$$
K_{58}^2 = \begin{bmatrix}
-\left(\frac{\left(29+9\sqrt{6}\right)U}{\left(6+\sqrt{6}\right)t}\right) & -\left(\frac{\sqrt{\frac{5}{6}}U}{t}\right) & 0 & 0 & 0 & \frac{\left(\sqrt{2}-3\sqrt{3}\right)U}{\sqrt{6+\sqrt{6}}t} & \frac{\sqrt{6+\sqrt{6}}U}{2t} & \frac{-4\left(1+\sqrt{6}\right)}{\sqrt{6+\sqrt{6}}} & 0 & 0 & 0 & 0 \\
-\left(\frac{\sqrt{\frac{5}{6}}U}{t}\right) & \frac{\left(-83+38\sqrt{6}\right)U}{\left(12-7\sqrt{6}\right)t} & 0 & 0 & 0 & \frac{\left(\sqrt{\frac{2}{6-\sqrt{6}}}+3\sqrt{\frac{3}{6-\sqrt{6}}}\right)U}{t} & \frac{-3\left(\sqrt{2}-2\sqrt{3}\right)U}{2\sqrt{18-3\sqrt{6}}t} & \frac{4\left(-1+\sqrt{6}\right)}{\sqrt{6-\sqrt{6}}} & 0 & 0 & 0 & 0 \\
0 & 0 & \frac{-15U}{2t} & \frac{3U}{\sqrt{2}t} & 0 & -\left(\frac{\sqrt{\frac{3}{2}}U}{t}\right) & \frac{\sqrt{3}U}{2t} & 0 & 0 & \frac{\sqrt{3}U}{2t} & -\left(\frac{\sqrt{\frac{3}{2}}U}{t}\right) & \frac{-\left(\sqrt{3}U^2\right)}{2t^2} \\
0 & 0 & \frac{3U}{\sqrt{2}t} & \frac{-6U}{t} & 0 & 0 & 0 & -2\sqrt{6} & 0 & -\left(\frac{\sqrt{\frac{3}{2}}U}{t}\right) & -\left(\frac{\sqrt{3}U}{t}\right) & -\left(\frac{\sqrt{\frac{3}{2}}U^2}{t^2}\right) \\
0 & 0 & 0 & 0 & \frac{-4U}{t} & -\left(\frac{U^2}{t^2}\right) & -2\sqrt{2} & -\left(\frac{\sqrt{2}U}{t}\right) & \frac{U}{t} & -2\sqrt{2} & 0 & \frac{\sqrt{2}U}{t} \\
\frac{\left(\sqrt{2}-3\sqrt{3}\right)U}{\sqrt{6+\sqrt{6}}t} & \frac{\left(\sqrt{\frac{2}{6-\sqrt{6}}}+3\sqrt{\frac{3}{6-\sqrt{6}}}\right)U}{t} & -\left(\frac{\sqrt{\frac{3}{2}}U}{t}\right) & 0 & -\left(\frac{U^2}{t^2}\right) & \frac{-2U}{t} & \frac{U}{\sqrt{2}t} & 0 & 0 & \frac{-3U}{\sqrt{2}t} & \frac{-2U}{t} & 0 \\
\frac{\sqrt{6+\sqrt{6}}U}{2t} & \frac{-3\left(\sqrt{2}-2\sqrt{3}\right)U}{2\sqrt{18-3\sqrt{6}}t} & \frac{\sqrt{3}U}{2t} & 0 & -2\sqrt{2} & \frac{U}{\sqrt{2}t} & \frac{-11U}{2t} & -\left(\frac{U^2}{t^2}\right) & \frac{4t^2-U^2}{\sqrt{2}t^2} & \frac{3U}{2t} & -\left(\frac{\sqrt{2}U}{t}\right) & -4 \\
\frac{-4\left(1+\sqrt{6}\right)}{\sqrt{6+\sqrt{6}}} & \frac{4\left(-1+\sqrt{6}\right)}{\sqrt{6-\sqrt{6}}} & 0 & -2\sqrt{6} & -\left(\frac{\sqrt{2}U}{t}\right) & 0 & -\left(\frac{U^2}{t^2}\right) & \frac{-4U}{t} & 0 & 0 & 2\sqrt{2} & 0 \\
0 & 0 & 0 & 0 & \frac{U}{t} & 0 & \frac{4t^2-U^2}{\sqrt{2}t^2} & 0 & \frac{-7U}{t} & 2\sqrt{2} & 0 & \frac{U}{\sqrt{2}t} \\
0 & 0 & \frac{\sqrt{3}U}{2t} & -\left(\frac{\sqrt{\frac{3}{2}}U}{t}\right) & -2\sqrt{2} & \frac{-3U}{\sqrt{2}t} & \frac{3U}{2t} & 0 & 2\sqrt{2} & \frac{-9U}{2t} & \frac{5U}{\sqrt{2}t} & -4+\frac{U^2}{2t^2} \\
0 & 0 & -\left(\frac{\sqrt{\frac{3}{2}}U}{t}\right) & -\left(\frac{\sqrt{3}U}{t}\right) & 0 & \frac{-2U}{t} & -\left(\frac{\sqrt{2}U}{t}\right) & 2\sqrt{2} & 0 & \frac{5U}{\sqrt{2}t} & \frac{-4U}{t} & \frac{U^2}{\sqrt{2}t^2} \\
0 & 0 & \frac{-\left(\sqrt{3}U^2\right)}{2t^2} & -\left(\frac{\sqrt{\frac{3}{2}}U^2}{t^2}\right) & \frac{\sqrt{2}U}{t} & 0 & -4 & 0 & \frac{U}{\sqrt{2}t} & -4+\frac{U^2}{2t^2} & \frac{U^2}{\sqrt{2}t^2} & \frac{-3U}{2t}
\end{bmatrix}
$$