MSG No. 190.228 $P\bar{6}2c1'$ [Type II, hexagonal]

Table 1: Wyckoff site: `2a`, site symmetry: `32.1'`

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

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

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

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

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

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

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

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

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

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

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

Table 7: Wyckoff site: `6g`, site symmetry: `.2.1'`

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

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

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

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

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

continued ...

Table 9

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