$$
\begin{aligned}
\Psi_{132} &= C_1\left(-|0202\rangle + |2020\rangle\right) \\
&\quad + C_2\left(|02du\rangle - |02ud\rangle + |0du2\rangle - |0ud2\rangle - |20du\rangle + |20ud\rangle - |2du0\rangle + |2ud0\rangle - |d02u\rangle + |d20u\rangle + |du02\rangle - |du20\rangle + |u02d\rangle - |u20d\rangle - |ud02\rangle + |ud20\rangle\right) \\
&\quad + C_3\left(-|0d2u\rangle + |0u2d\rangle - |2d0u\rangle + |2u0d\rangle + |d0u2\rangle + |d2u0\rangle - |u0d2\rangle - |u2d0\rangle\right)
\end{aligned}
$$

$$
C_1 = \frac{48\,t^2 + U^2 + U\left(-36\,t^2\,U + U^3 + 6\,\sqrt{6}\,\sqrt{-\left(t^2\,\left(512\,t^4 + 26\,t^2\,U^2 + U^4\right)\right)}\right)^{\frac{1}{3}} + \left(-36\,t^2\,U + U^3 + 6\,\sqrt{6}\,\sqrt{-\left(t^2\,\left(512\,t^4 + 26\,t^2\,U^2 + U^4\right)\right)}\right)^{\frac{2}{3}}}{\sqrt{2}\,\left(48\,t^2 + \left(U - \left(-36\,t^2\,U + U^3 + 6\,\sqrt{6}\,\sqrt{-\left(t^2\,\left(512\,t^4 + 26\,t^2\,U^2 + U^4\right)\right)}\right)^{\frac{1}{3}}\right)^2\right)}
$$

$$
C_2 = \frac{48\,t^2 + U^2 + U\left(-36\,t^2\,U + U^3 + 6\,\sqrt{6}\,\sqrt{-\left(t^2\,\left(512\,t^4 + 26\,t^2\,U^2 + U^4\right)\right)}\right)^{\frac{1}{3}} + \left(-36\,t^2\,U + U^3 + 6\,\sqrt{6}\,\sqrt{-\left(t^2\,\left(512\,t^4 + 26\,t^2\,U^2 + U^4\right)\right)}\right)^{\frac{2}{3}}}{24\,\sqrt{2}\,t\,\left(-36\,t^2\,U + U^3 + 6\,\sqrt{6}\,\sqrt{-\left(t^2\,\left(512\,t^4 + 26\,t^2\,U^2 + U^4\right)\right)}\right)^{\frac{1}{3}}}
$$

$$
C_3 = \frac{1}{2\,\sqrt{2}}
$$