MSG No. 187.213 $P\bar{6}m'2'$ [Type III, hexagonal]

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

No.	position	mapping
1	[0, 0, 0]	`[1,2,3,4,5,6,7,8,9,10,11,12]`

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

No.	position	mapping
1	$\left[0, 0, \frac{1}{2}\right]$	`[1,2,3,4,5,6,7,8,9,10,11,12]`

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

No.	position	mapping
1	$\left[\frac{1}{3}, \frac{2}{3}, 0\right]$	`[1,2,3,4,5,6,7,8,9,10,11,12]`

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

No.	position	mapping
1	$\left[\frac{1}{3}, \frac{2}{3}, \frac{1}{2}\right]$	`[1,2,3,4,5,6,7,8,9,10,11,12]`

Table 5: Wyckoff site: `1e`, site symmetry: `-6m'2'`

No.	position	mapping
1	$\left[\frac{2}{3}, \frac{1}{3}, 0\right]$	`[1,2,3,4,5,6,7,8,9,10,11,12]`

Table 6: Wyckoff site: `1f`, site symmetry: `-6m'2'`

No.	position	mapping
1	$\left[\frac{2}{3}, \frac{1}{3}, \frac{1}{2}\right]$	`[1,2,3,4,5,6,7,8,9,10,11,12]`

Table 7: Wyckoff site: 2g, site symmetry: 3m'.

No.	position	mapping
1	$[0,\ 0,\ z]$	[1,2,3,10,11,12]
2	$[0,\ 0,\ -z]$	[4,5,6,7,8,9]

Table 8: Wyckoff site: 2h, site symmetry: 3m'.

No.	position	mapping
1	$\left[\frac{1}{3},\ \frac{2}{3},\ z\right]$	[1,2,3,10,11,12]
2	$\left[\frac{1}{3},\ \frac{2}{3},\ -z\right]$	[4,5,6,7,8,9]

Table 9: Wyckoff site: 2i, site symmetry: 3m'.

No.	position	mapping
1	$\left[\frac{2}{3},\ \frac{1}{3},\ z\right]$	[1,2,3,10,11,12]
2	$\left[\frac{2}{3},\ \frac{1}{3},\ -z\right]$	[4,5,6,7,8,9]

Table 10: Wyckoff site: 3j, site symmetry: mm'2'

No.	position	mapping
1	$[x,\ -x,\ 0]$	[1,5,9,11]
2	$[x,\ 2x,\ 0]$	[2,6,7,12]
3	$[-2x,\ -x,\ 0]$	[3,4,8,10]

Table 11: Wyckoff site: 3k, site symmetry: mm'2'

No.	position	mapping
1	$\left[x,\ -x,\ \frac{1}{2}\right]$	[1,5,9,11]
2	$\left[x,\ 2x,\ \frac{1}{2}\right]$	[2,6,7,12]
3	$\left[-2x,\ -x,\ \frac{1}{2}\right]$	[3,4,8,10]

Table 12: Wyckoff site: 6l, site symmetry: m..

No.	position	mapping
1	$[x,\ y,\ 0]$	[1,5]
2	$[-y,\ x-y,\ 0]$	[2,6]

continued ...

Table 12

No.	position	mapping
3	$[-x+y,\ -x,\ 0]$	[3,4]
4	$[x,\ x-y,\ 0]$	[7,12]
5	$[-x+y,\ y,\ 0]$	[8,10]
6	$[-y,\ -x,\ 0]$	[9,11]

Table 13: Wyckoff site: 6m, site symmetry: m..

No.	position	mapping
1	$\left[x,\ y,\ \frac{1}{2}\right]$	[1,5]
2	$\left[-y,\ x-y,\ \frac{1}{2}\right]$	[2,6]
3	$\left[-x+y,\ -x,\ \frac{1}{2}\right]$	[3,4]
4	$\left[x,\ x-y,\ \frac{1}{2}\right]$	[7,12]
5	$\left[-x+y,\ y,\ \frac{1}{2}\right]$	[8,10]
6	$\left[-y,\ -x,\ \frac{1}{2}\right]$	[9,11]

Table 14: Wyckoff site: 6n, site symmetry: .m'.

No.	position	mapping
1	$[x,\ -x,\ z]$	[1,11]
2	$[x,\ 2x,\ z]$	[2,12]
3	$[-2x,\ -x,\ z]$	[3,10]
4	$[-2x,\ -x,\ -z]$	[4,8]
5	$[x,\ -x,\ -z]$	[5,9]
6	$[x,\ 2x,\ -z]$	[6,7]

Table 15: Wyckoff site: 12o, site symmetry: 1

No.	position	mapping
1	$[x,\ y,\ z]$	[1]
2	$[-y,\ x-y,\ z]$	[2]
3	$[-x+y,\ -x,\ z]$	[3]
4	$[-x+y,\ -x,\ -z]$	[4]
5	$[x,\ y,\ -z]$	[5]
6	$[-y,\ x-y,\ -z]$	[6]
7	$[x,\ x-y,\ -z]$	[7]
8	$[-x+y,\ y,\ -z]$	[8]
9	$[-y,\ -x,\ -z]$	[9]
10	$[-x+y,\ y,\ z]$	[10]
11	$[-y,\ -x,\ z]$	[11]

continued ...

Table 15

No.	position	mapping
12	$[x, x-y, z]$	`[12]`