$$
K^1_{104} = \begin{bmatrix}
\mathbf{i}\sqrt{3} & \frac{-(U+\mathbf{i}\sqrt{3}U)}{2t} & \frac{3-\mathbf{i}\sqrt{3}}{\sqrt{2}} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
\frac{U-\mathbf{i}\sqrt{3}U}{2t} & \frac{\mathbf{i}}{2}\sqrt{3} & -\left(\frac{U}{\sqrt{2}t}\right) & 0 & 0 & \frac{-3\mathbf{i}}{\sqrt{2}} & 0 & 0 & 0 & 0 & -\sqrt{\frac{3}{2}} & 0 & 0 & 0 & \frac{\sqrt{3}}{2} & -\left(\frac{\sqrt{\frac{3}{2}}U}{t}\right) \\
\frac{-3-\mathbf{i}\sqrt{3}}{\sqrt{2}} & \frac{U}{\sqrt{2}t} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & \frac{3\mathbf{i}U}{\sqrt{2}t} & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 1+\mathbf{i}\sqrt{3} & 0 & 0 & 0 & 0 & -2 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & \frac{-1-\mathbf{i}\sqrt{3}}{\sqrt{2}} & 0 & \frac{3-\mathbf{i}\sqrt{3}}{\sqrt{2}} & 0 & 0 & \frac{-1-\mathbf{i}\sqrt{3}}{\sqrt{2}} & 0 & 0 & 0 & 0 \\
0 & \frac{-3\mathbf{i}}{\sqrt{2}} & 0 & 0 & 0 & 0 & -\left(\frac{U}{t}\right) & 0 & 0 & 0 & 1 & \frac{-(U+\mathbf{i}\sqrt{3}U)}{2t} & 0 & 0 & -\left(\frac{1}{\sqrt{2}}\right) & 0 \\
0 & 0 & 0 & -1+\mathbf{i}\sqrt{3} & \frac{1-\mathbf{i}\sqrt{3}}{\sqrt{2}} & \frac{U}{t} & 0 & 0 & \frac{1+\mathbf{i}\sqrt{3}}{2} & -\left(\frac{\sqrt{2}U}{t}\right) & \frac{\frac{\mathbf{i}}{2}(\mathbf{i}+\sqrt{3})U}{t} & \frac{1-\mathbf{i}\sqrt{3}}{2} & \frac{(-1-\mathbf{i}\sqrt{3})U}{\sqrt{2}t} & \frac{-1-\mathbf{i}\sqrt{3}}{\sqrt{2}} & 0 & -1-\mathbf{i}\sqrt{3} \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & \mathbf{i}\sqrt{3} & \frac{\frac{-\mathbf{i}}{2}(-3\mathbf{i}+\sqrt{3})U}{t} & \frac{3-\mathbf{i}\sqrt{3}}{\sqrt{2}} & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & \frac{-3-\mathbf{i}\sqrt{3}}{\sqrt{2}} & 0 & \frac{\mathbf{i}}{2}(\mathbf{i}+\sqrt{3}) & \frac{(3-\mathbf{i}\sqrt{3})U}{2t} & 0 & 0 & 0 & \frac{-\mathbf{i}}{2}(-\mathbf{i}+\sqrt{3}) & 0 & \mathbf{i}\sqrt{6} & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & \frac{\sqrt{2}U}{t} & \frac{-3-\mathbf{i}\sqrt{3}}{\sqrt{2}} & 0 & 0 & 0 & \frac{\mathbf{i}(\mathbf{i}+\sqrt{3})U}{\sqrt{2}t} & 0 & 0 & 0 & 0 \\
0 & \sqrt{\frac{3}{2}} & 0 & 0 & 0 & -1 & \frac{U+\mathbf{i}\sqrt{3}U}{2t} & 0 & 0 & 0 & 0 & -\left(\frac{U}{t}\right) & \frac{1+\mathbf{i}\sqrt{3}}{\sqrt{2}} & 0 & \mathbf{i}\sqrt{\frac{3}{2}} & 0 \\
0 & 0 & 0 & 2 & \frac{1-\mathbf{i}\sqrt{3}}{\sqrt{2}} & \frac{U-\mathbf{i}\sqrt{3}U}{2t} & \frac{-\mathbf{i}}{2}(-\mathbf{i}+\sqrt{3}) & 0 & \frac{1-\mathbf{i}\sqrt{3}}{2} & \frac{(1+\mathbf{i}\sqrt{3})U}{\sqrt{2}t} & \frac{U}{t} & 0 & -\left(\frac{\sqrt{2}U}{t}\right) & \frac{\mathbf{i}(\mathbf{i}+\sqrt{3})}{\sqrt{2}} & 0 & -1-\mathbf{i}\sqrt{3} \\
0 & 0 & 0 & 0 & 0 & 0 & \frac{(1-\mathbf{i}\sqrt{3})U}{\sqrt{2}t} & 0 & 0 & 0 & \frac{\mathbf{i}(\mathbf{i}+\sqrt{3})}{\sqrt{2}} & \frac{\sqrt{2}U}{t} & 0 & 0 & -1+\mathbf{i}\sqrt{3} & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & \frac{1-\mathbf{i}\sqrt{3}}{\sqrt{2}} & 0 & \mathbf{i}\sqrt{6} & 0 & 0 & \frac{1+\mathbf{i}\sqrt{3}}{\sqrt{2}} & 0 & -\mathbf{i}\sqrt{3} & \frac{\frac{\mathbf{i}}{2}(3\mathbf{i}+\sqrt{3})U}{t} & \frac{3-\mathbf{i}\sqrt{3}}{\sqrt{2}} \\
0 & \frac{-\sqrt{3}}{2} & \frac{3\mathbf{i}U}{\sqrt{2}t} & 0 & 0 & \frac{1}{\sqrt{2}} & 0 & 0 & 0 & 0 & \mathbf{i}\sqrt{\frac{3}{2}} & 0 & 1+\mathbf{i}\sqrt{3} & \frac{(3+\mathbf{i}\sqrt{3})U}{2t} & \frac{\mathbf{i}}{2}\sqrt{3} & \frac{-\mathbf{i}\sqrt{\frac{3}{2}}U}{t} \\
0 & \frac{\sqrt{\frac{3}{2}}U}{t} & 0 & 0 & 0 & 0 & 1-\mathbf{i}\sqrt{3} & 0 & 0 & 0 & 0 & 1-\mathbf{i}\sqrt{3} & 0 & \frac{-3-\mathbf{i}\sqrt{3}}{\sqrt{2}} & \frac{-\mathbf{i}\sqrt{\frac{3}{2}}U}{t} & 0
\end{bmatrix}
$$