$$K_{29}^{2} = \begin{bmatrix} \frac{-13\,U}{2\,t} & \frac{8\,t^{2}-U^{2}}{\sqrt{6}\,t^{2}} & \frac{4}{\sqrt{3}} & \frac{\sqrt{2}\,U}{t} \\ \frac{8\,t^{2}-U^{2}}{\sqrt{6}\,t^{2}} & \frac{-3\,U}{t} & -\left(\frac{U}{\sqrt{2}\,t}\right) & -\left(\frac{4\,t^{2}+U^{2}}{\sqrt{3}\,t^{2}}\right) \\ \frac{4}{\sqrt{3}} & -\left(\frac{U}{\sqrt{2}\,t}\right) & \frac{-15\,U}{2\,t} & 4\sqrt{\frac{2}{3}} \\ \frac{\sqrt{2}\,U}{t} & -\left(\frac{4\,t^{2}+U^{2}}{\sqrt{3}\,t^{2}}\right) & 4\sqrt{\frac{2}{3}} & \frac{-4\,U}{t} \end{bmatrix}$$