MPG No. 27.2.101 $6/mmm1'$ [Type II, hexagonal]

Table 1: Wyckoff site: `1o`, site symmetry: `6/mmm1'`

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,`
		`25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48]`

Table 2: Wyckoff site: `2a`, site symmetry: `6mm`

No.	position	mapping
1	[0, 0, z]	`[1,2,3,4,5,6,19,20,21,22,23,24,25,26,27,28,29,30,43,44,45,46,47,48]`
2	[0, 0, $-z$]	`[7,8,9,10,11,12,13,14,15,16,17,18,31,32,33,34,35,36,37,38,39,40,41,42]`

Table 3: Wyckoff site: `6b`, site symmetry: `m2m`

No.	position	mapping
1	[x, 0, 0]	`[1,7,16,22,25,31,40,46]`
2	[0, x, 0]	`[3,9,18,24,27,33,42,48]`
3	[$-x$, $-x$, 0]	`[5,11,14,20,29,35,38,44]`
4	[$-x$, 0, 0]	`[4,10,13,19,28,34,37,43]`
5	[0, $-x$, 0]	`[6,12,15,21,30,36,39,45]`
6	[x, x, 0]	`[2,8,17,23,26,32,41,47]`

Table 4: Wyckoff site: `6c`, site symmetry: `mm2`

No.	position	mapping
1	[x, $2x$, 0]	`[1,10,16,19,25,34,40,43]`
2	[$-2x$, $-x$, 0]	`[3,12,18,21,27,36,42,45]`
3	[x, $-x$, 0]	`[5,8,14,23,29,32,38,47]`
4	[$-x$, $-2x$, 0]	`[4,7,13,22,28,31,37,46]`
5	[$2x$, x, 0]	`[6,9,15,24,30,33,39,48]`
6	[$-x$, x, 0]	`[2,11,17,20,26,35,41,44]`

Table 5: Wyckoff site: `12d`, site symmetry: `..m`

No.	position	mapping
1	[x, 0, z]	`[1,22,25,46]`
2	[0, x, z]	`[3,24,27,48]`

continued ...

Table 5

No.	position	mapping
3	$[-x, -x, z]$	`[5,20,29,44]`
4	$[-x, 0, z]$	`[4,19,28,43]`
5	$[0, -x, z]$	`[6,21,30,45]`
6	$[x, x, z]$	`[2,23,26,47]`
7	$[0, x, -z]$	`[9,18,33,42]`
8	$[x, 0, -z]$	`[7,16,31,40]`
9	$[-x, -x, -z]$	`[11,14,35,38]`
10	$[0, -x, -z]$	`[12,15,36,39]`
11	$[-x, 0, -z]$	`[10,13,34,37]`
12	$[x, x, -z]$	`[8,17,32,41]`

Table 6: Wyckoff site: `12e`, site symmetry: `.m.`

No.	position	mapping
1	$[x, 2x, z]$	`[1,19,25,43]`
2	$[-2x, -x, z]$	`[3,21,27,45]`
3	$[x, -x, z]$	`[5,23,29,47]`
4	$[-x, -2x, z]$	`[4,22,28,46]`
5	$[2x, x, z]$	`[6,24,30,48]`
6	$[-x, x, z]$	`[2,20,26,44]`
7	$[2x, x, -z]$	`[9,15,33,39]`
8	$[-x, -2x, -z]$	`[7,13,31,37]`
9	$[-x, x, -z]$	`[11,17,35,41]`
10	$[-2x, -x, -z]$	`[12,18,36,42]`
11	$[x, 2x, -z]$	`[10,16,34,40]`
12	$[x, -x, -z]$	`[8,14,32,38]`

Table 7: Wyckoff site: `12f`, site symmetry: `m..`

No.	position	mapping
1	$[x, y, 0]$	`[1,16,25,40]`
2	$[-y, x-y, 0]$	`[3,18,27,42]`
3	$[-x+y, -x, 0]$	`[5,14,29,38]`
4	$[-x, -y, 0]$	`[4,13,28,37]`
5	$[y, -x+y, 0]$	`[6,15,30,39]`
6	$[x-y, x, 0]$	`[2,17,26,41]`
7	$[y, x, 0]$	`[9,24,33,48]`
8	$[x-y, -y, 0]$	`[7,22,31,46]`
9	$[-x, -x+y, 0]$	`[11,20,35,44]`
10	$[-y, -x, 0]$	`[12,21,36,45]`
11	$[-x+y, y, 0]$	`[10,19,34,43]`
12	$[x, x-y, 0]$	`[8,23,32,47]`

Table 8: Wyckoff site: 24g, site symmetry: 1

No.	position	mapping
1	$[x,\ y,\ z]$	[1,25]
2	$[-y,\ x-y,\ z]$	[3,27]
3	$[-x+y,\ -x,\ z]$	[5,29]
4	$[-x,\ -y,\ z]$	[4,28]
5	$[y,\ -x+y,\ z]$	[6,30]
6	$[x-y,\ x,\ z]$	[2,26]
7	$[y,\ x,\ -z]$	[9,33]
8	$[x-y,\ -y,\ -z]$	[7,31]
9	$[-x,\ -x+y,\ -z]$	[11,35]
10	$[-y,\ -x,\ -z]$	[12,36]
11	$[-x+y,\ y,\ -z]$	[10,34]
12	$[x,\ x-y,\ -z]$	[8,32]
13	$[-x,\ -y,\ -z]$	[13,37]
14	$[y,\ -x+y,\ -z]$	[15,39]
15	$[x-y,\ x,\ -z]$	[17,41]
16	$[x,\ y,\ -z]$	[16,40]
17	$[-y,\ x-y,\ -z]$	[18,42]
18	$[-x+y,\ -x,\ -z]$	[14,38]
19	$[-y,\ -x,\ z]$	[21,45]
20	$[-x+y,\ y,\ z]$	[19,43]
21	$[x,\ x-y,\ z]$	[23,47]
22	$[y,\ x,\ z]$	[24,48]
23	$[x-y,\ -y,\ z]$	[22,46]
24	$[-x,\ -x+y,\ z]$	[20,44]