SG No. 105 C_{4v}^7 $P4_2mc$ [tetragonal]

Table 1: Wyckoff site: 2a, site symmetry: 2mm.

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

Table 2: Wyckoff site: 2b, site symmetry: 2mm.

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

Table 3: Wyckoff site: 2c, site symmetry: 2mm.

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

Table 4: Wyckoff site: 4d, site symmetry: .m.

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

Table 5: Wyckoff site: 4e, site symmetry: .m.

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

Table 6: Wyckoff site: 8f, site symmetry: 1

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

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