{\mathbb{1}^* h\mathbb{1} \mathbb{1}^*} \eta^* \mathbb{1}^* = \mathbb{1}^* h\mathbb{1} \eta^* \mathbb{1}^* \mathbb{1}^* = \mathbb{1}^* \underbrace{h\mathbb{1} \eta^* h\mathbb{1} \mathbb{1}^*} \end{cases}$$

$$\underline{\mathbb{L}} \cdot \underline{\mathbb{L}} = \begin{cases} \underline{\mathbb{L}}^{\underline{h}\underline{\mathbb{L}}_i} \underline{h}\underline{\mathbb{L}}_i \\ \underline{\mathbb{L}}^{\underline{h}\underline{\mathbb{L}}_h} \underline{h}\underline{\mathbb{L}}_h \end{cases}$$

$$\begin{cases} \underline{\mathbb{L}}^{\underline{h}\underline{\mathbb{L}}_i} = \underline{\mathbb{L}} \cdot \underline{\mathbb{L}}^{\underline{h}\underline{\mathbb{L}}_i} = \underline{\mathbb{L}}^{\underline{h}\underline{\mathbb{L}}_i} \cdot \underline{1}_{\underline{h}} \\ \underline{\mathbb{L}}^{\underline{h}\underline{\mathbb{L}}_h} = \underline{\mathbb{L}} \cdot \underline{\mathbb{L}}^{\underline{h}\underline{\mathbb{L}}_h} = \underline{\mathbb{L}}^{\underline{h}\underline{\mathbb{L}}_h} \cdot \underline{1}_{\underline{h}} \end{cases}$$

$$\begin{cases} \underline{\mathbb{L}}^{\underline{h}\underline{\mathbb{L}}_i} = \underline{\mathbb{L}}^{\underline{h}\underline{\mathbb{L}}_i} \underline{h}\underline{\mathbb{L}}_i \\ \underline{\mathbb{L}}^{\underline{h}\underline{\mathbb{L}}_h} = \underline{\mathbb{L}}^{\underline{h}\underline{\mathbb{L}}_h} \underline{h}\underline{\mathbb{L}}_h \end{cases}$$

$$\underline{1}_{\underline{h}} = \begin{cases} \underline{1}_{\underline{h}} \underline{h}\underline{\mathbb{L}}_i \\ \underline{1}_{\underline{h}} \underline{h}\underline{\mathbb{L}}_h \end{cases}$$

$$\begin{cases} \underline{1}_{\underline{h}} \underline{h}\underline{\mathbb{L}}_i = \underline{1}_{\underline{h}} \underline{h}\underline{\mathbb{L}}_i \\ \underline{1}_{\underline{h}} \underline{h}\underline{\mathbb{L}}_h = \underline{1}_{\underline{h}} \underline{h}\underline{\mathbb{L}}_h \end{cases}$$

