$$
{}^{n}\mathbb{D}_{n}^{\complement} = \begin{cases} {}^{n}\mathbb{C}_{n}^{\complement} \\ {}^{n}\mathbb{H}_{n}^{\complement} \end{cases}
\xleftarrow[\text{symm/a-herm}]{\exp}
\begin{cases} {}^{n}\mathbb{C}_{n}^{\mathfrak{S}} \\ {}^{n}\mathbb{H}_{n}^{\mathfrak{S}} \end{cases}
$$

$$
\begin{cases} {}^{n}\mathbb{C}_{n}^{\complement} \\ {}^{n}\mathbb{H}_{n}^{\complement} \end{cases}
=
\begin{cases} \lrcorner \in {}^{n}\mathbb{C}_{n}^{\complement} & \lrcorner \overset{\dagger}{\lrcorner} = 1 \\ \lrcorner \in {}^{n}\mathbb{H}_{n}^{\complement} & \lrcorner i \overset{*}{\lrcorner} = i \end{cases}
$$

$$
{}^{n}\mathbb{D}_{n}^{\complement} \times {}^{n}\mathbb{D}_{n}^{\complement}
\xrightarrow{\begin{array}{c|c} 0 & 1 \\ \hline 1 & 0 \end{array}}
{}^{n}_{2}\mathbb{D}_{n}^{\complement}
$$