

PG No. 25 C_{6v} $6mm$ [hexagonal]

* generator : 3_{001}^+ , 2_{001} , m_{110}

* conjugacy class

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

* symmetry operation

Table 1: Symmetry operations for 3d polar vector.

No.	tag	matrix (polar)	det
1	1	$\begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$	1
2	3_{001}^+	$\begin{bmatrix} 0 & -1 & 0 \\ 1 & -1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$	1
3	3_{001}^-	$\begin{bmatrix} -1 & 1 & 0 \\ -1 & 0 & 0 \\ 0 & 0 & 1 \end{bmatrix}$	1
4	2_{001}	$\begin{bmatrix} -1 & 0 & 0 \\ 0 & -1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$	1
5	6_{001}^-	$\begin{bmatrix} 0 & 1 & 0 \\ -1 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$	1
6	6_{001}^+	$\begin{bmatrix} 1 & -1 & 0 \\ 1 & 0 & 0 \\ 0 & 0 & 1 \end{bmatrix}$	1
7	m_{110}	$\begin{bmatrix} 0 & -1 & 0 \\ -1 & 0 & 0 \\ 0 & 0 & 1 \end{bmatrix}$	-1
8	m_{100}	$\begin{bmatrix} -1 & 1 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$	-1
9	m_{010}	$\begin{bmatrix} 1 & 0 & 0 \\ 1 & -1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$	-1
10	m_{1-10}	$\begin{bmatrix} 0 & 1 & 0 \\ 1 & 0 & 0 \\ 0 & 0 & 1 \end{bmatrix}$	-1
11	m_{120}	$\begin{bmatrix} 1 & -1 & 0 \\ 0 & -1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$	-1

continued ...

Table 1

No.	tag	matrix (polar)	det
12	m ₂₁₀	$\begin{bmatrix} -1 & 0 & 0 \\ -1 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$	-1