

$$\Gamma_{1234}^{0; qkk'} = \mathcal{U}_{1234; \uparrow\uparrow}^{qkk'} \equiv \begin{array}{c} 1 \\ \diagup \\ \Gamma^0 \\ \diagdown \\ 2 \end{array} \begin{array}{c} 4 \\ \diagdown \\ 3 \end{array} = \begin{array}{c} 2 \\ \mathcal{U}_{1234}^q \\ 1 \end{array} \begin{array}{c} 3 \\ 4 \end{array} - \begin{array}{c} 1 \\ \mathcal{U}_{1234}^{k-k'} \\ 4 \end{array} \begin{array}{c} 2 \\ 3 \end{array}$$