SG No. 120 $D_{2\mathrm{d}}^{10}$ $I\bar{4}c2$ [tetragonal]

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

Table 1: Wyckoff site: 4a, site symmetry: 2.22

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

Table 2: Wyckoff site: 4b, site symmetry: -4..

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

Table 3: Wyckoff site: 4c, 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 4: Wyckoff site: 4d, site symmetry: 2.22

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

Table 5: Wyckoff site: 8e, site symmetry: ..2

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

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

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

Table 7: Wyckoff site: 8g, 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	$\left[0,\,\frac{1}{2},\,z+\frac{1}{2}\right]$	[5,6]
4	$\left[\frac{1}{2},\,0,\,\frac{1}{2}-z\right]$	[7,8]

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

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

Table 9: Wyckoff site: 16i, 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	$\left[x,\,-y,\,z+\frac{1}{2}\right]$	[5]
6	$\left[-x,\,y,\,z+\frac{1}{2}\right]$	[6]
7	$\left[y,\,x,\,\frac{1}{2}-z\right]$	[7]
8	$\left[-y,\,-x,\,\frac{1}{2}-z\right]$	[8]