MSG No. 164.86 $P\bar{3}m11'$ [Type II, trigonal]

Table 1: Wyckoff site: `1a`, site symmetry: `-3m.1'`

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

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

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

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

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

Table 4: Wyckoff site: `2d`, site symmetry: `3m.1'`

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

Table 5: Wyckoff site: `3e`, site symmetry: `.2/m.1'`

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

Table 6: Wyckoff site: `3f`, site symmetry: `.2/m.1'`

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

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	$[-x,\ 0,\ 0]$	`[7,10,19,22]`
5	$[0,\ -x,\ 0]$	`[8,11,20,23]`
6	$[x,\ x,\ 0]$	`[9,12,21,24]`

Table 8: Wyckoff site: `6h`, site symmetry: `.2.1'`

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

Table 9: Wyckoff site: `6i`, site symmetry: `.m.1'`

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

Table 10: Wyckoff site: `12j`, 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	$[-x,\ -y,\ -z]$	`[7,19]`
8	$[y,\ -x+y,\ -z]$	`[8,20]`
9	$[x-y,\ x,\ -z]$	`[9,21]`

continued ...

Table 10

No.	position	mapping
10	$[-x+y,\ y,\ z]$	`[10,22]`
11	$[-y,\ -x,\ z]$	`[11,23]`
12	$[x,\ x-y,\ z]$	`[12,24]`