$$K_{99}^2 = \begin{bmatrix} \frac{-9\,U}{2\,t} & \frac{\frac{-\mathbf{i}}{4}\left(-3\,\mathbf{i}+\sqrt{3}\right)U^2}{t^2} & \frac{3\left(-\mathbf{i}+\sqrt{3}\right)U}{2\sqrt{2}\,t} \\ \frac{\frac{\mathbf{i}}{4}\left(3\,\mathbf{i}+\sqrt{3}\right)U^2}{t^2} & \frac{-3\,U}{2\,t} & 0 \\ \frac{3\left(\mathbf{i}+\sqrt{3}\right)U}{2\sqrt{2}\,t} & 0 & \frac{-3\,U}{t} \end{bmatrix}$$