PG No. 30 O 432 [cubic]

* Wyckoff site: `6a`, site symmetry: `4..`

Table 1: Wyckoff bond: `6a@6a`

No.	vector	center	mapping
1	$[X, 0, 0]$	$[x, 0, 0]$	`[1,4,17,20]`
2	$[-X, 0, 0]$	$[-x, 0, 0]$	`[2,3,18,19]`
3	$[0, X, 0]$	$[0, x, 0]$	`[5,8,13,16]`
4	$[0, -X, 0]$	$[0, -x, 0]$	`[6,7,14,15]`
5	$[0, 0, X]$	$[0, 0, x]$	`[9,12,22,23]`
6	$[0, 0, -X]$	$[0, 0, -x]$	`[10,11,21,24]`

Table 2: Wyckoff bond: `12b@6a`

No.	vector	center	mapping
1	$[0, X, Y]$	$[x, 0, 0]$	`[1,-4]`
2	$[0, -X, Y]$	$[-x, 0, 0]$	`[2,-3]`
3	$[Y, 0, X]$	$[0, x, 0]$	`[5,-8]`
4	$[Y, 0, -X]$	$[0, -x, 0]$	`[6,-7]`
5	$[X, Y, 0]$	$[0, 0, x]$	`[9,-12]`
6	$[-X, Y, 0]$	$[0, 0, -x]$	`[10,-11]`
7	$[X, 0, -Y]$	$[0, x, 0]$	`[13,-16]`
8	$[-X, 0, -Y]$	$[0, -x, 0]$	`[14,-15]`
9	$[0, Y, -X]$	$[x, 0, 0]$	`[17,-20]`
10	$[0, Y, X]$	$[-x, 0, 0]$	`[18,-19]`
11	$[Y, X, 0]$	$[0, 0, -x]$	`[21,-24]`
12	$[Y, -X, 0]$	$[0, 0, x]$	`[22,-23]`

Table 3: Wyckoff bond: `24c@6a`

No.	vector	center	mapping
1	$[X, Y, Z]$	$[x, 0, 0]$	`[1]`
2	$[-X, -Y, Z]$	$[-x, 0, 0]$	`[2]`
3	$[-X, Y, -Z]$	$[-x, 0, 0]$	`[3]`
4	$[X, -Y, -Z]$	$[x, 0, 0]$	`[4]`
5	$[Z, X, Y]$	$[0, x, 0]$	`[5]`
6	$[Z, -X, -Y]$	$[0, -x, 0]$	`[6]`
7	$[-Z, -X, Y]$	$[0, -x, 0]$	`[7]`
8	$[-Z, X, -Y]$	$[0, x, 0]$	`[8]`
9	$[Y, Z, X]$	$[0, 0, x]$	`[9]`
10	$[-Y, Z, -X]$	$[0, 0, -x]$	`[10]`
11	$[Y, -Z, -X]$	$[0, 0, -x]$	`[11]`
12	$[-Y, -Z, X]$	$[0, 0, x]$	`[12]`

continued ...

Table 3

No.	vector	center	mapping
13	$[Y, X, -Z]$	$[0, x, 0]$	`[13]`
14	$[-Y, -X, -Z]$	$[0, -x, 0]$	`[14]`
15	$[Y, -X, Z]$	$[0, -x, 0]$	`[15]`
16	$[-Y, X, Z]$	$[0, x, 0]$	`[16]`
17	$[X, Z, -Y]$	$[x, 0, 0]$	`[17]`
18	$[-X, Z, Y]$	$[-x, 0, 0]$	`[18]`
19	$[-X, -Z, -Y]$	$[-x, 0, 0]$	`[19]`
20	$[X, -Z, Y]$	$[x, 0, 0]$	`[20]`
21	$[Z, Y, -X]$	$[0, 0, -x]$	`[21]`
22	$[Z, -Y, X]$	$[0, 0, x]$	`[22]`
23	$[-Z, Y, X]$	$[0, 0, x]$	`[23]`
24	$[-Z, -Y, -X]$	$[0, 0, -x]$	`[24]`

* Wyckoff site: `8b`, site symmetry: `.3.`

Table 4: Wyckoff bond: `8a@8b`

No.	vector	center	mapping
1	$[X, X, X]$	$[x, x, x]$	`[1,5,9]`
2	$[-X, -X, X]$	$[-x, -x, x]$	`[2,7,12]`
3	$[-X, X, -X]$	$[-x, x, -x]$	`[3,8,10]`
4	$[X, -X, -X]$	$[x, -x, -x]$	`[4,6,11]`
5	$[X, X, -X]$	$[x, x, -x]$	`[13,17,21]`
6	$[-X, -X, -X]$	$[-x, -x, -x]$	`[14,19,24]`
7	$[X, -X, X]$	$[x, -x, x]$	`[15,20,22]`
8	$[-X, X, X]$	$[-x, x, x]$	`[16,18,23]`

Table 5: Wyckoff bond: `24b@8b`

No.	vector	center	mapping
1	$[X, Y, Z]$	$[x, x, x]$	`[1]`
2	$[-X, -Y, Z]$	$[-x, -x, x]$	`[2]`
3	$[-X, Y, -Z]$	$[-x, x, -x]$	`[3]`
4	$[X, -Y, -Z]$	$[x, -x, -x]$	`[4]`
5	$[Z, X, Y]$	$[x, x, x]$	`[5]`
6	$[Z, -X, -Y]$	$[x, -x, -x]$	`[6]`
7	$[-Z, -X, Y]$	$[-x, -x, x]$	`[7]`
8	$[-Z, X, -Y]$	$[-x, x, -x]$	`[8]`
9	$[Y, Z, X]$	$[x, x, x]$	`[9]`
10	$[-Y, Z, -X]$	$[-x, x, -x]$	`[10]`
11	$[Y, -Z, -X]$	$[x, -x, -x]$	`[11]`
12	$[-Y, -Z, X]$	$[-x, -x, x]$	`[12]`

continued ...

Table 5

No.	vector	center	mapping
13	$[Y, X, -Z]$	$[x, x, -x]$	[13]
14	$[-Y, -X, -Z]$	$[-x, -x, -x]$	[14]
15	$[Y, -X, Z]$	$[x, -x, x]$	[15]
16	$[-Y, X, Z]$	$[-x, x, x]$	[16]
17	$[X, Z, -Y]$	$[x, x, -x]$	[17]
18	$[-X, Z, Y]$	$[-x, x, x]$	[18]
19	$[-X, -Z, -Y]$	$[-x, -x, -x]$	[19]
20	$[X, -Z, Y]$	$[x, -x, x]$	[20]
21	$[Z, Y, -X]$	$[x, x, -x]$	[21]
22	$[Z, -Y, X]$	$[x, -x, x]$	[22]
23	$[-Z, Y, X]$	$[-x, x, x]$	[23]
24	$[-Z, -Y, -X]$	$[-x, -x, -x]$	[24]

* Wyckoff site: 12c, site symmetry: ..2

Table 6: Wyckoff bond: 12a@12c

No.	vector	center	mapping
1	$[Y, X, -X]$	$[0, y, y]$	[1,-18]
2	$[-Y, -X, -X]$	$[0, -y, y]$	[2,-20]
3	$[-Y, X, X]$	$[0, y, -y]$	[3,-17]
4	$[Y, -X, X]$	$[0, -y, -y]$	[4,-19]
5	$[-X, Y, X]$	$[y, 0, y]$	[5,-15]
6	$[-X, -Y, -X]$	$[y, 0, -y]$	[6,-13]
7	$[X, -Y, X]$	$[-y, 0, y]$	[7,-16]
8	$[X, Y, -X]$	$[-y, 0, -y]$	[8,-14]
9	$[X, -X, Y]$	$[y, y, 0]$	[9,-21]
10	$[-X, -X, -Y]$	$[-y, y, 0]$	[10,-23]
11	$[X, X, -Y]$	$[y, -y, 0]$	[11,-22]
12	$[-X, X, Y]$	$[-y, -y, 0]$	[12,-24]

Table 7: Wyckoff bond: 12b@12c

No.	vector	center	mapping
1	$[0, X, X]$	$[0, y, y]$	[1,18]
2	$[0, -X, X]$	$[0, -y, y]$	[2,20]
3	$[0, X, -X]$	$[0, y, -y]$	[3,17]
4	$[0, -X, -X]$	$[0, -y, -y]$	[4,19]
5	$[X, 0, X]$	$[y, 0, y]$	[5,15]
6	$[X, 0, -X]$	$[y, 0, -y]$	[6,13]
7	$[-X, 0, X]$	$[-y, 0, y]$	[7,16]
8	$[-X, 0, -X]$	$[-y, 0, -y]$	[8,14]

continued ...

Table 7

No.	vector	center	mapping
9	$[X, X, 0]$	$[y, y, 0]$	[9,21]
10	$[-X, X, 0]$	$[-y, y, 0]$	[10,23]
11	$[X, -X, 0]$	$[y, -y, 0]$	[11,22]
12	$[-X, -X, 0]$	$[-y, -y, 0]$	[12,24]

Table 8: Wyckoff bond: 24c@12c

No.	vector	center	mapping
1	$[X, Y, Z]$	$[0, y, y]$	[1]
2	$[-X, -Y, Z]$	$[0, -y, y]$	[2]
3	$[-X, Y, -Z]$	$[0, y, -y]$	[3]
4	$[X, -Y, -Z]$	$[0, -y, -y]$	[4]
5	$[Z, X, Y]$	$[y, 0, y]$	[5]
6	$[Z, -X, -Y]$	$[y, 0, -y]$	[6]
7	$[-Z, -X, Y]$	$[-y, 0, y]$	[7]
8	$[-Z, X, -Y]$	$[-y, 0, -y]$	[8]
9	$[Y, Z, X]$	$[y, y, 0]$	[9]
10	$[-Y, Z, -X]$	$[-y, y, 0]$	[10]
11	$[Y, -Z, -X]$	$[y, -y, 0]$	[11]
12	$[-Y, -Z, X]$	$[-y, -y, 0]$	[12]
13	$[Y, X, -Z]$	$[y, 0, -y]$	[13]
14	$[-Y, -X, -Z]$	$[-y, 0, -y]$	[14]
15	$[Y, -X, Z]$	$[y, 0, y]$	[15]
16	$[-Y, X, Z]$	$[-y, 0, y]$	[16]
17	$[X, Z, -Y]$	$[0, y, -y]$	[17]
18	$[-X, Z, Y]$	$[0, y, y]$	[18]
19	$[-X, -Z, -Y]$	$[0, -y, -y]$	[19]
20	$[X, -Z, Y]$	$[0, -y, y]$	[20]
21	$[Z, Y, -X]$	$[y, y, 0]$	[21]
22	$[Z, -Y, X]$	$[y, -y, 0]$	[22]
23	$[-Z, Y, X]$	$[-y, y, 0]$	[23]
24	$[-Z, -Y, -X]$	$[-y, -y, 0]$	[24]

* Wyckoff site: 24d, site symmetry: 1

Table 9: Wyckoff bond: 24a@24d

No.	vector	center	mapping
1	$[X, Y, Z]$	$[x, y, z]$	[1]
2	$[-X, -Y, Z]$	$[-x, -y, z]$	[2]
3	$[-X, Y, -Z]$	$[-x, y, -z]$	[3]
4	$[X, -Y, -Z]$	$[x, -y, -z]$	[4]

continued ...

Table 9

No.	vector	center	mapping
5	$[Z, X, Y]$	$[z, x, y]$	[5]
6	$[Z, -X, -Y]$	$[z, -x, -y]$	[6]
7	$[-Z, -X, Y]$	$[-z, -x, y]$	[7]
8	$[-Z, X, -Y]$	$[-z, x, -y]$	[8]
9	$[Y, Z, X]$	$[y, z, x]$	[9]
10	$[-Y, Z, -X]$	$[-y, z, -x]$	[10]
11	$[Y, -Z, -X]$	$[y, -z, -x]$	[11]
12	$[-Y, -Z, X]$	$[-y, -z, x]$	[12]
13	$[Y, X, -Z]$	$[y, x, -z]$	[13]
14	$[-Y, -X, -Z]$	$[-y, -x, -z]$	[14]
15	$[Y, -X, Z]$	$[y, -x, z]$	[15]
16	$[-Y, X, Z]$	$[-y, x, z]$	[16]
17	$[X, Z, -Y]$	$[x, z, -y]$	[17]
18	$[-X, Z, Y]$	$[-x, z, y]$	[18]
19	$[-X, -Z, -Y]$	$[-x, -z, -y]$	[19]
20	$[X, -Z, Y]$	$[x, -z, y]$	[20]
21	$[Z, Y, -X]$	$[z, y, -x]$	[21]
22	$[Z, -Y, X]$	$[z, -y, x]$	[22]
23	$[-Z, Y, X]$	$[-z, y, x]$	[23]
24	$[-Z, -Y, -X]$	$[-z, -y, -x]$	[24]