

$$\begin{array}{lcl}
C_{3v} & : & 3X_{21} \xrightarrow[\text{1 free lh.: } E_{1/2}]{\text{Pauli exc. } \begin{smallmatrix} \text{1 free e.: } E_{1/2} \\ \text{0 free hh.: } A_1 \end{smallmatrix}} E_{1/2} \otimes E_{1/2} \xrightarrow{j\text{-coupling}} A_1 \oplus A_2 \oplus E \\
T_d & : & 2X_{11}^- \xrightarrow[\text{2 free h.: } A_1 \oplus E \oplus T_2]{\text{Pauli exc. } \begin{smallmatrix} \text{1 free e.: } E_{1/2} \end{smallmatrix}} E_{1/2} \oplus E_{5/2} \oplus F_{3/2} \oplus F_{3/2}
\end{array}$$