MSG No. 130.427 $P4'/ncc'$ [Type III, tetragonal]

Table 1: Wyckoff site: `4a`, site symmetry: `2.2'2'`

No.	position	mapping
1	$\left[\frac{3}{4}, \frac{1}{4}, \frac{1}{4}\right]$	`[1,4,11,12]`
2	$\left[\frac{1}{4}, \frac{3}{4}, \frac{1}{4}\right]$	`[2,3,9,10]`
3	$\left[\frac{1}{4}, \frac{3}{4}, \frac{3}{4}\right]$	`[5,8,15,16]`
4	$\left[\frac{3}{4}, \frac{1}{4}, \frac{3}{4}\right]$	`[6,7,13,14]`

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

No.	position	mapping
1	$\left[\frac{3}{4}, \frac{1}{4}, 0\right]$	`[1,4,13,14]`
2	$\left[\frac{1}{4}, \frac{3}{4}, \frac{1}{2}\right]$	`[2,3,15,16]`
3	$\left[\frac{1}{4}, \frac{3}{4}, 0\right]$	`[5,8,9,10]`
4	$\left[\frac{3}{4}, \frac{1}{4}, \frac{1}{2}\right]$	`[6,7,11,12]`

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

No.	position	mapping
1	$\left[\frac{1}{4}, \frac{1}{4}, z\right]$	`[1,4,9,10]`
2	$\left[\frac{3}{4}, \frac{3}{4}, \frac{1}{2} - z\right]$	`[2,3,11,12]`
3	$\left[\frac{3}{4}, \frac{3}{4}, -z\right]$	`[5,8,13,14]`
4	$\left[\frac{1}{4}, \frac{1}{4}, z + \frac{1}{2}\right]$	`[6,7,15,16]`

Table 4: Wyckoff site: `8d`, site symmetry: `-1`

No.	position	mapping
1	$[0, 0, 0]$	`[1,5]`
2	$\left[\frac{1}{2}, 0, \frac{1}{2}\right]$	`[2,6]`
3	$\left[0, \frac{1}{2}, \frac{1}{2}\right]$	`[3,7]`
4	$\left[\frac{1}{2}, \frac{1}{2}, 0\right]$	`[4,8]`
5	$\left[\frac{1}{2}, 0, 0\right]$	`[9,13]`
6	$\left[0, \frac{1}{2}, 0\right]$	`[10,14]`
7	$\left[\frac{1}{2}, \frac{1}{2}, \frac{1}{2}\right]$	`[11,15]`
8	$\left[0, 0, \frac{1}{2}\right]$	`[12,16]`

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

No.	position	mapping
1	$\left[\frac{3}{4}, \frac{1}{4}, z\right]$	`[1,4]`
2	$\left[\frac{1}{4}, \frac{3}{4}, \frac{1}{2} - z\right]$	`[2,3]`
3	$\left[\frac{1}{4}, \frac{3}{4}, -z\right]$	`[5,8]`
4	$\left[\frac{3}{4}, \frac{1}{4}, z + \frac{1}{2}\right]$	`[6,7]`
5	$\left[\frac{1}{4}, \frac{3}{4}, z\right]$	`[9,10]`
6	$\left[\frac{3}{4}, \frac{1}{4}, \frac{1}{2} - z\right]$	`[11,12]`
7	$\left[\frac{3}{4}, \frac{1}{4}, -z\right]$	`[13,14]`
8	$\left[\frac{1}{4}, \frac{3}{4}, z + \frac{1}{2}\right]$	`[15,16]`

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

No.	position	mapping
1	$\left[x, -x, \frac{1}{4}\right]$	`[1,12]`
2	$\left[x + \frac{1}{2}, x, \frac{1}{4}\right]$	`[2,9]`
3	$\left[-x, \frac{1}{2} - x, \frac{1}{4}\right]$	`[3,10]`
4	$\left[\frac{1}{2} - x, x + \frac{1}{2}, \frac{1}{4}\right]$	`[4,11]`
5	$\left[-x, x, \frac{3}{4}\right]$	`[5,16]`
6	$\left[\frac{1}{2} - x, -x, \frac{3}{4}\right]$	`[6,13]`
7	$\left[x, x + \frac{1}{2}, \frac{3}{4}\right]$	`[7,14]`
8	$\left[x + \frac{1}{2}, \frac{1}{2} - x, \frac{3}{4}\right]$	`[8,15]`

Table 7: Wyckoff site: `16g`, site symmetry: `1`

No.	position	mapping
1	$[x, y, z]$	`[1]`
2	$\left[x + \frac{1}{2}, -y, \frac{1}{2} - z\right]$	`[2]`
3	$\left[-x, y + \frac{1}{2}, \frac{1}{2} - z\right]$	`[3]`
4	$\left[\frac{1}{2} - x, \frac{1}{2} - y, z\right]$	`[4]`
5	$[-x, -y, -z]$	`[5]`
6	$\left[\frac{1}{2} - x, y, z + \frac{1}{2}\right]$	`[6]`
7	$\left[x, \frac{1}{2} - y, z + \frac{1}{2}\right]$	`[7]`
8	$\left[x + \frac{1}{2}, y + \frac{1}{2}, -z\right]$	`[8]`
9	$\left[\frac{1}{2} - y, x, z\right]$	`[9]`
10	$\left[y, \frac{1}{2} - x, z\right]$	`[10]`
11	$\left[y + \frac{1}{2}, x + \frac{1}{2}, \frac{1}{2} - z\right]$	`[11]`
12	$\left[-y, -x, \frac{1}{2} - z\right]$	`[12]`
13	$\left[y + \frac{1}{2}, -x, -z\right]$	`[13]`
14	$\left[-y, x + \frac{1}{2}, -z\right]$	`[14]`
15	$\left[\frac{1}{2} - y, \frac{1}{2} - x, z + \frac{1}{2}\right]$	`[15]`
16	$\left[y, x, z + \frac{1}{2}\right]$	`[16]`