MSG No. 176.144 $P6_3/m1'$ [Type II, hexagonal]

Table 1: Wyckoff site: `2a`, site symmetry: `-6..1'`

No.	position	mapping
1	$\left[0,\, 0,\, \frac{1}{4}\right]$	`[1,3,5,8,10,12,13,15,17,20,22,24]`
2	$\left[0,\, 0,\, \frac{3}{4}\right]$	`[2,4,6,7,9,11,14,16,18,19,21,23]`

Table 2: Wyckoff site: `2b`, site symmetry: `-3..1'`

No.	position	mapping
1	$[0,\, 0,\, 0]$	`[1,3,5,7,9,11,13,15,17,19,21,23]`
2	$\left[0,\, 0,\, \frac{1}{2}\right]$	`[2,4,6,8,10,12,14,16,18,20,22,24]`

Table 3: Wyckoff site: `2c`, site symmetry: `-6..1'`

No.	position	mapping
1	$\left[\frac{1}{3},\, \frac{2}{3},\, \frac{1}{4}\right]$	`[1,3,5,8,10,12,13,15,17,20,22,24]`
2	$\left[\frac{2}{3},\, \frac{1}{3},\, \frac{3}{4}\right]$	`[2,4,6,7,9,11,14,16,18,19,21,23]`

Table 4: Wyckoff site: `2d`, site symmetry: `-6..1'`

No.	position	mapping
1	$\left[\frac{2}{3},\, \frac{1}{3},\, \frac{1}{4}\right]$	`[1,3,5,8,10,12,13,15,17,20,22,24]`
2	$\left[\frac{1}{3},\, \frac{2}{3},\, \frac{3}{4}\right]$	`[2,4,6,7,9,11,14,16,18,19,21,23]`

Table 5: Wyckoff site: `4e`, site symmetry: `3..1'`

No.	position	mapping
1	$[0,\, 0,\, z]$	`[1,3,5,13,15,17]`
2	$\left[0,\, 0,\, z+\frac{1}{2}\right]$	`[2,4,6,14,16,18]`
3	$[0,\, 0,\, -z]$	`[7,9,11,19,21,23]`
4	$\left[0,\, 0,\, \frac{1}{2}-z\right]$	`[8,10,12,20,22,24]`

Table 6: Wyckoff site: `4f`, site symmetry: `3..1'`

No.	position	mapping
1	$\left[\frac{1}{3},\ \frac{2}{3},\ z\right]$	`[1,3,5,13,15,17]`
2	$\left[\frac{2}{3},\ \frac{1}{3},\ z+\frac{1}{2}\right]$	`[2,4,6,14,16,18]`
3	$\left[\frac{2}{3},\ \frac{1}{3},\ -z\right]$	`[7,9,11,19,21,23]`
4	$\left[\frac{1}{3},\ \frac{2}{3},\ \frac{1}{2}-z\right]$	`[8,10,12,20,22,24]`

Table 7: Wyckoff site: `6g`, site symmetry: `-11'`

No.	position	mapping
1	$\left[\frac{1}{2},\ 0,\ 0\right]$	`[1,7,13,19]`
2	$\left[\frac{1}{2},\ \frac{1}{2},\ \frac{1}{2}\right]$	`[2,8,14,20]`
3	$\left[0,\ \frac{1}{2},\ 0\right]$	`[3,9,15,21]`
4	$\left[\frac{1}{2},\ 0,\ \frac{1}{2}\right]$	`[4,10,16,22]`
5	$\left[\frac{1}{2},\ \frac{1}{2},\ 0\right]$	`[5,11,17,23]`
6	$\left[0,\ \frac{1}{2},\ \frac{1}{2}\right]$	`[6,12,18,24]`

Table 8: Wyckoff site: `6h`, site symmetry: `m..1'`

No.	position	mapping
1	$\left[x,\ y,\ \frac{1}{4}\right]$	`[1,10,13,22]`
2	$\left[x-y,\ x,\ \frac{3}{4}\right]$	`[2,11,14,23]`
3	$\left[-y,\ x-y,\ \frac{1}{4}\right]$	`[3,12,15,24]`
4	$\left[-x,\ -y,\ \frac{3}{4}\right]$	`[4,7,16,19]`
5	$\left[-x+y,\ -x,\ \frac{1}{4}\right]$	`[5,8,17,20]`
6	$\left[y,\ -x+y,\ \frac{3}{4}\right]$	`[6,9,18,21]`

Table 9: Wyckoff site: `12i`, site symmetry: `11'`

No.	position	mapping
1	$[x,\ y,\ z]$	`[1,13]`
2	$\left[x-y,\ x,\ z+\frac{1}{2}\right]$	`[2,14]`
3	$[-y,\ x-y,\ z]$	`[3,15]`
4	$\left[-x,\ -y,\ z+\frac{1}{2}\right]$	`[4,16]`
5	$[-x+y,\ -x,\ z]$	`[5,17]`
6	$\left[y,\ -x+y,\ z+\frac{1}{2}\right]$	`[6,18]`
7	$[-x,\ -y,\ -z]$	`[7,19]`
8	$\left[-x+y,\ -x,\ \frac{1}{2}-z\right]$	`[8,20]`
9	$[y,\ -x+y,\ -z]$	`[9,21]`
10	$\left[x,\ y,\ \frac{1}{2}-z\right]$	`[10,22]`
11	$[x-y,\ x,\ -z]$	`[11,23]`

continued ...

Table 9

No.	position	mapping
12	$\left[-y,\, x-y,\, \frac{1}{2}-z\right]$	`[12,24]`