$$
\begin{aligned}
\Psi_{19} &= C_1 \left(i \left|0002\right\rangle - \left|0020\right\rangle - i \left|0200\right\rangle + \left|2000\right\rangle \right) \\
&\quad + C_2 \left(\left|00du\right\rangle - \left|00ud\right\rangle + i \left|0du0\right\rangle - i \left|0ud0\right\rangle - i \left|d00u\right\rangle - \left|du00\right\rangle + i \left|u00d\right\rangle + \left|ud00\right\rangle \right)
\end{aligned}
$$

$$
C_1 = \frac{\left(\frac{1}{4} - \frac{i}{4}\right) \left(U + \sqrt{16\,t^2 + U^2}\right)}{t \sqrt{\frac{16\,t^2 + U\left(U + \sqrt{16\,t^2 + U^2}\right)}{t^2}}}
$$

$$
C_2 = \frac{1}{\sqrt{\frac{16\,t^2 + U\left(U + \sqrt{16\,t^2 + U^2}\right)}{t^2}}}
$$