197^{th} Eigenvector

$$\boldsymbol{N_e = 5} \qquad \boldsymbol{s = \frac{1}{2}} \qquad \boldsymbol{m_s = \frac{1}{2}}$$

Irred. Representation : $\boldsymbol{\Gamma_{3,2}}$

$$E_{197} = \frac{1}{2}\left(-J + 2t + 3U + 34W + \sqrt{A_7}\right)$$

$$\begin{aligned}
|\Psi_{197}\rangle &= |5, \frac{1}{2}, \frac{1}{2}, \Gamma_{3,2}\rangle \\
&= C_{197,1}\left(|022u\rangle - |0u22\rangle + |20u2\rangle - |220u\rangle - |22u0\rangle + |2u02\rangle - |u022\rangle + |u220\rangle\right) \\
&+ C_{197,2}\left(|2duu\rangle + |2uud\rangle - |d2uu\rangle - |duu2\rangle - |u2du\rangle + |ud2u\rangle + |uu2d\rangle - |uud2\rangle\right) \\
&+ C_{197,3}\left(|2udu\rangle + |du2u\rangle - |u2ud\rangle - |udu2\rangle\right)
\end{aligned}$$

$$\begin{aligned}
C_{197-1} &= \frac{1}{2}\sqrt{\frac{3}{2}}t \\
C_{197-2} &= -\frac{J + 2t + U - 2W - \sqrt{A_7}}{4\sqrt{6}} \\
C_{197-3} &= \frac{J + 2t + U - 2W - \sqrt{A_7}}{2\sqrt{6}} \\
N_{197} &= 2\sqrt{2C_{197,1}^2 + 2C_{197,2}^2 + C_{197,3}^2}
\end{aligned}$$