$$
\begin{aligned}
\Psi_{178} &= C_1\left(|2duu\rangle - i\,|duu2\rangle + i\,|u2du\rangle - |uu2d\rangle\right) \\
&\quad + C_2\left(|2uud\rangle + i\,|d2uu\rangle - |ud2u\rangle - i\,|uud2\rangle\right) \\
&\quad + C_3\left(|2udu\rangle - |du2u\rangle + i\,|u2ud\rangle - i\,|udu2\rangle\right) \\
&\quad + C_4\left(-|0u22\rangle - i\,|20u2\rangle + |220u\rangle + i\,|u220\rangle\right) \\
&\quad + C_5\left(i\,|022u\rangle + |22u0\rangle - i\,|2u02\rangle - |u022\rangle\right) \\
&\quad + C_6\left(i\,|02u2\rangle - |202u\rangle + |2u20\rangle - i\,|u202\rangle\right)
\end{aligned}
$$

$$
C_1 = \frac{-\left(\sqrt{2}\,\left(2\,t^2\,\left(-2\,U+\sqrt{32\,t^2+U^2-4\,\sqrt{64\,t^4+3\,t^2\,U^2}}\right)+\sqrt{64\,t^4+3\,t^2\,U^2}\,\left(U+\sqrt{32\,t^2+U^2-4\,\sqrt{64\,t^4+3\,t^2\,U^2}}\right)\right)\right)}{3\,t\,\left(U+\sqrt{32\,t^2+U^2-4\,\sqrt{64\,t^4+3\,t^2\,U^2}}\right)\,\left(4\,t+i\,\left(U+\sqrt{32\,t^2+U^2-4\,\sqrt{64\,t^4+3\,t^2\,U^2}}\right)\right)}
$$

$$
C_2 = \frac{3+\frac{2\left(2\,t^2\,\left(-2\,U+\sqrt{32\,t^2+U^2-4\,\sqrt{64\,t^4+3\,t^2\,U^2}}\right)+\sqrt{64\,t^4+3\,t^2\,U^2}\,\left(U+\sqrt{32\,t^2+U^2-4\,\sqrt{64\,t^4+3\,t^2\,U^2}}\right)\right)}{t\,\left(U+\sqrt{32\,t^2+U^2-4\,\sqrt{64\,t^4+3\,t^2\,U^2}}\right)\,\left(4\,t+i\,\left(U+\sqrt{32\,t^2+U^2-4\,\sqrt{64\,t^4+3\,t^2\,U^2}}\right)\right)}}{6\,\sqrt{2}}
$$

$$
C_3 = \frac{-3+\frac{2\left(2\,t^2\,\left(-2\,U+\sqrt{32\,t^2+U^2-4\,\sqrt{64\,t^4+3\,t^2\,U^2}}\right)+\sqrt{64\,t^4+3\,t^2\,U^2}\,\left(U+\sqrt{32\,t^2+U^2-4\,\sqrt{64\,t^4+3\,t^2\,U^2}}\right)\right)}{t\,\left(U+\sqrt{32\,t^2+U^2-4\,\sqrt{64\,t^4+3\,t^2\,U^2}}\right)\,\left(4\,t+i\,\left(U+\sqrt{32\,t^2+U^2-4\,\sqrt{64\,t^4+3\,t^2\,U^2}}\right)\right)}}{6\,\sqrt{2}}
$$

$$
C_4 = \frac{\sqrt{2}\,\left(-8\,i\,t^2+t\,U+i\,\sqrt{64\,t^4+3\,t^2\,U^2}\right)}{\left(U+\sqrt{32\,t^2+U^2-4\,\sqrt{64\,t^4+3\,t^2\,U^2}}\right)\,\left(-4\,i\,t+U+\sqrt{32\,t^2+U^2-4\,\sqrt{64\,t^4+3\,t^2\,U^2}}\right)}
$$

$$
C_5 = \frac{2\,i\,\sqrt{2}\,t\,\sqrt{32\,t^2+U^2-4\,\sqrt{64\,t^4+3\,t^2\,U^2}}}{\left(U+\sqrt{32\,t^2+U^2-4\,\sqrt{64\,t^4+3\,t^2\,U^2}}\right)\,\left(-4\,i\,t+U+\sqrt{32\,t^2+U^2-4\,\sqrt{64\,t^4+3\,t^2\,U^2}}\right)}
$$

$$
C_6 = -\left(\frac{\sqrt{2}\,\left(-8\,i\,t^2+i\,\sqrt{64\,t^4+3\,t^2\,U^2}+t\,\left(U+2\,\sqrt{32\,t^2+U^2-4\,\sqrt{64\,t^4+3\,t^2\,U^2}}\right)\right)}{\left(U+\sqrt{32\,t^2+U^2-4\,\sqrt{64\,t^4+3\,t^2\,U^2}}\right)\,\left(-4\,i\,t+U+\sqrt{32\,t^2+U^2-4\,\sqrt{64\,t^4+3\,t^2\,U^2}}\right)}\right)
$$