

MPG No. 37.3.153  $\bar{6}'m'2$  (-6'2m' setting) [ Type III, hexagonal ]

\* symmetry operation

Table 1: Symmetry operations for 3d polar vector.

| No. | tag           | matrix (polar)                                                         | det | TR |
|-----|---------------|------------------------------------------------------------------------|-----|----|
| 1   | 1             | $\begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$    | 1   | 1  |
| 2   | $3_{001}^+$   | $\begin{bmatrix} 0 & -1 & 0 \\ 1 & -1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$  | 1   | 1  |
| 3   | $3_{001}^-$   | $\begin{bmatrix} -1 & 1 & 0 \\ -1 & 0 & 0 \\ 0 & 0 & 1 \end{bmatrix}$  | 1   | 1  |
| 4   | $m_{210}'$    | $\begin{bmatrix} -1 & 0 & 0 \\ -1 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$  | -1  | -1 |
| 5   | $m_{120}'$    | $\begin{bmatrix} 1 & -1 & 0 \\ 0 & -1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$  | -1  | -1 |
| 6   | $m_{1-10}'$   | $\begin{bmatrix} 0 & 1 & 0 \\ 1 & 0 & 0 \\ 0 & 0 & 1 \end{bmatrix}$    | -1  | -1 |
| 7   | $-6_{001}^+'$ | $\begin{bmatrix} -1 & 1 & 0 \\ -1 & 0 & 0 \\ 0 & 0 & -1 \end{bmatrix}$ | -1  | -1 |
| 8   | $m_{001}'$    | $\begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & -1 \end{bmatrix}$   | -1  | -1 |
| 9   | $-6_{001}^-'$ | $\begin{bmatrix} 0 & -1 & 0 \\ 1 & -1 & 0 \\ 0 & 0 & -1 \end{bmatrix}$ | -1  | -1 |
| 10  | $2_{100}$     | $\begin{bmatrix} 1 & -1 & 0 \\ 0 & -1 & 0 \\ 0 & 0 & -1 \end{bmatrix}$ | 1   | 1  |
| 11  | $2_{110}$     | $\begin{bmatrix} 0 & 1 & 0 \\ 1 & 0 & 0 \\ 0 & 0 & -1 \end{bmatrix}$   | 1   | 1  |
| 12  | $2_{010}$     | $\begin{bmatrix} -1 & 0 & 0 \\ -1 & 1 & 0 \\ 0 & 0 & -1 \end{bmatrix}$ | 1   | 1  |