$$K_{46}^{2} = \begin{bmatrix} \frac{-3\,U}{t} & \frac{3\left(1-\mathbf{i}\sqrt{3}\right)U}{2\sqrt{2}\,t} & 0 \\ \frac{3\left(1+\mathbf{i}\sqrt{3}\right)U}{2\sqrt{2}\,t} & \frac{-9\,U}{2\,t} & \frac{\frac{-\mathbf{i}}{4}\left(-3\,\mathbf{i}+\sqrt{3}\right)U^{2}}{t^{2}} \\ 0 & \frac{\frac{\mathbf{i}}{4}\left(3\,\mathbf{i}+\sqrt{3}\right)U^{2}}{t^{2}} & \frac{-3\,U}{2\,t} \end{bmatrix}$$