

$$\begin{aligned}
{}^{2|1}\mathbb{C}_{2|1\triangleleft_{\omega}}\mathbb{C} &= \left[\frac{\begin{array}{c|c} \mathfrak{L} & \mathfrak{L} \\ \hline \mathfrak{L} & \mathfrak{L} \end{array}}{\begin{array}{c|c} \mathfrak{L} & \mathfrak{L} \\ \hline \mathfrak{L} & \mathfrak{L} \end{array}} = \frac{\begin{array}{c|c} \mathfrak{L}:\mathfrak{L}:\mathfrak{L}:\mathfrak{L} & \mathfrak{L} \\ \hline \text{ev} & \text{odd} \end{array}}{\begin{array}{c|c} \text{odd} & \text{ev} \end{array}} \right] \mathbb{C} = \left[\frac{\begin{array}{c|c} a & \beta \\ \hline \gamma & d \end{array}}{\begin{array}{c|c} \gamma & d \end{array}} = \frac{\begin{array}{c|c} a:\beta:\gamma:d & \\ \hline \text{ev} & \text{odd} \end{array}}{\begin{array}{c|c} \text{odd} & \text{ev} \end{array}} \text{ standard relations} \right] \mathbb{C} \\
&\quad {}^{2|1}\mathbb{C}_{2|1\triangleleft_{\omega}}\mathbb{C} \otimes {}^{2|1}\mathbb{C}_{2|1\triangleleft_{\omega}}\mathbb{C} \xleftarrow[\text{hom}]{\Delta} {}^{2|1}\mathbb{C}_{2|1\triangleleft_{\omega}}\mathbb{C} \\
\Delta \frac{\begin{array}{c|c} a & \beta \\ \hline \gamma & d \end{array}}{\begin{array}{c|c} \gamma & d \end{array}} &= \frac{\begin{array}{c|c} a & \beta \\ \hline \gamma & d \end{array}}{\begin{array}{c|c} \gamma & d \end{array}} \otimes \frac{\begin{array}{c|c} a & \beta \\ \hline \gamma & d \end{array}}{\begin{array}{c|c} \gamma & d \end{array}} = \frac{\begin{array}{c|c} a.\mathbf{x}a. + \beta.\mathbf{x}\gamma. & a.\mathbf{x}\beta. + \beta.\mathbf{x}d. \\ \hline \gamma.\mathbf{x}a. + d.\mathbf{x}\gamma. & \gamma.\mathbf{x}\beta. + d.\mathbf{x}d. \end{array}}{\begin{array}{c|c} \gamma.\mathbf{x}a. + d.\mathbf{x}\gamma. & \gamma.\mathbf{x}\beta. + d.\mathbf{x}d. \end{array}} \\
\Delta \underline{\beta\gamma + \gamma\beta} &= \Delta\beta\Delta\gamma + \Delta\gamma\Delta\beta = \underline{a.\mathbf{x}\beta. + \beta.\mathbf{x}d.} \underline{\gamma.\mathbf{x}a. + d.\mathbf{x}\gamma.} + \underline{\gamma.\mathbf{x}a. + d.\mathbf{x}\gamma.} \underline{a.\mathbf{x}\beta. + \beta.\mathbf{x}d.} \\
&= -a.\gamma.\mathbf{x}\beta. a. + a.d.\mathbf{x}\beta.\gamma. + \beta.\gamma.\mathbf{x}d.a. + \beta.d.\mathbf{x}d.\gamma. \\
&\quad + \gamma.a.\mathbf{x}a.\beta. + \gamma.\beta.\mathbf{x}a.d. + d.a.\mathbf{x}\gamma.\beta. - d.\beta.\mathbf{x}\gamma.d. \\
&= \gamma.a.\mathbf{x}a.\beta. - a.\gamma.\mathbf{x}\beta.a. + a.d.\mathbf{x}\beta.\gamma. + d.a.\mathbf{x}\gamma.\beta. \\
&\quad + \beta.\gamma.\mathbf{x}d.a. + \gamma.\beta.\mathbf{x}a.d. + \beta.d.\mathbf{x}d.\gamma. - d.\beta.\mathbf{x}\gamma.d. \\
&= \underline{\gamma.a. - a.\gamma.} \mathbf{x} a.\beta. + a.\gamma. \mathbf{x} \underline{a.\beta. - \beta.a.} + \underline{a.d. - d.a.} \mathbf{x} \beta.\gamma. + d.a. \mathbf{x} \underline{\beta.\gamma. + \gamma.\beta.} \\
&+ \underline{\beta.\gamma. + \gamma.\beta.} \mathbf{x} d.a. + \gamma.\beta. \mathbf{x} \underline{a.d. - d.a.} + \underline{\beta.d. - d.\beta.} \mathbf{x} d.\gamma. + d.\beta. \mathbf{x} \underline{d.\gamma. - \gamma.d.} \in \mathcal{J}\mathbf{x}\mathcal{F} + \mathcal{F}\mathbf{x}\mathcal{J}
\end{aligned}$$