

Generators selected (1); $t(1,0,0)$; $t(0,1,0)$; $t(0,0,1)$; (2); (3); (5); (9)

Positions

Multiplicity, Wyckoff letter, Site symmetry	Coordinates	Reflection conditions
16 <i>i</i> 1	(1) x, y, z (2) \bar{x}, \bar{y}, z (3) $\bar{y}, x, z + \frac{1}{2}$ (4) $y, \bar{x}, z + \frac{1}{2}$ (5) $\bar{x} + \frac{1}{2}, y + \frac{1}{2}, \bar{z}$ (6) $x + \frac{1}{2}, \bar{y} + \frac{1}{2}, \bar{z}$ (7) $y + \frac{1}{2}, x + \frac{1}{2}, \bar{z} + \frac{1}{2}$ (8) $\bar{y} + \frac{1}{2}, \bar{x} + \frac{1}{2}, \bar{z} + \frac{1}{2}$ (9) $\bar{x}, \bar{y}, \bar{z}$ (10) x, y, \bar{z} (11) $y, \bar{x}, \bar{z} + \frac{1}{2}$ (12) $\bar{y}, x, \bar{z} + \frac{1}{2}$ (13) $x + \frac{1}{2}, \bar{y} + \frac{1}{2}, z$ (14) $\bar{x} + \frac{1}{2}, y + \frac{1}{2}, z$ (15) $\bar{y} + \frac{1}{2}, \bar{x} + \frac{1}{2}, z + \frac{1}{2}$ (16) $y + \frac{1}{2}, x + \frac{1}{2}, z + \frac{1}{2}$	General: $Ok_l : k = 2n$ $hhl : l = 2n$ $00l : l = 2n$ $h00 : h = 2n$
8 <i>h</i> $m..$	$x, y, 0$ $\bar{x}, \bar{y}, 0$ $\bar{y}, x, \frac{1}{2}$ $y, \bar{x}, \frac{1}{2}$ $\bar{x} + \frac{1}{2}, y + \frac{1}{2}, 0$ $x + \frac{1}{2}, \bar{y} + \frac{1}{2}, 0$ $y + \frac{1}{2}, x + \frac{1}{2}, \frac{1}{2}$ $\bar{y} + \frac{1}{2}, \bar{x} + \frac{1}{2}, \frac{1}{2}$	Special: as above, plus no extra conditions
8 <i>g</i> $..2$	$x, x + \frac{1}{2}, \frac{1}{4}$ $\bar{x}, \bar{x} + \frac{1}{2}, \frac{1}{4}$ $\bar{x} + \frac{1}{2}, x, \frac{3}{4}$ $x + \frac{1}{2}, \bar{x}, \frac{3}{4}$ $\bar{x}, \bar{x} + \frac{1}{2}, \frac{3}{4}$ $x, x + \frac{1}{2}, \frac{3}{4}$ $x + \frac{1}{2}, \bar{x}, \frac{1}{4}$ $\bar{x} + \frac{1}{2}, x, \frac{1}{4}$	$hkl : l = 2n$
8 <i>f</i> $2..$	$0, \frac{1}{2}, z$ $\frac{1}{2}, 0, z + \frac{1}{2}$ $\frac{1}{2}, 0, \bar{z}$ $0, \frac{1}{2}, \bar{z} + \frac{1}{2}$ $0, \frac{1}{2}, \bar{z}$ $\frac{1}{2}, 0, \bar{z} + \frac{1}{2}$ $\frac{1}{2}, 0, z$ $0, \frac{1}{2}, z + \frac{1}{2}$	$hkl : h + k, l = 2n$
8 <i>e</i> $2..$	$0, 0, z$ $0, 0, z + \frac{1}{2}$ $\frac{1}{2}, \frac{1}{2}, \bar{z}$ $\frac{1}{2}, \frac{1}{2}, \bar{z} + \frac{1}{2}$ $0, 0, \bar{z}$ $0, 0, \bar{z} + \frac{1}{2}$ $\frac{1}{2}, \frac{1}{2}, z$ $\frac{1}{2}, \frac{1}{2}, z + \frac{1}{2}$	$hkl : h + k, l = 2n$
4 <i>d</i> 2.22	$0, \frac{1}{2}, \frac{1}{4}$ $\frac{1}{2}, 0, \frac{3}{4}$ $0, \frac{1}{2}, \frac{3}{4}$ $\frac{1}{2}, 0, \frac{1}{4}$	$hkl : h + k, l = 2n$
4 <i>c</i> $2/m..$	$0, \frac{1}{2}, 0$ $\frac{1}{2}, 0, \frac{1}{2}$ $\frac{1}{2}, 0, 0$ $0, \frac{1}{2}, \frac{1}{2}$	$hkl : h + k, l = 2n$
4 <i>b</i> $\bar{4}..$	$0, 0, \frac{1}{4}$ $0, 0, \frac{3}{4}$ $\frac{1}{2}, \frac{1}{2}, \frac{3}{4}$ $\frac{1}{2}, \frac{1}{2}, \frac{1}{4}$	$hkl : h + k, l = 2n$
4 <i>a</i> $2/m..$	$0, 0, 0$ $0, 0, \frac{1}{2}$ $\frac{1}{2}, \frac{1}{2}, 0$ $\frac{1}{2}, \frac{1}{2}, \frac{1}{2}$	$hkl : h + k, l = 2n$

Symmetry of special projections

Along [001] $p4gm$
 $\mathbf{a}' = \mathbf{a}$ $\mathbf{b}' = \mathbf{b}$
Origin at $0, 0, z$

Along [100] $p2mm$
 $\mathbf{a}' = \frac{1}{2}\mathbf{b}$ $\mathbf{b}' = \mathbf{c}$
Origin at $x, 0, 0$

Along [110] $p2mm$
 $\mathbf{a}' = \frac{1}{2}(-\mathbf{a} + \mathbf{b})$ $\mathbf{b}' = \frac{1}{2}\mathbf{c}$
Origin at $x, x, 0$

Maximal non-isomorphic subgroups

I	[2] $P\bar{4}b2$ (117)	1; 2; 7; 8; 11; 12; 13; 14
	[2] $P\bar{4}2_1c$ (114)	1; 2; 5; 6; 11; 12; 15; 16
	[2] $P4_2bc$ (106)	1; 2; 3; 4; 13; 14; 15; 16
	[2] $P4_22_12$ (94)	1; 2; 3; 4; 5; 6; 7; 8
	[2] $P4_2/m11$ ($P4_2/m$, 84)	1; 2; 3; 4; 9; 10; 11; 12
	[2] $P2/m12/c$ ($Cccm$, 66)	1; 2; 7; 8; 9; 10; 15; 16
	[2] $P2/m2_1/b1$ ($Pbam$, 55)	1; 2; 5; 6; 9; 10; 13; 14

IIa none

IIIb none

Maximal isomorphic subgroups of lowest index

IIIc [3] $P4_2/mbc$ ($\mathbf{c}' = 3\mathbf{c}$) (135); [9] $P4_2/mbc$ ($\mathbf{a}' = 3\mathbf{a}, \mathbf{b}' = 3\mathbf{b}$) (135)

Minimal non-isomorphic supergroups

I none

II [2] $C4_2/mmc$ ($P4_2/mcm$, 132); [2] $I4/mcm$ (140); [2] $P4/mbm$ ($\mathbf{c}' = \frac{1}{2}\mathbf{c}$) (127)