MSG No. 117.302 $P\bar{4}'b2'$ [Type III, tetragonal]

Table 1: Wyckoff site: `2a`, site symmetry: `-4'..`

No.	position	mapping
1	$[0,\ 0,\ 0]$	`[1,2,7,8]`
2	$\left[\frac{1}{2},\ \frac{1}{2},\ 0\right]$	`[3,4,5,6]`

Table 2: Wyckoff site: `2b`, site symmetry: `-4'..`

No.	position	mapping
1	$\left[0,\ 0,\ \frac{1}{2}\right]$	`[1,2,7,8]`
2	$\left[\frac{1}{2},\ \frac{1}{2},\ \frac{1}{2}\right]$	`[3,4,5,6]`

Table 3: Wyckoff site: `2c`, site symmetry: `2.2'2'`

No.	position	mapping
1	$\left[0,\ \frac{1}{2},\ 0\right]$	`[1,2,5,6]`
2	$\left[\frac{1}{2},\ 0,\ 0\right]$	`[3,4,7,8]`

Table 4: Wyckoff site: `2d`, site symmetry: `2.2'2'`

No.	position	mapping
1	$\left[0,\ \frac{1}{2},\ \frac{1}{2}\right]$	`[1,2,5,6]`
2	$\left[\frac{1}{2},\ 0,\ \frac{1}{2}\right]$	`[3,4,7,8]`

Table 5: Wyckoff site: `4e`, site symmetry: `2..`

No.	position	mapping
1	$[0,\ 0,\ z]$	`[1,2]`
2	$\left[\frac{1}{2},\ \frac{1}{2},\ z\right]$	`[3,4]`
3	$\left[\frac{1}{2},\ \frac{1}{2},\ -z\right]$	`[5,6]`
4	$[0,\ 0,\ -z]$	`[7,8]`

Table 6: Wyckoff site: `4f`, site symmetry: `2..`

No.	position	mapping
1	$\left[0,\ \frac{1}{2},\ z\right]$	`[1,2]`
2	$\left[\frac{1}{2},\ 0,\ z\right]$	`[3,4]`
3	$\left[0,\ \frac{1}{2},\ -z\right]$	`[5,6]`
4	$\left[\frac{1}{2},\ 0,\ -z\right]$	`[7,8]`

Table 7: Wyckoff site: `4g`, site symmetry: `..2'`

No.	position	mapping
1	$\left[x,\ x+\frac{1}{2},\ 0\right]$	`[1,5]`
2	$\left[-x,\ \frac{1}{2}-x,\ 0\right]$	`[2,6]`
3	$\left[\frac{1}{2}-x,\ x,\ 0\right]$	`[3,8]`
4	$\left[x+\frac{1}{2},\ -x,\ 0\right]$	`[4,7]`

Table 8: Wyckoff site: `4h`, site symmetry: `..2'`

No.	position	mapping
1	$\left[x,\ x+\frac{1}{2},\ \frac{1}{2}\right]$	`[1,5]`
2	$\left[-x,\ \frac{1}{2}-x,\ \frac{1}{2}\right]$	`[2,6]`
3	$\left[\frac{1}{2}-x,\ x,\ \frac{1}{2}\right]$	`[3,8]`
4	$\left[x+\frac{1}{2},\ -x,\ \frac{1}{2}\right]$	`[4,7]`

Table 9: Wyckoff site: `8i`, site symmetry: `1`

No.	position	mapping
1	$[x,\ y,\ z]$	`[1]`
2	$[-x,\ -y,\ z]$	`[2]`
3	$\left[\frac{1}{2}-x,\ y+\frac{1}{2},\ z\right]$	`[3]`
4	$\left[x+\frac{1}{2},\ \frac{1}{2}-y,\ z\right]$	`[4]`
5	$\left[y+\frac{1}{2},\ x+\frac{1}{2},\ -z\right]$	`[5]`
6	$\left[\frac{1}{2}-y,\ \frac{1}{2}-x,\ -z\right]$	`[6]`
7	$[y,\ -x,\ -z]$	`[7]`
8	$[-y,\ x,\ -z]$	`[8]`