$$\omega_3^{\mathbb{R}} = \begin{array}{c|c} \omega_3 & 0 \\ \hline 0 & \omega_3^{\sim} \end{array}$$

$$\omega_3 = \begin{array}{c|c|c} \omega \boxtimes \begin{array}{c|c} 1 & 0 \\ \hline 0 & 1 \end{array} & 0 & \varkappa \Gamma \psi \boxtimes \begin{array}{c|c} \overset{*}{d} & 0 \\ \hline 0 & \overset{*}{e} \end{array} \\ \hline 0 & \bar{\omega} \boxtimes 1 & \varkappa \Gamma \psi \boxtimes \begin{array}{c|c} u^* & 0 \end{array} \\ \hline \varphi \Gamma \boxtimes \begin{array}{c|c} d & 0 \\ \hline 0 & e \end{array} & \varphi \Gamma \boxtimes \begin{bmatrix} u \\ 0 \end{bmatrix} & \Omega \boxtimes \begin{array}{c|c} 1 & 0 \\ \hline 0 & 1 \end{array} \end{array}$$

$$\omega_3^{\sim} = \begin{array}{c|c|c} \bar{\omega}_a \boxtimes \begin{array}{c|c} \bar{a} & 0 \\ \hline 0 & 0 \end{array} + \bar{\omega} \boxtimes \begin{array}{c|c} 0 & 0 \\ \hline 0 & 1 \end{array} & 0 & 0 \\ \hline 0 & \bar{\omega}_a \boxtimes \bar{a} & 0 \\ \hline 0 & 0 & \bar{\omega}_a \boxtimes \begin{array}{c|c} \bar{a} & 0 \\ \hline 0 & 0 \end{array} + \bar{\omega} \boxtimes \begin{array}{c|c} 0 & 0 \\ \hline 0 & 1 \end{array} \end{array}$$

$$\omega \in \overset{\hbar}{\triangle}_{\infty} \underbrace{\overset{\hbar}{\bar{\triangle}} \mathbb{K}}: \quad \Omega \in \overset{\hbar}{\triangle}_{\infty} \underbrace{\overset{\hbar}{\bar{\triangle}} {}^2\mathbb{K}_2}: \quad \omega_a \boxtimes a \in \overset{\hbar}{\triangle}_{\infty} \underbrace{\overset{\hbar}{\bar{\triangle}} {}^3\mathbb{K}_3}: \quad \varphi \in \overset{\hbar}{\triangle}_{\infty} {}^2\mathbb{K}: \quad \psi \in \overset{\hbar}{\triangle}_{\infty} \mathbb{K}_2$$

$$\begin{bmatrix} \varphi_1 \\ \tilde{\varphi}_2 \end{bmatrix} = \begin{bmatrix} -\bar{\varphi}_2 \\ \bar{\varphi}_1 \end{bmatrix} \quad \begin{bmatrix} \psi_1 & \tilde{\psi}_2 \end{bmatrix} = \begin{bmatrix} -\bar{\psi}_2 & \bar{\psi}_1 \end{bmatrix}$$

$$\begin{array}{c|c} f_3^0 & 0 \\ \hline 0 & \tilde{f}_3^0 \end{array} \underbrace{\begin{array}{c|c} D_3 & 0 \\ \hline 0 & J_3 D_3 J_3 \end{array} \ast \begin{array}{c|c} f_3^1 & 0 \\ \hline 0 & \tilde{f}_3^1 \end{array}} = \begin{array}{c|c} f_3^0 \underbrace{D_3 \ast f_3^1} & 0 \\ \hline 0 & \tilde{f}_3^0 \underbrace{J_3 D_3 J_3 \ast \tilde{f}_3^1} \end{array}$$

$$f_3^0 \underbrace{D_3 \ast f_3^1} = \begin{array}{c|c|c} f^0 d f^1 \boxtimes \begin{array}{c|c} 1 & 0 \\ \hline 0 & 1 \end{array} & 0 & \varkappa \Gamma f^0 \underbrace{\overset{*}{\varepsilon} F^1 - f^1 \overset{*}{\varepsilon}} \boxtimes \begin{array}{c|c} \overset{*}{d} & 0 \\ \hline 0 & \overset{*}{e} \end{array} \\ \hline 0 & \bar{f}^0 d \bar{f}^1 \boxtimes 1 & \varkappa \Gamma \bar{f}^0 \underbrace{\overset{*}{\varepsilon} F^1 - \bar{f}^1 \overset{*}{\varepsilon}} \boxtimes \begin{array}{c|c} u^* & 0 \end{array} \\ \hline F^0 \underbrace{\varepsilon f^1 - F^1 \varepsilon} \Gamma \boxtimes \begin{array}{c|c} d & 0 \\ \hline 0 & e \end{array} & F^0 \underbrace{\varepsilon \bar{f}^1 - F^1 \varepsilon} \Gamma \boxtimes \begin{bmatrix} u \\ 0 \end{bmatrix} & F^0 d F^1 \boxtimes \begin{array}{c|c} 1 & 0 \\ \hline 0 & 1 \end{array} \end{array}$$

$$\tilde{f}_3^0 \underbrace{J_3 D_3 J_3 \ast \tilde{f}_3^1} = \begin{array}{c|c|c} \bar{f}_b^0 d \bar{f}_c^1 \boxtimes \begin{array}{c|c} \bar{b}\bar{c} & 0 \\ \hline 0 & 0 \end{array} + \bar{f}^0 d \bar{f}^1 \boxtimes \begin{array}{c|c} 0 & 0 \\ \hline 0 & 1 \end{array} & 0 & 0 \\ \hline 0 & \bar{f}_b^0 d \bar{f}_c^1 \boxtimes \bar{b}\bar{c} & 0 \\ \hline 0 & 0 & \bar{f}_b^0 d \bar{f}_c^1 \boxtimes \begin{array}{c|c} \bar{b}\bar{c} & 0 \\ \hline 0 & 0 \end{array} + \bar{f}^0 d \bar{f}^1 \boxtimes \begin{array}{c|c} 0 & 0 \\ \hline 0 & 1 \end{array} \end{array}$$

$$\omega = f^0 d f^1: \quad \Omega = F^0 d F^1: \quad \omega_a \boxtimes a = f_b^0 d f_c^1 \boxtimes bc: \quad \varphi = F^0 \underbrace{\varepsilon f^1 - F^1 \varepsilon}: \quad \varphi = F^0 \underbrace{\varepsilon \bar{f}^1 - F^1 \varepsilon}$$

$$\psi = f^0 \underbrace{\overset{*}{\varepsilon} F^1 - f^1 \overset{*}{\varepsilon}}: \quad \psi = \bar{f}^0 \underbrace{\overset{*}{\varepsilon} F^1 - \bar{f}^1 \overset{*}{\varepsilon}}$$

$$\begin{array}{c|c} 0 & J_3 \\ \hline -\varkappa J_3 & 0 \end{array}\ \begin{array}{c|c} \omega_3 & 0 \\ \hline 0 & \widetilde{\omega}_3 \end{array}\ \left(\begin{array}{c|c} 0 & J_3 \\ \hline -\varkappa J_3 & 0 \end{array}\right)^{-1} = \begin{array}{c|c} 0 & J_3 \\ \hline -\varkappa J_3 & 0 \end{array}\ \begin{array}{c|c} \omega_3 & 0 \\ \hline 0 & \widetilde{\omega}_3 \end{array}\ \begin{array}{c|c} 0 & -\varkappa J_3 \\ \hline J_3 & 0 \end{array} = \begin{array}{c|c} J_3 \widetilde{\omega}_3 J_3 & 0 \\ \hline 0 & J_3 \omega_3 J_3 \end{array}$$

$$J_3\,\widetilde{\omega}_3\,J_3 = \begin{array}{c|c|c} \omega_a \boxtimes \begin{array}{c|c} a & 0 \\ \hline 0 & 0 \end{array} + \omega \boxtimes \begin{array}{c|c} 0 & 0 \\ \hline 0 & 1 \end{array} & 0 & 0 \\ \hline 0 & \omega_a \boxtimes a & 0 \\ \hline 0 & 0 & \omega_a \boxtimes \begin{array}{c|c} a & 0 \\ \hline 0 & 0 \end{array} + \omega \boxtimes \begin{array}{c|c} 0 & 0 \\ \hline 0 & 1 \end{array} \end{array}$$

$$J_3\,\omega_3\,J_3 = \begin{array}{c|c|c} \bar{\omega} \boxtimes \begin{array}{c|c} 1 & 0 \\ \hline 0 & 1 \end{array} & 0 & -\varkappa \Gamma \bar{\psi} \boxtimes \begin{array}{c|c} d^t & 0 \\ \hline 0 & e^t \end{array} \\ \hline 0 & \omega \boxtimes 1 & -\varkappa \Gamma \bar{\psi} \boxtimes \begin{bmatrix} u^t & 0 \end{bmatrix} \\ \hline -\bar{\varphi} \Gamma \boxtimes \begin{array}{c|c} \bar{d} & 0 \\ \hline 0 & \bar{e} \end{array} & -\bar{\varphi} \Gamma \boxtimes \begin{bmatrix} \bar{u} \\ 0 \end{bmatrix} & \bar{\Omega} \boxtimes \begin{array}{c|c} 1 & 0 \\ \hline 0 & 1 \end{array} \end{array}$$

$$\text{LHS} = \begin{array}{c|c|c} \sim\bar{\omega}_a\sim \boxtimes^{-} \begin{array}{c|c} \bar{a} & 0 \\ \hline 0 & 0 \end{array}^{-} + \sim\bar{\omega}\sim \boxtimes^{-} \begin{array}{c|c} 0 & 0 \\ \hline 0 & 1 \end{array}^{-} & 0 & 0 \\ \hline 0 & \sim\bar{\omega}_a\sim \boxtimes^{-} \bar{a}^{-} & 0 \\ \hline 0 & 0 & \sim\bar{\omega}_a\sim \boxtimes^{-} \begin{array}{c|c} \bar{a} & 0 \\ \hline 0 & 0 \end{array}^{-} + \sim\bar{\omega}\sim \boxtimes^{-} \begin{array}{c|c} 0 & 0 \\ \hline 0 & 1 \end{array}^{-} \end{array} = \text{RHS}$$

$$\text{LHS} = \begin{array}{c|c|c} \sim\omega\sim \boxtimes^{-} \begin{array}{c|c} 1 & 0 \\ \hline 0 & 1 \end{array}^{-} & 0 & \varkappa^{\sim} \Gamma \psi^{\sim} \boxtimes^{-} \begin{array}{c|c} \overset{*}{d} & 0 \\ \hline 0 & \overset{*}{e} \end{array}^{-} \\ \hline 0 & \sim\bar{\omega}\sim \boxtimes^{-} 1^{-} & \varkappa^{\sim} \Gamma \psi^{\sim} \boxtimes^{-} \begin{array}{c|c} u^* & 0 \end{array}^{-} \\ \hline \sim\varphi \Gamma^{\sim} \boxtimes^{-} \begin{array}{c|c} d & 0 \\ \hline 0 & e \end{array}^{-} & \sim\varphi \Gamma^{\sim} \boxtimes^{-} \begin{bmatrix} u \\ 0 \end{bmatrix}^{-} & {}^{\sim}\Omega^{\sim} \boxtimes^{-} \begin{array}{c|c} 1 & 0 \\ \hline 0 & 1 \end{array}^{-} \end{array} = \text{RHS}$$

$$\begin{array}{c|c} \omega_3 & 0 \\ \hline 0 & \widetilde{\omega}_3 \end{array} = -\begin{array}{c|c} 0 & J_3 \\ \hline -\varkappa J_3 & 0 \end{array}\ \begin{array}{c|c} \omega_3 & 0 \\ \hline 0 & \widetilde{\omega}_3 \end{array}\ \left(\begin{array}{c|c} 0 & J_3 \\ \hline -\varkappa J_3 & 0 \end{array}\right)^{-1}$$

$$\begin{array}{c|c} \omega_3 & 0 \\ \hline 0 & \widetilde{\omega}_3 \end{array} = \begin{array}{c|c} \begin{array}{c|c|c} \varrho \boxtimes \begin{array}{c|c} 1 & 0 \\ \hline 0 & 1 \end{array} & 0 & 0 \\ \hline 0 & \varrho \boxtimes 1 & 0 \\ \hline 0 & 0 & \varrho \boxtimes \begin{array}{c|c} 1 & 0 \\ \hline 0 & 1 \end{array} \end{array} & 0 \\ \hline 0 & \begin{array}{c|c|c} \varrho \boxtimes \begin{array}{c|c} 1 & 0 \\ \hline 0 & 1 \end{array} & 0 & 0 \\ \hline 0 & \varrho \boxtimes 1 & 0 \\ \hline 0 & 0 & \varrho \boxtimes \begin{array}{c|c} 1 & 0 \\ \hline 0 & 1 \end{array} \end{array} \end{array}$$

$$\omega_a \bowtie \begin{array}{c|c} a & 0 \\ \hline 0 & 0 \end{array} + \omega \bowtie \begin{array}{c|c} 0 & 0 \\ \hline 0 & 1 \end{array} = \omega \bowtie \begin{array}{c|c} 1 & 0 \\ \hline 0 & 1 \end{array} \ \omega_a \bowtie a = \bar{\omega} \bowtie 1: \quad \omega_a \bowtie \begin{array}{c|c} a & 0 \\ \hline 0 & 0 \end{array} + \omega \bowtie \begin{array}{c|c} 0 & 0 \\ \hline 0 & 1 \end{array} = \Omega \bowtie \begin{array}{c|c} 1 & 0 \\ \hline 0 & 1 \end{array} : \quad \varphi = 0: \quad \psi = 0$$

$$\Rightarrow \omega_a \bowtie a = \omega_{=} \bowtie \bar{\omega} \bowtie 1: \quad \Omega = \omega \Rightarrow \omega = \bar{\omega} = \varrho: \quad \omega \bowtie \begin{array}{c|c} 1 & 0 \\ \hline 0 & 1 \end{array} = \varrho \bowtie \begin{array}{c|c} 1 & 0 \\ \hline 0 & 1 \end{array} : \quad \bar{\omega}_{=} \bowtie \varrho \bowtie 1: \quad \Omega \bowtie \begin{array}{c|c} 1 & 0 \\ \hline 0 & 1 \end{array} = \varrho \bowtie \begin{array}{c|c} 1 & 0 \\ \hline 0 & 1 \end{array}$$

$$\bar{\omega}_a \bowtie \begin{array}{c|c} \bar{a} & 0 \\ \hline 0 & 0 \end{array} + \bar{\omega} \bowtie \begin{array}{c|c} 0 & 0 \\ \hline 0 & 1 \end{array} = \bar{\omega} \bowtie \begin{array}{c|c} 1 & 0 \\ \hline 0 & 1 \end{array} = \varrho \bowtie \begin{array}{c|c} 1 & 0 \\ \hline 0 & 1 \end{array} : \quad \bar{\omega}_a \bowtie \bar{a} = \omega_{=} \bowtie \varrho \bowtie 1$$

$$\bar{\omega}_a \bowtie \begin{array}{c|c} \bar{a} & 0 \\ \hline 0 & 0 \end{array} + \bar{\omega} \bowtie \begin{array}{c|c} 0 & 0 \\ \hline 0 & 1 \end{array} = 1\bar{O} \bowtie \begin{array}{c|c} 1 & 0 \\ \hline 0 & 1 \end{array} = \bar{\varrho} \bowtie \begin{array}{c|c} 1 & 0 \\ \hline 0 & 1 \end{array} = \varrho \bowtie \begin{array}{c|c} 1 & 0 \\ \hline 0 & 1 \end{array}$$

$$\overset{*}{\begin{array}{c|c} \omega_3 & 0 \\ \hline 0 & \tilde{\omega}_3 \end{array}} = - \begin{array}{c|c} \omega_3 & 0 \\ \hline 0 & \tilde{\omega}_3 \end{array}$$

$$\varrho|\omega_3 = \varrho|\tilde{\omega}_3 \text{ unbek } \begin{array}{c|c} 0 & J_3 \\ \hline -\varkappa J_3 & 0 \end{array} \begin{array}{c|c} \varrho & 0 \\ \hline 0 & \varrho \end{array} \begin{array}{c|c} 0 & J_3 \\ \hline -\varkappa J_3 & 0 \end{array}^{-1} = - \begin{array}{c|c} \varrho & 0 \\ \hline 0 & \varrho \end{array}$$

$$\omega_3 = \begin{array}{c|c|c} \omega \bowtie \begin{array}{c|c} 1 & 0 \\ \hline 0 & 1 \end{array} & 0 & \varkappa \Gamma \overset{*}{\varphi} \bowtie \begin{array}{c|c} \overset{*}{d} & 0 \\ \hline 0 & \overset{*}{e} \end{array} \\ \hline 0 & -\omega \bowtie 1 & \varkappa \Gamma \overset{*}{\varphi} \bowtie \begin{array}{c|c} u^* & 0 \end{array} \\ \hline \varphi \Gamma \bowtie \begin{array}{c|c} d & 0 \\ \hline 0 & e \end{array} & \varphi \Gamma \bowtie \begin{bmatrix} u \\ 0 \end{bmatrix} & \Omega \bowtie \begin{array}{c|c} 1 & 0 \\ \hline 0 & 1 \end{array} \end{array}$$

$$\tilde{\omega}_3 = \begin{array}{c|c|c} \bar{\omega}_a \bowtie \begin{array}{c|c} \bar{a} & 0 \\ \hline 0 & 0 \end{array} + \omega \bowtie \begin{array}{c|c} 1/3 & 0 \\ \hline 0 & -1 \end{array} & 0 & 0 \\ \hline 0 & \bar{\omega}_a \bowtie \bar{a} + \omega \bowtie 1/3 & 0 \\ \hline 0 & 0 & \bar{\omega}_a \bowtie \begin{array}{c|c} \bar{a} & 0 \\ \hline 0 & 0 \end{array} + \bar{\omega} \bowtie \begin{array}{c|c} 1/3 & 0 \\ \hline 0 & -1 \end{array} \end{array}$$

$$\omega \in {}^{\hbar}\triangle_{\infty} \underbrace{{}^{\bar{\hbar}}\triangle \mathbb{K}} : \quad \Omega \in {}^{\hbar}\triangle_{\infty} \underbrace{{}^{\bar{\hbar}}\triangle {}^{2}\mathbb{K}_2} : \quad \omega_a \bowtie a \in {}^{\hbar}\triangle_{\infty} \underbrace{{}^{\bar{\hbar}}\triangle {}^{3}\mathbb{K}_3} : \quad \varphi \in {}^{\hbar}\triangle_{\infty} {}^{2}\mathbb{K}$$

$$4 \underset{\frown}{\tilde{x}} = \underset{\frown}{y + 3\tilde{y}}$$

$$\begin{array}{c|c|c} \omega \bowtie \begin{array}{c|c} 1 & 0 \\ \hline 0 & 1 \end{array} & 0^{*} & \varkappa \Gamma \psi \bowtie \begin{array}{c|c} \overset{*}{d} & 0 \\ \hline 0 & \overset{*}{e} \end{array} \\ \hline 0 & \bar{\omega} \bowtie 1 & \varkappa \Gamma \psi \bowtie \begin{array}{c|c} u^* & 0 \end{array} \\ \hline \varphi \Gamma \bowtie \begin{array}{c|c} d & 0 \\ \hline 0 & e \end{array} & \varphi \Gamma \bowtie \begin{bmatrix} u \\ 0 \end{bmatrix} & \Omega \bowtie \begin{array}{c|c} 1 & 0 \\ \hline 0 & 1 \end{array} \end{array} = \begin{array}{c|c|c} \overset{*}{\omega} \bowtie \begin{array}{c|c} 1 & 0 \\ \hline 0 & 1 \end{array} & 0 & \overset{*}{\Gamma} \overset{*}{\varphi} \bowtie \begin{array}{c|c} \overset{*}{d} & 0 \\ \hline 0 & \overset{*}{e} \end{array} \\ \hline 0 & \bar{\omega}^* \bowtie 1 & \overset{*}{\Gamma} \overset{*}{\varphi} \bowtie \begin{array}{c|c} u^* & 0 \end{array} \\ \hline \varkappa \overset{*}{\psi} \overset{*}{\Gamma} \bowtie \begin{array}{c|c} d & 0 \\ \hline 0 & e \end{array} & \varkappa \overset{*}{\psi} \overset{*}{\Gamma} \bowtie \begin{bmatrix} u \\ 0 \end{bmatrix} & \overset{*}{\Omega} \bowtie \begin{array}{c|c} 1 & 0 \\ \hline 0 & 1 \end{array} \end{array}$$

$$
=\begin{array}{c|c|c}
\bar\omega \mathbin{⧗} \begin{array}{c|c}1&0\\\hline 0&1\end{array} & 0 & -\varkappa\Gamma\overset{*}{\varphi}\mathbin{⧗}\begin{array}{c|c}\overset{*}{d}&0\\\hline 0&\overset{*}{e}\end{array}\\\hline
0 & \omega\mathbin{⧗}1 & -\varkappa\Gamma\overset{*}{\varphi}\mathbin{⧗}\begin{array}{c|c}u^*&0\end{array}\\\hline
-\overset{*}{\psi}\Gamma\mathbin{⧗}\begin{array}{c|c}d&0\\\hline 0&e\end{array} & -\overset{*}{\psi}\Gamma\mathbin{⧗}\begin{bmatrix}u\\0\end{bmatrix} & \overset{*}{\Omega}\mathbin{⧗}\begin{array}{c|c}1&0\\\hline 0&1\end{array}
\end{array}
=-\begin{array}{c|c|c}
\omega \mathbin{⧗} \begin{array}{c|c}1&0\\\hline 0&1\end{array} & 0 & \varkappa\Gamma\psi\mathbin{⧗}\begin{array}{c|c}\overset{*}{d}&0\\\hline 0&\overset{*}{e}\end{array}\\\hline
0 & \bar\omega\mathbin{⧗}1 & \varkappa\Gamma\psi\mathbin{⧗}\begin{array}{c|c}u^*&0\end{array}\\\hline
\varphi\Gamma\mathbin{⧗}\begin{array}{c|c}d&0\\\hline 0&e\end{array} & \varphi\Gamma\mathbin{⧗}\begin{bmatrix}u\\0\end{bmatrix} & \Omega\mathbin{⧗}\begin{array}{c|c}1&0\\\hline 0&1\end{array}
\end{array}
$$

$$
\bar\omega = -\omega: \quad \psi = \overset{*}{\varphi}: \quad \Omega = -\overset{*}{\Omega}
$$

$$
\begin{array}{c|c|c}
\bar\omega_a\mathbin{⧗}\begin{array}{c|c}\bar a&0\\\hline 0&0\end{array}+\bar\omega\mathbin{⧗}\begin{array}{c|c}0&0\\\hline 0&1\end{array} & \overset{*}{0} & 0\\\hline
0 & \bar\omega_a\mathbin{⧗}\bar a & 0\\\hline
0 & 0 & \bar\omega_a\mathbin{⧗}\begin{array}{c|c}\bar a&0\\\hline 0&0\end{array}+\bar\omega\mathbin{⧗}\begin{array}{c|c}0&0\\\hline 0&1\end{array}
\end{array}
=
$$

$$
\begin{array}{c|c|c}
\bar\omega_a^*\mathbin{⧗}\begin{array}{c|c}\bar a^*&0\\\hline 0&0\end{array}+\bar\omega^*\mathbin{⧗}\begin{array}{c|c}0&0\\\hline 0&1\end{array} & 0 & 0\\\hline
0 & \bar\omega_a^*\mathbin{⧗}\bar a^* & 0\\\hline
0 & 0 & \bar\omega_a^*\mathbin{⧗}\begin{array}{c|c}\bar a^*&0\\\hline 0&0\end{array}+\bar\omega^*\mathbin{⧗}\begin{array}{c|c}0&0\\\hline 0&1\end{array}
\end{array}
=
$$

$$
\begin{array}{c|c|c}
\omega_a\mathbin{⧗}\begin{array}{c|c}a^t&0\\\hline 0&0\end{array}+\omega\mathbin{⧗}\begin{array}{c|c}0&0\\\hline 0&1\end{array} & 0 & 0\\\hline
0 & \omega_a\mathbin{⧗}a^t & 0\\\hline
0 & 0 & \omega_a\mathbin{⧗}\begin{array}{c|c}a^t&0\\\hline 0&0\end{array}+\omega\mathbin{⧗}\begin{array}{c|c}0&0\\\hline 0&1\end{array}
\end{array}
=
$$

$$
-\begin{array}{c|c|c}
\bar\omega_a\mathbin{⧗}\begin{array}{c|c}\bar a&0\\\hline 0&0\end{array}+\bar\omega\mathbin{⧗}\begin{array}{c|c}0&0\\\hline 0&1\end{array} & 0 & 0\\\hline
0 & \bar\omega_a\mathbin{⧗}\bar a & 0\\\hline
0 & 0 & \bar\omega_a\mathbin{⧗}\begin{array}{c|c}\bar a&0\\\hline 0&0\end{array}+\bar\omega\mathbin{⧗}\begin{array}{c|c}0&0\\\hline 0&1\end{array}
\end{array}
$$

$$
\bar\omega_a\mathbin{⧗}\bar a = -\omega_a\mathbin{⧗}a^t: \quad \bar\omega_a\mathbin{⧗}\overset{*}{a} = -\omega_a\mathbin{⧗}a
$$

$$
\overset{*}{\varrho}\,\omega_3\,I_3 =
\begin{array}{c|c|c}
\varrho\mathbin{⧗}\begin{array}{c|c}1&0\\\hline 0&1\end{array} & 0 & 0\\\hline
0 & \varrho\mathbin{⧗}1 & 0\\\hline
0 & 0 & \varrho\mathbin{⧗}\begin{array}{c|c}1&0\\\hline 0&1\end{array}
\end{array}
\begin{array}{c|c|c}
\omega\mathbin{⧗}\begin{array}{c|c}1&0\\\hline 0&1\end{array} & 0 & \varkappa\Gamma\overset{*}{\varphi}\mathbin{⧗}\begin{array}{c|c}\overset{*}{d}&0\\\hline 0&\overset{*}{e}\end{array}\\\hline
0 & -\omega\mathbin{⧗}1 & \varkappa\Gamma\overset{*}{\varphi}\mathbin{⧗}\begin{array}{c|c}u^*&0\end{array}\\\hline
\varphi\Gamma\mathbin{⧗}\begin{array}{c|c}d&0\\\hline 0&e\end{array} & \varphi\Gamma\mathbin{⧗}\begin{bmatrix}u\\0\end{bmatrix} & \Omega\mathbin{⧗}\begin{array}{c|c}1&0\\\hline 0&1\end{array}
\end{array}
\begin{array}{c|c|c}
I\mathbin{⧗}\begin{array}{c|c}x/3&0\\\hline 0&y\end{array} & 0 & 0\\\hline
0 & I\mathbin{⧗}x/3 & 0\\\hline
0 & 0 & I\mathbin{⧗}\begin{array}{c|c}x/3&0\\\hline 0&y\end{array}
\end{array}
$$

$$= \begin{array}{c|c|c} \varrho\times\omega\boxtimes\begin{array}{c|c} x/3 & 0 \\ \hline 0 & y\end{array} & 0 & \varkappa\Gamma\zeta\overset{*}{\varphi}\boxtimes \begin{array}{c|c}\overset{*}{d}x/3 & 0\\ \hline 0 & \overset{*}{e}y\end{array} \\ \hline 0 & -\varrho\times\omega\boxtimes x/3 & \varkappa\Gamma\zeta\overset{*}{\varphi}\boxtimes\begin{bmatrix}\overset{*}{u}x/3 & 0\end{bmatrix} \\ \hline \zeta\varphi\Gamma\boxtimes\begin{array}{c|c} dx/3 & 0\\ \hline 0 & ey\end{array} & \zeta\varphi\Gamma\boxtimes\begin{bmatrix}ux/3\\0\end{bmatrix} & \varrho\times\Omega\boxtimes\begin{array}{c|c} x/3&0\\ \hline 0&y\end{array}\end{array}$$

$$\varrho|\omega_3 = \llcorner\overset{*}{\varrho}\omega_3 I_3\lrcorner = \varrho|\omega\llcorner y\lrcorner + \varrho|\Omega\llcorner x+y\lrcorner : \quad \llcorner\Omega\lrcorner = 0$$

$$\overset{*}{\varrho}\,\widetilde{\omega}_3\,\widetilde{I}_3 = \begin{array}{c|c|c} \varrho\boxtimes\begin{array}{c|c} 1 & 0\\ \hline 0 & 1\end{array} & 0 & 0 \\ \hline 0 & \varrho\boxtimes 1 & 0 \\ \hline 0 & 0 & \varrho\boxtimes\begin{array}{c|c} 1 & 0\\ \hline 0 & 1\end{array}\end{array}$$

$$\begin{array}{c|c|c} \bar{\omega}_a\boxtimes\begin{array}{c|c}\bar{a} & 0\\ \hline 0 & 0\end{array} - \omega\boxtimes\begin{array}{c|c} 0 & 0\\ \hline 0 & 1\end{array} & 0 & 0 \\ \hline 0 & \bar{\omega}_a\boxtimes\bar{a} & 0 \\ \hline 0 & 0 & \bar{\omega}_a\boxtimes\begin{array}{c|c}\bar{a} & 0\\ \hline 0 & 0\end{array} - \omega\boxtimes\begin{array}{c|c} 0 & 0\\ \hline 0 & 1\end{array}\end{array} \begin{array}{c|c|c} I\boxtimes\begin{array}{c|c}\widetilde{x} & 0\\ \hline 0 & \widetilde{y}\end{array} & 0 & 0 \\ \hline 0 & I\boxtimes\widetilde{x} & 0 \\ \hline 0 & 0 & I\boxtimes\begin{array}{c|c}\widetilde{x} & 0\\ \hline 0 & \widetilde{y}\end{array}\end{array}$$

$$= \begin{array}{c|c|c} \varrho\times\bar{\omega}_a\boxtimes\begin{array}{c|c}\bar{a}\widetilde{x} & 0\\ \hline 0 & 0\end{array} + \varrho\times\omega\boxtimes\begin{array}{c|c} 0 & 0\\ \hline 0 & \widetilde{y}\end{array} & 0 & 0 \\ \hline 0 & \varrho\times\bar{\omega}_a\boxtimes\bar{a}\widetilde{x} & 0 \\ \hline 0 & 0 & \varrho\times\bar{\omega}_a\boxtimes\begin{array}{c|c}\bar{a}\widetilde{x} & 0\\ \hline 0 & 0\end{array} - \varrho\times\omega\boxtimes\begin{array}{c|c} 0 & 0\\ \hline 0 & \widetilde{y}\end{array}\end{array}$$

$$\varrho|\widetilde{\omega}_3 = \llcorner\overset{*}{\varrho}\widetilde{\omega}_3\widetilde{I}_3\lrcorner = 4\varrho|\bar{\omega}_a\llcorner\bar{a}\widetilde{x}\lrcorner - 3\varrho|\omega\llcorner\widetilde{y}\lrcorner \Longrightarrow 4\llcorner\widetilde{x}\lrcorner\varrho|\bar{\omega}_a\llcorner\bar{a}\lrcorner = \varrho|\omega\llcorner y+3\widetilde{y}\lrcorner$$

$$\Longrightarrow 4\bar{\omega}_a\llcorner\bar{a}\widetilde{x}\lrcorner = \omega\llcorner y+3\widetilde{y}\lrcorner \Longrightarrow \bar{\omega}_a\llcorner\bar{a}\lrcorner = \omega \Longrightarrow \omega_a\llcorner a\lrcorner = \bar{\omega} = -\omega \Longrightarrow \omega_a\boxtimes a = \omega_a\boxtimes a - \omega\boxtimes 1/3$$