$$
\begin{aligned}
\Psi_{147} &= C_1\left(-|0d2d\rangle + |2d0d\rangle - |d0d2\rangle + |d2d0\rangle\right) \\
&\quad + C_2\left(|02dd\rangle - |0dd2\rangle + |20dd\rangle - |2dd0\rangle + |d02d\rangle + |d20d\rangle + |dd02\rangle + |dd20\rangle\right)
\end{aligned}
$$

$$
C_1 = \frac{\frac{i}{2}}{\sqrt{2}}
$$

$$
C_2 = \frac{1}{4}
$$