PG No. 27 D_{6h} $6/mmm$ [hexagonal]

Table 1: Wyckoff site: `1o`, site symmetry: `6/mmm`

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

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

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

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

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

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

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

No.	position	mapping
1	[x, 0, z]	`[1,23]`
2	[0, x, z]	`[2,22]`
3	[$-x$, $-x$, z]	`[3,24]`

continued ...

Table 5

No.	position	mapping
4	$[-x,\ 0,\ z]$	`[4,20]`
5	$[0,\ -x,\ z]$	`[5,19]`
6	$[x,\ x,\ z]$	`[6,21]`
7	$[0,\ x,\ -z]$	`[7,17]`
8	$[x,\ 0,\ -z]$	`[8,16]`
9	$[-x,\ -x,\ -z]$	`[9,18]`
10	$[0,\ -x,\ -z]$	`[10,14]`
11	$[-x,\ 0,\ -z]$	`[11,13]`
12	$[x,\ x,\ -z]$	`[12,15]`

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

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

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

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

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

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