

PG No. 37  $D_{3h}(1) \bar{6}m2$  (-62m setting) [ hexagonal ]

Table 1: Representation matrices

Irrep.						
$A'_1$	1 :	$\begin{bmatrix} 1 \\ 1 \end{bmatrix}$	$3^+_{001} :$	$\begin{bmatrix} 1 \\ 1 \end{bmatrix}$	$3^-_{001} :$	$\begin{bmatrix} 1 \\ 1 \end{bmatrix}$
	$2_{110} :$	$\begin{bmatrix} 1 \\ 1 \end{bmatrix}$	$2_{100} :$	$\begin{bmatrix} 1 \\ 1 \end{bmatrix}$	$2_{010} :$	$\begin{bmatrix} 1 \\ 1 \end{bmatrix}$
$A'_2$	1 :	$\begin{bmatrix} 1 \\ 1 \end{bmatrix}$	$3^+_{001} :$	$\begin{bmatrix} 1 \\ 1 \end{bmatrix}$	$3^-_{001} :$	$\begin{bmatrix} 1 \\ 1 \end{bmatrix}$
	$2_{110} :$	$\begin{bmatrix} 1 \\ -1 \end{bmatrix}$	$2_{100} :$	$\begin{bmatrix} 1 \\ -1 \end{bmatrix}$	$2_{010} :$	$\begin{bmatrix} 1 \\ -1 \end{bmatrix}$
$A''_1$	1 :	$\begin{bmatrix} 1 \\ 1 \end{bmatrix}$	$3^+_{001} :$	$\begin{bmatrix} 1 \\ 1 \end{bmatrix}$	$3^-_{001} :$	$\begin{bmatrix} 1 \\ 1 \end{bmatrix}$
	$2_{110} :$	$\begin{bmatrix} 1 \\ 1 \end{bmatrix}$	$2_{100} :$	$\begin{bmatrix} 1 \\ 1 \end{bmatrix}$	$2_{010} :$	$\begin{bmatrix} 1 \\ 1 \end{bmatrix}$
$A''_2$	1 :	$\begin{bmatrix} 1 \\ 1 \end{bmatrix}$	$3^+_{001} :$	$\begin{bmatrix} 1 \\ 1 \end{bmatrix}$	$3^-_{001} :$	$\begin{bmatrix} 1 \\ 1 \end{bmatrix}$
	$2_{110} :$	$\begin{bmatrix} 1 \\ -1 \end{bmatrix}$	$2_{100} :$	$\begin{bmatrix} 1 \\ -1 \end{bmatrix}$	$2_{010} :$	$\begin{bmatrix} 1 \\ -1 \end{bmatrix}$
$E'$	1 :	$\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$	$3^+_{001} :$	$\begin{bmatrix} -\frac{1}{2} & -\frac{\sqrt{3}}{2} \\ \frac{\sqrt{3}}{2} & -\frac{1}{2} \end{bmatrix}$	$3^-_{001} :$	$\begin{bmatrix} -\frac{1}{2} & \frac{\sqrt{3}}{2} \\ -\frac{\sqrt{3}}{2} & -\frac{1}{2} \end{bmatrix}$
	$2_{110} :$	$\begin{bmatrix} -\frac{1}{2} & \frac{\sqrt{3}}{2} \\ \frac{\sqrt{3}}{2} & \frac{1}{2} \end{bmatrix}$	$2_{100} :$	$\begin{bmatrix} 1 & 0 \\ 0 & -1 \end{bmatrix}$	$2_{010} :$	$\begin{bmatrix} -\frac{1}{2} & -\frac{\sqrt{3}}{2} \\ -\frac{\sqrt{3}}{2} & \frac{1}{2} \end{bmatrix}$
$E''$	1 :	$\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$	$3^+_{001} :$	$\begin{bmatrix} -\frac{1}{2} & -\frac{\sqrt{3}}{2} \\ \frac{\sqrt{3}}{2} & -\frac{1}{2} \end{bmatrix}$	$3^-_{001} :$	$\begin{bmatrix} -\frac{1}{2} & \frac{\sqrt{3}}{2} \\ -\frac{\sqrt{3}}{2} & -\frac{1}{2} \end{bmatrix}$
	$2_{110} :$	$\begin{bmatrix} -\frac{1}{2} & \frac{\sqrt{3}}{2} \\ \frac{\sqrt{3}}{2} & \frac{1}{2} \end{bmatrix}$	$2_{100} :$	$\begin{bmatrix} 1 & 0 \\ 0 & -1 \end{bmatrix}$	$2_{010} :$	$\begin{bmatrix} -\frac{1}{2} & -\frac{\sqrt{3}}{2} \\ -\frac{\sqrt{3}}{2} & \frac{1}{2} \end{bmatrix}$