SG No. 69 D_{2h}^{23} $Fmmm$ [orthorhombic]

* plus set: $+[0,\ 0,\ 0]$, $+\left[0,\ \frac{1}{2},\ \frac{1}{2}\right]$, $+\left[\frac{1}{2},\ 0,\ \frac{1}{2}\right]$, $+\left[\frac{1}{2},\ \frac{1}{2},\ 0\right]$

Table 1: Wyckoff site: `4a`, site symmetry: `mmm`

No.	position	mapping
1	$[0,\ 0,\ 0]$	`[1,2,3,4,5,6,7,8]`

Table 2: Wyckoff site: `4b`, site symmetry: `mmm`

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

Table 3: Wyckoff site: `8c`, site symmetry: `2/m..`

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

Table 4: Wyckoff site: `8d`, site symmetry: `.2/m.`

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

Table 5: Wyckoff site: `8e`, site symmetry: `..2/m`

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

Table 6: Wyckoff site: `8f`, site symmetry: `222`

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

Table 7: Wyckoff site: `8g`, site symmetry: `2mm`

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

Table 8: Wyckoff site: `8h`, site symmetry: `m2m`

No.	position	mapping
1	$[0,\ y,\ 0]$	`[1,3,6,8]`
2	$[0,\ -y,\ 0]$	`[2,4,5,7]`

Table 9: Wyckoff site: `8i`, site symmetry: `mm2`

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

Table 10: Wyckoff site: `16j`, site symmetry: `..2`

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

Table 11: Wyckoff site: `16k`, site symmetry: `.2.`

No.	position	mapping
1	$\left[\frac{1}{4},\ y,\ \frac{1}{4}\right]$	`[1,3]`
2	$\left[\frac{3}{4},\ -y,\ \frac{1}{4}\right]$	`[2,4]`
3	$\left[\frac{3}{4},\ -y,\ \frac{3}{4}\right]$	`[5,7]`
4	$\left[\frac{1}{4},\ y,\ \frac{3}{4}\right]$	`[6,8]`

Table 12: Wyckoff site: `16l`, site symmetry: `2..`

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

Table 13: Wyckoff site: `16m`, site symmetry: `m..`

No.	position	mapping
1	$[0,\ y,\ z]$	`[1,8]`
2	$[0,\ -y,\ z]$	`[2,7]`
3	$[0,\ y,\ -z]$	`[3,6]`
4	$[0,\ -y,\ -z]$	`[4,5]`

Table 14: Wyckoff site: `16n`, site symmetry: `.m.`

No.	position	mapping
1	$[x,\ 0,\ z]$	`[1,7]`
2	$[-x,\ 0,\ z]$	`[2,8]`
3	$[-x,\ 0,\ -z]$	`[3,5]`
4	$[x,\ 0,\ -z]$	`[4,6]`

Table 15: Wyckoff site: `16o`, site symmetry: `..m`

No.	position	mapping
1	$[x,\ y,\ 0]$	`[1,6]`
2	$[-x,\ -y,\ 0]$	`[2,5]`
3	$[-x,\ y,\ 0]$	`[3,8]`
4	$[x,\ -y,\ 0]$	`[4,7]`

Table 16: Wyckoff site: `32p`, site symmetry: `1`

No.	position	mapping
1	$[x,\ y,\ z]$	`[1]`
2	$[-x,\ -y,\ z]$	`[2]`
3	$[-x,\ y,\ -z]$	`[3]`
4	$[x,\ -y,\ -z]$	`[4]`

continued ...

Table 16

No.	position	mapping
5	$[-x, -y, -z]$	`[5]`
6	$[x, y, -z]$	`[6]`
7	$[x, -y, z]$	`[7]`
8	$[-x, y, z]$	`[8]`