$$
H_{35} = \begin{bmatrix}
-2\,h - 6\,\mu + U & \frac{-13\,t}{12} + \frac{\mathbf{i}\,t}{4\,\sqrt{3}} & \frac{3\,\mathbf{i}}{2}\,t + \frac{\sqrt{3}\,t}{2} & 0 & 0 & \frac{\mathbf{i}}{2}\,t + \frac{\sqrt{3}\,t}{2} & 0 & 0 & 0 & \frac{-t}{3\,\sqrt{2}} + \frac{\mathbf{i}\,t}{\sqrt{6}} & 0 & \frac{3\,\mathbf{i}}{4}\,t - \frac{\sqrt{3}\,t}{4} \\
\frac{-13\,t}{12} - \frac{\mathbf{i}\,t}{4\,\sqrt{3}} & -2\,h - 6\,\mu + U & 0 & \frac{-3\,\mathbf{i}}{2}\,t + \frac{5\,t}{2\,\sqrt{3}} & \frac{-4\,\mathbf{i}\,t}{\sqrt{3}} & 0 & 0 & 0 & \mathbf{i}\,\sqrt{\frac{2}{3}}\,t + \frac{\sqrt{2}\,t}{3} & 0 & \frac{\mathbf{i}}{4}\,t + \frac{t}{4\,\sqrt{3}} & 0 \\
\frac{-3\,\mathbf{i}}{2}\,t + \frac{\sqrt{3}\,t}{2} & 0 & -2\,h - 6\,\mu + 2\,U & \frac{3\,t}{4} + \frac{\mathbf{i}}{4}\,\sqrt{3}\,t & 0 & 0 & 0 & \frac{3\,\mathbf{i}}{4}\,t - \frac{\sqrt{3}\,t}{4} & 0 & 0 & \frac{3\,t}{2} - \frac{\mathbf{i}}{2}\,\sqrt{3}\,t & 0 \\
0 & \frac{3\,\mathbf{i}}{2}\,t + \frac{5\,t}{2\,\sqrt{3}} & \frac{3\,t}{4} - \frac{\mathbf{i}}{4}\,\sqrt{3}\,t & -2\,h - 6\,\mu + 2\,U & 0 & t & \frac{-3\,\mathbf{i}}{4}\,t - \frac{\sqrt{3}\,t}{4} & 0 & 0 & 2\,\sqrt{\frac{2}{3}}\,t & 0 & \frac{-t}{2} + \frac{\mathbf{i}}{2}\,\sqrt{3}\,t \\
0 & \frac{4\,\mathbf{i}\,t}{\sqrt{3}} & 0 & 0 & -2\,h - 6\,\mu & 0 & 0 & 0 & 0 & \frac{3\,t}{\sqrt{2}} + \frac{\mathbf{i}\,t}{\sqrt{6}} & 0 & 0 \\
\frac{-\mathbf{i}}{2}\,t + \frac{\sqrt{3}\,t}{2} & 0 & 0 & t & 0 & -2\,h - 6\,\mu + U & 0 & -\left(\sqrt{3}\,t\right) & -\left(\sqrt{\frac{3}{2}}\,t\right) + \frac{\mathbf{i}\,t}{\sqrt{2}} & 0 & \frac{3\,t}{2} - \frac{\mathbf{i}}{2}\,\sqrt{3}\,t & 0 \\
0 & 0 & 0 & \frac{3\,\mathbf{i}}{4}\,t - \frac{\sqrt{3}\,t}{4} & 0 & 0 & -2\,h - 6\,\mu + 2\,U & \frac{t}{4} + \frac{3\,\mathbf{i}}{4}\,\sqrt{3}\,t & 0 & 0 & -\left(\sqrt{3}\,t\right) & 0 \\
0 & 0 & \frac{-3\,\mathbf{i}}{4}\,t - \frac{\sqrt{3}\,t}{4} & 0 & 0 & -\left(\sqrt{3}\,t\right) & \frac{t}{4} - \frac{3\,\mathbf{i}}{4}\,\sqrt{3}\,t & -2\,h - 6\,\mu + 2\,U & 0 & 0 & 0 & 0 \\
0 & -\mathbf{i}\,\sqrt{\frac{2}{3}}\,t + \frac{\sqrt{2}\,t}{3} & 0 & 0 & 0 & -\left(\sqrt{\frac{3}{2}}\,t\right) - \frac{\mathbf{i}\,t}{\sqrt{2}} & 0 & 0 & -2\,h - 6\,\mu + U & \frac{-7\,t}{6} + \frac{\frac{\mathbf{i}}{2}\,t}{\sqrt{3}} & 0 & 0 \\
\frac{-t}{3\,\sqrt{2}} - \frac{\mathbf{i}\,t}{\sqrt{6}} & 0 & 0 & 2\,\sqrt{\frac{2}{3}}\,t & \frac{3\,t}{\sqrt{2}} - \frac{\mathbf{i}\,t}{\sqrt{6}} & 0 & 0 & 0 & \frac{-7\,t}{6} - \frac{\frac{\mathbf{i}}{2}\,t}{\sqrt{3}} & -2\,h - 6\,\mu + U & \frac{\mathbf{i}\,t}{\sqrt{2}} + \frac{t}{\sqrt{6}} & 0 \\
0 & \frac{-\mathbf{i}}{4}\,t + \frac{t}{4\,\sqrt{3}} & \frac{3\,t}{2} + \frac{\mathbf{i}}{2}\,\sqrt{3}\,t & 0 & 0 & \frac{3\,t}{2} + \frac{\mathbf{i}}{2}\,\sqrt{3}\,t & -\left(\sqrt{3}\,t\right) & 0 & 0 & \frac{-\mathbf{i}\,t}{\sqrt{2}} + \frac{t}{\sqrt{6}} & -2\,h - 6\,\mu + U & \frac{-5\,t}{4} + \frac{\mathbf{i}}{4}\,\sqrt{3}\,t \\
\frac{-3\,\mathbf{i}}{4}\,t - \frac{\sqrt{3}\,t}{4} & 0 & 0 & \frac{-t}{2} - \frac{\mathbf{i}}{2}\,\sqrt{3}\,t & 0 & 0 & 0 & 0 & 0 & 0 & \frac{-5\,t}{4} - \frac{\mathbf{i}}{4}\,\sqrt{3}\,t & -2\,h - 6\,\mu + U
\end{bmatrix}
$$