SG No. 121 D_{2d}^{11} $I\bar{4}2m$ [tetragonal]

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

Table 1: Wyckoff site: `2a`, site symmetry: `-42m`

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

Table 2: Wyckoff site: `2b`, site symmetry: `-42m`

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

Table 3: Wyckoff site: `4c`, site symmetry: `222.`

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

Table 4: Wyckoff site: `4d`, site symmetry: `-4..`

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

Table 5: Wyckoff site: `4e`, site symmetry: `2.mm`

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

Table 6: Wyckoff site: `8f`, site symmetry: `.2.`

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

continued ...

Table 6

No.	position	mapping
4	$[0,\, x,\, 0]$	`[4,8]`

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

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

Table 8: Wyckoff site: `8h`, site symmetry: `2..`

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

Table 9: Wyckoff site: `8i`, site symmetry: `..m`

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

Table 10: Wyckoff site: `16j`, site symmetry: `1`

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