$$
\begin{aligned}
\Psi_{27} &= C_1\left(-|00du\rangle - |00ud\rangle - i\,|0du0\rangle - i\,|0ud0\rangle - i\,|d00u\rangle + |du00\rangle - i\,|u00d\rangle + |ud00\rangle\right) \\
&\quad + C_2\left(-i\,|0d0u\rangle - i\,|0u0d\rangle + |d0u0\rangle + |u0d0\rangle\right)
\end{aligned}
$$

$$
C_1 = \frac{-\left(\frac{1}{4}\right) - \frac{i}{4}}{\sqrt{2}}
$$

$$
C_2 = \frac{\frac{-i}{2}}{\sqrt{2}}
$$