$$
K_{135}^{1} = \begin{bmatrix}
\frac{\mathbf{i}}{\sqrt{3}} & \frac{\left(7-5\,\mathbf{i}\,\sqrt{3}\right)U}{12\,t} & 0 & \frac{-9\,\mathbf{i}-\sqrt{3}}{12} & -1-\frac{\mathbf{i}}{\sqrt{3}} & \frac{-\left(\left(3\,\mathbf{i}+\sqrt{3}\right)U\right)}{6\,t} & 0 & -\left(\frac{1}{4}\right)-\frac{3\,\mathbf{i}}{4}\,\sqrt{3} & \frac{1}{\sqrt{2}}-\frac{\mathbf{i}}{\sqrt{6}} & \frac{-\left(\sqrt{2}\,\left(1+\mathbf{i}\,\sqrt{3}\right)U\right)}{3\,t} & \mathbf{i}-\frac{1}{2\,\sqrt{3}} & \frac{-\left(\left(3\,\mathbf{i}+\sqrt{3}\right)U\right)}{12\,t} \\
\frac{\left(-7-5\,\mathbf{i}\,\sqrt{3}\right)U}{12\,t} & \frac{\mathbf{i}}{\sqrt{3}} & \frac{-3\,\mathbf{i}}{2}+\frac{1}{\sqrt{3}} & 0 & 0 & -\mathbf{i}-\frac{1}{\sqrt{3}} & \frac{1}{2} & 0 & \frac{\frac{-\mathbf{i}}{3}\left(-\mathbf{i}+\sqrt{3}\right)U}{\sqrt{2}\,t} & \frac{1}{\sqrt{2}}-\frac{\mathbf{i}}{\sqrt{6}} & \frac{-\left(\left(-3\,\mathbf{i}+\sqrt{3}\right)U\right)}{4\,t} & \frac{\mathbf{i}}{2}+\frac{1}{\sqrt{3}} \\
0 & \frac{-3\,\mathbf{i}}{2}-\frac{1}{\sqrt{3}} & \frac{-\mathbf{i}}{2}\,\sqrt{3} & \frac{U+3\,\mathbf{i}\,\sqrt{3}\,U}{4\,t} & 0 & -1 & \frac{-\sqrt{3}}{2} & \frac{\left(-3\,\mathbf{i}+\sqrt{3}\right)U}{4\,t} & 0 & \sqrt{\frac{2}{3}} & 0 & 1+\frac{\mathbf{i}}{2}\,\sqrt{3} \\
\frac{-9\,\mathbf{i}+\sqrt{3}}{12} & 0 & \frac{\left(-1+3\,\mathbf{i}\,\sqrt{3}\right)U}{4\,t} & \frac{\mathbf{i}}{2}\,\sqrt{3} & 0 & 0 & \frac{-\left(\left(3\,\mathbf{i}+\sqrt{3}\right)U\right)}{4\,t} & \frac{-3\,\mathbf{i}}{2} & \frac{-\mathbf{i}}{\sqrt{2}}+\frac{1}{\sqrt{6}} & 0 & \frac{-\mathbf{i}}{4}\,\left(-\mathbf{i}+\sqrt{3}\right) & 0 \\
1-\frac{\mathbf{i}}{\sqrt{3}} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & \mathbf{i}\,\sqrt{\frac{2}{3}} & 0 & \mathbf{i}-\sqrt{3} & 0 \\
\frac{\left(-3\,\mathbf{i}+\sqrt{3}\right)U}{6\,t} & -\mathbf{i}+\frac{1}{\sqrt{3}} & 1 & 0 & 0 & 0 & \sqrt{3} & 0 & \frac{-\left(\left(3\,\mathbf{i}+\sqrt{3}\right)U\right)}{3\,\sqrt{2}\,t} & \frac{-\mathbf{i}}{\sqrt{2}}+\frac{1}{\sqrt{6}} & \frac{U-\mathbf{i}\,\sqrt{3}\,U}{2\,t} & 0 \\
0 & -\left(\frac{1}{2}\right) & \frac{\sqrt{3}}{2} & \frac{\left(-3\,\mathbf{i}+\sqrt{3}\right)U}{4\,t} & 0 & -\sqrt{3} & \frac{-\mathbf{i}}{2}\,\sqrt{3} & \frac{\left(3+\mathbf{i}\,\sqrt{3}\right)U}{4\,t} & 0 & -\sqrt{2} & 0 & \frac{-\sqrt{3}}{2} \\
\frac{1-3\,\mathbf{i}\,\sqrt{3}}{4} & 0 & \frac{-\left(\left(3\,\mathbf{i}+\sqrt{3}\right)U\right)}{4\,t} & \frac{-3\,\mathbf{i}}{2} & 0 & 0 & \frac{\frac{\mathbf{i}}{4}\left(3\,\mathbf{i}+\sqrt{3}\right)U}{t} & \frac{-\mathbf{i}}{2}\,\sqrt{3} & \frac{1-\mathbf{i}\,\sqrt{3}}{\sqrt{2}} & 0 & \frac{-3\,\mathbf{i}-\sqrt{3}}{4} & 0 \\
-\left(\frac{1}{\sqrt{2}}\right)-\frac{\mathbf{i}}{\sqrt{6}} & \frac{\sqrt{2}\,U-\mathbf{i}\,\sqrt{6}\,U}{6\,t} & 0 & \frac{-\left(3\,\mathbf{i}+\sqrt{3}\right)}{3\,\sqrt{2}} & \mathbf{i}\,\sqrt{\frac{2}{3}} & \frac{\left(-3\,\mathbf{i}+\sqrt{3}\right)U}{3\,\sqrt{2}\,t} & 0 & \frac{-1-\mathbf{i}\,\sqrt{3}}{\sqrt{2}} & \frac{\mathbf{i}}{\sqrt{3}} & \frac{\frac{-\mathbf{i}}{6}\left(-5\,\mathbf{i}+\sqrt{3}\right)U}{t} & \frac{-\mathbf{i}}{\sqrt{2}}+\frac{1}{\sqrt{6}} & \frac{-\left(\left(-3\,\mathbf{i}+\sqrt{3}\right)U\right)}{3\,\sqrt{2}\,t} \\
\frac{\sqrt{2}\,\left(1-\mathbf{i}\,\sqrt{3}\right)U}{3\,t} & -\left(\frac{1}{\sqrt{2}}\right)-\frac{\mathbf{i}}{\sqrt{6}} & -\sqrt{\frac{2}{3}} & 0 & 0 & \frac{-\left(3\,\mathbf{i}+\sqrt{3}\right)}{3\,\sqrt{2}} & \sqrt{2} & 0 & \frac{\left(5-\mathbf{i}\,\sqrt{3}\right)U}{6\,t} & \frac{\mathbf{i}}{\sqrt{3}} & 0 & \frac{-\mathbf{i}}{\sqrt{2}}+\frac{1}{\sqrt{6}} \\
\frac{6\,\mathbf{i}+\sqrt{3}}{6} & \frac{\left(3\,\mathbf{i}+\sqrt{3}\right)U}{4\,t} & 0 & \frac{1-\mathbf{i}\,\sqrt{3}}{4} & \mathbf{i}+\sqrt{3} & \frac{-\left(U+\mathbf{i}\,\sqrt{3}\,U\right)}{2\,t} & 0 & \frac{-3\,\mathbf{i}+\sqrt{3}}{4} & \frac{-\left(3\,\mathbf{i}+\sqrt{3}\right)}{3\,\sqrt{2}} & 0 & \frac{-\mathbf{i}}{2}\,\sqrt{3} & \frac{\left(3-\mathbf{i}\,\sqrt{3}\right)U}{4\,t} \\
\frac{\left(-3\,\mathbf{i}+\sqrt{3}\right)U}{12\,t} & \frac{\mathbf{i}}{2}-\frac{1}{\sqrt{3}} & -1+\frac{\mathbf{i}}{2}\,\sqrt{3} & 0 & 0 & 0 & \frac{\sqrt{3}}{2} & 0 & \frac{\left(3\,\mathbf{i}+\sqrt{3}\right)U}{3\,\sqrt{2}\,t} & \frac{-\left(3\,\mathbf{i}+\sqrt{3}\right)}{3\,\sqrt{2}} & \frac{\frac{-\mathbf{i}}{4}\left(-3\,\mathbf{i}+\sqrt{3}\right)U}{t} & \frac{\mathbf{i}}{2}\,\sqrt{3}
\end{bmatrix}
$$