$$K_{51}^{2} = \begin{bmatrix} -\left(\frac{U}{t}\right) & -2-2\,\mathbf{i}\,\sqrt{3} & -\left(\frac{U}{\sqrt{2}\,t}\right) & 0 \\ -2+2\,\mathbf{i}\,\sqrt{3} & \frac{-3\,U}{t} & \frac{\frac{\mathbf{i}}{2}\left(\mathbf{i}+\sqrt{3}\right)U^{2}}{\sqrt{2}\,t^{2}} & \frac{3\left(1+\mathbf{i}\,\sqrt{3}\right)U}{2\,\sqrt{2}\,t} \\ -\left(\frac{U}{\sqrt{2}\,t}\right) & \frac{\frac{-\mathbf{i}}{2}\left(-\mathbf{i}+\sqrt{3}\right)U^{2}}{\sqrt{2}\,t^{2}} & \frac{-9\,U}{2\,t} & \frac{\left(1-\mathbf{i}\,\sqrt{3}\right)\left(8\,t^{2}-U^{2}\right)}{4\,t^{2}} \\ 0 & \frac{3\left(1-\mathbf{i}\,\sqrt{3}\right)U}{2\,\sqrt{2}\,t} & \frac{\left(1+\mathbf{i}\,\sqrt{3}\right)\left(8\,t^{2}-U^{2}\right)}{4\,t^{2}} & \frac{-U}{2\,t} \end{bmatrix}$$