

$c2/m11$

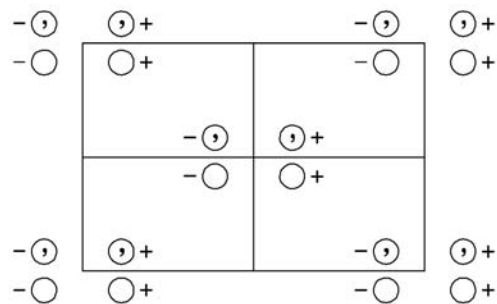
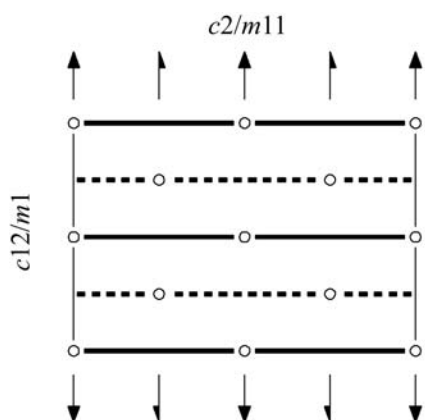
$2/m$

Monoclinic/Rectangular

No. 18

$c2/m11$

Patterson symmetry $c2/m11$



Origin at centre ($2/m$)

Asymmetric unit $0 \leq x \leq \frac{1}{4}$; $0 \leq y \leq \frac{1}{2}$

Symmetry operations

For $(0,0,0)+$ set

- (1) 1 (2) $2 \ x,0,0$ (3) $\bar{1} \ 0,0,0$ (4) $m \ 0,y,z$

For $(\frac{1}{2},\frac{1}{2},0)+$ set

- (1) $t(\frac{1}{2},\frac{1}{2},0)$ (2) $2(\frac{1}{2},0,0) \ x,\frac{1}{4},0$ (3) $\bar{1} \ \frac{1}{4},\frac{1}{4},0$ (4) $b \ \frac{1}{4},y,z$

Generators selected (1); $t(1,0,0)$; $t(0,1,0)$; $t(\frac{1}{2}, \frac{1}{2}, 0)$; (2); (3)

Positions

Multiplicity, Wyckoff letter, Site symmetry	Coordinates				Reflection conditions
	$(0,0,0)+$	$(\frac{1}{2}, \frac{1}{2}, 0)+$			General:
8 <i>f</i> 1	(1) x, y, z	(2) x, \bar{y}, \bar{z}	(3) $\bar{x}, \bar{y}, \bar{z}$	(4) \bar{x}, y, z	$hk: h+k=2n$ $h0: h=2n$ $0k: k=2n$
					Special: as above, plus
4 <i>e</i> <i>m</i>	$0, y, z$	$0, \bar{y}, \bar{z}$			no extra conditions
4 <i>d</i> 2	$x, 0, 0$	$\bar{x}, 0, 0$			no extra conditions
4 <i>c</i> $\bar{1}$	$\frac{1}{4}, \frac{1}{4}, 0$	$\frac{1}{4}, \frac{3}{4}, 0$			$hk: k=2n$
2 <i>b</i> $2/m$	$\frac{1}{2}, 0, 0$				no extra conditions
2 <i>a</i> $2/m$	$0, 0, 0$				no extra conditions

Symmetry of special projections

Along [001] $c2mm$

$\mathbf{a}' = \mathbf{a}$ $\mathbf{b}' = \mathbf{b}_p$

Origin at $0, 0, z$

Along [100] $\cancel{2}11$

$\mathbf{a}' = \frac{1}{2}\mathbf{b}$

Origin at $x, 0, 0$

Along [010] $\cancel{2}mm$

$\mathbf{a}' = \frac{1}{2}\mathbf{a}$

Origin at $0, y, 0$

Maximal non-isotypic subgroups

I	[2] $cm11$ (13)	(1; 4)+
	[2] $c211$ (10)	(1; 2)+
	[2] $c\bar{1}$ ($p\bar{1}, 2$)	(1; 3)+
IIa	[2] $p2_1/b11$ (17)	1; 3; (2; 4) + $(\frac{1}{2}, \frac{1}{2}, 0)$
	[2] $p2/b11$ (16)	1; 2; (3; 4) + $(\frac{1}{2}, \frac{1}{2}, 0)$
	[2] $p2_1/m11$ (15)	1; 4; (2; 3) + $(\frac{1}{2}, \frac{1}{2}, 0)$
	[2] $p2/m11$ (14)	1; 2; 3; 4

IIb none

Maximal isotypic subgroups of lowest index

IIc [3] $c2/m11$ ($\mathbf{a}' = 3\mathbf{a}$) (18)

Minimal non-isotypic supergroups

I [2] $cmmm$ (47); [2] $cmme$ (48); [3] $p\bar{3}1m$ (71); [3] $p\bar{3}m1$ (72)

II [2] $p2/m11$ ($\mathbf{a}' = \frac{1}{2}\mathbf{a}, \mathbf{b}' = \frac{1}{2}\mathbf{b}$) (14)