

$$\mathbb{C}_2^{\text{U}}$$

$$\mathbb{C}_2^{\text{V}} \ni \begin{array}{c|c} \alpha & \beta \\ \hline -\bar{\beta} & -\alpha \end{array}$$

$$\left\{ \begin{array}{c|c|c} A_1 = \frac{1}{2} & 0 & i \\ \hline & i & 0 \end{array} \right. \\ \left. \begin{array}{c|c|c} A_2 = \frac{1}{2} & 0 & -1 \\ \hline & 1 & 0 \end{array} \right. \\ \left. \begin{array}{c|c|c} A_3 = \frac{1}{2} & i & 0 \\ \hline & 0 & -i \end{array} \right.$$

$$A_i \star A_j = A_k$$

$$\begin{array}{c|c} \alpha & \beta \\ \hline -\bar{\beta} & -\alpha \end{array} \star \begin{array}{c|c} \alpha' & \beta' \\ \hline -\bar{\beta}' & -\alpha' \end{array} = \frac{\bar{\beta}\beta' - \beta\bar{\beta}'}{2\left(\alpha\bar{\beta}' - \alpha'\bar{\beta}\right)} \begin{array}{c|c} 2\left(\alpha\beta' - \beta\alpha'\right) \\ \hline \beta\bar{\beta}' - \bar{\beta}\beta' \end{array}$$