PG No. 27 D_{6h} $6/mmm$ [hexagonal]

Table 1: Representation matrices

Irrep.

A_{1g}

$1:[1]$	$3^+_{001}:[1]$	$3^-_{001}:[1]$	$2_{001}:[1]$	$6^-_{001}:[1]$	$6^+_{001}:[1]$
$2_{110}:[1]$	$2_{100}:[1]$	$2_{010}:[1]$	$2_{1-10}:[1]$	$2_{120}:[1]$	$2_{210}:[1]$
$-1:[1]$	$-3^+_{001}:[1]$	$-3^-_{001}:[1]$	$m_{001}:[1]$	$-6^-_{001}:[1]$	$-6^+_{001}:[1]$
$m_{110}:[1]$	$m_{100}:[1]$	$m_{010}:[1]$	$m_{1-10}:[1]$	$m_{120}:[1]$	$m_{210}:[1]$

A_{2g}

$1:[1]$	$3^+_{001}:[1]$	$3^-_{001}:[1]$	$2_{001}:[1]$	$6^-_{001}:[1]$	$6^+_{001}:[1]$
$2_{110}:[-1]$	$2_{100}:[-1]$	$2_{010}:[-1]$	$2_{1-10}:[-1]$	$2_{120}:[-1]$	$2_{210}:[-1]$
$-1:[1]$	$-3^+_{001}:[1]$	$-3^-_{001}:[1]$	$m_{001}:[1]$	$-6^-_{001}:[1]$	$-6^+_{001}:[1]$
$m_{110}:[-1]$	$m_{100}:[-1]$	$m_{010}:[-1]$	$m_{1-10}:[-1]$	$m_{120}:[-1]$	$m_{210}:[-1]$

B_{1g}

$1:[1]$	$3^+_{001}:[1]$	$3^-_{001}:[1]$	$2_{001}:[-1]$	$6^-_{001}:[-1]$	$6^+_{001}:[-1]$
$2_{110}:[-1]$	$2_{100}:[-1]$	$2_{010}:[-1]$	$2_{1-10}:[1]$	$2_{120}:[1]$	$2_{210}:[1]$
$-1:[1]$	$-3^+_{001}:[1]$	$-3^-_{001}:[1]$	$m_{001}:[-1]$	$-6^-_{001}:[-1]$	$-6^+_{001}:[-1]$
$m_{110}:[-1]$	$m_{100}:[-1]$	$m_{010}:[-1]$	$m_{1-10}:[1]$	$m_{120}:[1]$	$m_{210}:[1]$

B_{2g}

$1:[1]$	$3^+_{001}:[1]$	$3^-_{001}:[1]$	$2_{001}:[-1]$	$6^-_{001}:[-1]$	$6^+_{001}:[-1]$
$2_{110}:[1]$	$2_{100}:[1]$	$2_{010}:[1]$	$2_{1-10}:[-1]$	$2_{120}:[-1]$	$2_{210}:[-1]$
$-1:[1]$	$-3^+_{001}:[1]$	$-3^-_{001}:[1]$	$m_{001}:[-1]$	$-6^-_{001}:[-1]$	$-6^+_{001}:[-1]$
$m_{110}:[1]$	$m_{100}:[1]$	$m_{010}:[1]$	$m_{1-10}:[-1]$	$m_{120}:[-1]$	$m_{210}:[-1]$

E_{1g}

$$1:\begin{bmatrix}1&0\\0&1\end{bmatrix}\quad 3^+_{001}:\begin{bmatrix}-\tfrac12&-\tfrac{\sqrt3}{2}\\\tfrac{\sqrt3}{2}&-\tfrac12\end{bmatrix}\quad 3^-_{001}:\begin{bmatrix}-\tfrac12&\tfrac{\sqrt3}{2}\\-\tfrac{\sqrt3}{2}&-\tfrac12\end{bmatrix}\quad 2_{001}:\begin{bmatrix}-1&0\\0&-1\end{bmatrix}\quad 6^-_{001}:\begin{bmatrix}\tfrac12&\tfrac{\sqrt3}{2}\\-\tfrac{\sqrt3}{2}&\tfrac12\end{bmatrix}\quad 6^+_{001}:\begin{bmatrix}\tfrac12&-\tfrac{\sqrt3}{2}\\\tfrac{\sqrt3}{2}&\tfrac12\end{bmatrix}$$

$$2_{110}:\begin{bmatrix}-\tfrac12&\tfrac{\sqrt3}{2}\\\tfrac{\sqrt3}{2}&\tfrac12\end{bmatrix}\quad 2_{100}:\begin{bmatrix}1&0\\0&-1\end{bmatrix}\quad 2_{010}:\begin{bmatrix}-\tfrac12&-\tfrac{\sqrt3}{2}\\-\tfrac{\sqrt3}{2}&\tfrac12\end{bmatrix}\quad 2_{1-10}:\begin{bmatrix}\tfrac12&-\tfrac{\sqrt3}{2}\\-\tfrac{\sqrt3}{2}&-\tfrac12\end{bmatrix}\quad 2_{120}:\begin{bmatrix}-1&0\\0&1\end{bmatrix}\quad 2_{210}:\begin{bmatrix}\tfrac12&\tfrac{\sqrt3}{2}\\\tfrac{\sqrt3}{2}&-\tfrac12\end{bmatrix}$$

$$-1:\begin{bmatrix}1&0\\0&1\end{bmatrix}\quad -3^+_{001}:\begin{bmatrix}-\tfrac12&-\tfrac{\sqrt3}{2}\\\tfrac{\sqrt3}{2}&-\tfrac12\end{bmatrix}\quad -3^-_{001}:\begin{bmatrix}-\tfrac12&\tfrac{\sqrt3}{2}\\-\tfrac{\sqrt3}{2}&-\tfrac12\end{bmatrix}\quad m_{001}:\begin{bmatrix}-1&0\\0&-1\end{bmatrix}\quad -6^-_{001}:\begin{bmatrix}\tfrac12&\tfrac{\sqrt3}{2}\\-\tfrac{\sqrt3}{2}&\tfrac12\end{bmatrix}\quad -6^+_{001}:\begin{bmatrix}\tfrac12&-\tfrac{\sqrt3}{2}\\\tfrac{\sqrt3}{2}&\tfrac12\end{bmatrix}$$

$$m_{110}:\begin{bmatrix}-\tfrac12&\tfrac{\sqrt3}{2}\\\tfrac{\sqrt3}{2}&\tfrac12\end{bmatrix}\quad m_{100}:\begin{bmatrix}1&0\\0&-1\end{bmatrix}\quad m_{010}:\begin{bmatrix}-\tfrac12&-\tfrac{\sqrt3}{2}\\-\tfrac{\sqrt3}{2}&\tfrac12\end{bmatrix}\quad m_{1-10}:\begin{bmatrix}\tfrac12&-\tfrac{\sqrt3}{2}\\-\tfrac{\sqrt3}{2}&-\tfrac12\end{bmatrix}\quad m_{120}:\begin{bmatrix}-1&0\\0&1\end{bmatrix}\quad m_{210}:\begin{bmatrix}\tfrac12&\tfrac{\sqrt3}{2}\\\tfrac{\sqrt3}{2}&-\tfrac12\end{bmatrix}$$

E_{2g}

$$1:\begin{bmatrix}1&0\\0&1\end{bmatrix}\quad 3^+_{001}:\begin{bmatrix}-\tfrac12&-\tfrac{\sqrt3}{2}\\\tfrac{\sqrt3}{2}&-\tfrac12\end{bmatrix}\quad 3^-_{001}:\begin{bmatrix}-\tfrac12&\tfrac{\sqrt3}{2}\\-\tfrac{\sqrt3}{2}&-\tfrac12\end{bmatrix}\quad 2_{001}:\begin{bmatrix}1&0\\0&1\end{bmatrix}\quad 6^-_{001}:\begin{bmatrix}-\tfrac12&-\tfrac{\sqrt3}{2}\\\tfrac{\sqrt3}{2}&-\tfrac12\end{bmatrix}\quad 6^+_{001}:\begin{bmatrix}-\tfrac12&\tfrac{\sqrt3}{2}\\-\tfrac{\sqrt3}{2}&-\tfrac12\end{bmatrix}$$

$$2_{110}:\begin{bmatrix}-\tfrac12&\tfrac{\sqrt3}{2}\\\tfrac{\sqrt3}{2}&\tfrac12\end{bmatrix}\quad 2_{100}:\begin{bmatrix}1&0\\0&-1\end{bmatrix}\quad 2_{010}:\begin{bmatrix}-\tfrac12&-\tfrac{\sqrt3}{2}\\-\tfrac{\sqrt3}{2}&\tfrac12\end{bmatrix}\quad 2_{1-10}:\begin{bmatrix}-\tfrac12&\tfrac{\sqrt3}{2}\\\tfrac{\sqrt3}{2}&\tfrac12\end{bmatrix}\quad 2_{120}:\begin{bmatrix}1&0\\0&-1\end{bmatrix}\quad 2_{210}:\begin{bmatrix}-\tfrac12&-\tfrac{\sqrt3}{2}\\-\tfrac{\sqrt3}{2}&\tfrac12\end{bmatrix}$$

$$-1:\begin{bmatrix}1&0\\0&1\end{bmatrix}\quad -3^+_{001}:\begin{bmatrix}-\tfrac12&-\tfrac{\sqrt3}{2}\\\tfrac{\sqrt3}{2}&-\tfrac12\end{bmatrix}\quad -3^-_{001}:\begin{bmatrix}-\tfrac12&\tfrac{\sqrt3}{2}\\-\tfrac{\sqrt3}{2}&-\tfrac12\end{bmatrix}\quad m_{001}:\begin{bmatrix}1&0\\0&1\end{bmatrix}\quad -6^-_{001}:\begin{bmatrix}-\tfrac12&-\tfrac{\sqrt3}{2}\\\tfrac{\sqrt3}{2}&-\tfrac12\end{bmatrix}\quad -6^+_{001}:\begin{bmatrix}-\tfrac12&\tfrac{\sqrt3}{2}\\-\tfrac{\sqrt3}{2}&-\tfrac12\end{bmatrix}$$

Table 1

Irrep.	$m_{110}:\begin{bmatrix} -\frac{1}{2} & \frac{\sqrt{3}}{2} \\ \frac{\sqrt{3}}{2} & \frac{1}{2} \end{bmatrix}$	$m_{100}:\begin{bmatrix} 1 & 0 \\ 0 & -1 \end{bmatrix}$	$m_{010}:\begin{bmatrix} -\frac{1}{2} & -\frac{\sqrt{3}}{2} \\ -\frac{\sqrt{3}}{2} & \frac{1}{2} \end{bmatrix}$	$m_{1-10}:\begin{bmatrix} -\frac{1}{2} & \frac{\sqrt{3}}{2} \\ \frac{\sqrt{3}}{2} & \frac{1}{2} \end{bmatrix}$	$m_{120}:\begin{bmatrix} 1 & 0 \\ 0 & -1 \end{bmatrix}$	$m_{210}:\begin{bmatrix} -\frac{1}{2} & -\frac{\sqrt{3}}{2} \\ -\frac{\sqrt{3}}{2} & \frac{1}{2} \end{bmatrix}$
A_{1u}	$1:\begin{bmatrix}1\end{bmatrix}$	$3^+_{001}:\begin{bmatrix}1\end{bmatrix}$	$3^-_{001}:\begin{bmatrix}1\end{bmatrix}$	$2_{001}:\begin{bmatrix}1\end{bmatrix}$	$6^-_{001}:\begin{bmatrix}1\end{bmatrix}$	$6^+_{001}:\begin{bmatrix}1\end{bmatrix}$
	$2_{110}:\begin{bmatrix}1\end{bmatrix}$	$2_{100}:\begin{bmatrix}1\end{bmatrix}$	$2_{010}:\begin{bmatrix}1\end{bmatrix}$	$2_{1-10}:\begin{bmatrix}1\end{bmatrix}$	$2_{120}:\begin{bmatrix}1\end{bmatrix}$	$2_{210}:\begin{bmatrix}1\end{bmatrix}$
	$-1:\begin{bmatrix}-1\end{bmatrix}$	$-3^+_{001}:\begin{bmatrix}-1\end{bmatrix}$	$-3^-_{001}:\begin{bmatrix}-1\end{bmatrix}$	$m_{001}:\begin{bmatrix}-1\end{bmatrix}$	$-6^-_{001}:\begin{bmatrix}-1\end{bmatrix}$	$-6^+_{001}:\begin{bmatrix}-1\end{bmatrix}$
	$m_{110}:\begin{bmatrix}-1\end{bmatrix}$	$m_{100}:\begin{bmatrix}-1\end{bmatrix}$	$m_{010}:\begin{bmatrix}-1\end{bmatrix}$	$m_{1-10}:\begin{bmatrix}-1\end{bmatrix}$	$m_{120}:\begin{bmatrix}-1\end{bmatrix}$	$m_{210}:\begin{bmatrix}-1\end{bmatrix}$
A_{2u}	$1:\begin{bmatrix}1\end{bmatrix}$	$3^+_{001}:\begin{bmatrix}1\end{bmatrix}$	$3^-_{001}:\begin{bmatrix}1\end{bmatrix}$	$2_{001}:\begin{bmatrix}1\end{bmatrix}$	$6^-_{001}:\begin{bmatrix}1\end{bmatrix}$	$6^+_{001}:\begin{bmatrix}1\end{bmatrix}$
	$2_{110}:\begin{bmatrix}-1\end{bmatrix}$	$2_{100}:\begin{bmatrix}-1\end{bmatrix}$	$2_{010}:\begin{bmatrix}-1\end{bmatrix}$	$2_{1-10}:\begin{bmatrix}-1\end{bmatrix}$	$2_{120}:\begin{bmatrix}-1\end{bmatrix}$	$2_{210}:\begin{bmatrix}-1\end{bmatrix}$
	$-1:\begin{bmatrix}-1\end{bmatrix}$	$-3^+_{001}:\begin{bmatrix}-1\end{bmatrix}$	$-3^-_{001}:\begin{bmatrix}-1\end{bmatrix}$	$m_{001}:\begin{bmatrix}-1\end{bmatrix}$	$-6^-_{001}:\begin{bmatrix}-1\end{bmatrix}$	$-6^+_{001}:\begin{bmatrix}-1\end{bmatrix}$
	$m_{110}:\begin{bmatrix}1\end{bmatrix}$	$m_{100}:\begin{bmatrix}1\end{bmatrix}$	$m_{010}:\begin{bmatrix}1\end{bmatrix}$	$m_{1-10}:\begin{bmatrix}1\end{bmatrix}$	$m_{120}:\begin{bmatrix}1\end{bmatrix}$	$m_{210}:\begin{bmatrix}1\end{bmatrix}$
B_{1u}	$1:\begin{bmatrix}1\end{bmatrix}$	$3^+_{001}:\begin{bmatrix}1\end{bmatrix}$	$3^-_{001}:\begin{bmatrix}1\end{bmatrix}$	$2_{001}:\begin{bmatrix}-1\end{bmatrix}$	$6^-_{001}:\begin{bmatrix}-1\end{bmatrix}$	$6^+_{001}:\begin{bmatrix}-1\end{bmatrix}$
	$2_{110}:\begin{bmatrix}-1\end{bmatrix}$	$2_{100}:\begin{bmatrix}-1\end{bmatrix}$	$2_{010}:\begin{bmatrix}-1\end{bmatrix}$	$2_{1-10}:\begin{bmatrix}1\end{bmatrix}$	$2_{120}:\begin{bmatrix}1\end{bmatrix}$	$2_{210}:\begin{bmatrix}1\end{bmatrix}$
	$-1:\begin{bmatrix}-1\end{bmatrix}$	$-3^+_{001}:\begin{bmatrix}-1\end{bmatrix}$	$-3^-_{001}:\begin{bmatrix}-1\end{bmatrix}$	$m_{001}:\begin{bmatrix}1\end{bmatrix}$	$-6^-_{001}:\begin{bmatrix}1\end{bmatrix}$	$-6^+_{001}:\begin{bmatrix}1\end{bmatrix}$
	$m_{110}:\begin{bmatrix}1\end{bmatrix}$	$m_{100}:\begin{bmatrix}1\end{bmatrix}$	$m_{010}:\begin{bmatrix}1\end{bmatrix}$	$m_{1-10}:\begin{bmatrix}-1\end{bmatrix}$	$m_{120}:\begin{bmatrix}-1\end{bmatrix}$	$m_{210}:\begin{bmatrix}-1\end{bmatrix}$
B_{2u}	$1:\begin{bmatrix}1\end{bmatrix}$	$3^+_{001}:\begin{bmatrix}1\end{bmatrix}$	$3^-_{001}:\begin{bmatrix}1\end{bmatrix}$	$2_{001}:\begin{bmatrix}-1\end{bmatrix}$	$6^-_{001}:\begin{bmatrix}-1\end{bmatrix}$	$6^+_{001}:\begin{bmatrix}-1\end{bmatrix}$
	$2_{110}:\begin{bmatrix}1\end{bmatrix}$	$2_{100}:\begin{bmatrix}1\end{bmatrix}$	$2_{010}:\begin{bmatrix}1\end{bmatrix}$	$2_{1-10}:\begin{bmatrix}-1\end{bmatrix}$	$2_{120}:\begin{bmatrix}-1\end{bmatrix}$	$2_{210}:\begin{bmatrix}-1\end{bmatrix}$
	$-1:\begin{bmatrix}-1\end{bmatrix}$	$-3^+_{001}:\begin{bmatrix}-1\end{bmatrix}$	$-3^-_{001}:\begin{bmatrix}-1\end{bmatrix}$	$m_{001}:\begin{bmatrix}1\end{bmatrix}$	$-6^-_{001}:\begin{bmatrix}1\end{bmatrix}$	$-6^+_{001}:\begin{bmatrix}1\end{bmatrix}$
	$m_{110}:\begin{bmatrix}-1\end{bmatrix}$	$m_{100}:\begin{bmatrix}-1\end{bmatrix}$	$m_{010}:\begin{bmatrix}-1\end{bmatrix}$	$m_{1-10}:\begin{bmatrix}1\end{bmatrix}$	$m_{120}:\begin{bmatrix}1\end{bmatrix}$	$m_{210}:\begin{bmatrix}1\end{bmatrix}$
E_{1u}	$1:\begin{bmatrix}1 & 0 \\ 0 & 1\end{bmatrix}$	$3^+_{001}:\begin{bmatrix}-\frac{1}{2} & -\frac{\sqrt{3}}{2} \\ \frac{\sqrt{3}}{2} & -\frac{1}{2}\end{bmatrix}$	$3^-_{001}:\begin{bmatrix}-\frac{1}{2} & \frac{\sqrt{3}}{2} \\ -\frac{\sqrt{3}}{2} & -\frac{1}{2}\end{bmatrix}$	$2_{001}:\begin{bmatrix}-1 & 0 \\ 0 & -1\end{bmatrix}$	$6^-_{001}:\begin{bmatrix}\frac{1}{2} & \frac{\sqrt{3}}{2} \\ -\frac{\sqrt{3}}{2} & \frac{1}{2}\end{bmatrix}$	$6^+_{001}:\begin{bmatrix}\frac{1}{2} & -\frac{\sqrt{3}}{2} \\ \frac{\sqrt{3}}{2} & \frac{1}{2}\end{bmatrix}$
	$2_{110}:\begin{bmatrix}-\frac{1}{2} & \frac{\sqrt{3}}{2} \\ \frac{\sqrt{3}}{2} & \frac{1}{2}\end{bmatrix}$	$2_{100}:\begin{bmatrix}1 & 0 \\ 0 & -1\end{bmatrix}$	$2_{010}:\begin{bmatrix}-\frac{1}{2} & -\frac{\sqrt{3}}{2} \\ -\frac{\sqrt{3}}{2} & \frac{1}{2}\end{bmatrix}$	$2_{1-10}:\begin{bmatrix}\frac{1}{2} & -\frac{\sqrt{3}}{2} \\ -\frac{\sqrt{3}}{2} & -\frac{1}{2}\end{bmatrix}$	$2_{120}:\begin{bmatrix}-1 & 0 \\ 0 & 1\end{bmatrix}$	$2_{210}:\begin{bmatrix}\frac{1}{2} & \frac{\sqrt{3}}{2} \\ \frac{\sqrt{3}}{2} & -\frac{1}{2}\end{bmatrix}$
	$-1:\begin{bmatrix}-1 & 0 \\ 0 & -1\end{bmatrix}$	$-3^+_{001}:\begin{bmatrix}\frac{1}{2} & \frac{\sqrt{3}}{2} \\ -\frac{\sqrt{3}}{2} & \frac{1}{2}\end{bmatrix}$	$-3^-_{001}:\begin{bmatrix}\frac{1}{2} & -\frac{\sqrt{3}}{2} \\ \frac{\sqrt{3}}{2} & \frac{1}{2}\end{bmatrix}$	$m_{001}:\begin{bmatrix}1 & 0 \\ 0 & 1\end{bmatrix}$	$-6^-_{001}:\begin{bmatrix}-\frac{1}{2} & -\frac{\sqrt{3}}{2} \\ \frac{\sqrt{3}}{2} & -\frac{1}{2}\end{bmatrix}$	$-6^+_{001}:\begin{bmatrix}-\frac{1}{2} & \frac{\sqrt{3}}{2} \\ -\frac{\sqrt{3}}{2} & -\frac{1}{2}\end{bmatrix}$
	$m_{110}:\begin{bmatrix}\frac{1}{2} & -\frac{\sqrt{3}}{2} \\ -\frac{\sqrt{3}}{2} & -\frac{1}{2}\end{bmatrix}$	$m_{100}:\begin{bmatrix}-1 & 0 \\ 0 & 1\end{bmatrix}$	$m_{010}:\begin{bmatrix}\frac{1}{2} & \frac{\sqrt{3}}{2} \\ \frac{\sqrt{3}}{2} & -\frac{1}{2}\end{bmatrix}$	$m_{1-10}:\begin{bmatrix}-\frac{1}{2} & \frac{\sqrt{3}}{2} \\ \frac{\sqrt{3}}{2} & \frac{1}{2}\end{bmatrix}$	$m_{120}:\begin{bmatrix}1 & 0 \\ 0 & -1\end{bmatrix}$	$m_{210}:\begin{bmatrix}-\frac{1}{2} & -\frac{\sqrt{3}}{2} \\ -\frac{\sqrt{3}}{2} & \frac{1}{2}\end{bmatrix}$
E_{2u}	$1:\begin{bmatrix}1 & 0 \\ 0 & 1\end{bmatrix}$	$3^+_{001}:\begin{bmatrix}-\frac{1}{2} & -\frac{\sqrt{3}}{2} \\ \frac{\sqrt{3}}{2} & -\frac{1}{2}\end{bmatrix}$	$3^-_{001}:\begin{bmatrix}-\frac{1}{2} & \frac{\sqrt{3}}{2} \\ -\frac{\sqrt{3}}{2} & -\frac{1}{2}\end{bmatrix}$	$2_{001}:\begin{bmatrix}1 & 0 \\ 0 & 1\end{bmatrix}$	$6^-_{001}:\begin{bmatrix}-\frac{1}{2} & -\frac{\sqrt{3}}{2} \\ \frac{\sqrt{3}}{2} & -\frac{1}{2}\end{bmatrix}$	$6^+_{001}:\begin{bmatrix}-\frac{1}{2} & \frac{\sqrt{3}}{2} \\ -\frac{\sqrt{3}}{2} & -\frac{1}{2}\end{bmatrix}$
	$2_{110}:\begin{bmatrix}-\frac{1}{2} & \frac{\sqrt{3}}{2} \\ \frac{\sqrt{3}}{2} & \frac{1}{2}\end{bmatrix}$	$2_{100}:\begin{bmatrix}1 & 0 \\ 0 & -1\end{bmatrix}$	$2_{010}:\begin{bmatrix}-\frac{1}{2} & -\frac{\sqrt{3}}{2} \\ -\frac{\sqrt{3}}{2} & \frac{1}{2}\end{bmatrix}$	$2_{1-10}:\begin{bmatrix}-\frac{1}{2} & \frac{\sqrt{3}}{2} \\ \frac{\sqrt{3}}{2} & \frac{1}{2}\end{bmatrix}$	$2_{120}:\begin{bmatrix}1 & 0 \\ 0 & -1\end{bmatrix}$	$2_{210}:\begin{bmatrix}-\frac{1}{2} & -\frac{\sqrt{3}}{2} \\ -\frac{\sqrt{3}}{2} & \frac{1}{2}\end{bmatrix}$
	$-1:\begin{bmatrix}-1 & 0 \\ 0 & -1\end{bmatrix}$	$-3^+_{001}:\begin{bmatrix}\frac{1}{2} & \frac{\sqrt{3}}{2} \\ -\frac{\sqrt{3}}{2} & \frac{1}{2}\end{bmatrix}$	$-3^-_{001}:\begin{bmatrix}\frac{1}{2} & -\frac{\sqrt{3}}{2} \\ \frac{\sqrt{3}}{2} & \frac{1}{2}\end{bmatrix}$	$m_{001}:\begin{bmatrix}-1 & 0 \\ 0 & -1\end{bmatrix}$	$-6^-_{001}:\begin{bmatrix}\frac{1}{2} & \frac{\sqrt{3}}{2} \\ -\frac{\sqrt{3}}{2} & \frac{1}{2}\end{bmatrix}$	$-6^+_{001}:\begin{bmatrix}\frac{1}{2} & -\frac{\sqrt{3}}{2} \\ \frac{\sqrt{3}}{2} & \frac{1}{2}\end{bmatrix}$

Table 1

Irrep.						
$m_{110}:$ $\begin{bmatrix} \frac{1}{2} & -\frac{\sqrt{3}}{2} \\ -\frac{\sqrt{3}}{2} & -\frac{1}{2} \end{bmatrix}$	$m_{100}:$ $\begin{bmatrix} -1 & 0 \\ 0 & 1 \end{bmatrix}$	$m_{010}:$ $\begin{bmatrix} \frac{1}{2} & \frac{\sqrt{3}}{2} \\ \frac{\sqrt{3}}{2} & -\frac{1}{2} \end{bmatrix}$	$m_{1-10}:$ $\begin{bmatrix} \frac{1}{2} & -\frac{\sqrt{3}}{2} \\ -\frac{\sqrt{3}}{2} & -\frac{1}{2} \end{bmatrix}$	$m_{120}:$ $\begin{bmatrix} -1 & 0 \\ 0 & 1 \end{bmatrix}$	$m_{210}:$ $\begin{bmatrix} \frac{1}{2} & \frac{\sqrt{3}}{2} \\ \frac{\sqrt{3}}{2} & -\frac{1}{2} \end{bmatrix}$